

Pedestrian Luminaires, LED, Post-Top, Neoclassical



1. Scope

This standard covers the requirements for Neoclassical, post-top, LED, pedestrian luminaires.

This standard applies to the following Seattle City Light (SCL) Stock Nos.:

Stock No.	Description
015021	Luminaire, post-top, neoclassical
015022	Adapter for neoclassical, post-top luminaires

2. Application

Luminaires are:

- Installed in the Magnolia Community neighborhood.
- Mounted on (existing) round pedestrian streetlight poles with 4-inch pole-top outer diameters.
- Controlled by 20-year design life streetlight photocontrols as specified in SCL 5731.17.

Installation on existing poles with a 3-inch pole-top outer diameter will require an additional adapter.

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3. Industry Standards

Luminaires shall meet the applicable requirements of the latest revision of the following industry standards:

AAMA 2603; American Architectural Manufacturers Association, Performance Requirements for Organic Coatings on Aluminum Extrusions

ANSI/NEMA/ANSLG C78.377; Specifications for the Chromaticity of Solid State Lighting (SSL) Products

ANSI C136.10; Locking-Type Photocontrol Devices and Mating Receptacles

ANSI C136.22; American National Standard for Roadway and Area Lighting Equipment—Internal Labeling of Luminaires

ANSI C136.25; American National Standard for Roadway and Area Lighting Equipment—Ingress Protection (Resistance to Dust, Solid Objects and Moisture) for Luminaire Enclosures

ANSI C136.31; American National Standard for Roadway Lighting Equipment – Luminaire Vibration

ANSI C136.37; American National Standard for Roadway and Area Lighting Equipment – Solid State Light Sources Used in Roadway and Area Lighting

ANSI C136.41; Dimming Control Between an External Locking Type Photocontrol and Ballast or Driver

ASTM B117; Standard Practice for Operating Salt Spray (Fog) Apparatus

ASTM D1654; Standard Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments

ASTM D523-08; Standard Test Method for Specular Gloss

ASTM G154-06; Standard Practice for Operating Fluorescent Light Apparatus for UV Exposure of Nonmetallic Materials

Federal Trade Commission (FTC) Green Guides; 16 CFR Part 260; Guides for the Use of Environmental Marketing

IEC 60529; Degrees of protection provided by enclosures (IP Code), consolidated edition

IEEE C62.41.2; IEEE Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and less) AC Power Circuits

IES LM-79; Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

IES LM-80; Approved Method: Measuring Lumen Maintenance of LED Lighting Sources

IESNA TM-15; Luminaire Classification System for Outdoor Luminaires

RoHS (European Union Directive 2002/95/EC for Restriction of Hazardous Substances)

Title 47 of the Code of Federal Regulations (CFR), Part 15; Radio Frequency Devices

UL 1598; Luminaires; UL

4. Requirements

4.1 Luminaire Performance

Operating temperature, range	
°C	-40 to +40
°F	-40 to + 104
Correlated Color Temperature (CCT), nominal, °K, per ANSI/NEMA/ANSLG C78.377	2700K (2725K +/- 145K or 2580K to 2870K)
Color rendering index (CRI), minimum	70
L70 lumen depreciation of LED light sources per IES LM-80, hours, minimum	100,000
Light distribution, IES	Type 2 ASYM
Backlight, Uplight, and Glare (BUG) rating per IESNA TM-15, Addendum A	B1, U3, G2
Luminaire efficacy, lumens/watt, minimum, per IES LM-79, Section 11.0	89 lm/W
Off-state power consumption, W, maximum	0.5
On-state power consumption, W, maximum	54
LED power array module // LED module	48 high-performance white LEDs
Vibration withstand, minimum, per ANSI C136.31	Level 1 (normal application)

4.2 Power Supply/Driver

Input voltage, functional range, 60 Hz, Vac	120–277
Power factor at full load, minimum, %	95% minimum
Surge protection, per ANSI C136.37 and ANSI/IEEE C62.41.2	10 kV
High exposure, kV	10
Low exposure, kV	4
Interference	FCC 47 CFR part 15/18, Class A
Dimming control signal interface operative range, Vdc	0–10

4.3 Construction

Luminaires shall be designed and constructed to meet the requirements of ANSIC136.37.

Luminaire features conforming to ANSI C136.37 shall include, but not be limited to:

- Mounting provisions
- Latching and hinging
- Dimming
- Ingress protection
- Wiring and grounding
- Photocontrol receptacle
- Field-installable house side shields
- Luminaires shall be RoHS compliant. Luminaire shall have less than the maximum concentration values of the following RoHS-restricted substances:
 - Mercury (Hg)
 - Cadmium (Cd)
 - Chromium VI (Cr +6)
 - Polybrominated biphenyl (PBB)
 - Polybrominated biphenyl ether (PBDE)
 - Lead (Pb)

4.4 Fixture Housing

Effective projected area (EPA), ft ² , maximum	1.9 sq.ft
External housing, ingress protection per IEC 60529	IP54
Optical chamber, ingress protection per IEC 60529	IP66

Luminaire housings shall be cast aluminum and allow for tool-less entry.

Photocontrol receptacles shall be located at the top of the luminaire and allow for tool-less rotational adjustment.

Luminaire cooling system shall consist of a passive heat sink without fans, pumps, or liquids.

All fasteners shall be corrosion resistant.

The luminaire globe shall be made of impact-resistant acrylic with an inner prismatic surface.

All acrylic components shall be UV stabilized.

4.5 Electrical

Power supply/drivers shall be UL Recognized for dry and damp locations.

All other electrical components shall be UL Listed or UL Recognized for wet locations.

Photocontrol receptacles shall be designed and constructed to accept a standard plug type, locking, three-pole, three-wire, streetlight photocontrol, and shall be located at the top of the fixture.

Photocontrol receptacles shall have seven positions as defined in ANSI C136.41, including three twist-lock power contacts and four dimming or lighting control contacts.

Rotational adjustment of the photocontrol shall be tool-less.

Luminaire circuitry shall include quick connect/disconnects to allow easy separation and removal of driver and power door.

A three-pole aluminum terminal block capable of accepting #14 AWG to #6 AWG wire shall be mounted to an external housing located at the base of the fixture.

The terminal block shall accept a standard Phillips-head screwdriver.

4.6 Mounting

Luminaires shall be designed for post-top mounting onto a pole with a top diameter of four inches.

The tenon mounting area opening shall be limited to 1/4-inch over the range of tenon sizes and leveling adjustment to prevent entrance of wildlife as specified in ANSI C136.37.

The mounting tenon shall have a four-inch outside diameter and be four inches in length.

4.7 Lens

Lenses shall be clear pattern acrylic.

Lenses shall be lightly diffused and resistant to ultraviolet light deterioration.

Lenses shall be smooth on the exterior to discourage the unwanted growth of moss and mold.

4.8 Finish and Color

The finish on the housing shall be a powder coating with a minimum thickness of 100 microns.

Finish shall meet salt spray requirements of ASTM B 117 and the humidity resistance requirements of ASTM D 2247.

Color shall be medium grey textured (RAL-7040-T) and in accordance with AAMA 2603 standard.

Application of polyester powder coat paint (4 mils/100 microns) with \pm 1 mils/24 microns of tolerance.

The Thermosetting resins provides a discoloration resistant finish in accordance with the ASTM D2244 standard, as well as luster retention in keeping with the ASTM D523 standard and humidity proof in accordance with the ASTM D2247 standard.

4.9 Luminaire Physical Attributes

Physical attributes of luminaires are as follows:

Weight (lb)	47
Dimensions, height by width (in)	32.25 x 21

5. Testing

Manufacturers shall provide test data that establish compliance with the requirements of this material standard upon request.

Certificate of RoHS compliance shall be provided upon request. Electrical components are RoHS compliant.

6. Design Changes

Manufacturer shall inform Seattle City Light in writing of all design changes that could affect the product's understood or published capabilities.

7. Marking

7.1 Internal Labeling

A readily visible label shall be permanently affixed to the inside surface of each luminaire housing.

Internal label shall meet the requirements of ANSI C136.22.

Internal label shall include, but not be limited to, the following information:

- Unique 'Service Tag' QR-based identification system
- Manufacturer name and catalog number
- Month and year of manufacture
- Line input voltage
- Frequency if other than 60 Hz
- Driver type, if applicable (may be on driver if readily visible)
- Photocontrol voltage if different from line input voltage
- Lamp type, wattage, and voltage (if applicable; may be on driver if readily visible)
- Descriptive wiring diagram showing input terminals, ballast, capacitors, starting aid, photocontrol receptacle, lamp, and the like, as necessary
- Plant location
- Input power consumption
- Driver output current
- Driver output adjustment
- IEC IP rating
- Correlated color temperature (CCT)
- IES light distribution type
- IESNA TM-15 BUG ratings
- Serial number

7.2 Barcode

A barcode label shall be provided as specified in the purchase order.

7.3 Compliant Identification

All UL Listed or UL Recognized components shall be labeled as such.

8. Packaging

Luminaires shall be separately packaged to prevent damage during shipping, inside storage, and casual handling prior to installation.

Each luminaire package shall be legibly marked with:

- Manufacturer name
- Manufacturer's catalog number
- Product description
- Date of manufacture (month and year)
- Seattle City Light stock number
- Seattle City Light purchase order number

Each accessories package shall be legibly marked with:

- Product description
- Seattle City Light stock number

9. Issuance

Stock unit: EA

10. Approved Manufacturers

10.1 Luminaire, Stock No.015021

Manufacturer: Lumec - Signify

Catalog Number: [AT10-015]-55W48LED-2.7K-G3-ACDR-LE2A-UNV-DMG-HS-
[RCD7-032]-WC-GY3TX

where:

AT10-015 = spun-aluminum 1100 0 dome, with a tool-less RCD7 interface made from A360 cast aluminum, mechanically assembled

55W48LED = LED Module: 55W, 48 LEDs

2.7K = correlated color temperature: 2700K

G3 = Generation 3

ACDR = optics – lens: acrylic globe

LE2A = Type II ASYM with globe

UNV = universal driver, 120V-277V

DMG = driver option: dimming compatible 0-10V

HS = house side shield

RCD7-032 = tool-less orientable receptacle with 7 pins

WC = without cupola

GY3TX = color, finish: textured medium gray

10.2 Adapter, Stock No. 015022

Manufacturer: Lumec - Signify

Catalog Number: [SFPH4-010]-[BC-014]-GY3TX

where:

[SFPH4-010] = cast aluminum 356 with a tool-free, cast-in door

[BC-014] = bracket option, three-section terminal block connector

GY3TX = color, finish: textured medium gray

11. Sources

Gorman, Kevin; SCL Streetlight Program Manager and subject matter expert for 5723.02

Lumec - Signify; LCP75851-35783-40(SA)MA.doc, 11-20-2023

Vanderpool, Laura; SCL Technical Writer and originator of 5723.02