

INSTALLATION INSTRUCTIONS

1.5X4



2X2



2X4



FHSKIT-TXXLNXX or FHSKIT-TXXXHXX

HotSpot1 LED Emergency Kit

Troffer Luminaires



LED EMERGENCY LIGHTING SYSTEM

MANUAL FOR HOTSPOT LED KIT INSTALLATION

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1.0 INSTALLATION INSTRUCTION WARNINGS

IMPORTANT SAFEGUARDS READ AND FOLLOW ALL SAFETY INSTRUCTIONS.

1. "THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND THE HAZARDS INVOLVED."
2. "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."
3. "WARNING - Risk of fire or electric shock. Install this kit only in the luminaires that has the construction features and dimensions shown in the photographs and/or drawings."
4. "WARNING - To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects."
5. "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."
6. "WARNING - Do not mount near gas or electric heaters."
7. "WARNING - Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel."
8. "WARNING - The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition."
9. "WARNING - Do not use this equipment for other than its intended use."
10. "WARNING - Maximum luminaire mounting height: 10 Feet"

SAVE THESE INSTRUCTIONS.

2.0 ORIGINAL FIXTURE

Intended for the following luminaires:

End View

Side View

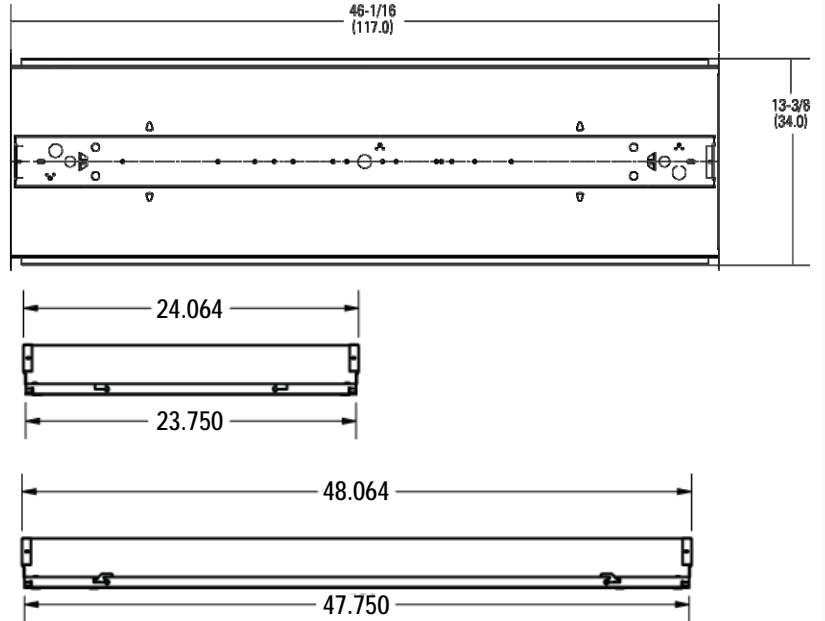
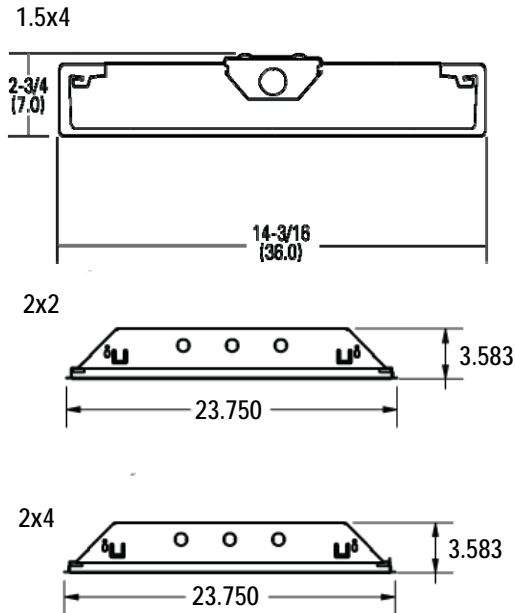


Illustration 1: Luminaire Dimensions

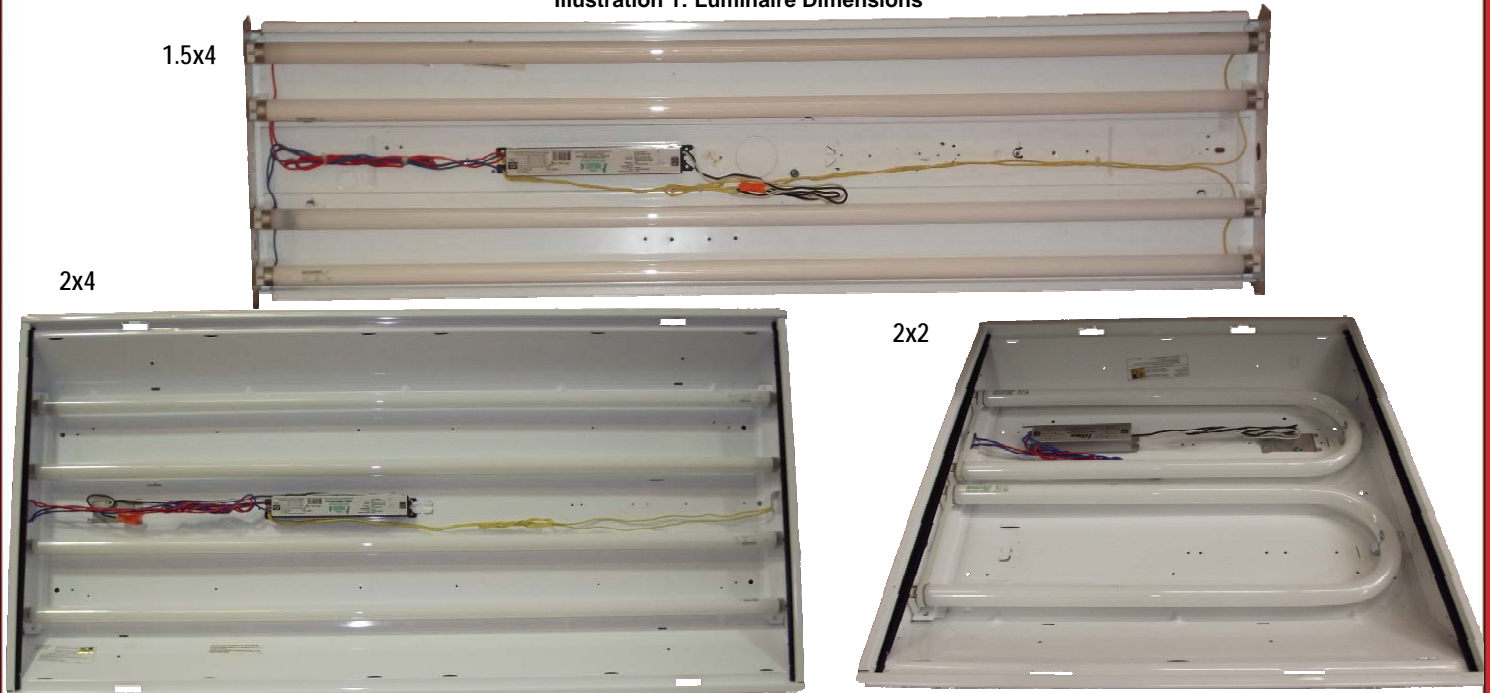


Figure 1: Original Luminaire

NOTE: NOT Suitable for installation in sealed or gasketed compartments

Original Luminaire Disassembly:

- Remove lamps (if installed) and wire-way cover from the luminaire.

3.0 HOTSPOT LED KIT PARTS

A) Hotspot LED Driver



FHS1-UNV-3.6L

B) LED Battery



FHSBATT3-D4



FHSBATT3-C3

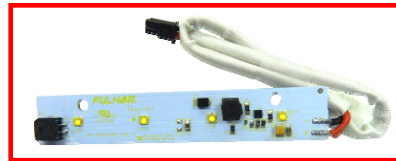


FHSBATT3-F7L

C) LED Module



Linear Module
(FHS1-AR-4W-L)



Linear Module w/ multiple connections
(FHS6-AR-3W-L)



"H" Configuration Module
(FHS3-AR-6W-SH), (FHS4-AR-8W-LH)
(FHS3-AR-10W-SH), (FHS4-AR-10W-LH)

D) Hardware: **Screw quantities may change depending on setup**



Figure 2: Hotspot LED Kit Parts

FHSKIT-TXXXXXX LED Kit Parts:

2x4 Troffer

- A) LED Driver: FHS1-UNV-3.6L
 - Battery: FHSBATT3-C3
 - LED Arrays: FHS1-AR-4W-L or FHS3-AR-6W-SH
- B) LED Driver: FHS1-UNV-3.6L
 - Battery: FHSBATT3-F7L
 - LED Arrays: FHS1-AR-4W-L, FHS3-AR-6W-SH, FHS4-AR-8W-LH, FHS3-AR-10W-SH, FHS4-AR-10W-LH, FHS6-AR-3W-L x1, FHS6-AR-3W-L x2, or FHS6-AR-3W-L x3

2x2 Troffer

- A) LED Driver: FHS1-UNV-3.6L
 - Battery: FHSBATT3-C3
 - LED Arrays: FHS1-AR-4W-L or FHS3-AR-6W-SH

1.5x4 Troffer

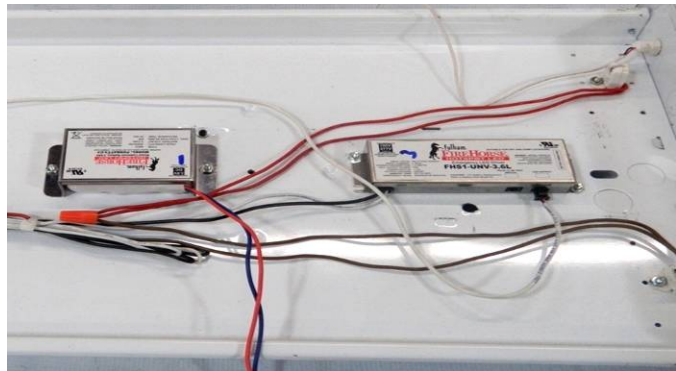
- A) LED Driver : FHS1-UNV-3.6L
 - Battery: FHSBATT3-C3
 - LED Arrays: FHS1-AR-4W-L
- B) LED Driver FHS1-UNV-3.6L
 - Battery: FHSBATT3-D4
 - LED Arrays: FHS1-AR-4W-L, FHS6-SR-3W-L x1, or FHS6-SR-3W-L x2
- C) LED Driver: FHS1-UNV-3.6L
 - Battery: FHSBATT3-F7L
 - LED Arrays: FHS1-AR-4W-L, FHS6-AR-3W-L x1, FHS6-AR-3W-L x2, or FHS6-AR-3W-L x3

Hardware:

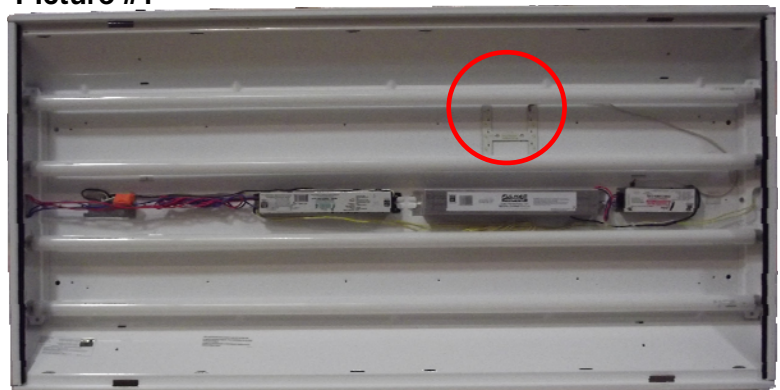
- #6-20x3/8" Phillips Pan Head Self Drilling Screws
- Quantity: 6-10 (Depending on setup)

4.0 HOTSPOT LED KIT INSTALLATION

1. Remove the wire way cover and place the Emergency LED Driver and LED battery pack onto the luminaire's wire-way area. See picture #1.
2. Place the selected LED Module onto the luminaire, in the space between the original lamps. See picture #2.
3. Secure all LED components to the luminaire by using the provided screws.
4. On the already removed wire way cover, drill one 1/2" hole into the luminaire's wire-way cover for the Test Switch. See picture #3. Exact location of the drilled hole can be found on page 12 (LED indicator/test switch must be visible after installation).
5. Insert the Test Switch into the pre-drilled hole in the luminaire's wire-way cover and secure it in place. See picture #3.
6. Connect all LED components based on Illustration #2. For examples of completed installation with wire way please see page 12.



Picture #1



Picture #2



Picture #3

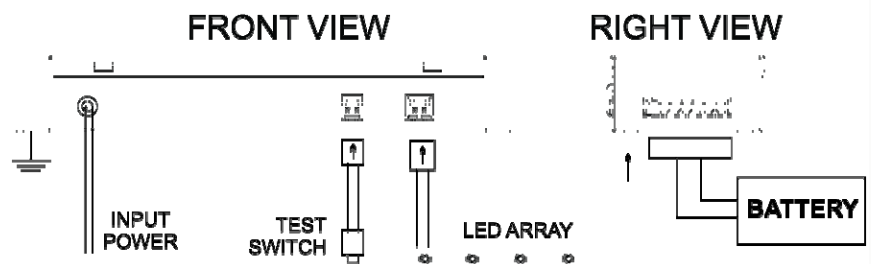


Illustration #2

Note:

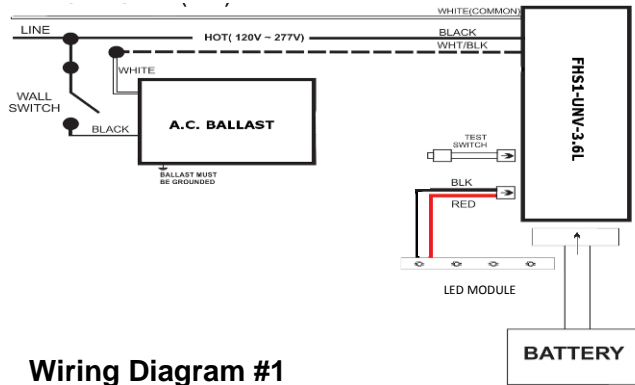
If additional wire is needed to complete installation; only wire with a minimum rating of 300V should be used.

4.1 HOTSPOT LED KIT INSTALLATION

7. Wire all LED components based on the Wiring Diagram #1.
8. Test the setup by connecting the LED Battery Pack connector to Emergency LED Driver side Terminal. See picture #4.
9. Re-attach the wire-way cover and the original lamps. See picture #5.
10. Depending on the LED setup and preference, completed installation should look like the following (see pages 7-11).

Note:

If additional wire is needed to complete installation; only wire with a minimum rating of 300V should be used.



Wiring Diagram #1



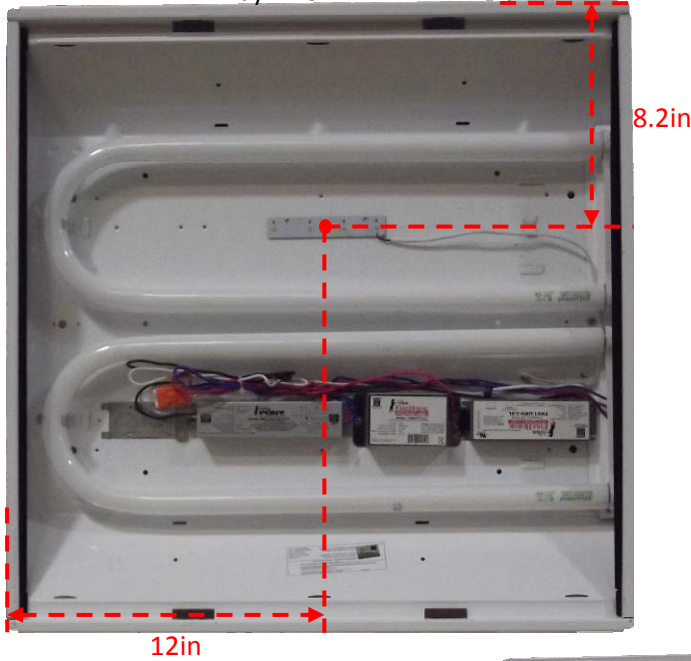
Picture #4



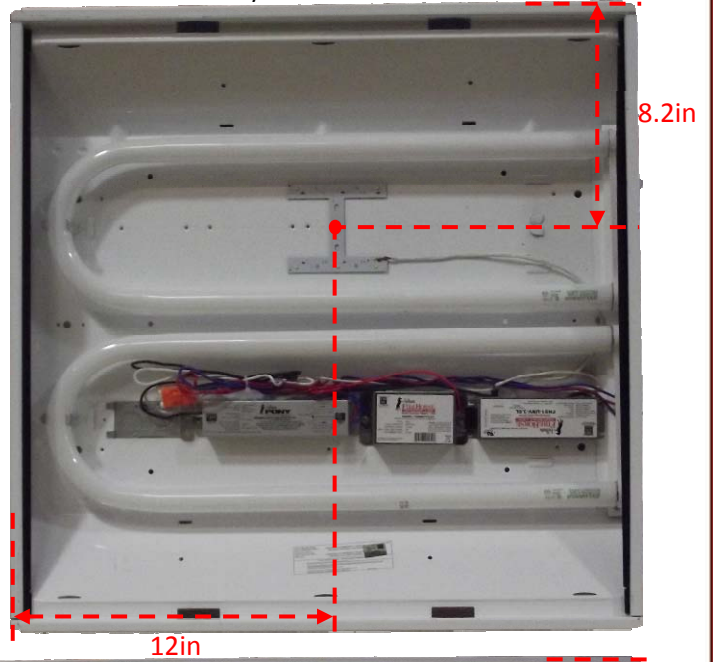
Picture #5

5.0 HOTSPOT LED KIT SETUP

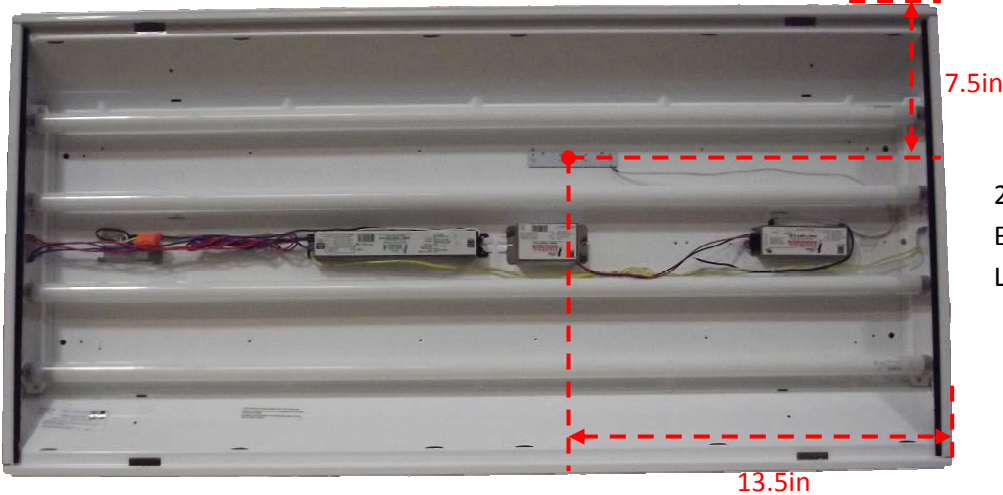
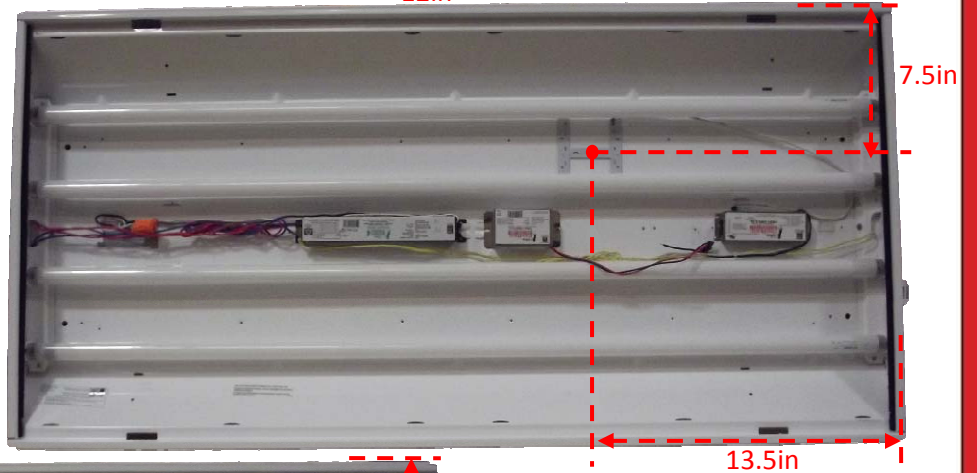
2X2 Troffer
Battery: FHSBATT3-C3
LED Array: FHS1-AR-4W-L



2X2 Troffer
Battery: FHSBATT3-C3
LED Array: FHS3-AR-6W-SH

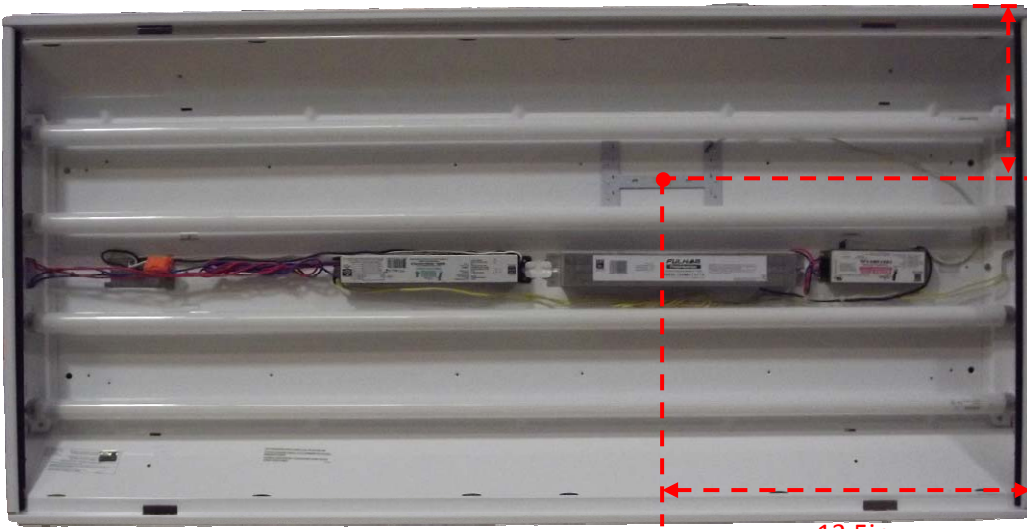


2X4 Troffer
Battery: FHSBATT3-C3
LED Array: FHS3-AR-6W-SH



2X4 Troffer
Battery: FHSBATT3-C3
LED Array: FHS1-AR-4W-L

5.1 HOTSPOT LED KIT SETUP



7.5in

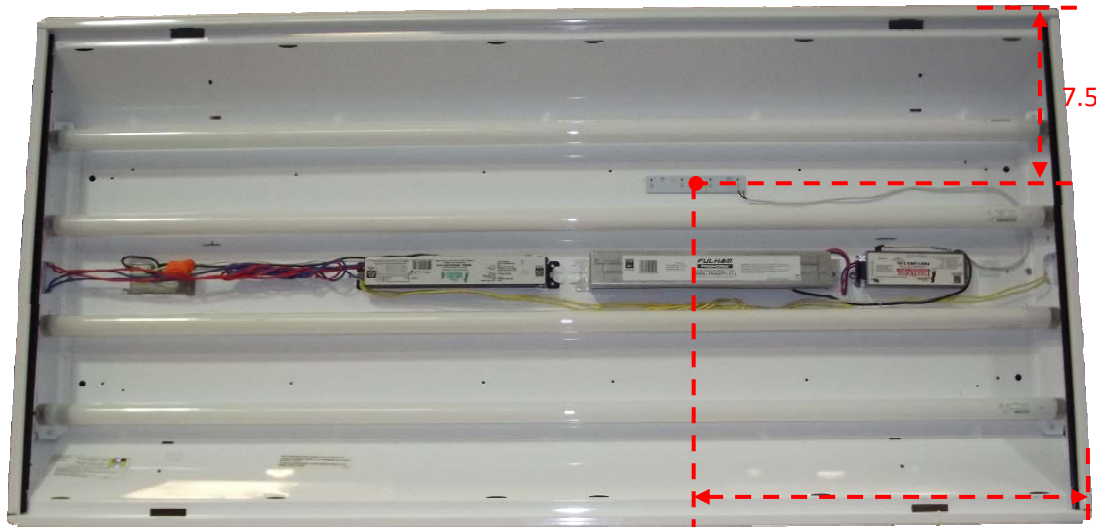
2X4 Troffer

Battery: FHSBATT3-F7L

LED Arrays: FHS4-AR-8W-LH,

FHS4-AR-10W-LH

13.5in



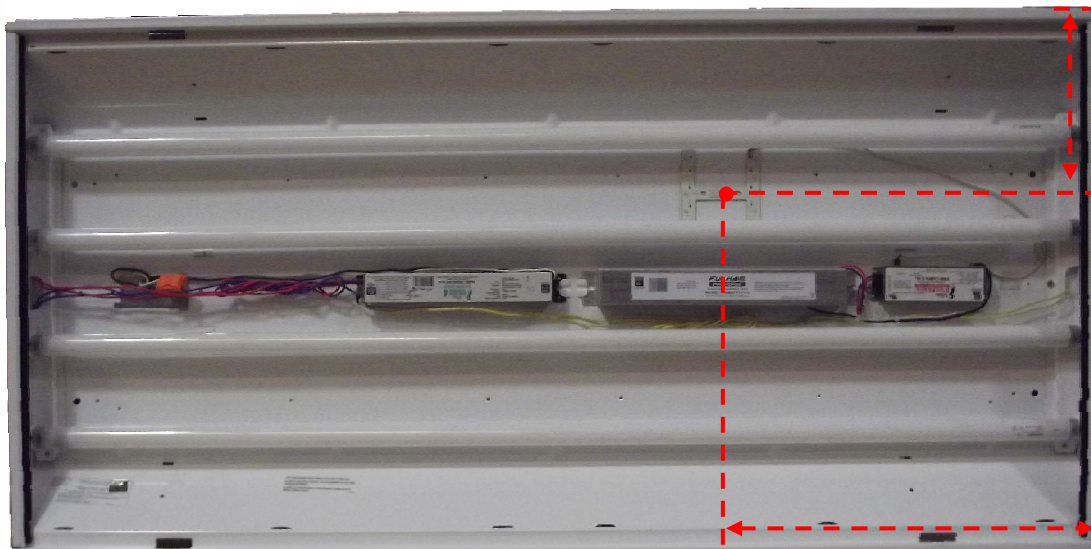
7.5in

2X4 Troffer

Battery: FHSBATT3-F7L

LED Arrays: FHS1-AR-4W-L

13.5in



7.5in

2X4 Troffer

Battery: FHSBATT3-F7L

LED Arrays: FHS3-AR-6W-SH,

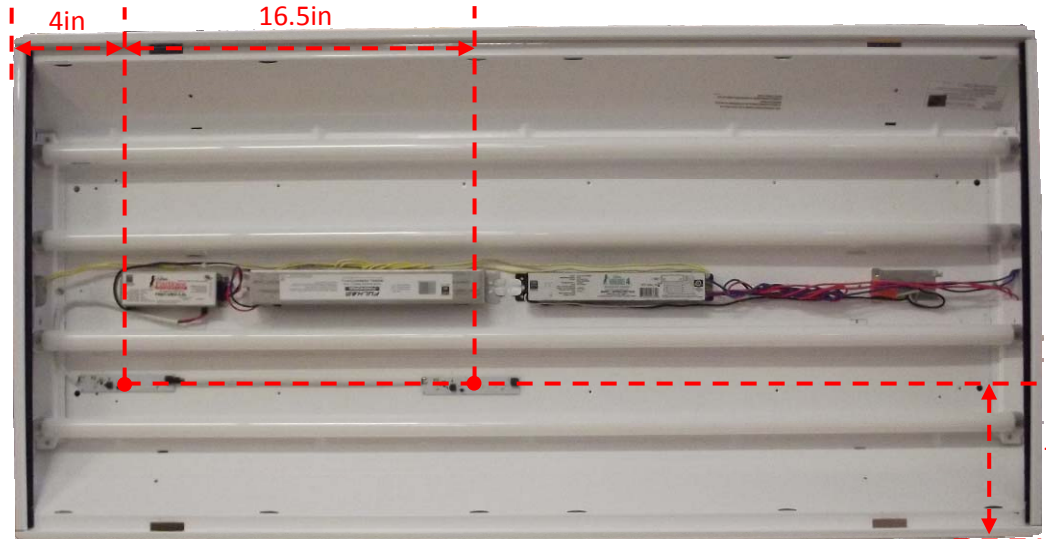
FHS4-AR-10W-SH

13.5in

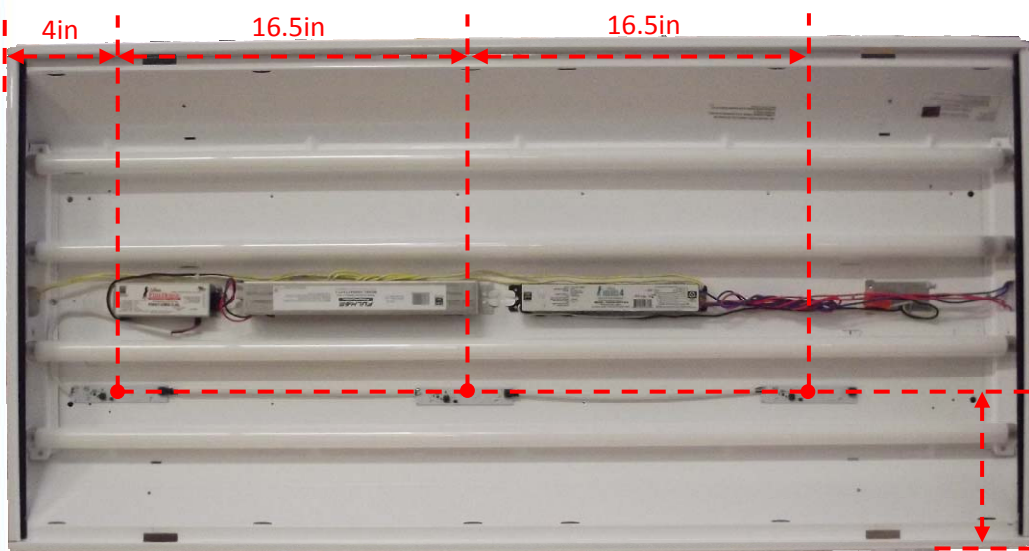
5.2 HOTSPOT LED KIT SETUP



2X4 Troffer
Battery: FHSBATT3-F7L
LED Arrays: FHS6-AR-3W-L x1

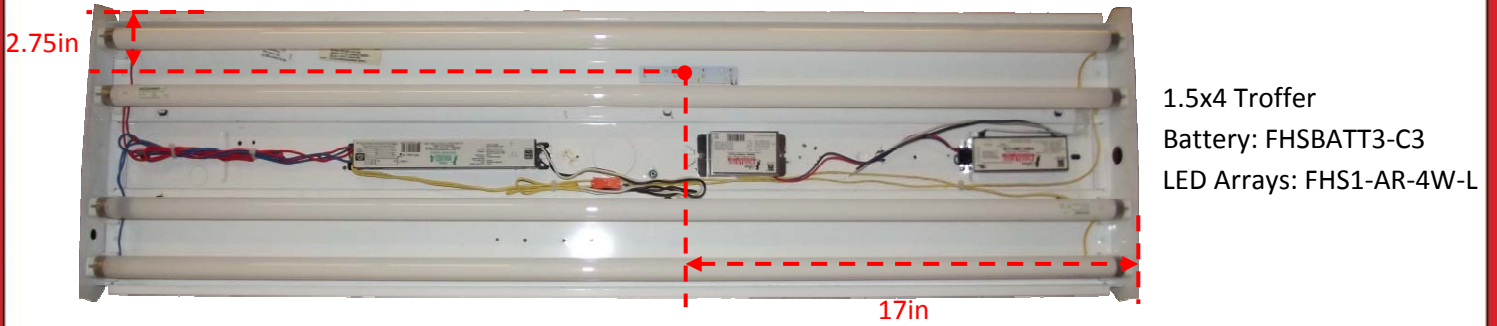


2X4 Troffer
Battery: FHSBATT3-F7L
LED Arrays: FHS6-AR-3W-L x2

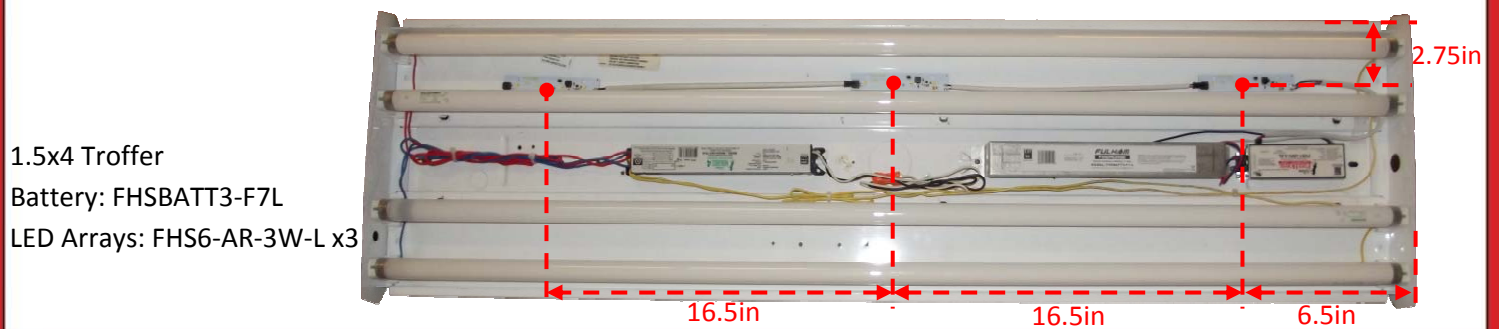
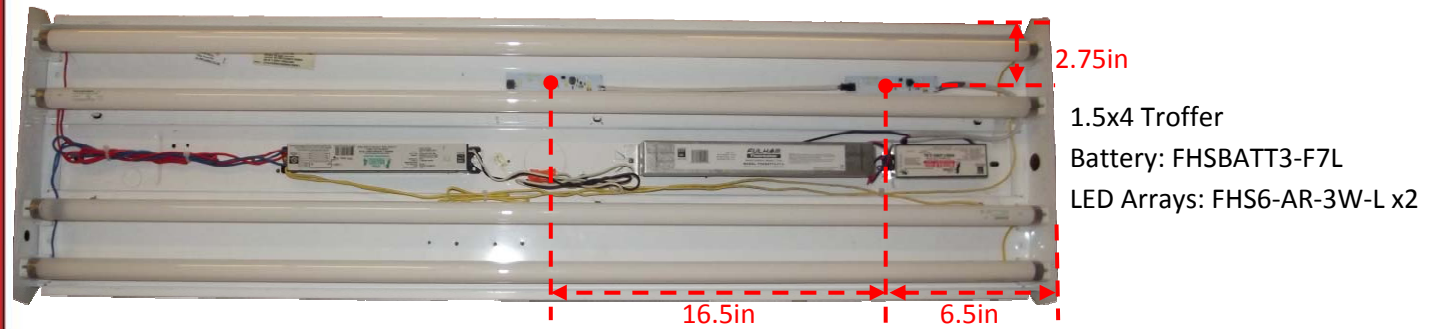
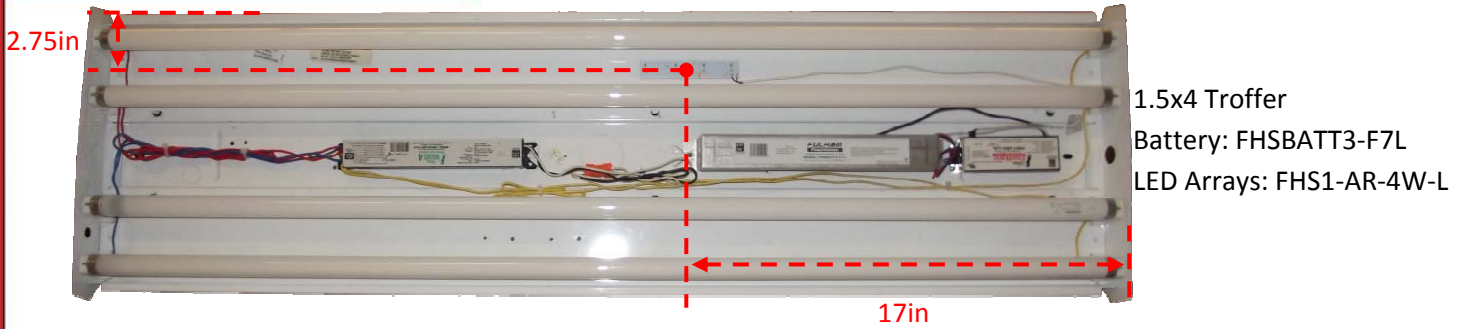


2X4 Troffer
Battery: FHSBATT3-F7L
LED Arrays: FHS6-AR-3W-L x3

5.3 HOTSPOT LED KIT SETUP



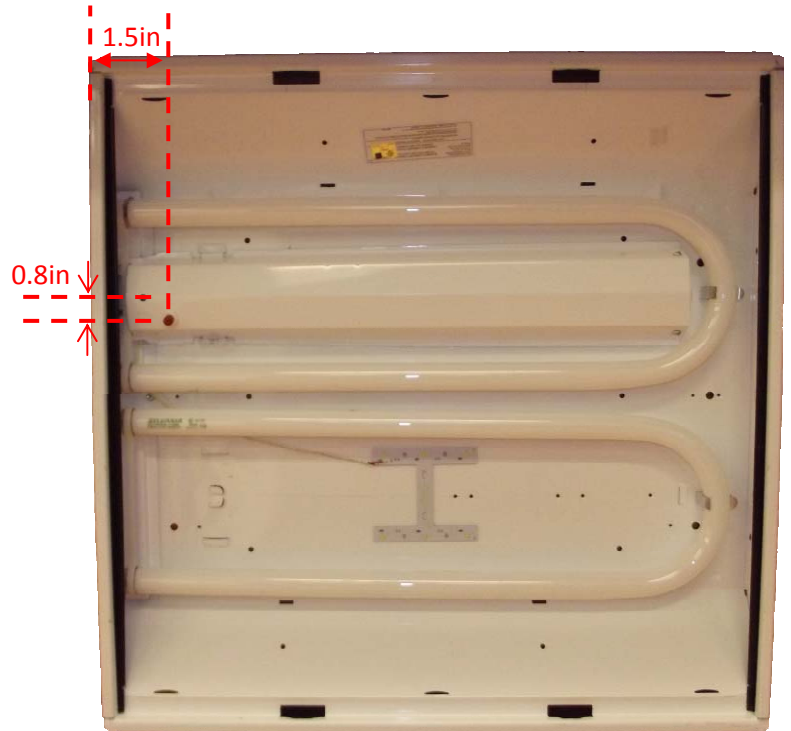
5.4 HOTSPOT LED KIT SETUP



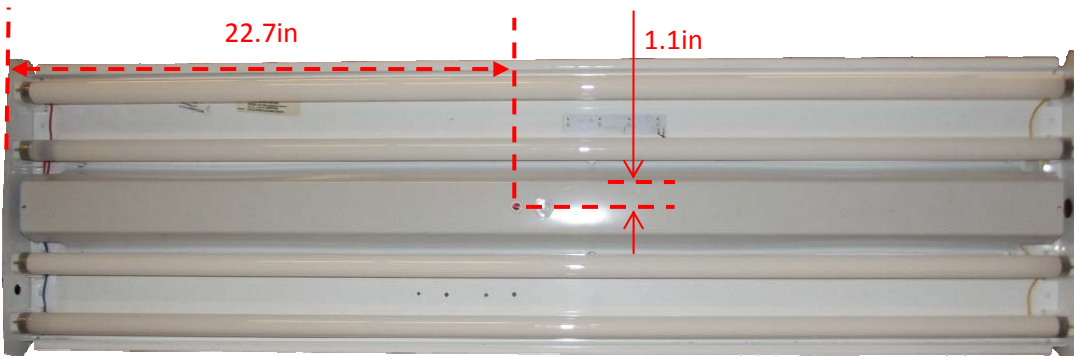
5.5 HOTSPOT LED KIT SETUP



Example of 2X4 Troffer with completed installation and wire way reattached



Example of 2X2 Troffer with completed installation and wire way reattached



Example of 1.5X4 Troffer with completed installation and wire way reattached



LED EMERGENCY LIGHTING SYSTEM

MANUAL FOR HOTSPOT LED KIT INSTALLATION

6.0 WARRANTY

Warranty

Please see our warranty policy on Fulham's LED Emergency Lighting Program.

Component Part Numbers

To order Hotspot LED Modules, Drivers, Battery Packs, and/or Hotspot LED kits, please contact us and use the part numbers below to order:

Hotspot LED Module: FHS1-AR-4W-L, FHS3-AR-6W-SH, FHS3-AR-10W-SH, FHS4-AR-8W-LH, FHS4-AR-10W-LH, or FHS6-AR-3W-L

Hotspot LED Driver: FHS1-UNV-3.6L

Hotspot LED Battery Pack: FHSBATT3-C3, FHSBATT3-D4, or FHSBATT3-F7L

Hotspot LED Retrofit Kit Part Number: FHSKIT-TXXLNXX or FHSKIT-TXXXHXX



INSTALLATION INSTRUCTIONS

HOTSPOT1 LED EMERGENCY KIT

For Marine Inside Drip Proof (Retrofitted with Type B LED) Luminaires 40W Max:

Approved Kits:

FHSKITT07LNFL

FHSKITT07LND

FHSKITT03LNFL

FHSKITT03LND

FHSKITT03LNC

1.0 INSTALLATION WARNINGS

1. "THIS PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE INSTALLATION CODE BY A FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE PRODUCT AND HAZARDS INVOLVED."
2. "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."
3. "Warning - Risk of fire or electric shock. Install this kit only in the luminaires that has 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."
4. "Warning - To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects."
5. "CAUTION - RISK OF FIRE. CONSULT A QUALIFIED ELECTRICIAN TO ENSURE CORRECT BRANCH CIRCUIT CONDUCTOR."
6. "THE RETROFIT KIT IS ACCEPTED AS A COMPONENT OF A LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY THE AUTHORITIES HAVING JURISDICTION."
7. "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."
8. "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."

1.0 AVERTISSEMENTS D'INSTALLATION

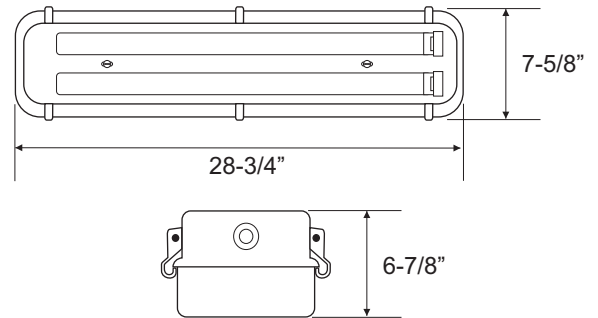
1. CE PRODUIT DOIT ÊTRE INSTALLÉ SELON LE CODE D'INSTALLATION PERTINENT, PAR UNE PERSONNE QUI CONNAÎT BIEN LE PRODUIT ET SON FONCTIONNEMENT AINSI QUE LES RISQUES INHÉRENTS.
2. AVERTISSEMENT - Risque d'incendie ou de choc électrique. L'installation de ce nécessaire de modernisation exige une personne familière avec la construction et le fonctionnement du système électrique du luminaire et des risques associés. Toute personne qui n'est pas qualifiée ne doit faire aucune tentative d'installation et doit contacter une personne qualifiée.
3. AVERTISSEMENT - Risque d'incendie ou de choc électrique. N'installer ce nécessaire que dans les luminaires dont les caractéristiques de construction et les dimensions sont conforme à celles illustrées dans les photos et/ou les dessins et dont la puissance d'entrée nominale du nécessaire de modernisation ne dépasse pas celle du luminaire.
4. AVERTISSEMENT - Afin de prévenir l'endommagement ou l'abrasion des câbles, éviter tout contact entre ces derniers et le bord d'un objet tranchant tel qu'une tôle.
5. ATTENTION – RISQUE D'INCENDIE, CONSULTER UN ÉLECTRICIEN QUALIFIÉ POUR VOUS ASSURER QUE LES CONDUCTEURS DE LA DÉRIVATION SONT ADÉQUATS.
6. LE NÉCESSAIRE DE MODERNISATION EST ACCEPTÉ À TITRE DE COMPOSANT D'UN LUMINAIRE LORSQUE LA PERTINENCE DE LA COMBINAISON DOIT ÊTRE DÉTERMINÉE PAR PAR LES AUTORITÉS COMPÉTENTES.
7. Seuls les trous ouverts indiqués dans les photographies et / ou les dessins peuvent être réalisés ou modifiés à la suite de l'installation du kit. Ne laissez pas d'autres trous ouverts dans une enceinte de câblage ou de composants électriques.
8. AVERTISSEMENT - Risque d'incendie ou de choc électrique. Le câblage du luminaire et les pièces électriques peuvent être endommagés lors du forage pour l'installation d'un kit de rénovation LED. Vérifier le câblage et les composants inclus

2.0 ORIGINAL LUMINAIRE DIMENSIONS

Original Luminaire
 (Pauluhn: FPSC255)



Minimum Luminaire Dimensions

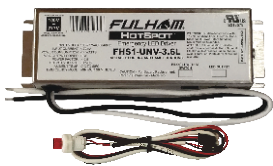


General Requirements For Use With This Retrofit Kit

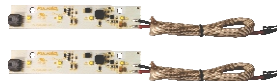
- The original luminaire housing, diffuser and ground wire will be need to be kept for this retrofit.
- The LED retrofit kit shall be installed in marine luminaires which use a maximum of 2 LED tube lamps with integral LED driver inside lamp tube (type B), rated 20W maximum each.
- This retrofit cannot be installed if the number of LED lamps in the luminaire exceeds 2 lamps.
- This retrofit kit can retrofitted into any similar shaped 2-lamp, LED luminaire with volume equal to or greater than the minimum dimensions described above.

3.0 RETROFIT KIT COMPONENTS

Retrofit kit components will be provided as listed below:



Emergency LED Driver / LED Indicator



LED Module



Emergency Battery

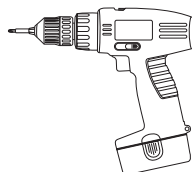


Mounting Hardware

4.0 RECOMMENDED TOOLS (Not Included)



1/2" Drill Bit

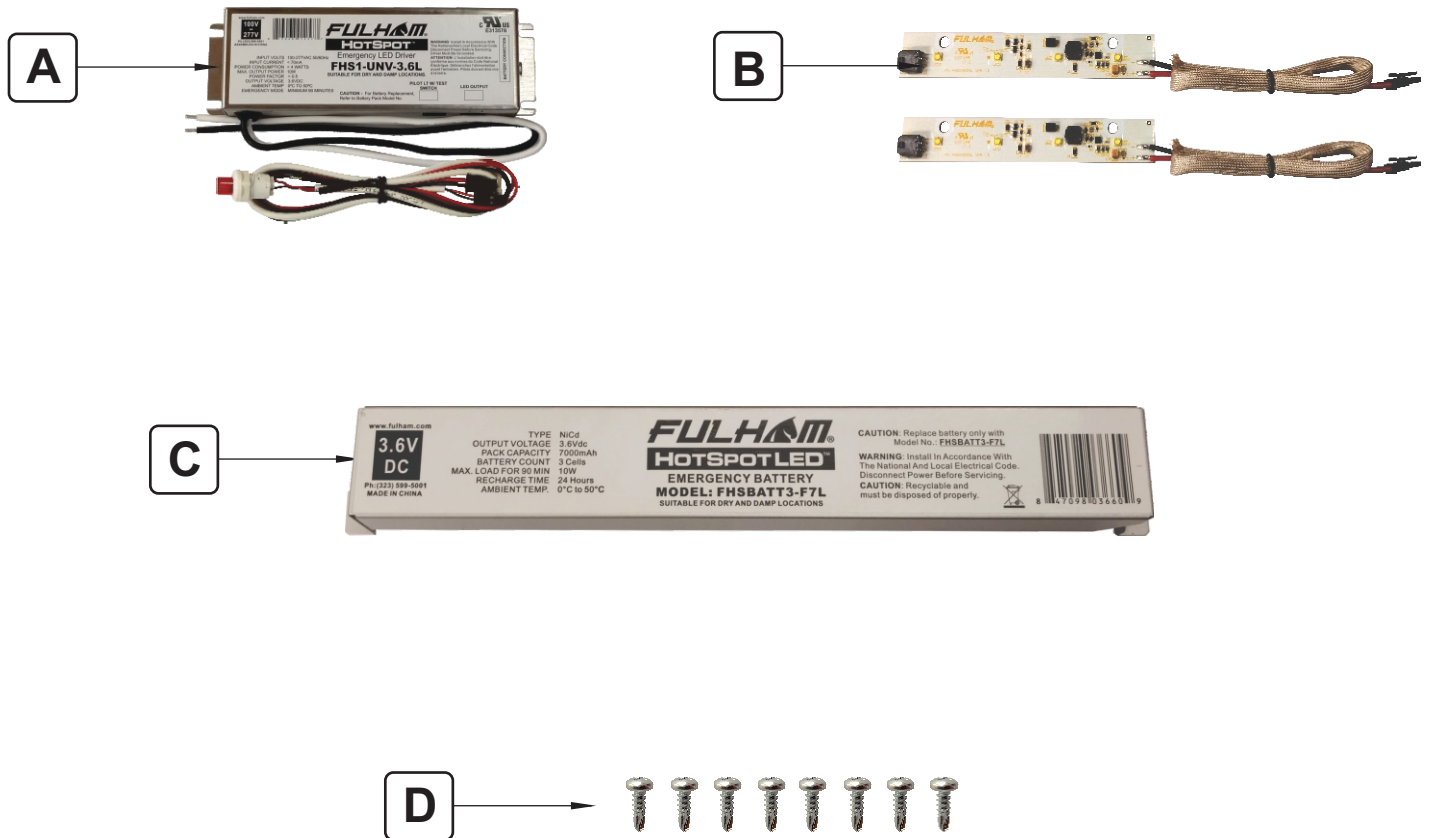


Power Drill W/ Philips Bit



P2 Philips Screw Driver

5.0 RETROFIT KIT DESCRIPTION



ITEM	DESCRIPTION (FHSKITT07LNFL)	QTY
A.	Emergency LED Driver (FHS1-UNV-3.6L) and LED Indicator	1
B.	Linear Module W/ Multiple Connections (FHS6-AR-3W-L)	2
C.	Emergency Battery (FHSBATT3-F7L)	1
D.	6-20 X 3/8" Pan Head Self Drilling Screws	8

6.0 RETROFIT KIT ASSEMBLY

1. Start by removing power from the luminaire.
2. Unhook the six hooks to release and remove the luminaire lens.
3. Remove the lamps and loosen the two screws indicated in figure 2 to release luminaire mounting plate.
4. Place the LED Modules (B) on the luminaire mounting plate as shown in figure 3.
Note: The LED strips must be centered in a manner where the LED tubes will not obstruct the illumination of the Emergency LED modules.
5. Secure the LED Modules (B) to the luminaire mounting plate using four 6-20 X 3/8" Self Drilling Screws (D). See Figure 3.
6. Place the Emergency Battery (C) on to the location indicated on figure 4.
7. Secure the Emergency Battery (C) to the luminaire mounting plate by using two 6-20 x 3/8" Self Drilling Screws (D). See figure 4.
Note: For alternate HotSpot kit battery and LED module mounting options see page 8.

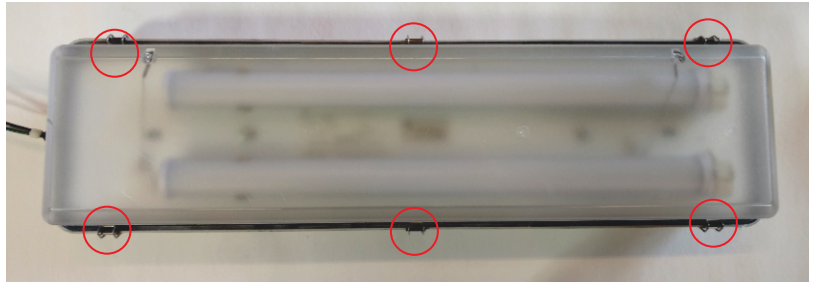


Figure 1

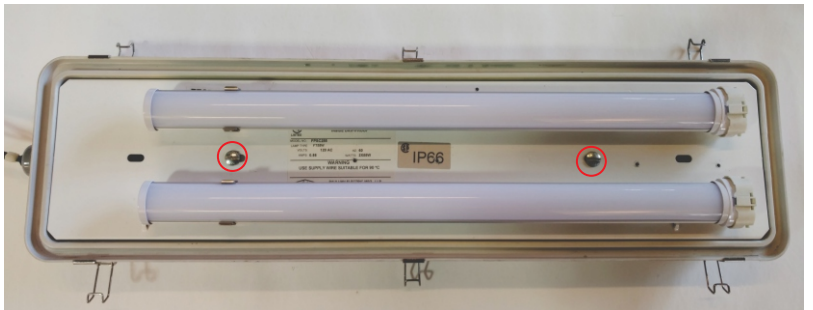


Figure 2

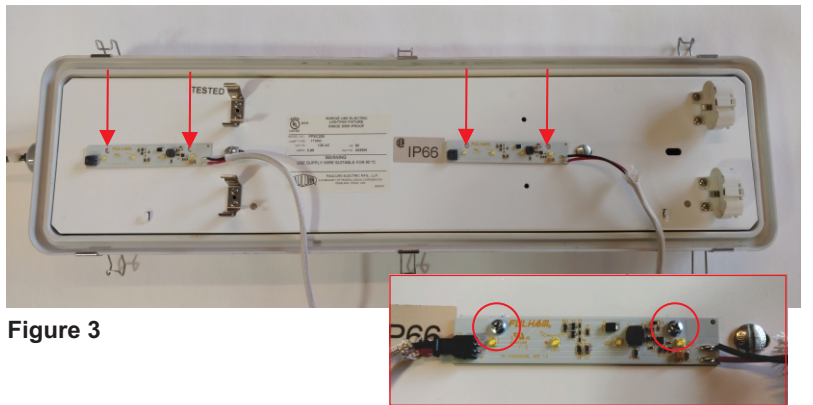


Figure 3

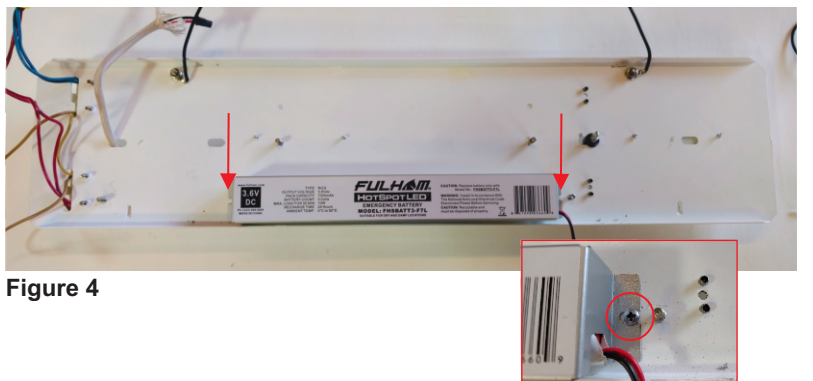
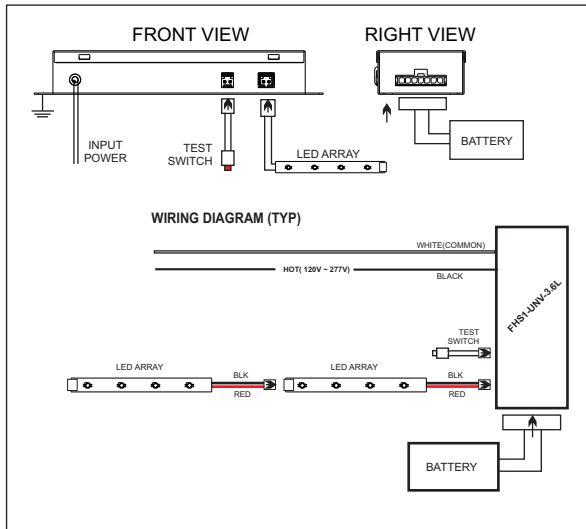


Figure 4

6.0 RETROFIT KIT ASSEMBLY

8. Place the LED Driver (A) on the location indicated on figure 5.
9. Secure the LED Driver (A) to the luminaire mounting plate using two 6-20 X 3/8" Self Drilling Screws (D). See Figure 5.
10. Drill a 1/2" hole into the luminaire mounting plate in the location indicated in figure 6, and Insert the Test Switch into the pre drilled hole in the luminaire mounting plate and secure it using the test switch hex nut.
11. Drill a 1/2" hole into the luminaire mounting plate in the location indicated in figure 7 for the LED Module wire to be routed to the LED Driver.
12. Wire all components according to the wire diagram and wiring instructions at the bottom of the page. See figure 8.
Note: Emergency LED driver case must be bonded to supply ground. Ensure supply ground is provided on mounting plate of luminaire in accordance with local electrical code.

Wire Diagram



Connecting Power to HotSpot Retrofit Kit

1. Connect the green wire (Ground) from the luminaire to the Ground that is being fed by the power source. Connect these two wires by using a wire connector with a minimum 18AWG rating.
2. Connect the white wire (Neutral) from the LED driver to the Neutral being fed by the power source. Connect these two wires by using a wire connector with a minimum 18AWG rating.
3. Connect the black wire (Line) from LED driver to the Line being fed by the power source. Connect these two wires by using a wire connector with a minimum 18AWG rating.

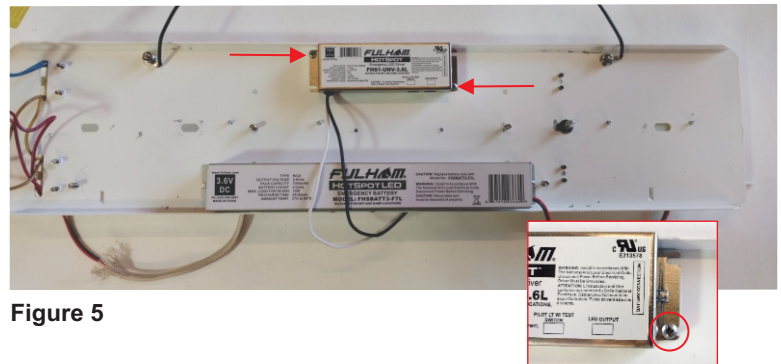


Figure 5

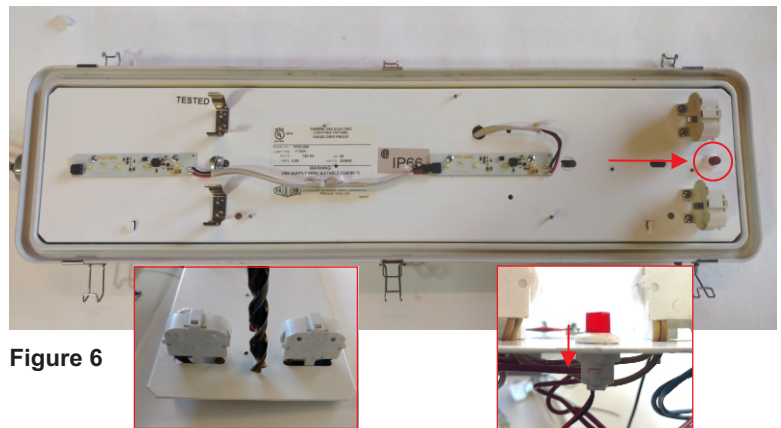


Figure 6

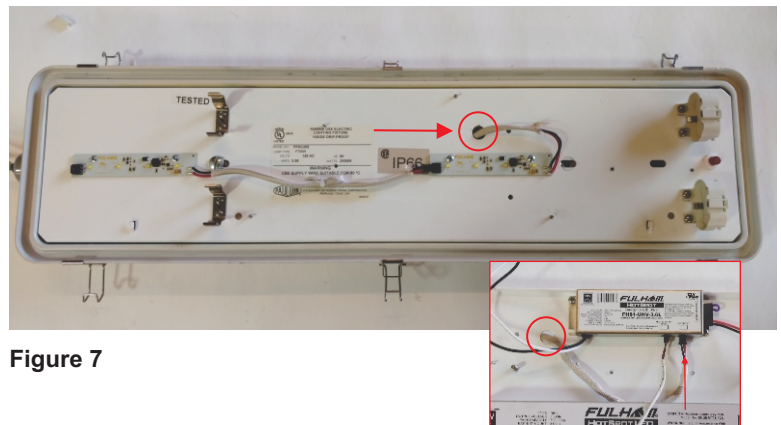


Figure 7

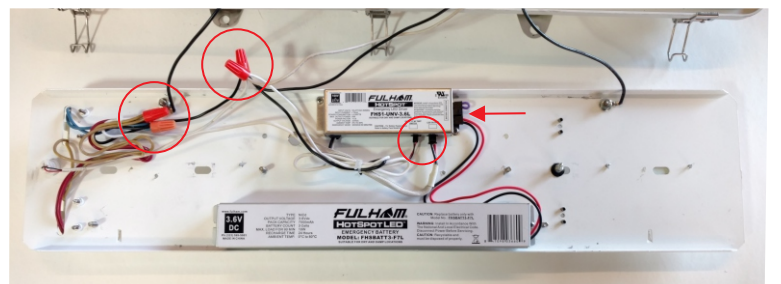


Figure 8

6.0 RETROFIT KIT ASSEMBLY

13. Place the luminaire mounting plate onto the Luminaire and secure it by fastening the two screws. See figure 9.
14. Replace the original lamps and luminaire lens. See figure and figure 10.
15. Completed luminaire should look like figure 11.

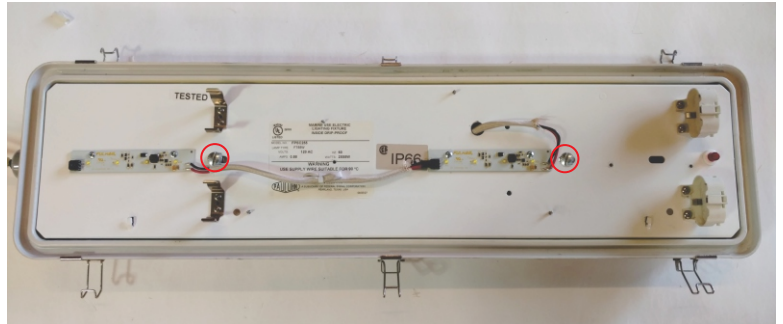


Figure 9

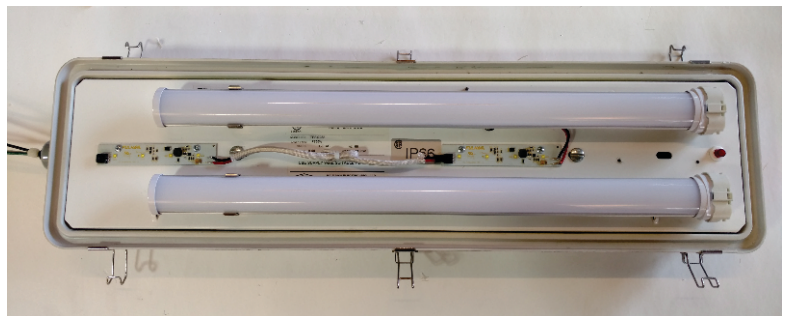


Figure 10

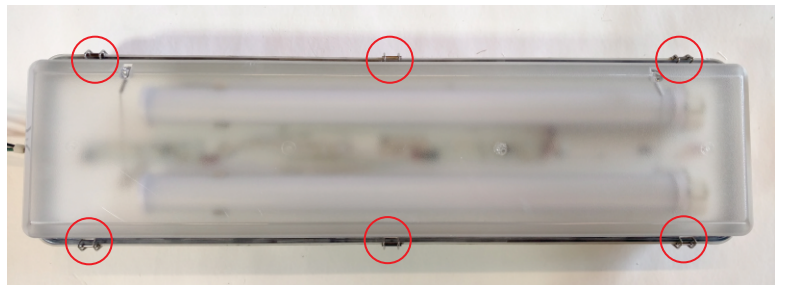


Figure 11



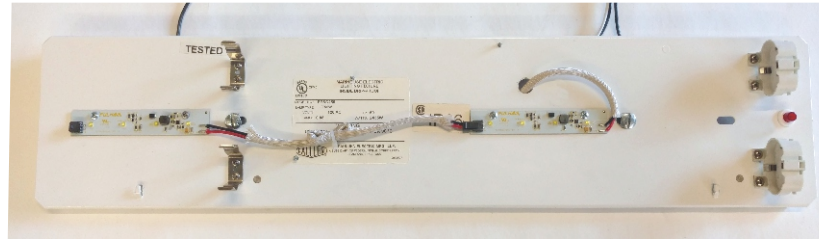
7.0 WARRANTY

- Please refer to HotSpot LED Retrofit kit spec sheet for warranty information

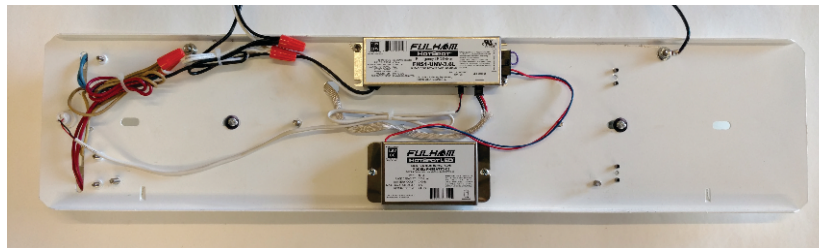
8.0 ALTERNATE HOTSPOT KIT SETUP



LED Module Mounting For Kits: FHSKITT03LNFL
FHSKITT03LND
FHSKITT03LNC



LED Module Mounting For Kits: FHSKITT07LNFL
FHSKITT07LND



Battery Pack Mounting For Kits: FHSKITT03LNC



Battery Pack Mounting For Kits: FHSKITT03LND
FHSKITT07LND