LightTape®

Design Guide

2021

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LightTape

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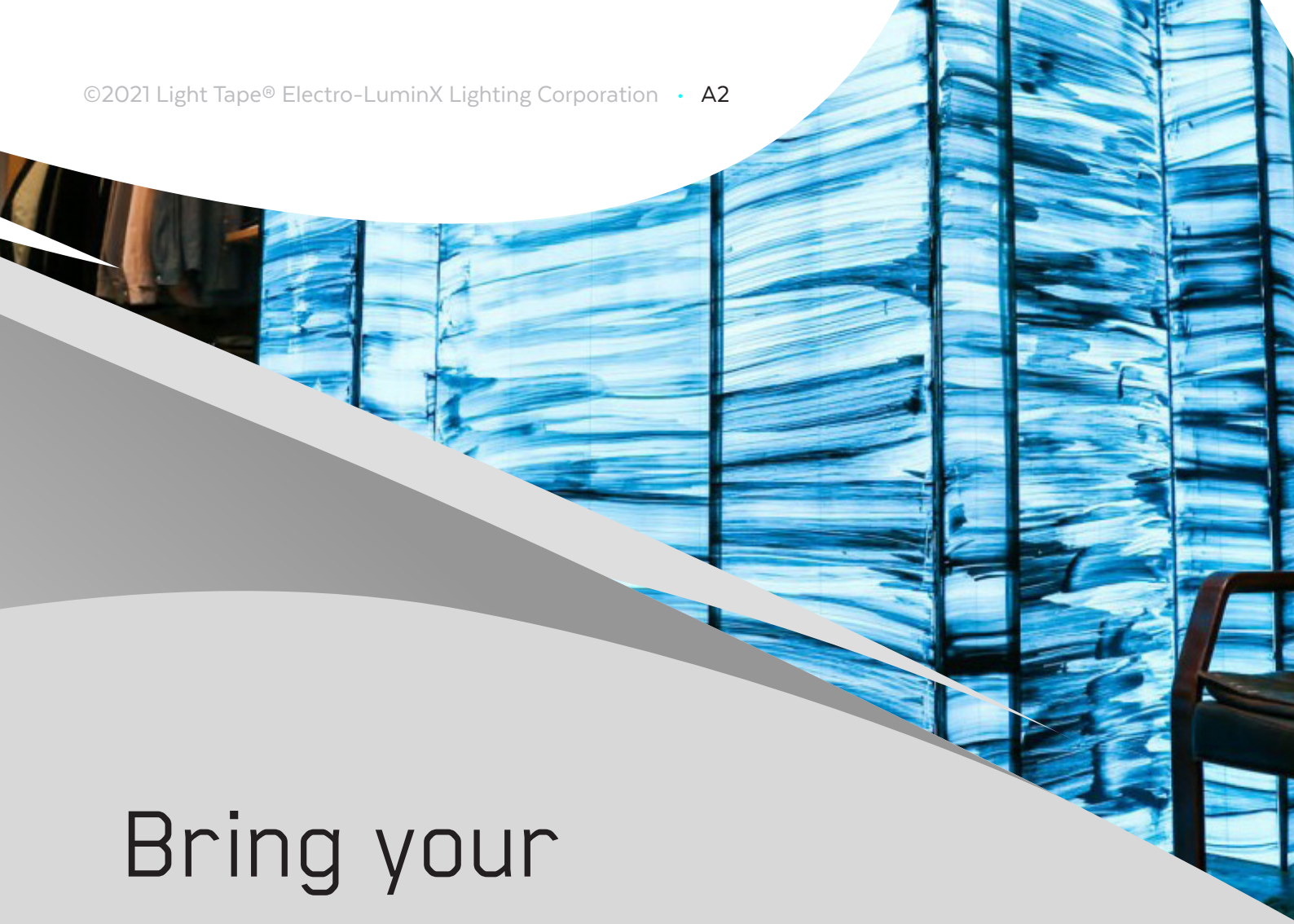
What is LightTape®?



Bring your imagination to Light™

The thinnest, widest, and longest,light in the world. Light Tape® lamps redefine electroluminescent technology.

Manufactured utilizing a novel continuous coating process resulting in an ultra-low-profile, lightweight panels and strips that seamlessly and evenly illuminate from edge to edge over long distances. The philosophy behind the product is simple: a light's form factor should not restrict design or artistic vision. With Light Tape®, you have the possibility to turn anything into light.

Prepare to be illuminated.

Light Tape® will change the way you think about lighting.

Even Illumination

No hot or cold spots at any size, a uniform light source up to 762mm wide, without the need for diffusion.

Easy Installation

Flexible illumination of 45 meters or more with a single connection. Cuts your installation time by 75%.

More Energy Efficient

Light Tape® uses 40% less power than traditional LEDs at equal brightness.

Made in the USA

Top quality, built with pride utilizing the best materials and manufactured to last.

Thin & Flexible

Thinner than a credit card & up to a meter wide. Light Tape fits into tight areas and can flow over any surface easily.

Unmatched Durability

Heavy load capable, vibration and impact resistant. Able to withstand high physical impact and still illuminate.

Custom-Cut Shapes

Illuminate non-symmetrical shapes with an ultra-thin, light source. Let your creativity to determine your design.

No Heat

Unlike LEDs, Light Tape® can run for 40,000 hours and never get hot. Plus operates in extreme temperatures.

LightTape® lamps set a new standard in EL.

Compared to alternative Electroluminescent technologies, no one comes close to our quality or performance.

We start by employing only the best materials to deliver amazing performance. We have a unique manufacturing process, a departure from traditional batch silk screening. Would you want your light made on the same machine as a t-shirt printer? We don't either, but that is how most alternate EL lamps are made.

AMERICAN MADE

Light Tape® is manufactured in the United States under strict quality control standards. Our proprietary manufacturing methods create an electroluminescent light source unlike any other in the world.

BEST MATERIALS

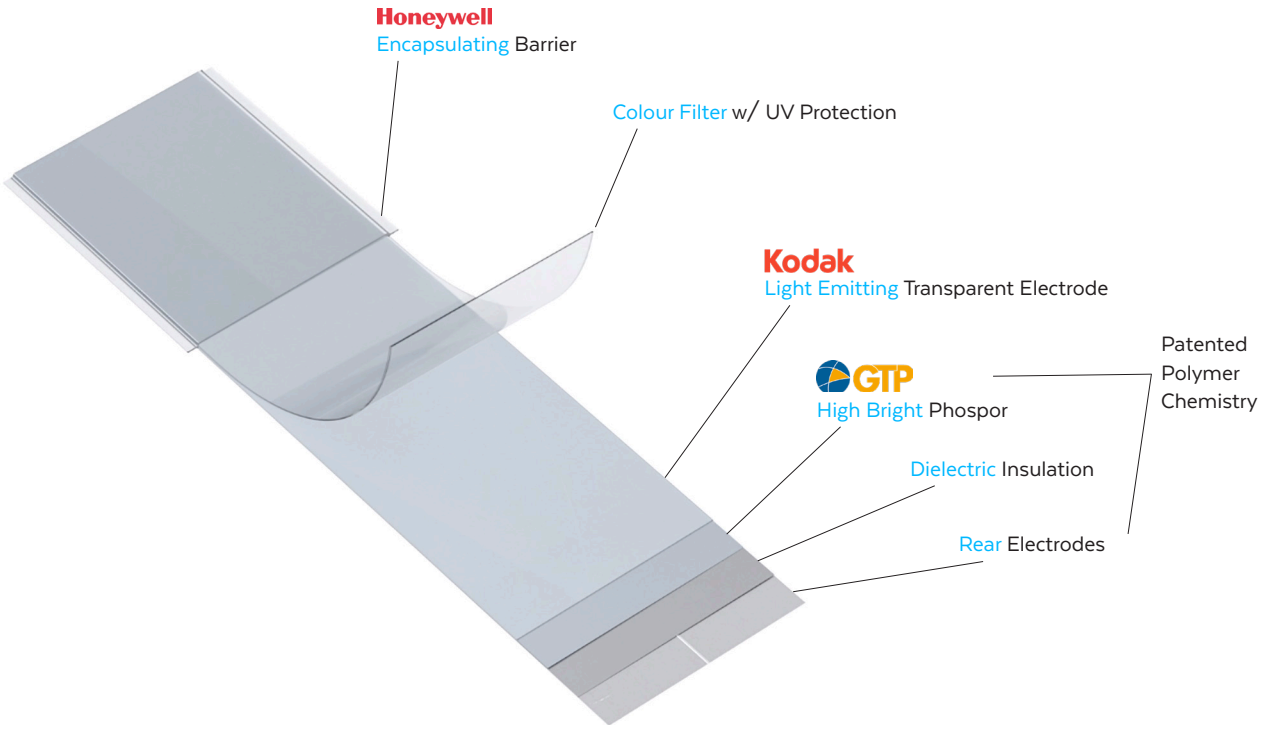
Only the best phosphors and conductive materials are used in Light Tape®. The combination produces a brighter, more durable light that uses less energy. Other EL producers use low grade phosphors and poor conductive materials resulting in nonuniformity of brightness and poor much shorter lifetimes.

NOVEL CHEMISTRY

Light Tape®'s one-of-a-kind chemistry is protected by numerous patents. Our material's layers are bonded at the chemical level, producing a brighter, more durable lighting source. Light Tape® is a true solid state system. Other EL producers simply glue the rear electrode to the material, which easily separates with flexing or temperature changes, leading to electrical failure.

UNPRECEDENTED LIFETIMES

We are producing a lamp that is built to last, able to withstand the toughest applications.



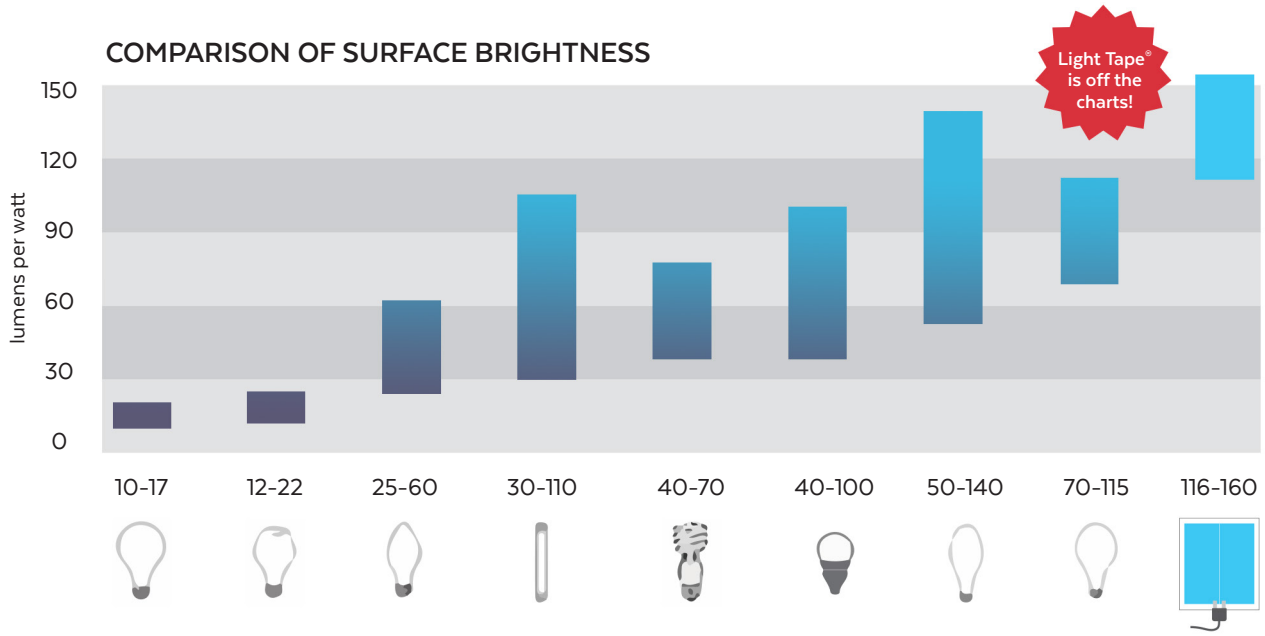
LightTape

Energy Consumption

Light Tape® is an incredibally efficient flat accent light, with a completely uniform illuminated surface.

Other light sources, like LEDs, directionally emit light with a great deal of the desired light either wasted or diffused in order to accomplish even illumination. When comparing the surface brightness of an accent light, there is nothing more efficient than Light Tape®.

COMPARISON OF SURFACE BRIGHTNESS



LIGHT TAPE® VS. LED'S

	ACCENT LIGHTING				BACKLIGHTING	
	LIGHT TAPE	LED'S	LIGHT TAPE	LED'S	LIGHT TAPE	LED'S
ILLUMINATED WIDTH	1.27 cm	0.8 cm	2.54 cm	0.8 cm	100% Backlit	edge lit
AREA/LENGTH	1 linear meter	1 linear meter	1 linear meter	1 linear meter	1 square meter	1 square meter
ILLUMINATION SOURCE	100% phospors	30 led's	100% phospors	60 led's	100% phospors	240 led's
CURRENT - AMPS	0.005	3	0.01	6	0.5	24
TOTAL WATTS	0.5	7.2	1.1	14.4	44	57.6
ILLUMINATION COVERAGE	100% uniform	2 cm gaps	100% uniform	1 cm gaps	100% uniform	60% uniform

HEIRARCHY OF TRADITIONAL MEASUREMENT OF BRIGHTNESS

	IMPERIAL		METRIC	
BRIGHTNESS	W/in^2	A/in^2	W/cm^2	A/cm^2
HIGH	0.028	0.342	0.0044	0.0530
AVERAGE	0.016	0.191	0.0025	0.0296
LOW	0.011	0.133	0.0016	0.020

Light Tape® consumes power in a linear fashion. With every increase in area there is an equal increase in energy required to illuminate. Multiply the illuminated surface area by the multiples to get total watts and amps.

Total Watts = W x surface area
Total Amps = A x surface area

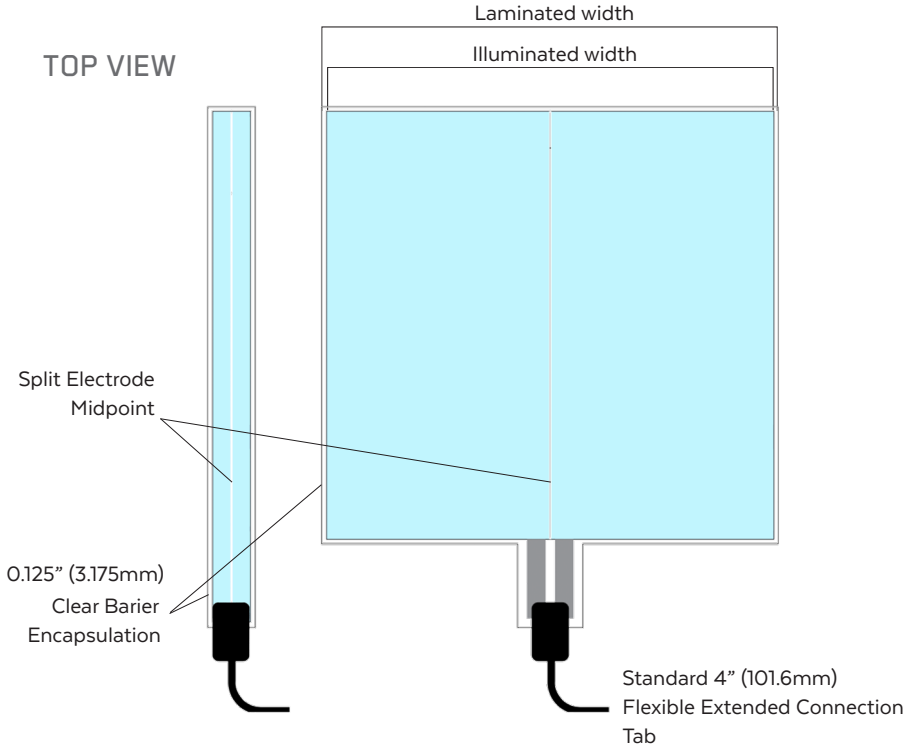
LightTape

Light Tape® Standard Sizes

Item No.	Illuminated Width		Laminated Width (Interior)		Laminated Width (Exterior)	
LT-050	0.5”	12.7mm	0.75”	19.05mm	1”	25.4mm
LT-100	1”	25.4mm	1.25”	31.75mm	1.5”	38mm
LT-200	2”	50.8mm	2.25”	57.15mm	2.5”	63.5mm
LT-400	4”	101.6mm	4.25”	107.95mm	4.5”	114.3mm
LT-600	6”	152.4mm	6.25”	158.75mm	6.5”	165.1mm
LT-1200	12”	304.8mm	12.25”	311.15mm	12.5”	317.5mm
LT-3000	30”	762mm	30.25”	768.35mm	30.5”	774.7mm

Please note: Custom widths available to order

TOP VIEW



WHEN ORDERING, PLEASE SPECIFY:

- Installation location - Interior (INT) or Exterior (EXT)
- Desired illuminated color
- Illuminated width item number
- What length for each Light Tape® lamp? (min order length of 25 ft / 7.62m required)
- Total number of lamps required
- Power Input - AC or DC? What input voltage?
- Flexible extension connection tabs for backlighting applications are standard at 4” long. This allows connector to be hidden. Please advise if longer lengths are required.

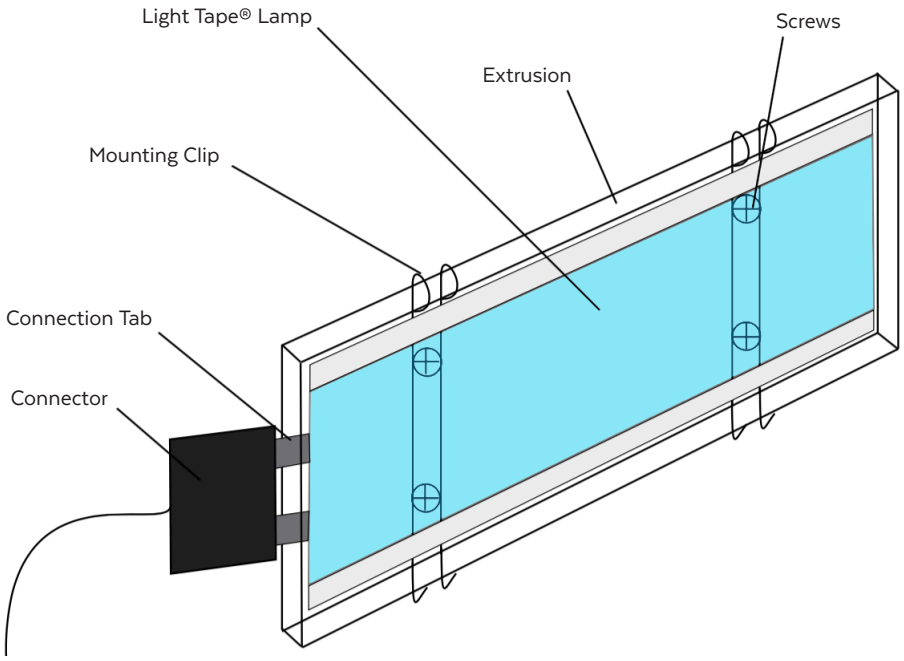
ADDITIONAL INFORMATION:

- Custom widths are possible to fit any dimensions. Light Tape® can be tiled together with no seams or gaps in illumination.
- Power input location (please specify short or long side of lamp).
- A basic top or front view drawing with dimensions is helpful to our engineering team to estimate materials needed.
- We will suggest best electrical configurations for your project based on site layout.

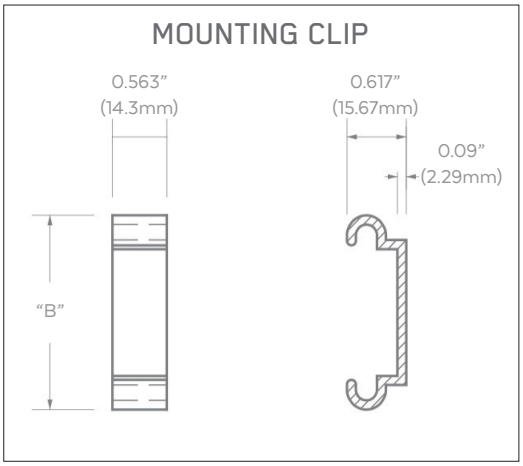
NOTE: the split electrode midpoint (SEMP) is a critical element of Light Tape®’s engineering that runs centered through the entire length.

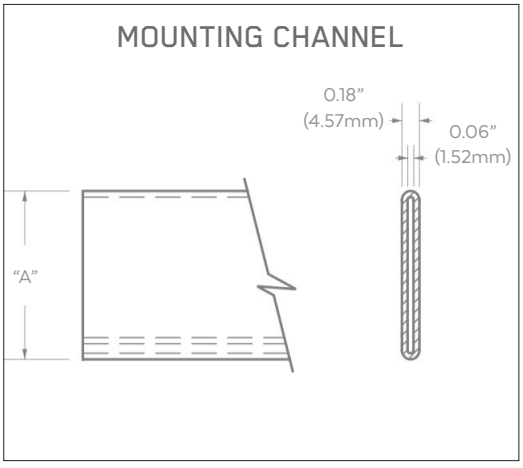
Light Tape® Snap-N-Light™ Specificiations

Item No.	Illuminated Width		Channel Width (A)		Clip Width (B)	
P-LT-100	1”	25.4mm	1.67”	42.42mm	1.92”	48.9mm
P-LT-200	2”	50.8mm	2.67”	67.82mm	2.92”	74.3mm
P-LT-400	4”	101.6mm	4.67”	119mm	4.92”	125mm
Please note: All Snap-N-Light™ runs are made to order						



NOTE: Mounting Clip is attached to mounting surface.
Light Tape® lamps slides into Mounting Channel which then snaps onto the pre-attached mounting clips.





Material	Clear UV Stablised Polycarbonate Mounting Channel
Mounting Screw	No. 10
Clip Placement	One clip per 1 to 3 feet (30-90cm), depending on surface
UV Protection	Yes, non-yellowing
Roll Format	Standard sizes: 25ft (7.62m), 50ft (15.24m), 75ft (22.86m), 100ft (30.48m) rolls

Light Tape® Color Options

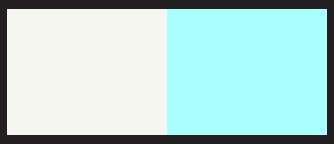
Our base colors are the Classic Natural Blue and Extreme Blue-Green. These colors appear white when off and lightly colored when illuminated. We then add filters to produce alternative color options.

Our Media White and Glacier White colors are perfect for backlighting and applications requiring white, unfiltered light, these will appear lightly colored when switched off.

Our remaining range of colors will retain their vibrance when not illuminated so you don't lose the desired effect even when it's switched off, perfect for branding and advertising.

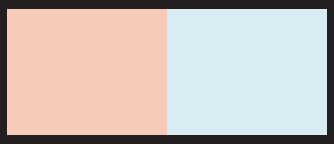
CLASSIC SERIES

Natural Blue



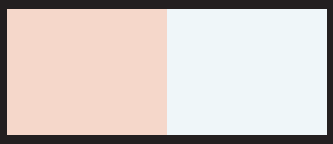
Off On

Media White



Off On

Glacier White



Off On

Yellow

Off On

Electric Blue

Off On

Rich Red

Off On

EXTREME SERIES

Blue Green

Off On

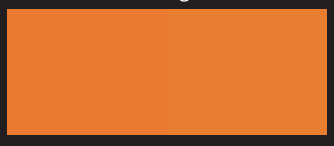
Caribbean Blue

Off On

Purple

Off On

Orange



Off On

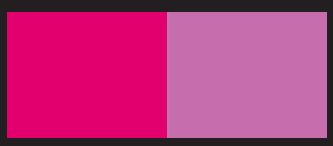
Rich Red

Off On

International Red

Off On

Pink



Off On

Green

Off On

NOTE: The colors in this guide are simulated and as such the final product may vary. If an exact color is required, we recommend seeing a physical sample of the lamp. Custom colors and widths are available, but may be subject to minimum order quantities, set-up fees, and approval testing.

LightTape

Technical Specifications

Light Tape® Physical Specifications	
Thickness (varies depending on color)	0.010 to 0.020 inches / 0.254 to 0.305 millimeters
Protective Encapsulation Seal	1/8" (3.18mm) on each side (+/- 1/16 inch, +/-0.159 cm)
Light Tape® Illumination Width	0.25" to 30" / 6.25mm to 762mm
Illumination Coverage	Infinite, can be tiled without a break in light
EELC Smart Driver™ Power Supplies	
AC Power Supply Input Voltage Range	90V - 260V AC
AC Power Supply Output Voltage (dimmable)	0 - 350V AC
AC Power Supply Control	Dimming, 0 - 10V DC and DMX 512 Capable
AC Power Supply Output Cable	22AWG, 105˚C, 600V, VW-1
DC Power Supply Input Voltage Range	3V - 24V DC (12V DC Standard)
DC Power Supply Output Voltage	260V AC
Light Tape® Operating Frequency	800Hz, ± 300Hz (Dependant on tuning)
Phase Angle	78º Leading Edge
Light Tape® System	
Light Tape® Load	Capacitive Load
Light Tape® Power consumption	16W - 44W per m^2 based on low to high brightness dimming (Average: .023W per in^2 / 0.0035W per cm^2)
Light Tape® Power consumption (Per Linear Meter at 25.4 mm wide)	0.4W - 1.1W (Dependant on tuning)
Light Tape® Current Consumption*	0.19mA per in^2 / 0.0296mA per cm^2 27.36mA per ft^2 / 296mA per m^2
Light Tape® Performance	
Rated Lifetime**	40,000+ hours
Rated Lifetime - Years**	20+ years
Average Brightness	125 cd/m^2
Brightness Range	0 - 200 cd/m^2
Uniformity	Completely Uniform, max ± 1 cd/m^2, independant of total surface area
Operating Temperature - Ambient	-22˚F +122˚F / -30˚C +50˚C
Heat Gain During Operation	Does not produce heat during operation
Compressive Strength - Ground Pressure	500psi + (more depending on mounting system)
Impact Strength - Izod (73F)	6.5 ft-lbs/in^2
Flexural Strength	700 > 15,000 cycles ASTM D2176
Flexibility - Bend Radius	Contours around 6mm ø curve
Punctureable	Will continue to illuminate even if punctured.
Maximum Processing Temperature	350˚F / 177˚C (depending on residence time)
Product Warranty***	3-5 year limited warranty for Light Tape Lamps, 1 Year warranty for power supplies
Health and Safety	
Safety Features	Overload and short circuit protection. UL listed.
UL Certifications	File number E319670, 2006/95/EC
CE Certifications	EC-Attestation of conformity - No. 0704 63147 001
AS/NZS Certifications	Certificate of suitability - IEC 61347.2.13:2013, 61347.1:2016
Low Voltage Directive	Compliant
Environmental Compliance	ROHS and WEEE Directive
EMC Emissions Compliant	EN55015 (CISPR15) Radiated and Conducted Emission
Flame Resistance	UL 94VTM-0
International Protection Marking	IP67, EN60529

*Data recorded at average brightness, with AC Driver output of 250 Volts and 850 Hertz.
** based on 5 hr useage per day, average brightness, not operating when exposed to direct sunlight
*** Please refer to our Product Warranty Policy for additional details.

LightTape

Smart Driver™
Power Supplies

Digital Smart Driver™ AC Power Supply

Digital Smart Driver™ power supplies are specifically engineered to illuminate LightTape®.

Whether it is one piece or ten, it is possible to do it all with one Smart Driver™. There are a variety of models to choose from offering a variety of useful features. A Light Tape® representative will advise which model to use based on the total illuminated area, zones, and location.

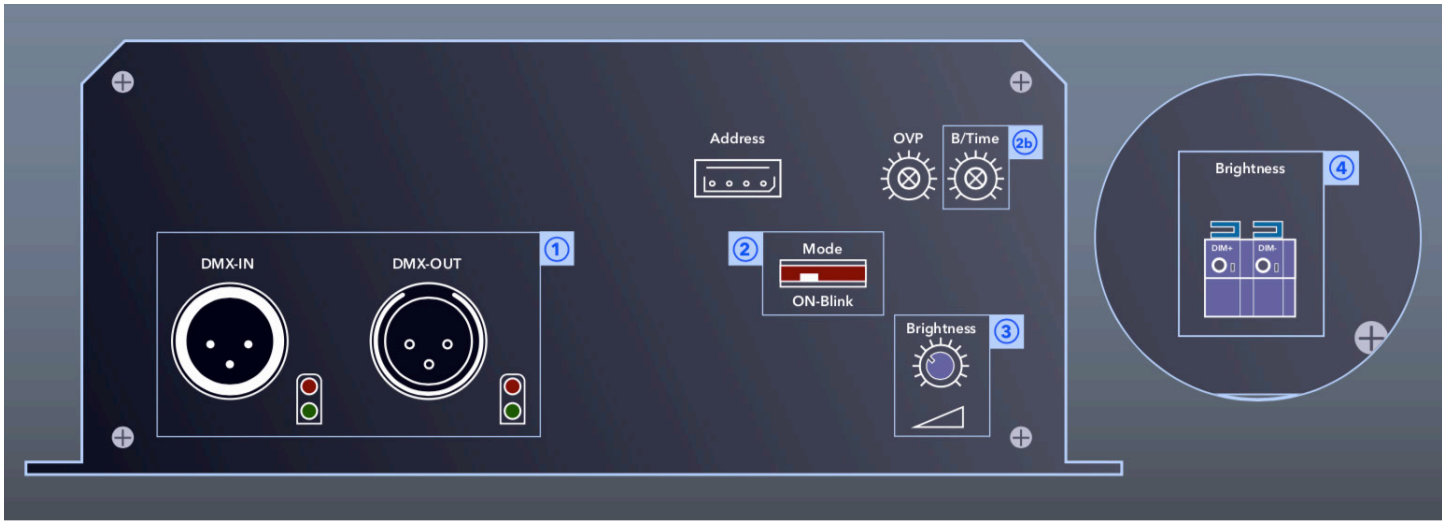
FEATURES

- Quiet
- Stylish compact design
- Rated Input Voltage 110 / 220 VAC
- Protection Class 1
- IP Degree 2x
- Worldwide voltage capacity
- Blink and Dimmer Switch
- Visual LED system status indicator
- Lightweight
- Short circuit and overload protection
- Convection Air Cooled
- CE, UL, CSA and AS/NZS compliant
- 0-10 dimming
- DMX 512 compatible

AC POWER SUPPLY RANGES AND OUTPUT

Model	Light Tape® Range		Input		Output
	Imperial	Metric	Amps	Watts	Max. Current, A
SD-8000	4000 - 8000 in²	25,806 - 51,612 cm²	3.50	420	3.8
DSD 200 0-10 DIMMING	1-200 in²	6.5 - 1,290 cm²	0.5 max	12	0.022
DSD 4000 DMX	200-4000 in²	1,290 - 25,806 cm²	1.7	204	2
DSD 2000 DMX	1000-2000 in²	6,451 - 12,903 cm²	2.8 max	68	0.91
DSD 1000 DMX	400-1000 in²	2,580 cm2 - 6,451 cm²	0.9	97	0.32
DSD 200 DMX	1-200 in²	6.5 - 1,290 cm²	0.5 max	12	0.022
DSD 2000	1000-2000 in²	6,451 - 12,903 cm²	2.8 max	68	0.91
DSD 1000	400-1000 in²	2,580 cm2 - 6,451 cm²	0.9	97	0.32
DSD 400	200-400 in²	1,290 - 2,580 cm²	0.7 max	17	0.11
DSD 200	1-200 in²	6.5 - 1,290 cm²	0.5 max	12	0.022

AC Power Supply Specifications



FEATURES

1. DMX MODE - 512 Supplies are fully DMX controllable, allowing for integration into complicated stage and light shows.
2. BLINK MODE - Allows for on/off pulse control with fine tuning knob.
3. BRIGHTNESS CONTROL - luminosity adjustment to approriately match installation environment.
4. 0-10 DIMMING - Optional function to remotely control Light Tape® brightness using standard 0-10v dimmers. Compatable with Lutron Dimmers.

Model	DMX	Blink Mode	Brightness control	0-10 Dimming
SD-8000		X	X	
DSD 200 0-10 DIMMING			X	X
DSD 4000 DMX	X	X	X	X
DSD 2000 DMX	X			X
DSD 1000 DMX	X			X
DSD 200 DMX	X			X
DSD 2000			X	
DSD 1000			X	X
DSD 400			X	
DSD 200			X	

AC POWER SUPPLY DIMENSIONS

Model	Length		Width		Height		Weight	
	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric
SD-8000	9.875 in	250 mm	4.75 in	120 mm	2.25 in	57 mm	4.15 lb	2.2kg
DSD 200 0-10 DIMMING	6 in	155 mm	2.625 in	67.5 mm	1.5 in	40 mm	0.8 lb	363 g
DSD 4000 DMX	8.75 in	220 mm	7.25 in	185 mm	2.75 in	70 mm	4.85 lb	2.22 kg
DSD 1000 DMX	7.75 in	195 mm	3.375 in	85 mm	2 in	50 mm	3.9 lb	1.77 kg
DSD 2000 DMX	8.375 in	225 mm	3.375 in	85 mm	2 in	50 mm	4.3 lb	1.95 kg
DSD 200 DMX	6 in	155 mm	2.625 in	67.5 mm	1.5 in	40 mm	0.85 lb	386 g
DSD 2000	8.375 in	225 mm	3.375 in	85 mm	2 in	50 mm	3.65 lb	1.66 kg
DSD 1000	7.75 in	195 mm	3.375 in	85 mm	2 in	50 mm	2.7 lb	1.22 kg
DSD 400	6.625 in	165 mm	2.625 in	67.5 mm	1.5 in	40 mm	1.05 lb	476 g
DSD 200	4.438 in	113 mm	2.75 in	70 mm	1.625 in	41 mm	0.7 lb	318 g

Smart Driver™ Safety & Handling

It is important that you operate Light Tape® and Smart Driver™ Power Supplies within their parameters. Changes to parameters that result in over current will damage the Light Tape® lamp and power supplies.

Safety:

- Always consult local electrical codes for wiring regulations and installation requirements.
- Before use, ensure Smart Driver is adjusted to the correct input voltage (120/240 VAC) if the unit is equipped with a voltage selector switch.
- Always disconnect power before servicing.
- Do not operate Smart Driver™ outdoors unless in a suitably rated enclosure. Ensure installation in a dry environment.
- Always treat Smart Driver™ with care and respect as one would with any device where electrical current is present.

Handling:

- Turn off power to the Smart Driver™ using the power switch located on the input side of the unit. Allow five (5) minutes for capacitors to drain to the 120/240 VAC branch circuit grounding system before disconnecting supply to the unit.
- When cleaning Smart Driver™, do not use water or chemical cleaners.
- Smart Drivers™ should be mounted vertically using mounting holes to allow for natural convection air flow and maximum cooling. If applicable mount units with cooling fans facing upwards.
- Always store electronics in dust free environments to ensure proper performance.

General Installation Guidelines:

- Follow all installation guidelines from Electro-LuminX. Please visit our website www.lighttape.com for additional information.
- Please read all instructions prior to installation. Contact your regions tech support with any questions.
- When unpacking, please review all contents on the packing list and immediately notify us of any missing or damaged items.
- Do not mount Smart Driver™ directly to resonant surfaces such as metal, as this may produce amplified harmonics.
- Ensure to protect Smart Driver against severe shock or vibration with the use of vibration dampers where required.
- Light Tape® is non-polar, each hemisphere requires its own lead from the power supply.
- The Smart Driver™ to be selected based on total load. One Smart Driver™ can light multiple Light Tape® pieces, connected in Parallel. We do not recommend connecting Light Tape® Lamps in series or daisy chain. Do not under load or over load the Smart Driver™ as exessive current may damage electrical connections, lamps and power supply.
- Do not power up the Smart Driver™ without having the correct load applied.
- The external dimmer switch on Smart Driver™ controls the output voltage and frequency.
- Ensure the brightness is set to the lowest position prior to powering up lamp/s.
- Use a voltage meter to determine volts / hertz from Smart Driver™ once Light Tape® has been connected.
- Set Smart Driver™ dimmer switch as per factory recommended settings:

  Low : 200 volts

  Medium : 250 volts* (Recommended set point)

  High : 300 volts.

(For permanent, backlighting installations, the Smart Driver™ output should not exceed 270V AC output. This will help maximise the lifetime of the lamp.)

- We DO NOT recommend exceeding 300 volts. Contact us if the Smart Driver™ is operating outside of range.
- Smart Driver™ power supplies are equipped with overload and short circuit protection. If trip occurs during operation, please inspect Light Tape® for damage, and operating voltage is within correct range.
- Red LED indicates the following :
  a. Short Circuit Protection : Check wiring if light is on.
  b. Overload Protection: Verify that lamp area is acceptable, or for possible damage to lamp.
- To reset Smart Driver™, switch off the main power toggle switch and wait 15 seconds, until LED indicator light subsides. Adjust the dimmer switch to a lower brightness setting prior to switching Smart Driver™ back on.
- When 0-10 Dimming, it is recommended that the input power be controlled with an external relay so that the Smart Driver™ can be switched off when not in use.

DC Power Supplies

FEATURES

- Mountable/portable
- Compact in size
- Temperature Range: -22˚F to 185˚F (-30˚C to 85˚ C)
- Accepts variety of input voltages
- High Efficiency
- Reverse Polarity protection
- No load protection
- Short circuiting protection
- Self compensating
- Quiet
- Small form factor
- CE compliant
- 6V, 12V, 24V inputs available

DC POWER SUPPLY RANGES AND OUTPUT

Model	Light Tape® Range		Input			Output
	Imperial	Metric	V	Amps	Watts	Max. Current
BUS-DSD-4000	200-4000 in²	1,290.32 - 25,806.4 cm²	12v DC			
DC 2000	1200 - 2000 in²	7,741.92 - 12,903.2 cm²	12v DC	6	72	8752 mA
DC 1500	800 - 1200 in²	5,161.28 - 7,741.92 cm²	12v DC	3.6	45	6564 mA
DC 750	500 - 800 in²	3,225.8 - 5,161.28 cm²	12v DC	2.5	30	3282 mA
DC 500	300 - 500 in²	1,935.48 - 3,225.8 cm²	12v DC	1.5	18	2188 mA
DC 300	150 - 300 in²	967.74 - 1,935.48 cm²	12v DC	0.9	10.8	1312 mA
DC 150	75 - 150 in²	483.87 - 967.74 cm²	12v DC	0.5	6	656 mA
DC 100	50 - 100 in²	322.58 - 645.16 cm²	12v DC	0.4	5	438 mA
DC 50	25 - 50 in²	161.29 - 322.58 cm²	12v DC	0.16	2	219 mA
DC 20	10 - 25 in²	64.52 - 161.29 cm²	12v DC	0.08	1	88 mA
DC 9V	<30 in²	<193.55 cm²	9v DC	0.2	2	mA 144

DC POWER SUPPLY DIMENSIONS

Model	Length		Width		Height		Weight	
	Imperial	Metric	Imperial	Metric	Imperial	Metric	Imperial	Metric
BUS-DSD-4000	8.75 in	220 mm	6.25 in	158 mm	3 in	76 mm	4.15 lb	1.88 kg
DC 2000	6.5 in	165 mm	4.25 in	108 mm	2 in	50 mm	2.65 lb	1.2 kg
DC 1500	6 in	195 mm	3.875 in	98.4 mm	1.5 in	38 mm	1.85 lb	839 g
DC 750	4 in	155 mm	3.875 in	98.4 mm	1.5 in	38 mm	0.95 lb	431 g
DC 500	4 in	220 mm	3.125 in	80 mm	1.5 in	38 mm	0.7 lb	318 g
DC 300	4 in	195 mm	2.125 in	54 mm	1.5 in	38 mm	0.9 lb	408 g
DC 150	4 in	155 mm	2 in	50 mm	1.5 in	38 mm	0.6 lb	272 g
DC 100	3 in	225 mm	2 in	50 mm	1.5 in	38 mm	0.45 lb	204 g
DC 50	3 in	195 mm	1.6 in	40 mm	1 in	25 mm	0.2 lb	90.7 g
DC 20	1.75 in	165 mm	1 in	25 mm	0.8 in	20 mm	0.1 lb	45.4 g
DC 9V	2.3 in	113 mm	2.3 in	58 mm	1 in	25 mm	0.15 lb	68 g

Light Tape® Connector Specifications

The entire back side of Light Tape® is conductive. Unlike other antiquated technologies, you can make a connection anywhere and Light Tape® will illuminate evenly. No need to worry about the electrode detaching from the Light Tape®, we offer a variety of high performance connection options utilising industry leading Nicomatic Crimpflex™ contacts, providing the best contact resistance with high mechanical force, and resistance to mechanical failures with integrated strain relief. IP67 Epoxy potting and Tyco quick disconnects also available upon request.

Large Connector Cap, with 3M™ rubber mastic lining. Suitable for 0.5" (12.7mm) Light Tape® and wider. Supplied with standard connector, integrated strain relief, Nicomatic Crimpflex™ 11612-12 soldered contact pins , with 6ft (1.8m) black lead.

Small Connector Cap, with 3M™ rubber mastic lining. Suitable for 0.25" (6.35mm) Light Tape®. Supplied with standard connector, integrated strain relief, Nicomatic Crimpflex™ 11612-12 soldered contact pins , with 6ft (1.8m) black lead.

Crimpflex™ DFM locked/semi-locked housing. Suitable for 0.25" (6.35mm) - 0.5" (12.7mm) Light Tape®. With Nicomatic Crimpflex™ 10025-1X soldered contact pins. Please note, micro connections are made to order, please contact us to determine application suitability. 0.25" (6.35mm) model specifications shown.

How to Order

How to Request a Quote

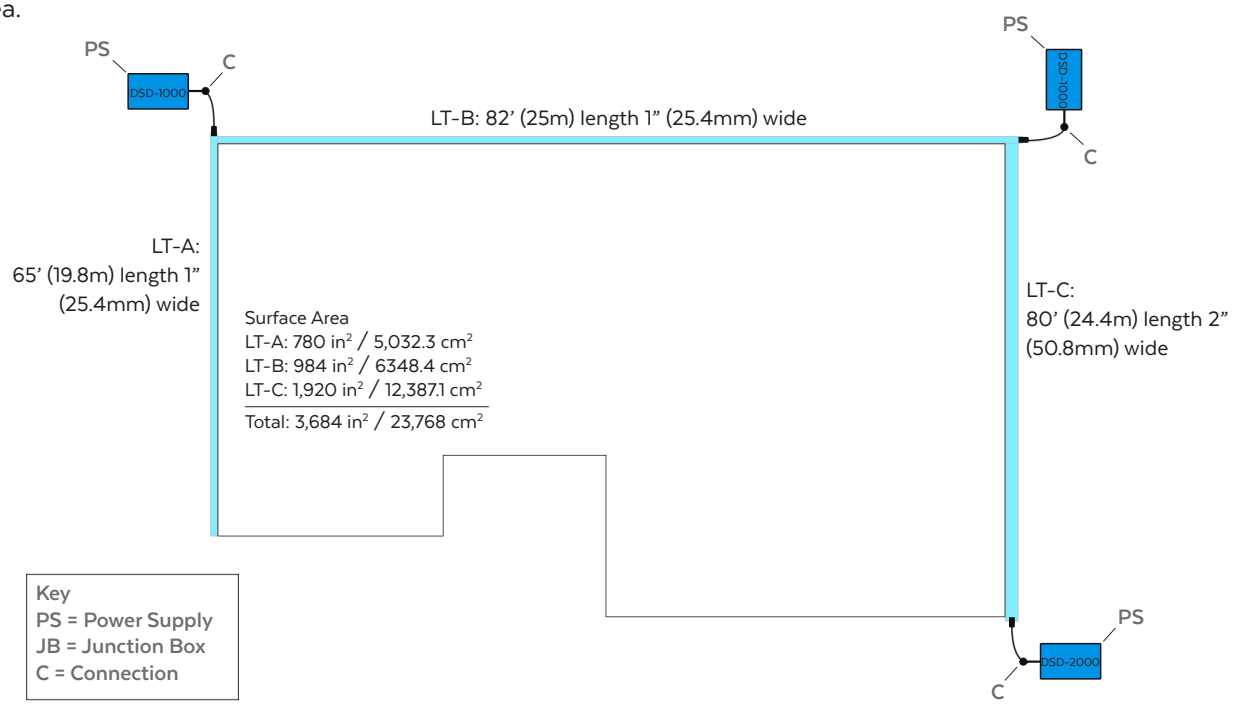
Please provide answers to the questions below to expedite the process of preparing a quote. To reach one of our sales teams with any questions please contact your regional Light Tape® distributor at www.lighttape.com/contact

Contact Information:	Name; Company; Email; Phone; City; Country
Application Type	Accent Lighting, Backlighting Surfaces, Branding, Outdoor Advertising, Safety Guidance Systems, Theatre Lighting Systems, Other
Indicate location:	Interior or Exterior, Wet area, Wall/Floor, Short Term or Long Term
Indicate required input power source:	(i.e AC or DC)
Indicate the number of Circuits:	(i.e 3 strips, 2 Circuits) refer to page C3 and C4
Specified width(s) (custom widths and shapes are available):	The total width of the lamp required. Please note, lamination border will need to be taken into considerations. Refer to pages A6 and C5
Specified quantity and length(s):	The total length of the lamp required. Please note, lamination border and connector will need to be taken into consideration. Refer to A6 and B5.
Indicate color preference(s):	Refer to page A8
Provide a top view drawing of your lighting layout indicating dimensions of the Light Tape® and power source locations:	Refer to pages C3 and C4.
Indicate mounting preferences. For adhesive tape or Velcro, indicate if you would like either to be preinstalled prior to arrival for an additional fee:	(i.e Double-sided adhesive, Velcro, extrusion channels) Refer to page D6.
Connector preference:	i.e standard or low profile (Refer to page B5), please indicate if extended tab is required. The average length from end of panel to beginning of connector on extended tab is 80mm.
Describe the purpose of the project and other things space or of creative inspiration) we should consider:	(A description of the design concept and photos of the space or of creative inspiration)

Accent Lighting Example: Top View

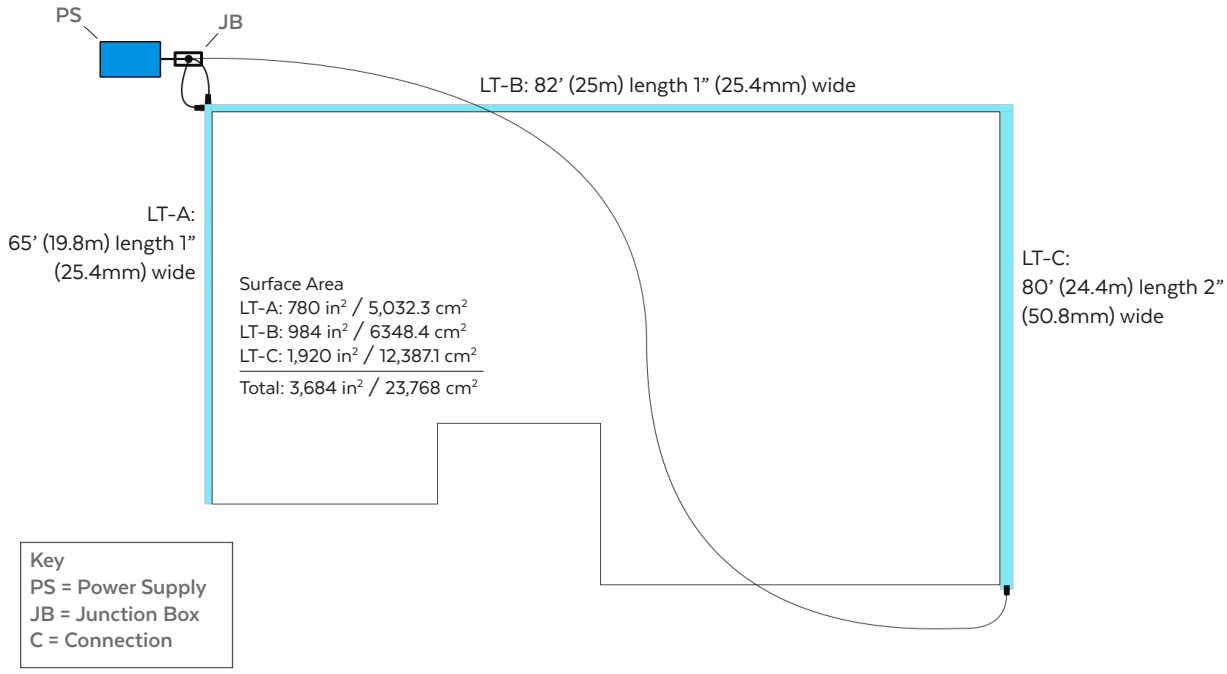
MULTI-POWER SUPPLY INSTALLATION

A top view example of a Light Tape® interior accent lighting installation. Note there are three segments of Light Tape® powered by three individual power supplies. Each power supply is selected based on the total surface area.



SINGLE POWER SUPPLY INSTALLATION

Now a top view of the same Light Tape® installation as above. Note there are three segments of Light Tape® powered by one individual power supply. The power supply is selected based on the total surface area of the all the segments combined. Each Light Tape® segment is connected via junction box to the same power supply.



Backlighting Materials: Top View

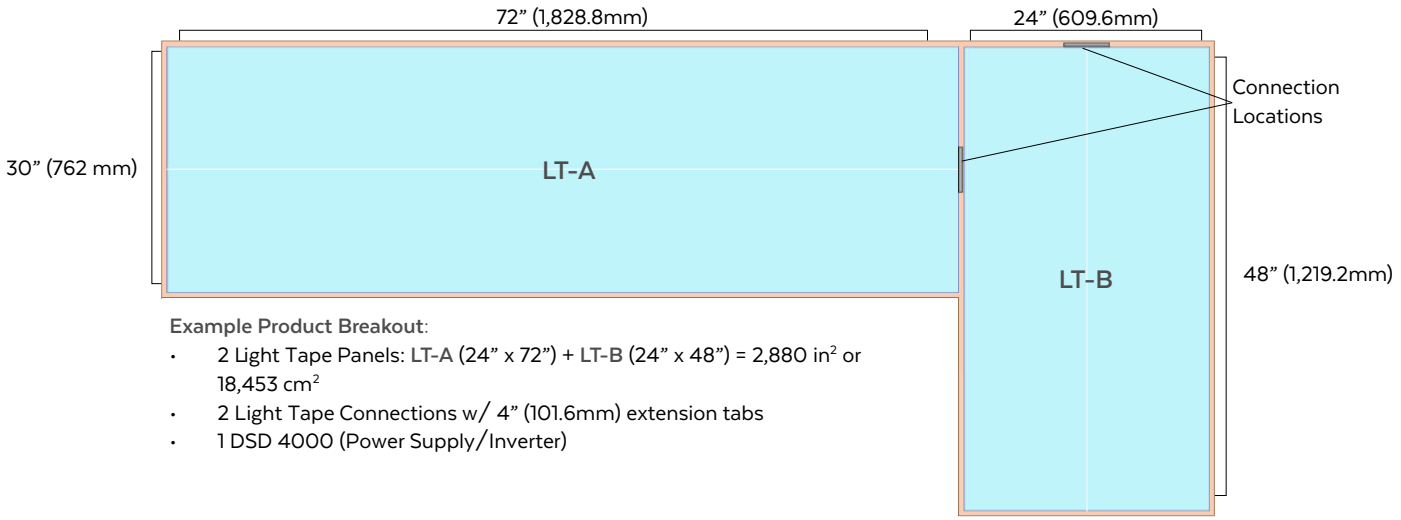
BASIC BARS, COUNTER TOP, OR WALL

Any surface area can be evenly illuminated with a minimal number of panels and connections. A bar design resembling the one below would require only two Light Tape® panels and one power supply. The Light Tape® panel is placed directly on surface with double sided adhesive.

TOP VIEW

CUSTOM SHAPES AND HOLES

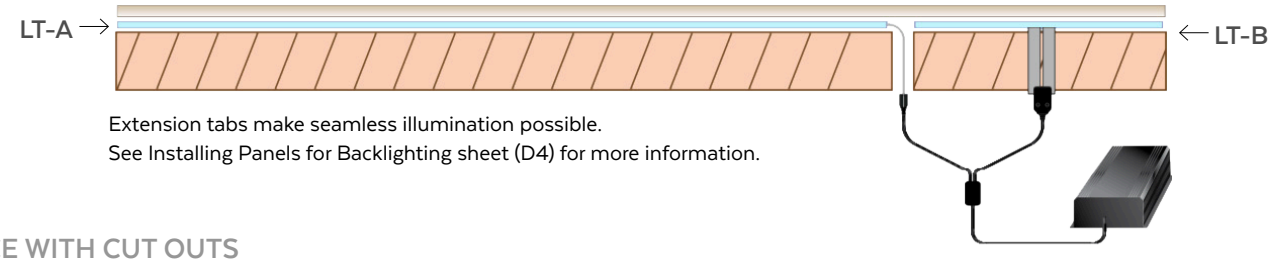
Light Tape® can be cut into any shape to any specification while maintaining even illumination. Don't worry about cold spots or uneven light common with LEDs when making non-symmetrical shapes. Send us a scalable file and we will take care of the rest.



Example Product Breakout:

- 2 Light Tape Panels: LT-A (24" x 72") + LT-B (24" x 48") = 2,880 in² or 18,453 cm²
- 2 Light Tape Connections w/ 4" (101.6mm) extension tabs
- 1 DSD 4000 (Power Supply/Inverter)

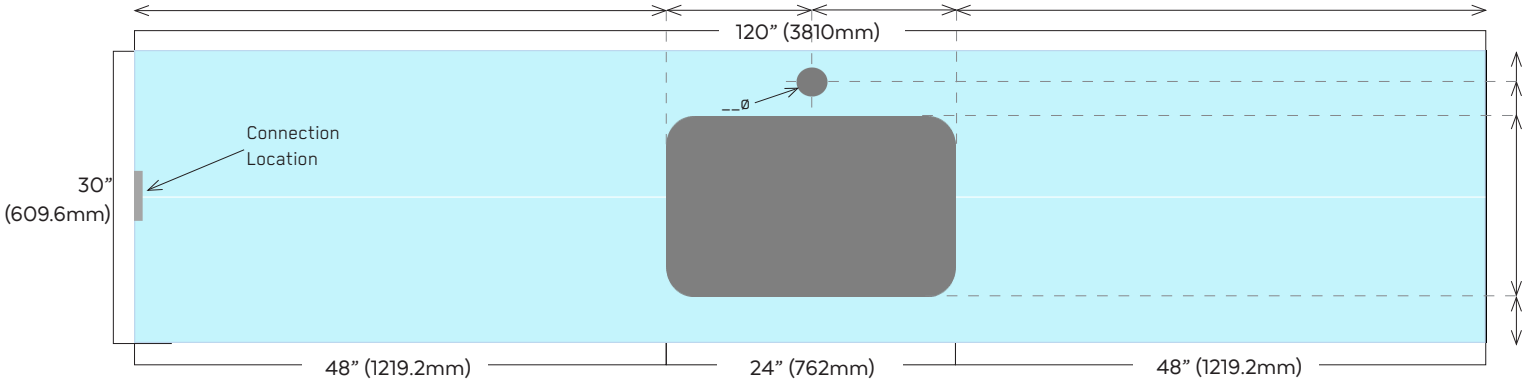
CROSS SECTION



Extension tabs make seamless illumination possible.
See Installing Panels for Backlighting sheet (D4) for more information.

SURFACE WITH CUT OUTS

Light Tape® panels can be custom cut to any shape and placed side-by-side or overlapped to seamlessly illuminate any surface. For custom shapes, an AI file or template will need to be provided.



What do you need to light your counter?

- One Light Tape® panel to cover entire area.
- Holes for sink and faucet precut for easy installation.
- Only one connection at the end.
- One dimmable power supply

Note: Please send us a pdf, AI, or PSD file or we create a template that we can digitize for our laser cutter.

LightTape®

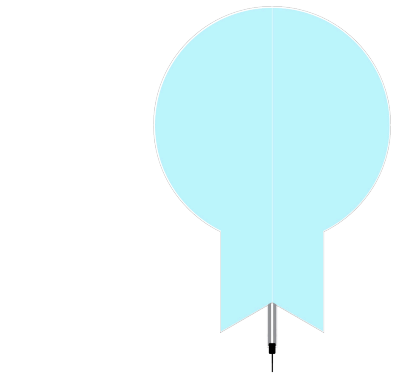
Backlighting Custom Shapes

Light Tape® can be cut into just about any shape and size whilst maintaining its uniform illumination.

No shape is impossible to illuminate, regardless of the size. This makes Light Tape® the most versatile lamp in the world, suitable for any kind of bespoke design.

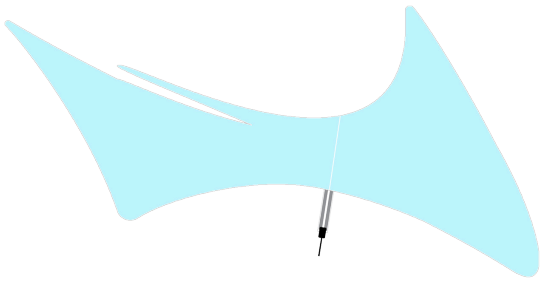
SYMMETRICAL SHAPES

Both hemispheres need to be equal in surface area to ensure that Light Tape® illuminates evenly. Symmetrical shapes such as the one shown are easilly produced, with the SEMP (split electrode midpoint) dividing the shape into two equal hemispheres.



ASYMMETRICAL SHAPES

Creating a custom shaped light source would usually be a daunting process, but with Light Tape®, bespoke lighting has never been easier. For Asymmetrical shapes, we require an Adobe illustrator or PDF file to be submitted with your design. From this file, we can determine the total surface area of your shape and place the SEMP so that the shape is divided into two equal hemispheres.
If you do not have an AI file for your shape, it is possible for our team to create one for you. In this case, simply provide a template of your shape, and we can do the rest.



CUSTOM SHAPES ORDERING PROCEDURE:

Do you have a curved or oval counter top, cut outs for sinks, faucets, stanchion holes for mounting, or shapes that can be classified as non-rectangular? If so, please prepare a .plt, .dwg, or .ai file. The file should be the exact size the client would like the Light Tape® lamp cut excluding lamination. Please scale the file down by .25" to account for 1/8" lamination trim on all sides. Files must be reduced to illuminated area, reducing capacity for error. If you prefer, we can accept two files – one for lit area, and one for the finished size.

Following the receipt of your file, our production team will create a physical template from the file submitted on a plastic film. We will ship this to you for approval. Please note that there will be an additional 1/8" laminate border surrounding the final illuminated Light Tape® panel. Once the plastic template is approved, your order will be produced.

Cutting & Installation

Light Tape® Safety & Handling

Safety:

- Never power on and leave Light Tape® in a coil. Unroll first before switching on.
- Always consult local electrical codes for wiring regulations and installation requirements.
- Light Tape® should be covered with a protective overlay if installed within direct reach of the general public.
- Always seal Light Tape® lamp with Edge Guard™ end seal tape when cut. Exterior rated Light Tape® must only be cut and sealed in factory.
- Do not make electrical connections when Light Tape® is turned on.
- Do not operate Light Tape® without protective insulating lamination due to risk of shock. Install in dry conditions. Do not cut or expose open ends to moisture.
- Smart Driver™ power supplies are equipped with overload and short circuit protection. If trip occurs during operation, please inspect Light Tape® for damage, and operating voltage is within correct range.
- Do not operate your Smart Driver™ outdoors unless in a suitably rated enclosure. Ensure installation in a dry environment.

Handling:

- Do not step on Light Tape® during installation. Keep Light Tape® off the floor or any rough surfaces during installation.
- Do not pull on the connector and/or Tab when installing or removing.
- Only install in dry conditions. Do not cut or expose open ends to moisture.
- Take care to not damage lamination when installing around sharp edges or corners. Avoid the use of any sharp objects to force lamp into tight areas.
- Avoid any hard creases. Do not fold, twist, rotate, or kink lamination excessively.
- Do not stretch, puncture, or hard crease Light Tape® in a tight radius, as this will destroy conductive layers causing black spots or failure.
- Do not operate lamp outdoors during peak daylight hours for extended periods as it may be damaged by UV rays.
- Do not thermoform or stretch Light Tape® over objects.
- When cleaning Light Tape® or Smart Driver™, do not use water or chemical cleaners.
- Do not staple or puncture through Light Tape® or the protective lamination. Take care around screw heads or other sharp protruding objects.

General Installation Guidelines:

- Follow all installation guidelines from Electro-LuminX. Please visit our website www.lighttape.com for additional information.
- Please read all instructions prior to installation. Contact your regions tech support with any questions.
- When unpacking, please review all contents on the packing list and immediately notify us of any missing or damaged items.
- There is a front and back of Light Tape®. The gray colored side with a white line down the middle is the back, and non-illuminating side.
- Do not mount using an epoxy, silicone, or other exothermic curing adhesives, as they may damage the conductive layers. We recommend 3M double sided tapes. Please contact us for additional information.
- If mounting near a wet area, please provide suitable protection from pooling water. Ensure there are no standing water conditions, and provisions for drainage are made.
- Light Tape® can be mounted outdoors, however should not be operated in direct sunlight. This will shorten the life of the lamp. Use a photo-cell to prevent the Light Tape® from operating in peak daylight hours.
- Always mount in extrusion or approved system for outdoor installations. It is important to allow for the thermal expansion coefficients of exterior surfaces. Both sides of Light Tape® must remain free to move with changing ambient temperatures.
- Do not mount Light Tape® or Smart Driver™ directly to resonant surfaces such as metal, as this may produce amplified harmonics. We recommend mounting to a cork, or foam layer completely covering the subsurface.
- Light Tape® is non-polar, each hemisphere requires its own lead from the power supply. Multiple Light Tape® pieces must be installed in parallel.
- The Smart Driver™ to be selected based on total load. One Smart Driver™ can light multiple Light Tape® pieces. Do not under load or over load the Smart Driver™
- Do not power up the Smart Driver™ without having the proper load applied.
- The Smart Driver™ should be set to 270V AC output. This will help maximize lifetime of the lamp.
- Always mount the Smart Driver™ vertically (with the fan facing up) if the model has a fan to allow proper air circulation.
- Always store electronics in dust free environments to ensure proper performance.

Indoor Installation Tips

1. Clean surface with isopropyl alcohol to remove all dust, oil and grease. Surface should be smooth and clean for strong adhesion.
2. Determine where you will make the electrical connection. It is important to consider the connector and cap lengths. The conductive electrodes can be located behind the Light Tape®. We recommend all electrical connections are made in a suitably rated junction box. Always consult local electrical codes for wiring regulations and installation requirements.
3. Mount in a manner that allows the LightTape® to be easily serviced (i.e. wall studs behind sheet rock wall). Do not step on Light Tape® during installation. Avoid hard creases. We recommend using our VibraMount™ adhesive as a backing when indoors. Place adhesive on wall, trim to size if needed, and remove liner.
4. Hide the connector. The conductive electrodes are essently flat conductors. Be care not to rip the surrounding lamination around the lamp; lamination can be trimmed around the tabs if needed. Ensure a sufficient lamination border surrounding the connection tabs.
5. Be very careful when applying Light Tape®, make sure the coiled lamp is straight before you start to unroll. Once it has been applied, pulling Light Tape® off without care may damage the lamp.

Please note:

For larger panels, it is easier to unroll the Light Tape® into place. Begin with the connector end, make sure the leading edge is square, and slowly unroll the panel into position.

Remote Power Supply Installation

Sometimes, the power supply must be located far from the lamps. In this case, shielded conduit may be required to protect against high frequency and high voltage.

- A suitably rated enclosure is required to store power supply when located outdoors to ensure protection against the elements.
- 50 foot connection radius - it is possible to install the Light Tape® up to 50 feet (15.25m) from the Smart Driver™ Power Supply. Multiple connections are possible from one central location.
- Electrical Metallic Tubing (EMT) conduit is required to shield the high voltage and high frequency AC signals for remote installations. All wiring should be within a conduit and 600 volt rated.
- Always consult local electrical codes for wiring regulations and installation requirements.

Installing Panels for Backlighting

It is important to consider the following when installing large panels for backlighting

- Light Tape® panels utilized for backlighting are equipped with extension tabs. The tabs are designed to position the electrical connection under the mounting surface.
- Light Tape® panels do not have polarity (+ or -)
- Multiple panels, connected in parallel, can be powered by a single Smart Driver™ lighting ballast.
- Do not crease or hard fold Light Tape®, keep out of work area until ready to install. Ensure it is placed on a clean, smooth surface.
- Plan panel placement before adhering to surface with foam adhesive panels.
- Do not mount Light Tape® or Smart Driver™ directly to resonant surfaces such as metal, as this may produce amplified harmonics. Please note, audible harmonics will be minimised once Light Tape is secured and installation is complete.
- In many cases, very little adhesive is necessary to hold light tape® in position. Please note, LightTape® is designed for compressive loading only, tensional and shear loads must be avoided.

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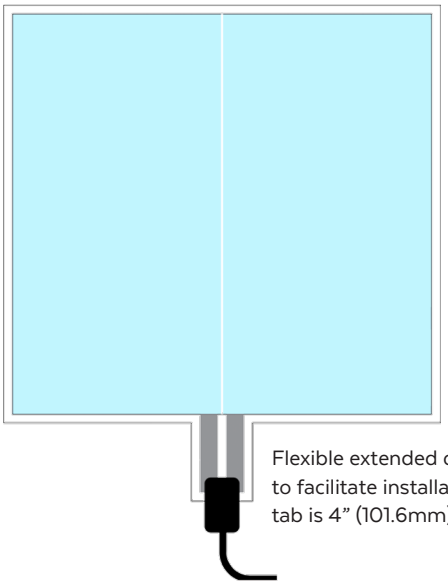
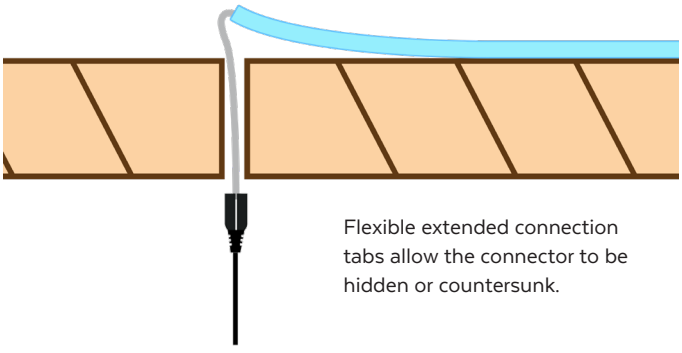
1. To test the backlighting layout, lay the Light Tape® panels on the surface of the substructure. Adjust the placement of the Light Tape® panels to make sure the entire surface area is covered and there are no seams. It is acceptable for the Light Tape® panels to overlap if necessary, to maintain light uniformity.
2. Once preliminary test layout is complete, identify the position of any clearance cutouts required to conceal the connector into the substructure. Then remove all Light Tape® panels prior to creating the cutout/s.
3. Remove release paper from one side of the foam adhesive and adhere into place on the subsurface.
4. Feed the connectors and leads through the cutouts and connect all leads in parallel to the Smart Driver™ power supply. The Light Tape® panels utilized for backlighting are equipped with flexible extension tabs to allow for concealed connections.
5. Peel off release paper from the other side of the foam adhesive.
6. Making sure to replicate preliminary layout, begin to mount the Light Tape® panels. Starting with connector end, unroll panel in a straight path being careful to avoid bumps or ridges, ensuring the Light Tape® is flat to the surface.
7. Once first panel is set in place, continue placing panels one by one until surface is covered, overlapping adjoining panels to cover entire surface area.
8. Test operation of the Light Tape® panels once all are installed and connected to corresponding power supplies prior to installation of the final backlit surface.



The 0.25" (6.35mm) Clear Barrier Encapsulation envelops the illuminated panel on all four sides.

Flexible extended connection tabs to facilitate installation. Standard tab is 4" (101.6mm).



Flexible extended connection tabs allow the connector to be hidden or countersunk.

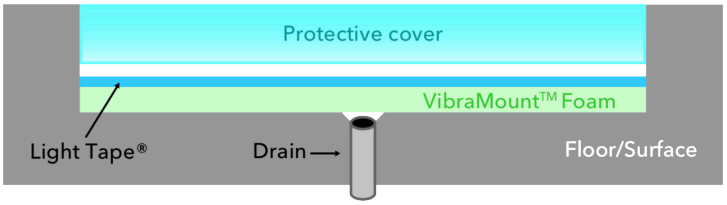
LightTape

Floor Installation

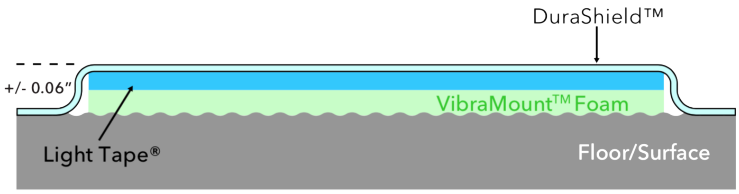
Light Tape® lamps have tremendous impact resistance which makes them difficult to damage. Weight is not an issue, but it is important to protect Light Tape® from abrasion, puncture, and sharp objects which can damage the barrier lamination. However, there are several simple methods you can use to install Light Tape® for years of service.

Permanent Flush Mount (More than 1 year)

Flush mounting for a seamless integration. A channel is cut into the surface to hold the Light Tape® lamp and protective lens. The protective cover can be made of glass or plastic such as polycarbonate and is placed on top of the Light Tape®. The channel holding the Light Tape® should be smooth and free of debris, a Vibramount insulating adhesive can be added if not.

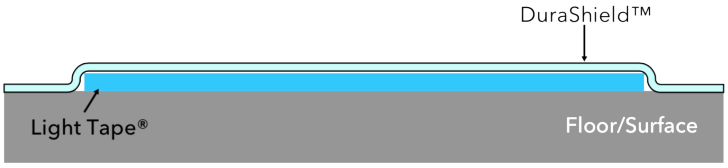


For exterior or wet applications, we recommend sealing around the edge of the channel to prevent moisture from entering. Factory sealed exterior lamination and exterior connections are required to protect the Light Tape®. A drain may be required to remove standing water.



Short Term Installation (Less than 1 year)

For Rough Surfaces, use Vibramount™ double sided adhesive foam between floor and back of lamp.



For Smooth Surfaces, Light Tape® can be applied directly to the floor surface, and covered with DuraShield adhesive tape.

When installing Light Tape® and adhesive tape, it is critical that the mounting surface is cleaned according to these guidelines to get good adhesion. Failure to fully comply with these directions will result in poor adhesion to the mounting surface.

- Surfaces should be clean and dry and free from any loose dirt and dust.
- If attaching to a hard surface, a quick cleaning with a 50/50 mixture of water and Isopropyl Alcohol (90% concentration) in a spray bottle, will remove any loose surface dust and oily residue from the surface.
- Cleaners such as Windex, Formula 409, denatured alcohol, lacquer thinner and other solvents should not be used as they will leave an invisible film behind that will prevent the adhesive from properly bonding to the surface.

Mounting Materials

Adhesives

Light Tape® Edge Guard™

A moisture resistant clear tape for interior applications for protective sealing against electric shock.

Light Tape® VibraMount™

Designed to easily secure Light Tape® panels to almost any surface while eliminating vibration, VibraMount™ is a double sided adhesive foam core material available in tileable panels.

Durashield 511 overlay series

A 3M® 4195C/EZ Polyethylene Protective Tape is perfect for exhibitions, museums and temporary events. It protects Light Tape™ from side scuffing, abrasion and impact while on temporary installations of a few weeks

Durashield 471

(3M® 471 for floor marking) is designed for more heavy duty industrial or permanent applications such as factory floors. Both materials were developed by 3M® to deliver the perfect Light Tape adhesionand barrier for floor applications.

VHB

Designed to secure Light Tape® strips to almost any surface while eliminating vibration, VHB is a double sided adhesive foam core tape. Clear core is available in 0.5" (12.7mm) and 1" (25.4mm) and black core 60 mil (1/16" / 1.6 mm) is available in widths up to 24" (609.6mm) for large panel installations. Also, it provides impact resistance on uneven surfaces.

Protective sealants

3M® DP-100+ epoxy

A two part epoxy system offering fast cure and machinabillity. It is easily mixed and meets UL 94. Perfect potting compound for outdoor connections.

Light Tape® shrink tube

A heat-forming tube used in conjunction with our outdoor Snap-N-Light™ mounting system to form a moisture barrier and secure connector to channel.

Installing Corners or Bends

Create a Curve

Form Light Tape® into a soft bend. Do not flatten to create a hard bend.

Indoor

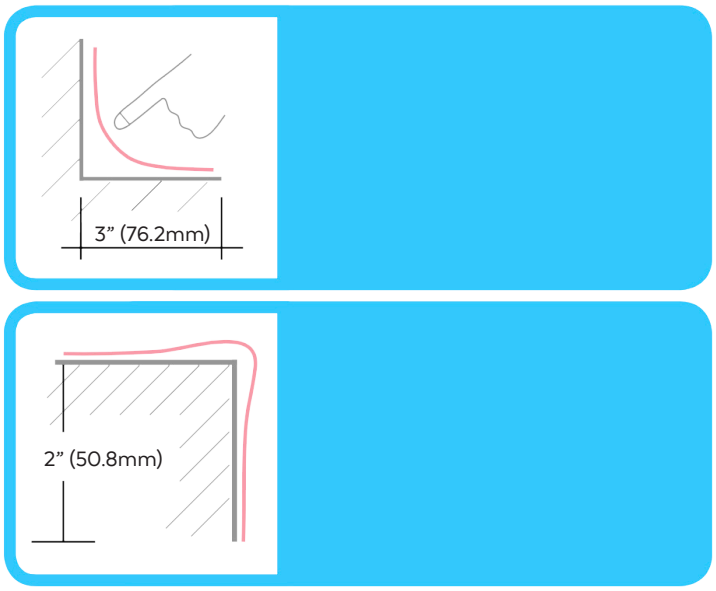
Light Tape® should gently curve around bends and never be creased into a corner. Creating a bend or hard fold will damage the conductive coatings, leading to lamp failure.

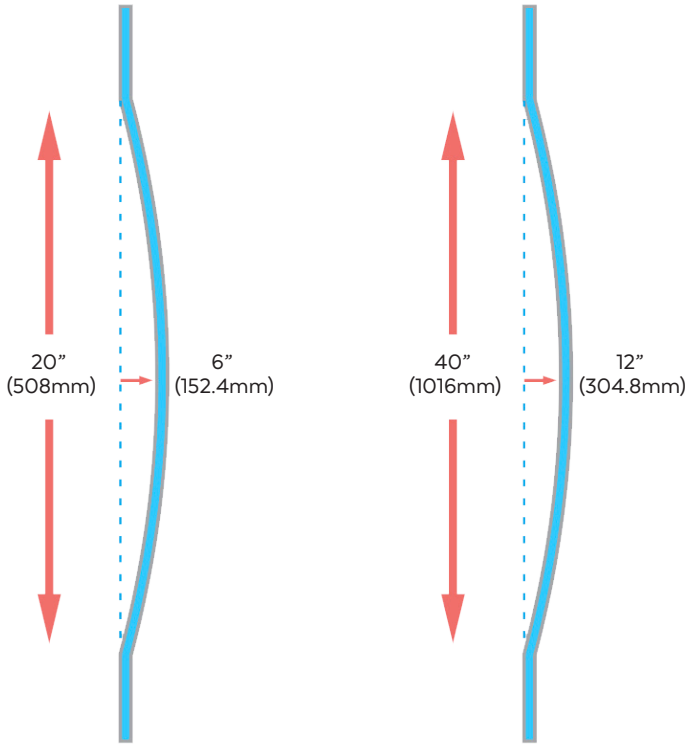
Outdoor

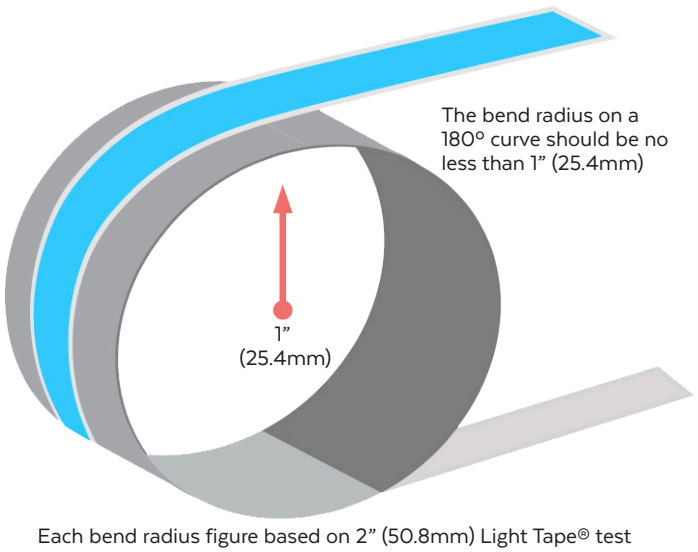
DO NOT bend Light Tape® around corners. Light Tape® is subject to expansion and contraction. Please reconnect per outdoor connection procedure. Hard bends create pinch points, impeding movement.

Bend Radius

The bend radius recommended for a lateral curve is 30% of the length of the curve. Light Tape® is to lay flat on the surface for the entire length. See illustration on the below.







Each bend radius figure based on 2” (50.8mm) Light Tape® test standard. The thinner the width, the greater the bend.

Cutting & Sealing Light Tape®

Light Tape® should always be completely sealed. Our factory barrier seal protects the lamp against moisture and acts as an insulator. If the factory barrier lamination is cut, it must be resealed using Edge Guard™ tape.

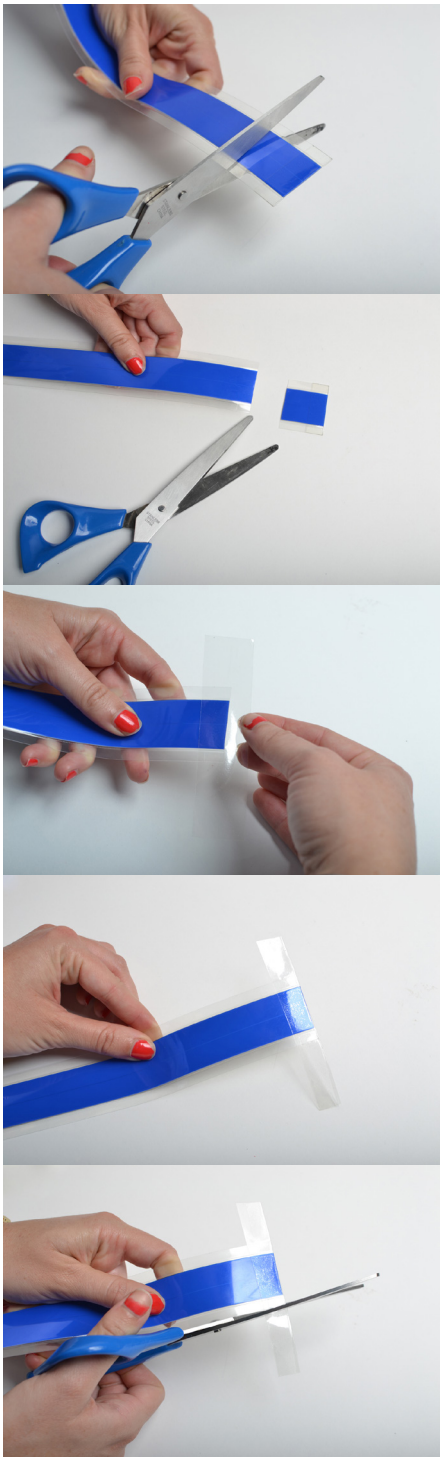
Note For Outdoor Applications

Field seals are appropriate for most interior applications, but factory seals are required for outdoor, floor, and wet locations.

Materials

a. Light Tape® lamp
b. Scissors
c. Edge Guard™ end seal tape
d. Square (for large panels)

1. Make sure Light Tape® is disconnected from power supply. Place lamp under square at desired length for large panels. For smaller widths, simply mark where to cut.
2. Cut carefully across strip to ensure a straight and square end.
3. On the cut end, place enough Edge Guard™ to overhang the edges and to evenly fold over on both sides of the lamp. Fold and press to ensure no bubbles form under the Edge Guard™ tape and trim excess from the sides. If both ends of the lamp are cut, make sure the Edge Guard™ tape is applied to both ends.



Making a Connection

The entire rear electrode of Light Tape® is conductive allowing a connection to be easily made.

Materials

a. Light Tape® lamp
b. Large connector wire w/ piercing pins “nics”
c. needle nose pliers
d. large connector caps with screws and butyl
e. clamps/vice grip
f. power supply
g. drill/screwdriver

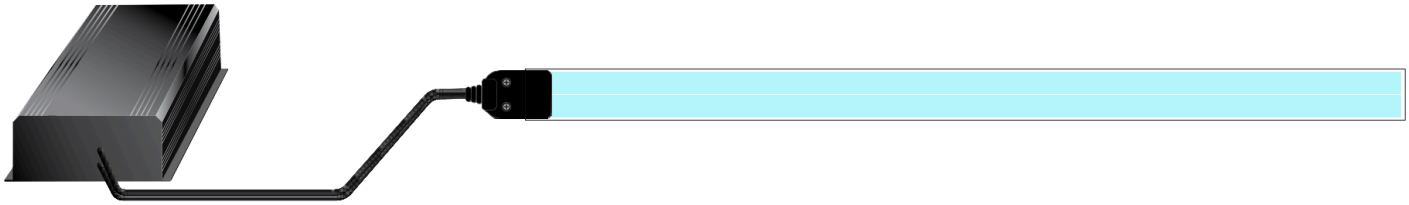
1. After cutting Light Tape® to size, place enough Edge Guard™ to overhang the edges and to evenly fold over on both sides of the lamp. Fold and press to ensure no bubbles form under the Edge Guard™ tape and trim excess from the sides. If both ends of the lamp are cut, make sure the Edge Guard™ tape is applied to both ends prior to making a connection.
1. Hold nic (piercing pins) flush to the underside (Silver side) of the lamp, one on each side of the split electrode midpoint. The pointed barbs on the nics should be facing the silver side of the tape.
2. Crimp the nics one at a time into the non-illuminating (silver side) of the lamp using flat head pliers. Make sure each nic is isolated on either side of split electrode midpoint (SEMP). Apply pressure to pliers until nics are secure and cannot be pulled out easily.
3. Using the appropriately sized power supply, test the connection to ensure it has been properly made

Please note: Do NOT touch the exposed nics or wires when testing to avoid electrical shock.

4. Peel off paper backing from the butyl caps. There is a front and a back cap. Place the cap without threaded holes on the colored side of the lamp and the cap with threaded holes on the silver side. Screw the caps together and use clamps/ vice grip to press connector into sealed position.

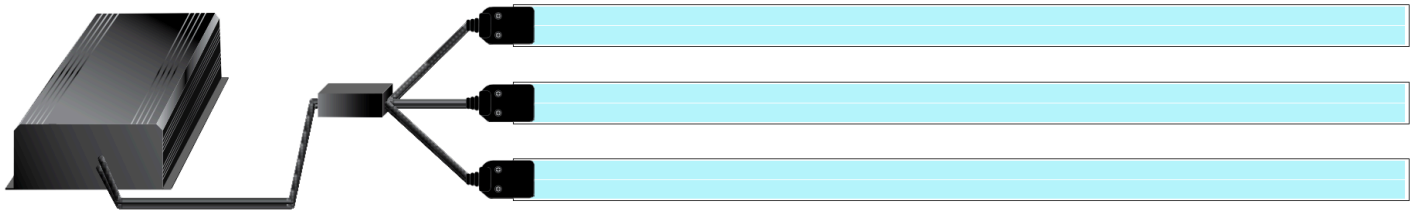
Note for Outdoor Applications: Butyl Caps are filled with weatherproof epoxy completely protecting connection from elements.

Connecting Multiple Light Tape® Segments



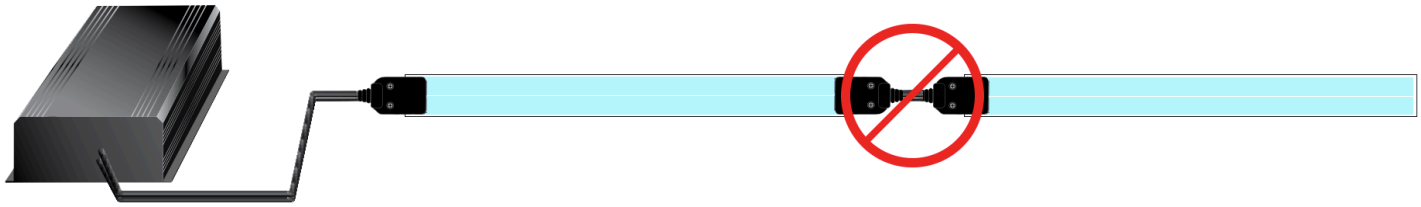
Only one connection is required to power Light Tape® and there is no polarity. Terminating the other end is not necessary. Please see connection guide for "How-To" instructions. It is possible to operate one lamp or multiple lamps with only one power supply. See ballast information before starting to determine the appropriate power supply based on your installation.

Parallel Connections



Connecting lamps in parallel is the preferred method. Make all connections per local electrical codes. For remote locations and long runs, please use EMT conduit to shield AC signal.

Do Not connect Light Tape® in series or "daisy chain"



Maximum recommended distance from single connection

Light Tape® is capable of operating over great distances without any loss of light. The following chart outlines recommended single run footages with standard connectors. However, longer runs are available upon request with the addition of conductive foil tabs to the rear of Light Tape® before factory encapsulation.

Light Tape® Width	LT-025		LT-050		LT-100		LT-200		LT-400		LT-600	
	0.25"	6.35mm	0.5"	12.7mm	1"	25.4mm	2"	50.8mm	4"	101.6mm	6"	152.4mm
Max Distance	100 ft	30.5m	125 ft	38.1m	125 ft	38.1m	150 ft	45.7m	50 ft	15.2m	50 ft	15.2m

Snap-N-Light™
Mounting Channel Installation

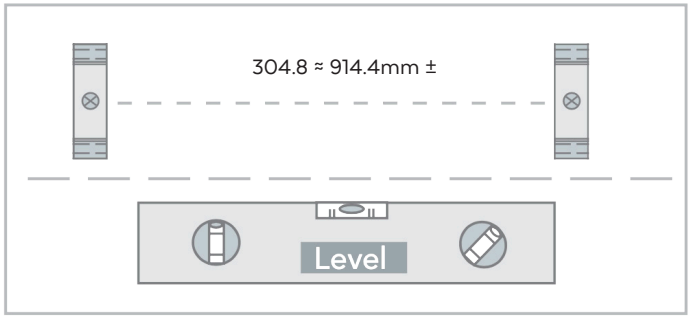
Our engineered mounting channels are designed to protect Light Tape® from tampering and the outdoor environment. Constructed from high grade polycarbonate, they have tremendous impact resistance and weatherability. The system is either installed using clips or adhesive depending on building surface.

In order for our system to work for years, it is important that Light Tape® is mounted properly. All outdoor installations MUST be mounted using our mounting channels to allow the Light Tape® to expand and contract due to changes in the weather. Any LightTape® used in outdoor installations without mounting channels, unless otherwise authorised, will void warranty.

A few simple rules and suggestions for the proper installation:

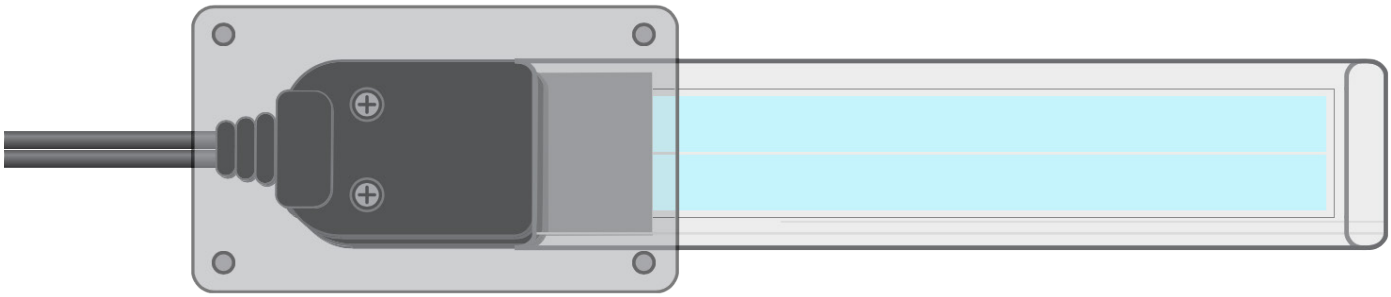
- DO NOT bend mounting channel around corners when mounted outdoors. A sharp bend of the mounting channel will pinch the Light Tape® inside causing delamination and lamp failure.
- All segments should be sealed per Electro-LuminX's procedure. We recommend factory seals for all outdoor installations.
- Be sure to specify connection end - left or right side - so the channel is pointing in the correct direction. This will ensure the drainage slot is on the bottom.
- The connector will extend about 4.5" (11.4 cm) beyond the lit portion of the lamp on the end.
- Always consult local electrical codes for wiring regulations and installation requirements. All connections should be in a junction box.
- For outdoor applications, Light Tape® should be controlled using a timer to prevent daytime operation. Operation in direct sunlight leads to over excitation of the phosphors.

Follow the below step-by-step outdoor mounting instructions to ensure that Light Tape® is installed properly.

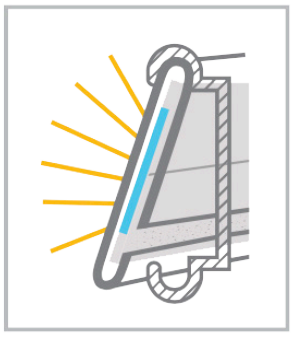


We recommend using flat seat screws such as the pan head below. Angle seated screws such as the flat head can cause damage (cracking) to the mounting clips.

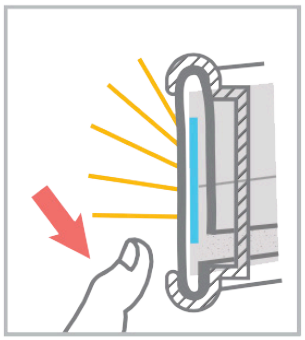
1. Clean the surface and mark a chalk line using a level. Mount clips on 12" (304.8 mm) centers, depending on surface, with #10 screws. Mount with the first clip 1" (25.4mm) from the connector end of the extrusion. If mounting indoors on smooth surfaces, mount UltraBond adhesive foam tape along the level line instead of clips.
2. If your extrusion has a drain slot make sure it is located at the bottom to allow for drainage. DO NOT fill open ends of the extrusion with silicone. If mounting with an adhesive do not block bottom gap.



3. Place connection in junction box and always consult local electrical codes for wiring regulations and installation requirements.



Slide into the top end of the clip first.



Press firmly downward to snap in place, making sure that the slit in back is not covered to allow for drainage.

4. Starting with the connected end, snap the Mounting Channel into the clips (for open channel extrusion: slot on bottom rear). Be careful not to bend or kink the Light Tape® when snapping into place. Be sure that the end of extrusion or bottom rear slit (if using open channel extrusion) are not covered or sealed, especially when using UltraBond™ to mount. This allows for proper air flow and drainage.

Please consult local electrical codes for wiring regulations and installation requirements, and always use the Light Tape® Outdoor Connection Kit.

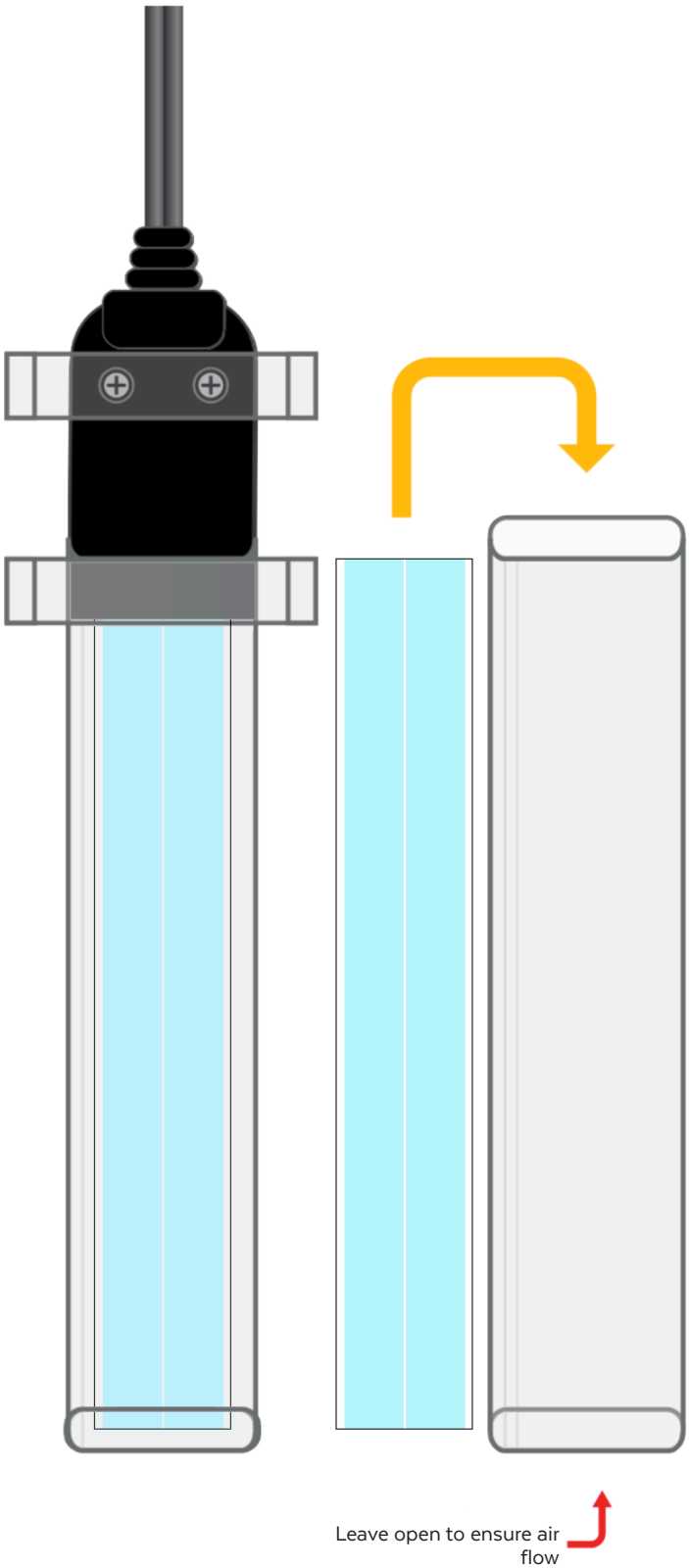
Snap-N-Light™ Vertical Mount

For vertical installations, always have connector on the top with drainage slot in the extrusion facing the mounting surface. To prevent the extrusion channel from sliding through the mounting clips, a suitably rated double sided VHB Tape should be used to attach the connector and the top 5 feet (1.5 m) of the mounting channel to the mounting surface.

Please note:

The connector should always be firmly secured to the wall so the extrusion does not slide through the clips. Clean the surface and mark a chalk line using a level. Mount clips on 12" (304.8 mm) centers, depending on surface, with outdoor rated #10 screws. Mount with the first clip 1" (25.4mm) from the connector end of the extrusion.

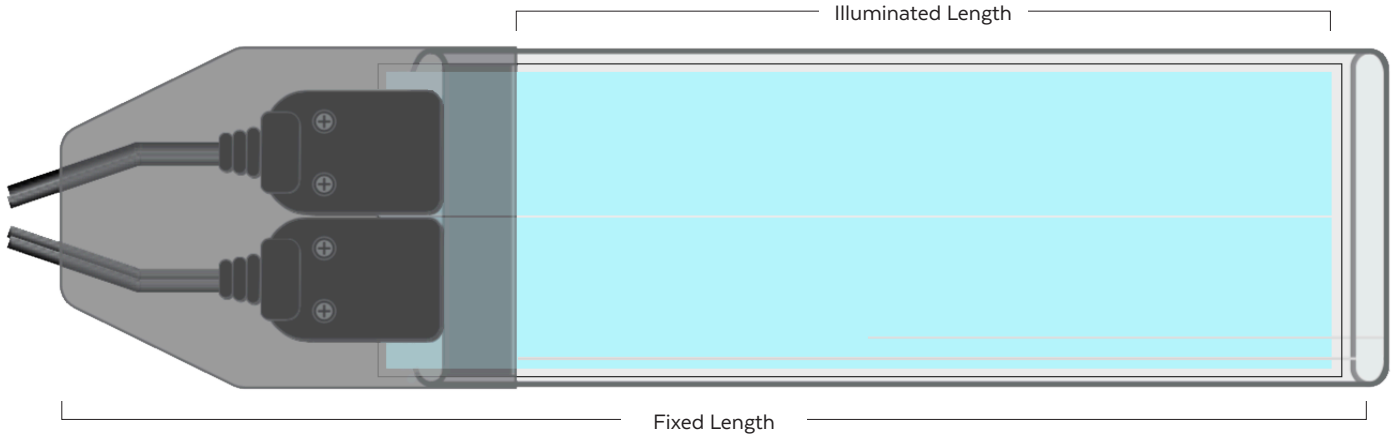
Place connection in a suitable rated junction box as per local electrical codes. Make sure the connector and power supply is located at the top and the channel opening is at the bottom so the extrusion is allowed to drain. To ensure the mounting channel stays in place, use either a suitably rated double sided VHB Tape or attach an extra support to the top of the connector, securing it to the surface.



Snap-N-Light™ Length

2” (50.8 mm) wide Light Tape® Snap-N-Light™ System

The 2” wide Light Tape® Snap-N-Light™ system employs two connection points for optimal performance. Please allow an additional 5.5” (139.7 mm) when determining the dimensions of your Light Tape’s Snap-N-Light™ system. This accounts for 4.5” (114.3mm) inches for the Light Tape® connector and strain relief, 0.5” (12.7mm) for wire flex, and 0.5” (12.7mm) for the area between the end of the illuminated length and the end of the extrusion.



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