

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS

JUNE 2016

DECORATIVE, SILVER SPRING VEHICULAR
LED SHALLOW DROP STYLE LUMINAIRE

1) PURPOSE

The purpose of these specifications is to provide minimum requirements for the design, manufacture, finishing and delivery of the Silver Spring Vehicular LED Shallow Drop style luminaires. The Silver Spring Vehicular LED Shallow Drop is intended to be mounted on a decorative post as specified, along roadways in the Silver Spring Central Business District. Any manufacturer, distributor or vendor who submits a bid shall agree to comply with these specifications, or submit specifications for approval that match these specifications.

2) DESCRIPTION

The luminaire shall be an outdoor decorative fixture, cylindrical in shape with an overall height of 30 inches \pm and an overall width of 16 5/8 inches for the globe (see attached drawing). All exterior and structural parts shall consist of cast aluminum alloy. Exterior castings shall be cast in three pieces having a smooth surface finish and free of mold lines. A separate section for the driver is permitted if the driver casting is secured to the luminaire body with captive fasteners. All components shall fit together snugly and shall be fitted with continuous neoprene gaskets so as to weatherproof the joints between metal interfaces. Visible metal surfaces shall be integrally molded as to appear to be a single unit. All metal parts shall be corrosion resistant. The luminaire shall come ready for quick and easy field assembly or be fully assembled and include the following components:

Each luminaire shall include the following:

- 1) LED Optical Assembly (Type III distribution);
- 2) 120 volt LED Driver;
- 3) NEMA twist-lock type photocell installed on the metal body of the decorative post;
- 4) Shallow Drop globe
- 5) All necessary hardware and fasteners to assemble and secure the luminaire onto the post arm.

3) DESIGN CRITERIA

3.1) AASHTO Standards

The luminaire shall meet the requirements of the American Association of State

Highway and Transportation Officials (AASHTO), “Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals,” latest edition.

3.2 Wind Load

All components of the luminaire shall be designed to resist (at yield strength of the materials without permanent deflection or destruction), test loads equivalent to the calculated loads developed by the velocity pressure of at least an 80 MPH wind. A minimum safety factor of 1.82 on the yield strength shall be maintained.

4) GLOBE

The globe shall be of a Shallow Drop (teardrop) shape, thermal resistant borosilicate glass or Acrylic that controls the light, and provide an IES Type III cutoff distribution. The combination of shallow lens and LED panel shall maximize efficiency and uniformity of illumination while controlling the luminaire brightness. The entire globe shall be luminous with shielding of the top section. The top surface of the globe shall interface closely with the metal body of the fixture so as to provide a weather, dust, and insect proof protection.

5) DRIVER and SURGE PROTECTOR

The driver shall be mounted to facilitate easy removal for maintenance operations. The driver shall be equipped with a 10KV Surge Protection and suppression system. All electrical connections shall be polarized and of plug-in design. The driver shall be wired to receive 120 volt AC current. The driver shall reliably start and operate the lamp in ambient temperatures down to minus 30 degrees. The terminal block shall be capable of accepting up to a #6 AWG wire.

6) LED Color Temperature (CCT) and Rendering Index (CRI)

The Correlated Color Temperature (CCT) shall be a nominal Kelvin Temperature of 3500 ± 200 K with a minimum Color Rendering Index (CRI) of 70

7) PHOTOCELL

The photocell shall be a NEMA twist-lock type or equal, mounted on the metal body of the decorative pendant post.

8) METAL BODY

The body shall be cast in two pieces and shall have raised surface ridges. The body shall taper smoothly from the slip fitter to the top of the globe. The body shall be constructed to prevent rainwater collecting on the luminaire.

9) TOP ENTRY THREADED SLIPFITTER

The top entry threaded slipfitter shall have a nominal inside diameter of 1 ½ inches +/- 0.05 inches and shall be secured to the pole slipfitter with three or four evenly spaced setscrews or approved top mounting equivalence.

10) FINISH

SPECIFICATIONS FOR STREETLIGHT HARDWARE

IFB # 1063092

The exterior surface of the luminaire body shall be factory finished with a dark green electrostatically applied polyester powder coat. The color shall be “Federal Green”, federal color 595B, #14036

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