



SOLATUBE®
Innovation in Daylighting.

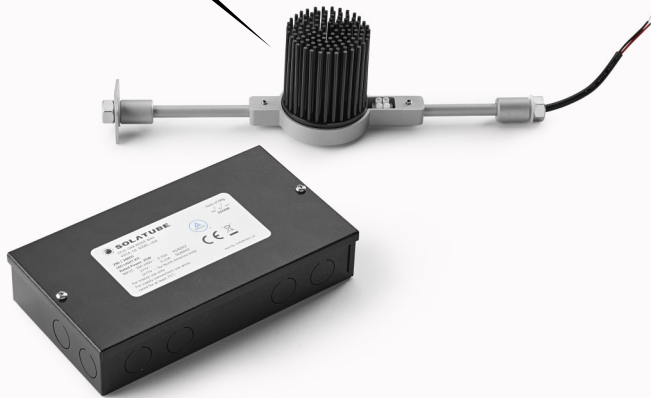
Solatube® Integrated LED

Installation Instructions

Parts List		Quantity
1	Integrated LED with Junction Box (290/300DS and 330/750 DS Shown)	(1)
2	Allen Wrench	(1)
3	Screw—#8 X 9/16 in (14mm)	(2)

290 DS / 300 DS LED

1



Required Tools:

Screw Gun with Phillips Head

1/2 in. Step Drill Bit

Wrench

Tape Measure

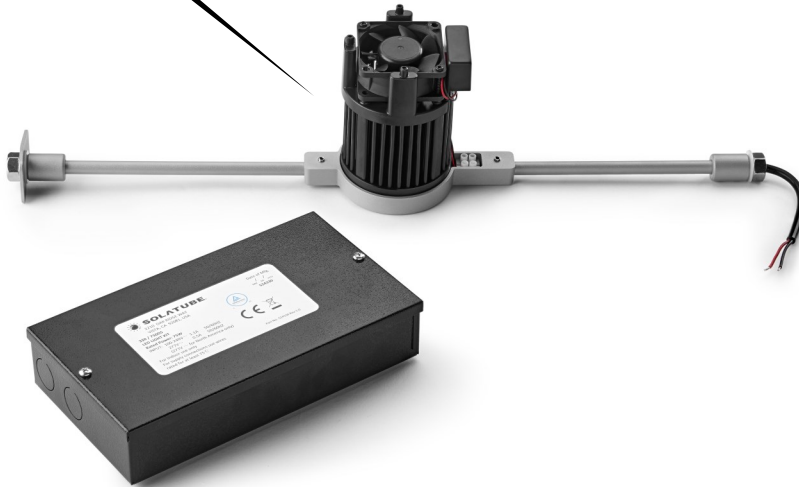
Required Safety Equipment

2



330 DS / 750 DS LED

1



3



Scan The Code And Watch
Our Installation Video



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WARNING



Do not proceed with the installation until you have read the entire instructions, including these warnings.
Use of materials or methods not authorized by Solatube International will result in an invalid warranty.

Solatube International, Inc. (seller) assumes no responsibility or obligation whatsoever for the failure of an architect, contractor, installer, or building owner to comply with all applicable laws, ordinances, building codes, electrical codes, energy codes, fire and safety codes and requirements, roof warranties and adequate safety precautions. Installation of this product should be attempted only by individuals skilled in the use of the tools and equipment necessary for installation. Protect yourself and all persons and property during installation. If you have any doubt concerning your competence or expertise, consult a qualified expert before proceeding.



Install at your own risk!

Solatube product installations may be dangerous and include the potential for death, personal injury and property damage. The hazardous conditions include but are not limited to the following:

- **Use extreme caution when working around the roof opening to prevent falling and personal injury.**
- **The weight of skylights varies, therefore transportation and installation of the skylight to the installation location should be conducted with as many people as necessary to avoid accidents. Ensure proper lifting techniques are used at all times.**
- Solatube products may have sharp edges. Always wear leather or canvas gloves while handling and installing products.
- Solatube product installations require climbing and working at dangerous heights, including on ladders, scaffolding, roofs and in attic spaces. Risk of death, personal injury and property damage may result from a fall, or from falling objects. Use extreme caution to minimize risk of accidental injury, including, but not limited to the following procedures:
 - Clear area below your work space of all people, animals and other items.
 - Avoid working on surfaces that are slippery or wet.
 - Use foot-wear with excellent traction.
 - Use only strong, well supported ladders.
 - Work only in calm dry weather.
 - If attic work is necessary, ensure that your weight is supported at all times with structurally sound framing; drywall material is not designed to carry a person's weight.
- To reduce the risk of fire, electric shock, and personal injury, basic safety precautions should always be followed when using electric tools, including always wearing safety goggles or other suitable eye protection, and ensuring work area is clear of all electrical wires, gas pipes, water pipes, and other obstacles.
- When working in the attic or other dusty areas, use of a mask or respirator is recommended to avoid lung irritation. Attic spaces may be dark, confined, and subject to extreme temperatures. Beware of sharp protruding objects. Do not attempt installation without having someone within range of your voice or close enough to come to your aid if necessary.
- Solatube products are not designed to withstand the weight of a person, tools or other objects. Walking or placing objects on the system could cause personal injury and property damage. If the product is damaged, the structural capacity may be weakened; therefore the system should be repaired immediately. For safe installation and use, do not deviate from these installation instructions.
- Please note that interior surfaces and finishes in older homes may have been painted with lead-based paint. Removal of the skylight could disrupt the paint. Use proper precautions to minimize the exposure of dust and debris when removing and installing skylights.
For more information of proper removal of lead paint please visit www.epa.gov/lead.
- Ensure roof curb and water proofing is in good condition before installing skylights. If curb and or water proofing is compromised, it will be necessary to repair or replace. All roof work and repairs should be conducted by individuals skilled in roofing practices or a licensed roofer.

LED Light Kit Installation Tips **Specifications**

Product Name:	290/300 DS LED Light Kit	330/750 DS LED Light Kit
Model No.:	524240—4000K (80 CRI)	524740—4000K (80 CRI)
	524290—4000K (90 CRI)	524330—4000K (90 CRI)
	524235—3500K (90 CRI)	524735—3500K (90 CRI)
	524230—3000K (90 CRI)	524730—3000K (90 CRI)
Rated Power:	25W	75W
Input:	100-240V, 0.31A, 50/60Hz	100-240V, 1.1A, 50/60Hz
	277V~, 0.12A, 50/60Hz (277V~ for North America Only)	277V~, 0.5A, 50/60Hz (277V~ for North America Only)

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LED Light Kit Installation Tips (continued)



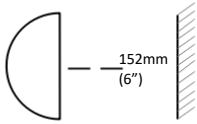
- **READ THESE INSTRUCTIONS BEFORE INSTALLATION.**
- **CAUTION—RISK OF FIRE AND SHOCK!**

- THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION INSTRUCTION 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
- For indoor use only. Suitable for dry and damp locations.
- This product is to be installed by qualified electricians only in accordance with the installation instructions.
- Install only with Solatube Daylighting Systems of compatible size. This product alone is forbidden to be installed on a ceiling or other recessed applications.
- Not for use in a space with fire/blast risks, or with airborne dust, corrosive particles or vibration.
- Combustible articles or materials which blocks heat such as insulation should be removed from the high temp parts such as the front and back of the light fixture.
- This product must be firmly attached to the support structure, with metal housing grounded to ensure safe operation.

****Warning****

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



NOTE: Determine Installation Location of Solatube LED.

LED must be installed a minimum of 152mm (6in.) away from any lens.

Power and Controls

Power

The voltage circuit size will dictate the number of units per circuit. Table 1 below is an example of the number of units per 20 amp circuit at a given voltage and unit size.

The available watts per circuit

$$\text{Watt} = .8 * A * V$$

A=circuit breaker or load switched controller

V=AC circuit voltage

20 amp circuit breaker	Available Watts for lighting at 80% circuit max rating	Maximum # of units per voltage circuit	
		290/300 DS 25W	330 DS 75W
120Vac	1,920 Watts	71 Units	23 Units
240Vac	3,840 Watts	140 Units	46 Units
277Vac	4,432 Watts	164 Units	53 Units

Table 1 is for reference only. Circuit size and number of units that can be placed on each circuit should be calculated.

Inrush current must also be calculated to determine max units per circuit.

290/300 DS Integrated Light Kit = 50A ($T_{width}=350\mu s$)

330/750 DS Integrated Light Kit = 50A ($T_{width}=300\mu s$)

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LED Light Kit Installation Tips (continued)

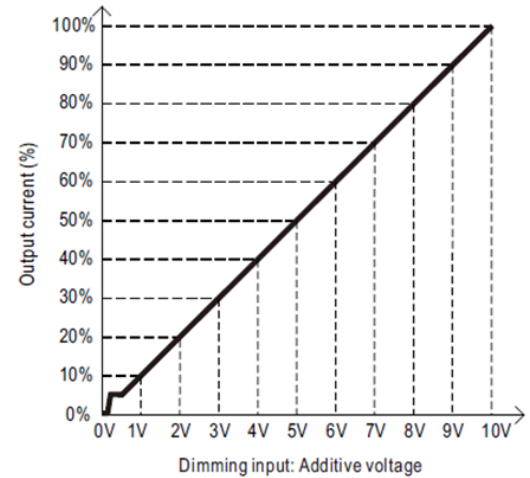
Controls

0-10V Dimming Control

The LED drivers can be connected by third party 0-10V current-sinking controllers. The Solatube LED driver provides 10V DS and a return ground wire. The controller reduces the returned volts to the LED. If the controller returns to full 10V, the LED will be at its brightest level. The LED will be at a minimum level if no volts are returned. The 0-10V signal wire can be daisy chained to each driver. To calculate the number of units that can be connected to one 0-10V controller, take the controller sinking ability in mA. (found in the manufacturer's data sheet) / .1mA.

Table 2

Controller(0–10 V Sink Capacity)	290/330 or 330/750 DS Integrated LED Light Kit units per controller
Lutron DTV (50 mA)	500 units



NOTE: The Solatube Integrated LED Light Kit can only be controlled by a sinking controller. If the controller is sourcing the 0-10V signal, the LED will not dim properly.



When designing lighting layout with the Solatube Integrated LED Light Kit and third party controls, the circuit size and number of units that can be placed on each circuit should be calculated.



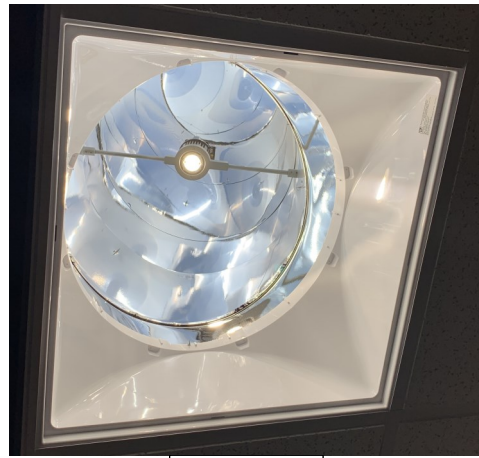
When using third party controls such as dimming switches, motion sensors and light sensors, please refer to the manufacturers installation and wiring instructions.

Solatube Integrated LED Installation Overview

The 0-10V platform offers flexibility for choosing controls.
Follow dimmer control manufacturers installation instructions.

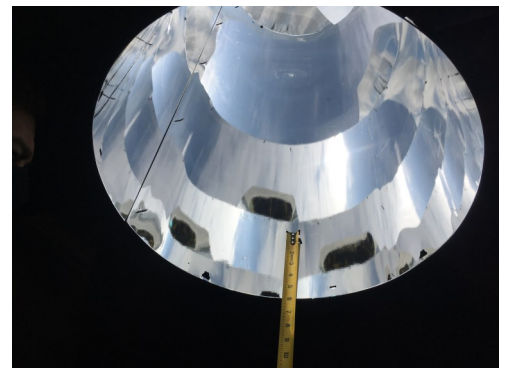
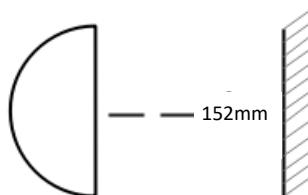


Open Ceiling



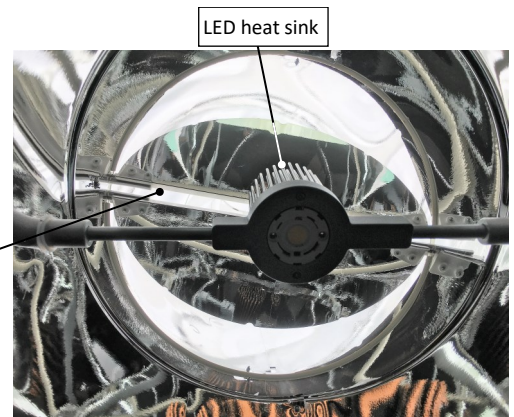
Closed Ceiling

When installing the Integrated LED, ensure the bottom of the LED fixture is a minimum of 6 in. (152 mm) away from any lens (i.e. TIP, Natural Effect Lens, Diffuser)



When installing the Integrated LED with the Solatube Daylight Dimmer, ensure the LED heat sink is installed a minimum 4 in. (102mm) below the Daylight Dimmer baffles.

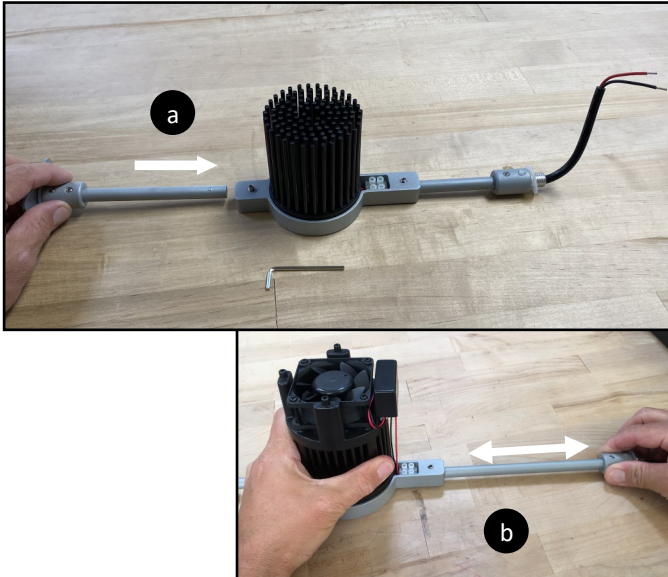
Daylight Dimmer installed above Integrated LED heat sink



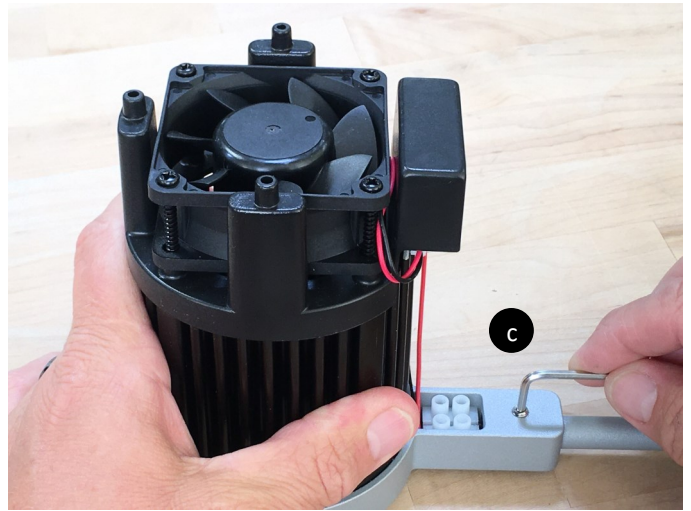
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Determine best location for LED fixture. LED fixture must be a minimum of 6 in. above any lens.
Drill a 1/2 in. hole into tubing
Drill one hole on each side of tubing.

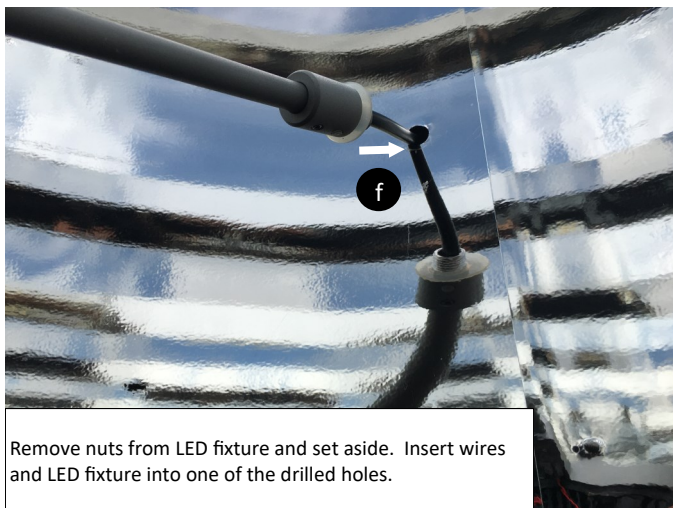
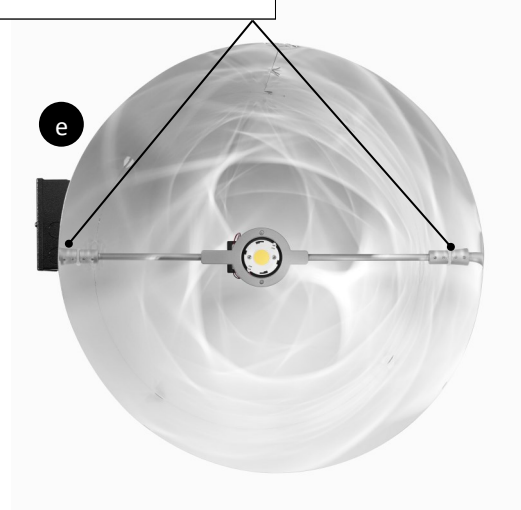
Insert extension pole into LED.



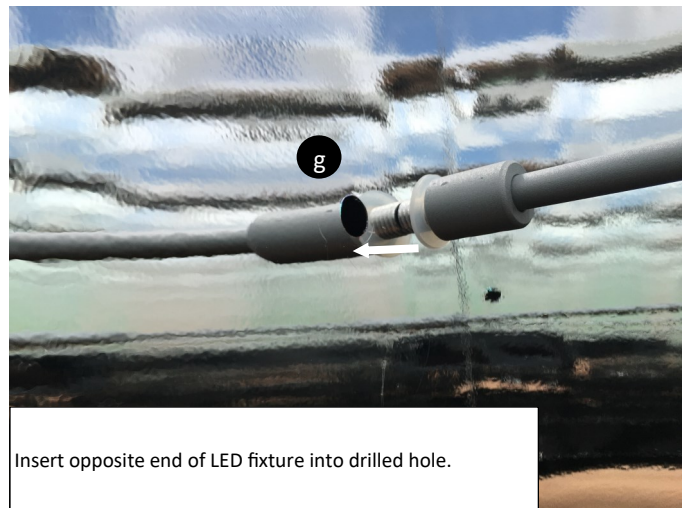
Adjust pole to desired length and tighten allen screw with provided allen wrench. The LED fixture should be snug enough when tightened that it does not distort the shape of the tubing.



Drill one hole on each side of tube. Ensure that LED fixture will mount level.
Example shown below.



Remove nuts from LED fixture and set aside. Insert wires and LED fixture into one of the drilled holes.



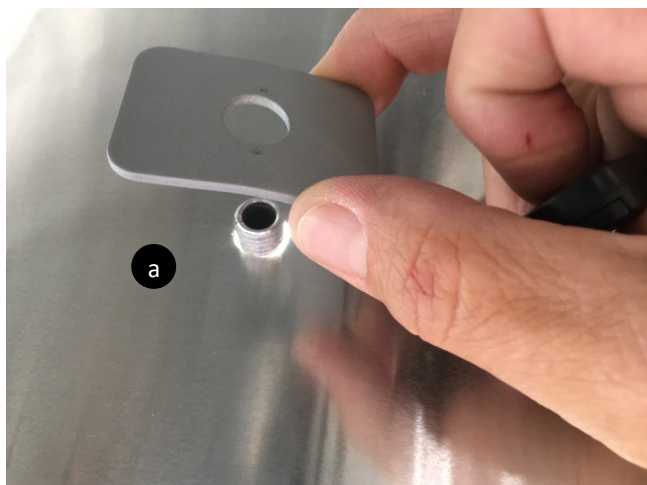
Insert opposite end of LED fixture into drilled hole.

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2

Secure LED fixture to tubing



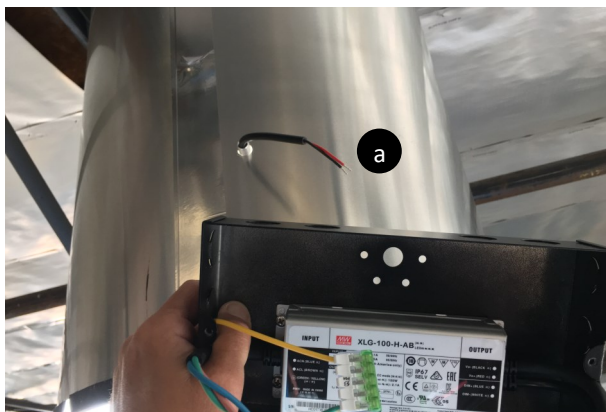
Place metal washer over LED fixture threads on outside of tube.



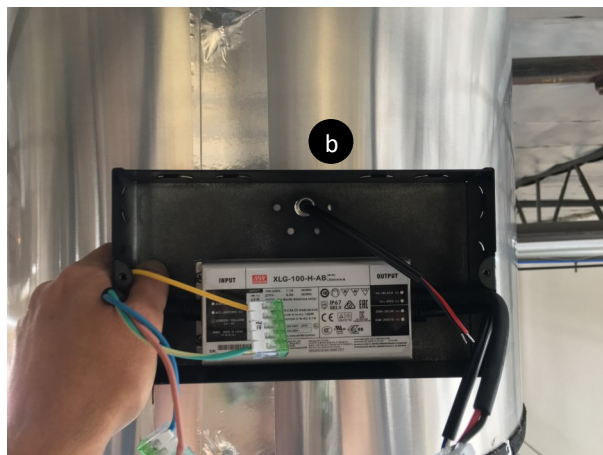
Secure LED fixture with nut.

3

Install junction box to LED fixture.



Place junction box over LED fixture threads on outside of tube.



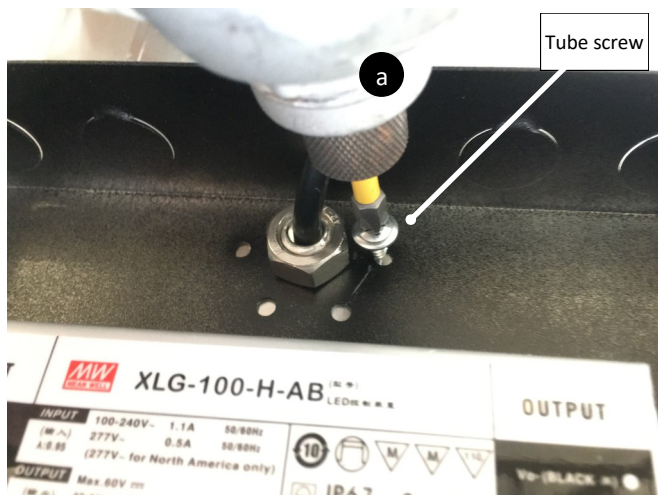
Install nut over threads and tighten to secure with wrench.



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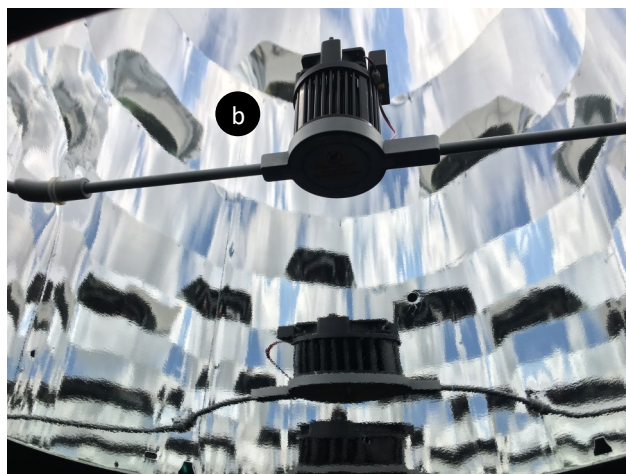
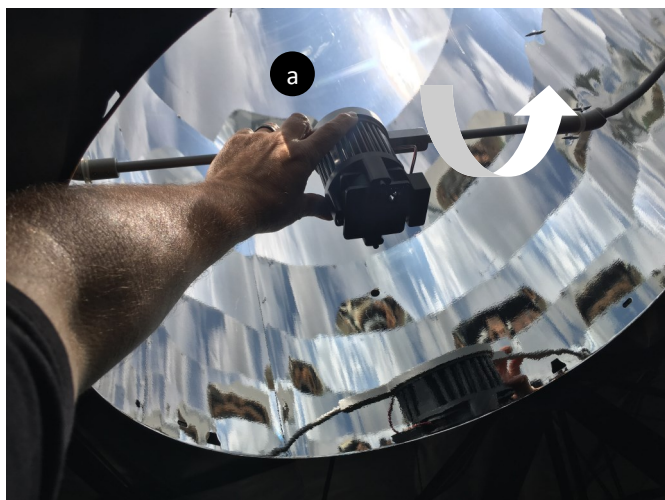
4

Rotate junction box to desired position and secure junction box to tubing with tube screw.



5

Reach inside tubing and adjust LED fixture to face LED diode downward. When LED is in correct position, tighten nuts one last time.



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The Following Instructions Should Only Be Performed By A Licensed Electrician

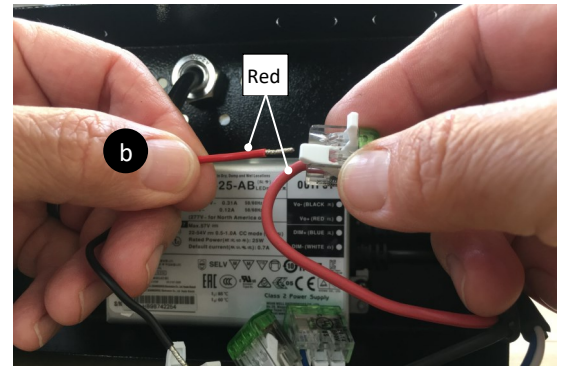
Note: Please follow all local municipal and building code requirements prior to making electrical connections.
Turn off power at the circuit breaker and ensure the power is off before wiring.

6

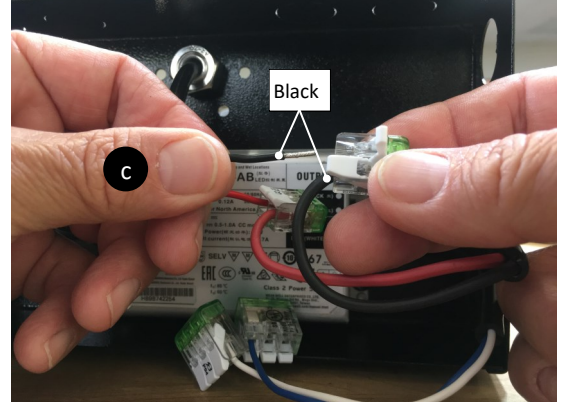
0-10V wire connection
See wire schematic at end of instructions.



Remove knockout for control wires



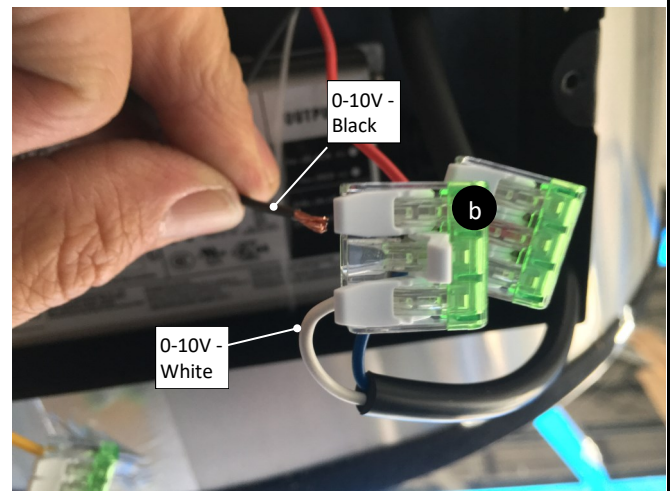
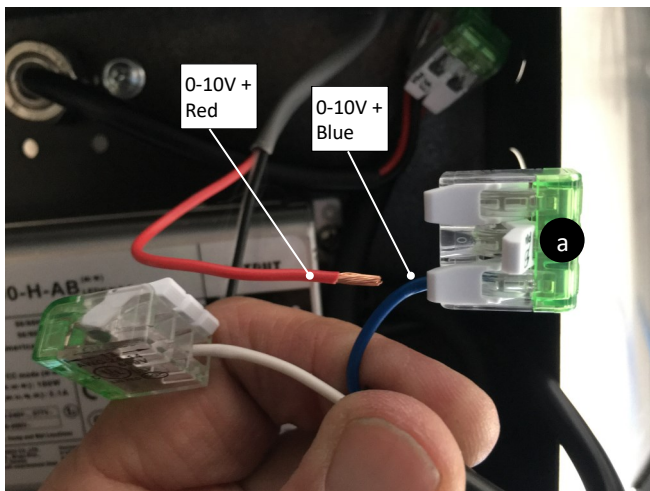
Connect LED wires to quick connect terminal blocks.
See wire schematic at end of instructions.



Secure all wires with strain relief.

7

Connect 0-10V control lines and secure to quick connect terminal blocks.
See wire schematic at end of instructions.



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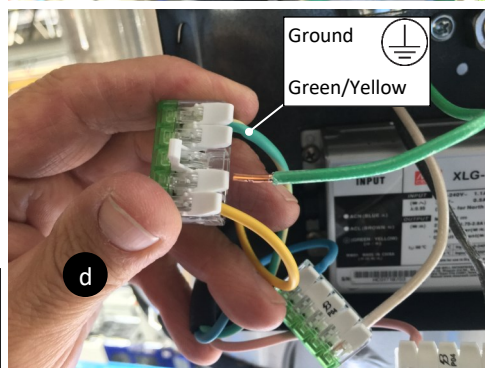
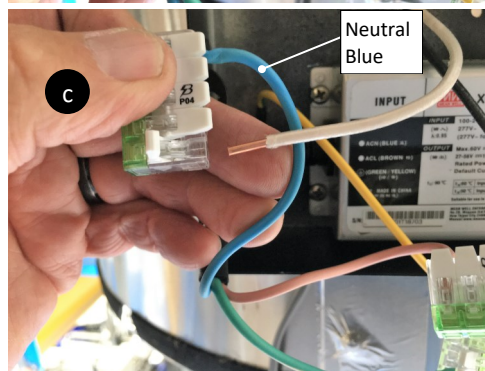
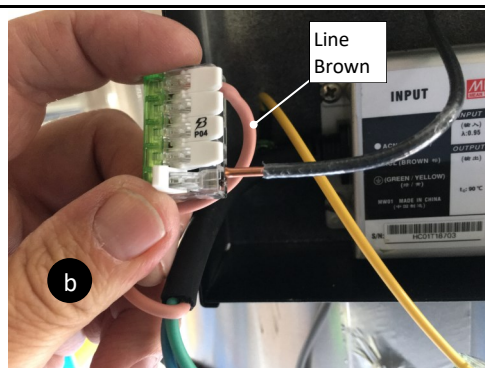
8

Insert Hot / Live wire, 100-277V AC, into junction box and secure to quick connect terminal blocks.

See wire schematic at end of instructions.



Remove knockout for control wires



Secure all wires with strain relief.

9

Replace junction box cover and secure.

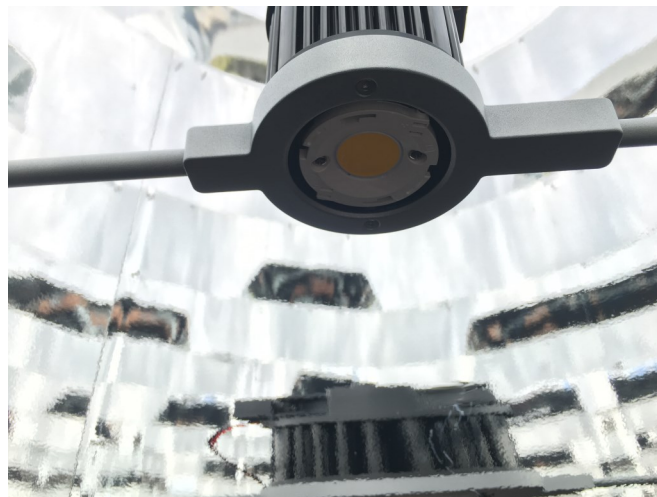


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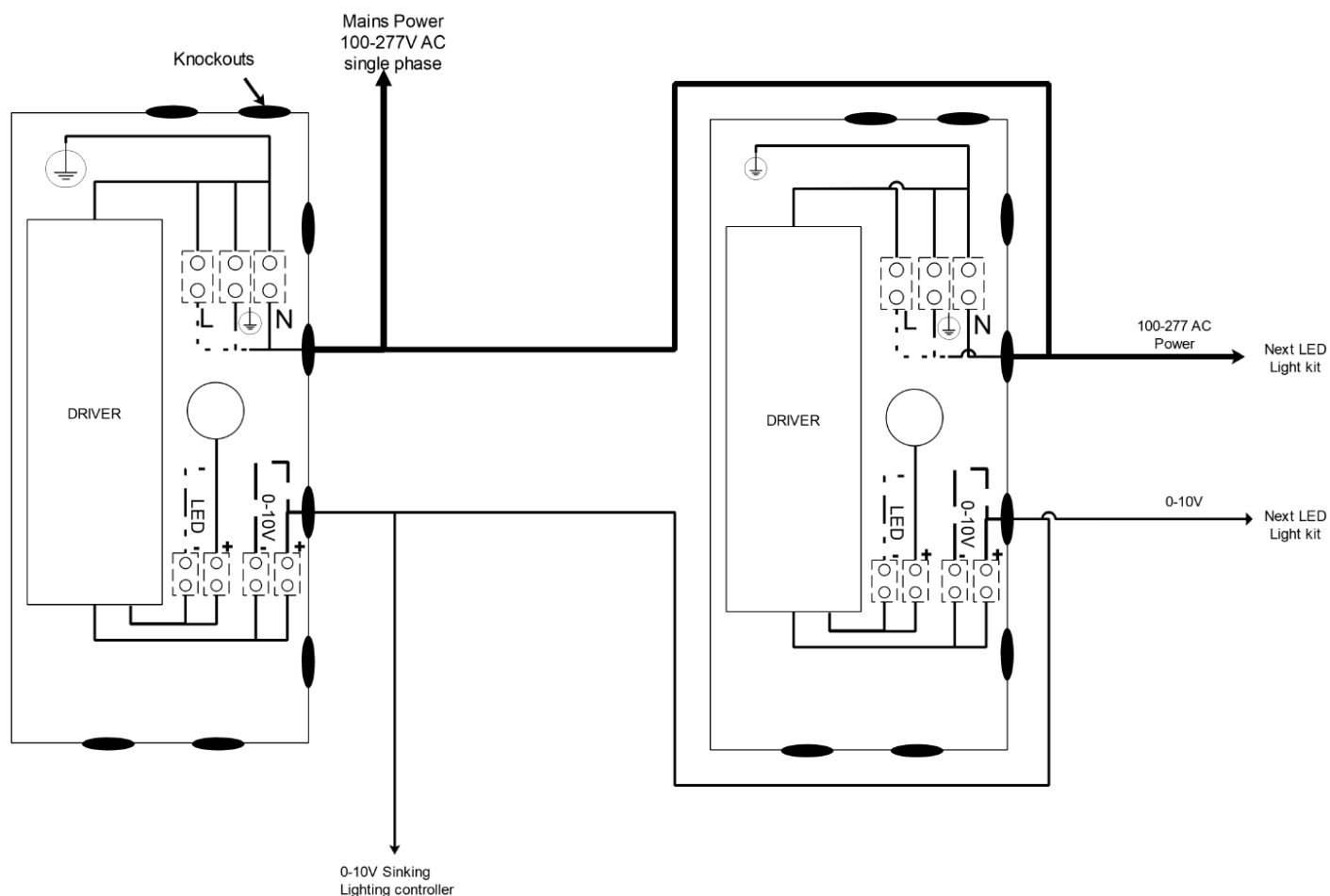
10

Remove LED seal.
Restore power at circuit breaker.



11

Wire Schematic



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Notes



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