COOLEDGE

Caution: Observe precautions for handling electrostatic sensitive devices.

CE

EN 60598 Compliant (as a system)

c UL us LISTED E354088

RoHS IP65

5 YEAR WARRANTY

5 Year Limited Warranty:
Parts and workmanship

Cooledge Lighting reserves the right to change
materials or modify the design of its product
without notification as part of the company's
continuing product improvement program.

EXT-0054-R00-071017 1/24

CONTENT

1.0 IMPORTANT INSTALLATION NOTES

Please read instructions prior to installation

Installation must be completed by a qualified electrician in accordance with all national and local electrical and construction codes.

Ensure power is off prior to installation

Cooledge TILE Exterior products are wet location rated. Not for use in submerged applications.

Cooledge TILE Exterior should not be mounted where it will be exposed to prolonged direct sunlight. Install behind a suitable transparent or frosted cover to protect from UV damage

Cooledge TILE Exterior must be powered by a Cooledge approved 24V constant voltage Class 2 or LPS LED driver. Using a non-approved power source could damage the system and will void the warranty.

2.0 SYSTEM CONTENTS

|	
A. TILE Exterior TILE-EXT-xxx-yy	LED panels, packaged in cardboard containing 1-10pcs
B. TILE Exterior Starter Cable Kit TCBL-EXT-STR-2/4/10	Kit containing 20ft/6m 16AWG cable joined to 2,4, or 10 T-junction cable assembly; waterproof cable end-cap and 10,20, or 40 waterproof connector caps
C. TILE Exterior Fit (Optional) TILE-EXT-FIT-xxx-yy-1/2/3/4	Smaller size LED panels, quantity as required; packaged in cardboard
D. LED Driver(s) EPSS-090-24V	AC to DC LED driver in outdoor junction boxes, containing LED drivers
E. Cable Splice Kit (Optional) TCBL-EXT-SPL	Kit containing wire crimps and a waterproof housing for extending the starter cable
F. TILE Exterior Fit Kit (Optional) TILE-EXT-FIT-xxxx-yy-K	Selection of smaller LED panels for use when unexpected obstructions are encountered
G. TILE Exterior Extension Cable Kit TILE-EXT-LNG-2/4/10	Extension cable kit containing 2/4/ or 10 T-junction cable; 10,20, or 40 waterproof connector caps;

A. TILE EXTERIOR

TILE-EXT-xxx-yy
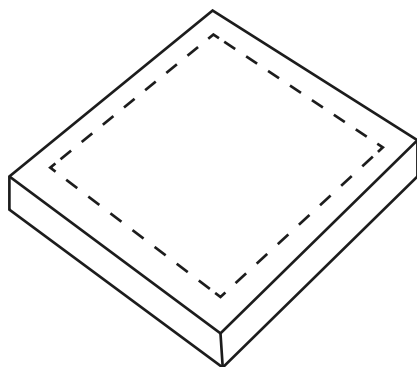
Quantity = 1–10 pieces
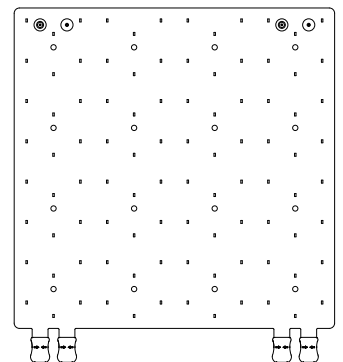
## B. TILE EXTERIOR STARTER CABLE KIT

TCBL-EXT-STR-2/4/10

– Connects up to 10 runs of
Cooledge Exterior Tiles to
Driver (See layout guide for run
limitations)
– May be cut to length
– Waterproof caps protect unused
sets of connectors from moisture
– End cap protects unconnected end
of cable from moisture

10/20/40x
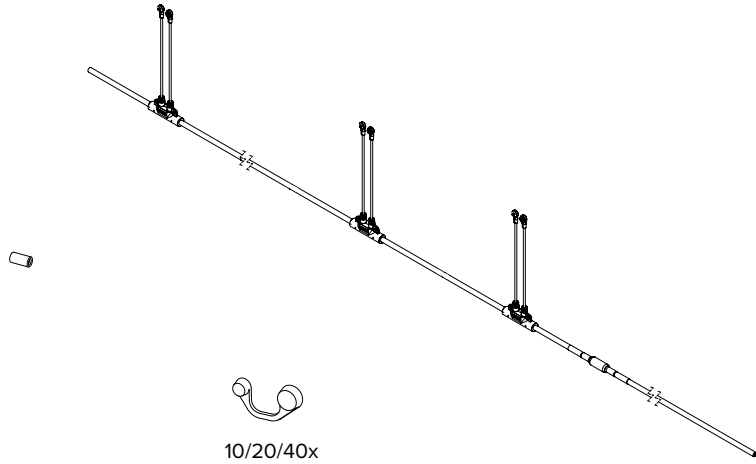
C. TILE EXTERIOR FIT (OPTIONAL)

TILE-EXT-FIT-xxx-yy-1/2/3/4

– Individually sealed smaller TILE
Exterior segments used to fit
around obstacles or fill in areas at
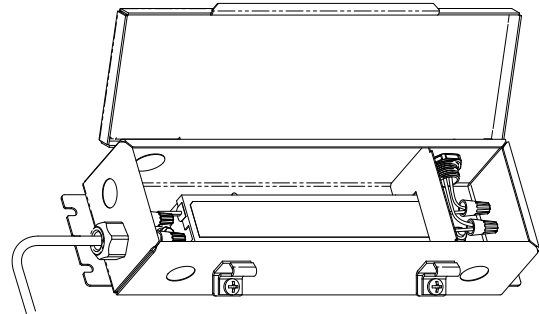the edge of layouts

Quantity = 1–xx pieces
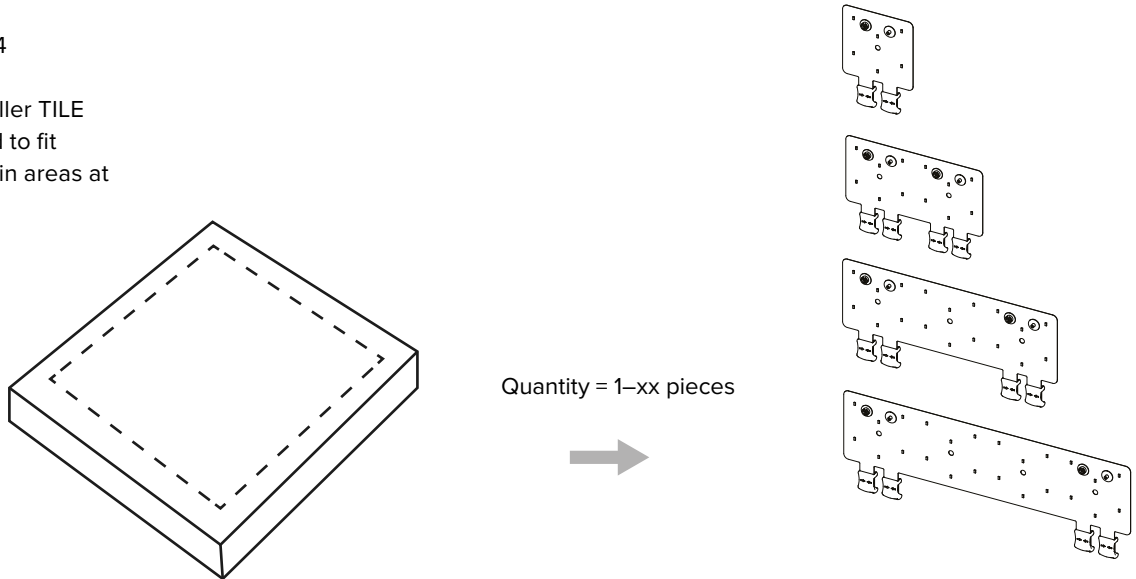
D. LED DRIVER

EPSS-090-24V

– Driver output connects to starter
cable

Note: In some non-UL Listed systems,
drivers may be supplied without
junction boxes. If no junction boxes
are supplied, installer is responsible
to install driver in accordance with
all national and local electrical and
construction codes.

E. CABLE SPLICE KIT

TCBL-EXT-SPL

– Used to join cables together in a
waterproof manner
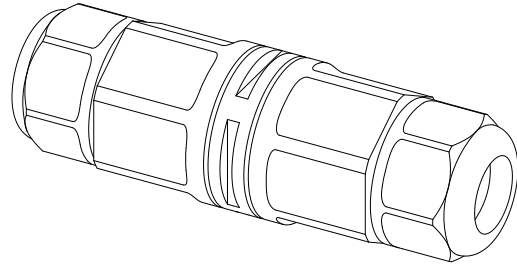
F. TILE EXTERIOR FIT KIT (OPTIONAL)

TILE-EXT-FIT-xxxx-yy-K

– A set of TILE Exterior Fit segments
and connectors available to address
unexpected obstacles encountered
on site
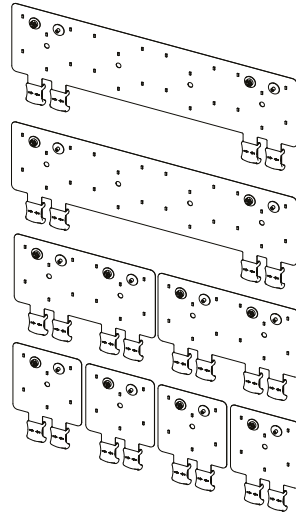
G. TILE EXTERIOR EXTENSION CABLE KIT

TILE-EXT-LNG-2/4/10

– Used to extend the starter cable to
power additional runs of TILE
– Waterproof caps protect unused
sets of connectors from moisture
– Use in conjunction with the cable
splice kit(TCBL-EXT-SPL)

10/20/40x

3.0 INTRODUCTION TO TILE EXTERIOR

TILE Exterior provides a flexible means of illuminating large areas in wet locations.

TILE Exterior can be connected in series using the integrated waterproof snap connectors and can be installed on both flat and curved surfaces. (With limitations on curvature).

Waterproof snap connectors (termination end)

LEDs sealed inside domes

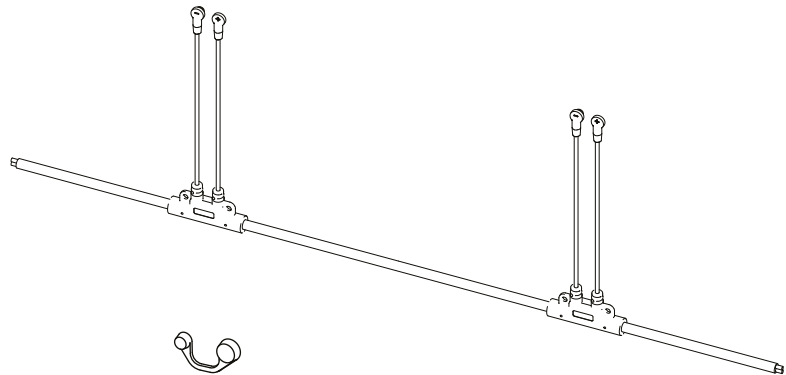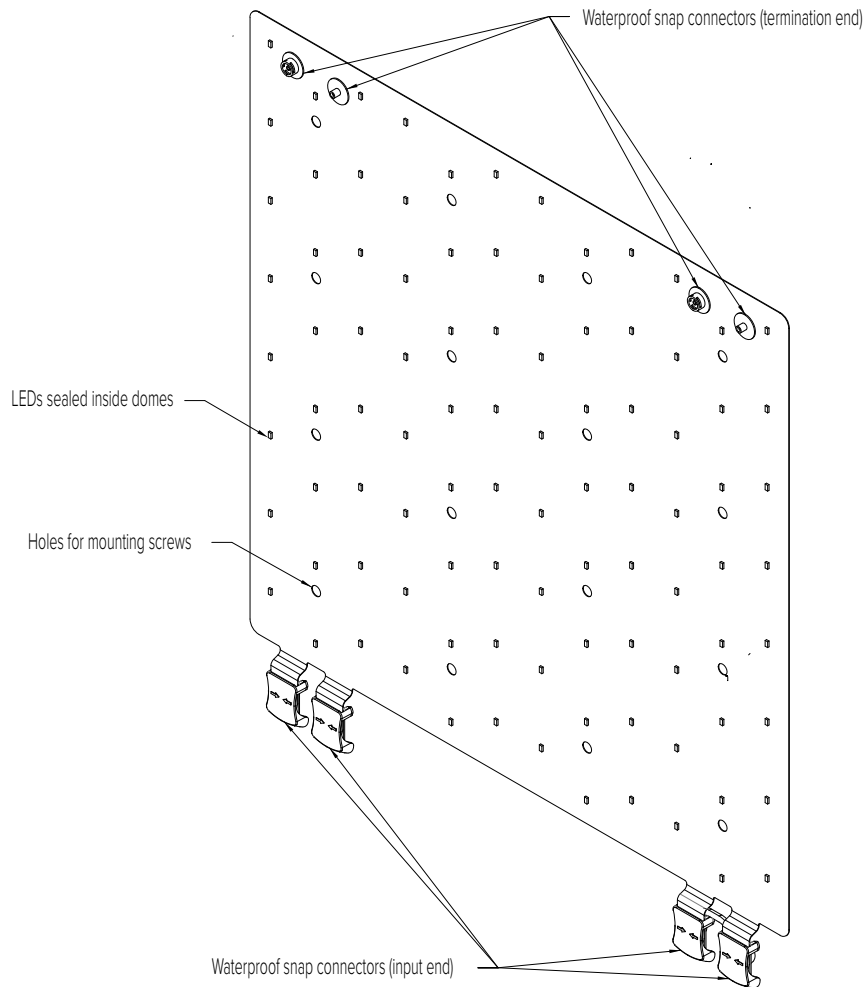Holes for mounting screws

Waterproof snap connectors (input end)

4.0 CARE AND HANDLING GUIDELINES

TILE Exterior is covered with a thin plastic layer to protect the electronic components, but care should still be taken when handling the product.

Avoid scraping or rubbing the front surface of the sheet as scratches may cause reduced optical performance.

Avoid pressing on the domes over each LED as they may deform or crack leading to water leaks and/or reduced optical performance.

Avoid creasing or repeated flexing of TILE Exterior as this may cause loss of waterproofness and/or reduction in optical performance.

The product is waterproof when installed but moisture may cause damage before the installation is completed, particularly at unconnected connectors.

The product is rated IP65, meaning it is dust-proof and protected from low pressure jets of water. TILE Exterior must not be installed in locations where it may be submerged under water.

⚠ BEFORE STARTING installation carefully consider your system layout (refer to project shop drawings if available):

– A maximum of sixteen (16) 600lm or thirty-four (34) 300lm Cooledge TILE Exterior may be powered from each 90W driver. (NOTE: some CCTs may have lower values – check the project drawings to confirm)

– No more than sixteen (16) 600lm rated or twenty-four (24) 300lm rated TILEs may be connected in series (i.e in a single "run"). Refer to layout tables for specifics.

– Each Cooledge Tile Exterior illuminates a 305mm x 305mm (12" x 12") area

⚠ DO NOT CONNECT more than one (1) LED Driver to one (1) electrical circuit.

An electrical circuit includes any starter cables that are electrically joined with each other. Circuits must be 90W maximum.

DO NOT connect more than one driver to a circuit
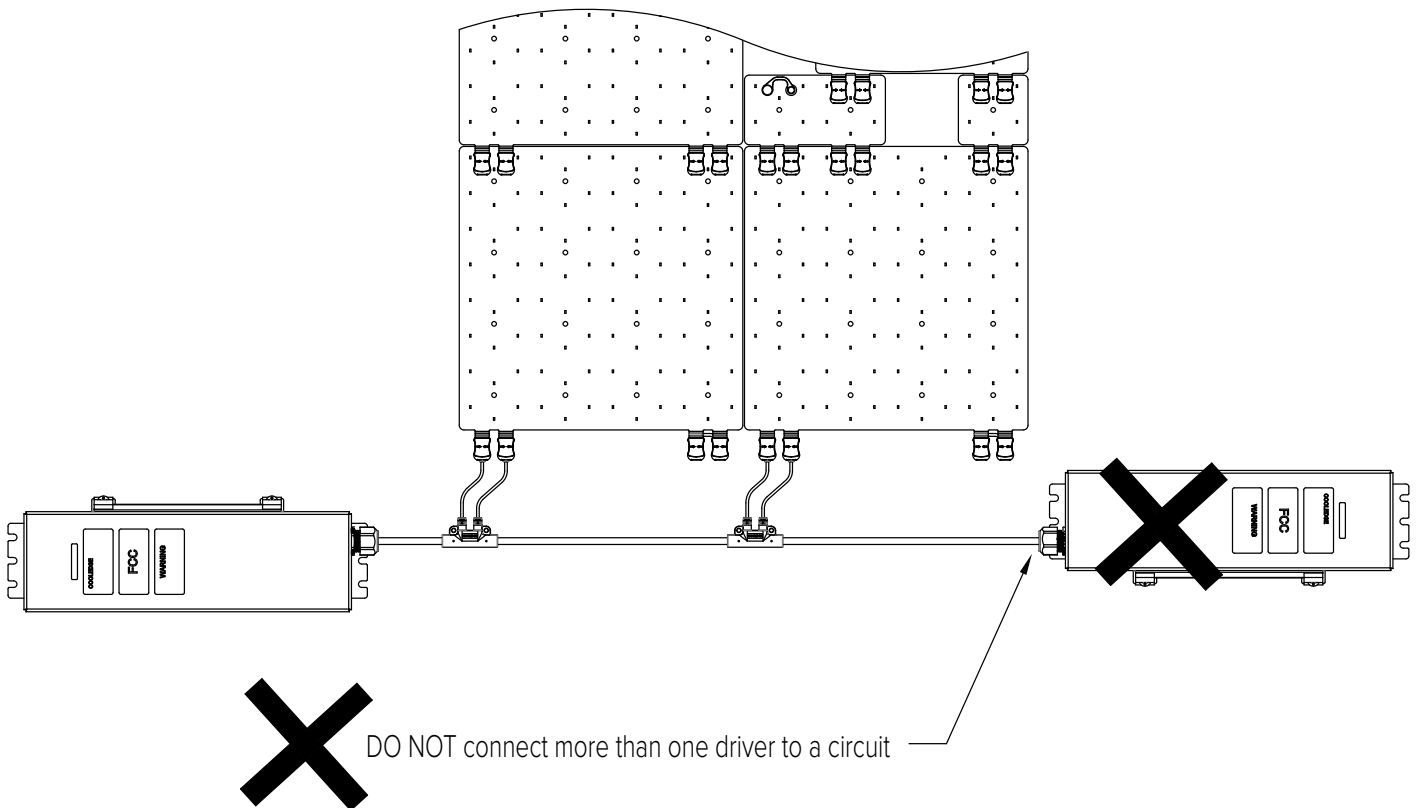
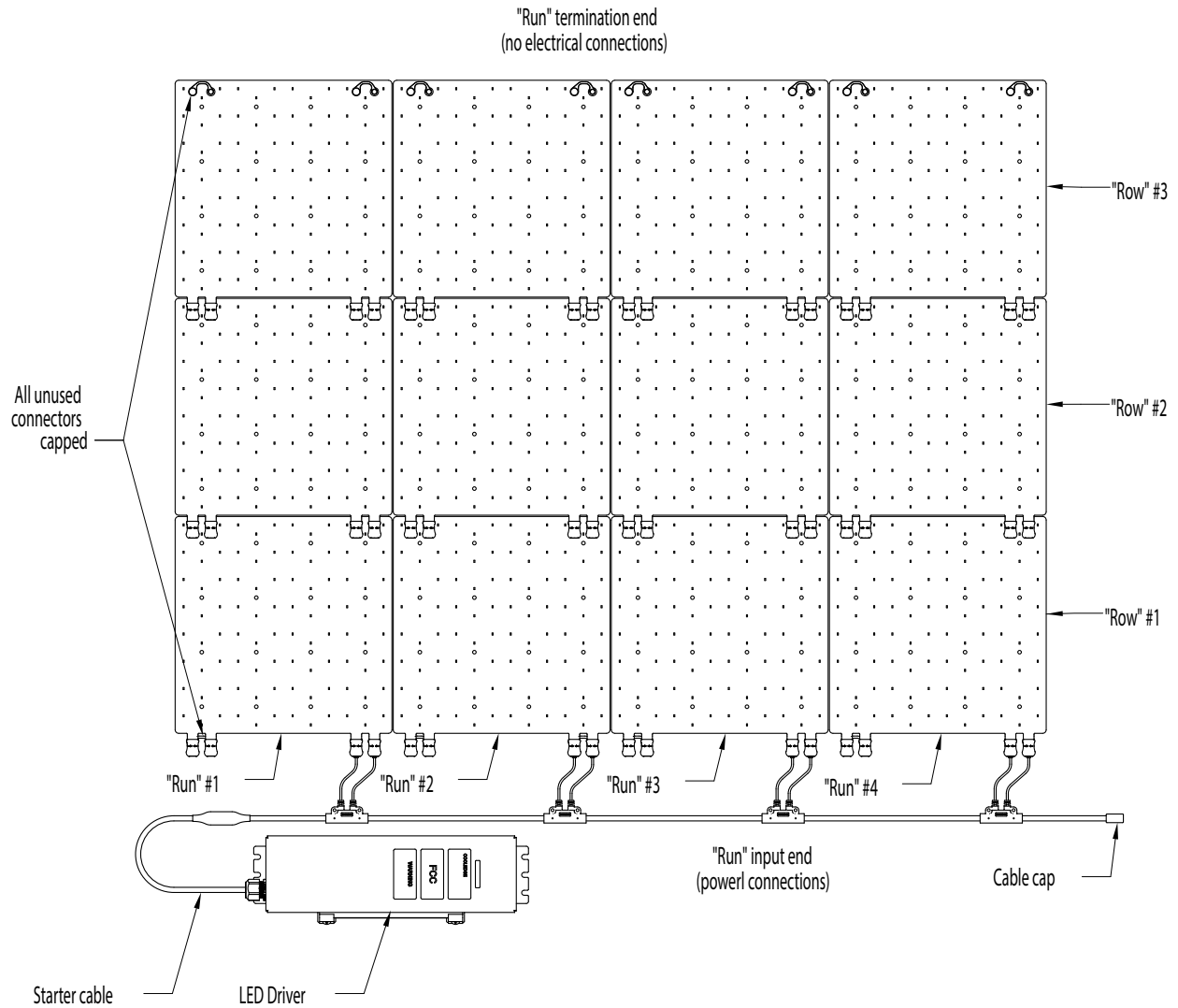The installation below shows four (4) runs of TILE Exterior. Each run consists of three (3) TILEs connected in series. The driver is connected to the system via a Starter Cable that attaches to the connectors at input end of each run.

"Run" termination end
(no electrical connections)

"Row" #3

All unused
connectors
capped

"Row" #2

"Row" #1

"Run" #1   "Run" #2   "Run" #3   "Run" #4

"Run" input end
(powerl connections)   Cable cap

Starter cable   LED Driver

NOTE:
TILE Exterior is **NEVER** cut to size. Some layouts may require the use of smaller TILE Exterior Fit segments.

The Fit segments may be used at the end of the a run to fill a gap shorter than 305mm (12"). Additionally, if runs are required that are less than the width of a TILE Exterior sheet, the layout will require the TILE Exterior Fit segments to be rotated and placed on the sides to fill the space. Please refer to section 7.3 for detailed instructions on how to do this.

Always connect the Starter Cable to the tab end of TILE Exterior sheets. Connection to the other end will reverse the polarity and prevent the installation from illuminating.
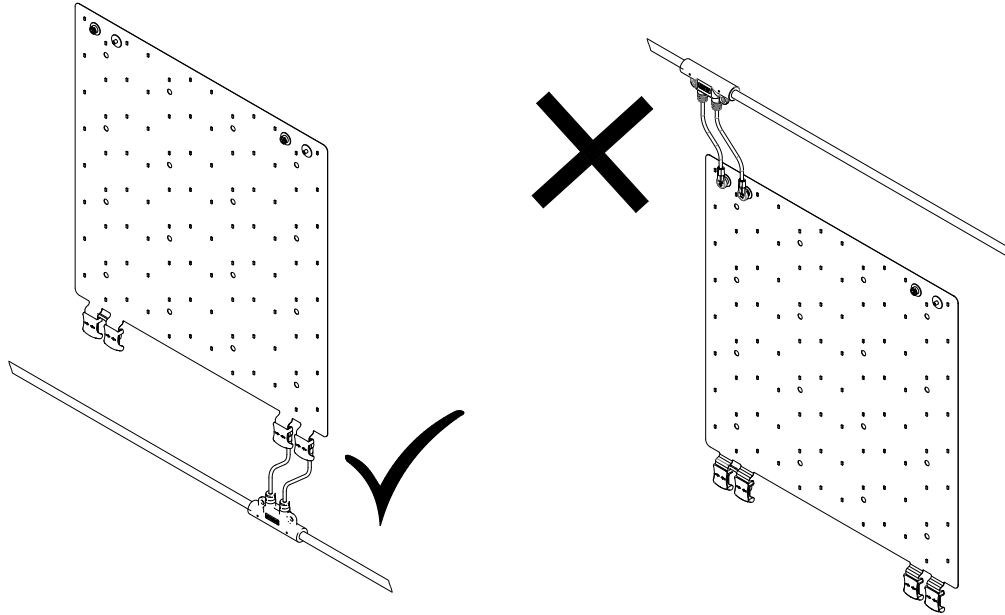
Refer to the project layout drawings to locate the first run of TILE Exterior. Space should be left adjacent to the TILEs for the starter cable.

Approximately 1.5" (40mm) space is required if the starter cable will be mounted to the same surfaces as the TILEs.

Approximately 0.74" (20mm) space is required if the starter cable will be mounted to the side wall of the enclosure.
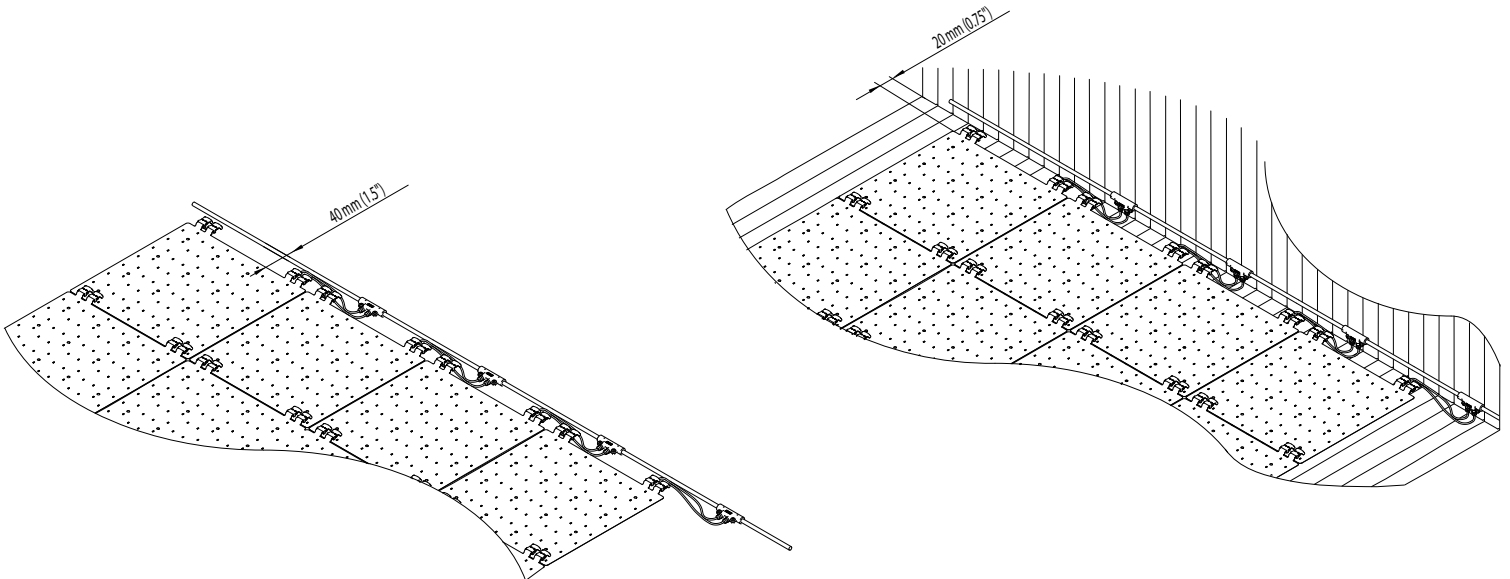
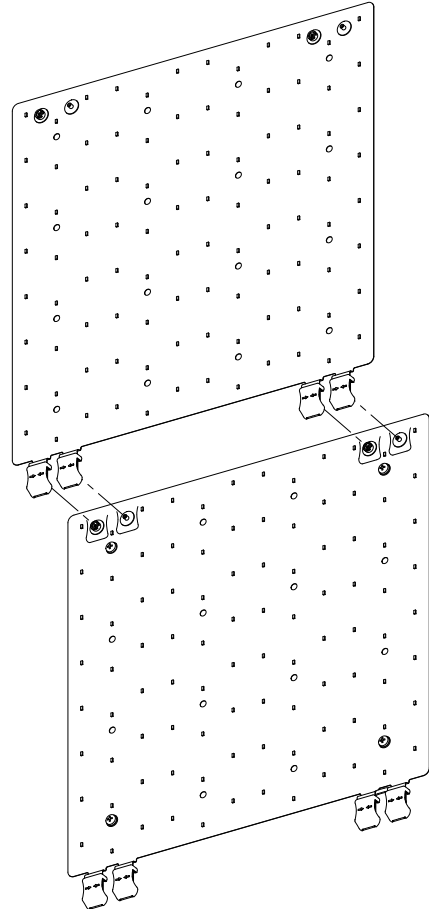**1.** Mount the first TILE with at least four (4) fasteners. Installations with very small setbacks from a diffuser may require additional fasteners to ensure the TILEs are perfectly flat.

Use fasteners suitable for the material the TILEs are being mounted to. Maximum fastener size is M5/#10. Do not over-tighten fasteners, otherwise the TILE will be distorted around the mounting hole and may be damaged.

It is recommended to use Nylon washers to allow for expansion and contraction and prevent damage to the TILE.
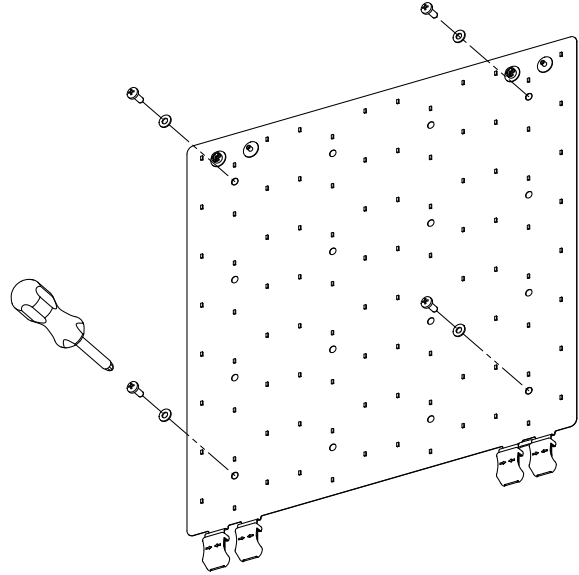
2. Position the next TILE and carefully snap all four (4) connectors to the first TILE. The connectors require only gently force to mate. Align the plastic covers on the tabs of the second TILE with the painted outline on the lower (mounted) TILE and gently press on the tab. If the connector does not mate adjust the alignment and repeat. DO NOT use excess force to mate the connectors, damage may occur.

3.	Mount the second TILE with at least four (4) fasteners, making sure it is positioned with the edges of the two tiles almost touching. This may require the tabs of the second TILE to bend at the cuts in the white layer

| **4.**	Repeat steps 2,3, and 4 for the remainder of the TILEs in the first run.

If the project shop drawings call for any TILE Exterior Fit segments (FIT 1, FIT2, FIT 3 or FIT4), they should be positioned in accordance with the shop drawings.

TILE Exterior Fit segments are mounted and connected in exactly the same way as standard TILE Exterior.

~2mm (1/16")
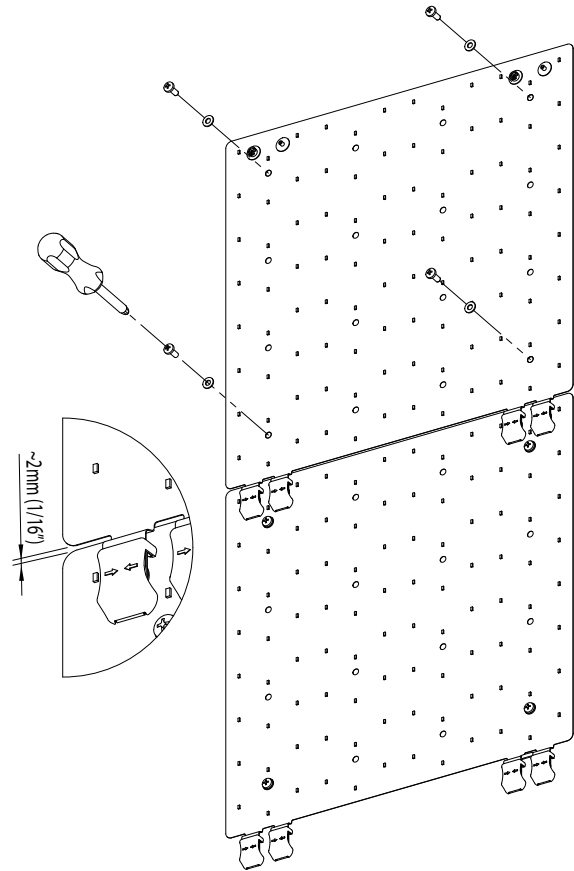
7.2 MOUNTING ADDITIONAL RUNS OF TILE EXTERIOR SHEETS

1.	Position the first TILE of the next run edge-to-edge with the first tile and mount with at least four (4) screws as in step 7.1 above.
2.	Continue mounting and connecting the remainder of the TILEs in the second run.
3.	Repeat steps 1 and 2 for additional runs until all runs have been completed.
4.	Some installations will require a run with a width that is less than 12" (305mm). For these layouts follow the procedure described in section 7.3
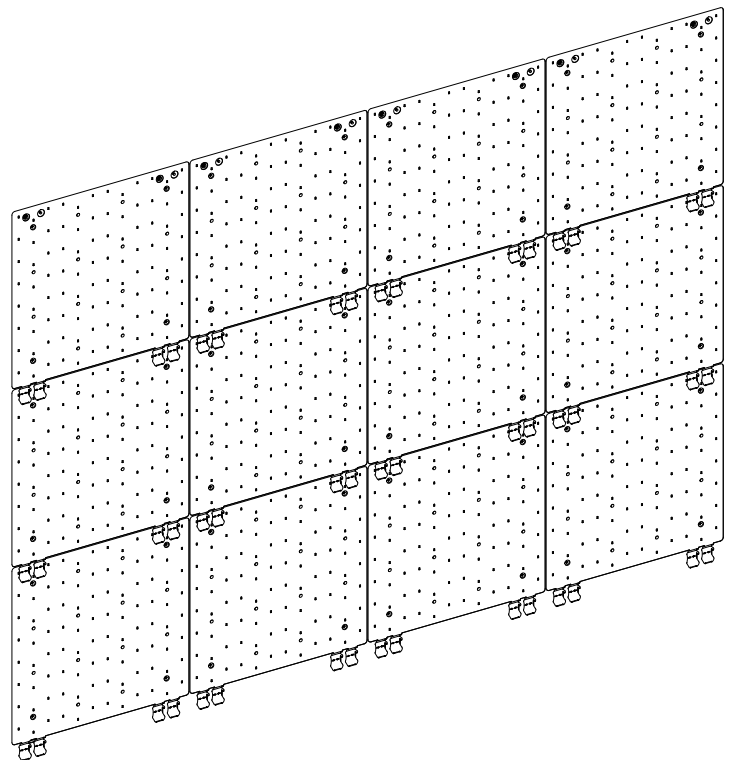
TILE Exterior cannot be cut. For this reason, when installing a run that is <12" (305mm) in width, it is necessary to use Exterior TILE FIT sheets, rotated 90 degrees, to fill the remaining space.

One (1) to three (3) TILE Exterior Fit4 segments will be placed alongside each Exterior TILE sheet in the last run.
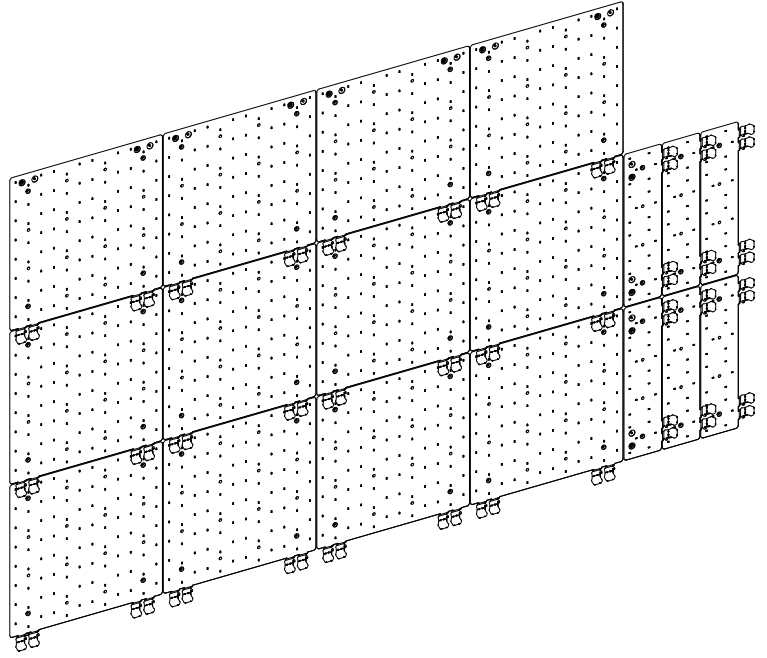
| **1.** | Mount the first TILE Exterior Fit4 segment edge-to-edge with the first TILE of the last run with the tabs facing away from the adjacent TILE. |
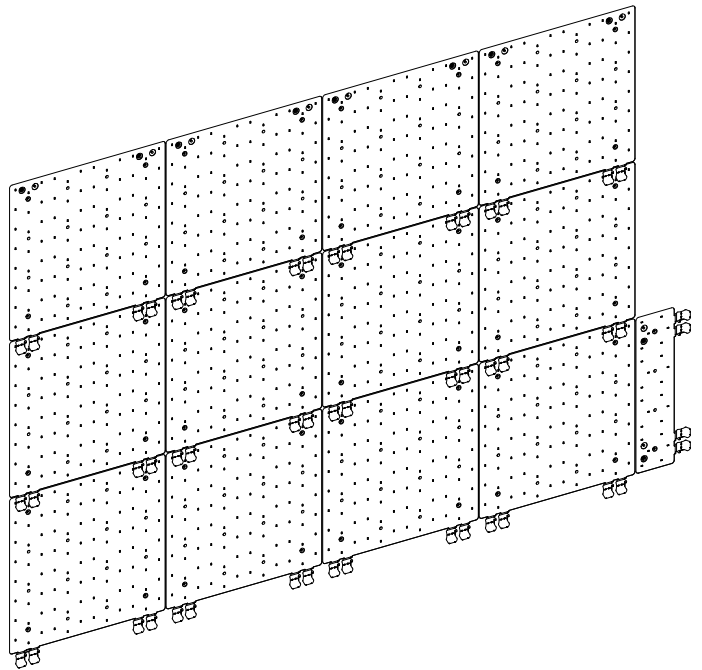
2.	If required, connect and mount up to two (2) additional TILE Exterior Fit 4 segments to the first.
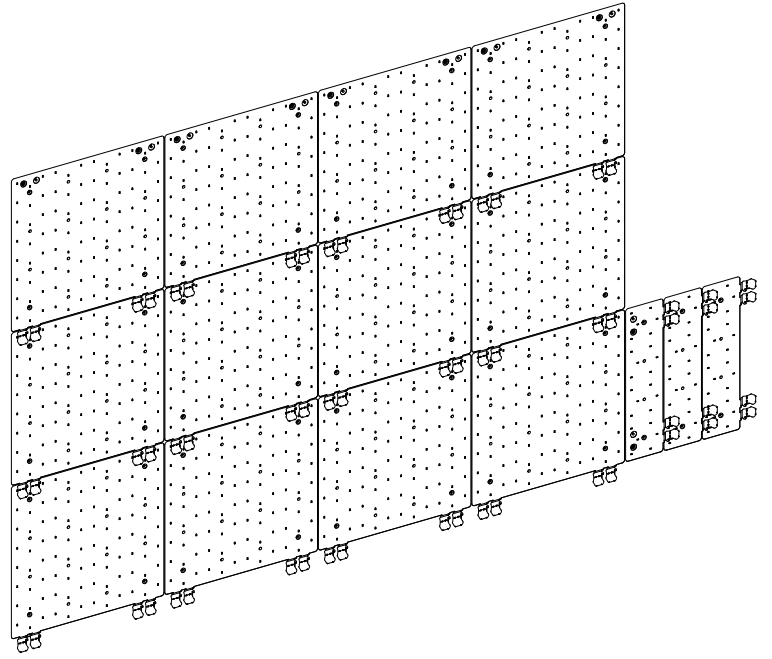
3.	Mount and connect the same quantity of the TILE Exterior Fit4 segments alongside each row of the installation.

4.	If the last TILE of each run was a TILE Exterior Fit segment, use one (1) to three (3) smaller TILE Exterior Fit segments to fill the final space.

TILE Exterior Fit 1

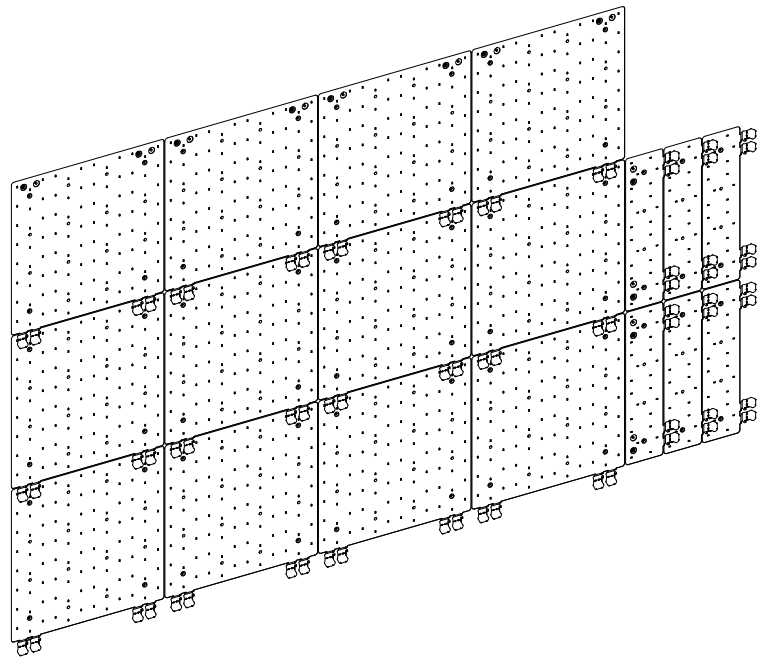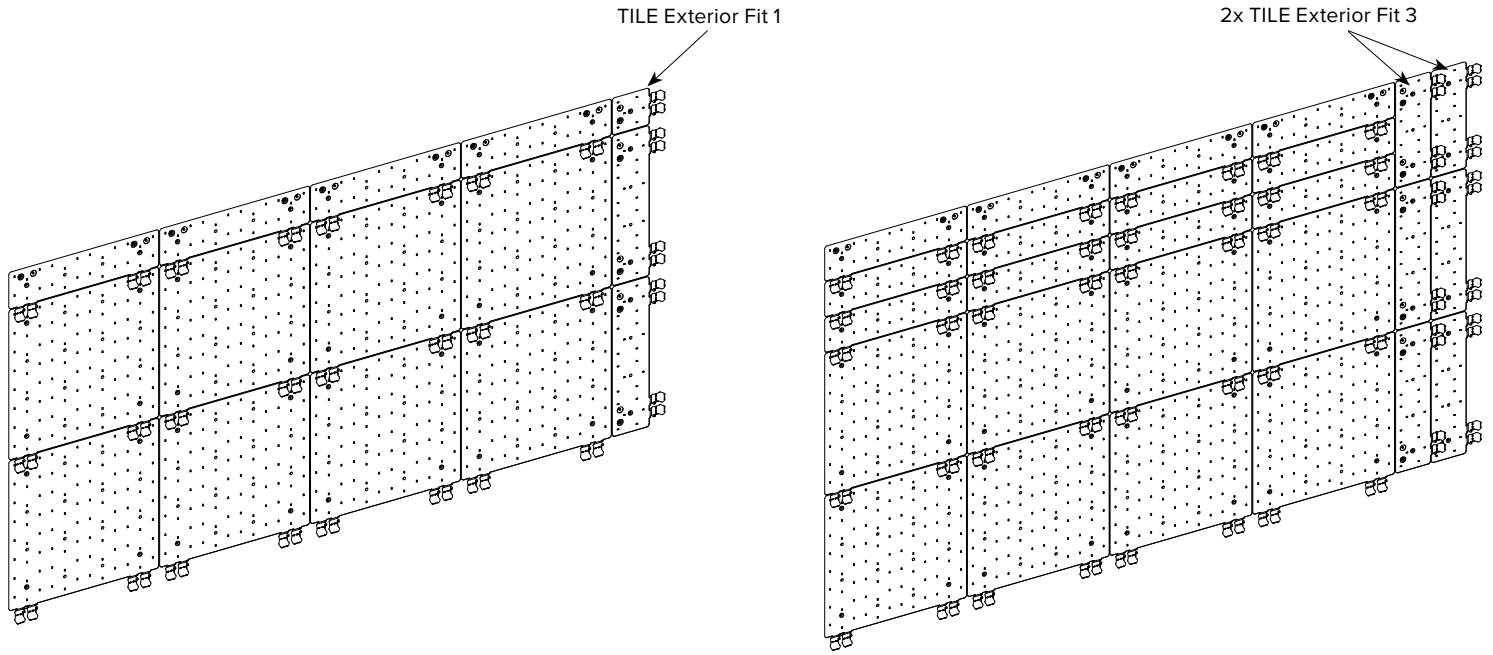2x TILE Exterior Fit 3

7.4 OPTIONAL – MOUNT AND CONNECT TILE EXTERIOR FIT SEGMENTS

In some cases the system layout will require tile exterior FIT segments to be installed to avoid an obstacle, or fit to an irregular shape.

Refer to the project shop drawings if available to identify the location and type of each tile FIT segment.

Mount and connect the tile FIT segments in the same manner as the Tile Exterior sheets, then continue with the mounting of the standard sheets.
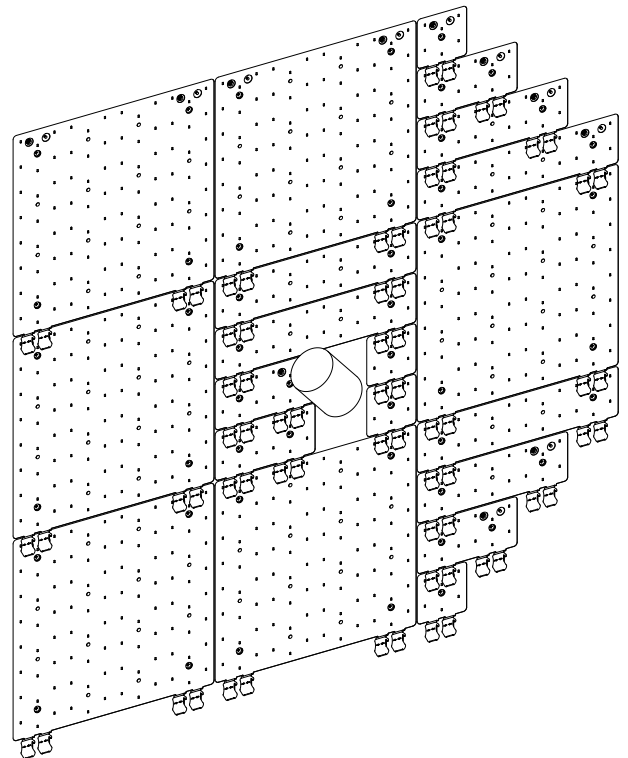
| 1. | Position the starter cable harness with each moulded T mid-way along the edge of a TILE. |
| 2. | Mount the Starter Cable with screws through the moulded eyelets at each T. |

MAX M4/#6 SCREW
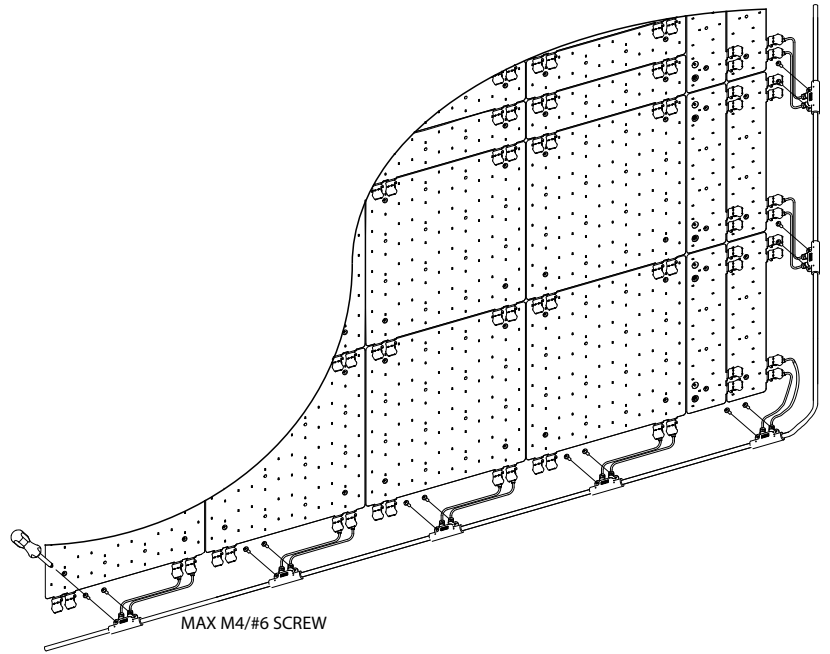
| 3. | Connect the single wires from each T to one set of connectors on each run. Either set of connectors on the TILE may be used as required.

In some cases the single wires will require a 180-degree twist to correctly orient the connector for mating. |
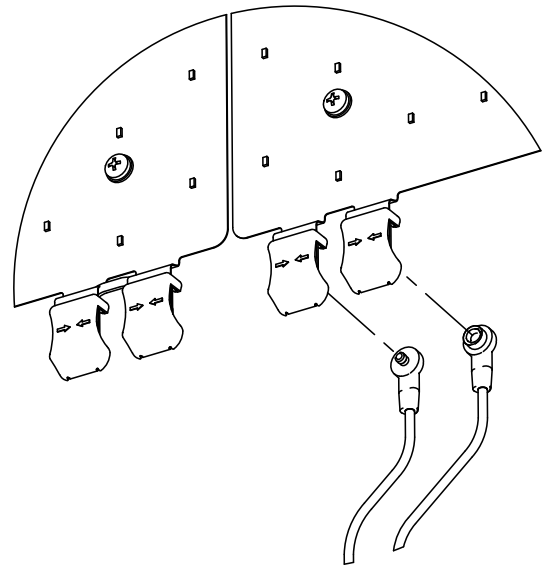
The starter cable may need extending if:

a. The driver unit will be mounted more than 20ft (6m) from the TILEs;
b. The arrangement of rotated TILEs means that connectors no not reach to the first rotated TILE;
c. More than 10 TILE connections are required (e.g long run of >8 TILEs with rotated TILEs alongside)

In all cases the method of extending the cable is the same using the TILE Exterior Splicing Kit

| 1. | Unscrew the two housings from the centre connector and loosen both hexagonal sealing nuts. |

| 2. | Slide the housing over the cables to be joined. |

| 3. | Insert the stripped ends of the first cable into the connector terminals and tighten the screws. |
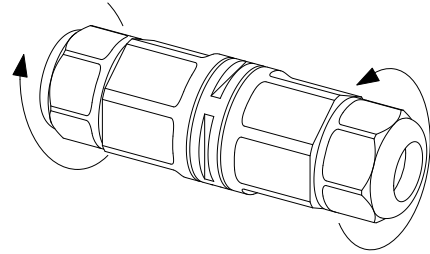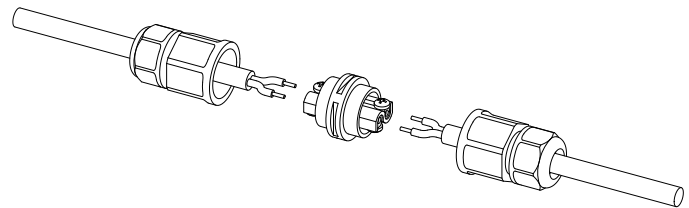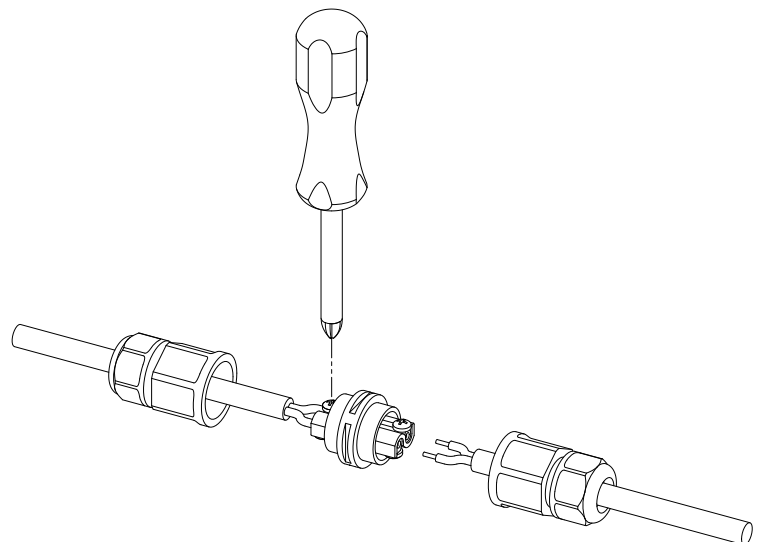
4. Repeat step 3 for the second cable.
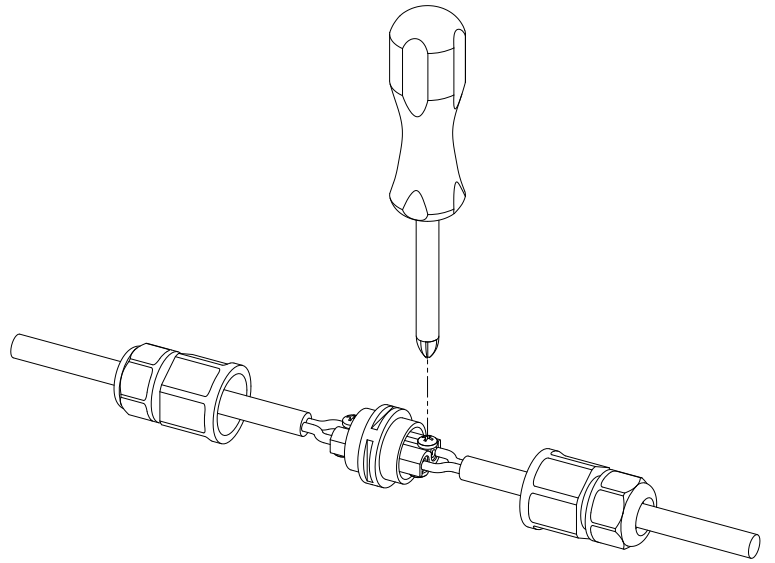
5. Tighten the housing onto the splice connector body.
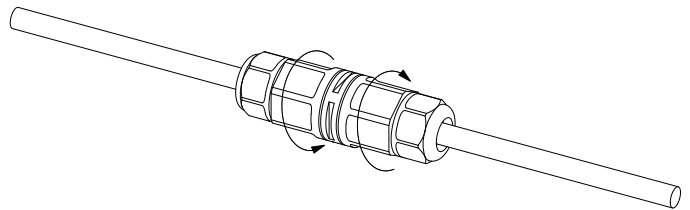
6. Tighten the sealing nuts onto the housing to seal the cables.
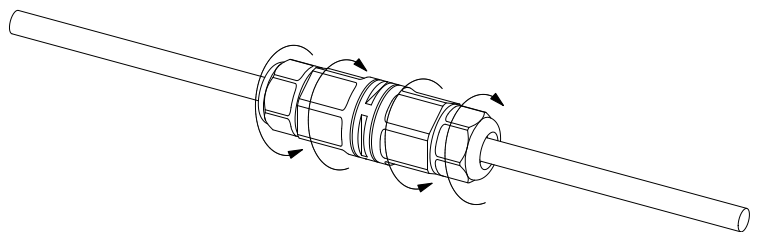
All connectors which have not been mated to another TILE or a cable harness must be sealed with the provided waterproof connector caps. Unused connectors may occur in several places:

–   At the input of the first Tile in every run one set of tab connectors will be unused;
–   At the end of every run both pairs of connectors are unused;
–   Where TILE Fit pieces have been installed there may be unused connectors on one or both ends of the FIT pieces;

Install the waterproof caps over the male and female connectors of all unused connectors.
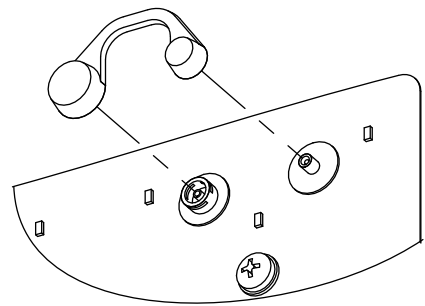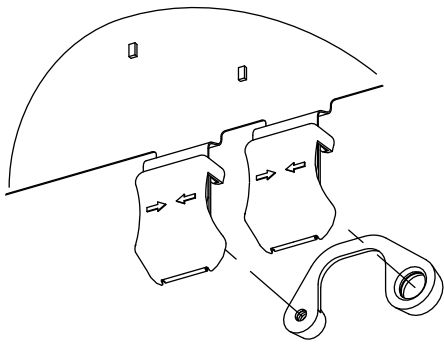
⚠   Failure to cap unused connectors will void the warranty and may lead to product damage

7.8.1 INSTALL THE DRIVER UNIT - WITH IP65 ENCLOSURE

Refer to document EXT-0055 "TILE Exterior PSU Install Guide" provided with each driver for complete installation instructions.

If the driver is mounted more than 6m (20ft) from the TILE installation it will be necessary to extend the starter cable. Follow the instructions in section 7.5 above for the correct use of the waterproof splicing kit. Alternatively a junction box rated to at least IP65 (or NEMA 4) may be used (not supplied by Cooledge).

Refer to the section 9.1 & 9.2 below for correct wire gauges for extending the starter cable.

7.8.2 INSTALL THE DRIVER UNIT - WITHOUT ENCLOSURE

Refer to EXT-0057 "TILE Exterior PSU Install Guide (no enclosure)" provided with each driver for complete installation instructions.

The supplied driver is CE approved as a built-in component only. Depending on local and national electrical and construction codes additional environment protection, reinforced insulation, and strain relief may be required for correct installation.

7.9 DISASSEMBLING TILE EXTERIOR (IF REQUIRED)

⚠️ CAUTION: if it is necessary to disconnect the waterproof connectors follow the instructions below. Excessive force may damage the connectors

To separate two TILE Exterior sheets grip the plastic cover of the tab between the thumb and index and gently pull straight up while holding down the lower TILE. Do not lever off the tab as this may damage the connector.

LIFT
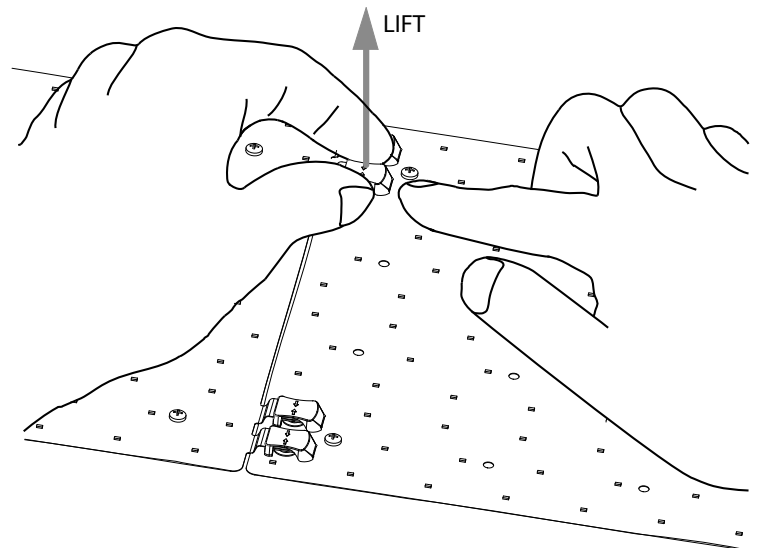
To separate a cable harness from a TILE Exterior piece grip the plastic cover of the tab between the thumb and index and gently pull the moulded head of the wire harness straight out from the connector. Do not lever off the wire as this may damage the connector.
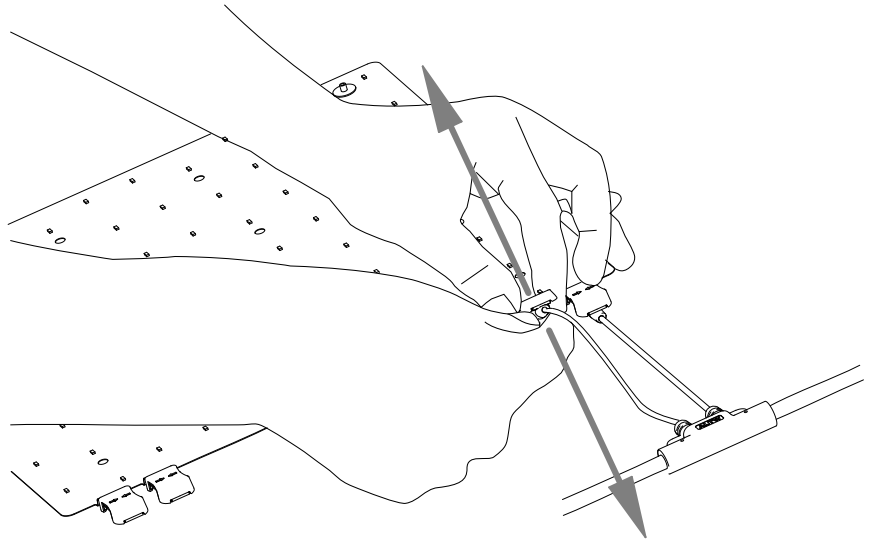
8.0 USING TILE EXTERIOR FIT KIT (IF REQUIRED)

If the installation cannot be completed with the supplied Cooledge TILE Exterior due to an obstacle not noted on the shop drawings, a special kit is available from Cooledge.

The Fit Kit includes a selection of TILE Exterior Fit pieces that can be used in place of a regular TILE Exterior to avoid most obstacles up to 300mm x 300mm (12" x 12") in size.

Refer to EXT-0056 "TILE Exterior Fit Kit User Guide" provided with each Fit Kit for installation instructions.

9.0 MAXIMUM CIRCUIT CAPACITY AND WIRE LENGTHS

A maximum of sixteen (16) 600lm or thirty-four (34) 300lm TILE Exterior sheets can be connected to a single 90W driver. Some CCTs may be lower, refer to the shop drawings for exact limits.

9.1 600LM COOLEDGE TILE EXTERIOR

Table 1. Maximum run lengths by configuration

TILE Output	1 run	2 runs	3 runs	4 runs	5 runs	6 runs	7 runs	8 runs	9 runs	10 runs
600 lm	16	8	5	4	3	2	2	2	1	1

NOTE: Some CCTs may be lower

Table 2. Remote driver distances (in feet) - In addition to the 20' (6m) supplied

2-conductor cable size	1 x 16	2 x 8	3 x 5	4 x 4	5 x 3	6 x 2	7 x 2	8 x 2	9 x 1	10 x 1
18AWG	1.5	23.0	30.0	27.0	29.5	42.0	31.5	23.0	60.0	50.0
16AWG	2.5	37.0	47.5	43.0	47.0	67.0	50.0	37.0	95.0	79.5
14AWG	4.5	58.5	76.0	68.5	75.0	106.5	79.5	58.5	151.5	127.0
12AWG	7.0	93.5	120.5	108.5	119.5	169.5	127.0	93.5	241.0	202.0
10AWG	11.5	148.5	192.0	173.0	190.0	269.5	202.0	148.5	383.5	321.0

16AWG Starter Cable, 20'

Extension Cable

90W Driver

Example:
600lm installation
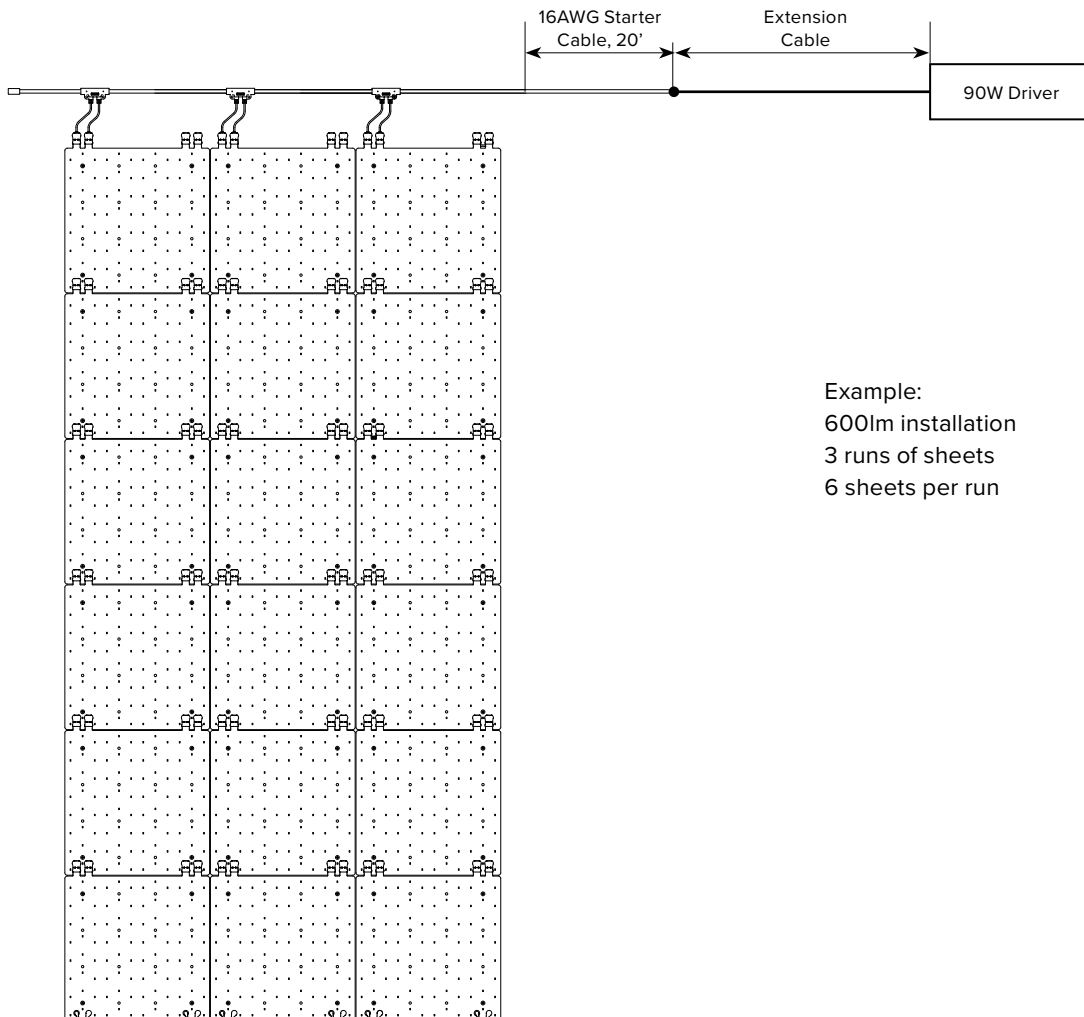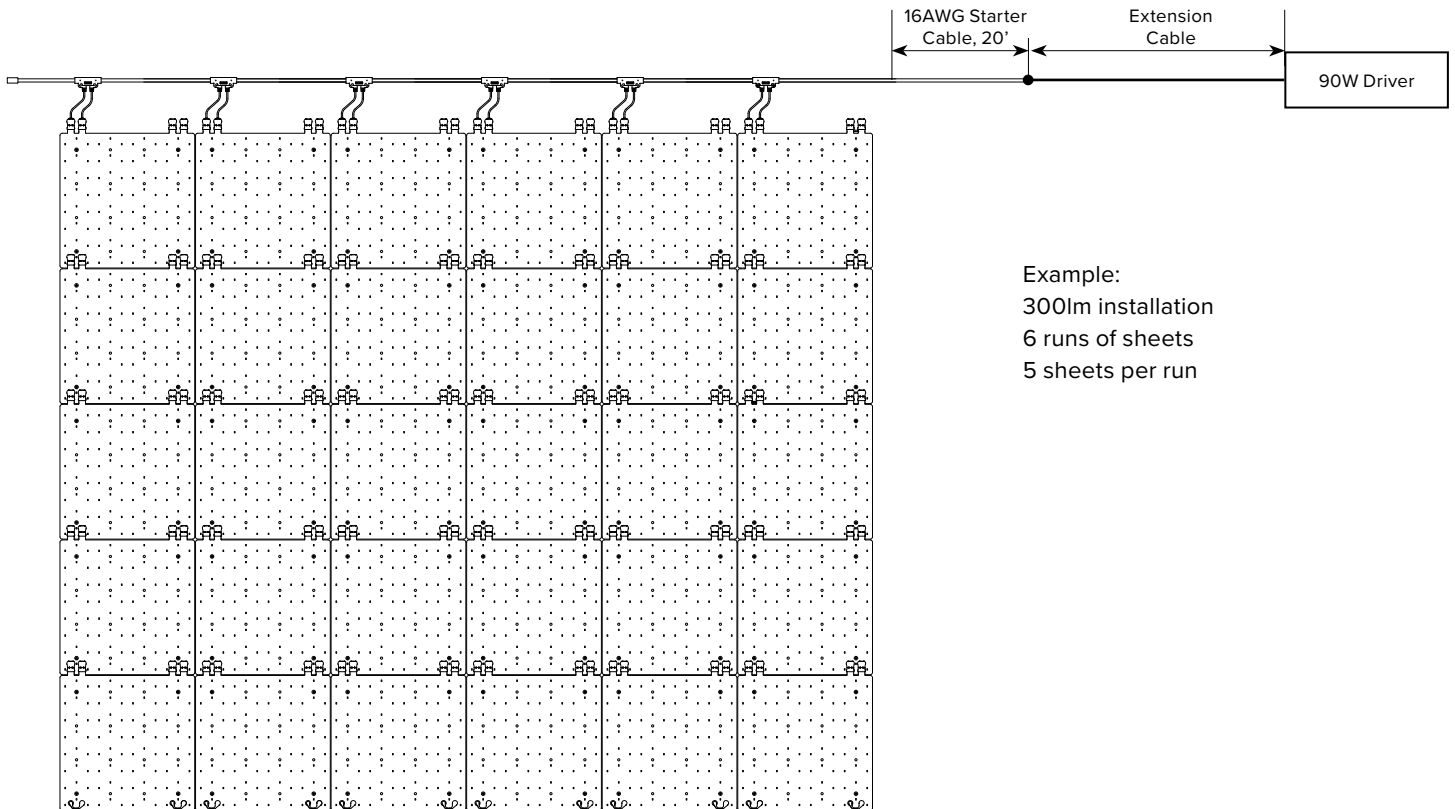3 runs of sheets
6 sheets per run

Table 1. Maximum run lengths by configuration

TILE Output	1 run	2 runs	3 runs	4 runs	5 runs	6 runs	7 runs	8 runs	9 runs	10 runs
300 lm	24	17	11	8	6	5	4	4	3	3

NOTE: Some CCTs may be lower

Table 2. Remote driver distances (in feet) - In addition to the 20' (6m) supplied

2-conductor cable size	1 x 24	2 x 17	3 x 11	4 x 8	5 x 6	6 x 5	7 x 4	8 x 4	9 x 3	10 x 3
18AWG	1.5	11.5	21.5	25.0	28.5	28.0	30.5	22.5	31.0	24.0
16AWG	3.0	18.5	34.0	39.5	45.0	44.5	49.0	36.0	49.0	38.0
14AWG	4.5	29.5	54.5	63.0	72.0	71.0	78.0	57.5	78.5	60.5
12AWG	7.5	47.5	87.0	100.5	114.5	113.0	124.5	92.0	124.5	96.5
10AWG	12.0	75.5	138.0	160.0	182.5	180.0	197.5	146.0	198.5	153.5

16AWG Starter Cable, 20'

Extension Cable

90W Driver

Example:
300lm installation
6 runs of sheets
5 sheets per run

10.0 TILE TC POINT

The Tc point for measuring maximum product temperature is shown below:

TRANSISTOR LOCATED UNDERNEATH
RAISED SURFACE IN THIS AREA

7mm

13mm
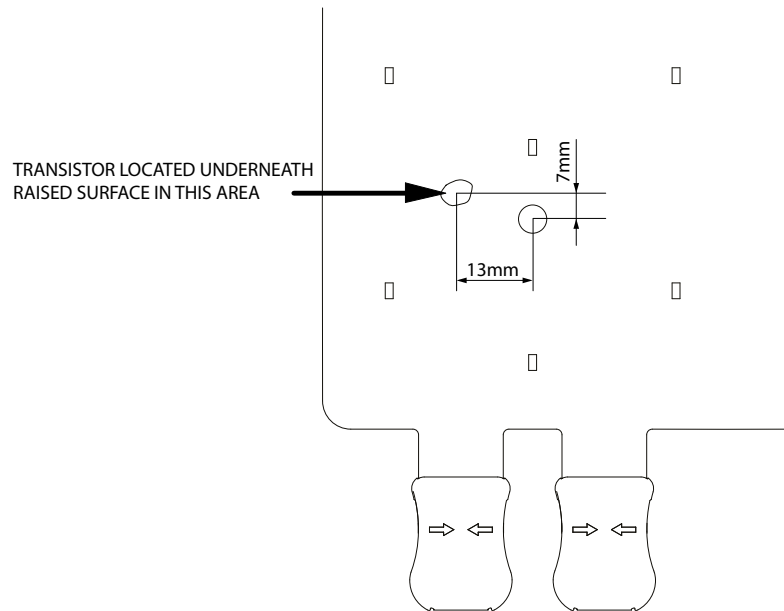
11.0 TROUBLESHOOTING

11.1.   If a single LED of portion of a TILE Exterior does not illuminate or illuminates intermittently
The TILE is likely damaged; remove and replace the TILE if possible. Contact Cooledge Customer Service for replacement

11.2.   If a whole TILE Exterior does not illuminate or illuminates intermittently
   a.   Check the input (tab end) electrical connections
   b.   If the TILE still does not illuminate, remove and replace if possible. Contact Cooledge Customer Service for replacement

11.3.   If one run of TILE Exterior does not illuminate or illuminates intermittently
   a.   Check the power connection between the Starter Cable harness and the first TILE in the run
   b.   If the run still does not illuminate, replace and contact Cooledge Customer Service for replacement

11.4.   If the final portion of a run of TILE Exterior does not illuminate or illuminates intermittently
   a.   Check the electrical connection between the last TILE that illuminates correctly and the first one showing the issue
   b.   If the run still does not illuminate, replace the first TILE of the defective section with another TILE and re-test.
   c.   If the run still does not illuminated contact Cooledge Customer Service for replacement

11.5.   If all the TILE Exterior connected to one Driver do not illuminate or illuminates intermittently
   a.   Check the electrical connection between the Driver and the Starter Cable, and any splices made in the cable, and re-test
   b.   If possible, swap the driver with another and re-test
   c.   If the TILES still do not illuminated contact Cooledge Customer Service for replacement

11.6.   If the entire installation does not illuminate or illuminates intermittently
The issue is most likely with the AC power supply to the drivers. Check the breakers and verify the correct AC voltage at the input side of the driver(s)

12.0 PRODUCT SUPPORT

Contact Cooledge Technical Support at:

   E: apps.engineering@cooledgelighting.com

   O: +1.604.273.2665

   T: 1.844.455.4448 (toll free – North America)

13.0 WARRANTY

Cooledge warrants that the products manufactured, distributed or sold by it will:

1.	Be free of any claim of ownership by third parties
2.	Be conforming to the Specifications and free from defects in materials and workmanship under normal use, handling, warehousing and service.

The warranty period specified in the Cooledge Warranty Terms and Conditions for the products will be for a period of five (5) years from the shipment date of any products sold by Cooledge.

CE

EN 60598 Compliant (as a system)

c(UL)us LISTED E354088

RoHS   IP65

(5) **5 Year Limited Warranty:**
Parts and workmanship