California Energy Commission
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# SUBCHAPTER 4
# NONRESIDENTIAL, HIGH-RISE RESIDENTIAL, AND HOTEL/MOTEL OCCUPANCIES—MANDATORY REQUIREMENTS FOR LIGHTING SYSTEMS AND EQUIPMENT, AND ELECTRICAL POWER DISTRIBUTION SYSTEMS

## SECTION 130.0 – LIGHTING ~~CONTROLS AND~~SYSTEMS AND EQUIPMENT, AND ELECTRICAL POWER DISTRIBUTION SYSTEMS — GENERAL

(a) ~~Except as provided in Subsection (b), the~~The design and installation of all lighting systems and equipment in nonresidential, high-rise residential, hotel/motel buildings, outdoor lighting, and electrical power distribution systems ~~subject to Part 6~~within the scope of Section 100.0(a) shall comply with the applicable provisions of Sections 130.0 through 130.5.

**NOTE:** The requirements of Sections 130.0 through 130.5 apply to newly constructed buildings. Section 141.0 specifies which requirements of Sections 130.0 through 130.~~0~~5 also apply to additions and alterations to existing buildings.

(b) **Functional areas where compliance with the residential lighting Standards is required.** The design and installation of all lighting systems, lighting controls, and equipment in the following functional areas shall comply with the applicable provisions of Section 150.0(k). In buildings containing these functional areas, all other functional areas, such as common areas, shall comply with the applicable nonresidential lighting Standards and the applicable nonresidential controlled receptacle requirements in Section 130.5(d).

1. High-rise residential dwelling units.
2. Outdoor lighting that is attached to a high-rise residential or hotel/motel building, and is separately controlled from the inside of a dwelling unit or guest room.
3. Fire station dwelling accommodations.
4. Hotel and motel guest rooms. Additionally, hotel and motel guest rooms shall meet the requirements of Section 130.1(c)8 and Section 130.5(d)5.
5. Dormitory and Senior housing dwelling accommodations.

**NOTE:** The requirements of Section 130.0(b) also apply to additions and alterations to functional areas of existing buildings as specified in Section 130.0(b).

(c) **Luminaire classification and power.** Luminaires shall be classified and wattage determined as follows:

1. **Luminaire labeling.** Luminaire wattage shall be labeled as follows:

   A. The maximum relamping rated wattage of a luminaire shall be listed on a permanent, preprinted, factory-installed label, as specified by UL 1574, 1598, 2108, or 8750, as applicable; and

   B. The factory-installed maximum relamping rated wattage label shall not consist of peel-off or peel-down layers or other methods that allow the rated wattage to be changed after the luminaire has been shipped from the manufacturer.

**EXCEPTION to Section 130.0(c)1B:** Peel-down labels may be used only for the following luminaires when they can accommodate a range of lamp wattages without changing the luminaire housing, ballast, transformer or wiring. Qualifying luminaires shall have a single lamp, and shall have integrated ballasts or transformers. Peel-down labels must be layered such that the rated wattage reduces as successive layers are removed.

i. High intensity discharge luminaires, having an integral electronic ballast, with a maximum relamping rated wattage of 150 watts.

ii. Low-voltage luminaires (except low voltage track systems), ≤ 24 volts, with a maximum relamping rated wattage of 50 watts.

iii. Compact fluorescent luminaires, having an integral electronic ballast, with a maximum relamping rated wattage of 42 watts.

2. For luminaires with line voltage lamp holders not containing permanently installed ballasts or transformers; the wattage of such luminaires shall be determined as follows:

   A. The maximum relamping rated wattage of the luminaire; and

   B. For recessed luminaires with line-voltage medium screw base sockets, wattage shall not be less than 50 watts per socket.

3. Luminaires and luminaire housings designed to accommodate a variety of trims or modular components that allow the conversion between incandescent and any other lighting technology without changing the luminaire housing or wiring shall be classified as incandescent.

4. Screwbased adaptors shall not be used to convert an incandescent luminaire to any type of nonincandescent technology. Screw-based adaptors, including screw-base adaptors classified as permanent by the manufacturer, shall not be recognized for compliance with Part 6.

5. Luminaires and luminaire housings ~~manufactured~~ with incandescent screw base sockets shall be classified only as incandescent. Field modifications, including but not limited to hard wiring of an LED module, shall not be recognized as converting an incandescent luminaire or luminaire housing to a nonincandescent technology for compliance with Part 6 unless such sockets are removed.

6. Luminaires with permanently installed or remotely installed ballasts or drivers. The wattage of such luminaries shall be determined as follows:

~~A.~~ A. ~~Wattage shall be t~~The operating input wattage of the rated lamp/ballast combination published in ballast manufacturer's catalogs based on independent testing lab reports as specified by UL 1598.

B. The maximum input wattage of the rated driver published in driver's manufacturer catalogs based on independent testing lab reports as specified by UL 8750 or LM-79.

~~B. Replacement of lamps in a luminaire manufactured or rated for use with linear fluorescent lamps, with linear lamps of a different technology such as linear LED lamps, shall not be recognized as converting the fluorescent luminaire to a different technology for compliance with Part 6.~~

7. Line-voltage lighting track and plug-in busway that allows the addition or relocation of luminaires without altering the wiring of the system. The wattage of such luminaires shall be determined by one of the following methods:

   A. The wattage of line voltage busway and track rated for more than 20 amperes shall be the total volt-ampere rating of the branch circuit feeding the busway and track.

   B. The wattage of line voltage busway and track rated for 20 amperes or less shall be determined by one of the following methods:

      i. The volt-ampere rating of the branch circuit feeding the track or busway; or

      ii. The higher of the rated wattage of all of the luminaires included in the system, where luminaire classification and wattage is determined according to the applicable provisions in Section 130.0(c), or 45 watts per linear foot; or

      iii. When using a line-voltage track lighting integral current limiter, the higher of the volt-ampere rating of an integral current limiter controlling the track or busway, or 12.5 watts per linear foot of

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track or busway. An Integral current limiter shall be certified to the Energy Commission in accordance with Section 110.9, and shall comply with the Lighting Control Installation Requirements in accordance with Section 130.4, to qualify to use Subsection Biii to determine luminaire power; or

iv. When using a dedicated track lighting supplementary overcurrent protection panel, the sum of the ampere (A) rating of all of the overcurrent protection devices times the branch circuit voltages. Track lighting supplementary overcurrent protection panels shall comply with the applicable requirements in Section 110.9, and shall comply with the Lighting Control Installation Requirements in accordance with Section 130.4, to qualify to use Subsection Biv to determine luminaire power.

8. Luminaires and lighting systems with permanently installed or remotely installed transformers. The wattage of such luminaires shall be determined as follows:

   A. For low-voltage luminaires that do not allow the addition of lamps, lamp holders, or luminaires without rewiring, the wattage shall be the rated wattage of the lamp/transformer combination.

   B. For low-voltage lighting systems, including low voltage tracks and other low-voltage lighting systems that allow the addition of lamps, lamp holders, or luminaires without rewiring, the wattage shall be the maximum rated input wattage of the transformer, labeled in accordance with Item 1, or the maximum rated wattage published in transformer manufacturer's catalogs, as specified by UL 2108.

9. Light emitting diode (LED) Luminaires, and LED Light Engine.

   A. The wattage of such luminaires shall be the maximum rated input wattage of the system when tested in accordance with IES LM-79-08.

   B. The maximum rated input wattage shall be labeled in accordance with Section 130.0(c)1.

   C. An LED lamp, integrated or nonintegrated type in accordance with the definition in ANSI/IES RP-16-2010, shall not be classified as a LED lighting system for compliance with Part 6. LED modules having screw bases, including but not limited to screw based pig-tails, screw-based sockets, or screw-based adaptors, shall not be recognized as a LED lighting system for compliance with Part 6.

   ~~D. Luminaires and luminaire housings equipped with screw-base sockets shall not be classified as a LED lighting system for compliance with Part 6.~~

   ~~E~~D. Luminaires manufactured or rated for use with low-voltage incandescent lamps, into which have been installed LED modules or LED lamps, shall not be recognized as a LED lighting system for compliance with Part 6.

   ~~F~~E. For LED lighting systems that allow the addition of luminaires or light engines without rewiring, the wattage of such luminaires shall be the maximum rated input wattage of the power supply, labeled in accordance with Section 130.0(c)1 or published in the power supply manufacturer's catalog.

   **EXCEPTION to Section 130.0(c)9:** Luminaires in areas that must comply with Section 150.0(k), as specified~~covered~~ by Section 130.0(b).

10. The wattage of all other miscellaneous lighting equipment shall be the maximum rated wattage of the lighting equipment, or operating input wattage of the system, labeled in accordance with Section 130.0(c)1, or published in manufacturer's catalogs, based on independent testing lab reports as specified by UL 1574 or UL 1598. Lighting technologies listed in Subsections 2 through 9 shall be determined in accordance with the applicable requirements in Subsections 1 through 9.

(d) **Lighting Controls**. All lighting controls and equipment shall comply with the applicable requirements in Section 110.9, and shall be installed in accordance with the manufacturer's instructions.

**(e) Energy Management Control System (EMCS).**

1. An EMCS may be installed to comply with the requirements of one or more lighting controls if it meets the following minimum requirements:

   A. Provides all applicable functionality for each specific lighting control or system for which it is installed in accordance with Section 110.9; and

B. Complies with all applicable Lighting Control Installation Requirements in accordance with Section 130.4 for each specific lighting control or system for which it is installed; and

C. Complies with all applicable application requirements for each specific lighting control or system for which it is installed, in accordance with Part 6.

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