

# LumiSheet™

LED Light Panel

## CUSTOMIZABLE

- // Any size or shape up to 59" x 118"
- // Can be used in "frameless" designs
- // Multi-colors, tunable white, & RGB options available

## BRIGHT & EVEN ILLUMINATION

- // 3D V-Cutting technology
- // High brightness (2,000 - 10,000 LUX)
- // Superior consistent light quality

## LONG LIFESPAN

- // Patented heat sink technology to maximize LED lifespan (70,000 hours)

## ENERGY EFFICIENT

- // Low power consumption (70% less than fluorescent)
- // Energy saving and maintenance free

## WARRANTY

- // Advanced 3-year warranty



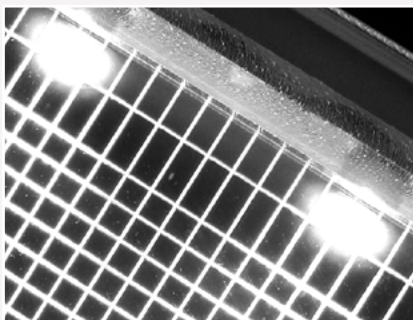
## PERFECT BACKLIGHTING SOLUTION

LumiSheet™ is designed to emit a bright, even output of light across the entire surface of the panel. Unlike traditional light panels, which have the light source mounted on the exterior of the LGP (Light Guide Plate), LumiSheet™ integrates high brightness LEDs and the heat sink into our exclusive 3D V-cutting LGP which makes it possible to produce "frameless", rectangular or special shaped LED light panels for various application needs.

Choose between five different color temperature, white adjustable, or RGB LEDs to fit the needs of your application.

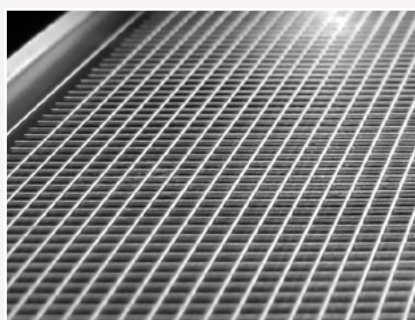
### Integrated High Quality LEDs

LumiSheet™ integrates high quality 12V, constant voltage LEDs into the perimeter of the LumiSheet™ panel without the use of rigid frame materials. This process allows the LEDs to conform to almost any shape.



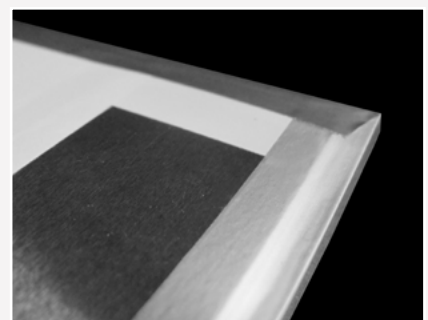
### 3D V-Groove Light Guide Plate (LGP)

LumiSheet™ utilizes crystal clear acrylic combined with a patented 3D V-groove etched grid pattern that provides even illumination to almost any shape imaginable.



### Integrated Thermal Management

All LEDs create heat which is detrimental to their life span. LumiSheet™ implements a patented technology which integrates the heat sink into the LGP that is easily conformable which allows for customizable shapes.



## SPECIFICATIONS

ATTENTION! PLEASE REVIEW THE PRODUCT HANDLING, INSTALLATION & INTEGRATION ADVISORY ON PAGE 8

ELECTRICAL							
Input Voltage	12 Volt DC - Constant Voltage						
Power Consumption	3.5 Watts/ft (3000K, 3500K, 5300K, 6300K)	4.5 Watts/ft (4100K)		4.5 Watts/ft (Tunable White LEDs)		5.0 Watts/ft (RGB LEDs)	
Wire Size	20 AWG 2 wire (Standard LEDs)		20 AWG 3 wire (Tunable White LEDs)		22 AWG 4 wire (RGB LEDs)		
Wiring	Each panel must have direct connection to power supply. Do not wire panels in series.						
*Connector	2.1/5.5mm barrel plug [White Stripe / Center Pin +] (Standard White LEDs)	3-pin molex / bare wires [White - Power, Grey - Warm White, Black - Cool White] (Tunable White LEDs)		No connector (RGB LEDs)		Custom connection types available	
Certification	UL / cUL (E346146, E325925)						
PHYSICAL							
Color Temperature	Warm White ~3000K	Soft White 3500K	Neutral White ~4100K	Pure/Cool White ~5300K	Ultra White 6300K	Tunable White 3000K - 6500K	Color Adjustable RGB
Mounting Examples	Wall mounted with screws, Z-clips, U-channel, mirror clips or standoffs						
Operating Temperature	-30° C (-22° F) ~ +40° C (+104° F)						
Environment	Dry location only (Standard)						
Thickness	**8MM (Standard), 6MM is also available depending on application						
Minimum Size	2"W x 2"L x 5/16" D (50mm x 50mm x 8mm)						
Maximum Size	59"W x 118"L x 5/16"D (1499mm x 2997mm x 8mm)						
Weight	1.95 lbs/sq. ft. (8mm LGP)				9.54 kg/sq. M (8mm LGP)		
POWER & CONTROLS							
Please contact Evo-Lite for optimal power & control solutions to fit your requirements							

\* Standard 5', Optional 10' \*\*Please consult an Evo-Lite™ sales engineer if a thickness other than 8MM is desired

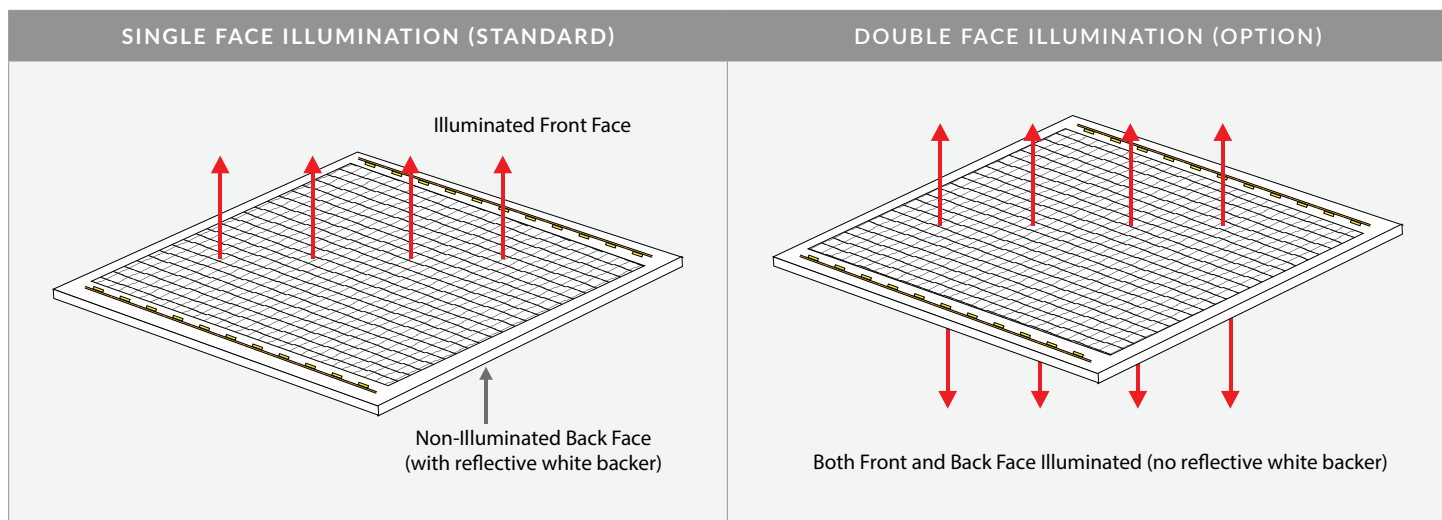
Color Temperature:  Warm White (WW) 3000K  Soft White (SW) 3500K  Neutral White (NW) 4100K  Pure / Cool White (PW) 5300K  Ultra White (UW) 6300K  Tunable White (TW) 3000K - 6500K  Color Adjustable (CA) RGB

## BRIGHTNESS & POWER CONSUMPTION REFERENCE - BASED ON 5300K LEDs

SIZE (INCH)	SIZE (MM)	LED STRIP	*AVERAGE SURFACE BRIGHTNESS (LUX)	POWER CONSUMPTION (W)
6 x 6	150 x 150	1 side	6,000	2.0
12 x 12	300 x 300	1 side	3,000	4.0
24 x 24	600 x 600	2 sides	3,200	15.0
36 x 36	900 x 900	2 sides	2,600	23.0
48 x 48	1200 x 1200	2 sides	2,200	30.0
48 x 96	1200 x 2400	2 sides	2,200	60.0
Ø 6	Ø 150	all around	19,000	5.8
Ø 12	Ø 300	all around	13,000	11.2
Ø 24	Ø 600	all around	5,400	24.0
Ø 36	Ø 900	all around	4,500	36.0
Ø 48	Ø 1200	all around	3,500	48.0

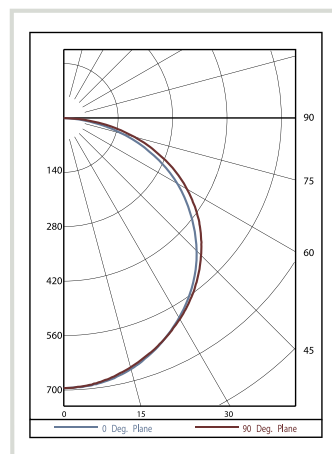
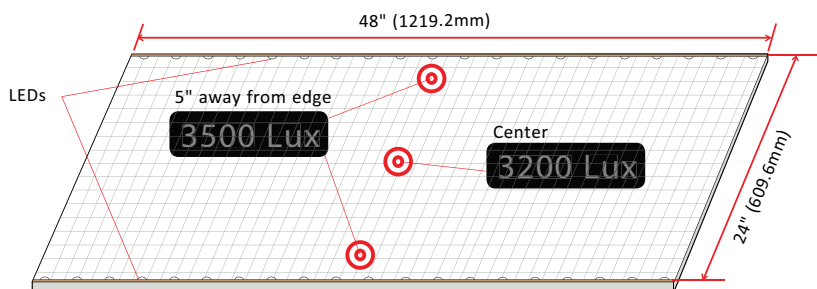
\*Brightness data was measured from Jan, 2015.

## ILLUMINATED FACE OPTIONS

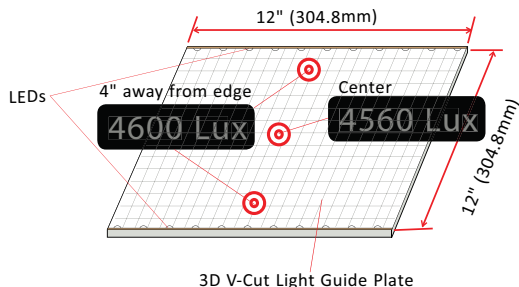


## TYPICAL SURFACE BRIGHTNESS MEASURE

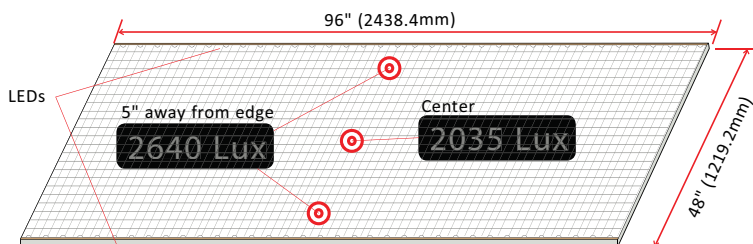
24" x 48" LumiSheet with 5300K LEDs lit along 2 long edges (30W)



12" x 12" panel with 5300K LED lit along 2 edges (8W)

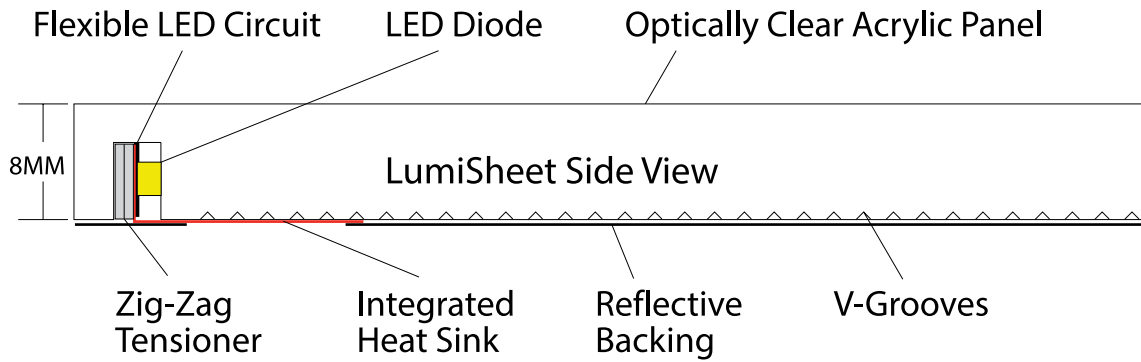


48" x 96" LumiSheet with 5300K LEDs lit along 2 long edges (60W)

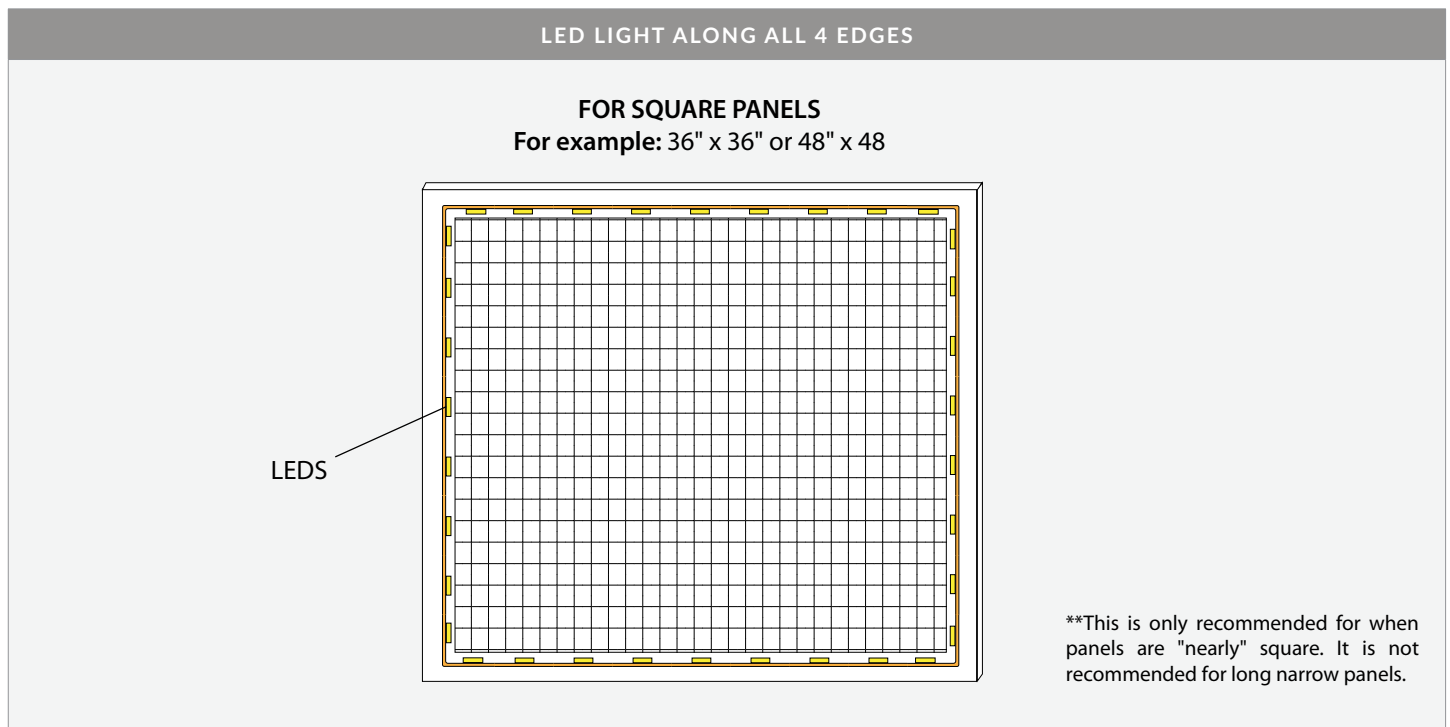
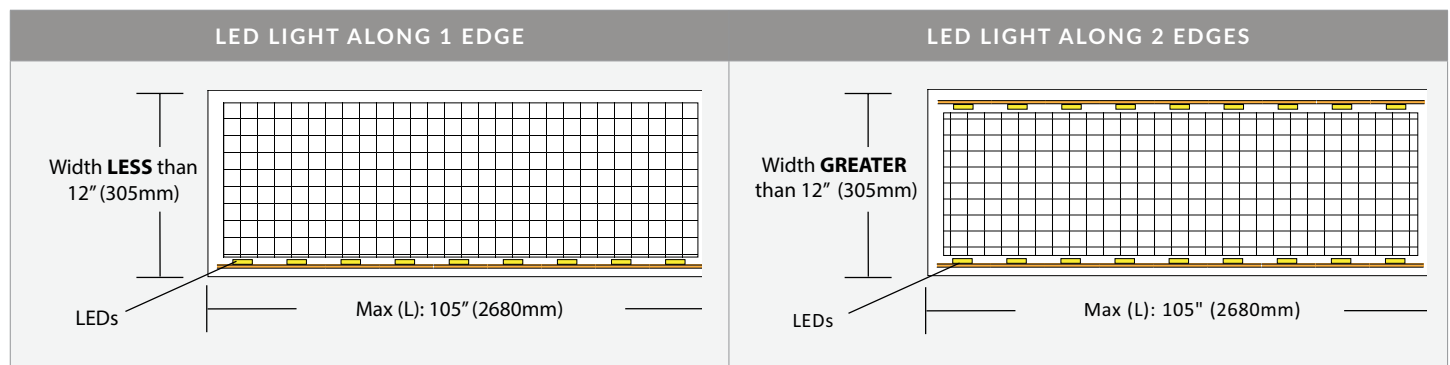


\*Brightness readings are for reference only. Actual reading may differ for different LEDs, LGPs or even different meters.

## PROFILE OF LUMISHEET™



## LED LIGHT LOCATIONS



## TYPICAL POWER EXITS

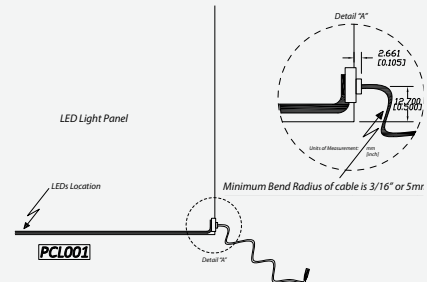
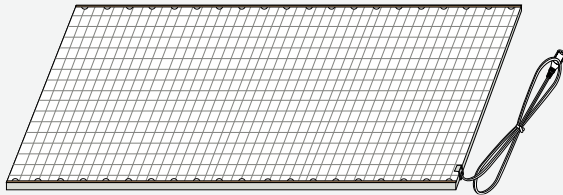
NOTE: RGB and CCT LED types require power wires to exit the ends of the LED strips ONLY as shown in STANDARD 1 & OPTION 2 diagrams. Double edge illuminated light panels over 72" in length require power wires to exit opposing ends.

### POWER WIRE EXIT OPTION AVAILABILITY

- \* AVAILABLE WITH SINGLE COLOR WHITES
- \*\* RGB & CCT
- \*\*\* POWER WIRES MUST EXIT OUT THE CORNERS OF THE LIGHT PANEL OR END OF LED STRIPS FOR RGB & CCT

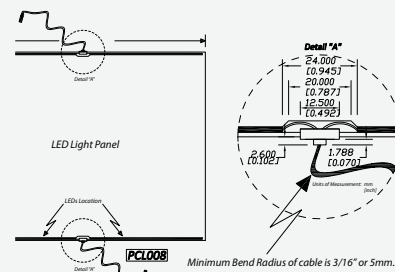
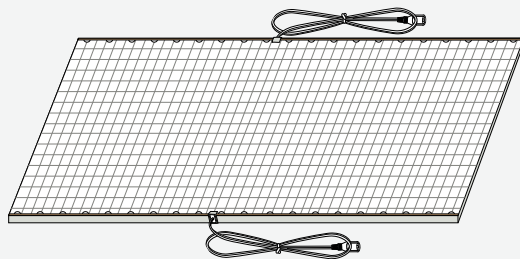
#### \*\* STANDARD 1

Power cord exits from the edge (default option for LumiSheet shorter than 6ft) [Available with single color whites, RGB & CCT]



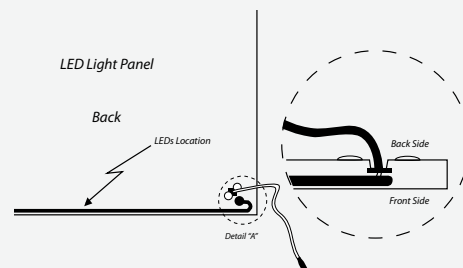
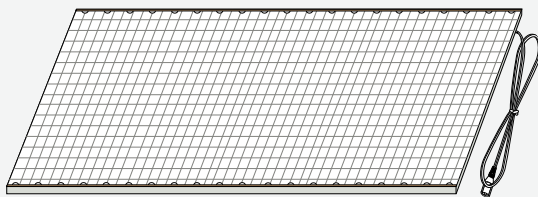
#### \* STANDARD 2

Power cord exits from the middle of LED strip (default option for LumiSheet longer than 6ft) [Available with single color whites]



#### \*\* OPTION 1

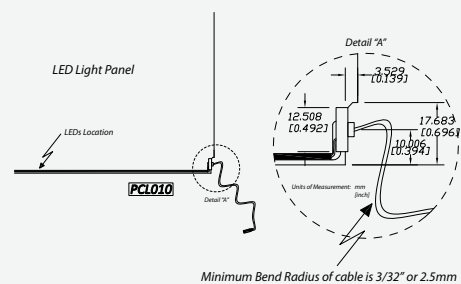
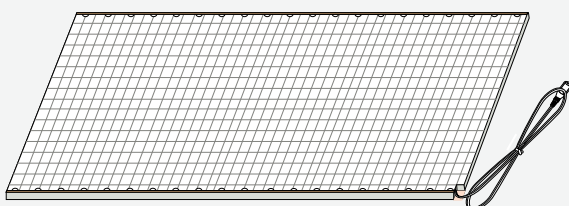
Power cord exits from the back side of LumiSheet [Available with single color whites, RGB & CCT]



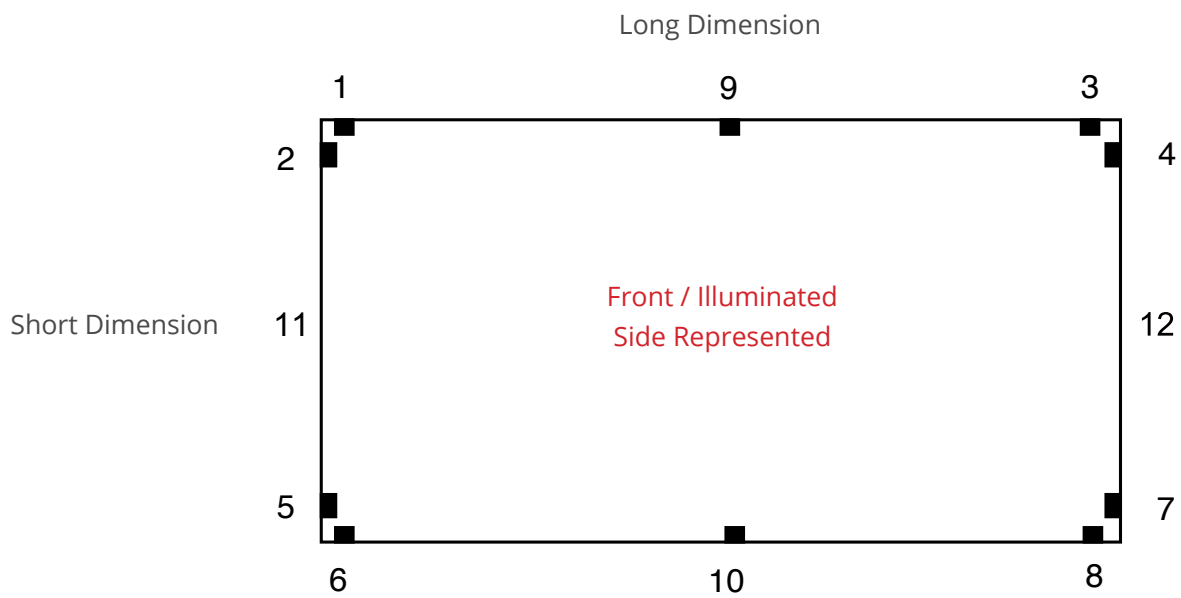
#### \*\*\* OPTION 2

Recessed (notched) power cord exits

[Available with single color whites, RGB & CCT. Power wires must exit out the corners of the LED panel or end of LED strips for RGB & CCT]



## WIRE LOCATION REFERENCE MAP



[Click this link](#) to access editable wire location map PDF to provide to your integration engineer

### NOTES:

## INSTALLATION TIPS

SINGLE PANEL	MULTI-PANEL
<p>0.25" (6mm)</p> <p>0.75" (19mm)</p> <p>LEDs</p>	<p>We advise that the overlay material be tested in conjunction with LumiSheet to determine if space or added diffusers are needed to achieve the desired look.</p> <p>Side View</p> <p>Diffuser or Graphic</p> <p>Space between Panels and Graphic / Diffuser</p> <p>3D View</p> <p>LED Panels</p> <p>LED Panels</p> <p>Diffuser or Graphic</p>

## SURFACE MOUNTING EXAMPLES (HARDWARE PROVIDED BY OTHERS)

EXAMPLE 1 (DETAILED DIMENSIONS FROM CUSTOMER REQUIRED) Screw mounting with pre-drilled holes	EXAMPLE 2 Mounting with standoffs
EXAMPLE 3 Mounting with Z-clips	



## PRODUCT HANDLING, INSTALLATION & INTEGRATION ADVISORY

Evo-Lite's experience in providing LumiSheet Light Guide Plates to its customers has provided us with a unique perspective on the characteristics and underlying intuitive knowledge necessary to complete a successful installation of LumiSheet. Evo-Lite is committed to educating and supporting all our customers so that every installation proceeds as smoothly as possible. Most installations offer their own unique challenges; we hope by making you aware of the following handling and installation guidelines that the basics of the installation do not become issues that further complicate this process. As always, your Evo-Lite Account Manager or any of our staff are ready to assist you and answer any questions you have or address any issues that arise during your installation.



### TEST BEFORE INSTALLING

Our production, packaging and shipping process is accompanied by a rigorous quality control procedure. All light panels are subjected to a burn in period and are tested during the packaging process to ensure operation of the highest quality. Due to possible unforeseen issues with shipping and handling, we advise that all light panels be inspected at time of delivery and tested for proper illumination prior to installation and again before the forward facing material is permanently installed. **BE SURE TO REMOVE THE PROTECTIVE FILM BEFORE INSTALLING.**



### DO NOT CONNECT TO AC POWER

Be sure to use a low voltage power supply that conforms to the voltage requirements of the light panel. This information can be found on the label on the backside of the light panel as well as the power supply labeling. **ANY DIRECT CONNECTION OF THE LIGHT PANEL TO AC CURRENT WILL DAMAGE THE LEDS.**



### POWER, CONTROL & WIRING

For optimal power distribution and to minimize voltage drop, it is recommended that multi-strand, high strand count wiring be used for all low voltage DC connections. Wire gauge should be appropriate based upon system voltage and wire lengths to further minimize voltage drop. Power supplies, drivers and controls should be installed in well ventilated enclosures and or per manufacturers recommendations.



### FRAGILE

Take as many precautions as possible when handling. The light panels are made from acrylic which can be easily damaged if not handled properly. Caution should be taken when setting the light panel on edge as the force of the light panel contacting a solid surface can result in cracking or chipping of the acrylic light guide plate. Also be aware of all light panel wiring. The awareness of the weight of the light panel in most cases exceeds the awareness of the wiring which can be easily damaged and or destroyed if not properly managed. Avoid stepping on or snagging hanging wires when unpacking or transporting panels.



### DO NOT BEND

Be sure to handle the light panel as you would a piece of glass. Always transport the light panel on edge or in a vertical position. Allowing the light panel to flex or bow will result in damage of the internal LED components which is not covered under warranty.



### STORAGE

Store Light Panels in a clean, dry area and keep covered to protect from moisture and dust. Store on a flat, horizontal surface as vertical storage can cause flexing of the light panel which can result in damaged LED components as well as introducing a memory of the curve in which it was stored. Ideal storage conditions: Temperature of 68° – 77°F, Humidity of 50%.



### DO NOT GET WET

**DRY LOCATION ONLY.** Our light panels are rated IP-65 which is total protection against dust ingress as well as water projected by a nozzle against the enclosure from any direction for a limited time. The light panels are not waterproof. Higher IP ratings can be achieved by the inclusion and integration of framing and other materials. Be sure to speak with your account manager when moisture relevant applications are desired.



### DO NOT DRILL

Although field drilling of the light panel can be accomplished in extreme cases, it is not recommended and is highly discouraged as any damage at this stage can result in denial of any warranty claims. Our light panels can be produced to your specifications. Be sure to provide all details of size, shape, hole size and placement before ordering. In the event drilling needs to occur, please request documentation and assistance from your account manager.



### DO NOT CUT

Although field cutting of the light panel can be accomplished in extreme cases, it is not recommended and is highly discouraged as any damage at this stage can result in denial of any warranty claims. Our light panels can be produced to your specifications. Be sure to provide all details of size and shape before ordering. In the event cutting needs to occur, please request documentation and assistance from your account manager.



### DO NOT USE ADHESIVES

The use of adhesives of any type including double stick (VHB) tape for the bonding of materials to the light panel or bonding light panels to another surface is strongly discouraged. Direct bonding to the illuminated surface of the light panel can result in visual anomalies and bonding to the rear reflective layer for mounting purposes can cause failure of the light panel which is not covered under warranty. Due to multiple application and installation variances associated with the integration of light panels, standard mounting hardware is not provided. Be sure to discuss your project with your account manager who can help you determine an optimal mounting solution for your application and in some cases provide mounting components when required.



### INSTALLATION ENVIRONMENT

Due to the characteristics of the acrylic that is used for our light panels, installation environments and locations should be taken into consideration. Wide temperature shifts can cause the acrylic used as the light guide plate to expand and contract and at a different rate than the associated components. In some cases, this expansion and contraction can cause mounting, edge tape and lamination failure. It is the responsibility of the buyer to make sure these characteristics have been accounted for throughout the design and integration of the light panels.



### CLEANING

Keep the protective film intact and in place to help protect the surface of the light panel during transport and installation. For removal of finger prints and other extraneous substances, start by lightly blowing or wiping off dust and other particles with a soft, non-abrasive cloth. Mild soapy water can be used for the removal of fingerprints being sure not to exert too much pressure as this could cause scratching/marring of the surface.

**NEVER USE CLEANING SOLUTIONS THAT CONTAIN AMMONIA, ALCOHOL OR OTHER SOLVENTS.** Products such as Windex will do more harm than good.





## EVO-LITE, LLC

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**TOLL FREE:** 1-888-887-2980

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**URL:** [www.Evo-Lite.com](http://www.Evo-Lite.com)

### TERMS & CONDITIONS

Be sure to familiarize yourself with Evo-Lite's [Terms & Conditions](#).

By ordering from Evo-Lite, the purchaser agrees to all [Terms & Conditions](#).

### PATENTS

#### LumiSheet™ PATENTS

USA: 7473022  
CANADA: 2,626,448  
JAPAN: 4427528  
CHINA: ZL 200610085027.0  
TAIWAN: 312899  
SINGAPORE: 141901  
SOUTH AFRICA: 2008/03676  
EUROPEAN UNION:  
1,780,584  
(Germany, UK, France, Italy,  
Spain, The Netherlands,  
Belgium, Sweden, Austria,  
Poland, Denmark, Greece,  
Ireland, Finland, Portugal, Czech  
Republic, Hungary, Romania,  
Slovakia, Bulgaria, Switzerland,  
Luxembourg, Slovenia, Turkey,

#### V-CUTTER FOR AN LCD LIGHT GUIDE PANEL

USA: 6619175  
JAPAN: 3500466  
TAIWAN: 155175

#### A LIGHT GUIDE PANEL WITH SALANT LIGHT GUIDING PARTS

USA: US 7,018,087 B2

#### PIN KIT FOR V-CUTTER

KOREA: 10-0552589, 10-  
0557738, 10-0557741,  
0540055, 0540053, 10-  
0772921, 10-0716543,  
10-0565890, 10-0753963,  
10-0643604,  
10-0736656, 10-0748074,  
10-0748073, 10-0762741,  
USA: 6792842  
JAPAN: 3463060  
EU: 1335817  
CHINA: ZL 01818623.8  
TAIWAN: 163820

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