February 7, 2014



Ms. Brenda Edwards U.S. Department of Energy Building Technologies Program Mailstop EE-2J 1000 Independence Avenue SW Washington, DC 20585-0121

RE: Docket Number EERE-2013-BT-STD-0051 (RIN # 1904-AD09): Energy Conservation Standards Rulemaking Framework Document for General Service Lamps

Dear Ms. Edwards:

Northeast Energy Efficiency Partnerships (NEEP) appreciates the opportunity to provide comment to the Framework Document for Energy Conservation Standards Rulemaking for General Service Lamps. This letter is meant to serve as a collection of resources for the DOE to consider in the rulemaking. The Northeast and Mid-Atlantic region has conducted many studies to better understand the lighting landscape, and we have included citations in the letter below. Additionally, there are several lighting-focused studies that are currently underway. While the results of those studies are not available, we wanted to let the DOE know that these studies are to be expected in the coming year and NEEP will send the DOE the information as it becomes available.

The information and resources are listed below. When available, we provided hyperlinks to the source studies. Additionally, we provided very brief summaries of study findings. We hope that these can help the DOE through the rulemaking process for General Service Lamps. Please don't hesitate to reach out with any questions or clarifications.

Sincerely,

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Claire Miziolek Residential Program Manager Northeast Energy Efficiency Partnerships (NEEP) <u>cmiziolek@neep.org</u> 781-860-9177 x115

Northeast Residential Lighting Strategy:

NEEP, with regional stakeholders and national experts, has authored the regional Residential Lighting Strategy with multiple updates. These can be considered overview documents of residential lighting in the Northeast and Mid-Atlantic region as well as what efficiency programs are anticipating and should be planning for in the coming years. The reports are available from NEEP.org and direct links are:

- Northeast Residential Lighting Strategy: <u>http://neep.org/Assets/uploads/files/market-</u> strategies/NEEP_Residential_Lighting_Strategy_2012.pdf
- Northeast Residential Lighting Strategy: 2012-2013 Update: http://neep.org/Assets/uploads/files/market-strategies/RLS%20Update_FINAL_1-7-13.pdf
- Northeast Residential Lighting Strategy: 2013-2014 Update: <u>http://neep.org/Assets/uploads/files/market-</u> <u>strategies/lighting/October%202013%20RLS%20Update_FINAL.pdf</u>



Anticipated Northeast Mid-Atlantic Research Projects (from NEEP's Regional Evaluation, Measurement, and Verification Forum):

- CFL Market Lift Pilot Report, currently underway, report expected approximately Q3 2014
- Post-EISA Lighting Report, currently underway, report expected approximately Q3 2014
- A Lighting Loadshape Data Catalog, expected to begin in 2014
- Lighting Measure Life Research, expected to begin in 2014
- Lighting Incremental Cost Study, expected to begin in 2014
- Lighting Interactive Effects with HVAC, expected to begin in 2014 or 2015

Recent Northeast Mid-Atlantic Socket Saturation Surveys:

Results of the Massachusetts Onsite Lighting Inventory. Final. Submitted to: Cape Light Compact, NSTAR, National Grid, Unitil, Western Massachusetts Electric, and Energy Efficiency Advisory Council Consultants. NMR Group, Inc. July 7, 2013. <u>http://www.ma-</u>eeac.org/Docs/8.1_EMV%20Page/2013/Residential%20Program%20Studies/Onsite%20Lighting%20Invento

eeac.org/Docs/8.1_EMV%20Page/2013/Residential%20Program%20Studies/Onsite%20Lighting%20Invento ry%20-%20Results%20Final%20Report%206-7-13.pdf

Summary: socket saturation for high efficient lighting is stagnating.

New Hampshire CORE Residential ENERGY STAR® Lighting Program. Impact and Process Evaluation Report. Prepared for the New Hampshire Utilities. Prepared by DNV KEMA Energy and Sustainability. June 22, 2012 (<u>http://www.puc.state.nh.us/Electric/Monitoring%20and%20Evaluation%20Reports/NH-RESLFinal%20Delivered%2010252012.pdf</u>

Summary: socket saturation for high efficient lighting is stagnating.

Summary of Preliminary Findings from the Residential Lighting POS Program Evaluation Study. To: Victoria Engel- Fowles, NYSERDA. From: Monica Nevius and David Barclay, NMR Group. July 23, 2013. *Summary: socket saturation for high efficient lighting is stagnating.*

Recent Northeast Mid-Atlantic Hours of Use Surveys:

Residential Lighting End-Use Consumption Study: Estimation Framework and Initial Estimates. Prepared for: Solid Sate Lighting Program, Building Technologies Program, Office of Energy Efficiency and Renewable Energy. U.S. Department of Energy. Prepared by DNV KEMA Energy and Sustainability and Pacific Northwest National Laboratory. December 2012

http://apps1.eere.energy.gov/buildings/publications/pdfs/ssl/2012_residential-lighting-study.pdf Summary: In late 2012 DOE completed a study that developed state-by-state estimates of per household residential lighting energy use. The study leveraged a large 2009-2010 California HOU study and a number of regional and state-level lighting inventory studies. For the NEEP region, DOE's contractor DNV KEMA estimated 1.5-1.6 hours of use per day for all installed lighting and 1.9 hours for CFLs. This compares to current retail lighting HOU planning values in the range of approximately 2.8 to 3.2 hours per day for most PAs with the exception of New Hampshire and EVT which assumes 1.9 hours for CFLs and 3.4 hours for LEDs. The findings of this study, however, are pulled largely from a CA HOU analysis and may not be fully transferable to the Northeast Mid-Atlantic region. As such, there are several geographically specific studies that are ongoing and should help better determine the regional implications.

New England Regional Study: Program Administrators in New York (not including LIPA's service territory), Massachusetts, Connecticut, and Rhode Island are sponsoring a regional HOU study. NMR Group.

Summary: A total of 587 sites were metered. For this study all lighting, not just efficient lighting, was metered. This study also included a New York City multifamily high rise sample. The program

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contractor NMR will investigate the impact of building shading on lighting HOU in these buildings. Preliminary results support the existing planning HOU estimates for the region (2.8-3.2 hours/day). Final Results should be available in early 2014 and will be sent to DOE upon availability.

MA Low-Income Study: The Massachusetts PAs are completing a lighting HOU study of low income residences. *Results should be available in early 2014 and will be sent to DOE upon availability.*

DOE Mid-Atlantic Study: DNV KEMA, funded by the DOE, is currently completing a residential lighting hours of use (HOU) study in New York, New Jersey and Pennsylvania. Data are currently being analyzed, and DNV KEMA continues to seek funding from others to integrate additional data into the DOE analysis. *Results will be sent to DOE upon availability*.

Other Recent Northeast Mid-Atlantic Lighting Research Reports and Resources: NYSERDA: NYSERDA is undertaking a comprehensive evaluation of its retail lighting program efforts. This includes onsite home inventories with estimation of socket saturations noted above, retailer and manufacturer interviews, net to gross estimation, store manager surveys, and consumer surveys in NYSERDA and Comparison areas. *Results should be available in early 2014 and will be sent to DOE upon availability.*

Massachusetts LED Bulb Dimmer Compatibility Pilot: <u>http://www.ma-</u> <u>eeac.org/Docs/8.1_EMV%20Page/2013/Residential%20Pilot%20Studies/Residential%20Lighting%20Contro</u> Is%20Initiative%20Evaluation%20Final%20Report.pdf

Summary: While LEDs generally dim better than their CFL counterparts, not all LEDs dim well, in large part due to lamp/dimmer compatibility issues. The Cape Light Compact (CLC) completed a limited (16 sites) Residential Lighting Controls Initiative field study that entailed pre-and post-metering of homes that had LEDs installed in dimming circuits with LED compatible dimmers installed. The field work was supported by laboratory testing that measured the relationship between power and illuminance and the dimming switch setting.

NMR Group, Inc. "NYSERDA CFL Expansion Program: Random Digit Dial and Onsite Survey Results." Prepared for The New York State Energy Research and Development Authority. June 2011.

NMR Group, Inc. "The Market for CFLs in Connecticut." Prepared for Connecticut Energy Conservation Management Board, Connecticut Light & Power, and The United Illuminating Company. March 2, 2010. <u>http://energizect.com/sites/default/files/CT%20Lighting%20Report%203-2-2010.pdf</u>

Summary: This report presents the results of research conducted to capture the current market conditions and possible new program approaches for common and specialty CFLs in Connecticut. Some of the research activities were conducted in conjunction with a broader multistate CFL modeling effort.

NMR Group, Inc. "Results of the Massachusetts Onsite Lighting Inventory" Submitted to Cape Light Compact, NSTAR, National Grid, Unitil, Western Massachusetts Electric Energy Efficiency Advisory Council Consultants. June 7, 2013. <u>http://www.ma-</u>

eeac.org/Docs/8.1_EMV%20Page/2013/Residential%20Program%20Studies/Onsite%20Lighting%20Invento ry%20-%20Results%20Final%20Report%206-7-13.pdf

Summary: Based on the onsite analysis, the Team concludes that most households in Massachusetts use CFLs, even if some of them are dissatisfied with the products or are not aware that they are using them. Use of incandescent bulbs has decreased, but this trend started well before the January 1, 2012, implementation of the first phase of EISA. Finally, we found some mixed and inconclusive



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evidence of incandescent stockpiling; in 2012, households who self-reported being likely to stockpile actually had more incandescents in storage

NMR Group, Inc. ""Results of the Massachusetts Onsite Compact Fluorescent Lamp Surveys" Submitted to Cape Light Compact, NSTAR, National Grid, Unitil, Western Massachusetts Electric Energy Efficiency Advisory Council Consultants. October 23, 2012. <u>http://www.ma-</u>

eeac.org/Docs/8.1_EMV%20Page/2012/2012%20Residential%20Studies/Lighting%20Onsite%20Report%201 0.23.12%20Final.pdf

Summary: This report presents the findings of research conducted to understand use, saturation, and purchases of lighting products in Massachusetts households in support of the Massachusetts ENERGY STAR® Lighting Program (the Program). The study also sought to understand baseline conditions early in the implementation of the Energy Independence and Security Act (EISA) of 2007 and search for possible impacts on lighting use and purchase behavior that may be the result of the new lighting standards.

DNV KEMA Energy and Sustainability. "New Hampshire CORE Residential ENERGY STAR® Lighting Program. Impact and Process Evaluation Report". Prepared for the New Hampshire Utilities. June 22, 2012 <u>http://www.puc.state.nh.us/Electric/Monitoring%20and%20Evaluation%20Reports/NH-</u> RESLFinal%20Delivered%2010252012.pdf

Summary: The main objectives of the impact evaluation included a) determining the gross energy savings due to NH RESL and determining updates for the engineering estimates used to track and calculate savings including installation rates, hours of use, coincidence factors and reduced wattage, and b) estimating the market saturation of efficient lighting by measuring counts of household sockets and lighting inventory. The objectives of the process evaluation included determining how effectively the program promoted energy-efficient lighting products using instant coupons and mail-in rebates and identifying opportunities for improvements to program operations.

NMR Group, Inc. "Results of the Multistate CFL Modeling Effort". Prepared for National Grid. April 15, 2011

http://www.rieermc.ri.gov/documents/evaluationstudies/2011/FINAL%20RI%20CFL%20Modeling%20Rep ort%20041511.pdf

Summary: This report summarizes the analyses conducted in support of the multistate CFL modeling effort, highlighting the results as they pertain to the net-to-gross ratio (NTG) for National Grid in Rhode Island. This report draws on data from 15 different geographic areas in the United States, but was written specifically for National Grid in Rhode Island. The analyses draw primarily on data collected from 1,495 households that took part in onsite saturation surveys

NMR Group, Inc. ""Massachusetts ENERGY STAR® Lighting Program: Early Impacts of EISA" Submitted to Cape Light Compact, NSTAR, National Grid, Unitil, Western Massachusetts Electric, and Energy Efficiency Advisory Council Consultants. June 12, 2013 <u>http://www.ma-</u>

<u>eeac.org/Docs/8.1_EMV%20Page/2013/Residential%20Program%20Studies/Lighting%20Early%20Impacts%</u> 20of%20EISA%20Final%20Report%206-12-13.pdf

Summary: This report summarizes the results of four different research efforts meant, in part, to identify the current and likely effects of EISA on the residential lighting market in Massachusetts. The research activities occurred from December 2011 through April 2013 and were completed for the Energy Efficiency Advisory Council Consultants and the Massachusetts Program Administrators. Five major topics: 1. Retailer and consumer awareness of the EISA lighting efficiency standards; 2. Effect of EISA on the availability of different types of general service light bulbs; 3. Effect of EISA on the purchases and use of general service light bulbs; 4. Potential stockpiling of incandescent bulbs in response to EISA; 5. Consumer understanding of the terms "lumens" and "warm white and cool white."



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Navigant Consulting. "EmPOWER Maryland 2011 Evaluation Report. Chapter 5: Residential Lighting and Appliances." Submitted to Baltimore Gas & Electric, Potomac Electric Power Company, Delmarva Power, Southern Maryland Electric Cooperative and Potomac Edison. March 8, 2012 http://www.neep.org/Assets/uploads/files/emv/emv-library/2012-3-

8_EmPOWER_2011_Evaluation_Report.pdf

Summary: "The EmPOWER utilities' Residential Lighting and Appliance (L&A) programs were designed to reduce energy consumption and peak demand by increasing awareness and sales of ENERGY STAR®-qualified lighting and appliances"

NMR Group, Inc. "Connecticut Efficient Lighting Saturation and Market Assessment." Submitted to The Connecticut Energy Efficiency Fund, Connecticut Light and Power and the United Illuminating Company. October 2, 2012

http://energizect.com/sites/default/files/FINAL%20EISA%20Lighting%20Saturation%20and%20Market%20 Assessment%20Report%20100212_pdf.pdf

Summary: This report summarizes the results of the second stage of the study that relied on telephone surveys and onsite visits to residents' homes to determine saturation rates and market characteristics of efficient lighting choices

NMR Group, Inc. "Residential Lighting Markdown Impact Evaluation." Prepared for Markdown and Buydown Program Sponsors in Connecticut, Massachusetts, Rhode Island, and Vermont. January 20, 2009.

NMR Group, Inc. "Vermont Single-family Existing Homes Onsite Report." Prepared for Vermont Department of Public Service. October 5, 2012.

Summary: This report summarizes the results of 95 onsite audits of existing single-family homes in Vermont. Data was collected on the following home features: general construction features; building envelope features; heating and cooling equipment; water heating equipment, appliances present; and duct insulation and sealing. The study also conducted an inventory of light bulbs by bulb type.

NMR Group, Inc. "Analysis of Onsite Audits in Existing Homes in Vermont." Prepared for Vermont Department of Public Service. June 24, 2009.

Summary: This report summarizes the results of 156 onsite audits of existing single-family homes in Vermont, with 123 conducted at owner-occupied homes and 33 at rental homes. Data was collected on the following home features: general features of home; building envelope features; heating and cooling equipment; water heating equipment, appliances present; and duct insulation and sealing. The study also conducted a main area lighting fixture inventory for all plug-in fixtures that included a count by type of bulb and fixture, wattages, control types, and number of sockets.

Opinion Dynamics Corporation. "Connecticut's Residential ENERGY STAR® Lighting Program." Prepared for Connecticut Light & Power and United Illuminating. May 18, 2005.

Summary: This report summarizes findings of three research efforts aimed at gaining a better understanding of Connecticut's residential lighting market. The first effort was an impact analysis of the Connecticut Residential ENERGY STAR Lighting Program and its initiatives effect on consumer awareness of ENERGY STAR, use of CFLs, barriers to CFLs, and consumers purchasing decisions. The second effort consisted of a random telephone survey of 400 Connecticut residential consumers aimed at understanding the awareness and satisfaction of energy saving lighting technologies, familiarity with ENERGY STAR lighting, purchasing behavior with regard to CFLs, recall of the Connecticut ENERGY STAR Residential Lighting Program marketing messages, and opinions on energy efficient lighting. The third effort was an onsite survey of 59 homes to assess the saturation and penetration of energy-efficient CFLs in the residential market and the barriers to installing CFLs in other sockets.





Opinion Dynamics Corporation. "Delaware Statewide Residential Baseline Study." Prepared for Delaware Department of Natural Resources and Environmental Control. July 2012.

Summary: This report summarizes findings of a study sponsored by the Delaware Department of Natural Resources and Environmental Control to document the types of energy consuming equipment in residents' homes and awareness, attitudes, and knowledge of energy efficiency and conservation behaviors. The study characterized penetration, saturation, operating condition, and efficiency levels of major residential end uses including lighting, space heating and cooling, water heating, laundry and kitchen equipment, consumer electronics, and building envelope characteristics.

GDS Associates, Inc. "Pennsylvania Statewide Residential End-Use and Saturation Study." Prepared for The Pennsylvania Public Utility Commission.

Summary: This report summarizes the results of 488 onsite audits of single- and multi-family homes in Pennsylvania that collected data on the penetration and saturation of electric- and non-electric equipment and appliances and their energy efficiency levels, building shell characteristics, and lighting socket counts. 420 onsite surveys were conducted by the Statewide Evaluation Team (SWE) and 68 were conducted by Navigant for the 2011 PECO Residential Baseline Study. The objectives of the study were to identify the critical data collection needs from onsite audits that will be integral to future resource planning on energy efficiency activities in Pennsylvania. Participants were recruited based on housing type and monthly energy usage by study region.

NMR Group, Inc. "Rhode Island 2011 Baseline Study of Single-Family Residential New Construction." Prepared for National Grid. October 8, 2012.

Summary: This report summarizes the findings of a study of the characteristics of newly constructed single-family homes that were permitted under the 2009 International Energy Conservation Code (IECC) that did not participate in the Rhode Island Residential New Construction Program. The primary objective of the study was to updated baseline house assumptions used in calculating savings for homes that did participate in the program. The study conducted 40 onsite home audits and Home Energy Rating System (HERS) ratings were performed. Homeowners were also surveyed about the importance of having an energy-efficient home and their overall perceptions of the energy-efficiency of their home and its various components. The following characteristics were audited: general characteristics, building envelope, lighting, heating and cooling equipment, water heating, and appliances. For lighting, auditors collected information on the total number of screw-in CFL bulbs, pin-based CFL bulbs, fluorescent tubes, and incandescents in each fixture and ceiling in each home, and which of these bulbs were energy-efficient; auditors considered screw-in CFL bulbs, pin-based CFL bulbs, pin-based CFL bulbs, to be energy-efficient.

KEMA, Inc. "Final Evaluation Report: Upstream Lighting Program, Volume 1" Prepared for the California Public Utilities Commission, Energy Division. February 8, 2010.

DNV KEMA Energy and Sustainability. "New Hampshire CORE Residential ENERGY STAR® Lighting Program. Impact and Process Evaluation Report". Prepared for the New Hampshire Utilities. June 22, 2012

Summary: The main objectives of the impact evaluation included a) determining the gross energy savings due to NH RESL and determining updates for the engineering estimates used to track and calculate savings including installation rates, hours of use, coincidence factors and reduced wattage, and b) estimating the market saturation of efficient lighting by measuring counts of household sockets and lighting inventory. The objectives of the process evaluation included determining how effectively the program promoted energy-efficient lighting products using instant coupons and mail-in rebates and identifying opportunities for improvements to program operations.



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Navigant Consulting. "EmPOWER Maryland 2011 Evaluation Report. Chapter 5: Residential Lighting and Appliances." Submitted to Baltimore Gas & Electric, Potomac Electric Power Company, Delmarva Power, Southern Maryland Electric Cooperative and Potomac Edison. March 8, 2012 <u>http://www.neep.org/Assets/uploads/files/emv/emv-library/2012-3-</u> 8_EmPOWER_2011_Evaluation_Report.pdf

Summary: "The EmPOWER utilities' Residential Lighting and Appliance (L&A) programs were designed to reduce energy consumption and peak demand by increasing awareness and sales of ENERGY STAR®-qualified lighting and appliances"

NMR Group, Inc. "Process and Impact Evaluation of the Efficiency Maine Lighting Program." Prepared for Efficiency Maine. April 10, 2007.

Summary: The main objective of the impact evaluation was to provide Efficiency Maine with estimates of the impacts of the residential lighting program, including in-service rates, hours of use, wattage reduction, free-ridership, participant spillover, and measure life. The process evaluation objectives were to evaluate the effectiveness of the program's outreach and marketing strategies coupon and markdown strategies to provide recommendations for program improvements.

Efficiency Vermont and Massachusetts Program Administrators. Shelf Survey Data 2009 and 2010. Collected by Lockheed Martin.

NMR Group, Inc. "Massachusetts ENERGY STAR® Lighting Program: Early Impacts of EISA." Submitted to Cape Light Compact, NSTAR, National Grid, Unitil, Western Massachusetts Electric, and Energy Efficiency Advisory Council Consultants. June 12, 2013

Summary: This report summarizes the results of four different research efforts meant, in part, to identify the current and likely effects of EISA on the residential lighting market in Massachusetts. The research activities occurred from December 2011 through April 2013 and were completed for the Energy Efficiency Advisory Council Consultants and the Massachusetts Program Administrators. Five major topics: 1. Retailer and consumer awareness of the EISA lighting efficiency standards; 2. Effect of EISA on the availability of different types of general service light bulbs; 3. Effect of EISA on the purchases and use of general service light bulbs; 4. Potential stockpiling of incandescent bulbs in response to EISA; 5. Consumer understanding of the terms "lumens" and "warm white and cool white"

NMR Group, Inc. "Lighting Retailer, Supplier Perspectives on the Massachusetts ENERGY STAR® Lighting Program." Submitted to Cape Light Compact, National Grid, NSTAR, Unitil, Western Massachusetts Electric and Energy Efficiency Advisory Council Consultants. June, 2013. <u>http://www.ma-eeac.org/Docs/8.1_EMV%20Page/2013/Residential%20Program%20Studies/Residential%20Lighting%20Ret ailer%20Supplier%20Perspectives%20Final%20Report%20June%202013.pdf</u>

NMR Group, Inc. "Residential Lighting Shelf Survey and Pricing Analysis." Submitted to Cape Light Compact, National Grid, NSTAR Electric, Unitil, Western Massachusetts Electric Company, and Energy Efficiency Advisory Council Consultants. June 8, 2013 http://www.ma-

eeac.org/Docs/8.1_EMV%20Page/2013/Residential%20Program%20Studies/Residential%20Lighting%20Sh elf%20Survey%20and%20Pricing%20Analysis%20Final%20Report%206-8-13.pdf

Summary: DNV KEMA, working as a subcontractor to NMR Group (NMR) on the Massachusetts Residential Retail Products evaluation team, is pleased to submit this draft report of the findings from retailer and supplier interviews conducted in support of the evaluation of the 2011-2012 Massachusetts ENERGY STAR® Lighting Program.

Navigant Consulting. "EmPOWER Maryland 2011 Evaluation Report. Chapter 5: Residential Lighting and Appliances." Submitted to Baltimore Gas & Electric, Potomac Electric Power Company, Delmarva



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Power, Southern Maryland Electric Cooperative and Potomac Edison. March 8, 2012 http://www.neep.org/Assets/uploads/files/emv/emv-library/2012-3-

8_EmPOWER_2011_Evaluation_Report.pdf

Summary: On behalf of the Massachusetts ENERGY STAR® Lighting program administrators (PAs), the NMR Group, Inc. subcontracted with Cadmus and KEMA (collectively referred to as the Team) to perform research to assess the effect of the Mass Save® residential lighting program on the following:

- *CFL prices in the state, relative to competing lighting products.*
- The amount of shelf area dedicated to CFLs for participating retailers.
- The pricing, number of packages of bulbs, and shelf location of CFLs and LEDs relative to other lighting types in participating and former participating stores.
- Compare the results of the current survey to results from a similar survey conducted in 2010

State of Massachusetts Industry Practices and Policies on Energy Efficient Program Rebates/Incentives 1/25/2011, Tetra Tech <u>http://www.ma-</u>

eeac.org/Docs/8.1_EMV%20Page/2011/2011%20General%20Studies%20&%20Presentations/MA%20Rebate s%20Incentives%20Study%20Final%20MASTER%20012511.pdf

Summary: 1. The six Massachusetts Program Administrators offer incentives upstream, working with retailers to lower prices for efficient lighting products in the store. The Massachusetts Program Administrators also sponsor an on-line catalog where lighting products are offered for reduced prices to their customers; 2. Under MassSave's Program Administrators, incentive for Specialty CFL is \$3.24, incentive for standard CFL is \$1.35.

Result of the Multistate CFL Modeling Effort NY 9/25/2011 NMR

https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&ved=0CC4QFjAA&url= http%3A%2F%2Fwww.nyserda.ny.gov%2FEnergy-Data-and-Prices-Planning-and-Policy%2FProgram-Evaluation%2FWVE%24_Evaluation_Contractor_Departs%252011_Departs%25

Evaluation%2FNYE%24-Evaluation-Contractor-Reports%2F2011-Reports%2F-

<u>%2Fmedia%2FFiles%2FEDPPP%2FProgram%2520Evaluation%2F2011ContractorReports%2F2011%2520Multi%</u> 2520State%2520CFL%2520Modeling%2520Final.ashx&ei=qkGmUo6JDvC-

sQSxmYHwAQ&usg=AFQjCNF5VJ9qJzB1RgbBT96HyinVTF1ncA&sig2=AE13oUK0IYBpbsfkHuMikQ&bvm=bv.5 7752919,d.cWc

Summary: Contains information about current CFL saturation in New York (update to 2010); 2. Contains data about Comparison of Key Variables across Areas - CFL Related Factors

Massachusetts ENERGY STAR[®] Lighting Program: 2010 Annual Report - Final, Volume 2 Appendices E-G 6/15/2011 NMR http://www.ma-

<u>eeac.org/Docs/8.1_EMV%20Page/2011/2011%20Residential%20Studies/MA%20Res%20Lighting%202010%2</u> 0Eval%20Overall%20Rpt%20Vol%203.pdf

Summary: Residential Lighting Shelf Survey, Pricing Analysis, and Conjoint Results: The shelf-stocking study was performed by the evaluation team between September and December 2010. During visits to a representative sample of 95 stores in Massachusetts, we collected data on 2,849 CFL packages.

Massachusetts ENERGY STAR[®] Lighting Program: Early Impacts of EISA MA 6/12/2013 NMR <u>http://www.ma-</u>

eeac.org/Docs/8.1_EMV%20Page/2013/Residential%20Program%20Studies/Lighting%20Early%20Impacts% 20of%20EISA%20Final%20Report%206-12-13.pdf

Summary: 1. Retailer and consumer awareness of the EISA lighting efficiency standards

- 2. Effect of EISA on the availability of different types of general service light bulbs
- 3. Effect of EISA on the purchase and use of general service light bulbs
- 4. Potential stockpiling of incandescent bulbs in response to EISA

5. Consumer understanding of the terms "lumens" and "warm white and cool white"