By Gabriel Dache, Science News Editor

# Small Light Bulb Overpowers LEDs

*LIFI 4000, most efficient lighting solution*

Behold the new LIFI 4000, the light plasma bulb the size of a Tic-Tac and capable of producing even more light than a typical gas discharge light bulb! The new plasma bulb has been developed by the Luxim Corporation, a company located in Sunnyvale, California, specialized in lighting technologies. Luxim promises to bring intense long-life light output for projection displays and a complete light spectrum to create a vivid image quality. According to the Luxim Corporation website, the technology has already been implemented into the Panasonic's LIFI-based HDTV. The lighting device consists of a bulb filled with argon gas, enclosed partially into a layer of dielectric material. By powering the bulb, or 'puck' as the company named it, with electrical energy, the argon gas is brought at a temperature of 6,000 degrees Kelvin, thus becoming ionized and starting to emit visible light. If you consider that the temperature of the puck is the same as that of the Sun's surface - 6,000 degrees Kelvin - then LIFI 4000 should be able to emit light in the same electromagnetic spectrum, thus giving the impression of a natural light emission. Luxim Corporation CEO, Tony McGettigan, reveals that the LIFI 4000 requires 250 watts of power to operate and will emit 140 lumens of light per watt. LEDs are only able to output only 15 to 70 lumens of light per watt, which means that the LIFI 4000 is currently the most efficient lighting solution available on the market. "A key advantage is that the energy is driven into the bulb without any electrodes, so you don't need any electrical connection to get the energy into the bulb," said McGettigan. Indeed, the 'how-to' manual of the device writes that energy is being pumped into the puck with the help of a solid-state radio-frequency power amplifier, which vaporizes the gas inside the bulb and turns it into plasma in order to make it emit intense light. Luxim Corporation uses innovative technologies to create an array of devices that use electrode-less plasma, such as ultra-bright projection displays, street lights or even microscope lighting solutions.


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