

California Department of Transportation

Authorization Criteria for LED Luminaires

LED Luminaire Authorization Criteria:

All LED luminaires to be used by the State of California Department of Transportation shall be on the Caltrans Authorized Material List before incorporation into any construction project. Authorization of this material requires the following:

Manufacturer/Supplier Submittal Checklist:

1. Completed Authorized Material List Submittal Form (TL 9502).
2. Application for use (from Caltrans Specifications).
3. Test Report from a Nationally Recognized Testing Laboratory (NRTL), verifying the following parameters:
 - Comply with UL 1598 for luminaires in wet locations.
 - Have a minimum operating life of 60,000 hours at L70, complying with LM-80 and TM-21 at an ambient temperature of 25 degrees C.
 - Have a nominal correlated color temperature of 3000 K under ANSI C78.377 and a color rendering index of 70 or greater.
 - Comply with ANSI C136.31 Roadway and Area Lighting Equipment—Luminaire Vibration.
 - Have a power factor of 0.90 or greater. The total harmonic distortion, current, and voltage induced into a power line by a luminaire must not exceed 20 percent. Test voltage will be at 120 V(ac), 240 V(ac), or 480 V(ac).
 - The luminaire's housing and door must withstand a 1008-hour cyclic salt fog spray/UV test under ASTM D5894 and an evaluation under ASTM D714 with a blister size of 8 or greater and no more than medium density.
 - The luminaire's housing must be marine-grade alloy with less than 0.2 percent copper or die cast aluminum.
 - The optical assembly of the luminaire must be protected against dust and moisture intrusion to at least an ANSI/IEC 60529 rating of IP66.
 - Have a power supply with ANSI/IEC 60529 rating of at least IP65.
 - The power supply enclosure must be protected to at least an ANSI/IEC 60529 rating of IP43.
 - Have a housing color that matches a color no. 26152 to 26440, 36231 to 36375, or 36440 of AMS-STD-595
4. Product specification sheet.
5. LED spec sheet (w/output vs time chart)
6. LED Luminaire photometric file (.IES)
7. IES LM-79 Report (including luminous intensity distribution per IES LM-63)
8. IES LM-80 Report
9. ANSI/IEEE C62.41.2 Report
10. ANSI/IEEE C136.31 (or equal)
11. Certificate of Compliance signed document. See Caltrans Standard Specification 86-1.02K Luminaires, for a full list of requirements.
12. Description of Manufacturers Quality Control Procedures.
13. Two LED Luminaire samples for each submittal.

Provide an electronic copy of the requested documentation above and send it to New Products at new.products@dot.ca.gov.

Ship the requested LED luminaire samples to the Caltrans Transportation Laboratory in Sacramento:

California Department of Transportation
Materials Engineering and Testing Services
MS #5: Electrical Testing Branch
ATTN: James Rhodes
5900 Folsom Boulevard
Sacramento, CA 95819-4612

Upon receipt, Caltrans will:

- Ensure all required documentation is received.
- Review the technical information.
- Evaluate submitted samples for Compliance with current Caltrans Specifications. Caltrans testing will verify the functionality, electrical and physical/mechanical performance of the LED Luminaire per 2015 Caltrans Standard Specifications, Revised Standard Specification, Section 86-1.02K luminaires.
- Upon evaluation of the submitted technical information and Caltrans test results, we will issue an acceptance letter valid for three years or a rejection letter.
- Update the Caltrans Authorized Material List, if applicable.

Reauthorization of Existing Products

Manufacturer/supplier must submit a reauthorization package before the end of the listed expiration date. All items required are listed under the "Manufacturer/Supplier Submittal Checklist". Please send the reauthorization package documentation to James Rhodes (james.rhodes@dot.ca.gov) and the LED Luminaire samples to the address listed above. Packages must be received 90 days prior to the expiration date to maintain an existing product on the AML.

For more information, you may contact the Department of Engineering Services, Office of Roadway Materials Testing, Electrical Testing Branch: James Rhodes at (916) 227-7112 email: james.rhodes@dot.ca.gov.

Note: Caltrans reserves the right to remove a product from the Authorized Materials List at any time

UPDATED 01/23/2020