MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC AND PARKING SERVICES

JUNE 2016

WASHINGTON GLOBE DECORATIVE LED STYLE LUMINAIRE SEMI CUT-OFF HARD TOP

1) PURPOSE

The purpose of these specifications is to provide minimum requirements for the design, manufacture, finishing and delivery of the Washington Globe (hard top) LED luminaire. The Washington Globe is intended to be mounted on decorative pole as specified, along roadways throughout Montgomery County. Any manufacturer, distributor or vendor who submits bid shall agree with these specifications

2) DESCRIPTION

The luminaire shall be an outdoor decorative post top fixture, cylindrical in shape with an overall height between 42.5 +/- 2.0 inches and a overall width between 16.5 +/- 0.5 inches for the globe (see attached drawing). All exterior and structural parts shall consist of aluminum alloy or cast iron. Exterior castings shall be cast in one piece having a smooth surface finish and free of mold lines. A separate cover for a ballast drawer/tray is permitted if the ballast drawer cover 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 weather proof joints between metal interfaces. Visible metal surfaces shall have raised decorations integrally molded in the base piece. All metal parts shall be corrosion resistant. The luminaire shall come ready for quick an easy field assembly or fully assembled:

Each luminaire shall include the following components:

1) LED Optical Assembly (Type III distribution)
2) 120 volt LED Driver
3) Button type photocell installed on the metal body of the luminaire or ballast tray cover;
4) All necessary hardware and fasteners to assemble and secure on post tenon.

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 should be supplied as two pieces, chemically matching material as a unit and permanently sealed together with a chemical bonding process. The globe bottom shall be alabaster rippled and made of UV stabilized acrylic. The globe roof shall be of a spun aluminum design. The roof and bottom globe sections are secured in a slip-fit, 1/2" overlap design and providing a mechanical lock and enabling easy future replacement of either the roof or bottom globe section if required. The roof finish shall be polyester thermoset powdercoat. The globe shall be of a traditional "Washington Globe" (acorn) shape designed to achieve the photometric performance specified by Illumination Engineering Society (IES). The bottom surface of the globe shall interface closely with the metal body of the fixture so as to provide a weather, dust, and insect proof interface. The globe or its mounting ring shall be fastened with three or more recessed set screws to the body of the fixture.

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 3500K ±200K with a minimum Color Rendering Index (CRI) of 70.

7) PHOTOCELL

The photocell shall be a twist-lock type or equal, mounted on the metal body of the luminaire or the cover of the ballast tray drawer.

8) METAL BODY

The body shall be cast in one piece and shall have raised surface decorations. The body shall taper smoothly between the slip fitter to the base of the globe. The body shall be constructed with weep holes or channels to prevent rainwater from collecting at the top of the body.

9) SLIP FITTER

The slip fitter shall have a nominal inside diameter of 3.375 inches +/- 0.25 and shall be secured to the lamp post tenon with three of four evenly spaced set screws. The slip fitter shall accommodate a tenon 3.0 inches long.

10) FINIAL

The finial shall be made of cast aluminum, and securely fastened to the top of the globe.

11) FINISH

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

SPECIFICATIONS FOR STREETLIGHT HARDWARE