

# 90+ LIGHTING

## Compliant EVERYTIME

### What You Need to Know and Why: CA Codes for LED Lamps Explained

You may not realize that despite the wide range of LED products on the market, very few manufacturers offer LED lighting products that meet California's current standards.

All 90+ Lighting products are listed for BOTH Title 20 and JA8-2016 Title 24 standards simultaneously. This means there is no compromise on lighting quality or reliability in order to have California code complaint products on your projects.

The California Energy Commission (CEC) is the state's California's primary energy policy and planning agency. In order to facilitate market transition from incandescent and fluorescent lamps to more efficient LED technology, the CEC updated Title 20 & JA8-2016 to delineate minimum quality and performance requirements for LED lamps.

- Title 20, effective January 1, 2018 and updated July 1, 2019, is part of the California Appliance standard. It sets efficacy requirements that LED socketed lamps must meet in order to be sold in California. Products must be registered with the CEC prior to entering the market. If the lamp is not listed in the database as a "State-regulated" lamp, it is not legal to be sold in California.

- JA8-2016/2019 in Title 24 is part of the California Building Standards requirements. It only applies to permitted residential and other dwelling construction, and only after a Title 20 listing is met.

**In order to be sold in California, LED lamps must first have a Title 20 listing as a "State-regulated" LED lamp. Having only JA8-2016/2019 is not sufficient. Lamps having only JA8-2016/2019 cannot be legally sold in California.**

### Title 20 LED Lamp Requirements

Title 20 is the California Appliance Efficiency standard that regulates lighting and other electrical products.

LED lamp products covered:

- E12, E17, E26, GU10 or GU24 bases
- Bi-pin lamps including MR16 and MR11
- Retrofit cans for these bases

Performance requirements

- CRI must be  $\geq 82$
- Power factor must be  $\geq 0.7$
- Rated life must be  $\geq 10,000$  hours or  $\geq 25,000$  for MR16s
- Must be dimmable to a minimum of 10% if lamp is dimmable

Product details

- A-lamps must be ENERGY STAR® V2.0 omni-directional
- Decorative lamps must be ENERGY STAR V1.1 light distribution
- Large lamps  $> 2.25"$  must have a compliance score  $\geq 297$  (July 2019)
- Small diameter lamps  $\geq 2.25"$  must have a compliance score  $\geq 165$  and efficiency  $\geq 80$  lm/W for 82 CRI lamps or  $\geq 70$  lm/W for 90 CRI lamps

### JA8-2016 Title 24 LED Lamp Requirements

CEC JA8-2016 Title 24, also known as the California Building Energy Efficiency Standard, is required for permitted residential and other dwellings. These requirements primarily relate to lamp quality and are more performance stringent than those covered in Title 20.

Performance requirements

- CRI must be  $\geq 90$
- R9 must be  $\geq 50$
- Flicker must be  $< 30\%$
- CCT lower than 4000
- Rated life  $\geq 15,000$  hours
- Minimum 10% dimming required

As of January 1, 2020 the Title 20 compliance scores will apply for JA8-2019, with no stated CRI or R9 requirements.



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