



MODEL

# M702-5

## Solar-Powered LED Marine Lanterns



Self-contained, compact and proven to perform, Carmanah's Model M702-5 solar marine lanterns with 3 nautical miles visibility have been regarded as the solution of choice for coast guards, navies and port authorities around the world since 1996.

### LIGHT OUTPUT AND OPERATION

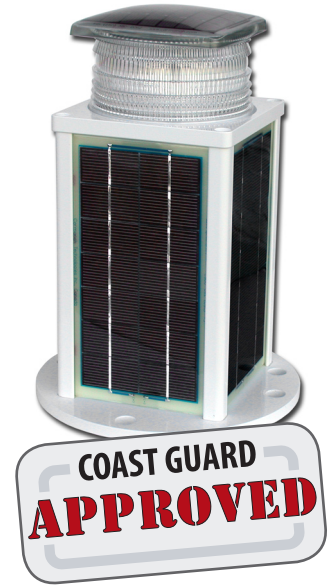
Visibility <sup>1,2</sup>	3 NM (5.4 km)
Peak intensity (360° average, green LEDs)	~ 22 Candela
Ambient storage temperature	-40 to 176 °F (-40 to 80 °C)
Ambient operating temperature	-22 to 122 °F (-30 to 50 °C)
Vertical divergence	7°
Autonomy (flashing) at full charge	300 hours
Available LED color	Red, green, amber, or white
Flash patterns	250+
Programmable (infrared)	Yes
GPS capable	Yes (Optional)

### CONSTRUCTION

Light source	High-powered LEDs
Lens material	UV stabilized
Battery (average 5-year life)	Replaceable and recyclable
Energy Management System MICROSOURCE® code suite	Yes
Mounting options	3, 4, or 5 bolt
Weight	17 lb (7.75 kg)

### PATENTS AND APPROVALS

CE approval	As per EN 60945:1997
IP68 waterproof rating	Yes
Patents	US Patents: 6573659, 6013985 Other Patents Pending



### Clients

- Australian Maritime Systems
- Brazilian Naval Commission
- Canadian Coast Guard
- CETMEF, France
- Indian Port of Kandla, India
- Maritime and Port Authority of Singapore
- NOAA – National Data Buoy Center
- Panama Canal
- Suez Canal, Egypt
- Trinity House Lighthouse Service, UK
- United States Coast Guard
- Vancouver Port Authority

### Carmanah Technologies Corporation

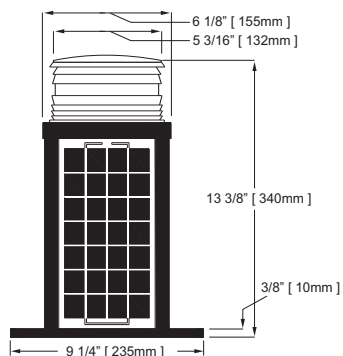
Building 4-203 Harbour Rd.  
 Victoria, BC V9A 3S2  
 Toll Free: +1.877.722.8877  
 (US & Canada)  
 Worldwide: +1.250.380.0052  
 Fax: +1.250.380.0062  
 Email: info@carmanah.com

we put solar to work™

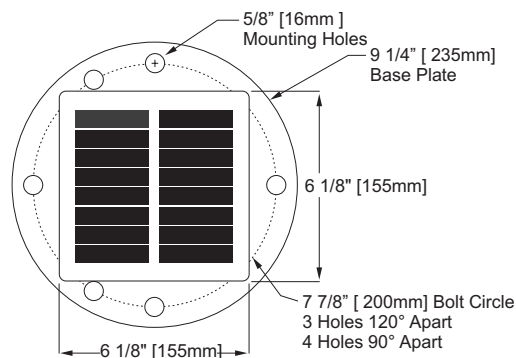
# Solar-Powered LED Marine Lanterns Model M702-5



## Side View



## Top View



## Accessories

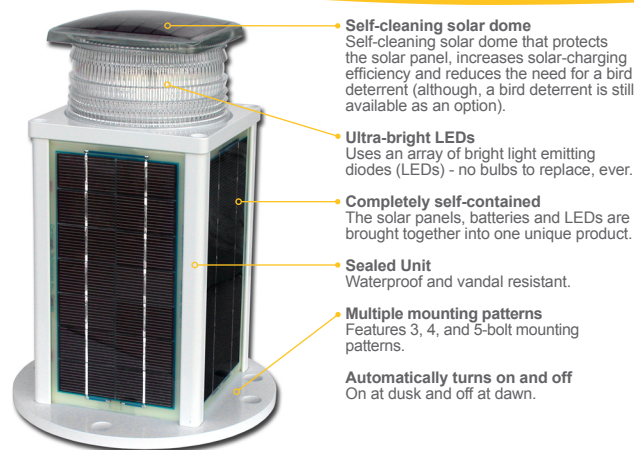
Infrared Programmer



Security Bolt



Bird Deterrent



- Self-cleaning solar dome**  
Self-cleaning solar dome that protects the solar panel, increases solar-charging efficiency and reduces the need for a bird deterrent (although, a bird deterrent is still available as an option).
- Ultra-bright LEDs**  
Uses an array of bright light emitting diodes (LEDs) - no bulbs to replace, ever.
- Completely self-contained**  
The solar panels, batteries and LEDs are brought together into one unique product.
- Sealed Unit**  
Waterproof and vandal resistant.
- Multiple mounting patterns**  
Features 3, 4, and 5-bolt mounting patterns.
- Automatically turns on and off**  
On at dusk and off at dawn.

Originally designed and built under contract with the U.S. Coast Guard, Carmanah 700 series lanterns are the first solar-powered lanterns using light emitting diodes (LEDs) to enter the U.S. Navigational Aid System.

- **Maximum capacity with minimal life-cycle cost** – operates up to 5 years maintenance free<sup>3</sup>
- **Field-proven durability** – over 250,000 solar installations worldwide
- **IP68 certification** – designed to higher levels of water ingress protection standards
- **Vandal and theft resistant design** – high quality construction and mounting hardware
- **Patented technology** – innovative LED technology and energy management system
- **Synchronization Module** – optional GPS capabilities, enables two or more M702-5 lanterns to flash in unison

### The Model M702-5 is also:

- Manufactured in accordance with ISO 9001:2000 Quality Assurance Standards
- Engineered to meet requirements of the USCG in 33 CFR part 66 for Private Aids to Navigation
- Manufactured with a colored base plate for easy identification of LED color.

<sup>1</sup> Transmissivity of 0.74

<sup>2</sup> Actual range is dependant on flash pattern, intensity, and LED color.

<sup>3</sup> Dependent on location.



Toll Free Canada & US: 1.877.722.8877 • carmanah.com • Worldwide: +1.250.380.0052