INTRODUCTION
Taylorbrite’s flagship product line, the CCF interior lights offer features and benefits long-sought after by all users in the Marine, RV and Truck markets. CCFs offer durability, long life, low power draw, low heat, low profile/surface mounting, dimming and attractive packaging. Please continue reading, so that you may better understand the underlying theory of the technology, as well as the components that are integral to this special product.

COLD CATHODE FLUORESCENT LIGHTING- THE KEY TO THE NEXT GENERATION OF MARINE AND RV LIGHTS.
To understand why we have developed our proprietary CCF lights, one first must understand the difference between the cold cathode fluorescent, on one hand, and traditional halogen and hot cathode fluorescent lighting on the other.

Existing halogen and fluorescent technology does not meet the harsh requirements of the marine and RV environment. In halogen bulbs or hot cathode fluorescent tube, large amounts of electric current are pushed through a thin tungsten wire filament, superheating it into the range of 1,200°C-4,000°C (2,200°F-7,200°F). Because of this, the wire filament is very fragile and vulnerable to destruction by any level of vibration. It is also degraded by the very act of simply turning on the light due to higher starting currents. This repeated degradation results in a limited number of starts after which the wire filament fails.

CCF tubes withstand shock and vibration and produce long operating life. In contrast to the filaments in traditional lighting, the cold cathode electrodes operate at a significantly lower temperature of 65°C + 20°C. Furthermore, the electrodes in the ends of the cold cathode fluorescent tube are much more substantial in construction. This is because they use a large metallic tubular surface area instead of a thin filament of wire. This construction withstands destruction by shock and vibration experienced in the marine and RV environment. In fact, our CCF’s have been subjected to tests of vibration from 10 Hz to 1 MHz, and have endured multiple shock impacts in excess of 50g, all without failure. (USCG recommendations were referred to for both tests.)

Taylorbrite optics enhance efficiency of the CCF tubes. The small size of our tubes (6mm) allows more effective optica control. Many CCF’s include the TIR lens, which captures nearly 100% of the light emitted by the tube and directs it where desired. This makes a very efficient light engine even more effective.

Taylorbrite’s electronic ballasts feature full dimming capability which offers true energy savings. Power consumption is directly reduced as the level of illumination is lowered. This is in contrast to conventional systems which absorb, and thereby waste, the excess power to reduce light output. Furthermore, this solid state device protects against damage from voltage fluctuations. Because the ballast operates at a high frequency, the light is flicker-free.

CCF electronics and tubes are sealed in our glass filled Valox Bases. The CCF’s are marine and RV UL listed and meet the Ignition Proof test requirements of the United States Coast Guard, as stated in Title 33 CFR 183.410. Furthermore, all Taylorbrite CCF’s are marine and RV UL and CSA listed, and are CE compliant (required for Europe).
Taylorbrite offers a family of marine courtesy lights, which provide efficient low-level illumination with long service life and very low power draw.

The marine courtesy lights deliver discreet levels of illumination by utilizing Light Emitting Diode (LED) light engines in combination with Taylorbrite’s proprietary TIR lenses, resulting in efficiency 3 to 4 times that of conventional incandescent “filtered” red lights. They are completely waterproof, shockproof, and ignition proof. With a power draw as little as 30mA, and a service life of over 50,000 hours, the LED lights are ideal for use as permanent light fixtures for a multitude of marine applications.

The LED marine courtesy lights offer surface mounting with a flush look. The units are very thin, measuring a mere 5/16” in height. Mounting is convenient, since there are no recessed parts. The LED lights provide adequate illumination as cockpit, passageway, engine room, bilge and even bait tank lights. They are available two, four and eight LED strips. These lights are offered in red and amber colors, which are the ideal wavelengths to prevent interference with "night vision".

### Product Specifications

<table>
<thead>
<tr>
<th>Light</th>
<th>Length</th>
<th>Current (Amps)</th>
<th>Current (Milliamps)</th>
<th>Current (Watts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-UP LED</td>
<td>4”</td>
<td>0.060</td>
<td>60</td>
<td>.72</td>
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<tr>
<td>4-UP LED</td>
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<td>0.035</td>
<td>35</td>
<td>.42</td>
</tr>
<tr>
<td>2-UP LED</td>
<td>1”</td>
<td>0.030</td>
<td>30</td>
<td>.36</td>
</tr>
</tbody>
</table>

All LED Courtesy lights are 5/16” in height and 1/2” in width. Voltage Requirement: 12VDC