



CAN/ULC-S8754-13-R2018 (Reaffirmed 2018)

STANDARD FOR HOLDERS, BASES, AND CONNECTORS FOR SOLID-STATE (LED) LIGHT ENGINES AND ARRAYS



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CORPORATE HEADQUARTERS

Underwriters Laboratories of Canada
7 Underwriters Road
Toronto, Ontario M1R 3A9
Telephone: (416) 757-3611
Fax: (416) 757-9540

REGIONAL OFFICES

PACIFIC OFFICE

13775 Commerce Parkway, Suite 130
Richmond, British Columbia V6V 2V4
Telephone: (604) 214-9555
Fax: (604) 214-9550

EASTERN OFFICE

6505, Rte Transcanadienne, Suite 330
St-Laurent, Québec H4T 1S3
Telephone: (514) 363-5941
Fax: (514) 363-7014

For further information on ULC standards, please contact:

ULC STANDARDS

171 Nepean Street, Suite 400
Ottawa, Ontario K2P 0B4
Telephone: (613) 755-2729

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Standard for Organic Light Emitting Diode (OLED) Panels, CAN/ULC-S8754-13-R2018

First Edition, Dated July 2013

Summary of Topics

This revision of CAN/ULC-S8754 is being issued to update the title page to reflect the reaffirmation of this First Edition National Standard of Canada. No changes in requirements are involved.

The requirements are substantially in accordance with Proposal(s) on this subject dated February 16, 2018.

PLEASE NOTE THAT CERTAIN CODES MAY REFER TO A SUPERSEDED VERSION OF THIS STANDARD. IN THOSE INSTANCES, THE RELEVANT VERSIONS ARE AVAILABLE FOR PURCHASE.

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Standard for Holders, Bases, and Connectors for Solid-State (LED) Light Engines and Arrays

July 31, 2013

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ANSI/UL 8754-2014 (R2018)



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This ANSI/UL Standard for Safety consists of the First Edition including revisions through August 3, 2018.

The most recent designation of ANSI/UL 8754 as an American National Standard (ANSI) occurred on August 3, 2018. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, Title Page (front and back), or the Preface.

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ULC Preamble

International Classification for Standards (ICS): 29.140.01; 29.140.40; 31.080.10

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Attention is drawn to the possibility that some of the elements of this Canadian standard may be the subject of patents rights. ULC Standards shall not be held responsible for identifying any or all such patents rights.

This Standard is intended to be used for conformity assessment.

This First Edition National Standard of Canada was based on the First Edition including Amendment 1, and has now been reaffirmed.

This CAN/ULC-S8754 Standard is under continuous maintenance, whereby each revision is approved in compliance with the requirements of ANSI and SCC for accreditation of a Standards Development Organization. In the event that no revisions are issued for a period of four years from the date of publication, action to revise, reaffirm, or withdraw the standard shall be initiated.

Comments or proposals for revisions on any part of the Standard may be submitted at any time. Proposals should be submitted via a Proposal Request in the On-Line Collaborative Standards Development System (CSDS) at <https://csds.ul.com/canada>.

TECHNICAL COMMITTEE ON FIELDREPLACEABLE LIGHT EMITTING DIODE (LED) LIGHT ENGINES

Name	Affiliation	Region	Category
Besmanoff, Barry D.	Litelab Corporation	USA	Supply Chain
Blackburn, Christopher A.	Eaton Corporation	USA	Producer
Caamano, Juan M.	UL LLC	USA	Testing and Standards
Carpenter, Fred L.	Acuity Brands Lighting Inc	USA	Producer
Chou, Mike	Great Consultant Service Co., Ltd.	China	General Interest
Cook, Donald R.	Shelby County Department of Development Services	USA	AHJ
Del Rosario, Jerome	City of Winnipeg	Canada	AHJ
Dinic, Tatjana	Ontario Electrical Safety Authority	Canada	AHJ
Jackson, Pete D.	City of Bakersfield	USA	AHJ
Mattatall, Robert E.	Mattatall Signs Limited	Canada	Supply Chain
May, Mike W.	Deltavation	USA	Producer
Morales, Julio	Underwriters Laboratories Inc	USA	STP Project Manager (Non-Voting)
Musso, Joe	Underwriters Laboratories Inc.	USA	STP Chair (Non-Voting)
O'Neill, Joseph	Wilger Testing Company Inc.	USA	General Interest
Parisella, Joseph L.	Osram	USA	Producer
Rittenhouse, Dennis	University of Waterloo	Canada	General Interest
Savage, Sr., Michael	City of Rio Rancho	USA	AHJ
Schapira, Francisco	Leviton Mfg	USA	Producer
Stimac, Tom	GE Lighting Solutions	USA	Producer
Sullivan, J. Bradley	British Columbia Safety Authority	British Columbia	AHJ

Table (Continued)

Name	Affiliation	Region	Category
Tikkanen, David A.	Lumastream Canada	Canada	Commercial/Industrial User
Venkataramanan, Venkat	University of Toronto	Canada	General Interest
Willis, Karen B.	NEMA	USA	Non-Voting
Woods, Thomas M.	AAG Stucchi North America	USA	Producer
Wootton, Kent M.	Canadian Tire Corp	Canada	Commercial/Industrial User
Zhang, Yefeng	Philips (China) Investment Co., Ltd.	China	Producer

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Preface

This is the common UL and ULC Standard for Holders, Bases, and Connectors for Solid-State (LED) Light Engines and Arrays. It is the First edition of both CAN/ULC-S8574 and ANSI/UL 8754.

This Joint Standard was prepared by Underwriters Laboratories Inc., ULC Standards, and the Technical Committee on Field-Replaceable LED Light Engines. The standard was formally approved by the UL/ULC Technical Committee on Field-Replaceable LED Light Engines. The efforts and support of the Technical Committee are gratefully acknowledged.

Only metric SI units of measurement are used in this Standard. If a value for measurement is followed by a value in other units in parentheses, the second value may be approximate. The first stated value is the requirement.

In Canada, there are two official languages, English and French. All safety warnings must be in French and English. Attention is drawn to the possibility that some Canadian authorities may require additional markings and/or installation instructions to be in both official languages.

Annex A and Annex B, are identified as normative, as such, form mandatory parts of this Standard. Annex C is an informative (non-mandatory) part of this Standard and is not part of the ANSI approved standard.

Note: *Although the intended primary application of this standard is stated in its scope, it is important to note that it remains the responsibility of the users of the standard to judge its suitability for their particular purpose.*

Level of Harmonization

This Standard is published as an identical standard between UL and ULC Standards. An identical standard is a standard that is the same in technical content except for conflicts in Codes and Governmental Regulations. Presentation shall be word for word except for editorial changes.

Interpretations

The interpretation by the standards development organization of an identical or equivalent standard shall be based on the literal text to determine compliance with the standard in accordance with the procedural rules of the standards development organization. If more than one interpretation of the literal text has been identified, a revision shall be proposed as soon as possible to each of the standards development organizations to more accurately reflect the intent.

1 Scope

1.1 This standard specifies the requirements applicable to holders, bases and connectors intended for solid-state (LED) light engines and arrays for installation in lighting equipment, provided that they employ a configuration not typically found on incandescent or fluorescent light sources.

1.2 This standard does not cover lampholders with screw, bayonet or pin-type bases intended to be compatible with incandescent or fluorescent lamps. Such lampholders are covered under CSA C22.2 No. 43 / UL 496.

1.3 This standard does not cover wire connectors. Such connectors are covered under CAN/CSA-C22.2 No. 65 / UL 486A-486B or CSA C22.2 No. 2459 / UL 2459.

2 Definitions

2.1 For the purpose of this standard, the following definitions apply:

2.2 BASE – That part of a lampholder that is used for mounting of the device.

2.3 CURRENT-INTERRUPTING DEVICE – A component (such as a switch or breaker) intended to stop the flow of current in a lampholder circuit.

2.4 ENCLOSURE – That part or parts of a lampholder that:

a) Renders inaccessible all or any parts of the equipment that may otherwise present a risk of electric shock, or

b) Retards propagation of flame caused by electrical disturbances occurring within.

2.5 INSULATION, BASIC – The insulation necessary to provide basic protection against the risk of electric shock. This insulation may be in the form of vulcanized fiber, an inorganic or polymeric material, or an air gap.

2.6 INSULATION, DOUBLE – An insulation system comprised of both basic insulation and supplementary insulation.

2.7 INSULATION, REINFORCED – A single insulation system with such mechanical and electrical qualities that it, in itself, provides the same degree of protection against the risk of electric shock as does double insulation.

Note: The term “single insulation system” does not necessitate that the insulation must be in one homogeneous piece. The insulation system may comprise two or more layers that cannot be tested as supplementary or basic insulation.

2.8 INSULATION, SUPPLEMENTARY – An independent insulation provided in addition to the basic insulation to provide protection against the risk of electric shock in case of breakdown of the basic insulation.

2.9 LAMP BASE – The part of a lamp that engages the lampholder and makes contact with the electrical circuits of the lampholder.

2.10 LAMP CONNECTOR – A type of lampholder that provides electrical connection to a lamp but does not provide mechanical support; sometimes known as a lamp-supported lampholder.

2.11 LAMPHOLDER – A wiring device intended for making connection to the electrical circuits of a lamp and, in some cases, providing support.

2.12 LAMPLOCK – A feature intended to keep a lamp from being removed except by a person having a key or special tool.

2.13 LED ARRAY (LED MODULE) – An assembly of one or more LED packages or dies on a printed circuit board or substrate, possibly with optical elements and additional thermal, mechanical, and electrical interfaces that are intended to connect to the load side of an LED driver.

2.14 LED LIGHT ENGINE (LIGHT ENGINE) – An integrated assembly comprised of an LED array (LED module), LED driver, and other optical, thermal, mechanical and electrical components. The device is intended to connect directly to the branch circuit through a custom or industry-standard lamp base. This lamp base shall be of a type not typically found on incandescent or fluorescent light sources.^a

^aWith permission from ANSI/IES RP-16, Nomenclature and Definitions for Illuminating Engineering, by the Illuminating Engineering Society of North America.

2.15 LIMITED APPLICATION DEVICE (LAD) – Lampholders that:

- a) Are only suitable for connection to low voltage, low energy circuits supplied from a Class 2 or LVLE source; or
- b) Are solely used to provide mechanical support to the light engine and its components, and provide no direct support of live parts.

Note: The following clauses contain requirements, exceptions or notes applicable to limited application devices: 4.2.3, 4.2.6, 4.5.2, 4.8.5.2, 4.9.10, 4.12.3, 5.1.1, 5.3.1, 5.3.3, 6.2, and 7.3.3.

2.16 LIVE PART – A metal or other conductive part that, during intended use, has an electrical potential difference with respect to earth ground or any other conductive part. By definition, the grounded (or neutral) mains supply conductor is considered to be a live part.

2.17 LOCATION, DAMP – An interior or exterior location that is normally or periodically subject to condensation of moisture, including partially protected locations. The interior of a luminaire or sign intended for wet locations is considered a damp location.

Note: Examples of damp locations include partially protected locations under canopies, marquees, roofed open porches, and interior locations subject to moderate degrees of moisture, such as some basements, some barns, and some cold storage warehouses.

2.18 LOCATION, DRY – A location not normally subject to dampness. Dry locations include locations subject to temporary dampness, as in the case of a building under construction, provided ventilation is adequate to reduce the likelihood of accumulation of moisture.

2.19 LOCATION, WET – A location in which water or other liquid can drip, splash, or flow on or against a device.

Note: Examples include vehicle washing areas, showers, or unprotected locations exposed to weather.

2.20 RATED CURRENT – The current declared by the manufacturer to indicate the highest current for which the device is rated.

2.21 RATED VOLTAGE – The voltage declared by the manufacturer to indicate the highest working voltage for which the device is rated.

2.22 SEALING COMPOUND – An insulating material that may be used to insulate live parts on the underside of a lampholder from the surface to which it is intended to be mounted or used to fill a void for the purpose of reducing clearances.

2.23 SET SCREW – A threaded device for securing a lampholder to its support or for securing leads within a terminal assembly.

2.24 SOLID-STATE LIGHTING ASSEMBLY – An LED light engine or array intended for factory installation into end-product lighting equipment in a manner not intended for servicing by end users (i.e., servicing performed by qualified personnel only).

2.25 SOLID-STATE ASSEMBLY HOLDER – A wiring device that couples a solid-state lighting assembly to the end-product lighting equipment in a manner not intended for servicing by end users (i.e., servicing performed by qualified personnel only). The coupling is either electrical or both electrical and mechanical.

2.26 SYSTEM, DEFINED-FIT – A group of modular components (e.g., lampholders, light engines, associated mounting and thermal control hardware) defined and evaluated as a unique lighting system for use in luminaires and similar equipment for use in luminaires and similar equipment (see 4.16).

2.27 TERMINAL – Provision for the connection of supply conductors.

2.28 TERMINAL, INSULATION DISPLACEMENT (PIERCING) – A terminal to which insulated conductors are secured by forcing them through an integral blade assembly, piercing through their insulation in the process.

2.29 TERMINAL, PUSH-IN – A terminal in which the stripped end of a conductor is pushed into the terminal and the clamping pressure is maintained by a spring mechanism without the use of screws.

2.30 TERMINAL, SCREW – A terminal in which the conductor is bent around the screw and clamped directly under the head of the screw when it is tightened.

2.31 UPSET – A process for peening, staking, cross threading, or rounding, for example, a screw's shaft end to prevent it from loosening or being backed out.

2.32 VULCANIZED FIBER – A material normally used as electrical insulation, made by combining layers of chemically jelled paper. "Fish paper" is a designation commonly used in the trade to refer to thin sheets of electrical grade vulcanized fiber.

2.33 WORKING VOLTAGE – The highest voltage to which an electrical component or insulating barrier could be subjected when the equipment is operating under any condition of normal use.