

# Special Specification 6144

## LED Pedestrian Illumination



### 1. DESCRIPTION

Furnish and install plate mounted and pole mounted LED pedestrian illumination assemblies for the pedestrian bridge illumination system.

### 2. MATERIALS

Provide new materials that comply with the details shown on the plans, the requirements of this item, and the pertinent requirements of the following items:

- Item 416, "Drill Shaft Foundations"
- Item 441, "Steel Structures,"
- Item 442, "Metal for Structures,"
- Item 446, "Cleaning and Painting Steel,"
- Item 449, "Anchor Bolts"
- Item 610, "Roadway Illumination Assemblies"
- Item 616, "Performance Testing of Lighting Systems,"
- Item 618, "Conduit," and
- Item 620, "Electrical Conductors".

Provide 6 sets of submittals showing the pole and fixtures to the Engineer for approval at the project address. Obtain the Engineer's approval on the submittals before purchasing materials and beginning work. Furnish 2 copies of the completed material identification form to the Engineer prior to beginning fabrication.

Ensure materials are UL-listed; meet NEMA, NEC, and AASHTO requirements; and are in accordance with the Electrical Detail standard sheet.

Provide 12 ft., 11 gauge, 4 in. x 4 in. square straight steel light poles to equal 12 ft. luminaire mounting height from pedestrian walkway, according to plans and specifications. Pole manufacturer shall fabricate wall plate connection for attachment of pole to structure as shown on the plans. Provide black polyester powder coat finish for pole, wall plate, mounting plates and connections. Provide top cap and stainless steel fasteners for luminaire mounting.

Provide single/dual pole mount 100 W HPS equivalent LED area type luminaire with I.E.S. Type III light distribution pattern according to plans and specifications. Ensure that the luminaire is suitable for use in wet locations and the optical compartment meets an IP66 rating.

Provide LED luminaire with 4000 K color temperature. Multi-volt driver shall operate on any line voltage from 120-277 V (50/60 Hz).

Provide luminaire with mounting hardware and stainless steel bolts and integral arm to facilitate attachment to the mounting plate or square straight steel light poles.

Provide a photometric array showing the luminaire provided, mounted at the locations shown on the plans, derating the initial lumen output by 0.80 to illuminate the pedestrian walkway with the minimum average maintained illuminance requirements shown in AASHTO, "An Informational Guide to Roadway Lighting". Obtain Engineer's written approval of the array before purchasing and installing the fixtures.

Provide luminaire with a black polyester powder coat finish matching the appearance of the square straight steel light poles. Provide the ability to access the light engine and remove the LED board without the use of tools. Provide UL listing of fixture as suitable for wet locations at a maximum 30°C to 40°C operating temperature.

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**3. CONSTRUCTION**

Perform work in accordance with the details shown on the plans and the requirements of this item.

Use established industry and utility safety practices when installing poles and luminaires located overhead of freeway. Consult with the Engineer prior to beginning work.

Prevent scarring or marring of the luminaires, mounting plates and poles. Replace damaged components. Repair damaged painted areas in accordance with Item 446, "Cleaning and Painting Steel."

Fabricate and install pedestrian illumination standard components in accordance with the details, dimensions, and requirements shown on the plans. Test installed pedestrian illumination standards in accordance with Item 616, "Performance Testing of Lighting Systems."

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**4. MEASUREMENT**

This Item will be measured as each plate mounted pedestrian illumination assembly or as each pole mounted pedestrian illumination assembly installed.

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**5. PAYMENT**

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Plate Mounted LED Pedestrian Illumination Assembly" or "Pole Mounted LED Pedestrian Illumination Assembly" of the type specified. This price is full compensation for furnishing, installing, and testing luminaires; poles, arms, LEDs, drivers, anchor bolts, anchor plates, mounting plates, internal conductors and connections; system performance testing; and for furnishing equipment, labor, tools, and incidentals.

Drill Shaft will be paid for under Item 416, "Drill Shaft Foundations." New conduit will be paid for under Item 618, "Conduit." New conductors, except the conductors internal to the pole, will be paid for under Item 620, "Electrical Conductors."