carmanah®
we put solar to work

MODEL

A704

SOLAR LED AVIATION AND INDUSTRIAL LIGHT

MEETS TRADITIONAL AIRFIELD REQUIREMENTS IN AN EASY-TO-INSTALL, LOW MAINTENANCE PACKAGE.

- OMNI AND BI-DIRECTIONAL OPTIONS
- FAA AND ICAO COMPLIANT
- THIRD PARTY TESTED
- PROVEN TECHNOLOGY PLATFORM
- AVAILABLE IN THREE SOLAR ENGINE SIZES

Applications

Medium-intensity runway edge & threshold (MIRL)
High-intensity runway edge & threshold (HIRL)
Taxiway Lighting
NVG operations
Emergency airfields
Helipads

Advanced Design

- Improved optical efficiency
- Up to 25% more solar power
- Reduced standby power consumption
- Multiple solar engine sizes for best value-for-performance

Easy Installation

Limited crew, no trenching, no airfield interruptions. Just place the A704 and it emits light dusk-to-dawn while maintaining its battery. Optional wireless control provides on-demand operation from up to 2.5 miles (4 km) away.

Low Maintenance

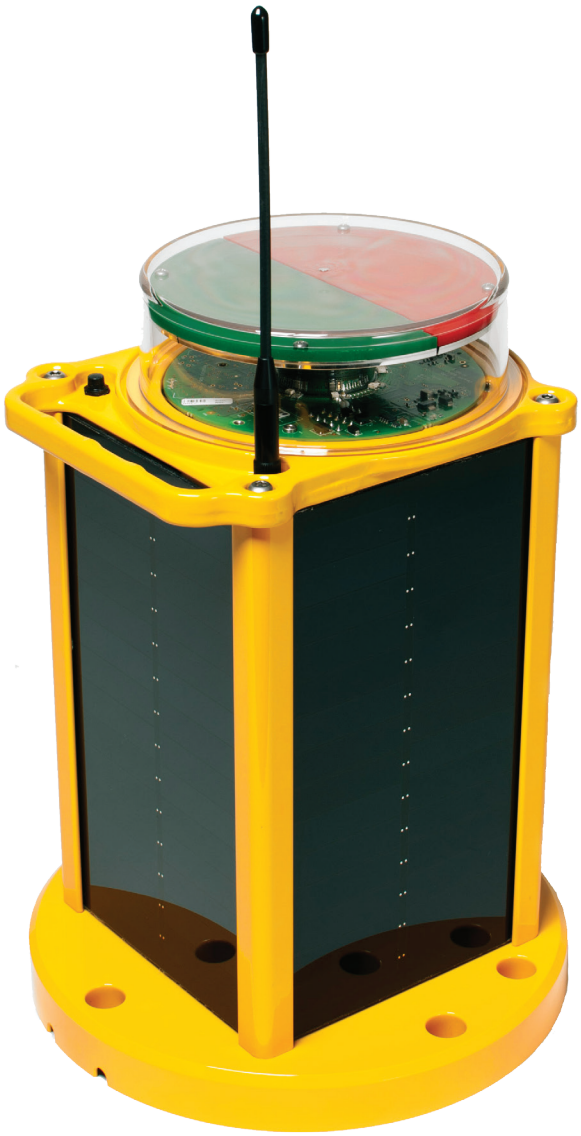
The A704 integrates solar panels, battery, electronics, and LED light source into a compact, stand-alone unit requiring minimal maintenance. The replaceable battery extends service life well beyond 5 years.

Reliable

The Energy Management System (EMS) monitors all operations to provide consistent output in the harshest environments. Testing to FAA, ICAO, and MIL specifications ensures high performance for many years.

Trusted

With thousands of installations worldwide, Carmanah solar LED lights operate year-round at permanent airfields to temporary military installations.



ISO 9001 RoHS Pb

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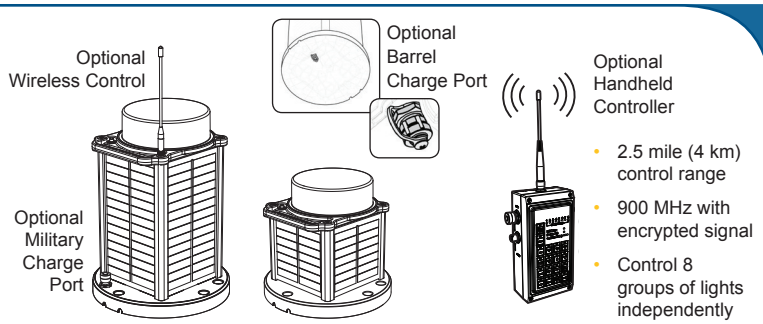

- 2.5 mile (4 km) control range
- 900 MHz with encrypted signal
- Control 8 groups of lights independently

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SPECIFICATIONS

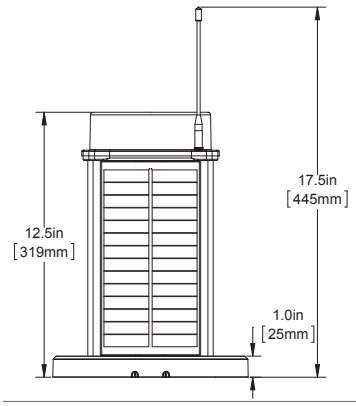
Optical	High-power LEDs meet IES LM-80 lumen maintenance, ensuring consistent photometrics for life of product
	ICAO, SAE25050 (FAA), and FAA EB 67 compliant chromaticity
	NVG-compatible infrared (IR) LEDs
	Steady-on and flash
Energy Collection	High-efficiency cells with blocking diodes
	Maximum power point tracking with temperature compensation (MPPT-TC) for optimal energy collection in all solar conditions
Energy Storage	Pure-lead VRLA AGM battery with manufacturer operating range -85 to 176 °F (-65 to 80 °C)
	On-board battery status
	Designed for 5 year battery life; Replaceable and recyclable
	Optional port for battery charging and cabled operation
Energy Management System (EMS)	Intelligent, microprocessor EMS
	On-board diagnostics and datalogger
	Push button interface for local control
	Autonomous, Temporary, and Emergency Modes
Automatic Light Control (ALC)	ALC adjusts output intensity in response to unusually low amounts of sunlight to ensure continued operation
Construction	Premium, UV-resistant polycarbonate lens
	Powdercoated aluminum and polycarbonate chassis with integrated handle
	Waterproof, vented battery compartment
Temperature	-22 to 122 ºF (-30 to 50 ºC) Optimal
	-40 to 176 ºF (-40 to 80 ºC) Maximum
Wind & Ice Loading	400 mph (179 m/s) wind; 0.03 psi (22 kg/m^2) ice
Shock & Vibration	MIL-STD-202G and MIL-STD-810G
Ingress	EN 60529 IP 67 immersion
	MIL-STD-202G immersion & damp heat cycling
	MIL-STD-810G rain & salt fog

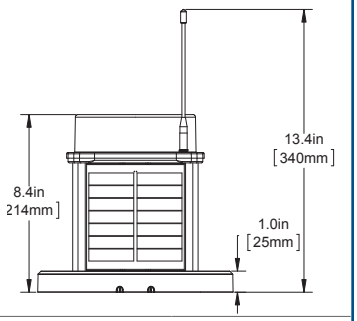
DIMENSIONS AND WEIGHTS

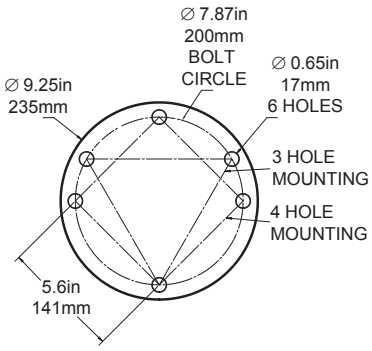
STANDARD	
Weight	15 lb (6.7 kg)
Battery (96E)	4.2V, 24 Ahr

LARGE	
Weight	23 lb (10.5 kg)
Battery (200BC)	4.2V, 50 Ahr

COMPACT	
Weight	11 lb (4.9 kg)
Battery (60X)	4.2V, 15 Ahr







CONFIGURATION

MODEL	OUTPUT ▼	SOLAR ENGINE ▼	CHASSIS ▼	CONTROL ▼	CHARGE PORT ▼
A704	WHITE / IR WHITE / YELLOW / IR RED / GREEN / IR BLUE / IR GREEN / IR YELLOW / IR RED / IR	COMPACT STANDARD LARGE	YELLOW OLIVE DRAB	NON-WIRELESS WIRELESS	NONE CHARGE PORT MILITARY CHARGE PORT

Specifications may be subject to change
Carmanah is a Canadian public corporation - TSX:CMH

Document: AVIA_A704 Spec Sheet_Rev_B D-069

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THIRD PARTY VALIDATION: PHOTOMETRIC COMPLIANCE

Refer to table below for additional details.

[1] FAA L-861 MIRL (AC 150/5345-46, EB67)
FAA L-862 HIRL (AC 150/5345-46, EB67), step 3 of 5
ICAO MIRL (Annex 14, Vol.1, 5.3.9.9)
Transport Canada MIRL (TP-312, 5.3.10.13)

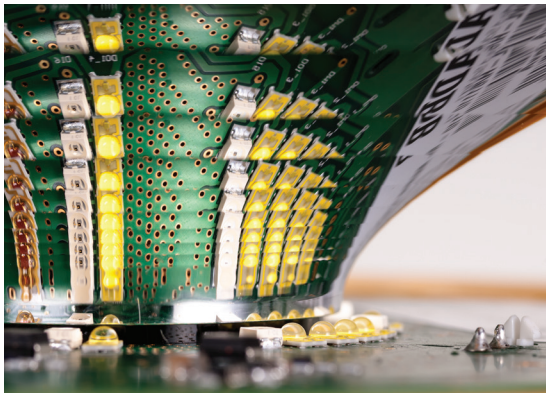
[2] FAA L-861E & L-861SE MIRL (AC 150/5345-46, EB67)
FAA L-862E HIRL (AC 150/5345-46, EB67), step 3 of 5

[3] FAA L-810 (AC 150/5345-43, EB67)
ICAO Type A (Annex 14, Vol. 1, 6-3)
ICAO Type B (Annex 14, Vol. 1, 6-3)

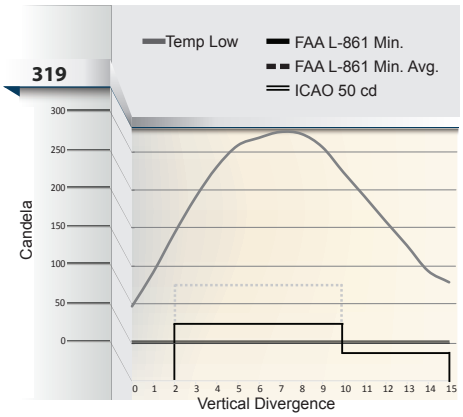
[4] FAA L-810 vertical divergence; 850 - 890 nm peak

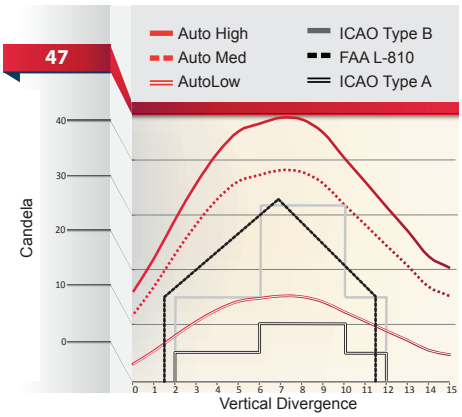
PEAK INTENSITY

	Auto Low (cd)	Auto Medium (cd)	Auto High (cd)	Temp Low (cd)	Temp Medium (cd)	Temp High (cd)
Runway Edge, Approach, Helipad, FATO [1]	STEP 1 MIRL: 19	STEP 1 MIRL+: 46	STEP 2 MIRL: 76	STEP 3 MIRL: 319	STEP 2 HIRL: 249, 249	STEP 3 HIRL: 578, 578
Runway Edge Caution	STEP 1 MIRL: 19, 17	STEP 1 MIRL+: 46, 42	STEP 2 MIRL: 76, 68	STEP 3 MIRL: 175, 158	STEP 2 HIRL: 181, 163	STEP 3 HIRL: 578, 520
Runway Edge Threshold [2]	STEP 1 MIRL: 33, 14	STEP 1 MIRL+: 82, 14	STEP 2 MIRL: 130, 14	STEP 3 MIRL: 304, 18	STEP 2 HIRL: 371, 142	STEP 3 HIRL: 567, 142
Taxiway and Apron edge	FAA/ICAO: 7	12	18	FAA/ICAO +: 62	78	107
Helipad TLOF & FATO	26	L-860E/HR, TLOF: 44	L-861 FATO: 66	218	258	323
Helipad TLOF & FATO	22	36	56	190	235	315
Obstruction [3]	ICAO TYPE A: 15	FAA L-810: 37	ICAO TYPE B: 47	ICAO TYPE A: 15	FAA L-810: 37	ICAO TYPE B: 47
NVG operations (mW/sr)[4]	16	34	80	16	34	80

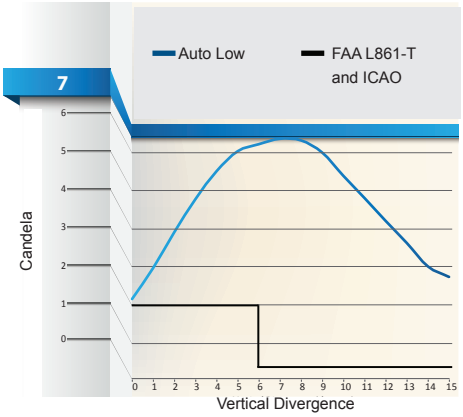


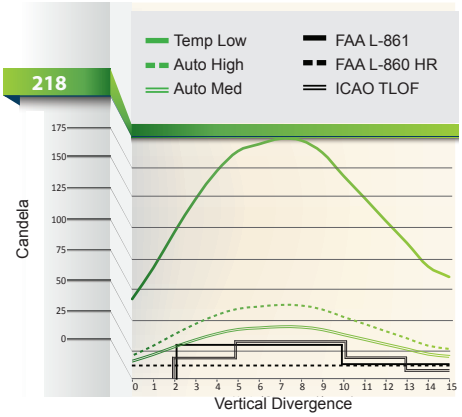
A704 Lens Design





A704 Standard/Large & Compact Models





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