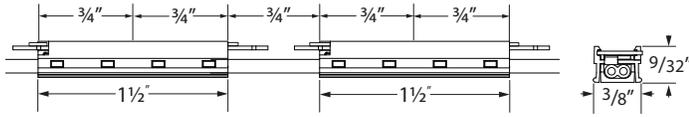
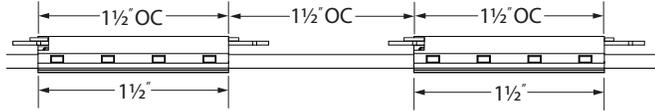


SERIES 01 - TRIPLE LED MODULES FOR 3/4" OC SPACING



SERIES 02 - DOUBLE LED MODULES FOR 1 1/2" OC SPACING



Please verify the contents of the packages!

Please read instructions entirely before starting installation.

Be sure power is turned off before installing or modifying the system.

Call Tivoli, LLC tech support with questions.

Caution: Titanium Cove™ HO is designed to work with listed Class 2 12V DC transformers only. Use of any other power source will cause damage, shorten the life of the fixture and void the warranty.

Consult any and all applicable local and national codes for installation.

Do not conceal or extend exposed conductors through a building wall as per local electrical code.

Warning: With any luminaire for any application, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injuries. This fixture should be installed by a certified professional.

Installation Instructions



Option 1: Direct to surface.

Step 1: Measure area where system is to be applied.

Step 2: Lay the Titanium Cove™ HO LED light string along desired area.

Step 3: The Titanium strand may be applied directly to the mounting surface using double sided tape on the back side of each module.

Step 4: If the design requires mounting clips, first lay light string along desired area, then place mounting clips every 12 inches and apply screws.

Step 5: Titanium Cove™ HO LED is easily cuttable for desired applications. Simply cut the wires at the trailing end of the run.

Caution: Be sure power is turned off before cutting wires.

Option 2: Mounting Channel.

Mounting channels are recommended for most applications to create a smooth, clean appearance, especially on uneven surfaces. The Titanium Cove™ HO and Infinity™ mounting channels will also accommodate an optional Lens Cover. Clear lens covers are used to protect the Titanium Cove HO LED modules from the environment without diminishing light output. Frosted lens covers offer the additional advantage of softening the light for an even glow.

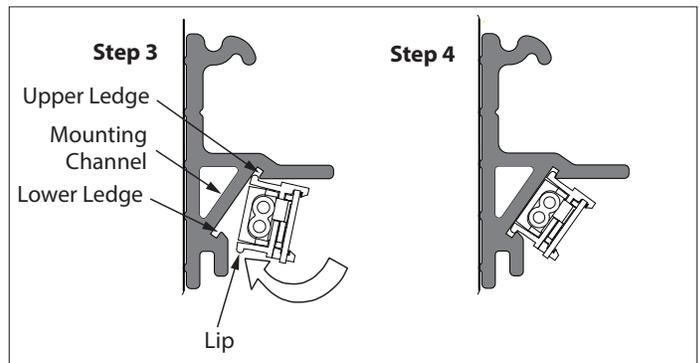
Step 1: Titanium Cove™ HO and Infinity™ Channels are provided in 8' lengths. Measure and cut mounting channel to fit full length of mounting surface and drill countersunk mounting holes every 9 to 12 inches.

Step 2: Lay channel along desired area and apply screws (by others). Titanium Channel may be installed so the LEDs illuminate up or down.

Step 3: Install modules into the channel by placing the lip along the lower edge of the module under the groove in the channel on one side.

Step 4: Using a small Putty Knife, Press down on the lip on the other side of the module to snap it into place in the channel. This procedure is recommended for the Infinity and the Titanium Channel.

Caution: Pressing down directly on the LED board may damage the unit and cause it to not light.



Step 5: If the channel utilizes end caps, position at ends of channel and secure with screws (by others) and snap optional lens onto mounting channel.

Step 6: Titanium Cove™ HO LED is easily cuttable for desired applications. Simply cut wires and install end caps.

Caution: Do not cut while system is powered!

Installation Instructions

Option 3: Mounting Clamps

Mounting Clamps are recommended as a standard mounting accessory. This method is effective for applications with a radius. Mounting Clamps should be placed at every PCB module.

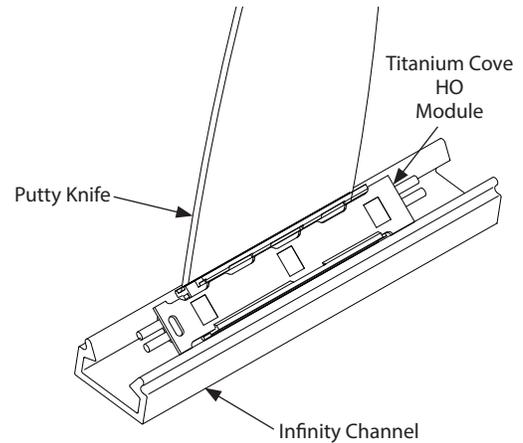
Step 1: If the design requires mounting clips, first lay lighting module string along desired path, then place a mounting clip at the position of each module. Suggestion: Apply two-sided tape to the back of each module for vertical installations to prevent slipping.

Step 2: Drill one or two holes in each, depending on application, and apply screws (by others).

Step 3: Install modules into the mounting clamp channel by placing the lip along the lower edge of the module under the groove in the channel on one side.

Step 4: Using a small Putty Knife, Press down on the lip on the other side of the module to snap it into place in the channel.

Suggestion: Use the long Infinity channel for longer runs and use the short mounting clips to create an arc or other design configurations.



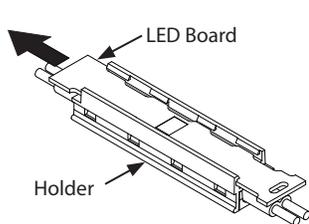
Removing and Installing the LED Board

Step 1: Slide board to the left as far as it will go. Insert a pointed object, such as a pen tip, into the slot at the end of the LED board to slide it more easily.

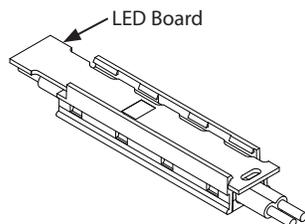
Step 2: Rotate top edge of board upward, as shown.

Step 3: Remove board.

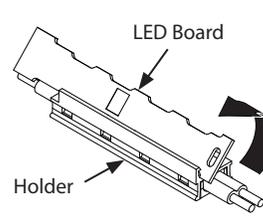
Installation: Reverse steps to install.



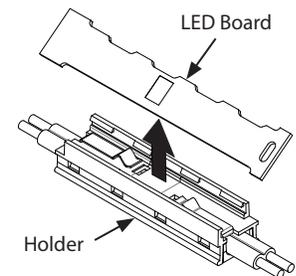
Step 1: Starting Position



Step 1: Final Position



Step 2



Step 3

System Troubleshooting

Problem 1: Whole run failure

Whole-run failures are typically caused by loss of power to the Titanium Cove HO Product run. These failures have 3 basic causes;

- 1) No power to transformer or bad transformer
- 2) No power from circuit breaker or tripped breaker
- 3) no power from the connection feed

NO POWER TO TRANSFORMER TESTS

- 1) Confirm that transformer has power and that break is set to "On".
- 2) Determine if there is power to the transformer by turning primary breaker inside "On" and "Off" to see if there are any product runs that are working off of this transformer.

If the transformer is receiving power and all breakers are in the "On" position and there is no output power of 12VDC then the transformer needs to be replaced.

NO POWER FROM CIRCUIT BREAKER TESTS

If the transformer has been confirmed to be working and only a single circuit of Titanium Cove HO is off,

- 1) Confirm that all of the secondary output breakers in the transformer are in the "On" position.
- 2) Determine which circuit the outage is connected to and check to be sure that all wires are connected firmly and in correct polarity. Then, if all secondary breakers are in the "On" position and all is connected correctly isolate between circuit breaker and product by swapping the failed circuit to another working circuit.

If the problem still exists within that same run or the new breaker trips then the problem is on the product side. If the problem exists now with the new run, then the transformer has a failed breaker and needs to be replaced.

NO POWER FROM CONNECTION FEED

If the transformer and all secondary circuits have been confirmed to be working and the Titanium Cove HO run is off or tripping the breaker when connected,

- 1) If the breaker stays in the "On" position then the issue is a loose or bad connection and a mid-wire Jbox or at the Power Feed Connector. Confirm that the power feed connection is secure by wiggling and pressing it together. The connection may need to be replaced.
- 2) If the breaker stays or retrips to the "Off" position, then the issue is due to a short at either a mid-wire J-Box, the Power Feed Connection, the End Cap, or a damaged area along the Titanium Cove HO run.

Examine and confirm that there are no blackened areas along the product run and at any of the connection or end cap areas. Typically, there is a short at the Power Feed connection due to improper cut through the Titanium Cove HO allowing for a small cross-wire short to exist. Replace connections or damaged areas as needed.

General Information

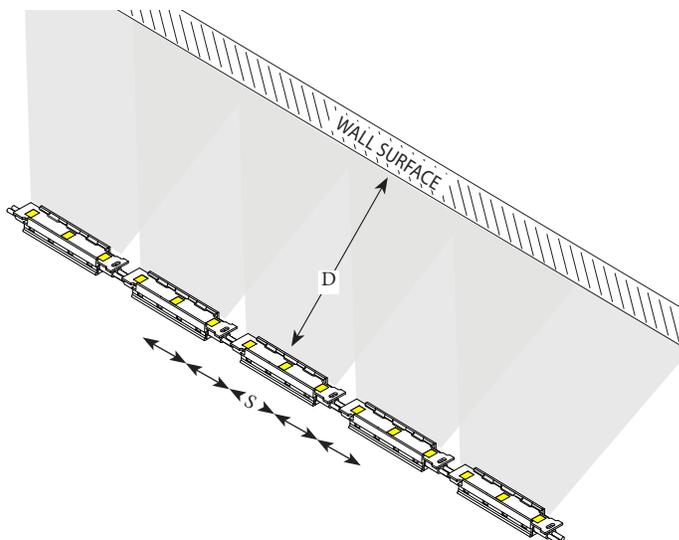
Lamp Spacing Chart

Different LED spacings can create dramatically varied effects. Tighter spacing is most appropriate for uniform lighting applications. The chart is an example of uniform lighting based on spacing (**S**) between module and distance (**D**) to surface for even illumination.

Wiring Size

In order for low voltage circuits to operate properly, care must be taken in sizing the wire from the transformer to the light strings.

Tivoli recommends locating the transformer as close to the light string as possible. Use 12 gauge wire and keep the transformer within 100' of the fixture.





Recommended Power Supplies

CAT NO	APPLICATION	PRIMARY AND SECONDARY	TOTAL WATTAGE / AMPS PER BREAKER	LISTING	DIMENSIONS	ELECTRONIC OR AC MAGNETIC
ADUL-80-1-5-12-D	Indoor	120-277V AC / 12V DC	60W / 1X5A	UL/ETL/CSA	10"W X 10"L X 4"D	Electronic
ADUL-150-2-5-12-D		120-277V AC / 12V DC	120W / 2X5A	UL/ETL/CSA	10"W X 10"L X 4"D	Electronic
ADUL-240-3-5-12-D		120-277V AC / 12V DC	180W / 3X5A	UL/ETL/CSA	10"W X 10"L X 4"D	Electronic
ADUL-320-4-5-12-D		120-277V AC / 12V DC	240W / 4X5A	UL/ETL/CSA	10"W X 10"L X 4"D	Electronic
JT-60-1-5-12-D	Indoor/Outdoor	120V AC / 12V DC	60W / 1X5A	ETL	4.25"W X 8.50"L X 3.25"D	Magnetic
JTH-60-1-5-12-D		277V AC / 12V DC	60W / 1X5A	ETL	4.25"W X 8.50"L X 3.25"D	Magnetic
JT-240-4-5-12-D		120V AC / 12V DC	240W / 4X5A	ETL	8.50"W X 16.00"L X 4.50"D	Magnetic
JTH-240-4-5-12-D		277V AC / 12V DC	240W / 4X5A	ETL	8.50"W X 16.00"L X 4.50"D	Magnetic

Dimming Interface

DESCRIPTION	CAT NO	APPLICATION	PRIMARY VOLTAGE	SECONDARY VOLTAGE	MAX LOAD	CIRCUIT BREAKERS	CIRCUIT CAPACITY	DIMENSION
DIM-OT	DIM-OT-1-4-5-D	Indoor	12V/24V	12V/24V	96W	1	5A /4A	7"L X 1½"W X ¾"H