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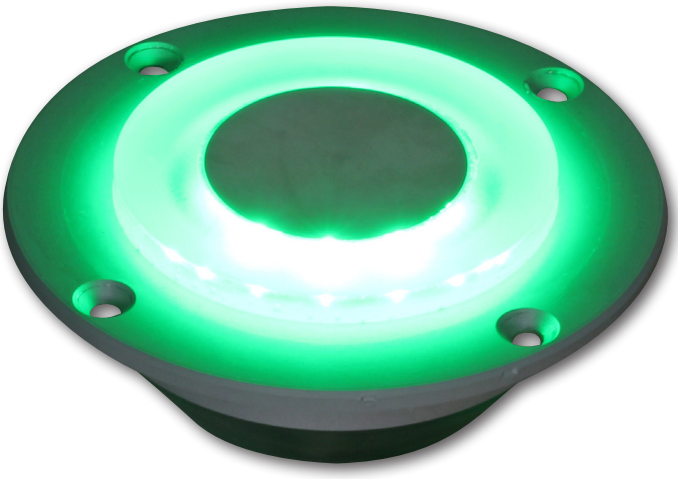

AV-HLI2

ICAO & FAA Inset Helipad Light

Installation & Service Manual

Version 1.3

Version No.	Description	Date	Approved
1.0	Manual launch	Dec 2016	W.Evans
1.1	General Update	Feb 2017	W.Evans
1.2	Drawing Update	Feb 2017	W.Evans

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Introduction

Congratulations! By choosing to purchase an Avlite light, you have become the owner of one of the most advanced LED obstruction 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 Avlite 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.

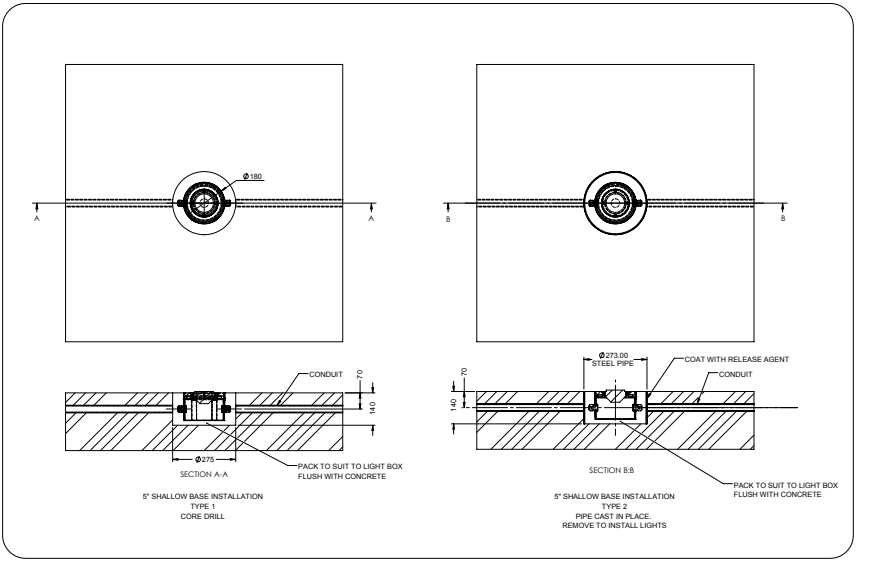
AV-HLI2
Helipad Inset Light

The AV-HLI2 is an inset helipad light designed to comply with ICAO Annex 14, Volume II and FAA EB67D requirements in a compact and low profile fixture. The fixture is available in TLOF, FATO, ADI & API configurations to fulfil all surface level and elevated helipad lighting needs.

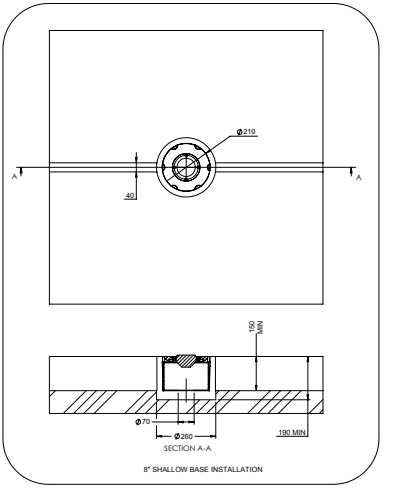
As an alternative to elevated lights, Avlite's inset helipad lights are an excellent choice for locations where elevated lights are not suitable or can cause interference to passing aircraft and maintenance vehicles. The lights can be dimmed from 100%–0 to suit the application and are available with optional infrared (IR) visibility for pilots using night vision.

The inset helipad lights are compatible with existing infrastructure and come with a simple plug and play connection making them simple to install.

Inset Light 5 Inch



Inset Light 8 Inch



Safety Information

- Install the light in compliance with the effective local electrical code(s).
- Mains power should always be disconnected when work is being done in close proximity to electrical fittings, and electrical work should only be done by a licensed electrician.
- Operate the light only within the indicated electrical ratings and product usage instructions.
- To ensure that the light and peripheral equipment function safely and correctly, use cable in compliance with the effective local electrical code.
- Do not stare at the LED or shine the LED into your eyes or those of another person.
- Do dispose of the product according to the local laws and regulations for your region, for example, at a recycling center that accepts electronic devices.

Unpacking, Installation, Wiring & Setup

Unpacking

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.

Installation & wiring

Before proceeding with installation or service, make sure the following conditions are met:

- Check the lighting circuit is safe
- Ensure power lines are not 'live' (NO ELECTRICAL HAZARD)
- Avoid touching live circuits!
- Avoid touching any component or any part of the circuitry while the unit is operating. Do not make adjustments to the unit or wiring with the power on.

ELECTRICAL INSPECTION AND TEST

The inset light is manufactured with a 3 core input fly lead, of default length. One end of the input cable is molded into the light fixture and the other end is terminated with colour coded ferrules. Refer to the table below for details on each conductor and their function.

Ferrule Color Coding	Connection	Function
Red	+24VDC	Input Power
Blue	GND (0V)	Input Power
White	0 -10VDC	Dim

To test the light fixture, connect a 24VDC source to the two input power wires in accordance with table above and apply power, this should result in the light turning on at full (100%) intensity. If dimming is required, connect a variable 0-10VDC source to the remaining conductor. Dimming occurs in accordance with the following table.

Intensity	Voltage
100%	<0.5V
30%	3.5V
10%	8.5V
0% (Off)	>9.5V

PREPARATION OF INSTALLATION LOCATION

The AV-HLI2 can be installed in either a 5" (inch), 8" (inch) or direct mounting configuration.

5" Configuration:

For installation in tarmac or concrete helipads it is recommended to use the Avlite AV-MC-58, 5" (inch) inset shallow base taking into consideration site specific bearing load, leveling and thermal bonding.

For installations using the 5" inset base configuration, the installation location of each light needs to be prepared in accordance with the below mechanical specifications:

8" Configuration:

For installations where there are pre-existing 8" mounting locations or 8" mounting is desired then the Avlite AV-MC-55 ,5" to 8", adaptor ring and AV-MC-54, 8" inset shallow base is required.

Note: Reuse of the M10x15 screws is not recommended

For installations using the 8" inset base configuration, the installation location of each light needs to prepared in accordance with the below mechanical specifications:

Direct Mounting:

For installations where direct mounting of the light fixture to a metal helipad surface is desired, the mounting surface of each light must be prepared in accordance with the following mechanical specification ensuring the mounting surface is level and has adequate heat dissipation characteristics.

Example Helipad Installation

The recommended mechanical layout for the lighting system on an example helipad is detailed below:

ELECTRICAL INSTALLATION

The procedure for connecting the inset light fixture to the corresponding electrical connections is as follows:

- Feed input and output cables through corresponding side mounted gland on inset base
- Connect each conductor of input cable to separate joint connector (not supplied). One for +24VDC, one for GND (0VDC) and one for Dim (0-10V) control line.
- Connect each conductor of output cable to corresponding joint connector
- Connect each conductor of light fly lead to corresponding joint connector as per table
- Tighten each cable gland to ensure sealing

Note: Do not cut or modify the fly lead attached to the AV-HLI2 light fixture

MECHANICAL INSTALLATION

5" Configuration:

The procedure for installing an inset light fixture to a 5" base is as follows:

- Ensure the M5 screw holes and flange area on the 5" inset base are clean
- Lower the light fixture onto the inset base, ensuring all electrical connections are properly terminated and fly lead is free and clear of the mounting surface
- Align the screw holes of the inset light fixture with those of the inset base and fasten using silicone greased M10x15 counter sunk screws
- Tighten screws to 3.5 Nm

8" Configuration:

The procedure for installing the adaptor ring onto the inset light fixture and fitting to a 8" base is as follows:

- Ensure the M10 screw holes and flange area on the 8" inset base are clean

  Insert the provided O-ring into the O-ring groove of the adaptor ring
- Lower the light fixture onto the inset base, ensuring all electrical connections are properly terminated and fly lead is free and clear of the mounting surface
- Align the screw holes of the inset light fixture with those of the inset base and fasten using silicone greased M5x12 counter sunk screws
- Tighten screws to 3.5 Nm

Direct Mounting:

The procedure for installing an inset light fixture to a pre-prepared mounting surface is as follows:

- Ensure the M5 screw holes and flange area are clean
- Lower the light fixture onto the mounting surface, ensuring all electrical connections are properly terminated and fly lead is free and clear of the mounting surface
- Align the screw holes of the inset light fixture with those of the mounting surface and fasten using silicone greased M10x15 counter sunk screws
- Tighten screws to 3.5 Nm

Maintenance & Servicing

Designed to be maintenance free the inset helipad light requires minimal attention, though the following maintenance and servicing information is provided to help ensure the life of your Avlite product.

- Occasional cleaning of the lens may be required using a cloth and warm soapy water.

Trouble Shooting

Problem	Remedy
Light will not activate.	• Remove light from mount • Ensure 24VDC supply source is active • Check that 24VDC is present at joint connector feed the light fixture • Check polarity of supply line wires is correct • Measure voltage of Dim line and check against the table dimming table • If measured voltage on Dim line is less than 0.5V, remove dim line connection and check light functionality • Otherwise replace the light fixture
Intensity does not match	• Remove light from mount • Measure voltage of Dim line and check against the table dimming table • If measured voltage does not match the expected value disconnect the light from the Dim line and re-measure • If measured voltage on the Dim line still does not match expected value, inspect the dim line wiring • Otherwise replace the light fixture

Compliance

Compliant to:

- ICAO Annex 14, Volume 2, Heliports, Fourth Edition, July 2013
- FAA Engineering Brief 87

ICAO Medium Intensity Type B or Type C Obstruction Light
Universal AC & Universal DC Models

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

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