

**RESIDENTIAL LIGHTING MARKET CHARACTERIZATION STUDY, APPENDICES A-D**

Final

Prepared for

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## NOTICE

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# Appendix A

## INSTALLER, SPECIFIER, AND EDUCATIONAL PROVIDER DEMOGRAPHICS AND FIRMOGRAPHICS

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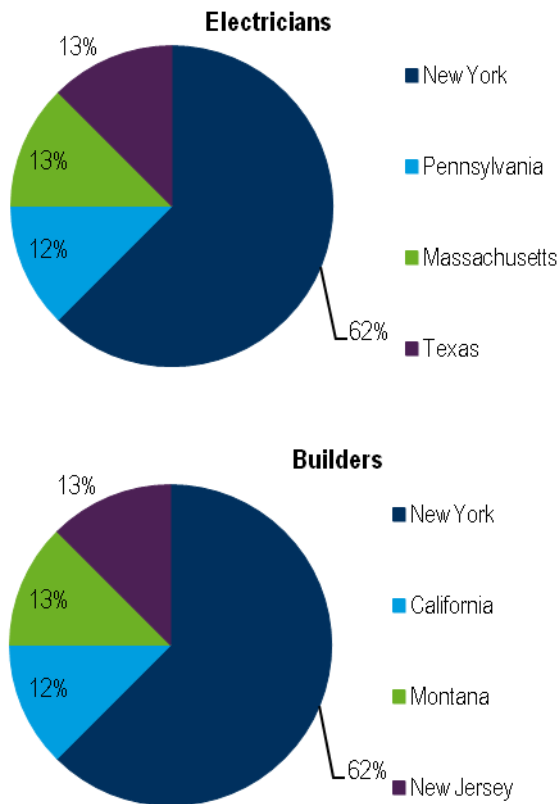
### A.1 INSTALLERS

The research team specifically selected installers for the interviews whose businesses are primarily driven by residential new construction and renovation projects. Out of the eight electricians interviewed, five are based in New York State and the remaining three are from California, Montana, and New Jersey. Six of the eight electricians own their respective companies.

Of the eight builders who provided responses (five via interviews and three via a written response), five are based in New York State and the remaining three are based in Pennsylvania, Massachusetts, and Texas. Six of the eight builders own their respective companies.

While most of the interviewed installers work for small companies with one to 10 employees, one builder, based in Pennsylvania, works for a development and management company that services seven states: Alabama, Connecticut, Maryland, New Jersey, New York, Ohio, and Pennsylvania. The demographic distribution of the interviewees is shown in Figure 1.

Figure 1: Locations of Interviewed Installers



## A.2 MANUFACTURERS

The research team spoke with 11 lighting manufacturers, ranging from those working for small companies to those whose companies operate nationally and internationally. All 11 manufacturers operate within the United States. Manufacturers were not asked about their participation in NYSERDA lighting programs, but rather about their plans under the new EISA requirements.

The research team asked each manufacturer about the types of lighting products they make. Manufacturers were categorized as (not mutually exclusive categories):

- Working with factories abroad to develop and import new products.
- Having consumer brands as a part of their larger residential and commercial lines (incandescent, halogens, CFLs, cold cathode fluorescents, metal halides, and high-pressure sodium lamps, in addition to fixtures).
- Manufacturing only energy-efficient products.

Seven companies manufacture fixtures and bulbs; four manufacture bulbs only.



### **A.3 SPECIFIERS**

To gather opinions and views from lighting system specifiers, the research team conducted in-depth interviews with 17 lighting specifiers: eight architects and nine lighting designers. Each person interviewed is the owner of their respective company. The research team conducted the interviews in August and September 2011, following the interview guide included in Appendix D.

When selecting architects to interview, the research team looked for those with at least part of their practice in residential new construction. The team obtained candidate lighting designer interviewees, on the other hand, from lists of recommended contacts supplied by other lighting design professionals.

The research team designed the interviews to gather expert opinions from professionals with strong backgrounds in residential architecture and/or residential lighting design. The specifiers' responses provide insights into how leading practitioners view high-efficiency residential lighting options.

### **A.4 COMPANY TYPE**

Seven of the nine lighting designers described their company as "*lighting design*" or "*full service lighting design*," and also said that they specialize in high-end residential design (although many also worked in other specialty areas). One designer said their firm does mostly commercial work, but also some residential.

The architects were more varied in their company descriptions. One called his firm a "*full service architecture firm that specializes in upper-end residential custom design*." Two said they concentrate in the high-end residential market. Three others said they are full service architectural firms. Two architecture firms said they also conduct interior design, and one said they also perform lighting design.

### **A.5 GEOGRAPHY SERVED**

The architecture firms the research team spoke with tend to work on projects primarily in their local areas. However, three of the eight architects said most of their projects are in the Tri-State area comprising New York, New Jersey, and Connecticut. Two others are based and work mostly in Michigan. One is based in Minneapolis but also works nationally, and one works exclusively in Southern California. Finally, one architect said his firm is national.

#### **A.5.1 Number of Employees**

All of the interviewed architecture firms are small: They generally have one to five employees, including the owner, with an average of three employees.

The lighting designers interviewed had a more diverse profile:

- One said his firm works primarily on projects in Philadelphia and New York State;

- Two said they work locally (New York State and New York City) and worldwide;
- Two said they primarily serve the high-end residential market in Palo Alto, California (one of these included California plus Palo Alto as their area);
- One operates nationwide, and
- Three of nine described the geographic spread of their work as worldwide.

The size of the lighting design firms also varied, although the majority were relatively small:

- Five designers said they work on their own and subcontract with other lighting and professional firms as needed;
- One lighting designer's firm has three employees;
- Two companies are in the 10-employee range, and
- One lighting designer estimated having between 20 and 30 employees.

### **A.5.2 Types of Projects**

Six of the eight architects the research team interviewed said their projects are primarily or exclusively residential. One of the six described his projects as “*very high-end, custom single family apartments.*” Another said his projects are a mix of high-end residential and commercial. A third architect characterized his projects as “*all standard buildings.*”

Lighting designers tended to describe a broader range of project types. While all nine designers said they work on residential projects, only two said their projects are “*mostly*” or “*almost all*” residential. The other seven said their work involves a mix of building types, with some providing more specificity than others.

Their responses included:

- Five who mentioned residential and commercial projects;
- One who described his firm's projects as “*high-end residential, public spaces, and commercial;*”
- One who said their projects are “*mostly commercial, health care, and institutions, but also includes residential;*”
- One who described his firm's work as, “*all types of projects including residential;*” and
- One who described his firm's work as “*a lot of museum work, also residential and institutional.*”

The lighting designers and architects with locally-focused practices generally work exclusively on high-end residential projects.

## **A.6 EDUCATIONAL PROVIDERS**

The research team conducted in-depth interviews with representatives of 16 organizations that provide training and education in affiliation with building, energy-efficiency, and lighting industries.

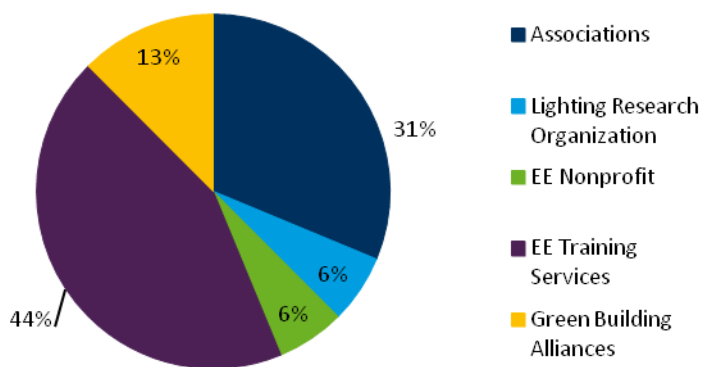
In conducting the interviews, Cadmus followed the interview guide in Appendix D.

The research team selected 16 organizations that provide training or education to builders or electrical installers. All educational providers interviewed by the research team have a green building or energy-efficiency focus in some capacity, either as a whole or, in the case of some of the larger associations, as a designated arm.

- Six were home energy-efficiency education providers that focus on providing energy rating or audit training based on a variety of certification and accreditation programs such as Building Performance Institute (BPI) and Leadership in Energy and Environmental Design (LEED).
- Although representatives of these six organizations provide training for certifications, in most cases trainees schedule and take their exams directly from BPI or LEED-specified testing centers.
- Two of the six education providers also offer programs encompassing renewable energy and sustainable design.
- Five respondents are building or energy-industry associations that provide education as a component of their services to their members.
- Three respondents are green building alliances that promote sustainable building through local government support, training, collaborative, and marketing efforts.
- One respondent is a research organization that focuses specifically on lighting.
- One respondent is an energy-efficiency nonprofit organization.

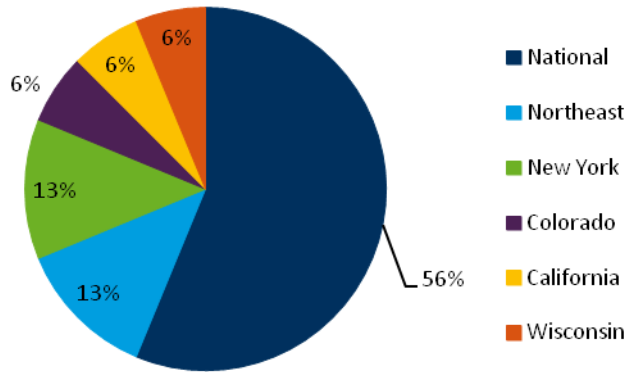
The demographic distribution of the interviewees is shown in Figure 2.

**Figure 2: Educational Institution Demographics (n = 16)**



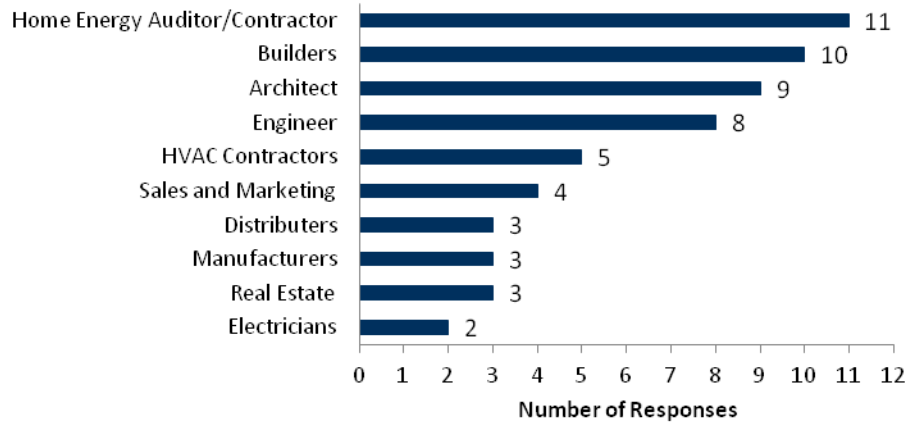
Of the 16 educational institutions interviewed, nine are national, two are Northeast-specific, two are based in New York State, and the remaining three are based in Colorado, California, and Wisconsin. The geographical distribution of the interviewees is shown in Figure 3.

Figure 3: Educational Institution Geographical Distribution (n = 16)



When asked about the types of trainees the educators typically worked with, the 16 interviewees gave a variety of responses. The most frequently mentioned trainees were home energy auditors or contractors, builders, architects, and engineers. Other types of trainees mentioned were HVAC contractors, sales and marketing professionals, distributors, manufacturers, real estate professionals, and electricians. Figure 4 illustrates the frequencies of these responses.

Figure 4: Types of Trainees (n = 16)



## Appendix B

### CONSUMER, HOMEOWNER AND RETAILER SURVEYS DETAILED METHODOLOGIES

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#### B.1 CONSUMER SURVEY METHODOLOGY

The purpose of the Lighting Market Characterization Consumer Survey was to better understand the residential lighting market, including but not limited to awareness and usage of different types of energy efficient lighting and understanding and awareness of key lighting terms among New York State consumers. The survey collected information from 510 New York State residents, 279 from Upstate and 231 from Downstate county groups. The survey respondent was the person in the household who knew the most about the household's energy-related decisions (e.g., person who pays the bill and/or makes decisions about adjusting their home's thermostat or selecting new appliances). The survey was managed by APPRISE Incorporated. Interviews were conducted by Braun Research, Incorporated.

##### B.1.1 Sample

###### *Target Population*

For this survey, the target population was the respondent who would know the most about the household's energy-related decisions (e.g., person who pays the bill and/or makes decisions about adjusting their home's thermostat or selecting new appliances). This was the only qualification for eligibility. Essentially, all households with an energy-related decision maker qualified for this survey.

###### *Sample Frame*

The sample frame was a random digit dial (RDD) sample of landline telephone numbers serving New York State. Sample was drawn separately for two regional breaks: Upstate and Downstate. In addition, respondents cannot live on Long Island (Suffolk or Nassau counties).

###### *Sample Selection*

The sample was selected proportionately by county so that each county was represented in the sample in the same proportion as its population within region.

##### B.1.2 Margin of Error

The margin of error for the upstate group is +4.9% at the 90% confidence level; for the downstate group, +5.4%.

### **B.1.3 Data Collection**

#### *Overview of Data Collection Procedures*

The Lighting Homeowner Survey was administered as a telephone interview with the individual in the household who is primarily responsible for or shares equally in the household's energy-related decisions.

Interviewers from Braun Research conducted the interviews using a computer-assisted telephone interview (CATI) survey instrument. All interviews were completed in English.

#### *Survey Instrument*

The survey instrument was initially designed by the MCA Team in consultation with NYSERDA evaluation and program staff as well as DPS staff. The survey instrument was pretested prior to programming in CATI to gauge length and to evaluate the flow and content of the questionnaire. Results of the pretest informed the design of the final questionnaire.

#### *Survey Administration*

The Homeowner study was in the field from September 27<sup>th</sup> to November 3<sup>rd</sup>, 2011. At least 8 attempts were made to contact every sampled telephone number. Calls were varied between different times of the day/evening and different days of the week to maximize the chance of making contact with potential respondents. Interviewers were instructed to leave a message if they reached an answering machine. They left a message on the first contact and every three contacts after that. The message included a call-in number for the respondent to use if they wanted to call in to complete the survey at their convenience.

Interviewers were provided with training materials specific to this questionnaire, including general training issues and question-specific instructions. Prior to fielding, the survey manager and survey methodologist conducted in-person training with 34 interviewers and supervisors at the telephone center. APPRISE staff actively monitored interviews on the first day and periodically remotely monitored interviewers throughout the entire field period, to ensure the integrity of the data collection.

The survey interview length averaged 15 minutes.

#### *Sample Disposition and Survey Response*

Table 1 shows the disposition of all sampled telephone numbers dialed for this survey and provides the contact, cooperation, and overall response rates. The response rate estimates the fraction of all eligible respondents in the sample that were ultimately interviewed. The contact rate is the percentage of the working numbers where a request for an interview was made. The cooperation rate is the percentage of

contact numbers where consent for an interview was not refused.<sup>1</sup> The contact rate for the study was 53.0%, the cooperation rate 35.9% and the overall response rate was 12.9%.

**Table 1: Survey Sample Disposition**

		Number	Percent
<b>TOTAL SAMPLE USED</b>		5,752	100%
Excluded Sample	Not working/Unusable number [disconnected, fax tone, etc.]	1,351	23.5%
Not Contacted	Answering Machine	818	14.2%
	Call back/Left 800#	350	6.1%
	Language Barrier	93	1.6%
Unknown Eligibility	No Answer/Busy	1,303	22.7%
Excluded household	Not Eligible/Not Qualified	86	1.5%
	Over Quota	330	5.7%
Refused/ Break-off	Refused	887	15.4%
	Break-off	24	0.4%
<b>COMPLETED INTERVIEWS</b>		<b>510</b>	<b>8.9%</b>
<b>Contact rate<sup>1</sup> (1,421/2,682 = .5298)</b>			53.0%
<b>Cooperation rate<sup>2</sup> (510/1,421 = .3589)</b>			35.9%
<b>Response rate<sup>3</sup> 510/(2,682 + (.9722(1,303))) = .1291</b>			12.9%

<sup>1</sup>Contact rate= Completes+refusals+break-offs /Completes+refusals+break-offs+not contacted.

<sup>2</sup>Cooperation rate=Completes /Completes+ refusals+breakoffs.

<sup>3</sup>Response rate=Completes /Completes+ refusals+breakoffs+not contacted+ (e\*(unknown eligibility). For this study, e=.9722(see Table 2)

Table 2 shows the eligibility status and the estimated eligibility rate (e) for the sample. The estimated eligibility rate is the proportion of eligible units among all units in the sample for which a definitive determination of status was obtained. The estimated eligibility rate is used in the calculation of the overall response rate.

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<sup>1</sup> These disposition codes and rate formulae are consistent with the standards of the American Association for Public Opinion Research (AAPOR). The contact, cooperation and response rates are the AAPOR #3 rates.

Of the total 4,401 usable pieces of sample used for the study, 3,098 pieces of sample had a definitive eligibility status (86 were not eligible and 3,012 were eligible) and 1,303 were of unknown eligibility. Therefore, the estimated eligibility status for the study is  $3,012/3,098=0.9722$ .

**Table 2: Sample Eligibility and Estimated Eligibility Rate**

	Number	Percent
<b>Total Usable Sample</b>	<b>4,401</b>	<b>100%</b>
Known eligibility	3,098	70.4%
Not eligible	86	50.1%
Eligible	3,012	19.6%
Unknown Eligibility	1,303	29.6%
Estimated Eligibility rate (e)	$3,012/3,098=0.9722$	97.2%

#### **B.1.4 Data Processing**

##### *Coding*

As requested by the survey manager at NMR, APPRISE did not code any of the open-ended responses, nor did we perform any back-coding of other-specify responses.

##### *Data Processing*

The survey data were checked for consistency with the CATI survey instrument. Data files were created in the following formats: SAS, SPSS, Stata, and Excel (both labeled and unlabeled spreadsheets). Variables and values were labeled consistent with the survey instrument. Stata and Excel codebooks that provided the data layout were developed.

##### *Weighting*

The survey data were weighted to compensate for the sample design and for patterns of non-response that might bias results. The demographic characteristics of all of the completed surveys were weighted to bring them into alignment with known population parameters for the State of New York.

The data set used for weighting (total n=510) included all completes in order to make it comparable to the weighting parameters (all New York State households). All completes were weighted to population distributions from the American Community Survey (2007-2009, 3 year average). The data were weighted on region (Upstate and Downstate), home ownership, head of household age (over 18 years old), head of household education, number of adults in the household, and the number of people in the household.

Population and survey sample statistics are shown in Table 3.



Table 3: ACS Population and Survey Sample Statistics

	POPULATION		SAMPLE	
	ACS Data		Unweighted	
	Freq.	Pct.	Freq.	Pct.
<b>Region</b>				
Upstate	2,839,919	46%	279	54.71%
Downstate	3,392,281	54%	231	45.29%
Total	6,232,200	100%	510	100.00%
<b>Home Ownership</b>				
Own	3,204,967	51%	356	69.80%
Not Own	3,027,233	49%	144	28.24%
Don't Know/Refused			10	01.96%
Total	6,232,200	100%	510	100.00%
<b>Head of Household Age</b>				
18-34	1,175,292	19%	38	7.45%
35-64	3,711,822	60%	271	53.14%
65+	1,343,468	22%	187	36.67%
Don't Know/Refused			14	2.75%
Total <sup>1</sup>	6,230,582	100%	510	100.00%
<b>Head of Household Education</b>	<b>Freq.</b>	<b>Pct.</b>	<b>Freq.</b>	<b>Pct.</b>
Less than HS	912,184	15%	23	4.51%
HS grad + some college	3,212,264	52%	265	51.96%
4 year college grad +	2,107,752	34%	203	39.80%
Don't Know/Refused			19	3.73%
Total	6,232,200	100%	510	100.00%
	<b>POPULATION</b>		<b>SAMPLE</b>	

Number of Adults in Household	ACS Data		Unweighted	
	Freq.	Pct.	Freq.	Pct.
1	2,304,924	37%	136	26.67%
2+	3,926,558	63%	357	70.00%
Don't Know/Refused			17	3.33%
Total <sup>2</sup>	6,231,482	100.00%	510	100.00%
Number of People in Household				
1	1,935,188	31%	123	24.12%
2	1,921,351	31%	186	36.47%
3+	2,375,661	38%	190	37.25%
Don't Know/Refused			11	2.16%
Total	6,232,200	100%	510	100.00%

<sup>1</sup> Does not include households whose head of household is less than 18 years of age.

<sup>2</sup> Does not include households with no adults present

The weight was calculated to bring sample distributions on these geographic and demographic variables into alignment with population distributions from the ACS data using a raking procedure. The weights were first calculated within region using the raking procedure, and then modified using a simple adjustment factor across regions. Respondents with missing data on all of the weighted variables were assigned a weight equal to the average weight for all respondents.

Information on the calculated weights by strata is presented below. The final mean weight for each category of each variable used in weighting is presented along with the number of sample cases in the category, the standard deviation, minimum, and maximum weight. These mean weights are the average final weights for each category. The initial weights were set at 1.00. However, as the raking procedure balances the sample on all of these variables, respondents in any one category of one variable will have their weight adjusted as their data are weighted to the next variable.

Table 4: Final Consumer Weights

Region - Weight	No of obs	Mean	Std. Dev.	Min	Max
Upstate	279	.8329723	.6411884	.2074545	3.535514
Downstate	231	1.201735	1.210502	.1717237	6.292171
Home Ownership - Weight	No of obs	Mean	Std. Dev.	Min	Max
Own	356	.7220705	.503366	.1717237	4.950243
Not Own	144	1.688459	1.384667	.1958447	6.292171
Don't Know/Refused	10	.9804774	.978699	.2498047	3.682048
Head of Household Age - Weight	No of obs	Mean	Std. Dev.	Min	Max
18-34	38	2.457846	.9234827	1.239347	4.951863
35-64	271	1.089043	.8742612	.4465545	6.292171
65+	187	.571441	.7684431	.1717237	6.292171
Don't Know/Refused	14	1.043691	.5158287	.4375433	2.005854
Head of Household Education - Weight	No of obs	Mean	Std. Dev.	Min	Max
Less than HS	23	3.122578	2.284031	.8979462	6.292171
Hs grad - some college	265	.9549764	.7570411	.2498047	4.951863
4 year college grad +	203	.8175695	.6313736	.1717237	4.950243
Don't Know/Refused	19	1.00765	.7812972	.2074545	2.970656
No. of Adults in Household - Weight	No of obs	Mean	Std. Dev.	Min	Max
1	136	1.340372	1.106016	.2498047	6.292171
2+	357	.8700241	.8825902	.1717237	6.292171
Don't Know/Refused	17	1.006513	.515895	.4165891	2.123145
No. of People in Household - Weight	No of obs	Mean	Std. Dev.	Min	Max
1	123	1.260973	1.027371	.2498047	6.292171

2	186	.8273063	.9029991	.2074545	6.292171
3+	190	1.002019	.9529887	.1717237	6.292171
Don't Know/Refused	11	.9670677	.5739874	.4165891	2.123145

In the final stage of the weighting process, the weights were ‘trimmed’ so no individual case has too much impact on weighted data. Trimming the weights decreases extremely high weights in order to reduce their impact on the variance of the estimates. All weights greater than some determined high value (obtained using median and inter-quartile of the weights) are decreased to the value. Efforts are made to keep the number of cases trimmed to a minimum. The trimming procedure followed the procedure described in Battaglia et al.<sup>2</sup> The weights were re-raked after trimming, and re-trimmed. The process continues until the weights are not exhibiting extremely high weights. With these data, the trimming process was only done twice. These trimmed weights are included as *weight* in the final data.

## B.2 HOMEOWNER FIXTURE SURVEY METHODOLOGY

The purpose of the Lighting Homeowners Fixture Survey was to better understand the residential lighting market, including awareness and usage of different types of energy efficient lighting and the decision-making process for choosing residential lighting fixtures among New York State homeowners. The survey collected information from 140 homeowners who reported installing at least one light fixture in their home within the past year. The survey was managed by APPRISE Incorporated. Interviews were conducted by Braun Research, Incorporated.

### B.2.1 Sample

#### *Target Population*

The target population for the Lighting Homeowner survey was New York State homeowners (including those who own a condominium or coop) who reside in single-family homes or buildings with one to four units, and have installed at least one light fixture in their home (indoors or outdoors, hardwired) within the past year. Additionally, respondents cannot reside on Long Island (Nassau or Suffolk counties).

#### *Sample Frame*

The sample frame was a random digit dial (RDD) sample of landline telephone numbers serving New York State. Sample was drawn separately for three regional breaks: Upstate A, Upstate B, and Downstate. The counties included in each of these regions are shown in Table 5.

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<sup>2</sup>Michael P. Battaglia, David Izrael, David C. Hoaglin, and Martin R. Frankel, "Tips and Tricks for Raking Survey Data (a.k.a. Sample Balancing)", American Association for Public Opinion Research

**Table 5: Survey Sample Regions**

UPSTATE A	UPSTATE B	DOWNSTATE
Allegany, Cattaraugus, Cayuga, Chautauqua, Cortland, Erie, Genesee, Livingston, Madison, Monroe, Niagara, Oneida, Onondaga, Ontario, Orleans, Oswego, Seneca, Wayne, Wyoming, Yates	Albany, Broome, Chemung, Chenango, Clinton, Columbia, Delaware, Dutchess, Essex, Franklin, Fulton, Greene, Hamilton, Herkimer, Jefferson, Lewis, Montgomery, Otsego, Orange, Rockland, Putnam, Rensselaer, Saratoga, Schenectady, Schoharie, Schuyler, St. Lawrence,, Steuben, Sullivan, Tioga, Tompkins, Ulster, Warren, Washington	Bronx, Kings, New York, Queens, Richmond, Westchester

The sample for the MCA Lighting Homeowner Survey was used to screen simultaneously for households eligible to participate in the MCA GJGNY Nonparticipant Survey (described under separate cover). The GJGNY sample included Orange, Rockland, Nassau and Suffolk counties in Downstate New York, while the MCA Homeowner Lighting Survey did not.

#### *Sample Selection*

The sample was selected proportionately by county so that each county was represented in the sample in the same proportion as its population within region.

#### **B.2.2 Margin of Error**

The margin of error for the upstate group is +10.4% at the 90% confidence level; for the downstate group, +9.4%.

### **B.3 DATA COLLECTION**

#### *Overview of Data Collection Procedures*

The Lighting Homeowner Survey was administered as a telephone interview with the individual in the household who is primarily responsible for or shares equally in the household's energy-related decisions.

Quotas for completes were set for each of the three regions shown in Table 5. Interviewers from Braun Research conducted the interviews using a computer-assisted telephone interview (CATI) survey instrument. All interviews were completed in English.

#### *Survey Instrument*

The survey instrument was initially designed by the MCA Team in consultation with NYSERDA evaluation and program staff as well as DPS staff. The survey instrument was pretested prior to programming in CATI to gauge length and to evaluate the flow and content of the questionnaire. Results of the pretest informed the design of the final questionnaire. (Because the GJGNY Nonparticipant and Homeowner Lighting Surveys shared the same screener, the pretest served both studies. A total of 2 full interviews were completed for the Lighting Homeowner Survey.)

The questionnaire included initial screening questions to determine the decision-makers' qualifications for the GJGNY Nonparticipant Survey, the Homeowner Lighting Survey, or both. Those who qualified for both surveys were randomly assigned to one of the two surveys. For the GJGNY Nonparticipant Survey, five screening questions determined the type of dwelling in which the respondent lived, homeownership, past participation in NYSERDA's Home Performance program, and whether or not the respondent had taken any action to improve the energy efficiency of his/her home in the past year or has plans to do so in the next year. One additional screening question was used to determine eligibility for the Homeowner Lighting Survey which asked if they had installed at least one hard-wired lighting fixture inside or outside their home in the last year.

Each fully screened respondent fell into one of three groups determined by their responses to the screening questions and quotas: a GJGNY Nonparticipant Survey respondent, a Homeowner Lighting Survey respondent or a failed screener (those who did not qualify for either survey or who qualified only for a quota group that was filled).

- Respondents who could qualify for either the GJGNY Nonparticipant Survey or the Homeowner Lighting Survey were randomly assigned to participate in one of these surveys. (No respondent was interviewed for both).
- Respondents who did not qualify for either survey or who qualified only for a quota group that was already filled were tagged as failed screeners and were asked five demographic questions for weighting purposes.

#### *Survey Administration*

The Lighting Homeowner study was in the field from September 20<sup>th</sup> to October 24<sup>th</sup>, 2011. At least 8 attempts were made to contact every sampled telephone number. Calls were varied between different times of the day/evening and different days of the week to maximize the chance of making contact with potential respondents. Interviewers were instructed to leave a message if they reached an answering machine. They left a message on the first contact and every three contacts after that. The message included a call-in number for the respondent to use if they wanted to call in to complete the survey at their convenience.

Interviewers were provided with training materials specific to this questionnaire, including general training issues and question-specific instructions. Prior to fielding, the survey manager and survey methodologist conducted in-person training with 34 interviewers and supervisors at the telephone center. APPRISE staff

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actively monitored interviews on the first day and periodically remotely monitored interviewers throughout the entire field period, to ensure the integrity of the data collection.

The survey interview length averaged 15 minutes.

*Sample Disposition and Survey Response*

Because the GJGNY Nonparticipant Survey and Homeowner Lighting Survey shared the same sample and screener, the tables below reflect the disposition of all sampled telephone numbers dialed for both studies combined.

Table 6 shows the disposition of all sampled telephone numbers dialed for this survey and provides the contact, cooperation, and overall response rates. The response rate estimates the fraction of all eligible respondents in the sample that were ultimately interviewed. The contact rate is the percentage of the working numbers where a request for an interview was made. The cooperation rate is the percentage of contact numbers where consent for an interview was not refused.<sup>3</sup> The contact rate for the study was 38.0%, the cooperation rate 36.1% and the overall response rate was 10.9%.

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<sup>3</sup> These disposition codes and rate formulae are consistent with the standards of the American Association for Public Opinion Research (AAPOR). The contact, cooperation and response rates are the AAPOR #3 rates.

Table 6: Survey Sample Disposition

		Number	Percent
<b>TOTAL SAMPLE USED</b>		27,657	100%
Excluded Sample	Not working/Unusable number [disconnected, fax tone, etc.]	12,933	46.76%
Not Contacted	Respondent never available	470	1.70%
	Answering Machine	2,572	9.30%
	Call back/Left 800#	2,475	8.95%
Unknown Eligibility	No Answer/Busy	5,398	19.52%
Excluded household	Not Eligible/Not Qualified	318	1.15%
	Over Quota	108	0.65%
Refused/ Break-off	Refused	1,982	7.17%
	Break-off	180	
<b>COMPLETED INTERVIEW</b>			
	<b>GJGNY</b>	212	0.77%
	<b>Homeowner Lighting</b>	140	0.51%
	<b>Failed Screeners</b>	869	3.14%
<b>Contact rate<sup>1</sup> (3,383/8,900 = .380)</b>			38.0%
<b>Cooperation rate<sup>2</sup> (1,221/3,383 = .361)</b>			36.1%
<b>Response rate<sup>3</sup> (1,221/(8,900 + (.41899(5,398))) = .109)</b>			10.9%

<sup>1</sup>Contact rate= Completes+refusals+break-offs /Completes+refusals+break-offs+not contacted.

<sup>2</sup>Cooperation rate=Completes /Completes+ refusals+breakoffs.

<sup>3</sup>Response rate=Completes /Completes+ refusals+breakoffs+not contacted+ (e\*(unknown eligibility). For this study, e=.41899 (see Table 2)

Table 7 shows the eligibility status and the estimated eligibility rate (e) for the sample. The estimated eligibility rate is the proportion of eligible units among all units in the sample for which a definitive determination of status was obtained. The estimated eligibility rate is used in the calculation of the overall response rate.

Of the total 9,326 usable pieces of sample used for the study, 2,043 pieces of sample had a definitive eligibility status (1,187 were not eligible and 856 were eligible) and 7,283 were of unknown eligibility. Therefore, the estimated eligibility status for the study is  $856/2,043=0.41899$ .



**Table 7: Sample Eligibility and Estimated Eligibility Rate**

	Number	Percent
<b>Total Usable Sample</b>	9,326	100%
Known eligibility	2,043	21.9%
Not eligible	1,187*	12.7%
Eligible	856	9.2%
Unknown Eligibility	7,283	78.1%
Estimated Eligibility rate (e)	856/2,043=0.41899	41.9%

\* Calculated as the sum of the Failed Screeners and Not Qualified respondents

### **B.3.1 Data Processing**

#### *Coding*

As requested by the survey manager at NMR, APPRISE did not code any of the open-ended responses, nor did we perform any back-coding.

#### *Data Processing*

The survey data were checked for consistency with the CATI survey instrument. Data files were created in the following formats: SAS, SPSS, Stata, and Excel (both labeled and unlabeled spreadsheets). Variables and values were labeled consistent with the survey instrument. Stata and Excel codebooks that provided the data layout were developed.

#### *Weighting*

The survey data were weighted to compensate for the sample design and for patterns of non-response that might bias results. The demographic characteristics of all of the completed surveys along with failed screeners were weighted to bring them into alignment with known population parameters for the State of New York.

The data set used for weighting (total n=970) included all completes (n=140) and failed screeners (n=830) in order to make it comparable to the weighting parameters (all New York State households). All completes and failed screeners were weighted to population distributions from the American Community Survey (2007-2009, 3 year average). The data were weighted on region (Upstate and Downstate), home ownership, head of household age (over 18 years old), head of household education, number of adults in the household, and the number of people in the household.

Population and survey sample statistics are shown in Table 8.

Table 8: ACS Population and Survey Sample Statistics

	POPULATION		SAMPLE	
	ACS Data		Unweighted	
	Freq.	Pct.	Freq.	Pct.
<b>Region</b>				
Upstate	2,839,919	46%	309	31.86%
Downstate	3,392,281	54%	661	68.14%
Total	6,232,200	100%	970	100.00%
<b>Home Ownership</b>				
Own	3,204,967	51%	416	42.89%
Not Own	3,027,233	49%	554	57.11%
Total	6,232,200	100%	970	100.00%
<b>Head of Household Age</b>				
18-34	1,175,292	19%	104	10.72%
35-64	3,711,822	60%	486	50.10%
65+	1,343,468	22%	315	32.47%
Don't Know/Refused			65	6.70%
Total <sup>4</sup>	6,230,582	100%	970	100.00%
<b>Head of Household Education</b>	<b>Freq.</b>	<b>Pct.</b>	<b>Freq.</b>	<b>Pct.</b>
Less than HS	912,184	15%	66	6.80%
HS grad + some college	3,212,264	52%	446	45.98%
4 year college grad +	2,107,752	34%	358	36.91%
Don't Know/Refused			100	10.31%
Total	6,232,200	100%	970	100.00%
	POPULATION		SAMPLE	
	ACS Data		Unweighted	
<b>Number of Adults in Household</b>	<b>Freq.</b>	<b>Pct.</b>	<b>Freq.</b>	<b>Pct.</b>
1	2,304,924	37%	269	37.94%
2+	3,926,558	63%	410	57.83%
Don't Know/Refused			65	4.23%

<sup>4</sup> Does not include households whose head of household is less than 18 years of age.

Total <sup>1</sup>	6,231,482	100.00%	970	100.00%
<b>Number of People in Household</b>				
1	1,935,188	31%	312	32.16%
2	1,921,351	31%	308	31.75%
3+	2,375,661	38%	297	30.62%
Don't Know/Refused			53	5.46%
Total	6,232,200	100%	970	100.00%

<sup>1</sup>Does not include households with no adults present

The weight was calculated to bring sample distributions on these geographic and demographic variables into alignment with population distributions from the ACS data using a raking procedure. The weights were first calculated within region using the raking procedure, and then modified using a simple adjustment factor across regions. Respondents with missing data on all of the weighted variables were assigned a weight equal to the average weight for all respondents.

Information on the calculated weights by strata is presented below. The final mean weight for each category of each variable used in weighting is presented along with the number of sample cases in the category, the standard deviation, minimum, and maximum weight. These mean weights are the average final weights for each category. The initial weights were set at 1.00. However, as the raking procedure balances the sample on all of these variables, respondents in any one category of one variable will have their weight adjusted as their data are weighted to the next variable.

**Table 9: Breakdown of Homeowner Weights**

<b>Region - Weight</b>	<b>No of obs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
Upstate	309	1.430467	0.943000	.3853321	5.644213
Downstate	661	.7987681	.4313445	.2571568	2.958807
<b>Home Ownership - Weight</b>	<b>No of obs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
Own	416	1.199142	.7973276	.298019	5.635656
Not Own	554	.8504638	.5830617	.2571568	5.644213
<b>Head of Household Age - Weight</b>	<b>No of obs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
18-34	104	2.71014	1.059664	0.707656	4.560215
35-64	364	1.12394	0.645637	0.126082	4.560215
65+	270	0.54855	0.42828	0.051232	2.390464

Don't Know/Refused	31	1.0494	0.5364	0.279693	2.46173
<b>Head of Household Education - Weight</b>	<b>No of obs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
Less than HS	41	2.20577	1.327101	0.324699	4.560215
Hs grad - some college	349	0.97215	0.736489	0.09118	3.775332
4 year college grad +	269	0.83949	0.632094	0.051232	4.364388
Don't Know/Refused	50	1.06922	0.527048	0.201224	2.46173
<b>Number of Adults in Household - Weight</b>	<b>No of obs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
1	269	0.88627	0.785801	0.051232	4.560215
2+	410	1.06718	0.795304	0.128169	4.364388
Don't Know/Refused	30	1.10163	0.768476	0.391484	4.560215
<b>Number of People in Household - Weight</b>	<b>No of obs</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
1	224	0.9085	0.757807	0.125538	4.560215
2	253	0.83446	0.727763	0.051232	4.555607
3+	212	1.28057	0.827195	0.128169	4.364388
Don't Know/Refused	20	1.14473	0.892151	0.495997	4.560215

In the final stage of the weighting process, the weights were 'trimmed' so no individual case has too much impact on weighted data. Trimming the weights decreases extremely high weights in order to reduce their impact on the variance of the estimates. All weights greater than some determined high value (obtained using median and inter-quartile of the weights) are decreased to the value. Efforts are made to keep the number of cases trimmed to a minimum. The trimming procedure followed the procedure described in Battaglia et al.<sup>5</sup> The weights were re-raked after trimming, and re-trimmed. The process continues until the weights are not exhibiting extremely high weights. With these data, the trimming process was only done twice. These trimmed weights are included as *weight* in the final data.

<sup>5</sup> Michael P. Battaglia, David Izrael, David C. Hoaglin, and Martin R. Frankel, "Tips and Tricks for Raking Survey Data (a.k.a. Sample Balancing)", American Association for Public Opinion Research

## B.4 RETAILER SURVEY METHODOLOGY

The purpose of the Lighting Retailers survey was to develop a better understanding of the residential lighting market for high efficiency bulbs and fixtures from the retailer perspective. The Lighting Retailers survey asked respondents about their experience with selling efficient lighting, their perception of the lighting market, and their interactions with customers about energy efficiency.

### B.4.1 Sample

#### *Target Population*

The MCA Team targeted retailers from six categories – department stores, hardware stores, grocery stores, lumber material stores, lighting specialty stores and warehouse stores. The respondent was the person in the store responsible for making decisions about lighting stock and lighting displays. Depending on the store type, this could be the store manager, the owner, or someone else.

#### *Sample Frame*

The survey sample frame and allocation of sample by channel is based on the store types where consumer respondents to a survey that was part of a NYSERDA 2010 CFL study reported purchasing 95 percent of CFLs<sup>6</sup> and on the store types where 76 percent of permanent fixtures were purchased in the Northeast in the late 1990s.<sup>7</sup>

The specific SIC codes by target categories are listed below in Table 10.

**Table 10: Target Sectors**

<b>Retailer Sector</b>	<b>SIC Codes</b>
Hardware	52510000
Department store	53119901
Lighting Specialty	57190200, 57190202
Grocery	54110000, 54119904, 54119905
Lumber Building Materials	52119908
Warehouse	53999906

APPRISE purchased the sample from Marketing Systems Group. The original sample frame consisted of 1,501 records across the six categories. APPRISE initially screened out duplicates and any records from Long Island. After this processing step, the frame contained 1,496 cases. After pretesting, APPRISE removed the 79 records used for this task, leaving 1,420 cases. We also prescreened the sample for stores

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<sup>6</sup> NYSERDA. 2011. “IMPACT EVALUATION NYSERDA CFL Expansion Program: Random Digit Dial and Onsite Survey Results FINAL Report.”

<sup>7</sup> Hoefgen, L. and Dan Nore. 1999. “Northeast Residential Lighting Market: Measuring and Targeting Market Transformation.” AESP Annual Conference.

where we assumed lighting would not be sold. This included locksmiths, automobile stores, antique stores, etc. As a result of this process, 67 additional stores were removed from the sample frame. This left 1,353 records in the final sample frame.

*Sample Selection*

APPRISE initially released 733 records on November 11<sup>th</sup>. In order to meet the target for the grocery store sector, APPRISE released 15 additional pieces of sample for this category. This information is presented in Table 11.

**Table 11: Final Sample Selected**

Sector	Total
Hardware	76
Department store	251
Lighting Specialty	106
Grocery	97
Lumber Building Materials	165
Warehouse	53
Total	748

*Advance Letters*

NYSERDA sent advance letters to each store prior to the start of full-scale interviewing. The letter explained the study to the potential respondent, introduced the phone center that would be calling, provided a toll-free number for respondents to call in to complete a survey at their convenience, provided NYSERDA contact information if a potential respondent wanted to learn more about the survey effort, reassured potential respondents about maintaining the confidentiality of their responses, and recommended participation in the study.

*Target Completes*

The target number of completes was 70 interviews. As noted earlier in this report, targets by store type were based on actual purchase behavior. These targets are presented in Table 12.

**Table 12: Targeted Number of Completes by Quota**

Sector	Target N	Actual N
Hardware	6	9
Department store	18	24
Lighting Specialty	10	11
Grocery	6	6
Lumber Building Materials	24	24

Warehouse	6	9
Total	70	83

#### **B.4.2 Margin of Error**

There were 83 completed surveys from a population of 11,748 stores among the targeted channels. The margin of error is +9.0% at the 90% confidence level.

#### **B.4.3 Data Collection**

##### *Overview of Data Collection Procedures*

The Lighting Retailers survey was administered as a telephone interview. Interviewers from Opinion America conducted the survey using a computer-assisted telephone interview (CATI) survey instrument. The respondent was anyone at the store who was responsible for lighting stock and display decisions.

##### *Survey Instrument*

The survey instrument was designed by NYSEERDA's Market Characterization and Assessment Team. Three pretest interviews were conducted by APPRISE staff to assess the clarity, consistency and skip pattern logic of the draft survey instrument. Changes as a result of this pretest effort were discussed with the Market Team and implemented where necessary. APPRISE formatted the survey instrument for CATI programming.

##### *Survey Administration*

Interviewer training and initial calling began on November 14, 2011. Prior to the start of dialing, APPRISE provided interviewers with training materials that addressed general interviewing techniques, the targeted respondent for this survey and instructions specific to this questionnaire. On the first day of fielding, the APPRISE survey manager conducted extensive interviewer and supervisor training. This was done to ensure that the staff and interviewers were fully knowledgeable and able to administer the survey properly.

All interviews were completed in English. Interviewers called during daytime weekday hours and were available on weeknights if the respondent wished to schedule a call-back for that time. Calls were rotated between the morning and afternoon on different days of the week. If the interviewer reached the correct company or respondent voicemail, he or she left messages. The length of the survey averaged 21 minutes. Survey fielding ended on December 2, 2011 with 83 completed interviews.

##### *Sample Disposition and Survey Response Rate*

Table 13 shows the disposition of all sampled cases and provides the contact, cooperation, and overall response rates for this survey. The response rate estimates the fraction of all eligible respondents in the sample that were ultimately interviewed. The contact rate is the percentage of the working numbers where a request for an interview was made. The cooperation rate is the percentage of contact numbers where

consent for an interview was not refused.<sup>8</sup> The contact rate for the study was 93.81%, the cooperation rate was 91.21%, and the overall response rate was 51.34%.

**Table 13: Survey Sample Disposition**

		Number	Percent
<b>TOTAL SAMPLE USED</b>		748	100%
Excluded Sample	Not working/Unusable number	189	25.27%
Not Contacted	Respondent never available	6	.80%
Unknown Eligibility	No Answer/Busy	3	41.44%
	Call back/Left 800#	1	
	Gatekeeper/Initial Refusal	56	
	Max attempts/Over Quota	250	
Excluded Retailers	Not Eligible/Not Qualified	152	20.32%
Refused/ Break-off	Refused	7	1.07%
	Break-off	1	
<b>COMPLETED INTERVIEW</b>		83	11.10%
<b>Contact rate ((83+7+1)/(83+7+1+6)=.9381)</b>		.9381	93.81%
<b>Cooperation rate (83/(83+1+7)=.9121)</b>		.9121	91.21%
<b>Response rate 83/[83+7+1+6+(.221(310))=.5134]</b>		.5015	50.15%

<sup>1</sup> Contact rate= (Completes+refusals+breakoffs)/(Completes+refusals+breakoffs+not contacted).

<sup>2</sup> Cooperation rate=Completes/(Completes+refusals+breakoffs).

<sup>3</sup> Response rate=Completes/[(Completes+refusals+breakoffs+not contacted+ (e\*(unknown eligibility))].  
For this study, e=.0.2215 (see Table 3).

#### B.4.4 Data Processing

Table 14 shows the eligibility status and the estimated eligibility rate (e) for the sample. The estimated eligibility rate is the proportion of eligible units among all units in the sample for which a definitive determination of status was obtained. The estimated eligibility rate is used in the calculation of the overall response rate.

<sup>8</sup> These disposition codes and rate formulae are consistent with the standards of the American Association for Public Opinion Research (AAPOR). The contact, cooperation and response rates are the AAPOR #3 rates.



Of the total 748 pieces of sample used for the study, 438 pieces of sample had a definitive eligibility status (341 were not eligible and 97 were eligible) and 308 were of unknown eligibility. Therefore, the estimated eligibility status for the study is  $97/438 = 0.2215 = 22.15\%$ .

**Table 14: Sample Eligibility and Estimated Eligibility Rate**

	<b>Number</b>	<b>Percent</b>
<b>Total Sample</b>	748	100%
Known eligibility	438	58.71%
<i>Not eligible</i>	341	45.71%
<i>Eligible</i>	97	13.00%
Unknown Eligibility	310	41.44%
Estimated Eligibility rate (e)	97/438=0.2215	22.15%

#### **B.4.5 Data Processing**

##### *Coding*

The survey contained 12 open-end questions and 11 other-specify/field code questions. A Policy Analyst at APPRISE reviewed each verbatim response and coded it into one of the pre-coded responses or developed a new code, where applicable. New codes were created for questions F5, F6, F7, F8, F9, F14, F15, F19, F22, L5a, B9, B10, B12, EB1, EB5, EB7, EB9, and EE2. Navigant Consulting provided the final coding check for the file. All additional codes are documented in the final survey instrument.

##### *Data Processing*

The survey data were checked for consistency with the survey instrument. Data files were created in the following formats: SAS, SPSS, Stata, and Excel. All files were labeled with variable labels and value labels. Survey data codebooks were also created for this study and were distributed along with the data files.

##### *Weighting – Bulbs*

The survey sample frame and allocation of sample by channel was based on the store types where consumer respondents to a survey that was part of a NYSERDA 2010 CFL study reported purchasing 95 percent of CFLs<sup>9</sup> and on the store types where 76 percent of permanent fixtures were purchased in the Northeast in the late 1990s.<sup>10</sup> Warehouse stores were included because according to the 2011 NYSERDA

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<sup>9</sup> NYSERDA. 2011. “IMPACT EVALUATION NYSERDA CFL Expansion Program: Random Digit Dial and Onsite Survey Results FINAL Report.”

<sup>10</sup> Hoefgen, L. and Dan Nore. 1999. “Northeast Residential Lighting Market: Measuring and Targeting Market Transformation.” AESP Annual Conference.

CFL impact study, approximately 7 percent of respondents report purchasing CLFs at warehouse stores [see Table 13 for original targets].

Weights were created to adjust the number of completed cases to align with actual bulb stocking [as reported by respondents to this survey] and purchase behavior [as reported by respondents to the 2010 CFL survey].

**Table 15: Weighting Bulbs**

Self-reported source of bulb purchases

Self-reported source of bulb purchases:		
Store Type		
	2010	Channel Share:
Home improvement	56%	0.448
Mass merchandise/discount department	39	0.312
Grocery	12	0.096
Warehouse	7	0.056
Hardware	9	0.072
Electrical/Specialty lighting	2	0.016

Store Type	Retail Lighting Survey, 11/11						channel bulbs/tot bulbs	bulb weights
	Total	Sell Bulbs [net] <sup>1</sup>	Sell Fixtures [net]	Bulbs only	Fixtures only	Both		
Home improvement	24	22	24	0	2	22	0.30	1.507
Mass merchandise/discount department	24	21	15	9	3	12	0.28	1.099
Grocery	6	6	1	5	0	1	0.08	1.184
Warehouse	9	8	4	5	1	3	0.11	0.518
Hardware	9	9	7	2	0	7	0.12	0.592
Electrical/Specialty lighting	11	8	11	0	3	8	0.11	0.148

<sup>1</sup>Total sell bulbs: 74*Weighting – Fixtures*

Fixture weights were created to adjust the number of completed cases to align with actual fixture stocking [as reported by respondents to this survey] and purchase behavior [as reported by respondents to NMRs Northeast Residential Lighting Market Survey].

**Table 16: Weighting-Fixtures**

Self-reported source of fixture purchases:

Store Type		Retail Lighting Survey, 11/11								
		Total	Sell Bulbs [net] <sup>1</sup>	Sell Fixtures [net]	Bulbs only	Fixtures only	Both	channel fixtures/total fixtures	fixture weights	
		<b>1999</b>								
Home improvement		44%								
Mass merchandise/discount department		8								
Grocery		NA								
Warehouse		NA								
Hardware		16								
Electrical/Specialty lighting		16								
Home improvement		24	22	24	0	2	22	0.39	1.137	
Mass merchandise/discount department*		24	21	15	9	3	12	0.32	0.248	
Grocery*		6	6	1	5	0	1	0.32	0.248	
Warehouse*		9	8	4	5	1	3	0.32	0.248	
Hardware		9	9	7	2	0	7	0.11	1.417	
Electrical/Specialty lighting		11	8	11	0	3	8	0.18	0.902	

<sup>1</sup>Total sell fixtures: 62

\*Weighting Assumption: mass merchandise = grocery and warehouse store behavior for fixture weights

# Appendix C

## TELEPHONE SURVEY INSTRUMENTS

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### C.1 CONSUMER SURVEY INSTRUMENT

#### NYERDA Residential Lighting Market Characterization Study

#### General Population Survey Final

### Sampling Plan

Simple random sample of 250 cases each Upstate and Downstate, selected via RDD, for a total of 500 completed responses.

Qualified households are all households in the area of NYS served by NYERDA. (Excludes Long Island – Nassau and Suffolk Counties)

### Survey Introduction

Hello, my name is \_\_\_\_\_ and I am calling from Braun Research on behalf of New York State Energy Research and Development Authority. We are contacting residents throughout New York in order to learn more about how households use energy. We are not selling anything. I would like to speak with the person who is primarily responsible for your household's energy-related decisions. This would be the person who is responsible for paying the utility bills or making decisions about adjusting your home's thermostat or selecting new appliances. **[IF NECESSARY: We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you. This survey will take approximately 15 minutes to complete.]**

**PROGRAMMER: DO NOT PROGRAM THESE PROBES. INTERVIEWERS WILL HAVE HARDCOPY REFERENCE SHEETS.**

**[Questions about Timing.** For most people it takes only about 15 minutes, but it may take as long as 20 minutes. If now is not a good time, we can set up a more convenient call back time.]

**[Who are you?** I am from \_\_\_\_\_, a survey data collection firm, calling on behalf of the New York State Energy Research and Development Authority, also known as NYERDA.]

**[Why are you doing this study?**We are contacting residents throughout New York in order to learn more about how households use energy.]

**[Questions about validity.** If you have more questions about this study, you can contact Carley Murray, NYERDA Assistant Project Manager at (518) 862-1090, extension 3277.]

**SCREENER**

- S1. Would you say that . . .
- 01 You are primarily responsible for some or all of your household's energy related decisions
  - 02 You share responsibility for your household's energy related decisions with others, or
  - 03 You are not responsible for your household's energy related decisions [**ASK TO SPEAK WITH APPROPRIATE PERSON, OR ARRANGE FOR A CALL BACK TIME**]
  - 96 REFUSED [**THANK AND TERMINATE**]
  - 97 DON'T KNOW [**THANK AND TERMINATE**]

**Programmer: Use FIPS code to flag County.**

**AWARENESS OF ENERGY-SAVING LIGHT BULBS**

- P1. First, I'd like to ask you a few questions about your familiarity with different types of light bulbs.  
[**RANDOMIZE ORDER OF P1a - c**]

- P1a. Before this call today, had you ever heard of **Compact fluorescent light bulbs or CFLs**?

- 01 YES [**ASK PROBE IF FIRST RESPONSE IS "YES"**]
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

**IF YES:** Compact fluorescent light bulbs usually do not look like regular incandescent bulbs. There are different types of compact fluorescent bulbs. The most common type is made with a glass tube bent into a spiral, resembling soft-serve ice cream, and it fits in a regular light bulb socket. When lit, they are not as hot to the touch as a regular incandescent bulb. Is this the kind of light bulb you have heard about? [**RECORD FINAL ANSWER ABOVE**]

- P1b. Before this call today, had you ever heard of **LED or light-emitting diode ["DYE-ODE"]bulbs**?

- 01 YES [**ASK PROBE IF FIRST RESPONSE IS "YES"**]
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

**IF YES:** LED bulbs are usually much smaller than regular incandescent bulbs and are often used for specialty purposes like holiday lighting or lighting a kitchen counter. Recently stores have begun to sell them for regular lighting uses too, but they are often more expensive than other types of bulbs. Is this the kind of light bulb you have heard about? [**RECORD FINAL ANSWER ABOVE**]

- P1c. Before this call today, had you ever heard of **high efficiency halogen bulbs**?

- 01 YES [**ASK PROBE IF FIRST RESPONSE IS "YES"**]
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

**IF YES:** While some halogens are much smaller than regular incandescent bulbs and have bases that fit only in special fixtures, there are halogens that have screw-in bases that fit into regular, standard light bulb sockets. These Halogen bulbs are VERY similar to standard incandescent bulbs – in terms of size, shape, and appearance. Is this the kind of light bulb you have heard about? [**RECORD FINAL ANSWER ABOVE**]

- P2. To your knowledge, which type of bulb uses less energy to produce light—compact fluorescent light bulbs or high efficiency halogen bulbs or do both bulbs use about the same amount of energy? [**ACCEPT ONE RESPONSE.][DO NOT READ LIST**]

- 01 COMPACT FLUORESCENT LIGHTBULBS USE LESS ENERGY
- 02 HIGH EFFICIENCY HALOGEN BULBS USE LESS ENERGY

- 03 BOTH BULBS USE ABOUT THE SAME AMOUNT OF ENERGY
- 96 REFUSED
- 97 DON'T KNOW

### ***EISA Awareness & Future Expectations***

- P3. A new federal law, the Energy Independence and Security Act of 2007, will restrict the sale of 100 Watt incandescents, or regular 100 Watt bulbs, manufactured after January 1, 2012. Had you heard about this new federal law before this call?
- 01 YES
  - 02 NO
  - 96 REFUSED
  - 97 DON'T KNOW
- P4. We are interested to know the type of bulb you would be likely to use instead of a 100-watt incandescent bulb once this is no longer available for purchase. I'm going to read five different types of bulbs and after I read the list, I'd like you to tell me first which one you would be most likely to use instead of the 100-watt incandescent bulb, then which would be your second choice, and finally which would be your third choice.
- P4a. The five options are **[READ ENTIRE LIST. THEN IMMEDIATELY ASK]**: Which one of these bulbs would you be most likely to use instead of the 100-watt incandescent? **[RECORD ONE ANSWER FOR FIRST MENTION "MOST LIKELY TO USE"]**.
- P4b. **NEXT ASK**: And, of the remaining types of bulbs, which would be your second choice to use instead of the 100-watt incandescent? **[IF NEED: READ REMAINING FOUR TYPES. RECORD ONE ANSWER FOR "SECOND MOST LIKELY TO USE"]**.
- P4c. And, finally, which would be your third choice to use? **[IF NEED: READ THREE REMAINING TYPES NOT SELECTED. RECORD ONE ANSWER FOR "THIRD MOST LIKELY TO USE"]**.

**[PROGRAMMER: RANDOMIZE LIST. SHOW ALL ITEMS ON SCREEN. DO NOT ALLOW THE SAME ITEM TO BE SELECTED MORE THAN ONCE.]**

- 01 A lower wattage incandescent bulb that would be less bright than a 100 watt bulb
- 02 A screw-in halogen bulb that is just as bright as a 100 watt incandescent bulb
- 03 A compact fluorescent bulb that is just as bright as a 100 watt incandescent bulb
- 04 An LED or light-emitting diode bulb that is just as bright as a 100 watt incandescent bulb
- 05 A 150 watt incandescent bulb
- 96 REFUSED **[ONLY ALLOW FOR ENTIRE QUESTION]**
- 97 DON'T KNOW **[ONLY ALLOW FOR ENTIRE QUESTION]**

**PROGRAMMER: IF P4a=96 OR 97, AUTO-FILL P4b AND P4c = 96 OR 97 THEN GO TO P7.**

**IF P4a ≠96 OR 97 AND P4b= 96 OR 97, AUTO-FILL P4c =96 OR 97 AND GO TO P5.**

- P5. You said you would be most likely to instead use **[IF P4a=01 SHOW: a lower wattage incandescent bulb]/[IF P4a=02 SHOW: a screw-in halogen bulb]/[IF P4a=03 SHOW: a compact fluorescent bulb]/[IF P4a=04 SHOW: an LED bulb]/[IF P4a=05 SHOW: a 150 watt incandescent bulb]**. Why that bulb?

- 01 **[RECORD VERBATIM]**
- 96 REFUSED
- 97 DON'T KNOW

**[IF P4a=01 OR P4b=01 OR P4c=01, ASK:]**

P6. You said your **[IF P4a=01 SHOW: first]** /**[IF P4b=01 SHOW: second]**/ **[IF P4c=01 SHOW: third]** choice would be a lower wattage incandescent bulb. What wattage bulb would you most likely use? **[DO NOT READ]**

- 01 75 WATT BULB
- 02 60 WATT BULB
- 03 40 WATT BULB
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

- P7. How likely are you to buy extra 100 Watt incandescent light bulbs before 2012 and save them for use after the standards go into effect? Would you say you are . . .**[READ LIST]**. **[RECORD ONE ANSWER]:**
- 01 Very likely
  - 02 Somewhat likely
  - 03 Somewhat unlikely, or
  - 04 Very unlikely to buy and save 100 Watt incandescent light bulbs for use after 2012?
  - 96 REFUSED
  - 97 DON'T KNOW

**CFL Purchasing****[ASK P8 IF P1a=01. OTHERWISE GO TO P20]**

- P8. Do you have any compact fluorescent bulbs installed in light fixtures in your home?
- 01 YES
  - 02 NO
  - 96 REFUSED
  - 97 DON'T KNOW
- P9. Have you purchased a compact fluorescent bulb, or CFL, in the last 3 months?
- 01 YES
  - 02 NO **[GO TO INSTRUCTION ABOVE P17]**
  - 96 REFUSED **[GO TO INSTRUCTION ABOVE P17]**
  - 97 DON'T KNOW **[GO TO INSTRUCTION ABOVE P17]**
- P10. Compact fluorescent bulbs can come in different shapes or offer different features. Please say yes or no for each special type of compact fluorescent bulb you purchased in the last 3 months. **[RANDOMIZE RESPONSES]**. Did you buy . . .**[READ ITEM]**?



- a. Dimmable CFLs? [**READ IF NECESSARY:** This refers to a CFL that can be used with a dimmer switch to adjust the level of brightness.]
  - b. 3-way CFLs? [**READ IF NECESSARY:** This refers to a CFL that has the ability to shine at 3 different levels of brightness in a 3-way lamp.]
  - c. Flood or recessed lighting CFLs?
  - d. Candelabra CFLs? This refers to a CFL with a small base for use in a decorative fixture, such as a chandelier.
  - e. Globe CFLs? This refers to a CFL that has a round shape and might be used in a fixture, such as a vanity light.
  - f. A-shaped CFLs? This refers to a covered CFL that is made to look and feel like a traditional incandescent or regular light bulb.
- 01 YES  
02 NO  
96 REFUSED  
97 DON'T KNOW

**[IF ANY 01 IN P10a-f, ASK P11. ELSE GO TO P12.]**

P11. At what type of store did you buy most or all of these compact fluorescent light bulbs? [**READ LIST**]. [RANDOMIZE RESPONSES 01-06. ACCEPT MULTIPLE RESPONSES.]

- 01 A hardware store?
- 02 A drug store?
- 03 A home improvement store, such as Lowe's or Home Depot?
- 04 A grocery store?
- 05 A department store? [**IF NECESSARY:** Includes Walmart, K-mart, etc.]
- 06 Store that sells mostly lighting?
- 95 Another type of store? [**SPECIFY**]
- 96 REFUSED
- 97 DON'T KNOW

P12. What information did you look for on the packaging to help you decide which bulb to purchase? [**DO NOT READ. RECORD VERBATIM ANY RESPONSES THAT DO NOT FIT PRECODES. ACCEPT MULTIPLE RESPONSES.**]

- 01 WATT EQUIVALENCY
- 02 ENERGY STAR LABEL
- 03 UL, OR UNDERWRITERS LABORATORIES, LABEL
- 04 LUMENS
- 05 CRI, OR COLOR RENDITION INDEX
- 06 BULB LIFE
- 07 DIMMING
- 08 3-WAY BULB
- 09 SHAPE OF BULB
- 94 NONE
- 95 OTHER [**SPECIFY**]
- 96 REFUSED
- 97 DON'T KNOW

P13. I'm going to read a list of types of information you might have looked for on the packaging. You may have already mentioned this, but for each item I read, please tell me whether or not you looked for it. [**READ LIST**]. [RANDOMIZE 01-07. ACCEPT MULTIPLE RESPONSES.]

- 01 Watt equivalency?
- 02 The ENERGY STAR label?
- 03 The UL, or Underwriters Laboratories, Label?
- 04 Lumens?
- 05 CRI, or color rendition index?
- 06 Bulb life?

- 07 Special features, such as dimming, a three-way bulb, or a certain shape bulb? **[IF NAME THE FEATURE, SPECIFY]**
- 95 Anything else not already mentioned?**[SPECIFY]**
- 94 NONE OF THESE **[DO NOT READ]**
- 95 OTHER **[SPECIFY]**
- 96 REFUSED
- 97 DON'T KNOW

- P14. Did you install the compact fluorescent light bulb(s) you recently purchased—that is, did you put them in a light fixture? **[DO NOT READ]**
- 01 YES
  - 02 NO **[GO TO INSTRUCTION ABOVE P17]**
  - 96 REFUSED **[GO TO INSTRUCTION ABOVE P17]**
  - 97 DON'T KNOW **[GO TO INSTRUCTION ABOVE P17]**

**[ASK P15 IF P14=01 AND P8=02. OTHERWISE GO TO P16]**

- P15. You mentioned earlier that you don't have any compact fluorescent bulbs installed in light fixtures in your home. Did you remove the bulbs you installed?
- 01 YES
  - 02 NO **[IF "NO" SAY: I want to be sure I record your answers properly. Can you please explain?]** **[SPECIFY]**
  - 96 REFUSED
  - 97 DON'T KNOW

- P16. What kind of bulb(s) did you replace? **[READ LIST] [ACCEPT MULTIPLE RESPONSES][RANDOMIZE 01-02]**
- 01 Compact fluorescent light bulb?
  - 02 Incandescent light bulb ?
  - 95 Something else?**[SPECIFY]**
  - 96 REFUSED
  - 97 DON'T KNOW

**[ASK P17 IF P8 = 01. ELSE GO TO INSTRUCTION AT P18]**

- P17. Now I want you to think about all the bulbs installed in lamps or light fixtures in your home. About how many of the bulbs installed are compact fluorescents?**[READ IN ORDER. ACCEPT ONE RESPONSE]**
- 01 Less than 10%
  - 02 10% to less than 25%
  - 03 25% to less than 50%
  - 04 50% to less than 75%
  - 05 75% to less than 100%, or
  - 06 100% of the bulbs in your home are CFL?
  - 96 REFUSED
  - 97 DON'T KNOW

**[ASK P18 IF [P8=02, 96 or 97] AND [P9=02, 96 or 97.] ELSE SKIP TO P19]**

- P18. Have you ever purchased a compact fluorescent bulb, or CFL?
- 01 YES
  - 02 NO **[GO TO P20]**
  - 96 REFUSED **[GO TO P20]**
  - 97 DON'T KNOW **[GO TO P20]**

- P19. When did you first start purchasing CFLs? **[READ IN ORDER. ACCEPT ONE RESPONSE.]**
- 01 In 2011
  - 02 Not this year, but within the last 5 years

- 03 More than 5 years ago
- 04 RECEIVED AS GIFT/ALREADY IN THE HOUSE [VOLUNTEERED]
- 96 REFUSED
- 97 DON'T KNOW

## Fixtures

[ASK IF P1b=01. OTHERWISE GO TO INSTRUCTIONS BEFORE P21]

P20. Do you have any LED bulbs installed in light fixtures in your home?

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

[ASK P21 IF P8=01 OR P20=01]

P21. [IF P8=1 AND P20 = 1, SHOW: Compact fluorescent bulbs and LED bulbs]

[IF P8=1 AND P20 ≠1, SHOW: Compact fluorescent bulbs]

[IF P8 ≠1 AND P20=1, SHOW: LED bulbs]

can have two different kinds of bases: one that screws into a socket like an incandescent bulb, or one that has pins on the base and goes into a light fixture designed for pin-based bulbs. Do you have [IF P8 AND P20 = 1, SHOW either compact fluorescent bulbs or LED bulbs]/ [IF P8=1 AND P20 ≠1, SHOW: compact fluorescent bulbs]/[IF P8 ≠1 AND P20 =1, SHOW: LED bulbs] with pin bases currently installed in light fixtures in your home?

- 01 YES
- 02 NO [GO TO P25]
- 96 REFUSED [GO TO P25]
- 97 DON'T KNOW [GO TO P25]

[ASK P22 IF (P21 = 1) AND (P8 AND P20 = 1). ELSE GO TO INSTRUCTIONS ABOVE P23.]

P22. Which do you have installed? Do you have ..[READ LIST, ACCEPT MULTIPLE RESPONSES]

- 01 A fixture with pin-based compact fluorescent bulbs (CFLs)?
- 02 A fixture with pin-based LED bulbs?
- 96 REFUSED [GO TO P25]
- 97 DON'T KNOW [GO TO P25]

[ASK P23 IF (P22 = 1) OR IF (P8 = 1 AND P20≠ 1 AND P21=1).]

P23. In general, how satisfied are you with the quality of the light from the fixture with the pin-based compact fluorescent bulbs? Please use a scale of 1 to 5, with 1 being not at all satisfied and 5 being very satisfied.

- 01 Not at all satisfied
- 02
- 03
- 04
- 05 Very satisfied
- 96 REFUSED
- 97 DON'T KNOW

[ASK P24 IF (P22=2) OR IF (P8 ≠ 1 AND P20 = 1 AND P21=1)]

P24. In general, how satisfied are you with the quality of the light from the fixture with the pin-based LED bulbs? Please use a scale of 1 to 5, with 1 being not at all satisfied and 5 being very satisfied.

- 01 Not at all satisfied
- 02
- 03
- 04
- 05 Very satisfied
- 96 REFUSED
- 97 DON'T KNOW

## **Lumens & Key Lighting Knowledge**

- P25. Have you seen or heard of the word “lumens” used in relation to lighting?
- 01 YES
  - 02 NO [SKIP TO P28]
  - 96 REFUSED [SKIP TO P28]
  - 97 DON'T KNOW [SKIP TO P28]
- P26. What does the word “lumens” mean to you? **[DO NOT READ. FILL IN CLOSEST ANSWER CATEGORY OR RECORD VERBATIM. MULTIPLE ANSWERS ALLOWED. IF RESPONDENT SAYS ‘LIGHT QUALITY’, PROBE FOR EXACTLY WHAT ‘QUALITY’ THEY MEAN]**
- 01 LIGHT OUTPUT OR BRIGHTNESS
  - 02 LIGHT COLOR
  - 03 THE SAME AS WATTS
  - 95 OTHER[SPECIFY]
  - 96 REFUSED
  - 97 DON'T KNOW
- P27. To the best of your knowledge, how many lumens does a regular 60-watt incandescent bulb produce? **[IF NECESSARY: Even if you aren't sure, please make a guess.]**
- 01 [RECORD NUMBER] [VALID RANGE=1-9,999,999,999]
  - 96 REFUSED
  - 97 DON'T KNOW
- P28. Have you seen or heard the term “color rendering” used in relation to lighting?
- 01 YES
  - 02 NO [GO TO P30]
  - 96 REFUSED [GO TO P30]
  - 97 DON'T KNOW [GO TO P30]
- P29. What does the term “color rendering” mean to you?
- 01 [RECORD VERBATIM]
  - 96 REFUSED
  - 97 DON'T KNOW
- P30. Have you seen or heard the term “color temperature” used in relation to lighting?
- 01 YES
  - 02 NO [GO TO P32]
  - 96 REFUSED [GO TO P32]
  - 97 DON'T KNOW [GO TO P32]
- P31. What does the term “color temperature” mean to you?

- 01 **[RECORD VERBATIM]**
- 96 REFUSED
- 97 DON'T KNOW

P32. Have you seen or heard the terms “warm white” and “cool white” - as in the color white - used in relation to lighting?

- 01 YES
- 02 NO **[SKIP TO SECTION D]**
- 96 REFUSED **[SKIP TO SECTION D]**
- 97 DON'T KNOW **[SKIP TO SECTION D]**

P33. What do the terms “warm white” and “cool white” - as in the color white - mean to you?

- 01 **[RECORD VERBATIM]**
- 96 REFUSED
- 97 DON'T KNOW

## **Demographic Characteristics**

I just have a few final questions. These questions are asked for statistical purposes only. The information collected is strictly confidential.

Dx. Do you own or rent your home?

- 01 OWN
- 02 RENT/LEASE
- 03 OWN CONDO/COOP **[VOLUNTEERED]**
- 96 REFUSED
- 97 DON'T KNOW

Dy. What type of home do you live in? Is it a . . . ?

- 01 Single-family detached house
- 02 Single-family attached house (townhouse, row house, or duplex)
- 03 Building with 2-4 units
- 04 Building with 5 or more units
- 05 Mobile home or house trailer, or
- 95 Something else?
- 96 REFUSED
- 97 DON'T KNOW

D1. What is your age? **[IF RESPONDENT REFUSES, SAY: If you prefer, I can read age ranges and you can stop me when I read the correct range.]**

**[DO NOT READ]**

- 01 18 TO 24
- 02 25 TO 34
- 03 35 TO 44
- 04 45 TO 54
- 05 55 TO 64
- 06 65 OR OVER
- 96 REFUSED
- 97 DON'T KNOW

D1a. Counting yourself, how many people normally live in this household on a full time basis? Please include everyone who lives in your home whether or not they are related to you and exclude anyone who is just visiting or children who may be away at college or in the military. Including yourself, how many people live in your home on a full-time basis?

- 01 [RECORD NUMBER OF PEOPLE] [VALID RANGE=1-25]
- 96 REFUSED
- 97 DON'T KNOW

**[IF D1a=1 AUTOFILL D2 TO ALL 0 AND GO TO D3, OTHERWISE ASK D2]**

D2. Excluding you, how many people in your household are...

**[ALLOW ENTRY OF NUMBER FOR EACH a-g. INCLUDE RESPONSE OPTIONS FOR 96 AND 97.][SUM OF a-g CANNOT EXCEED NUMBER IN D1a. MUST = TO ONE LESS THAN TOTAL IN D1a. ONCE REACH MAXIMUM, AUTO-FILL 0 IN REST OF RANGES AND GO TO D3.] [DO NOT READ]**

- a. 0 TO 17?
- b. 18 TO 24?
- c. 25 TO 34?
- d. 35 TO 44?
- e. 45 TO 54?
- f. 55 TO 64?
- g. 65 OR OVER?

- 01 [RECORD NUMBER]
- 96 REFUSED
- 97 DON'T KNOW

D3. When was your home built? Please stop me when I get to the right category.

- 01 1930s or earlier
- 02 1940s
- 03 1950s
- 04 1960s
- 05 1970s
- 06 1980s
- 07 1990s
- 08 2000 or later
- 96 REFUSED
- 97 DON'T KNOW

D4. Approximately how large is your home? Your best estimate is fine. **[READ CHOICES].**

- 01 Less than 1,400 square feet
- 02 1,400 to less than 2,000 square feet

- 03 2,000 to less than 2,500 square feet
  - 04 2,500 to less than 3,500 square feet
  - 05 3,500 to less than 4,000 square feet
  - 06 4,000 to less than 5,000 square feet, or
  - 07 5,000 square feet or more?
  - 96 REFUSED
  - 97 DON'T KNOW
- D5. How many rooms are in your home, not counting bathrooms?
- 01 [RECORD SINGLE WHOLE NUMBER] [VALID RANGE 1 – 30]
  - 96 REFUSED
  - 97 DON'T KNOW
- D6. Do you pay your electric bill directly to your electric company or is your electricity bill **[IF Dy=01 OR 02, SHOW: paid in some other way] / [IF Dy ≠ 01, 02 SHOW: included in your condo fee or paid in some other way]**?
- 01 PAY DIRECTLY
  - 02 INCLUDED IN CONDO FEE **[SHOW ONLY IF Dy ≠ 01, 02]**
  - 03 PAID FOR IN SOME OTHER WAY
  - 96 REFUSED
  - 97 DON'T KNOW
- D7. Is English the primary language spoken in your home?
- 01 YES **[SKIP TO D9]**
  - 02 NO
  - 96 REFUSED **[SKIP TO D9]**
  - 97 DON'T KNOW **[SKIP TO D9]**
- D8. What is the primary language spoken in your home? **[PROMPT IF NECESSARY]**
- 01 SPANISH
  - 02 MANDARIN
  - 03 CANTONESE
  - 04 TAGALOG
  - 05 KOREAN
  - 06 VIETNAMESE
  - 07 RUSSIAN
  - 08 JAPANESE
  - 95 OTHER [SPECIFY]
  - 96 REFUSED
  - 97 DON'T KNOW
- D9. Do you consider yourself to be Spanish, Hispanic, or Latino?

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

D10. Do you consider yourself to be....?

- 01 White
- 02 Black or African-American
- 03 American Indian, Native Hawaiian, Pacific Islander, or Alaska Native
- 04 Asian, or
- 95 Something else? [Specify]
- 96 REFUSED
- 97 DON'T KNOW

D11. What is the highest grade of schooling you have completed so far? **[DO NOT READ]**

- 01 LESS THAN NINTH GRADE
- 02 NINTH TO TWELFTH GRADE; NO DIPLOMA
- 03 HIGH SCHOOL GRADUATE (INCLUDES GED)
- 04 SOME COLLEGE, NO DEGREE
- 05 ASSOCIATES DEGREE
- 06 BACHELORS DEGREE (4-YEAR DEGREE)
- 07 GRADUATE OR PROFESSIONAL DEGREE
- 96 REFUSED
- 97 DON'T KNOW

D12. Please tell me which category best describes your total combined household income. That is the total income for all members of your household from all sources in 2010. Please stop me when I get to the right category. **[READ LIST; SELECT ONE RESPONSE]**

- 01 Less than \$15,000
- 02 \$15,000 to just under \$25,000
- 03 \$25,000 to just under \$30,000
- 04 \$30,000 to just under \$35,000
- 05 \$35,000 to just under \$50,000
- 06 \$50,000 to just under \$60,000
- 07 \$60,000 to just under \$75,000
- 08 \$75,000 to just under \$100,000
- 09 \$100,000 to just under \$150,000
- 10 \$150,000 or more
- 96 REFUSED
- 97 DON'T KNOW



D13. **[DO NOT READ]** Gender

01 MALE

02 FEMALE

**[READ:** Those are all the questions I have for you. Thank you for taking the time to respond to this survey.]

**C.2 HOMEOWNER FIXTURE SURVEY INSTRUMENT**

**NYSERDA Residential Lighting Market Characterization Study**

**Homeowner (Fixture) Survey Instrument**

**Sampling Plan**

See GJGNY survey

**Survey Introduction**

Use GJGNY introduction

**PROGRAMMER: DO NOT PROGRAM THESE PROBES. INTERVIEWERS WILL HAVE HARDCOPY REFERNCE SHEETS.**

[**Questions about Timing.** For most people it takes only about 15 minutes. It may take as long as 20 minutes. If now is not a good time, we can set up a more convenient call back time]

[**Who are you?** I am from BRAUN RESEARCH, a survey data collection firm, calling on behalf of the New York State Energy Research and Development Authority, also known as NYSERDA]

[**Why are you doing this study?** We are contacting residents throughout New York in order to learn more about how households use energy.

[**Questions about validity.** If you have more questions about this study, you can contact Carley Murray of the New York State Energy Research & Development Authority at (518) 862-1090 ext. 3277.

**SCREENER [S series]**

For screener questions, see GJGNY non-participant survey.

**Number & Location of Fixtures Installed**

H1. First, I'd like to ask you a few questions about your familiarity with different types of light bulbs.

[RANDOMIZE ORDER OF H1a--H1c]

H1a. Before this call today, had you ever heard of **Compact fluorescent light bulbs or CFLs?**

- 01 YES [ASK PROBE IF FIRST RESPONSE IS "YES"]
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

**IF YES:** Compact fluorescent light bulbs usually do not look like regular incandescent bulbs. There are different types of compact fluorescent bulbs. The most common type is made with a glass tube bent into a spiral, resembling soft-serve ice cream, and it fits in a regular light bulb socket. When lit, they are not as hot to the touch as a regular incandescent bulb. Is this the kind of light bulb you have heard about? **[RECORD FINAL ANSWER ABOVE]**

H1b. Before this call today, had you ever heard of **LED or light-emitting diode [“DYE-ODE”] bulbs?**

- 01            YES        **[ASK PROBE IF FIRST RESPONSE IS “YES”]**
- 02            NO
- 96            REFUSED
- 97            DON’T KNOW

**IF YES:** LED bulbs are usually much smaller than regular incandescent bulbs and are often used for specialty purposes like holiday lighting or lighting a kitchen counter. Recently stores have begun to sell them for regular lighting uses too, but they are often more expensive than other types of bulbs. Is this the kind of light bulb you have heard about? **[RECORD FINAL ANSWER ABOVE]**

H1c. Before this call today, had you ever heard of **high efficiency halogen bulbs?**

- 01            YES        **[ASK PROBE IF FIRST RESPONSE IS “YES”]**
- 02            NO
- 96            REFUSED
- 97            DON’T KNOW

**IF YES:** While some halogens are much smaller than regular incandescent bulbs and have bases that fit only in special fixtures, there are halogens that have screw-in bases that fit into regular, standard light bulb sockets. These Halogen bulbs are VERY similar to standard incandescent bulbs– in terms of size, shape, and appearance. Is this the kind of light bulb you have heard about? **[RECORD FINAL ANSWER ABOVE]**

Now, I’d like to ask you some questions about the lighting you installed.

H2. Which of the following types of fixtures did you install?**[SHOW BEFORE EACH ITEM**

**a-i]** Did you install . . . **[READ TYPE OF FIXTURE]? [IF “YES” IMMEDIATELYASK FOLLOW-UP “H2S1 THROUGH H2S4” BEFORE GOING TO NEXT FIXTURE TYPE.]**

- a. A wall fixture over the bathroom vanity?

- b. A recessed fixture? [IF ASKED: This is a fixture that is set back into the ceiling so that only the bottom edge of the fixture and bulb can be seen from below.]
- c. Ceiling flush mount? [IF ASKED: a fixture that extends below the ceiling but is attached flush with the ceiling, without a chain or wire.]
- d. A chandelier or pendant, other than in a bathroom? [IF ASKED: a fixture that hangs down from the ceiling on a chain or wire]?
- e. A ceiling fan with lighting?
- f. Track lighting ?
- g. A wall fixture, other than in a bathroom?
- h. Under cabinet lighting?
- i. Outdoor lighting?

01 YES [CONTINUE WITH H2S1-H2S4]

02 NO [ASK FOR NEXT FIXTURE TYPE]

96 REFUSED [ASK FOR NEXT FIXTURE TYPE]

97 DON'T KNOW [ASK FOR NEXT FIXTURE TYPE]

H2S1. How many [READ TYPE OF FIXTURE]s did you install?

01 [RECORD NUMBER OF FIXTURES. VALID RANGE=1-99]

96 REFUSED

97 DON'T KNOW

H2S2. What kind of [IF "1" IN H2S1: bulb is in the fixture]/[IF "2+" IN H2S1: bulbs are in the fixtures]? [READ LIST.][RANDOMIZE"1- 7", BUT KEEP OPTIONS 3 & 4 TOGETHER AND 5& 6 TOGETHER]. [IF "1" IN H2S1, ALLOW SINGLE RESPONSE IN H2S2. IF "2+" IN H2S1 ALLOW MULTI PUNCH IN H2S2 UP TO VALUE ENTERED AT H2S1. IF "96/97" IN H2S1 ALLOW MULTIPLE RESPONSES IN H2S2.]

01 Regular incandescent

02 Fluorescent tube

03 Compact fluorescent with a screw-in base

04 Compact fluorescent with pins at the base

05 LED with a screw-in base

06 LED with pins at the base

07 Halogen

95 Or something else? [Specify]

96 REFUSED

97 DON'T KNOW

H2S3. Was this a replacement for an existing fixture or was it a completely new source of light?

- 01 REPLACEMENT
- 02 COMPLETELY NEW LIGHT SOURCE
- 96 REFUSED
- 97 DON'T KNOW

H2S4. Did you install any other fixtures?

- 01 YES [GO TO NEXT FIXTURE TYPE ON LIST FOR H2 & REPEAT]
- 02 NO [GO TO H3]
- 96 REFUSED [GO TO H3]
- 97 DON'T KNOW [GO TO H3]

**[PROGRAMMER: TALLY VALUES RECORDED IN H2S1 ACROSS ALL FIXTURE TYPES (NUMBER OF FIXTURES INSTALLED) AND CREATE NEW VARIABLE REFERENCED AS "SUM OF FIXTURES INSTALLED [SOFI]".]**

### Lighting Decision-Making

H3. At what kind of [IF SOFI = 1, SHOW: store][IF SOFI = 2+ SHOW: stores] did you buy the [IF SOFI = 1 SHOW: fixture][ IF SOFI = 2+ SHOW: fixtures]? [READ LIST.][RANDOMIZE 01-06. ALLOW MULTIPLE RESPONSES.]

- 01 A lighting store or showroom that mostly sells lighting
- 02 A home improvement store, such as Home Depot or Lowes
- 03 A department store (Interviewer: Includes Wal-Mart, Target, Sears)
- 04 Through a catalogue or the internet
- 05 A hardware store
- 06 From a lighting designer, architect or electrician
- 95 Or another kind of store? [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

H4. [IF SOFI = 1 SHOW: Was the fixture part of a larger project on your home or a stand-alone project—meaning you just installed the fixtures and didn't make any other changes?][IF SOFI = 2+ SHOW: Were the fixtures part of a larger project on your home, a stand-alone project—meaning you just

installed the fixtures and didn't make any other changes, or a combination of both?] [**ACCEPT ONE ANSWER**]

- 01 PART OF A LARGER PROJECT
- 02 A STANDALONE PROJECT
- 03 BOTH [**PROGRAMMER: ONLY SHOW IF "SOFI" = 2+**]
- 96 REFUSED
- 97 DON'T KNOW

H5. What kinds of features did you look for when you shopped for the [**IF SOFI = 1, SHOW: fixture**][**IF SOFI = 2+ SHOW: fixtures**]? [**DO NOT READ. ACCEPT MULTIPLE RESPONSES**]

- 01 A CERTAIN STYLE OR LOOK (DESIGN/AESTHETICS)
- 02 ENERGY STAR LABEL
- 03 PRICE
- 04 DIMMING ABILITY
- 05 BRIGHTNESS
- 95 OTHER QUALITY [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

H6. Did you employ a lighting designer or an architect for [**IF H4= 02, 96 OR 97 SHOW: your lighting project**] [**IF H4= 01, 03 SHOW: the lighting portion of your project**]?

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

H7. [**IF H3=04 and H3 is not=01-03 or 05-06**] Did anyone involved in your project share any information with you about "green" or high efficiency light fixtures, such as CFL or LED fixtures? [**OTHERWISE ASK**] Did the store staff or anyone involved in your project share any information with you about "green" or high efficiency light fixtures, such as CFL or LED fixtures?

- 01 YES [CONTINUE WITH H8]
- 02 NO [GO TO H9]

96 REFUSED [GO TO H9]

97 DON'T KNOW [GO TO H9]

H8. Who shared this information with you? [READ LIST]. [RANDOMIZE 1 - 5, ACCEPT MULTIPLE RESPONSES]

01 [SKIP THIS ANSWER CATEGORY IF H3=04 and H3 is not=01-03 or 05-06]A store salesperson?

02 An architect?

03 An electrician?

04 A lighting designer?

05 A builder?

95 Or someone else? [SPECIFY]

96 REFUSED

97 DON'T KNOW

H9. On a scale of 1 to 5, with 1 being not at all important and 5 being very important, how would you rate the importance of the following features when you're choosing lighting for your home? [READ LIST.][RANDOMIZE]

a. The color of the light

b. The look of the fixture design

c. The cost of the fixture

d. The cost of replacement bulbs

e. The number of hours the bulbs last before needing replacement

f. The amount of light from the fixture

g. The lack of glare

h. Impact on the environment

i. How much energy the light or fixture uses

j. The time it takes to turn on or brighten

01 NOT AT ALL IMPORTANT

- 02
- 03
- 04
- 05 VERY IMPORTANT
- 96 REFUSED
- 97 DON'T KNOW

## CFL Fixtures

H10. Compact fluorescent bulbs can have two different kinds of bases: one that screws into a socket like an incandescent bulb, and doesn't require a special fixture, or one that has pins on the base and goes into a light fixture designed for pin-based bulbs. How familiar are you with CFL fixtures that take pin-based compact fluorescent bulbs? Are you very familiar, somewhat familiar, not too familiar, or not at all familiar?

- 01 VERY FAMILIAR [CONTINUE WITH H11]
- 02 SOMEWHAT FAMILIAR [CONTINUE WITH H11]
- 03 NOT TOO FAMILIAR [GO TO H20]
- 04 NOT AT ALL FAMILIAR [GO TO H20]
- 96 REFUSED [GO TO H20]
- 97 DON'T KNOW [GO TO H20]

H11. Where did you hear about these pin-based CFL fixtures? **[DO NOT READ LIST. ACCEPT MULTIPLE RESPONSES.]**

- 01 BILLBOARD
- 02 CONTRACTOR OR BUILDER
- 03 DIRECT MAIL OR CIRCULAR ADVERTISEMENT
- 04 DISPLAYS IN STORES
- 05 ELECTRICIAN
- 06 FRIEND, NEIGHBOR, RELATIVE OR CO-WORKER (WORD OF MOUTH)
- 07 INTERNET
- 08 MAILING FROM MY UTILITY OR INSERT IN MY UTILITY BILL
- 09 NEWSPAPER OR MAGAZINE ADVERTISEMENT
- 10 NEWSPAPER OR MAGAZINE ARTICLE
- 11 SALESPERSON
- 12 TV OR RADIO COMMERCIAL
- 13 TV OR RADIO NEWS FEATURE STORY
- 95 OTHER [SPECIFY]



96 REFUSED

97 DON'T KNOW

**[ASK H12-H16 IF ANY H2S2=04]**

H12. You said that in the past 12 months you installed one or more pin-based CFL fixtures. In general, how satisfied are you with the quality of the light from these fixtures? Please use a scale of 1 to 5, with 1 being not at all satisfied and 5 being very satisfied.

01 NOT AT ALL SATISFIED

02

03

04

05 VERY SATISFIED

96 REFUSED

97 DON'T KNOW

H13. Do you remember seeing any information on the packaging for the fixture that indicated the color rendering of the light—that is, how the light affects the color appearance of objects?

01 YES [CONTINUE WITH H14]

02 NO [GO TO H15]

96 REFUSED [GO TO H15]

97 DON'T KNOW [GO TO H15]

H14. Please describe what it said about that?

01 [RECORD VERBATIM]

96 REFUSED

97 DON'T KNOW/DON'T REMEMBER

H15. Did you see any information on the packaging that indicated the amount of light you could expect to get from the fixture?

01 YES [CONTINUE WITH H16]

02 NO [GO TO H20]

96 REFUSED [GO TO H20]

97 DON'T KNOW [GO TO H20]

H16. Please describe what it said about that?

- 01 [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW/DON'T REMEMBER

**[ASK H17-H19 IF H1a=1 AND H2S2≠04 FOR ALL]**

H17. Did you consider using pin-based CFL fixture(s) in your recent project?

- 01 YES [GO TO H19]
- 02 NO [CONTINUE WITH H18]
- 96 REFUSED [GO TO H20]
- 97 DON'T KNOW [GO TO H20]

H18. Why didn't you consider using pin-based CFL fixtures? **[PROBE FOR SPECIFIC REASONS.]**

- 01 [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW

H19. Why did you decide against them? **[DO NOT READ LIST. PROBE FOR SPECIFIC REASONS. ACCEPT MULTIPLE RESPONSES]**

- 01 COULDN'T FIND THE RIGHT KIND OF FIXTURE
- 02 COST TOO MUCH
- 03 COULDN'T FIND BULBS TO FIT THE FIXTURE
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

**[ASK EVERYONE]**

H20. How interested would you be in seeing a store-based demonstration of pin-based CFL fixture use in the home? Very interested, somewhat interested, not too interested, or not at all interested?

- 01 VERY INTERESTED
- 02 SOMEWHAT INTERESTED
- 03 NOT TOO INTERESTED
- 04 NOT AT ALL INTERESTED

- 96 REFUSED  
97 DON'T KNOW

## LED Fixtures

H21. LED bulbs can have two different kinds of bases: one that screws into a socket like an incandescent bulb, and doesn't require a special fixture, or one that has pins on the base and goes into a light fixture designed for pin-based bulbs. How familiar are you with LED fixtures that take pin-based LED bulbs? Very familiar, somewhat familiar, not too familiar, or not at all familiar?

- 01 VERY FAMILIAR [CONTINUE WITH H22]  
02 SOMEWHAT FAMILIAR [CONTINUE WITH H22]  
03 NOT TOO FAMILIAR [GO TO H31]  
04 NOT AT ALL FAMILIAR [GO TO H31]  
96 REFUSED [GO TO H31]  
97 DON'T KNOW [GO TO H31]

H22. Where did you hear about these pin-based LED fixtures? **[DO NOT READ LIST. ACCEPT MULTIPLE RESPONSES.]**

- 01 BILLBOARD  
02 CONTRACTOR OR BUILDER  
03 DIRECT MAIL OR CIRCULAR ADVERTISEMENT  
04 DISPLAYS IN STORES  
05 ELECTRICIAN  
06 FRIEND, NEIGHBOR, RELATIVE OR CO-WORKER (WORD OF MOUTH)  
07 INTERNET  
08 MAILING FROM MY UTILITY OR INSERT IN MY UTILITY BILL  
09 NEWSPAPER OR MAGAZINE ADVERTISEMENT  
10 NEWSPAPER OR MAGAZINE ARTICLE  
11 SALESPERSON  
12 TV OR RADIO COMMERCIAL  
13 TV OR RADIO NEWS FEATURE STORY  
95 OTHER [SPECIFY]  
96 REFUSED  
97 DON'T KNOW

**[ASK H23-H27 IF ANY H2S2=06]**

H23. Earlier you said that in the past 12 months you installed one or more LED fixtures with pins at the base. In general, how satisfied are you with the quality of the light from these fixtures? Please use a scale of 1 to 5, with 1 being not at all satisfied and 5 being very satisfied.

- 01 NOT AT ALL SATISFIED
- 02
- 03
- 04
- 05 VERY SATISFIED
- 96 REFUSED
- 97 DON'T KNOW

H24. On the packaging for the LED fixture, do you remember seeing any information indicating the color rendering of the light—that is, how the light affects the color appearance of objects?

- 01 YES [CONTINUE WITH H25]
- 02 NO [GO TO H26]
- 96 REFUSED [GO TO H26]
- 97 DON'T KNOW [GO TO H26]

H25. Please describe what it said about that?

- 01 [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW/DON'T REMEMBER

H26. Did you see any information on the packaging or fixture to indicate the amount of light you could expect to get from the fixture?

- 01 YES [CONTINUE WITH H27]
- 02 NO [GO TO H31]
- 96 REFUSED [GO TO H31]
- 97 DON'T KNOW [GO TO H31]

H27. Please describe what it said about that?

- 01 [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW/DON'T REMEMBER

H28. [ASK H28 IF H1b=01 AND H2S2≠06 FOR ALL] Did you consider using pin-based LED fixtures in your recent project?

- 01 YES [GO TO H30]

02 NO [CONTINUE WITH H29]

96 REFUSED [GO TO H31]

97 DON'T KNOW [GO TO H31]

H29. Why did you not consider that? [PROBE FOR SPECIFIC REASONS.

01 [RECORD VERBATIM]

96 REFUSED

97 DON'T KNOW

H30. Why did you decide against them? [DO NOT READ; PROBE FOR SPECIFIC REASONS. ACCEPT MULTIPLE RESPONSES.]

01 COULDN'T FIND THE RIGHT KIND OF FIXTURE

02 COST TOO MUCH

03 COULDN'T FIND BULBS TO FIT THE FIXTURE

95 OTHER [SPECIFY]

96 REFUSED

97 DON'T KNOW

[ASK EVERYONE]

H31. How interested would you be in seeing a store-based demonstration of pin-based LED fixture use in the home? Very interested, somewhat interested, not too interested, or not at all interested?

01 VERY INTERESTED

02 SOMEWHAT INTERESTED

03 NOT TOO INTERESTED

04 NOT AT ALL INTERESTED

96 REFUSED

97 DON'T KNOW

**Lumens question series (v2):**

H32. Have you seen or heard of the word "lumens" used in relation to lighting?

01 YES [CONTINUE WITH H33]

02 NO [GO TO H35]

96 REFUSED [GO TO H35]

97 DON'T KNOW [GO TO H35]

H33. What does the word “lumens” mean to you? [DO NOT READ. FILL IN CLOSEST ANSWER CATEGORY OR RECORD VERBATIM. MULTIPLE ANSWERS ALLOWED. IF RESPONDENT SAYS ‘LIGHT QUALITY’, PROBE FOR EXACTLY WHAT ‘QUALITY’ THEY MEAN]

01 LIGHT OUTPUT OR BRIGHTNESS

02 LIGHT COLOR

03 THE SAME AS WATTS

95 OTHER [SPECIFY]

96 REFUSED

97 DON'T KNOW

H34. To the best of your knowledge, how many lumens does a regular 60-watt incandescent bulb produce? IF NEED: Even if you aren't sure, please make a guess.

01 [RECORD NUMBER. VALID RANGE=1-999999999]

96 REFUSED

97 DON'T KNOW

H35. Have you seen or heard the term “color rendering” used in relation to lighting?

01 YES [CONTINUE WITH H36]

02 NO [GO TO H37]

96 REFUSED [GO TO H37]

97 DON'T KNOW [GO TO H37]

H36. What does the term “color rendering” mean to you?

01 [RECORD VERBATIM]

96 REFUSED

97 DON'T KNOW

H37. Have you seen or heard the term “color temperature” used in relation to lighting?

01 YES [CONTINUE WITH H38]

02 NO [GO TO H39]

96 REFUSED [GO TO H39]

97 DON'T KNOW [GO TO H39]

H38. What does the term “color temperature” mean to you?

- 01 [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW

H39. Have you seen or heard the terms “warm white” and “cool white” – as in the color white – used in relation to lighting?

- 01 YES [CONTINUE WITH H40]
- 02 NO [GO TO D1]
- 96 REFUSED [GO TO D1]
- 97 DON'T KNOW [GO TO D1]

H40. What do the terms “warm white” and “cool white” – as in the color white – mean to you?

- 01 [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW

#### DEMOGRAPHICS [D SERIES]

PROGRAMMER NOTE: USE GJGNY NP DEMOGRAPHIC QUESTIONS IN THIS SECTION.

I just have a few final questions. These questions are asked for statistical purposes only. The information collected is strictly confidential.

D1. What is your age? [**IF RESPONDENT REFUSES, SAY:** If you prefer, I can read age ranges and you can stop me when I read the correct range.]

[DO NOT READ]

- 01 18 TO 24
- 02 25 TO 34
- 03 35 TO 44
- 04 45 TO 54
- 05 55 TO 64
- 06 65 OR OVER
- 96 REFUSED

D1a. Counting yourself, how many people normally live in this household on a full time basis? Please include everyone who lives in your home whether or not they are related to you and exclude anyone who is just visiting or children who may be away at college or in the military. Including yourself, how many people live in your home on a full-time basis?

- 01 [RECORD NUMBER OF PEOPLE] **[DO NOT ALLOW ZERO. VALID RANGE=1-25]**  
 96 REFUSED  
 97 DON'T KNOW

**[IF D1a=1 GO TO D3, OTHERWISE ASK D2]**

D2. Excluding you, how many people in your household are...

**[ALLOW ENTRY OF NUMBER FOR EACH a-g. INCLUDE RESPONSE OPTIONS FOR DK = 97 and REF = 96.][SUM OF a-g CANNOT EXCEED NUMBER IN D1a. MUST = TO ONE LESS THAN TOTAL IN D1a. ONCE REACH MAXIMUM, AUTO-FILL "0" IN REST OF RANGES AND GO TO D3.] [DO NOT READ]**

- a. 0 TO 17?  
 b. 18 TO 24?  
 c. 25 TO 34?  
 d. 35 TO 44?  
 e. 45 TO 54?  
 f. 55 TO 64?  
 g. 65 OR OVER?

- 01 [RECORD NUMBER]  
 96. REFUSED  
 97. DON'T KNOW

D3. When was your home built? Please stop me when I get to the right category.

- 01 1930s or earlier  
 02 1940s  
 03 1950s  
 04 1960s  
 05 1970s  
 06 1980s  
 07 1990s  
 08 2000 or later  
 96 REFUSED  
 97 DON'T KNOW



- D4. Approximately how large is your home? **[READ CHOICES]**. Your best estimate is fine.
- 01 Less than 1,400 square feet
  - 02 1,400 to less than 2,000 square feet
  - 03 2,000 to less than 2,500 square feet
  - 04 2,500 to less than 3,500 square feet
  - 05 3,500 to less than 4,000 square feet
  - 06 4,000 to less than 5,000 square feet, or
  - 07 5,000 square feet or more?
  - 96 REFUSED
  - 97 DON'T KNOW
- D5. How many rooms are in your home, not counting bathrooms?
- 01 **[RECORD SINGLE WHOLE NUMBER] [VALID RANGE 1 – 30]**
  - 96 REFUSED
  - 97 DON'T KNOW
- D6. Do you pay your electric bill directly to your electric company or is your electricity bill **[IF S4=01 OR 02, SHOW: paid in some other way]/[IF S4 IS ≠ 01, 02 SHOW: included in your condo fee or paid in some other way]**?
- 01 PAY DIRECTLY
  - 02 INCLUDED IN CONDO FEE**[SHOW ONLY IF S4=03, 04, 05, 95, 96, 97]**
  - 03 PAID FOR IN SOME OTHER WAY
  - 96 REFUSED
  - 97 DON'T KNOW
- D7. Is English the primary language spoken in your home?
- 01 YES **[SKIP TO D9]**
  - 02 NO
  - 96 REFUSED **[SKIP TO D9]**
  - 97 DON'T KNOW **[SKIP TO D9]**
- D8. What is the primary language spoken in your home? **[PROMPT IF NECESSARY]**
- 01 ENGLISH

- 02 SPANISH
- 03 MANDARIN
- 04 CANTONESE
- 05 TAGALOG
- 06 KOREAN
- 07 VIETNAMESE
- 08 RUSSIAN
- 09 JAPANESE
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

D9. Do you consider yourself to be Spanish, Hispanic, or Latino?

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

D10. Do you consider yourself to be....?

- 01 White
- 02 Black or African-American
- 03 American Indian, Native Hawaiian, Pacific Islander, or Alaska Native
- 04 Asian, or
- 05 Something else [Specify]
- 96 REFUSED
- 97 DON'T KNOW

D11. What is the highest grade of schooling you have completed so far? **[DO NOT READ]**

- 01 LESS THAN NINTH GRADE
- 02 NINTH TO TWELFTH GRADE; NO DIPLOMA
- 03 HIGH SCHOOL GRADUATE (INCLUDES GED)
- 04 SOME COLLEGE, NO DEGREE

- 05 ASSOCIATES DEGREE
- 06 BACHELORS DEGREE
- 07 GRADUATE OR PROFESSIONAL DEGREE
- 96 REFUSED
- 97 DON'T KNOW

D12. Please tell me which category best describes your total combined household income. That is the total income for all members of your household from all sources. Please stop me when I get to the right category. **[READ LIST; SELECT ONE RESPONSE]**

- 01 Less than \$15,000
- 02 \$15,000 to just under \$25,000
- 03 \$25,000 to just under \$30,000
- 04 \$30,000 to just under \$35,000
- 05 \$35,000 to just under \$50,000
- 06 \$50,000 to just under \$60,000
- 07 \$60,000 to just under \$75,000
- 08 \$75,000 to just under \$100,000
- 09 \$100,000 to just under \$150,000
- 10 \$150,000 or more
- 96 REFUSED
- 97 DON'T KNOW

D13. **[DO NOT READ]** Gender

- 01 MALE
- 02 FEMALE

**[READ:** Those are all the questions I have for you. Thank you for taking the time to respond to this survey.]

**C.3 RETAILER SURVEY INSTRUMENT***Introduction for NYSERDA Partners:*

Hello, my name is \_\_\_\_\_, and I am calling on behalf of the New York State Energy Research and Development Authority (NYSERDA). I understand that you participate in the **New York Energy \$mart<sup>SM</sup>** Products Program to promote and sell energy efficient residential lighting. I would like to ask you a few questions about that program and your thoughts about lighting for the future.

*Introduction for retailers that are NOT NYSERDA Partners:*

Hello, my name is \_\_\_\_\_, and I am calling on behalf of the New York State Energy Research and Development Authority (NYSERDA). We are conducting research to better understand the residential lighting market in New York State and how it is changing. I would like to ask you a few questions about your store's experience with selling high-efficiency lighting.

**[IF NECESSARY:** We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you or your store.]

Notes for interviewer

[Timing. **For most people it takes less than 10 minutes, but it may take as long as 15 minutes. If now is not a good time, we can set up a more convenient call back time]**

[Who are you? **I am from [INSERT NAME], a survey data collection firm, calling on behalf of the New York State Energy Research and Development Authority, also known as NYSERDA. ]**

**[Why are you doing this study?** NYSERDA designs lighting programs to help New York State meet its energy goals. We are calling NY retailers to learn about their experience with energy efficient lighting technologies and their thoughts about lighting for the future. Your input will help NYSERDA design better lighting programs in order to meet NY's energy goals through market-based solutions, which can reduce the need for regulation. This survey is an opportunity for you to inform the State how it can help retailers like yourself sell more energy efficient bulbs and fixtures.]

**[Questions about validity.** If you have more questions about this study, you can contact Carley Murray, NYSERDA Assistant Project Manager at (518) 862-1090, extension 3277.]

 **Screener [S Series]**

S1. At this location, does your store sell light bulbs, light fixtures, or both?

- |    |                                     |
|----|-------------------------------------|
| 01 | LIGHT BULBS ONLY                    |
| 02 | LIGHT FIXTURES ONLY                 |
| 03 | BOTH LIGHT BULBS AND LIGHT FIXTURES |
| 96 | REFUSED                             |

97 DON'T KNOW

S2. Are you the person responsible for making decisions about the lighting stock and lighting displays for this store location?

01 YES

02 NO [ASK TO SPEAK WITH PERSON WHO IS RESPONSIBLE FOR MAKING DECISIONS ABOUT THE LIGHTING STOCK AND LIGHTING DISPLAYS FOR THIS STORE LOCATINO. SET UP CALLBACK TIME IF NECESSARY]

03 THESE DECISIONS ARE MADE AT THE CORPORATE LEVEL [TERMINATE AND CODE AS 'INELIGIBLE – CORPORATE']

96 REFUSED [ASK TO SPEAK WITH PERSON WHO IS RESPONSIBLE]

97 DON'T KNOW [ASK TO SPEAK WITH THE PERSON WHO IS RESPONSIBLE]

S3. I would like to confirm just a few details:

S3A. My records indicate that I'm reaching you at [INSERT STORE NAME]. Is this correct?

01 YES

02 NO – RECORD STORE NAME

96 REFUSED [TERMINATE]

97 DON'T KNOW [TERMINATE]

S3B. How many locations do you have in New York State?

01 RECORD NUMBER

96 REFUSED

97 DON'T KNOW

S3C. In which cities are these stores located?

01 RECORD NUMBER

96 REFUSED

97 DON'T KNOW

S3D. What is your title?

01 RECORD NUMBER

96 REFUSED

**Fixtures [F Series]**

**[ASK F SERIES IF S1=02 OR 03]**

- F1. First I would like to ask you a few questions about lighting fixtures. About how many different fixture models to you currently display on your sales floor? Would you say that you display...  
**[READ]**

01	1 to 10 models
02	11 to 25 models
03	26-50 models
04	51 to 100 models
05	101 to 200 models
06	201 to 500 models
07	Over 500 models
96	REFUSED
97	DON'T KNOW

- F2. What percentage of the lighting fixtures on your sales floor are portable table or floor models with a plug, and what percent are hard-wired? **[READ. SUM MUST EQUAL 100%]**

A. Portable floor, table models, or work lamps \_\_\_\_\_%

B. Hard-wired models \_\_\_\_\_%

96 REFUSED

97 DON'T KNOW

- F3. Please think about all the different lighting fixture models you stock and what kinds of light bulbs they use. I'm going to read you a list of 6 different types of light bulbs and I'd like you to tell me what percent of the fixtures you stock use each type of bulb. What percent of fixtures use . . .

**[READ. SUM MUST EQUAL 100%]**

A. Various types of medium screw-based or Edison-based bulbs, such as standard incandescents, screw-in compact fluorescent light bulbs or CFLs, or screw-in light emitting diode bulbs or LEDs

B. Pin-based CFL bulbs

C. Pin-based halogens

D. Various types of mini, small, or candelabra based bulbs

E. Long fluorescent tubes with pin bases

F. Integrated LED bulbs or LED bulbs with any other type of base *except* medium-screw base

G. Any other type of bulb I haven't mentioned

01 RECORD PERCENT

96 REFUSED

97 DON'T KNOW

- F4. I'd like to know more about how you decide what types of fixtures to stock. I'm going to read you a list of factors that may or may not be part of your decision. For each one, please tell me if it is a major factor, minor factor, or not a factor in your decision about what type of fixtures to stock?  
**[RANDOM ORDER]**

- A. Customer demand
  - B. Manufacturer push
  - C. Fashion trends in interior design
  - D. Qualifies for ENERGY STAR label
  - E. Availability of replacement bulbs
  - F. Eligibility for energy efficiency program rebate
    - 01 Major factor
    - 02 Minor factor
    - 03 Not a factor
    - 96 REFUSED
    - 97 DON'T KNOW
- F5. What other factors, if any, are part of your decision about which fixtures to stock? **[RECORD]**
- F6. **[IF F3B>0% (Stocks CFL pin-based fixtures)]** I'm going to read you a list of features of pin-based CFL fixtures. Please tell me if this is a feature you emphasize when selling pin-based CFL fixtures or not. **[RANDOM ORDER]**
- A. Energy savings
  - B. Money savings on electric bill
  - C. Cost of fixture to consumer
  - D. Quality of light
  - E. Long bulb life
- 01 Yes
  - 02 No
  - 96 REFUSED
  - 97 DON'T KNOW
- F7. **[IF F3B>0%]** What, if any, other features do you emphasize when selling pin-based CFL fixtures? **[RECORD]**
- F8. **[IF F3B>0% (Stocks CFL pin-based fixtures)]** I am going to read you a list of factors that might be helpful in selling more pin-based CFL fixtures. For each factor, please tell me how helpful it would be – very helpful, somewhat helpful, not too helpful, or not at all helpful? **[RANDOM ORDER]**
- A. Information for sales staff about this type of fixture
  - B. Point of sales material about this type of fixture
  - C. Wider range of models available from suppliers or manufacturers
  - D. Lower price for customers
  - E. Better dimming capabilities
  - F. Better quality fixtures
  - G. Better quality light from these fixtures
  - H. Greater availability of replacement bulbs
  - I. Incentives for sales staff

- 01            Very helpful
- 02            Somewhat helpful
- 03            Not too helpful
- 04            Not at all helpful
- 96            REFUSED
- 97            DON'T KNOW
- F9.        **[IF F3B>0%** What, if any, other factors would help in selling more pin-based CFL fixtures?  
**[RECORD]**
- F10.        **[IF F3B=0% (Does NOT stock CFL pin-based fixtures)]** Why don't you stock pin-based CFL fixtures? **[DO NOT READ, MULTIPLE RESPONSE]**
- 01            Lack of customer demand
- 02            Not many are available from suppliers/manufacturers
- 03            Fixtures too expensive
- 04            Fixtures have technical problems/do not work well
- 95        Other
- 96        REFUSED
- 97            DON'T KNOW
- F11.        **[IF F3F>0% (Stocks fixtures with integrated LED bulbs or LED bulbs with any other type of base except medium-screw base)]** I'm going to read you a list of features of fixtures for integrated LED bulbs or for LED bulbs with any other type of base *except* medium-screw base. Please tell me if this is a feature you emphasize when selling these types of LED fixtures or not. **[RANDOM ORDER]**
- A. Energy savings
- B. Money savings on electric bill
- C. Cost of fixture to consumer
- D. Quality of light
- E. Long bulb life
- F. Special features [RECORD FEATURE]
- 01            Yes
- 02            No
- 96            REFUSED
- 97            DON'T KNOW
- F12.        **[IF F3F>0%]** What, if any, other features do you emphasize when selling fixtures for integrated LED bulbs or for LED bulbs with any other type of base except medium-screw base? **[RECORD]**
- F13.        **[IF F3F>0% (Stocks fixtures for integrated LED bulbs or LED bulbs with any other type of base except medium-screw base)]** I am going to read you a list of factors that might be helpful in selling more fixtures for integrated LED bulbs or for LED bulbs with any other type of base *except*



- medium-screw base. For each factor, please tell me how helpful it would be – very helpful, somewhat helpful, not too helpful, or not at all helpful? **[RANDOM ORDER]**
- A. Information for sales staff about this type of fixture
  - B. Point of sales material about this type of fixture
  - C. Wider range of models available from suppliers or manufacturers
  - D. Lower price for customers
  - E. Better dimming capabilities
  - F. Better quality fixtures
  - G. Better quality light from these fixtures
  - H. Greater availability of replacement bulbs
  - I. Incentives for sales staff
- 01            Very helpful
- 02            Somewhat helpful
- 03            Not too helpful
- 04            Not at all helpful
- 96            REFUSED
- 97            DON'T KNOW
- F14. **[IF F3F>0% (Stocks fixtures for integrated LED bulbs or LED bulbs with any other type of base *except* medium-screw base)]** What other factors, if any, would help in selling more fixtures for integrated LED bulbs or for LED bulbs with any other type of base *except* medium-screw base ? **[RECORD]**
- F15. **[IF F3F=0% (Does NOT stock LED pin-based fixtures)]** Why don't you stock fixtures for integrated LED bulbs or for LED bulbs with any other type of base *except* medium-screw base?**[DO NOT READ, MULTIPLE RESPONSE]**
- 01            Lack of customer demand
- 02            Not many are available from suppliers/manufacturers
- 03            Fixtures too expensive
- 04            Fixtures have technical problems/do not work well
- 95            Other [Specify]
- 96            REFUSED
- 97            DON'T KNOW
- F16. What percentage of your fixture sales are from the models that you have on display in your store versus from your store's catalogue, website, or special order from a manufacturer? **[TOTAL SHOULD EQUAL 100%]**
- A. Fixture sales from models on display \_\_\_\_\_%
  - B. Fixture sales from store's catalogue, website, or special order from a manufacturer \_\_\_\_\_%
- 96            REFUSED
- 97            DON'T KNOW
- F17. How often do you have special displays of fixtures? **[READ]**
- 01            Weekly

- 02 Monthly
- 03 Quarterly/Once a season
- 04 A couple of times per year
- 05 Once a year
- 06 Never **[GO TO F20]**
- 95 Other [Specify]
- 96 REFUSED
- 97 DON'T KNOW

F18. I'd like to know more about how you choose what types of fixtures to put on special display. I'm going to read you a list of factors that may or may not be part of your decision. For each one, please tell me if it is a major factor, a minor factor, or not a factor in your decision about what type of fixtures to put on special display. **[RANDOM ORDER]**

- A. Special features
- B. Appearance
- C. Manufacturer suggestion
- D. New product offering
- E. Sale pricing

- 01 Major factor
- 02 Minor factor
- 03 Not a factor
- 96 REFUSED
- 97 DON'T KNOW

F19. What, if any, other factors are part of your decision about which fixtures to put on special display?  
**[RECORD]**

F20. How often do you have special promotions or pricing on fixtures?

- 01 Weekly
- 02 Monthly
- 03 Quarterly/Once a season
- 04 A couple of times per year
- 05 Once a year
- 06 Never

- 95 Other [Specify]
- 96 REFUSED
- 97 DON'T KNOW

F21. **[IF F20 ≠ 06 (Has special promotions)]** I'd like to know more about how you choose types of fixtures for special promotions or pricing. I'm going to read you a list of factors that may or may not be part of your decision. For each one, please tell me if it is a major factor, a minor factor, or not a factor in your decision about types of fixtures for special promotions or pricing. **[RANDOM ORDER ]**

- A. Special features
- B. Appearance
- C. Manufacturer suggestions
- D. New product offering

- 01 Major factor
- 02 Minor factor
- 03 Not a factor
- 96 REFUSED
- 97 DON'T KNOW

F22. **[IF F20≠ 06 (Has special promotions)]** What, if any, other factors are part of your decision about types of fixtures for special promotions or pricing? **[RECORD]**

### Lighting Design [L Series]

L1. Do you offer lighting design services to your customers, either through in-house staff or outside professionals?

- 01 Yes, through in-house staff
- 02 Yes, through outside professionals
- 03 Yes, through both in-house and outside professionals
- 04 No
- 96 REFUSED
- 97 DON'T KNOW

L2. How often do customers ask for advice about lighting design? Would you say they always, frequently, occasionally, rarely, or never ask for advice about lighting design?

- 01 Always
- 02 Frequently
- 03 Occasionally
- 04 Rarely

- 05 Never
- 96 REFUSED
- 97 DON'T KNOW

L3. **[ASK NYSERDA PARTNERS ONLY]** How interested would you be in having a list of professional lighting designers for referring your customers? Would you say that you would be very interested, somewhat interested, not too interested, or not at all interested in having a referral list of lighting designers for your customers?

- 01 Very interested
- 02 Somewhat interested
- 03 Not too interested
- 04 Not at all interested
- 96 REFUSED
- 97 DON'T KNOW

L4. **[IF L1=01, 02, OR 03 (Offers lighting design services)]** How often do your lighting design services assist customers in selecting among high efficiency lighting products? Would you say it happens often, sometimes, rarely or never?

- 01 Often
- 02 Sometimes
- 03 Rarely
- 04 Never
- 96 REFUSED
- 97 DON'T KNOW

L5. Do you have any signs, literature, or other materials in your store to educate consumers about high-efficiency lighting design?

- 01 Yes
- 02 No
- 96 REFUSED
- 97 DON'T KNOW

L5a. **[ASK IF L5=01]** What kind of materials do you have?

- 01 RECORD VERBATIM
- 96 REFUSED
- 97 DON'T KNOW

L6. **[ASK NYSERDA PARTNERS ONLY]** If materials designed to educate consumers about high-efficiency lighting design were offered to you free-of-charge, would you use them in your store or not?

- 01 Yes
- 02 No
- 03 Maybe
- 96 REFUSED
- 97 DON'T KNOW

**Specialty Bulbs Product Mix [B Series]**

**[IF S1=01 or 03 (Sells light bulbs)]**

B1. Next, I am going to ask you what types of Edison, medium screw-based bulbs your store typically stocks. Do you stock **[INSERT ITEM]**?

- A. Standard incandescent bulbs
- B. Low wattage halogen bulbs
- C. Compact fluorescent light bulbs or CFLs
- D. Floods/PAR/Reflective bulbs
- E. LEDs

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

B2. **[IF B1C=01 (CFLs)]** Now I would like to find out what types of compact fluorescent light bulbs, or CFLs, you typically stock. Do you stock **[INSERT ITEM]**?

- A. Standard spiral CFLs
- B. 3-way CFLs
- C. Dimming CFLs
- D. Candelabra CFLs
- E. Floods, PAR, or Reflective CFLs
- F. Covered CFLs

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

B3. **[IF B1C=02 (NO CFLs)]** Why don't you stock compact fluorescent light bulbs? **[DO NOT READ. ACCEPT MULTIPLE RESPONSES. ADD TO LIST AS NECESSARY]**

- 01 Lack of customer demand
- 02 Price/too expensive
- 03 Lack of shelf space

- 04            Other [RECORD]
- 96            REFUSED
- 97            DON'T KNOW
- B4.    **[IF B1A=01 AND B2B, B2C, B2D, B2E, B2F ALL≠01 (Stocks only standard CFLs, NO specialty CFLs)]** I'm going to read you a list of factors that may or may not be part of your decision not to stock any specialty CFLs. For each one, please tell me if it is a major factor, minor factor, or not a factor in your decision. (By specialty CFLs, I mean CFLs with 3-way or dimming capabilities, covered CFLs, or candelabra, flood or other specially shaped CFL bulbs.)  
**[RANDOM ORDER]**  
 A. Lack of customer demand  
 B. Specialty CFLs are too expensive for our customers  
 C. Lack of shelf space
- 01    Major factor
- 02    Minor factor
- 03            Not a factor
- 96            REFUSED
- 97            DON'T KNOW
- B5.    **[IF B1A=01 AND B2B, B2C, B2D, B2E, B2F ALL≠01 (Stocks only standard CFLs, NO specialty CFLs)]**What, if any, other factors are part of your decision not to stock specialty CFLs?  
**[RECORD]**
- B6.    **[IF B1A=01 OR B2B=01 OR B2C=01 OR =01 B2D OR B2E=01 OR B2F=01 (Stocks specialty CFL bulbs)]** I'd like to know more about how you decide what types of specialty CFLs to stock. I'm going to read you a list of factors that may or may not be part of your decision. By specialty CFLs, I mean CFLs with 3-way or dimming capabilities, covered CFLs, or candelabra, flood or other specially shaped CFL bulbs. For each one, please tell me if it is a major factor, minor factor, or not a factor in your decision about what types of specialty CFL bulbs to stock.  
**[RANDOM ORDER]**  
 A. Customer demand  
 B. Manufacturer push  
 C. Industry trends  
 D. Carries ENERGY STAR label  
 E. Fits fixtures we stock
- 01    Major factor
- 02    Minor factor
- 03            Not a factor
- 96            REFUSED
- 97            DON'T KNOW
- B7.    **[IF B1A=01 OR B2B=01 OR B2C=01 OR =01 B2D OR B2E=01 OR B2F=01 (Stocks specialty CFL bulbs)]** How often do you have special displays of specialty CFL bulbs? **[READ]**
- 01            Weekly

- 02 Monthly
- 03 Quarterly/Once a season
- 04 A couple of times per year
- 05 Once a year
- 06 Never **[SKIP TO B10]**
- 95 Other [Specify]
- 96 REFUSED
- 97 DON'T KNOW

**B8. [IF B7≠ 06 (Has special displays of specialty CFLs)]** I'd like to know more about how you choose what types of specialty CFLs to put on special display. I'm going to read you a list of factors that may or may not be part of your decision. For each one, please tell me if it is a major factor, a minor factor, or not a factor in your decision about what type of specialty CFLs to put on special display. **[RANDOM ORDER]**

- A. Features
- B. Manufacturer suggestions
- C. New product offering
- D. Sale pricing

- 01 Major factor
- 02 Minor factor
- 03 Not a factor
- 96 REFUSED
- 97 DON'T KNOW

**B9. [IF B7≠ 06 (Has special displays of specialty CFLs)]** What, if any, other factors are part of your decision about types of specialty CFL bulbs for special display? **[RECORD]**

**B10. [IF B1A=01 OR B2B=01 OR B2C=01 OR =01 B2D OR B2E=01 OR B2F=01 (Stocks specialty CFL bulbs)]** How often do you have special promotions or pricing on specialty CFL bulbs? **[READ]**

- 01 Weekly
- 02 Monthly
- 03 Quarterly/Once a season
- 04 A couple of times per year
- 05 Once a year
- 06 Never
- 95 Other [Specify]

- 96 REFUSED
- 97 DON'T KNOW

B11. **[IF B10 ≠ 06]** I'd like to know more about how you choose types of specialty CFL bulbs for special promotions or pricing. I'm going to read you a list of factors that may or may not be part of your decision. For each one, please tell me if it is a major factor, minor factor or not a factor in your decision about types of specialty CFL bulbs for special promotions or pricing.

**[RANDOM ORDER]**

- A. Product features
- B. Manufacturer suggestions
- C. New product offering

- 01 Major factor
- 02 Minor factor
- 03 Not a factor
- 96 REFUSED
- 97 DON'T KNOW

B12. **[IF B10 ≠ 06]** What, if any, other factors are part of your decision about types of specialty CFL bulbs for special promotions or pricing? **[RECORD]**

### Energy Efficient Bulbs [EB Series]

**[IF S1=01 or 03 (Sells light bulbs)]**

EB1. **[IF B1C=02 (Does not stock any CFLs)]** Why don't you stock any energy-efficient CFL bulbs?  
**[DO NOT READ, MULTIPLE RESPONSE]**

- 01 LACK OF CUSTOMER DEMAND
- 02 PRICE/TOO EXPENSIVE
- 03 NOT ENOUGH SHELF SPACE
- 04 BULBS HAVE TECHNICAL PROBLEMS/DO NOT WORK WELL
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

EB2. **[IF B1E=02 (Does not stock any LEDs)]** Why don't you stock any energy-efficient LED bulbs?  
**[DO NOT READ, MULTIPLE RESPONSE]**

- 01 LACK OF CUSTOMER DEMAND
- 02 PRICE/TOO EXPENSIVE
- 03 NOT ENOUGH SHELF SPACE



- 04 BULBS HAVE TECHNICAL PROBLEMS/DO NOT WORK WELL
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

EB3. When you talk with customers about light bulbs, how often does energy efficiency come up? Would you say it comes up always, frequently, occasionally, rarely, or never?

- 01 Always
- 02 Frequently
- 03 Occasionally
- 04 Rarely
- 05 Never
- 96 REFUSED
- 97 DON'T KNOW

EB4. How interested would you be in stocking a wider selection of energy-efficient light bulbs? Would you be very interested, somewhat interested, not too interested, or not at all interested?

- 01 Very interested
- 02 Somewhat interested
- 03 Not too interested
- 04 Not at all interested
- 96 REFUSED
- 97 DON'T KNOW

EB5. I'm going to read you a list of factors that may or may not influence you to stock a wider selection of energy-efficient light bulbs. For each one please tell me how much influence this would have on you to stock more energy-efficient bulbs – a great deal of influence, some influence, only a little influence or no influence. **[RANDOM ORDER]**

- A. Customer demand
- B. Manufacturer push
- C. Industry trends
- D. Lower prices
- E. Better design or aesthetics
- F. Better light output
- G. Better light color
- H. Better quality products

- 01 A great deal of influence
- 02 Some influence

- 03 Only a little influence
- 04 No influence
- 96 REFUSED
- 97 DON'T KNOW

EB6. What other factors, if any, would influence you to stock more energy-efficient bulbs? **[RECORD]**

EB7. I am going to read you a list of factors that might be helpful in selling more energy-efficient light bulbs. For each factor, please tell me how helpful it would be – very helpful, somewhat helpful, not too helpful, or not at all helpful? **[RANDOM ORDER]**

- A. Information for staff about energy efficient bulbs
- B. Point of sales material about bulbs
- C. In-store demonstrations
- D. More consumer education about energy efficient bulbs

- 01 Very helpful
- 02 Somewhat helpful
- 03 Not too helpful
- 04 Not at all helpful
- 96 REFUSED
- 97 DON'T KNOW

EB8. What, if any, other factors would help in selling more energy-efficient light bulbs? **[RECORD]**

EB9. How much do you think each of the following would increase customer interest in buying energy efficient light bulbs from you – a great deal, some, only a little or none? **[RANDOM ORDER]**

- A. Lower prices
- B. Better design or aesthetics
- C. Better light output
- D. Better light color
- E. Better quality products
- F. More informed sales associates on the sales floor

- 01 A great deal
- 02 Some
- 03 Only a little
- 04 None
- 96 REFUSED
- 97 DON'T KNOW

EB10. What, if any, other factors would increase customer interest in buying energy efficient light bulbs? **[RECORD]**

EB11. How often do customers ask for advice about which light bulbs to buy? Would you say they always, frequently, occasionally, rarely or never ask for advice about which light bulbs to buy?

- 01 Always
- 02 Frequently
- 03 Occasionally
- 04 Rarely
- 05 Never
- 96 REFUSED
- 97 DON'T KNOW

EB12. How often do customers ask questions about...

- A. Wattage
- B. Light level or brightness
- C. Light color

- 01 Always
- 02 Frequently
- 03 Occasionally
- 04 Rarely
- 05 Never
- 96 REFUSED
- 97 DON'T KNOW

EB13. How often are customers concerned about...

- A. Dimming capability
- B. 3-way capability
- C. Mercury
- D. Bulb size

- 01 Always
- 02 Frequently
- 03 Occasionally
- 04 Rarely
- 05 Never
- 96 REFUSED
- 97 DON'T KNOW

**Energy Efficiency & Controls [EE Series]****[IF S1= 02 OR 03 (sells fixtures or bulbs and fixtures)]**

EE1. When you talk with customers about lighting, how often does energy efficiency come up? Would you say it always, frequently, occasionally, rarely, or never comes up? **[READ]**

- 01 Always
- 02 Frequently
- 03 Occasionally
- 04 Rarely
- 05 Never
- 96 REFUSED
- 97 DON'T KNOW

EE2. Next I'm going to ask you about the types of residential lighting controls you stock. Do you stock... **[INSERT ITEM]**

- A. Integrated dimming controls to program specific lighting levels in a room
- B. Touch or slide dimmers
- C. Sun or shade controls to adjust sunlight levels in home
- D. Some other type of lighting control **[RECORD]**

**[IF ASKED WHAT AN INTEGRATED DIMMING SYSTEM IS: Integrated dimming systems allow you to create multiple preset lighting scenes within a room. Scenes can be recalled with the touch of a button from a wall box or with remote controls.]**

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

EE3. **[IF EE2A=01 OR EE2B=01 OR EE2C=1 OR EE2D=01 (stock lighting controls)]** When you talk with customers about lighting controls, is energy efficiency typically part of that discussion or not?

- 01 Yes
- 02 No
- 03 Sometimes
- 96 REFUSED
- 97 DON'T KNOW

**FIRMOGRAPHICS**

ST1. What type of business is this? Would you say it is primarily a... **[READ]**

- 01 Discount Department Store
- 02 Warehouse Store
- 03 Lighting Specialty Store
- 04 Hardware Store
- 05 Home Center
- 06 Grocery Store, or
  
- 95 Something Else? (SPECIFY)
- 96 DON'T KNOW
- 97 REFUSED

ST2. What is your title?

- 01 RECORD TITLE
- 97 REFUSED

ST3. How many employees does your business have at this location? **[READ LIST]**

- 01 Fewer than 5
- 02 5 to 9
- 03 10 to 19
- 04 20 to 49
- 05 50 to 99
- 06 100 to 249
- 07 250 or More
- 96 REFUSED
- 97 DON'T KNOW

ST4. What is the approximate yearly dollar volume of lighting sales in your store? If you're not sure, please just give your best estimate. **[READ]**

- 1. 01 Less than 1000
- 02 1000 to less than 5000
- 03 5000 to less than 10,000
- 04 10,000 to less than 50,000
- 05 50,000 to less than 100,000
- 06 100,000 to less than 250,000
- 07 250,000 to less than 500,000
- 08 500,000 to less than 1 million
- 09 More than 1 million
- 96 REFUSED

97 DON'T KNOW

ST5. What is the approximate total yearly sales revenue of your store? If you're not sure, please just give your best estimate.

\$\_\_\_\_\_ per year total sales revenue

96 REFUSED

97 DON'T KNOW

ST6. Is this store independent, or part of a larger company?

01 INDEPENDENT

02 PART OF A LARGER COMPANY

95 OTHER [SPECIFY] \_\_\_\_\_

96 REFUSED

97 DON'T KNOW

Those are all the questions I have for you. Thank you for your time!

# Appendix D

## IN-DEPTH INTERVIEW GUIDES

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### D.1 STAKEHOLDER IN-DEPTH INTERVIEW GUIDE

## INTERVIEW GUIDE --Stakeholders

# 2011-2012 NYSERDA Residential Lighting Market Characterization Study

Date \_\_\_\_\_ Interviewer \_\_\_\_\_

Name \_\_\_\_\_ Organization \_\_\_\_\_

Title \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

[NOTE: NOT MEANT AS VERBATIM QUESTIONS BUT AS ROUGH GUIDE]

- *For this group of interviewees (International Brotherhood of Electrical Workers [IBEW], Building Performance Contractors Association [BPCA], New York State Builders Association [NYSBA], and the Lighting Research Center [LRC] at RPI) NYSERDA staff will reach out to targeted stakeholder staff prior to the interview.*

I am from NMR calling on behalf of the New York State Energy Research and Development Authority (NYSERDA). I am part of the evaluation team that is carrying out a study to help NYSERDA explore new ways to encourage the installation of high efficiency lighting fixtures and bulbs in homes in NY State.

With the impending phase out of certain wattages of incandescent bulbs because of the Energy Independence and Security Act of 2007 (EISA), NYSERDA is trying to understand how the market for high efficiency residential lighting fixtures and bulbs in NY will be changing, and is looking for insights from a small number of organizations like yours. Would you be the right person at \_\_\_\_\_ to talk to about this?

IF NO: Who would be the best person? (get name, title, contact info, as to be transferred)

IF YES: Do you have time to talk right now? I think we'd need about half an hour. [If no, arrange for callback time.]

All of your answers to my questions will be kept completely confidential to the extent permitted by law. It is our intent to aggregate the information you provide us with that provided by other organizations to represent the observations of the whole group.

May I have your permission to record this call for transcription and analysis?

## Residential Lighting Program Involvement

1. Is \_\_\_\_\_ currently involved in any efforts to encourage the installation of high efficiency lighting fixtures and bulbs in homes (in NY or elsewhere)?
  - a. IF YES: Please tell me more about the effort(s). (PROBE: the goals and specific role[s] played by the organization.
  - b. IF NOT SURE: For example, any training or outreach that you might do with members or others about high efficiency residential lighting products, how to apply them best to home lighting, lighting design for the home—that kind of thing, for any kind of audience. (PROBE to make sure nothing is missed. If something surfaces, go to 1a.)
  - c. IF NO: Has \_\_\_\_\_ considered starting or becoming involved in efforts to encourage the installation of high efficiency lighting fixtures and bulbs in homes?
    - i. IF YES: Probe for details. If they considered but decided not to pursue, why not?

## New Lighting Technologies (LED Lighting)

One of NYSERDA’s goals is to identify the most promising applications for successful early adoption of LED bulbs and fixtures in homes. Thinking about your organization’s and members’ experiences with LED bulbs and fixtures . . .

2. Which kinds of products are the most ready for successful use in homes?
  - a. For what lighting applications or what segments of the residential lighting market? (If asked for more explanation what we are looking for, say: For example, kitchen counter lighting, outdoor lighting, task lighting; or particular types of bulbs or specific technologies; or particular groups of consumers.)
3. When is LED lighting likely to become cost effective for residential use?
4. Other than cost, what barriers need to be overcome for LED lighting to be used widely in homes? [PROBE: for technological barriers, barriers that could be overcome through the provision of information or training]
  - b. What suggestions do you have for overcoming any of these barriers? [PROBE: for possible program roles for NYSERDA, or for the organization to help overcome barriers in partnership with NYSERDA]
5. How is LED lighting likely to affect the market for residential light fixtures?

## Target Audience Needs

6. What do [builders] [electricians] [architects and lighting designers] need in order to routinely specify or install high efficiency lighting as part of residential projects, and be confident that clients will be happy with the results? [PROBE: If asked what we mean: “Some examples might include specific information, training, or technology.” PROBE: As responses are offered, ask if there is anything else.]
 

(IBEW: electricians; BPCA, NYSBA: builders, electricians, architects and lighting designers;  
LRC: builders, electricians, architects and lighting designers, retailers)

## Reactions to EISA



7. As EISA phases in everywhere, what do your members [does LRC] expect consumers to use in place of
  - i. 100 watt bulbs?
  - ii. 75 watt bulbs?
  - iii. 60 watt bulbs?
  - iv. 40 watt bulbs?

## Prospects for Leverage/Working Together

8. As part of this research, NYSERDA is exploring the possibility of partnering with key organizations to reach out to [choose the appropriate audience for the interviewee: electricians, builders, architects and lighting designers, retailers that sell bulbs or fixtures] with information or training that will help encourage the installation of high efficiency lighting fixtures and bulbs in homes. What organizations should NYSERDA consider partnering with, and why?
  - a. IF SPECIFIC ORGANIZATIONS NAMED: Who at \_\_\_\_\_ would you recommend we talk to about this?
  - b. Is partnering to reach out to [audience] something that [IBEW, NYSBA, BPCA, LRC] might be interested in?  
IF YES: Who at \_\_\_\_\_ should NYSERDA follow up with about this?

## Resources

9. We are just starting this work, and are looking for other resources to follow up on. Are there organizations or individuals it would be important for us to talk to?

## Wrap-Up

10. Do you have anything else to share with me about the future of the residential lighting market?

Thank you for your time and for sharing your perspective.

**D.2 GOVERNMENT IN-DEPTH INTERVIEW GUIDE**

**INTERVIEW GUIDE --Government**

**2011-2012 NYSERDA Residential Lighting Market  
Characterization Study**

Date \_\_\_\_\_ Interviewer \_\_\_\_\_

Name \_\_\_\_\_ Organization \_\_\_\_\_

Title \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

[NOTE: NOT MEANT AS VERBATIM QUESTIONS BUT AS ROUGH GUIDE]

I am from NMR calling on behalf of the New York State Energy Research and Development Authority. I am part of the evaluation team that is carrying out a residential lighting market characterization study to help NYSERDA explore new ways to encourage the installation of high efficiency lighting fixtures and bulbs in homes in NY State.

As part of this study, NYSERDA is looking to better understand \_\_\_\_\_'s current work on residential lighting technologies and programs, and its future plans. Would you be the right person at \_\_\_\_\_ to talk to about this?)

IF NO: Who would be the best person? (get name, title, contact info, ask to be transferred)

IF YES: Do you have time to talk right now? I think we'd need about half an hour. [If no, arrange for callback time.]

All of your answers will be kept completely confidential to the extent permitted by law. It is our intent to aggregate the information you provide us with that provided by other agencies to represent the observations of a group of representatives of federal and state agencies.

May I have your permission to record this call for transcription and analysis?

***DOE: Lighting Workforce Development***

- 1) I understand that DOE is responsible for workforce development for energy efficiency retrofits.
  - a) What is meant by "workforce development"? [PROBE for a definition]
  - b) How is residential lighting addressed in the workforce guidelines, training materials, training accreditation and certification?
  - c) IF RES LIGHTING ADDRESSED:
    - i) Training in what specific aspects of lighting? [PROBE for lighting audits, lighting design, estimating savings from lighting, specific technologies, etc.]
    - ii) For what audiences or trades? (E.g. builders, contractors, electricians, lighting designers, etc.)

- iii) As standalone, or part of broader training? (PROBE: how lighting fits in with offerings)
- iv) How is the training delivered? Who delivers it? (PROBE: Kinds of institutions, possible leads for educational institution interviews.)
- v) Is the lighting training or accreditation differentiated by Retrofit versus new construction? [PROBE also for market rate versus low income, single family versus multi-family]
- vi) NYSERDA is exploring ways to increase the availability and penetration of training in residential lighting in NYS. How could NYSERDA coordinate with or leverage this training?
- d) IF RES LIGHTING NOT ADDRESSED: Is residential lighting an area that DOE is considering addressing through workforce training in the future?
  - i) IF NO: Why not?
  - ii) IF YES: [PROBE for details per a-f above]
- 2) Are there any other programs for which DOE is involved in developing or deploying training related to high efficiency residential lighting? [PROBE for details]
- 3) How is lighting addressed in the recommended improvements that homeowners obtain as part of the new Home Energy Score? [PROBE for degree to which recommendations go beyond changing out incandescent bulbs for standard CFLs)
  - a) IF RECS DO NOT GO BEYOND STANDARD CFLs: What, if any, future plans does DOE have to incorporate more advanced lighting recommendations (such as high efficiency fixtures, specialty CFLs, LED fixtures and bulbs, lighting design for energy efficiency) into the Home Energy Score?
    - i) IF NONE: Why not?
- 4) To what extent are DOE lighting programs “technology neutral”?
  - a) Is being technology neutral an underlying principle of DOE’s work in energy efficiency?
    - i) IF NO: Is this expected to change in future? If so, how?

### **EPA: Lighting in On-Line Builder Training for ENERGY STAR V3**

- 5) I understand that EPA is developing a new version of ENERGY STAR for Homes, V3.
  - i) What early feedback has EPA received on the lighting portion of V3? [PROBE for fundamental changes in lighting from V2.5 to V3 and user responses]
  - ii) Would you say that it is more difficult for builders to meet lighting goals under V3 than it was under V2.5?
    - (1) IF MORE DIFFICULT:
    - (2) Why is it more difficult?
    - (3) How are builders meeting, or expected, to meet the new V3 lighting goals? [PROBE for shifting of focus to residential lighting design]
- 6) I also understand that EPA is responsible for implementing on-line builder training for ENERGY STAR v3. How is lighting addressed in this training?
  - a) IF ADDRESSED:

- i) Training in what specific aspects of lighting? [PROBE for *lighting design especially*, and also for lighting audits, estimating savings from lighting, specific technologies, etc.]
  - ii) For what audiences or trades? (E.g. builders, contractors, electricians, lighting designers, etc.)
  - iii) As standalone, or part of broader training? (PROBE: how lighting fits in with offerings)
  - iv) How is the training delivered? Who delivers it? (PROBE: Kinds of institutions, possible leads for educational institution interviews.)
  - v) Is the lighting training or accreditation differentiated by retrofit versus new construction? [PROBE also by type of structure (single family, multi-family)]
  - vi) NYSERDA is exploring ways to increase the availability and penetration of training in residential lighting in NYS. How could NYSERDA coordinate with or leverage this training?
- b) IF NOT ADDRESSED: Is residential lighting an area that EPA is considering addressing through on-line builder training for ENERGY STAR v3 in the future?
- i) IF NO: Why not?
  - ii) IF YES: [PROBE for details per i-vi above]
- 7) Are there any other programs for which EPA is involved in developing or deploying training related to high efficiency residential lighting? (For example, ENERGY STAR?) [PROBE for details]
- 8) How is lighting addressed in the recommended improvements that homeowners obtain as part of the Home Energy Yardstick? [PROBE for degree to which recommendations go beyond changing out incandescent bulbs for standard CFLs)
- a) IF RECOMMENDATIONS DO NOT GO BEYOND STANDARD CFLs: What, if any, future plans does DOE have to incorporate more advanced lighting recommendations (such as high efficiency fixtures, specialty CFLs, LED fixtures and bulbs, lighting design for energy efficiency) into the Home Energy Score?
    - i) IF NONE: Why not?
- 9) To what extent are ENERGY STAR lighting specifications and EPA lighting programs “technology neutral”?
- a) Is being technology neutral an underlying principle of EPA’s work in energy efficiency (Including but not limited to ENERGY STAR)?
    - i) IF NO: Is this expected to change in future? If so, how?

## Questions for EPA and DOE

### Federal Programs for the Residential Sector

- 10) Now I’d like to ask you some questions about plans for new federal programs for the residential sector. Is [DOE] [EPA] planning or considering any new residential program designs aimed at getting . . .
- i) builders, contractors, electricians and others to the point that they will routinely specify or install high efficiency lighting as part of residential projects?
  - ii) retailers who sell fixtures to the point that they will routinely recommend high efficiency lighting for residential customers? [PROBE for details]
  - iii) retailers who sell bulbs to stock and promote more high efficiency bulbs, including specialty bulbs? [PROBE for details]

- b) IF YES: [PROBE for program details]
  - c) IF NO: Why not?
- 11) I understand from the 2011 DOE-EPA MOU work plan that both DOE and EPA are tasked with supporting organizations that deliver or encourage professional credentialing in the home energy upgrade industry. How could NYSERDA coordinate with or leverage this support?
    - a) Are there any other ways that program administrators leverage the work of [EPA] [DOE] to increase the adoption of efficient lighting in the residential sector?
  - 12) This last set of questions has to do with the design and evolution of new and existing Federal programs for the residential sector, such as ENERGY STAR, Home Performance with ENERGY STAR or the Home Energy Score. How can state and regional program administrators contribute to the development of these programs earlier in the the process, while the programs are being designed or when new requirements being set, before the formal comment periods begin?
  - 13) How can industry (trade associations, builders, contractors, etc.) contribute earlier in the process to the design of federal programs for the residential sector? [PROBE: How can they, too, get involved before the formal comment periods]

### **Questions for the California Energy Commission**

- 14) What projects or programs is the CEC working on to help California continue to achieve savings from residential lighting after EISA? [PROBE: Ask about efforts to further lighting technology for residential applications, and to improve residential lighting program design]
- 15) Is the CEC involved in any way with partnering or working with builders, electricians, architects, lighting designers, retailers, manufacturers and other midstream or upstream market actors to
  - i) Help get builders, contractors, and electricians to the point that they will routinely recommend or specify and install high efficiency lighting as part of resident projects?
  - ii) Help get retailers who sell fixtures to the point that they will routinely recommend high efficiency lighting for residential customers?
  - iii) Help get retailers who sell bulbs to stock and promote more high efficiency bulbs, including specialty bulbs?
  - b) IF YES: [PROBE for program details]
  - c) IF NO: Why not?
- 16) Now I'd like to ask you some questions about the CEC's experience with EISA. What kinds of changes in market or consumer behavior did the CEC notice in the months leading up to EISA's implementation in California on January 1?
- 17) What, if any, education related to EISA did the CEC provide to consumers or other audiences in the months leading up to EISA? [PROBE for description/details]
- 18) Did the CEC provide any education related to EISA to consumers or other audiences after January 1? [PROBE for description/details]
  - a) IF EDUCATION PROVIDED BOTH BEFORE AND AFTER JANUARY 1: How did the education change after EISA was implemented?
- 19) To what extent do consumers seem to be aware of the changes due to EISA and have a clear understanding of their lighting options under EISA?
  - a) IF THEY PROVIDE AN ANSWER: Has the CEC conducted any research or have other evidence to support this view? [PROBE to assess the degree to which answer is informed by research versus anecdotal information, and if anecdotal, the sources of the anecdotes]
- 20) How have consumers in California reacted to early implementation of EISA?

### **Wrap-up**

- 21) Do you have anything else to share with me about \_\_\_\_\_'s programs or the future of the residential lighting market?

Thank you for your time and for sharing your perspective.

**D.3 PROGRAM ADMINISTRATOR IN-DEPTH INTERVIEW GUIDE**

**INTERVIEW GUIDE --Program Administrators**

**2011-2012 NYSERDA Residential Lighting Market  
Characterization Study**

Date \_\_\_\_\_ Interviewer \_\_\_\_\_

Name \_\_\_\_\_ Organization \_\_\_\_\_

Title \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

[NOTE: NOT MEANT AS VERBATIM QUESTIONS BUT AS ROUGH GUIDE]

I am from NMR calling on behalf of the New York State Energy Research and Development Authority. I am part of the evaluation team that is carrying out a residential lighting market characterization study to help NYSERDA explore new ways to encourage the installation of high efficiency lighting fixtures and bulbs in homes in NY State. NYSERDA wants to better understand \_\_\_\_\_'s experiences and insights with residential lighting to help inform future program design. Would you be the right person at \_\_\_\_\_ to talk to about this?

IF NO: Who would be the best person? (get name, title, contact info, ask to be transferred)

IF YES: Do you have time to talk right now? I think we'd need about half an hour. [If no, arrange for callback time.]

All of your answers will be kept completely confidential to the extent permitted by law. It is our intent to aggregate the information you provide us data with that provided by other organizations to represent the observations of a group of program administrators.

May I have your permission to record this call for transcription and analysis?

***Program Information***

First, I'm going to ask you some questions about \_\_\_\_\_'s portfolio of residential lighting programs.

1. I looked through the description in the CEE Residential Lighting Program Summary, so I already have some idea of \_\_\_\_\_'s approach, but would like to hear about it in your own words. PROBES:
  - a. What do you consider to be particularly innovative or different about \_\_\_\_\_'s residential lighting portfolio?
    - i. SCE: Probe on retailer training, Advance Lighting Program.
    - ii. Efficiency Vermont: Probe on marketing, communications/outreach (both upstream and downstream).
  - b. Other than CFLs, what technologies or products do the programs address?
  - c. What are the upstream versus downstream activities?

- d. Is training addressed in any of the programs? How? What audiences are trained, on what, partnering with what organizations?
  - e. Is lighting design addressed in any of the programs? How?
  - f. Do any of the programs include a home energy lighting audit, survey, or similar activity? Describe.
  - g. Do any of the programs use tools to estimate electrical savings that customers are likely to achieve from changes in lighting? Describe.
  - h. Is there anything else that the programs in the portfolio do to get builders, contractors and electricians to the point that they will routinely specify or install high efficiency lighting as part of residential projects, confident that clients will be happy with the results?
2. Has \_\_\_\_\_ tried to reach out to market actors, such as architects, lighting designers, lighting specifiers, and lighting showrooms, about opportunities for energy efficient residential lighting and lighting design?
- a. IF YES:
    - i. Tell me about what \_\_\_\_\_ has done in this area.
    - ii. What ways has \_\_\_\_\_ found to be most effective at reaching these market actors?

## **Planning for and Reactions to EISA**

### *For Efficiency VT and CL&P:*

3. With the impending phase out of certain wattages of incandescent bulbs because of the Energy Independence and Security Act of 2007 (EISA), many program administrators are giving thought to how their residential lighting programs might need to change. What kinds of program changes has \_\_\_\_\_ considered, or planned, to meet the need to continue generating savings from residential lighting . . .
  - a. After 2012?
  - b. After 2014?
  - c. After 2020?

### *For SCE:*

4. How have consumers in your service territory reacted to California's early implementation of EISA?
5. How have retailers reacted?
6. What are you seeing consumers use in place of 95w incandescent bulbs?
7. What kinds of program changes has SCE considered, or planned, to meet the need to continue generating lighting savings now that EISA Tier 1 has been implemented in California?
8. What kinds of program changes has SCE considered, or planned, to meet the need to continue generating lighting savings as lower wattage bulbs are affected by EISA over time?

### *For BC Hydro:*

9. How have consumers in BC reacted to the implementation of BC's lighting standards?
10. How have retailers in BC reacted?
11. What are you seeing consumers use in place of 100w and 75w incandescent bulbs?
12. What kinds of program changes has BC Hydro considered, or planned, to meet the need to continue generating lighting savings after January 2012, when 60w and 40w bulbs are phased out?

## **Wrap-Up**

13. Do you have anything else to share with me about \_\_\_\_\_'s residential lighting program plans? About the future of the residential lighting market?

Thank you for your time and for sharing your perspective.

**D.4 MANUFACTURER IN-DEPTH INTERVIEW GUIDE**

**Approved Aug. 2011**

**INTERVIEW GUIDE --Manufacturers**

**2011-2012 NYSERDA Residential Lighting Market  
Characterization Study**

Date \_\_\_\_\_ Interviewer \_\_\_\_\_

Name \_\_\_\_\_ Organization \_\_\_\_\_

Title \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

[NOTE: NOT MEANT AS VERBATIM QUESTIONS BUT AS A ROUGH GUIDE]

Hello, I am \_\_\_\_\_ from The Cadmus Group calling on behalf of the New York State Energy Research and Development Authority (NYSERDA). I am part of the evaluation team that is carrying out a study to help NYSERDA explore new ways to encourage the installation of high efficiency lighting fixtures and bulbs in homes in NY State.

With the impending phase out of certain wattages of incandescent bulbs because of the Energy Independence and Security Act of 2007 (EISA), NYSERDA is trying to understand how the market for high efficiency residential lighting fixtures and bulbs in NY will be changing, and is looking for insights from a small number of organizations like yours.

[IF HAVE CONTACT NAME ASK] May I speak to \_\_\_\_\_. [IF NO CONTACT INFORMATION AVAILABLE ASK] May I speak with someone in your company who oversees the strategic planning for your lighting products such as light bulbs, in particular compact fluorescent light bulbs, or CFLs?

1 Yes

2 No [Attempt to get respondent; if respondent not available, ask if anyone else at the establishment makes purchasing or stocking decisions. IF NOT a good time to talk, SET UP CALL BACK APPOINTMENT OR OFFER TO LET THEM CALL US BACK AT \_\_\_\_\_]



All of your answers to my questions will be kept completely confidential to the extent permitted by law. It is our intent to aggregate the information you provide us with that provided by other organizations to represent the observations of the whole group.

## **Section 1. CFL Pricing and EISA Impacts**

- PR1.** To start I have a few questions about the general impacts of EISA... What, if anything have you heard about consumer and retailer reactions to the early implementation of EISA standards in California?
- PR2.** How did your company's expectations of consumer purchase decisions compare to what actually happened in California when the 100 W incandescent bulbs were phased out starting this year? (Probe to get at which products are replacing incandescent bulbs and in what product mix?)
- PR3.** Have you changed your production of 100 W incandescent bulbs for the remainder of this year prior to EISA implementation in January? (Probe for how: are the producing more in expectation of stockpiling, or less as they are phasing them out?)
- PR4.** As EISA phases in everywhere, what do you expect consumers to most commonly use in place of
- i) 100 watt incandescent bulbs?
  - ii) 75 watt incandescent bulbs?
  - iii) 60 watt incandescent bulbs?
  - iv) 40 watt incandescent bulbs?
- (Probe for whether it will be shared among different products or primarily one type of product and which)

## **Section 2: Potential Production Impacts**

Now I'd like to ask you a few questions about potential influences on your production...

- PR5.** How do market factors influence your production and pricing? (Record verbatim). Probe for the following:
- Probe for timing, such as how long after market demand drops does production change, and by how much would you reduce or increase production based on changes in market demand
  - Probe for potential competitor pricing influence (from the time you realize a competitors pricing has changed, how long does it take before you adjust your production/pricing?)
  - Probe for potential market factor influence (such as market price)
  - Probe for potential labor and materials influence (including how long it would take to make a change in either staffing, purchasing or both)

### **Section 3: Cost Information**

- PR6.** How are you responding to the increased cost of materials for CFLs? (Probe for increasing prices, absorbing costs, decreasing production, or increasing alternative product production)
- PR7.** How can the higher upfront cost for more efficient lighting be overcome when marketing energy efficient lighting to consumers? (Probe by type of light bulb)
- PR8.** Does your company manufacture any LED lighting?
- PR9.** What do you think the cost differential between LEDs and CFLs would need to be before consumers perceive LEDs to be cost competitive? When do you think that will occur? (Probe for LEDs vs. Halogens, or available incandescent bulbs)

### **Section 4: Market Impacts**

One of NYSERDA's goals is to identify the most promising applications for successful early adoption of LED bulbs and fixtures in homes. Thinking about your company's experiences with CFLs, LEDs and fixtures

- PR10.** Do you expect the market for pin-based CFL fixtures to increase, decrease or stay the same as today? (Record verbatim for each of the following timeframes). Probe for why on each response.
  - a. After 2012?
  - b. After 2014?
- PR11.** How will LED lighting affect the fixture market? Will new fixtures need to be developed to fit or work well with LED lighting? (Record verbatim for each of the following timeframes).
  - a. After 2012?
  - b. After 2014?
- PR12.** What role do you expect induction lighting to play in the future lighting market? Will this technology be available during any of the following timeframes? (Record verbatim for each of the following timeframes).
  - a. After 2012?
  - b. After 2014?
- PR13.** Now I'd like to talk to you about the total market for residential light bulbs. What types of light bulbs do you expect to be significant players in the residential market in the coming years?
  - PR13a.** Please rank these bulbs in order of their importance to the market in the short term. (Probe for if the ranking changes in the long term)
- PR14.** If not mentioned above, ask what, if any, impact on the market they expect from HEI, (if needed-High Efficiency Incandescent bulb- slated to provide the same quality of light as today's standard incandescent while using half the energy and

becoming more efficient from there), OLEDs (if needed-Organic Light Emitting Diodes- similar to LEDs but potentially available in more shapes including potentially flat panels) and induction lighting (if needed-technology similar to fluorescent except using magnetic induction instead of electrodes). (use the table below to fill in results from PR13 through PR16)

	<b>Rank</b>	<b>Short term (pre-2014)</b>	<b>Long term (post 2014)</b>
CFLs			
HEIs			
Halogens			
LEDs			
OLEDs			
Induction lighting			
Specialty incandescent that are exempt from EISA			
Other_____			

(Check totals above =100%)

**PR15.** What types of specialty CFL bulbs do you anticipate will be the focus of production by lighting manufacturers in the future?

**PR16.** Are there any other existing or emerging technologies that may play a role in the residential lighting market in the future?

### **Section 5: Quality Assurance**

We are almost finished but I have a few final questions regarding Quality Assurance procedures at your company...

**PR17.** Does your company participate within the lighting industry in efforts to improve quality assurance for new lighting technologies? (If yes, how is it being approached?)

**PR18.** Given some of the problems that the lighting industry experienced when CFLs were first introduced to the market, is there anything different you are doing when you introduce new products now? (If needed, For example, we understand there is a lot of variation in length of time LEDs are expect to work).

**[THANK AND TERMINATE]**

**D.5 INSTALLER IN-DEPTH INTERVIEW GUIDE**

FINAL. 9/21/11

**INTERVIEW GUIDE--Installers (Builders, Electricians,  
Contractors)**

**2011-2012 NYSERDA Residential Lighting Market  
Characterization Study**

Date \_\_\_\_\_ Interviewer \_\_\_\_\_

Name \_\_\_\_\_ Organization \_\_\_\_\_

Title \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

**[NOTE: NOT MEANT AS VERBATIM QUESTIONS BUT AS A ROUGH GUIDE]**

Hello, I am \_\_\_\_\_ from The Cadmus Group calling on behalf of the New York State Energy Research and Development Authority (NYSERDA). I am part of the evaluation team that is carrying out a study to help NYSERDA explore new ways to encourage the installation of high efficiency lighting fixtures and bulbs in homes in NY State.

With the impending phase out of certain wattages of incandescent bulbs because of the Energy Independence and Security Act of 2007 (EISA), NYSERDA is conducting a study to understand how the market for high-efficiency residential lighting fixtures and bulbs in NY will be changing, and is looking for insights from a small number of organizations like yours.

**[IF HAVE CONTACT NAME ASK]** May I speak to \_\_\_\_\_.

**[IF NO CONTACT INFORMATION AVAILABLE ASK]** May I speak with someone in your company who makes decisions or recommendations about lighting fixtures for new homes or renovation projects?

1 Yes

- 2 No [ATTEMPT TO GET RESPONDENT; IF RESPONDENT NOT AVAILABLE, ASK IF ANYONE ELSE AT THE ESTABLISHMENT MAKES PURCHASING OR STOCKING DECISIONS. IF NOT A GOOD TIME TO TALK, SET UP CALL BACK APPOINTMENT OR OFFER TO LET THEM CALL US BACK AT \_\_\_\_\_]

All of your answers to my questions will be kept completely confidential to the extent permitted by law. We will be aggregating the information you provide with that provided by other organizations to report the group as a whole.

### **Section 1. Introduction**

- PR1.** First, will you tell me about your company? What services do you offer? How many employees do you have? What geographies do you serve?
- PR2.** What types of projects are you involved in? (Residential only? Multifamily, Commercial, or Single homes? New construction or renovation?) What role in a project do you typically play?

### **Section 2. EISA Impacts on New Construction and Renovation**

- PR3.** In December 2007, Congress passed an energy bill called the Energy Independence and Security Act, also known as EISA. One component of the bill calls for a gradual phase-out of inefficient lamps over time starting in 2012. **[IF NECESSARY: THE PHASE-OUT BEGINS FOR 100 WATT GENERAL SERVICE LAMPS ON JANUARY 1, 2012, FOR 75-WATT LAMPS STARTING IN 2013, AND FOR 60 AND 40 WATT LAMPS IN 2014.]** I'd like to ask you about what you see as the impacts of the EISA legislation on residential new construction or renovation projects. First I will ask a few questions relating to new construction projects and then we will discuss renovation. Can you describe how you see the legislation affecting residential new construction? And how do you see the legislation affecting renovation projects?
- PR4.** How important is lighting in residential new construction projects?
- PR5.** How often do residential new construction projects employ lighting designers or architects?
- PR6.** Who is most often the decision-maker in terms of what types of lighting to install in a new home?
- PR7.** How important is lighting in residential renovation projects?
- PR8.** How often do residential renovation projects employ lighting designers or architects?
- PR9.** Who is most often the decision-maker in terms of what types of lighting to install in a planned renovation?

### Section 3: Advising and Training on High Efficiency Lighting Products

- PR10.** Now I'd like to ask you about high-efficiency lighting products such as LEDs and other new technologies in your projects. Can you rate your level of knowledge of LEDs and other new lighting technologies on a scale of 1 to 5 with 1 being very little knowledge and 5 being a great deal of knowledge?
- PR11.** Would you be interested in seeing demonstration projects using high efficiency lighting such LEDs? **[IF YES, PROBE FOR WHAT TYPES OF LIGHTING IN WHAT APPLICATIONS.]**
- PR12.** How frequently do you advise residential clients on specific residential high efficiency lighting that may be appropriate for their usage/project? **[IF YES, PROBE FOR TYPICAL EXAMPLES AND REASONS, IF NO, ASK]** Why not?
- PR13.** Where would you obtain training on new lighting products or applications if you wanted it? Is formal training readily available?
- PR14.** **[ASK IF PR10 IS <4 AND IF PR13=NOWHERE OR DON'T KNOW]** Would you be interested in training on how to design and install these types of lighting? **[PROBE FOR SPECIFIC APPLICATIONS]**
- PR15.** Are you required to obtain continuing education credits? If so, where do you usually obtain these credits?
- PR16.** What kind of formal training do you look for in staff who will be working with lighting (i.e., type of educational background, coursework, or certifications)?
- PR17.** Is there a standard curriculum for lighting training?
- PR18.** **[ASK IF PR17=NO]** Is one needed? **[IF NO, WHY NOT?]**
- PR19.** **[ASK IF PR18=YES]** Who should be responsible for developing such a curriculum and what should it include?

### Section 4: Actual Installation of High-Efficiency Products

- PR20.** How often do you install CFL fixtures in residential projects? (Always, very often, somewhat often, not very often, never)
- PR21.** **[ASK IF PR18 = NEVER OR NOT VERY OFTEN]** Why do you not install CFL fixtures in residential projects? **[PROBE FOR DIFFERENCES IN TYPE OF RESIDENTIAL]** What keeps you from installing these types of lighting?
- PR22.** How often do you install LED fixtures in residential projects? (Always, very often, somewhat often, not very often, never) **[PROBE FOR DIFFERENCES IN TYPE OF PROJECT – MULTIFAMILY VS. TRACT VS. CUSTOM]**
- PR23.** **[ASK IF PR20= NEVER OR NOT VERY OFTEN]** Why do you not install LED fixtures in residential projects? **[PROBE FOR OTHER REASONS BESIDES COST]**

**PR24. [ASK IF PR18 OR PR21= NEVER OR NOT VERY OFTEN]** Would you be willing to try these types of lighting in a small number of projects? Why or why not?

**PR25. [ASK IF PR22= YES]** Would you be willing to try these types of lighting in all of your projects? Why or why not?

**PR26.** What opportunities exist to increase energy efficiency in residential new construction and renovation?

**PR27.** What support should NYSERDA provide to help increase energy efficiency in residential new construction and renovation?

**[THANK AND TERMINATE]**

**D.6 SPECIFIER IN-DEPTH INTERVIEW GUIDE**

**V2. FINAL 8/12/2011**

**INTERVIEW GUIDE--Specifiers**

**2011-2012 NYSERDA Residential Lighting Market  
Characterization Study**

Date \_\_\_\_\_ Interviewer \_\_\_\_\_

Name \_\_\_\_\_ Organization \_\_\_\_\_

Title \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

**[NOTE: NOT MEANT AS VERBATIM QUESTIONS BUT AS ROUGH GUIDE]**

**[IF HAVE CONTACT NAME ASK]** May I speak to \_\_\_\_\_?

**[IF NO CONTACT INFORMATION AVAILABLE ASK]** May I speak with someone in your company who would be most knowledgeable about your use of lighting and lighting design in your residential new construction and renovation work? **[IF THEY DO NOT WORK ON RESIDENTIAL NEW CONSTRUCTION AND RENOVATION, THANK AND TERMINATE]**

Your opinions will help the New York State Energy Research and Development Authority, also known as NYSERDA, design a more effective and useful residential lighting program. I'm not selling anything; I'd just like to ask your opinion about this program and energy-efficient lighting trends. I can assure you that your responses will be kept confidential to the extent permitted by law.

In December 2007, Congress passed an energy bill called the Energy Independence and Security Act. One component of the bill calls for a gradual phase-out of inefficient lamps over time starting in 2012. **[IF NECESSARY: THE PHASE-OUT BEGINS FOR 100 WATT GENERAL SERVICE LAMPS ON JANUARY 1, 2012, FOR 75-WATT LAMPS STARTING IN 2013, AND FOR 60 AND 40 WATT LAMPS IN 2014.]**

Related to this act, NYSERDA is looking for insights from a small number of organizations like yours. NYSERDA would like to know more about how lighting designers and architects incorporate lighting and lighting designs into their residential new construction and renovation projects.

**Section 1. Lighting Decision-making Process**



First, I have a few questions about the lighting decision-making process. We are generally interested in hearing what lighting specifiers, or professionals who make decisions about lighting specifications, have to say about using lighting, especially energy-efficient lighting, in residential new construction and renovation projects. By “residential,” I mean projects in buildings with one- to four-living units.

**LD1.** First, will you tell me about your company? What services do you offer? How many employees do you have? What geographies do you serve?

**LD2.** What types of projects are you involved in? **[RESIDENTIAL ONLY? MULTIFAMILY, COMMERCIAL, OR SINGLE HOMES? NEW CONSTRUCTION OR RENOVATION?]** What role in a project do you typically play?

**LD3.** What type of professional in your firm is most likely to making lighting specification decisions in residential new construction and renovation projects? Would you say an architect, who might specify lighting along with many other building elements, a lighting designer, who is more narrowly focused on lighting and lighting-related specifications, or some other professional? **[PROBE FOR WHY]**

- a. Architect
- b. Lighting designer
- c. Other professional **[GET VERBATIM RESPONSE: \_\_\_\_\_]**

**LD4.** How often does your firm get involved in making lighting or lighting design decisions for residential new construction or residential renovation projects? **[ESTIMATE PERCENTAGE]**

- a. More than 75%
- b. 61 to 75%
- c. 41 to 60%
- d. 25 to 40%
- e. Less than 25%

**[PROBE IF LESS THAN 40%: WHY DOESN'T YOUR FIRM GET MORE INVOLVED IN MAKING LIGHTING DECISIONS? WHO TENDS TO MAKE LIGHTING DECISIONS OR LIGHTING DESIGN DECISIONS FOR YOUR RESIDENTIAL NEW CONSTRUCTION OR RESIDENTIAL RENOVATION PROJECTS?]**

**LD5.** In general, how aware do you think **architects** are of the availability and uses of CFL, LED, and other high-efficiency lighting for residential applications?

**[PROBE FOR DIFFERENCES IN CFL/LED USE]**

- a. Very aware
- b. Somewhat aware
- c. Neutral
- d. Not too aware
- e. Not at all aware

**LD6.** To what extent in general, do you think **architects** understand how to identify appropriate high efficiency lighting for residential projects? **[DO NOT READ,**

**ESTIMATE LEVEL BASED ON RESPONSE]**

- a. High understanding
- b. Moderately high understanding
- c. Neutral/average understanding
- d. Moderately low understanding
- e. No understanding

**LD7.** In general, how aware do you think **lighting designers** are of the availability and uses of CFL, LED, and other high efficiency lighting for residential applications?

**[PROBE FOR DIFFERENCES IN CFL/LED USE]**

- a. Very aware
- b. Somewhat aware
- c. Neutral
- d. Not too aware
- e. Not at all aware,

**[PROBE IF NEUTRAL, NOT TOO AWARE, OR NOT AT ALL AWARE:**

**WHY DO YOU THINK THEY ARE NOT MORE AWARE?]**

**LD8.** To what extent do you think **lighting designers** understand how to identify appropriate high efficiency lighting for residential projects? **[DO NOT READ,**

**ESTIMATE LEVEL BASED ON RESPONSE]**

- a. High understanding
- b. Moderately high understanding
- c. Neutral /average understanding
- d. Moderately low understanding
- e. No understanding

**[PROBE IF NEUTRAL, LOW UNDERSTANDING, OR NO**

**UNDERSTANDING: WHY DO YOU THINK THAT IS?]**

**LD9.** What percentage of time in developing blueprints, on average, is allocated to lighting design? [**RECORD PERCENTAGE:** \_\_\_\_\_]

**LD10.** How is the decision made about what type of lighting to install in residential new construction and residential renovation projects at your firm? [**DO NOT READ POSSIBLE RESPONSES: MARK ALL THAT APPLY, RECORD VERBATIM EXPLANATION**]

- a. Professional assessment
- b. Lowest cost
- c. Room by room functionality
- d. Homebuyer interest
- e. Contractor decisions
- f. Design charrette
- g. Consultant input
- h. Other
- i. Don't know (if someone else makes the decision)

**LD11.** How often are the customers or homebuyers part of the lighting design decision? [**DO NOT READ: ESTIMATE PERCENTAGE**]

- a. More than 75%
- b. 61 to 75%
- c. 41 to 60%
- d. 25 to 40%
- e. Less than 25%

[**PROBE IF LESS THAN 60%: WHY DO YOU THINK THAT IS?**]

**LD12.** In your experience, how often are customers told about high-efficiency lighting and lighting design options?

- a. More than 75% of the time
- b. 61 to 75% of the time
- c. 41 to 60% of the time
- d. 25 to 40% of the time
- e. Less than 25% of the time

[**PROBE IF LESS THAN 60% OF THE TIME: WHY DO YOU THINK THAT IS?**]

**LD13.** When customers are told about high-efficiency lighting and lighting design options, what kinds of options are typically mentioned?

## **Section 2 Level of Builder and Homebuyer Interest in Lighting & Lighting Design**

**LD14.** How interested would you say residential builders are in energy-efficient lighting design? **[PROBE TO QUANTIFY INTO THE FOLLOWING CATEGORIES]**

- a. Very interested
- b. Somewhat Interested
- c. Neutral
- d. Not too interested
- e. Not at all interested

**[PROBE IF NOT TOO INTERESTED OR NOT AT ALL INTERESTED: WHY DO YOU THINK THAT IS? DO YOU HAVE ANY SUGGESTIONS FOR GETTING RESIDENTIAL BUILDERS MORE INTERESTED IN ENERGY EFFICIENT LIGHTING DESIGN?]**  
**[FURTHER PROBE IF DIFFERENCES IN BUILDER INTEREST MENTIONED: TELL ME MORE ABOUT THE DIFFERENCES YOU SEE IN BUILDER LEVELS OF INTEREST.]**

**LD15.** In general, how interested would you say customers, or home buyers are in energy-efficient lighting design? **[PROBE TO QUANTIFY INTO THE FOLLOWING CATEGORIES]**

- a. Very interested
- b. Somewhat Interested
- c. Neutral
- d. Not too interested
- e. Not at all interested

**[PROBE IF NOT TOO INTERESTED OR NOT AT ALL INTERESTED: WHY DO YOU THINK THAT IS? DO YOU HAVE ANY SUGGESTIONS FOR GETTING HOME BUYERS MORE INTERESTED IN ENERGY EFFICIENT LIGHTING DESIGN?]**

## **Section 3. Training and Educational Development in Lighting**

I have a few final questions about training and education related to lighting.

**LD16.** Would you be interested in seeing demonstration projects using CFL or LED fixtures? [**PROBE FOR DIFFERENCES IN CFL/LED INTEREST**]

- a. Very interested
- b. Somewhat interested
- c. Neutral
- d. Not too interested [**PROBE FOR WHY NOT**]
- e. Not at all interested [**PROBE FOR WHY NOT**]

**LD17.** Do you think your clients would be interested in seeing demonstration projects using CFL or LED fixtures? [**PROBE FOR DIFFERENCES IN CFL/LED INTEREST**]

- a. Very interested
- b. Somewhat interested
- c. Neutral
- d. Not too interested
- e. Not at all interested

[**PROBE IF VERY OR SOMEWHAT INTERESTED: WOULD HOMEBUILDERS AND HOMEOWNERS BOTH HAVE THAT LEVEL OF INTEREST?**]

**LD18.** Where do you and your staff obtain training on new lighting products or applications? [**PROBE FOR CONTACTS FOR TRAINING ORGANIZATIONS, IF NOWHERE, ASK IF THEY ARE AWARE OF ANY**]

**LD19.** Are you required to obtain continuing education credits related to high efficiency lighting?

- a. Yes [**PROBE: WHERE DO YOU USUALLY GO TO GET THESE EDUCATION CREDITS?**]
- b. No

**LD20.** What kind of formal training do you look for in staff who will be working with lighting (i.e., type of educational background, coursework, or certifications)?

**LD21.** Are you aware of a standard curriculum for lighting training?

- a. Yes, aware [**PROBE: WHAT IS A GOOD EXAMPLE OF AN INSTITUTION OFFERING SUCH A CURRICULUM? RECORD VERBATIM RESPONSE: \_\_\_\_\_ . WHO SHOULD BE RESPONSIBLE FOR DEVELOPING THE CURRICULUM AND**

**WHAT SHOULD IT INCLUDE? RECORD VERBATIM RESPONSE:**

\_\_\_\_\_]  
No, not aware [**PROBE: IN YOUR OPINION, IS A STANDARD CURRICULUM OR LIGHTING TRAINING NEEDED?**]

- i. Yes [**PROBE: WHO SHOULD BE RESPONSIBLE FOR DEVELOPING IT, AND WHAT SHOULD IT INCLUDE?**]
- ii. No

**LD22.** What opportunities exist to increase energy-efficiency in residential new construction and renovation?

**LD23.** What support should NYSERDA provide to help increase energy-efficiency in residential new construction and renovation?

**LD 24.** Do you have anything else you would like to share with me about lighting and lighting design for residential new construction and renovation?

**[THANK AND TERMINATE]**

**D.7 EDUCATIONAL PROVIDER IN-DEPTH INTERVIEW GUIDE**

**Final 10/26/11**

**INTERVIEW GUIDE --Educational Institutions/ Training Providers**

**2011-2012 NYSERDA Residential Lighting Market Characterization Study**

Date \_\_\_\_\_ Interviewer \_\_\_\_\_

Name \_\_\_\_\_ Organization \_\_\_\_\_

Title \_\_\_\_\_

Phone \_\_\_\_\_ Email \_\_\_\_\_

[NOTE: NOT MEANT AS VERBATIM QUESTIONS BUT AS A ROUGH GUIDE]

Hello, I am \_\_\_\_\_ from The Cadmus Group calling on behalf of the New York State Energy Research and Development Authority (NYSERDA). NYSEDA is a state agency that aims to help New York reduce energy consumption, promote the use of renewable energy sources, and protect the environment. I am part of the evaluation team that is carrying out a study to help NYSEDA explore new ways to encourage the installation of high efficiency lighting fixtures and bulbs in homes in NY State.

With the impending phase out of certain wattages of incandescent bulbs because of the Energy Independence and Security Act of 2007 (EISA), NYSEDA is trying to understand how the market for high efficiency residential lighting fixtures and bulbs in NY will be changing, and is looking for insights from a small number of organizations like yours.

**[IF HAVE CONTACT NAME ASK]** May I speak to \_\_\_\_\_. **[IF NO CONTACT INFORMATION AVAILABLE ASK]** May I speak with someone in your organization who oversees training, especially for the trades in residential new construction and renovation?

1 Yes

2 No [Attempt to get respondent; if respondent not available, ask if anyone else at the establishment makes purchasing or stocking decisions. IF NOT a good time to talk, SET UP CALL BACK APPOINTMENT OR OFFER TO LET THEM CALL US BACK AT \_\_\_\_\_]

All of your answers to my questions will be kept completely confidential to the extent permitted by law. It is our intent to aggregate the information you provide us with that provided by other organizations to represent the observations of the whole group.

### **Section 1. Training and EISA Impacts**

**PR1.** To start I have a few general questions about the types of work your organization does...Does your organization provide training in lighting design and/or installation for the residential lighting market?

1. Yes
2. No [*SKIP TO PR16*]

**PR2.** What does this training include?

PR2a. Does the training address lighting energy efficiency? How?

PR2b. Does the training address lighting design? If so, is effective lighting design included? If not, why not?

PR2c. Does participating in the training earn the participants any continuing education credits or certification?

PR2d. What technologies do you provide information on?

**PR3.** What types of trainees do you typically work with? (If needed- electricians, homebuilders, etc). At what level are the trainees in their careers?

**PR4.** Does your organization develop the curriculum for this training solely or do you have any partners assisting you? (If so, please list the partners).

**PR5.** Describe how the training is offered. Probes:

PR5a. Is there a hands-on component?

PR5b. Is it offered in a classroom or somewhere else? Where?

PR5c. Is it offered by internet?

PR5d. Is it part of a broader curriculum? Describe the curriculum and where it fits in.

**PR6.** Who teaches the trainings and are there requirements to be able to teach? (certifications etc.)

**PR7.** What is the demand for the residential lighting training? How many people take the training per month (or semester or year)?

**PR8.** Have you ever had a wait list?

**PR9.** When did you begin offering the training?

**PR10.** What types of lighting do the trainees ask about the most—what are they most interested in; what are they most confused about? Does this vary by type of trainee?



**PR11.** Are you familiar with the new lighting requirements in the Energy Independence and Security Act of 2007 (EISA)?

**PR12.** [IF PR11=Yes, THEN ASK] Is EISA specifically addressed in the training?

(1) Yes

(2) No

**PR13.** [IF PR12=1, THEN ASK] What topics specifically do you cover?

**PR14.** [IF PR12=2, THEN ASK] Do you plan to address EISA in future training? If yes, what topics do you expect to cover, and when? If no, why not? Are the trainees familiar with EISA prior to the training? (What percentage is familiar?)

**PR15.** What types of EISA-related questions do trainees ask?

[SKIP TO PR21]

**PR16.** Why do you not offer training in effective lighting design and/or installation for the residential market? [Probe for if there are categories that they would offer lighting training in/or not and the reason for the avoidance of any category (electricians, home builders, architects)].

**PR17.** Would you be interested in offering such trainings in the future?

1. Yes

2. No [Why not?]

**PR18.** What would your organization need in order to offer training in residential lighting/effective residential lighting design? (If needed- more staff, more support with educational materials, funding, demand, etc).

**PR19.** Are you familiar with the new lighting requirements in the Energy Independence and Security Act of 2007 (EISA)?

**PR20.** IF NYSERDA were to explore the idea of partnering with organizations that offer training or information to the trades to help encourage the installation of high efficiency lighting fixtures and bulbs in homes, would your organization be interested in working with NYSERDA on training in efficient lighting?

IF YES: Who at \_\_\_\_\_ would be the most appropriate person to follow up with about this? (get contact info)

**PR21.** What types of lighting have you found your students to be most interested in learning about?

**PR22.** How does your curriculum address existing or emerging technologies that may play a role in the residential lighting market in the future?

**PR23.** Do you know of any other trainings being offered that mention EISA and potential impacts, both within your organization or elsewhere?

**PR24.** Is the material covered in the training module available on the internet? Would you be able to direct me to that site?

**PR25.** [PR24=No] Would it be possible to obtain a copy of the material covered in the training module to review it?

**[THANK AND TERMINATE]**