

Step 4 – Finishing Touches

To complete the installation, verify that all mounting, connection, and aiming work is finished.

- Verify all electrical connections are tight and secured. The installer is responsible for the integrity of all connections.
- Verify all bolts and screws are tightened and properly torqued.
- Straighten up all cabling. Tie down all cables neatly. For all outdoor projects, use UV rated tie wraps and wire management.

Note: When power is turned on, the luminaires default to 100% on unless a different control signal is present.

Care and Maintenance

All luminaires are prepared with a powder-coated finish. The finish on exterior luminaires may weather over time, depending on the environmental conditions at the installation site. Proper care of the luminaires will maintain their performance and appearance.

Follow a regular maintenance schedule to retain optimal light output and thermal performance. Remove any dirt, leaves and other foreign debris from the luminaire housing. Wipe the optical lenses with a clean, dry, cotton cloth to remove dust and other contaminants. A non-abrasive polycarbonate cleanser may be used periodically.



WARNING

Do NOT use any abrasives such as car wax, brass cleaners or other polishes or chemicals. These may scratch, remove, or damage the protective coating, allowing moisture and pollutants to come into contact with the aluminum, possibly discoloring or pitting the finish.

Troubleshooting

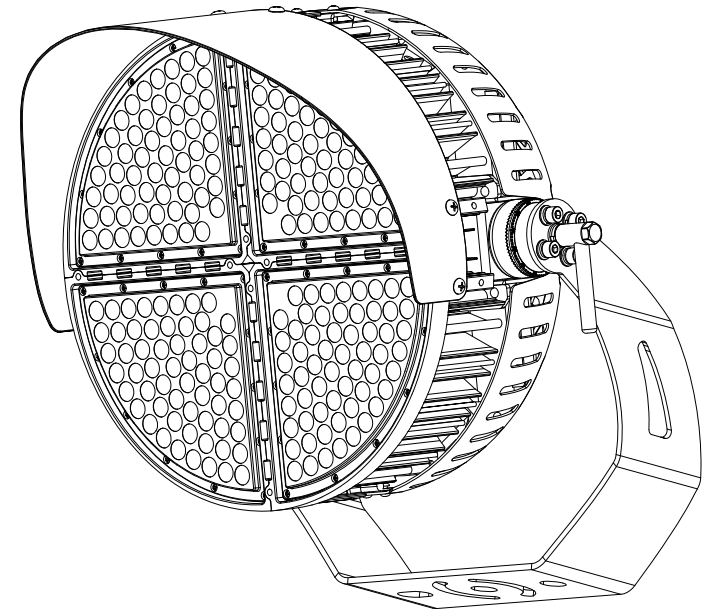


WARNING

Before performing any work on the luminaire, shut off the power circuit, verify the power is off with a multimeter, and wait 2 minutes before handling luminaire to avoid electrical shock. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.

Symptom	Possible Cause	Corrective Action
No light output	Power is off.	Check if circuit power is on.
	Bad wire connection.	Check input wiring connections.
	Control signal set to 0	Verify control signal
Fuse blows or circuit breaker trips	Crossed wires or a supply wire is grounding out.	Check wiring connections.
	Improperly sized fuse or breaker	Improperly sized fuse or breaker

Zone Sports Flood (ZNF) Outdoor Sports Flood Light



Installation Instructions

SAFETY INSTRUCTIONS

1. All electrical work must conform to the National Electric Code (NEC) and all applicable local codes and ordinances.
2. Only qualified personnel shall install and maintain the luminaires. recommends that a licensed electrician install and maintain the luminaire. Verify the safety of existing power distribution system before beginning installation. Failure to follow Operating Instructions may lead to death, Severe Injury, or Property Damage.



WARNING

Turn off power before performing any electrical or control work. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.



WARNING

Follow all applicable safety procedures and use Personal Protective Equipment such as hardhats, safety glasses, reflective vests, electrical safety gloves, fall protection equipment and safety toe boots during the installation, operation, and maintenance of the luminaire. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.



WARNING

Risk of eye injury! Eye protection is required at all times during the installation, operation, and maintenance of the luminaire. The high intensity light produced by the luminaire can cause severe damage to the eye if viewed directly at close range. Avoid being in front of a luminaire that is on or wear suitable light blocking protective eyewear such as welding goggles. The luminaire should be positioned so that prolonged staring into the luminaire at a distance closer than 10m is not expected

Store luminaires in a clean, dry place, protected from dirt, water, and sunlight. See table for required storage and operating conditions:

Storage and Operating Conditions

Storage Temperature	Operating Temperature	Humidity
-40°C to +75°C (-40°F to 167°F)	-40°C to +50°C (-40°F to 122°F)	5% to 95% non-condensing

Fusing

LED Sports light fixtures are not traditional incandescent lights, they are high-tech, new generation solid-state devices. To protect your valuable investment, the electrical power shall be clean and have stable voltage and current and undistorted waveforms.

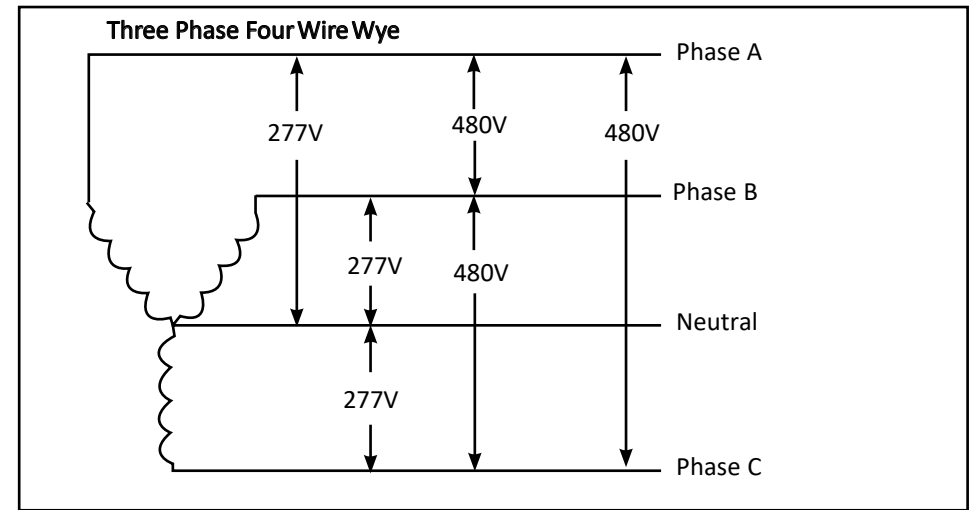


Figure 1. Acceptable Power Configurations



WARNING

Follow proper grounding methods: Electrical system must be grounded. If you are not sure if your power system is grounded, DO NOT install the luminaire. Contact a licensed electrician for information on proper grounding methods as required by the electrical code. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.



WARNING

Do not attempt to connect All Field fixtures to any circuits with nominal voltage below 277V or above 480VAC. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO LUMINAIRE INTERNAL DAMAGE AND FAILURE.

The voltage on the lighting circuits must stay within 3% of nominal at 50/60Hz. Voltage that is consistently too high or low shall be corrected before LED luminaires are installed.

Power Quality

The lighting circuits shall have surge protection.

INSTALLATION INSTRUCTIONS

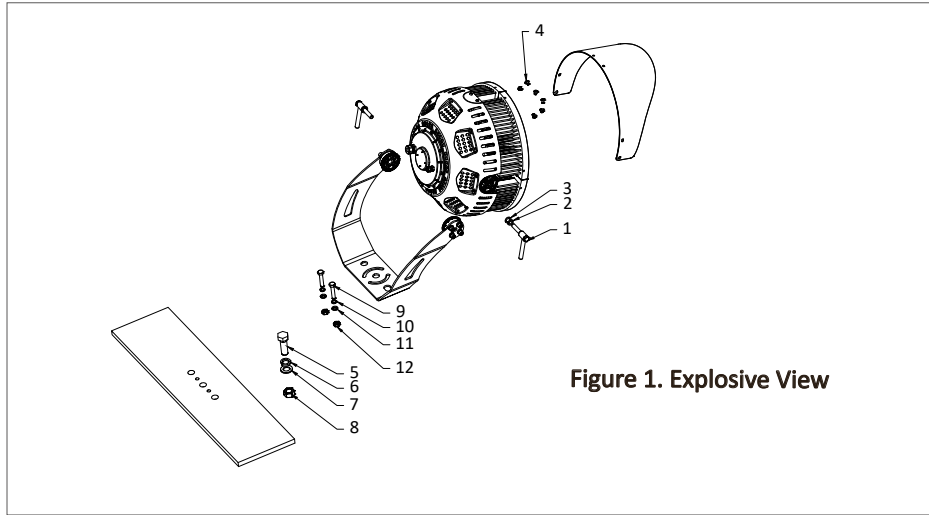


Figure 1. Explosive View

NO.	Name	Specifcation	Quantity	Quantity
1	Handle bolt	7/16-14*50.8	2	Standard
2	Φ12.6 spring washer		2	
3	Φ12 flat washer		2	
4	1/4-20*9.5 Screw		6	Quantity
5	M20*120mm Bolt		2 OR 1	
6	Φ21 spring washer		2 OR 1	
7	Φ21 flat washer		2 OR 1	
8	M20 Nut		2 OR 1	
9	M10*120mm Bolt		2	
10	Φ10.5 spring washer		2	
11	Φ10.5 flat washer		2	
12	M10 M10		2	

Step 1 – Assemble The Luminaire

First: Insert Φ12.6 spring washer and Φ12 flat washer into the handle bolt in turn and tighten the handle bolt.

Second: Insert 8 pcs of 1/4-20*9.5 Screws into the light Shield and tighten it into holes on driver cabinet.

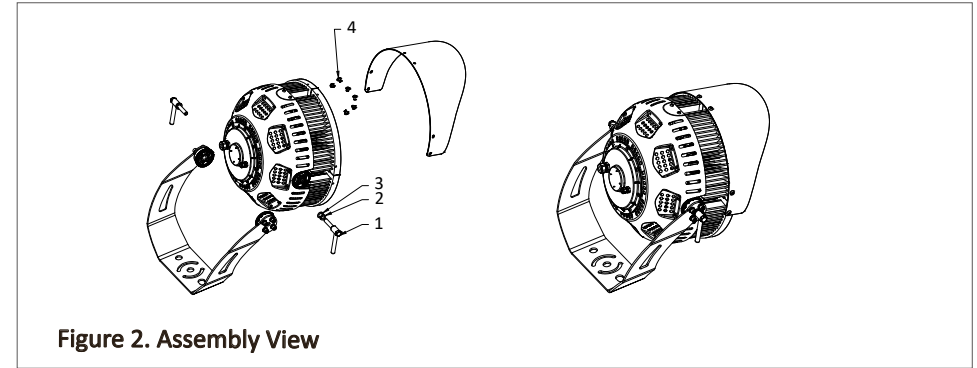


Figure 2. Assembly View

Step 2 – Mount The Luminaire

The first step is to attach the luminaire to the mounting structure. The mounting structure may be a light pole cross arm, an indoor catwalk bracket, or other structural component that will hold the fixture in place. Refer to photometric drawings or project Installation Drawings for luminaire installation locations and any additional mounting instructions.



WARNING

It is the responsibility of the installer to verify that all proposed mounting structures including poles, cross arms, catwalk brackets, and other mounting structures are certified to support the weight of the luminaires, withstand wind loads, and meet all other applicable codes and regulations. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.



WARNING

Do not suspend any luminaire by electrical or control wires, as these will not support the weight of the fixture, resulting in the potential for the fixture to fall and cause damage or injury. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.

Equipment Required:

- Mounting Hardware
- Socket wrenches and/or crescent wrenches sized to fit mounting hardware
- Cable ties or wire management – For outdoor installations use UV rated

Mounting Hardware Required

Hardware Required	Size	Quantity per luminaire
Hex bolt	M20*120mm	1
Flat washers	Φ21mm	1
Spring washers	Φ21mm	1
Hex Locknut	M20	1
Hex bolt	M10*120mm	2
Flat washers	Φ10.5mm	2
Spring washers	Φ10.5mm	2
Hex Locknut	M10	2

Mounting hardware shall be high-strength, corrosion-resistant material. Length of Hex bolt shall be determined in the field; size the bolt appropriately to allow secure fastening of the luminaire to the mounting structure.



WARNING

An impact driver may be used on mounting hardware while the power is off, but NEVER use any power tools on the fixture while the power is on. The vibration caused by power tools may damage the fixture. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO LUMINAIRE INTERNAL DAMAGE AND FAILURE.

Standard Mounting

This is the most common mounting. The luminaire sits on top of mounting structure.

1. Refer to the project Installation Drawings to determine luminaire installation locations and lens type.
2. For each fixture location, install a luminaire that has the correct lens type. Unless otherwise noted, fixtures that share the same lens type are identical.
3. Set luminaire in place and install bolt, flat washers, and nut to securely fasten the fixture mounting bracket to the mounting structure. Tighten hardware hand tight so that fixture is secure but do not fully torque hardware until aiming is complete.

Note: Example mounting structure shown for illustration purposes only.

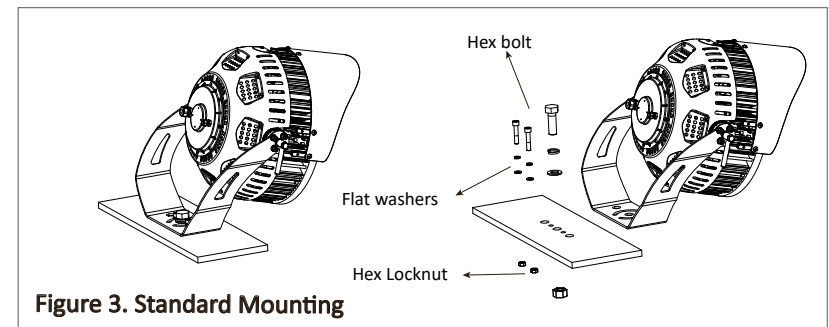


Figure 3. Standard Mounting

SLI Mounting

Attach the light to the pole with slip fitter mount (screw size 5/16)

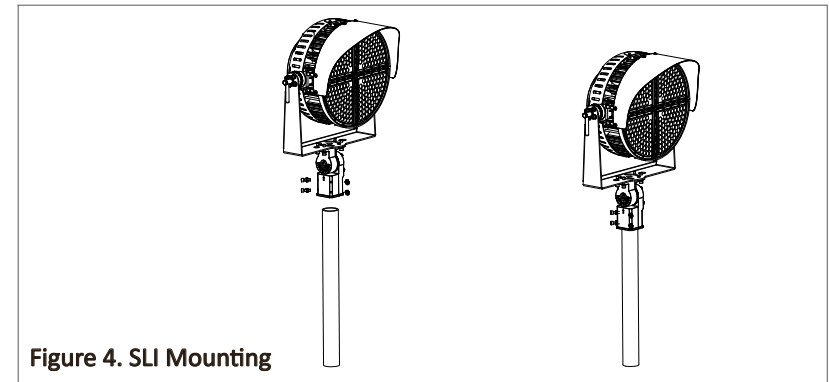


Figure 4. SLI Mounting

Step 3 – Make Electrical Connections



WARNING

Never connect the luminaire to an electrical system that is not grounded. Installing a luminaire in an ungrounded electrical system could allow the metal housing to become energized in the event of an electrical short, resulting in the risk of electrical shock for anyone who comes into contact with the fixture. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.

Equipment Required:

- 3/16" driver (or metric equivalent)
- Power cable
- Electrical splicing connectors. For all outdoor installations, silicone filled water resistant connectors are highly recommended.

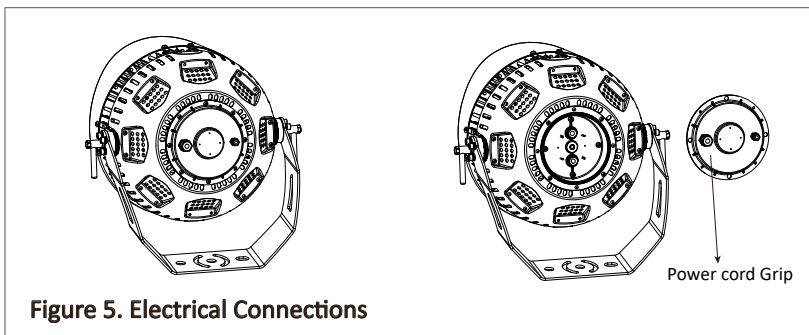


Figure 5. Electrical Connections

Wiring

Incoming power cable shall be SOW style 3C cable with a minimum of 14-18AWG annealed stranded bare copper per ASTM B-174 with a minimum temperature range of -40°C to +90°C. Cable must be water resistant, UV rated/sunlight resistant, UL listed and CSA certified for indoor and outdoor use. International applications shall be harmonized (HAR) or IEC equivalent.

1. Remove cover from junction box at the base of the luminaire.
2. Route incoming power cable through the cord grip in the junction box cover.
3. Strip outer jacket of incoming power cable back 3" (7cm). Connect the incoming power wires to the fixture power wires on right side of junction box.

Power wiring connections

Fixture power wire color	Designation
Black	Line
White	Line or Neutral
Green	Ground
Purple	Data +
Grey	Data -



WARNING

NEVER connect the fixture's green insulation (GROUND) wire to the black (LINE) current-carrying or white (NEUTRAL) supply wire, as this could energize the metal housing and create the risk of electrical shock. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.



WARNING

Do not damage or cut the wire insulation (covering) during installation. Do not permit wires to contact any surface having a sharp edge, as this may damage the wire insulation and create the risk of electrical shock. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO DEATH, SEVERE INJURY, OR PROPERTY DAMAGE.

Step 4 – Aim The Luminaires

Aiming the luminaires is a critical part of the LED lighting solution to ensure that light is evenly distributed on the playing surface. There are two basic methods to properly aim a sports venue – Precision Laser Aiming by Coordinates, and Orient-Tilt.

Precision Laser Aiming by Coordinates

Laser aiming is the most effective and preferred technique for aiming LED sports lighting. This method uses a laser mounted to the luminaire to point the fixture at a predetermined point on the playing surface using (X,Y) coordinates. Unless otherwise noted, aiming coordinates on photometrics or project Installation drawings are based on the origin (0,0,0) placed at center field, court, or ice. All dimensions from that point are in feet along the playing surface unless otherwise noted.

Orient –tilt

With the Orient-tilt method, the installer turns the luminaire according to predetermined angles. This technique is extremely helpful for pre-aiming fixtures mounted on a cross arm on the ground before the lighting pole is lifted up and set in place. However, this method is less accurate due to the variances in actual final pole and luminaire locations and orientations compared to the approximated parameters used in the photometric design.

The Orient angle refers to the direction the luminaire faces in the Z-plane. In other words, mount the luminaire to the structure but leave the mounting nut slightly loosened to allow the entire fixture to spin about the mounting bolt. Set the luminaire Orient by rotating the luminaire mounting bracket relative to the mounting structure.

Unless otherwise noted, Orient values shown in photometrics or project Installation Drawings are based on 0° being Plan East. Plan East means 0° is heading to the right side of the sheet as you hold it in front of you, which is not necessarily geodetic or True East.

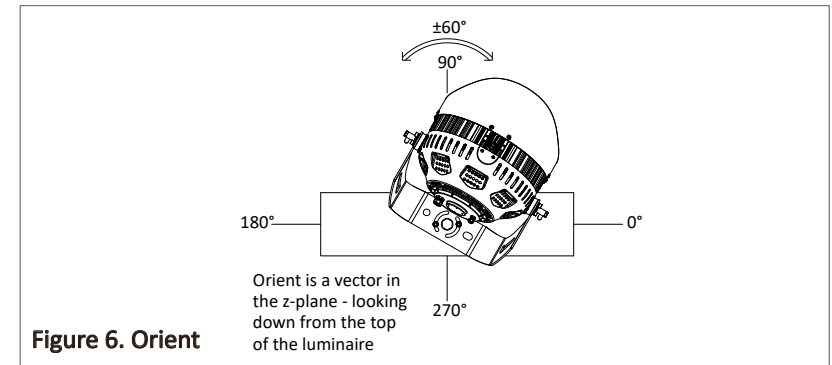


Figure 6. Orient

The Tilt angle refers to the direction the luminaire faces in the Y-plane. When the luminaire is securely mounted to the structure so that the mounting bracket does not move but the side Hex and Set screws are loosened, the fixture may rotate up inside the mounting bracket. Set the luminaire Tilt angle by rotating the fixture housing relative to the luminaire mounting bracket.

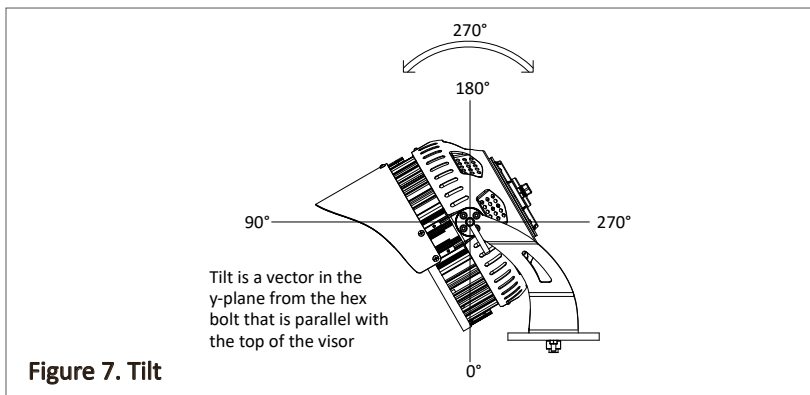


Figure 7. Tilt

Equipment Required:

- Laser or Aiming Tube
- Aiming Mount
- 15/16" (or metric equivalent) Socket Wrench
- 3/16" (or metric equivalent) Hex driver
- Torque wrench/driver



WARNING

NEVER use any power tools on the fixture while the power is on. The vibration caused by power tools may damage the fixture. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO LUMINAIRE INTERNAL DAMAGE AND FAILURE.

Note: For outdoor daytime aiming when the laser dot is difficult to see, a piece of rigid tubing may be used in place of the laser. Outside diameter of tube must be 0.8" - 0.87" (ANSI NPS ½"; 20-22 mm) to fit into the Aiming Mount. Slightly smaller conduit such as ½" (16 Metric) EMT (Electrical Metallic Tubing) may be used in the mount with a grommet or other shim only if the shim is evenly distributed around the tubing to keep it correctly aligned parallel with the top front visor of the luminaire.



WARNING

NEVER point the aiming laser at any person or animal as it can cause permanent damage to eyes. Use laser only for aiming fixtures as directed. FAILURE TO FOLLOW THIS WARNING MAY LEAD TO SEVERE INJURY.

Note: Turn off laser while not in use to conserve battery. Have spare battery charged to facilitate the aiming process.

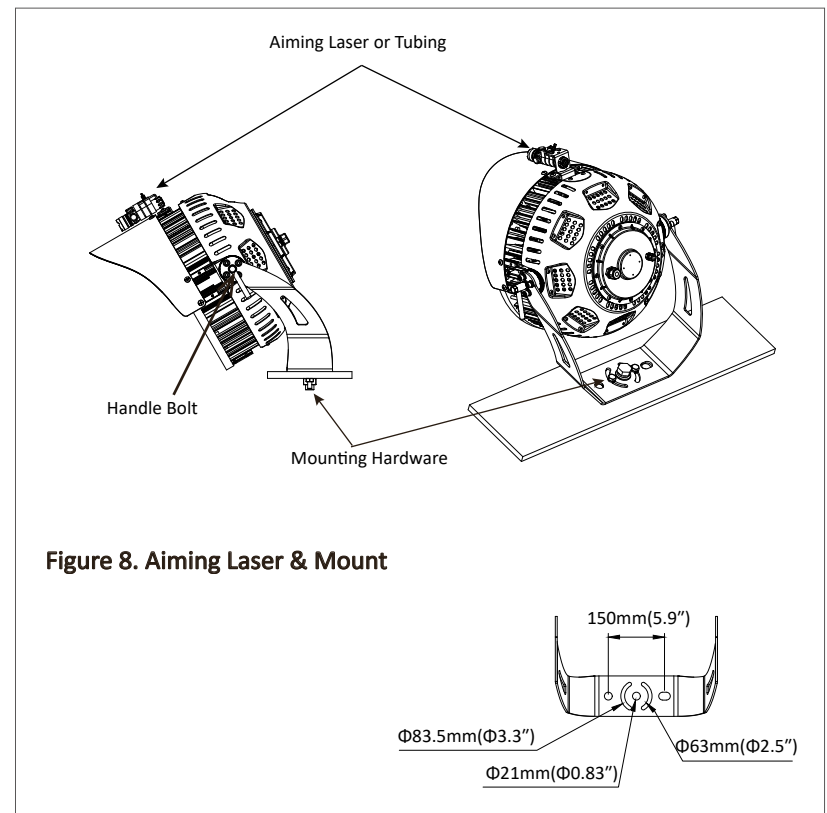


Figure 8. Aiming Laser & Mount

1. Insert the laser or tube into the aiming mount and tighten the holding screw.
2. Insert the aiming mount onto the fixture aiming pin until it is fully seated. Aiming mount must be tight against the fixture because any movement or wiggle in the mount will cause aiming to be inaccurate.
3. Slightly loosen the fixture aiming screws just enough to allow the fixture to rotate and tilt.
4. Turn on the laser and aim the fixture by targeting the red laser dot at the aiming point. If aiming tube is used, look through tube and adjust fixture until aiming point is centered in view through tube. Refer to photometrics or project installation drawings for aiming point coordinates.
5. After aiming is complete, tighten all bolts and screws including hex and set screws on side of fixture and mounting hardware.
6. Briefly turn the laser back on or re-check view through tube to verify that the luminaire aim did not shift during tightening.
7. Remove the aiming mount from the fixture and proceed to the next luminaire.

Note: After targeting the aiming point with the laser, turn off the laser to conserve battery life.