

1. HIGH EFFICACY LUMINAIRE LED [617] (ADDED 1-06-26)

A. Description. Install luminaires that use light-emitting diodes (LED) as a light source.

B. Materials. Furnish luminaires that meet the following requirements:

- 1) Have a die cast aluminum housing and a universal four-bolt slip fitter mount.
 - 2) That are UL listed for use in wet locations.
 - 3) That utilizes arrayed discreet LEDs. COB (chip-on-board) LEDs will not be accepted.
 - 4) Have a light distribution of type 2.
 - 5) Rated at 17,600 delivered lumens.
 - 6) Having a field adjustable drive current selector with a range of 350 milliamps to 700 milliamps.
 - 7) Have a current drive setting of 450A.
 - 8) Have an upright rating of U1 or less. Submit the backlight, upright, and Glare (BUG) ratings.
 - 9) Meet ANSI C136.37 standards for solid state light sources.
 - 10) Have an LED optical assembly that has an ingress protection rating of IP66.
 - 11) That are photometrically tested by certified independent testing laboratories in accordance with IES LM-79 testing procedures.
 - 12) Use a correlated color temperature (CCT) of 4000 K and a minimum color rendering index (CRI) of 70.
 - 13) Must be mercury and lead free and are tested in accordance with IES LM-80 testing procedures.
 - 14) Furnish LEDs rated to produce a minimum of 70% intensity at 100,000 hours of life based on IES TM-21 (L70). Submit a TM-21 report for the LEDs.
- C. Construction Requirements. Furnish, install, and provide the following:
- 1) A power supply with a minimum power factor of .90 and a maximum total harmonic distortion (THD) of 20% or less.
 - 2) A Surge protection with a minimum of ANSI/IEEE C62.41 category C protection. Wire luminaires for 240-volt operation. Provide access to electrical components without the use of tools.
 - 3) A minimum 10-year manufacturers' warranty for the entire luminaire assembly including material, workmanship, photometrics, power supply and LED modules. If more than 10% of the LED's fail within an individual luminaire within the warranty period, the luminaire must be repaired or replaced.

Adjust luminaires at night to provide the best roadway lighting distribution. Adjust luminaires so they are level from side to side to limit glare. Have shielding available for luminaires in residential areas and install when directed by the Engineer.

D. Method of Measurement and Basis of Payment. Payment is for each LED Luminaire in place and operational, which includes furnishing and installing the LED Luminaire, mounting hardware, and making all necessary electrical connections. Include any required shielding in this item. Provide any additional equipment required as part of this bid item.