# LumiBright<sup>™</sup> LE 2400B-300

LumiBright LE Light Engines provide extreme brightness and a highly uniform light distribution. Chip-on-Board LED technology with metallic PCB substrates offers excellent thermal performance. The patented primary optic is a non-imaging concentrator that delivers high collection efficiency and a homogeneous beam requiring no additional optics. Optional holographic diffusers can spread the beam angle.

The Model LE 2400B-300 produces a 37-degree half angle beam from a 5.1-mm diameter aperture with options for 1, 4, or 7 LED die in single or multi-wavelength configurations. An on-board thermistor (included) allows for real-time monitoring of temperature for closed-loop control.

## **Benefits:**

- $\lambda_{n}$  470 nm thru near IR
- Uniform near and far fields
- Long life, high temperature polymer optic
- Continuous high current or pulsed operation
- RoHS compliant Environmentally friendly

### Features:

- · 37 degree half angle far field
- 5.1 mm output diameter
- · High thermal conductivity metal core PCB
- · COB array technology, 1-7 Die
- · Patented and patent pending non-imaging optics

### **Options:**

- Single or multi-wavelength configurations
- Symmetric or elliptical beam shaping holographic diffusers to modify far field
- · Heat sink and thermal pads
- Drivers and Controllers

# **Typical Applications:**

- Endoscope and microscope Illumination
- · Fiber optic coupling
- Machine vision
- Fluorescence excitation
- · High uniformity spot light

### **Table of Contents**

Product Specifications	.2
Installation Control Drawing	.3
Accessories	3



## LUMIBRIGHT LE 2400B-300

### **SPECIFICATIONS**

The LumiBright LE 2400B-300 is a multi-configurable light engine with a choice of a single or multi-wavelength PCB using our standard 42 mil die. Peak wavelengths available are from 470 nm to near IR with up to three independent wavelength combinations allowing for flexibility and customization. The data below is provided as a general guideline for the 7 die configuration.

Caution: Never connect your unit to an open circuit voltage that is more than 1 Volt above the recommended maximum voltage.

	May No	Indov	Numorical	
Table 1				

Assembly	Max. No. 42 mil Die	Index Matched	Numerical Aperture (NA)	Far Field Extent (Deg. FWHM)	Output Aperture Diameter (mm)
2400B-300	7	No	0.60	37	5.1

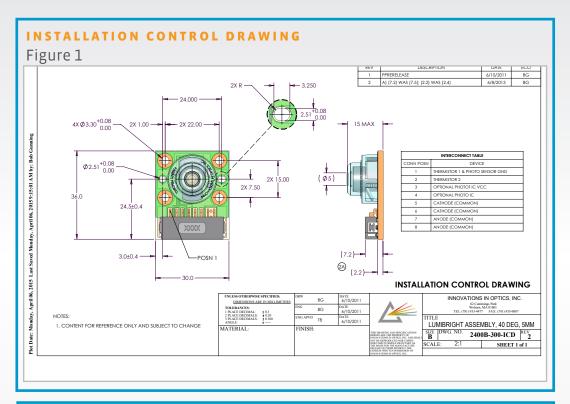
Products are tested using a PGR thermal pad and mounted on a heatpipe.

Maximum drive conditions for the LumiBright LE 2400B-300:

Bin	Current (Amps)	Voltage (V <sub>f</sub> )	Electrical Power (Watts)	Optical Power (mW)
F6				
RED ( $\lambda_{_{\rm D}}$ 629 nm)	-	-	-	-
D6				
GREEN ( $\lambda_p$ 527nm)	-	-	-	-
C4				
BLUE ( $\lambda_{_{\rm D}}$ 470 nm)	-	-	-	-

Parameter	Nominal I	Drive Conditions	Comment	
Available peak λ's	470 nm	1720 nm	Not all λ's in stock (Contact Sales Engineer)	
Thermal impedance	-	<1.0 °C/W	Typical for 1 die	
Thermistor B <sub>25/85</sub>	3574	3646	For 10 kΩ	
Thermistor impedence	-	10 kΩ	Others available upon request	
Available die size	11 mils	60 mils	Standard size 42 mil	
Operating temperature	-40 °C	85 °C	Depending on drive conditions	
Maximum optic temperature	-	120 °C	At input aperture	
Optic T <sub>g</sub>	-	144 °C	Low optical absorption polycarbonate	
Diffuser angular spreading	+1° FWHM	+60° FWHM	Standard diffuser adds 5° (FWHM)	
Lifetime (Hours)	-	-	Depends on drive conditions	

DS-2400B-300-170406



# ACCESSORIES Figure 2 Cooling Fans Thermal Pads Heat Sinks LumiBright DR Driver/ Controller Heat Pipes Wire Harness Assemblies

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