

Please verify the contents of the packages!

Please read instructions entirely before starting installation

Be sure power is turned off before installing or modifying the system

Call Tivoli, LLC tech support with questions

Caution: Litesphere™ Drop is designed to work with listed Class 2 12V DC transformers only. Use of any other power source will cause damage, shorten the life of the fixture and will void the warranty.

Consult any and all applicable local and national codes for installation

Warning: With any luminaire for any application, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injuries. This lighting system should be installed by a certified professional.

Outdoor Installation

Warning: When using outdoors, basic safety precautions should always be followed to reduce the risk of fire, electrical shock and personal injury. Outdoor wet locations require outlets and circuits with Ground Fault Interrupter protection (GFCI). Extension cords rated for outdoor use must be used. Keep Receptacle Cover in place on outlet and do not connect or disconnect equipment when it is wet.

Important Safety Instructions



⚠ Warnings: Risk of injury or fire.

Do not cover any luminaire as the covering may cause it to overheat.

Do not install this lighting system where the exposed bare contacts can be shorted or contact any conductive material to reduce the risk of fire and burns.

Do not install any luminaire closer than 6 inches (15.25cm) from any curtain, or similar combustible material.

Do not use any luminaire if damaged; such as, broken globe, loose connections, or frayed wire insulation. Inspect periodically.

Do not submerge any luminaire in liquid. Use waterproof connectors for all outdoor applications.

Do not secure any luminaire with staples, nails or like means that might damage the wire insulation. Secure it by using screws through the base.

Do not run any luminaire at an operating temperature exceeding 65° C or 149° F.

Do not let lamps rest on any wires.

Do not hang objects from light string wires or extension cord.

Do not use this product for other than its intended use.

Do not route Light String through walls, doorways, windows or building structures. Do not close doors or windows on product wire as damage will result.

Do not cover lamps with cloth, paper or any material that is not part of the product.

Do not install in enclosed spaces, such as soffits, cabinets or in ceilings.

Installation Instructions: Maximum Run Lengths

*Max run lengths based on Tivolis recommended lumen drop.
 **Weights are based on single 50' strand length ONLY - no globe or drop pendant attached.

24" O.C.

Model	Max Continuous Run	Watt/Ft	Weight (Strand Only)
STD	200'	0.04	3.56 lbs.
HO	130**	0.12	3.56 lbs.
VHO	50'	0.48	3.56 lbs.

48" O.C.

Model	Max Continuous Run	Watt/Ft	Weight (Strand Only)
STD	300'	0.02	3.56 lbs.
HO	200'	0.06	3.56 lbs.
VHO	120**	0.24	3.56 lbs.

36" O.C.

Model	Max Continuous Run	Watt/Ft	Weight (Strand Only)
STD	250'	0.03	3.89 lbs.
HO	150'	0.077	3.89 lbs.
VHO	100'	0.32	3.89 lbs.

Individual Pendant Weight	
12" Length	0.15 lbs.
24" Length	0.19 lbs.
36" Length	0.22 lbs.

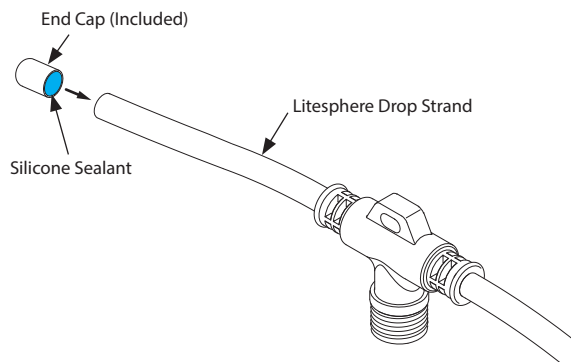
*See Diagram below regarding achieving maximum run lengths.

Installation Instructions: Achieving the Maximum Run Length

Overview

The Litesphere Drop System is sold in a 50' Standard length. However, sometimes the maximum run length is not an exact multiple of 50'. For example, the 24" O.C. Drop with HO Bulb has a 130' maximum run length. In this case, the strand may be cut at the 30' point and capped off with an End Cap.

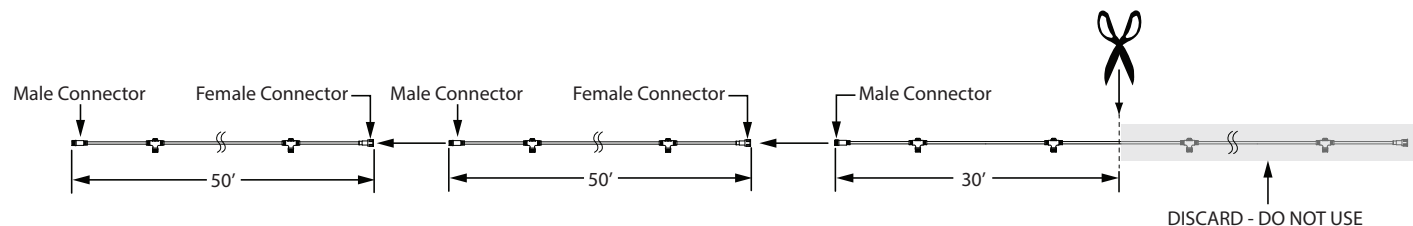
WARNING! The unused portion of the strand cannot be used and must be discarded.



Step 1: Determine the maximum length of the run and how many full length strands will be used and how much of a partial strand is needed to make up the run.

Step 2: Mark the strand at the cut point and make the cut. Discard the unused portion of the strand.

Step 3: Apply a drop of silicone sealant inside the End Cap (included) and install over the cut end of the cable.

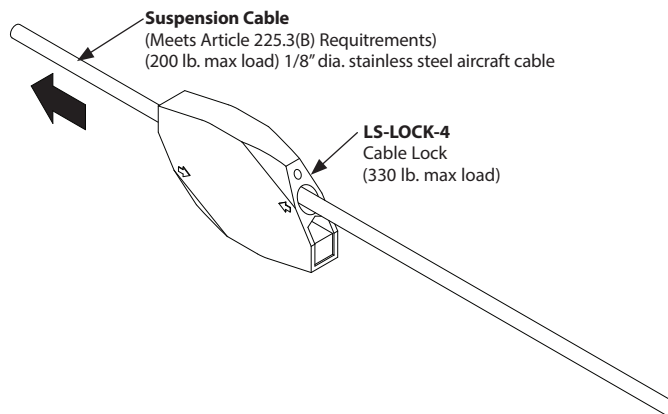


Installation Instructions: Suspension Cable

Hanger clip mount to Suspension Cable

Illuminate courtyards, streets or parks with festive lighting using Catenary Cable (**LS-CABLE-60, LS-CABLE 110, LS-CABLE 500**, available separately). Each cable is a 1/8" dia. stainless steel aircraft cable. Attach each end of cable to structural support using Cable Locks (**LS-LOCK-4**) included with 60 and 110 foot Cable Kits or available separately. 500 foot cable is not sold with locks and must be ordered individually. Follow instructions carefully.

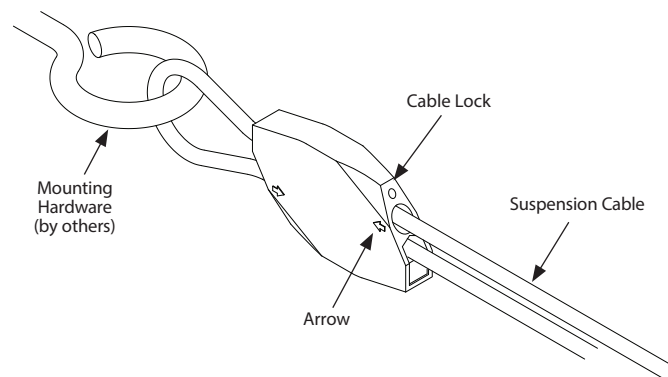
NOTE: Article 225.3(B) of the National Electrical Code states that all festoon lighting spans over 40 feet **MUST** be supported by messenger wire. The messenger wire shall be supported by strain insulators. The **LS-CABLE** options offered by Tivoli meet these requirements. Consult applicable local codes for installation.



Step 1: Attach eye bolts or other attaching hardware (by others) to structural supports to hang Catenary Cable (**LS-CABLE-60, LS-CABLE 110 or LS-CABLE 500**). Catenary Cable is rated for maximum hanging loads of 200 lbs. **This cable is rated for 880 lbs. of pulling tension.**

Step 2: Insert cable into upper hole in Cable Lock following the direction of the arrow on the side of the lock.

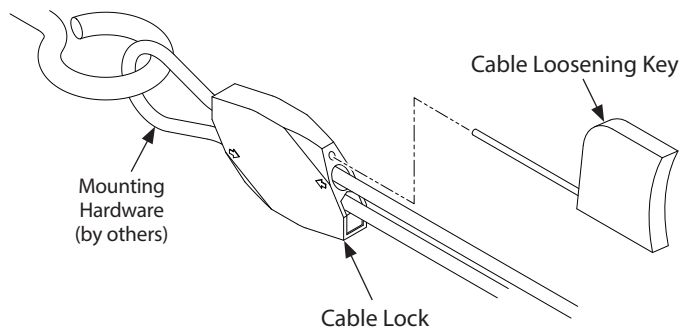
Note: These Cable Locks are rated at 200 lbs. maximum load.



Step 3: Loop Cable through Eye Bolt or other mounting hardware (by others) and insert the cable back into the lower hole of the Cable Lock, as shown.



Step 4: A Catenary Tensioning Tool (**LS-TT**) is available to help tighten the cable. **This tool is capable of applying 880 lbs. of tension.**

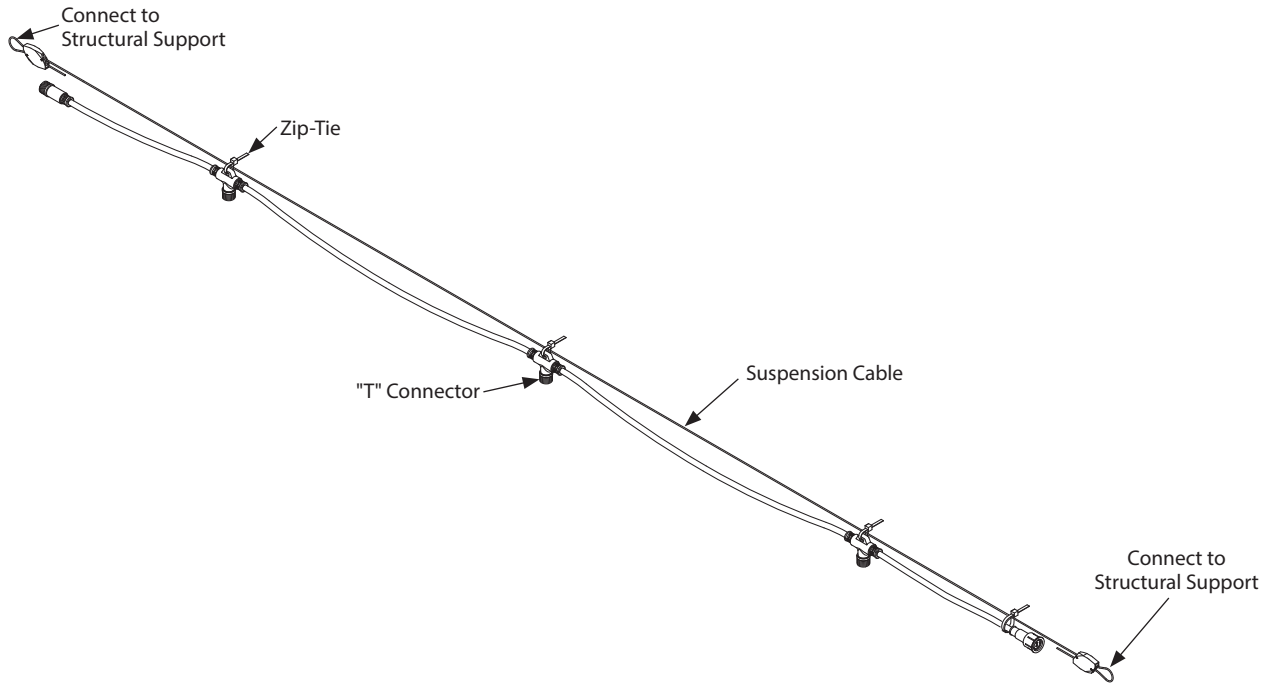


Step 5: To loosen Cable, insert Key (Included) into small hole above Cable Entry hole and press to release cable.

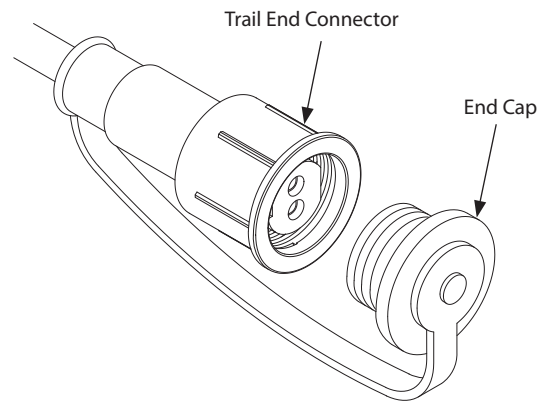
Installation Instructions: Suspension Cable (Continued)

Installation with Suspension Cable

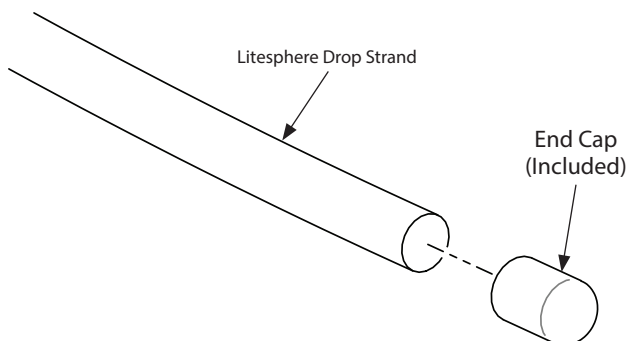
Step 1. With Suspension Cable securely attached, use Tie-Wraps to attach "T" Connector Units to Cable.



Step 2: Connect the Male end of an additional Litesphere Drop Strand to the trail end of the initial strand, up to the maximum linear run length as listed on Page 1.



Step 3: Thread End Cap into the open Trail End Connector of The Litesphere Drop Strand.

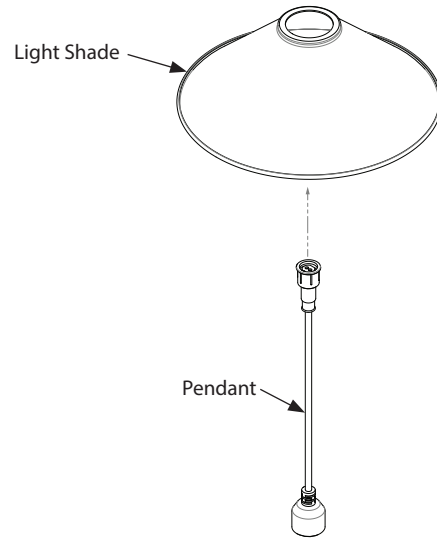


Step 3a: Litesphere Drop Strand may be cut off in the field to fit space requirements. Apply Silicone Sealant to the inside of the End Cap (Included in kit) and slide over the end of the Strand.

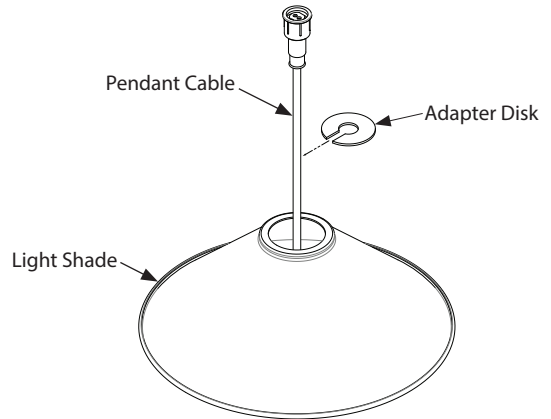
Installation Instructions: Optional Light Shades

Step 1: Hang Light String and suspension cable as shown on Page 3.

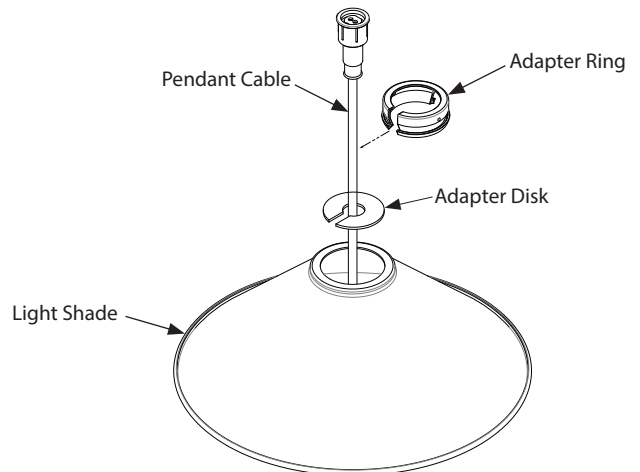
Step 2: Insert the top of the Pendant through the hole in the shade from the bottom, as shown.



Step 3: Insert Adapter Disk onto Pendant Cable.

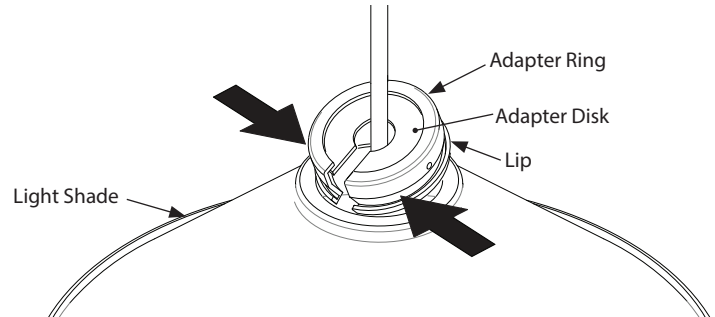


Step 4: Insert Adapter Ring onto Cable and slide Disk inside the Adapter Ring.

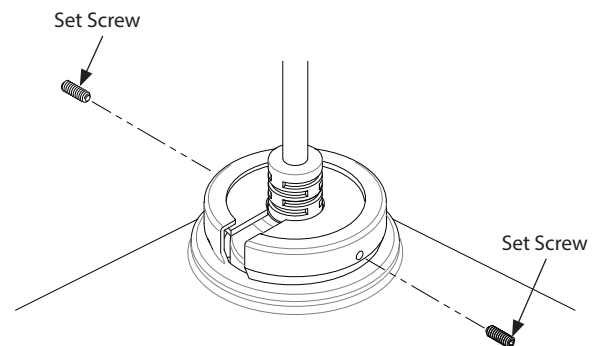


Installation Instructions: Optional Light Shades (Continued)

Step 5: Squeeze the sides of the Adapter Ring together and insert into the hole in the Light Shade. Press down all the way around until the Adapter lip is below the edge of the hole in the shade.

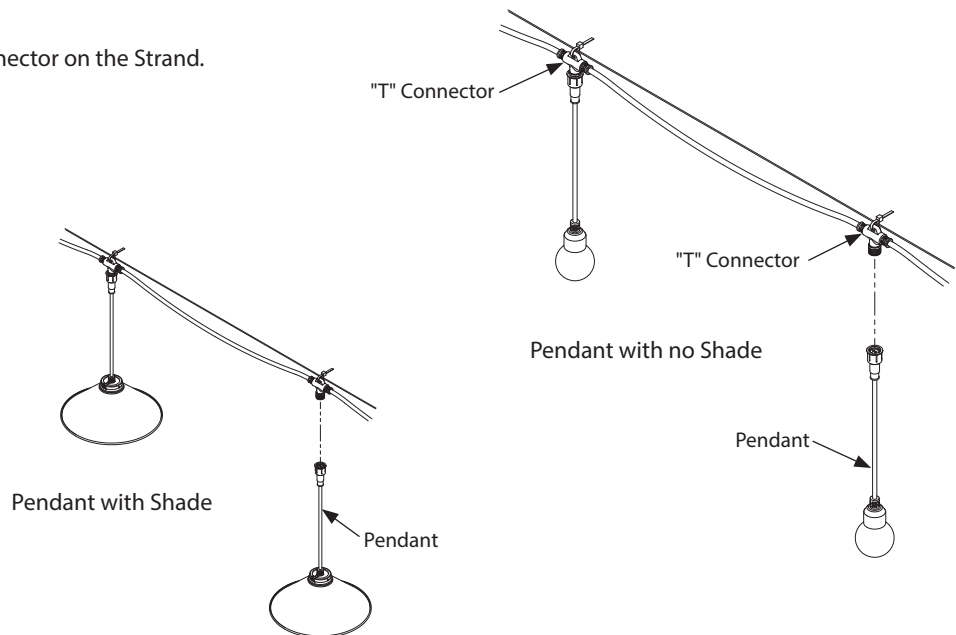


Step 6: Use the Hex Wrench (included) to screw the Set Screws into the small holes in the Adapter. Be sure the disk is up at the top of the Adapter before installing the Set Screws. The Set Screws will keep the Disk in position and keep it from falling out of the Adapter.



Installation Instructions: Install Pendants and Globes

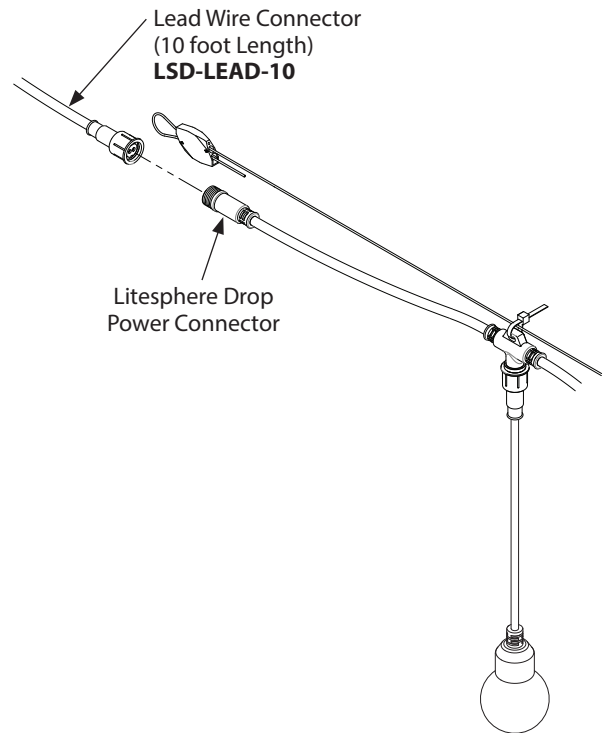
Step 1: Thread a Pendant onto each T Connector on the Strand.



Connecting to Power

Step 1: Connect 10' Lead wire (**LSD-LEAD-10**) Connector to Power Connector on Litesphere Drop.

Step 2: Connect wire end of Lead Wire to 12V Power Supply. Make note of wire polarity when connecting open end of Lead Wire to Power Supply.



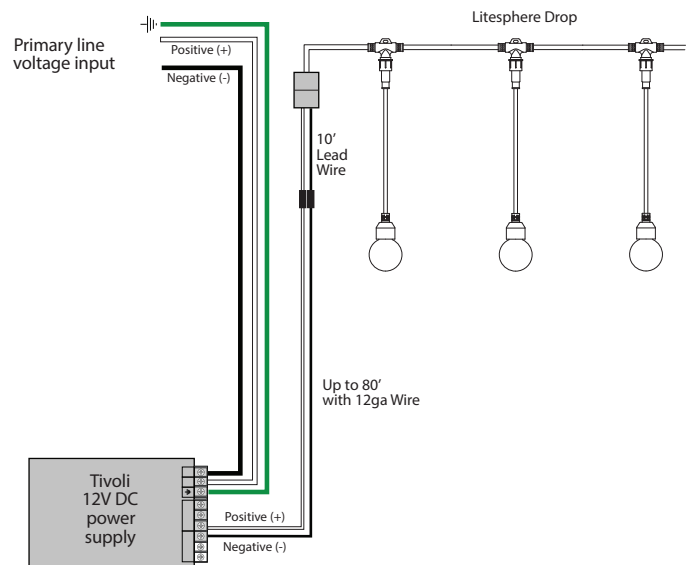
Wiring Size:

Installer calculates wire size between load and power supply to avoid voltage drop.

The wire sizing from the transformer to the light strings must be carefully calculated in order for low voltage circuits to operate properly. Tivoli recommends locating the transformer as close to the light string as possible. Use 12 gauge lead wire and keep the transformer within 80 ft of the fixture.

Notes:

1. Consult factory for lengths over 80'.
2. See Page 1 of this Installation Instruction for maximum linear run lengths per each spacing option.
3. There are many possible options for dimming Litesphere Drop. See the Specification Sheet for more information.
4. Refer to the Installation Instruction for the Power Supply you choose for detailed wiring instructions.



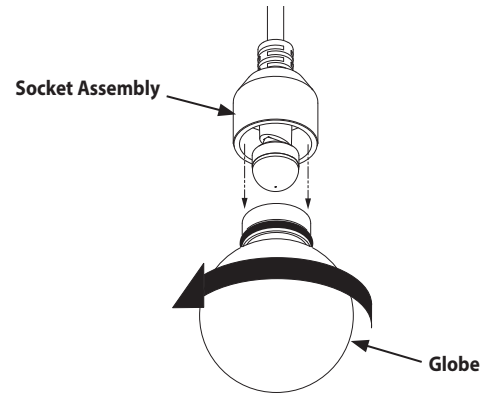
LED Bulb Replacement

Step 1: Remove Globe. Pull globe away from socket using a twisting motion like unscrewing a thread. If the Litesphere™ socket is suspended from a cable, it will be important to keep a firm hold on the socket.

Step 2: Use a narrow flat blade screwdriver to remove LED Module. Place the blade under the lip of the LED Module and pry upwards. Be careful not to damage the socket.

Step 3: Install replacement LED Bulb by inserting gently into socket until it locks into place.

Step 4: Replace Globe by reversing the removal procedure. It is very important to insert the Globe as far into the socket as possible to prevent water from leaking inside the fixture.



Litesphere™ Bulb Identification

