

Cold Deck FIT

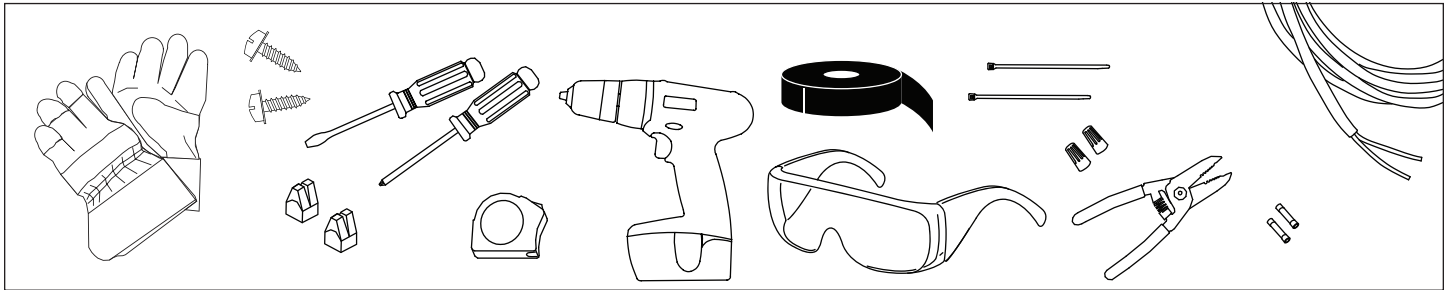
Canopy and Shelf Lights for New Construction and Retrofit

Installation Guide for 701940

General Information

- Cold Deck FIT LED Class 2 low-voltage luminaires are intended for use inside of commercial refrigerated display merchandisers for food zone, splash zone, and non-food zones only.
- **WARNING – Risk of Fire or Electric Shock. Not for direct replacement of Fluorescent Lamps.**
Use only with SloanLED Power Supply (P/N 701936, or 701895-24W, or 701895-24C or 410175).
- Use only a damp cloth and mild cleaning agent to clean Cold Deck FIT luminaires.
- For retrofit applications, complete Retrofit Kit is assembled during on-site audit of each merchandiser prior to installation.

Tools and Accessories Recommended



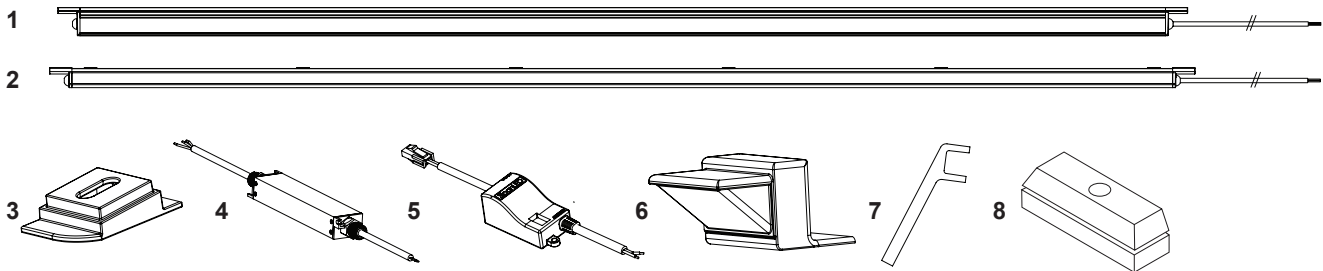
For retrofit applications

Do not remove existing primary merchandiser wiring.

Gloves, safety glasses, flat and Phillips head screwdrivers, screws, standard drill, measuring tape, electrical tape, wire strippers, UL Listed wire connectors, tie-wraps, and UL Listed 18 gauge wires (multiple colors such as white, black, blue, and red are useful to avoid confusion, but not required).

Items Purchased for Installation

1. Cold Deck FIT Canopy Light
2. Cold Deck FIT Shelf Light
3. Stand-off Clips
4. Power Supplies
5. Dimming Controller (optional)
6. Motion Sensor (optional, Wide Angle shown)
7. Clip Spanner Wrench
8. Tombstone Retrofit Grommets (2 included)



Check to ensure correct count of bill of materials prior to removing installed lamps and ballasts.

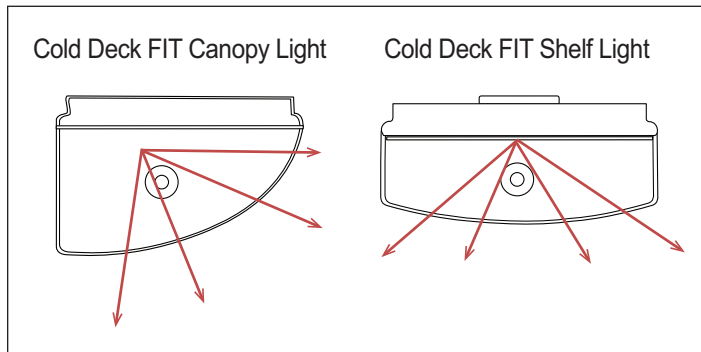
NOTE: Cold Deck FIT Canopy Lights are intended to be used in canopy of multi-deck merchandisers only. Any attempt to install these luminaires into trough or under shelving may cause damage to merchandiser and/or performance may not match literature specifications. Cold Deck FIT Shelf Lights may be installed under shelving.

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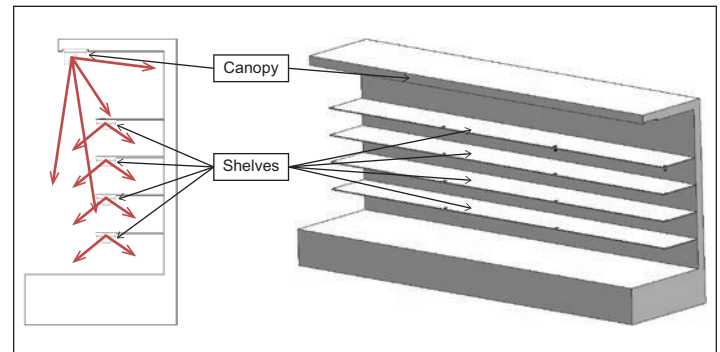
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Luminaire Directivity



Luminaire Placement



For Your Safety

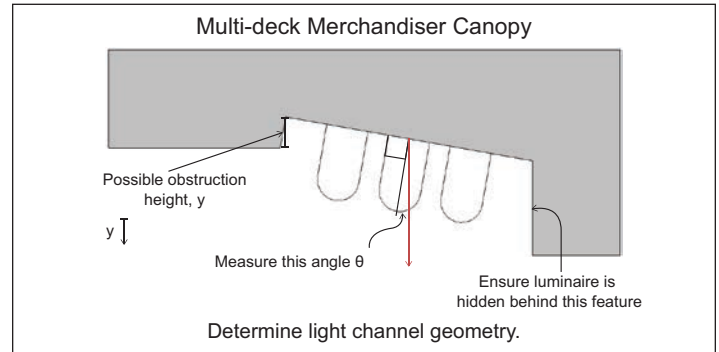
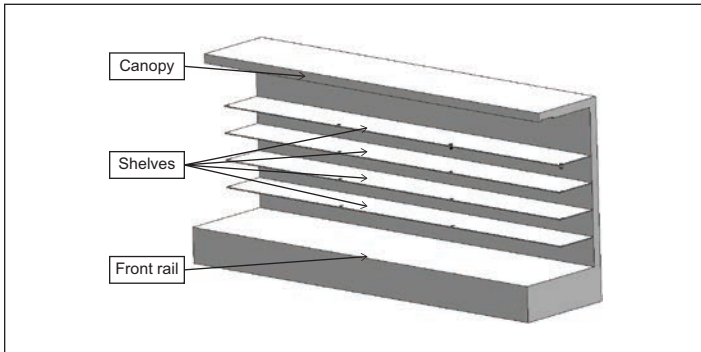
- Read and observe all NOTES, CAUTIONS, and WARNINGS shown throughout these instructions.
- Installation must be performed by a qualified electrician.
- Gloves and safety glasses should be worn at all times during installation.
- Retrofit kit is accepted as a component of a luminaire where suitability of combination shall be determined by authorities having jurisdiction.
- Do not make or alter any open holes in an enclosure of wiring or electrical components during installation.
- Do not leave any other open holes in an enclosure of wiring or electrical components.
- WARNING – Risk of fire or electrical shock. Luminaire wiring, LED Driver, or other electrical parts may be damaged when drilling for installation of retrofit kit. Inspect wiring and components for damage and do not expose wiring to edges of sheet metal or other sharp objects.
- WARNING – Risk of fire or electrical shock. Install this retrofit kit only in luminaires that have constructional features and dimensions shown in photographs and/or drawings.
- INSTALLATION REQUIRES A LICENSED ELECTRICIAN FAMILIAR WITH CONSTRUCTION AND OPERATION OF FLUORESCENT LIGHTING LUMINAIRE ELECTRICAL SYSTEMS AND HAZARD INVOLVED.
- Install to national and local regulations.

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Retrofit Applications



- Warning: Risk of electrical shock.** Locate main circuit breaker panel, de-energize, and perform lockout/tagout prior to retrofitting merchandiser. All primary wiring must be done by a licensed electrician.
- Prior to beginning work, perform an audit and visual inspection of refrigerated display case to be retrofitted. Locate and note original equipment manufacturer's (OEM) part number and serial number. If possible, obtain and review OEM's set up and installation manual, specifically sections that relate to location of power switch, number and location of all fluorescent lamp holders and ballasts, and wiring diagram.

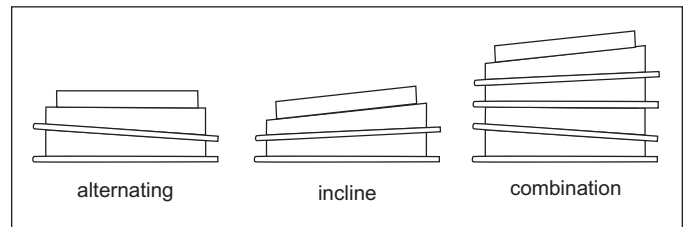
If no OEM documentation can be obtained, case must be visually inspected prior to installation. Locate all pairs of fluorescent lamp holders and note number and locations.

CAUTION: All ballasts must be located and removed during retrofit procedure. If all ballasts cannot be located, stop retrofitting procedure and contact OEM for assistance.

- As required, remove fluorescent bulbs and reflectors (if present) from canopy, under shelves, and inside front rail. Dispose of bulbs per local, state, or federal regulations. Refer to <http://lamprecycle.org> for guidance.
- Determine angle of light channel. Using a plumb-bob or other method, determine angle of inclination and record. Check for features on light channel which may cause an obstruction of light pattern from luminaire. If an obstruction is present, measure height and note. Ensure that luminaire can be installed at this height while remaining behind canopy fascia after installation.

NOTE: If light channel is angled, a pilot hole should be marked and drilled prior to drilling screws in. Canopy Lights may have pilot holes drilled prior to closing light channel if required.

- Determine proper configuration of angled Stand-off Clips needed for given merchandiser construction. Each angled Stand-off Clip imparts a 5° angle on Canopy Lights. If clips are stacked facing same way, angle progressively increases with each clip in 5° increments. If clips are stacked in an alternating orientation (front to back), total angle that canopy is held at zero and clips become a 0.5" (12.7 mm) stand-off. **NOTE: Configurations are additive.**



# of alternating Stand-off Clips	# of inclining progressive Stand-off Clips	Angle measured, θ	Stand-off height, y
0	1	5°	0.25"
0	2	10°	0.50"
2	0	0°	0.50"
4	0	0°	1.00"
2	2	10°	1.00"

Create 3 sets of clips per canopy light.

- Remove electrical raceway cover. With some merchandisers, raceway cover may be entire canopy panel. Refer to OEM's manual for instructions on how to access existing ballasts for canopy and shelf lights.

CAUTION: Weight of canopy panel and bundled wiring may cause panel to swing down upon removal of final screw. Dust and debris may have accumulated on panel since original installation. Safety goggles are recommended.

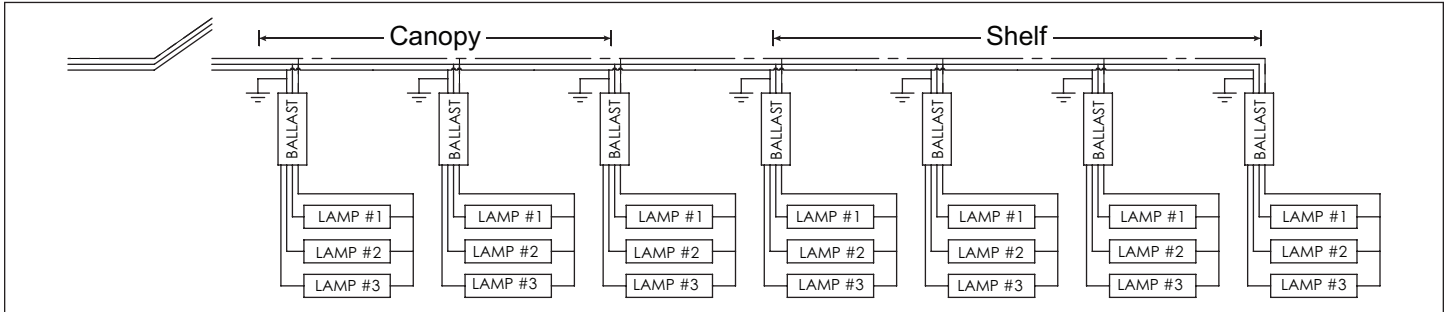
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Remove Ballasts and Install Power Supply

7. Cutting primary and secondary wires at ballast, remove installed ballasts and install appropriate number of power supplies based on respective number of Canopy and Shelf Lights.



Typical wiring diagram for a 12' (3600 mm) multi-deck merchandiser before retrofit conversion, with three (3) rows of canopy lamps and lamp holders along with four (4) rows of three (3) shelves.

CAUTION: Power supplies should not be mounted near any other heat generating element.

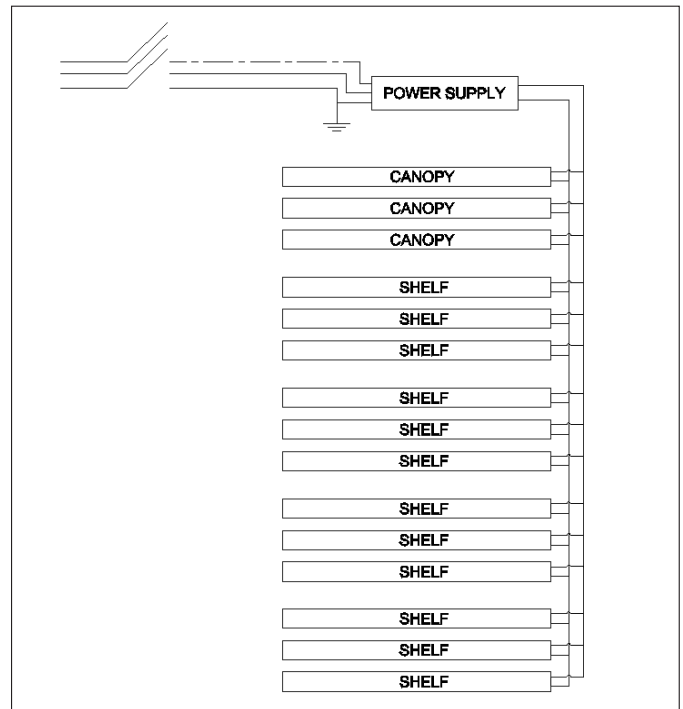
Table 1– Cold Deck FIT maximum lights per power supply

701895 Series/701936	Canopy	Shelf
4' (1200 mm)	3	12
3' (910 mm)	4	16
410175 Series	Canopy	Shelf
4' (1200 mm)	3	0
3' (910 mm)	4	0

NOTE: Any combination of lights may be used up to a total of 90 W on a 701895-24C, 701895-24W, or 701936 power supply, or 36 W on a 410175 power supply.

NOTE: Only one (1) Canopy Light is required to replace up to three (3) fluorescent lamps in canopy.

8. Connect primary power to power supply (refer to wire description on power supply label). Use UL Listed twist-on or push-in connectors for connections. Follow connector manufacturer's instructions.



NOTE: PRIMARY WIRING CONNECTIONS: AC Neutral to Power Supply White; AC Line to Power Supply Black; Earth Ground to Power Supply Green.

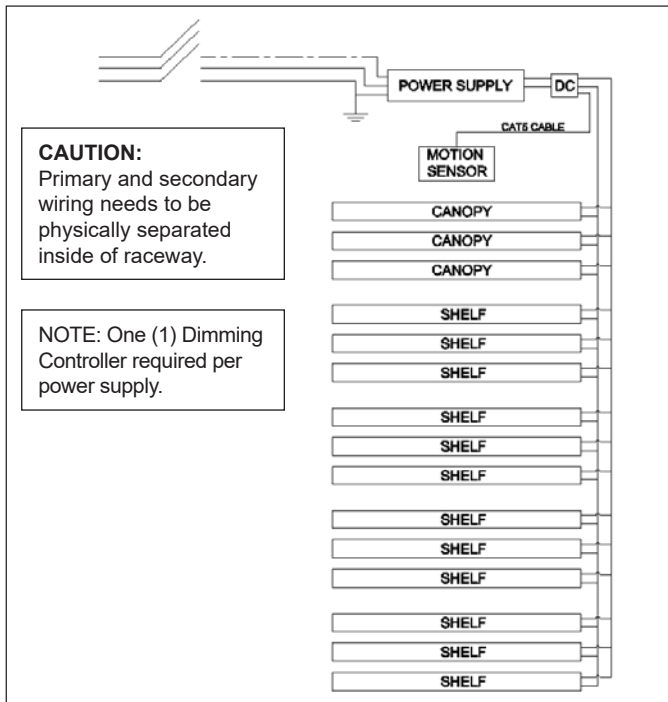
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Remove Ballasts and Install Power Supplies (cont.)

9. **Optional - Install Dimming Controller and Motion Sensor:**
 Connect Dimming Controller to secondary side of power supply.
 Use Cat 5 cable to connect Motion Sensor to Dimming Controller.

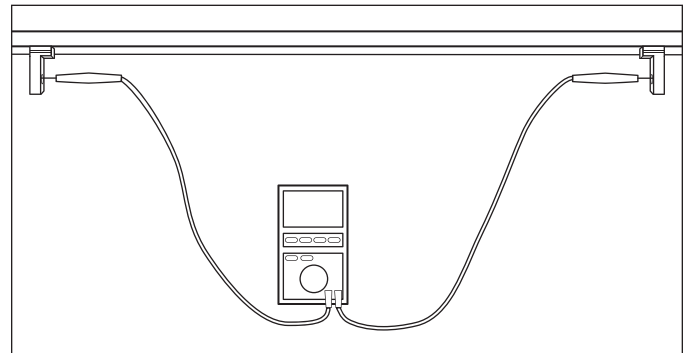


Typical wiring diagrams for a 12' (3600 mm) retrofitted multi-deck merchandiser with three (3) Canopy Lights and four (4) Shelf Lights with dimming.

10. Attach secondary wiring to power supply: Connect all RED wires from removed ballasts to RED output wire on power supply (or DC) and all BLUE wires from removed ballasts to BLACK output wire on power supply secondary. Use Terminal blocks for easier power supply connections.

NOTE: All tombstones should be connected to secondary of power supply.

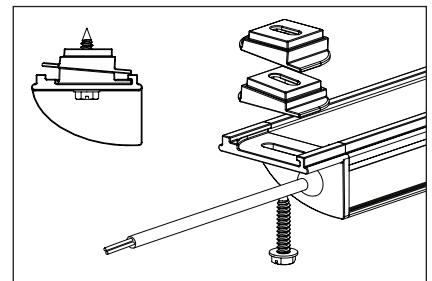
11. Energize system and test lamp holders for electrical shock hazard. Ensure that no unused wires are exposed after installing power supply. Re-energize system via power switch. Using a voltmeter or multimeter, check for voltage, both AC and DC, between fluorescent lamp holders for all shelf and canopy lights. Measurements should read 24 VDC \pm 0.25 V and there should be 0 VAC \pm 1 VAC.



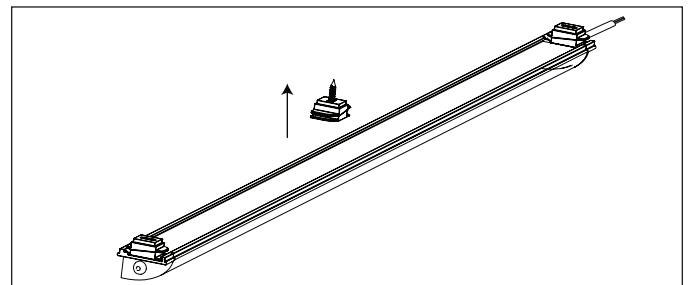
NOTE: If AC voltage measured, line voltage is present on low voltage side of system. De-energize system and troubleshoot accordingly.

Install Canopy Lights

12. With raceway still open, locate all pairs of tombstones. Push tombstones back out of dropped canopy. Cut tombstones off secondary wiring.



13. Attach Stand-off Clips as shown in diagram. Use appropriate length (based on number of Stand-off Clips required from Step 5), self-drilling/self-tapping, #8 or #10, pan or hex head screws.



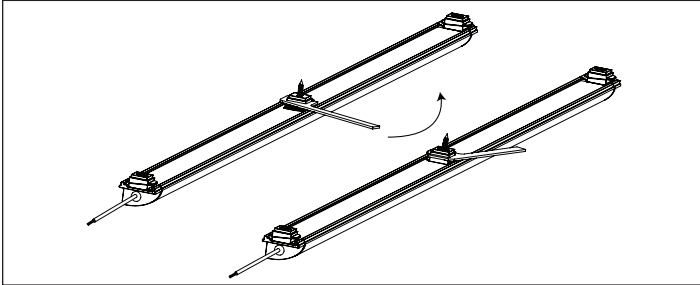
14. Affix appropriate configuration of Stand-off Clips for centerline-line mounting of Canopy Light.

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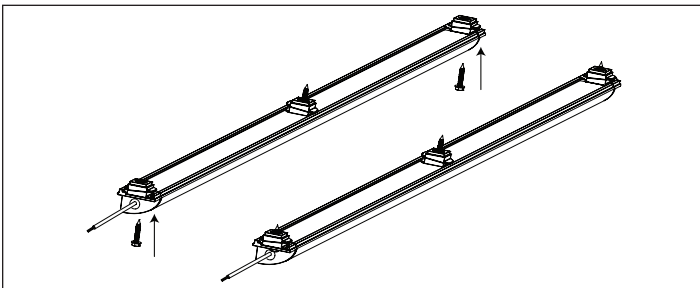
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Install Canopy Lights (cont.)



15. Lock Canopy Light into place using Clip Spanner Wrench.



16. Secure Canopy Light by installing appropriate length mounting screws through end cap mounting slots.

17. Close holes created in canopy. Place tombstone retrofit grommets on luminaire leads, and thread leads and grommets into open side of canopy, closing those holes and protecting cabling. Ensure that no new holes were created during retrofit. Plug all other holes with appropriate hole plugs.

18. Connect lights. Connections should be RED-to-RED, and BLACK-to-BLUE. Repeat for as many canopy lights as needed. It does not matter which pair of wires are chosen, only that corresponding colors are correlated correctly. Cap any unused wires.

19. Power check for canopy lights. Perform an ON/OFF check to ensure all connections are made properly.

20. Replace electrical raceway cover. Ensure all wires are clear of pinching; pinched wires will cause panel to close improperly. Use tie-wraps to help organize and secure wires if necessary. Replace screws removed in Step 5 of this installation guide.

**This completes installation of Canopy only lights.
If this completes your retrofit or installation,
permanently re-energize circuit breaker.
If Open Deck Merchandiser also has shelf lights
to retrofit, proceed to following section.**

Install Shelf Lights

21. If case was left re-energized from previous step, de-energize case again, performing lockout/ tag out as required.

22. Locate all pairs of tombstones in shelving, and corresponding raceways that support tombstones.

23. Remove electrical raceway that houses incumbent lamp holder. Cut wires from base of lamp holder/tombstone, remove lamp holder.

24. Place Shelf Lights. Shelf Lights initial method of attachment is via magnets, with primary method of securement via screws through end caps. Place Shelf Lights on flat surface that fully engages as many magnets as possible. Shelf Lights can be placed up to 12" (300 mm) away from fluorescent lamp holders. Mechanically fasten luminaires into place by screwing through holes in end caps using an appropriate fastener and if necessary, slide silicone grommet onto luminaire cable. NOTE: Do not install lights in such a way that raceway becomes inaccessible in following steps.

25. Connect appropriate wires to flying lead from LED luminaire using twist-on or push in UL listed wire connectors. Connections should be RED-to-RED and BLACK-to-BLUE. Replace raceway in its original location. NOTE: Make all secondary connections inside of raceway.

26. Close holes created in shelving, if any. Push silicone tombstone retrofit grommets into place in raceways as needed. Ensure that no new holes were created during retrofit.

27. Replace electrical raceway. Ensure all wires are clear of pinching. Use tie-wraps to help organize and secure wires, if necessary.

Turn on System

28. Energize main circuit breaker. Confirm proper luminaire operation.

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Dimming Controller Settings

Factory setting is 100% Brightness, 0% Dimming.

Brightness level

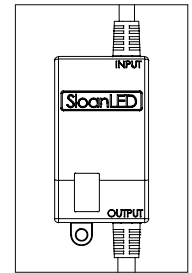
Selectable Duty Cycle output via SW 1 and SW 2
(Brightness level when shopper in area)

SW 1	SW 2	SW 3	SW 4	Brightness level
OFF	OFF	X	X	100% – No dimming mode
ON	OFF	X	X	50%
OFF	ON	X	X	75%
ON	ON	X	X	100%

Dimming

Selectable Duty Cycle output via SW 3 and SW 4
(Brightness level when area is not occupied)

SW 1	SW 2	SW 3	SW 4	Brightness level
OFF	ON	OFF	OFF	100%
OFF	ON	ON	OFF	12.5%
OFF	ON	OFF	ON	25%
OFF	ON	ON	ON	45%



Dimming Controller
P/N 701890-PWR

Removal Instructions

1. De-energize system as outlined in Preparation for Install section on Page 3 of this installation manual and undo electrical connections to LED lights.
2. Grab light with a free hand.
3. *For Canopy Lights:* Using wrench provided, disengage center mounting clip. Using appropriate sized screwdriver or nut driver, remove mounting hardware and remove luminaire from merchandiser.
For Shelf Lights: Remove mounting hardware. Disengage mounting magnets from under-shelf and remove luminaire from merchandiser.
4. Repeat process for remaining lights. Make sure to continually support LED lights with a free hand during removal.
5. Open electrical raceway cover and remove power supplies.
6. Cap or remove all primary wires.

Optional Dimming Control	Part Number
Dimming Controller	701890-PWR
Motion Sensor, Standard	400661
Motion Sensor, Wide Angle	400964

See spec sheet for further details. Spec sheet available at SloanLED.com.

Cold Deck FIT is covered by US and foreign patents pending.

UL 2108 Low Voltage Luminaire Listing: E329727
UL NSF/ANSI 2 file number: SA33165



Customer service and technical support

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