

LumiBright™ LE 2400B-100

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-100 produces a 41-degree half angle beam from an 8-mm diameter aperture with options for 1, 4 or 7 LED die in single or multi-wavelength configurations. An onboard thermistor (included) allows real-time monitoring of temperature for closed loop control.

Benefits:

- λ_p 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:

- 41 degree half angle far field
- 8.0 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 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 Drawings..... | 3 |
| Accessories..... | 3 |



SPECIFICATIONS

The LumiBright LE 2400B-100 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.

Table 1

| Assembly | Max. No. 42 mil Die | Index Matched | Numerical Aperture (NA) | Far Field Extent (Deg. FWHM) | Output Aperture Diameter (mm) |
|-----------|------------------------|------------------|----------------------------|---------------------------------|----------------------------------|
| 2400B-100 | 7 | Yes | 0.66 | 41 | 8.0 |

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

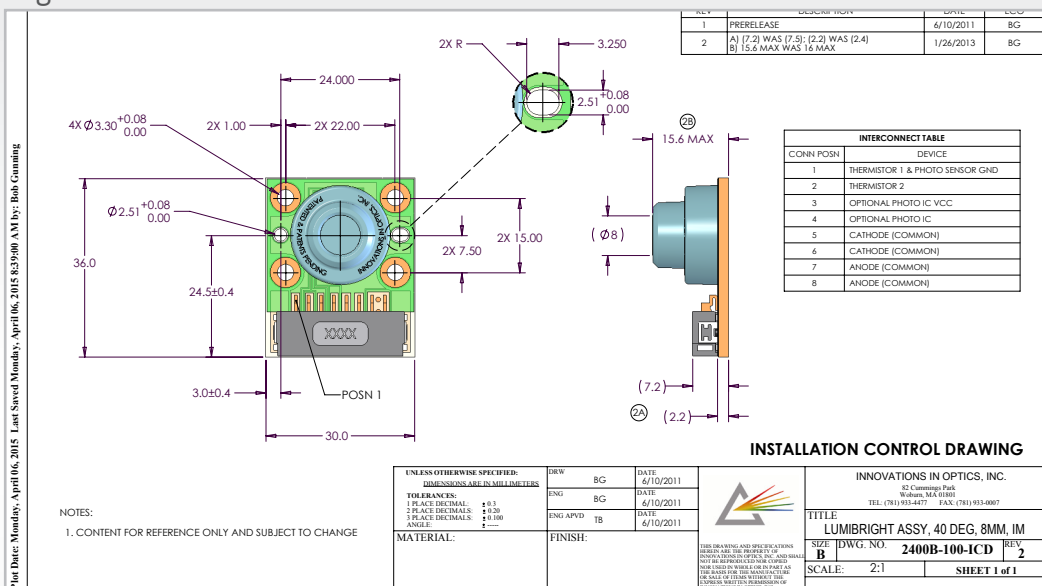
Maximum drive conditions for the LumiBright LE 2400B-100:

| Bin | Current (Amps) | Voltage (V _p) | Electrical Power (Watts) | Optical Power (mW) |
|---|----------------|---------------------------|-----------------------------|-----------------------|
| F6 | | | | |
| RED (λ_p 629 nm) | - | - | - | - |
| D6 | | | | |
| GREEN (λ_p 527nm) | 3.5 | 4.0 | 14.12 | 491 |
| C4 | | | | |
| BLUE (λ_p 470 nm) | 3.5 | 3.9 | 13.77 | 2.98 |

| Parameter | Nominal 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 _{25/85} | 3574 | 3646 | For 10 k Ω |
| Thermistor impedance | - | 10 k Ω | 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 _g | - | 144 °C | Low optical absorption polycarbonate |
| Diffuser angular spreading | +1° FWHM | +60° FWHM | Standard diffuser adds 5° (FWHM) |
| Lifetime (Hours) | - | - | Depends on drive conditions |

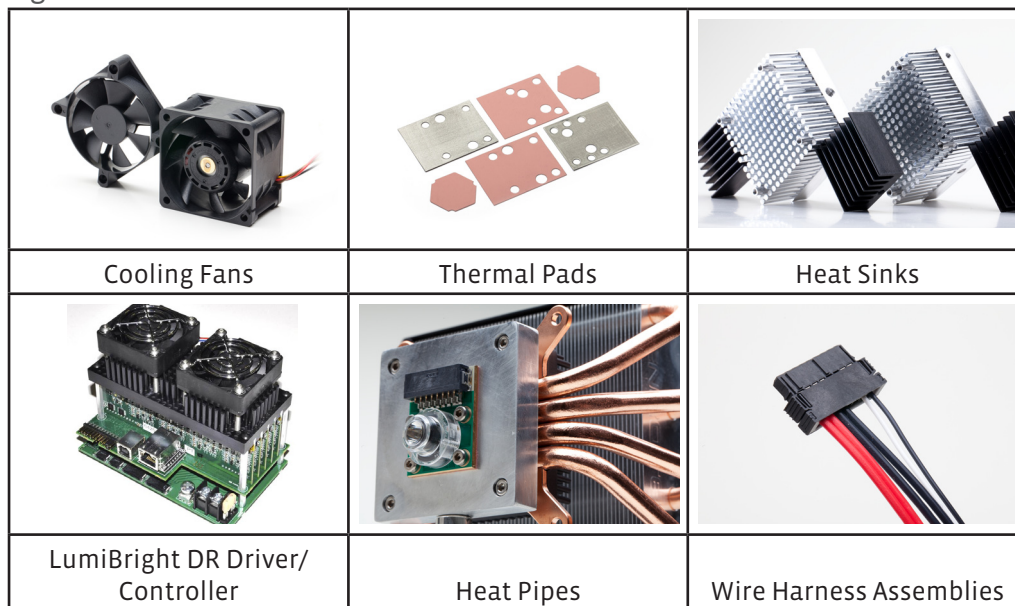
INSTALLATION CONTROL DRAWING

Figure 1



ACCESSORIES

Figure 2



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