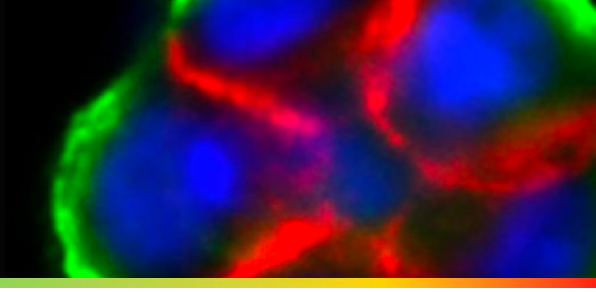
89 NORTH®
Illuminate Today: Transform Tomorrow™

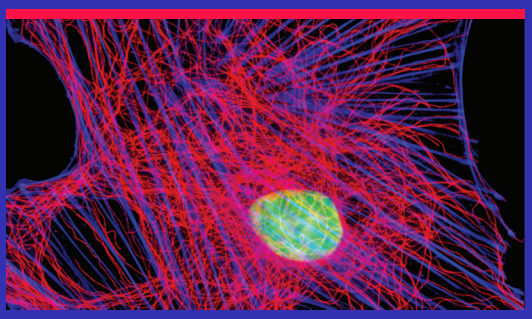



# LDI

# HIGH-PERFORMANCE LASER DIODE ILLUMINATOR

## OVERVIEW

The LDI is a multiline, solid-state laser illuminator offering up to 1000mW of output power per laser line via a multimode fiber at the price of a low power LED light engine. With feedback controlled output stability and up to a 100:1 linear dynamic range, the LDI is the ideal light source for quantitative imaging, ratiometric imaging, and more repeatable optogenetics experiments. There is no user alignment, and it is easy to use and maintain.



## APPLICATIONS

- Spinning Disk Confocal Microscopy
- Super Resolution SIM Imaging
- PALM/STORM
- Optogenetics with DLPs or Multiport Illuminator
- Photoactivation/Photoconversion/FRAP
- FRAP with SLM or Multiport Illuminator
- Spatial Biology

## LDI FAMILY PRODUCT LINE OVERVIEW

We offer a full range of LDI products, including laser lines at 488nm, 577nm, and into the NIR. Other laser lines are available upon request.

| | | | CHOOSE BETWEEN | | | | CHOOSE BETWEEN | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 405nm | 445nm | 470nm | 488nm | 520nm | 528nm | 555nm | 577nm | 640nm | 730nm |
| LDI-4 Series | 300 | | 1000 | 1000 | | | 1000 | 700 | 400 | |
| LDI-5 Series | 450 | | 1000 | 1000 | | | 1000 | 700 | 900 | 850 |
| LDI-7 Series | 300 | 1000 | 1000 | 1000 | 500 | 500 | 1000 | 700 | 400 | |
| LDI-NIR Series | 450 | 1000 | 1000 | 1000 | 500 | | 1000 | 700 | 900 | 850 |
| LDI-PRIME+ | 150 | | | 800 | | | 600 | | 350 | |

*Units shown in the interior of the table above are milliwatts (mW)*
*+PRIME unit is a single 400µm core fiber optic output*

*20+ models available today. Small fiber options available.*
*Option to combine multiple LDIs into single output.*

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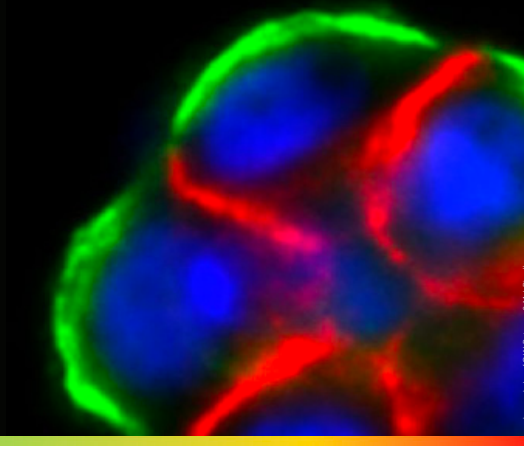
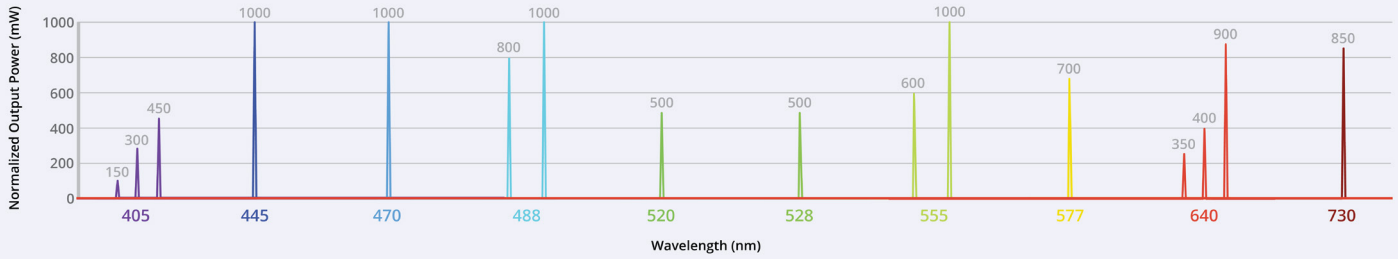


## LDI FAMILY OUTPUT SPECTRA OPTIONS




## SPECIFICATIONS

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Source Type** | Laser Diodes | | | | | | | | | |
| **Laser Line (nm)** | 405 | 445 | 470 | 488 | 520 | 528 | 555 | 577 | 640 | 730 |
| **Width; Average FWHM (nm)** | 1.1 | 1.0 | 1.1 | 1.8 | 3.1 | 2.6 | 0.4 | 0.4 | 1.5 | 1.2 |
| **Centroid Wavelength Range (nm) [1]** | 397-408 | 438-450 | 463-470 | 482-494 | 514-523 | 526-535 | 552-557 | 574-580 | 632-644 | 722-738 |
| **Continuous Wave Stability [2]** | < 1% | < 1% | < 1% | < 1% | < 1% | < 1% | < 1% | < 1% | < 1% | < 1% |
| **Max Rise Time [1]** | < 10 µs | < 10 µs | < 10 µs | < 10 µs | < 10 µs | < 10 µs | < 2 ms | < 2 ms | < 10 µs | < 10 µs |
| **Max On/Off Frequency (Hz) [3]** | > 1000 | > 1000 | > 1000 | > 1000 | > 1000 | > 1000 | 100 | 100 | > 1000 | > 1000 |
| **Output Options** | optical fiber [4] | | | | | | | | | |
| **Control Options** | TTL (>2.3 V)<br>Analog (0–5 V)<br>USB–DSP (virtual COM port) – SDK available upon request | | | | | | | | | |
| **Safety** | Interlocked housing<br>Safety interlock<br>Key interlock<br>IEC 60825 compliant | | | | | | | | | |
| **Dimensions** | 12.5" x 9.2" x 5.75", 318mm x 234mm x 146mm | | | | | | | | | |
| **Weight** | ~9 lbs | | | | | | | | | |
| **Operating Temperature** | 15-30° C | | | | | | | | | |
| **Storage Temperature** | -18-50° C | | | | | | | | | |
| **Humidity** | < 80% non-condensing | | | | | | | | | |
| **Voltage** | 90–220 V AC, 50–60 Hz | | | | | | | | | |
| **Fuse** | None | | | | | | | | | |
| **Warranty** | 2 Years | | | | | | | | | |

1. Measured at 100% intensity, 23°C ± 2°C
2. Typical CW stability value, calculation based on QUAREP LiMi WG 1 Illumination stability measurement at 100% intensity, 23°C ± 2°C
3. Measured at 100% intensity, 50% duty cycle
4. Recommended output fiber for the standard dual output LDI is a 400 µm, 0.39 NA bifurcated fiber.

**DANGER - LASER RADIATION. AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION CLASS 4 LASER PRODUCT**



01-*1661 V15 RevB

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