

FOR IMMEDIATE RELEASE



## Orb Optronix Announces Expanded LED Test Lab

KIRKLAND, Washington (May 16<sup>th</sup>, 2008) – Orb Optronix announced today a significant expansion of its LED Test and Measurement Services Laboratory, offering complete optical, thermal and electrical characterization of light emitting diodes.

To deal with the problem of determining the true operational performance of Light Emitting Diodes (LEDs), Orb Optronix has developed advanced laboratory facilities to accurately measure LED's spectral output under tightly controlled thermal conditions over a range of forward drive currents with high precision forward voltage (Vf) monitoring. "Historically, the characterization of light sources has not required this level of control for product development," said David Jenkins, Orb's president. He continued, "For many applications today, this level of characterization is absolutely necessary - particularly in LED display technology, medical devices, and LED lighting applications. We have new and expanded facilities for automated parametric measurement and characterization of LEDs. We employ two types of temperature control for different purposes. Ambient air temperature control is used primarily for characterizing product or subsystem level performance, while thermoelectric cooler (TEC) temperature control is used primarily for component level characterization of discrete LEDs and LED arrays. Our facilities offer complete thermal, electrical, and optical characterization."

The spectral radiant flux of an LED is a function of many variables including temperature, current, and forward voltage, each as a function of time. This leads to additional relevant variables when you include frequency and duty cycle for pulse width modulated current (PWM) control.

High power LED manufacturers are currently specifying optical output of their LEDs under short single current pulse conditions. Today's high power LED specification sheets generally assume that the junction temperature

is equal to the ambient air temperature of 25C. Although these tests are easily repeatable, they are not particularly useful to engineers designing LEDs into illumination and display products. The decrease of luminous flux and shift in wavelength as temperature rises is highly variable and depends on the properties of LEDs. NIST's Optical Technology Division (OTD) is conducting research to address this important issue and recommends LED characterization be performed under TEC Control. This information is necessary when designing robust LED-based products with specific desired light output and lifetime characteristics.

LED integrators can now accurately and completely characterize LEDs using Orb's services to solve these complex product development challenges.

### About Orb Optronix

Orb Optronix operates an LED measurement services laboratory as an integral part of its engineering services unit located in Kirkland, Washington. Orb's interdisciplinary engineering group specializes in product development services involving Light Emitting Diodes (LEDs), digital imaging, and electronic display systems for consumer, medical and military applications.

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