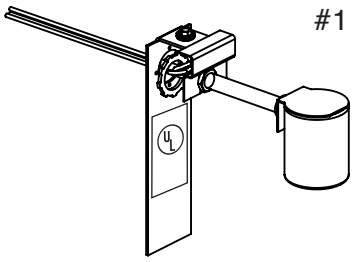
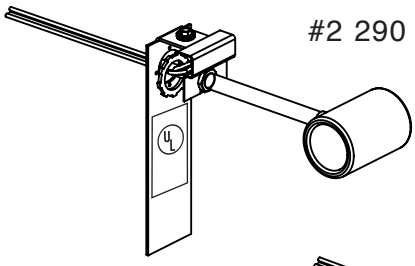
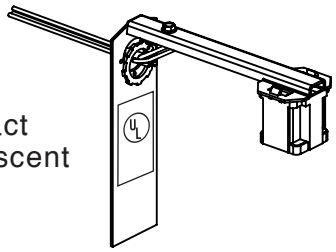
Solatube® Light Add-On Kit Installation Instructions



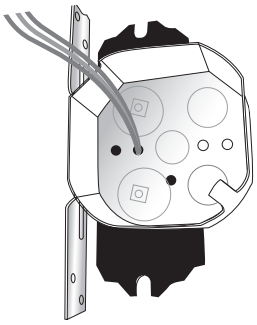
#1 160 DS Universal Light Add-On Kit



#2 290 DS Universal Light Add-On Kit



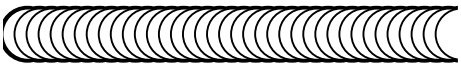
#3a Compact Fluorescent



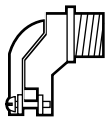
#3b Junction Box

PARTS LIST

PART #	DESCRIPTION	QUANTITY
ASSEMBLY		
1	**160 DS Universal Light Add-On Kit** Including: 1/8” IPS Conduit Pipe, Lamp Holder, Locknut, UL Label, Thermal Protection Device (TPD) and Ground Screw	1
2	**290 DS Universal Light Add-On Kit** Including: 1/8” IPS Conduit Pipe, Twin Lamp Holder, Locknut, UL Label, Thermal Protection Device (TPD) and Ground Screw	1
3a	**Compact Fluorescent Light Kit** Including: 4 Pin CFL Lamp Holder, UL Label, 26 Watt CFL Bracket and Connector Locknut	1
3b	**Junction Box** Including: Electronic Ballast, Junction Box Cover, Ground Screw with Cup Washer	1
FASTENER PARTS-BAGGED		
1	Flexible Conduit 3/8” (9mm)	1
2	Conduit Connector 3/8” (9mm), 90°	1
3	Anti-Short Bushing (ASB) (Red)	1
4	Conduit Connector 3/8” (9mm), Straight	1
5	Wire Connecting Nuts (Orange)	6
6	Ground Wire Crimp Sleeve (Copper)	1
7	Ground Screw	1
8	Foam Seal 1/8” x 3/4” x 4” (19 x 100mm)	1
9	Screw Hex #8 x .75” (For use with junction box)	4

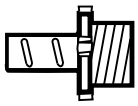


#1 Flexible Conduit



#2 Conduit Connector (90˚) 3/8 in (9 mm)

#3 Anti-Short Bushing (ASB) (red)

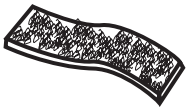


#4 Conduit Connector (Straight) 3/8 in (9 mm)

#5 Wire Connecting Nuts (orange)

#6 Ground Wire Crimp Sleeve (copper)

#7 Ground Screw



#8 Foam Seal 1/8 x 3/4 x 4 in (19 x 100 mm)

#9 Screw Hex

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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:

- **During installation, the Solatube Daylighting System's reflective tubes may focus sunlight, causing intense heat or fire. Remove protective film only after the parts have been installed. Prior to and during installation, do not leave tubes in contact with combustible materials or unattended, especially near direct sunlight. Avoid skin burns.**
- Solatube Daylighting System and Solar Star 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.
  - When in the attic, 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.

For all electrical components

- Before installing, servicing, or cleaning unit, switch power off at service panel and lock service panel to prevent power from becoming switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device such as a tag to the service panel.

Re-Roofing

- Solatube products require special care if removed for re-roofing. In order to ensure proper removal and re-installation, please contact your Solatube International representative.

Please refer to the installation tips for the appropriate product below.

Daylighting Systems Installation Tips

These instructions are a step-by-step guide for the installation of a Solatube Daylighting System in the following conditions. For other roof types, please contact your Solatube International representative for additional information.

Built Up Flat Roof - Single Ply/Membrane - Asphalt Shingle - Low/No Pitched - Pitched - Prefabricated Curbs - Metal Roof Panels

For the most current Installation Instructions, please visit www.solatube.com/instructions

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Daylighting Systems Installation Tips (Continued)

- Allow at least 2-3 hours for the installation, particularly if this is your first installation.
- During the day, turn off all the lights in the room to see how much natural light comes in through the windows, and determine the best position for the Solatube Daylighting System. To light a specific area, place the system over the area, not in the center of the room. This will prevent the desired area from being shaded by tall objects in the room.
- Measure the distance between the roof and the ceiling. If you don't have enough tubing, contact your Solatube International representative for additional tubing.
- Avoid roof locations shaded by trees, ridges and chimneys, or near water channels or valleys. Also avoid roof areas with obstructions such as fire sprinklers, HVAC equipment, gas, water or drain pipes, air ducts or flues and make sure that the roof is adequate to endure an installation without damaging its waterproofing properties or weakening the building structure.
- All adhesives, seals and tapes are recommended to be applied to a clean and dry surface at a minimum of 70°F (21°C) for maximum performance.
- Foil tape contains a pressure sensitive adhesive and pressure must be applied at all seams for proper bonding. Foil tape is not intended for use as structural support of the extension tubes. For structural integrity use manufacturer supplied fasteners on all overlapping extension tube joints.

Daylight Dimmer Installation Tips

- Install Solatube Daylight Dimmer only on a properly aligned Solatube Daylighting System.
- Use only UL recognized components approved for this listing.

Light Add-On Kit Installation Tips

- This product is to be installed by qualified electricians only. Disconnect power before installation.
- "FOR USE IN NON-FIRE-RATED INSTALLATIONS ONLY."
- Thermally protected "TYPE IC" (insulation may contact housing).
- "ACCESS ABOVE CEILING REQUIRED."
- "SUITABLE FOR DAMP LOCATIONS." Use only as a component of Solatube Daylighting System products.
- "MIN. 60°C SUPPLY CONDUCTORS."
- Intended for installation with ½ in (12.7mm) minimum spacing from the fixture to cavity surfaces (side wall and overhead building member) and 1 in (25.4mm) minimum spacing to adjacent fixtures.
- Blinking light may indicate improper lamp wattage or type, or insulation is too close to fixture, or other condition causing overheating.

Caution

- Risk of fire and electrical shock. Most dwellings built before 1985 have supply wire rated 60° C.
- To reduce the risk of fire, use only:
  - Fluorescent Lamps, Medium Base - 23 Watt Maximum, Maximum Overall Length (MOL) 4 3/4 in (120 mm)
  - Compact Fluorescent (4 Pin Quad Tube) 26 Watt only
- Minimum thickness of metal tubing is 0.018 in (0.47mm)

Ventilation Add-On Kit Installation Tips

See Ventilation Add-On Kit installation instructions for tips.

Solar Star Attic Ventilation Installation Tips

- Keep Solar Star solar panels covered until product is mounted and sealed to roof. Cover solar panel whenever motor, fan, or unit is to be serviced. Fan blade is controlled by the solar panel and may become operational when panel is exposed to sunlight.
- Solar Star products are designed for general ventilation purposes only. Do not exhaust any hazardous materials or gases such as flammable, explosive or incendiary materials.
- Solar Star products have an unguarded fan blade. Do not use Solar Star products in areas that are easily accessible.

Caution

- Carbon monoxide may be drawn into a house or attic space with the operation of Solar Star products if fuel-burning equipment is not serviced or monitored regularly. Carbon monoxide (CO) is a colorless, odorless gas that can be hazardous to your health and may cause death. Fuel-burning equipment must have proper ventilation, Solar Star products are not designed to provide ventilation for fuel-burning products.

For the most current Installation Instructions, please visit www.solatube.com/instructions

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SPECIFICATIONS: Light Add-On Kit - 160 DS Universal, 290 DS Universal, Compact Fluorescent

Fixture:	Recessed Compact Fluorescent - Thermally Protected Type IC.		
Supply:	120volt - 60Hz		
Amps:	160 DS - .19	290 DS - .38 Amp	Compact Fluorescent-.22 Amp
Cycle:	60 Cycle	60 Cycle	60 Cycle
Bulb:	Fluorescent Lamps, Medium Base - 23 Watt Maximum, Total Maximum Length 4 3/4 in (120 mm) Compact Fluorescent Lamp - use GX24q-3 Base, 26W 4-Pin only		

Diagram A

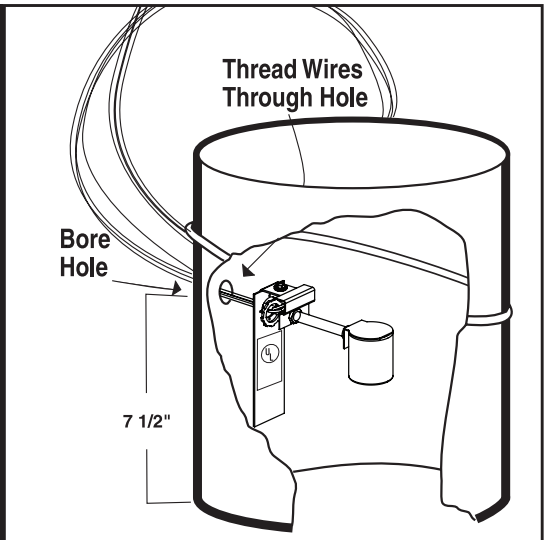


Diagram B

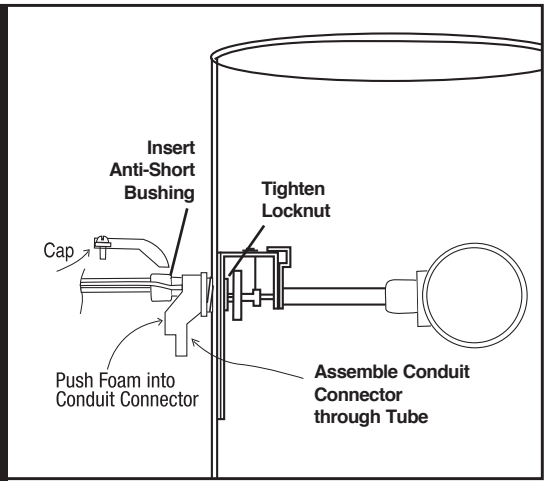
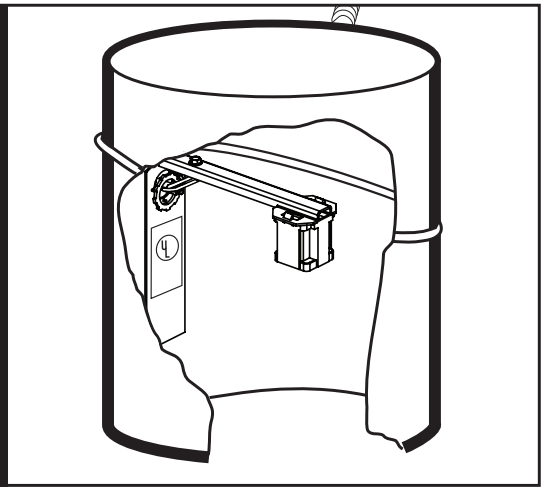


Diagram C



ASSEMBLY

LAMP BRACKET-LOCATION

Step 1. Follow Solatube Brighten Up® Series standard instructions to assemble the Bottom Tube and ceiling ring. Using a spur bit, bore a 7/8" (22.2mm) diameter hole through the tube wall, located 7 1/2" (190mm) up from the bottom of the Bottom Tube.

WARNING: DO NOT MODIFY LOCATION. ALTERATION OF DISTANCE SPECIFIED VOIDS WARRANTY AND IMPAIRS SAFE TEMPERATURE PERFORMANCE.

LAMP BRACKET-HOUSING ASSEMBLY

Step 2. Peel protective liner from the Bottom Tube prior to attaching the lamp bracket. Thread the wires out through the 7/8" (22.2mm) hole in the tube, then through 90˚ conduit connector **(Diagram A)**. Push the connector through the tube wall and lamp bracket. For 160 DS Add-On Kit: Adjust the bracket and single lampholder to face down **(Diagram A).** For 290 DS Add-On Kit: Adjust the bracket and twin lamp holder so that the lamp sockets face the sides of the tube **(Diagram B)**. For Compact Fluorescent Add-On Kit: Adjust the bracket and single lamp holder to face down **(Diagram C)**. Turn the connector to face the junction box and secure it with the connector locknut (min 2 threads) **(Diagram B).** Remove the cap from the back of the 90˚ connector and wrap the foam seal around the wires. Using a slotted screwdriver, push the foam into the connector to form a dust seal. Replace the cap **(Diagram B).**

CONDUIT/JUNCTION BOX ASSEMBLY

Step 3. Feed the wires through the flexible conduit. Insert the anti-short bushing (ASB) over the wires between the conduit and the 90˚ connector so the cone of the ASB enters the conduit **(Diagram B).**

Fit the conduit into the 90˚ connector and tighten screws. At opposite end of conduit, push the exposed wires through the straight connector and screw connector into the conduit. Feed wires into junction box, then fasten conduit connector to box with connector locknut **(Diagram D). Junction box not provided- can obtain at local hardware store.** An electronic ballast pre-assembled to a junction box with cover is provided with Compact Fluorescent Add-On Kit only.

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INSTALLATION

Step 4. Complete Solatube Brighten Up Series standard instructions to install the Bottom Tube in the ceiling.

WIRING

ALL WIRING MUST COMPLY WITH LOCAL CODES, BE PROPERLY GROUNDED, AND JUNCTION BOX MUST BE ACCESSIBLE ABOVE CEILING. DISCONNECT POWER BEFORE PROCEEDING.

Step 5. Feed (hot) wire of 120 volt AC supply cable (with ground) through a switch then connect the cable to junction box. Bond the supply ground wire to the junction box with #10 ground screw provided. Leave 6" pigtail for fixture ground wire connection.

(Diagram E) 160 DS or 290 DS Universal Light Add-On Kit

Step 6a. Follow the wiring diagram shown in Diagram E. Using the ground crimp sleeve provided, connect the fixture ground wire to the supply ground wire. Using wire nuts provided, connect the black fixture wire to the hot supply wire and connect the white fixture wire to the common supply wire. Install cover on junction box.

Compact Fluorescent Light Kit.

Step 6b. Follow the appropriate wiring diagram for light only or fan/light combination as shown in **(Diagram F).** Using ground crimp sleeve provided, connect fixture ground wire to supply ground wire pigtail. Using wire nuts provided connect each black fixture wire to each red ballast wire and each white fixture wire to each blue ballast wire.

Next, connect the black ballast wire to the hot supply wire and the white ballast wire to the common supply wire. Install cover on junction box.

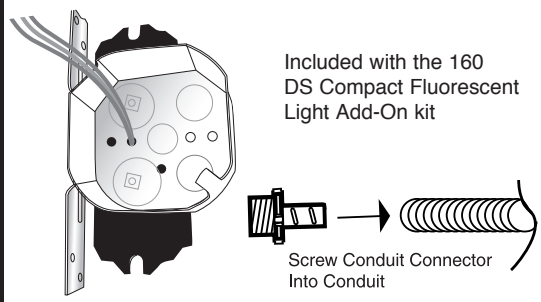
Step 7. Install lamps in fixture. Use a 23 Watt Maximum Fluorescent Lamp, Medium Base, Total Maximum Length 4 3/4 in. Use only GX24q-3 Base, 26W 4-Pin Lamp in Compact Fluorescent Light Add-On Kit as specified on UL Label on lamp bracket.

NOTE: The Solatube warranty and UL rating void if not installed in a Solatube 160 DS or 290 DS product according to manufacturer's installation instructions.

You may now enjoy the convenience of the Solatube Light Add-On Kit, in addition to your Solatube Daylighting System.

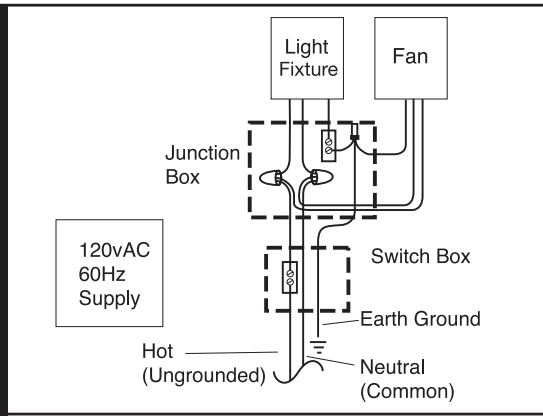
WARNING: BALLAST MAY NOT CONTACT COMBUSTIBLE MATERIAL

Diagram D



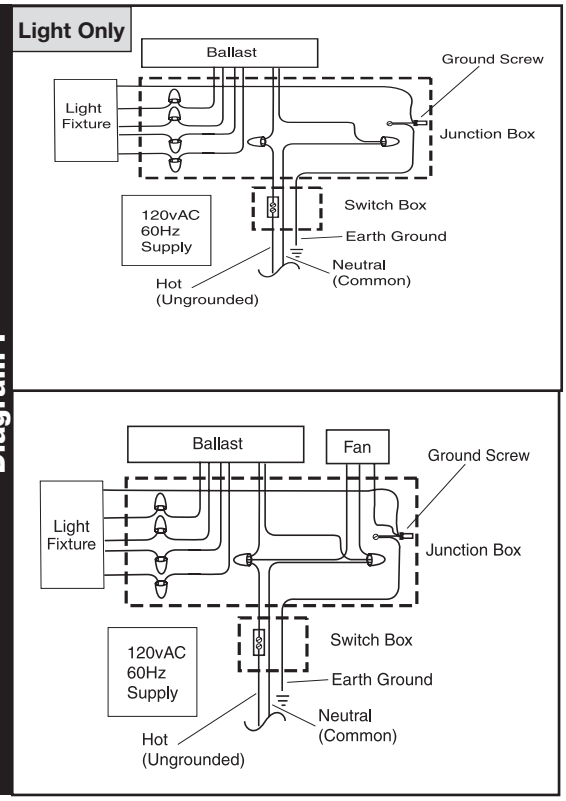
UNIVERSAL LIGHT ADD-ON KIT

Diagram E



26 WATT COMPACT FLUORESCENT

Diagram F



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