

Solar-Powered LED Marine Lanterns Model M704-5 - 4 to 5 Nautical Miles¹



Innovative optics and lens design
Means wider vertical divergence and greater light uniformity.

Self-cleaning solar dome
Proprietary, patented dome protects solar panel while improving efficiency.

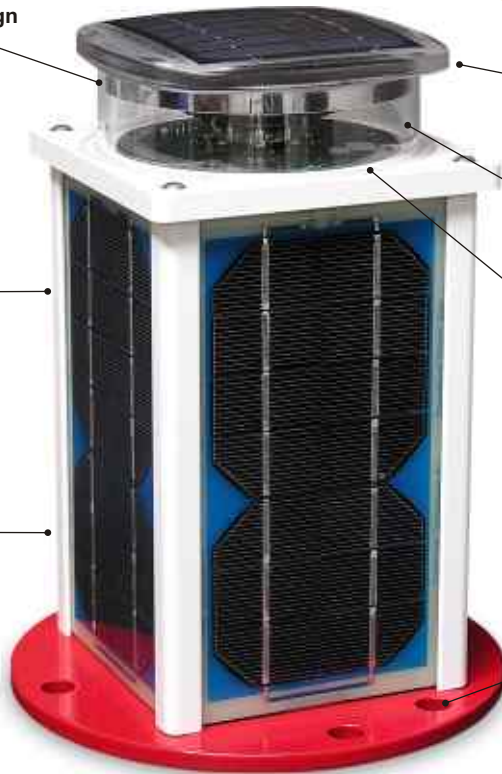
Completely self contained
The solar panels, batteries and LEDs are brought together into one unique product.

Ultra bright LEDs
Uses an array of bright light emitting diodes (LEDs) - no bulbs to replace, ever.

Sealed Unit
Waterproof and vandal resistant.

Automatically turns on & off
On at dusk and off at dawn.

Multiple mounting patterns
Features 3, 4 and 5-bolt mounting patterns.



Built to Perform in Harsh Environments

The Carmanah Model M704-5 4 to 5 Nautical Mile (7.4km - 9.3km) solar-powered LED lanterns are the world's most advanced, solar-powered LED navigational and hazard-marking lanterns. They are extremely compact, completely self contained, install in minutes and require no maintenance or servicing for up to five years.

Quality Manufacturing

Designed and built in partnership with international coast guard agencies, the Model M704-5 is built for performance in harsh weather conditions. The Model M704-5 uses an array of ultra-bright LEDs and can be programmed with over 250 flash patterns. Manufactured in accordance with ISO 9001:2000 Quality Assurance Standards, the Model M704-5 produces light output in IALA's four international chromaticity colors: green, red, amber and white.

Reliable Technology

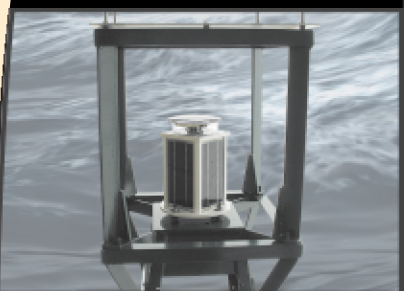
Through the innovative combination of solar power and LED technology, the M704-5 lantern charges during the day, even under cloudy conditions, and turns on automatically at night. Instead of relying on short-lived incandescent bulbs, the M704-5 uses durable, ultra-bright light emitting diodes (LEDs), which have an operating lifespan of up to 100,000 hours.

Applications:

- Aids to navigation
- Private aids to navigation
- Port and marina entrances
- Channel and canal markers
- Offshore oil & gas infrastructure
- Research buoys



Carmanah's new optics and lens design mean wider vertical divergence and greater light uniformity.



The world's most compact 4 to 5 NM solar LED lantern!

CHANGE THE WORLD WITH US™

Toll Free Canada & US: 1.877.722.8877

Worldwide: +1.250.380.0052

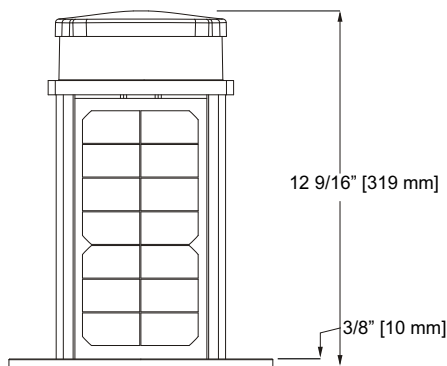
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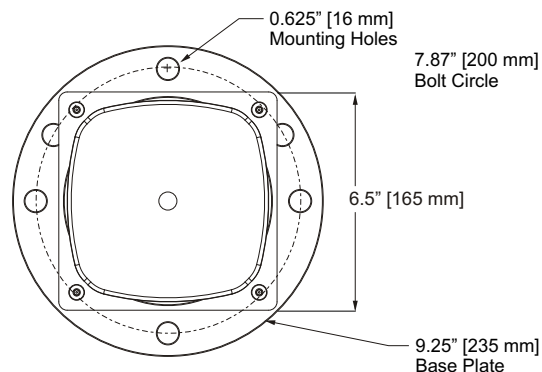
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Side View



Top View



SPECIFICATIONS

LIGHT OUTPUT

Peak Intensity ²	Average: 93 Candela IALA-rated: 83 Candela
Nominal Night Range ¹ (Transmissivity constant of 0.74)	~ 4 to 5 NM
Vertical Divergence	10°
Horizontal Output	360°
Colors Available	Green, Red, Amber, White

OPERATION

Autonomy ³ at full charge	600 Hours
Minimum Equivalent Peak Sun Hours to Maintain Minimum Autonomy	4.2 Hours
Latitude Range ⁴	55° S to 55° N
Illumination Technology	8 Ultra-Bright Light Emitting Diodes
Lifespan of LEDs ⁵	Up to 100,000 Hours
Chromaticity of Color Output	Meets IALA specifications
Available Standard Flash Patterns (Custom patterns available)	256 including "steady-on" (user-adjustable)
Power Management System	MICROSOURCE ⁶

CONSTRUCTION

Solar Panels	Monocrystalline
Battery	Potted with UV-protected polyurethane
Lens Material	Sealed pure lead-tin - recyclable
Battery Venting	UV stabilized polycarbonate
Sealing	Vent at the bottom of the lantern
Weight	Self-contained unit, sealed with gaskets 26 lbs (11.75 kg)
Lantern base	Marine grade aluminum
Mounting	3, 4 & 5 bolt mounting pattern

ENVIRONMENTAL and ELECTRICAL

Temperature Range ⁶	-40° to 176° F (-40° to +80° C)
Waterproof	As per IP67 (NEMA 6)
CE Approval	As per EN 60945:1997

TRADEMARKS and PATENTS

Trademarks and Patents	US Patents: 5,782,552 & 6,013,985 European Patent Application: 96925627.0 Other Patents Pending
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Optional Infrared
Programmer



Optional Bird
Deterrent



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Document: SPC_MARI-704-5-4NM_vH



All specifications are subject to change without notice.

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