PUGET SOUND ENERGY

2014-2015 Residential Retail Lighting Impact Evaluation

Contents:

- Residential Retail Lighting Program Impact Evaluation
- Evaluation Report Response

This document contains both the final Home Energy Reports Program Impact Evaluation and the Puget Sound Energy Evaluation Report Response (ERR). PSE program managers prepare an ERR upon completion of an evaluation of their program. The ERR addresses and documents pertinent adjustments in program metrics or processes subsequent to the evaluation.

memo

Date: August 26, 2015

To: Jim Perich-Anderson, JoEllen Fajardo; Puget Sound Energy

From: Amy Buege; Itron

This memo presents the results of the LED Lamp Purchase study conducted by Itron for Puget Sound Energy (PSE). The primary objective of this study was to estimate the percentage of LED bulbs sold through PSE's residential lighting discount program that are being installed in non-residential locations, and to assess the impact these non-residential installations have on the resulting program impact estimates.

High Level Findings

The key high level findings from this study were the following:

- **It is estimated that approximately 8 percent of LEDs sold at PSE program retailers stores are purchased by nonresidential customers, resulting in a 20% lift in the Hours of Use (HOU) estimate.** Specific findings are:
  - Ninety percent of LEDs being purchased by survey respondents at Do-It-Yourself (DIY) stores were projected to be installed in Residential locations (resulting in a 90/10 Residential/Nonresidential split at DIY stores).
  - Using secondary research as a proxy for the relationship between the Residential/Nonresidential split at Do-it-Yourself (DIY) stores versus Warehouse or Big Box stores[1] (where no PSE data was collected), resulted in an overall LED sales-weighted Residential/Nonresidential split estimate of 92/8. The split should be applied to all LED bulb types sold through the program.
  - Applying a 92/8 Residential/Nonresidential split to the residential and nonresidential HOU estimates resulted in a 20% lift in the overall HOU estimate over the residential-only HOU estimate.

[1] DIY stores include stores include home improvement stores such as The Home Depot, Lowe's, and McLendons, Warehouse stores include membership stores such as Sam's Club and Costco, and Big Box stores include large general purpose stores such as Walmart and Target.

Itron Consulting & Analysis
1111 Broadway
Suite 1800
Oakland, CA 94607

phone (510) 844-2800
fax (510) 844-2900

www.itron.com/consulting

memo

- **Nearly half of LED purchases are replacing another energy-efficient bulb type or will be installed in a new location.** About 45% of LED purchasers reported the LEDs they are buying would likely replace another efficient bulb type (33% CFLs and 6% LEDs) or be installed in a new socket or fixture. Fifty-five percent reported the LEDs would replace an incandescent or halogen bulb.
- **Knowledge of PSE lighting discounts is not widespread. However, the majority of those who are aware said it highly influenced their purchasing decision.** Thirty-eight percent of respondents reported they believed the LEDs they were purchasing were discounted. Fifty-two percent of these thought the discount was provided by PSE and 65% of these reported it was "very influential" on their decision to purchase LEDs in the store that day.
- **Awareness of PSE branded in-store signage is quite low** with only one-third of those surveyed reported seeing any. The majority of those who saw PSE signage reported it was for efficient lighting (92%) and had a moderate level of influence (mean of 2.8 out of 5) on their purchase decision.

Background and Objectives

During the 2014 program year PSE's residential lighting discount program incentivized more than 2.5 million LED bulbs. These LED bulbs were sold to customers via an instant point-of-sale discount provided at a number of participating retailers. Two of the key parameters in estimating the energy and demand impacts associated with the installation of high efficiency lightbulbs in place of standard efficiency lightbulbs are: 1) the average number of hours the lightbulb is in use each day (referred to as hours-of-use or HOU), and 2) the percentage of time the lightbulb is turned on during the peak time period (referred to as the Peak Coincidence Factor or Peak CF).

Not surprisingly, HOU and Peak CF estimates vary significantly between residential and nonresidential locations, with nonresidential locations often having HOU and Peak CF estimates that are more than five times greater than residential locations. As a direct result, the first-year energy savings resulting from high efficiency lightbulbs installed in nonresidential locations are also five times larger than those of high efficiency bulbs installed in residential locations. To gain a greater understanding of the savings resulting from PSE incentivized LEDs, PSE hired Itron to conduct a research study to investigate where PSE LEDs sold through the retail sales channel are being installed.

Approach

Due to the upstream nature of PSE's residential lighting discount program, customer-level sales data is not available for this program, and all program tracking data is aggregated to the retail store level. For this reason, the evaluation team proposed conducting in-store intercept surveys with customers

purchasing LEDs at participating program retail stores. In-store intercept surveys are conducted within the lighting aisle or around program lighting displays with customers who have selected lightbulbs they intend to purchase. This type of in-store surveying allows for the collection of real-time data from LED purchasers. Customers who agree to participate in the short survey are offered a $5 gift card to the retail store where the survey is being conducted which can be used by the customer at any time.

In addition to questions regarding the type of location where the LEDs are projected to be installed (residential versus nonresidential[2]), the in-store survey was also used to gather data on the following topics:

- Whether the LED would be installed in an indoor or outdoor location,
- The geographic location where the LEDs will be installed (by zip code) to indicate whether the LED was installed in PSE's electric service territory,
- The type of bulb (CFL, Incandescent, Halogen, LED) the LED will be replacing,
- Whether or not the customer knew that the LED they were purchasing was discounted, and for those who did, how influential the discount was on their decision to purchase the LED,
- Whether or not the customer saw any PSE branded signage in the retail store, and for those who did, how influential the signage was on their decision to purchase the LED,
- The customers stated color preference for PSE signage within the retail store.

In-store Data Collection Disposition Summary

In the evaluation planning phase, an initial in-store data collection plan was devised that entailed visiting 33 program retail store locations, across four program retailers (The Home Depot, Lowe's, McLendons, and CostCo) in order to conduct 200 in-store intercept surveys. These four retailers fell into the two of the three primary retailer types.[3] The proposed sample design included only Warehouse and DIY stores as they made up more than 90% of program LED sales,[4] and was created to achieve an overall 90/10 confidence/precision level on the combined residential and nonresidential impact estimate. Unfortunately, after the data collection had begun, the primary program retailer in the Warehouse

---

2 If a respondent indicates the LED is being purchased for a nonresidential location, a follow-up question is asked regarding the type of business activity occurring at this non-residential location.

3 The three primary retailer types included Do-It-Yourself (DIY) home improvement stores such as The Home Depot, Lowe's, and McLendons, Warehouse membership stores such as Sam's Club and Costco, and Big Box large general purpose stores such as Walmart and Target.

4 Based on 2015 program sales data through June 2015.

category (CostCo) refused to allow the evaluation team to conduct in-store intercepts within their retail stores and thus the store selection was altered to include only DIY program retailers and secondary research was used to approximate the Res/NonRes split in Warehouse stores. Due to the quantity of LEDs available for purchase at program retailers it was not possible during the surveys to distinguish program LEDs from nonprogram LEDs within a customer's shopping cart, and thus any customer purchasing LEDs at a program store was in included in the sample population.

Table 1 below shows the proposed versus actual in-store data collection plan stratified across the two primary program retailer types (Do-It-Yourself and Warehouse). As this table shows, although data was only collected at DIY stores and these stores accounted for nearly half of the 2015 (January – June) LED sales. In total 225 in-store intercept surveys were conducted across the three DIY retailers and thus the confidence/precision level on the Res/Nonres combined remained 90/10 but was only representative of that single retailer type.

TABLE 1: PLANNED VERSUS ACTUAL SURVEY COMPLETES BY RETAILER TYPE

Retailer Type[5]	% of 2015 LED Sales[6]	Planned Store Visits	Estimated Survey Completes	Actual Store Visits	Actual Survey Completes
DIY	47%	23	85	28	225
Warehouse	44%	10	124	0	0
Big Box	6%	0	0	0	0
Other	4%	0	0	0	0
Totals	100%	33	208	28	225

Table 2 below shows the distribution of completed in-store intercept surveys, the quantity of LED bulbs purchased by survey respondents, and percent of preliminary 2015 program LED sales (January through June) across the three program retailer where intercepts were conducted. As this table shows, Lowe's survey completes were slightly overrepresented and The Home Depot survey completes were slightly underrepresented when compared to preliminary 2015 LED sales and thus some of the survey analyses (where appropriate) have been retailer weighted to adjust the responses to be representative of the 2015 program sales.[7]

---

5 DIY stores include stores include home improvement stores such as The Home Depot, Lowe's, and McLendons, Warehouse stores include membership stores such as Sam's Club and Costco, and Big Box stores include large general purpose stores such as Walmart and Target.

6 Based on 2015 program sales data through June 2015.

7 Retailer weighted results are indicated in the tables below as "Total Retailer Weighted".

The average number of LEDs purchased per respondent ranged from a low of 2.1 LEDs per respondent at McLendons to a high of 3.3 and 3.4 LEDs per respondent at Lowe's and The Home Depot, respectively.

TABLE 2: COMPLETED INTERCEPTS BY PROGRAM RETAILER

Program Retailer	Completed Surveys	% Surveys	LED Purchased	% LEDs	% of 2015 LED Sales[8]
The Home Depot	134	60%	455	62%	80%
Lowe's	75	33%	246	33%	15%
McLendons	16	7%	34	5%	5%
Total	225	100%	735	100%	100%

Table 3 below shows the distribution of completed in-store intercept surveys, as well as LED bulbs purchased by survey respondents, by city where the retail stores were located. Stores were selected by C+C in order to get a good distribution of stores across PSE electric service territory.[9]

TABLE 3: COMPLETED INTERCEPTS BY CITY

City	Completed Surveys	% Surveys	LEDs Purchased	% LEDs
Bellevue	43	19%	96	13%
Bellingham	15	7%	37	5%
Bothell	12	5%	46	6%
Burlington	6	3%	11	1%
Covington	17	8%	74	10%
Lacey	18	8%	56	8%
Mt Vernon	21	9%	79	11%
Olympia	8	4%	26	4%
Puyallup	29	13%	117	16%
Redmond	28	12%	132	18%
Renton	7	3%	15	2%
Silverdale	13	6%	28	4%
Woodinville	8	4%	18	2%
Total	225	100%	735	100%

Table 4 below shows the distribution of LED bulb types purchased by in-store intercept respondents. As this table shows A-lamp LEDs made up nearly half of the bulbs purchased by survey respondents, followed by LED Reflectors and Globes.

8 Based on 2015 program sales data through June 2015.

9 Survey results have not been weighted by geographic proximity to PSE electric service territory boundaries.

TABLE 4: DISTRIBUTION OF LED BULB TYPES PURCHASED BY PROGRAM RETAILER[10]

LED Type	The Home Depot	Lowe's	McLendons	Total
A-lamp	47%	40%	75%	47%
Reflector	26%	28%	19%	26%
Globe	17%	20%	0%	17%
Candelabra	10%	9%	0%	9%
Fixture	6%	12%	6%	8%
MR16	5%	3%	0%	4%

Residential versus Nonresidential LED Installations

The primary objective of this evaluation effort was to determine the percentage of LEDs installed within Residential and Nonresidential locations. In order to answer this question all shoppers surveyed were asked where they intended to install the LEDs they were purchasing that day (their home, their business, or a combination of both places). Respondents who indicated they would likely installed the LEDs in both home and business locations were asked a follow up question to estimate what percentage of the LEDs they were purchasing were expected to go into their business. Based on the responses to these two questions a Res/Nonres split was estimated for each of the program retailers where the intercepts were conducted. As shown in Table 5 below, 90% (retailer weighted) of the LEDs being purchased by survey respondents were projected to be installed in Residential locations. The rate was highest at The Home Depot and lowest at Lowe's.

TABLE 5: RESIDENTIAL VERSUS NONRESIDENTIAL BULB INSTALLATION

Program Retailer	LEDs Purchased	Residential LED Installations	Res/NonRes Split
The Home Depot	455	416	91%
Lowe's	246	210	85%
McLendons	34	30	88%
Total Retailer Weighted			90%

The evaluation team also reviewed the data to determine if the Res/Nonres split varied by the type of LED being purchased. As shown in Table 6 below, the Res/Nonres split for all of the bulb types, except Candelabra and MR16 bulbs which had fairly small sample sizes (20 and 9, respectively), were very close to the overall 90/10 Res/Nonres estimate. This finding indicates that based on the research conducted it is appropriate to apply the 90/10 Res/Nonres split to all program bulb types.

[10] Column sum to more than 100% since some customers purchased more than one type of LEDs.

TABLE 6: RESIDENTIAL VERSUS NONRESIDENTIAL BULB INSTALLATION BY BULB TYPE

LED Type	Completed Surveys	Residential LED Installations	Nonresidential LED Installations	Res/NonRes Split
A-lamp	101	333	41	89%
Reflector	59	218	23	90%
Globe	37	116	11	91%
Candelabra	20	75	5	94%
Fixture	18	46	6	88%
MR16	9	19		100%

In the absence of intercept survey data from the other primary program retailer type (warehouse stores), secondary data was used as a proxy to determine how the Res/Nonres split varied between DIY, Big Box, and Warehouse stores in other service territories. The secondary data came from a series of three large in-store intercept surveying efforts (~800 intercept surveys per evaluation year (PY5-PY7), for a total of ~2400 surveys across the 3 program years) conducted between 2012 and 2014 for Commonwealth Edison (the largest electric utility in Illinois) at Warehouse, DIY and Big Box retailers. The analysis of the three years of Res/Nonres split analysis found that year after year a consistent relationship existed between the retailer type (Big Box, DIY, and Warehouse) and the Res/NonRes split. While in all years the Res/Nonres splits for each retailer type were close to one another, each year the DIY retailers had the lowest percentage of bulbs being installed in residential locations (3-year average of 93/7), Big Box stores had the highest percentage of bulbs being installed in residential locations (3-year average of 99/1), and Warehouse stores fell in-between (3-year average of 95/5). The Res/Nonres split lifts over the DIY estimate was 3% for Warehouse stores and 6% for Big Box stores. Applying these lifts to the PSE DIY Res/Nonres split estimate derived from the in-store intercept surveys, and weighting by the 2015 (January – June) LEDs sales distribution, results in an adjusted Res/NonRes split of 92%. This derivation of this estimate is shown in Table 7 below.

TABLE 7: OVERALL HOU ESTIMATE

Retailer Type	2015 LED Sales Distribution[11]	Res/Nonres Split lift	Res/Nonres Split
DIY	47%		90%
Warehouse	44%	3%	93%
Big Box	6%	6%	96%
Weighted Average			92%

An overall residential HOU estimate was calculated by weighting the LED bulb type HOU estimates provided to the evaluation team from PSE by the percentage of each LED type sold in 2015 (January – June). Table 8 below shows the resulting overall residential HOU weighted average estimate of 2.27.

TABLE 8: RESIDENTIAL HOU ESTIMATE

LED Bulb Type	2015 Sales	% 2015 Sales[12]	Residential HOU
A-lamp	427,448	50%	2.23
Reflector	237,255	28%	2.54
Globe	21,172	2%	1.58
Candelabra	39,723	5%	1.75
Indoor Fixture	22,262	3%	1.71
Outdoor Fixture	13,051	2%	3.80
MR16	3,578	0%	2.54
Retrofit LED Kit	94,460	11%	2.10
Weighted Average	858,949	100%	2.27

An overall nonresidential HOU estimate was calculated by applying the nonresidential business type HOU estimates provided to the evaluation team from PSE, by the percentage of LED reportedly installed in those types of businesses based on data collected during the in-store intercept surveys. Table 9 below shows the resulting overall nonresidential HOU weighted average estimate of 8.0.

[11] Columns do not add to 100% since 4% of the 2015 LED sales were sold through other retailer types that were not included in this table.

[12] Percentages appear to sum to more than 100% due to rounding.

TABLE 9: NONRESIDENTIAL HOU ESTIMATE

Nonresidential Business Type	Survey Completes	LED Sales	% LED Sales[13]	Nonresidential HOU
Church/Assembly	2	3	4%	5.2
Contractor	3	7	9%	6.4
Multi-Family Common Area	1	2	3%	12.0
Office	9	38	48%	8.5
Other	2	7	9%	6.4
Other Health (i.e. doctor's office)	2	3	4%	12.5
Retail	2	5	6%	9.4
Warehouse	2	7	9%	6.8
blank	2	7	9%	6.4
Weighted Average	25	79	100%	8.0

Applying the Res/Nonres split to these residential and nonresidential HOU estimates results in an overall HOU estimate of 2.74, a 20% lift over the residential HOU estimate.

TABLE 10: OVERALL HOU ESTIMATE

Business Type	Res/Nonres Split	HOU Estimate
Residential	91.8%	2.27
Nonresidential	8.2%	8.0
Res/Nonres Weighted		2.74

One concern of the evaluation team was that the population of customers surveyed could be subject to self-selection bias if survey refusals were weighted more towards residential or nonresidential purchasers. In an attempt to control for this, the evaluation team requested the interviewers to ask shoppers who refused to participate in the in-store survey if they would mind simply reporting where they intended to install the LEDs (residential or nonresidential location). In total, 18% of those approached in the stores refused to take the survey and 82% of those who refused indicated they intended to install the LEDs they were purchasing in a residential location. These results make the evaluation team confident that self-selection bias is not likely leading to a significant change in the Res/Nonres split.

[13] Percentages appear to sum to more than 100% due to rounding.

Indoor versus Outdoor LED Installations

All survey respondents were asked whether they would likely install the LEDs they were purchasing in an indoor or outdoor location. Table 11 below shows the distribution of survey respondents projected LED installation location (indoor, outdoor, both, don't know). Excluding the six "Don't Know" responses and applying a 50/50 split to the LEDs purchased by those responding "Both" yielded a net indoor installation rate of 84%.

TABLE 11: INDOOR VERSUS OUTDOOR BULB INSTALLATION

Installation Location	Completed Surveys	LEDs Purchased	% LEDs Purchased
Indoor	177	553	75%
Outdoor	29	66	9%
Both	13	97	13%
Don't Know	6	19	3%
Net Indoor Installations	190	601.5	84%

Bulbs Being Replaced by LEDs

All respondents surveyed were asked to report the primary bulb type the LEDs they were purchasing would replace. Table 12 below shows the distribution of bulb types projected to be replaced by the LEDs purchased. As one might suspect, the majority of respondents surveyed reported the LEDs they were purchasing were likely to replace an incandescent bulb (53% retailer weighted), followed by replacement of a CFL (33%), LED (6%) and Halogen (2%) bulb type. Respondents reported that five percent of LEDs being purchased would likely be installed in a new socket or fixture (including those being installed in new construction).

TABLE 12: BULB TYPE BEING REPLACED BY LED BULB

Bulb Type Being Replaced by LED	The Home Depot		Lowe's		McLendons		Total Retailer Weighted
	LEDs	%	LEDs	%	LEDs	%	%[14]
Incandescent	252	57%	94	39%	9	26%	53%
CFL	129	29%	110	46%	18	53%	33%
LED	22	5%	23	10%	1	3%	6%
None[15]	24	5%	6	3%	1	3%	5%
Halogen	13	3%	2	1%		0%	2%
Don't Know	5	1%	3	1%	5	15%	2%

Awareness of LED Discount

All surveyed customers were asked if they knew if any of the LEDs they were purchasing that day were discounted or on sale. Table 13 below shows the percentage of survey respondents who reported awareness that the LEDs being purchased were discounted. As this table shows, overall retailer weighted discount awareness was 38%. Awareness was highest at Lowe's (65%) and lowest at McLendons (25%, but a very small sample size).

TABLE 13: LED DISCOUNT AWARENESS

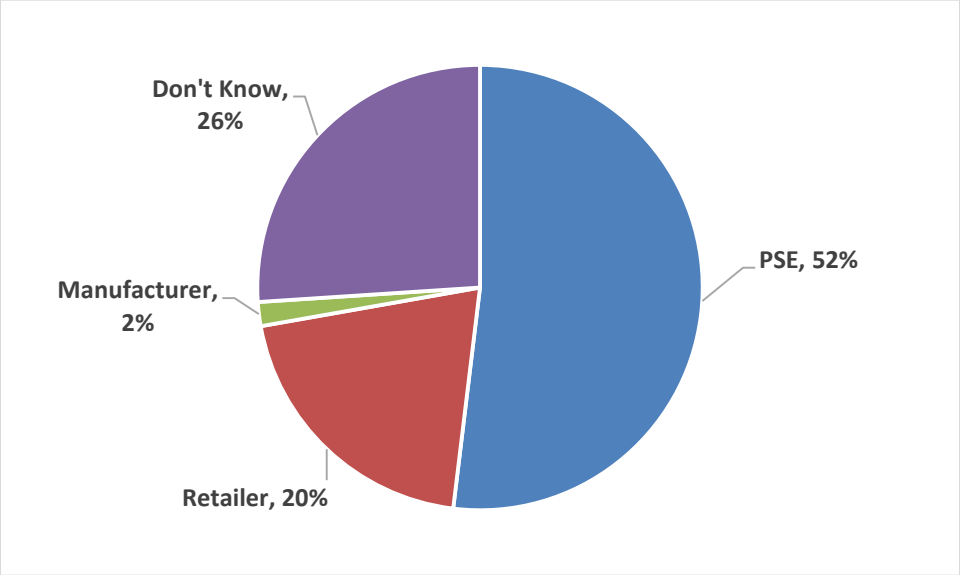
Program Retailer	Aware of LED Discount	Survey Completes	% Aware
The Home Depot	46	134	34%
Lowe's	49	75	65%
McLendons	4	16	25%
Total Retailer Weighted			38%

Survey respondents who reported being aware that the LEDs they were purchasing were discounted (n=99) were asked a follow up question regarding who they believed provided the LED discount. As shown in Figure 1 below, across all three retailers, 52% (retailer weighted) believed it was provided by PSE, 20% believed it was provided by the retailer, 2% believed it was provided by the manufacturer and 26% were unsure who provided the LED discount.

[14] Percentages sum to more than 100% due to rounding.

[15] New socket, fixture or construction.

FIGURE 1: SURVEY RESPONDENT REPORTED SOURCE OF LED DISCOUNT



These same respondents were also asked on a scale of 1 to 5, where 1 was “Not at all Influential” and 5 was “Very Influential”, how influential the discount was on their decision to purchase LEDs in the store that day. Sixty-five percent of respondents reported the discount was "very influential" and the overall mean retailer weighted LED discount influence score was 4.1 out of 5.

Survey respondents who reported that they believed PSE has provided the LED discount were asked how they first found out about PSE’s discounts on LEDs. As Table 14 below shows, the overwhelming majority of respondents (59%) indicated they learned of the PSE LED discounts based on a PSE sticker on the retail store shelf.

TABLE 14: ORIGINAL SOURCE OF AWARENESS OF PSE LED DISCOUNTS

Source of PSE LED Discount Awareness	Respondents	% Respondents
PSE sticker on the shelf	16	59%
Read about it in my PSE bill	3	11%
Saw PSE marketing materials in the store	3	11%
Store employee made me aware	1	4%
Discount was advertised in newspaper/TV/radio	1	4%
Don't Know	3	11%

Awareness of PSE Signage in Program Retailer

Table 15 below shows the percentage of survey respondents who reported seeing PSE branded signage while in the store on their current shopping trip. As this table shows, overall awareness of PSE branded signage was 33% (retailer sales weighted). Awareness was highest at Lowe's (41%) and lowest at McLendons (19%).

TABLE 15: SAW PSE IN-STORE SIGNAGE BY RETAILER

Program Retailer	Saw PSE Signage in Store	Survey Completes	% Completes
The Home Depot	43	134	32%
Lowe's	31	75	41%
McLendons	3	16	19%
Total Retailer Weighted			33%

Ninety-two percent of those who reported seeing PSE branded signage in the store reported that the signage they saw was for Efficient Lighting. One respondent reported seeing PSE signage for Efficient Refrigerators and one reported seeing signage for Efficient Clothes Washers. Four customers reported seeing PSE signage but were unsure which efficient product the signage was referencing.

TABLE 16: TYPE OF PSE SIGNAGE SEEN

PSE Signage Seen	Saw PSE Signage in Store	% Survey Completes
Efficient Lighting	72	92%
Energy Star Refrigerators	1	1%
Efficient Clothes Washers	1	1%
Don't Know	4	5%

Survey respondents who reported seeing PSE branded signage in the store were asked, on a scale of 1 to 5, where 1 was "Not at all Influential" and 5 was "Very Influential", how influential the PSE signage was on their decision to purchase LEDs in the store that day. Nearly identical numbers of customers rated it "Very Influential" (21%) and "Not at all Influential" (24%). The average reported PSE branded signage influence level was 2.8.

Color Preference

During the in-store intercepts interviewers held up a color palette, with the five colors shown below, next to the retailer lighting shelf and asked each survey respondent which color they believed would stand out the most for PSE branded signage within the store where they were shopping.

Table 17 below shows the distribution of survey respondents color selections by retailer and overall across all three retailers. Overall, Color 5 was selected as the most visible (34%) followed closely by Color 1 (31%).

TABLE 17: COLOR PREFERENCE

Color Preference	The Home Depot		Lowe's		McLendons		Total
	LED	%	LED	%	LED	%	%
COLOR 1	38	29%	25	34%	9	56%	31%
COLOR 2	7	5%	9	12%	1	6%	6%
COLOR 3	19	15%	12	16%	2	13%	15%
COLOR 4	17	13%	12	16%	1	6%	13%
COLOR 5	48	37%	15	21%	3	19%	34%
NONE OF THESE	1	1%		0%		0%	1%

Research Proposal

Attached is first section of the research proposal submitted by Itron to PSE for the LED Lamp Purchase Study. This proposal provides further detail about the retail store sample design and in-store data collection.

memo

Microsoft Word 97
- 2003 Document

Evaluation Report Response

Program: Residential Retail Lighting

Program Manager: Sean Abadilla

Study Report Name: PSE Research memo_2015_08_11

Report Date: August, 2015

Evaluation Analyst: Jim Perich-Anderson

Date ERR Provided to Program Manager: 8/26/2015

Date of Program Manager Response: 8/27/2015

Please describe in detail, action plans to address the evaluation study's key findings and recommendations.

Overview: In response to the 2012-2013 BECAR finding for the allowed percentage of retail sales associated with nonresidential lighting applications, PSE conducted intercept surveys at participating PSE retail lighting stores at the end of 2014 through the beginning of 2015. The findings impact the following store categories: DIY stores such as The Home Depot, Lowe's and McLendon's, warehouse stores such as Sam's Club and Costco, and big box stores such as Wal-Mart and Target. Based on PSE's annual 2014 program sales data these stores account for 85% of all PSE program sales. As a result of these, surveys it was found that 8% of purchases are made for nonresidential lighting applications, while the other 92% is for residential lighting applications.

Action Plan: Based on the results in the evaluation report, program management will adopt the key findings as assumptions that will feed into the overall savings calculation for the residential retail lighting program.

Date of Program Action: Residential Retail Lighting program management has approved of the findings in the research and will update the savings calculations and assumptions accordingly. The findings in the research will be used for our unit energy savings for 2016.