Streetlight Photocontrols, 20-Year Design Life

1. Scope
This material standard covers the requirements for twenty-year design life streetlight photocontrols.

This material standard applies to Seattle City Light Stock Number 013129.

Standard-life streetlight photocontrols are outside the scope of this Standard.

2. Application
Photocontrols are used as light-sensing switches to control luminaries. Photocontrols are designed to switch lamps off during the day and switch lamps on at night.

Twenty-year design life photocontrols are intended for use with light-emitting-diode (LED) style streetlight luminaires.

Twenty-year design life photocontrols are technically compatible with standard high pressure sodium (HPS) luminaires, but due to their relatively high initial material cost and long life, are considered a poor match for that application.

3. Industry Standard
Photocontrols shall meet the applicable requirements of the following industry standard:


4. Requirements
Assembled photocontrols and each of their individual components shall be designed and constructed to have a nominal life of 20 years.

- Color code: Black
- Plug type: Locking type, three-pole, three-wire
- Photosensor type: Silicon
- Operating voltage range, volts, ac: 105 to 305
- Load rating, LED, minimum, watts: 1,000
- Load rating, incandescent lamp, minimum, watts: 1,000
- Load rating, high-intensity discharge (HID), minimum, VA: 1,800
- Operating temperature range, ambient, degrees C: -40 to +70
- Turn on response time range, seconds: 0.5 to 5.0
- Turn off response time range, seconds: 0.5 to 5.0
- Turn on light level, fc: 2.8 +/- 0.6
- Turn off light level, maximum, fc: 5.1
- Turn-off/turn-on ratio, nominal: 1.5
- Failure mode, nominal: Fail-on

Photocontrol circuit boards shall be constructed of glass epoxy material.

Circuit board components shall be protected from the environment with a thin, transparent coating that does not promote heat build up.
4. Requirements, continued
Each photocontrol shall be provided with a means to conveniently and permanently record date of installation and date of removal.
Each photocontrol shall be provided with an internal, 160 joule minimum, metal-oxide varistor (MOV) type surge arrester.
Photocontrols shall be provided with a means of sealing according to the requirements of ANSI C136.10, Section 4.3.
Photocontrol base gasket shall be fabricated from a neoprene blend.

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

6. Testing
Photocontrols shall be tested according to the requirements of ANSI C136.10. Test results shall be provided upon request.

7. Marking
Each individual photocontrol shall be marked with the following information:
- Manufacturer’s name
- Model number
- Voltage rating
- Load rating
- North orientation
- Rotation of installation and removal

8. Packaging
Photocontrols shall be individually packaged to prevent damage from storage and handling.
From the outside of each individual package, the manufacturer’s name and model number shall be clearly visible.
Each shipping container shall be legibly marked with the following information:
- Manufacturer’s identification
- Product description
- Seattle City Light's Purchase Order Number
- Seattle City Light's Stock Number
Shipping container weight shall not exceed 50 pounds.

9. Issuance
Stock Unit: EA

10. References
SCL Material Standard 5693.00; “Streetlight Photocontrols”[Standard Life]
Marsten, Vicki; streetlight engineer and subject matter expert for 5693.10; (vicki.marsten@seattle.gov)
Shipek, John; SCL Standards Engineer, subject matter expert and originator of 5693.10 (john.shipek@seattle.gov)
www.ripleylightingcontrols.com
www.sun-tech.biz

11. Approved Manufacturers

<table>
<thead>
<tr>
<th>Stock No.</th>
<th>Ripley Lighting Controls</th>
<th>Dark To Light</th>
<th>Sun-Tech (Sunrise Technologies, Inc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>013129</td>
<td>6390L-BK-2.8</td>
<td>DLL 127-2.8-BK-JU</td>
<td>TRS-2-8190</td>
</tr>
</tbody>
</table>