

Radio-Controlled Solar Airfield Light



- > 4 integrated user-replaceable solar panels
- > Internal 2.4 GHz RF module
- > 16 segment multi-focus lens
- > External ON/OFF switch
- > 12 VDC input for auxiliary cable connection

Typical Application



Runway Edge Lighting
 Threshold Lighting

The DWT-AV-425-RF is a robust, completely self-contained LED light designed for a range of emergency aviation applications including runway, threshold, approach, helipad and tactical airfield lighting. Fitted with RF radio control, this fully functioning light can be controlled from the tower with no costly cabling or trenching required.

The unit is made from cast aluminium, subject to 7-stage powder-coating in aviation yellow. Four premium grade solar modules are integrated into the assembly and mounted to collect sunlight at all angles.

The solar array charges the 24 Ah battery during daylight hours, and at dusk the light will automatically begin operation.

16 independently controlled LED drivers within the light optic (patents pending) allow the DWT-AV-425-RF fixture to operate as an omnidirectional or bi-directional assembly designed to meet the photometric requirements of FAA L861 runway edge and threshold when set to temporary high mode.

The DWT-AV-425-RF has non-precision IFR and VFR capability with both visible and near infrared lighting outputs. The airfield lights can be controlled anywhere in the airfield by handheld radio controller or in the air traffic control tower with virtually unlimited range using an encrypted repeating mesh network.

The DWT-AV-425-RF wireless RF light has a practically unlimited range through the use of the AvMesh® communication network. The proprietary AvMesh® network enables each light to transmit and receive commands, allowing the airfield to be expanded or altered at any time.

Fittings / Options:

- ✓ Pilot Activated Lighting Control
- ✓ IR LEDs
- ✓ Without RF Radio Control

Compliant to:
 ✓ ICAO Annex 14

MECHANICAL CHARACTERISTICS

Material	
Body	7-stage powder coated aluminium
Lens	LEXAN® Polycarbonate – UV stabilized
Body Colour	Yellow
Dimensions	
Length	233 mm
Height	495 mm
Diameter Lens	155 mm (16 segments, multifocus)
Protection Class	IP68
Weight	14 kg
Mounting	4 hole 200mm bolt pattern
Temperature Range	-40 to 80°C
Wind Speed	Up to 160kph

OPTICAL CHARACTERISTICS

Light Source	16 ultra-high intensity LEDs
Light Colour	Red Green White Yellow Amber Blue Sectored Combinations
Light Intensities (temp. 100%)	
Red	25 cd
Green	370 cd
White	275 cd
Yellow	93 cd
Intensity Adjustments	Low (10%), Medium (40%), High (100%)
Available Flash Characteristics	>250 including steady-on (user-adjustable) including Morse Code and RF sequenced & synchronised flashing
Life Expectancy	
of LED	> 100 000 hours
of Unit	Up to 12 years

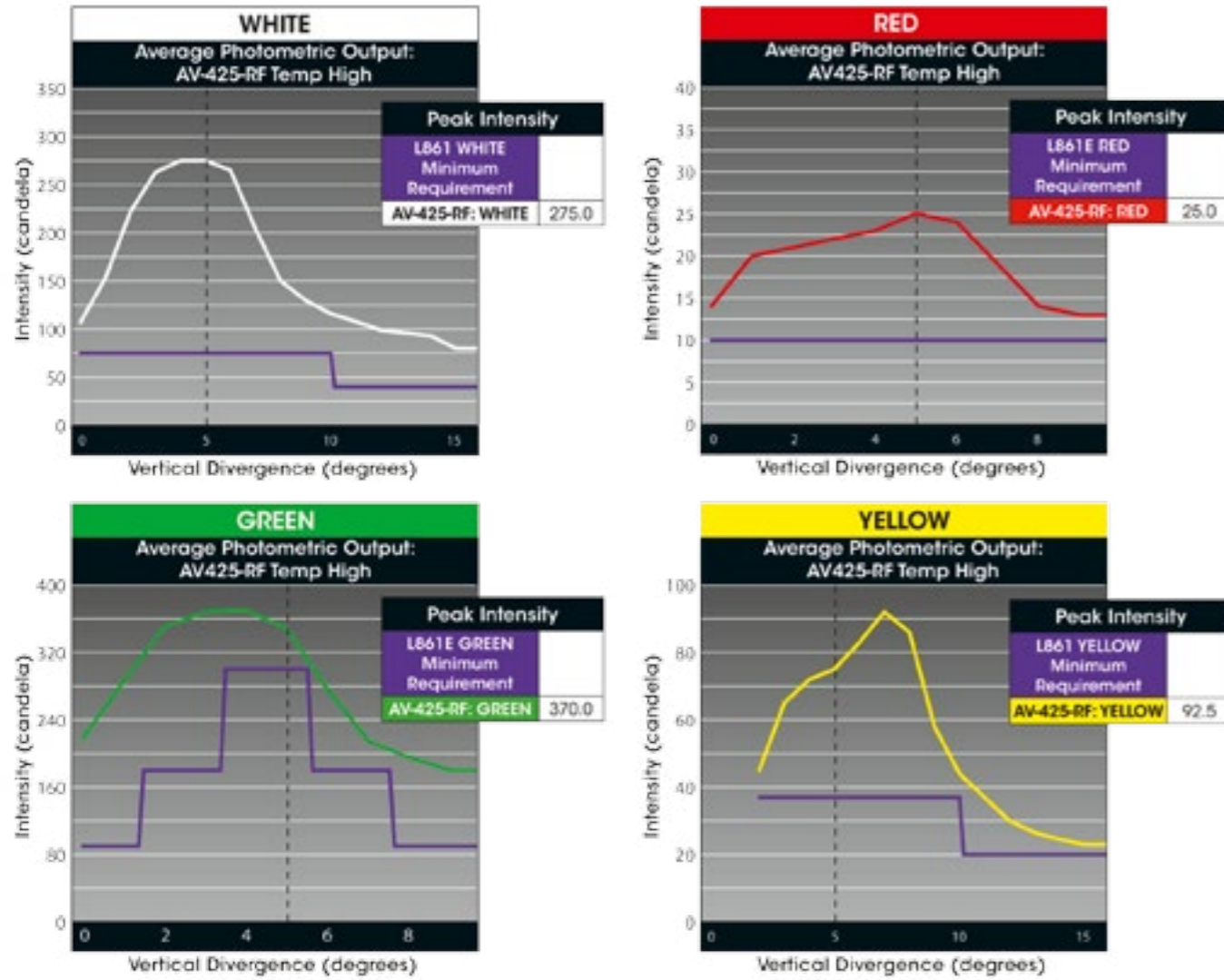
ELECTRICAL CHARACTERISTICS

Operating Voltage	12 V
Battery Capacity	24 Ah, SLA-Battery
Circuit Protection	Integrated
Solar Module	
Type	Multicrystalline
Output	18
Efficiency	14
Charging Regulation	Microprocessor-controlled
Radio Control	
Frequency	2.4 GHz
Range	< 1.4 km (relayed)
Autonomy	
10 %	> 320 hours
40 %	> 130 hours
100 %	> 50 hours

Intensity setting subject to solar availability.

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PHOTOMETRY



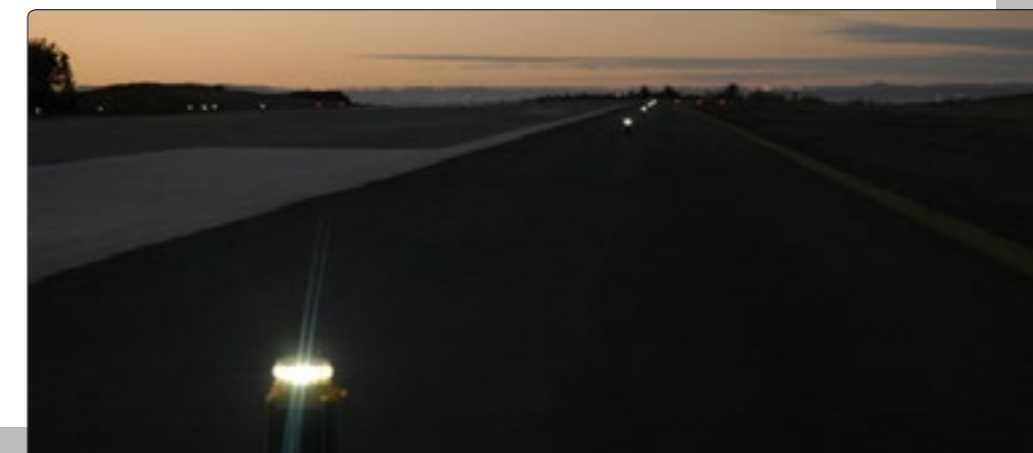
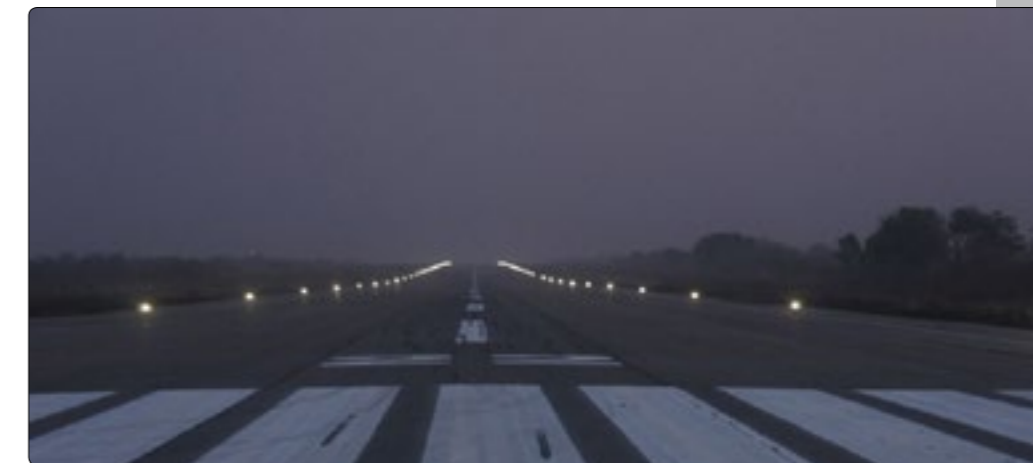
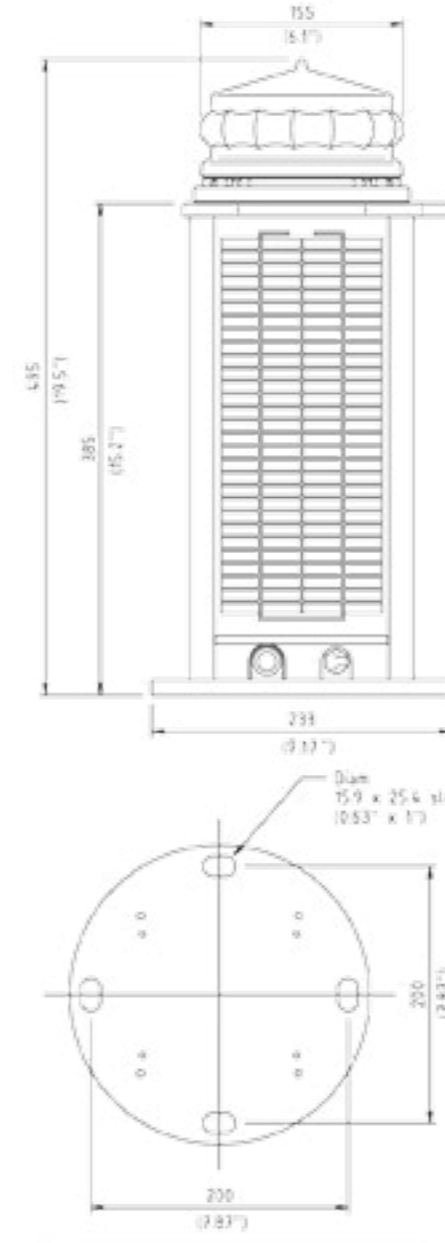
Note: The figures shown in the above graphs are for 100% (Temp High) Mode

AvMesh® is self-realizing, meaning once deployed the airfield lights will undertake a period of network mapping, whereby the system automatically determines an efficient path to relay command messages through the airfield.

AvMesh® has redundancy. Once the system has mapped an efficient relay of command messages, a secondary sub-network is mapped for added redundancy.

The AV-425-RF has three selectable modes; always on, dusk-till-dawn and standby. When set to dusk-till-dawn mode, integrated sensors in the light are able to detect when the ambient light threshold drops sufficiently and the light will begin operation automatically.

DIMENSIONS



DWT-AV-425-RF with DWT-ASB-20 Solarbooster

