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LED Line Sources for Ultrafast Line Scan Applications Deliver Megalux Illuminance with Passive Cooling

Woburn, MA, March 23, 2015—Innovations in Optics, Inc. offers the Aurora Classic LED Line Source Illuminators that offer Megalux illuminance using passive cooling. Other line lights for machine vision require water-cooling to achieve equivalent Megalux levels that the Aurora Classic LED Line Sources can provide while cooling with natural convection.

Aurora Classic Line Sources use non-imaging optics and high brightness LED arrays with superior thermal management. Using passive cooling only, the white LED Aurora Line Source produces 2.8 Mlux of illuminance which outshines many commercial LED line source products that require water-cooling. With the forced air cooling option, the illuminance will reach 4.5 Mlux.

The versatile and powerful solid-state line sources are ideal for FA/machine vision, especially high speed line scan systems. High brightness and highly uniform illumination enables ultrafast image acquisition to boost process rates and enhance image resolution. High illuminance provides shorter exposure time and the best signal-to-noise ratio for high speed inspection. Modern line scan cameras support integration times down to 15 microseconds, therefore, Megalux levels of illumination are required to produce optimum image quality. High illuminance also allows using a higher camera f-stop where the depth of focus and sharpness increase while vignetting effects are reduced. Aurora Classic LED Line Sources also offer stable optical power, short warm-up time, energy efficiency, low maintenance and long rated-life.

Aurora Classic Line Sources are available using white LEDs and can also be supplied using narrow band LEDs in center wavelengths ranging from the UV through the NIR. Five different models are available that vary in line length from 4 to 24 inches. The Line Source is configurable to emit either a focused or collimated light beam in support of user preferred working distances. Each Aurora Classic Line Source is supplied with the Model 5000D-100 Driver/Controller which provides constant current in either continuous, pulsed or PWM modes. Its embedded system adds network control with 10/100Mbps Ethernet connectivity and an easy to use GUI enables field-programmability.

Innovations in Optics, Inc. (IOI), founded in 1993 and located near Boston, offers high power LED light sources for science and industry that provide maximum photon delivery, illumination uniformity, and stable optical power. IOI products offer system-level advantages over lasers and arc lamps in OEM equipment for many applications. LumiBright™ light engines and illumination systems feature patented and patent-pending optics which collect, direct and maximize output efficiency and uniformity, enabling some of today's most revolutionary solutions in cutting-edge technical applications for LED light sources.