



## LED WELL LIGHTS - INSTALLATION

### 1. LED Well Lights - Recommended Splicing Options

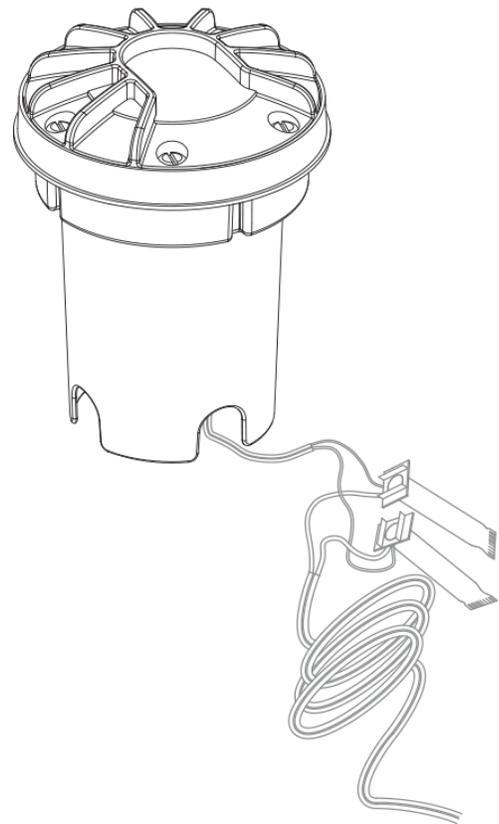
#### DBRY-6 Direct Bury Splice Kit

With any low voltage lighting system, waterproof connections are crucial to maximizing the life of the system. 3M's DBRY-6 shown here are the recommended waterproof connectors for FX fixtures. DBRY-6 connectors are available directly from FX Luminaire in bulk packs - Bulk 100 connectors (**DBRY100**) and 25 connectors (**DBRY2X25**).



#### Installation Instructions

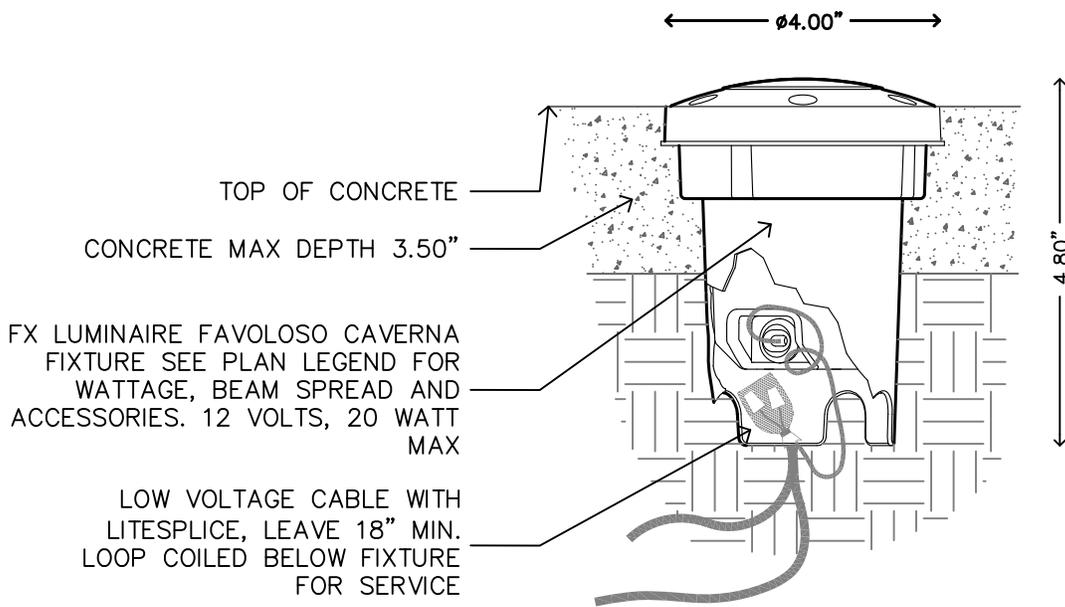
1. Strip wire insulation 3/4"
2. With wire ends even, insert wires into the connector and tighten until secure
3. Insert the connector all the way into the tube until the connector rests on the bottom
4. Fold the wires into the channels
5. Close the cap



### 2. LED Well Lights - Details

INSTALL THE FX LUMINAIRE FAVOLOSO CAVERNA IN CONCRETE FLUSH TO THE RIM, IN SLABS NO THICKER THAN 3.50".

USE THE "REUSABLE CONSTRUCTION COVER" TO KEEP SLEEVE CLEAN AND FREE OF DEBRIS



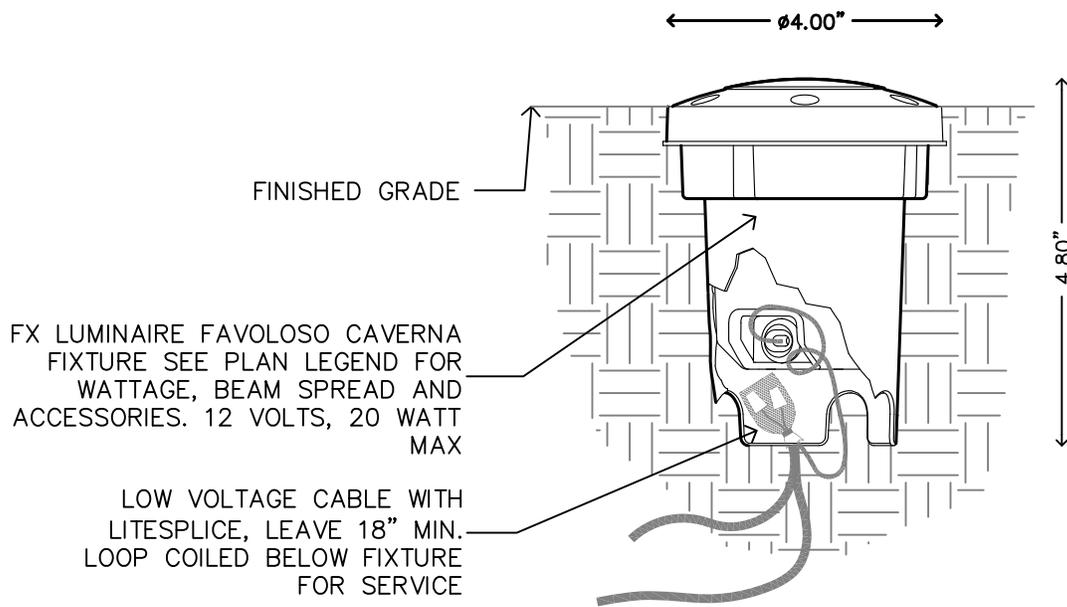
THIS DETAIL ILLUSTRATES THE FC-RG AS STANDARD. DETAIL ALSO APPLIES TO GRATE OPTIONS FC-CW AND FC-LV.

SECTION/ELEVATION

XX FAVOLOSO CAVERNA (FC)  
 CONCRETE MOUNT  
 NOT TO SCALE FX LUMINAIRE DETAIL

INSTALL THE FX LUMINAIRE FAVOLOSO  
CAVERNA WITH THE RIM .50" ABOVE  
FINISHED GRADE.

USE THE "REUSABLE CONSTRUCTION  
COVER" TO KEEP SLEEVE CLEAN AND  
FREE OF DEBRIS



THIS DETAIL ILLUSTRATES THE  
FC-RG AS STANDARD. DETAIL  
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SECTION/ELEVATION

XX FAVOLOSO CAVERNA(FC)  
GRADE MOUNT

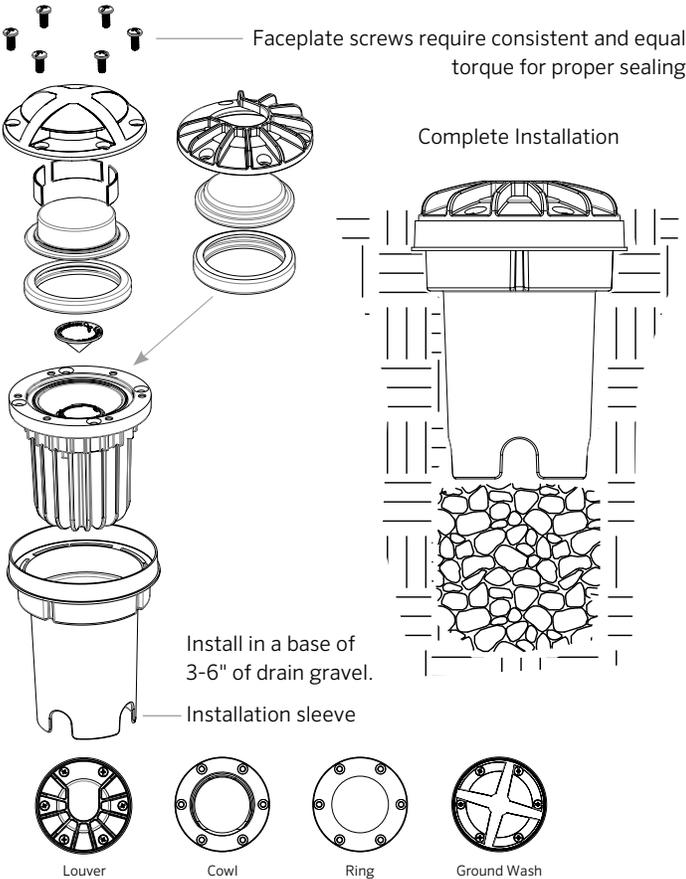
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NOT TO SCALE FX LUMINAIRE DETAIL

# INSTALL NOTES: FC LED

We have developed this series of field installation guidelines to assist you in correctly installing fixtures and transformers, ensuring customer satisfaction and trouble-free service. If you have any questions, please call your local distributor or the FX TechLine at 800-733-2823 before proceeding. Follow all NEC guidelines and local electrical codes. For more information, visit: [fxl.com](http://fxl.com)

## PRODUCT DRAWINGS:



## INSTALLATION GUIDELINES:

The FC in-grade fixture is an integrated LED fixture capable of housing all Standard, ZD, and ZDC LED boards.

For proper installation, use waterproof connectors for low voltage power connection. Install with a base under the fixture of 3-6" of drain gravel. Do not install without the installation sleeve.

### Changing or removing the color and beam adjustment lenses or light shields:

To remove, add, or change a color or beam angle lens, unscrew the six (6) outer screws and remove faceplate and lens assembly. With the faceplate removed, twist the top lens(es) 1/4 turn counterclockwise to release the bayonet lock and lift the lens(es) off. Repeat to remove multiple lenses. Once removed, reattach the new color and/or beam angle lens by lining up the bayonet mount and twisting clockwise 1/4 turn while gently pressing down. Reassemble with the lens/seal assembly and faceplate by fastening the six screws in a star pattern, evenly sealing the fixture. Ensure to bottom out each screw with even pressure for a proper seal. The ground wash faceplate option contains shields to block light in specific quadrants. When changing, ensure to insert the shield completely before reassembling the fixture.

### DO NOT EXCEED 15 VOLTS IN THIS FIXTURE

The LEDs in this product function ideally when the incoming voltage is between 10-15 volts. Voltages outside of this range may damage LEDs, shorten their life, or cause unsatisfactory performance. **The use of improper voltage voids the product warranty. Use a UL 1838 approved power supply only.**

**CAUTION: RISK OF FIRE WARNING: DO NOT USE FX FIXTURES WITH ANY STYLE OF TRANSFORMER THAT EXCEEDS 15 VOLTS ON THE SECONDARY.**

## SAVE THESE INSTRUCTIONS:

### WARNING - To reduce the risk of FIRE OR INJURY TO PERSON:

- Turn off/unplug and allow to cool before replacing lamp.
- Lamp gets HOT quickly. Contact only switch/plug when turning on.
- Do not touch hot lens, guard, or enclosure.
- Keep lamp away from materials that may burn.
- Do not touch the lamp at any time. Use a soft cloth. Oil from skin may damage lamp.
- Do not operate the luminaire fitting with a missing or damaged shield.

### WARNING - Risk of Electric Shock

- Install all luminaires 10 feet (3.05 m) or more from a pool, spa, or fountain.
- A luminaire shall not use tungsten halogen lamps unless the luminaire is marked for such lamps.
- Supply connection and electrical components are located above ground level, except for secondary cord that is suitable for wet locations.

### LOW VOLTAGE CABLE SHALL:

1. Be protected by routing in close proximity to the luminaire or fitting, or next to a building structure such as a house or deck.
2. Not be buried except for a maximum 6 inches (15.2 cm) in order to connect to the main low voltage cable.
3. Have the length cut off so that it is connected to a connector within 6 inches (15.2 cm) from a building structure, a luminaire, or fitting.



## CONSERVEZ SOIGNEUSEMENT CES INSTRUCTIONS:

### AVERTISSEMENT - Pour réduire le risque D'INCENDIE OU DE BLESSURE:

- Éteignez/débranchez la lampe et laissez-la refroidir avant de la remplacer.
- La lampe devient rapidement BRÛLANTE. Ne touchez que l'interrupteur/ la prise lors de la mise sous tension.
- Ne touchez pas la lentille, le dispositif de sécurité ni le boîtier lorsqu'ils sont chauds.
- N'approchez pas la lampe de matériaux pouvant s'enflammer.
- Ne touchez jamais la lampe. Utilisez un chiffon doux.
- La graisse de la peau peut endommager la lampe.
- N'utilisez pas le raccord du luminaire si le bouclier est absent ou endommagé.

### AVERTISSEMENT - Risque d'électrocution

- Installez tous les luminaires à 3,05 m (10 pieds) ou plus d'une piscine, d'un spa ou d'une fontaine.
- Les luminaires ne doivent pas utiliser de lampes tungstène-halogène à moins que le luminaire soit prévu pour ce type de lampe.
- Le raccordement au réseau électrique et les différents matériels électriques doivent être installés au-dessus du niveau du sol, exception faite pour les fils ou réseaux secondaires qui conviennent aux lieux humides

### LE CÂBLE BASSE TENSION DEVRA:

1. Être protégé en le faisant passer à proximité du luminaire ou du raccord, ou à côté d'une construction comme une maison ou une terrasse.
2. Ne pas être enterré sauf à un maximum de 15,2 cm (6 pouces) pour être branché au câble basse tension principal.
3. Être raccourci de manière à être branché à un connecteur situé à moins de 15,2 cm (6 pouces) d'une construction, d'un luminaire ou d'un raccord.

## INSTALL NOTES: **SYSTEM LAYOUT**

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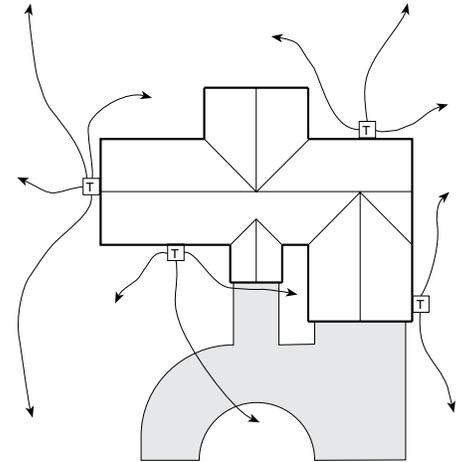
### TRANSFORMERS

#### Single Transformer

When using only one transformer, it is very important to center the transformer on the wattage load. If the project calls for 135 watts in both front and back yard, the transformer should be centered on the side of the house that will receive the most lighting. A common mistake is to locate the single transformer on the service side of the house or in the garage, which might result in excessively long cable runs to reach lighted areas. The primary goal in laying out low voltage systems is to minimize cable runs because of voltage drop.

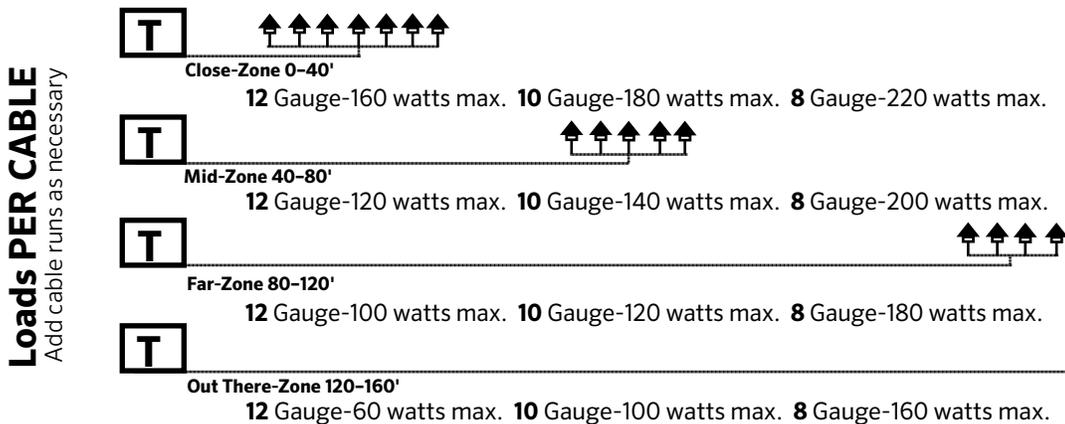
#### Multiple Transformers

A common mistake in laying out multiple transformer circuits is to group several transformers in one location because of utility or visual considerations only. As with any low voltage layout, the prime directive should be to locate the transformers as close to the fixtures as possible in order to minimize cable runs. The other multi-transformer layout consideration is “use zoning.” Having several transformers allows the client to selectively control light in separate areas. This approach is similar to irrigation design in that the goal is to individually control areas that have similar needs. In lighting, a recreation area has different lighting needs than does a front entry. Therefore, the lights that serve these different lighting use areas need to be on separate transformers and switch controls.



Sample diagram of home with transformer and lamp placement

### CIRCUITING GUIDELINES



### LED LIFE:

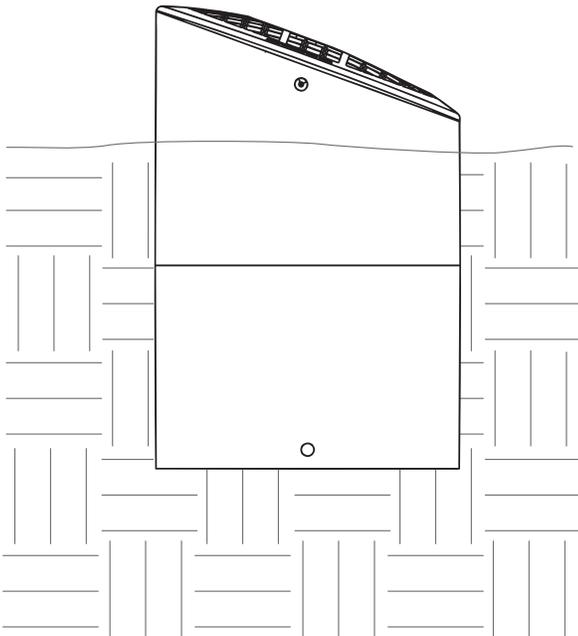
- For maximum light output, tune lighting circuits to provide between 10 and 15 volts as measured at lamp terminals when all of the lamps on the circuit are operating.
- Voltage can be regulated by adjusting circuit load/run.
- To determine circuit voltage, use a digital voltmeter.

### CONNECTORS:

- Connectors used to connect a luminaire or output circuit component to the main low voltage cable shall be copper or copper alloy, or the equivalent.
- When installed, the connection shall guard against inadvertent shorting of current-carrying parts.
- Wire nuts are not to be used unless provided with corrosion protection, intended for outdoor use, and designed for direct burial.

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## TYPICAL INSTALLATION:



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The LED board in this product is designed to offer years of use without replacement. Should you have a need to replace the LED board, please contact your local FX distributor for a board replacement and the necessary instructions.

For proper installation, use the included DBYR-6 connectors for line connection. Start by making connections to the home run with the included wire nuts. Finish by plunging each completed wire nut into the connector fully and snapping the top close. This procedure must be followed in order to properly prevent water intrusion.

**RISK OF FIRE WARNING: DO NOT USE FX FIXTURES WITH ANY STYLE OF TRANSFORMER THAT EXCEEDS 15 VOLTS ON THE SECONDARY.**

Always secure the top shield over the unit while in field. In order to service or change the LED board remove the top shield and inner module. Remove the screws from the LED module, service and reattach in a star pattern in order to seal evenly. Make sure to bottom out each screw with even pressure to properly seal module o-ring.

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If using corrosion protection gel, then pump about two squeezes of gel into a baggie and insert both Listed wirenut connections into it. Push out the air and work the gel into the bottom of the wirenut assuring a waterproof connection. Install the cable tie as shown and cinch down to complete the low voltage connection. It's best to leave 12–18" of slack at each fixture to allow for relocation or if you need to splice in additional cables in the future. Since this is a permanent splice solution—you will need to cut it off and start from scratch to add cables to the splice.

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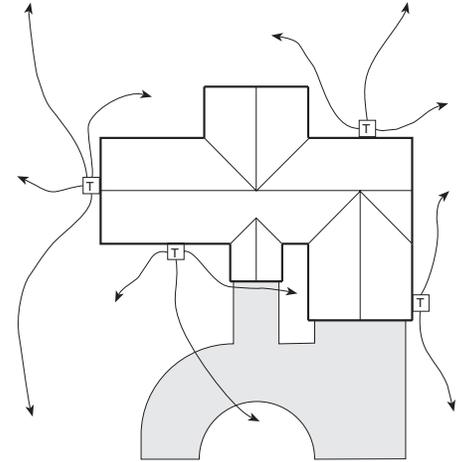
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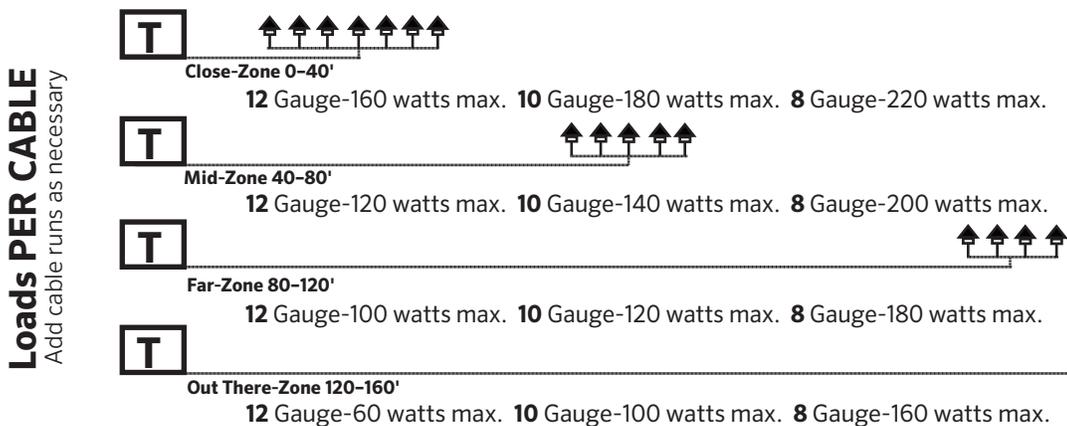
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