

# The California Energy Commission: Title 20 & Title 24 JA8



**“The California Energy Commission’s highest responsibility is to the people of California. We strive to conduct business in a manner that results in maximum public benefit while ensuring fiscal integrity and accountability for the expenditure of funds.”**

Established in 1974 by the Warren-Alquist Act, the California Energy Commission (CEC) was formed as the state’s primary energy policy and planning agency, committing to reducing energy costs and environmental impacts of energy use. Among ensuring the state has a safe and reliable supply of energy, the CEC has eight core organization goals:

**1. Energy Policy:** To make energy public policy recommendations that promote affordable energy supplies, improve energy reliability, and enhance health, economic well-being and environmental quality.

**2. Information Resources:** To provide energy data to policy makers, consumers and other stakeholders including useful and objective information and analyses based on that data.

**3. Research, Develop and Demonstration:** To research, develop and demonstrate policies and programs that promote strategic energy investments and ideas to the marketplace.

**4. Power Plant Siting:** To ensure that all energy facilities approved by the CEC are designed, constructed, operated, and decommissioned in compliance with all applicable laws, ordinances, regulations, and standards.

**5. Building and Appliance Efficiency Standards:** To adopt progressive building and appliance energy efficiency standards that will maximize durable and reliable energy efficiency and be the foundation for zero net energy buildings.

**6. Transportation:** To promote development and deployments of advanced transportation technology, alternative and renewable fuels, vehicles, technologies and infrastructure.

**7. Renewable Energy:** To support California’s Renewables Portfolio Standard by promoting renewable energy in California through certifying products and verifying all renewable energy procured.

**8. Excellence in Management:** To establish, implement and maintain financial and resource allocation plans and an organized structure and information system that supports the CEC.

## **CEC TITLE 20**

The Appliance Efficiency Program, or Title 20, includes standards for lighting appliances. The Voluntary California Quality LED Lamp Specification is aligned with the Title 20 standards. The objective of this specification is to promote lighting prod-

ucts that perform better than current mandatory requirements and to prepare the market for upcoming mandatory efficiency regulations. It states the minimum level of quality and performance from LED lamps needed to avoid consumer dissatisfaction and facilitate market transition to more efficient LED technology.

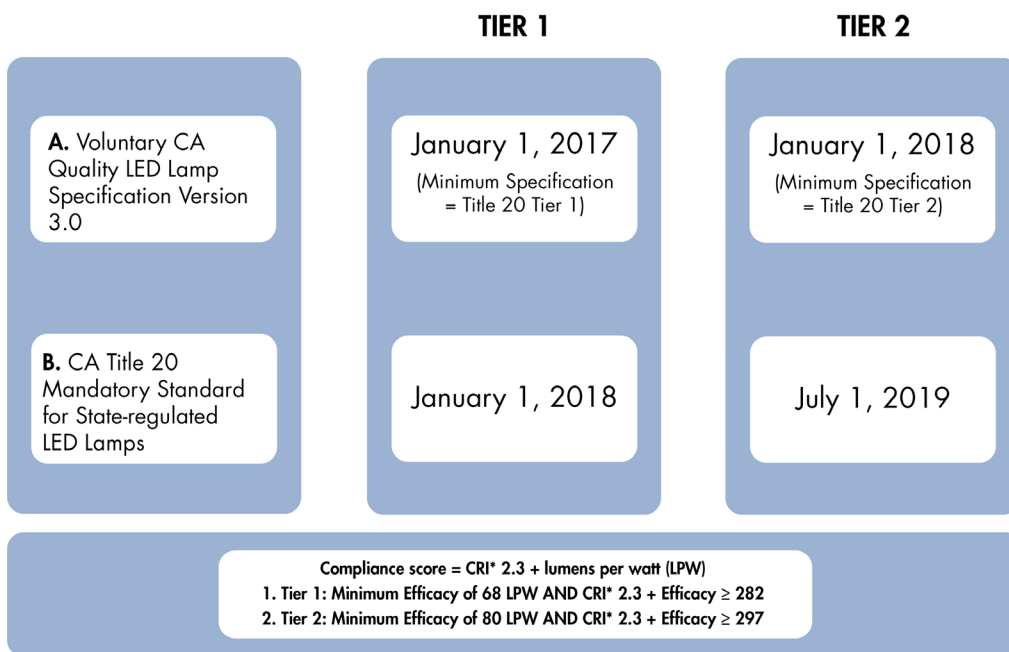
Title 20 is not only a requirement to sell in California, but item(s) must also be registered with the CEC prior to entering the market. However, if a product meets Title 20 requirements, that does not mean it will also meet Title 24 (JA8) requirements.

### ELIGIBLE PRODUCTS

In order to be Title 20 eligible, lamps must have an American National Standards Institute (ANSI) standard E12, E17, E26 or GU24 base, including LED lamps designed for retrofit within existing recessed can housing that contains one of the preceding bases. Also, the lamp must be capable of producing a quantity of light suitable for general illumination, meaning a brightness less than or equal to 2,600 lumens and greater than or equal to 150 lumens (for candelabra bases) or 200 lumens (for other bases).

The lamp must also be capable of producing white light, meaning light with a correlated color temperature (CCT) between 2200K and 7000K. Lamps of any shape are eligible that meet these criteria, including LED downlight retrofit kits and candelabra LEDs with one of the specified bases.

### EFFECTIVE DATES



### PERFORMANCE REQUIREMENTS

In order for products to be eligible for Title 20:

- CRI must be greater than 82
- Power factor must be greater than 0.7
- Rated life must be greater than 10,000 hours (25,000 for MR16s)
- A-lamps must be ENERGY STAR® V2.0 omni-directional
- Decorative lamps must be ENERGY STAR V1.1 light distribution
- Compliance score (chart above)
- MR16 lamps must either meet:
  - Greater than 80 LPW
  - Greater than 70 LPW with compliance score greater than 165.
- If lamp is dimmable:
  - Dimmable to 10%
  - Reduced flicker
  - Noise less than 24dB at 100% and 20%
- If comparing to incandescent equivalent, CCT must be less than 3000K
- If comparing to incandescent equivalent, must be dimmable
- If comparing to incandescent equivalent, lumens must be greater than 310 for E26 or greater than 150 for E12 or E17



## CEC TITLE 24 JA8

Title 24 (JA8), also known as the California Building Standards Code, states the energy efficiency requirements for residential and nonresidential buildings. Unlike Title 20, Title 24 is not required to sell product in California, but is required for new construction projects. High efficiency Joint Appendix 8 (JA8) requirements cover a broad scope, but are only required for residential use.

### JA8.1 Purpose and Scope:

JA8 provides the qualification requirements for high efficacy light sources installed to comply with Section 150.0(k): Residential Lighting. For the purposes of this Section, high efficacy light sources include ballasts or drivers if needed for the operation of the light source: light sources shall be certified together with a driver or ballast. If the light source is inseparable from the luminaire, the entire luminaire shall meet the requirements of this Section. All qualifying light sources shall be certified to the Energy Commission according to all of the requirements in this Appendix.

JA8 is a technology-neutral specification; any technology capable of meeting the requirements can be certified to the Energy Commission. JA8 requirements are also very similar to those of the Voluntary California Quality LED Lamp Specification and Title 20 mentioned previously.

Performance requirements for JA8 include:

- CRI greater than 90
- CCT under 4000K
- R9 greater than 50
- 6,000-hour lumen maintenance greater than or equal to 86.7%
- Rated life greater than or equal to 15,000 hours
- 10% dimming
- Flicker less than 30% for 200 Hz or below at 100% and 20% levels
- Noise less than 24dB at 100% and 20%
- Marking (either JA8-2016 or JA8-2016-E) on lamp

TCP has many products that meet Title 20 and Title 24 JA8 High Efficacy requirements. To learn more about TCP and its products, please visit [www.tcp.com](http://www.tcp.com).

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