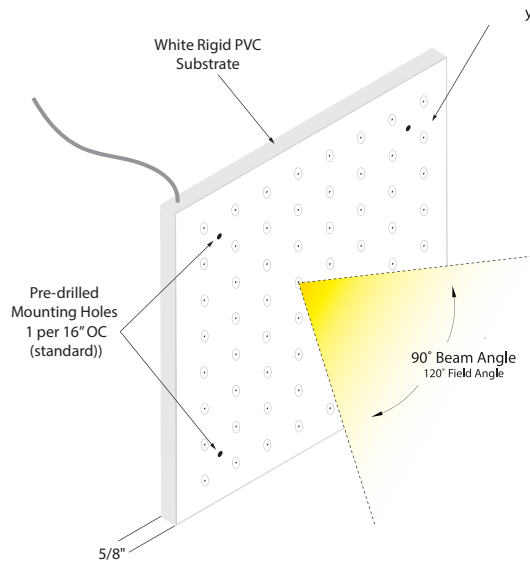


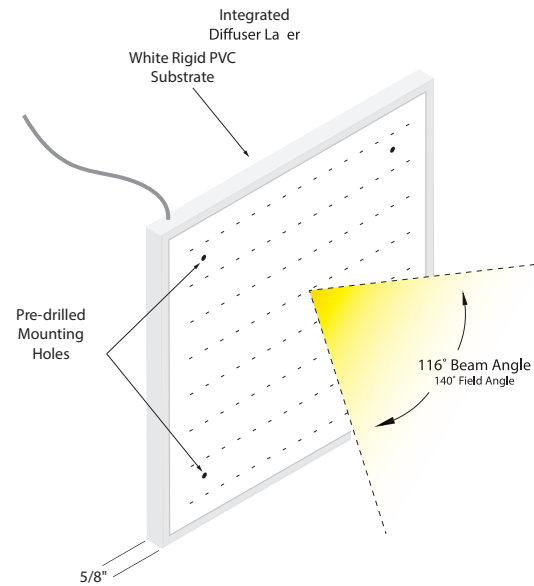
ABOUT LIGHT PANEL

EssentialLEDs® Light Panel is a highly customizable lighting product that is ideal for backlighting materials like Acrylic Panels, Frosted Glass, Onyx or Stretched Fabric. We offer two versions of Light Panel, as described below:



ELP - L

ELP-L is the most popular version of EssentialLEDs® Light Panel because of its versatility in customization and lower cost. ELP-L offers two wattage/lumen options, variable spacing options, and nine CCT options in addition to variable color temperature mixing (two different CCTs with separate dimming control). ELP-L can be combined with T-Bar or suspension hardware for use as a general lighting source, and can also be used as a light source in custom-designed fixtures.



ELP - G

ELP-G is a specialized version of EssentialLEDs® Light Panel, developed specifically for backlighting stretched fabric ceiling installations. ELP-G features LEDs arranged on a 1" x 1" (nominal) grid, with an onboard regulated power supply that allows it to produce the very high fixture efficacy level of 140 lumens per watt. ELP-G is available in nine CCT options, and can backlight translucent fabric ceilings with zero lamp imaging hot spots in a mere five inches of throw distance.

Both ELP-L and ELP-G consist of LED modules placed on a lightweight expanded PVC substrate, and both can be fabricated in custom shapes and sizes up to 60" x 120" in a single panel. ELP-G can also be purchased as individual modules for installation in niches or millwork.

ABOUT THE LEDs

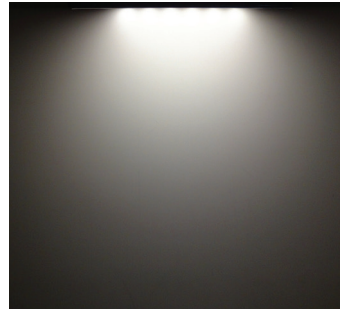
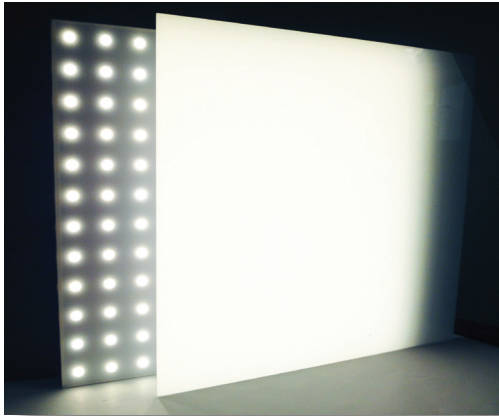
From the beginning, Visual Lighting Technologies has been proud to use LEDs from the Nichia Corporation as our applied LED. As one of the world's leading LED manufacturers, Nichia has leveraged its vast experience with phosphors to create beautiful white light LEDs in a full range of color temperatures. You can learn all about our very selective LED binning process in the "Binning and Chromaticity" section.



Both Panel Types Ship with Stickers That Clearly Mark Mounting Holes

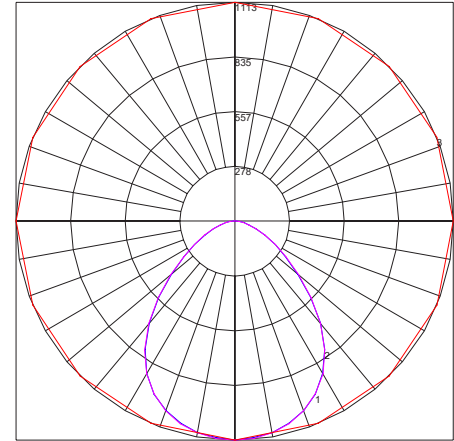
LIGHT PANEL PHOTOMETRICS

ELP - L



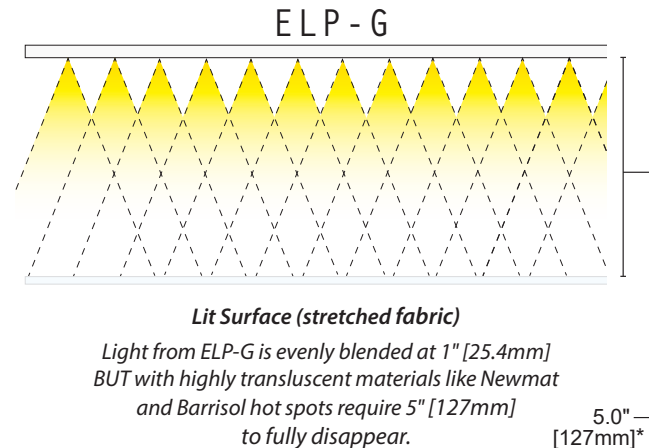
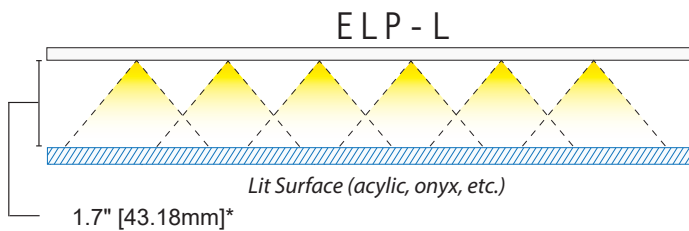
Pictured: 6 LED x 6 LED grid

Throw Distance	Average Foot Candles
1 ft.	1113
2 ft.	278
3 ft.	124
4 ft.	70



Maximum Candela = 1113 Located At Horizontal Angle = 0, Vertical Angle = 0
 # 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.) : BLUE
 # 2 - Vertical Plane Through Horizontal Angles (45 - 225) : MAGENTA
 # 3 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.) : RED

THROW DISTANCES



ELP-L is the perfect choice for backlighting materials like **acrylic** and **onyx**. Standard ELP-L includes an integrated diffuser and requires only 1.7" of cavity space for the LED diode light points to fully blend. Where cavity space is less than 1.7", use of a secondary diffuser (i.e. opal acrylic) may enable full diffusion in less than 1.7".

When backlighting materials like **3form**, **stained or frosted glass**, use of a secondary diffuser (i.e. opal acrylic) will allow even backlighting without visible hot spots. A mock-up using proposed materials is always recommended.

Due to the **highly translucent** nature of materials like Newmat and Barrisol stretched fabric ceilings, full diffusion of the backlighting source becomes more difficult. ELP-G, with its 1"x1" LED spacing and exposed LED board construction, can provide full diffusion without "hot spots" in just 5" of cavity space (as compared to a range of 12" to 16" with fluorescent lamps). See page 99 for more information regarding stretched fabric ceilings.

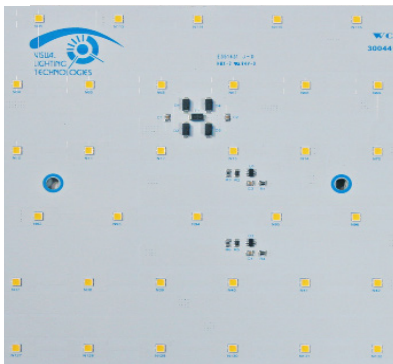
Where cavity space is extremely limited, materials like acrylic and onyx can also be evenly backlit with ELP-G in just 1" of cavity space.

*Dimension appropriate for most applications.
 Mock-up recommended to determine optimum distance.

BACKLIGHTING STRETCHED FABRIC CEILINGS

Stylish and versatile stretched fabric ceilings - such as those manufactured by Newmat or Barrisol - are popular for a wide range of commercial, retail, hospitality and residential applications. ELP-G Light Panel was **designed and engineered specifically** to provide a superior result when backlighting these stretched fabric ceilings. A regulated on-board power supply on each individual ELP-G LED board allows the product to achieve a **very high efficiency level of 140 lumens per watt** (560 lumens per square foot), and the result is bright and even backlighting without the unattractive lamp imaging that often occurs with fluorescent light sources. ELP-G offers distinct advantages over fluorescent lamp backlighting:

- **Cavity Depth:** ELP-G requires only 5" of separation between the LED panel and the stretched fabric to attain perfect diffusion*, in contrast to the 12" - 16" needed with fluorescent lamps. So even where plenum spaces are very limited, low profile ELP-G modules will provide completely diffuse light with zero lamp imaging. (*Smaller cavity may be possible. Must be determined with a mock-up).
- **Edge-to-Edge Lighting:** ELP-G panels screw directly to the installation surface using pre-drilled through-holes, and the range of ELP-G module sizes makes it possible to fully cover the ceiling surface - evenly and all the way to the edges - for beautiful backlighting without dark spots or edges.
- **Life Span & Maintenance:** On average, LEDs are rated to last three to four times longer than standard T8 fluorescent lamps (100,000 hours vs 15,000 hours), a significant difference when dealing with the complexities of stretched fabric ceilings. Relamping behind stretched fabric panels requires that the ceiling be fully removed and then re-installed by the manufacturer - a factor that lengthens the task, complicates scheduling, and adds to the cost of lamp maintenance. And when you consider the environmental issues of spent fluorescent lamps - the glass and mercury content and cost of safe (and legal) disposal, the longer lifespan of the LED alternative is even more attractive.
- **Quality of Light:** The small LEDs used in ELP-G provide excellent lumen output (560 lm/sq.ft., based on 4000K), with a full range of color temperatures and high CRI (83). Whether you're lighting a warm residential interior or cool commercial spaces, ELP-G will provide the perfect CCT. And the small light points, with their 116° beam angles, provide an exceptionally even backlight.
- **Light Quality Over Time:** Long before fluorescent lamps quit, they color-shift in different - and irregular - directions. Loss of mercury inside the lamp causes a shift to pink, often accompanied by black burns on the lamp ends and flickering. These issues are magnified by a stretched fabric application, where such irregularities are highly visible. In contrast, ELP-G delivers even lighting in very specific color temperatures that will remain constant over the much longer life of the product. Even as the product nears the end of its projected 100,000hr (LM80) lifespan, color temperature shift is minimal.



1" x 1" (nominal) spacing provides exceptionally even backlighting.

Dimming ELP-G: Stretched fabric ceilings often require a large number of drivers, and our new LED Driver Power Panels were developed with large installations like this in mind. UL Listed Power Panels can accommodate up to 14 constant voltage drivers in a tidy, wall-mount enclosure, with a single line voltage input, up to 14 outputs, and easy connection to multiple dimming control protocols (DMX, DALI, 0-10v). We also offer individual constant voltage drivers dimmable via MLV, ELV, 0-10V, DALI or DMX.

Integrated Solution: Visual Lighting Technologies can provide a complete, **turnkey backlit fabric ceiling**, featuring beautiful ELP-G backlighting and a fully customized stretched fabric ceiling installation. We can fully coordinate design and installation of both lighting and ceiling for spectacular results.

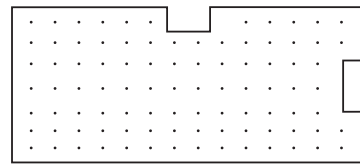
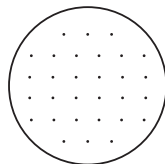
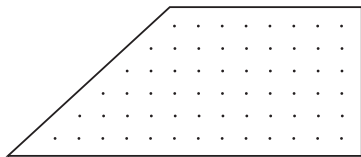
ELP-L COLOR TUNING

Selection of any of the dual-color LED combinations (25K/45K, 30K/45K or 35K/45K) will allow the color temperature of the installation to be adjusted between the low Kelvin and high Kelvin temperatures. CCT adjustment is accomplished by alternately dimming or increasing output from the low Kelvin and high Kelvin diodes. Lumen outputs cited in product specifications are for a single set of diodes; if both sets of diodes are at full strength, lumen output and wattage are doubled. Color-tuning controls make CCT transitions easy and smooth, and also allow smooth dimming down to zero.



PANEL SHAPE & SIZE OPTIONS

Whether you specify ELP-L or ELP-G, panel shapes are not limited to squares and rectangles. Shapes such as the ones pictured below are easy to make and require only a dimensioned sketch of the shape you need. VLT engineers will determine the optimum module placement to provide the most even results. Shapes can be any size within the 60" x 120" [1524mm x 3048mm] maximum. Order sizes carefully - panels cannot be trimmed in the field.



To evenly backlight unusual shapes, LED Boards are arranged in custom configurations

