

## CALIFORNIA ENERGY COMMISSION

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## Regulatory Advisory

March 30, 2017

### APPLIANCE EFFICIENCY REGULATIONS FOR LAMPS: EFFECTIVE DATES

Three California Appliance Efficiency Regulations related to lighting will be effective for lamps manufactured on or after January 1, 2018. These regulations govern the lamps that can be legally sold or offered for sale in the state of California. In addition to the requirements discussed below, all other relevant provisions in Title 20, Sections 1601 to 1609 are applicable.

#### I. State-Regulated Light-Emitting Diode (LED) Lamp

A state-regulated LED lamp has a base that is E12, E17, E26, or GU-24. State-regulated LED lamps include retrofit kits, which are products designed to retrofit existing recessed can housings and contain a base that is E12, E17, E26, or GU-24. State-regulated LED lamps are further defined by additional characteristics such as maximum lumen output and correlated color temperature. The complete definition of state-regulated LED lamp is found in Title 20, Section 1602(k).

State-regulated LED lamps manufactured on or after January 1, 2018, and having a lumen output of 150 lumens or greater for candelabra bases or 200 lumens or greater for other bases, shall meet the requirements found in Title 20, Section 1605.3(k)(2) Table K-14 and Section 1605.3(k)(2)(C). For reference, these requirements are:

**Requirements for State-Regulated LED Lamps Effective January 1, 2018**

Measurement	Minimum Requirement
Compliance Score ( <i>Efficacy + [2.3 x CRI]</i> )	282
Initial Efficacy	68 lumens per watt
Color target and color consistency	Table 1 of Annex B of ANSI C78.377-2015
Color rendering index (Ra)	82
Individual color scores (R1-R8)	72
Power factor	0.7
Minimum Rated life	10,000 hours
Light distribution	<ul style="list-style-type: none"> <li>• A shapes: omnidirectional light distribution requirements in ENERGY STAR Product Specification for Lamps Version 2.0 (December 2015)</li> <li>• B, BA, C, CA, F, or G shapes: decorative light distribution requirements in ENERGY STAR Product Specification for Lamps Version 1.1 (August 2014)</li> <li>• Other shapes: none</li> </ul>

In addition, marking requirements apply as described in Title 20, Section 1607.

## II. State-Regulated Small Diameter Directional Lamp (SDDL)

A state-regulated SDDL is a non-tubular directional lamp with a diameter of less than or equal to 2.25 inches that is capable of operating at 12 volts, 24 volts, or 120 volts. State-regulated SDDLs are further defined by additional characteristics such as base, lumen output, and rated life. SDDLs may be incandescent, halogen, or LED. The complete definition of state-regulated SDDL is found in Title 20, Section 1602(k).

State-regulated SDDLs manufactured on or after January 1, 2018, shall meet the requirements in Title 20, Section 1605.3(k)(3). For reference, these requirements are:

**Requirements for State-Regulated SDDLs Effective January 1, 2018**

Measurement	Minimum Requirement
Initial Efficacy	Either: <ul style="list-style-type: none"> <li>• 80 lumens per watt, or</li> <li>• 70 lumens per watt and a minimum compliance score (efficacy + CRI) of 165</li> </ul>
Minimum Rated life	25,000 hours

## III. State-Regulated General Service Lamp

The definition of state-regulated general service lamp is identical to the definition of federally-regulated general service lamp found in Title 20, Section 1602(k)<sup>1</sup>. State-regulated general service lamps may be incandescent, halogen, compact fluorescent, or LED.

State-regulated general service lamps manufactured on or after January 1, 2018, shall meet the requirements in Title 20, Section 1605.3(k)(2) Table K-12. For reference, these requirements are:

**Requirements for State-Regulated General Service Lamps Effective January 1, 2018**

Measurement	Minimum Requirement
Initial Efficacy	45 lumens per watt
Minimum Rated Life	1,000 hours

### For more information

To obtain a copy of the regulations or other related compliance assistance documents, visit the Appliance Efficiency Program website at <http://www.energy.ca.gov/appliances>. Additional questions may be addressed by calling the Appliances Title 20 Compliance Assistance Call Center, toll free inside California at (888) 838-1467, or outside California at (916) 651-7100, or by emailing [appliances@energy.ca.gov](mailto:appliances@energy.ca.gov).

<sup>1</sup> All relevant definitions, such as those for federally-regulated general service incandescent lamp and federally-regulated incandescent reflector lamp are those that are in Title 20, Section 1602(k). The definitions recently adopted by the U.S. Department of Energy and published in the Federal Register on January 19, 2017, are not applicable to the California Appliance Efficiency Regulations until they are adopted by the California Energy Commission in a rulemaking.