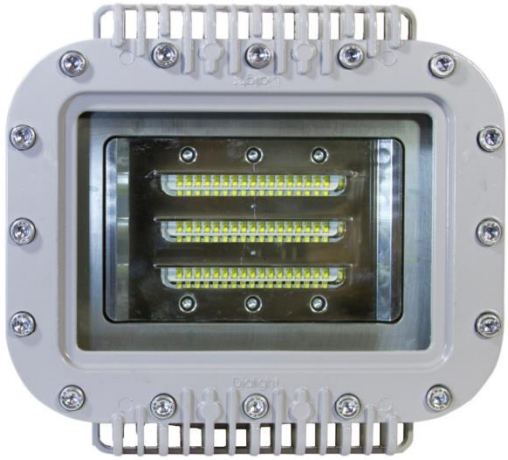
DuroSite® for UL 1598 & SafeSite® for UL 844 for Area Light

Important Information:

These instructions contain safety information, read and follow them carefully. Dialight will not accept any responsibility for injury, damage or loss which may occur due to incorrect installation, operation or maintenance.

Operating Instructions



Languages

English

Note: Save these instructions for future use

9100127298199 REV A

Dialight, 1501 Route 34 South, Farmingdale, NJ, USA 07727
Tel: 732 919 3119 Fax: 732 751 5778 www.dialight.com

Safety Instruction:

- To avoid the risk of fire, explosion, or electric shock, this product should be installed, inspected, and maintained by a qualified electrician, in accordance with all applicable electrical codes.
- Be certain electrical power is OFF before and during installation and maintenance.
- Luminaire must be connected to a wiring system with an equipment-grounding conductor.
- Make sure the supply voltage is within the luminaries' voltage rating.
- Ensure the marked T Rating is less than the ignition temperature of the Hazardous Atmosphere.
- Do not operate in ambient temperatures above those indicated on the luminaire nameplate.
- Do not operate if the lens is cracked or damaged. All fasteners should be properly seated.
- Do not let power cord touch hot surfaces
- Do not mount near gas or electric heaters
- Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.
- The use of accessory equipment not recommend by the manufacture may cause an unsafe condition
- Do not use this equipment for other than intended use.
- The technical data indicated on the Luminaire are to be observed.
- Changes to the design and modifications of the Luminaire are not permitted
- Only genuine Dialight replacement parts are to be used when unforeseen maintenance is required
- Must install using NEMA 4x rated components to maintain rating
- Do not remove or tamper with cable gland. The gland has been supplied and installed to the luminaire accordance with the manufacturer's instructions.
- Substitution of components may impair suitability for certification of the luminaire.
- No user serviceable parts inside of fixture.

Introduction
This Area Light series luminaire is designed for illumination of hazardous locations. It uses the latest in solid state lighting technology for long life, low maintenance, and high efficiency.

The unique optical design focuses light downward to where it is needed, giving improved efficiency over a conventional HID luminaire.

100-277 VAC
An internal power-factor-corrected supply allows it to be used from any nominal 100V-277V, 50/60Hz single phase AC supply without any variation in light output.

When using 208V (two 120V phases), connect the black wire to one phase and the white wire to the other phase. Since the light fixture does not have an internal fuse in-line with the white wire (normally the Neutral) a fuse may be connected in series with it if required.

347-480 VAC
An internal power-factor-corrected supply allows it to be used from any nominal 347V-480V, 50/60Hz AC supply without any variation in light output.

24-48 VDC
An internal power supply allows it to be used from any nominal 24-48VDC supply without any variation in light output.

120-250 VDC
An internal switch-mode supply allows it to be used from any nominal 120-250VDC without any variation in light output.

Installation
Ensure that the mains voltage supply is disconnected before connecting the luminaire. Install the equipment in accordance with the manufacturer's instructions as well as any other applicable electric codes.

Always transport and store the equipment in its original packaging and keep in a dry location. When unpacking check for any cracks or damage in the housing, glass, and glass frame. If in doubt, do not install.

For supply connections use wire rated for at least:
90°C for 100-277V AC units
110°C for 347-480V AC units
90°C for 24-48V DC units

The Area Light series luminaires are factory supplied with 10feet (3meters) of cable. If longer lengths of cables are required a minimum of 18awg (1.5mm diameter) is required.

It is recommended that to ensure moisture does not flow through the cable a loop in the cord should be implemented where possible during installation. If this is not practical for the install than necessary precautions should be taken to prevent moisture entering the conduit thus entering the fixture.

Recommended mounting height:
8 feet to 24 feet (2.4 m to 7.3 m)

The cable glands used with this fixture must be certified to the IP requirements. The cable used must be suitable for the site application and/or the site requirements. When assembling the cable entries for the mains connection, always observe the manufacturer's specifications for the glands used. Unused cable entries must be closed and sealed by a certified blanking plug.

NOTE: Improper installation and operation of this luminaire may invalidate the warranty

Wiring
Power cable conductors connect as follows:

For Single Phase 100 -277 VAC and 120-250VDC:

WIRE(AC)	WIRE(DC)	COLOURED CABLE
AC LIVE	DC LIVE	BLACK
AC NEUTRAL	DC NEUTRAL	WHITE
GROUND	GROUND	GREEN
DIMMING +	DIMMING +	VIOLET
DIMMING -	DIMMING -	GRAY

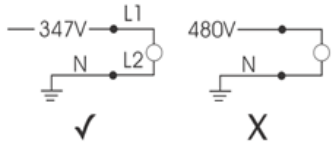
Always restore power and verify operation.

Note: If dimming is not used, the crimps provided can be installed on the gray and violet wires to prevent shorting.

For Single Phase 347 VAC or Two Phase 480 VAC:

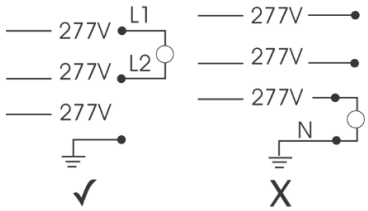
WIRE	COLOURED CABLE
LINE 1	RED
LINE 2	BLACK
GROUND	GREEN

WARNING:
Cannot be used with single phase 480VAC



Always restore power and verify operation.

WARNING:
Cannot be used with single phase 277VAC



For 24-48 VDC:

WIRE	COLOURED CABLE
POSITIVE	RED
NEGATIVE	BLACK
GROUND	GREEN

Always restore power and verify operation.

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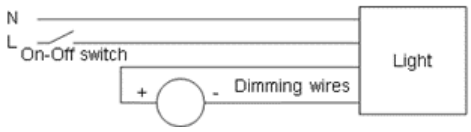
Dimming Models
The Vigilant Area Light fixture supports variable dimming through a two wire interface, allowing precise light level setting and energy savings.

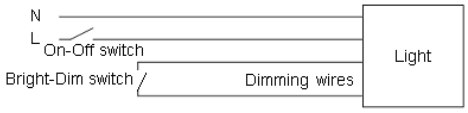
Dimming is controlled by means of a 0-10 VDC signal connected to the dimming wires (to be provided by the installer). The dimmer should be a 0-10V current sink type, capable of sinking 2mA per light.

Important Notes
- The low voltage dimming wires are connected to the grounded output section of the driver inside the light. Never connect either one to the Hot or Neutral supply wires.
- The '-' wire (Black) is at ground potential.
- Never use these wires for any purpose other than dimming.

Application Examples
1) Variable Voltage Control
An analog 0-10V active dimmer may be connected to the two wires to control the light output of the fixture. Multiple lights may be connected to the same dimmer, as long as the maximum current rating of the dimmer is not exceeded.



2) Step dimming
Simply shorting the two wires together will cause the light to dim to a low level. When this is done, the light will dim down to approximately 5% of its full light output, with a corresponding decrease in input power.



Pendant/Ceiling Mounting
Recommended for use with 360° Optic. For best optical performance Dialight Corporation recommends mounting a unit with 360° and Walkway Optics parallel to the floor.

Stanchion/Wall Mounting
Recommended for use with 180° Optic. For best optical performance Dialight Corporation recommends mounting unit at a 45° angle with respect to the vertical mounting pole or wall.

General Mounting
For maximum long term reliability and light output, the light must be installed in free air.

Refer to www.dialight.com for the most up to date information on available mounting brackets, hardware and accessories.

Bracket Mounting
For best optical performance Dialight Corporation recommends mounting unit at a 45° angle with respect to the vertical mounting pole or wall. Refer to www.dialight.com for the most up to date information on available mounting brackets, hardware and accessories.

For maximum long term reliability and light output, the light must be installed in free air.

The Area Light series luminaire fixture design incorporates an over-temperature control circuit that reduces input power should internal temperatures reach a maximum level. As a result, light output may be reduced.

The Area Light series luminaire fixture is equipped with "L" and "U" brackets on Luminaire from factory. Once fixture is mounted, loosen the four M8 bolts connecting the "U" bracket to the "L" bracket, enough to allow the bracket to pivot. Position bracket to desired orientation. Torque all bracket hardware to 6 ft-lbs.

Non-Retrofit/Adapter Units
This series fixture is threaded for 3/4" NPT in order to be assembled to conduit.

Calculate and measure required conduit length. Feed the power cable through the conduit and into the junction box. Attach the fixture to the conduit (using pipe sealant). Insert 1/4-20 set screw in order to secure the fixture to the conduit.

NOTE: If there is moisture present or chance of it in the conduit system than necessary precautions should be taken by the installer to prevent the moisture from entering thru the cable or conduit and entering the fixture.

Retrofit/Adapter Units
This series fixture is designed with the appropriate adapter is intended to mate to Cooper Crouse-Hinds, Appleton, Killark, and GE Mounting accessories. See Tables above and ensure you are mating only to those accessories listed in the tables.

Disconnect existing wiring connections. Remove the entire existing ballast housing. Hang Dialight unit onto existing accessory. Align unit as required if using walkway optic.

NOTE: If there is moisture present or chance of it in the conduit system then necessary precautions should be taken by the installer to prevent the moisture from entering through the cable or conduit and entering the fixture.

Check torques of all 1/4-20 Sq. Head screws in order to secure the fixture to the conduit. Set Torque to 50 in-lbs. Install ¼-20 hex head screw to secure Dialight Retrofit unit to existing accessory. Set Torque to 50 in-lbs.

Retrofit/Adapter Cross References

HZD/STW –M2 / ALxxxxxxxMxxxx
Models HZD/STW-M2 and ALxxxxxxxMxxxx are factory supplied with adapter to mount to Appleton MercMaster II pendant, ceiling, wall, and stanchion mounts. See table below and use adapter supplied to mount to only those accessories listed below:

Pendant	**Ceiling**
LPA-75	LPC-75
LPA-100	LPC-100
Wall	**Stanchion**
LPWB-75	LPS-75
LPWB-100	LPS-100

HZD/STW –C / ALxxxxxxxCxxxx
Models HZD/STW-C and ALxxxxxxxCxxxx are factory supplied with adapter to mount to Cooper Crouse-Hinds pendant, ceiling, wall, stanchion, and quad mounts. See table below and use adapter supplied to mount to only those accessories listed below:

Pendant	**Ceiling**
APM2	CM2
APM3	CM3
Wall	**Stanchion**
TWM2	JM5
TWM3	PM5
Quad-Mount	
QM25	

HZD/STW –G / ALxxxxxxxGxxxx
Models HZD/STW-G and ALxxxxxxxGxxxx are factory supplied with adapter to mount to GE H2 pendant, ceiling, wall, and stanchion mounts. See table below and use adapter supplied to mount to only those accessories listed below:

Pendant	**Pendant Flexible**
3P	3F
4P	4F
Ceiling	**Wall**
3C	3W
4C	4W
Stanchion (Straight & Angle)	
5S	5J
6S	6J

HZD/STW –T / ALxxxxxxxHxxxx
Models HZD/STW-T and ALxxxxxxxHxxxx are factory supplied with adapter to mount to T&B Hazlux pendant, ceiling, wall, and stanchion mounts. See table below and use adapter supplied to mount to only those accessories listed below:

Pendant	**Pendant Cone**
VP2	VA2
WP3	VA3
Pendant Flexible	**Ceiling**
VF2	VC2
VF3	VC3
Wall	**(High Vibration)**
VB2	VB2-VIB
VB3	
25° Stanchion	**(High Vibration)**
VS4	VS4-VIB
VS5	VS5-VIB
Straight Stanchion	**(High Vibration)**
VL4	VL4-VIB
VL5	VL5-VIB
HazVertor Adaptor Ring	
HV1	

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HZC/STW –A / ALxxxxxxxAxxxx

Models HZD/STW-A and ALxxxxxxxAxxxx are factory supplied with adapter to mount to Appleton pendant, ceiling, wall, and stanchion mounts. See table below and use adapter supplied to mount to only those accessories listed below:

Pendant	Pendant Cone
KPA-75	KPCH-75
KPA-100	KPCH-100
KPAF-75	
KPAF-100	
Ceiling	**Wall**
KPC-75	KPWB-75
KPC-100	KPWB-100
Stanchion	
KPS-125	KPS-150
KPST-125	KPST-150

HZD/STW –K / ALxxxxxxxKxxxx

Models HZD/STW-K and ALxxxxxxxKxxxx are factory supplied with adapter to mount to Killark pendant, ceiling, wall, and stanchion mounts. See table below and use adapter supplied to mount to only those accessories listed below:

Pendant	Pendant Flexible
VMA2B	VMF2B
VMA3B	VMF3B
Ceiling	**Wall**
VMX2B	VMB2B
VMX3B	VMB3B
VMX6B	
VMX7B	
Stanchion	
VMD4B	VMS4B
VMD5B	VMS5B

HZD/STW –P3 / ALxxxxxxxPxxxx

For models HZD/STW-P3 and ALxxxxxxxPxxxx see table below and use adapter supplied to mount to only those accessories listed: (To maintain NEMA 4X rating, all fittings used with this enclosure must be NEMA 4X rated.)

NOTE: When retrofitting to a Holophane Petrolux III upper housing, inspect the seal for debris, tears, compression set and proper attachment. If the decision is made not to use the existing Holophane o-ring seal remove and discard. Clean all old adhesive from upper housing o-ring surface. Attach the Dialight supplied o-ring seal to the Dialight fixture per procedure in instruction 9600-864-0002-00.

Pendant	Stanchion
PD	SA
GH	ST
P	A
Ceiling	**Wall**
CD	WL
CE	W
B	
C	**Universal**
D	UN

Taking into Operation

Prior to operating, check the luminaire for its correct installation in compliance with these operating instructions and other applicable regulations. Note: This fixture is supplied with one dust cap and one certified blanking plug.

The cable entries should be securely tightened to achieve the minimum protection rating.

WARNING:

Do not over tighten as the protection rating may be compromised.

Suitably certified cable entries must be used which include a sealing washer to maintain the IPX6/X7 rating of the enclosure.

The glands must be suitable for use within an operating temperature range of -40°C to +90°C.

Conditions for Use

When used with steel wired armor or braided cable the basket weave armor or braid is unable to carry the cable load without fracture. Therefore the cable must be clamped and cleated to prevent pulling on the cable being transmitted to the terminations.

Luminaires supplied with a fitted cable must be protected from direct or vibrational impact to prevent damage to the sheathing when operated in ambient temperatures below -30°C.

Improper installation and operation of this luminaire May invalidate the warranty. For maximum long term reliability and light output, the luminaire must be installed in free air.

The Area Light fixture design incorporates an over-temperature control circuit that reduces input power should internal temperatures reach a maximum level. In this event light output may be reduced.

Maintenance

To avoid personal injury, disconnect power to the light and allow the unit to cool down before performing maintenance.

WARNING:

Risk of electric shock. Removal of the lens will void the warranty.

Perform visual, mechanical and electrical inspections on a regular basis. We recommend routine checks to be made on a yearly basis. Frequency of use and environment should determine this. It is recommended to follow an Electrical Preventive Maintenance Program as described in NFPA 70B: Recommended Practice for Electrical Equipment.

The lens should be cleaned periodically as needed to ensure continued photometric performance. Clean the lens with a damp, non-abrasive, lint-free cloth. If not sufficient, use mild soap or a liquid cleaner.

Inspect the cooling fins on the luminaire to ensure that they are free of any obstructions or contamination (i.e. excessive dust build-up). Clean with a non-abrasive cloth if needed.

Do not operate if the lens is cracked or damaged. All fasteners should be properly seated

This LED Luminaire should require a minimum amount of maintenance. If any unforeseen repairs are required then always observe explosion protection regulations and requirements.

WARNING:

This LED Luminaire should not require any electrical maintenance. Never open the luminaire (other than the junction box lid if supplied); there are no user-serviceable parts inside.

Disposal Recycling

When the apparatus is disposed of, the respective national regulations on waste disposal should be observed. WEEE (Waste electrical & electronic equipment) registration number WEE/DC2678RY.

Inspection

Within the scope of a maintenance or inspection routine the following should be included: protective hoses covering the connection cables. Cable entries must be free of corrosion. Perform visual mechanical and electrical inspections on a regular basis. We recommend routine checks to be made on a yearly basis. Frequency of use and environment should determine this. It is recommended to follow an Electrical Preventive Maintenance Program as described in NFPA 70B: Recommended Practice for Electrical Equipment

The lens should be cleaned periodically, as needed, to ensure continued photometric performance.

Clean the lens with a damp, non-abrasive, and lint-free cloth. If not sufficient, use mild soap or a liquid cleaner. Do not use and abrasive, strong alkaline, or acid cleaners as damage may occur.

Inspect the cooling fins on the luminaire to ensure that they are free of any obstructions or contamination (i.e. excessive dust build-up). Clean with a non-abrasive, damp cloth, if needed.

The light source of this luminaire is not replaceable; when the light source reaches its end of life the whole luminaire shall be replaced.

Repairs / Overhaul / Modification

The relevant national regulations which apply to the maintenance / servicing of electrical apparatus in explosive atmospheres shall be observed.

Should the luminaire enclosure be damaged, only a replacement will be permitted. In case of doubt, the equipment should be returned to point of purchase for inspection/repair/replacement.

WARNING:

Modifications to the device or changes to its design are not permitted. The equipment must be operated according to the intended purpose in a perfect and undamaged condition

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Chemical Compatibility Guide
The chemical compatibility data referenced in this manual was supplied by the raw material manufacturers and is intended as a general guide. The data represents the basic material properties and does not necessarily represent the performance of the final product due to manufacturing process and design variations for each final product. Chemical compatibility is highly dependent on concentration, temperature, humidity, and other environmental conditions and therefore the customer assumes responsibility for evaluation of gaseous or direct contact chemical compatibility at their site prior to product installation.

www.dialight.com/pubs/MDTFCHEMRFLX001.pdf

Technical Data
Area Light - General

Temperature
-40°F to +149°F [-40°C to +65°C]

Housing Material
Powder Coated Aluminum

Finish
Epoxy Powder Coat
Gray, RAL 7040
ACP Black, RAL 9017
Orange, RAL 2001
White, RAL 9010
Yellow, RAL 1018
Bronze, RAL 7022

Lens
HZC/HZP / ALC/ALP Series
Glass

All Other Series
Polycarbonate

Dimensions
HZC/HZP / ALC/ALP Series
10.7 x 9.7 x 5.8 in.
[271 x 246 x 148 mm]

All Other Series
10.7 x 9.7 x 6.6 in
[271 x 246 x 167 mm]

Weight
HZC/HZP / ALC/ALP Series
14.5 lbs. [6.6 kg]

All Other Series
10.2 lbs. [4.6 kg]

Technical Data
Certifications

STW/ALU Series
Locations
Suitable for wet locations
UL 1598/1598A

Intertek Certified to
UL 1598/ 1598A
CAN/CSA C22.2 No. 250

HZC/ALC Series
Temperature Rating
T5 (100°C) for Ta <= 45°C
T4a (120°C) for 45<= Ta <=65°C

Locations
Class I Division 1 Groups C, D
Class II Division 1 Groups E, F, G

Intertek Certified to
ANSI/UL-844
CAN/CSA C22.2 No. 137

HZP/ALP Series
Temperature Rating
T5 (100°C) for Ta <= 45°C
T4a (120°C) for 45<= Ta <=65°C

Locations
Class I Division 1 Groups B, C, D
Class II Division 1 Groups E, F, G

Intertek Certified to
ANSI/UL-844
CAN/CSA C22.2 No. 137

HZD/ALD Series
Temperature Rating
T5 (100°C) for Ta <= 45°C
T4 (135°C) for 45<= Ta <=65°C

Locations
Class I Division 2 Groups A, B, C, D

Intertek Certified to
ANSI/UL-844
CAN/CSA C22.2 No. 137

HZF/ALF Series
Temperature Rating
T5 (100°C) for Ta <= 45°C
T4 (135°C) for 45<= Ta <=65°C

Locations
Class I Division 2 Groups A, B, C, D
Class II Division 1 Groups E, F, G
Class II Division 2 Groups F, G
Class III Division 1
Class III, Division 2

Intertek Certified to
ANSI/UL-844
CAN/CSA C22.2 No. 137

Technical Data
Certifications (cont.)

Please Note for 347-480V AC Models

Intertek Certified to
ANSI/UL-844
CAN/CSA C22.2 No. 137-M81

Technical Data
100-277V AC and 120-250VDC Models

Nominal AC Supply Voltage
100-277V AC, 50-60Hz, Single Phase

Power Consumption

[Lumens]	[W]
9000	66
7000 (Wide Optic)	64
7000	52
6000	40
4000	30
3000	24

Power Factor(AC only) >0.95

ATHD(AC only) <5% @120VAC
<10% @230/240VAC
<12% @277VAC

Technical Data
347-480V AC Models

Nominal AC Supply Voltage
347V AC, 50-60Hz, Single Phase
480V AC, 50-60Hz, Two Phase

Power Consumption

[Lumens]	[W]
7000	70
6000	58
4000 (Wide Optic)	55
5000	47
4000	37

Power Factor >0.90

ATHD <20%

Technical Data
24-48V DC Models

Nominal DC Supply Voltage
24-48V DC

Power Consumption

[Lumens]	[W]
7000	71
5000	49
2000	27

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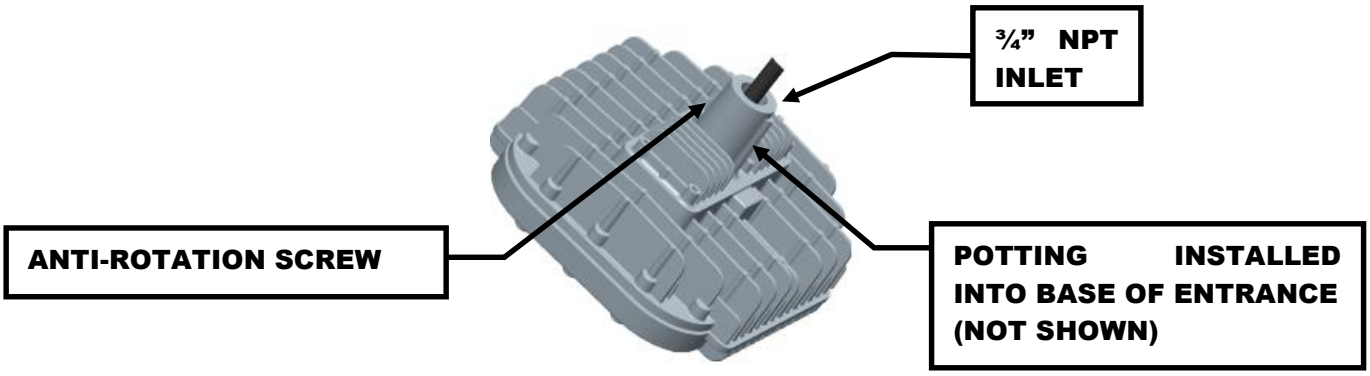
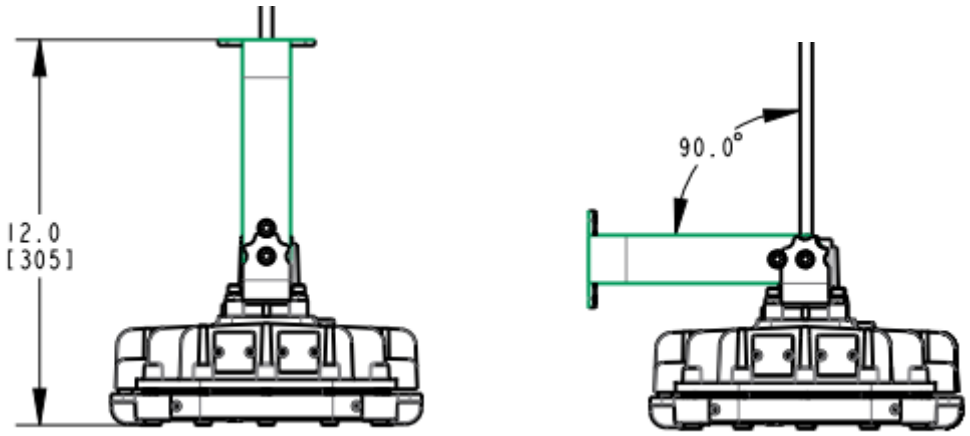
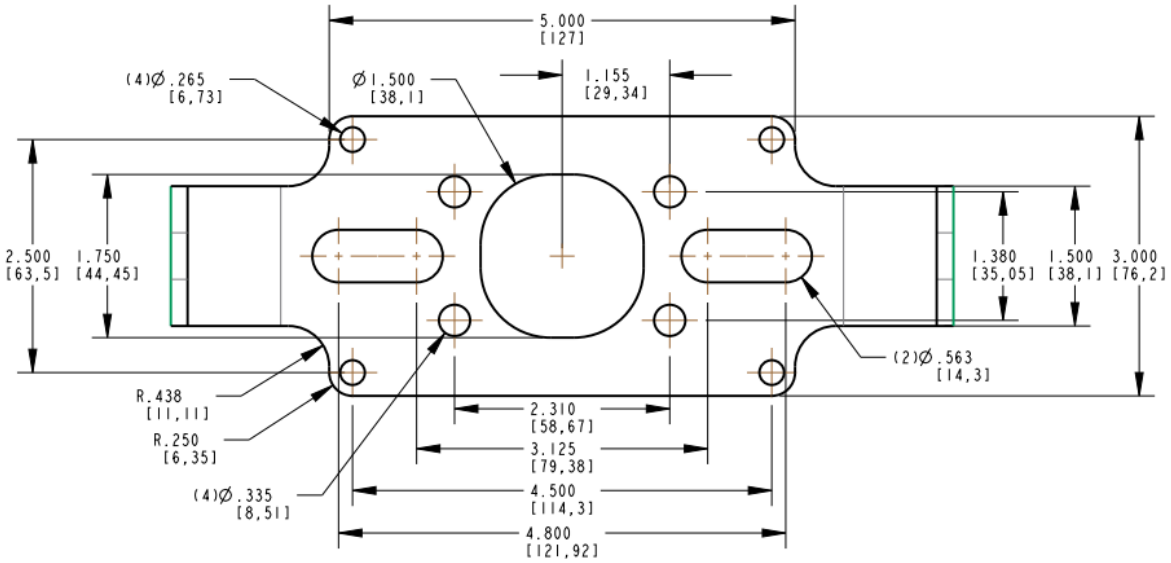
Technical Diagrams







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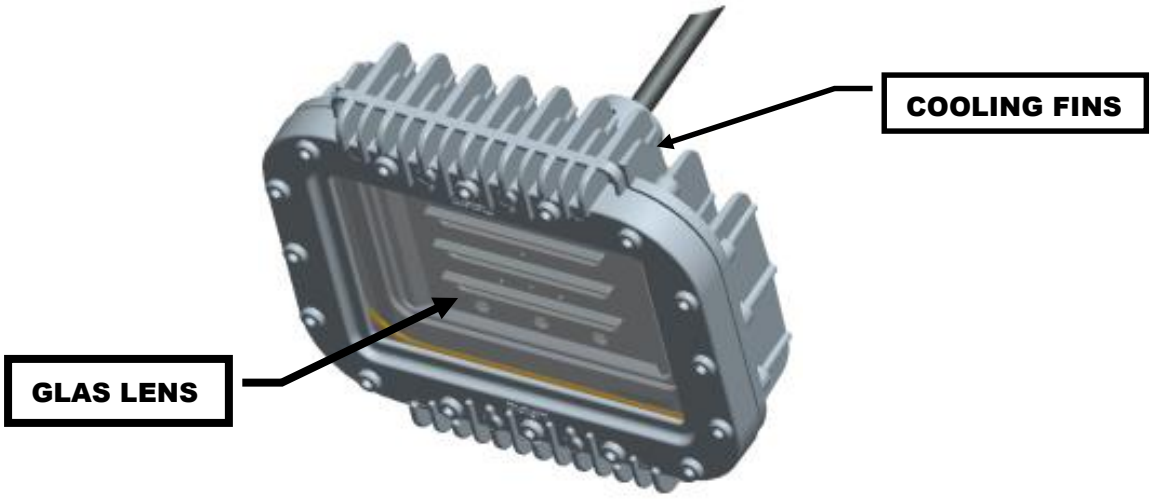
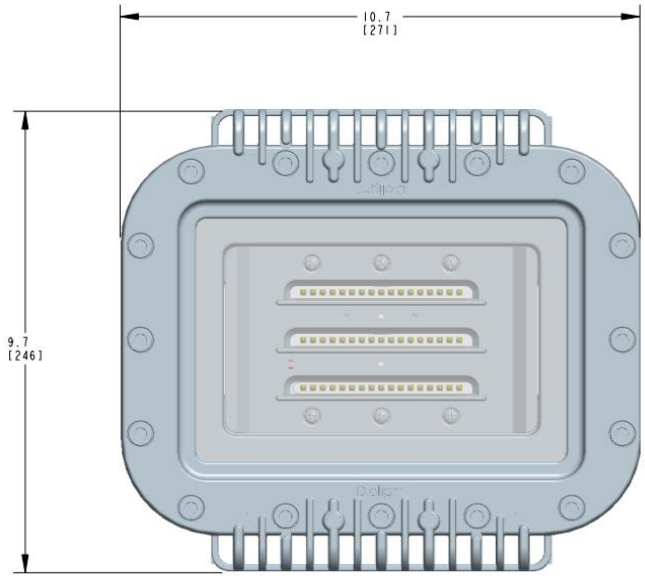
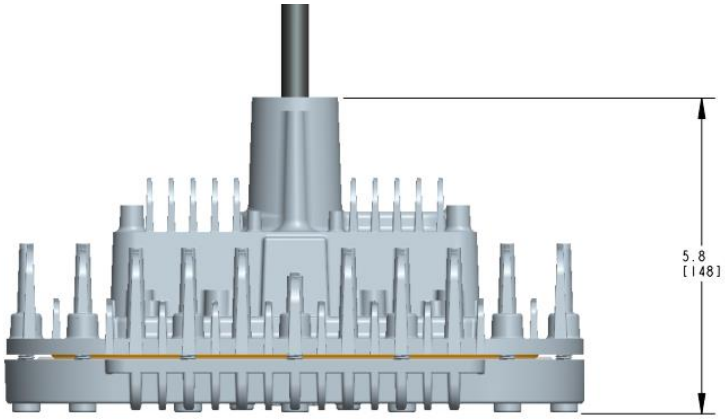
Glass Series







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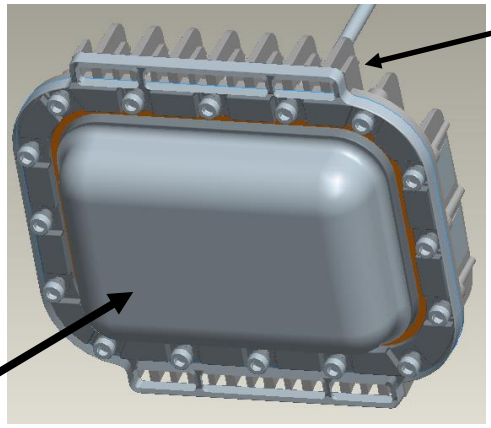
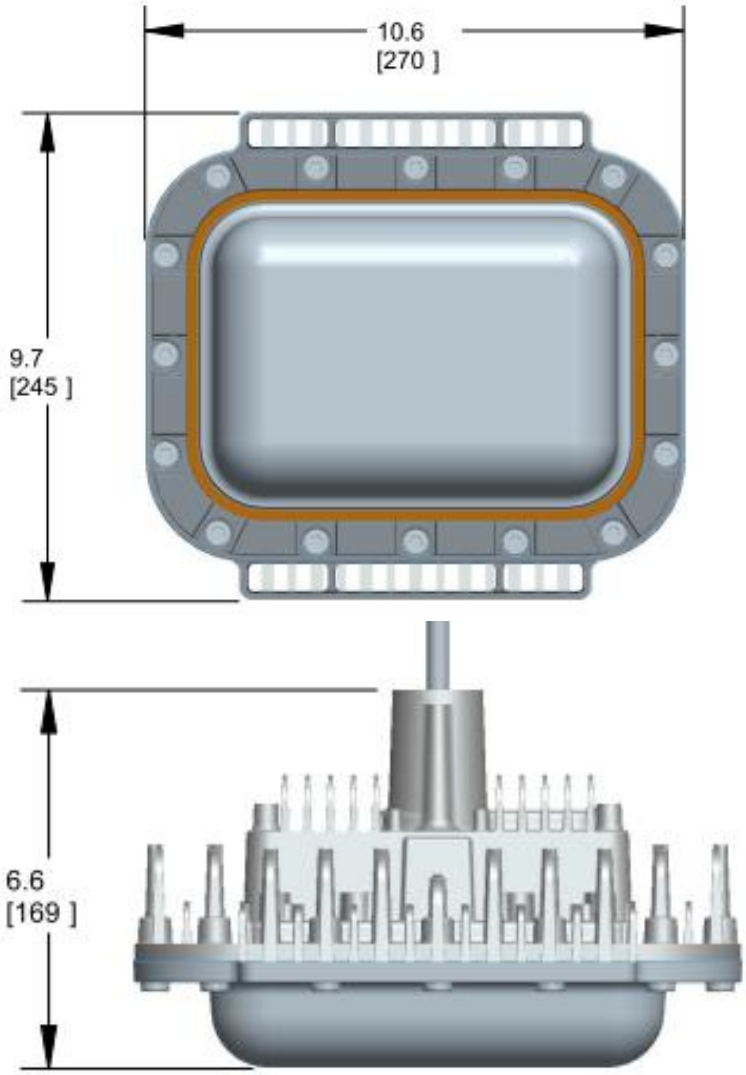
Polycarbonate Series





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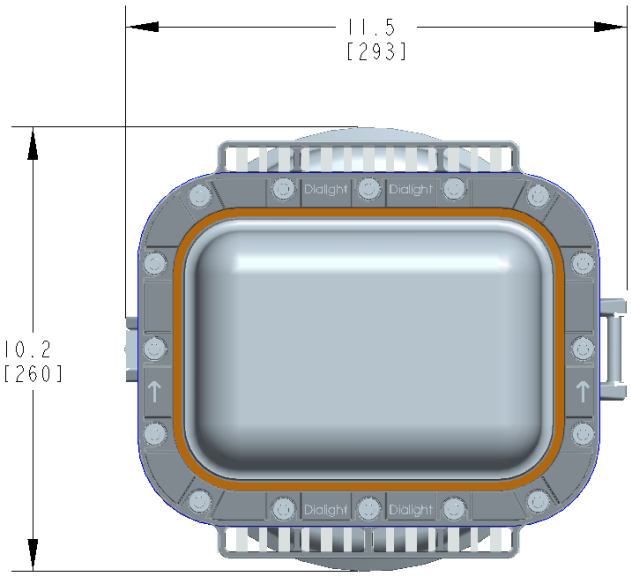
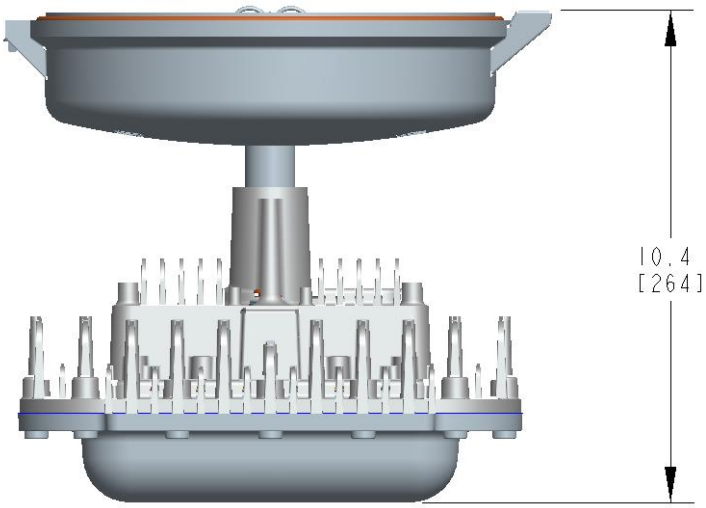
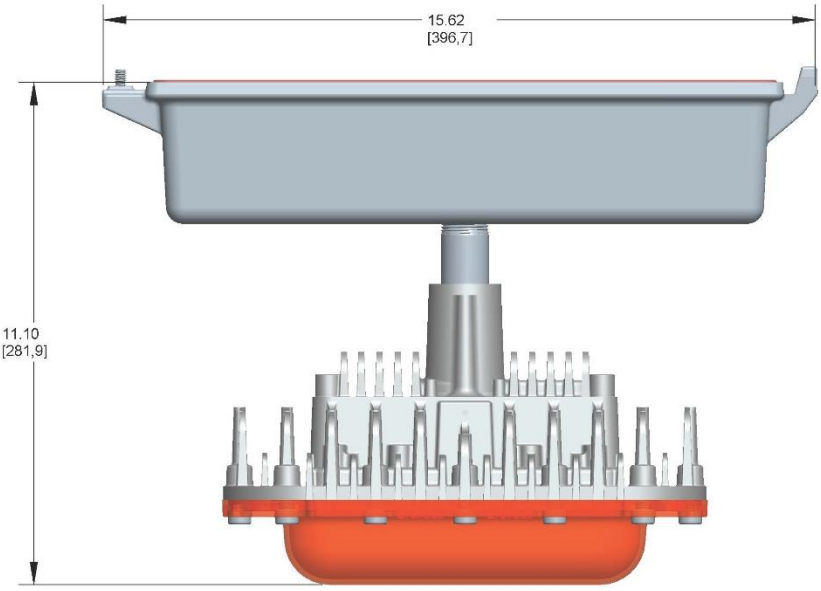
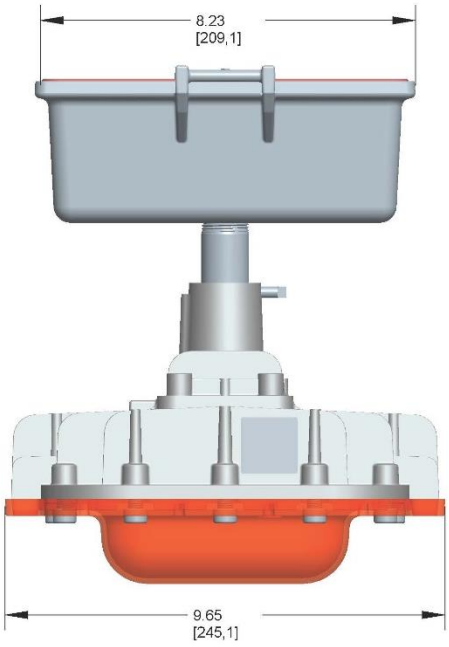
Adapters









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Dialight, 1501 Route 34 South, Farmingdale, NJ, USA 07727
Tel: 732 919 3119 Fax: 732 751 5778 www.dialight.com