ENERGY STAR Residential Light Fixtures: Program Updates, Trends & Opportunities

Alex Baker
Residential Lighting Program Manager

ENERGY STAR Lighting Partner Meeting
San Antonio, Texas
March 17-19, 2009

Outline

- Introduction/Market update
- Specification Development
- Program Administration Updates
- Quality Assurance Testing (QA4) Update
- Trends and Opportunities:
  - Retail opportunity
  - Advanced Lighting Package Updates
  - ARRA Opportunities with Fixtures
- Discussion Items

American Fluorescent

WYP Series

Bright Yin Huey Lighting Co., Ltd

AL0501

85080FSCF

85088FSCF

Maxim Lighting

Globe Electric

92120

Catalina Lighting

17431-000

17487-000

MaxLite

MLS13GUS

Good Earth Lighting

G4319 ABZ BAR

Quoizel

HC 8407IBFL

Progress Lighting

Westin Series

HeathCo

SL-5797-NB-A

Vaxcel International

ES-PD35924

Monte Carlo Fans

5DCR60BR

Cherry Tree Designs

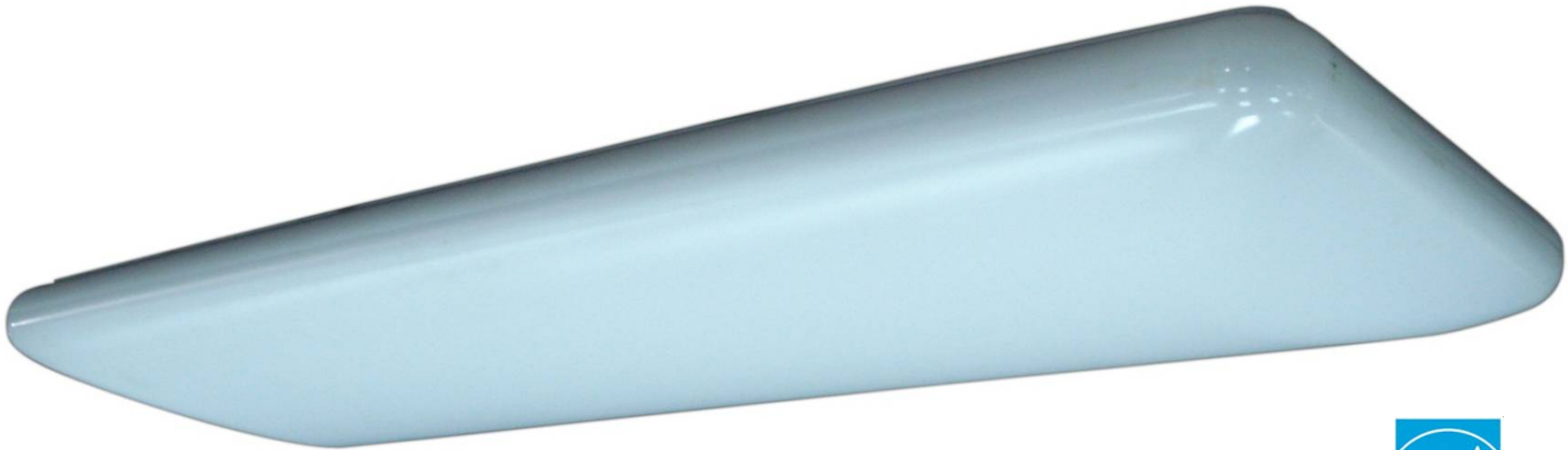
Strata

Bel Air Lighting

PL-2502 BN

Yisheng Electrical

C4432



Fairway Products

Efficient Lighting

EL-803-223

ENERGY STAR

Quorum
International

7-8222

Globe Electric

50690

HeathCo

PF-4166-SA

MaxLite

FauxCan

Fairway
Lighting

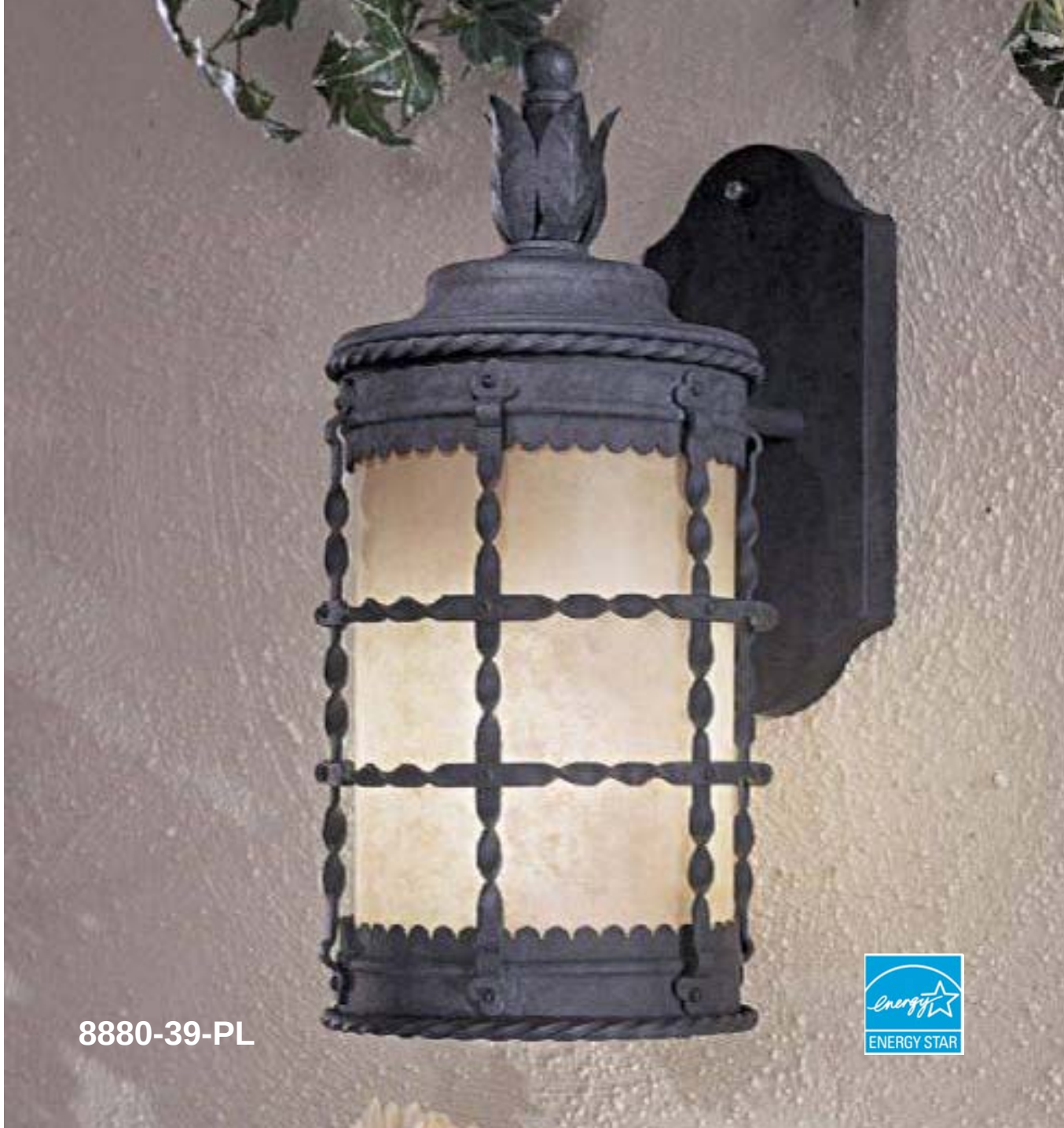
Satco/NUVO Lighting

60-3943

Design Solutions International

13667

Minka Lavery



Efficient Lighting

EL-235-313

Sea Gull Lighting

Sussex Collection

MaxLite

MLG13GU

Satco/NUVO Lighting

Empire Collection

ENERGY STAR

Minka Lavery

P038-604

Sea Gull Lighting

Winston Court Collection

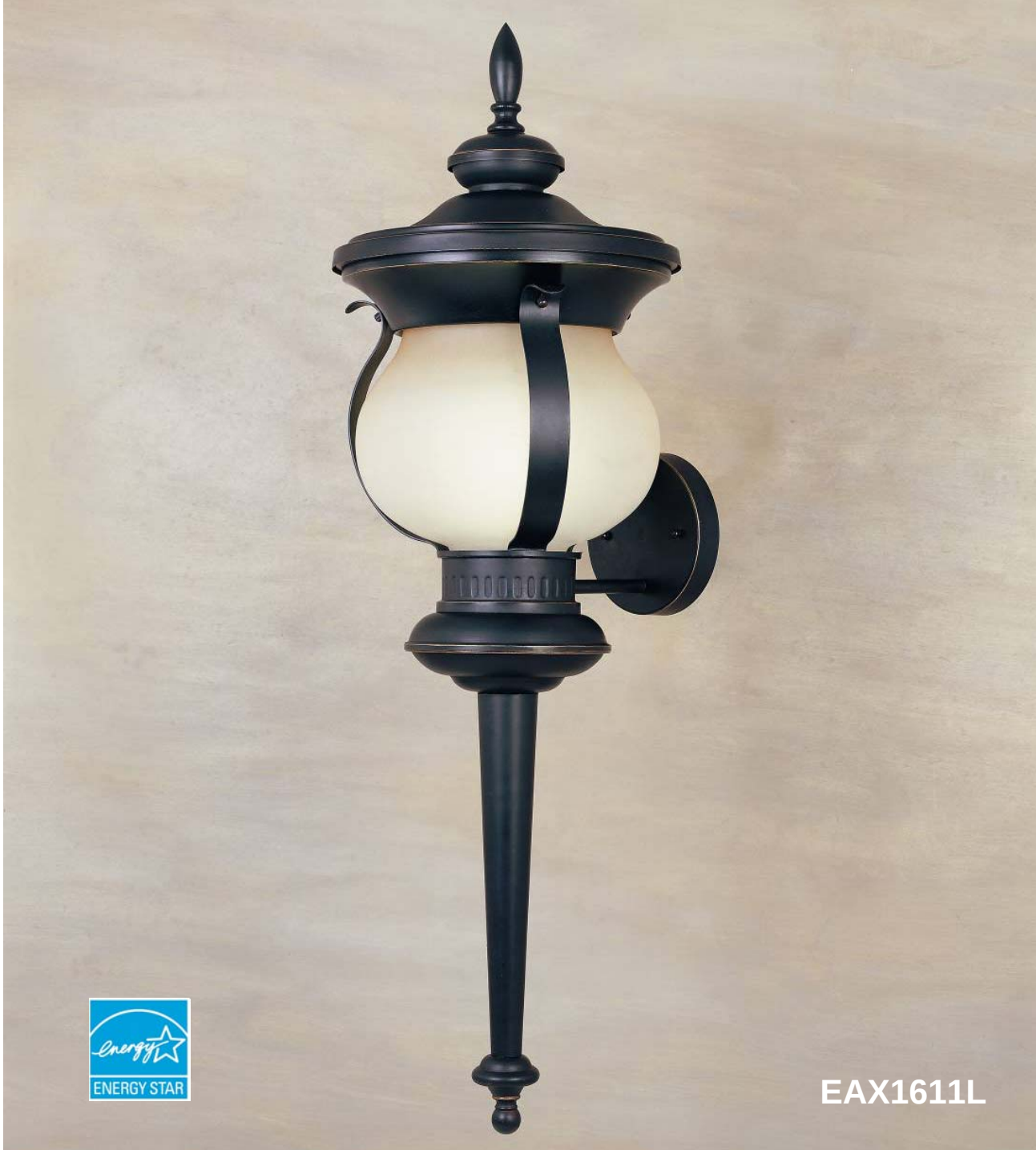
American Fluorescent

FAP Series

Monte Carlo Fans

5DCR52EP

Dong Guan
Jia Sheng



Progress Lighting

Westin Series

Grandrich Corp.

ES-205

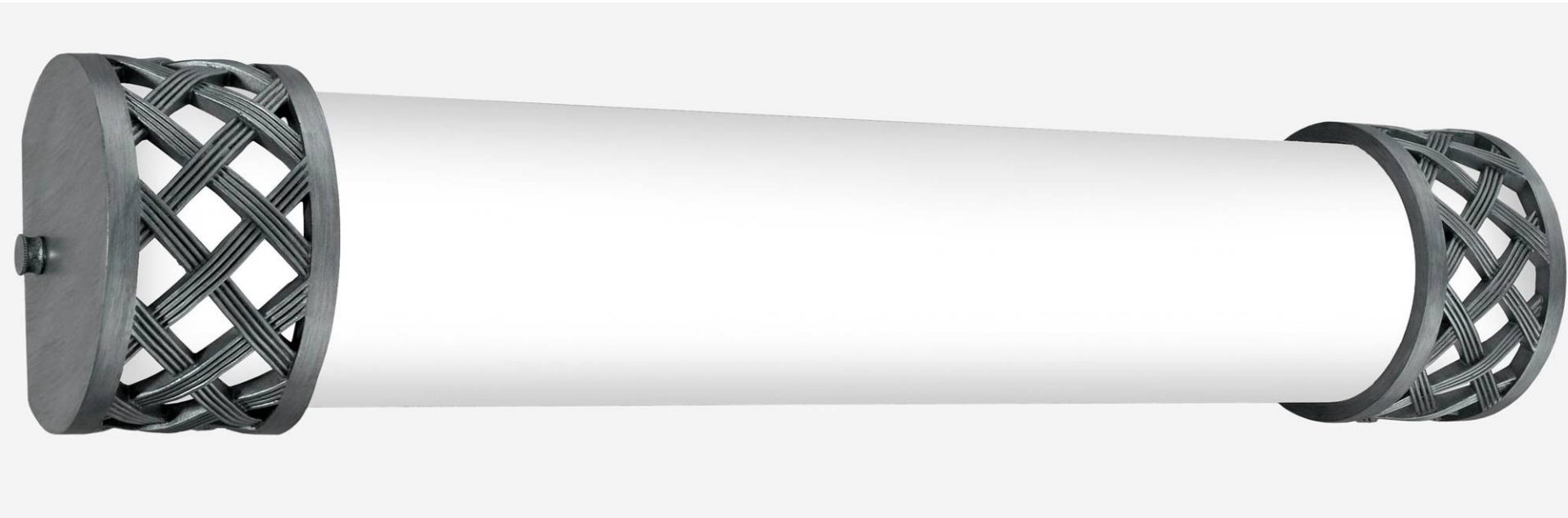
Fairway Products

301230AG

Globe Electric

56223_SIL & 56223_BLA

Good Earth Lighting



1324 T5 PWES HR

Bel Air Lighting

PL-5041 RT

American Fluorescent

Facets Series

Dimmable GU24

(qualification in process)

Lights of America

9012

ENERGY STAR

Globe Electric

68720

Quoizel

TFAR8407BEFL

GREAT JOB!

RLF Program: By the Numbers

- 8,200 models qualified last 12 months
- 19,000 total qualified fixture models
  - 7,000 models employ GU24 lamps
- 200+ qualified GU24 based integrated lamps
- 160 partners have qualified product
- 7.2% market share in 2007
- 15M units shipped in 2007

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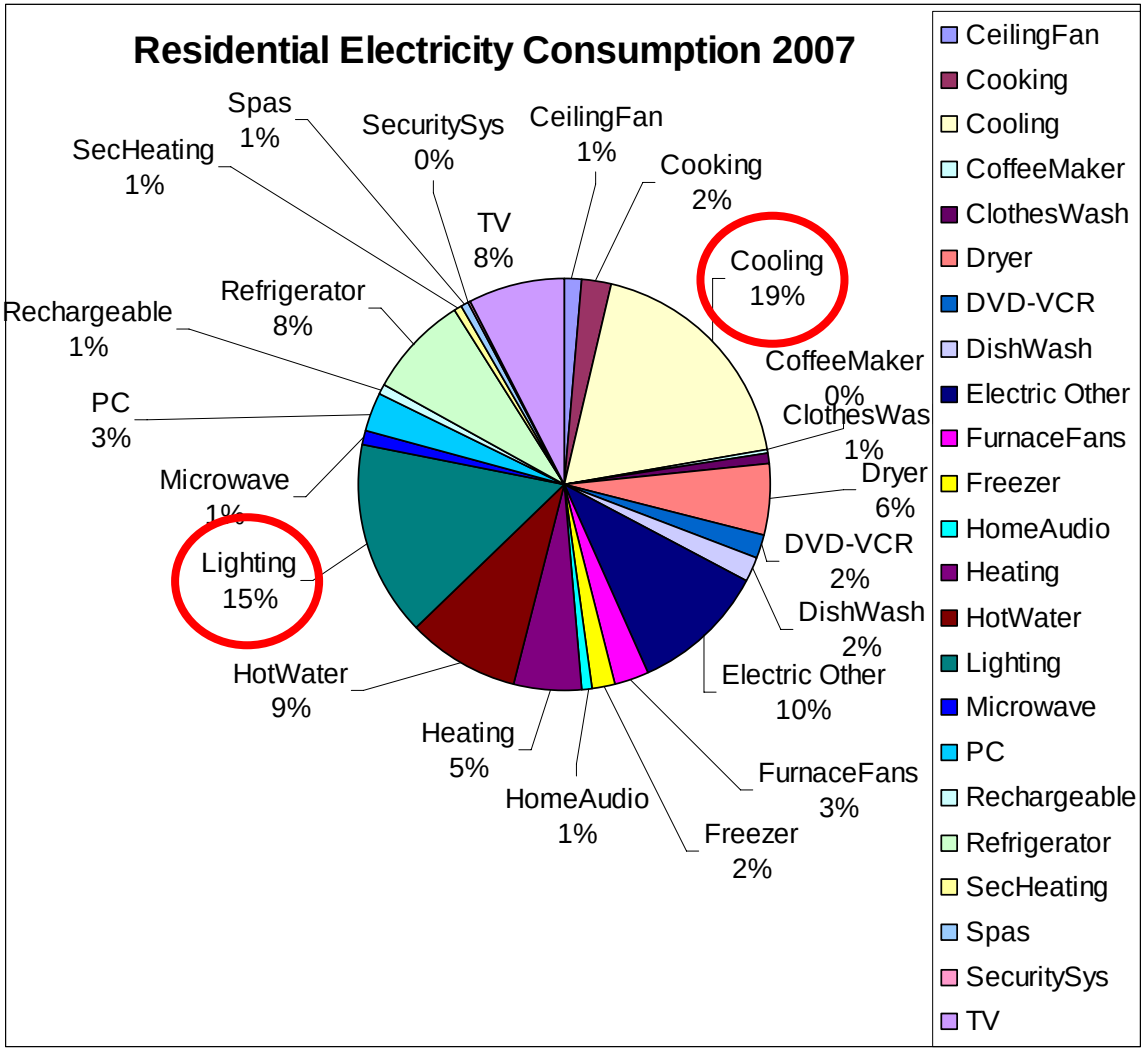
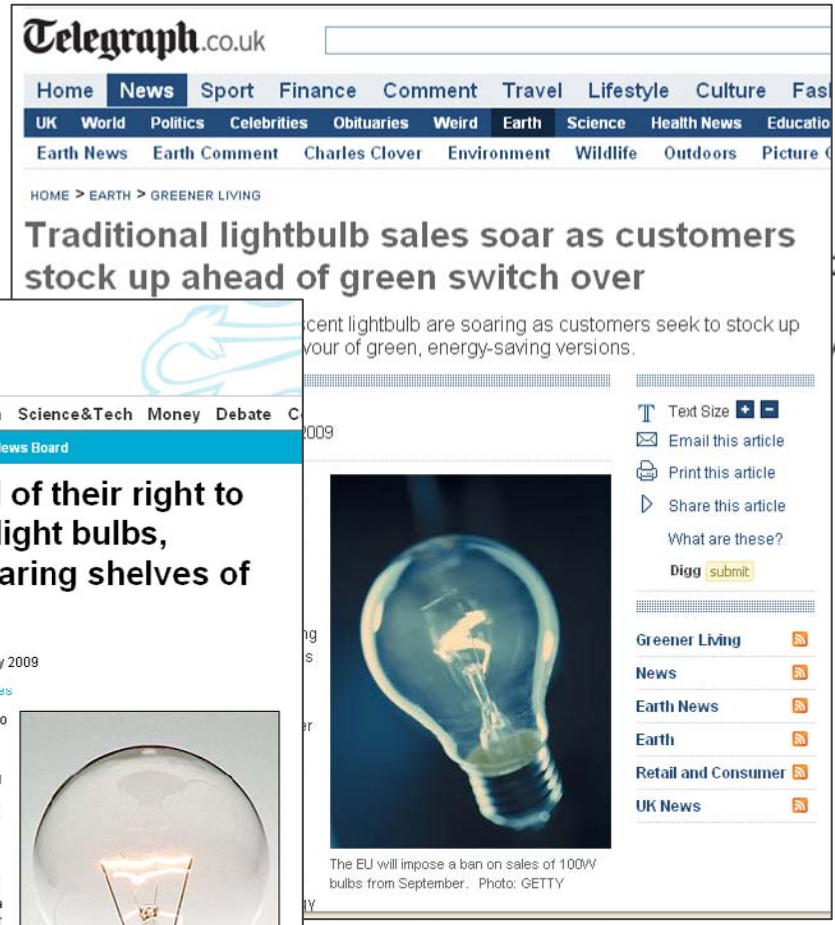
Reasons for Focusing on Fixtures



Source: EIA Annual Energy Outlook 2009 Early Release, Detailed Breakout from John Cymbalsky

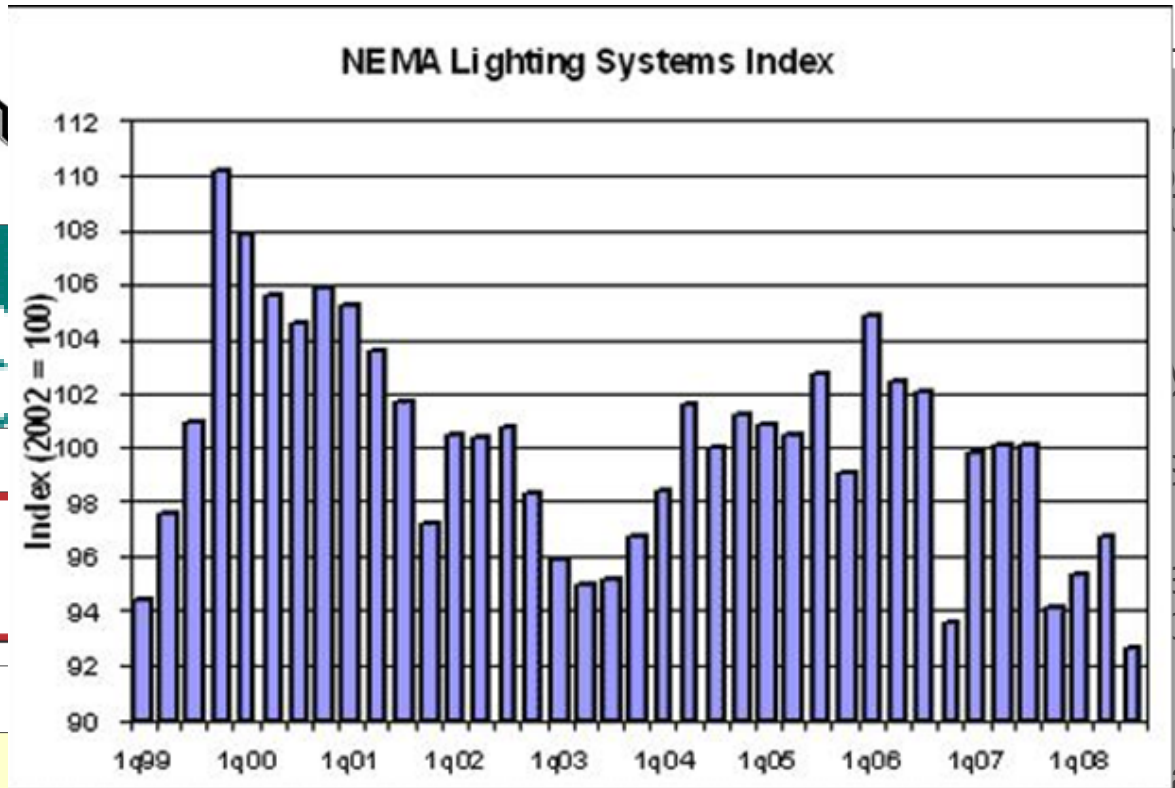
- lighting-associated electricity consumption remains high
- SCFL free ridership increasing, diminishing returns with SCFLs
- SCFLs provide no guarantees
- SCFL misapplication generates dissatisfaction
- Fixtures:
  - same or better savings
  - designed for source
  - enormous potential in new construction & remodeling
  - non-regressive

UK Incandescent Hoarding: US Next?



EPA

2009 Market Barriers



Low Last Year

rices but are
f foreclosed
ue to fall and

ystems Index

Systems Index

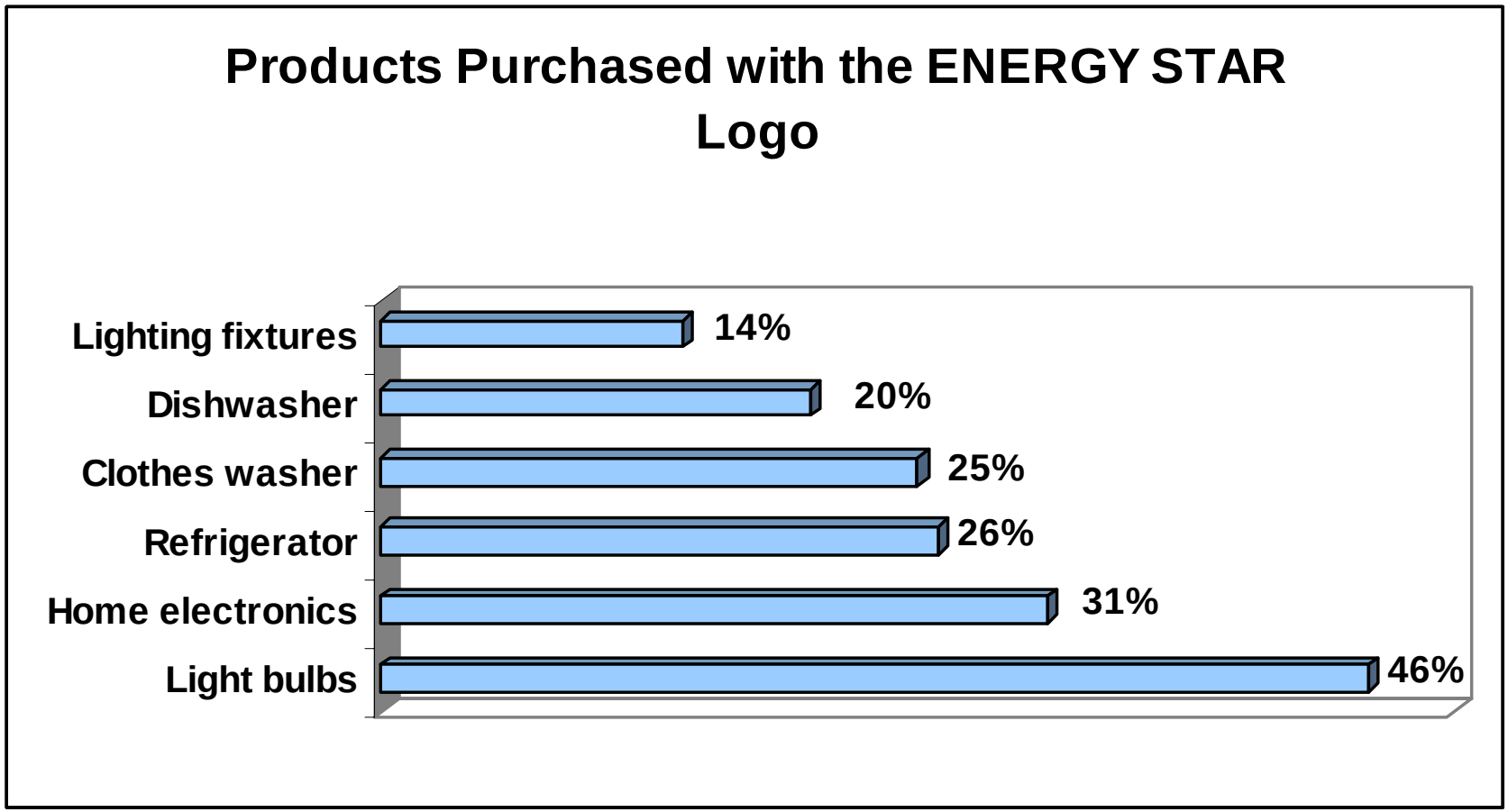
ents down
008

l, Philips:
average of
37% since April 08

- Big Four Account for 54% of Lighting

ENERGY STAR qualified fixtures reach 7.2% market share!

Recognition is Growing



Source: Schulman, Ronca, and Bucuvalas, Inc., (SRBI), and Research into Action, Inc. 2008 Energy Conservation, Efficiency and Demand Response, Figure 19.

GU24 Helps Energy Efficiency

- GU24 Base:
  - 200+ qualified GU24 lamps
  - Dimmable GU24 lamps now available
  - Globe, A-lamp, flame shapes (covered) now available
  - Replacement lamps stocked nationwide: The Home Depot, Lowe's, Menards, Ace Hardware, Amazon.com
  - ANSI standardization progressing:
    - ANSI approved February 18, 2009
    - ANSLG staff preparing for final editorial review

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Joint EPA/DOE Statement

JOINT EPA/DOE STATEMENT ON
ENERGY STAR SSL CRITERIA
FOR LIGHTING PARTNERS MEETING

March 16, 2009

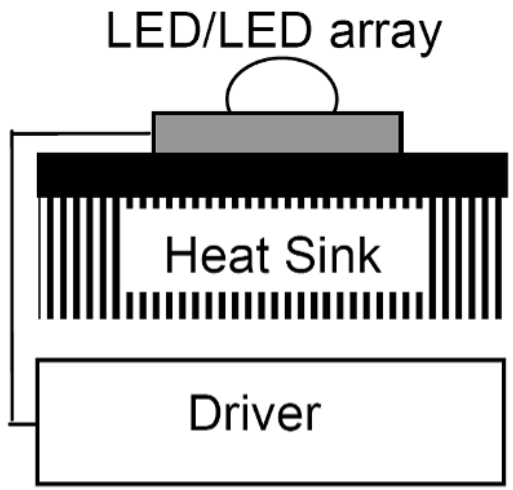
The administration is aware of issues with regard to ENERGY STAR criteria for Solid State Lighting products and is committed to addressing these issues and working with program stakeholders to continue to build on the success of the ENERGY STAR program and the benefits it provides in reducing energy use and avoiding emissions of greenhouse gases. Specifically, the EPA and DOE will resolve outstanding issues regarding interagency coordination and division of responsibilities within 45 calendar days.

Residential Light Fixtures V4.2

- Technical Amendment issued June 2, 2008
- Response to RLF manufacturing and retail Partners who identified a need:
  - LED fixtures that could meet RLF requirements but had no path to ENERGY STAR
  - Inconsistent with our technology-neutral approach to specification development
- Amended testing requirements:
  - To add test procedures appropriate for residential light fixtures employing LEDs (LED light engines)
  - To remove a competitive disadvantage for LED based residential light fixtures
- Scope: still limited to the residential segment

IESNA RP-16 Draft Definition of an LED Light Engine

6.8.5.5 **LED light engine** - An integrated assembly comprised of LED packages (components) or LED arrays (modules), LED driver, and other optical, thermal, mechanical and electrical components. The device is intended to connect directly to the branch circuit through a custom connector compatible with the LED luminaire for which it was designed and does not use an ANSI standard base.



Lighting Research Center / ASSIST

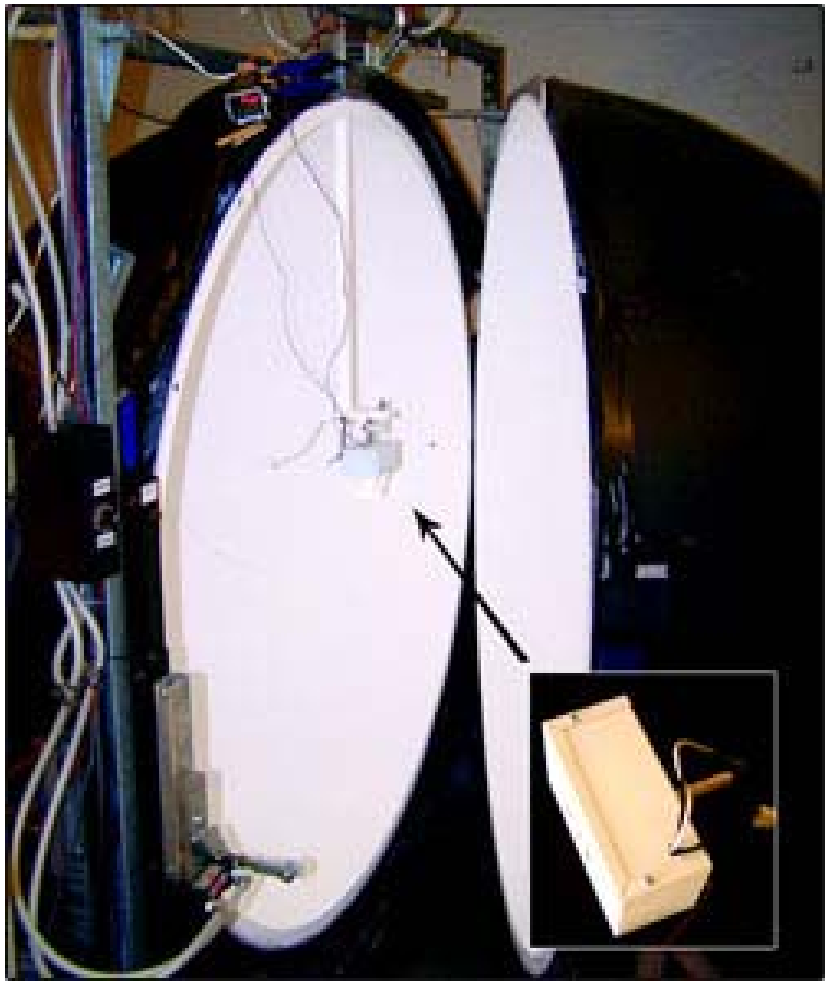
IESNA RP-16-05 Addendum b draft, December 2008

The Alliance for Solid-State Illumination Systems and Technologies (ASSIST)

Established in 2002 by the Lighting Research Center to:

- Advance the effective use of energy-efficient solid-state lighting.
- Speed the market acceptance of a new technology.
- Help LED technology to gain widespread use in lighting applications.

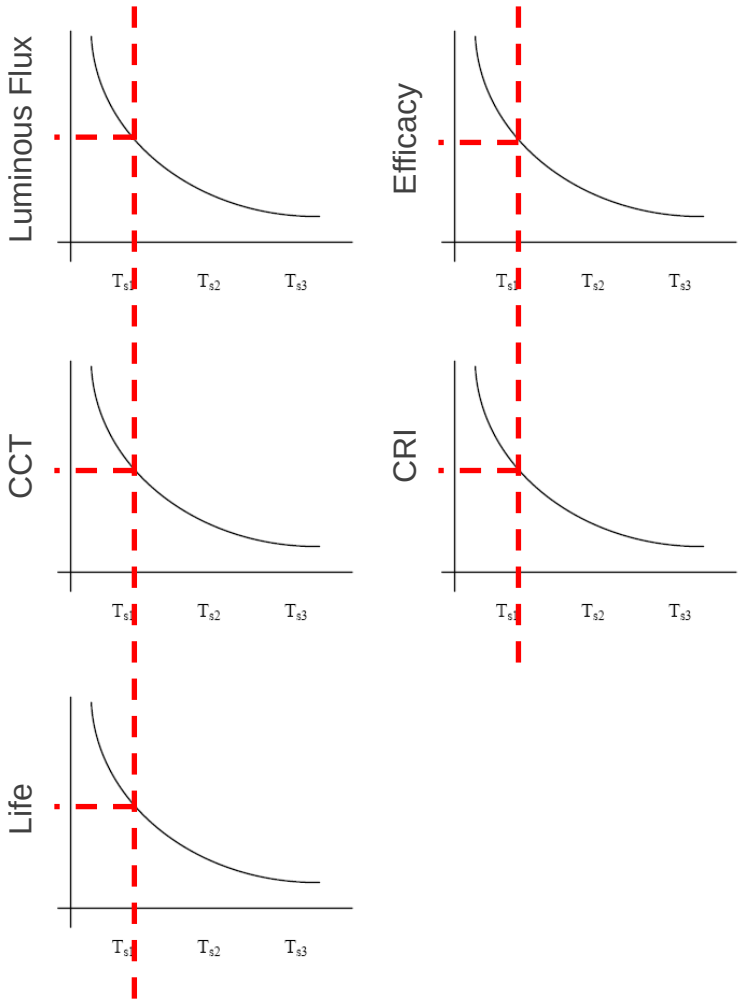
ASSIST: Recommendations for Testing and Evaluating White LED Light Engines



Lighting Research Center / ASSIST

- Elevated temperatures accomplished with a thermally controlled test box
- Feedback loop precisely controls heating circuitry to enable photometric and electrical performance measurements at 40%, 60% and 80% of T_{Jmax}

ASSIST: Recommendations for Testing and Evaluating White LED Light Engines



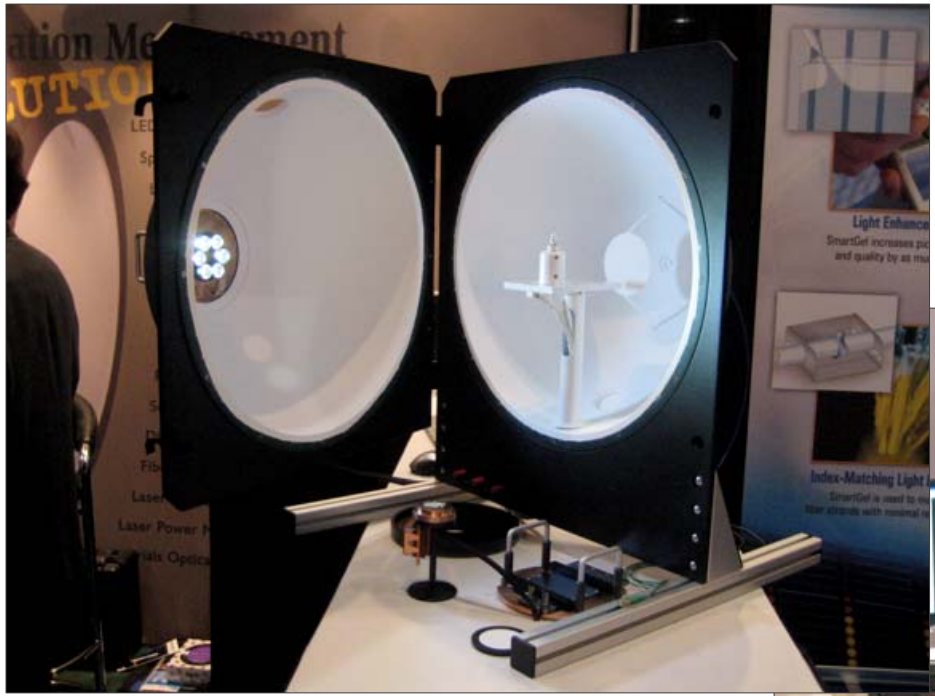
- Finally, LED light engine thermal performance is measured in situ (engine installed in fixture submitted for qualification)
- In situ thermal performance at 25°C (ambient) is compared to data curves to determine anticipated performance
- Example: in situ temperature is 63°C

Recent Test Results

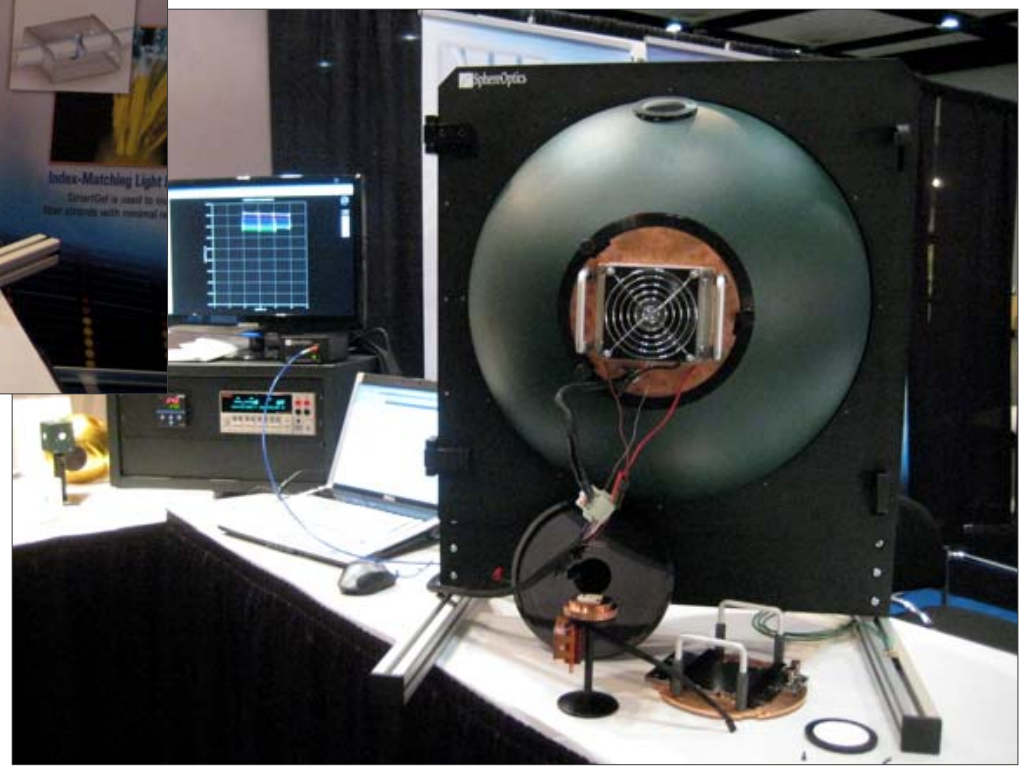
Unit Tested	Efficacy (lm/W)	CCT (K)	CRI	Power Factor	Ts (°C)
Fixed Track	37	2770 (a)	95	0.96	67.5
Porch Light 1	48	2760 (a)	85	0.96	60.5
Porch Light 2	29	3540 (b)	75	0.49	53.0
RLF V4.2 Requirement	***50***	***(a) 2725 ± 145*** ***(b) 3465 ± 245***	***≥ 75***	***≥ 0.7***	
LED Light Engine 1	34 31 27	3023 3024 3028	82 83 83	0.25 0.26 0.26*	60 90 120
LED Light Engine 2	36 32 29	3783 3808 3864	86 86 87	0.25 0.25 0.25*	60 90 115
LED Light Engine 3	35	3142	77	0.46	70

* Retesting due to suspected equipment problem

LED Light Engine Testing Equipment



Thermal Optical Characterization System

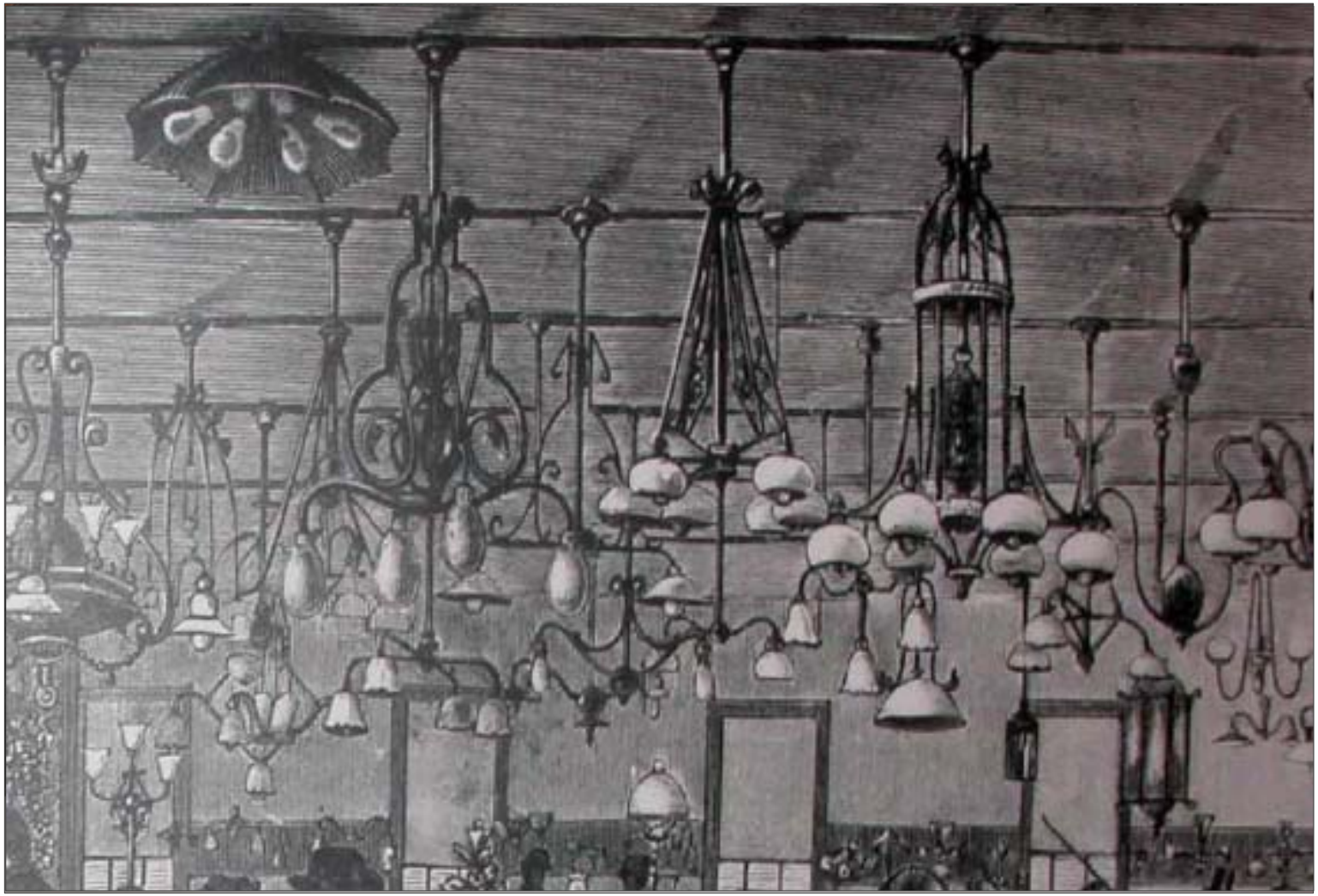


SphereOptics

EPA

Why LED Light Engines for ENERGY STAR?

The More Things Change…



…The More They Stay The Same

Residential Light Fixtures V4.2

- Two comment periods held after V4.2 amendment was made effective:
  - First concluded in August 2008
  - Second concluded in November 2008
- Comments received addressed three primary concerns:
  - CCT limits: requests to limit to warmer colors
  - Minimum light output: requests to set levels
  - Industry standards

Residential Light Fixtures
V4.3 Draft Final

- V4.3 Draft Final distributed March 4, 2009
  - LED Light Engine CCTs: 2700K, 3000K, 3500K, 4000K
    - Eliminated temperatures above 4000K
  - LED light engine minimum light output: 250 lm
    - Exceeds output of 25W incandescent lamp
    - Leaves manufacturing Partners the freedom to design efficient fixtures which do not warrant a large lumen package

Residential Light Fixtures
V4.3 Draft Final

- V4.3 Draft Final distributed March 4, 2009
  - Adopted LM-80, removed ASSIST Recommends life reference
  - EPA will continue to track and participate in IESNA development of standard based on ASSIST LED light engine test procedure
  - Partners and stakeholders encouraged to review and provide comment
  - Comment period extended from March 27 to April 10 to accommodate Partner requests

Ceiling Fans V2.2 / Vent Fans 2.1

- Ceiling Fans V2.2:
  - Added LED light engine provisions from RLF program
- Ceiling Fans: longer term:
  - leverage energy savings possible DC motor & induction motor fans
  - lighting requirements will keep pace with RLF
- Vent Fans V2.1:
  - Added LED light engine provisions from RLF program

Residential Lighting Controls

The Wattstopper

- Potential new product specification being examined by EPA
- Widely expressed interest from utility Partners looking for the ENERGY STAR mark
- Preliminary input gathered from controls manufacturers

Residential Lighting Controls

The Wattstopper

- EPA working with:
  - Lighting Research Center
  - California Lighting Technology Center
- Compatibility is key: qualified controls with ENERGY STAR…
  - Compact Fluorescent Lamps / Integral LED Lamps
  - Residential Light Fixtures
  - Solid State Lighting Fixtures
  - Vent Fans, Ceiling Fans

Residential Lighting Controls

The Wattstopper

- Potential Pitfalls:
  - Controls trickle current fries ballasts in CFL, RLF
  - Dimmers and dimmable CFLs are notoriously complex for consumers
  - Occupancy sensors in sunlit rooms can activate lighting unnecessarily
  - Complexities of selecting technology for applications
  - Timers can be wasteful due to bad user habits

Residential Lighting Controls

The Wattstopper

- Specification development process will seek Partner, stakeholder & DOE input
- Process has not formally begun
- Initial scope likely to be very limited, e.g. vacancy sensors
- Look for updates in 2009

ENERGY STAR
Homes Specification

- Third version of specification in development
- Advanced Lighting Package/fixtures were optional in the past
- Homes team exploring a lighting requirement as part of Homes spec
- First draft of specification should be released shortly
- Process expected to continue into 2010

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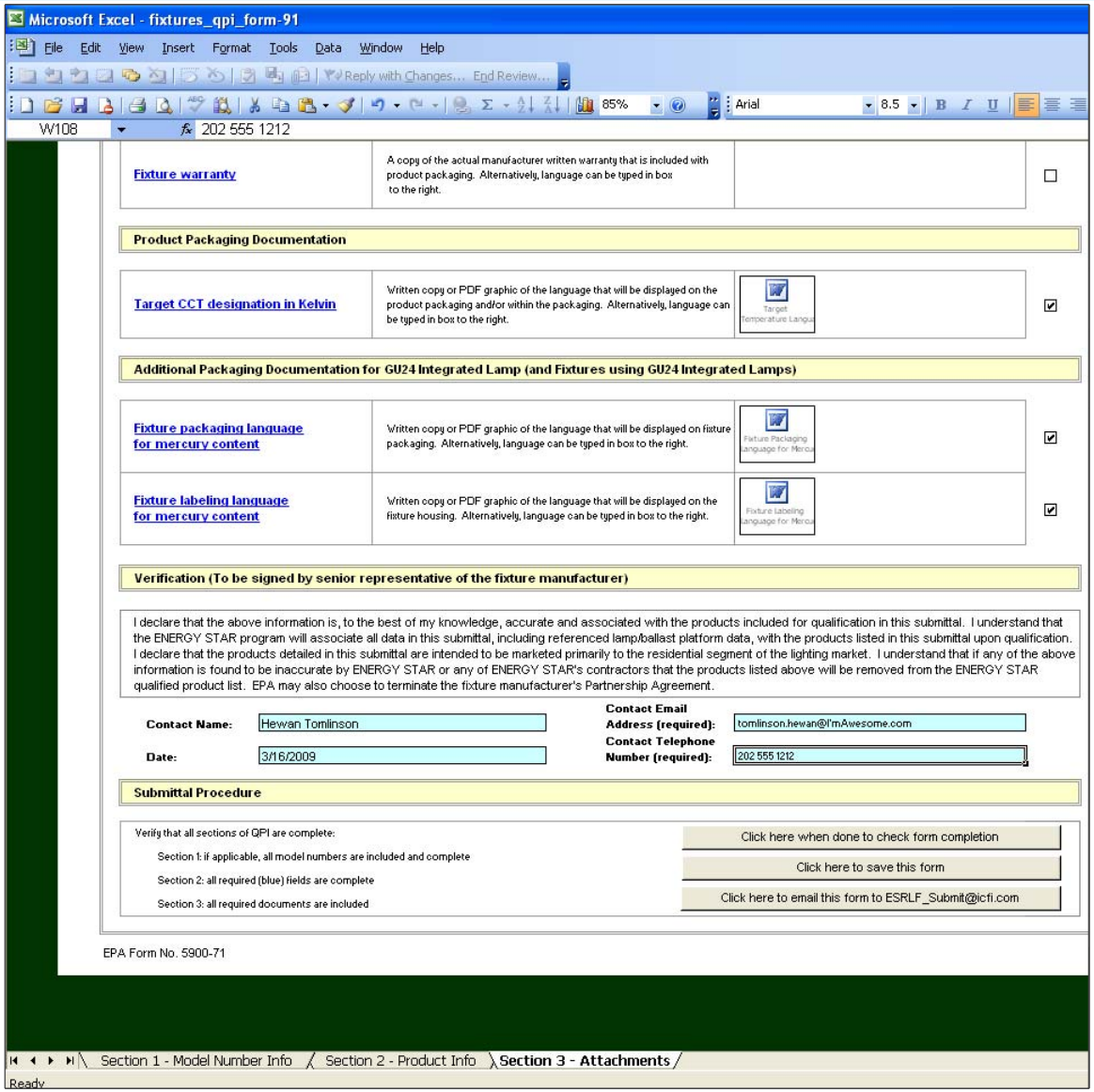
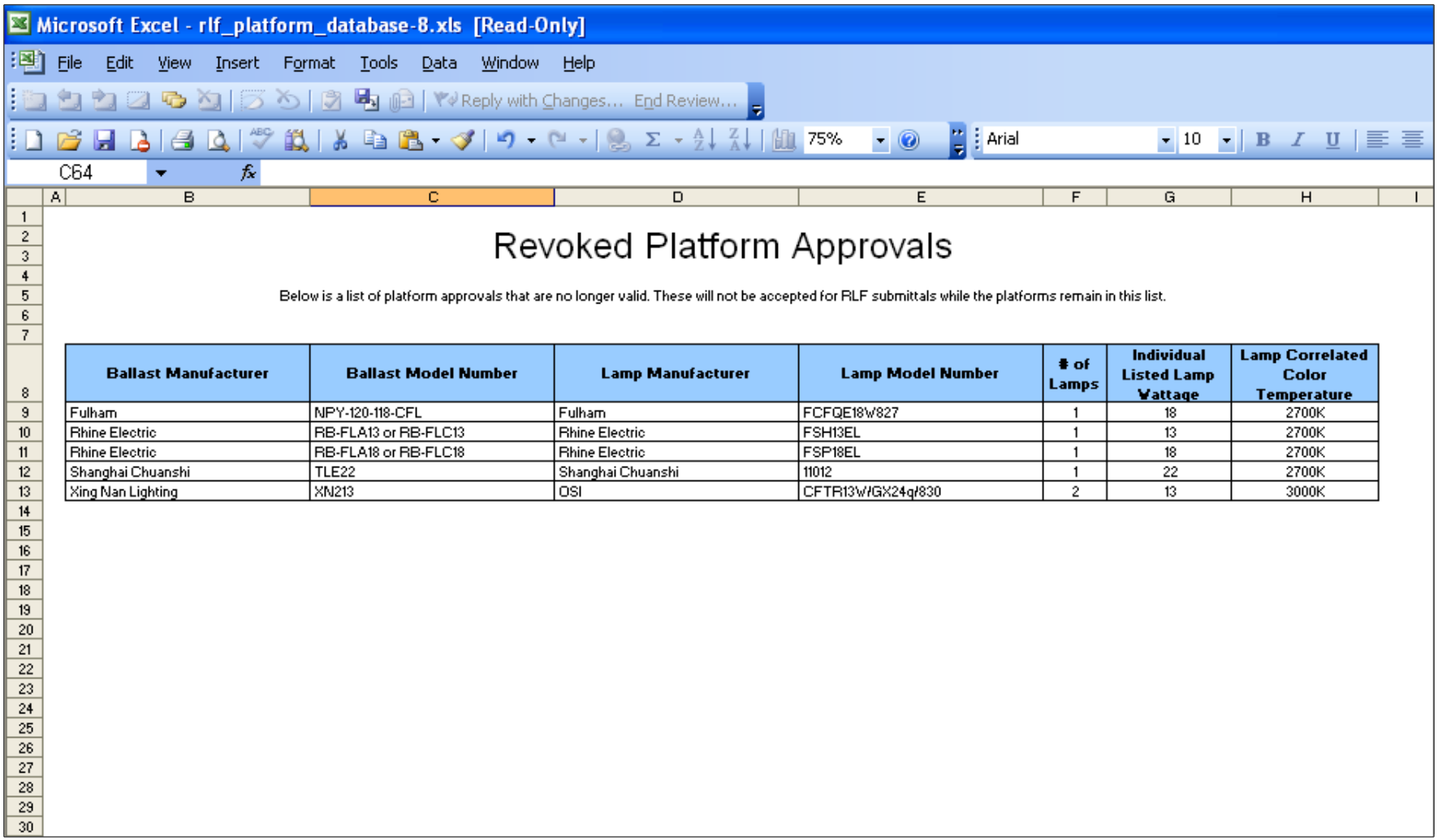
RLF QPI Smart Form



RLF Platform Database



Revoked Platform Approvals

Below is a list of platform approvals that are no longer valid. These will not be accepted for RLF submittals while the platforms remain in this list.

Ballast Manufacturer	Ballast Model Number	Lamp Manufacturer	Lamp Model Number	# of Lamps	Individual Listed Lamp Wattage	Lamp Correlated Color Temperature
Fulham	NPY-120-118-CFL	Fulham	FCFQE18W827	1	18	2700K
Rhine Electric	RB-FLA13 or RB-FLC13	Rhine Electric	FSH13EL	1	13	2700K
Rhine Electric	RB-FLA18 or RB-FLC18	Rhine Electric	FSP18EL	1	18	2700K
Shanghai Chuanshi	TLE22	Shanghai Chuanshi	11012	1	22	2700K
Xing Nan Lighting	XN213	OSI	CFTR13W/GX24q/830	2	13	3000K

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QA4 Round 1: Fixtures

	Lab	Product Packaging	Lamp Labeling	Efficacy	CCT	ANSI/IEC Lamp Base Type	Max. Ballast Case Temp	Lamp Start Time	CRI	1000 hr LM Check	4000 hr LM Test
Model 1.	Intertek	X	●	●	●	●	●	●	●	●	●
Model 2.	Intertek	X	N/A	●	●	●	●	●	●	●	●
Model 3.	Intertek	●	●	●	●	●	●	●	●	●	●
Model 4.	Intertek	X	X	●	●	●	●	●	●	●	●
Model 5.	UL	●	N/A	●	N/A	●	●	●	●	●	●
Model 6.	Intertek	X	X	●	●	●	●	●	●	●	●
Model 7.	Aurora	●	●	●	●	●	●	●	●	●	X
Model 8.	Intertek	X	X	●	X	●	●	●	●	●	X
Model 9.	BACL	N/A	N/A	●	●	●	●	●	●	●	●
Model 10.	BACL	●	N/A	●	N/A	●	●	●	N/A	N/A	N/A

Key
● : Pass
X : Fail
N/A : Not Applicable

QA4 Round 2: Platforms

	Lab	Product Packaging	Lamp Labeling	Efficacy	CCT	ANSI/IEC Lamp Base Type	Lamp Start Time	CRI	1000 hr LM Check	4000 HR LM Test		QA4 Testing Result
Model 1.	BACL	●	●	●	●	●	●	●	●	X		FAIL
Model 2.	NLTC	●	●	●	●	●	●	●	●	●		PASS
Model 3.	Intertek	N/A	●	●	●	●	●	●	●	X		FAIL
Model 4.	BACL	●	●	●	●	●	●	●	●	●		PASS
Model 5.	BACL	N/A	●	●	X	●	●	●	●	X		FAIL
Model 6.	AITL	N/A	●	●	●	●	●	●	●	●		PASS
Model 7.	NLTC	●	●	●	●	●	●	●	●	●		PASS
Model 8.	BACL	N/A	●	●	●	●	●	●	●	●		PASS
Model 9.	BACL	N/A	●	●	●	●	●	●	●	●		PASS
Model 10.	BACL	●	●	●	X	●	●	●	●	●		FAIL
Model 11.	*Non-compliant*											FAIL
Model 12.	*Non-compliant*											FAIL

KEY

●	Pass
X	Fail
N/A	Not Applicable

QA4 Rounds 3, 4 & 5

- Round 3:
  - (10) fixtures
  - in progress
- Round 4:
  - (12) GU24 lamps & other platforms
  - Just now receiving 1,000 hour data
- Round 5:
  - EPA seeking EEPS nominations
  - letter forthcoming this week
  - Will test 20 products total

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Retail: ENERGY STAR Qualified Portables

- GU24 replacement lamps stocked nationally at:
  - Amazon.com
  - Ace Hardware
  - The Home Depot
  - Lowe's
  - Menards
- GU24 is CA T20 compliant
- SCFLs are also CA T20 compliant but…
- ENERGY STAR gets you exposure to EEPS incentive dollars
- 200+ GU24 models including dimming
- Cadillac/Lexus of CFLs:
  - 10,000 hour life
  - Passed ACTV testing

Globe Electric

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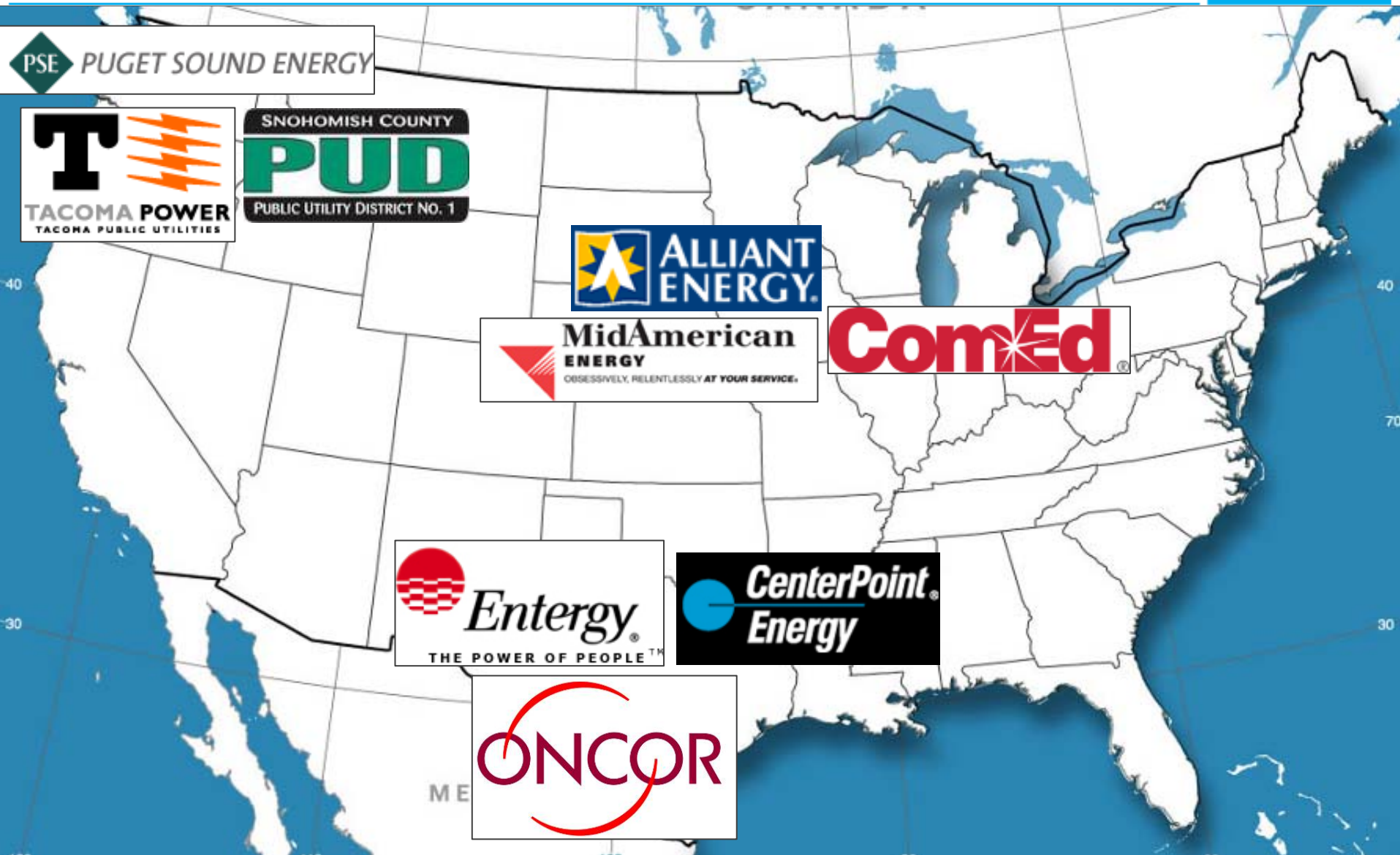
ENERGY STAR
Advanced Lighting Package

- Lighting packages that consist of a **minimum of 60% ENERGY STAR qualified hard-wired fixtures**
  - In addition to the light fixture requirements, all installed ceiling fans must be ENERGY STAR qualified
  - ENERGY STAR qualified ceiling fan light kits (not just the fan) can be counted toward the Advanced Lighting Package 60% requirement

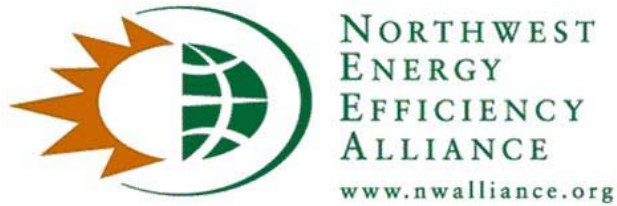
EPA

Advanced Lighting Package Utility Incentive Programs



Northwest Energy Efficiency Alliance (NEEA) Pilot Project

- Four pilot projects involving:
  - Leveraging Advocates
  - Training & Educating Builder Reps
  - Training & Educating Showroom Staff
  - Building a Model Home & Conducting a Media Event



EPA

Puget Sound Energy

- Incentive Details:
  - $20/fixture incentive
  - $1,000 model home incentive including the Advanced Lighting Package.
  - $100 Advanced Lighting Package Bonus for Builders for the first 5 homes with the Advanced Lighting Package installed
- Program Summary:
  - 7,500 fixtures incentivized in 2007
  - 20,000 fixtures incentivized in 2008.
  - 43 Advanced Lighting Packages to be installed for 2009

Tacoma Power

- Incentive Details
  - $20/fixture incentive
  - $150 bonus for builders that meet the Advanced Lighting Package
- Program Summary
  - In 2008, installed 88 Advanced Lighting Packages by partnering with Tacoma Housing Authority on the Salishan development (Hope 6)
  - Plan for another 88 Advanced Lighting Packages to be installed in early 2009 and 88 additional packages to be installed by end of 2009.

Snohomish PUD

- Incentive Details
  - $10/fixture incentive, up to $280 per home
  - Advanced Lighting Package included in its ENERGY STAR New Homes Program; includes a bonus incentive for including an Advanced Lighting Package with a minimum of 28 ENERGY STAR fixtures
- Program Summary
  - Program goal is to have 20 homes that meet the Advanced Lighting Package in 2009

Seattle City Light

- Incentive Details
  - $20/fixture incentive through Seattle Lighting and Alexander/North Coast Electric
- Program Summary
  - In 2008, 2,750 fixtures were incentivized

Clark Public Utilities

- Incentive Details
  - $10/fixture incentive, up to $500 per home
- Program Summary
  - Program goal for 2009 is 800+ fixtures

ENERGY STAR Advanced Lighting Package In Multi-Family

LEARN MORE AT energystar.gov

Tacoma Power Teams with the Tacoma Housing Authority to Bring the ENERGY STAR® Advanced Lighting Package to Previously Untapped Markets

The Tacoma Housing Authority, working in tandem with Tacoma Power, leveraged the ENERGY STAR Advanced Lighting Package to bring ENERGY STAR qualified lighting to over 600 new multifamily housing units in the Salishan Redevelopment Project—a large-scale public housing renovation in eastern Tacoma, Washington. The fourth and most recently completed phase of this project features 90 multifamily units all built with the Advanced Lighting Package. The ENERGY STAR Advanced Lighting Package requires that at least 60% of the hard-wired lighting fixtures and all of the ceiling fans meet the ENERGY STAR guidelines for energy-efficiency and quality.

When compared to an incandescent lighting package, the Advanced Lighting Package installations in this phase are saving 156,000 kWh annually, which is equivalent to avoiding the greenhouse gas emissions from approximately 15,000 cars. The occupants from each of these units are realizing energy cost savings of around $115 a year as a result of the Advanced Lighting Package, which is also a success—saving money for tenants who need it the most. The Tacoma Housing Authority (THA) is able to install the Advanced Lighting Package without a high per unit capital cost because of the average number of 14 fixtures per home is comparatively low and offset by the incentives provided by Tacoma Power. There are several key components to THA's success in the Salishan development that stand out as unique:

(1.) THA's close relationship with its local utility, Tacoma Power;
(2.) Tacoma Power's experience with the lighting distribution channel; and,
(3.) THA's innovative approach to engaging the public housing market.

Leveraging Utility Incentives

A grant from the U.S. Department for Housing and Urban Development (HUD) allowed THA to completely rebuild the Salishan Development. After the grant was awarded, the housing authority approached Tacoma Power to learn about incentive opportunities to stretch its funding dollars. Recognizing an opportunity for substantial energy savings in the, Tacoma Power evaluated the Salishan Redevelopment Project's plans to ensure that each unit would qualify for the Advanced Lighting Package and actively engaged with the housing authority. Tacoma Power offered a $150 incentive for the Advanced Lighting Package and connected the housing authority to lighting supplier, North Coast/Alexander Lighting, which participated in the region's $20 point-of-purchase incentive for ENERGY STAR qualified fixtures. The bundled incentives reduced the costs yet further and made the switch from incandescent to fluorescent lighting financially feasible.

Get More for Less, Buy in Bulk!

ENERGY STAR has tools available to assist with bulk purchases. The ENERGY STAR Quantity Quotes website helps institutional customers like multifamily building owners, public housing authorities, state and local governments, universities and others locate ENERGY STAR qualified products, including Compact Fluorescent Lightbulbs (CFLs) and Light Fixtures. Product purchasers can use this site to submit purchase requests for ENERGY STAR qualified products, quickly receive multiple quotes from product suppliers, make contact with suppliers, and negotiate discounted prices.

Further information on Quantity Quotes is available at: www.quantityquotes.net

Engaging Key Market Actors

THA was able to utilize ENERGY STAR decorative fixtures at costs comparable to incandescent equivalents by working with established businesses across the supply chain. The housing authority leveraged Tacoma Power's established history with the lighting industry to understand the distribution channel and specify ENERGY STAR qualified fixtures from reliable suppliers. Through its supplier, they ordered ENERGY STAR qualified fixtures from MaxLite, Progress Lighting, and Brownlee. All of these manufacturers work closely with the builder market and, their products are familiar to electrical contractors which eases installation.

Advanced Lighting Package Declaration for Builders

This Bennett Homes House features the ENERGY STAR® Advanced Lighting Package

BENNETT Living Architecture

PUGET SOUND ENERGY

This Bennett Homes house features the ENERGY STAR **Advanced Lighting Package**, which means that more than 60% of the light fixtures and all of the ceiling fans are ENERGY STAR qualified.

The benefits of the ENERGY STAR **Advanced Lighting Package** at 21 Green St., Efficiency, WA 00000, include:

- **Savings of more than $131 per year in energy costs** compared to an equivalent all-incandescent lighting package.*
- ENERGY STAR qualified fixtures use approximately 75% less energy than standard incandescent fixtures.
- ENERGY STAR qualified light fixtures generate about 75% less heat, reducing expensive home cooling needs and keeping you more comfortable.
- Light bulbs in ENERGY STAR qualified light fixtures last about ten times longer than standard incandescent bulbs. This means fewer bulb changes in hard to reach places.
- ENERGY STAR qualified light fixtures carry two-year warranties—twice the industry average.

With an ENERGY STAR **Advanced Lighting Package**, 6 out of 10 light fixtures and all ceiling fans are ENERGY STAR qualified, using less energy, saving you money and keeping your family more comfortable.

By including the ENERGY STAR **Advanced Lighting Package**, Bennett Homes helps reduce greenhouse gas emissions and saves customers money on their utility bills.

Products that earn the ENERGY STAR® prevent greenhouse gas emissions by meeting strict energy efficiency guidelines set by the U.S. Environmental Protection Agency and the U.S. Department of Energy.
www.energystar.gov

WE SELL ENERGY STAR

- Designed to be provided to every homeowner to show the savings they are achieving by having the Advanced Lighting Package installed
- Provides a tangible record of the home's energy savings due to the Advanced Lighting Package
- Can be included in the welcome packet of documentation at each home's closing
- Also can be posted as information in each model home

Customized per home address

Customized for each builder

Includes local utility logo (if desired)

Savings Customized per the utility rate and fixtures installed at the home address

This Bennett Homes House features the ENERGY STAR® Advanced Lighting Package

BENNETT Living Architecture

PUGET SOUND ENERGY The Energy To Do Great Things

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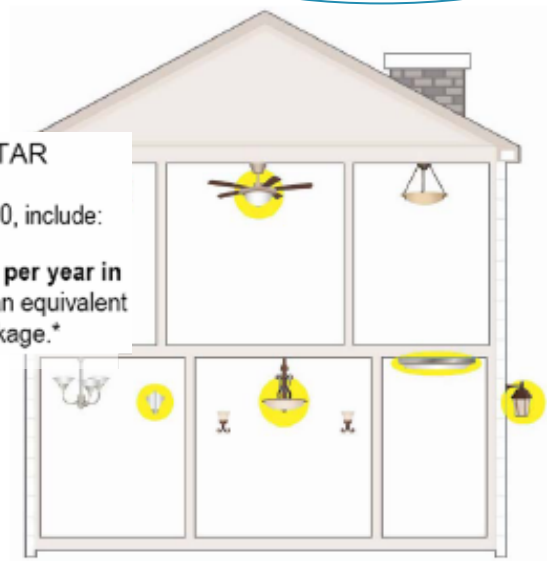

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*This Advanced Lighting Package consists of 18 ENERGY STAR qualified fixtures. Savings estimate assumes fixtures operating for 3 hours per day, at the local rate of $0.08 per kilowatt-hour. All savings assumptions are available upon request. Packages declared by third parties, but not verified by US EPA.

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WE SELL ENERGY STAR

Outline

- Introduction/Market update
- Specification Development
- Program Administration Updates
- Quality Assurance Testing (QA4) Update
- Trends and Opportunities:
  - Retail opportunity
  - Advanced Lighting Package Updates
  - ARRA Opportunities with Fixtures
- Discussion Items

ARRA Opportunities: HUD

Agency /Department	Agency Office	Title	Description	Funding Amount	Funding Available through
Department of Housing and Urban Development	Public and Indian Housing	Public Housing Capital Fund	• Available by competition for priority investments, including those that leverage private sector funding or financing for renovations and energy conservation retrofit investments. • Housing authorities shall give priority to capital projects that can award contracts based on bid within 120 days from the date funds are made available to the public housing authorities.	$1 billion	9/30/2011
Department of Housing and Urban Development	Public and Indian Housing	Native American Housing Block Grants	• $255 million distributed according to the formula used in the fiscal year 2008. • These funds shall be used for new construction, acquisition, rehabilitation including energy efficiency and conservation, and infrastructure development. • Priority to contacts that can be awarded within 180 days.	$510 million	9/30/2009
Department of Housing and Urban Development	Office of Affordable Housing Preservation	Assisted Housing Stability and Energy and Green Retrofit Investments	• Energy retrofit investment grants and loans for owners who receive project-based assistance for the Section 8 Project-Based program. • Of this amount, $250 million will support a program to upgrade HUD-sponsored low-income housing to increase energy efficiency.	$2.25 billion	within 2 years of receipt of funds by owners

ARRA Opportunities: DOD

Agency /Department	Agency Office	Title	Description	Funding Amount	Funding Available through
Department of Defense	Military Construction and Veterans Affairs	Military Construction, Navy and Marine Corps	• Planning and design of military construction projects. • The Secretary of Defense within 30 days must submit to the Committees on Appropriations of both Houses an expenditure plan.	• $100 million for troop housing • $100 million for energy conservation and alternative energy projects.	9/20/2013
Department of Defense	Military Construction and Veterans Affairs	Military Construction, Air Force	• Planning and design of military construction projects, with $100 million for troop housing. • The Secretary of Defense, within 30 days, must submit to the Committees on Appropriations of both Houses an expenditure plan.	• $100 million. • Energy efficiency not called out, though large troop housing opportunity.	9/20/2013
Department of Defense	Military Construction and Veterans Affairs	Military Construction, Defense-wide	• Energy Conservation Investment Program. • The Secretary of Defense, within 30 days, must submit to the Committees on Appropriations of both Houses an expenditure plan. • Unclear is this covers residential.	$120 million	9/20/2013
Department of Defense	Military Construction and Veterans Affairs	Family Housing Construction, Army	• Planning and design, and military construction projects in the US not otherwise authorized by law. • Within 30 days, Secretary of Defense submits to Appropriation Committee a plan for funds under this heading. • Energy efficiency not mentioned.	• $34,507,000 Army • $80,100,000 Air Force	9/20/2013
Department of Defense	Military Construction and Veterans Affairs	Family Housing Operation and Maintenance, Army	Maintenance and repair and minor construction projects	• $3,932,000 Army • $16,461,000 Air Force	No end date listed
Department of Defense	Operation and Maintenance	Operation and Maintenance	• Improve, repair, and modernize DOD facilities. • Restore and modernize real property to include barracks. • Invest in the energy efficiency of DOD facilities	• $1,474,525,000 Army • $657,051,000M Navy • $113,865,000 Marines • $1,095,959,000 Air Force • $98,269,000 Army Reserve • $55,083,000 Navy Reserve • $39,909,000 Marine Corps Reserve • $13,187,000 Air Force Reserve • $266,304,000 Army National Guard • $25,848,000 Air National Guard	9/20/2010

ARRA Opportunities: DOE

Agency /Department	Agency Office	Title	Description	Funding Amount	Funding Available through
Department of Energy	Energy Efficiency and Renewable Energy	State Energy Program	• Funding provided under existing State Energy Program authorization. • For adoption and support of "building energy (codes) for residential buildings that meet or exceed the most recently published International Energy Conservation Code, or achieves equivalent or greater energy savings." • Grants contingent on state commitments to reform utility regulation to encourage utility investment in EE, and adoption of latest building codes plus 90% compliance plan	$3.1 billion	No end date listed
Department of Energy	Energy Efficiency and Renewable Energy	Energy Efficiency Community Block Grants	• New program • Provides grants to cities 35,000 or larger, or counties 200,000 or larger.	• $3.2 billion. • 28% goes to state energy offices, partly to support governments smaller than 35,000.	No end date listed
Department of Energy	Energy Efficiency and Renewable Energy	Energy Star Product Rebates	• Allocates $300 million for this program, • Money goes to states for rebates or other incentives for consumer purchase of residential Energy Star products.	$300 million	No end date listed

ARRA Opportunities: DOE

Agency /Department	Agency Office	Title	Description	Funding Amount	Funding Available through
Department of Energy	Energy Efficiency and Renewable Energy	Discretionary Spending	• Bonus: Alex Baker	$1 billion	No end date listed

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Discussion Items

- Items to consider:
  - V4.3 draft final / LED light engines
  - Lamp shipment requirement, esp: GU24
  - Photosensor requirement, in light of CA T24
  - Residential lighting controls specification:
    - Scope: types of controls
    - Compatibility requirements
    - Fit in EEPS program plans

Thank You!

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ENERGY STAR
HIGH EFFICIENCY
HAUTE EFFICACITÉ

ENERGY STAR® and Lighting: A Canadian Update

San Antonio, Texas

March, 2009

ENERGY STAR Qualified

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Compact Fluorescent Lamps

- Version 4.0

Residential Fixtures

- Only up to version 4.1

Decorative Light Strings

- Version 1.4
- Proposing to regulate in Canada in next amendment

Solid State Lighting (LED)

- Version 1.1

Traffic Signals and Exit Signs

- Regulated in Canada - Harmonized with the U.S.

Regulating Lighting Products

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Latest Amendment to Energy Efficiency Regulations adopted on Dec. 24th, 2008:

- Torchieres (additional performance level and Tier II)
- Traffic Signals and Pedestrian Modules
- Ceiling Fans with integrated lighting and Ceiling Fan light kits
- General Service Lamps

Next amendments will cover:

- Updating the MEPS for reflector lamps
- General service fluorescent lamps
- Ceiling fans Tier II
- New standards for DLS and HID ballasts

Details on Canada's regulations: oee.nrcan.gc.ca/regulations

Canadian vs. U.S. MEPS for GSL

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- Standard based on Formula: Minimum Efficacy required is a function of the lamp lumen output
- At lumen output of current 40, 60, 75, and 100 watt lamps, both standards are equivalent
- Canada covers 250 to 2600 lumens (US is 310 to 2600)
- Same products will be eliminated in the U.S. and Canada
- Similar exemptions
- Minimum life of 1000 hours required for both countries
- CRI > 80% for both countries
- Difference in the modified spectrum lamp requirements: Canada requires a “reference” lamp for testing efficacy of modified spectrum lamp

Canada's Priorities for 2009

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- Lamp labelling
  - Labelling study underway
- Increase market penetration of E* qualified residential fixtures – including Lighting for Tomorrow winners
- Market strategy for solid state lighting
- Outdoor lighting initiatives

Note: Several of these items will be discussed at our second National **Lighting Summit** scheduled on **May 26, 2009 in Ottawa**

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