Luminary safety

Understanding key changes to the standard UL 1598 4th edition guide.

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Introduction and use of this guide

The first edition of UL 1598, the Standard for Safety of Luminaires, combined standards for various types of fixed luminaires and harmonized U.S. and Canadian standards. Over time, revisions have been made to encompass new materials and designs while maintaining the highest levels of safety and compliance.

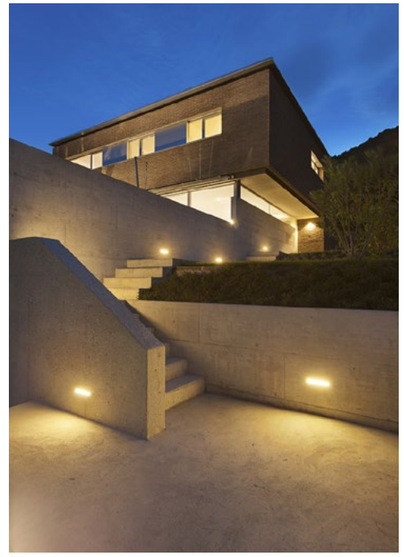
The fourth edition of UL 1598 was published on Aug. 28, 2018, with a UL effective date of Oct. 30, 2021. Until this effective date, luminaires can be certified using either the third or fourth edition. After Oct. 30, 2021, the third edition will be withdrawn, and only the fourth edition can be used for certification.

This guide outlines the changes to the Standard listed by clause and topic and features a summary of revised requirements. Please reach out if you have any questions, see the last page of this guide for contact information.

Summary of revised requirements chart

This summary for luminaires is derived from Standard development organization (SDO) bulletin(s) or other documentation publicly available. UL Standard bulletins are available at http://www.shopULstandards.com. Select UL Standards and search for the Standard Number. Bulletins are on the second tab and may be downloaded at no charge.

The clause numbers reflected in the table below are those in the fourth edition. Some of these are different than the clause numbers that appeared in the bulletins that were associated with the third edition.



Bulletins:

4-28-17 (27 topics), with recirculation bulletins 1-5-2018 (18 topics) and 5-18-18 (one topic withdrawn)

CCNs impacted:

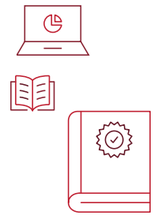
Clauses	Topic	Summary of revised requirements
9.6.3.1, Table 20.1.1 item 3.14.1	**Combination HID/incandescent lamp replacement marking for remote ballasted HID luminaires**	Allows a luminaire designed to accommodate either an incandescent or high-intensity discharge (HID) lamp to be marked for one or the other lamp type.
17.5.2.7, 17.5.3.8	**Rain and Sprinkler Test compliance requirements**	Allows thermoplastic wire to exhibit modest levels of moisture after these tests.
13.6 (new section), Table 20.1.1 item 2.28	**USA requirements for luminaires for use in clothes closets**	Establishes construction, test and marking requirements for luminaires intended to be installed per NEC 410.16(A)(3), 410.16(C)(5) and Figure 410.2.
17.14.1, Table 17.14.1	**Revise requirements for self-threading screw torque**	Broadens the screw torque requirements from applicable only in Mexico to all regions.
1.3	**Add reference to UL 8750 and CSA 250.13 for requirements for LED components and subassemblies**	Adds a specific reference to UL 8750 and CSA 250.13, to reinforce the existing clause 4.1.1 (Components) reference to Annex A where these standards are already cited.
2	**Reference standards**	Reference standards are being added to clause 2 (“Reference Publications”) based on technical requirements being added elsewhere in UL 1598 that refer to these standards. This is strictly an administrative action.
6.3.3	**Clarify requirements for luminaires using lamp holders having cellulosic fiber husks**	Clarifies that wire terminals covered by a husk or sleeve that is positively retained need not have an additional enclosure.
6.15.1.1, 11.6.4, 11.6.5, 11.6.7	**Clarify requirements for the use of flexible cord**	Provides a direct reference to section 10.6 from section 6.15 to facilitate access to the requirements for the use of flexible cord with surface mount luminaires. Expands the content of section 10.6 to align with relevant requirements of NEC 410.62.

Clauses	Topic	Summary of revised requirements
12.1.5, 12.8.5.2, 12.8.5.3	**Recessed luminaires for installation in air-handling spaces**	Requires recessed luminaires with polymeric parts located within an air handling space to be evaluated for heat and smoke generation per UL 2043, and permits them to be marked for such an application. Also requires recessed luminaires with polymeric housings to be marked as not for fire-rated installations.
Section 10 (new)	**Supplementary requirements for LED luminaires**	Adds general requirements for lamp holders, Printed Wire Boards (PWBs), emergency battery packs and markings for Light-emitting diodes (LED) luminaires.
6.11.1, Table 6.11.1, 6.11.10, 6.11.11, 6.11.12, (new) section 17.42	**Electrical spacings for printed circuit boards**	Directs spacings on circuit boards to comply with the requirements of UL 8750 or CSA 250.13 (or Annex F), or for the component standard for a board mounted component, all of which are likely to be more tolerant (allowing lesser spacings) than those of Table 6.11.1. However, spacings to non-current-carrying metal parts used to secure the circuit board are not permitted to be evaluated using the dielectric withstand test method of these standards. Spacings from circuit boards (or circuit board components) to other non-current-carrying metal parts may also be evaluated per UL 8750 where the spacings are reliably maintained as evaluated per the new metal strength test for reduced spacings (section 17.42).
5.3.2, 5.3.3	**Enclosure requirements**	Clarifies permitted enclosure materials and which parts or devices require an enclosure.
Table A.1	**Standard references**	Adds reference to the LED equipment standards (UL 8750, CSA 250.13).

Clauses	Topic	Summary of Revised Requirements
3, Table 12.7.1.1, 12.7.1.6, 12.8.1.14	**LED Type Non-IC inherently protected recessed luminaires**	Allows recessed LED luminaires without a thermal protective device and marked for non-IC applications to be marked “inherently protected” when evaluated for thermal performance under conditions of insulation contact.
12.5.1.1	**Thermal protection for LED recessed luminaires**	Identifies the conditions under which an LED recessed luminaire does not need to be provided with a thermal protector.
5.10.15	**Mechanical joints and fastenings**	Requires glass/frame or glass/trim assemblies secured by friction only to comply with the loading test (17.15).
3	**Definitions**	Adds definitions for a number of LED equipment devices. Revises the definitions for “risk of electric shock” to align with the more expansive class 2 voltage limits of the NEC and other UL Standards. Revises the definition of “risk of fire” to also exclude Low Voltage Limited Energy (LVLE) circuits contained within the luminaire.
5.7.1.3	**Revise flammability requirements for an LED lens and diffuser**	Allows an LED lens or diffuser spaced min. 0.8 mm from live parts to carry a V-0 (rather than 5VA) flammability rating.
6.11.2	**Add spacings options for using requirements from UL 840**	Allows the use of UL 840 (or CSA 0.2) as an alternative path for spacings compliance, under certain conditions.
(new) Section 12.8 (CAN)	**Luminaires for use in clothes closets**	Establishes Canadian requirements for luminaires intended for installation in clothes closets.
12.1.5 (CAN)	**Polymeric light diffusers and lenses compliance with the National Building Code of Canada**	Requires polymeric diffusers and lenses to comply with the flame spread and smoke development requirements of the National Building Code of Canada.
Table 20.1.1, 20.1.2	**Revise font size requirements for product labels**	Reduces the minimum font size from 2.4 to 1.6 mm for many markings, and from 4.8 to 3.2 mm for certain other markings. For 1.6 mm markings, now requires one of four eligible font types.
3	**Revise definition of User Maintenance**	Clarifies the definition to exclude certain activities or luminaire applications from the need for consumer-focused safeguards.
11.6.10 (CAN)	**Supply wire marking for wall-mounted luminaires**	For Canada, allows wall-mounted luminaires with supply wiring temperatures exceeding 75 C, but less than 90 C, to be marked for a 90 C supply wire rating (similar to what has been allowed for ceiling mounted luminaires).
Section 18, H.18.101, (new) Annex I	**Factory production-line tests**	Shifts the (mandatory) production line tests of Section 18 into a new informative Annex I, with some modest technical and editorial adjustments. Adds a 500 Vdc alternative to the production line dielectric voltage withstand test. Adjusts Annex H (RV luminaires for Canada) to retain its production line test program in lieu of that of new Annex I.
4.1.5 (CAN)	**General requirements for Canada**	Adds reference to CAN/CSA C22.2 No. 0 in the components section.

Next steps

Our lighting customers have access to our technical experts and engage with them from the very beginning to get ahead of potential roadblocks and improve speed to market. Contact us to discuss your existing product lines and upcoming product development with a dedicated lighting engineer for UL 1598 fourth edition questions and beyond.



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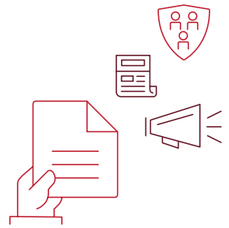

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