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2014–2015 Northwest Residential Lighting Long-Term Market Tracking Study

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E.1 PROJECT HISTORY

NEEA launched its first residential lighting market initiative in 1997 to advance awareness and use of CFLs and compact fluorescent light fixtures among Northwest consumers. NEEA designed the project to address CFL market barriers including high first cost; lack of product availability; lack of consumer awareness; incompatibility of CFLs with existing fixtures, dimmers, timers and photocells; performance problems; poor aesthetics of energy-efficient lighting products; and consumer dislike of fluorescent technologies. The project provided financial incentives to manufacturers as well as retailer education, branding, marketing and mass advertising.

During the late 1990s, the number of lamps and fixtures that qualified for inclusion in NEEA's initiatives expanded. NEEA staff wanted to ensure adequate market support for this broad range of products at the retail level, so the project strategy evolved from targeting manufacturers to retailers in 2000. The project provided retailers with salesperson training as well as advertising and marketing support to encourage Energy Star CFL promotion and consumer acceptance of the technology.

In response to market data suggesting consumer dissatisfaction with CFL performance, the project shifted its focus in 2004 toward achieving improvements in CFL quality and consumer acceptance. In 2005, the project coordinated a regional manufacturer buydown promotion to reduce the market price of CFLs in the region and to establish promotional distribution channels for moving high-quality, low-priced CFLs into the market. The promotion provided broad geographic sales coverage (including rural markets) and included numerous distribution channels—grocery, drug, small hardware, mass merchandise, and do-it-yourself (DIY) stores as well as membership club stores.

NEEA expanded upon the success of the project in 2005 by coordinating similar promotions in 2006 and 2007 with a focus on consumers who had had limited access to high-quality, low-priced CFLs as well as those who had never purchased CFLs. The 2006 and 2007 promotions emphasized non-traditional CFL distribution channels (such as drug and grocery stores) and rural areas, and excluded large do-it-yourself chains and membership clubs from participating.

In 2007 alone, participating retail chains sold approximately 1.8 million Energy Star CFLs through NEEA's promotions and total regional sales of Energy Star CFLs exceeded 18 million lamps. NEEA concluded that additional support of the Northwest lighting market was no longer necessary and ceased its active interventions in the market in early 2008. Several other energy-efficiency program sponsors continued to offer CFL incentives in the region, and NEEA has continued its residential lighting market tracking efforts.

E.2 STUDY OVERVIEW

The 2014–2015 Residential Lighting Long-Term Market Tracking Study focused on two key goals:

1. To enable NEEA to continue monitoring Northwest residential lighting market progress by tracking market metrics that were included in NEEA's prior residential lighting market tracking studies; and
2. To incorporate additional research objectives based on input from NEEA staff.

To support these goals, the study has 10 objectives, including:

1. Summarize annual Northwest residential Energy Star CFL sales (by retail store category, incentive sales vs. non-incentive sales, and general purpose vs. specialty CFL sales).
2. Characterize stocking (availability/diversity) and pricing for CFLs, light-emitting diode (LED) lamps, and incandescent lamps in Northwest retail stores.
3. Assess Northwest consumer awareness of CFLs; purchase, installation, and storage rates; perceptions of CFLs; and motivations for recent CFL purchases, and consumer familiarity with emerging lighting technologies and related regulations.
4. Understand attitudes and expectations of lamp supplier representatives (retailers/manufacturers) regarding future Northwest sales trends for CFLs, LED lamps, and incandescent lamps (particularly with regard to perceived effects of the Energy Independence and Security Act of 2007 [EISA]).
5. Evaluate key inputs to NEEA's Alliance Cost Effectiveness (ACE) model and baseline assumptions.
6. Obtain a more complete picture of residential lighting market (beyond CFLs).
7. Better understand stocking and sales of EISA-compliant versus non-qualifying lamps.
8. Characterize lighting marketing materials in Northwest retail stores.
9. Better understand drivers of customer decision-making regarding lamp purchases and influences on those decisions.
10. Better understand NEEA partner activities for consumer research on lighting knowledge/preferences and purchasing motivations.

To address the objectives above, the 2014–2015 study included seven core tasks. These tasks included:

1. An assessment of regional CFL sales (data for which CLEAResult gathers on behalf of NEEA)
2. A review and assessment of inputs to NEEA's ACE Model
3. Shelf surveys in Northwest retail stores that sell replacement lamps
4. Computer-aided telephone interviews with Northwest consumers
5. Consumer focus groups with Northwest consumers
6. In-depth telephone interviews with residential lighting program managers at utilities serving Northwest customers
7. In-depth telephone interviews with representatives of lighting suppliers (manufacturers' representatives and representatives of retail stores)

E.3 CONCLUSIONS

Study results suggest the following conclusions:

1. Northwest residential Energy Star CFL sales declined between 2013 and 2014, and it is likely that sales will continue to decrease.
2. Big box stores continue to dominate the region's residential Energy Star CFL sales.
3. Northwest consumers are shifting some of their focus from CFLs and traditional incandescent lamps toward LED lamps.
4. Incandescent lamps still dominate store inventories but their retail presence is declining year over year, while halogen lamps and LED lamps are on the rise.
5. EISA's effects are becoming increasingly prominent in the region's retail stores with most lamps meeting EISA standards in the three highest lumen categories affected by the legislation, but consumer awareness of the legislation is still only moderate.
6. Consumer demand for LED lamps increased in the Northwest between 2013 and 2014, and this trend is likely to continue.
7. The average price of general purpose and specialty CFLs increased in Northwest retail stores between 2013 and 2014.
8. The average price of traditional incandescent lamps in Northwest retail stores increased significantly between 2013 and 2014.
9. Average shelf price for LED reflector lamps declined while the average price of reflector CFLs increased between 2013 and 2014.
10. The presence of promotional materials focusing on CFLs declined in Northwest retail stores between 2013 and 2014, while the presence of promotional materials for LED lamps in stores remained about the same between years.
11. Energy savings, money savings, and long lamp life are common promotional messages and serve as key drivers in consumer purchasing decisions.
12. Consumer satisfaction with LED lamps is higher than with CFLs.
13. Rural consumers tend to have less exposure to utility promotion efforts than urban customers.
14. Northwest utilities have conducted minimal research on consumer lighting knowledge, preferences, and purchasing motivations.

E.4 RECOMMENDATIONS

Based on the conclusions described above, we recommend the following:

1. **Continued residential replacement lamp market tracking.** NEEA should consider continuing its current market tracking efforts for residential replacement lamps. This is particularly important as the lighting market continues to evolve rapidly, and will help NEEA address one of its primary objectives ("obtain a more complete picture of residential lighting market beyond CFLs;" study objective 6). Furthermore, NEEA has conducted one of the longest market tracking studies on residential lighting for any region

in the U.S., which makes these research efforts valuable not only to regional stakeholders but also to a broader audience of stakeholders beyond the region.

2. **Assistance with regional messaging for energy-efficient lamps.** NEEA should consider working with energy-efficiency program sponsors in the region as well as lamp manufacturers and retailers to develop consistent and concise messaging to support CFL and LED replacement lamp sales. More than a quarter of the utility program managers who participated in the interviews suggested that NEEA provide such support. Some of these program managers said that they would like to see messaging that is consistent, simplified, and able to reach the entire region. More than half of the region's stores are already displaying materials promoting replacement lamps, and the concepts of energy or money savings for CFLs and LED lamps dominate these messages. While observed in a number of retail stores, these messages come from a variety of sources and are presented to consumers in different ways. NEEA is uniquely positioned to offer broad, regional support by helping to reinforce the key messages of energy savings and long lamp life in a consistent manner.

3. **Educational efforts in rural areas.** Related to recommendation number two above, NEEA should consider resuming its focus on rural areas with regard to educational and promotional efforts for energy-efficient lighting. Rural consumers in the Northwest typically have few (if any) local big box stores where they can shop for energy-efficient lamps, and are therefore less likely to be exposed to promotional materials regarding these products. These efforts may be particularly important going forward as the presence of LED lamps and EISA-compliant incandescent lamps in retail stores increases, which will present consumers with more lamp choices and potentially more confusion regarding those choices. Utility representatives from rural utilities also mentioned the importance of expanding outreach efforts in rural stores as a means of influencing rural consumers to purchase CFLs and LED lamps.

4. **Further research regarding consumer knowledge, preferences, and purchasing motivations.** NEEA should consider conducting further and more extensive research to understand consumer knowledge, preferences, and purchasing motivations for replacement lamps. This will enable the development of more effective marketing messages to support energy-efficient lamp sales, and will enable NEEA to more effectively address objective 9 of its residential lighting market tracking efforts ("better understand drivers of customer decision-making regarding lamp purchases and influences on those decisions").

5. **Expanded lamp sales tracking efforts.** NEEA should consider incorporating additional lamp technologies into its sales data tracking efforts. Given the likely decline of future of CFL sales, the increasing impacts of EISA over time, and increasing market presence of LED lamps, expanding sales tracking efforts beyond CFLs would provide NEEA with a more complete picture of the Northwest market for replacement lamps. As the market share of LED lamps continues to grow, tracking sales of LED lamps will become more

important. Furthermore, tracking sales of incandescent and halogen lamps, in addition to CFLs and LED lamps, would also enable NEEA to estimate the share of the Northwest lighting market comprised by more energy-efficient alternatives and gain a better understanding of the overall lighting market in the Northwest (again in support of study objective 6 referenced above).

6. **Tracking of key specialty lamp styles.** NEEA should consider supporting additional tracking and analysis of specialty lamps at a finer level of detail for key specialty lamp styles, such as reflector, globe, and candelabra styles across all of the major lamp technologies (CFLs, LED lamps, incandescent lamps, and halogen lamps). There are a numerous styles of specialty lamps (particularly among reflector lamp styles). Specialty lamp availability, diversity, and pricing vary considerably by lamp technology, so it is difficult to compare specialty lamps as a single category across lamp technologies. Further analysis of specialty lamps would enable NEEA to have a deeper understanding of the differences between styles and a better understanding of why changes are happening over time. Disaggregating specialty lamp styles would enable NEEA to make more analogous and accurate comparisons of various specialty lamp styles available to residential consumers in the Northwest across lamp technologies.

7. **Understanding changes in CFL pricing.** Related to recommendation number 6 above, NEEA should consider supporting additional analysis related to the effects of the state of Washington's $0.25 CFL recycling fee on CFL pricing in the Northwest.

8. **Updating the list of stores that sell replacement lamps in the Northwest.** NEEA should consider supporting additional research to update its list of stores in the Northwest that sell replacement lamps. A contractor compiled this list for NEEA nearly 10 years ago, and it is likely that the number of retail stores that sell replacement lamps as well as the distribution of stores by store type has changed. An updated list of stores from a reputable business data research firm combined with additional research on which stores sell lamps would yield more accurate storefront weights, and, in turn, more accurate shelf survey results.

1 INTRODUCTION

The Northwest Energy Efficiency Alliance (NEEA) residential lighting market initiative started in 1997 to advance awareness and use of energy-efficient compact fluorescent lamps (CFLs) and compact fluorescent light fixtures among Northwest consumers. Over the next decade, NEEA's residential lighting market interventions evolved along with the changing market. At various times throughout its evolution, the initiative provided salesperson training, advertising and marketing support (including cooperative marketing), and upstream incentives to support sales of high-quality, low-priced CFLs. In early 2008, NEEA concluded that additional market support was no longer necessary and ceased its active interventions. Several other energy-efficiency program sponsors continued to offer CFL incentives in the region, and NEEA has continued its residential lighting market tracking efforts.

This Long-Term Market Tracking (LTMT) report represents DNV GL's (formerly DNV KEMA and KEMA, Inc.) eleventh assessment of the Northwest residential lighting market for NEEA. DNV GL has conducted these studies for NEEA on roughly an annual basis since 2005—most recently the 2013–2014 Northwest Residential Lighting Tracking and Monitoring Study in December, 2014.[1]

1.1 PROJECT OVERVIEW

NEEA launched its first residential lighting market initiative in 1997 to advance awareness and use of CFLs and compact fluorescent light fixtures among Northwest consumers. NEEA designed the project to address CFL market barriers including high first cost; lack of product availability; lack of consumer awareness; incompatibility of CFLs with existing fixtures, dimmers, timers and photocells; performance problems; poor aesthetics of energy-efficient lighting products; and consumer dislike of fluorescent technologies. The project provided financial incentives to manufacturers as well as retailer education, branding, marketing and mass advertising.

During the late 1990s, the number of lamps and fixtures that qualified for inclusion in NEEA's initiatives expanded. NEEA staff wanted to ensure adequate market support for this broad range of products at the retail level, so the project strategy evolved from targeting manufacturers to retailers in 2000. The project provided retailers with salesperson training as well as advertising and marketing support to encourage Energy Star CFL promotion and consumer acceptance of the technology.

In response to market data suggesting consumer dissatisfaction with CFL performance, the project shifted its focus in 2004 toward achieving improvements in CFL quality and consumer acceptance. The project provided cooperative marketing opportunities and field services to retailers to promote Energy Star products and coordinated financial incentive offerings for these

[1] DNV GL 2014, DNV KEMA 2013, KEMA, Inc., 2005–2012. Please refer to Appendix A (References) for complete citations.

products. The project also coordinated with national efforts such as Energy Star's Change a Light, Change the World campaign and the lighting quality research conducted by the Program for Evaluation and Analysis of Residential Lighting (PEARL). Finally, the project supported advancement of new lighting technologies (e.g., dimmable CFLs) and efforts to encourage proper disposal of broken or burned-out CFLs.

In 2005, the project coordinated a regional manufacturer buydown promotion to reduce the market price of CFLs in the region and to establish promotional distribution channels for moving high-quality, low-priced CFLs into the market. The promotion provided broad geographic sales coverage (including rural markets) and included numerous distribution channels—grocery, drug, small hardware, mass merchandise, and do-it-yourself (DIY) stores as well as membership club stores.

NEEA expanded upon the success of the project in 2005 by coordinating similar promotions in 2006 and 2007 with a focus on consumers who had had limited access to high-quality, low-priced CFLs as well as those who had never purchased CFLs. The 2006 and 2007 promotions emphasized non-traditional CFL distribution channels (such as drug and grocery stores) and rural areas, and excluded large do-it-yourself chains and membership clubs from participating.

In 2007 alone, participating retail chains sold approximately 1.8 million Energy Star CFLs through NEEA's promotions and total regional sales of Energy Star CFLs exceeded 18 million lamps. NEEA concluded that additional support of the Northwest lighting market was no longer necessary and ceased its active interventions in the market in early 2008. Several other energy-efficiency program sponsors continued to offer CFL incentives in the region, and NEEA has continued its residential lighting market tracking efforts.

1.2 STUDY OVERVIEW

To help NEEA understand long-term market trends, each residential lighting LTMT study assesses the state of the Northwest market and compares it to previous years' results. To support comparability of results from year to year—essential for a tracking study—many of the study's goals and objectives have remained similar over time.

Overall, there are 10 objectives for the 2014–2015 study:

1. Summarize annual Northwest residential Energy Star CFL sales (by retail store category, incentive sales versus non-incentive sales, and general purpose versus specialty CFL sales).
2. Characterize stocking (availability/diversity) and pricing for CFLs, light-emitting diode (LED) lamps, and incandescent lamps in Northwest retail stores.
3. Assess Northwest consumer awareness of CFLs; purchase, installation, and storage rates; perceptions of CFLs; and motivations for recent CFL purchases, and consumer familiarity with emerging lighting technologies and related regulations.
4. Understand attitudes and expectations of lamp supplier representatives (retailers/manufacturers) regarding future Northwest sales trends for CFLs, LED lamps,

and incandescent lamps (particularly with regard to perceived effects of the Energy Independence and Security Act of 2007 [EISA]).

5. Evaluate key inputs to NEEA's Alliance Cost Effectiveness (ACE) model and baseline assumptions.
6. Obtain a more complete picture of residential lighting market (beyond CFLs).
7. Better understand stocking and sales of EISA-compliant versus non-compliant lamps.
8. Characterize lighting marketing materials in Northwest retail stores.
9. Better understand drivers of customer decision-making regarding lamp purchases and influences on those decisions.
10. Better understand NEEA partner activities for consumer research on lighting knowledge/preferences and purchasing motivations.

To address the objectives above, the 2014–2015 study included seven core tasks. These tasks include an assessment of regional CFL sales, a review and assessment of inputs to NEEA's Alliance Cost Effectiveness (ACE) Model, and the five data collection activities shown below in Table 1.

Table 1
Data Collection Activities, 2014–2015 Northwest Residential Lighting Long-Term Market Tracking Study

Data Collection Activity	Method	Sample Frame Source	Sample Design Overview	Number of Completes	Data Collection Dates
Retail Store Shelf Surveys	In-store surveys	List of stores provided by PECI (now CLEAResult)	Stratification across geographic regions, store categories (national chain, regional chain, independent), and store types	76 retail stores	December 2014–January 2015
Consumer Focus Groups	Focus groups	List of consumers provided by Consumer Opinion Services and Strategic Research Associates	Recruit focus group participants via a random-digit dial technique from general population within 10-20 miles of each focus group facility. Conduct focus groups in three locations throughout the Northwest region (Portland, OR; Seattle, WA; and Spokane, WA).	6 focus groups consisting of 8 customers in each group (48 total customers)	February 2015
Consumer Surveys	Computer-aided telephone interviews	List of Northwest zip codes from U.S. Census Bureau	Stratification by state and geographic region (urban versus rural) as defined by the U.S. Department of Agriculture Economic Research Service's Rural Urban Continuum Codes (RUCC); explicit inclusion of respondents taking survey from landlines and cell phones	995 consumers	February – March 2015
Utility Program Manager Interviews	In-depth telephone interviews	List of utility contacts provided by NEEA and updated by DNV GL staff	Attempted census of the 10 large and investor-owned utilities; even allocation of remaining sample points between medium-sized and small utilities	18 utility program managers	February–March 2015
Lighting Supplier Interviews	In-depth telephone interviews	List of manufacturers and retailers provided by CLEAResult	Attempted census of major lamp manufacturers and corporate representatives (lighting buyers) of national, regional, and local retail chains that serve the Northwest market	17 suppliers (12 manufacturer representatives; 5 retailer representatives)	February–April 2015

1.3 REPORT ORGANIZATION

The 2014–2015 Northwest Residential Lighting LTMT Study is organized into eight chapters. Chapters two through six provide details on the methods employed in the research and data collection efforts conducted as part of the study and provide an overview of key results. The remaining chapters summarize the key findings and present conclusions and recommendations.

Report chapters include the following:

- Chapter 2 describes the approach to and results of DNV GL's assessment of the residential CFL sales data that CLEAResult gathers for NEEA.
- Chapter 3 provides an overview of the method and results of shelf surveys conducted by field researchers in retail stores throughout the Northwest.
- Chapter 4 summarizes the methodology for and results of telephone surveys with Northwest consumers as well as key findings from the consumer focus groups.
- Chapter 5 describes the approach to and results of interviews with residential lighting program managers at utilities serving Northwest customers.
- Chapter 6 reviews the approach to and results of interviews with representatives of lamp manufacturing firms and corporate representatives of retail stores that sell lamps to Northwest consumers.
- Chapter 7 highlights key findings across the previous chapters organized by the eleven study objectives.
- Chapter 8 summarizes the conclusions and recommendations based on study findings.

The report also includes six appendices:

- Appendix A includes the bibliography for this study.
- Appendix B provides the data collection instruments for the research efforts described in Table 1 above.
- Appendix C provides additional information regarding the methods utilized to conduct the lighting retail store shelf surveys as well as a more detailed discussion of findings from the shelf survey analyses.
- Appendix D provides additional information regarding the methods utilized to conduct the consumer telephone surveys as well as a more detailed discussion of findings from survey analyses.
- Appendix E provides additional information regarding the methods utilized to conduct the consumer focus groups as well as a more detailed discussion of the key findings.
- Appendix F is a memorandum describing DNV GL's review and assessment of inputs to NEEA's ACE model for residential lighting.
- Appendix G is a memorandum describing the consumer survey sampling methodology.
- Appendix H provides the consumer telephone survey banner tables.

2 CFL SALES ASSESSMENT

This chapter provides an overview of Northwest Energy Star CFL sales from 2001 through 2014. The chapter also presents CFL sales for the past several years by lamp type (general purpose versus specialty)[2] as well as a review of regional sales of CFLs discounted by energy-efficiency program sponsors. Also note that the CFL sales data do not support analyses by urban versus rural geographic classifications.

2.1 REGIONAL SALES

As described in prior Northwest residential lighting LTMT studies, NEEA's implementation contractors have tracked Energy Star CFL sales throughout the region for more than a decade.[3] The current method relies upon reports of actual CFL sales through several major retail channels in the Northwest, reports from local utilities and other energy-efficiency program sponsors, and (to a limited extent) extrapolation of these data to retailers representing the Northwest region.[4] In 2010, NEEA's contractor, Fluid Market Strategies (now CLEAResult), increased the proportion of tracked sales versus extrapolated sales in their sales database and also began tracking specialty CFL sales as a fraction of total CFL sales in the region. In 2011, they further increased the proportion of tracked sales versus extrapolated sales in the region. In early 2012, they also adjusted its regional Energy Star CFL sales estimates for 2010 downward from 19,025,888 to 18,248,040 CFLs.[5]

Figure 1 shows sales of Energy Star CFLs sold in the Northwest with incentives provided by energy-efficiency program sponsors ("incentive sales") versus the portion comprised by non-incentive sales for each year. Total Energy Star CFL sales declined by approximately 14% between 2013 and 2014, with nearly 13.8 million CFLs sold in 2014 (13,793,169) compared to nearly 16.1 million CFLs sold in 2013 (16,096,979). Energy Star CFLs sold with energy-efficiency program incentives represented 66% of total regional sales in 2014 compared to 59% in 2013. The total number of Energy Star CFLs sold with energy-efficiency program incentives decreased by 5% from 2013 to 2014, and the number sold without incentives declined by 27% during the same timeframe. This is a shift from the 14% *increase* in non-incentive sales between 2012 and 2013. Non-incentive CFL sales in the Northwest during 2014 were below 2005 levels and total annual sales of Energy Star CFLs in the Northwest were lower than they have been since 2006.

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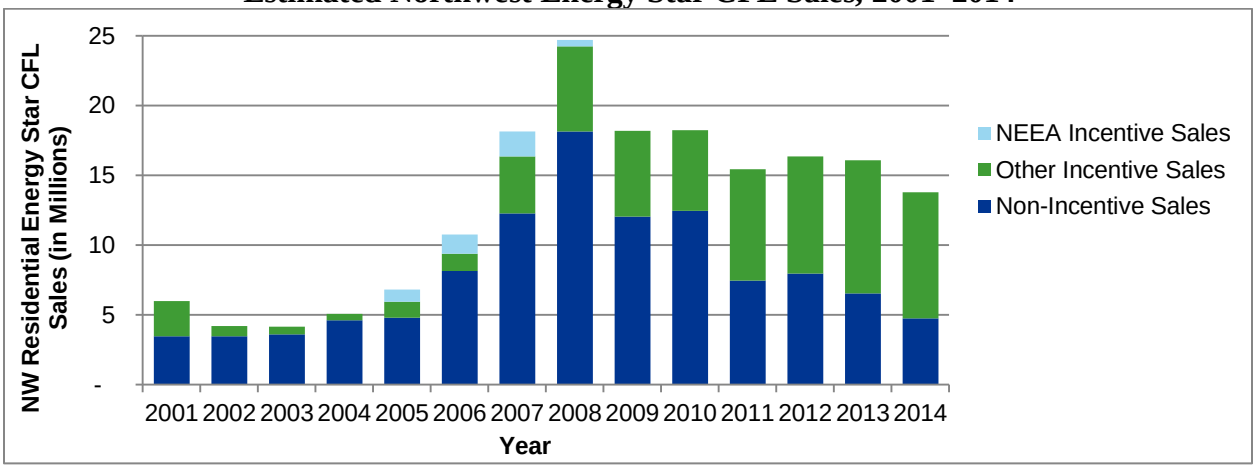
[2] General purpose CFLs include non-dimmable, single wattage spiral and A-lamp CFLs; specialty CFLs include dimmable and three-way spiral and A-lamp CFL as well as reflector, globe, and candelabra style CFLs. Other less common specialty CFL lamp styles include tube and circline styles.

[3] Note that because tracking methods have improved over time, it is likely that annual estimates from earlier years tracked a smaller proportion of the overall Northwest CFL sales than estimates for later years.

[4] In 2014, note that approximately 30 percent of total regional CFL sales (including Energy Star and non-Energy Star sales) were based on extrapolations rather than actual sales data.

[5] The majority of adjustments to 2010 sales were in the mass merchandise channel with additional (negligible) changes in the small hardware channel.

Figure 1
Estimated Northwest Energy Star CFL Sales, 2001–2014



Sources: PECI, 2006; Fluid Market Strategies, 2007–2013; CLEAResult, 2014–2015.
Total annual Energy Star CFL sales are: 2001n=5,979,890; 2002n=4,195,880; 2003n=4,171,552; 2004n=5,097,690; 2005n=6,832,478; 2006n=10,751,906; 2007n=18,157,300; 2008n=24,710,098; 2009n=18,177,678; 2010n=18,248,040; 2011n=15,442,628; 2012n=16,369,341; 2013n=16,096,979; 2014n= 13,793,169.

2.2 SALES BY CFL TYPE

NEEA's sales data collection contractor also tracked the proportion of total Northwest Energy Star CFL sales that were general purpose (spirals and A-lamps) versus specialty CFLs (all other CFL types). Between 2013 and 2014, regional sales of Energy Star general purpose CFLs declined by 4% overall, and regional sales of specialty Energy Star CFLs increased by 38% overall.[6] The proportion of regional Energy Star CFL sales comprised by general purpose and specialty CFLs changed somewhat between 2013 and 2014, with general purpose CFLs comprising 69% of total Energy Star CFL sales in 2013 and 78% in 2014.

2.3 INCENTIVE CFL SALES

During 2014, there were numerous CFL incentive programs available to residential electric utility customers throughout the Northwest. The sections below provide an overview of the larger of these programs and summarize changes over time in incentive program sales.

[6] General purpose CFL sales declined from 11,157,560 lamps in 2013 to 10,733,026 in 2014, and specialty CFLs declined from 4,939,419 in 2013 to 3,060,143 in 2014.

2.3.1 Energy-Efficiency Programs in the Northwest

This section reviews the 2014 residential lighting incentive programs operated by the Bonneville Power Administration (BPA), Puget Sound Energy, Seattle City Light, NorthWestern Energy, and Snohomish County Public Utility District.

Bonneville Power Administration Simple Steps, Smart Savings Program

The BPA's Simple Steps, Smart Savings residential lighting incentive program started in 2010 and is targeted at all residential customers in the service territories of utilities participating in the Simple Steps program. The 2014 program was far-reaching and included more than 50 utility participants throughout the Northwest.

Simple Steps is an upstream lighting program with incentives delivered to manufacturers (or in some cases, directly to retailers[7]) that produce program-qualifying products. If participating utilities have enough residential lighting program budget available, they have the ability to completely fund their participation in Simple Steps without any financial assistance from the BPA. However, many of the participating utilities are small or medium-sized utilities and lack the ability to completely self-fund their participation in Simple Steps; in these cases, the BPA provides additional funding for a given program year.

The Simple Steps program is designed to incorporate any number of lighting products, and in 2014, the program included Energy Star CFLs, CFL fixtures, Energy LED lamps, and LED fixtures.[8] The program included both general purpose and specialty CFLs and LED lamps in 2014 and capped incentives for general purpose CFLs at $0.50 per lamp and specialty CFLs at $2.00 per lamp. The cap for LED replacement lamps was $3.00 per lamp in 2014. The program capped incentives for CFL and LED fixtures at $8.00 in 2014.

Puget Sound Energy Residential Lighting Program

Puget Sound Energy's (PSE) residential lighting program began as an instant discount (upstream rebate) program in the mid-2000s and had a budget of $14.9 million in 2014 (compared to $14.5 million in 2013). Like the BPA's Simple Steps program, PSE's residential lighting program is an upstream program that offers instant discounts to consumers in participating retail stores. Depending on the agreement that PSE has with its retail partners, incentives may go to participating manufacturers or directly to retailers.

PSE's program includes general purpose and specialty Energy Star CFLs.[9] Since 2011, PSE has also provided incentives for Energy Star LED replacement lamps and fixtures. Among the LED styles included in the program are select reflectors, omni-directional and directional A-lamps, globe lamps, and candelabra/decorative shaped lamps. PSE capped incentives for general purpose and specialty CFLs at $0.50 per lamp; this is significantly lower than in 2013, when the caps

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[7] The BPA made arrangements with a few large retail chains to deliver incentives directly to them rather than to lamp manufacturers.

[8] The Simple Steps program included LED replacement lamps and fixtures as of the second quarter of 2013.

[9] PSE discontinued incentives for CFL fixtures at the end of 2013.

were $2.25 for general purpose CFLs and $4.00 for specialty CFLs. The incentive caps for LED lamps in 2014 were $5.00 for A-lamps (compared to $7.00 in 2013) and up to $7.00 for some specialty LED styles[10] (compared to up to $8.00 in 2013). Each lamp type also had a base level incentive that was lower than these incentive caps (this applies to CFLs and LED lamps). To receive the maximum allowed incentive for a given lamp type, the manufacturer or retail partner must also agree to promote the lamp (e.g., provide promotional signage and/or buy end-cap space).

Seattle City Light Twist & Save Lighting Program

Seattle City Light's Twist & Save[11] Program is an instant discount (upstream) program that provides incentives to participating manufacturers or large chain retailers. The program has been in place since 2007 and includes incentives for general purpose[12] and specialty Energy Star LED lamps and LED recessed can fixtures. In 2014, Seattle City Light discontinued incentives for CFLs. The 2014 program budget was $3.8 million in 2014 and $2.6 million in 2013.

Seattle City Light provides incentives for general purpose LED A-lamps, which vary by wattage equivalencies ($4.00 incentive for 40 watt equivalent A-lamps, $5.00 for 60 watt equivalent A-lamps, and $6.00 for A-lamps greater than 60 watt equivalent). Incentives for PAR and BR reflector LED lamps ranged from $6.00 to $7.00, and incentives for recessed can retrofit kits were $10.00 in 2014.

Other Programs

In addition to the major programs mentioned above, some of the region's other large and investor-owned utilities operated additional residential lighting programs during 2014. These included:

- **NorthWestern Energy:** NorthWestern Energy was a Simple Steps participant in 2014, but they also ran their own CFL coupon program. The utility worked with retail partners to target rural customers in Montana who were not served by Simple Steps. In most cases, customers served by the CFL coupon program live too far from Simple Steps retail partner stores to participate in the Simple Steps program. NorthWestern Energy mailed coupons for $1.00 off of the retail price for up to 10 Energy Star CFLs (for a total savings of up to $10.00).[13] Participating customers could then redeem the coupons at retail stores that do not participate in Simple Steps and receive an instant rebate at the store.
- **Snohomish County Public Utility District (SnoPUD):** SnoPUD participates in the Simple Steps program but also partnered with a third party in 2014 to provide additional residential lighting incentives through an upstream program. This program offered

[10] BR, R, and PAR reflector style LED lamps as well as LED retrofit kits were eligible for up to $7.00 in incentives in 2014. MR16 LED lamps received up to $5.00 and candelabra and globe style LED lamps received up to $4.00.

[11] Seattle City Light is moving away from the "Twist & Save" brand for its residential lighting program. As of the first quarter of 2015, there are no plans for developing a new name for the program.

[12] General purpose LED lamps are single wattage medium screw base A-lamps. Specialty LED lamps are all other lamp styles and/or base types as well as 3-way A-lamps.

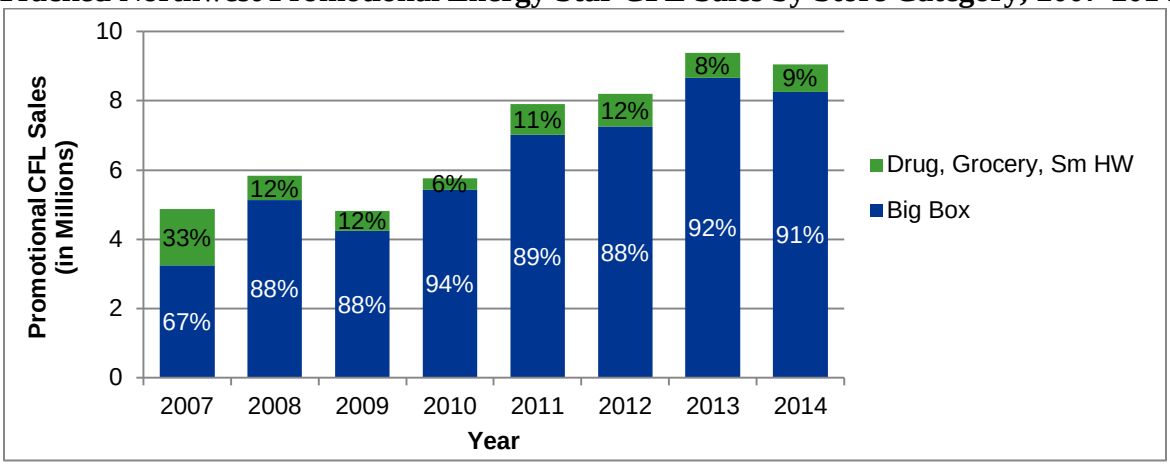
[13] NorthWestern Energy mailed out in-store coupons twice during 2014. The coupon value cannot exceed the price of the CFL package.

incentives on general purpose and specialty CFLs[14] of up to $1.00 per lamp. The program also offered incentives for LED lamps (up to $3.00 per lamp) and Energy Star CFL and LED fixtures (from $5.00 to $7.00 per fixture).

2.3.2 Incentive Program Sales

Figure 2 shows the number of incented Energy Star CFLs sold in the Northwest between 2007 and 2014 by retail store category. Retail categories include non-big box (drug, grocery, and small hardware stores) and big box (mass merchandise stores, DIY stores, and membership clubs). As shown, the number of Energy Star CFLs sold with utility incentives decreased from 9.4 million in 2013 to 9.1 million in 2014 (see Figure 2). During this timeframe, there were minimal changes in the proportion of incentive sales comprised by big box stores versus non-big box stores.[15]

Figure 2
Tracked Northwest Promotional Energy Star CFL Sales by Store Category, 2007-2014



Source: Fluid Market Strategies, 2007–2013; CLEAResult 2014–2015.
Number of promotional CFLs tracked by store category: 2007 n=4,868,350; 2008 n=5,811,229; 2009 n=4,827,010; 2010 n=5,766,284; 2011 n=7,905,992; 2012 n=8,204,346; 2013 n=9,377,523; 2014 n=9,053,265.
Data excludes sales through Lighting Specialty stores (≤1% of promotional sales per year).

[14] The program primarily incentivizes Energy Star CFLs and LED lamps, but allows incentives for products that have been tested at the Lighting Design Lab and have not yet qualified for Energy Star.

[15] Throughout this report, the term "big box" refers to Do-It-Yourself (DIY), mass merchandise, and membership club stores, and "non-big box" refers to drug and grocery and hardware stores.

3 SHELF SURVEYS

This section of the report focuses on the lighting retailer shelf surveys and includes a brief description of the methodology and presentation of key findings from survey data analysis. It provides results for the most recent phase of shelf surveys (conducted in late 2014/early 2015[16]) and, where possible, compares current findings to results from similar surveys conducted in prior studies. Appendix B contains the data collection instrument used for the 2014 shelf surveys, and Appendix C provides more detailed results including tables and (where possible) comparisons with prior years broken down by region and store category.

3.1 APPROACH

Field researchers visited 76 lighting retail stores in the Northwest region during December 2014 and January 2015. Researchers performed a comprehensive inventory of all CFLs, incandescent lamps, halogen lamps, LED lamps, and 4-foot T-8 and T-12 fluorescent tube lamps available to consumers in each store.

As shown in Table 2, researchers stratified the sample stores by store type and sampled proportionally to the distribution of stores in the Northwest region.[17]

Table 2
Lighting Retailer Shelf Survey Completes by Store Type, 2014-15

Store Type	Number of Stores	Percentage of Stores
Membership Club	4	5%
Do-It-Yourself	10	13%
Drug and Grocery	22	29%
Mass Merchandise	18	24%
Small Hardware	22	29%
Overall	**76**	**100%**

Analysts calculated sample expansion weights by strata and applied them to each sample retailer such that findings presented in this section represent the population of lighting retailers in the region that sell residential replacement lamps. For results on lamp prices throughout the region, we also applied shelf stocking weights based on the absolute counts of lamps in retail stores.

[16] For consistency with prior study periods, we refer to the shelf surveys conducted in late 2014/early 2015 as the "2014 shelf surveys" throughout the report.

[17] Analysts used the same sample frame for the 2014–15 study as used in previous years, which is a list of retail stores in the Northwest compiled for NEEA by PECI, Inc. in the mid-2000s.

3.2 RESULTS

The shelf surveys collect data on lamp availability, diversity and pricing as well as on the various types of promotional materials for replacement lamps on display in Northwest retail stores.

3.2.1 Lamp Availability

The shelf surveys enable assessment of CFL availability over time (between 2008 and 2014) in terms of the percentage of Northwest stores carrying different lamp technologies and the percentage of total lamp stock comprised by each technology.

Percent of Stores

Since 2006, shelf survey researchers have collected data regarding the presence or absence of CFLs in Northwest retail stores. As in previous years, nearly all of the stores visited by shelf survey researchers stocked CFLs in 2014 (98%). There was no change in the percentage of stores carrying general purpose CFLs in 2008 to 2014 (at roughly 96% to 97% of stores), and the percentage of stores carrying specialty CFLs has remained constant (above 90% of stores) since 2010. There were no significant changes in the percentage of stores stocking of CFLs by store category except for specialty CFLs in big box stores which increased slightly from 85% in 2013 to 90% in 2014.

In addition to collecting data on CFLs, the 2013 and 2014 shelf surveys collected data on incandescent, halogen, and LED lamps. Results suggest that:

- The percentage of Northwest retail stores stocking LED lamps remained the same between years at 83% to 84% of stores.
    - The percentage of big box stores stocking LED lamps increased between 2013 and 2014 (from 68% to 85% of stores).
    - Among non-big box stores, the percentage of stores carrying LED lamps remained the same between years at roughly 85%.
- In 2014, 99% of stores stocked incandescent lamps, which was unchanged from 2013. There were no differences in stocking patterns by store category between years.
- The percentage of stores stocking halogen lamps also remained constant between years at approximately 95%. There were no differences in stocking patterns by store category between years.

Percent of Lamps Stocked

The percentage of total lamps observed in retail stores is an indicator of the relative availability of different lamp types (general purpose and specialty CFLs as well as incandescent, halogen, and LED lamps). Based on these data, results suggest that:

- Incandescent lamps continue to dominate retail store inventories overall, although their share of total lamp stock has declined overall between 2013 and 2014 (from 50% of all lamps stocked in the region's retail stores to 47%).

  - The share of incandescent lamps stocked in big box stores decreased from 47% in 2013 to 42% in 2014, while the share in non-big box stores declined from 54% to 51% between years.
- The proportion of halogen lamp stock grew from 21% of all lamps stocked in 2013 to 24% of lamps stocked in 2014.
  - The proportion of halogen lamps stocked in big box stores grew from 20% in 2013 to 25% in 2014, while the share in non-big box stores grew from 21% to 24% between years.
- The share of LED lamp stock doubled from 4% of all lamps in 2013 to 8% of lamps stocked in 2014.
  - The share of LED lamps stocked in big box stores grew from 7% in 2013 to 12% in 2014, and doubled in non-big box stores between years (from 2% to 4%).
- The proportion of CFLs stocked declined slightly from 24% in 2013 to 21% in 2014. A decline in the proportion of general purpose CFLs stocked drove this change (decreasing from 18% in 2013 to 15% in 2014).

Availability of EISA-Qualified Lamps

The U.S. Congress passed the Energy Independence and Security Act (EISA) in 2007. EISA requires that general purpose incandescent lamps meet minimum efficacy standards that traditional general purpose incandescent lamps[18] cannot meet, effectively pushing the most inefficient lamps out of the market. As shown in Table 3, the EISA standards phased in gradually; on January 1, 2012, the legislation prohibited the manufacture and importation of general purpose incandescent lamps above 72 watts with light output in the 1490 to 2600 lumen range (referred to as "high brightness" throughout this report), beginning the phase-out of many traditional 100 watt incandescent lamps. After this date, it was illegal to manufacture or import lamps that did not meet the standard, but retailers are allowed to sell through their existing stock. As of January 1, 2014, standards for all four wattage and lumen categories were in effect.

[18] The sections of this report referring to general purpose incandescent lamps (or "MSB incandescent A-lamps") utilize the EISA definition of a general purpose incandescent lamp, which states that this term refers to "a standard incandescent or halogen type lamp that – 1) is intended for general service applications; 2) has a medium screw base; has a lumen range of not less than 310 lumens and not more than 2,600 lumens; and 3) is capable of being operated at a voltage range at least partially within 110 and 130 volts" (H.R. 6--110th Congress, 2007). EISA also includes separate efficiency standards for reflector and modified spectrum lamps as well as a list of lamp types that are excluded from regulation. This report focuses on general purpose lamps only, excluding reflector, modified spectrum, and other EISA exemptions.

Table 3
Summary of EISA Efficiency Standards

EISA Effective Dates	Incandescent Lamp Wattage (Watts)	Typical Incandescent Light Output (Lumens)	Typical Incandescent Efficacy (Lumens/Watt)	EISA Replacement Wattage (Watts)	EISA Light Output Ranges (Lumens)	EISA Minimum Efficacy Ranges (Lumens/Watt)
1/1/2012	100 W	1690 lm	17 lm/W	72 W	1490-2600 lm	21-36 lm/W
1/1/2013	75 W	1170 lm	16 lm/W	53 W	1050-1489 lm	20-28 lm/W
1/1/2014	60 W	840 lm	14 lm/W	43 W	750-1049 lm	17-24 lm/W
1/1/2014	40 W	490 lm	12 lm/W	29 W	310-749 lm	11-26 lm/W

Source: U.S. EPA, 2011.

The percentages in this section of the report focus only on MSB incandescent A-lamps (including halogen technologies). This section excludes non-incandescent technologies from the analyses so as not to skew the overall results (because nearly all general purpose CFLs and LED lamps meet EISA standards). The report classifies lamps that meet the EISA efficiency standards at the times field staff conducted shelf surveys as "Meets EISA Standard." All other MSB incandescent A-lamps within these lumen ranges fall into the "Does Not Meet EISA" category. This report section categorizes the lumen ranges presented in Table 3 above as follows:

- **High Brightness.** This incandescent/halogen lamp category refers to medium screw-base (MSB) incandescent A-lamps with light output between 1490 and 2600 lumens, equivalent to the light output of many traditional 100 watt incandescent lamps. Lamps in this lumen range that meet the EISA standard have wattages of 72 or below. Lamps in this lumen range that do not meet the standard exceed 72 watts. The phase-out for lamps in this brightness category began on January 1, 2012.
- **Medium High Brightness.** This lamp category refers to MSB incandescent A-lamps with light output between 1050 and 1489 lumens, equivalent to the light output of many traditional 75 watt incandescent lamps. Lamps in this lumen range that meet the EISA standard have wattages of 53 or below. Lamps in this lumen range that do not meet the standard exceed 53 watts. The phase-out for lamps in this brightness category began on January 1, 2013.
- **Medium Low Brightness.** This category refers to MSB incandescent A-lamps with light output between 750 and 1049 lumens, equivalent to the light output of many traditional 60 watt incandescent lamps. Lamps in this lumen range that meet the EISA standard have wattages of 43 or below. Lamps in this lumen range that do not meet the standard exceed 43 watts. The phase-out for lamps in this brightness category began on January 1, 2014.
- **Low Brightness.** This lamp category refers to MSB incandescent A-lamps with light output between 310 and 749 lumens, equivalent to the light output of many traditional 40 watt incandescent lamps. Lamps in this lumen range that meet the EISA standard wattages of 29 or below. Lamps in this lumen range that do not meet the standard exceed 29 watts. The phase-out for lamps in this brightness category began at the same time as for lamps in the Medium Low Brightness category (on January 1, 2014)..

High Brightness MSB Incandescent A-Lamps (1490–2600 lumens). During the lighting retailer shelf surveys, field researchers gathered information that enables classification of all MSB incandescent A-lamps as either meeting or not meeting the EISA standard relevant to their lumen output. This report presents results for lamps at all four lumen bins affected by EISA, starting with those affected by the first phase (as of January 1, 2012). For lamps in this lumen range, results suggest that:

- Nearly all high brightness incandescent A-lamps met the standard in 2013 and 2014.

Medium High Brightness MSB Incandescent A-Lamps (1050–1489 lumens). The standard for medium high brightness MSB incandescent A-lamps went into effect on January 1, 2013. The light output of lamps in this range is typically considered to be equivalent to that of a traditional 75 watt incandescent lamp. Results suggest that:

- Nearly two-thirds of lamps in this category in Northwest retail stores met the relevant EISA standard at the time of the 2013 shelf surveys, and three-quarters of these lamps met the standard at the time of the 2014 shelf surveys.
- The percentage of lamps that met the standard was higher in non-big box stores (84%) than in big box stores (65%) in 2014.

Medium Low Brightness MSB Incandescent A-Lamps (750–1049 lumens). The standard for medium low brightness MSB incandescent A-lamps went into effect on January 1, 2014. The light output of lamps in this range is typically considered to be equivalent to that of a traditional 60 watt incandescent lamp. Results suggest that:

- Approximately one-fifth of lamps in this category in met the relevant EISA standard at the time of the 2013 shelf surveys, and more than half (54%) met the standard at the time of the 2014 shelf surveys.
- The percentage of lamps that met the standard was higher in big box stores (72%) than in non-big box stores (45%) in 2014.

Low Brightness MSB Incandescent A-Lamps (310–749 lumens). The standard for low brightness MSB incandescent A-lamps went into effect on January 1, 2014. The light output of lamps in this range is typically considered to be equivalent to that of a traditional 40 watt incandescent lamp. Results suggest that:

- Approximately one-fifth of lamps in this category in met the relevant EISA standard at the time of the 2013 shelf surveys, and less than half (46%) met the standard at the time of the 2014 shelf surveys.
- The percentage of lamps that met the standard was higher in big box stores (51%) than in non-big box stores (42%) in 2014.

3.2.2 Lamp Diversity

Analysts examined lamp diversity in terms of the average number of lamp models[19] available per store.[20] These data are available for general purpose and specialty CFL models available by store category over time (2012 through 2014).

Average Number of CFL Models over Time

Results on lamp diversity over time suggest that:

- The average number of CFL models per store remained roughly the same between 2012 and 2014 (between 35 and 38 models per store).
    - The average number of general purpose CFL models per store remained the same between 2012 and 2014 at between 19 and 21 models per store.
    - The average number of specialty CFL models per store remained the same between 2012 and 2014 at between 16 and 17 models per store.
- The average number of CFL models stocked per big box store declined slightly from 42 models per store in 2012 to 38 in 2014, while the average number of CFL models stocked per non-big box store declined from 38 in 2013 to 33 in 2014.

Average Number of Lamp Models per Store by Technology

Results on changes in lamp diversity between 2013 and 2014 by technology suggest the following:

- The average number of LED lamp models per store doubled from 6 in 2013 to 12 in 2014.
- The average number of LED lamp models in big box stores increased from 10 in 2013 to 24 in 2014.
- With respect to incandescent and halogen lamp model diversity, the average number of incandescent lamp models increased slightly from 59 to 65 per store, and the average number of halogen lamp models decreased from 27 to 23 per store between years.
- The average number of incandescent lamp models increased slightly in big box stores from 60 to 65, while the average number of halogen lamp models per store declined slightly in non-big box stores from 27 to 22 between years.

3.2.3 Average Shelf Price

Results on the average shelf price per CFL in 2013 and 2014 suggest the following:

- The average shelf price per general purpose CFL increased by 11% overall to $4.00 per lamp between 2013 and 2014.
- The average shelf price per specialty CFL increased by 14% overall to $7.71 per lamp between 2013 and 2014.
- Big box stores had the largest changes in average price with a 21% increase in the average price of a general purpose CFL (to $3.13 per lamp in 2014) and a 21% increase in the average price of a specialty CFL (to $6.21 per lamp in 2014).

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[19] The number of lamp models in a given store refers to the number of unique lamp packages in that store. See Section C3 in Appendix C for further details.

[20] See Section C3 in Appendix C in for a description of the methodology used to calculate unique lamp models.

- One key contributor to these relatively large increases in CFL prices may be the state of Washington's Mercury-Containing Lights Law, which requires the recycling of mercury-containing lamps and requires a $0.25 per CFL recycling fee as of January 1, 2015 (See Section C.4.1 for further details).

Results on the average shelf price per general purpose lamp in 2013 and 2014 suggest the following:

- The average shelf price per traditional incandescent lamp increased by 56% overall to $1.39 per lamp in 2014.
- Spiral CFLs increased to $3.70 overall and A-lamp CFLs increased to $7.52 overall in 2014 (a 12% increase between years for both lamp styles).
- The average price of LED A-lamps increased by 2% to $11.14 per lamp overall in 2014. This higher average price is likely due to the greater availability of brighter A-lamps.
- The average price of halogen lamps remained the same between years at approximately $1.90 per lamp overall.

Results on the average shelf price per MSB reflector lamp in 2013 and 2014 suggest the following:

- LED reflector lamps declined by 22% overall to $17.35 per lamp in 2014.
- CFL reflector lamps increased by 36% overall to $8.51 per lamp in 2014.
- The average price of an incandescent reflector lamp increased by 11% overall to $5.52 per lamp.
- The average price of a halogen reflector was roughly the same between years at approximately $9.50 per lamp overall.

3.2.4 Linear Fluorescent Lamps

Field researchers gathered data on 4-foot linear fluorescent lamps, including both T8 and T12 technologies, during the lighting retail store shelf surveys.

Linear Fluorescent Lamp Availability

Analysts examined linear fluorescent lamp availability in terms of the percentage of Northwest retail stores that stock these lamps as well as the percentage of total linear fluorescent lamps stocked by lamp type (T8 or T12). Results suggest that:

- There was a slight decline in the percent of stores stocking T12 lamps in 2014 compared to 2013 (from 47% to 43%).
- There was a slight increase in the percent of stores stocking T8 lamps in 2014 compared to 2013 (from 32% to 37%).
- A higher percentage of big box stores carried T12 and T8 lamps than non-big box stores in both 2013 and 2014.
- The percentage of non-big box stores stocking T12 lamps declined from 37% to 31%, and the percentage stocking of T8 lamps increased from 26% to 32% between 2013 and 2014. There were no changes in the percent of big box stores stocking these lamps.

- T12 lamps comprised 71% of linear fluorescent lamps overall in 2014 compared to 62% in 2013.
- There were no differences by store category in terms of the share of T12 and T8 lamps stocked in 2014.

Linear Fluorescent Lamp Diversity

Analysts examined the diversity of linear fluorescent lamp offerings among Northwest retail stores in terms of the average number of T12 and T8 lamp models stocked per store. Results suggest that:

- On average, Northwest stores stocked 1.7 T12 lamp models and 0.8 T8 lamp models per store in 2014, which was unchanged from 2013.
- There were more than double the number of T12 lamp models available in big box stores compared to non-big box stores in 2014 (2.8 models per store compared to 1.3 per store).
- There were no changes between years in terms of T12 and T8 lamp model diversity by store category between years.

3.2.5 Promotional Materials

During the 2014 shelf survey visits, field researchers gathered details on promotional materials or displays regarding replacement lamps. These data enable summarization of promotional materials by the type of lamp promoted and store category, geographic sector. Key findings include:

- Fifty-five percent of stores had one or more promotional materials in the store related to replacement lamps, which is a decrease from 2013 in which 69% of stores had one or more promotional materials. Among the stores that had promotional materials in 2014, all included one or more signs placed on shelving or on a wall in the store. Two percent of stores had signs about replacement lamps hanging from the ceiling (compared to 4% in 2013).
- The most common technology described or promoted on these materials was the CFL, with 47% of all stores displaying one or more promotional materials regarding CFLs in 2014 (compared to 67% of stores promoting CFLs in 2013). Thirty percent of stores had promotional materials related to LED lamps in 2014 (compared to 35% in 2013). One quarter of stores displayed materials regarding EISA-compliant incandescent lamps in 2013 (compared to 35% in 2013). Sixteen percent of stores displayed materials regarding traditional incandescent lamps in 2014 (compared to 29% in 2013).
- A higher proportion of big box stores displayed lighting promotional materials in 2014 than non-big box stores (64% versus 52%, respectively). Stores surveyed as part of the 2012 shelf surveys showed the same trend. More than half of the big box stores and nearly half of the non-big box stores displayed promotional materials about CFLs in 2014. Nearly half of Northwest big box stores in 2014 had materials regarding LED lamps compared to less than a quarter of non-big box stores. More than one-third of big box stores and about one-fifth of non-big box stores had promotional materials related to EISA-compliant incandescent lamps in 2014. A greater percentage of big box stores had promotional materials regarding traditional incandescent lamps (25% of stores in 2014), compared to 13% of non-big box stores.

- Nearly all of the stores that displayed promotional materials in 2014 did so in the lighting aisle (this was also the case in 2013). Fourteen percent of stores in 2014 had promotional materials regarding replacement lamps positioned on end-caps (compared to 8% in 2013).
- Messaging on the promotional materials was varied. The most common message on the promotional materials in 2014 related to specific utility programs. Messaging concerning utility programs was present in approximately 35% of stores in the 2014 (which was the same in 2013). Another common message was energy and/or money savings, which was found in one-quarter of the stores (also one-quarter of stores in 2013).

4 CONSUMER RESEARCH

This chapter presents key findings from 995 telephone surveys conducted with Northwest consumers in early 2015 as well as key findings from the consumer focus groups conducted in 2015. Appendix B provides the data collection instruments used for the 2015 consumer surveys and consumer focus groups, Appendix G details the consumer survey sampling approach, and Appendix H provides cross-tabulations of each survey question in banner table format. Please refer to Appendix D for detailed findings from the consumer telephone surveys and Appendix E for detailed findings from the consumer focus groups.

4.1 APPROACH

Below we summarize our approaches to the 2015 consumer telephone surveys and focus groups, which form the basis for the results presented in this chapter.

4.1.1 Consumer Telephone Surveys

DNV GL conducted the 2015 consumer surveys with a stratified random sample of households in Idaho, Montana, Oregon and Washington between February and March, 2015. We designed the 2015 consumer survey sample to meet the following criteria within survey budget constraints:

- Accurately represent urban and rural populations and facilitate comparisons between the two;
- Provide reasonable estimates at the state level and ensure that results can be compared between and among the states; and
- Include both landline and cell phone respondents to account for an ever-growing population of wireless-only households.

The 2015 consumer telephone survey represents the second survey phase in which the sampling approach included quotas for respondents taking the survey from cell phones versus landlines (the first was in 2014).[21] Analysts allocated sample points based on the U.S. Census Bureau's 2014 estimates of population by county (U.S. Census Bureau, 2014). We merged these county-level population estimates for each of the four states with the Rural-Urban Continuum Code (RUCC) data.[22] We then stratified the Northwest population into eight strata defined by the combinations of the four Northwest states and two geographic sectors (rural and urban).

Table 4 below illustrates the number of completed surveys by geographic sector and state. Ten percent of the 2013 Northwest residential population was in the rural sector, and 90% was in the

[21] To ensure that any differences in results between 2013 and 2014 were attributable to changes in the market rather than changes in the sampling approach (i.e., incorporating cell phone –only households), we compared results between landline and cell phone respondents for key variables and determined that this change in approach did not affect the overall study results.

[22] The U.S. Department of Agriculture's Economic Research Service developed Rural-Urban Continuum Codes to distinguish metropolitan (metro) counties by the population size of their metro area, and non-metropolitan (non-metro) counties by degree of urbanization and adjacency to a metro area. Based on the 2013 RUCC codes, analysts stratified the population into two geographic sectors—urban and rural.

urban sector. However, to ensure comparability between the urban and the rural sectors (per RUCC designations) and similar statistical precision for each sector's survey estimates, NEEA opted for a sample design that allocates approximately one-third of the sample points to the rural sector and the balance to the urban sector.[23]

Table 4
2015 Consumer Survey Population and Sample Sizes by State and RUCC Designation

	Population*				Sample Size			
	N		%		n		%	
State	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
Idaho	395,210	1,216,926	3%	9%	108	62	11%	6%
Montana	368,823	646,342	2%	5%	91	43	9%	4%
Oregon	255,375	3,674,690	2%	27%	69	191	7%	19%
Washington	334,440	6,636,966	3%	49%	65	366	7%	37%
Subtotal	**1,353,848**	**12,174,924**	**10%**	**90%**	**333**	**662**	**33%**	**67%**
Total	**13,528,772**		**100%**		**995**		**100%**	

* Source for population counts: U.S. Census Bureau, 2014 (see Appendix A for full citation).

Analysts created and applied sample expansion weights to the data such that the results are representative of the Northwest residential population.[24] We analyzed the 2015 survey data using both time series and cross-sectional comparisons to understand changes in the market as well their underlying causes. We also analyzed results by geographic region (urban versus rural per the RUCC designations). Note that NEEA shifted its geographic classifications from metro/non-metro to urban/rural in 2012, so time series comparisons for urban/rural designations are only possible since 2012. Within the results, analysts looked for meaningful and statistically significant differences. The report provides tests of statistical significance at the 90% level of confidence.

4.1.2 Consumer Focus Groups

DNV GL's moderator conducted six focus groups with consumers in Portland, OR; Seattle, WA; and Spokane, WA. The purpose of the focus groups was to:

- Understand Northwest consumer familiarity with and perceptions of CFLs, LED lamps and energy-efficient incandescent lamps;
- Assess consumer motivations for recent purchases and installation (or lack thereof) for each of these lamp technologies; and
- Better understand drivers of consumer decision-making regarding replacement lamp purchases and influences on those decisions.

[23] For more details regarding the overall sampling approach, please refer to Appendix G.

[24] Please refer to Table 22 in Appendix D for consumer survey sample expansion weights.

Each group consisted of nine or ten participants, as shown in Table 5 below. The groups began with a brief discussion of how participants would describe CFL, LED and energy-efficient incandescent lamps to someone who was not familiar with them. The moderator then led participants in discussions regarding their lamp purchase, installation, and shopping behaviors as well as their decision criteria for choosing which lamp(s) to purchase. Each session closed with a simulated lamp shopping exercise and discussion of their experience and rationale for their lamp choices.

Table 5
Number of Focus Group Participants by Group Location and Time, 2015

Location	Time		Total Participants
	5:30-7:30 pm	7:30-9:30 pm	
Portland, OR	9	9	18
Seattle, WA	9	10	19
Spokane, WA	9	9	18
Total Participants	**27**	**28**	**55**

4.2 RESULTS

Below we provide results from the consumer surveys beginning with consumer awareness and purchases of different lamp technologies, including CFLs, LED lamps, and EISA-compliant incandescent lamps.[25] We then focus on CFLs, specifically, and close with a discussion regarding consumer familiarity and purchasing behaviors with regard to EISA and EISA-compliant lamps. Where applicable, we have incorporated results from the focus groups to add context.

4.2.1 CFL, LED, and EISA-compliant Lamp Technologies

As described above, the consumer telephone survey included questions to gauge consumer awareness and purchase rates for CFLs. Starting in 2013, the surveys have included similar questions regarding LED lamps and EISA-compliant incandescent lamps. The 2015 surveys also included questions regarding the types of lamps consumers replaced with recently-purchased CFLs and LED lamps. The focus groups addressed some of these issues as well as lamp storage.

Lamp Awareness and Purchases

Consumer research results suggest that:

- After statistically-significant declines in CFL awareness (from 90% to 86% of the population) and purchase rates (from 70% to 60% of consumers) between 2013 and 2014, CFL awareness and purchase rates held steady between 2014 and 2015. Eighty-three percent of Northwest consumers reported awareness of CFLs in the 2015 survey and 57% reported having purchased them.

[25] See Section 3.2.1 and Table 3 for further details on the Energy Independence and Security Act (EISA).

- Awareness of LED lamps remained high (94% of consumers) and the percentage of consumers who have purchased LED lamps increased significantly from 25% to 35%. Focus group results suggest that LED lamp prices may be the most significant factor preventing more consumers from purchasing LED lamps.
- Awareness of EISA-compliant incandescent lamps held steady at roughly 60% of the Northwest population in 2015, while the purchase rate increased significantly from 22% to 28% of consumers but remains substantially lower than the percentage of consumers who have purchased CFLs (57%). Focus group participants generally understood that energy-efficient incandescent lamps look like traditional incandescent lamps but use less energy. Several participants mentioned wattage levels that are "usually an odd number like 43,…45, or a 67, instead of a 60 watt," but some were uncertain regarding exactly how these lamps differ from traditional incandescent lamps.
- A significantly larger percentage of rural consumers were aware of CFLs but had never purchased them than urban consumers (34% versus 21%), but there were no significant differences between rural and urban consumers regarding awareness and purchase of LED lamps or energy-efficient incandescent lamps.
- Many focus group participants reported that retail sales with discounted pricing exerted at least some influence on their lamp purchasing decisions. These participants mentioned impulse purchases and/or buying more than planned, particularly for LED lamps, when discounts were available. A minority of participants reported always stocking up when lamps were on sale and/or when shopping at certain stores (e.g., membership clubs).

Lamp Purchase Quantities

The 2013, 2014, and 2015 surveys asked consumers to estimate the number of traditional incandescent lamps, general purpose CFLs, specialty CFLs, LED lamps, and EISA-compliant incandescent lamps they purchased in the year prior to the survey (i.e., 2014 purchases in the 2015 survey). We averaged results across all Northwest consumers, and consumers purchased between 10 and 11 lamps, on average, in 2014 and 2015.

- In 2012 and 2013, traditional incandescent lamps comprised approximately half of all lamps purchased in each year. In 2014, however, the share comprised by traditional incandescent lamps dropped significantly (from 46% of lamps purchased in 2013 to 35% in 2014). Despite these changes, however, traditional incandescent lamps still comprised the largest quantity and largest share of all lamps purchased in 2014 (3.6 lamps, on average).
- The share of purchased lamps comprised by LED lamps increased significantly between 2013 and 2014 purchases (from 15% of 24% of lamps). Results also suggest that in 2014, Northwest consumers purchased similar quantities of general purpose CFLs and LED lamps (2.4 and 2.5 lamps per consumer, on average), with each comprising roughly one-quarter of all lamps purchased in 2014.
- The share comprised by EISA-compliant incandescent lamps remained low (approximately 16% of lamps purchased in 2014). It is worth noting that during the consumer focus groups, there was confusion regarding whether some participants had energy-efficient incandescent lamps or traditional incandescent lamps installed in their homes.

Lamp Replacements

The 2015 consumer telephone surveys included new questions to identify the types of lamps replaced with recently-purchased CFLs (among CFL purchasers) and LED lamps (among LED lamp purchasers). There were no noteworthy differences in results between CFL purchasers and LED lamp purchasers—roughly 60 percent of each reported that they replaced incandescent lamps with their recently-purchased lamps. The percentage of CFL and LED lamp purchasers who reported that they replaced CFLs with their recently-purchased lamps was also similar (39% and 36%, respectively). These results suggest that consumers may be treating CFLs and LED lamps similarly in this regard despite the differences between the two technologies in price, efficiency, and other characteristics.

Lamp Storage

All focus group participants reported having at least one lamp in storage and some reported having up to a dozen or more. On average, participants had about six lamps in storage, primarily CFLs, as well as traditional and energy-efficient incandescent lamps. A few participants reported stocking up on traditional incandescent lamps and had a dozen or more in storage.

4.2.2 CFLs

This section reviews results for CFLs in particular, beginning with awareness and purchase rates, then discussing CFL disposition among Northwest households, CFL purchase locations, satisfaction with CFLs, the likelihood of future CFL purchases, and CFL-to-CFL replacement.

CFL Awareness and Purchases

Since 2006, the consumer surveys have included questions regarding awareness and purchase of CFLs. The focus groups also addressed consumer awareness of CFLs.

- During the 2015 surveys, approximately 3 out of 5 consumers reported having purchased CFLs. Approximately one in four consumers were aware of CFLs but had never purchased them, and just over half as many were unaware of CFLs. These results are statistically unchanged from 2014 survey results.
- When asked to describe CFLs during the focus groups, about half of the participants first mentioned the shape. They referred to CFLs as “corkscrew,” “twirlies,” “twisty,” “ice cream cone,” “pigtail,” and “curly.”

CFL Disposition

The consumer telephone surveys also gauge the total number of CFLs installed, removed, and in storage across the population of Northwest consumers. Results suggest that:

- Eighty-seven percent of CFL purchasers had CFLs installed in their homes at the time of the 2015 survey and 63% reported that they were storing one or more CFLs for future use. Twenty-four percent of CFL purchasers reported that they had one or more CFLs that they installed and later removed. All of these results are unchanged from 2014.

- Total number of CFLs ever acquired by consumers remained approximately the same between 2014 and 2015 at just over 8 lamps, on average (including respondents who had never purchased or installed CFLs). Respondents reported an average of 5 CFLs installed per household, with approximately 2.4 in storage and 0.9 installed but then later removed. Urban consumers had a significantly greater number of CFLs installed, on average, than consumers in rural areas (approximately 5.2 versus 3.9 CFLs). Urban consumers also installed and later removed significantly more CFLs than rural consumers (1.0 versus 0.3).
- The data also suggest little difference between survey years in the proportion of CFLs installed, removed, and stored from 2012 through 2015—in each year, more than half of all CFLs ever acquired by purchasers were installed at the time of the surveys.

CFL Purchase Locations

For the past several years, the consumer telephone survey has included questions to gauge the types of stores in which CFL purchasers acquired CFLs most recently. Results suggest that:

- CFLs purchased by 2015 survey respondents were mostly concentrated in the DIY and mass merchandise channels, with more than three out of five purchasers having reportedly purchased CFLs in these channels most recently. There were no statistically significant differences between CFL purchasing locations in 2014 and 2015 at the regional level.
- The 2015 survey results suggest that a significantly greater proportion of consumers in Washington reported having recently purchased CFLs in membership clubs than consumers in Montana (17% versus 5%, respectively), likely a result of the higher concentration of these stores in Washington.

Satisfaction with CFLs

The consumer telephone surveys address consumer satisfaction with CFLs from a number of perspectives: overall satisfaction, consumer impressions of the best and worst features of CFLs, and consumer agreement or disagreement with statements regarding CFL attributes. The following subsections provide details regarding these results.

Overall Satisfaction. The consumer telephone surveys ask respondents to rate their satisfaction with CFLs on a scale of 1 to 10 where 1 means, “not at all satisfied” and 10 means, “very satisfied.”

- Approximately two-thirds of CFL purchasers who responded to the 2015 survey were either “satisfied” (ratings of 6 to 8) or “very satisfied” (ratings of 9 or 10) with CFLs, unchanged from 2014.
- There were also no statistically significant differences within the 2015 survey results regarding consumer satisfaction with CFLs between urban and rural areas or by state.

Best Features of CFLs. The most recent phases of consumer telephone surveys have asked respondents to describe the best features of CFLs.

- Approximately half of CFL purchasers cited the length of life for CFLs as their best features and a similar proportion cited the energy savings associated with CFLs (48% and 42%, respectively, according to 2015 survey results).
- Approximately half as many CFL purchasers cited reducing their electricity bill and/or saving money as the best feature of CFLs (21% in 2015). A significantly greater proportion of urban CFL purchasers cited this as CFLs' best feature compared to rural purchasers (48% versus 23%). There were no other statistically significant differences in results by geography.

Worst Features of CFLs. The consumer surveys also included questions to gauge CFL purchaser impressions of the *worst* features of CFLs among CFL purchasers. Focus group participants also expressed specific CFL features as negative attributes.

- Roughly one-quarter of CFL purchasers reported that the long start-up time for CFLs was their worst feature in 2015 (23%), unchanged from 2014 survey results. Focus group participants expressed dissatisfaction with CFLs for the same reason.
- One-fifth of purchasers reported that the lack of brightness in CFLs was their worst feature (19%), a significantly smaller proportion of CFL purchasers than in 2014 (26%).
- Ten percent of purchaser or more cited the color of light, mercury or hazardous contents, and/or the high price of CFLs as their worst features. Focus group participants also mentioned dissatisfaction with the quality of light from CFLs (e.g., saying that it was colder than incandescent light) and also mentioned the mercury content as a negative attribute.
- Significantly greater proportions of urban CFL purchasers cited CFLs' start-up time and color of light as the worst features compared to rural purchasers. There were no other significant differences in CFL purchasers' perceptions of the worst features of CFLs between urban and rural CFL purchasers in 2015.

Perceptions of CFL Attributes. To gauge CFL purchaser perspectives on specific CFL attributes, the 2013, 2014, and 2015 surveys included seven statements regarding CFLs with which interviewers asked respondents to either agree or disagree.

- CFL purchasers' level of agreement was strongest with the statement "CFLs are not suitable for use in all of the rooms in my home," with just under 60% of CFL purchasers agreeing with this statement in all 3 survey years.
- Nearly 40% of purchasers agreed that "CFLs take too long to light up" in 2015, statistically unchanged from 2013 and 2014 survey results.
- The only statistically significant differences between 2014 and 2015 survey results across the region were that smaller proportions of purchasers agreed that "CFLs are not bright enough" and/or that "CFLs don't come in the shapes that I need" in 2015 than 2014. For the latter statement, the 2015 survey results represent a reversal of the significant increase in agreement between 2013 and 2014.
- There were several statistically significant differences in results between urban and rural areas. Urban purchasers had a less favorable impression of CFLs than rural purchasers: 20% of urban purchasers agreed that "the light from CFLs is too harsh" compared to only

10% of rural purchasers. For three attributes, urban purchasers had more favorable impressions of CFLs than rural purchasers:

- 25% of urban purchasers agreed that "CFLs don't fit well in my fixtures" compared with 40% of purchasers in rural areas;
- 33% of urban purchasers agreed that "CFLs don't look good in my fixtures" compared to 48% of rural purchasers; and
- 30% of urban purchasers agreed that "CFLs don't come in the shapes that I need" compared with 51% of rural purchasers.

- By state, the most striking difference in results was regarding the statement that "CFLs take too long to light up"—56% of CFL purchasers in Idaho agreed with the statement compared to only 35% to 38% of purchasers in the other Northwest states.

Main Factors Preventing Additional CFL Installations. For the past several years, the consumer surveys have included questions regarding the main factors preventing additional CFL installations among CFL purchasers. We compared results from the two most recent survey phases.

- In 2015 and 2014, approximately one-quarter of CFL purchasers cited that the main factor preventing them from installing additional CFLs was that they "do not need any more bulbs at this time" (26% of respondents in both years).
- Roughly one in ten of the 2015 survey respondents reported that they were waiting for incandescent bulbs to burn out (11%) and a similar proportion cited CFL price as the main factor preventing additional CFL installations (10%).
- There were no statistically significant differences in survey results between years.
- There were also no significant differences within the 2015 survey results by geography.

CFL to CFL Replacement Likelihood. The consumer surveys also ask CFL purchasers who currently have CFLs installed to rate how likely they are to replace an installed CFL with another CFL upon burnout. Interviewers ask respondents to use a scale of 1 to 5 where 1 means "not at all likely" to purchase CFLs within the next year and 5 means "very likely." Focus group participants also commented on their likelihood of replacing a burned-out CFL with another CFL.

- Roughly 60 percent of CFL purchasers who had CFLs installed said that they were "very likely" to replace a burned-out CFL with another CFL in 2015, and only 10% said that they were "not at all likely" to do so.
- There were no statistically significant differences in results between 2014 and 2015 survey results at the regional level. Within the 2015 results, there were no statistically significant differences in the average likelihood ratings between urban and rural CFL purchasers.
- About half of the focus group participants said they would install another CFL when an installed CFL burned out. Respondents gave reasons such as familiarity with CFL technology, wanting a uniform look among lamps installed in their home, and the desire to use up existing CFLs currently in storage at their homes.

4.2.3 LED Lamps

The 2015 consumer telephone surveys elicited information specifically regarding LED lamps, including purchase locations. The 2014 and 2015 surveys both asked about consumer satisfaction with LED lamps and (among LED non-purchasers) reasons for not purchasing LED lamps. The focus group moderator asked participants how they might describe LED lamps to individuals unfamiliar with them. These discussions revealed some gaps in awareness about LED lamps.

LED Lamp Awareness

Section 4.2.1 above shows that 94% of Northwest consumers were aware of LED lamps in 2015 and 35% had purchased them. During the focus groups, some participants were unfamiliar with MSB LED A-lamps. Instead, these participants discussed LED lamps in the context of holiday lights, nightlights, bicycle lights and flashlights.

Describing LED Lamps

The moderator then asked participants how they would describe LED lamps to others not familiar with them. In most groups, participants first mentioned LED lamp attributes such as their long life and light quality as well as the cost, which they described as “pricey” and “very expensive.” Participants commented on the lamp lifespan as “lasting a long, long time” and the quality of light as “incredibly bright,” “clear,” and “white.”

In a few groups, the discussion then turned to some of the characteristics of the LED lamps themselves. Some participants stated that LED lamps look like “multiple little bulbs of light in it” or “small pinpoints of light.”

A few group discussions revealed some misperceptions about LED attributes. For example, one participant reported that LED lamps cannot be installed in existing light fixtures. Compared to the discussion of CFL attributes, participants had far fewer negative comments about LED lamps. The overwhelming majority of negative comments related to lamp price. Only one participant mentioned an LED lamp installed at his home that flickered and blanked out.

LED Lamp Purchase Locations

In 2015, telephone interviewers asked consumers where they made their most recent LED lamp purchases. Interviewers asked CFL purchasers the same question regarding recent CFL purchases. The focus groups also addressed these topics.

- During the telephone survey, purchasers of both lamp types cited do-it-yourself stores as their most recent purchase locations above all other store types (42% each).
- Focus group participants reported purchasing CFLs, LED lamps, and energy-efficient incandescent lamps in a range of store types, primarily mass merchandise, membership clubs, large home improvement and small hardware stores. In most groups, one or two participants reported purchasing CFLs and LED lamps online, typically from websites that are not affiliated with brick-and-mortar stores (e.g., Amazon.com).
- Survey results suggest that significantly higher proportion of CFL purchasers made their most recent purchases at mass merchandise stores (31% of CFL purchasers versus 21% of

LED lamp purchasers). There were no other statistically significant differences in the 2015 survey results at the regional level. There were also no differences in results among LED purchasers by geographic sector (urban versus rural) or state.

Satisfaction with LED Lamps

The 2014 and 2015 surveys asked LED purchasers to rate their satisfaction on the same 10-point scale as used for CFLs among CFL purchasers.

- Nearly two-thirds of LED lamp purchasers reported that they were "very satisfied" with LED lamps (ratings of 9 or 10; 63% in 2015).
- There were no statistically significant differences in satisfaction with LED lamps among purchasers between 2014 and 2015. Within the 2015 survey results, there were also no differences by geography (state or urban/rural designation).
- LED lamp purchasers were significantly more satisfied with LED lamps in 2015 than CFL purchasers were with CFLs (63% "very satisfied" compared with only 40% of CFL purchasers). The proportion of LED purchasers who were dissatisfied with LED lamps (ratings of 1 or 2) was also significantly lower than the proportion of CFL purchasers dissatisfied with CFLs (2% versus 10%, respectively).

Reasons for Not Purchasing LED Lamps (Among Non-Purchasers)

The 2014 and 2015 surveys asked respondents who had not purchased LED lamps why they had not done so. During the focus groups, the moderator asked participants who were not currently using LED lamps what it might take to get them to do so.

- More than one-quarter of LED lamp non-purchasers stated that they have not purchased LED lamps because they do not need any light bulbs. Respondents cited this reason more than any other, similar to results for CFL non-purchasers regarding CFLs.
- Eighteen percent of LED lamp non-purchasers cited the expense of LED lamps as their reason for not purchasing them. Eleven percent noted that they were satisfied with their current lamps, up from 6% in 2014 (a statistically significant difference).
- There were no noteworthy differences in results between urban and rural areas during 2015.
- Some focus group participants mentioned not using LED lamps because they were satisfied with their existing options. Others mentioned that they would consider LED lamps if prices were lower or if they were more aware of or educated about the technology.

4.2.4 Energy Independence and Security Act

The 2010–2014 consumer telephone surveys included questions to gauge consumer awareness of EISA and the types of lamps they plan to purchase when traditional incandescent lamps are no longer available.

- In both 2014 and 2015, roughly 40% of consumers were aware of legislation that may affect lamp availability (44% in 2015 and 37% in 2015). A significantly smaller proportion of 2015 survey respondents reported awareness that Congress passed legislation that will phase out most traditional incandescent light bulbs by 2014 (51% in

2015 versus 59% in 2014), and a similar proportion of 2015 respondents reported awareness that traditional , 100-, 75-, 60- and 40-watt incandescent lamps were being phased out (54%).

- The 2015 survey results suggested that 43% of consumers shopped for traditional incandescent lamps in 2014, unchanged from 2014 survey results for 2013 (46%). In 2015, 79% of these respondents reported that they were ultimately able to purchase the lamps that they were shopping for, also statistically unchanged from 2014 survey results (85%). These results suggest that traditional incandescent lamps were still available in Northwest retail stores in 2013 and 2014, which aligns with shelf survey results from 2014 and 2015 (see Section C.2.3).
- In 2015, approximately 20% of consumers reported that they will keep using incandescent lamps, but switch to a lower wattage when traditional incandescent lamps are no longer available. Sixty-four percent reported that they will switch to a different lamp type. Of these, 36% said they would switch to CFLs and 29% to LED lamps. The proportion who reported they would switch to LED lamps was significantly higher in 2015 (29%) than in 2014 (22%). Approximately 13% of 2015 respondents reported that they will switch to EISA-compliant incandescent lamps and 3% to halogen lamps, and 4% to some other lamp type (the remainder were unsure).

4.2.5 Key Driver Analysis

Analysts refined the 2014 consumer survey to enable a key driver analysis[26] to understand the impact of various factors that may influence consumer purchase decisions. The number of CFLs purchased by respondents and respondent satisfaction with CFLs were the measurable outcomes of a CFL purchase decision for the key driver analysis. Respondents rated 14 lamp attributes on a scale of 1–10 in terms of importance (a 1 rating was not at all important and a 10 rating was very important). These lamp attributes served as explanatory variables in the key driver analysis. The analysts then analyzed whether or not the lamp attribute ratings served as key drivers for CFL purchases and CFL satisfaction. Results suggest that:

- The relationship between lamp attributes and the number of CFLs purchased is weak. The reasons for this weak relationship may be due to a variety of external factors, including lamp price, lack of a need for new lamps, and lamp placement in retail stores.
- There is a positive relationship between satisfaction with CFLs and the number of CFLs purchased. As the level of satisfaction with CFLs increases, the likelihood that respondents have purchased a higher number of CFLs also increases.
- Analysts divided CFL purchasers into two groups—those who were very satisfied with CFLs (respondents who rated their satisfaction with CFLs with a 9 or 10) and those who were very dissatisfied with CFLs (respondents who rated their satisfaction with CFLs with a 1 or 2). We excluded respondents who gave CFL satisfaction ratings of 3 through 8

[26] A key driver analysis is an exploratory analytic technique that attempts to explain the behavior of an outcome variable as a function of multiple explanatory variables. Please see Appendix D.6 below for further details on this analytic technique.

to gain a clearer understanding of which explanatory variables were key drivers of CFL satisfaction.

- Analysts developed odds ratios for each of the 14 explanatory lamp attributes that either positively or negatively correlated with CFL satisfaction. There was one attribute that correlated significantly and positively with CFL satisfaction ("the bulb helps lower energy bills"), and there were 2 attributes that correlated significantly and negatively with CFL satisfaction ("the bulb reaches full brightness instantly" and "the bulb doesn't have mercury in it").
- A high importance rating cited for a lamp's lowering energy bills had a positive impact on CFL satisfaction, while a high importance rating for the reaching full brightness instantly or not having mercury in it had a negative impact on CFL satisfaction.
- Since a higher CFL satisfaction rating increases the likelihood that a CFL purchaser purchased a greater number of CFLs, there is an indirect relationship between the explanatory lamp attributes and the number of CFLs purchased.

5 UTILITY PROGRAM MANAGER INTERVIEWS

This section provides an overview of the approach to and key findings from interviews with residential lighting program managers at utilities[27] throughout the Northwest. Where possible, we compare results from the 2015 interviews with those from previous studies. The objectives of this research were to:

- Obtain an overview of current residential lighting programs offered by the utilities included in the interviews;
- Review marketing, outreach and promotional activities for residential replacement lamps among these utilities;
- Obtain a summary of current, recent, and planned research on residential lighting;
- Better understand Northwest utilities' needs with respect to desired customer lighting preference research; and
- Better understand the current needs of Northwest utilities related to residential lighting.

5.1 APPROACH

Staff interviewed residential lighting program managers from 18 energy-efficiency program sponsor organizations in the Northwest. Table 5 provides an overview of the number of representatives interviewed by utility type (size) as well as the number of states represented among the utilities interviewed in each stratum. Interviewers attempted a census of all eleven of the large utilities and investor-owned utilities (IOUs) in Washington, Oregon, Idaho, and Montana, and successfully completed interviews with representatives from nine of these organizations. Staff also completed interviews with four residential lighting program representatives from medium-sized utilities and five representatives from small utilities.

Table 6
Disposition of 2014 Utility Program Manager Interviews

Utility Type	Number of Utility PMs Interviewed
IOU	4
Large	5
Medium	4
Small	5
Total	**18**

[27] For the sake of convenience, this section refers to each of these organizations as "utilities" although some organizations represent other types of energy-efficiency program sponsors (i.e., non-utility organizations).

5.2 RESULTS

This section includes an overview of current residential lighting programs among the utilities in the sample; education and marketing campaigns for residential lighting programs; current, recent, and planned research on residential lighting; and current needs of the utilities represented in the sample.

5.2.1 Overview of Northwest Residential Lighting Incentive Programs

Section 2.3.1 in Chapter 2 (CFL Sales Analysis) provides an overview of the major residential lighting incentive programs operated in the Northwest during 2014. The BPA plays a major role with numerous utilities participating in its Simple Steps, Smart Savings residential lighting program. Several utilities offer their own programs in addition to participating in Simple Steps, while others offer only their own programs.

Table 7 below provides details on which utilities participate in Simple Steps and which utilities run their own residential lighting programs among the 18 utility program interview participants.[28] Ten out of the 18 utility program representatives reported that their organizations are active in the Simple Steps program. Furthermore, nine of the utilities in the sample run their own programs; as described above, some of these programs are in addition to Simple Steps.

[28] Note that utility names are excluded to protect respondent confidentiality and avoid disclosing which utility representatives participated in the interviews.

Table 7
2014 Utility Programs Overview

Utility Size	Simple Steps Participant	Has Own Program	State
IOU	Yes	No	OR
IOU	Yes	Yes	WA
IOU	Yes	No	OR
IOU	Yes	Yes	MT
Large	Yes	No	WA
Large	No	Yes	WA
Large	Yes	Yes	WA
Large	Yes	Yes	WA
Large	Yes	Yes	WA, OR, ID, MT
Medium	No	Yes	OR
Medium	No	No	WA
Medium	No	No	WA
Medium	Yes	Yes	OR
Small	No	Yes	OR
Small	No	No	OR
Small	Yes	No	WA
Small	No	No	OR
Small	No	No	ID

5.2.2 Residential Lighting Marketing, Outreach and Promotional Activities

This section details the types of marketing and outreach efforts undertaken by utilities in the Northwest in support of residential lighting programs. The section first discusses the types of outreach undertaken then provides an overview of the key messages. Lastly, the section details any gaps in existing messaging perceived by interview participants.

Promotional Activities

Fifteen of the utility representatives reported disseminating residential lighting program information in a variety of ways during 2014. Most representatives with active marketing and outreach campaigns mentioned advertising on the utility website (9 representatives; see Table 8), in-store signage (8 representatives), and newsletters (8 representatives). Fewer representatives reported other types of promotional activities, such as using bill inserts, holding community events and/or in-store events, advertising in newspapers and other print media, using social media, and advertising on television or radio.

Table 8
Promotional Activities Among Residential Lighting Utility Program Representatives, 2014

Promotional Activity	Number of Mentions*
Utility website	9
In-store signage	8
Newsletters	8
Bill inserts	6
Community events	5
In-store events	5
Print ads	5
Social media	4
TV ads	3
Radio	2
CFL or LED giveaways	2
Brochures/flyers	1
Total Utilities With 2014 Outreach Efforts	**15**

* Number of mentions exceeds number of utilities with 2014 outreach efforts as many utilities conducted multiple promotional activities.

Technologies Promoted

Table 9 shows the types of technologies promoted among the 15 utilities with active marketing and outreach campaigns in 2014. Nearly all of these organizations promoted LED lamps (mentioned by 14 out of 15 representatives) and most promoted CFLs (12 out of 15). These results are similar to 2013 results when 15 interview participants reported that their utilities promoted CFLs and 13 promoted LED lamps. Also noteworthy is the fact that three utilities are exclusively promoting LED lamps in 2014 (all three utilities service urban customers); in 2013, all utilities that promoted LED lamps also promoted at least one other lamp technology (e.g., CFLs). These results suggest that 2014 may mark the beginning of a gradual shift away from non-LED technologies among Northwest utilities.

Table 9
Technologies Promoted by Northwest Utilities, 2014

Technology Promoted	Number of Utilities*
CFLs Only	1
LED Lamps Only	3
CFLs and LED Lamps	11
Total Utilities with 2014 Outreach Efforts	**15**

Interviewers asked representatives of the nine utilities with their own lighting programs (per Table 7 above) whether they thought their program would move away from CFLs and focus more on LED lamps in the next two years. Seven respondents expected that their organizations would focus more or exclusively on LED lamps in the next two years (including one organization that only incentivized LED lamps during the second half of 2014), underscoring the results presented above. Two representatives did not expect that their organizations would focus less on CFLs and more on LED lamps in the next two years. When asked whether their organizations would stop providing CFL incentives entirely in two years, four representatives said that they expected to continue incentivizing CFLs (one large utility and three small or medium utilities), two expected that they would stop CFL incentives (both large utilities), one had already stopped (a large utility), and two were not sure whether CFL incentives would continue two years from now (both large utilities).

Key Messages

The utility program manager interviews included questions to elicit details on the key messages used in promoting energy-efficient lighting products by the region's utilities. By far, the most common messages included on these materials related to the energy savings associated with CFL and/or LED lamps (see Table 10). Other frequently mentioned key messages included highlighting the long product life of CFLs and/or LED lamps and the low prices of the products being promoted. Program representatives also mentioned technology-specific messaging in their 2014 promotional materials, including information on CFL recycling and messaging on the advantages of LED lamps (e.g., instant-on, dimmability, and no mercury).

In addition to the messages shown in Table 10, each of the following topics received one mention from interview participants:

- Information on CFL styles
- Raising awareness of CFLs and/or LED lamps
- Buy Energy Star products
- Buy the right product for the right application and/or room
- Using CFLs in high use locations
- Energy efficient lamps are environmentally friendly
- Create an emotional connection with CFLs and/or LED lamps

Table 10
Key Messages for Northwest Residential Lighting Promotional Activities Among Residential Lighting Utility Program Representatives, 2014

Key Message	Number of Mentions*
Energy savings	12
Product life	4
Low prices	4
CFL recycling	4
Positive features of LED lamps (instant-on, dimmable, no mercury)	4
Understanding lumens/wattage	3
Color temperature/rendering	3
Replace incandescents with CFLs	2
Light quality	2
Understanding the Lighting Facts label	2
Total Utilities With 2014 Outreach Efforts	**15**

* Number of mentions exceeds number of respondents as many utilities included multiple messages on their promotional materials.

A handful of utility program managers mentioned some gaps in messaging regarding energy-efficient lamps in the Northwest market, including general information about LED lamps (5 of 18 representatives) and emphasizing the importance of buying a quality CFL (3 of 18 representatives).

5.2.3 Lighting Consumer Research Activities

One of the objectives in speaking with utility program representatives in the Northwest was to determine the extent to which Northwest utilities are conducting research on consumer lighting knowledge, preferences, and purchasing motivations. While there was no active research on these topics among Northwest utilities in 2013/early 2014 (based on 2014 interview results), 2015 results suggest that two of the utilities are currently conducting or plan to conduct formal research on these topics in 2014/early 2015. One utility is currently conducting a CFL market transformation study that will include research on what lighting technologies consumers are buying and why. Another utility is planning an evaluation of an LED giveaway program, which will include questions on the participants' experience and satisfaction with the LED lamps.

Interviewers also asked utility representatives what kind of consumer lighting research they would like to see if funding were not an issue and they had the ability to conduct this research. There was a wide variety of answers to this question including research on the following topics (1 mention each):

- How to help online consumers choose lighting products
- Consumer satisfaction with energy-efficient lighting products
- The source(s) of customer confusion around lighting products
- Homeowner experiences with lighting (including their likes and dislikes)

- Barriers to buying energy-efficient lighting
- Which consumers prefer messaging on lumens and which prefer messaging on watts
- How to influence lower income lighting consumers
- Why some consumers strongly prefer LED lamps over CFLs

5.2.4 Current Northwest Utility Needs and Concerns

Interviewers asked utility program representatives whether their organizations had any specific needs with regard to consumer lighting products, and how an organization like NEEA might be able to help them with these needs (if any). Respondents mentioned the following needs:

- Assistance with marketing and messaging for energy-efficient lighting products (5 mentions)
- Developing a regional consensus and common regional messaging for energy-efficient lighting products (2 mentions)
- Emphasizing the importance of installing energy-efficient technologies in high-use locations (1 mention)
- Research on standard and smart lighting controls (1 mention)
- Help manufacturers get their lighting products Energy Star qualified (1 mention)
- Research on consumer preferences and motivations related to purchasing lighting products (1 mention)
- Create a comprehensive energy savings tool for different types of lighting (1 mention)
- Provide upstream incentives for energy-efficient fixtures (1 mention)

When asked whether or not an organization like NEEA should get back into the residential lighting market, two-thirds of the respondents (12 of 18) said that NEEA should not do so (the remaining 6 were not sure). One respondent expressed a desire for NEEA to get back into the residential lighting market by providing upstream incentives for energy-efficient fixtures, and another would like to see NEEA help manufacturers get their lighting products Energy Star qualified.

6 LIGHTING SUPPLIER INTERVIEWS

This section provides an overview of the types of supplier representatives interviewed in 2015 and key findings from the interviews with.

6.1 SUPPLIER DISPOSITION

In February, March, and April of 2015, DNV GL staff conducted seventeen interviews with representatives of lighting suppliers. Interview participants included twelve representatives from lighting manufacturers and five representatives from retail chains and independent stores that sell CFL, incandescent, halogen, and LED lamps in the Northwest. Table 11 provides an overview of respondent types as well as the types of lighting products that they sell in the Northwest market. Appendix B provides the interview guide.

Table 11
2015 Lighting Supplier Disposition

Respondent Type	Lamp Technology Manufactured or Sold			Total Respondents
	CFLs	Incandescent Lamps	LED Lamps	
Manufacturer	11	5	10	**12**
Regional Retailer	5	5	5	**5**
Total	**16**	**10**	**15**	**17**

6.2 RESULTS

The sections below summarize interview findings regarding the national and Northwest residential CFL markets. The section also presents findings regarding current and future sales and pricing of other lamp technologies in the Northwest markets including traditional incandescent lamps, incandescent lamps that meet the EISA standards (referred to herein as "EISA-compliant")[29], and LED lamps. The chapter closes with a summary of supplier perceptions of EISA's effects and a review of the types of marketing and promotional materials suppliers provide to Northwest retail stores. The sections below emphasize results from the 2015 interviews (regarding the 2014 lighting market) and compare results to previous study findings where possible.

6.2.1 Residential Market for CFLs – National

Interviewers asked lighting supplier representatives with active sales across the U.S. to provide their perspectives on changes in national CFL sales between 2013 and 2014. Of the 10 manufacturers:

[29] Note that this term includes halogen lamps that meet the EISA standards.

- 6 representatives reported that national CFL sales decreased;
- 3 reported that national CFL sales increased; and
- 1 reported that national CFL sales remained the same.

Among the ten manufacturers' representatives who provided information on national residential CFL sales, the majority said that there was a decrease in CFL sales between 2013 and 2014. Among manufacturers' representatives who reported decreased sales, the estimated decrease ranged from 2% to 70%. Among suppliers who reported increased sales, estimates ranged from 10% to 31% between years. Among the 11 representatives interviewed in support of last year's study, there was little consensus regarding changes in national CFL sales between 2012 and 2013 (4 reported CFL sales increases, 2 reported a decline in sales, and 5 said that sales remained unchanged between 2012 and 2013).

All six of the representatives who cited a decrease in national residential CFL sales between 2013 and 2014 named greater success with LED lamp sales and a shift in focus among utilities away from CFLs and toward LED lamps for their incentive programs as key reasons the decline in sales. Among the three suppliers who reported an increase in sales between 2013 and 2014, two mentioned increased demand for CFLs due to a lower price, and one cited increased utility promotions as the main driver.

6.2.2 Residential Market for CFLs – Northwest

Supplier representatives also described sales trends for the Northwest residential CFL market and offered their perspectives on what might happen to CFL sales in the future. Interviewers also asked supplier representatives to provide their best estimates on CFL pricing in the Northwest in 2014 and the future. The results below include comparisons among interview responses for the past two years where possible.

2013–2014 Northwest CFL Sales Trends

Interviewers asked supplier representatives to describe any differences in Northwest residential CFL sales between 2013 and 2014. As reported above for national CFL sales, most representatives reported that 2014 sales of CFLs declined from 2013 (12 total respondents).

- 7 suppliers reported that Northwest CFL sales decreased (5 manufacturers; 2 retailers), with reported declines ranging from 2% to 90%;
- 3 suppliers reported that Northwest CFL sales increased (2 manufacturers; 1 retailer) , with reported declines ranging from 5% to 30% ; and
- 2 suppliers reported that Northwest CFL sales remained the same (1 manufacturer; 1 retailer).

Among the supplier representatives interviewed in last year's study, there was no consensus regarding changes in Northwest CFL sales between 2012 and 2013 (4 reported CFL sales increases, 4 reported a decline in sales, and one said that sales remained unchanged between 2012 and 2013).

The seven representatives who mentioned decreases in their 2014 Northwest CFL sales cited similar reasons to those mentioned above for declining national CFL sales—namely, lower priced and more energy efficient replacement LED lamps (with greater utility support in the region) had a negative impact on regional CFL sales. Four representatives also mentioned increased consumer demand for LED lamps or a general shift in focus toward LED lamps that took away from CFL sales. Representatives who said CFL sales increased in 2014 mentioned utility promotions of CFLs at major retailer chains and frequent replacements and maintenance for burnt out lamps as the two reasons for increased sales.

Future Northwest CFL Sales Trends

Interviewers asked suppliers whether they thought their general purpose CFL sales and specialty CFL sales would each increase or decrease in the Northwest over the next five years. The vast majority of representatives (15) predicted that general purpose CFL sales in the Northwest would decline (16 total suppliers):

- 15 suppliers reported that general purpose CFL sales will decrease (11 manufacturers; 4 retailers), with projected declines ranging from 10% to 100%;
- 1 supplier reported that sales will remain the same (1 retailer); and
- None of the supplier reps expect general purpose CFL sales to increase.

Among those who expect general purpose CFL sales to increase over the next five years, four (all manufacturers) predicted that their general purpose CFL sales would go to zero or near zero over the next five years. Ten representatives said that an increased market share of general purpose LED lamps would lead to a decrease in general purpose CFL sales, while two stated that lower utility incentives for general purpose CFLs would lead to a decline in sales. Another two representatives stated that CFLs are no longer cost-effective compared to other technologies, such as halogen or LED lamps. Several supplier representatives also mentioned the negative impact on CFL sales from the state of Washington's Mercury-Containing Lights Law,[30] which levies a $0.25 CFL recycling fee on all mercury containing lights sold within the state (see Appendix C.4 below for further discussion).

One supplier representative said that its general purpose Northwest CFL sales would remain about the same over the next five years. The supplier that predicted steady sales for general purpose CFL sales, reasoning that CFLs still offer a cheaper alternative to LED lamps and continued utility program support would help drive future sales.

Responses regarding the future sales of specialty CFLs in the Northwest showed similar trends to those for general purpose CFL sales. The vast majority of suppliers who said that specialty CFL sales would decrease over the next five years (15 total suppliers):

- 15 suppliers reported that sales will decrease (11 manufacturers; 4 retailers), with expected declines ranging from 10% to 100%;
- 1 supplier reported that sales will remain the same (1 retailer); and

[30] See the State of Washington's Department of Ecology website on mercury lights product stewardship for further details: http://www.ecy.wa.gov/programs/SWFA/mercurylights/.

- None of the representatives expect specialty CFL sales to increase.

Among those who said that specialty CFL sales would decrease, six manufacturers predicted that their specialty CFL sales would go to zero or near zero over the next five years. Almost all of the suppliers who forecasted a decline in specialty CFL sales said that increased specialty LED lamp market share would be the main reason for this decline. Other suppliers stated that non-dimmable CFLs and the shorter life of CFLs compared to LED lamps would be factors negatively impacting specialty CFL sales.

Future CFL Pricing in the Northwest

Interviewers asked supplier representatives to forecast promotional prices (i.e., prices after discounts from utilities, manufacturers, or retailers are applied) and non-promotional prices for general purpose CFLs in the Northwest for 2016 and 2018. Of the 17 suppliers interviewed, 14 were able to provide estimates. Table 12 shows a comparison of the expected future price ranges for general purpose CFLs in the Northwest. Representatives predicted higher price ranges for non-promotional general purpose CFLs during 2018 compared to 2016. Similarly, the range of forecasted prices for promotional general purpose CFLs were higher for 2018 than 2016. Comparing estimates across all suppliers yields an average promotional price for general purpose CFLs of $1.46 per lamp in 2016 and $1.81 in 2018. Additionally, suppliers projected an average non-promotional price for general purpose CFLs of $1.87 per lamp in 2016 and $2.20 in 2018. For general purpose CFLs with promotional pricing, these results suggest an average discount of $0.41 in 2016 and $0.39 in 2018.

Table 12
Range of Forecasted Promotional and Non-Promotional Prices for General Purpose CFLs in the Northwest, 2016–2018

Description	Range of Forecasted Prices	
	2016	2018
Promotional General Purpose CFL	$0.25 – $4.00	$0.75 – $5.00
Non-promotional General Purpose CFL	$0.50 – $4.00	$1.00 – $5.00

Eleven of the supplier representatives also provided price estimates for promotional and non-promotional specialty CFLs in the Northwest in 2016 and 2018 (Table 13). With respect to future specialty CFL prices, representatives projected a much wider range of prices for specialty CFLs compared to general purpose CFLs. Forecasted promotional specialty CFL prices in 2016 and 2018 ranged from $0.99 to $11.99. Forecasted non-promotional prices ranged from $2.00 to $11.99 in 2016 and $3.00 to $11.99 in 2018. Across all suppliers, the predicted average promotional price per specialty CFL was $6.04 in 2016 and $6.90 in 2018, while and the average non-promotional price per specialty CFL was $6.54 in 2016 and $7.55 in 2018 (an average forecasted discount for specialty CFLs of $0.50 in 2016 and $0.65 in 2018).

Table 13
Range of Forecasted Northwest Prices for Specialty CFLs by Promotion Availability, 2016–2018

Description	Range of Forecasted Prices	
	2016	2018
Promotional Specialty CFL	$0.99 – $11.99	$0.99 – $11.99
Non-promotional Specialty CFL	$2.00 – $11.99	$3.00 – $11.99

6.2.3 Residential Market for Incandescent Lamps – Northwest

The supplier interviews included detailed questions on traditional incandescent lamps sales, EISA-compliant incandescent lamp sales, and forecasted pricing for traditional and EISA-compliant incandescent lamps.

2013–2014 Northwest Incandescent Lamp Sales Trends

Among those respondents who sold traditional incandescent lamps, six supplier representatives were able to provide an answer to whether or not sales of those lamps increased, decreased or stayed the same from 2013 to 2014. Three said that sales declined, two of whom were able to provide a percentage decrease in the drop in sales (15% and 60%). Two representatives (both retailers) said that the decline in traditional incandescent lamps was due to EISA regulations in addition to an increase in halogen and CFL sales. Two representatives said that sales of traditional incandescents increased between 2013 and 2014 (both cited 10%), and reasoned that this was mainly due to customers hoarding traditional incandescent lamps to avoid future purchases of higher-priced CFLs and LED lamps. One respondent said that their traditional incandescent lamp sales remained about the same between years.

As for EISA-compliant incandescent lamp sales, eight representatives were able to provide answers for this question (among the 10 representatives who sold these lamps in 2014). Six representatives reported that their EISA-compliant incandescent lamps sales increased between 2013 and 2014, ranging from a 5% increase to a 200% increase. All cited EISA regulations as the reason for increased sales. Two retailers reported that their EISA-compliant incandescent lamp sales did not change between years. Six respondents were able to give estimates of the proportion of all incandescent lamps sales that were EISA-compliant in 2014. Answers ranged from 20% to 100%.

Future Northwest EISA-compliant Lamp Sales Trends

With respect to future sales of EISA-compliant incandescent lamps over the next five years, nine supplier representatives were able to provide answers to this question. Six out of the nine representatives expected increased sales in EISA-compliant lamps. Four were able to quantify the increased sales in terms of a percentage, and predicted a range of 10% to 100% increase in sales over five years. Two supplier representatives expected a decline in EISA-compliant sales of

between 30% and 100% due to a lack of higher-wattage product availability. One representative expected sales of EISA-compliant lamps to remain the same over the next five years.

Future EISA-compliant Incandescent Pricing in the Northwest

Interviewers asked suppliers for their best estimate regarding the average price for EISA-compliant incandescent lamps in Northwest stores in 2016 and 2018. Ten suppliers provided estimates for the average price for EISA-compliant lamps. For 2016, these estimates ranged from $0.70 per lamp to $2.25 per lamp, yielding an average price of $1.47 per lamp. For 2018, the estimates ranged from $0.50 per lamp to $2.25 per lamp, yielding an average price of $1.47 per lamp.

6.2.4 Residential Market for LED Lamps – Northwest

This section gives details on supplier perspectives on the LED lamp market, including LED lamp sales trends and expected future LED lamp sales and prices. When asked for their perspectives on the residential lighting market in general, most supplier representatives said that the continued growth in consumer demand and drop in prices for LED lamps were the most notable changes in the 2014 lighting market. Findings below on LED lamp sales trends and prices help explain the growth of LED lamps in the lighting market.

2013–2014 Northwest LED Sales Trends

Fifteen of the seventeen suppliers who participated in the interviews reported that they sold LED lamps in the U.S. during 2014. When asked how their 2013 LED lamp sales in the Northwest compared with 2014 LED lamp sales, all thirteen of the supplier representatives who were able to answer the question said that their Northwest LED sales had increased. Estimated increases ranged from 10% to 150%. The average percentage increase in Northwest LED lamp sales across suppliers who answered this question was 67%.

All of the representatives who cited increased LED lamp sales said that lower prices and increased consumer demand for LED lamp sales were the main reasons for increased sales in Northwest stores. Several representatives noted that utility incentives in 2014 also helped LED lamps sales. Some cited the emergence of higher quality LED lamps, brighter light output, better light quality, and increased LED lamp model diversity and application ultimately helped push sales higher. One retailer representative said that 2014 was the second year that the store offered LED replacement lamps to consumers, and sales skyrocketed each year due to more customer awareness.

Interviewers asked supplier representatives to identify their best-selling LED lamp style in 2014, and the majority of suppliers mentioned LED A-lamps (9 suppliers), followed by reflector lamps (5 suppliers), and flame tipped candelabra lamps (1 supplier). Interviewers also asked respondents what proportion LED A-lamps represented out of all of their 2014 Northwest LED lamp sales, and the thirteen responses ranged from 7% to 100% of total Northwest LED lamp sales. The average proportion of total 2014 Northwest LED lamp sales attributed to A-lamps across all suppliers in the sample was 53%.

Future Northwest LED Lamp Sales Trends

With respect to future LED sales, interviewers asked supplier representatives if they expected total LED lamp sales in the Northwest to increase, decrease, or stay the same over the next five years. Of the thirteen supplier representatives who could answer the question, all said that they expected sales to grow. Expected increases ranged from 35% to 550% and yielded an average increase in LED lamp sales in the Northwest of 221% over the next 5 years. When asked about customer barriers to LED lamp sales in the future, all respondents cited retail price as the main obstacle to growth in sales.

Future LED Lamp Pricing in the Northwest

Interviewers asked representatives of retailers and manufacturers who sell LED lamps in Northwest retail stores for their best forecast of the average price for a LED A-lamp in Northwest stores in 2016 and 2018. Sixteen suppliers were able to provide estimates. Responses ranged from a forecasted promotional price of $0.99 to $12.00 per lamp in 2016, and $1.00 to $10.00 in 2018. Suppliers estimated a non-promotional price ranging between $2.47 and $14.00 in 2016 and from $1.97 to $10.00 in 2018. In 2016, the average forecasted promotional price for an LED A-lamp was $5.57 and the average non-promotional price for a LED A-lamp was $6.80 (a projected $1.23 discount). In 2018, the average forecasted promotional price for an LED A-lamp was $3.82 and the average non-promotional price for a LED A-lamp was $4.81 (a projected $0.99 discount).

6.2.5 Effects of EISA

Interviewers asked supplier representatives for their opinions on the short-term (2015-2016) and long-term (beyond 2016) effects of EISA legislation. There were varying opinions on the short-term effects of EISA, but a frequently cited effect was a shift to alternative technologies such as EISA-compliant incandescent lamps, CFL, and LED lamps (mentioned by 12 supplier reps). Eight of these representatives reported that they specifically expect to see a short-term shift among consumers directly to LED lamps, while four representatives expected to see a shift to CFLs, and three predicted a shift toward EISA-compliant incandescent lamps. Interestingly, two representatives predicted that there would not be any major effect of EISA in the short term, either because they report that customers have known for quite some time about the incandescent phase-out, or because consumers have been primarily interested in saving energy and money with lamp technologies already available in the market.

Regarding the long-term effects of EISA legislation, 15 of the 17 supplier representatives said that they expect to see a shift to an alternative lamp technology. A third of representatives reported that they expect a shift away from traditional incandescent lamps and toward EISA-compliant incandescent lamps (4 suppliers). Eleven supplier representatives said that they expect customers to move to LED lamps over the long-term. One supplier noted that CFLs will be mostly obsolete (except for maybe a few CFL models) because of higher-efficiency LED lamps. Another supplier stated that the legislation would not have much of a long-term effect due to rampant hoarding of traditional incandescent lamps in the past.

6.2.6 Market Share of Replacement Lamp Sales

The 2015 supplier interviews included questions to elicit the percentage of lamp sales each technology (CFLs, LED lamps, incandescent lamps and halogen lamps) comprised for a given manufacturer or retailer's total lamp sales in 2014. Additional questions asked respondents to forecast any potential changes in the proportion of lamp sales represented by each technology in 2016 and 2018.

2014 Market Share

Thirteen of the 17 interview participants were able to estimate their 2014 sales of CFLs, LED lamps, incandescent lamps, and/or halogen lamps as a percentage of total sales across all technologies. Ten of the 13 respondents reported that their organization sold CFLs, LED lamps, incandescent and/or halogen lamps in 2014, and nine were able to provide the proportion of sales each technology represented (see Table 14). The estimated range for the percentage of total sales that CFLs represented was between 10% and 50% (for an average of 28%), between 2% and 20% for LED lamps (16% average), between 0% and 60% for incandescent lamps (29% average), and between 9% and 60% for halogen lamps (27% average).

Table 14
Percentage of Sales by Lamp Technology (all Technologies), 2014

Lamp Technology	Share of Total Lamp Sales	
	Average	Range
CFL	28%	10%-50%
LED	16%	2%-20%
Incandescent	29%	0%-60%
Halogen	27%	9%-60%

Note: Percentages may not total 100% due to rounding; n=9.

Four of the 13 respondents reported that their organization only sold CFLs and LED lamps. Table 15 below shows the percentage of sales that each of these two technologies accounted for in 2014. The estimated range for the percentage of total sales that CFLs represented was between 5% and 70% (for an average of 43%) and between 30% and 95% for LED lamps (58% average).

Table 15
Percentage of Sales by Lamp Technology (CFLs and LED lamps Only), 2014

Lamp Technology	Share of Total Lamp Sales	
	Average	Range
CFL	43%	5%-70%
LED	58%	30%-95%

Note: Percentages may not total 100% due to rounding; n=4.

2016 Forecasted Market Share

Nine of the 13 respondents reported that their organization will likely sell CFLs, LED lamps, incandescent and/or halogen lamps in 2016 (see Table 16). The estimated range for the percentage of total sales that CFLs are expected to represent in 2016 was between 10% and 40% (for an average of 28%), between 15% and 75% for LED lamps (29% average), between 0% and 55% for incandescent lamps (23% average), and between 5% and 60% for halogen lamps (28% average).

Table 16
Forecasted Percentage of Sales by Lamp Technology (all Technologies), 2016

Lamp Technology	Share of Total Lamp Sales	
	Average	Range
CFL	20%	10%-40%
LED	29%	15%-75%
Incandescent	23%	0%-55%
Halogen	28%	5%-60%

Note: Percentages may not total 100% due to rounding; n=9.

Four of the 13 respondents reported that their organization would likely continue to sell CFLs and LED lamps in 2016. Table 16 below shows the percentage of sales that each of these two technologies is expected to account for in 2016. The estimated range for the percentage of total sales that CFLs is expected to represent was between 5% and 50% (for an average of 31%) and between 50% and 95% for LED lamps (60% average).

Table 17
Forecasted Percentage of Sales by Lamp Technology (CFLs and LED lamps Only), 2016

Lamp Technology	Share of Total Lamp Sales	
	Average	Range
CFL	31%	5%-50%
LED	69%	50%-95%

Note: Percentages may not total 100% due to rounding; n=4.

2018 Forecasted Market Share

Nine of the 13 respondents reported that their organization will likely sell CFLs, LED lamps, incandescent and/or halogen lamps in 2018 (see Table 17). Respondents estimated that CFLs would represent between 10% and 40% of total lamp sales in 2018 (for an average of 18%); LED lamps, between 20% and 85% of total sales (41% average); incandescent lamps, between 0% and 35% of total sales (16% average); and halogen lamps, between 0% and 45% of total sales (25% average).

Table 18
Forecasted Percentage of Sales by Lamp Technology (all Technologies), 2018

Lamp Technology	Average	Range
CFL	18%	10%-40%
LED	41%	20%-85%
Incandescent	16%	0%-35%
Halogen	25%	0%-45%

Note: Percentages may not total 100% due to rounding; n=9.

Four of the 13 respondents reported that their organization would likely continue to sell CFLs and LED lamps in 2018. Table 18 below shows the percentage of sales that each of these two technologies is expected to account for in 2018. The estimated range for the percentage of total sales that CFLs is expected to represent was between 5% and 20% (for an average of 13%) and between 80% and 95% for LED lamps (88% average).

Table 19
Forecasted Percentage of Sales by Lamp Technology (CFLs and LED lamps Only), 2018

2018 Replacement Lamp Sales	Average	Range
CFL	13%	5%-20%
LED	88%	80%-95%

Note: Percentages may not total 100% due to rounding; n=4.

6.2.7 Residential Lighting Marketing, Outreach and Promotional Activities

This section details the types of marketing and promotional efforts undertaken by suppliers in the Northwest to promote lighting products. Results include the types marketing materials used, who provided the materials, and an overview of the key messages in these materials.

Promotional Activities

Fifteen of the 17 interview participants reported having active residential lighting promotional campaigns in Northwest stores during 2014. As shown in Table 19, all 15 representatives that had active CFL, LED, or cross-technology promotions in Northwest stores had some in-store signage to promote their lighting products in 2014. In some cases, signage was comprehensive and designed to educate consumers on topics such as energy savings, understanding lumens and watts, color rendering, length of lamp life, and available lamp technologies and styles. Five of the supplier representatives also mentioned in-store lighting demonstrations for CFL or LED lamps and four of the representatives mentioned that they had educational information on the lighting products that they promoted in brochures and flyers. Some reported other means of promoting lighting products that took place outside of stores. Two representatives each reported the use of print or newspaper ads and out-of-store promotions on the supplier website.

Table 20
Northwest Residential Lighting Promotional Activities Among Lighting Supplier Representatives, 2014

Promotional Activity	Number of Mentions*
In-store signage	15
Lighting demonstrations/displays	5
Brochures/flyers	4
Print ads	2
Website	2
Total Suppliers with 2014 Outreach Efforts	**15**

*Number of mentions exceeds number of suppliers with 2014 outreach efforts as many suppliers conducted more than one promotional activity.

There were no noteworthy differences in terms of the manner in which suppliers promoted CFL, LED, and incandescent lamps in 2014. Efforts to explain differences between technologies tended to provide comprehensive educational information on lumens and watts, and, in some cases, color temperature, or color rendering. One retailer explained changes related to EISA regulations by providing consumers with a shelf pamphlet describing general replacement lamp options; knowledgeable sales associates provided further assistance to consumers.

Technologies Promoted

Among the 15 suppliers who reported active promotional campaigns in 2014, 11 promoted CFLs (7 manufacturers and 4 retailers), and 13 promoted LED lamps (10 manufacturers and 3 retailers). One manufacturer representative mentioned that his organization only promoted LED lamps, since they do not sell other lamp technologies.

Key Messages

Table 21 provides an overview of the key messages conveyed by suppliers' promotional materials to promote their lighting products in the Northwest during 2014. Thirteen of the 15 representatives with active promotional activities in the Northwest during 2014 mentioned energy savings in their marketing materials. Nearly all of the representatives mentioned that they used materials in 2014 that highlighted the long life of CFL and/or LED lamps (13 representatives). Another common message was information regarding lumens and differences in wattage among different lamp technologies (mentioned by 5 representatives), followed by education on color temperature (4 mentions), and low lamp prices (3 mentions). Respondents mentioned other messages only once each, including:

- Education on EISA legislation
- Buy Energy Star qualified lamps
- Light quality
- Color Rendering Index
- Special features of lamps

- Correct lamp for different applications
- Size of lamps

Table 21
Key Messages for Northwest Residential Lighting Promotional Activities Among Lighting Supplier Representatives, 2014

Message	Number of Mentions*
Energy savings	13
Long life	13
Understanding lumens	5
Color temperature/rendering	4
Low prices	3
Total Suppliers with 2014 Promotional Activities	**15**

* Number of mentions exceeds number of suppliers with 2014 promotional activities as many suppliers included multiple messages on their promotional materials.

7 SUMMARY OF FINDINGS

As described in Chapter 1 (Introduction), Section 1.2, the 2014–2015 Northwest Residential Lighting Long-Term Market Tracking Study has 10 objectives. The sections below summarize findings relevant to each study objective from the CFL sales analyses, retail lighting store shelf surveys, consumer telephone surveys, focus groups, interviews with lighting supplier representatives, and interviews with residential lighting program managers at Northwest utilities.

7.1 OBJECTIVE 1

Objective 1: Summarize annual Northwest residential Energy Star CFL sales by retail store category, incentive sales versus non-incentive sales, and general purpose versus specialty CFL sales.

Regional Sales. Total Energy Star CFL sales declined by approximately 14% between 2013 and 2014, with nearly 13.8 million CFLs sold in 2014 compared to approximately 16.1 million CFLs sold in 2013. Energy Star CFLs sold with energy-efficiency program incentives represented 66% of total regional sales in 2014 compared to 59% in 2013.

Sales by CFL Type. Between 2013 and 2014, regional sales of Energy Star general purpose CFLs declined by 4%, and regional sales of specialty Energy Star CFLs decreased by 38%. The proportion of regional Energy Star CFL sales comprised by general purpose and specialty CFLs increased between 2013 and 2014, with general purpose CFLs comprising 69% of total Energy Star CFL sales in 2013 and 78% in 2014.

Incentive Program Sales. The total number of Energy Star CFLs sold with energy-efficiency program incentives decreased by 5% from 2013 to 2014, and the number sold without incentives declined by 27% during the same timeframe. Non-incentive CFL sales in the Northwest during 2014 were below 2005 levels and total annual sales of Energy Star CFLs in the Northwest were lower than they have been since 2006.The number of Energy Star CFLs sold with utility incentives in big box and non-big box stores decreased from 9.4 million in 2013 to 9.1 million in. The vast majority of incentive sales occurred in big box stores, which had 91% share of total incentive sales. There were minimal changes between 2013 and 2014 in the proportion of incentive sales comprised by big box stores versus non-big box stores.

7.2 OBJECTIVE 2

Objective 2: Characterize stocking (availability/diversity) and pricing for CFLs, LED lamps and incandescent lamps in Northwest retail stores.

Availability. Shelf survey results from 2013 and 2014[31] suggest that CFLs, halogen, and incandescent lamps are available in at least nine out of ten retail stores that sold replacement lamps in the Northwest; the percentage of stores stocking LED lamps was just over 80% in both years. More than 90% of stores stocked general purpose and specialty CFLs in 2013 and 2014.

With respect the share of lamp stock by technology, incandescent lamps continued to dominate retail store lamp inventories in 2014. However, their share of total lamp stock declined slightly from 50% in 2013 to 47% in 2014. The proportion of lamps comprised by halogen lamps edged up to 24% in 2014 from 21% in 2013, while the proportion of lamps comprised by CFLs declined from 24% in 2013 to 21% in 2014.The share of lamps comprised by LED lamps doubled between 2013 and 2014 from 4% to 8%.

Diversity. One measure of lamp diversity is the average number of lamp models available in stores for a given lamp type. Lamp model diversity for incandescent, halogen, and LED lamps changed between 2013 and 2014, while diversity for CFLs remained largely unchanged. Across all stores, the average number of incandescent lamp models increased between years from 59 to 65 per store, while the average number of halogen lamps declined slightly from 27 models per store in 2013 to 24 in 2014. The average number of LED lamp models per store doubled between 2013 and 2014 from 6 to 12. The average number of CFL models per store remained essentially the same since 2012 at between 35 and 38 models per store overall. The average number of general purpose CFLs declined slightly from 21 per store in 2013 and 2012 to 19 per store in 2014, while the average number of specialty CFL models per store remained about the same since 2012 at between 16 and 17 models per store.

Pricing. The overall average shelf price for a general purpose CFL increased by 11% between 2013 and 2014 (from $3.60 to $4.00 per lamp) in the Northwest. This change was driven by a 21% increase in the average price of general purpose CFLs in big box stores (from $2.57 per lamp in 2013 to $3.13 per lamp in 2014). A similar trend took place among specialty CFLs, which increased from $6.75 per lamp overall in 2013 to $7.71 in 2014 (a 14% increase). This trend was also driven mostly by big box stores, in which the average price of a specialty CFL increased from $5.12 per lamp in 2013 to $6.21 per lamp in 2014 (a 21% increase). When broken down by style, the average price for general purpose spiral and A-lamp CFLs increased between years overall to $3.70 per spiral CFL and to $7.52 per A-lamp CFL in 2014 (a 12% increase for both lamp styles). One contributor to these relatively large increases in CFL prices could be the state of Washington's Mercury-Containing Lights Law (RCW 70.275), which requires the recycling of mercury-containing lamps (including CFLs) and requires a $0.25 per CFL recycling fee as of January 1, 2015.

The average price for MSB LED A-lamps remained relatively stable between 2013 and 2014 at $11.14 per lamp (a 2% increase from 2013). This small increase is likely due to the greater availability of higher lumen LED A-lamps which are typically more expensive. The average price

[31] As mentioned above in Chapter 3, analysts used the same store sample frame for the 2014–15 shelf surveys as used in previous years, which is a list of retail stores in the Northwest compiled for NEEA by PECI, Inc. in the mid-2000s.

of a traditional incandescent lamp rose to $1.39 per lamp between 2013 and 2014 (a 56% increase), while the average price of an EISA-compliant incandescent lamp remained the same between years at about $1.90 per lamp.

7.3 OBJECTIVE 3

Objective 3: Assess Northwest consumer awareness of CFLs; purchase, installation, and storage rates; perceptions of CFLs; and motivations for recent CFL purchases, and consumer familiarity with emerging lighting technologies and related regulations.

CFL awareness, purchase, installation, and storage. There were no changes in consumer awareness and purchase rates of CFLs between 2013 and 2014. As of early 2015, 83% of consumers were aware of CFLs and 57% had purchased them. There were also no changes in installation rates; 87% of CFL purchasers in the 2015 survey reported that they had CFLs installed in their homes. The percentage of CFL purchasers who reported that they were storing one or more CFLs for future use also held steady at 63% (the same percentage as the 2014 survey).

CFL purchase motivations and satisfaction. Forty-eighty percent of CFL purchasers cite length of life and 42% cite energy savings as the best features of CFLs (statistically unchanged from the 2014 survey). As for the worst features of CFLs, 23% of CFL purchasers mentioned that they take too long to long to light up (start-up time), also unchanged from the 2014 survey. A smaller percentage of CFL purchasers also mentioned that CFLs were “not bright enough” and considered this as one of the worst features of CFLs (19%), compared to results from earlier surveys (2012–2014). There were no statistically significant changes between 2014 and 2015 in consumer satisfaction. However, results suggest a longer-term trend of declining satisfaction with CFLs between 2006 (when nearly 9 out of 10 consumers gave satisfaction ratings of 6 or higher) and 2015 (when only three-quarters of consumers gave ratings of 6 or higher).

Main factors preventing additional CFL installations. There were no changes in the percentage of consumers who said that they “do not need any more bulbs at this time” in 2015 (26% of respondents) compared to 2014. The two other main reasons consumers cited as reasons preventing them from installing additional CFLs were “waiting for incandescent bulbs to burn out” (11%) and CFL price (10%); both results were statistically unchanged from the 2014 survey.

Familiarity with emerging lighting technologies. Consumer survey results suggest that 94% of Northwest consumers were aware of LED lamps as of early 2015 and that 60% were aware of EISA-compliant incandescent lamps (both unchanged since 2014). Thirty-five percent of the Northwest consumers said they had purchased LED lamps (a significant increase from 25% of consumers in 2014), and 28% had purchased EISA-compliant incandescent lamps (a significant increase from 22% of consumers in 2014). Among Northwest consumers interviewed in early 2015, LED lamps represented 24% of the lamps purchased in 2014 compared to 15% of lamps purchased in 2013 among consumers interviewed in early 2014, and EISA-compliant

incandescent lamps represented 16% of all lamps purchased in 2014 (statistically unchanged from consumers interviewed in early 2014 regarding 2013 EISA-compliant lamp purchases).

Familiarity with new lighting regulations. Since 2010, the consumer surveys have included questions to gauge consumer awareness of EISA legislation in general as well as the various stages of EISA. After small increases between 2010 and 2012, the percentage of consumers aware of "legislation that will affect lamp availability" held steady between 2014 and 2015 at roughly 40% of the Northwest population. Roughly half of consumers (51%) reported that they were aware of legislation that will phase out most traditional incandescent lamps by 2014; this was significantly lower than the 59% of consumers who were aware of the phase out in the 2014 survey.

Purchase rates. According to consumer survey results, Northwest consumers purchased 3.6 traditional incandescent lamps in 2014, on average, compared to 2.5 LED lamps 2.4 general purpose CFLs, 1.7 EISA-compliant incandescent lamps, and 0.1 specialty CFLs. Of all the lamps purchased among all Northwest consumers in 2014, traditional incandescent lamps represented about a third of the lamps purchased (35%) and LED lamps represented roughly one-quarter (24%) of all lamps purchased; general purpose CFLs represented 23% of lamps purchased in 2014, EISA-compliant incandescent lamps represented 16%, and specialty CFLs represented only 1% of all lamps purchased by Northwest consumers in 2014.

7.4 OBJECTIVE 4

Objective 4: Understand attitudes and expectations of lamp supplier representatives (retailers/manufacturers) regarding future Northwest sales trends for CFLs, LED lamps, and incandescent lamps (particularly with regard to perceived effects of EISA).

Lamp Sales Trends Predicted for the Northwest. The interviews investigated supplier predictions regarding sales trends by technology:

- *CFLs*. There was an overwhelming consensus among supplier representatives that general purpose and specialty CFL sales in the Northwest will decline over the next 5 years (15 out of 17 representatives). Most of these representatives cited increasing LED sales as the main reason for the decline. Several representatives also mentioned a negative impact on future CFL sales from the state of Washington's Mercury-Containing Lights Law.
- *LED lamps*. All 13 of the supplier representatives who shared their predictions regarding future LED lamp sales in the Northwest said that sales would increase over the next 5 years by as much as 550% over 2014 sales volumes.
- *EISA-compliant incandescent lamps*. Among the 9 representatives who shared their predictions regarding future sales of EISA-compliant incandescent lamps, 6 said that sales of these lamps will increase over the next five years, ranging from a 10% to 100% increase in sales. Two representatives expected sales of EISA-compliant incandescent lamps to decline, because of a lack of higher-wattage product availability, and one representative expected sales to remain the same.

Effects of EISA. Lamp supplier representatives expressed varying opinions regarding the short-term effects of EISA, but two-thirds of the 17 suppliers predicted a shift toward alternative technologies (such as CFLs, LED lamps, and EISA-compliant incandescent lamps). Eight of these representatives reported that they specifically expect to see a short-term shift toward LED lamps, while 4 representatives expected to see a shift to CFLs and 3 predicted a shift toward EISA-compliant incandescent lamps.

There was general agreement among suppliers regarding the long-term effects of EISA—most of the supplier representatives expected consumers to shift to alternative technologies (15 representatives). Eleven supplier representatives expect a shift away from traditional incandescent lamps and toward LED lamps over the long-term, while nearly a third expect a shift toward EISA-compliant incandescent lamps over the long-term.

7.5 OBJECTIVE 5

Objective 5: Evaluate key inputs to NEEA's Alliance Cost Effectiveness (ACE) model and baseline assumptions.

Appendix F provides a detailed review of NEEA's Alliance Cost Effectiveness (ACE) model for residential lighting as well as inputs to the baseline assumptions.

7.6 OBJECTIVE 6

Objective 6: Obtain a more complete picture of residential lighting market (beyond CFLs).

This study addressed several lamp technologies via multiple research methods. The consumer surveys elicited details regarding consumer awareness and purchase rates for CFLs over time, and the survey also included questions regarding traditional incandescent lamps, EISA-compliant incandescent lamps, and LED lamps. The supplier and utility program manager interviews also explored these technologies. The shelf surveys included complete inventories of all CFLs, traditional and EISA-compliant incandescent lamps, and LED lamps in Northwest retail stores (starting in 2011), and added 4-foot T8 and T12 linear fluorescent lamps to the inventories in 2013. Below, we summarize availability, diversity, and pricing for these technologies.

Availability. Shelf survey results from 2013 and 2014 suggest that general purpose and specialty CFLs, halogen lamps, and incandescent lamps are available in at least nine out of ten retail stores that sold replacement lamps in the Northwest, while approximately 84% of the region's stores stocked LED Lamps in both 2013 and 2014.

Incandescent lamps declined slightly as a proportion of total lamps stocked in Northwest retail stores from 50% of lamps in 2013 to 47% in 2014. While incandescent lamp share declined between 2013 and 2014, halogen lamp share increased from 21% of all lamp stock to 24%

between years. The share of LED lamps doubled from 4% to 8% of lamps stocked in this same timeframe. The share of general purpose CFLs declined slightly between years from 18% to 15%, while the share of specialty CFLs held steady at 6% in both years.

Shelf survey results also suggest that 4-foot linear fluorescent lamps were available in 47% of Northwest retail stores in 2014—43% of stores had T12 lamps in stock 2014 (a slight decline from 47% of stores in 2013) and 37% had T8 lamps in stock in 2014 (a slight increase from 32% in 2013). T12 lamps comprised roughly 71% of 4-foot linear fluorescent lamps stocked by Northwest retailers and T8s comprised the remaining 29% in 2014; this represents an increase in the proportion of T12 lamps (which comprised 62% of linear fluorescent lamps in 2013).

Diversity. In terms of the average number of lamp models available per store, the diversity of CFLs, LED lamps, halogen, and incandescent lamps changed as follows between 2013 and 2014 in the Northwest:

- *CFLs*. The average number of CFL models per store remained roughly the same between years at 38 models in 2013 and 35 models in 2014 overall.
    - The average number of general purpose CFL models per store remained unchanged at approximately 20 models per store overall.
    - The average number of specialty CFL models per store remained unchanged at approximately 16 models per store overall.
    - The average number of CFL models stocked per non-big box store declined slightly from 38 in 2013 to 33 in 2014, while the average number of CFL models stocked in big box stores remained about the same between years (approximately 38 models per store).
- *LED lamps*: Overall, the average number of LED lamp models stocked per store across all stores in the Northwest doubled from 6 models per store in 2013 to 12 models per store in 2014. The average number of LED lamp models per big box store increased from 10 in 2013 to 24 in 2014; in non-big box stores, the average number of models per store increased from 5 to 8 between years.
- *Halogen lamps:* Diversity of halogen lamps decreased slightly from 27 to 23 models per store between 2013 and 2014. This decline in model number diversity was driven by non-big box stores which had 27 models per store in 2013 and 22 in 2014.
- *Incandescent lamps:* Diversity of incandescent lamps increased slightly between 2013 and 2014 from 59 models per store, on average, to 65 models per store. This increase was driven by big box stores, which had 60 incandescent lamp models per store in 2013 and 65 in 2014.

Pricing. As described earlier in this section, analysts calculated average prices for CFL, LED, halogen, and incandescent lamps stocked in Northwest retail stores.

- *CFLs*. Shelf survey results suggest that the overall average price for a general purpose CFL in the Northwest in 2013 was up 11% overall between 2014 and 2014 (from $3.60 to $4.00 per lamp). This change was driven by a 21% increase in the average price of general purpose CFLs in big box stores (up to $3.13 per lamp in 2014). A similar trend occurred among specialty CFLs, which increased from $6.75 per lamp overall in 2013 to

$7.71 in 2014 (a 14% increase). This trend was also driven mostly by big box stores, in which the average price of a specialty CFL increased by $1.09 (from $5.12 per lamp in 2013 to $6.21 per lamp in 2014; a 21% increase). When broken down by style, the average price for general purpose spiral and A-lamp CFLs increased between years overall to $3.70 per spiral CFL and to $7.52 per A-lamp CFL in 2014 (a 12% increase for both lamp styles). A $0.25 per CFL recycling fee in the state of Washington (as of January 1, 2015) may have contributed to CFL price increases.

- *LED lamps*. The average price for general purpose LED A-lamps increased $0.25 from 2013 to $11.14 per lamp (a 2% increase) overall. This increase is likely due to the greater availability of higher lumen LED A-lamps. However, MSB LED reflector lamps declined nearly $5.00 to $13.41 per lamp between 2013 and 2014 (a 22% decrease).
- *Halogen lamps*. The average price of an EISA-compliant A-lamp remained about the same in 2013 and 2014 at about $1.90 per lamp overall. Similarly, the average price of an MSB halogen reflector lamp remained about the same between years at approximately $9.50 per lamp overall.
- *Incandescent lamps*. The average price of a traditional incandescent A-lamp increased from $0.89 per lamp in 2013 to $1.39 in 2014 overall (a 56% increase). The average price of an MSB incandescent reflector lamp also increased between years from $4.97 to $5.52 (an 11% increase).

Market Share. The supplier interviews included several questions to obtain estimates of market share of CFLs, LED lamps, halogen lamps, and incandescent lamps. The interviews included 9 respondents who presented organizations that sold all four lamp technologies in 2014, and one respondent who represented an organization that sold all except incandescent lamps. Nine respondents estimated the proportion of total sales that each lamp technology comprised in 2014. According to these representatives, the average market share for CFLs was 28% (ranging from 10% to 50% of total sales), 16% for LED lamps (ranging from 2% to 20% of total sales), 27% for halogen lamps (ranging from 9% to 60% of total sales), and 29% for incandescent lamps (ranging from 0% to 60% of total sales).

7.7 OBJECTIVE 7

Objective 7: Better understand stocking and sales of EISA-compliant versus non-compliant lamps.

Stocking. The first phase of EISA affected medium screw-base (MSB) incandescent A-lamps in the 1490-2600 lumen range and went into effect on January 1, 2012 (after this date, it was illegal to manufacture or import traditional incandescent lamps that do not meet EISA standards , but retailers are allowed to sell through their existing stock of these lamps.). Nearly all lamps in Northwest retail stores met the standard in this category in the 2013 shelf surveys (conducted in late 2013/early 2014) and 2014 shelf surveys (conducted in late 2014/early 2015).

The second phase of EISA affected MSB incandescent A-lamps in the range of 1050-1489 lumens and went into effect on January 1, 2013. Sixty-two percent of lamps in this category in

met the standard at the time of the 2013 shelf surveys, 75% of lamps in this category met the standard at the time of the 2014 shelf surveys. The percentage of lamps that met the standard in 2014 was higher in non-big box stores (84% of lamps) than in big box stores (65%).

The third phase of EISA affected MSB incandescent A-lamps in the ranges of 750-1049 lumens (medium low brightness) and 310-749 lumens (low brightness) and went into effect on January 1, 2014. Only 20% of lamps in the medium low brightness category met the standard in 2013, but 54% met the standard in 2014. The percentage of medium low brightness lamps that met the standard in 2014 was higher in big box stores (72% of lamps) than non-big box stores (45%). Only 22% of lamps in the low brightness category met the standard in 2013 and 46% met the standard in 2014. The percentage of low brightness lamps that met the standard in 2014 was higher in big box stores (51% of lamps) than non-big box stores (42%).

Sales. Eight of the lamp supplier representatives who participated in the in-depth interviews provided estimates of changes in EISA-compliant and/or traditional incandescent lamp sales in the Northwest from 2013 to 2014. Of these, 6 reported that sales of their EISA-compliant incandescent lamps increased from 2013 to 2014 (ranging from a 5% to 200% increase), while the other 2 representatives said that their sales of these lamps remained unchanged between years. Six supplier representatives provided details on changes in sales of traditional incandescent lamps between 2013 and 2014, and responses were mixed: three said that their sales of these lamps declined between years (ranging from a 15% to 60% decrease), 2 said that their sales increased (both citing a 10% increase), and one said that sales stayed the same between years.

7.8 OBJECTIVE 8

Objective 8: Characterize lighting marketing materials in Northwest retail stores.

During the lighting retailer shelf surveys, field staff recorded information about the marketing and promotional materials present in Northwest retail stores that sold replacement lamps. The utility program manager and supplier interviews also elicited information from respondents regarding the types of marketing and promotional activities undertaken in the Northwest in 2014 as well as the technologies promoted and key messages included in these efforts.

Promotional Activities. According to shelf survey results, promotional materials related to replacement lamps were present in 55% of Northwest retail stores that sold replacement lamps in 2014. Shelf or wall signs comprised the majority of these materials. Fifteen of the 18 utility program managers reported that they undertook promotional activities for replacement lamps in 2014 and 8 reported use of in-store signage. Fifteen of the 17 supplier representatives who participated in the interviews reported that they undertook promotional efforts in 2014 and all 15 reported the use of in-store signage.

Technologies Promoted. Marketing efforts focused on CFLs more than any other technology in 2014. Nearly half of Northwest retail stores that sell replacement lamps had CFL signage present in 2014, 30% displayed promotional materials regarding LED lamps, and 25% displayed

promotional materials regarding EISA-compliant incandescent lamps. Promotional materials had a slightly greater presence in big box stores than non-big box stores in 2014 (64% versus 52%, respectively). Materials focusing on LED lamps were present in nearly half of big box stores compared to a quarter of non-big box stores (46% versus 25%).

Of the 15 of the utility lighting program managers who reported active lighting marketing campaigns in 2014, 12 promoted CFLs. Eleven program managers mentioned that their outreach efforts included LED lamps in addition to CFLs, and three program managers said that their outreach efforts focused exclusively on LED lamps.

Messaging. The most common promotional messages in 2014 replacement related to specific utility programs such as the "Simple Steps, Simple Savings" program (present in 35% of stores), informational comparisons between technologies (present in 25% of stores), and saving energy or money (23% of stores). Utility representatives also mentioned energy or money savings as key themes in their messaging (mentioned by 12 of 15 utility representatives who had promotional activities in 2014); other key messages mentioned included lamp life, low prices, positive features of LED lamps, and CFL recycling (each mentioned by 4 out of the 15 respondents with active promotional campaigns). Thirteen of the 15 supplier representatives actively promoting their lamps also mentioned messaging that included energy savings in 2014.

A handful of utility program managers mentioned some gaps in messaging regarding energy-efficient lamps in the Northwest market, including general information about LED lamps (5 of 18 program managers) and emphasizing the importance of buying a quality CFL (3 of 18). Five of the utility program managers suggested that a possible role for NEEA might be to help provide consistent marketing and outreach materials for energy-efficient lighting throughout the region.

7.9 OBJECTIVE 9

Objective 9: Better understand drivers of customer decision-making regarding lamp purchases and influences on those decisions.

The 2015 consumer telephone survey included questions that enabled a key driver analysis to better understand the impact of various factors that may influence consumers' lamp purchasing decisions. Survey respondents rated 14 lamp attributes on a scale of 1–10 in terms of importance in their purchasing decisions (a 1 rating was not at all important and a 10 rating was very important). These lamp attributes served as explanatory variables in the key driver analysis. There was one attribute that correlated positively with CFL satisfaction—"the bulb helps lower energy bills," and there were 2 attributes that correlated negatively with CFL satisfaction—"the bulb reaches full brightness instantly" and "the bulb does not have mercury in it." From this, we are able to determine that if respondents gave a high rating for "the bulb helps lower energy bills," they were more likely to be very satisfied with CFLs, and if respondents gave a higher rating for "the bulb reaches full brightness instantly," or "the bulb does not have mercury in it," they were more likely to be very dissatisfied with CFLs. Results of this analysis also suggested that there is a positive relationship between satisfaction with CFLs and the number of CFLs

purchased. In other words, as the level of satisfaction with CFLs increases, the likelihood that respondents have purchased a higher number of CFLs also increases. Thus, there is an indirect relationship between lamp attributes that correlate positively (or negatively) with CFL satisfaction and the number of CFLs that consumers purchase.

DNV GL conducted six focus groups with consumers in Portland, OR, Seattle WA, and Spokane, WA. The moderator asked participants to select one lamp package from a selection of four packages, which included an MSB general purpose LED A-lamp package, MSB traditional incandescent A-lamp package, MSB energy-efficient incandescent A-lamp package, and an MSB general purpose spiral CFL package (all of roughly equal brightness and color temperature). There were two exercises in this simulated shopping experience; the first asked participants to assume the price per lamp was the same for each choice, and the second revealed the actual price per lamp for each package. When price was no object, 36 of the 55 focus group participants chose the LED lamps, 10 chose the CFLs, 8 chose the energy-efficient incandescent lamps, and one chose the traditional incandescent lamps. When the moderator revealed the price for each lamp, roughly one in 5 participants shifted away from LED lamps – 30 chose the LEDs, 12 chose the CFLs, 11 chose the energy-efficient incandescent lamps, and 2 chose the traditional incandescent lamps.

When asked why they chose the lamps that they did, responses varied based on the selected technology as demonstrated by the following verbatim comments:

- **Participants who chose the traditional incandescent lamp:**
  - "I like the design and it fits aesthetically in my older house."
  - "Energy efficiency isn't relevant because energy is cheap in the Northwest."
- **Participants who chose the energy-efficient incandescent lamp:**
  - "It's familiar, and I know I like the way the light feels in my house, and it's what I usually buy."
  - "Change isn't easy for me, so I chose [energy-efficient incandescent lamp]."
  - "It says dimmable and mercury-free on the front [of the package]."
- **Participants who chose the CFL:**
  - "That's the one I've been buying for so long."
  - "[We] have CFLs throughout house."
  - "It was the closest one to bulbs that I like, and I like the lighting and everything with it."
- **Participants who chose the LED lamp:**
  - "When you take out all the other factors, then it becomes longevity, absolutely, because I don't want to have to replace it."
  - "It came down to wattage—it's 9.5 for the LED which if my math is right is one-seventh or one–sixth of what those other ones are, and it's just common sense which is the most efficient."
  - "The LED option had the lowest cost [to operate], and I'm on a budget."
  - "I want to try something new. I've heard so much about LED light bulbs."
  - "I like it better, because I can see better [with it]."

7.10 OBJECTIVE 10

Objective 10: Better understand NEEA partner activities for consumer research on lighting knowledge/preferences and purchasing motivations.

One of the objectives in speaking with utility program representatives in the Northwest was to determine the extent to which Northwest utilities are conducting research on consumer lighting knowledge, preferences, and purchasing motivations. While there was no active research on these topics among Northwest utilities in 2013/early 2014 (based on 2014 interview results), 2015 results suggest that two of the utilities are currently conducting or plan to conduct formal research on these topics as of early 2015. One utility was conducting a CFL market transformation study at this time to address the types of lighting technologies that consumers are buying and why, and another was planning an evaluation of an LED giveaway program, including questions on the participants' experience and satisfaction with LED lamps.

8 CONCLUSIONS AND RECOMMENDATIONS

Based on the findings described throughout the report and summarized in Chapter 7, we developed the conclusions and recommendations described below.

8.1 CONCLUSIONS

Study results suggest the following conclusions:

1. **Northwest residential Energy Star CFL sales declined between 2013 and 2014, and it is likely that sales will continue to decrease.**

    - Residential Energy Star CFL sales in the Northwest decreased by approximately 14% between 2013 and 2014. General purpose CFL sales comprised more than three-quarters of CFL sales in 2014 (compared to 69% in 2013). While general purpose CFL sales declined 4% between years, specialty CFL sales declined 38%. The vast majority of supplier representatives expect CFL sales to decline over the next five years, and some supplier representatives believe that specialty CFL sales in the Northwest will go to zero or near zero in five years.

    - Universally, supplier representatives expect increased sales of LED lamps over the next five years, and many supplier representatives expect increased sales of EISA-compliant incandescent lamps. Consumer demand for CFLs will likely compete with increasing consumer demand for LED lamps, and may also compete with demand for EISA-compliant incandescent lamps, which could drive down CFL sales further. Supplier representatives suggest that the $0.25 recent per lamp recycling fee for CFLs sold in the state of Washington (as of January 1, 2015) may also have a negative impact on future CFL sales in the Northwest. It is likely that CFL sales will likely continue to decline in the near term, and specialty CFL sales will decline more rapidly than general purpose CFL sales.

2. **Big box stores continue to dominate the region's residential Energy Star CFL sales.** CFL sales in big box stores represented more than 90% of the region's total CFL sales in 2014, about the same as in 2013.

3. **Northwest consumers are shifting some of their focus from CFLs and traditional incandescent lamps toward LED lamps.** In 2012 and 2013, traditional incandescent lamps comprised approximately half of all lamps purchased in each year. In 2014, the share comprised by traditional incandescent lamps dropped significantly to just over one-third of all lamps purchased. The share of 2014 lamp purchases comprised by LED lamps increased to nearly a quarter of all lamps purchased (up from 15% of lamps purchased in 2013). The share of purchased lamps comprised by EISA-compliant incandescent lamps

was about 15% (statistically unchanged from 2013). Survey results also suggested lower consumer awareness of CFLs in the 2014 and 2015 surveys (more than 8 in 10 consumers in both years) than awareness of LED lamps (more than 9 in 10 in both years). The reason for this difference in awareness may be that consumers have shifted some of their focus away from CFLs and toward other lamp technologies (including LED lamps and EISA-compliant lamps).

4. **Incandescent lamps still dominate store inventories but their retail presence is declining year over year, while halogen lamps and LED lamps are on the rise.** Between 2013 and 2014, there was a small decline in the proportion of total lamps stocked in Northwest retail stores comprised by incandescent lamps of all types, and incandescent lamps still had a plurality share of total lamps stocked in stores. CFLs declined slightly as well between years. During the same timeframe, there was an increase in the share of lamps comprised by halogens, and the share of LED lamps doubled. These trends are likely related to the effects of EISA.

5. **EISA's effects are becoming increasingly prominent in the region's retail stores with most lamps meeting EISA standards in the three highest lumen categories affected by the legislation, but consumer awareness of the legislation is still only moderate.**

    - In all four lumen bins affected by the legislation, the proportion of lamps that met the standards increased between 2013 and 2014. Nearly all of the MSB incandescent A-lamps in the highest lumen category met the standard as of late 2014/early 2015, and roughly half to three-quarters of lamps in the other three lumen bins also met the standard.

    - Awareness of the legislation did not change among Northwest consumers between early 2014 and early 2015, with approximately two in five aware of "legislation that may affect lamp availability," and three in five aware of "energy-efficient incandescent lamps." Roughly half of consumers in 2015 reported were aware of "legislation that will phase out most traditional incandescent lamps by 2014."

6. **Consumer demand for LED lamps increased in the Northwest between 2013 and 2014, and this trend is likely to continue.** The consumer purchase rate for LED lamps increased form roughly one-quarter of consumers in 2014 to a third of consumers in 2015. Lamp supplier representatives reported increased LED sales between 2013 and 2014 and predict increased LED lamp sales over the next 5 years.

7. **The average price of general purpose and specialty CFLs increased in Northwest retail stores between 2013 and 2014.** Both general purpose and specialty CFL prices increased by between 10 and 15 percent between 2013 and 2014. A $0.25 per lamp recycling fee required for CFLs sold on or after January 1, 2015 in the state of Washington may have contributed to this increase.

8. **The average price of traditional incandescent lamps in Northwest retail stores increased significantly between 2013 and 2014.** The average price of a traditional incandescent A-lamp increased by more than 50%between years. EISA regulations, which have reduced the supply of these lamps, are likely the reason for this increase.

9. **Average shelf price for LED reflector lamps declined while the average price of reflector CFLs increased between 2013 and 2014.** The average shelf price for MSB LED reflector lamps declined by more than 20% between years, while the average price for MSB reflector CFLs increased by more than a third. Lower manufacturing costs for LED lamps as well as increased utility promotions for LED lamps maybe have contributed to declining prices. Declining incentives for specialty CFLs, decreased utility promotional focus on specialty CFLs, and the state of Washington's CFL recycling fee may have likely contributed to the increase in average price for reflector CFLs.

10. **The presence of promotional materials focusing on CFLs declined in Northwest retail stores between 2013 and 2014, while the presence of promotional materials for LED lamps in stores remained about the same between years.** Less than half of retail stores that sold replacement lamps in the Northwest promoted CFLs (down from more than two-thirds of stores in 2013), while about one-third of stores promoted LED lamps (roughly the same as in 2013). Fourteen out of 15 utility lighting program managers with active promotional campaigns in 2014 mentioned that their outreach efforts included LED lamps; three of these program managers said that their outreach focused exclusively on LED lamps.

11. **Energy savings, money savings, and long lamp life are common promotional messages and serve as key drivers in consumer purchasing decisions.**

    - Interviews with residential lighting program managers at the region's utilities, interviews with supplier representatives, and shelf survey results suggest that saving energy or money is one of the most common messages highlighted in promotional materials for residential replacement lamps. Long lamp life (of CFLs or LED lamps) was another common message.

    - In the 2015 consumer surveys, CFL purchasers mentioned saving or conserving energy and long life as the best feature of a CFL (more than any other feature). Further analysis of the consumer survey data (the key driver analysis) reveals that consumers who place high importance on lowering their utility bills when making a lamp purchasing decision are more likely to be satisfied with CFLs. These results suggest that the most common messages promoted by utilities and lamp suppliers appear to be resonating with CFL purchasers.

12. **Consumer satisfaction with LED lamps is higher than with CFLs.** More LED lamp purchasers are "very satisfied" with their lamps than CFL purchasers, and the average satisfaction rating is higher for LED lamps than CFLs (8.5 versus 7.3).

13. **Rural consumers tend to have less exposure to utility promotion efforts than urban customers.** Utility representatives from rural utilities said that expanding outreach efforts in rural stores would help influence rural consumers to purchase CFLs and LED lamps**.**

14. **Northwest utilities have conducted minimal research on consumer lighting knowledge, preferences, and purchasing motivations.** In-depth interviews with lighting program representatives suggest that there was no formal research on consumer lighting knowledge, preferences, and purchasing motivations conducted by Northwest utilities in early 2014. As of early 2015, results suggest that there were only two utilities conducting research that addressed some of these topics.

8.2 RECOMMENDATIONS

Based on the conclusions described above, we recommend the following:

1. **Continued residential replacement lamp market tracking.** NEEA should consider continuing its current market tracking efforts for residential replacement lamps. This is particularly important as the lighting market continues to evolve rapidly, and will help NEEA address one of its primary objectives ("obtain a more complete picture of residential lighting market beyond CFLs;" study objective 6). Furthermore, NEEA has conducted one of the longest market tracking studies on residential lighting for any region in the U.S., which makes these research efforts valuable not only to regional stakeholders but also to a broader audience of stakeholders beyond the region.

2. **Assistance with regional messaging for energy-efficient lamps.** NEEA should consider working with energy-efficiency program sponsors in the region as well as lamp manufacturers and retailers to develop consistent and concise messaging to support CFL and LED replacement lamp sales. More than a quarter of the utility program managers who participated in the interviews suggested that NEEA provide such support. Some of these program managers said that they would like to see messaging that is consistent, simplified, and able to reach the entire region. More than half of the region's stores are already displaying materials promoting replacement lamps, and the concepts of energy or money savings for CFLs and LED lamps dominate these messages. While observed in a number of retail stores, these messages come from a variety of sources and are presented to consumers in different ways. NEEA is uniquely positioned to offer broad, regional support by helping to reinforce the key messages of energy savings and long lamp life in a consistent manner.

3. **Educational efforts in rural areas.** Related to recommendation number two above, NEEA should consider resuming its focus on rural areas with regard to educational and promotional efforts for energy-efficient lighting. Rural consumers in the Northwest typically have few (if any) local big box stores where they can shop for energy-efficient

lamps, and are therefore less likely to be exposed to promotional materials regarding these products. These efforts may be particularly important going forward as the presence of LED lamps and EISA-compliant incandescent lamps in retail stores increases, which will present consumers with more lamp choices and potentially more confusion regarding those choices. Utility representatives from rural utilities also mentioned the importance of expanding outreach efforts in rural stores as a means of influencing rural consumers to purchase CFLs and LED lamps.

4. **Further research regarding consumer knowledge, preferences, and purchasing motivations.** NEEA should consider conducting further and more extensive research to understand consumer knowledge, preferences, and purchasing motivations for replacement lamps. This will enable the development of more effective marketing messages to support energy-efficient lamp sales, and will enable NEEA to more effectively address objective 9 of its residential lighting market tracking efforts ("better understand drivers of customer decision-making regarding lamp purchases and influences on those decisions").

5. **Expanded lamp sales tracking efforts.** NEEA should consider incorporating additional lamp technologies into its sales data tracking efforts. Given the likely decline of future of CFL sales, the increasing impacts of EISA over time, and increasing market presence of LED lamps, expanding sales tracking efforts beyond CFLs would provide NEEA with a more complete picture of the Northwest market for replacement lamps. As the market share of LED lamps continues to grow, tracking sales of LED lamps will become more important. Furthermore, tracking sales of incandescent and halogen lamps, in addition to CFLs and LED lamps, would also enable NEEA to estimate the share of the Northwest lighting market comprised by more energy-efficient alternatives and gain a better understanding of the overall lighting market in the Northwest (again in support of study objective 6 referenced above).

6. **Tracking of key specialty lamp styles.** NEEA should consider supporting additional tracking and analysis of specialty lamps at a finer level of detail for key specialty lamp styles, such as reflector, globe, and candelabra styles across all of the major lamp technologies (CFLs, LED lamps, incandescent lamps, and halogen lamps). There are a numerous styles of specialty lamps (particularly among reflector lamp styles). Specialty lamp availability, diversity, and pricing vary considerably by lamp technology, so it is difficult to compare specialty lamps as a single category across lamp technologies. Further analysis of specialty lamps would enable NEEA to have a deeper understanding of the differences between styles and a better understanding of why changes are happening over time. Disaggregating specialty lamp styles would enable NEEA to make more analogous and accurate comparisons of various specialty lamp styles available to residential consumers in the Northwest across lamp technologies.

7. **Understanding changes in CFL pricing.** Related to recommendation number 6 above, NEEA should consider supporting additional analysis related to the effects of the state of Washington's $0.25 CFL recycling fee on CFL pricing in the Northwest.

8. **Updating the list of stores that sell replacement lamps in the Northwest.** NEEA should consider supporting additional research to update its list of stores in the Northwest that sell replacement lamps. A contractor compiled this list for NEEA nearly 10 years ago, and it is likely that the number of retail stores that sell replacement lamps as well as the distribution of stores by store type has changed. An updated list of stores from a reputable business data research firm combined with additional research on which stores sell lamps would yield more accurate storefront weights, and, in turn, more accurate shelf survey results.

APPENDIX A - REFERENCES

CLEAResult, 2015. *2014 Full CFL Data*. Prepared for NEEA. March 10, 2015.

_____, 2014. *2013 Full CFL Data*. Prepared for NEEA. April 14, 2014.

Department of Ecology, State of Washington. 2015. Mercury Lights Product Stewardship. Accessed at http://www.ecy.wa.gov/programs/SWFA/mercurylights/.

DNV GL, 2015. *2013–2014 Northwest Residential Lighting Long-Term Market Tracking Study*. Prepared for the Northwest Energy Efficiency Alliance. January 22, 2015.

DNV KEMA Energy & Sustainability, 2013. *2012–2013 Northwest Residential Lighting Long-Term Market Tracking Study*. Prepared for the Northwest Energy Efficiency Alliance. June 10, 2013.

Fluid Market Strategies, 2013. *2012 Full CFL Data*. Prepared for NEEA. March 13, 2013.

_____,2012. *2011 Full CFL Data*. Prepared for NEEA. March 8, 2012.

_____, 2011. *2010 Basic Widget Data Report*. Prepared for NEEA. n.d.

_____, 2010. *2009 Widget Data Final Report*. Prepared for NEEA. April 13, 2010.

_____, 2009. *2008 Widget Data Final Report*. Prepared for NEEA. March 6, 2009.

_____, 2008. *2007 Widget Data Final Report*. Prepared for NEEA. n.d.

_____, 2007. *2006 Widget Data Final Report*. Prepared for NEEA. n.d.

H.R. 6--110th Congress: Energy Independence and Security Act of 2007. (2007). Online at GovTrack.us (database of federal legislation). Accessed at http://www.govtrack.us/congress/bills/110/hr6.

KEMA, Inc., 2012. 2011-2012 *Northwest Residential Lighting Tracking and Monitoring Study*. Prepared for NEEA. May 21, 2012.

_____, 2011. *Long-Term Northwest Residential Lighting Tracking and Monitoring Study*. Prepared for NEEA. Supported by Evergreen Economics. August 2, 2011.

_____, 2010. 2009-10 Residential Lighting Market Research Study. Prepared for NEEA. Supported by ECONorthwest. May 18, 2010.

_____, 2009. *2008-09 CFL Tracking Study: Energy Star Consumer Products Lighting Project*. Prepared for NEEA. July 1, 2009.

_____, 2008. *Consumer Products Market Progress Evaluation Report 4 (MPER4): Final Report*. Prepared for NEEA. July 22, 2008.

_____, 2007. *Consumer Products Market Progress Evaluation Report 3 (MPER3): Final Report*. Prepared for NEEA. July 24, 2007.

_____, 2006. *Market Progress Evaluation Report (MPER2) for the Northwest Energy Efficiency Alliance's Energy Star® Consumer Products Program*. Prepared for NEEA. June 9, 2006.

_____, 2005. *Market Progress Evaluation Report (MPER1) for the Northwest Energy Efficiency Alliance's Energy Star® Consumer Products Program*. Prepared for NEEA. October 21, 2005.

Portland Energy Conservation Inc. (PECI), 2006. *Compact Fluorescent Product Sales Data Report for October – December 2005*. [Includes data for 2001–2005.] Prepared for NEEA. n.d.

U.S. Environmental Protection Agency (EPA), 2011. *Next Generation Lighting Programs: Opportunities to Advance Efficient Lighting for a Cleaner Environment.* With assistance from ECOS and ICF. 2011.

U.S. Census Bureau, 2015. Population estimates for Idaho, Montana, Oregon, and Washington (updated annually). Population Estimates Program, 2014. Accessed at http://quickfacts.census.gov/qfd/index.html.

Wal-Mart, 2007. "Wal-Mart Surpasses Goal to Sell 100 Million Compact Fluorescent Light Bulbs Three Months Early." Press Release. Bentonville, AK, Oct. 2, 2007. Accessed at http://news.walmart.com/news-archive/2007/10/02/wal-mart-surpasses-goal-to-sell-100-million-compact-fluorescent-light-bulbs-three-months-early.

APPENDIX B - DATA COLLECTION INSTRUMENTS

NEEA NORTHWEST LIGHTING TRACKING STUDY: LIGHTING SHELF INVENTORY

CONTACT INFORMATION

PLEASE FILL IN THIS SECTION USING THE INFORMATION CONTAINED IN THE SAMPLE DATABASE

Field researcher name:	Store address:
Date:	Store city:
Store name:	Store state:
Store type:	Store zip code:

LIGHTING SIGNAGE & PROMOTIONAL MATERIALS

A1. Are there any materials present promoting lighting? **[DO NOT INCLUDE MESSAGES ON LIGHTING PACKAGES OR SIMPLE PRICING INFORMATION ON SHELVES].**

1 Yes
2 No

[REPEAT A2 THROUGH A3E FOR EACH PROMOTIONAL SIGN OR DISPLAY IN STORE]

A2. [**IF PROMOTIONAL MATERIALS PRESENT]** Which lighting technologies are being promoted? **[MARK ALL THAT APPLY].**

1 CFLs
2 LEDs
3 Energy Efficient Incandescents (e.g., EISA-compliant halogens)
4 Traditional Incandescents (e.g., incandescent not compliant with EISA regulations)
5 Other lighting technology [PLEASE SPECIFY]:_____

A3a. **[IF PROMOTIONAL MATERIALS PRESENT] What type of sign is present?**

1 Sign on shelf/wall
2 Sign hung from ceiling
3 Brochures
4 Floor sticker/cling
5 Other [PLEASE SPECIFY]: _____

A3b. **[IF PROMOTIONAL MATERIALS PRESENT] Where is the promotional material located?**

1 In the lighting aisle(s)
2 Near the cash register
3 In front of the store/near store entrance
4 On an endcap
5 Other location [PLEASE SPECIFY]:_____

A3c. **[IF PROMOTIONAL MATERIALS PRESENT] Does the sign or display refer to a specific bulb model or models?**

1 Yes
2 No

A3d. **[IF A3C=YES] Please list the manufacturer, model number(s), base type, and style of the bulb.**

_____

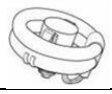
A3e. **[IF PROMOTIONAL MATERIALS PRESENT] Summary of Key Messages in Sign or Display:**

_____

_____

BULB CODES (TECHNOLOGY TYPE, BASE TYPE, AND STYLE CODES)

Technology Type Codes		Base Type Codes	
Technology Type	**Code**	**Base Type Codes**	**Code**
CFL	CF	Medium Screw	M
Incandescent	I	Pin	P
Halogen	H	GU-Type	G
LED	L	Candelabra/Intermediate	C
Cold Cathode	CC	Large Screw Base	L
Fluorescent Tube	FL	Candelabra with Medium Screw Adaptor	C/M
Other	OT	Other	OT

Bulb Style Codes*					
Bulb Style	**Code**	**Image**	**Bulb Style**	**Code**	**Image**
Spiral/Twister	TW		Spotlight/Reflector/ Flood	See below	See spotlight/reflector/flood codes in table below.
Globe (e.g., for bathroom vanity fixtures)	GL		Circline	CI	
A-lamp (shaped like standard incandescent)	AL		Tube Style	TU	
Torpedo/Bullet	TO		Night Light	NL	
Linear 4 ft. T8 Fluorescent Tube	T8		Linear 4 ft. T12 Fluorescent Tube	T12	
Bug Light	BU		Other/Unknown	OT	Record style code, if indicated on package.

*See LED Style Code Table below for further details and information on LED bulb styles.

Spotlight/Reflector/Flood Bulb Style Codes					
Bulb Style	**Code**	**Image**	**Bulb Style**	**Code**	**Image**
BR25	B25		PAR16	P16	
BR30	B30		PAR20	P20	
BR40	B40		PAR30	P30	
R20	R20		PAR38	P38	
R30	R30		MR16	M16	
R40	R40		Other	OT	

LED Style Codes			
Bulb Style	**Code**	**Bulb Style**	**Code**
A15, A19, A21, A23	AL	G16½, G25, G40, P25, PS35	GL
B10½, B13, BA9, BA9½, F10, F15, F20	TO	T 4½, T5, T6, T8, T10	TU
C7, C9	NL	C7	NL
BR25, BR30, BR40, R20, R30, R40, PAR15, PAR20, PAR30S, PAR30L, PAR38	See spot-light codes table above	Other LED Bulb Style (record style code on package, if known)	OT

Bulb Inventory

Inventory all replacement CFLs, incandescents, halogens, LEDs, 4 ft. T8 and T12 fluorescent tubes, and cold cathodes.
Use as many pages as necessary.
For 3-way, dimmable, ENERGY STAR, and rough service incandescent columns: X if applicable.

IF ONLY ONE PRICE SHOWN: Try to determine whether it's a discounted price/sale price or if it's a full-priced bulb. If sale price, record value in "Discounted price." If full price, record value in "Original Price."

Manufacturer/Brand	**Technology Type** (See Technology Codes table above)	**Base Type** (See Base Codes table above)	**Bulb Style** (See Style Codes table above)	**Barcode**	**Quantity in Pack**	**# of Packages**	**Package Location** [Aisle=A; Endcap=E; Pallet=P; Fenceline=F; Other-OT]	**Full/Original Price** (If discounted, record price *before* discount. If not discounted, record product price here)	**Discounted Price** (If on sale/discounted)	**Discount Provider** (if discounted) [R=Retailer; U=Utility; M=Manufacturer; O=Other; DK= don't know]	**Color Name** [Soft White=SW; Warm White=WW; Cool White=CW; Bright White=BW; Daylight=D; Enhanced Spectrum=ES; Colored= CR; Other=OT]	**Lumens**	**Wattage**	**3-way?**	**Dimmable?**	**Energy Star?**	**Rough service incandescent?**
														☐	☐	☐	☐
														☐	☐	☐	☐
														☐	☐	☐	☐
														☐	☐	☐	☐
														☐	☐	☐	☐
														☐	☐	☐	☐

DNV·GL

2015 Northwest Energy Efficiency Alliance Consumer Lighting Survey
---------- FINAL v2 03/10/2015 ----------

[RED BRACKETS DENOTE SURVEY QUESTIONS THAT HAVE BEEN ADDED, MODIFIED, OR MOVED FOR THE 2015 SURVEY]

0 INTRODUCTION

Hello, my name is _____ calling on behalf of the Northwest Energy Efficiency Alliance. We're conducting a study on home lighting preferences.

S0. May I please speak to the person who does most of the shopping for your household?
[MAKE SURE RESPONDENT IS 18 YEARS OLD OR OLDER]

[CONTINUE OR ARRANGE FOR CALLBACK]

IF NECESSARY: I want to assure you that this is NOT a sales call and that the information that you provide will be kept strictly confidential. This will only take about 10 minutes of your time.

IF NECESSARY: The Northwest Energy Efficiency Alliance, or NEEA, is a non-profit organization that funds projects to encourage energy efficiency in the Northwest. Its Board of Directors has representatives from utilities, environmental groups, regulatory agencies, and energy-related private businesses. For more information you can visit NEEA's website at www.neea.org.

S1. Are you taking this call on a cell phone or a landline?
- 1 Cell phone
- 2 Landline ➔ **SKIP TO S3b**
- 88 (Don't Know) ➔ **TERMINATE CALL**
- 99 (Refused) ➔ **TERMINATE CALL**

S2. Are you taking this call while driving a car or doing something that requires your attention?
- 1 Yes ➔ **ARRANGE FOR CALLBACK**
  [Due to safety reasons we will need to call you back at a more convenient time. Thank you very much.]
- 2 No
- 88 (Don't Know)
- 99 (Refused)

S3a. **[S3]** Do you live in a household that also has a landline? [IF NECESSARY: "This is for classification purposes. We would like to know what percent of households have both types of phones."]
- 1 Yes ➔ **SKIP TO S4**
- 2 No ➔ **SKIP TO S4**
- 88 (Don't Know) ➔ **SKIP TO S4**
- 99 (Refused) ➔ **SKIP TO S4**

S3b. **[NEW]** Do you or anyone else living in your household have a cell phone?
[IF NECESSARY: "This is for classification purposes. We would like to know what percent of households have both types of phones."]
- 1 Yes
- 2 No
- 88 (Don't Know)

99 (Refused)

S4. For classification purposes, may I please have the zip code where you reside at least six months out of the year?

ENTER 5-DIGIT ZIP CODE: _____

[IF S1 = 1, CHECK ZIP CODE FOR SURVEY ELIGIBILITY; IF NOT ELIGIBLE, TERMINATE CALL]

88 (Don't Know) ➔ **TERMINATE CALL**

99 (Refused) ➔ **TERMINATE CALL**

1 KEY DRIVERS

K1 **[MOD]** Great. I'd like to start off by asking some general questions about light bulbs. I'm going to read you a list of statements about things that you might consider when purchasing any type of light bulb. On a scale of 1-10 where 1 means "not at all important" and 10 means "very important," how important are each of the following in your decision to purchase light bulbs? **[RANDOMIZE STATEMENTS]**

__ (Numeric response, 1-10)

88 (Don't know)

99 (Refused)

K1_1 The bulb helps save energy.
K1_2 The price of the bulb is reasonable.
K1_3 The bulb helps lower energy bills.
K1_4 The bulb lasts a long time before burning out
K1_6 The bulb is environmentally friendly
K1_7 Having prior experience with the type of bulb I purchase
K1_8 The bulb is dimmable
K1_9 The quality of the light from the bulb
K1_10 The bulb is fits well in my light fixture
K1_11 My friends or family recommend the bulb I purchase
K1_12 The bulb reaches full brightness instantly
K1_13 The bulb doesn't have mercury in it.
K1_14 The bulb does not flicker

2 COMPACT FLUORESCENT LAMPS

CFL AWARENESS

A1 Have you ever heard of compact fluorescent light bulbs or CFLs?

1 Yes ➔ **SKIP TO P0**

2 No

88 (Don't Know)

99 (Refused)

A2 Compact fluorescent light bulbs, or CFLs, are small fluorescent bulbs that fit in regular

light bulb sockets. The most common CFLs look different than standard bulbs. They are often made out of thin tubes of glass bent into loops. Have you ever heard of them?

1 Yes
2 No **➔SKIP TO V1**
88 (Don't Know) **➔SKIP TO V1**
99 (Refused) **➔SKIP TO V1**

CFL PURCHASES

P0 Have you ever purchased any CFLs?

1 Yes
2 No **➔ SKIP TO V1**
88 (Don't Know) **➔ SKIP TO V1**
99 (Refused) **➔ SKIP TO V1**

P3a Do you currently have any CFLs installed in your home?

1 Yes
2 No **➔ SKIP TO P4**
88 (Don't know) **➔ SKIP TO P4**
99 (Refused) **➔ SKIP TO P4**

P3b How many CFLs are installed?

ENTER # _____ [PROBE FOR BEST ESTIMATE]
88 (Don't know) **➔ SKIP TO P4**
99 (Refused) **➔ SKIP TO P4**

P3c **[IF 1 < P3b < 8888, READ]:** Of the [P3b] CFLs you have installed, how many are the spiral or twisty shape?
[IF P3b = 1, READ]: "Is it a spiral or twisty shape?" **[Enter "1" if YES or "0" if NO]**

ENTER # _____ [PROBE FOR BEST ESTIMATE]
8888 (Don't know)
9999 (Refused)

P3d **[IF P3c = P3b, SKIP TO P3f]** How many are shaped like regular light bulbs?
[PROMPT IF NECESSARY: How many of the [P3b] CFLs you have installed are shaped like regular light bulbs?]
[IF P3b = 1 AND P3c = 0, READ: "Is it shaped like a regular light bulb?" and **[Enter "1" if YES OR Enter "0" if NO]**

ENTER # _____ [PROBE FOR BEST ESTIMATE]
8888 (Don't know)
9999 (Refused)

P3e **[IF P3c + P3d = P3b, SKIP TO P3f]** What other types of CFLs do you have installed?
[DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]

1 Shaped like regular light bulbs / incandescent bulbs
2 Globe / sphere / vanity
3 U-shaped / Tube shaped
4 Reflector / flood / spotlight
5 Candelabra / flame shape (for chandelier)
6 Bug light
7 Colored CFL
8 Pin or plug-in base
9 Small screw base
77 Other (specify) _____
88 (Don't know)
99 (Refused)

P3f **[IF P3c+P3d = P3b or P3c = P3b]** Why aren't you using other types of CFLs?
[IF NECESSARY: Why aren't you using CFLs that aren't shaped like spirals or regular light bulbs?]
[PROMPT: Anything else?]
[DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]
0 Not aware of them
1 Price / expensive
2 Can't find them
3 How they fit in fixtures
4 How they look in fixtures
5 Mercury / hazardous contents
6 They take too long to light up
7 Don't need any bulbs
77 Other (specify) _____
88 (Don't know)
99 (Refused)

P4 Are you storing any CFLs for use as spares or to be installed at a later date?
1 Yes
2 No ➔ **SKIP TO P5a**
88 (Don't know) ➔ **SKIP TO P5a**
99 (Refused) ➔ **SKIP TO P5a**

P4b How many CFLs are you storing?
ENTER # _____ [PROBE FOR BEST ESTIMATE]
88 (Don't know)
99 (Refused)

P4d **[IF 1 < P4b < 8888, READ]:** How many of the CFLs in storage are the spiral or twisty shape?
[IF P4b = 1, READ]: "Is it a spiral or twisty shape?" [Enter "1" if YES or "0" if NO]
ENTER # _____ [PROBE FOR BEST ESTIMATE]
8888 (Don't know)
9999 (Refused)

P4e **[IF P4d < P4b]** How many of the CFLs in storage are shaped like a regular light bulb?
[IF P4b = 1 AND P4c = 0, READ]: "Is it shaped like a regular light bulb?" [Enter "1" if YES or "0" if NO]
ENTER # _____ [PROBE FOR BEST ESTIMATE]
8888 (Don't know)
9999 (Refused)

P5a Have you had any CFLs that you installed but later removed and did not use elsewhere in your home?

1 Yes
2 No ➔ **SKIP TO P6**
88 (Don't know) ➔ **SKIP TO P6**
99 (Refused) ➔ **SKIP TO P6**

P5b How many CFLs did you remove?

ENTER # _____ [PROBE FOR BEST ESTIMATE]
8888 (Don't know) ➔ **SKIP TO P6**
9999 (Refused) ➔ **SKIP TO P6**

P5c **[IF 1 < P5b < 8888, READ]:** How many of the CFLs you removed were spiral or twisty shaped?
[IF P5b = 1, READ]: "Was it a spiral or twisty shape?" [Enter "1" if YES or "0" if NO]

ENTER # _____ [PROBE FOR BEST ESTIMATE]
8888 (Don't know)
9999 (Refused)

P5e **[IF P5c = P5b, SKIP TO P6]** How many of the CFLs you removed were shaped like regular light bulbs?
[IF P5b = 1 AND P5c = 0, READ]: "Was it shaped like a regular light bulb?" [Enter "1" if YES or "0" if NO]

ENTER # _____ [PROBE FOR BEST ESTIMATE]
8888 (Don't know)
9999 (Refused)

P6 **[IF P3a = 1, ELSE SKIP TO M1]**
[IF P3b = 1] When the CFL you now have installed burns out, how likely are you to replace it with another CFL? Use a scale of 1 to 5 where 1 means you're "not at all likely" and 5 means you're "very likely."
[ELSE IF 1 < P3b < 8888] When one of the CFLs you have installed burns out, how likely are you to replace it with other CFL? Use a scale of 1 to 5, where 1 means you are "not at all likely" and 5 means you are "very likely."

ENTER # _____ [1 = not at all likely; 5 = very likely]
88 (Don't know)
99 (Refused)

<u>2014 CFL PURCHASES</u>

M1 Did you purchase any CFLs in 2014?

1 Yes
2 No ➔ **SKIP TO S1**
88 (Don't know) ➔ **SKIP TO S1**
99 (Refused) ➔ **SKIP TO S1**

M2 How many CFLs did you purchase in 2014? If a package contained more than one bulb, please count each one separately.

ENTER # _____ [PROBE FOR BEST ESTIMATE]
8888 (Don't know) ➔ **SKIP TO M6**
9999 (Refused) ➔ **SKIP TO M6**

M2a How many of the CFLs you bought in 2014 were the spiral or twisty shape?
ENTER # _____ [PROBE FOR BEST ESTIMATE]
0 (None)
8888 (Don't know) ➔ **SKIP TO M3a**
9999 (Refused) ➔ **SKIP TO M3a**

M2b **[IF M2a < M2]** How many were shaped like regular light bulbs?
ENTER # _____ [PROBE FOR BEST ESTIMATE]
0 (None)
8888 (Don't know)
9999 (Refused)

M3a Of all the CFLs you bought in 2014, how many did you install in your home?
ENTER # _____ [PROBE FOR BEST ESTIMATE]
0 (None)
8888 (Don't know)
9999 (Refused)

M4 **[IF M3a < M2]** Thinking about all the CFLs that you bought in 2014, how many did you store to install later?
ENTER # _____ [PROBE FOR BEST ESTIMATE]
0 (None)
8888 (Don't know)
9999 (Refused)

[IF M3a = 0, SKIP TO M6]
M5 **[IF M3a = 1]** Thinking of the CFL you purchased most recently, what type of bulb did you replace?
[NEW] **[IF M3a > 1]** Thinking of the CFLs you purchased most recently, what type of bulbs did you replace?
[DO NOT READ LIST; IF M3a =1, ACCEPT ONLY ONE RESPONSE; IF M3a > 1, ACCEPT MULTIPLE RESPONSES]
[IF M3a =1, IF NECESSARY: Was it a CFL, LED, incandescent, or halogen?]
[IF M3a > 1, IF NECESSARY: Were they CFLs, LEDs, incandescents, or halogens?]
[IF M3a > 1, IF NECESSARY: Did you replace any other type of bulb?]
1 CFL
2 LED
3 Incandescent
4 Halogen
5 Empty socket
77 Other (specify) _____
88 (Don't know)
99 (Refused)

M6 Where did you purchase CFLs most recently? _____
[DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]
1 Home center (Home Depot, Lowe's, D & B Supply, Lumbermen's)
2 Discount or mass merchandise store (Wal-Mart, K-Mart, Target, Fred Meyer, M.H. King, Shopko, Swains)
3 Buying clubs (Costco or Sam's Club)
4 Hardware stores (ACE, True Value, Do it Best, Do it Center)

[PROBE FOR STORE NAME: IF STORE IS HOME CENTER STORE AS LISTED IN RESPONSE 1 (HOME DEPOT, LOWE'S, D&B SUPPLY, ETC., RECODE AS 1]

5 Supermarket, food store (Albertson's, Winco Foods)
6 Drug store (Bartell, Bi-Mart, Hi-School Pharmacy, Longs, Osco Drug, Rite Aid, Walgreens)
7 Lighting supply store, lighting showroom
8 Mail Order Catalog
9 Over the Internet
10 Home Energy Show
77 Other (specify) _____
88 (Don't know)
99 (Refused)

SATISFACTION

S1 Thinking about all of the CFLs you recently purchased, how satisfied are you with them? Use a scale of 1 to 10, where 1 means you are "not at all satisfied" and 10 means you are "very satisfied".

ENTER # _____ [1 = not at all satisfied; 10 = very satisfied]
88 (Don't know)
99 (Refused)

S4 In general, what are the best features of CFLs?
[DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]

1 Last longer before burning out
2 Save money / reduce electricity bill
3 Save/conserve energy/electricity
4 Resource conservation benefits / better for environment / "green"
5 Work better / higher quality
6 Quality of light
7 Brightness
77 Other (specify)_____
88 (Don't know)
99 (Refused)

S5 In general, what are the worst features of CFLs? [IF RESPONSE = "brightness," CLARIFY WHETHER TOO BRIGHT OR NOT BRIGHT ENOUGH.]
[DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]

1 Price / expensive
2 Too bright
3 Not bright enough
4 Color of light
5 How they fit in fixtures
6 How they look in fixtures
7 Mercury / hazardous contents
8 Take too long to light up
9 Don't last long enough
10 Difficult to dispose
77 Other (specify) _____
88 (Don't know)
99 (Refused)

TURF

S10 Now I'm going to read you a list of statements about CFLs, and would like you to tell me if you agree or disagree with each statement. You may have already mentioned something similar to these statements earlier, but I'd still like you to tell me whether you agree or disagree with each statement. **[RANDOMIZE STATEMENTS]**

Response options include:
1 Agree
2 Disagree
88 (Don't know)
99 (Refused)

S10_1 CFLs are not bright enough.
S10_2 The light from CFLs is too harsh.
S10_3 CFLs don't fit well in my fixtures.
S10_4 CFLs don't look good in my fixtures.
S10_5 CFLs take too long to light up.
S11_6 CFLs don't come in the shapes that I need.
S10_7 CFLs are not suitable for use in all of the rooms in my home.

3 EXPANDING CFL INSTALLATIONS – ALL AWARE

E3a What is the main reason preventing you from increasing the number of CFLs you currently have installed in your home?
[DO NOT READ LIST; ACCEPT ONLY ONE RESPONSE]
1 Waiting for incandescent bulbs to burn out
2 Storing incandescent bulbs
3 Operating hours -- don't use the other bulbs/lamps enough
4 CFLs are too expensive/cost too much
5 Need dimmable bulbs / can't get dimmable CFLs / can't use CFLs with dimmer switches
6 Need 3-way bulbs / can't get 3-way CFLs / can't use CFLs in my 3-way fixtures / when I use regular CFLs in my 3-way fixtures they don't work
7 Don't like the way CFLs look in fixtures
8 Don't like the way CFLs fit in fixtures
9 CFLs aren't bright enough
10 CFL light color isn't what I want/isn't right
11 CFLs take too long to light up
12 Mercury / concerns about disposal
13 Do not need any more bulbs at this time
14 All of the bulbs in my home are CFLs ➔ **SKIP TO V1**
15 Prefer LEDs
77 Other (specify) _____
88 (Don't know) ➔ **SKIP TO V1**
99 (Refused) ➔ **SKIP TO V1**

E3b **[IF E3a = 14, 88, 99 SKIP TO F1]** Anything else?
[DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]
0 No / nothing
1 Waiting for incandescent bulbs to burn out
2 Storing incandescent bulbs

3 Operating hours -- don't use the other bulbs/lamps enough
4 CFLs are too expensive/cost too much
5 Need dimmable bulbs / can't get dimmable CFLs / can't use CFLs with dimmer switches
6 Need 3-way bulbs / can't get 3-way CFLs / can't use CFLs in my 3-way fixtures / when I use regular CFLs in my 3-way fixtures they don't work
7 Don't like the way CFLs look in fixtures
8 Don't like the way CFLs fit in fixtures
9 CFLs aren't bright enough
10 CFL light color isn't what I want/isn't right
11 CFLs take too long to light up
12 Mercury / concerns about disposal
13 Do not need any more bulbs at this time
15 Prefer LEDs
77 Other
88 (Don't know)
99 (Refused)

4 ENERGY INDEPENDENCE AND SECURITY ACT OF 2007 (EISA)

V1 Are you aware of any legislation in the United States that may affect the availability of certain types of light bulbs?

1 Yes
2 No
88 (Don't know)
99 (Refused)

V2 In 2007, Congress passed legislation that will phase out most traditional incandescent light bulbs by 2014. Before today, were you aware of this legislation?

1 Yes
2 No
88 (Don't know)
99 (Refused)

V3 As part of the legislation, retailers began phasing traditional 100-Watt, 75-Watt, 60-Watt, and 40-Watt light bulbs out of stores at the beginning of 2012. Before today, were you aware that these light bulbs are being phased out?

1 Yes
2 No
88 (Don't know)
99 (Refused)

V4 Did you shop for any traditional incandescent light bulbs in 2014?

1 Yes
2 No ➔ **SKIP TO V9**
88 (Don't know) ➔ **SKIP TO V9**
99 (Refused) ➔ **SKIP TO V9**

V4a Which types of traditional incandescent bulbs did you shop for [in 2014]? Were they …
V4a_1 …100-Watt incandescent bulbs?
V4a_2 … 75-Watt incandescent bulbs?

V4a_3 … 60- or 40-Watt incandescent bulbs?

1 Yes
2 No
88 (Don't know)
99 (Refused)

[**IF V4a_1, V4a_2, OR V4a_3 = 1, ELSE SKIP TO V9]**

V4b During 2014, how many traditional incandescent bulbs did you purchase?
[IF NECESSARY: If a package contained more than one bulb, count each bulb separately.]

ENTER # _____ [PROBE FOR BEST ESTIMATE]
0 (None)
8888 (Don't know)
9999 (Refused)

V5 Were you able to purchase all of the types of traditional incandescent bulbs you were shopping for? [IF NECESSARY: "…when you went shopping for them in 2014?"]

1 Yes ➔ **SKIP TO V9**
2 No
88 (Don't know) ➔ **SKIP TO V9**
99 (Refused) ➔ **SKIP TO V9**

V7 What type of light bulb did you end up purchasing instead?
[ACCEPT MULTIPLE RESPONSES]

0 Did not purchase any light bulbs
1 Incandescent
2 CFL
3 LED
4 Halogen
5 Energy Efficient incandescent/halogen bulbs
77 Other (specify) _____
88 (Don't know)
99 (Refused)

V9 When traditional incandescent light bulbs are no longer available, which one of the following things are you most likely to do: switch to a new type of light bulb, keep using traditional light bulbs but switch to a lower wattage, or something else?
[ACCEPT MULTIPLE RESPONSES]

1 Switch to a new type of light bulb
2 Keep using traditional light bulbs but switch to a lower wattage ➔ **SKIP TO EE1a**
3 Something else (specify) _____ ➔ **SKIP TO EE1a**
88 (Don't know) ➔ **SKIP TO EE1a**
99 (Refused) ➔ **SKIP TO EE1a**

V10 Which type of light bulb are you most likely to switch to?
[ACCEPT ONLY ONE RESPONSE. DO NOT READ LIST]

1 LED
2 Halogen
3 CFL
4 Energy Efficient incandescent / halogen
77 Other (specify) _____
88 (Don't know)
99 (Refused)

5 ENERGY-EFFICIENT INCANDESCENT LAMPS

EE1a Have you ever heard of energy-efficient incandescent light bulbs?

1 Yes ➔ **SKIP TO EE2**
2 No
88 (Don't Know)
99 (Refused)

EE1b Energy-efficient incandescent light bulbs look like traditional incandescent bulbs and give off the same amount of light using less energy. They come in wattages like 43, 53, or 72 Watts instead of 60, 75 or 100 Watts like traditional incandescent bulbs. Have you ever heard of these more efficient incandescent bulbs?

1 Yes
2 No ➔ **SKIP TO LE1a**
88 (Don't Know) ➔ **SKIP TO LE1a**
99 (Refused) ➔ **SKIP TO LE1a**

EE2 Have you ever purchased any energy-efficient incandescent light bulbs?

1 Yes
2 No ➔ **SKIP TO LE1a**
88 (Don't Know) ➔ **SKIP TO LE1a**
99 (Refused) ➔ **SKIP TO LE1a**

EE3 During 2014, how many energy-efficient incandescent bulbs did you purchase?
[IF NECESSARY: If a package contained more than one bulb, count each bulb separately.]

ENTER # _____ [PROBE FOR BEST ESTIMATE]
0 (None)
8888 (Don't know)
9999 (Refused)

EE4 Of all the energy-efficient incandescent bulbs you have ever bought, how many have you installed in your home?

ENTER # _____ [PROBE FOR BEST ESTIMATE]
0 (None)
8888 (Don't know)
9999 (Refused)

6 LED LAMPS

[IF M5=2, ASSUME LE1a = 1 AND SKIP TO LE3]

LE1a Have you heard of LED light bulbs?

1 Yes ➔ **SKIP TO LE3**
2 No
88 (Don't know)
99 (Refused)

LE1b LED light bulbs can be used in the same types of fixtures as regular incandescent bulbs but are shaped somewhat differently and produce light using semiconductor chips. They use a lot less energy than regular incandescent bulbs. Have you heard of LED light bulbs?

1 Yes
2 No ➔ **SKIP TO D01**
88 (Don't know) ➔ **SKIP TO D01**
99 (Refused) ➔ **SKIP TO D01**

LE3 Have you ever purchased any LED bulbs other than LED nightlights or holiday light strings?

1 Yes
2 No ➔ **SKIP TO LE7**
88 (Don't Know) ➔ **SKIP TO LE7**
99 (Refused) ➔ **SKIP TO LE7**

LE4 During 2014, how many LED bulbs did you purchase, ***NOT*** including LED nightlights or holiday light strings?
[IF NECESSARY: If a package contained more than one bulb, count each bulb separately.]

ENTER # _____ [PROBE FOR BEST ESTIMATE]
0 (None) ➔ **SKIP TO LE6**
8888 (Don't know) ➔ **SKIP TO LE6**
9999 (Refused) ➔ **SKIP TO LE6**

LE5 **[IF LE4 = 0, 88, 99, SKIP TO LE6]** Of all the LED bulbs you bought in 2014, how many did you install in your home?

ENTER # _____ [PROBE FOR BEST ESTIMATE]
0 (None)
8888 (Don't know)
9999 (Refused)

LE6 Thinking about all of the LED bulbs you recently purchased, how satisfied are you with them? Use a scale of 1 to 10, where 1 means you are "not at all satisfied" and 10 means you are "very satisfied".

ENTER # _____ [1 = not at all satisfied; 10 = very satisfied]
88 (Don't know)
99 (Refused)

[IF LE5 = 0, SKIP TO LE6b]
LE6a **[IF LE5 = 1]** Thinking of the LED you purchased most recently, what type of bulb did you replace?
[NEW] **[IF LE5 > 1]** Thinking of the LEDs you purchased most recently, what type of bulbs did you replace?
[DO NOT READ LIST; IF LE5 =1, ACCEPT ONLY ONE RESPONSE; IF LE5 > 1, ACCEPT MULTIPLE RESPONSES]
[IF LE5 = 1, IF NECESSARY: Was it a CFL, LED, incandescent, or halogen?]
[IF LE5 > 1, IF NECESSARY: Were they CFLs, LEDs, incandescents, or halogens?]
[IF LE5 > 1, IF NECESSARY: Did you replace any other type of bulb?]

1 CFL
2 LED
3 Incandescent
4 Halogen
5 Empty socket
77 Other (specify) _____
88 (Don't know)
99 (Refused)

LE6b Where did you purchase LEDs most recently? _____
[NEW] **[DO NOT READ LIST; ACCEPT MULTIPLE RESPONSES]**

1 Home center (Home Depot, Lowe's, D & B Supply, Lumbermen's)
2 Discount or mass merchandise store (Wal-Mart, K-Mart, Target, Fred Meyer, M.H. King, Shopko, Swains)
3 Buying clubs (Costco or Sam's Club)
4 Hardware stores (ACE, True Value, Do it Best, Do it Center)
[PROBE FOR STORE NAME: IF STORE IS HOME CENTER STORE AS LISTED IN RESPONSE 1 (HOME DEPOT, LOWE'S, D&B SUPPLY, ETC., RECODE AS 1]
5 Supermarket, food store (Albertson's, Winco Foods)
6 Drug store (Bartell, Bi-Mart, Hi-School Pharmacy, Longs, Osco Drug, Rite Aid, Walgreens)
7 Lighting supply store, lighting showroom
8 Mail Order Catalog
9 Over the Internet
10 Home Energy Show
77 Other (specify) _____
88 (Don't know)
99 (Refused)

LE7 **[IF LE3 = 1, SKIP TO LE9]** Why haven't you purchased any LED bulbs?
[ACCEPT MULTIPLE RESPONSES]

0 Not familiar with them
1 Too expensive
2 Don't know where to buy them
3 Can't find them
4 Can't find the shape/size I need
5 Satisfied with my current light bulbs
6 Don't need any bulbs
77 Other (specify)_____
88 (Don't know)
99 (Refused)

7 DEMOGRAPHICS - ALL

D0 Before we finish, I have just a few more questions about your household to make sure we're getting a representative sample of residents.

D1 What type of home do you live in? [READ LIST]

1 Mobile home

2 Single-family (attached or detached)
3 Apartment
4 Condo
77 (Other) _____
88 (Don't know)
99 (Refused)

D1a What year was your home built?
ENTER HOMEYEAR: _____
If not sure, would you say:
1 2006 or later
2 2000 - 2005
3 1990 - 1999
4 1980 - 1989
5 1970 – 1979
6 1960 - 1969
7 earlier than 1960
88 (Refused)
99 (Don't know)

D2 Do you own your home or do you rent?
1 Own
2 Rent
88 (Don't know)
99 (Refused)

D3 Including yourself, how many people live in your home?
[DO NOT READ LIST]
1 One
2 Two
3 Three
4 Four
5 Five
6 Six
7 Seven or more
88 (Don't know)
99 (Refused)

D4 Which of the following best describes your educational background? **[READ LIST]**
1 Less than high school
2 High school or GED
3 Some college
4 Technical College (2 year degree)
5 4 Year college
6 Graduate degree
88 (Refused)
99 (Don't know)

D5 Could you please tell me which of the following categories includes your age? **[READ LIST]**
1 18 to 24
2 25 to 34
3 35 to 44

4 45 to 54
5 55 to 64
6 65 and over
88 (Refused)
99 (Don't know)

D6 Which of the following categories contains your annual household income from all sources in 2014 before taxes? **[READ LIST]**

1 Less than $20,000 per year
2 $20,000 to $49,000
3 $50,000 to $74,000
4 $75,000 to $99,000
5 $100,000 or more
88 (Don't know)
99 (Refused)

D7 Which of the following ethnicities would you say describe you? Please tell me all that apply. **[READ ALL; ACCEPT MULTIPLE RESPONSES]**

1 White
2 Black or African American
3 American Indian or Alaska Native
4 Asian
5 Native Hawaiian or Other Pacific Islander
6 Hispanic or Latino
77 Other (specify)_____
88 (Refused)
99 (Don't know)

8 WRAP UP

W0 Those are all the questions I have for you. Thank you very much for your time and opinions. **RECORD GENDER [DO NOT ASK RESPONDENT]**

1 Male
2 Female

Northwest Energy Efficiency Alliance
Residential Lighting Long-Term Monitoring and Tracking Study
Consumer Focus Group Moderator Guide
v150204 – FINAL

Objectives

- Understand Northwest consumer familiarity (or lack thereof) and perceptions of CFLs, LEDs and energy-efficient incandescent lamps.
- Assess consumer motivations for recent purchases and installation behavior (or lack thereof) for CFLs, LEDs, and energy-efficient incandescent lamps.
- Better understand drivers of consumer decision-making regarding replacement lamp purchases and influences on those decisions.

Note: This guide is intended as a conversational framework rather than as a script.

Background (5 minutes)

- Thank you all for being here tonight. We're glad you're here and appreciate your time.
- Please turn off your cell phones if you haven't already.
- We're here to learn about your opinions. There is no right or wrong answer to any of the questions we'll be addressing.
- I am a researcher, not a representative of the study sponsor. My role is to moderate a discussion – not to defend any position – and to summarize what you have to say in a report. Your identities will be kept confidential in that report.
- Our discussion will take about 90 minutes. My questions will focus on your experiences with energy efficient lighting including compact fluorescent light bulbs, or CFLs, LED bulbs, and energy-efficient incandescent bulbs. Because all of you have CFLs installed in your homes, and are familiar with LED bulbs, and energy-efficient incandescent bulbs, we're interested in what each of you has to say – even if you don't feel that you're knowledgeable about a particular topic. I want to make sure that everyone here has a chance to share his or her opinions, and I want you all to feel free to say anything, whether it's positive or negative. We're not going to focus on specific light bulb brands tonight; that's not important to our research.
- We're recording this session on tape/video, but this is for internal purposes only. The main reason we're doing this is so that I can go back and listen to the tapes afterwards. This will allow me to focus more on what each of you has to say and less on trying to capture all of that on paper while you're talking.
- You'll notice there is a mirror on the wall in here. There's a room back there where some of my colleagues are watching and taking notes. It just makes things simpler if we keep the discussion participants separate from those folks so we don't distract one another.
- Any questions before we begin?

Introduction and Lead-In (5 minutes)

- Let's start by going around the room to introduce ourselves. I'd like each person to say their name, where they're from, and how long they've lived in [state]. My name is Susan, and I'm from New England but I come out to the west coast frequently. Why don't we start to my right?
- It's nice to meet all of you and thank you for coming out this evening.

Light Bulb Technologies and Installation Behaviors (30 minutes)

- I'd like to start us off this evening by talking a little bit about different types of energy efficient light bulbs and what they are. First, let's start with CFLs.
- [READ SEQUENCE THREE TIMES USING 1. <CFLS>, 2. <LED BULBS>, 3. <ENERGY-EFFICIENT INCANDESCENT BULBS>] Everyone here is pretty familiar with <TECHNOLOGY>; how would you describe them to someone not familiar with them? (Remember that this is not a quiz, and there are no right or wrong answers here. I'm really interested in your ideas, so please say whatever comes to mind.).
    - How many of you have ever purchased <TECHNOLOGY>? Please raise your hand and keep it raised. [COUNT RAISED HANDS]. Thank you, you can lower your hand now.
    - How many of you are using <TECHNOLOGY> at your homes right now? Again, please raise your hand. [COUNT RAISED HANDS] Thank you, you can lower your hand now.
    - Do you use <TECHNOLOGY> all over your home? Are there any places where you wouldn't use them? Why not?
        - Probe on places including room type, application (reading lamp vs. general illumination), fixture type, control type (dimmer/on-off switch etc.), indoor/outdoor
    - For those of you who are **not** using <TECHNOLOGY> at your homes right now, why not? What would it take for you to use <TECHNOLOGY> at your home?
    - [LED SEQUENCE ONLY] Have any of you bought any LED bulbs but have not yet installed them at your home? Why not?
        - Probe on any uninstalled LED bulbs and reasons
    - [LED SEQUENCE ONLY] Have any of you **not** purchased any LED bulbs in the past year? Why not?

Light Bulb Shopping (15 minutes)

- Next, let's talk about how you decide what types of light bulbs to buy. Is this something you really think about – buying a light bulb? Or is it more like an impulse purchase or a split-second decision?
    - How do you decide which light bulb to buy? Let's say you're at the store, and you have different options – whether it's five options or 50 options. What's your thought process? How do you end up with the light bulb package you purchase?
        - Probe regarding replacement on burnout vs. planning ahead/buying for storage
    - In what type of stores do you usually buy light bulbs?
        - PROBE regarding store type - grocery, drug, home improvement, hardware, mass merchant, membership club, online
    - Do you shop for light bulbs online?
        - PROBE regarding purchase frequency, selection criteria online vs. in store, type of online retailer – online only retailer (e.g. Amazon) or retail store Web site for grocery, drug, home improvement, hardware, membership club, mass merchant
    - [IF TIME] Probe for desirable/sought after attributes (e.g. low price, light bulb technology [CFL, LED, EE incandescent], shape of bulb/style, color of light, brightness, other attributes)
    - [IF TIME] Other than price, what is the next most important thing you consider? Any others?
    - [IF TIME] [IF ALL/MOST MENTION PRICE AS VERY IMPORTANT] When you have a selection of light bulbs in different prices, have you ever selected a higher price light bulb? What did you buy? Why?

Light Bulb Selection (30 minutes)

- [BEFORE FOCUS GROUP STARTS, MODERATOR SETS UP TWO IDENTICAL DISPLAY TABLES WITH FOUR LIGHT BULB PACKAGES EACH AND COVERS/HIDES FROM VIEW]
- Next, imagine that you need to replace a light bulb at your home and you have a choice among only four different options. I'd like you to know that all four light bulbs are about the same in terms of the color of the light they give off and the brightness of the light. Assume they would all fit into your light fixture. For now, assume that they all cost about the same and that the cost is affordable to you.
- We've set up two identical displays. [UNCOVER AND POINT TO DISPLAYS]
- Take a minute to get up and take a closer look at the light bulbs. Each light bulb has a number. I'll give you a few minutes to decide which light bulb, by number, you would buy. [GIVE ~2 MINUTES]. Thanks, please take your seats.
- Now, which one of these light bulbs would you choose? Please write your first name and last initial on the worksheet in front of you, and then write down the number on the light bulb you'd purchase – we'll talk about *why* in a minute. [ALLOW TIME FOR PARTICIPANTS TO RECORD CHOICE] As we talk about why you chose the bulb you did, you might change your mind. That's fine, but please don't change the number you wrote down.
    - What are some of the things you noticed about these packages of light bulbs?
    - How did you decide which light bulb to buy?
    - What was most important thing in your decision? Why? Anything else you used to decide? Why?
    - Are all of these light bulb choices familiar to everyone – light bulbs you've seen at the store before? Which are not familiar?
    - Did anyone use the Lighting Facts label on the package to make your decision? What information did you use? [MODERATOR: NOTICE IF ANY PARTICIPANT TURNS OVER BOX OR OTHERWISE APPEARS TO READ LABEL]
- [ADD LARGE STICKERS/LABELS WITH PRICES TO EACH BULB PACKAGE, PLACE ONE SET OF FOUR LIGHT BULBS AT EACH END OF TABLE] Now, you can see that I've added the actual prices to each light bulb package. Does knowing the price influence your choice? How so?

Wrap-Up (1 minute)

- If you could wave a magic wand and could do anything to improve anything about CFLs, LED bulbs or energy efficient incandescent bulbs – from the process of buying them to the store to the way they operate to anything else we discussed – would you change anything? What sorts of things would you want to change?
- [IF TIME] Do you have anything else you'd like to say about how you make decisions when buying light bulbs that we haven't already discussed?

Close

- Thank everyone for their participation.
- Describe process for obtaining incentives.

Utility Program Manager Interview Guide
2014-2015 Northwest Residential Lighting Long-Term Market Tracking Study
FINAL – February 6, 2015

Interview Objectives:

- Obtain a more complete picture of residential lighting market (study objective 6)
- Characterize lighting marketing materials in Northwest retail stores (study objective 8)
- To better understand NEEA partner activities for consumer research on lighting knowledge/preferences and purchasing motivations (study objective 10);
- Gauge utility program managers' current needs and concerns regarding the Northwest lighting market (to help NEEA ensure that its ongoing efforts are appropriately targeted; not an explicit study objective)

INTRODUCTION

Hello, my name is _____ and I am calling from DNV GL. We're conducting a residential lighting market tracking study for the Northwest Energy Efficiency Alliance (NEEA). Right now we're interviewing a small number of utility contacts to gather feedback and insights on the Northwest lighting market. I would like to hear your perspectives and will keep our interview to 30 minutes or less. Your perspectives and opinions are confidential and will be presented to NEEA only in aggregate with other interview results. Your name will not be used in any reports or documents.

Prior to Interview

- Review each utility's website for information on residential lighting programs. If available, populate as many of the details below prior to the interview and confirm details with the respondent during the call. If information is not available online, request information from respondent.

RESIDENTIAL LIGHTING INCENTIVE PROGRAMS

Study Objective 6: Obtain a more complete picture of the residential lighting market.

1. First, can you tell me a little bit about your residential current lighting incentive programs?
   [NOTE: Education/information programs addressed in next section]
   [Probe for details on the topics below for each program]

   - Program name
   - When program began (how long it's been running)
   - Target participants (all residential? specific groups? etc.)
   - Technologies included

- Lamp types (general purpose, specialty, what specialty types, holiday lights, etc.) [PROBE: EISA Compliant]

- How is program delivered? (If via retail stores, who are the retail partners?)

- Program/discount type (upstream, rebates, direct install, etc.)

- Product discounts

- Program budget (if available)

- Whether 2015 program differs from 2014 (and if so, how)

2. What are the specific goals for your residential lighting program[s]?

    - Do you have any specific end-points in mind? In other words, have you determined when you will discontinue incentives for a particular product type (e.g., when the non-discounted price reaches a certain point or when saturation reaches a certain level)? [If YES, describe]

2a. [IF PROGRAM INCLUDES LEDs and CFLs] Do you see your residential lighting program moving away from CFLs and focusing more on LEDs in the next two years or do you think you will continue to include both lamp technologies?

    - [If moving more toward LEDs] Over what timeframe will this occur?

    - [If focusing on both technologies] Do you expect to focus more on LEDs two years from now or later?

2b. [IF PROGRAM DOES NOT INCLUDE LEDs] Do you think you will add LEDs to your residential lighting program in the next two years?

    - [If yes] When will this happen?

    - [If no] What about two years from now or later?

3. [If relevant:] How do your programs define "general purpose CFLs" – what lamp styles are included?

    - [Clarify whether GP includes spiral only, a-lamps, wattage ranges/limits, etc.]
    - Inform respondent that NEEA defines GP CFLs **as non-dimmable, single wattage spiral AND A-lamp CFL**

5. Do you foresee a role for general purpose CFL programs in the future? Can you explain?

    - [If current GP CFL program AND not addressed above:] Do you have plans to discontinue your general purpose CFL program[s] at some point in the future?
        - [IF YES] When?
        - [IF YES AND IF NOT MENTIONED] Will you continue to provide incentives for A-lamp CFLs?

    - [If NO current GP CFL program:] Have you ever offered incentives for general purpose CFLs?
        - [IF YES:] When did the program end? Why did you decide to discontinue it?
        - [IF NOT MENTIONED] Do you currently provide incentives for A-lamp CFLs?

RESIDENTIAL LIGHTING EDUCATION/INFORMATION/MARKETING CAMPAIGNS
Study Objective 8: Characterize lighting marketing materials in Northwest retail stores.

6. Do you have any current or planned education, information or marketing campaigns for residential lighting? [If YES:]

    - What are the key messages of the campaign?

    - Who is the target audience?

    - What types of products are included in the campaign?

    - How is information disseminated? (If via retail stores, who are the retail partners?)

    - What are your motivations for conducting the campaign?

    - Could you possibly email me copies of the educational materials?

7. How well do you think residential customers understand the range of lamp technologies available?

- [Probe for details on general purpose vs. specialty CFLs, EE incandescent lamps, LED lamps]

8. Do you perceive any gaps in existing messaging related to consumer lighting products – whether it's related to product type, specific types of information, or something else? [If YES, describe]

OTHER RESIDENTIAL LIGHTING MARKET ACTIVITIES
Study Objective 10: Better understand NEEA partner activities for consumer research on lighting knowledge/preferences and purchasing motivations.

9. Are you planning or currently conducting any research on the residential lighting market? [If YES:]

    - What is the objective of the research?

    - Is there a focus on any specific products, customer groups, etc.? [If not mentioned] Are you doing any customer research for the study?

    - When will/ when did the research take place?

    - Is the research complete? [If YES:]

        - Are the results publically available? (Where?)

        - What were some of the key study findings/conclusions?

11. [ALL RESPONDENTS (if not addressed above)] If funding were not an issue, what lighting consumer research would you like to see?
    [PROBE: Ask why they would like to see this research (or their motivations). Ask if they are interested in specific consumer groups or would like to see specific lighting products targeted]

MARKET BARRIERS
Study Objective 7: Obtain a more complete picture of the residential lighting market.

12. Are there any significant barriers to CFL sales to consumers in your service territory, in terms of availability, product diversity, affordability, or consumer satisfaction? [Probe details regarding general purpose and specialty CFLs]

    - What can be done to overcome these barriers, and by whom?
      [PROBE to see if there is a perceived role for NEEA here]

13. What about barriers to LED replacement lamp sales to consumers in your service territory – again in terms of availability, product diversity, affordability, or consumer satisfaction?

    - What can be done to overcome these barriers, and by whom?
      [PROBE to see if there is a perceived role for NEEA here]

14. Do you perceive any other market barriers to energy-efficient lamp sales to residential customers in your service territory? [If yes, describe]

NEEA'S ROLE

The workplan states an additional study objective of "enabl[ing] NEEA to gauge utility program managers' current needs and concerns regarding the Northwest lighting market (to help NEEA ensure that its ongoing efforts are appropriately targeted)."

15. What specific needs do you have with regard to consumer lighting products – whether it's general purpose CFLs, specialty CFLs, LED lamps, or other products?

    - [If any] How might an organization like NEEA be able to support you in this regard?

16. Do you see a need for a regional entity like NEEA to get back into the residential lighting market in some way? [If YES:]

    - What role do you perceive for them?

    - Why?

WRAP-UP

- Thank respondent for his/her time and input.
- Ask if you can call back with brief clarifying questions if necessary.
- Obtain details regarding transmittal of specific studies/marketing materials/etc.

2015 NEEA LIGHTING SUPPLIER INTERVIEW GUIDE - FINAL
02/06/2015

Objectives:

- Characterize stocking (availability/diversity) and pricing for CFLs, LED lamps, and incandescent lamps (study objective 2)
- Understand attitudes and expectations of lamp supplier representatives (retailers/manufacturers) regarding future Northwest sales trends for CFLs, LED, and incandescent lamps (particularly with regard to perceived effects of the Energy Independence and Security Act of 2007 [EISA]) (study objective 4)
- Obtain a more complete picture of the residential lighting market – including 4 lamp types (CFLs [general purpose and specialty], LED replacement lamps, traditional incandescent lamps, and EISA-compliant halogen lamps) (study objective 6)
- Better understand stocking and sales of EISA compliant vs. EISA non-compliant (study objective 7)
- Characterize lighting marketing materials in Northwest retail stores (study objective 8)

Interviewer Instructions:

- Explain purposes of interview.
- Provide assurances of confidentiality.
- NOTE: "general purpose" CFLs = spiral/twister and A-lamps. Specialty CFLs = everything else.
- If necessary: explain that "Northwest" includes Washington, Oregon, Idaho, and Montana.

[FOR MANUFACTURERS: Before call, review prior years' interviews and/or company information (online, etc.) to determine whether manufacturer produces incandescent lamps, CFLs and LED lamps – THIS INFORMATION WILL BE NEEDED TO COMPLETE THE INTERVIEW.]

Introduction

I'm calling from DNV GL on behalf of the Northwest Energy Efficiency Alliance (NEEA). In the past you have provided us with useful information regarding your company's participation in NEEA's regional CFL and LED promotions and on the lighting market in general. I'd like to talk with you about any changes you may have seen in the lighting market since 2014 and about federal legislation that governs the phase-out of inefficient lighting including many incandescent bulbs that are currently on the market (the 2007 Energy Independence and Security Act).

[SKIP TO Q2 IF SUPPLIER ONLY OPERATES IN THE NW AND NOT NATIONALLY]

Q0. Let's start off by talking about the lighting market in general. Can you tell me what types of changes you've seen (if any) in the national market for residential lighting in 2014?
[PROMPT IF NECESSARY: These could be changes in product types, availability, price, the types of retailers carrying particular products, regional differences, etc.] [IF CHANGES MENTIONED] Were changes in the lighting market that you mentioned different for the Northwest than what you observed nationally? [IF YES] How so?

CFLs – SALES

Study Objective 2: Characterize stocking (availability/diversity) and pricing for CFLs, LED lamps, and incandescent lamps in Northwest retail stores.

[SKIP TO Q2 IF SUPPLIER ONLY OPERATES IN THE NORTHWEST AND NOT NATIONALLY]

Q1. How did your national sales of CFLs in 2014 compare with your sales in 2013?
[PROBE FOR PERCENT INCREASE OR DECREASE.]
[IF NEEDED] Your best guess is fine.

- % change in National CFL sales 2013-2014: _____

Q1b. [IF CHANGE MENTIONED IN Q1]
What do you think caused this change in sales?

Q1c. What proportion of 2014 CFL sales were specialty CFLs?

Q1d. How has the proportion of sales that are general purpose CFLs versus specialty CFLs changed between 2013 and 2014? [Remind respondent that NEEA considers "general purpose CFLs" to include spirals/twisters and a-lamps and "specialty CFLs" to include everything else.]

Q1e. [IF CHANGE MENTIONED IN Q1d]
What do you think caused that shift [in the proportion of general purpose versus specialty CFL sales]?

Q2. How did your sales of CFLs in 2014 compare with your sales in 2013 in the Northwest – that is, in Oregon, Washington, Idaho and Montana? What about 2013 sales?
[OBTAIN % CHANGE BETWEEN YEARS.]
[IF NEEDED] Your best guess is fine.

- % change in NW CFL sales 2013-2014: _____

Q2b. [IF CHANGES MENTIONED IN Q2]
What do you think caused the change in sales between 2013 and 2014?
[IF MORE THAN ONE REASON CITED, TRY TO OBTAIN WHICH REASON IS MAIN OR MOST IMPORTANT REASON]

Q2c. Approximately what proportion of your 2014 CFL sales in the Northwest were general purpose CFLs versus specialty CFLs? [IF NECESSARY: general purpose CFLs are spirals, twisters, and a-lamps.] What about in 2013?

- % of 2014 CFL sales that were specialty CFLs: _____
- % of 2013 CFL sales that were specialty CFLs: _____

Q2d. [IF DIFFERENT %S MENTIONED IN Q2c]
What do you think caused that shift [in the proportion of general purpose versus specialty CFL sales]?

Q4. Did you see any major changes in 2014 as far as the percentage of your Northwest CFL sales that were promotional versus non-promotional sales? By "promotional sales" I mean those for which you received incentives from a utility or other energy-efficiency body.
[PROBE RE PROMOTIONS IN WHICH THEY PARTICIPATED – WHO SPONSORED, ETC.]

Q6. Do you think sales of general purpose CFLs will increase, decrease, or stay the same in the Northwest over the next five years?

Q6a. [IF CHANGE MENTIONED] By what percentage do you think [general purpose CFL] sales will change?

Q6b. [IF CHANGE MENTIONED] What factors do you think are driving this change? [IF NEEDED: For example, market conditions such as general purpose CFL saturation, increased or lack of consumer awareness, weaker/stronger economy, etc.]

Q7. Do you think sales of specialty CFLs will increase, decrease, or stay the same in the Northwest over the next five years?

Q7a. [IF CHANGE MENTIONED] By what percentage do you think [specialty CFL] sales will change?

Q7b. [IF CHANGE MENTIONED] What factors do you think are driving this change? [IF NEEDED: Market conditions such as general purpose CFL saturation, increased or lack of consumer awareness, weaker/stronger economy, etc.]

CFLs - PRICES

Study Objective 2: Characterize stocking (availability/diversity) and pricing for CFLs, LED lamps, and incandescent lamps in Northwest retail stores.

Q9. What do you think the average price will be for a general purpose CFL in the Northwest next year (in 2016)? What about in 2018?

- 2016 average price – general purpose CFL: _____
- 2018 average price – general purpose CFL: _____

Q11. What do you think the average price will be across all types of specialty CFLs in the Northwest next year (in 2016)? What about in 2018?

- 2016 average price – specialty CFL: _____
- 2018 average price – specialty CFL: _____

ENERGY INDEPENDENCE AND SECURITY ACT OF 2007

Study Objective 4: Understand attitudes and expectations of lamp supplier representatives regarding future Northwest sales trends for CFLs, LED lamps, and incandescent lamps (particularly with regard to perceived effects of EISA.

E1. In December 2007 Congress passed a new Energy Bill. One component of the bill calls for a gradual phase-out of inefficient lamps over time starting in 2012. [IF NECESSARY: The phase-out began for 100 Watt general service lamps on January 1, 2012, for 75-Watt lamps on January 1, 2013, and 60 and 40 Watt lamps starting in 2014.] Are you familiar with this legislation? [IF NO, SKIP TO E7]

E3. What do you expect will be the short term effects of this act (2015-2016)?

E4. What do you expect will be the long term effects of this act (beyond 2016)?

E7. [ASK IF NECESSARY – I.E., IF PRODUCT TYPES NOT DESCRIBED IN PRIOR YEAR'S INTERVIEW OR ONLINE]
Does your company manufacture/sell traditional incandescent lamps? That is, incandescent lamps that do not meet the current requirements of the Energy Independence and Security Act of 2007 (EISA)?

1. Yes
2. No → If no, skip to I3

<u>Traditional Incandescent Lamps - SALES</u>

Study Objective 2: Characterize stocking (availability/diversity) and pricing for CFLs, LED lamps, and incandescent lamps in Northwest retail stores.
Study Objective 6: Obtain a more complete picture of residential lighting market (beyond CFLs).

[MANFUFACTURERS/RETAILERS WHO CURRENTLY SELL INCANDESCENTS (I1-I2)]
[SKIP TO I2 IF SUPPLIER ONLY OPERATES IN THE NORTHWEST AND NOT NATIONALLY]

I1. [IF RELEVANT]
How did your national sales of traditional incandescent lamps in 2014 compare with your sales in 2013?
[PROBE FOR PERCENT INCREASE OR DECREASE]
[IF NEEDED] Your best guess is fine.

- % change in National traditional incandescent sales 2013-2014: _____

I1a. [IF CHANGES MENTIONED IN I1]
What do you think caused these changes in national sales of traditional incandescent lamps?
[PROBE FOR DIFFERENCES IN REASONS FOR CHANGES IN CFL SALES VS. INCANDESCENT SALES]

I2. How did your 2014 sales of traditional incandescent lamps in the Northwest compare with your traditional incandescent sales in 2013?
[IF NEEDED] Your best guess is fine.

- % change in NW traditional incandescent sales 2013-2014: _____

I2a. [IF CHANGES MENTIONED IN I2]
What do you think caused these changes in traditional incandescent lamp sales?
[IF MORE THAN ONE REASON CITED, TRY TO GET MAIN REASON]

[RETAILERS WHO DO NOT CURRENTLY SELL INCANDESCSENTS (I3)]

I3. Did your stores ever sell incandescent lamps?

I3a. [IF I3 = YES] When did you stop selling them? Why? [PROBE: Did the EISA legislation have any influence on the decision to stop selling them?]

I3b. [IF I3 = NO] Why not?

EISA-Compliant Incandescent Lamps - SALES

Study Objective 2: Characterize stocking (availability/diversity) and pricing for CFLs, LED lamps, and incandescent lamps in Northwest retail stores.
Study Objective 6: Obtain a more complete picture of residential lighting market (beyond CFLs).

[MANFUFACTURERS AND RETAILERS WHO CURRENTLY SELL INCANDESCENTS AND ARE AWARE OF EISEA (ES1-ES4)]

ES1. Does your company manufacture/sell incandescent lamps that meet the current requirements of the Energy Independence and Security Act of 2007 (EISA)?

1. Yes
2. No → If no, skip to Incandescent Lamp Pricing section

ES1a. [IF MANUFACTURE/SELL TRADITIONAL & EISA-COMPLIANT INCANDESCENTS]
Approximately what proportion of your 2014 incandescent lamp sales in the Northwest were EISA-compliant versus traditional incandescent lamps? What about in 2013?

- % of 2014 incandescent sales that were EISA-compliant: _____
- % of 2013 incandescent sales that were EISA-compliant: _____

[SKIP TO ES3 IF SUPPLIER ONLY OPERATES IN THE NW AND NOT NATIONALLY]

ES2. How did your national sales of EISA-compliant incandescent lamps in 2014 compare with your sales in 2013?
[PROBE FOR PERCENT INCREASE OR DECREASE]
[IF NEEDED] Your best guess is fine.

ES2a. [IF CHANGES MENTIONED IN ES2]
What do you think caused these changes in national sales of EISA-compliant incandescent lamps?

ES3. How did your 2014 sales of EISA-compliant incandescent lamps in the Northwest compare with your 2013 sales of EISA-compliant incandescent lamps?
[IF NEEDED] Your best guess is fine.

- % change in NW EISA-compliant incandescent sales 2013-2014: _____

ES4. Do you think sales of EISA-compliant incandescent lamps will increase, decrease, or stay the same in the Northwest over the next five years?

ES4a. [IF CHANGE MENTIONED] By what percentage do you think [EISA-compliant incandescent lamp] sales will change?

Traditional & EISA-Compliant Incandescent Lamps - PRICES

Study Objective 2: Characterize stocking (availability/diversity) and pricing for CFLs, LED lamps, and incandescent lamps in Northwest retail stores.
Study Objective 6: Obtain a more complete picture of residential lighting market (beyond CFLs).

[SKIP THIS SECTION IF RESPONDENT DOES NOT MANUFACTURE/SELL INCANDESCENT LAMPS]

[IF RESPONDENT MANUFACTUERS/SELLS INCANDESCENT LAMPS AND IS AWARE OF EISA (I7)]

I7. What do you think the average price will be across all types of EISA-compliant incandescents in the Northwest next year (in 2016)? What about in 2018?

- 2016 average price – EISA-compliant incandescent: _____
- 2018 average price – EISA-compliant incandescent: _____

LED Replacement Lamps – SALES

Study Objective 2: Characterize stocking (availability/diversity) and pricing for CFLs, LED lamps, and incandescent lamps in Northwest retail stores.
Study Objective 6: Obtain a more complete picture of residential lighting market (beyond CFLs).

L1. [ASK IF NECESSARY – I.E., IF PRODUCT TYPES NOT DESCRIBED IN PRIOR YEAR'S INTERVIEW OR ONLINE] Does your company manufacture/sell LED replacement lamps (for the residential market?)?

1. Yes
2. No [SKIP TO L5]

L2. [IF L1=YES] How did your total 2014 LED replacement lamp sales in the Northwest compare with your 2013 LED replacement lamp sales?
[IF NEEDED] Your best guess is fine.

- % change in NW LED sales 2013-2014: _____

L2a. [IF CHANGES MENTIONED IN L2] What do you think caused these changes in replacement LED lamp sales?
[IF MORE THAN ONE REASON CITED, TRY TO GET MAIN REASON]

L3. What percentage of your total LED replacement bulb sales in 2014 were A-lamps? What about in 2013? [IF NECESSARY: LED A-lamp = shaped like a standard general purpose incandescent]
[IF NEEDED] Your best guess is fine.

- 2014 NW sales – LED A-lamps: _____

- 2013 NW sales – LED A-lamps: _____

L3a. [IF NECESSARY] What style or type of LED replacement lamp represented the greatest percentage of your 2014 NW LED lamp sales? What percentage did sales of this lamp type comprise of your overall Northwest LED lamp sales in 2014?

- Best-selling LED replacement lamp type in 2014:

- % of total LED lamp sales comprised by best-selling LED replacement lamp in 2014:

L4. Do you think sales of LED replacement lamps will increase, decrease, or stay the same in the Northwest over the next five years?

L4a. [IF CHANGE MENTIONED] By what percentage do you think [LED replacement lamp] sales will change? How do you think this will differ by lamp type?

L5. What are the most important factors that are limiting customer demand for LED products? Please explain. [PROBE FOR APPLICABILITY, DESIGN, COST, AWARENESS, QUALITY ISSUES.]

L5a. [IF NOT MENTIONED] To what degree have these demand barriers varied with the type of LED product?

[IF RESPONDENT DOES NOT MANUFACTURE/SELL LED BULBS (L6)]

L6. [IF L1=NO] Do you plan to sell LED lamps in the near future?

L6a. [IF L6 = YES] Which lamps? When do you plan on selling them?

L6b. [IF L6 = NO] Why not?

<u>LED Replacement Lamps – PRICES</u>

Study Objective 2: Characterize stocking (availability/diversity) and pricing for CFLs, LED lamps, and incandescent lamps in Northwest retail stores.
Study Objective 6: Obtain a more complete picture of residential lighting market (beyond CFLs).

[IF RESPONDENT MANUFACTURES/SELLS LED BULBS (L7-L9) – ELSE SKIP TO R1]

L8. What do you think the average price will be for a general purpose LED A-lamps in the Northwest next year (in 2016)? What about in 2018?
- 2016 average price – general purpose LED A-lamp: _____
- 2018 average price – general purpose LED A-lamp: _____

<u>Total Replacement Lamps– SALES</u>
[IF RESPONDENT SELLS MORE THAN ONE TYPE OF LAMP TECHNOLOGY (RS1) – ELSE SKIP TO M1]

[ONLY ASK ABOUT TECHNOLOGIES THAT RESPONDENT SELLS]

RS1. Thinking of all of your replacement lamp sales in 2014, about what percentage of your total sales do [LAMP TECHNOLOGY] comprise?
[Total should equal or nearly equal 100%]

- CFLs _____%
- LEDs_____%
- Incandescents_____%
- Halogens _____%

RS2. Thinking of all of your replacement lamp sales next year (2016), about what percentage of your total sales do you think [LAMP TECHNOLOGY] will comprise?
[Total should equal or nearly equal 100%]

- CFLs _____%
- LEDs_____%
- Incandescents_____%
- Halogens _____%

RS3. Thinking of all of your replacement lamp sales three years from now (2018), about what percentage of your total sales do you think [LAMP TECHNOLOGY] will comprise?
[Total should equal or nearly equal 100%]

- CFLs _____%
- LEDs_____%
- Incandescents_____%
- Halogens _____%

MARKETING AND EDUCATIONAL MATERIALS

Study Objective 8: Characterize lighting marketing materials in Northwest retail stores.

[RETAILERS ONLY (M1-M3) – MANUFACTURERS SKIP TO M4]

M1. [IF RETAILER SELLS CFLS] What types marketing and educational materials do you have in your [Northwest] store(s) for CFLs?

M1a. [IF NOT MENTIONED] What type of signage do you have in your store(s) for CFLs? Do you have other displays? [IF YES] What other types of displays do you have?

M1b. [IF NOT MENTIONED] Who provides the CFL marketing materials that you have in your store(s)? [IF NEEDED] Do you provide the materials? Do you get materials from manufacturers? From utilities? From other organizations?

M1c. What are the key messages of the marketing and educational materials that you have in your store(s) for CFLs?

M2. [IF RETAILER SELLS LEDS] What types marketing and educational materials do you have in your [Northwest] store(s) for LED replacement lamps?

M2a. [IF NOT MENTIONED] What type of signage do you have in your store(s) for LED lamps? Do you have other displays? [IF YES] What other types of displays do you have?

M2b. [IF NOT MENTIONED] Who provides the LED marketing materials that you have in your store(s)? [IF NEEDED] Do you provide the materials? Do you get materials from manufacturers? From utilities? From other organizations?

M2c. What are the key messages of the marketing and educational materials that you have in your stores for LED lamps?

M3. Do you provide any other types of market and educational materials related to lighting in your [Northwest] stores? [IF YES] What types of lighting products are mentioned in the materials?

M3a. What other types of marketing and educational materials do you provide? [IF NOT MENTIONED] Do you supply signage or other displays?

M3b. [IF NOT MENTIONED] Who provides these other materials? [IF NEEDED] Do you provide the materials? Do you get materials from manufacturers? From utilities? From other organizations?

M3c. What are the key messages of these other materials?

[MANUFACTURER ONLY (M4-M6) – RETAILERS SKIP TO CLOSE]

M4. [IF MANUFACTURER SELLS CFLS] Do you supply any CFL marketing or educational materials to stores in the Northwest?

M4a. [IF NOT MENTIONED] What type of materials do you supply for CFLs? [IF NEEDED] Do you supply signage or other displays?

M4b. What are the key messages of these materials for CFLs?

M5. [IF MANUFACTURER SELLS LEDS] Do you supply any marketing or educational materials to stores in the Northwest related to LED lamps?

M5a. [IF NOT MENTIONED] What types of materials do you supply for LED lamps? [IF NEEDED] Do you supply signage or other displays?

M5b. What are the key messages of these materials for LED lamps?

M6. Do you supply any other types of lighting marketing and educational materials to stores in the Northwest?

M6a. [IF NOT MENTIONED] What types of marketing materials do you supply? [IF NEEDED] Do you supply signage or other displays?

M6b. What are the key messages of these other materials?

CLOSE

Those are all of the questions I have for you today. Thank you so much for your time and your valuable comments.

APPENDIX C - DETAILED SHELF SURVEY RESULTS

C.1 Approach

DNV GL has conducted lighting retail store shelf surveys for NEEA on roughly an annual basis since 2004. For the 2014-15 study, DNV GL developed a sampling approach that mirrored the approaches used in the prior three studies and included 76 retail store sample points. These sample points are allocated among five retail store types (membership club, do-it-yourself, drug or grocery, mass merchandise, and small hardware).This approach allows analysts to make year-to-year and store category-to-category comparisons of lamps observed on store shelves using an efficient sample.

Beginning with the 2011-2012 residential lighting LTMT study, NEEA asked DNV GL to shift its sampling approach away from geographic distinctions based on metro and non-metro designations (per Metropolitan Statistical Area [MSA] designations) and toward urban and rural designations (per Rural Urban Continuum Code [RUCC] designations developed by the U.S. Department of Agriculture). RUCC designations are derived from data collected by the U.S. Census Bureau's decennial population census. Because the Census Bureau conducts the census every 10 years, the Department of Agriculture updates the RUCC designations once per decade as well. These updates occur roughly three to four years after each census and include updated county classifications.

Within the RUCC designations, a county may become more urban or more rural over time depending on population changes. In some cases, a county's designation may change from rural to urban (or, less commonly, from urban to rural). Recently released updates in RUCC designations have implications which limit DNV GL's ability to compare urban and rural stores in its shelf survey analyses because of the limited number of stores in the sample designated "rural" after the most recent RUCC. Therefore, this report includes no comparisons of urban versus rural stores for shelf survey results.

C.2 Lamp Availability

The shelf surveys examine lamp availability in terms of the percentage of stores that stocked a specific lamp technology at the time of the shelf survey visits as well as the percentage of total lamp stock represented by a particular lamp technology. For the latter, field researchers counted the total number of packages present for each lamp model on the shelf as well as the number of lamps per package, and analysts multiplied these two estimates together to yield the total number of lamps for each lamp.

C.2.1 Percent of Stores Stocking CFLs over Time

Figure 3 shows the percentage of Northwest stores visited during shelf survey visits in 2008 through 2014 that stocked general purpose CFLs and/or specialty CFLs. As shown, the

percentage of stores stocking CFLs was 98% in 2014 and has remained at or near 100% since 2008.

Figure 3
Percent of Northwest Stores Stocking CFLs, 2008–2014

Note: 2008 n=58; 2009 n=78; 2010 n=58; 2011 n=96; 2012 n=96; 2013 n=96; 2014 n=76.

Figure 4 shows that in 2014, 96% of stores carried general purpose CFLs; the percentage of stores carrying general purpose CFLs has not changed since 2008. In 2014, the percentage of stores stocking specialty CFLs was 95%, which is also statistically unchanged from 2013 (91%).

Figure 4
Percent of Northwest Stores Stocking CFLs by CFL Type, 2008–2014

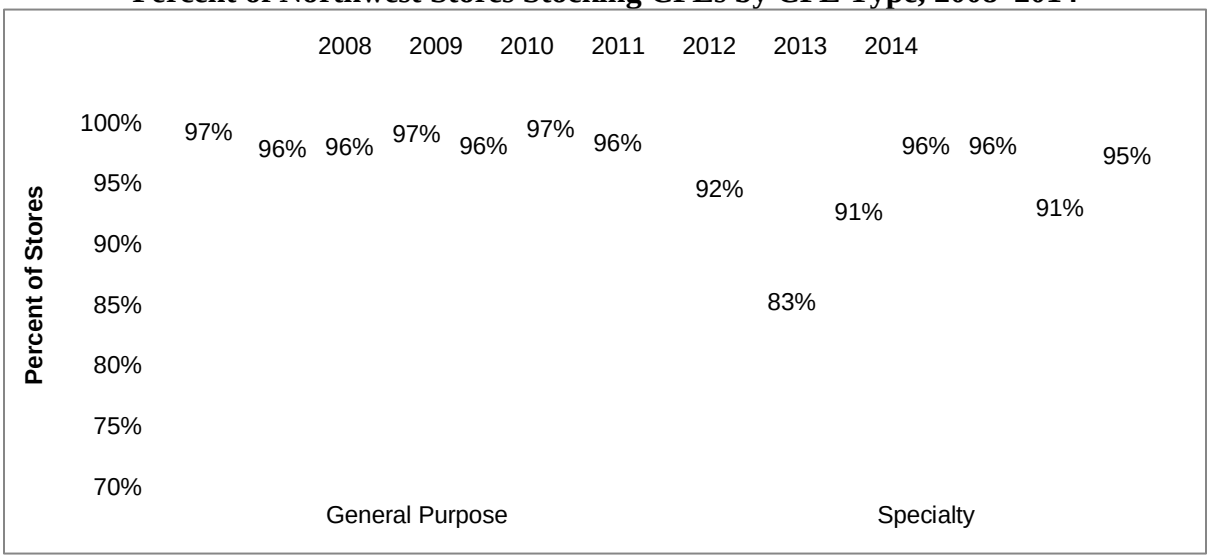
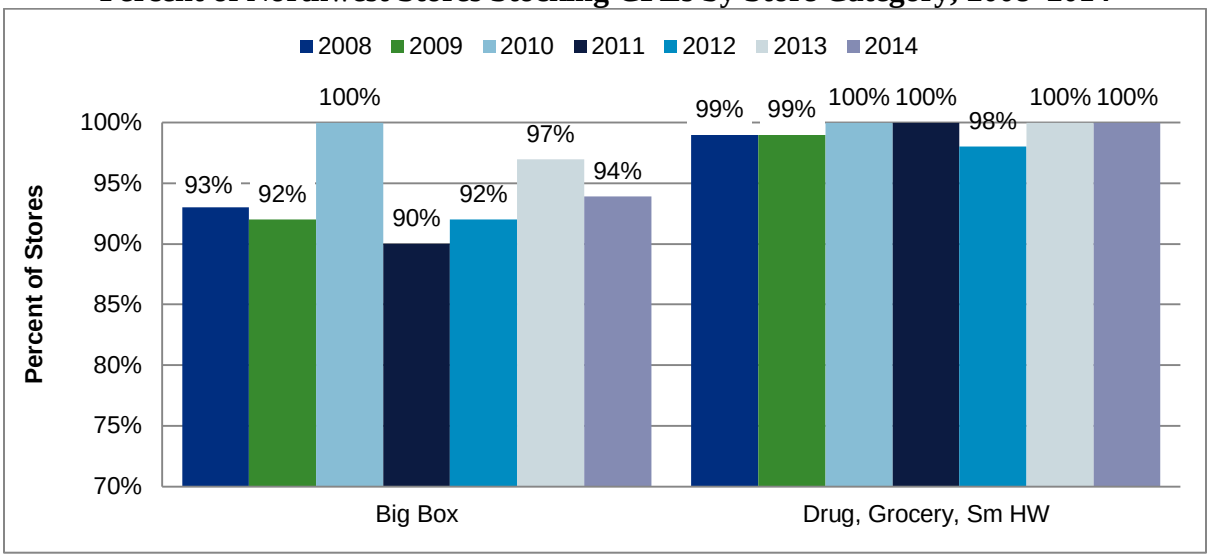


Figure 5 shows the percentage of CFLs (general purpose CFLs and/or specialty CFLs) stocked by store category between 2008 and 2014, divided into big box and non-big box stores. The percentage of big box stores that carried CFLs is statistically unchanged from 97% in 2013 to 94% in 2014. The percentage of non-big box stores that carried CFLs remained constant at 100% from 2013 to 2014.

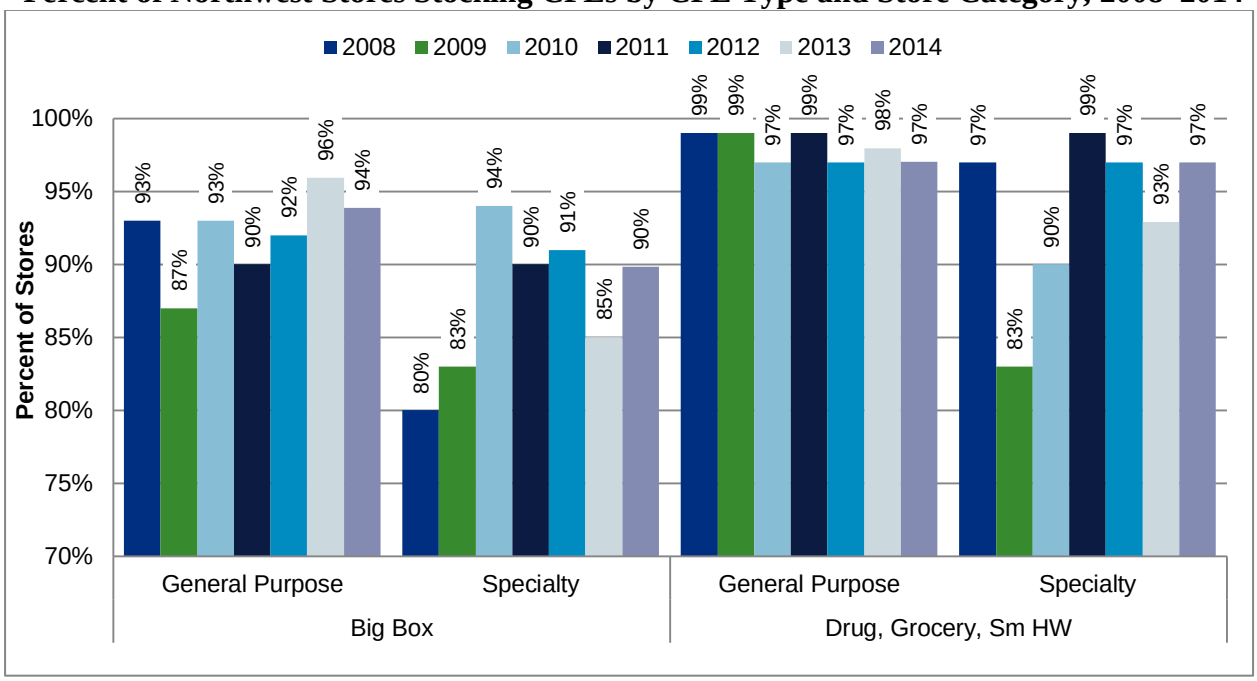
Figure 5
Percent of Northwest Stores Stocking CFLs by Store Category, 2008–2014



Note: 2008 big box n=24; 2008 non-big box n=34; 2009 big box n=31; 2009 non-big box n=47; 2010 big box n=24; 2010 non-big box n=34; 2011 big box n=41; 2011 non-big box n=55; 2012 big box n=41; 2012 non-big box n=55; 2013 big box n=41; 2013 non-big box n=55; 2014 big box n=32; 2014 non-big box n=44.

Figure 6 shows the percentage of stores stocking CFLs by store category and CFL type from 2008 to 2014. The percentage of big box stores stocking general purpose CFLs remained the same from 2013 to 2014 (96% in 2013 and 94% in 2014). There was little change the percentage of big box stores carrying specialty CFLs (85% in 2013 and 90% in 2014). The percentage of non-big box stores stocking general purpose CFLs has remained stable between 2008 and 2014 with between 97% and 99% of stores stocking this CFL type. Beginning in 2011, nearly all non-big box stores stocked specialty CFLs (stocking percentages ranged from 93% and 99% of stores).

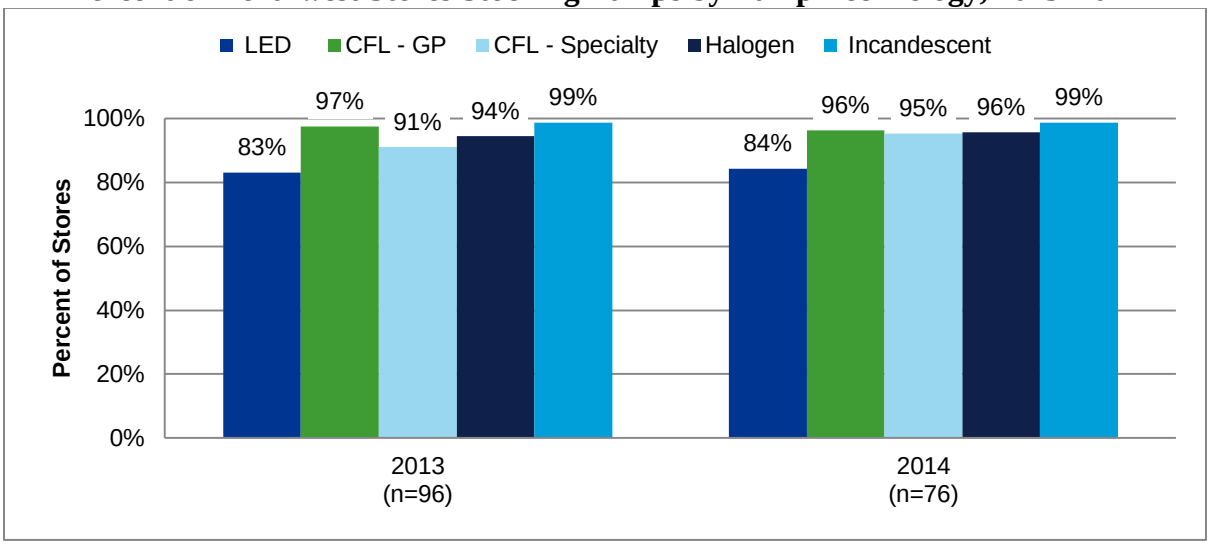
Figure 6
Percent of Northwest Stores Stocking CFLs by CFL Type and Store Category, 2008–2014



Percent of Stores Carrying Lamps by Technology and Store Category, 2013 and 2014

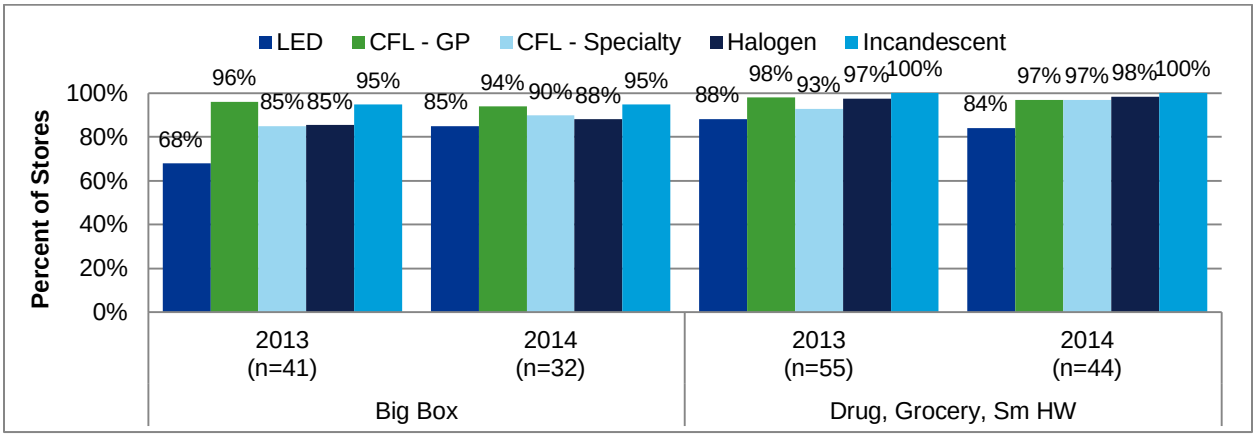
Figure 7 shows the percent of stores stocking different lamp technologies—including LED lamps, general purpose CFLs, specialty CFLs, halogen lamps, and incandescent lamps–in 2013 and 2014. As seen above in Figure 4, the percentage of stores stocking specialty CFLs remained stable between years (91% in 2013 and 95% in 2014). The percentage of stores that stocked general purpose CFLs also remained unchanged between years (97% in 2013 and 96% in 2014), as did incandescent lamps (99% in both years) and halogen lamps (94% in 2013 and 96% in 2014). LED lamps represented the only lamp technology that was carried by less than 90% of stores (83% in 2013 and 84% in 2014).

Figure 7
Percent of Northwest Stores Stocking Lamps by Lamp Technology, 2013–2014



When examined by store category and lamp type in 2013 and 2014 (Figure 8), the most notable change was an increase in the percent of big box stores stocking LED lamps from 68% in 2013 to 85% in 2014. The percentage of big box stores that stocked specialty CFLs between 2013 and 2014 (85% to 90%) and halogen lamps (85% to 88%) remained stable. The percentage of big box stores stocking general purpose CFLs and incandescent lamps remained unchanged between years. Nearly all non-big box stores stocked general purpose CFLs, specialty CFLs, halogen lamps, and incandescent lamps in 2013 and 2014. Similar proportions of non-big box stores carried specialty CFLs in 2014 and 2013 (97% and 93%), and the same was true for LED lamps in non-big box stores (84% in 2014 and 88% in 2013). The percentage of non-big box stores stocking general purpose CFLs, halogen lamps, and incandescent lamps remained unchanged in both years.

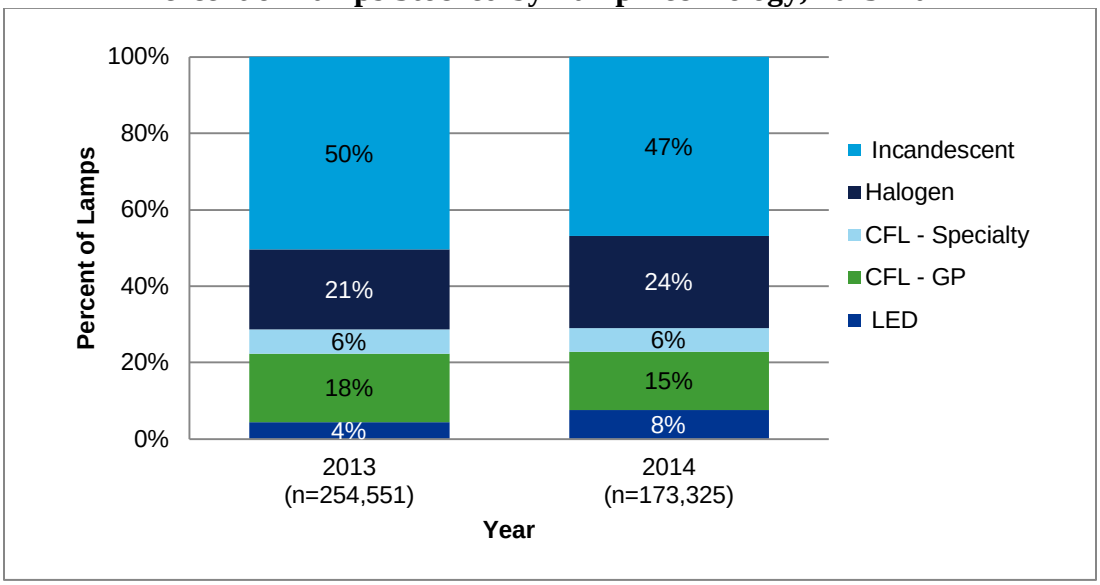
Figure 8
Percent of Northwest Stores Stocking Lamps by Lamp Technology and Store Category, 2013–2014



C.2.2. Percent of Lamps Stocked by Technology and Store Category, 2013 and 2014

Figure 9 shows the percentage of lamps stocked across all retail stores by technology in 2013 and 2014. These data represent the percentage of total lamps (not lamp models or lamp packages) stocked across the stores. As shown, incandescent lamps still dominate lamp stock. However, the share of incandescent lamps stocked across all stores has decreased slightly from 50% of all lamps in 2013 to 47% of all lamps in 2014, while the share of halogen lamps increased slightly from 21% in 2013 to 24% in 2014. With respect to the efficient lamp technologies, the share of CFLs stocked decreased slightly from 24% in 2013 to 21% in 2014, while the share comprised by LED lamps doubled from 4% to 8% between years.

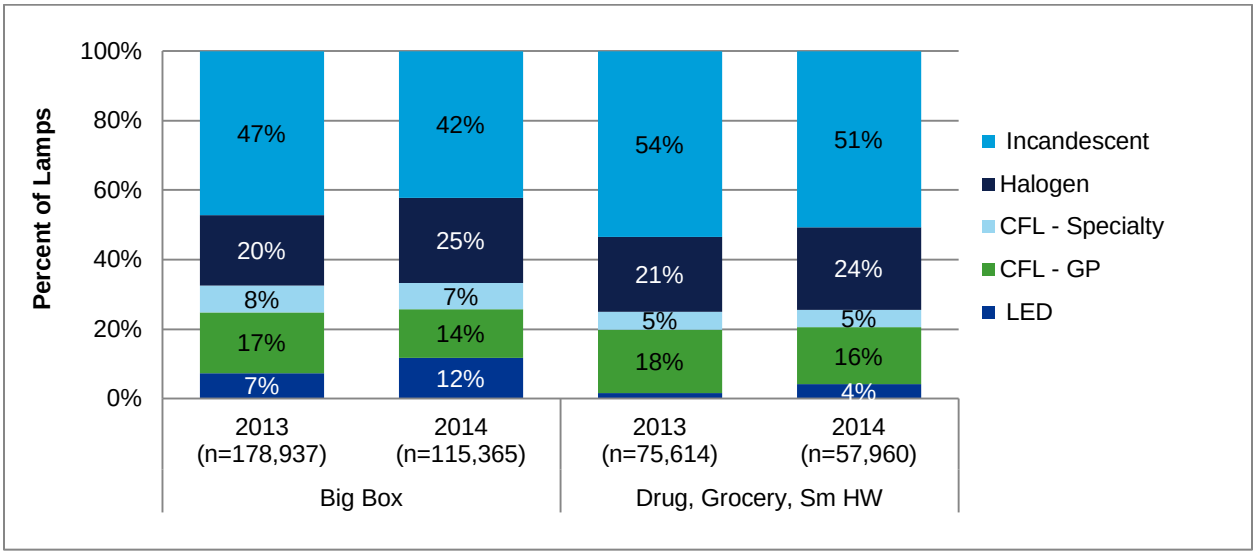
Figure 9
Percent of Lamps Stocked by Lamp Technology, 2013–2014



Note: Percentages may not total 100% due to rounding.

Figure 10 shows the percentage of lamps stocked in big box and non-big box stores in 2013 and 2014. Trends were similar in terms of changes in the share of different lamp technologies stocked in big box stores and non-big box stores between years. The proportion of incandescent lamps and CFLs declined slightly in big box and non-big box stores between years, while the share of lamps comprised by halogen and LED lamps increased in both store categories between years. However, incandescent lamps still represented a majority or plurality of all lamps stocked in non-big box stores in 2014 (51%), and 42% of lamps stocked in big box stores. The proportion of lamps comprised by LED lamps was relatively small in both store categories; however, while LED lamps comprised only 4% of lamps stocked in non-big box stores in 2014, their share grew from 7% to 12% of lamps stocked in big box stores in 2014.

Figure 10
Percent of Lamps Stocked by Lamp Technology and Store Category, 2013–2014



Note: Percentages may not total 100% due to rounding.

C.2.3. Availability of EISA-Qualified Lamps

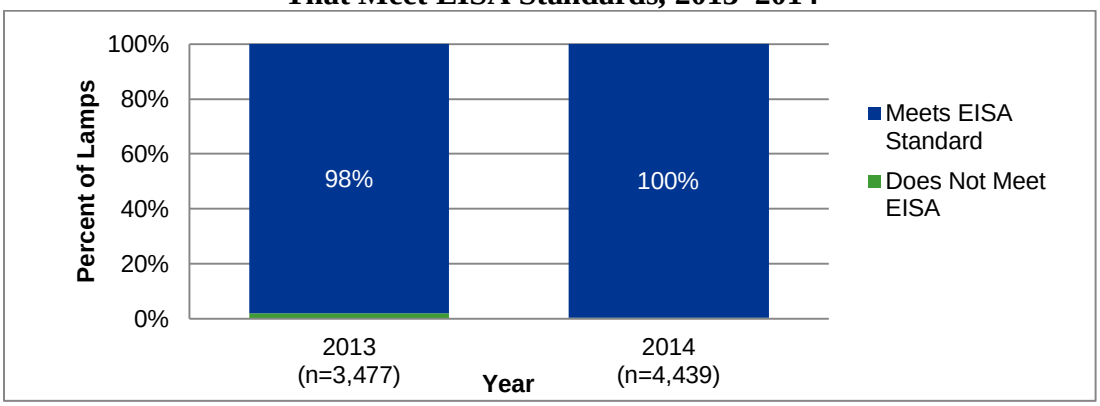
Analysts assessed the availability of EISA-compliant lamps in each of the four lumen ranges identified in the legislation in terms of the percentage of total medium screw-base (MSB) incandescent lamps in each lumen bin that met or did not meet the relevant standard at the time of each store visit. Section 3.2.1 of the report provides more detail on the EISA legislation.

High Brightness MSB Incandescent A-Lamps (1490–2600 lumens)

The phase of EISA that affects high brightness (1490–2600 lumens) MSB incandescent A-lamps went into effect on January 1, 2012. As such, the regulation affecting these lamps had been in place for roughly three years at the time of the 2014 shelf survey visits. During these visits, 86% of the region's stores stocked EISA-compliant MSB incandescent A-lamps in this lumen bin compared to 77% of stores in 2013.

Figure 11 shows the percentage of high brightness (1490–2600 lumens) MSB incandescent A-lamps that met or did not meet the EISA standard in 2013 and 2014. As shown, approximately 100% of all lamps met the standard in 2014.

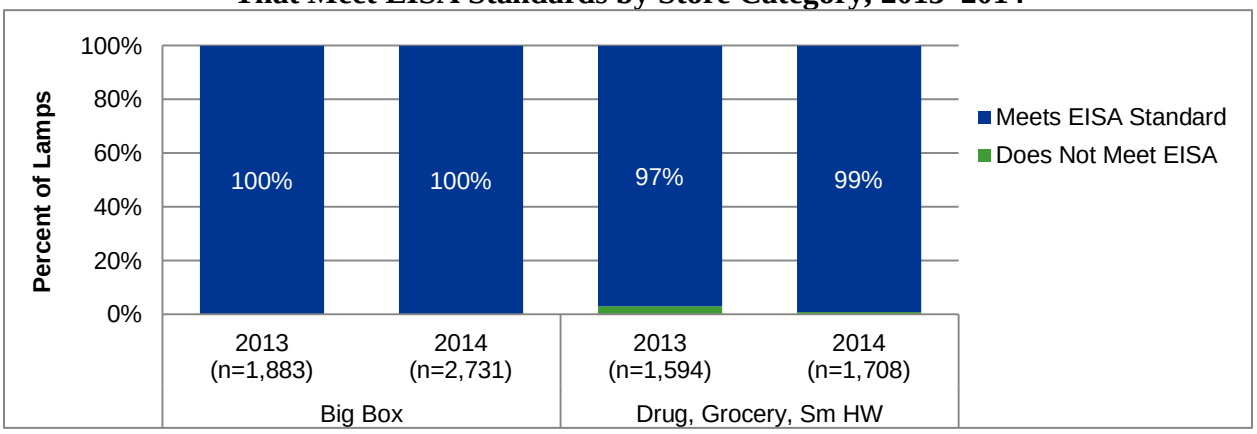
Figure 11
Percentage of High Brightness MSB Incandescent A-Lamps (1490–2600 lumens) That Meet EISA Standards, 2013–2014



Note: Percentages may not total 100% due to rounding.

When examined by store category (Figure 12), results suggest that the shift in stocking patterns to high brightness incandescent A-lamps that meet the standard between 2013 and 2014 was nearly complete for both big box and non-big box stores. Between 2013 and 2014, the percentage of high brightness MSB incandescent A-lamps that met the standard in big box stores remained constant at 100%, while the percentage in non-big box stores increased from 97% to 99% in the same timeframe.

Figure 12
Percentage of High Brightness MSB Incandescent A-Lamps (1490–2600 lumens) That Meet EISA Standards by Store Category, 2013–2014



Note: Percentages may not total 100% due to rounding.

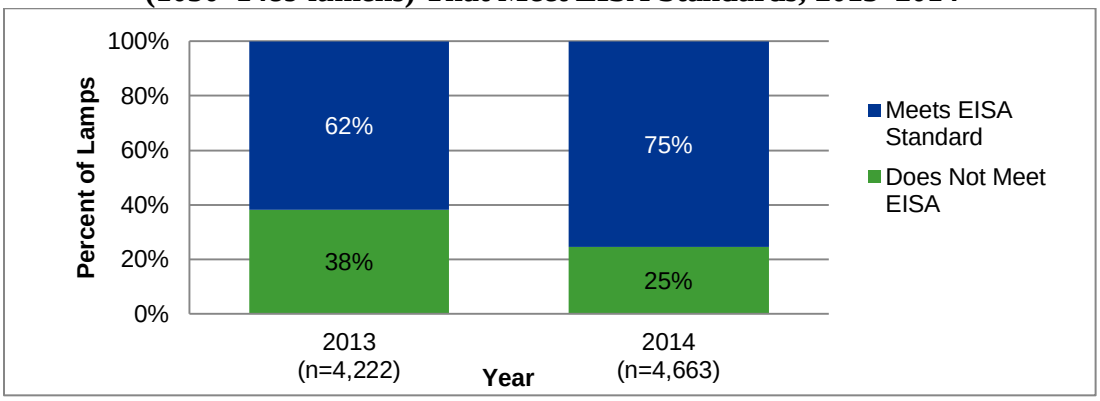
Medium High Brightness MSB Incandescent A-Lamps (1050–1489 lumens)

Figure 13 below shows the percentage of medium high brightness (1050–1489 lumens) MSB incandescent A-lamps that met the EISA standard that went into effect on January 1, 2013 and

those that did not. During the 2014 shelf survey visits, 76% of the region's stores stocked EISA-compliant MSB incandescent A-lamps in this lumen bin (compared to 66% in 2013).

As shown in the figure, 75% of medium high brightness MSB incandescent A-lamps in Northwest retail stores met the EISA standard for this lumen category at the time of the 2014 shelf surveys (up from 62% in 2013). This is lower than the percentage of EISA-compliant high brightness (1490–2600 lumens) MSB incandescent A-lamps in stock in Northwest retail stores at the time of the 2014 shelf surveys (100%; see Figure 11 above). This lower percentage can be explained by the timing of the EISA standard, which went into effect for high brightness MSB incandescent A-lamps in January 2012 and January 2013 for medium high brightness MSB A-lamps.

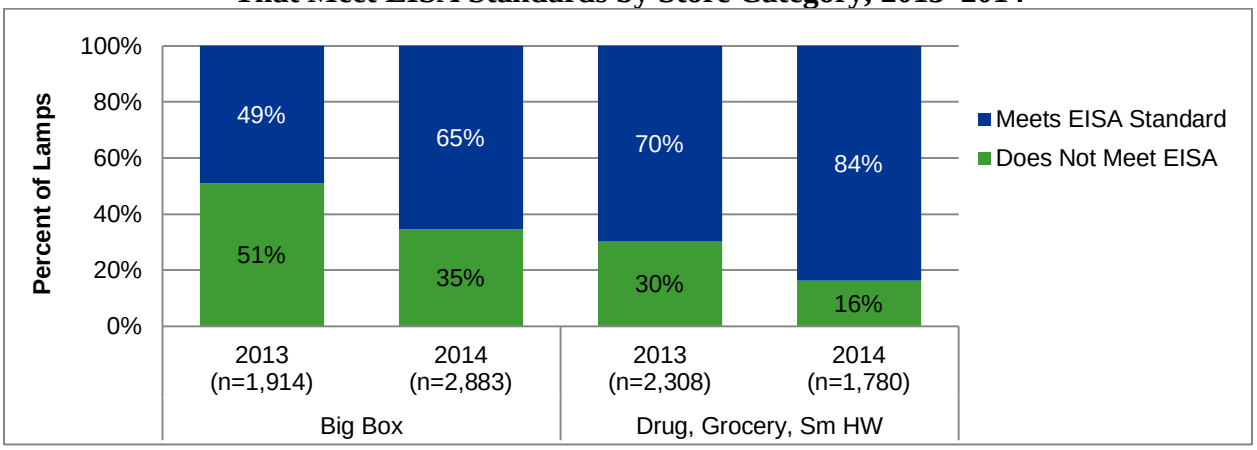
Figure 13
Percentage of Medium High Brightness MSB Incandescent A-Lamps (1050–1489 lumens) That Meet EISA Standards, 2013–2014



Note: Percentages may not total 100% due to rounding.

When examined by store category, results suggest that the greatest proportion of lamps that met the EISA standard in 2014 for medium high brightness MSB incandescent A-lamps was in non-big box stores (84%) compared to those in big box stores (65%; see Figure 14). In 2013, only 49% of lamps in big box met the standard for medium high brightness MSB incandescent A-lamps and 70% in non-big box stores.

Figure 14
Percentage of Medium High Brightness MSB Incandescent A-Lamps (1050–1489 lumens) That Meet EISA Standards by Store Category, 2013–2014



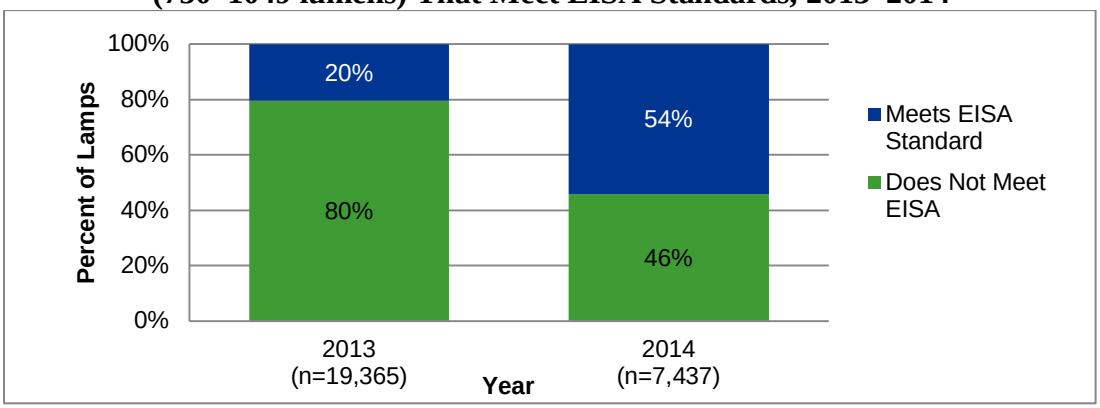
Note: Percentages may not total 100% due to rounding.

Medium Low Brightness MSB Incandescent A-lamps (750–1049 lumens)

At the time of the 2014 shelf survey visits (in late 2014/early 2015), 83% of the region's stores stocked EISA-compliant MSB incandescent A-lamps in the medium low brightness category (750–1049 lumens) compared to 62% of stores in 2013. The standard affecting these lamps went into effect on January 1, 2014.

Figure 15 below shows the percentage of MSB incandescent A-lamps in this lumen range that met the EISA standard affecting these lamps and those that did not. As shown, the percentage of lamps that met the standard nearly tripled between 2013 and 2014 (from 20% to 54%).

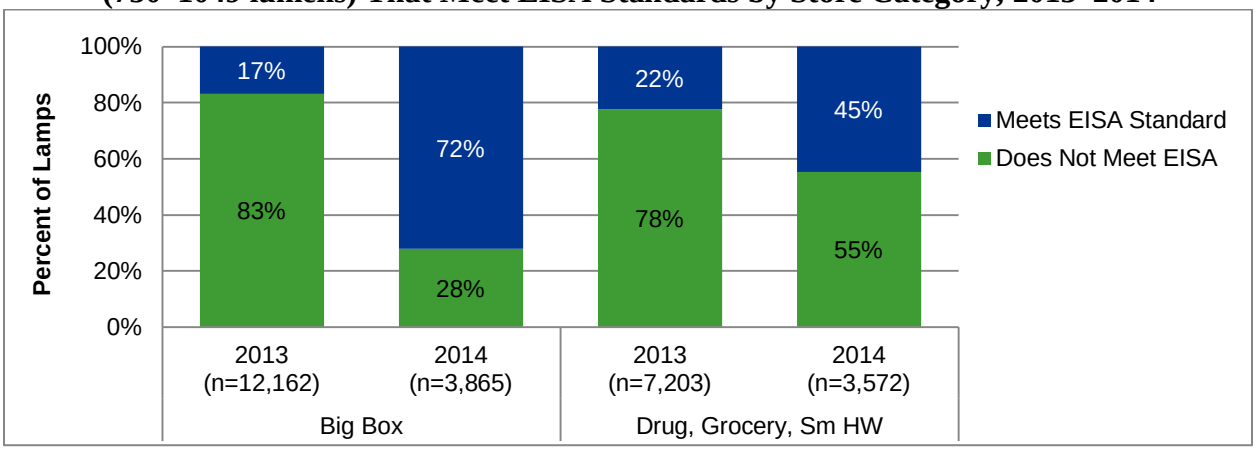
Figure 15
Percentage of Medium Low Brightness MSB Incandescent A-Lamps (750–1049 lumens) That Meet EISA Standards, 2013–2014



Note: Percentages may not total 100% due to rounding.

When examined by store category (Figure 16), the proportion of lamps that met the EISA standard for medium low brightness MSB incandescent A-lamps more than quadrupled in big box stores from 17% in 2013 to 72% in 2014. In non-big box stores, the percent of lamps meeting the standard for medium low brightness MSB incandescent A-lamps doubled from 22% in 2013 to 45% in 2014.

Figure 16
Percentage of Medium Low Brightness MSB Incandescent A-Lamps (750–1049 lumens) That Meet EISA Standards by Store Category, 2013–2014



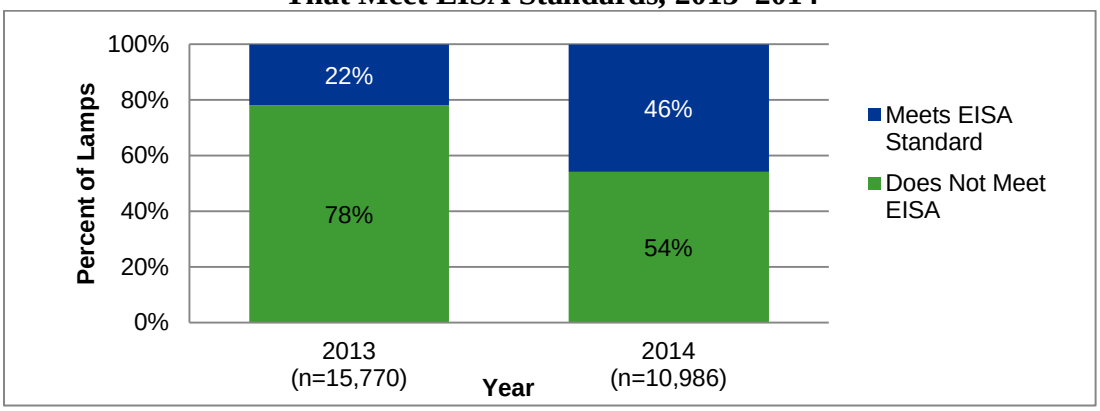
Note: Percentages may not total 100% due to rounding.

Low Brightness MSB Incandescent A-lamps (310–749 lumens)

When field staff conducted the 2014 shelf surveys, 83% of the region's stores stocked EISA-compliant MSB incandescent A-lamps in the low brightness category (310–749 lumens) compared to 69% of stores in 2013. The standard affecting these lamps went into effect on January 1, 2014.

Figure 17 shows the percentage of low brightness MSB incandescent A-lamps that met the EISA standard and those that did not. The percentage of low brightness lamps meeting the standard more than doubled from 22% in 2013 to 46% in 2014. However, the majority of low brightness MSB incandescent A-lamps did not meet EISA standards at the time of field staff conducted the 2014 shelf surveys (54%).

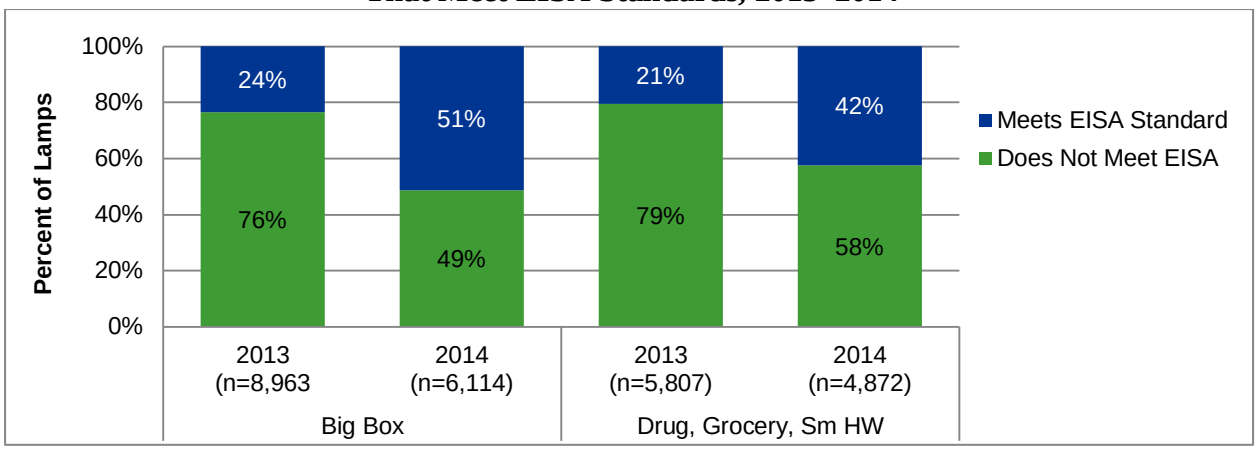
Figure 17
Percentage of Low Brightness MSB Incandescent A-Lamps (310–749 lumens) That Meet EISA Standards, 2013–2014



Note: Percentages may not total 100% due to rounding.

When examined by store category (Figure 18), the proportion of lamps that met the EISA standard for low brightness MSB incandescent A-lamps more than doubled in big box stores from 24% in 2013 to 51% in 2014. Similarly, in non-big box stores, the percent of lamps meeting the standard for low brightness MSB incandescent A-lamps doubled from 21% in 2013 to 42% in 2014.

Figure 18
Percentage of Low Brightness MSB Incandescent A-Lamps (310–749 lumens) That Meet EISA Standards, 2013–2014



C.3 Lamp Diversity

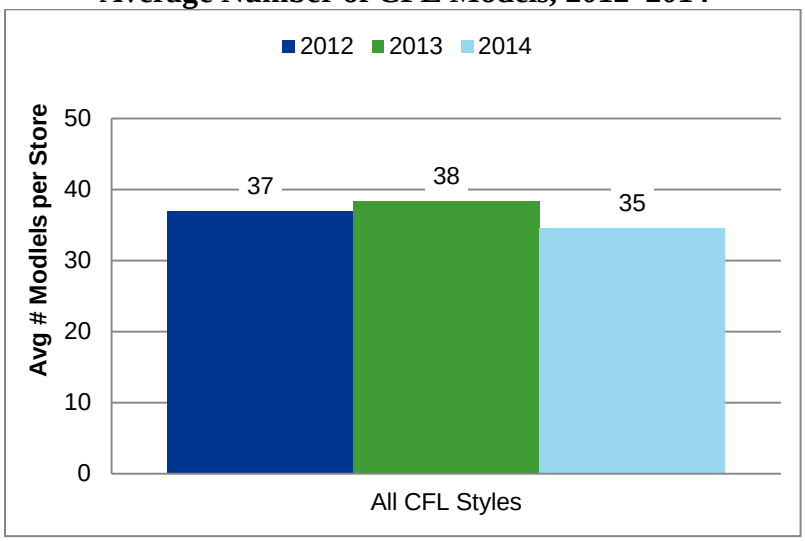
The sections below discuss diversity in terms of the average number of general purpose and specialty CFL models available by store category over time (2008 through 2014). The report also presents data on the average number of lamp models by technology (general purpose CFLs, specialty CFLs, halogen lamps, incandescent lamps, and LED lamps) for 2013 and 2014.As

noted in the 2013–2014 residential lighting LTMT report, we have modified our methodology for determining what constitutes a unique model number in light of the fact that shelf survey data have been collected electronically on tablet computers since the 2012–2013 shelf survey research phase (see DNV GL 2015, Appendix C for further details). This report is the second to use barcodes for determining lamp model diversity.

C.3.1 Average Number of CFL Models Over Time

Figure 19 shows the average number of CFL models stocked per store across all CFL types and store types from 2012 through 2014. As shown, the average number of models has remained essentially unchanged since 2012.

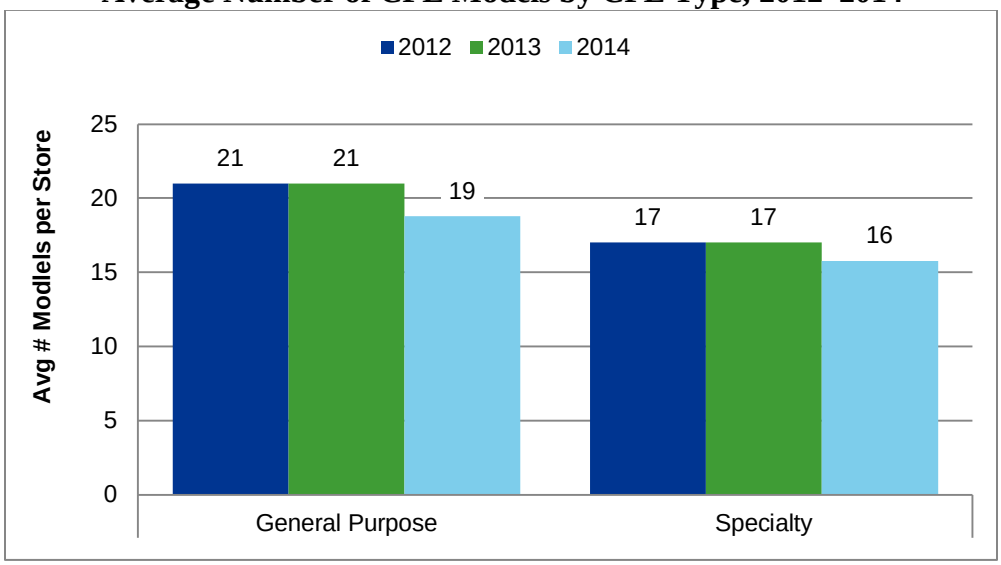
Figure 19
Average Number of CFL Models, 2012–2014



Note: 2012 n=1,020; 2013 n=924; 2014 n=716.

Figure 20 shows the average number of model numbers per store for general purpose and specialty CFLs from 2012 through 2014. Results suggest a slight decline in the average number of general purpose CFL model numbers from 21 in 2013 to 19 in 2014. For specialty CFLs, the average number of model numbers remained stable between years.

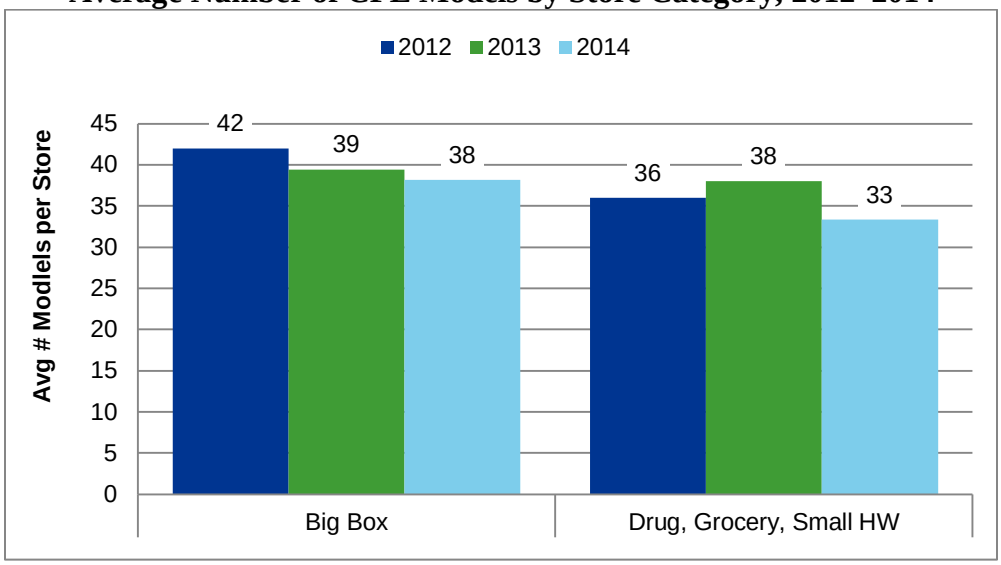
Figure 20
Average Number of CFL Models by CFL Type, 2012–2014



Note: 2012 general purpose n=501; 2012 specialty n=519; 2013 general purpose n=451; 2013 specialty n=473; 2014 general purpose n=375; 2014 specialty n=341.

When examined by store category (Figure 21), the average number of CFL models per non-big box store declined from 38 in 2013 to 33 in 2014. The average number of CFL models stocked per big box store decreased from 42 in 2012 to 39 in 2013, but remained unchanged between 2013 and 2014.

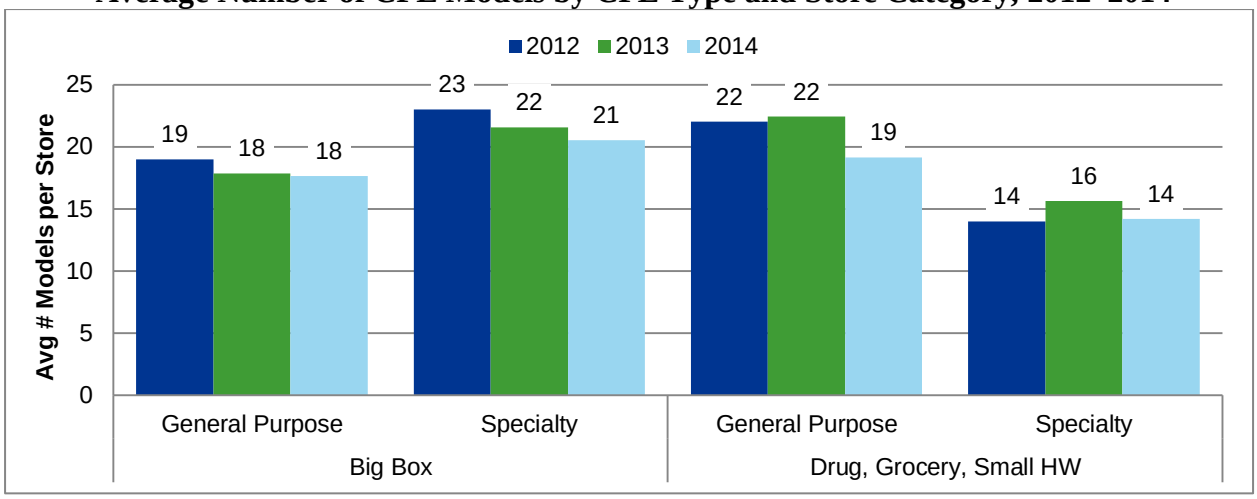
Figure 21
Average Number of CFL Models by Store Category, 2012–2014



Note: 2012 big box n=542; 2012 non-big box n=620; 2013 big box n=631; 2013 non-big box n=470; 2014 big box n=440; 2014 non-big box n=401.

Figure 22 shows the average number of general purpose and specialty CFL models within each store category from 2012 through 2014. The average number of general purpose CFL models per non-big box store remained unchanged between 2012 and 2013 at 22, but declined to 19 in 2014. For specialty CFLs, the average number of models per non-big box stores declined from 16 in 2013 to 14 in 2014. There were few changes in the average number of models per big box store between 2012 and 2014. The average number of specialty CFL model numbers per big box store declined slightly from 23 in 2012 to 21 in 2014.

Figure 22
Average Number of CFL Models by CFL Type and Store Category, 2012–2014

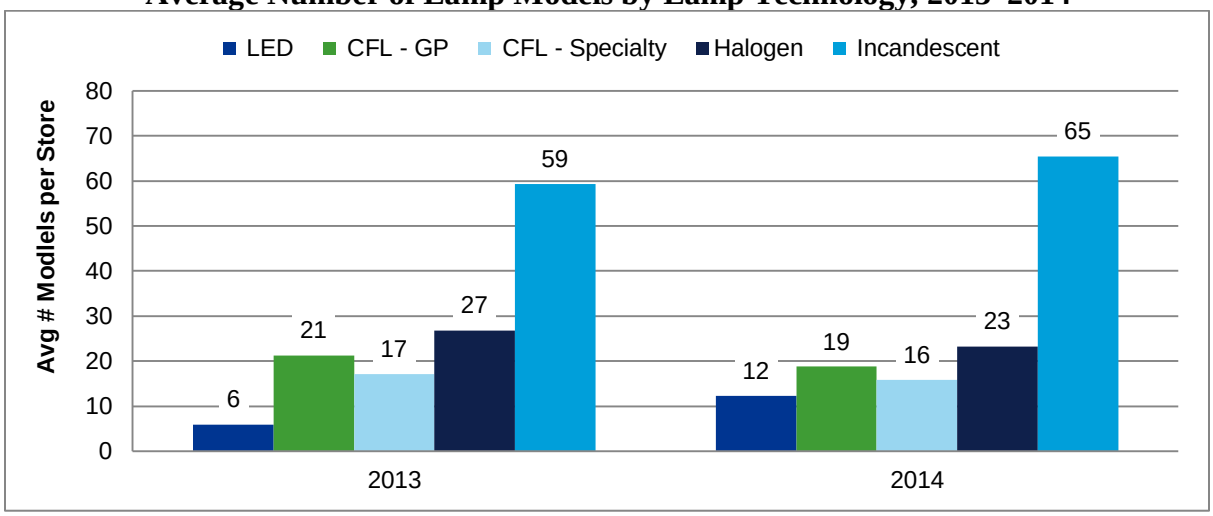


Note: 2012 big box general purpose n=246; 2012 big box specialty n=296; 2012 non-big box general purpose n=315; 2012 non-big box specialty n=305; 2013 big box general purpose n=289; 2013 big box specialty n=342; 2013 non-big box general purpose n=237; 2013 non-big box specialty n=233; 2014 big box general purpose n=219; 2014 big box specialty n=221; 2014 non-big box general purpose n=211; non-big box specialty n=190.

C.3.2 Average Number of Lamp Models per Store by Technology, Store Category, 2013 and 2014

The Northwest lighting retailer shelf surveys gathered data not only on the average number of CFL models per store, but also on the average number of incandescent, halogen, and LED lamp models per store. As shown in Figure 23, the average number of LED lamp models per store doubled from 6 models per store in 2013 to 12 models per store in 2014. Interestingly, the number of halogen lamp models per store decreased from 27 models per store in 2013 to 23 models per store in 2014. Given the modest increase in the proportion of total lamps that halogen lamps represent (see Figure 9 above), this decline in model number diversity among halogen lamps is somewhat unexpected. Also of interest is an increase in the average number of incandescent lamp models per store from 59 models per store in 2013 to 65 models per store in 2014. This trend is also unexpected because the proportion of total lamps represented by incandescent lamps declined (Figure 9) from 2013 to 2014. The average number of lamp models per store decreased slightly for general purpose CFLs from 21 in 2013 to 19, but remained stable for specialty CFLs.

Figure 23
Average Number of Lamp Models by Lamp Technology, 2013–2014

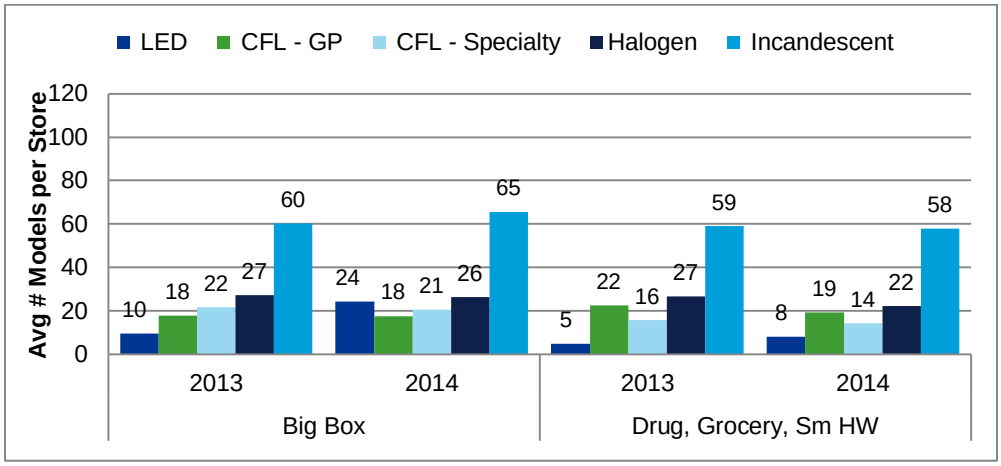


Note: 2013 LED n=334; general purpose CFL n=451; specialty CFL n=473; halogen n=541; incandescent n=1,256; 2014 LED n=449; general purpose CFL n=375; specialty n=341; halogen n=405; incandescent n=1,059.

Figure 24 provides further detail on the average number of lamp models per store in 2013 and 2014 by store category. The average number of LED lamp models per store more than doubled in big box stores from 10 models per store in 2013 to 24 in 2014. Similarly, in non-big box stores, the average number of LED lamp models per store nearly doubled from 5 models per store in 2013 to 8 in 2014. The number of halogen lamp models per non-big box store remained unchanged between years in big box stores, but decreased from 27 models per store in 2013 to 22 in 2014 in non-big box stores.

There was a slight increase in the number of incandescent models per big box store from 60 in 2013 to 65 in 2014, but the average number of models per non-big box store remained unchanged between years. The average number of general purpose CFL models per big box store stayed the same from 2013 to 2014 at 18, and the average number of specialty CFL models in big box stores also remained stable between years. There was a decrease in non-big box stores in the average number of general purpose CFL models (from 22 per store to 19) and specialty CFLs models (from 16 to 14) between 2013 and 2014.

Figure 24
Average Number of Lamp Models by Lamp Technology and Store Category, 2013–2014



Note: 2013 big box LED n=227; general purpose CFL n=289; specialty CFL n=342; halogen n=347; incandescent n=735; 2013 non-big box LED n=139; general purpose CFL n=237; specialty CFL n=233; halogen n=324; incandescent n=812; 2014 big box LED n=327; general purpose CFL n=219; specialty CFL n=221; halogen n=248; incandescent n=614; 2014 non-big box LED n=152; general purpose CFL n=211; specialty CFL n=190; halogen n=240; incandescent n=682.

C.4 Average Shelf Prices

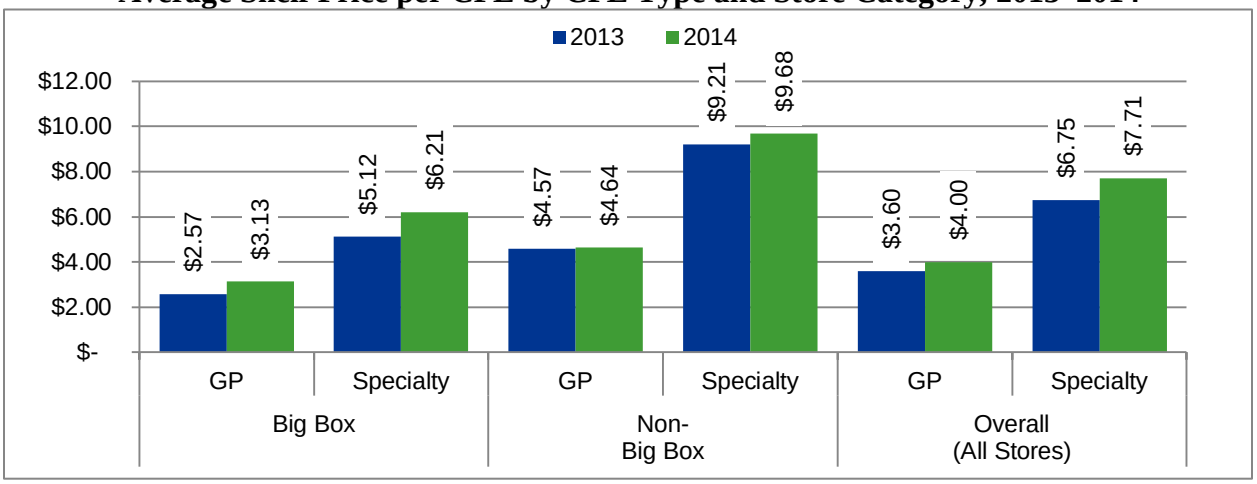
Field staff collected detailed pricing information for every lamp observed on retail store shelves, including price (before and after utility program discounts or other discounts, when applicable) and number of lamps per package. To determine the average price per lamp, analysts calculated the price per lamp for each model observed in each store and then multiplied the price by the total number of lamps observed for each model. Analysts then applied sample expansion weights to the results for each store in which field staff observed a given lamp model. The summed prices for each record in the database were then aggregated together by lamp technology (general purpose CFLs, specialty CFLs, LED lamps, incandescent lamps, and halogen lamps) and split into different store categories (i.e., big box, non-big box, and overall) and divided by the total weighted lamp count for each technology. The results of these calculations are the weighted average shelf price per lamp for retail stores in the Northwest by store category and technology.

C.4.1 Average Shelf Price per Lamp by CFL Type and Store Category, 2013–2014

This section provides details on the average shelf price for CFLs by CFL type and store category. As shown in Figure 25 below, the average price for a general purpose CFL increased by 11% between 2013 and 2014 overall (from $3.60 per lamp to $4.00). This change was driven by a 21% increase in the average price of general purpose CFLs in big box stores from $2.57 per lamp in 2013 to $3.13 per lamp in 2014. A similar trend occurred among specialty CFLs, which increased from $6.75 per lamp overall in 2013 to $7.71 in 2014 (a 14% increase). This trend was also driven mostly by big box stores, in which the average price of a specialty CFL increased by

$1.09 (from $5.12 per lamp in 2013 to $6.21 per lamp in 2014; a 21% increase). One contributor to these relatively large increases could be the state of Washington's Mercury-Containing Lights Law (RCW 70.275), which requires the recycling of mercury-containing lamps (including CFLs) and requires a $0.25 per CFL recycling fee as of January 1, 2015.[32] Another important contributor may be the shift in utility residential lighting programs away from CFLs to LED lamps described in Chapter 5 (Utility Program Manager Interviews).

Figure 25
Average Shelf Price per CFL by CFL Type and Store Category, 2013–2014



Note: 2013 big box general purpose n=39,299; 2013 big box specialty n=16,384; 2013 non-big box general purpose n=12,984; 2013 non-big box specialty n=4,131; 2013 overall general purpose n=52,283; 2013 overall specialty n=20,515; 2014 big box general purpose n=18,200; 2014 big box specialty n=8,457; 2014 non-big box general purpose n=9,435; 2014 non-big box specialty n=2,954; 2014 overall general purpose n=27,635; 2014 overall specialty n=11,411.

C.4.2 Average Shelf Price per Lamp by Technology and Store Category, 2013–2014

This section provides details on the average shelf price for lamps by technology and store category.

General Purpose Lamp Prices

Figure 26 below shows average lamp prices for medium screw base (MSB) general purpose A-lamp and spiral style lamps by technology and year.[33] As seen above in Figure 25, the average price for general purpose CFL A-lamps and spiral CFLs rose between 2013 and 2014 overall; the increase was $0.39 for spiral CFLs and $0.80 for A-lamp CFLs (a 12% increase for both lamp

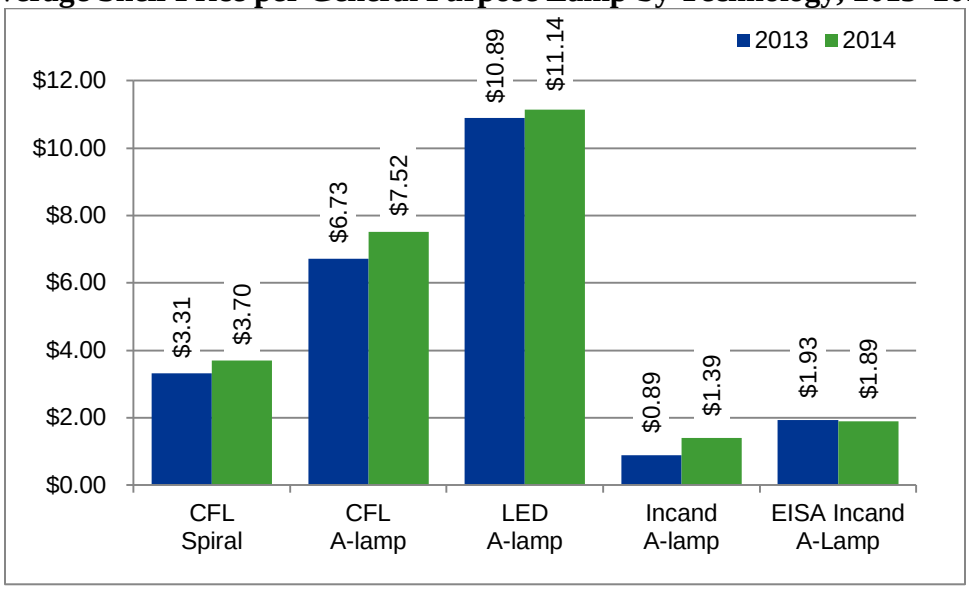
[32] See the State of Washington's Department of Ecology website on mercury lights product stewardship for further details: http://www.ecy.wa.gov/programs/SWFA/mercurylights/.

[33] The general purpose category includes the following MSB lamp styles and technologies: non-dimmable single wattage (i.e., non-3-way) spiral and A-lamp CFLs, single wattage LED A-lamps, and single wattage traditional incandescent and EISA-compliant incandescent A-lamps.

styles). The average price for LED A-lamps increased $0.25 between years (a 2% increase per lamp). This increase is likely due to the greater availability of higher lumen LED A-lamps.

The average price of a traditional incandescent lamp rose by $0.50 per lamp between 2013 and 2014 (a 56% increase), while the average price of an EISA-compliant incandescent lamp remained the same between years at about $1.90 per lamp. The lack of availability of traditional incandescent lamps may have contributed to their higher average price in 2014.

Figure 26
Average Shelf Price per General Purpose Lamp by Technology, 2013–2014



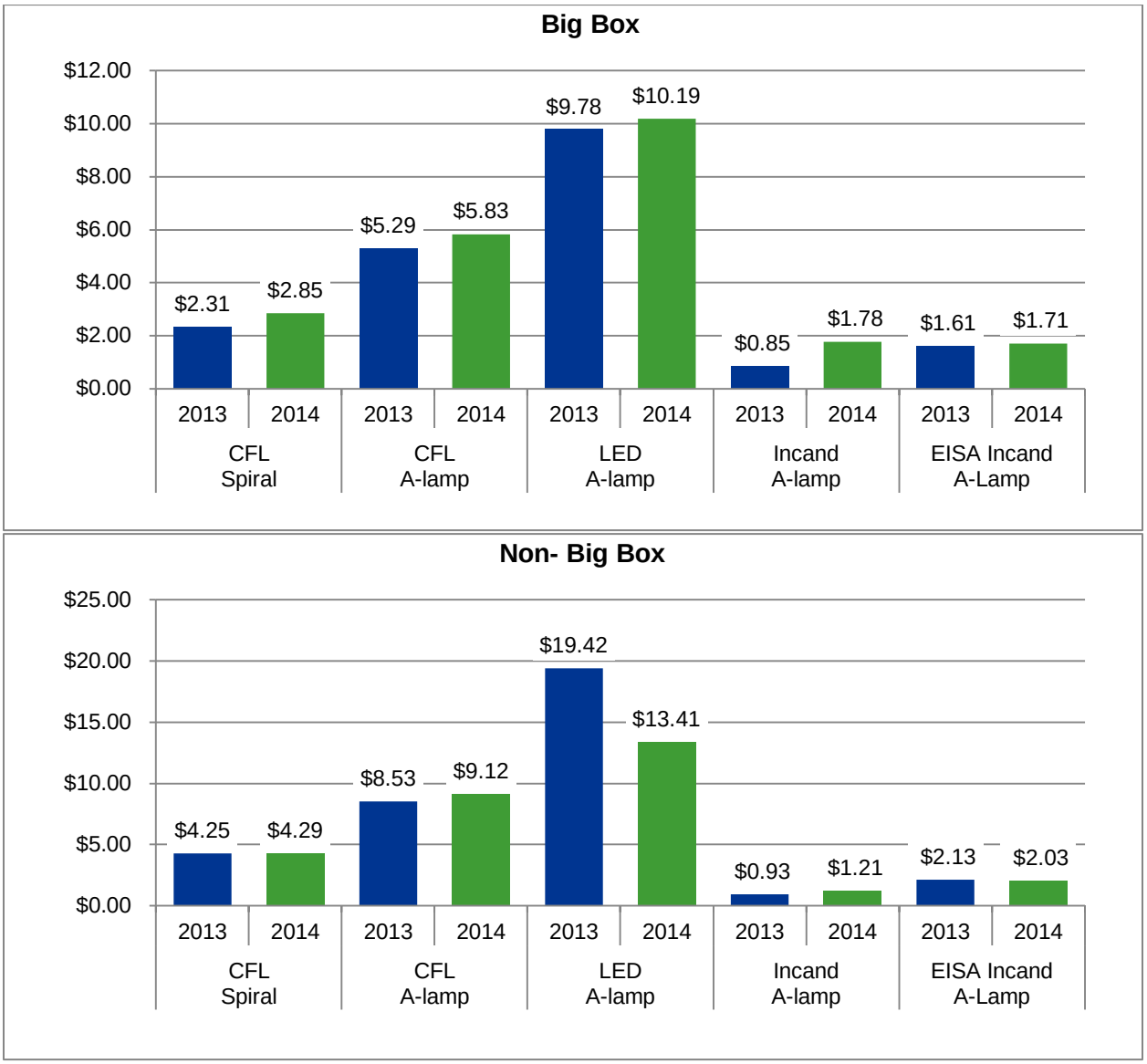
Note: 2013 spiral CFL n=51,474; A-lamp CFL n=3,358; LED n=9,669; incandescent n=43,116; EISA compliant incandsecent n=16,334; 2014 spiral CFL n=27,037; A-lamp CFL n=2,004; incandescent n=10,690; EISA compliant incandescent n=16,835.

Figure 27 below shows average lamp prices for general purpose MSB lamps by technology and store category. Average lamp prices were higher in non-big box stores than big box stores for every lamp technology except traditional incandescent lamps in 2014. In big box stores, general purpose spiral and A-lamp CFLs each increased by $0.54 between years (a 24% increase for spiral CFLs and 10% increase for A-lamp CFLs). The average price for traditional incandescent A-lamps increased by $0.92 per lamp in big box stores between 2013 and 2014 (a 108% increase), and the average price for EISA-compliant incandescent lamps increased by $0.10 between years (a 6% increase). The average price for general purpose LED A-lamps increased by $0.40 per lamp in big box stores (a 4% increase).

In non-big box stores, the average price of general purpose A-lamps increased by $0.59 per lamp between 2013 and 2014 (a 7% increase), and the average price of spiral CFLs remained about the same between years. The average price of traditional incandescent lamps increased by $0.29 per lamp in non-big box stores between years (a 31% increase), while the average price of EISA-compliant lamps dropped by $0.10 per lamp during the same timeframe (a 5% decrease). The

biggest decline in average price per lamp in non-big box stores occurred among LED A-lamps which were $6.01 lower per lamp in 2014 compared to 2013 (a 31% decrease).

Figure 27
Average Shelf Price per General Purpose Lamp by Technology and Store Category, 2013–2014

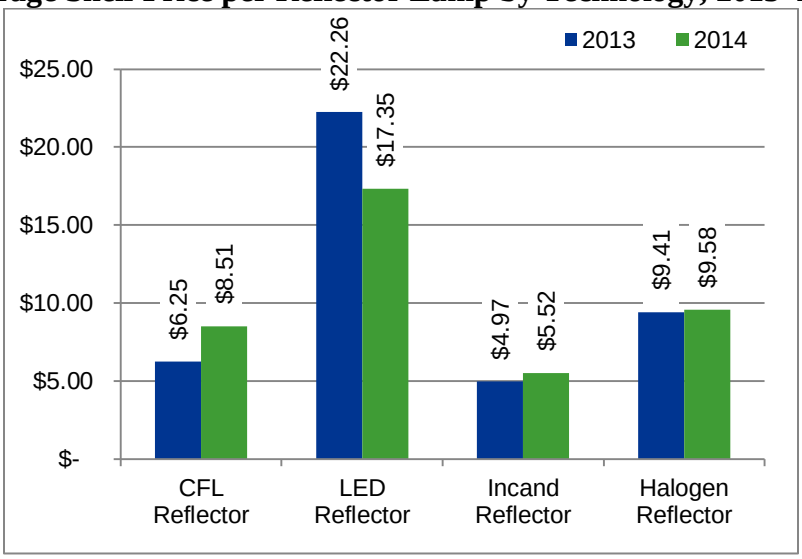


Note: 2013 big box spiral CFL n=38,548; A-lamp CFL n=2,470; LED n=9,260; incandescent n=20,491; EISA compliant incandescent n=6,819; 2013 non-big box spiral CFL n=12,926; A-lamp CFL n=888; LED n=409; incandescent n=12,188; EISA compliant incandescent n=6,052; 2014 big box spiral CFL n=17,686; A-lamp CFL n=1,338; LED n=7,373; incandescent n=5,468; EISA compliant incandescent n=10,125; 2014 non-big box spiral CFL n=9,351; A-lamp CFL n=666; LED n=1,010; incandescent n=5,222; EISA compliant incandescent n=6,710.

Reflector Lamp Prices

Figure 28 below shows average lamp prices for MSB reflector style lamps by technology and year. Across all stores in the Northwest, the average price per reflector lamp rose between 2013 and 2014 for every lamp technology except LED lamps. LED reflector lamps experienced a decline in average price of nearly $5.00 per lamp between years (a 22% decrease). Nonetheless, LED reflector lamps still had the highest average price per lamp in 2014 compared to the other three lamp technologies. The average price of reflector CFLs increased by $2.26 between years (a 36% increase), and the average price of reflector incandescent lamps rose by $0.54 during the same period (an 11% increase). There average price of halogen reflector lamps was roughly the same between 2013 and 2014.

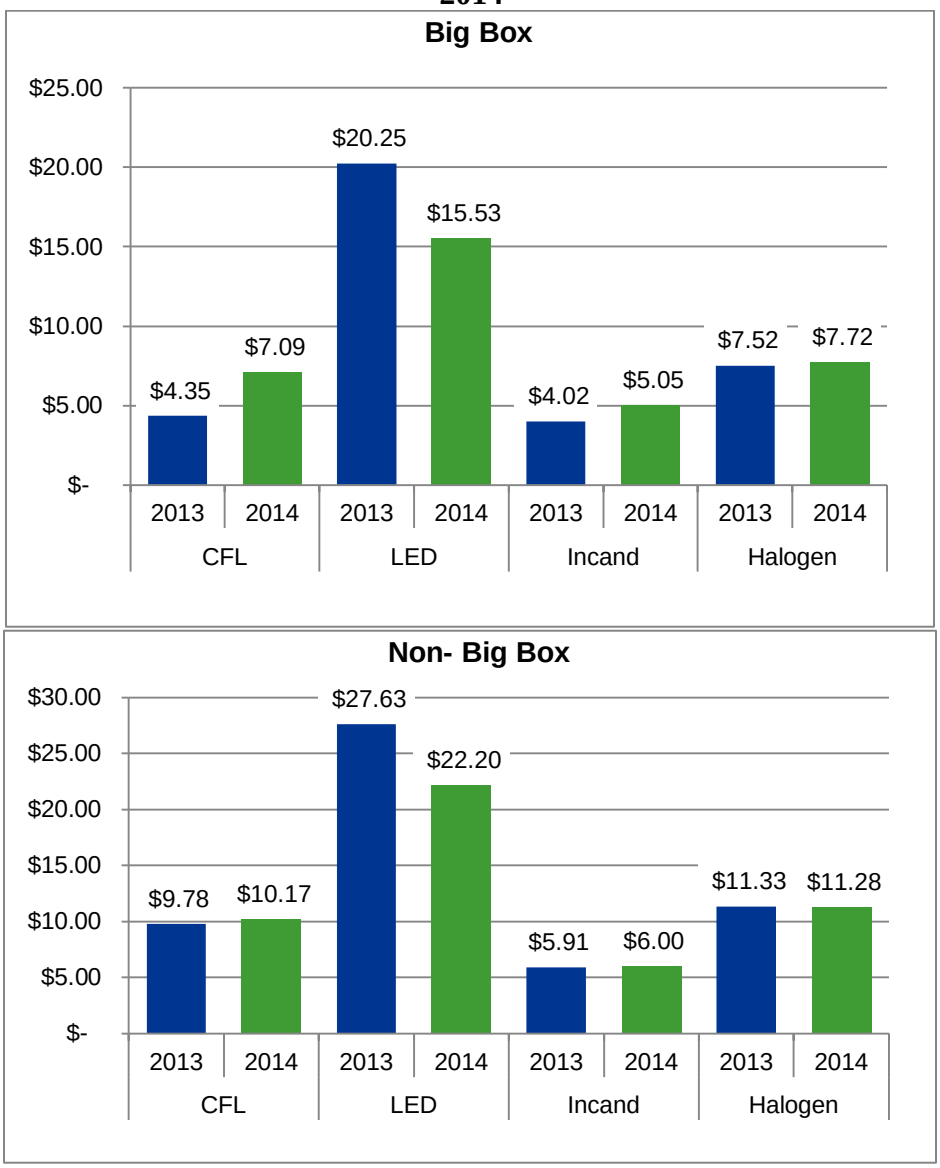
Figure 28
Average Shelf Price per Reflector Lamp by Technology, 2013–2014



Note: 2013 CFL n=8,528; LED n=6,167; incandescent n=14,448; halogen n=10,072; 2014 CFL n=3,841; LED n=6,754; incandescent n=10,941; halogen n=5,912.

Figure 29 below shows average lamp prices for MSB reflector lamps by technology and store category. The average price of reflector lamps was higher for all four technologies in non-big box stores compared to big box stores in both 2013 and 2014. The largest changes in reflector lamp prices occurred in big box stores. In big box stores, CFL reflectors increased in average price of $2.74 per lamp between years (a 63% increase), and incandescent reflector lamps increased by $1.03 per lamp during the same period (a 26% increase). The average price of halogen reflector lamps increased by $0.20 per lamp between 2013 and 2014 in big box stores (a 3% increase). LED reflector lamps, on the other hand, experienced a $4.72 decline in average price per lamp in big box stores (a 23% decrease). In non-big box stores, the average price of a CFL reflector lamp rose by $0.39 per lamp (a 4% increase), while the average price of an LED reflector lamp declined by $5.42 between years (a 20% decrease). The average price of incandescent and halogen reflector lamps in non-big box stores changed were about the same in both years.

Figure 29
Average Shelf Price per MSB Reflector Lamp by Technology and Store Category, 2013–2014



Note: 2013 big box CFL n=7,426; LED n=5,598; incandescent n=10,638; halogen n=7,318; 2013 non-big box CFL n=1,102; LED n=569; incandescent n=3,810; halogen n=2,754; 2014 big box CFL n=2,929; LED n=6,137; incandescent n=7,817; halogen n=3,882; 2014 non-big box CFL n=912; LED n=617; incandescent n=3,124; halogen n=2,030.

C.5 Linear Fluorescent Lamps

For the third consecutive year, field researchers gathered data on 4-foot T8 and T12 linear fluorescent lamps during the lighting retail store shelf surveys. T12 lamps are one and a half inches in diameter and T8 lamps are one inch in diameter, and are among the most commonly used tube fluorescent lamps in residential applications (particularly in multi-family settings). The

sections below present results on linear fluorescent lamp availability (in terms of the percentage of Northwest stores carrying these lamps and the percentage of total linear fluorescent lamps comprised by T8 and T12 lamps) and diversity (in terms of the average number of linear fluorescent lamps stocked per Northwest store).

C.5.1 Linear Fluorescent Lamp Availability

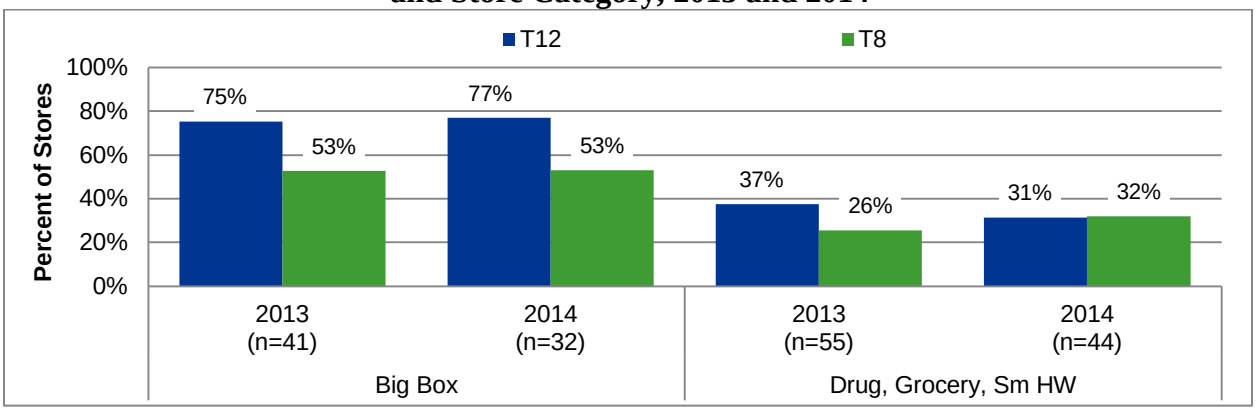
Analysts examined linear fluorescent lamp availability from the perspectives of the percentage of Northwest lighting retailers that stock these lamps as well as the percentage of total linear fluorescent lamps stocked by lamp type (T8 or T12).

Percentage of Stores Carrying Linear Fluorescent Lamps

During the 2014–2015 lighting retail store shelf surveys, field staff found T12 linear fluorescent lamps in 43% of stores in 2014 compared to 47% of stores in 2013, and T8 linear fluorescent lamps in 37% of stores in 2014 compared to 32% in 2013.

When results are examined by store category (Figure 30), the data indicate that a greater proportion of big box stores stocked linear fluorescent lamps (77% stocked T12 lamps and 53% stocked T8 lamps) than non-big box stores in 2014 (only 31% stocked T12 lamps and 32% stocked T8 lamps)**.** There was no change in the percent of big box stores that carried T12 and T8 linear fluorescent lamps between 2013 and 2014. The stocking of T12 lamps in non-big box stores declined from 37% of stores in 2013 to 31% in 2014, while the stocking of T8 lamps in non-big box stores increased during the same period (from 26% of stores in 2013 to 32% in 2014).

Figure 30
Percent of Northwest Stores Stocking Linear Fluorescent Lamps by Lamp Type and Store Category, 2013 and 2014

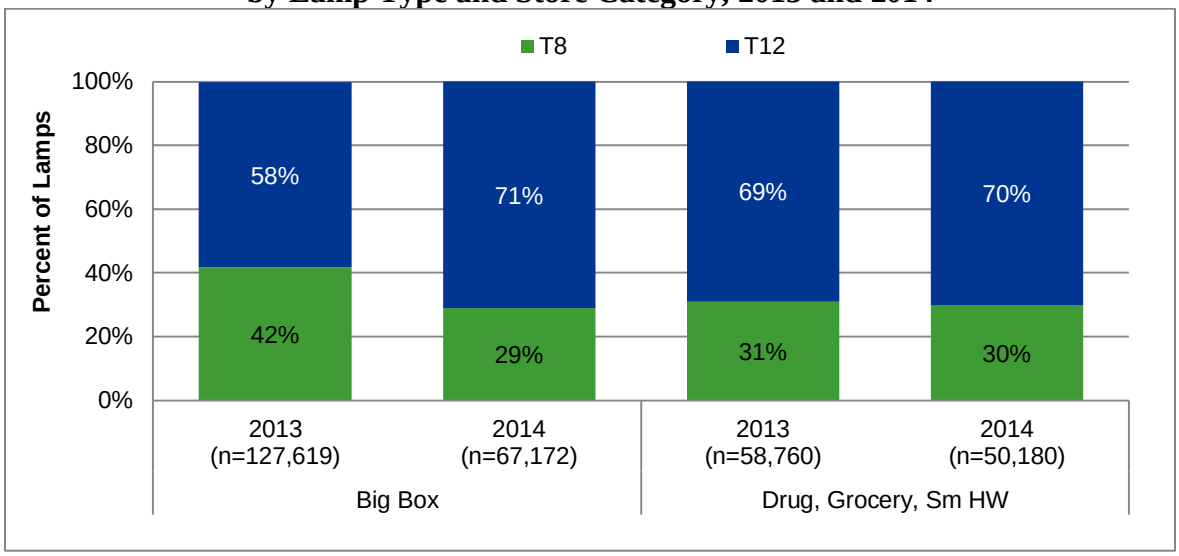


Percentage of Linear Fluorescent Lamps Stocked

Across all of the stores visited for the 2014 shelf surveys, T12 lamps comprised 71% of the 4-foot linear fluorescent lamps stocked (up from 62% in 2013) and T8 lamps comprised the remaining 29%.

Figure 31 shows that the percentage of linear fluorescent lamp stock comprised by T12 lamps in big box stores increased from 58% in 2013 to 71% in 2014. In non-big box stores, the percentage of T12 lamps was unchanged from 2013.

Figure 31
Percent of Linear Fluorescent Lamps Stocked
by Lamp Type and Store Category, 2013 and 2014



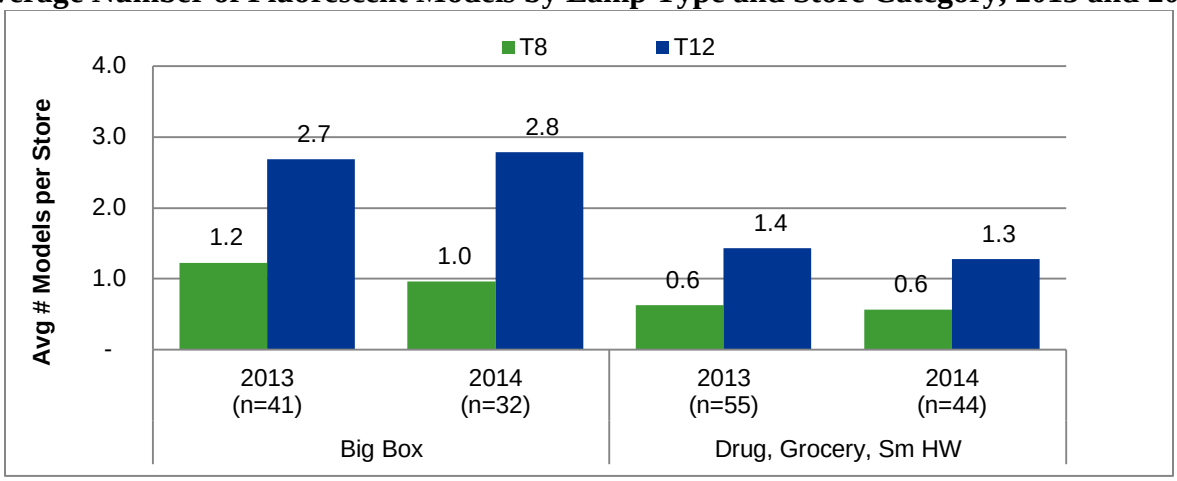
Percentages may not total 100% due to rounding.

C.5.2 Linear Fluorescent Lamp Diversity

The tables below present details on linear fluorescent lamp diversity in terms of the average number of lamp models stocked per store in 2014. Overall, on average, Northwest stores stocked 1.7 T12 lamp models and 0.7 T8 lamp models per store in 2014, unchanged from 2013 (1.7 T12 and 0.8 T8 lamp models per store).

When examined by store category, results suggest that there was more than double the number of T12 lamp models available per store in big box stores compared to non-big box stores in 2014 (2.8 and 1.3 models per store, respectively; see Figure 32). Big box stores also carried a slightly broader variety of T8 lamp models than non-big box stores, averaging 1.0 model per store in big box stores compared to only 0.6 models, on average, in non-big box stores.

Figure 32
Average Number of Fluorescent Models by Lamp Type and Store Category, 2013 and 2014



Note: 2013 big box T8 n=26; 2013 big box T12 n=43; 2013 non-big box T8 n=19; 2013 non-big box T12 n=41; 2014 big box T8 n=12; 2014 big box T12 n=21; 2014 non-big box T8 n=8; 2014 non-big box T12 n=14.

C.6 Promotional Materials

During the 2014 shelf survey visits (conducted in late 2014/early 2015), field researchers gathered details on promotional materials or displays regarding replacement lamps. These data enable summarization of promotional materials by the type of lamp promoted and store category. The shelf surveys also provide information regarding the types and positioning of promotional materials in Northwest retail store as well as the types of messages included on the materials. The report provides more details on these topics below.

C.6.1 Promotional Material Types

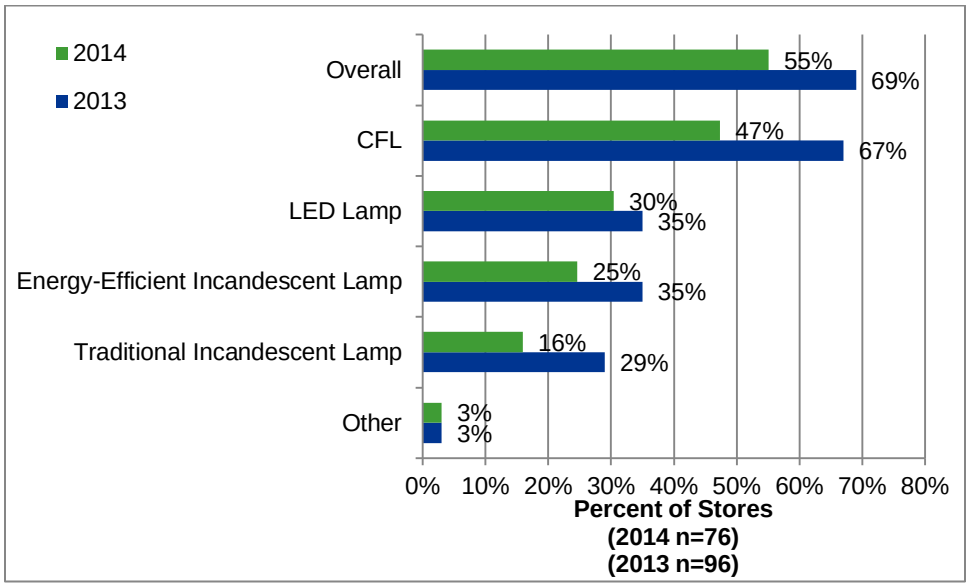
During the 2014 shelf survey visits, 55% of stores had one or more materials in the store related to replacement lamps, down from 69% of stores in 2013. In all of the stores that had one or more promotional materials in 2014, at least one of these materials included signs placed on shelving or on a wall in the store. Only two percent of stores had signs about replacement lamps hanging from the ceiling in 2014 (compared to 4% of stores in 2013). There were no floor stickers or brochures observed in stores during the 2014 shelf surveys (there were also no floor stickers in 2013).

C.6.2 Technologies Promoted

As mentioned above, 55% of the stores visited in 2014 had promotional materials on display regarding replacement lamps Figure 33). There was a decrease in the percentages of stores displaying promotional materials across all 4 lamp technologies (CFLs, LED, EISA-compliant incandescent lamps, and traditional incandescent lamps) between 2013 and 2014. Nearly half of the stores had promotional materials that focused on CFLs in 2014 (47%) compared to two-thirds

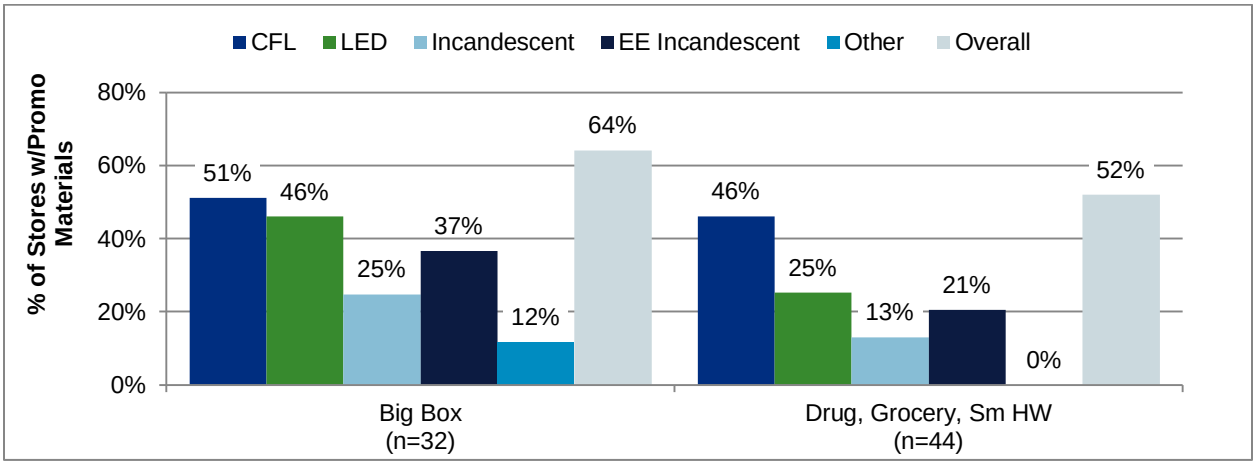
of stores in 2013 (69%). Thirty percent of stores displayed materials on LED lamps in 2014 compared to 35% in 2013. One-quarter of stores displayed materials regarding EISA-compliant incandescent lamps in 2014 compared to over a third in 2013 (35%). In 2014, only 16% of stores had promotional materials focusing on traditional incandescent lamps, down from 29% in 2013. Three percent of stores in both 2014 and 2013 had displays regarding multiple lamp technologies.

Figure 33
Percent of Stores with Lighting Promotional Materials by Type of Lamp Promoted, 2013 and 2014



A higher proportion of big box stores displayed lighting promotional materials in 2014 than non-big box stores (64% versus 52%, respectively; see Figure 34). More than half of the big box stores and nearly half of the non-big box stores displayed promotional materials about CFLs in 2014 (51% and 46%, respectively). Nearly half of big box stores had materials regarding LED lamps (46%) compared to one-fourth of non-big box stores (25%). More than one-third of big box stores had promotional materials regarding EISA-compliant incandescent lamps (37%), compared to approximately one-fifth of non-big box stores (21%).

Figure 34
Percent of Stores with Lighting Promotional Materials by Lamp Type and Store Category, 2014



C.6.3 Positioning of Materials in Stores

Nearly all of the stores that displayed promotional materials in 2014 had materials displayed in the lighting aisle (98% of stores with promotional materials). Fourteen percent of stores displaying promotional materials also had materials regarding replacement lamps positioned on end-caps, while only 2% of stores had promotional materials regarding replacement lamps positioned near the cash registers in the store. Promotional materials located in the lighting aisle focused mostly on CFLs and LED lamps (88% and 77% of stores with promotional materials, respectively). However, in many stores, there were also promotional materials located in the lighting aisle that promoted EISA-compliant incandescent and traditional incandescent lamps (51% and 35% of stores, respectively). Signage on end-caps focused almost exclusively on LED lamps (10% of stores with promotional materials focused on LED lamps compared to 2% of stores with promotional materials that focused on CFLs), and materials positioned near the cash registers were exclusive to LED lamps (2% of stores with promotional materials).

C.6.4 Key Messages

The most common message on the promotional materials present in Northwest lighting retail stores at the time of the 2014 retail shelf surveys related to specific utility programs (such as the Simple Steps, Simple Savings program sponsored by the BPA). In both 2013 and 2014, approximately 35% of stores displayed materials with messaging related to a utility program. The second most prevalent message on in-store promotional materials was an informational comparison between technologies, which was found in one-quarter of stores in 2014 (compared to only 9% of stores in 2013). Another common message was energy and/or money savings; researchers found promotional materials emphasizing these messages in 23% of the stores (compared to 28% of stores in 2013).

Many promotional displays included multiple messages—for example, a display on LED lamps described them as “the most efficient bulb available,” they “cost less to operate,” and have “the longest bulb life available.” Additional messages related to the following topics or themes (each present in less than 15% of retail stores in 2014 shelf):

- Lamp selection
- Length of life
- Low price or sale
- Brightness
- Light color
- Specific lamp manufacturer
- Comparing lumens to watts
- Lamp shape
- Energy Star

APPENDIX D – DETAILED CONSUMER TELEPHONE SURVEY RESULTS

Below, we provide additional detail on results from the consumer telephone surveys conducted in February and March of 2015, and (where applicable) in prior study phases.

D.1 Sample Expansion Weights

Table 22 below shows the sample expansion average weights used for the 2015 consumer surveys.[34]

Table 22
2014 Consumer Survey Sample Expansion Average Weights

State	Rural	Urban
Idaho	3,915	17,241
Montana	4,670	11,903
Oregon	3,773	19,443
Washington	2,555	18,915

D.2 CFL, LED, and EISA-compliant Lamp Technologies

In this section, we review consumer awareness and purchase rates for CFLs, LED lamps, and EISA-compliant incandescent lamps (i.e., those that comply with the minimum efficacy standards set forth in EISA) as well as the quantity of lamps purchased. We conclude with the results of a key driver analysis, which helps explain consumer lamp purchasing decisions.

D.2.1 Lamp Awareness and Purchases

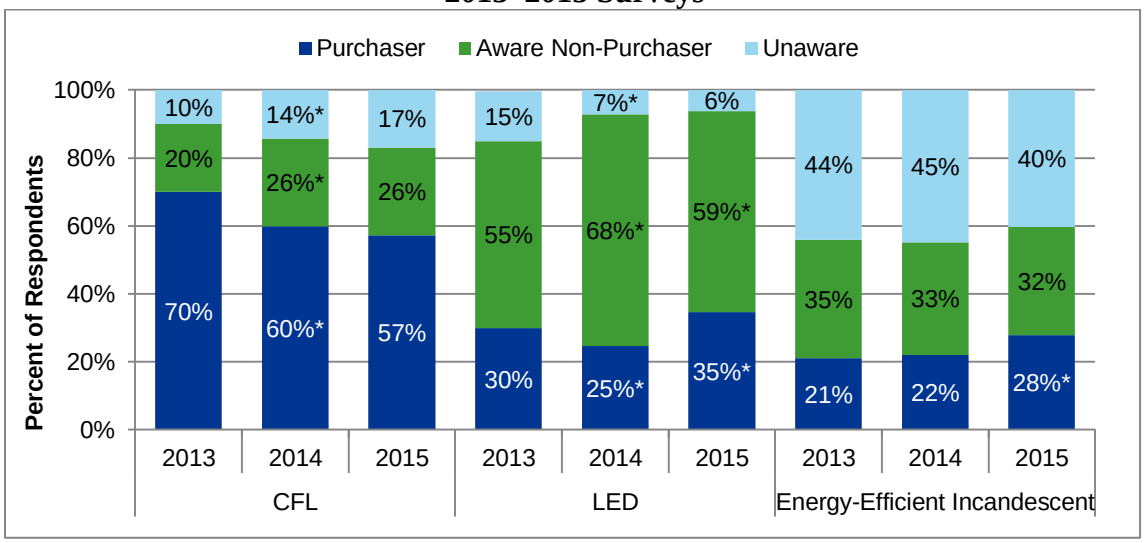
Figure 35 compares results from the 2013, 2014, and 2015 consumer telephone surveys regarding the percentage of respondents who were aware and unaware of each of the three lamp technologies described above (CFLs, LED lamps, and EISA-compliant incandescent lamps). The figure further segments consumers who were aware of CFLs into purchasers and aware non-purchasers for each lamp technology.

As shown, the share of consumers who had purchased LED lamps increased by 10 percentage points (from 25% to 35%) and the share of consumers who had purchased energy-efficient incandescent lamps increased by 6 percentage points between 2014 and 2015 (from 22% to 28%). There were no changes in CFL awareness and the share of consumers who reported having purchased CFLs between 2014 and 2015 and at the same time, awareness of LED lamps and energy-efficient incandescent lamps held steady at roughly 95% and 60% of consumers, respectively.

[34] The consumer survey dataset has a comprehensive set of sample expansion weights.

A significantly larger percentage of rural consumers were aware of CFLs but had never purchased them than urban consumers (34% versus 21%), but there were no significant differences between rural and urban consumers regarding awareness and purchase of LED lamps or energy-efficient incandescent lamps.

Figure 35
Awareness and Purchase of CFLs, LEDs, and EISA-compliant Incandescent Lamps, 2013–2015 Surveys



2013 n=667; 2014 n=1,007; 2015 n=995.
Note: Percentages may not total 100% due to rounding.
* Difference from prior study period is statistically significant.

D.2.2 Purchase Quantities

The 2013, 2014, and 2015 consumer telephone surveys addressed purchases of each of the three lamp types included above (CFLs, LED lamps, and EISA-compliant incandescent lamps) as well as traditional incandescent lamps that do not comply with EISA standards. The surveys asked about purchases that occurred during the previous year—the 2015 survey asked respondents about purchases made in 2014, for example. Table 23 shows the average number of lamps purchased by survey respondents in 2012, 2013, and 2014 by technology averaged across the population (purchasers and non-purchasers). The table also includes details by CFL type (general purpose and specialty lamps).

Across all technologies, the data suggest that Northwest consumers purchased between 10 and 11 lamps, on average, in 2012, 2013, and 2014. In 2012 and 2013, traditional incandescent lamps comprised approximately half of all lamps purchased in each year. In 2014, however, the share comprised by traditional incandescent lamps dropped significantly to just over one-third of all lamps purchased (from 46% of lamps purchased in 2013 to 35% in 2014). The share of purchased

lamps comprised by LED lamps increased significantly between 2013 and 2014 purchases (from 15% of 24% of lamps). Despite these changes, however, traditional incandescent lamps still comprised the largest quantity and largest share of all lamps purchased in 2014 (3.6 lamps, on average). Results also suggest that in 2014, Northwest consumers purchased similar quantities of general purpose CFLs and LED lamps (2.4 and 2.5 lamps per consumer, on average), with each comprising roughly one-quarter of all lamps purchased in 2014.

Consumers in Washington purchased significantly more CFLs, on average, than consumers in other states (approximately 3.1 per consumer in Washington versus 2.4 or fewer per consumer in other states). There were no other statistically significant differences in the quantities of lamps purchased by consumers in 2014 by state or geographic sector (urban versus rural). Not surprisingly, CFL purchasers reported purchasing a greater number of LED lamps in 2014, on average, than consumers who were aware of but had never purchased CFLs (3.4 LED lamps versus 1.7).

Table 23
Average Number and Percent of Total Lamps Purchased in 2012, 2013 and 2014 by Lamp Type Among All Respondents, 2013–2015 Surveys

Lamp Type	2012 Purchases		2013 Purchases		2014 Purchases	
	Avg. # of Lamps	Percent of Lamps	Avg. # of Lamps	Percent of Lamps	Avg. # of Lamps	Percent of Lamps
General Purpose CFLs	2.8	27%	2.6	25%	2.4	23%
Specialty CFLs	0.1	1%	0.1	1%	0.1	1%
Traditional Incandescent Lamps	5.4	52%	4.9	46%	3.6	35%*
EISA-compliant incandescent Lamps	0.6	6%	1.4*	13%	1.7	16%
LED Lamps	1.4	14%	1.6	15%	2.5	24%*
All Lamps	**10.4**	100%	**10.5**	100%	**10.3**	100%

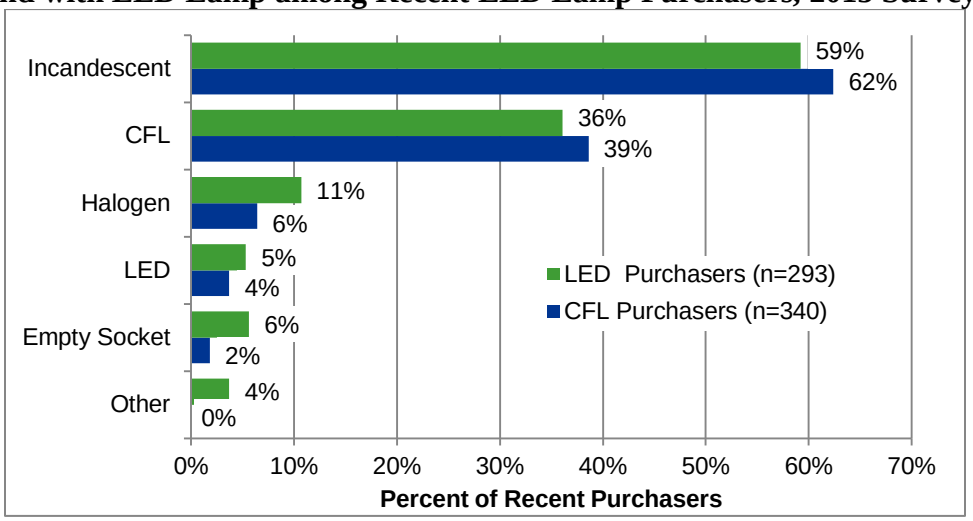
Note: Percentages may not total 100% due to rounding.
* Difference from prior study period is statistically significant.

D.2.3 Lamp Installations

The 2015 consumer telephone surveys included new questions to identify the types of lamps replaced with recently-purchased CFLs (among CFL purchasers) and LED lamps (among LED lamp purchasers). As shown in Figure 36 below, the majority of CFL and LED lamp purchasers reported that they replaced incandescent lamps with their recently-purchased lamps (roughly 60% of both CFL and LED lamp purchasers). Interestingly, the percentage of CFL and LED lamp purchasers who reported that they replaced CFLs with their recently-purchased lamps was similar (39% and 36%, respectively). There were no statistically significant differences in the types of lamps replaced by CFL purchasers versus LED lamp purchasers. When examining results by state and geographic sector (urban versus rural), the only difference was in the percentage of

LED lamp purchasers who replaced "other" lamp types in rural versus urban areas (19% versus 3%, respectively).[35]

Figure 36
Type of Lamp Replaced with CFL among Recent CFL Purchasers and with LED Lamp among Recent LED Lamp Purchasers, 2015 Surveys



Note: Percentages may not total 100% due to rounding.

D.3 CFLs

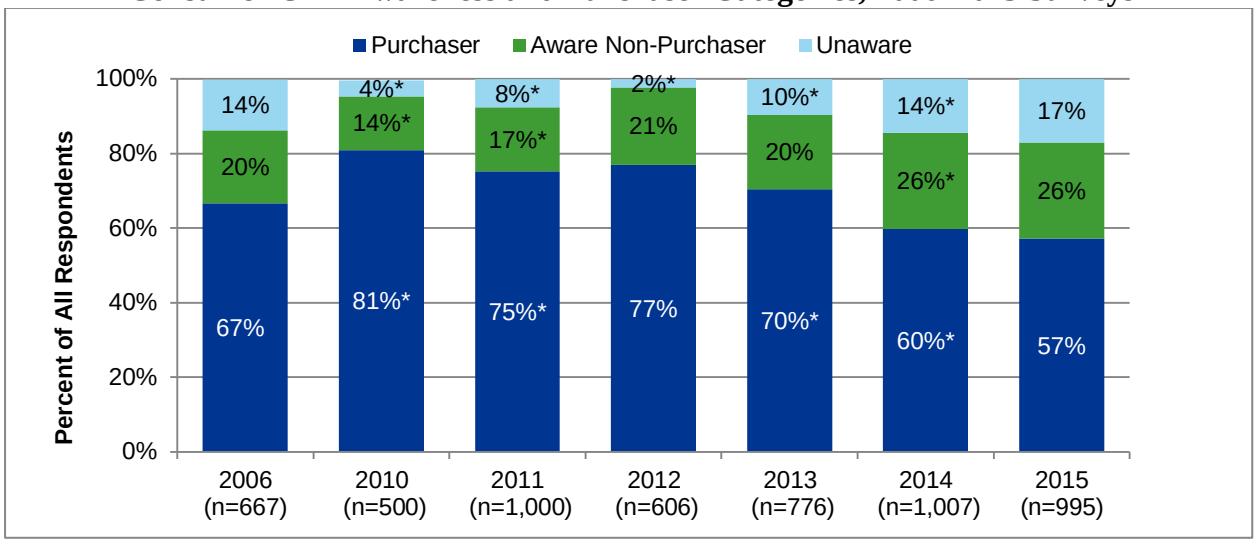
This section reviews results for CFLs in particular, beginning with awareness and purchase rates, then discusses CFL disposition among Northwest households, awareness and use of specialty CFLs, CFL purchase locations, satisfaction with CFLs, the likelihood of future CFL purchases, and CFL-to-CFL replacement.

D.3.1 CFL Awareness and Purchases

The consumer surveys have included questions regarding awareness and purchase of CFLs since 2006. Figure 37 below shows the percentage of survey respondents in each of the seven survey years who were unaware of CFLs and aware of CFLs, with the latter split into consumers who were aware but had not purchased CFLs at the time of the survey and those who had purchased CFLs at the time of the survey. During the 2015 surveys, approximately 3 out of 5 consumers reported having purchased CFLs. Approximately one in four consumers were aware non-purchasers, and just over half as many were unaware of CFLs. These results are statistically unchanged from 2014 survey results.

[35] The "other" lamp types in question are unclear, but it is worth noting that despite the statistically significant difference in these percentages, the number of respondents underlying each percentage is fairly small. Please refer to the consumer survey banner tables in Appendix H for more detail.

Figure 37
Consumer CFL Awareness and Purchaser Categories, 2006–2015 Surveys



Note: Percentages may not total 100% due to rounding.
* Difference from prior study period is statistically significant.

D.3.2 CFL Disposition

Among 2015 survey respondents, 87% of CFL purchasers reported that they had CFLs installed in their homes at the time of the survey, unchanged from 2014 survey results (85%) and 65 percent reported that they were storing one or more CFLs for future use, also unchanged from 2014 survey results (63%). Twenty-four percent of CFL purchasers in the 2015 survey reported that they had one or more CFLs that they installed and later removed, also unchanged from 2014 survey results (24%).

After identifying consumers who installed, stored, and/or removed CFLs, interviewers asked questions regarding the quantities of CFLs installed, removed, and in storage across the population of Northwest consumers. Table 24 shows that the total number of CFLs ever acquired remained approximately the same between 2014 and 2015 at just over 8 lamps per respondent, on average. In both years, respondents reported an average of 5 CFLs installed per household, with approximately 2.4 in storage and 0.9 installed but then later removed. The data suggest little difference between survey years in the proportion of CFLs installed, removed, and stored from 2012 through 2015—in each year, more than half of all CFLs ever acquired by purchasers were installed at the time of the surveys.

In terms of geography, consumers in urban areas had a significantly greater number of CFLs installed, on average, than consumers in rural areas (approximately 5.2 versus 3.9 CFLs). Urban consumers also installed and later removed significantly more CFLs than rural consumers (1.0 versus 0.3). Consumers in Washington had significantly more CFLs installed, on average, compared to consumers in Idaho and Oregon (5.9 in Washington versus 4.0 in Idaho and 4.2 in

Oregon). There were no statistically significant differences in the quantities of CFLs stored within each state or by geographic sector in the 2015 survey results.

Table 24
Disposition of All CFLs Ever Acquired Among All Respondents, 2012–2015 Surveys

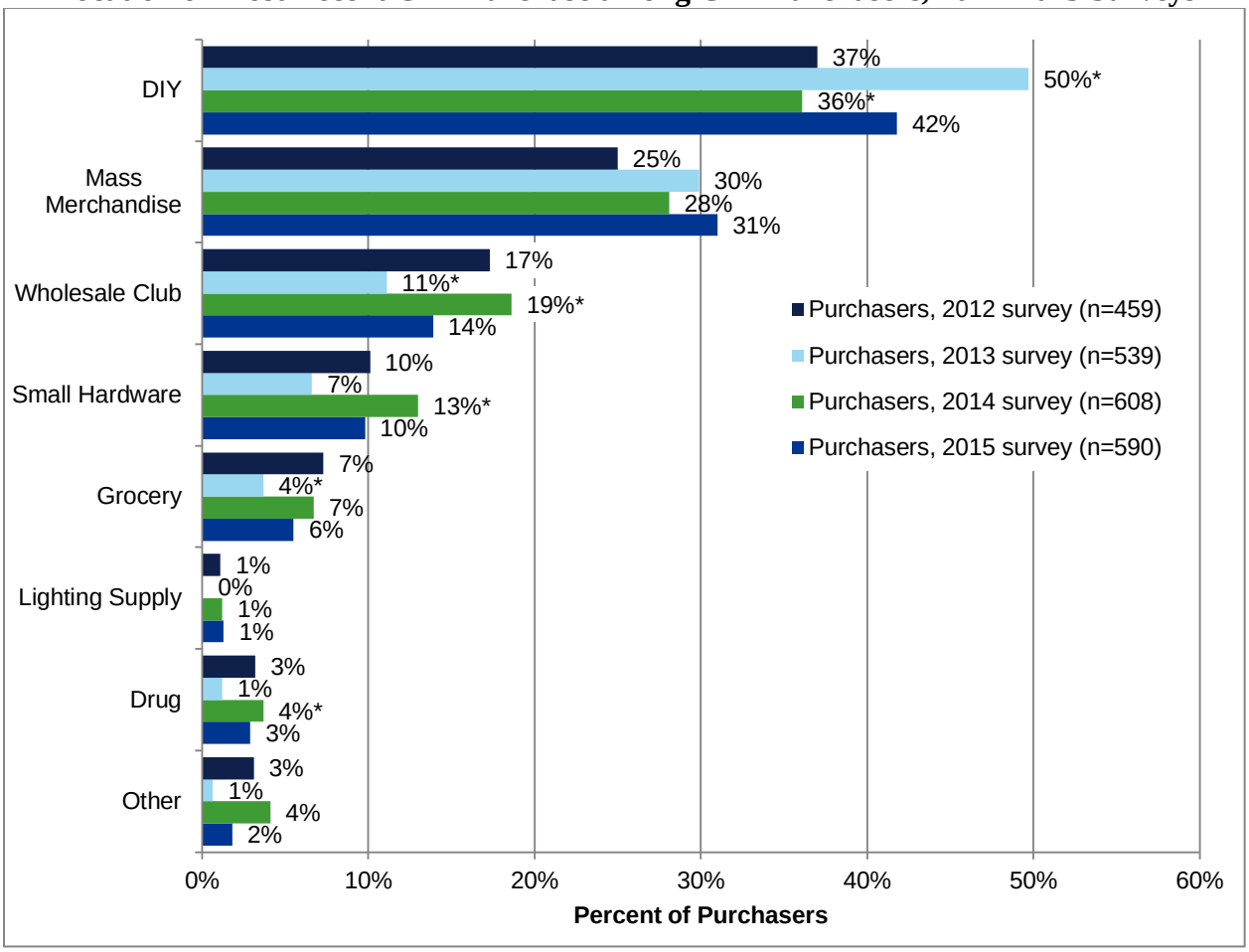
CFL Disposition	2012 Respondents (n=606)		2013 Respondents (n=776)		2014 Respondents (n=1,007)		2015 Respondents (n=995)	
	Mean # CFLs	% of CFLs	Mean # CFLs	% of CFLs	Mean # CFLs	% of CFLs	Mean # CFLs	% of CFLs
CFLs currently installed	7.0	64%	6.9	69%	5.0*	61%	5.0	60%
CFLs ever removed	0.6	6%	0.5	5%	0.7	8%	0.9	11%
CFLs currently stored	3.3	30%	2.7	26%	2.5	31%	2.4	29%
All CFLs Ever Acquired	**10.9**	**100%**	**10.1**	**100%**	**8.2**	**100%**	**8.3**	**100%**

* Difference from prior study period is statistically significant.

D.3.3 CFL Purchase Locations

For the past several years, the consumer telephone survey has included questions to gauge the types of stores in which CFL purchasers purchased CFLs most recently. Results suggest that CFLs purchased by 2015 survey respondents were mostly concentrated in the DIY and mass merchandise channels, with more than three out of five purchasers having reportedly purchased CFLs in these channels most recently (Figure 38). There were no statistically significant differences between CFL purchasing locations in 2014 and 2015 at the regional level. The only significant difference by state or geographic sector (urban versus rural) in the 2015 survey results was that a significantly greater proportion of consumers in Washington reported having recently purchased CFLs in membership clubs than consumers in Montana (17% versus 5%, respectively), likely a result of the higher concentration of these stores in Washington.

Figure 38
Location of Most Recent CFL Purchase among CFL Purchasers, 2012–2015 Surveys



Note: Percentages may not total 100%, since respondents were allowed to cite more than one recent purchase location.
*Difference from prior study period is statistically significant.

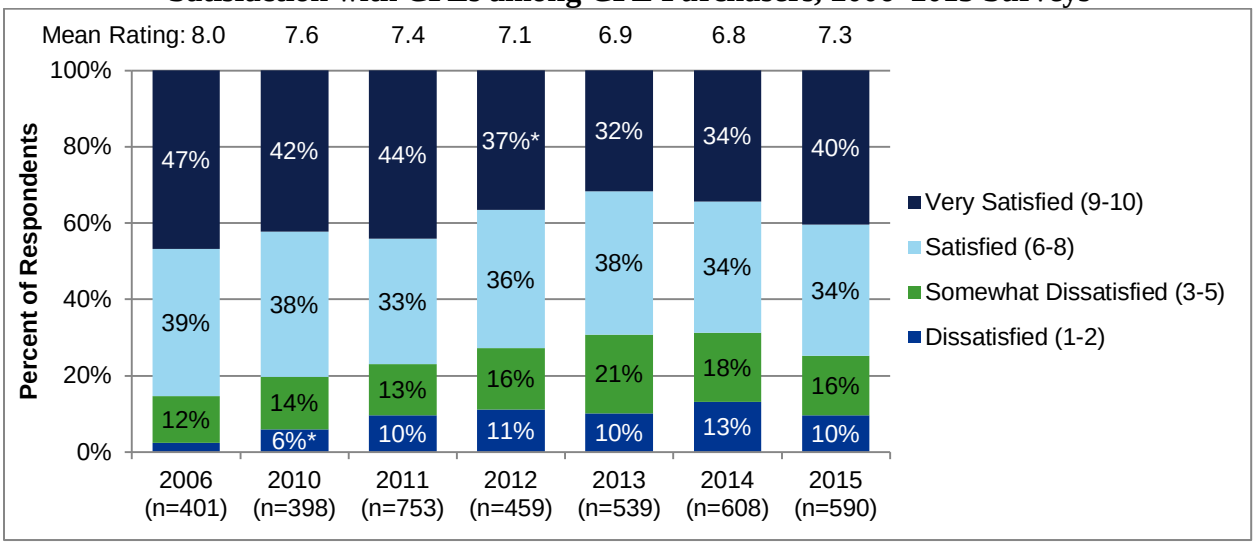
D.3.4 Satisfaction with CFLs

The consumer telephone surveys address consumer satisfaction with CFLs from a number of perspectives: overall satisfaction, consumer impressions of the best and worst features of CFLs, and consumer agreement or disagreement with statements regarding CFL attributes. The following subsections provide details regarding these results.

Overall Satisfaction. The consumer telephone surveys ask respondents to rate their satisfaction with CFLs on a scale of 1 to 10 where 1 means, "not at all satisfied" and 10 means, "very satisfied." Figure 5 shows the results grouped into four categories: respondents who are very satisfied (ratings of 9 or 10), respondents who are satisfied (ratings of 6 to 8), those who are somewhat dissatisfied (ratings of 3 to 5), and those who are dissatisfied (ratings of 1 or 2). As

shown in Figure 39, approximately two-thirds of CFL purchasers who responded to the 2015 survey were either "satisfied" or "very satisfied" with CFLs. There were no statistically significant changes in consumer satisfaction with CFLs between the 2014 and 2015 survey results. There were also no statistically significant differences in the 2015 survey results regarding consumer satisfaction with CFLs between urban and rural areas or by state.

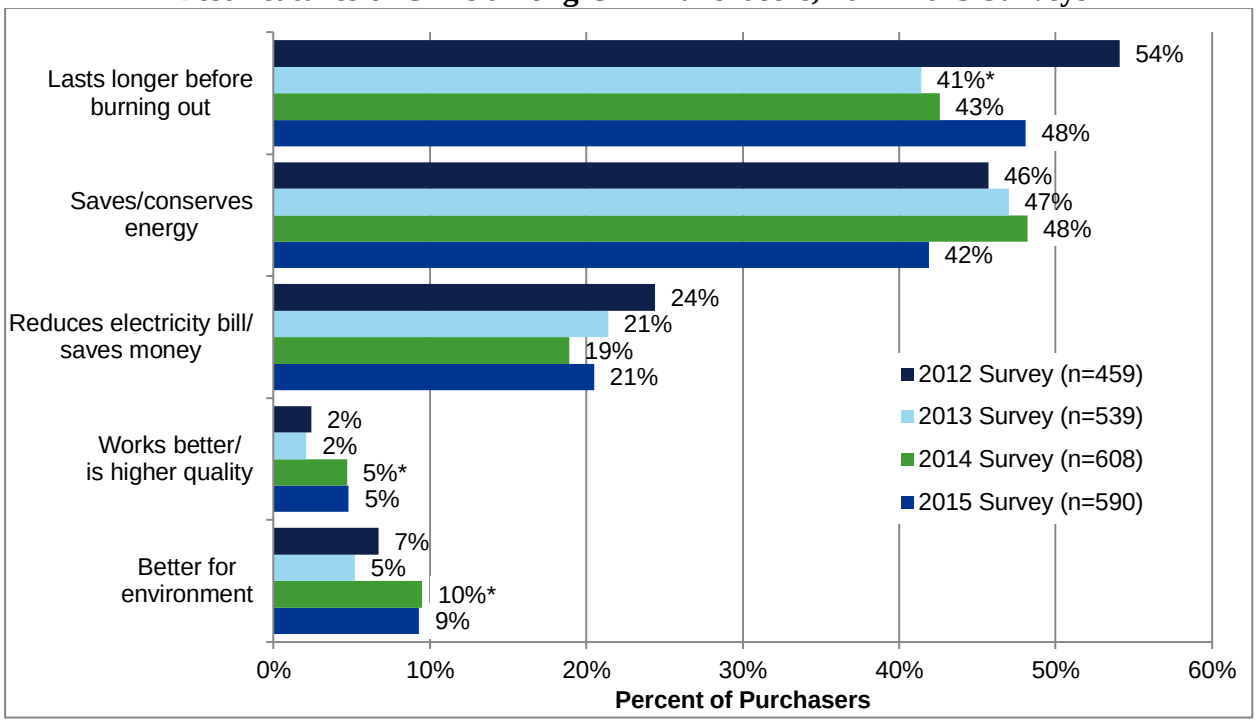
Figure 39
Satisfaction with CFLs among CFL Purchasers, 2006–2015 Surveys



Note: Percentages may not total 100% due to rounding.
* Difference from prior study period is statistically significant.

Best Features of CFLs. The most recent phases of consumer telephone surveys have asked respondents to describe the best features of CFLs. There were no statistically significant differences in survey results between 2014 and 2015 (Figure 40). Approximately half of CFL purchasers cited the length of life for CFLs as their best features and a similar proportion cited the energy savings associated with CFLs (48% and 42%, respectively, according to 2015 survey results). Approximately half as many CFL purchasers cited reducing their electricity bill/saving money as CFLs' best feature (21% in 2015). A significantly greater proportion of urban CFL purchasers cited energy savings as CFLs' best feature compared to rural purchasers (48% versus 23%). There were no other statistically significant differences in results by geography.

Figure 40
Best Features of CFLs among CFL Purchasers, 2012–2015 Surveys

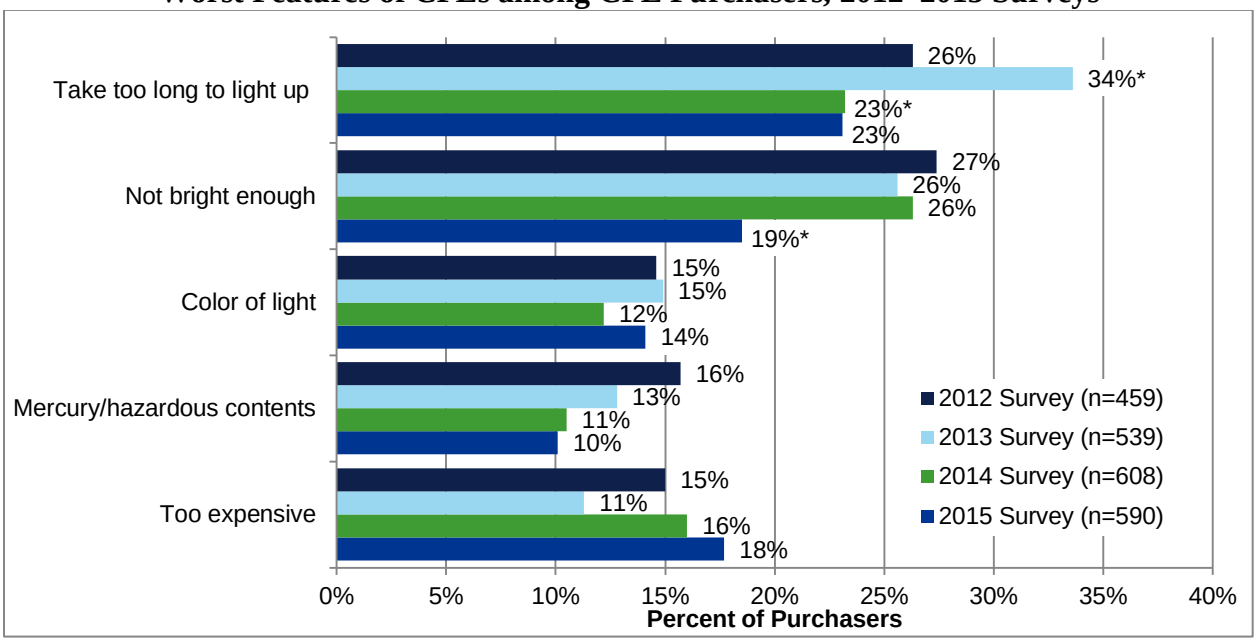


Note: Multiple responses allowed; percentages may not total 100%.
* Difference from prior study period is statistically significant.

Worst Features of CFLs. The consumer surveys also included questions to gauge CFL purchaser impressions of the *worst* features of CFLs among CFL purchasers. As shown in Figure 41, roughly one-quarter of CFL purchasers reported that the long start-up time for CFLs was their worst feature in 2015 (23%), unchanged from 2014 survey results (also 23%). Approximately one-fifth of purchasers reported that the lack of brightness in CFLs was their worst feature (19%), a significantly smaller proportion of CFL purchasers than in 2014 (26%). Ten percent of purchasers or more cited the color of light, mercury or hazardous contents, and/or the high price of CFLs as their worst features.

Significantly greater proportions of urban CFL purchasers cited CFLs' start-up time and color of light as the worst features compared to rural purchasers. Twenty-four percent of urban purchasers mentioned the start-up time as one of the worst features of CFLs compared to only 11% of rural purchasers, and 15% of urban purchasers mentioned the color of light from CFLs compared to 7% of rural purchasers. There were no other significant differences in CFL purchasers' perceptions of the worst features of CFLs between urban and rural CFL purchasers in 2015.

Figure 41
Worst Features of CFLs among CFL Purchasers, 2012–2015 Surveys



Note: Multiple responses allowed; percentages may not total 100%.
* Difference from prior study period is statistically significant.

Perceptions of CFL Attributes. To gauge CFL purchaser perspectives on specific CFL attributes, the 2013, 2014, and 2015 surveys included seven statements regarding CFLs with which interviewers asked respondents to either agree or disagree. As shown below, purchasers' level of agreement was strongest with the statement "CFLs are not suitable for use in all of the rooms in my home," with just under 60% of CFL purchasers agreeing with this statement in all 3 survey years (Figure 42). Nearly 40% of purchasers agreed that "CFLs take too long to light up" in 2015, statistically unchanged from 2013 and 2014 survey results. The only statistically significant differences between 2014 and 2015 survey results across the region were that smaller proportions of purchasers agreed that "CFLs are not bright enough" and/or that "CFLs don't come in the shapes that I need" in 2015 than 2014. For the latter statement, the 2015 survey results represent a reversal of the significant increase in agreement between 2013 and 2014.

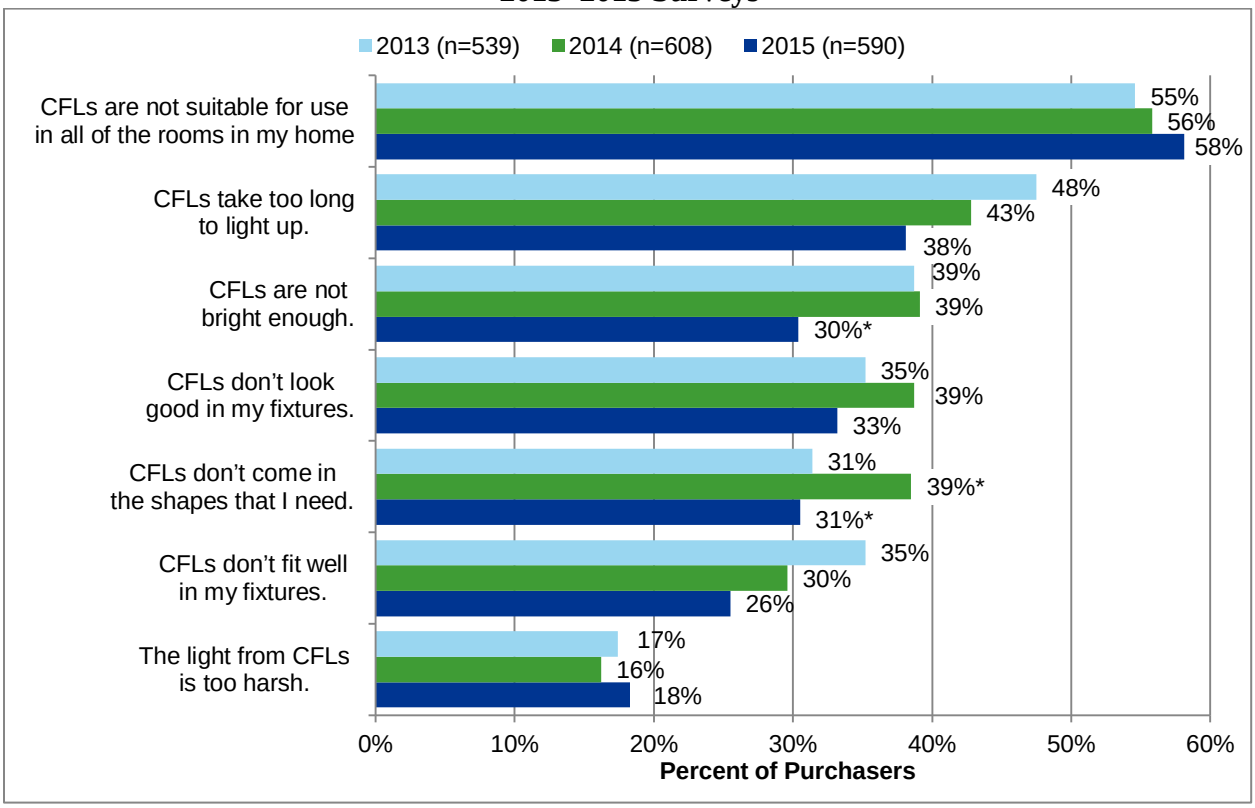
There were several statistically significant differences in results between urban and rural areas. In one case, urban purchasers had a less favorable impression of CFLs than rural purchasers—20% of urban purchasers agreed that "the light from CFLs is too harsh" compared to only 10% of rural purchasers. In three cases, urban purchasers had more favorable impressions of CFLs than rural purchasers:

- 25% of urban purchasers agreed that "CFLs don't fit well in my fixtures" compared with 40% of purchasers in rural areas;
- 33% of urban purchasers agreed that "CFLs don't look good in my fixtures" compared to 48% of rural purchasers; and

- 30% of urban purchasers agreed that "CFLs don't come in the shapes that I need" compared with 51% of rural purchasers.

By state, the most striking difference in results was regarding the statement that "CFLs take too long to light up:" 56% of CFL purchasers in Idaho agreed with the statement compared to only 35 to 38% of purchasers in the other Northwest states.

Figure 42
Level of Agreement with Statements Regarding CFLs among CFL Purchasers, 2013–2015 Surveys

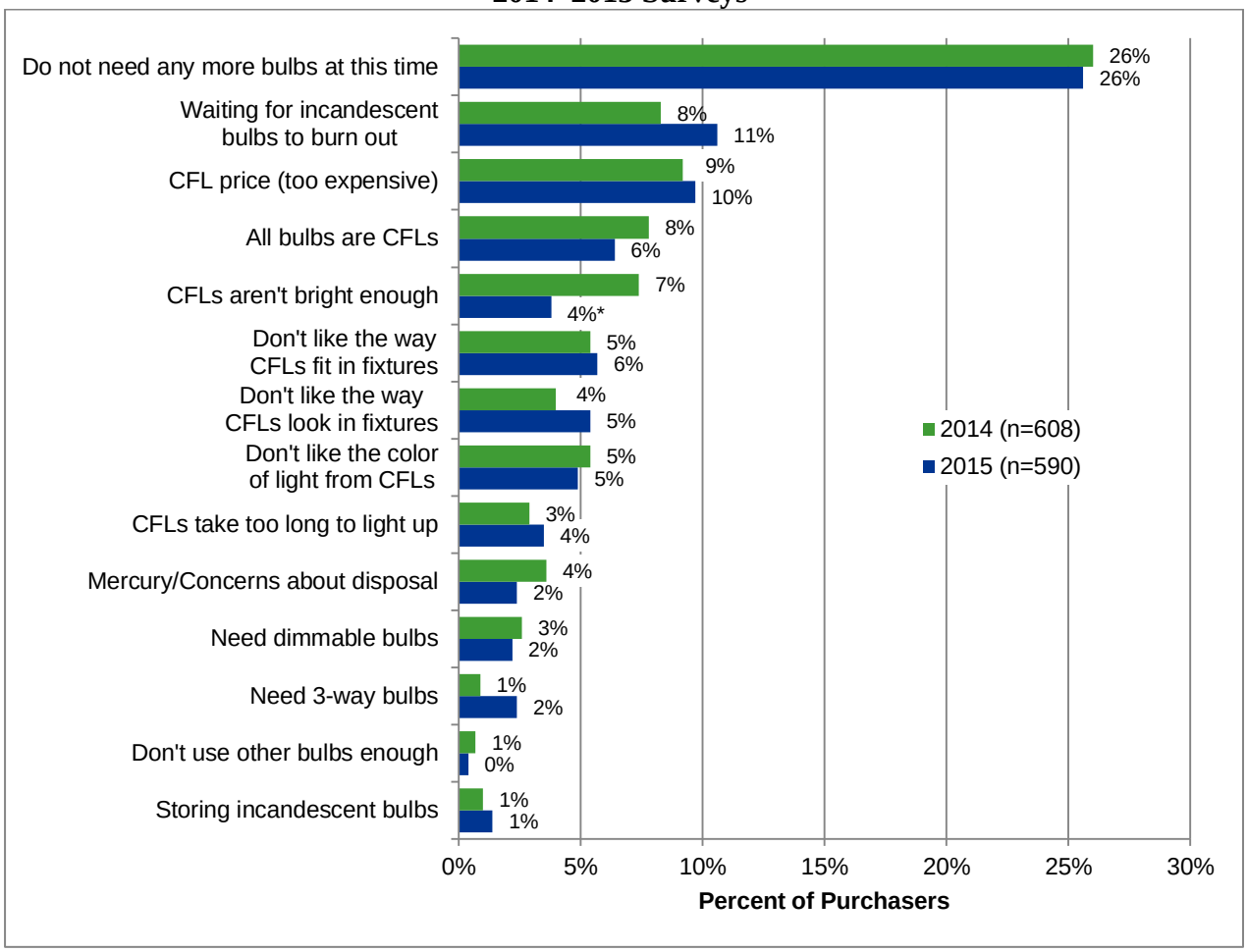


Note: Multiple responses allowed; percentages may not total 100%.
* Difference from prior study period is statistically significant.

D.3.5 Factors Preventing Additional CFL Installations

For the past several years, the consumer surveys have included questions regarding the main factors preventing additional CFL installations among CFL purchasers. Figure 43 shows the 2014 and 2015 survey responses. As shown, approximately one-quarter of CFL purchasers cited that the main factor preventing them from installing additional CFLs was that they "do not need any more bulbs at this time" (26% of respondents in both years). Roughly one in ten respondents reported that they were waiting for incandescent bulbs to burn out (11%) and a similar proportion cited CFL price as the main factor preventing additional CFL installations (10%). There were no statistically significant differences in survey results between years. There were also no significant differences in 2015 survey results by geography.

Figure 43
Main Factors Preventing Additional CFL Installations among CFL Purchasers, 2014–2015 Surveys



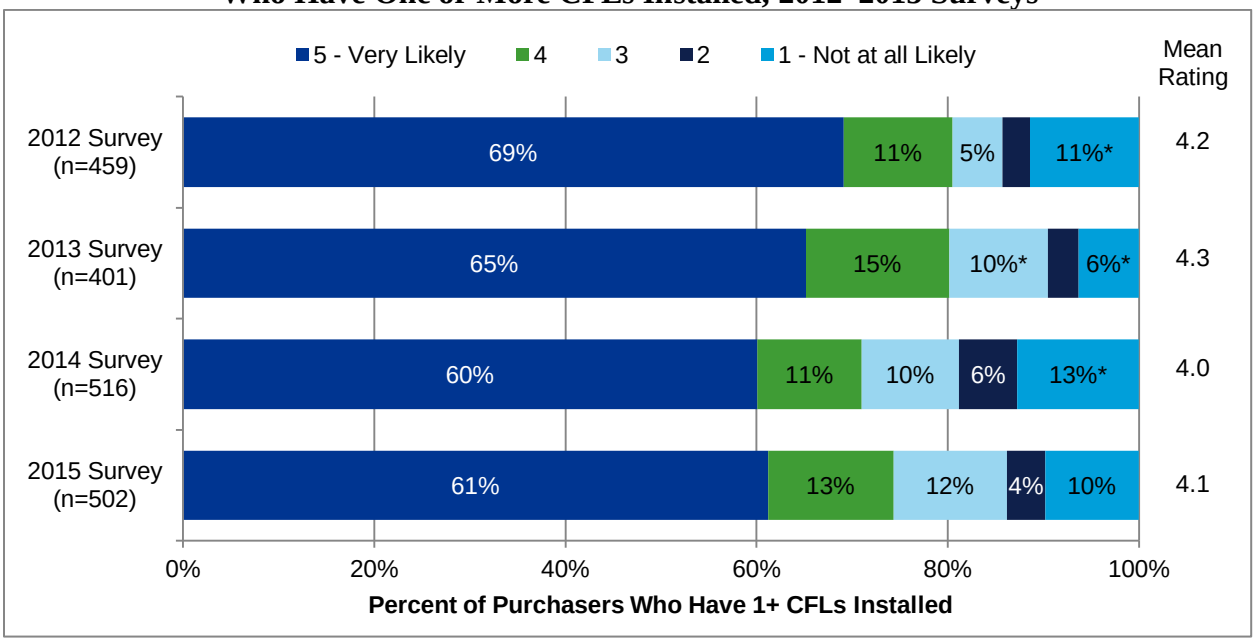
* Difference from prior study period is statistically significant.

D.3.6 CFL to CFL Replacement Likelihood

For the past several years, the consumer surveys have asked CFL purchasers who currently have CFLs installed to rate how likely they are to replace an installed CFL with another CFL upon burnout. Interviewers ask respondents to use a scale of 1 to 5 where 1 means "not at all likely" to purchase CFLs within the next year and 5 means "very likely." As shown in Figure 44, roughly 60 percent of CFL purchasers who had CFLs installed said that they were "very likely" to replace a burned-out CFL with another CFL in both years, and only 10% said that they were "not at all likely" to do so. There were no statistically significant differences in results between 2014 and 2015 at the regional level.

Within the 2015 results, there was no statistically significant difference in the average likelihood ratings between urban and rural CFL purchasers. However, significantly higher percentages of urban respondents provided ratings of 3 and 4 than rural respondents.

Figure 44
Likelihood of CFL to CFL Replacement among CFL Purchasers Who Have One or More CFLs Installed, 2012–2015 Surveys



Note: Percentages may not total 100% due to rounding.
*Difference from prior study period is statistically significant.

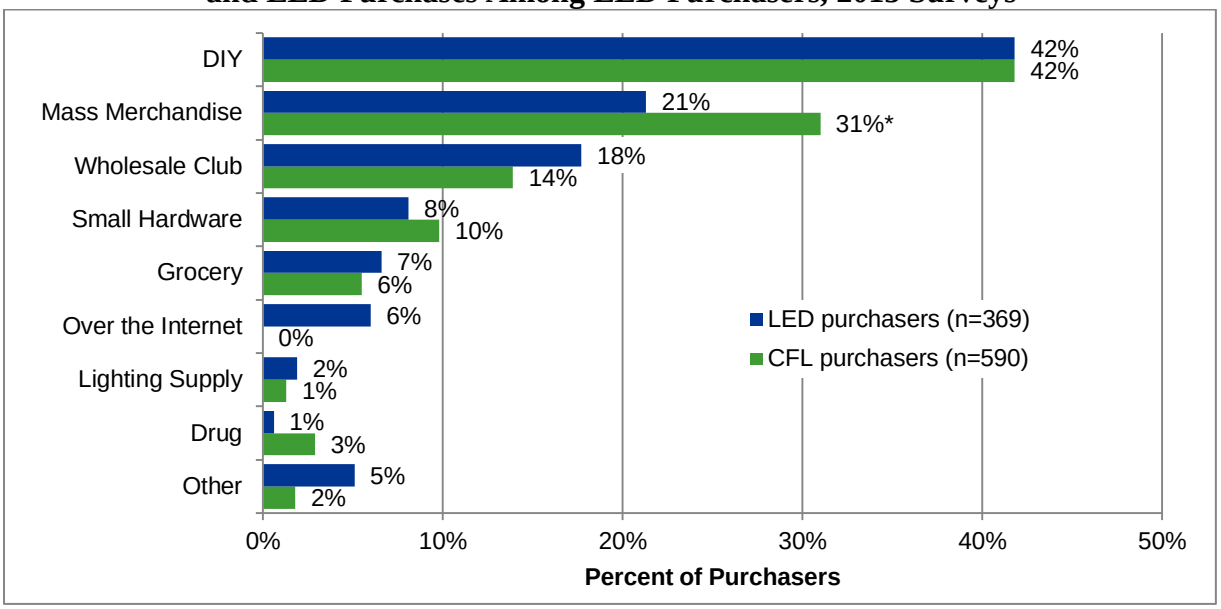
D.4 LED Lamps

The 2015 consumer telephone surveys elicited information specifically regarding LED lamps, including purchase locations. The 2014 and 2015 surveys both asked about consumer satisfaction with LED lamps and (among LED non-purchasers) reasons for not purchasing LED lamps.

D.4.1 Purchase Location

Telephone interviewers asked consumers where they made their most recent LED lamp purchases. As shown above in Figure 38, interviewers asked CFL purchasers the same question. Figure 45 compares 2015 results on lamp purchase locations between CFL purchasers and LED lamp purchasers. As shown, purchasers of both lamp types cited do-it-yourself stores as their most recent purchase locations above all other store types (42% for both LED and CFL lamp purchasers). A significantly higher proportion of CFL purchasers made their most recent purchases at mass merchandise stores (31% of CFL purchasers versus 21% of LED lamp purchasers), and there were no other statistically significant differences in the 2015 survey results at the regional level. There were also no differences in results among LED purchasers by geographic sector (urban versus rural) or state.

Figure 45
Location of Most Recent CFL Purchases among CFL Purchasers and LED Purchases Among LED Purchasers, 2015 Surveys

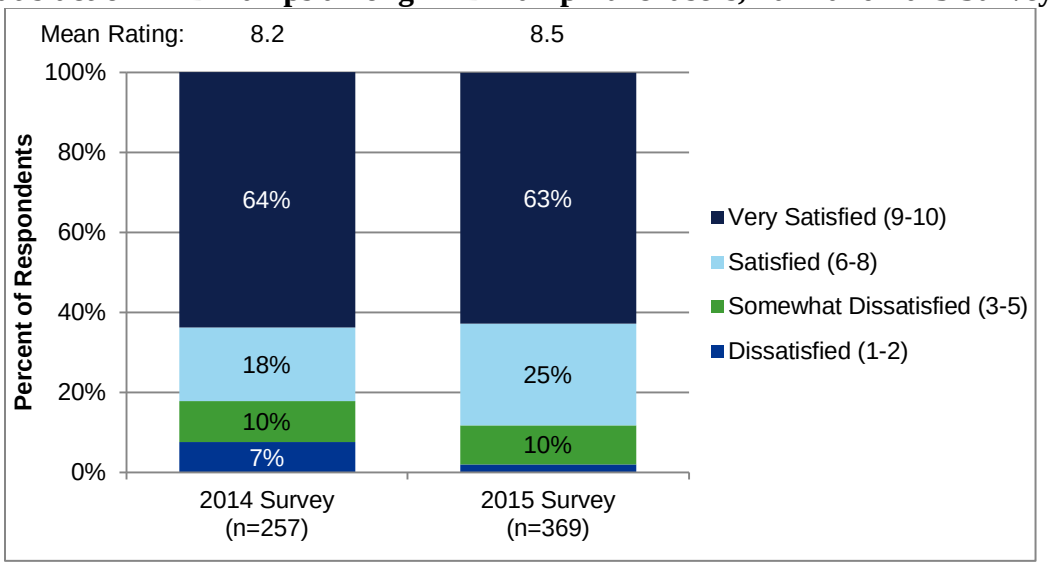


Note: Multiple responses allowed; percentages may not total 100%.
* Difference from LED purchaser results is statistically significant.

D.4.2 Satisfaction with LED Lamps

Figure 46 below compares satisfaction with LED lamps between 2014 and 2015 survey results. As shown, there were no statistically significant differences in satisfaction between years, with nearly two-thirds of LED lamp purchasers reporting that they were "very satisfied" with LED lamps (63% in 2015). Within 2015 survey results, there were no differences in satisfaction with LED lamps by geography (state or urban/rural designation).

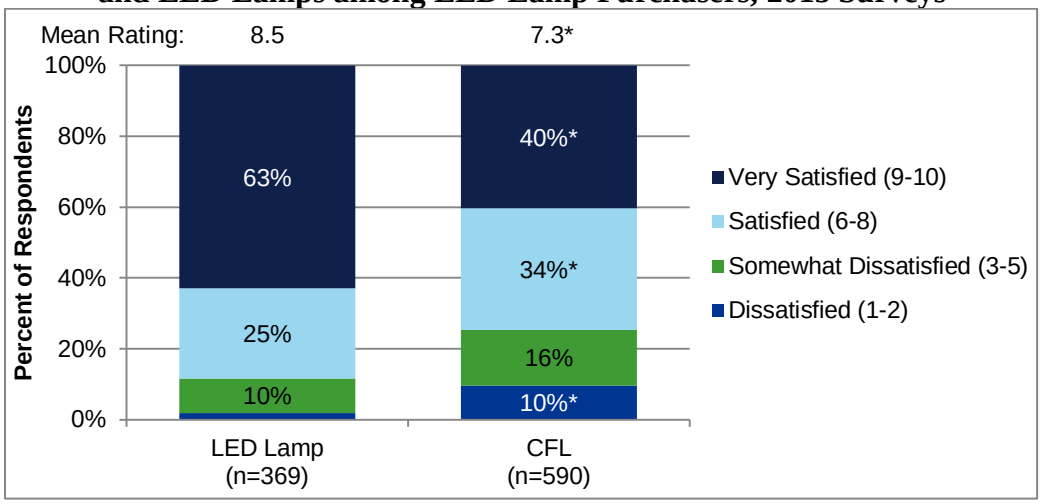
Figure 46
Satisfaction LED Lamps among LED Lamp Purchasers, 2014 and 2015 Surveys



Note: Percentages may not total 100% due to rounding.
* Difference from prior study period is statistically significant.

Figure 47compares 2015 survey results on CFL purchaser satisfaction with CFLs (from Figure 39 above) with LED lamp purchaser satisfaction with LED lamps (from Figure 46 above). As shown, LED lamp purchasers were significantly more satisfied with LED lamps in 2015 than CFL purchasers were with CFLs (63% “very satisfied” compared with only 40% of CFL purchasers). The proportion of LED purchasers who were dissatisfied with LED lamps was also significantly lower than the proportion of CFL purchasers dissatisfied with CFLs (2% versus 10%, respectively).

Figure 47
Satisfaction with CFLs among CFL Purchasers and LED Lamps among LED Lamp Purchasers, 2015 Surveys

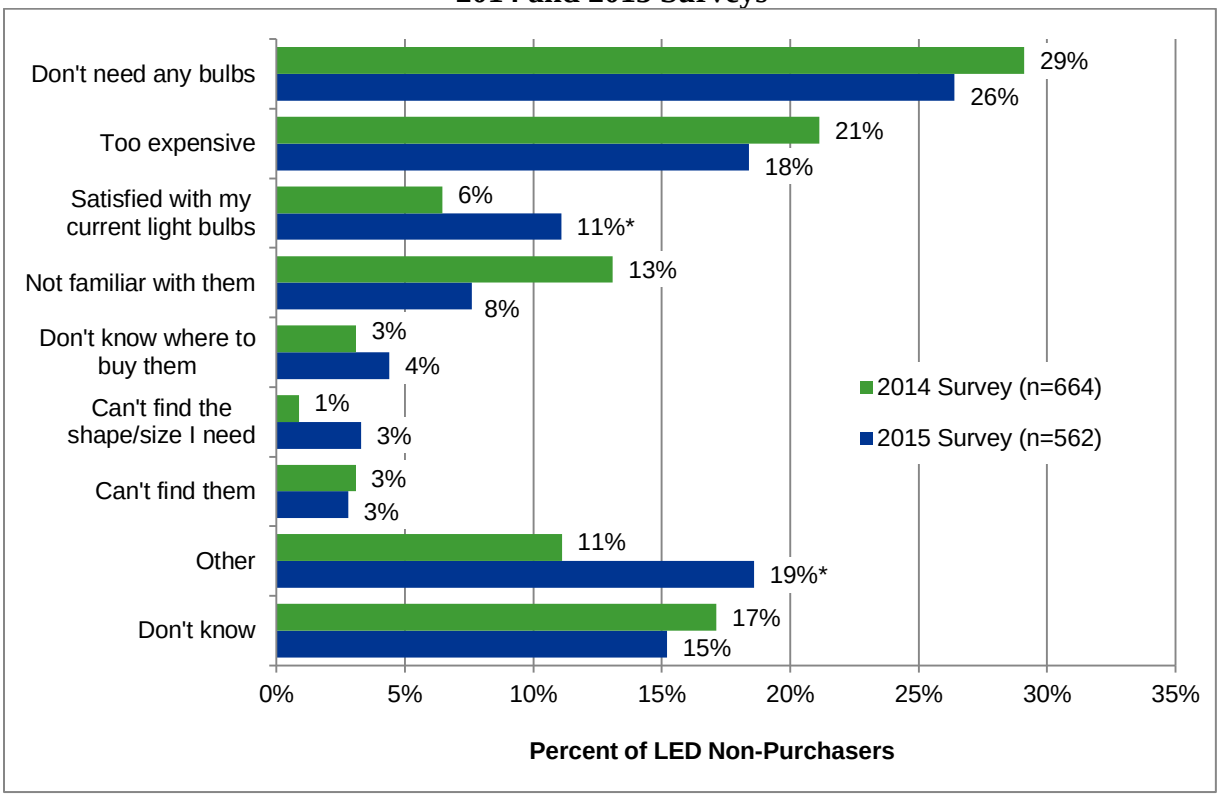


Note: Percentages may not total 100% due to rounding.
* Difference from LED lamp results is statistically significant.

D.4.3 Reasons for Not Purchasing LED Lamps

The 2014 and 2015 surveys asked respondents who had not purchased LED lamps why they had not done so. Results suggest that more than one-quarter of LED lamp non-purchasers state that they have not purchased LED lamps because they do not need any light bulbs. Respondents cited this reason more than any other, similar to results for CFL non-purchasers regarding CFLs. Eighteen percent of non-purchasers cited the expense of LED lamps as their reason for not purchasing them. Eleven percent noted that they were satisfied with their current lamps, up from 6% in 2014 (a statistically significant difference). There were no noteworthy differences in results between urban and rural areas during 2015.

Figure 48
Reasons for Not Purchasing LED Lamps among LED Lamp Non-Purchasers, 2014 and 2015 Surveys



* Difference from prior study period is statistically significant.

D.5 Energy Independence and Security Act

The 2010–2015 consumer telephone surveys included questions to gauge consumer awareness of EISA and consumer perspectives regarding the types of lamps they plan to purchase when traditional incandescent lamps are no longer available. The sections below provide these results.

D.5.1 Awareness

The surveys included the following three questions to gauge Northwest consumers' awareness of various elements of EISA:

- Are you aware of any legislation in the United States that may affect the availability of certain types of light bulbs?
- In 2007, Congress passed legislation that will phase out most traditional incandescent light bulbs by 2014. Before today, were you aware of this legislation?

- As part of the legislation, retailers began phasing 100-watt, 75-watt, 60-watt, and 40-watt light bulbs out of stores at the beginning of 2012. Before today, were you aware that these light bulbs are being phased out?

The survey included unprompted and prompted awareness question listed above (the first two on the list) in each phase between 2010 and 2015, but as shown in Table 25 below, the other survey questions related to EISA changed as the legislation's efficacy standards were phased in over time. The 2010—2013 surveys asked consumers whether they were aware that traditional 100-watt incandescent lamps were being phased out (as the phase-out for these lamps began on January 1, 2012), the 2013 surveys asked consumers whether they were aware that traditional 75-watt incandescent lamps were being phased out (beginning on January 1, 2013), and the 2014 and 2015 survey asked consumers whether they were aware that 100-watt, 75-watt, 60-watt, and 40-watt incandescent lamps were being phased out (with the 60 and 40-watt phase-out beginning on January 1, 2014).

In both 2014 and 2015, roughly 40% of consumers were aware of legislation that may affect lamp availability (44% in 2014 and 37% in 2015). A significantly smaller proportion of 2015 survey respondents reported awareness that Congress passed legislation that will phase out most traditional incandescent light bulbs by 2014 (51% in 2015 versus 59% in 2014), and a similar proportion of 2015 respondents reported awareness that traditional , 100-, 75-, 60- and 40-watt incandescent lamps were being phased out (54%).

Table 25
Awareness of EISA and its Implications, 2010–2015 Surveys

Aware…	Percent Aware					
	2010 (n=500)	2011 (n=1,000)	2012 (n=606)	2013 (n=776)	2014 (n=1,007)	2015 (n=995)
…of legislation that will affect lamp availability?	16%	26%*	46%*	46%	44%	37%
…of legislation that will phase out most traditional incandescent lamps by 2014?[36]	23%	33%*	58%	59%	59%	51%*
…that traditional 100-watt incandescent lamps are being phased out?[37]	11%	18%*	41%*	43%	-	-
…that traditional 75-watt incandescent lamps are being phased out?[38]	-	-	-	30%	-	-
…that traditional 100-watt, 75-watt, 60-watt and 40-watt incandescent lamps are being phased	-	-	-	-	57%	54%

* Difference from prior study period is statistically significant.

D.5.2 Planned Lamp Purchasing Activities

As described above, the consumer telephone surveys began asking questions about consumer familiarity with EISA in 2010, and the survey questions evolved between 2010 and 2014 as EISA was phased in over time. Between 2010 and 2012, survey questions focused on whether they had shopped for traditional 100-watt incandescent lamps in the previous year and if so, whether they were able to purchase them. In 2013, the survey asked whether consumers had shopped for and/or purchased traditional 75-watt incandescent lamps in 2012, and the 2014 and 2015 surveys asked consumers whether they had shopped for and/or purchased traditional incandescent lamps of any wattage in 2013 and 2014, respectively. The 2015 survey results suggested that 43% of consumers shopped for traditional incandescent lamps in 2014, unchanged from 2014 survey results for 2013 (46%). In 2015, 79% of these respondents reported that they were ultimately able to purchase the lamps that they were shopping for, also statistically unchanged from 2014 survey results (85%). These results suggest that traditional incandescent lamps were still widely available in Northwest retail stores in 2013 and 2014, which aligns with shelf survey results from 2014 and 2015 (see Section C.2.3 above).

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36 The 2011 and 2010 surveys used the word "ban" instead of "phase out" for this question to match the wording of a survey question fielded on behalf of OSRAM Sylvania in a national study. The word "ban" is somewhat misleading, however, so DNV GL and NEEA staff agreed to modify the question wording for the 2012 survey.

37 In the 2011 and 2010 surveys, this question was phrased as follows: "As part of the legislation, traditional 100-watt light bulbs will no longer be sold by 2012. Before today, were you aware that 100-watt light bulbs will no longer be available by 2012?" Evaluators modified the phrasing for the 2012 and 2013 surveys so the question was phrased as follows: "As part of the legislation, retailers began phasing traditional 100-watt light bulbs out of stores at the beginning of 2012. Before today, were you aware that 100-watt light bulbs are being phased out?" The legislation does not prevent retailers from selling through their existing stock of 100-watt incandescent lamps, and the legislation had gone into effect before interviewers conducted the 2012 and 2013 surveys.

38 Question included in 2013 survey only.

39 Question added in 2014 survey.

The 2014 and 2015 surveys followed with another question asking consumers what type of light bulbs they plan to use when traditional incandescent lamps are no longer available. As shown in Table 26, in both survey years, just over 60% of respondents reported that they will switch to a new type of light bulb when traditional incandescent lamps are no longer available. Approximately 20% reported that they will keep using incandescent lamps but switch to a lower wattage. There were no statistically significant geographic differences in the 2015 survey results.

Table 26
Planned Action When Traditional Incandescent Lamps Are No Longer Available, 2014 and 2015 Surveys

Planned Action	Percent of Respondents	
	2014 Survey (n=1,007)	2015 Survey (n=995)
Switch to a new type of light bulb	61%	64%
Keep using traditional light bulbs but switch to a lower wattage	22%	18%
Other	10%	10%
Don't know / Refused	9%	9%

Note: Multiple responses allowed; percentages may not total 100%.

Of 2015 survey respondents who reported that they will switch to another type of light bulb (n=599), 36% said they would switch to CFLs and 29% to LED lamps. The proportion who reported they would switch to LED lamps was significantly higher in 2015 (29%) than in 2014 (22%). Approximately 13% of 2015 respondents reported that they will switch to EISA-compliant incandescent lamps and 3% to halogen lamps, and 4% to some other lamp type (the remainder were unsure). There were no differences in 2015 survey results between urban and rural consumers.

D.6 Key Driver Analysis

One of the objectives of the 2014–2015 Northwest Residential Lighting Long-Term Market Tracking Study is to "better understand drivers of customer decision-making regarding lamp purchases and influences on those decisions" (study objective 9). This year's consumer survey included questions that enable a key driver analysis to understand the impact of various factors that may influence consumer purchase decisions.

D.6.1 Background

A key driver analysis is an exploratory analytic technique that attempts to explain the behavior of an outcome variable as a function of multiple explanatory variables. For the key driver analysis, the outcome variable is the consumer purchase decision, and the explanatory variables include factors consumers might consider when purchasing a lamp, such as energy savings, price, quality of light, bulb life, and other factors. These explanatory variables serve as independent variables in the key driver analysis.

The consumer lighting telephone survey instrument includes a battery of attributes (which serve as the explanatory variables in the key driver analysis) that respondents were asked to rate on a 1–10 scale on the importance of that attribute when making a light bulb purchase (see Table 27 below). Specifically, respondents were asked: "On a scale of 1–10 where 1 means 'not at all important' and 10 means 'very important,' how important are each of the following in your decision to purchase light bulbs?" (see question K1 in consumer lighting telephone survey instrument in Appendix B). Analysts used respondent ratings of these attributes to determine whether or not they could serve as predictors of consumer purchasing decisions.

Table 27
Lamp Attributes Rated by Respondents, 2015 Consumer Survey

Attributes	
1	The bulb helps save energy
2	The price of the bulb is reasonable
3	The bulb helps lower energy bills
4	The bulb lasts a long time before burning out
6	The bulb is environmentally friendly
7	Having prior experience with the type of bulb I purchase
8	The bulb is dimmable
9	The quality of the light from the bulb
10	The bulb fits well in my light fixture
11	My friends or family recommend the bulb I purchase
12	The bulb reaches full brightness instantly
13	The bulb does not have mercury in it
14	The bulb does not flicker

The 2015 NEEA consumer lighting survey included questions that asked respondents whether they had ever purchased a CFL or LED lamp as well as the number of CFL and LED lamps they purchased in 2014 (Table 28 below). Respondents were also asked whether or not they were satisfied with the CFL or LED lamps they purchased on a scale of 1–10. Respondents' answers to lamp purchasing questions as well as the satisfaction questions represent the set of dependent outcome variables that the key drive model attempts to explain through analysis of the 14 independent explanatory variables in Table 27 above.

Table 28
Outcome Variables Examined for Key Driver Analysis, 2014 Consumer Survey

Question #	Question Topic
P0, M1, M2	CFLs: ever purchased and number purchased in 2014
S1	Satisfaction with CFLs purchased
LE3, LE4	LED lamps: ever purchased and number purchased in 2014
LED6	Satisfaction with LED lamps purchased

D.6.2 Results

We first examined whether or not there is a direct relationship between the number of CFLs and LED lamps purchased and the explanatory variables. Results of this analysis, which included simple regression models, suggest that the relationship between the explanatory variables and the number of CFLs and LED lamps purchased is weak. The reasons for this weak relationship may be due to a variety of factors outside of the scope of the key driver analysis, including lamp price, lack of need for new lamps, lamp placement in retail stores, and other external factors.

Given this weak relationship between the explanatory variables and the number of lamps purchased, we then explored whether or not there might be a positive relationship between satisfaction with CFLs and LED lamps and the number of CFLs and LED lamps purchased. Respondents who rated their satisfaction with CFLs as a "1" bought 2.5 CFLs on average, while respondents who rated their satisfaction with CFLs as a "10" bought 4.9 CFLs on average.[40] After exploring the relationship between CFL satisfaction and the average number of CFLs purchased, we next explored the relationship between LED lamp satisfaction and the average number of LED lamps purchased. While we were able to observe a similar positive correlation between LED lamp satisfaction and LED lamp purchases (as observed with CFLs), there were fewer sample points for LED lamp purchasers than there were for CFL purchasers.[41] Furthermore, LED purchasers overwhelming reported high levels of satisfaction with LED lamps. As such, we decided to continue with the key driver analysis for CFL purchasers only.

The next step in the key driver analysis involved the construction of a binary variable that indicates very high satisfaction with CFL purchases versus very low satisfaction with CFL purchases. Respondents who reported satisfaction levels of 9 or 10 were classified as very satisfied and those who report satisfaction levels of 1 or 2 as very dissatisfied (Table 29). We excluded respondents in the middle satisfaction levels (275 respondents citing satisfaction levels from 3 to 8) in order to gain a clearer understanding of which explanatory variables are key

[40] Results for the average number of CFLs purchased for the remaining eight satisfaction levels are as follows: 2—2.1 CFLs purchased; 3—0.8 CFLs purchased; 4—7.8 CFLs purchased; 5—2.6 CFLs purchased; 6—2.9 CFLs purchased; 7—3.5 CFLs purchased; 8—7.0 CFLs purchased; 9—4.3 CFLs purchased.

[41] Among LED lamp purchasers there were some LED satisfaction levels that had as few as two observations. For CFL purchasers, observations for each satisfaction level ranged from 18 to 172.

drivers of CFL satisfaction. As shown below, highly satisfied customers bought on average almost double the number of CFLs as highly dissatisfied customers.

Table 29
Outcome Variables Examined for Key Driver Analysis, 2015 Consumer Survey

Satisfaction Level	Satisfaction Category	Total Frequency	Average number of CFLs purchased
1 and 2	Very Dissatisfied	62	2.4
9 and 10	Very Satisfied	222	4.7

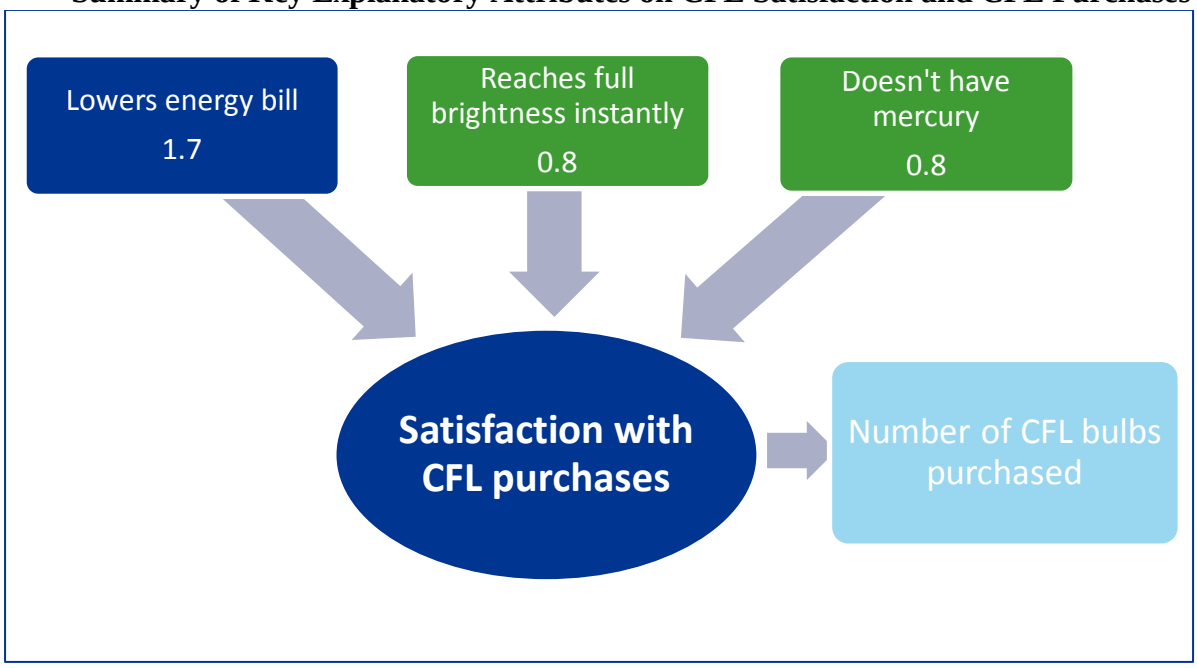
The next step in the analysis was to develop a predictive model that would be able to correctly classify respondents as very satisfied and very dissatisfied with CFLs based on the explanatory attributes that were rated by respondents (as shown in Table 27 above). From this, we developed odds ratios for each of the 14 explanatory attributes that either positively correlated with satisfaction or dissatisfaction (see Figure 49). The numerical value next to the explanatory attributes below represents an odds ratio. An attribute with an odds ratio greater than 1 means that the attribute correlates positively with satisfaction, and an attribute with an odds ratio lower than 1 means that the attribute correlates negatively with satisfaction. An attribute with an odds ratio of 1 is not a significant predictor of satisfaction. There was one explanatory attribute that correlated significantly and positively with satisfaction, and two explanatory attributes that correlated significantly and negatively with satisfaction (the other 11 attributes did not exhibit a significant relationship with satisfaction and CFL purchases). Results are as follows:

- A unit increase in the importance rating of a bulb helping to lower energy bills *increases* the odds of a respondent being very satisfied with CFLs (a rating of 9 or 10) by a multiplicative factor of 1.7.
- A unit increase in the importance rating of the bulb reaching full brightness instantly[42] *decreases* the odds of a respondent being very satisfied with CFLs by a multiplicative factor of 0.8.
- A unit increase in the importance rating of the bulb not having mercury in it *decreases* the odds of a respondent being very satisfied with CFLs by a multiplicative factor of 0.8.

The results suggest that a high importance rating of a bulb helping to lower energy bills has a strong positive impact on CFL satisfaction. On the other hand, a high importance rating of a bulb reaching full brightness instantly or not having mercury in it has a negative impact on satisfaction.

[42] Most CFLs do not reach full brightness instantly after being switched on. This is a source of dissatisfaction among some consumers.

Figure 49
Summary of Key Explanatory Attributes on CFL Satisfaction and CFL Purchases



The three explanatory attributes in the figure above are the significant key drivers of satisfaction or dissatisfaction with CFLs. Furthermore, we have established that CFL satisfaction has a positive correlation with the number of CFLs purchased. If a respondent considers a bulb helping to lower energy bills extremely important, they are likely to be very satisfied with CFLs. And if respondents are very satisfied with CFLs, they are more likely to have purchased more CFLs. Thus, the explanatory attributes, which serve as key drivers of CFL satisfaction, have an indirect relationship to the number of CFLs purchased.

APPENDIX E – CONSUMER FOCUS GROUP FINDINGS

E.1 Overview

DNV GL's moderator conducted six focus groups with consumers in Portland, OR; Seattle, WA; and Spokane, WA. The purpose of the focus groups was to:

- Understand Northwest consumer familiarity with and perceptions of CFLs, LED lamps and energy-efficient incandescent lamps;
- Assess consumer motivations for recent purchases and installation (or lack thereof) for each of these lamp technologies; and
- Better understand drivers of consumer decision-making regarding replacement lamp purchases and influences on those decisions.

Each group consisted of nine or ten participants, as shown in Table 30 below. The groups began with a brief discussion of how participants would describe CFL, LED and energy-efficient incandescent lamps to someone who was not familiar with them.[43] The moderator then led participants in discussions regarding their lamp purchase, installation, and shopping behaviors as well as their decision criteria for choosing which lamp(s) to purchase. Each session closed with a simulated lamp shopping exercise and discussion of their experience and rationale for their lamp choices.

Table 30
Number of Focus Group Participants by Group Location and Time, 2015

Location	5:30-7:00 pm	7:30-9:00 pm	Total Participants
Portland	9	9	18
Seattle	9	10	19
Spokane	9	9	18
Total Participants	27	28	55

E.2 Consumer Perceptions of Lamp Technologies

The moderator started each focus group with a conversation about how one would describe CFLs, LED lamps, and energy-efficient incandescent lamps to others who are not familiar with them.

[43] We refer to EISA-compliant incandescent lamps in this section as "energy-efficient" incandescent lamps, since this is how the lamps were described to focus group participants and this is how these lamps are typically marketed to consumers.

E.2.1 CFLs

When asked to describe CFLs, about half of the respondents first mentioned the shape. They referred to CFLs as "corkscrew," "twirlies," "twisty," "ice cream cone," "pigtail" and "curly." Two participants mentioned CFLs in shapes other than the standard spiral. After a brief discussion of lamp shape, the conversation shifted to complaints about CFL attributes. Participants expressed some dissatisfaction with CFLs because of the time they take to reach full brightness, the different quality of light from CFLs (e.g., colder than incandescent), dimness, mercury content/special disposal and burning out too quickly. However, despite these negative comments, about half the participants said they would install another CFL when an installed CFL burned out. Respondents gave reasons such as familiarity with CFL technology, wanting a uniform look among lamps installed in their home, and using up existing CFLs currently in storage at their homes.

E.2.2 LED Lamps

The moderator then asked participants how they would describe LED lamps to others not familiar with them. In most groups, participants first mentioned LED lamp attributes such as their long life and light quality as well as the cost, which they described as "pricey" and "very expensive." Participants commented on the lamp lifespan as "lasting a long, long time" and the quality of light as "incredibly bright," "clear," and "white."

In a few groups, the discussion then turned to some of the characteristics of the LED lamps themselves. Some participants stated that LED lamps look like "multiple little bulbs of light in it" or "small pinpoints of light."

A significant minority appeared unfamiliar with standard MSB LED A-lamps. Instead, these participants discussed LED lamps in the context of holiday lights, nightlights, bicycle lights and flashlights. One participant commented, "I don't know that I've seen [an LED lamp] that is big enough to take the place of a regular light bulb."

A few group discussions revealed some misperceptions about LED attributes. For example, one participant reported that LED lamps cannot be installed in existing light fixtures.
Compared to the discussion of CFL attributes, participants had far fewer negative comments about LED lamps. The overwhelming majority of negative comments related to lamp price. Only one participant mentioned an LED lamp installed at his home that flickered and blanked out.

E.2.3 Energy-Efficient Incandescent Lamps

Next, the moderator asked participants to describe energy-efficient incandescent lamps to others not familiar with them. Participants commented that energy-efficient incandescent lamps look like traditional incandescent lamps but use less energy, or "like a regular light bulb but it lasts longer." Several participants mentioned wattage levels that are "usually an odd number like 43… 45 or a 67, instead of a 60 watt."

However, some participants mentioned uncertainty about some characteristics of these lamps, specifically how they differ from traditional incandescent lamps. Several participants expressed disbelief that energy-efficient incandescent lamps are actually energy-efficient, stating that it's a "contradiction in terms, like a green gas guzzler" or "lies, hocus pocus."

E.3 Lamp Purchase

Below we review focus group results regarding lamp purchase locations and decision-making.

E.3.1 Lamp Purchase Locations

Focus group participants reported purchasing CFLs, LED lamps, and energy-efficient incandescent lamps in a range of store types, primarily mass merchandise, membership clubs, large home improvement and small hardware stores. A few participants in the Spokane focus groups reported receiving free CFLs from their energy utility (Avista) or from their landlords.

In most groups, one or two participants reported purchasing CFLs and LED lamps online, typically from websites that are not affiliated with brick-and-mortar stores (e.g., Amazon.com). They mentioned shopping online for bulk purchases (e.g., lamps for a condominium association), or for specialty lamps not available in local stores. One participant mentioned, "I order the special CFLs from a place online because I couldn't find them at places like Home Depot." Despite these comments, none of the focus group participants reported regularly shopping for lamps online. A handful of participants reported expected negative outcomes of online shopping for lamps, such as possible breakage during shipment and the inability to see the actual lamps before purchasing.

E.3.2 Lamp Purchasing Decisions

When the moderator asked focus group participants how they decide which lamp to buy, participants primarily mentioned price. However, a noteworthy minority mentioned energy savings, cost savings, and/or length of life as equal to, or (in few cases) more important than price. In addition, many of those who first mentioned price also discussed other decision factors. Among these, the second most common factor – most often mentioned along with price – was energy efficiency:

- "It's a balance between the most efficient light bulb for the price."
- "We want to conserve energy, but if there's an energy-efficient bulb here for $3 and a super energy efficient bulb for $12, I think I'd go for the $3 one and still feel good about it, because it told me it was energy-efficient."

In a few groups, the discussion quickly turned from price to lamp longevity and energy savings as the next most important factors considered:

- "Energy savings, it's important to me to try to save money, I look on the box for energy savings."

- "The reason I'm buying the supposedly long-lasting bulbs is that I get real tired of replacing light bulbs so I look for longevity in them, because the LED should last longer than an incandescent bulb."
- "[The most important factors are] price, longevity, energy savings, and then I'm going to make a decision with the options available."

Other decision criteria mentioned included light quality and easy disposal (i.e., no mercury).

Some participants reported that, when faced with a selection of lamps at different price points, they chose lamps at higher price points. Reasons given included lamp longevity and energy savings or cost savings. However, a few participants gave an upper limit on their willingness to pay more for longevity and savings:

- "A $3 or $4 bulb versus a $1 bulb is okay, but after that it doesn't matter. It could be the greatest bulb, it could last forever, but after it gets to $6, $7, or $8, I'm not paying that much for one bulb."
- "At some point it's just a bulb. So a couple of bucks is what it should be. I mean, if they're charging a lot for a bulb it's going to take a lot to convince me why that's justified."

A handful of participants mentioned that lamp selection had become too complicated and required too much effort due to the growing selection of lamps available, particularly at large, well-stocked stores. Consequently, these participants mentioned making replacement lamp decisions based on familiarity with the lamp technology, the presence of sales, and packaging that describes the lamps as energy-efficient.

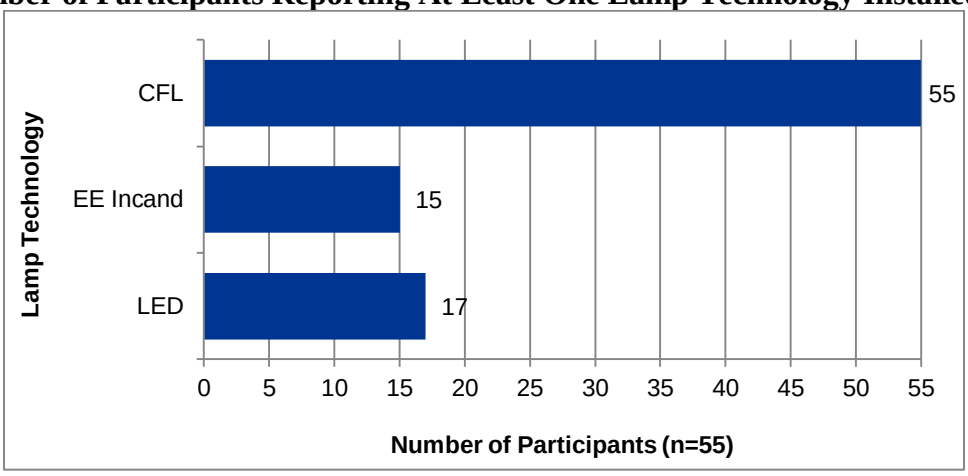
E.4 Lamp Installation

The focus group moderator asked participants whether they have at least one CFL, LED or energy-efficient incandescent lamp currently installed at their homes (across all groups; see Figure 50). As shown, all participants had one or more CFLs installed (required to participate in the focus group), with fewer reporting one or more installed LED lamps or energy-efficient incandescent lamps (roughly 3 out of 10 participants for each).

There was confusion among some participants regarding whether or not they had energy-efficient incandescent lamps or traditional incandescent lamps installed in their homes. Participants who believed they had energy-efficient incandescent lamps reported installing them throughout their homes with no consensus on installation strategies by room type, fixture type or application. Comments included:

- "[They are installed] mostly in [fixtures] scattered all over the place, and there was no rhyme or reason honestly."
- "In the bathroom [to] match the look of the other standard incandescent bulb."
- "They're in our kids' rooms because we didn't want CFLs in there because they're too fragile and could break."

Figure 50
Number of Participants Reporting At Least One Lamp Technology Installed



E.5 Lamp Storage

All participants reported having at least one lamp in storage and some reported having up to a dozen or more. On average, participants had about 6 lamps in storage, primarily CFLs as well as traditional and energy-efficient incandescent lamps. A few participants reported stocking up on traditional incandescent lamps and had a dozen or more in storage.

About half the participants reported stocking up on lamps, whether they needed them at the time of purchase or not. The remaining participants reported that they purchase lamps as needed, but many of these had lamps in storage because they sought cost savings associated with multipacks of four, six or more lamps.

Many participants reported that sales exerted at least some influence on their lamp purchase decisions. These participants mentioned impulse purchases and/or buying more than planned, particularly for LED lamps, when discounts were available. A minority of participants reported always stocking up when lamps were on sale and/or when shopping at certain stores (e.g., membership clubs).

E.6 Perceptions and Use of LED Lamps

Across all groups, about one-third of focus group participants mentioned they had at least one LED lamp installed at their homes. Significant variation existed across groups from nearly 8 out of 10 of participants in one focus group in Portland to no participants having LED lamps currently installed in a Seattle group. A few participants mentioned slowly transitioning all sockets to LED lamps as other installed lamps burn out at their homes. Others mentioned they plan to use LED lamps when they used up existing lamps in storage.

Several participants mentioned installing LED lamps for reading or other close tasks (e.g., cooking or knitting) where light quality is important. Due to cost, several participants mentioned they avoid installing LED lamps in low-use rooms and fixtures. Participants most frequently cited price as the main factor inhibiting more widespread installation of LED lamps at their homes. Several mentioned they planned to install more as LED lamp prices decrease.

The moderator asked participants not currently using LED lamps at their homes what it would take to get them to do so. A small number of participants mentioned no specific action because they reported being satisfied with their existing options. One participant mentioned, "There's no reason to seek them out. I've got CFLs and [I] like those." For the vast majority of remaining participants, equal numbers mentioned that they'd consider LED lamps if prices were lower or if they were more aware of or educated about the technology. Comments from those mentioning awareness and/or education include:

- "I haven't noticed [LED lamps] really being sold. That doesn't mean it's not there and I haven't walked by them but it just hasn't made any impression on me yet."
- "There was a huge campaign when CFLs came [out] that convinced us to try them to reduce our footprint and be greener, but that hasn't happened with LED lamps."
- "When I got the CFLs for free, that's what convinced me to try them."
- "I can understand the additional cost [if they] last twice as long as CFLs but I need to know that [they're actually] going to last."

E.7 Simulated Shopping Exercises

During the focus groups, the moderator conducted two simulated shopping exercises. First, the moderator provided a worksheet to each participant that included four lamp choices. These choices corresponded to a display table with four different lamp technologies, identified only by number: #1 (incandescent), #2 (energy-efficient incandescent), #3 (CFL) and #4 (LED).

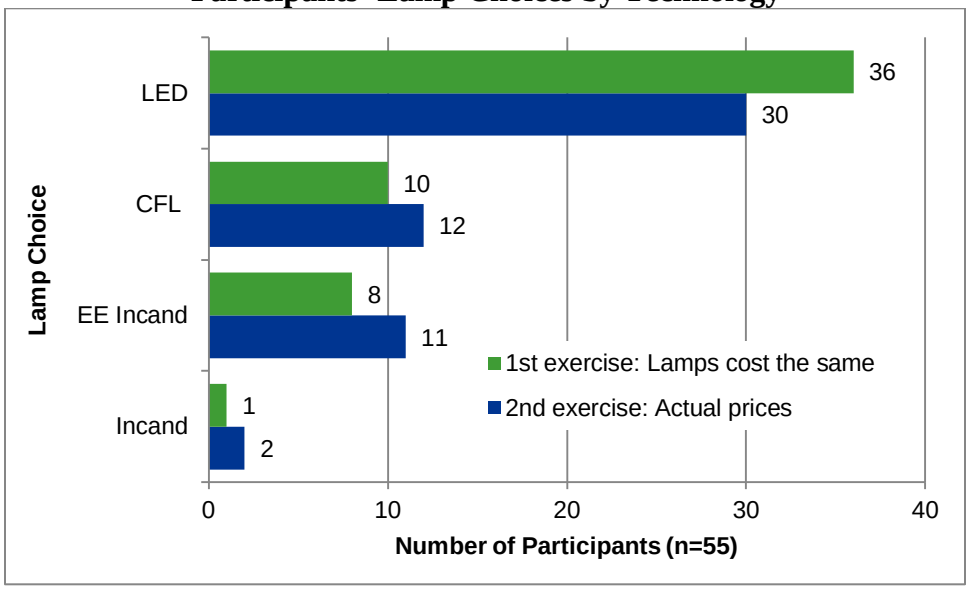
The moderator asked participants to imagine that they needed to replace a lamp at their home and had a choice among only these four options. Participants were instructed to assume that all lamps had about the same brightness and light color and that all four lamps cost about the same. The moderator instructed participants to examine the lamp packages more closely to aid their decision-making process if they wished to do so. Participants then marked their lamp choice, by number, on the worksheet provided.

Next, for the second exercise, the moderator revealed the actual retail price for each lamp technology (in terms of price per lamp), and again asked participants to mark their lamp choices on a second worksheet provided. This worksheet was similar to that previously distributed.

Figure 51 below shows the number of participants who selected each lamp technology in the first exercise (assuming all lamps cost the same) and second exercise (actual retail prices provided) exercises. As shown, the majority of focus group participants chose LED lamps in each exercise (approximately 6 to 7 out of 10 when price was not a factor, and roughly 5 to 6 out of 10 when

cost was a factor). We provide more details on the discussions that occurred around the simulated shopping exercises in the subsections below.

Figure 51
Participants' Lamp Choices by Technology

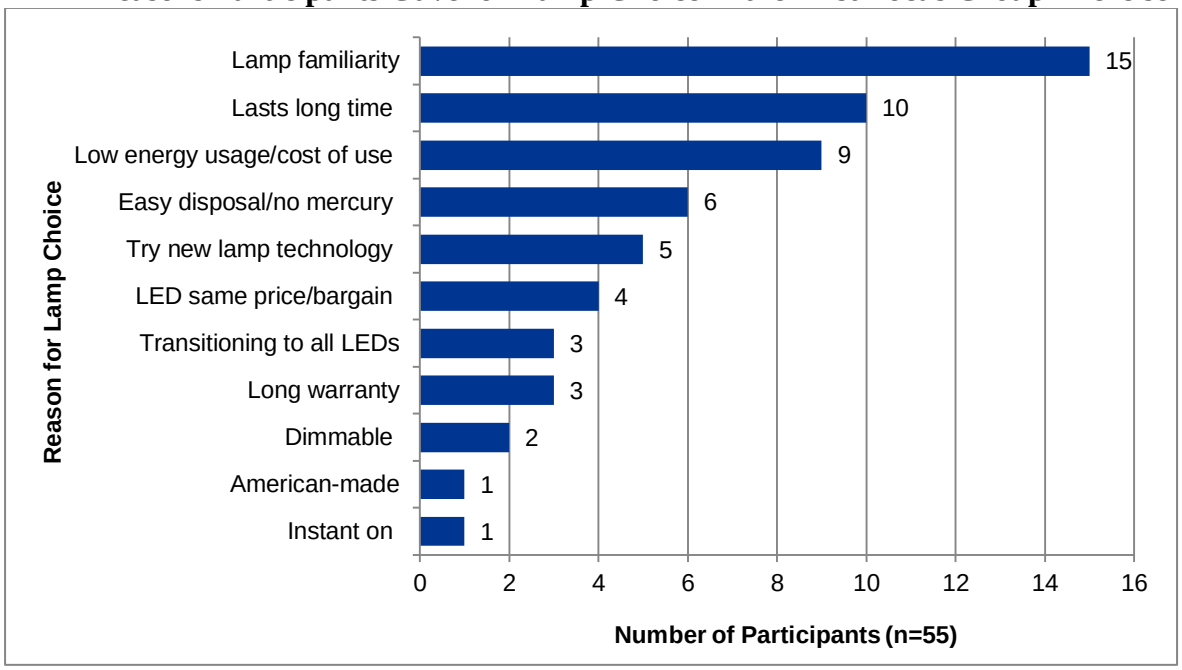


E.7.1 Exercise 1 – Assuming All Lamps Cost the Same

Approximately 36 out of 55 focus group participants selected the LED lamp in the first exercise (in which participants assumed that all lamp choices cost the same). Less than one-third as many participants selected the CFL and a similar proportion selected the energy-efficient incandescent lamp. Only one participant chose the traditional incandescent lamp. Figure 52 displays the reasons participants gave for their lamp choices. The most frequency cited reasons include:

- **Lamp Familiarity.** More than a quarter of the focus group participants reported being familiar with the lamp: prior purchases ("it's what I buy"), the shape and fit in existing fixtures, and attributes such as light quality. Participants citing familiarity primarily chose the CFL and a few selected the energy-efficient incandescent lamp.
- **Lasts a Long Time.** Just under 2 out of 5 participants mentioned the long lifespan of the lamp and the avoided cost and effort to install replacement lamps. Participants reporting lamp longevity mainly chose the LED lamp.
- **Energy savings/low cost of use.** Less than two out of five participants reported seeking energy savings and many of these checked the package for savings claims. These participants mainly chose the LED.
- **Mercury-free/easy disposal.** One in five participants based their decisions on lamps that did not contain mercury and had easy disposal. They mentioned selecting lamps other than the CFL because of impressions that CFLs do not have these attributes. These participants chose either the LED lamp or energy-efficient incandescent lamp.

Figure 52
Reasons Participants Gave for Lamp Choice in the First Focus Group Exercise



When asked why they chose the lamps that they did, responses varied based on the selected technology as demonstrated by the following verbatim comments:

- **Traditional incandescent lamp**
  - "I like the design and it fits aesthetically in my older house."
  - "Energy efficiency isn't relevant because energy is cheap in the Northwest."
- **Energy-efficient incandescent**
  - "It's familiar, and I know I like the way the light feels in my house, and it's what I usually buy."
  - "Change isn't easy for me, so I chose number two [energy-efficient incandescent lamp]."
  - "It says dimmable and mercury-free on the front [of the package]."
- **CFL**
  - "That's the one I've been buying for so long."
  - "[We] have CFLs throughout house."
  - "It was the closest one to bulbs that I like, and I like the lighting and everything with it."
- **LED Lamp**
  - "When you take out all the other factors, then it becomes longevity, absolutely, because I don't want to have to replace it."
  - "It came down to wattage—it's 9.5 for the LED which if my math is right is one-seventh or one–sixth of what those other ones are, and it's just common sense which is the most efficient."
  - "The LED option had the lowest cost [to operate], and I'm on a budget."

- "I want to try something new. I've heard so much about LED light bulbs."
- "I like it better, because I can see better [with it]."

Of the participants who selected the LED lamp, several mentioned they did so because they would like to try a new lamp technology. Others mentioned that if all of the lamps were the same price, they would take advantage of this to obtain an LED lamp at a bargain price. A small number mentioned that they chose the LED lamp because they currently are transitioning all sockets to LED lamps, and a similar number mentioned that the long warranty of the LED lamp was their primary decision factor. A handful chose the LED lamp because they wanted a dimmable lamp.

Surprisingly, about one-third of focus group participants did not select the LED lamp, even though participants assumed all lamps cost the same in this first exercise. Most of these participants mentioned familiarity with other lamp technologies, primarily CFLs, as the reason for their choice. A few participants mentioned negative attributes of the LED lamp as "ugly, childish, with plastic parts" or "toy-like" as reasons for not selecting it.

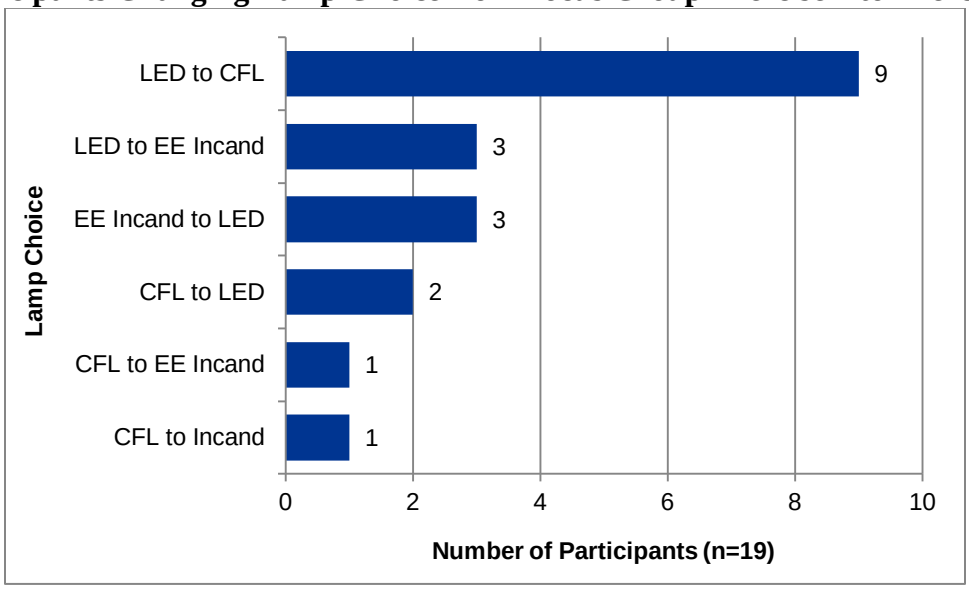
While most participants reported familiarity with all the lamp choices, a handful had not previously seen the LED or energy-efficient incandescent lamps. One participant mentioned lack of familiarity with LED lamps as the reason for selecting another lamp technology.

About half the participants read some information on the lamp packages, as observed by the moderator. A handful of participants mentioned being influenced by statements on the package, notably about warranty, dimmability, and lack of mercury content. Several participants reported that they did not assume the lamp was dimmable if not explicitly stated on the package.

E.7.2 Exercise 2 – Actual Retail Prices Provided

In the second exercise (in which the moderator revealed the actual retail prices to focus group participants), 19 participants (of 55 total) selected a lamp different from their choice in the prior exercise. Figure 53 shows the differences in lamp choices made by these participants. The majority changed their choice from an LED lamp to something else, with 9 participants changing their choice from the LED lamp to the CFL and another 3 changing their choice from the LED lamp to the energy-efficient incandescent lamp. All of these participants cited the LED lamp's cost as the reason for the switch.

Figure 53
Participants Changing Lamp Choice from Focus Group Exercise 1 to Exercise 2



Of the 36 participants who selected the LED in the first exercise, about three-fourths (26 participants) again chose the LED in the second exercise (Table 31). These participants mentioned a range of factors for their decision such as lamp longevity, energy use, and transitioning all sockets to LED lamps. Some of their comments included:

- "We decided that the LED lights are definitely our choice right now and it had all that, with lowest energy and wattage."
- "I don't believe that the CFL would last as long as it says on the label, because I have not had that experience so I'm willing to try the LED."
- "When you changed the price, it made me think a little bit harder [about] 'how do I justify 14 times the price for about six times the savings?' And I think what made the decision is that LED lamps don't give off that much heat. The 50 cent bulb gives off a lot of heat. Maybe I've already made my choice and I just have to rationalize it a little bit more."

Table 31
Number of Participants Selecting LED in Focus Group Exercise 1 and 2

Location/Time	1st Exercise	2nd Exercise	
	# selected LED	# selected LED	# selected non-LED
Portland 5:30pm	7	5	2
Portland 7:30pm	7	6	1
Seattle 5:30pm	7	6	1
Seattle 7:30pm	4	2	2
Spokane 5:30pm	7	5	2
Spokane 7:30pm	4	2	2
Total	36	26	10

APPENDIX F – ACE MODEL REVIEW MEMORANDUM

DNV·GL

Memo to:
Anu Teja
Northwest Energy Efficiency Alliance (NEEA)

From: Geoff Barker, Jenna Canseco, DNV GL - Energy

Date: June 17, 2015

Subject:
2014–2015 Northwest Residential Lighting Market Tracking (LTMT) Study: Final Review of 2014 ACE Model Inputs

1. Introduction

DNV GL provides an annual assessment of key inputs to the Northwest Energy Efficiency Alliance's (NEEA) ACE model for residential lighting. This memorandum reviews the 2014 ACE model inputs. Where appropriate, the memorandum also provides perspectives on forward-looking market share for residential lamp types of to support NEEA's forecast. Appendix 1 contains a complete list of references cited in the memo.

2. Forecast

In prior ACE model review memoranda, NEEA has requested that the DNV GL team include estimated 20 year projections of general purpose (GP)[1] and specialty CFL market share to support NEEA's forecasts for residential lighting.

For the 2013 review of ACE Model Inputs, DNV GL's project manager suggested reviewing U.S. Energy Information Administration (EIA) forecasts of residential general service medium screw-base (MSB) lamp purchases between 2010 and 2035 (Comstock, O. [U.S. EIA], 2014). There were two challenges associated with this source as far as informing NEEA's forecast:

(1) data were not available for the Northwest region (only for the U.S. as a whole); and
(2) the data only include projections for general purpose CFLs, incandescent, and LED lamps, with no specialty lamp projections for any of the three lamp technologies.

Given that the DNV GL team was not aware of other similar data sources that could be leveraged to support NEEA's projections, DNV GL and NEEA decided that providing the U.S. market share projections would be sufficient to address the first of the challenges described above. To address the second challenge, DNV GL reviewed 2010 through 2013 CFL sales data from CLEAResult (which show the share of total CFL sales comprised by GP and specialty lamps) and projected the sales of specialty CFLs forward based on these data. The DNV GL team also assumed additional specialty lamp sales projections for incandescent and LED lamps (beyond the general purpose projections

[1] NEEA defines "general purpose CFLs" as medium screw base basic bare spiral CFLs and A-lamps that are single-wattage lamps (i.e., not dimmable or 3-way lamps). All other CFL types (including dimmable and 3-way lamps) are considered "specialty CFLs."

provided by EIA for these two lamp technologies) that are based on the percentage of GP and specialty CFL sales provided by CLEAResult.

For the purposes of this memo, the DNV GL team used the same methodological approach in estimating lamps sales as last year (in 2014).

- **Status:** The DNV GL team completed these analyses in April, 2015.

- **Results:** To address the fact that the U.S. EIA projections[2] do not include details regarding specialty lamp market share for CFLs, LED, and incandescent lamps, the DNV GL team reviewed the annual CFL sales data provided to NEEA by Fluid Market Strategies/CLEAResult for 2012 through 2015. Table 1 below provides details on the GP and specialty CFL sales split for these four years as well as the average across these years. As shown in the table, GP CFLs comprised approximately 71.1 percent of CFL sales, on average, across the four years, with specialty CFLs comprising an average of 28.9 percent of sales over the same time period.

Table 1:
Annual and Averaged Percentage of Northwest Residential CFL Sales by General Purpose and Specialty Lamp Categories, 2011–2014

Year	Percent of Sales		Data Source
	GP CFLs	Specialty CFLs	
2011	71.5%	28.5%	Fluid Market Strategies, 2012
2012	70.1%	29.9%	Fluid Market Strategies, 2013a
2013	67.3%	32.7%	CLEAResult, 2014
2014	75.7%	24.3%	CLEAResult, 2015
4-Year Average	**71.1%**	**28.9%**	(Average of estimates above)

As shown in Table 1 above, the share of GP and specialty CFLs of total annual regional CFL sales was similar between 2011 and 2014. As such, the DNV GL team took the four-year average share of specialty CFL sales to extrapolate and project the annual share of national lamp sales attributed to specialty CFLs in the U.S. EIA data.[3] Based on these data, the DNV GL team was able to produce the projected market share for GP CFLs, specialty CFLs, LED lamps (general purpose and specialty LED lamps combined), and incandescent lamps (general purpose and specialty incandescent lamps

[2] DNV GL received 2015 sales projections from Kevin Jarzomski of EIA on April 16, 2015.

[3] DNV GL calculated the total projected CFL sales (GP and specialty combined) by dividing the projected sales of GP CFLs for a given year by 71.1 percent. To calculate the projected specialty CFL sales, DNV GL multiplied the total projected CFL sales by 28.9 percent.

combined) for 2015, 2016, 2020, and 2025 to support NEEA's forecasts for residential lighting (see Figure 1 below).[4]

As shown in Figure 1, the U.S. EIA predicts that manufacturers will discontinue large-scale production of incandescent lamps and consumers will stop purchasing these products by approximately 2020. According to a U.S. EIA representative, earlier projections (e.g., from 2011) included the assumption "that manufacturers would be able to produce incandescent bulbs that would meet future standards." However, the U.S. EIA reports that, "since then, manufacturers have largely abandoned this goal and instead focused on development of more efficient lighting types beyond incandescent bulbs." As such, in their Annual Energy Outlook for 2015 (on which the data in Figure 1 are based), the U.S. EIA limits all post-2020 purchases to CFLs and LED replacement lamps.

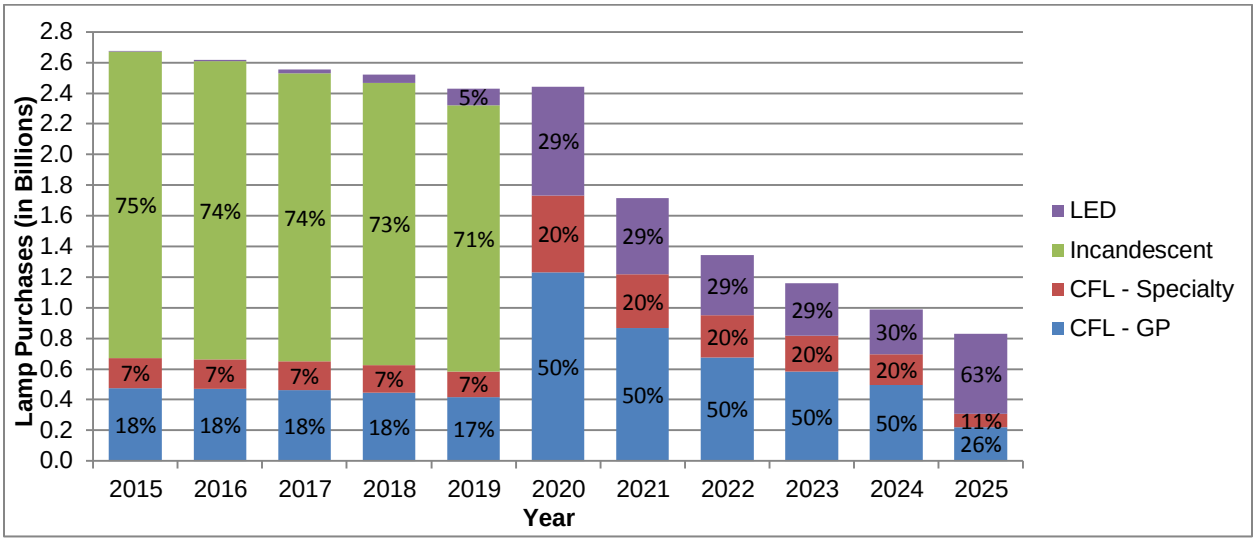
Note that the large increase in general purpose CFL sales and LED lamp sales in 2020 may be attributable to the following:

- Federal law (EISA 2007) set new efficiency standards for general service lamps;
- EISA Tier 1 , which took effect between Jan 2012 and Jan 2014, requires 25 to 30 percent more efficient than traditional incandescent lamps; and
- EISA Tier 2 will take effect in 2020 and require 45 percent greater efficiency than traditional incandescent lamps.[5]

[4] DNV GL assumed the same proportion of GP and specialty sales for LED and incandescent lamps as GP and specialty sales for CFLs.

[5] See Dimascio and Loiter (2010) for further details.

Figure 1:
Total Projected Lamp Purchases and Share of Lamp Purchases[6] in the U.S. by Lamp Type and Year, 2015–2025



Sources: U.S. EIA, 2014; Fluid Market Strategies/CLEAResult, 2012–2015.

Table 2 below provides more detailed estimates of market share by technology for the years in which NEEA is particularly interested for its forecast—2015, 2016, 2017 2020, and 2025.

Table 2:
Share* of Lamp Purchases by Lamp Type and Year, 2015, 2016, 2017, 2020, and 2025

	Year				
Lamp Type	**2015**	**2016**	**2017**	**2020**	**2025**
General Purpose CFLs	18%	18%	18%	50%	26%
Specialty CFLs	7%	7%	7%	20%	11%
Incandescent Lamps	75%	74%	74%	0%	0%
LED Lamps	0%	0%	1%	29%	63%
Overall	**100%**	**100%**	**100%**	**100%**	**100%**

Sources: U.S. EIA, 2014; Fluid Market Strategies/CLEAResult, 2012–2015.
*Totals may not equal 100% due to rounding.

6 With general purpose incandescent lamp sales effectively going to zero by 2020, DNV GL was not able to project specialty incandescent lamp sales for 2020 through 2025. Thus, Figure 1 and Table 2 do not include any projections for incandescent lamp sales from 2020 through 2025.

3. ACE Model Inputs

NEEA's ACE model inputs are grouped into five categories:

1. Total market sales of GP and specialty lamps (all technologies; in millions);
2. GP CFL market share;
3. GP CFL savings rate;
4. Specialty CFL market share; and
5. Specialty CFL savings rate.

Categories two through five above are each comprised by several inputs. The sections below describe each input and the accompanying assessment in additional detail.

3.1 Total Market Sales of GP and Specialty CFLs

In our review of the 2013 ACE Model inputs, DNV GL staff compared the average number of general purpose CFLs, specialty CFLs, traditional incandescent lamps, EISA-compliant incandescent lamps, and LED lamps reportedly purchased by telephone respondents with the sales data provided to NEEA by CLEAResult. Ultimately, we recommended that NEEA rely on the sales data. Below we provide 2014 data from CLEAResult.

- **Status:** NEEA provided the final 2014 CFL sales data generated by CLEAResult to DNV GL on March 10, 2015.

- **Results:** According to data from CLEAResult, the total number of general purpose CFLs sold in the Northwest in 2014 was 11,306,353 (76% of total 2014 Northwest CFL sales) and the total number of specialty CFLs sold was 3,629,623 (24%), for a total of 14,935,976 CFLs (CLEAResult, 2015).[7]

3.2 GP CFL Market Share

NEEA's ACE model includes five elements related to GP CFL market share. To support the 2014 ACE model assessment, DNV GL has updated these two elements:

1. Total tracked units; and
2. Tracked unit retirements.

3.2.1 Tracked Units: Total GP CFLs

In DNV GL's review of the 2013 Residential Lighting ACE Model inputs, we recommended that NEEA rely on CLEAResult's sales estimates for 2013 for this input to the ACE model. For 2014, we also recommend that NEEA rely on the CLEAResult data.

[7] These estimates include both Energy Star and non- Energy Star CFL sales.

- **Status:** NEEA provided final 2014 CFL sales data generated by CLEAResult to DNV GL on March 10, 2015.

- **Results:** DNV GL's project manager found no issues of concern with the sales data tracking approach taken by CLEAResult in estimating 2014 GP CFL sales for NEEA. It is worth noting that we had some concerns regarding CLEAResult's calculation of the GP versus specialty CFL sales split for 2013 CFL sales data (see DNV GL memo "2012 CFL Pricing Analysis and Recommendations: 2012-2013 Northwest Residential Lighting Market Tracking Study" dated March 31, 2014). However, it is not within the scope of the 2014-2015 LTMT study to conduct a detailed analysis of CLEAResult's methodology for categorizing 2014 GP and specialty CFL sales. Based on CLEAResult's estimates, regional GP CFL sales in 2014 totaled 11,306,353 lamps (95% of which were Energy Star lamps).

3.2.2 Tracked Units: GP Unit Retirements

NEEA has a retirement model, which estimates the proportion of GP CFLs that are retired annually. The majority of GP CFLs retire within 6 years. To assess this input to the 2013 model, DNV GL staff recommended a review the CFL Lab Test study from the California Public Utilities Commission (CPUC) Energy Division, which was due to be published in 2014. These results are in draft form as of April 2015, and have not yet been finalized. This study was originally designed to determine the average CFL lifetime. However, we have since learned that the authors were not able to produce any meaningful results for CFL lifetime. A separate research effort funded by Southern California Edison (SCE) was able to produce some information on CFL effective useful life (EUL) using data collected in the CFL Lab Test study (Close 2015).

- **Status:** On April 7, 2015, SCE published a survival analysis of the CFL Lab Test study.

- **Results:** Below, we summarize the key results of this study. As show in Table 3 below, the recommend EUL for basic spiral CFLs[8] is 4,047 hours. These results should be viewed with caution, since the results rely on CFL cycling data collected in 2005. DNV GL recommends that NEEA review these EUL results, since this is the most current information available on EUL that we are aware of. However, we do not recommend any changes to NEEA's CFL retirement model at this time.

[8] Basic spiral CFLs are medium screw base spiral lamps that are single wattage, non-dimmable, and less than or equal to 30 watts. Note that this category does *not* include medium screw base A-lamp CFLs.

Table 3:
Recommended Effective Useful Life by CFL Type (in Hours)

Lamp Type	Recommended EUL
Basic Spiral	4,047
Specialty	6,300
High Wattage	9,171

Source: Close (2015).

3.3 GP CFL Savings Rate

NEEA's ACE model includes six inputs related to the savings rate for GP CFLs. For the 2014 ACE model assessment, NEEA asked the DNV GL team to update three of these inputs:

1. Removal rate
2. Daily hours of use
3. Measure life

3.3.1 GP CFL Removal Rate

The original GP CFL removal rate is based on results from consumer telephone surveys included in NEEA's 2005 residential lighting study.[9] To assess this input for 2014, DNV GL recommended including the same question on this topic in the 2015 consumer telephone surveys as used in previous study years. DNV GL recommends using 2015 consumer survey results to support the 2015 assessment of NEEA's ACE model for residential lighting.

- **Status:** Surveys completed as of April 2, 2015 (n = 995).

- **Results:** According to the results from consumer survey question P5A ("Have you had any CFLs that you installed, but later removed and did not use elsewhere in your home?"), 23.8 percent of CFL purchasers (13.6% of the population) have installed and later removed at least one CFL. Follow-up questions were aimed at determining the number of CFLs removed overall, the number that were spiral CFLs, and the number that were A-lamp CFLs (so that the number of general purpose and specialty CFLs could be calculated).

  Table 4 provides the results to these survey questions based on CFL purchasers and based on all respondents (including CFL purchasers and non-purchasers) in terms of the disposition of all CFLs ever acquired by each household. Based on these estimates, approximately 30 percent of all CFLs ever acquired by CFL purchasers have been removed; across the population (which includes CFL purchasers and non-purchasers) 11 percent of all CFLs ever acquired have been removed. General purpose CFL removals, in particular, represent approximately 23 percent of all CFLs ever acquired by purchasers and 8 percent of CFLs ever acquired across the

[9] The 2005 survey included a question that asked, "Have you had any CFLs that you installed, but later removed and did not use elsewhere in your home?"

population. Based on these results, the DNV GL team recommends a removal rate of 8.3 percent for GP CFLs.

Table 4:
Average CFL Disposition among CFL Purchasers and All Respondents

CFL Disposition	Mean Number of CFLs			
	Among CFL Purchasers (n=590)		Among All Respondents (n=995)	
CFLs currently installed	10.20	43%	5.02	60%
CFLs ever removed	7.10	30%	0.91	11%
General Purpose CFLs removed	*5.47*	*22.8%*	*0.69*	*8.3%*
Specialty CFLs removed	*1.63*	*6.8%*	*0.11*	*1.3%*
CFLs currently stored	6.60	28%	2.38	29%
All CFLs Ever Acquired	**24.0**	**100%**	**8.3**	**100%**

Source: DNV GL 2015 Northwest consumer lighting surveys.

3.3.2 GP CFL Daily Hours of Use (HOU)

NEEA bases GP CFL HOU on results from site visits conducted in 2009 as part of the California Residential Lighting Metering Study with adjustments based on data presented to the Regional Technical Forum by SBW Consulting. As part of the 2013 input review, DNV GL recommended reviewing results from an impact evaluation of California's investor-owned utilities' (IOU) 2010-2012 residential, advanced, and upstream lighting programs (which includes updated estimates of average daily HOU for four CFL styles) and the 2012 California Lighting and Appliance Saturation Study (CLASS, which includes updated information on the distribution of lamps by installation location, which affects hours of use). There are no new data to report on GP CFL HOU. We are not aware of any other sources for CFL HOU.

- **Status:** As described above, there are no new data to report on GP CFL HOU as of April 2015.
- **Results:** DNV GL recommends using existing data on GP CFL HOU.

3.3.3 GP CFL Measure Life

NEEA relies on a 2010 value from a Regional Technical Forum report for this input. As mentioned above for "Tracked Units: GP CFL Unit Retirements," DNV GL staff recommend reviewing the survival analysis of the CFL Lab Test study (see Table 3 above for results on recommended EUL).

- **Status:** As described above, SCE published a survival analysis of the CFL Lab Test study in April 2015.

- **Results:** DNV GL recommends that NEEA review these data on GP CFL EUL. However, we do not recommend any changes to NEEA's GP CFL measure life estimates at this time.

3.4 Specialty CFL Market Share

NEEA's ACE model includes the same elements related to specialty CFL market share as related to GP CFL market share. To support the 2014 ACE model assessment, DNV GL reviewed these two elements:

1. Total tracked units; and
2. Tracked unit retirements.

3.4.1 Tracked Units: Total Specialty CFLs

As described above under Tracked Units: Total GP CFLs (Section 3.2.1), DNV GL recommended that NEEA rely on CLEAResult's sales estimates for 2013 for this input to the ACE model. For 2014, we also recommend that NEEA rely on the CLEAResult data.

- **Status:** NEEA provided final 2014 CFL sales data generated by CLEAResult to DNV GL on March 10, 2015.

- **Results:** As described above for Tracked Units: Total GP CFLs, DNV GL's project manager found no issues of concern with the sales data tracking approach taken by CLEAResult in estimating 2014 specialty CFL sales for NEEA. However, as mentioned above, we had some concerns regarding CLEAResult's methodology for categorizing GP and specialty CFLs for 2013 CFL sales data. Based on CLEAResult's 2014 estimates, regional specialty CFL sales in 2014 totaled 3,629,623 lamps (84% of which were Energy Star lamps).

3.4.2 Tracked Units: Specialty Unit Retirements

NEEA has a retirement model which estimates the proportion of specialty CFLs that are retired annually. The majority of specialty CFLs retires within 10 years. As mentioned above for Tracked Units: GP CFL Unit Retirements (Section 3.2.2), DNV GL staff recommend reviewing the survival analysis of the CFL Lab Test study (see Table 3 above for results on recommended EUL).

- **Status:** As described above, SCE published a survival analysis of the CFL Lab Test study in April 2015.

- **Results:** As show in Table 3 above, the recommend EUL for specialty CFLs is 6,300 hours. As mentioned above, these results should be viewed with caution. DNV GL recommends that NEEA review these EUL results, since this is the most current information available on EUL that we are aware of. However, we do not recommend any changes to NEEA's CFL retirement model at this time.

3.5 Specialty CFL Savings Rate

NEEA's ACE model includes the same six inputs related to the savings rate for Specialty CFLs as included for estimating the GP CFL savings rate. To support the 2014 ACE model assessment, DNV GL updated these 3 inputs:

1. Removal rate;
2. Daily hours of use; and
3. Measure life.

3.5.1 Specialty CFL Removal Rate

NEEA assumes a zero percent removal rate for specialty CFLs. DNV GL staff recommended including questions on CFL removals in the 2015 consumer survey.

- **Status:** Consumer telephone surveys completed as of April 2, 2015 (n = 995).

  Results: As shown in Table 4 above (in Section 3.3.1 – GP CFL Removal Rate), specialty CFL removals represent approximately 7 percent of all CFLs ever acquired by CFL purchasers and 1 percent of all CFLs ever acquired across the population (purchasers and non-purchasers). Based on these results, the DNV GL team recommends a removal rate of 1.3 percent for specialty CFLs.

3.5.2 Specialty CFL Daily Hours of Use (HOU)

NEEA bases specialty CFL HOU on results from site visits conducted in 2009 as part of the California Residential Lighting Metering Study with adjustments based on data presented to the Regional Technical Forum by SBW Consulting. As part of the 2013 input review, DNV GL recommended reviewing results from the aforementioned CLASS and CPUC EM&V WO28 final results for updated estimates of specialty CFL HOU. As mentioned above in Section 3.3.2 there are no new data to report on specialty CFL HOU.

- **Status:** As described above, there are no new data to report on specialty CFL HOU.

- **Results:** DNV GL recommends using existing data on specialty CFL HOU.

3.5.3 Specialty CFL Measure Life

NEEA relies on a 2010 value from a Regional Technical Forum report for this input. As mentioned above for GP CFL Measure Life, DNV GL recommends reviewing the survival analysis of the CFL Lab Test study published by SCE.

- As described above, SCE published a survival analysis of the CFL Lab Test study in April 2015.

- **Results:** DNV GL recommends that NEEA review these data on specialty CFL EUL. However, we do not recommend any changes to NEEA's specialty CFL measure life estimates at this time.

APPENDIX 1 – References

CLEAResult, 2015. *2014 Full CFL Data.* Prepared for NEEA. March 10, 2015.

_____, 2014. *2013 Full CFL Data*. Prepared for NEEA. April 14, 2014.

Close, Brett. 2015. "Survival Analysis of CFL Laboratory Study" for Southern California Edison. April 7, 2015.

Comstock, Owen. (U. S. Energy Information Administration), 2014. *Annual Energy Outlook 2014 Early Release.* Personal communication (email) with Jennifer Canseco (DNV GL). May 20, 2014.

DiMascio, Marianne and Loiter, Jeff, 2010. "Impending EISA Lighting Standards: Impacts on Consumers and Energy Efficiency Impacts on Consumers and Energy Efficiency Lighting Programs." NARUC Presentation. November 14, 2010

DNV GL, 2014a. "2012 CFL Pricing Analysis and Recommendations: 2012-2013 Northwest Residential Lighting Market Tracking Study." Memorandum. March 31, 2014

_____, 2014b. *WO21: Residential On-Site Study: California Lighting and Appliance Saturation Study (CLASS 2012)* –Final Report. Prepared for the California Public Utilities Commission, Energy Division. May 21, 2014.

_____, 2014c. *WO28: California Upstream and Residential Lighting Impact Evaluation – Final Report.* Prepared for the California Public Utilities Commission, Energy Division. Final report August 2014.

Ecotope Inc., 2014. *Residential Building Stock Assessment: Metering Study.* Prepared for the Northwest Energy Efficiency Alliance. April 28, 2014.

Fluid Market Strategies, 2013a. *2012 Full CFL Data*. Prepared for NEEA. March 13, 2013.

_____, 2013b. *2012 Full CFL Data Spreadsheet Guide: CFL Data Collection, Tracking, and Analysis Report.* Prepared for NEEA. March 13, 2013.

_____, 2012. *2011 Full CFL Data*. Prepared for NEEA. March 8, 2012.

_____, 2011. *2010 Basic Widget Data Report*. Prepared for NEEA. n.d.

James J. Hirsch and Associates and Erik Page & Associates, Inc. 2015. CFL Laboratory Testing Report: Results from a CFL Switching Cycle and Photometric Laboratory Study. March 2015.

Jarzomski, Kevin (U. S. Energy Information Administration), 2015. *Annual Energy Outlook 2015 Early Release (forthcoming).* Personal communication (email) with Geoff BArker (DNV GL). April 16, 2015.

KEMA, Inc., 2010. *Final Evaluation Report: Upstream Lighting Program: Volumes 1 and 2.* Supported by The Cadmus Group, Inc.; Itron, Inc.; PA Consulting Group; and Jai J. Mitchell Analytics. Prepared for the California Public Utilities Commission, Energy Division. February 8, 2010.

U.S. Census Bureau, 2014. *Population Estimates Program, 2014.* Population estimates for Idaho, Montana, Oregon, and Washington (updated annually). Accessed at http://quickfacts.census.gov/qfd/index.html. 2014.

APPENDIX G – CONSUMER SURVEY SAMPLING MEMORANDUM

DNV·GL

Memo to:
Christopher Frye
Anu Teja
Northwest Energy Efficiency Alliance (NEEA)

Copy:

From: DNV GL - Energy

Date: January 23, 2015

Prepared by: Geoff Barker and Paula Ham-Su

Subject:
Consumer Telephone Survey Sample:
2014-2015 Northwest Residential Lighting Long-Term Market Tracking Study

1. Purpose and Background

This memorandum summarizes DNV GL's sampling approach to the 2015 Consumer Telephone Survey.

DNV GL (formerly DNV KEMA and KEMA Inc.) has conducted consumer surveys nearly every year for the Northwest Residential Lighting Long-Term Market Tracking (LTMT) Study dating back to 2005. The consumer surveys have been conducted with a stratified random sample of households in Idaho, Montana, Oregon and Washington. The samples have been designed to meet the following criteria within survey budget constraints:

- Accurately represent urban and rural populations and facilitate comparisons between the two
- Provide reasonable estimates at the state level and ensure that results can be compared between and among the states.

From 2005–2013, these surveys were conducted via random digit dialing (RDD) to landline numbers only. Beginning in 2014, the surveys were conducted via RDD to both landline and cell phone numbers.

2. Importance of Cell Phone Respondents

In recent years, researchers have become increasingly concerned about the impact of cell phones on surveys. The National Center for Health Statistics' (NCHS) landmark Wireless Substitution study found that in 2006, about 16 percent of all U.S. households had wireless phones (also known as cell phones) only.[1] By 2014, this percentage was 44 percent.[2] Moreover, the number of wireless-only households exceeds the number of landline-only households, and the proportion of wireless-only households is expected to continue to rise. The ongoing monitoring of the country's cell phone usage and tracking of cell phone-only households NCHS's efforts to address the impact of cell phone-only households on the phone-based health research that this agency conducts.

[1] Blumberg , Stephen J. J and Luke, Julian V. Wireless substitution: Early release of estimates from the National Health Interview Survey, January–June 2008. National Center for Health Statistics. December 2008. http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless200812.pdf
[2] Blumberg, Stephen J. J and Luke, Julian V. Wireless substitution: Early release of estimates from the National Health Interview Survey, January–June 2014. National Center for Health Statistics. December 2014. http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201412.pdf

In spite of the growing number of cell phone-only households in recent years, the inclusion of cell phones on phone-based research is relatively recent. This is in part because cell phones pose many challenges to researchers. Among others:

- Response rates from cell phone calls are significantly lower than from landlines, resulting in substantially higher implementation costs.
- Cell phones do not provide reliable geographical indicators. Because they are portable, the area code and phone exchange (the first digits after the area code) are not an indication of the place of residence.
- It is more difficult to determine if a cell phone is in residential or non-residential service based on the phone's exchange.
- A cell phone survey CATI call may reach a minor or another person who is not qualified to answer the survey questions – moreover, it is not always possible to ask respondents under the age of 18 to be transferred to the person who can answer survey questions.
- From a sample design perspective, cell phones increase the difficulty of computing the probability of selection. While most household with landlines have only one landline, it is common to have a cell phone for each adult member of the household.

It is, nevertheless, increasingly necessary to address the issue of wireless-only households. While telephone studies that sample based on landlines only may have been fundamentally sound a few years ago, such studies no longer yield representative, unbiased results.

A 2013 National Health Statistics Report examined the number of people in the U.S. who live in wireless-only households by state to support NHS telephone survey research efforts. This study is widely regarded as an authoritative and up-to-date work on cell phone usage in this country. Of particular relevance for the Northwest Residential Lighting LTMT study are the percentages of adults living in cell phone-only households in the Northwest. As shown in Table 1 below, the proportion of adults living in cell phone-only households in the Northwest is higher than the national average. Table 2 displays the most recent figures of number of households by telephone status.

Table 1: Estimated Percentage of Persons 18 and Older Living in Wireless-Only Households as of December of 2012[3]

State	Estimated % of Adults Aged 18 and Over
Idaho	52.3%
Montana	39.9%
Oregon	36.8%
Washington	39.4%
U.S.A.	36.5% (*)

(*) This estimate increased to 44.0% as of June of 2014.[4]
Estimates at the State level have not been updated by the CDC.

[3] Blumberg, Stephen J. J et al. National Health Statistics Reports: Wireless Substitution: State-level Estimates from the National Health Interview Survey, 2012. Number 70: December 2013. http://www.cdc.gov/nchs/data/nhsr/nhsr070.pdf
[4] Blumberg, Stephen J. J and Luke, Julian V. December 2014. http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201412.pdf

Table 2: Modeled Estimates of the Percent Distribution of Household Telephone Status for Persons 18 and Older[5]

State	Wireless -only	Wireless mostly	Dual-use	Landline -mostly	Landline -only	No phone service	Total
ID (Dec. 2012)	44.6%	14.0%	19.1%	14.0%	6.4%	1.9%	100%
MT (Dec. 2012)	32.6%	18.0%	21.7%	15.8%	N/A	2.0%	100%
OR (Dec. 2012)	38.2%	14.5%	15.5%	18.9%	11.2%	1.7%	100%
WA (Dec. 2012)	33.8%	20.9%	21.1%	15.0%	7.5%	1.7%	100%
Eastern counties*	31.4%	20.9%	24.2%	15.4%	6.3%	1.8%	100%
King County	42.9%	15.8%	23.8%	11.0%	4.9%	1.5%	100%
Rest of WA	29.2%	24.1%	18.1%	17.3%	9.6%	1.7%	100%
USA (Dec. 2012)	38.2%	51.1%			8.6%	2.1%	100%
USA (Jun. 2014)	44.0%	44.9%			8.5%	2.6%	100%

*Includes Adams, Asotin, Benton, Chelan, Columbia, Douglas, Ferry, Franklin, Garfield, Grant, Kittitas, Klickitat, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman, and Yakima.

Thus, landline-only samples are becoming less and less representative of the population. Cell phone-only households are not only increasing in number, but their demographics are also different. The older the adults living in the household, the more likely they are to have a landline.[6] Nationwide, the percentages of adults by age group living in cell phone-only households are the following (as of June 2014):

- Ages 18–24: 57.8%
- Ages 25–29: 69.3%.
- Ages 30–34: 64.9%
- Ages 35–44: 52.5%
- Ages 45–64: 35.7%, and
- 65 and over: 15.7%.

3. 2015 Consumer Survey Sampling Approach

To ensure consistency of the 2015 consumer survey results with consumer surveys conducted in 2013 and earlier, we recommend using the sampling approach that was used for the 2014 consumer surveys (see Section 4 below for further details). We propose including 776 landline respondents to ensure comparability with results from 2013 and earlier. For the results to represent the Northwest population's substantial presence of wireless-only households, we recommend adding 223 cell phone respondents to this study (as was done for the 2014 survey).

[5] Blumberg, Stephen J. J et al. National Health Statistics Reports: Wireless Substitution: State-level Estimates from the National Health Interview Survey, 2012. Number 70: December 2013. http://www.cdc.gov/nchs/data/nhsr/nhsr070.pdf

[6] Ibid.

Wireless respondents will be screened to verify that they live in Idaho, Montana, Oregon, or Washington for at least 6 months out of the year. It will not be possible to set cell phone respondent quotas by each of the targeted zip codes in the sample in the same way that we will for landline respondents, because of the potential for very low response rates for some zip codes, which, in turn, would make such zip code-level quotas very expensive to meet. We will collect self-reported zip codes from respondents, and classify them as either urban or rural based on their responses. Interviewers will ask cell phone respondents if they have a landline and landline respondents if they have cell phones.

Given the nature of cell phones and the obstacles they pose to researchers (see Section 2 above), the cell phone sample will be conducted independently of the landline sample. This:

a) is necessary because the cell phone sample will be screened only for whether respondents live in NEEA's service territory most of the year, whereas the landline sample will be specified at the zip code level; and

b) serves as a safety net should unexpected problems with the cell phone sample occur. While we do not anticipate any problems with the cell phone sample (and did not have any problems during the 2014 surveys), the landline sample will provide the basis for estimates and preserve the continuity of the consumer survey with the ability to track and compare responses from earlier residential lighting LTMT studies.

DNV GL's sampling experts will analyze survey results for the integrated sample and the landline and cell phone samples separately. In 2015 we will employ the same weighting methodology employed in 2014, based on number of households that have only cell phones versus households that have both landline and cell phones or landline-only, estimated at the state level by the Center for Disease Control (CDC). The CDC estimates are presented in Table 2 above.

4. Sample Methodology and Targeted Completes, 2014 and 2015 Consumer Surveys

To accurately represent urban and rural populations and to provide reasonable population estimates at the state level, DNV GL's sampling expert allocated sample points based on the U.S. Census Bureau's most current estimates of population by county, for 2013 in the sample design for the 2014 consumer survey.[7] DNV GL staff merged these county-level population estimates for each of the four Northwest states with the U.S. Department of Agriculture Economic Research Service's Rural Urban Continuum Codes (RUCC) data.[8] We then stratified the population of the four states into 8 strata defined by the combinations of the states and two geographic sectors (rural and urban).

Ten percent of the population across the four Northwest states in 2013 was in the rural sector, and 90 percent was in the urban sector. However, to ensure comparability between the urban and the rural sectors and similar statistical precision for each sector's estimates, we designed a sample that allocates approximately 32 percent of the surveys to the rural sector and 68 percent to the urban sector. The tables below illustrate:

[7] 2014 estimates will not be available until March of 2015.
County population estimates at the state level can be accessed here: http://quickfacts.census.gov/qfd/index.html
[8] The RUCC are updated every ten years. The next update is planned for 2023. http://www.ers.usda.gov/data-products/rural-urban-continuum-codes.aspx

- Population by geographic sector and state (Table 3)
- Number of targeted landline phone surveys (Table 4)
- Number of targeted cell phone surveys (Table 5)
- Number of surveys (landline and cell phone) completed for the 2014 study (Table 6)

The 2014 sampling effort was very successful. Since the U.S. Census has not updated the population estimates by county, and since it is likely that they will be similar to 2013 when they do get updated, a sample similar to the one implemented last year will work well for the 2015 customer survey.

Table 3: 2013 Population Estimates for the Northwest

State	Population *			
	N		%	
	Rural	Urban	Rural	Urban
Idaho	395,210	1,216,926	3%	9%
Montana	368,823	646,342	2%	5%
Oregon	255,375	3,674,690	2%	27%
Washington	334,440	6,636,966	3%	49%
Subtotal	**1,353,848**	**12,174,924**	**10%**	**90%**
Total	**13,528,772**		**100%**	

*Source: Population Estimates: U.S. Census Bureau Rural and Urban Classifications: Department of Agriculture Economic Research Service's Rural Urban Continuum Codes (RUCC).

Table 4: 2015 Consumer Survey Sample Targets for Landline Respondents*

State	Landline Sample Targets			
	N		%	
	Rural	Urban	Rural	Urban
Idaho	84	50	11%	6%
Montana	78	26	10%	3%
Oregon	54	148	7%	19%
Washington	72	264	9%	34%
Subtotal	**288**	**488**	**37%**	**63%**
Total	**776**		**100%**	

*Landline sample targets for the 2015 consumer survey will be the same as for the 2014 consumer survey.

Table 5: 2015 Consumer Survey Sample Targets for Cell Phone Respondents*

State	Wireless Sample Target			
	N		%	
	Rural	Urban	Rural	Urban
Idaho	24	15	11%	7%
Montana	15	15	7%	7%
Oregon	15	42	7%	19%
Washington	21	76	9%	34%
Subtotal	**75**	**148**	**34%**	**66%**
Total	**223**		**100%**	

*Cell phone sample targets for the 2015 consumer survey will be the same as for the 2014 consumer survey.

Table 6: Number of Surveys Completed in 2014 (Landline and Wireless Respondents Combined)

State	Number of Surveys Completed			
	N		%	
	Rural	Urban	Rural	Urban
Idaho	91	83	9%	8%
Montana	82	53	8%	5%
Oregon	66	197	7%	20%
Washington	87	348	9%	35%
Subtotal	**326**	**681**	**32%**	**68%**
Total	**1,007**		**100%**	

RUCC changes

RUCC codes are revised every ten years. The 2013 revision changed the rural/urban designation for ten of the 174 counties in the four states that comprise this study. One of the counties in the Northwest that was previously designated as urban is now considered rural; it represents 0.21% of the population in the four states. The other nine counties were previously considered rural and are now urban. They represent 1.9% of the population in the four states. These changes are illustrated in Table 7 and Table 8.

Because the sample allocation is not proportional between the rural and the urban sectors (the rural sector is oversampled so that it can have a comparable degree of statistical accuracy as the urban sector), these changes do not affect DNV GL's sample plan. In other words, we do not plan to reduce the amount of sample points allocated to the rural sector even though there was almost a 2 percent population decrease in counties that are considered rural.

Table 7: Number of Counties by 2003 RUCC Versus 2013 RUCC

			RUCC 2013								
			URBAN					RURAL			
			1	2	3	4	5	6	7	8	9
RUCC 2003	URBAN	1	10								
		2		9							
		3		4	20						
		4			3	7	2	**1**			
		5				1	8				
	RURAL	6		**1**	**1**	**4**		23			
		7						1	27		2
		8		**1**	**2**					15	2
		9								1	29

Table 8: Percent of Population by 2003 RUCC Versus 2013 RUCC

			RUCC 2013								
			URBAN					RURAL			
			1	2	3	4	5	6	7	8	9
RUCC 2003	URBAN	1	43%								
		2		14%							
		3		6%	15%						
		4			2%	3%	1%	**0.21%**			
		5				1%	4%				
	RURAL	6		**0.33%**	**0.03%**	**1.41%**		4%			
		7						0.05%	3%		0.06%
		8		**0.10%**	**0.03%**					1%	0.04%
		9								0.03%	1%

APPENDIX H – CONSUMER SURVEY BANNER TABLES

NEEA 2015 Consumer Lighting Survey

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Banner 1 Weighted Total

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NEEA 2015 Consumer Lighting Survey

STATE

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
ID	169	39	130	169	-	-	-	82	87	83	52	34	49	32	-	3	13	47	11	51	105	13
	17.0%	33.9%	14.8%	100%				14.8%	19.8%	14.5%	20.4%	20.1%	13.5%	17.2%		13.1%	11.8%	19.4%	9.5%	14.8%	17.8%	21.2%
		C																S				
MT	134	48	86	-	134	-	-	77	57	75	36	23	37	38	-	2	18	23	17	36	86	12
	13.5%	42.1%	9.7%		100%			13.9%	12.9%	13.2%	14.1%	13.5%	10.0%	20.4%		10.4%	17.1%	9.6%	15.1%	10.5%	14.6%	19.0%
		C												M								
OR	259	17	242	-	-	259	-	145	114	145	51	62	98	42	-	3	26	67	22	96	151	12
	26.0%	14.6%	27.5%			100%		26.3%	25.7%	25.5%	20.0%	36.7%	26.8%	22.2%		14.4%	24.6%	27.7%	19.4%	27.9%	25.7%	18.9%
			b									jK										
WA	433	11	422	-	-	-	433	249	184	266	117	50	181	76	-	15	49	105	63	161	246	26
	43.5%	9.4%	48.0%				100%	45.0%	41.6%	46.7%	45.5%	29.6%	49.7%	40.3%		62.2%	46.5%	43.4%	56.0%	46.8%	41.9%	40.9%
			B							L	L		n						r			

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

Strata from data

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
STRATUM 1	39	39	-	39	-	-	-	19	20	17	15	7	9	7	-	2	3	7	2	13	20	6
	3.9%	33.9%		23.0%				3.5%	4.4%	3.0%	5.9%	4.0%	2.6%	3.8%		10.3%	2.8%	3.0%	2.2%	3.9%	3.3%	9.4%
STRATUM 2	130	-	130	130	-	-	-	62	68	66	37	27	40	25	-	1	10	40	8	38	85	7
	13.1%		14.8%	77.0%				11.3%	15.3%	11.5%	14.5%	16.1%	10.9%	13.3%		2.8%	9.1%	16.4%	7.4%	10.9%	14.5%	11.8%
																		PqS				
STRATUM 3	48	48	-	-	48	-	-	30	19	21	23	4	12	9	-	1	2	10	4	9	35	4
	4.9%	42.1%			36.0%			5.4%	4.2%	3.8%	9.1%	2.1%	3.3%	4.9%		4.0%	1.6%	4.2%	3.9%	2.7%	6.0%	6.0%
											l											
STRATUM 4	86	-	86	-	86	-	-	48	38	54	13	19	24	29	-	2	16	13	13	27	51	8
	8.6%		9.7%		64.0%			8.6%	8.6%	9.4%	5.0%	11.4%	6.7%	15.5%		6.4%	15.5%	5.3%	11.2%	7.8%	8.6%	12.9%
										k		k		M			R		r			
STRATUM 5	17	17	-	-	-	17	-	9	8	7	6	4	5	3	-	0	2	2	2	7	9	1
	1.7%	14.6%				6.5%		1.7%	1.7%	1.3%	2.2%	2.3%	1.2%	1.4%		0.6%	2.3%	0.7%	1.8%	1.9%	1.5%	2.2%
STRATUM 6	242	-	242	-	-	242	-	136	106	138	46	58	93	39	-	3	24	65	20	90	142	11
	24.3%		27.5%			93.5%		24.6%	24.0%	24.3%	17.9%	34.5%	25.5%	20.8%		13.7%	22.3%	27.0%	17.6%	26.0%	24.2%	16.7%
												jK						s				
STRATUM 7	11	11	-	-	-	-	11	7	4	7	2	1	5	2	-	-	3	1	1	6	4	1
	1.1%	9.4%					2.5%	1.2%	1.0%	1.3%	0.8%	0.8%	1.3%	1.2%			2.5%	0.5%	1.3%	1.8%	0.7%	1.0%
STRATUM 8	422	-	422	-	-	-	422	243	179	259	115	49	176	74	-	15	47	104	62	155	242	25
	42.4%		48.0%				97.5%	43.9%	40.6%	45.5%	44.7%	28.9%	48.3%	39.0%		62.2%	44.0%	42.9%	54.7%	44.9%	41.2%	40.0%
										L	L		n						r			

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

Rural_Urban from data

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
RURAL	115	115	-	39	48	17	11	65	50	53	46	15	31	21	-	3	10	20	10	36	67	12
	11.5%	100%		23.0% FG	36.0% FG	6.5%	2.5%	11.7%	11.3%	9.4%	17.9%	9.2%	8.5%	11.3%		14.9%	9.1%	8.4%	9.2%	10.4%	11.5%	18.6%
URBAN	880	-	880	130	86	242	422	489	391	516	210	154	334	167	-	20	97	221	102	308	521	51
	88.5%		100%	77.0%	64.0%	93.5% DE	97.5% DE	88.3%	88.7%	90.6%	82.1%	90.8%	91.5%	88.7%		85.1%	90.9%	91.6%	90.8%	89.6%	88.5%	81.4%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

Table: PHONE_TYPE

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
CELL	370	44	326	76	45	100	149	-	370	175	124	71	134	41	-	9	38	75	27	113	237	20
	37.2%	38.2%	37.1%	45.2%	33.3%	38.8%	34.4%		83.9%	30.8%	48.3%	42.1%	36.8%	21.8%		37.3%	36.0%	30.9%	24.2%	32.9%	40.3%	32.3%
				eG							J	J	N				S				T	
DUAL	533	60	473	81	75	128	249	462	71	350	103	81	208	130	-	9	60	150	80	210	292	32
	53.6%	52.5%	53.7%	47.7%	56.2%	49.5%	57.6%	83.5%	16.1%	61.4%	40.1%	47.7%	57.0%	68.8%		36.6%	56.8%	62.0%	70.6%	61.1%	49.6%	50.2%
							f	I		KL				M				p	PQ	U		
LAND	91	11	81	12	14	30	35	91	-	44	30	17	23	18	-	6	8	17	6	21	60	11
	9.2%	9.3%	9.2%	7.0%	10.6%	11.8%	8.1%	16.5%		7.8%	11.6%	10.2%	6.2%	9.4%		26.1%	7.2%	7.1%	5.3%	6.0%	10.2%	17.5%
																s						t

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

SC1. Are you taking this call on a cell phone or a landline?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Cell phone	441	50	391	87	57	114	184	-	441	224	137	80	162	61	-	10	52	86	38	150	265	26
	44.3%	43.6%	44.4%	51.6%	42.4%	43.9%	42.4%		100.0%	39.3%	53.6%	47.4%	44.5%	32.6%		42.9%	48.5%	35.7%	33.8%	43.5%	45.1%	41.9%
											J		N				RS					
Landline	554	65	489	82	77	145	249	554	-	346	119	89	202	127	-	13	55	155	75	194	323	37
	55.7%	56.4%	55.6%	48.4%	57.6%	56.1%	57.6%	100.0%		60.7%	46.4%	52.6%	55.5%	67.4%		57.1%	51.5%	64.3%	66.2%	56.5%	54.9%	58.1%
										K				M				Q	Q			

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

SC2. Are you taking this call while driving a car or doing something that requires your attention?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	441	50	391	87	57	114	184	-	441	224	137	80	162	61	-	10	52	86	38	150	265	26
Unweighted Total	223	46	177	36	32	57	98	-	223	123	62	38	86	37	-	5	29	42	27	89	118	16
No	441	50	391	87	57	114	184	-	441	224	137	80	162	61	-	10	52	86	38	150	265	26
	100%	100%	100%	100%	100%	100%	100%		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

SC3A. Do you live in a household that also has a landline?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	441	50	391	87	57	114	184	-	441	224	137	80	162	61	-	10	52	86	38	150	265	26
Unweighted Total	223	46	177	36	32	57	98	-	223	123	62	38	86	37	-	5	29	42	27	89	118	16
Yes	71	6	65	11	12	13	35	-	71	48	14	9	28	20	-	1	13	11	11	37	28	6
	16.1%	12.3%	16.6%	12.3%	21.5%	11.6%	19.0%		16.1%	21.6%	9.9%	11.3%	17.3%	33.0%		13.1%	25.9%	13.3%	28.5%	24.5% u	10.6%	23.0%
No	370	44	326	76	45	100	149	-	370	175	124	71	134	41	-	9	38	75	27	113	237	20
	83.9%	87.7%	83.4%	87.7%	78.5%	88.4%	81.0%		83.9%	78.4%	90.1%	88.7%	82.7%	67.0%		86.9%	74.1%	86.7%	71.5%	75.5%	89.4% t	77.0%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

SC3B. Do you live in a household that also has a landline?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	554	65	489	82	77	145	249	554	-	346	119	89	202	127	-	13	55	155	75	194	323	37
Unweighted Total	772	266	506	133	102	202	335	772	-	467	191	114	273	175	-	15	81	200	103	280	444	48
Yes	460	53	406	69	63	114	214	460	-	299	89	72	178	108	-	7	46	137	69	173	261	26
	83.0%	82.6%	83.1%	84.0%	81.7%	78.2%	85.9%	83.0%		86.4%	74.9%	80.5%	88.1%	85.2%		54.3%	84.4%	88.2%	92.0%	89.0%	80.9%	69.9%
							f			K							p	P	P	UV		
No	91	11	81	12	14	30	35	91	-	44	30	17	23	18	-	6	8	17	6	21	60	11
	16.5%	16.5%	16.5%	14.5%	18.3%	21.0%	14.0%	16.5%		12.8%	25.0%	19.5%	11.2%	13.9%		45.7%	14.0%	11.0%	8.0%	10.7%	18.5%	30.1%
						g					J					QRS					T	T
Refused	3	1	2	1	-	1	0	3	-	3	0	-	1	1	-	-	1	1	-	1	2	-
	0.5%	0.9%	0.4%	1.5%		0.8%	0.1%	0.5%		0.7%	0.1%		0.7%	0.9%			1.6%	0.8%		0.3%	0.6%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_1. Importance in decision to purchase light bulbs - The bulb helps save energy

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	551	71	480	95	78	143	236	312	239	336	127	88	221	104	-	17	57	142	81	197	318	36
=========	55.4%	61.6%	54.6%	56.2%	57.9%	55.1%	54.4%	56.3%	54.2%	58.9%	49.7%	52.1%	60.5%	55.5%		73.1%	53.6%	58.6%	72.0%	57.4%	54.0%	57.2%
																			QR			
10 - Very important	420	46	374	81	45	111	182	258	162	264	86	70	170	86	-	12	51	103	68	161	232	27
	42.2%	39.8%	42.5%	47.9%	33.7%	42.8%	42.1%	46.6%	36.7%	46.3%	33.7%	41.1%	46.6%	45.5%		50.6%	48.2%	42.5%	60.4%	46.7%	39.4%	43.4%
								I		K									R			
9	131	25	106	14	32	32	53	54	77	72	41	19	51	19	-	5	6	39	13	37	86	9
	13.2%	21.9%	12.1%	8.3%	24.1%	12.3%	12.3%	9.7%	17.5%	12.6%	15.9%	11.0%	13.9%	9.9%		22.5%	5.4%	16.2%	11.6%	10.7%	14.6%	13.8%
		c			DfG				H							Q		Q				
8	161	14	148	35	13	42	72	89	72	78	47	37	49	25	-	2	16	41	11	45	104	12
	16.2%	11.8%	16.8%	20.6%	9.5%	16.1%	16.6%	16.0%	16.4%	13.7%	18.2%	21.7%	13.5%	13.5%		8.2%	15.5%	16.9%	9.6%	13.0%	17.8%	18.9%
				e								j										
7	79	7	72	13	10	18	37	39	40	55	10	13	46	6	-	1	6	28	14	20	55	3
	7.9%	5.7%	8.2%	7.8%	7.2%	7.1%	8.6%	7.0%	9.0%	9.6%	4.0%	7.9%	12.6%	3.3%		3.1%	5.7%	11.6%	12.3%	6.0%	9.4%	4.8%
										K			N									
6	45	4	42	8	7	12	18	21	24	34	10	1	14	20	-	2	7	13	1	28	16	1
	4.5%	3.2%	4.7%	4.5%	5.1%	4.7%	4.3%	3.8%	5.5%	6.1%	3.9%	0.4%	3.9%	10.8%		9.5%	6.8%	5.3%	1.1%	8.1%	2.7%	1.9%
										L	l			M			s	S		UV		
5	91	11	80	10	16	32	34	47	44	38	35	19	18	20	-	1	10	9	6	28	57	6
	9.2%	9.7%	9.1%	5.9%	11.7%	12.3%	7.9%	8.5%	10.0%	6.7%	13.6%	11.0%	5.1%	10.4%		6.1%	9.4%	3.6%	5.0%	8.2%	9.7%	10.2%
											j			m								
4	10	1	9	1	1	3	5	4	6	6	3	0	5	1	-	-	0	3	-	1	8	-
	1.0%	1.0%	1.0%	0.8%	0.5%	1.3%	1.0%	0.8%	1.3%	1.1%	1.1%	0.2%	1.4%	0.8%			0.3%	1.3%		0.4%	1.4%	
3	11	3	8	3	1	0	7	3	7	6	3	1	2	3	-	-	-	3	-	3	6	1
	1.1%	2.5%	0.9%	1.7%	0.5%	*%	1.6%	0.6%	1.6%	1.0%	1.3%	0.8%	0.7%	1.8%				1.1%		0.9%	1.1%	2.1%
							f															
BOTTOM 2 NET	41	5	36	4	8	9	21	32	9	13	20	8	6	7	-	-	6	4	0	19	20	2
==========	4.1%	4.4%	4.1%	2.5%	5.8%	3.3%	4.7%	5.8%	2.0%	2.3%	7.8%	4.9%	1.6%	3.9%			5.6%	1.5%	0.2%	5.5%	3.5%	2.7%
								I			j						s					
2	9	1	8	0	4	2	4	9	-	5	5	-	2	3	-	-	1	3	0	7	2	-
	1.0%	1.2%	0.9%	0.1%	2.6%	0.8%	0.8%	1.7%		0.8%	1.9%		0.6%	1.4%			1.1%	1.1%	0.2%	2.1%	0.4%	
1 - Not at all important	32	4	28	4	4	6	17	23	9	8	15	8	4	5	-	-	5	1	-	12	18	2
	3.2%	3.3%	3.2%	2.4%	3.2%	2.5%	3.9%	4.1%	2.0%	1.4%	5.9%	4.9%	1.0%	2.5%			4.5%	0.5%		3.4%	3.1%	2.7%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_1. Importance in decision to purchase light bulbs - The bulb helps save energy

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	5	0	5	-	1	0	3	5	-	2	1	2	2	-	-	-	2	-	-	1	3	1
	0.5%	*%	0.6%		1.0%	0.1%	0.8%	0.9%		0.4%	0.5%	1.0%	0.6%				1.9%			0.2%	0.5%	2.2%
Refused	1	-	1	-	1	-	-	1	-	1	-	-	1	-	-	-	1	-	-	1	-	-
	0.1%		0.1%		0.9%			0.2%		0.2%			0.3%				1.1%			0.3%		
Mean	8.16	8.14	8.16	8.41	7.97	8.17	8.11	8.18	8.14	8.39	7.67	8.12	8.53	8.07	-	8.83	8.15	8.48	9.02	8.15	8.15	8.33
										K			n						QR			
Standard Deviation	2.29	2.39	2.28	2.10	2.40	2.22	2.37	2.43	2.11	2.06	2.64	2.36	1.89	2.38		1.62	2.45	1.84	1.48	2.42	2.23	2.20
Standard Error	0.10	0.38	0.11	0.26	0.37	0.19	0.14	0.11	0.18	0.11	0.28	0.26	0.13	0.21		0.43	0.32	0.16	0.17	0.17	0.14	0.36

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_2. Importance in decision to purchase light bulbs - The price of the bulb is reasonable

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	507	68	439	81	79	134	213	293	214	271	139	96	182	80	-	8	56	117	52	144	334	29
=========	50.9%	59.1%	49.9%	48.0%	58.6%	51.9%	49.1%	52.9%	48.5%	47.7%	54.4%	56.7%	50.0%	42.5%		32.5%	52.5%	48.5%	46.4%	41.7%	56.8%	46.4%
																					T	
10 - Very important	380	44	336	64	48	104	164	232	148	213	101	66	144	63	-	5	48	87	44	110	245	26
	38.2%	38.6%	38.1%	37.9%	36.0%	40.1%	37.9%	42.0%	33.5%	37.4%	39.6%	38.9%	39.6%	33.4%		21.2%	45.5%	35.9%	39.3%	31.9%	41.6%	40.6%
								i									p				T	
9	127	23	103	17	30	31	49	60	66	59	38	30	38	17	-	3	7	30	8	34	89	4
	12.7%	20.4%	11.7%	10.1%	22.6%	11.9%	11.2%	10.9%	15.1%	10.3%	14.8%	17.8%	10.5%	9.1%		11.3%	7.0%	12.6%	7.2%	9.8%	15.2%	5.8%
		c			DFG							j									Tv	
8	195	18	177	47	18	37	92	94	100	118	47	30	76	39	-	9	23	44	23	72	104	19
	19.6%	15.7%	20.1%	28.0%	13.4%	14.3%	21.3%	17.0%	22.7%	20.7%	18.4%	17.6%	20.8%	20.9%		39.9%	21.6%	18.0%	20.3%	20.8%	17.7%	29.8%
				eF			f									r						u
7	103	5	98	9	15	36	43	68	35	74	22	7	44	27	-	5	8	34	13	42	59	2
	10.4%	4.5%	11.1%	5.2%	11.3%	13.8%	10.0%	12.2%	8.0%	13.0%	8.7%	3.9%	12.0%	14.1%		22.9%	7.7%	14.1%	11.9%	12.3%	10.1%	2.4%
						D				L										V	V	
6	57	4	53	17	7	7	26	20	37	35	10	13	20	15	-	-	6	21	5	28	28	1
	5.8%	3.7%	6.0%	10.2%	5.3%	2.9%	5.9%	3.6%	8.5%	6.1%	3.7%	7.6%	5.6%	7.8%			6.1%	8.9%	4.1%	8.1%	4.8%	2.3%
				F					H									s		v		
5	82	15	67	8	9	27	39	45	37	49	19	14	31	17	-	1	9	14	17	38	36	8
	8.3%	13.1%	7.6%	4.5%	6.7%	10.3%	9.0%	8.2%	8.3%	8.6%	7.6%	8.1%	8.4%	9.1%		3.1%	8.4%	5.6%	15.4%	11.1%	6.1%	12.4%
																			pR	u		
4	7	1	7	0	-	3	4	6	1	3	1	3	2	2	-	0	-	2	0	3	3	1
	0.7%	0.5%	0.7%	0.1%		1.0%	1.0%	1.0%	0.3%	0.6%	0.4%	1.8%	0.5%	0.8%		1.6%		1.0%	0.2%	0.8%	0.5%	2.3%
3	9	1	8	0	1	1	6	6	3	5	3	1	3	1	-	-	-	4	-	3	5	0
	0.9%	0.9%	0.9%	0.2%	1.0%	0.3%	1.5%	1.1%	0.6%	0.8%	1.4%	0.4%	0.9%	0.7%				1.6%		1.0%	0.9%	0.3%
BOTTOM 2 NET	28	2	26	6	3	10	9	18	10	11	13	4	3	8	-	-	1	6	2	11	17	1
==========	2.8%	1.6%	3.0%	3.4%	2.4%	3.9%	2.2%	3.3%	2.3%	2.0%	5.1%	2.2%	0.9%	4.3%			0.9%	2.3%	1.7%	3.2%	2.8%	1.2%
2	13	0	13	5	-	3	5	8	5	7	5	0	2	6	-	-	1	2	2	6	6	1
	1.3%	0.1%	1.4%	2.9%		1.3%	1.0%	1.4%	1.1%	1.3%	2.1%	*%	0.5%	2.9%			0.7%	0.9%	1.5%	1.7%	1.0%	1.2%
1 - Not at all important	16	2	14	1	3	7	5	10	5	4	8	4	1	3	-	-	0	3	0	5	10	-
	1.6%	1.5%	1.6%	0.5%	2.4%	2.6%	1.1%	1.9%	1.2%	0.7%	3.1%	2.2%	0.4%	1.3%			0.2%	1.4%	0.2%	1.5%	1.8%	
Don't know	7	1	6	1	2	4	1	3	3	3	1	3	3	-	-	-	3	0	-	3	2	2
	0.7%	0.9%	0.7%	0.4%	1.2%	1.5%	0.1%	0.6%	0.8%	0.6%	0.4%	1.6%	0.9%				2.8%	0.1%		0.9%	0.3%	2.9%
																	R					

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_2. Importance in decision to purchase light bulbs - The price of the bulb is reasonable

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Mean	8.17	8.29	8.15	8.25	8.31	8.10	8.13	8.20	8.13	8.15	8.13	8.28	8.29	7.85	-	8.15	8.49	8.09	8.08	7.83	8.35	8.26
													n								T	
Standard Deviation	2.07	2.05	2.08	1.95	2.00	2.23	2.05	2.16	1.96	1.96	2.31	2.07	1.85	2.17		1.33	1.79	2.03	2.00	2.14	2.02	1.97
Standard Error	0.09	0.33	0.10	0.24	0.31	0.19	0.12	0.10	0.17	0.11	0.24	0.23	0.13	0.19		0.36	0.23	0.17	0.23	0.15	0.13	0.33

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_3. Importance in decision to purchase light bulbs - The bulb helps lower energy bills

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	572	69	502	98	87	138	248	311	261	338	130	104	220	109	-	19	64	143	74	196	332	44
=========	57.5%	60.3%	57.1%	58.1%	64.6%	53.5%	57.4%	56.2%	59.1%	59.3%	50.5%	61.7%	60.3%	57.9%		79.5%	60.1%	59.3%	66.0%	56.9%	56.5%	69.1%
10 - Very important	449	47	402	83	60	103	202	268	180	275	96	78	173	95	-	12	54	105	69	155	260	34
	45.1%	40.5%	45.7%	49.2%	45.1%	39.7%	46.7%	48.5%	40.8%	48.2%	37.6%	45.9%	47.5%	50.7%		50.6%	51.2%	43.7%	61.1%	45.1%	44.1%	53.7%
										k									R			
9	123	23	100	15	26	36	46	43	80	63	33	27	47	14	-	7	9	38	5	40	73	10
	12.4%	19.8%	11.4%	8.9%	19.5%	13.7%	10.7%	7.7%	18.2%	11.1%	13.0%	15.8%	12.9%	7.3%		28.9%	8.9%	15.7%	4.8%	11.8%	12.4%	15.4%
		c			dg				H				n			qS		S				
8	152	13	139	29	14	48	60	93	59	89	43	20	62	22	-	2	16	43	17	42	105	5
	15.3%	11.3%	15.8%	17.1%	10.7%	18.7%	13.9%	16.9%	13.3%	15.6%	16.8%	11.8%	17.0%	11.6%		8.7%	15.0%	17.8%	14.6%	12.1%	17.8%	8.6%
																					tv	
7	64	3	61	8	6	25	25	39	25	35	21	8	24	8	-	0	4	15	10	26	37	1
	6.4%	2.8%	6.9%	4.5%	4.3%	9.8%	5.9%	7.0%	5.7%	6.2%	8.1%	4.9%	6.7%	4.1%		2.0%	3.5%	6.1%	8.9%	7.6%	6.2%	2.3%
6	44	3	41	5	8	9	21	17	27	34	4	6	19	16	-	-	8	11	5	23	20	1
	4.4%	2.2%	4.7%	3.0%	6.0%	3.5%	5.0%	3.1%	6.0%	6.0%	1.5%	3.3%	5.1%	8.4%			7.4%	4.7%	4.9%	6.7%	3.4%	1.1%
										K										uv		
5	83	13	70	15	10	22	36	47	36	44	28	12	27	17	-	2	8	16	5	31	46	6
	8.3%	11.5%	7.9%	9.0%	7.4%	8.5%	8.3%	8.6%	8.1%	7.7%	10.8%	6.9%	7.3%	9.0%		9.8%	7.6%	6.6%	4.5%	9.0%	7.8%	9.6%
4	11	2	10	1	1	0	8	6	5	7	3	1	3	4	-	-	0	4	1	3	8	-
	1.1%	1.6%	1.1%	0.9%	0.8%	0.1%	1.9%	1.1%	1.2%	1.3%	1.1%	0.6%	0.9%	2.2%			0.1%	1.7%	0.6%	0.9%	1.4%	
							f															
3	20	4	16	9	2	2	8	8	12	12	4	5	4	7	-	-	6	3	0	6	14	-
	2.0%	3.8%	1.8%	5.1%	1.4%	0.9%	1.7%	1.4%	2.8%	2.0%	1.4%	2.9%	1.2%	3.8%			5.6%	1.4%	0.2%	1.8%	2.4%	
				f													rS					
BOTTOM 2 NET	37	6	31	3	5	10	20	23	14	8	22	7	2	6	-	-	1	3	0	14	19	4
==========	3.7%	5.4%	3.5%	1.6%	3.4%	3.8%	4.6%	4.2%	3.2%	1.4%	8.7%	4.0%	0.6%	3.1%			0.8%	1.3%	0.4%	4.1%	3.3%	5.6%
											J											
2	7	1	5	1	2	1	2	7	-	4	1	1	1	3	-	-	1	1	0	3	2	2
	0.7%	1.3%	0.6%	0.7%	1.5%	0.5%	0.5%	1.2%		0.7%	0.5%	0.8%	0.2%	1.8%			0.7%	0.5%	0.4%	0.9%	0.3%	3.2%
1 - Not at all important	30	5	26	2	3	9	18	16	14	4	21	5	2	2	-	-	0	2	-	11	18	1
	3.1%	4.1%	2.9%	0.9%	1.9%	3.4%	4.1%	3.0%	3.2%	0.7%	8.2%	3.2%	0.4%	1.3%			0.1%	0.7%		3.2%	3.0%	2.4%
											J											
Don't know	12	1	11	1	2	3	6	9	3	3	3	6	3	-	-	-	-	3	-	3	7	2
	1.2%	1.0%	1.2%	0.7%	1.5%	1.2%	1.3%	1.7%	0.7%	0.5%	1.1%	3.8%	0.8%					1.2%		1.0%	1.1%	3.6%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_3. Importance in decision to purchase light bulbs - The bulb helps lower energy bills

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Mean	8.22	7.97	8.26	8.31	8.39	8.20	8.16	8.27	8.17	8.42	7.73	8.32	8.55	8.14	-	8.99	8.37	8.46	8.89	8.14	8.24	8.55
										K									r			
Standard Deviation	2.32	2.61	2.27	2.26	2.21	2.20	2.44	2.33	2.30	2.05	2.74	2.37	1.85	2.42		1.53	2.18	1.94	1.64	2.37	2.28	2.36
Standard Error	0.11	0.42	0.11	0.28	0.34	0.19	0.15	0.11	0.19	0.11	0.29	0.27	0.13	0.22		0.41	0.28	0.17	0.19	0.17	0.14	0.40

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_4. Importance in decision to purchase light bulbs - The bulb lasts a long time before burning out

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	671	78	593	121	99	167	284	374	297	389	174	108	251	127	-	13	67	169	80	228	397	46
=========	67.5%	68.3%	67.4%	71.6%	73.8%	64.6%	65.6%	67.6%	67.4%	68.4%	68.0%	63.6%	68.8%	67.5%		54.3%	63.1%	70.1%	70.7%	66.2%	67.6%	73.7%
10 - Very important	524	52	472	94	65	131	235	308	215	305	133	86	195	102	-	11	57	130	58	171	309	44
	52.7%	45.1%	53.6%	55.3%	48.3%	50.6%	54.2%	55.7%	48.8%	53.5%	51.7%	51.1%	53.5%	54.3%		44.9%	53.7%	53.7%	51.5%	49.7%	52.6%	69.3%
																						TU
9	147	27	121	27	34	36	50	66	82	85	42	21	56	25	-	2	10	40	22	57	88	3
	14.8%	23.2%	13.7%	16.2%	25.4%	14.0%	11.5%	11.9%	18.5%	14.8%	16.3%	12.5%	15.3%	13.2%		9.4%	9.4%	16.5%	19.2%	16.5%	15.0%	4.4%
		c			fG				H										q	V	V	
8	171	13	158	15	18	51	88	90	81	100	32	38	66	31	-	9	22	40	18	55	110	6
	17.2%	11.0%	18.0%	8.9%	13.1%	19.5%	20.3%	16.3%	18.3%	17.6%	12.7%	22.6%	18.2%	16.7%		37.6%	20.7%	16.5%	16.2%	15.9%	18.7%	10.0%
						D	D					k				rs					v	
7	66	7	59	14	3	21	27	42	24	36	20	11	19	14	-	1	6	15	7	24	40	3
	6.7%	6.1%	6.7%	8.5%	2.6%	8.2%	6.3%	7.7%	5.4%	6.3%	7.7%	6.3%	5.3%	7.4%		4.5%	5.8%	6.0%	6.5%	6.9%	6.8%	4.0%
6	15	2	13	1	1	6	7	9	7	11	2	3	9	2	-	1	2	4	3	9	4	2
	1.5%	1.6%	1.5%	0.8%	0.9%	2.3%	1.6%	1.6%	1.5%	1.9%	0.6%	1.9%	2.3%	1.1%		3.5%	1.8%	1.7%	2.8%	2.6%	0.7%	3.8%
5	39	8	31	4	7	7	21	22	17	19	17	3	12	7	-	-	6	6	4	16	18	5
	3.9%	7.0%	3.5%	2.3%	5.4%	2.7%	4.8%	4.0%	3.8%	3.3%	6.5%	1.9%	3.4%	3.6%			5.8%	2.6%	3.3%	4.6%	3.0%	8.2%
4	1	0	1	0	-	-	1	1	-	1	0	-	1	-	-	-	0	1	-	0	1	0
	0.1%	0.4%	0.1%	0.2%			0.1%	0.2%		0.1%	0.1%		0.2%				0.2%	0.2%		0.1%	0.1%	0.3%
3	10	3	7	8	1	0	1	3	7	3	6	1	2	1	-	-	-	3	-	7	3	-
	1.0%	2.4%	0.8%	4.4%	0.5%	0.1%	0.3%	0.5%	1.6%	0.5%	2.5%	0.4%	0.5%	0.3%				1.1%		2.0%	0.5%	
				eFG							j									U		
BOTTOM 2 NET	21	3	18	5	5	7	4	12	9	11	5	6	4	6	-	-	3	4	1	6	15	-
==========	2.1%	2.9%	2.0%	3.2%	3.8%	2.6%	0.9%	2.2%	2.0%	1.9%	1.8%	3.3%	1.2%	3.4%			2.6%	1.8%	0.5%	1.8%	2.5%	
2	13	1	12	5	3	5	1	8	5	6	2	5	3	3	-	-	1	4	1	5	8	-
	1.3%	1.3%	1.3%	2.9%	2.0%	2.0%	0.1%	1.4%	1.2%	1.0%	0.8%	3.0%	0.8%	1.6%			1.2%	1.7%	0.5%	1.5%	1.4%	
				G		g																
1 - Not at all important	8	2	6	1	2	2	3	4	4	5	2	0	2	4	-	-	2	0	-	1	7	-
	0.8%	1.6%	0.7%	0.3%	1.8%	0.6%	0.8%	0.8%	0.8%	0.9%	0.9%	0.3%	0.4%	1.9%			1.5%	0.1%		0.3%	1.2%	
Don't know	0	0	-	-	-	0	0	0	-	-	0	0	-	-	-	-	-	-	-	-	0	0
	*%	0.3%				0.1%	*%	0.1%			0.1%	*%									0.1%	*%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_4. Importance in decision to purchase light bulbs - The bulb lasts a long time before burning out

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Mean	8.80	8.51	8.84	8.67	8.75	8.78	8.88	8.83	8.76	8.87	8.67	8.77	8.91	8.77	-	8.88	8.72	8.89	8.98	8.69	8.84	9.06
Standard Deviation	1.80	2.12	1.75	2.15	1.98	1.73	1.61	1.79	1.81	1.71	1.97	1.80	1.61	1.93		1.17	1.89	1.69	1.40	1.87	1.77	1.65
Standard Error	0.08	0.34	0.08	0.27	0.30	0.15	0.10	0.08	0.15	0.09	0.21	0.20	0.11	0.17		0.31	0.24	0.14	0.16	0.13	0.11	0.27

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_6. Importance in decision to purchase light bulbs - The bulb is environmentally friendly

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	404	66	338	51	60	113	180	240	165	236	105	63	153	74	-	12	43	96	56	145	235	24
=========	40.6%	57.4%	38.5%	30.4%	44.4%	43.7%	41.6%	43.3%	37.3%	41.5%	41.1%	37.0%	41.9%	39.6%		50.6%	40.2%	39.6%	49.7%	42.2%	40.0%	38.0%
		C				d																
10 - Very important	301	51	249	38	47	83	132	194	107	180	77	43	119	54	-	9	32	79	37	106	178	17
	30.2%	44.6%	28.3%	22.7%	34.9%	32.0%	30.6%	35.0%	24.1%	31.7%	30.1%	25.4%	32.6%	28.4%		38.2%	30.2%	32.8%	33.0%	30.8%	30.3%	26.2%
		C						I														
9	104	15	89	13	13	30	48	46	58	56	28	20	34	21	-	3	11	16	19	39	57	7
	10.4%	12.8%	10.1%	7.6%	9.5%	11.7%	11.1%	8.3%	13.2%	9.8%	11.0%	11.6%	9.3%	11.1%		12.3%	10.0%	6.8%	16.7%	11.4%	9.7%	11.8%
																			R			
8	184	12	172	39	16	40	89	96	88	97	38	49	71	24	-	4	23	41	17	49	122	13
	18.5%	10.4%	19.5%	23.3%	11.7%	15.5%	20.5%	17.3%	20.0%	17.1%	14.7%	28.9%	19.6%	12.7%		17.5%	21.7%	17.1%	14.9%	14.3%	20.7%	21.0%
			b	e			e					JK	n								t	
7	103	7	97	19	17	25	42	43	61	74	17	13	41	31	-	4	17	32	10	39	55	10
	10.4%	5.9%	11.0%	11.4%	12.7%	9.7%	9.7%	7.7%	13.7%	13.0%	6.5%	7.6%	11.3%	16.2%		17.7%	16.5%	13.2%	9.2%	11.3%	9.3%	16.0%
									h	Kl												
6	74	6	68	32	5	15	22	26	48	37	24	13	30	7	-	1	1	26	5	33	40	1
	7.4%	4.9%	7.7%	18.9%	3.7%	5.9%	5.0%	4.7%	10.8%	6.5%	9.4%	7.5%	8.2%	3.7%		5.1%	1.0%	10.9%	4.0%	9.6%	6.8%	1.3%
				EFG					H				n					QS		V	v	
5	102	12	90	16	14	35	37	57	45	55	34	14	37	15	-	1	5	21	14	30	65	7
	10.3%	10.6%	10.3%	9.4%	10.8%	13.5%	8.6%	10.3%	10.2%	9.6%	13.2%	8.2%	10.3%	7.8%		6.2%	4.8%	8.5%	12.8%	8.6%	11.1%	11.5%
4	10	1	9	0	2	4	4	9	2	7	3	0	4	3	-	-	1	3	2	5	4	1
	1.0%	1.1%	1.0%	0.1%	1.6%	1.6%	0.9%	1.6%	0.4%	1.3%	1.1%	0.3%	1.1%	1.7%			1.2%	1.1%	1.6%	1.6%	0.6%	2.1%
3	22	2	20	4	4	1	14	15	7	15	7	1	9	5	-	0	1	11	2	9	13	0
	2.2%	1.9%	2.3%	2.2%	2.7%	0.4%	3.2%	2.8%	1.5%	2.6%	2.6%	0.3%	2.6%	2.7%		1.4%	0.9%	4.6%	2.0%	2.6%	2.2%	0.3%
							F															
BOTTOM 2 NET	81	8	72	5	14	22	39	55	26	42	26	12	14	28	-	0	12	11	5	31	47	2
==========	8.1%	7.3%	8.2%	3.0%	10.3%	8.7%	9.1%	9.9%	5.9%	7.4%	10.3%	7.2%	3.9%	14.7%		1.6%	11.4%	4.5%	4.2%	9.0%	8.1%	3.6%
														M								
2	29	3	26	2	9	7	12	21	8	22	3	4	7	16	-	0	4	6	3	9	20	-
	2.9%	2.9%	2.9%	1.1%	6.7%	2.6%	2.7%	3.8%	1.8%	3.9%	1.2%	2.2%	1.8%	8.3%		1.6%	3.9%	2.4%	2.7%	2.7%	3.4%	
														M								
1 - Not at all important	52	5	47	3	5	16	28	34	18	20	23	8	8	12	-	-	8	5	2	22	28	2
	5.2%	4.3%	5.3%	1.8%	3.6%	6.1%	6.4%	6.1%	4.1%	3.5%	9.1%	5.0%	2.1%	6.4%			7.5%	2.1%	1.5%	6.3%	4.7%	3.6%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_6. Importance in decision to purchase light bulbs - The bulb is environmentally friendly

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	12	1	12	2	2	3	6	12	-	6	3	4	4	1	-	-	2	1	2	2	7	3
	1.2%	0.5%	1.3%	1.4%	1.2%	1.0%	1.3%	2.2%		1.0%	1.1%	2.2%	1.2%	0.7%			1.9%	0.4%	1.7%	0.7%	1.2%	4.1%
Refused	2	-	2	-	1	-	1	1	1	1	-	1	-	1	-	-	1	-	-	1	-	1
	0.2%		0.2%		0.9%		0.1%	0.2%	0.1%	0.1%		0.7%		0.3%			0.5%			0.1%		2.0%
Mean	7.45	7.92	7.39	7.44	7.41	7.47	7.45	7.43	7.46	7.52	7.17	7.63	7.73	7.05	-	8.26	7.51	7.55	7.84	7.36	7.47	7.74
		C											N									
Standard Deviation	2.60	2.66	2.59	2.09	2.78	2.65	2.70	2.80	2.33	2.54	2.84	2.39	2.30	2.93		1.90	2.73	2.41	2.34	2.70	2.58	2.22
Standard Error	0.12	0.42	0.12	0.26	0.43	0.23	0.16	0.13	0.20	0.14	0.30	0.27	0.16	0.26		0.51	0.36	0.21	0.27	0.19	0.16	0.38

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_7. Importance in decision to purchase light bulbs - Having prior experience with the type of bulb I purchase

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	273	40	232	46	56	63	107	155	117	143	93	36	91	48	-	9	28	53	31	85	174	14
=========	27.4%	35.0%	26.4%	27.4%	41.8%	24.5%	24.7%	28.0%	26.6%	25.2%	36.4%	21.2%	25.0%	25.4%		37.9%	26.5%	21.8%	27.4%	24.6%	29.6%	21.8%
					FG						JL											
10 - Very important	223	36	188	37	43	53	90	130	93	112	79	32	69	39	-	7	24	38	22	64	147	12
	22.4%	31.0%	21.3%	22.2%	32.2%	20.5%	20.7%	23.5%	21.2%	19.8%	30.8%	18.9%	19.0%	20.7%		31.5%	23.1%	15.7%	19.7%	18.5%	25.0%	19.8%
											Jl										t	
9	49	5	45	9	13	10	17	25	24	31	14	4	22	9	-	2	4	15	9	21	27	1
	4.9%	4.0%	5.1%	5.2%	9.7%	4.0%	3.9%	4.5%	5.4%	5.4%	5.6%	2.3%	6.0%	4.7%		6.4%	3.4%	6.1%	7.6%	6.1%	4.6%	2.0%
8	162	20	142	28	13	32	88	103	59	111	31	20	70	35	-	11	18	51	17	39	117	6
	16.3%	17.0%	16.2%	16.8%	9.4%	12.5%	20.4%	18.7%	13.3%	19.5%	12.2%	11.5%	19.3%	18.5%		48.0%	16.9%	21.0%	15.5%	11.4%	19.9%	9.3%
							eF			kl						QRS					Tv	
7	115	11	103	17	12	38	48	65	50	63	25	27	40	23	-	1	17	25	12	46	66	3
	11.6%	10.0%	11.8%	9.8%	9.1%	14.7%	11.2%	11.8%	11.3%	11.1%	9.7%	15.8%	11.0%	12.1%		3.7%	15.9%	10.3%	10.7%	13.4%	11.2%	5.0%
																				V		
6	59	5	54	11	7	15	26	23	36	35	16	8	19	16	-	-	4	14	7	30	24	5
	5.9%	4.1%	6.1%	6.5%	5.2%	5.9%	5.9%	4.1%	8.1%	6.2%	6.2%	4.5%	5.2%	8.6%			4.2%	6.0%	6.4%	8.8%	4.1%	7.6%
																				U		
5	201	19	181	38	28	58	76	107	94	119	41	41	83	35	-	1	18	64	24	70	116	16
	20.2%	16.8%	20.6%	22.7%	21.2%	22.3%	17.6%	19.2%	21.3%	21.0%	15.9%	24.0%	22.7%	18.5%		2.8%	16.9%	26.5%	21.0%	20.2%	19.6%	24.9%
																		P	P			
4	31	1	29	9	2	7	12	13	17	21	6	4	15	5	-	0	1	12	3	12	14	4
	3.1%	1.1%	3.3%	5.4%	1.5%	2.8%	2.8%	2.4%	3.9%	3.7%	2.2%	2.4%	4.0%	2.5%		2.0%	1.3%	5.0%	2.7%	3.6%	2.4%	6.2%
																		q				
3	33	4	30	4	2	6	21	15	18	14	11	9	10	1	-	-	1	5	6	14	16	3
	3.3%	3.1%	3.4%	2.5%	1.8%	2.1%	4.8%	2.7%	4.1%	2.4%	4.2%	5.1%	2.8%	0.7%			0.6%	2.2%	5.8%	4.2%	2.7%	4.8%
							f												Q			
BOTTOM 2 NET	109	14	96	13	10	37	49	61	48	60	28	22	35	25	-	1	18	16	11	42	59	8
==========	11.0%	11.9%	10.9%	7.9%	7.6%	14.3%	11.2%	11.0%	10.9%	10.5%	10.7%	12.9%	9.6%	13.2%		5.7%	17.3%	6.7%	10.0%	12.3%	10.0%	12.4%
																	R					
2	23	3	20	2	3	10	8	18	5	16	2	5	9	6	-	1	3	2	6	8	14	1
	2.3%	2.2%	2.3%	1.4%	2.0%	3.7%	1.9%	3.3%	1.0%	2.8%	0.7%	3.2%	2.6%	3.3%		5.7%	3.0%	0.8%	5.1%	2.3%	2.3%	2.1%
								i														
1 - Not at all important	86	11	75	11	8	27	40	43	43	44	26	17	26	19	-	-	15	14	6	34	45	6
	8.7%	9.6%	8.5%	6.5%	5.6%	10.6%	9.3%	7.7%	9.9%	7.7%	10.0%	9.8%	7.0%	9.8%			14.4%	5.8%	5.0%	10.0%	7.7%	10.3%
																	rs					

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_7. Importance in decision to purchase light bulbs - Having prior experience with the type of bulb I purchase

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	13	1	12	2	3	2	6	11	2	3	6	4	2	1	-	-	0	2	1	6	3	5
	1.3%	1.0%	1.4%	1.0%	2.5%	0.8%	1.4%	2.0%	0.4%	0.4%	2.5%	2.5%	0.5%	0.4%			0.3%	0.6%	0.6%	1.6%	0.4%	7.9%
Mean	6.61	6.96	6.56	6.69	7.23	6.32	6.56	6.74	6.44	6.60	6.91	6.16	6.60	6.58	-	8.15	6.47	6.58	6.55	6.30	6.85	5.97
		C			FG					l	L					QRS					TV	
Standard Deviation	2.78	2.93	2.75	2.64	2.72	2.84	2.79	2.77	2.78	2.68	2.95	2.79	2.64	2.77		2.03	3.01	2.44	2.70	2.78	2.74	2.90
Standard Error	0.13	0.47	0.13	0.33	0.43	0.24	0.17	0.13	0.24	0.15	0.32	0.32	0.19	0.25		0.54	0.39	0.21	0.31	0.20	0.17	0.50

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_8. Importance in decision to purchase light bulbs - The bulb is dimmable

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	169	26	143	21	33	44	71	99	70	88	48	33	56	29	-	1	19	35	16	69	86	15
=========	17.0%	22.4%	16.3%	12.3%	24.6%	17.1%	16.4%	18.0%	15.8%	15.5%	18.8%	19.5%	15.5%	15.4%		5.4%	17.8%	14.4%	14.1%	20.1%	14.6%	23.1%
					d																	
10 - Very important	119	7	112	17	10	40	51	76	43	71	23	25	45	23	-	1	16	25	14	51	55	13
	12.0%	6.3%	12.7%	10.2%	7.6%	15.6%	11.9%	13.7%	9.8%	12.4%	9.2%	15.0%	12.4%	12.1%		2.8%	15.4%	10.2%	12.2%	14.9%	9.4%	20.4%
																	p			u		u
9	50	18	31	3	23	4	20	23	26	17	25	8	11	6	-	1	3	10	2	18	30	2
	5.0%	16.1%	3.6%	2.0%	16.9%	1.5%	4.5%	4.2%	6.0%	3.1%	9.6%	4.5%	3.1%	3.3%		2.6%	2.4%	4.2%	2.0%	5.1%	5.2%	2.6%
		C			DFG		f				J											
8	96	12	84	14	16	31	35	57	39	54	30	12	29	23	-	0	8	26	8	23	67	6
	9.6%	10.7%	9.5%	8.1%	12.0%	11.8%	8.2%	10.3%	8.8%	9.4%	11.7%	7.3%	8.0%	12.3%		0.6%	7.1%	10.8%	7.0%	6.7%	11.4%	9.6%
																					t	
7	97	9	88	25	8	18	46	46	51	60	26	11	39	19	-	-	12	36	5	52	43	2
	9.7%	7.8%	10.0%	14.7%	6.0%	7.0%	10.6%	8.3%	11.5%	10.6%	10.1%	6.3%	10.7%	10.2%			11.3%	14.9%	4.1%	15.0%	7.3%	3.4%
				f														S		UV		
6	47	7	40	14	6	6	21	24	23	29	14	4	16	13	-	-	9	8	7	22	23	2
	4.7%	6.4%	4.5%	8.1%	4.3%	2.4%	5.0%	4.3%	5.3%	5.1%	5.5%	2.2%	4.5%	6.8%			8.5%	3.3%	6.4%	6.5%	3.9%	2.5%
				f																		
5	176	19	157	19	18	44	95	101	75	108	33	35	73	30	-	11	16	39	27	60	102	14
	17.7%	16.3%	17.8%	11.1%	13.3%	17.1%	21.9%	18.2%	17.0%	19.0%	12.8%	20.6%	20.1%	15.8%		46.7%	15.3%	16.2%	24.3%	17.3%	17.3%	22.5%
							D									QRs						
4	57	4	53	20	8	7	22	27	30	31	17	9	24	8	-	3	4	17	5	21	33	3
	5.8%	3.6%	6.1%	11.9%	5.9%	2.9%	5.1%	4.9%	6.8%	5.5%	6.8%	5.3%	6.5%	4.0%		10.7%	3.4%	6.8%	4.2%	6.1%	5.6%	5.3%
				FG																		
3	64	6	58	18	2	23	20	32	33	34	16	15	21	11	-	1	4	18	3	23	37	4
	6.4%	5.4%	6.6%	10.8%	1.6%	9.0%	4.7%	5.7%	7.4%	6.0%	6.1%	8.6%	5.8%	6.1%		3.1%	4.1%	7.6%	3.0%	6.6%	6.3%	6.7%
				Eg		E																
BOTTOM 2 NET	262	28	234	37	38	74	113	149	113	154	67	41	97	55	-	6	27	62	40	70	182	10
==========	26.3%	24.7%	26.6%	22.1%	28.3%	28.5%	26.1%	26.9%	25.7%	27.0%	26.0%	24.5%	26.6%	29.0%		24.7%	25.6%	25.6%	35.8%	20.3%	31.0%	15.9%
																					TV	
2	68	7	61	8	3	25	32	32	35	40	13	15	28	12	-	1	3	15	13	20	45	3
	6.8%	6.2%	6.9%	4.5%	2.5%	9.5%	7.5%	5.9%	8.0%	7.0%	5.2%	8.8%	7.5%	6.4%		3.1%	3.2%	6.4%	11.5%	5.8%	7.7%	4.2%
						e													Q			
1 - Not at all important	194	21	173	30	35	49	81	116	78	114	53	26	70	43	-	5	24	47	27	50	137	7
	19.5%	18.5%	19.7%	17.6%	25.9%	19.0%	18.6%	21.0%	17.6%	20.1%	20.8%	15.7%	19.1%	22.6%		21.6%	22.4%	19.3%	24.3%	14.4%	23.3%	11.7%
																					Tv	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_8. Importance in decision to purchase light bulbs - The bulb is dimmable

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	27	3	24	1	5	11	9	19	8	11	6	10	8	1	-	2	7	1	1	5	15	7
	2.7%	2.8%	2.7%	0.9%	4.0%	4.1%	2.1%	3.5%	1.7%	2.0%	2.3%	5.7%	2.2%	0.5%		8.7%	6.9%	0.3%	1.0%	1.4%	2.5%	10.9%
																	RS					Tu
Mean	5.16	5.44	5.13	5.04	5.40	5.11	5.17	5.20	5.12	5.10	5.28	5.19	5.07	5.12	-	4.05	5.31	5.15	4.62	5.58	4.85	5.82
																	ps			U		U
Standard Deviation	3.06	3.07	3.06	2.86	3.29	3.20	3.00	3.15	2.96	3.04	3.10	3.11	3.01	3.11		2.23	3.19	2.98	3.06	2.97	3.08	3.13
Standard Error	0.14	0.50	0.15	0.36	0.52	0.28	0.18	0.15	0.25	0.17	0.33	0.36	0.21	0.28		0.62	0.42	0.25	0.35	0.21	0.20	0.55

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_9. Importance in decision to purchase light bulbs - The quality of the light from the bulb

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	626	71	554	99	89	171	267	367	258	366	153	107	238	114	-	19	66	157	67	198	394	33
=========	62.9%	62.1%	63.0%	58.5%	66.2%	66.1%	61.6%	66.4%	58.5%	64.2%	59.6%	63.3%	65.2%	60.7%		82.8%	62.2%	64.9%	59.8%	57.7%	67.0%	52.7%
								i								s					Tv	
10 - Very important	476	62	415	78	69	122	207	297	179	282	128	66	179	92	-	18	57	114	52	154	297	25
	47.9%	54.0%	47.1%	46.0%	51.8%	47.1%	47.9%	53.7%	40.6%	49.6%	49.8%	39.3%	49.2%	48.9%		77.2%	53.3%	47.3%	45.7%	44.8%	50.5%	39.9%
								I		l						qRS						
9	149	9	140	21	19	49	59	70	79	83	25	41	58	22	-	1	10	42	16	44	97	8
	15.0%	8.1%	15.9%	12.5%	14.5%	19.0%	13.7%	12.7%	17.9%	14.6%	9.8%	24.0%	16.0%	11.8%		5.7%	9.0%	17.5%	14.1%	12.9%	16.5%	12.8%
												jK						pq				
8	163	22	141	27	22	37	77	78	85	109	34	20	71	36	-	2	24	37	29	80	74	8
	16.3%	19.1%	16.0%	16.1%	16.3%	14.1%	17.8%	14.0%	19.3%	19.2%	13.1%	11.7%	19.5%	19.0%		10.0%	22.7%	15.5%	25.6%	23.4%	12.6%	12.5%
										l									r	Uv		
7	73	7	66	19	9	18	26	33	40	33	28	12	21	13	-	-	5	19	8	25	44	4
	7.3%	6.4%	7.5%	11.4%	7.0%	7.0%	6.1%	5.9%	9.2%	5.9%	10.8%	7.1%	5.7%	6.6%			4.4%	7.7%	7.1%	7.3%	7.5%	5.7%
											j											
6	26	6	20	6	3	8	9	17	9	15	7	3	10	5	-	-	5	9	1	7	17	2
	2.6%	5.3%	2.2%	3.3%	2.0%	3.2%	2.1%	3.1%	2.0%	2.6%	2.8%	2.0%	2.9%	2.4%			4.3%	3.7%	0.9%	2.1%	2.8%	2.6%
5	78	6	72	17	9	14	38	39	39	31	25	22	16	15	-	-	6	13	7	21	43	14
	7.8%	5.4%	8.1%	10.0%	6.9%	5.5%	8.7%	7.0%	8.8%	5.4%	9.7%	13.2%	4.4%	7.7%			5.6%	5.6%	6.0%	6.0%	7.4%	22.4%
												J										TU
4	1	0	1	0	-	1	1	1	-	1	0	0	1	-	-	-	-	1	-	1	0	-
	0.1%	0.3%	0.1%	0.1%		0.2%	0.1%	0.2%		0.1%	0.1%	0.2%	0.1%					0.2%		0.2%	0.1%	
3	8	-	8	-	-	6	2	1	7	7	1	-	3	3	-	-	-	3	1	5	3	-
	0.8%		0.9%			2.4%	0.4%	0.1%	1.7%	1.2%	0.5%		0.8%	1.6%				1.3%	0.5%	1.4%	0.5%	
						G																
BOTTOM 2 NET	16	1	15	0	1	4	12	14	3	7	8	1	5	2	-	2	1	3	0	6	9	1
==========	1.6%	1.0%	1.7%	*%	0.6%	1.5%	2.7%	2.5%	0.6%	1.2%	3.3%	0.6%	1.3%	1.3%		7.1%	0.8%	1.2%	0.2%	1.7%	1.6%	2.1%
							d	i														
2	3	0	3	-	-	-	3	3	-	2	1	-	2	-	-	-	0	2	-	1	2	-
	0.3%	0.1%	0.3%				0.7%	0.6%		0.3%	0.5%		0.5%				0.1%	0.7%		0.4%	0.3%	
1 - Not at all important	13	1	12	0	1	4	8	11	3	5	7	1	3	2	-	2	1	1	0	4	7	1
	1.3%	0.9%	1.4%	*%	0.6%	1.5%	1.9%	1.9%	0.6%	0.9%	2.8%	0.6%	0.8%	1.3%		7.1%	0.7%	0.5%	0.2%	1.3%	1.3%	2.1%
Don't know	5	0	4	1	1	-	2	5	-	1	-	3	-	1	-	-	-	-	-	1	3	1
	0.5%	0.3%	0.5%	0.6%	1.0%		0.5%	0.8%		0.2%		2.1%		0.6%						0.2%	0.5%	2.1%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

K1_9. Importance in decision to purchase light bulbs - The quality of the light from the bulb

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Mean	8.59	8.75	8.57	8.56	8.83	8.60	8.53	8.69	8.47	8.72	8.38	8.48	8.77	8.58	-	9.10	8.80	8.65	8.75	8.54	8.69 V	8.00
Standard Deviation	1.90	1.74	1.92	1.69	1.62	1.95	2.02	1.96	1.81	1.77	2.18	1.82	1.70	1.91		2.38	1.64	1.80	1.51	1.87	1.86	2.26
Standard Error	0.09	0.28	0.09	0.21	0.25	0.16	0.12	0.09	0.15	0.10	0.23	0.21	0.12	0.17		0.64	0.21	0.15	0.17	0.13	0.12	0.37

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_10. Importance in decision to purchase light bulbs - The bulb fits well in my light fixture

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	674	71	603	118	75	176	305	388	286	401	173	99	261	126	-	20	79	176	72	234	395	45
=========	67.7%	61.8%	68.5%	70.1%	56.0%	67.8%	70.3%	70.0%	64.8%	70.5%	67.6%	58.4%	71.5%	66.7%		85.6%	74.2%	72.8%	64.0%	68.0%	67.2%	71.0%
							e			L						S						
10 - Very important	555	61	495	112	56	144	244	339	216	331	147	78	213	104	-	14	66	141	67	196	325	34
	55.8%	52.8%	56.2%	66.3%	41.7%	55.6%	56.3%	61.2%	49.1%	58.1%	57.2%	46.2%	58.3%	55.3%		61.5%	62.3%	58.4%	59.2%	57.1%	55.2%	54.3%
				E			e	I		l												
9	118	10	108	6	19	32	61	49	69	71	27	21	48	21	-	6	13	35	5	37	71	10
	11.9%	9.0%	12.3%	3.8%	14.3%	12.2%	14.1%	8.9%	15.7%	12.4%	10.4%	12.3%	13.2%	11.4%		24.1%	11.9%	14.4%	4.8%	10.8%	12.0%	16.6%
					d	D	D		H							s		S				
8	148	26	122	28	37	28	56	84	64	80	49	19	47	33	-	-	15	31	16	52	88	8
	14.9%	22.6%	13.9%	16.4%	27.8%	10.7%	12.9%	15.2%	14.6%	14.1%	19.1%	11.4%	12.9%	17.5%			14.0%	12.7%	13.9%	15.1%	15.0%	13.5%
		c			FG																	
7	51	5	46	6	5	19	22	21	30	26	8	17	18	8	-	-	4	6	10	21	29	1
	5.1%	4.5%	5.2%	3.3%	3.7%	7.2%	5.1%	3.7%	6.9%	4.6%	3.1%	10.0%	4.9%	4.4%			3.3%	2.3%	8.6%	6.0%	5.0%	2.1%
												jk							R			
6	22	1	21	1	4	10	8	15	7	10	7	5	7	3	-	-	1	4	5	3	17	1
	2.2%	0.7%	2.4%	0.4%	2.7%	3.8%	1.8%	2.7%	1.6%	1.7%	2.7%	3.0%	1.9%	1.5%			0.7%	1.6%	4.8%	1.0%	2.9%	2.2%
						d													q			
5	48	5	43	11	3	8	26	21	27	28	6	14	20	8	-	3	2	15	7	22	24	3
	4.8%	4.6%	4.9%	6.8%	2.1%	3.2%	5.9%	3.8%	6.2%	5.0%	2.3%	8.3%	5.6%	4.2%		14.4%	1.7%	6.4%	5.9%	6.3%	4.1%	4.1%
												k										
4	2	0	2	-	-	1	1	1	1	0	2	-	0	-	-	-	0	-	-	0	2	-
	0.2%	0.1%	0.2%			0.5%	0.2%	0.2%	0.3%	0.1%	0.8%		0.1%				0.1%			0.1%	0.3%	
3	13	2	10	4	3	6	1	5	8	9	1	4	3	4	-	-	2	7	0	2	8	3
	1.3%	2.2%	1.2%	2.2%	2.0%	2.1%	0.2%	0.9%	1.9%	1.5%	0.2%	2.3%	0.9%	2.1%			1.6%	2.8%	0.2%	0.5%	1.4%	4.7%
						g																
BOTTOM 2 NET	28	4	24	1	4	9	13	15	12	13	10	5	7	5	-	-	5	3	3	9	18	0
==========	2.8%	3.3%	2.7%	0.8%	3.3%	3.4%	3.0%	2.8%	2.8%	2.2%	3.7%	3.1%	2.1%	2.8%			4.3%	1.4%	2.6%	2.6%	3.1%	0.3%
2	5	-	5	1	1	-	3	3	2	4	1	-	-	4	-	-	2	1	-	1	5	-
	0.5%		0.6%	0.4%	0.9%		0.7%	0.6%	0.4%	0.7%	0.5%			2.0%			1.7%	0.3%		0.1%	0.8%	
1 - Not at all important	22	4	19	1	3	9	10	12	10	9	8	5	7	2	-	-	3	3	3	8	14	0
	2.3%	3.3%	2.1%	0.4%	2.4%	3.4%	2.2%	2.2%	2.4%	1.6%	3.2%	3.1%	2.1%	0.8%			2.7%	1.1%	2.6%	2.4%	2.4%	0.3%
Don't know	9	-	9	-	3	3	3	4	5	2	1	6	0	1	-	-	-	-	-	1	6	1
	0.9%		1.0%		2.1%	1.3%	0.6%	0.8%	1.0%	0.3%	0.5%	3.5%	0.1%	0.7%						0.4%	1.1%	2.1%
												Jk										

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_10. Importance in decision to purchase light bulbs - The bulb fits well in my light fixture

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Refused	0	0	-	-	0	-	0	0	0	0	0	-	0	-	-	-	-	0	-	0	-	-
	*%	0.3%			0.2%		*%	*%	0.1%	*%	0.1%		0.1%					0.1%		0.1%		
Mean	8.74	8.61	8.76	8.95	8.51	8.63	8.79	8.88	8.56	8.83	8.80	8.32	8.85	8.74	-	9.04	8.90	8.83	8.68	8.78	8.71	8.83
				e				I		l	L											
Standard Deviation	2.02	2.13	2.01	1.84	2.00	2.20	1.98	1.95	2.09	1.93	2.01	2.27	1.91	1.99		1.74	2.09	1.95	2.03	1.97	2.06	1.90
Standard Error	0.09	0.34	0.09	0.23	0.31	0.19	0.12	0.09	0.18	0.11	0.21	0.26	0.13	0.18		0.47	0.27	0.17	0.23	0.14	0.13	0.32

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_11. Importance in decision to purchase light bulbs - My friends or family recommend the bulb I purchase

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	111	26	85	13	26	27	45	58	53	51	44	17	36	12	-	-	20	15	8	27	76	9
=========	11.2%	22.9%	9.7%	7.8%	19.3%	10.4%	10.4%	10.4%	12.1%	8.9%	17.0%	9.9%	9.8%	6.4%			18.8%	6.2%	6.7%	7.9%	12.8%	13.6%
		C			dfg						J						RS				t	
10 - Very important	94	23	71	10	25	22	36	46	48	39	39	16	28	10	-	-	16	9	7	21	66	7
	9.4%	20.0%	8.1%	6.2%	18.5%	8.6%	8.4%	8.4%	10.8%	6.8%	15.1%	9.7%	7.6%	5.5%			15.1%	3.6%	6.3%	6.1%	11.2%	11.0%
		C			DFG						J						Rs				T	
9	17	3	14	3	1	5	9	11	6	12	5	0	8	2	-	-	4	6	1	6	10	2
	1.7%	2.8%	1.6%	1.7%	0.8%	1.7%	2.0%	2.1%	1.3%	2.1%	1.9%	0.3%	2.2%	0.8%			3.6%	2.5%	0.4%	1.8%	1.6%	2.6%
8	69	4	65	10	8	16	34	33	36	35	17	17	27	8	-	-	7	20	5	10	57	2
	6.9%	3.2%	7.4%	5.8%	6.3%	6.4%	7.9%	5.9%	8.2%	6.2%	6.6%	9.9%	7.5%	4.2%			6.6%	8.4%	4.2%	3.0%	9.6%	3.3%
																					T	
7	48	10	38	13	5	11	20	23	25	15	22	11	6	8	-	0	1	6	3	22	22	4
	4.9%	8.7%	4.4%	7.8%	3.7%	4.1%	4.5%	4.2%	5.7%	2.7%	8.6%	6.5%	1.6%	4.3%		0.6%	1.1%	2.6%	2.9%	6.4%	3.7%	7.0%
											J											
6	49	4	45	3	8	16	22	25	24	28	10	10	13	15	-	7	1	8	6	14	31	3
	4.9%	3.3%	5.1%	2.0%	6.0%	6.2%	5.0%	4.5%	5.4%	4.9%	4.1%	6.1%	3.7%	7.9%		31.7%	0.6%	3.3%	5.2%	4.1%	5.3%	5.3%
														m		QRS						
5	166	19	147	37	17	36	76	98	68	104	32	30	79	20	-	5	13	51	29	57	105	4
	16.7%	16.4%	16.7%	21.6%	12.9%	14.1%	17.5%	17.6%	15.5%	18.2%	12.6%	17.8%	21.7%	10.9%		20.0%	12.0%	21.2%	26.0%	16.5%	17.8%	7.1%
													N						Q	v	V	
4	43	2	41	2	3	9	30	24	19	26	13	5	16	9	-	1	6	9	5	20	23	0
	4.3%	1.6%	4.7%	1.0%	2.4%	3.3%	6.9%	4.3%	4.4%	4.5%	5.0%	2.8%	4.4%	5.0%		3.1%	5.4%	3.5%	4.7%	5.9%	3.8%	0.3%
							Df													V		
3	67	7	60	14	10	22	21	35	33	31	25	11	22	8	-	-	9	14	4	20	40	7
	6.7%	6.2%	6.8%	8.3%	7.4%	8.4%	4.9%	6.2%	7.4%	5.5%	9.7%	6.6%	5.9%	4.4%			8.6%	5.9%	3.2%	5.9%	6.8%	10.4%
BOTTOM 2 NET	421	41	380	69	55	119	179	243	178	270	89	61	161	102	-	9	50	112	51	165	225	30
==========	42.3%	35.5%	43.2%	40.7%	40.8%	45.8%	41.3%	43.8%	40.4%	47.5%	34.7%	36.2%	44.2%	54.4%		39.3%	47.0%	46.3%	45.7%	48.1%	38.2%	48.4%
										Kl				m						U		
2	83	6	77	16	6	30	30	37	46	45	23	16	25	19	-	-	9	23	5	39	41	3
	8.3%	5.6%	8.7%	9.8%	4.5%	11.6%	7.0%	6.7%	10.3%	7.8%	8.8%	9.3%	6.8%	10.2%			8.4%	9.4%	4.1%	11.3%	7.0%	4.5%
						e														uV		
1 - Not at all important	338	34	303	52	49	89	148	205	133	226	66	45	137	83	-	9	41	89	47	127	183	28
	33.9%	29.9%	34.5%	31.0%	36.2%	34.2%	34.2%	37.0%	30.0%	39.7%	25.9%	26.8%	37.5%	44.2%		39.3%	38.7%	36.9%	41.5%	36.8%	31.2%	43.9%
										KL												

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_11. Importance in decision to purchase light bulbs - My friends or family recommend the bulb I purchase

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	17	2	15	6	1	4	7	13	4	8	2	7	4	5	-	1	-	6	1	7	7	3
	1.7%	2.0%	1.7%	3.4%	1.0%	1.4%	1.5%	2.3%	0.9%	1.4%	0.7%	4.2%	1.0%	2.4%		5.2%		2.3%	1.3%	2.0%	1.3%	4.4%
Refused	4	0	3	3	0	-	1	4	-	1	3	-	1	0	-	-	-	1	-	1	3	-
	0.4%	0.3%	0.4%	1.5%	0.2%		0.2%	0.6%		0.2%	1.0%		0.2%	0.2%				0.4%		0.2%	0.5%	
Mean	4.09	4.91	3.98	3.97	4.52	3.91	4.12	3.92	4.30	3.72	4.69	4.45	3.88	3.35	-	3.65	4.10	3.67	3.65	3.62	4.40	3.80
		C			f						J	J	N								T	
Standard Deviation	3.07	3.47	2.99	2.88	3.47	3.02	3.02	3.03	3.10	2.93	3.25	3.04	2.97	2.82		2.34	3.41	2.78	2.79	2.81	3.15	3.31
Standard Error	0.14	0.56	0.14	0.37	0.54	0.26	0.18	0.14	0.26	0.16	0.35	0.35	0.21	0.25		0.65	0.44	0.24	0.32	0.20	0.20	0.56

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_12. Importance in decision to purchase light bulbs - The bulb reaches full brightness instantly

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	372	53	319	62	71	96	143	225	147	197	108	67	111	76	-	13	39	69	38	115	239	18
=========	37.4%	46.1%	36.3%	36.5%	52.6%	37.2%	33.1%	40.7%	33.2%	34.6%	42.2%	39.4%	30.3%	40.5%		54.6%	36.7%	28.4%	33.8%	33.3%	40.7%	28.8%
					dfG			i						m		r						
10 - Very important	262	27	235	52	40	65	105	168	94	138	70	54	73	58	-	8	27	49	24	83	166	13
	26.3%	23.8%	26.7%	31.0%	29.8%	25.0%	24.3%	30.4%	21.2%	24.2%	27.3%	32.0%	20.0%	30.8%		34.5%	25.5%	20.3%	21.0%	24.1%	28.3%	19.9%
								I						M								
9	110	26	85	9	31	32	38	57	53	59	38	12	38	18	-	5	12	20	14	31	73	6
	11.1%	22.3%	9.6%	5.5%	22.9%	12.3%	8.9%	10.3%	12.0%	10.4%	14.9%	7.4%	10.4%	9.7%		20.0%	11.2%	8.1%	12.8%	9.2%	12.4%	8.8%
		C			DfG						l											
8	181	18	162	35	11	45	89	92	89	99	48	34	68	30	-	3	20	53	15	66	104	11
	18.2%	15.8%	18.5%	20.9%	8.1%	17.4%	20.7%	16.6%	20.1%	17.3%	18.9%	19.9%	18.8%	15.9%		11.0%	19.0%	21.9%	13.3%	19.2%	17.7%	16.8%
				e			E															
7	103	11	93	18	7	27	52	53	51	73	23	8	52	20	-	3	14	31	11	39	56	9
	10.4%	9.2%	10.6%	10.6%	5.0%	10.3%	12.0%	9.5%	11.5%	12.8%	8.9%	4.6%	14.1%	10.7%		14.4%	13.2%	12.8%	9.5%	11.5%	9.4%	13.5%
							e			L												
6	70	5	66	13	2	25	30	28	42	45	15	10	32	12	-	3	7	18	10	26	42	1
	7.1%	3.9%	7.5%	7.8%	1.7%	9.6%	6.9%	5.0%	9.6%	7.9%	5.8%	6.0%	8.7%	6.3%		11.3%	6.5%	7.3%	8.4%	7.7%	7.2%	2.3%
						E			h											v		
5	154	15	139	32	25	31	65	98	56	92	33	29	61	27	-	2	13	40	29	53	81	19
	15.4%	12.9%	15.8%	19.1%	18.9%	11.8%	15.1%	17.7%	12.6%	16.1%	12.9%	17.0%	16.7%	14.5%		8.7%	12.5%	16.5%	26.2%	15.4%	13.8%	30.9%
																			pQr			TU
4	30	2	28	0	11	7	12	13	17	21	6	2	14	7	-	-	3	13	3	11	17	2
	3.0%	1.6%	3.2%	0.2%	7.8%	2.6%	2.8%	2.3%	3.9%	3.7%	2.5%	1.4%	3.8%	3.9%			2.8%	5.4%	2.4%	3.2%	2.9%	2.7%
					D																	
3	30	2	28	4	2	12	13	15	15	12	10	9	8	4	-	-	4	4	1	10	20	-
	3.0%	1.9%	3.2%	2.1%	1.5%	4.5%	3.0%	2.7%	3.4%	2.0%	3.9%	5.0%	2.1%	2.1%			3.5%	1.6%	1.3%	2.9%	3.4%	
BOTTOM 2 NET	54	10	44	5	4	17	28	29	25	31	12	10	20	11	-	-	6	15	6	24	28	2
==========	5.4%	8.6%	5.0%	2.7%	3.2%	6.5%	6.4%	5.2%	5.6%	5.5%	4.8%	5.8%	5.5%	6.0%			5.8%	6.2%	5.2%	6.9%	4.8%	2.9%
2	21	3	18	1	1	6	13	9	12	16	2	3	11	6	-	-	4	6	3	12	9	1
	2.1%	2.5%	2.1%	0.7%	0.6%	2.4%	3.0%	1.6%	2.8%	2.9%	0.6%	1.9%	3.0%	3.0%			4.0%	2.7%	2.8%	3.4%	1.5%	0.8%
1 - Not at all important	32	7	25	3	3	11	15	20	13	15	11	7	9	6	-	-	2	9	3	12	19	1
	3.3%	6.1%	2.9%	2.0%	2.6%	4.1%	3.4%	3.6%	2.9%	2.6%	4.2%	3.9%	2.5%	3.1%			1.8%	3.5%	2.4%	3.5%	3.3%	2.1%
Don't know	1	-	1	-	1	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	1
	0.1%		0.2%		1.0%			0.2%				0.8%										2.1%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_12. Importance in decision to purchase light bulbs - The bulb reaches full brightness instantly

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Mean	7.30	7.41	7.29	7.54	7.56	7.21	7.18	7.41	7.16	7.21	7.47	7.33	7.08	7.39	-	8.26 RS	7.33	7.01	7.00	7.13	7.43 t	7.06
Standard Deviation	2.46	2.63	2.44	2.25	2.51	2.55	2.47	2.50	2.41	2.40	2.48	2.63	2.34	2.53		1.74	2.43	2.41	2.39	2.50	2.46	2.23
Standard Error	0.11	0.42	0.11	0.28	0.39	0.22	0.15	0.12	0.20	0.13	0.26	0.29	0.16	0.22		0.46	0.31	0.21	0.27	0.17	0.15	0.37

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_13. Importance in decision to purchase light bulbs - The bulb doesn't have mercury in it

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	434	62	372	82	67	112	172	254	179	245	117	71	152	86	-	14	52	87	55	151	255	28
=========	43.6%	54.2%	42.2%	48.7%	50.3%	43.2%	39.7%	45.9%	40.6%	43.1%	45.8%	41.9%	41.7%	45.7%		60.7% r	49.2% r	36.2%	48.7% r	43.8%	43.4%	43.8%
10 - Very important	347	37	310	69	42	95	141	215	132	213	75	59	131	74	-	10	47	73	50	120	212	15
	34.9%	32.3%	35.2%	40.7%	31.6%	36.8%	32.5%	38.9% I	29.9%	37.4%	29.4%	35.0%	36.0%	39.5%		41.1%	44.7% r	30.3%	44.6% R	34.9%	36.0%	24.1%
9	86	25	61	14	25	17	31	39	47	33	42	12	21	12	-	5	5	14	5	31	43	12
	8.7%	21.9% C	7.0%	8.0%	18.6% DFG	6.4%	7.2%	7.1%	10.7%	5.7%	16.4% JL	6.9%	5.7%	6.2%		19.6% qrs	4.5%	5.9%	4.1%	8.9%	7.4%	19.8% tU
8	98	8	90	12	11	28	46	55	42	69	18	11	45	22	-	1	11	34	9	34	57	6
	9.8%	6.9%	10.2%	7.1%	8.1%	10.9%	10.7%	10.0%	9.6%	12.0% l	7.2%	6.3%	12.4%	11.7%		4.0%	10.0%	14.1%	8.3%	10.0%	9.7%	9.8%
7	58	5	53	6	4	21	27	29	30	30	14	14	17	11	-	2	2	17	3	24	33	1
	5.9%	4.7%	6.0%	3.8%	3.0%	8.1%	6.3%	5.2%	6.7%	5.3%	5.5%	8.5%	4.8%	6.0%		8.8%	1.9%	7.1% q	2.8%	7.0% v	5.7%	2.1%
6	26	4	22	6	1	10	9	15	11	18	1	7	15	3	-	3	0	12	0	6	19	1
	2.6%	3.5%	2.5%	3.3%	1.0%	3.8%	2.2%	2.7%	2.6%	3.2% K	0.3%	4.1%	4.0% n	1.3%		11.3% qs	0.4%	4.9% qS	0.2%	1.8%	3.3%	1.1%
5	117	13	104	13	13	26	65	56	62	79	19	19	57	20	-	0	15	31	23	49	59	10
	11.8%	11.3%	11.8%	7.7%	10.1%	10.1%	14.9%	10.0%	14.0%	13.9% k	7.4%	11.3%	15.7%	10.5%		1.4%	14.1% p	13.0% p	20.0% P	14.1%	10.0%	16.1%
4	26	1	25	8	0	6	12	12	14	14	6	6	12	2	-	-	1	10	4	14	12	-
	2.6%	0.9%	2.8%	4.6% e	0.2%	2.3%	2.7%	2.1%	3.2%	2.5%	2.2%	3.3%	3.4%	1.2%			0.5%	4.3% Q	3.2%	4.0%	2.1%	
3	30	1	29	14	2	4	11	11	18	14	15	1	7	6	-	-	1	7	2	10	20	-
	3.0%	0.8%	3.3%	8.2% EFg	1.1%	1.4%	2.5%	2.1%	4.2%	2.4%	6.0% jL	0.3%	1.9%	2.9%			1.2%	3.0%	1.8%	3.0%	3.3%	
BOTTOM 2 NET	146	14	132	24	28	34	60	77	69	79	41	26	43	34	-	3	16	33	15	39	97	10
==========	14.7%	12.5%	15.0%	14.4%	20.9%	13.1%	13.9%	13.9%	15.7%	13.9%	16.0%	15.4%	11.8%	18.0%		13.9%	14.8%	13.9%	13.2%	11.4%	16.4%	16.5%
2	26	2	23	7	5	7	8	12	14	16	2	7	9	7	-	-	3	11	2	8	16	2
	2.6%	1.9%	2.7%	3.9%	3.4%	2.6%	1.8%	2.2%	3.1%	2.8%	1.0%	4.2%	2.5%	3.7%			2.8%	4.6%	1.8%	2.3%	2.8%	2.6%
1 - Not at all important	121	12	108	18	23	27	52	65	56	63	39	19	34	27	-	3	13	22	13	32	80	9
	12.1%	10.7%	12.3%	10.5%	17.5%	10.5%	12.1%	11.7%	12.6%	11.1%	15.1%	11.3%	9.3%	14.3%		13.9%	12.0%	9.3%	11.5%	9.2%	13.7%	13.9%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_13. Importance in decision to purchase light bulbs - The bulb doesn't have mercury in it

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	54	6	48	4	7	12	31	42	12	17	22	15	13	5	-	-	5	9	2	14	33	7
	5.4%	5.2%	5.4%	2.1%	5.4%	4.8%	7.1%	7.6%	2.7%	3.1%	8.5%	8.7%	3.4%	2.6%			5.1%	3.7%	1.8%	4.0%	5.7%	10.6%
								I			j											
Refused	6	-	6	-	-	6	-	3	3	3	3	-	3	-	-	-	3	-	-	3	3	-
	0.6%		0.7%			2.3%		0.5%	0.7%	0.5%	1.1%		0.8%				2.9%			0.9%	0.5%	
Mean	7.00	7.45	6.94	6.97	6.92	7.23	6.90	7.24	6.72	7.07	6.86	6.98	7.11	7.00	-	7.69	7.35	6.82	7.16	7.13	6.94	6.91
		C						I														
Standard Deviation	3.23	3.04	3.25	3.34	3.49	3.11	3.18	3.23	3.22	3.16	3.41	3.22	3.04	3.37		3.10	3.32	3.06	3.23	3.06	3.33	3.26
Standard Error	0.15	0.51	0.16	0.43	0.56	0.27	0.20	0.15	0.28	0.17	0.39	0.38	0.22	0.31		0.83	0.44	0.27	0.37	0.22	0.22	0.58

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_14. Importance in decision to purchase light bulbs - The bulb does not flicker

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
TOP 2 NET	748	80	668	130	105	186	326	415	333	435	182	131	285	136	-	21	86	176	85	243	463	41
=========	75.2%	69.9%	75.9%	77.2%	78.5%	71.8%	75.3%	74.9%	75.6%	76.4%	71.0%	77.5%	78.1%	72.3%		90.4%	80.7%	72.9%	75.5%	70.8%	78.8%	65.3%
																					tv	
10 - Very important	622	55	567	110	78	162	273	360	262	379	135	108	246	120	-	16	78	151	78	207	382	32
	62.5%	47.9%	64.4%	64.9%	57.9%	62.4%	63.0%	65.0%	59.3%	66.5%	52.6%	64.0%	67.5%	63.7%		67.9%	73.4%	62.4%	69.4%	60.3%	65.0%	50.9%
			B							K												
9	126	25	101	21	28	24	53	54	72	56	47	23	39	16	-	5	8	25	7	36	81	9
	12.7%	22.0%	11.5%	12.4%	20.6%	9.4%	12.3%	9.8%	16.3%	9.9%	18.4%	13.4%	10.6%	8.7%		22.5%	7.4%	10.5%	6.2%	10.5%	13.8%	14.4%
		C			F				H		J					qs						
8	94	15	79	9	13	25	46	50	43	58	28	9	36	21	-	1	7	29	13	36	53	4
	9.4%	13.2%	8.9%	5.5%	10.0%	9.7%	10.6%	9.1%	9.8%	10.1%	10.7%	5.1%	9.9%	11.3%		4.4%	6.8%	11.8%	11.6%	10.6%	9.0%	6.7%
7	44	6	38	10	2	18	14	19	25	28	12	4	19	9	-	-	7	15	2	22	21	1
	4.4%	5.0%	4.3%	5.7%	1.6%	6.8%	3.3%	3.4%	5.7%	4.9%	4.7%	2.3%	5.2%	4.6%			7.1%	6.2%	1.5%	6.4%	3.5%	1.1%
																	s	s		v		
6	13	1	13	0	1	6	6	11	3	6	5	3	3	2	-	-	0	4	2	2	9	2
	1.4%	0.6%	1.5%	0.2%	0.9%	2.4%	1.4%	1.9%	0.6%	1.0%	2.0%	1.7%	0.9%	1.2%			0.3%	1.5%	1.5%	0.7%	1.5%	3.8%
5	34	5	29	6	2	10	15	18	15	17	8	8	9	6	-	-	5	5	6	17	10	7
	3.4%	4.2%	3.3%	3.8%	1.5%	4.0%	3.4%	3.3%	3.5%	3.0%	3.3%	4.8%	2.4%	3.1%			5.0%	2.0%	5.6%	4.8%	1.7%	11.5%
																						U
4	7	1	7	1	1	1	5	5	3	1	3	4	1	-	-	-	-	1	-	4	3	-
	0.7%	0.5%	0.7%	0.4%	0.5%	0.5%	1.1%	0.8%	0.6%	0.1%	1.0%	2.3%	0.2%					0.3%		1.3%	0.5%	
												j										
3	16	3	13	7	3	3	3	9	7	9	5	2	2	7	-	-	-	3	-	7	9	-
	1.6%	2.4%	1.5%	4.2%	2.3%	1.0%	0.8%	1.7%	1.6%	1.5%	2.1%	1.2%	0.5%	3.7%				1.3%		2.0%	1.5%	
				fG										M								
BOTTOM 2 NET	32	3	29	4	4	8	16	21	11	17	11	5	10	7	-	1	0	9	5	11	18	3
==========	3.3%	3.0%	3.3%	2.6%	2.8%	3.1%	3.7%	3.8%	2.6%	3.0%	4.2%	2.8%	2.7%	3.7%		5.2%	0.1%	3.8%	4.4%	3.2%	3.1%	5.2%
																		q	Q			
2	10	0	10	-	-	2	7	7	2	5	4	-	4	2	-	-	0	3	2	5	5	-
	1.0%	0.2%	1.1%			1.0%	1.7%	1.3%	0.5%	0.9%	1.7%		1.1%	0.8%			0.1%	1.2%	2.1%	1.5%	0.8%	
1 - Not at all important	23	3	19	4	4	6	9	14	9	11	6	5	6	5	-	1	-	6	3	6	14	3
	2.3%	2.8%	2.2%	2.6%	2.8%	2.2%	2.0%	2.5%	2.1%	2.0%	2.5%	2.8%	1.7%	2.8%		5.2%		2.7%	2.2%	1.7%	2.3%	5.2%
Don't know	7	1	6	1	3	2	2	7	0	0	2	4	0	-	-	-	-	0	-	1	2	4
	0.7%	1.2%	0.6%	0.4%	1.9%	0.6%	0.5%	1.2%	0.1%	*%	1.0%	2.5%	0.1%					0.1%		0.2%	0.4%	6.4%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

K1_14. Importance in decision to purchase light bulbs - The bulb does not flicker

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Mean	8.88	8.65	8.91	8.84	8.97	8.83	8.90	8.87	8.90	8.99	8.63	8.90	9.10	8.76	-	9.22	9.31	8.87	8.95	8.73	9.02 TV	8.39
Standard Deviation	2.07	2.10	2.06	2.21	1.98	2.05	2.05	2.16	1.96	1.97	2.22	2.14	1.81	2.25		2.04	1.37	2.07	2.10	2.15	1.96	2.51
Standard Error	0.09	0.34	0.10	0.28	0.31	0.17	0.12	0.10	0.16	0.11	0.24	0.24	0.13	0.20		0.55	0.18	0.18	0.24	0.15	0.12	0.43

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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NEEA 2015 Consumer Lighting Survey

Summary of Means: K1 Importance in decision to purchase light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
K1_14. The bulb does not flicker	8.88	8.65	8.91 b	8.84	8.97	8.83	8.90	8.87	8.90	8.99	8.63	8.90	9.10	8.76	-	9.22	9.31	8.87	8.95	8.73	9.02 TV	8.39
K1_4. The bulb lasts a long time before burning out	8.80	8.51	8.84	8.67	8.75	8.78	8.88	8.83	8.76	8.87	8.67	8.77	8.91	8.77	-	8.88	8.72	8.89	8.98	8.69	8.84	9.06
K1_10. The bulb fits well in my light fixture	8.74	8.61	8.76	8.95 e	8.51	8.63	8.79	8.88 I	8.56	8.83 l	8.80 L	8.32	8.85	8.74	-	9.04	8.90	8.83	8.68	8.78	8.71	8.83
K1_9. The quality of the light from the bulb	8.59	8.75	8.57	8.56	8.83	8.60	8.53	8.69	8.47	8.72	8.38	8.48	8.77	8.58	-	9.10	8.80	8.65	8.75	8.54 V	8.69 v	8.00
K1_3. The bulb helps lower energy bills	8.22	7.97	8.26	8.31	8.39	8.20	8.16	8.27	8.17	8.42 K	7.73	8.32	8.55	8.14	-	8.99	8.37	8.46	8.89 r	8.14	8.24	8.55
K1_2. The price of the bulb is reasonable	8.17	8.29	8.15	8.25	8.31	8.10	8.13	8.20	8.13	8.15	8.13	8.28	8.29 n	7.85	-	8.15	8.49	8.09	8.08	7.83	8.35 T	8.26
K1_1. The bulb helps save energy	8.16	8.14	8.16	8.41	7.97	8.17	8.11	8.18	8.14	8.39 K	7.67	8.12	8.53 n	8.07	-	8.83	8.15	8.48	9.02 QR	8.15	8.15	8.33
K1_6. The bulb is environmentally friendly	7.45	7.92 C	7.39	7.44	7.41	7.47	7.45	7.43	7.46	7.52	7.17	7.63	7.73 N	7.05	-	8.26	7.51	7.55	7.84	7.36	7.47	7.74
K1_12. The bulb reaches full brightness instantly	7.30	7.41	7.29	7.54	7.56	7.21	7.18	7.41	7.16	7.21	7.47	7.33	7.08	7.39	-	8.26 RS	7.33	7.01	7.00	7.13	7.43 t	7.06
K1_13. The bulb doesn't have mercury in it	7.00	7.45 C	6.94	6.97	6.92	7.23	6.90	7.24 I	6.72	7.07	6.86	6.98	7.11	7.00	-	7.69	7.35	6.82	7.16	7.13	6.94	6.91
K1_7. Having prior experience with the type of bulb I purchase	6.61	6.96	6.56	6.69	7.23 FG	6.32	6.56	6.74	6.44	6.60 l	6.91 L	6.16	6.60	6.58	-	8.15 QRS	6.47	6.58	6.55	6.30	6.85 T	5.97
K1_8. The bulb is dimmable	5.16	5.44	5.13	5.04	5.40	5.11	5.17	5.20	5.12	5.10	5.28	5.19	5.07	5.12	-	4.05	5.31 ps	5.15	4.62	5.58 U	4.85	5.82 U
K1_11. My friends or family recommend the bulb I purchase	4.09	4.91 C	3.98	3.97	4.52 f	3.91	4.12	3.92	4.30	3.72	4.69 J	4.45 J	3.88 N	3.35	-	3.65	4.10	3.67	3.65	3.62	4.40 T	3.80

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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NEEA 2015 Consumer Lighting Survey

Summary of Frequencies: K1 Top 2 - Importance in decision to purchase light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
K1_14. The bulb does not flicker	748 75.2%	80 69.9%	668 75.9%	130 77.2%	105 78.5%	186 71.8%	326 75.3%	415 74.9%	333 75.6%	435 76.4%	182 71.0%	131 77.5%	285 78.1%	136 72.3%	-	21 90.4%	86 80.7%	176 72.9%	85 75.5%	243 70.8%	463 78.8% tv	41 65.3%
K1_10. The bulb fits well in my light fixture	674 67.7%	71 61.8%	603 68.5%	118 70.1%	75 56.0%	176 67.8%	305 70.3% e	388 70.0%	286 64.8%	401 70.5% L	173 67.6%	99 58.4%	261 71.5%	126 66.7%	-	20 85.6% S	79 74.2%	176 72.8%	72 64.0%	234 68.0%	395 67.2%	45 71.0%
K1_4. The bulb lasts a long time before burning out	671 67.5%	78 68.3%	593 67.4%	121 71.6%	99 73.8%	167 64.6%	284 65.6%	374 67.6%	297 67.4%	389 68.4%	174 68.0%	108 63.6%	251 68.8%	127 67.5%	-	13 54.3%	67 63.1%	169 70.1%	80 70.7%	228 66.2%	397 67.6%	46 73.7%
K1_9. The quality of the light from the bulb	626 62.9%	71 62.1%	554 63.0%	99 58.5%	89 66.2%	171 66.1%	267 61.6%	367 66.4% i	258 58.5%	366 64.2%	153 59.6%	107 63.3%	238 65.2%	114 60.7%	-	19 82.8% s	66 62.2%	157 64.9%	67 59.8%	198 57.7%	394 67.0% Tv	33 52.7%
K1_3. The bulb helps lower energy bills	572 57.5%	69 60.3%	502 57.1%	98 58.1%	87 64.6%	138 53.5%	248 57.4%	311 56.2%	261 59.1%	338 59.3%	130 50.5%	104 61.7%	220 60.3%	109 57.9%	-	19 79.5%	64 60.1%	143 59.3%	74 66.0%	196 56.9%	332 56.5%	44 69.1%
K1_1. The bulb helps save energy	551 55.4%	71 61.6%	480 54.6%	95 56.2%	78 57.9%	143 55.1%	236 54.4%	312 56.3%	239 54.2%	336 58.9%	127 49.7%	88 52.1%	221 60.5%	104 55.5%	-	17 73.1%	57 53.6%	142 58.6%	81 72.0% QR	197 57.4%	318 54.0%	36 57.2%
K1_2. The price of the bulb is reasonable	507 50.9%	68 59.1%	439 49.9%	81 48.0%	79 58.6%	134 51.9%	213 49.1%	293 52.9%	214 48.5%	271 47.7%	139 54.4%	96 56.7%	182 50.0%	80 42.5%	-	8 32.5%	56 52.5%	117 48.5%	52 46.4%	144 41.7%	334 56.8% T	29 46.4%
K1_13. The bulb doesn't have mercury in it	434 43.6%	62 54.2%	372 42.2%	82 48.7%	67 50.3%	112 43.2%	172 39.7%	254 45.9%	179 40.6%	245 43.1%	117 45.8%	71 41.9%	152 41.7%	86 45.7%	-	14 60.7% r	52 49.2% r	87 36.2%	55 48.7% r	151 43.8%	255 43.4%	28 43.8%
K1_6. The bulb is environmentally friendly	404 40.6%	66 57.4% C	338 38.5%	51 30.4%	60 44.4%	113 43.7% d	180 41.6%	240 43.3%	165 37.3%	236 41.5%	105 41.1%	63 37.0%	153 41.9%	74 39.6%	-	12 50.6%	43 40.2%	96 39.6%	56 49.7%	145 42.2%	235 40.0%	24 38.0%
K1_12. The bulb reaches full brightness instantly	372 37.4%	53 46.1%	319 36.3%	62 36.5%	71 52.6% dfG	96 37.2%	143 33.1%	225 40.7% i	147 33.2%	197 34.6%	108 42.2%	67 39.4%	111 30.3%	76 40.5% m	-	13 54.6% r	39 36.7%	69 28.4%	38 33.8%	115 33.3%	239 40.7%	18 28.8%
K1_7. Having prior experience with the type of bulb I purchase	273 27.4%	40 35.0%	232 26.4%	46 27.4%	56 41.8% FG	63 24.5%	107 24.7%	155 28.0%	117 26.6%	143 25.2%	93 36.4% JL	36 21.2%	91 25.0%	48 25.4%	-	9 37.9%	28 26.5%	53 21.8%	31 27.4%	85 24.6%	174 29.6%	14 21.8%
K1_8. The bulb is dimmable	169 17.0%	26 22.4%	143 16.3%	21 12.3%	33 24.6% d	44 17.1%	71 16.4%	99 18.0%	70 15.8%	88 15.5%	48 18.8%	33 19.5%	56 15.5%	29 15.4%	-	1 5.4%	19 17.8%	35 14.4%	16 14.1%	69 20.1%	86 14.6%	15 23.1%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

Summary of Frequencies: K1 Top 2 - Importance in decision to purchase light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
K1_11. My friends or family recommend the bulb I purchase	111 11.2%	26 22.9% C	85 9.7%	13 7.8%	26 19.3% dfg	27 10.4%	45 10.4%	58 10.4%	53 12.1%	51 8.9%	44 17.0% J	17 9.9%	36 9.8%	12 6.4%	-	-	20 18.8% RS	15 6.2%	8 6.7%	27 7.9%	76 12.8% t	9 13.6%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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NEEA 2015 Consumer Lighting Survey

Summary of Frequencies: K1 Bottom 2 - Importance in decision to purchase light bulbs?

	Total	RUCC: Rural	RUCC: Urban	State: ID	State: MT	State: OR	State: WA	Respondent Type: Landline	Respondent Type: Cell	CFL Awareness/Purchase: Purch	CFL Awareness/Purchase: Aware No-Purc	CFL Awareness/Purchase: Not Aware	Date Most Recent CFL Purchase: Past Yr	Date Most Recent CFL Purchase: 2+ Yrs	Number of CFLs Installed: 0	Number of CFLs Installed: 1	Number of CFLs Installed: 2-4	Number of CFLs Installed: 5-12	Number of CFLs Installed: 13+	LED Awareness/Purchase: Purch	LED Awareness/Purchase: Aware No-Purc	LED Awareness/Purchase: Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
K1_11. My friends or family recommend the bulb I purchase	421 42.3%	41 35.5%	380 43.2%	69 40.7%	55 40.8%	119 45.8%	179 41.3%	243 43.8%	178 40.4%	270 47.5% Kl	89 34.7%	61 36.2%	161 44.2%	102 54.4% m	-	9 39.3%	50 47.0%	112 46.3%	51 45.7%	165 48.1% U	225 38.2%	30 48.4%
K1_8. The bulb is dimmable	262 26.3%	28 24.7%	234 26.6%	37 22.1%	38 28.3%	74 28.5%	113 26.1%	149 26.9%	113 25.7%	154 27.0%	67 26.0%	41 24.5%	97 26.6%	55 29.0%	-	6 24.7%	27 25.6%	62 25.6%	40 35.8%	70 20.3%	182 31.0% TV	10 15.9%
K1_13. The bulb doesn't have mercury in it	146 14.7%	14 12.5%	132 15.0%	24 14.4%	28 20.9%	34 13.1%	60 13.9%	77 13.9%	69 15.7%	79 13.9%	41 16.0%	26 15.4%	43 11.8%	34 18.0%	-	3 13.9%	16 14.8%	33 13.9%	15 13.2%	39 11.4%	97 16.4%	10 16.5%
K1_7. Having prior experience with the type of bulb I purchase	109 11.0%	14 11.9%	96 10.9%	13 7.9%	10 7.6%	37 14.3%	49 11.2%	61 11.0%	48 10.9%	60 10.5%	28 10.7%	22 12.9%	35 9.6%	25 13.2%	-	1 5.7%	18 17.3% R	16 6.7%	11 10.0%	42 12.3%	59 10.0%	8 12.4%
K1_6. The bulb is environmentally friendly	81 8.1%	8 7.3%	72 8.2%	5 3.0%	14 10.3%	22 8.7%	39 9.1%	55 9.9%	26 5.9%	42 7.4%	26 10.3%	12 7.2%	14 3.9%	28 14.7% M	-	0 1.6%	12 11.4%	11 4.5%	5 4.2%	31 9.0%	47 8.1%	2 3.6%
K1_12. The bulb reaches full brightness instantly	54 5.4%	10 8.6%	44 5.0%	5 2.7%	4 3.2%	17 6.5%	28 6.4%	29 5.2%	25 5.6%	31 5.5%	12 4.8%	10 5.8%	20 5.5%	11 6.0%	-	-	6 5.8%	15 6.2%	6 5.2%	24 6.9%	28 4.8%	2 2.9%
K1_1. The bulb helps save energy	41 4.1%	5 4.4%	36 4.1%	4 2.5%	8 5.8%	9 3.3%	21 4.7%	32 5.8% I	9 2.0%	13 2.3%	20 7.8% j	8 4.9%	6 1.6%	7 3.9%	-	-	6 5.6% s	4 1.5%	0 0.2%	19 5.5%	20 3.5%	2 2.7%
K1_3. The bulb helps lower energy bills	37 3.7%	6 5.4%	31 3.5%	3 1.6%	5 3.4%	10 3.8%	20 4.6%	23 4.2%	14 3.2%	8 1.4%	22 8.7% J	7 4.0%	2 0.6%	6 3.1%	-	-	1 0.8%	3 1.3%	0 0.4%	14 4.1%	19 3.3%	4 5.6%
K1_14. The bulb does not flicker	32 3.3%	3 3.0%	29 3.3%	4 2.6%	4 2.8%	8 3.1%	16 3.7%	21 3.8%	11 2.6%	17 3.0%	11 4.2%	5 2.8%	10 2.7%	7 3.7%	-	1 5.2%	0 0.1%	9 3.8% q	5 4.4% Q	11 3.2%	18 3.1%	3 5.2%
K1_2. The price of the bulb is reasonable	28 2.8%	2 1.6%	26 3.0%	6 3.4%	3 2.4%	10 3.9%	9 2.2%	18 3.3%	10 2.3%	11 2.0%	13 5.1%	4 2.2%	3 0.9%	8 4.3%	-	-	1 0.9%	6 2.3%	2 1.7%	11 3.2%	17 2.8%	1 1.2%
K1_10. The bulb fits well in my light fixture	28 2.8%	4 3.3%	24 2.7%	1 0.8%	4 3.3%	9 3.4%	13 3.0%	15 2.8%	12 2.8%	13 2.2%	10 3.7%	5 3.1%	7 2.1%	5 2.8%	-	-	5 4.3%	3 1.4%	3 2.6%	9 2.6%	18 3.1%	0 0.3%
K1_4. The bulb lasts a long time before burning out	21 2.1%	3 2.9%	18 2.0%	5 3.2%	5 3.8%	7 2.6%	4 0.9%	12 2.2%	9 2.0%	11 1.9%	5 1.8%	6 3.3%	4 1.2%	6 3.4%	-	-	3 2.6%	4 1.8%	1 0.5%	6 1.8%	15 2.5%	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

Summary of Frequencies: K1 Bottom 2 - Importance in decision to purchase light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
K1_9. The quality of the light from the bulb	16 1.6%	1 1.0%	15 1.7%	0 *%	1 0.6%	4 1.5%	12 2.7% d	14 2.5% i	3 0.6%	7 1.2%	8 3.3%	1 0.6%	5 1.3%	2 1.3%	-	2 7.1%	1 0.8%	3 1.2%	0 0.2%	6 1.7%	9 1.6%	1 2.1%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

A1. Have you ever heard of compact fluorescent light bulbs or CFLs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Yes	664	75	589	106	93	161	305	382	282	456	208	-	294	149	-	15	82	194	97	268	368	29
	66.8%	65.6%	66.9%	62.5%	69.5%	62.0%	70.4%	69.0%	63.9%	80.1%	81.2%		80.7%	79.3%		63.6%	77.3%	80.5%	85.8%	77.8%	62.6%	45.5%
							f												p	UV	V	
No	298	37	261	62	37	94	105	156	142	98	42	158	60	33	-	8	20	40	13	68	199	32
	30.0%	32.2%	29.7%	36.8%	27.6%	36.1%	24.4%	28.2%	32.1%	17.2%	16.4%	93.4%	16.6%	17.8%		33.3%	18.5%	16.6%	11.5%	19.7%	33.8%	50.1%
				g		G						JK				s					T	Tu
Don't know	33	2	30	1	4	5	23	15	17	15	6	11	10	6	-	1	4	7	3	9	21	3
	3.3%	2.2%	3.4%	0.8%	2.8%	1.8%	5.3%	2.8%	3.9%	2.7%	2.4%	6.6%	2.7%	2.9%		3.1%	4.2%	2.9%	2.7%	2.5%	3.6%	4.4%
							DF															

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

A2. Compact fluorescent light bulbs, or CFLs, are small fluorescent bulbs that fit in regular light bulb sockets. Have you ever heard of them?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	331	39	291	63	41	98	128	172	159	113	48	169	70	39	-	9	24	47	16	76	220	34
Unweighted Total	320	110	210	59	44	92	125	244	76	116	52	152	69	44	-	7	33	42	17	85	200	35
Yes	162	24	138	29	18	36	78	83	79	113	48	-	70	39	-	9	24	47	16	47	103	12
	48.9%	60.8%	47.2%	46.3%	44.2%	36.8%	60.9% F	48.2%	49.6%	100.0%	100.0%		100.0%	100.0%		100.0%	100.0%	100.0%	100.0%	61.4% uv	46.6%	35.4%
No	155	12	143	32	18	59	46	79	76	-	-	155	-	-	-	-	-	-	-	27	108	21
	46.9%	31.0%	49.1% B	50.6%	43.2%	60.1% G	36.1%	45.9%	48.0%			91.7%								35.0%	48.9%	60.7% t
Don't know	14	3	11	2	5	3	4	10	4	-	-	14	-	-	-	-	-	-	-	3	10	1
	4.2%	8.3%	3.7%	3.1%	12.6% g	3.1%	3.0%	5.9%	2.5%			8.3%								3.5%	4.5%	3.9%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

A1-A2. Aware of or purchase compact fluorescent light bulbs or CFLs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Unaided Aware	664	75	589	106	93	161	305	382	282	456	208	-	294	149	-	15	82	194	97	268	368	29
	66.8%	65.6%	66.9%	62.5%	69.5%	62.0%	70.4%	69.0%	63.9%	80.1%	81.2%		80.7%	79.3%		63.6%	77.3%	80.5%	85.8%	77.8%	62.6%	45.5%
							f												p	UV	V	
Aided Aware	162	24	138	29	18	36	78	83	79	113	48	-	70	39	-	9	24	47	16	47	103	12
	16.2%	20.9%	15.6%	17.4%	13.5%	14.0%	18.0%	14.9%	17.9%	19.9%	18.8%		19.3%	20.7%		36.4%	22.7%	19.5%	14.2%	13.6%	17.5%	19.3%
																s						
Not Aware	169	15	154	34	23	62	50	89	80	-	-	169	-	-	-	-	-	-	-	29	118	22
	17.0%	13.5%	17.5%	20.2%	17.0%	24.0%	11.6%	16.1%	18.2%			100.0%								8.6%	20.0%	35.2%
				g		G															T	Tu
Purchaser	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
	57.2%	46.5%	58.6%	48.9%	56.1%	56.2%	61.5%	62.4%	50.7%	100.0%			100.0%	100.0%		100.0%	100.0%	100.0%	100.0%	69.6%	51.8%	39.9%
							d	I												UV		
Aware Non-Purchaser	256	46	210	52	36	51	117	119	137	-	256	-	-	-	-	-	-	-	-	75	166	16
	25.8%	40.0%	23.9%	30.9%	26.9%	19.8%	26.9%	21.5%	31.1%		100.0%									21.8%	28.2%	24.9%
		C		f					H													

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P0. Have you ever purchased any CFLs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	826	99	727	135	111	197	383	465	361	570	256	-	365	188	-	23	106	242	113	315	471	41
Unweighted Total	843	264	579	141	115	207	380	658	185	590	253	-	359	212	-	20	110	242	130	331	470	42
Yes	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
	69.0%	53.7%	71.0%	61.3%	67.6%	73.9%	69.5%	74.4%	62.0%	100.0%			100.0%	100.0%		100.0%	100.0%	100.0%	100.0%	76.1%	64.8%	61.5%
			b					I												U		
No	224	39	185	50	33	46	96	100	124	-	224	-	-	-	-	-	-	-	-	59	151	14
	27.1%	39.7%	25.4%	36.8%	29.3%	23.2%	25.1%	21.6%	34.2%		87.4%									18.9%	32.0%	34.8%
		c		fg					H												T	
Don't know	32	6	26	3	3	6	20	19	14	-	32	-	-	-	-	-	-	-	-	16	15	2
	3.9%	6.5%	3.5%	2.0%	3.1%	2.9%	5.3%	4.0%	3.8%		12.6%									5.0%	3.2%	3.7%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P0-Rebase. Have you ever purchased any CFLs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Yes	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
	57.2%	46.5%	58.6%	48.9%	56.1%	56.2%	61.5%	62.4%	50.7%	100.0%			100.0%	100.0%		100.0%	100.0%	100.0%	100.0%	69.6%	51.8%	39.9%
							d	I												UV		
No	393	55	338	84	55	108	146	189	204	-	224	169	-	-	-	-	-	-	-	89	268	36
	39.5%	47.9%	38.4%	49.5%	41.4%	41.6%	33.8%	34.2%	46.2%		87.4%	100.0%								25.8%	45.6%	57.7%
				G					H			K									T	T
Don't know	32	6	26	3	3	6	20	19	14	-	32	-	-	-	-	-	-	-	-	16	15	2
	3.2%	5.7%	2.9%	1.6%	2.6%	2.2%	4.7%	3.4%	3.1%		12.6%									4.6%	2.6%	2.4%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3A. Do you currently have any CFLs installed in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Yes	492	45	447	73	61	121	236	306	186	492	-	-	352	126	-	23	106	242	113	198	270	24
	86.4%	83.9%	86.6%	88.6%	81.6%	83.2%	88.8%	88.5%	83.1%	86.4%			96.5%	66.8%		100.0%	100.0%	100.0%	100.0%	82.5%	88.4%	97.6%
													N									Tu
No	72	6	66	9	13	22	28	36	36	72	-	-	11	60	-	-	-	-	-	39	32	1
	12.6%	11.3%	12.7%	10.6%	17.6%	15.1%	10.4%	10.3%	16.0%	12.6%			3.1%	31.8%						16.4%	10.4%	2.4%
														M						V		
Don't know	6	3	4	1	1	2	2	4	2	6	-	-	1	3	-	-	-	-	-	3	4	-
	1.1%	4.9%	0.7%	0.8%	0.8%	1.7%	0.9%	1.2%	0.8%	1.1%			0.3%	1.4%						1.1%	1.2%	
		C																				

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3B. How many CFLs are installed?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	492	45	447	73	61	121	236	306	186	492	-	-	352	126	-	23	106	242	113	198	270	24
Unweighted Total	511	143	368	80	69	126	236	408	103	511	-	-	343	153	-	20	110	242	130	212	275	24
1	23	3	20	3	2	3	15	13	10	23	-	-	12	9	-	23	-	-	-	5	14	4
	4.8%	7.8%	4.5%	4.2%	4.0%	2.8%	6.2%	4.4%	5.4%	4.8%			3.5%	7.2%		100.0%				2.6%	5.3%	16.2% t
2	29	4	24	3	5	5	15	15	13	29	-	-	21	7	-	-	29	-	-	15	13	1
	5.8%	9.7%	5.4%	4.0%	8.4%	4.5%	6.4%	5.0%	7.2%	5.8%			6.1%	5.7%			27.0%			7.5%	4.8%	3.8%
3	32	2	30	6	4	6	16	15	17	32	-	-	19	13	-	-	32	-	-	14	17	1
	6.5%	5.0%	6.6%	7.8%	6.9%	5.1%	6.7%	4.9%	9.0%	6.5%			5.4%	10.3%			30.0%			7.1%	6.4%	2.2%
4	46	3	43	4	9	14	19	24	21	46	-	-	28	17	-	-	46	-	-	22	21	2
	9.3%	6.9%	9.5%	5.3%	14.3%	11.9%	7.8%	7.9%	11.5%	9.3%			8.1%	13.2%			43.0%			11.2%	7.9%	9.5%
5	34	4	31	11	1	7	16	21	13	34	-	-	28	3	-	-	-	34	-	13	20	2
	7.0%	8.7%	6.8%	14.4% E	1.7%	5.9%	6.6%	6.9%	7.2%	7.0%			8.0% N	2.7%				14.3%		6.6%	7.4%	6.2%
6	44	4	40	4	6	11	22	32	12	44	-	-	31	12	-	-	-	44	-	18	23	3
	8.9%	9.7%	8.8%	5.4%	10.2%	9.5%	9.4%	10.3%	6.6%	8.9%			8.9%	9.9%				18.2%		9.2%	8.5%	10.8%
7	16	1	15	1	4	6	6	10	7	16	-	-	14	2	-	-	-	16	-	4	11	1
	3.3%	3.1%	3.3%	0.9%	5.9%	5.0%	2.5%	3.1%	3.6%	3.3%			4.1%	1.5%				6.7%		1.9%	4.2%	4.9%
8	39	5	34	7	5	10	18	29	10	39	-	-	29	10	-	-	-	39	-	13	23	3
	8.0%	11.3%	7.7%	9.5%	8.3%	8.1%	7.4%	9.6%	5.5%	8.0%			8.3%	8.2%				16.3%		6.6%	8.7%	12.2%
9	4	-	4	-	-	1	3	1	2	4	-	-	3	1	-	-	-	4	-	1	2	1
	0.8%		0.9%			0.8%	1.2%	0.5%	1.3%	0.8%			0.8%	0.8%				1.6%		0.5%	0.9%	2.1%
10	69	4	65	20	3	17	29	43	27	69	-	-	48	18	-	-	-	69	-	29	36	4
	14.1%	8.8%	14.6%	27.0% EfG	5.4%	14.1%	12.4%	14.0%	14.3%	14.1%			13.7%	14.4%				28.7%		14.5%	13.5%	17.8%
11	2	-	2	-	-	1	1	2	-	2	-	-	1	1	-	-	-	2	-	-	2	-
	0.4%		0.4%			1.0%	0.3%	0.6%		0.4%			0.2%	1.0%				0.8%			0.7%	
12	32	2	31	5	4	13	11	18	15	32	-	-	27	5	-	-	-	32	-	17	14	1
	6.6%	3.7%	6.8%	6.8%	6.1%	10.7% g	4.5%	5.8%	7.8%	6.6%			7.7%	4.0%				13.3%		8.6%	5.2%	5.3%
14	3	-	3	-	-	1	1	3	-	3	-	-	1	1	-	-	-	-	3	1	1	-
	0.5%		0.6%			1.0%	0.6%	0.8%		0.5%			0.4%	1.0%					2.2%	0.7%	0.5%	
15	28	1	26	2	4	9	13	22	6	28	-	-	23	3	-	-	-	-	28	9	19	-
	5.7%	3.1%	5.9%	2.9%	7.2%	7.1%	5.3%	7.3% i	3.0%	5.7%			6.5%	2.7%					24.7%	4.4%	7.1%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3B. How many CFLs are installed?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
16	3	-	3	-	-	-	3	3	-	3	-	-	3	1	-	-	-	-	3	3	-	-
	0.6%		0.7%				1.3%	1.0%		0.6%			0.7%	0.4%					2.8%	1.6%		
17	0	-	0	-	-	-	0	0	-	0	-	-	-	0	-	-	-	-	0	0	-	-
	0.1%		0.1%				0.2%	0.1%		0.1%				0.3%					0.3%	0.2%		
18	2	1	1	1	0	1	1	2	0	2	-	-	1	2	-	-	-	-	2	2	1	-
	0.5%	1.9%	0.3%	0.9%	0.3%	0.8%	0.2%	0.7%	0.1%	0.5%			0.2%	1.3%					2.0%	0.8%	0.3%	
19	1	-	1	-	1	-	-	1	-	1	-	-	1	-	-	-	-	-	1	1	-	-
	0.2%		0.3%		2.0%			0.4%		0.2%			0.3%						1.1%	0.6%		
20	32	3	28	6	4	8	14	18	13	32	-	-	28	4	-	-	-	-	32	12	20	-
	6.5%	7.8%	6.3%	7.6%	6.0%	6.9%	6.0%	6.0%	7.2%	6.5%			7.8%	2.9%					28.2%	5.8%	7.5%	
22	4	-	4	-	-	-	4	1	2	4	-	-	2	1	-	-	-	-	4	1	2	-
	0.8%		0.8%				1.6%	0.4%	1.3%	0.8%			0.7%	1.0%					3.3%	0.7%	0.9%	
24	2	0	2	-	1	-	1	2	-	2	-	-	1	1	-	-	-	-	2	2	-	0
	0.4%	0.5%	0.4%		2.0%		0.4%	0.7%		0.4%			0.3%	1.0%					1.9%	1.0%		0.9%
25	9	1	8	1	2	0	6	6	3	9	-	-	8	1	-	-	-	-	9	5	4	-
	1.8%	3.0%	1.7%	1.2%	2.9%	0.4%	2.5%	2.0%	1.5%	1.8%			2.2%	1.0%					8.0%	2.5%	1.5%	
27	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.1%		0.2%				0.3%	0.2%		0.1%			0.2%						0.6%		0.3%	
28	2	-	2	-	-	1	1	2	-	2	-	-	2	1	-	-	-	-	2	1	2	-
	0.5%		0.5%			1.0%	0.4%	0.7%		0.5%			0.5%	0.4%					2.0%	0.3%	0.6%	
30	12	1	11	1	-	1	10	4	7	12	-	-	8	2	-	-	-	-	12	4	6	2
	2.4%	1.8%	2.5%	0.9%		0.9%	4.3% f	1.4%	4.0%	2.4%			2.3%	1.4%					10.5%	2.2%	2.1%	8.4%
35	4	1	3	-	1	-	3	2	3	4	-	-	4	-	-	-	-	-	4	1	4	-
	0.9%	2.7% c	0.7%		2.0%		1.3%	0.6%	1.4%	0.9%			1.2%						3.9%	0.3%	1.4%	
40	4	-	4	-	2	-	2	4	-	4	-	-	-	4	-	-	-	-	4	2	2	-
	0.8%		0.9%		3.9% g		0.6%	1.3%		0.8%				3.1%					3.5%	0.8%	0.9%	
43	0	0	-	-	0	-	-	-	0	0	-	-	0	-	-	-	-	-	0	0	-	-
	0.1%	0.6%			0.4%				0.1%	0.1%			0.1%						0.2%	0.1%		
50	5	1	5	1	1	-	4	2	3	5	-	-	3	2	-	-	-	-	5	3	2	-
	1.1%	1.8%	1.0%	1.2%	1.0%		1.6%	0.6%	1.8%	1.1%			1.0%	1.5%					4.7%	1.4%	0.9%	
Don't know	8	1	7	-	1	3	4	8	-	8	-	-	3	4	-	-	-	-	-	1	7	-
	1.6%	2.0%	1.6%		1.0%	2.4%	1.9%	2.6%		1.6%			0.8%	3.2%						0.6%	2.5%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3B. How many CFLs are installed?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Mean	10.24	10.25	10.24	9.22	11.02	9.08	10.95 f	10.33	10.10	10.24	-	-	10.43	9.60	-	1.00	3.16 P	8.29 PQ	23.01 PQR	10.31	10.37	8.26
Standard Deviation	8.75	10.18	8.61	7.13	10.52	5.77	9.85	8.25	9.51	8.75			8.35	9.73		0.00	0.82	2.32	8.96	8.86	8.76	7.68
Standard Error	0.52	1.32	0.55	1.28	1.55	0.70	0.80	0.51	1.11	0.52			0.60	1.03		0.00	0.11	0.20	1.01	0.81	0.71	1.95

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3B-Rebase. How many CFLs are installed?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
1	23	3	20	3	2	3	15	13	10	23	-	-	12	9	-	23	-	-	-	5	14	4
	2.4%	3.1%	2.3%	1.8%	1.8%	1.3%	3.4%	2.4%	2.3%	4.1%			3.4%	4.8%		100.0%				1.5%	2.4%	6.3%
2	29	4	24	3	5	5	15	15	13	29	-	-	21	7	-	-	29	-	-	15	13	1
	2.9%	3.8%	2.8%	1.7%	3.8%	2.1%	3.5%	2.8%	3.0%	5.0%			5.9%	3.8%			27.0%			4.3%	2.2%	1.5%
3	32	2	30	6	4	6	16	15	17	32	-	-	19	13	-	-	32	-	-	14	17	1
	3.2%	2.0%	3.4%	3.4%	3.2%	2.4%	3.6%	2.7%	3.8%	5.6%			5.2%	6.9%			30.0%			4.1%	3.0%	0.8%
4	46	3	43	4	9	14	19	24	21	46	-	-	28	17	-	-	46	-	-	22	21	2
	4.6%	2.7%	4.8%	2.3%	6.6%	5.6%	4.3%	4.4%	4.8%	8.0%			7.8%	8.8%			43.0%			6.4%	3.6%	3.7%
5	34	4	31	11	1	7	16	21	13	34	-	-	28	3	-	-	-	34	-	13	20	2
	3.5%	3.4%	3.5%	6.3%	0.8%	2.8%	3.6%	3.8%	3.0%	6.1%			7.7%	1.8%				14.3%		3.8%	3.4%	2.4%
													N									
6	44	4	40	4	6	11	22	32	12	44	-	-	31	12	-	-	-	44	-	18	23	3
	4.4%	3.8%	4.5%	2.4%	4.7%	4.4%	5.1%	5.7%	2.8%	7.7%			8.6%	6.6%				18.2%		5.3%	3.9%	4.2%
								i														
7	16	1	15	1	4	6	6	10	7	16	-	-	14	2	-	-	-	16	-	4	11	1
	1.6%	1.2%	1.7%	0.4%	2.7%	2.3%	1.4%	1.7%	1.5%	2.9%			4.0%	1.0%				6.7%		1.1%	1.9%	1.9%
													N									
8	39	5	34	7	5	10	18	29	10	39	-	-	29	10	-	-	-	39	-	13	23	3
	4.0%	4.4%	3.9%	4.1%	3.8%	3.8%	4.1%	5.3%	2.3%	6.9%			8.0%	5.5%				16.3%		3.8%	4.0%	4.7%
								i														
9	4	-	4	-	-	1	3	1	2	4	-	-	3	1	-	-	-	4	-	1	2	1
	0.4%		0.4%			0.4%	0.7%	0.3%	0.5%	0.7%			0.8%	0.5%				1.6%		0.3%	0.4%	0.8%
10	69	4	65	20	3	17	29	43	27	69	-	-	48	18	-	-	-	69	-	29	36	4
	7.0%	3.4%	7.4%	11.7%	2.5%	6.6%	6.8%	7.7%	6.0%	12.2%			13.2%	9.6%				28.7%		8.4%	6.2%	6.9%
				E																		
11	2	-	2	-	-	1	1	2	-	2	-	-	1	1	-	-	-	2	-	-	2	-
	0.2%		0.2%			0.5%	0.2%	0.4%		0.3%			0.2%	0.6%				0.8%			0.3%	
12	32	2	31	5	4	13	11	18	15	32	-	-	27	5	-	-	-	32	-	17	14	1
	3.2%	1.4%	3.5%	2.9%	2.8%	5.0%	2.4%	3.2%	3.3%	5.7%			7.5%	2.7%				13.3%		4.9%	2.4%	2.0%
													n									
14	3	-	3	-	-	1	1	3	-	3	-	-	1	1	-	-	-	-	3	1	1	-
	0.3%		0.3%			0.5%	0.3%	0.5%		0.4%			0.4%	0.6%					2.2%	0.4%	0.2%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3B-Rebase. How many CFLs are installed?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
15	28	1	26	2	4	9	13	22	6	28	-	-	23	3	-	-	-	-	28	9	19	-
	2.8%	1.2%	3.0%	1.3%	3.3%	3.3%	2.9%	4.0%	1.3%	4.9%			6.3%	1.8%					24.7%	2.5%	3.3%	
								I					N									
16	3	-	3	-	-	-	3	3	-	3	-	-	3	1	-	-	-	-	3	3	-	-
	0.3%		0.4%				0.7%	0.6%		0.6%			0.7%	0.3%					2.8%	0.9%		
17	0	-	0	-	-	-	0	0	-	0	-	-	-	0	-	-	-	-	0	0	-	-
	*%		*%				0.1%	0.1%		0.1%				0.2%					0.3%	0.1%		
18	2	1	1	1	0	1	1	2	0	2	-	-	1	2	-	-	-	-	2	2	1	-
	0.2%	0.7%	0.2%	0.4%	0.1%	0.4%	0.1%	0.4%	*%	0.4%			0.2%	0.8%					2.0%	0.5%	0.1%	
19	1	-	1	-	1	-	-	1	-	1	-	-	1	-	-	-	-	-	1	1	-	-
	0.1%		0.1%		0.9%			0.2%		0.2%			0.3%						1.1%	0.3%		
20	32	3	28	6	4	8	14	18	13	32	-	-	28	4	-	-	-	-	32	12	20	-
	3.2%	3.1%	3.2%	3.3%	2.8%	3.2%	3.3%	3.3%	3.0%	5.6%			7.5%	1.9%					28.2%	3.3%	3.4%	
													N									
22	4	-	4	-	-	-	4	1	2	4	-	-	2	1	-	-	-	-	4	1	2	-
	0.4%		0.4%				0.9%	0.2%	0.5%	0.7%			0.7%	0.7%					3.3%	0.4%	0.4%	
24	2	0	2	-	1	-	1	2	-	2	-	-	1	1	-	-	-	-	2	2	-	0
	0.2%	0.2%	0.2%		0.9%		0.2%	0.4%		0.4%			0.3%	0.6%					1.9%	0.6%		0.3%
25	9	1	8	1	2	0	6	6	3	9	-	-	8	1	-	-	-	-	9	5	4	-
	0.9%	1.2%	0.9%	0.5%	1.3%	0.2%	1.4%	1.1%	0.6%	1.6%			2.1%	0.6%					8.0%	1.4%	0.7%	
27	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.1%		0.1%				0.2%	0.1%		0.1%			0.2%						0.6%		0.1%	
28	2	-	2	-	-	1	1	2	-	2	-	-	2	1	-	-	-	-	2	1	2	-
	0.2%		0.3%			0.5%	0.2%	0.4%		0.4%			0.5%	0.3%					2.0%	0.2%	0.3%	
30	12	1	11	1	-	1	10	4	7	12	-	-	8	2	-	-	-	-	12	4	6	2
	1.2%	0.7%	1.3%	0.4%		0.4%	2.3%	0.8%	1.7%	2.1%			2.2%	0.9%					10.5%	1.2%	0.9%	3.2%
							f															
35	4	1	3	-	1	-	3	2	3	4	-	-	4	-	-	-	-	-	4	1	4	-
	0.4%	1.1%	0.4%		0.9%		0.7%	0.3%	0.6%	0.8%			1.2%						3.9%	0.1%	0.7%	
40	4	-	4	-	2	-	2	4	-	4	-	-	-	4	-	-	-	-	4	2	2	-
	0.4%		0.4%		1.8%		0.3%	0.7%		0.7%				2.1%					3.5%	0.4%	0.4%	
43	0	0	-	-	0	-	-	-	0	0	-	-	0	-	-	-	-	-	0	0	-	-
	*%	0.2%			0.2%				0.1%	*%			0.1%						0.2%	0.1%		
50	5	1	5	1	1	-	4	2	3	5	-	-	3	2	-	-	-	-	5	3	2	-
	0.5%	0.7%	0.5%	0.5%	0.5%		0.9%	0.4%	0.8%	0.9%			1.0%	1.0%					4.7%	0.8%	0.4%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3B-Rebase. How many CFLs are installed?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
None	503	70	433	96	73	138	197	248	255	78	256	169	13	62	-	-	-	-	-	146	318	38
	50.6%	61.0%	49.2%	56.7%	54.2%	53.3%	45.4%	44.8%	57.9%	13.6%	100.0%	100.0%	3.5%	33.2%						42.5%	54.1%	61.1%
									H		J	J		M							T	T
Don't know	8	1	7	-	1	3	4	8	-	8	-	-	3	4	-	-	-	-	-	1	7	-
	0.8%	0.8%	0.8%		0.5%	1.1%	1.0%	1.4%		1.4%			0.7%	2.2%						0.3%	1.2%	
Mean	5.02	3.94	5.16	4.00	5.01	4.19	5.92	5.64	4.26	8.82	0.00	0.00	10.06	6.34	-	1.00	3.16	8.29	23.01	5.91	4.69	3.21
			B				DF	i		KL			N				P	PQ	PQR	UV		
Standard Deviation	7.98	8.02	7.97	6.55	8.96	5.99	9.07	7.98	7.93	8.86	0.00	0.00	8.42	9.12		0.00	0.82	2.32	8.96	8.43	7.83	6.23
Standard Error	0.36	1.29	0.38	0.82	1.38	0.51	0.55	0.37	0.67	0.48	0.00	0.00	0.59	0.82		0.00	0.11	0.20	1.01	0.59	0.49	1.02

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3C. Of the [P3b] CFLs you have installed, how many are the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	484	44	440	73	61	118	232	298	186	484	-	-	349	122	-	23	106	242	113	197	263	24
Unweighted Total	502	141	361	80	68	122	232	399	103	502	-	-	338	150	-	20	110	242	130	210	268	24
0	19	1	18	1	0	6	11	14	5	19	-	-	14	5	-	-	6	9	4	13	6	1
	3.9%	3.3%	4.0%	1.5%	0.5%	5.3%	4.9%	4.7%	2.7%	3.9%			4.1%	3.8%			5.2%	3.9%	3.7%	6.4%	2.2%	3.0%
							e													u		
1	30	4	26	3	5	3	18	17	13	30	-	-	14	13	-	23	6	0	-	8	18	4
	6.1%	8.9%	5.9%	4.2%	8.5%	2.9%	7.8%	5.7%	6.8%	6.1%			4.1%	10.9%		100.0%	5.6%	0.1%		4.0%	6.8%	16.2%
														M		QR	r					t
2	42	5	37	4	8	12	18	23	19	42	-	-	36	6	-	-	35	6	1	20	22	0
	8.8%	11.8%	8.5%	4.9%	13.5%	10.6%	7.9%	7.9%	10.3%	8.8%			10.4%	5.2%			33.4%	2.4%	1.2%	10.1%	8.5%	0.8%
																	RS					
3	42	3	39	8	3	14	16	23	19	42	-	-	24	15	-	-	29	10	2	23	18	1
	8.6%	6.0%	8.8%	11.4%	5.0%	12.1%	6.8%	7.6%	10.2%	8.6%			6.8%	12.5%			27.4%	4.3%	1.8%	11.9%	6.7%	2.2%
																	RS					
4	41	3	38	5	6	7	22	23	18	41	-	-	24	16	-	-	30	10	1	17	22	2
	8.5%	6.2%	8.7%	7.1%	10.4%	6.1%	9.6%	7.8%	9.6%	8.5%			7.0%	13.3%			28.0%	4.2%	1.1%	8.4%	8.5%	9.5%
														m			RS					
5	30	5	25	7	2	2	19	16	14	30	-	-	23	6	-	-	-	30	-	14	15	2
	6.2%	10.7%	5.7%	10.1%	3.2%	1.5%	8.2%	5.4%	7.5%	6.2%			6.7%	4.9%				12.4%		7.0%	5.6%	6.2%
				f			F															
6	47	3	44	2	6	16	23	36	11	47	-	-	33	14	-	-	-	45	3	17	28	3
	9.7%	8.0%	9.9%	2.9%	9.9%	13.7%	9.8%	12.1%	5.9%	9.7%			9.6%	11.1%				18.4%	2.2%	8.6%	10.5%	10.8%
						d		i										S				
7	16	1	15	1	1	9	5	8	8	16	-	-	16	1	-	-	-	13	3	1	15	-
	3.3%	1.6%	3.5%	0.9%	2.3%	7.7%	2.2%	2.6%	4.6%	3.3%			4.4%	0.5%				5.2%	3.1%	0.5%	5.8%	
						DG							N								T	
8	34	4	30	8	4	6	17	22	13	34	-	-	26	8	-	-	-	34	1	8	23	3
	7.1%	9.0%	6.9%	10.4%	6.4%	4.9%	7.3%	7.2%	6.8%	7.1%			7.5%	6.7%				13.9%	0.6%	4.2%	8.7%	12.2%
																		S				
9	5	-	5	-	-	1	3	2	2	5	-	-	4	1	-	-	-	4	0	1	3	1
	1.0%		1.1%			1.1%	1.5%	0.8%	1.3%	1.0%			1.1%	0.8%				1.8%	0.3%	0.7%	1.1%	2.1%
10	62	4	58	21	4	13	24	37	25	62	-	-	42	17	-	-	-	54	8	27	30	5
	12.9%	8.8%	13.3%	28.7%	7.4%	10.6%	10.5%	12.4%	13.6%	12.9%			12.2%	13.6%				22.6%	6.9%	13.8%	11.3%	22.0%
				EFG														S				
11	1	0	0	-	0	-	0	1	-	1	-	-	0	0	-	-	-	1	-	0	0	-
	0.1%	0.7%	*%		0.5%		0.1%	0.2%		0.1%			0.1%	0.3%				0.2%		0.2%	0.1%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3C. Of the [P3b] CFLs you have installed, how many are the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
12	32	1	31	4	2	15	11	20	12	32	-	-	27	5	-	-	-	23	9	19	12	0
	6.6%	1.6%	7.1%	5.1%	2.8%	12.8%	4.9%	6.7%	6.4%	6.6%			7.7%	4.1%				9.6%	7.7%	9.8%	4.7%	1.0%
			B			EG														u		
15	19	1	18	2	4	2	10	17	2	19	-	-	16	2	-	-	-	-	19	6	12	-
	3.9%	2.2%	4.1%	2.7%	7.2%	1.7%	4.5%	5.6%	1.2%	3.9%			4.6%	1.3%					16.7%	3.2%	4.7%	
								i														
16	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	1	-	-
	0.3%		0.3%				0.6%	0.4%		0.3%			0.4%						1.2%	0.7%		
18	8	0	8	0	1	4	3	4	4	8	-	-	6	2	-	-	-	-	8	6	2	-
	1.7%	0.9%	1.7%	0.2%	2.3%	3.3%	1.1%	1.3%	2.3%	1.7%			1.6%	1.9%					7.2%	3.1%	0.8%	
19	2	-	2	-	1	-	1	2	-	2	-	-	2	-	-	-	-	-	2	1	1	-
	0.4%		0.4%		2.0%		0.2%	0.6%		0.4%			0.5%						1.5%	0.6%	0.2%	
20	21	3	17	6	4	5	6	16	4	21	-	-	18	2	-	-	-	-	21	4	16	-
	4.2%	7.8%	3.9%	8.5%	5.8%	4.2%	2.5%	5.4%	2.4%	4.2%			5.1%	1.8%					18.2%	2.2%	6.1%	
22	2	-	2	-	-	-	2	-	2	2	-	-	2	-	-	-	-	-	2	-	2	-
	0.5%		0.5%				1.0%		1.3%	0.5%			0.7%						2.1%		0.9%	
24	1	0	1	-	-	-	1	1	-	1	-	-	0	1	-	-	-	-	1	-	1	0
	0.1%	0.5%	0.1%				0.3%	0.2%		0.1%			0.1%	0.4%					0.6%		0.2%	0.9%
25	3	1	2	0	1	0	2	3	0	3	-	-	3	-	-	-	-	-	3	1	2	-
	0.7%	2.6%	0.5%	0.3%	1.0%	0.2%	0.9%	1.0%	0.2%	0.7%			0.9%						2.8%	0.6%	0.8%	
27	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.2%		0.2%				0.3%	0.2%		0.2%			0.2%						0.6%		0.3%	
28	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	1	-	-
	0.1%		0.1%				0.2%	0.2%		0.1%			0.1%						0.5%	0.3%		
30	12	1	11	1	-	1	10	4	7	12	-	-	8	2	-	-	-	-	12	4	5	2
	2.4%	1.5%	2.5%	0.9%		0.9%	4.3%	1.4%	4.0%	2.4%			2.3%	1.5%					10.4%	2.2%	2.1%	8.4%
							f															
35	4	1	3	-	1	-	3	1	3	4	-	-	4	-	-	-	-	-	4	-	4	-
	0.8%	2.8%	0.6%		2.0%		1.1%	0.4%	1.4%	0.8%			1.1%						3.4%		1.5%	
		c																				
40	4	1	3	-	3	-	1	4	-	4	-	-	-	4	-	-	-	-	4	0	4	-
	0.8%	1.4%	0.7%		5.0%		0.3%	1.3%		0.8%				3.1%					3.3%	0.1%	1.3%	
					g																	
42	0	0	-	-	0	-	-	-	0	0	-	-	0	-	-	-	-	-	0	0	-	-
	0.1%	0.6%			0.4%				0.1%	0.1%			0.1%						0.2%	0.1%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3C. Of the [P3b] CFLs you have installed, how many are the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
50	3	0	3	0	-	-	3	0	3	3	-	-	3	-	-	-	-	-	3	3	-	-
	0.6%	0.5%	0.6%	0.3%			1.1%	0.1%	1.4%	0.6%			0.8%						2.5%	1.4%		
Don't know	3	1	2	-	2	0	-	3	-	3	-	-	-	3	-	-	0	2	-	-	2	1
	0.6%	2.8%	0.3%		4.0%	0.3%		0.9%		0.6%				2.3%			0.3%	1.0%			0.6%	4.9%
		C																				
Mean	8.61	9.28	8.54	8.44	10.03	7.42	8.91	8.57	8.67	8.61	-	-	8.94	7.40	-	1.00	2.68	7.22	18.72	8.19	8.96	8.18
																	P	PQ	PQR			
Standard Deviation	8.12	9.87	7.94	6.00	10.29	5.57	9.08	7.52	9.01	8.12			8.07	7.96		0.00	1.10	3.01	10.49	8.23	8.06	7.90
Standard Error	0.48	1.29	0.50	1.07	1.55	0.68	0.74	0.47	1.05	0.48			0.58	0.86		0.00	0.14	0.26	1.19	0.75	0.66	2.07

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3C-Rebase. Of the [P3b] CFLs you have installed, how many are the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0/None	530	72	458	97	74	147	213	270	260	105	256	169	30	71	-	-	6	9	4	160	331	39
	53.3%	63.1%	52.0%	57.3%	54.9%	56.8%	49.1%	48.7%	59.0%	18.4%	100.0%	100.0%	8.2%	37.8%			5.2%	3.9%	3.7%	46.5%	56.3%	62.3%
									H		J	J		M							T	t
1	30	4	26	3	5	3	18	17	13	30	-	-	14	13	-	23	6	0	-	8	18	4
	3.0%	3.4%	2.9%	1.8%	3.8%	1.3%	4.2%	3.1%	2.9%	5.2%			3.9%	7.1%		100.0%	5.6%	0.1%		2.3%	3.0%	6.3%
							f									QR	r					
2	42	5	37	4	8	12	18	23	19	42	-	-	36	6	-	-	35	6	1	20	22	0
	4.3%	4.5%	4.2%	2.1%	6.1%	4.8%	4.2%	4.2%	4.3%	7.5%			9.9%	3.4%			33.4%	2.4%	1.2%	5.8%	3.8%	0.3%
													N				RS			V		
3	42	3	39	8	3	14	16	23	19	42	-	-	24	15	-	-	29	10	2	23	18	1
	4.2%	2.3%	4.4%	4.9%	2.3%	5.5%	3.7%	4.1%	4.3%	7.3%			6.5%	8.1%			27.4%	4.3%	1.8%	6.8%	3.0%	0.8%
																	RS			uv		
4	41	3	38	5	6	7	22	23	18	41	-	-	24	16	-	-	30	10	1	17	22	2
	4.1%	2.4%	4.4%	3.1%	4.7%	2.8%	5.2%	4.2%	4.1%	7.2%			6.7%	8.6%			28.0%	4.2%	1.1%	4.8%	3.8%	3.7%
																	RS					
5	30	5	25	7	2	2	19	16	14	30	-	-	23	6	-	-	-	30	-	14	15	2
	3.0%	4.1%	2.9%	4.4%	1.4%	0.7%	4.4%	2.9%	3.2%	5.3%			6.4%	3.2%				12.4%		4.0%	2.5%	2.4%
							F															
6	47	3	44	2	6	16	23	36	11	47	-	-	33	14	-	-	-	45	3	17	28	3
	4.7%	3.0%	4.9%	1.3%	4.5%	6.3%	5.2%	6.5%	2.5%	8.3%			9.2%	7.2%				18.4%	2.2%	4.9%	4.7%	4.2%
								I										S				
7	16	1	15	1	1	9	5	8	8	16	-	-	16	1	-	-	-	13	3	1	15	-
	1.6%	0.6%	1.8%	0.4%	1.0%	3.5%	1.2%	1.4%	1.9%	2.8%			4.3%	0.3%				5.2%	3.1%	0.3%	2.6%	
						Dg							N								T	
8	34	4	30	8	4	6	17	22	13	34	-	-	26	8	-	-	-	34	1	8	23	3
	3.4%	3.4%	3.4%	4.5%	2.9%	2.2%	3.9%	3.9%	2.9%	6.0%			7.1%	4.3%				13.9%	0.6%	2.4%	3.9%	4.7%
																		S				
9	5	-	5	-	-	1	3	2	2	5	-	-	4	1	-	-	-	4	0	1	3	1
	0.5%		0.5%			0.5%	0.8%	0.4%	0.5%	0.8%			1.0%	0.5%				1.8%	0.3%	0.4%	0.5%	0.8%
10	62	4	58	21	4	13	24	37	25	62	-	-	42	17	-	-	-	54	8	27	30	5
	6.3%	3.3%	6.6%	12.4%	3.4%	4.8%	5.6%	6.7%	5.7%	10.9%			11.6%	8.8%				22.6%	6.9%	7.9%	5.1%	8.6%
				EFg														S				
11	1	0	0	-	0	-	0	1	-	1	-	-	0	0	-	-	-	1	-	0	0	-
	0.1%	0.3%	*%		0.2%		*%	0.1%		0.1%			0.1%	0.2%				0.2%		0.1%	*%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3C-Rebase. Of the [P3b] CFLs you have installed, how many are the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
12	32	1	31	4	2	15	11	20	12	32	-	-	27	5	-	-	-	23	9	19	12	0
	3.2%	0.6%	3.5%	2.2%	1.3%	5.8%	2.6%	3.6%	2.7%	5.6%			7.4%	2.6%				9.6%	7.7%	5.6%	2.1%	0.4%
						g							N							UV		
15	19	1	18	2	4	2	10	17	2	19	-	-	16	2	-	-	-	-	19	6	12	-
	1.9%	0.8%	2.0%	1.2%	3.3%	0.8%	2.4%	3.0%	0.5%	3.3%			4.4%	0.9%					16.7%	1.9%	2.1%	
								I					n									
16	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	1	-	-
	0.1%		0.1%				0.3%	0.2%		0.2%			0.4%						1.2%	0.4%		
18	8	0	8	0	1	4	3	4	4	8	-	-	6	2	-	-	-	-	8	6	2	-
	0.8%	0.3%	0.9%	0.1%	1.0%	1.5%	0.6%	0.7%	1.0%	1.4%			1.6%	1.2%					7.2%	1.7%	0.4%	
19	2	-	2	-	1	-	1	2	-	2	-	-	2	-	-	-	-	-	2	1	1	-
	0.2%		0.2%		0.9%		0.1%	0.3%		0.3%			0.5%						1.5%	0.3%	0.1%	
20	21	3	17	6	4	5	6	16	4	21	-	-	18	2	-	-	-	-	21	4	16	-
	2.1%	3.0%	1.9%	3.7%	2.6%	1.9%	1.3%	2.9%	1.0%	3.6%			4.9%	1.2%					18.2%	1.3%	2.7%	
22	2	-	2	-	-	-	2	-	2	2	-	-	2	-	-	-	-	-	2	-	2	-
	0.2%		0.3%				0.6%		0.5%	0.4%			0.7%						2.1%		0.4%	
24	1	0	1	-	-	-	1	1	-	1	-	-	0	1	-	-	-	-	1	-	1	0
	0.1%	0.2%	0.1%				0.2%	0.1%		0.1%			0.1%	0.3%					0.6%		0.1%	0.3%
25	3	1	2	0	1	0	2	3	0	3	-	-	3	-	-	-	-	-	3	1	2	-
	0.3%	1.0%	0.2%	0.1%	0.5%	0.1%	0.5%	0.5%	0.1%	0.6%			0.9%						2.8%	0.3%	0.3%	
27	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.1%		0.1%				0.2%	0.1%		0.1%			0.2%						0.6%		0.1%	
28	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	1	-	-
	0.1%		0.1%				0.1%	0.1%		0.1%			0.1%						0.5%	0.2%		
30	12	1	11	1	-	1	10	4	7	12	-	-	8	2	-	-	-	-	12	4	5	2
	1.2%	0.6%	1.3%	0.4%		0.4%	2.3%	0.8%	1.7%	2.1%			2.2%	0.9%					10.4%	1.2%	0.9%	3.2%
							f															
35	4	1	3	-	1	-	3	1	3	4	-	-	4	-	-	-	-	-	4	-	4	-
	0.4%	1.1%	0.3%		0.9%		0.6%	0.2%	0.6%	0.7%			1.1%						3.4%		0.7%	
40	4	1	3	-	3	-	1	4	-	4	-	-	-	4	-	-	-	-	4	0	4	-
	0.4%	0.5%	0.4%		2.3%		0.2%	0.7%		0.7%				2.0%					3.3%	0.1%	0.6%	
42	0	0	-	-	0	-	-	-	0	0	-	-	0	-	-	-	-	-	0	0	-	-
	*%	0.2%			0.2%				0.1%	*%			0.1%						0.2%	0.1%		
50	3	0	3	0	-	-	3	0	3	3	-	-	3	-	-	-	-	-	3	3	-	-
	0.3%	0.2%	0.3%	0.1%			0.6%	*%	0.6%	0.5%			0.8%						2.5%	0.8%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3C-Rebase. Of the [P3b] CFLs you have installed, how many are the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	3	1	2	-	2	0	-	3	-	3	-	-	-	3	-	-	0	2	-	-	2	1
	0.3%	1.1%	0.2%		1.8%	0.1%		0.5%		0.5%				1.5%			0.3%	1.0%			0.3%	1.9%
Mean	4.17	3.48	4.26	3.66	4.44	3.38	4.77	4.59	3.65	7.31	0.00	0.00	8.56	4.75	-	1.00	2.68	7.22	18.72	4.68	3.99	3.08
							F			KL			N				P	PQ	PQR			
Standard Deviation	7.10	7.51	7.05	5.75	8.45	5.27	7.99	6.96	7.24	8.09	0.00	0.00	8.10	7.29		0.00	1.10	3.01	10.49	7.43	6.98	6.23
Standard Error	0.32	1.21	0.33	0.72	1.32	0.45	0.48	0.32	0.61	0.44	0.00	0.00	0.57	0.66		0.00	0.14	0.26	1.19	0.52	0.44	1.03

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3D. How many of the [P3b] CFLs you have installed are shaped like regular light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	140	9	131	9	17	45	69	93	48	140	-	-	102	36	-	-	27	67	47	67	71	3
Unweighted Total	150	37	113	13	21	47	69	121	29	150	-	-	104	43	-	-	24	74	52	75	72	3
0	19	2	17	2	4	3	11	12	8	19	-	-	14	5	-	-	2	6	11	6	13	-
	13.8%	20.2%	13.3%	19.4%	22.7%	6.7%	15.5%	12.5%	16.3%	13.8%			13.8%	14.8%			6.5%	9.3%	24.4% qr	9.7%	18.2%	
1	23	1	22	2	0	9	12	4	19	23	-	-	19	4	-	-	13	9	1	14	8	1
	16.3%	5.8%	17.1%	19.6%	1.8%	18.9% E	17.8% E	4.6%	39.0% H	16.3%			18.3%	11.8%			47.2% RS	13.3% S	2.8%	21.3%	10.8%	34.9%
2	29	2	27	4	6	11	8	22	7	29	-	-	25	1	-	-	7	16	6	9	20	-
	20.8%	18.6%	20.9%	44.0% G	38.0% G	24.8%	10.9%	24.0%	14.5%	20.8%			24.9% N	3.3%			25.8%	24.2%	13.0%	13.8%	28.3% t	
3	13	1	12	-	1	2	11	13	0	13	-	-	10	3	-	-	3	7	3	7	6	-
	9.3%	12.3%	9.1%		4.7%	3.6%	15.4% f	13.9% I	0.4%	9.3%			10.2%	7.3%			10.0%	10.8%	6.7%	10.8%	8.3%	
4	3	0	3	-	-	2	2	3	-	3	-	-	1	2	-	-	2	1	-	2	2	-
	2.4%	0.8%	2.6%			3.6%	2.6%	3.7%		2.4%			1.4%	5.7%			7.6%	2.1%		2.7%	2.3%	
5	19	1	18	1	2	2	14	11	8	19	-	-	13	6	-	-	-	10	9	9	10	-
	13.6%	10.1%	13.9%	9.5%	9.6%	5.3%	20.6% F	12.3%	16.1%	13.6%			12.5%	17.7%				15.7%	18.5%	13.5%	14.2%	
6	6	1	6	0	-	3	3	6	-	6	-	-	4	2	-	-	-	5	1	5	2	-
	4.6%	5.7%	4.5%	5.1%		7.7%	3.7%	7.0%		4.6%			4.2%	6.1%				7.6%	3.1%	7.4%	2.2%	
7	4	-	4	-	1	1	2	3	1	4	-	-	2	2	-	-	-	3	0	3	-	1
	2.7%		2.9%		7.0%	2.1%	2.5%	2.7%	2.7%	2.7%			2.2%	4.4%				5.2%	0.8%	4.0%		40.4%
8	10	1	8	-	1	8	0	7	3	10	-	-	6	4	-	-	-	4	6	4	6	-
	7.0%	15.3%	6.4%		7.2%	18.5% G	0.3%	7.3%	6.4%	7.0%			5.6%	11.4%				6.1%	12.3%	6.4%	7.8%	
10	5	1	4	-	0	4	1	4	1	5	-	-	3	2	-	-	-	3	2	3	2	-
	3.5%	6.4%	3.3%		1.8%	8.4%	1.2%	3.8%	3.0%	3.5%			2.7%	6.2%				4.1%	4.7%	3.9%	3.3%	
11	2	-	2	-	-	-	2	2	-	2	-	-	2	-	-	-	-	1	1	-	2	-
	1.5%		1.6%				3.0%	2.2%		1.5%			2.0%					1.1%	2.8%		2.9%	
12	0	0	-	0	-	-	-	0	-	0	-	-	0	-	-	-	-	0	-	-	0	-
	0.1%	2.2%		2.3%				0.2%		0.1%			0.2%					0.3%			0.3%	
15	2	-	2	-	-	-	2	2	-	2	-	-	2	-	-	-	-	-	2	2	-	-
	1.3%		1.4%				2.6%	2.0%		1.3%			1.8%						3.9%	2.7%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3D. How many of the [P3b] CFLs you have installed are shaped like regular light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
18	1	-	1	-	1	-	-	1	-	1	-	-	-	1	-	-	-	-	1	1	-	-
	0.9%		0.9%		7.0%			1.3%		0.9%				3.3%					2.6%	1.8%		
20	2	-	2	-	-	-	2	1	1	2	-	-	-	2	-	-	-	-	2	1	1	-
	1.5%		1.6%				3.0%	1.4%	1.5%	1.5%				5.7%					4.4%	2.0%	1.0%	
Don't know	1	0	1	-	-	0	1	1	-	1	-	-	-	1	-	-	1	-	-	-	0	1
	0.5%	0.3%	0.6%			0.1%	1.1%	0.8%		0.5%				2.1%			2.8%				*%	24.6%
REFUSED	0	0	-	-	-	0	-	0	-	0	-	-	0	-	-	-	-	0	-	-	0	-
	0.2%	2.3%				0.5%		0.2%		0.2%			0.2%					0.3%			0.3%	
Mean	3.86	3.91	3.86	2.13	3.92	4.15	3.88	4.41	2.81	3.86	-	-	3.31	5.60	-	-	1.64	3.69	5.34	4.35	3.39	4.22
						d		i						M				Q	Q			
Standard Deviation	3.94	3.58	3.98	2.35	4.80	3.25	4.29	4.08	3.45	3.94			3.20	5.35			1.04	2.81	5.47	4.40	3.44	4.03
Standard Error	0.41	0.88	0.44	0.86	1.29	0.62	0.64	0.45	0.74	0.41			0.40	1.01			0.28	0.41	0.96	0.65	0.51	2.86

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3D-Rebase. How many of the [P3b] CFLs you have installed are shaped like regular light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0/None	874	107	767	162	121	217	375	473	401	448	256	169	277	158	-	23	81	181	77	284	530	60
	87.8%	93.5%	87.1%	95.7%	90.2%	83.7%	86.5%	85.4%	90.9%	78.7%	100.0%	100.0%	75.9%	83.8%		100.0%	76.3%	74.9%	68.6%	82.4%	90.2%	95.3%
				FG					h		J	J		m		QRS					T	T
1	23	1	22	2	0	9	12	4	19	23	-	-	19	4	-	-	13	9	1	14	8	1
	2.3%	0.5%	2.5%	1.0%	0.2%	3.3%	2.8%	0.8%	4.2%	4.0%			5.1%	2.2%			12.0%	3.7%	1.2%	4.1%	1.3%	1.6%
						e	e		h								RS			U		
2	29	2	27	4	6	11	8	22	7	29	-	-	25	1	-	-	7	16	6	9	20	-
	2.9%	1.5%	3.1%	2.3%	4.8%	4.3%	1.7%	4.0%	1.6%	5.1%			7.0%	0.6%			6.6%	6.7%	5.4%	2.7%	3.4%	
								I					N									
3	13	1	12	-	1	2	11	13	0	13	-	-	10	3	-	-	3	7	3	7	6	-
	1.3%	1.0%	1.4%		0.6%	0.6%	2.5%	2.3%	*%	2.3%			2.9%	1.4%			2.5%	3.0%	2.8%	2.1%	1.0%	
								I														
4	3	0	3	-	-	2	2	3	-	3	-	-	1	2	-	-	2	1	-	2	2	-
	0.3%	0.1%	0.4%			0.6%	0.4%	0.6%		0.6%			0.4%	1.1%			1.9%	0.6%		0.5%	0.3%	
5	19	1	18	1	2	2	14	11	8	19	-	-	13	6	-	-	-	10	9	9	10	-
	1.9%	0.8%	2.1%	0.5%	1.2%	0.9%	3.3%	2.1%	1.7%	3.4%			3.5%	3.4%				4.3%	7.7%	2.6%	1.7%	
							df															
6	6	1	6	0	-	3	3	6	-	6	-	-	4	2	-	-	-	5	1	5	2	-
	0.7%	0.5%	0.7%	0.3%		1.3%	0.6%	1.2%		1.1%			1.2%	1.2%				2.1%	1.3%	1.4%	0.3%	
7	4	-	4	-	1	1	2	3	1	4	-	-	2	2	-	-	-	3	0	3	-	1
	0.4%		0.4%		0.9%	0.4%	0.4%	0.5%	0.3%	0.7%			0.6%	0.8%				1.4%	0.3%	0.8%		1.9%
8	10	1	8	-	1	8	0	7	3	10	-	-	6	4	-	-	-	4	6	4	6	-
	1.0%	1.3%	1.0%		0.9%	3.2%	*%	1.2%	0.7%	1.7%			1.6%	2.2%				1.7%	5.1%	1.2%	0.9%	
						G																
10	5	1	4	-	0	4	1	4	1	5	-	-	3	2	-	-	-	3	2	3	2	-
	0.5%	0.5%	0.5%		0.2%	1.5%	0.2%	0.6%	0.3%	0.9%			0.7%	1.2%				1.1%	2.0%	0.8%	0.4%	
11	2	-	2	-	-	-	2	2	-	2	-	-	2	-	-	-	-	1	1	-	2	-
	0.2%		0.2%				0.5%	0.4%		0.4%			0.6%					0.3%	1.2%		0.3%	
12	0	0	-	0	-	-	-	0	-	0	-	-	0	-	-	-	-	0	-	-	0	-
	*%	0.2%		0.1%				*%		*%			0.1%					0.1%			*%	
15	2	-	2	-	-	-	2	2	-	2	-	-	2	-	-	-	-	-	2	2	-	-
	0.2%		0.2%				0.4%	0.3%		0.3%			0.5%						1.6%	0.5%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3D-Rebase. How many of the [P3b] CFLs you have installed are shaped like regular light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
18	1	-	1	-	1	-	-	1	-	1	-	-	-	1	-	-	-	-	1	1	-	-
	0.1%		0.1%		0.9%			0.2%		0.2%				0.6%					1.1%	0.3%		
20	2	-	2	-	-	-	2	1	1	2	-	-	-	2	-	-	-	-	2	1	1	-
	0.2%		0.2%				0.5%	0.2%	0.2%	0.4%				1.1%					1.8%	0.4%	0.1%	
Don't know	1	0	1	-	-	0	1	1	-	1	-	-	-	1	-	-	1	-	-	-	0	1
	0.1%	*%	0.1%			*%	0.2%	0.1%		0.1%				0.4%			0.7%				*%	1.2%
REFUSED	0	0	-	-	-	0	-	0	-	0	-	-	0	-	-	-	-	0	-	-	0	-
	*%	0.2%				0.1%		*%		*%			0.1%					0.1%			*%	
Mean	0.54	0.31	0.57	0.11	0.50	0.72	0.61	0.73	0.30	0.95	0.00	0.00	0.92	1.04	-	0.00	0.41	1.02	2.21	0.85	0.40	0.15
						D	D	I		KL							P	pQ	PQR	UV		
Standard Deviation	1.99	1.43	2.05	0.70	2.12	2.07	2.21	2.33	1.43	2.56	0.00	0.00	2.25	3.16		0.00	0.88	2.21	4.39	2.59	1.61	0.98
Standard Error	0.09	0.23	0.10	0.09	0.32	0.18	0.13	0.11	0.12	0.14	0.00	0.00	0.16	0.28		0.00	0.11	0.19	0.50	0.18	0.10	0.16

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3E. What other types of CFLs do you have installed?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	49	2	46	3	5	10	31	29	20	49	-	-	39	9	-	-	5	19	24	18	29	2
Unweighted Total	53	12	41	4	7	13	29	40	13	53	-	-	39	13	-	-	5	23	25	22	29	2
U-shaped / Tube shaped	10	1	9	1	2	4	3	7	3	10	-	-	6	4	-	-	5	3	2	4	5	1
	20.1%	31.2%	19.5%	22.6%	35.4%	44.8%	9.7%	23.9%	14.7%	20.1%			14.2%	44.6%			99.5%	14.1%	6.7%	23.3%	16.8%	41.4%
						g								m			RS					
Globe / sphere / vanity	7	-	7	-	-	-	7	1	6	7	-	-	7	-	-	-	-	-	7	4	3	-
	14.1%		14.8%				22.0%	4.6%	27.4%	14.1%			17.5%						28.4%	20.8%	10.8%	
									h													
Reflector / flood / spotlight	3	0	3	-	0	0	3	3	0	3	-	-	3	-	-	-	-	2	2	2	1	-
	6.6%	10.5%	6.4%		4.8%	3.4%	8.4%	10.4%	1.3%	6.6%			8.2%					8.6%	6.5%	10.5%	4.5%	
Shaped like regular light bulbs / incandescent bulbs	3	-	3	-	1	-	1	3	-	3	-	-	1	1	-	-	-	1	1	1	1	-
	5.4%		5.7%		22.7%		4.7%	9.3%		5.4%			3.7%	12.6%				7.6%	4.9%	8.1%	4.1%	
Candelabra / flame shape (for chandelier)	2	-	2	-	-	-	2	-	2	2	-	-	2	-	-	-	-	-	2	-	2	-
	4.2%		4.4%				6.5%		10.1%	4.2%			5.2%						8.5%		7.0%	
Pin or plug-in base	1	0	1	-	0	-	1	-	1	1	-	-	1	-	-	-	-	0	1	0	1	-
	2.0%	10.5%	1.6%		4.8%		2.3%		4.8%	2.0%			2.5%					1.3%	3.0%	1.4%	2.5%	
Other (SPECIFY)	8	0	8	-	2	1	6	2	6	8	-	-	6	2	-	-	-	4	4	3	5	-
	16.3%	13.8%	16.4%		28.5%	6.9%	18.5%	6.9%	29.4%	16.3%			14.8%	21.5%				21.8%	15.6%	15.7%	17.6%	
Don't know	17	1	16	2	0	4	10	13	4	17	-	-	15	2	-	-	0	9	8	4	12	1
	34.5%	37.1%	34.4%	77.4%	3.7%	45.6%	32.5%	45.2%	19.5%	34.5%			37.8%	21.3%			0.5%	46.9%	32.4%	20.6%	41.6%	58.6%
				Eg				i										q				

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P3F. Why aren't you using other types of CFLs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	432	40	392	70	53	108	201	266	166	432	-	-	310	110	-	23	100	220	89	179	232	21
Unweighted Total	445	127	318	76	58	108	203	355	90	445	-	-	298	134	-	20	104	216	105	188	237	20
Don't need any bulbs	122	11	111	26	18	27	51	80	41	122	-	-	82	34	-	6	32	61	23	48	72	3
	28.2%	28.5%	28.2%	36.7%	33.2%	25.0%	25.6%	30.2%	25.0%	28.2%			26.5%	31.1%		24.0%	32.2%	27.7%	26.2%	26.7%	30.9%	12.2%
Not aware of them	78	4	73	12	10	25	30	52	26	78	-	-	69	7	-	1	11	46	19	21	54	2
	18.0%	10.7%	18.7%	17.3%	18.7%	23.2%	15.2%	19.5%	15.4%	18.0%			22.3%	6.8%		4.5%	11.4%	21.1%	21.2%	12.0%	23.2%	10.3%
													N					pq	p		T	
Price / expensive	37	5	32	6	8	6	16	21	16	37	-	-	29	8	-	5	8	20	4	13	20	4
	8.5%	12.4%	8.1%	9.1%	15.3%	5.7%	8.0%	8.0%	9.4%	8.5%			9.3%	7.5%		19.9%	8.4%	9.1%	4.3%	7.4%	8.5%	18.2%
					f																	
Can't find them	34	8	26	6	5	15	7	24	10	34	-	-	27	7	-	1	2	23	8	10	20	4
	7.8%	20.6%	6.5%	9.1%	9.9%	13.8%	3.6%	9.0%	5.9%	7.8%			8.6%	6.0%		5.2%	1.5%	10.5%	8.9%	5.6%	8.6%	17.0%
		C				G												Q				
How they fit in fixtures	31	3	27	7	2	4	17	19	11	31	-	-	16	15	-	2	7	13	9	13	17	-
	7.1%	8.7%	6.9%	10.5%	4.5%	3.3%	8.6%	7.2%	6.9%	7.1%			5.1%	13.5%		8.3%	6.7%	5.7%	10.5%	7.5%	7.5%	
														M								
How they look in fixtures	20	3	17	3	3	2	12	9	11	20	-	-	11	8	-	4	3	7	6	8	11	-
	4.6%	6.3%	4.4%	4.6%	5.6%	1.8%	5.8%	3.3%	6.6%	4.6%			3.7%	7.1%		15.5%	3.1%	3.2%	6.9%	4.8%	4.9%	
They take too long to light up	13	1	12	1	1	4	7	8	4	13	-	-	10	2	-	2	5	5	1	8	4	-
	2.9%	2.6%	2.9%	1.5%	1.1%	3.9%	3.3%	3.1%	2.6%	2.9%			3.4%	2.0%		7.2%	4.9%	2.1%	1.5%	4.6%	1.9%	
Mercury / hazardous contents	7	0	7	-	2	0	5	7	-	7	-	-	2	5	-	-	3	1	4	2	5	-
	1.7%	0.7%	1.8%		4.6%	0.1%	2.3%	2.7%		1.7%			0.8%	4.3%			2.9%	0.2%	4.2%	0.9%	2.4%	
					f														R			
Other (SPECIFY)	61	3	58	6	6	22	27	30	32	61	-	-	39	19	-	4	20	26	11	38	20	4
	14.2%	8.2%	14.8%	8.1%	12.2%	20.1%	13.7%	11.2%	19.1%	14.2%			12.6%	17.5%		17.1%	19.5%	12.0%	12.7%	21.4%	8.4%	16.5%
																				U		
Don't know	64	4	60	9	3	10	42	34	30	64	-	-	44	18	-	3	14	35	12	28	29	7
	14.7%	10.0%	15.2%	12.9%	5.1%	9.0%	21.0%	12.7%	18.0%	14.7%			14.2%	16.5%		11.3%	14.0%	15.9%	13.5%	15.4%	12.6%	31.7%
							EF															u
Refused	5	2	3	-	1	2	1	4	1	5	-	-	3	2	-	-	2	1	1	5	-	-
	1.1%	5.1%	0.6%		2.3%	1.9%	0.7%	1.4%	0.5%	1.1%			0.8%	1.9%			2.0%	0.6%	1.5%	2.6%		
		C																				

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4. Are you storing any CFLs for use as spares or to be installed at a later date?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Yes	362	32	330	60	43	87	173	239	123	362	-	-	255	94	-	11	58	182	90	153	191	18
	63.5%	59.9%	63.9%	72.2%	56.7%	59.7%	64.9%	69.0%	55.0%	63.5%			70.0%	50.2%		48.8%	55.1%	75.3%	80.1%	64.1%	62.6%	69.9%
								I					N					pQ	PQ			
No	197	20	176	21	32	57	87	99	98	197	-	-	105	91	-	12	47	53	20	86	106	5
	34.5%	38.3%	34.1%	25.0%	42.3%	39.3%	32.7%	28.5%	43.8%	34.5%			28.7%	48.2%		51.2%	44.6%	21.9%	18.0%	35.7%	34.6%	21.9%
					d				H					M		RS	RS					
Don't know	9	1	8	2	1	2	4	6	3	9	-	-	5	3	-	-	0	7	-	1	9	-
	1.6%	1.8%	1.6%	2.8%	1.1%	1.1%	1.6%	1.9%	1.1%	1.6%			1.3%	1.7%			0.3%	2.8%		0.2%	2.8%	
																					t	
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.4%		0.4%				0.8%	0.6%		0.4%									1.8%			8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4B. How many CFLs are you storing?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	362	32	330	60	43	87	173	239	123	362	-	-	255	94	-	11	58	182	90	153	191	18
Unweighted Total	372	97	275	57	48	88	179	302	70	372	-	-	252	106	-	10	51	181	109	160	193	19
1	13	3	10	3	2	3	6	7	6	13	-	-	9	2	-	4	2	6	0	2	11	-
	3.6%	8.3%	3.2%	4.6%	3.5%	2.9%	3.6%	2.9%	4.9%	3.6%			3.4%	2.6%		34.9% QRS	3.4%	3.5%	0.2%	1.5%	5.6%	
2	60	3	57	16	5	9	29	39	20	60	-	-	40	18	-	7	15	29	7	17	34	9
	16.5%	8.4%	17.3%	27.3% ef	11.2%	10.5%	17.1%	16.5%	16.4%	16.5%			15.8%	19.2%		58.1% RS	26.3% S	16.0% s	8.0%	10.9%	17.8%	51.9% TU
3	26	4	22	3	5	8	10	19	7	26	-	-	20	4	-	-	2	21	3	13	12	1
	7.1%	13.3%	6.6%	5.0%	10.7%	9.5%	5.8%	8.0%	5.6%	7.1%			7.9%	4.6%			3.2%	11.7% qS	3.0%	8.5%	6.1%	7.0%
4	64	3	61	6	8	24	25	45	19	64	-	-	48	15	-	-	5	41	12	24	38	2
	17.7%	9.6%	18.4%	10.5%	18.5%	28.2% DG	14.6%	19.0%	15.1%	17.7%			18.9%	15.4%			8.3%	22.8% Q	13.4%	15.5%	19.9%	12.2%
5	43	1	43	12	6	5	20	23	20	43	-	-	30	12	-	1	13	15	13	23	20	-
	11.9%	1.8%	12.9% B	20.2% f	14.1%	6.2%	11.4%	9.6%	16.4%	11.9%			11.9%	12.2%		7.0%	21.5% r	8.3%	14.9%	15.0%	10.6%	
6	36	8	27	9	4	3	20	26	10	36	-	-	26	10	-	-	8	18	8	16	19	-
	9.9%	26.6% C	8.3%	15.6%	8.2%	3.3%	11.7% f	10.8%	8.2%	9.9%			10.1%	10.3%			13.1%	9.8%	9.1%	10.7%	10.2%	
7	5	-	5	1	-	2	1	3	1	5	-	-	2	3	-	-	1	-	3	1	2	1
	1.4%		1.5%	2.4%		2.5%	0.8%	1.5%	1.2%	1.4%			0.8%	2.9%			2.5%		2.8%	0.9%	1.1%	8.3%
8	25	2	22	1	2	8	14	15	10	25	-	-	19	3	-	-	4	15	5	10	13	1
	6.8%	6.8%	6.8%	1.1%	4.2%	9.7% D	7.9% d	6.3%	7.7%	6.8%			7.5%	2.8%			6.5%	8.5%	6.0%	6.4%	7.0%	8.3%
9	3	-	3	-	-	0	3	3	-	3	-	-	2	1	-	-	2	1	0	0	3	-
	0.8%		0.9%			0.4%	1.5%	1.2%		0.8%			0.9%	0.5%			3.5%	0.3%	0.4%	0.2%	1.3%	
10	32	3	29	4	0	3	25	17	15	32	-	-	23	9	-	-	3	16	13	17	15	-
	8.8%	10.1%	8.7%	6.9%	0.5%	3.3%	14.2% EF	6.9%	12.4%	8.8%			8.8%	9.7%			4.7%	8.7%	14.7%	11.1%	7.8%	
12	26	3	23	1	4	13	8	18	8	26	-	-	20	5	-	-	4	13	9	13	13	-
	7.1%	9.8%	6.8%	1.7%	8.8%	15.1% DG	4.5%	7.6%	6.2%	7.1%			8.0%	5.7%			6.7%	7.2%	9.6%	8.5%	6.6%	
13	1	-	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.3%		0.3%			1.1%		0.4%		0.3%			0.4%					0.5%		0.6%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4B. How many CFLs are you storing?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
14	2	0	2	-	-	2	-	2	-	2	-	-	2	-	-	-	-	2	0	-	0	2
	0.5%	0.7%	0.5%			2.2%		0.8%		0.5%			0.7%					0.9%	0.2%		0.1%	9.5%
15	3	0	3	0	2	-	1	3	-	3	-	-	1	2	-	-	0	2	1	1	3	-
	0.9%	1.1%	0.9%	0.3%	5.6%		0.4%	1.4%		0.9%			0.5%	2.0%			0.3%	0.9%	1.5%	0.5%	1.3%	
20	8	0	8	3	3	0	2	5	3	8	-	-	4	3	-	-	-	0	5	5	3	-
	2.2%	0.4%	2.3%	4.2%	7.0%	0.4%	1.1%	2.0%	2.4%	2.2%			1.7%	3.1%				0.1%	5.4%	3.2%	1.5%	
					f														R			
24	2	-	2	-	2	-	-	2	-	2	-	-	-	2	-	-	-	-	2	-	2	-
	0.7%		0.7%		5.7%			1.0%		0.7%				2.6%					2.7%		1.3%	
25	3	-	3	-	-	-	3	-	3	3	-	-	3	0	-	-	-	-	3	3	-	-
	0.8%		0.9%				1.6%		2.3%	0.8%			1.0%	0.2%					3.1%	1.8%		
30	2	-	2	-	-	0	1	0	1	2	-	-	2	-	-	-	-	-	2	1	0	-
	0.5%		0.5%			0.5%	0.8%	0.2%	1.1%	0.5%			0.7%						1.9%	0.9%	0.2%	
40	2	0	1	-	0	-	1	2	-	2	-	-	2	-	-	-	-	0	1	1	-	0
	0.4%	0.8%	0.4%		0.6%		0.8%	0.7%		0.4%			0.6%					0.1%	1.5%	0.9%		1.4%
50	1	-	1	-	-	1	-	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.3%		0.4%			1.4%		0.5%		0.3%				1.3%						0.8%		
100	0	0	-	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	0	-	-	0
	0.1%	0.7%					0.1%	0.1%		0.1%			0.1%						0.2%			1.2%
Don't know	6	1	6	-	1	2	3	6	-	6	-	-	1	5	-	-	-	1	1	3	3	-
	1.8%	1.9%	1.8%		1.4%	2.8%	1.9%	2.7%		1.8%			0.2%	4.8%				0.7%	1.5%	2.1%	1.6%	
														m								
Mean	6.61	6.88	6.59	5.16	7.92	6.86	6.68	6.65	6.53	6.61	-	-	6.50	7.10	-	1.86	5.18	5.50	9.69	7.64	5.83	6.09
					d												P	P	PQR	U		
Standard Deviation	6.29	9.11	5.97	4.07	7.06	6.67	6.50	6.74	5.37	6.29			6.00	7.23		1.03	3.07	3.62	8.78	7.18	4.42	12.09
Standard Error	0.43	1.43	0.44	0.81	1.24	0.95	0.60	0.48	0.77	0.43			0.50	0.93		0.37	0.57	0.35	1.07	0.76	0.42	3.45

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4B-Rebase. How many CFLs are you storing?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
1	13 1.3%	3 2.3%	10 1.2%	3 1.6%	2 1.1%	3 1.0%	6 1.5%	7 1.3%	6 1.4%	13 2.3%	-	-	9 2.4%	2 1.3%	-	4 17.1% qrS	2 1.9%	6 2.6%	0 0.1%	2 0.7%	11 1.8%	-
2	60 6.0%	3 2.3%	57 6.5%	16 9.7% f	5 3.6%	9 3.5%	29 6.8%	39 7.1%	20 4.6%	60 10.5%	-	-	40 11.0%	18 9.6%	-	7 28.3% s	15 14.5%	29 12.1%	7 6.4%	17 4.9%	34 5.8%	9 14.5% t
3	26 2.6%	4 3.7%	22 2.5%	3 1.8%	5 3.4%	8 3.2%	10 2.3%	19 3.4%	7 1.6%	26 4.5%	-	-	20 5.6%	4 2.3%	-	-	2 1.7%	21 8.8% QS	3 2.4%	13 3.8%	12 2.0%	1 1.9%
4	64 6.4%	3 2.7%	61 6.9%	6 3.7%	8 5.9%	24 9.4% d	25 5.8%	45 8.2% i	19 4.2%	64 11.2%	-	-	48 13.2% n	15 7.7%	-	-	5 4.6%	41 17.2% Q	12 10.8%	24 6.9%	38 6.5%	2 3.4%
5	43 4.3%	1 0.5%	43 4.8% B	12 7.1% f	6 4.5%	5 2.1%	20 4.6%	23 4.2%	20 4.6%	43 7.6%	-	-	30 8.3%	12 6.1%	-	1 3.4%	13 11.8%	15 6.3%	13 12.0%	23 6.7% u	20 3.4%	-
6	36 3.6%	8 7.4%	27 3.1%	9 5.5%	4 2.6%	3 1.1%	20 4.7% f	26 4.6%	10 2.3%	36 6.3%	-	-	26 7.0%	10 5.2%	-	-	8 7.2%	18 7.3%	8 7.3%	16 4.8%	19 3.3%	-
7	5 0.5%	-	5 0.6%	1 0.9%	-	2 0.8%	1 0.3%	3 0.6%	1 0.3%	5 0.9%	-	-	2 0.6%	3 1.5%	-	-	1 1.4%	-	3 2.2%	1 0.4%	2 0.4%	1 2.3%
8	25 2.5%	2 1.9%	22 2.5%	1 0.4%	2 1.3%	8 3.3% d	14 3.2% d	15 2.7%	10 2.2%	25 4.3%	-	-	19 5.3% n	3 1.4%	-	-	4 3.6%	15 6.4%	5 4.8%	10 2.8%	13 2.3%	1 2.3%
9	3 0.3%	-	3 0.3%	-	-	0 0.1%	3 0.6%	3 0.5%	-	3 0.5%	-	-	2 0.7%	1 0.3%	-	-	2 1.9%	1 0.2%	0 0.3%	0 0.1%	3 0.4%	-
10	32 3.2%	3 2.8%	29 3.2%	4 2.5%	0 0.1%	3 1.1%	25 5.7% EF	17 3.0%	15 3.5%	32 5.6%	-	-	23 6.2%	9 4.9%	-	-	3 2.6%	16 6.5%	13 11.7% Q	17 4.9%	15 2.5%	-
12	26 2.6%	3 2.7%	23 2.6%	1 0.6%	4 2.8%	13 5.1% dg	8 1.8%	18 3.3%	8 1.7%	26 4.5%	-	-	20 5.6%	5 2.9%	-	-	4 3.7%	13 5.4%	9 7.7%	13 3.8%	13 2.1%	-
13	1 0.1%	-	1 0.1%	-	-	1 0.4%	-	1 0.2%	-	1 0.2%	-	-	1 0.3%	-	-	-	-	1 0.4%	-	1 0.3%	-	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4B-Rebase. How many CFLs are you storing?

	Total	RUCC: Rural	RUCC: Urban	State: ID	State: MT	State: OR	State: WA	Respondent Type: Landline	Respondent Type: Cell	CFL Awareness/Purchase: Purch	CFL Awareness/Purchase: Aware No-Purc	CFL Awareness/Purchase: Not Aware	Date Most Recent CFL Purchase: Past Yr	Date Most Recent CFL Purchase: 2+ Yrs	Number of CFLs Installed: 0	Number of CFLs Installed: 1	Number of CFLs Installed: 2-4	Number of CFLs Installed: 5-12	Number of CFLs Installed: 13+	LED Awareness/Purchase: Purch	LED Awareness/Purchase: Aware No-Purc	LED Awareness/Purchase: Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
14	2	0	2	-	-	2	-	2	-	2	-	-	2	-	-	-	-	2	0	-	0	2
	0.2%	0.2%	0.2%			0.7%		0.3%		0.3%			0.5%					0.7%	0.2%		*%	2.7%
15	3	0	3	0	2	-	1	3	-	3	-	-	1	2	-	-	0	2	1	1	3	-
	0.3%	0.3%	0.3%	0.1%	1.8%		0.1%	0.6%		0.6%			0.4%	1.0%			0.2%	0.7%	1.2%	0.2%	0.4%	
20	8	0	8	3	3	0	2	5	3	8	-	-	4	3	-	-	-	0	5	5	3	-
	0.8%	0.1%	0.9%	1.5%	2.2%	0.1%	0.5%	0.9%	0.7%	1.4%			1.2%	1.6%				0.1%	4.3%	1.4%	0.5%	
																			R			
24	2	-	2	-	2	-	-	2	-	2	-	-	-	2	-	-	-	-	2	-	2	-
	0.2%		0.3%		1.8%			0.4%		0.4%				1.3%					2.1%		0.4%	
25	3	-	3	-	-	-	3	-	3	3	-	-	3	0	-	-	-	-	3	3	-	-
	0.3%		0.3%				0.7%		0.6%	0.5%			0.7%	0.1%					2.5%	0.8%		
30	2	-	2	-	-	0	1	0	1	2	-	-	2	-	-	-	-	-	2	1	0	-
	0.2%		0.2%			0.2%	0.3%	0.1%	0.3%	0.3%			0.5%						1.5%	0.4%	0.1%	
40	2	0	1	-	0	-	1	2	-	2	-	-	2	-	-	-	-	0	1	1	-	0
	0.2%	0.2%	0.1%		0.2%		0.3%	0.3%		0.3%			0.4%					0.1%	1.2%	0.4%		0.4%
50	1	-	1	-	-	1	-	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.1%		0.1%			0.5%		0.2%		0.2%				0.6%						0.4%		
100	0	0	-	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	0	-	-	0
	*%	0.2%					*%	*%		*%			0.1%						0.2%			0.3%
None	633	83	550	109	91	172	260	315	318	208	256	169	109	94	-	12	48	60	22	191	397	45
	63.6%	72.2%	62.5%	64.7%	68.2%	66.5%	60.1%	56.9%	72.1%	36.5%	100.0%	100.0%	30.0%	49.8%		51.2%	44.9%	24.7%	19.9%	55.4%	67.6%	72.1%
									H		J	J		M		rS	RS				T	T
Don't know	6	1	6	-	1	2	3	6	-	6	-	-	1	5	-	-	-	1	1	3	3	-
	0.6%	0.5%	0.7%		0.5%	0.9%	0.8%	1.2%		1.1%			0.2%	2.4%				0.5%	1.2%	0.9%	0.5%	
														m								
Mean	2.38	1.89	2.44	1.82	2.49	2.25	2.63	2.82	1.82	4.17	0.00	0.00	4.55	3.47	-	0.91	2.85	4.14	7.75	3.37	1.87	1.70
								I		KL							P	PQ	PQR	U		
Standard Deviation	4.93	5.64	4.83	3.45	5.39	4.99	5.22	5.48	4.08	5.93	0.00	0.00	5.84	6.18		1.18	3.44	3.94	8.76	6.09	3.70	6.83
Standard Error	0.22	0.90	0.23	0.43	0.83	0.42	0.32	0.25	0.34	0.32	0.00	0.00	0.41	0.56		0.31	0.44	0.34	1.00	0.43	0.23	1.12

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4D.How many of the CFLs in storage are the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	355	31	324	60	42	84	169	232	123	355	-	-	255	90	-	11	58	181	89	150	188	18
Unweighted Total	366	96	270	57	47	86	176	296	70	366	-	-	251	102	-	10	51	180	108	157	190	19
0	28	3	25	5	6	8	9	22	5	28	-	-	21	6	-	-	6	14	5	11	17	-
	7.8%	8.9%	7.6%	8.0%	13.4%	9.9%	5.2%	9.6%	4.4%	7.8%			8.4%	7.0%			10.7%	7.9%	5.1%	7.1%	9.0%	
1	12	3	9	2	2	2	6	6	6	12	-	-	7	2	-	4	0	6	1	2	10	-
	3.4%	9.1%	2.8%	3.9%	3.6%	2.2%	3.7%	2.5%	4.9%	3.4%			2.9%	2.7%		34.9%	0.6%	3.5%	1.5%	1.2%	5.4%	
																QRS						
2	67	2	65	17	5	10	35	45	22	67	-	-	47	19	-	7	17	32	9	20	38	8
	18.8%	6.8%	19.9%	29.0%	11.3%	11.9%	20.5%	19.4%	17.6%	18.8%			18.3%	21.0%		58.1%	29.1%	17.6%	9.6%	13.6%	20.2%	47.8%
			B	ef												RS	S	s				Tu
3	21	4	17	3	2	6	10	14	7	21	-	-	16	4	-	-	2	16	3	12	8	1
	5.9%	11.5%	5.4%	4.3%	4.8%	7.4%	6.0%	6.1%	5.6%	5.9%			6.3%	4.2%			3.6%	8.7%	3.3%	8.0%	4.2%	7.0%
4	62	3	59	8	9	21	25	44	19	62	-	-	50	12	-	-	5	40	13	24	37	2
	17.6%	10.0%	18.3%	12.8%	21.6%	24.9%	14.6%	18.9%	15.1%	17.6%			19.5%	12.8%			9.4%	22.0%	14.7%	15.8%	19.5%	12.2%
																		q				
5	38	1	38	12	2	4	20	18	21	38	-	-	25	12	-	1	9	14	14	20	19	-
	10.8%	2.5%	11.6%	20.2%	5.7%	5.0%	11.7%	7.5%	17.0%	10.8%			9.8%	13.4%		7.0%	14.9%	7.8%	15.3%	13.3%	9.9%	
			B	eF					h													
6	28	8	20	4	4	1	18	19	9	28	-	-	21	6	-	-	7	15	6	13	15	-
	7.8%	24.6%	6.2%	7.5%	9.0%	1.4%	10.8%	8.2%	6.9%	7.8%			8.4%	6.5%			11.8%	8.2%	6.5%	8.4%	8.0%	
		C					F															
7	8	0	8	1	-	5	1	6	1	8	-	-	5	3	-	-	1	3	3	1	5	1
	2.2%	0.1%	2.4%	2.4%		6.0%	0.8%	2.8%	1.2%	2.2%			2.0%	3.1%			2.5%	1.6%	2.8%	0.9%	2.7%	8.3%
						g																
8	28	4	25	2	2	8	16	14	14	28	-	-	18	7	-	-	3	19	6	13	13	1
	8.0%	11.2%	7.7%	3.3%	5.7%	10.0%	9.2%	6.2%	11.3%	8.0%			7.3%	8.0%			5.4%	10.7%	6.6%	8.9%	7.2%	8.3%
9	1	-	1	-	-	0	1	1	-	1	-	-	0	1	-	-	-	1	0	0	1	-
	0.2%		0.3%			0.4%	0.3%	0.4%		0.2%			0.1%	0.6%				0.3%	0.4%	0.2%	0.3%	
10	19	2	17	1	1	3	15	14	5	19	-	-	13	6	-	-	2	6	10	10	9	-
	5.3%	6.0%	5.3%	1.3%	1.5%	3.4%	8.7%	6.1%	4.0%	5.3%			5.0%	6.8%			4.2%	3.6%	11.3%	6.5%	5.0%	
							E												r			
11	1	-	1	-	1	-	-	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.3%		0.4%		2.8%			0.5%		0.3%			0.5%						1.3%		0.6%	
12	19	2	17	1	2	9	7	11	8	19	-	-	14	5	-	-	4	9	5	11	8	-
	5.2%	6.7%	5.1%	1.7%	4.2%	10.7%	4.0%	4.7%	6.2%	5.2%			5.4%	5.4%			6.3%	5.0%	5.2%	7.4%	4.0%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4D.How many of the CFLs in storage are the spiral or twisty shape?

	Total	RUCC: Rural	RUCC: Urban	State: ID	State: MT	State: OR	State: WA	Respondent Type: Landline	Respondent Type: Cell	CFL Awareness/Purchase: Purch	CFL Awareness/Purchase: Aware No-Purc	CFL Awareness/Purchase: Not Aware	Date Most Recent CFL Purchase: Past Yr	Date Most Recent CFL Purchase: 2+ Yrs	Number of CFLs Installed: 0	Number of CFLs Installed: 1	Number of CFLs Installed: 2-4	Number of CFLs Installed: 5-12	Number of CFLs Installed: 13+	LED Awareness/Purchase: Purch	LED Awareness/Purchase: Aware No-Purc	LED Awareness/Purchase: Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
13	1	-	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.3%		0.3%			1.2%		0.4%		0.3%			0.4%					0.5%		0.6%		
14	2	-	2	-	-	2	-	2	-	2	-	-	2	-	-	-	-	2	-	-	-	2
	0.5%		0.5%			2.0%		0.7%		0.5%			0.7%					0.9%				9.5%
15	3	0	3	0	1	-	1	2	1	3	-	-	1	2	-	-	0	1	1	2	1	-
	0.8%	1.1%	0.8%	0.3%	2.8%		0.9%	0.7%	1.1%	0.8%			0.5%	1.7%			0.3%	0.7%	1.5%	1.1%	0.6%	
18	0	-	0	-	-	0	-	0	-	0	-	-	0	-	-	-	-	-	0	-	0	-
	0.1%		0.1%			0.4%		0.1%		0.1%			0.1%						0.4%		0.2%	
20	6	-	6	3	3	-	1	3	3	6	-	-	4	2	-	-	-	-	5	4	3	-
	1.8%		1.9%	4.2%	7.1%		0.4%	1.3%	2.6%	1.8%			1.6%	1.9%					5.3%	2.5%	1.3%	
					g																	
24	2	-	2	-	2	-	-	2	-	2	-	-	-	2	-	-	-	-	2	-	2	-
	0.7%		0.7%		5.8%			1.0%		0.7%				2.7%					2.7%		1.3%	
25	4	-	4	-	-	1	3	1	3	4	-	-	3	1	-	-	-	-	3	4	-	-
	1.1%		1.2%			1.4%	1.6%	0.5%	2.1%	1.1%			1.0%	1.4%					3.0%	2.6%		
30	2	-	2	-	-	0	1	2	-	2	-	-	2	-	-	-	-	-	2	1	0	-
	0.5%		0.5%			0.5%	0.8%	0.7%		0.5%			0.7%						1.9%	0.9%	0.2%	
40	0	0	-	-	0	-	-	0	-	0	-	-	0	-	-	-	-	0	-	-	-	0
	0.1%	0.8%			0.6%			0.1%		0.1%			0.1%					0.1%				1.4%
100	0	0	-	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	0	-	-	0
	0.1%	0.7%					0.1%	0.1%		0.1%			0.1%						0.2%			1.2%
Don't know	3	0	3	1	-	1	1	3	-	3	-	-	2	1	-	-	1	1	1	2	1	1
	0.9%	0.2%	1.0%	1.1%		1.4%	0.8%	1.4%		0.9%			1.0%	0.8%			1.2%	0.7%	1.3%	1.2%	0.3%	4.2%
Mean	5.62	6.04	5.58	4.43	7.00	5.78	5.62	5.53	5.78	5.62	-	-	5.49	6.05	-	1.86	4.42	4.76	8.38	6.37	4.96	6.27
					d												P	P	PQR	U		
Standard Deviation	5.57	9.16	5.11	4.14	7.34	4.86	5.78	5.90	4.91	5.57			5.64	5.50		1.03	3.29	3.58	8.29	5.60	4.45	12.34
Standard Error	0.38	1.44	0.38	0.84	1.29	0.70	0.54	0.43	0.70	0.38			0.47	0.71		0.37	0.62	0.35	1.02	0.60	0.42	3.63

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4D-Rebase.How many of the CFLs in storage are the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0/None	667	86	581	114	98	183	273	344	323	242	256	169	131	105	-	12	54	75	28	204	417	45
	67.1%	75.1%	66.0%	67.5%	72.9%	70.7%	62.9%	62.1%	73.3%	42.4%	100.0%	100.0%	36.0%	55.6%		51.2%	50.8%	31.2%	25.0%	59.4%	71.0%	72.1%
									H		J	J		M		s	RS				T	
1	12	3	9	2	2	2	6	6	6	12	-	-	7	2	-	4	0	6	1	2	10	-
	1.2%	2.5%	1.0%	1.4%	1.1%	0.7%	1.5%	1.1%	1.4%	2.1%			2.0%	1.3%		17.1%	0.3%	2.6%	1.2%	0.5%	1.7%	
																Qrs						
2	67	2	65	17	5	10	35	45	22	67	-	-	47	19	-	7	17	32	9	20	38	8
	6.7%	1.9%	7.3%	10.2%	3.6%	3.9%	8.0%	8.1%	4.9%	11.7%			12.8%	10.0%		28.3%	16.0%	13.2%	7.6%	5.9%	6.5%	13.3%
			b	f			f									s						
3	21	4	17	3	2	6	10	14	7	21	-	-	16	4	-	-	2	16	3	12	8	1
	2.1%	3.1%	2.0%	1.5%	1.5%	2.4%	2.3%	2.6%	1.6%	3.7%			4.4%	2.0%			2.0%	6.5%	2.6%	3.5%	1.3%	1.9%
4	62	3	59	8	9	21	25	44	19	62	-	-	50	12	-	-	5	40	13	24	37	2
	6.3%	2.7%	6.7%	4.5%	6.8%	8.1%	5.7%	7.9%	4.2%	11.0%			13.6%	6.1%			5.2%	16.5%	11.6%	6.9%	6.2%	3.4%
													N					Q				
5	38	1	38	12	2	4	20	18	21	38	-	-	25	12	-	1	9	14	14	20	19	-
	3.9%	0.7%	4.3%	7.1%	1.8%	1.6%	4.6%	3.2%	4.7%	6.8%			6.9%	6.4%		3.4%	8.2%	5.8%	12.1%	5.8%	3.2%	
				eF			f															
6	28	8	20	4	4	1	18	19	9	28	-	-	21	6	-	-	7	15	6	13	15	-
	2.8%	6.7%	2.3%	2.6%	2.8%	0.5%	4.2%	3.4%	1.9%	4.9%			5.9%	3.1%			6.5%	6.1%	5.1%	3.7%	2.6%	
							F															
7	8	0	8	1	-	5	1	6	1	8	-	-	5	3	-	-	1	3	3	1	5	1
	0.8%	*%	0.9%	0.9%		2.0%	0.3%	1.2%	0.3%	1.4%			1.4%	1.5%			1.4%	1.2%	2.2%	0.4%	0.9%	2.3%
						g																
8	28	4	25	2	2	8	16	14	14	28	-	-	18	7	-	-	3	19	6	13	13	1
	2.8%	3.1%	2.8%	1.2%	1.8%	3.3%	3.6%	2.6%	3.2%	5.0%			5.1%	3.8%			2.9%	8.0%	5.2%	3.9%	2.3%	2.3%
							d											q				
9	1	-	1	-	-	0	1	1	-	1	-	-	0	1	-	-	-	1	0	0	1	-
	0.1%		0.1%			0.1%	0.1%	0.1%		0.1%			0.1%	0.3%				0.2%	0.3%	0.1%	0.1%	
10	19	2	17	1	1	3	15	14	5	19	-	-	13	6	-	-	2	6	10	10	9	-
	1.9%	1.6%	1.9%	0.5%	0.5%	1.1%	3.4%	2.5%	1.1%	3.3%			3.5%	3.2%			2.3%	2.7%	8.9%	2.8%	1.6%	
							e															
11	1	-	1	-	1	-	-	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.1%		0.1%		0.9%			0.2%		0.2%			0.3%						1.1%		0.2%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4D-Rebase.How many of the CFLs in storage are the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
12	19	2	17	1	2	9	7	11	8	19	-	-	14	5	-	-	4	9	5	11	8	-
	1.9%	1.8%	1.9%	0.6%	1.3%	3.5%	1.6%	2.0%	1.7%	3.3%			3.8%	2.6%			3.5%	3.7%	4.1%	3.2%	1.3%	
13	1	-	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.1%		0.1%			0.4%		0.2%		0.2%			0.3%					0.4%		0.3%		
14	2	-	2	-	-	2	-	2	-	2	-	-	2	-	-	-	-	2	-	-	-	2
	0.2%		0.2%			0.6%		0.3%		0.3%			0.5%					0.7%				2.7%
15	3	0	3	0	1	-	1	2	1	3	-	-	1	2	-	-	0	1	1	2	1	-
	0.3%	0.3%	0.3%	0.1%	0.9%		0.3%	0.3%	0.3%	0.5%			0.4%	0.8%			0.2%	0.6%	1.2%	0.5%	0.2%	
18	0	-	0	-	-	0	-	0	-	0	-	-	0	-	-	-	-	-	0	-	0	-
	*%		*%			0.1%		0.1%		0.1%			0.1%						0.3%		0.1%	
20	6	-	6	3	3	-	1	3	3	6	-	-	4	2	-	-	-	-	5	4	3	-
	0.6%		0.7%	1.5%	2.2%		0.2%	0.5%	0.7%	1.1%			1.1%	0.9%					4.2%	1.1%	0.4%	
24	2	-	2	-	2	-	-	2	-	2	-	-	-	2	-	-	-	-	2	-	2	-
	0.2%		0.3%		1.8%			0.4%		0.4%				1.3%					2.1%		0.4%	
25	4	-	4	-	-	1	3	1	3	4	-	-	3	1	-	-	-	-	3	4	-	-
	0.4%		0.4%			0.5%	0.6%	0.2%	0.6%	0.7%			0.7%	0.6%					2.3%	1.1%		
30	2	-	2	-	-	0	1	2	-	2	-	-	2	-	-	-	-	-	2	1	0	-
	0.2%		0.2%			0.2%	0.3%	0.3%		0.3%			0.5%						1.5%	0.4%	0.1%	
40	0	0	-	-	0	-	-	0	-	0	-	-	0	-	-	-	-	0	-	-	-	0
	*%	0.2%			0.2%			*%		*%			0.1%					0.1%				0.4%
100	0	0	-	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	0	-	-	0
	*%	0.2%					*%	*%		*%			0.1%						0.2%			0.3%
Don't know	3	0	3	1	-	1	1	3	-	3	-	-	2	1	-	-	1	1	1	2	1	1
	0.3%	0.1%	0.4%	0.4%		0.5%	0.3%	0.6%		0.6%			0.7%	0.4%			0.7%	0.5%	1.0%	0.5%	0.1%	1.2%
Mean	2.00	1.65	2.04	1.55	2.19	1.86	2.19	2.30	1.61	3.49	0.00	0.00	3.82	2.88	-	0.91	2.42	3.55	6.60	2.76	1.58	1.70
										KL							P	PQ	PQR	U		
Standard Deviation	4.27	5.44	4.09	3.23	5.22	3.86	4.52	4.68	3.66	5.17	0.00	0.00	5.34	4.85		1.18	3.28	3.73	8.12	4.85	3.41	6.87
Standard Error	0.19	0.87	0.19	0.41	0.80	0.33	0.27	0.22	0.31	0.28	0.00	0.00	0.38	0.43		0.31	0.43	0.32	0.93	0.34	0.21	1.13

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4E. How many of the CFLs in storage are shaped like a regular light bulb?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	67	7	60	10	10	18	29	52	14	67	-	-	49	18	-	-	11	31	18	32	35	-
Unweighted Total	73	23	50	12	12	18	31	62	11	73	-	-	51	22	-	-	11	31	23	39	34	-
0	13	1	12	0	4	1	7	11	2	13	-	-	10	3	-	-	2	3	8	7	6	-
	19.7%	20.4%	19.6%	4.6%	40.8%	6.3%	25.7%	21.2%	14.4%	19.7%			20.3%	18.2%			19.1%	10.4%	44.2%	21.5%	18.1%	
					df														R			
1	3	-	3	1	-	2	1	3	-	3	-	-	3	-	-	-	2	-	1	1	2	-
	4.6%		5.1%	6.5%		9.4%	2.5%	5.8%		4.6%			6.3%				14.8%		4.1%	4.3%	4.8%	
2	10	3	7	4	0	2	4	3	7	10	-	-	5	5	-	-	1	6	1	6	4	-
	15.1%	43.1%	11.8%	40.8%	2.5%	9.9%	13.8%	6.6%	46.3%	15.1%			11.2%	25.6%			10.5%	19.4%	5.9%	20.1%	10.5%	
		C		e					H													
3	12	1	11	1	3	6	2	12	-	12	-	-	7	5	-	-	1	8	1	5	7	-
	17.3%	14.7%	17.6%	6.6%	26.3%	35.6%	6.4%	22.0%		17.3%			14.2%	25.7%			10.5%	25.1%	6.9%	14.8%	19.6%	
						G																
4	7	-	7	1	-	5	1	7	-	7	-	-	4	3	-	-	1	4	-	3	4	-
	9.9%		11.1%	6.5%		30.6%	1.8%	12.6%		9.9%			7.4%	16.7%			5.7%	13.6%		9.7%	10.1%	
						G																
5	5	0	5	-	2	1	2	5	0	5	-	-	5	0	-	-	2	3	0	2	4	-
	7.9%	1.9%	8.6%		23.5%	6.8%	5.8%	9.7%	1.4%	7.9%			10.2%	1.9%			21.3%	8.7%	1.1%	4.9%	10.7%	
																	s					
6	4	0	4	3	-	-	1	4	0	4	-	-	4	-	-	-	-	3	1	2	3	-
	6.5%	4.9%	6.7%	35.0%			3.0%	8.1%	1.0%	6.5%			9.0%					11.4%	4.9%	5.1%	7.8%	
				g																		
7	3	0	3	-	-	0	3	3	-	3	-	-	2	1	-	-	2	1	0	1	2	-
	4.1%	3.0%	4.3%			1.2%	8.9%	5.3%		4.1%			4.6%	2.8%			18.0%	1.6%	1.2%	1.6%	6.5%	
8	2	0	1	-	0	-	1	2	-	2	-	-	-	2	-	-	-	0	-	1	0	-
	2.4%	4.5%	2.2%		3.0%		4.6%	3.1%		2.4%				9.0%				1.0%		4.1%	0.9%	
9	0	0	-	-	0	-	-	0	-	0	-	-	0	-	-	-	-	-	0	0	-	-
	0.3%	2.8%			1.9%			0.4%		0.3%			0.4%						1.1%	0.6%		
10	8	0	8	-	0	-	8	3	5	8	-	-	8	-	-	-	-	3	5	4	4	-
	12.0%	4.7%	12.9%		1.9%		27.4%	5.3%	37.0%	12.0%			16.5%					8.6%	30.5%	13.1%	11.1%	
							e		h										r			
Mean	3.77	2.98	3.86	3.44	2.62	3.01	4.76	3.50	4.75	3.77	-	-	4.06	2.96	-	-	3.23	3.87	3.95	3.64	3.88	-
							ef															
Standard Deviation	3.15	3.00	3.18	2.14	2.76	1.39	4.06	2.77	4.27	3.15			3.40	2.27			2.60	2.62	4.53	3.31	3.05	
Standard Error	0.47	1.00	0.51	0.81	0.99	0.40	0.93	0.44	1.60	0.47			0.60	0.61			0.94	0.61	1.17	0.66	0.66	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P4E-Rebase. How many of the CFLs in storage are shaped like a regular light bulb?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0/None	942	109	832	159	128	242	412	512	429	516	256	169	326	174	-	23	97	214	103	319	560	63
	94.6%	95.2%	94.6%	94.4%	95.5%	93.6%	95.1%	92.5%	97.2%	90.6%	100.0%	100.0%	89.4%	92.2%		100.0%	91.4%	88.7%	91.3%	92.8%	95.1%	100.0%
									H		J	J				QRS						TU
1	3	-	3	1	-	2	1	3	-	3	-	-	3	-	-	-	2	-	1	1	2	-
	0.3%		0.3%	0.4%		0.6%	0.2%	0.6%		0.5%			0.8%				1.6%		0.6%	0.4%	0.3%	
2	10	3	7	4	0	2	4	3	7	10	-	-	5	5	-	-	1	6	1	6	4	-
	1.0%	2.6%	0.8%	2.4%	0.2%	0.7%	0.9%	0.6%	1.5%	1.8%			1.5%	2.4%			1.1%	2.5%	0.9%	1.8%	0.6%	
3	12	1	11	1	3	6	2	12	-	12	-	-	7	5	-	-	1	8	1	5	7	-
	1.2%	0.9%	1.2%	0.4%	2.0%	2.4%	0.4%	2.1%		2.0%			1.9%	2.5%			1.1%	3.2%	1.1%	1.4%	1.2%	
4	7	-	7	1	-	5	1	7	-	7	-	-	4	3	-	-	1	4	-	3	4	-
	0.7%		0.8%	0.4%		2.1%	0.1%	1.2%		1.2%			1.0%	1.6%			0.6%	1.7%		0.9%	0.6%	
						g																
5	5	0	5	-	2	1	2	5	0	5	-	-	5	0	-	-	2	3	0	2	4	-
	0.5%	0.1%	0.6%		1.8%	0.5%	0.4%	0.9%	*%	0.9%			1.4%	0.2%			2.3%	1.1%	0.2%	0.5%	0.6%	
6	4	0	4	3	-	-	1	4	0	4	-	-	4	-	-	-	-	3	1	2	3	-
	0.4%	0.3%	0.5%	2.1%			0.2%	0.8%	*%	0.8%			1.2%					1.4%	0.8%	0.5%	0.5%	
7	3	0	3	-	-	0	3	3	-	3	-	-	2	1	-	-	2	1	0	1	2	-
	0.3%	0.2%	0.3%			0.1%	0.6%	0.5%		0.5%			0.6%	0.3%			1.9%	0.2%	0.2%	0.1%	0.4%	
8	2	0	1	-	0	-	1	2	-	2	-	-	-	2	-	-	-	0	-	1	0	-
	0.2%	0.3%	0.1%		0.2%		0.3%	0.3%		0.3%				0.9%				0.1%		0.4%	0.1%	
9	0	0	-	-	0	-	-	0	-	0	-	-	0	-	-	-	-	-	0	0	-	-
	*%	0.2%			0.1%			*%		*%			0.1%						0.2%	0.1%		
10	8	0	8	-	0	-	8	3	5	8	-	-	8	-	-	-	-	3	5	4	4	-
	0.8%	0.3%	0.9%		0.1%		1.8%	0.5%	1.2%	1.4%			2.2%					1.1%	4.8%	1.2%	0.7%	
Mean	0.25	0.18	0.26	0.20	0.20	0.21	0.31	0.33	0.15	0.44	0.00	0.00	0.54	0.28	-	0.00	0.35	0.49	0.62	0.34	0.23	0.00
								i		KL										V	V	
Standard Deviation	1.24	0.99	1.27	0.95	1.01	0.84	1.57	1.33	1.12	1.62	0.00	0.00	1.85	1.11		0.00	1.29	1.58	2.26	1.45	1.18	0.00
Standard Error	0.06	0.16	0.06	0.12	0.15	0.07	0.09	0.06	0.09	0.09	0.00	0.00	0.13	0.10		0.00	0.17	0.13	0.26	0.10	0.07	0.00

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5A. Have you had any CFLs that you installed but later removed and did not use elsewhere in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Yes	135	9	126	14	19	36	67	88	47	135	-	-	55	78	-	1	26	45	20	86	47	2
	23.8%	16.8%	24.5%	16.5%	24.7%	24.7%	25.2%	25.5%	21.0%	23.8%			15.0%	41.2%		3.1%	24.1%	18.7%	17.9%	36.0%	15.3%	8.9%
														M			P	P	P	UV		
No	425	44	382	67	57	107	195	249	177	425	-	-	308	107	-	23	81	192	89	149	255	21
	74.7%	81.7%	74.0%	80.7%	75.3%	73.8%	73.1%	71.9%	79.0%	74.7%			84.4%	57.0%		96.9%	75.9%	79.4%	79.3%	62.2%	83.8%	83.0%
													N			QRS					T	t
Don't know	7	1	6	2	-	2	2	7	-	7	-	-	2	3	-	-	-	5	1	4	3	-
	1.2%	1.5%	1.2%	2.7%		1.5%	0.9%	2.0%		1.2%			0.6%	1.8%				1.9%	1.0%	1.8%	0.9%	
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.4%		0.4%				0.8%	0.6%		0.4%									1.8%			8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5B. How many CFLs did you remove?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	134	9	125	14	19	36	66	87	47	134	-	-	55	76	-	1	26	45	20	86	46	2
Unweighted Total	149	39	110	24	20	35	70	125	24	149	-	-	67	77	-	1	27	49	28	90	55	4
1	11	1	10	1	-	2	8	11	-	11	-	-	6	5	-	-	1	7	0	4	6	0
	8.2%	9.3%	8.1%	8.8%		5.1%	12.1%	12.6%		8.2%			10.6%	6.1%			3.9%	15.7% s	0.9%	5.0%	14.2%	9.6%
2	25	2	23	3	7	7	8	18	7	25	-	-	11	14	-	1	3	9	4	12	12	1
	19.0%	22.8%	18.7%	24.7%	38.8% g	19.8%	11.7%	20.6%	15.9%	19.0%			19.3%	18.6%		100.0% QRS	11.0%	20.1%	20.8%	13.8%	26.9%	53.7%
3	20	1	20	4	-	6	10	15	5	20	-	-	7	13	-	-	3	8	2	13	7	0
	15.2%	8.4%	15.7%	31.3%		17.0%	15.1%	17.3%	11.2%	15.2%			12.0%	17.2%			11.0%	17.1%	11.9%	15.1%	15.5%	9.4%
4	17	2	15	1	2	4	10	11	6	17	-	-	9	7	-	-	2	9	4	10	7	-
	12.7%	25.3% c	11.7%	7.6%	9.3%	10.7%	15.7%	12.3%	13.3%	12.7%			17.4%	9.8%			9.6%	20.3%	18.0%	11.5%	15.4%	
5	13	0	13	-	2	3	7	4	8	13	-	-	3	10	-	-	3	3	2	10	3	-
	9.4%	1.7%	10.0% B		13.0%	8.7%	10.8%	5.1%	17.5% h	9.4%			4.8%	13.1% m			10.3%	7.4%	12.0%	11.3%	6.4%	
6	11	2	9	1	2	4	4	7	4	11	-	-	7	4	-	-	5	3	1	9	2	1
	8.2%	27.0% C	6.9%	9.2%	9.6%	11.8%	5.7%	7.8%	9.1%	8.2%			12.7%	5.4%			17.8%	5.7%	4.9%	10.3%	3.4%	27.3%
7	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	-	1	-
	0.7%		0.7%				1.4%	1.0%		0.7%			1.6%					2.0%			2.0%	
8	4	0	3	-	-	1	3	2	1	4	-	-	4	0	-	-	0	1	2	4	-	-
	2.8%	3.2%	2.8%			3.1%	4.1%	2.8%	2.8%	2.8%			6.6%	0.2%			0.6%	3.2%	10.8%	4.4%		
9	1	-	1	-	-	-	1	1	1	1	-	-	1	1	-	-	1	-	-	1	-	-
	0.9%		1.0%				1.9%	0.8%	1.1%	0.9%			1.3%	0.7%			2.8%			1.4%		
10	5	-	5	-	-	2	3	5	-	5	-	-	1	4	-	-	2	1	1	4	1	-
	3.9%		4.2%			6.8%	4.2%	6.0%		3.9%			1.3%	5.9%			7.6%	2.7%	6.5%	5.2%	1.6%	
12	2	-	2	-	2	-	1	1	2	2	-	-	-	2	-	-	-	1	-	2	-	-
	1.5%		1.6%		8.1%		0.8%	0.6%	3.2%	1.5%				2.6%				1.1%		2.3%		
15	2	-	2	-	-	0	1	0	1	2	-	-	-	2	-	-	-	-	1	1	0	-
	1.3%		1.4%			1.2%	2.0%	0.5%	2.8%	1.3%				2.3%					6.5%	1.5%	0.9%	
20	3	-	3	-	2	-	2	2	2	3	-	-	-	3	-	-	1	-	-	3	1	-
	2.5%		2.7%		8.1%		2.8%	2.1%	3.2%	2.5%				4.4%			2.0%			3.3%	1.1%	
24	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	1	-	-	1	-	-
	0.4%		0.4%				0.8%	0.6%		0.4%				0.7%			2.0%			0.6%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5B. How many CFLs did you remove?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
25	5	0	4	-	-	3	1	0	4	5	-	-	5	-	-	-	3	1	0	5	-	-
	3.4%	2.4%	3.5%			9.2%	2.0%	0.2%	9.3%	3.4%			8.4%				12.0%	2.9%	1.1%	5.3%		
40	3	-	3	-	-	-	3	3	-	3	-	-	-	3	-	-	-	-	1	3	-	-
	2.0%		2.1%				4.0%	3.0%		2.0%				3.4%					6.5%	3.0%		
50	1	-	1	-	-	1	-	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.9%		1.0%			3.4%		1.4%		0.9%				1.6%						1.4%		
52	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	1.0%		1.1%				2.0%	1.5%		1.0%			2.4%							1.5%		
Don't know	8	-	8	3	2	1	2	3	5	8	-	-	1	6	-	-	2	1	-	3	6	-
	6.1%		6.6%	18.4%	13.0%	3.4%	3.1%	3.7%	10.5%	6.1%			1.3%	8.2%			9.4%	1.6%		2.9%	12.5%	
				FG										M							T	
Mean	7.14	4.37	7.35	2.91	5.71	7.88	7.83	6.96	7.49	7.14	-	-	6.91	7.45	-	2.00	8.28	4.21	7.78	9.04	3.37	3.09
			B		d	D	D										R			U		
Standard Deviation	9.71	3.94	9.99	1.42	5.58	10.53	10.74	10.77	7.24	9.71			9.58	9.96		0.00	7.95	4.33	9.65	11.28	2.89	2.47
Standard Error	1.03	0.75	1.14	0.42	1.67	2.25	1.60	1.18	1.68	1.03			1.51	1.47		0.00	2.20	0.75	2.43	1.51	0.52	1.53

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5B-Rebase. How many CFLs did you remove?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	994	115	879	169	134	259	432	553	441	568	256	169	365	187	-	23	106	241	113	344	587	63
Unweighted Total	993	312	681	169	134	259	431	770	223	588	253	152	359	210	-	20	110	241	130	369	560	64
1	11 1.1%	1 0.7%	10 1.2%	1 0.7%	-	2 0.7%	8 1.8%	11 2.0%	-	11 1.9%	-	-	6 1.6%	5 2.5%	-	-	1 1.0%	7 2.9%	0 0.2%	4 1.3%	6 1.1%	0 0.3%
2	25 2.6%	2 1.8%	23 2.7%	3 2.0%	7 5.4%	7 2.7%	8 1.8%	18 3.2%	7 1.7%	25 4.5%	-	-	11 2.9%	14 7.6% m	-	1 3.1%	3 2.6%	9 3.7%	4 3.7%	12 3.5%	12 2.1%	1 1.9%
3	20 2.0%	1 0.7%	20 2.2%	4 2.5%	-	6 2.3%	10 2.3%	15 2.7%	5 1.2%	20 3.6%	-	-	7 1.8%	13 7.0% M	-	-	3 2.6%	8 3.2%	2 2.1%	13 3.8% u	7 1.2%	0 0.3%
4	17 1.7%	2 2.0%	15 1.7%	1 0.6%	2 1.3%	4 1.5%	10 2.4%	11 1.9%	6 1.4%	17 3.0%	-	-	9 2.6%	7 4.0%	-	-	2 2.3%	9 3.8%	4 3.2%	10 2.9%	7 1.2%	-
5	13 1.3%	0 0.1%	13 1.4%	-	2 1.8%	3 1.2%	7 1.6%	4 0.8%	8 1.9%	13 2.2%	-	-	3 0.7%	10 5.4% M	-	-	3 2.5%	3 1.4%	2 2.1%	10 2.8% U	3 0.5%	-
6	11 1.1%	2 2.1%	9 1.0%	1 0.7%	2 1.3%	4 1.6%	4 0.9%	7 1.2%	4 1.0%	11 1.9%	-	-	7 1.9%	4 2.2%	-	-	5 4.3%	3 1.1%	1 0.9%	9 2.6% u	2 0.3%	1 1.0%
7	1 0.1%	-	1 0.1%	-	-	-	1 0.2%	1 0.2%	-	1 0.2%	-	-	1 0.2%	-	-	-	-	1 0.4%	-	-	1 0.2%	-
8	4 0.4%	0 0.2%	3 0.4%	-	-	1 0.4%	3 0.6%	2 0.4%	1 0.3%	4 0.7%	-	-	4 1.0%	0 0.1%	-	-	0 0.1%	1 0.6%	2 1.9%	4 1.1%	-	-
9	1 0.1%	-	1 0.1%	-	-	-	1 0.3%	1 0.1%	1 0.1%	1 0.2%	-	-	1 0.2%	1 0.3%	-	-	1 0.7%	-	-	1 0.4%	-	-
10	5 0.5%	-	5 0.6%	-	-	2 0.9%	3 0.6%	5 0.9%	-	5 0.9%	-	-	1 0.2%	4 2.4% m	-	-	2 1.8%	1 0.5%	1 1.2%	4 1.3%	1 0.1%	-
12	2 0.2%	-	2 0.2%	-	2 1.1%	-	1 0.1%	1 0.1%	2 0.3%	2 0.4%	-	-	-	2 1.1%	-	-	-	1 0.2%	-	2 0.6%	-	-
15	2 0.2%	-	2 0.2%	-	-	0 0.2%	1 0.3%	0 0.1%	1 0.3%	2 0.3%	-	-	-	2 0.9%	-	-	-	-	1 1.2%	1 0.4%	0 0.1%	-
20	3 0.3%	-	3 0.4%	-	2 1.1%	-	2 0.4%	2 0.3%	2 0.3%	3 0.6%	-	-	-	3 1.8%	-	-	1 0.5%	-	-	3 0.8%	1 0.1%	-
24	1 0.1%	-	1 0.1%	-	-	-	1 0.1%	1 0.1%	-	1 0.1%	-	-	-	1 0.3%	-	-	1 0.5%	-	-	1 0.1%	-	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5B-Rebase. How many CFLs did you remove?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
25	5	0	4	-	-	3	1	0	4	5	-	-	5	-	-	-	3	1	0	5	-	-
	0.5%	0.2%	0.5%			1.3%	0.3%	*%	1.0%	0.8%			1.3%				2.9% rs	0.5%	0.2%	1.3%		
40	3	-	3	-	-	-	3	3	-	3	-	-	-	3	-	-	-	-	1	3	-	-
	0.3%		0.3%				0.6%	0.5%		0.5%				1.4%					1.2%	0.8%		
50	1	-	1	-	-	1	-	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.1%		0.1%			0.5%		0.2%		0.2%				0.7%						0.4%		
52	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.3%	0.2%		0.2%			0.4%							0.4%		
None	860	106	754	155	115	223	366	466	394	434	256	169	310	111	-	23	81	196	93	258	541	61
	86.5%	92.2%	85.8%	91.9%	86.2%	86.1%	84.7%	84.3%	89.3%	76.4%	100.0% J	100.0% J	85.0% N	59.2%		96.9% QRS	75.9%	81.5%	82.1%	74.9%	92.2% T	96.5% T
Don't know	8	-	8	3	2	1	2	3	5	8	-	-	1	6	-	-	2	1	-	3	6	-
	0.8%		0.9%	1.5%	1.8%	0.5%	0.5%	0.6%	1.1%	1.4%			0.2%	3.3% M			2.3%	0.3%		0.7%	1.0%	
Mean	0.91	0.34	0.99 b	0.20	0.70	1.06 D	1.16 D	1.06	0.72	1.60 KL	0.00	0.00	1.02	2.89 M	-	0.06	1.85 Pr	0.77 P	1.39 P	2.22 UV	0.23	0.11
Standard Deviation	4.20	1.57	4.42	0.81	2.67	4.67	4.97	4.88	3.14	5.47	0.00	0.00	4.40	7.17		0.35	5.07	2.45	4.99	6.79	1.13	0.67
Standard Error	0.19	0.25	0.21	0.10	0.41	0.40	0.30	0.23	0.27	0.30	0.00	0.00	0.31	0.65		0.09	0.66	0.21	0.56	0.48	0.07	0.11

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5C. How many of the CFLs you removed were spiral or twisty shaped?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	126	9	117	11	16	35	64	84	42	126	-	-	54	70	-	1	23	44	20	84	40	2
Unweighted Total	144	39	105	23	19	34	68	122	22	144	-	-	66	74	-	1	26	48	28	89	51	4
0	13	1	13	1	1	3	9	11	3	13	-	-	5	9	-	-	3	5	3	12	1	1
	10.6%	9.2%	10.8%	6.9%	3.8%	8.6%	14.2%	12.9%	6.3%	10.6%			8.6%	12.5%			14.5%	10.8%	14.1%	14.4% U	1.9%	27.3%
1	10	1	9	1	-	2	7	10	-	10	-	-	5	4	-	-	1	7	0	3	6	0
	7.9%	9.3%	7.8%	10.7%		4.3%	11.3%	11.9%		7.9%			9.4%	6.2%			4.3%	16.0% s	0.9%	3.9%	16.2%	9.6%
2	25	2	23	3	7	6	9	16	9	25	-	-	11	13	-	1	3	9	4	12	12	1
	19.9%	22.8%	19.7%	23.4%	44.7% g	17.0%	14.7%	19.5%	20.9%	19.9%			20.4%	19.2%		100.0% QRS	12.1%	20.7%	20.8%	14.8%	28.9%	53.7%
3	19	1	18	5	-	6	8	15	4	19	-	-	7	11	-	-	1	7	3	10	9	0
	15.1%	8.4%	15.6%	44.2% fG		17.6%	12.5%	18.1%	9.2%	15.1%			13.4%	15.9%			3.5%	15.7%	14.4%	11.9%	22.1%	9.4%
4	15	2	12	1	2	3	9	10	5	15	-	-	8	6	-	-	3	7	4	10	5	-
	11.8%	27.0% c	10.6%	9.3%	10.7%	7.9%	14.5%	11.6%	12.0%	11.8%			15.7%	9.0%			11.2%	16.4%	21.7%	11.4%	13.2%	
5	15	0	15	-	2	3	10	6	10	15	-	-	4	11	-	-	3	4	4	12	3	-
	12.1%	1.7%	12.9% B		15.0%	9.0%	15.1%	6.7%	22.7% h	12.1%			8.3%	15.3%			11.4%	8.7%	18.6%	14.1%	8.7%	
6	7	2	6	1	1	4	1	4	3	7	-	-	5	2	-	-	4	1	0	6	2	-
	5.9%	20.2% C	4.8%	5.5%	7.3%	12.2%	2.3%	5.4%	7.1%	5.9%			9.5%	3.3%			16.9% r	1.7%	2.4%	7.1%	3.9%	
7	0	-	0	-	-	-	0	0	-	0	-	-	0	-	-	-	-	0	-	-	0	-
	0.3%		0.3%				0.6%	0.5%		0.3%			0.7%					0.9%			1.0%	
8	1	0	1	-	-	1	0	1	-	1	-	-	1	-	-	-	-	1	0	1	-	-
	0.9%	1.5%	0.8%			2.7%	0.2%	1.3%		0.9%			2.0%					2.2%	0.7%	1.3%		
9	1	-	1	-	-	-	1	-	1	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.4%		0.4%				0.8%		1.2%	0.4%				0.7%						0.6%		
10	3	-	3	-	-	2	1	3	-	3	-	-	1	2	-	-	2	1	-	2	1	-
	2.5%		2.7%			7.0%	1.1%	3.8%		2.5%			1.4%	3.5%			8.4%	2.8%		2.9%	1.8%	
12	2	-	2	-	2	-	1	1	2	2	-	-	-	2	-	-	-	1	-	2	-	-
	1.6%		1.7%		9.3%		0.8%	0.6%	3.6%	1.6%				2.9%				1.1%		2.4%		
15	2	-	2	-	-	0	1	0	1	2	-	-	-	2	-	-	-	-	1	1	0	-
	1.4%		1.5%			1.2%	2.1%	0.5%	3.1%	1.4%				2.5%					6.5%	1.6%	1.0%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5C. How many of the CFLs you removed were spiral or twisty shaped?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
20	5	-	5	-	2	-	3	2	3	5	-	-	1	3	-	-	1	1	-	4	1	-
	3.7%		4.0%		9.3%		4.9%	2.2%	6.7%	3.7%			2.4%	4.7%			2.2%	3.0%		4.9%	1.3%	
24	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	1	-	-	1	-	-
	0.4%		0.4%				0.8%	0.6%		0.4%				0.7%			2.2%			0.6%		
25	3	-	3	-	-	3	-	-	3	3	-	-	3	-	-	-	3	-	-	3	-	-
	2.4%		2.6%			8.9%			7.3%	2.4%			5.7%				13.3%			3.7%		
30	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	1.0%		1.1%				2.1%	1.6%		1.0%				1.9%						1.6%		
50	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	1.0%		1.1%				2.1%	1.6%		1.0%			2.4%							1.6%		
Don't know	1	-	1	-	-	1	-	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	1.0%		1.0%			3.5%		1.5%		1.0%				1.7%						1.5%		
Mean	5.47	3.30	5.64	2.60	5.48	5.94	5.72	4.74	6.90	5.47	-	-	6.00	5.15	-	2.00	7.54	3.48	3.83	6.65	3.26	1.45
			B		d	D	D										Rs			U		
Standard Deviation	7.58	2.09	7.83	1.37	5.69	6.79	8.91	7.74	7.14	7.58			9.23	6.13		0.00	8.39	3.77	3.49	8.88	2.89	1.34
Standard Error	0.81	0.40	0.90	0.41	1.70	1.48	1.33	0.85	1.66	0.81			1.46	0.91		0.00	2.33	0.65	0.88	1.20	0.52	0.82

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5C-Rebase. How many of the CFLs you removed were spiral or twisty shaped?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0/None	883	107	776	159	118	227	378	481	402	457	256	169	315	127	-	23	86	202	95	272	549	61
	88.7%	92.9%	88.2%	93.9%	88.4%	87.8%	87.3%	86.8%	91.0%	80.3%	100.0%	100.0%	86.5%	67.4%		96.9%	81.3%	83.8%	84.7%	79.1%	93.3%	97.4%
											J	J	N			QRs					T	T
1	10	1	9	1	-	2	7	10	-	10	-	-	5	4	-	-	1	7	0	3	6	0
	1.0%	0.7%	1.0%	0.7%		0.6%	1.7%	1.8%		1.7%			1.4%	2.3%			1.0%	2.9%	0.2%	0.9%	1.1%	0.3%
2	25	2	23	3	7	6	9	16	9	25	-	-	11	13	-	1	3	9	4	12	12	1
	2.5%	1.8%	2.6%	1.5%	5.4%	2.3%	2.2%	2.9%	2.0%	4.4%			3.0%	7.1%		3.1%	2.6%	3.8%	3.7%	3.6%	2.0%	1.9%
3	19	1	18	5	-	6	8	15	4	19	-	-	7	11	-	-	1	7	3	10	9	0
	1.9%	0.7%	2.1%	2.9%		2.3%	1.8%	2.7%	0.9%	3.3%			2.0%	5.9%			0.8%	2.9%	2.6%	2.9%	1.5%	0.3%
								i						m								
4	15	2	12	1	2	3	9	10	5	15	-	-	8	6	-	-	3	7	4	10	5	-
	1.5%	2.1%	1.4%	0.6%	1.3%	1.1%	2.1%	1.8%	1.1%	2.6%			2.3%	3.3%			2.4%	3.0%	3.9%	2.8%	0.9%	
5	15	0	15	-	2	3	10	6	10	15	-	-	4	11	-	-	3	4	4	12	3	-
	1.5%	0.1%	1.7%		1.8%	1.2%	2.2%	1.0%	2.2%	2.7%			1.2%	5.7%			2.5%	1.6%	3.3%	3.4%	0.6%	
														M						U		
6	7	2	6	1	1	4	1	4	3	7	-	-	5	2	-	-	4	1	0	6	2	-
	0.8%	1.6%	0.6%	0.4%	0.9%	1.6%	0.3%	0.8%	0.7%	1.3%			1.4%	1.2%			3.7%	0.3%	0.4%	1.7%	0.3%	
7	0	-	0	-	-	-	0	0	-	0	-	-	0	-	-	-	-	0	-	-	0	-
	*%		*%				0.1%	0.1%		0.1%			0.1%					0.2%			0.1%	
8	1	0	1	-	-	1	0	1	-	1	-	-	1	-	-	-	-	1	0	1	-	-
	0.1%	0.1%	0.1%			0.4%	*%	0.2%		0.2%			0.3%					0.4%	0.1%	0.3%		
9	1	-	1	-	-	-	1	-	1	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.1%		0.1%	0.1%				0.3%						0.1%		
10	3	-	3	-	-	2	1	3	-	3	-	-	1	2	-	-	2	1	-	2	1	-
	0.3%		0.4%			0.9%	0.2%	0.6%		0.6%			0.2%	1.3%			1.8%	0.5%		0.7%	0.1%	
12	2	-	2	-	2	-	1	1	2	2	-	-	-	2	-	-	-	1	-	2	-	-
	0.2%		0.2%		1.1%		0.1%	0.1%	0.3%	0.4%				1.1%				0.2%		0.6%		
15	2	-	2	-	-	0	1	0	1	2	-	-	-	2	-	-	-	-	1	1	0	-
	0.2%		0.2%			0.2%	0.3%	0.1%	0.3%	0.3%				0.9%					1.2%	0.4%	0.1%	
20	5	-	5	-	2	-	3	2	3	5	-	-	1	3	-	-	1	1	-	4	1	-
	0.5%		0.5%		1.1%		0.7%	0.3%	0.6%	0.8%			0.4%	1.8%			0.5%	0.5%		1.2%	0.1%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5C-Rebase. How many of the CFLs you removed were spiral or twisty shaped?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
24	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	1	-	-	1	-	-
	0.1%		0.1%				0.1%	0.1%		0.1%				0.3%			0.5%			0.1%		
25	3	-	3	-	-	3	-	-	3	3	-	-	3	-	-	-	3	-	-	3	-	-
	0.3%		0.4%			1.2%			0.7%	0.5%			0.8%				2.9%			0.9%		
30	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.3%	0.2%		0.2%				0.7%						0.4%		
50	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.3%	0.2%		0.2%			0.4%							0.4%		
Don't know	1	-	1	-	-	1	-	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.1%		0.1%			0.5%		0.2%		0.2%				0.6%						0.4%		
Mean	0.69	0.26	0.74	0.17	0.66	0.77	0.84	0.71	0.66	1.20	0.00	0.00	0.89	1.90	-	0.06	1.65	0.63	0.68	1.60	0.22	0.05
			b			D	D			KL				M			Prs	P	P	UV		
Standard Deviation	3.23	1.05	3.41	0.73	2.63	3.14	3.96	3.42	2.98	4.20	0.00	0.00	4.12	4.46		0.35	4.97	2.08	2.06	5.19	1.11	0.33
Standard Error	0.15	0.17	0.16	0.09	0.40	0.27	0.24	0.16	0.25	0.23	0.00	0.00	0.29	0.40		0.09	0.64	0.18	0.23	0.36	0.07	0.05

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5E. How many of the CFLs you removed were shaped like regular light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	25	1	24	1	1	4	19	18	8	25	-	-	14	12	-	-	4	8	5	22	3	1
Unweighted Total	28	3	25	2	1	6	19	23	5	28	-	-	16	12	-	-	4	9	6	23	4	1
0	6	-	6	1	-	2	4	6	-	6	-	-	4	2	-	-	1	2	-	5	2	-
	25.6%		26.6%	54.1%		35.5%	22.0%	36.9%		25.6%			29.7%	20.7%			17.5%	26.7%		21.6%	59.7%	
1	3	-	3	-	-	1	1	-	3	3	-	-	3	-	-	-	-	1	-	1	1	-
	10.0%		10.4%			28.0%	6.9%		32.5%	10.0%			18.5%					15.6%		6.1%	40.3%	
2	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	5.2%		5.4%				6.9%	7.5%		5.2%			9.6%							6.1%		
3	8	-	8	1	-	1	6	4	4	8	-	-	3	5	-	-	3	1	3	8	-	-
	30.1%		31.3%	45.9%		28.0%	30.4%	21.0%	50.7%	30.1%			22.1%	39.6%			78.9% r	14.5%	58.1% r	35.2%		
4	1	0	1	-	-	0	1	1	-	1	-	-	-	1	-	-	0	1	-	1	-	-
	5.8%	15.4%	5.4%			3.5%	6.9%	8.3%		5.8%				12.6%			3.6%	15.6%		6.7%		
5	3	1	2	-	1	-	2	1	1	3	-	-	1	1	-	-	-	1	-	2	-	1
	10.5%	62.6% c	8.4%		100% G		10.8%	7.6%	16.9%	10.5%			9.6%	11.5%				15.6%		9.4%		100.0% T
6	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	1	-	1	-	-
	2.0%		2.1%				2.7%	2.9%		2.0%				4.3%				6.0%		2.3%		
8	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	1	-	-
	2.0%		2.1%				2.7%	2.9%		2.0%			3.7%					6.0%		2.3%		
25	0	0	-	-	-	0	-	0	-	0	-	-	0	-	-	-	-	-	0	0	-	-
	0.8%	21.9%				4.9%		1.2%		0.8%			1.6%						4.0%	1.0%		
40	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	-	1	1	-	-
	5.2%		5.4%				6.9%	7.5%		5.2%				11.3%					24.4%	6.1%		
Don't know	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	1	-	-
	2.9%		3.0%				3.8%	4.1%		2.9%			5.3%						13.5%	3.4%		
Mean	4.56	9.23	4.36	1.38	5.00	2.49	5.28	5.42	2.69	4.56	-	-	2.32	7.05	-	-	2.51	2.83	14.44	5.14 u	0.40	5.00
Standard Deviation	9.07	49.47	9.04	2.75	0.00	6.02	10.14	10.92	1.47	9.07			3.69	12.43			1.34	2.57	18.79	9.70	0.60	0.00
Standard Error	2.01	33.71	2.07	1.95	0.00	2.98	2.71	2.61	0.69	2.01			1.05	4.30			0.91	0.93	9.44	2.39	0.32	0.00

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P5E-Rebase. How many of the CFLs you removed were shaped like regular light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0/None	976	114	862	168	133	256	418	543	433	551	256	169	355	179	-	23	103	235	107	327	587	62
	98.1%	99.2%	98.0%	99.6%	99.5%	98.9%	96.6%	98.0%	98.2%	96.7%	100.0%	100.0%	97.4%	95.1%		100.0%	96.8%	97.4%	95.2%	95.0%	99.8%	99.0%
				G	g						J	J				rS					T	
1	3	-	3	-	-	1	1	-	3	3	-	-	3	-	-	-	-	1	-	1	1	-
	0.3%		0.3%			0.5%	0.3%		0.6%	0.4%			0.7%					0.5%		0.4%	0.2%	
2	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.3%	0.2%		0.2%			0.4%							0.4%		
3	8	-	8	1	-	1	6	4	4	8	-	-	3	5	-	-	3	1	3	8	-	-
	0.8%		0.9%	0.4%		0.5%	1.3%	0.7%	0.9%	1.3%			0.8%	2.4%			3.1%	0.5%	2.8%	2.2%		
4	1	0	1	-	-	0	1	1	-	1	-	-	-	1	-	-	0	1	-	1	-	-
	0.1%	0.1%	0.1%			0.1%	0.3%	0.3%		0.3%				0.8%			0.1%	0.5%		0.4%		
5	3	1	2	-	1	-	2	1	1	3	-	-	1	1	-	-	-	1	-	2	-	1
	0.3%	0.5%	0.2%		0.5%		0.5%	0.2%	0.3%	0.5%			0.4%	0.7%				0.5%		0.6%		1.0%
6	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	1	-	1	-	-
	0.1%		0.1%				0.1%	0.1%		0.1%				0.3%				0.2%		0.1%		
8	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.1%		0.1%				0.1%	0.1%		0.1%			0.1%					0.2%		0.1%		
25	0	0	-	-	-	0	-	0	-	0	-	-	0	-	-	-	-	-	0	0	-	-
	*%	0.2%				0.1%		*%		*%			0.1%						0.2%	0.1%		
40	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	-	1	1	-	-
	0.1%		0.1%				0.3%	0.2%		0.2%				0.7%					1.2%	0.4%		
Don't know	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	1	-	-
	0.1%		0.1%				0.2%	0.1%		0.1%			0.2%						0.6%	0.2%		
Mean	0.11	0.08	0.12	0.01	0.02	0.04	0.22	0.16	0.05	0.20	0.00	0.00	0.08	0.44	-	0.00	0.10	0.10	0.60	0.31	0.00	0.05
							d													u		
Standard Deviation	1.57	1.15	1.61	0.19	0.34	0.76	2.29	2.07	0.40	2.07	0.00	0.00	0.80	3.41		0.00	0.54	0.69	4.48	2.65	0.05	0.49
Standard Error	0.07	0.18	0.08	0.02	0.05	0.06	0.14	0.10	0.03	0.11	0.00	0.00	0.06	0.30		0.00	0.07	0.06	0.51	0.19	0.00	0.08

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

P6. When one of the CFLs you have installed burns out, how likely are you to replace it with another CFL?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	484	44	440	73	61	118	232	298	186	484	-	-	349	122	-	23	106	242	113	197	263	24
Unweighted Total	502	141	361	80	68	122	232	399	103	502	-	-	338	150	-	20	110	242	130	210	268	24
TOP 2 NET	358	32	326	50	50	83	175	221	138	358	-	-	278	70	-	16	60	185	98	119	220	20
=========	74.1%	73.9%	74.1%	68.0%	82.8%	70.5%	75.5%	74.1%	74.0%	74.1%			79.7%	57.8%		70.3%	56.3%	76.4%	86.5%	60.7%	83.5%	79.9%
													N					Q	Qr		T	T
5 - Very likely	295	30	265	35	42	73	146	194	101	295	-	-	229	57	-	13	44	149	89	90	186	20
	61.1%	69.5%	60.2%	47.8%	68.9%	61.8%	62.8%	65.2%	54.4%	61.1%			65.6%	46.5%		56.5%	41.6%	61.5%	79.3%	45.9%	70.6%	79.9%
					d			i					N					Q	QR		T	T
4	63	2	61	15	8	10	29	26	36	63	-	-	49	14	-	3	16	36	8	29	34	-
	13.0%	4.5%	13.8%	20.2%	13.9%	8.7%	12.7%	8.9%	19.6%	13.0%			14.1%	11.3%		13.9%	14.7%	14.9%	7.2%	14.7%	12.9%	
			B	f					H									S				
3	57	2	55	7	4	20	26	34	23	57	-	-	44	13	-	2	14	35	6	27	28	3
	11.8%	5.7%	12.4%	8.9%	6.8%	17.0%	11.4%	11.5%	12.4%	11.8%			12.5%	10.5%		10.0%	13.1%	14.3%	5.6%	13.6%	10.5%	11.7%
			b			e												S				
BOTTOM 2 NET	66	9	57	17	6	15	28	41	25	66	-	-	27	39	-	5	33	22	7	51	16	-
==========	13.7%	20.4%	13.0%	23.1%	10.4%	12.5%	12.2%	13.8%	13.6%	13.7%			7.8%	31.7%		19.7%	30.6%	9.3%	6.1%	25.7%	6.0%	
														M			RS			U		
2	19	3	16	5	2	5	7	11	8	19	-	-	13	5	-	2	8	7	3	14	6	-
	4.0%	7.6%	3.6%	6.8%	2.5%	4.4%	3.2%	3.6%	4.5%	4.0%			3.8%	4.4%		8.4%	7.2%	2.9%	2.3%	6.9%	2.1%	
																				u		
1 - Not at all likely	47	6	42	12	5	10	21	30	17	47	-	-	14	33	-	3	25	15	4	37	10	-
	9.8%	12.8%	9.5%	16.2%	7.9%	8.1%	9.0%	10.2%	9.1%	9.8%			4.0%	27.3%		11.3%	23.4%	6.4%	3.7%	18.8%	3.9%	
														M			RS			U		
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.4%		0.5%				0.9%	0.7%		0.4%									1.8%			8.4%
Mean	4.12	4.10	4.12	3.76	4.33	4.12	4.18	4.16	4.06	4.12	-	-	4.34	3.45	-	3.96	3.44	4.22	4.59	3.62	4.44	4.74
					d	d	D						N					Q	QR		T	Tu
Standard Deviation	1.33	1.50	1.31	1.51	1.22	1.30	1.29	1.35	1.29	1.33			1.09	1.71		1.45	1.63	1.19	0.98	1.56	1.03	0.68
Standard Error	0.08	0.20	0.08	0.27	0.18	0.16	0.11	0.08	0.15	0.08			0.08	0.18		0.39	0.21	0.10	0.11	0.14	0.08	0.18

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M1. Did you purchase any CFLs in 2014?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Yes	365	31	334	49	37	98	181	202	162	365	-	-	365	-	-	12	69	182	86	127	220	17
	64.0%	58.0%	64.6%	59.6%	48.7%	67.1%	68.0%	58.5%	72.6%	64.0%			100.0%			52.4%	64.7%	75.4%	76.5%	53.2%	72.1%	69.6%
						E	E		H									p	p		T	
No	188	21	167	32	38	42	76	127	61	188	-	-	-	188	-	9	37	53	23	107	76	5
	33.1%	40.1%	32.3%	39.1%	51.1%	28.7%	28.5%	36.7%	27.4%	33.1%				100.0%		38.9%	34.7%	22.0%	20.0%	44.5%	25.0%	21.6%
					FG			i									rs			Uv		
Don't know	15	1	13	1	0	6	7	15	-	15	-	-	-	-	-	2	1	6	2	6	9	0
	2.5%	1.9%	2.6%	1.3%	0.3%	4.2%	2.7%	4.2%		2.5%						8.7%	0.6%	2.6%	1.7%	2.3%	2.9%	0.6%
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.4%		0.4%				0.8%	0.6%		0.4%									1.8%			8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M2. How many CFLs did you purchase in 2014? If a package contained more than one bulb, please count each one separately.

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	365	31	334	49	37	98	181	202	162	365	-	-	365	-	-	12	69	182	86	127	220	17
Unweighted Total	359	101	258	50	44	88	177	273	86	359	-	-	359	-	-	8	65	170	95	136	207	16
1	16 4.3%	1 2.6%	15 4.5%	-	0 0.5%	6 6.1%	10 5.3%	7 3.6%	8 5.2%	16 4.3%	-	-	16 4.3%	-	-	7 54.1% QRS	3 4.9%	4 2.3%	2 1.7%	3 2.1%	12 5.3%	1 7.6%
2	44 12.2%	4 12.8%	40 12.1%	5 10.7%	2 6.7%	9 9.1%	28 15.3%	23 11.4%	21 13.2%	44 12.2%	-	-	44 12.2%	-	-	4 32.2% s	21 31.1% RS	14 7.6%	3 2.9%	15 12.1%	26 11.8%	3 16.9%
3	16 4.4%	2 5.9%	14 4.3%	0 0.4%	2 6.6%	3 2.9%	11 5.9%	9 4.3%	7 4.5%	16 4.4%	-	-	16 4.4%	-	-	2 13.6%	2 2.2%	6 3.1%	7 8.4%	3 2.6%	11 5.2%	1 7.5%
4	73 20.0%	8 25.8%	65 19.5%	14 28.4%	9 24.5%	24 24.9%	26 14.2%	42 20.6%	31 19.3%	73 20.0%	-	-	73 20.0%	-	-	-	16 23.5%	43 23.5% s	10 11.1%	25 19.7%	45 20.6%	3 14.6%
5	29 7.9%	2 7.7%	26 7.9%	4 7.8%	5 13.8% g	13 12.9% g	7 4.1%	17 8.6%	11 7.1%	29 7.9%	-	-	29 7.9%	-	-	-	4 5.3%	17 9.1%	8 9.2%	10 7.6%	19 8.7%	-
6	48 13.2%	5 15.5%	43 13.0%	6 11.6%	5 14.7%	10 10.3%	27 14.9%	32 16.0%	16 9.8%	48 13.2%	-	-	48 13.2%	-	-	-	12 17.3%	22 12.2%	13 14.9%	23 17.8%	24 11.0%	1 7.5%
7	0 0.1%	-	0 0.1%	-	-	0 0.3%	-	0 0.2%	-	0 0.1%	-	-	0 0.1%	-	-	-	-	-	0 0.4%	-	0 0.1%	-
8	29 8.1%	2 6.1%	28 8.3%	7 13.5%	4 11.9%	4 4.3%	14 7.9%	16 8.0%	13 8.2%	29 8.1%	-	-	29 8.1%	-	-	-	3 4.2%	17 9.4%	8 9.1%	7 5.3%	20 9.1%	3 15.9%
9	3 0.9%	-	3 1.0%	-	-	-	3 1.9%	3 1.7%	-	3 0.9%	-	-	3 0.9%	-	-	-	2 3.0%	1 0.7%	-	1 1.0%	2 0.9%	-
10	31 8.5%	2 5.5%	29 8.8%	5 10.1%	2 4.8%	6 6.0%	19 10.2%	14 7.2%	17 10.3%	31 8.5%	-	-	31 8.5%	-	-	-	1 1.1%	10 5.4%	19 21.6% QR	9 7.1%	20 9.2%	2 11.0%
11	3 0.9%	-	3 1.0%	3 5.1%	-	-	1 0.4%	3 1.6%	-	3 0.9%	-	-	3 0.9%	-	-	-	-	3 1.8%	-	-	3 1.5%	-
12	10 2.9%	1 3.9%	9 2.8%	1 1.7%	2 4.8%	2 1.6%	6 3.5%	6 3.1%	4 2.6%	10 2.9%	-	-	10 2.9%	-	-	-	1 1.1%	7 4.1%	2 2.7%	5 3.6%	6 2.7%	-
14	3 0.8%	-	3 0.9%	-	-	3 3.2%	-	-	3 1.9%	3 0.8%	-	-	3 0.8%	-	-	-	3 4.5%	-	-	3 2.4%	-	-
15	16 4.4%	0 0.8%	16 4.7% B	5 10.0% EG	0 0.7%	6 6.0%	5 2.7%	5 2.6%	11 6.5%	16 4.4%	-	-	16 4.4%	-	-	-	-	16 8.6% S	0 0.3%	8 6.5%	8 3.4%	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M2. How many CFLs did you purchase in 2014? If a package contained more than one bulb, please count each one separately.

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
16	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.2%		0.2%				0.4%	0.4%		0.2%			0.2%							0.6%		
18	0	0	-	-	0	-	-	0	-	0	-	-	0	-	-	-	-	0	-	-	0	-
	0.1%	0.8%			0.7%			0.1%		0.1%			0.1%					0.1%			0.1%	
20	11	0	11	-	-	3	8	4	7	11	-	-	11	-	-	-	-	6	5	3	7	-
	3.0%	0.4%	3.2%			3.2%	4.3%	2.0%	4.2%	3.0%			3.0%					3.4%	5.3%	2.6%	3.4%	
22	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.1%		0.2%				0.3%	0.2%		0.1%			0.1%						0.6%		0.2%	
24	2	1	1	-	2	-	-	0	1	2	-	-	2	-	-	-	-	2	0	2	-	-
	0.5%	1.8%	0.4%		4.8%			0.2%	0.9%	0.5%			0.5%					0.8%	0.3%	1.4%		
25	3	-	3	-	-	-	3	-	3	3	-	-	3	-	-	-	-	-	3	3	-	-
	0.7%		0.8%				1.5%		1.6%	0.7%			0.7%						3.1%	2.1%		
30	1	0	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	-	1	1	0	-
	0.3%	1.4%	0.2%			1.1%		0.5%		0.3%			0.3%						1.3%	0.5%	0.2%	
32	2	-	2	-	-	-	2	-	2	2	-	-	2	-	-	-	-	-	2	-	2	-
	0.7%		0.7%				1.3%		1.5%	0.7%			0.7%						2.8%		1.1%	
38	0	-	0	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	-	0	-	-
	0.1%		0.1%				0.1%	0.1%		0.1%			0.1%							0.2%		
40	1	0	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	0	1	1	0	-
	0.4%	0.4%	0.4%				0.8%	0.7%		0.4%			0.4%					0.1%	1.5%	1.0%	0.1%	
125	0	0	-	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	0	-	-	0
	0.1%	0.7%					0.1%	0.1%		0.1%			0.1%						0.2%			1.2%
Don't know	18	2	16	0	2	8	8	14	4	18	-	-	18	-	-	-	1	13	2	3	12	3
	4.9%	7.8%	4.7%	0.8%	5.5%	8.2%	4.2%	6.9%	2.5%	4.9%			4.9%				1.9%	7.0%	2.5%	2.6%	5.3%	17.7%
REFUSED	1	-	1	-	-	-	1	-	1	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.4%		0.4%				0.7%		0.8%	0.4%			0.4%					0.7%		1.0%		
Mean	7.11	7.10	7.11	6.85	6.64	6.59	7.54	6.71	7.58	7.11	-	-	7.11	-	-	1.60	4.53	7.22	9.88	7.94	6.64	6.74
																	P	PQ	PQ			
Standard Deviation	6.54	11.76	5.88	3.84	4.97	5.27	7.89	6.68	6.34	6.54			6.54			0.75	3.07	4.94	9.92	6.76	5.34	15.22
Standard Error	0.47	1.88	0.45	0.88	0.95	0.79	0.75	0.52	0.81	0.47			0.47			0.29	0.50	0.53	1.34	0.80	0.51	5.26

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M2-Rebase. How many CFLs did you purchase in 2014? If a package contained more than one bulb, please count each one separately.

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
1	16 1.6%	1 0.7%	15 1.7%	-	0 0.1%	6 2.3%	10 2.2%	7 1.3%	8 1.9%	16 2.8%	-	-	16 4.3%	-	-	7 28.3% QRS	3 3.2%	4 1.8%	2 1.3%	3 0.8%	12 2.0%	1 2.1%
2	44 4.5%	4 3.4%	40 4.6%	5 3.1%	2 1.8%	9 3.4%	28 6.4%	23 4.2%	21 4.8%	44 7.8%	-	-	44 12.2%	-	-	4 16.9% s	21 20.1% RS	14 5.7%	3 2.2%	15 4.5%	26 4.4%	3 4.7%
3	16 1.6%	2 1.6%	14 1.6%	0 0.1%	2 1.8%	3 1.1%	11 2.5% d	9 1.6%	7 1.7%	16 2.8%	-	-	16 4.4%	-	-	2 7.1%	2 1.4%	6 2.4%	7 6.4% q	3 1.0%	11 1.9%	1 2.1%
4	73 7.3%	8 7.0%	65 7.4%	14 8.3%	9 6.7%	24 9.4%	26 6.0%	42 7.5%	31 7.1%	73 12.8%	-	-	73 20.0%	-	-	-	16 15.2%	43 17.7% S	10 8.5%	25 7.3%	45 7.7%	3 4.0%
5	29 2.9%	2 2.1%	26 3.0%	4 2.3%	5 3.8%	13 4.8% g	7 1.7%	17 3.1%	11 2.6%	29 5.1%	-	-	29 7.9%	-	-	-	4 3.4%	17 6.9%	8 7.1%	10 2.8%	19 3.3%	-
6	48 4.8%	5 4.2%	43 4.9%	6 3.4%	5 4.0%	10 3.9%	27 6.3%	32 5.8%	16 3.6%	48 8.5%	-	-	48 13.2%	-	-	-	12 11.2%	22 9.2%	13 11.4%	23 6.6% v	24 4.1%	1 2.1%
7	0 *%	-	0 *%	-	-	0 0.1%	-	0 0.1%	-	0 0.1%	-	-	0 0.1%	-	-	-	-	-	0 0.3%	-	0 0.1%	-
8	29 3.0%	2 1.6%	28 3.1%	7 3.9%	4 3.2%	4 1.6%	14 3.3%	16 2.9%	13 3.0%	29 5.2%	-	-	29 8.1%	-	-	-	3 2.7%	17 7.1%	8 6.9%	7 2.0%	20 3.4%	3 4.4%
9	3 0.3%	-	3 0.4%	-	-	-	3 0.8%	3 0.6%	-	3 0.6%	-	-	3 0.9%	-	-	-	2 1.9%	1 0.5%	-	1 0.4%	2 0.3%	-
10	31 3.1%	2 1.5%	29 3.3%	5 3.0%	2 1.3%	6 2.3%	19 4.3%	14 2.6%	17 3.8%	31 5.5%	-	-	31 8.5%	-	-	-	1 0.7%	10 4.1%	19 16.6% QR	9 2.6%	20 3.4%	2 3.1%
11	3 0.3%	-	3 0.4%	3 1.5%	-	-	1 0.2%	3 0.6%	-	3 0.6%	-	-	3 0.9%	-	-	-	-	3 1.3%	-	-	3 0.6%	-
12	10 1.0%	1 1.1%	9 1.0%	1 0.5%	2 1.3%	2 0.6%	6 1.5%	6 1.1%	4 0.9%	10 1.8%	-	-	10 2.9%	-	-	-	1 0.7%	7 3.1%	2 2.0%	5 1.3%	6 1.0%	-
14	3 0.3%	-	3 0.4%	-	-	3 1.2%	-	-	3 0.7%	3 0.5%	-	-	3 0.8%	-	-	-	3 2.9%	-	-	3 0.9%	-	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M2-Rebase. How many CFLs did you purchase in 2014? If a package contained more than one bulb, please count each one separately.

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
15	16	0	16	5	0	6	5	5	11	16	-	-	16	-	-	-	-	16	0	8	8	-
	1.6%	0.2%	1.8%	2.9%	0.2%	2.3%	1.1%	1.0%	2.4%	2.8%			4.4%					6.5%	0.2%	2.4%	1.3%	
				e														S				
16	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.2%	0.1%		0.1%			0.2%							0.2%		
18	0	0	-	-	0	-	-	0	-	0	-	-	0	-	-	-	-	0	-	-	0	-
	*%	0.2%			0.2%			*%		*%			0.1%					0.1%			*%	
20	11	0	11	-	-	3	8	4	7	11	-	-	11	-	-	-	-	6	5	3	7	-
	1.1%	0.1%	1.2%			1.2%	1.8%	0.7%	1.5%	1.9%			3.0%					2.6%	4.1%	1.0%	1.3%	
22	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.1%		0.1%				0.1%	0.1%		0.1%			0.1%						0.4%		0.1%	
24	2	1	1	-	2	-	-	0	1	2	-	-	2	-	-	-	-	2	0	2	-	-
	0.2%	0.5%	0.1%		1.3%			0.1%	0.3%	0.3%			0.5%					0.6%	0.2%	0.5%		
25	3	-	3	-	-	-	3	-	3	3	-	-	3	-	-	-	-	-	3	3	-	-
	0.3%		0.3%				0.6%		0.6%	0.5%			0.7%						2.3%	0.8%		
30	1	0	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	-	1	1	0	-
	0.1%	0.4%	0.1%			0.4%		0.2%		0.2%			0.3%						1.0%	0.2%	0.1%	
32	2	-	2	-	-	-	2	-	2	2	-	-	2	-	-	-	-	-	2	-	2	-
	0.2%		0.3%				0.6%		0.5%	0.4%			0.7%						2.1%		0.4%	
38	0	-	0	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	-	0	-	-
	*%		*%				*%	*%		*%			0.1%							0.1%		
40	1	0	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	0	1	1	0	-
	0.1%	0.1%	0.1%				0.3%	0.3%		0.3%			0.4%					0.1%	1.2%	0.4%	*%	
125	0	0	-	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	0	-	-	0
	*%	0.2%					*%	*%		*%			0.1%						0.2%			0.3%
None	630	84	547	120	97	161	252	351	279	205	256	169	-	188	-	11	37	60	27	217	368	45
	63.4%	73.0%	62.1%	70.9%	72.7%	62.3%	58.2%	63.5%	63.2%	36.0%	100.0%	100.0%		100.0%		47.6%	35.3%	24.6%	23.5%	63.0%	62.6%	72.2%
				G	g						J	J				rs						
Don't know	18	2	16	0	2	8	8	14	4	18	-	-	18	-	-	-	1	13	2	3	12	3
	1.8%	2.1%	1.8%	0.2%	1.5%	3.1%	1.8%	2.5%	0.9%	3.2%			4.9%				1.2%	5.3%	1.9%	1.0%	2.0%	4.9%
																		q				
REFUSED	1	-	1	-	-	-	1	-	1	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.1%		0.1%				0.3%		0.3%	0.2%			0.4%					0.5%		0.4%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M2-Rebase. How many CFLs did you purchase in 2014? If a package contained more than one bulb, please count each one separately.

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Mean	2.51	1.80	2.61	1.98	1.74	2.36	3.06 d	2.34	2.73	4.46 KL	0.00	0.00	7.11 N	0.00	-	0.84	2.91 P	5.33 PQ	7.51 PQ	2.87	2.40	1.62
Standard Deviation	5.16	6.62	4.94	3.73	3.86	4.46	6.24	5.08	5.26	6.21	0.00	0.00	6.54	0.00		0.97	3.29	5.30	9.62	5.57	4.52	7.81
Standard Error	0.24	1.07	0.23	0.47	0.60	0.38	0.38	0.24	0.45	0.34	0.00	0.00	0.47	0.00		0.26	0.43	0.47	1.10	0.39	0.29	1.32

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M2A. How many of the CFLs you bought in 2014 were the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	345	29	317	49	35	90	172	188	157	345	-	-	345	-	-	12	67	168	84	123	208	14
Unweighted Total	340	96	244	48	41	81	170	258	82	340	-	-	340	-	-	8	64	157	93	130	197	13
0	27	1	26	0	4	7	16	19	7	27	-	-	27	-	-	-	5	14	8	13	13	-
	7.7%	1.9%	8.2%	0.4%	11.0%	7.8%	9.0%	10.3%	4.6%	7.7%			7.7%				7.8%	8.1%	9.2%	10.9%	6.3%	
			b		d		D															
1	20	1	19	0	0	9	11	8	12	20	-	-	20	-	-	7	9	4	0	5	14	1
	5.7%	4.0%	5.9%	0.4%	0.6%	9.9%	6.1%	4.4%	7.4%	5.7%			5.7%			54.1%	12.8%	2.6%	0.2%	3.9%	6.6%	9.2%
						de										QRS	rS					
2	42	6	35	8	5	4	25	21	20	42	-	-	42	-	-	4	20	12	3	11	27	3
	12.0%	22.6%	11.1%	15.7%	14.1%	4.3%	14.6%	11.3%	13.0%	12.0%			12.0%			32.2%	30.1%	7.1%	3.2%	9.2%	13.2%	20.6%
		C					F									s	RS					
3	20	2	18	3	2	5	10	13	6	20	-	-	20	-	-	2	2	8	8	4	15	1
	5.7%	5.7%	5.7%	5.2%	7.0%	5.3%	5.9%	7.1%	4.1%	5.7%			5.7%			13.6%	3.4%	4.6%	9.7%	2.9%	7.2%	9.1%
4	70	5	65	12	7	23	28	37	33	70	-	-	70	-	-	-	15	38	10	23	43	4
	20.3%	18.5%	20.5%	25.2%	18.9%	25.6%	16.4%	19.6%	21.1%	20.3%			20.3%				22.7%	22.9%	12.4%	18.9%	20.7%	26.9%
5	29	2	26	4	1	11	13	15	14	29	-	-	29	-	-	-	-	17	11	11	18	-
	8.3%	7.8%	8.3%	7.9%	3.5%	11.8%	7.5%	7.8%	8.9%	8.3%			8.3%					10.1%	12.5%	8.9%	8.5%	
						e																
6	38	5	33	5	5	7	21	26	12	38	-	-	38	-	-	-	11	18	8	18	20	-
	11.0%	15.8%	10.5%	9.7%	15.5%	7.6%	12.2%	13.8%	7.7%	11.0%			11.0%				16.0%	11.0%	9.3%	14.5%	9.7%	
7	1	-	1	1	-	-	-	1	-	1	-	-	1	-	-	-	-	1	-	-	1	-
	0.2%		0.2%	1.3%				0.3%		0.2%			0.2%					0.4%			0.3%	
8	29	2	27	7	4	6	11	18	11	29	-	-	29	-	-	-	1	20	8	5	21	3
	8.4%	7.1%	8.6%	14.9%	12.6%	6.7%	6.7%	9.7%	6.9%	8.4%			8.4%				1.3%	12.0%	9.2%	4.3%	10.1%	19.3%
																		Q				
9	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.4%		0.4%				0.8%	0.7%		0.4%			0.4%					0.8%		1.1%		
10	24	2	22	4	2	3	15	12	11	24	-	-	24	-	-	-	1	8	13	7	14	2
	6.8%	6.5%	6.8%	7.6%	5.1%	3.4%	8.8%	6.6%	7.1%	6.8%			6.8%				1.1%	4.8%	15.8%	5.9%	6.9%	13.4%
																			QR			
12	10	1	9	1	2	1	6	5	4	10	-	-	10	-	-	-	0	7	2	4	6	-
	2.8%	3.0%	2.7%	1.7%	5.1%	1.3%	3.4%	2.9%	2.6%	2.8%			2.8%				0.3%	4.2%	2.7%	3.3%	2.6%	
14	3	-	3	-	-	3	-	-	3	3	-	-	3	-	-	-	3	-	-	3	-	-
	0.9%		1.0%			3.4%			2.0%	0.9%			0.9%				4.6%			2.5%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
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NEEA 2015 Consumer Lighting Survey

M2A. How many of the CFLs you bought in 2014 were the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
15	11	1	11	5	1	3	3	3	8	11	-	-	11	-	-	-	-	11	0	6	6	-
	3.3%	2.3%	3.3%	10.0%	1.5%	3.3%	1.7%	1.8%	5.0%	3.3%			3.3%					6.5%	0.5%	4.6%	2.7%	
				fG														S				
16	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.2%		0.2%				0.4%	0.4%		0.2%			0.2%							0.6%		
20	7	0	7	-	-	3	4	3	4	7	-	-	7	-	-	-	-	6	1	3	5	-
	2.1%	0.5%	2.2%			3.4%	2.4%	1.5%	2.8%	2.1%			2.1%					3.5%	1.6%	2.1%	2.2%	
22	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.1%		0.2%				0.3%	0.3%		0.1%			0.1%						0.6%		0.2%	
23	0	0	-	-	0	-	-	-	0	0	-	-	0	-	-	-	-	-	0	0	-	-
	0.1%	0.9%			0.7%				0.2%	0.1%			0.1%						0.3%	0.2%		
24	2	0	1	-	2	-	-	0	1	2	-	-	2	-	-	-	-	2	-	2	-	-
	0.4%	1.1%	0.4%		4.4%			0.2%	0.8%	0.4%			0.4%					0.9%		1.2%		
25	3	-	3	-	-	-	3	-	3	3	-	-	3	-	-	-	-	-	3	3	-	-
	0.8%		0.8%				1.5%		1.7%	0.8%			0.8%						3.1%	2.1%		
30	2	0	2	-	-	1	1	2	-	2	-	-	2	-	-	-	-	-	2	2	0	-
	0.7%	1.5%	0.6%			1.2%	0.8%	1.3%		0.7%			0.7%						2.9%	1.6%	0.2%	
32	2	-	2	-	-	-	2	-	2	2	-	-	2	-	-	-	-	-	2	-	2	-
	0.7%		0.8%				1.4%		1.5%	0.7%			0.7%						2.9%		1.2%	
37	0	-	0	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	-	0	-	-
	0.1%		0.1%				0.1%	0.1%		0.1%			0.1%							0.2%		
125	0	0	-	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	0	-	-	0
	0.1%	0.7%					0.1%	0.1%		0.1%			0.1%						0.2%			1.5%
Don't know	4	0	4	-	-	4	0	0	4	4	-	-	4	-	-	-	-	1	3	1	3	-
	1.3%	0.2%	1.4%			4.8%	*%	*%	2.7%	1.3%			1.3%					0.8%	3.7%	1.0%	1.5%	
						g																
Mean	6.10	6.60	6.06	6.21	5.92	5.76	6.28	5.63	6.69	6.10	-	-	6.10	-	-	1.60	3.58	6.35	8.45	6.87	5.62	6.56
																	P	PQ	PQ			
Standard Deviation	6.38	11.62	5.70	3.89	5.41	5.40	7.51	6.38	6.36	6.38			6.38			0.75	3.10	4.91	9.82	6.57	5.15	15.24
Standard Error	0.46	1.86	0.44	0.89	1.04	0.82	0.72	0.50	0.83	0.46			0.46			0.29	0.50	0.53	1.33	0.78	0.49	5.27

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
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NEEA 2015 Consumer Lighting Survey

M2A-Rebase. How many of the CFLs you bought in 2014 were the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0/None	676 68.0%	87 75.6%	590 67.0%	120 71.2%	103 77.1% g	176 68.1%	276 63.8%	385 69.5%	292 66.1%	251 44.0%	256 100.0% J	169 100.0% J	46 12.6%	188 100.0% M	-	11 47.6%	44 41.5%	87 36.1%	36 32.3%	235 68.2%	393 66.9%	49 77.2%
1	20 2.0%	1 1.0%	19 2.1%	0 0.1%	0 0.1%	9 3.4% De	11 2.4% d	8 1.5%	12 2.6%	20 3.5%	-	-	20 5.4%	-	-	7 28.3% qRS	9 8.1% rS	4 1.8%	0 0.2%	5 1.4%	14 2.3%	1 2.1%
2	42 4.2%	6 5.6%	35 4.0%	8 4.5%	5 3.6%	4 1.5%	25 5.8% F	21 3.8%	20 4.6%	42 7.3%	-	-	42 11.4%	-	-	4 16.9% s	20 19.1% RS	12 4.9%	3 2.4%	11 3.3%	27 4.7%	3 4.7%
3	20 2.0%	2 1.4%	18 2.1%	3 1.5%	2 1.8%	5 1.8%	10 2.3%	13 2.4%	6 1.4%	20 3.5%	-	-	20 5.4%	-	-	2 7.1%	2 2.1%	8 3.2%	8 7.3% q	4 1.0%	15 2.5%	1 2.1%
4	70 7.0%	5 4.6%	65 7.4%	12 7.3%	7 4.9%	23 8.9%	28 6.5%	37 6.7%	33 7.5%	70 12.3%	-	-	70 19.2%	-	-	-	15 14.4%	38 15.9%	10 9.2%	23 6.7%	43 7.3%	4 6.1%
5	29 2.9%	2 1.9%	26 3.0%	4 2.3%	1 0.9%	11 4.1% e	13 3.0%	15 2.6%	14 3.1%	29 5.0%	-	-	29 7.8%	-	-	-	-	17 7.0%	11 9.3%	11 3.2%	18 3.0%	-
6	38 3.8%	5 3.9%	33 3.8%	5 2.8%	5 4.0%	7 2.6%	21 4.8%	26 4.7%	12 2.7%	38 6.7%	-	-	38 10.4%	-	-	-	11 10.1%	18 7.6%	8 6.9%	18 5.2%	20 3.4%	-
7	1 0.1%	-	1 0.1%	1 0.4%	-	-	-	1 0.1%	-	1 0.1%	-	-	1 0.2%	-	-	-	-	1 0.3%	-	-	1 0.1%	-
8	29 2.9%	2 1.8%	27 3.1%	7 4.3%	4 3.2%	6 2.3%	11 2.6%	18 3.3%	11 2.4%	29 5.1%	-	-	29 8.0%	-	-	-	1 0.8%	20 8.3% Q	8 6.9% q	5 1.5%	21 3.6%	3 4.4%
9	1 0.1%	-	1 0.1%	-	-	-	1 0.3%	1 0.2%	-	1 0.2%	-	-	1 0.4%	-	-	-	-	1 0.5%	-	1 0.4%	-	-
10	24 2.4%	2 1.6%	22 2.5%	4 2.2%	2 1.3%	3 1.2%	15 3.5%	12 2.2%	11 2.5%	24 4.1%	-	-	24 6.5%	-	-	-	1 0.7%	8 3.3%	13 11.7% QR	7 2.1%	14 2.4%	2 3.1%
12	10 1.0%	1 0.7%	9 1.0%	1 0.5%	2 1.3%	1 0.4%	6 1.3%	5 1.0%	4 0.9%	10 1.7%	-	-	10 2.6%	-	-	-	0 0.2%	7 2.9%	2 2.0%	4 1.2%	6 0.9%	-
14	3 0.3%	-	3 0.4%	-	-	3 1.2%	-	-	3 0.7%	3 0.5%	-	-	3 0.8%	-	-	-	3 2.9%	-	-	3 0.9%	-	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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NEEA 2015 Consumer Lighting Survey

M2A-Rebase. How many of the CFLs you bought in 2014 were the spiral or twisty shape?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
15	11	1	11	5	1	3	3	3	8	11	-	-	11	-	-	-	-	11	0	6	6	-
	1.1%	0.6%	1.2%	2.9%	0.4%	1.2%	0.7%	0.6%	1.8%	2.0%			3.1%					4.5%	0.3%	1.7%	0.9%	
				g														S				
16	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.2%	0.1%		0.1%			0.2%							0.2%		
20	7	0	7	-	-	3	4	3	4	7	-	-	7	-	-	-	-	6	1	3	5	-
	0.7%	0.1%	0.8%			1.2%	0.9%	0.5%	1.0%	1.3%			2.0%					2.4%	1.2%	0.8%	0.8%	
22	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.1%		0.1%				0.1%	0.1%		0.1%			0.1%						0.4%		0.1%	
23	0	0	-	-	0	-	-	-	0	0	-	-	0	-	-	-	-	-	0	0	-	-
	*%	0.2%			0.2%				0.1%	*%			0.1%						0.2%	0.1%		
24	2	0	1	-	2	-	-	0	1	2	-	-	2	-	-	-	-	2	-	2	-	-
	0.2%	0.3%	0.1%		1.1%			0.1%	0.3%	0.3%			0.4%					0.6%		0.4%		
25	3	-	3	-	-	-	3	-	3	3	-	-	3	-	-	-	-	-	3	3	-	-
	0.3%		0.3%				0.6%		0.6%	0.5%			0.7%						2.3%	0.8%		
30	2	0	2	-	-	1	1	2	-	2	-	-	2	-	-	-	-	-	2	2	0	-
	0.2%	0.4%	0.2%			0.4%	0.3%	0.4%		0.4%			0.7%						2.1%	0.6%	0.1%	
32	2	-	2	-	-	-	2	-	2	2	-	-	2	-	-	-	-	-	2	-	2	-
	0.2%		0.3%				0.6%		0.5%	0.4%			0.7%						2.1%		0.4%	
37	0	-	0	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	-	0	-	-
	*%		*%				*%	*%		*%			0.1%							0.1%		
125	0	0	-	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	0	-	-	0
	*%	0.2%					*%	*%		*%			0.1%						0.2%			0.3%
Don't know	4	0	4	-	-	4	0	0	4	4	-	-	4	-	-	-	-	1	3	1	3	-
	0.4%	0.1%	0.5%			1.7%	*%	*%	1.0%	0.8%			1.2%					0.5%	2.7%	0.4%	0.5%	
						G													r			
Mean	2.10	1.64	2.16	1.79	1.53	1.93	2.50	1.92	2.34	3.68	0.00	0.00	5.78	0.00	-	0.84	2.28	4.41	6.23	2.44	1.97	1.50
										KL			N				P	PQ	PQ			
Standard Deviation	4.73	6.39	4.47	3.50	3.76	4.13	5.64	4.57	4.92	5.79	0.00	0.00	6.36	0.00		0.97	3.01	5.03	9.21	5.11	4.06	7.60
Standard Error	0.21	1.02	0.21	0.44	0.58	0.35	0.34	0.21	0.42	0.31	0.00	0.00	0.45	0.00		0.26	0.39	0.43	1.04	0.36	0.25	1.24

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
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NEEA 2015 Consumer Lighting Survey

M2B. How many were shaped like regular light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	67	5	62	8	7	18	35	47	20	67	-	-	67	-	-	-	18	28	19	29	37	1
Unweighted Total	71	18	53	9	6	20	36	57	14	71	-	-	71	-	-	-	13	32	22	34	36	1
0	11	1	10	0	0	3	7	4	7	11	-	-	11	-	-	-	4	2	5	7	2	1
	16.1%	15.0%	16.2%	2.7%	3.8%	19.6%	19.6%	8.5%	33.6%	16.1%			16.1%				22.2%	6.8%	25.9%	24.9% u	6.0%	100.0% TU
1	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	0	1	-
	1.4%		1.5%				2.6%	2.0%		1.4%			1.4%						3.8%	0.7%	2.0%	
2	19	3	16	5	2	4	7	16	3	19	-	-	19	-	-	-	5	10	4	8	11	-
	28.3%	63.1% c	25.5%	61.5% g	35.9%	25.3%	21.1%	33.5%	16.2%	28.3%			28.3%				25.8%	34.2%	22.9%	27.1%	30.3%	
3	5	0	5	-	0	2	3	3	2	5	-	-	5	-	-	-	1	2	2	5	0	-
	8.0%	5.5%	8.2%		3.8%	12.2%	8.4%	6.3%	12.0%	8.0%			8.0%				5.4%	7.1%	12.7%	17.5% u	0.7%	
4	6	0	6	0	-	3	3	4	3	6	-	-	6	-	-	-	2	3	0	2	4	-
	9.4%	6.9%	9.6%	2.7%		19.1%	7.7%	7.7%	13.2%	9.4%			9.4%				11.6%	10.2%	0.7%	7.9%	10.9%	
5	10	0	9	-	4	4	2	10	-	10	-	-	10	-	-	-	4	5	0	1	8	-
	14.2%	6.7%	14.8%		56.5% g	21.9%	5.2%	20.3%		14.2%			14.2%				20.5%	18.4%	1.7%	4.0%	22.8% T	
6	2	-	2	-	-	-	2	2	-	2	-	-	2	-	-	-	1	-	1	1	1	-
	2.7%		3.0%				5.2%	3.9%		2.7%			2.7%				2.9%		6.9%	1.8%	3.6%	
7	0	-	0	-	-	0	-	0	-	0	-	-	0	-	-	-	-	-	0	-	0	-
	0.5%		0.5%			1.8%		0.7%		0.5%			0.5%						1.7%		0.9%	
8	5	-	5	3	-	-	2	5	-	5	-	-	5	-	-	-	2	3	-	-	5	-
	6.8%		7.4%	33.1% g			5.9%	9.8%		6.8%			6.8%				11.6%	9.0%			12.5%	
10	2	-	2	-	-	-	2	2	-	2	-	-	2	-	-	-	-	-	2	2	-	-
	3.1%		3.3%				5.8%	4.4%		3.1%			3.1%						10.8%	7.0%		
11	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	-	1	-
	1.1%		1.2%				2.1%	1.6%		1.1%			1.1%					2.6%			2.0%	
15	3	-	3	-	-	-	3	-	3	3	-	-	3	-	-	-	-	3	-	3	-	-
	3.9%		4.3%				7.6%		13.1%	3.9%			3.9%					9.4%		9.1%		
20	3	0	2	-	-	-	3	0	2	3	-	-	3	-	-	-	-	0	2	-	3	-
	3.8%	2.8%	3.9%				7.3%	0.3%	12.0%	3.8%			3.8%					0.5%	12.7% r		7.0%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
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		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	-	1	-
	0.8%		0.8%				1.5%	1.1%		0.8%			0.8%					1.8%			1.4%	
Mean	4.46	2.59	4.61	3.99	3.66	2.86	5.54	3.98	5.56	4.46	-	-	4.46	-	-	-	3.27	4.82	5.15	3.76	5.19	0.00
							F															
Standard Deviation	4.66	3.56	4.73	3.07	1.72	1.89	5.97	2.88	7.26	4.66			4.66				2.58	4.28	6.59	4.42	4.82	0.00
Standard Error	0.72	1.53	0.77	1.39	0.93	0.57	1.23	0.50	2.28	0.72			0.72				0.84	1.02	1.77	0.99	1.03	0.00

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M2B-Rebase. How many were shaped like regular light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0/None	939	111	828	162	128	245	405	511	428	513	256	169	308	188	-	23	92	215	99	322	554	63
	94.4%	96.3%	94.1%	95.6%	95.2%	94.5%	93.5%	92.3%	97.0%	90.1%	100.0%	100.0%	84.6%	100.0%		100.0%	87.1%	89.1%	87.5%	93.6%	94.2%	100.0%
									H		J	J		M		QRS						TU
1	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	1	0	1	-
	0.1%		0.1%				0.2%	0.2%		0.2%			0.3%						0.6%	0.1%	0.1%	
2	19	3	16	5	2	4	7	16	3	19	-	-	19	-	-	-	5	10	4	8	11	-
	1.9%	2.7%	1.8%	2.8%	1.8%	1.7%	1.7%	2.8%	0.7%	3.3%			5.2%				4.3%	4.0%	3.9%	2.3%	1.9%	
								i														
3	5	0	5	-	0	2	3	3	2	5	-	-	5	-	-	-	1	2	2	5	0	-
	0.5%	0.2%	0.6%		0.2%	0.8%	0.7%	0.5%	0.5%	0.9%			1.5%				0.9%	0.8%	2.1%	1.5%	*%	
																				u		
4	6	0	6	0	-	3	3	4	3	6	-	-	6	-	-	-	2	3	0	2	4	-
	0.6%	0.3%	0.7%	0.1%		1.3%	0.6%	0.6%	0.6%	1.1%			1.7%				1.9%	1.2%	0.1%	0.7%	0.7%	
5	10	0	9	-	4	4	2	10	-	10	-	-	10	-	-	-	4	5	0	1	8	-
	1.0%	0.3%	1.0%		2.8%	1.5%	0.4%	1.7%		1.7%			2.6%				3.4%	2.1%	0.3%	0.3%	1.4%	
6	2	-	2	-	-	-	2	2	-	2	-	-	2	-	-	-	1	-	1	1	1	-
	0.2%		0.2%				0.4%	0.3%		0.3%			0.5%				0.5%		1.2%	0.2%	0.2%	
7	0	-	0	-	-	0	-	0	-	0	-	-	0	-	-	-	-	-	0	-	0	-
	*%		*%			0.1%		0.1%		0.1%			0.1%						0.3%		0.1%	
8	5	-	5	3	-	-	2	5	-	5	-	-	5	-	-	-	2	3	-	-	5	-
	0.5%		0.5%	1.5%			0.5%	0.8%		0.8%			1.3%				1.9%	1.0%			0.8%	
10	2	-	2	-	-	-	2	2	-	2	-	-	2	-	-	-	-	-	2	2	-	-
	0.2%		0.2%				0.5%	0.4%		0.4%			0.6%						1.8%	0.6%		
11	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	-	1	-
	0.1%		0.1%				0.2%	0.1%		0.1%			0.2%					0.3%			0.1%	
15	3	-	3	-	-	-	3	-	3	3	-	-	3	-	-	-	-	3	-	3	-	-
	0.3%		0.3%				0.6%		0.6%	0.5%			0.7%					1.1%		0.8%		
20	3	0	2	-	-	-	3	0	2	3	-	-	3	-	-	-	-	0	2	-	3	-
	0.3%	0.1%	0.3%				0.6%	*%	0.5%	0.4%			0.7%					0.1%	2.1%		0.4%	
																			r			
Don't know	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	-	1	-
	0.1%		0.1%				0.1%	0.1%		0.1%			0.1%					0.2%			0.1%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M2B-Rebase. How many were shaped like regular light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Mean	0.30	0.11	0.32	0.18	0.18	0.20	0.44	0.33	0.25	0.52	0.00	0.00	0.81	0.00	-	0.00	0.54	0.55	0.87	0.32	0.32	0.00
							df			KL			N				p			V	V	
Standard Deviation	1.63	0.85	1.71	1.03	0.88	0.87	2.24	1.38	1.91	2.14	0.00	0.00	2.63	0.00		0.00	1.60	2.10	3.28	1.64	1.71	0.00
Standard Error	0.07	0.13	0.08	0.13	0.13	0.07	0.14	0.06	0.16	0.12	0.00	0.00	0.18	0.00		0.00	0.21	0.18	0.37	0.11	0.11	0.00

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M3A. Of all the CFLs you bought in 2014, how many did you install in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	345	29	317	49	35	90	172	188	157	345	-	-	345	-	-	12	67	168	84	123	208	14
Unweighted Total	340	96	244	48	41	81	170	258	82	340	-	-	340	-	-	8	64	157	93	130	197	13
0	21 6.0%	3 11.5%	17 5.5%	5 10.2%	1 1.8%	6 6.6%	9 5.3%	12 6.3%	9 5.6%	21 6.0%	-	-	21 6.0%	-	-	-	6 8.3%	7 4.1%	8 9.3%	11 9.4%	9 4.4%	-
1	32 9.1%	1 4.6%	30 9.6%	1 1.8%	0 1.3%	15 16.7% DE	15 8.9%	12 6.5%	19 12.3%	32 9.1%	-	-	32 9.1%	-	-	8 64.8% QRS	8 12.2%	9 5.4%	3 4.0%	6 4.8%	24 11.4% t	2 14.5%
2	66 19.0%	5 16.2%	61 19.3%	6 11.4%	9 25.3%	12 13.5%	39 22.8%	40 21.4%	25 16.2%	66 19.0%	-	-	66 19.0%	-	-	3 21.5%	21 31.8% rS	29 17.4%	9 11.2%	20 16.5%	42 20.4%	3 20.6%
3	25 7.4%	3 11.2%	22 7.0%	4 8.1%	1 4.1%	5 5.7%	15 8.7%	18 9.8%	7 4.5%	25 7.4%	-	-	25 7.4%	-	-	2 13.6%	5 6.9%	12 7.0%	7 8.8%	7 5.9%	17 8.1%	1 9.1%
4	75 21.6%	8 26.9%	67 21.2%	12 23.6%	11 31.7% g	24 27.1%	28 16.2%	43 22.8%	32 20.3%	75 21.6%	-	-	75 21.6%	-	-	-	21 31.6% S	39 23.2%	11 13.4%	29 23.8%	42 20.2%	3 24.3%
5	33 9.5%	2 6.6%	31 9.8%	11 22.1% eG	3 7.9%	8 9.0%	11 6.5%	14 7.5%	19 11.9%	33 9.5%	-	-	33 9.5%	-	-	-	-	25 15.0%	8 9.1%	9 7.4%	24 11.4%	-
6	26 7.6%	3 10.7%	23 7.3%	4 7.6%	4 10.2%	5 5.1%	14 8.4%	19 10.3%	7 4.3%	26 7.6%	-	-	26 7.6%	-	-	-	3 3.8%	17 9.9%	6 7.0%	13 10.9%	10 4.9%	3 18.4%
7	2 0.5%	-	2 0.6%	1 1.3%	-	0 0.4%	1 0.5%	2 1.0%	-	2 0.5%	-	-	2 0.5%	-	-	-	-	1 0.7%	0 0.4%	1 0.4%	1 0.6%	-
8	13 3.9%	1 3.9%	12 3.9%	1 1.8%	1 4.2%	4 4.0%	8 4.4%	11 5.7%	3 1.7%	13 3.9%	-	-	13 3.9%	-	-	-	0 0.3%	5 2.9%	8 9.5% Qr	3 2.2%	9 4.3%	2 11.7%
9	0 0.1%	-	0 0.1%	-	-	-	0 0.2%	0 0.2%	-	0 0.1%	-	-	0 0.1%	-	-	-	-	0 0.2%	-	-	0 0.2%	-
10	15 4.4%	0 1.3%	15 4.7%	1 1.6%	0 0.7%	3 3.4%	11 6.5%	5 2.5%	11 6.8%	15 4.4%	-	-	15 4.4%	-	-	-	1 1.1%	4 2.5%	9 10.9% QR	5 4.1%	10 5.0%	-
11	1 0.2%	-	1 0.2%	-	-	-	1 0.4%	1 0.4%	-	1 0.2%	-	-	1 0.2%	-	-	-	-	1 0.4%	-	-	1 0.3%	-
12	8 2.3%	1 2.4%	7 2.3%	-	3 8.5%	4 3.9%	1 0.8%	2 1.0%	6 3.8%	8 2.3%	-	-	8 2.3%	-	-	-	1 0.8%	7 4.1%	0 0.6%	3 2.2%	5 2.5%	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M3A. Of all the CFLs you bought in 2014, how many did you install in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
13	0	0	-	-	0	-	-	0	-	0	-	-	0	-	-	-	-	-	0	0	-	-
	0.1%	0.9%			0.7%			0.1%		0.1%			0.1%						0.3%	0.2%		
15	12	0	12	5	-	3	4	2	11	12	-	-	12	-	-	-	-	11	2	9	3	-
	3.5%	0.7%	3.7%	10.0%		3.6%	2.3%	0.8%	6.7%	3.5%			3.5%					6.3%	1.8%	7.2%	1.5%	
				G					H									s		U		
16	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.2%		0.2%				0.4%	0.4%		0.2%			0.2%							0.6%		
20	5	0	5	-	-	-	5	1	4	5	-	-	5	-	-	-	-	1	4	2	3	-
	1.5%	0.5%	1.6%				3.0%	0.7%	2.4%	1.5%			1.5%					0.8%	4.5%	1.7%	1.5%	
25	3	0	3	-	-	0	3	0	3	3	-	-	3	-	-	-	-	-	3	3	0	0
	0.9%	1.5%	0.8%			0.2%	1.7%	0.2%	1.7%	0.9%			0.9%						3.6%	2.1%	0.1%	1.5%
																				u		
30	1	0	1	-	-	1	0	1	-	1	-	-	1	-	-	-	-	0	1	1	0	-
	0.2%	0.5%	0.2%			0.7%	0.1%	0.4%		0.2%			0.2%					0.1%	0.8%	0.5%	0.1%	
32	2	-	2	-	-	-	2	-	2	2	-	-	2	-	-	-	-	-	2	-	2	-
	0.7%		0.8%				1.4%		1.5%	0.7%			0.7%						2.9%		1.2%	
Don't know	4	0	4	0	1	-	3	4	0	4	-	-	4	-	-	-	2	-	2	0	4	-
	1.1%	0.7%	1.2%	0.4%	3.5%		1.5%	2.0%	0.1%	1.1%			1.1%				3.3%		2.0%	0.2%	1.8%	
Mean	5.03	4.35	5.09	4.91	4.61	4.42	5.46	4.26	5.93	5.03	-	-	5.03	-	-	1.49	2.77	5.09	7.31	5.65	4.71	4.20
									H								P	PQ	PQR	u		
Standard Deviation	5.05	4.41	5.11	3.94	3.03	4.27	5.95	3.66	6.20	5.05			5.05			0.75	1.89	3.98	7.59	5.58	4.79	3.47
Standard Error	0.37	0.71	0.40	0.91	0.59	0.64	0.57	0.29	0.80	0.37			0.37			0.29	0.31	0.43	1.04	0.66	0.46	1.20

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M4. Thinking about all the CFLs that you bought in 2014, how many did you store to install later?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	164	11	152	24	15	43	80	91	73	164	-	-	164	-	-	1	31	86	39	55	102	7
Unweighted Total	168	48	120	25	18	38	87	128	40	168	-	-	168	-	-	1	22	86	51	66	95	7
0	10	0	10	-	-	4	6	3	7	10	-	-	10	-	-	-	7	2	-	6	4	-
	6.2%	0.2%	6.6%			9.9%	7.2%	3.7%	9.2%	6.2%			6.2%				21.7%	2.4%		10.9%	4.0%	
1	22	0	22	1	2	9	10	8	15	22	-	-	22	-	-	1	7	7	6	6	16	-
	13.7%	2.5%	14.5%	2.7%	15.9%	21.2%	12.6%	8.3%	20.5%	13.7%			13.7%			100.0%	23.2%	8.3%	15.4%	11.0%	16.1%	
2	41	2	39	6	2	5	28	23	18	41	-	-	41	-	-	-	9	22	10	12	23	6
	25.0%	19.6%	25.4%	25.8%	10.8%	12.2%	34.4%	25.0%	25.1%	25.0%			25.0%				27.9%	26.1%	25.1%	21.8%	22.9%	83.6%
3	22	1	21	7	3	7	5	9	12	22	-	-	22	-	-	-	2	15	1	3	18	1
	13.3%	6.1%	13.9%	30.6%	17.8%	15.7%	6.0%	10.3%	17.1%	13.3%			13.3%				6.1%	18.1%	2.6%	6.4%	17.5%	7.5%
4	22	2	20	1	4	6	11	19	3	22	-	-	22	-	-	-	2	14	6	8	14	0
	13.6%	18.8%	13.2%	5.0%	28.9%	13.4%	13.4%	21.3%	4.0%	13.6%			13.6%				6.8%	16.3%	14.5%	15.3%	13.4%	2.0%
5	9	1	8	0	-	0	8	4	4	9	-	-	9	-	-	-	1	4	3	3	6	-
	5.3%	5.5%	5.3%	1.3%		0.5%	10.2%	4.7%	6.1%	5.3%			5.3%				4.0%	5.1%	7.9%	5.2%	5.8%	
6	17	3	14	5	0	6	6	10	7	17	-	-	17	-	-	-	3	9	4	11	6	-
	10.4%	29.7%	9.0%	21.7%	1.7%	12.9%	7.2%	10.9%	9.7%	10.4%			10.4%				9.5%	10.9%	10.8%	20.8%	5.5%	
7	4	-	4	3	-	-	1	4	-	4	-	-	4	-	-	-	-	1	3	-	4	-
	2.3%		2.5%	10.3%			1.6%	4.2%		2.3%			2.3%					1.5%	6.4%		3.8%	
8	6	0	6	-	2	3	2	2	5	6	-	-	6	-	-	-	0	5	2	2	5	-
	3.9%	4.1%	3.9%		11.6%	7.1%	1.9%	2.0%	6.3%	3.9%			3.9%				0.7%	5.4%	3.8%	2.7%	4.8%	
9	2	0	1	-	0	-	1	2	-	2	-	-	2	-	-	-	-	0	1	-	1	0
	1.0%	2.3%	0.9%		1.7%		1.6%	1.7%		1.0%			1.0%					0.3%	3.4%		1.3%	3.8%
10	4	0	4	-	-	3	1	4	-	4	-	-	4	-	-	-	-	3	1	1	3	-
	2.7%	1.2%	2.8%			6.7%	1.8%	4.8%		2.7%			2.7%					3.5%	3.3%	2.4%	3.0%	
12	1	0	1	-	1	-	-	-	1	1	-	-	1	-	-	-	-	1	0	1	-	-
	0.9%	2.3%	0.8%		9.6%				2.0%	0.9%			0.9%					1.4%	0.6%	2.6%		
14	0	0	-	-	-	0	-	0	-	0	-	-	0	-	-	-	-	-	0	-	0	-
	0.1%	1.9%				0.5%		0.2%		0.1%			0.1%						0.5%		0.2%	
18	0	0	-	-	0	-	-	0	-	0	-	-	0	-	-	-	-	0	-	0	-	-
	0.2%	2.8%			2.1%			0.3%		0.2%			0.2%					0.4%		0.6%		
100	0	0	-	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	0	-	-	0
	0.1%	1.9%					0.3%	0.2%		0.1%			0.1%						0.5%			3.1%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M4. Thinking about all the CFLs that you bought in 2014, how many did you store to install later?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	2	0	2	1	-	-	1	2	-	2	-	-	2	-	-	-	-	0	2	0	2	-
	1.3%	1.2%	1.3%	2.7%			1.8%	2.3%		1.3%			1.3%					0.2%	5.0%	0.2%	1.9%	
Mean	3.63	7.04	3.38	3.85	4.76	3.56	3.39	4.14	3.01	3.63	-	-	3.63	-	-	1.00	2.07	3.87	4.67	3.74	3.45	5.42
																		Q				
Standard Deviation	4.35	13.95	2.50	1.90	3.87	2.95	5.49	5.37	2.52	4.35			4.35			0.00	1.92	2.62	7.76	2.96	2.46	18.41
Standard Error	0.46	3.22	0.28	0.60	1.13	0.65	0.76	0.63	0.46	0.46			0.46			0.00	0.49	0.39	1.50	0.50	0.34	9.43

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M5. Thinking of the CFLs you purchased most recently, what type of bulbs did you replace?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	321	25	296	44	33	84	161	173	148	321	-	-	321	-	-	12	60	161	75	111	195	14
Unweighted Total	313	87	226	42	39	75	157	237	76	313	-	-	313	-	-	8	59	147	83	119	181	13
Incandescent	181	12	169	20	22	44	95	98	83	181	-	-	181	-	-	10	39	80	43	63	114	4
	56.5%	49.3%	57.1%	44.9%	68.2%	52.7%	59.2%	56.7%	56.2%	56.5%			56.5%			78.5% R	65.0%	49.9%	57.3%	56.7%	58.2%	30.6%
CFL	112	10	102	15	11	26	60	60	52	112	-	-	112	-	-	3	5	67	37	45	64	3
	34.9%	38.1%	34.6%	33.3%	35.1%	30.8%	37.5%	34.6%	35.3%	34.9%			34.9%			21.5%	8.0%	41.5% Q	49.0% pQ	40.5%	32.8%	20.1%
Halogen	18	3	16	5	0	6	7	9	10	18	-	-	18	-	-	-	3	14	1	13	4	2
	5.8%	10.9%	5.3%	12.0%	0.8%	7.1%	4.4%	5.0%	6.6%	5.8%			5.8%				4.5%	8.4% S	1.8%	11.6% U	2.0%	11.7%
LED	11	1	10	0	0	0	10	11	-	11	-	-	11	-	-	-	2	4	2	6	5	-
	3.3%	2.9%	3.4%	0.5%	1.0%	0.2%	6.3% F	6.2%		3.3%			3.3%				3.4%	2.7%	3.0%	5.6%	2.3%	
Empty socket	5	1	4	1	-	2	3	4	1	5	-	-	5	-	-	-	0	3	1	2	2	1
	1.6%	4.5%	1.3%	1.8%		2.1%	1.6%	2.5%	0.5%	1.6%			1.6%				0.5%	1.7%	1.8%	1.8%	0.9%	9.1%
Don't know	31	2	29	8	1	11	10	10	21	31	-	-	31	-	-	-	11	13	5	6	20	4
	9.6%	8.3%	9.7%	19.3%	4.1%	12.6%	6.4%	5.7%	14.1% h	9.6%			9.6%				18.6%	7.9%	6.9%	5.5%	10.5%	28.5%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

M6. Where did you purchase CFLs most recently?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	365	31	334	49	37	98	181	202	162	365	-	-	365	-	-	12	69	182	86	127	220	17
Unweighted Total	359	101	258	50	44	88	177	273	86	359	-	-	359	-	-	8	65	170	95	136	207	16
Home center (Home Depot, Lowe's, D & B Supply, Lumbermen's)	145 39.9%	12 37.7%	134 40.1%	21 42.2%	14 38.3%	36 36.9%	75 41.1%	88 43.4%	58 35.5%	145 39.9%	-	-	145 39.9%	-	-	2 13.6%	30 44.1% P	66 36.3%	42 49.1% P	60 47.1% V	84 38.1% V	2 9.3%
Discount or mass merchandise store (Wal-Mart, K-Mart, Target, etc.)	108 29.6%	8 24.3%	101 30.1%	20 41.5%	12 33.2%	24 24.1%	52 28.7%	62 30.6%	46 28.5%	108 29.6%	-	-	108 29.6%	-	-	2 16.8%	20 29.4%	57 31.1%	24 27.3%	26 20.4%	76 34.7% T	6 32.9%
Buying clubs (Costco or Sam's Club)	48 13.2%	2 5.8%	46 13.9%	8 16.4%	2 4.5%	9 9.5%	29 16.1% E	27 13.1%	22 13.4%	48 13.2%	-	-	48 13.2%	-	-	4 31.4%	5 7.7%	26 14.1%	13 15.6%	21 16.7%	23 10.5%	4 22.6%
Hardware stores (ACE, True Value, Do it Best, Do it Center)	34 9.4%	8 27.0% C	26 7.7%	1 3.0%	7 19.8%	10 10.0%	16 8.6%	18 9.1%	16 9.6%	34 9.4%	-	-	34 9.4%	-	-	3 27.5%	3 4.9%	14 7.9%	11 13.1%	14 11.2%	18 8.3%	2 9.6%
Supermarket, food store (Albertson's, Winco Foods)	19 5.3%	2 5.4%	18 5.3%	3 5.7%	-	5 4.8%	12 6.5%	10 4.8%	10 5.9%	19 5.3%	-	-	19 5.3%	-	-	1 10.7%	2 3.0%	12 6.5%	2 2.4%	7 5.4%	9 4.2%	3 18.0%
Drug store (Bartell, Bi-Mart, Hi-School Pharmacy, Longs, etc.)	10 2.8%	1 1.7%	10 2.9%	0 0.4%	-	6 6.1%	4 2.3%	3 1.6%	7 4.3%	10 2.8%	-	-	10 2.8%	-	-	-	3 4.1%	7 3.7%	0 0.6%	1 1.1%	8 3.4%	1 7.5%
Lighting supply store, lighting showroom	5 1.2%	0 0.2%	4 1.3%	-	-	4 4.0%	1 0.3%	2 0.8%	3 1.8%	5 1.2%	-	-	5 1.2%	-	-	-	-	3 1.7%	1 0.6%	1 0.5%	4 1.8%	-
Over the Internet	1 0.1%	-	1 0.2%	-	-	-	1 0.3%	1 0.2%	-	1 0.1%	-	-	1 0.1%	-	-	-	-	-	1 0.6%	-	1 0.2%	-
Other (SPECIFY)	6 1.7%	0 1.4%	6 1.7%	0 0.3%	2 4.1%	1 1.2%	3 1.8%	2 1.0%	4 2.5%	6 1.7%	-	-	6 1.7%	-	-	-	4 6.0%	2 1.0%	0 0.1%	3 2.1%	3 1.5%	-
Don't know	15 4.2%	1 3.3%	14 4.2%	-	1 2.4%	9 8.9%	6 3.1%	6 3.2%	9 5.4%	15 4.2%	-	-	15 4.2%	-	-	-	3 4.3%	7 3.9%	5 5.8%	4 3.5%	9 4.3%	1 7.5%
Refused	1 0.4%	-	1 0.4%	-	-	-	1 0.7%	-	1 0.8%	1 0.4%	-	-	1 0.4%	-	-	-	-	1 0.7%	-	1 1.0%	-	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S1. Thinking about all of the CFLs you recently purchased, how satisfied are you with them?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
TOP 2 NET	226	21	206	31	29	50	117	138	89	226	-	-	171	46	-	11	46	105	49	73	142	12
=========	39.8%	38.8%	39.9%	37.4%	38.3%	34.3%	43.9%	39.9%	39.6%	39.8%			47.0%	24.6%		48.8%	43.0%	43.4%	43.9%	30.3%	46.5%	48.0%
													N								T	
10 - Very satisfied	173	16	157	23	24	39	87	104	70	173	-	-	130	36	-	8	38	82	33	53	108	12
	30.4%	30.3%	30.4%	28.0%	32.0%	26.8%	32.7%	29.9%	31.1%	30.4%			35.6%	19.1%		36.1%	36.0%	34.0%	29.5%	22.1%	35.5%	48.0%
													N								T	T
9	53	5	49	8	5	11	30	34	19	53	-	-	42	10	-	3	7	23	16	20	34	-
	9.4%	8.5%	9.4%	9.4%	6.4%	7.5%	11.2%	9.9%	8.4%	9.4%			11.4%	5.5%		12.7%	7.0%	9.4%	14.3%	8.2%	11.0%	
													N						q			
8	105	9	97	14	14	24	54	50	55	105	-	-	85	21	-	3	13	55	28	33	67	5
	18.5%	16.5%	18.7%	16.5%	19.0%	16.3%	20.2%	14.5%	24.7%	18.5%			23.2%	11.0%		13.9%	11.8%	22.7%	24.5%	13.8%	22.1%	19.8%
									H				N					Q	Q		T	
7	54	3	51	4	6	26	17	37	17	54	-	-	38	14	-	3	7	26	8	26	26	2
	9.5%	4.9%	9.9%	5.4%	8.5%	18.2%	6.3%	10.6%	7.7%	9.5%			10.5%	7.6%		10.9%	6.8%	10.7%	6.7%	10.8%	8.6%	6.7%
						DeG																
6	33	2	32	5	6	9	14	31	3	33	-	-	16	13	-	-	3	14	12	13	16	4
	5.9%	3.4%	6.1%	6.2%	7.6%	6.2%	5.1%	8.9%	1.2%	5.9%			4.4%	7.1%			2.9%	5.7%	10.8%	5.5%	5.3%	15.6%
								I											Q			
5	40	7	33	9	5	14	12	24	16	40	-	-	18	22	-	1	11	15	4	17	22	0
	7.1%	13.0%	6.5%	10.9%	6.2%	9.9%	4.6%	7.0%	7.3%	7.1%			5.0%	11.5%		5.6%	10.4%	6.4%	3.6%	7.3%	7.3%	1.9%
														M								
4	21	3	18	6	4	6	5	11	10	21	-	-	12	9	-	0	5	8	1	19	2	-
	3.7%	5.1%	3.6%	7.3%	5.9%	3.9%	1.9%	3.2%	4.4%	3.7%			3.2%	5.0%		2.0%	5.1%	3.5%	1.2%	8.1%	0.6%	
				g													s			U		
3	26	5	21	5	3	4	14	12	14	26	-	-	5	21	-	3	5	8	3	19	7	-
	4.6%	10.0%	4.0%	6.0%	4.0%	2.9%	5.2%	3.6%	6.1%	4.6%			1.5%	11.0%		11.4%	4.7%	3.4%	2.8%	8.0%	2.2%	
		C												M						U		
BOTTOM 2 NET	54	4	50	9	8	10	28	37	17	54	-	-	18	36	-	2	15	10	5	37	17	-
==========	9.5%	7.7%	9.7%	10.5%	10.0%	7.1%	10.4%	10.8%	7.4%	9.5%			5.0%	19.1%		7.5%	14.3%	4.3%	4.3%	15.4%	5.7%	
														M			rs			U		
2	19	0	19	1	5	1	11	13	5	19	-	-	6	12	-	-	3	6	3	11	8	-
	3.3%	0.6%	3.6%	1.6%	6.8%	1.0%	4.1%	3.9%	2.4%	3.3%			1.8%	6.6%			2.4%	2.6%	2.5%	4.7%	2.5%	
			b		F									M								
1 - Not at all satisfied	35	4	31	7	2	9	17	24	11	35	-	-	12	23	-	2	13	4	2	26	10	-
	6.2%	7.1%	6.1%	8.9%	3.2%	6.1%	6.2%	7.0%	5.0%	6.2%			3.2%	12.5%		7.5%	11.9%	1.7%	1.8%	10.7%	3.2%	
														M			RS			U		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S1. Thinking about all of the CFLs you recently purchased, how satisfied are you with them?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	7	0	7	-	0	2	5	3	4	7	-	-	1	6	-	-	1	0	1	2	5	-
	1.2%	0.7%	1.3%		0.3%	1.2%	1.8%	0.9%	1.6%	1.2%			0.3%	3.1%			0.9%	*%	0.4%	0.7%	1.7%	
														m								
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.4%		0.4%				0.8%	0.6%		0.4%									1.8%			8.2%
Mean	7.26	6.94	7.29	6.84	7.21	7.21	7.43	7.16	7.40	7.26	-	-	7.95	5.79	-	7.40	6.93	7.78	7.88	6.32	7.90	8.57
													N					q	q		T	T
Standard Deviation	2.80	2.96	2.78	2.97	2.79	2.58	2.86	2.84	2.73	2.80			2.32	3.14		3.01	3.22	2.35	2.23	3.08	2.38	1.68
Standard Error	0.15	0.35	0.16	0.49	0.38	0.29	0.22	0.16	0.29	0.15			0.16	0.28		0.80	0.42	0.20	0.25	0.26	0.18	0.43

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S4. In general, what are the best features of CFLs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Last longer before burning out	256 44.9%	27 51.5%	228 44.2%	39 47.4%	37 48.8%	68 46.9%	112 41.9%	151 43.7%	105 46.7%	256 44.9%	-	-	187 51.4% N	64 33.8%	-	5 22.8%	60 56.4% P	112 46.2% p	53 46.6% p	77 32.1%	162 53.3% T	16 64.6% T
Save / conserve energy / electricity	223 39.1%	13 24.9%	209 40.6% B	21 25.3%	21 28.2%	68 46.5% DE	113 42.4% DE	134 38.7%	89 39.8%	223 39.1%	-	-	140 38.5%	75 39.9%	-	12 50.5%	36 33.9%	97 40.3%	56 49.5% q	115 47.9% UV	102 33.5%	6 23.3%
Save money / reduce electricity bill	109 19.1%	7 13.1%	102 19.7%	14 17.4%	15 19.8%	31 21.4%	48 18.2%	70 20.4%	38 17.2%	109 19.1%	-	-	80 21.8% N	25 13.2%	-	2 7.1%	12 11.2%	50 20.9% Pq	33 29.1% PQ	38 16.0% V	70 23.0% V	0 0.5%
Brightness	87 15.3%	6 10.9%	81 15.8%	18 21.5%	8 10.9%	22 14.8%	40 14.9%	40 11.6%	47 21.0% H	87 15.3%	-	-	65 17.8% n	21 11.2%	-	2 8.3%	29 26.9% PrS	39 16.0%	12 11.0%	33 13.6%	53 17.3%	2 8.0%
Quality of light	61 10.7%	7 13.1%	54 10.5%	4 5.1%	13 17.5% dF	9 6.1%	35 13.0% f	29 8.5%	31 14.1%	61 10.7%	-	-	50 13.8% N	10 5.6%	-	4 16.5%	15 14.4%	25 10.4%	12 10.2%	19 7.8%	41 13.4% t	1 5.8%
Resource conservation benefits / better for environment /"green"	49 8.7%	3 6.1%	46 8.9%	9 10.7%	3 3.9%	7 4.8%	31 11.5% EF	20 5.7%	30 13.2% H	49 8.7%	-	-	35 9.7%	14 7.4%	-	2 8.2%	1 0.7%	24 10.1% Q	12 10.6% Q	19 7.9%	28 9.1%	3 10.5%
Work better / higher quality	26 4.5%	2 4.2%	23 4.5%	2 2.0%	5 6.0%	7 4.5%	13 4.8%	10 2.9%	15 6.9%	26 4.5%	-	-	19 5.3%	4 2.1%	-	2 8.7%	5 5.0%	12 4.9%	4 3.8%	8 3.5%	17 5.6%	-
Other (SPECIFY)	65 11.4%	4 7.8%	61 11.7%	8 9.1%	9 12.2%	16 11.1%	32 12.0%	40 11.7%	24 10.9%	65 11.4%	-	-	33 9.0%	32 17.1% M	-	2 8.7%	15 14.0%	23 9.6%	10 9.0%	38 15.8% U	25 8.2%	2 8.1%
Don't know	34 5.9%	6 10.9%	28 5.4%	7 8.5%	4 5.4%	8 5.7%	14 5.3%	29 8.3% I	5 2.1%	34 5.9%	-	-	14 3.9%	19 10.2% m	-	1 5.9%	6 5.4%	9 3.6%	-	16 6.8%	17 5.7%	-
Refused	5 0.9%	1 1.1%	4 0.8%	0 0.6%	-	1 0.8%	3 1.2%	5 1.4%	-	5 0.9%	-	-	0 *%	3 1.5%	-	0 1.6%	0 0.1%	-	2 1.8%	2 1.0%	1 0.2%	2 8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S5. In general, what are the worst features of CFLs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Take too long to light up	108 19.0%	5 8.8%	104 20.1% B	17 20.8%	14 18.9%	23 15.5%	55 20.5%	70 20.3%	38 17.1%	108 19.0%	-	-	66 18.0%	42 22.0%	-	1 5.6%	18 16.7%	40 16.5%	31 27.4% Pr	58 24.0% u	48 15.7%	3 12.5%
Not bright enough	87 15.3%	10 19.2%	77 14.9%	14 16.6%	17 22.6%	19 13.3%	37 13.8%	66 19.0% I	21 9.5%	87 15.3%	-	-	45 12.4%	40 21.3% M	-	3 13.2%	16 14.7%	43 17.8% S	10 8.6%	38 16.0%	46 14.9%	3 12.7%
Price / expensive	83 14.6%	11 21.3%	72 13.9%	12 15.1%	16 21.8% g	25 16.9%	30 11.2%	48 13.8%	36 15.9%	83 14.6%	-	-	64 17.5% n	19 10.0%	-	6 25.9%	21 20.0% S	37 15.5% s	8 7.4%	17 7.3%	63 20.7% T	3 10.2%
Color of light	66 11.6%	3 5.7%	63 12.2% b	5 5.9%	1 1.2%	32 22.1% DEG	28 10.6% E	39 11.3%	27 12.0%	66 11.6%	-	-	38 10.5%	25 13.1%	-	3 10.9%	11 10.7%	23 9.6%	16 14.5%	43 17.9% UV	23 7.6%	0 0.8%
Mercury / hazardous contents	48 8.4%	5 9.6%	42 8.2%	6 7.6%	7 9.0%	14 9.5%	21 7.7%	35 10.1%	13 5.6%	48 8.4%	-	-	27 7.4%	18 9.8%	-	3 14.4%	8 7.5%	17 7.2%	14 12.3%	20 8.4%	27 8.9%	0 0.8%
Don't last long enough	45 7.9%	5 8.5%	41 7.9%	11 13.0%	4 5.7%	10 7.1%	20 7.5%	27 7.9%	18 7.9%	45 7.9%	-	-	26 7.2%	19 9.9%	-	1 4.2%	5 5.2%	19 7.8%	10 8.5%	29 12.0% U	14 4.6%	2 9.1%
How they fit in fixtures	45 7.8%	5 9.4%	40 7.7%	10 12.6% E	1 1.1%	7 4.5%	27 10.1% E	22 6.3%	23 10.2%	45 7.8%	-	-	32 8.7%	11 6.0%	-	2 9.0%	9 8.2%	23 9.6%	9 8.0%	15 6.3%	25 8.2%	4 17.2%
Too bright	34 6.0%	3 5.7%	31 6.0%	2 2.4%	6 7.5%	11 7.3%	16 6.0%	11 3.1%	24 10.5% H	34 6.0%	-	-	23 6.2%	11 6.1%	-	1 5.6%	11 10.2% r	10 4.0%	6 5.3%	19 8.1%	15 4.8%	-
Difficult to dispose	30 5.3%	1 2.2%	29 5.7%	0 0.2%	3 3.9%	11 7.5% D	16 6.1% D	23 6.7%	7 3.2%	30 5.3%	-	-	20 5.4%	9 5.0%	-	-	3 3.1%	13 5.5%	11 10.0%	12 5.1%	18 5.9%	-
How they look in fixtures	25 4.3%	5 10.2% c	19 3.7%	3 4.0%	2 2.7%	9 6.2%	10 3.9%	16 4.7%	8 3.8%	25 4.3%	-	-	16 4.3%	8 4.3%	-	2 9.0%	4 4.1%	8 3.4%	5 4.9%	6 2.3%	17 5.7%	2 6.7%
Other (SPECIFY)	60 10.5%	6 11.2%	54 10.4%	12 14.0%	8 11.2%	9 5.9%	31 11.7%	34 9.7%	26 11.7%	60 10.5%	-	-	31 8.4%	28 14.7% m	-	-	6 5.3%	24 9.9%	10 9.2%	37 15.3% U	23 7.6%	-
Don't know	97 17.0%	9 16.6%	88 17.0%	11 13.3%	11 14.1%	19 13.4%	56 20.9%	51 14.7%	46 20.5%	97 17.0%	-	-	64 17.7%	27 14.5%	-	6 26.8%	19 17.7%	42 17.4%	16 14.1%	29 12.1%	61 19.9% T	7 28.5%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S5. In general, what are the worst features of CFLs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Refused	3	-	3	-	-	-	3	3	-	3	-	-	1	-	-	-	-	1	2	-	1	2
	0.6%		0.7%				1.3%	1.0%		0.6%			0.4%					0.5%	1.8%		0.4%	8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S10_1. CFLs are not bright enough

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Agree	173	20	153	27	27	40	79	122	51	173	-	-	103	67	-	9	21	73	32	67	98	9
	30.4%	37.6%	29.6%	32.5%	35.5%	27.4%	29.9%	35.2% I	22.9%	30.4%			28.3%	35.5%		36.5%	20.2%	30.1%	28.6%	27.9%	32.0%	34.2%
Disagree	384	31	353	54	48	103	178	215	169	384	-	-	255	117	-	13	82	167	77	169	200	14
	67.4%	58.5%	68.3%	65.1%	64.5%	71.1%	66.9%	62.1%	75.6% H	67.4%			70.0%	62.0%		55.2%	77.0%	69.1%	68.0%	70.7%	65.6%	57.7%
Don't know	9	2	7	2	-	2	4	5	3	9	-	-	5	3	-	2	3	-	2	1	7	-
	1.5%	3.9%	1.3%	2.4%		1.5%	1.7%	1.5%	1.5%	1.5%			1.4%	1.8%		8.3%	2.8%		1.6%	0.6%	2.4%	
Refused	4	-	4	-	-	-	4	4	-	4	-	-	1	1	-	-	-	2	2	2	-	2
	0.7%		0.8%				1.5%	1.2%		0.7%			0.2%	0.7%				0.8%	1.8%	0.9%		8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S10_2. The light from CFLs is too harsh

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Agree	104	5	99	11	8	34	52	56	48	104	-	-	57	46	-	7	25	33	14	60	44	0
	18.3%	10.2%	19.2%	13.2%	10.7%	23.3%	19.4%	16.2%	21.6%	18.3%			15.6%	24.3%		29.9%	23.1%	13.6%	12.7%	25.0%	14.5%	0.8%
			B			E	e							M						UV	V	
Disagree	453	47	406	72	67	104	211	281	172	453	-	-	304	137	-	16	78	209	96	176	254	23
	79.6%	88.4%	78.7%	86.8%	88.5%	71.4%	79.3%	81.2%	77.1%	79.6%			83.4%	73.0%		70.1%	73.8%	86.4%	85.4%	73.6%	83.3%	91.0%
		C		F	Fg								N					Q	q		T	T
Don't know	10	1	9	-	1	8	2	7	3	10	-	-	4	5	-	-	3	-	-	3	7	-
	1.7%	1.4%	1.8%		0.8%	5.3%	0.6%	2.0%	1.3%	1.7%			1.0%	2.7%			3.1%			1.3%	2.2%	
						eG																
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.4%		0.4%				0.8%	0.6%		0.4%									1.8%			8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S10_3. CFLs don't fit well in my fixtures

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Agree	145	21	124	33	15	33	64	94	51	145	-	-	75	68	-	7	26	64	20	74	69	3
	25.5%	39.5%	24.0%	39.6%	20.3%	22.6%	24.1%	27.3%	22.8%	25.5%			20.6%	35.9%		28.6%	24.8%	26.6%	17.7%	30.8%	22.5%	11.3%
		C		efg										M						V		
Disagree	412	32	380	49	60	109	194	241	171	412	-	-	284	115	-	16	80	175	89	161	231	20
	72.4%	59.6%	73.7%	59.6%	79.7%	74.8%	72.9%	69.7%	76.4%	72.4%			78.0%	61.3%		68.3%	75.2%	72.3%	78.8%	67.3%	75.7%	80.5%
			B		D								N									
Don't know	8	0	8	1	-	2	5	6	2	8	-	-	3	5	-	1	-	1	1	5	4	-
	1.5%	0.5%	1.6%	0.8%		1.6%	2.0%	1.8%	0.8%	1.5%			0.9%	2.7%		3.1%		0.6%	1.2%	1.9%	1.2%	
Refused	4	0	4	-	-	1	3	4	-	4	-	-	2	0	-	-	-	1	3	-	2	2
	0.7%	0.4%	0.7%			1.0%	1.0%	1.2%		0.7%			0.5%	0.1%				0.5%	2.3%		0.6%	8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S10_4. CFLs don't look good in my fixtures

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Agree	189	25	164	37	24	38	90	129	60	189	-	-	106	78	-	4	36	78	28	87	95	7
	33.2%	47.0%	31.8%	45.1%	31.9%	26.3%	33.6%	37.2%	26.9%	33.2%			29.0%	41.3%		19.2%	33.9%	32.1%	24.6%	36.2%	31.3%	28.1%
		C		F				i						M								
Disagree	367	27	340	44	49	106	168	210	158	367	-	-	255	103	-	19	70	163	78	150	201	16
	64.5%	51.2%	65.9%	53.1%	65.7%	73.2%	63.0%	60.6%	70.5%	64.5%			70.0%	54.9%		80.8%	65.9%	67.3%	68.8%	62.6%	66.1%	63.8%
			B			D			h				N									
Don't know	8	1	8	1	2	1	4	5	3	8	-	-	1	7	-	-	0	1	3	3	6	-
	1.5%	1.4%	1.5%	1.6%	2.4%	0.6%	1.7%	1.5%	1.4%	1.5%			0.3%	3.8%			0.2%	0.5%	2.6%	1.1%	1.9%	
														m								
Refused	5	0	4	0	-	-	4	2	2	5	-	-	3	-	-	-	-	-	4	0	2	2
	0.8%	0.4%	0.9%	0.2%			1.7%	0.7%	1.1%	0.8%			0.7%						4.0%	0.1%	0.8%	8.2%
																						t

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S10_5. CFLs take too long to light up

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Agree	217	17	200	44	27	56	90	139	78	217	-	-	121	92	-	6	37	93	41	116	98	3
	38.1%	32.4%	38.7%	53.6%	36.1%	38.2%	33.8%	40.2%	34.8%	38.1%			33.1%	48.9%		24.7%	34.5%	38.6%	36.8%	48.3%	32.2%	12.0%
				eG										M						UV	V	
Disagree	335	33	302	35	46	89	165	198	137	335	-	-	236	89	-	15	70	143	65	115	200	20
	58.8%	61.1%	58.6%	42.2%	61.1%	61.3%	62.0%	57.2%	61.4%	58.8%			64.7%	47.1%		64.2%	65.5%	59.1%	58.1%	48.0%	65.6%	79.8%
					d	D	D						N								T	T
Don't know	15	3	12	3	2	1	9	6	8	15	-	-	8	7	-	3	-	5	4	9	6	-
	2.6%	5.6%	2.3%	3.6%	2.8%	0.5%	3.4%	1.9%	3.8%	2.6%			2.2%	3.8%		11.1%		2.3%	3.3%	3.7%	2.0%	
							f															
Refused	3	0	2	0	-	-	2	3	-	3	-	-	-	0	-	-	-	-	2	-	0	2
	0.4%	0.9%	0.4%	0.6%			0.8%	0.7%		0.4%				0.2%					1.8%		0.2%	8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S10_6. CFLs don't come in the shapes that I need

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Agree	173	26	147	40	24	32	78	102	72	173	-	-	98	73	-	5	30	71	25	81	86	7
	30.5%	48.8%	28.6%	48.2%	32.4%	21.7%	29.2%	29.4%	32.1%	30.5%			27.0%	38.9%		23.4%	28.1%	29.2%	22.1%	33.8%	28.2%	26.7%
		C		FG										M								
Disagree	370	25	345	38	49	107	175	225	145	370	-	-	255	102	-	16	71	163	84	150	204	16
	64.9%	46.3%	66.8%	46.3%	65.3%	73.6%	65.8%	65.0%	64.9%	64.9%			70.0%	54.1%		69.3%	66.8%	67.6%	74.5%	62.5%	66.9%	64.1%
			B		d	D	D						N									
Don't know	24	3	22	5	2	7	11	17	7	24	-	-	11	13	-	2	5	8	2	9	15	0
	4.3%	4.9%	4.2%	5.5%	2.3%	4.7%	4.2%	5.0%	3.1%	4.3%			3.0%	7.0%		7.3%	5.1%	3.2%	1.6%	3.7%	5.0%	1.0%
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.4%		0.4%				0.8%	0.6%		0.4%									1.8%			8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

S10_7. CFLs are not suitable for use in all of the rooms in my home

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Agree	331	32	298	56	44	74	157	198	133	331	-	-	182	137	-	18	63	123	51	163	155	13
	58.1%	60.9%	57.8%	67.2%	58.8%	50.8%	59.0%	57.3%	59.3%	58.1%			49.9%	72.9%		78.2%	58.9%	50.9%	45.5%	68.0%	50.7%	53.1%
				f										M		RS				U		
Disagree	234	21	214	27	31	71	105	143	91	234	-	-	182	49	-	5	44	119	58	75	149	10
	41.1%	38.8%	41.4%	32.5%	41.2%	49.0%	39.5%	41.4%	40.7%	41.1%			50.0%	26.1%		21.8%	41.1%	49.1%	51.6%	31.5%	48.9%	38.7%
						d							N					P	P		T	
Don't know	2	0	2	0	-	0	2	2	-	2	-	-	1	2	-	-	-	-	1	1	1	-
	0.4%	0.4%	0.4%	0.2%		0.2%	0.7%	0.7%		0.4%			0.2%	0.9%					1.1%	0.5%	0.4%	
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.4%		0.4%				0.8%	0.6%		0.4%									1.8%			8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

Summary of Frequencies: S10_1 to S10_7 Agree - Do you agree or disagree with this statement?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
S10_7. CFLs are not suitable for use in all of the rooms in my home	331 58.1%	32 60.9%	298 57.8%	56 67.2% f	44 58.8%	74 50.8%	157 59.0%	198 57.3%	133 59.3%	331 58.1%	-	-	182 49.9%	137 72.9% M	-	18 78.2% RS	63 58.9%	123 50.9%	51 45.5%	163 68.0% U	155 50.7%	13 53.1%
S10_5. CFLs take too long to light up	217 38.1%	17 32.4%	200 38.7%	44 53.6% eG	27 36.1%	56 38.2%	90 33.8%	139 40.2%	78 34.8%	217 38.1%	-	-	121 33.1%	92 48.9% M	-	6 24.7%	37 34.5%	93 38.6%	41 36.8%	116 48.3% UV	98 32.2% V	3 12.0%
S10_4. CFLs don't look good in my fixtures	189 33.2%	25 47.0% C	164 31.8%	37 45.1% F	24 31.9%	38 26.3%	90 33.6%	129 37.2% i	60 26.9%	189 33.2%	-	-	106 29.0%	78 41.3% M	-	4 19.2%	36 33.9%	78 32.1%	28 24.6%	87 36.2%	95 31.3%	7 28.1%
S10_6. CFLs don't come in the shapes that I need	173 30.5%	26 48.8% C	147 28.6%	40 48.2% FG	24 32.4%	32 21.7%	78 29.2%	102 29.4%	72 32.1%	173 30.5%	-	-	98 27.0%	73 38.9% M	-	5 23.4%	30 28.1%	71 29.2%	25 22.1%	81 33.8%	86 28.2%	7 26.7%
S10_1. CFLs are not bright enough	173 30.4%	20 37.6%	153 29.6%	27 32.5%	27 35.5%	40 27.4%	79 29.9%	122 35.2% I	51 22.9%	173 30.4%	-	-	103 28.3%	67 35.5%	-	9 36.5%	21 20.2%	73 30.1%	32 28.6%	67 27.9%	98 32.0%	9 34.2%
S10_3. CFLs don't fit well in my fixtures	145 25.5%	21 39.5% C	124 24.0%	33 39.6% efg	15 20.3%	33 22.6%	64 24.1%	94 27.3%	51 22.8%	145 25.5%	-	-	75 20.6%	68 35.9% M	-	7 28.6%	26 24.8%	64 26.6%	20 17.7%	74 30.8% V	69 22.5%	3 11.3%
S10_2. The light from CFLs is too harsh	104 18.3%	5 10.2%	99 19.2% B	11 13.2%	8 10.7%	34 23.3% E	52 19.4% e	56 16.2%	48 21.6%	104 18.3%	-	-	57 15.6%	46 24.3% M	-	7 29.9%	25 23.1%	33 13.6%	14 12.7%	60 25.0% UV	44 14.5% V	0 0.8%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

Summary of Frequencies: S10_1 to S10_7 Disagree - Do you agree or disagree with this statement?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
S10_2. The light from CFLs is too harsh	453	47	406	72	67	104	211	281	172	453	-	-	304	137	-	16	78	209	96	176	254	23
	79.6%	88.4%	78.7%	86.8%	88.5%	71.4%	79.3%	81.2%	77.1%	79.6%			83.4%	73.0%		70.1%	73.8%	86.4%	85.4%	73.6%	83.3%	91.0%
		C		F	Fg								N					Q	q		T	T
S10_3. CFLs don't fit well in my fixtures	412	32	380	49	60	109	194	241	171	412	-	-	284	115	-	16	80	175	89	161	231	20
	72.4%	59.6%	73.7%	59.6%	79.7%	74.8%	72.9%	69.7%	76.4%	72.4%			78.0%	61.3%		68.3%	75.2%	72.3%	78.8%	67.3%	75.7%	80.5%
			B		D								N									
S10_1. CFLs are not bright enough	384	31	353	54	48	103	178	215	169	384	-	-	255	117	-	13	82	167	77	169	200	14
	67.4%	58.5%	68.3%	65.1%	64.5%	71.1%	66.9%	62.1%	75.6%	67.4%			70.0%	62.0%		55.2%	77.0%	69.1%	68.0%	70.7%	65.6%	57.7%
									H													
S10_6. CFLs don't come in the shapes that I need	370	25	345	38	49	107	175	225	145	370	-	-	255	102	-	16	71	163	84	150	204	16
	64.9%	46.3%	66.8%	46.3%	65.3%	73.6%	65.8%	65.0%	64.9%	64.9%			70.0%	54.1%		69.3%	66.8%	67.6%	74.5%	62.5%	66.9%	64.1%
			B		d	D	D						N									
S10_4. CFLs don't look good in my fixtures	367	27	340	44	49	106	168	210	158	367	-	-	255	103	-	19	70	163	78	150	201	16
	64.5%	51.2%	65.9%	53.1%	65.7%	73.2%	63.0%	60.6%	70.5%	64.5%			70.0%	54.9%		80.8%	65.9%	67.3%	68.8%	62.6%	66.1%	63.8%
			B			D			h				N									
S10_5. CFLs take too long to light up	335	33	302	35	46	89	165	198	137	335	-	-	236	89	-	15	70	143	65	115	200	20
	58.8%	61.1%	58.6%	42.2%	61.1%	61.3%	62.0%	57.2%	61.4%	58.8%			64.7%	47.1%		64.2%	65.5%	59.1%	58.1%	48.0%	65.6%	79.8%
					d	D	D						N								T	T
S10_7. CFLs are not suitable for use in all of the rooms in my home	234	21	214	27	31	71	105	143	91	234	-	-	182	49	-	5	44	119	58	75	149	10
	41.1%	38.8%	41.4%	32.5%	41.2%	49.0%	39.5%	41.4%	40.7%	41.1%			50.0%	26.1%		21.8%	41.1%	49.1%	51.6%	31.5%	48.9%	38.7%
						d							N					P	P		T	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

E3A. What is the main reason preventing you from increasing the number of CFLs you currently have installed in your home?

	Total	RUCC: Rural	RUCC: Urban	State: ID	State: MT	State: OR	State: WA	Respondent Type: Landline	Respondent Type: Cell	CFL Awareness/Purchase: Purch	CFL Awareness/Purchase: Aware No-Purc	CFL Awareness/Purchase: Not Aware	Date Most Recent CFL Purchase: Past Yr	Date Most Recent CFL Purchase: 2+ Yrs	Number of CFLs Installed: 0	Number of CFLs Installed: 1	Number of CFLs Installed: 2-4	Number of CFLs Installed: 5-12	Number of CFLs Installed: 13+	LED Awareness/Purchase: Purch	LED Awareness/Purchase: Aware No-Purc	LED Awareness/Purchase: Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Do not need any more bulbs at this time	132 23.1%	13 23.9%	119 23.1%	20 24.6%	24 31.3%	33 22.5%	55 20.8%	84 24.4%	48 21.3%	132 23.1%	-	-	84 22.9%	43 23.0%	-	7 29.2%	20 19.0%	65 26.8%	27 24.4%	47 19.7%	81 26.4%	4 16.1%
Waiting for incandescent bulbs to burn out	55 9.6%	5 10.2%	49 9.5%	8 9.6%	8 10.3%	9 6.2%	30 11.3%	34 9.8%	21 9.3%	55 9.6%	-	-	45 12.3% N	10 5.2%	-	-	14 13.4% s	31 12.8% S	5 4.9%	17 7.0%	33 10.7%	5 21.9%
CFLs are too expensive / cost too much	50 8.8%	6 12.0%	44 8.4%	12 14.1%	6 7.5%	12 8.1%	21 7.8%	24 7.0%	26 11.6%	50 8.8%	-	-	31 8.6%	18 9.6%	-	5 19.9%	11 10.7%	20 8.1% s	3 3.0%	19 7.8%	29 9.5%	2 9.4%
Prefer LEDs	48 8.4%	3 4.8%	45 8.7%	10 12.3%	9 11.4%	10 7.0%	19 7.0%	27 7.8%	21 9.3%	48 8.4%	-	-	12 3.2%	35 18.5% M	-	2 7.1%	10 9.0%	12 4.8%	10 9.1%	45 18.7% U	3 1.0%	-
All of the bulbs in my home are CFLs	33 5.8%	1 2.4%	32 6.2%	3 3.8%	3 4.2%	12 7.9%	15 5.7%	19 5.6%	14 6.1%	33 5.8%	-	-	28 7.7% N	3 1.5%	-	2 8.7%	2 2.2%	8 3.5%	20 17.9% QR	7 2.7%	26 8.7% T	-
Don't like the way CFLs fit in fixtures	30 5.2%	4 6.9%	26 5.0%	3 3.6%	2 3.1%	6 4.4%	18 6.7%	17 4.9%	13 5.6%	30 5.2%	-	-	21 5.7%	9 4.7%	-	2 8.3%	2 1.7%	17 6.9% q	4 4.0%	7 3.1%	20 6.6%	2 8.3%
Don't like the way CFLs look in fixtures	28 4.9%	2 4.2%	26 5.0%	4 4.5%	5 6.7%	7 4.8%	12 4.6%	19 5.5%	9 4.0%	28 4.9%	-	-	17 4.5%	11 6.1%	-	1 3.1%	5 5.1%	11 4.4%	3 3.0%	10 4.3%	16 5.3%	2 6.7%
CFL light color isn't what I want / isn't right	25 4.5%	3 5.8%	22 4.3%	3 4.0%	2 3.2%	9 6.2%	11 4.0%	12 3.4%	14 6.1%	25 4.5%	-	-	16 4.5%	8 4.2%	-	0 0.6%	6 5.2%	11 4.7%	2 2.2%	15 6.1%	11 3.6%	-
CFLs aren't bright enough	20 3.5%	2 4.6%	17 3.4%	2 1.8%	4 4.8%	6 4.4%	8 3.1%	12 3.3%	8 3.7%	20 3.5%	-	-	14 3.7%	6 3.2%	-	3 11.3% s	4 4.2%	7 3.1%	1 0.6%	7 2.8%	9 2.9%	4 16.5% tu
CFLs take too long to light up	18 3.2%	1 1.5%	17 3.4%	0 0.2%	1 0.8%	8 5.2% de	10 3.7%	13 3.6%	6 2.5%	18 3.2%	-	-	10 2.6%	9 4.6%	-	2 10.1%	5 4.9%	5 2.1%	3 2.3%	12 5.0%	6 2.1%	-
Need 3-way bulbs / can't get 3-way CFLs / can't use CFLs in my 3-way fixtures	12 2.2%	1 2.2%	11 2.2%	1 0.8%	2 2.6%	2 1.7%	7 2.7%	10 2.8%	3 1.2%	12 2.2%	-	-	8 2.3%	3 1.8%	-	-	3 2.5%	6 2.5%	3 3.0%	8 3.3%	4 1.4%	-
Mercury / concerns about disposal	12 2.1%	1 2.3%	11 2.1%	1 0.8%	2 2.4%	2 1.4%	8 2.9%	12 3.5%	-	12 2.1%	-	-	3 0.7%	8 4.4%	-	-	3 2.9%	3 1.1%	2 1.4%	7 2.9%	5 1.8%	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

E3A. What is the main reason preventing you from increasing the number of CFLs you currently have installed in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Need dimmable bulbs / can't get dimmable CFLs / can't use CFLs with dimmer switches	11 2.0%	-	11 2.2%	1 0.8%	-	1 0.8%	10 3.6% f	4 1.2%	7 3.2%	11 2.0%	-	-	8 2.1%	4 2.1%	-	-	6 5.6%	-	5 4.6%	7 2.9%	4 1.5%	-
Storing incandescent bulbs	7 1.2%	1 1.0%	7 1.3%	3 3.1%	-	2 1.4%	3 1.0%	6 1.7%	1 0.6%	7 1.2%	-	-	6 1.7%	-	-	-	3 3.1%	3 1.3%	1 0.7%	1 0.4%	6 2.0%	-
Operating hours -- don't use the other bulbs / lamps enough	2 0.3%	0 0.3%	2 0.4%	-	-	0 0.1%	2 0.7%	2 0.6%	-	2 0.3%	-	-	1 0.4%	1 0.3%	-	-	0 0.1%	-	2 1.6%	-	2 0.6%	-
Other (SPECIFY)	33 5.7%	3 4.9%	30 5.8%	3 4.1%	1 1.6%	15 10.0% E	14 5.1%	21 6.1%	12 5.2%	33 5.7%	-	-	20 5.5%	11 5.9%	-	0 1.6%	2 1.6%	15 6.3%	8 6.9%	13 5.6%	17 5.7%	2 8.1%
Don't know	50 8.8%	6 11.3%	44 8.6%	9 10.8%	8 10.1%	11 7.8%	22 8.4%	27 7.9%	23 10.2%	50 8.8%	-	-	42 11.5% N	8 4.3%	-	-	9 8.9%	28 11.5%	9 8.3%	18 7.7%	31 10.0%	1 4.9%
Refused	3 0.6%	1 1.8%	3 0.5%	1 1.1%	-	-	3 1.0%	3 1.0%	-	3 0.6%	-	-	0 *%	1 0.8%	-	-	-	1 0.2%	3 2.2%	0 0.2%	1 0.3%	2 8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
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Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

E3B01. Anything else? (What is the main reason preventing you from increasing the number of CFLs you currently have installed in your home?)

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	483	45	438	70	64	123	226	296	187	483	-	-	294	176	-	21	94	205	81	214	247	22
Unweighted Total	514	149	365	84	71	130	229	412	102	514	-	-	301	197	-	19	100	216	99	222	269	23
No / nothing	346 71.6%	28 63.0%	317 72.5%	44 62.6%	51 78.8%	89 72.3%	163 71.9%	212 71.6%	134 71.7%	346 71.6%	-	-	217 73.8%	118 66.8%	-	13 61.3%	69 72.8%	143 69.8%	65 80.8%	144 67.2%	182 73.7%	20 91.2% TU
CFLs aren't bright enough	10 2.1%	1 2.9%	9 2.0%	1 0.9%	0 0.5%	3 2.6%	6 2.7%	7 2.5%	3 1.6%	10 2.1%	-	-	6 2.0%	4 2.2%	-	1 3.4%	1 0.6%	4 2.2%	1 1.6%	6 2.6%	5 1.9%	-
CFL light color isn't what I want / isn't right	10 2.0%	0 0.8%	9 2.1%	-	-	5 4.0%	5 2.1%	7 2.3%	3 1.6%	10 2.0%	-	-	10 3.3% N	0 *%	-	2 11.2%	3 3.2%	4 1.9%	0 0.4%	6 2.9%	4 1.5%	-
Mercury / concerns about disposal	9 1.9%	2 3.7%	8 1.8%	1 1.1%	1 1.9%	2 2.0%	5 2.2%	7 2.3%	3 1.4%	9 1.9%	-	-	3 1.1%	6 3.4%	-	-	0 0.1%	2 1.0%	3 3.2%	3 1.3%	7 2.7%	-
CFLs take too long to light up	9 1.8%	0 0.3%	8 1.9%	5 7.0% FG	-	2 1.3%	2 1.0%	2 0.8%	6 3.3%	9 1.8%	-	-	7 2.4% n	0 0.3%	-	-	-	6 3.1%	2 2.5%	8 3.9% U	0 0.1%	-
Don't like the way CFLs look in fixtures	7 1.5%	3 6.8% C	4 1.0%	2 3.1%	1 0.9%	2 1.9%	2 0.9%	4 1.4%	3 1.7%	7 1.5%	-	-	2 0.8%	5 2.9%	-	2 9.1%	1 1.3%	3 1.5%	-	2 0.9%	5 2.2%	-
CFLs are too expensive / cost too much	6 1.3%	1 1.7%	5 1.2%	1 1.8%	1 0.9%	1 1.1%	3 1.3%	3 1.2%	3 1.4%	6 1.3%	-	-	1 0.3%	5 3.0% m	-	-	0 0.2%	1 0.4%	-	1 0.4%	5 1.9%	1 2.8%
Prefer LEDs	6 1.2%	0 0.5%	6 1.3%	3 3.6%	-	2 1.6%	1 0.6%	6 2.0%	-	6 1.2%	-	-	3 0.9%	3 1.9%	-	-	-	5 2.4%	1 1.2%	6 2.8%	-	-
Do not need any more bulbs at this time	6 1.2%	-	6 1.3%	6 8.0%	-	-	-	1 0.2%	5 2.6% H	6 1.2%	-	-	6 1.9%	-	-	-	1 0.7%	5 2.4%	-	1 0.3%	5 2.0% T	-
Need dimmable bulbs / can't get dimmable CFLs / can't use CFLs with dimmer switches	5 1.0%	0 0.3%	4 1.0%	-	-	0 0.1%	4 2.0%	2 0.7%	3 1.4%	5 1.0%	-	-	2 0.6%	3 1.6%	-	-	3 3.3%	1 0.7%	-	5 2.2%	-	-
Don't like the way CFLs fit in fixtures	5 0.9%	1 1.1%	4 0.9%	-	-	1 0.4%	4 1.8%	5 1.5%	-	5 0.9%	-	-	2 0.8%	2 1.3%	-	1 3.4%	-	1 0.6%	-	1 0.7%	3 1.2%	-
Waiting for incandescent bulbs to burn out	4 0.9%	1 2.5%	3 0.7%	-	-	2 1.7%	2 0.9%	2 0.8%	2 0.9%	4 0.9%	-	-	3 1.1%	1 0.5%	-	-	1 1.3%	1 0.6%	2 1.9%	3 1.4%	1 0.5%	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

E3B01. Anything else? (What is the main reason preventing you from increasing the number of CFLs you currently have installed in your home?)

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Need 3-way bulbs / can't get 3-way CFLs / can't use CFLs in my 3-way fixtures	4 0.8%	0 0.2%	4 0.9%	-	-	1 1.0%	3 1.2%	4 1.3%	-	4 0.8%	-	-	3 0.9%	1 0.8%	-	-	1 0.8%	3 1.5%	-	2 1.1%	1 0.6%	-
Storing incandescent bulbs	2 0.3%	0 0.1%	1 0.3%	-	-	1 0.8%	1 0.3%	1 0.2%	1 0.5%	2 0.3%	-	-	1 0.2%	1 0.5%	-	-	1 1.0%	1 0.3%	-	1 0.5%	1 0.2%	-
Other (SPECIFY)	14 2.8%	1 2.9%	12 2.8%	1 1.2%	0 0.4%	4 2.9%	9 3.9%	9 3.1%	4 2.2%	14 2.8%	-	-	5 1.7%	8 4.8%	-	2 7.9%	3 3.1%	2 1.0%	1 1.7%	5 2.4%	8 3.4%	-
Don't know	36 7.4%	5 11.5%	30 6.9%	6 8.9%	7 10.8%	7 5.5%	16 6.9%	22 7.3%	14 7.5%	36 7.4%	-	-	18 6.2%	17 9.8%	-	0 1.5%	9 9.9%	17 8.1%	4 5.1%	20 9.3%	14 5.9%	1 6.0%
Refused	16 3.3%	1 3.1%	15 3.4%	2 2.5%	4 5.7%	6 4.5%	5 2.3%	8 2.6%	8 4.4%	16 3.3%	-	-	7 2.5%	9 4.9%	-	0 2.1%	3 3.7%	8 3.8%	1 1.6%	5 2.3%	11 4.5%	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

E3A&E3B Combined. What is the main reason(Anything else?) preventing you from increasing the number of CFLs you currently have installed in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	570	53	516	83	75	145	266	346	224	570	-	-	365	188	-	23	106	242	113	239	305	25
Unweighted Total	590	169	421	95	83	149	263	467	123	590	-	-	359	212	-	20	110	242	130	249	316	25
Do not need any more bulbs at this time	137 24.1%	13 23.9%	125 24.1%	26 31.3%	24 31.3%	33 22.5%	55 20.8%	85 24.5%	52 23.5%	137 24.1%	-	-	89 24.4%	43 23.0%	-	7 29.2%	21 19.6%	70 28.8%	27 24.4%	48 20.0%	85 28.0% t	4 16.1%
Waiting for incandescent bulbs to burn out	59 10.3%	7 12.3%	52 10.1%	8 9.6%	8 10.3%	11 7.6%	32 12.0%	36 10.5%	23 10.1%	59 10.3%	-	-	48 13.2% N	11 5.7%	-	-	15 14.6%	32 13.4% s	7 6.2%	20 8.2%	34 11.0%	5 21.9%
CFLs are too expensive / cost too much	56 9.8%	7 13.5%	49 9.5%	13 15.6%	6 8.3%	13 9.1%	24 8.9%	28 8.0%	29 12.8%	56 9.8%	-	-	32 8.8%	23 12.4%	-	5 19.9%	12 10.9%	20 8.4% s	3 3.0%	19 8.1%	34 11.0%	3 11.8%
Prefer LEDs	54 9.4%	3 5.2%	51 9.9%	13 15.4%	9 11.4%	12 8.4%	20 7.6%	33 9.5%	21 9.3%	54 9.4%	-	-	14 3.9%	38 20.3% M	-	2 7.1%	10 9.0%	17 6.9%	11 10.0%	51 21.2% U	3 1.0%	-
Don't like the way CFLs look in fixtures	35 6.2%	5 9.9%	30 5.8%	6 7.1%	6 7.5%	9 6.4%	14 5.4%	23 6.7%	12 5.5%	35 6.2%	-	-	19 5.2%	17 8.8%	-	3 11.4%	7 6.2%	14 5.6%	3 3.0%	12 5.1%	22 7.1%	2 6.7%
CFL light color isn't what I want / isn't right	35 6.2%	3 6.5%	32 6.1%	3 4.0%	2 3.2%	14 9.6% e	15 5.8%	19 5.4%	17 7.4%	35 6.2%	-	-	26 7.1%	8 4.2%	-	3 10.9%	9 8.1%	15 6.4%	3 2.4%	21 8.6%	14 4.8%	-
Don't like the way CFLs fit in fixtures	34 6.0%	4 7.8%	30 5.8%	3 3.6%	2 3.1%	7 4.8%	22 8.2%	21 6.2%	13 5.6%	34 6.0%	-	-	23 6.3%	11 5.9%	-	3 11.4%	2 1.7%	18 7.4% q	4 4.0%	9 3.7%	23 7.6%	2 8.3%
All of the bulbs in my home are CFLs	33 5.8%	1 2.4%	32 6.2%	3 3.8%	3 4.2%	12 7.9%	15 5.7%	19 5.6%	14 6.1%	33 5.8%	-	-	28 7.7% N	3 1.5%	-	2 8.7%	2 2.2%	8 3.5%	20 17.9% QR	7 2.7%	26 8.7% T	-
CFLs aren't bright enough	30 5.3%	4 7.0%	26 5.1%	2 2.6%	4 5.2%	9 6.5%	14 5.4%	19 5.4%	11 5.0%	30 5.3%	-	-	20 5.4%	10 5.3%	-	3 14.4%	5 4.8%	12 4.9%	2 1.8%	12 5.1%	14 4.5%	4 16.5%
CFLs take too long to light up	27 4.7%	1 1.8%	26 5.0%	5 6.2% e	1 0.8%	9 6.2% E	12 4.5% e	15 4.3%	12 5.3%	27 4.7%	-	-	17 4.5%	9 4.8%	-	2 10.1%	5 4.9%	11 4.6%	5 4.1%	20 8.4% U	7 2.2%	-
Mercury / concerns about disposal	21 3.8%	3 5.4%	19 3.6%	1 1.8%	3 4.0%	5 3.1%	13 4.7%	19 5.5% I	3 1.2%	21 3.8%	-	-	6 1.6%	14 7.6% M	-	-	3 3.0%	5 1.9%	4 3.6%	10 4.0%	12 3.9%	-
Need 3-way bulbs / can't get 3-way CFLs / can't use CFLs in my 3-way fixtures	16 2.8%	1 2.4%	15 2.9%	1 0.8%	2 2.6%	4 2.5%	10 3.7%	13 3.9%	3 1.2%	16 2.8%	-	-	11 3.0%	5 2.5%	-	-	3 3.2%	9 3.8%	3 3.0%	10 4.3%	6 1.9%	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

E3A&E3B Combined. What is the main reason(Anything else?) preventing you from increasing the number of CFLs you currently have installed in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Need dimmable bulbs / can't get dimmable CFLs / can't use CFLs with dimmer switches	16 2.8%	0 0.3%	16 3.1% B	1 0.8%	-	1 0.9%	14 5.3% DF	6 1.8%	10 4.4%	16 2.8%	-	-	9 2.6%	7 3.6%	-	-	9 8.5% R	1 0.6%	5 4.6% R	12 4.8% U	4 1.5%	-
Storing incandescent bulbs	9 1.5%	1 1.1%	8 1.6%	3 3.1%	-	3 2.0%	3 1.2%	6 1.8%	2 1.0%	9 1.5%	-	-	7 1.8%	1 0.5%	-	-	4 4.0%	4 1.5%	1 0.7%	2 0.9%	7 2.2%	-
Operating hours -- don't use the other bulbs / lamps enough	2 0.3%	0 0.3%	2 0.4%	-	-	0 0.1%	2 0.7%	2 0.6%	-	2 0.3%	-	-	1 0.4%	1 0.3%	-	-	0 0.1%	-	2 1.6%	-	2 0.6%	-
Other (SPECIFY)	42 7.4%	4 7.3%	38 7.4%	4 5.2%	1 1.9%	18 12.4% E	18 6.8%	29 8.3%	13 5.9%	42 7.4%	-	-	24 6.6%	17 8.8%	-	2 7.2%	5 4.3%	17 7.1%	8 6.9%	16 6.5%	24 8.0%	2 8.1%
Don't know	50 8.8%	6 11.3%	44 8.6%	9 10.8%	8 10.1%	11 7.8%	22 8.4%	27 7.9%	23 10.2%	50 8.8%	-	-	42 11.5% N	8 4.3%	-	-	9 8.9%	28 11.5%	9 8.3%	18 7.7%	31 10.0%	1 4.9%
Refused	3 0.6%	1 1.8%	3 0.5%	1 1.1%	-	-	3 1.0%	3 1.0%	-	3 0.6%	-	-	0 *%	1 0.8%	-	-	-	1 0.2%	3 2.2%	0 0.2%	1 0.3%	2 8.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V1. Are you aware of any legislation in the United States that may affect the availability of certain types of light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Yes	363	38	325	60	44	98	162	241	122	266	68	30	158	102	-	8	47	110	58	161	191	11
	36.5%	32.8%	36.9%	35.4%	32.5%	37.7%	37.4%	43.4%	27.7%	46.6%	26.4%	17.6%	43.3%	53.9%		33.8%	44.7%	45.6%	51.7%	46.8%	32.4%	18.1%
								I		KL				m						UV	v	
No	601	74	527	109	83	153	256	294	307	285	186	130	199	79	-	14	57	122	52	173	382	47
	60.4%	64.2%	59.9%	64.3%	61.9%	59.1%	59.2%	53.1%	69.6%	50.1%	72.5%	76.9%	54.5%	42.2%		58.3%	53.4%	50.7%	46.5%	50.2%	64.9%	74.2%
									H		J	J	N								T	T
Don't know	28	3	24	1	7	7	13	16	12	17	3	8	8	7	-	2	2	9	-	9	16	3
	2.8%	2.9%	2.8%	0.3%	5.5%	2.8%	2.9%	2.8%	2.7%	2.9%	1.1%	4.8%	2.2%	3.9%		8.0%	1.9%	3.8%		2.6%	2.7%	4.5%
Refused	3	-	3	-	-	1	2	3	-	2	-	1	-	-	-	-	-	-	2	1	-	2
	0.3%		0.4%			0.5%	0.5%	0.6%		0.4%		0.7%							1.8%	0.4%		3.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V2. In 2007, Congress passed legislation that will phase out most traditional incandescent light bulbs by 2014. Before today, were you aware of this legislation?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Yes	510	55	455	85	66	138	221	331	178	365	99	46	215	142	-	18	63	147	79	215	276	19
	51.2%	47.6%	51.7%	50.1%	49.0%	53.4%	51.1%	59.8%	40.4%	64.0%	38.8%	27.1%	58.9%	75.2%		76.7%	59.0%	60.9%	70.4%	62.5%	46.9%	29.9%
								I		KL				M						UV	V	
No	476	59	416	84	68	120	204	213	263	202	155	118	150	46	-	5	44	94	31	127	308	41
	47.8%	51.7%	47.3%	49.4%	51.0%	46.4%	47.0%	38.5%	59.5%	35.5%	60.6%	69.9%	41.1%	24.5%		23.3%	41.0%	38.8%	27.8%	36.9%	52.4%	64.4%
									H		J	J	N					s			T	T
Don't know	7	1	7	1	-	0	6	7	0	1	2	5	-	1	-	-	-	1	-	2	4	2
	0.7%	0.6%	0.8%	0.5%		0.2%	1.4%	1.3%	*%	0.1%	0.7%	2.9%		0.3%				0.3%		0.5%	0.7%	2.4%
								i														
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.2%		0.2%				0.5%	0.4%		0.4%									1.8%			3.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V3. As part of the legislation, retailers began phasing traditional 100-Watt, 75-Watt, 60-Watt, and 40-Watt light bulbs out of stores at the beginning of 2012. Before today, were you aware that these light bulbs are being phased out?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Yes	539	56	483	82	67	147	243	353	185	356	124	59	211	137	-	16	58	144	77	226	294	19
	54.1%	48.9%	54.8%	48.6%	49.9%	56.6%	56.1%	63.8%	42.0%	62.5%	48.3%	34.7%	58.0%	72.8%		69.6%	54.3%	59.4%	68.0%	65.6%	50.0%	30.5%
								I		KL	l			M					q	UV	V	
No	448	58	391	87	66	111	184	194	254	209	129	110	152	51	-	7	48	98	33	116	290	42
	45.1%	50.3%	44.4%	51.4%	49.5%	42.9%	42.5%	35.0%	57.7%	36.8%	50.1%	65.3%	41.8%	27.2%		30.4%	45.7%	40.6%	29.5%	33.8%	49.3%	66.3%
									H		J	JK	N				S	s			T	TU
Don't know	6	1	5	0	1	1	4	5	1	2	4	-	1	0	-	-	0	-	1	2	4	-
	0.6%	0.8%	0.6%	*%	0.6%	0.5%	0.9%	0.9%	0.3%	0.4%	1.6%		0.2%	*%			*%		0.7%	0.6%	0.7%	
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.2%		0.2%				0.5%	0.4%		0.4%									1.8%			3.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V4. Did you shop for any traditional incandescent light bulbs in 2014?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Yes	415	42	373	81	47	100	186	247	167	252	101	62	165	81	-	8	45	108	43	143	252	19
	41.7%	36.8%	42.3%	48.1%	34.8%	38.8%	43.0%	44.7%	38.0%	44.3%	39.3%	36.4%	45.2%	43.1%		35.9%	42.5%	44.7%	38.0%	41.7%	42.9%	30.1%
No	550	66	484	87	82	150	232	289	261	303	146	100	192	105	-	15	58	128	68	193	317	41
	55.3%	57.7%	55.0%	51.3%	61.2%	57.8%	53.5%	52.2%	59.1%	53.3%	57.0%	59.4%	52.7%	55.5%		64.1%	55.1%	53.1%	60.1%	56.0%	53.8%	64.5%
Don't know	28	6	22	1	5	9	13	15	13	12	10	7	8	3	-	-	3	5	0	8	19	1
	2.8%	5.5%	2.5%	0.6%	4.0%	3.4%	3.0%	2.7%	3.0%	2.0%	3.7%	4.2%	2.1%	1.4%			2.5%	2.2%	0.1%	2.2%	3.2%	2.1%
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.2%		0.2%				0.5%	0.4%		0.4%									1.8%			3.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V4A_1. Did you shop for 100-Watt incandescent bulbs in 2014?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	415	42	373	81	47	100	186	247	167	252	101	62	165	81	-	8	45	108	43	143	252	19
Unweighted Total	449	145	304	89	60	100	200	364	85	281	112	56	182	90	-	10	53	113	54	160	266	23
Yes	137	18	119	26	22	27	62	88	50	83	35	20	54	29	-	4	19	32	13	50	84	4
	33.1%	43.2%	32.0%	31.8%	46.7%	27.2%	33.5%	35.5%	29.6%	32.8%	34.6%	32.0%	32.7%	35.3%		42.8%	41.3%	29.8%	30.5%	34.9%	33.1%	19.8%
		c			f																	
No	253	22	231	50	20	68	114	148	105	152	64	36	97	52	-	5	26	64	28	86	151	15
	61.0%	53.2%	61.9%	61.9%	42.5%	68.0%	61.4%	59.9%	62.5%	60.3%	63.7%	59.2%	58.8%	64.0%		57.2%	56.6%	59.0%	66.0%	60.3%	59.9%	80.2%
						E	E															tu
Don't know	24	2	23	5	5	5	9	11	13	17	2	5	14	1	-	-	1	12	2	7	18	-
	5.9%	3.6%	6.1%	6.3%	10.8%	4.8%	5.1%	4.6%	7.9%	6.8%	1.7%	8.9%	8.5%	0.8%			2.1%	11.2%	3.5%	4.8%	7.0%	
										K			N					qs				

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V4A_2. Did you shop for 75-Watt incandescent bulbs in 2014?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	415	42	373	81	47	100	186	247	167	252	101	62	165	81	-	8	45	108	43	143	252	19
Unweighted Total	449	145	304	89	60	100	200	364	85	281	112	56	182	90	-	10	53	113	54	160	266	23
Yes	144	19	126	28	18	42	56	98	47	81	35	27	53	28	-	3	26	28	7	47	92	5
	34.8%	44.2%	33.7%	34.7%	38.8%	41.4%	30.2%	39.5%	27.8%	32.3%	35.1%	44.5%	32.2%	33.9%		35.9%	58.6%	26.2%	17.0%	32.6%	36.5%	28.4%
								i									RS					
No	250	23	227	46	27	50	127	142	108	156	65	29	99	53	-	5	15	71	35	92	145	13
	60.3%	54.6%	60.9%	56.7%	58.1%	50.2%	67.9%	57.3%	64.8%	61.7%	64.7%	47.5%	60.3%	65.3%		64.1%	33.3%	65.7%	81.3%	64.3%	57.6%	66.6%
							F											Q	Qr			
Don't know	20	0	20	7	1	8	3	8	12	15	0	5	12	1	-	-	4	9	1	5	15	1
	4.9%	1.1%	5.4%	8.6%	3.1%	8.4%	1.9%	3.2%	7.4%	6.1%	0.2%	8.0%	7.6%	0.8%			8.1%	8.1%	1.7%	3.2%	5.9%	5.0%
			B	g		g				K			N					s				

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V4A_3. Did you shop for 60 or 40-Watt incandescent bulbs in 2014?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	415	42	373	81	47	100	186	247	167	252	101	62	165	81	-	8	45	108	43	143	252	19
Unweighted Total	449	145	304	89	60	100	200	364	85	281	112	56	182	90	-	10	53	113	54	160	266	23
Yes	294	29	265	57	25	76	134	178	116	176	81	38	111	60	-	8	35	76	20	105	177	12
	70.8%	67.7%	71.2%	70.6%	54.5%	76.2%	72.1%	71.8%	69.4%	69.5%	80.2%	60.9%	67.6%	73.9%		94.5%	78.6%	70.1%	46.5%	72.9%	70.2%	63.1%
						E	E				jl					rS	S	S				
No	106	13	92	16	21	19	50	63	43	64	18	23	43	20	-	0	6	26	22	37	63	6
	25.5%	31.7%	24.8%	19.7%	45.0%	19.0%	26.7%	25.5%	25.5%	25.5%	18.2%	37.6%	26.1%	24.5%		5.5%	13.3%	23.8%	51.8%	25.7%	25.0%	31.9%
					DFG							k							PQR			
Don't know	15	0	15	8	0	5	2	7	9	13	2	1	10	1	-	-	4	7	1	2	12	1
	3.6%	0.6%	4.0%	9.6%	0.5%	4.9%	1.2%	2.7%	5.1%	5.0%	1.6%	1.5%	6.3%	1.6%			8.1%	6.1%	1.7%	1.5%	4.8%	5.0%
			B	EG						k			n								t	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V4B. During 2014, how many traditional incandescent bulbs did you purchase?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	362	38	324	75	37	91	159	216	146	209	96	57	133	72	-	8	38	92	27	122	225	14
Unweighted Total	398	132	266	84	49	92	173	327	71	241	106	51	156	79	-	10	45	100	41	137	242	19
0	24	1	22	10	1	5	8	16	7	14	6	4	10	4	-	-	1	7	3	10	13	0
	6.6%	3.7%	6.9%	13.7%	1.4%	5.5%	5.0%	7.6%	5.0%	6.7%	6.0%	7.0%	7.6%	5.3%			2.7%	7.4%	9.7%	8.2%	6.0%	1.8%
				Eg																		
1	1	0	1	1	-	0	-	1	-	1	-	-	0	1	-	1	-	0	-	1	0	-
	0.3%	1.0%	0.2%	1.1%		0.2%		0.5%		0.5%			0.3%	0.9%		7.7%		0.4%		0.7%	0.1%	
2	15	1	13	2	4	1	7	9	6	11	2	2	9	2	-	-	-	6	4	4	9	2
	4.0%	2.9%	4.2%	2.7%	11.1%	1.5%	4.4%	4.1%	4.0%	5.3%	2.1%	2.8%	7.1%	2.2%				6.9%	15.9%	3.0%	4.0%	12.6%
					f																	
3	13	2	11	3	0	4	6	7	6	6	5	3	5	0	-	0	0	4	1	3	10	0
	3.6%	4.8%	3.4%	4.1%	0.9%	4.3%	3.5%	3.0%	4.4%	2.7%	5.1%	4.4%	3.8%	0.6%		5.5%	0.8%	4.3%	3.0%	2.1%	4.5%	2.2%
4	42	5	37	3	7	6	27	25	17	24	15	3	17	6	-	1	4	11	6	18	21	3
	11.6%	13.5%	11.4%	3.9%	18.4%	6.3%	16.7%	11.7%	11.5%	11.3%	15.7%	5.8%	12.9%	8.3%		17.6%	9.6%	11.6%	23.6%	14.8%	9.1%	23.7%
							DF															
5	18	0	18	0	5	3	10	8	11	14	1	3	8	5	-	-	2	7	2	1	18	-
	5.1%	1.2%	5.5%	0.5%	13.1%	3.3%	6.3%	3.5%	7.3%	6.6%	1.4%	5.7%	5.7%	6.8%			6.3%	8.1%	5.6%	0.6%	7.8%	
			b		DF					k											T	
6	48	5	43	20	3	7	18	24	24	31	11	6	16	15	-	-	2	18	1	15	32	1
	13.2%	12.7%	13.3%	26.5%	7.9%	8.1%	11.1%	11.2%	16.1%	14.6%	11.4%	11.1%	12.0%	20.4%			6.0%	20.0%	5.0%	11.9%	14.4%	6.2%
				EFG														qS				
7	4	-	4	-	-	3	1	1	3	1	-	3	1	-	-	-	-	1	-	-	4	-
	1.2%		1.4%			3.4%	0.8%	0.6%	2.1%	0.6%		5.4%	1.0%					1.4%			2.0%	
												j										
8	34	3	30	12	1	5	16	21	13	17	7	10	11	6	-	2	3	2	6	4	28	1
	9.4%	9.1%	9.4%	16.0%	1.4%	6.0%	10.0%	9.5%	9.1%	8.1%	7.2%	17.6%	8.1%	8.5%		23.2%	7.3%	2.4%	23.5%	3.3%	12.6%	9.2%
				E			e									r			qR		T	
9	1	-	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.3%		0.4%			1.3%		0.6%		0.6%			0.9%						4.4%		0.5%	
10	29	1	28	3	3	8	15	14	15	14	10	5	7	7	-	-	5	6	1	14	14	1
	8.1%	3.5%	8.6%	3.5%	9.0%	8.8%	9.6%	6.7%	10.1%	6.6%	10.7%	9.0%	5.5%	9.1%			13.9%	6.6%	5.1%	11.2%	6.3%	8.7%
11	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	-	1	-
	0.2%		0.2%				0.5%	0.3%		0.3%			0.5%					0.8%			0.3%	
12	45	6	39	12	3	14	15	27	17	26	11	8	17	7	-	1	7	10	-	24	20	-
	12.3%	14.8%	12.0%	16.5%	7.8%	15.8%	9.4%	12.7%	11.8%	12.2%	11.2%	14.5%	12.5%	10.1%		17.3%	19.1%	10.5%		19.9%	9.0%	
																				U		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V4B. During 2014, how many traditional incandescent bulbs did you purchase?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
15	7	2	5	2	3	-	3	7	-	4	3	-	1	2	-	-	2	1	-	1	6	0
	2.0%	4.2%	1.7%	2.3%	7.4%		1.6%	3.3%		1.8%	3.4%		1.0%	3.5%			6.5%	1.4%		1.0%	2.6%	0.8%
16	4	0	4	0	-	4	0	4	-	4	0	-	1	3	-	-	-	2	0	1	3	-
	1.1%	0.7%	1.2%	0.3%		4.1%	*%	1.9%		1.8%	0.3%		0.4%	4.3%				1.8%	0.7%	0.4%	1.5%	
20	16	3	13	2	2	3	9	6	10	6	6	4	5	1	-	1	2	2	0	2	13	0
	4.4%	8.4%	3.9%	2.5%	5.0%	3.8%	5.4%	2.9%	6.6%	2.8%	6.1%	7.1%	3.9%	1.0%		15.6%	4.8%	2.0%	0.6%	1.8%	5.9%	1.4%
24	2	0	1	0	-	0	1	2	-	1	0	-	1	0	-	-	1	0	-	1	0	-
	0.4%	0.6%	0.4%	0.1%		0.2%	0.8%	0.7%		0.7%	0.1%		1.0%	0.2%			3.4%	0.2%		1.2%	*%	
25	3	-	3	-	-	-	3	1	3	-	3	-	-	-	-	-	-	-	-	-	3	-
	0.9%		1.0%				2.1%	0.3%	1.8%		3.5%										1.5%	
28	1	-	1	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	1	-	-
	0.2%		0.2%	0.9%				0.3%				1.1%								0.5%		
30	6	0	5	-	0	3	2	3	3	5	1	0	3	2	-	-	0	0	-	2	4	-
	1.5%	1.0%	1.6%		0.5%	3.6%	1.3%	1.2%	2.0%	2.3%	0.7%	0.1%	2.3%	2.3%			0.8%	0.1%		1.2%	1.8%	
35	0	0	-	-	-	0	-	0	-	-	0	-	-	-	-	-	-	-	-	-	0	-
	*%	0.4%				0.2%		0.1%			0.2%										0.1%	
36	2	0	1	-	-	0	1	2	-	0	1	-	-	0	-	-	-	-	-	1	0	-
	0.4%	0.6%	0.4%			0.2%	0.8%	0.7%		0.1%	1.4%			0.3%						1.1%	0.1%	
40	7	0	7	1	0	5	1	4	3	4	3	1	3	0	-	-	3	-	0	5	2	-
	2.0%	1.0%	2.1%	1.1%	0.5%	5.2%	0.9%	1.9%	2.1%	1.7%	2.9%	1.3%	2.6%	0.2%			8.0%		1.3%	4.2%	0.9%	
48	1	-	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.3%		0.3%			1.0%		0.4%		0.5%			0.7%					1.0%		0.8%		
50	7	0	7	1	2	3	2	5	2	5	2	-	3	2	-	-	2	3	-	1	6	-
	1.9%	0.8%	2.1%	0.9%	4.1%	3.5%	1.1%	2.4%	1.3%	2.3%	2.3%		2.1%	2.7%			6.0%	2.8%		1.0%	2.6%	
60	2	0	2	0	-	1	1	1	1	2	-	-	1	1	-	-	1	-	-	-	2	-
	0.6%	1.2%	0.5%	0.6%		1.3%	0.3%	0.5%	0.8%	1.0%			0.9%	1.4%			1.3%				1.0%	
72	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	1	-	-	-	1	-	-
	0.2%		0.2%				0.5%	0.3%		0.3%				1.0%		8.7%				0.6%		
80	0	-	0	-	-	0	-	0	-	0	-	-	-	0	-	-	-	-	-	-	0	-
	0.1%		0.1%			0.5%		0.2%		0.2%				0.6%							0.2%	
Don't know/No Answer	28	5	22	2	4	11	11	22	6	16	8	4	8	7	-	0	1	8	0	13	10	5
	7.7%	13.9%	6.9%	2.6%	11.5%	11.8%	6.8%	10.3%	3.9%	7.6%	8.2%	7.0%	6.0%	10.3%		4.4%	3.4%	8.6%	1.5%	10.4%	4.5%	33.4%
																						tU

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V4B. During 2014, how many traditional incandescent bulbs did you purchase?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Refused	1	0	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	0	1	-
	0.4%	0.1%	0.4%				0.8%	0.6%		0.6%			1.0%					1.5%		*%	0.6%	
Mean	10.57	10.63	10.56	8.20	9.70	14.59	9.75	10.94	10.07	10.76	11.27	8.71	10.36	11.70	-	14.90	15.89	8.36	5.58	11.19	10.48	5.47
						Dg											RS			V	V	
Standard Deviation	11.38	10.37	11.50	8.40	10.78	14.86	10.09	12.19	10.17	12.55	10.94	6.56	11.85	14.13		20.23	14.38	9.80	5.30	11.91	11.29	3.83
Standard Error	0.84	1.42	0.92	1.58	2.07	2.25	1.04	0.91	1.44	1.15	1.59	1.41	1.38	2.19		7.78	2.92	1.47	1.05	1.52	1.05	1.22

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V4B-Rebased. During 2014, how many traditional incandescent bulbs did you purchase?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0	24	1	22	10	1	5	8	16	7	14	6	4	10	4	-	-	1	7	3	10	13	0
	2.4%	1.2%	2.5%	6.1%	0.4%	1.9%	1.8%	3.0%	1.7%	2.5%	2.3%	2.3%	2.8%	2.0%			1.0%	2.8%	2.4%	2.9%	2.3%	0.4%
				Eg																		
1	1	0	1	1	-	0	-	1	-	1	-	-	0	1	-	1	-	0	-	1	0	-
	0.1%	0.3%	0.1%	0.5%		0.1%		0.2%		0.2%			0.1%	0.3%		2.8%		0.2%		0.2%	*%	
2	15	1	13	2	4	1	7	9	6	11	2	2	9	2	-	-	-	6	4	4	9	2
	1.5%	1.0%	1.5%	1.2%	3.0%	0.5%	1.6%	1.6%	1.3%	1.9%	0.8%	0.9%	2.6%	0.9%				2.6%	3.9%	1.1%	1.5%	2.9%
3	13	2	11	3	0	4	6	7	6	6	5	3	5	0	-	0	0	4	1	3	10	0
	1.3%	1.6%	1.3%	1.8%	0.2%	1.5%	1.3%	1.2%	1.5%	1.0%	1.9%	1.5%	1.4%	0.2%		2.0%	0.3%	1.6%	0.7%	0.7%	1.7%	0.5%
4	42	5	37	3	7	6	27	25	17	24	15	3	17	6	-	1	4	11	6	18	21	3
	4.2%	4.5%	4.2%	1.7%	5.1%	2.2%	6.2%	4.6%	3.8%	4.2%	5.9%	2.0%	4.7%	3.2%		6.3%	3.5%	4.4%	5.7%	5.3%	3.5%	5.4%
							F															
5	18	0	18	0	5	3	10	8	11	14	1	3	8	5	-	-	2	7	2	1	18	-
	1.8%	0.4%	2.0%	0.2%	3.6%	1.2%	2.3%	1.4%	2.4%	2.4%	0.5%	1.9%	2.1%	2.6%			2.3%	3.1%	1.4%	0.2%	3.0%	
																					T	
6	48	5	43	20	3	7	18	24	24	31	11	6	16	15	-	-	2	18	1	15	32	1
	4.8%	4.2%	4.9%	11.7%	2.2%	2.8%	4.1%	4.4%	5.3%	5.4%	4.3%	3.7%	4.4%	7.7%			2.2%	7.6%	1.2%	4.2%	5.5%	1.4%
				EFG														S				
7	4	-	4	-	-	3	1	1	3	1	-	3	1	-	-	-	-	1	-	-	4	-
	0.4%		0.5%			1.2%	0.3%	0.2%	0.7%	0.2%		1.8%	0.4%					0.5%			0.7%	
												j										
8	34	3	30	12	1	5	16	21	13	17	7	10	11	6	-	2	3	2	6	4	28	1
	3.4%	3.0%	3.5%	7.1%	0.4%	2.1%	3.7%	3.7%	3.0%	3.0%	2.7%	5.9%	3.0%	3.2%		8.3%	2.6%	0.9%	5.7%	1.2%	4.8%	2.1%
				Ef															r		T	
9	1	-	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.1%		0.1%			0.5%		0.2%		0.2%			0.3%						1.1%		0.2%	
10	29	1	28	3	3	8	15	14	15	14	10	5	7	7	-	-	5	6	1	14	14	1
	2.9%	1.1%	3.2%	1.6%	2.5%	3.1%	3.5%	2.6%	3.3%	2.4%	4.0%	3.0%	2.0%	3.5%			5.0%	2.5%	1.2%	4.0%	2.4%	2.0%
11	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	-	1	-
	0.1%		0.1%				0.2%	0.1%		0.1%			0.2%					0.3%			0.1%	
12	45	6	39	12	3	14	15	27	17	26	11	8	17	7	-	1	7	10	-	24	20	-
	4.5%	4.9%	4.4%	7.3%	2.1%	5.5%	3.5%	4.9%	3.9%	4.5%	4.2%	4.9%	4.6%	3.8%		6.2%	6.9%	4.0%		7.1%	3.4%	
																				u		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V4B-Rebased. During 2014, how many traditional incandescent bulbs did you purchase?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
15	7	2	5	2	3	-	3	7	-	4	3	-	1	2	-	-	2	1	-	1	6	0
	0.7%	1.4%	0.6%	1.0%	2.0%		0.6%	1.3%		0.7%	1.3%		0.4%	1.3%			2.3%	0.5%		0.4%	1.0%	0.2%
16	4	0	4	0	-	4	0	4	-	4	0	-	1	3	-	-	-	2	0	1	3	-
	0.4%	0.2%	0.4%	0.1%		1.4%	*%	0.7%		0.6%	0.1%		0.2%	1.6%				0.7%	0.2%	0.2%	0.6%	
20	16	3	13	2	2	3	9	6	10	6	6	4	5	1	-	1	2	2	0	2	13	0
	1.6%	2.8%	1.4%	1.1%	1.4%	1.3%	2.0%	1.1%	2.2%	1.0%	2.3%	2.4%	1.4%	0.4%		5.6%	1.7%	0.8%	0.2%	0.6%	2.3%	0.3%
24	2	0	1	0	-	0	1	2	-	1	0	-	1	0	-	-	1	0	-	1	0	-
	0.2%	0.2%	0.1%	*%		0.1%	0.3%	0.3%		0.3%	*%		0.4%	0.1%			1.2%	0.1%		0.4%	*%	
25	3	-	3	-	-	-	3	1	3	-	3	-	-	-	-	-	-	-	-	-	3	-
	0.3%		0.4%				0.8%	0.1%	0.6%		1.3%										0.6%	
28	1	-	1	1	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	1	-	-
	0.1%		0.1%	0.4%				0.1%				0.4%								0.2%		
30	6	0	5	-	0	3	2	3	3	5	1	0	3	2	-	-	0	0	-	2	4	-
	0.6%	0.3%	0.6%		0.1%	1.3%	0.5%	0.5%	0.7%	0.8%	0.3%	*%	0.9%	0.9%			0.3%	0.1%		0.4%	0.7%	
35	0	0	-	-	-	0	-	0	-	-	0	-	-	-	-	-	-	-	-	-	0	-
	*%	0.1%				0.1%		*%			0.1%										*%	
36	2	0	1	-	-	0	1	2	-	0	1	-	-	0	-	-	-	-	-	1	0	-
	0.2%	0.2%	0.1%			0.1%	0.3%	0.3%		*%	0.5%			0.1%						0.4%	*%	
40	7	0	7	1	0	5	1	4	3	4	3	1	3	0	-	-	3	-	0	5	2	-
	0.7%	0.3%	0.8%	0.5%	0.1%	1.8%	0.3%	0.7%	0.7%	0.6%	1.1%	0.4%	1.0%	0.1%			2.9%		0.3%	1.5%	0.3%	
48	1	-	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.1%		0.1%			0.4%		0.2%		0.2%			0.3%					0.4%		0.3%		
50	7	0	7	1	2	3	2	5	2	5	2	-	3	2	-	-	2	3	-	1	6	-
	0.7%	0.3%	0.8%	0.4%	1.1%	1.2%	0.4%	0.9%	0.4%	0.8%	0.9%		0.8%	1.0%			2.2%	1.1%		0.4%	1.0%	
60	2	0	2	0	-	1	1	1	1	2	-	-	1	1	-	-	1	-	-	-	2	-
	0.2%	0.4%	0.2%	0.3%		0.5%	0.1%	0.2%	0.3%	0.4%			0.3%	0.5%			0.5%				0.4%	
72	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	1	-	-	-	1	-	-
	0.1%		0.1%				0.2%	0.1%		0.1%				0.4%		3.1%				0.2%		
80	0	-	0	-	-	0	-	0	-	0	-	-	-	0	-	-	-	-	-	-	0	-
	*%		*%			0.2%		0.1%		0.1%				0.2%							0.1%	
None	633	77	557	94	97	168	274	338	295	360	161	112	231	117	-	15	68	150	85	222	363	48
	63.6%	66.8%	63.2%	55.8%	72.5%	65.0%	63.2%	61.0%	66.9%	63.3%	62.7%	66.5%	63.4%	62.0%		64.1%	63.8%	62.1%	75.6%	64.4%	61.8%	77.1%
					d														R			u

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V4B-Rebased. During 2014, how many traditional incandescent bulbs did you purchase?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know/No Answer	28	5	22	2	4	11	11	22	6	16	8	4	8	7	-	0	1	8	0	13	10	5
	2.8%	4.6%	2.6%	1.2%	3.2%	4.1%	2.5%	4.0%	1.3%	2.8%	3.1%	2.3%	2.2%	3.9%		1.6%	1.2%	3.3%	0.4%	3.7%	1.7%	7.7%
								i														
Refused	1	0	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	1	-	0	1	-
	0.1%	*%	0.1%				0.3%	0.2%		0.2%			0.4%					0.6%		*%	0.2%	
Mean	3.64	3.19	3.70	3.57	2.44	4.70	3.41	3.97	3.24	3.74	3.99	2.78	3.62	4.16	-	5.19	5.62	2.96	1.34	3.70	3.88	0.90
																	rS			V	V	
Standard Deviation	8.35	7.45	8.46	6.86	6.80	10.83	7.56	9.03	7.44	8.99	8.44	5.49	8.56	10.08		13.54	11.41	7.06	3.51	8.63	8.53	2.53
Standard Error	0.39	1.24	0.40	0.87	1.07	0.93	0.47	0.43	0.63	0.50	0.91	0.62	0.61	0.92		3.66	1.49	0.62	0.40	0.62	0.54	0.44

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V5. Were you able to purchase all of the types of traditional incandescent bulbs you were shopping for?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	362	38	324	75	37	91	159	216	146	209	96	57	133	72	-	8	38	92	27	122	225	14
Unweighted Total	398	132	266	84	49	92	173	327	71	241	106	51	156	79	-	10	45	100	41	137	242	19
Yes	281	27	254	61	25	70	125	159	121	154	78	49	92	59	-	4	31	61	21	94	176	10
	77.6%	70.1%	78.5%	81.3%	68.4%	77.0%	78.3%	73.8%	83.2%	73.6%	81.5%	85.5%	69.0%	81.7%		53.4%	80.7%	66.9%	76.3%	76.8%	78.4%	72.1%
No	74	11	63	13	11	18	31	50	24	48	18	8	36	12	-	4	6	27	6	27	44	4
	20.5%	28.2%	19.6%	17.8%	30.4%	19.9%	19.7%	23.0%	16.8%	23.0%	18.5%	14.5%	26.6%	16.6%		46.6% q	15.9%	29.4%	21.1%	21.8%	19.4%	26.1%
Don't know	7	1	6	1	0	3	3	7	-	7	-	-	6	1	-	-	1	3	1	2	5	0
	1.9%	1.7%	2.0%	0.9%	1.2%	3.1%	2.0%	3.3%		3.4%			4.4%	1.7%			3.4%	3.7%	2.6%	1.4%	2.2%	1.8%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V7. What type of light bulb did you end up purchasing instead?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	74	11	63	13	11	18	31	50	24	48	18	8	36	12	-	4	6	27	6	27	44	4
Unweighted Total	81	27	54	16	13	17	35	67	14	52	20	9	32	18	-	3	7	27	8	31	46	4
CFL	28	4	24	8	5	5	10	17	11	24	4	-	22	2	-	1	3	16	4	11	15	2
	37.9%	33.2%	38.7%	58.7%	48.1%	28.0%	31.1%	34.6%	44.5%	50.0% k	22.4%		61.0% N	14.3%		33.5%	41.2%	59.5%	60.7%	42.5%	34.5%	44.5%
Incandescent	10	3	7	2	4	0	4	9	1	9	0	1	4	3	-	-	1	5	1	5	4	0
	13.5%	23.8%	11.7%	15.5%	32.5% f	1.8%	12.5%	17.5%	5.4%	17.8% k	0.6%	16.0%	12.5%	29.1%			20.1%	20.1%	10.5%	20.2%	10.3%	3.0%
LED	8	0	7	-	-	-	8	8	-	8	-	-	4	4	-	-	-	3	1	6	1	-
	10.2%	1.4%	11.6%				23.9%	15.2%		15.6%			10.9%	30.6%				10.0%	22.7%	23.2% u	3.0%	
Energy Efficient incandescent / halogen bulbs	7	0	7	0	-	2	5	4	3	2	3	1	2	0	-	-	1	-	1	2	5	-
	9.6%	1.6%	10.9%	1.3%		12.3%	14.9%	9.0%	10.8%	5.1%	19.0%	15.5%	6.4%	1.5%			15.5%		25.9%	6.3%	12.4%	
Did not purchase any light bulbs	4	0	3	1	2	-	2	4	-	2	1	1	1	1	-	1	-	1	-	1	2	1
	5.1%	3.6%	5.4%	5.5%	14.0%		4.8%	7.7%		3.4%	5.0%	15.3%	2.8%	5.5%		16.6%		3.7%		2.4%	4.4%	33.2%
Halogen	3	-	3	1	1	-	1	3	-	1	2	-	1	-	-	-	1	-	-	1	2	-
	4.4%		5.2%	5.8%	10.7%		4.2%	6.6%		2.5%	11.7%		3.4%				19.6%			4.5%	4.8%	
Other (SPECIFY)	6	1	5	0	-	4	1	5	1	1	3	1	1	0	-	-	1	-	0	0	5	-
	7.6%	6.9%	7.8%	2.1%		24.4%	3.1%	9.3%	4.3%	2.6%	19.6%	11.5%	3.2%	0.9%			17.7%		3.0%	1.4%	12.1%	
Don't know	14	3	11	2	1	6	6	6	9	7	4	3	4	3	-	2	0	4	-	4	9	1
	19.5%	29.6%	17.7%	16.0%	5.4%	33.5%	17.9%	11.8%	35.1%	14.9%	21.6%	41.7%	12.0%	24.3%		49.8%	5.4%	15.9%		16.0%	21.6%	19.3%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V9. When traditional incandescent light bulbs are no longer available, which one of the following things are you most likely to do?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Switch to a new type of light bulb	632	75	557	104	88	161	280	319	313	400	154	78	265	124	-	16	74	171	86	249	346	37
	63.5%	65.6%	63.3%	61.4%	65.4%	62.3%	64.6%	57.7%	70.9%	70.1%	60.2%	46.3%	72.8%	65.7%		66.3%	69.5%	70.6%	76.4%	72.4%	58.9%	58.4%
									H	kL	l									U		
Keep using traditional light bulbs but switch to a lower wattage	179	16	163	25	26	51	77	108	71	78	64	37	42	36	-	5	19	24	8	48	122	8
	18.0%	14.0%	18.5%	14.7%	19.5%	19.7%	17.7%	19.4%	16.1%	13.7%	24.9%	21.8%	11.4%	19.3%		19.6%	18.2%	9.9%	6.7%	13.9%	20.8%	13.5%
											J			m			s				t	
Something else (SPECIFY)	95	10	85	17	7	28	44	57	39	58	21	16	40	16	-	1	10	28	10	26	64	6
	9.6%	8.9%	9.7%	9.9%	5.3%	10.7%	10.1%	10.2%	8.8%	10.1%	8.3%	9.7%	10.9%	8.4%		5.1%	9.4%	11.7%	9.0%	7.5%	10.8%	9.3%
Don't know	93	14	79	24	15	22	32	70	23	37	19	38	20	14	-	2	5	19	8	24	59	10
	9.4%	12.4%	9.0%	14.2%	11.2%	8.5%	7.5%	12.7%	5.2%	6.4%	7.5%	22.3%	5.5%	7.6%		9.0%	5.1%	8.0%	6.7%	7.1%	10.1%	15.6%
								I				JK										
Refused	4	-	4	-	-	-	4	4	-	4	-	-	2	-	-	-	2	-	2	-	2	2
	0.4%		0.5%				0.9%	0.7%		0.7%			0.6%				1.9%		1.8%		0.3%	3.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

V10. Which type of light bulb are you most likely to switch to?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	632	75	557	104	88	161	280	319	313	400	154	78	265	124	-	16	74	171	86	249	346	37
Unweighted Total	599	173	426	95	79	162	263	449	150	397	136	66	251	136	-	12	68	170	96	252	316	31
CFL / Fluorescent	224	34	190	23	39	62	100	119	105	172	42	10	142	25	-	11	30	77	48	59	149	16
	35.5%	45.1%	34.1%	22.2%	44.5%	38.2%	35.9%	37.3%	33.6%	43.0%	27.1%	13.3%	53.7%	20.2%		73.7%	40.2%	45.0%	56.0%	23.5%	43.1%	44.5%
					d	d				KL			N			qr					T	t
LED	181	13	168	32	23	36	89	103	78	126	45	10	48	76	-	2	26	45	25	141	40	-
	28.6%	17.1%	30.1%	30.9%	26.6%	22.3%	32.0%	32.2%	24.9%	31.4%	29.3%	12.7%	17.9%	61.0%		13.2%	35.6%	26.2%	29.1%	56.4%	11.6%	
										L	l			M						U		
Energy Efficient incandescent / halogen	80	10	70	23	14	27	16	33	47	36	29	16	28	5	-	1	6	21	1	17	56	7
	12.6%	13.7%	12.5%	21.9%	16.4%	16.8%	5.6%	10.4%	14.9%	8.9%	18.6%	19.8%	10.7%	3.9%		8.5%	7.8%	12.5%	1.4%	6.9%	16.1%	19.4%
				G		G							N					S			T	
Halogen	16	0	16	3	0	3	11	11	6	10	3	3	8	1	-	1	-	7	2	4	12	-
	2.6%	0.3%	2.9%	2.4%	0.2%	1.8%	3.9%	3.3%	1.9%	2.4%	2.1%	4.5%	3.1%	1.2%		4.7%		4.0%	1.8%	1.7%	3.5%	
Other (SPECIFY)	26	4	23	8	-	6	12	8	18	15	5	7	12	3	-	-	0	10	4	4	16	7
	4.2%	4.7%	4.1%	8.0%		3.8%	4.3%	2.6%	5.7%	3.7%	3.1%	8.5%	4.6%	2.2%			0.5%	5.8%	4.6%	1.5%	4.5%	18.7%
																						TU
Don't know	105	14	90	15	11	27	51	45	59	42	31	32	26	14	-	-	12	11	6	25	74	6
	16.6%	19.1%	16.2%	14.6%	12.2%	16.9%	18.4%	14.2%	19.0%	10.5%	19.8%	41.1%	10.0%	11.6%			15.9%	6.6%	7.2%	9.9%	21.2%	17.5%
												JK									T	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

EE1A. Have you ever heard of energy-efficient incandescent light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Yes	502	62	440	78	76	134	215	280	222	251	179	72	161	82	-	13	53	94	49	179	299	25
	50.5%	54.2%	50.0%	46.2%	56.4%	51.8%	49.5%	50.5%	50.4%	44.1%	70.0% JL	42.5%	44.1%	43.7%		57.0%	49.7%	39.0%	43.5%	52.0%	50.9%	39.0%
No	442	47	395	84	55	107	196	243	199	288	70	85	188	94	-	10	51	130	60	150	259	33
	44.4%	41.4%	44.8%	49.6%	41.3%	41.3%	45.3%	43.9%	45.1%	50.5% K	27.2%	50.0% K	51.4%	50.1%		43.0%	48.1%	54.0%	53.0%	43.6%	44.1%	52.7%
Don't know	48	5	43	7	3	18	20	29	20	28	7	13	16	12	-	-	2	17	2	15	30	3
	4.9%	4.4%	4.9%	4.2%	2.3%	7.0%	4.7%	5.2%	4.4%	5.0%	2.8%	7.5%	4.5%	6.2%			2.3%	7.0% s	1.8%	4.5%	5.1%	5.1%
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.2%		0.2%				0.5%	0.4%		0.4%									1.8%			3.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

EE1B. Energy-efficient incandescent light bulbs look like traditional incandescent bulbs and give off the same amount of light using less energy. Have you heard of these more efficient incandescent bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	493	52	440	91	58	125	218	274	219	318	77	97	204	106	-	10	53	147	64	165	289	38
Unweighted Total	501	152	349	86	61	126	228	389	112	328	86	87	202	116	-	10	56	149	73	184	280	37
Yes	91	12	79	20	8	19	45	42	50	63	16	12	39	23	-	1	12	33	5	33	55	3
	18.6%	23.7%	17.9%	21.9%	13.3%	14.9%	20.7%	15.3%	22.6%	19.7%	20.9%	12.8%	19.3%	22.2%		13.1%	21.6%	22.3% S	7.8%	20.2%	18.9%	9.1%
No	389	40	350	71	49	101	168	224	166	250	60	79	163	81	-	9	42	113	56	129	229	31
	79.0%	75.4%	79.5%	78.1%	84.3%	80.9%	77.0%	81.7%	75.8%	78.5%	78.2%	81.4%	79.7%	76.4%		86.9%	78.0%	76.4%	87.5%	78.1%	79.2%	81.9%
Don't know	10	0	9	-	1	5	3	6	3	3	1	6	2	2	-	-	0	2	1	3	5	1
	2.0%	0.9%	2.1%		2.5%	4.2%	1.4%	2.3%	1.6%	1.1%	0.8%	5.8%	1.0%	1.4%			0.4%	1.3%	1.5%	1.8%	1.9%	3.8%
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.4%		0.5%				0.9%	0.7%		0.6%									3.2%			5.3%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

EE2. Have you ever purchased any energy-efficient incandescent light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	594	75	519	98	83	153	260	322	272	314	195	84	200	106	-	15	64	127	54	212	354	28
Unweighted Total	588	195	393	104	81	153	250	450	138	319	189	80	197	113	-	11	65	121	66	220	336	32
Yes	278	30	248	47	32	78	121	142	136	128	98	52	72	52	-	6	30	53	12	97	164	16
	46.7%	39.8%	47.7%	47.7%	38.1%	50.9%	46.7%	44.1%	49.8%	40.6%	50.0%	61.8%	36.0%	49.2%		38.1%	47.1%	41.8%	22.4%	45.8%	46.5%	57.4%
												J		m			S	S				
No	253	39	214	38	44	57	113	149	104	146	84	23	98	46	-	5	28	56	32	101	144	7
	42.5%	52.1%	41.1%	39.2%	52.7%	37.3%	43.6%	46.3%	38.1%	46.4%	42.9%	27.2%	49.0%	43.9%		34.6%	44.3%	43.8%	58.5%	47.8%	40.6%	26.3%
										L										V		
Don't know	64	6	58	13	8	18	25	31	33	41	14	9	30	7	-	4	6	18	10	14	46	5
	10.7%	8.0%	11.1%	13.1%	9.2%	11.8%	9.7%	9.6%	12.1%	12.9%	7.1%	11.0%	15.0%	7.0%		27.2%	8.6%	14.4%	19.1%	6.4%	12.9%	16.2%
													n								t	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

EE2-Rebase. Have you ever purchased any energy-efficient incandescent light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Yes	278	30	248	47	32	78	121	142	136	128	98	52	72	52	-	6	30	53	12	97	164	16
	27.9%	25.9%	28.1%	27.7%	23.7%	30.0%	28.0%	25.6%	30.7%	22.4%	38.1%	30.8%	19.8%	27.6%		23.9%	28.5%	22.0%	10.7%	28.2%	28.0%	25.6%
											J						S	S				
No	654	79	575	109	95	163	286	381	273	401	145	108	263	129	-	14	70	170	90	233	378	42
	65.7%	68.8%	65.3%	64.7%	70.6%	63.0%	66.2%	68.8%	61.8%	70.5%	56.5%	63.7%	72.0%	68.5%		59.0%	66.3%	70.5%	80.1%	67.8%	64.3%	67.2%
										K									q			
Don't know	64	6	58	13	8	18	25	31	33	41	14	9	30	7	-	4	6	18	10	14	46	5
	6.4%	5.2%	6.6%	7.6%	5.7%	6.9%	5.8%	5.6%	7.4%	7.1%	5.4%	5.5%	8.2%	3.9%		17.1%	5.2%	7.6%	9.1%	3.9%	7.8%	7.2%
													n								t	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

EE1-EEI2. Aware of or purchase energy-efficient incandescent light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Unaided Aware	502	62	440	78	76	134	215	280	222	251	179	72	161	82	-	13	53	94	49	179	299	25
	50.5%	54.2%	50.0%	46.2%	56.4%	51.8%	49.5%	50.5%	50.4%	44.1%	70.0%	42.5%	44.1%	43.7%		57.0%	49.7%	39.0%	43.5%	52.0%	50.9%	39.0%
											JL											
Aided Aware	91	12	79	20	8	19	45	42	50	63	16	12	39	23	-	1	12	33	5	33	55	3
	9.2%	10.9%	9.0%	11.8%	5.8%	7.2%	10.4%	7.6%	11.2%	11.0%	6.3%	7.4%	10.8%	12.5%		5.6%	10.9%	13.6%	4.4%	9.7%	9.3%	5.5%
																		S				
Not Aware	401	40	361	71	51	106	173	232	169	255	61	85	164	83	-	9	42	115	59	132	234	35
	40.3%	34.9%	41.0%	42.0%	37.8%	41.1%	40.0%	41.9%	38.3%	44.9%	23.8%	50.1%	45.1%	43.8%		37.3%	39.5%	47.4%	52.1%	38.4%	39.8%	55.5%
										K		K										tu
Purchaser	278	30	248	47	32	78	121	142	136	128	98	52	72	52	-	6	30	53	12	97	164	16
	27.9%	25.9%	28.1%	27.7%	23.7%	30.0%	28.0%	25.6%	30.7%	22.4%	38.1%	30.8%	19.8%	27.6%		23.9%	28.5%	22.0%	10.7%	28.2%	28.0%	25.6%
											J						S	S				
Aware Non-Purchaser	316	45	271	51	52	75	139	180	136	186	98	32	128	54	-	9	34	74	42	115	189	12
	31.8%	39.2%	30.8%	30.3%	38.5%	28.9%	32.0%	32.5%	30.9%	32.7%	38.1%	19.0%	35.1%	28.6%		38.8%	32.0%	30.6%	37.1%	33.4%	32.2%	18.9%
										L	L									V	v	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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NEEA 2015 Consumer Lighting Survey

EE3. During 2014, how many energy-efficient incandescent bulbs did you purchase?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	278	30	248	47	32	78	121	142	136	128	98	52	72	52	-	6	30	53	12	97	164	16
Unweighted Total	267	87	180	49	38	73	107	198	69	141	84	42	79	56	-	5	30	55	22	101	147	19
0	49	3	46	6	3	17	23	32	18	28	15	6	9	18	-	-	6	14	3	22	25	3
	17.8%	11.5%	18.6%	13.9%	9.1%	21.8%	19.1%	22.3%	13.2%	21.8%	15.7%	12.0%	12.5%	35.3% M			20.3%	26.5%	22.2%	23.0%	15.0%	15.6%
1	12	0	12	0	2	3	8	5	7	4	4	4	2	2	-	3	-	1	-	9	2	1
	4.4%	0.6%	4.8% b	0.4%	4.7%	3.8%	6.2%	3.6%	5.3%	3.1%	4.0%	8.2%	3.1%	3.2%		50.5% R		1.7%		9.4% U	1.0%	8.2%
2	18	2	16	6	1	3	7	15	3	7	5	6	3	4	-	-	1	4	1	5	12	1
	6.5%	6.8%	6.4%	13.9%	3.8%	4.0%	5.9%	10.5% I	2.3%	5.6%	4.7%	12.0%	4.3%	7.8%			2.4%	7.1%	11.1%	4.9%	7.2%	8.2%
3	16	3	13	1	0	2	13	6	10	9	4	3	4	4	-	-	1	6	-	5	10	2
	5.7%	9.3%	5.2%	1.8%	1.0%	2.1%	10.6% dEF	4.0%	7.4%	6.8%	4.3%	5.5%	5.9%	8.4%			3.8%	10.7%		4.7%	5.8%	10.1%
4	34	1	32	7	3	8	16	15	19	19	9	6	15	3	-	1	0	13	2	13	18	3
	12.2%	5.0%	13.0%	14.1%	10.1%	10.0%	13.3%	10.4%	14.0%	14.6%	9.2%	11.6%	21.4% N	5.1%		13.0%	1.5%	24.2% Q	16.7%	13.2%	11.2%	15.6%
5	6	1	5	0	3	1	2	6	-	1	2	3	0	1	-	-	-	1	-	2	4	-
	2.0%	2.8%	1.9%	0.7%	8.6%	0.8%	1.5%	3.9%		0.8%	1.9%	5.0%	0.3%	1.6%				2.0%		1.9%	2.2%	
6	25	4	21	1	5	7	12	13	12	12	12	1	8	4	-	1	1	4	3	6	18	1
	9.2%	14.0%	8.6%	2.6%	15.7%	8.9%	10.1%	9.4%	8.9%	9.1%	12.6%	2.8%	10.7%	7.7%		13.0%	4.0%	7.8%	21.2%	6.4%	11.1%	5.8%
7	1	0	1	-	-	0	0	1	-	0	0	0	0	-	-	-	-	-	-	0	1	-
	0.3%	0.3%	0.3%			0.5%	0.4%	0.6%		0.3%	0.1%	0.8%	0.5%							0.1%	0.5%	
8	22	5	17	10	6	4	3	8	14	8	10	4	8	-	-	-	2	4	1	5	12	4
	7.9%	15.8% c	7.0%	20.5% FG	18.7% fG	4.6%	2.4%	5.4%	10.5%	6.5%	10.1%	7.4%	11.5%				8.0%	8.4%	11.5%	5.3%	7.5%	27.8% tu
9	3	-	3	1	-	1	1	3	-	2	-	1	2	-	-	-	1	-	1	1	2	-
	0.9%		1.0%	1.4%		1.6%	0.6%	1.8%		1.5%		1.2%	2.7%				2.4%		10.1%	0.7%	1.2%	
10	28	6	23	5	2	8	13	9	19	12	9	7	5	7	-	-	9	1	-	8	19	1
	10.2%	18.6% c	9.2%	10.7%	5.8%	10.5%	11.0%	6.3%	14.3%	9.8%	8.8%	13.8%	6.6%	12.9%			28.5% R	2.3%		8.5%	11.4%	8.7%
12	14	2	12	2	3	9	0	5	10	4	5	5	3	0	-	-	3	0	0	7	7	-
	5.2%	7.2%	4.9%	5.3%	10.1% g	11.0% G	0.1%	3.3%	7.2%	2.8%	5.6%	10.3%	4.7%	0.3%			10.5%	0.3%	1.8%	7.7%	4.2%	
13	0	0	-	-	0	0	-	0	-	0	-	-	-	0	-	-	0	-	-	0	0	-
	0.1%	0.9%			0.6%	0.1%		0.2%		0.2%				0.1%			0.3%			0.1%	0.1%	

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NEEA 2015 Consumer Lighting Survey

EE3. During 2014, how many energy-efficient incandescent bulbs did you purchase?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
14	4	1	4	1	1	3	-	1	3	4	-	-	4	1	-	-	3	-	-	3	1	-
	1.6%	2.0%	1.6%	1.6%	1.9%	4.0%		1.0%	2.3%	3.5%			5.1%	1.5%			10.2%			3.2%	0.8%	
15	8	-	8	1	-	1	6	3	5	3	4	1	1	2	-	1	1	-	-	2	6	-
	2.7%		3.1%	1.4%		1.2%	4.9%	2.1%	3.4%	2.6%	3.7%	1.4%	1.8%	3.8%		23.5%	2.2%			1.6%	3.6%	
20	4	-	4	-	-	-	4	1	3	1	3	-	-	1	-	-	1	-	-	-	4	-
	1.4%		1.6%				3.3%	0.9%	1.9%	1.0%	2.7%			2.5%			4.3%				2.4%	
24	1	0	1	-	1	0	-	0	1	1	-	-	1	0	-	-	-	1	-	1	-	-
	0.5%	0.5%	0.5%		3.8%	0.2%		0.1%	0.9%	1.1%			1.7%	0.3%				2.5%		1.4%		
25	1	0	1	0	-	-	1	1	-	1	-	-	0	1	-	-	1	0	0	0	1	-
	0.5%	1.5%	0.4%	1.0%			0.7%	1.0%		1.1%			0.5%	1.9%			1.7%	0.7%	3.8%	0.5%	0.5%	
30	7	0	6	5	0	1	-	2	5	1	5	-	0	1	-	-	-	-	0	1	5	-
	2.4%	1.4%	2.5%	10.5%	0.6%	1.8%		1.1%	3.6%	1.1%	5.2%		0.3%	2.3%					1.8%	1.5%	3.1%	
				EF																		
40	0	-	0	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	-	0	-	-
	0.1%		0.1%				0.2%	0.1%		0.2%			0.3%							0.2%		
100	0	-	0	-	-	0	-	0	-	0	-	-	-	0	-	-	-	-	-	-	0	-
	0.1%		0.2%			0.5%		0.3%		0.3%				0.8%							0.3%	
Don't know	20	0	20	0	2	7	12	14	7	7	11	3	3	2	-	-	-	2	-	4	16	-
	7.4%	1.7%	8.0%	0.4%	5.5%	8.8%	9.6%	9.8%	4.8%	5.3%	11.4%	4.8%	4.4%	4.5%				3.5%		4.0%	10.0%	
							d															
Refused	3	-	3	-	-	3	-	3	-	1	-	2	1	-	-	-	-	1	-	2	1	-
	1.0%		1.2%			3.7%		2.0%		1.0%		3.2%	1.7%					2.3%		1.7%	0.7%	
Mean	6.46	7.06	6.38	8.42	7.03	6.80	5.25	5.46	7.43	6.24	7.34	5.39	6.34	6.11	-	5.33	8.50	3.96	5.67	5.60	7.19	4.61
				G													R				v	
Standard Deviation	7.42	5.47	7.64	8.65	5.46	9.46	5.52	7.97	6.73	8.31	7.46	4.27	5.46	11.24		6.21	5.91	4.74	6.28	6.30	8.27	3.44
Standard Error	0.64	0.89	0.72	1.96	1.11	1.64	0.69	0.78	0.94	0.93	1.19	0.91	0.82	1.97		2.89	1.43	0.82	1.66	0.85	0.98	0.96

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EE3-Rebase. During 2014, how many energy-efficient incandescent bulbs did you purchase?

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	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0/None	767 77.1%	88 77.0%	679 77.1%	129 76.2%	105 78.5%	198 76.5%	335 77.3%	444 80.1%	323 73.3%	470 82.5% Kl	174 67.9%	123 72.9%	302 82.7%	155 82.1%	-	18 76.1%	82 77.3%	203 83.8%	103 91.6% Q	269 78.3%	448 76.2%	49 78.4%
1	12 1.2%	0 0.2%	12 1.4%	0 0.1%	2 1.1%	3 1.2%	8 1.7%	5 0.9%	7 1.6%	4 0.7%	4 1.5%	4 2.5%	2 0.6%	2 0.9%	-	3 12.1%	-	1 0.4%	-	9 2.7% U	2 0.3%	1 2.1%
2	18 1.8%	2 1.8%	16 1.8%	6 3.8%	1 0.9%	3 1.2%	7 1.7%	15 2.7% I	3 0.7%	7 1.3%	5 1.8%	6 3.7%	3 0.8%	4 2.1%	-	-	1 0.7%	4 1.6%	1 1.2%	5 1.4%	12 2.0%	1 2.1%
3	16 1.6%	3 2.4%	13 1.5%	1 0.5%	0 0.2%	2 0.6%	13 3.0% eF	6 1.0%	10 2.3%	9 1.5%	4 1.6%	3 1.7%	4 1.2%	4 2.3%	-	-	1 1.1%	6 2.3%	-	5 1.3%	10 1.6%	2 2.6%
4	34 3.4%	1 1.3%	32 3.7%	7 3.9%	3 2.4%	8 3.0%	16 3.7%	15 2.7%	19 4.3%	19 3.3%	9 3.5%	6 3.6%	15 4.2% n	3 1.4%	-	1 3.1%	0 0.4%	13 5.3% Q	2 1.8%	13 3.7%	18 3.1%	3 4.0%
5	6 0.6%	1 0.7%	5 0.5%	0 0.2%	3 2.0%	1 0.2%	2 0.4%	6 1.0%	-	1 0.2%	2 0.7%	3 1.6%	0 0.1%	1 0.4%	-	-	-	1 0.4%	-	2 0.5%	4 0.6%	-
6	25 2.6%	4 3.6%	21 2.4%	1 0.7%	5 3.7%	7 2.7%	12 2.8%	13 2.4%	12 2.7%	12 2.0%	12 4.8%	1 0.9%	8 2.1%	4 2.1%	-	1 3.1%	1 1.1%	4 1.7%	3 2.3%	6 1.8%	18 3.1%	1 1.5%
7	1 0.1%	0 0.1%	1 0.1%	-	-	0 0.2%	0 0.1%	1 0.2%	-	0 0.1%	0 *%	0 0.2%	0 0.1%	-	-	-	-	-	-	0 *%	1 0.1%	-
8	22 2.2%	5 4.1%	17 2.0%	10 5.7% FG	6 4.4%	4 1.4%	3 0.7%	8 1.4%	14 3.2%	8 1.5%	10 3.9%	4 2.3%	8 2.3%	-	-	-	2 2.3%	4 1.8%	1 1.2%	5 1.5%	12 2.1%	4 7.1%
9	3 0.3%	-	3 0.3%	1 0.4%	-	1 0.5%	1 0.2%	3 0.5%	-	2 0.3%	-	1 0.4%	2 0.5%	-	-	-	1 0.7%	-	1 1.1%	1 0.2%	2 0.3%	-
10	28 2.8%	6 4.8%	23 2.6%	5 3.0%	2 1.4%	8 3.1%	13 3.1%	9 1.6%	19 4.4%	12 2.2%	9 3.4%	7 4.3%	5 1.3%	7 3.6% m	-	-	9 8.1% R	1 0.5%	-	8 2.4%	19 3.2%	1 2.2%
12	14 1.4%	2 1.9%	12 1.4%	2 1.5%	3 2.4%	9 3.3% G	0 *%	5 0.8%	10 2.2%	4 0.6%	5 2.1%	5 3.2%	3 0.9%	0 0.1%	-	-	3 3.0%	0 0.1%	0 0.2%	7 2.2%	7 1.2%	-
13	0 *%	0 0.2%	-	-	0 0.1%	0 *%	-	0 *%	-	0 *%	-	-	-	0 *%	-	-	0 0.1%	-	-	0 *%	0 *%	-

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	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
14	4	1	4	1	1	3	-	1	3	4	-	-	4	1	-	-	3	-	-	3	1	-
	0.4%	0.5%	0.4%	0.5%	0.5%	1.2%		0.2%	0.7%	0.8%			1.0%	0.4%			2.9%			0.9%	0.2%	
15	8	-	8	1	-	1	6	3	5	3	4	1	1	2	-	1	1	-	-	2	6	-
	0.8%		0.9%	0.4%		0.4%	1.4%	0.5%	1.0%	0.6%	1.4%	0.4%	0.4%	1.0%		5.6%	0.6%			0.5%	1.0%	
20	4	-	4	-	-	-	4	1	3	1	3	-	-	1	-	-	1	-	-	-	4	-
	0.4%		0.4%				0.9%	0.2%	0.6%	0.2%	1.0%			0.7%			1.2%				0.7%	
24	1	0	1	-	1	0	-	0	1	1	-	-	1	0	-	-	-	1	-	1	-	-
	0.1%	0.1%	0.1%		0.9%	0.1%		*%	0.3%	0.2%			0.3%	0.1%				0.6%		0.4%		
25	1	0	1	0	-	-	1	1	-	1	-	-	0	1	-	-	1	0	0	0	1	-
	0.1%	0.4%	0.1%	0.3%			0.2%	0.2%		0.2%			0.1%	0.5%			0.5%	0.2%	0.4%	0.1%	0.2%	
30	7	0	6	5	0	1	-	2	5	1	5	-	0	1	-	-	-	-	0	1	5	-
	0.7%	0.4%	0.7%	2.9%	0.1%	0.6%		0.3%	1.1%	0.3%	2.0%		0.1%	0.6%					0.2%	0.4%	0.9%	
				ef							j											
40	0	-	0	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	-	0	-	-
	*%		*%				*%	*%		*%			0.1%							0.1%		
100	0	-	0	-	-	0	-	0	-	0	-	-	-	0	-	-	-	-	-	-	0	-
	*%		*%			0.2%		0.1%		0.1%				0.2%							0.1%	
Don't know	20	0	20	0	2	7	12	14	7	7	11	3	3	2	-	-	-	2	-	4	16	-
	2.1%	0.4%	2.3%	0.1%	1.3%	2.7%	2.7%	2.5%	1.5%	1.2%	4.3%	1.5%	0.9%	1.2%				0.8%		1.1%	2.8%	
						d	d				j											
Refused	3	-	3	-	-	3	-	3	-	1	-	2	1	-	-	-	-	1	-	2	1	-
	0.3%		0.3%			1.1%		0.5%		0.2%		1.0%	0.3%					0.5%		0.5%	0.2%	
Mean	1.69	1.81	1.67	2.32	1.60	1.86	1.37	1.27	2.20	1.33	2.59	1.57	1.19	1.63	-	1.27	2.42	0.83	0.61	1.51	1.85	1.18
									H		Jl						RS					
Standard Deviation	4.73	4.13	4.81	5.88	3.91	5.78	3.63	4.48	4.99	4.60	5.64	3.35	3.42	6.37		3.65	4.96	2.70	2.65	4.10	5.24	2.65
Standard Error	0.22	0.66	0.23	0.74	0.61	0.50	0.22	0.21	0.42	0.25	0.61	0.38	0.24	0.57		0.97	0.64	0.23	0.30	0.29	0.33	0.43

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

EE4. Of all the energy-efficient incandescent bulbs you have ever bought, how many have you installed in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	278	30	248	47	32	78	121	142	136	128	98	52	72	52	-	6	30	53	12	97	164	16
Unweighted Total	267	87	180	49	38	73	107	198	69	141	84	42	79	56	-	5	30	55	22	101	147	19
0	14	2	12	3	2	3	7	9	5	12	2	-	5	7	-	-	4	4	2	9	4	2
	5.2%	7.4%	4.9%	5.8%	7.4%	3.2%	5.6%	6.6%	3.8%	9.5% k	2.3%		6.7%	13.2%			11.6%	7.4%	18.3%	8.8%	2.3%	12.6%
1	12	0	11	-	2	4	6	5	7	3	6	3	2	2	-	3	-	0	-	8	2	1
	4.2%	0.7%	4.6%		4.7%	5.3%	4.9%	3.2%	5.3%	2.4%	5.8%	5.7%	2.1%	2.9%		50.5% R		0.4%		8.1% U	1.5%	8.2%
2	34	2	33	4	2	10	18	19	15	20	11	4	13	6	-	1	5	11	1	12	21	1
	12.4%	5.9%	13.2%	9.5%	5.7%	12.6%	15.1%	13.5%	11.2%	15.4%	11.0%	7.4%	18.6%	12.1%		13.0%	15.2%	20.3%	11.4%	12.5%	12.7%	8.2%
3	16	4	13	2	2	4	9	10	6	9	6	1	4	4	-	-	1	5	1	5	11	0
	5.8%	12.3%	5.0%	3.4%	5.7%	4.8%	7.4%	7.0%	4.6%	6.8%	6.3%	2.4%	6.1%	8.3%			2.1%	9.5%	4.3%	5.1%	6.6%	1.9%
4	37	2	34	6	3	7	21	15	21	17	14	6	10	6	-	1	1	11	1	10	24	3
	13.2%	8.2%	13.8%	12.2%	7.9%	8.8%	17.7%	10.8%	15.7%	13.1%	14.4%	11.1%	14.4%	12.1%		13.0%	3.8%	20.2% q	10.3%	10.0%	14.8%	15.6%
5	15	1	14	0	5	5	4	10	6	8	5	3	5	3	-	-	5	2	0	4	11	-
	5.5%	4.2%	5.6%	0.5%	16.1% Dg	7.0%	3.7%	6.7%	4.2%	6.0%	5.0%	5.3%	6.6%	5.5%			15.9%	4.5%	1.1%	4.5%	6.6%	
6	23	3	20	2	3	8	11	14	9	13	10	1	6	7	-	-	0	5	3	11	11	1
	8.4%	11.2%	8.1%	3.5%	9.0%	9.8%	9.3%	9.8%	7.0%	9.8% l	10.2%	1.6%	8.2%	12.7%			0.7%	10.1%	21.7% q	11.4%	7.0%	5.1%
7	5	0	5	-	0	3	2	5	-	0	3	2	0	-	-	-	-	-	-	2	3	0
	1.9%	1.6%	2.0%		0.8%	4.4%	1.4%	3.8%		0.3%	3.2%	3.6%	0.5%							1.6%	2.1%	2.0%
8	25	5	20	15	4	2	3	11	13	8	8	9	8	-	-	-	-	7	1	6	14	4
	8.9%	16.7% c	8.0%	32.1% eFG	13.0%	2.9%	2.8%	7.9%	9.9%	6.0%	8.2%	17.3%	10.7%					12.2%	9.9%	6.5%	8.6%	26.5% tu
9	7	-	7	-	-	6	1	1	6	4	-	3	4	-	-	-	4	-	-	3	4	-
	2.4%		2.7%			7.7% G	0.6%	0.5%	4.4%	2.9%		5.7%	5.1%				12.3%			3.1%	2.3%	
10	41	5	36	7	4	8	22	12	28	18	12	11	7	10	-	-	11	3	1	11	28	1
	14.7%	17.2%	14.4%	13.9%	14.1%	10.5%	17.9%	8.8%	21.0% H	13.8%	12.2%	21.7%	9.9%	18.3%			35.0% RS	6.1%	6.0%	11.6%	17.2%	8.7%
11	0	0	0	-	-	0	-	0	-	0	-	0	-	0	-	-	-	0	-	0	-	-
	0.2%	0.5%	0.1%			0.6%		0.3%		0.1%		0.6%		0.3%				0.3%		0.5%		
12	9	1	8	0	3	5	1	4	6	2	3	5	1	1	-	-	-	2	-	4	5	-
	3.4%	3.4%	3.4%	0.4%	10.4% g	6.9%	0.4%	2.5%	4.3%	1.3%	2.6%	9.8%	1.7%	1.0%				3.2%		4.2%	3.2%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

EE4. Of all the energy-efficient incandescent bulbs you have ever bought, how many have you installed in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
13	0	0	-	-	0	0	-	0	-	0	-	-	-	0	-	-	0	-	-	0	0	-
	0.1%	0.9%			0.6%	0.1%		0.2%		0.2%				0.1%			0.3%			0.1%	0.1%	
14	1	-	1	1	-	-	-	1	-	1	-	-	-	1	-	-	-	-	-	-	1	-
	0.3%		0.3%	1.6%				0.5%		0.6%				1.5%							0.5%	
15	8	1	7	1	1	0	6	3	5	3	4	1	2	1	-	1	1	-	-	2	6	-
	2.8%	2.0%	2.8%	1.4%	1.9%	0.5%	4.9%	2.2%	3.4%	2.3%	4.0%	1.4%	2.7%	2.0%		23.5%	2.2%			2.0%	3.5%	
18	1	-	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	-	1	-	1	-
	0.4%		0.5%			1.6%		0.9%		1.0%			1.7%						10.1%		0.7%	
20	3	1	2	-	1	-	2	3	-	-	3	-	-	-	-	-	-	-	-	1	2	-
	1.0%	2.0%	0.8%		1.9%		1.7%	1.9%			2.7%									0.8%	1.2%	
25	3	1	3	0	-	0	3	1	2	1	2	-	1	0	-	-	-	0	1	1	3	-
	1.3%	2.3%	1.1%	1.0%		0.3%	2.3%	0.7%	1.8%	0.8%	2.5%		0.8%	0.9%				0.7%	5.6%	0.7%	1.7%	
28	0	0	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	-	-	-	0	-
	*%	0.5%					0.1%	0.1%			0.1%										0.1%	
30	6	-	6	5	-	1	-	1	5	1	5	-	-	1	-	-	-	-	-	1	5	-
	2.2%		2.5%	10.5%		1.6%		0.9%	3.6%	1.0%	5.0%			2.3%						1.3%	3.0%	
				F							J											
40	0	0	-	0	-	-	-	0	-	0	-	-	-	0	-	-	-	-	0	-	0	-
	0.1%	0.6%		0.4%				0.1%		0.1%				0.3%					1.4%		0.1%	
50	1	-	1	-	-	1	-	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.4%		0.5%			1.6%		0.9%		1.0%				2.3%						1.3%		
Don't know	13	1	12	2	0	6	5	13	-	7	4	2	3	2	-	-	0	3	-	4	7	2
	4.7%	2.4%	5.0%	3.8%	0.6%	7.8%	4.1%	9.1%		5.5%	4.4%	3.2%	4.1%	4.1%			1.1%	5.1%		4.2%	4.3%	11.1%
Refused	2	-	2	-	-	2	-	2	-	-	-	2	-	-	-	-	-	-	-	2	-	-
	0.6%		0.7%			2.2%		1.2%				3.2%								1.7%		
Mean	7.07	7.27	7.05	9.36	6.54	7.33	6.18	6.61	7.51	6.27	7.98	7.33	5.67	7.07	-	4.81	6.38	4.76	7.29	6.45	7.63	4.91
				g																	V	
Standard Deviation	6.57	5.80	6.67	8.48	4.28	7.65	5.28	6.88	6.27	6.78	7.40	3.50	4.32	9.19		6.32	4.03	3.53	8.08	7.27	6.31	3.50
Standard Error	0.56	0.95	0.62	1.98	0.85	1.32	0.64	0.68	0.85	0.76	1.14	0.74	0.64	1.60		2.94	0.98	0.61	2.14	0.98	0.73	1.01

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE1A. Have you heard of LED light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Yes	923	103	820	156	120	246	401	512	411	538	239	146	345	178	-	19	96	227	110	338	585	-
	92.8%	89.6%	93.2%	92.1%	89.8%	94.9%	92.6%	92.5%	93.1%	94.5%	93.2%	86.4%	94.6%	94.7%		83.1%	90.6%	94.0%	97.7%	98.3%	99.4%	
										l									pq			
No	63	11	53	13	12	13	25	37	27	25	16	22	16	9	-	4	9	11	1	5	3	56
	6.4%	9.2%	6.0%	7.9%	9.1%	5.1%	5.7%	6.6%	6.0%	4.3%	6.4%	13.1%	4.3%	4.8%		16.9%	8.5%	4.4%	0.5%	1.5%	0.4%	88.5%
												J				S	S	s				TU
Don't know	7	1	5	-	1	-	5	3	4	5	1	1	4	1	-	-	1	4	-	1	1	5
	0.7%	1.2%	0.6%		1.1%		1.2%	0.5%	0.9%	0.8%	0.4%	0.4%	1.1%	0.5%			0.9%	1.6%		0.2%	0.1%	8.2%
																						tu
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	0.2%		0.2%				0.5%	0.4%		0.4%									1.8%			3.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE1B. LED light bulbs can be used in the same types of fixtures as regular incandescent bulbs but are shaped somewhat differently and produce light using semiconductor chips. Have you heard of LED light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	72	12	60	13	14	13	32	42	31	32	18	23	20	10	-	4	10	14	3	6	3	63
Unweighted Total	73	27	46	12	15	17	29	55	18	29	20	24	17	10	-	2	10	13	3	4	5	64
Yes	9	0	9	-	2	1	6	5	4	7	2	1	2	4	-	-	6	-	0	6	3	-
	12.7%	2.2%	14.8%		12.4%	9.7%	19.4%	12.1%	13.6%	20.6%	10.6%	3.5%	10.5%	45.1% m			62.0%		12.6%	100.0%	100.0%	
No	57	11	45	13	12	12	20	33	24	20	15	22	15	5	-	4	3	12	0	-	-	57
	78.6%	95.2%	75.3%	97.6% g	87.6% g	90.3% G	62.1%	79.3%	77.8%	62.3%	87.6%	94.3% J	76.0%	47.5%		100.0% QRS	30.6%	81.8% Qs	8.1%			90.1%
Don't know	4	0	4	0	-	-	4	2	3	3	0	1	3	1	-	-	1	3	-	-	-	4
	5.8%	2.6%	6.4%	2.4%			12.1%	3.7%	8.6%	10.7%	1.8%	2.2%	13.5%	7.4%			7.3%	18.2%				6.7%
Refused	2	-	2	-	-	-	2	2	-	2	-	-	-	-	-	-	-	-	2	-	-	2
	2.8%		3.4%				6.4%	4.9%		6.5%									79.3%			3.2%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE1A-LE1B. Aware of or purchase LED light bulbs?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Unaided Aware	923	103	820	156	120	246	401	512	411	538	239	146	345	178	-	19	96	227	110	338	585	-
	92.8%	89.6%	93.2%	92.1%	89.8%	94.9%	92.6%	92.5%	93.1%	94.5%	93.2%	86.4%	94.6%	94.7%		83.1%	90.6%	94.0%	97.7%	98.3%	99.4%	
										l									pq			
Aided Aware	9	0	9	-	2	1	6	5	4	7	2	1	2	4	-	-	6	-	0	6	3	-
	0.9%	0.2%	1.0%		1.3%	0.5%	1.4%	0.9%	0.9%	1.1%	0.7%	0.5%	0.6%	2.4%			5.8%		0.3%	1.7%	0.6%	
																	S					
Not Aware	63	12	51	13	12	12	26	37	26	25	16	22	17	5	-	4	4	14	2	-	-	63
	6.3%	10.2%	5.8%	7.9%	8.9%	4.6%	5.9%	6.6%	6.0%	4.4%	6.1%	13.1%	4.8%	2.9%		16.9%	3.6%	6.0%	2.0%			100.0%
												J				s		s				
Purchaser	344	36	308	51	36	96	161	194	150	239	75	29	127	107	-	5	51	95	46	344	-	-
	34.6%	31.1%	35.0%	30.1%	27.0%	37.1%	37.1%	35.1%	33.9%	42.1%	29.3%	17.4%	34.9%	56.6%		21.8%	48.0%	39.2%	40.7%	100.0%		
										KL	l			M			p					
Aware Non-Purchaser	588	67	521	105	86	151	246	323	265	305	166	118	220	76	-	14	51	132	65	-	588	-
	59.1%	58.7%	59.2%	62.0%	64.1%	58.3%	56.9%	58.3%	60.1%	53.5%	64.6%	69.5%	60.3%	40.6%		61.3%	48.4%	54.8%	57.3%		100.0%	
											j	J	N									

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE3. Have you ever purchased any LED bulbs other than LED nightlights or holiday light strings?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	932	103	829	156	122	247	407	517	415	544	241	147	347	183	-	19	102	227	110	344	588	-
Unweighted Total	931	287	644	157	121	244	409	724	207	565	236	130	343	205	-	18	103	229	128	369	562	-
Yes	344	36	308	51	36	96	161	194	150	239	75	29	127	107	-	5	51	95	46	344	-	-
	36.9%	34.6%	37.2%	32.7%	29.6%	38.9%	39.5%	37.5%	36.1%	44.0%	31.2%	20.0%	36.7%	58.2%		26.2%	49.8%	41.7%	41.5%	100.0%		
										KL				M								
No	559	66	493	94	86	139	241	306	253	294	160	105	211	76	-	14	51	130	58	-	559	-
	60.0%	63.8%	59.5%	60.3%	70.2%	56.2%	59.1%	59.1%	61.1%	54.1%	66.4%	71.4%	60.8%	41.4%		73.8%	50.2%	57.4%	52.3%		95.1%	
											J	J	N									
Don't know	29	2	27	11	0	12	6	17	12	11	6	13	9	1	-	-	-	2	7	-	29	-
	3.1%	1.6%	3.3%	7.0%	0.2%	4.9%	1.4%	3.3%	2.8%	2.0%	2.4%	8.5%	2.5%	0.4%				1.0%	6.2%		4.9%	
				Eg		EG						Jk	n						R			

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE3-Rebase. Have you ever purchased any LED bulbs other than LED nightlights or holiday light strings?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Yes	344	36	308	51	36	96	161	194	150	239	75	29	127	107	-	5	51	95	46	344	-	-
	34.6%	31.1%	35.0%	30.1%	27.0%	37.1%	37.1%	35.1%	33.9%	42.1%	29.3%	17.4%	34.9%	56.6%		21.8%	48.0%	39.2%	40.7%	100.0%		
										KL	l			M			p					
No	622	77	545	107	98	151	266	342	280	319	175	127	228	81	-	18	55	145	60	-	559	63
	62.5%	67.5%	61.9%	63.4%	72.9%	58.2%	61.5%	61.8%	63.4%	56.1%	68.5%	75.2%	62.6%	43.1%		78.2%	52.0%	59.9%	53.2%		95.1%	100.0%
					f						J	J	N			qs						U
Don't know	29	2	27	11	0	12	6	17	12	11	6	13	9	1	-	-	-	2	7	-	29	-
	2.9%	1.4%	3.1%	6.5%	0.1%	4.7%	1.3%	3.1%	2.7%	1.9%	2.3%	7.4%	2.4%	0.3%				0.9%	6.1%		4.9%	
				Eg		EG						Jk	n						R			

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE4. During 2014, how many LED bulbs did you purchase,NOT including LED nightlights or holiday light strings?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	344	36	308	51	36	96	161	194	150	239	75	29	127	107	-	5	51	95	46	344	-	-
Unweighted Total	369	114	255	59	41	101	168	280	89	249	82	38	136	105	-	6	45	99	60	369	-	-
0	53	6	47	10	5	15	24	29	24	30	18	5	16	13	-	-	6	15	3	53	-	-
	15.4%	16.9%	15.3%	18.9%	13.5%	15.7%	14.6%	15.1%	15.9%	12.5%	23.7%	18.0%	12.7%	11.8%			11.3%	16.1%	6.1%	15.4%		
											j											
1	23	3	19	1	2	8	12	12	11	16	2	4	7	9	-	1	5	4	3	23	-	-
	6.6%	9.0%	6.3%	1.5%	4.9%	7.9%	7.8%	6.1%	7.1%	6.8%	3.3%	13.1%	5.6%	8.6%		14.3%	9.4%	3.9%	7.0%	6.6%		
												k										
2	49	4	45	7	4	20	18	28	22	30	11	8	24	6	-	1	4	18	6	49	-	-
	14.3%	11.9%	14.6%	14.1%	10.2%	20.9%	11.4%	14.2%	14.4%	12.5%	15.1%	27.0%	18.6%	5.2%		12.8%	7.9%	19.4%	14.0%	14.3%		
												j	N									
3	24	3	21	2	4	12	6	13	11	18	5	1	9	9	-	2	4	5	3	24	-	-
	6.9%	8.5%	6.8%	3.3%	11.8%	12.6%	3.6%	6.6%	7.3%	7.5%	6.3%	4.1%	6.9%	8.6%		32.8%	8.3%	5.7%	6.0%	6.9%		
						G																
4	20	5	16	3	3	2	13	15	5	12	5	4	9	3	-	0	4	5	3	20	-	-
	5.9%	13.2%	5.1%	5.5%	7.4%	2.3%	7.9%	7.9%	3.4%	5.0%	6.5%	12.2%	7.0%	2.9%		9.0%	7.0%	4.9%	5.7%	5.9%		
5	14	1	13	5	1	2	7	8	7	11	3	1	9	1	-	-	-	6	5	14	-	-
	4.2%	3.2%	4.3%	10.0%	1.4%	2.4%	4.1%	4.1%	4.4%	4.5%	4.1%	1.9%	6.8%	0.8%				6.0%	10.4%	4.2%		
													N									
6	40	2	38	7	4	6	23	16	24	33	7	1	19	13	-	0	13	9	8	40	-	-
	11.7%	5.4%	12.4%	13.0%	12.0%	6.6%	14.2%	8.3%	16.1%	13.6%	8.7%	3.9%	15.1%	12.5%		7.3%	25.5%	9.7%	18.5%	11.7%		
							f										r					
7	6	2	4	-	2	0	4	2	4	4	2	0	4	1	-	-	2	2	1	6	-	-
	1.9%	5.9%	1.4%		4.9%	0.3%	2.7%	1.2%	2.8%	1.7%	2.7%	1.1%	2.8%	0.5%			3.6%	1.9%	1.1%	1.9%		
		C																				
8	10	0	10	1	-	4	6	7	3	8	0	2	1	6	-	-	1	7	-	10	-	-
	2.9%	0.6%	3.2%	1.7%		3.7%	3.5%	3.9%	1.8%	3.4%	0.6%	5.2%	1.1%	5.7%			1.4%	7.9%		2.9%		
9	3	1	3	0	1	-	3	1	3	1	3	-	-	1	-	-	-	1	-	3	-	-
	1.0%	2.0%	0.9%	0.2%	1.7%		1.6%	0.4%	1.8%	0.3%	3.5%			0.7%				0.8%		1.0%		
											j											
10	14	3	11	2	1	6	6	7	7	10	4	1	3	5	-	-	1	3	3	14	-	-
	4.1%	9.6%	3.5%	3.8%	2.6%	6.0%	3.4%	3.8%	4.5%	4.1%	5.1%	1.7%	2.6%	4.5%			1.0%	2.9%	7.2%	4.1%		
12	19	1	18	6	2	2	8	10	9	16	3	-	3	13	-	-	8	2	1	19	-	-
	5.6%	4.2%	5.7%	12.1%	6.7%	2.5%	5.1%	5.3%	5.9%	6.7%	4.1%		2.4%	12.2%			14.8%	2.4%	2.3%	5.6%		
														M			rs					

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE4. During 2014, how many LED bulbs did you purchase,NOT including LED nightlights or holiday light strings?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
14	1	-	1	-	-	1	-	1	-	-	1	-	-	-	-	-	-	-	-	1	-	-
	0.4%		0.4%			1.3%		0.6%			1.6%									0.4%		
15	9	0	8	0	-	3	5	3	6	4	4	-	3	1	-	-	-	1	3	9	-	-
	2.5%	1.0%	2.7%	0.4%		3.3%	3.3%	1.5%	3.9%	1.9%	5.5%		2.5%	1.2%				1.5%	6.5% r	2.5%		
16	2	-	2	-	2	1	-	1	2	2	-	-	1	2	-	-	-	0	0	2	-	-
	0.6%		0.7%		4.2%	0.7%		0.3%	1.0%	0.9%			0.5%	1.4%				0.3%	0.7%	0.6%		
17	0	0	-	-	-	0	-	0	-	-	-	0	-	-	-	-	-	-	-	0	-	-
	*%	0.4%				0.2%		0.1%				0.5%								*%		
18	0	-	0	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	-	0	-	-
	0.1%		0.1%				0.1%	0.1%		0.1%			0.2%							0.1%		
20	13	0	13	3	2	1	7	7	6	13	0	-	6	6	-	-	2	8	1	13	-	-
	3.8%	0.6%	4.1% b	6.6%	4.2%	1.0%	4.4% f	3.5%	4.1%	5.3% K	0.3%		5.1%	5.8%			4.2%	8.4%	2.9%	3.8%		
22	1	-	1	-	-	-	1	-	1	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.1%		0.2%				0.3%		0.3%	0.2%				0.5%						0.1%		
24	5	0	5	0	1	2	1	4	1	5	1	-	2	3	-	-	1	1	-	5	-	-
	1.5%	1.3%	1.6%	0.9%	3.3%	2.5%	0.8%	2.1%	0.8%	1.9%	1.0%		1.3%	2.8%			1.9%	1.3%		1.5%		
25	2	-	2	-	-	1	1	2	-	2	-	-	1	1	-	-	-	1	-	2	-	-
	0.6%		0.6%			1.3%	0.5%	1.0%		0.8%			0.6%	1.1%				0.8%		0.6%		
30	7	0	6	-	2	1	4	5	2	6	1	-	1	5	-	-	0	2	1	7	-	-
	1.9%	0.4%	2.1%		4.2%	1.4%	2.4%	2.6%	1.0%	2.5%	1.0%		0.4%	5.1%			0.3%	1.8%	1.1%	1.9%		
40	1	-	1	-	-	1	-	1	-	1	-	-	-	1	-	-	1	-	-	1	-	-
	0.4%		0.4%			1.3%		0.6%		0.5%				1.1%			2.4%			0.4%		
50	1	0	1	0	-	-	1	1	0	1	-	-	1	0	-	-	-	1	-	1	-	-
	0.3%	0.6%	0.2%	0.4%			0.5%	0.4%	0.1%	0.4%			0.6%	0.2%				0.8%		0.3%		
53	1	-	1	-	-	-	1	1	-	-	1	-	-	-	-	-	-	-	-	1	-	-
	0.4%		0.4%				0.8%	0.7%			1.8%									0.4%		
69	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.4%		0.4%				0.8%	0.7%		0.5%				1.2%						0.4%		
70	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	-	1	1	-	-
	0.4%		0.4%				0.8%	0.7%		0.5%				1.2%					2.9%	0.4%		
75	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.4%		0.4%				0.8%	0.7%		0.5%			1.0%							0.4%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE4. During 2014, how many LED bulbs did you purchase,NOT including LED nightlights or holiday light strings?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	20	2	18	4	3	6	7	15	5	13	4	3	8	5	-	1	0	3	4	20	-	-
	5.8%	5.2%	5.8%	7.5%	7.2%	6.3%	4.6%	7.5%	3.5%	5.3%	5.1%	11.3%	6.4%	4.3%		23.9%	0.9%	3.6%	7.7%	5.8%		
Mean	7.39	5.03	7.66	6.16	7.30	5.93	8.64	8.54	5.95	8.39	5.93	2.66	6.54	10.70	-	2.86	6.96	6.72	8.08	7.39	-	-
			b				f	i		L	L			M			p	P	P			
Standard Deviation	10.68	6.09	11.07	6.57	7.99	7.78	13.29	13.11	6.27	11.64	8.58	2.69	9.98	13.24		1.59	7.67	8.07	12.49	10.68		
Standard Error	0.77	0.92	0.87	1.58	1.60	1.06	1.31	1.00	0.83	1.00	1.40	0.65	1.20	1.67		0.83	1.56	1.07	2.19	0.77		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE4-Rebase. During 2014, how many LED bulbs did you purchase?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
0/None	704	85	619	128	103	178	296	389	315	360	199	145	253	94	-	18	61	162	70	53	588	63
	70.8%	74.2%	70.3%	75.6%	76.7%	68.7%	68.3%	70.2%	71.5%	63.2%	77.7%	85.7%	69.5%	50.1%		78.2%	57.4%	67.1%	61.8%	15.4%	100.0%	100.0%
											J	J	N								T	T
1	23	3	19	1	2	8	12	12	11	16	2	4	7	9	-	1	5	4	3	23	-	-
	2.3%	2.8%	2.2%	0.4%	1.3%	2.9%	2.9%	2.2%	2.4%	2.9%	1.0%	2.3%	1.9%	4.9%		3.1%	4.5%	1.5%	2.9%	6.6%		
2	49	4	45	7	4	20	18	28	22	30	11	8	24	6	-	1	4	18	6	49	-	-
	4.9%	3.7%	5.1%	4.2%	2.8%	7.7%	4.2%	5.0%	4.9%	5.2%	4.4%	4.7%	6.5%	3.0%		2.8%	3.8%	7.6%	5.7%	14.3%		
3	24	3	21	2	4	12	6	13	11	18	5	1	9	9	-	2	4	5	3	24	-	-
	2.4%	2.7%	2.4%	1.0%	3.2%	4.7%	1.3%	2.3%	2.5%	3.1%	1.8%	0.7%	2.4%	4.9%		7.1%	4.0%	2.2%	2.4%	6.9%		
						g				l												
4	20	5	16	3	3	2	13	15	5	12	5	4	9	3	-	0	4	5	3	20	-	-
	2.0%	4.1%	1.8%	1.7%	2.0%	0.9%	2.9%	2.8%	1.1%	2.1%	1.9%	2.1%	2.4%	1.6%		2.0%	3.4%	1.9%	2.3%	5.9%		
5	14	1	13	5	1	2	7	8	7	11	3	1	9	1	-	-	-	6	5	14	-	-
	1.4%	1.0%	1.5%	3.0%	0.4%	0.9%	1.5%	1.4%	1.5%	1.9%	1.2%	0.3%	2.4%	0.4%				2.4%	4.2%	4.2%		
6	40	2	38	7	4	6	23	16	24	33	7	1	19	13	-	0	13	9	8	40	-	-
	4.0%	1.7%	4.3%	3.9%	3.2%	2.5%	5.3%	2.9%	5.4%	5.7%	2.5%	0.7%	5.3%	7.1%		1.6%	12.2%	3.8%	7.5%	11.7%		
										L							R					
7	6	2	4	-	2	0	4	2	4	4	2	0	4	1	-	-	2	2	1	6	-	-
	0.7%	1.8%	0.5%		1.3%	0.1%	1.0%	0.4%	0.9%	0.7%	0.8%	0.2%	1.0%	0.3%			1.7%	0.7%	0.5%	1.9%		
8	10	0	10	1	-	4	6	7	3	8	0	2	1	6	-	-	1	7	-	10	-	-
	1.0%	0.2%	1.1%	0.5%		1.4%	1.3%	1.4%	0.6%	1.4%	0.2%	0.9%	0.4%	3.2%			0.7%	3.1%		2.9%		
														m								
9	3	1	3	0	1	-	3	1	3	1	3	-	-	1	-	-	-	1	-	3	-	-
	0.3%	0.6%	0.3%	0.1%	0.5%		0.6%	0.1%	0.6%	0.1%	1.0%			0.4%				0.3%		1.0%		
10	14	3	11	2	1	6	6	7	7	10	4	1	3	5	-	-	1	3	3	14	-	-
	1.4%	3.0%	1.2%	1.2%	0.7%	2.2%	1.3%	1.3%	1.5%	1.7%	1.5%	0.3%	0.9%	2.6%			0.5%	1.1%	2.9%	4.1%		
12	19	1	18	6	2	2	8	10	9	16	3	-	3	13	-	-	8	2	1	19	-	-
	1.9%	1.3%	2.0%	3.6%	1.8%	0.9%	1.9%	1.9%	2.0%	2.8%	1.2%		0.9%	6.9%			7.1%	0.9%	0.9%	5.6%		
														M			Rs					
14	1	-	1	-	-	1	-	1	-	-	1	-	-	-	-	-	-	-	-	1	-	-
	0.1%		0.1%			0.5%		0.2%			0.5%									0.4%		
15	9	0	8	0	-	3	5	3	6	4	4	-	3	1	-	-	-	1	3	9	-	-
	0.9%	0.3%	0.9%	0.1%		1.2%	1.2%	0.5%	1.3%	0.8%	1.6%		0.9%	0.7%				0.6%	2.6%	2.5%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE4-Rebase. During 2014, how many LED bulbs did you purchase?

	Total	RUCC: Rural	RUCC: Urban	State: ID	State: MT	State: OR	State: WA	Respondent Type: Landline	Respondent Type: Cell	CFL Awareness/Purchase: Purch	CFL Awareness/Purchase: Aware No-Purc	CFL Awareness/Purchase: Not Aware	Date Most Recent CFL Purchase: Past Yr	Date Most Recent CFL Purchase: 2+ Yrs	Number of CFLs Installed: 0	Number of CFLs Installed: 1	Number of CFLs Installed: 2-4	Number of CFLs Installed: 5-12	Number of CFLs Installed: 13+	LED Awareness/Purchase: Purch	LED Awareness/Purchase: Aware No-Purc	LED Awareness/Purchase: Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
16	2	-	2	-	2	1	-	1	2	2	-	-	1	2	-	-	-	0	0	2	-	-
	0.2%		0.2%		1.1%	0.3%		0.1%	0.3%	0.4%			0.2%	0.8%				0.1%	0.3%	0.6%		
17	0	0	-	-	-	0	-	0	-	-	-	0	-	-	-	-	-	-	-	0	-	-
	*%	0.1%				0.1%		*%				0.1%								*%		
18	0	-	0	-	-	-	0	0	-	0	-	-	0	-	-	-	-	-	-	0	-	-
	*%		*%				*%	*%		*%			0.1%							0.1%		
20	13	0	13	3	2	1	7	7	6	13	0	-	6	6	-	-	2	8	1	13	-	-
	1.3%	0.2%	1.4%	2.0%	1.1%	0.4%	1.6%	1.2%	1.4%	2.2%	0.1%		1.8%	3.3%			2.0%	3.3%	1.2%	3.8%		
										K												
22	1	-	1	-	-	-	1	-	1	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.1%		0.1%	0.1%				0.3%						0.1%		
24	5	0	5	0	1	2	1	4	1	5	1	-	2	3	-	-	1	1	-	5	-	-
	0.5%	0.4%	0.6%	0.3%	0.9%	0.9%	0.3%	0.7%	0.3%	0.8%	0.3%		0.5%	1.6%			0.9%	0.5%		1.5%		
25	2	-	2	-	-	1	1	2	-	2	-	-	1	1	-	-	-	1	-	2	-	-
	0.2%		0.2%			0.5%	0.2%	0.4%		0.3%			0.2%	0.6%				0.3%		0.6%		
30	7	0	6	-	2	1	4	5	2	6	1	-	1	5	-	-	0	2	1	7	-	-
	0.7%	0.1%	0.7%		1.1%	0.5%	0.9%	0.9%	0.3%	1.0%	0.3%		0.1%	2.9%			0.1%	0.7%	0.4%	1.9%		
														m								
40	1	-	1	-	-	1	-	1	-	1	-	-	-	1	-	-	1	-	-	1	-	-
	0.1%		0.1%			0.5%		0.2%		0.2%				0.6%			1.1%			0.4%		
50	1	0	1	0	-	-	1	1	0	1	-	-	1	0	-	-	-	1	-	1	-	-
	0.1%	0.2%	0.1%	0.1%			0.2%	0.1%	*%	0.2%			0.2%	0.1%				0.3%		0.3%		
53	1	-	1	-	-	-	1	1	-	-	1	-	-	-	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.3%	0.2%			0.5%									0.4%		
69	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.3%	0.2%		0.2%				0.7%						0.4%		
70	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	-	1	1	-	-
	0.1%		0.1%				0.3%	0.2%		0.2%				0.7%					1.2%	0.4%		
75	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.1%		0.1%				0.3%	0.2%		0.2%			0.4%							0.4%		
Don't know	20	2	18	4	3	6	7	15	5	13	4	3	8	5	-	1	0	3	4	20	-	-
	2.0%	1.6%	2.0%	2.3%	2.0%	2.3%	1.7%	2.6%	1.2%	2.2%	1.5%	2.0%	2.2%	2.4%		5.2%	0.4%	1.4%	3.1%	5.8%		
Mean	2.45	1.51	2.58	1.75	1.86	2.11	3.11	2.85	1.97	3.42	1.67	0.42	2.19	5.94	-	0.50	3.33	2.57	3.13	7.39	0.00	0.00
										KL	L			M			P	P	P	UV		
Standard Deviation	7.07	4.03	7.37	4.46	5.11	5.43	8.98	8.56	4.57	8.49	5.26	1.43	6.53	11.20		1.26	6.32	5.96	8.67	10.68	0.00	0.00
Standard Error	0.32	0.65	0.35	0.57	0.80	0.47	0.55	0.40	0.39	0.47	0.56	0.16	0.46	1.01		0.35	0.82	0.51	1.00	0.77	0.00	0.00

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE5. Of all the LED bulbs you bought in 2014, how many did you install in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	278	28	250	40	30	78	130	153	125	202	53	22	105	93	-	4	45	77	41	278	-	-
Unweighted Total	293	89	204	47	32	80	134	218	75	204	62	27	107	91	-	5	36	82	50	293	-	-
0	29	7	22	2	2	13	12	14	15	22	6	0	13	10	-	1	6	8	5	29	-	-
	10.5%	26.5%	8.7%	4.7%	7.0%	16.6%	9.5%	9.4%	11.9%	11.1%	12.1%	1.8%	12.1%	10.4%		16.8%	14.0%	10.9%	12.2%	10.5%		
		C																				
1	22	1	20	1	2	9	10	12	10	16	1	5	10	6	-	1	6	3	5	22	-	-
	7.9%	5.3%	8.2%	1.5%	7.3%	11.5%	7.9%	7.6%	8.2%	7.9%	1.4%	23.0%	9.4%	6.6%		18.8%	13.0%	3.3%	12.0%	7.9%		
												jK										
2	56	5	51	7	6	18	25	29	27	33	14	9	24	8	-	-	3	18	8	56	-	-
	20.1%	16.4%	20.5%	17.9%	18.3%	22.9%	19.5%	19.0%	21.4%	16.2%	26.1%	40.7%	22.8%	9.0%			6.3%	22.9%	20.2%	20.1%		
												J	N					q				
3	22	3	18	3	4	7	7	15	7	14	6	1	6	9	-	2	1	4	2	22	-	-
	7.8%	12.1%	7.3%	8.5%	14.1%	8.5%	5.6%	9.8%	5.3%	7.1%	11.2%	5.4%	5.5%	9.2%		54.9%	2.7%	5.2%	3.7%	7.8%		
																QrS						
4	15	2	13	1	0	3	11	9	6	9	5	0	6	3	-	-	3	6	1	15	-	-
	5.3%	5.5%	5.3%	1.5%	0.8%	3.5%	8.6%	5.9%	4.6%	4.5%	9.8%	1.9%	6.1%	2.8%			6.2%	7.4%	1.5%	5.3%		
							e															
5	14	1	13	7	0	1	6	9	5	12	1	0	9	2	-	-	1	7	3	14	-	-
	5.0%	4.2%	5.1%	16.8%	1.0%	1.2%	4.5%	5.7%	4.1%	6.2%	1.8%	1.8%	8.2%	2.2%			2.9%	9.7%	8.2%	5.0%		
				EFg																		
6	32	1	31	3	4	6	19	13	19	28	2	2	18	10	-	0	14	6	9	32	-	-
	11.6%	4.3%	12.4%	8.4%	12.9%	8.1%	14.3%	8.8%	14.9%	14.0%	3.8%	8.4%	17.0%	11.2%		9.6%	30.6%	7.2%	21.0%	11.6%		
			b							K							R		r			
7	3	0	3	-	2	0	1	1	2	3	-	0	2	1	-	-	-	2	1	3	-	-
	1.2%	0.9%	1.2%		5.8%	0.4%	1.0%	0.7%	1.8%	1.5%		1.4%	2.4%	0.6%				3.2%	1.3%	1.2%		
8	6	0	6	2	-	2	2	6	1	5	0	1	1	4	-	-	1	4	-	6	-	-
	2.2%	1.5%	2.3%	4.3%		2.6%	1.8%	3.6%	0.4%	2.6%	0.8%	2.2%	0.7%	4.1%			1.9%	5.6%		2.2%		
9	4	1	3	0	1	0	3	2	3	2	3	-	1	1	-	-	1	1	-	4	-	-
	1.5%	3.6%	1.3%	0.8%	2.0%	0.1%	2.4%	1.0%	2.1%	0.8%	4.9%		0.7%	0.9%			1.3%	0.9%		1.5%		
10	11	3	8	2	1	4	4	8	3	5	6	-	3	2	-	-	0	3	1	11	-	-
	4.0%	12.3%	3.0%	6.0%	3.1%	4.9%	3.0%	5.1%	2.6%	2.7%	10.4%		2.4%	1.8%			1.0%	4.4%	3.2%	4.0%		
		C																				
12	17	1	16	5	4	1	7	7	10	14	3	-	1	13	-	-	5	4	0	17	-	-
	6.2%	2.9%	6.6%	12.3%	12.0%	1.6%	5.8%	4.7%	8.1%	7.0%	5.7%		1.1%	14.0%			11.0%	5.0%	0.9%	6.2%		
				F	f									M			S					

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE5. Of all the LED bulbs you bought in 2014, how many did you install in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
13	3	-	3	-	-	3	-	-	3	3	-	-	3	-	-	-	-	-	3	3	-	-
	1.1%		1.2%			3.8%			2.4%	1.5%			2.8%						7.3%	1.1%		
15	6	0	6	0	-	2	4	4	3	2	4	-	0	2	-	-	-	1	-	6	-	-
	2.3%	1.3%	2.4%	0.5%		3.0%	3.0%	2.4%	2.2%	1.1%	7.8% j		0.1%	2.3%				1.4%		2.3%		
16	2	-	2	-	2	1	-	1	2	2	-	-	1	2	-	-	-	0	0	2	-	-
	0.8%		0.9%		5.0%	0.8%		0.4%	1.2%	1.1%			0.6%	1.6%				0.4%	0.8%	0.8%		
17	0	0	-	-	-	0	-	0	-	-	-	0	-	-	-	-	-	-	-	0	-	-
	0.1%	0.5%				0.2%		0.1%				0.7%								0.1%		
18	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	1	-	1	-	-
	0.2%		0.2%				0.4%	0.3%		0.2%				0.5%				0.7%		0.2%		
19	2	-	2	-	2	-	-	-	2	2	-	-	-	2	-	-	2	-	-	2	-	-
	0.5%		0.6%		5.0%				1.2%	0.7%				1.6%			3.4%			0.5%		
20	13	0	12	3	-	2	7	8	5	12	0	-	6	6	-	-	2	7	1	13	-	-
	4.5%	0.7%	5.0% b	8.5%		2.8%	5.5%	4.9%	4.1%	6.2% k	0.4%		6.2%	6.4%			4.2%	9.6%	3.2%	4.5%		
24	2	-	2	-	-	1	1	2	-	2	-	-	-	2	-	-	1	-	-	2	-	-
	0.6%		0.7%			1.6%	0.4%	1.1%		0.9%				1.9%			1.1%			0.6%		
25	1	-	1	-	-	1	-	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.4%		0.5%			1.6%		0.8%		0.6%				1.3%						0.4%		
30	7	0	6	-	2	1	4	5	2	6	1	-	1	5	-	-	0	2	1	7	-	-
	2.4%	0.5%	2.6%		5.0%	1.8%	2.9%	3.4%	1.2%	2.9%	1.4%		0.5%	5.8%			0.3%	2.2%	1.2%	2.4%		
50	2	0	2	0	-	2	-	2	0	0	-	2	-	0	-	-	-	-	-	2	-	-
	0.7%	0.7%	0.7%	0.5%		2.2%		1.1%	0.2%	0.1%		7.4%		0.2%						0.7%		
53	1	-	1	-	-	-	1	1	-	-	1	-	-	-	-	-	-	-	-	1	-	-
	0.5%		0.5%				1.0%	0.9%			2.5%									0.5%		
69	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.5%		0.5%				1.0%	0.9%		0.7%				1.4%						0.5%		
70	1	-	1	-	-	-	1	1	-	1	-	-	-	1	-	-	-	-	1	1	-	-
	0.5%		0.5%				1.0%	0.9%		0.7%				1.4%					3.2%	0.5%		
75	1	-	1	-	-	-	1	1	-	1	-	-	1	-	-	-	-	-	-	1	-	-
	0.5%		0.5%				1.0%	0.9%		0.7%			1.3%							0.5%		
160	3	-	3	3	-	-	-	-	3	3	-	-	-	3	-	-	-	-	-	3	-	-
	0.9%		1.0%	6.3%					2.0%	1.3%				2.7%						0.9%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE5. Of all the LED bulbs you bought in 2014, how many did you install in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Don't know	1	0	1	1	0	0	-	1	-	-	-	1	-	-	-	-	-	-	-	1	-	-
	0.4%	0.7%	0.4%	1.6%	0.6%	0.4%		0.8%				5.2%								0.4%		
Mean	9.14	4.50	9.65	16.92	7.34	6.51	8.77	9.17	9.10	10.07	6.77	6.32	5.86	14.97	-	2.41	6.10	6.65	7.22	9.14	-	-
			B											M								
Standard Deviation	18.34	6.17	19.16	38.46	7.49	9.47	13.78	13.93	22.64	20.45	9.21	13.24	9.47	27.71		1.93	5.86	6.83	12.79	18.34		
Standard Error	1.44	1.02	1.63	10.03	1.61	1.38	1.49	1.17	3.19	1.87	1.67	3.75	1.23	3.70		1.01	1.31	0.98	2.32	1.44		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE6. Thinking about all of the LED bulbs you recently purchased, how satisfied are you with them?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	344	36	308	51	36	96	161	194	150	239	75	29	127	107	-	5	51	95	46	344	-	-
Unweighted Total	369	114	255	59	41	101	168	280	89	249	82	38	136	105	-	6	45	99	60	369	-	-
TOP 2 NET	207	21	186	26	24	52	105	113	94	145	45	17	68	72	-	5	27	53	32	207	-	-
=========	60.3%	59.9%	60.3%	51.7%	66.1%	53.9%	65.5%	58.4%	62.6%	60.6%	60.2%	57.8%	53.5%	67.5% m		92.7% QR	52.7%	56.2%	69.7%	60.3%		
10 - Very satisfied	173	19	154	26	19	46	82	96	77	121	36	15	58	59	-	4	23	46	26	173	-	-
	50.3%	52.9%	50.0%	50.4%	53.6%	48.3%	50.7%	49.5%	51.2%	50.7%	48.1%	52.6%	45.2%	55.2%		78.4%	45.4%	48.5%	56.2%	50.3%		
9	34	2	32	1	5	5	24	17	17	24	9	2	11	13	-	1	4	7	6	34	-	-
	10.0%	7.0%	10.3%	1.3%	12.5%	5.6%	14.8% Df	8.9%	11.4%	9.9%	12.1%	5.2%	8.3%	12.3%		14.3%	7.3%	7.7%	13.5%	10.0%		
8	47	4	43	8	6	14	19	33	14	40	4	3	25	15	-	-	11	17	5	47	-	-
	13.6%	10.0%	14.0%	16.1%	17.2%	14.3%	11.6%	16.8% i	9.4%	16.7% K	4.9%	10.4%	19.9%	13.8%			22.4%	17.9%	11.7%	13.6%		
7	26	2	24	6	2	6	13	9	17	16	8	2	12	4	-	-	6	10	1	26	-	-
	7.6%	5.8%	7.8%	10.8%	5.6%	5.9%	8.1%	4.6%	11.6% h	6.9%	10.7%	6.1%	9.3%	3.8%			11.6%	10.1%	2.0%	7.6%		
6	10	2	8	2	2	6	1	1	9	7	4	-	7	-	-	-	3	3	1	10	-	-
	3.0%	6.2% c	2.7%	3.8%	4.9%	6.2% G	0.5%	0.5%	6.3% H	2.8%	4.9%		5.2%				5.8%	3.1%	1.6%	3.0%		
5	23	2	20	7	0	5	10	13	10	12	6	5	6	6	-	0	1	4	6	23	-	-
	6.6%	6.7%	6.6%	14.4% e	0.7%	5.3%	6.3%	6.7%	6.6%	5.1%	7.6%	16.7%	5.0%	5.5%		7.3%	2.6%	4.2%	13.5%	6.6%		
4	6	2	4	0	1	2	3	6	-	3	1	1	3	0	-	-	-	3	-	6	-	-
	1.7%	5.6% c	1.2%	0.9%	3.4%	1.6%	1.6%	3.0%		1.4%	1.6%	4.1%	2.2%	0.4%				3.2%		1.7%		
3	4	1	4	0	-	2	1	3	2	3	1	0	3	-	-	-	1	2	0	4	-	-
	1.2%	1.6%	1.2%	0.7%		2.5%	0.9%	1.3%	1.1%	1.4%	1.0%	0.7%	2.5%				2.4%	1.9%	0.4%	1.2%		
BOTTOM 2 NET	6	1	5	0	1	4	2	6	-	4	3	-	1	3	-	-	-	1	-	6	-	-
==========	1.8%	3.2%	1.7%	0.3%	2.2%	3.7%	1.1%	3.3%		1.5%	3.7%		0.4%	2.9%				0.7%		1.8%		
2	1	0	1	-	0	1	-	1	-	1	-	-	-	1	-	-	-	-	-	1	-	-
	0.4%	0.5%	0.4%		0.5%	1.3%		0.7%		0.6%				1.3%						0.4%		
1 - Not at all satisfied	5	1	4	0	1	2	2	5	-	2	3	-	1	2	-	-	-	1	-	5	-	-
	1.4%	2.6%	1.3%	0.3%	1.7%	2.4%	1.1%	2.5%		0.9%	3.7%		0.4%	1.5%				0.7%		1.4%		
Don't know	13	0	13	1	-	5	7	9	4	8	4	1	1	6	-	-	1	1	1	13	-	-
	3.8%	1.0%	4.1%	1.3%		5.4%	4.5%	4.7%	2.5%	3.2%	5.4%	4.1%	1.0%	6.1%			2.4%	1.4%	1.1%	3.8%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE6. Thinking about all of the LED bulbs you recently purchased, how satisfied are you with them?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Refused	1	-	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.4%		0.4%			1.3%		0.6%		0.5%			1.0%					1.3%		0.4%		
Mean	8.54	8.23	8.58	8.31	8.74	8.27	8.73	8.44	8.66	8.64	8.29	8.36	8.40	8.87	-	9.49	8.57	8.50	8.79	8.54	-	-
Standard Deviation	2.06	2.46	2.01	2.02	1.92	2.38	1.89	2.27	1.75	1.93	2.38	2.19	1.94	1.93		1.46	1.70	1.97	1.81	2.06		
Standard Error	0.15	0.36	0.16	0.47	0.37	0.32	0.19	0.17	0.23	0.16	0.39	0.51	0.23	0.24		0.68	0.35	0.26	0.31	0.15		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE6A. Thinking of the LEDs you purchased most recently, what type of bulbs did you replace?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	247	20	227	37	28	64	118	137	110	179	47	21	92	83	-	3	38	69	36	247	-	-
Unweighted Total	252	71	181	40	29	67	116	188	64	179	52	21	93	80	-	4	31	73	42	252	-	-
Incandescent	138	8	130	26	15	39	59	62	76	98	30	10	48	47	-	0	26	30	17	138	-	-
	55.8%	37.6%	57.4%	69.2%	52.2%	60.1%	50.0%	45.4%	68.8%	54.7%	63.0%	49.2%	52.4%	56.3%		11.5%	68.3%	44.2%	46.1%	55.8%		
			B						H								Pr					
CFL	84	3	81	8	9	16	51	50	35	77	3	5	38	37	-	0	13	31	21	84	-	-
	34.0%	16.6%	35.5%	21.8%	31.9%	24.3%	43.7%	36.0%	31.4%	42.7%	5.6%	23.2%	40.8%	44.2%		14.2%	33.8%	44.9%	58.3%	34.0%		
			B				F			K												
LED	25	3	22	1	2	10	12	15	10	16	5	5	12	4	-	1	2	11	2	25	-	-
	10.1%	14.3%	9.7%	3.3%	5.5%	15.9%	10.3%	10.9%	9.1%	8.7%	10.1%	22.5%	13.0%	4.4%		22.5%	4.6%	15.7%	5.6%	10.1%		
Empty socket	13	0	13	0	-	3	10	10	3	7	3	3	7	0	-	-	-	7	0	13	-	-
	5.3%	1.0%	5.7%	0.5%		4.6%	8.5%	7.5%	2.6%	4.2%	5.6%	14.3%	7.8%	0.4%				10.6%	0.6%	5.3%		
													N					s				
Halogen	12	0	12	4	2	4	3	7	5	8	2	2	4	4	-	-	1	3	2	12	-	-
	5.0%	2.4%	5.2%	10.2%	6.3%	5.6%	2.7%	5.1%	5.0%	4.7%	4.8%	8.0%	3.8%	5.2%			2.1%	4.6%	5.5%	5.0%		
Other (SPECIFY)	9	3	5	0	2	5	1	8	1	7	0	1	4	3	-	2	0	4	0	9	-	-
	3.5%	16.6%	2.3%	1.2%	7.5%	7.4%	1.1%	5.6%	0.8%	3.9%	0.9%	5.8%	4.6%	3.4%		51.8%	0.4%	5.8%	1.3%	3.5%		
		C														Qrs						
Don't know	14	3	11	0	3	5	6	9	5	6	6	2	3	3	-	-	1	2	3	14	-	-
	5.8%	14.7%	5.0%	1.0%	11.3%	7.6%	5.0%	6.7%	4.5%	3.5%	13.2%	9.0%	3.6%	3.4%			2.5%	3.0%	8.4%	5.8%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE6B. Where did you purchase LEDs most recently?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	344	36	308	51	36	96	161	194	150	239	75	29	127	107	-	5	51	95	46	344	-	-
Unweighted Total	369	114	255	59	41	101	168	280	89	249	82	38	136	105	-	6	45	99	60	369	-	-
Home center (Home Depot, Lowe's, D & B Supply, Lumbermen's)	135 39.2%	12 33.7%	123 39.8%	21 42.2%	16 43.3%	26 27.3%	71 44.4% F	76 38.9%	59 39.6%	103 43.0% L	28 37.7% L	3 11.7%	50 39.6%	48 44.7%	-	2 30.6%	19 38.1%	38 39.8%	22 47.1%	135 39.2%	-	-
Discount or mass merchandise store (Wal-Mart, K-Mart, Target, etc.)	69 20.0%	9 25.0%	60 19.4%	4 7.0%	11 30.4% d	27 27.8% D	27 17.0%	36 18.4%	33 21.9%	41 17.2%	20 26.7%	7 25.5%	27 21.3%	14 12.7%	-	-	16 32.3% r	13 13.8%	10 20.8%	69 20.0%	-	-
Buying clubs (Costco or Sam's Club)	57 16.6%	5 14.8%	52 16.8%	10 19.7%	6 15.8%	14 15.0%	27 16.7%	34 17.3%	23 15.6%	49 20.5% Kl	6 7.6%	2 7.7%	19 14.8%	30 28.3% M	-	1 23.9%	9 18.4%	17 18.2%	7 15.5%	57 16.6%	-	-
Hardware stores (ACE, True Value, Do it Best, Do it Center)	26 7.6%	3 9.5%	23 7.4%	5 10.0%	2 6.1%	9 9.6%	10 6.0%	19 9.6%	7 5.0%	17 6.9%	8 10.4%	2 6.1%	8 6.3%	8 8.0%	-	2 45.6% Qr	1 1.6%	3 3.2%	7 15.0% qr	26 7.6%	-	-
Supermarket, food store (Albertson's, Winco Foods)	21 6.2%	4 10.5%	17 5.7%	7 14.6% g	-	8 8.8%	5 3.3%	4 1.8%	18 11.8% H	5 2.2%	9 11.7% J	7 24.0% J	5 3.9%	0 0.3%	-	-	2 3.3%	3 3.1%	1 1.1%	21 6.2%	-	-
Over the Internet	19 5.6%	2 5.7%	17 5.6%	3 5.9%	1 1.9%	8 8.2%	8 4.7%	7 3.6%	12 8.1%	14 5.9%	1 1.9%	4 12.4%	12 9.2% N	2 2.2%	-	-	3 6.0%	7 7.3%	4 7.9%	19 5.6%	-	-
Lighting supply store, lighting showroom	6 1.7%	0 0.2%	6 1.9%	-	-	-	6 3.7%	3 1.7%	3 1.8%	5 1.9%	1 1.8%	-	3 2.1%	2 1.9%	-	1 14.3%	1 2.6%	2 2.2%	1 1.1%	6 1.7%	-	-
Drug store (Bartell, Bi-Mart, Hi-School Pharmacy, Longs, etc.)	2 0.5%	0 0.6%	2 0.5%	-	-	1 1.2%	1 0.5%	2 1.0%	-	1 0.3%	1 1.5%	-	1 0.6%	-	-	-	-	1 0.8%	-	2 0.5%	-	-
Mail Order Catalog	2 0.5%	0 0.4%	2 0.6%	-	-	1 1.3%	1 0.4%	1 0.7%	1 0.3%	1 0.6%	-	1 1.7%	0 0.1%	1 1.1%	-	-	0 0.3%	1 1.3%	-	2 0.5%	-	-
Home Energy Show	1 0.2%	-	1 0.2%	-	-	-	1 0.5%	1 0.4%	-	1 0.3%	-	-	1 0.6%	-	-	-	-	-	1 1.6%	1 0.2%	-	-
Other (SPECIFY)	14 4.1%	1 3.9%	13 4.1%	1 1.6%	1 1.7%	5 5.5%	7 4.5%	9 4.9%	4 3.0%	11 4.7%	1 1.2%	2 6.2%	10 7.9% n	1 1.2%	-	-	3 5.8%	6 6.7%	2 3.7%	14 4.1%	-	-
Don't know	20 5.9%	1 2.5%	19 6.3%	3 4.9%	0 0.7%	5 5.7%	12 7.4% e	12 6.3%	8 5.4%	15 6.1%	4 4.7%	2 6.8%	6 5.0%	8 7.9%	-	-	3 5.8%	6 6.6%	1 1.6%	20 5.9%	-	-

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE6B. Where did you purchase LEDs most recently?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Refused	1	-	1	-	-	1	-	1	-	1	-	-	1	-	-	-	-	1	-	1	-	-
	0.4%		0.4%			1.3%		0.6%		0.5%			1.0%					1.3%		0.4%		

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

LE7. Why haven't you purchased any LED bulbs?

	Total	RUCC: Rural	RUCC: Urban	State: ID	State: MT	State: OR	State: WA	Respondent Type: Landline	Respondent Type: Cell	CFL Awareness/Purchase: Purch	CFL Awareness/Purchase: Aware No-Purc	CFL Awareness/Purchase: Not Aware	Date Most Recent CFL Purchase: Past Yr	Date Most Recent CFL Purchase: 2+ Yrs	Number of CFLs Installed: 0	Number of CFLs Installed: 1	Number of CFLs Installed: 2-4	Number of CFLs Installed: 5-12	Number of CFLs Installed: 13+	LED Awareness/Purchase: Purch	LED Awareness/Purchase: Aware No-Purc	LED Awareness/Purchase: Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	588	67	521	105	86	151	246	323	265	305	166	118	220	76	-	14	51	132	65	-	588	-
Unweighted Total	562	173	389	98	80	143	241	444	118	316	154	92	207	100	-	12	58	130	68	-	562	-
Don't need any bulbs	155	12	143	41	30	27	57	101	55	85	36	34	54	26	-	7	19	35	18	-	155	-
	26.4%	17.8%	27.5%	39.6%	34.8%	17.8%	23.2%	31.2%	20.6%	27.8%	21.9%	29.0%	24.7%	34.0%		47.9%	37.7%	26.1%	27.1%		26.4%	
				FG				i														
Too expensive	108	15	94	17	6	35	51	65	43	72	27	9	52	20	-	3	7	29	20	-	108	-
	18.4%	21.6%	18.0%	16.6%	6.8%	22.9%	20.6%	20.2%	16.3%	23.6%	16.6%	7.6%	23.6%	26.5%		20.9%	13.8%	22.2%	31.6%		18.4%	
						e	e			L									q			
Satisfied with my current light bulbs	65	4	61	8	7	24	27	29	37	32	16	17	23	7	-	1	7	7	16	-	65	-
	11.1%	6.0%	11.8%	7.3%	7.7%	15.9%	11.0%	8.8%	13.9%	10.6%	9.6%	14.4%	10.3%	9.3%		4.2%	14.1%	5.4%	25.2%		11.1%	
																			pR			
Not familiar with them	45	6	39	8	9	11	16	31	14	23	14	8	16	5	-	2	3	13	3	-	45	-
	7.6%	8.7%	7.4%	7.5%	11.0%	7.1%	6.7%	9.6%	5.1%	7.5%	8.4%	6.6%	7.5%	6.8%		10.4%	6.4%	9.9%	3.9%		7.6%	
Don't know where to buy them	26	4	21	6	5	6	8	13	13	17	4	5	12	5	-	-	-	14	1	-	26	-
	4.4%	6.4%	4.1%	6.1%	5.4%	4.2%	3.4%	3.9%	5.0%	5.5%	2.2%	4.4%	5.3%	6.8%				10.7%	1.3%		4.4%	
																		S				
Can't find the shape / size I need	20	0	19	-	1	4	14	9	10	11	8	1	9	2	-	1	-	4	3	-	20	-
	3.3%	0.1%	3.7%		1.4%	2.6%	5.8%	2.8%	3.9%	3.4%	5.0%	0.6%	3.9%	2.4%		5.1%		3.4%	4.7%		3.3%	
Can't find them	16	1	15	5	2	1	8	10	7	7	6	3	3	4	-	-	-	1	1	-	16	-
	2.8%	1.9%	2.9%	4.8%	1.7%	1.0%	3.4%	3.0%	2.5%	2.4%	3.7%	2.5%	1.2%	4.8%				0.9%	1.1%		2.8%	
Other (SPECIFY)	110	22	88	18	23	31	38	32	77	48	45	17	35	12	-	2	4	25	3	-	110	-
	18.6%	32.8%	16.8%	17.0%	26.4%	20.6%	15.4%	10.0%	29.1%	15.6%	27.0%	14.7%	16.0%	16.3%		11.4%	8.3%	18.7%	4.6%		18.6%	
		c							H		JL							S				
Don't know	89	6	83	7	8	28	46	53	36	37	20	32	35	2	-	-	11	19	5	-	89	-
	15.1%	8.2%	16.0%	6.6%	8.9%	18.5%	18.9%	16.3%	13.6%	12.2%	12.0%	27.0%	15.7%	2.7%			21.1%	14.0%	8.2%		15.1%	
						d	D					Jk	N									
Refused	0	0	-	-	0	-	-	0	-	0	-	-	-	0	-	-	-	0	-	-	0	-
	0.1%	0.5%			0.4%			0.1%		0.1%				0.4%				0.2%			0.1%	

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

D1. What type of home do you live in?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Mobile home	70	12	58	7	14	18	31	53	17	33	21	16	21	11	-	5	8	12	4	16	47	8
	7.1%	10.6%	6.6%	4.3%	10.5%	6.8%	7.2%	9.6%	3.8%	5.7%	8.4%	9.6%	5.7%	5.6%		23.1%	7.6%	4.8%	3.6%	4.6%	8.0%	12.2%
								I								rS						
Single-family (attached or detached)	707	76	630	127	90	172	318	419	288	453	166	87	285	158	-	11	85	189	99	277	397	33
	71.0%	66.5%	71.6%	75.2%	66.9%	66.4%	73.4%	75.6%	65.3%	79.6%	64.7%	51.7%	78.3%	83.8%		48.9%	80.4%	78.1%	87.9%	80.5%	67.5%	51.8%
								I		KL	l						P	P	PR	UV	v	
Apartment	175	10	165	33	9	64	69	64	110	67	47	61	49	16	-	6	13	31	6	43	114	18
	17.6%	8.7%	18.7%	19.5%	6.6%	24.8%	15.8%	11.6%	25.0%	11.8%	18.2%	36.2%	13.4%	8.5%		25.2%	12.0%	12.7%	5.5%	12.4%	19.4%	28.5%
			B	E		EG	E		H		j	JK	n			s		S			T	T
Condo	37	16	21	1	20	5	12	11	26	14	21	3	9	3	-	1	-	11	1	8	28	1
	3.7%	14.2%	2.4%	0.5%	14.9%	1.7%	2.7%	2.1%	5.9%	2.4%	8.0%	1.7%	2.6%	1.6%		2.8%		4.4%	1.2%	2.3%	4.8%	2.1%
		C			DFG				H		JL							s			T	
Other (SPECIFY)	1	-	1	-	-	1	-	1	-	-	1	-	-	-	-	-	-	-	-	1	-	-
	0.1%		0.1%			0.3%		0.1%			0.3%									0.2%		
Don't know	1	-	1	1	-	-	-	1	-	1	-	-	-	1	-	-	-	-	-	-	1	-
	0.1%		0.1%	0.5%				0.1%		0.1%				0.4%							0.1%	
Refused	5	-	5	-	1	-	3	5	-	2	1	1	-	-	-	-	-	-	2	-	1	3
	0.5%		0.5%		1.0%		0.8%	0.9%		0.4%	0.5%	0.8%							1.8%		0.2%	5.4%
																						u

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

D1A1. What year was your home built?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
2006 or later	145	23	122	20	36	39	51	56	89	70	39	37	38	30	-	1	7	32	14	53	82	10
	14.6%	20.2%	13.8%	11.6%	26.6%	15.0%	11.8%	10.2%	20.1%	12.2%	15.2%	21.6%	10.3%	15.7%		2.6%	6.2%	13.2%	12.4%	15.4%	14.0%	15.7%
					DFG				H			J						q				
2000 - 2005	134	7	126	23	11	31	69	73	60	81	40	13	52	27	-	3	10	32	19	47	82	4
	13.4%	6.3%	14.4%	13.8%	8.0%	11.9%	15.9%	13.2%	13.7%	14.2%	15.6%	7.5%	14.4%	14.2%		14.4%	9.4%	13.3%	17.0%	13.7%	14.0%	6.8%
			b				e			l	l											
1990 - 1999	125	16	109	31	9	40	45	77	48	75	33	17	50	25	-	6	15	26	21	36	84	4
	12.6%	14.2%	12.4%	18.2%	6.8%	15.4%	10.5%	13.9%	10.9%	13.2%	13.0%	9.8%	13.7%	13.1%		25.0%	13.9%	10.9%	18.6%	10.5%	14.4%	6.9%
				e																		
1980 - 1989	94	9	85	16	13	20	44	67	27	62	17	16	42	17	-	1	13	26	17	38	50	6
	9.5%	8.2%	9.6%	9.6%	9.7%	7.9%	10.3%	12.1%	6.1%	10.8%	6.6%	9.2%	11.4%	9.1%		3.1%	12.0%	10.8%	15.3%	11.2%	8.5%	9.2%
								I											p			
1970 - 1979	157	19	138	33	21	39	64	102	55	80	45	32	56	20	-	6	20	33	11	43	99	14
	15.8%	16.2%	15.7%	19.7%	16.0%	14.9%	14.7%	18.5%	12.4%	14.0%	17.5%	19.1%	15.2%	10.8%		27.0%	18.6%	13.6%	10.2%	12.6%	16.9%	23.0%
								i														
1960 - 1969	72	8	63	13	7	19	33	36	36	37	18	17	25	11	-	4	5	20	3	21	48	2
	7.2%	7.2%	7.2%	7.5%	5.3%	7.4%	7.6%	6.5%	8.1%	6.4%	6.9%	10.3%	7.0%	5.9%		16.5%	4.7%	8.2%	3.1%	6.2%	8.2%	3.4%
																		s				
earlier than 1960	241	27	214	31	34	66	111	121	120	160	56	25	98	58	-	3	35	71	24	98	131	12
	24.2%	23.6%	24.3%	18.1%	25.3%	25.3%	25.6%	21.9%	27.1%	28.0%	21.9%	15.0%	27.0%	31.0%		11.3%	33.0%	29.3%	21.6%	28.5%	22.3%	18.5%
										L							p	p				
Don't know	18	4	14	2	1	6	9	14	4	4	6	9	4	-	-	-	2	1	-	4	7	7
	1.8%	3.2%	1.6%	1.3%	1.0%	2.1%	2.1%	2.5%	0.9%	0.6%	2.3%	5.1%	1.0%				2.1%	0.5%		1.1%	1.3%	10.8%
												j										TU
Refused	10	1	9	0	2	0	7	7	3	3	3	4	0	0	-	-	-	1	2	3	3	4
	1.0%	0.8%	1.0%	0.2%	1.2%	0.1%	1.7%	1.3%	0.6%	0.5%	1.1%	2.4%	0.1%	0.2%				0.2%	1.8%	0.8%	0.6%	5.7%
							F															
MEAN	1974	1971	1975	1979	1973	1972	1974	1977	1971	1973	1974	1978	1973	1973	-	1975	1972	1972	1978	1973	1975	1976
				eF				i														

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

D2. Do you own your home or rent?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Own	675	78	597	129	93	159	294	436	239	423	164	88	265	145	-	13	81	171	99	261	379	35
	67.8%	68.1%	67.8%	76.4%	69.0%	61.3%	68.0%	78.7%	54.2%	74.2%	63.9%	52.2%	72.6%	77.1%		54.4%	76.3%	70.9%	88.2%	75.9%	64.5%	54.9%
				F				I		KL	l								PqR	UV		
Rent	310	36	274	40	38	100	131	108	201	143	90	77	98	43	-	10	25	70	10	82	205	24
	31.1%	31.4%	31.1%	23.6%	28.7%	38.7%	30.3%	19.6%	45.6%	25.1%	35.0%	45.4%	27.0%	22.7%		44.2%	23.7%	29.0%	8.8%	23.7%	34.8%	37.5%
						Dg			H		J	J				S	S	S			T	t
Don't know	4	1	4	-	2	0	3	4	1	2	-	3	2	0	-	0	-	0	1	1	2	1
	0.4%	0.5%	0.4%		1.3%	0.1%	0.6%	0.7%	0.2%	0.3%		1.5%	0.4%	0.2%		1.4%		0.1%	1.2%	0.4%	0.3%	2.1%
Refused	6	0	6	-	1	-	5	6	-	2	3	1	-	-	-	-	-	-	2	-	3	3
	0.6%	*%	0.7%		1.0%		1.1%	1.1%		0.4%	1.0%	0.8%							1.8%		0.4%	5.4%

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

D3. Including yourself, how many people live in your home?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
One	230	38	192	35	39	65	91	131	99	112	68	49	71	34	-	6	28	48	15	47	162	20
	23.1%	33.1%	21.8%	20.5%	28.7%	25.1%	21.1%	23.6%	22.3%	19.7%	26.6%	29.2%	19.5%	18.2%		26.8%	26.2%	20.1%	13.4%	13.8%	27.6%	31.4%
												j					s				T	T
Two	357	41	316	62	42	95	158	215	141	202	73	82	127	70	-	14	40	91	35	119	220	18
	35.8%	35.6%	35.9%	36.9%	31.1%	36.5%	36.5%	38.9%	32.0%	35.5%	28.3%	48.5%	34.8%	37.4%		57.8%	37.6%	37.6%	30.7%	34.5%	37.4%	28.7%
												JK				s						
Three	178	17	160	22	23	59	74	84	94	115	44	18	72	42	-	1	23	46	23	90	83	5
	17.9%	15.2%	18.2%	13.1%	17.2%	22.8%	17.0%	15.1%	21.4%	20.3%	17.2%	10.8%	19.6%	22.6%		6.2%	21.4%	19.2%	20.1%	26.1%	14.1%	8.0%
						d				L										UV		
Four	88	6	82	16	13	13	47	48	41	54	29	6	38	14	-	0	8	19	17	40	43	6
	8.9%	5.3%	9.4%	9.4%	9.8%	4.9%	10.8%	8.6%	9.2%	9.4%	11.2%	3.7%	10.5%	7.5%		1.4%	7.6%	7.9%	14.9%	11.5%	7.3%	9.7%
							F			L	L								P			
Five	71	5	66	18	9	13	31	39	32	37	27	7	23	14	-	2	2	11	10	26	42	3
	7.1%	4.0%	7.5%	10.8%	6.6%	4.9%	7.2%	7.1%	7.2%	6.5%	10.6%	4.0%	6.4%	7.2%		7.2%	2.3%	4.7%	8.8%	7.4%	7.1%	5.1%
				f							l								q			
Six	31	4	27	12	4	0	15	11	20	26	4	1	17	9	-	0	5	12	6	12	16	3
	3.1%	3.6%	3.1%	7.2%	2.7%	0.2%	3.4%	2.1%	4.5%	4.6%	1.4%	0.8%	4.7%	4.9%		0.6%	4.3%	5.1%	4.9%	3.4%	2.8%	5.1%
				F			F			KL												
Seven or more	28	3	25	4	3	13	8	16	12	21	3	4	16	4	-	-	-	13	6	5	19	4
	2.8%	2.6%	2.8%	2.1%	2.4%	5.2%	1.8%	3.0%	2.6%	3.6%	1.4%	2.3%	4.4%	2.1%				5.2%	5.5%	1.4%	3.2%	6.7%
						g																
Refused	13	1	12	0	2	1	10	10	3	3	9	1	0	1	-	-	1	0	2	6	3	3
	1.3%	0.7%	1.4%	0.1%	1.4%	0.4%	2.3%	1.7%	0.8%	0.5%	3.4%	0.8%	0.1%	0.3%			0.7%	0.1%	1.8%	1.8%	0.5%	5.4%
							dF				j											u

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

D4. Which of the following best describes your educational background?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Less than high school	24	3	21	2	4	5	13	15	8	9	5	9	8	1	-	-	2	3	0	1	18	4
	2.4%	2.6%	2.4%	1.4%	2.7%	1.8%	3.1%	2.8%	1.9%	1.6%	2.1%	5.5%	2.1%	0.7%			1.9%	1.2%	0.3%	0.4%	3.1%	6.8%
																					t	
High school or GED	151	28	123	28	28	34	62	100	51	65	43	43	41	21	-	0	14	33	10	45	93	13
	15.2%	24.2%	14.0%	16.6%	20.8%	13.0%	14.2%	18.0%	11.6%	11.4%	16.9%	25.6%	11.3%	11.1%		1.4%	13.6%	13.8%	8.5%	13.1%	15.9%	20.1%
								i				J						p				
Some college	245	28	217	38	24	71	113	117	128	124	68	53	89	33	-	8	30	47	19	80	147	18
	24.7%	24.8%	24.6%	22.4%	17.6%	27.3%	26.1%	21.1%	29.1%	21.8%	26.6%	31.1%	24.4%	17.5%		33.1%	28.3%	19.5%	16.7%	23.3%	25.0%	29.0%
									h			j										
Technical College (2 year degree)	132	10	122	23	15	37	58	75	57	89	37	6	51	36	-	7	14	30	18	55	69	9
	13.3%	8.7%	13.9%	13.5%	11.2%	14.2%	13.3%	13.5%	13.0%	15.6%	14.4%	3.7%	14.0%	19.1%		28.4%	13.5%	12.2%	15.9%	15.8%	11.7%	14.2%
										L	L											
4 Year college	241	18	222	63	19	59	100	129	112	153	53	35	98	51	-	4	21	82	28	84	149	7
	24.2%	15.9%	25.3%	37.4%	14.0%	22.6%	23.1%	23.2%	25.4%	26.8%	20.7%	20.5%	26.9%	26.9%		18.8%	20.0%	34.0%	25.2%	24.4%	25.4%	11.5%
				EFG														Q		V	V	
Graduate degree	189	24	165	13	41	54	81	106	83	125	45	19	76	45	-	4	23	47	34	76	108	6
	19.0%	21.2%	18.7%	7.9%	30.3%	20.8%	18.7%	19.2%	18.8%	21.9%	17.6%	11.2%	20.8%	24.0%		18.4%	22.0%	19.3%	30.0%	22.0%	18.3%	8.8%
					Dg	D	D			L									r	V	v	
Don't know	1	1	-	0	1	0	-	1	-	0	1	-	-	0	-	-	-	-	-	1	-	-
	0.1%	0.7%		0.1%	0.5%	*%		0.1%		*%	0.2%			0.1%						0.2%		
Refused	12	2	10	1	4	1	6	12	1	5	4	4	2	1	-	-	1	0	4	2	4	6
	1.2%	1.9%	1.2%	0.6%	2.9%	0.4%	1.5%	2.1%	0.2%	0.8%	1.4%	2.4%	0.4%	0.5%			0.7%	0.1%	3.3%	0.6%	0.7%	9.6%
								I											r			TU

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

D5. Could you please tell me which of the following categories includes your age?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
18 to 24	96	22	74	17	21	21	36	6	90	16	50	30	12	3	-	-	1	9	-	22	68	6
	9.6%	18.9%	8.4%	10.1%	15.8%	8.3%	8.3%	1.1%	20.4%	2.7%	19.4%	17.9%	3.3%	1.8%			0.7%	3.9%		6.3%	11.6%	8.9%
		C			FG				H		J	J						q			T	
25 to 34	113	10	103	23	14	37	40	28	85	63	35	15	43	18	-	3	14	27	5	38	72	3
	11.4%	8.7%	11.7%	13.7%	10.2%	14.2%	9.1%	5.0%	19.3%	11.1%	13.7%	8.6%	11.9%	9.4%		11.3%	13.0%	11.3%	4.2%	11.2%	12.2%	4.5%
						g			H								S	S		V	V	
35 to 44	165	9	156	32	15	28	89	56	109	106	42	17	68	36	-	5	21	36	23	69	81	15
	16.6%	8.1%	17.7%	19.2%	11.6%	11.0%	20.5%	10.1%	24.7%	18.5%	16.6%	9.9%	18.6%	19.0%		22.5%	19.9%	14.9%	20.8%	20.2%	13.7%	23.6%
			B				eF		H	L										U		u
45 to 54	141	12	128	29	15	34	63	87	54	101	21	19	69	31	-	5	15	41	29	61	75	4
	14.1%	10.7%	14.6%	17.2%	11.4%	13.0%	14.5%	15.6%	12.2%	17.8%	8.2%	10.9%	18.9%	16.5%		22.2%	14.3%	16.9%	25.3%	17.8%	12.8%	6.7%
										Kl									q	v		
55 to 64	189	30	160	23	27	52	87	142	47	132	38	19	81	49	-	3	26	60	26	75	106	8
	19.0%	25.9%	18.1%	13.7%	20.3%	20.0%	20.1%	25.7%	10.6%	23.3%	14.7%	11.3%	22.3%	25.8%		14.9%	24.3%	24.9%	23.2%	21.9%	18.0%	13.1%
								I		kL												
65 and over	275	31	244	43	38	86	108	220	55	145	65	65	90	48	-	7	29	67	27	74	180	21
	27.6%	26.9%	27.7%	25.6%	28.5%	33.2%	24.9%	39.7%	12.5%	25.5%	25.3%	38.6%	24.7%	25.6%		29.0%	27.1%	27.8%	24.2%	21.4%	30.6%	33.6%
						g		I				Jk									T	
Refused	16	1	15	1	3	1	11	15	1	6	6	4	1	3	-	-	1	1	3	4	6	6
	1.6%	0.9%	1.7%	0.5%	2.2%	0.4%	2.6%	2.8%	0.2%	1.1%	2.2%	2.7%	0.2%	1.7%			0.7%	0.3%	2.2%	1.3%	1.0%	9.6%
							F	I														TU
Mean	50.97	50.22	51.07	49.08	50.28	52.68	50.90	58.94	41.23	52.73	46.66	51.53	52.11	53.61	-	53.02	53.27	53.37	54.44	50.47	51.08	52.92
						D		I		K		K										
Standard Deviation	17.39	19.08	17.16	17.39	18.85	17.75	16.63	13.57	16.57	15.17	19.32	20.15	15.33	14.68		15.06	15.13	15.63	12.83	15.79	18.21	17.96
Standard Error	0.80	3.07	0.81	2.19	2.94	1.50	1.02	0.63	1.40	0.83	2.07	2.28	1.07	1.32		4.02	1.96	1.33	1.47	1.11	1.15	3.10

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

D6. Which of the following categories contains your annual household income from all sources in 2014 before taxes?

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Less than $20,000 per year	143	18	125	22	21	48	52	79	64	54	47	42	38	11	-	7	10	28	1	24	107	12
	14.4%	15.9%	14.2%	12.9%	15.4%	18.6%	12.1%	14.3%	14.4%	9.5%	18.4%	24.6%	10.5%	5.8%		29.2%	9.9%	11.4%	0.8%	7.0%	18.2%	18.8%
						g					j	J				S	s	S			T	
$20,000 to $49,000	225	29	196	39	34	56	95	117	108	132	54	38	77	54	-	3	26	57	22	76	131	17
	22.6%	25.3%	22.2%	22.9%	25.7%	21.7%	22.0%	21.1%	24.4%	23.2%	21.2%	22.5%	21.1%	28.7%		13.8%	24.3%	23.8%	19.9%	22.2%	22.3%	27.0%
$50,000 to $74,000	200	35	166	32	35	52	80	104	96	104	57	39	76	25	-	2	27	40	25	61	135	5
	20.1%	30.2%	18.8%	19.0%	26.4%	20.2%	18.6%	18.7%	21.9%	18.2%	22.3%	23.2%	20.8%	13.1%		8.2%	25.4%	16.6%	21.8%	17.6%	22.9%	7.5%
		c											n				p			v	V	
$75,000 to $99,000	103	7	96	16	14	24	49	54	48	76	18	9	50	23	-	1	15	32	21	43	55	5
	10.3%	5.8%	10.9%	9.2%	10.3%	9.4%	11.3%	9.8%	11.0%	13.4%	6.9%	5.1%	13.7%	12.4%		3.7%	13.8%	13.2%	18.6%	12.6%	9.3%	7.8%
										kL									p			
$100,000 or more	170	11	159	32	15	37	85	93	78	126	34	10	78	48	-	6	9	54	30	96	71	4
	17.1%	9.9%	18.1%	19.1%	11.5%	14.5%	19.7%	16.7%	17.6%	22.2%	13.3%	5.9%	21.4%	25.6%		26.7%	8.9%	22.5%	26.6%	27.8%	12.0%	6.6%
			b							KL	l					q		Q	Q	UV		
Don't know	28	4	25	3	1	13	11	19	9	9	9	10	7	2	-	2	-	7	0	6	15	7
	2.9%	3.3%	2.8%	2.0%	0.5%	5.2%	2.5%	3.5%	2.1%	1.6%	3.5%	6.0%	2.0%	1.0%		8.3%		2.7%	0.3%	1.8%	2.6%	11.4%
						E																tu
Refused	126	11	115	25	14	27	60	88	38	68	37	22	38	25	-	2	19	23	13	38	75	13
	12.6%	9.7%	13.0%	15.0%	10.2%	10.4%	13.8%	15.9%	8.6%	11.9%	14.3%	12.7%	10.5%	13.5%		10.0%	17.6%	9.7%	11.9%	11.0%	12.7%	20.8%
								I														
Mean	61485	53684	62536	63225	56320	57300	65044	61572.74	61385.85	68232.1	55854.9	45939.9	67898.91	70547.34	-	60703.4	58695.4	67074.0	78201.5	73336.1	55630.4	46524.2
							EF			KL	L							q	pQR	UV		
Standard Deviation	36564	31412	37097	37445	32901	36214	37264	36960.15	36156.82	36989.6	35446.9	30180.1	36588.61	37899.39		46457.1	30929.0	37872.8	33073.4	37541.8	34355.2	33177.6
Standard Error	1837	5668	1913	5177	5530	3407	2477	1908.08	3246.42	2192.04	4264.17	3734.39	2783.21	3707.43		14313.6	4473.79	3520.70	4042.72	2864.92	2387.33	6087.62

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

D7. Which of the following ethnicities would you say describe you? Please tell me all that apply.

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
White	867	102	765	153	125	235	355	476	391	509	221	138	324	171	-	23	94	215	102	296	524	48
	87.2%	89.1%	86.9%	90.2%	93.6%	90.7%	81.9%	86.0%	88.7%	89.4%	86.1%	81.3%	89.0%	91.0%		98.4%	88.7%	88.8%	90.3%	86.0%	89.1%	75.6%
				g	G	G				l											V	
Hispanic or Latino	51	3	49	12	-	10	29	19	32	18	16	17	15	3	-	-	4	10	2	28	19	4
	5.1%	2.2%	5.5%	7.1%		4.0%	6.7%	3.5%	7.2%	3.2%	6.2%	10.1%	4.2%	1.4%			4.2%	4.1%	1.6%	8.2%	3.3%	5.8%
									h			J	n							U		
American Indian or Alaska Native	30	5	25	2	5	6	18	17	13	16	10	4	10	4	-	-	1	7	4	6	18	5
	3.0%	4.5%	2.8%	1.0%	3.5%	2.3%	4.0%	3.1%	2.9%	2.8%	3.9%	2.4%	2.8%	2.2%			1.1%	2.9%	3.1%	1.8%	3.1%	8.6%
Asian	26	0	26	0	-	9	17	6	20	11	8	7	10	2	-	-	2	7	3	12	12	1
	2.6%	0.1%	2.9%	0.1%		3.5%	3.8%	1.1%	4.4%	2.0%	3.0%	3.9%	2.7%	0.8%			1.4%	3.0%	2.3%	3.6%	2.0%	2.1%
			B			D	D		H													
Black or African American	17	3	15	2	1	2	12	10	7	9	5	3	7	2	-	-	3	4	1	8	8	2
	1.7%	2.2%	1.7%	1.2%	0.5%	0.9%	2.8%	1.8%	1.6%	1.6%	2.1%	1.9%	2.0%	0.9%			2.5%	1.8%	0.5%	2.2%	1.3%	3.1%
							f															
Native Hawaiian or Other Pacific Islander	14	2	12	4	1	3	5	8	6	9	5	-	8	1	-	-	0	7	1	4	9	1
	1.4%	1.4%	1.4%	2.4%	0.9%	1.3%	1.2%	1.4%	1.4%	1.5%	2.0%		2.1%	0.6%			0.4%	2.8%	0.4%	1.2%	1.5%	1.0%
Other (SPECIFY)	6	0	6	-	-	3	3	2	4	6	-	-	5	1	-	-	4	1	0	3	3	-
	0.6%	0.2%	0.6%			1.2%	0.7%	0.3%	1.0%	1.0%			1.2%	0.7%			4.0%	0.5%	0.2%	0.8%	0.5%	
																	rs					
Don't know	2	-	2	1	-	-	1	1	2	2	1	-	1	1	-	-	-	-	1	1	1	-
	0.2%		0.3%	0.9%			0.2%	0.1%	0.4%	0.3%	0.2%		0.1%	0.8%					0.4%	0.4%	0.2%	
Refused	41	4	37	8	6	4	23	36	5	19	12	10	7	9	-	0	1	4	8	14	20	6
	4.1%	3.2%	4.2%	4.7%	4.6%	1.5%	5.2%	6.4%	1.2%	3.4%	4.6%	5.6%	2.0%	5.0%		1.6%	0.9%	1.6%	7.1%	4.1%	3.5%	9.9%
							F	I											qr			

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
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Lowercase letters indicate significance at the 90% level.

NEEA 2015 Consumer Lighting Survey

W0. GENDER

		RUCC		State				Respondent Type		CFL Awareness/Purchase			Date Most Recent CFL Purchase		Number of CFLs Installed					LED Awareness/Purchase		
	Total	Rural	Urban	ID	MT	OR	WA	Landline	Cell	Purch	Aware No-Purc	Not Aware	Past Yr	2+ Yrs	0	1	2-4	5-12	13+	Purch	Aware No-Purc	Not Aware
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)	(U)	(V)
Weighted Total	995	115	880	169	134	259	433	554	441	570	256	169	365	188	-	23	106	242	113	344	588	63
Unweighted Total	995	312	683	169	134	259	433	772	223	590	253	152	359	212	-	20	110	242	130	369	562	64
Male	402	37	365	54	50	103	195	201	201	253	96	53	157	90	-	13	45	109	52	172	218	12
	40.4%	32.6%	41.4%	32.0%	37.4%	39.7%	45.0%	36.2%	45.6%	44.4%	37.3%	31.6%	42.9%	47.8%		54.9%	42.0%	45.2%	45.7%	49.9%	37.1%	19.1%
							D		H	L										UV	V	
Female	593	77	516	115	84	156	238	353	240	317	161	116	208	98	-	11	62	132	61	172	370	51
	59.6%	67.4%	58.6%	68.0%	62.6%	60.3%	55.0%	63.8%	54.4%	55.6%	62.7%	68.4%	57.1%	52.2%		45.1%	58.0%	54.8%	54.3%	50.1%	62.9%	80.9%
				G				I				J									T	TU

Comparison Groups: BC/DEFG/HI/JKL/MN/OPQRS/TUV
Independent T-Test for Means, Independent Z-Test for Percentages (unpooled proportions)
Uppercase letters indicate significance at the 95% level.
Lowercase letters indicate significance at the 90% level.