

DRAFT FOR REVIEW  
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## **CI LUMEN ENHANCES VISUAL EXPERIENCE OF LCDs WITH ADVANCED UV POLYMER OPTICAL BONDING**

**SEPTEMBER 22, 2006 – Hauppauge, N.Y.** – CI Lumen, a leading provider of LCD enhancements for flat panel LCD monitor solutions, now offers a patent-pending, advanced UV polymer optical bonding solution that improves contrast, enables brighter graphics, enhances ruggedness and offers a more robust overall visual experience for a virtually limitless variety of Liquid Crystal Display (LCD) solutions. Enhanced visual experiences enabled by the optical bonding of various substrates to LCD panels include sunlight readability, eye-popping detail and exhilarating graphics.

CI Lumen's advanced UV polymer optical bonding is custom formulated for an improved yield and better performance than other optical bonding solutions. The process permanently affixes a wide variety of performance-enhancing substrates to LCD panels, including acrylic or glass to LCD panels up to 46 inches. Substrate thickness is typically 1-10mm. CI Lumen's bonding options include antireflective- and antiglare-coated glass for sunlight readability, ITO glass for reduced EMI emissions, touch screens and acrylic vandal shields – each tailored to a specific application. The patent-pending bonding process, itself, offers truly permanent, defect-free adhesion to the LCD. CI Lumen can typically deliver prototype quantities in less than 10 days.

“At CI Lumen, we are lightwaves ahead of the market for optical bonding services,” said James Hoffman, Chief Technology Officer of CI Lumen. “Despite the fact that only a handful of North American vendors offer optical bonding services to begin with, our process offers a more permanent bond, and our complementary services such as mechanical design and spectral

analysis are unmatched in the market at home or abroad. From our superior clean space to one-stop-shop solutions, we are dedicated to serving anyone who needs LCD enhancements.”

CI Lumen’s bonding process alleviates the air gap between the cover glass and the LCD. Bonding a piece of glass with an AR coating to the surface of the LCD creates an index matched light path. (The index of refraction of air and the AR coating are both one.) The bonding agent allows the light to be transmitted seamlessly from the LCD to the viewer and minimizes internal reflections. The resulting process, for example, allows the contrast ratio to be high enough in bright sunlight conditions to allow the user to read the LCD.

CI Lumen’s optical bonding process is ideally-suited to anyone designing products that include LCD panels or who wish to offer added value to stand-alone LCD products, including members of the digital signage industry and other OEMs serving the military, medical, commercial or industrial markets. In addition to such traditional LCD markets, CI Lumen regularly serves non-traditional, non-electronics OEMs through a variety of support services.

In addition to optical bonding services, CI Lumen offers a complete range of services to help rapidly advance an OEM’s LCD project whether it includes bonding, enclosures or complete integration. The company’s full service and active applications engineering staff is available to assist with a project from start to finish, including assistance and recommendations for LCD panel selection, such as guidance regarding the trade offs of a wide selection of available enhancements. CI Lumen also has thorough optical testing capabilities, including spectral analysis, chromaticity, reflectance and diffuse reflectance, and NVIS compatibility.

CI Lumen offers a “24 Hour Quick Quote” service with competitive industry pricing. For more information, visit CI Lumen at [www.ci-lumen.com](http://www.ci-lumen.com).

## **ABOUT CI LUMEN**

CI Lumen Industries is a member of the CI Group of companies. The company offers a variety of products and services including optical bonding, LED backlights, touch screen integration, passive film enhancements and active backlight upgrades each aimed at advancing the overall visual experience of display solutions. With a full-service and active applications engineering staff and nearly 20,000 square feet of manufacturing space, including superior Class 1000 clean

room space, the company offers the flexibility to offer any display enhancement service from prototyping to high-volume production. CI Lumen is SDB Certified and HUBZone Certified by the SBA, and is a sustaining member of the Society for Information Display (SID).