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AV-FL-DC

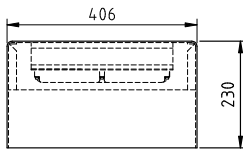
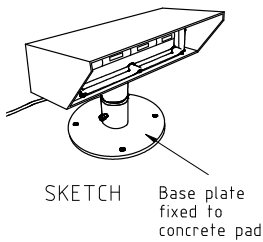
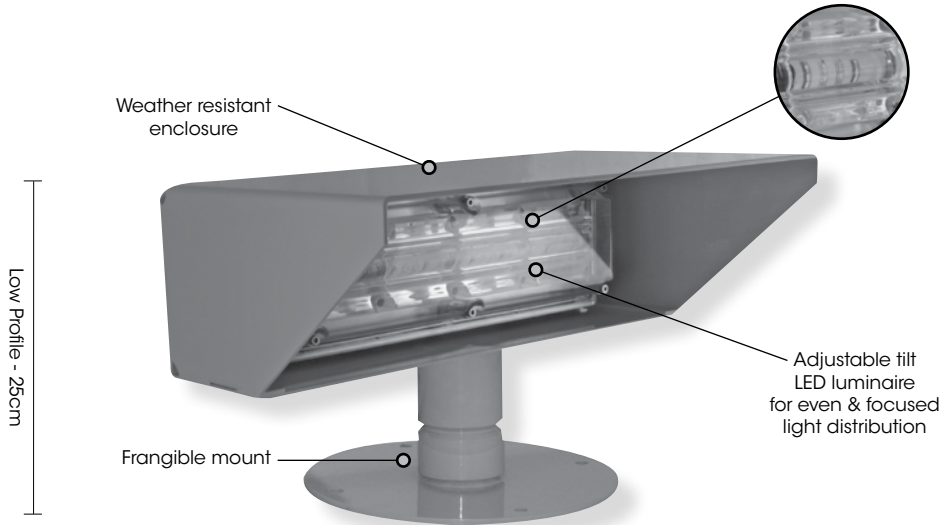
Universal DC Helipad Floodlight Installation & Service Manual

Version 1.0

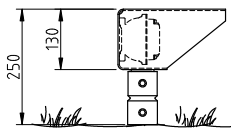
AV-FL-DC

Universal DC Helipad Floodlight

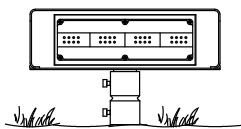
Custom lens optic designed specifically for helipad operations



TOP

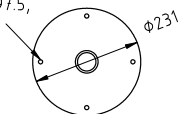


SIDE



FRONT

Hole Diam 9.0
on PCD 197.5,
4 Places.



BASE PLATE

Figure 1

Table of Contents

Introduction	4
Technology	4
AV-FL-DC Model	5
Assembly & Installation	6
Assembling the Light & Configuration of Settings	6
TLOF Light Arrangement	7
LED Floodlight Unit Adjustment.....	8
Block Diagram	9
Avlite Light Warranty	10

Version No.	Description	Date	Approved
1.0	Manual Launch	March 2013	A. Groell



Introduction

Congratulations! By choosing to purchase an Avlite light, you have become the owner of one of the most advanced solar LED aviation lights in the world.

Avlite Systems draws on more than 25 years experience in the design and manufacture of navigation aids, and particular care has been taken to ensure your light gives years of trouble free service.

As a commitment to producing the highest quality products for our customers, Avlite has been independently certified as complying with the requirements of ISO 9001:2008 quality management system.

By taking a few moments to browse through this booklet, you will become familiar with the versatility of your light, and be able to maximise its operating function.

Please remember to complete the Avlite warranty registration card accompanying your light.

Technology

Avlite Systems is a world-class solar lighting systems manufacturer with a proven reputation for rapid, innovative, and agile technology solutions designed specifically for defense, government, civil and humanitarian aid operations in the most remote, toughest environments.

Electronics

Avlite employs leading in-house electronic engineers in the design and development of software and related circuitry. All individual electronic components are sourced directly by Avlite procurement staff ensuring that only the highest quality components are used in our products.

LED Technology

All aviation lights use the latest advancements in LED (Light Emitting Diode) technology as a light source. The major advantage of LED's over traditional light sources is well established in that they typically have an operational life in excess of 100,000 hours, resulting in substantial savings to maintenance and servicing costs.

Precision Construction

Commitment to investing in the design and construction of injection-moulded parts including optic lenses, light bases and a range of other components ensures that all Avlite products are of a consistent and superior quality.

Optical Performance

Avlite manufactures a range of aviation LED lenses moulded from multi-cavity dies. The company has superior in-house lens manufacturing capabilities to support outstanding optical performance.

Award-winning, Patented Technology

Several United States and Australian patent registrations are held on Avlite's range of innovative designs, with other regional patents pending in Canada, United Kingdom and Europe.

AV-FL-DC Model

Avlite's universal DC floodlight has been specifically designed for helipads to provide uniform surface lighting where the TLOF and FATO lights need to be supplemented with floodlighting. It offers a 10-30VDC, LED based solution to the ICAO touchdown and lift-off area perimeter floodlights.

The LED optic is specifically designed for helipad operations, and distributes the light evenly across the wide helipad surface. The angle of tilt of the LED luminaire can be easily adjusted to focus the light on the helipad to maximise illumination. The optic hood further prevents potential glare to pilots upon approach.

Housed in a weatherproof, powder-coated aluminium enclosure to withstand the harshest of environments, the assembly has a low profile of less than 25cm and mounts to frangible points.

SPECIFICATIONS* *

AV-FL-DC

Light Characteristics

Light Source	LED
Available colors	White, other colors available on request
LED Life Expectancy (hours)	>100,000

Electrical Characteristics

Current Draw (A)	@ 12V: 1.7
Operating Voltage (V)	10 - 30
Circuit Protection	Integrated
Temperature Range	-40 to 80°C

Physical Characteristics

Body Material	7-stage powder coated aluminium
Lens Material	LEXAN® Polycarbonate – UV stabilized
Mounting	Frangible mount
Height (mm/inches)	250 / 9¾
Length (mm/inches)	406 / 16
Width (mm/inches)	230 / 9
Mass (kg/lbs)	5 / 11
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

Certifications

CE	EN61000-6-3:1997, EN61000-6-1:1997
Quality Assurance	ISO9001:2008
Waterproof (electronic enclosures)	IP68

Intellectual Property

Trademarks AVLITE® is a registered trademark of Avlite Systems

Warranty *

3 year warranty

Options Available

• 110-240VAC operation available via step-down transformer

* Specifications subject to change or variation without notice
* Subject to standard terms and conditions



Assembly & Installation

The installation of the AV-FL-RF-SOL Solar Aviation Light includes the following steps:-

- Unpacking
- Initial Inspection
- Assembling the light & configuration of settings
- Installing the light assembly

Tools required for assembly & installation:-

- Hammer
- 6mm Allen Key

Unpacking & Initial Inspection

Unpack all hardware and inspect for damage. If there is any damage, please contact your Avlite Office. Retain original packing material for possible future use in shipping the AV-FL-DC.

Assembling the Light & Configuration of Settings



- 1. Before activating the lights, the lights must be layed out on the helipad in the location they will be installed.**
- 2. Lights should always be installed on mounting plates or stakes.**

a) LED Floodlight Unit



- Setup a number¹ of concrete pads at equidistant points around the TLOF at ground level. The concrete pads should have a dimension of approximately 40cm x 40cm with with sufficient depth depending on soil conditions. NOTE: As an alternative it is possible to use rubber tiles instead of concrete pads.
- Embed four bolts. Use the Mount Base as a placing template
- Make sure the concrete pads are dry and hard before fixing the Mount Base using washers and screw nuts. Make sure the Mount Base is levelled
- Fix the Frangible Sleeve (76mm) on top of the Mount Base using the hex socket
- Fix the LED Floodlight Unit on top of the Frangible Sleeve
- Point the LED Floodlight Unit into the desired direction². Make sure the LED Floodlight Unit is just below 25cm high and levelled
- Fix the light by tightening the hex sockets at the Frangible Sleeve
- Connect the LED Floodlight Unit to a DC power supply

¹ Number of required / planned lights

² Please refer to "TLOF Light Arrangement" section of this manual

TLOF Light Arrangement

- Best TLOF area illumination can be archived by an equidistant arrangement of the LED Floodlight Units around the Helipad.

LEGEND	
	LED Floodlight Unit
	Main Beam

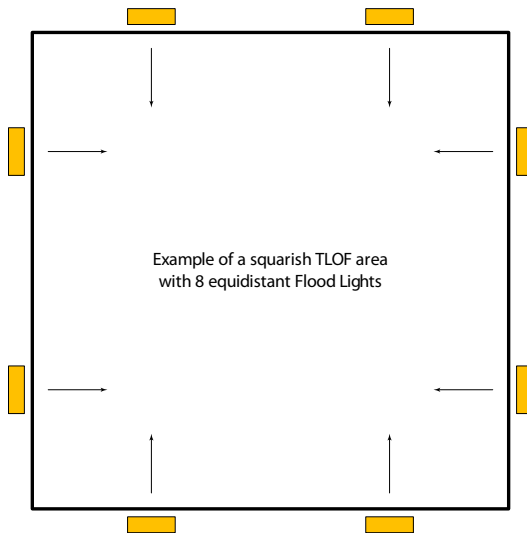
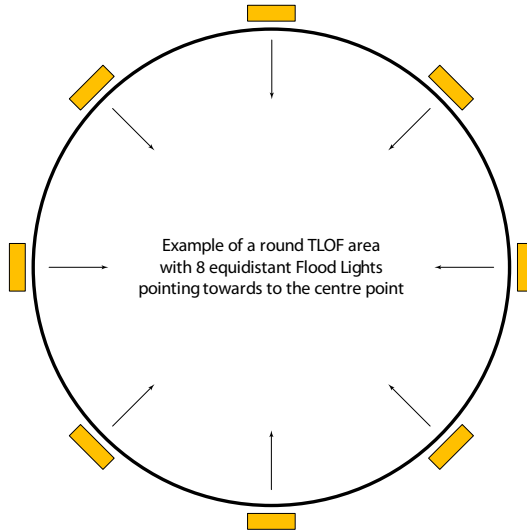


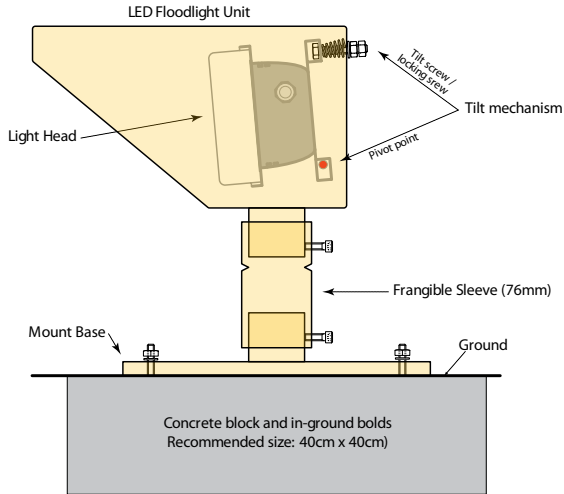
Figure 2. Design examples of a round and square TLOF area with 8 equidistant floodlights

LED Floodlight Unit Adjustment

By using the tilt mechanism each individual LED Floodlight Units can be precisely adjusted. For that the user has to use the following steps:

- Loosen the two nut screws at the back of the LED Floodlight Unit (please refer to Figure 3)
- Adjust the Light Head as required by turning the Tilt Screw Nut. A spring between the LED Floodlight Unit and the Light Head will provide the required tension
- After the adjustment secure the tilt / position of the Light Head by tighten the Locking Screw Nut

SIDE VIEW



REAR VIEW

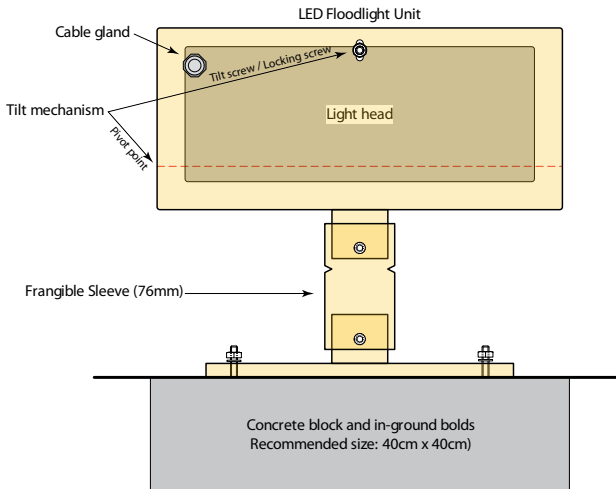


Figure 3. Tilt mechanism

Best practice:

For an even light distribution with minimum/no glare please use the following steps:

- Perform the adjustment at night
- Switch off all lights except one
- Go to the opposite light and check for possible glare
- Adjust the Light Head to minimize any glare as described in “LED Floodlight Unit adjustment” section of this manual
- Switch off the adjusted LED Floodlight Unit and perform the tilt adjustment at the next LED Floodlight Unit until all lights are adjusted as required

For details please refer to Figure 4

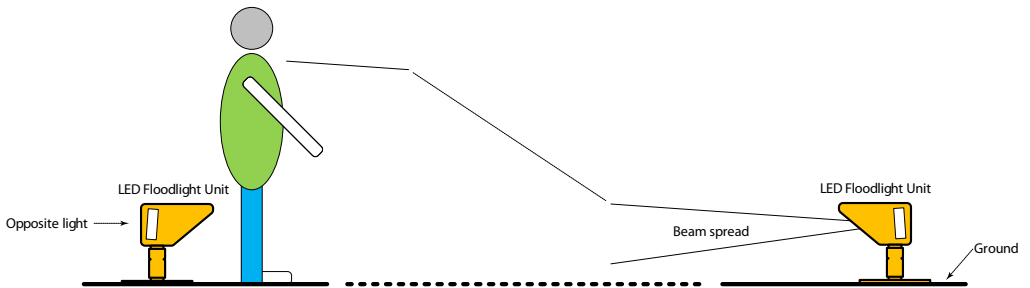


Figure 4. Beam direction

Block Diagram

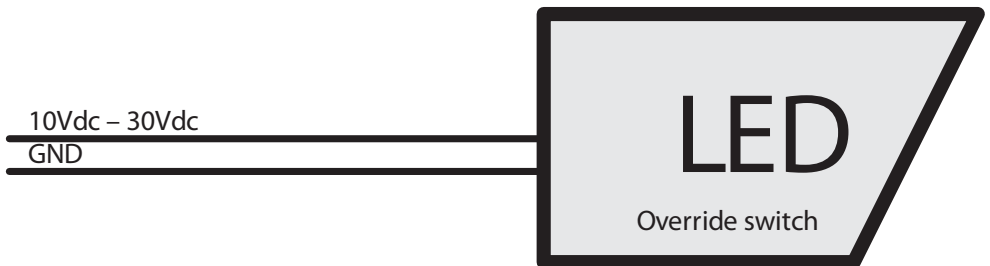


Figure 5.



Avlite Light Warranty V1.1

Activating the Warranty

Upon purchase, the Avlite Systems warranty must be activated for recognition of future claims. To do this you have two (2) options:

1. **Postal Registration**

Please complete the Avlite Systems Warranty Registration Card and return to Avlite within 30 days of your purchase.

2. **Online Registration**

Please complete the Online Registration Form at; www.avlite.com

Avlite Systems will repair or replace your lantern in the event of electronic failure for a period of up to three years from the date of purchase.

The unit must be returned to Avlite freight prepaid.

Warranty Terms

1. Avlite Systems warrants that any Avlite aviation products fitted with telemetry equipment including but not limited to AIS, GSM, GPS or RF ("Telemetry Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
2. Avlite Systems warrants that any rotationally-moulded products ("Roto-Moulded Products") and accessory products ("Accessory Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of twelve (12) months from the date of purchase by the original purchaser.
3. Avlite Systems warrants that any Avlite aviation products other than the Telemetry Products, Roto-Moulded Products and Accessory Products ("Avlite Products") will be free from defective materials and workmanship under normal and intended use, subject to the conditions hereinafter set forth, for a period of three (3) years from the date of purchase by the original purchaser.
4. Avlite Systems will repair or replace, at Avlite's sole discretion, any Telemetry Products, Roto-Moulded Products, Accessory Products or Avlite Products found to be defective in material and workmanship in the relevant warranty period so long as the Warranty Conditions (set out below) are satisfied.
5. If any Telemetry Products or Avlite Products are fitted with a rechargeable battery, Avlite Systems warrants the battery will be free from defect for a period of one (1) year when used within original manufacturer's specifications and instructions.

Warranty Conditions

This Warranty is subject to the following conditions and limitations;

1. The warranty is applicable to lanterns manufactured from 1/1/2009.
2. The warranty is void and inapplicable if:
 - a. the product has been used or handled other than in accordance with the instructions in the owner's manual and any other information or instructions provided to the customer by Avlite;
 - b. the product has been deliberately abused, or misused, damaged by accident or neglect or in being transported; or
 - c. the defect is due to the product being repaired or tampered with by anyone other than Avlite or authorised Avlite repair personnel.
3. The customer must give Avlite Systems notice of any defect with the product within 30 days of the customer becoming aware of the defect.
4. Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced. Typical battery replacement period is 3-4 years. Long term exposure to high temperatures will shorten the battery life. Batteries used or stored in a manner inconsistent with the manufacturer's specifications and instructions shall not be covered by this warranty.



5. No modifications to the original specifications determined by Avlite shall be made without written approval of Avlite Systems.
6. Avlite lights can be fitted with 3rd party power supplies and accessories but are covered by the 3rd party warranty terms and conditions.
7. The product must be packed and returned to Avlite Systems by the customer at his or her sole expense. Avlite Systems will pay return freight of its choice. A returned product must be accompanied by a written description of the defect and a photocopy of the original purchase receipt. This receipt must clearly list model and serial number, the date of purchase, the name and address of the purchaser and authorised dealer and the price paid by the purchaser. On receipt of the product, Avlite Systems will assess the product and advise the customer as to whether the claimed defect is covered by this warranty.
8. Avlite Systems reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person.
9. Input voltage shall not exceed those recommended for the product.
10. Warranty does not cover damage caused by the incorrect replacement of battery in solar lantern models.
11. This warranty does not cover any damage or defect caused to any product as a result of water flooding or any other acts of nature.
12. There are no representations or warranties of any kind by Avlite or any other person who is an agent, employee, or other representative or affiliate of Avlite, express or implied, with respect to condition of performance of any product, their merchantability, or fitness for a particular purpose, or with respect to any other matter relating to any products.

Limitation of Liability

To the extent permitted by section 68A of the Trade Practices Act 1974 (Cth), the liability of Avlite Systems under this Warranty will be, at the option of Avlite Systems, limited to either the replacement or repair of any defective product covered by this Warranty. Avlite Systems will not be liable to Buyer for consequential damages resulting from any defect or deficiencies in accepted items.

Limited to Original Purchaser

This Warranty is for the sole benefit of the original purchaser of the covered product and shall not extend to any subsequent purchaser of the product.

Miscellaneous

Apart from the specific warranties provided under this warranty, all other express or implied warranties relating to the above product is hereby excluded to the fullest extent allowable under law. The warranty does not extend to any lost profits, loss of good will or any indirect, incidental or consequential costs or damages or losses incurred by the purchaser as a result of any defect with the covered product.

Warrantor

Avlite Systems has authorised distribution in many countries of the world. In each country, the authorised importing distributor has accepted the responsibility for warranty of products sold by distributor. Warranty service should normally be obtained from the importing distributor from whom you purchased your product. In the event of service required beyond the capability of the importer, Avlite Systems will fulfil the conditions of the warranty. Such product must be returned at the owner's expense to the Avlite Systems factory, together with a photocopy of the bill of sale for that product, a detailed description of the problem, and any information necessary for return shipment.

Other Avlite Products Available



Solar Aviation Lighting



Helipad Lighting



Obstruction Lighting



Airfield Markers & Accessories

Typical Applications

- Temporary & permanent airfield lighting
- Remote, emergency & defence airfield lighting
- Barricade, hazard & perimeter lighting
 - Helipad lighting
- Obstruction lighting

For a complete list of product compliances including ICAO & FAA, please contact Avlite today



Area & Sign Lighting



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