HOWARD LIGHTING PRODUCTS	INSTALLATION INSTRUCTIONS	FSR8-LED Series Strip Retrofit Kit

IMPORTANT:

- Read all instructions carefully before attempting installation. If you do not understand these instructions, please consult your local distributor.
- Thoroughly inspect the fixture for any freight damage; freight damage should be reported to the delivery carrier.

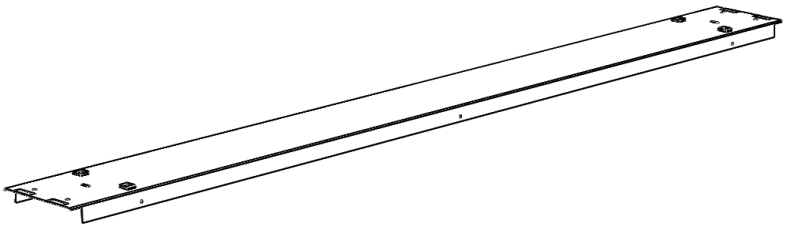
CONTENTS:

(2) 48” Geartrays
(12) #8x1/2” TEK screws
(4) T8 Lampholders (unwired)
(4) 48” T8 Type B LED Lamps
(4) Geartray Tethers
(4) T8 Lampholders (prewired)

⚠ SAFETY:

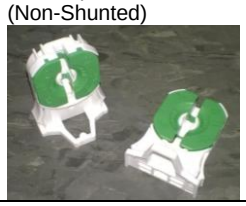
- This fixture must be wired in accordance with the National Electric Code and applicable local codes or ordinances.
- All work should be performed by a qualified electrician.
- To insure personal safety, proper grounding is required (connect green fixture lead to supply ground).

48” Geartray



#8 x ½” TEK Screw

T8 Lampholders (Non-Shunted)



Type-B LED Lamps

Geartray Tether

⚠ WARNINGS:

- **WARNING - 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.**
- **WARNING - Risk of fire or electric shock. Install this kit only in luminaires that have the construction features and dimensions shown in the photographs and/or drawings and where the input rating of the retrofit kit does not exceed the input rating of the luminaire.**
- **WARNING - Risk of fire or electric shock. LED Retrofit Kit installation requires knowledge of luminaire electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.**
- **WARNING - To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.**
- **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.**
- **Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation.**
- **This kit is intended for use with Surface Mounted “Strip style” luminaires.**
- **This kit is intended for use with UL Type-B Self-Ballasted LED lamps ONLY.**

Required Size of Existing Fixture	FSR8-LED Geartray Dimensions
Length: 96.0-96.5” Depth: 1.25” (minimum) Width : 4.10-4.25”	Length: 48.0” (each) Typical Width: 4.25”

INSTALLATION

WARNING: DISCONNECT POWER TO EXISTING FLUORESCENT FIXTURE DURING INSTALLATION AND BEFORE SERVICING.

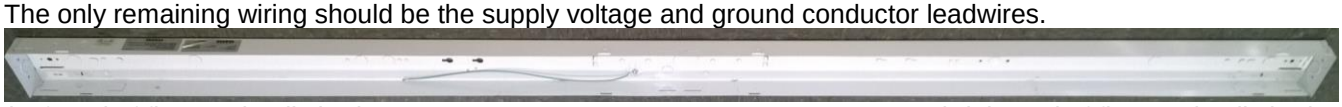
STEP 1 – PREP FIXTURE FOR RETROFIT

Remove existing lamp(s) and ballast cover.

(Left end of fixture; detail view).

(Right end of fixture; detail view).

Disconnect and remove existing ballast, lampholders, lampholder supports, and lampholder wiring.
The only remaining wiring should be the supply voltage and ground conductor leadwires.



(Left end of fixture; detail view).

(Right end of fixture; detail view).

STEP 2 – TETHER INSTALLATION

On each end of the existing fixture:
Thread one #8 TEK screw through the ring of the Tether and drive it into the fixture. The length of the Tether serves as a template for placement of screw. The screw should be driven one Tether length from the end of the fixture [see **DIAGRAM 2A**]. The use of an electric drill with a magnetic socket is highly recommended.

DIAGRAM 2A

At middle of existing fixture: Thread one #8 TEK screw through the ring of the Tether and drive it into the fixture. The screw should be driven one Tether length from the center of the fixture [see **DIAGRAM 2B**]. Install tethers on both left and right of center. The use of an electric drill with a magnetic socket is highly recommended.

DIAGRAM 2B

Once all Tethers are installed, thread the “T” head of each Tether into the oblong slots of the Geartrays [see **DIAGRAM 2C]**.

Geartrays are labelled **THIS END TO FIXTURE CENTER** to identify correct orientation.

DIAGRAM 2C

INSTALLATION (CONTINUED)

STEP 3 – LAMPHOLDER INSTALLATION

On each end of the existing fixture:
Install provided T8 Lampholders (no wiring) into geartray lampholder cutouts as marked.

Geartray shown with Lampholders installed below.

On the center of the existing fixture:
Install provided PREWIRED T8 Lampholders (**see DIAGRAM 3C**) into geartray lampholder cutouts as marked (**see DIAGRAM 3D**).

DIAGRAM 3C

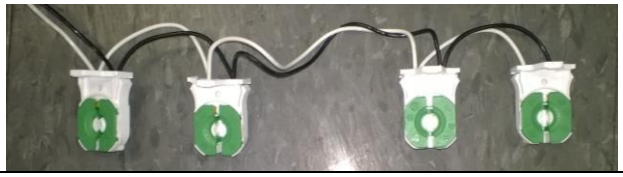
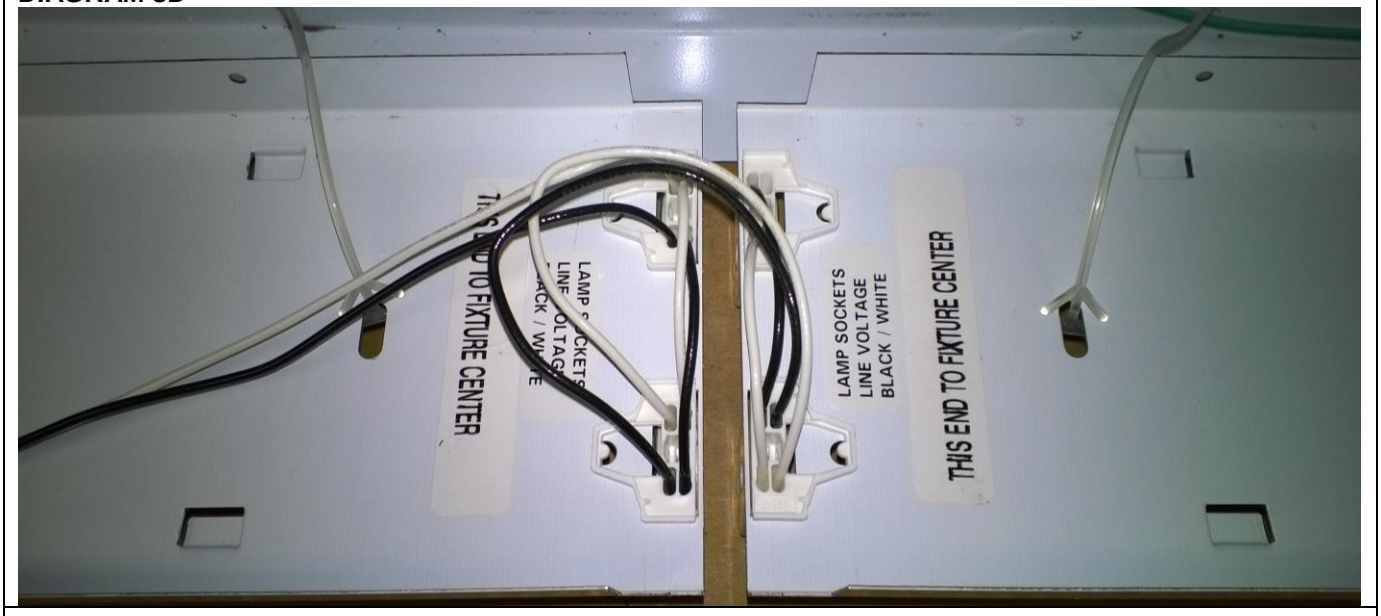


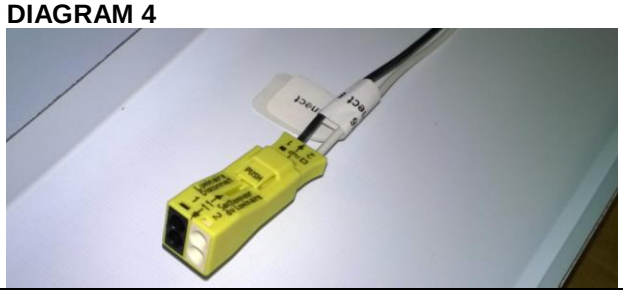
DIAGRAM 3D



STEP 4 – SUPPLY POWER CONNECTIONS

Insert incoming power into prewired Luminaire Disconnect Plug (LDP) [see **DIAGRAM 4**].
Insert the black supply wire (LINE) into the black hole of the LDP (Terminal 1).
Insert the white supply wire (NEUTRAL) into the white hole of the LDP (Terminal 2).

DIAGRAM 4



INSTALLATION (CONTINUED)

STEP 5 – SECURE GEARTRAYS TO FIXTURE

Close the first Geartray, ensuring that no wires are pinched.
Affix the Geartray to the fixture body using #8 TEK screws through each of the holes (total 4) that are provided on the sides of each geartray.

See **DIAGRAM 5A** for typical Geartray hole.
See **DIAGRAM 5B** for hole with TEK screw secured into fixture body.
See DIAGRAM 5C for hole with TEK screw secured at middle of fixture body.

DIAGRAM 5A

DIAGRAM 5B

DIAGRAM 5C

Close the second Geartray, ensuring that no wires are pinched.
Repeat steps as noted above to secure second Geartray to fixture body.

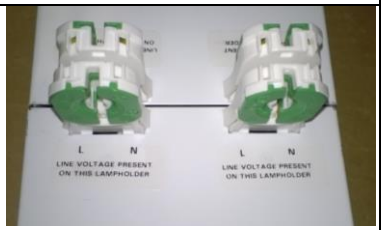
COMPLETED GEARTRAY INSTALLATION SHOWN BELOW

STEP 6 – INSTALL SELF-BALLASTED LED LAMPS

This LED Retrofit Kit is intended for use with UL Type-B Self-Ballasted LED Lamps only.
These lamps are powered from one end of the lamp only and the end of the lamp is marked to indicate supply connections.

Labels are pre-applied onto the Geartrays to indicate the location of the lampholders wired for Line Voltage connection.

Install the Self-Ballasted LED lamps into the Line Voltage lampholders insuring correct lamp supply voltage connection orientation.



RETROFIT ASSEMBLY IS NOW COMPLETE!
REAPPLY POWER TO FIXTURE.