



**INSTALLATION AND MAINTENANCE MANUAL**  
**SAFESITE®/DUROSITE® HZx/ STW SERIES WITH MOUNTING ACCESSORIES**  
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AUGUST 2015

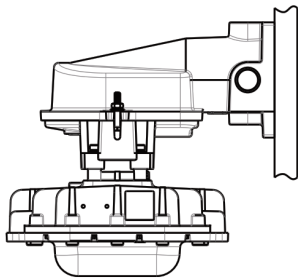
FOR USE WITH MODEL NUMBERS:

**HZXXXXXW01**  
**HZXXXXXW45**  
**HZXXXXXS45**

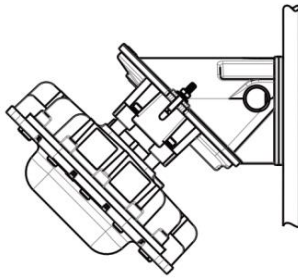
**STWXXXXW01**  
**STWXXXXW45**  
**STWXXXXS45**



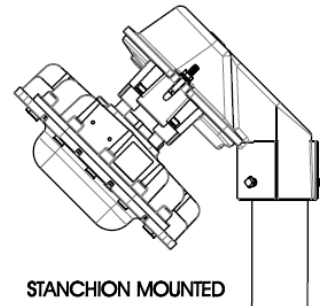
These instructions contain important safety information, read and follow them carefully. Dialight will not accept any responsibility for injury, damage or loss which may occur due to incorrect installation, operation or maintenance



0 DEGREE WALL MOUNTED



45 DEGREE WALL MOUNTED



STANCHION MOUNTED

## 1: Introduction

This HZx/STW Series light is designed for illumination of hazardous and non-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.

An internal power-factor-corrected supply allows it to be used in a range of supply voltages without any variation in light output. See specifications for voltage ranges.

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.

Model HZx/STW is suitable for use in the following locations:

- **HAZARDOUS LOCATIONS:** CLASS I DIV 2 GROUPS A, B, C, D  
Ta - Ambient Temp: -40 TO +65°C  
Temp Rating: T5 (100°C) when Ta <= 45  
Temp Rating: T4 (135°C) when Ta <=65
- **NON-HAZARDOUS LOCATIONS:** SUITABLE FOR WET LOCATIONS  
UL1598/1598A

**Note:** Save these instructions for future reference.

## 2: Installation

These instructions contain important 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.

### **⚠ Hazardous Locations Warning:**

To avoid the risk of fire, explosion, or electric shock, this product should be installed, inspected, and maintained by a qualified electrician only, in accordance with all applicable electrical codes.

### **⚠ Hazardous Locations Warning:**

To avoid electric shock:

- 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.

### **⚠ Hazardous Locations Warning:**

To avoid explosion:

- 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.
- WARNING - EXPLOSION HAZARD – SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, DIVISION 2.
- AVERTISSEMENT - RISQUE D'EXPLOSION - LA SUBSTITUTION D'E COMPOSANTS PEUT RENDRE CE MATERIEL INACCEPTABLE POUR LES EMPLACEMENTS DE CLASSE I, DIVISION 2.

### **⚠ Hazardous Locations Warning:**

To Avoid Explosion (Continued) :

- EXPLOSION HAZARD- DO NOT DISCONNECT EQUIPMENT UNLESS POWER HAS BEEN SWITCHED OFF OR THE AREA IS KNOWN TO BE NON-HAZARDOUS
- AVERTISSEMENT - RISQUE D'EXPLOSION - AVANT DE DECONNECTER L'EQUIPEMENT, COUPER LE COURANT OU S'ASSURER QUE L'EMPLACEMENT EST DESIGNÉ NON DANGEREUX

### **⚠ Hazardous Locations Warning:**

- 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 recommended by the manufacturer may cause an unsafe condition
- DO NOT use this equipment for other than intended use

**⚠ Warning:**

- 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.

**⚠ Warning: POLYCARBONATE LENS SUSCEPTIBLE TO CHEMICAL ATTACK AVOID USE WITH:**

- Strong Bases
  - Ammonium Hydroxide
  - Sodium Hydroxide
  - Potassium Hydroxide
- Halogenated solvents
  - Methylene Chloride
  - Chloroform
  - Carbon Tetra Chloride
- The Ketones
  - Acetone
  - Acetonitrile
  - Ethyl Acetate
  - Methyl Ethyl Ketone – (MEK)
- Also Avoid Use With
  - Benzene
  - Benzyl Alcohol
  - Lacquer Thinner
  - Mineral Spirits
  - Jet Fuel

**AVOID USE WITH:**

- Dimethyl Sulfoxide
- Diethyl Ether
- Carbon Disulfide
- Eylene
- Urea

\*\*\*NOTE: This list is not comprehensive and is not meant to be so. It is up to the end user to test and verify the product is suitable for use in a given location\*\*\*

For supply connections use wire rated for at least 90°C

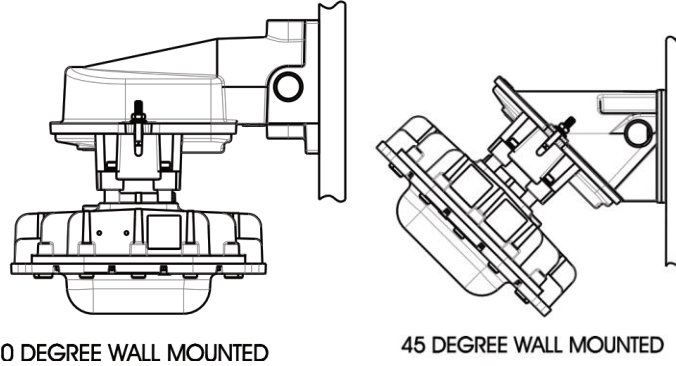
Recommended mounting height: 8 feet to 24 feet (2.4 m to 7.3 m)

**NOTE:**

- For maximum long term reliability and light output, the light must be installed in free air.
- The HZx/ STW Series fixtures are 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.
- Necessary precautions must be taken by the installer to prevent the moisture and all other contaminants from entering a mount through the cable, pole or conduit entries.

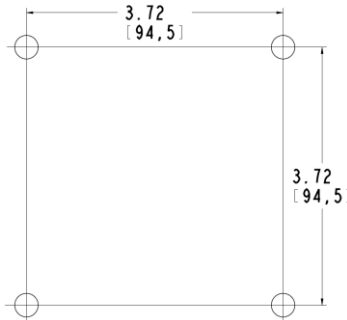


**Wall Mount Steps:**



**NOTE:** Wall Mount Fixtures are to be mounted to vertical surfaces structurally adequate to support the fixture in a safe manner. All 5 conduit connection ports are 3/4-14 NPT. The 0° Wall Mount shown in all figures below. All steps also apply to the 45° Wall Mount

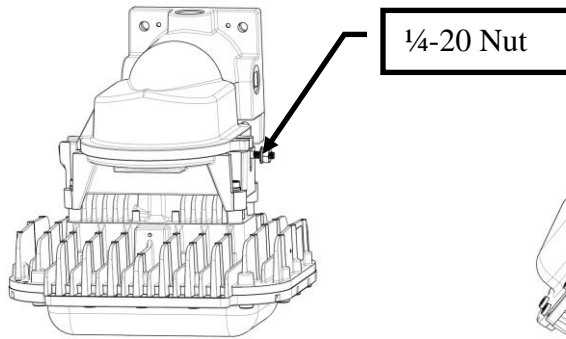
1. Assure electrical power is OFF.
2. Mark and drill 4 holes of the appropriate size and depth to accept 5/16 (or M8) diameter threaded fasteners. (not supplied) Spacing per Figure 1



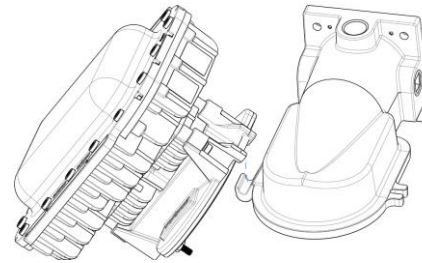
**Figure 1: Required Wall Hole Pattern**

3. Separate the Wall Mount from the fixture assembly by loosening the single 1/4-20 nut and swing the bolt free (do not remove the nut.) Rotate the Wall mount until it freely separates from the fixture. See Figure 2 and Figure 3 on next sheet.





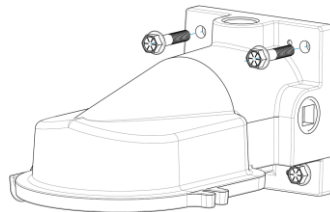
**Figure 2: Loosen and rotate 1/4-20 nut**



**Figure 3: Separate Wall Mount from Fixture**

4. Firmly secure the Wall Mount to the wall surface using four 5/16 or M8 diameter fasteners with the appropriate anchoring system. Fastener hardware not provided. See Figure 4.

**NOTE:** If connecting to the rear 3/4-14 NPT port (port facing the wall) use a cable gland properly rated for the application to seal the Wall Mount fixture. Cable gland not supplied.



**Figure 4: Anchor Wall Mount to Wall**

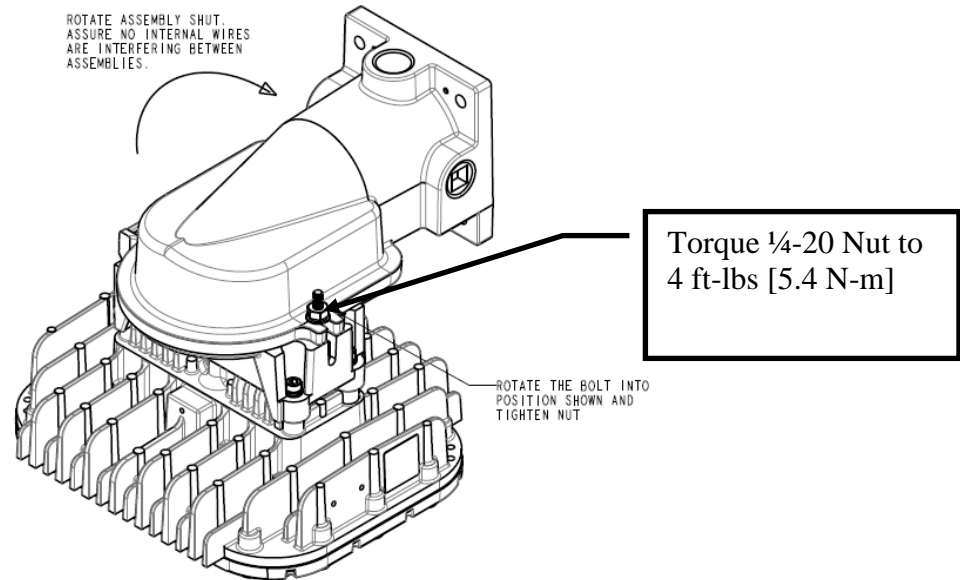
5. Attach 3/4-14 NPT threaded conduit into the required ports and bring the electrical wiring into the Wall Mount. All conduit connections and unused 3/4-14 NPT ports must be environmentally sealed. Unused ports are closed using the NPT threaded plugs provided or equivalent.

**NOTE:** The Wall Mount is supplied with 5 conduit entries top, bottom, left, right and rear. The top conduit entry port is open (no NPT plug) If this port not used assure it is environmental sealed using a proper 3/4-14 NPT plug.

6. Make all wire connections per Section 3 of this document.
7. Rotate fixture shut, Swing 1/4-20 bolt into place and tighten nut to seal assembly shut. Torque 1/4-20 nut to 4 ft-lbs [5.4 N-m]. See Figure 5



**When closing the assembly assure that the red colored oring is properly seated and there is no wires or object interfering with the oring seal or sealing surfaces.**



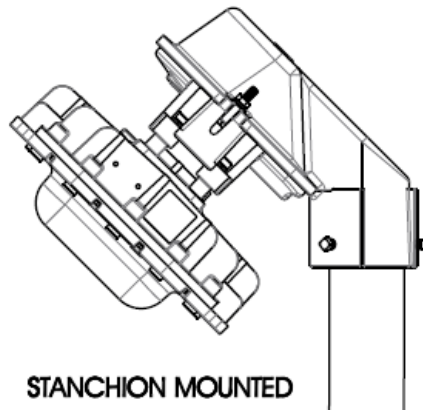
**Figure 5: Close and Torque 1/4-20 nut**

8. Restore power and verify operation.



**Prior to restoring power assure that all unused 3/4"-14 ports are properly plugged**

**45° Stanchion Mount Steps:**

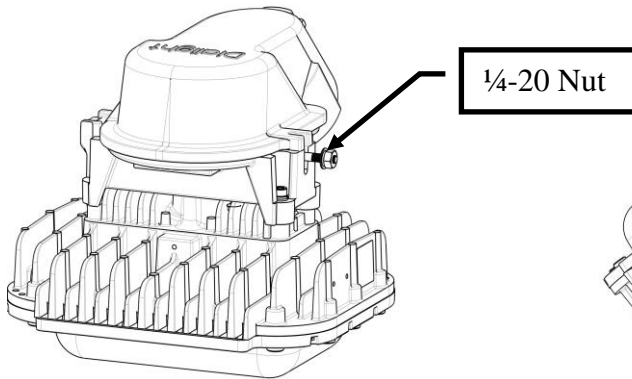


**NOTE:** The 45° Stanchion Mount fixture is intended to be mounted to 2" x 11-1/2 NPT threaded vertical pole sealed to the proper IPXX rating for the application. Use the appropriate NPT threaded reducing bushing to adapter a stanchion Mount fixture to a 1.5" x 11-1/2 NPT threaded pole.

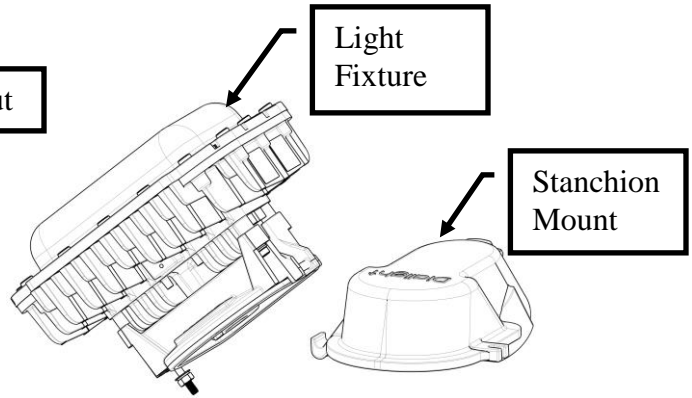
1. Assure electrical power is OFF.



- Loosen and back off 1/4-20 nut. Do not remove nut. Rotate bolt and separate the Stanchion Mount from the Light Fixture assembly. See Figures 7 and 8

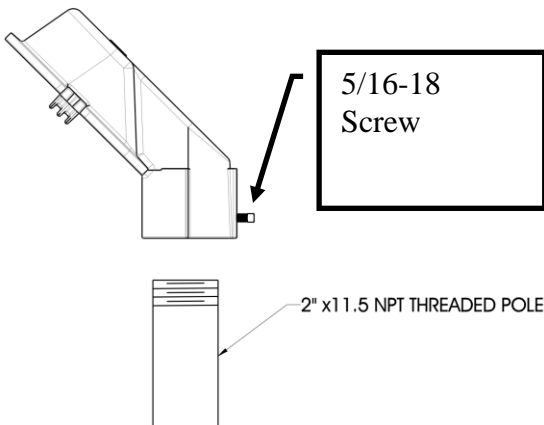


**Figure 6: Loosen and rotate bolt clear**

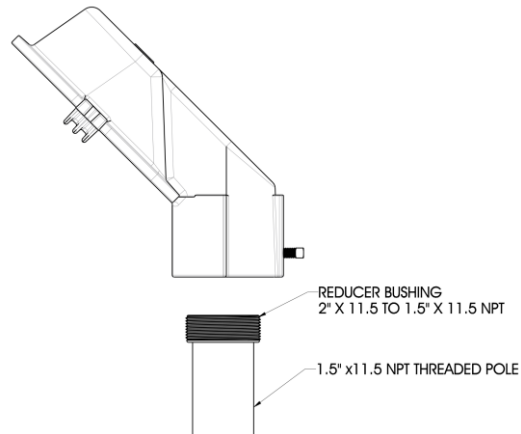


**Figure 7: Separate Stanchion Mount from Light Fixture**

- Back off 5/16-18 screw provided such that it will not interfere with the attachment operation. Firmly thread the Stanchion Mount to the 2X11.5 NPT threaded pole. Properly engage the threads and turn the Stanchion Mount by hand until tight. Continue tightening using a wrench until the proper orientation is achieved. Torque the 5/16-18 screw to 10 ft-lbs [14 N-m]. If attaching to a 1.5x11.5 NPT threaded pole attach the reducer bushing to the pole first. See Figure 8 and Figure 9



**Figure 8: 2" X 11.5 NPT THREADED POLE**



**Figure 9: 1.5" X 11.5 NPT REDUCER BUSHING**

4. Hang the Light Fixture on the Stanchion Mount and prepare for electrical wiring.



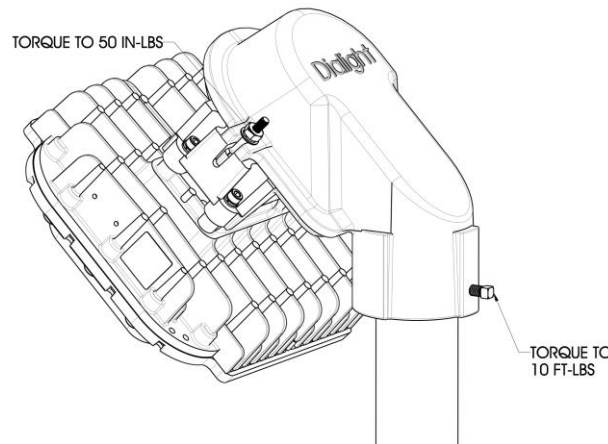
**Figure 10: Hang Light Fixture onto Stanchion Mount**

5. Make all wire connections per Section 3 of this document.



**When closing the assembly assure that the red colored oring is properly seated and there is no wires or object interfering with the oring seal or sealing surfaces.**

6. Rotate fixture shut, assure no object is interfering with the oring seal or sealing surfaces. Swing ¼-20 bolt into place and tighten nut to seal assembly shut. Torque ¼-20 nut to 4 ft-lbs [5.4 N-m]. Torque the 5/16-18 screw to 10 ft-lbs [14 N-m]. See Figure 11



**Figure 11**

7. Restore power and verify operation.





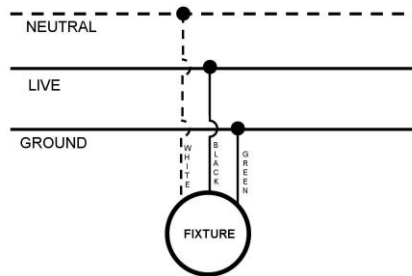
### 3. Electrical Connections



Prior to making any electrical connections verify the supply voltage is compatible with your model.

**1.1. This section describes the electrical connection for models using 120/277 VAC single phase. Assure all wire connections are per code. See Figure 12**

- For single phase (120 / 277 VAC) models :
  - Green wire connects to Safety Ground. (use pigtails supplied)
  - White wire connects to Neutral
  - Black wire connects to HOT



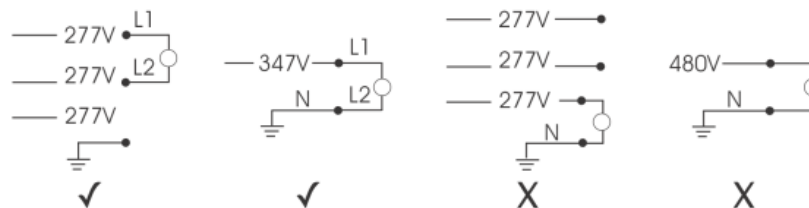
**Figure 12: 120 / 277 VAC Wiring Diagram**

**SINGLE PHASE 120/277 VAC WIRE COLOR CODE - IEC (US)**

Brown (Black) = LIVE  
 Blue (White) = NEUTRAL  
 Green -Yellow (Green) = GROUND

**1.2. This section describes the electrical connections for models using 347 VAC single phase and 480 VAC TWO Phase. Assure all wire connections are per code.**

- For Single phase 347 VAC models connect power cable conductors as follows: **See Figure 13**
  - Green wire connects to Safety Ground.
  - Red wire connects to **Live**
  - Black wire connects to **Neutral**
- For TWO phase 480 VAC models connect power cable conductors as follows: **See Figure 13**
  - Green wire connects to Safety Ground.
  - RED wire connects to **LINE1**
  - BLACK wire connects to **LINE 2**



**Figure 13: Single phase 347 VAC and TWO phase 480 VAC wiring diagram**

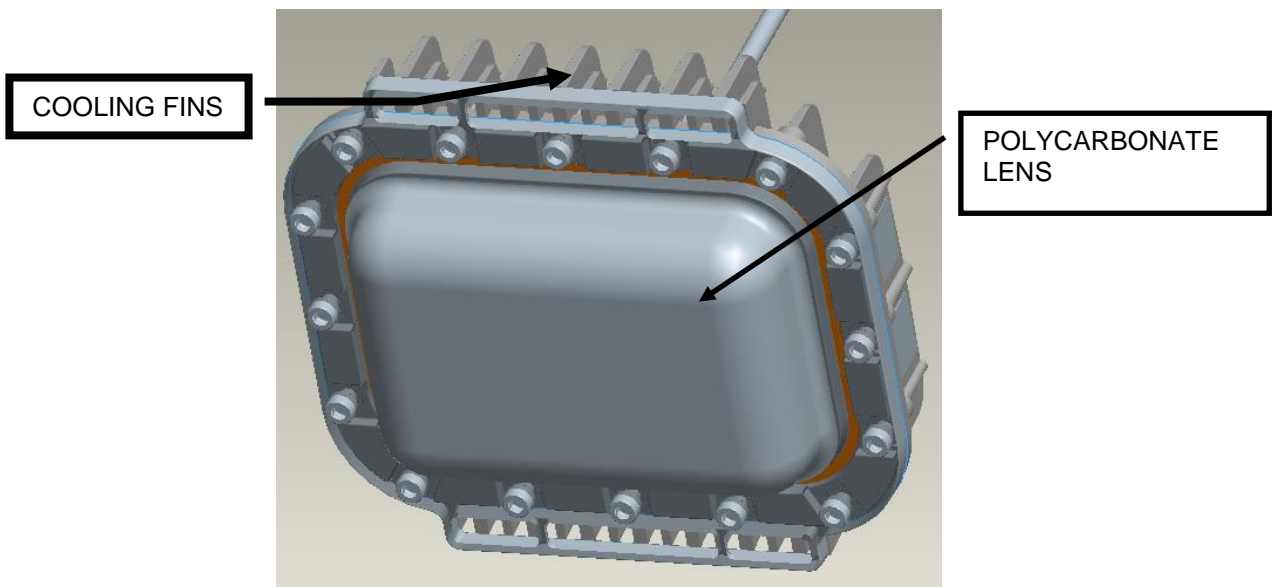


#### 4. Maintenance

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

**⚠ Warning:** No user serviceable parts inside of fixture. Risk of electric shock. **Removal of the lens will void the warranty.**

- 1) 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.
- 2) 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.
- 3) 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.
- 4) Do not operate if the lens is cracked or damaged.
- 5) During the routine check all fasteners used to mount the fixture should be examined for condition and proper torque value.



## 5. Specifications

Nominal AC Supply Voltages <b>(Voltage is model dependent)</b>	100-277 VAC, 50-60Hz, single phase 347 VAC Single Phase 480 VAC TWO Phase
Power consumption (120-277 VAC):	68W nominal (XXXE, XXXF SRS) 57W nominal (XXX8, XXX9 SRS) 55W nominal (XXXW,XXX Y SRS) 47W nominal (XXX4, XXX5 SRS) 38W nominal (XXX2, XXX3 SRS) 21W nominal (XXX0, XXX1 SRS)
Power consumption (377-480 VAC):	70W nominal (XXXE, XXXF SRS) 58W nominal (XXX8, XXX9 SRS) 55W nominal (XXXW,XXX Y SRS) 47W nominal (XXX4, XXX5 SRS) 37W nominal (XXX2, XXX3 SRS)
Operating temperature range	-40°F to +149°F [-40°C to +65°C] T4 @ 149°F [65°C]
Power factor	>0.90
ATHD	<20%
Dimensions	
0° Wall Mount	See Figure 14
45° Wall Mount	See Figure 15
45° Stanchion Mount	See Figure 16
Weight	
0° Wall Mount	15.0 lbs [6.8 kgf]
45° Wall Mount	14.2 lbs [6.4 kgf]
45° Stanchion Mount	14.8 lbs [6.7 kgf]
Connections - Wall Mount	¾"-14 NPT ports (five total)
45° Stanchion	2"-11.5 NPT port (1.5"-11.5 NPT with reducer)
Intertek Certified to	ANSI/UL-844 and CAN/CSA C22.2 No. 137



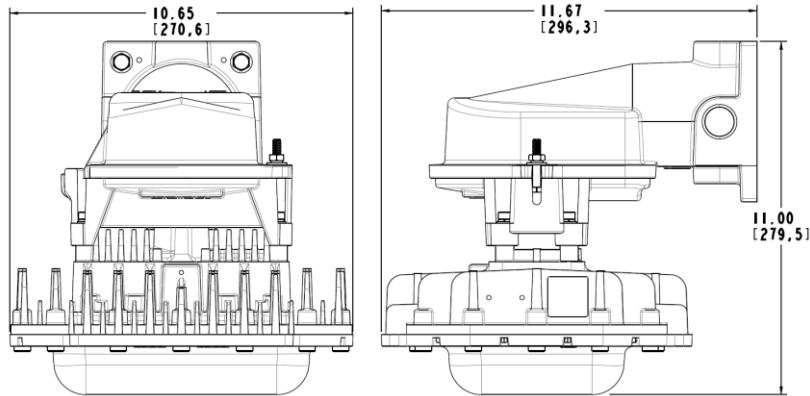


Figure 14: 0° Wall Mount

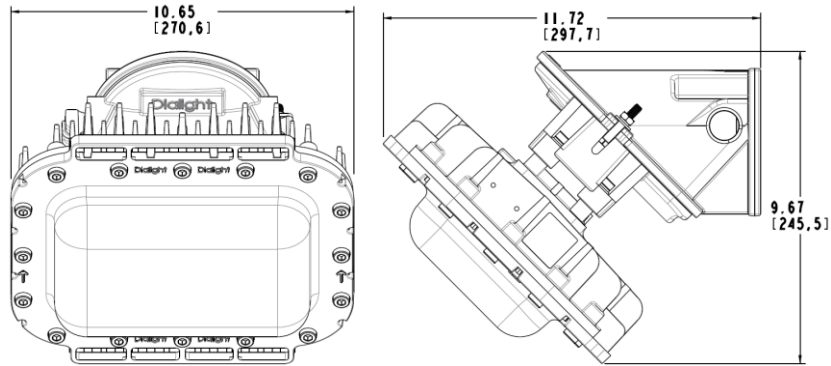


Figure 15: 45° Wall Mount

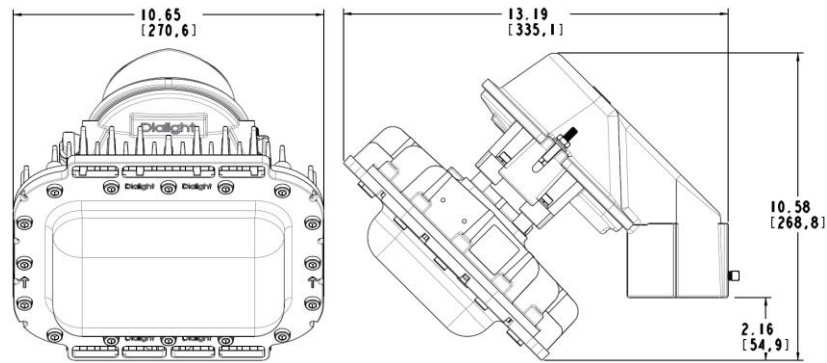


Figure 16: 45° Stanchion Mount

**DIMENSIONS ARE FOR REFERENCE ONLY.**

All statements, technical information and recommendations contained herein are based on information and tests we believe to be reliable. The accuracy or completeness thereof is not guaranteed. In accordance with Dialight Corporation "Terms and Conditions of Sale", and since conditions of use are outside our control, the purchaser should determine the suitability of the product for his intended use and assumes all risk and liability whatsoever in connection therewith.

REV.	ECO No.	DRN	CHK	APP	QA	CM	DATE
B	27110	SCR	VJD	SB	SV	JN	8/3/15
C	28644	VJD	KH	SCR	SV	JN	9/8/15

