

STANDARD INFORMATION

Standard: CSA C22.2 No. 250.13

Standard ID: Light Emitting Diode (LED) Equipment for Lighting Applications [CSA C22.2#250.13:2022 Ed.5]

Previous Standard ID: Light Emitting Diode (LED) Equipment for Lighting Applications [CSA C22.2#250.13:2020 Ed.4+U1]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **May 30, 2024**

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 Reports not updated to this version by the effective date above will be withdrawn.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:

- Addition of new requirements for feedthrough circuits, direct plug-in and through-cord controlgear
- Addition of new requirements for Type IC LED controlgear and double insulated equipment
- Addition of new requirements for LED controllers intended to be installed in a wall -box
- Addition of new requirements for enclosures for LED equipment with open holes
- Addition of new requirements for LED equipment with conduit connections
- Addition of new requirements for LED packages that may emit light outside of the visible light spectrum

Specific details of new/revise 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 – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records.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>
4	Info	General requirements <i>New clause added;</i>
4.8		LED controlgear intended for be installed in contact with thermal insulation shall comply with Annex M requirements. <i>New clause added;</i>
4.9		LED controlgear intended to be marked as double-insulated equipment shall comply with Annex O requirements.
7	Info	Mechanical construction
7.1	Info	General <i>New clause added;</i>
7.1.6		LED controllers that are not covered within the scope of CSA C22.2 No. 184.1 and LED controllers intended to be installed in a wall-box (or provided with an enclosure for flush or surface mounting) shall comply with the construction requirements specified in this Standard and shall comply with the requirements for means of mounting, current-carrying parts, switches, flush-device cover plates, and touch dimmers in CSA C22.2 No. 184.1, as applicable.
7.4	Info	Enclosure openings
7.4.4		LED equipment types not described in Clause 7.4.1 and 7.4.5 may have open holes and shall comply with the accessibility requirements of Clause 8.2. <u>Line of sight to open core and coil components shall be louvered or baffled.</u> <i>New clause added;</i>
7.4.5		Direct plug-in or through-cord units may have openings, if circuits posing a risk of electric shock cannot be contacted by the following instruments being inserted through the openings, applied with a force not exceeding 4.45 N (1 lbf): a) test pin as illustrated in Figure 2; and b) articulate probe as illustrated in Figure 4.



CLAUSE	VERDICT	COMMENT
8	Info	Electrical construction
8.2	Info	Accessibility
		<i>New section added;</i>
8.2.7		Grounding and bonding Metal enclosures intended for conduit connection shall be bonded to ground and shall comply with the bonding circuit impedance test of Clause 9.18. See standard for details.
8.4	Info	Supply and load connections
8.4.2	Info	Permanently connected units
8.4.2.3	Info	Field-wiring terminals
8.4.2.3.1		A pressure wire-type terminal or a wire-binding screw shall be suitable for field wiring. <u>The field-wiring terminal shall not be rated for leads smaller than 18 AWG (0.82 mm²).</u>
8.4.2.4	Info	Push-in terminals
8.4.2.4.1		A push-in wiring terminal for the connection of supply leads shall allow only for the termination of the branch circuit conductor supplying the power source. It shall not provide for additional connections, unless the push-in wiring terminal has been evaluated to handle full branch circuit current. <u>The push-in wiring terminal shall not be rated for leads smaller than 18 AWG (0.82 mm²).</u>
		<i>New section added;</i>
8.4.4		Supply and load connections Receptacles shall have suitable voltage and current load ratings and shall comply with one of the following applicable requirements: See standard for details.
9	Info	Tests, procedures, and apparatus
9.1	Info	General
		<i>New clause added;</i>
9.1.4		LED controllers that are not covered within the scope of CSA C22.2 No. 184.1 and LED controllers intended to be installed in a wall-box (or provided with an enclosure for flush or surface mounting) shall comply with the construction requirements specified in this Standard and shall comply with the following tests in CSA C22.2 No. 184.1, as applicable: a) temperature test; b) security of lead test; c) torque and pull-out tests; d) limited short-circuit test; e) leakage current test for touch dimmers; f) leakage current test; and g) field replaceable actuator assembly test.



CLAUSE	VERDICT	COMMENT
		<i>New clause added;</i>
9.1.5		LED equipment incorporating a feedthrough circuit shall be subjected to applicable tests with the output loaded to its maximum rating using resistive or electronic loads.
		<i>New section added;</i>
		Bonding conductor tests
9.20		The bonding conductor path described in Clause 8.2.7.2 shall be subjected to a test current of 40 A for 2 min. Results shall be acceptable if the bonding conductor can carry this current for the duration of the test and in compliance with Clause 9.20.3. See standard for details.
10	Info	Markings
10.3	Info	Construction-related markings
		<i>New clause added;</i>
10.3.5		A metal enclosure for conduit connection that is not intended for pulling conductors shall be marked, “FOR CABLE USE ONLY — NOT FOR PULLING WIRES”, or equivalent.
		<i>New clause added;</i>
10.3.6		Direct plug-in and through-cord LED controlgear with a feedthrough receptacle (or a supply cord terminating in a receptacle) shall be marked with either or both of the following: a) “Max ‘X’ model ‘Y’ units”, where ‘X’ identifies the maximum permitted number of identical units from the same manufacturer, and ‘Y’ identifies the model number; and b) “Max ‘X’ amps” or “Max ‘X’ watts”, where ‘X’ identifies the maximum permitted electrical load.
10.3.7		Installation instructions for a direct plug-in and through-cord LED controlgear with a feedthrough receptacle (or a supply cord terminating in a receptacle) shall include the manufacturer’s recommendations for its proper use [e.g., intended use, output ratings, and maximum electrical load (current, power), acceptable number of units that can be supplied from the same supply source, considerations for load distribution, and cumulative leakage currents].



CLAUSE	VERDICT	COMMENT
Annex I	Info	Requirements for light-emitting diode (LED) packages
1.9	Info	Thermal aging test <i>New section added;</i>
1.9.5		Photobiological safety assessment LED packages with spectral power distribution characteristics outside of the visible light spectrum (400 to 700 nm) shall apply with Clause 1.9.5. Other LED packages may be evaluated to Clause 1.9.5 upon manufacturer's request. See standard for details. <i>New annex added;</i>
Annex M		Requirements for Type IC LED controlgear This Annex is applicable to Type IC LED controlgear with specific construction features, and additional performance and marking requirements. See standard for details. <i>New annex added;</i>
Annex N		Requirements for special use LED arrays These requirements are intended for the evaluation of component LED arrays intended for the integration into equipment for purposes other than general illumination. These LED arrays may also include LED packages that produce visible light. A manufacturer may request evaluation to this Annex for LED arrays that fit the criteria described under the definitions in Clause N.2. See standard for details. <i>New annex added;</i>
Annex O		Requirements for double-insulated LED equipment Double-insulated devices shall comply with CSA C22.2 No. 0.1.