INSTALLATION INSTRUCTIONS

COVELUM™ LED 7178040

Read instructions entirely before starting installation.

Call Tivoli, LLC with any questions.

Tivoli's Covelum LED is an indoor low voltage lighting system used mostly for indirect lighting designs. To design the best and most attractive system, first determine lamp spacing and accessories needed.

Caution:

Covelum LED is designed to work with both Class I or Class II 12V DC transformers only. Use of any other power source will cause damage, shorten the life of the fixture and may void the warranty.

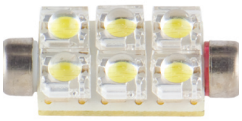
Be sure power is turned off before installing.

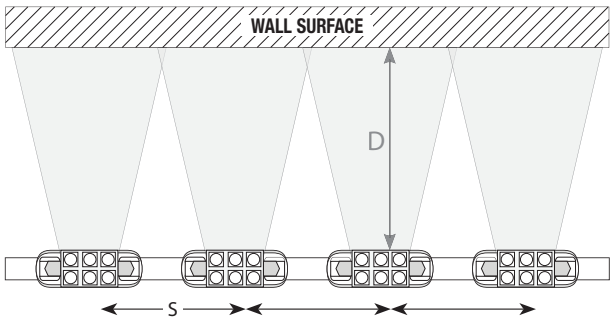
COVELUM™ LED MODULE DATA

c UL us

LED

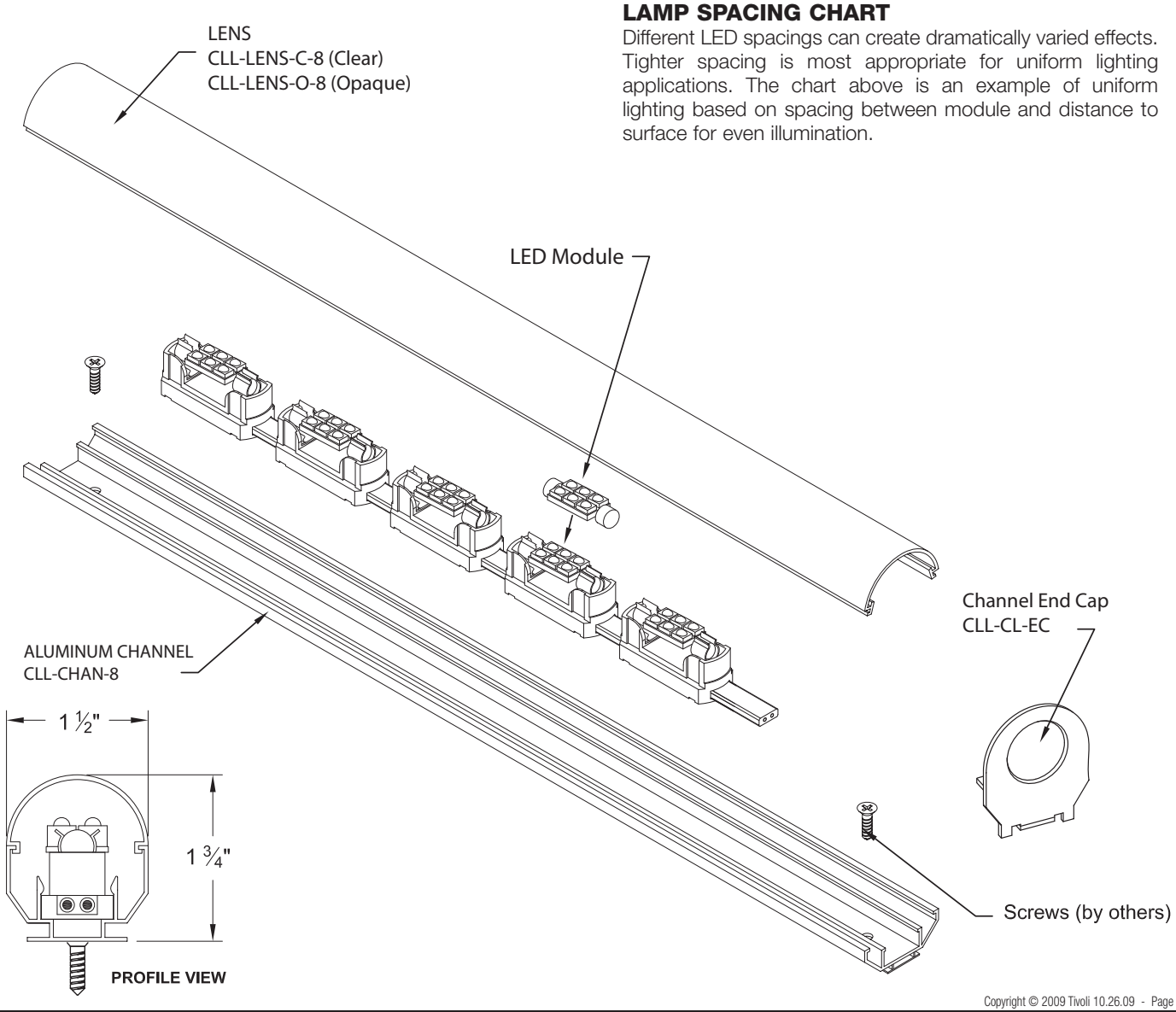
LED Super Flux
Voltage: 12VDC
Wattage: 0.75 Watts
Spacing: 2", 2.5", 3", 4", 6"





LAMP SPACING CHART

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



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COVELUM™ LED 7178040

INSTALLATION INSTRUCTIONS

MAXIMUM NUMBER OF LAMPS PER FEED AND DISTANCE.

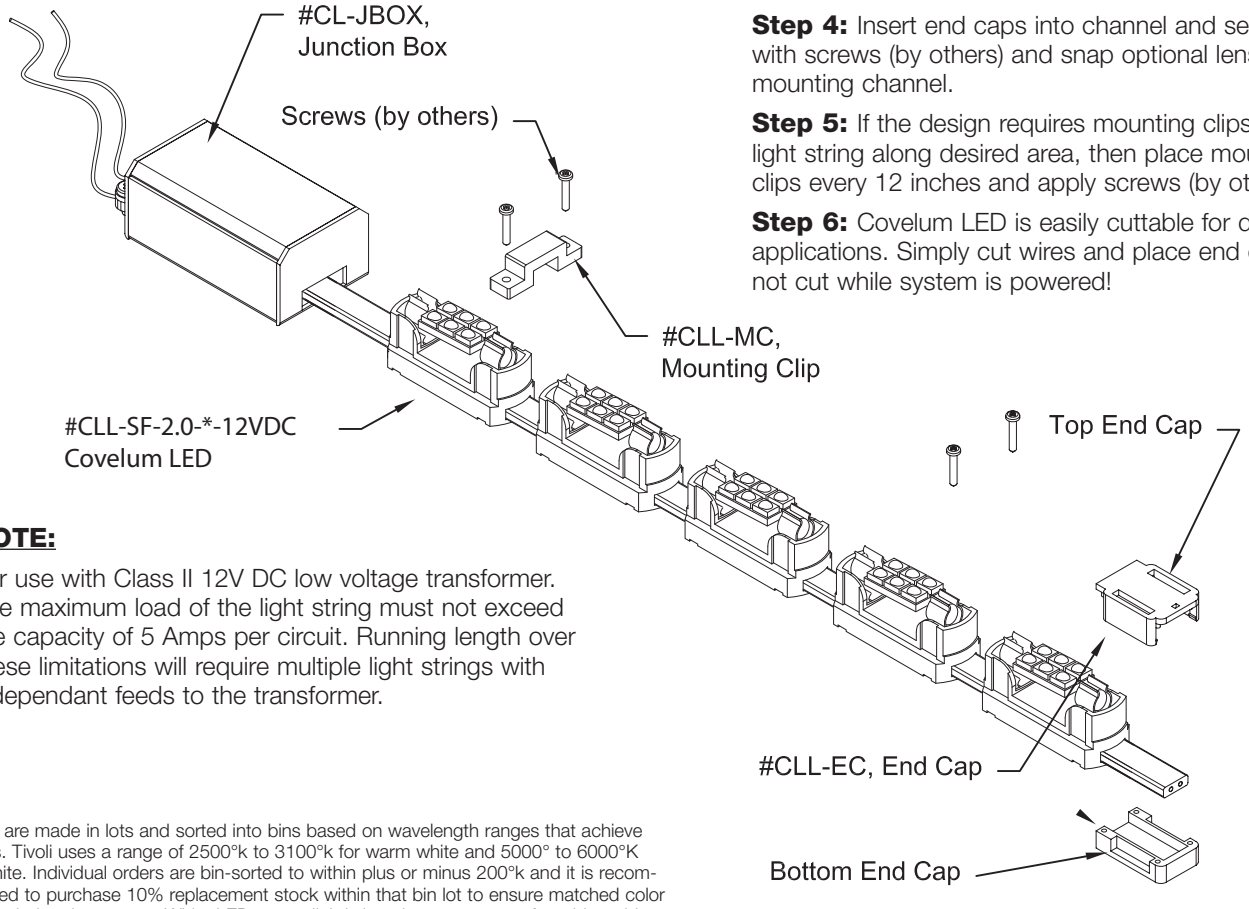
Class I transformer system, #12 ga conductor

Volts x Amps = Watts

12V DC System, 0.75 watt LED modules

TRANSFORMER

75 watt 6.3 Amps / 0.75W = 100-10% = 90 LEDs
100 watt 8.5 Amps / 0.75W = 133-10% = 120 LEDs
150 watt 12.5 Amps / 0.75W = 200-10% = 120 LEDs
200 watt 16.7 Amps / 0.75W = 265-10% = 255 LEDs



NOTE:

For use with Class II 12V DC low voltage transformer. The maximum load of the light string must not exceed the capacity of 5 Amps per circuit. Running length over these limitations will require multiple light strings with independant feeds to the transformer.

LED's are made in lots and sorted into bins based on wavelength ranges that achieve colors. Tivoli uses a range of 2500°k to 3100°k for warm white and 5000° to 6000°K for white. Individual orders are bin-sorted to within plus or minus 200°k and it is recommended to purchase 10% replacement stock within that bin lot to ensure matched color for needed replacements. White LEDs vary slightly in color temperature from bin to bin. Tivoli references each bin location number on the packing list and labels it on each LED product accordingly. During installation, it is very important that like bins are located in close proximity for color consistency. The overall color will visually appear consistent even with multiple bins located in surrounding areas. However, if different bins are located in close proximity there may be slightcolor visible variations.

The last two characters assist in identifying the bin number. For example:
Bin No. B27**D5**
Bin No. B5**W3**

D5 should be installed close to each other.
W3 should be installed close to each other
D5 and W3 should **NOT** be installed close to each other.

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 to locate the transformer as close to the light string as possible. Use 12 gauge wire and keep the transformer with 100' of the fixture.

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

Step 2: Lay the Covelum LED light string along desired area.

Step 3: If the design requires a mounting channel, lay channel along desired area and apply screws (by others) every 9 to 12 inches. Then snap light string into mounting channel.

Step 4: Insert end caps into channel and secure with screws (by others) and snap optional lens onto mounting channel.

Step 5: If the design requires mounting clips, first lay light string along desired area, then place mounting clips every 12 inches and apply screws (by others).

Step 6: Covelum LED is easily cuttable for desired applications. Simply cut wires and place end caps. Do not cut while system is powered!

TRANSFORMER

60 watt 5 Amps / 0.75W = 80-10% = 72 LEDs

MEAN TIME BETWEEN FAILURES (LED MTBF)

While Tivoli utilizes LEDs provided by industry leading vendors, these are electrical components with calculated mean time between failure (MTBF). MTBF for LEDs typically exceeds 100,000 hours. MTBF indicates the point at which 50% of the LEDs will lose 50% of their original brightness. Conditions such as excessive voltage, vibration, heat, and other adverse environments may negatively effect the life of LEDs.

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