

5.10 Technical Specification: Outdoor LED

Small Premium Project Type:

Outdoor LEDs: Projects will include installation of new LED street lamp fixtures for streets, highways, parking lots, service station canopies and other areas where high-intensity discharge (HID) street lamp fixtures are typically used. For existing lighting fixture replacement projects of known wattage, the lighting fixture replacements must adhere to the fixture replacement schedule identified in this specification.

Description:

Outdoor LED projects will install new fixtures designed to provide lighting via LED solid-state technology (SST) for outdoor street lamp fixtures. The fixture must be commercially available. Prototype fixtures are not eligible. Retrofit kits are not allowed. The LED fixture will be installed in lieu of conventional lighting technologies (e.g. HID lamps such as high pressure sodium, metal halide and mercury vapor).

Minimum Operation:

The eligible luminaire must be in operation from dusk to dawn or a minimum of 4,000 hours per year.

Equipment Type, Capacity and Performance:

The following features are required to be eligible for a tax credit as a LED street lamp fixture:

1. General Luminaire Requirements:
 - a. Heat sink cooling without fans, pumps or moving parts.
 - b. Fixture must be classified as cutoff or equivalent per IES TM-15-2007.
2. Minimum Lamp life: 50,000 hours average rated life.
3. LED Module/Array: Designed for multi-current input operation.
4. Light Quality:
 - a. Nominal Correlated Color Temperature from 2500°K to 5000°K.
 - b. Color Rendering Index ≥ 65 .
5. Power Supply /Driver Requirements:
 - a. Driver Compartment meets or exceeds IEC standard IP54.
 - b. Located inside the housing with serviceable access for replacement.
 - c. Designed for multi-current input operation.
 - d. Power supply should have a minimum Power Factor of 0.90.
 - e. Must operate between -20° C and 50° C.
 - f. Operate at a frequency ≥ 120 Hz and input operating frequency of 60 Hz.
 - g. Transient Protection must meet IEEE C.62.41-2-2002, Class A operation.
6. Housing Requirements
 - a. Housing or lenses constructed of polymers (e.g. polycarbonate) must be UV stabilized.
 - b. Meets or exceeds IEC standard IP54.
7. Optical Assembly Requirements: Meets or exceeds IEC standard IP66.
8. Illumination requirements: Fixture(s) must be designed to meet IESNA lighting standards per RP-8-00. Type II & III distribution patterns should be readily available.

9. Components

- Fixture components must be UL listed.
- Photo-electric (PE) cell socket must rotate and have a standard 3 prong twist-lock PE receptacle (ANSI/NEMA C-136.10.).

10. Warranty

- Lens discoloration must be considered a failure under warranty.
- Provide for the full replacement of the luminaire due to any failure for at least five years.

The fixture replacement schedule for existing HID fixtures defines the appropriate replacement LED fixtures that are eligible to receive tax credits based on the capacity of the existing lighting fixture being replaced. Please note all replacement fixtures must provide equivalent light output (i.e. lumen) as the existing fixture being replaced.

Fixture Replacement Schedule for Existing HID Fixtures

Existing HID Fixture	Replacement LED Fixture
350 to 400 watt fixtures	200 watt or less
200 to 320 watt fixtures	120 watt or less
150 to 200 watt fixtures	85 watt or less
100 to 150 watt fixtures	60 watt or less
Note: All wattages nominal input wattages	

Incentive Estimate Worksheet:

The incentive worksheet shown in the following schedule is the prescribed tax credit amount that small premium projects can receive for Outdoor LED fixtures.

Tax Credit Worksheet for Outdoor LED fixtures

A. Measure Category	B. Incentive per Fixture (\$)	C. Quantity of Fixtures	D. Total Incentive (B x C)
Replace 350 to 400 watt HID fixtures with less than 200 watt LED fixture	\$90 per fixture		
Replace 200 to 320 watt HID fixtures with less than 120 watt LED fixture	\$70 per fixture		
Replace 150 to 200 watt HID fixtures with less than or equal to 85 watt LED fixture	\$60 per fixture		
Replace 100 watt HID with less than or equal to 60 watt LED fixture	\$40 per fixture		

Total from
Column D