
**Superior Performance** - Stay current with the highest intensity LEDs

**Design Faster** – Use industry standard starboards to shorten development time

**Maximum Flexibility** – Design to your exact specifications using the full spectrum of Opulent Americas’ starboards

**Rapid Innovation** – Work with Opulent Americas on your custom solution

Primary Applications

- Surveillance Systems
- License Plate Scanning
- Automotive Sensing
- Machine Vision
- Night Vision
- Eye Tracking Systems

**Superior Performance with Flexible Options**

- Multiple infrared wavelength options
- Choose the proper beam angle for your application
- Prototype faster, test multiple options

Custom Solutions

Opulent Americas operates facilities globally with ISO certifications for the LED lighting, automotive and medical industries. Our North Carolina based office provides quick engineering & sales support with an R&D lab for prototype development and custom solutions. Our in-house global manufacturing capabilities allow for both building in the United States as well as overseas at scale.

About Opulent Americas

Opulent Americas accelerates the adoption of LED technology through simple, modular products and custom designs. Through 30 years of experience, state of the art manufacturing, full traceability and advanced quality controls, Opulent offers leading solid state lighting components, modules and custom solutions. Opulent customers get to market faster, with less resources, at lower costs. Visit opulent-americas.com for more information.
OSRAM Osram Black Infrared (IR) Starboards
Product Selection Guide

<table>
<thead>
<tr>
<th>Color</th>
<th>Part Number</th>
<th>Description</th>
<th>Beam Angle</th>
<th>Wavelength</th>
<th>Vf</th>
<th>Flux (mW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrared 850nm to 940nm</td>
<td>LST1-0IF09-IR01-00</td>
<td>Starboard, Osram OSLON Black, 850nm Infrared</td>
<td>150°</td>
<td>850nm</td>
<td>3.2³</td>
<td>1270³</td>
</tr>
<tr>
<td></td>
<td>LST1-0IF09-IR02-00</td>
<td>Starboard, Osram OSLON Black, 850nm Infrared</td>
<td>90°</td>
<td>850nm</td>
<td>3.2³</td>
<td>1340³</td>
</tr>
<tr>
<td></td>
<td>LST1-0IF09-IR03-00</td>
<td>Starboard, Osram OSLON Black, 940nm Infrared</td>
<td>150°</td>
<td>940nm</td>
<td>2.75³</td>
<td>970³</td>
</tr>
<tr>
<td></td>
<td>LST1-0IF09-IR04-00</td>
<td>Starboard, Osram OSLON Black, 940nm Infrared</td>
<td>90°</td>
<td>940nm</td>
<td>2.75³</td>
<td>970³</td>
</tr>
<tr>
<td>Far Red 735nm</td>
<td>LST1-0IF06-FRD1-00</td>
<td>Starboard, Osram OSLON SSL 120, 735nm Far Red</td>
<td>120°</td>
<td>735nm</td>
<td>1.85²</td>
<td>282²</td>
</tr>
</tbody>
</table>

³Vf and flux values @ 1.0A, tp 10ms, Tj 25°C
²Vf and flux values @ 350mA, Tj 25°C
All values shown above are typical. Please reference the marking on the back of the starboard for actual values.
Do not look into the light that is emitting from these LEDs as it is harmful to the human eye.
Eye injury may result. Use skin and eye protection as necessary.
Other beam angles and colors available upon request.

Maximum Ratings

<table>
<thead>
<tr>
<th>Part Number</th>
<th>DC Current (A)</th>
<th>Tsp Temp (°C)</th>
<th>Power (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LST1-0IF09-IR01, LST1-0IF09-IR02</td>
<td>1.5</td>
<td>105</td>
<td>5.8</td>
</tr>
<tr>
<td>LST1-0IF09-IR03, LST1-0IF09-IR04</td>
<td>1.0</td>
<td>105</td>
<td>3.4</td>
</tr>
<tr>
<td>LST1-0IF06-FRD1</td>
<td>1.0</td>
<td>105</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Detailed Labeling (back of the starboard)

These devices emit highly concentrated non-visible infrared light which can be hazardous to the human eye in certain circumstances. When incorporating these devices into a product be sure to follow the safety precautions given in IEC 60825-1 and IEC 62471.