UL’s Newly Developed Safety Certification Service for Horticultural Lighting

By Ed Joseph / Principal Engineer - Lighting

To address the needs of manufacturers that offer lighting equipment for the horticultural industry, UL established a new safety Certification category for Horticultural luminaires: IFAU. This new category offers manufacturers of horticultural lighting a way to clearly distinguish their UL Listed specialty lighting equipment from those Certifications applicable to lighting intended for general illumination of indoor and outdoor spaces. In addition to this new Certification category, UL developed construction, performance and marking requirements specific to horticultural lighting for reasons explained within this article.

Horticultural lighting is designed specifically for growing plants and vegetables. Unlike lighting equipment designed for the illumination of indoor and outdoor spaces occupied by people, known as general illumination lighting, horticultural lighting is application specific and is considered to be a form of specialty lighting.

Commercial growing operations are expanding at a rapid pace throughout North America. As UL and the lighting industry work to develop and bring safe lighting equipment to this rapidly advancing market, we are collectively learning that not all of the current safety requirements that exist for general illumination lighting are appropriate for horticultural lighting. On the other hand, additional considerations are needed to address the different installation and wiring practices; severe environmental conditions such...

continued on page 3 >
The Lighting industry is indeed global. There are, of course, major global brands but regional/local companies continue to expand their markets and footprints. UL has a major global presence with more employees outside North American than inside, and as I travel around the world I meet amazing people facing a common challenge: To remain competitive, manufacturers and retailers need to achieve rapid entry of safe, high performing products into the global marketplace. Our team strives to help overcome these challenges by being the industry leading provider of high-value safety, performance and expert services to enable this to happen. Below you will see some of our recent efforts to build global networks and partnerships in support of the growing global market.

Kind Regards,

Brian Ferriol
Director of Global Appliances, HVAC/R and Lighting
(cover story continued)

UL’s Newly Developed Safety Certification Service for Horticultural Lighting

high humidity, dust, chemicals vapors and elevated ambient temperatures; and unique/tunable light output characteristics (intensity and wavelength) associated with horticultural lighting.

UL will leverage its Collaborative Standards Development System (CSDS) to publish an Outline of Investigation for Horticultural Lighting. UL will work with members of the horticultural lighting industry to further develop the requirements into a UL Standard.

In addition to UL’s safety Certification service, UL also offers customized performance and photometric testing services for horticultural lighting equipment as well. These services result in a test report targeted towards the horticultural lighting industry, including photon flux and spectrum details to allow growers to make the best decision on the wavelengths of light needed to optimize growth for their crops. For more details on horticultural lighting performance, see the article in Lumen Insights Issue 3 -2016. Also, to better serve the needs of UL’s horticultural lighting customers, UL participates in the American Society for Agricultural and Biological Engineers (ASABE) working groups for horticultural lighting testing and plans to expand performance and photometric testing services when the ASABE group finalizes their test methods and metrics.

To learn more about UL’s new Safety Certification service or other performance and photometric testing services for horticultural lighting equipment, please contact us at LightingInfo@UL.com

UL now Offers Salt fog and Cyclic Corrosion Testing Solutions for all Product Categories

UL’s Performance Testing Lab in Allentown, PA has expanded it testing capabilities to include Salt Fog and Cyclic Corrosion Testing (CCT).

CCT is the closest likeness to actual laboratory testing for naturally occurring corrosion. Cyclic tests consistently give better correlation to outdoors than conventional salt spray exposure and is effective for evaluating a variety of corrosion methods, including general, galvanic and crevice corrosion.

Some typical applications that require CCT are Automotive, Electronics, Aerospace, Plastics, Textiles, Solar, Paint, Adhesives, Furniture and more.

In CCT, a UL customer’s products could be exposed to a variety of different environments in a repetitive cycle. For example, an exposure for Prohesion could consist of cycling between salt fog and dry conditions. The automotive industry has developed many more advanced methods which call for multi-step cycles that could include condensation, immersion, humidity, along with salt fog and dry-off.

UL can conduct Salt Fog and CCT for a variety of mechanism protocols cited by MIL, SAE, ASTM, ISO, DIN, JIS, Retail along with others.

For more information, contact UL at PerformanceLighting@ul.com or (610) 774-1300.

As we near the end of 2016, two major regulatory deadlines are approaching for lighting products, including LEDs.

The first is California Energy Commission’s (CEC) latest version of Title 24, set to take effect January 1, 2017. This regulation affects all residential lighting products, as LED light sources (lamp, luminaire and light engines) installed in new or remodel residential construction are required to meet the JA8 High Efficacy requirements, which include photometric and flicker testing.

The second is the U.S. Department of Energy’s (DOE) rulemaking for LED bulbs, which is referenced by the Federal Trade Commission’s (FTC) mandatory FTC Lighting Facts Label. The revised test method requires testing to the published DOE test method, including a lifetime test, to be used in support of all performance claims for LED bulbs.

If you have questions regarding these new regulatory requirements or need immediate testing to ensure that your products are in compliance, please contact UL to discuss testing, advisory or training needs at PerformanceLighting@ul.com

Guest Spotlight: Lighting Systems – An Introduction to ANSI C137.1

Ray Harvey, LC / Osram Sylvania Inc. / SSL Electronics & Infrastructure Standards & Regulatory Affairs Vice-chair of ASC C137 and Head of C137.1 Ad Hoc Group

The recently formed ANSI C137 Lighting Systems Committee created a working group to develop a standard for a zero-to-10 volt analog interface between dimmable LED drivers, fluorescent ballasts and dimming controls. At present, there is no widely accepted industry standard for analog dimming of LED sources. The new standard, C137.1, will enhance interoperability of drivers and dimming controls and improve the uniformity of output of multiple drivers operating on the same control circuit.

The standard is based on the 0-10 V fluorescent dimming interface specified in ANSI C82.11 Annex A, which is similar to the interface specified in IEC 60929 Annex E. C137.1 adds several new features and specifies the interface in more detail.

The main new feature is a standby or “electronic off” mode. This optional mode disables the driver’s output power while its control circuitry remains awake. This feature can eliminate a relay used to disconnect the driver’s output and an extra pair of wires to control the relay. Standby mode is entered when the control signal drops below about 0.5 V. C137.1 also adds specifications for dynamic response, the time to start up or change from one level to another.

However, the standard covers more than drivers and ballasts; it also has requirements for dimming controls and system wiring. Like C82.11, C137.1 specifies that the driver or ballast supply current that the control unit sinks and uses to generate the control voltage. C137.1 requires that the control unit manufacturer declare how much current the control unit can sink. This gives a lighting system designer information needed to help ensure that the control unit can handle the current sourced by the driver(s) connected to it. C137.1 also specifies that multiple controls, such as a wall dimmer and a daylight sensor, can connect to the same control wires without damaging each other.

Finally, C137.1 requires that the voltage drop caused by control wiring resistance be no more than 0.3 V. This helps ensure adequate noise margin and uniform operation (light levels) of many drivers sharing control wires. Requirements on tolerances for the endpoints of the dimming range further contribute to uniform operation.

The working group has been developing the standard since February 2015. A draft is being prepared for public review according to the ANSI process. The standard is expected to be published in early 2017, but some of the above information may change, so it is best to check the published edition.

If you have questions regarding these new regulatory requirements or need immediate testing to ensure that your products are in compliance, please contact UL to discuss testing, advisory or training needs at PerformanceLighting@ul.com
2016 Webinar Wednesdays: Lighting Performance and Energy Efficiency Regulations

UL is pleased to announce our 2016 calendar of webcasts for the lighting industry. Each one hour webcast offers insight and updates to the current North America building and energy efficiency codes at both state and federal levels.

Stay up to date on the ever changing regulations that impact just about anyone involved in the lighting industry. Our Instructor for this Series is Austin Gelder:

Austin is a Technical Advisor for Lighting Performance with UL, supporting lighting photometric and compliance testing. Prior to joining UL, Austin spent several years in the lighting industry in the areas of LED product development, technical consulting and lighting testing and measurement. He has worked with the U.S. Environmental Protection Agency (EPA) to lead the development of the ENERGY STAR® Luminaires and Lamps specifications, with Natural Resources Canada to perform a lighting market analysis, and with a LED Lamp manufacturer in Atlanta, GA, working as a Technical Manager and Product Manager. Additionally, Austin became Lighting Certified through the NCQLP in 2013, participates in the Illumination Engineering Society’s (IES) Testing Procedures Committees, and is involved with the American Society for Agricultural and Biological Engineers’ (ASABE) efforts to develop metrics and test methods for horticultural lighting.

We hope you will join us for these informative learning sessions.

Click here to learn more about our webcast series.

Lighting for Tomorrow 2016 Awards Announced

Boston, MA — Sponsored by the American Lighting Association (ALA), the Consortium for Energy Efficiency (CEE) and UL, Lighting for Tomorrow is a competition that challenges manufacturers to develop residential lighting products that successfully incorporate advances in both design and energy efficiency. By recognizing exceptional new products, Lighting for Tomorrow seeks to meet consumer expectations and leap over market barriers that inhibit the adoption and use of energy efficient residential lighting products. The 2016 Lighting for Tomorrow competition reflected several key technology developments and market trends:

- The movement towards connected lighting has continued and there are now a significant number of manufacturers offering products with a variety of different connected features.
- A new trend seen this year was the expansion of lighting customization by using interchangeable parts or lighting kits so that fixtures can be easily and quickly tailored to the intended applications.

continued on page 11 >
DesignLights™ Consortium V4.0 Updates:

By Austin A. Gelder / Lighting Performance Technical Advisor

Introduction

In June, DesignLights™ Consortium (DLC) announced the final version of its Technical Requirements Table V4.0, which significantly increases the efficacy requirements for products to remain DLC qualified. Shortly thereafter, several additional proposals were introduced and have the potential to expand the DLC program to additional product types.

Technical Requirements Table V4.0:

The primary changes from the V3.0 to V4.0 requirements are the increases in efficacy, although there are also minor changes that will allow the DLC some flexibility to address specific situations in the future.

Unlike the 2015 V3.0 updates, which reorganized the specification, V4.0 updates are relatively straightforward as they raise the efficacy bar for every category. The DLC’s reasoning for this is that the requirements had not been meaningfully increased since 2014 but the efficacy of products has been steadily increasing.

Efficacy:

The increases in luminaire efficacy are significant, with DLC Standard Efficacy products increasing 20 to 30 lumens per watt and DLC Premium Efficacy products increasing 10 to 40 lumens per watt. A full comparison of existing V3.X to new V4.0 requirements is below:

<table>
<thead>
<tr>
<th>Luminaire</th>
<th>General</th>
<th>Standard Efficacy</th>
<th>Premium Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Application</td>
<td>V3.x Efficacy</td>
<td>V4.0 Efficacy</td>
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<td>Category</td>
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<tr>
<td>Outdoor</td>
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<tr>
<td>Low Output</td>
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<tr>
<td>High Output</td>
<td>75</td>
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<td>110</td>
</tr>
<tr>
<td>Indoor</td>
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<td></td>
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<td>Directional</td>
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<td>Troffer</td>
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<tr>
<td>Linear Ambient</td>
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</tr>
<tr>
<td>High Bay</td>
<td>80</td>
<td>105</td>
<td>110</td>
</tr>
</tbody>
</table>

continued on page 8 >
Standards Corner

Standards information: ulstandards.ul.com/standards

Sign up for “What’s New” at: ulstandards.ul.com/access-standards/whats-new by selecting “Join Email List” on the What’s New site to receive email notifications twice a month that list the various UL, UL Environment, and ULC Standards documents published during that timeframe.

UL 153 - Portable Luminaires
• A new proposal was issued for preliminary review on May 5, 2016. The proposal relates to adding requirements for the use of split SPT-2 cords. This proposal was issued for ballot on July 8, 2016 with a due date of August 26, 2016. The proposal did not achieve consensus. No further action will be taken on this proposal. A summary of related topics can be found here: http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=31067.

UL 1088 - Temporary Lighting Strings (Bi-National Standard)
• A proposal was issued for ballot on August 12, 2016 with a due date of September 12, 2016. The proposal relates to adding requirements for temporary lighting strings for indoor use only. A summary of related topics can be found here: http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=31461.

UL 1598 - Luminaires (Tri-National Standard)
• The next revision cycle has started and will last for 2 years. Proposals received by the SDOs were issued for preliminary review on August 28, 2015. Comments are due on October 12, 2015. A summary of related topics can be found here: http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=30005.

UL 1598C - Light Emitting Diode (LED) Retrofit Luminaire Conversion Kits
• The proposal went out for preliminary review on February 6, 2015. The proposal relates to fuse requirements for tubular fluorescent to LED conversion retrofit kits. A new proposal was issued for ballot on October 7, 2016 with a due date of November 7, 2016.

UL 1993 - Self-Ballasted Lamps and Lamp Adapters (Tri-National Standard)
• The next revision cycle has started. UL is the Publication Coordinator. Multiple proposals went out for ballot on August 7, 2015 with a due date of September 21, 2015. The recirculation of the proposals is slated to open October 14, 2016 for 45 days.

UL 1573 - Safety for Stage and Studio Luminaires and Connector Strips
• A new proposal will be issued (tentatively) October, 2016. The proposal relates to harmonizing UL 1573 to the 2017 NEC section 520.69(A)(3) which allows for new lengths in hard-usage supply cords.

UL 1574 - Track Lighting Systems
• A proposal to reaffirm ANSI approval was issued for ballot on April 8, 2016 with a due date of May 23, 2016. Consensus was achieved and the updated ANSI information was published on July 12, 2016.

UL 2577 - Suspended Ceiling Grid Low Voltage Systems and Equipment (Bi-National Standard)
• A proposal was issued for ballot on August 5, 2016 with a due date of September 19, 2016. The proposal relates to the definition of low voltage/extra-low voltage and revised voltage references in the standard to correlate with the Canadian Electrical Code and the National Electrical Code. A summary of related topics can be found here: http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=31416.

UL 8750 - Light Emitting Diode (LED) Equipment for Use in Lighting Products
• A proposal went out for preliminary review on July 24, 2015. The proposal relates to the addition of a new supplement SE covering requirements for Class P LED Drivers. This proposal was issued for ballot on December 11, 2015 and a revised proposal was recirculated for ballot on September 9, 2016 with a due date of October 10, 2016. A summary of related topics can be found here: http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=31624.
• A new proposal was issued for preliminary review on January 8, 2016 and was subsequently issued for ballot on August 19, 2016. The proposal relates to the addition of a new supplement SF covering requirements for LED Drivers with control circuits. A summary of related topics can be found here: http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=31875.

UL 496 – Lampholders (Bi-National Standard)
• The next revision cycle has started. A Call for Proposals was sent out on May 9, 2014. UL (the Publication Coordinator) sent the proposals received to the Technical Harmonization Committee for review. Multiple proposals went out for preliminary review on October 3, 2014. The proposals related to: (1) Proposed Addition of Requirements for Lampholder Fittings with Integral USB Connectors, (2) Proposed Addition of Requirements for Minimum Lead Wire Gauge Size for GU24 Outlet-Box Lampholders, and (3) Proposed Addition of Requirements to Clarify the Creepage Distances and Clearances Measurements. The comments received in response to the preliminary review were sent to the Technical Harmonization Committee (THC) for review and input. A proposed new edition, which incorporates the proposals that were sent out for preliminary review in October 2014, was issued for ballot on May 23, 2016 with a due date of July 22, 2016. A summary of related topics can be found here: http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=31132.
UL 482 – Portable Sun/Heat Lamps

- FDA proposal to amend the performance standard for sunlamp products and ultraviolet (UV) lamps intended for use in these products (which may be viewed at https://federalregister.gov/a/2015-32023) would reference IEC 60335-2-27, Household and similar electrical appliances – Safety Part 2-27: Particular requirements for appliances for skin exposure to ultraviolet and infrared radiation, rather than UL 482. The FDA is seeking comments on the proposed rule by March 21, 2016.

UL 48 – Electric Signs

- A new proposal was issued for preliminary review on May 24, 2016. The proposal relates to: 1) New Requirements for Shipment of Sign Sections; 2) Standard Reference for LED Components and LED Retrofit Kits; and 3) Revision title of Section 4.4.10.2. A summary of related topics can be found here: http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=31138.

UL 879A – LED Sign and Sign Retrofit Kits

- A new proposal was issued for ballot after discussions during the March 10, 2016 STP 48/879A Meeting on May 27, 2016 with a due date of June 27, 2016. The proposals relate to: 1) Deletion of Supplement 5A; and 2) Markings for Kit Installation Instructions. The revisions were published on August 16, 2016. A summary of related topics can be found here: http://www.comm-2000.com/ProductDetail.aspx?UniqueKey=31154.

UL 924 – Emergency Lighting and Power Equipment

- Multiple proposals are being prepared for ballot on September 30, 2016 with a due date of November 14, 2016.

Standards Corner

DesignLights™ Consortium V4.0 Updates:

Similar to the increase in efficacy for luminaires, there has been an increase in the efficacy requirements for Lamps. The efficacy increases for E39 type lamps are the most significant, rising 15 to 25 lumens per watt.

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Lamp Application</th>
<th>In Fixture Efficacy</th>
<th>Bare Lamp Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>V3.x Efficacy</td>
<td>V4.0 Efficacy</td>
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<tr>
<td>Linear Lamps</td>
<td>4 Foot</td>
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<tr>
<td></td>
<td>2 Foot</td>
<td>85</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Outdoor Low</td>
<td>65</td>
<td>90</td>
</tr>
<tr>
<td>E39 Lamps</td>
<td>Outdoor Mid</td>
<td>70</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Outdoor High</td>
<td>75</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>High Bay</td>
<td>80</td>
<td>100</td>
</tr>
</tbody>
</table>

Allowances and Other Changes:

In addition to the changes in efficacy, the technical requirements also include a new section that refers to allowances for lower efficacy for specific product type and feature combinations. This section is currently empty as there are no specific allowances included yet, but this allows DLC some flexibility in the future based on feedback and suggestions that they receive. This is, in a way, similar to the specialty luminaires in that the DLC is keeping the door open for situations that were not anticipated in their specification development process.
The other minor change included in the V4.0 technical requirements is the ability to report TM-30 data. This is not a requirement, but is notable for the partial adoption of such a recent metric. This change allows those who target a high TM-30 score the ability to distinguish their product while also offering additional decision tools to those looking for more information on color quality.

**DLC Proposals for V4.1 (and Beyond):**

DLC has several proposals that would expand the reach of the DLC program to include additional products. It is important to note that these are not effective yet, but are a good indication of how DLC intends to change its program in the future.

**Outdoor Very High Output:**

Part of the proposed V4.1 would separate out the “Outdoor High Output” category of luminaires, which currently includes everything over 10,000 lumens, and split it into two categories. The categories would be the existing High Output category, which would include products from 10,000 to 24,999 lumens, and a Very High Output category for products that produce 25,000 or more lumens. This change aims to address the large number of products that far exceed the minimum output to be considered an “Outoor High Output” luminaire while also capturing some of the additional energy savings that can be found by increasing the efficacy on these “Outdoor Very High Output” products.

**U-Bend SSL Lamps:**

While DLC has covered linear SSL replacements for tube-style lamps for some time, they have not included the U-bend versions of these lamps. The V4.1 proposal to add the U-bend is a welcome one, particularly for those who experience the high shipping costs and breakage rates associated with legacy fluorescent products. No specifics have been given, but the requirements are likely to mirror those of the 4-foot T8 lamp replacements and would likely include measurement in a luminaire.

**T5 SSL Replacement Lamps:**

While mentioned in the V4.1 proposal as an area of interest to DLC members, there is not a proposal to include these products; however, DLC may consider including these products in future revisions, and they would likely assign requirements that differ from those covering T8 lamps.

**Hazardous Location Luminaires:**

In response to a large number of products applying for the special category for Hazardous Location Luminaires, DLC indicated in the V4.1 proposal that they intend to develop requirements for defining what a product must be considered to be a hazardous location luminaire. This is an early indication, but could include IP ratings, safety ratings and classifications per the National Electrical Code or Canadian Electrical Code.

**Refrigerator Case Lighting Revision:**

In the V4.1 proposal, DLC revised the definition of refrigerator case lighting to only allow pin-type connections that support electrical connections for refrigerator case lighting products. Products using pins for mechanical support will not be permitted. Products that use the pins for mechanical and electrical support would be better categorized as tubular LED lamps. This revision would provide a potential loophole and would impact already certified products.

**Additional Proposals:**

In addition to the V4.1 proposal, DLC issued a number of other proposals that would include expansions and additional requirements.

**Safety Certification:**

While DLC has required proof of safety certification since V3.0, they issued a proposal to require proof of safety certification for private labelers. Many partners not having safety certification multiple listed in their own name causes additional work and concern regarding the program and this proposal is intended to eliminate those concerns.

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Wider CCT Range:

DLC proposed adopting the newer ANSI C78.377-2015 standard for CCT and chromaticity, which has the biggest impact of allowing for very low CCT products in the 2200K and 2500K CCT ranges. It would not extend the high end limit of 5000K or 5700K (as applicable to the product); however, lower CCTs would allow for indoor products to give the appearance of dimmed incandescent or for outdoor products to have a lower CCT to address desires to replicate an incandescent or gas lamp type appearance.

DC Powered Products:

One of the more significant DLC proposals addresses the potential qualification of DC powered products. This will allow for some of the unique systems that enable connection to microgrids (including those that tie into renewable energy, such as solar and/or wind energy). This also includes Power Over Ethernet (POE) products, which allow for easy repositioning of Luminaires within a space due to the low voltage that is provided to the luminaires.

DLC must answer many questions before including DC powered products, but most of these questions focus on how to consider this type of energy efficiency. DC systems also have additional considerations, such as the external AC to DC conversion from the grid, and, depending on voltage, wiring can have a major impact on the efficiency of the system.

4-Pin SSL Replacement Lamps for CFLs:

Another significant expansion proposal is to include SSL replacements for 4-pin compact fluorescent lamps. These products are common in many commercial applications but are not currently covered by any energy efficiency program. The current proposal would include some similarities to measuring linear fluorescent lamps, such as performance in a luminaire. DLC is also including some pre-approved equivalent luminaires and pre-approved equivalent ballasts.

Alternates to these lists are allowed but are considered by the DLC on a case by case basis. It was noted that the DLC would be updating lists, so additional approved fixtures for these products would be included over time. The general categories of fixture are horizontally mounted downlights and vertically mounted downlights. The products can test in any category fixture and, given the allowable categories, are likely to focus on one application or the other, as CFL downlights are not the most efficient at redistributing light due to the large size of the source.

Takeaways:

The biggest change in the near future involves required efficacy levels, which will impact many of the currently certified products. Existing products that meet the requirements will continue on to V4.0 without change, but it is also a good time to update product performance if changes have been made to LEDs or drivers. DLC Premium products will be downgraded to standard if they do not meet the new premium requirements, but will otherwise carry over.

Many proposals were made, but they remain just that: proposals. Which of the proposals will be adopted, and what modifications to the proposals are enacted, will be important to watch. The future holds additional opportunities for products that have not been able to achieve DLC qualification in the past and will open up the opportunity for incentives to a wider range of projects.

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The judges selected two categories of Special Recognition this year: “Products Filling a Market Need” and “Value Products.” The products awarded the designation of Filling a Market Need are examples of products that are newly available using LED technology or representing product types in which the quality of LED performance has increased noticeably. The four product awards for filling a market need are the Globe Electric Company 73191 B-type LED Vintage Bulb, the MaxLite LED Warm-on-Dim BR30 Lamp, the WAC Lighting Landscape In-ground Light, and the WAC Lighting AETHER Shallow 3.5” Recessed Downlight. The products that are awarded the Value designation are examples of high quality lighting at a price point similar to incumbent, less efficient technology. Four products are given recognition in the value category: the Acuity Brands Lighting LED Contemporary Vanity/Sconce, the AFX, Inc. Sloane, the Globe Electric Company 62591 fixture and LED filament bulb, and the MaxLite 3-Way Omnidirectional A-Lamp.

Two grand prize winners are being lauded as the overall top products in terms of innovation, design and engineering, and light quality: the American Lighting, Inc. Trulux system and the Blackjack Lighting Seraph Chandelier. These products demonstrate admirable attention to detail and the consumer experience while also achieving energy efficiency.

From among the decorative fixture submissions, the judges selected two honorable mentions. These products are the Hinkley Lighting Hadley 3308CM ceiling mount fixture and the LBL Lighting Torque 27 pendant.

The functional lighting category resulted in five winners and two honorable mention distinctions. The winners are the Acuity Brands Lighting Super LED Garage Light, the AFX, Inc. Slate Pro Edge, the Ambiance Lighting Systems Lucarne LED Niche Light, Juno Lighting Group (an Acuity Brands Company) 4” Sloped Ceiling LED Downlights, and the WAC Lighting Landscape Accent Light. The EcoSense TROV LED Linear Platform and the AFX, Inc. Carlisle fixture are receiving honorable mentions, with the Carlisle also earning distinction as the best product in the Contractor Lighting category.
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**Lighting for Tomorrow 2016 Awards Announced**

The 2016 awards were announced through a webinar hosted by the American Lighting Association on September 12. The award-winning products are showcased in a brochure that highlights the 2016 award recipients. Additional 2016 awards presentations were held at the CEE Industry Partners Meeting on September 15, and an additional presentation will occur at the ENERGY STAR® Partner Meeting on October 27.

Finally, the awarded products and companies will be featured in videos, lighting publications, and trade show exhibits throughout the coming year. To download the brochure, to find information about where to purchase these products, or for complete details on the competition, please visit the website at www.lightingfortomorrow.com

**About LIGHTING FOR TOMORROW**

Lighting for Tomorrow, launched in 2002, is sponsored by the American Lighting Association (ALA), the Consortium for Energy Efficiency (CEE) and UL. Over a dozen energy efficiency organizations across the US and Canada participated in supporting the 2016 competition as co-sponsors.