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*For more information, contact:*  
*Mike King, VLED Assembly Engineer*  
*OPTEK Technology*  
*972-323-2309*  
[mking@optekinc.com](mailto:mking@optekinc.com)

*Beth Gaddy, BtB Marketing*  
*919-872-8172*  
[beth.gaddy@btbmarketing.com](mailto:beth.gaddy@btbmarketing.com)

*Custom design replaces 20W halogen bulb with 4.5W LED light engine...*

## **OPTEK'S CUSTOM LED SOLUTION FOR RESTAURANT LIGHTING APPLICATION MINIMIZES POWER CONSUMPTION, EXTENDS LIFESPAN**

NEW YORK, NY (May 5, 2009) — Providing lighting designers with a low power consumption, long lasting solid-state lighting solution, TT electronics OPTEK Technology has developed a custom design for a restaurant lighting fixture that replaces a 20-watt halogen bulb with a 4.5-watt LED light engine. Utilizing their LED lab equipment including a 39-inch integrating sphere and spectroradiometer, OPTEK characterized the existing fixture and designed a replacement solution with optimal heat management, luminous output and emitted color characteristics.

“The LED light engine was designed with our proven OptoTherm™ heat spreader substrate, LED driver, and neutral white LEDs, which were changed from the warm white light in the existing bulb design,” said Roland Chapa, vice president of optoelectronic integrated solutions for OPTEK Technology. “Not only were we able to provide a light engine that minimized power consumption and eliminated short life bulbs, but we developed a proof-of-design assembly in an extremely quick turnaround of only one week.”

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## OPTEK'S CUSTOM LED SOLUTION FOR RESTAURANT LIGHTING APPLICATION, PG. 2

OPTEK's equipment allowed them to determine the halogen bulb assembly produced 300 lumens with a color temperature of 2600°K. As a replacement, OPTEK implemented a neutral white LED into the light engine solution that delivered 4,800°K to 5,300°K color temperature with an average flux of 85 lumens. The LED driver chosen for its high efficiency allowed the total fixture power consumption to be only 4.5W, with a 68 lm/W fixture efficacy. OPTEK's OptoTherm™ heat spreader substrate was included in the replacement light engine, and mounted to a standard heat sink, maintaining a 70°C junction temperature.

In addition to restaurant lighting, OPTEK's solid-state lighting solutions are used extensively in commercial and institutional lighting, backlighting of displays, indication lighting, channel lighting, interior and exterior automotive lighting, general illumination, downlights, street and market lights, beacon lights, aviation lighting and specialty applications such as retail display case and pool lighting.

For more information about OPTEK's LED products and capabilities, contact TT electronics OPTEK Technology at 1645 Wallace Dr., Carrollton, TX, 75006; call 972-323-2200, or visit OPTEK on the web at <http://www.optekinc.com/viewparts.aspx?categoryID=46>. In Europe, contact JP Delaporte at [info@optek-europe.com](mailto:info@optek-europe.com). In Asia, contact T.H. Swee at [thswee@optekasia.com](mailto:thswee@optekasia.com) or call +852-9190-4641.

OPTEK is a leading manufacturing and solutions provider for sensing and illumination covering the infrared, visible and ultraviolet spectrum; with standard as well as application specific products for a variety of markets, including, but not limited to office machines, industrial equipment, encoders, automotive electronics, military and high-reliability applications, medical diagnostic equipment and solid-state lighting. Headquartered in Carrollton, TX, the company is ISO/TS16949:2002 and BS EN ISO 9001:2000 certified, as well as ITAR registered. OPTEK Technology was acquired by TT electronics in December 2003.

### **OPTEK'S CUSTOM LED SOLUTION FOR RESTAURANT LIGHTING APPLICATION, PG. 3**

TT electronics plc is a global electronics company manufacturing a broad range of advanced electronic components, assemblies and sensor modules for the automotive, industrial, telecommunication, computer and aerospace markets.

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*To request the electronic image, call 919-872-8172, or e-mail: [beth.gaddy@btbmarketing.com](mailto:beth.gaddy@btbmarketing.com)*

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