# Paper Light®

Inventor: Dr.Masoud Molavi

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Paper Light© panels are thin (approximately one millimeter thick), flexible and lightweight sources of light that may be used on flat or curved surfaces to illuminate the surface itself and, in conjunction with graphics or films, to provide illuminated advertising, signs and architectural Systems.

Thanks to the results of immense research and Development efforts Paper Light Inc. and Dr.Masoud Molavi, they were able to create a higher quality phosphor which becomes luminous under the stimulation of electric field. Through their innovative Paper Light technology Paper Light panels are easily transformed into any shape turning any surface into a light source.

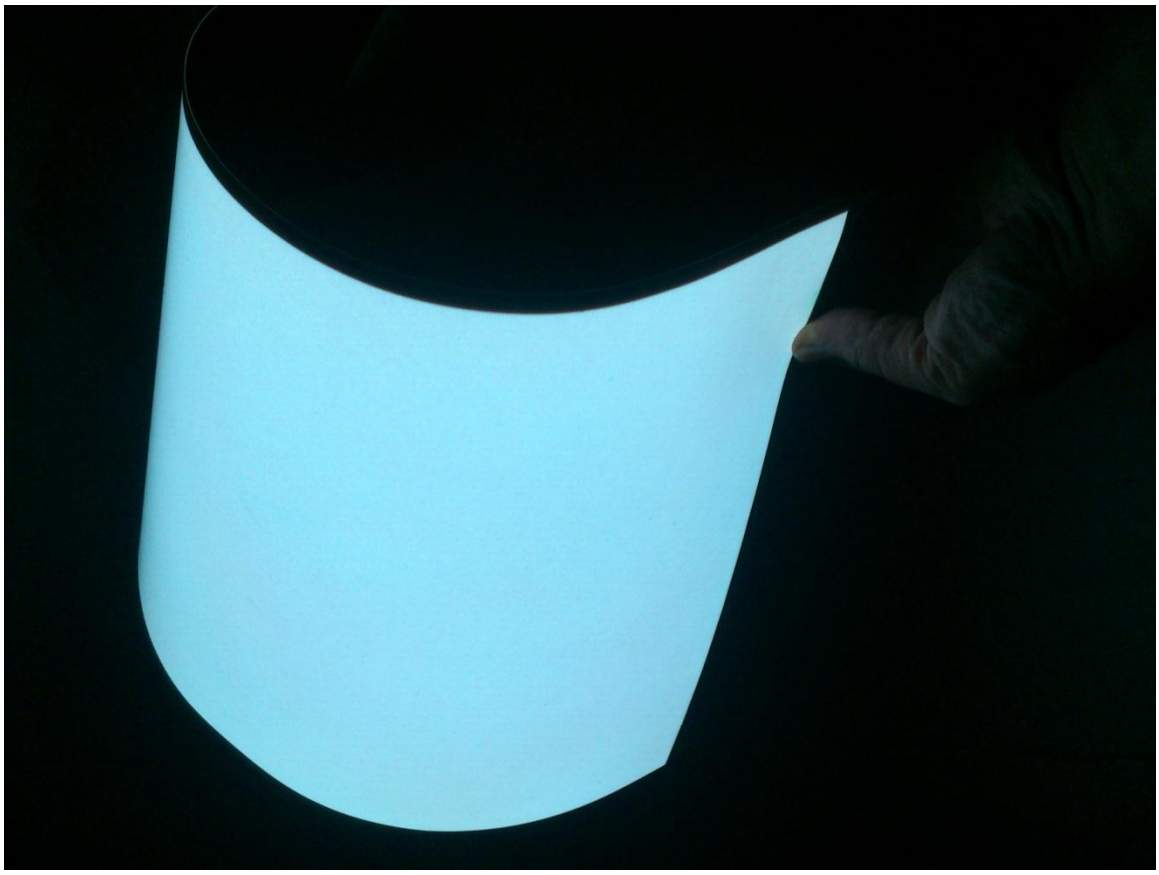
Using Paper Light proprietary processes, the paper light panels do not suffer from de-lamination, heat spots or bad connections. These paper light panels are resistant to impact, vibration, cuts and perforations. The application of these paper light panels are unlimited, furthermore the chemicals used paper light panels are environmentally friendly and degradable.

## Advantages

- Flexible and bendable
- Low power consumption
- Easy installation
- Long life
- Extremely durable/impact resistant
- Thin
- Brightness control
- No heat generation
- Ability to illuminate complex shapes
- Available in shapes
- Flexible power options i.e. Battery powered options (AA, AAA, 9V)
- Programmable light for flashing effect
- Significantly reduces installation cost compared to other lighting installations
- Can be incorporated into clothing

### Technology Advantages

| | Paper light® | Neon | LED | Incandescent |
|---|---|---|---|---|
| Flexible & Bendable | Yes | - | - | - |
| Low power consumption | Yes | - | Yes | |
| Easy installation | Yes | - | - | |
| Extremely Durable & Impact Resistant | Yes | - | - | |
| Thin | Yes | - | - | |
| Multiple sizes and degrees of brightness | Yes | - | - | |
| No heat generation | Yes | - | - | |
| Ability to illuminate complex shapes | Yes | - | - | |
| Available in shapes | Yes | - | - | |
| Flexible power options i.e. Battery powered options (AA, AAA, 9V) | Yes | - | Yes | Yes |
| Programmable light for flashing effect | Yes | - | - | |
| Can be incorporated into clothing | Yes | - | Yes | |
| Visibility through fog/smoke | Yes | Yes | - | Yes |
| Lightweight | Yes | - | Yes | |
| Printable | Yes | - | - | |
| Uniform illumination | Yes | - | - | |



| | Device | Amperage |
|---|---|---|
| **Incandescent Light Bulb** | GE 1volt | 0.318 |
| | GE 1 volt | 0.521 |
| **Fluorescent Lighting Fixture** | 4 x 32W T8 Tube<br>15.5’ x 47.5 (5.1 Sq ft) | 1.61 |
| **LED Light Box** | LK1-1-CW(27EA) | 0.875 |
| **paper light® Surface Light** | US600/LP1 Inverter (3 Sq ft) | 0.338 |
| | US900/LP2 Inverter (6 Sq ft) | 0.667 |
| | US1000/LP3 (12 Sq ft) | 1.236 |

| | Power factor | Im/W | Remark |
|---|---|---|---|
| **Incandescent Light Bulb** | 1 | N/A | Uniformity less than 50% |
| | 1 | N/A | |
| **Fluorescent Lighting Fixture** | 0.545 | N/A | Uniformity 74% |
| **LED Light Box** | N/A | 19.23 | Uniformity 90% |
| **paper light® Surface Light** | 0.938 | 10.184 | Uniformity 98% |
| | 0.956 | N/A | Uniformity 98% |
| | 0.987 | N/A | Uniformity 98% |

## FAQs

### What is Paper Light Technology?

Paper Light (PL) technology consists of three distinct components: Paper Light panels, proprietary power source (“inverter”) technology and the lighting element construction and layering configuration or “standard packaging” process. Paper Light panels are thin (approximately one millimeter), flexible and lightweight light sources that may be used on flat or curved surfaces to illuminate the surface itself and to provide illuminated advertisements, signs and architectural surfaces. Paper Light technology is an award-winning platform technology that can be easily configured to work with existing technologies, therefore enabling its delivery and use in a large number of end-use products. Paper Light platform Paper Light technology was named as one of the “Best Inventions 2006” by Time Magazine,

### How is Paper Light Technology different from traditional lighting technologies?

The platform Paper Light technology is distinct from existing lighting sources and is considered to be a separate category of products from anything currently available in the lighting industry. The lighting industry currently includes traditional light sources such as incandescent, fluorescent, electroluminescence (“EL”) and neon lighting , as well as newer light sources such as light-emitting diode (“LED”) and organic light-emitting diode (“OLED”) technologies. Paper Light technology is distinct from existing lighting sources and can be considered a separate category of products from anything currently available in the lighting industry. Lighting products utilizing LED and OLED technologies produce light by combining multiple smaller points of light into a larger light source Paper Light technology is distinguished from LED and OLED technologies in that the Paper Light panels produce a uniform source of light without multiple points, across a larger flexible area, are visible from a wide angle, are more durable and are not sensitive to vibration. Paper Light panels also produce light that ensures the color accuracy of the illuminated surface or object.

### How do Paper Light panels compare to conventional EL lighting?

The technology underlying Paper Light panels has its genesis in an older technology known as electroluminescence or “EL”. However, the platform Paper Light technology is distinguished from traditional EL technology in that, among other things, Paper Light panels provide whiter light without a blue cast, have a significantly longer life, provide a more uniform illumination across their surface, emit less noise and electromagnetic interference (“EMI”), utilize power inverters to regulate power output and maintain a more constant brightness and contain certain safety features not contained in traditional EL panels

### Are Paper Light panels environmentally-friendly?

The Nano Hydroxide Carbon+ Liquid Phosphor phosphors in Paper Light panels are not on any hazardous materials list and can be handled as non-hazardous waste. Per Nano Hydroxide Carbon+ Liquid Phosphor, the phosphors have not been identified as a known or suspected carcinogen.

### What are Paper Light Flatline Inverters and how do they differ from standard inverters?

Paper Light currently designs and manufactures proprietary inverters for the Paper Light panels. The proprietary Flatline Inverter design includes electronics that power Paper Light panels to provide a constant light output and optimize the Paper Light panel’s life. Flatline Inverters are programmable with proprietary software that enables an Paper Light panel to fade and flash and also provides brightness control. These

controls are provided as standard features. Paper Light  proprietary inverter designs also include unique safety features suited for a number of applications.

### How bright are Paper Light panels?

standard Paper Light  panels can be powered to illuminate up to 200 candelas per sq meter which is ideal for transit advertising, media advertising, street signs and architectural design. Paper Light  panels are available with higher brightness levels for custom designs and applications.

### What is the color temperature of Paper Light panels?

The color temperature of Paper Light  panels ranges from 7,500 to 11,000 degrees Kelvin, which enables more vibrant graphics for true color tones, images and anything printed on clear, backlit media. The cooler color temperature of 11,000 degrees.

### What is the largest standard size Paper Light panel?

Paper Light  panels can be flexible, semi-rigid or rigid and are available in standard sizes and shapes up to 18 square feet. Custom shapes and sizes are available with minimum order requirements.


# Paper Light®

Inventor: Dr.Masoud Molavi Vardanjani

Made in IRAN