

AV425-RF

Solar Aviation Light

Features

- Over 40hrs of continuous operation at FAA non precision MIRLS per AC/150-5345-46D L861 without solar or auxiliary charge in temporary high mode
- OR
- Over 60hrs of continuous operation at ICAO Annex 14 runway edge, 50cd
 - Over 120hrs of continuous operation at ICAO Annex 14 runway edge, 25cd
 - Integrated and replaceable Solar Panels - Enables continuous operation
 - Optional NVG Mode - Illumination invisible to naked eye to support covert operations
 - Worldwide 2.4Ghz Encrypted RF Radio Control - Secure control of all operational modes from anywhere on the airfield. Worldwide ISM use frequency
 - AvMesh™ integrated Mesh Network - Each light is a receiver/transmitter to expand communication range
 - Radio Transceiver - Internal to light head, no external antenna
 - Modes of Operation - Programmable lighting groups, dusk-fill-down operation, adjustable intensity, sequence flashing

Typical Applications

- Solar Runway Edge Light
- Solar Threshold Light
- Approach (Strobe & Fixed)
- Solar Obstruction Light
- Helipad
- Tactical

Compliance

- Designed to meet photometrics for ICAO Annex 14 Volume 1, 'Aerodrome Design and Operations', Forth edition July 2004. Runway Edge - paragraph 5.3.9. Appropriate for use as threshold - paragraph 5.3.10, 5.3.11 threshold light or end light Approach - paragraph 5.3.4.1A & B, 5.3.4.8 simple approach lighting system
- Designed to meet photometrics for FAA AC/150-5345-46D L861 (High Intensity Mode)



The AV425-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 24Ah 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 AV425-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.

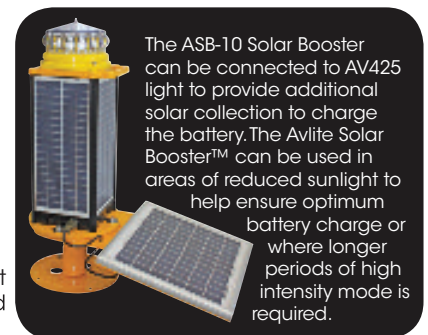
The AV425-RF has non-precision IFR and VFR capability with both visible and near infrared lighting outputs. The airfield lights can be controlled anywhere in the airfield by handheld radio controller or in the air traffic control tower with virtually unlimited range using an encrypted repeating mesh network.

The AV425-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.

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. This means that unlike competing products, the AV425-RF does not require direct line of sight to the handheld controller. The main requirement is that the distance between the controller and the closest light in the AvMesh™ network is no greater than 1.4km, and no two lights are more than 1.4km apart.

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

The AV425-RF has three selectable modes; always on, dusk-fill-down and standby. When set to dusk-fill-down mode, integrated sensors in the light are able to detect when the ambient light threshold drops sufficiently and the light will begin operation automatically.



The ASB-10 Solar Booster can be connected to AV425 light to provide additional solar collection to charge the battery. The Avlite Solar Booster™ can be used in areas of reduced sunlight to help ensure optimum battery charge or where longer periods of high intensity mode is required.

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Light intensities can be set to Low (10%), Medium (30%), High (100%). Lights are able to be assigned to a 'light group', and groups can be controlled independently using the wireless handheld controller. Sequenced approach can also be easily set up via the serial port and controller/PC interface.

Tested to MIL-STD's for environmental exposure including shock and vibration, extreme temperature and humidity, the unit is designed to offer years of maintenance-free service and operate in some of the world's harshest environments.

The AV425 is also available without RF radio control (AV425).

To suit localised standards, the AV425-RF can be supplied with optic head designed to comply with either FAA L861 or ICAO Annex 14 photometrics.

SPECIFICATIONS •

Light Characteristics

Light Source	16 ultra-high intensity LEDs
Available colors	Red, Green, White, Yellow, Amber, Blue, Sectored Combinations. IR
Peak Intensity @ temporary high (cd)†	Steady-on: Red - 25.0 Green - 370.0 White - 275.0 Yellow - 92.5
Horizontal Output (degrees)	As per L861 and L861E
Vertical Divergence (degrees)	As per L861 and L861E
Available Flash Characteristics	>250 including steady-on (user-adjustable) including Morse Code and RF sequenced & synchronised flashing
Intensity Adjustments	Low (10%), Medium (30%), High (100%)
LED Life Expectancy (hours)	>100,000

Electrical Characteristics

Circuit Protection	Integrated
Operating Voltage (v)	12
Temperature Range	-40 to 80°C

Solar Characteristics

Solar Module Type	Multicrystalline
Output (watts)	18
Solar Module Efficiency (%)	14
Charging Regulation	Microprocessor controlled

Power Supply

Battery Type	SLA (Sealed Lead Acid)
Battery Capacity (Ah)	24
Nominal Voltage (v)	12
Autonomy (hours)	Steady-on: Low intensity: >10 (>120 hours) Medium intensity: >5 (>60 hours) High intensity: >3 (>40 hours)

Radio Controlled

Frequency	2.4Ghz ISM Band
Range	1.4km between 2 lights, relayed
Expandability	Peer to Peer Networking
Compliance	FCC / CE

Physical Characteristics

Body Material	7-stage powder coated aluminium
Lens Material	LEXAN® Polycarbonate - UV stabilized
Lens Diameter (mm/inches)	155 / 6 1/8
Lens Design	16 segment, multi-focus lens (Patent pending)
Mounting	4 hole bolt pattern on 200mm OD base
Height (mm/inches)	495 / 19 1/2
Width (mm/inches)	233 / 9 1/8
Mass (kg/lbs)	14 / 30 7/8
Product Life Expectancy	Up to 12 years

Environmental Factors

Humidity	0 to 100%, MIL-STD-810F
Icing	22kg per square inch
Wind Speed	Up to 160kph
Shock	MIL-STD-202G, Test Condition G, Method 213B
Vibration	MIL-STD-202G, Test Condition B, Method 204

Certifications

CE	EN61000-6-3:1997, EN61000-6-1:1997
Quality Assurance	ISO9001:2008
Waterproof	IP68

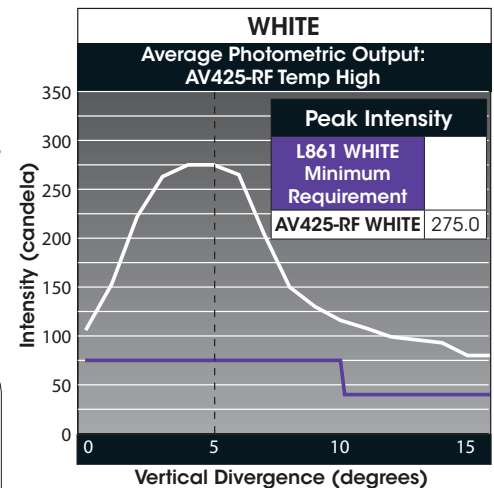
Intellectual Property

Patents	Patents pending
Trademarks	AVLITE® is a registered trademark of Avlite Systems

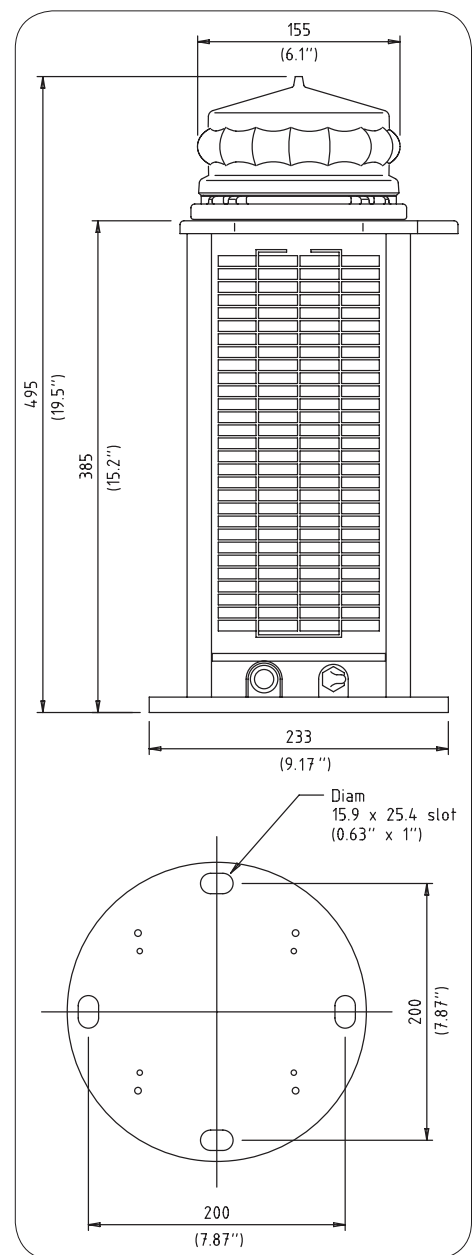
Warranty *

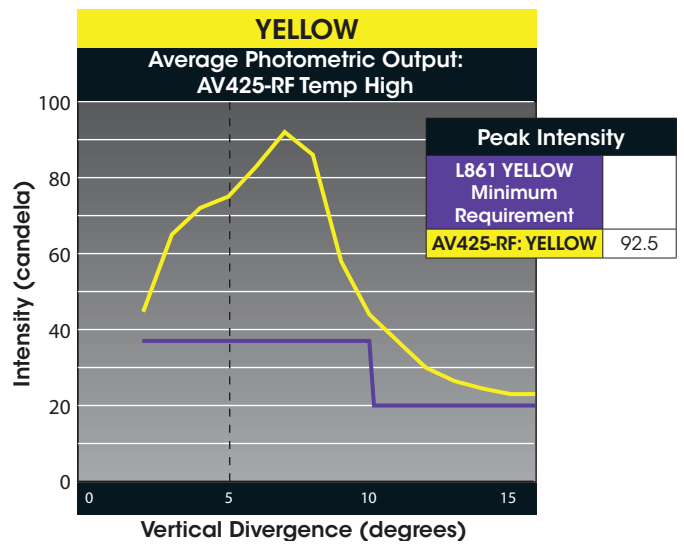
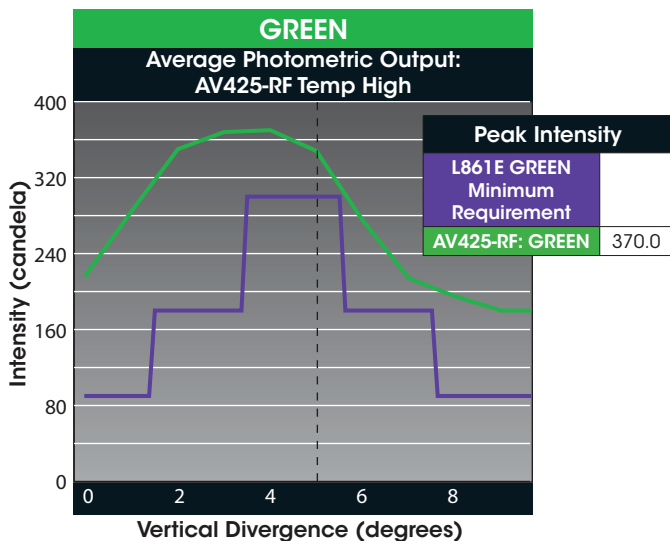
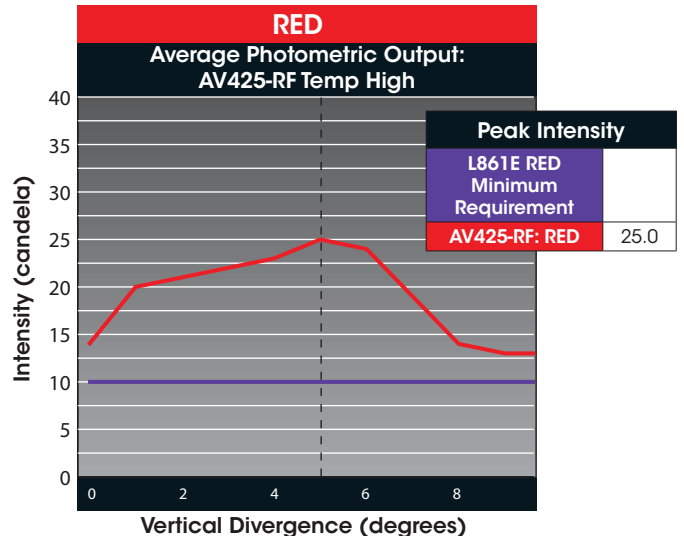
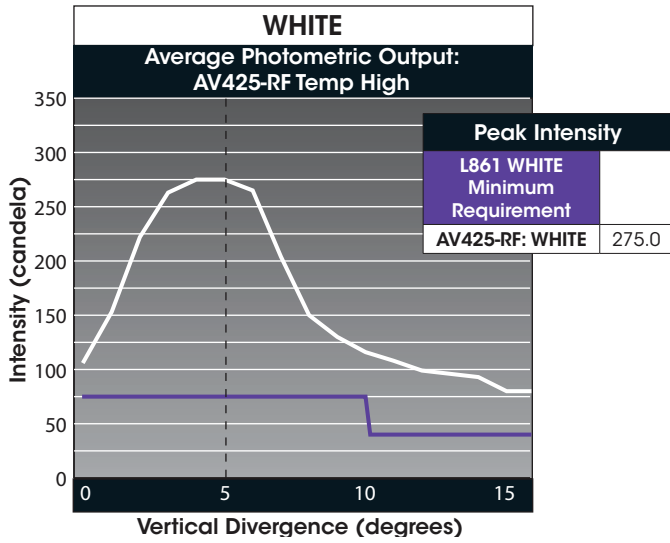
Options Available	Full 3 year warranty
	• Avlite Pilot Activated Lighting Control
	• IR
	• Rotating Beacon

• Specifications subject to change or variation without notice
* Subject to standard terms and conditions
† Intensity setting subject to solar availability



For additional AV425-RF Photometric Output colors please see the graphical representations on page 3





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