Lumination

Product Codes 75481, 75484, 75485, 75486, 75487, 75488, 75489, 75490, 75493, 87962, 87963

(Tetra® Contour Series)

BEFORE YOU BEGIN

Read these instructions completely and carefully.

⚠ WARNING/AVERTISSEMENT

RISK OF ELECTRIC SHOCK

- Disconnect power at fuse box or circuit breaker before servicing or installing product.
- Properly ground Tetra® power supply.

RISK OF FIRE

- Use only Tetra® supply wire to make connection from Tetra® power supply to Tetra® LED strip.
- Use only approved wire for input/output connection Minimum size 18 AWG (0.82mm^2).
- Follow all local codes.
- Waterproof wire connection for outdoor or wet installations. See instructions for details.
- Do not stretch light engines.
- Inspect and replace the light engines if any tear or damage affects their integrity.
- Avoid installation that leads to prolonged exposure to standing water or ice.

RISQUES DE DÉCHARGES ÉLECTRIQUES

- Coupez l'alimentation électrique à la boîte de fusibles ou au disjoncteur avant l'entretien ou l'installation du produit.
- Assurez-vous de correctement mettre à terre l'alimentation électrique Tetra®.

RISQUES D'INCENDIE

- N'utilisez que le fil d'approvisionnement Tetra® pour faire la connexion entre l'alimentation Tetra® et la bande DEL Tetra®.
- N'utilisez que des fils approuvés pour les entrées/sorties de connexion. Taille minimum 18 AWG (0.82mm2).
- Respectez tous les codes locaux.
- Étanchéifier les connexions électriques effectuées à l'extérieur ou pour un environnement exposé à l'eau. Voir les instructions d'installation pour plus de détails.
- Ne pas étirer les modules DEL Contour.
- Inspecter l'intégrité des modules DEL Contour et les remplacer s'ils sont déchirés ou endommagés.
- Éviter les installations avec une exposition prolongée à l'eau stagnante ou à la glace.

Save These Instructions

Use only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.

This product is intended for the use of non-residential architecture lighting and is not intended for use in any other applications.

LED System Features

- Certified to UL 2108
- Low Voltage Luminaire (24 VDC)
- Light Engine IP54: Dry or damp location rated; Light Engine and Light Guide IP66: Dry, damp or wet location rated
- Compatible with 24 Volt LED Drivers
- Dimmable with 0-10V Dimming LED Driver or Current Dimming module and compatible dimming controller

Tools and Components Required

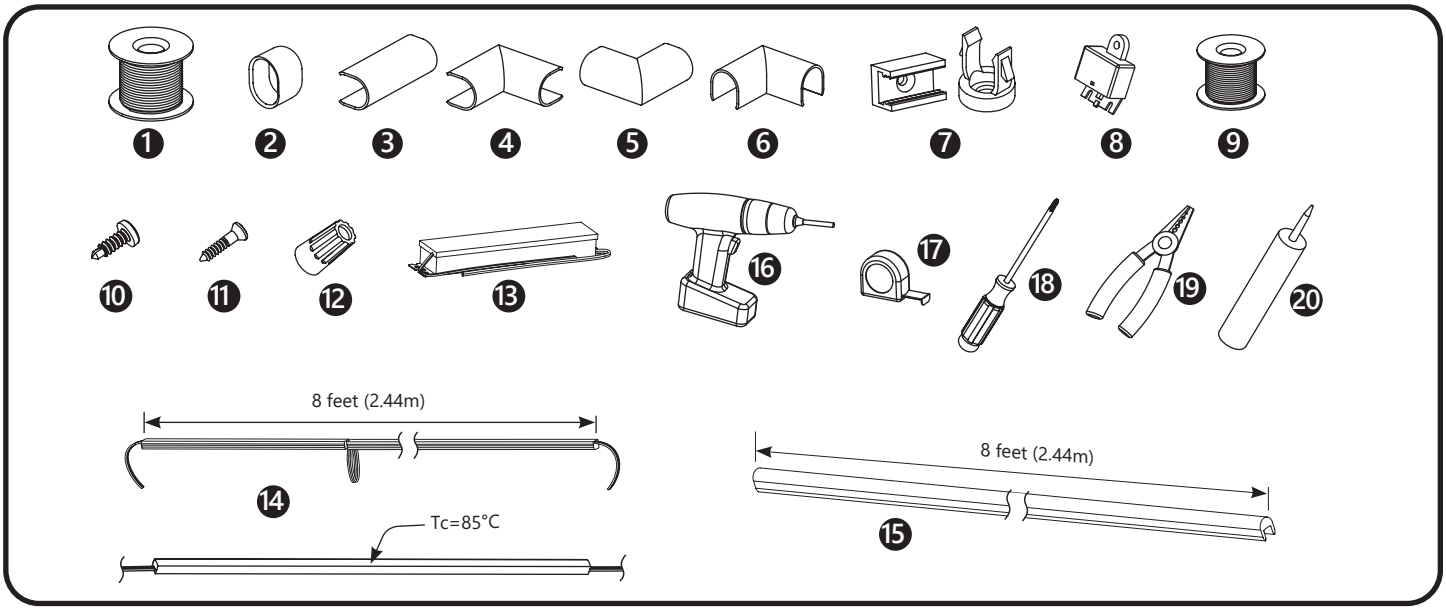
- Neon replacement
- Border lighting
- Interior art
- Cove
- Accent lighting
- Surface Mount

Prepare Electrical Wiring

Electrical Requirements

- Light engines without light guide limited to indoor dry locations.
- Light engines with light guide acceptable to use in dry, damp or wet locations when installed correctly.
- The grounding and bonding of the LED Driver shall be done in accordance with National Electric Code (NEC) Article 600.
- Follow all National Electric Codes (NEC) and local codes.
- These products are only suitable for connection to a circuit from a Class 2 power source. These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.

Save These Instructions



1. UL approved 18 AWG (0.82mm²) supply wire
2. Tetra® End Caps
3. Tetra® Contour Light Guide connector
4. Tetra® Contour Light Guide 90° inside corner
5. Tetra® Contour Light Guide 90° outside corner
6. Tetra® Contour Light Guide 90° planar corner
7. Tetra® Mounting clips
8. Weather box GEXNWB2
9. 22 AWG (0.33mm2) tie-wire
10. #6, #8 or #10 (M2, M3 or M4) self drilling pan headed screws
11. #6 (M2) screws
12. UL approved 22-14 AWG (0.33-2.08mm²) twist-on wire connectors
13. Tetra® 24 Volt power supply
14. Tetra® Contour Light Engine
15. Tetra® Contour Light Guide
16. Cordless drill
17. Tape measure
18. Screwdriver
19. Wire stripper/cutter
20. Electrical grade silicone

    Examples of electrical grade silicone:
    - Momentive RTV 6700 Series Silicone Rubber Adhesive Sealant
    - Momentive White Blanc RTV 162 Silicone Rubber Adhesive Sealant-Electrical Grade
    - Dow Corning 3140 - Non-Corrosive Flowable (clear)
    - Dow Corning 3145 - Non-Corrosive Nonflowable (clear or gray)
    - Dow Corning RTV 748 Non-Corrosive Sealant-White
21. Cutting Resolution Table

Light Engine Color	Cutting Resolution
Red	2.29 in. (58 mm)
Red-orange	2.29 in. (58 mm)
Amber	2.29 in. (58 mm)
Green	2.29 in. (58 mm)
Blue	2.29 in. (58 mm)
White	2.00 in. (51 mm)
Warm White	2.00 in. (51 mm)

METHOD A - Installing Light Engines With Light Guides

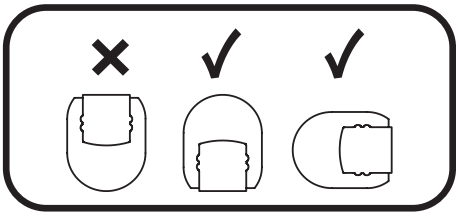
Planning First

Plan the layout by measuring the design layout and dividing by 8 ft . (2.44m) to determine the required quantity of Tetra Contour. Refer to the Cutting Resolution Table on page 2 when cutting any Tetra Contour section.

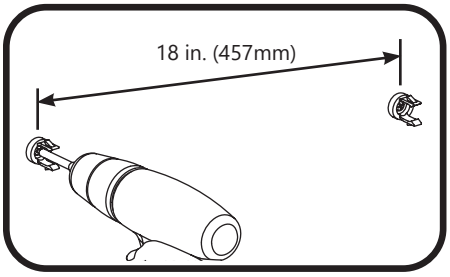
Do not use more than one suffix code for each respective application, as mixing suffix codes may result in appearance variation. Suffix code can be found on the packaging label.

Installation methods shown are for straight runs. For custom shapes, refer to the Light Guide Forming Instructions.

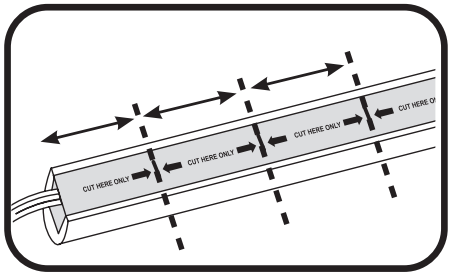
Mounting Orientation



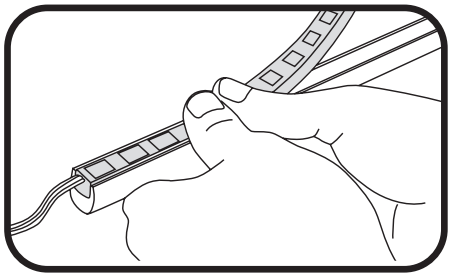
Installation



1. Install a minimum of one clip per 18 in. (457mm) using #10 (M4) screws.



2. Using the light guide final length, measure out the necessary length of Contour LED light engine to match. If required, using a sharp cutting tool, cut wire loops between sections or through light engine (refer to the Cutting Resolution Table on page 2).

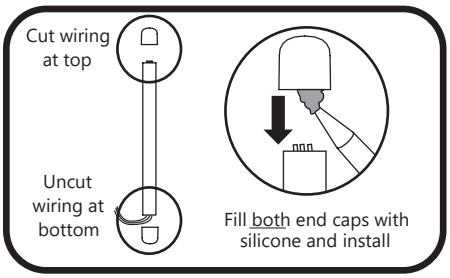


3. Push the light engine segments down into the light guide.

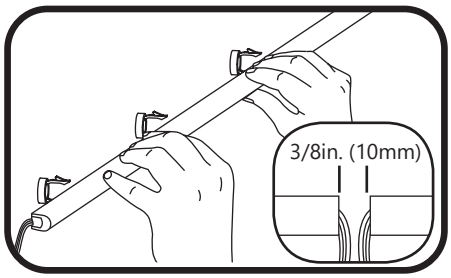
⚠ WARNING / AVERTISSEMENT

RISK OF FIRE: The light engine is not intended for excessive or repetitive bending or stretching. If the silicone does crack, replace the light engine.

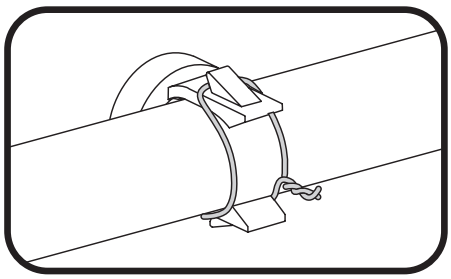
RISQUE D'INCENDIE: Les modules DEL Contour ne sont pas conçus pour des pliages excessifs, répétitifs ou pour être étirés. Si le silicone montre des signes de craquement, remplacer le module DEL Contour.



4. For vertical or near vertical installations, any cut-end termination of a Contour piece shall reside at the top of the design.

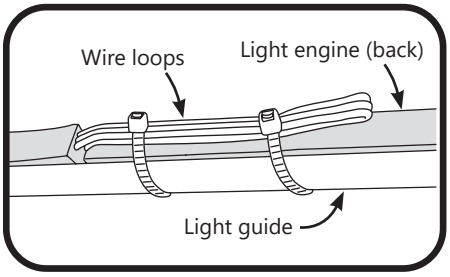


5. Attach Tetra® Contour to the mounting clips, leaving a 3/8 in. (10mm) gap between sections to allow for expansion or contraction.

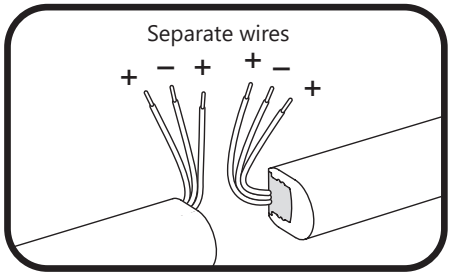


6. Secure light guide by twisting tie-wire around the mounting clip and light guide.

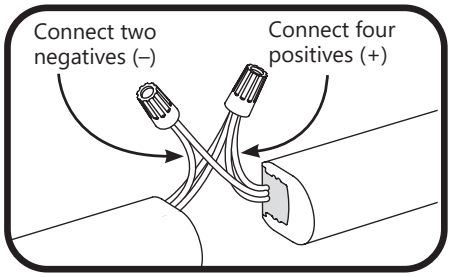
Installation



7 Wires between light guide segments can be folded behind the light guide and attached with clear zip ties. Zip ties should wrap around outside light guide.



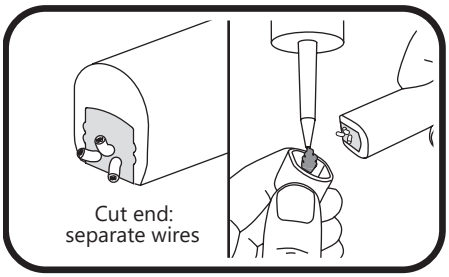
8 To connect two light engines separate wires and identify outer conductors as positive (+) and middle conductors as negative (–). Strip ends back 0.5 in. (13mm).



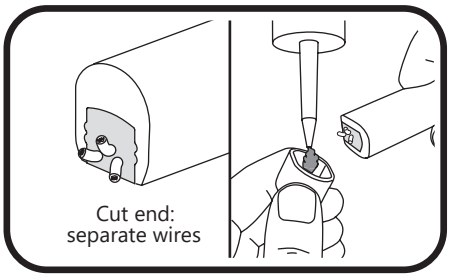
9 Use twist-on wire connectors to join wires together.

⚠ WARNING / AVERTISSEMENT

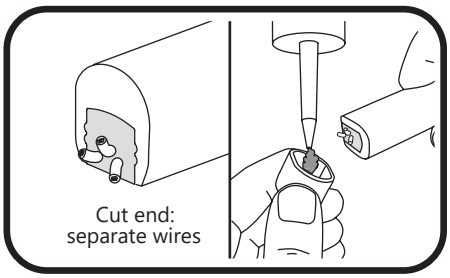
RISK OF FIRE: Waterproof wire connection and all cut ends for outdoor or wet installations. Weather box is required for all outdoor or wet locations electrical connections. / **RISQUE D'INCENDIE:** Étanchéifier les connexions électriques et sceller l'extrémité des sections coupées effectuées à l'extérieur ou pour un environnement exposé à l'eau. Un boitier étanche est requis pour les connexions électriques effectuées à l'extérieur ou dans un environnement avec exposition à l'eau.



10 Insert wire connectors into weather box. Fill with electrical grade silicone and close box. Weather box can be mounted using #8 (M3) screws.

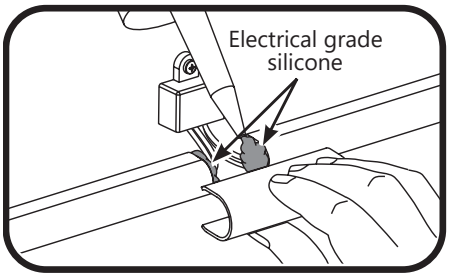


11 For cut end, manually untwist and separate wires to avoid shorts. Fill cap with electrical grade silicone and push cap on the end to seal. Clean excess silicone.

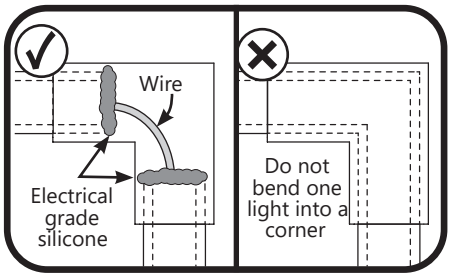


12 For uncut end, fold wire over Tetra® Contour. Fill the end cap with silicone and push cap on the end to secure. Clean excess silicone.

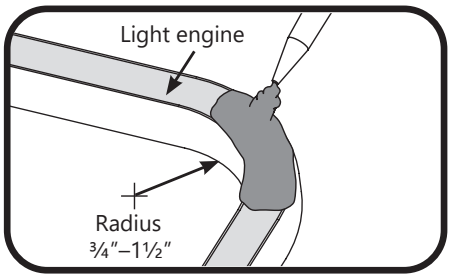
Joining with Light Guide Connectors, Corners and Bends



13 Linear: At each gap between sections, apply silicone on both sides to secure light guide connector. Snap on a light guide connector.



14 Corner: For all corners (planar, inside, outside) apply silicone on both sides to secure light guide corners. Snap on corner. Follow Steps 8-10 if wires are cut.

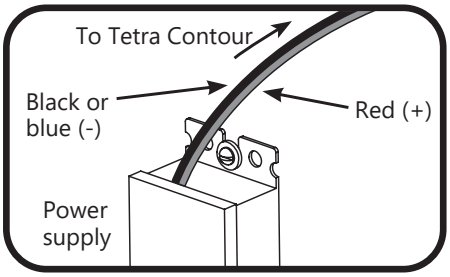


15 Bends having an inside radius 1½" or smaller must have electrical grade silicone applied directly to the light engine across the bend.

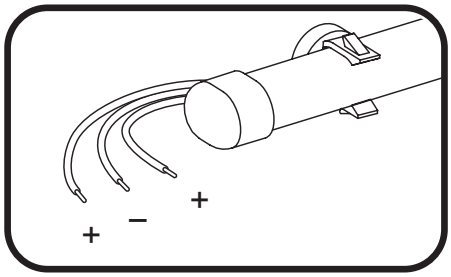
⚠ WARNING/AVERTISSEMENT

RISK OF FIRE: DO NOT bend the light engine to an inside radius that is tighter than 3/4 in. (19mm).
RISQUE D'INCENDIE: Ne pas plier les modules DEL Contour avec un rayon de courbure inférieur à 3/4 pouce (19 mm).

Connect Power Supply



16 Run a wire from the power supply to a section of Tetra Contour. Power supply connection must be completed in an acceptable UL/ NEMA enclosure. Power supply loading is described in the power supply installation instructions.

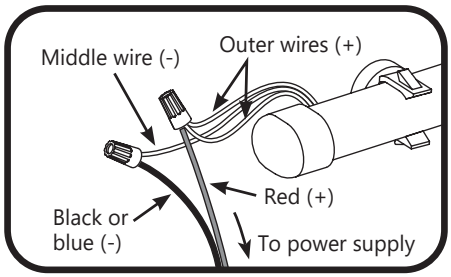


17 Separate wires and identify outer conductors as positive (+) and middle conductor as negative (-). Strip ends back 0.5 in. (13mm).

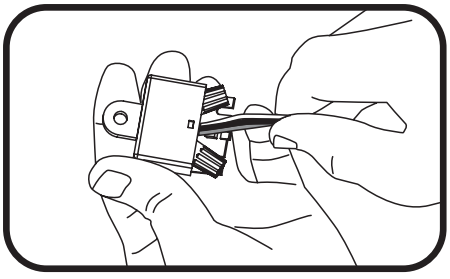
⚠ WARNING / AVERTISSEMENT

RISK OF ELECTRICAL SHOCK: Turn power OFF before inspection, installation or removal.

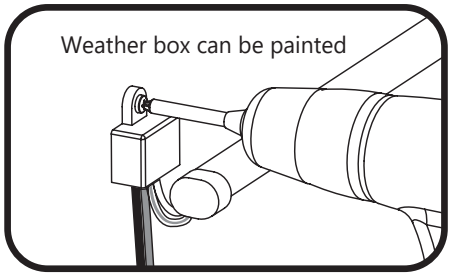
RISQUES DE CHOC ÉLECTRIQUE: Coupez l'alimentation électrique avant d'inspecter, d'installer ou de déplacer le luminaire.



18 Connect the two outer wires (+) from the LED strip to the red wire (+) of the power supply. Connect the middle wire (-) from the LED strip to the black or blue wire (-) of the power supply. Grounding and bonding must be done in accordance with National Electrical Code (Article 600). See power supply instructions.



16 Insert wire connectors into weather box. Fill with electrical grade silicone and close box.



17 Secure the weather box using a #6 or #8 (M2 or M3) screw.

METHOD B - Installing Light Engines Without Light Guides (Dry Indoor Only)

⚠ WARNING/AVERTISSEMENT

Risk of FIRE: Light engine by itself is intended for use in dry indoor application only.
RISQUES DE D'INCENDIE: Les modules DEL Contour utilisés seuls sont conçus pour les environnements intérieurs secs seulement.

Planning First

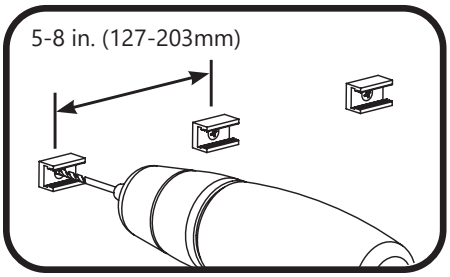
Plan the layout by measuring the design layout and dividing by 8 ft . (2.44m) to determine the required quantity of Tetra Contour. Refer to the Cutting Resolution Table on page 2 when cutting any Tetra Contour section.

Do not use more than one suffix code for each respective application, as mixing suffix codes may result in appearance variation. Suffix code can be found on the packaging label.

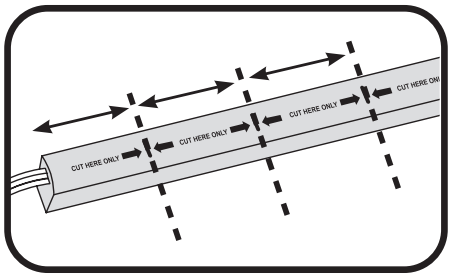
Installation methods shown are for straight runs. For custom shapes, install mounting clips at regular intervals throughout the shape to provide adequate support for the light engine.

DO NOT bend the light engine to an inside radius that is tighter than 3/4 in. (19mm). The light engine is not intended for excessive or repetitive bending or stretching. If the silicone does crack, electrical grade silicone can be applied to seal the crack.

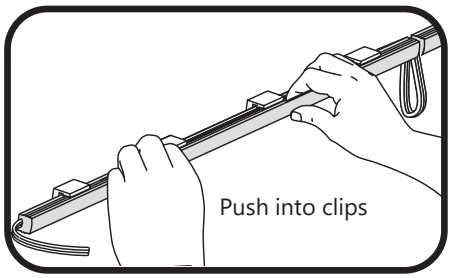
Installation



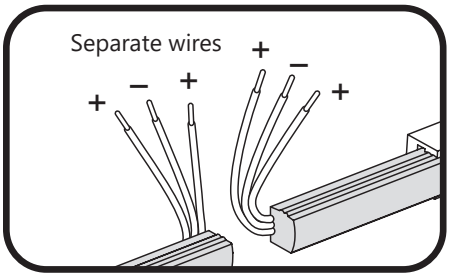
1. Install a mounting clip, using #6 (M2) counter sink screws, every 5–8 inches (127–203mm) on center until the end of the run is reached.



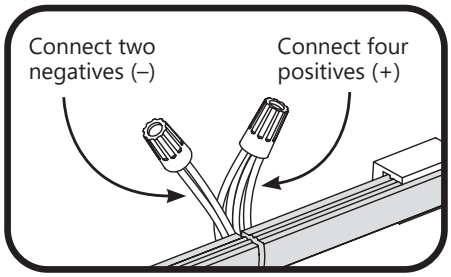
2. Using the light engine final length, measure out the necessary length of Contour light engine. If required, using a sharp cutting tool, cut wire loops between sections or through light engine.



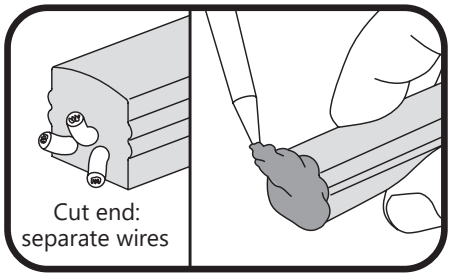
3. Push each 16 in. (406mm) light engine segment into the clips. Fold loose wires behind light engines. Do not stretch light engines.



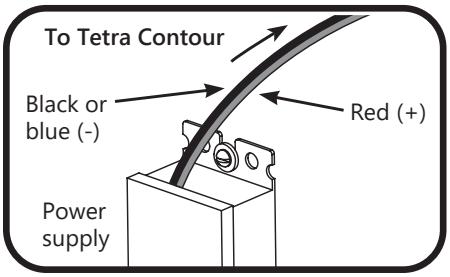
4. For vertical or near vertical installations, any cut-end termination of a Contour piece shall reside at the top of the design.



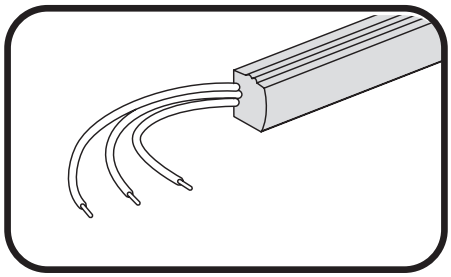
5. Attach Tetra® Contour to the mounting clips, leaving a 3/8 in. (10mm) gap between sections to allow for expansion or contraction.



6. Secure light guide by twisting tie-wire around the mounting clip and light guide.



7. Run a wire from the power supply to a section of Tetra® Contour. Power supply connection must be completed in an acceptable UL/NEMA enclosure. Power supply loading is described in the power supply installation instructions.

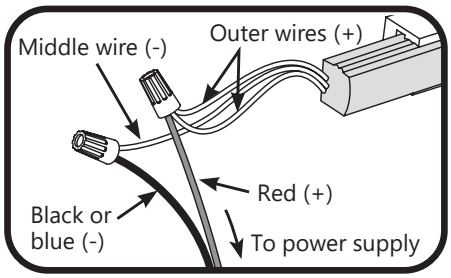


8. Separate wires and identify outer conductors as positive (+) and middle conductor as negative (-). Strip ends back 0.5 in. (13mm).

⚠ WARNING/AVERTISSEMENT

RISK OF ELECTRICAL SHOCK: Turn power OFF before inspection, installation or removal.

RISQUES DE CHOC ÉLECTRIQUE: Coupez l'alimentation électrique avant d'inspecter, d'installer ou de déplacer le luminaire.



9. Connect the two outer wires (+) from the LED strip to the red wire (+) of the power supply. Connect the middle wire (-) from the LED strip to the black or blue wire (-) of the power supply. Grounding and bonding must be done in accordance with National Electrical Code (Article 600). See power supply instructions.

Troubleshooting

Symptom	Solution	
All LEDs are OFF	No AC input	Attach AC input and/or check circuit breaker
	Incorrect wire attachment	Check wire connection(s) at the Tetra Contour LED light engine and power supply for improper connections or short circuits. Make sure you have positive to positive and negative to negative wire connections.
Some LEDs appear dim	Overload (maximum load exceeded)	Ensure the overall length of Tetra Contour LED light engine does not exceed the maximum load as detailed in the Tetra® Power Supply Installation Instructions.
	Maximum recommended supply wire length exceeded	Reduce the length of supply wire equal to or below the recommended maximum.
	Mixed Suffix Codes of LED light engine within an application	Make sure that all LED light engines have the same Suffix Code (Suffix Code is located on each packaging label).
Some of the sections are not illuminated	Incorrect wire attachment	Check the wire connections at the Tetra Contour LED light engine for improper connections. Make sure you have positive to positive and negative to negative wire connections. Check for improper cutting resolution locations (see Item 21 on Page 2).
Light/dark banding along a section	LED light engine stretched during installation	Remove LED light engine and properly install. Inspect and replace light engine if the silicone is damaged.

Loading Chart

LED Driver	Minimum Loading	Maximum Loading White Colors	Maximum Loading RGB Colors
79045 (GE080/MV/D24T1-A)	8 in. (0.20m)	22 ft. (6.69m)	50 ft. (15.24m)
67825 (GEPS24-100UGL-IP)	8 in. (0.20m)	27 ft. (8.19m)	59 ft. (17.98m)
62189 (GE180/MV/V24T1-C)	8 in. (0.20m)	25 ft. (7.59m) per Bank/ 50 ft. (15.18m) per Driver	55 ft. (16.76m) per Bank/ 110 ft. (33.53m) per Driver

Remote Mounting Distance

LED Driver	18 AWG (0.82mm²) Supply Wire	16 AWG (1.31mm²) Supply Wire	14 AWG (2.08mm²) Supply Wire	12 AWG (3.31mm²) Supply Wire
79045 (GE080/MV/D24T1-A)	1-20 ft. (0.3-6.1m)	30 ft. (0.3-9.1m)	50 ft. (0.3-15.2m)	86 ft. (0.3-26.1m)
67825 (GEPS24-100UGL-IP)				
62189 (GE180/MV/V24T1-C)				

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.
CAN ICES-005 (A) / NMB-005 (A)

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.