

Minimum Requirements for Testing and Evaluation of LED Equipment

In accordance with the “LED Pilot Project”, 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 will be moved to a public street for lighting evaluation and will be monitored over a period of at least 12 weeks.

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

The fixture must use approximately 45% less energy compared to its commercially available High Pressure Sodium counterpart. (See Chart below for actual wattage targets). 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
100W HPS lamp and ballast uses: 138W LED replacement should use less than: 53W
150W HPS lamp and ballast uses: 190W LED replacement should use less than: 84W
200W HPS lamp and ballast uses: 240W LED replacement should use less than: 139W
310W HPS lamp and ballast uses: 365W LED replacement should use less than: 149W
400W HPS lamp and ballast uses: 465W LED replacement should use less than: 195W

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 (a list of labs can be found here: http://www1.eere.energy.gov/buildings/ssl/test_labs.html). 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					
Lamp Size:	100W HPS	150W HPS	200W HPS	310W HPS*	400W HPS*
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.

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

There should be no significant glare, when compared to its commercially available High Pressure Sodium counterpart.

Mechanical and Electrical Requirements

The fixture must have a standard 3 prong twist-lock photocell receptacle per ANSI/NEMA C-136.10. 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.

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

Power Factor > .90

LED Color Temp. (4000 \pm 275°K)

CRI \geq 65

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. LED units with dimmable driver and a device to perform wireless remote monitoring are highly desirable.

Desirable Mechanical and Electrical features

Tool less driver replacement (power door)

Minimal packaging

Bug guard

Available house side shielding