

# HUSSMANN®

## *EcoShine II Vertical LEDs MULTI-DECK Cases with Glass Doors*



## *Upgrade Installation Manual*

P/N 0524790\_E  
June 2017

MANUAL- KIT INSTALLATION ECOSHINE II VERTICAL LED UPGRADE

Spanish 0527936  
French 0531194



## BEFORE YOU BEGIN

Read these instructions completely and carefully.



### WARNING

***RISK OF FIRE OR ELECTRICAL SHOCK. LUMINAIRE WIRING AND ELECTRICAL PARTS MAY BE DAMAGED WHEN DRILLING FOR INSTALLATION OF LED RETROFIT KIT. CHECK FOR ENCLOSED WIRING AND COMPONENTS.***



### WARNING

***TO PREVENT WIRING DAMAGE OR ABRASION, DO NOT EXPOSE WIRING TO EDGES OF SHEET METAL OR OTHER SHARP OBJECTS.***



### WARNING

***RISK OF FIRE OR ELECTRIC SHOCK. LED RETROFIT KIT INSTALLATION REQUIRES KNOWLEDGE OF LUMINAIRES' ELECTRICAL SYSTEMS. IF NOT QUALIFIED, DO NOT ATTEMPT INSTALLATION. CONTACT A QUALIFIED ELECTRICIAN.***

### NOTICE

***ONLY THOSE OPEN HOLES INDICATED IN THE PHOTOGRAPHS AND / OR DRAWINGS MAY BE MADE OR ALTERED AS A RESULT OF KIT INSTALLATION. DO NOT LEAVE ANY OTHER OPEN HOLES IN AN ENCLOSURE OF WIRING OR ELECTRICAL COMPONENTS.***



### WARNING

***RISK OF FIRE OR ELECTRICAL SHOCK. INSTALL THIS KIT ONLY IN THE LUMINAIRES THAT HAVE THAT HAVE THE CONSTRUCTION FEATURES AND DIMENSIONS SHOWN IN THE PHOTOGRAPHS AND / OR DRAWINGS.***



### WARNING

***TO PREVENT WIRING DAMAGE OR ABRASION, DO NOT EXPOSE WIRING TO EDGES OF SHEET METAL OR OTHER SHARP OBJECTS.***

REVISION HISTORY

REVISION E — Switched to latest generation light

REVISION D — Removed LED part numbers, updated brackets and power supply parts

REVISION C — Added caution boxes on Page 2. Updated Lighting Chart, Page 9; change reference from EcoShine II to EcoShine II Plus throughout document; Updated wiring Diagrams, Page 14.

REVISION B — Bold note, Page 6; Diagram page updated, Page, 12; Note, page 15 canopy lights;

REVISION A — Original Issue

There are two main hazard areas that service technicians may encounter on a day-to-day basis. They are: working within close proximity to the public and personal safety. Before starting work, review these hazards by completing the following checklist:

\*\*\*\*\*

ANSI Z535.5 DEFINITIONS



• **DANGER** – Indicate[s] a hazardous situation which, if not avoided, will result in death or serious injury.



• **WARNING** – Indicate[s] a hazardous situation which, if not avoided, could result in death or serious injury.



• **CAUTION** – Indicate[s] a hazardous situation which, if not avoided, could result in minor or moderate injury.

• **NOTICE** – *Not related to personal injury* – Indicates[s] situations, which if not avoided, could result in damage to equipment.

IMPORTANT  
KEEP IN STORE FOR FUTURE REFERENCE  
*Quality that sets industry standards!*



12999 St. Charles Rock Road • Bridgeton, MO 63044-2483  
U.S. & Canada 1-800-922-1919 • Mexico 01-800-890-2900  
[www.husmann.com](http://www.husmann.com)  
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**SAFETY*****WORKING NEAR THE PUBLIC*****KEEPING THE PUBLIC OUT:**

The following techniques reduce the risk of injury to third parties (shoppers, store employees, etc.):

Cordon off all work areas with cones, caution tape, warning signs and/or barricades.

Maintain a work area of at least five feet from the public.

Is a second person required to prevent the public from entering the work area when the work area cannot be adequately cordoned off?

**HAZARDOUS MATERIALS**

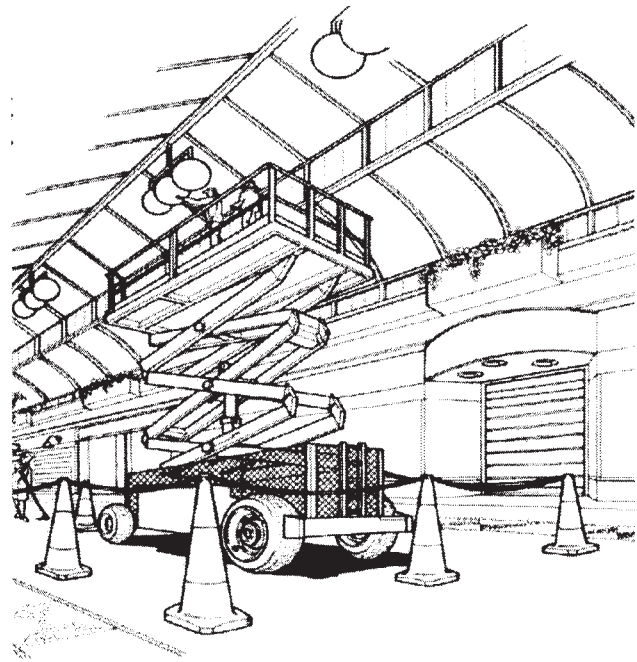
Can the public be exposed to any chemicals, refrigerants or fumes? If yes, can steps be taken to eliminate or reduce the risk of exposure? to guard against accidental release of refrigerants, make sure the work area is adequately cordoned off (instead of posting a *WET FLOOR* sign, use *CAUTION* tape to prevent the public from entering the area).

Are wet floors going to create a slip hazard for pedestrians? If yes, be sure to post *WET FLOOR* signs and establish a schedule for clean up as soon as the work is complete.

**ELECTRICAL HAZARDS**

Are all live electrical hazards protected from public access; i.e., de-energized/locked out or cordoned off? Is proper signage in place?

Do fixtures need to be replaced: If yes, will high work be conducted from a ladder or a scissor lift? Make sure the work area is cordoned off as shown below.



**⚠ CAUTION**

Fluorescent lamps contain mercury vapor. Mercury exposure at high levels can harm the brain, heart, kidneys, lungs, and immune system of people of all ages. Do not break or puncture fluorescent lamps. Dispose of, or store, all fluorescent lamps in accordance with Federal (40 CFR 273), State, and local hazardous waste requirements. Refer to <http://www.epa.gov/mercury/about.htm>

**PERSONAL SAFETY**

Over 90% of accidents are due to human error or from complacency about the job. This checklist is provided to remind you of the potentially hazardous conditions at the jobsite.

**WORKING AT HEIGHT**

Will you be working more than six feet off the ground? If yes, have you received appropriate training (i.e., ladder, scissor lifts and personal fall-arrest systems)?

Do you have the appropriate personal protective equipment (PPE) for working at height (safety harness/lanyard)?

Will you be working on roofs with unprotected edges? If yes, make sure actions are taken to prevent a fall (i.e., identification of **adequate** anchor points for safety harnesses).

**CONFINED SPACE WORK**

Will you be working in any confined spaces? If yes, have you received appropriate training? A confined space has limited means of entry/egress, is not designed for human occupancy, and is large enough for bodily entry.

Is permit-required confined space entry required? If yes, have appropriate steps been taken for safe entry, such as permit issuance. **If in doubt, DO NOT ENTER and inform the client.**

**ELECTRICAL / LOTO**

Does the project require you to work with live electricity? If yes, have you received appropriate training?

Do you have appropriate locks and tags to de-energize or isolate the electrical supply?

**REMOTE AND LIMITED USE LOCATIONS**

Is there the potential to contact poisonous plants (ivy, oak or sumac)? If yes, make sure you wear proper PPE (gloves, long pants and long sleeves).

Check for snakes, vermin and bees / wasps. If stung or bitten, do you have reactions that require medical treatment, such as Epinephrine EpiPen? ***If yes, inform the client prior to starting work.***

**ALWAYS\*CLEAR™ GLASS**

Hussmann recommends using a soft cloth with isopropyl (rubbing) alcohol to clean the inside (coated) glass surface. Isopropyl alcohol does not freeze and evaporates without leaving residue. Always allow the surface to dry before closing the door. Use of abrasives may damage the coated surface and void the warranty. Labels (stickers) applied to the coated surface will cause damage and void the warranty.

**LED LIGHT FIXTURES**

EcoShine II LED (light emitting diode) lights work well for dimming or on/off operation using an occupancy sensor (optional kits). They can be turned on and off in a cold environment with no warm-up time and no negative impact on lamp life.

**CLEANING LED FIXTURES**

Use a lint-free cloth to wipe the surface of the luminaires. Do NOT use scouring pads, bleach, solvents, or detergents. This may damage the surface of the clear plastic cover.

**GENERAL**

This instruction explains how to remove original equipment manufacture (OEM) fluorescent lamp fixtures and replace them with Hussmann LED light bars for any multi-deck merchandiser.

**FOR YOUR SAFETY**

- Read and observe all CAUTIONS and WARNINGS shown throughout these instructions.
- Each person working on or near the installation described must wear safety glasses or goggles..
- Block access to the work area by customers or other personnel to prevent injury.
- Read and follow all industry safety recommendations and established procedures.
- Wiring must be 2 wire with ground and rated for 75°C (176°F).

**ELECTRICAL CONNECTIONS**

All wiring must be in compliance with NEC and local codes. All electrical connections are to be made in the wireway or mullion or LED light fixture.

**IDENTIFICATION OF WIRING**

Leads for all electrical circuits are identified by colored plastic bands. These bands correspond to the *color code sticker* (shown below) located inside the merchandiser's wireway cover. Anthony doors may not conform to this chart. Refer to the manufacturer's manual for their information.

**SHIPPING DAMAGE**

All equipment should be thoroughly examined for shipping damage before and during unloading.

This equipment has been carefully inspected at our factory. Any claim for loss or damage must be made to the carrier. The carrier will provide any necessary inspection reports and/or claim forms.

**Apparent Loss Or Damage**

If there is an obvious loss or damage, it must be noted on the freight bill or express receipt and signed by the carrier’s agent; otherwise, carrier may refuse claim.

**Concealed Loss Or Damage**

When loss or damage is not apparent until after equipment is uncrated, retain all packing materials and submit a written request to the carrier for inspection, within 15 days.

**Missing Parts**

Every effort is made to ship all parts for the kit. The Hussmann Service Center can be reached by calling

- from U.S. & Canada 1-800-922-1919
- from Mexico 01-800-890-2900 •

**WIRING COLOR CODE**

Leads for all electrical circuits are identified by a colored plastic band: neutral wire for each circuit has either White insulation or a White plastic sleeve in addition to the color band.

<b>PINK .....</b>	<b>REFRIG. THERMOSTAT LOW TEMP.</b>	<b>ORANGE OR</b>
<b>LIGHT BLUE.</b>	<b>REFRIG. THERMOSTAT NORM TEMP.</b>	<b>TAN .....</b>
<b>DARK BLUE.</b>	<b>DEFROST TERM. THERMOSTAT</b>	<b>MAROON ..</b>
<b>PURPLE .....</b>	<b>CONDENSATE HEATERS</b>	<b>YELLOW ...</b>
<b>BROWN .....</b>	<b>FAN MOTORS</b>	<b>RED .....</b>
<b>GREEN* .....</b>	<b>GROUND</b>	<b>*EITHER COLORED SLEEVE OR COLORED INSULATION</b>

**ELECTRICIAN NOTE: Use copper conductor wire only.  
CASE MUST BE GROUNDED**

**THESE ARE MARKER COLORS WIRES MAY VARY.**

## EcoShine II Vertical LEDs for Multi-Decks with Glass Doors

Factory, Replacement, and Upgrade Parts

	Hussmann Part Number	Description	Energy Watts (DC) Per Fixture	Energy Watts (AC) Per Fixture	CRI Rating (typical)	Length (inches)	Efficacy (Lumens/Watts) Nominal	
WARM	3022456	LED-Mullion LH 33.4 3000K C	9	10.5	85	33.4	88	
	3022472	LED-Mullion CTR 33.4	3000K C	12	14.0	85	33.4	98
	3022489	LED-Mullion RH 33.4 3000K C	9	10.5	85	33.4	88	
	3022460	LED-Mullion LH 46.7 3000K C	12	14.0	85	46.7	88	
	3022477	LED-Mullion CTR 46.7	3000K C	18	20.9	85	46.7	98
	3022493	LED-Mullion RH 46.7 3000K C	12	14.0	85	46.7	88	
	3022464	LED-Mullion LH 58.6 3000K C	15	17.4	85	58.6	88	
	3022481	LED-Mullion CTR 58.6	3000K C	24	27.9	85	58.6	98
	3022497	LED-Mullion RH 58.6 3000K C	15	17.4	85	58.6	88	
	3022468	LED-Mullion LH 65.7 3000K C	18	20.9	85	65.7	88	
3022485	LED-Mullion CTR 65.7	3000K C	27	31.4	85	65.7	98	
3022501	LED-Mullion RH 65.7 3000K C	18	20.9	85	65.7	88		
WARM NEUTRAL	3022457	LED-Mullion LH 33.4 3500K C	9	10.5	85	33.4	91	
	3022474	LED-Mullion CTR 33.4	3500K C	12	14.0	85	33.4	101
	3022490	LED-Mullion RH 33.4 3500K C	9	10.5	85	33.4	91	
	3022461	LED-Mullion LH 46.7 3500K C	12	14.0	85	46.7	91	
	3022478	LED-Mullion CTR 46.7	3500K C	18	20.9	85	46.7	101
	3022494	LED-Mullion RH 46.7 3500K C	12	14.0	85	46.7	91	
	3022465	LED-Mullion LH 58.6 3500K C	15	17.4	85	58.6	91	
	3022482	LED-Mullion CTR 58.6	3500K C	24	27.9	85	58.6	101
	3022498	LED-Mullion RH 58.6 3500K C	15	17.4	85	58.6	91	
	3022469	LED-Mullion LH 65.7 3500K C	18	20.9	85	65.7	91	
3022486	LED-Mullion CTR 65.7	3500K C	27	31.4	85	65.7	101	
3022502	LED-Mullion RH 65.7 3500K C	18	20.9	85	65.7	91		
NEUTRAL WHITE	3022458	LED-Mullion LH 33.4 4000K C	9	10.5	85	33.4	95	
	3022475	LED-Mullion CTR 33.4	4000K C	12	14.0	85	33.4	104
	3022491	LED-Mullion RH 33.4 4000K C	9	10.5	85	33.4	95	
	3010528	LED-Mullion LH 46.7 4000K C	12	14.0	85	46.7	95	
	3010529	LED-Mullion RH 46.7 4000K C	12	14.0	85	46.7	104	
	3010530	LED-Mullion CTR 46.7	4000K C	18	20.9	85	46.7	95
	3022466	LED-Mullion LH 58.6 4000K C	15	17.4	85	58.6	95	
	3022483	LED-Mullion CTR 58.6	4000K C	24	27.9	85	58.6	104
	3022499	LED-Mullion RH 58.6 4000K C	15	17.4	85	58.6	95	
	3022470	LED-Mullion LH 65.7 4000K C	18	20.9	85	65.7	95	
3022487	LED-Mullion CTR 65.7	4000K C	27	31.4	85	65.7	104	
3022503	LED-Mullion RH 65.7 4000K C	18	20.9	85	65.7	95		
COOL WHITE	3022459	LED-Mullion LH 33.4 5000K C	9	10.5	85	33.4	98	
	3022476	LED-Mullion CTR 33.4	5000K C	12	14.0	85	33.4	108
	3022492	LED-Mullion RH 33.4 5000K C	9	10.5	85	33.4	98	
	3022463	LED-Mullion LH 46.7 5000K C	12	14.0	85	46.7	98	
	3022480	LED-Mullion CTR 46.7	5000K C	18	20.9	85	46.7	108
	3022496	LED-Mullion RH 46.7 5000K C	12	14.0	85	46.7	98	
	3022467	LED-Mullion LH 58.6 5000K C	15	17.4	85	58.6	98	
	3022484	LED-Mullion CTR 58.6	5000K C	24	27.9	85	58.6	108
	3022500	LED-Mullion RH 58.6 5000K C	15	17.4	85	58.6	98	
	3022471	LED-Mullion LH 65.7 5000K C	18	20.9	85	65.7	98	
3022488	LED-Mullion CTR 65.7	5000K C	27	31.4	85	65.7	108	
3022504	LED-Mullion RH 65.7 5000K C	18	20.9	85	65.7	98		



**REMOVE EXISTING FLUORESCENT LIGHTING** (IF PREVIOUSLY INSTALLED)

- a. Remove product from the merchandiser and store at appropriate product temperature.
- b. Turn the light switch to off. The switch is located inside the case on the door mullion.
- c. Lock out and tag out the circuit breaker for the lighting circuit of the case where the LED light fixtures are being installed.
- d. If fluorescent lighting is present in the canopy or mullions; it should be removed.
- e. Remove and discard the lenses covering the fluorescent tubes.
- f. Remove the fluorescent tubes.

 **WARNING****— LOCK OUT / TAG OUT —**

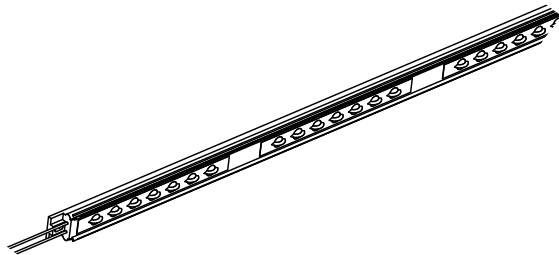
**To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.**

**Fluorescent Lamp Disposal:** The United States Environmental Protection Agency has information regarding environmentally-safe fluorescent lamp waste management programs.

On the Net: EPA Web site:  
<http://www.epa.gov/osw/hazard/wastetypes/universal/lamps/recycle.htm>

**PARTS IDENTIFICATION CHART**

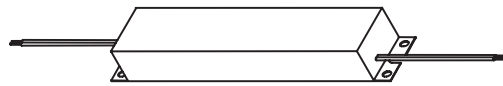
**EcoShine II LED Mullion Light Fixture**



24VDC Class 2 100W Power Supply

Standard Part Number: 3013744

Slimline Part Number: 4483262



One power supply is used for each five-door merchandiser.

**RECOMMENDED TOOLS AND SUPPLIES**



Safety Eye-wear

Tape Measure



Heat Shrink Butt Terminals

7/64 Drill Bit



Battery-powered Drill



Diagonal Pliers

Phillips and Flat Blade Screwdrivers

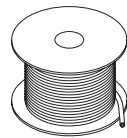


Gloves



DMM Digital Multimeter

Wire Nuts



Wire

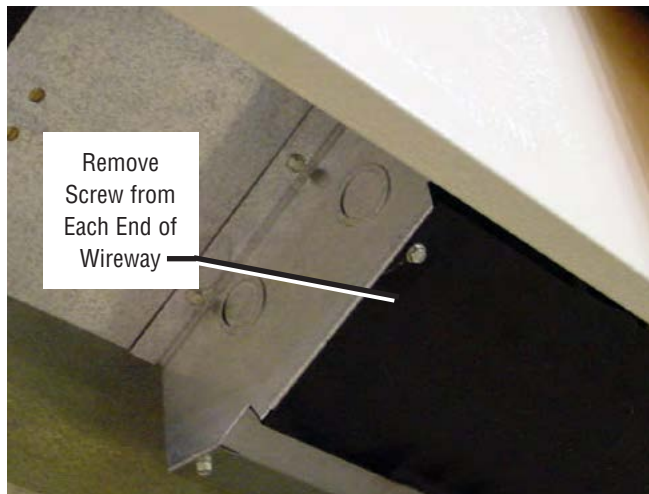
9/64 Drill Bit



Wire Stripper



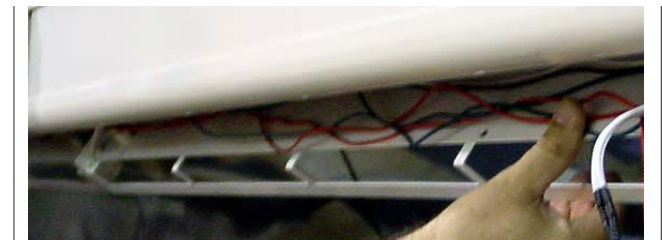
Bit Depth Collar



**Wireway Access at Left Hand End Streamline Canopy Shown**



**Remove Front Lamp Assembly to Access Screws**



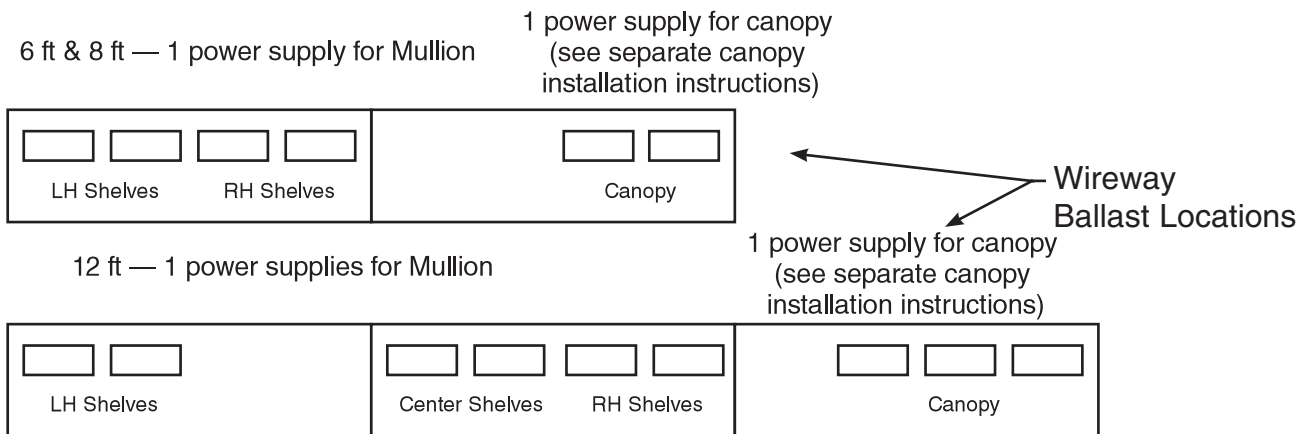
**Access to Canopy and Shelf Ballasts**

**Installing LED Power Supply(s)**

LED power supplies are installed in the same location as existing canopy and shelf ballasts. These ballast are located at the top of the merchandiser inside the canopy.

1. **DISCONNECT POWER TO THE MERCHANDISER.**
2. Remove fluorescent lamps from the canopy.
3. Remove the screws that secure the lamp panel.

4. Grasp the lamp panel at its front edge and carefully pull down. It will swing freely from its hinged rear edge.
5. Locate and remove the ballasts. Mount the LED power supply in the mullion or wireway near where the ballast was located. **Ensure that the LED lead will reach the installed power supply(s) before securing power supply(s).** (Mount power supply(s) at center of 6 ft case.) Power supply has a 120V 50/60 Hz input and a 24VDC output.



**MOUNTING LED FIXTURES  
TO MULLIONS**

1. LED light fixtures are factory mounted to the mullions. If this is not the situation, follow these instructions to mount them: Door mullions have pre-drilled holes. Mount the LED fixtures to the mullions from the inside of the multi-deck merchandiser. If there are no pre-drilled holes, center the LEDs in the mullion. Drill  $\frac{7}{64}$  in. holes using the mounting clips as a guide.
2. Use supplied screws to fasten top and bottom mounting clips. Do not use self-tapping screws.

**IMPORTANT**

Prior to drilling make sure that there are no existing components inside the mullion in the areas marked off for the designated holes.

Do NOT USE A SELF-DRILLING SCREW. The composite mullion will be damaged and the screw will not properly secure the mounting clip to the mullion.

**WARNING**

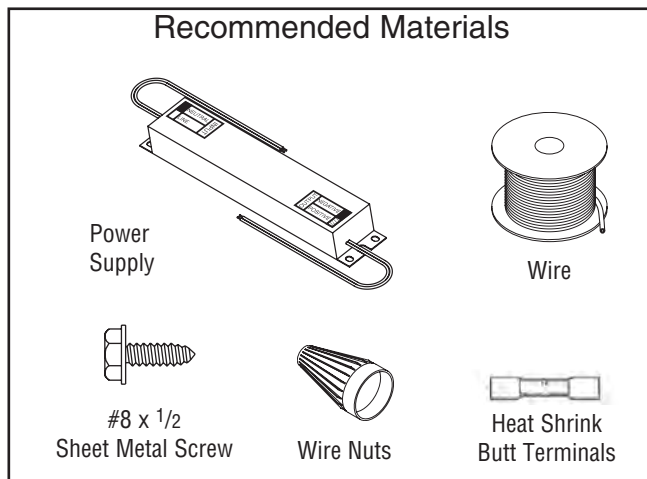
— LOCK OUT / TAG OUT —

*To avoid serious injury or death from electrical shock, always disconnect the electrical power at the main disconnect when servicing or replacing any electrical component. This includes, but is not limited to, such items as doors, lights, fans, heaters, and thermostats.*

**CONNECT WIRING TO POWER SUPPLY**

1. Tuck the wire leads from the LED fixture, into the canopy, and connect the leads to the power supply. Follow the wiring diagrams on the next page. Connect the original load and neutral wires to LED power supply input wires (black and white wires), and secure with approved wiring connectors. Use harness connectors (if supplied.)
2. Connect the LED power supply output wires (red and blue wires) to wiring leads.
3. Additional wiring may be needed to connect the power supply to existing wiring in the wireway. Use conductors of proper size and rating.
4. The power supply case is grounded. Attach power supply to a ground point in the refrigerated merchandiser, either directly with a screw, or by using a green wire to attach to a remote ground point

DO NOT LEAVE ANY EXPOSED WIRE NUTS OR CONNECTORS. RETROFIT LED FIXTURES HAVE LONG WIRING LEADS (2M). FISH NEW WIRING THROUGH MULLION USING EXISTING BALLAST WIRING.

**IMPORTANT**

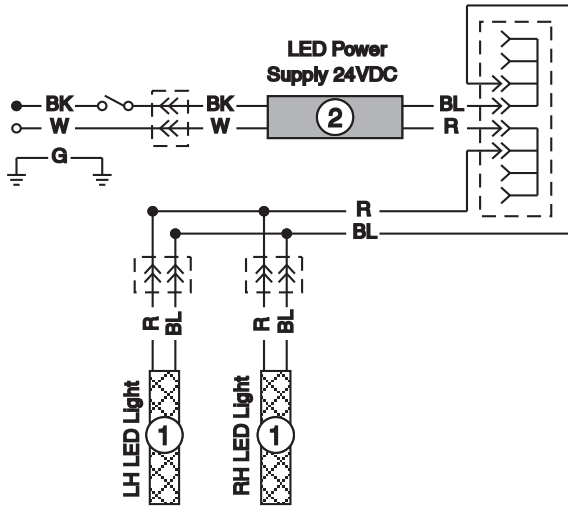
Ensure that all connection points are sealed for damp location using the appropriate method per the NEC or local electrical code.

**WIRING DIAGRAMS**

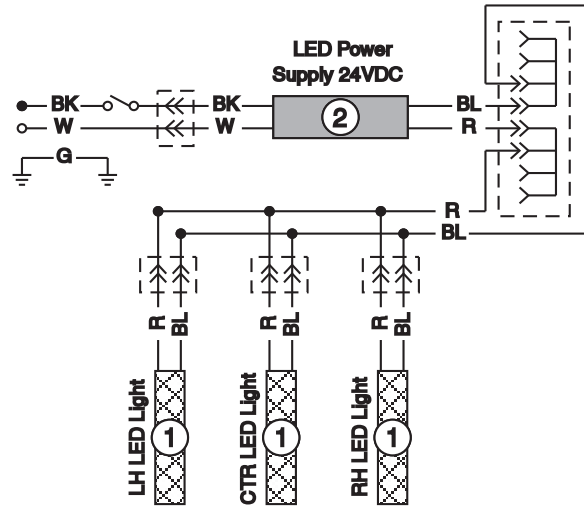
Wiring diagrams are shown below for 4, 6, 8 and 12ft multi-deck merchandisers with EcoVision doors (typical wiring).

NOTE: Additional power supply must be installed for canopy lights. See separate canopy light instructions for installation of canopy lights.

4 FT CASE



6 - 8 FT CASE



12 FT CASE

