



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 nautical miles (5.4 kilometers)
Peak intensity (360-degree average, green LEDs)	~ 22 Candela
IP68 waterproof rating	Yes
Temperature range	-40° to +176° F (-40° to +80° C)
Vertical divergence	7°
Autonomy (flashing) at full charge	300 hrs
Horizontal output	360°
Available LED color	Red, green, amber or white
Flash patterns	250+
Programmable (infrared)	Yes
GPS capable	Yes (Optional)

### CONSTRUCTION

Solar panels	Mono-crystalline potted with UV-protected polyurethane and domed for higher efficiency
Light source	LED
Lifespan of LEDs	Up to 100,000 hours
Lens material	UV stabilized polycarbonate
Battery (average 5-year life)	Replaceable
Battery amp-hour	25Ah
Battery venting	Vent at the bottom of the lantern
Lantern base	Marine grade aluminum
Sealing	Self-contained unit, sealed with gaskets
MICROSOURCE®	Yes
Scheduled maintenance	Up to 10 year lifespan
Mounting options	3, 4 or 5 bolt
Weight	17 lbs (7.75 kg)

### TRADEMARKS, PATENTS AND APPROVALS

WEEE compliant	Yes
RoHS compliant	Yes
CE Approval	As per EN 60945:1997
Trademarks and Patents	US Patents: 6,573,659 and 6,013,985 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

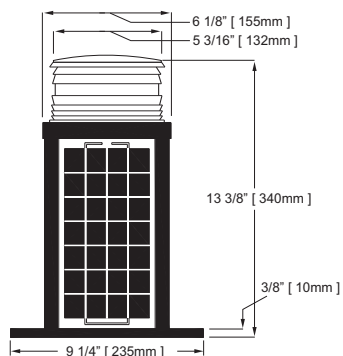
Email: info@carmanah.com

CHANGE THE WORLD WITH US™

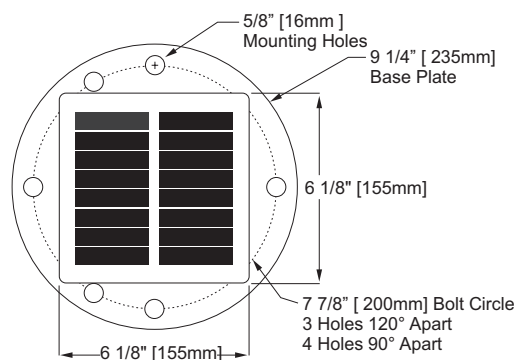
# Solar-Powered LED Marine Lanterns Model M702-5



## Side View



## Top View



## Accessories

Infrared Programmer



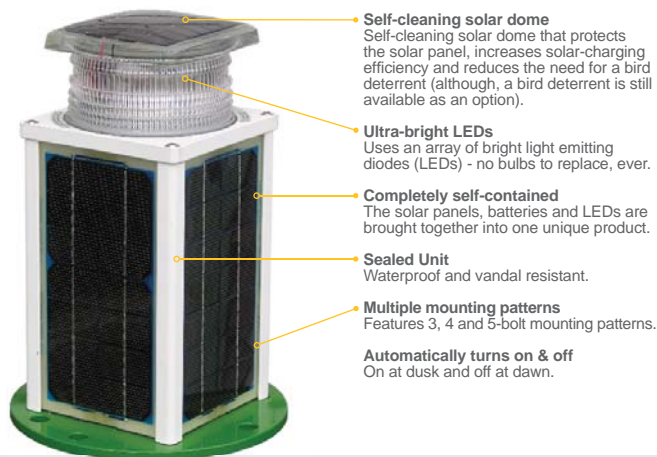
Security Bolt



Bird Deterrent



Mounting Plate



- 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 & 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
- **Field-proven durability** – technology tested over 15 years
- **Third-party tested** – passed extensive shock and vibration testing
- **IP68 certified** – tested 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
- **Dependable illumination** – lanterns offer a 10-year effective lifespan with LEDs operating up to 100,000 hours

### The Model M702-5 is also:

- Manufactured in accordance with ISO 9001:2000 Quality Assurance Standards
- RoHS and WEEE certified
- Engineered to meet requirements of the USCG in 33 CFR part 66 for Private Aids to Navigation

All of Carmanah's 700 series solar marine lanterns feature 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.



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