Luxim's tiny plasma lightbulb outshines LEDs

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A Tic-Tac-sized lightbulb that gives off as much light as a streetlamp may offer a peek at the ultra-efficient lighting of the future. The bulb, developed by Luxim of Sunnyvale, California, uses plasma technology to achieve its brightness.

The tiny bulb contains an argon gas in the middle, as well as a component called a "puck." The bulb is partially embedded in a dielectric material. When electrical energy is delivered to the puck, the puck acts like an electrical lens. It heats up the argon to a temperature of 6000 degrees Kelvin, and turns the gas into a plasma that gives off light.

The plasma, whose 6000-degree temperature is similar to that of the surface of the sun, also emits a spectrum that looks very similar to the spectrum of sunlight.

The plasma bulb uses 250 watts, and achieves around 140 lumens per watt, making it very bright and highly efficient. By comparison,

conventional lightbulbs and high-end LEDs get around 15 and 70 lumens per watt, respectively.

"A key advantage is that the energy is driven into the bulb without any electrodes, so you don't need any electrical connections to get the energy into the bulb," Luxim CEO Tony McGettigan explained to ZDNet.

Luxim is using different versions of its electrode-less plasma technology to develop lighting for ultra-bright projection displays, retail and street lighting, microscope lighting, and various medical applications.

More information: Luxim.com

via: ZDNet

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