Lumen Insights®

2018 • ISSUE 2

FEATURED ARTICLE

A New, Dedicated Standard for Flashlights and Lanterns

In some situations, a single standard is intended to cover multiple items or products. Often times this can work well but, as market demands shift, products evolve to offer new benefits, and manufacturers require a more specific focus to address their needs, a dedicated product standard may become necessary. UL, in remaining constantly in-step with, and responsive to industry needs, has developed a new standard for flashlights and lanterns as a result of our continued awareness.

Originally, flashlights and lanterns were covered under UL 73, Standard for Motor-Operated Appliances, but it became clear that a new standard would be more appropriate to fully address the unique features and performance requirements associated with these types of products. The new UL 1576, Standard for Flashlights and Lanterns, fills this need. The new, comprehensive standard also brings some significant changes that manufacturers should be aware of before designing new products or submitting products for testing.

What is Covered?

Understanding why this change was made is fairly easy: Flashlights and lanterns are not motor operated, and a more comprehensive, consolidated standard was needed. However, there are important aspects of what is and is not covered by the standard. Primarily, the standard is written to cover:

- Battery-powered flashlights and lanterns powered by secondary (rechargeable) batteries and general-purpose primary (non-rechargeable) batteries. However, products requiring general-purpose rechargeable lithium-ion batteries (e.g. type 18650 “button top” batteries) are not covered as variability from one battery design to the next may increase the risk of

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Spotlight: Letter From Roberto

Digital transformation is happening rapidly in the lighting industry, and we are seeing an increasing number of fully connected products and systems. Is there any risk associated at this transformation? Are products and related systems secure in this new cyber landscape?

As you have heard, UL created the UL2900 standard to address and mitigate cybersecurity risks by helping our client with train their employees, scan for vulnerabilities, and perform penetration testing to arrive at the final certification.

If you have not yet considered cybersecurity, I suggest you consider evaluating your products, systems and internal procedures in an effort to remain one step ahead of a cyber attack.

Get in touch with us today to get more information on how we can help you to mitigate these risks and prepare for the future.

Warm Regards,

Roberto Inclinati
Global Business Development Manager

Upcoming UL Education & Training for the Lighting Industry

At UL Knowledge Solutions, our goal is to help you develop safe, useful products that meet and exceed your customers' needs. Here you will find dozens of training courses taught by qualified instructors, both Public Workshops and Online eLearning Courses.

Public Workshops

Designing Lighting Controls for Compliance to UL 60730: Automatic Electrical Controls for Household and Similar Use

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Electric Signs: Designing for Compliance to UL 48 15th Edition

- 7/17/2018 Baltimore, MD
- 8/8/2018 Raleigh, NC

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LED Light Source Design Essentials

LED Equipment, UL 8750

Luminaire, UL 1598

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(cover story continued)

A New, Dedicated Standard for Flashlights and Lanterns

fire since the product must be tested together with the specific lithium-ion batteries as a complete system.

- Battery-powered flashlights and lanterns operated and/or charged directly from a line voltage supply, including battery-powered flashlights and lanterns provided with integral battery chargers.
- Automatic flashlights and lanterns which are normally connected to a line voltage supply and, upon loss of the line voltage supply, will turn on the lamp.
- Ultraviolet (UV) flashlights.
- Flashlights with photovoltaic (PV) sources where the PV sources themselves must also meet the requirements of UL 1703, Standard for Flat-Plate Photovoltaic Modules and Panels.

In addition to specifically covering the above products, the standard also recognizes child appealing features that may help to define a product and, in doing so, requires that the product be evaluated accordingly and comply with the applicable requirements in UL 696, Standard for Electric Toys (e.g. lead content). To complement the certifications offered through UL 1576, we can also test the performance of features that resonate with both manufacturers and consumers.

Recognizing Performance

Prior to the ANSI/NEMA FL 1, Flashlight Basic Performance standard, there were no standardized methods for testing or rating flashlight features. Today, this standard allows manufacturers to demonstrate performance measurements to customers, and UL is equipped to perform these evaluations, which cover:

- Light Output
- Runtime
- Peak Beam Intensity
- Beam Distance
- Water Resistance
- Impact Resistance

As these products continue to evolve in response to new technologies and shifts in consumer demand, UL remains agile to the needs of manufacturers. As with all UL Standards, UL 1576 was designed to be updated in response to industry needs. To learn more about this standard or to obtain a quote for testing and certification, contact ApplianceInfo@UL.com.

UL Sign Industry Business Panel Recap

The UL Sign Industry Business Panel (UL-SIBP) is a collaborative forum between UL and the major US sign associations, including the International Sign Association (ISA); the United States Sign Council Foundation (USSCF); and World Sign Associates (WSA). The panel holds regular meetings with the goal of promoting requirements, certification and education programs that keep-up with Codes and technology developments. The last UL-SIBP annual face-to-face meeting was held on June 6 and 7, 2018 at UL's Northbrook, IL campus.

Representing UL and the associations (from left to right): Joseph Frederic - UL, Wendy Kern - USSCF, Pat Schuster - WSA, David Nourie – UL, Joe Musso - UL, Kenny Peskin - ISA, Wes Wilkens - ISA and Randy Wright - USSCF.

Do More With Your UL Goniophotometer

By: James Walker / UL Global Sales Manager

UL is pleased to announce a new service option: Flicker Testing. UL High Speed Mirror Goniophotometers are now capable of conducting flicker testing of a luminaire or lamp.

Features:

- Speed ➔ Time savings – The lamp or luminaire has been tested and without waiting for stabilization, flicker can be selected for the next test.
- Performance ➔ Selectable routines identified by procedure – The operator only needs to know what procedure, for example California Energy Commission (CEC) or Energy Star®. Everything is timed and measured by the software.
- Reliable ➔ Consistency – All calculations are done for you, preventing errors from human data mining and interpretation.

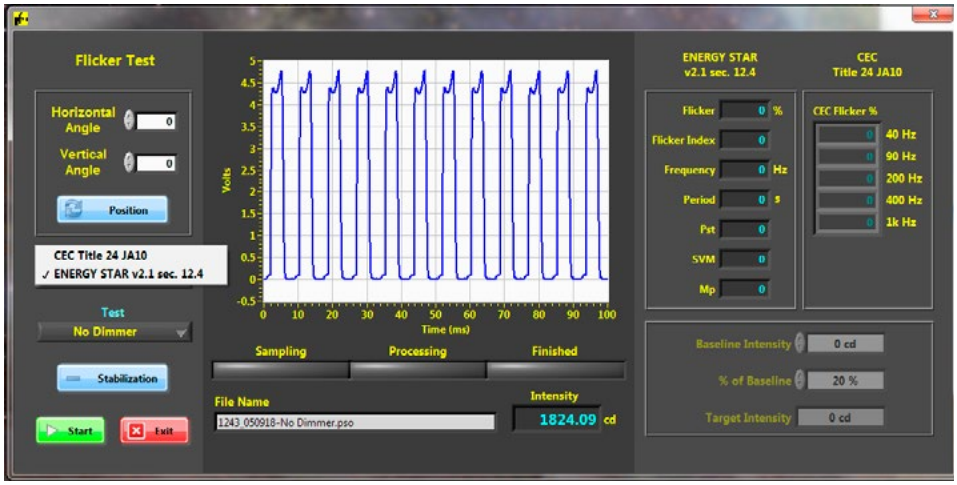


Figure: Flicker Test

- Integrity ➔ Equipment savings – Testing is performed on your existing equipment so there is no need to store and maintain calibrations on another piece of equipment.

Currently, UL's software is capable of meeting CEC Title 24, Energy Star Lamps 2.1, Energy Star Fixtures 2.1 and NEMA 77.

As an option, UL offers the Flicker Dimmer Control Panel (FDCP). With the FDCP, UL has made it easy to wire dimmers into the 9 compartments. One additional compartment is a dedicated pass through for no-dimmer testing.

Both Flicker Software and the FDCP work in-sync with UL's control software LSIGoniophotometer™.

For more information, please contact us via email at ULGoni@ul.com or via phone at +1.480.239.7485.

Code-Compliant Control of Emergency Luminaires

Advances in LED luminaire design now allow for a wide variety of automated and manual control setting adjustments that can save energy, modify room aesthetics, reduce harmful bacteria levels, and even affect occupant health and wellbeing. Lamps have become luminaires, and luminaires are now becoming lighting systems. These lighting systems are sometimes fully contained within a single apparatus or may be distributed over an entire building with sensors, transmitters, relays, receivers, power units, and of course the light source itself. These more complex systems can provide much greater capability to precisely meet the lighting needs of a space as it changes over time and for various uses.

But there is one remaining constant for all of these spaces: when occupants need to leave a facility, especially in case of an emergency, the facility must provide sufficient illumination to help them do so safely and without delay. The Life Safety Code, NFPA 101, requires that a facility provide a minimum level of illumination along the entire means of egress, which is defined as any point in the building to a public way. In response to luminaires incorporating increasingly complex and interactive control features, UL 924, the Standard for Emergency Lighting, has been updated to ensure that the more complex features and controls of modern luminaire systems do not inhibit a luminaire's ability to perform this fundamental safety function.

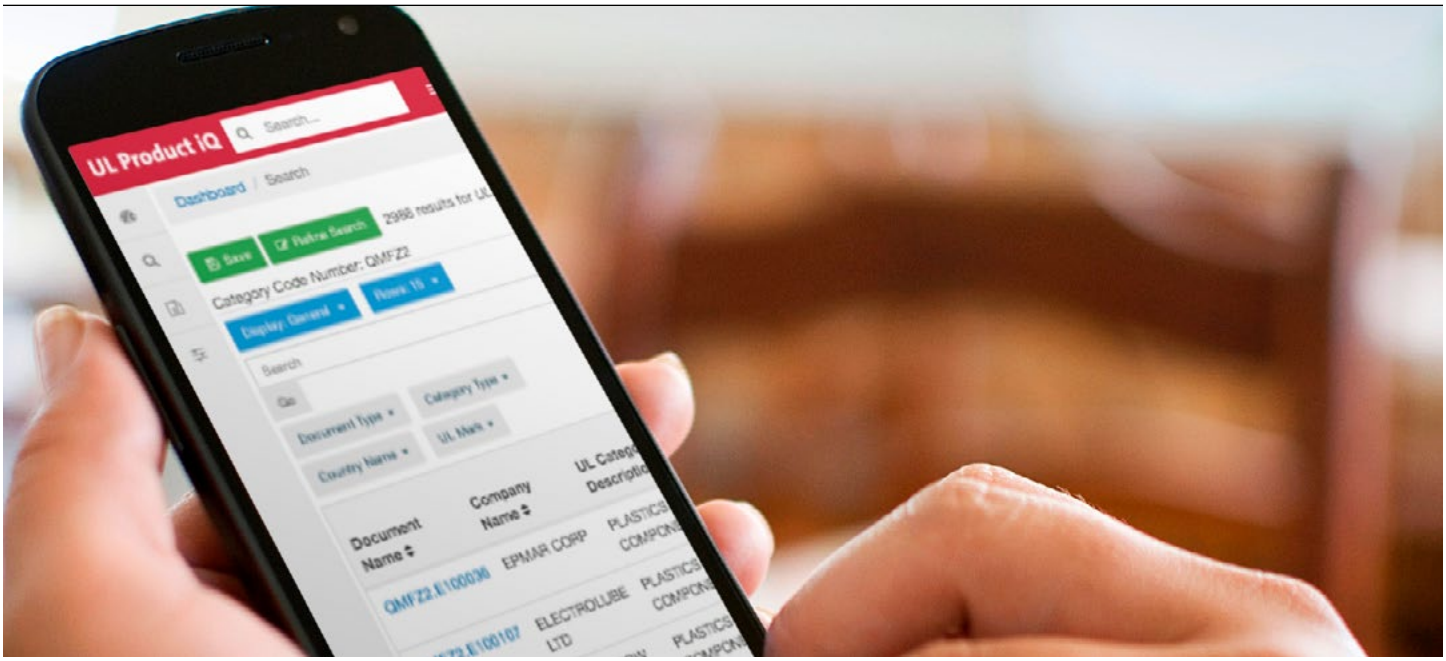
Emergency luminaires with control inputs used for dimming, energy conservation, or similar output level management are referred to as "Directly Controlled Luminaires." A significant advantage of directly controlled luminaires, and the primary driving force for their adoption, is their ability to serve in both normal and emergency mode without sacrificing control flexibility. This reduces the need for normally 'dark' fixtures (such as unit equipment) to fulfill emergency lighting needs. The 2014 NEC (National Electrical Code, NFPA 70) added a requirement that directly controlled luminaires used for emergency lighting (within the scope of Article 700, Emergency Systems) be listed for use in emergency systems. This requirement is fulfilled only through certification per UL 924. UL 924 defines directly controlled luminaires as having the functionality to automatically override any control setting (such as dim or "off") and establish an appropriate output illumination level when loss of normal power is detected.

On May 1, 2018, UL 924 was revised to provide greater clarity for testing directly controlled luminaires and other emergency lighting control devices. The revisions included a significant expansion of Section 47, which was renamed from "Normal Operation Test" to "Emergency Lighting Control Functionality (ELCF) Test." The purpose of this test is to validate that emergency lighting controls, whether integral to a luminaire (as is the case for directly controlled luminaires) or as a separate device, respond appropriately when the facility experiences a loss of normal power. The fundamental concept behind this test has not changed. The expanded content of clause 47.2 now provides guidance for evaluating each of the five basic "functions" of an emergency power and lighting system:

- sensing normal power status
- interpreting a communication signal associated with normal power status
- controlling a device's status (e.g., changing it from "off" to "on")
- distributing emergency power to appropriately designated loads when normal power is lost
- simulating loss of power when a 'test' function is activated

Not all equipment includes all of these functions, and multiple functions can often be evaluated through a single test. The Section 47 program also requires the tests to be performed in any and every available sequence and to consider whether the individual failure of certain electronic components could compromise the equipment's ability to respond.

Another addition to the Standard is a new informative Appendix B that describes how ELCF is incorporated into various types of emergency lighting equipment. This appendix includes a description of the "interpretive function" discussed in clause 47.2, which primarily applies to control inputs using proprietary or industry standard communication protocols like 0 – 10V, DALI and DMX512. It also describes the importance of an Emergency Lighting Control Device (ELCD) having a default position that does not inhibit the flow of emergency power when normal power is lost.



Introducing UL Product iQ

Our new certification platform marries the longstanding UL certification data relied upon by millions of users with the intuitive design and user-friendliness of a modern search engine.

Locating UL Listed and Certified products and components just got easier. Meet UL Product iQ, UL's next-generation online certification directory offering trusted UL Listing, Classification and Recognition information powered by a modern search engine platform. This simple, mobile friendly tool features customized dashboards and a powerful algorithm to deliver more accurate and advanced search results and an improved user experience. With new features added regularly, Product iQ is constantly evolving to help you keep pace with the market.

Basic user registration, necessary to use Product iQ, is free and includes access to all certification data. For users with more advanced needs, a premium subscription is also available. With the premium subscription, one can save searches for future reference; tag, group and organize content; and create confirmation letters of UL compliance with one click. This premium subscription can be billed monthly ($19/month) or annually ($108/year).

The following FAQ provides more detail:

Why is UL replacing the current Online Certifications Directory with UL Product iQ?

Product iQ is one of several initiatives designed to meet the growing demands of a digital world.

The new directory is built on a modern search engine platform that offers a better user experience, can incorporate more relevant information and supports multiple new user features. Product iQ is designed to create new value, support transformation and evolve with changing needs.

It is important to note that the new directory provides the same trusted certification information as the previous UL online certification directory platform and has no impact on testing results or certifications.

What has UL improved with Product iQ? What features are available?

Product iQ is built on a modern digital platform with a streamlined user interface and fast, robust search capabilities. It offers the below features to improve the user experience:

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Introducing UL Product iQ

- Guided keyword search
- Search refinement
- Email search results out of the platform to others
- The premium subscription option also grants access to enhanced tools:
  - saved searches
  - tagging
  - confirmation letters

Is Product iQ free to use?

Yes, access to UL's certification information will always be free. After registering, everyone has access to the same certification information as in the old platform at no cost.

Users may voluntarily upgrade to a premium subscription that allows them to use the more advanced tools to meet more robust user needs.

What is the future vision for Product iQ?

While Product iQ will launch with the content found in the current certification directory, the platform technology was selected based on its ability to expand and grow with the information needs of UL's stakeholders and customers. It is UL's vision to use this platform to create premium value for UL clients and stakeholders by helping them identify safer, more compliant products and promote the same to potential buyers.

Create your UL Product iQ account at productiq.ul.com.

ASABE Update

By: John O'Farrell / UL Senior Engineer

The American Society of Agricultural and Biological Engineers (ASABE) was founded in 1907 to support engineers advancing agricultural, biological and food systems. Agricultural and Biological Engineering is the discipline of engineering that applies engineering principles and the fundamental concepts of biology to agricultural and biological systems and tools, ranging in scale from molecular to ecosystem level, for the safe, efficient and environmentally sensitive production, processing, and management of agricultural, biological, food, and natural resources systems.

The ASABE has a wide variety of interests. One topic where these interests intersect with UL's is horticultural lighting. In July 2017, the ASABE, in association with ANSI, published the standard ANSI/ASABE S640 "Quantities and Units of Electromagnetic Radiation for Plants (Photosynthetic Organisms)." Since plants use light very differently from humans, a different set of units are needed from the familiar lumen and candela.

The ASABE is currently working on a draft measurement standard ANSI/ASABE X642 "Recommended Methods for Measurement and Testing of LED Products for Plant Growth and Development." This is expected to receive final approval by August 2018. The Design Lights Consortium (DLC) has referenced this document in its DRAFT Testing and Reporting Requirements for Horticultural Lighting. Any lab wishing to submit data to the DLC for horticultural lighting equipment will need to comply with ASABE X642.

UL's safety standard for horticultural lighting equipment is UL 8800. This includes photobiological safety testing to IEC 62741. UL performance testing laboratories are capable of making the measurements to IEC 62741 as well as performance testing in alignment with ANSI/ASABE S640. Our performance testing will comply with the requirements set out by ASABE X642 once that has been approved. For additional information, email PerformanceSolutions@ul.com

By: Joe Musso / UL Standards Program Manager

Standards Corner

Standards information link HERE.

Sign up for "What's New" at HERE by selecting "Join Email List" on the What's New site to receive email notifications twice a month listing the various UL, UL Environment, and ULC Standards documents published during that timeframe.

Standards Update

UL 48 – Electric Signs

Several new proposals are under development and will be circulated to the STP and public for review once they are completed. One proposal addresses sign constructions employing receptacles providing auxiliary functions separate from the signage application. The other is related to reference standards and requirements for components used in PV signs.

UL 153 – Portable Luminaires

A wide-ranging set of 16 proposal topics opened for ballot June 1, 2018, closing July 16. Link to related information.

UL 924 – Emergency Lighting and Power Equipment

A series of new proposals was circulated for STP ballot and public review and closed in April 2018. The proposals include expanded requirements for emergency lighting controls and expanded options for derangement signals. The proposals reached consensus and were published May 1, 2018.

UL 1088 – Temporary Lighting Strings

A proposal for an additional exception to the metal lamp guard requirements was circulated for STP ballot which closed in April 2018. The proposal did not reach consensus, and the results/comments are under consideration.

UL 1598 – Luminaires (Tri-National Standard)

The current revision cycle, which includes 27 proposal topics, is progressing toward completion. Final recirculation of one remaining topic is scheduled for completion June 18, 2018, and will then allow SDOs to coordinate publication of all revisions to the standard.

UL 1993 – Self-Ballasted Lamps and Lamp Adapters

A proposal to add a risk of electric shock re-lamping test to Supplement SC was circulated for STP ballot in May, with a June 25, 2018 closing date.

UL 8750 – Light Emitting Diode (LED) Equipment for Use in Lighting Products

As a result of the conclusion of the revision cycle in 2017, the proposal adding requirements for conduit-connected enclosures was published February 5, 2018.

The proposal relating to the expansion of UL 8750 scope to include LED controllers supplied from branch circuit was published December 18, 2017.

A 10-topic proposal was open for preliminary STP review until February 26, 2018. Link to summary of topics.

Global Market Access Corner:

Our Global Market Access team is prepared to help you achieve compliance with new requirements around the world. For more information or to contact our experts, visit our Global Market Access site at ul-certification.com.

These updates are for information purposes only and are not intended to convey legal or other professional advice.

Expert Assistance in Saudi Arabia

In addition to having a presence in Saudi Arabia and a deep understanding of global standards, including SASO's processes, on-line systems and requirements, UL's local experts can work with you in Arabic. Often times, speaking and working in the local language can help streamline day to day business, making working within the region even easier while helping you build relationships.

Two important regional updates are detailed below:

Saudi Arabia, SALEEM – New Certification Scheme

By: Federico Picco / UL Saudi Regulatory Program Expert

The new Saudi certification scheme SALEEM will replace the current Saudi Conformity Assessment program (SASO CoC) scheme and will operate via the new SABER system, SASO's electronic service created to facilitate the process of entering goods and products to the Saudi market.

The SALEEM scheme will be based on two different certification steps: Type Approval Certificate of Conformity (three-year validity) and Shipment Certificate of Conformity (to be issued for each shipment, similar to the current SASO CoC).

Requirements for Type Approval Certificate of Conformity and registration in the SABER System will be different according to the level of risk of the product.

All lighting products entering Saudi Arabia will need to have both Type Approval Certificate of Conformity and a Shipment Certificate of Conformity issued by an accredited Conformity Assessment Body via the SABER system

Level of Risk	Requirements
Low risk (Free Trade)	Self-Declaration and Technical File
Medium Risk	Evaluation according to specific product Technical Regulation and existing product certification, when applicable (for example G-Mark Certificate)
High Risk	SASO Quality Mark License

SALEEM is still under development and in a voluntary state.

Mandatory implementation is still to be officially confirmed by SASO, but an announcement is planned for December 1st 2018.

How UL can help

UL is expertly qualified to assist companies in demonstrating their lighting products meet the essential requirements of Saudi legislation and can help customers achieve compliance testing according to the applicable international standards.

In addition, UL Certification Offices in EU, USA and China are SASO authorized Conformity Assessment Bodies (CABs) in the new SALEEM scheme and are officially accredited in the SABER system to issue Type Approval Certificates of Conformity and Shipment Certificates of Conformity. trusted third party.

Saudi Arabia, SASO CoPC – Details About Certification Process

By: Federico Picco / UL Saudi Regulatory Program Expert

The new Metrology and Quality Organization (SASO) IECEE CB Recognition Program, also known as the SASO Certificate of Product Conformity (SASO CoPC), currently covers the following product categories:

- Mobile phones
- Mobile chargers (all variety of charges: adaptors & cables, wireless, power banks)
- Mobile USB cables
- Mobile batteries

The implementation date of the following product categories, soon to be introduced SASO, are yet to be officially announced:

- Luminaires and lamps
- Water pumps
- Dishwashers
- TVs
- Laptops
- Tablets

SASO CoPC will be based upon the mandatory submission of a valid CB Test Certificate and CB Test Report. Saudi national differences shall also be covered, as applicable. Submittal of the required information must be via the SASO on-line system. The CoPC will be valid for one year and will require annual renewal.At volupta veniasperiti abores doluptatur sit, si int que pa

How UL can help

UL is providing technical expertise, a worldwide network of CB testing laboratories and qualified staff that can support in delivering technical assessment and reports to cover the applicable international standards, national differences and regulatory requirements.

UL National Certification Bodies in all regions can supply CB Test Certificates in a reliable, effective way.

European Union – Upcoming Standard Changes for Lighting Products

By: Elena Andreula / UL EMEA Regulatory Program Expert

Harmonized Standards Dates of Withdrawal

Electrical equipment in compliance with a harmonized European Standard (EN) cited in the Official Journal of the European Union shall be presumed to be in compliance with the corresponding requirements of harmonization legislation.

New European harmonized standard editions or amendments become mandatory starting from the Date of Withdrawal (DOW) of the superseded standard.

This date marks the end of the period during which both the old and the new version of the standard can be used to claim 'presumption of conformity' to the essential requirements of the relevant directive. After that date, 'presumption of conformity' can no longer be claimed for a product manufactured according to the old version of the standard.

Below is an overview of the recent changes in harmonized standards:

EN 60598-1:2015/A1:2018

Starting from the 23rd of February 2021, the new amendment A1:2018 of EN 60598-1:2015 becomes mandatory.

The new amendment contains many modifications. The most significant changes are as follows:

- Introduction of rated input wattage marking requirements for non-replaceable or non-user replaceable light sources
- Changes in the requirements for creepage and clearance distances
- Changing of test criteria for clip mounted luminaires
- Introduction of requirements for luminaires provided with light sources and delivered without control gear

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European Union – Upcoming Standard Changes for Lighting Products

- Revision of requirements of supply/interconnection minimum nominal conductor cross-section (mm2)
- Specification of requirements for luminaires delivered with connecting tails
- Introduction of a test to determine suitability of conductors having a reduced cross-sectional area

EN 60598-2-4:2018 – Supersedes EN 60598-2-4:1997 and EN 60598-2-7:1989/A11/A12/A13/A2

Starting from the 30th of March 2021, the new edition of EN 60598-2-4:2018 becomes mandatory and replaces EN 60598-2-4:1997.

Moreover, in this new edition all requirements listed in IEC 60598-2-7 have been incorporated. As a consequence, EN 60598-2-7 will be withdrawn.

This standard specifies requirements for portable general purpose luminaires for indoor and/or outdoor use (e.g. garden use), other than handlamps, designed to be used with or incorporating electrical light sources on supply voltages not exceeding 250 V.

This edition includes the following significant technical changes with respect to the previous edition:

- Modification of the scope, classification and requirements to cover portable luminaires for both indoor and outdoor applications
- Modification of the scope to cover all electrical light sources
- Introduction of the symbol for luminaires which are other than ordinary, but suitable for indoor applications only
- Modification in test details to clarify that the stability test on an inclined plane shall be carried out with the light source(s) in place
- Modification of the minimum degree of protection against dust and moisture for portable luminaires for outdoor use from IPX3 to IPX4
- Modification of the requirements for the acceptance criteria of plug and socket outlets
- Modification of the IP test requiring the most unfavorable of the overturned positions to cover all classes

EN 60598-2-17:2018 - Supersedes EN 60598-2-17:1989/A2:1991

Starting from the 23rd of March 2021, EN 60598-2-17:2018 becomes mandatory and replaces EN 60598-2-17:1989/A2:1991.

This standard specifies requirements for stage, television, film and photographic studio luminaires (including spot and floodlighting projectors) for indoor and outdoor use, with electric light sources on supply voltages not exceeding 1000 V.

This new edition includes the following significant technical changes with respect to the previous edition:

- Extension of the applicable scope from light source to electric light source and replacement of “tungsten filament, tubular fluorescent and other discharge lamps” with “electric light source” in 17.1;
- The applicable scope of relevant clauses only applies to replaceable light source luminaires with a glass bulb lamp, or with high surface temperature as there are many LED luminaires with non-replaceable light sources and light sources without a glass bulb or with low operation temperature.

How UL can help

UL is expertly qualified to help companies demonstrate that their products meet the essential requirements of harmonized legislation through compliance testing according to the applicable harmonized standards.

In addition, UL also certifies products according to the ENEC and ENEC+ marks.

Widely recognized throughout Europe, the ENEC and ENEC+ marks are voluntary for luminaires, and they demonstrate compliance of products with harmonized European standards, verified by an independent third party. Therefore, they could be complementary marks to the mandatory CE Marking, which is based on self-declaration.

INDIA – BIS Compulsory Registration Scheme (BIS-CRS) Update

By: Saurabh Nag / UL Program Manager

Inclusion of LED luminaire products to the Schedule of the "Electronics and Information Technology Goods (Requirements for Compulsory Registration) Order, 2012".

Effective from 23rd May 2018, the following LED luminaire products are now regulated and are required to comply with India Standards with testing performed in Bureau of Indian Standards (BIS) accredited labs and registered with BIS-CRS, as per the official order published by the Ministry of Electronics and Information Technology (MeitY).

Sl no	Product	Indian Standard (IS) number	Title of Indian Standard
1	Recessed LED Luminaries	IS 10322 (Part 5/Section 2) : 2012	Luminaires Part 5: Particular Requirements Section 2 Recessed Luminaires
2	LED Luminaires for Road and Street lighting	IS 10322 (Part 5/Section 3) : 2012	Luminaires - Part 5: Particular Requirements Section 3 Luminaires for Road and Street Lighting
3	LED Flood Lights	IS 10322 (Part 5/Section 5) : 2013	Luminaires - Part 5: Particular Requirements Section 5 Flood Lights
4	LED Hand lamps	IS 10322 (Part 5/Section 6) : 2013	Luminaires - Part 5: Particular Requirements Section 6 Hand Lamps
5	LED Lighting Chains	IS 10322 (Part 5/Section 7) : 2013	Luminaires - Part 5: Particular Requirements Section 7 Lighting Chains
6	LED Luminaires for Emergency Lighting	IS 10322 (Part 5/Section 8) : 2013	Luminaires - Part 5: Particular Requirements Section 8 Luminaires for Emergency Lighting

As per the Order, no person shall manufacture or store for sale, import, sell or distribute goods which do not conform to the Indian standard specified in the order. Manufacturers of these products are required to apply for registration from BIS after getting their product tested from a BIS recognized labs.

How UL can help

UL has dedicated test facilities in India, which are recognized and accredited by BIS for conducting in-country testing for domestic and overseas manufacturers, and NABL accreditation for various luminaire products and lighting components, including LED drivers and lamps. UL is prepared to:

- Identify applicable testing requirements for specific product or technology features to comply with current regulations for BIS-CRS.
- Handle entire testing processes as required in BIS-CRS.
- Assist manufacturers in the formulation of representative test samples for different products as per series guidelines.

On completion of testing and issuance of the test report by UL, the customer shall register their product with BIS. All registered products need to bear the BIS Standard Mark, which includes the Registration number and IS standard on the product / packaging (as shown on the right).

(BIS Standard Mark)

Australia RCM Mandatory Certification Requirement for Self-Ballasted LED Lamps

By: Stuart Foster / UL Engineer

Australian and New Zealand electrical safety regulations reference AS/NZS 3820 "Essential safety requirements for electrical equipment" to describe minimum compliance requirements in conjunction with product specific standards where these exist. While the specific details and terminology vary between the different jurisdictions in Australia and New Zealand there is a common requirement for specific categories of electrical equipment to be certified prior to being offered for sale.

Starting from 30th Jun 2018 (cutoff date), self-ballasted LED lamps with operating voltage higher than 50V for general lighting services will be re-classified from EESS "in-scope" level 1 to level 3 in EESS participating jurisdictions. In New South Wales these will be classified as "declared articles" after 1 July 2020.

Product	Prior to 30th Jun 2018	After 30th Jun 2018
	In-Scope Level 1	In-Scope Level 3
Self-ballasted LED lamps > 50V	1. The product type and brand must be linked to the registered responsible supplier in the EESS national database; and 2. be marked with the Regulatory Compliance Mark (RCM).	1. The product must have a valid electrical safety certificate (Certificate of Conformity) showing the product complies with the relevant Australian Standard AS/NZS 62560:2017; and 2. The brand and model/s must be registered to the registered responsible supplier in the EESS national database; and 3. be marked with the Regulatory Compliance Mark (RCM).

The regulatory compliance standard AS/NZS 4417.2 defines light emitting semiconductor lamp (self-ballasted) under section B.2.65 as:

Light emitting semiconductor lamp (self-ballasted) is an appliance that—

(a) incorporates a light emitting semiconductor light source; and

(b) has any additional elements necessary for stable operation of the light source incorporated within the lamp body and permanently connected to the light source; and

(c) has a rated voltage greater than 50 V and up to and including 250 V; and

(d) is intended for connection to supply via means of lamp cap for insertion into a lamp holder.

but does not include—

(e) a double capped light emitting semiconductor lamp.

The electrical safety standard AS/NZS 62560:2017 is an adoption of IEC 62560:2011/AMD1:2015 (edition 1.1) with national modifications. These national differences include;

- An implied 240 V rating for the purposes of testing even if not specifically marked with this rated voltage,
- temperature limits for accessible surfaces (73oC for metal and 90oC for non-metallic)
- Australian specific resistance to flame and ignition tests.

LED lamp manufacturers who intend to apply for an electrical safety certificate on the basis of an IECEE CB certificate and associated report will need to ensure that AU/NZ national differences are included in their documentation. With the exception of NSW (where the electrical safety regulatory requirements are applicable at point of sale) existing stock already in the market prior to 30th Jun 2018 (still under EESS level 1) may be cleared without electrical safety certification. Stock imported after 30th Jun 2018 must be covered by an electrical safety certificate to AS/NZS 62560:2017 and the certificate along with the specific brand and models must be linked to the responsible supplier (in-country representative) in the EESS national database.

In addition to safety, LED lamps are also regulated under ACMA EMC labelling notices that require the product to demonstrate compliance to CISPR 15. MEPS and energy rating labeling is yet to be implemented for LED lamps, but is under consideration.

How UL can help

UL provides a one stop solution for customers accessing the Australian / New Zealand markets by using IECEE CB Scheme test reports and certificates according to IEC 62560 including applicable AU/NZ national deviations and issuance of CoC since UL is also recognized by the regional regulatory authorities to issue electrical safety certificates. Customers may choose to test their LED lamp product at any UL test lab within UL's global network, including EMC testing based on CISPR 15.

2018 Tradeshows

Contact UL industry experts at **LightingInfo@ul.com** if you would like to set up an in-person meeting at any of the listed tradeshows or if you have any general questions. We're here to help!

American Lighting Association Annual Conference

September 24-26, 2018
Omni Grove Park Inn Asheville, NC

International LED Professional Symposium + Expo LPS

September 25-27, 2018
Opera House Brengenz, AT

Canton Fair

October 15-16, 2018
Import and Export Fair Complex
Guangzhou, CN

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