The MCL 180 is a compact LED marine lantern, solar self-contained, with great optical efficiency and low consumption, fitted with LED diodes of high intensity, reaching a maximum range of 8 nautical miles and offering a big autonomy.

Its luminous source consists of an innovating lens system especially designed to take the maximum profit of LED diodes, thus obtaining an output of up to 180 Cd/W.

The battery is replaceable, thus the complete lantern disposal is not necessary at the end of battery’s life. Standard fixings allow for a quick beacon replacement.

Designed according to IALA Recommendations.

**Features:**

- High-efficiency luminous system. Up to 6 nm (T=0.74), 8 nm (T=0.85).
- Vertical divergence up to 12°.
- 360° horizontal output.
- Average operation lifetime over 10 years.
- IP 68 watertightness degree (immersion resistant).
- Very resistant to marine environment.
- RS-232 serial port for setting adjustments by PC.
- Programming, configuration and operating status via PC, IR programmer or Bluetooth as an option.
- Autonomy without solar charging up to 400 hours.
- Automatic energy management, according to latitude.
- 4 nos. solar modules of 2W each.
- PATENTED OPTICAL SYSTEM.
### Optical System

**Light source:**
3 to 6 nos. ultra-bright LED diodes, with high-precision acrylic lens.

**Luminous range:**
Up to 6 nm (T=0.74) 8 nm (T=0.85).

**Colours available:**
White, green, red, amber and blue.

**Vertical divergence:**
From 5º to 12º (50% Io).

**LED average life:**
More than 100,000 hours.

### Electronic control

**Flash rhythms:**
256 (6 nos. user selectable).

**Day/night threshold:**
Adjustable in lux.

**Solar charge regulation function:**
Regulation in 3 phases.

**Settings:**
PC / IR programmer (optional Bluetooth).

**Energy management:**
Dynamic, according to latitude.

**Light intensity reduction due to low battery:**
Configurable by the user.

### Solar modules and battery

**Solar modules:**
4 nos. of 2W each.

**Battery:**
12 Ah, gelled, maintenance-free.

**Autonomy without solar charging:**
Up to 400 hours.

### Materials and environment

**Base:**
Glass-fibre reinforced polyamide PA66-GF30.

**Lens cover:**
Acrylic, UV stabilised.

**Vibration resistance:**

**Shock resistance:**
MIL-STD-202G, Method 213B.

**Water tightness degree:**
IP 68.

**Fixings:**
4 bolts in a 200mm diameter.

**Humidity resistance:**
100%, Pressure-compensation valve to avoid condensation.

**Temperature range:**
From -20º to 70ºC.

**Inside hardware:**
Stainless steel.

### Peak intensities (Cd)

<table>
<thead>
<tr>
<th>Colour</th>
<th>Vertical divergence 5º</th>
<th>Vertical divergence 12º</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>169</td>
<td>97</td>
</tr>
<tr>
<td>Green</td>
<td>166</td>
<td>109</td>
</tr>
<tr>
<td>Red</td>
<td>120</td>
<td>70</td>
</tr>
<tr>
<td>Amber</td>
<td>176</td>
<td>73</td>
</tr>
</tbody>
</table>

*Other divergences available.*

### Options

- Infrared (IR) programmer.
- PC programming kit.
- Bluetooth programming.
- Fixing kit for 3 bolts in a 200mm diameter.

*Other specifications available under request.*