The Market for CFLs in Connecticut

Final Report

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Connecticut Light & Power

The United Illuminating Company

By

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Contents

Tables

Figures

Executive Summary

This report presents the results of research conducted to capture the current market conditions and possible new program approaches for common and specialty CFLs in Connecticut. Some of the research activities were conducted in conjunction with a broader multistate CFL modeling effort. The results of this modeling effort, including the net-to-gross (NTG) ratio for Connecticut lighting programs are presented in a separate report.

Background and Methodology

This report integrates data and findings from a variety of evaluation activities, including the following:

- Two telephone surveys conducted with Connecticut residents, including:
    - A random digit dial (RDD) survey of 500 general population customers
    - A survey of 17 participants in an in-store intercept survey conducted in July 2008 for the Energy Conservation Management Board (ECMB), Connecticut Light and Power (CL&P), and the United Illuminating Company (UI)
- On-site surveys at the homes of 95 customers who participated in the general survey of customers

The RDD and on-site survey data were weighted to reflect the population proportions for home ownership and education from the American Community Survey (ACS). NMR observed notable differences in reported CFL usage, storage and purchases between the RDD and on-site surveys. As a result of these differences, NMR determined that the weighted on-site observed data provide more credible and reliable estimates of CFL counts.

Summary of Findings

Awareness, familiarity, purchases, and usage

- More than three out of four Connecticut households are aware of CFLs (86%) and more than two out of three (67%) households reported being at least somewhat familiar with CFLs. Among RDD survey respondents who have used a CFL, seven out of ten (70%) first used one within the past three years.
- There are a significant number of households (34%) who are either unaware of or unfamiliar with CFLs (20%) or who are aware of CFLs but have never used one (14%).
- CFL usage has been steadily increasing since January 2008. However, CFL storage and CFL purchases have also been steadily decreasing over the same time period, indicating that demand for new CFLs has been decreasing.

- Purchases of incandescent bulbs have also been declining since January 2008. However, in reaction to Federal Lighting Standards going into effect in 2012, more than one in three respondents said they would be likely to buy extra incandescent bulbs before 2012, which may lead to an increase in incandescent sales as 2012 approaches.
- Home improvement (57%) and mass merchandise (32%) stores continue to be the primary source of CFLs, followed by grocery stores (19%). Home Depot and Wal-Mart were the most frequently-mentioned specific stores names where CFLs were purchased in 2008.
- Home improvement (66%), mass merchandise (51%) and grocery stores (41%) are also the primary source of incandescent bulb purchases.
- The majority of CFLs (63%) identified during the on-site visits were program supported CFLs. Based on the model numbers collected during the on-sites, program records and the ENERGY STAR qualified CFL list, NMR estimates that 79% of all on-site CFLs were ENERGY STAR qualified CFLs; and 79% of these ENERGY STAR qualified CFLs were program supported CFLs.

Motivations, barriers, and satisfaction

- CFL users are primarily motivated to install CFLs in their homes to save energy or save money and said that they install CFLs when they want to replace bulbs that are burned out or broken.
- Incandescent purchasers most frequently mentioned the higher cost of CFLs and that CFLs did not fit fixtures as specific reasons for purchasing incandescent bulbs instead of CFLs.
- CFL users appear to be reluctant to replace incandescent bulbs with CFLs before the incandescent bulbs have burned out. This indicates that while CFL users understand that CFLs are more efficient than incandescent bulbs, they are adverse to "wasting" or throwing away incandescent bulbs before they have reached the end of their useful life.
- CFL users reported high levels of satisfaction with both standard and specialty CFLs. Those who expressed dissatisfaction with standard CFLs said they were dissatisfied because of the delay in coming on, because of the cost of CFLs or because CFLs did not fit the fixture.

Disposal of CFLs

- Less than one out of three (29%) CFL users have disposed of a CFL in the past 12 months and slightly less than one-half (45%) reported ever having removed a CFL. This is supported by the fact nearly three out of four (70%) CFL users first used a CFL in the past three years. It is likely that there will be an increase in CFL disposal in the next two to four years with a similar increase in the need for CFL recycling and education.

- Three-fifths of those CFL users who have disposed of a CFL in the past 12 months said that they threw them away in the trash and only slightly over one-fourth gave them for recycling or proper disposal.

Socket Saturations and Potential for CFLs

- Overall, NMR estimates that slightly fewer than one in four sockets in Connecticut (23%) contain a CFL.
- There are an estimated 43 million sockets in Connecticut that do not currently have a CFL or an LED installed in them. Of these sockets, the vast majority (40.7 million) are screw-based (small or medium) and three-fifths (60%) contain standard (A-shaped) incandescent bulbs.
- Less than one in three sockets (29%) contain a specialty bulb of any type and less than one in ten (4%) contains a specialty CFL.[1]
- Sockets containing a standard incandescent bulb (25.8 million), a flood shaped bulb (7.6 million) or a candelabra bulb (5.9 million) account for more than nine-tenths of the remaining potential for CFLs or LEDs.
- The potential for dimmable (0.9 million) and three-way (0.7 million) CFLs is less than one-tenth (4%) of remaining potential.
- CFLs have made the greatest inroads replacing incandescent bulbs with wattages ranging from 65 to 75 watts and 100 watts. In these categories, CFLs represent about two-fifths (37%) and one-third (31%) of bulbs. CFLs account for slightly less than one-quarter of all other sockets.
- Bedrooms and bathrooms have the most CFLs installed but they continue to offer the largest absolute potential for CFLs. As a percentage of sockets, dining rooms (90%), foyers (86%), exterior areas (85%), and bathrooms (81%) offer the greatest potential for CFLs in Connecticut

Recommendations

Overall, a substantial majority Connecticut residents are aware of CFLs (86%) and are familiar with them (67%). Although household penetration of CFLs in Connecticut is 62%, the socket saturation is substantially less, at 23%. This indicates that substantial opportunity remains for penetration of households that do not have any CFLs, as well as increasing use of CFLs by households that currently are using only a few CFLs. The total remaining available potential for CFLs or LEDs in Connecticut homes is 70% of all sockets. Although market transformation goals are likely to be achieved when the EISA standards go into effect, there still are several

[1] Specialty bulbs include: dimmable, three-way, flood shaped, candelabra shaped, globe shaped, bullet shaped, bug lights of any bulb type and A-shaped CFLs.

years of possible savings before EISA takes full effect and before inefficient bulbs disappear from the market. Over this interval, achieving energy savings will continue to be of critical and timely importance to the societal imperative of mitigating climate change impacts. Additionally, any hiatus in or diminution of program effort now is likely to weaken market momentum built for promoting increased sales of CFLs. Indeed, according to Department of Commerce data, national CFL shipments, from their 2007 peak, were down slightly in 2008, and appear to down by nearly half in 2009. This is a very rapidly changing market—first with a rapid increase in sales in 2007, and then a rapid drop off in 2009. In this context, it is important to resist any feelings of complacency about the state of the CFL market and it is important to enhance current programs to promote greater adoption of CFLs. Moreover, it is not a safe assumption that the market share of CFLs is secure. There even are some rumblings about overturning EISA, so perhaps not even the inefficient bulb phase out should be taken for granted.

Capturing a larger share of the remaining opportunity for CFLs will likely necessitate that the Connecticut CFL programs engage in a multi-pronged effort that includes changes to the way they have approached the market.

Changes to their upstream approach could include such things as incentivizing stores to increase sales or market share of CFLs over previous years, as Wisconsin Focus on Energy is planning to do, as opposed to providing per bulb incentives. The programs can also seek to target other retail outlets such as additional grocery stores, drug stores, dollar stores, and ethnic markets.

Changes to downstream marketing should be based on taking a segmented approach to the market. This could include direct installations of CFLs in low-income households and promotions to motivate early replacement (prior to burn out) of incandescent bulbs. Promotional messages should emphasize the monetary savings opportunity and the energy savings potential. One possible approach could be to offer a retail incentive whereby consumers are given a CFL rebate for each incandescent bulb they bring into the store; the rebate amount may be higher if the bulb is still usable and lower if it is burnt out.

Both approaches could be supported by increased advertising and outreach to help consumers make the connection between CFLs and savings that will yield benefits to them as individuals; as well as helping them make the connection between CFLs and the environment that will yield benefits to the community. This is essentially social marketing and the goal, ultimately, is to motivate consumers take action and change behaviors, not only from limited self-interest, but also in the interests of the broader society.

Because the market is changing so fast, we also recommend continued monitoring, allowing for the possibility of fairly rapid changes in program approaches.

1 Background and Objectives

This report presents the findings of research conducted to understand the current market conditions and possible new program approaches for common and specialty CFLs in Connecticut. The report integrates the findings of research conducted by Nexus Market Research (NMR), KEMA, and SRBI in July and August of 2009. The research included: a survey of Connecticut households, on-site saturation surveys and a survey with respondents to an in-store intercept survey conducted by NMR in July 2008. The survey of Connecticut households and the on-site saturation surveys were conducted in conjunction with a broader multistate CFL modeling effort, the results of which, including the estimated net-to-gross (NTG) ratio for Connecticut lighting programs, will be presented in a separate report.

1.1 Methodology

This report drew upon three data sources: a random-digit dial survey (RDD) survey among 500 households in Connecticut, conducted by computer-assisted telephone interviewing (CATI), followed by 95 on-site visits to households recruited through the telephone survey; and 17 telephone surveys completed with the 2008 in-store intercept survey participants.

1.1.1 Customer Telephone Surveys

NMR conducted two separate surveys of Connecticut residents:

- 500 interviews with the general population of customers
- 17 interviews with participants in the 2008 in-store intercept survey

Both telephone surveys were conducted by our subcontractor, SRBI Inc., between July, and September of 2009. Both surveys asked respondents about:

- Current usage of CFLs (standard and specialty)
- Past usage of CFLs
- Current and past storage of CFLs
- Satisfaction with CFLs (standard and specialty)
- Disposal of CFLs
- Past purchases of incandescent bulbs
- Past purchases of CFLs (standard and specialty)
- Future purchasing decisions
- Knowledge of LED and other energy saving lighting technologies
- Reaction to federal lighting standards
- Demographic information

1.1.2 On-site Visits

Recruitment

After completing the telephone survey, the RDD survey respondents were offered a $150 incentive to participate in on an on-site visit to their homes. Out of the 500 respondents, 172 expressed interest in participating in the on-site portion of the study. NMR was able to complete on-site visits with 95 of these respondents.

On-Site Visit Data Collection

Evidence from previous studies has shown that respondents' self-reported information on the numbers of CFLs purchased or installed in their homes is often inaccurate and can benefit from calibration based on on-site home surveys by professionals.[2] In self-reporting of recent CFL purchases, respondents can have a tendency to overestimate, perhaps reflecting a social desirability bias.[3] Therefore, in addition to the telephone survey, the on-site saturation survey was used to validate the reliability of self-reported data from the telephone survey.

The on-site data collection instrument was designed to collect detailed information on each socket in the home. This information included:

- Bulb type
- Wattage
- Application
- Socket type
- Room location
- Specialty features

For CFLs, the model numbers of installed CFLs were also collected and respondents were asked the time of year and store where they purchased each CFL.

Table 1-1 shows the final sample sizes and the associated error margin at the 90% confidence level for each of the samples in the study.

1.1.3 Sampling Error

Table 1-1: Sample Size and Sampling Error

	Population	Sample Size	Sampling Error at 90% Confidence Interval
RDD	1,323,431	500	±3.7%
On-site Visits	1,323,431	95	±8.4%
HD Intercepts	102	17	±18.3%

[2] NMR and RLW (2004) *Impact Evaluation of the Massachusetts, Rhode Island, and Vermont 2003 Residential Lighting Programs.* October 1, 2004.
[3] NMR and RLW (2009) *Residential Lighting Markdown Impact Evaluation: Final*. January 20, 2009.

1.1.4 Data Weighting

The RDD survey data were weighted to reflect the population proportions for home ownership and education from the American Community Survey (ACS).

In light of the probable self-selection bias in favor of survey respondents who are likely to be more aware of CFLs, we evaluated weighting the on-site data based on CFL awareness and familiarity in the population-weighted RDD sample. The premise of this approach was that there exist substantial differences between the on-site sample and the population-weighted RDD sample on CFL awareness and familiarity. However, our analysis revealed these differences to be relatively small and statistically not significant (Table 1-2). Accordingly, we weighted the on-site data to reflect the population using weight factors based on census data for Connecticut on home ownership and education.

Table 1-2: Awareness of CFLs
(Base: All respondents)

Awareness	**RDD Survey** (weighted)	**On-sites** (weighted)
Sample Size	*500*	*95*
Aware of CFLs	86	92%
Familiarity	**RDD Survey**	**Survey of Intercepts**
Sample Size	*500*	*17*
Very familiar	34%	37%
Not at all familiar	4%	4%

Although this report will rely upon the weighted on-site data as the most reliable lighting count estimates, purely for informational purposes, the tables will also show the weighted RDD data, the unweighted RDD data for on-site participants, and the unweighted observed data from the on-sites.

Note also that the multi-state modeling analysis for all the states revealed substantial differences between the on-site samples and the population-weighted RDD samples on CFL awareness and familiarity. Accordingly, the weight factors for the multi-state modeling were based on CFL awareness and familiarity. Notwithstanding the different weight factors applied to the multi-state modeling data versus the data in this report, the two approaches produce negligible differences in the CFL counts for Connecticut.

1.2 Differences between the RDD and On-site Surveys

NMR observed other notable differences between the RDD and on-site surveys in reported CFL usage, storage and purchases. As a result of these differences, NMR determined that the weighted on-site observed data would provide more credible and reliable estimates of CFL counts. Below is a detailed discussion of these differences between the two samples.

1.2.1 Current Usage of CFLs

A comparison of the unweighted RDD survey self-reported current usage of CFLs and the unweighted on-site observed usage of CFLs revealed that, with the exception of a few outliers, the on-site participants were able to fairly accurately estimate the number of CFLs currently installed in their homes. Accordingly, the scatter plot shown in Figure 1-1 exhibits a reasonable correspondence between the two surveys on counts of all CFLs installed in the home. On average, on-site participants self-reported (11.0) slightly fewer CFLs than were observed during the on-site visits (12.1).

However, the on-site participants substantially overreported their current usage of specialty CFLs. Accordingly, the scatter plot shown in Figure 1-4 exhibits a substantial lack of correspondence between the two surveys on counts of specialty CFLs installed in the home. The actual mean number of specialty CFLs used in on-site participant households (2.5) was less than one-half of that self-reported (5.7) by the same respondents in the RDD survey (Figure 1-2).

Note that in the RDD survey analysis, the counts for standard CFLs were derived by subtracting the sum of the self-reported counts for the different specialty CFL types from the self-reported counts of all CFLs. Thus, as a result of the substantial difference between the RDD and on-site surveys on counts of specialty CFLs, we obtain a similarly substantial difference between the two surveys on the counts of standard CFLs (Figure 1-2 and Figure 1-3).

Figure 1-1: RDD Reported CFLs Installed by On-site Observed CFLs Installed

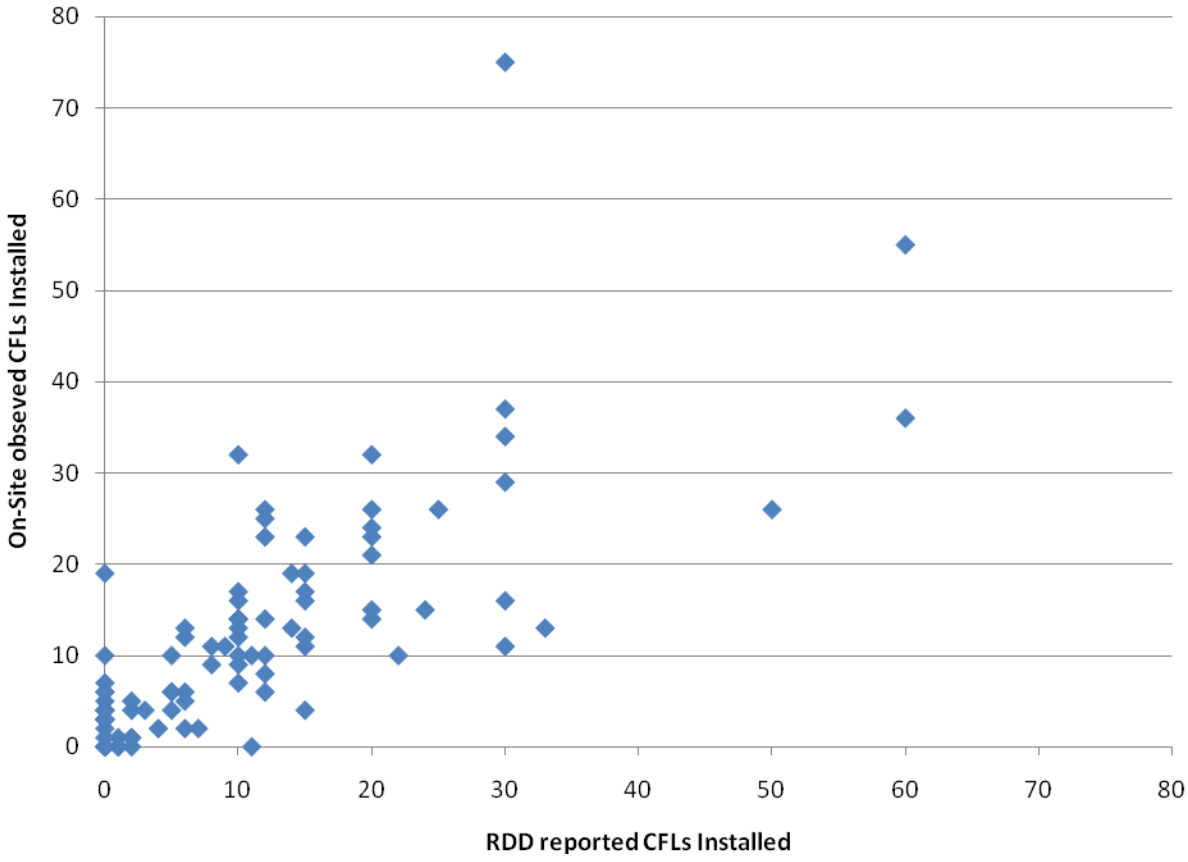


Figure 1-2: Mean CFL Usage
(Base: All on-site participants)

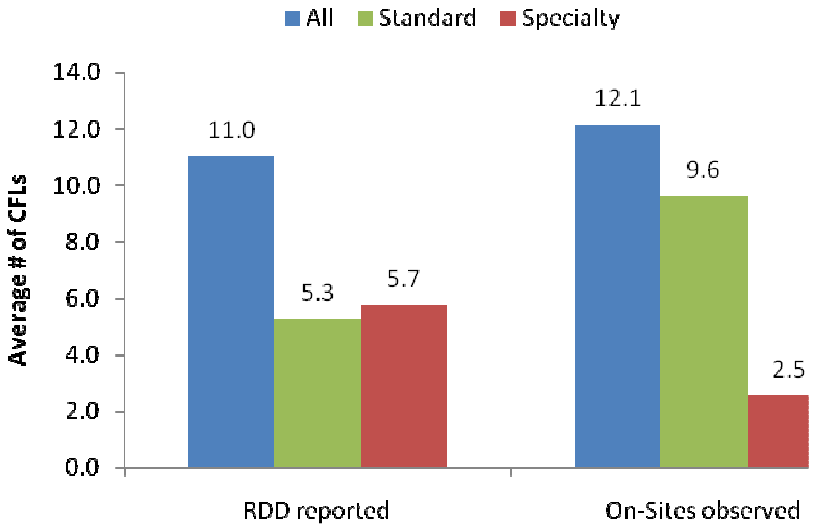


Figure 1-3: RDD Reported Standard CFLs Installed by On-site Observed Standard CFLs Installed

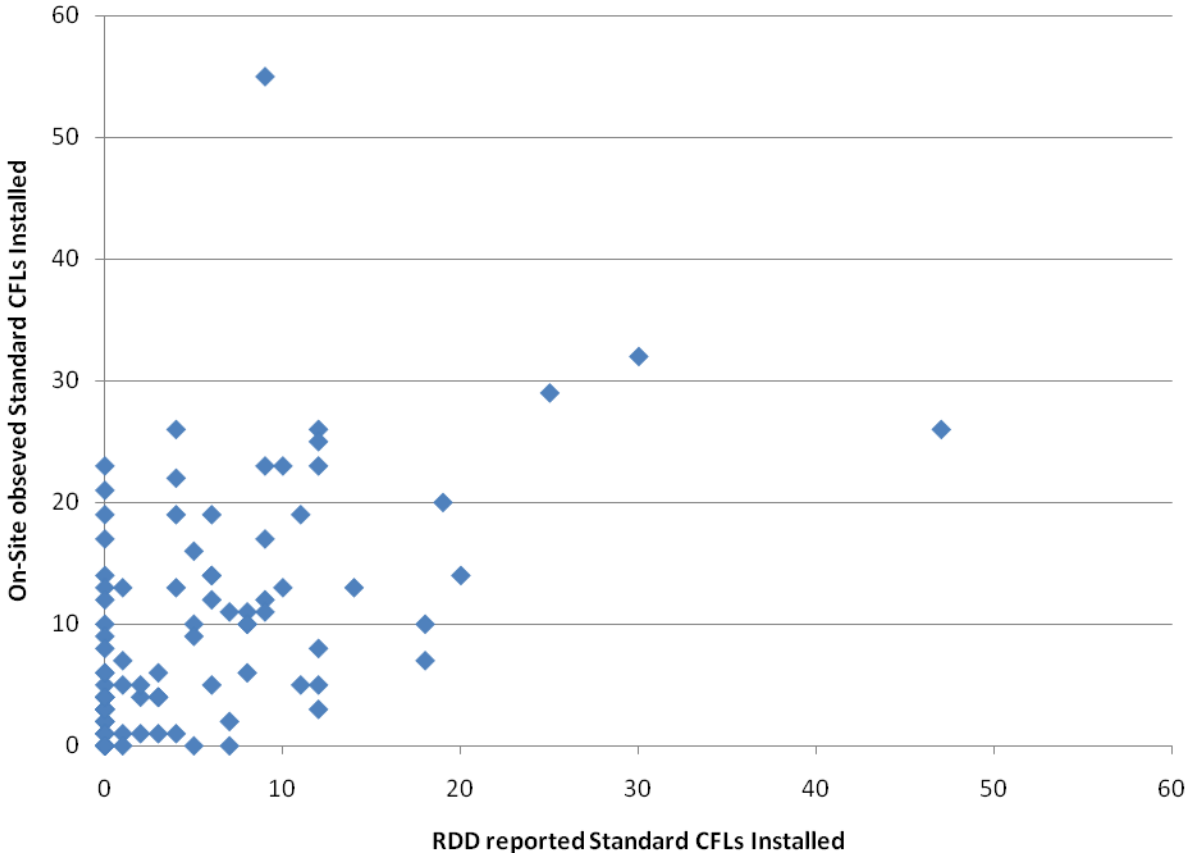
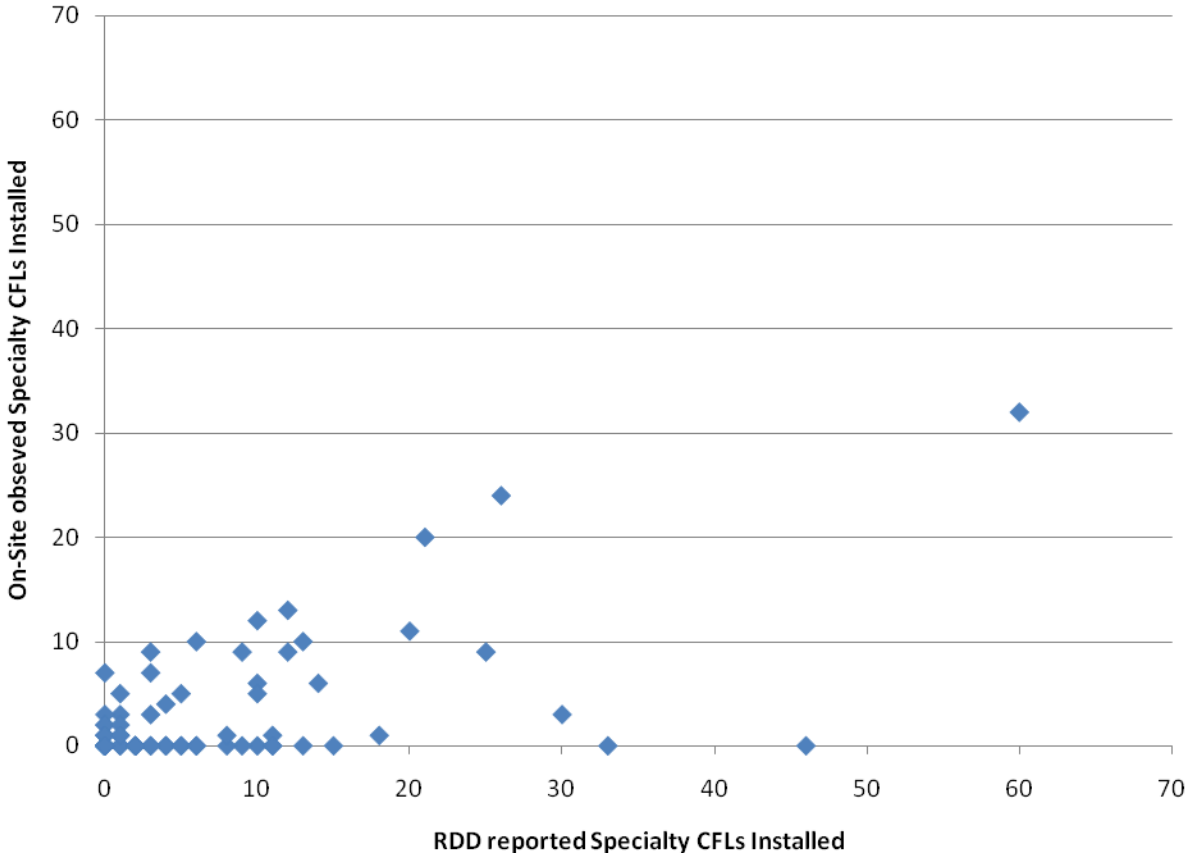


Figure 1-4: RDD Reported Specialty CFLs Installed by On-site Observed Specialty CFLs Installed



1.2.2 Storage of CFLs

The scatter plot show in Figure 1-5 compares the unweighted RDD survey self-reported counts for current CFL storage and the unweighted observed on-site counts for current CFL storage. The scatter plot reveals that these participants tended to overreport the number of CFLs they currently have in storage. On average, slightly more than one-half of the CFLs that were reported as being in storage in the RDD survey were observed during the on-site visits (Figure 1-6).

Figure 1-5: RDD Reported CFLs in Storage by On-site Observed CFLs in Storage

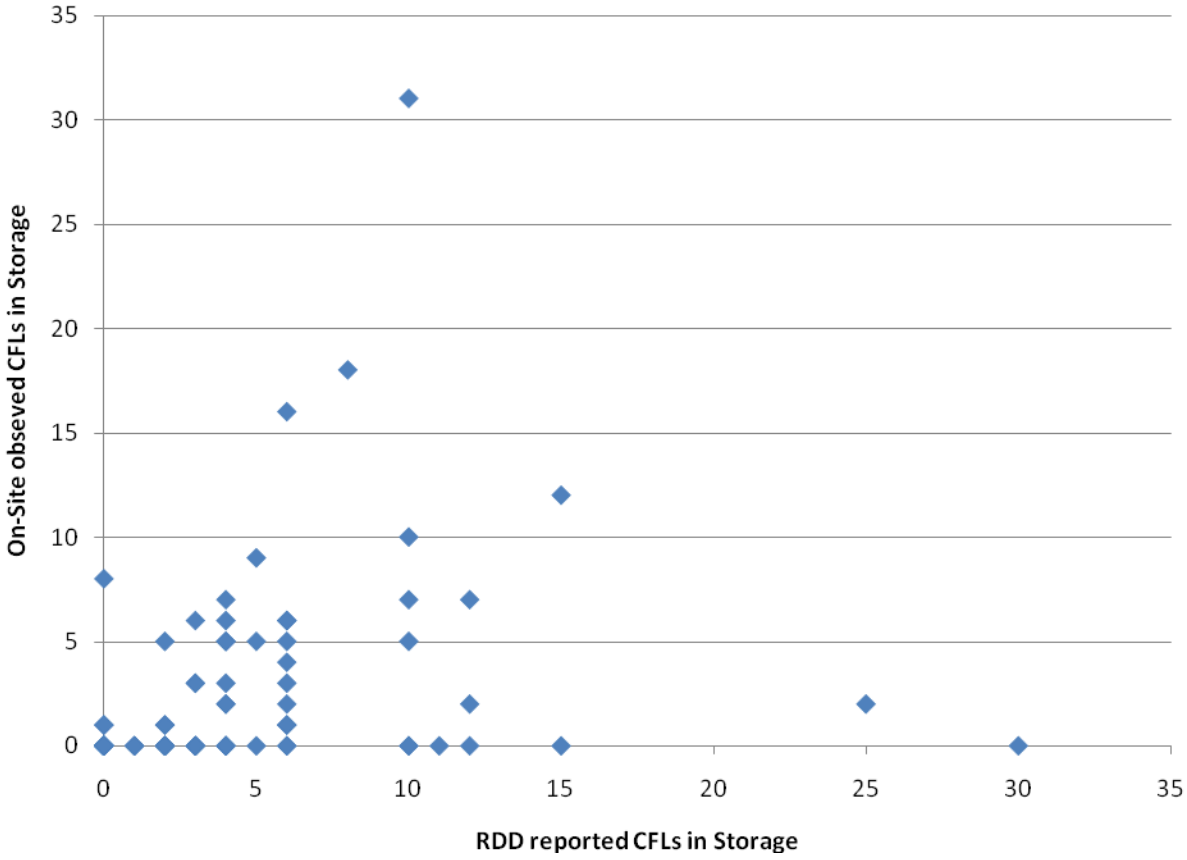
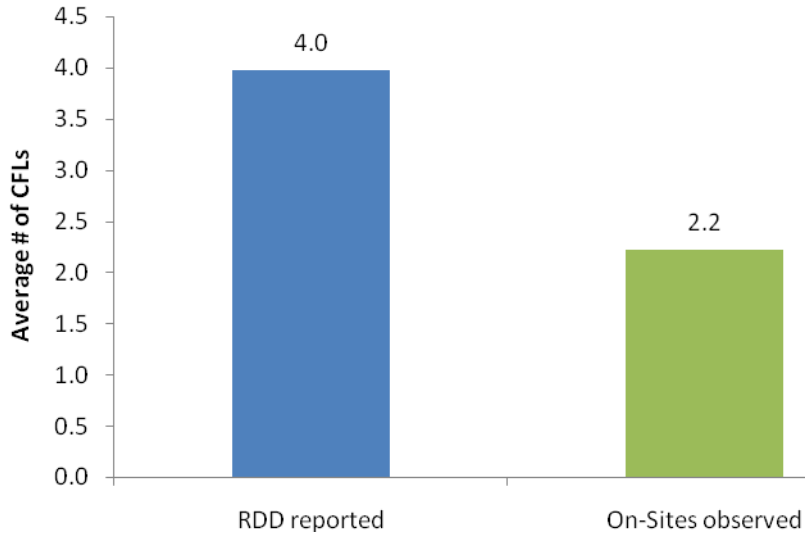


Figure 1-6: Mean of Current CFL Storage

(Base: All On-site participants)



1.2.3 Purchases of CFLs

In the RDD survey, respondents were asked a series of questions about CFLs purchased in the past three months, since January 1, 2009 and during 2008. In the on-site visits, CFLs in storage and in use were identified and then participants were asked when they obtained each CFL. By this method, the on-site responses provided for CFL purchases must add to the total number of observed CFLs. On-site participants were given the following time period options:

- Since July 2009 (after the RDD survey)
- In May, June or July of 2009 (past three months at time of the RDD survey)
- Since January 2009 but before May 1, 2009
- During 2008
- Earlier than 2008

Purchases reported in the past three months were combined with purchases since January 2009 but before May 1, 2009 to develop an estimate of total 2009 CFL purchases.

As shown in Figure 1-7, on-site participants reported similar numbers of purchases of all CFLs in the past three months in both the RDD survey and during the on-site visit. Scatter plots for purchases since January 2009 and during 2008 show a great deal more variability in the purchases reported in the RDD and purchases reported during the on-site visits (Figure 1-9 and Figure 1-10).

As shown in Figure 1-8, the older the estimates, the greater the absolute differences in the mean number of CFLs purchased. This demonstrates the decline in the ability of respondents to recall purchases the further back in time that they have to remember.

Figure 1-7: RDD Reported Past Three Month Purchases by On-site Reported Past Three Month Purchases

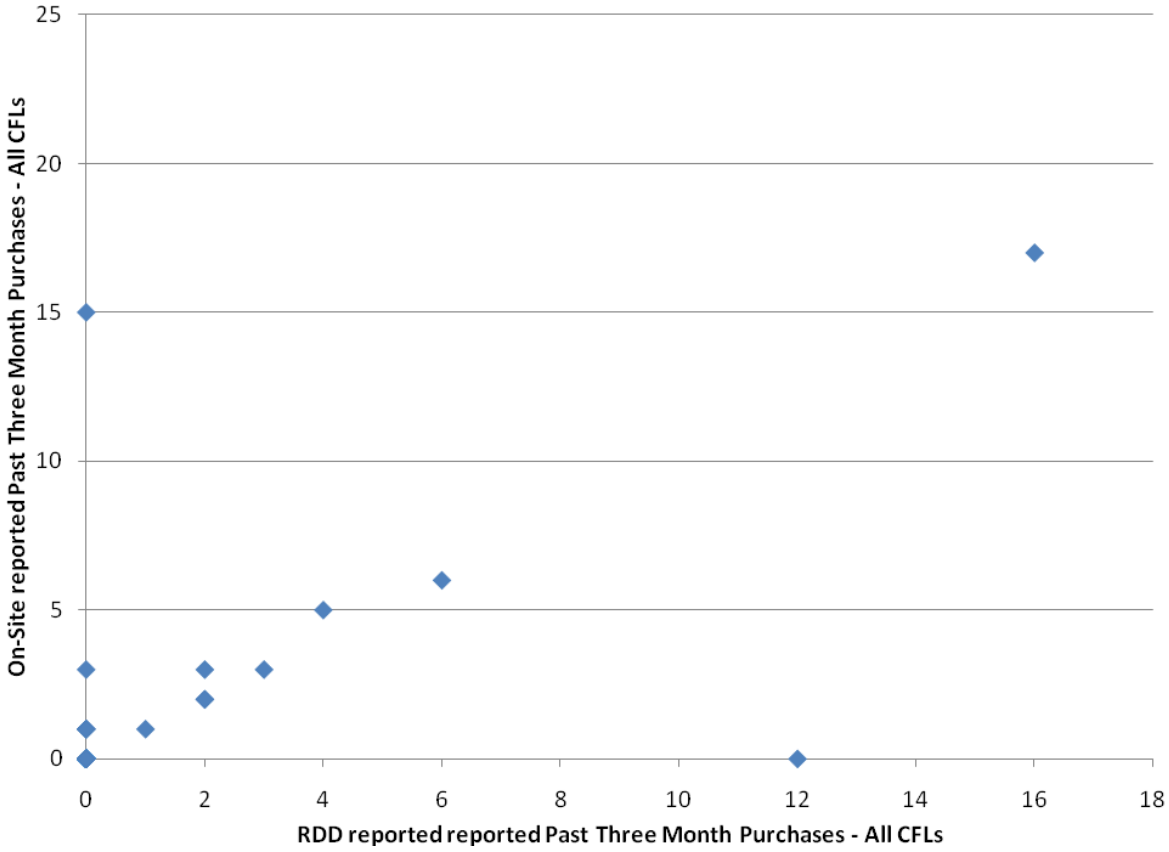


Figure 1-8: Absolute Difference in Mean CFL Purchases between RDD and On-site

(Base: All on-site participants)

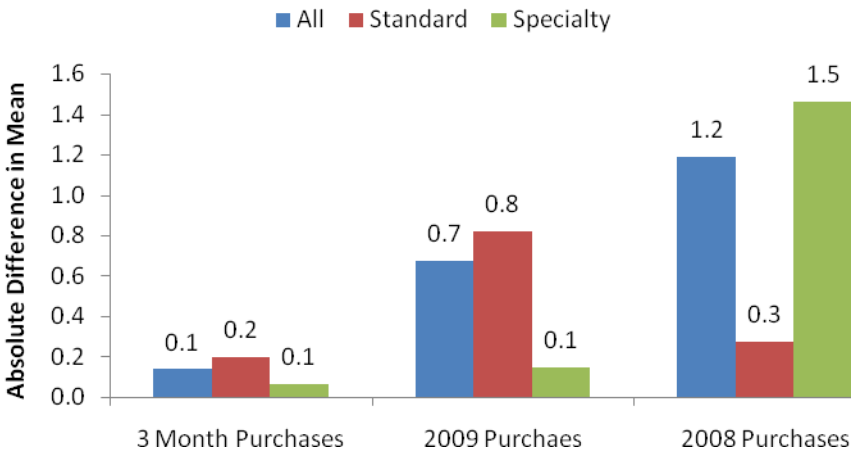


Figure 1-9: RDD Reported 2009 Purchases by On-site Reported 2009 Purchases

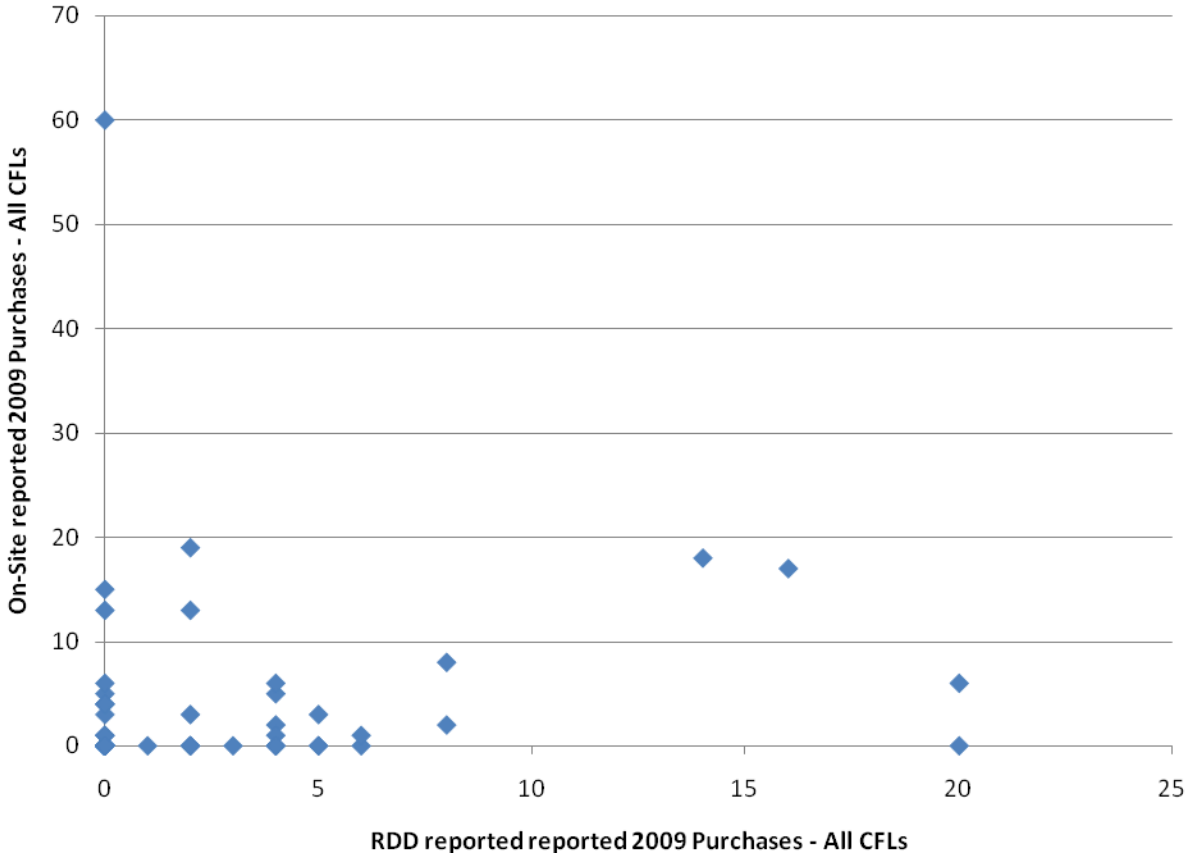
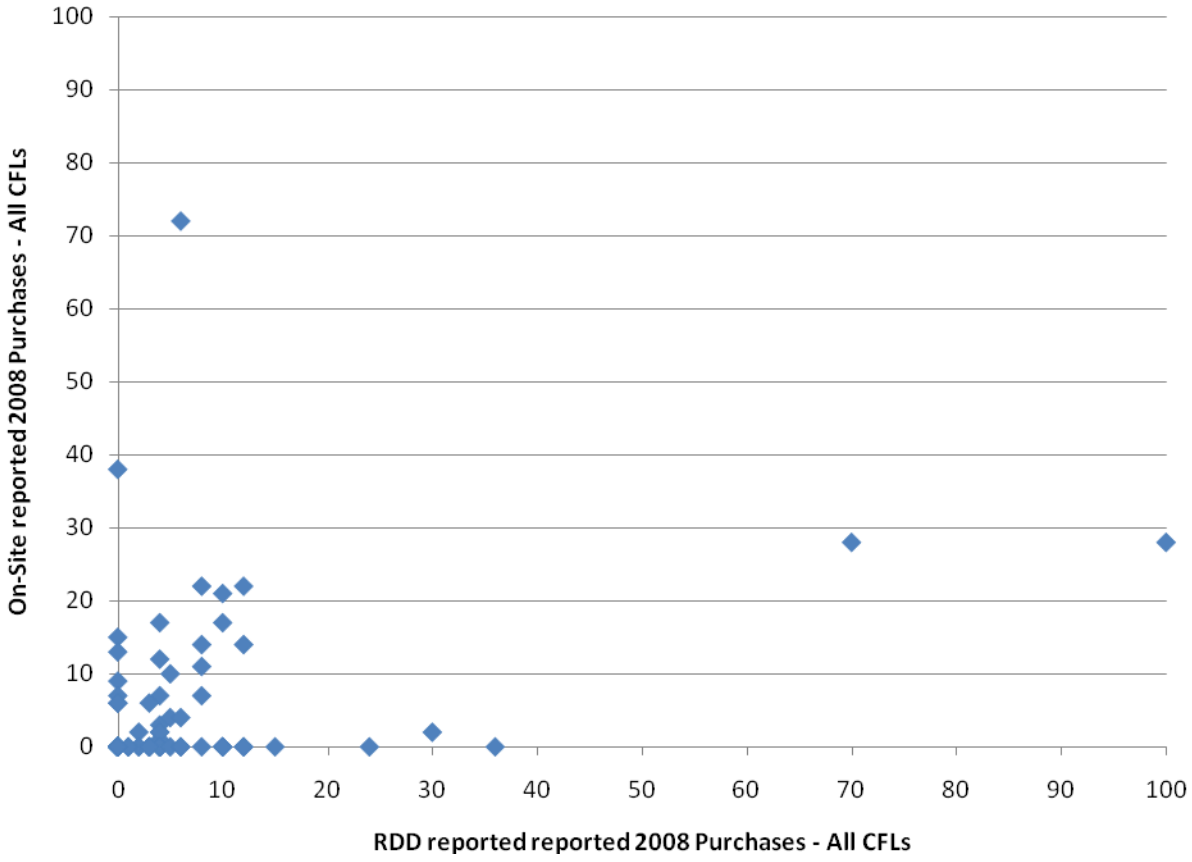


Figure 1-10: RDD Reported 2008 Purchases by On-site Reported 2008 Purchases



2 Awareness of and Familiarity with CFLs

The RDD survey respondents generally exhibited high awareness of and familiarity with CFLs. In contrast, they reported extremely low levels of participation in Connecticut Energy Efficiency programs.

More than three out of four RDD survey respondents (86%) were aware of CFLs and two out of three (67%) reported being at least somewhat familiar with them (Table 2-1).

Since the intercept survey respondents were identified in the store while purchasing CFLs, all of them were aware of CFLs and nearly all of them (94%) reported being at least somewhat familiar with them (Table 2-1).

Table 2-1: Awareness of CFLs
(Base: All respondents)

Awareness	**RDD Survey**	**Survey of Intercepts**
Sample Size	*500*	*17*
Not aware of CFLs	14%	--
Aware only after being shown a CFL	--	
Aware of CFLs	86	100
Familiarity	**RDD Survey**	**Survey of Intercepts**
Sample Size	*500*	*17*
Very familiar	34%	41%
Somewhat familiar	33	53
Not too familiar	13	6
Not at all familiar	4	--
Not aware of CFLs	14	--
Don't know / refused	1	--

The majority of RDD survey respondents (90%) and intercept survey respondents (82%) have not participated in a Connecticut Energy Efficiency program (Table 2-2).

Table 2-2: Past Participation in Connecticut Energy Efficiency Program – Past Two Years
(Base: All respondents)

Source	**RDD Survey**	**Survey of Intercepts**
Sample Size	*500*	*17*
Weatherization Residential Assistance Partnership (WRAP, UI Helps, or low income)	2%	--
Home Energy Solutions	1	--
SmartLiving Catalog	1	**--**
Other	3	*18*
Don't know / refused	3	--
Have not participated in CT EE program in past two years	90	82

3 Use of CFLs

3.1 Introduction to CFLs

About three out of five RDD survey respondents (61%) first heard about CFLs from some form of advertising, including general non-utility advertising (33%), store display or ad (14%) or ad or information from 'MY ENERGY STAR' (3%). About one in ten RDD survey respondents first heard about CFLs (11%) from a utility or electric company and a slightly larger proportion (15%) heard about them from a friend or family member (Table 3-1). Among the RDD survey respondents who had used CFLs, more than three-fifths (63%) first purchased a CFL at a retail store (Table 3-2).

Reflecting perhaps how they were intercepted for the survey at the store, just after having purchased CFLs, about one-half of the intercept survey respondents said they first heard about CFLs from an in-store promotion (30%) or store display or ad (24%); nearly one-third said they heard about CFLs through word of mouth (30%). About three out of four respondents (77%) first purchased a CFL at a retail store (Table 3-2).

Table 3-1: First Introduction to CFLs*

(Base: Respondents familiar with CFLs, multiple response)

Source	RDD Survey	Survey of Intercepts
*Sample Size**	*401*	*17*
Advertisement (not utility)	33%	12%
Word of mouth (friend or family member)	15	30
Store display or Ad	14	24
Utility/Electric company	11	--
At work	4	--
Ad or information from 'MY ENERGY STAR'	3	--
Internet	2	6
Energy Audit	1	--
In-store promotional event	--	30
All other sources	6	--
Don't know / refused	14	12

* Respondents who were unaware or not familiar with CFLs were not asked this question.

Table 3-2: How Acquired First CFL
(Base: All respondents)

Source	RDD Survey	Survey of Intercepts
*Sample Size**	*335*	17
Retail store	63%	77%
Utility company/energy audit	12	6
Friend/family/gift	12	6
Catalog	--	6
Other	9	6
Don't know / refused	4	--

Nearly three out of five RDD survey respondents (58%) reported having purchased or received a CFL and two out of three (66%) reported having used a CFL (Table 3-3).[4] Among the RDD survey respondents who have used a CFL, 70% used one for the first time within the past three years (Table 3-4).

By definition, all the intercept survey respondents have purchased a CFL and all of them reported having used CFLs (Table 3-3). Among the intercept survey respondents who have used a CFL, about half (53%) used one for the first time within the past three years (Table 3-4).

Table 3-3: Use of CFLs
(Base: All respondents)

Ever Purchased or Received a CFL	RDD Survey	Survey of Intercepts
Sample Size	*500*	*17*
Yes	58%	100%
No	21	--
Don't know / refused	1	--
Not aware of / familiar with CFLs	20	--
Have Ever Used a CFL	**RDD Survey**	**Survey of Intercepts**
Sample Size	*500*	*17*
Yes	66%	100%
No	13	--
Don't know / refused	1	--
Not aware of / familiar with CFLs	20	--

[4] The larger percentage who have used a CFL than those who have purchased or received a CFL may be because these respondents moved into a house in which CFLs were previously installed by a landlord or earlier occupant.

Table 3-4: First Use of CFLs
(Base: All respondents)

Years	RDD Survey	Survey of Intercepts
Sample Size	*500*	*17*
Less than one year	7%	--
One to three years	40	53
Four to five years	9	12
Six to seven years	3	12
Eight to nine years	1	--
Ten to eleven years	3	18
Twelve to sixteen years	1	--
Seventeen to twenty years	<1	--
Never used a CFL	14	--
Don't know / refused	3	6
Not aware of / familiar with CFLs	20	--

3.2 Usage of CFLs by Time Period

Among the RDD survey respondents who have used CFLs, there has been a steady increase in CFL usage since January 2008. The percentage of these households reporting any CFL usage increased by 14 points from January 2008 (Table 3-5). The mean number of CFLs used in these households increased by 81% from 3.6 CFLs in January 2008 to 6.5 CFLs currently (Table 3-6).

Among the intercept survey respondents who have used CFLs, there has been a steady increase in CFL usage since January 2008. In particular, the percentage of these households reporting using sixteen or more CFLs increased by 29 points from January 2008 (Table 3-5). The mean number of CFLs used in these households more than doubled from 7.6 CFLs in January 2008 to 16.7 CFLs currently (Table 3-6).

Table 3-5: Number of CFLs in Use by Time Period by Households

(Base: All respondents)

Survey	Number of CFLs	Currently	3 Months Ago	January 2009	January 2008
RDD Survey *Sample Size = 500*	Zero	3%	10%	14%	17%
	One to five	20	22	18	20
	Six to fifteen	32	26	25	18
	Sixteen or more	10	7	6	5
	Don't know / refused	2	2	3	6
	Unaware / Never used CFLs	34	34	34	34
Survey of Intercepts *Sample Size = ALL*	Zero	--	6%	--	35%
	One to five	12	12	18	24
	Six to fifteen	47	47	53	29
	Sixteen or more	41	35	29	12
	Don't know / refused	--	--	--	--
	Unaware / Never used CFLs	--	--	--	--

Table 3-6: Number of CFLs in Use by Time Period by Percentage of CFLs*

(Base: All respondents)

Survey	Number of CFLs	Currently	3 Months Ago	January 2009	January 2008
RDD Survey *Sample Size = 500*	Zero	0%	0%	0%	0%
	One to five	9	12	10	17
	Six to fifteen	50	52	53	50
	Sixteen or more	41	36	37	34
	Total number of households	1,323,459	1,323,459	1,323,459	1,323,459
	Total CFLs in use	8,625,274	6,693,416	6,503,387	4,722,871
	Mean number of CFLs in use	6.5	5.1	4.9	3.6
Survey of Intercepts *Sample Size = ALL*	Zero	0%	0%	0%	0%
	One to five	2	3	4	17
	Six to fifteen	31	34	40	50
	Sixteen or more	67	63	55	34
	Total number of households	17	17	17	17
	Total CFLs in use	284	254	253	129
	Mean number of CFLs in use	16.7	14.9	14.9	7.6

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

3.3 Current Use of CFLs

More than four out of five on-site participants (85%) had at least one CFL installed in their homes but fewer than one in three (30%) had at least one specialty CFL installed in their homes.[5] It is important to note that among the RDD survey respondents who participated in on-site visits, 20 reported that they were unaware or had never used a CFL when they were interviewed over the phone. However, during the on-site visits, at least one CFL was found installed in 13 of these 20 homes (Table 3-7).

All of the intercept survey respondents reported having at least one CFL installed in their homes and nearly all (94%) reported having at least one specialty CFL installed in their homes (Table 3-7).

Table 3-7: Current Use of CFLs by Households
(Base: All respondents)

	RDD Survey (weighted)	**RDD Survey On-Sites** (unweighted)	**On-Sites** (unweighted)	**On-Sites** (weighted)	**Survey of Intercepts**
Sample Size	*500*	*95*	*95*	***95***	***17***
All CFLs					
Zero	3%	2%	5%	**7%**	**0%**
One to five	20	15	24	**25**	**12**
Six to fifteen	32	40	37	**37**	**47**
Sixteen or more	10	21	27	**23**	**41**
Don't know / refused	2	1	--	**--**	**--**
Unaware / Never used CFLs	34	21	6	**8**	**--**
Standard CFLs					
Zero	15%	18%	6%	**8%**	**6%**
One to five	23	21	34	**34**	**47**
Six to fifteen	18	25	32	**31**	**41**
Sixteen or more	4	7	22	**19**	**6**
Don't know / refused	6	7	--	**--**	**--**
Unaware / Never used CFLs	34	21	6	**8**	**--**
Specialty CFLs					
Zero	24%	19%	57%	**62%**	**6%**
One to five	18	24	20	**17**	**47**
Six to fifteen	14	20	14	**11**	**12**
Sixteen or more	4	8	3	**2**	**35**
Don't know / refused	6	7	--	**--**	**--**
Unaware / Never used CFLs	34	21	6	**8**	**--**

[5] Specialty CFLs identified include: dimmable, three-way, A-shaped, flood, candelabra, globe, bullet and bug light CFLs

Among the RDD survey respondents who participated in on-site visits, the mean counts of all CFLs installed was similar in their RDD survey self reported data (11.0) and the actual on-site counts (12.1). However, these respondents significantly overestimated the number of specialty CFLs installed in the RDD survey (5.7) as compared to the actual on-site counts (2.5). Based on the on-site visits, NMR estimates that fewer than one in five CFLs currently installed are specialty CFLs (Table 3-8).

The intercept survey respondents said that specialty CFLs represent more than three out of five of the total CFLs installed in their homes, nearly double the amount of standard CFLs installed in their homes (Table 3-8). It is important to note that, based on the overestimation encountered in the on-site visits with RDD participants, the number of specialty CFLs reported by the intercept survey respondents may also be an overestimate.

Table 3-8: Current Use of CFLs by Type*
(Base: All respondents)

	RDD Survey (weighted)	**RDD Survey On-Sites** (unweighted)	**On-Sites** (unweighted)	**On-Sites** (weighted)	**Survey of Intercepts**
Sample Size	*500*	*95*	*95*	***95***	***17***
Total number of households	1,323,459	95	95	**1,323,432**	**17**
All CFLs					
Total CFLs in use	8,625,274	1045	1150	**13,919,524**	**284**
Mean number of CFLs in use	6.5	11.0	12.1	**10.5**	**16.7**
% of all CFLs in use	100%	100%	100%	**100%**	**100%**
Standard CFLs					
Total CFLs in use	4,857,531	499	911	**11,527,292**	**99**
Mean number of CFLs in use	3.7	5.3	9.6	**8.7**	**5.8**
% of all CFLs in use	56%	48%	79%	**83%**	**35%**
Specialty CFLs					
Total CFLs in use	3,767,743	546	239	**2,392,233**	**185**
Mean number of CFLs in use	2.8	5.7	2.5	**1.8**	**10.9**
% of all CFLs in use	44%	52%	21%	**17%**	**65%**

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

The counts from the on-site visits revealed that the majority of CFLs in use were in homes with six or more CFLs installed (93%); and over half of all CFLs were in use in homes with 16 or more CFLs installed (56%). About four out of five specialty CFLs (79%) were in use in homes with six or more specialty CFLs installed and one quarter of specialty CFLs were in use in homes with 16 or more specialty CFLs installed (Table 3-9).

Nearly all (98%) of the CFLs reported installed by the survey of intercept respondents were in homes with six or more CFLs installed; and two out three (67%) CFLs were reported in homes

with 16 or more CFLs installed. More than three out of four (76%) specialty CFLs were reported in homes with 16 or more specialty CFLs installed (Table 3-9).

Table 3-9: Current Use of CFLs by Percentage of CFLs Installed*
(Base: All respondents)

	RDD Survey (weighted)	**RDD Survey On-Sites** (unweighted)	**On-Sites** (unweighted)	**On-Sites** (weighted)	**Survey of Intercepts**
Sample Size	*500*	*95*	*95*	***95***	***17***
All CFLs					
Zero	0%	0%	0%	**0%**	**0%**
One to five	9	4	6	**7**	**2**
Six to fifteen	50	39	32	**37**	**31**
Sixteen or more	41	57	62	**56**	**67**
Standard CFLs as a Percent of All CFLs					
Sample Size	*500*	*95*	*95*	***95***	***17***
Zero	0%	0%	0%	**0%**	**0%**
One to five	20	13	11	**12**	**28**
Six to fifteen	49	51	34	**37**	**55**
Sixteen or more	30	35	55	**51**	**17**
Specialty CFLs as a Percent of All CFLs					
Sample Size	*500*	*95*	*95*	***95***	***17***
Zero	0%	0%	0%	**0%**	**0%**
One to five	17	12	19	**21**	**14**
Six to fifteen	49	37	49	**54**	**10**
Sixteen or more	34	51	32	**25**	**76**

* All respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

Table 3-10 summarizes the number of specialty CFLs in use as a percent of households. Three-way and flood/recessed CFLs were the most common types of specialty CFLs found installed in homes with about one in five homes (19%) containing at least one three-way CFL or one flood/recessed CFL. Two types of specialty CFLs, bullet/torpedo shaped and bug light CFLs, were found during the on-sites which were not asked about during the RDD (Table 3-11). It is important to note that 12 of the on-site participants reported having at least one dimmable CFL installed during the RDD, but no dimmable CFLs were found during the on-site visits. In addition, 15 households reported having at least one three-way CFL during the RDD and only 3 households were found to contain three-way CFLs during the on-site visits. This may indicate a misunderstanding of the definition of dimmable and three-way bulbs among participants.

Among the intercept survey respondents, flood/recessed and globe shaped CFLs were the most common types of specialty CFLs reported with nine homes reporting at least one flood/recessed CFL installed and eight homes reporting at least one globe shaped CFL installed.

Table 3-10: Current Use of Specialty CFLs

(Base: All respondents)

Type of Specialty CFL	# of CFLs in Use	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size		*500*	*95*	*95*	***95***	***17***
Dimmable	Zero	56%	65%	94%	**92%**	**82%**
	One to five	7	11	--	**--**	**12**
	Six to fifteen	1	1	--	**--**	**6**
	Sixteen or more	<1	1	--	**--**	**--**
	Don't know / refused	3	1	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
3-way	Zero	49%	59%	91%	**73%**	**82%**
	One to five	12	14	3	**14**	**12**
	Six to fifteen	1	2	--	**4**	**6**
	Sixteen or more	--	--	--	**1**	**--**
	Don't know / refused	3	4	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Flood or Recessed	Zero	47%	45%	70%	**73%**	**47%**
	One to five	10	15	16	**14**	**12**
	Six to fifteen	5	13	6	**4**	**41**
	Sixteen or more	1	2	2	**1**	**--**
	Don't know / refused	4	4	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Candelabra	Zero	56%	67%	88%	**89%**	**77%**
	One to five	6	8	4	**2**	**12**
	Six to fifteen	1	1	1	**1**	**12**
	Sixteen or more	<1	--	--	**--**	**--**
	Don't know / refused	3	2	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Globe	Zero	48%	53%	81%	**84%**	**53%**
	One to five	12	18	12	**8**	**18**
	Six to fifteen	3	6	1	**1**	**29**
	Sixteen or more	<1	--	--	**--**	**--**
	Don't know / refused	3	2	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
A-shaped	Zero	52%	58%	81%	**80%**	**65%**
	One to five	9	12	12	**11**	**24**
	Six to fifteen	2	7	1	**1**	**12**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	3	2	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**

Table 3-11: Current Use of Specialty CFLs
(Base: All respondents)

Type of Specialty CFL	# of CFLs in Use	On-Sites (unweighted)	On-Sites (weighted)
Sample Size		*95*	***95***
Bullet / Torpedo	Zero	88%	**87%**
	One to five	4	**2**
	Six to fifteen	1	**2**
	Sixteen or more	--	**--**
	Don't know / refused	--	**--**
	Unaware / Never used CFLs	6	**8**
Bug light	Zero	93%	**91%**
	One to five	1	**1**
	Six to fifteen	--	**--**
	Sixteen or more	--	**--**
	Don't know / refused	--	**--**
	Unaware / Never used CFLs	6	**8**

3.3.1 Use of CFLs by Demographics

As Table 3-12 shows, among on-site participants, usage of CFLs is fairly evenly distributed across house size.

Table 3-12: Current CFL Use by Size of Home*
(Base: All respondents)

Area	House Size	*Sample Size*	Zero	One to Five	Six to Fifteen	Sixteen+	DK/Ref	Unaware
On-sites (weighted)	<2,000	*60*	9%	22	41	17	--	12
	2,000 to 3,499	*29*	7%	29	29	32	--	3
	3,500+	*6*	--	33	33	33	--	--

* All respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

As Table 3-13 shows, among on-site participants, owners are more likely to have 16 or more CFLs installed in their homes. In addition, renters are more likely to be unaware or to have never used CFLs.

Table 3-13: Current CFL Use by Ownership Status*

(Base: All respondents)

Area	Status	*Sample Size*	Zero	One to Five	Six to Fifteen	Sixteen+	DK/Ref	Unaware
On-sites (weighted)	Own	*67*	3%	24	39	30	--	5
	Rent	*28*	18%	29	32	4	--	18

* All respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

As Table 3-14 demonstrates, household income appears to correlate with CFL usage. In the lowest income bracket ($20,000 or less), fewer than two-fifths of households (37%) have six or more CFLs installed, as compared with about three-fifths of participants in the middle (59%) income bracket and nearly seven-tenths in the highest (68%) income bracket.

Table 3-14: Current CFL Use by Household Income

(Base: All respondents)

Area	Income	*Sample Size*	Zero	One to Five	Six to Fifteen	Sixteen+	DK/Ref	Unaware
On-sites (weighted)	< $20,000	*16*	25%	31	31	6	--	6
	$20,000 to $74,999	*41*	5%	22	42	17	--	15
	$75,000 or more	*25*	4%	28	32	36	--	--
	DK/Ref	*13*	--	23	31	39	--	8

* All respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

As Table 3-15 shows, among on-site participants, CFL usage appear to be fairly evenly distributed regardless of level of education.

Table 3-15: Current CFL Use by Education

(Base: All respondents)

Area	Education	*Sample Size*	Zero	One to Five	Six to Fifteen	Sixteen+	DK/Ref	Unaware
On-sites (weighted)	HS Grad or less	*36*	--	25	42	19	--	14
	Some college	*23*	26%	26	30	17	--	--
	College+	*34*	3%	21	38	29	--	9
	DK/Ref	*1*	--	100	--	--	--	--

* All respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

3.4 Socket Saturations

Overall, NMR estimates that slightly less than one in four residential sockets in Connecticut (23%) contain a CFL and seven out of ten sockets (70%) contain an incandescent or halogen bulb. Of all sockets, about three out of ten (29%) contain a specialty bulb of any type and a small fraction (4%) of sockets contain a specialty CFL (Table 3-16).

Table 3-16: Socket Saturation
(Base: All on-site participants)

Sockets Containing	**On-Sites** (weighted)
Sample Size	*95*
Total Sockets	**61,205,621**
Incandescent bulbs	64%
CFLs	23
Fluorescent	7
Halogen	6
LED	<1
Any specialty bulb*	33%
Any specialty CFL	4%

* Specialty bulbs include: dimmable, three-way, flood shaped, candelabra shaped, globe shaped, bullet shaped, bug lights of any bulb type and A-shaped CFLs.

Table 3-17 and Table 3-18 show the distribution of CFLs and incandescent bulbs in their equivalent wattage categories. CFLs have made the greatest inroads replacing incandescent bulbs in wattages ranging from 65 to 75 watts and 100 watts. In these wattage categories, CFLs represent about two-fifths (37%) and one-third (31%) of all bulbs. CFLs have replaced nearly one-quarter of incandescent bulbs in the following categories: 25 watts (23%), 40 watts (23%), 50 to 60 watts (23%) and 120 to 150 watts (24%).

Table 3-17: Comparison of Incandescent and CFL Wattage – Socket Counts

(Base: All on-site participants)

Watts Incandescent	Watts CFLs	Minimum Light Output (Lumens)	All Bulbs		Standard		Specialty	
			Incandescent	CFLs	Incandescent	CFLs	Incandescent	CFLs
Sample Size			*95*	*95*	*95*	*95*	*95*	*95*
<25	<4	<250	62,900	**--**	--	--	62,900	--
25	4 – 9	250	1,893,786	564,142	356,262	321,815	1,537,524	242,327
40	10 – 13	450	8,998,860	2,722,182	3,918,243	2,509,060	5,080,617	213,122
50 – 60	14 – 16	800	19,356,164	5,691,959	16,821,954	4,280,430	2,534,210	1,411,529
65 – 75	18 – 25	1100	6,809,088	3,986,321	2,271,574	3,492,640	4,537,514	493,681
100	26 – 30	1,600	1,698,699	773,349	1,223,470	733,882	475,229	39,467
120 – 150	31 – 52	2,000 – 2,600	566,378	181,572	394,470	126,565	171,908	55,007
150+	53+	2,600+	81,573	--	4,893	--	76,680	--

Table 3-18: Comparison of Incandescent and CFL Wattage by Percent of Sum within Wattage Category

(Base: All on-site participants)

Watts Incandescent	Watts CFLs	Minimum Light Output (Lumens)	All Bulbs		Standard		Specialty	
			Incandescent	CFLs	Incandescent	CFLs	Incandescent	CFLs
Sample Size			*95*	*95*	*95*	*95*	*95*	*95*
<25	<4	<250	100%	--	--	--	100	--
25	4 – 9	250	77%	23	14	13	63	10
40	10 – 13	450	77%	23	33	21	43	2
50 – 60	14 – 16	800	77%	23	67	17	10	6
65 – 75	18 – 25	1100	63%	37	21	32	42	5
100	26 – 30	1,600	69%	31	49	30	19	2
120 – 150	31 – 52	2,000 – 2,600	76%	24	53	17	23	7
150+	53+	2,600+	100%	--	6	--	94	--

Table 3-19 and Table 3-20 summarize the distributions of socket types by bulb installed. The majority of sockets in Connecticut homes are small- or medium-base screw-in (89%) and nearly all of the CFLs are installed in the screw-in sockets. The remaining available potential opportunity for CFLs or LEDs in Connecticut homes is 70% of all sockets, of which 66% are small- or medium-base screw-in sockets.

Table 3-19: Socket Saturation – Socket Type Counts

(Base: All on-site participants)

Socket Type	All Bulb Types	Standard Incandescent	CFLs	Fluorescent	Halogen	LED	Potential for CFLs or LEDs
Sample Size	*95*	*95*	*95*	*95*	*95*	*95*	*95*
Total Sockets	61,205,621	39,467,446	13,919,524	4,248,411	3,526,431	43,808	42,993,877
Screw (small/medium)	54,160,265	39,467,446	13,456,516	7,893	1,184,602	43,808	40,652,048
Pin base	6,987,463	--	405,116	4,240,518	2,341,829	--	2,341,829
GU base	57,893	--	57,893	--	--	--	--

Table 3-20: Socket Saturation – Socket Types by Percent of all Sockets

(Base: All on-site participants)

Socket Type	All Bulb Types	Standard Incandescent	CFLs	Fluorescent	Halogen	LED	Potential for CFLs or LEDs
Sample Size	*95*	*95*	*95*	*95*	*95*	*95*	*95*
Total Sockets	100%	64	23	7	6	<1	70
Screw (small/medium)	89	64	22	--	2	<1	66
Pin base	11	--	1	7	4	--	4
GU base	<1	--	<1	--	--	--	--

Table 3-21 and Table 3-22 summarize the distributions of socket types by room. Although bedrooms and bathrooms have the most CFLs installed, they continue to offer the largest absolute potential for CFLs. Similarly, kitchens, exterior areas, living rooms, and dining rooms also have substantial numbers of CFLs installed but they continue to offer the substantial potential for CFLs (Table 3-21). As a percentage of sockets, dining rooms (90%), foyers (86%), exterior areas (85%), and bathrooms (81%) offer the greatest potential for CFLs in Connecticut (Table 3-22).

Table 3-21: Socket Saturation – Room Types by Socket Counts

(Base: All on-site participants)

Socket Type	All Bulb Types	Standard Incandescent	CFLs	Fluorescent	Halogen	LED	Potential for CFLs or LEDs
Sample Size	*95*	*95*	*95*	*95*	*95*	*95*	*95*
Total Sockets	61,205,628	39,467,451	13,919,526	4,248,412	3,526,431	43,808	42,993,883
Bedroom	10,593,594	7,295,104	2,900,774	164,467	233,250	--	7,528,354
Bathroom	8,566,757	6,629,369	1,516,448	141,910	279,031	--	6,908,399
Kitchen	7,291,696	4,056,104	1,845,254	742,784	647,554	--	4,703,658
Exterior	5,177,609	3,406,044	752,973	--	1,018,591	--	4,424,636
Living Room	6,196,638	4,128,816	1,709,191	153,402	205,229	--	4,334,045
Dining Room	4,103,885	3,583,419	322,860	27,503	126,295	43,808	3,709,714
Basement	6,299,493	2,153,292	2,086,192	1,645,152	414,858	--	2,568,149
Hall	3,299,321	2,469,599	718,643	47,931	63,147	--	2,532,746
Foyer	1,918,957	1,655,299	196,688	66,970	--	--	1,655,299
Family Room	2,081,322	1,141,147	810,058	31,574	98,544	--	1,239,691
Garage	2,232,742	1,060,571	322,641	849,529	--	--	1,060,571
Office	1,182,907	557,873	337,048	66,970	221,015	--	778,889
Closet	697,327	400,303	119,456	86,828	90,651	--	490,954
Other	1,563,469	930,511	281,300	223,391	128,267	--	1,058,778

Table 3-22: Socket Saturation – Room Types by Percent of Sockets

(Base: All on-site participants)

Socket Type	All Sockets	Standard Incandescent	CFLs	Fluorescent	Halogen	LED	Potential for CFLs or LEDs
Sample Size	*95*	*95*	*95*	*95*	*95*	*95*	*95*
Total Sockets	61,205,628	64%	23%	7%	6%	0%	70%
Bedroom	10,593,594	69%	27%	2%	2%	--	71%
Bathroom	8,566,757	77%	18%	2%	3%	--	81%
Kitchen	7,291,696	56%	25%	10%	9%	--	65%
Living Room	5,177,609	66%	15%	--	20%	--	85%
Exterior	6,196,638	67%	28%	2%	3%	--	70%
Dining Room	4,103,885	87%	8%	1%	3%	1%	90%
Basement	6,299,493	34%	33%	26%	7%	--	41%
Hall	3,299,321	75%	22%	1%	2%	--	77%
Foyer	1,918,957	86%	10%	3%	--	--	86%
Family Room	2,081,322	55%	39%	2%	5%	--	60%
Garage	2,232,742	48%	14%	38%	--	--	48%
Office	1,182,907	47%	28%	6%	19%	--	66%
Closet	697,327	57%	17%	12%	13%	--	70%
Other	1,563,469	60%	18%	14%	8%	--	68%

Table 3-23 and Table 3-24 summarize the distribution of sockets by type of bulb and bulb feature. Not surprisingly, about three out of five sockets (59%) contain either a standard A-shaped incandescent or a standard spiral CFL. Spiral CFLs are installed in nearly one out of five sockets (17%) with all other CFLs making up less than one in ten sockets (6%). While the greatest potential for CFLs is in replacing standard A-shaped incandescent bulbs (42%), the potential to replace flood and candelabra bulbs is also notable (22%). It is important to note that A-shaped incandescent bulbs are the standard shape for incandescent bulbs; while A-shaped CFLs are made to look and feel like traditional incandescent bulbs, it is not necessary that an A-shaped incandescent can always be replaced by an A-shaped CFL.

Table 3-23: Socket Saturation – Bulb Feature Counts

(Base: All on-site participants)

Sockets Containing	All Bulb Types	Standard Incandescent	CFLs*	Fluorescent	Halogen	LED	Potential for CFLs or LEDs
Sample Size	*95*	*95*	*95*	*95*	*95*	*95*	*95*
Total Sockets	61,205,621	39,467,446	13,919,524	4,248,411	3,526,431	43,808	**42,993,878**
A-shaped*	26,098,658	25,820,244	278,414	--	--	--	**25,820,244**
Spiral	10,218,174	--	10,218,174	--	--	--	**--**
Flood	8,929,805	4,566,409	1,310,075	-	3,009,513	43,808	**7,575,922**
Candelabra	6,068,894	5,903,133	165,762	--	--	--	**5,903,132**
Tube	5,474,847	--	1,223,722	3,734,207	516,918	-	**516,918**
Globe	3,343,670	3,041,747	301,922	--	--	--	**3,041,748**
Circline	581,692	--	67,488	514,204	--	--	**--**
Bullet	338,181	62,900	275,281	--	--	--	**62,900**
Bug	88,800	73,013	15,787	--	--	--	**73,013**
2D Square CFLs	62,900	--	62,900	--	--	--	**--**
*Dimmable***	882,925	882,925	--	--	--	--	**882,925**
*Three-way***	759,410	714,418	44,992	--	--	--	**714,418**

* A-shaped bulbs are the typical shape for standard incandescent bulbs. A-shaped CFLs are made to look and feel like traditional incandescent bulbs.

**Dimmable and three-way bulbs also fall within shape categories and therefore are not additive.

Table 3-24: Socket Saturation – Bulb Features by Percent of all Sockets

(Base: All on-site participants)

Sockets Containing	All Bulb Types	Standard Incandescent	CFLs	Fluorescent	Halogen	LED	Potential for CFLs or LEDs
Sample Size	*95*	*95*	*95*	*95*	*95*	*95*	*95*
Total Sockets	100%	65	23	7	6	<1	**70**
A-shaped*	43	42	<1	--	--	--	**42**
Spiral	17	--	17	--	--	--	**--**
Flood	15	7	2	--	5	<1	**12**
Candelabra	10	10	<1	--	--	--	**10**
Tube	9	--	2	6	1	--	**1**
Globe	5	5	<1	--	--	--	**5**
Circline	1	--	<1	1	--	--	**--**
Bullet	1	--	<1	--	--	--	**<1**
Bug	<1	--	<1	--	--	--	**<1**
2D Square CFLs	<1	--	<1	--	--	--	**--**
*Dimmable***	1%	1	--	--	--	--	**1**
*Three-way***	1%	1	<1	--	--	--	**1**

*A-shaped bulbs are the typical shape for standard incandescent bulbs. A-shaped CFLs are made to look and feel like traditional incandescent bulbs.
**Dimmable and three-way bulbs also fall within shape categories and therefore are not additive.

About one-half of the intercept survey respondents (54%) reported that they have CFLs in 67% or more of the sockets in their home. Conversely, about one-fourth of the intercept survey respondents (24%) reported that they have CFLs in 25% or fewer sockets in their home (Table 3-25).

Table 3-25: Percentage of Light Sockets in Home with CFLs Installed
(Base: All respondents)

	Survey of Intercepts
Sample Size	*17*
One in ten or fewer (<10%)	6%
Approximately one-fourth (25%)	18
Approximately one-third (33%)	6
Approximately one-half (50%)	12
Approximately two-thirds (67%)	18
Approximately three-fourths (75%)	12
More than three-fourths (>75%)	24
100%	6
Don't know / refused	--

Although only a few (6%) intercept survey respondents said they had no specialty CFL fixtures, about two-fifths (59%) said that 25% or fewer sockets in their home are specialty fixtures. (Table 3-26).

Table 3-26: Percentage of Light Sockets in Home that are Specialty Fixtures
(Base: All respondents)

	Survey of Intercepts
Sample Size	*17*
None (0%)	6%
One in ten or fewer (<10%)	18
Approximately one-fourth (25%)	35
Approximately one-third (33%)	18
Approximately one-half (50%)	18
Approximately two-thirds (67%)	--
Approximately three-fourths (75%)	-
More than three-fourths (>75%)	--
100%	--
Don't know / refused	--

One in four intercept survey respondents (25%) reported that none of the specialty light sockets in their home have specialty CFLs; about one-half of the intercept survey respondents (51%) reported that between 10% and 50% of the specialty light sockets in their home have specialty CFLs (Table 3-27).

Table 3-27: Percentage of Specialty Light Sockets in Home with Specialty CFLs
(Base: All respondents)

	Survey of Intercepts
Sample Size	*16*
None (0%)	25%
One in ten or fewer (<10%)	13
Approximately one-fourth (25%)	19
Approximately one-third (33%)	6
Approximately one-half (50%)	13
Approximately two-thirds (67%)	6
Approximately three-fourths (75%)	6
More than three-fourths (>75%)	--
100%	13
Don't know / refused	--

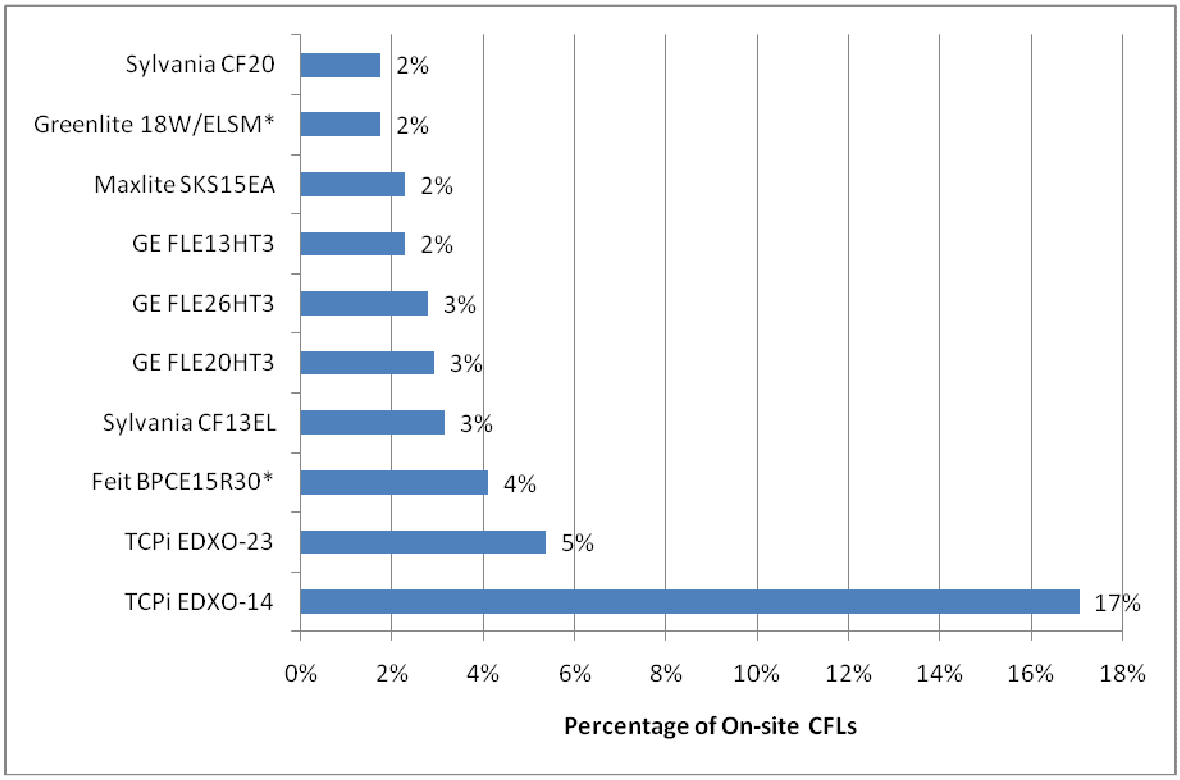
3.5 Presence of Program Supported CFLs

During the on-site visits, the technicians recorded the manufacturer name and model number for all CFLs in each home. We compared this information to the list of CFLs incentivized by the Connecticut Sponsors in 2008. Of the 1,361 CFLs found either installed or in storage, 855 CFLs (63%) had either the same model number, product number, or SKU number as the list of program incentivized CFLs.[6,7] Of the 855 CFLs that were likely program CFLs, more than one-half (56%) had an exact model number listed as being a program sponsored CFL. We identified the remaining program CFLs through either the product number or SKU number associated with the model (according to either the manufacturer's website or the ENERGY STAR qualified CFL list).[8] As we were already using the ENERGY STAR qualified CFL list for cross-referencing modeling numbers, we took the opportunity also to note whether additional CFLs found in the homes had the ENERGY STAR label. Based on their model numbers, we estimate that 1,076 CFLs, or 79% of all on-site CFLs, were ENERGY STAR qualified CFLs; and 79% of these ENERGY STAR qualified CFLs were program supported CFLs. Figure 3-1 shows the ten CFL

[6] While the customers were also asked to name the source, typically a store, where each CFL was obtained, the model information was considered to be more reliable and therefore was used in this analysis.
[7] Some model numbers appeared more than once, as different brand names for the same manufacturer or different "manufacturers". The primary example are CFLs manufactured by TCP but sold at Home Depot under their own labels "Commercial Electric" or "N:Vision". We treated these as program CFLs if the model was supported by the Connecticut Sponsors under any brand name or manufacturer.
[8] From http://www.energystar.gov/index.cfm?fuseaction=find_a_product.showProductGroup&pgw_code=LB

models that were most frequently found in the on-site visit homes. Compared to any of the other CFL models, respondents had more than three times as many TCPi Model EDXO-14 CFLs (offered predominantly at Home Depot under this and different model and SKU numbers).

Figure 3-1: Most Frequently Owned CFL Models



*Denotes CFLs that were not sponsored by the program.

3.6 Reasons for CFL Usage

Among the RDD survey respondents who had CFLs currently installed in their homes, about two out of five (63%) were motivated to install CFLs in their homes primarily to save energy or money—about one-half of these respondents (51%) wanted to save energy/electricity, and over one-tenth (12%) of them wanted to save money on electric bills (Table 3-28).

Among the intercept survey respondents who had CFLs currently installed in their homes, more than four out of five were motivated to install CFLs in their homes primarily to save energy or money—about half these respondents wanted to save energy/electricity, and about two-fifths of them wanted to save money on electric bills (Table 3-28).

Table 3-28: Primary Reason CFLs are Installed in Fixtures in Home

(Base: Respondents who have CFLs Installed)

	RDD Survey	Survey of Intercepts
Sample Size	*343*	*17*
To save energy/electricity	51%	47%
To save money on electric bills	12	41
Wanted long-life bulb	9	12
Wanted to try	4	--
Low price	4	--
Good for environment	3	--
Utility recommended/rebated/installed	1	
Negative mention of CFL	3	--
Other	11	--
Don't know / refused	3	--

Table 3-29: Secondary Reasons CFLs are Installed in Fixtures in Home

(Base: All respondents, multiple response)

	RDD Survey	Survey of Intercepts
Sample Size	*500*	*17*
No other reasons	37%	47%
To save money on electric bills	7	18
To save energy/electricity	6	12
Wanted long-life bulb	5	6
Low price	2	6
Good for environment	3	18
Other	6	6
No CFLs installed currently	5	--
Unaware / Never used CFLs	34	--
Don't know / refused	2	--

During the on-site visits, participants who had CFLs installed in some but not all of the fixtures in their homes were asked why they did not have CFLs installed in all of their fixtures. As Table 3-30 shows, more than one in four current CFL users (29%) mentioned that they were waiting for bulbs to burn out before replacing them with CFLs, nearly one in four (24%) reported that CFLs were too expensive and fewer than one in five (16%) reported that CFLs do not fit fixtures or that they haven't gotten around to it yet (13%).

Table 3-30: Reasons CFLs are not installed in all Fixtures in Home
(Base: On-site respondents with at least one CFL installed, multiple response)

	On-Sites
Sample Size	*85*
Waiting for bulbs to burn out	29%
CFLs are too expensive	24
CFLs do not fit fixture	16
Haven't gotten around to buying CFL	13
Do not use fixture much	9
Haven't gotten around to installing CFL	8
CFL burned out but have not replaced yet	4
CFLs life is too short	4
Delay in light coming on	3
Do not like CFL color	2
Not aware of CFL for application	2
Concerns about mercury	1
CFLs do not work with dimmer or 3-way	1
Do not like CFLs (unspecified)	1
CFLs are too bright	1
Don't know	6

3.7 Removal of CFLs

Slightly under one-half (45%) of the RDD survey respondents reported having removed CFLs after installation (Table 3-31). About two out of three of these respondents removed the CFLs because the bulbs had burned out (51%) or stopped working (14%); a few of these respondents (14%) also removed the CFLs because they were not bright enough (Table 3-32).

About two out of five (41%) of the intercept survey respondents reported having removed CFLs after installation (Table 3-31). Nearly two out of five (57%) of these respondents removed the CFLs because the bulbs had burned out (Table 3-32).

Table 3-31: Ever Removed CFL after Installation
(Base: Respondents who have used CFLs)

Removed CFL	RDD Survey	Survey of Intercepts
Sample Size	*362*	*17*
Yes	45%	41
No	55	59
Don't know / refused	<1	--

Table 3-32: Reason for CFL Removal
(Base: Respondents who have removed CFLs, multiple response)

Removed CFL	RDD Survey	Survey of Intercepts
Sample Size	*160*	*7*
Burned out	51%	57%
Not bright enough	16	--
Broken / stopped working	14	--
Aesthetics	4	14
Bulb does not fit/size	3	--
Light color	2	--
Too bright	2	--
Delay in coming on	2	14
Moved to another location	2	--
Mercury/disposal hazard	2	--
Did not work with dimmer or 3-way	1	14
Other reasons	2	--
Don't know / refused	2	--

3.8 Satisfaction with CFLs Currently in Use

Nearly nine out of ten (86%) RDD survey respondents who are currently using standard CFLs reported that they are very or somewhat satisfied with them and fewer than one in ten (7%) are somewhat or very dissatisfied with them (Table 3-33). Among those who expressed dissatisfaction with their standard CFLs, about one-fourth each were dissatisfied because of the delay in coming on (26%) or because of the cost of the CFLs (24%); nearly one-fifth (17%) were dissatisfied that the standard CFL bulb did not fit the fixture (Table 3-34).

The large majority of intercept survey respondents who are currently using standard CFLs (94%) reported that they are very or somewhat satisfied with them and fewer than one in ten (6%) are somewhat or very dissatisfied with them (Table 3-33).

Table 3-33: Satisfaction with Standard CFLs Currently in Use
(Base: Current CFL Users)

Removed CFL	RDD Survey	Survey of Intercepts
Sample Size	*362*	*17*
Very dissatisfied	2%	0%
Somewhat dissatisfied	5	6
Neither satisfied nor dissatisfied	4	--
Somewhat satisfied	34	35
Very satisfied	52	59
Never used standard CFLs	2	--
Don’t know / refused	1	--

Table 3-34: Reason for Dissatisfaction with Standard CFLs

(Base: Respondents with CFL satisfaction ratings of "very dissatisfied", "somewhat dissatisfied", or "neither satisfied nor dissatisfied", multiple response)

Removed CFL	RDD Survey	Survey of Intercepts
Sample Size	*46*	*1*
Delay in coming on	26%	100%
Cost	24	--
Bulb does not fit/size	17	--
Life span of bulb	11	--
Bulb is fine; neither satisfied nor dissatisfied	9	--
Bulb not bright enough	6	--
Safety concerns/disposal/mercury	6	--
Savings not realized/uses too much electricity	5	--
Sensitive to cold	5	--
Too bright	2	--
Quality (unspecified)	2	--
Don't know / refused	2	--

As Table 3-35 and Table 3-36 show, the majority of RDD survey respondents who are currently using specialty CFLs reported that they were very or somewhat satisfied with them—ranging from 81% who expressed satisfaction with A-shaped CFLs to 96% who expressed satisfaction with dimmable CFLs. Among those who expressed dissatisfaction with their specialty CFLs, about two out five (39%) were dissatisfied because of the delay in coming on (

Table 3-37).

Also, as Table 3-35 and Table 3-36 show, the majority of intercept respondents who are currently using specialty CFLs reported that they were very or somewhat satisfied with them—ranging from 66% who expressed satisfaction with dimmable CFLs to 100% who expressed satisfaction with A-shaped and three-way CFLs.

Table 3-35: Satisfaction with Specialty CFLs Currently in Use – Dimmable and Three-Way

(Base: Current Specialty CFL Users)

	Dimmable CFLs*		Three-way CFLs	
	RDD Survey	Survey of Intercepts	RDD Survey	Survey of Intercepts
Sample Size	*45*	*3*	*78*	*3*
Very dissatisfied	0%	0%	2%	0%
Somewhat dissatisfied	3	33	--	--
Neither satisfied nor dissatisfied	1	--	3	--
Somewhat satisfied	49	33	27	67
Very satisfied	47	33	66	33
Don't know / refused	--	--	2	--

Table 3-36: Satisfaction with Specialty CFLs Currently in Use – Specialty Shapes

(Base: Current Specialty CFL Users)

	Flood CFLs		Candelabra CFLs		Globe CFLs		A-Shaped CFLs	
	RDD Survey	Survey of Intercepts	RDD Survey	Survey of Intercepts	RDD Survey	Survey of Intercepts	RDD Survey	Survey of Intercepts
Sample Size	*95*	*9*	*40*	*4*	*93*	*8*	*71*	*6*
Very dissatisfied	2%	0%	8%	0%	1%	0%	1%	0%
Somewhat dissatisfied	1	11	--	--	4	13	3	--
Neither satisfied nor dissatisfied	6	--	2	--	2	--	10	--
Somewhat satisfied	39	33	25	25	36	50	30	83
Very satisfied	50	56	63	50	57	38	51	17
Don't know / refused	3	--	3	25	1	--	6	--

Table 3-37: Reason for Dissatisfaction with Specialty CFLs

(Base: Respondents with CFL satisfaction ratings of "very dissatisfied", "somewhat dissatisfied", or "neither satisfied nor dissatisfied", multiple response)

Removed CFL	RDD Survey	Survey of Intercepts
Sample Size	*29*	*3*
Delay in light coming in	39%	67%
Life span	15	--
CFL is fine; neither satisfied nor dissatisfied	10	--
Have not used them long enough	7	--
Cost	4	--
CFL not bright enough	4	--
CFL dims too much	2	--
Savings not realized/uses too much energy	2	--
Aesthetics	2	--
Problems with dimmable function	--	33
Other	7	--
Don't know / refused	17	--

4 Storage of CFLs

4.1 Storage of CFLs by Time Periods

The RDD survey data exhibit a notable decline in the number of CFLs in storage from 2008 to present (Table 4-2). Compared to 2008, the RDD survey respondents reported having one-third fewer CFLs in storage. The decline in the average number of CFLs reported in storage between January 2008 (3.8) and three months ago (2.4) is commensurate with the previously reported increase[9] in the average number of CFLs installed from January 2008 (3.6) to three months ago (5.1). Note, however, that the decline in the number of CFLs in storage since January 2008, combined with the increase in usage over the same period, adds up to only about one-third of the total CFLs reported purchased since January 2008 (Table 5-7, Section 5.2).

Among the intercept survey respondents ,there was a substantial increase in the number of CFLs in storage between January 2008 and January 2009 with relatively little change between January 2009 and the present. The intercept survey respondents also reported a steady increase in CFL usage since January 2008 (Table 3-5, section 3.2). All combined, the intercept survey respondents reported an increase of 144 CFLs in storage and 155 CFLs installed between 2008 and the present, which is very similar to the number of CFLs reported purchased since January 2008 (339)[10].

Table 4-1: Number of CFLs in Storage by Time Period by Households
(Base: All respondents)

Survey	Number of CFLs	Currently	3 Months Ago	January 2009	January 2008
RDD Survey *Sample Size = 500*	Zero	18%	21%	22%	33%
	One to five	30	27	26	18
	Six to fifteen	16	16	13	8
	Sixteen or more	1	1	1	1
	Don't know / refused	3	3	4	6
	Unaware / Never used CFLs	33	33	33	33
Survey of Intercepts *Sample Size = 17*	Zero	18%	29%	24%	65%
	One to five	24	12	18	18
	Six to fifteen	35	35	35	6
	Sixteen or more	24	24	24	12
	Don't know / refused	--	--	--	--
	Unaware / Never used CFLs	--	--	--	--

[9] See Table 3-6, Section 3.2
[10] See Table 5-7, Section 5.2

Table 4-2: Number of CFLs in Storage by Time Period by Percentage of CFLs*
(Base: All respondents)

Survey	Number of CFLs	Currently	3 Months Ago	January 2009	January 2008
RDD Survey *Sample Size = 500*	Zero	0%	0%	0%	0%
	One to five	34	35	27	14
	Six to fifteen	53	54	37	19
	Sixteen or more	12	11	36	66
	Total number of households	1,323,459	1,323,459	1,323,459	1,323,459
	Total CFLs in storage	3,339,837	3,145,723	3,842,654	4,963,959
	Mean number of CFLs in storage	2.5	2.4	2.9	3.8
Survey of Intercepts *Sample Size = 17*	Zero	0%	0%	0%	0%
	One to five	7	3	5	10
	Six to fifteen	21	21	20	21
	Sixteen or more	72	76	76	69
	Total number of households	17	17	17	17
	Total CFLs in storage	216	202	209	72
	Mean number of CFLs in storage	12.7	11.9	12.3	4.2

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

4.2 Current Storage of CFLs

As Table 4-3 shows, about one in three on-site participants (32%) have at least one CFL in storage. It is important to note the degree of error present in the reporting of CFLs in storage. In the RDD survey, two out of three on-site participants (66%) reported having at last one CFL in storage. In contrast, the on-site visits determined that fewer than two out of five (38%) participants were storing at least one CFL. Of the CFLs found in storage, over two-thirds (71%) were found in homes storing six or more CFLs; and nearly half (48%) of the CFLs found in storage were in homes storing 16 or more CFLs (

Table 4-4).

Among intercept survey participants, over four out of five participants (83%) reported storing at least one CFL (Table 4-3). Nearly three-quarters (72%) of the CFLs in storage were reported by respondents storing 16 or more CFLs and nearly all of the CFLs (92%) were reported by respondents storing six or more CFLs (

Table 4-4).

Table 4-3: Current Storage of CFLs by Households*

(Base: All respondents)

All CFLs	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*95*	***95***	***17***
Zero	18%	14%	56%	**60%**	**18%**
One to five	30	39	23	**19**	**24**
Six to fifteen	16	25	12	**11**	**35**
Sixteen or more	1	2	3	**2**	**24**
Don't know / refused	3	--	--	**--**	**--**
Unaware / Never used CFLs	33	20	6	**8**	**--**
CFL Storage					
Total number of households	1,323,459	95	95	**1,323,432**	**17**
Total CFLs in storage	3,339,837	378	211	**2,199,639**	**216**
Mean number of CFLs in storage	2.5	4.0	2.2	**1.7**	**12.7**

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

Table 4-4: Current Storage of CFLs by Percentage of CFLs in Storage*

(Base: All respondents)

All CFLs	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*95*	***95***	***17***
Zero	0%	0%	0%	**0%**	**0%**
One to five	34	30	29	**29**	**7**
Six to fifteen	53	56	40	**48**	**21**
Sixteen or more	12	15	31	**23**	**72**

* All respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

The large majority of RDD survey respondents (93%) are storing CFLs with the intent of using them in the future (Table 4-5). About two out of five of these respondents (42%) anticipate using the stored CFLs to replace another CFL, about one in five (22%) anticipate using them to replace an incandescent bulb and nearly one in three anticipate using them to replace either type of bulb (

Table 4-6).

The large majority of intercept survey respondents (93%) are storing CFLs with the intent of using them in the future (Table 4-5). About three out of five of these respondents (57%) anticipate using the stored CFLs to replace another CFL and about two out of five (43%) anticipate using them to replace either type of bulb (

Table 4-6).

Table 4-5: Reason for Storing CFLs
(Base: Respondents currently storing CFLs)

Removed CFL	RDD Survey	Survey of Intercepts
Sample Size	*267*	*<ALL*
For future use	93%	93%
Did not fit/work in fixture	4	7
Other	4	7
Don't know / refused	2	--

Table 4-6: Storing CFLs as a Replacement for Bulbs Already in Use
(Base: Respondents currently storing CFLs)

Removed CFL	RDD Survey	Survey of Intercepts
Sample Size	*267*	*14*
Replace compact fluorescent	42%	57%
Replace incandescent	22	--
Both/Whichever needed replacing first	30	43
Other	3	--
Don't know / refused	3	--

4.3 Disposal of CFLs

Nearly three out of four RDD survey respondents (71%) have not disposed of any CFLs in the past 12 months. Among those who have disposed of CFLs in the past 12 months, three-fifths said they threw them away in the trash and slightly over one-fourth gave them for recycling or proper disposal (Table 4-7).

About three out of five intercept survey respondents (59%) have not disposed of any CFLs in the past 12 months. Among those who have disposed of CFLs in the past 12 months, the majority were evenly split between those who said they threw them away in the trash and those who gave them for recycling or proper disposal (Table 4-7).

Table 4-7: Disposition of CFLs in Past 12 Months

(Base: Respondents using, storing, buying, or receiving CFLs since 2008)

	RDD Survey	Survey of Intercepts
Sample Size	*338*	*17*
Threw away in trash	17%	18%
Recycled/dropped off at hazardous waste center	7	18
Returned back to the store to be recycled	1	--
Other	<1	6
Don't know / refused	1	--
Have not disposed of CFLs	71	59

5 Lighting Purchases

About three out of four RDD survey respondents (74%) usually keep a supply of light bulbs on hand and about one in five (21%) tend to buy replacements as bulbs burn out. Over four out of five intercept survey respondents (88%) usually keep a supply of light bulbs on hand (Table 5-1).

Table 5-1: Buying Habits
(Base: All respondents)

	RDD Survey	Survey of Intercepts
Sample Size	*500*	*17*
Keep a supply on hand	74%	88%
Buy replacements as bulbs burn out	21	12
Both	4	--
Don't know / refused	1	--

5.1 Incandescent Bulb Purchases by Time Period

About one in seven RDD survey respondents (16%) reported purchasing an incandescent bulb in the past three months, slightly under one-half (46%) reported purchasing an incandescent bulb in 2009 and nearly three out of four (73%) reported purchasing an incandescent bulb in 2008 (Table 5-2). In the same period, their average monthly rate of purchase of incandescent bulbs has declined from 0.47 incandescent bulbs per month in 2008 to 0.34 incandescent bulbs per month in 2009 to 0.23 incandescent bulbs per month in the past three months (

Table 5-3).

Nearly all of the intercept survey respondents (94%) reported that they had not purchased an incandescent bulb in the past three months, about three out of four (77%) reported that they had not purchased an incandescent bulb in 2009 and nearly one-half (47%) reported that they had not purchased an incandescent bulb in 2008 (Table 5-2). In the same period, their average monthly rate of purchase of incandescent bulbs has declined from 0.24 incandescent bulbs per month in 2008 to 0.05 incandescent bulbs per month in 2009 to 0.02 incandescent bulbs per month in the past three months (

Table 5-3).

Table 5-2: Number of Incandescent Bulbs Purchased by Time Period as Percentage of Households

(Base: All respondents)

Survey	Number of Incandescent Bulbs	Past Three Months	Since January 2009	During 2008
RDD Survey *Sample Size = 500*	Zero	83%	50%	27%
	One to five	12	26	26
	Six to fifteen	4	18	30
	Sixteen or more	<1	2	7
	Don't know / refused	1	5	10
Survey of Intercepts *Sample Size = 17*	Zero	94%	77%	47%
	One to five	6	18	24
	Six to fifteen	--	--	18
	Sixteen or more	--	--	--
	Don't know / refused	--	6	12

Table 5-3: Number of Incandescent Bulbs Purchased by Time Period by Percentage of Incandescent Bulbs*

(Base: All respondents)

Survey	Number of Incandescent Bulbs	Past Three Months	Since January 2009	During 2008
RDD Survey *Sample Size = 500*	Zero	0%	0%	0%
	One to five	41	30	16
	Six to fifteen	56	57	48
	Sixteen or more	3	12	36
	Total number of households	1,323,459	1,323,459	1,323,459
	Total purchased	915,869	3,557,543	7,512,449
	Mean number purchased	0.7	2.7	5.6
	Mean number purchased / month	0.23	0.34	0.47
Survey of Intercepts *Sample Size = 17*	Zero	0%	0%	0%
	One to five	100%	100%	35
	Six to fifteen	--	--	65
	Sixteen or more	--	--	--
	Total number of households	17	17	17
	Total purchased	1	7	48
	Mean number purchased	0.06	0.4	2.8
	Mean number purchased / month	0.02	0.05	0.24

Respondents were asked where they had purchased incandescent bulbs in 2008. As Table 5-4 shows, the RDD survey respondents most frequently mentioned home improvement stores (66%), followed by mass merchandise stores (51%) and grocery stores (41%). The intercept survey respondents most frequently mentioned home improvement stores (71%), followed by hardware stores (43%).

Table 5-4: Type of Store where Incandescent Bulbs were Purchased in 2008

(Base: Respondents who purchased Incandescent Bulbs in 2008, multiple response)

Store Type	RDD Survey	Survey of Intercepts
Sample Size	*317*	*7*
Home improvement	66%	71%
Mass merchandise	51	--
Grocery	41	29
Hardware	25	43
Bargain	17	29
Warehouse	16	29
Drugstore	12	--
Specialty or electrical	5	--
Convenience store	3	--
Mail order catalogs	2	--
The Internet	1	--
Other	1	--

Respondents who had purchased incandescent bulbs since January 2008 were asked their primary reason for purchasing those bulbs rather than CFLs (Table 5-5). The most frequently mentioned specific reasons for choosing incandescent bulbs instead of CFLs were the higher cost of CFLs (16%) and that CFLs did not fit the fixtures (14%). In general, about one in five respondents (21%) mentioned reasons associated with functional aspects of the CFLs such as lack of fit with fixtures, bulbs not work with fixtures or lack of awareness for application. About one in seven respondents (14%) mentioned reasons associated with light rendition such as not liking light color, bulbs being too bright, bulbs being not bright enough or general aesthetics or appearance. A few respondents (4%) mentioned reasons associated with the performance of CFLs such as delays in coming on or interference with other electronics. The primary reasons cited by intercept survey respondents were that the CFLs did not fit the fixture s(30%) or that they were not aware of CFLs for the application.

Table 5-5: Primary Reason for Buying Incandescent instead of CFL Bulbs since January 2008

(Base: Respondents who purchased CFLs since January 2008)

	RDD Survey	Survey of Intercepts
Sample Size	*371*	*10*
CFLs too expensive / Incandescent bulbs were cheap	16%	10
CFLs do not fit (shape/size)	14	30
Not aware of CFL for application	9	20
Habit/more familiar	5	--
Do not like CFL light color	5	--
CFLs not bright enough	4	--
Bulbs burned out/to replace bulbs	4	--
Aesthetics	3	--
Someone else purchased	3	--
CFLs are too bright	3	--
CFLs do not work with 3-way fixture	2	--
Like better (unspecified)	2	--
CFLs do not work with dimmer	2	--
Convenience/availability	2	--
CFLs delay in coming on	1	--
Temporary use	--	10
Other	9	30
Don’t know / refused	16	--

5.2 CFL Purchases by Time Period

Fewer than one in ten RDD survey respondents (6%) reported purchasing a CFL in the past three months, one in five (20%) reported purchasing a CFL in 2009 and about one in three (34%) reported purchasing a CFL in 2008 (Table 5-6). In the same period, their average monthly rate of purchase of CFLs declined from 0.25 CFLs per month in 2008 to 0.17 CFLs per month in 2009 to 0.11 CFLs per month in the past three months (Table 5-7).

Slightly more than one in ten intercept survey respondents (12%) reported purchasing a CFL in the past three months, slightly under one-half (47%) reported purchasing a CFL in 2009 and all of them reported purchasing a CFL in 2008 (Table 5-6). In the same period, their average monthly rate of purchase of CFLs declined from 1.35 CFLs per month in 2008 to 0.41 CFLs per month in 2009 to 0.14 CFLs per month in the past three months (Table 5-7).

Table 5-6: Number of CFLs Purchased by Time Period by Households
(Base: All respondents)

Survey	Number of CFLs	Past Three Months	Since January 2009	During 2008
RDD Survey *Sample Size = 500*	Zero	59%	43%	27%
	One to five	4	11	17
	Six to fifteen	2	8	14
	Sixteen or more	<1	1	3
	Don't know / refused	<1	2	5
	Unaware / Never used CFLs	34	34	34
Survey of Intercepts *Sample Size = 17*	Zero	88%	53%	0%
	One to five	12	18	18
	Six to fifteen	--	29	41
	Sixteen or more	--	--	29
	Don't know / refused	--	--	12
	Unaware / Never used CFLs	--	--	--

Table 5-7: Number of CFLs Purchased by Time Period by Percentage of CFLs*
(Base: All respondents)

Survey	Number of CFLs	Past Three Months	Since January 2009	During 2008
RDD Survey *Sample Size = 500*	Zero	0%	0%	0%
	One to five	37	27	20
	Six to fifteen	52	58	44
	Sixteen or more	11	14	36
	Total number of households	1,323,459	1,323,459	1,323,459
	Total purchased	452,260	1,766,247	3,945,830
	Mean number purchased	0.3	1.3	3.0
	Mean number purchased / month	0.11	0.17	0.25
Survey of Intercepts *Sample Size = 17*	Zero	0%	0%	0%
	One to five	100%	18	5
	Six to fifteen	--	82	28
	Sixteen or more	--	--	66
	Total number of households	17	17	17
	Total purchased	7	56	276
	Mean number purchased	0.4	3.3	16.2
	Mean number purchased / month	0.14	0.41	1.35

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

Respondents were asked the types of stores where they had purchased CFLs in 2008. As Table 5-8 shows, the RDD survey respondents most frequently mentioned home improvement stores (57%), followed by mass merchandise stores (32%) and grocery stores (19%). As Table 5-9 shows, the most frequently mentioned specific store names where CFLs were purchased in 2008 were Home Depot (52%) and Wal-Mart (28%).

Although these responses generally paralleled the relative rankings in terms of most frequent purchase locations for incandescent bulbs, there also are some notable differences in their purchase patterns for the two lighting types. These RDD survey respondents reported purchasing CFLs (57%) nearly as frequently as incandescent bulbs (66%) at home improvement stores. However, for most other store types, they exhibited a notably lower frequency of purchase of CFLs than incandescent bulbs. For example, 32% reported purchasing CFLs at mass merchandise stores, compared with 51% who reported purchasing incandescent bulbs at the same types of stores; and 19% reported purchasing CFLs at grocery stores, compared with 41% who reported purchasing incandescent bulbs at these types of stores. Reflecting perhaps the wider mass market acceptance of incandescent bulbs and the perception of CFLs as a more specialized lighting technology, these data suggest that home improvement stores are more likely to be considered by these respondents to be a preferred source for purchasing CFLs.

The intercept survey respondents most frequently purchased CFLs at home improvement stores (80%), followed by warehouse stores (33%). The most frequently mentioned specific store names where CFLs were purchased in 2008 were Home Depot (80%) and Wal-Mart (27%).

Table 5-8: Type of Store where CFLs were Purchased in 2008

(Base: Respondents who purchased CFLs in 2008, multiple response)

Store Type	RDD Survey	Survey of Intercepts
Sample Size	*212*	*15*
Home improvement	57%	80%
Mass merchandise	32	--
Grocery	19	--
Warehouse	18	33
Hardware	15	13
Bargain	6	--
Drugstore	5	--
The internet	3	--
Specialty or electrical	3	--
Home furnishings	1	--
Office	1	--
Convenience	1	--
Mail order catalogs	1	--
Other	4	--

Table 5-9: Name of Store where CFLs were Purchased in 2008

(Base: Respondents who purchased CFLs in 2008, multiple response)

Store Name	RDD Survey	Survey of Intercepts
Sample Size	*177*	*15*
Home Depot	52%	80%
Wal-Mart	28	27
Stop 'n Shop	12	7
Costco	9	7
Lowe's	8	7
TruValue	7	7
Sam's Club	5	7
BJ's	4	
Big Y	4	
K-Mart	3	
Ace Hardware	3	
Target	3	
Ocean State Job Lot	3	
Walgreen's	2	
Big Lots	2	
Shop Rite	2	
Rite Aid	2	
Others	13	

Respondents who had purchased CFLs since January 2008 were asked their primary reason for purchasing CFLs rather than incandescent bulbs (Table 5-10). The RDD survey respondents most frequently mentioned that they wanted to save energy / electricity (44%). The intercept survey respondents most frequently mentioned that they wanted to save money (40%) and they wanted to save energy / electricity (33%).

Table 5-10: Primary Reason for Buying CFL instead of Incandescent Bulbs since January 2008

(Base: Respondents who purchased CFLs since January 2008)

	RDD Survey	Survey of Intercepts
Sample Size	*293*	*15*
To save energy / electricity	44%	33%
To save money on electric bills	9	40
Wanted to try	9	--
Wanted long-life bulb	8	13
Low price	7	--
Bulbs burned out / to replace other bulbs	5	7
Good for environment	3	--
Other	9	7
Don't know / refused	6	--

Table 5-11: Secondary Reasons for Buying CFL instead of Incandescent Bulbs since January 2008

(Base: Respondents who purchased CFLs since January 2008, multiple response)

Store Type	RDD Survey	Survey of Intercepts
Sample Size	*277*	*15*
No other reasons	63%	40%
To save energy / electricity	6	13
Wanted long-life bulb	5	20
To save money on electric bills	5	7
Low price	4	13
Wanted to try	3	--
Good for environment	2	7
Bulbs burned out / to replace other bulbs	2	--
Friends/family suggested	2	--
Other	6	7
Don't know / refused	4	--

As Table 5-12 shows, among the RDD survey respondents who have purchased CFLs, one-half (50%) went to the store with the specific intent of purchasing a CFL and slightly fewer than two out of five (38%) bought CFLs on impulse. Three out of five intercept survey respondents (60%) said that their most recent CFL purchase was an impulse buy when they had gone to the store to purchase something else.

Table 5-12: Occasion for Most Recent CFL Purchase
(Base: Respondents who have purchased CFLs)

Store Type	RDD Survey	Survey of Intercepts
Sample Size	*362*	*15*
Went to the store specifically to purchase CFLs	50%	40%
Went to the store to purchase something else and CFLs were an impulse purchase	38	60
Don't know / refused	12	--

Nearly three out of five RDD survey respondents (57%) install CFLs when they want to replace bulbs that are burned out or broken and about one in seven (13%) install CFLs in the most frequently used lights. Similarly, nearly one-half of the intercept survey respondents (47%) install CFLs when they want to replace bulbs that are burned out or broken and about one in four (27%) install CFLs in the most frequently used lights (Table 5-13).

Table 5-13: How Decide Where to Install Purchased CFLs
(Base: Respondents who have purchased CFLs, multiple response)

Store Type	RDD Survey	Survey of Intercepts
Sample Size	*362*	*15*
Bulbs that are burned out or broken	57%	47%
Most frequently used lights	13	27
Change over all of them	4	--
Install in fixtures where CFLs fit	3	--
Install in fixtures where bulbs are hidden	3	7
Install in fixtures where brightness does not matter	3	--
Any socket (no preference)	--	13
New lamps	--	7
Other	10	7
Don't know / refused	8	--

The RDD survey respondents were asked a series of store differentiation questions about which ones offered a higher-quality selection of CFLs, a wider selection of CFL types, a wider selection of CFL wattages and lower-priced CFLs. For the question about stores that offer a higher-quality selection of CFLs, the large majority of respondents (91%) could not say whether there were any such stores (Table 5-14). However, for the remaining store differentiation

questions, a substantially smaller percentage of respondents (61% to 69%) were unable to say whether there were any such stores (Table 5-15 to Table 5-17). Hence, at least one-fourth to one-fifth of respondents are able to distinguish between stores based on price and variety of CFL selections, but not on the quality of CFL selections. From this we can infer the existence of a number of respondents who cannot differentiate between CFL bulbs or brands based on the quality of the technology itself (as opposed to differentiating between stores where varying quality of CFLs may be available).

As Table 5-14 shows, about one in ten RDD survey respondents (9%) think that there are certain stores that offer a higher-quality selection of CFLs; they most frequently mention Home Depot (20%), specialty lighting stores (16%) or the Connecticut Lighting Center (15%).

Table 5-14: Stores that Offer Higher Quality Selection of CFLs

(Base: All respondents, multiple response)

Certain stores offer a higher quality selection of CFLs	**RDD Survey**
Sample Size	*500*
Yes	9%
No	37
Don't know / refused	54
Types of Stores	
Sample Size	*43*
Home Depot	20%
Specialty lighting store	16
Connecticut Lighting Centers	15
Lowe's	13
Wal-Mart	10
Costco	5
Ace Hardware	5
BJ's	4
Electric warehouse/wholesalers	4
True Value	3
Other	5
Don't know / refused	16

As Table 5-15 shows, nearly two out of five RDD survey respondents (37%) think that there are certain stores that offer a wider selection of CFL types; they most frequently mention Home Depot (55%), followed by Lowe's (24%) and Wal-Mart (22%).

Table 5-15: Stores that Offer Wider Selection of CFL Types

(Base: All respondents, multiple response)

Certain stores offer a wider selection of CFLs	**RDD Survey**
Sample Size	*500*
Yes	37%
No	29
Don't know / refused	34
Types of Stores	
Sample Size	*195*
Home Depot	55%
Lowe's	24
Wal-Mart	22
Ace Hardware	5
Sam's Club	3
Stop n Shop	3
K-Mart	3
True Value	3
Costco	2
Target	2
Walgreens	2
Dollar Store	2
Connecticut Lighting Centers	2
Ikea	1
Big Lots	1
BJ's	1
Other	4
Don't know / refused	9

As Table 5-16 shows, nearly one in three RDD survey respondents (30%) think that there are certain stores that offer a wider selection of CFL wattages; they, again, most frequently mention Home Depot (53%), followed by Lowe's (24%) and Wal-Mart (21%).

Table 5-16: Stores that Offer a Wider Selection of CFL Wattages

(Base: All respondents, multiple response)

Certain stores offer a wider selection of CFL wattages	**RDD Survey**
Sample Size	*500*
Yes	30%
No	24
Don't know / refused	45
Types of Stores	
Sample Size	*153*
Home Depot	53%
Lowe's	24
Wal-Mart	21
BJ's	4
Stop n Shop	3
Costco	2
Ace Hardware	2
Dollar Store	2
CVS	1
Sam's Club	1
Shop Rite	1
Connecticut Lighting Centers	1
Electric warehouse/wholesalers	1
Bed, Bath and Beyond	1
Other	8
Don't know / refused	6

As Table 5-17 shows, slightly over one in three RDD survey respondents (36%) think that there are certain stores that offer CFL at lower prices, most frequently mentioning Wal-Mart (43%) and Home Depot (26%).

Table 5-17: Stores that Offer CFLs at Lower Prices
(Base: All respondents, multiple response)

Certain stores offer CFLs at lower prices	**RDD Survey**
Sample Size	*500*
Yes	36%
No	26
Don't know / refused	38
Types of Stores	
Sample Size	*184*
Wal-Mart	43%
Home Depot	26
Lowe's	8
Target	6
Sam's Club	6
Costco	4
K-Mart	3
Ocean State Job Lot	3
Ace Hardware	3
Dollar Store	3
Big Lots	3
Walgreens	2
Shop Rite	2
Benny's	1
Family Dollar	1
Stop n Shop	1
Rite Aid	1
Bed, Bath and Beyond	1
Connecticut Lighting Centers	1
Xtra Mart	1
True Value	1
Other	5
Don't know / refused	5

5.2.1 CFLs Purchased in Past Three Months

As Table 5-18 shows, in the past three months, practically none of the RDD survey respondents reported purchasing CFLs using a rebate coupon or receiving CFLs for free. None of the intercept survey respondents reported making purchases using a rebate coupon or receiving any CFLs for free in 2009 (Table 5-18).

Table 5-18: Number of CFLs Purchased or Given in Past Three Months
(Base: All respondents)

Number of CFLs Purchased or Given	Total Purchases		Purchased with Rebate Coupon		Received for Free	
	RDD Survey	Survey of Intercepts	RDD Survey	Survey of Intercepts	RDD Survey	Survey of Intercepts
Sample Size	*500*	*ALL*	*500*	*17*	*500*	*17*
Zero	59%	88%	65%	--	65%	--
One to five	4	12	<1	--	<1	--
Six to fifteen	2	--	--	--	1	--
Sixteen or more	<1	--	--	--	--	--
Don't know / refused	<1	--	1	--	--	--
Unaware / Never used CFLs	34	--	34	--	34	--
Households	1,323,459	17	1,323,459	17	1,323,459	17
Total	452,260	7	4,698	--	184,521	--
Mean	0.3	0.4	<0.1	--	0.1	--

As Table 5-19 shows, while the majority of on-site participants had not purchased in the prior three months (88%) and households that had purchased any CFLs had primarily purchased standard CFLs (10%). Thus, standard CFLs represented about four in five (79%) CFLs purchased in the past three months and specialty CFLs represented about one in five (21%) CFLs purchased in the past three months by on-site participants (Table 5-20).

While only slightly more than one in ten (12%) of the intercept survey respondents reported purchasing a CFL in the past three months, those who reported purchasing CFLs had purchased only specialty CFLs (Table 5-19).

Table 5-19: CFLs Purchased in the Past Three Months by Households

(Base: All respondents)

	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*95*	***95***	***17***
All CFLs					
Zero	59%	70%	79%	**80**	**88%**
One to five	4	6	12	**9**	**12**
Six to fifteen	2	2	2	**1**	**--**
Sixteen or more	<1	1	1	**1**	**--**
Don't know / refused	<1	--	--	**--**	**--**
Unaware / Never used CFLs	34	21	6	**8**	
Standard CFLs as a Percent of All CFLs					
Zero	61%	72%	81%	**82%**	**--**
One to five	2	4	11	**9**	**--**
Six to fifteen	2	2	2	**1**	**--**
Sixteen or more	--	--	--	**--**	**--**
Don't know / refused	1	1	--	**--**	**--**
Unaware / Never used CFLs	34	21	6	**8**	**--**
Specialty CFLs as a Percent of All CFLs					
Zero	63%	74%	91%	**90%**	**88%**
One to five	2	3	1	**1**	**12**
Six to fifteen	1	1	2	**1**	**--**
Sixteen or more	--	--	--	**--**	**--**
Don't know / refused	1	1	--	**--**	**--**
Unaware / Never used CFLs	34	21	6	**8**	**--**

Table 5-20: Number of CFLs Purchased in the Past Three Months by Type*

(Base: All respondents)

	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*95*	***95***	***17***
Total number of households	1,323,459	95	95	**1,323,432**	***17***
All CFLs					
Total CFLs purchased	452,260	48	61	**536,846**	**7**
Mean number of CFLs purchased	0.3	0.5	0.6	**0.4**	**0.4**
% of all CFLs purchased	100%	100%	100%	**100%**	**100%**
Standard CFLs					
Total CFLs purchased	319,439	28	47	**426,339**	**0**
Mean number of CFLs purchased	0.2	0.3	0.5	**0.3**	**0**
% of all CFLs purchased	71%	58%	77%	**79%**	**--**
Specialty CFLs					
Total CFLs purchased	132,821	20	14	**110,508**	**7**
Mean number of CFLs purchased	0.1	0.2	0.1	**0.1**	**0.4**
% of all CFLs purchased	29%	42%	23%	**21%**	**100%**

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

Slightly over two-fifths (44%) of the CFLs purchased in the past three months were purchased by households purchasing fewer than six CFLs; and slightly more than one-half (56%) were purchased by households purchasing six or more CFLs. Nearly all (93%) of the specialty CFLs purchased in the past three months were purchased by households purchasing more than six CFLs (Table 5-21).

All of the purchases reported by the intercept survey respondents were purchased by households purchasing one to five CFLs, and these were all specialty CFLs (Table 5-21).

Table 5-21: Number of CFLs Purchased in the Past Three Months by Percentage of CFLs*
(Base: All respondents)

SAMPLE – BASED ON TABLE 3-9	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*95*	**95**	**17**
All CFLs					
Zero	0%	0%	0%	**0%**	**0%**
One to five	37	29	38	**44**	**100**
Six to fifteen	52	38	34	**31**	**--**
Sixteen or more	11	33	28	**25**	**--**
Standard CFLs as a Percent of All CFLs					
Sample Size	*500*	95	95	**95**	**17**
Zero	0%	0%	0%	**0%**	**0%**
One to five	29	36	47	**54**	**--**
Six to fifteen	71	64	53	**46**	**--**
Sixteen or more	--	--	--	**--**	**--**
Specialty CFLs as a Percent of All CFLs					
Sample Size	*500*	95	95	**95**	**17**
Zero	0%	0%	0%	**0%**	**0%**
One to five	64	40	7	**7**	**100**
Six to fifteen	36	60	93	**93**	**--**
Sixteen or more	--	--	--	**--**	**--**

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

Table 5-22 and Table 5-23 summarize the number of specialty CFLs purchased in the past three months by type of specialty CFL. A small fraction of on-site participants reported purchasing candelabra (2%), three-way (1%) and flood/recessed (1%) CFLs.

In the past three months, slightly over one in ten intercept survey respondents (12%) reported purchasing A-shaped CFLs and fewer than one in ten (6%) reported purchasing flood/recessed CFLs (Table 5-22).

Table 5-22: Type of Specialty CFLs Purchased in Past Three Months

(Base: All respondents)

Type of Specialty CFL	# of CFLs Purchased	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size		*500*	*95*	*95*	***95***	***17***
Dimmable	Zero	65%	79%	94%	**92%**	**100%**
	One to five	<1	--	--	**--**	**--**
	Six to fifteen	--	--	--	**--**	**--**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	1	--	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
3-way	Zero	65%	78%	93%	**91%**	**100%**
	One to five	<1	--	1	**1**	**--**
	Six to fifteen	<1	1	--	**--**	**--**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	1	--	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Flood or Recessed	Zero	64%	76%	93%	**91%**	**94%**
	One to five	1	2	1	**1**	**6**
	Six to fifteen	--	--	--	**--**	**--**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	1	1	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Candelabra	Zero	65%	78%	92%	**90%**	**100%**
	One to five	--	--	1	**1**	**--**
	Six to fifteen	<1	1	1	**1**	**--**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	1	--	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Globe	Zero	65%	77%	94%	**92%**	**100%**
	One to five	1	1	--	**--**	**--**
	Six to fifteen	--	--	--	**--**	**--**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	1	1	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
A-shaped	Zero	65%	78%	94	**92%**	**88%**
	One to five	1	--	--	**--**	**12**
	Six to fifteen	<1	--	--	**--**	**--**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	1	1	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6%	**8%**	**--**

Table 5-23: Type of Specialty CFLs Purchased in Past Three Months
(Base: All respondents)

Type of Specialty CFL	# of CFLs in Use	On-Sites (unweighted)	On-Sites (weighted)
Sample Size		*95*	***95***
Bullet / Torpedo	Zero	94%	**92%**
	One to five	--	**--**
	Six to fifteen	--	**--**
	Sixteen or more	--	**--**
	Don't know / refused	--	**--**
	Unaware / Never used CFLs	6	**8**
Bug light	Zero	94%	**92%**
	One to five	--	**--**
	Six to fifteen	--	**--**
	Sixteen or more	--	**--**
	Don't know / refused	--	**--**
	Unaware / Never used CFLs	6	**8**

5.2.2 CFL Purchased Since January 2009

As Table 5-24 shows, relatively few RDD survey respondents (2%) reported purchasing any CFLs in 2009 using a rebate coupon. In addition, fewer than one in ten (5%) RDD survey respondents reported receiving any CFLs for free in 2009.

None of the intercept survey respondents reported making purchases using a rebate coupon or receiving any CFLs for free in 2009 (Table 5-24).

Table 5-24: Number of CFLs Purchased or Given Since January 2009
(Base: All respondents)

Number of CFLs Purchased or Given	Total Purchases		Purchased with Rebate Coupon		Received for Free	
	RDD Survey	Survey of Intercepts	RDD Survey	Survey of Intercepts	RDD Survey	Survey of Intercepts
Sample Size	*500*	*17*	*500*	*17*	*500*	*17*
Zero	43%	53%	62%	0%	62%	0%
One to five	11	18	1	--	3	--
Six to fifteen	8	29	1	--	2	--
Sixteen or more	1	--	--	--	--	--
Don't know / refused	2	--	3	--	<1	--
Unaware / Never used CFLs	34	--	34	--	34	--
Households	1,323,459	17	1,323,459	17	1,323,459	17
Total	1,766,247	56	151,575	--	313,592	--
Mean	1.3	3.3	0.1	--	0.2	--

About one in four (24%) on-site participants reported purchasing CFLs in 2009. About one in five (21%) on-site participants reported purchasing standard CFLs and fewer than one in ten (4%) reported purchasing specialty CFLs (Table 5-25). Standard CFLs (84%) represented more than four-fifths of all CFLs purchased in 2009 and specialty CFLs (16%) represented less than one-fifth all CFLs purchased in 2009 (Table 5-26). More than four-fifths (83%) of CFLs purchased in 2009 were purchased by households that purchased six or more CFLs and nearly half (47%) were purchased by households that purchased 16 or more CFLs (Table 5-27).

Among the intercept survey respondents, nearly one-half (47%) reported purchasing CFLs in 2009. Nearly one-half (47%) of intercept households also reported purchasing specialty CFLs in 2009 and about one-fourth (24%) reported purchasing standard CFLs (Table 5-25). Over two-thirds (68%) of all CFLs purchased in 2009 were specialty CFLs and about one-third (32%) were standard CFLs (Table 5-26). A majority of standard CFLs (78%) were purchased by households purchasing six or more CFLs. Nearly one-half (47%) of specialty CFLs were purchased by households purchasing five CFLs or fewer and about one-half (53%) were purchased by households purchasing six or more CFLs (Table 5-27).

Table 5-25: CFLs Purchased Since January 2009 by Households

(Base: All respondents)

	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*95*	***95***	***17***
All CFLs					
Zero	43%	50%	66%	**67%**	**53%**
One to five	11	19	16	**13**	**18**
Six to fifteen	8	5	7	**7**	**29**
Sixteen or more	1	3	4	**4**	**--**
Don't know / refused	2	2	--	**--**	**--**
Unaware / Never used CFLs	34	21	6	**8**	**--**
Standard CFLs as a Percent of All CFLs					
Zero	49%	59%	70%	**70%**	**77%**
One to five	8	12	14	**11**	**12**
Six to fifteen	6	5	7	**7**	**12**
Sixteen or more	<1	--	3	**3**	**--**
Don't know / refused	3	3	--	**--**	**--**
Unaware / Never used CFLs	34	21	6	**8**	**--**
Specialty CFLs as a Percent of All CFLs					
Zero	53%	61%	87%	**88%**	**53%**
One to five	8	13	3	**2**	**35**
Six to fifteen	2	2	2	**1**	**12**
Sixteen or more	--	--	1	**1**	**--**
Don't know / refused	3	3	--	**--**	**--**
Unaware / Never used CFLs	34	21	6	**8**	**--**

Table 5-26: Number of CFLs Purchased Since January 2009 by Type*

(Base: All respondents)

	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*				***17***
Total number of households	1,323,459	95	95	**1,323,432**	***17***
All CFLs					
Total CFLs purchased	1,766,247	157	221	**2,639,287**	**56**
Mean number of CFLs purchased	1.3	1.7	2.3	**2.0**	**3.3**
% of all CFLs purchased	100%	100%	100%	**100%**	**100%**
Standard CFLs					
Total CFLs purchased	1,223,832	92	170	**2,209,886**	**18**
Mean number of CFLs purchased	0.9	1.0	1.8	**1.7**	**1.1**
% of all CFLs purchased	69%	59%	77%	**84%**	**32%**
Specialty CFLs					
Total CFLs purchased	542,415	65	51	**429,401**	**38**
Mean number of CFLs purchased	0.4	0.7	0.5	**0.3**	**2.2**
% of all CFLs purchased	31%	41%	23%	**16%**	**68%**

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

Table 5-27: Number of CFLs Purchased Since January 2009 by Percentage of CFLs*

(Base: All respondents)

	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*95*	***95***	***17***
All CFLs					
Zero	0%	0%	0%	**0%**	**0%**
One to five	27	38	18	**17**	**18**
Six to fifteen	58	27	30	**36**	**82**
Sixteen or more	14	36	52	**47**	**--**
Standard CFLs as a Percent of All CFLs					
Sample Size	500	95	95	**95**	**17**
Zero	0%	0%	0%	**0%**	**0%**
One to five	25	35	21	**17**	**28**
Six to fifteen	71	65	42	**44**	**78**
Sixteen or more	4	--	38	**39**	**--**
Specialty CFLs as a Percent of All CFLs					
Sample Size	500	95	95	**95**	**17**
Zero	0%	0%	0%	**0%**	**0%**
One to five	57	60	12	**17**	**53**
Six to fifteen	43	40	25	**24**	**47**
Sixteen or more	--	--	63	**59**	**--**

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

As Table 5-28 and Table 5-29 show, the specialty CFLs purchased by on-site participants in 2009 were candelabra (2%), globe (2%), flood/recessed (2%) and three-way (1%) CFLs.

Among the intercept survey respondents, about one-quarter (24%) reported purchasing at least one A-shaped CFL in 2009 and about one in ten (12%) reported purchasing at least one globe, flood/recessed or three-way CFL (Table 5-28).

Table 5-28: Type of Specialty CFLs Purchased since January 2009

(Base: All respondents)

Type of Specialty CFL	# of CFLs Purchased	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size		*500*	*95*	*95*	***95***	***17***
Dimmable	Zero	64%	77%	94%	**94%**	**94%**
	One to five	<1	--	--	**--**	**6**
	Six to fifteen	--	--	--	**--**	**--**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	2	2	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**6**	**--**
3-way	Zero	62%	74%	93%	**91%**	**88%**
	One to five	2	2	1	**1**	**12**
	Six to fifteen	<1	1	--	**--**	**--**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	2	2	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Flood or Recessed	Zero	60%	67%	92%	**91%**	**88%**
	One to five	4	8	1	**1**	**6**
	Six to fifteen	<1	--	--	**--**	**6**
	Sixteen or more	--	--	1	**1**	**--**
	Don't know / refused	3	3	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Candelabra	Zero	63%	76%	91%	**90%**	**94%**
	One to five	1	--	2	**1**	**6**
	Six to fifteen	<1	1	1	**1**	**--**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	2	2	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Globe	Zero	61%	74%	91%	**90%**	**88%**
	One to five	3	3	3	**2**	**12**
	Six to fifteen	--	--	--	**--**	**--**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	2	2	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
A-shaped	Zero	60%	73%	94%	**92%**	**77%**
	One to five	3	4	--	**--**	**18**
	Six to fifteen	<1	--	--	**--**	**6**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	2	2	--	**--**	**--**
	Unaware / Never used CFLs	34	21	6	**8**	**--**

Table 5-29: Type of Specialty CFLs Purchased since January 2009
(Base: All respondents)

Type of Specialty CFL	# of CFLs in Use	On-Sites (unweighted)	On-Sites (weighted)
Sample Size		*95*	***95***
Bullet / Torpedo	Zero	94%	**92%**
	One to five	--	**--**
	Six to fifteen	--	**--**
	Sixteen or more	--	**--**
	Don't know / refused	--	**--**
	Unaware / Never used CFLs	6	**8**
Bug light	Zero	94%	**92%**
	One to five	--	**--**
	Six to fifteen	--	**--**
	Sixteen or more	--	**--**
	Don't know / refused	--	**--**
	Unaware / Never used CFLs	6	**8**

5.2.3 CFL Purchased in 2008

As Table 5-30 shows, fewer than one in ten RDD survey respondents reported purchasing a CFL with a rebate coupon (7%) or receiving a CFL for free (6%) in 2008.

Nearly one-half (48%) of the intercept survey respondents reported purchasing a CFL with a rebate coupon in 2008 and none reported receiving a CFL for free in 2008 (Table 5-30).

Table 5-30: Number of CFLs Purchased or Given in 2008
(Base: All respondents)

Number of CFLs Purchased or Given	Total Purchases		Purchased with Rebate Coupon		Received for Free	
	RDD Survey	Survey of Intercepts	RDD Survey	Survey of Intercepts	RDD Survey	Survey of Intercepts
Sample Size	*500*	*17*	*500*	*17*	*500*	*17*
Zero	27%	0%	54%	29%	59%	94%
One to five	17	18	4	12	5	--
Six to fifteen	14	41	2	24	1	--
Sixteen or more	3	29	1	12	<1	--
Don't know / refused	5	12	7	24	1	6
Unaware / Never used CFLs	34	--	34	--	34	--
Households	1,323,459	17	1,323,459	17	1,323,459	17
Total	3,945,830	276	897,916	162	491,342	**--**
Mean	3.0	16.2	0.7	9.5	0.4	**--**

One in four on-site participants (25%) reported purchasing CFLs in 2008 and all of these participants reported purchasing at least one standard CFL. Fewer than one in ten (8%) participants reported purchasing at least one specialty CFL in 2008 (Table 5-31). Standard CFLs accounted for more than four-fifths (86%) of all CFLs purchased by on-site participants in 2008 (Table 5-32). The vast majority (92%) of standard CFLs purchased in 2008 were purchased by households purchasing six or more CFLs and over one-half (52%) of the standard CFLs were purchased by households purchasing 16 or more CFLs. Three-quarters (75%) of the specialty CFLs purchased in 2008 were purchased by households purchasing six or more CFLs in 2008 and one-half of the specialty CFLs were purchased by households purchasing between six and 15 CFLs in 2008 (Table 5-33).

All of the intercept survey participants reported purchasing CFLs in 2008—about three out of five (59%) reported purchasing standard CFLs and the same percentage reported purchasing specialty CFLs (Table 5-31). Standard CFLs accounted for slightly more than one-half (55%) of all CFLs purchased by intercept participants in 2008 (Table 5-32). Slightly more than one-half (55%) of the standard CFLs were purchased by households purchasing more than 16 standard specialty CFLs; and slightly more than one-half of the specialty CFLs (55%) were also purchased by households purchasing more than 16 specialty CFLs (Table 5-33).

Table 5-31: CFLs Purchased in 2008 by Households

(Base: All respondents)

	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*95*	***95***	***17***
All CFLs					
Zero	27%	24%	61%	**68%**	**0%**
One to five	17	28	8	**6**	**18**
Six to fifteen	14	19	15	**12**	**41**
Sixteen or more	3	5	10	**7**	**29**
Don't know / refused	5	2	--	**--**	**12**
Unaware / Never used CFLs	34	21	6	**8**	**--**
Standard CFLs as a Percent of All CFLs					
Zero	36%	39%	61%	**68%**	**24%**
One to five	13	23	12	**8**	**12**
Six to fifteen	7	8	14	**11**	**29**
Sixteen or more	2	5	7	**6**	**18**
Don't know / refused	8	3	--	**--**	**18**
Unaware / Never used CFLs	34	21	6	**8**	**--**
Specialty CFLs as a Percent of All CFLs					
Zero	42%	45%	83%	**84%**	**24%**
One to five	10	18	6	**5**	**18**
Six to fifteen	5	12	3	**2**	**29**
Sixteen or more	1	1	1	**1**	**12**
Don't know / refused	8	3	--	**--**	**18**
Unaware / Never used CFLs	34	21	6	**8**	**--**

Table 5-32: Number of CFLs Purchased Since January 2008 by Type*

(Base: All respondents)

SAMPLE – BASED ON TABLE 3-8	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*95*	***95***	***17***
Total number of households	1,323,459	95	95	**1,323,432**	**17**
All CFLs					
Total CFLs purchased	3,945,830	535	422	**4,457,923**	**276**
Mean number of CFLs purchased	3.0	5.6	4.4	**3.4**	**16.2**
% of all CFLs purchased	100%	100%	100%	**100%**	**100%**
Standard CFLs					
Total CFLs purchased	2,460,213	332	358	**3,838,687**	**151**
Mean number of CFLs purchased	1.9	3.5	3.8	**2.9**	**8.9**
% of all CFLs purchased	62%	62%	85%	**86%**	**55%**
Specialty CFLs					
Total CFLs purchased	1,485,617	203	64	**619,236**	**125**
Mean number of CFLs purchased	1.1	2.1	0.7	**0.5**	**7.4**
% of all CFLs purchased	38%	38%	15%	**14%**	**45%**

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

Table 5-33: Number of CFLs Purchased Since January 2008 by Percentage of CFLs*

(Base: All respondents)

SAMPLE – BASED ON TABLE 3-9	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*95*	***95***	***17***
All CFLs					
Zero	0%	0%	0%	**0%**	**0%**
One to five	20	18	5	**5**	**5**
Six to fifteen	44	33	32	**35**	**28**
Sixteen or more	36	49	63	**60**	**66**
Standard CFLs as a Percent of All CFLs					
Sample Size	500	95	95	**95**	***17***
Zero	0%	0%	0%	**0%**	**0%**
One to five	25	20	9	**9**	**5**
Six to fifteen	42	30	38	**40**	**40**
Sixteen or more	33	50	53	**52**	**55**
Specialty CFLs as a Percent of All CFLs					
Sample Size	500	95	95	**95**	***17***
Zero	0%	0%	0%	**0%**	**0%**
One to five	29	24	22	**24**	**9**
Six to fifteen	44	45	47	**50**	**36**
Sixteen or more	27	31	31	**25**	**55**

* For projecting CFL use to the population, all respondents who gave non-numeric responses were assumed to have zero CFLs in use. This includes those said don't know/refused to the question on current CFL use as well as those who were unaware of/never used CFLs.

As Table 5-34 and Table 5-35 show, the specialty CFLs purchased by on-site participants in 2008 were flood/recessed (4%), globe (3%), A-shaped (2%), candelabra (1%) and three-way (1%) CFLs.

As Table 5-34 shows, intercept survey respondents reported purchases of specialty CFLs in 2008 that included flood/recessed CFLs (30%), globe-shaped CFLs (24%), and dimmable, three-way or A-shaped CFLs (12%).

Table 5-34: Type of Specialty CFLs Purchased in 2008

(Base: All respondents)

Type of Specialty CFL	# of CFLs Purchased	RDD Survey	RDD Survey On-Sites (unweighted)	On-Sites (unweighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size		*500*	*95*	*95*	***95***	***17***
Dimmable	Zero	58%	74%	94%	**92%**	**77%**
	One to five	2	3	--	**--**	**6**
	Six to fifteen	--	--	--	**--**	**6**
	Sixteen or more	--	--	--	**--**	**--**
	Don't know / refused	6	2	--	**--**	**12**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
3-way	Zero	56%	71%	93%	**91%**	**77%**
	One to five	3	4	1	**1**	**6**
	Six to fifteen	<1	1	--	**--**	**6**
	Sixteen or more	<1	1	--	**--**	**--**
	Don't know / refused	6	2	--	**--**	**12**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Flood or Recessed	Zero	54%	62%	88%	**88%**	**53%**
	One to five	4	8	2	**2**	**12**
	Six to fifteen	2	6	3	**2**	**18**
	Sixteen or more	<1	--	--	**--**	**--**
	Don't know / refused	6	2	--	**--**	**18**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Candelabra	Zero	58%	72%	92%	**90%**	**88%**
	One to five	2	3	2	**1**	**--**
	Six to fifteen	<1	1	--	**--**	**--**
	Sixteen or more	<1	1	--	**--**	**--**
	Don't know / refused	5	2	--	**--**	**12**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
Globe	Zero	55%	65%	88%	**89%**	**65%**
	One to five	4	10	4	**2**	**12**
	Six to fifteen	1	1	1	**1**	**6**
	Sixteen or more	--	--	--	**--**	**6**
	Don't know / refused	6	3	--	**--**	**12**
	Unaware / Never used CFLs	34	21	6	**8**	**--**
A-shaped	Zero	55	71%	92%	**90%**	**77%**
	One to five	3	4	2	**2**	**12**
	Six to fifteen	2	2	--	**--**	**--**
	Sixteen or more	<1	--	--	**--**	**--**
	Don't know / refused	6	2	--	**--**	**12**
	Unaware / Never used CFLs	34	21	6	**8**	**--**

Table 5-35: Type of Specialty CFLs Purchased since January 2008

(Base: All respondents)

Type of Specialty CFL	# of CFLs in Use	On-Sites (unweighted)	On-Sites (weighted)
Sample Size		*95*	***95***
Bullet / Torpedo	Zero	94%	**92%**
	One to five	--	**--**
	Six to fifteen	--	**--**
	Sixteen or more	--	**--**
	Don't know / refused	--	**--**
	Unaware / Never used CFLs	6	**8**
Bug light	Zero	94%	**92%**
	One to five	--	**--**
	Six to fifteen	--	**--**
	Sixteen or more	--	**--**
	Don't know / refused	--	**--**
	Unaware / Never used CFLs	6	**8**

5.3 Future Purchasing Decisions

About two out five RDD survey respondents (42%) were at least somewhat likely to purchase CFLs in the next year and nearly one in four (23%) were at least somewhat unlikely to purchase CFLs in the next year. Three out five intercept survey respondents (60%) were at least somewhat likely to purchase CFLs in the next year and about one in three (34%) were at least somewhat unlikely to purchase CFLs in the next year (Table 5-36).

Table 5-36: Likelihood of Purchasing CFLs in Next Year
(Base: All respondents)

Store Type	RDD Survey	Survey of Intercepts
Sample Size	*500*	*15*
0 – 'extremely unlikely'	13%	20%
1	2	7
2	3	7
3	5	--
4	3	--
5	16	7
6	6	--
7	6	13
8	9	7
9	3	--
10 – 'extremely likely'	24	40
Don't know / refused	10	--
Mean	**5.9**	**6.0**

Respondents who were not likely to purchase additional CFLs in the next year were asked what would encourage them to buy CFLs (Table 5-37). Among RDD survey respondents, about one in four each said that they would by CFLs if the prices were lower (25%) or if they needed them (24%). Among the intercept survey respondents who said they were unlikely to purchase CFLs in the next year, two out of six would be motivated to purchase them if they were cheaper (33%) and a similar number would be motivated to purchase them if the CFLs were needed or if they ran out of the ones in storage (33%).

Table 5-37: Motivations for Purchasing CFLs in Next Year

(Base: Respondents unlikely to purchase CFLs)

Store Type	RDD Survey	Survey of Intercepts
Sample Size	*204*	*6*
Lower price/make them less expensive	25%	33%
If needed/ran out in storage	24	33
If they saved more energy	6	--
Make some that last longer/don't break	5	--
Nothing/would not purchase	5	--
If available in different sizes/shapes	2	--
If they had better color	1	--
If they didn't interfere with radio/TV/other electronic devices	1	--
Make them available in a store near me	1	--
If they fit in fixture better	1	17
If they were brighter	--	17
Other	9	--
Don't know/Refused	19	--

Respondents who were likely to purchase additional CFLs in the next year were asked where they would buy them and the large majority of RDD (92%) and intercept (90%) survey respondents said they would buy them from a retail store (Table 5-38).

Table 5-38: Source for Purchasing CFLs in the Next Year

(Base: Respondents unlikely to purchase CFLs)

Store Type	RDD Survey	Survey of Intercepts
Sample Size	*250*	*10*
Buy them from a store	92%	90%
Buy them from utility/energy efficiency program	1	10
Buy them online	<1	--
Don't know / refused	7	--

6 LEDs and Other Energy Saving Lighting Technologies

More than two out of five RDD survey respondents (44%) were familiar with LEDs but fewer than one in five (16%) actually used them (Table 6-1). One in ten RDD survey respondents (10%) had used LEDs for the first time within the prior two years (

Table 6-2).

About four out of five intercept survey respondents (82%) were familiar with LEDs and one-half (50%) actually used them (Table 6-1). Nearly one in three intercept survey respondents (30%) had used LEDs for the first time within the prior year (

Table 6-2).

Table 6-1: Familiarity and Use of LEDs
(Base: All respondents)

Level of Familiarity	RDD Survey	Survey of Intercepts
Sample Size	*500*	*17*
Familiar with LEDs	44%	82%
Familiar and use LEDs		
Sample Size	*500*	*14*
Yes	16%	50%

Table 6-2: First Use of LEDs
(Base: Respondents familiar with LEDs)

	RDD Survey	Survey of Intercepts
Sample Size	*229*	*10*
Less than one year	3%	30%
One to two years	21	--
Three to four years	10	--
Five or more years	4	--
Never used LEDs	53	60
Don't know / refused	9	10

Among RDD survey respondents who were familiar with LEDs, the applications they were most familiar with are flashlights (20%) and automotive lighting (17%). Nearly one in three RDD survey respondents (31%) could not name a specific LED application with which they were familiar (Table 6-3).

Among intercept survey respondents who were familiar with LEDs, the applications they were most familiar with were flashlights (50%) and recessed/can lighting (21%).

Table 6-3: Type of LED Applications Familiar with

(Base: Respondents familiar with LEDs, multiple response)

	RDD Survey	Survey of Intercepts
Sample Size	*250*	*14*
Flashlights	20%	50%
Automotive lighting	17	14
Under cabinet lighting	8	--
Holiday lights	8	14
Task/Desk lamps	7	--
Electronic devices	7	--
Night lights	6	--
Light bulbs/screw in bulbs	4	--
Novelty fixtures	4	14
Misc. commercial uses	4	--
Recessed/Can lighting	3	21
Other	9	7
Don't know / refused	31	21

Among RDD survey respondents who were using LEDs, the most frequent applications were under cabinet lighting followed by night lights, task/desk lamps and flashlights. Among intercept survey respondents who were using LEDs, the most frequent applications were flashlights (Table 6-4).

Table 6-4: Type of LEDs Currently in Use
(Base: Respondents using LEDs, multiple response)

	RDD Survey	Survey of Intercepts
Sample Size	*28*	*3*
Under cabinet lighting	22%	--
Night lights	16	25
Task/Desk lamps	14	--
Flashlights	14	75
Light bulbs/screw in bulbs	7	--
Holiday lights	5	--
Automotive lighting	5	--
Gadgets (i.e. novelty items such as key chains, toys)	5	--
Outdoor-residential	5	--
Other	2	--
Don't know / refused	19	--

Respondents who are familiar with LEDs were what they were asked what they thought were the greatest differences between LEDs and CFLs (Table 6-5 and Table 6-6). The most frequently specific difference cited by RDD and intercept survey respondents was that LEDs were brighter.

Table 6-5: Single Greatest Difference between LEDs and CFLs

(Base: Respondents familiar with LEDs)

	RDD Survey	Survey of Intercepts
Sample Size	*250*	*15*
LEDs are brighter	23%	20%
LEDs are more efficient (use less electricity/energy)	13	13
Difference in quality of light (unspecified)	5	13
LEDs have longer life	4	--
CFLs are brighter	3	13
LEDs have no mercury	3	7
CFLs are more efficient (use less electricity/energy)	3	--
CFLs have longer life	3	--
Different sizes/applications (unspecified)	2	7
LEDs can be used in more applications	2	--
Difference in light color (unspecified)	1	--
Difference in energy usage (unspecified)	1	--
LEDs are more expensive	<1	7
Other	5	7
Don't know / refused	33	13

Table 6-6: Greatest Differences between LEDs and CFLs

(Base: Respondents familiar with LEDs, multiple response)

	RDD Survey	Survey of Intercepts
Sample Size	*172*	*12*
No other differences	47%	41%
LEDs are brighter	8	--
LEDs are more efficient (use less electricity/energy)	7	17
Differences in size/applications	4	17
LEDs have longer life	3	8
CFLs are brighter	2	--
Price	2	8
Temperature (heat output)	2	--
Energy usage (unspecified)	2	--
LEDs can be used in more applications	2	--
Differences in light color	2	--
CFLs are more efficient (use less electricity/energy)	1	--
LEDs do not take as long to come on	1	--
LEDs do not flicker	1	--
Difference in light quality (unspecified)	--	17
LEDs have no mercury	--	8
Other	7	--
Don’t know / refused	10	--

Respondents were asked if there were any other energy-saving lighting technologies or products that they had heard about. The majority of RDD respondents (93%) reported that they did not know about any other lighting technologies. Similarly, the majority of intercept survey respondents (77%) reported that they did not know about any other lighting technologies (Table 6-7).

Table 6-7: Awareness of Other Energy Saving Lighting Technologies

(Base: All respondents, multiple response)

	RDD Survey	Survey of Intercepts
Sample Size	*500*	*17*
None	86%	77%
Fluorescent tubes	2	--
Gadgets (novelty items)	1	--
Cold cathode compact fluorescents or CCFLs	1	6
Timers/motion detectors	1	6
Halogen	--	6
Outdoor lighting	<1	6
Other	3	6
Don't know / refused	7	--

7 Reaction to Federal Lighting Standards

One in five RDD survey respondents (20%) and nearly one-half of the intercept survey respondents (47%) had heard of the 2012 Federal Lighting Standard which will require that regular or traditional incandescent light bulbs improve their efficiency by about 25% over current levels and will ban the sales of most traditional incandescent light bulbs not meeting the efficiency standard. Slightly over one in three RDD (35%) and intercept (36%) survey respondents said they would be likely to buy extra incandescent light bulbs before 2012 and save them for use after the standards go into effect (Table 7-1).

Table 7-1: Awareness of and Likely Response to 2012 Federal Lighting Standards
(Base: All respondents)

	RDD Survey	Survey of Intercepts
Sample Size	*500*	*17*
Heard of 2012 Federal Lighting Standards	20%	47%
Likelihood of Buying and Saving Extra Incandescent Light Bulbs before 2012		
Very likely	17%	12%
Somewhat likely	18	24
Somewhat unlikely	14	12
Very unlikely	45	53
Not sure / don't know / refused	6	--

8 Demographics

The following demographic comparisons are between the 500 RDD survey respondents, the 95 on-site survey participants and the American Community Survey (ACS) three-year estimates (2005-2007). These comparisons present the unweighted results from the three surveys compared to the ACS demographics for all Connecticut residents. As noted above, both the RDD and on-site data were weighted to reflect home ownership and education based on ACS data. Also included are the demographic comparisons for the 17 intercept survey respondents. These are provided for illustrative purposes only.

Home ownership rates and education levels indicate that the RDD survey respondents, on-site participant, and intercept survey respondents seem to have a higher socioeconomic status than those reported through ACS. However, based on those respondents who reported household incomes, the RDD survey respondents, on-site participants and intercept survey respondents seem to have a similar level of household income compared to Connecticut residents overall.

8.1 Housing Characteristics

RDD respondents, on-site participants and intercept survey respondents are most likely to own their homes and live in a single-family detached dwelling (Table 8-1).

Table 8-1: Homeownership Status and Type of Home
(Base: All respondents)

Home Type	**ACS**	**RDD Survey** (unweighted)	**On-Sites** (unweighted)	**Survey of Intercepts**
Sample Size	*1,323,431*	*500*	*95*	*17*
Own/buying	70%	83%	81%	88%
Rent	30	14	18	12
Occupied without payment of rent	--	<1	1	--
Don't know / refused	--	3	--	--
Type of Home				
Single-family detached	59%	77%	78%	88%
Single-family attached (duplex, row home)	5	10	10	6
Apartment with 2-4 units	17	3	4	--
Apartment with 5+ units	17	6	6	6
Mobile home	1	1	2	--
Don't know / refused	--	3	--	--

Respondents to all three surveys appear to live in newer homes compared to Connecticut residents overall. More than two-fifths (44%) of RDD survey respondents, over one-half (55%) of on-site participants and three-fifths (63%) of intercept survey participants reported living in homes built after1969 compared with about two-fifths (39%) of Connecticut residents overall (Table 8-2).

Table 8-2: Decade Home Was Built
(Base: Respondents living in single-family homes)

Decade	ACS	RDD Survey (unweighted)	On-Sites (unweighted)	Survey of Intercepts
Sample Size	*1,323,431*	*424*	*82*	*16*
1930s or earlier	24%	12%	9%	6%
1940s	8	8	9	13
1950s	16	20	15	13
1960s	13	11	10	6
1970s	14	15	16	13
1980s	13	15	20	44
1990s	7	7	7	6
2000 or later	5	7	12	--
Don't know / refused		5	4	--

Over one-half of RDD survey respondents (54%), on-site participants (51%) and intercept survey respondents (65%) reported that their homes were smaller than 2,500 square feet. Based on the number of bedrooms reported, RDD survey respondents appear to have larger homes compared with Connecticut residents overall. About seven in ten (71%) RDD survey respondents and eight in ten (79%) on-site participants reported having homes with three or more bedrooms compared to six in ten (59%) homes for Connecticut residents overall. Intercept survey respondents appear to have similar size homes compared to Connecticut residents overall (Table 8-3).

Table 8-3: Size of Home

(Base: All respondents)

Square Feet	**ACS**	**RDD Survey** (unweighted)	**On-Sites** (unweighted)	**Survey of Intercepts**
Sample Size	*1,323,431*	*500*	*95*	*17*
Less than 1,400		18%	13%	35%
1,400 – 1,999		21	23	6
2,000 –2,499		15	15	24
2,500 – 3,499		14	16	12
3,500 – 3,999		2	4	6
4,000 – 4,999		1	1	6
5,000 or more		4	3	6
Don't know / refused		25	25	6
Bedrooms				
0	1%	0%	0%	0%
1	13	6	7	6
2	28	20	14	41
3	37	46	46	18
4	17	21	31	29
5 or more	5	4	2	6
Don't know / refused	--	3	--	--

8.2 Social Attributes

The percentage of RDD survey respondents (73%), on-site participants (76%) and intercept survey respondents (88%) who have pursued post-secondary education is significantly higher than Connecticut residents overall (58%). Over one-half (54%) of both the RDD survey respondents and on-site participants have a bachelor's or graduate degree, compared to one-third (34%) of Connecticut residents overall. Nearly all (88%) of the intercept survey respondents have a college degree (Table 8-4).

Table 8-4: Highest Level of Education
(Base: All respondents)

Education	ACS	RDD Survey (unweighted)	On-Sites (unweighted)	Survey of Intercepts
Sample Size	*1,323,431*	*500*	*95*	*17*
Less than ninth grade	5%	1%	1	--
Ninth to twelfth grade no diploma	8	3	5	--
High school graduate (includes GED)	30	18	17	12
Some college, no degree	17	11	12	--
Associates degree	7	8	10	6
Bachelors degree	19	26	26	41
Graduate or professional degree	15	28	28	41
Don't know / refused	--	5	1	--

Over one-half of RDD survey respondents (53%), on-site participants (53%) and intercept survey respondents (65%) are employed full-time and each survey had comparable percentages of retirees. Based on the valid responses provided to the income question, the RDD survey respondents, on-site participants and intercept survey participants seem to have a similar distribution of household income compared to Connecticut residents overall. Over two-fifths of RDD survey respondents (48%), on-site participants (43%) and Connecticut households overall (43%) reported household incomes of $75,000 or more (Table 8-5).

Table 8-5: Head of Household Employment Status and Household Income

(Base: All respondents)

Employment Status	ACS	RDD Survey (unweighted)	On-Sites (unweighted)	Survey of Intercepts
Sample Size	*1,323,431*	*500*	*95*	*17*
Employed full-time (includes self employed)		53%	53%	65%
Employed part time (includes self employed)		6	7	12
Retired		30	26	24
Not currently employed		6	13	--
Don't know / refused		6	1	--
Household Income				
$9,999 or less	6%	2%	4%	--
$10,000 to $14,999	4	3	3	--
$15,000 to $49,999	28	22	30	12
$50,000 to $74,999	18	9	11	--
$75,000 to $99,999	14	10	12	29
$100,000 to $149,999	16	16	18	--
$150,000 or more	13	7	6	29
Refused	--	28	15	24
Don't know	--	3	1	6

RDD survey respondents and on-site participants reported similar levels of racial diversity to Connecticut residents overall. In contrast, the intercept survey respondents exhibit no racial diversity at all (Table 8-6).

Table 8-6: Race and Ethnicity

(Base: All respondents)

Race	ACS	RDD Survey (unweighted)	On-Sites (unweighted)	Survey of Intercepts
Sample Size	*1,323,431*	*500*	*95*	*17*
White	82%	80%	78%	100%
Black or African-American	10	6	10	--
American Indian, Native Hawaiian, or Alaska Native	<1	1	4	--
Other	8	4	6	--
Don't know / refused	--	9	2	--
Hispanic or Latino in Household				
Yes	11%	6%	12%	--

Practically all of the RDD survey respondents, on-site participants and intercept survey respondents speak English as their primary language (Table 8-7).

Table 8-7: Primary Language Spoken in Home
(Base: All respondents)

Language	RDD Survey (unweighted)	On-Sites (unweighted)	Survey of Intercepts
Sample Size	*500*	*95*	*17*
English	93%	98%	94%
Spanish	2	2	--
Other	2	--	6
Don't know / refused	4	--	--

Respondents to all three surveys were about evenly split between male and female (Table 8-8).

Table 8-8: Gender
(Base: All respondents)

Language	ACS	RDD Survey (unweighted)	On-Sites (unweighted)	Survey of Intercepts
Sample Size	*3,494,851*	*500*	*95*	*17*
Female	51%	56%	50%	41%
Male	49	44	50	59

The household size and age distributions of occupants in the households of respondents to the RDD and on-site surveys are fairly similar to Connecticut residents overall (Table 8-9). Adults between 35 and 64 years old constitute about two out of five residents in the RDD survey (43%) and onsite survey (43%) households as well as in Connecticut overall (41%).

Table 8-9: Number and Age Group of Persons Living in the Home
(Base: All respondents)

Age	ACS	RDD Survey (unweighted)	On-Sites (unweighted)	Survey of Intercepts
Sample Size	*3,494,851*	*479*	*95*	*17*
Under 24	33%	30%	35%	26%
25 to 34	12	9	7	9
35 to 44	15	11	13	4
45 to 54	16	17	19	17
55 to 64	11	15	11	33
65 or older	14	18	16	11
Mean household size	2.6	2.6	2.7	2.7

Nearly all of the respondents to each survey reported that they paid their electric bills directly to the electric company (Table 8-10).

Table 8-10: Method of Electric Bill Payment
(Base: All respondents)

Response	RDD Survey (unweighted)	On-Sites (unweighted)	Survey of Intercepts
Sample Size	*500*	*95*	*ALL*
Direct to electric company	93%	98%	100%
Part of rent/condo fee	1	2	--
Other	<1	--	--
Don't know / refused	5	--	--

About three out of four RDD survey respondents (74%) and on-site participants (76%, and four out of five (82%) intercept survey respondents reported that their homes are occupied during the day on weekdays (Table 8-11).

Table 8-11: Home Occupied During the Week Daytime Hours
(Base: All respondents)

Response	RDD Survey (unweighted)	On-Sites (unweighted)	Survey of Intercepts
Sample Size	*500*	*95*	*17*
Home during week, daytime	74%	76%	82%

The large majority of RDD survey respondents (88%), on-site participants (93%), and intercept survey respondents (94%) reported that they own or lease at least one car. On average, the surveyed households own or lease 2 or more cars.

Table 8-12: Household Car Ownership
(Base: All respondents)

Response	RDD Survey (unweighted)	On-Sites (unweighted)	Survey of Intercepts
Sample Size	*500*	*95*	*17*
Own/lease at least one car	88%	93%	94%
Mean	2.0	2.0	2.6

Table 8-13: Key Indicators

(Base: All respondents)

Language	RDD Survey (weighted)	On-Sites (weighted)	Survey of Intercepts
Sample Size	*500*	*95*	*17*
Aware of CFLs	86%	92%	100%
Very familiar with CFLs	34%	37%	41%
Not at all familiar with CFLs*	4%	4%	--
Ever purchased CFL	58%	74%	100%
Ever used CFL	66%	86%	100%
Never used CFL*	34%	14%	--
Mean CFLs currently installed	6.5	10.5	16.7
Mean CFLs installed three months ago	5.1	6.4	14.9
Mean CFLs installed as of January 2008	3.6	6.2	7.6
Mean CFLs in storage	2.5	1.7	12.7
Mean CFLs purchased in 2008	3.0	3.4	16.2
Mean CFLs purchased in past three months	0.3	0.4	0.4
Mean CFLs received in 2008	0.4	0.8	--
Mean CFLs received in past three months	0.1	0.3	--

*Includes 'don't know / refused'

9 Summary of Findings and Conclusions

9.1 CFL Awareness, Familiarity, and Usage

The RDD survey respondents exhibited high awareness of (86%) and familiarity (67%) with CFLs. However, there remains a substantial number of Connecticut respondents (34%) who are unaware of or unfamiliar with CFLs (20%), or who are aware of CFLs but have never used one (14%). Among the RDD survey respondents who have used a CFL, seven out of ten (70%) used one for the first time within the past three years.

About three out of five RDD survey respondents (61%) first heard about CFLs from some form of advertising, including general non-utility advertising (33%), store display or ad (14%) or ad or information from 'MY ENERGY STAR' (3%). Among the RDD respondents who had used a CFL, more than three-fifths (63%) first purchased a CFL at a retail store.

By definition, all the intercept survey respondents have purchased a CFL and nearly all of them (94%) reported being at least somewhat familiar with CFLs. About half (53%) of the intercept survey respondents reported using a CFL for the first time within the past three years. Reflecting perhaps how they were intercepted for the survey at the store, about one-half of the intercept survey respondents said they first heard about CFLs from an in-store promotion (30%) or store display or ad (24%), and about three out of four respondents (77%) first purchased a CFL at a retail store.

9.2 Usage, Storage, and Purchases of CFLs over Time

Among the RDD survey respondents who have used CFLs, there has been a steady increase in CFL usage since January 2008. Over the same period, respondents reported a corresponding decrease in the number of CFLs in storage and a steady decline in the number of CFLs purchased. The mean number of CFLs used in these households increased by 81% from 3.6 CFLs in January 2008 to 6.5 CFLs currently. The mean number of CFLs in storage in these households decreased by 37% from 3.8 CFLs in January 2008 to 2.5 CFLs currently. The mean number of CFLs reported purchased per month by these households decreased by 56% from 0.25 during 2008 to 0.11 during the past three months.

Among the intercept survey respondents who have used CFLs, there has been a steady increase in CFL usage since January 2008. Over the same period, intercept survey respondents reported a substantial increase in the number of CFLs in storage. The combined total increase in CFL usage and storage corresponds to a similar increase in the number of CFLs purchased between January 2008 and the present. The mean number of CFLs used in these households more than doubled from 7.6 CFLs in January 2008 to 16.7 CFLs currently. The mean number of CFLs in storage in these households tripled from 4.2 CFLs in January 2008 to 12.7 CFLs currently. The mean

number of CFLs reported purchased per month by these households decreased by a factor of ten from 1.35 during 2008 to 0.14 during the past three months.

During the on-site visits, the technicians recorded the manufacturer and model number for all CFLs in each home. The majority of CFLs (63%) identified during the on-site visits were program supported CFLs. Based on their model numbers, program records and the list of ENERGY STAR qualified CFLs, NMR estimates that 79% of all on-site CFLs were ENERGY STAR qualified CFLs; and 79% of these ENERGY STAR qualified CFLs were program supported CFLs.

9.3 Sources of CFL Purchases

RDD survey respondents most frequently mentioned buying CFLs from home improvement stores (57%), followed by mass merchandise stores (32%) and grocery stores (19%). The most frequently-mentioned specific store names where CFLs were purchased in 2008 were Home Depot (52%) and Wal-Mart (28%). The intercept survey respondents most frequently purchased CFLs at home improvement stores (80%), followed by warehouse stores (33%). The most frequently-mentioned specific store names where intercept survey respondents purchased CFLs in 2008 were also Home Depot (80%) and Wal-Mart (27%).

Among the RDD survey respondents who have purchased CFLs, one-half (50%) went to the store with the specific intent of purchasing a CFL and slightly fewer than two out of five (38%) bought CFLs on impulse. Three out of five intercept survey respondents (60%) said that their most recent CFL purchase was an impulse buy when they had gone to the store to purchase something else.

The RDD survey respondents were asked a series of store differentiation questions about which ones offered a higher-quality selection of CFLs, a wider selection of CFL types, a wider selection of CFL wattages and lower-priced CFLs. The large majority of respondents (91%) could not identify stores that offer higher-quality CFLs. However, for the store differentiation questions regarding width of selections and lower prices, a substantially smaller percentage of respondents (61% to 69%) were unable to say whether there were any such stores. At least one-fourth to one-fifth of respondents were able to distinguish between stores based on price and variety of CFL selections, but not on the quality of CFL selections. From this we can infer the existence of a number of respondents who cannot differentiate between CFL bulbs or brands based on the quality of the technology itself (as opposed to differentiating between stores where varying quality of CFLs may be available). Home Depot was the most frequently mentioned store for a wider selection of CFLs (types or wattages) and Wal-Mart was the most frequently mentioned store offering lower priced CFLs.

9.4 Incandescent Purchases and Impact of Federal Lighting Standards

Among RDD survey respondents, incandescent purchases appear to be declining over time. About one in seven RDD survey respondents (16%) reported purchasing an incandescent bulb in the past three months, slightly fewer than one-half (46%) reported purchasing an incandescent bulb in 2009 and nearly three out of four (73%) reported purchasing an incandescent bulb in 2008. In the same period, their average monthly rate of purchase of incandescent bulbs has declined from 0.47 incandescent bulbs per month in 2008 to 0.34 incandescent bulbs per month in 2009 to 0.23 incandescent bulbs per month in the past three months.

The most frequently mentioned specific reasons for choosing incandescent bulbs instead of CFLs were the higher cost of CFLs (16%) and that CFLs did not fit the fixture (14%). In general, about one in five respondents (21%) mentioned reasons associated with functional aspects of the CFLs such as lack of fit with fixtures, bulbs not working with fixtures, or lack of awareness for applications; about one in seven respondents (14%) mentioned reasons associated with light rendition such as not liking light color, bulbs being too bright, bulbs being not bright enough, or general aesthetics or appearance. Only a few respondents (4%) mentioned reasons associated with the performance of CFLs such as delays in coming on or interference with other electronics.

Incandescent purchases among intercept survey respondents exhibited a similar declining trend. Nearly all of the intercept survey respondents (94%) reported that they had not purchased an incandescent bulb in the past three months, about three out of four (77%) reported that they had not purchased an incandescent bulb in 2009 and nearly one-half (47%) reported that they had not purchased an incandescent bulb in 2008. In the same period, their average monthly rate of purchase of incandescent bulbs has declined from 0.24 incandescent bulbs per month in 2008 to 0.05 incandescent bulbs per month in 2009 to 0.02 incandescent bulbs per month in the past three months.

Among intercept survey respondents, the primary reasons cited for choosing incandescent bulbs instead of CFLs were that the CFLs did not fit the fixtures (30%) or that they were not aware of CFLs for the applications.

According to RDD and intercept survey respondents, the Federal Lighting Standards scheduled to begin in 2012 may spark an increase in incandescent light bulb sales before they go into effect. While relatively few RDD survey respondents (20%) and nearly one-half of intercept survey respondents (47%) were aware of the 2012 Federal Lighting Standard before participating in a survey, after learning of the standards, over one-third of respondents to both surveys said they would be likely to buy extra incandescent light bulbs before 2012 and save them for use after the standards go into effect.

9.5 Motivations and Barriers

Saving energy or money is the primary motivation for the majority of CFL users. Among the RDD survey respondents who had CFLs currently installed in their homes, about two out of five (63%) were motivated to install CFLs in their home primarily to save energy or money—about one-half of these respondents (51%) wanted to save energy/electricity and over one-tenth (12%) of them wanted to save money on electric bills. In addition, respondents who purchased CFLs since January 2008 mentioned similar motivations for purchasing CFLs—to save energy (44%) and to save money on electric bills (9%).

These survey respondents revealed a reluctance to replace incandescent bulbs with CFLs before they reached the end of their useful lives. Nearly three out of five (57%) RDD survey respondents who reported purchasing a CFL and nearly one-half (47%) of intercept survey respondents said that they install CFLs when they want to replace bulbs that are burned out or broken.

When asked about the likelihood of purchasing CFLs in the next year, about two out of five RDD survey respondents (42%) said they were likely to purchase CFLs in the next year and nearly one in four (23%) said they were unlikely to purchase CFLs in the next year. Among RDD survey respondents who reported that they were not likely to purchase additional CFLs in the next year, about one in four each said that they would buy CFLs if the prices were lower (25%) or if they needed them (24%).

9.6 Satisfaction with CFLs

RDD survey respondents reported high levels of satisfaction with standard and specialty CFLs. Nearly nine out of ten (86%) RDD survey respondents who are currently using standard CFLs reported that they are very or somewhat satisfied with them; RDD survey respondents who are currently using specialty CFLs reported high levels of satisfaction for specialty CFLs—ranging from 81% who expressed satisfaction with A-shaped CFLs to 96% who expressed satisfaction with dimmable CFLs.

Among those who expressed dissatisfaction with their standard CFLs, about one-fourth each were dissatisfied because of the delay in coming on (26%) or because of the cost of the CFLs (24%) and nearly one-fifth (17%) were dissatisfied that the standard CFL bulb did not fit the fixture. Among those who expressed dissatisfaction with their specialty CFLs, about two out five (39%) were dissatisfied because of the delay in coming on.

The large majority of intercept survey respondents who are currently using standard CFLs (94%) reported that they are very or somewhat satisfied with them and fewer than one in ten (6%) are somewhat or very dissatisfied with them. The majority of intercept respondents who are currently using specialty CFLs reported that they were very or somewhat satisfied with them—ranging from 66% who expressed satisfaction with dimmable CFLs to 100% who expressed satisfaction with A-shaped and three-way CFLs.

9.7 Removal and Disposal of CFLs

Among RDD survey respondents who have used a CFL, nearly three out of four (71%) have not disposed of any CFLs in the past 12 months and slightly less than one-half (45%) reported having ever removed a CFL. This is not surprising, given that nearly three out of four (70%) RDD survey respondents who have used a CFL used one for the first time within the past three years. Based on this, it is likely that there will be an increase in the number of CFLs disposed of in the next two to four years. Among the RDD survey respondents who have disposed of CFLs in the past 12 months, three-fifths said they threw them away in the trash, and only slightly over one-fourth gave them for recycling or proper disposal.

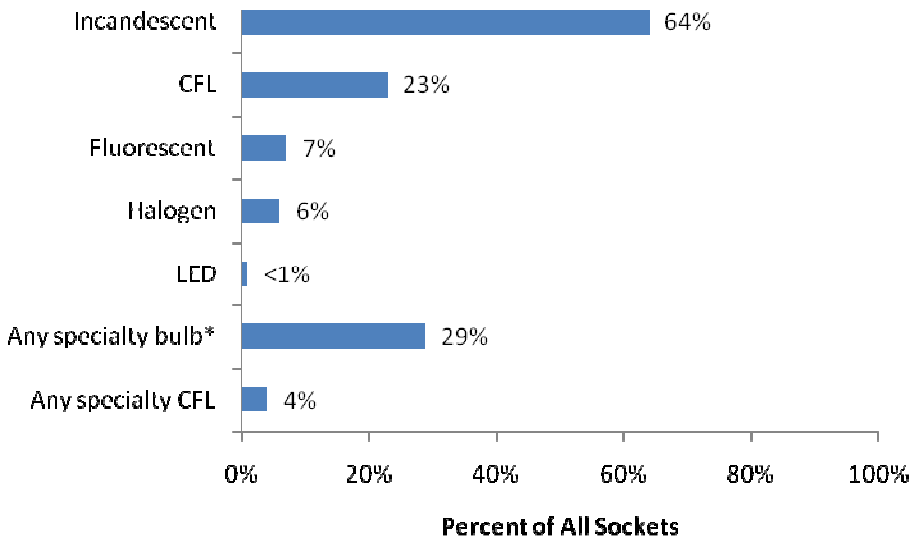
About three out of five intercept survey respondents (59%) have not disposed of any CFLs in the past 12 months and about two out of five (41%) reported having removed a CFL after installation. Among those who have disposed of CFLs in the past 12 months, the majority were evenly split between those who said they threw them away in the trash (18%) and those who gave them for recycling or proper disposal (18%).

9.8 Socket Saturations and Potential for CFLs

Overall, NMR estimates that slightly fewer than one in four sockets in Connecticut (23%) contain a CFL and seven in ten sockets (70%) contain an incandescent or halogen bulb (Figure 9-1). Nearly nine out of ten (89%) sockets are screw-based (small or medium), about one in ten (11%) sockets are pin-based and less than 1% of all sockets are GU.

About one-half of the intercept survey respondents (54%) reported that they have CFLs in 67% or more of the sockets in their home and about one-fourth (24%) reported that they have CFLs in 25% or fewer sockets in their home. About two-fifths (59%) of the intercept survey respondents reported that 25% or fewer sockets in their home are specialty fixtures. One in four intercept survey respondents (25%) reported that none of the specialty light sockets in their homes have specialty CFLs; about one-half of the intercept survey respondents (51%) reported that between 10% and 50% of the specialty light sockets in their homes have specialty CFLs.

Figure 9-1: Socket Saturation by Type of Bulb
(Base: All on-site participants)

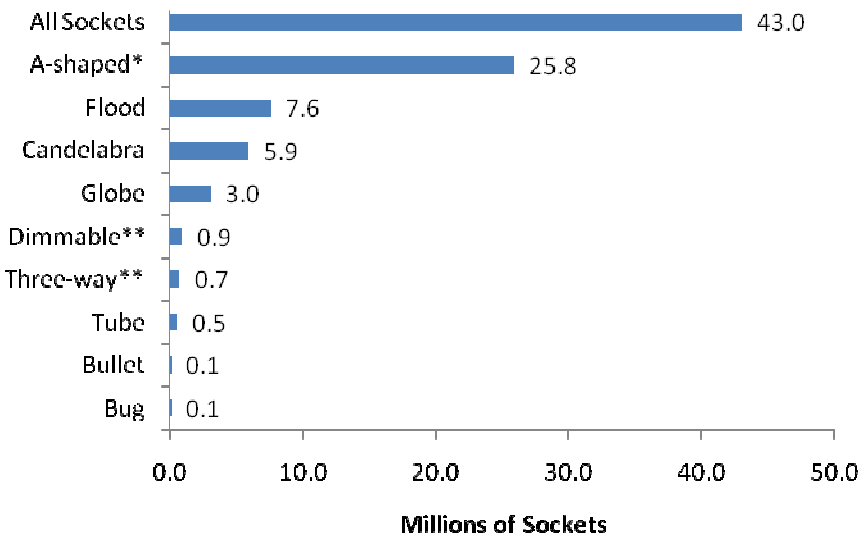


* Specialty bulbs include: dimmable, three-way, flood shaped, candelabra shaped, globe shaped, bullet shaped, bug lights of any bulb type and A-shaped CFLs.

Of the estimated 43 million sockets in Connecticut that do not currently have a CFL or an LED installed in them, the vast majority (40.7 million) are screw-based and three-fifths (60%) contain standard (A-shaped) incadescent bulbs. All total, sockets containing A-shaped incadescent bulbs (25.8 million), flood bulbs (7.6 million) and candelabra bulbs (5.9 million) account for more than nine-tenths (91%) of the remaining potential for CFLs or LEDs (Figure 9-2).

Figure 9-2: Potential for CFLs or LEDs by Bulb Shape and Features

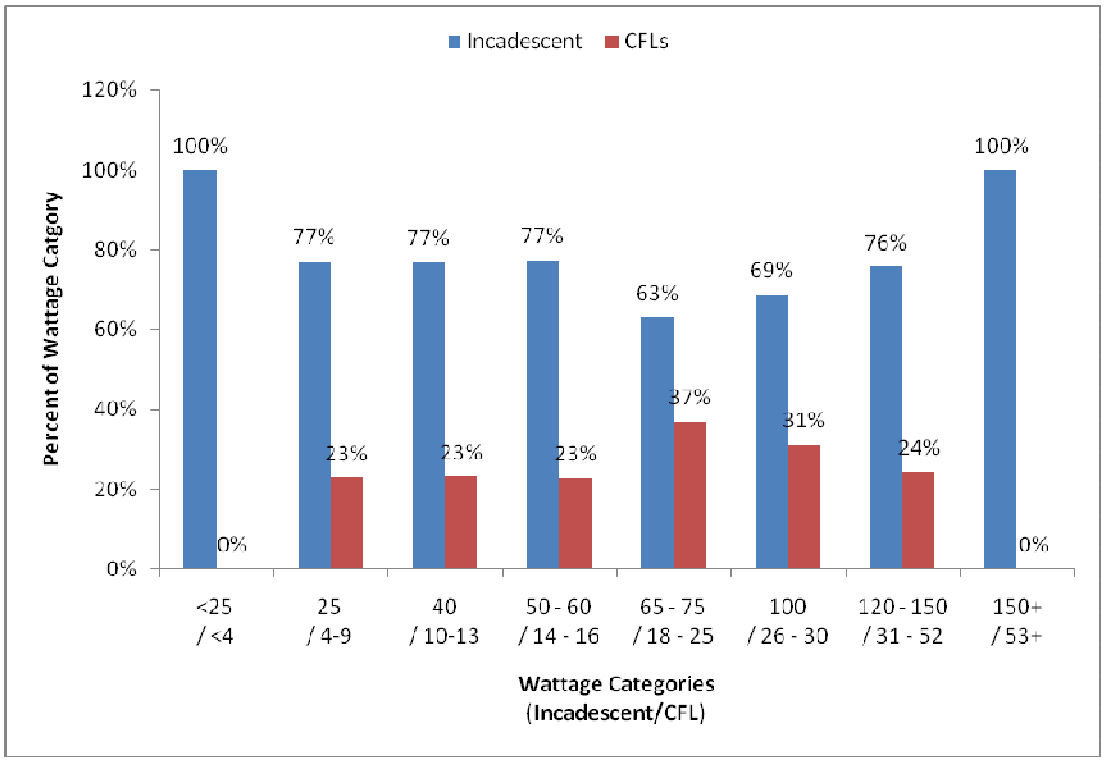
(Base: All on-site participants)



* A-shaped bulbs are the typical shape for standard incandescent bulbs. A-shaped CFLs are made to look and feel like traditional incandescent bulbs.
**Dimmable and three-way bulbs also fall within shape categories and therefore are not additive.

CFLs have made the greatest inroads replacing incandescent bulbs in wattages ranging from 65 to 75 watts and 100 watts. In these wattage categories, CFLs represent about two-fifths (37%) and one-third (31%) of all bulbs (Figure 9-3). CFLs have replaced nearly one-quarter of incandescent bulbs in the following categories: 25 watts (23%), 40 watts (23%), 50 to 60 watts (23%) and 120 to 150 watts (24%).

Figure 9-3: Comparison of Incandescent and CFL Wattage
(Base: All on-site participants)



9.9 LEDs and Other Energy Saving Lighting Technologies

Among the RDD survey respondents and intercept survey respondents who were familiar with LEDs (44% vs. 82%), relatively few were familiar with LEDs used to replace traditional incandescent lighting. The specific difference most frequently cited by RDD and intercept survey respondents was that LEDs were brighter. However, one-third of RDD respondents who were familiar with LEDs were unable to specify a difference between LEDs and CFLs. This suggests that while respondents may be familiar with the term "LED," they need more education on the uses and advantages of LEDs. This is likely due in large part to the absence of widely available LEDs in the marketplace.

Respondents were asked if there were any other energy-saving lighting technologies or products that they had heard about. The majority of RDD respondents (93%) reported that they did not

know about any other lighting technologies. Similarly, the majority of intercept survey respondents (77%) reported that they did not know about any other lighting technologies.