Appendix A

*Luminaire Schedule and Cutsheets*
<table>
<thead>
<tr>
<th>Tag</th>
<th>Luminaire</th>
<th>Manufacturer</th>
<th>Description</th>
<th>Catalog No.</th>
<th>Mounting</th>
<th>Lamps No.</th>
<th>Type</th>
<th>Ballast/Power Supply</th>
<th>Voltage</th>
<th>Input Watts</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>Alfa</td>
<td>Alfa</td>
<td>Alfa Gemini fully adjustable, directional track head with G26 bronze, mesh metal shade and vintage bronze hardware. (1) 50W max MR16 halogen utilized per track head.</td>
<td>SP3-26-BRZ-BRZ</td>
<td>Track mounted</td>
<td>1</td>
<td>35W MR16 Halogen</td>
<td>None</td>
<td>120</td>
<td>35</td>
</tr>
<tr>
<td>E</td>
<td>Alfa</td>
<td>Alfa</td>
<td>15’ MonoTrack starter kit with 300W surface mounted transformer and 5 MonoTrack sections. Includes supports, (6) fixture adapters, and mounting hardware. Hardware finish in vintage bronze.</td>
<td>55004-BRZ</td>
<td>Surface mounted</td>
<td>-</td>
<td>Xiato LED module (Artists Series)</td>
<td>Electronic driver</td>
<td>120</td>
<td>-</td>
</tr>
<tr>
<td>F</td>
<td>ACDC</td>
<td>ACDC</td>
<td>3.5” aperture downlight with Xiato Artists Series LED module containing 8 LEDs and having an R-9 value of 96. Dark chrome reflector finish and 3000 K color temperature.</td>
<td>ACDC1139/XIC/3000 K/DRC</td>
<td>Ceiling recessed</td>
<td>-</td>
<td>Xiato LED module (Artists Series)</td>
<td>Electronic driver</td>
<td>120</td>
<td>23</td>
</tr>
<tr>
<td>G</td>
<td>Lightolier</td>
<td>Lightolier</td>
<td>Covellite with 1-T8 lamp and die-formed 20 gauge cold-rolled steel painted white housing. Highly specular Miro IV aluminum white 20 gauge steel optical system.</td>
<td>CL08-T01-E-N-04-1-DE-W</td>
<td>Surface mounted in cove</td>
<td>1</td>
<td>Linear fluorescent – F32T8</td>
<td>Electronic Dimming</td>
<td>120</td>
<td>35</td>
</tr>
<tr>
<td>H</td>
<td>Lightolier</td>
<td>Lightolier</td>
<td>Perimeter trough recessed 1-light T8 luminaire with die-formed 20 gauge pre-painted steel housing and precision parabolic roll-formed semi-specular aluminum reflector.</td>
<td>PTS5-1-S-0-1-4</td>
<td>Ceiling recessed</td>
<td>1</td>
<td>Linear fluorescent – F32WT8</td>
<td>Electronic</td>
<td>120</td>
<td>33</td>
</tr>
<tr>
<td>I</td>
<td>Lightolier</td>
<td>Lightolier</td>
<td>Staggered strip surface mounted fluorescent lamp with 3” overlap and 1-5/8” deep housing. Made of heavy duty code gauge cold rolled steel and finished with white polyester enamel. Utilizes (1) T8 fluorescent lamp.</td>
<td>SS-4-T-1-32-HPF-120-PS</td>
<td>Surface mounted in cove</td>
<td>1</td>
<td>Linear fluorescent - F32WT8</td>
<td>Electronic</td>
<td>120</td>
<td>33</td>
</tr>
<tr>
<td>J</td>
<td>Leucos</td>
<td>Leucos</td>
<td>Mira 2 Semi-recessed square downlight with acid-etched, poured Satin White glass diffuser. Utilizes (1) 50W low-voltage, halogen MR-16 lamp.</td>
<td>Mira 2 Recessed</td>
<td>Ceiling semi-recessed</td>
<td>1</td>
<td>Halogen – 50W MR16</td>
<td>None</td>
<td>120</td>
<td>50</td>
</tr>
<tr>
<td>Item</td>
<td>Manufacturer</td>
<td>Description</td>
<td>Model</td>
<td>Location</td>
<td>Quantity</td>
<td>Type</td>
<td>Color Temp</td>
<td>Luminous Efficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>--------------</td>
<td>-------------</td>
<td>------</td>
<td>----------</td>
<td>----------</td>
<td>------</td>
<td>------------</td>
<td>-------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>K1-3</td>
<td>iLight Technologies</td>
<td>Low voltage Flexineon White 2X Series in 2800K for warmer light. Lengths vary for use in cove, under the toe kick in bar, and bar shelves. Outside corner pieces also specified.</td>
<td>T-24X28S_NC-00</td>
<td>Recessed (toe kick, shelves, desk)</td>
<td>-</td>
<td>LED</td>
<td>24VDC</td>
<td>120</td>
<td>4.32W/ft</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>ERCO</td>
<td>Open recessed 4&quot; aperture downlight with vertical lamp orientation for (1) 100W low voltage halogen lamp. Bright anodized, aluminum darklight reflector with cut-off angle of 30° and a glass, frosted diffuser.</td>
<td>47012.000</td>
<td>Ceiling recessed</td>
<td>1</td>
<td>100W T3 bi-pin quartz halogen</td>
<td>Electronic dimming</td>
<td>120</td>
<td>98</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>ERCO</td>
<td>Open recessed 4&quot; aperture downlight with vertical lamp orientation for (1) 75W low voltage halogen lamp. Bright anodized, aluminum darklight reflector with cut-off angle of 45° and a glass, frosted diffuser.</td>
<td>47024.000</td>
<td>Ceiling recessed</td>
<td>1</td>
<td>75W T4 bi-pin quartz halogen</td>
<td>Electronic dimming</td>
<td>120</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>Solid State Luminaires</td>
<td>Colourline. 12&quot; compact linear RGB LED cove light with beam distribution of 120° x 120°. Clear diffuse lens with ratcheting mounting bracket for secure aiming. 20 LEDs per foot. Dimming available.</td>
<td>CL-1-__-WII</td>
<td>Surface mounted in cove</td>
<td>--</td>
<td>LED – RGB - Dimmable</td>
<td>24VDC from DMX</td>
<td>120</td>
<td>4.5W/ft</td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>Custom (based on design from Yellow Goat Design)</td>
<td>Decorative custom chandelier based on design from Yellow Goat Design with 3 tiers and 21 lamps. Assemblage of clear acrylic swirls and curves to form classic chandelier shape. Crystal accents added for sparkle. Black finish. 48&quot;h x 72&quot;w, LED only.</td>
<td>Chaos Theory Pendant</td>
<td>21</td>
<td>5W single ended halogen T3</td>
<td>--</td>
<td>120</td>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>Custom</td>
<td>Decorative custom sconce with assemblage of clear acrylic swirls and curves. 15.5&quot;h x 9.5&quot;w x 7&quot; projection. Candelabra base. Mounted 7'-0&quot; AFF.</td>
<td>Chaos Theory Sconce</td>
<td>2</td>
<td>5W single ended halogen T3</td>
<td>--</td>
<td>120</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td>Bega</td>
<td>Recessed wide beam luminaire made of aluminum alloy, aluminum, and stainless steel. Reflector made of anodized pure aluminum. Dust tight and protection against water jets. (1) 42W CFL lamped horizontally.</td>
<td>6807</td>
<td>Canopy recessed</td>
<td>1</td>
<td>3000 K</td>
<td>Electronic</td>
<td>277</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>Bega</td>
<td>Walk-over and drive-over luminaire recessed in compacted surfaces, paths, and open areas for pressure load up to 5000 kg. Made of aluminum alloy, aluminum, and stainless steel, and contains white safety glass. Dust tight and protection against temporary immersion.</td>
<td>8600</td>
<td>Ground recessed</td>
<td>1</td>
<td>5W T4</td>
<td>Electronic</td>
<td>277</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>Ghidini</td>
<td>Clessidra urban column with 32W in (4) Xicato LEDs. Powder coated polyester and highly resistant to UV and oxidation. Surface mounted and suitable for wet location. Finish color in anthracite gray.</td>
<td>830.1501</td>
<td>Surface mounted</td>
<td>-</td>
<td>Xicato LED module (Artists Series)</td>
<td>Electronic Driver</td>
<td>277</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>---------</td>
<td>---------------</td>
<td>----------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>----------------</td>
<td>---</td>
<td>-----------------------------------</td>
<td>------------------</td>
<td>-----</td>
<td>----</td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>Winona</td>
<td>Reese exterior sconce from Winona, with (1) F17T8 medium bi-pin lamp. UL listed and CUL approved for wet location. Opal acrylic lens and custom painted finish (gray).</td>
<td>5254-WL-26-F/T8-277-0A-CPF</td>
<td>Wall mounted</td>
<td>1</td>
<td>F17T8/medium bi-pin</td>
<td>Electronic Driver</td>
<td>277</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>U1-2</td>
<td>Solid State Luminaires</td>
<td>Slim profile linear floodlight with a 120° flood distribution for short throw applications, with 6 LEDs per foot and consuming 8W per foot. ½” low profile body sealed for IP68 rating (dry, damp, wet location) and mounted on an 8” cantilever. Extruded and die cast aluminum housing.</td>
<td>SL-___-3K-CL</td>
<td>Mounted in 8” cantilever</td>
<td>-</td>
<td>6 LEDs per foot</td>
<td>Electronic Driver</td>
<td>277</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>
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---

**Alfa**

**Project:**

**Fixture Type:**

**Location:**

**Contact/Phone:**

---

**PRODUCT DESCRIPTION**

Fully adjustable Quick Jack fixture with G26 metal shade.  
50W max. lamp: JC, MR8, MR11, or MR16 (not included).

---

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>Model</th>
<th>Shade</th>
<th>Hardware Finish</th>
<th>Shade Finish</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP26</td>
<td>26</td>
<td>STN</td>
<td>STN</td>
<td>SP26-STN-STN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BLK</td>
<td>BLK</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BRZ</td>
<td>BRZ</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CHRM</td>
<td>CHRM</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>STN</td>
<td>STN</td>
<td></td>
</tr>
</tbody>
</table>

---

**PRODUCT SPECIFICATIONS**

**Electrical**

Lamps: 50W max. lamp: JC, MR8, MR11, or MR16 (not included)  
Socket: Ceramic Bi-Pin Socket, accepts G4 to GY6.35 Lamps  

**Agency Approval**

Listed ETL listed to UL 1598 for use in U.S. • ETL listed to CSA C22.2 No. 250 for use in Canada.

---

**DIMENSIONS**

![Dimensions Diagram]

---

1000 S. Wall Road • Des Plaines, IL 60018 • Phone (847) 827-9880 • Fax (847) 827-0025  
220 Chrysler Drive • Brampton, Ontario • Canada M9P 0B6 • Phone (905) 792-3335 • Fax (905) 792-0064  
Visit us at www.junilightinggroup.com
### Systems MonoTrack Kits – Without Fixtures

#### Low Voltage

<table>
<thead>
<tr>
<th>Starter Kits – Surface Mount Transformers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>ES001 9' MonoTrack Starter Kit with</td>
</tr>
<tr>
<td>150W Surface Mount Transformer</td>
</tr>
<tr>
<td>Contains 3 MonoTrack sections 9’L, 150W Surface Mounted Electronic Transformer, Supports 12 Piece Adapters, Mounting hardware, instruction sheets included.</td>
</tr>
<tr>
<td>Make product selections and build your model number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Starter Kits – Surface Mount Transformers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>ES002 9' MonoTrack Starter Kit with</td>
</tr>
<tr>
<td>300W Surface Mount Transformer</td>
</tr>
<tr>
<td>Contains 3 MonoTrack sections 9’L, 300W Surface Mounted Electronic Transformer, Supports 24 Piece Adapters, Mounting hardware, instruction sheets included.</td>
</tr>
<tr>
<td>Make product selections and build your model number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Starter Kits – Remote Mount Transformers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>ES004 21' MonoTrack Starter Kit with</td>
</tr>
<tr>
<td>300W Surface Mount Transformer</td>
</tr>
<tr>
<td>Contains 7 MonoTrack sections 21’L, 300W Surface Mounted Electronic Transformer, Supports 24 Piece Adapters, Mounting hardware, instruction sheets included.</td>
</tr>
<tr>
<td>Make product selections and build your model number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Starter Kits – Remote Mount Transformers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>ES012 9' MonoTrack Starter Kit with</td>
</tr>
<tr>
<td>300W Remote Transformer</td>
</tr>
<tr>
<td>Contains 3 MonoTrack sections 9’L, 300W Remote Transformer Magnetic Transformer, Power Track, Supports 12 Piece Adapters, Mounting hardware, instruction sheets included.</td>
</tr>
<tr>
<td>Make product selections and build your model number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Starter Kits – Remote Mount Transformers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>ES014 15' MonoTrack Starter Kit with</td>
</tr>
<tr>
<td>300W Remote Transformer</td>
</tr>
<tr>
<td>Contains 3 MonoTrack sections 15’L, 300W Remote Transformer Magnetic Transformer, Power Track, Supports 12 Piece Adapters, Mounting hardware, instruction sheets included.</td>
</tr>
<tr>
<td>Make product selections and build your model number</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Starter Kits – Remote Mount Transformers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>ES016 21' MonoTrack Starter Kit with</td>
</tr>
<tr>
<td>300W Remote Transformer</td>
</tr>
<tr>
<td>Contains 7 MonoTrack sections 21’L, 300W Remote Transformer Magnetic Transformer, Power Track, Supports 24 Piece Adapters, Mounting hardware, instruction sheets included.</td>
</tr>
<tr>
<td>Make product selections and build your model number</td>
</tr>
</tbody>
</table>
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AE Senior Thesis Final Report

**Architectural Downlights: Storm**

**Description**
Storm is a recent addition to the award-winning range of architectural downlights from ACDC. Available either with the acclaimed ‘Devil’ onboard or the Xicato LED module, Storm is a fixed downlighter that features a beautifully designed reflector cup in a number of finishes. The ACDC Devil option offers a slim 100mm profile and choice of four beam angles, whilst the Xicato module features an IP65 rating for use in wet areas.

**Technical Diagrams**

**Lighting Configurations**
- IP Option
- Picture / Reading
- Wall Wash
- Display
- Bathroom
- Downlight
- Colour Change

ACDC has a global reputation for outstanding quality and service.
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AE Senior Thesis Final Report

Lighting Systems CL-1
Covelite 1-Lamp T8

Ordering Information

<table>
<thead>
<tr>
<th>Style</th>
<th>Lamp</th>
<th>Lower Optics</th>
<th>Upper Optics</th>
<th>Length</th>
<th>Wiring</th>
<th>Voltage</th>
<th>Ballast</th>
<th>Color &amp; Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL08</td>
<td>T01</td>
<td>E</td>
<td>N</td>
<td>02 = 2 ft</td>
<td>1 = 1 circuit</td>
<td>3 = 1 circuit w’ Emergency circuit</td>
<td>E = Standard Ballast</td>
<td>W = High Reflective White</td>
</tr>
<tr>
<td></td>
<td>T01</td>
<td>E</td>
<td>N</td>
<td>03 = 3 ft</td>
<td>1 = 1 circuit</td>
<td>3 = 1 circuit w’ Emergency circuit</td>
<td>E = Standard Ballast</td>
<td>W = High Reflective White</td>
</tr>
<tr>
<td></td>
<td>T01</td>
<td>E</td>
<td>N</td>
<td>04 = 4 ft</td>
<td>1 = 1 circuit</td>
<td>3 = 1 circuit w’ Emergency circuit</td>
<td>E = Standard Ballast</td>
<td>W = High Reflective White</td>
</tr>
<tr>
<td></td>
<td>T01</td>
<td>E</td>
<td>N</td>
<td>05 = 5 ft</td>
<td>1 = 1 circuit</td>
<td>3 = 1 circuit w’ Emergency circuit</td>
<td>E = Standard Ballast</td>
<td>W = High Reflective White</td>
</tr>
<tr>
<td></td>
<td>T01</td>
<td>E</td>
<td>N</td>
<td>06 = 6 ft</td>
<td>1 = 1 circuit</td>
<td>3 = 1 circuit w’ Emergency circuit</td>
<td>E = Standard Ballast</td>
<td>W = High Reflective White</td>
</tr>
<tr>
<td></td>
<td>T01</td>
<td>E</td>
<td>N</td>
<td>08 = 8 ft</td>
<td>1 = 1 circuit</td>
<td>3 = 1 circuit w’ Emergency circuit</td>
<td>E = Standard Ballast</td>
<td>W = High Reflective White</td>
</tr>
</tbody>
</table>

Features

- Housing: Die-formed 20 gauge cold-rolled steel painted white.
- Weight: 3.0 lbs/ft.
- Optical System: Constructed of highly specular Miro N. *Aluminum and highly reflective white 20 gauge steel to produce an asymmetric distribution.
- Lamping: One T8 fluorescent lamp is cross section. 18 watt 2 foot, 32 watt 4 and 8 foot, 35 watt 3 and 6 foot lengths.
- Mounting: Fixtures can be screwed down in multiple positions and orientations to enable precise coordination of optical distributions.
- Additional Information
  - Modules Lengths
    - Module Length
      - 2 ft: 2’0”
      - 3 ft: 3’0”
      - 4 ft: 4’0”
      - 5 ft: 5’0”
      - 6 ft: 6’0”
  - Peak Candel Angles
    - Mounting Position A
      - Peak: 113°
    - Mounting Position B
      - Peak: 91°

Electrical

Factory pre-wired to section ends with quickwire connectors.
Maximum ballast size is 1.3” (3.3cm) by 1.7” (4.3cm).
Standard dimming ballast is Advance Mark III.

Labels

Certified to UL & CSA standards.

Job Information

- Job Name:
- Cat. No.:
- Lamp(s):
- Notes:

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**Performance**

<table>
<thead>
<tr>
<th>Candela Distribution</th>
<th>Coefficients of Utilization (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0  45.0  90.0  180.0</td>
<td>Ceiling: 80  90  70  50  30  10  0</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>Wall: 50  50  10  70  50  30  10</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>0  90R  75  75  65  65  46  46  46</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>1  65  50  57  54  51  18  16  16</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>2  65  50  46  42  42  12  9  9</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>3  48  42  36  47  41  36  28  23  23</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>4  42  36  31  43  35  31  25  22  22</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>5  37  31  36  39  31  27  19  16  16</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>6  33  27  23  26  23  20  16  14  14</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>7  30  24  19  33  25  20  16  12  12</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>8  27  21  17  30  21  18  15  13  13</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>9  24  18  15  20  16  14  11  9  9</td>
</tr>
<tr>
<td>0.0  0  0  0  0  0  0  0</td>
<td>10  22  16  13  25  15  14  10  8  8</td>
</tr>
</tbody>
</table>

Based on a floor reflectance of 0.2

<table>
<thead>
<tr>
<th>Distribution Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone</td>
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<tr>
<td>0-40</td>
</tr>
<tr>
<td>40-90</td>
</tr>
<tr>
<td>90-100</td>
</tr>
</tbody>
</table>

Quick Calculators and Ceiling Brightness

Readings are rounded off based on initial footcandles at center of 20-foot run of luminaires. Room reflectance is 80% ceiling, 50% wall and 30% floor.

### 1Lt, 1 Fixture, 1 Wall, 10" (0.25m) from Ceiling

<table>
<thead>
<tr>
<th>Distance from wall</th>
<th>0&quot;</th>
<th>2&quot;</th>
<th>4&quot;</th>
<th>6&quot;</th>
<th>8&quot;</th>
<th>10&quot;</th>
<th>12&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>10&quot; (0.25m)</td>
<td>31</td>
<td>11</td>
<td>7</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>7.5&quot; (2.20m)</td>
<td>22</td>
<td>20</td>
<td>15</td>
<td>12</td>
<td>9</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>10&quot; (0.05m)</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

### 1Lt, 2 Fixtures, 2 Walls, 10" (0.25m) from Ceiling

<table>
<thead>
<tr>
<th>Distance from wall</th>
<th>0&quot;</th>
<th>2&quot;</th>
<th>4&quot;</th>
<th>6&quot;</th>
<th>8&quot;</th>
<th>10&quot;</th>
<th>12&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>10&quot; (0.25m)</td>
<td>32</td>
<td>15</td>
<td>11</td>
<td>11</td>
<td>15</td>
<td>13</td>
<td>32</td>
</tr>
<tr>
<td>7.5&quot; (2.20m)</td>
<td>20</td>
<td>20</td>
<td>17</td>
<td>17</td>
<td>20</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>10&quot; (0.05m)</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
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</table>

### 1Lt, 1 Fixture, 1 Wall, 14" (0.35m) from Ceiling

<table>
<thead>
<tr>
<th>Distance from wall</th>
<th>0&quot;</th>
<th>2&quot;</th>
<th>4&quot;</th>
<th>6&quot;</th>
<th>8&quot;</th>
<th>10&quot;</th>
<th>12&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>14&quot; (0.35m)</td>
<td>15</td>
<td>8</td>
<td>5</td>
<td>4</td>
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<td>4</td>
<td>4</td>
</tr>
<tr>
<td>7.5&quot; (2.20m)</td>
<td>22</td>
<td>19</td>
<td>15</td>
<td>12</td>
<td>9</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>10&quot; (0.05m)</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
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</table>

### 1Lt, 2 Fixtures, 2 Walls, 14" (0.35m) from Ceiling

<table>
<thead>
<tr>
<th>Distance from wall</th>
<th>0&quot;</th>
<th>2&quot;</th>
<th>4&quot;</th>
<th>6&quot;</th>
<th>8&quot;</th>
<th>10&quot;</th>
<th>12&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>14&quot; (0.35m)</td>
<td>49</td>
<td>19</td>
<td>13</td>
<td>13</td>
<td>19</td>
<td>19</td>
<td>49</td>
</tr>
<tr>
<td>7.5&quot; (2.20m)</td>
<td>28</td>
<td>28</td>
<td>26</td>
<td>26</td>
<td>28</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>10&quot; (0.05m)</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
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### Job Information

<table>
<thead>
<tr>
<th>Type:</th>
</tr>
</thead>
</table>

**PHILIPS**

**LIGHTOLIER**
Module Ordering Information

<table>
<thead>
<tr>
<th>Module</th>
<th>Lamps</th>
<th>Voltage</th>
<th>Length</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTS8</td>
<td>1</td>
<td>120V</td>
<td>2</td>
<td>Blank = No Options</td>
</tr>
<tr>
<td></td>
<td></td>
<td>277V</td>
<td>2</td>
<td>A = Adjustable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>347V</td>
<td>2</td>
<td>X = 4 thru wires</td>
</tr>
<tr>
<td></td>
<td></td>
<td>120V Dim.</td>
<td>6</td>
<td>XS = 5 thru wires</td>
</tr>
<tr>
<td></td>
<td></td>
<td>277V Dim.</td>
<td>6</td>
<td>A4 = Adjustable 4 thru wires</td>
</tr>
<tr>
<td></td>
<td></td>
<td>120V Emerg.</td>
<td></td>
<td>A5 = Adjustable 5 thru wires</td>
</tr>
</tbody>
</table>

* Only available on Two-Foot, Three-Foot and Four-Foot versions. See length variations of adjustable fixtures on page 2.

Features
1. Housing: Die-formed 20 gauge pre-painted steel. Integral heavy gauge bulkheads support housing and trim, permitting modules to be bolted together in continuous runs and facilitate assembly.
2. Lamping: Cross-sectional one line T8 fluorescent lamp provided by others.
4. Lenses: Lift and shift straight blade cover constructed from die-formed aluminum and painted to match housing. Lower blades are 1" (2.54cm) high on 1 1/8" (2.86cm) centers. (Optional)

Mounting
"J" Rail is first mounted to the wall and the modules connect to the rail for 1/4" (6.4mm) wall adjustment. Modules are hung from suspenion wires attached to the fixture bulkheads and the structure above.

Electrical
Electronic Ballast: Programmed start, 3 conductor, 12 gauge wire. Color-coded quick connectors allow easy connection for modular fixtures. Factory installed ballast disconnect allows the ballast to be disconnected from and reconnected to incoming power under load without tripping the entire circuit off.
Dimming: Advance Mark X, use Advance compatible two-wire control (no extra control is required).
Emergency Battery Pack: 450 Lumens @ 90 minimum.

Ordering Instructions
Individual Fixtures:
1. Order number of MODULES required.
2. Order one SNE SET per MODULE.
Continuous Rows:
1. Determine run lengths.
2. Order the appropriate number of MODULES for the complete ROW.
3. Stagger rows must be completed with an adjustable module (2-light only)
4. Non-stagger rows must be completed with an adjustable module unless row lengths are in predrilled 1 foot (30.48cm) intervals.
5. Order one SNE SET per ROW.

Labels
UL, cUL and IBEW

Lightolier is a Philips group brand

PHILIPS

Page 10 of 79
**SS Staggered Strip Surface Fluorescent SS 1 LAMP**

Page 1 of 2

4-1/4" Wide, 1-5/8' Deep, 24", 36", 48", 69", 93' Length, Individual or Tandem, 1 Lamp T8 or T12

**Features**
- Full 3" overlap eliminates shadows caused by lampholders or lamp ends.
- Housing is only 1-5/8" deep.
- Safe-handling metal edges.
- Fully enclosed wireway.
- Excellent for perimeter cove lighting or other applications where continuous even illumination is required.

---

**Dimensions**

All L.D.s are 7/8" unless otherwise noted.

---

**Job Information**

**Type:**

**Job Name:**

Cat. No.:  

Lamp(s):  

Volts/Ballast:  

---

Lightolier a Genlyte Thomas Company  

Technical Information: (877) 657-7510 • Fax (877) 658-0562  
631 Airport Road, Fall River, MA 02720 • (508) 373-8131 • Fax (508) 374-4710  
We reserve the right to change details of design, materials and finish  
© 2003 Genlyte Thomas Group LLC (Lightolier Division) A0003  

Section 3A/Folio H130-11

---

Page 12 of 79
**SS Staggered Strip Surface Fluorescent SS 1 LAMP**

4-1/4" Wide, 1-5/8' Deep, 24", 36", 48", 69", 93" Length, Individual or Tandem, 1 Lamp T8 or T12

### Photometry

<table>
<thead>
<tr>
<th>REPORT NO.</th>
<th>CATALOG NO.</th>
<th>LAMP TYPE</th>
<th>EFFICIENCY</th>
<th>SPACING C/1.3</th>
<th>SHIELDING ANGLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0S0095</td>
<td>SS4122HPF120G0</td>
<td>1122</td>
<td>96%</td>
<td>1.3</td>
<td>180</td>
</tr>
</tbody>
</table>

Model No. SS4122HPF120G0

### Coefficients of Utilization (opposite face, center of fixture)

<table>
<thead>
<tr>
<th>COEFFICIENTS OF UTILIZATION — CENTER LINE OF FACING (opposite face, center of fixture)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0°</td>
</tr>
<tr>
<td>80°</td>
</tr>
<tr>
<td>60°</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHI</th>
<th>20°</th>
<th>30°</th>
<th>40°</th>
<th>50°</th>
</tr>
</thead>
<tbody>
<tr>
<td>60°</td>
<td>80°</td>
<td>90°</td>
<td>100°</td>
<td></td>
</tr>
</tbody>
</table>

### Ordering Information

Explanation of Catalog Number: Example: SS4122HPF120G0GLR

- SS: Staggered Strip Channel
- F: Flattened Length
- L: Lamp Configuration
- H: Lamp Size
- P: HPF Type
- F: Finish
- E: Electrical Options
- G: General Specifications
- R: Remarks

**No Product Change. New Catalog Number Designation.**

### Options/Accessories

- **Fusing**: Internal fast blow fusing. Suffix: GLR.
- Internal slow blow fusing. Suffix: GMR.

- **Electrical Wiring Options**: Consult factory.

- **Radio Interference Filter**: 20 or 277 volt, 50 or 60 Hz. One per fixture.

- **Stem and Canopy Sets**: Suspend fixture 6", 12", 18" or 24" from surface.

- **Catalog Number**: ASC6 CSPG12, ASC12 CSP (12), ASC18 CSP (18), ASC24 CSP (24).

### Specifications

- **Materials**: Chassis parts are die formed heavy duty gauge cold rolled steel.

- **Ballast cover—code gauge cold rolled steel, secured by plumed quartz turrets.

- **Finish**: Chassis exterior—baked white polyester enamel, minimum reflectance 86%.

- **Electrical**: Thermally protected class "T" ballast C.E.M. approved, non-PEC. If K.O. is within 2" of ballast, use wire suitable for at least 90° Labels: I.B.E.W./U.L. and U.L. Listed.

### Job Information

LighTolier a Genlyte Thomas Company  www.lightholier.com
Technical Information: (978) 667-7600 • Fax (978) 668-0596
631 Airport Road, Fall River, MA 02720 • (508) 719-8131 • Fax (508) 714-4710
We reserve the right to change details of design, materials and finish. © 2009 Genlyte Thomas Group LLC (LighTolier Division) A0509
MIRA 2 RECESSED
Roberto Pando

DIMENSIONS SHOWN FOR NEW CONSTRUCTION

DESCRIPTION
A small-scale, semi-recessed fixture providing downward light through an acid-etched, poured glass diffuser available in a wide range of colors. Provides a narrow to wider beam spread, depending on the lamp, as well as a soft pleasant ceiling glow.

HOUSING & LAMP OPTIONS

Remodel & New Construction:
1x50 watt, low-voltage halogen, MR-16

Insulated Ceiling:
1x35 watt, low-voltage halogen, MR-16
Provided with 120/12V or 277/12V with magnetic transformer.

Housing options:
Remodel Housing, New Construction , Insulated Ceiling, Chicago Plenum, Air Tight, Vapor Tight.

Other lamp options:
Remodel Housing : 13W CFL
New Construction and Insulated Ceiling : 13W & 18W CFL
Compatible with quad lamp, 4 Pin, electronic ballast 120/277 Volt only.
Further options:
1x50 watt, halogen PAR 20 or 1x35 watt, PAR 20 metal halide
Also available with LED, consult factory.

GLASS COLOR
Satin White, Rose, Aquamarine, Pale Blue, Cobalt Blue, Jade Green, Crystal and Mirrored Chrome Glass
NOTE

Housing & Lamp Options:

Remodel & New Construction: 1x60 watt. low-voltage halogen, MR-16

Insulated Ceiling:
1x35 watt. low-voltage halogen, MR-16
- Provided with 120/12V or 277/12V with magnetic transformer.

Housing Options:
Remodel Housing, New Construction, Insulated Ceiling, Chicago Planum, All Tight, Vapor Tight.

Other Lamp Options:
Remodel Housing: 13W CFL

New Construction and Insulated Ceiling: 18W & 18W CFL
Compatible with quick lamp, A-Pin electronic ballast 120/277 volt only.
Further options:
4x60 watt, halogen PAR 20
1x35 watt, PAR 20 metal halide

Also available with LED, consult factory.
Plexineon White 2X Series

**PRODUCT SUMMARY**

- **Color Temperatures (+/- 10%)**
  - 2800K
  - 3500K
  - 4500K
  - 6500K

- **Diffuser Color**
  - Light amber hue (when not illuminated)

- **Lengths Available**
  - 2’, 4’, 6’, 8’ (610 mm, 1219 mm, 1830 mm, 2438 mm)
  - 2’ (610mm) field cuttable pieces
  - Illuminated outside corner pieces
  - Factory custom lengths available to the nearest ½” (13mm) +/- 0.25” (6mm)
  - Factory convex or concave bends to minimum inside radius of 12” (305mm)
  - Factory “easy bends” to ½” (5mm) radius
  - Gende field bends to ± 72° (1830mm) radius

- **Power Supply**
  - Class 2 24VDC, 100 Watts - must be supplied by iLight
  - Primary voltage: 120 or 120-277 depending on model
  - Secondary voltage: 24VDC 4.1 A Max
  - Maximum illumination length of a single 100W power supply: 20 feet (6.10m)

- **Power Supply Tips**
  - 20% overage for breaker for primary current draw
  - Do not plug multiple power supplies into one run of Plexineon
  - All iLight power supplies should be on an independent circuit
  - Recommend surge protection upstream from power supply
  - Verify correct voltage prior to wiring to non-switching power supplies

- **Low Voltage Cable**
  - Maximum distance of low voltage cable in any given run:
    - 14 AWG: 40 feet (12.19m)
    - 12 AWG: 60 feet (18.29m)
    - 10 AWG: 100 feet (30.48m)

**ORDERING INFORMATION**

<table>
<thead>
<tr>
<th>CLASS</th>
<th>VOLTAGE</th>
<th>COLOR</th>
<th>HOUSING</th>
<th>LENGTH</th>
<th>SHAPING</th>
<th>VERSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>24</td>
<td></td>
<td>S</td>
<td></td>
<td></td>
<td>00</td>
</tr>
<tr>
<td>T = Trim</td>
<td>24 = 24V</td>
<td>X26 = White 2X 2800K</td>
<td>S = Silver</td>
<td>2F = 2 Feet</td>
<td>SC = Stainless Steel Channel</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X35 = White 2X 3500K</td>
<td></td>
<td>4F = 4 Feet</td>
<td>NC = No Channel</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>X45 = White 2X 4500K</td>
<td></td>
<td>6F = 6 Feet</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>X65 = White 2X 6500K</td>
<td></td>
<td>8F = 8 Feet</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>CL = Custom Length</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TT = 2 Foot Cuttable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PO = Outside Corner</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BE = Bend - Easy</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BN = Bend - Convex</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>BV = Bend - Concave</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Drawing required for production
2. Field bending allowed only on fixtures without C-channel

Specifications are subject to change without notice. For the most recent version, please refer to www.iLight-tech.com.

iLight Technologies • 118 South Clinton, Suite 370 • Chicago, IL 60661 • T 312.876.8630 • F 312.876.8631 • www.iLight-tech.com
# Plexineon White 2X Series

## Technical Information

<table>
<thead>
<tr>
<th>MECHANICAL</th>
<th>WIDTH &amp; HEIGHT HOUSING</th>
<th>MOUNTING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.55''(14mm) x 1.35''(34mm)h with C-channel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UV and impact resistant acrylic diffuser</td>
<td></td>
</tr>
<tr>
<td></td>
<td>UV resistant plastic channel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stainless steel C-channel for mechanical support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stainless steel spring mounted clips</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clips to be 2'' (51mm) in from end of piece and no more than 2' (610mm) maximum between clips</td>
<td></td>
</tr>
</tbody>
</table>

**Minimum Piece Spacing**

- Linear (end to end) = 1/2'' (10mm)
- Parallel (edge to edge) = 1'' (25mm)

*The minimum space for ventilation surrounding the Plexineon product is 10'. This distance should be maintained on the three sides, left and right of the product as well as in front of product. Other configurations subject to specific application testing.*

<table>
<thead>
<tr>
<th>ELECTRICAL</th>
<th>LOAD VOLTAGE</th>
<th>DC CABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24V DC</td>
<td>14 AWG PVC/Nylon Type TC 600 Volt power and control cable or equivalent</td>
</tr>
</tbody>
</table>

**Load Current**

- 180 mA/foot at 24VDC (591 mA/meter)
- 4.32 watts/foot (14.17 watts/meter)

**Maximum Run Length**

- 20 feet (6.10m) with an iLight approved power supply

**Operating Temperature Range**

- -25°C to 40°C (-13°F to 104°F)

**Storage Temperature Range**

- -25°C to 75°C (-13°F to 167°F)

<table>
<thead>
<tr>
<th>ENVIRONMENTAL</th>
<th>Certification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plexineon is Met Labs listed. Met Labs is a Nationally Recognized Testing Laboratory (NRTL). Complies with UL 1598 and CSA c22.2 No. 250 in Luminaire, Wet location listed.</td>
</tr>
<tr>
<td></td>
<td>Power Supplies are RU listed. RU stands for Recognized Components by Underwriters Laboratory.</td>
</tr>
</tbody>
</table>

*ILIGHT TECHNOLOGIES  www.ilight-tech.com*
Quintessence Downlight
for low-voltage halogen lamps

47012.000 Reflector silver
4712-axx 100W 12V G53 35 2200lm
Flush mounting detail
Wide diffuser

Product description
Lampholder carrier: cast aluminium designed as heat sink. Fixing ring: plastic, black.
Mounting ring: plastic, white
RAL9002. Mounting for ceiling thickness of 1-25mm with covered mounting detail and 12.5-21mm with flush mounting detail.
Cut-off 1500mm.
Spherical technology upper reflector: aluminium, silver, mirror-finish anodised.
Diffuser: glass, frosted.
Transformer to EN 61358 or EN 61347 to be ordered separately.
Weight 0.45kg.


ERCO Quintessence Downlight

Planning data

47112.000 12x10W 12V 816/35 2200lm
Connected load without control gear
C: 10.0 W
Connected load per 1000x
P: 7.0 W/1000x
Number of luminaires per 1000x
n: 7.6 W/1000x

47112.000 12x10W 12V 816/35 2200lm
Number of luminaires per 1000x
100x 200x 300x 500x
8 16 23 38

47112.000 12x10W 12V 816/35 2200lm
Module [m] 1.2 x 1.8 1.8 x 1.8 1.8 x 2.4 2.4 x 2.4
Illuminance E (lx) 611 407 305 129

Correction table

<table>
<thead>
<tr>
<th>Height (m)</th>
<th>Ceiling</th>
<th>Wall</th>
<th>Floor</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6</td>
<td>0.70</td>
<td>0.70</td>
<td>0.50</td>
</tr>
<tr>
<td>1.0</td>
<td>0.50</td>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>2.5</td>
<td>0.6</td>
<td>0.20</td>
<td>0.10</td>
</tr>
<tr>
<td>3.0</td>
<td>0.3</td>
<td>0.10</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Cleaning [a]

Ambient conditions: P, C, N, D

<table>
<thead>
<tr>
<th>MF</th>
<th>LMFxRMSFxLMFxLSF</th>
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<tbody>
<tr>
<td>Maintenance Factor</td>
<td>Luminaire Maintenance Factor</td>
</tr>
<tr>
<td>Room Surface Maintenance Factor</td>
<td>Lamp Lumens Maintenance Factor</td>
</tr>
<tr>
<td>Lamp Survival Factor</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>Room pure</td>
</tr>
<tr>
<td>C</td>
<td>Room clean</td>
</tr>
<tr>
<td>N</td>
<td>Room normal</td>
</tr>
<tr>
<td>D</td>
<td>Room dirty</td>
</tr>
</tbody>
</table>

Hours of operation (h) 1000 2000 4000

LMF 0.99 0.97 0.88

LSF 1 1 1

Page 19 of 79
**Hotel and Conference Center**

*AE Senior Thesis Final Report*

---

**Quintessence Downlight**

for low-voltage halogen lamps

---

47034.000 Reflector silver
GT11-ax 75W 12V GY6.35 1575lm
Flush mounting detail
Focal diffuser

**Product description**

Lampholder carrier: cast aluminium designed as heat sink. Fixing ring: plastic, black.
Mounting ring: plastic, white
[RA60002]. Mounting for ceiling thickness of 1-25mm with covered mounting detail and 12.5-25mm with flush mounting detail.
Cable: L 500mm.
Spherical technology upper reflector: aluminium; silver mirror-finish anodised.
Diffuser: glass, frosted.
Transformer to E2 61568 or BN 61347 to be ordered separately.
Weight 0.45kg

---

ERCO GmbH
Brooktauser Weg 80–82
58507 Lodinschild
Germany
Tel.: +49 2351 551 0
Fax: +49 2351 551 300
info@erco.com

Technical Region: 230V/50Hz
We reserve the right to make technical and design changes.
Edition: 25.10.2010
Current version under www.erco.com/47024.000

---

Page 20 of 79
**Quintessence Downlight**

### Planning data

<table>
<thead>
<tr>
<th>Module (m)</th>
<th>1.2x1.8</th>
<th>1.8x1.8</th>
<th>1.8x2.4</th>
<th>2.4x2.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luminaire ( E_s ) (lx)</td>
<td>457</td>
<td>305</td>
<td>229</td>
<td>172</td>
</tr>
</tbody>
</table>

### Correction table

<table>
<thead>
<tr>
<th>( k )</th>
<th>0.5</th>
<th>0.70</th>
<th>0.70</th>
<th>0.50</th>
<th>0.70</th>
<th>0.70</th>
<th>0.50</th>
<th>0.70</th>
<th>0.70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall</td>
<td>0.70</td>
<td>0.70</td>
<td>0.70</td>
<td>0.50</td>
<td>0.70</td>
<td>0.70</td>
<td>0.50</td>
<td>0.70</td>
<td>0.50</td>
</tr>
<tr>
<td>Floor</td>
<td>0.50</td>
<td>0.20</td>
<td>0.20</td>
<td>0.10</td>
<td>0.20</td>
<td>0.20</td>
<td>0.10</td>
<td>0.50</td>
<td>0.20</td>
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</tbody>
</table>

### Cleaning (a)

<table>
<thead>
<tr>
<th>Ambient conditions</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days</td>
<td>P</td>
<td>C</td>
<td>N</td>
</tr>
<tr>
<td>Hours of operation (h)</td>
<td>1000</td>
<td>2000</td>
<td>4000</td>
</tr>
<tr>
<td>LMF</td>
<td>0.94</td>
<td>0.88</td>
<td>0.82</td>
</tr>
<tr>
<td>LSF</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

**Notes:**
- LMF: Luminance Maintenance Factor
- SF: Survival Factor
- RSMF: Room Surface Maintenance Factor
- LSF: Lamp Survival Factor
- MF: Maintenance Factor
- All abbreviations refer to cleaning conditions (P: Perfect, C: Clean, N: Normal, D: Dirty)
COLOURLINE is an economic indoor color cove and wash light with 130° x 130° wide distributions. COLOURLINE comes in 12" modular length and RGB color. Clear or opal diffuse lens option and ratcheting mounting bracket for secure aiming.

### Technical Specifications

<table>
<thead>
<tr>
<th></th>
<th>RGB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Color Output</strong></td>
<td>130°</td>
</tr>
<tr>
<td></td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>&gt; 60,000 hours / L70 or better</td>
</tr>
<tr>
<td><strong>Electrical</strong></td>
<td></td>
</tr>
<tr>
<td>input voltage</td>
<td>20-24VDC</td>
</tr>
<tr>
<td>power consumption</td>
<td>4.5W / ft</td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td></td>
</tr>
<tr>
<td>dimensions</td>
<td>12&quot; x 1.75&quot; x 1.825&quot;</td>
</tr>
<tr>
<td>weight</td>
<td>0.5 lbs / ft</td>
</tr>
<tr>
<td>housing</td>
<td>plastic PMMA</td>
</tr>
<tr>
<td>mounting</td>
<td>plastic ratcheting bracket</td>
</tr>
<tr>
<td>operating temperature</td>
<td>-20°C to 50°C</td>
</tr>
<tr>
<td>junction temperature</td>
<td>65°C @ TA, 25°C</td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td></td>
</tr>
<tr>
<td>interface</td>
<td>0-10VDC, DMX 512, RMD dimming</td>
</tr>
<tr>
<td>remote power</td>
<td>120V (w/ 10 AWD)</td>
</tr>
<tr>
<td><strong>Certification and Safety</strong></td>
<td></td>
</tr>
<tr>
<td>certification</td>
<td>ETL / cETL</td>
</tr>
<tr>
<td>standards</td>
<td>UL-Class II, IES LM-79, LM-80</td>
</tr>
<tr>
<td>environment</td>
<td>dry, indoor location, IP20</td>
</tr>
</tbody>
</table>

*Due to continuous development and improvements, specifications are subject to change without notice.*

### Ordering

Example: CL-1-DMX-WH

<table>
<thead>
<tr>
<th>Model</th>
<th>Length Options</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL - COLOURLINE</td>
<td>1 - PC Clear Cover D - Dimming 0-10V WIH - Wiring Harness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2 - PC Opal Cover DMX - DMX 512 RMD - RMD Dimming</td>
<td></td>
</tr>
</tbody>
</table>
COLOURLINE

Photometrics

<table>
<thead>
<tr>
<th>Distance</th>
<th>Center Beam fc</th>
<th>Beam Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ft</td>
<td>5 fc</td>
<td>5 ft</td>
</tr>
<tr>
<td>2 ft</td>
<td>1 fc</td>
<td>6 ft</td>
</tr>
<tr>
<td>3 ft</td>
<td>1 fc</td>
<td>9 ft</td>
</tr>
<tr>
<td>4 ft</td>
<td>0 fc</td>
<td>12 ft</td>
</tr>
<tr>
<td>5 ft</td>
<td>0 fc</td>
<td>15 ft</td>
</tr>
<tr>
<td>6 ft</td>
<td>0 fc</td>
<td>18 ft</td>
</tr>
</tbody>
</table>

Performance

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Total Wattage</th>
<th>RGB Lumen</th>
</tr>
</thead>
<tbody>
<tr>
<td>CL-1</td>
<td>4.5 ft</td>
<td>05</td>
<td>51</td>
</tr>
<tr>
<td>CL-2</td>
<td>4.5 ft</td>
<td></td>
<td>51</td>
</tr>
</tbody>
</table>

Illuminance at a Distance

<table>
<thead>
<tr>
<th>Center Beam fc</th>
<th>Beam Width</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ft</td>
<td>4 ft</td>
</tr>
<tr>
<td>2 ft</td>
<td>1 ft</td>
</tr>
<tr>
<td>3 ft</td>
<td>1 ft</td>
</tr>
<tr>
<td>4 ft</td>
<td>0 ft</td>
</tr>
<tr>
<td>5 ft</td>
<td>0 ft</td>
</tr>
<tr>
<td>6 ft</td>
<td>0 ft</td>
</tr>
</tbody>
</table>

112°

Physical Dimensions

---

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### Instructions for use

#### Use:
- **Lampe**:
  - **Hale**: Luxux T/E 32 W IN PLUS 2400 lm
  - Luxux T/E 42 W IN PLUS 3200 lm
  - **Philips**
    - PL-T TOP 32 W 4p 2400 lm
    - PL-T TOP 42 W 4p 3200 lm

#### Application:
- Recessed ceiling luminaire symmetrical wide beam light distribution.
- For recessing in suspended ceilings from 5 - 30 mm thickness. Recessed depth required 115 mm.
- Ceiling aperture ø 200 mm.

#### Utilization:
- Spot to encase for FLATOUNT luminaire symmetrical diffuse.
- For installation in the plafonds suspendus d'aplomb 5 - 30 mm.
- Profondeur d'enca斯特ement nécessaire 115 mm; Découpe deplafond ø 230 mm.

### Product description

- **Lampe**:
  - Luminaires made of aluminium alloy, aluminium and stainless steel.
  - Safety glass.
  - Silicone gasket.
  - Reflector made of anodised pure aluminium.
  - Fixing equipment.
  - European patent EP 0 696 800
  - 20 cables enter the through-wiring of mains supply cable up to ø 10.5 mm max. 3 x 1.5²
  - Connecting terminal 2.5².
  - Earth conductor connection.
  - Electronic ballast 220-240 V 50/60 Hz.
  - Safety class 1.
  - Protection class IP 65.
  - Dust tight and protection against water jets.
  - Symbol: Luminaire suitable for mounting on normal inflammable fixing surfaces.

- **Ceiling mark**
  - Weight: 2.6 kg

- **Description du produit**
  - Luminaire fabriqué en fonte d'aluminium.
  - Aluminium and acier inoxydable.
  - Verre de sécurité.
  - Joint silicone.
  - Réflecteur en aluminium pure anodisé.
  - Appareillage électrique amovible pour faciliter l'installation.
  - Luminaire réducteur de ménage à griffes réglables en forme de cloche.
  - Brevet européen EP 0 696 800.
  - 2 cables de câble pour branchement en dérivation d'un câble de soucoupe jusqu'à ø 10.5 mm max. 3 x 1.5².
  - Sonorité 2.5².
  - Raccordement de mise à la terre.
  - Douille GX 42 W 4p.
  - Ballast électronique 220-240 V 50/60 Hz.
  - Classe de protection 1.
  - Étanchéité à la poussière et protège contre les jets d'eau.
  - Symbol: Luminaire approprié à l'installation sur des surfaces de fixation normalement inflammables.
  - **Certification**
  - Poids: 2.6 kg.
Sicherheit
Für die Installation und für den Betrieb dieser Leuchte sind die nationalen Sicherheitsvorschriften zu beachten. Der Hersteller übernimmt keine Haftung für Schäden, die durch unsachgemäße Einsatz oder Montage entstehen.
Werde nachträglich Änderungen an der Leuchte vorgenommen, so gilt der Text des Herstellers, der diese Änderungen vornimmt.

Montage

Einbau in Betondeckung
Hierfür wird das Einbaugewebe – Entzündungstelle 777 – zur Verfügung.

Einbau in Zwischendeck:
Es ist eine Entfernung von ≥ 200 mm mit einer Minderseite von 115 mm erforderlich.
Auf ausreichende Tag/Schichtlichkeit der Zwischendecke.
Der seitliche Abstand vom Leuchtergaste zu Gebäudeleiste muss mind. 50 mm betragen.
Die Kabel gehegen hinter der Deckenverkleidung. Die Mindeststärke der Deckenverkleidung beträgt 5 mm. Bei geringer Stärke sowie beim Einbau in Glasfaserdosen, muss die Deckenverkleidung entsprechend im Bereich der Kabel verstärkt werden.
Leuchte öffnen:
Schrauben, Achteckdübel mit eingeklebtem sicherheitsglas, Reflektor und Dichtung abnehmen.
Anschlusskabel offnen.
Schrauben, Achteckdübel mit elektrischer Einrichtung aus dem Anschlusskabel herausnehmen. Netzanschluss durch die Leitungserstellung führen.
Schutzzieltuerm mit elektrischer Einrichtung in Anschlusskabeln einschließen.
Schrauben fest anziehen.
Leuchtengräfte in die Einbaulüfte einhalten. Die Schrauben der Kabelbefestigung gleichmäßig anziehen.
Lampen einsetzen.
Auf richtiges Stichdichtung achten. Achteckdübel mit Glas und Dichtung montieren.

Lampenwechsel - Wartung

Ergänzungstelle
Für die Herstellung der Einbaulüfte kann es zweckmäßig sein, Einbaugewebe aus Aluminium zu verwenden. 777 Einbaugewebe.
Es gibt keine gesc. Gebrauchsanweisung.

Ersatzteile
Bezeichnung: Bestellnummer
Einsatzkern: 140711
EVC: 610725
Fassung: 630542
Reflektordübel: 780908
Reflektor gehäuse: 780909
Dichtung Gehäuse: 800337
Dichtung Abdeckung: 800358

Safety indices
The installation and operation of this luminaire are subject to national safety regulations. The manufacturer is exclusively responsible for the modification arising from an installation error or an installation inappropriately of the product. The modifications performed to the luminaire shall not be responsible for the installation, and the manufacturer shall consider such installations.

Installation
A list of housing must not be installed in heat-insulated material. The recessed opening is covered by the frame of the luminaire housing. Fitting of the luminaire in the structure is achieved by using three adjustable wedge-shaped clips.

Installation into concrete ceilings:
If the purpose installation housing - accessory 777 - is available.

Installation into inserted ceilings:
A recessed opening of ≥ 200 mm is necessary to accept the luminaire housing. Recessed depth min. 115 mm.
Please consider sufficient load capacity of the suspended ceiling.
The lateral distance between recessed luminaire and other building parts must be at least 50 mm. The latter catches the ceiling facing the back side. Minimum thickness of the facing facing is 5 mm.
If the ceiling facing has a thickness of less than 5 mm or in case of an installation into plasterboard ceilings, the facing thicknesses in the region of the above must be increased from the back side.
Open the luminaire:
Unter schraube, remove end ring with glass safety glass, reflector and gasket.
Open the connection box:
Unter schraube and pull cap with electrical wiring out of the connection box.
Load the mains supply cable through the cable entry.
Make sure conductor connection and electrical connection.
Push cap with electrical unit into the connection box.

Tighten screws.
Interim housing into the access opening.
Tighten screws of claw fasteners.
Install lamps. Make sure that gasket is positioned correctly.
Assemble end ring with glass and gasket.

Relamping - Maintenance
Disconnect the electrical installation. Use only solvent-free clean-up.
Change the lamp.
Check the gasket and replace, if necessary. Close the luminaire.

Accessories
For preparing the access opening it can be practical to use an installation housing made of aluminum. 777 Installation housing. A separate instructions for use can be provided upon request.

Spares
Bezeichnung: Bestellnummer
Spares: 140711
Electrical ballast: 610725
Lampholder: 630542
Reflector for cover ring: 780908
Reflector housing: 780909
Gasket housing: 800337
Gasket: 800358

Installation
Le luminaire ne doit pas être installé dans des matériaux isolants. 
Les barres de la réservation sont recouvertes par l'anneau de bride du luminaire. 
La fixation du luminaire dans l'encastré se fait par trois griffes réglables en forme de casserole.

Encastrment dans les murs:
Pour le type d'installation': utiliser le blindage d'encastrément - accessoire 777 -.

Encastrment dans les parois creuses:
Une résistance de ≥ 200 mm avec une profondeur minimale de 115 mm est nécessaire.
Le blindage suspendu doit être conçu pour supporter le poids du luminaire.
La distance latérale entre le luminaire à encastrer et des parties de bâtiment dont remise enflamme doit être ≥ 50 mm.
Les griffes se raccordent à l'arrière.
L'espacement minimum du pan d'encastré doit être ≥ 50 mm. Si la paroi est moindre, l'espacement pour une installation dans une plastique sardé le pan d'encastré doit être enfilé à l'arrière d'emplacements des griffes.
Ouvrir le luminaire.
Desserrer les vis.
Retirer l'anneau de fermeture avec le verre mâle, le couvercle et le joint.
Ouvrir le boîtier de connexion.
Desserrer les vis et retirer le couvercle avec l'apprêtage éclairé d'un boîtier de connexion.
Introduire l'isolant de rotation dans la rotation de câble.
Nettoyer à l'eau et procéder au raccordement électrique.
Install le couvercle avec l'apprêtage éclairé dans le boîtier de connexion.
Serrer trois vis.
Installez le luminaire sous l'anneau de fermeture avec le verre mâle et le joint.

Changement de lampe - Maintenance
Travailler hors tension.
Ouvrir le luminaire et retirer.
Nettoyer les produits d'entretien ne contenons pas de savon. Changé le lampe.
Vérifier et remplacer le joint le cas échéant. Fermer le luminaire.

Accessoires
Pour la réservation, il peut être pratique d'utiliser des boîtiers d'encastrément en aluminium.
777 Boitier d'encastrément.
Une fiche d'utilisation pour ces boîtiers est disponible.

Pices de rechange
Désignation: Référence
Verre de rechange: 140711
Ballast électrique: 610725
Électrique: 630542
Réflecteur de l'anneau: 780908
RÉflecteur du boîtier: 780909
Joint du boîtier: 800337
Anneau de l'anneau: 800358

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Gebrauchsanweisung

Instructions for use

Fiche d’utilisation

Bodeneinbauleuchte

In-ground luminaire

Luminaire à encastrer

IP 67 8600

Anwendung


Bitte beachten Sie: In Fahrzeugen, wo die Leuchte horizontalen Kräften durchfahren, Beschädigungen und Richtungswechsel ausgeführt, sind, ist die Leuchte nicht vorgesehen zu werden. Der Abstand zu angestrahlten Gegenständen überhalb der Lichtausbreitungs-öffnung muss minimal 0,5 m beibehalten.


Application

Location luminaire for recessed mounting in compacted surfaces, paths and open areas. Walk-over and drive-over luminaire for vehicles with pneumatic tyres. For pressure load up to 5000 kg. In the centre of the glass surface the luminaire attains an operating temperature of only 35 °C (measured according to EN 60598 - ambient temperature ± 15 °C).

Please note: Luminaire must not be used for installations in road lanes, where the fixture is exposed to a horizontal strain due to braking, acceleration and change of direction. The minimum distance to illuminated objects above the light distribution opening must be 0,5 m. When the glass of the luminaire is wet, there may be a danger of skiing.

For safety reasons we recommend to use in public areas luminaire equipped with skid-stopping glass according to DIN 51130. These are identified by RAHOF the article number.

Umwelt

Luminaire d’orientatie pour installation dans des voies de circulation ouvertes soumises à des sollicitations mécaniques horizontales provoquées par des frictions, des oscillations, des changements de direction. La distance minimale entre les objets éclairés au-dessus du verre doit être de 0,5 m. En cas d’humidité, le verre de ce luminaire risque d’être glissant. Pour des raisons de sécurité, nous recommandons d’utiliser dans les aires piétonnes publiques ces luminaires équipés de verre antidérapant selon DIN 51130. Pour les commander faire suivre le numéro d’article de la ligne A.

Produktbeschreibung


C E – Konformitätssiegel. Gewicht: 3,6 kg.

Produktbeschreibung


Description du produit

Sicherheit

Bodenschäden

Safety Indices
The installation and operation of this luminaire is subject to national safety regulations. We recommend a fuse protection on site by means of a RCCB (residual current circuit breaker). The manufacturer is held discharged from liability if damage is caused by improper use or installation. If any luminaire is subsequently modified, the person responsible for the modification shall be considered as manufacturer.

Sécurité
Pour l’installation et l’utilisation de ce luminaire, respecter les normes de sécurité nationales. Nous vous recommandons un protection sur le site par un différentiel à installer en amont. Le fabricant décline toute responsabilité concernant d’une mise en œuvre ou d’une installation inappropriée du produit. Toutes les modifications apportées au luminaire se feront sous la responsabilité exclusive de celui qui les effectuera.

Notice prior to installation:
To accept the maximum pressure load of 600 Kg a proper foundation must be provided by the customer. The luminaire is mounted in a recess housing made of high-strength die cast aluminium. The pressure load is transferred to the foundation by the housing provided at site. The foundation must be carried out on firm subgrade. In order to obtain a firm stability, the recess housing must be firmly concreted in. During preparation of the foundation proper drainage must be provided, so that entering surface water can drain off. The lacquering of the recess housing must not be damaged. For the tightness of the luminaire it is important that the ground surface prepared later is either on the same level or slightly below top edge of the recess housing. Fig. A

Soil Conditions:
The luminaire must not permanently have contact with aggressive media. Aggressive media might be washed out of the soil and might contaminate the housing of the luminaire. In case of an unknown composition of the soil a soil analysis should be made before installation. Aggressive media that is outgoing from the ground surface might also affect the luminaire. Thus, an overuse of de-icing agents in the surroundings should be avoided. Paralitic current, occurring from the outside, which is conducted by the luminaire into the soil, will cause corrosion damage. Suitable counter measures must be carried out.

A respecter avant l’installation:
Pour que le luminaire puisse supporter la pression max. de 6000 kg il doit impérativement être fixé sur un fondation stable. Le luminaire se trouve dans un coffret de montage fabriqué en fonte d’ailleurs robuste. La pression est transmise par ce coffret sur une fondation solide qui est prévue sur le site. Le massif de fondation doit être réalisé sur un sol stabilisé. Afin d’assurer une bonne stabilité, le coffret doit être assuré dans le sol. Lors de la réalisation de la fondation, un drainage doit être prévu afin que les eaux pénétrant dans le coffret ne soient pas déviées. Le mode du coffret ne doit pas être endommagé. Pour la bonne étanchéité du luminaire, il est important que le bord supérieur du coffret de montage ne soit en aucun cas installé plus bas que le bord supérieur de la couche de fixation du sol. Cette condition doit s’assurer la sous face de la coque. Pos. A

Nature of the soil:
The luminaire must not be in permanent contact with aggressive media. Aggressive media might be washed out of the soil and might contaminate the housing of the luminaire. In case of an unknown composition of the soil a soil analysis should be made before installation. Aggressive media that is outgoing from the ground surface might also affect the luminaire. Thus, an overuse of de-icing agents in the surroundings should be avoided. Paralitic current, occurring from the outside, which is conducted by the luminaire into the soil, will cause corrosion damage. Suitable counter measures must be carried out.

Haley Darst
Lighting | Electrical
Hotel and Conference Center
AE Senior Thesis Final Report
Hotel and Conference Center
AE Senior Thesis Final Report

830.1503
MORO LED

ø146/5.5”
1100mm/43.3”

Available finishes:
- white
- anthracite grey
- RAL 9006 grey
- rust brown

ACCESSORIES
Optional in-ground protective accessory in low-density polyester to protect against mechanical or chemical aggression
LUMINAIRE SUBMITTAL SHEET

MODL #: 5254-WL SERIES: SINGLES 2.0 MODEL NAME: REESE TYPE:

Your Specification:

Catalog Number:          LENS OPTIONS:
5254-WL-18               DA Opal Acrylic
5254-WL-26               FH4 White Veneer Painted Faux Alabaster
5254-WL-39               FH4S Antique Hand Painted Faux Alabaster (Beige)
                                  FH7 Gray Veneer Painted Faux Alabaster
                                  FH7S Beige Veneer Painted Faux Alabaster
                                  F/T8 Finish (Mod.Si-P) Paint

LAMPS:
5254-WL-18
F (1)T27/W2G11
I (2)25W T-10Med
F (1)T4T/W2G11
F/T8 (1)T17T/Med.Si-Pn
5254-WL-26
I (2)25W T-10Med
F (2)T3/W2G11
F/T8 (1)25T3/Med.Si-Pn
F/T12 (1)T312/3OR Recessed D.C
5254-WL-39
I (4)25W T-10Med
F (2)T3/W2G11
F/T8 (1)25T3/Med.Si-Pn
F/T12 (1)T312/3OR Recessed D.C

FINISHES:
Standard
LBP Light Bronze Paint with Brushed Texture
LSM Light Silver Mica Paint
LSR Light Silver Paint
CPF Custom Painted Finish (Consult Factory)
CMF Custom Metal Finish (Consult Factory)

SPECIAL:
STD Standard
MOD Modified

VOLTAGE:
120V 1.0 Volt
277V 2.1 Volt

WEIGHT (per piece): 5254-WL-18 5254-WL-26 5254-WL-39
I 10 LBS I 15 LBS I 20 LBS
F 10 LBS F 15 LBS F 20 LBS
F/T8 20 LBS
F/T12 20 LBS

SPECIAL MODIFICATIONS:

NOTES:
- UL LISTED AND CUL APPROVED FOR WET LOCATION.
- WINONA LIGHTING PRODUCTS ARE UNION MADE.
- CUSTOM SIZES AVAILABLE UPON REQUEST.
- ALL FLUORESCENT AND HID FIXTURES AVAILABLE IN 120V AND 277V.
- INCANDESCENT 120V ONLY.
- WINONA LIGHTING RESERVES THE RIGHT TO MAKE DESIGN CHANGES WITHOUT PRIOR NOTICE.
- LAMPS NOT INCLUDED.
- BALLAST INFORMATION: ELECTRONIC

Winona Lighting
SLIMLINE is a slim profile linear floodlight with a 120° flood distribution for short throw applications. SLIMLINE comes in 13" to 34" lengths and 3000K or 4000K color temperatures. The 1/2" low profile body is sealed for IP68 rating and can be mounted to either the short, 6" cantilever, 39" cable, 15" pendant or surface mount bracket.

Technical Specifications

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>3000K</th>
<th>4000K</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>beam spread</td>
<td>120°</td>
<td></td>
</tr>
<tr>
<td>lumens</td>
<td>457</td>
<td>443</td>
</tr>
<tr>
<td>LEDs per foot</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>lifetime</td>
<td>60,000 hours / L70 or better</td>
<td></td>
</tr>
<tr>
<td><strong>Electrical</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>input voltage</td>
<td>20-24VDC constant voltage</td>
<td></td>
</tr>
<tr>
<td>power consumption</td>
<td>8W / ft</td>
<td></td>
</tr>
<tr>
<td><strong>Physical</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dimensions</td>
<td>6 x 1.4&quot; x 0.5&quot;</td>
<td></td>
</tr>
<tr>
<td>weight</td>
<td>1.1 lbs / ft</td>
<td></td>
</tr>
<tr>
<td>housing</td>
<td>extruded and die cast aluminum</td>
<td></td>
</tr>
<tr>
<td>mounting</td>
<td>short bracket, cantilever 6&quot; , cable 39&quot; , pendant 15&quot; , surface mount</td>
<td></td>
</tr>
<tr>
<td>operating temperature</td>
<td>-20°C to 50°C</td>
<td></td>
</tr>
<tr>
<td>junction temperature</td>
<td>14°C @ TA25°C</td>
<td></td>
</tr>
<tr>
<td><strong>Control</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>interface</td>
<td>0-10VDC, DMX, PWM dimming</td>
<td></td>
</tr>
<tr>
<td>remote power</td>
<td>250mA (w/ 10 AWG)</td>
<td></td>
</tr>
<tr>
<td>certification and safety</td>
<td>ETL / cETL</td>
<td></td>
</tr>
<tr>
<td>standards</td>
<td>UL-4358.1, IES LM-79, LN-90</td>
<td></td>
</tr>
<tr>
<td>environment</td>
<td>dry / damp / wet location, P88</td>
<td></td>
</tr>
</tbody>
</table>

Due to continuous development and improvements, specifications are subject to change without notice.

Ordering

Example: SL-2-3K-DMX-SB

<table>
<thead>
<tr>
<th>Model</th>
<th>Length</th>
<th>Color Temperature</th>
<th>Options</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>SL - SLIMLINE</td>
<td>1 - 305mm (12.2&quot;)</td>
<td>3K - Warm White</td>
<td>D - Dimming 0-10V</td>
<td>SB - Short Bracket, S - Surface Mount</td>
</tr>
<tr>
<td></td>
<td>2 - 590mm (23.2&quot;)</td>
<td>4K - Cool White</td>
<td>DMX - DMX 512</td>
<td>CL - Cantilever 8&quot;</td>
</tr>
<tr>
<td></td>
<td>3 - 975mm (38.4&quot;)</td>
<td>6K - Neutral White</td>
<td>RMD - RMD Dimming</td>
<td>EMR - Emergency</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LP - Lumen Priority</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P - Pendant 15&quot;</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1: Lobby Cove Detail | NTS

Figure 2: Reception Desk Detail | NTS
Figure 3: Entry Feature Wall Detail in Lobby | NTS

Figure 4: Restaurant Signage Display | NTS
Figure 5: Section of Bar in Lounge | NTS

Figure 6: Toe Kick Detail at Bar | NTS

Figure 7: Squares Detail on Bar | NTS
Figure 8: Lounge Back Bar Detail | NTS
Figure 9: Lounge Cove Detail | NTS
Appendix B

*Equipment Cutsheets*

(lamps, ballasts, drivers, controls, and other equipment)
### General Characteristics
- **Lamp type:** Compact Fluorescent - Plug-In
- **Bulb:** T4
- **Base:** GX24-q4
- **Wattage:** 42
- **Voltage:** 120/135
- **Rated Life:** 17000 hrs
- **Starting Temperature (MIN):** -18 °C (-0 °F)
- **Cathode Resistance:** 2.700 Ohm
- **LEED-ES MR Credit:** 68 picograms Hg per mean lumen hour
- **Rated Life (rapid start) @ Time:**
  - 17000 h @ 3 h
  - 20000 h @ 12 h
- **Additional Info:** Dimmable with appropriate dimming ballast. End of Life Protection (EOL). TCO compliant.

### PRIMARY Application
- Facilities; Retail Display; Hospitality; Office; Restaurant; Warehouse

### Photometric Characteristics
- **Initial Lumens:** 3200
- **Mean Lumens:** 2690
- **Nominal Initial Lumens per Watt:** 78
- **Color Temperature:** 2700 K
- **Color Rendering Index (CRI):** 82

### Electrical Characteristics
- **Current (max):** 5.2500 A
- **Open Circuit Voltage (after preheating) (MAX):** 205 V
- **Open Circuit Voltage (MIN):** 515 V
- **Lamp Current:** 0.320 A
- **Preheat Voltage (MIN):** 4 V

### ADDITIONAL RESOURCES
- **Catalogs**
- **Testimonials**
- **Brochures**
  - Product Brochures
  - Ecolux
  - Ecolux
- **Sell Sheets**
  - Fast Warming
  - Biax® T/E 42W
- **Disposal Policies & Recycling Information**
Current Crest Factor (MAX) | 1.7
Supply Current Frequency | 20000 Hz

**DIMENSIONS**
- Maximum Overall Length (MOL): 6.4000 in (162.5 mm)
- Nominal Length: 6.400 in (162.5 mm)
- Base Face to Top of Lamp: 5.770 in (146.5 mm)

**PRODUCT INFORMATION**
- Product Code: 97833
- Description: F4/2TBX/827/AI/ECO
- ANSI Code: 60901-IEC-7442-2
- Standard Package: Case
- GTIN: 10043168978333
- Standard Package Quantity: 10
- Sales Unit: Unit
- No Of Items Per Sales Unit: 1
- No Of Items Per Standard Package: 10
- UPC: 043168978336

**COMPATIBLE GE BALLASTS**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Description</th>
<th># of Bulbs</th>
<th>Power Factor</th>
<th>Ballast Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>71440</td>
<td>GEC242-MVPS-SE</td>
<td>1</td>
<td>0.99</td>
<td>1.0</td>
</tr>
<tr>
<td>71441</td>
<td>GEC242-MVPS-SE</td>
<td>1</td>
<td>0.99</td>
<td>1.0</td>
</tr>
<tr>
<td>71442</td>
<td>GEC242-MVPS-SE</td>
<td>1</td>
<td>0.99</td>
<td>1.0</td>
</tr>
</tbody>
</table>

⚠️ CAUTIONS & WARNINGS

* See list of cautions & warnings.

**NOTES**

- 4-Pin lamp minimum starting temperature is a function of the ballast. Most ballasts are rated with a minimum starting temperature of 50 degrees F (10 C). Ballasts are also available that provide reliable starting to 0 degrees F (-15C) and -20 F (-26C).
- All lamp product experience stable brightness over a wider temperature range and in various operating positions.
- Based on 60Hz reference circuit.
- Fluorescent lamp lumens decline during life.
Electrical Specifications

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Num. of Lamps</th>
<th>Rated Lamp Watts</th>
<th>Min. Start Temp (*F)</th>
<th>Input Current (Amps)</th>
<th>Input Power (Watts)</th>
<th>Ballast Factor (min/max)</th>
<th>MAX THD %</th>
<th>Power Factor</th>
<th>Lamp Current Crest Factor</th>
<th>B.E.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFW26G24Q</td>
<td>1</td>
<td>26</td>
<td>50/10</td>
<td>0.23</td>
<td>0.09/27</td>
<td>0.16/0.85</td>
<td>0.80</td>
<td>1.7</td>
<td>1.63</td>
<td>3.15</td>
</tr>
<tr>
<td>CFW26G24Q</td>
<td>2</td>
<td>26</td>
<td>50/10</td>
<td>0.45</td>
<td>0.17/27</td>
<td>0.16/0.85</td>
<td>0.80</td>
<td>1.7</td>
<td>1.63</td>
<td>3.15</td>
</tr>
<tr>
<td>CFTR26G24Q</td>
<td>1</td>
<td>26</td>
<td>50/10</td>
<td>0.23</td>
<td>0.17/27</td>
<td>0.16/0.85</td>
<td>0.80</td>
<td>1.7</td>
<td>1.63</td>
<td>3.15</td>
</tr>
<tr>
<td>CFTR26G24Q</td>
<td>2</td>
<td>26</td>
<td>50/10</td>
<td>0.45</td>
<td>0.17/27</td>
<td>0.16/0.85</td>
<td>0.80</td>
<td>1.7</td>
<td>1.63</td>
<td>3.15</td>
</tr>
<tr>
<td>CFTR32G24Q</td>
<td>1</td>
<td>32</td>
<td>50/10</td>
<td>0.30</td>
<td>0.10/35</td>
<td>0.16/0.85</td>
<td>0.80</td>
<td>1.7</td>
<td>2.43</td>
<td></td>
</tr>
<tr>
<td>CFTR24G24Q</td>
<td>1</td>
<td>42</td>
<td>50/10</td>
<td>0.40</td>
<td>0.11/47</td>
<td>0.16/0.85</td>
<td>0.80</td>
<td>1.7</td>
<td>1.81</td>
<td></td>
</tr>
</tbody>
</table>

Wiring Diagram

Diag. 134

The wiring diagram that appears above is for the lamp type denoted by the asterisk (*).

<table>
<thead>
<tr>
<th>Standard Lead Length (inches)</th>
<th>in. cm.</th>
<th>in. cm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>White</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Blue</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Red</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Yellow/Blue</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Blue/White</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Brown</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Orange</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Orange/Black</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Black/White</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Red/White</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Enclosure

Endorsement Dimensions

<table>
<thead>
<tr>
<th>Overall (L)</th>
<th>Width (W)</th>
<th>Height (H)</th>
<th>Mounting (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.95 *</td>
<td>2.4 *</td>
<td>1.0 *</td>
<td>45 *</td>
</tr>
<tr>
<td>4.49/50</td>
<td>2.6/5</td>
<td>1</td>
<td>4.35</td>
</tr>
<tr>
<td>12.6 cm</td>
<td>6.1 cm</td>
<td>2.5 cm</td>
<td>11.7 cm</td>
</tr>
</tbody>
</table>

Revised 09/11/2007

Data is based upon tests performed by Philips Lighting Electronics N.A. in a controlled environment and is representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are normal unless otherwise noted.

PHILIPS LIGHTING ELECTRONICS N.A.
10275 WEST HIGGINS ROAD · ROSEMENT, IL 60018
Tel: 800-322-2086 · Fax: 888-423-1882 · www.philips.com/advance

Page 42 of 79
GENERAL CHARACTERISTICS

- Lamp Type: Linear Fluorescent - Straight Linear
- Bulb: T8
- Base: Medium Bi-Pin (G13)
- Rated Life: 20,000 hrs
- Rated Life (instant start) @ Time: 15,000 h @ 3 h
- Rated Life (rapid start) @ Time: 20,000 h @ 12 h
- Bulb Material: Sodarium
- Starting Temperature: 10 K (50°F)
- LED/CFW Credit: 1.57 programs 95 g per mean lumen hour
- Additional Info: TCLP compliant

PHOTOMETRIC CHARACTERISTICS

- Initial Lumen: 1325
- Mean Lumen: 1260
- Nominal Initial Lumen per Watt: 77
- Color Temperature: 3000 K
- Color Rendering Index (CRI): 78
- G93 Ratio (Scotopic/Photopic Ratio): 1.3

ELECTRICAL CHARACTERISTICS

- Wattage: 17
- Voltage: 70
- Open Circuit Voltage (rapid start): 245 V
- Open Circuit Voltage (rapid start) Min: 210 V @ 10 °C
- Cathode Resistance Ratio - RH: 4.25
- Cathode Resistance Ratio - RH: 6.5
- Current Crest Factor: 1.7

DIMENSIONS

- Maximum Overall Length (MOL): 23.7800 in (604.0 mm)
- Minimum Overall Length: 23.67 ft
- Nominal Length: 24.000 in (609.6 mm)
- Bulb Diameter (DIA): 1.060 in (26.9 mm)
- Bulb Diameter (DIA) (MIN): 0.940 in (23.9 mm)
- Bulb Diameter (DIA) (MAX): 1.100 in (27.9 mm)
- Max Base Face to Base Face (A): 23.220 in (590.6 mm)
- Face to End of Opposing Pin (B) (MIN): 23.400 in (594.4 mm)
- Face to End of Opposing Pin (B) (MAX): 23.500 in (590.9 mm)
- End of Base Pin to End of Opposite Pin End (C): 23.670 in (601.2 mm)

PRODUCT INFORMATION

- Product Code: 45741 - F17T8/SP30/ECO
- Description: Geolux Starcon T8
- ANSI Code: 1001-1
- Standard Package: 24
- Standard Package CF: 24
- Standard Package Quantity: 1
- Sales Unit: Unit
- No. Of Boxes Per Sales Unit: 1
- No. Of Cases Per Standard Package: 24
- UPC: 043168457415

For additional information, visit www.ge.com
**Reliminaries**

**Philips Advance**

**REL-1P32-SC**

- **Brand Name:** STANDARD ELECTRIC
- **Ballast Type:** Electronic
- **Starting Method:** Instant Start
- **Lamp Connection:** Parallel
- **Input Voltage:** 120V
- **Input Frequency:** 60 Hz
- **Status:** Active

### Electrical Specifications

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Num. of Lamps</th>
<th>Rated Lamp Watts</th>
<th>Min. Start Temp (°C)</th>
<th>Input Current (Amps)</th>
<th>Input Power (ANSI Watts)</th>
<th>Ballast Factor</th>
<th>MAX THD %</th>
<th>Power Factor</th>
<th>MAX Lamp Current Crest Factor</th>
<th>B.E.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F32T8</td>
<td>1</td>
<td>17</td>
<td>0-18</td>
<td>0.17</td>
<td>12</td>
<td>0.95</td>
<td>30</td>
<td>0.93</td>
<td>1.7</td>
<td>5.00</td>
</tr>
<tr>
<td>F25T8</td>
<td>1</td>
<td>25</td>
<td>0-18</td>
<td>0.21</td>
<td>24</td>
<td>0.92</td>
<td>25</td>
<td>0.96</td>
<td>1.7</td>
<td>3.83</td>
</tr>
<tr>
<td>F32T8</td>
<td>1</td>
<td>32</td>
<td>0-18</td>
<td>0.28</td>
<td>32</td>
<td>0.92</td>
<td>20</td>
<td>0.96</td>
<td>1.5</td>
<td>2.88</td>
</tr>
<tr>
<td>F32T8/25W</td>
<td>1</td>
<td>30</td>
<td>63/16</td>
<td>0.25</td>
<td>29</td>
<td>0.92</td>
<td>20</td>
<td>0.96</td>
<td>1.7</td>
<td>3.17</td>
</tr>
</tbody>
</table>

**Wiring Diagram**

![Wiring Diagram Image]

The wiring diagram that appears above is for the lamp type denoted by the asterisk (*).

**Enclosure**

**Enclosure Dimensions**

<table>
<thead>
<tr>
<th>Overall (L)</th>
<th>Width (W)</th>
<th>Height (H)</th>
<th>Mounting (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.50 ″</td>
<td>1.7 ″</td>
<td>1.18 ″</td>
<td>8.90 ″</td>
</tr>
<tr>
<td>9.12 ″</td>
<td>1.7/10 ″</td>
<td>1.9/50 ″</td>
<td>8.9/10 ″</td>
</tr>
<tr>
<td>24.1 cm</td>
<td>4.3 cm</td>
<td>3 cm</td>
<td>22.6 cm</td>
</tr>
</tbody>
</table>

**Revised 08/21/2002**

Data is based upon tests performed by Philips Lighting Electronics N.A. in a controlled environment and is representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

**Philips Lighting Electronics N.A.**

10275 West Higgins Road • Rosemont, IL 60018
Tel: 800-322-2086 • Fax: 888-453-1982 • www.philips.com/advance
### GENERAL CHARACTERISTICS
- **Lamp Type:** Compact Fluorescent - Plug-in
- **Bulb:** T4
- **Base:** G23
- **Rated Life:** 10000 hrs
- **Starting Temperature:** -18 °C (0 °F)
- **Cathode Resistance:** 11.1 Ω
- **L.E.E.D. MR Credit:** 1819 picowatts-Hg per mean lumens-hour
- **Additional Info:** TCLP compliant
- **Primary Application:** Facilities, Retail Display, Hospitality, Office, Restaurant,

### PHOTOMETRIC CHARACTERISTICS
- **Initial Lumens:** 265
- **Mean Lumens:** 220
- **Nominal Initial Lumens per Watt:** 53
- **Color Temperature:** 2700 K
- **Color-Rendering Index (CRI):** 82

### ELECTRICAL CHARACTERISTICS
- **Wattage:** 5
- **Voltage:** 120
- **Open Circuit Voltage Across:** 198 V
- **Starter:**
- **Lamp Current:** 0.18 A
- **Current Crest Factor:** 1.7
- **Supply Current Frequency:** 50 Hz

### DIMENSIONS
- **Maximum Overall Length (MOL):** 4.250 in (107.9 mm)
- **Nominal Length:** 4.200 in (106.7 mm)
- **Bulb Diameter (Dia.):** 0.500 in (12.7 mm)
- **Bulb Diameter (Dia.) (MAX):** 0.330 in (8.3 mm)
- **Base Packed to Top of Lamp:** 3.320 in (84.0 mm)

### PRODUCT INFORMATION
- **Product Code:** 97551
- **Description:** FSBX827/ECO
- **ANSI Code:** 80041-1EC-0005-1
- **Standard Package:** BUNDLE
- **Standard Package GTN:**
- **Standard Package Quantity:** 100
- **Sales Unit:** Unit
- **No. of Items Per Sales Unit:** 1
- **No. of Items Per Standard Package:** 100
- **Package:**
- **UPC:** 043/88975513

For additional information, visit [www.ge-lighting.com](http://www.ge-lighting.com)
CAUTIONS & WARNINGS
Caution

GRAPHS & CHARTS
Spectral Power Distribution

NOTES
- Based on 60-hour equivalent output.
- Fluorescent lamp lumens decline during life.
Electrical Specifications

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Num. of Lamps</th>
<th>Rated Lamp Watts</th>
<th>Min. Start Temp (°F/C)</th>
<th>Input Current (Amps)</th>
<th>Starting Current (Amps)</th>
<th>Open Circuit Current (Amps)</th>
<th>Input Power (Watts)</th>
<th>Ballast Factor</th>
<th>MAX THD (%)</th>
<th>Power Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>CF99W/323</td>
<td>1</td>
<td>9</td>
<td>0/18</td>
<td>0.05</td>
<td>0.16</td>
<td>0.17</td>
<td>15</td>
<td>0.95</td>
<td>35</td>
<td>0.95</td>
</tr>
<tr>
<td>*CF95W/323</td>
<td>1</td>
<td>5</td>
<td>0/18</td>
<td>0.05</td>
<td>0.16</td>
<td>0.17</td>
<td>11</td>
<td>0.95</td>
<td>50</td>
<td>0.82</td>
</tr>
<tr>
<td>CFT7W/G23</td>
<td>1</td>
<td>7</td>
<td>0/18</td>
<td>0.05</td>
<td>0.16</td>
<td>0.17</td>
<td>12</td>
<td>0.93</td>
<td>45</td>
<td>0.84</td>
</tr>
<tr>
<td>CFT9W/G23</td>
<td>1</td>
<td>9</td>
<td>0/18</td>
<td>0.05</td>
<td>0.16</td>
<td>0.17</td>
<td>12</td>
<td>0.94</td>
<td>35</td>
<td>0.89</td>
</tr>
</tbody>
</table>

Wiring Diagram

Diag. 47

The wiring diagram that appears above is for the lamp type denoted by the asterisk (*).

Standard Lead Length (inches)

<table>
<thead>
<tr>
<th>Color</th>
<th>White</th>
<th>Blue/White</th>
<th>Yellow/Blue</th>
<th>Brown</th>
<th>Orange</th>
<th>Orange/Black</th>
<th>Black/White</th>
<th>Red/White</th>
</tr>
</thead>
<tbody>
<tr>
<td>in.</td>
<td>7</td>
<td>17.8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>17.8</td>
<td>0</td>
</tr>
<tr>
<td>cm.</td>
<td>17.8</td>
<td>45.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>45.2</td>
<td>0</td>
</tr>
</tbody>
</table>

Enclosure

Enclosure Dimensions

<table>
<thead>
<tr>
<th>Overall (L)</th>
<th>Width (top/TP)</th>
<th>Height (H)</th>
<th>Mounting (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1 cm</td>
<td>5.6 cm / 0 cm</td>
<td>4.1 cm</td>
<td>11.1 cm</td>
</tr>
</tbody>
</table>

Revised 07/01/1999

Data is based upon tests performed by Philips Lighting Electronics N.A. in a controlled environment and is representative of relative performance. Actual performance can vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.

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Hotel and Conference Center

AE Senior Thesis Final Report

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Lighting | Electrical

---

GE Lighting

41487 - Q35MR16/CCG40
GE ConstantColor® Precise™ MR16

-12V lamps

GENERAL CHARACTERISTICS
Lamp Type: Halogen - MR
Bulb: MR16
Base: 2-Pin (GU5.3)
Filament: CCG-6
Rated Life: 4000 hrs
Lamp Enclosure Type (LET): Covered glass

PHOTOMETRIC CHARACTERISTICS
Center Eave: Candelina over (CIE)
Color Temperature: 2950 K

ELECTRICAL CHARACTERISTICS
Volts: 30
Amperage: 0.24
Burn Position: Universal burning position

DIMENSIONS
Maximum Overall Length (MOL): 1.875 cm
Bulb Diameter (G12): 2 cm
Bulb Diameter (G12) (MAX): 2.5 cm

PRODUCT INFORMATION
Product Code: 41487
Description: Q35MR16/CCG40
Standard Package: BUNDLE
Standard Package GTIN: 3019376414077
Standard Package Quantity: 20
Sales Unit: Unit
No. Of Items Per Sales Unit: 1
No. Of Items Per Standard Package: 20
UPC: 043954140878

---

Mar 24, 2011 7:02:37 PM
For additional information, visit www.ge-lighting.com
GENERAL CHARACTERISTICS

Lamp Type
Linear Fluorescent - Straight

Bulb
T8

Base
Medium Bi-Pin (G13)

Rated Life
30,000 hrs

Starting Time
12.0 h

Start Life
30.000 h

Starting Temperature
14 K

LEED-EB/MSR Credit
3.0 points

Additional Info
TCLP compliant

PHOTOMETRIC CHARACTERISTICS

Initial Lumens
29.50

Mean Lumens
26.00

Nominal Initial Lumens per Watt
92

Color Temperature
30.000 K

Color Rendering Index (CRI)
86

ELECTRICAL CHARACTERISTICS

Voltagge
32

Voltage
13.7

Damp Start Voltage (rapid start)
31.5 V @ 10°C

Cathode Resistance Ratio - Rh
4.25

Rc (MIN)
1.00

Rc (MAX)
6.5

Current Crest Factor
1.7

DIMENSIONS

Minimum Overall Length
47.78 cm

Maximum Overall Length
47.87 cm

Nominal Length
45.000 in (119.32 mm)

Bulb Diameter (DA)
1 cm

Bulb Diameter (DA) (MIN)
0.94 cm

Bulb Diameter (DA) (MAX)
1.1 cm

Max Base Face to Base Face (A)
47.22 cm

Face to End of Opposing Pin (S)(MIN)
47.4 cm

Face to End of Opposing Pin (S)(MAX)
47.5 cm

End of Base Pin to End of Opposing Pin (C)
47.67 cm

PRODUCT INFORMATION

Product Code
25611

Description
F32T8/SPX30/Eco

ANSI Code
10W-2

Standard Package
Case

Standard Package QTN
16043106296114

Standard Package Quantity
36

Sales Unit
Unit

No Of Items Per Sales Unit
1

No Of Items Per Standard Package
36

UPC
0431692296117

For additional information, visit www.ge.com
**Electrical Specifications**

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Num. of Lamps</th>
<th>Rated Lamp Watts</th>
<th>Min. Start Temp (°F/C)</th>
<th>Input Current (Amps)</th>
<th>Input Power (ANSI Watts)</th>
<th>Ballast Factor</th>
<th>MAX THD %</th>
<th>Power Factor</th>
<th>MAX Lamp Current</th>
<th>B.E.F</th>
</tr>
</thead>
<tbody>
<tr>
<td>F17T8</td>
<td>1</td>
<td>17</td>
<td>0/18</td>
<td>0.30</td>
<td>19</td>
<td>1.02</td>
<td>150</td>
<td>0.50</td>
<td>1.7</td>
<td>5.37</td>
</tr>
<tr>
<td>F25T8</td>
<td>2</td>
<td>17</td>
<td>0/18</td>
<td>0.40</td>
<td>31</td>
<td>0.91</td>
<td>140</td>
<td>0.50</td>
<td>1.7</td>
<td>2.94</td>
</tr>
<tr>
<td>F32T8</td>
<td>2</td>
<td>25</td>
<td>0/18</td>
<td>0.44</td>
<td>49</td>
<td>0.89</td>
<td>120</td>
<td>0.50</td>
<td>1.7</td>
<td>2.07</td>
</tr>
<tr>
<td>F32T8</td>
<td>1</td>
<td>32</td>
<td>0/18</td>
<td>0.48</td>
<td>33</td>
<td>1.00</td>
<td>140</td>
<td>0.50</td>
<td>1.7</td>
<td>3.03</td>
</tr>
<tr>
<td>F32T8</td>
<td>2</td>
<td>32</td>
<td>0/18</td>
<td>0.86</td>
<td>56</td>
<td>0.88</td>
<td>120</td>
<td>0.50</td>
<td>1.7</td>
<td>1.57</td>
</tr>
</tbody>
</table>

**Wiring Diagram**

![Wiring Diagram](image)

The wiring diagram that appears above is for the lamp type denoted by the asterisk (*).

**Enclosure**

![Enclosure Diagram](image)

**Enclosure Dimensions**

<table>
<thead>
<tr>
<th>Overall (L)</th>
<th>Width (W)</th>
<th>Height (H)</th>
<th>Mounting (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.50&quot;</td>
<td>1.7&quot;</td>
<td>1.18&quot;</td>
<td>8.90&quot;</td>
</tr>
<tr>
<td>6.12&quot;</td>
<td>1.7/10&quot;</td>
<td>1.9/50&quot;</td>
<td>8.9/10&quot;</td>
</tr>
<tr>
<td>24.1 cm</td>
<td>4.3 cm</td>
<td>3 cm</td>
<td>22.6 cm</td>
</tr>
</tbody>
</table>

---

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Revised 09/1 1/2007

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**REZ-132-SC**

<table>
<thead>
<tr>
<th>Brand Name</th>
<th>MARK 10 POWERLINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ballast Type</td>
<td>Electronic Dimming</td>
</tr>
<tr>
<td>Starting Method</td>
<td>Programmed Start</td>
</tr>
<tr>
<td>Lamp Connection</td>
<td>Series</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>120</td>
</tr>
<tr>
<td>Input Frequency</td>
<td>60 Hz</td>
</tr>
<tr>
<td>Status</td>
<td>Active</td>
</tr>
</tbody>
</table>

### Electrical Specifications

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Num. of Lamps</th>
<th>Rated Lamp Watts</th>
<th>Min. Start Temp (°F/°C)</th>
<th>Input Current (Amps)</th>
<th>Input Power (Watts) (min/max)</th>
<th>Ballast Factor (min/max)</th>
<th>MAX THD %</th>
<th>Power Factor</th>
<th>Lamp Current Crest Factor</th>
<th>B.E.F.</th>
</tr>
</thead>
<tbody>
<tr>
<td>F17T8</td>
<td>1</td>
<td>17</td>
<td>50/10</td>
<td>0.20</td>
<td>07/24</td>
<td>0.05/1.05</td>
<td>10</td>
<td>0.99</td>
<td>1.6</td>
<td>4.38</td>
</tr>
<tr>
<td>F25T8</td>
<td>1</td>
<td>25</td>
<td>50/10</td>
<td>0.26</td>
<td>07/30</td>
<td>0.05/1.05</td>
<td>10</td>
<td>0.99</td>
<td>1.6</td>
<td>3.50</td>
</tr>
<tr>
<td>*F32T8</td>
<td>1</td>
<td>32</td>
<td>50/10</td>
<td>0.29</td>
<td>09/35</td>
<td>0.05/1.00</td>
<td>10</td>
<td>0.99</td>
<td>1.6</td>
<td>2.86</td>
</tr>
</tbody>
</table>

**Wiring Diagram**

The wiring diagram that appears above is for the lamp type denoted by the asterisk (*).

**Enclosure**

**Enclosure Dimensions**

<table>
<thead>
<tr>
<th>OverAll (L)</th>
<th>Width (W)</th>
<th>Height (H)</th>
<th>Mounting (M)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.50 *</td>
<td>1.7 *</td>
<td>1.18 *</td>
<td>8.90 *</td>
</tr>
<tr>
<td>9.12</td>
<td>1.7/10</td>
<td>1.19/50</td>
<td>8.9/10</td>
</tr>
<tr>
<td>24.1 cm</td>
<td>4.3 cm</td>
<td>3 cm</td>
<td>22.6 cm</td>
</tr>
</tbody>
</table>

Revised 08/04/2010

Data is based upon tests performed by Philips Lighting Electronics N.A. in a controlled environment and is representative of relative performance. Actual performance may vary depending on operating conditions. Specifications are subject to change without notice. All specifications are nominal unless otherwise noted.
**16751 - Q50GU10/FL/CD**

GE Edison™ Quartline® MR16
- Edison™ filament bulbs provide a brighter, cleaner light that makes your home look its best.
- That's why professionals choose Edison for exceptional results and longer bulb life.
- Showcase the beauty of your home with the highest quality of light.

---

**CAUTIONS & WARNINGS**

**Caution**
- Lamp may shatter and cause injury if broken.
- Dispose of lamp in a closed container.
- Do not use lamp if outer glass is scratched or broken.

**Warning**
- Risk of Burst
  - Allow lamp to cool before handling.
  - A damaged lamp emits UV radiation which may cause eye/skin injury.
  - Turn power off if glass bulb is broken. Remove and dispose of lamp.
- Risk of Electric Shock
  - Do not exceed listed volts.
  - Do not use lamp if outer glass is scratched or broken.

**Risk of Fire**
- In stable lamp, use only with shade.
- Keep combustible materials away from lamp.
- Do not use lamp if outer glass is scratched or broken.

**PRODUCT INFORMATION**

<table>
<thead>
<tr>
<th>Description Code</th>
<th>16751</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Q50GU10/FL/CD</td>
</tr>
<tr>
<td>Standard Package</td>
<td>Case</td>
</tr>
<tr>
<td>Standard Package GTIN</td>
<td>10043168167516</td>
</tr>
<tr>
<td>Standard Package Quantity</td>
<td>5</td>
</tr>
<tr>
<td>Sales Unit</td>
<td>Unit</td>
</tr>
<tr>
<td>No Of Items Per Sales Unit</td>
<td>1</td>
</tr>
<tr>
<td>No Of Items Per Standard Package</td>
<td>5</td>
</tr>
<tr>
<td>UPC</td>
<td>043168167512</td>
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</tbody>
</table>

---

**GENERAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Lamp Type</th>
<th>Halogen - MR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulb</td>
<td>MR16</td>
</tr>
<tr>
<td>Base</td>
<td>GU10</td>
</tr>
<tr>
<td>Filament</td>
<td>CC-2V</td>
</tr>
<tr>
<td>Rated Life</td>
<td>3000 hrs</td>
</tr>
<tr>
<td>Primary Application</td>
<td>Indoor Floodlight</td>
</tr>
</tbody>
</table>

**PHOTOMETRIC CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Center Beam Candela Power</th>
<th>1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color Temperature</td>
<td>2750 K</td>
</tr>
</tbody>
</table>

**ELECTRICAL CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Wattage</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage</td>
<td>120</td>
</tr>
</tbody>
</table>

**DIMENSIONS**

| Maximum Overall Length (MOL) | 2.1250 in/54.0 mm |

---

Mar 2, 2011 2:49:44 PM
For additional information, visit www.gelighting.com
## GENERAL CHARACTERISTICS
- **Lamp Type**: Halogen - Single-Ended
- **Bulb**: T3
- **Base**: 2-Pin (GY6.35)
- **Filament**: CC-6
- **Rated Life**: 2000 hrs

## PHOTOMETRIC CHARACTERISTICS
- **Initial Lumens**: 2350
- **Nominal Initial Luminous Flux**: 23

## ELECTRICAL CHARACTERISTICS
- **Wattage**: 103
- **Voltage**: 12

## DIMENSIONS
- **Maximum Overall Length (MOL)**: 1.75 cm
- **Bulb Diameter (Dia)**: 0.375 cm
- **Bulb Diameter (Dia) (MAX)**: 

## PRODUCT INFORMATION
- **Product Code**: 34676
- **Description**: Q100T3/12V/CL
- **Standard Package**: BUNDLE
- **Standard Package GTIN**: 30340168346785
- **Standard Package Quantity**: 100
- **Sales Unit**: Unit
- **No of Items Per Sales Unit**: 1
- **No of Items Per Standard**: 100
- **Package**: 
- **UPC**: 043168346764

### CAUTIONS & WARNINGS
- Caution
- Warning
19377 - Q75T4/CL/CD 5PK
GE Quartz T4 - Display Lights

* GE’s specialty bulbs offer innovative solutions for a variety of lighting needs.
* GE’s Halogen technology for a brighter, crispier light.

**GENERAL CHARACTERISTICS**
- Lamp Type: Halogen - Single-Ended
- Bulb: T4
- Base: 2-Pin (GY6.35)
- Filament: C-6
- Rated Life: 2000 hrs
- Primary Application: Display Lights

**PHOTOMETRIC CHARACTERISTICS**
- Initial Lumens: 1600
- Nominal Initial Lumens per Watt: 21

**ELECTRICAL CHARACTERISTICS**
- Wattage: 75
- Voltage: 12

**DIMENSIONS**
- Maximum Overall Length (MOL): 1.75 cm
- Bulb Diameter (DIA): 0.5 cm
- Bulb Diameter (DIA) (MAX): 1.125 cm
- Light Center Length (LCL): 1.125 cm

**PRODUCT INFORMATION**
- Product Code: 19377
- Description: Q75T4/CL/CD 5PK
- Standard Package: Master
- Standard Package GT/N: 10046168193778
- Standard Package Quantity: 25
- Sales Unit: Unit
- No Of Items Per Sales Unit: 1
- No Of Items Per Standard Package: 25
- UPC: 043198993777
### GENERAL CHARACTERISTICS
- **Lamp Type**: Halogen - Single-Ended
- **Bulb**: T3
- **Base**: 2-Pin (G4)
- **Filament**: C-6
- **Rated Life**: 2000 hrs

### PHOTOMETRIC CHARACTERISTICS
- **Initial Lumens**: 60
- **Nominal Initial Lumens per Watt**: 12

### ELECTRICAL CHARACTERISTICS
- **Wattage**: 5
- **Voltage**: 12

### DIMENSIONS
- **Maximum Overall Length (MOL)**: 1.25 cm
- **Bulb Diameter (DIA)**: 0.375 cm
- **Bulb Diameter (DIA) (MAX)**: 0.5 cm
- **Light Center Length (LCL)**: 0.75 cm

### PRODUCT INFORMATION
- **Product Code**: 42959
- **Description**: Q5T3/CL
- **Standard Package**: BUNDLE
- **Standard Package GTIN**: 300243168429598
- **Standard Package Quantity**: 100
- **Sales Unit**: Unit
- **No Of Items Per Sales Unit**: 1
- **No Of Items Per Standard Package**: 100
- **UPC**: 643168429597
PHILIPS ADVANCE

Electrical Specifications

<table>
<thead>
<tr>
<th>LED-120A-0024V-14-F-O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand Name</td>
</tr>
<tr>
<td>Driver Type</td>
</tr>
<tr>
<td>Input Voltage</td>
</tr>
<tr>
<td>Input Frequency</td>
</tr>
<tr>
<td>RoHS</td>
</tr>
<tr>
<td>Status</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Max. Output Power (W)</th>
<th>Output Voltage (V)</th>
<th>Output Current (A)</th>
<th>Operating Temp. Range (°F/°C)</th>
<th>Input Current at 120V (A)</th>
<th>Max. Input Power (W)</th>
<th>Inrush Current (Amp)</th>
<th>Max. THD (%)</th>
<th>Min. Power Factor</th>
<th>Surge Protection (kV)</th>
<th>Weight (Lbs)</th>
<th>IP Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>34</td>
<td>2.8–240</td>
<td>1.4</td>
<td>-40° to 140°F (-40° to 60°C)</td>
<td>0.35</td>
<td>42</td>
<td>20</td>
<td>0.9</td>
<td>20</td>
<td>0.75/340</td>
<td>IP66</td>
</tr>
</tbody>
</table>

Wiring Diagram

- **Input**
  - BLACK (SW1)
  - WHITE (SW2)
  - GREEN (GROUND)

- **Output**
  - RED POSITIVE
  - LED DRIVER
  - LED ARRAY

Input and Output use lead-wires. Lead-wires are 18AWG 105°C/600V solid copper.

Standard Lead Length

<table>
<thead>
<tr>
<th>Wire Color</th>
<th>in.</th>
<th>cm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>White</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Blue</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Red</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Green</td>
<td>6</td>
<td>15</td>
</tr>
</tbody>
</table>

Maximum Wiring Distance (at full load)

<table>
<thead>
<tr>
<th>Wire Size (AWG)</th>
<th>Distance (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>4</td>
</tr>
<tr>
<td>24</td>
<td>7</td>
</tr>
<tr>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>16</td>
<td>43</td>
</tr>
<tr>
<td>14</td>
<td>69</td>
</tr>
<tr>
<td>12</td>
<td>105</td>
</tr>
<tr>
<td>10</td>
<td>179</td>
</tr>
</tbody>
</table>

Revised 07/15/2009

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**Electrical Specifications**

<table>
<thead>
<tr>
<th>Max. Output Power (W)</th>
<th>Output Voltage (V)</th>
<th>Output Current (A)</th>
<th>Operating Temp. Range (°F/°C)</th>
<th>Input Current at 120V (A)</th>
<th>Max. Input Power (W)</th>
<th>Inrush Current (A)</th>
<th>Max. THD (%)</th>
<th>Min. Power Factor</th>
<th>Surge Protection (KV)</th>
<th>Weight (Lbs)</th>
<th>IP Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>2.8–24.0</td>
<td>1.75</td>
<td>-40°–140°F (-40–60°C)</td>
<td>0.42</td>
<td>50</td>
<td>-</td>
<td>20</td>
<td>0.9</td>
<td>2.0</td>
<td>0.75/340</td>
<td>IP66</td>
</tr>
</tbody>
</table>

**Wiring Diagram**

Input and Output use lead-wires. Lead-wires are 18AWG 105°C/600V solid copper.

**Enclosure**

<table>
<thead>
<tr>
<th>in. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case Length</td>
</tr>
<tr>
<td>Case Width</td>
</tr>
<tr>
<td>Case Height</td>
</tr>
<tr>
<td>Mounting Length</td>
</tr>
<tr>
<td>Mounting Width</td>
</tr>
<tr>
<td>Overall Length</td>
</tr>
</tbody>
</table>

UL Class 2
E220165
7310_S-000
3426-32

Revised 07/15/2009
**Electrical Specifications**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand Name</td>
<td>XITANIUM</td>
</tr>
<tr>
<td>Driver Type</td>
<td>Electronic</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>120</td>
</tr>
<tr>
<td>Input Frequency</td>
<td>50/60Hz</td>
</tr>
<tr>
<td>RoHS</td>
<td>No</td>
</tr>
<tr>
<td>Status</td>
<td>Active</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Output Power (W)</td>
<td>21</td>
</tr>
<tr>
<td>Output Voltage (V)</td>
<td>2.8–12.0</td>
</tr>
<tr>
<td>Output Current (A)</td>
<td>2.1</td>
</tr>
<tr>
<td>Operating Temp. Range (°F°C)</td>
<td>-40°–140°F (-40–+60°C)</td>
</tr>
<tr>
<td>Input Current at 120V (A)</td>
<td>0.25</td>
</tr>
<tr>
<td>Max. Input Power (W)</td>
<td>30.5</td>
</tr>
<tr>
<td>Insulation Current (A,in)</td>
<td></td>
</tr>
<tr>
<td>Max. THD (%)</td>
<td>20</td>
</tr>
<tr>
<td>Min. Power Factor</td>
<td>0.9</td>
</tr>
<tr>
<td>Surge Protection (kV)</td>
<td>2.0</td>
</tr>
<tr>
<td>Weight (Lb)</td>
<td>0.6/0.75</td>
</tr>
<tr>
<td>IP Rating</td>
<td>IP 20</td>
</tr>
</tbody>
</table>

**Wiring Diagram**

Input is Wago 3-position wire trap connector – use 18AWG solid or tinned stranded.
Output is Wago 4-pin wire trap connector – use 20AWG solid or tinned stranded.

**Standard Lead Length**

<table>
<thead>
<tr>
<th>Color</th>
<th>In.</th>
<th>Cm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violet</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Maximum Wiring Distance (at full load)**

<table>
<thead>
<tr>
<th>Wire Size (AWG)</th>
<th>Distance (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td>24</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>7</td>
</tr>
<tr>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>16</td>
<td>28</td>
</tr>
<tr>
<td>14</td>
<td>46</td>
</tr>
<tr>
<td>12</td>
<td>70</td>
</tr>
<tr>
<td>10</td>
<td>119</td>
</tr>
</tbody>
</table>

**UL Class 2**

E220165

3426-32
**Electrical Specifications**

<table>
<thead>
<tr>
<th>LED-HCNA-0024V-41-F-L-O</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brand Name</strong></td>
</tr>
<tr>
<td><strong>Description</strong></td>
</tr>
<tr>
<td><strong>Input Voltage</strong></td>
</tr>
<tr>
<td><strong>Input Frequency</strong></td>
</tr>
<tr>
<td><strong>RoHS</strong></td>
</tr>
<tr>
<td><strong>Status</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output Power (W)</th>
<th>Output Voltage (V)</th>
<th>Output Current (A)</th>
<th>Tcase Max</th>
<th>Input Current (A)</th>
<th>Max. Input Power (W)</th>
<th>Inrush Current (Apk)</th>
<th>Max. THD (%)</th>
<th>Min. Power Factor</th>
<th>Surge Protection (%)</th>
<th>Weight (Lb.)</th>
<th>IP Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>109</td>
<td>24 cv</td>
<td>0.10~0.16 cv</td>
<td>4.16 cc</td>
<td>85°C</td>
<td>0.32@347V</td>
<td>0.23@480V</td>
<td>117</td>
<td>85/115</td>
<td>20</td>
<td>0.90</td>
<td>3.0</td>
</tr>
</tbody>
</table>

cv = constant voltage mode, cc = constant current mode

**Wiring Diagram**

- **INPUT**
  - BLACK WIRE ANCE (NEG)
  - BLACK WIRE POSITIVE (POS)

- **OUTPUT**
  - RED (POSITIVE)
  - BLUE (NEGATIVE)

Input and output use lead-wires. Lead-wires are 18AWG 165V/600V solid copper.

**Standard Lead Length**

<table>
<thead>
<tr>
<th>Wire Color</th>
<th>in.</th>
<th>cm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black w/ orange stripe</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>Black w/ white stripe</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>Blue</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>Red</td>
<td>9</td>
<td>23</td>
</tr>
<tr>
<td>Gray</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violet</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Maximum Wiring Distance (at full load)**

<table>
<thead>
<tr>
<th>Wire Size (AWG)</th>
<th>Distance (feet)</th>
</tr>
</thead>
<tbody>
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<td>7</td>
</tr>
<tr>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>16</td>
<td>27</td>
</tr>
<tr>
<td>14</td>
<td>46</td>
</tr>
<tr>
<td>12</td>
<td>71</td>
</tr>
<tr>
<td>10</td>
<td>120</td>
</tr>
</tbody>
</table>

12/21/2010

**Enclosure**

| Case Length | 8.34 (211.8) |
| Case Width | 1.76 (42.5) |
| Case Height | 1.1 (27.9) |
| Mounting Length | 8.99 (228.4) |
| Mounting Width | 1.22 (30.9) |
| Overall Length | 9.45 (240) |

PHILIPS LIGHTING N.A.
10275 WEST HIGGINS ROAD · ROSEMONT, IL 60018
Tel: 800-322-2066 · Fax: 866-423-1652 · www.philips.com/advance

Page 59 of 79
OMX-VDC-LB/OMX-VDC-LF
Viseo® Wallstation

Description
The Viseo Wallstation provides local access to the Lighting Control System.
- Works with GRAFIK 5000™, GRAFIK 6000™, GRAFIK 7000™ Systems.
- Program, monitor, and operate every lighting zone* and scene of a space that is controlled by an individual Processor. For multiple Processor applications, contact Lutron.
- Offers an effective alternative to PC's and other plug-in devices for day-to-day operations.
- Automatically downloads data from your system without reprogramming.
- Modify preset light levels.
- View the lighting status of all the areas in the system.
- View the timeclock status of all the areas in the system.
- Take control of any lighting zone* or group of lighting zones* in any area, fine tune in 1% increments with graphic and numeric feedback.
- Program changes to preset light levels, including fade and delay times, in any area.
- Menus and help screens can be displayed in one of 7 languages: English, French, German, Italian, Spanish, Portuguese, or Dutch.

Design Options
Monochrome Color Options:
- High contrast blue/white - OMX-VDC-LB
- Neutral black/white - OMX-VDC-LF

* Does not display Lighting Zone Controller or OMX-3600 zone information.
Specifications

Power
Low-voltage Class 2 (PELV)
Operating Voltage: 32 V

Key Design Features
- Liquid Crystal Display (LCD)
  Resolution: 320 x 240 pixels (QVGA)
- Adjustable LCD contrast and backlight brightness.
- Change system time and date.
- Off-line programming allows changes to preset light levels without affecting current lighting scene.
- On-line programming allows for viewing changes to preset light levels as they are being made.
- Central or local options: configure Viseo Wallstation for various control, monitoring and programming options for each individual area of the building.
- Security: setup and programming configuration options may be restricted via numeric passcode.
- Field upgradeable software: allows future enhancements without hardware changes.
- System information displayed in ASCII 7-bit format (Characters A-Z, a-z, and 0-9) only.
- Menus and help screens can be displayed in one of 7 languages: English, French, German, Italian, Spanish, Portuguese, or Dutch.

System Communications and Capacity
- Low-voltage Class 2 (PELV) wiring connects Wallstations to Processor Panel.
- Up to 32 Wallstations, Control Units, and/or Control Interfaces may be connected per Class 2 (PELV) Control Station Device link. See Low Voltage Wiring page for more details.

Additional Notes
- Hidden spaces will not appear on Viseo stations.
- Viseo does not support hierarchical spaces; they will display all spaces as a single list.

Terminals
Accept up to two #18 AWG (1.0mm²) typical.

Environment
32-104°F (0-40°C). Relative humidity less than 90% non-condensing.

---

[Table]

<table>
<thead>
<tr>
<th>Job Name:</th>
<th>Model Numbers:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page 2
### LUT-DMX

#### DMX512 Control Interface

**Description**
- Allows GRAFIK Eye lighting controls to operate lighting and other equipment that uses the DMX512 protocol, including:
  - Strobes, fiber optic lighting, and LED-based lamps.
  - Fogger machines.
  - Animated characters and motorized fixtures.
- Converts GRAFIK zone intensities into DMX512 channel settings. Each zone is assigned to a DMX512 channel.
- Works with GRAFIK Eye 3000 and 4000 Series Control Units, as well as GRAFIK 5000/6000/7000 Systems (see DIP switches 1 and 2). Interface does not require an address.

**Example of Usage**
A DMX512-controlled fiber optic fixture is setup so that:
- Channel 5 controls color channel or dial setting.
- Channel 6 controls shutter open/close.

The Control Unit's scenes are setup so that:
- Zone 5 intensity = desired fiber optic color.
- Zone 6 intensity = desired shutter open/close.

When a scene is selected at the Control Unit:
- DMX512 Interface converts new scene's zone intensities into DMX512 channel settings.
- Fiber optics automatically change color and shutter open/close.
**Sivoia QED | roller 20**

The Sivoia QED roller 20 shade utilizes the ultra-quiet, precision controlled Electronic Drive Unit (EDU). The Sivoia QED EDU is housed inside the roller shade assembly and controls the movement of the shade, keeps track of the shade's position, and adjusts the shade to the user's desired preset positions.

**Features**

- Smooth, ultra-quiet operation
- Shades start, move and stop with precision
- Offers programmable stop points. The EDU tracks the position of the shade and is able to adjust it to predetermined locations at the touch of a button
- Provides maximum window coverage with small symmetrical light gaps, 0.75 in (19 mm) between the shade fabric and the mounting bracket
- Easy-to-read and easy-to-use controls
- Optional infrared (IR) system provides easy, convenient control from anywhere in the room
- Integrates with Lutron lighting control systems and other AV equipment
- Does not require group controllers or relay systems to create shade groups and sub-groups
- The EDU requires only low-voltage wiring
- Power failure memory for the lifetime of the product
- 8 year limited warranty
Specifications

Power
- Requires 24 V~. 50 VA
- One transformer is required per EDU
- Power must be provided by a Lutron approved NEC Class 2 power source
- One EDU can power one accessory control (keypads and accessories)

System Capacity
- System allows for a total of 96 devices, including any type of Sivola QED EDU, keypads, Contact Closure Input (CCI) or other interfaces
- If the number of keypads and interfaces in an installation exceeds the number of EDUs, external keypad power supplies are required
- Typical maximum shade size is 20 ft² (1.86 m²)
- Maximum shade size is determined from shade width, fabric type, fabric weight, hembar type etc. (refer to Lutron Shade Configuration Tool (SCT) for your application)

Performance
- Ultra-quiet operation (will not exceed 44dBA measured 3 ft (1 m) from the EDU)
- System allows for symmetrical light gaps as small as 0.75 in (19 mm) on each side
- Each EDU stores programmable presets including open, closed, and any other position
- Presets can be recalled from keypads, CCIs, IR receivers, and other lighting control system interfaces
- Presets can be set with a 5 second button push and hold from the keypads, CCIs, or hand-held remote controls
- Keypad adjustment of presets can be disabled with the "lock out" function on the keypad
- Open and close limits are programmable from the EDU, wall-mounted keypads, and hand-held remote controls
- All system components are Electro Static Discharge (ESD) protected

Grouping
- Keypads and CCIs can control any EDU or group of EDUs without a separate group controller
- System groups and subgroups can be configured at the point of control without rewiring and without access to the EDU
- System may contain multiple EDU types
- Keypads and interfaces within the system are able to operate any group or subgroup of EDUs

Integration
- EDUs seamlessly integrate with Lutron lighting control systems including, GRAFIK Eye® RadioRA®, HomeWorks®, and RadioTouche®
- Contact closure available to integrate with A/V equipment such as time clocks and security systems.

Controls
- Keypads and CCIs are low-voltage and receive their power from the EDUs
- All system devices must be connected through a common communication link
- IR controls available. IR receivers can be wired directly to EDU. There are also Sivola QED keypads and CCIs with built in IR receivers
Sivoia QED | 10 Output Transformer Panel

The Sivoia QED 10 Output Transformer Panel provides low-voltage power for Sivoia QED motorized roller shades, drapery track and/or Roman shades. The panel powers up to 10 Sivoia QED Electronic Drive Units (EDUs). The panel simplifies wiring installations that require multiple transformers.

The panel is hardwired into a standard 120 V~ circuit. The panel contains replaceable fuses on the secondary side for miswire protection.

Lutron recommends to home run EDUs to the power panel. The panel accommodates home run wiring with individual connectors for up to 10 EDUs (one EDU per output).

Features
- 24 V~ supply that provides power to EDUs, keypads, and accessories
- Simple wiring scheme uses 7-conductor low voltage link to provide power and communication for both Sivoia QED EDUs and seeTouch keypads
- Flexible wiring topology for easy installation and integration
- 10 output panel provides power for up to 10 EDUs
LUTRON

**LUTRON®** SPECIFICATION SUBMITTAL

<table>
<thead>
<tr>
<th>Job Name:</th>
<th>Model Numbers:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>SO-5WRLN-<strong>-</strong></th>
<th><strong>Description</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>SO-5WRLI-<strong>-</strong></td>
<td>- Used to control one or more window treatment zones simultaneously.</td>
</tr>
<tr>
<td>5-Button Preset Window Treatment Wallstation with Raise/Lower</td>
<td>- Can control Sivola QED® and AC Motorized Window Treatments.</td>
</tr>
<tr>
<td></td>
<td>- Receives up to two contact closure inputs via a connector on the back of the Wallstation.</td>
</tr>
<tr>
<td></td>
<td>- Large, rounded buttons are easy to use.</td>
</tr>
<tr>
<td></td>
<td>- Backlit buttons with on-button engraving make it easy to find and operate the control in low light conditions.</td>
</tr>
<tr>
<td></td>
<td>- Optional button engraving is angled up to the eye for easy reading.</td>
</tr>
<tr>
<td></td>
<td>- Pressing the Open button once will cause the window treatments to move to their fully open position. If the Open button is pressed again while the window treatments are opening, the movement of the window treatments will stop.</td>
</tr>
<tr>
<td></td>
<td>- Pressing the Preset 1, Preset 2, or Preset 3 button once will cause the window treatments to move to the first, second, or third preset position, respectively. If a preset button is pressed while the window treatments are moving to that position, the movement of the window treatments will stop.</td>
</tr>
<tr>
<td></td>
<td>- Pressing the Close button once will cause the window treatments to move to their fully closed position. If the Close button is pressed again while the window treatments are closing, the movement of the window treatments will stop.</td>
</tr>
<tr>
<td></td>
<td>- Raise/Lower buttons open and close the window treatments for the duration of the button press.</td>
</tr>
<tr>
<td></td>
<td>- The LEDs next to each button are used during programming and provide feedback when the buttons are pressed. For Sivola QED®, the LEDs provide feedback of the current Sivola QED preset.</td>
</tr>
<tr>
<td></td>
<td>- Works with GRAFIK 5000™, GRAFIK 6000®, GRAFIK 7000® Systems.</td>
</tr>
<tr>
<td></td>
<td>- For Sivola QED® Motorized Window Treatments, the LEDs provide feedback of the current Sivola QED preset.</td>
</tr>
</tbody>
</table>

**Finish and Engraving Options**

- Available with button engraving.
- Standard and Non-Standard Text Engraving is available. For more details, please visit the seeTouch website at [www.lutron.com/seetouch](http://www.lutron.com/seetouch).
How to Build a seeTouch Model Number

SO- ______ ______ ______ ______
Prefix Button Sensor Insert Color/ Engraving
Configuration Option Style Finish Code

Omit: CCI
O: Occupant sensor

N: Non-insert
I: Insert

Color/Finish Codes
Matte Finishes
White WH
Ivory IV
Beige BE
Gray GR
Brown BR
Black BL
Taupe TP

Gloss Finishes
Available with Insert (I) style controls only. Ship with Claro Wallplates.
White QWH
Light Almond GLA

Metal Finishes
With black plastic buttons (standard):
Bright Brass BB
Bright Chrome BC
Bright Nickel BN
Satin Brass SB
Satin Chrome SC
Satin Nickel SN
Antique Brass OB
Antique Bronze OZ

Anodized Aluminum Finishes
With black plastic buttons (standard):
Clear CLA
Black BLA
Brass BRA

Satin Colors™
Available with Insert (I) style controls only:
Snow SW
Biscuit BI
Eggshell ES
Midnight MN
Blue Mist ET
Limestone LS
Stone ST
Desert Stone DS
Terracotta TC
Ochre OC
Hot HT

*Note: Some Satin Colors units ship with different color buttons. For more information, please visit the seeTouch website at www.lutron.com/seetouch.

Engraving Codes
Unengraved E00

General/Standard Engraving
Arabic Acr
Portuguese (Latin) Bxr
Chinese Ccr
Danish Dcr
English Ecr
French Fcr
German Gcr
Italian Icr
Japanese Jcr
Spanish (Latin) Lcr
Dutch Ncr
Portuguese (Euro) Pxr
Spanish (Euro) Scr

Note: Replace the cr with either GN (general engraving) or a two-digit number (01-99) for standard engraving. Please visit the seeTouch website at www.lutron.com/seetouch for a listing of the standard engraving choices.

Non-Standard Text Engraving
Customized button engraving for particular needs. Use with Faceplate Replacement Kits only (model number begins with SR). Use an engraving code of NST. To order, contact Lutron customer service. Please visit the seeTouch website at www.lutron.com/seetouch for custom engraving sheets.
## SO-SVCN-___-___

**GRAFIK Systems**

Sivoia QED™ Controller

<table>
<thead>
<tr>
<th>Color and Finish Codes</th>
<th>SO-SVC</th>
<th>Control Interfaces</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SO-SVCN-WH-___</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*LEDs*

### Description

- Provides programming and control of one group of Sivoia QED™ Window Treatments.
- Allows selection of preset window treatment levels from GRAFIK Systems.
- Connects to both the GRAFIK™ Systems link and the Sivoia QED Electronic Drive Unit (EDU) link.
- One SO-SVC needed per group of Sivoia QED Window Treatments (up to 96 devices).
- Maximum of 32 GRAFIK Systems Sivoia QED Controllers per wallstation link.
- Large, rounded buttons are easy to use.
- Backlit buttons with optional engraving make it easy to find and operate the control in low light conditions.
- Optional button engraving is angled up to the eye for easy reading.

Pressing the Open button once will cause the window treatments move to their fully open position. If the Open button is pressed again while the window treatments are opening, the movement of the window treatments will stop.

Pressing the Preset 1, Preset 2, or Preset 3 button once will cause the window treatments to move to the first, second, and third preset level, respectively. If the Preset 1, Preset 2, or Preset 3 button is pressed while the window treatments are moving to that position, the window treatments will stop.

Pressing the Close button once will cause the window treatments move to their fully closed position. If the Close button is pressed again while the window treatments are closing, the movement of the window treatments will stop.

Pressing the Raise/Lower buttons will cause the window treatments to open/close while the button is pressed.

The LEDs next to each button are used during programming and provide feedback of the current Sivoia QED preset.

Works with GRAFIK 5000™, 6000™, and 7000™ Systems.

### Finish and Engraving Options

- Available with button engraving.
- Standard and Non-Standard text engraving available. For more details, visit the website at [www.lutron.com/seetouch](http://www.lutron.com/seetouch).

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**CLUTRON SPECIFICATION SUBMITTAL**

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Job Number:</td>
<td>Model Numbers:</td>
</tr>
</tbody>
</table>

---

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## Specifications

### Power
Low-voltage type PELV (Class 2: USA). Operating voltage: 24 V~

### Key Design Features
- Field-changeable button and faceplate assemblies allow easy customization.
- Front accessible DIP switches allow change of function without removing the unit from the wall.
- Meets IEC 801-2. Tested to withstand 15 kV electro-static discharge without damage or memory loss.
- Faceplate snaps on with no visible means of attachment.
- Available as an “insert” style control for multi-ganging.
- Can be ganged to share a common faceplate with NovaT™ and Vareo™ Dimmers. To order new Wallplates for multi-ganging, specify “R3” openings in a Lutron NovaT™ multi-gang FB (fins broken) Series model number.
- Use Burton Replacement Kits to change color, button configuration, or engraving.
- Burton Replacement Kits may also be used to convert between non-insert and insert configurations.

### System Communications and Capacity
- Low-voltage type PELV (Class 2: USA) wiring connects Wallstations and Sivola QED Controllers to GRAFIK Systems components.
- The Sivola QED Controller is wired on the GRAFIK 5000™, 6000™, or 7000™ wallstation/CSD link.
- Up to 32 GRAFIK Systems Sivola QED Controllers may be connected per wallstation/CSD link.
- Each GRAFIK Systems Sivola QED Controller is capable of controlling up to 96 Electronic Drive Units as a group.
- Each Sivola QED Electronic Drive Unit requires its own 24 V~ transformer.

### Terminals
Communications to GRAFIK Systems Central Processor: One 4-pin removable terminal block. Each pin will accept one wire up to #18 AWG (1.0 mm²).

Communications to Sivola QED EDU: One 5-pin removable terminal block. Each pin will accept one wire up to #18 AWG (1.0 mm²).

### Environment
32 - 104 °F (0 - 40 °C). Relative humidity less than 90% non-condensing.

### Mounting
Typical backbox dimensions: 95 mm (3.74 in.) high, 55 mm (2.17 in.) wide, 70 mm (2.75 in.) deep.
SUNPOWER™

E19 / 320 SOLAR PANEL
MAXIMUM EFFICIENCY AND PERFORMANCE

BENEFITS

Highest Efficiency
SunPower™ Solar Panels are the most efficient photovoltaic panels on the market today.

More Power
Our panels produce more power in the same amount of space—up to 50% more than conventional designs and 100% more than thin film solar panels.

Reduced Installation Cost
More power per panel means fewer panels per install. This saves both time and money.

Reliable and Robust Design
Proven materials, tempered front glass, and a sturdy anodized frame allow panels to operate reliably in multiple mounting configurations.

The planet’s most powerful solar panel.
The SunPower™ 320 Solar Panel provides today’s highest efficiency and performance. Utilizing 96 back-contact solar cells, the SunPower 320 delivers a total panel conversion efficiency of 19.8%. The 320 panel’s reduced voltage temperature coefficient, anti-reflective glass and exceptional low-light performance attributes provide outstanding energy delivery per peak power watt.

SunPower’s High Efficiency Advantage

<table>
<thead>
<tr>
<th></th>
<th>Thin Film</th>
<th>Conventional</th>
<th>SunPower E18 Series</th>
<th>SunPower E19 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency</td>
<td>10%</td>
<td>14%</td>
<td>18%</td>
<td>19%</td>
</tr>
</tbody>
</table>

SPR.320E-WHT.D
### Electrical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Power (+5/-25%)</td>
<td>228 W</td>
</tr>
<tr>
<td>Efficiency</td>
<td>19.0%</td>
</tr>
<tr>
<td>Rated Voltage</td>
<td>54.7 V</td>
</tr>
<tr>
<td>Rated Current</td>
<td>5.86 A</td>
</tr>
<tr>
<td>Open Circuit Voltage</td>
<td>54.5 V</td>
</tr>
<tr>
<td>Short Circuit Current</td>
<td>5.24 A</td>
</tr>
<tr>
<td>Maximum System Voltage</td>
<td>500 V</td>
</tr>
<tr>
<td>Temperature Coefficients</td>
<td></td>
</tr>
<tr>
<td>Power (P)</td>
<td>0.20% / K</td>
</tr>
<tr>
<td>Voltage (V)</td>
<td>-17% / K</td>
</tr>
<tr>
<td>Current (I)</td>
<td>3.5 %/ K</td>
</tr>
<tr>
<td>NOCT</td>
<td>45° C / 2°C</td>
</tr>
<tr>
<td>Series fuse rating</td>
<td>15 A</td>
</tr>
</tbody>
</table>

### Mechanical Data

- **Solar Cells**: 96 SunPower all-back contact monocrystalline
- **Front Glass**: High transmission tempered glass with anti-reflective (AR) coating
- **Junction Box**: IP65 rated with 3 bypass dividers
- **Dimensions**: 32 x 1.55 x 126 (mm)
- **Output Cables**: 1000mm length cables / MultiContact (MC4) connectors
- **Frame**: Anodized aluminum alloy type 6063 (silver), stacking pins
- **Weight**: 41.0 lbs (18.6 kg)

### I-V Curve

- **Current (A)**: 0 to 7
- **Voltage (V)**: 0 to 70

- **1000 W/m²**: 1000 W/m²
- **800 W/m²**: 800 W/m²
- **500 W/m²**: 500 W/m²
- **200 W/m²**: 200 W/m²

### Tested Operating Conditions

- **Temperature**: -40°F to +165°F (-40°C to +75°C)
- **Max load**: 113 psf (550 kg/m² (5400 Pa)), front (e.g. snow) w/ specified mounting configuration
- **50 psf**: 245 kg/m² (2440 Pa), front and back - e.g. wind
- **Impact resistance**: Ball 1 in (25.4 mm) at 51 mph (23 m/s)

### Warranties and Certifications

- **Warranties**: 25 year limited power warranty
- **10 year limited product warranty
- **Certifications**: Tested to UL 1703, Class C Fire Rating

### Dimensions

[Diagram of solar panel dimensions]

**CAUTION:** READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

Visit sunpowercorp.com for details.
SUNNY TOWER
Easy installation and maximum yield

The Sunny Tower is easy to install and profitable. Its exceptional efficiency of up to 98 percent and easy installation ensure maximum power yield. The intelligent OptiCool™ temperature management system makes the Sunny Tower suitable for use at high ambient temperatures. In addition, the modular structure allows for combining Sunny Mini Central and Sunny Bay inverters, ensuring maximum flexibility in system design and expansion.
<table>
<thead>
<tr>
<th>Technical data</th>
<th>Sunny Tower with 6 Sunny Mini Central 8000TL</th>
<th>Sunny Tower with 6 Sunny Mini Central 18000TL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input (DC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. DC power</td>
<td>4.8 kW</td>
<td>4.8 kW</td>
</tr>
<tr>
<td>PV voltage range</td>
<td>333 V to 500 V</td>
<td>333 V to 500 V</td>
</tr>
<tr>
<td>Max DC voltage</td>
<td>700 V</td>
<td>700 V</td>
</tr>
<tr>
<td>Max input current</td>
<td>6 x 25 A</td>
<td>6 x 34 A</td>
</tr>
<tr>
<td>DC voltage ripple</td>
<td>&lt; 10%</td>
<td>&lt; 10%</td>
</tr>
<tr>
<td>Max number of strings (parallel)</td>
<td>6 x 4</td>
<td>6 x 5</td>
</tr>
<tr>
<td>Reverse polarity protection</td>
<td>short-circuit diode</td>
<td>short-circuit diode</td>
</tr>
<tr>
<td>Output (AC)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continuous AC power</td>
<td>481 kW @ 80 °C (104 °F)</td>
<td>66 kW @ 40 °C (104 °F)</td>
</tr>
<tr>
<td>Nominal AC power</td>
<td>481 kW</td>
<td>66 kW</td>
</tr>
<tr>
<td>Max output current</td>
<td>3 x 70 A</td>
<td>3 x 96 A</td>
</tr>
<tr>
<td>THD of grid current</td>
<td>&lt; 4%</td>
<td>&lt; 4%</td>
</tr>
<tr>
<td>Nominal AC voltage</td>
<td>220 V to 120 V</td>
<td>220 V to 240 V</td>
</tr>
<tr>
<td>Nominal AC frequency</td>
<td>60 Hz / 60 Hz</td>
<td>50 Hz / 60 Hz</td>
</tr>
<tr>
<td>Power factor (cos ϕ)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Grid connection</td>
<td>bolt clamp, max. 5 x 95 mm²</td>
<td>bolt clamp, max. 5 x 95 mm²</td>
</tr>
<tr>
<td>Efficiency</td>
<td>98.0% / 97.7%</td>
<td>98.0% / 97.5%</td>
</tr>
<tr>
<td>Protection devices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermally monitored inlets</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Ground fault monitoring</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>ESS DC load disconnection switch</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Grid monitoring (SMA Grid Guard)</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Short-circuit tolerance (current control)</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Line circuit breaker</td>
<td>6 x 100</td>
<td>6 x 160</td>
</tr>
<tr>
<td>General data</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inverter/Sunny Tower protection rating</td>
<td>IP65/IP64</td>
<td>IP65/IP64</td>
</tr>
<tr>
<td>Cooling concept</td>
<td>OptiCool</td>
<td>OptiCool</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td>-25 °C to +60 °C (-13 °F to +140 °F)</td>
<td>-25 °C to +60 °C (-13 °F to +140 °F)</td>
</tr>
<tr>
<td>Topology</td>
<td>transformerless</td>
<td>transformerless</td>
</tr>
<tr>
<td>Number phase conductors</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Weight</td>
<td>320 kg (705 lb)</td>
<td>220 kg (485 lb)</td>
</tr>
<tr>
<td>Dimensions (W x H x D) in mm (in)</td>
<td>1100 / 180 / 950 (43 / 71 / 37)</td>
<td>1100 / 180 / 950 (43 / 71 / 39)</td>
</tr>
<tr>
<td>Features</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warranty: 5 / 10 years</td>
<td>●/●/0</td>
<td>●/●/0</td>
</tr>
<tr>
<td>Plant monitoring (pre-wired); RS485, Sunny WebBox, SMA Power Balancer</td>
<td>●/●/0</td>
<td>●/●/0</td>
</tr>
</tbody>
</table>

Data at nominal conditions
● Standard features  ○ Optional features

Type designation: ST6, ST6
Appendix C

Lighting Plans and Details
Figure 10: Entry Signage/Receptionist Back Wall Detail in Lobby | NTS

Figure 11: Restaurant Signage Detail in Lobby | NTS
Figure 12: Lobby Cove Detail | NTS

Figure 13: Front Desk Detail in Lobby | NTS
Figure 14: Bar Detail in Lounge | NTS

Figure 15: Toe Kick Detail in Lounge | NTS

Figure 16: Square Glass Panel Detail in Lounge | NTS
Figure 17: Cove Detail in Lounge | NTS
Figure 18: Bar Detail (typ in all shelves) | NTS