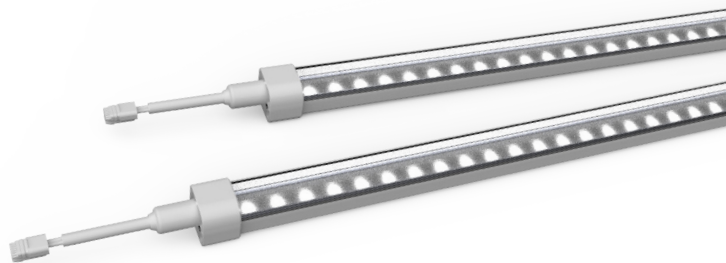# immersion

Elite
LED Display Lighting
Refrigerated Horizontal Cases
Retrofit and OEM

**Eco Light Output
Canopy Lighting**
12-INCH:
ELH1E1230CS/ELH1E1230CB
ELH1E1235CS/ELH1E1235CB
ELH1E1240CS/ELH1E1240CB
ELH1E1250CS/ELH1E1250CB

36-INCH:
ELH1E3630CS/ELH1E3630CB
ELH1E3635CS/ELH1E3635CB
ELH1E3640CS/ELH1E3640CB
ELH1E3650CS/ELH1E3650CB

48-INCH:
ELH1E4830CS/ELH1E4830CB
ELH1E4835CS/ELH1E4835CB
ELH1E4840CS/ELH1E4840CB
ELH1E4850CS/ELH1E4850CB

**Eco Light Output
Undershelf Lighting**
12-INCH:
ELH1E1230US/ELH1E1230UB
ELH1E1235US/ELH1E1235UB
ELH1E1240US/ELH1E1240UB
ELH1E1250US/ELH1E1250UB

36-INCH:
ELH1E3630US/ELH1E3630UB
ELH1E3635US/ELH1E3635UB
ELH1E3640US/ELH1E3640UB
ELH1E3650US/ELH1E3650UB

48-INCH:
ELH1E4830US/ELH1E4830UB
ELH1E4835US/ELH1E4835UB
ELH1E4840US/ELH1E4840UB
ELH1E4850US/ELH1E4850UB

**Standard Light Output
Canopy Lighting**
12-INCH:
ELH1S1230CS/ELH1S1230CB
ELH1S1235CS/ELH1S1235CB
ELH1S1240CS/ELH1S1240CB
ELH1S1250CS/ELH1S1250CB

36-INCH:
ELH1S3630CS/ELH1S3630CB
ELH1S3635CS/ELH1S3635CB
ELH1S3640CS/ELH1S3640CB
ELH1S3650CS/ELH1S3650CB

48-INCH:
ELH1S4830CS/ELH1S4830CB
ELH1S4835CS/ELH1S4835CB
ELH1S4840CS/ELH1S4840CB
ELH1S4850CS/ELH1S4850CB

STOP BEFORE YOU BEGIN
Read these instructions completely and carefully.

FOR YOUR SAFETY

Read and observe all CAUTIONS and WARNINGS shown throughout these instructions.

- Installation to be performed by factory trained service personnel only.
- For use inside a commercial refrigeration case with packaged foods only.
- Use this unit only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
- Before installing, servicing or cleaning unit, switch power off at the service panel and follow appropriate lock out/tag out safety procedures.

OPERATING TEMPERATURE
- Minimum is -20°C
- Maximum is 25°C

LED DRIVER COMPATIBILITY

This system is compatible with the following LED Drivers:

| LED Driver	Rated AC Input Voltage
GEPS6100NCCON-SY	120-240VAC, 60/50Hz
GELP24-100U-GLX	120-277VAC, 60/50Hz
GEPS24D-100U-NA	120-277VAC, 60/50Hz
GEPS24D-60U-GLX	120-277VAC, 60/50Hz
GELP24-60U-GL	120-277VAC, 60/50Hz

⚠ WARNING / AVERTISSEMENT

Risk of electrical shock. Disconnect power before servicing or installing product. LED Retrofit Kit Installation requires knowledge of luminaires electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician. Install this kit only in the luminaires that have the construction features and dimensions shown in the photographs and/or drawings.

Risque de choc électrique. Couper le courant avant de réparer ou installer le produit. LED Retrofit Kit d'installation nécessite la connaissance des systèmes luminaires électriques. Si vous n'êtes pas qualifié, ne tentez pas l'installation. Contactez un électricien qualifié. Installez ce kit seulement dans les luminaires qui ont les caractéristiques de construction et les dimensions figurant sur les photographies et / ou des dessins.

⚠ CAUTION / ATTENTION

Risk of injury. While performing installations described, gloves, safety glasses or goggles should be worn. **Risque de blessure.** Lors de l'exécution des installations décrites, des gants, des lunettes de sécurité ou des lunettes de protection doivent être portées.

Current ⊙
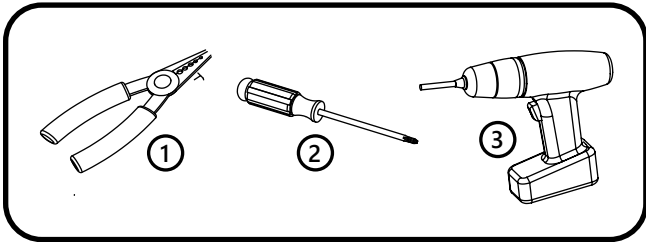
Tools Required

① Wire Stripper/Cutter

② Screwdriver

③ Cordless drill with driver bit

Components Required
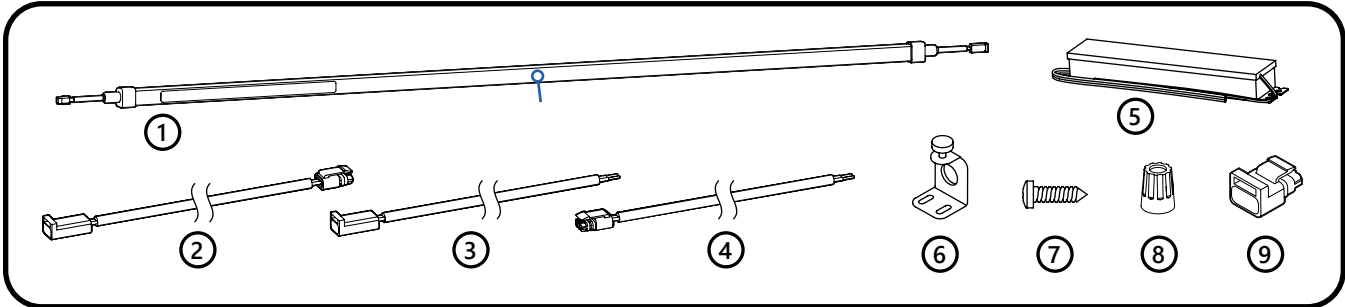
① Immersion Horizontal LED Light

② Jumper cable with male and female connector

③ Leader cable with female connector

④ Leader cable with male connector

⑤ LED Driver

⑥ L-clip with thumbscrew

⑦ 6-32 x 1/2" screws

⑧ UL approved 22-18 AWG (0.33-0.82 mm^2) connectors or in-line/IDC connectors.

⑨ Connector sealing cover (SKU: 93155838)

Cable Specifications

| SKU	Product Code	Detailed Description
93155625	GE-JC24IN-66M-66F	24 Inch Jumper Cable with IP66 Male and IP66 Female Connector
93155627	GE-LC24IN-66F	24 Inch Leader Cable with IP66 Female Connector
93155628	GE-LC24IN-66M	24 Inch Leader Cable with IP66 Male Connector

⚠ WARNING / AVERTISSEMENT

Risk of fire or electric shock. Luminaire wiring and electrical parts may be damaged when drilling for installation of LED retrofit kit. Check for enclosed wiring and components. / **Risque de feu ou électrocution.** Les pièces et câbles électriques risquent d'être endommagés lors du perçage des trous pour l'installation du luminaire à DEL. Veuillez vérifier si des câbles et composantes se trouvent derrière la paroi avant de percer.
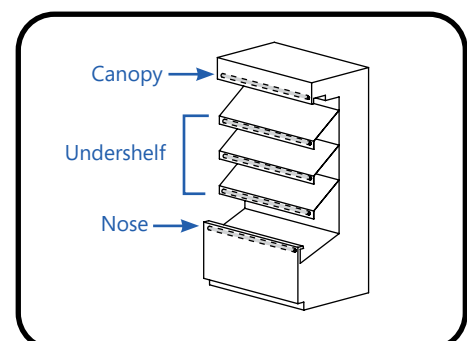
To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects. / Pour éviter l'endommager de câblage ou l'abrasion, ne pas exposer le câblage aux bords de feuilles de métal ou d'autres objets tranchants.

Retrofit Installation (for OEM install, proceed to Step 2)

1   Remove Existing Lighting Components

- For retrofit only. If you are an OEM, please refer to the OEM Installation Guide.
- Refer to manufacturing manual for refrigeration case to identify lighting control circuits. Ensure that power is switched off at the service panel for the lighting circuit. If a lighting power switch is not provided in the refrigeration case, power removal can be performed at the main breaker panel.
- Locate existing lighting components including ballasts, lampholders, lamps, and lampguards in the refrigeration case for removal. Please refer to refrigeration manual for any questions dealing with component locations.
- Remove lamps, lampholder and lamp guards. Cut the wiring, making the cut as close to the lampholder as possible. Do not remove wiring from case as it will be utilized to attach the LED light. Dispose of components per federal and local regulations.
- Locate ballast within system. The most common location is in the canopy or on top of the case.
- Disconnect ballast input and output connectors. Cut the ballast connector wires nearest to the connector and remove connector. Unscrew the mounting screws that attach ballast and remove ballast. Dispose of ballasts according to federal and local regulations. LED driver installation will begin at Step 5 and Step 6.
- To install the LED light, first identify the wiring for connection to the LED driver. After removing the connector from ballast, leave the existing ballast input and output wires for reconnection in a later step.

Fluorescent Component Location

(A) Lamp and lamp holders

(B) Ballast
1. Canopy
2. Top of case
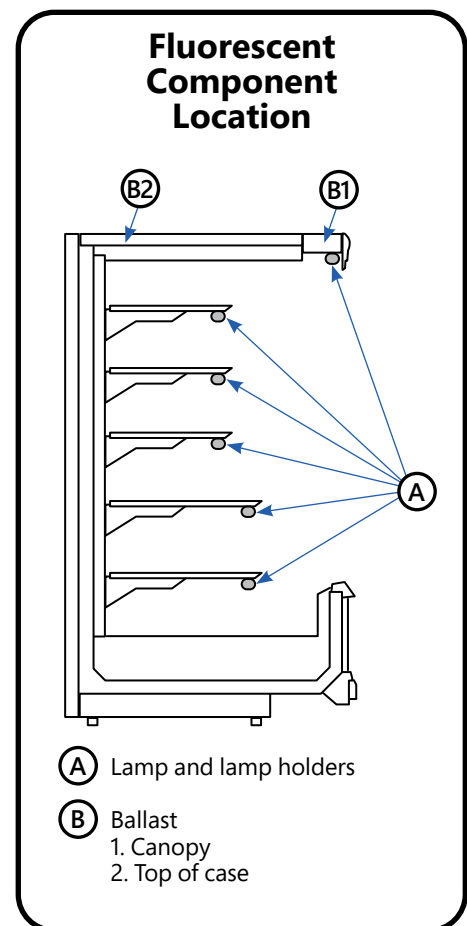
2   Select Installation Position

- Select installation position: Undershelf, Canopy or Nose

⚠ WARNING / AVERTISSEMENT

Risk of electrical shock. 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 electric components.

Risque de choc électrique. Seuls les trous ouverts indiqués dans les photos et / ou les dessins peuvent être faites ou modifiés à la suite du montage du kit. Ne pas laisser autres trous ouverts dans l'enceinte du câblage électrique ou composants.

## 3a Install LED Lights into Undershelf Position

- Remove each shelf and turn upside down on work surface.
- Thread LED Light wire through the large hole in selected mounting clip and slide over the end of LED Light. Slightly tighten thumb screw. Refer to Figure 1.
- Slide second mounting clip over opposite end of LED Light.
- With mounting clips still attached, place LED Light flush with shelf edges, positioning it as far forward as possible while still concealing LED Light from view. Refer to Figure 2.
- Install mounting clip to shelf with two #6 self-drilling pan headed screws per mounting clip. Refer to Figure 3.
- Insert tension screw into both mounting clips and partially tighten each screw into nut to enable the LED Light position to adjust. Refer to Figure 4.

  Shelf installation shown in figures at right.

Figure 1 — Attach mounting clip


Figure 2 — Shelf — Position forward
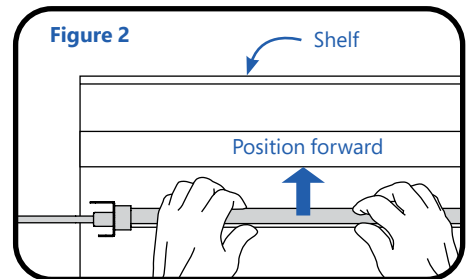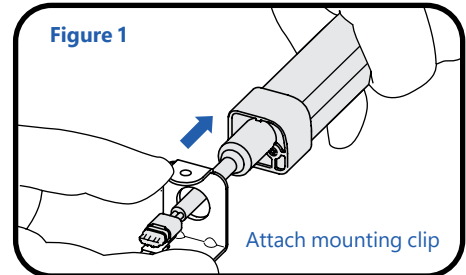
3b Install LED Lights into Canopy and Nose Position

- Thread LED Light wire through the large hole in selected mounting clip and slide over the end of LED Light. Refer to Figure 1.
- Slide second mounting clip over opposite end of LED Light.
- With mounting clips still attached, place LED Light flush against mounting surface, positioning it as far forward as possible while still concealing LED Light from view. Refer to Figure 2.
- Install mounting clips to panel with two #6 self-drilling pan headed screws per mounting clip. Refer to Figure 3.
- Insert thumb screw into one mounting clip and partially tighten screw to enable the LED Light position to adjust. Refer to Figure 4.


Figure 3 — Install mounting clip

Figure 4 — Tighten thumb screw
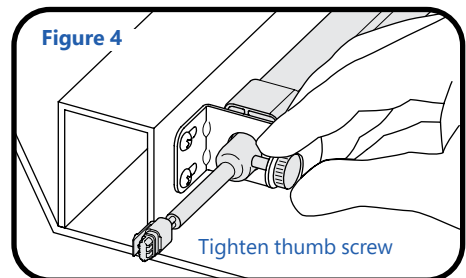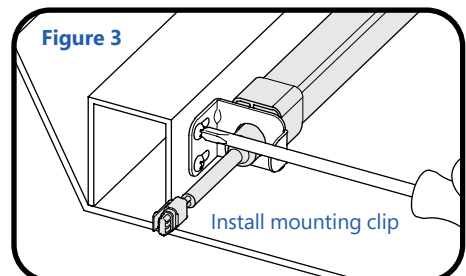
4 Connect Leader Cable

- Connect the leader cable to the the first LED light in the run closest to the power supply. Refer to Figure 5.

Figure 5 — Leader cable

Current ⊚
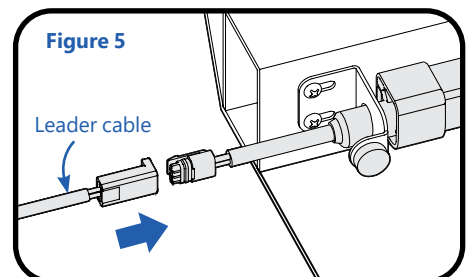
Continuous Run Connections (Optional)

① Connect Light Bars Together

- Mate the male and female connectors of each adjacent light bar while ensuring the connectors are oriented in the same direction.
- **DO NOT attempt to mate upside down or otherwise exert excessive force on the light bar connectors.**
- Be sure that the retaining clip of the connectors are fully engaged and locked together as indicated by a click.
- Attach jumper cables as needed to work around any obstacles, corners or separations.
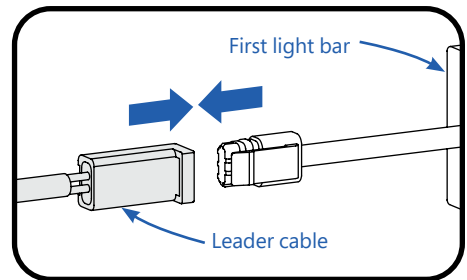- **DO NOT pull on the wires when un-mating the connectors.**
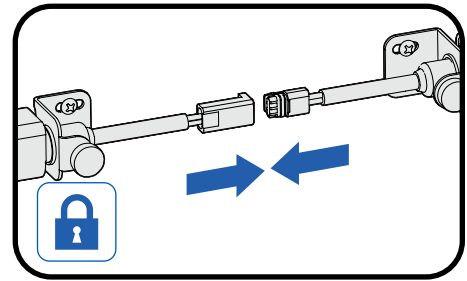
② Install End Cap

- Install an end cap into the open connector on the last light bar in the series.
- **NOTE:** *If use leader cable with male connector (GE-LC24IN-66M) connect driver and light bar right side female connector, flip the end cap around and install it into into the open male connector on the last light bar in the series.*
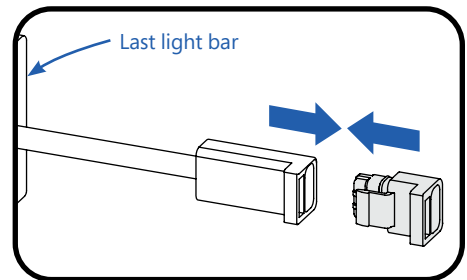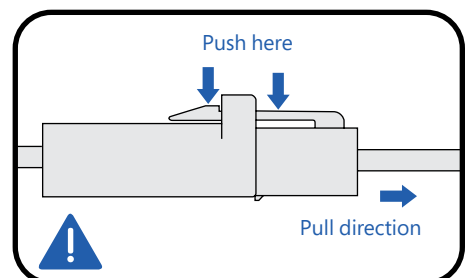

Last light bar

③ Connect Leader Cable

- Connect the leader cable to the first light bar in the run closest to the power supply.


First light bar

Leader cable

⚠ To Unmate Connectors

- ***Pushing the plug latch, grasp the connector at each end and pull apart.***
- ***DO NOT pull on the wires when unmating the connectors.***

Push here

Pull direction

<div style="text-align:center">**⚠ WARNING / AVERTISSEMENT**</div>

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

Risque de choc électrique. S'assurer que les points de raccordements sont scellés pour emplacement humide en employant une méthode permise par le NEC ou par le code électrique local.

Wiring Multiple LED Lights
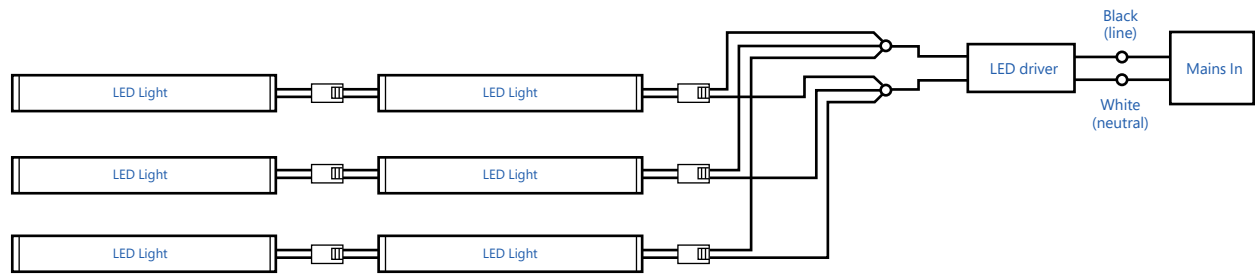
Up to 2 LED Lights may be connected in Series

<div style="text-align:center">**⚠ CAUTION / ATTENTION**</div>

Risk of injury. Do not overload LED Driver. Do not exceed limits shown in "Maximum LED Driver Loading" table below.

Risque de blessure. Ne pas surcharger l'alimentation. Ne pas exéder les limites de la table ci-dessous: "Charges maximales pour les alimentations."

LED Driver Loading Specifications

Any combination of RH30 LED Lights may be loaded onto a power supply following these guidelines.

Add up total planned LED load watts per table below.

Maximum LED Driver Loading Specifications

|	DC Watts*	LED Driver GELP24-60U-GL GEPS24D-60U-GLX Min. Load | Max. Load	LED Driver GEPS6100NCCON-SY, GELP24-100U-GLX GEPS24D-100U-NA Min. Load | Max. Load
Standard Canopy 4ft.	21.6	2 | 2	2 | 3
Standard Canopy 3ft.	15.6	2 | 3	3 | 5
Standard Canopy 1ft.	5.4	5 | 9	8 | 15
Eco Canopy 4 ft.	14.4	2 | 3	3 | 5
Eco Canopy 3 ft.	10.8	3 | 4	4 | 7
Eco Canopy 1 ft.	3.6	8 | 13	12 | 21
Eco Undershelf 4 ft.	5.8	5 | 8	8 | 14
Eco Undershelf 3 ft.	4.3	6 | 11	10 | 19
Eco Undershelf 1 ft.	1.44	18 | 35	29 | 57

* For typical in-situ DC power and actual system power consumption (AC Watts) see product technical guide.

DISP120

(5a) Connecting a GEPS6100NCCON-SY Driver

- Make input and output connections according to diagrams below.
- Connection methods should be suitable for low temperature usage and standard cable.
- For non-dimming applications, cap the unused wires with 5/32" (4mm) twist on wire connectors.
- For dimming applications, cut the dimming loop on the driver output side and make connections to the occupancy sensor.
- **_CAUTION:_** _DO NOT apply voltage or power to the switched control circuit – contact closure only._
- Other methods for automated control such as occupancy sensors that switch the AC power side on and off are not recommended and will void the product warranty.
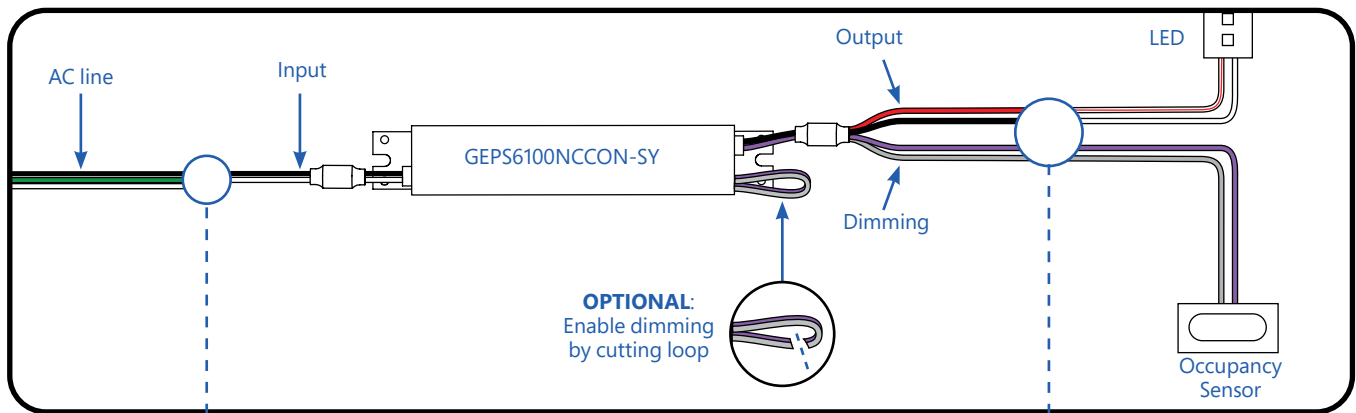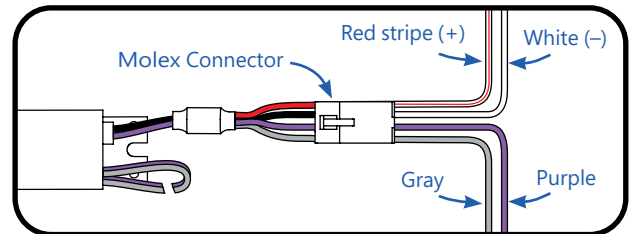

Option (A) or (B)   Option (C) or (D)
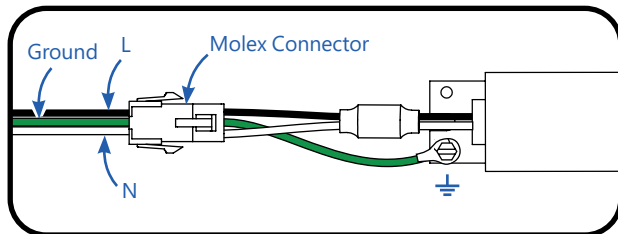
A Connect DC output using 4-way connector.

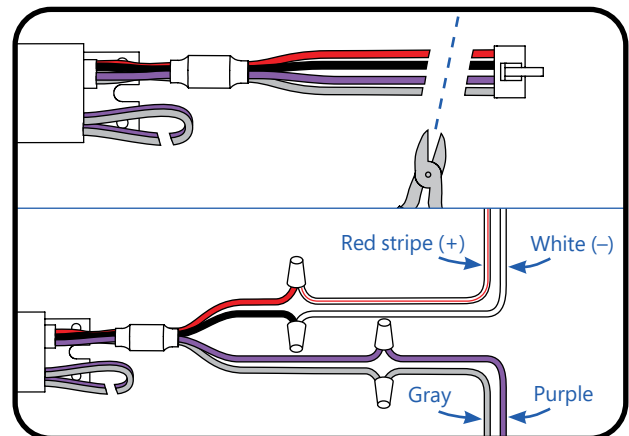| Wire Cavity Table |
| --- |
| **39-01-4030 (AC)** |
| Cavity 1 - Line 1 (Black) |
| Cavity 2 - Earth Ground (Green) |
| Cavity 3 - Neutral or Line 2 (White) |

C Connect DC output using 4-way connector.

| Wire Cavity Table |
| --- |
| **Molex 39-01-4046 (DC)** |
| Cavity 1 - Output DC (+) (Red) |
| Cavity 2 - Output DC (-) (Black) |
| Cavity 3 - Dimming (Purple) |
| Cavity 4 - Dimming (Gray) |
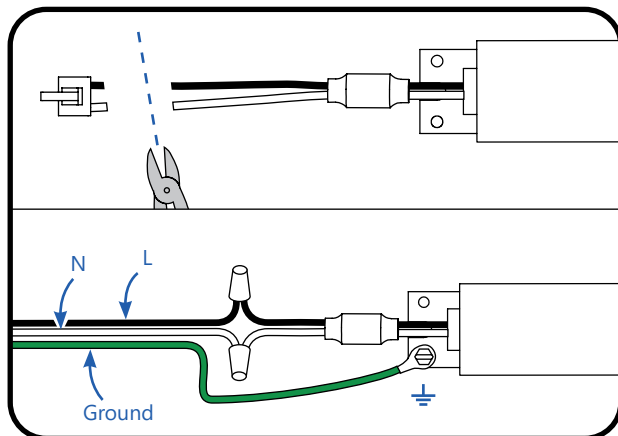
B Connect AC input using wire nuts.

**D** Connect DC output using wire nuts.

(5b) Connecting a GELP24-60U-GL or GELP24-100U-GLX Driver

- Make input and output connections according to diagrams below.
- Connection methods should be suitable for low temperature usage and standard cable.
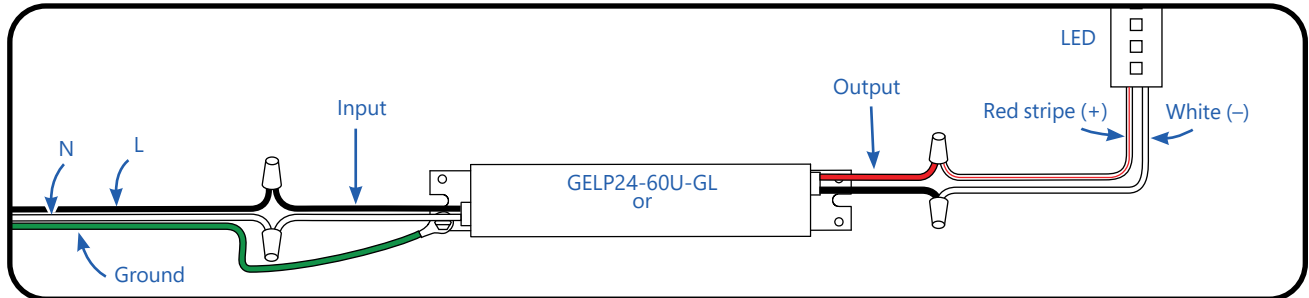
(5b) Connecting a GEPS24D-60U-GLX or GEPS24D-100U-NA Driver

- Make input and output connections according to diagrams below.
- Connection methods should be suitable for low temperature usage and standard cable.
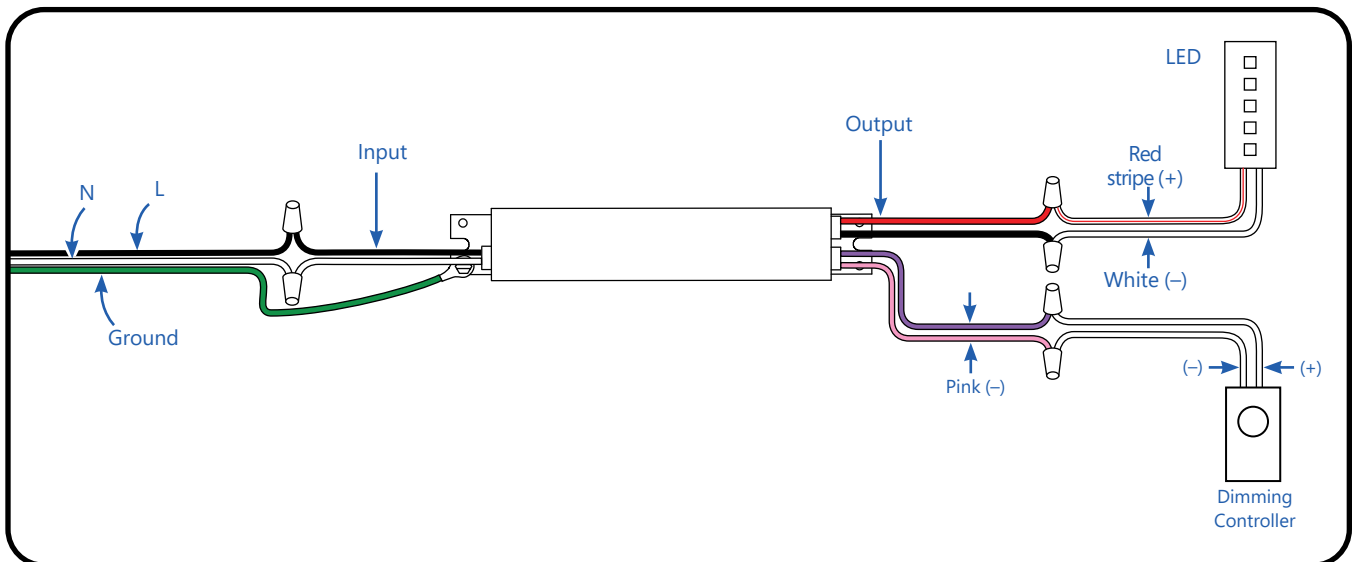
(6) Cap the Last LED Light

- Install an end cap into the open connector on the last LED light in the series.
- **NOTE:** *If use leader cable with male connector (GE-LC24IN-66M) connect driver and light bar right side female connector, flip the end cap around and install it into into the open male connector on the last light bar in the series.*
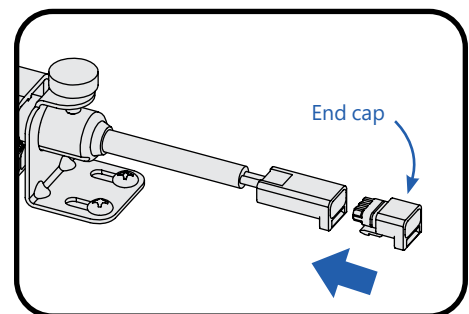
7 LED Light Positioning

- If installing in the undershelf position, reinstall shelves back into case.
- Clean away any debris from case.
- Reconnect power to case.
- Gently rotate LED Light until optimal light coverage is achieved.
- Firmly tighten thumb screw to secure the LED light into final position.

Rotate LED Light for optimal illumination
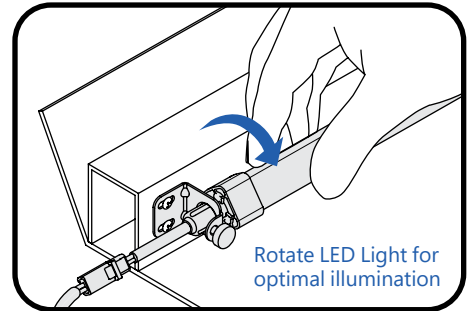
⚠ WARNING / AVERTISSMENT

Risk of electrical shock. Disconnect power to LED Lights before any cleaning operation.
Risque de choc électrique. Débranchez l'alimentation des éclairages à LED avant toute opération de nettoyage.

8 Cleaning Instructions

- The LED Light may be dusted as needed with a dry, clean, soft cloth.
- Do not use chemical cleaners on the system.
- Do not wipe with a soiled dishcloth or wet towel–these may leave a residue that can damage the finish.
- Do not use scouring pads, powdered cleaning products, bleach or cleaners containing bleach because these products can scratch and damage the finish.
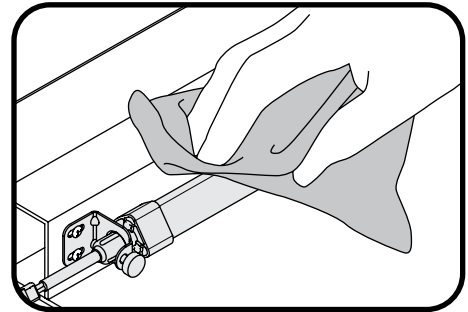
Conforms to the following:

Electrical products must not be thrown out with domestic waste. They must be taken to a communal collecting point for environmentally friendly disposal in accordance with local regulations. Contact your local authorities or stockist for advice on recycling. The packaging material is recyclable. Dispose of the packaging in an environmentally friendly manner and make it available for the recyclable material collection-service.

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.

This Class (A) RFLD complies with the Canadian standard ICES-005. Ce DEFR de la clase (A) est conforme a la NMB-005 du Canada.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.