

HIGH BRIGHTNESS LED PACKAGES AND OPTICAL SYSTEM SOLUTIONS



INNOVATIONS IN OPTICS

High Intensity LumiBright LE LED Light Engine

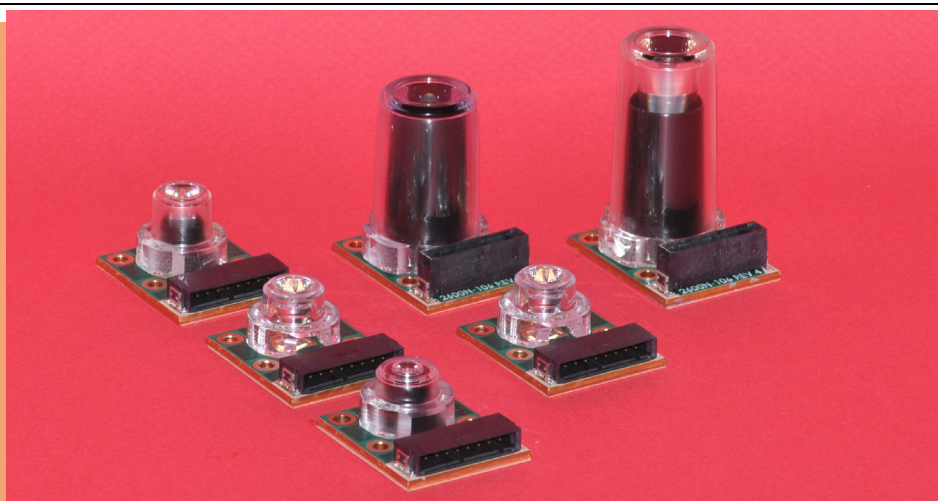
Standard Features:

- Highest Brightness light engine.
- UV thru near IR.
- Uniform Near and Far Fields.
- Single color or broadband Phosphors available.
- High thermal conductivity metal core PCB.
- Robust high current 8 pin SMT connector.
- Thermistor option.
- Photosensor option.
- Patented and Patent Pending Non-Imaging Optics.
- COB Array Technology.
- Long Life high temperature polymer optic.
- High Current CW or Pulsed Operation.
- Heat Sink and thermal pad options available.
- Glass Optics available soon for high power UV operation.

Typical Applications:

- Endoscope and microscope Illumination.
- Fiber Optic Coupling.
- Machine Vision.
- UV Curing.
- Fluorescence excitation.
- Highly uniform spot light

Pushing the state-of-the-art in LED Machine Vision Lighting



Innovations in Optics is first to develop a series of OEM light engines that incorporate ultra high brightness (UHB) LEDs, several available primary collection optics, and thermistor and photo-sensor options for real-time feed back loops of temperature and light intensity.

The LumiBright LE multi-configurable boards can accommodate from one to sixteen 42 mil LED die from UV to near IR and up to three color combinations. The five collection optics provide optimized output solutions specific to end user applications, such as light guide and fiber optic coupling, projection lighting and unrivaled uniform far field illumination. Heat sink and thermal pad accessories are also available. Glass Optics for high power UV applications will be coming soon.

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General LumiBright LE Product Line Overview

The LumiBright LE is available in many different optical, die, phosphor, and board configurations. The data below is provided as a general guideline for the specification of the specific configuration that would best suit your product needs. Not all wavelength die are available so please contact us for your specific requirements. Additionally, many different peak emission and bandwidth phosphors are available that can be used to provide a single spectral range or in combination with other LED wavelengths. Detailed specifications will be available soon.

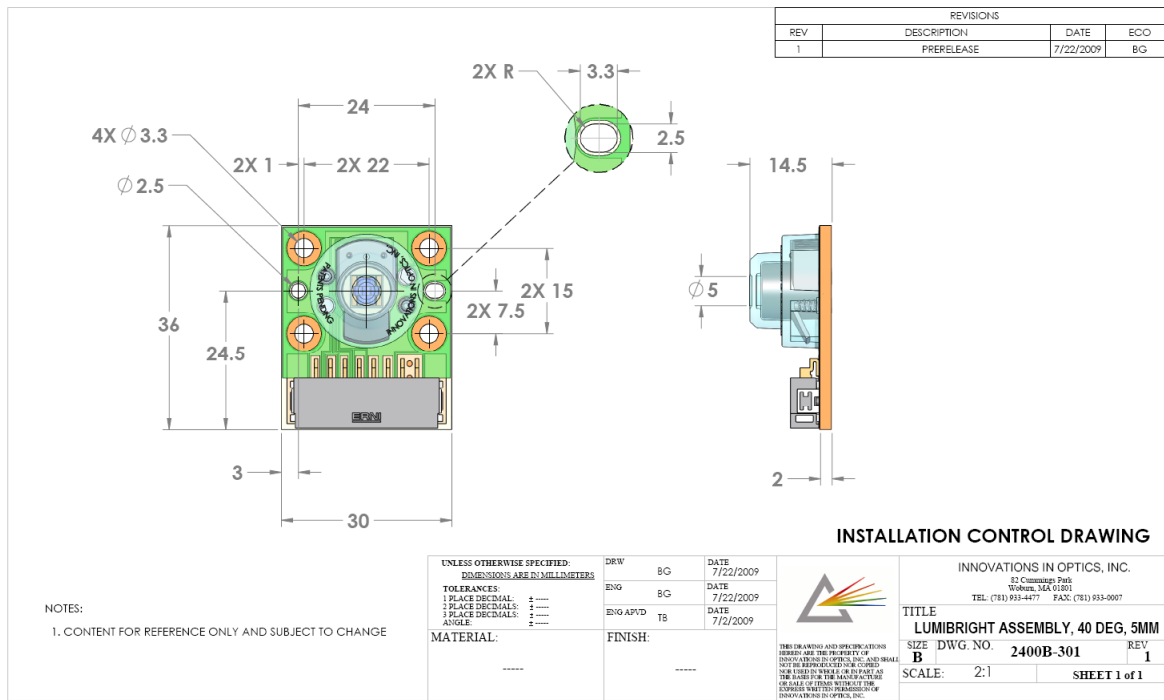
General LumiBright LE Product Configurations and Characteristics

Parameter	Min.	Max.	Comment
Voltage	1.8 Volts	4.2 Volts	Die and Current Dependant
Current	-	1.0 to 3.0 Amp Per Die	Wavelength Dependant
Electrical Power	-	Between 1.0 and 12 Watts per Die	Wavelength and Heat Sink Dependant
Optical Power	700 mW	15 Watts	Wavelength and Heat Sink Dependant
Peak Wavelengths	355 nm	1550 nm	Peak Radiometric
Thermal Impedance		< 1.0 °C/W	Typical for 7 die
Thermistor Impedance		Nominal 10 kΩ	Others available upon request
Photosensor Vcc		3.0 Volts	Nominal
Photosensor Signal		2.3 Volts	Gain must be adjusted to application
Available Die Size	11 mils	80 mils	Depending on Wavelength Nominal size is 42 mils
Operating Temperature Range	-40 °C	100 °C	Depending on Drive Conditions
Maximum Operating Temperature of Optic		140 °C	At input aperture

Nominal LumiBright LE Optical Specifications

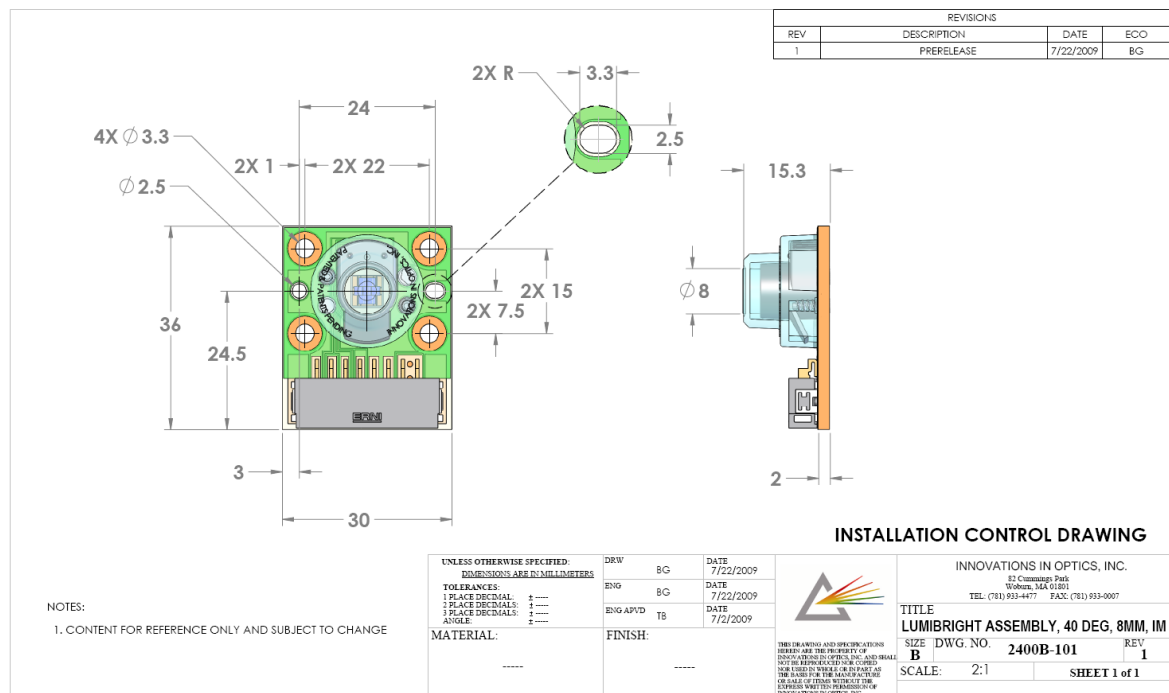
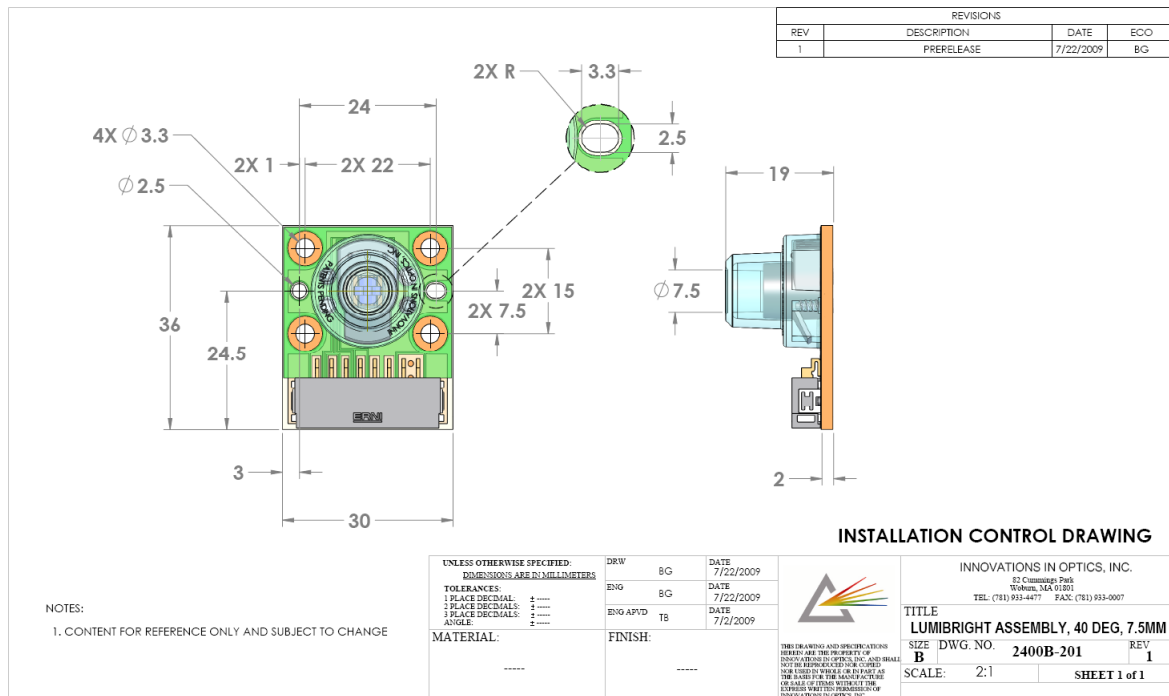
Optic	Board	Max. No. 42 mil Die	Index Matched	Numerical Aperture (NA)	Far Field Extent [Deg. FWHM]	Output Diameter [mm]
2400B-109	2400B	7	No	0.60	37	5.1
2400B-108	2400B	14	No	0.66	41	7.5
2400B-105	2400B	7	Yes	0.66	41	8.0
2600N-105	2600N	7	Yes	0.34	20	15.3
2600N-110	2600N	9	No	0.34	20	13.5

Nominal Mechanical Dimensions



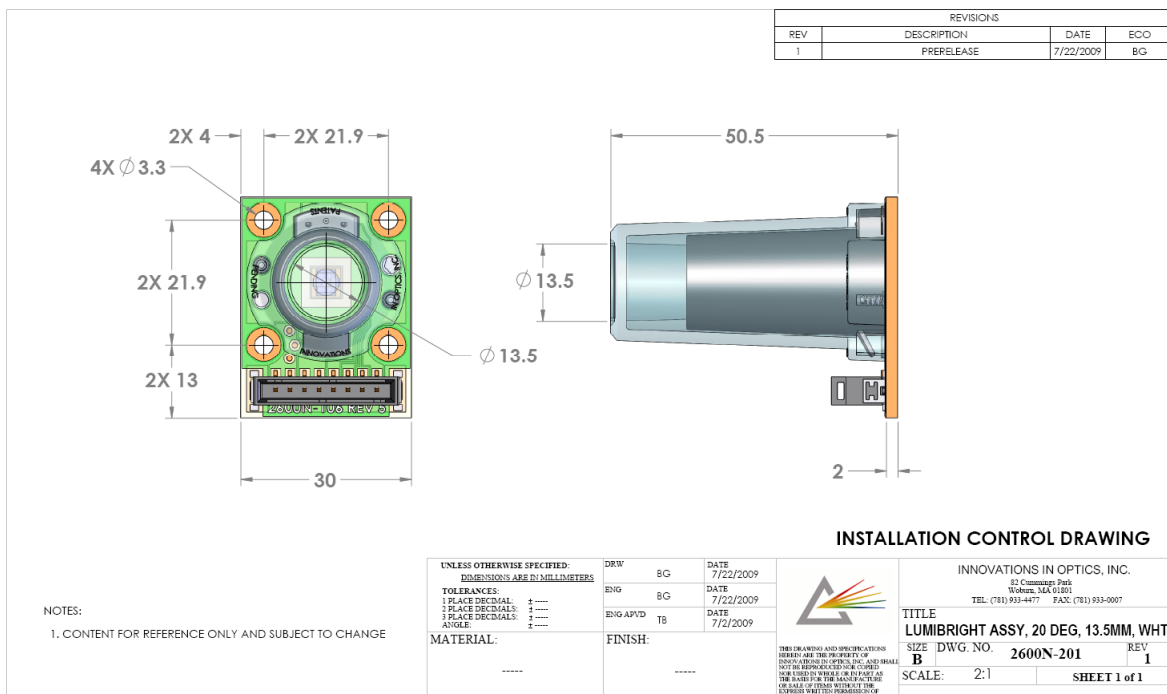
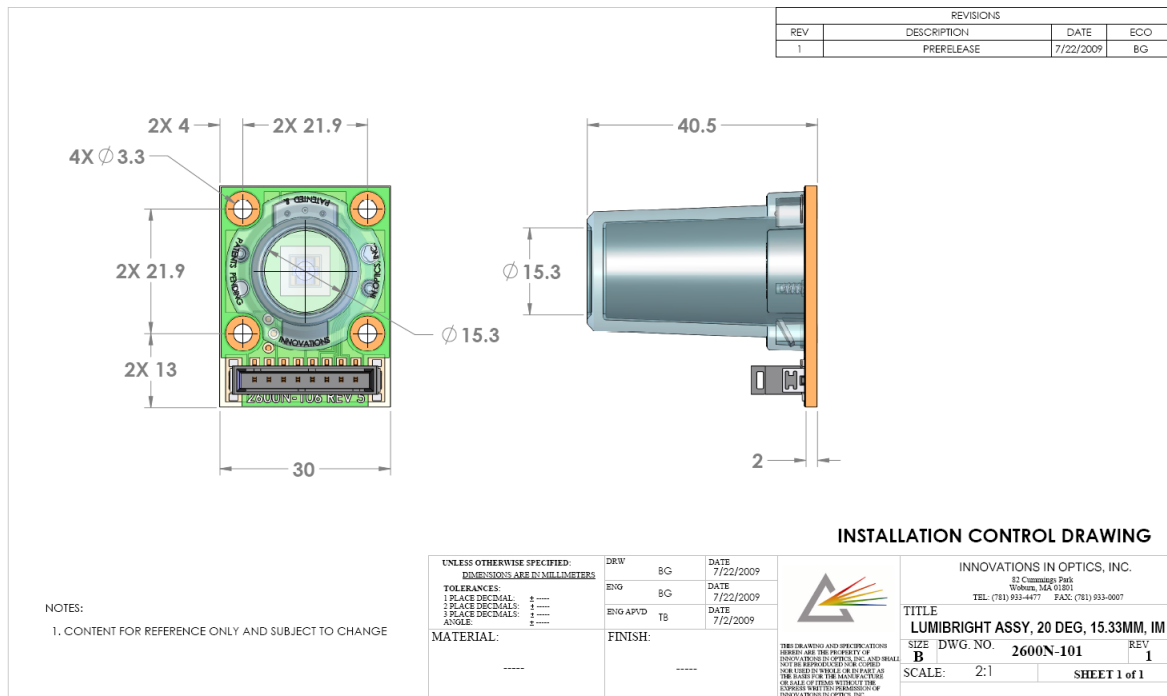


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