

**SOLATUBE®**

Innovation in Daylighting.®

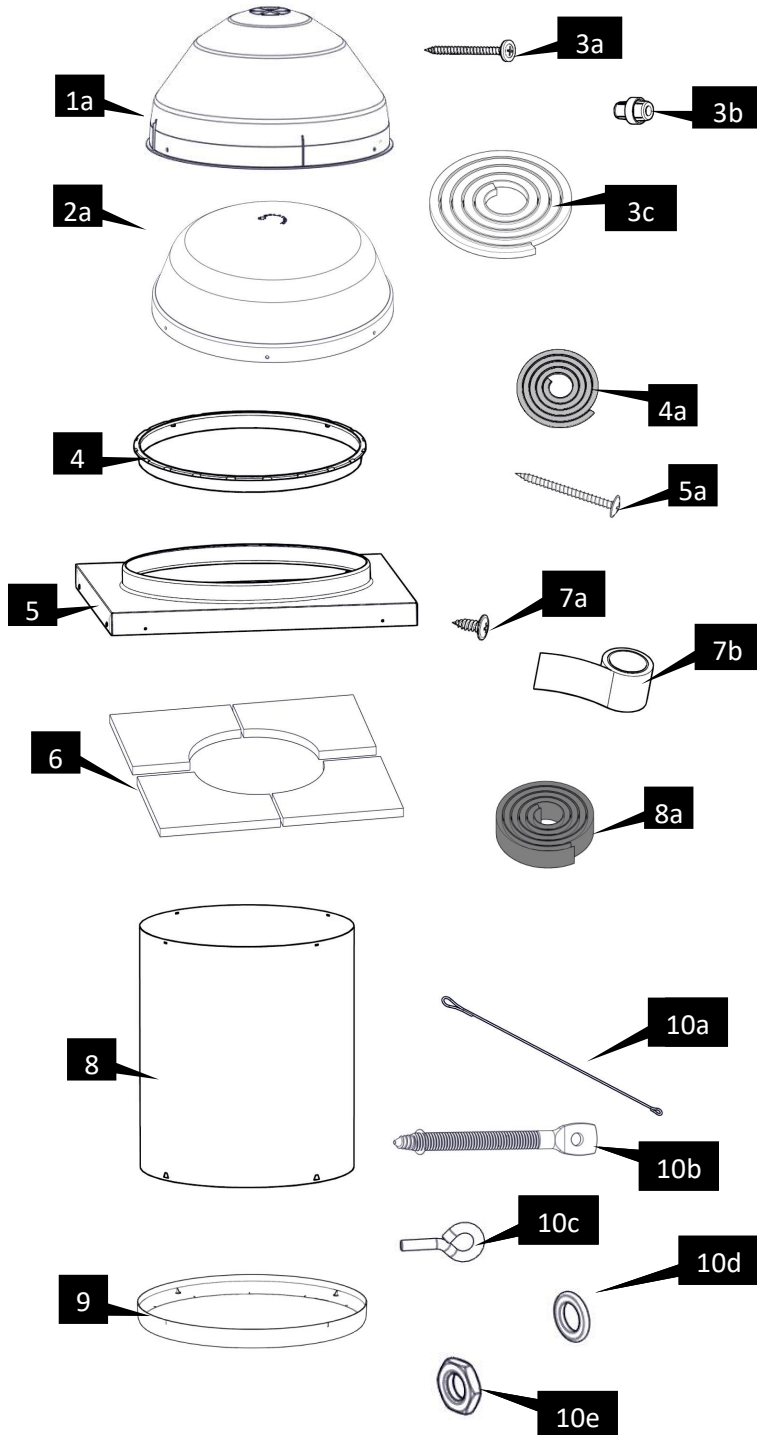
Solatube® SolaMaster® Series

Solatube® 750 DS Daylighting System

ICC 500/FEMA P361 Storm Shelter & Safe Room Applications

Installation Instructions

Open Ceiling



Parts List *		Quantity
1	750 DS Dome with Raybender® 3000 Technology	(1)
2	Inner Dome for 750 DS (Polycarbonate) *†	(1)
3	Dome Fasteners	
	a. Dome Screw #8 X 1 5/8 in (40 mm)	(4)
	b. Dome Spacer	(3)
	c. Dome Seal	(1)
4	Tube Ring	(1)
	a. Tube Ring Seal (Required for all Open Ceiling Units)	(1)
5	Curb Cap Roof Flashing *†	(1)
	a. Flashing Screws - #10 X 2 in (50 mm)	(21)
6	Curb Cap Insulation *†	(1)
7	Tube Fastener Kit	(1)
	a. Tube Screws - #8 X 9/16 in (14 mm)	(5)
	b. 2 in (50 mm) Foil Tape - 18 ft (5.5 m)	(1)
8	Spectralight® Infinity Tubes	
	a. 24 in (610 mm) Extension Tube with Tube Fastener Kit	(1)
	b. 48 in (1220 mm) Extension Tube with Tube Fastener Kit	(1)
9	Diffuser for Open Ceiling (Polycarbonate)*†	(1)
	a. Diffuser Seal	(1)
10	Suspension Wire Kit *†	
	A. Wire 12 Gauge 25 ft. (7.5 m)	(2)
	B. Screw Hanger 3 in (76 mm)	(4)
	C. Eye Bolt	(4)
	D. Washer	(8)
	E. Nut	(4)

*Components shown not included in all kits, see label on box.

*†Required for ICC 500/FEMA P361 applications.

Required Tools:

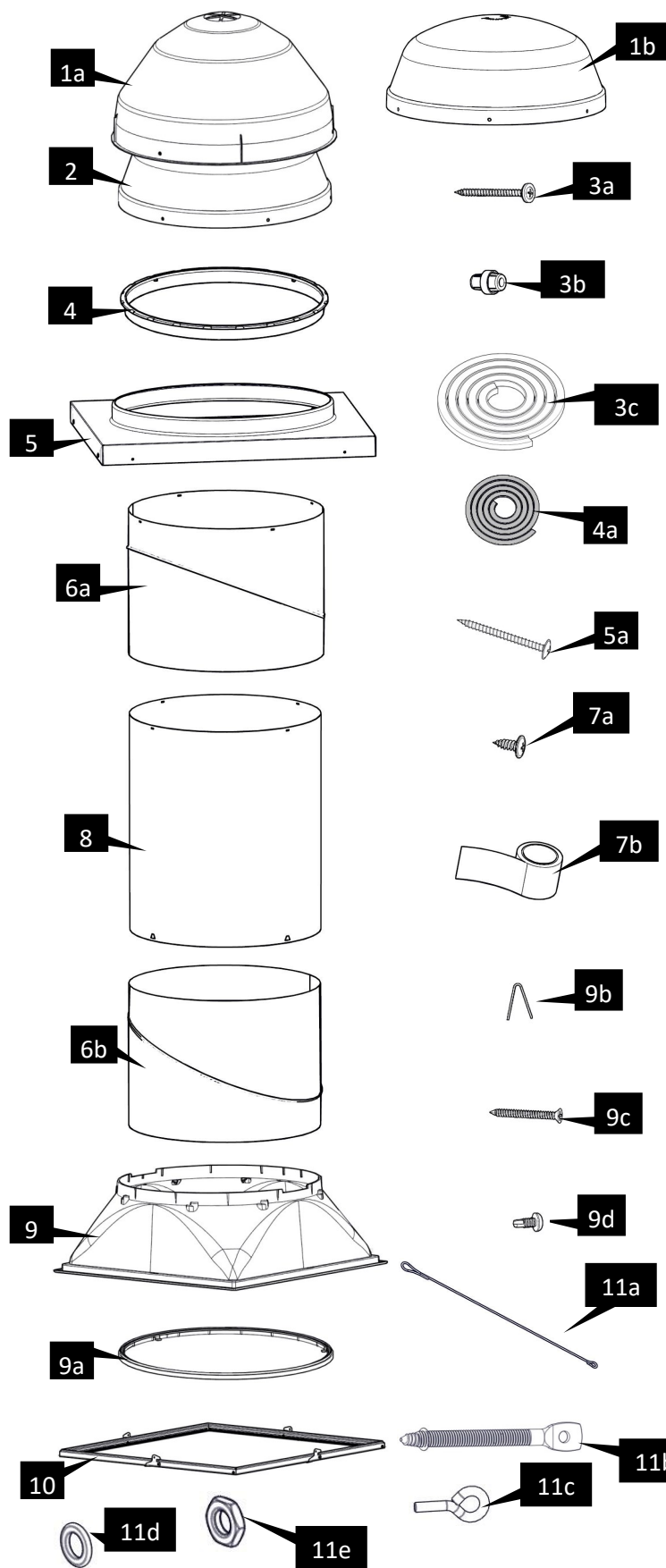
Saber or Reciprocating Saw	Utility Knife
Flat Bar	Caulking Gun
Tape Measure	Lumber Crayon
Screw Gun with Phillips Head	Metal Shears
Magnetic Compass	Required Safety Equipment
Hammer	Drill Bit #40 (3/32 in/2.5 mm)
Tin Snips	Drill Bit 1/8 in. (3 mm)



Approved and Listed

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Closed Ceiling



Parts List *		Quantity
1	Outer Dome Options	
	a. 750 DS Dome with Raybender® 3000 Technology	(1)
2	b. 330 DS Dome with LightTracker™ Reflector	(1)
	Inner Dome For 750 DS (Optional, Polycarbonate*†)	(1)
3	Dome Fasteners	
	a. Dome Screw #8 X 1 5/8 in (40 mm)	(4)
	b. Dome Spacer	(3)
4	c. Dome Seal	(1)
	Tube Ring	(1)
5	a. Tube Ring Seal *†	(1)
	Curb Cap Roof Flashing *†	(1)
6	a. Flashing Screws - #10 X 2 in (50 mm)	(21)
	Spectralight® Infinity Tubes	
7	a. Top Tube with Angle Adapter	(1)
	b. Bottom Tube with Angle Adapter	(1)
8	Tube Fastener Kit	(1)
	a. Tube Screws - #8 X 9/16 in (14 mm)	(10)
9	b. 2 in (50 mm) Foil Tape - 18 ft (5.5 m)	(2)
	Spectralight® Infinity Tubes	
10	a. 24 in (610 mm) Extension Tube (optional) with Tube Fastener Kit	(1)
	b. 48 in (1220 mm) Extension Tube (optional) with Tube Fastener Kit	(1)
11	Transition Box (Plastic/Polymeric) or (Metal with Softlight Technology)	(1)
	a. Natural Effect Lens (Optional)	(1)
	b. Transition Box Hold Down Clip	(4)
	c. Drill Tip Screw - #6 X 1 5/8 in (40 mm) (For Hard Ceiling Application Only)	(4)
12	d. Drill Tip Screw - #8 X 5/8 in (16 mm)	(2)
	Diffuser Prismatic Polycarbonate *†	(1)
13	Suspension Wire Kit *†	
	A. Wire 12 Gauge 25 ft. (7.5 m)	(2)
	B. Screw Hanger 3 in (76 mm)	(4)
	C. Eye Bolt	(4)
	D. Washer	(8)
	E. Nut	(4)

*Components shown not included in all kits, see label on box.

*†Required for ICC 500/FEMA P361 applications.

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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.**
- **Do not leave debris from installation process unattended. Scrap from tubing and foil tape are highly reflective and if left unattended can focus sunlight and can cause intense heat or fire. Clean up all unused material and trash and store or discard in proper covered locations.**
- 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.
- Additional support is recommended for long vertical and all horizontal tube runs. Review local building requirements and consult with appropriate building code official for proper material and placement of additional support. Avoid galvanic reaction (corrosion) if dissimilar metals are used.

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

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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.
- Uninstalled product that is stored and exposed to excessive heat and or humidity can experience damage. Store product prior to installation in a cool dry place.
- For installations where high levels of soot or debris may be present it may be necessary to use foil tape to seal the diffuser to the tubing to prevent the excess debris from entering the tubing.

Compliance

This product when installed per manufacturers instruction provided herein comply with the following standard:

- ICC 500-2020 and ICC 500-2014, ICC/NSSA Standard on the Design and Construction of Storm Shelters, International Code Council, Inc.
- This product complies with the impact requirements of ICC 500 for use in horizontal surfaces of tornado or hurricane storm shelters.
- ICC ES Listing Report ESL 1303



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.

Installation Instructions: The following components are required for installations in all ICC 500/FEMA P361 Shelter applications: 750 DS Polycarbonate Inner Dome, Curb Cap Insulation, Polycarbonate Prismatic Diffuser, and wire Suspension Kit. **DO NOT DEVIATE FROM THESE INSTRUCTIONS.**

1
Install Curb Cap Insulation to Underside of Curb Cap

Apply matte side of insulation to Curb Cap surface.

Apply foil tape to seams

2
Install Curb Cap

Sealant (1/4 in (5 mm)) thick

Curb by Others (allow for counter flashing roofing material)

Roof opening must be round with diameter 21 7/8 in (555 mm)

27 in (685 mm)

27 in (685 mm)

Apply downward pressure to flashing cap to ensure proper seal has been achieved to prevent air mitigation.

Flashing screw

Open Ceiling Installation Instructions

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Option 1: Assemble 24 in (610 mm) Extension Tube

Remove Protective Liner

a

b

Assemble parallel tube for open ceiling configurations

c

Apply pressure to tape for proper bonding

*Ensure tubing is notched correctly for proper diffuser fitment.

4

Option 2: Assemble 48 in (1220 mm) Extension Tube

Remove Protective Liner

a

b

Assemble parallel tube for open ceiling configurations

c

d

Apply pressure to tape for proper bonding

5

Install Tube Ring and Diffuser

a

b

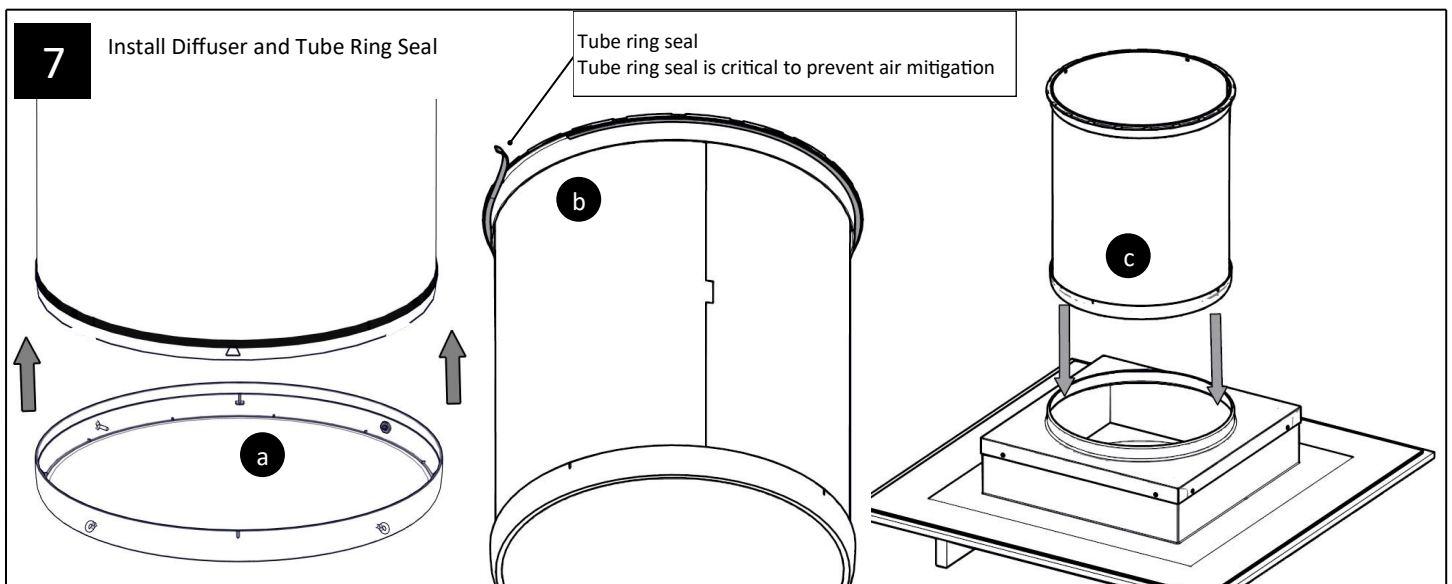
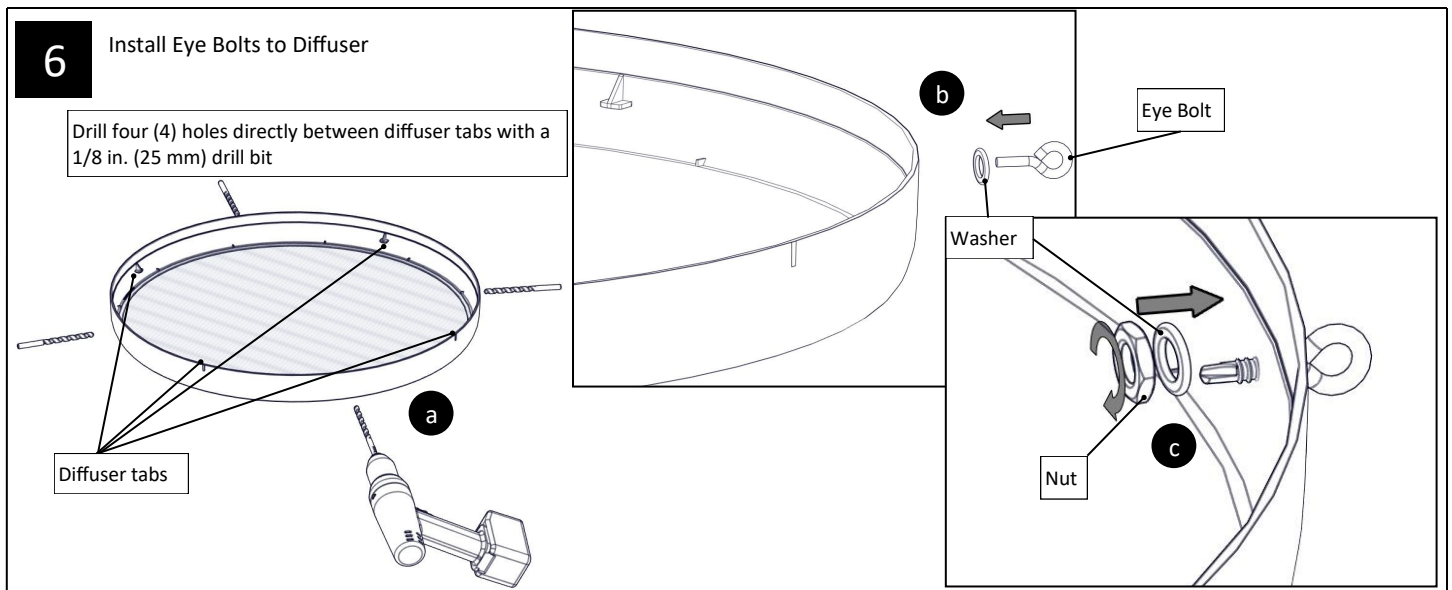
Foil tape

c

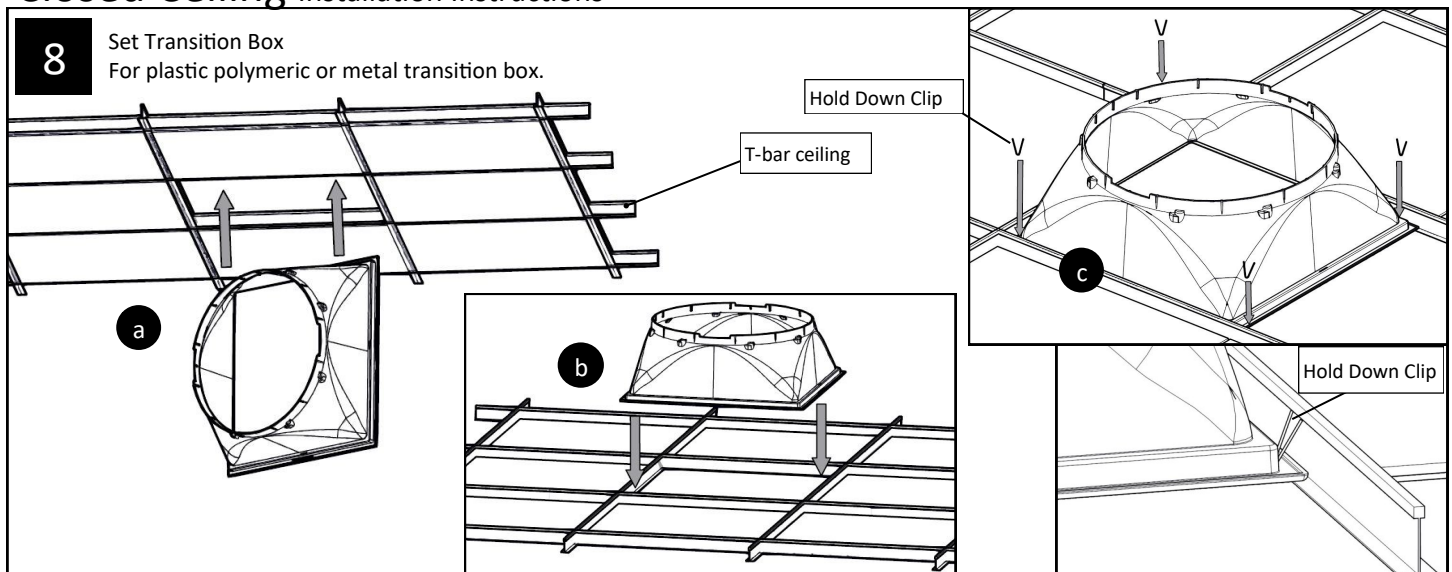
d

Use Tin Snips to cut four (4) notches between diffuser notches at bottom of the last tube to allow for eye bolts and diffuser to be installed.

Install top edge of diffuser seal along edge of diffuser notches.



Closed Ceiling Installation Instructions

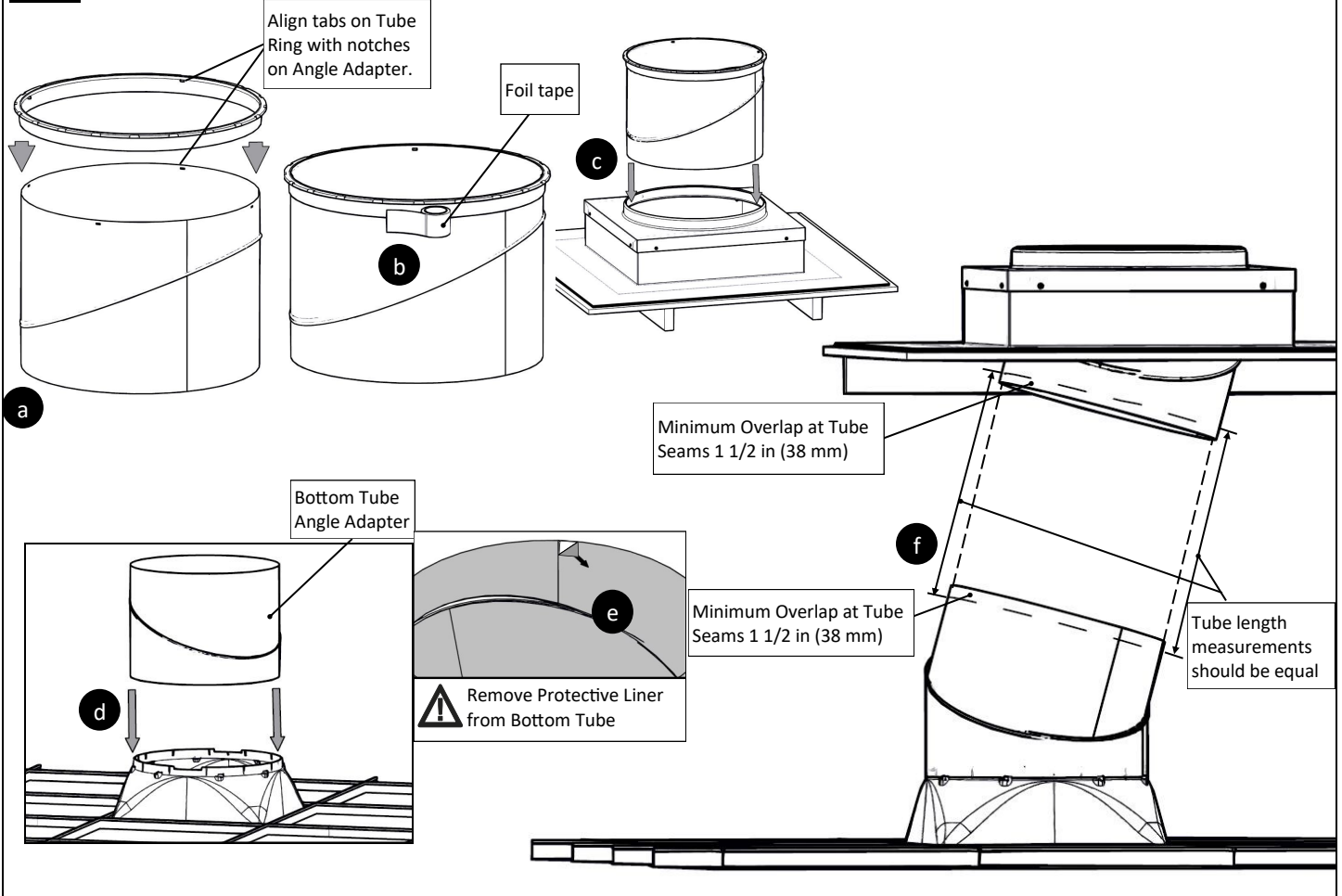


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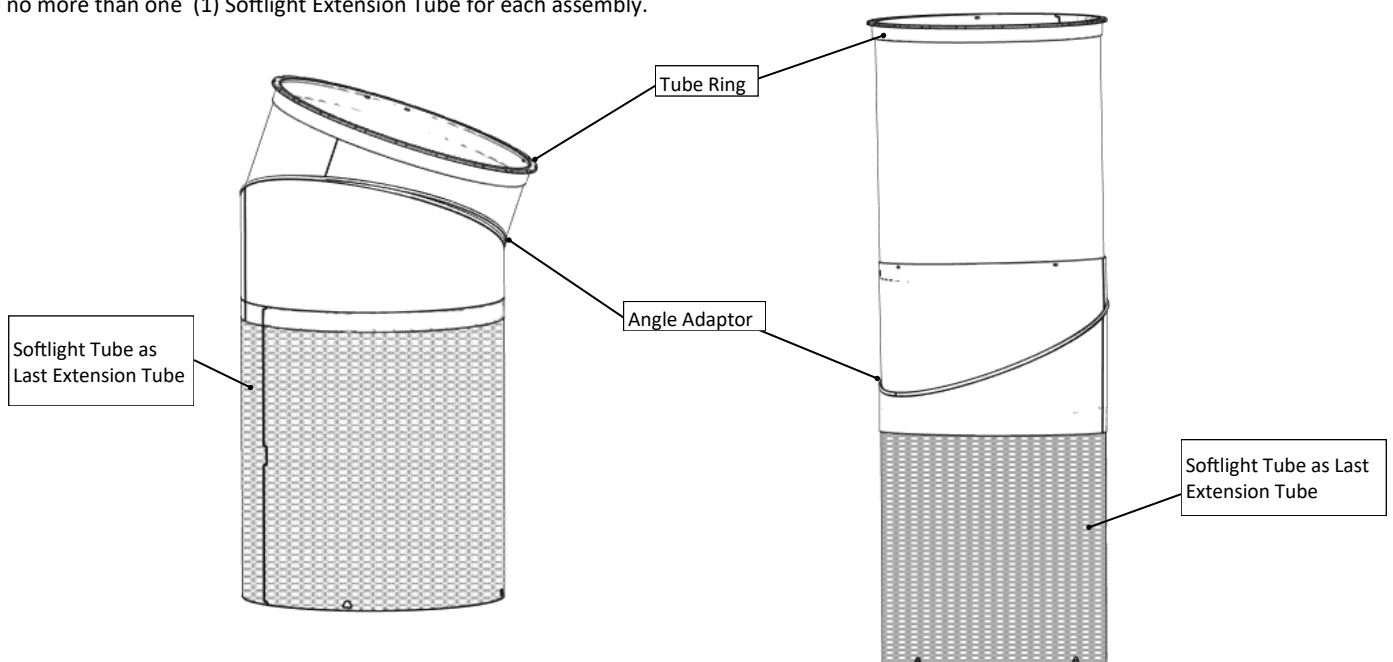
Install Top and Bottom Tube Angle Adapters; Measure Tube Run

Tube ring can be installed on Top Tube with Angle Adapter or an Extension tube (see step 5).



Note: For use with Metal Transition Box

Install Spectralight Softlight Tubing at bottom of tube run for best results.
Use no more than one (1) Softlight Extension Tube for each assembly.



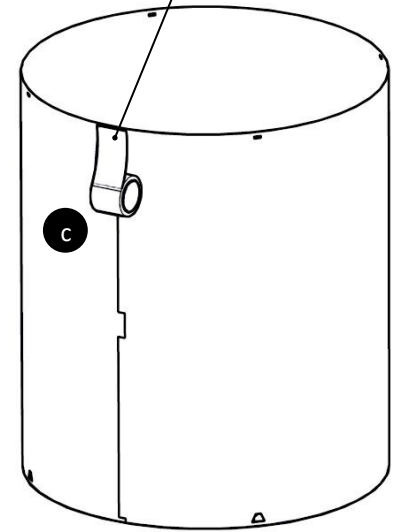
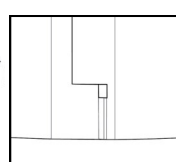
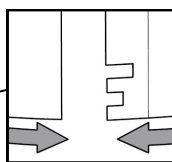
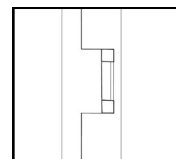
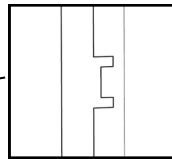
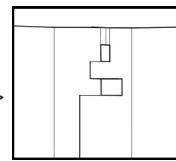
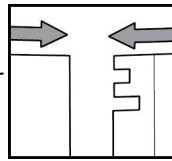
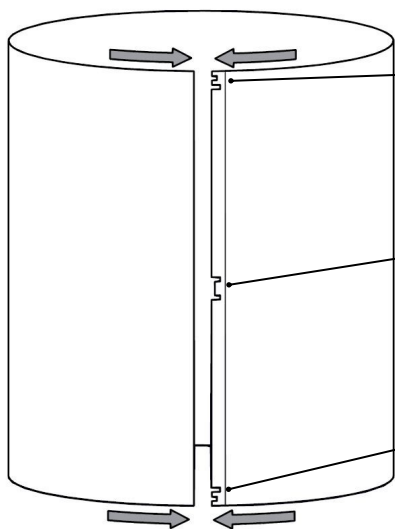
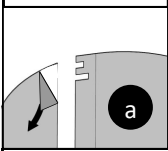
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Option 1: Assemble 24 in (610 mm) Extension Tube

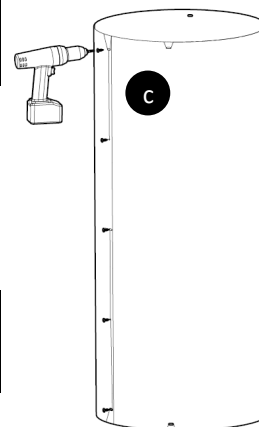
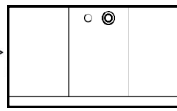
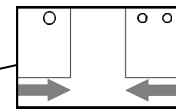
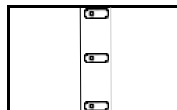
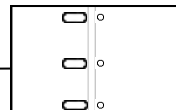
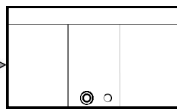
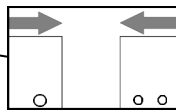
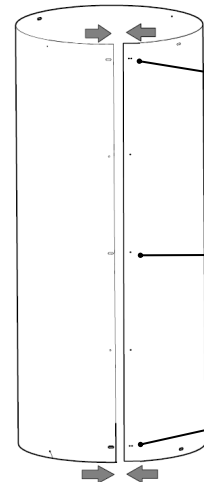
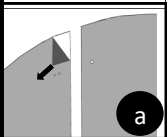
Use notches to create tapered tube.

Note: Spectralight Softlight Extension Tubes must be assembled to be parallel not tapered.

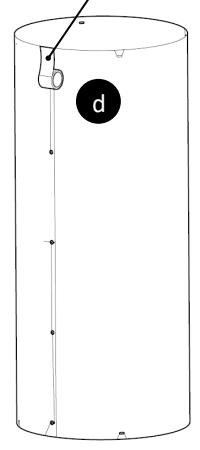
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Option 2: Assemble 48 in (1220 mm) Extension Tube

Use slots to create tapered tube.

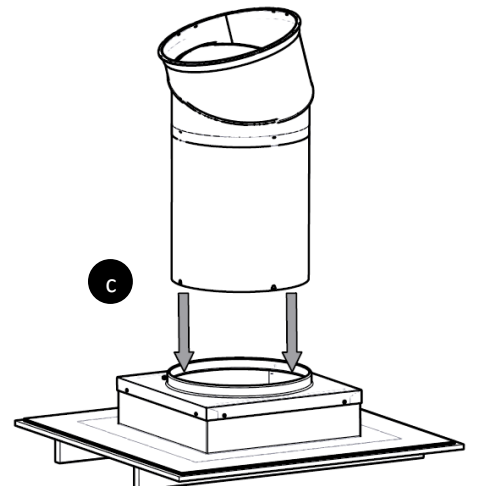
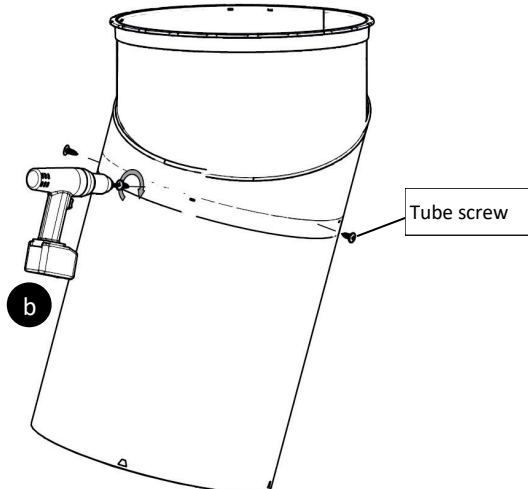
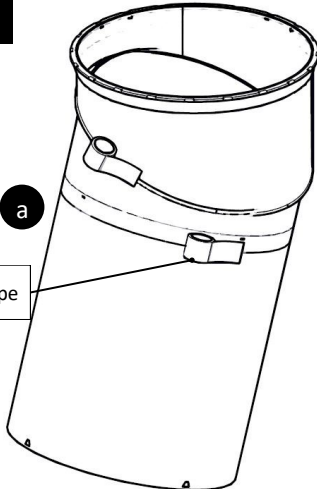
Note: Spectralight Softlight Extension Tubes must be assembled to be parallel not tapered.

Apply pressure to tape for proper bonding



10

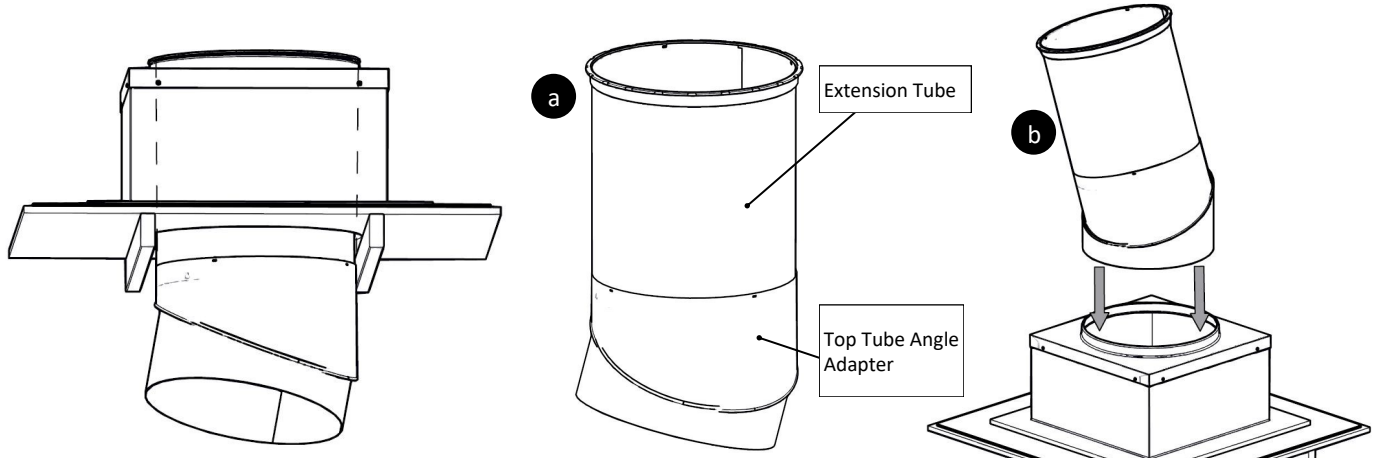
Assemble and Install Tube Run



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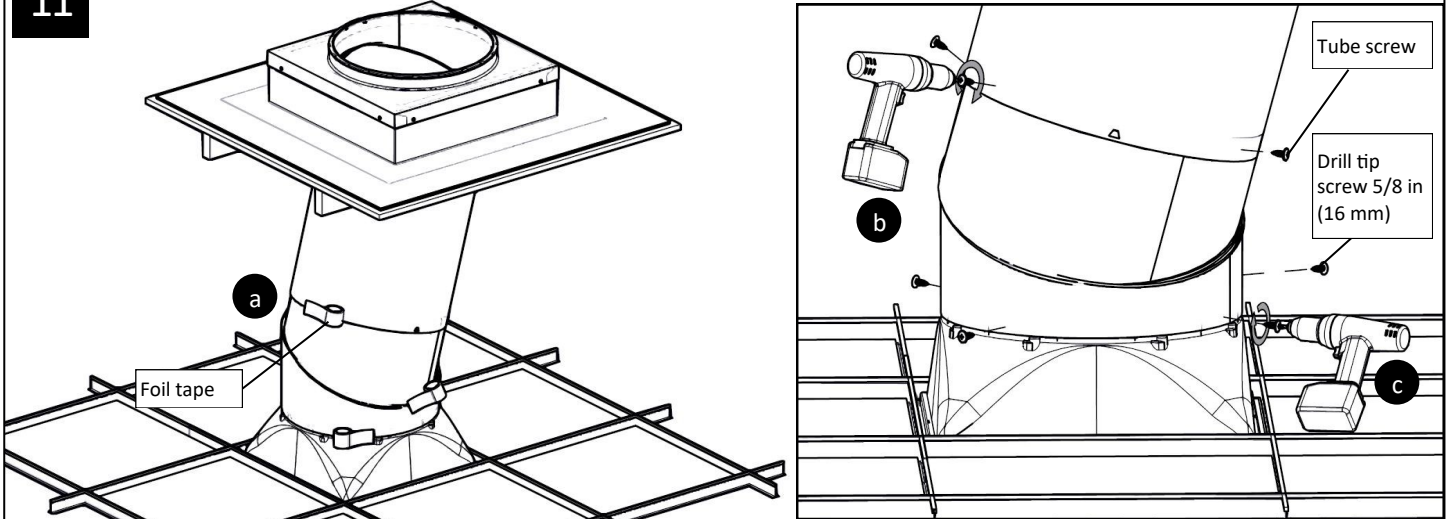
Alternative Tube Run

For curb heights or obstructing structural members that require an Extension Tube as the Top Tube, use configuration below:



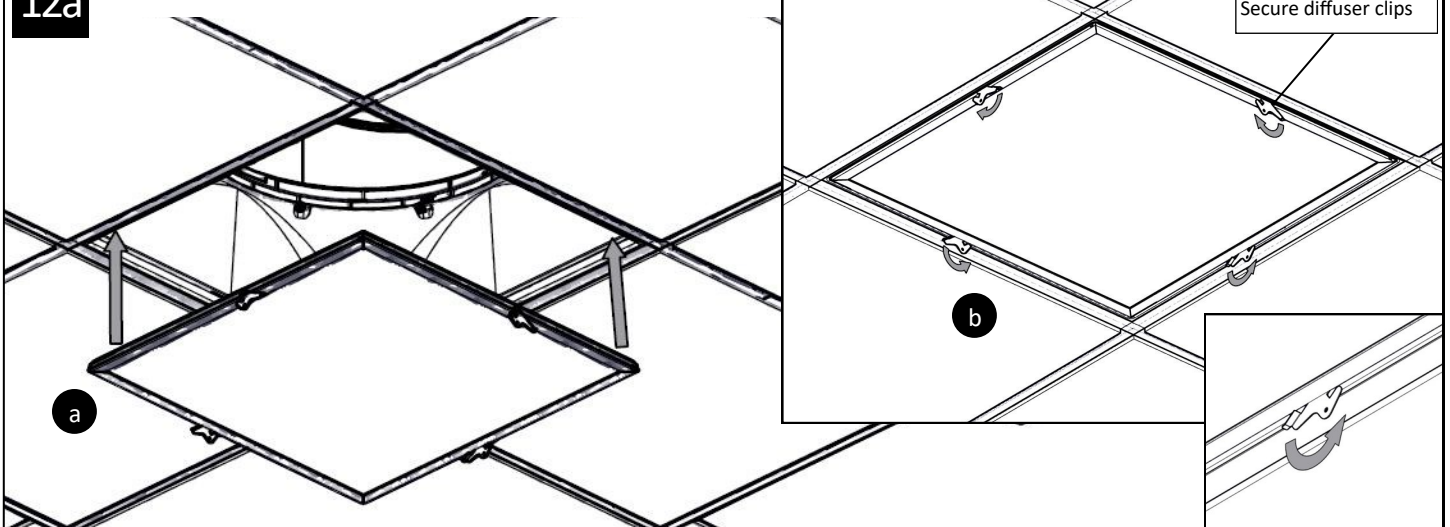
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Connect Tube Run and Fasten to Transition Box



12a

Install diffuser (Plastic Transition Box Only)

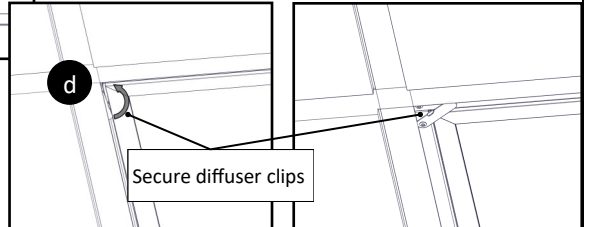
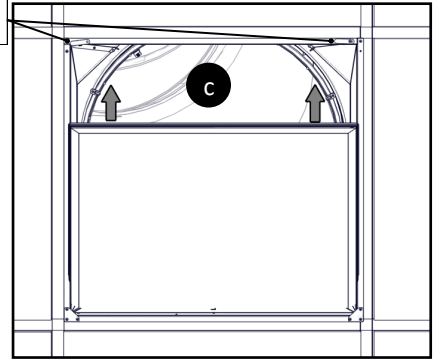
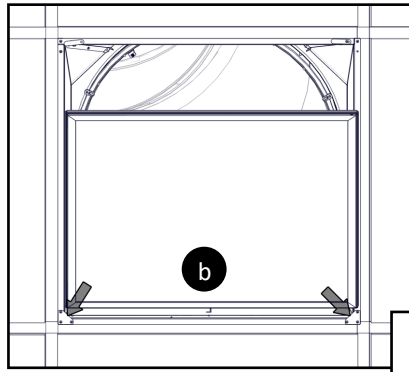
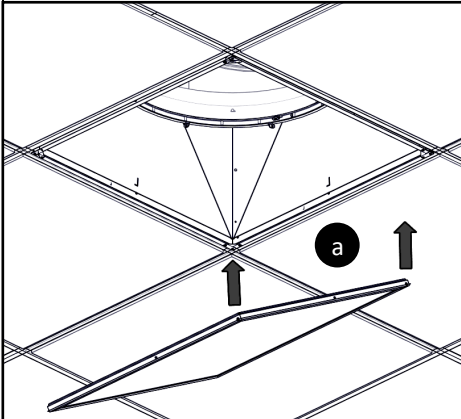


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12b

Install diffuser (Metal Transition Box with Softlight Technology Only)

Diffuser Clip

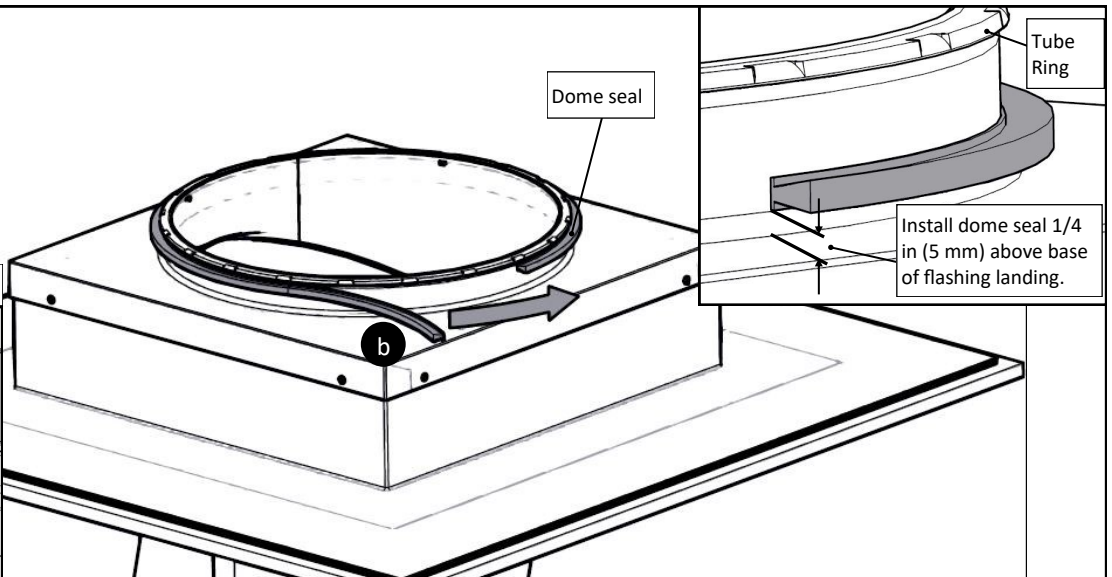
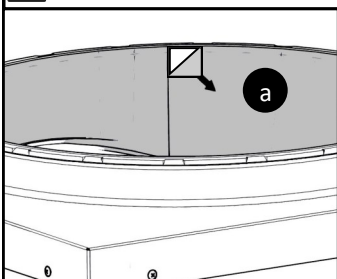


Note: Do not press diffuser into metal transition box too far. Ensure that diffuser is flush with transition box frame.

13

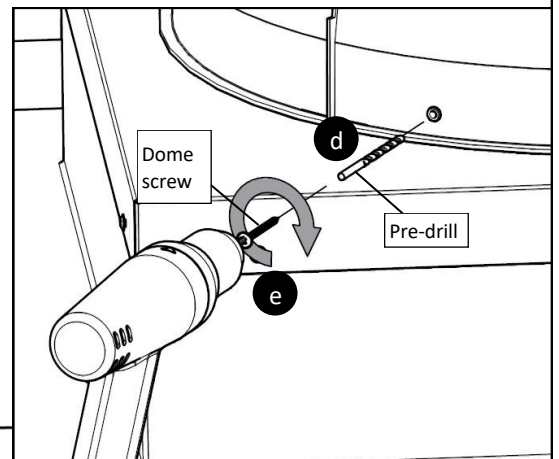
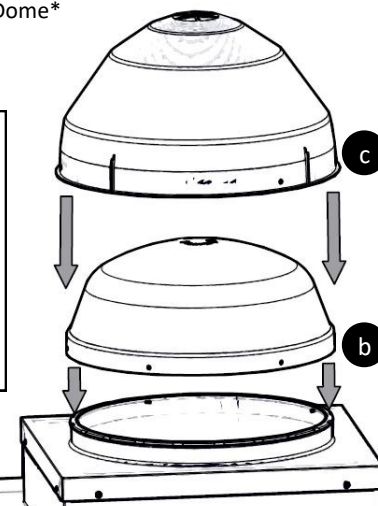
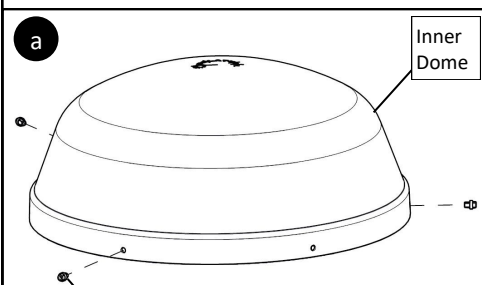
Install Dome Seal

Remove Protective Liner



14

Install 750 DS Outer Dome with Inner Dome*



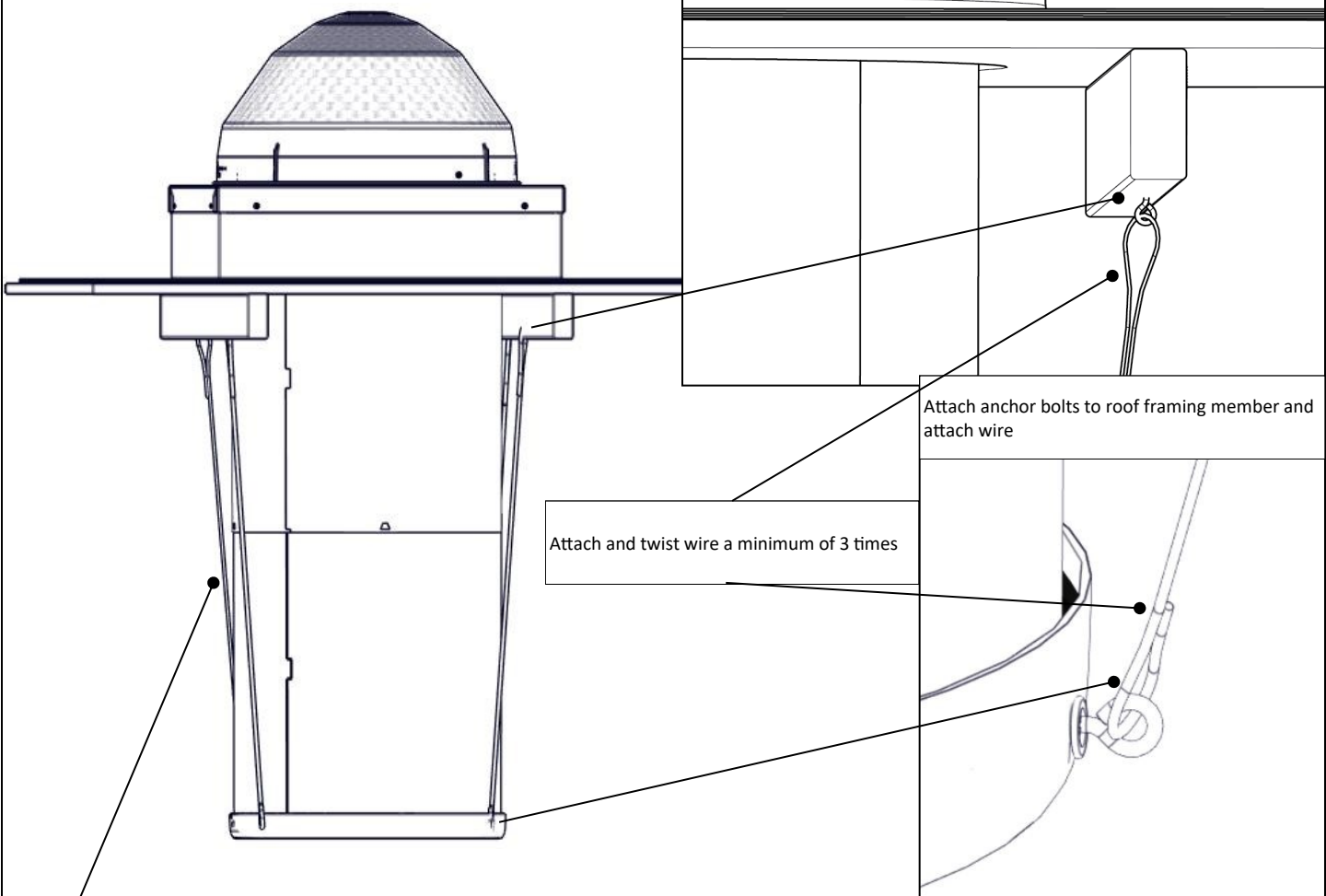
*Polycarbonate inner dome required for all ICC 500/FEMA P361 applications; dip screw threads in sealant.

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Open Ceiling Installation Instructions

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Attach Anchor Bolts and Install Suspension Wire
SUSPENSION WIRE IS REQUIRED TO MEET ICC 500/FEMA P361



NOTE: It is critical to leave 1 in. (25 mm) of slack in suspension wire for all ICC 500/FEMA P361 applications.

Suspension Wire Kit Installation Instructions Appendix

Metal Transition Box with Softlight Technology

Parts List	Quantity
1 12 Gauge Galvanized Wire 50 ft (15.25 m)	(1)
2 Anchor Bolts	(4)
3 Eye Bolt #8 1/8 in (25 mm) with Nut and (2) Washer	(4)

1

Pre Drill Transition Box

* Position holes to allow for natural effect lens.

* Bottom tube removed to show detail. Drill holes with bottom tube installed.

Additional Materials and Tools	Quantity
1 Drill Bit 1/8 in (3 mm)	(1)

Attach Anchor Bolts and Install Suspension Wire

SUSPENSION WIRE IS REQUIRED TO MEET ICC 500/FEMA P361

2

Install Eye Bolts

3

Attach Anchor Bolts and Install Suspension Wire

Attach and twist wire end a minimum of 3 times.

NOTE: It is critical to leave 1 in. (25 mm) of slack in suspension wire for all ICC 500/FEMA P361 applications.

Suspension Wire Kit

Installation Instructions Appendix

Plastic Polymeric Transition Box

Parts List	Quantity
1 12 Gauge Galvanized Wire 50 ft (15.25 m)	(1)
2 Anchor Bolts	(4)
3 Eye Bolt #8 1/8 in (25 mm) with Nut and (2) Washer	(4)

Additional Materials and Tools	Quantity
1 Drill Bit 1/8 in (3 mm)	(1)

Attach Anchor Bolts and Install Suspension Wire

SUSPENSION WIRE IS REQUIRED TO MEET ICC 500/FEMA P361

1

Pre Drill Transition Box

* Position holes to allow for natural effect lens.

* Bottom tube removed to show detail. Drill holes with bottom tube installed.

2

Install Eye Bolts

3

Attach Anchor Bolts and Install Suspension Wire

NOTE: It is critical to leave 1 in. (25 mm) of slack in suspension wire for all ICC 500/FEMA P361 applications.

Accessories

Installation Instructions Appendix

The following instructions only provide critical steps for the Solatube Thermal Insulation Panel and Daylight Dimmer for all ICC 500/FEMA P361 applications.

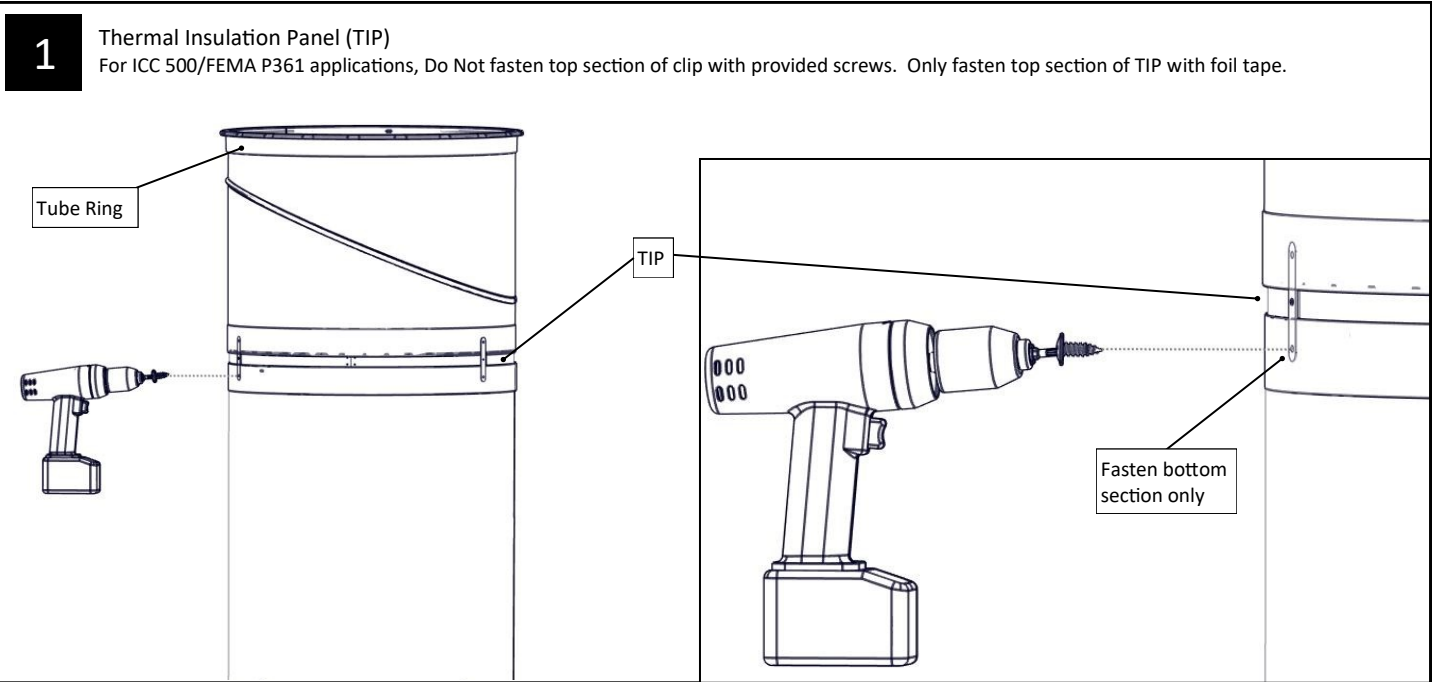
For complete instructions, please visit our **Technical Resources** page at www.solatube.com/instructions.

Open Ceiling Installation Instructions

1

Thermal Insulation Panel (TIP)

For ICC 500/FEMA P361 applications, Do Not fasten top section of clip with provided screws. Only fasten top section of TIP with foil tape.



Tube Ring

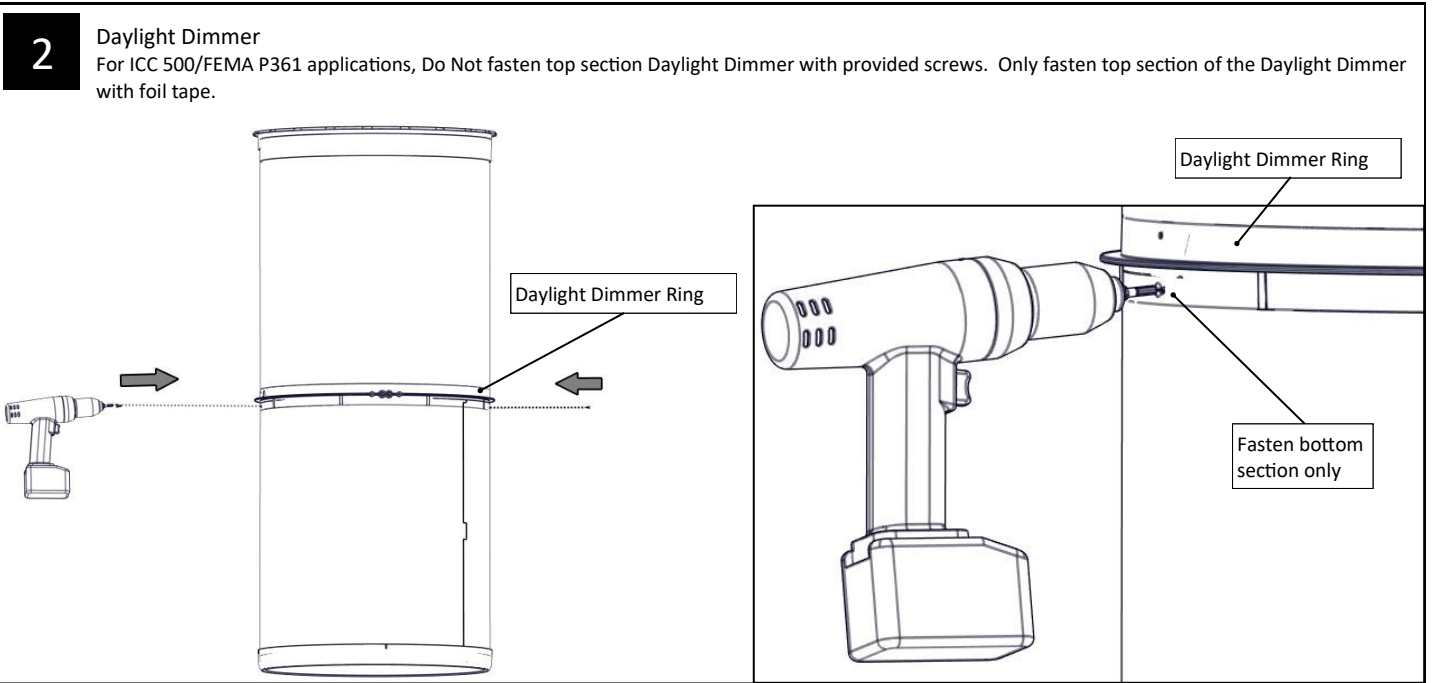
TIP

Fasten bottom section only

2

Daylight Dimmer

For ICC 500/FEMA P361 applications, Do Not fasten top section Daylight Dimmer with provided screws. Only fasten top section of the Daylight Dimmer with foil tape.



Daylight Dimmer Ring

Daylight Dimmer Ring

Fasten bottom section only

Closed Ceiling TIP & Daylight Dimmer Installation Instructions

For Applications with Insulation at Ceiling Level with Plastic or Metal Transition Box

Thermal Insulation Panel (TIP)

For ICC 500/FEMA P361 applications, Do Not fasten top section of clip with provided screws. Only fasten top section of TIP and Daylight Dimmer with foil tape.

