# Making the Switch from Watts to Lumens: A Comparison of Consumer Knowledge Across States & Over Time<sup>1</sup>

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# Introduction

The FTC Lighting Facts label now appearing on light bulbs is meant to provide consistent information to help consumers make informed bulb purchasing decisions in a rapidly changing lighting market. Previous research suggests that consumer awareness and understanding of the information provided on the Lighting Facts label is low. Consumers who do not understand how to choose an appropriate CFL or screw-base LED bulb, and cannot put the Lighting Facts label to use as intended, may instead turn to much less efficient EISA-compliant halogen bulbs.

This poster examines selected findings around consumer awareness and understanding of key lighting information gathered via telephone surveys conducted between 2011 and 2013 across a number of states. These include Massachusetts, Connecticut, and New York State—all states with high levels of sustained residential lighting efficiency program activity—as well as comparison areas consisting of states with relatively limited residential lighting efficiency program activity Georgia, Kansas, and Nebraska represented a "low" program activity area and Arizona, Nevada, and Florida represented a "Moderate" program activity area.

## **Research Scope**

The key factors measured in the studies include awareness of the Lighting Facts label, understanding of the relative energy use of CFL versus screw-base halogen bulbs, awareness and understanding of the term "lumens," and knowledge of the number of lumens cast by a 60 watt incandescent bulb.

# Methods

The questions reported here were fielded via telephone to the audiences below as part of broader surveys about residential lighting. Specifically, the surveys were fielded to:

- A random sample of 551 residential utility customers across the service territories of Connecticut Lighting and Power (CL&P) and The United Illuminating Co. (UI) from February through March 2012. The margin of error for the full sample is +3.5% at the 90% confidence level.
- Random samples of residential utility customers in Massachusetts, including 600 consumers in Winter 2012 (conducted from December 4, 2012 to January 21, 2013), 604 consumers in

<sup>&</sup>lt;sup>1</sup> The views expressed in this paper are those of the authors and do not necessarily reflect the views of the New York State Energy Research and Development Authority (NYSERDA).

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Summer 2012 (conducted from June 18, 2012 to August 2, 2012), and 582 consumers in Winter 2011 (conducted from December 8, 2011 to January 19, 2012). The margin of error for the full samples of all survey efforts was +3% at the 90% confidence level.

- Random samples of consumers and households in the NYSERDA service area, including 510 consumers from September, 2011 to November, 2011, composed of 279 upstate consumers and 231 downstate consumers. The margin of error for the upstate group is +4.9% at the 90% confidence level; for the downstate group, +5.4%. A second survey was fielded to 720 households in December 2012 (340 Upstate and 380 Downstate). The margin of error for entire service area is 6.1% percent at the 90% confidence level.
- Random samples of 300 households each in a group of states with intermediate or "Moderate" residential lighting efficiency program activity (160 in Arizona, 70 in Nevada, 70 in Florida) and in a group of states with relatively limited or "Low" 'residential lighting efficiency program activity (160 in Georgia, 70 in Kansas, 70 in Nebraska). The margin of error at the 90% confidence level was 4.8% each for the Moderate and Low comparison areas. In order to facilitate comparison of results against the NYSERDA service area, these data were weighted to reflect demographic and housing characteristics of the NYSERDA service area.

# Results

The findings show there has been little change in consumer awareness and understanding of the key information provided on the Lighting Facts label since 2011 in MA and NY. While the majority of respondents in each area demonstrated a good general understanding of the meaning of lumens, and the results of one study suggest that consumers may be beginning to realize that watts and lumens are not thesame thing, respondent knowledge of the number of lumens cast by a 60 watt incandescent bulb continues to be very low. Aided awareness of the Lighting Facts label was just 16% in the NYSERDA area—though this was higher than in comparison areas with less program activity. Taken together, the findings suggest that more educational activities are needed around the information on the Lighting Facts label in the areas studied.

# References

- NMR Group, Inc. Forthcoming. Massachusetts Consumer Survey Results Winter 2012.
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## A Comparison of Consumer Knowledge Across States & Over Time

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#### Introduction

- The Lighting Eacts label is meant to provide consistent information to help consumers make informed bulb purchasing decisions.
- · Consumers who cannot put the Lighting Facts label to use as intended may be more likely to purchase less efficient FISAcompliant halogen bulbs.
- · This poster examines findings around consumer awareness and understanding of key lighting information gathered through telephone surveys conducted between 2011 and 2013 across:
- ✓ Three areas with high levels of sustained residential lighting efficiency program activity (Massachusetts, Connecticut, and the NYSERDA service area2);
- ✓ Two comparison areas of states with relatively limited residential lighting efficiency program activity.

## **Research Scope**

Key factors measured

- · Knowledge of the relative energy use of CFL versus screw-base halogen bulbs,
- · Awareness of the Lighting Facts label,
- · Awareness and understanding of the term "lumens," and
- · Knowledge of the number of lumens cast by a 60 watt incandescent bulb.

#### **Research Methods**

The questions reported here were fielded via telephone to the audiences below as part of broader surveys about residential lighting. Specifically, the surveys were fielded to:

A random sample of residential utility customers in Connecticut

· 551 consumers across the service territories of Connecticut Lighting and Power (CL&P) and The United Illuminating Co. (UI) from February through March 2012. The margin of error for the full sample is +3.5% at the 90% confidence level.

Random samples of residential utility customers in Massachusetts

· 600 consumers in the Winter 2012 survey (conducted from December 4, 2012 to January 21, 2013), 604 consumers in the Summer 2012 study (conducted from June 18, 2012 to August 2, 2012) and 582 consumers in the Winter 2011 survey (conducted from December 8, 2011 to January 19, 2012). The margin of error for the full samples of all survey efforts was +3% at the 90% confidence level.

Random samples of consumers and households in the NYSERDA service area

- 510 consumers from September, 2011 to November, 2011, including 279 upstate consumers and 231 downstate consumers completed the survey. The margin of error for the upstate group is +4.9% at the 90% confidence level; for the downstate group, +5.4%.
- · 720 households in December 2012 (340 Upstate and 380 Downstate). The margin of error for entire service area is 6.1% percent at the 90% confidence level

Random samples of 300 households each in a group of states with intermediate or "Moderate" residential lighting efficiency program activity (160 in Arizona, 70 in Nevada, 70 in Florida) and in a group of states with relatively limited or "Low" 'residential lighting efficiency program activity (160 in Georgia, 70 in Kansas, 70 in Nebraska).

The margin of error at the 90% confidence level was 4.8% each for the Moderate and Low comparison areas. In order to facilitate comparison of results against the NYSERDA service area, these data were weighted to reflect demographic and housing characteristics of the NYSERDA service area.

### Results

#### Understanding of "Lumens"

· The majority of households demonstrate a good general understanding of the meaning of lumens, with the top response offered in an open-ended question consistently being "light output" or "brightness." This has been the case since 2011 in MA and the NYSERDA service area.



- · Unaided awareness of the Lighting Facts label is very low (6% in the Overall NYSERDA area).
- unaided awareness, especially in the NYSERDA area. Awareness increased after the respondents were given a description of the label, but still remained fairly low. Respondents in the NSYERDA area (16% Overall) showed higher aided awareness than those in the Moderate (8%) and Low (10%) program activity comparison areas.



#### Lumens Produced by 60w Bulb

- Knowledge of the number of lumens produced by a 60 watt incandescent bulb has remained very low (1%) for NYSERDA area consumers since 2011. Respondents who were aware of the term lumens were asked to estimate the number of lumens produced by a standard 60-Watt incandescent bulb. The majority of those who responded in all comparison areas gave lumens estimates between one and 199, and with the exception of Downstate consumers, the most frequently offered estimate was 60 lumens, indicating that most respondents are continuing to confuse lumens and watts.
- · The results point to the possibility that consumers are beginning to realize that watts and lumens are not the same thing. The percentage of NYSERDA-area consumers who said that they did not know the answer increased significantly from 2011 to 2013 (from 59% to 84%), which could suggest that more consumers are beginning to realize that watts and lumens are not the same thing. However, the increase could also be due to differences in implementation by different survey research firms in 2011 and 2013





#### References

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Energy Used 13 watts **Contains Mercury** For more on clean up and safe disposal, visit epa.gov/cfl.

# this term in 2013 was similar across the different levels of program activity. Seen or Heard of "Lumens" 909





## Conclusions

There has been little change in consumer awareness and understanding of the key information provided on the Lighting Facts label since 2011 in MA and NY.

While the majority of respondents in each area demonstrated a good general understanding of the meaning of lumens, and the results of one study suggest that consumers may be beginning to realize that watts and lumens are not the same thing, respondent knowledge of the number of lumens in a 60 watt incandescent bulb continues to be very low.

- Aided awareness of the Lighting Facts label was just 16% in the NYSERDA area—though this was higher than in comparison areas with less program activity.
- · Taken together, the findings suggest that more educational activities are needed around the information on the Lighting Facts label in the areas studied.

Knowledge of Bulb Energy Use Respondents were asked "Which type of bulb uses less energy to produce light?"

 While the majority of consumers correctly identify CELs as being more efficient than screw-base halogen replacements for incandescent bulbs, consumer knowledge that CFLs are more energy efficient than halogens is stagnant, and may even be moving in the wrong direction.

(Some of the differences in knowledge between the MA and NYSERDA studies can be explained by slightly different bases. In MA, the question was asked only of those who were "very" or "somewhat" familiar with the bulb types: in the NYSERDA study, it was asked of all who were aware of either type.)



Base: Respondents who demonstrated awareness of CFLs and screw-in halogen bulbs. Bulb types were offered in rendem order.

#### Awareness of "Lumens"

· There was growth in the percent of households that have seen or heard of the term "lumens" since 2011. The percentage of households that had seen or heard of



# Awareness of Lighting Facts Aided awareness of the Lighting Facts label was somewhat higher than





Cool 2700 K