



THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED

CE PRODUIT DOIT ÊTRE INSTALLÉ SELON LE CODE D'INSTALLATION PERTINENT, PAR UNE PERSONNE QUI CONNAÎT BIEN LE PRODUIT ET SON FONCTIONNEMENT AINSI QUE LES RISQUES INHÉRENTS



### WARNINGS AND CAUTIONS

Follow all warnings and cautions outlined here as well as any local safety procedures. Failure to strictly adhere to the warnings and cautions as well as the installation instructions may result in serious personal injury or property damage

### **Before You Begin**

Read and understand this entire manual and any additional site-specific installation documents before attempting to assemble, install, or operate the luminaire. If you have any questions regarding the product or installation, contact Cooper Lighting Customer Service at 1-800-573-3600.

- All electrical work must conform to National Electrical Code (NFPA 70), IEEE Emerald book, and all applicable local codes and ordinances.
- 2. Verify the capacity and integrity of existing power distribution system and correct branch circuit voltage before beginning installation.
- 3. Verify the structural capacity and safety of all facility/venue/pole supports and mounting apparatus before installation. See fixture specification sheet for weight and wind loading data.
- 4. Verify that the capacity and integrity of all existing mounting structures and electrical distribution systems are compatible with the new lighting system and compliant with all regulatory and safety codes.
- 5. In harsh settings where the system is subjected to factors such as extreme temperatures, high corrosion, hurricanes, or lightning, always follow local codes and additional protocols to ensure the cabling and other system components can withstand the environmental stress for the life of the system.
- 6. DO NOT make or alter any open holes in the luminaire. Do not modify the luminaire, internal wiring, or fixture mounting features. Opening or modifying the luminaire or bracket will void the warranty.
- 7. Use Personal Protective Equipment including hardhats, safety glasses, reflective vests, electrical safety gloves, fall protection equipment, and safety toe boots during installation, operation, and maintenance of luminaire.
- 8. Verify compliance with local standards to prevent access to the area below where installation activities are occurring to prevent injury from accidental drops of fixtures, tools or hardware.

#### Storage

Store luminaires in a clean, dry place, protected from dirt, water, and sunlight prior to installation. See Table 1 for required storage and operating conditions:



Storage Temperature	Operating Temperature	Humidity
-40°C to +75°C (-40°F to 167°F)	-40°C to +40°C (-40°F to 104°F)	5% to 95% non-condensing

Table 1. Storage and Operating Conditions



Risk of Fire, Electrical Shock, Cuts or other Casualty Hazards - Installation and maintenance of this product must be performed by a qualified electrician. This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and hazards involved.



<u>Risk of Fire and Electric Shock</u> - Make certain power is OFF before starting installation or attempting any maintenance. Disconnect power at fuse or circuit breaker.



Risk of Fire - Refer to product label for specific minimum supply conductor requirements.



Risk of Burn - Disconnect power and allow fixture to cool before handling or servicing.



Risk of Personal Injury - Fixture may become damaged and/or unstable if not installed properly.

DISCLAIMER OF LIABILITY: Cooper Lighting Solutions assumes no liability for damages or losses of any kind that may arise from the improper, careless, or negligent installation, handling or use of this product.

**ATTENTION Receiving Department:** Note actual fixture description of any shortage or noticeable damage on delivery receipt. File claim for common carrier (LTL) directly with carrier. Claims for concealed damage must be filed within 15 days of delivery. All damaged material; complete with original packing must be retained.

**APPLICATIONS:** This lighting fixture should not be used in area of limited ventilation or inside high ambient temperature enclosures. It must be stored in a dry location before installation. Do not expose lighting fixture to rain, dust or other environmental conditions prior to installation. Best results will be obtained if installed and maintained according to the following recommendations.



### **Power Supply**

Cooper Lighting Ephesus LED luminaires are not traditional metal halide lights; they are high-tech, new-generation solid-sate devices. To protect your valuable investment, ensure the electrical power supply is clean and stable with no spikes or sags.

The power transformer feeding the site electrical distribution system must be a three-phase, four-wire wye configuration or a single-phase configuration. An ungrounded delta configuration is **NOT** an approved power supply. If any other supply transformer configuration is present, notify Cooper Lighting before proceeding with installation.

All issues with supply power must be corrected before luminaires are installed. Failure to use an approved power supply configuration may result in equipment damage.



### **Power Quality**

Follow proper grounding methods. The electrical system must be properly grounded for power electronics in accordance with IEEE Emerald Book, including using equipment grounding conductors. Metallic conduits are **NOT** an acceptable grounding method for Cooper Lighting LED lighting systems. Power must also be phase balanced. If you are not sure if your power system is grounded or load balanced, **DO NOT** install the luminaire and contact a licensed electrician for information on proper grounding and balancing methods as required by the National Electrical Code and IEEE standards.

2



### **Surge Protection**

Installation of surge protection is recommended in power distribution systems that feed LED sports lighting. Failure to protect electrical circuits from surges may result in damage to fixtures.



#### **Branch Circuits**

Branch power circuits feeding luminaires shall have a measured voltage of within 4% of nominal voltage with no sags, swells, or transients.



### **Voltage Configuration**

Before installing luminaires, verify that the fixture model number has the correct voltage configuration for your application. See fixture specification sheet for acceptable branch circuit voltage. Failure to confirm proper configuration may result in injury or damage to fixtures.



 $\underline{https://www.cooperlighting.com/api/assets/v1/file/CLS/content/ephesus-lumasport-8-integral-specsheet/Ephesus-Lumasport-8-Integral-Specsheet.pdf}$ 









Failure to confirm proper configuration may result in injury or fixture damage.

When circuiting power to luminaires, load balance all circuits. See fixture specification sheet for power characteristic data.

# IF YOU NEED CUSTOM SYSTEM **COMPONENTS OR SERVICES PLEASE CONTACT EPHESUS:**

WWW.COOPERLIGHTING.COM/GLOBAL/CONTACT-US/EPHESUS



- POLES
- **CROSS ARMS**
- DROP CABLES
- FOUNDATION DESIGN
- LIGHTING DESIGN



# **PRODUCT DETAILS**



Required Tools and Materials	Phillips screw driver
	3/16in Hex driver
	9/16in Socket w/ driver
	15/16in Socket w/ driver
	1-1/4in Socket w/ driver
	Moisture resistant butt splice connectors sized for 16-14 AWG and crimping tool. (if applicable)
	Socket wrenches and/or crescent wrenches sized to fit mounting hardware
	Ephesus Laser Aiming Kit (if applicable)

### **Electrical Performance Specifications**

						Y		Y
Product	Voltage level	Input voltage	Nominal input	Input	Power factor	THDi(@ max	Inrush period	Peak Inrush
1 Toudot	ronage ierei	range (Vac)	power(W)	Current(A)	(@ max load)	load)%	(ms)	(A)
EPH-LS-08-0320N-XXX-LV	(1)() 1	120	357	2.97	0.99	4.79	0.28	133
EPH-L3-00-0320N-XXX-LV	(-LV-) Low voltage	277	349	1.28	0.98	7.66	0.27	311
EPH-LS-08-0320N-XXX-HV	( LIV ) High voltage	347	359	1.04	0.99	7.02	0.41	92
EPH-LS-U6-U3ZUN-AAA-HV	(-HV-) High voltage	480	358	0.76	0.98	9.20	0.41	129
EPH-LS-08-0530N-XXX-LV	(IV) Low voltage	120	591	6.81	0.99	5.61	0.40	188
ELU-12-02-0220N-YYY-TA	(-LV-) Low voltage	277	573	2.84	0.97	11.60	0.38	440
EPH-LS-08-0530N-XXX-HV	(-HV-) High voltage	347	576	2.40	0.99	8.16	0.58	130
ELU-T2-00-0220N-YYY-UA		480	573	1.69	0.98	10.17	0.58	182
EPH-LS-08-0530N-XXX-PRO-	(IV) Low voltage	120	598	4.99	0.99	4.70	0.40	188
85-LV	(-LV-) Low voltage	277	586	2.12	0.97	7.70	0.38	440
EPH-LS-08-0530N-XXX-PRO-	(10/) 15-4	347	594	1.71	0.99	8.10	0.58	130
85-HV	(-HV-) High voltage	480	588	1.23	0.97	10.50	0.58	182
EDILLE OO OCOON VVV IV	(-LV-) Low voltage 277	120	744	8.50	0.99	5.69	0.40	188
EPH-LS-08-0680N-XXX-LV		277	716	3.50	0.98	11.32	0.38	440
EDILLE OF OCCUM AAA IIA	(IIV) High voltage	347	722	2.99	0.99	6.86	0.58	130
EPH-LS-08-0680N-XXX-HV	(-HV-) High voltage	480	716	2.11	0.98	9.16	0.58	182

Note: All values measured at 25°C ambient conditions



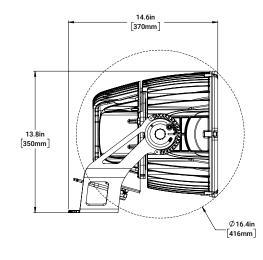
# **OPERATIONAL CLEARANCES & INSTALLATION REQUIREMENTS**

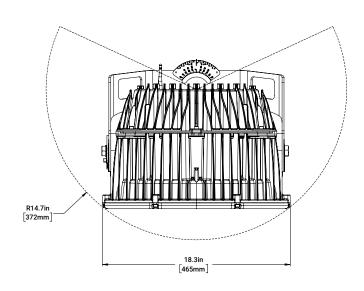
### **Mechanical Clearances - Avoiding Obstructions**

In general, fixtures can be moved up to 5ft from the designed location without affecting photometric results as long as they are aimed at the designed aiming coordinates. For significant obstructions, photometric models should be revised with accurate obstruction dimensions to provide new fixture location and aiming data that avoids the obstruction. If options are limited, consider swapping that fixture aiming with a nearby fixture of the same type that allows clear line of sight to the aiming points. Consult your photometric designer for assistance with finding solutions to major obstructions for your project.

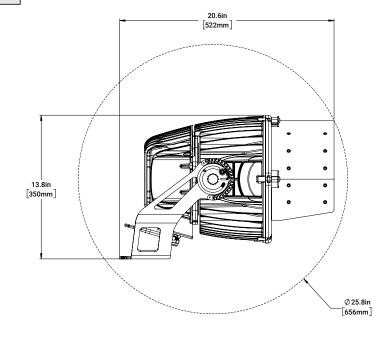
Proper planning will ensure the best results for your sports lighting project. Once these steps are completed, then proceed to the luminaire installation.

# 1a Luminaire: TY = Top Yoke Dimensional Details

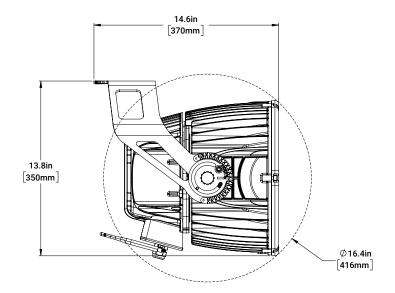




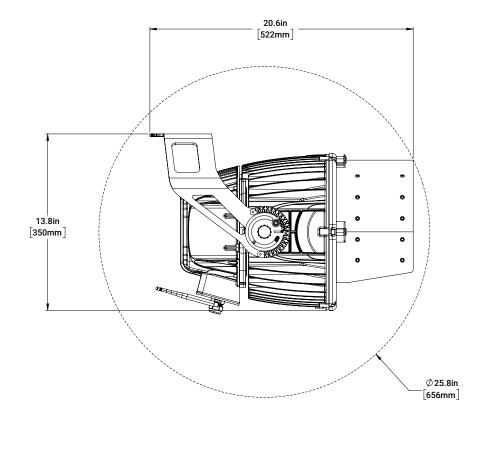
## **Luminaire: TY = Top Yoke with Visor Dimensional Details**



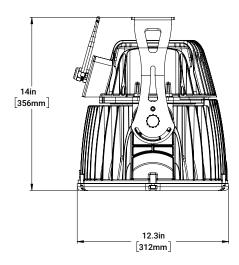
# 2a Luminaire: BY = Bottom Yoke Dimensional Details

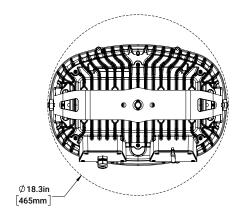


# 2b Luminaire: BY = Bottom Yoke with Visor Dimensional Details

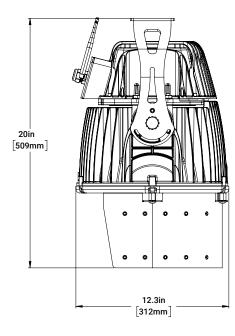


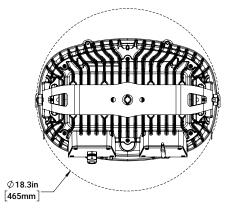
# Luminaire: RP = Pendant Mount Dimensional Details (Pendant mount available with 0320N and 0530N Power configurations only)



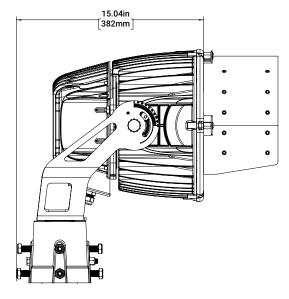


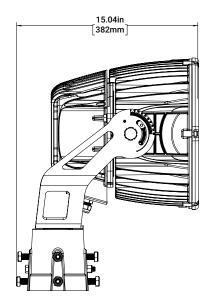
# Luminaire: RP = Pendant Mount with Visor Dimensional Details (Pendant mount available with 0320N and 0530N Power configurations only)





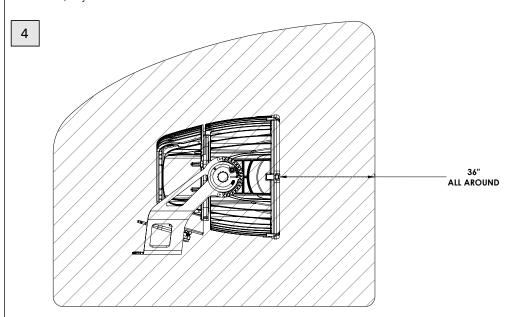
# Luminaire: SM = Slip Fitter mount tilt range of 20- 90\( \text{(Slip Fitter mount is shipped separately from the light head)}





### **Thermal Clearances - Safe Operation**

Installer shall verify there are adequate clearances around fixture to allow for proper heat dissipation and fire hazards. The Luminaire produces a significant amount of heat and should not be installed in any confined space. Any combustible materials or structures that could limit the airflow around the Luminaire heatsink must be at least 36in away from the Luminaire (example ceiling). Mounting structures, adjacent fixtures or non-combustible materials can be within this limit.



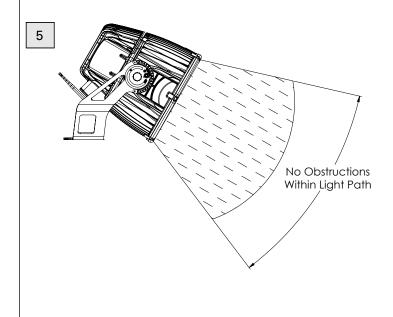


Risk of Fire. Do not install fixture within 915 mm (36 in) of any combustible material.

### Optical Clearances – Maximizing Light Levels

Install fixtures according to the location and aiming data exported from photometric models to achieve desired results. However, any objects in the light path between the luminaire and the playing surface will diminish the light levels. Some examples of obstructions are building structural members, electrical panels, HVAC ductwork, banners, and scoreboards.

Before installing your lighting project, verify that there is a clear line of sight from every luminaire location to the designed aiming area, which includes not only the aiming point coordinate but also the area surrounding that aiming point. The illumination area for each fixture varies with mounting height and beam angle, but the purpose is to identify all obstructions and analyze how each will impact the light output on the playing surface, and then take corrective action as necessary to avoid the obstruction. For example, a structural beam directly in front of a luminaire will block the light from reaching the target, so in that case, the luminaire should be shifted to avoid the beam.





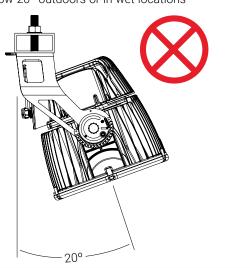
# **INCORRECT ORIENTATIONS**

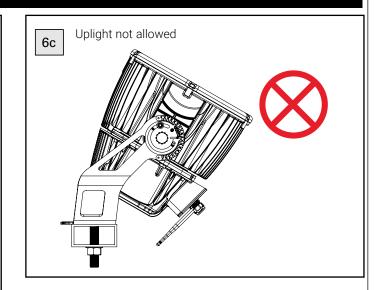


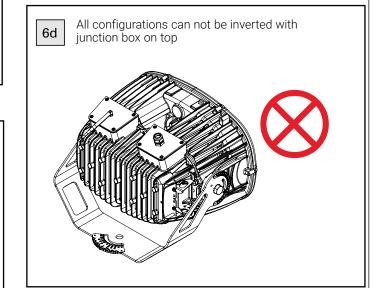
680W configurations can not be aimed downward below 20°

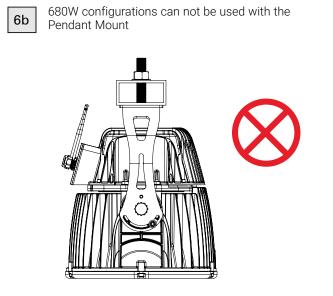
680W 1S configurations can not be aimed downward below 30°

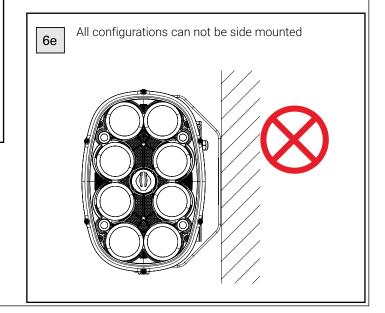
All configurations can not be aimed downward below 20° outdoors or in wet locations

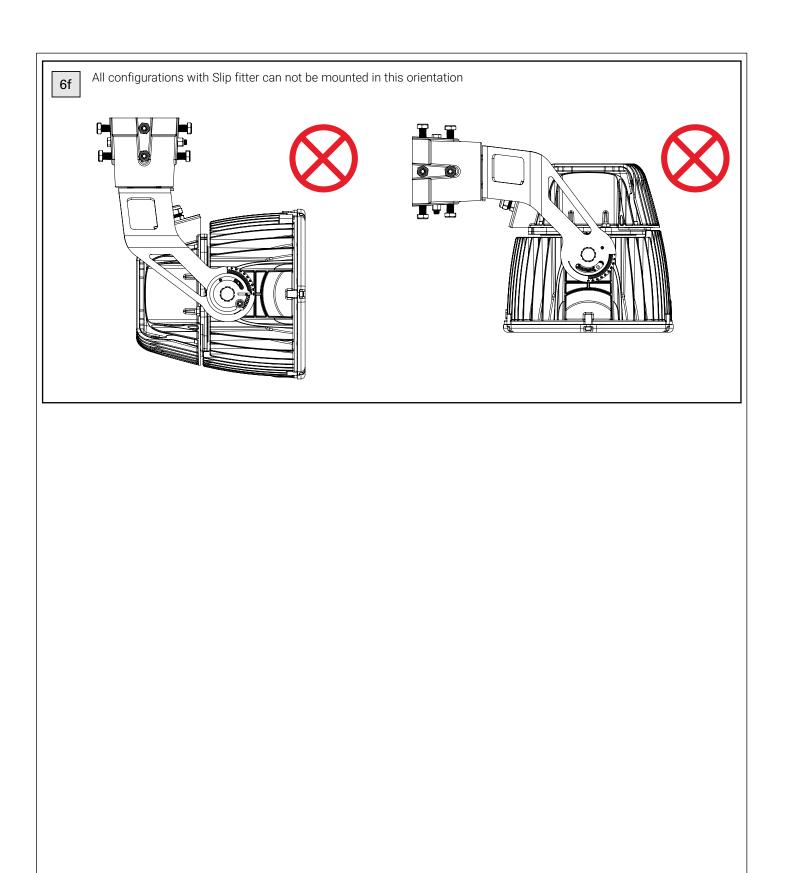










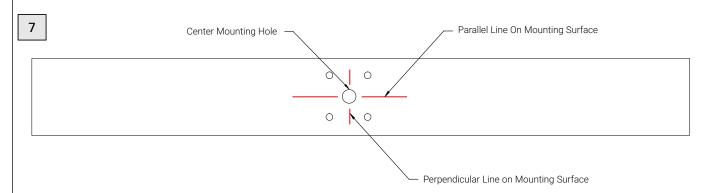




# **MOUNTING & AIMING**

### Marking the crossarm surface (top mount)

To pre-aim the fixture orientation, draw a reference line on the mounting surface. Use a paint pen or other marker to draw a line across the center of the mounting hole, parallel and perpendicular with the crossarm or mounting structure. The crossarm should typically but not necessarily be perpendicular to the direction of the field of play. The line should extend at least 3in out from the center of the mounting hole.



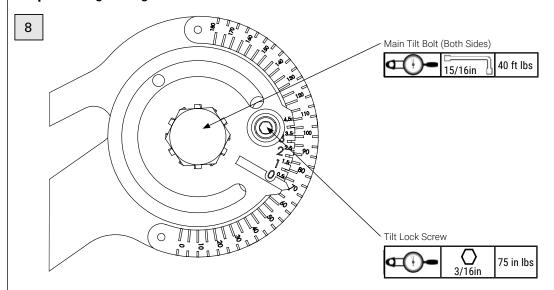
Pre-aiming requires a level mounting surface and knowledge of the cross arm orientation. The Luminaire with the top mount yoke can be pre-aimed using the tilt guide on the left side of yoke and at the orient guide on the base of the yoke. Refer to photometrics or project installation drawings for the orient and tilt angles.

If laser aiming, verify the Luminaire is secure in the yoke and mounting surface but do not fully torque hardware until final aiming is complete.



If the yoke is inverted, to the bottom mount configuration, the Luminaire must remain rightside up with the vents at the bottom. The Laser Aiming Pin feature should always be on the top.

### Set pre-aiming tilt angle



Note: Example shown at 70° tilt

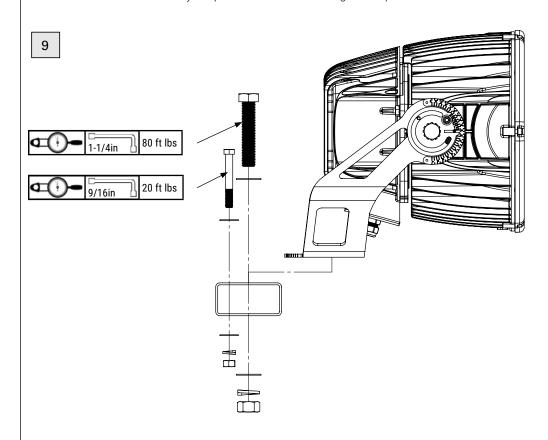
Loosen the two main tilt bolts and tilt lock screw slightly to allow the Luminaire and aiming plate to rotate inside the yoke.

Do NOT over-loosen or remove tilt lock screw. Prevent access to area under fixture until the final torquing is complete.

Rotate the labeled aiming plate until the arrow is over the desired tilt angle. Hold the aiming plate in place and tighten the tilt lock screw and then the two main tilt bolts to the torques specified in the corresponding illustration

### **Mounting the Luminaire**

Mounting center bolt shall be 3/4in diameter corrosion resistant steel (HDG, hot dipped galvanized high-strength steel is recommended) with nut and locking washers. A secondary 3/8in diameter corrosion resistant steel bolt with nut, flat and locking washers shall be used to lock the orient. The length of bolts is determined in the field depending upon thickness of mounting structure. Size bolts appropriately to allow secure fastening of the luminaire to the mounting structure. Tighten hardware so that fixture is secure but do not fully torque hardware until aiming is complete.

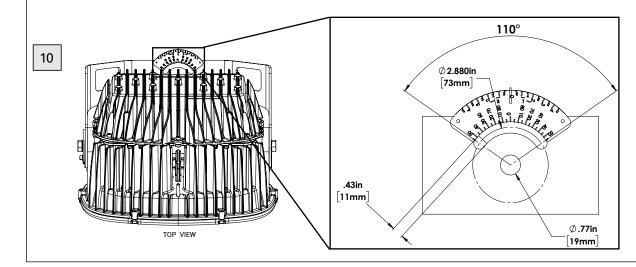


### **Set pre-aiming orientation angle**

To pre-aim the Luminaire orientation, rotate the Luminaire about the mounting bolt until the reference line that was marked on the mounting structure is aligned with the correct angle shown on the yoke orient label. Tighten the main orient bolt and orient lock screw per the spec in the corresponding illustration



Prevent access to area under fixture until the final torquing is complete.





### **Mounting Accessories**

### **Diving Board Kit**

Diving Board is intended to only to mount to 2in x 4in steel cross arms. Designed to be used with the LumaSport 8 Integral, LumaSport 8 Local, LumaSport 8 Remote, LumaSport 8 Prism Local, LumaSport 8 Prism Remote Power System luminaires only. Do not use in unapproved luminaires or mounting applications.

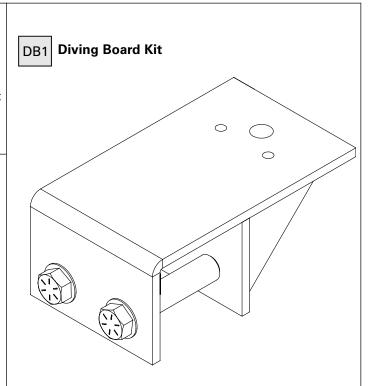
# **WARNING**



Diving Board may ONLY be installed in the following physical orientations. Failure to install the Diving Board Kit in approved orientation or location may result in damage, injury, or death. (Reference diagram DB4a and DB4b)



Prevent access to area under fixture until the final torquing is complete.



# DB2 Diving Board Kit Parts Diagram

### **Diving Board Kit (DVGBRD) Hardware**

Hardware Description	Use / Location		Tool	After Aiming Torque
3/4in-10 X 6in Structural Hex	Diving Board is intended to only to		1 1/8in Socket & Ratchet 9/16in Socket & Ratchet	
Bolt, Hot Dip Galvanized	mount to 2in x 4in steel cross arms.		Adjustable Crescent Wrench Adjustable Torque Wrench	120ft·lb.
		1.	Adjustable forque Wiench	

### Additional (HRDM34) Mounting Fastener Hardware Kits

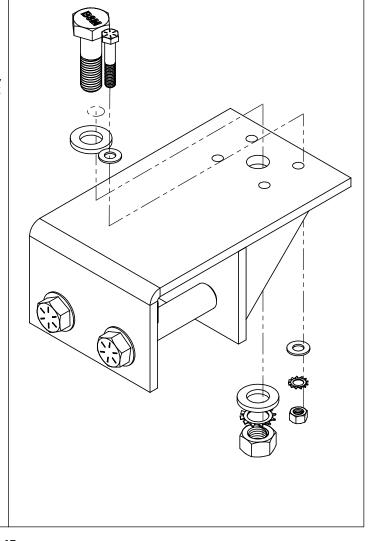
Hardware Description	Use / Location	Tools	After Aiming Torque
HRDM34-025	Additional mounting fastener hardware kit needed to attach a fixture to the DVGBRD = Diving Board	<ul> <li>1 1/8in Socket &amp; Ratchet</li> <li>9/16in Socket &amp; Ratchet</li> </ul>	
HRDM34-075	.5075in clamping thickness, flat surfaces drilled for 3/4in hardware	<ul> <li>Adjustable Crescent Wrench</li> <li>Adjustable Torque Wrench</li> </ul>	80ft-lb
HRDM34-200	2.00in clamping thickness, use for 2in x 4in Cross arms that are drilled for 3/4in hardware		

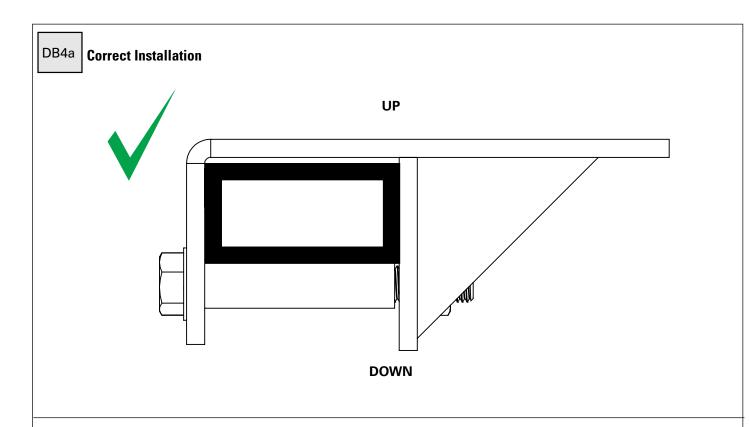


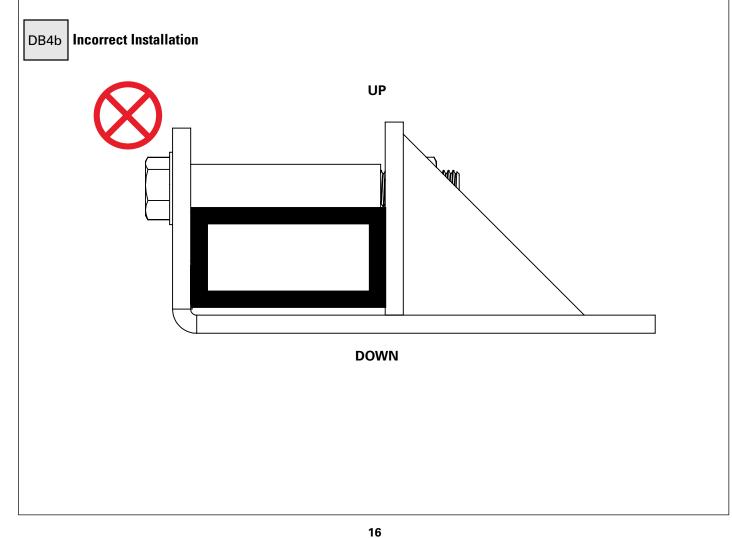
### Steps to Install

- The Diving Board is mounted on top of the cross arm with bolts and sleeves mounted underneath to clamp the bracket to the crossarm and secure it. (Refer to the Diving Board Parts Diagram) Only mount it as shown
- 2. Hold Diving Board Bracket (item 1) on top of cross arm.
- 3. Optional: Place provided shim between side of bracket and cross arm if there is excessive clearance
- Insert both Clamping Hex Bolts through Washer, Bracket, Bolt Sleeve, other side of Bracket, Lock Washer, and Hex Nut.
- 5. Torque 3/4in-10 X 6in Structural Hex Bolts: 120ft-lb.
- 6. Hold Fixture on top surface
- 7. Use hardware kit HRDM34-025 for mounting fixture to bracket. Insert 3/4in Fixture mounting bolt through Flat washer, fixture, and primary mounting hole on Diving Board, Flat Washer, Lock Washer, and Hex Nut
- 8. Use hardware kit HRDM34-025 for mounting fixture to bracket. Insert 3/8in secondary mounting bolt through Flat washer, fixture, and any secondary mounting hole on Diving Board, Flat Washer, Lock Washer, and Hex Nut
- 9. Torque fixture bolts:
  - A. Primary fixture 3/4in bolt torque: 80ft·lb.
  - B. Secondary fixture 3/8in bolt torque: 20ft·lb.











## **Mounting Accessories**

### Extension Plate Kit (EXTPLT)

Extension Plate Kit to mount to structures .25in, .5in, or 2.00in thick. Designed to be used with the LumaSport 8 Integral, LumaSport 8 Local, LumaSport 8 Remote, LumaSport 8 Prism Local, LumaSport 8 Prism Remote System luminaires only.

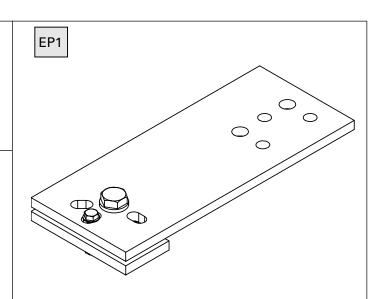
# **WARNING**



Extension Plate may ONLY be installed in the following physical orientations. Failure to install the Extension Plate Kit in approved orientation or location may result in damage, injury, or death. (Reference diagram EP5a and EP5b)

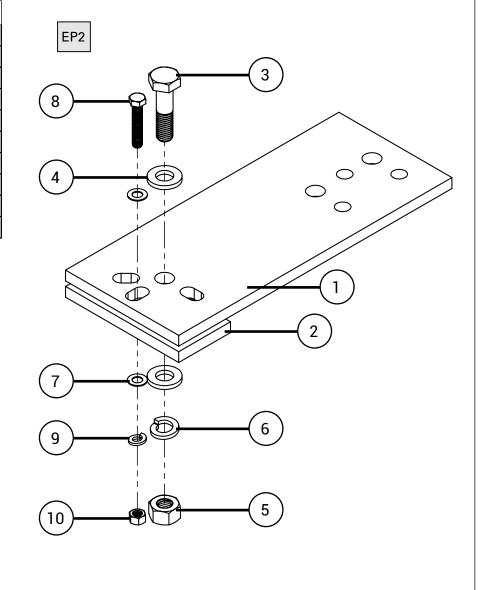


Prevent access to area under fixture until the final torquing is complete.



# **Extension Plate Kit Parts Diagram**

Item #	Description	Quantity
1	Extension Plate	1
2	Washer Plate	1
3	5/8in Hex Bolt	1
4	5/8in Washer	2
5	5/8in-11 Hex Nut	1
6	5/8in Split Washer	1
7	3/8in Washer	2
8	3/8in Hex Bolt	1
9	3/8in Split Washer	1
10	3/8in-16 Hex Nut	1



### **Extension Plate Kit (EXTPLT) Hardware**

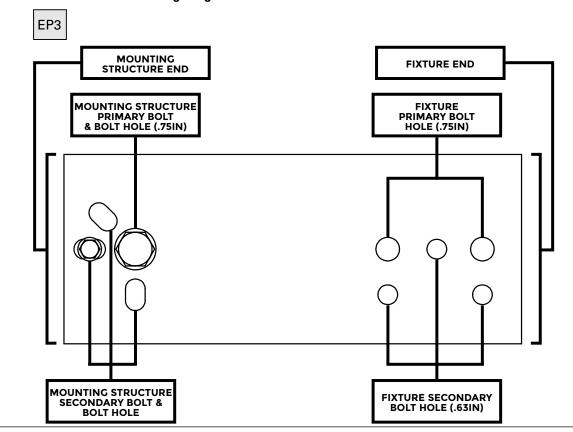
Hardware Description	Use / Location	Tools	After Aiming Torque
EPH-EXTPLT-025	Extension Plate Kit 5/8in-11 primary and 3/8in-16 secondary fastening hardware to mount to structures .25In thick. Designed to be used with the LumaSport 8 Integral, LumaSport 8 Local, LumaSport 8 Remote, LumaSport 8 Prism Local, LumaSport 8 Prism Remote luminaires only.	15/16in Sockat & Patchat	
EPH-EXTPLT-050	Extension Plate Kit 5/8in-11 primary and 3/8in-16 secondary fastening hardware to mount to structures .5In thick. Designed to be used with the LumaSport 8 Integral, LumaSport 8 Local, LumaSport 8 Remote, LumaSport 8 Prism Local, LumaSport 8 Prism Remote luminaires only.	<ul> <li>15/16in Socket &amp; Ratchet</li> <li>9/16in Socket &amp; Ratchet</li> <li>Adjustable Crescent Wrench</li> <li>Adjustable Torque Wrench</li> </ul>	Primary 80ft·lb   Secondary 20ft·lb
EPH-EXTPLT-200	Extension Plate Kit 5/8in-11 primary and 3/8in-16 secondary fastening hardware to mount to structures 2.00ln thick. Designed to be used with the LumaSport 8 Integral, LumaSport 8 Local, LumaSport 8 Remote, LumaSport 8 Prism Local, LumaSport 8 Prism Remote luminaires only.		

### **Additional (HRDM58) Mounting Fastener Hardware Kits**

Hardware Description	Use / Location	Tools	After Aiming Torque
HRDM58-050	.375500in clamping thickness, Use for Extension Plate (EXTPLT) or other flat surfaces drilled for 5/8in hardware	15/16in Socket & Ratchet 9/16in Socket & Ratchet Adjustable Crescent	Primary 80ft·lb   Secondary
HRDM58-200	2.0in clamping thickness, Use for Extension Plate (EXTPLT) or other flat surfaces drilled for 5/8in hardware	Wrench Adjustable Torque Wrench	20ft·lb

18

### **Extension Plate Kit Mounting Diagram**

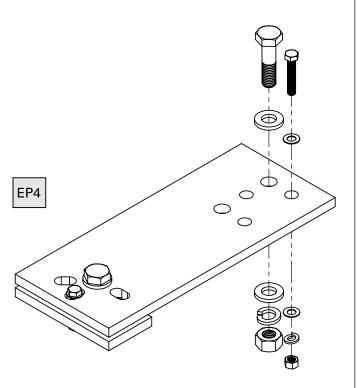


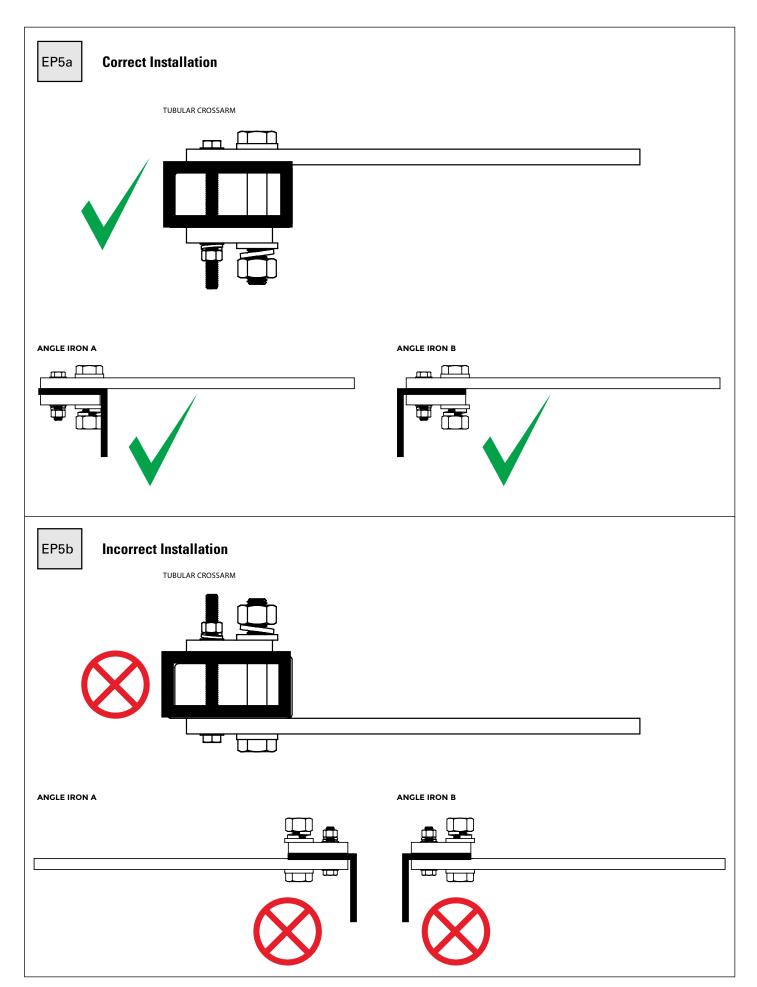


### Steps to Install

- Test fit the extension plate on a mounting structure using the method described below to verify no modifications to the structure are required. If additional holes or other structural changes are required, these must be approved by in a qualified structural review.
- Hold extension plate on top of mounting structure and washer plate below mounting structure so that primary and secondary bolt holes align through the mounting structure
- 3. Install primary bolt, washers, and nut through primary mounting structure holes as shown to secure extension plate and washer plate to structure and tighten securely.
- Install secondary bolt through one of the three secondary mounting structure holes and tighten securely.
- 5. Torque mounting structure bolts:
  - a. Primary mounting structure bolt torque: 80ft-lb
  - b. Secondary mounting structure bolt torque: 20ft-lb
- Draw pre-aim orient line on fixture end of extension plate if desired. See fixture installation manual for more information.
- Set fixture driver box on top of fixture end of extension plate so that fixture primary bolt hole aligns with driver box primary bolt hole. NEVER install fixture driver box underneath extension plate.
- 8. Install fixture primary bolt, washers, and nut as shown to secure fixture to extension plate.
- 9. Orient fixture driver box as necessary for rough aiming. See fixture installation manual for more information.
- 10. Install fixture secondary bolt through one of the three fixture secondary bolt holes and tighten securely.
- 11. Torque fixture bolts:
  - a. Primary fixture bolt torque: 80ft-lb
  - b. Secondary fixture bolt torque: 20ft-lb

# Extension Plate Kit (EXTPLT) with Additional (HRDM58) Mounting Fastener Hardware Kit



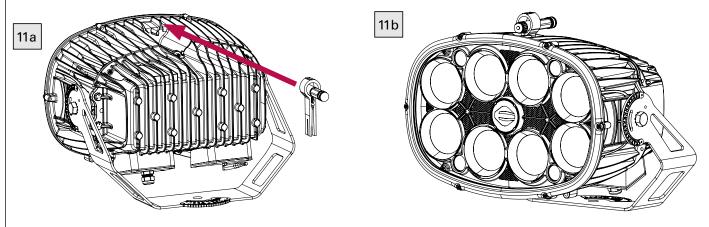


### **Laser Aiming**

Ephesus Luminaires are capable of pre-aiming or laser aiming. Laser aiming may be the preferred method when: the crossarm orientation is unknown or irregular, lighting specifications are very restrictive typical of higher classes of play, or fixtures with narrow beams are located extremely far from the surface typical of larger venues. If fixture pre-aiming using the tilt and orient gauges is satisfactory and laser aiming is not required, you can skip this step.

Slightly loosen the fixture tilt and orient hardware just enough to allow the Luminaire to rotate and tilt. Do NOT over-loosen or remove set screw.

Remove the "This side up" flag from the laser aiming pin. Insert the aiming mount onto the fixture aiming pin until it is fully seated tight against the fixture. Turn on the laser and aim the fixture by targeting the laser dot at the aiming point.



Note: Laser aiming may be difficult outdoors on bright sunny days. A diffuse reflective tarp located around the aiming point can facilitate aiming. The use of a daytime scope aimer is also available.

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

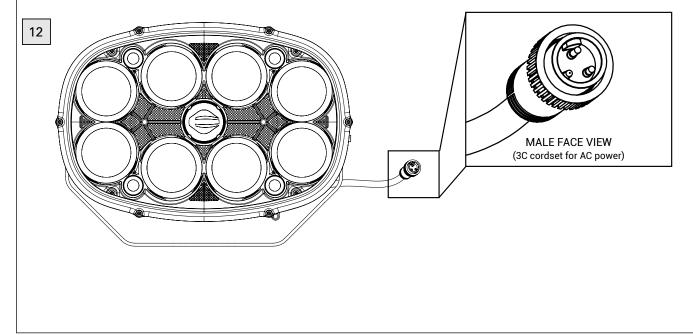
### **Label the Luminaire**

**AC Cordset** 

Label each luminaire with the fixture number. Recommended label for indoor applications is white background with black lettering at least 1/2in tall. Paint markers or other methods may also be acceptable - verify with owner. Affix label to fixture or mounting bracket in a prominent location.



### For projects that include new poles or crossarms, light heads are factory wired with a cordset. To make the electrical connection, install the plug on the light head into the mating receptacle on the crossarm. Tighten the threaded nut to fully secure the



### AC Cable (AXX)

An appropriately rated electrical enclosure or connection method is required when the Luminaire has an AXX cable. Refer to the wire designation for proper wiring.

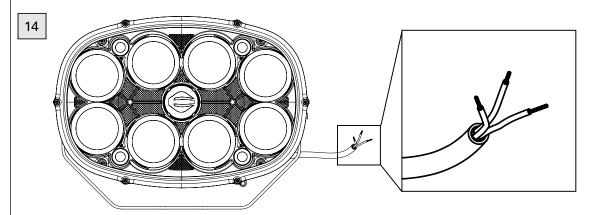


LUMINAIRE				
CABLE TYPE	DESIGNATION	WIRE COLOR		
	LINE 1	BLACK		
AXX	NEUTRAL (LINE 2)	WHITE		
	GROUND	GREEN		

To make the electrical connection, use waterproof crimp on butt splice connectors to attach the wire ends on the Luminaire to the mating AC wires. Trim the wire end to the specified length. Follow the manufacturer's instructions for installation of the connector.

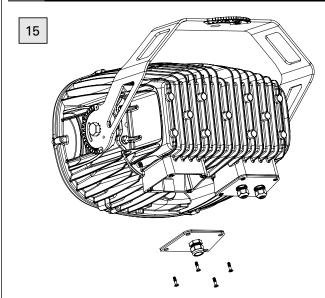
Note: The moisture resistant splice connector may have a heat shrink tube sleeve which requires a heat source to properly seal. The wire end may also need to be trimmed to ¼" from the insulation for proper fitment.

Refer Electrical parameters on Page 4 in this document for rated wattages.





# **ACCESSING THE AC JUNCTION BOX**



If the AC power whip is not needed, the electrical connections can be made directly inside the luminaire junction box. To access the AC junction box, remove the 4 screws on the bottom as indicated in the image. Disconnect the existing AC cable from the electrical connectors. Replace the AC cord and cover plate with the new AC cord to be used. Use the 4 screws to secure the cover plate to the junction box. Torque the screws to

**Note:** The cord grips are sized for a round SO cord with a cable diameter of .26"-.54"

Tighten the power cable cord grip hand tight plus one full revolution using the 27mm cord grip tool to secure the cord in place so that it does not slide when pulled. Do not overtighten the cord grip to prevent damage to the cord.

# **WIRELESS AIRMESH CONTROLS SET-UP**

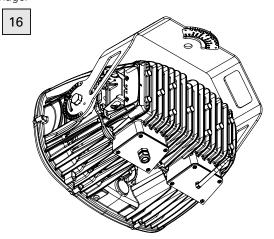
Note: For wired applications, skip to the WIRED DMX CONTROLS SET-UP section.

Luminaires with wireless control must be located within range of the wireless control hub. The wireless hub shall never be installed in an enclosed area independent of the luminaires. Mounting in direct sunlight should be avoided. The antennas for wireless communication are located on the luminaire junction box. This antenna shall never be blocked or shielded. The tip of the antenna should point skyward or towards the ground at right angle and 3 inches away from any surface such as walls, poles, and the eves of

Record MAC Address (Wireless AirMesh Configurations)

Note: No control cables are required for wireless applications. For wireless applications, every luminaire has a barcode label and unique MAC address. Remove the adhesive barcodes from the luminaire junction box and place it on the MAC address recording sheet. If you do not have a MAC address recording sheet, simply affix the sticker to a piece of paper and write the luminaire identifier next to the sticker.

Install antenna by screwing it on the threaded bulkhead on the control junction box. rotate the antenna direction to shown in the image.



### **Example System Topology (Wireless AirMesh Controls)**

Example system topology showing the LUMASPORT 8 integral system in a Wireless AirMesh Control Installation. Note: Laptop and mobile device not included. A cellular network connection requires a cellular carrier network plan.

### **Remote Access**



#### On Site Access

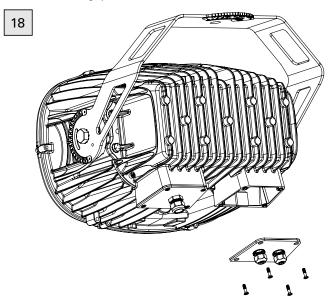




# WIRED DMX CONTROLS SET-UP

For luminaires with wired control, the control wires will need to be provided by the contractor and field installed. The electrical connections for wired DMX are made directly inside the luminaire junction box. To access the control junction box, remove the 4 screws on the bottom as indicated in the image. Use the exposed wire ends and electrical connectors located inside the junction box to make the control wire connections.

Note: The cord grips are sized for a round SOOW cord with a cable diameter of .11"-.31"

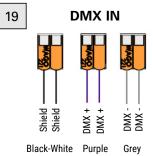


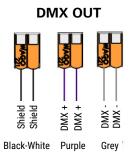
Use the 4 screws to secure the cover plate to the junction box. Torque the screws to 50 in-lbs.

Tighten the power cable cord grip hand tight plus one full revolution using the cord grip tool to secure the cord in place so that it does not slide when pulled. Do not overtighten the cord grip to prevent damage to the cord.

Connect to fixture control wires as follows:

Fixture DMX C	Designation	
	Grey	DMX -
Input	Purple	DMX +
	Black-White	Shield
	Grey	DMX -
Output	Purple	DMX +
	Black-White	Shield





A maximum of 32 qty. LS 8 white luminaires or 16 qty LS 8 CCT tuning luminaires shall be daisy chained together (32 control modules). The DMX out on the last luminaire shall be terminated with a 120 ohm resistor (connected Maximum DMX run length without active repeaters is 1,600 feet between DMX+ & DMX-). A maximum impedance of 120 ohms for the length of the control cable is recommended.

Ephesus follows the guidelines established for DMX connection and transmission as outlined in ANSI standard E1.11 – 2004 Entertainment Technology - USITT DMX512-A — Asynchronous Serial Digital Data Transmission Standard for Controlling Lighting Equipment and Accessories. This includes placement of a resistor matching the nominal impedance of the DMX conductors after the last fixture in the DMX run. For more information about the DMX standard, visit: https://tsp.esta.org/tsp/documents/docs/ANSIESTA\_E1-11\_2008R2018.pdf

For wired DMX applications, every white luminaire has a unique DMX address and CCT tuning fixtures have two unique DMX addresses. It is important to record all DMX addresses to ensure the control system programmers can identify each control module.

Every luminaire that has wired control capability will have an adhesive barcode attached to junction box. These barcodes have the DMX address for the corresponding DMX control module. Remove the adhesive barcodes from the luminaire and place it on the DMX address recording sheet. If you do not have a DMX address recording sheet, simply affix the sticker to a piece of paper and write the luminaire identifier next to the sticker.

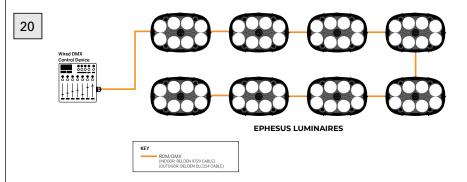
At a minimum, DMX cable shall be 1-pair (24AWG, 7x32 Stranding) Twisted (minimum of 4.8 twists/foot), Shielded, minimum of 100 ohms impedance, and <25pF/ft. Capacitance. Ephesus recommends Belden DLC224 for indoor or outdoor applications. Belden 9729 cable can also be used for indoor applications

24

### **Example System Topology (Wired DMX Controls)**

Example system topology showing the LUMASPORT 8 System in a commonly used wired DMX Control Installation.

Refer to the specifications and limitations of your wired DMX control device before installing this configuration.





# **LUMINAIRE OPERATION**

### **Default Response**

LumaSport fixtures will turn on to 100% full on when the AC power is applied.

#### **Control Details**

For luminaires equipped with wired DMX or wireless AirMesh Hub control, the luminaire can be turned on, off or dimmed using a front-end control system.

For DMX control, the start address can be set by using an RDM (Remote Device Management) tool such as DMXCat or front-end controls. DMX start addresses can be set as desired per project.

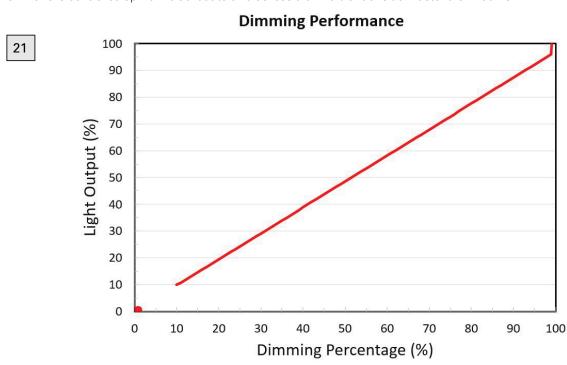
### **Basic Functionality**

When initial AC power is applied, the luminaries may have a fraction of a second delay and appear staggered for banks of lights.

The minimum light output on the fixtures is 10%. Therefore, the diming range is 0, 10%-100%. A slight jump in light output may be perceived when dimmed up from blackout.

### Advanced Functionality

It is recommended that advanced or fast dynamic scenes are controlled up from blackout to a value greater than 40% and have a delay longer than 100ms between transitions. Strobe, chase or other synchronized dynamic scenes may appear staggered when the luminaire is controlled up from blackout to a value less than 40% or transition faster than 100ms.





# **MAINTENANCE AND SUPPORT**

### **Fixture 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. Lack of preventative maintenance may disqualify owner from warranty. Not adhering to this minimum system cleaning requirement is considered negligence as outlined in your product warranty documents. Refer to your product and/or labor warranty documentation for further details.

#### Cleaning

- Clean all luminaires at a minimum of once every 12 months from receipt of your product.
- 2. Remove physical elements such as dirt, leaves and other foreign debris from the luminaire housing that can block and modify the air cooling (heatsink fins)
- 3. Wipe the optical lenses with a clean, dry, cotton cloth to remove dust and other contaminants. A non-abrasive optical cleanser or water may be used periodically.
- 4. Do not apply cleaners in direct sunlight or at elevated temperatures

#### Inspection of Hardware

Inspect mounting system and products at least once every 12 months. Replace all rusted hardware elements with elements of equivalent grade and finish. Contact Ephesus for Ephesus supplied components.



### **Troubleshooting**

The Ephesus Luminaire is designed to provide many years of reliable quality lighting. If the system appears to not be operating correctly, perform the following steps:

### **Gather Data**

The first step is always to find out as much about the issue as possible. Ask the following questions:

- 1. How many fixtures are not operating correctly? If only one fixture is not responding, continue investigating at that fixture itself. If a group of fixtures are not responding correctly, start at the source of the power or controls for that group.
- 2. Have any obvious external forces been in the area? For instance, were any riggers, electricians, or other workers near the fixtures or controls? Have there been any power disturbances in the facility such as lightning storms?
- 3. Are your fixtures responding according to the input control function? Run the system through some different control scenes, including all on and then all off (blackout mode). Take note of any fixtures not responding correctly to the scenes.

Problem	Remedy		
	Verify the power supply is on, at the proper voltage, and stable.		
	Check connections at the source and at the fixture.		
	Verify control signal is above 50%.		
	If the fixture is DMX controllable, verify DMX module settings and connectivity.		
Does not power on	Verify fixtures are addressed correctly		
	Verify wireless fixture is properly commissioned by authorized technician		
	Prior to system commissioning, and following a power cycle, the light may default to a Cool White output, with half of the LED sources lit. Create and activate scenes including both cool white and warm white channels to enable all LED sources		
	Reset the fixture by turning all power sources off for at least 10 seconds.		
	Inspect all system control wiring to make sure there are no poor connections or breaks in the control wiring.		
Does not respond to controls	If LED on synapse node is stable green light it indicates a good connection with gateway. If it is green light blinking, then gateway is out of range and node is trying to connect to it. If it is red light, then node is not connected to gateway.		
	If is DMX controllable fixture, verify DMX channel and RDM settings.		

26

## **Fixture Replacement**

### **Contacting Warranty Technical Support**

- 1. Before you call, make sure you have completed the troubleshooting steps
- 2. Gather as much detailed information as possible about the situation
- 3. Have your fixture and project information handy, including the model number of the fixture in question.

Refer to your fixture warranty document for more information

If you have attic stock fixtures available and need to replace a fixture, simply follow the installation instructions in this manual to replace the fixture in question. Be sure to address the replacement fixture with the correct luminaire number.

All Luminaires, materials, and accessory equipment being returned through the warranty process need to be placed back in their original packaging in the same orientation that they were originally shipped from the factory. If the packaging is damaged or if there are questions on the orientation in returning equipment and materials, you need to contact the Warranty Department for replacement packaging materials at:

EphesusWarranty@Signify.com | +1 (800)-573-3600



### **Warranties and Limitation of Liability**

Please refer to www.cooperlighting.com/global/resources/legal for our terms and conditions



1121 Highway 74 South Peachtree City, GA 30269 P: 770-486-4800

Rev September 12, 2024

Specifications and dimensions