

STANDARD INFORMATION

Standard: UL 8750

Standard ID: Standard for Safety Light Emitting Diode (LED) Equipment for Use in Lighting Products [UL 8750:2015 Ed.2+R:07Dec2022]

Previous Standard ID: Standard for Safety Light Emitting Diode (LED) Equipment for Use in Lighting Products [UL 8750:2015 Ed.2+R:23Sep2021]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **May 1, 2025**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

Overview of Changes:

- Scope Update to Include Power Sources
- Requirements for Coin Cell Lithium Batteries
- Supply Connection Options for Built-in Products
- Dielectric Voltage Withstand Testing for Products with Integral SPDs
- Specifications for Cheesecloth
- Updates to Marking Requirements

Specific details of new/updated requirements are found in table below

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
		<i>Additions to existing requirements are <u>underlined</u> and deletions are shown lined-out below.</i>
1	Info	Scope
1.1		These requirements cover LED equipment that is an integral part of LED luminaires or lighting systems. These requirements cover LED drivers, controllers, arrays (modules), and packages as defined within this standard. <u>These requirements also cover power sources that are integrated into LED luminaires or lighting systems for functions other than a LED driver (e.g., DALI bus power supply).</u>
6	Info	Mechanical Construction
6.1	Info	General
		<i>New clause added;</i>
6.1.7		Where LED equipment includes coin cell lithium batteries, such as a wireless remote control for a LED controller, the design shall comply with the Standard for Products Incorporating Button or Coin Cell Batteries of Lithium Technologies, UL 4200A. Exception: This requirement is not applicable to LED equipment where the battery is not intended to be user replaceable and is not referenced in the product markings or instructions sheet.
7	Info	Electrical Construction
7.4	Info	Supply and load connections
7.4.1	Info	General
		<i>New clause added;</i>
7.4.1.4		Units that are intended as built-in components may have provision for connection to a source of supply utilizing methods other than criteria in 7.4.1.3 – including use of supply leads terminating in connectors, terminal blocks, and PWB edge connections. For such constructions additional considerations are necessary to determine suitability – including insulating materials in 7.6, electrical spacings in 7.8, and ratings (voltage, current, power).
8	Info	Performance Tests
8.1	Info	General
8.1.3		LED driver outputs, <u>and LED controller outputs intended to supply LED loads</u> shall be loaded using resistive, electronic, or LED loads. LED loads may be used in series with variable resistance to allow for output adjustment. <u>Power source outputs shall be loaded using resistive, or electronic loads.</u>



CLAUSE	VERDICT	COMMENT
8.2	Info	Input test
		For LED controllers, LED drivers, <u>and power sources</u> :
8.2.2		a) For constant voltage input units, the input voltage shall be set at rated value and supplying rated load. Measured input current and input power shall not exceed 110 percent of each rating respectively. b) For constant current input units, the input current shall be set at rated value and supplying rated load. Measured input voltage and input power shall not exceed 110 percent of each rating respectively.
8.6	Info	Dielectric voltage withstand test
8.6.1		The unit shall withstand for one minute, without breakdown, the test potential specified in Table 8.3, using the test equipment specified in 8.6.2 where V is the maximum AC (rms) voltage between the parts under test. If there is excess capacitive leakage current, the capacitors are permitted to be removed or the test may be conducted using a DC potential at 1.414 times the AC potential.
8.7	Info	Abnormal tests
8.7.1	Info	General
		During each test:
8.7.1.1		a) The grounding means, if provided, is to be connected to ground through a 3-A non-time delay fuse, b) The unit is to be placed on a softwood surface covered with tissue paper and draped with a double layer of cheesecloth conforming to the outline of the unit, c) The white tissue paper shall be nominally 0.025 mm (0.001 in) thick, commonly used for gift wrapping, d) <u>The cheesecloth shall be bleached cheesecloth, 36 inches (91.4 cm) wide, running 14 – 15 square yards per pound (26 – 28 m2/kg) and having what is known in the trade as a count of 32 by 28; that is, for any square inch 32 threads in one direction and 28 in the other direction (for any square centimeter, 13 threads in one direction and 11 in the other direction). The cloth is to be loosely draped over the device under test in order to serve as a flame indicator (presence of ash, or burnt holes) not as a blanket to trap heat.</u> e) The unit is to be energized at rated input voltage and frequency, f) The supply circuit is to be connected in series with a 20 A branch circuit-rated fuse (time delay type), of which the characteristics are such that the fuse does not open in less than 12 s when carrying 40 A, and g) The unit is to be operated at ambient temperatures of 25°C ±5°C (77°F ±5°F).
8.7.3	Info	Output loading test
8.7.3.1		LED <u>equipment with supply outputs (LED controllers, LED drivers, and power sources)</u> shall not exhibit a risk of fire or electric shock when subjected to the following tests.



CLAUSE	VERDICT	COMMENT
9	Info	Markings
9.1	Info	General
		<i>New clause added;</i>
9.1.4		Markings in this section are to be applied on the product, unless the specific clause provides other options (e.g. markings in an instruction sheet, or smallest unit container in which the product is packaged).
		<i>New clause added;</i>
9.1.5		Markings permitted to be in an instruction sheet may be alternatively (or additionally) provided via a publicly accessible web site, if the equipment is marked as follows; See (specific URL or QR code inserted here) for additional supporting information for this product.
		<i>New clause added;</i>
9.1.6		Markings that are provided in an instruction sheet (or a website), shall be sized in proportion to the other text presented in the same area.
		<i>New clause added;</i>
9.1.7		When the product is evaluated per a Supplement in this standard, markings in this section apply along with additional markings in the Supplement.
		Exception: This requirement does not apply to Supplement SD – LED packages.
		<i>New clause added;</i>
9.1.8		When the product is evaluated per a Supplement in this standard, the required product markings from the Supplement are not subject to the minimum letter height requirements in 9.1.2 except where otherwise noted.
9.2	Info	Identification and ratings
		LED controllers shall be provided with markings (a) through (e). LED drivers and power sources shall be provided with markings (a) through (d):
9.2.2		<ul style="list-style-type: none"> a) Environmental suitability (dry, damp, or wet location), b) Input supply limitations (e.g., Class 2 input only), if applicable, c) Input supply ratings: Voltage (V), Nature of supply (AC or DC; Constant Current or Constant Voltage), Frequency (if applicable), Current (A), and Power (W), <ul style="list-style-type: none"> <u>Note 1: For LED drivers with a feedthrough receptacle, input supply ratings shall include the current/ power draw from the feedthrough output.</u> d) Output ratings: Voltage (V), Nature of supply (AC or DC; Constant Current or Constant Voltage), Frequency (if applicable), Current (A). and Power (W), and <ul style="list-style-type: none"> Note 2: Feedthrough receptacles are treated as an output of the LED driver in this standard.



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		<p><u>Note 3: When the output can be programmed, ratings ranges for each parameter shall be provided on the product.</u></p> <p>e) Output load type(s) for LED controllers.</p> <p><u>Exception No. 1: For built-in products, this information may be provided in an instruction sheet.</u></p> <p>Exception No. 2: When the device is marked for a specific load (i.e. by manufacturer's name and model number), items (d) and (e) are omitted.</p> <p>Exception No. 3: When the device includes a light source (i.e. light engine) and has no supply output, items (d) and (e) are omitted.</p>
		<i>New section added;</i>
9.2A		<p>Instruction sheet</p> <p>LED equipment shall be provided with an instruction sheet to describe the following: See standard for details.</p>
9.3	Info	Construction-related markings
		Direct plug-in and through-cord LED drivers with a feedthrough receptacle (or a supply cord terminating in a receptacle) shall be marked:
9.3.8		<p>a) "Max 'X' model 'Y' units", where the 'X' identifies the maximum permitted number of identical units from the same manufacturer, and 'Y' identifies the model number, and/or</p> <p>b) "Max 'X' amps" or "Max 'X' watts", where 'X' identifies the maximum permitted electrical load.</p>
Supplement SD	Info	REQUIREMENTS FOR LIGHT EMITTING DIODE (LED) PACKAGES
SD9	Info	Markings
		<i>New clause added;</i>
SD9.3		See Appendix C Table 1 for text of applicable markings based on Hazard and Risk Group.
Supplement SJ	Info	SPECIAL USE LED ARRAYS
SJ7	Info	Markings and Instructions
		<i>New clause added;</i>
SJ7.2		See Appendix C Table 1 for text of applicable markings based on Hazard and Risk Group.



CLAUSE	VERDICT	COMMENT
		<i>New Appendix added;</i>
Appendix C		Packing Markings based on Hazard and Risk Group See standard for details.
