What’s so Special About Specialty Bulbs?

ENERGY STAR Products Partner Meeting
Charlotte, NC
September 12, 2019
Lighting Partner Engagement – Thank you!
LED Lamp Performance

• As of December 2018:
  – 724 models tested
  – 126 models disqualified
• 2015-2018 DQ rate: 17%
• 2018 DQ rate: 13%
LED Lamp Performance

- To date, 132 OEMs have been tested
- In 2018:
  - ½ of OEMs had 0% DQ rates
  - 5% reduction in DQ rate from 2017
- 2019 ENERGY STAR special recognition award for outstanding verification testing results as an LED bulb supplier: Xiamen Longstar Lighting Company, Ltd.
  (2018 award winner: Feit Electric)
Special OEM Recognition

SPECIAL RECOGNITION—OUTSTANDING ENERGY STAR LED ORIGINAL EQUIPMENT MANUFACTURER
2019 ENERGY STAR® AWARD

Xiamen Longstar Lighting Co.

In recognition of outstanding 2018 verification testing results as an ENERGY STAR LED bulb supplier.

Ann Bailey
Chief, ENERGY STAR Labeling Branch
U.S. Environmental Protection Agency
OEM Compliance Rate Notices

• EPA is implementing heightened oversight with LED bulbs (previously reduced CFL DQ rate by 37%)
• 2019 compliance rate letters issued to 62 OEMs (2018 VT DQ rates)
• Partners are encouraged to inquire about rates when selecting bulb sourcing
• The 2019 LED Lamp OEM Assessment can be found at www.energystar.gov/integrity
The Star of Energy Efficiency Programs
About 60% of residential U.S. sockets still contain an inefficient light bulb.
How can utility programs achieve savings in most states by continuing to run lighting programs?

- A focus on underserved communities.
- Directing incentives to specialty bulbs.
What’s so Special About Specialty Bulbs?

Daniel Rogers, LC, IES, LEED AP

12 September 2019
Specialty Bulbs

Specialty

Directional

Decorative
Directional

- 1.7 billion directional sockets (2018)
  - Increasing by ~5% annually
- 69% filled by inefficient sources
- 16% filled by LED
- LED market share will increase to 60% by 2025
  - Inefficient, directional light sources will decrease by ~26%
Decorative

- Nearly 2 billion decorative sockets (2018)
  - Increasing ~3% annually
- 88% filled by inefficient sources
- 5% filled by LED
- LED market share will increase to 20% by 2025
  - Inefficient, decorative light sources will increase by ~6%
Specialty lamps account for over half of 2018 ENERGY STAR lamp shipments.

### Top Specialty Lamp Shapes

<table>
<thead>
<tr>
<th>Of LED sales:</th>
<th>ALL technologies:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. BR</td>
<td>1. B</td>
</tr>
<tr>
<td>2. G</td>
<td>2. G</td>
</tr>
<tr>
<td>3. B</td>
<td>3. BR</td>
</tr>
<tr>
<td>4. PAR</td>
<td>4. CA</td>
</tr>
<tr>
<td>5. MR/MRX</td>
<td>5. PAR</td>
</tr>
<tr>
<td>6. CA</td>
<td>6. BA</td>
</tr>
</tbody>
</table>
Incremental Cost (LED vs Incandescent)

Apex Analytics, LLC: 2018 stats based on nearly 480 million lamps sold in the U.S.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Candelabra</th>
<th>Globe</th>
<th>Reflector</th>
<th>MSB A-line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average LED Price</td>
<td>$3.12</td>
<td>$3.47</td>
<td>$4.16</td>
<td>$2.35</td>
</tr>
<tr>
<td>Incremental Cost</td>
<td>$2.22</td>
<td>$1.92</td>
<td>$0.73</td>
<td>$0.71</td>
</tr>
</tbody>
</table>
## Estimated Unit Energy Savings

**Incandescent to LED (Watts)**

<table>
<thead>
<tr>
<th>Lumen Bin</th>
<th>Candle</th>
<th>Globe</th>
<th>Reflector</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;2600</td>
<td>219</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1490-2600</td>
<td>130</td>
<td>136</td>
<td></td>
</tr>
<tr>
<td>1050-1489</td>
<td>76</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>750-1049</td>
<td>64</td>
<td>54</td>
<td>54</td>
</tr>
<tr>
<td>310-749</td>
<td>43</td>
<td>35</td>
<td>36</td>
</tr>
<tr>
<td>0-309</td>
<td>31</td>
<td>21</td>
<td>22</td>
</tr>
</tbody>
</table>

## Percentage of 2018 Sales*

*As captured by Apex Analytics, LLC
## Estimated Unit Energy Savings

### Halogen vs LED (Watts)

<table>
<thead>
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<th>Candle</th>
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<th>Reflector</th>
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</thead>
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<tr>
<td>&gt;2600</td>
<td>189</td>
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<tr>
<td>1490-2600</td>
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<td>56</td>
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<tr>
<td>0-309</td>
<td>27</td>
<td>14</td>
<td>15</td>
</tr>
</tbody>
</table>

## Percentage of 2018 Sales*

*As captured by Apex Analytics, LLC
# Energy Savings Potential

by Specialty Lamp Subtype and ANSI Lamp Shape, by Technology \((TWh/\text{year})\)

<table>
<thead>
<tr>
<th>Subtype (ANSI Shapes)</th>
<th>Candle (B/BA/C/CA/F)</th>
<th>Globe (G)</th>
<th>Reflector (BR/R)</th>
<th>Reflector (PAR)</th>
<th>Edison (ST)</th>
<th>Reflect or (MR/MRX)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Savings Potential - HAL</td>
<td>12</td>
<td>218</td>
<td>326</td>
<td>96</td>
<td>1</td>
<td>58</td>
</tr>
<tr>
<td>Total Savings Potential - INC</td>
<td>1,592</td>
<td>598</td>
<td>261</td>
<td>77</td>
<td>106</td>
<td>46</td>
</tr>
<tr>
<td>Total Savings Potential</td>
<td>1,604</td>
<td>816</td>
<td>587</td>
<td>173</td>
<td>107</td>
<td>104</td>
</tr>
</tbody>
</table>

Assumes 1.9 operating hours per day.
Energy Savings Potential

by ANSI Lamp Shape ($TWh/year$)

1,200
1,000
800
600
400
200

PAR  BA  CA  BR  G  B
Importance of Lighting Programs

Residential Lighting Program

Turned On

Filament Sales

Decrease

LED Sales

Increase significantly

Turned Off

Increase

Decrease significantly
Specialty Bulb Programs

It is possible to quickly incorporate or shift to Specialty
• Lower volume / rate of sales
• Higher Cost to Incentivize than Standard

<table>
<thead>
<tr>
<th>Large Retailers</th>
<th>Small Hardware and Dollar Stores</th>
</tr>
</thead>
<tbody>
<tr>
<td>More Specialty SKUs</td>
<td>Fewer Specialty SKUs*</td>
</tr>
<tr>
<td>Higher $ to incentivize</td>
<td>Lower $ to incentivize</td>
</tr>
</tbody>
</table>

• Include lamp shape on promotional materials
• Off-shelf promotional opportunities?

*BRs just coming online at some dollar stores
Thank You!

Daniel Rogers, LC, IES, LEED AP
(908) 233-0554
lighting@energystar.gov
Let’s get started.
What’s So Special About Specialty Bulbs?
Why People Need Specialty Bulbs?

ENERGY STAR LED Specialty Bulbs Models

**Candelabra**
- 4W LED Candelabra
- 330 Lumens
- 15,000 hrs
- Replaces 40W Incandescent Candelabra
- 330 Lumens
- 1,000 hrs

**Globe**
- 5W LED Globe
- 450 Lumens
- 15,000 hrs
- Replaces 40W Incandescent G25
- 450 Lumens
- 1,000 hrs

**3-WAY**
- 14W LED 3-WAY
- 1500 Lumens
- 25,000 hrs
- Replaces 50/100/150W Incandescent 3-WAY
- 1500 Lumens
- 1,000 hrs

**Reflector**
- 8W LED BR30
- 670 Lumens
- 25,000 hrs
- Replaces 65W Incandescent BR30
- 700 Lumens
- 1,000 hrs
Directional & Reflector LED Bulbs with ADVANCED FEATURES
Motion/Occupancy Sensor • Dusk to Dawn • Voice-Enabled

Motion/Occupancy Sensor Reflector

8W LED BR30
Motion/Occupancy
650 Lumens
25,000 hrs
Replaces 65W Incandescent BR30
650 Lumens
1,000 hrs

Dusk to Dawn Directional PAR38

15W LED PAR38
Dusk to Dawn
1250 Lumens
25,000 hrs
Replaces 120W Incandescent PAR38
1250 Lumens
1,000 hrs

Motion/Occupancy Sensor Directional PAR38

13W LED PAR38
Motion/Occupancy
1050 Lumens
25,000 hrs
Replaces 100W Incandescent PAR38
1050 Lumens
1000 hrs

Voice-Enabled Reflector

8W LED BR30
Voice-Enabled
670 Lumens
25,000 hrs
Replaces 65W Incandescent BR30
700 Lumens
1,000 hrs
Specialty Bulbs are Everywhere!
Creating IMPULSE PURCHASES

Educate retailers to merchandise specialty bulbs in order to create “Impulse Sales”.

When retailers merchandise specialty bulbs effectively, consumer “Impulse Purchases” occur.
Consumer IMPULSE PURCHASES
SUCCESS

I am going to install these now and start saving on my utility bill!
2018-2019 SALES LIFT
Candelabra Single Pack vs Candelabra 4 Pack • Merchandised for “Impulse Sales”
Mass Saves ENERGY STAR Lighting Initiative

LET'S ALL WORK TOGETHER TO FILL AVAILABLE SOCKETS WITH SPECIALTY BULBS IN THE YEARS TO COME!
SPECIALTY LIGHTING: PROGRAM DESIGN
BEST PRACTICES

Dan Cote – Portfolio Strategist, CLEAResult
ENERGY STAR® Partner Meeting – September 2019
TODAY’S AGENDA

- Product options and standards
- Key considerations for determining program viability
- Incentive strategy and best practices
- Where should I be offering incentives?
Product Options and Standards

• What types of LED products are considered “specialty”?
  • Reflectors (BR, PAR, R, MR, ER)
  • Decorative (B, BA, CA, F, G16-½, G-25, G-30, M14, S)
  • 3-way lamps
  • Retrofit kits
  • Dusk-to-dawn lights
  • Fixtures (hard-wired, interior, exterior, desk lamps)
  • Nightlights
  • Decorative light strings
  • Holiday lights
  • Task lights

Remember…

ENERGY STAR® certification ensures product quality!
Is a Specialty Lighting Program Right for Me?

**KEY CONSIDERATIONS**

- Are the majority of specialty lighting sockets in my service territory already LED?
- Are both inefficient and efficient lighting options readily available for customers to purchase?
- Does the efficient lighting option cost more than the inefficient lighting option?

- **Socket saturation**
- **Consumer purchase options**
- **Incremental cost**
Socket Saturation

KEY CONSIDERATIONS

Socket saturation will vary by region

- How long has the program been active?
- How aggressively has it been promoted?

When you look at efficient lighting saturation, you need to consider both LEDs and CFLs.

Specialty products make up 30%+ of bulbs on shelf

% of Product Facings by Product Type by Retailer Type

- Small hardware
  - Efficient: 40%
  - Inefficient: 60%

- Membership club
  - Efficient: 50%
  - Inefficient: 50%

- Mass merchandise
  - Efficient: 60%
  - Inefficient: 40%

- Do-it-yourself
  - Efficient: 70%
  - Inefficient: 30%
Incremental Cost

Decorative Incremental Measure Cost

- Efficient MSRP per Bulb
- Inefficient MSRP per Bulb
- IMC
Specialty Lighting Incentive Strategy and Best Practices

• Offer incentives on a range of wattages and color temperatures for each product type
• Some products may require higher incentives than others
• Some products are best promoted through seasonal incentives
• Off-shelf displays lead to greater sponsor attribution and sales volumes
• Sales through the dollar channel typically result in higher NTG
• Your goal should be to meet customers when and where they choose to shop
Where Are Specialty Lighting Products Available?

EVERYWHERE
### Quick Recap...

<table>
<thead>
<tr>
<th>Program Fit</th>
<th>Ensure a specialty lighting program is appropriate for your service territory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Incentives</td>
<td>Align incentives with incremental cost of the product</td>
</tr>
<tr>
<td>Product Offering</td>
<td>Diversify your product offering</td>
</tr>
<tr>
<td>Partners</td>
<td>Work with all retailers and manufacturers that sell and produce specialty lighting products</td>
</tr>
</tbody>
</table>
THANK YOU

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