

City of Los Angeles LED Testing and Evaluation of Lighting Fixtures (01-06-2021)

Minimum Requirements for Testing and Evaluation of LED Equipment

The Bureau of Street Lighting will be administering an ongoing LED testing and evaluation program.

Periodically, new LED streetlights will be brought into our testing lab for mechanical and electrical evaluation. Some of those fixtures may be moved to a public street for lighting evaluation and will be monitored for a period lasting up to a year.

Due to the large number of fixtures being submitted for evaluation, we have developed a minimum set of requirements for all new LED streetlights. These requirements must be met before we can accept the equipment into our program.

If your LED streetlight meets the following requirements, enter your contact information and a brief description of your product in the electronic form provided on this webpage.

Energy Savings

In order for new fixtures to be considered for evaluation, they must be more efficient than those already on the approved list.

Scotopic light contribution can not be considered at this time as the Bureau is using recommended lighting levels and uniformity ratios set forth in IESNA-RP-8-2000.

Maximum LED Power Consumption to Achieve the desired Energy Savings
For fixtures providing 3000-4000 lumens LED replacement should use less than: 28W
For fixtures providing 6000-7000 lumens LED replacement should use less than: 60W
For fixtures providing 7,500-10,000 lumens LED replacement should use less than: 70W
For fixtures providing 10,500-12,000 lumens LED replacement should use less than: 90W
For fixtures providing 13,000-16,000 lumens LED replacement should use less than: 120W

Production

The LED streetlight must be commercially available. Prototypes will not be accepted.

Documentation

The fixture must be marked with a full production catalogue number that matches manufacturer documentation.

A full sheet of product specifications must be submitted. Warranty information must be included.

Fixture must be tested by [an independent lab that is currently approved by DOE for their Caliper testing](#) program. All costs incurred shall be the responsibility of the party submitting the sample for evaluation. Testing must be performed in accordance with all LM-79 guidelines, and locked IES files must be provided. **Test results must match color temperature submitted.**

Illumination Requirements

Fixture must be designed to meet IESNA lighting standards per RP-8-00. Type II & III distribution patterns should be readily available. The following table may be used for “typical” lighting calculations.

Typical Roadway Characteristics					
Lumen Output:	3,000-4000	6,000-7,000	7,500-10,000*	10,500-12,000*	13,000-16,000*
Mounting Height:	26' 8"	29'7"-32"7"	30'-33'	30' to 40'	30' to 40'
Spacing:	50'-170'	130'–140'	125'-140'	110' to 160'	120' to 180'
Configuration:	One-sided	Staggered	Opposite	Staggered or Opposite	Staggered or Opposite
Roadway Classification:	Local	Collector	Major	Major	Major
Roadway Width:	30'-40'	40'-50'	50'-70'	>70'	>80'
Sidewalk Width:	10'-12'	10'-12'	10'-15'	8'-20'	10'-20'

* These fixtures must also be suitable for use at signalized intersections.

IES files must be provided prior to submittal of sample fixture.

Fixture must be classified as cutoff, or equivalent per IES TM-15-2007

There should be no significant glare.

Mechanical and Electrical Requirements

The fixture must have a standard 3 prong, 7-pin twist-lock photocell receptacle per ANSI/NEMA C-136.41. The receptacle must rotate.

The fixture must meet the following ingress protection requirements:

- Optical assembly - IEC standard IP66
- Driver Compartment - IEC standard IP54
- Housing - IEC standard IP54

The fixture must easily connect to a standard 2.4” diameter horizontal tenon.

The fixture must not have any fans or moving parts.

The driver must be located inside the housing, but shall be easily accessible.

The driver current must be field adjustable.

Neither housing nor lens shall be constructed of polycarbonate /plastic that will discolor over time.

Power Factor > .90

LED Color Temp. (3000±300°K)

CRI ≥ 70

All components shall be UL approved.

The fixture must have transient protection.

The driver and LED arrays shall be designed for multi-current input operation.

Manufacturer must provide a ten (10) year warranty on fixture/components.