

Let there be light

Flat, flexible light bulb offers new tradeshow lighting options, designs

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So you thought light bulbs are spheres, such as light globes.

Light bulbs are now flat.

They're thin, flat squares and rectangles that can be used like tiles for tradeshow exhibit booths.

They come in colors.

They're called CeeLite, as in the Ella Fitzgerald Swing era song, "I'm Beginning to See the Light."

CeeLite is LEC technology, for light-emitting capacitor. The tile-like bulbs can be used on walls, ceilings, curved arches and domes, and floors.

For the electricians, engineers and techies in general, here's the scientific explanation: A CeeLite panel is composed of an LEC structure with higher quality Sylvania phosphors sandwiched between a series of electrodes. Alternating current voltage [110] generates a charging field within the phosphors, which cause the phosphors to emit light. Panels are constructed using screen-printable polymer thick film compositions.

There's more: CeeLite panels are



Photo courtesy of CeeLite

A Pontiac ad printed on a flexible CeeLite bulb can be peeled off a display surface.

powered by proprietary Flatline Inverters, which convert the electrical current, either DC or AC, to the required voltage and frequency to power the panel. Power consumption is minimal, compared with incandescent, neon and fluorescent lighting.

LEC technology is explained as having three main components: 1) Sylvania higher quality light-emitting phosphors which provide color and brightness, 2) programmable Flatline Inverters to control levels of brightness and lifetime, and 3) advanced packaging "materials"

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Photo courtesy of CeeLite

Columns suddenly become useful for advertising in shopping malls by using the flat, flexible bulb.

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to lower heat generation to thereby extend the life of the lighting.

That said, what are some of the tradeshow exhibit advantages?

Gabrielle Santulli, marketing director for CeeLite, headquartered in Lansdale, Pa., about 45 minutes north of Philadelphia, explained the flat flexible light bulb's applications from her company's 20 by 20-foot booth illuminated in bright colors at TS2 in Washington, D.C. on July 13.

The Flatline Inverters, she emphasized, "are the power source for CeeLite technology, and basically what they allow the light to do is maintain the integrity of the brightness over the lifetime of the light bulb. That's very important for a lot of different applications in exhibits because people want their brands and their graphics to look the same when they turn on the light bulb."

Lifetime? "One hundred-fifty candelas [a measure of luminescence]—it is 10,000 hours," Santulli said. "As you increase the brightness, life will decrease a little bit; as you decrease brightness, life increases. Another way to increase lifetime is by flashing the light bulb. You can put it on so it turns on-off, on-off."

The many flashing panels in the booth were doing so under sequencing. "Our light bulbs are able to be controlled by DMX protocol," she said. [DMX is Digital MultipleXed, also known as the DMX512 protocol, an agreement over the connection between lighting controllers, dimmers, scrollers, scanners, and so forth.]

"So DMX allows us to sequence,"



Above: CeeLite panels are used in curved arches on the show floor. At right: White panels provide a brightly illuminated floor for tradeshow or corporate lobbies.

Santulli continued. "We have 38 panels in the booth's walls right now, 2-foot by 3-foot, and then there are 16 panels in the floor. The DMX is controlling all of those in a sequence."

Part of the panels on the booth's floor looked like an illuminated dance floor. "You can use CeeLite in dance floors, you can use it in exhibit floors, you can use it in a corporate lobby entrance, for example, if you wanted to highlight your logo, and you can have it static on, or off," Santulli said.

"Another application of a CeeLite

floor is [on a] a Brumark floor. They have a portable flooring system...so that's very popular with event planners or exhibit people who go from show to show," Santulli said.

Queried about the concept and applications of a flat light bulb when most people think of a light globe, spherical in shape, Santulli responded:

"We're creating a new lighting revolution because we're breaking the paradigms of lighting. People are used to light boxes, and handling fluorescent



Photos courtesy of CeeLite

tubes that break, and are very difficult to ship."

CeeLite, she said, is less than one millimeter thick, "and it looks like a laminated piece of paper, so it bends around columns, as you can see in the bend up there [in a curved archway]; it's very flexible. Also, it's impact and vibration resistant. You can't damage it like a traditional bulb or tube."

CeeLite was launched in February 2004. Public relations started up in

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February 2005. In tradeshows the company went back-to-back for two weeks in March attending GlobalShop and the International Sign Assn. shows in Las Vegas. Then it was on to the Light Fair in New York in April, followed by the Society of Environmental Graphic Designers in June in New Orleans, Santulli recalled.

The CeeLite flat, flexible light bulb

was developed in Hsinchu, Taiwan where it currently is manufactured, Santulli said.

Cost? "We have distributors, and the starting price is about \$75 a square foot and, with volume, obviously it significantly decreases," Santulli said.

Thomas Alva Edison, who in 1879 discovered that a carbon filament in an oxygen-free bulb glowed but did not burn up for 40 hours and eventually developed a bulb that could glow for more than 1,500 hours, might be amazed at a flat, flexible light bulb being marketed 126 years later.