

Pedestrian Luminaires, LED, Post Top, Gothic



1. Scope

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

This standard applies to Seattle City Light (SCL) Stock No. 014830.

2. Application

Luminaires are:

- Installed in the Mount Baker, Windermere, and Magnolia Community neighborhood.
- Mounted on (existing) round pedestrian streetlight poles with a 3-inch pole-top outer diameters.
- Controlled by 20-year design life streetlight photocontrols as specified in SCL 5693.10.

Current SCL pedestrian streetlight poles have a 4-inch pole-top outer diameter.

Stock No. 014830 replaces Gothic style 100W HPS pedestrian luminaire Stock No. 572404.

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3. Industry Standards

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

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 C136.15; American National Standard for Roadway and Area Lighting Equipment – Internal Labeling of Luminaires

ANSI C136.22; 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-79-08; Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

IES LM-80-08; Approved Method: Measuring Lumen Maintenance of LED Lighting Sources

IESNA TM-15-11 (revised); 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	-20 to +40
°F	-4 to +104
Correlated Color Temperature (CCT), nominal, °K, per ANSI/NEMA/ANSI C78.377	2700 ± 200
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 3
Backlight, Uplight, and Glare (BUG) rating per IESNA TM-15, Addendum A	B1, U5, G2
Luminaire efficacy, lumens/watt, minimum, per IES LM-79, Section 11.0	74.8
Off-state power consumption, W, maximum	0.5
On-state power consumption, W, maximum	42
LED power array module	6 vertical power arrays on a 6-inch prismatic glass refractor
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
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 ANSI C136.37.

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

- Mounting provisions
- Latching and hinging
- Terminal blocks
- Dimming
- Ingress protection
- Wiring and grounding
- Photocontrol receptacle
- Manual wattage selector
- 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	2.65
External housing, ingress protection per IEC 60529	IP65
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.

Luminaire shall include eight clear patterned acrylic lens panels.

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 terminal block capable of accepting #14 to #6 AWG wire shall be mounted to the housing inside the electrical compartment.

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 three 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 three-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.

Housing finish color shall be Dark Bronze (RAL-8019-T).

4.9 Luminaire Physical Attributes

Physical attributes of luminaires are noted in the table below.

Weight (lb)	45
Dimensions, height by width (in)	16" x 32.5"

5. Testing

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

Certificate of RoHS compliance shall be provided upon request.

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:

- 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

Stock No. 014830

Manufacturer:	U.S. Architectural Lighting - Sun Valley Lighting
Catalog Number:	LCC30-LED-GRV-III-VPA/36LED-2700K-350mA-PT-RAL-8019-T-CPA-HS-TPR7-TB
<i>where:</i>	
LCC 30-LED =	series, LCC30 LED
GRV =	optics – lens; glass refractor
III =	distribution; Type 3
VPA/36LED =	performance package; vertical power array/36 LED
2700K =	correlated color temperature; 2700K
350mA =	voltage/driver; 120 V/350 mA
PT =	mounting; post top
RAL-8019-T =	color, finish; dark bronze (RAL-8019), texture
CPA =	lens; clear pattern acrylic
HS =	glare shield; house side shield
TPR7 =	photo-eye; NEMA 7-pin photocell receptacle on top of fixture
TB =	power connection; terminal block

11. Sources

Gorman, Kevin; SCL Streetlight Program Manager and subject matter expert for 5723.09

Sun Valley Lighting; Drawing# CS-7974, Rev. 2, July 26, 2022

Sun Valley Lighting; Drawing# CS-7901, April 15, 2022

Wang, Quan; SCL Standards Engineer, originator, and subject matter expert for 5723.09

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