

**M455L3-C2 - Oct 8, 2020**

M455L3-C2 was discontinued on Oct 8, 2020. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

**COLLIMATED LED LIGHT SOURCES FOR MICROSCOPY**

- ▶ UV, Visible, and IR LEDs
- ▶ Mounted LED with Adjustable Collimation Optic
- ▶ Compatible with Epi-Illumination Port on Olympus, Leica, Nikon, and Zeiss Microscopes



**M625L4-C1**  
For Olympus BX/IX Microscopes



**M405LP1-C2**  
For Leica DMI Microscopes

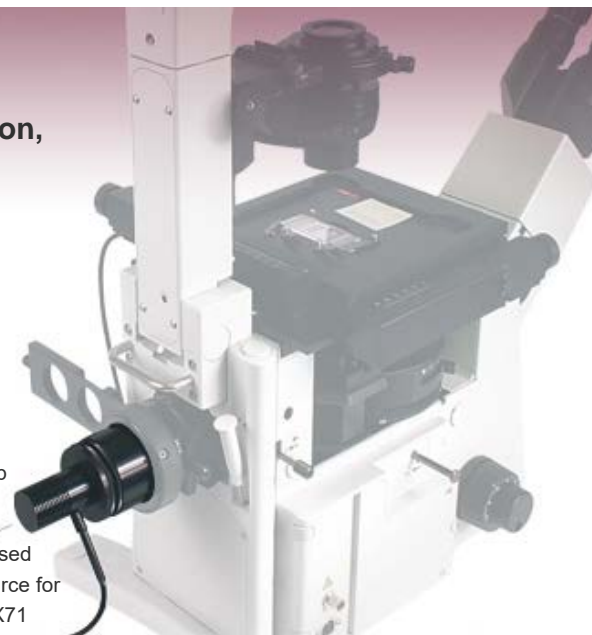


**M590L3-C5**  
For Nikon Eclipse Microscopes



**M810L3-C4**  
For Zeiss Axioskop Microscopes

M505L4-C1 Used as a Light Source for an Olympus IX71



[Hide Overview](#)

**OVERVIEW**

**Features**

- Illumination Source for Microscope Epi-Illumination Ports, Projectors, and Custom Imaging Systems
- Optimized Thermal Management Provides Output Intensity Stability
- Adjustable Aspheric Collimation Optic with Low f/# (Approximately 0.8)
- Integrated Identification Chip (EEPROM) Stores LED Operating Parameters
- Higher Power LEDs Mounted to Larger Heat Sink with Ø57.0 mm Plastic Housing (See the Tables Below for Details)
- 4-Pin Female Mating Connector for Custom Power Supplies can be Purchased Separately
- Custom Adapters Available - Contact Tech Support for Details

**Quick Links**

|                              |
|------------------------------|
| LEDs for Olympus Microscopes |
| LEDs for Leica Microscopes   |
| LEDs for Zeiss Microscopes   |
| LEDs for Nikon Microscopes   |
| Mounted LED Mating Connector |

Thorlabs' collimated LED assemblies can be easily connected to standard and epi-illumination ports on most readily available commercial microscopes, including Olympus, Leica, Nikon, and Zeiss. Each collimated LED consists of a mounted LED and a lamphouse-port-compatible housing that contains an AR-coated aspheric collimation optic (see the Specs tab for details). If the wavelength or output power you require is not sold on this page, our mounted LEDs and Solis® High-Power LEDs are available in additional wavelengths and output powers.

Note: Please ensure your microscope is configured to directly accept an external light source. Some microscope assemblies have a permanently installed illuminator or may be otherwise incompatible with the LED light sources below.

The collimation of the beam can be adjusted by changing the position of the aspheric lens with respect to the LED. Interchanging LEDs is easy; simply unscrew one LED from the housing and replace it with a different mounted LED (sold separately). We also offer collimation packages, which can be purchased separately from these LEDs.

The approximate total beam power through the collimation adapter is given in the tables below and on the *Specs* tab. The actual power at the sample plane will be lower due to losses specific to the optical set up of the microscope. If you wish to measure the power at the sample plane for your particular microscope setup, Thorlabs also offers a microscope slide power meter sensor.

Like our mounted LEDs, the package of these collimated LEDs is in direct contact with the heat sink to provide excellent thermal management. This minimizes the degradation of optical output power caused by increased LED temperatures. Please see the *Stability* tab for information on the stable output intensity of these collimated LEDs. Additionally, our M365LP1, M385LP1, and M405LP1 LEDs feature a higher power output and are mounted to a larger Ø57.0 mm heat sink to increase heat dissipation and thermal stability.

For microscope applications requiring compatibility with SM1 (1.035"-40) threading, our mounted LEDs (sold separately) can be collimated using a Ø1" lens and lens tubes. This collimation method also allows for a smaller beam size than the collimators on this page. Please see the *Collimation* tab on our Mounted LEDs presentation for a detailed item list and instructions.

### Compatible Controllers

Information concerning compatible controllers is provided on the *LED Drivers* tab. If the LED is driven with a DC2200, DC4100, or DC4104 controller, the integrated EEPROM chip will identify the LED and allow the controller to automatically set the proper current limit to protect the LED from being overdriven. The DC4100 and DC4104 require the DC4100-HUB when used with these LEDs.

[Hide Specs](#)

## S P E C S

### Common LED Specifications<sup>a</sup>

#### Legend

LED Mounted to a Heat Sink in a Ø57.0 mm Red Housing

LED Mounted to a Heat Sink in a Ø30.5 mm Black Housing

The section of the housing that holds the collimation optics is the same size for all LEDs that share the same item # suffix, regardless of the size of the heat sink.

| Item # Prefix          | Nominal Wavelength <sup>b,c</sup> | Color <sup>b</sup> | Min LED Power <sup>b,d</sup> | Typ. LED Power <sup>b,d</sup> | Max Drive Current (CW) | Irradiance (Typical) <sup>d</sup> | Electrical Power | Typical Lifetime | Emitter Size    |
|------------------------|-----------------------------------|--------------------|------------------------------|-------------------------------|------------------------|-----------------------------------|------------------|------------------|-----------------|
| M365L2 <sup>e</sup>    | 365 nm                            | UV                 | 190 mW                       | 360 mW                        | 700 mA                 | 8.9 $\mu\text{W}/\text{mm}^2$     | 3.080 W          | >10 000 h        | 1 mm x 1 mm     |
| M365L3 <sup>e</sup>    | 365 nm                            | UV                 | 880 mW                       | 1290 mW                       | 1000 mA                | 14.4 $\mu\text{W}/\text{mm}^2$    | 3.850 W          | >10 000 h        | 2.5 mm x 2.5 mm |
| M365LP1 <sup>e,f</sup> | 365 nm                            | UV                 | 1350 mW                      | 2000 mW                       | 1700 mA                | 21.0 $\mu\text{W}/\text{mm}^2$    | 6.800 W          | >10 000 h        | 2.5 mm x 2.5 mm |
| M385L2 <sup>e</sup>    | 385 nm                            | UV                 | 270 mW                       | 430 mW                        | 700 mA                 | 11.8 $\mu\text{W}/\text{mm}^2$    | 3.010 W          | >10 000 h        | 1 mm x 1 mm     |
| M385L3 <sup>e</sup>    | 385 nm                            | UV                 | 1240 mW                      | 1780 mW                       | 1000 mA                | 19.9 $\mu\text{W}/\text{mm}^2$    | 3.700 W          | >10 000 h        | 2.5 mm x 2.5 mm |
| M385LP1 <sup>e,f</sup> | 385 nm                            | UV                 | 1650 mW                      | 1830 mW                       | 1700 mA                | 23.3 $\mu\text{W}/\text{mm}^2$    | 6.630 W          | >10 000 h        | 1.4 mm x 1.4 mm |
| M405L3 <sup>e</sup>    | 405 nm                            | UV                 | 870 mW                       | 980 mW                        | 1000 mA                | 33.6 $\mu\text{W}/\text{mm}^2$    | 3.900 W          | >100 000 h       | 1 mm x 1 mm     |
| M405L4 <sup>e</sup>    | 405 nm                            | UV                 | 1000 mW                      | 1300 mW                       | 1000 mA                | 14.53 $\mu\text{W}/\text{mm}^2$   | 3.400 W          | > 1 000 h        | 1.4 mm x 1.4 mm |
| M405LP1 <sup>e,f</sup> | 405 nm                            | UV                 | 1500 mW                      | 1700 mW                       | 1400 mA                | 24.6 $\mu\text{W}/\text{mm}^2$    | 4.830 W          | >10 000 h        | 1.4 mm x 1.4 mm |
| M455L3                 | 455 nm                            | Royal Blue         | 900 mW                       | 1020 mW                       | 1000 mA                | 31.2 $\mu\text{W}/\text{mm}^2$    | 3.200 W          | 100 000 h        | 1 mm x 1 mm     |
| M455L4                 | 455 nm                            | Royal Blue         | 1150 mW                      | 1445 mW                       | 1000 mA                | 32 $\mu\text{W}/\text{mm}^2$      | 1.900 W          | >100 000 h       | 1 mm x 1 mm     |
| M470L3                 | 470 nm                            | Blue               | 650 mW                       | 710 mW                        | 1000 mA                | 21.9 $\mu\text{W}/\text{mm}^2$    | 3.200 W          | 100 000 h        | 1 mm x 1 mm     |
| M470L4                 | 470 nm                            | Blue               | 760 mW                       | 965 mW                        | 1000 mA                | 19.9 $\mu\text{W}/\text{mm}^2$    | 3.200 W          | >100 000 h       | 1 mm x 1 mm     |
| M505L3                 | 505 nm                            | Cyan               | 400 mW                       | 440 mW                        | 1000 mA                | 11.1 $\mu\text{W}/\text{mm}^2$    | 3.300 W          | 100 000 h        | 1 mm x 1 mm     |
| M505L4                 | 505 nm                            | Cyan               | 400 mW                       | 520 mW                        | 1000 mA                | 5.94 $\mu\text{W}/\text{mm}^2$    | 3.500 W          | >100 000 h       | 1 mm x 1 mm     |
| M530L3                 | 530 nm                            | Green              | 350 mW                       | 370 mW                        | 1000 mA                | 9.5 $\mu\text{W}/\text{mm}^2$     | 3.200 W          | 100 000 h        | 1 mm x 1 mm     |
| M530L4                 | 530 nm                            | Green              | 370 mW                       | 480 mW                        | 1000 mA                | 9.46 $\mu\text{W}/\text{mm}^2$    | 3.600 W          | >100 000 h       | 1 mm x 1 mm     |
| M590L3                 | 590 nm                            | Amber              | 160 mW                       | 170 mW                        | 1000 mA                | 5.3 $\mu\text{W}/\text{mm}^2$     | 2.200 W          | 100 000 h        | 1 mm x 1 mm     |
| M590L4                 | 590 nm                            | Amber              | 230 mW                       | 300 mW                        | 1000 mA                | 6.0 $\mu\text{W}/\text{mm}^2$     | 2.500 W          | >100 000 h       | 1 mm x 1 mm     |

|                     |                     |            |        |         |         |                                 |         |            |                 |
|---------------------|---------------------|------------|--------|---------|---------|---------------------------------|---------|------------|-----------------|
| M617L3              | 617 nm              | Orange     | 600 mW | 650 mW  | 1000 mA | 15.7 $\mu\text{W}/\text{mm}^2$  | 2.200 W | 100 000 h  | 1 mm x 1 mm     |
| M617L4              | 617 nm              | Orange     | 660 mW | 860 mW  | 1000 mA | 19.86 $\mu\text{W}/\text{mm}^2$ | 2.600 W | >100 000 h | 1 mm x 1 mm     |
| M625L3              | 625 nm              | Red        | 700 mW | 770 mW  | 1000 mA | 18.0 $\mu\text{W}/\text{mm}^2$  | 2.200 W | 100 000 h  | 1 mm x 1 mm     |
| M625L4              | 625 nm              | Red        | 700 mW | 920 mW  | 1000 mA | 21.9 $\mu\text{W}/\text{mm}^2$  | 2.500 W | 100 000 h  | 1 mm x 1 mm     |
| M660L4              | 660 nm              | Deep Red   | 940 mW | 1050 mW | 1200 mA | 20.88 $\mu\text{W}/\text{mm}^2$ | 3.120 W | >10 000 h  | 1.5 mm x 1.5 mm |
| M730L4              | 730 nm              | Far Red    | 515 mW | 595 mW  | 1000 mA | 13.2 $\mu\text{W}/\text{mm}^2$  | 2.300 W | >10 000 h  | 1 mm x 1 mm     |
| M780L3              | 780 nm              | IR         | 200 mW | 300 mW  | 800 mA  | 47.3 $\mu\text{W}/\text{mm}^2$  | 1.600 W | >10 000 h  | 1 mm x 1 mm     |
| M810L3              | 810 nm              | IR         | 325 mW | 375 mW  | 500 mA  | 61.8 $\mu\text{W}/\text{mm}^2$  | 1.800 W | >10 000 h  | 1 mm x 1 mm     |
| M850L3              | 850 nm              | IR         | 900 mW | 1100 mW | 1200 mA | 22.9 $\mu\text{W}/\text{mm}^2$  | 3.540 W | 100 000 h  | 1 mm x 1 mm     |
| M940L3              | 940 nm              | IR         | 800 mW | 1000 mW | 1000 mA | 19.1 $\mu\text{W}/\text{mm}^2$  | 2.750 W | 100 000 h  | 1 mm x 1 mm     |
| MCWHL5 <sup>9</sup> | 6500 K <sup>h</sup> | Cold White | 800 mW | 840 mW  | 1000 mA | 24.8 $\mu\text{W}/\text{mm}^2$  | 3.200 W | 100 000 h  | 1 mm x 1 mm     |
| MCWHL6 <sup>9</sup> | 6500 K <sup>h</sup> | Cold White | 990 mW | 1430 mW | 1200 mA | 25.0 $\mu\text{W}/\text{mm}^2$  | 3.400 W | 100 000 h  | 1 mm x 1 mm     |

- a. Specifications for the LEDs without collimating adapters are given in this table. Please see the second table on this tab for specifications pertaining to the LED with the collimating adapter attached.
- b. Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual spectral output of any given LED will vary. Output plots and nominal wavelength specs are only intended to be used as a guideline.
- c. For LEDs in the visible spectrum, the nominal wavelength indicates the wavelength at which the LED appears brightest to the human eye. For UV and IR LEDs, the nominal wavelength corresponds to the peak wavelength. The nominal wavelength for visible LEDs may not correspond to the peak wavelength as measured by a spectrograph.
- d. For the bare LED. See the table below for total beam power with the collimation package.
- e. Our 365 nm to 405 nm LEDs radiate intense UV light during operation. Precautions must be taken to prevent looking directly at the UV light and UV light protective glasses must be worn to avoid eye damage. Exposure of the skin and other body parts to the UV light should be avoided.
- f. These LEDs have a higher output power (see tables below for total beam power) and are mounted to a  $\varnothing 57.0$  mm heat sink for increased heat dissipation.
- g. These LEDs may not turn off completely when modulated at frequencies above 5 kHz, as the white light is produced by optically stimulating emission from phosphor.
- h. Correlated color temperature. The wavelength range corresponding to >10% power is approximately 435 - 675 nm.

### Specifications for LED with Collimating Microscope Adapter Attached

#### Legend

LED Mounted to a Heat Sink in a  $\varnothing 57.0$  mm Red Housing

LED Mounted to a Heat Sink in a  $\varnothing 30.5$  mm Black Housing

The section of the housing that holds the collimation optics is the same size for all LEDs that share the same item # suffix, regardless of the size of the heat sink.

| Item # Suffix                            |                           | -C1                           | -C2                  | -C4                                      | -C5                           |
|--|---------------------------|-------------------------------|----------------------|--|-------------------------------|
| <b>Compatible Microscope<sup>a</sup></b> |                           | Olympus BX and IX             | Leica DMI            | Zeiss Axioskop and Examiner <sup>b</sup> | Nikon Eclipse (Bayonet Mount) |
| <b>Beam Diameter<sup>c,d</sup></b>       |                           | 50 mm                         | 37 mm                | 44 mm                                    | 43 mm                         |
| <b>Beam Area<sup>c</sup></b>             |                           | 1960 mm <sup>2</sup>          | 1080 mm <sup>2</sup> | 1520 mm <sup>2</sup>                     | 1450 mm <sup>2</sup>          |
| Item # Prefix                            | Included Collimation Lens | Total Beam Power <sup>d</sup> |                      |  |                               |
| M365L2                                   | ACL5040U-A                | 120 mW                        | 60 mW                | 80 mW                                    | 80 mW                         |
| M365L3                                   | ACL5040U-A                | 520 mW                        | 320 mW               | 430 mW                                   | 320 mW                        |
| M365LP1                                  | ACL5040U-A                | 745 mW                        | 435 mW               | 615 mW                                   | 435 mW                        |
| M385L2                                   | ACL5040U-A                | 170 mW                        | 90 mW                | 110 mW                                   | 120 mW                        |
| M385L3                                   | ACL5040U-A                | 680 mW                        | 450 mW               | 570 mW                                   | 410 mW                        |
| M385LP1                                  | ACL5040U-A                | 795 mW                        | 520 mW               | 660 mW                                   | 630 mW                        |
| M405L3                                   | ACL5040U-A                | N/A                           | 440 mW               | 600 mW                                   | 565 mW                        |
| M405L4                                   | ACL5040U-A                | 510 mW                        | N/A                  | N/A                                      | N/A                           |
| M405LP1                                  | ACL5040U-A                | 750 mW                        | 450 mW               | 580 mW                                   | 570 mW                        |
| M455L3                                   | ACL5040U-A                | 500 mW                        | 360 mW               | 430 mW                                   | 400 mW                        |

|        |            |        |        |        |        |
|--------|------------|--------|--------|--------|--------|
| M455L4 | ACL5040U-A | 630 mW | 490 mW | 690 mW | 630 mW |
| M470L3 | ACL5040U-A | N/A    | 250 mW | N/A    | 300 mW |
| M470L4 | ACL5040U-A | 420 mW | 330 mW | 460 mW | 420 mW |
| M505L3 | ACL5040U-A | N/A    | 150 mW | 180 mW | 170 mW |
| M505L4 | ACL5040U-A | 220 mW | 170 mW | 240 mW | 220 mW |
| M530L3 | ACL5040U-A | N/A    | N/A    | N/A    | 150 mW |
| M530L4 | ACL5040U-A | 200 mW | 160 mW | 220 mW | 200 mW |
| M590L3 | ACL5040U-A | 80 mW  | N/A    | 70 mW  | 70 mW  |
| M590L4 | ACL5040U-A | 130 mW | 100 mW | 140 mW | 130 mW |
| M617L3 | ACL5040U-A | 320 mW | 230 mW | 280 mW | 260 mW |
| M617L4 | ACL5040U-A | 360 mW | 280 mW | 400 mW | 360 mW |
| M625L3 | ACL5040U-A | N/A    | 270 mW | N/A    | 300 mW |
| M625L4 | ACL5040U-A | 630 mW | 490 mW | 690 mW | 630 mW |
| M660L4 | ACL5040U-A | 590 mW | 400 mW | 570 mW | 520 mW |
| M730L4 | ACL5040U-B | 240 mW | 165 mW | N/A    | 208 mW |
| M780L3 | ACL5040U-B | 210 mW | 130 mW | 180 mW | 170 mW |
| M810L3 | ACL5040U-B | 245 mW | 210 mW | 230 mW | 225 mW |
| M850L3 | ACL5040U-B | 480 mW | 330 mW | 400 mW | 370 mW |
| M940L3 | ACL5040U-B | 430 mW | 320 mW | 380 mW | 340 mW |
| MCWHL5 | ACL5040U-A | 440 mW | N/A    | 380 mW | 340 mW |
| MCWHL6 | ACL5040U-A | 548 mW | 354 mW | 493 mW | 477 mW |

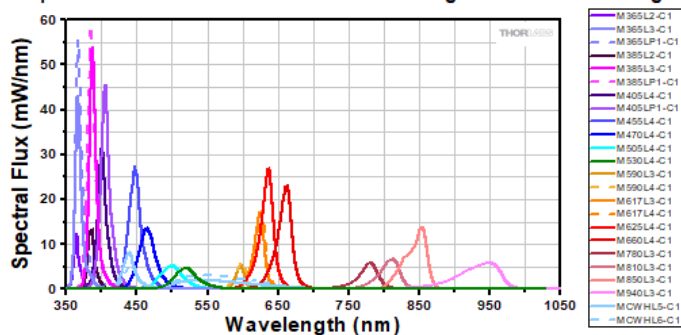
- a. Standard or Epi-Illumination Port Required.
- b. These adapters are compatible with any Zeiss microscopes that use the same dovetail as the Zeiss Axioskop and Examiner microscopes.
- c. Due to variations in the manufacturing process and operating parameters such as temperature and current, the total beam power, beam diameter, and beam area of any given LED will vary.
- d. At the output aperture of the collimation package.

[Hide Relative Power](#)

## RELATIVE POWER

The actual spectral output and total output power of any given LED will vary due to variations in the manufacturing process and operating parameters, such as temperature and current. The typical total beam power of each collimated LED is specified to help you select an LED that suits your needs. In order to provide a point of comparison for the relative powers of LEDs with different nominal wavelengths, the spectra in the plots below have been scaled to the typical total beam power of each collimated LED. This data is representative, not absolute. An Excel file containing the normalized and scaled spectra for each collimation package can be downloaded using the link below each plot.

**Collimated LEDs for Olympus BX and IX Microscopes**  
**Spectra Scaled to Total Beam Power Through Collimation Package**



An Excel file containing the data shown in the plot above may be found [here](#).

### Collimated LEDs for Leica DMI Microscopes

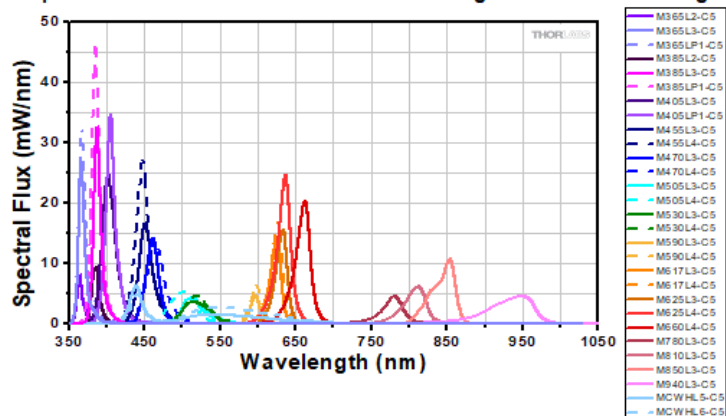


[Click to Enlarge](#)

An Excel file containing the data shown in the plot above may be found here.

### Collimated LEDs for Nikon Eclipse Microscopes

#### Spectra Scaled to Total Beam Power Through Collimation Package

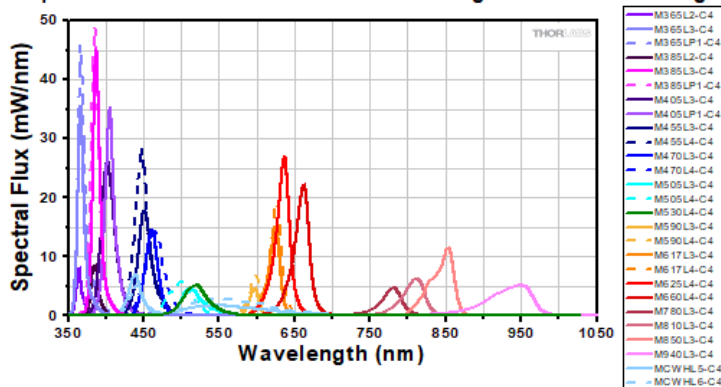


[Click to Enlarge](#)

An Excel file containing the data shown in the plot above may be found here.

### Collimated LEDs for Zeiss Axioskop Microscopes

#### Spectra Scaled to Total Beam Power Through Collimation Package



[Click to Enlarge](#)

An Excel file containing the data shown in the plot above may be found here.

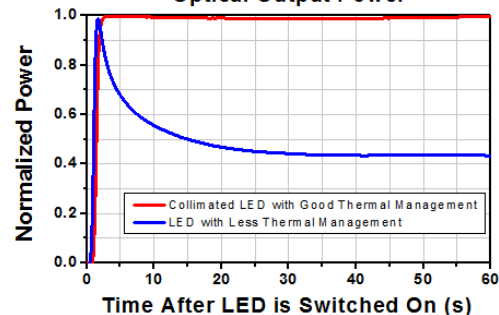
[Hide Stability](#)

## STABILITY

### LED Lifetime and Long-Term Power Stability

One characteristic of LEDs is that they naturally exhibit power degradation with time. Often this power degradation is slow, but there are also instances where large, rapid drops in power, or even complete LED failure, occur. LED lifetimes are defined as the time it takes a specified percentage of a type of LED to fall below some power level. The parameters for the lifetime measurement can be written using the notation  $B_{XX}/L_{YY}$ , where XX is the percentage of that type of LED that will provide less than YY percent of the specified output power after the lifetime has elapsed. Thorlabs defines the lifetime of our LEDs as  $B_{50}/L_{50}$ , meaning that 50% of the LEDs with a given Item # will fall below 50% of the initial optical power at the end of the specified lifetime. For example, if a batch of 100 LEDs is rated for 150 mW of output power, 50 of these LEDs can be expected to produce an output power of  $\leq 75$  mW after the specified LED lifetime has elapsed.

### Optical Output Power



[Click to Enlarge](#)

## Optimized Thermal Management

The thermal dissipation performance of these collimated LEDs has been optimized for stable power output. The heat sink is directly mounted to the LED mount so as to provide optimal thermal contact. By doing so, the degradation of optical output power that can be attributed to increased LED junction temperature is minimized (see the graph to the right).

[Hide Pin Diagram](#)

### PIN DIAGRAM

#### Pin Connection - Male

The diagram to the right shows the male connector of the collimated LED assembly. It is a standard M8 x 1 sensor circular connector. Pins 1 and 2 are the connection to the LED. Pin 3 and 4 are used for the internal EEPROM in these LEDs. If using an LED driver that was not purchased from Thorlabs, be careful that the appropriate connections are made to Pin 1 and Pin 2 and that you do not attempt to drive the LED through the EEPROM pins.



| Pin | Specification | Color |
|-----|---------------|-------|
| 1   | LED Anode     | Brown |
| 2   | LED Cathode   | White |
| 3   | EEPROM GND    | Black |
| 4   | EEPROM IO     | Blue  |

[Hide LED Drivers](#)

### LED DRIVERS











| Compatible Drivers                                     | LEDD1B  | DC2200 <sup>a</sup>   | DC4100 <sup>a,b</sup>                                      | DC4104 <sup>a,b</sup>                                       |
|--|---|---|--|---|
| Click Photos to Enlarge                                |   |   |  |   |
| LED Driver Current Output (Max)                        | 1.2 A   | LED1 Terminal: 10.0 A<br>LED2 Terminal: 2.0 A <sup>c</sup>                                      | 1.0 A per Channel  | 1.0 A per Channel   |
| LED Driver Forward Voltage (Max)                       | 12 V  | 50 V  | 5 V  | 5 V   |
| Modulation Frequency Using External Input (Max)        | 5 kHz   | 250 kHz <sup>d,e</sup>  | 100 kHz <sup>e</sup><br>(Simultaneous Across all Channels) | 100 kHz <sup>e</sup><br>(Independently Controlled Channels) |
| External Control Interface(s)                          | Analog (BNC)  | USB 2.0 and Analog (BNC)  | USB 2.0 and Analog (BNC)                                   | USB 2.0 and Analog (8-Pin)                                  |
| Main Driver Features                                   | Very Compact Footprint<br>60 mm x 73 mm x 104 mm<br>(W x H x D) | Touchscreen Interface with Internal and External Options for Pulsed and Modulated LED Operation | 4 Channels <sup>b</sup>                                    | 4 Channels <sup>b</sup>                                     |
| EEPROM Compatible: Reads Out LED Data for LED Settings | -   | ✓   | ✓  | ✓   |
| LCD Display  | -   | ✓   | ✓  | ✓   |

- a. Automatically limits to LED's max current via EEPROM readout.
- b. The DC4100 or DC4104 can power and control up to four LEDs simultaneously when used with the DC4100-HUB. The LEDs on this page all require the DC4100-HUB when used with the DC4100 or DC4104.
- c. The collimated LEDs sold below are compatible with the LED2 Terminal.
- d. Small Signal Bandwidth: Modulation not exceeding 20% of full scale current. The driver accepts other waveforms, but the maximum frequency will be reduced.
- e. The MCWHL5-C LEDs may not turn off completely when modulated at frequencies above 5 kHz, as the white light is produced by optically stimulating emission from phosphor.

[Hide LED Selection Guide](#)

LED SELECTION GUIDE

Light Emitting Diode (LED) Selection Guide

| (Click Representative Photo to Enlarge; Not to Scale) |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|--|---|---|---|---|
| Wavelength  | Unmounted LEDs  | Pigtailed LEDs  | LEDs in SMT Packages  | PCB-Mounted LEDs  | Heatsink-Mounted LEDs   | Collimated LEDs for Microscopy (Item # Prefix <sup>a</sup> )                       | Fiber-Coupled LEDs <sup>b</sup>   | High-Power LEDs for Microscopy  | Multi-Wavelength LED Source Options <sup>c</sup>                                    | LED Arrays  |
| <b>Single Color LEDs</b>                              |   |   |   |   |   |  |   |   |   |   |
| 250 nm  | LED250J<br>(1 mW Min)   | -   | -   | -   | -   | -  | -   | -   | -   | -   |
| 255 nm  | LED255W<br>(0.4 mW)   | -   | -   | -   | -   | -  | -   | -   | -   | -   |
|   | LED255J<br>(1 mW Min)   | -   | -   | -   | -   | -  | -   | -   | -   | -   |
| 260 nm  | LED260W<br>(0.3 mW)   | -   | -   | -   | -   | -  | -   | -   | -   | -   |
|   | LED260J<br>(1 mW Min)   | -   | -   | -   | -   | -  | -   | -   | -   | -   |
| 265 nm  | LED265W2<br>(1.6 mW)  | -   | -   | M265D2<br>(10 mW Min)   | M265L3<br>(10 mW Min)   | -  | -   | -   | -   | -   |
|   |   |   |   | M265D3<br>(24 mW Min)   | M265L4<br>(24 mW Min)   |  |   |   |   |   |
| 275 nm  | LED275W<br>(0.8 mW)   | -   | -   | M275D2<br>(45 mW Min)   | M275L4<br>(45 mW Min)   | -  | -   | -   | -   | -   |
|   | LED275J<br>(1 mW Min)   | -   | -   |   |   |  |   |   |   |   |
| 280 nm  | LED280J<br>(1 mW Min)   | -   | -   | -   | -   | -  | -   | -   | -   | -   |
|   | LED280W<br>(2.3 mW)   | -   | -   | -   | -   | -  | -   | -   | -   | -   |
| 285 nm  | LED285W<br>(0.8 mW)   | -   | -   | M285D3<br>(50 mW Min)   | M285L5<br>(50 mW Min)   | -  | M285F4<br>(420 μW)  | -   | -   | -   |
| 290 nm  | LED290W<br>(0.8 mW)   | -   | -   | -   | -   | -  | -   | -   | -   | -   |
| 300 nm  | LED300W<br>(0.5 mW)   | -   | -   | M300D3<br>(26 mW Min)   | M300L4<br>(26 mW Min)   | -  | M300F2<br>(320 μW)  | -   | -   | -   |
| 310 nm  | LED310W<br>(1.5 mW)   | -   | -   | -   | -   | -  | -   | -   | -   | -   |
| 315 nm  | LED315W<br>(0.6 mW)   | -   | -   | -   | -   | -  | -   | -   | -   | -   |
| 325 nm  | LED325W2<br>(1.7 mW)  | -   | -   | -   | -   | -  | -   | -   | -   | -   |
| 340 nm  | LED340W<br>(1.7 mW)   | -   | -   | M340D3<br>(53 mW Min)   | M340L4<br>(53 mW Min)   | -  | M340F3<br>(1.06 mW)   | -   | -   | -   |
|   | LED341W<br>(0.33 mW)  | -   | -   |   |   |  |   |   |   |   |
|   |   |   |   | M365D1  | M365L2<br>(190 mW Min)  | M365L2   | M365F1  |   | Chrolis   |   |

|                          |                       |                       |                             |                         |                              |   |                                       |                                       |  |                    |                                       |
|--------------------------|-----------------------|-----------------------|-----------------------------|-------------------------|------------------------------|---|---------------------------------------|---------------------------------------|--|--------------------|---------------------------------------|
| 365 nm                   | -                     | -                     | -                           | (190 mW Min)            | M365L3<br>(880 mW Min)       | (60 mW) <sup>d</sup>  | (4.1 mW)                              | SOLIS-365C<br>(3.0 W) <sup>e</sup>    | (1130 mW)  | LIU365A<br>(31 mW) |                                       |
|                          |                       |                       |                             | M365D2<br>(1150 mW Min) | M365LP1<br>(1350 mW Min)     | M365LP1<br>(350 mW) <sup>d</sup>                                  | M365FP1<br>(15.5 mW)                  |                                       | 4-<br>Wavelength<br>Source<br>(85 mW)                  |                    |                                       |
| 375 nm                   | LED375L<br>(1 mW)     | -                     | -                           | M375D4<br>(1270 mW Min) | M375L4<br>(1270 mW Min)      | -   | M375F2<br>(4.23 mW)                   | -                                     | -  | -                  |                                       |
|                          | LED370E<br>(2.5 mW)   |                       |                             |                         |                              |   |                                       |                                       |  |                    |                                       |
| 385 nm                   | LED385L<br>(5 mW)     | -                     | -                           | M385D1<br>(270 mW Min)  | M385L2<br>(270 mW Min)       | M385L2<br>(90 mW) <sup>d</sup>                                    | M385F1<br>(10.7 mW)                   | SOLIS-385C<br>(5.8 W) <sup>e</sup>    | Chrolis<br>(1250 mW)                                   | -                  |                                       |
|                          |                       |                       |                             | M385D2<br>(1650 mW Min) | M385L3<br>(1240 mW Min)      | M385L3<br>(450 mW) <sup>d</sup>                                   |                                       |                                       | M385FP1<br>(23.2 mW)                                   |                    | 4-<br>Wavelength<br>Source<br>(95 mW) |
| 395 nm                   | LED395L<br>(6 mW)     | -                     | -                           | M395D3<br>(400 mW Min)  | M395L4<br>(400 mW Min)       | -   | M395F3<br>(6.8 mW)                    | -                                     | -  | -                  |                                       |
|                          |                       |                       |                             | M395D4<br>(1420 mW Min) | M395L5<br>(1130 mW Min)      |   |                                       |                                       |  |                    | M395FP1<br>(20.1 mW)                  |
|                          |                       |                       |                             |                         | M395LP1<br>(1420 mW Min)     |   |                                       |                                       |  |                    |                                       |
| <b>Wavelength</b>        | <b>Unmounted LEDs</b> | <b>Pigtailed LEDs</b> | <b>LEDs in SMT Packages</b> | <b>PCB-Mounted LEDs</b> | <b>Heatsink-Mounted LEDs</b> | <b>Collimated LEDs for Microscopy (Item # Prefix<sup>a</sup>)</b> | <b>Fiber-Coupled LEDs<sup>b</sup></b> | <b>High-Power LEDs for Microscopy</b> | <b>Multi-Wavelength LED Source Options<sup>c</sup></b> | <b>LED Arrays</b>  |                                       |
| <b>Single Color LEDs</b> |                       |                       |                             |                         |                              |   |                                       |                                       |  |                    |                                       |
| 405 nm                   | LED405L<br>(6 mW)     | -                     | -                           | M405D2<br>(1500 mW Min) | M405L4<br>(1000 mW Min)      | M405L3<br>(440 mW) <sup>d</sup>                                   | M405F1<br>(3.7 mW)                    | SOLIS-405C<br>(3.9 W) <sup>e</sup>    | Chrolis<br>(900 mW)                                    | -                  |                                       |
|                          | LED405E<br>(10 mW)    |                       |                             |                         |                              | M405L4<br>(510 mW) <sup>f</sup>                                   |                                       |                                       | M405LP1<br>(1200 mW Min)                               |                    | M405LP1<br>(450 mW) <sup>d</sup>      |
| 415 nm                   | -                     | -                     | -                           | M415D2<br>(1640 mW Min) | M415L4<br>(1310 mW Min)      | -   | M415F3<br>(21.3 mW)                   | SOLIS-415C<br>(5.8 W) <sup>e</sup>    | -  | -                  |                                       |
|                          |                       |                       |                             |                         | M415LP1<br>(1640 mW Min)     |   |                                       |                                       |  |                    |                                       |
| 420 nm                   | -                     | -                     | -                           | -                       | -                            | -   | -                                     | -                                     | Chrolis<br>(710 mW)                                    | -                  |                                       |
|                          |                       |                       |                             |                         |                              |   |                                       |                                       | 4-<br>Wavelength<br>Source<br>(95 mW)                  |                    |                                       |
| 430 nm                   | LED430L<br>(8 mW)     | -                     | -                           | M430D2<br>(490 mW Min)  | M430L4<br>(490 mW Min)       | -   | -                                     | -                                     | -  | -                  |                                       |
| 445 nm                   | -                     | -                     | -                           | -                       | -                            | -   | -                                     | SOLIS-445C<br>(5.4 W) <sup>e</sup>    | -  | -                  |                                       |
| 450 nm                   | LED450L<br>(7 mW)     | -                     | LEDS450<br>(250 mW)         | M450D3<br>(1850 mW Min) | M450LP1<br>(1850 mW Min)     | -   | -                                     | -                                     | -  | -                  |                                       |
| 455 nm                   | -                     | -                     | -                           | M455D3                  | M455L4                       | M455L3<br>(360 mW) <sup>d</sup>                                   | M455F3                                | -                                     | -  | 4-<br>Wavelength   |                                       |
|                          |                       |                       |                             |                         |                              |   |                                       |                                       |  |                    |                                       |



|                   |                            |                           |                                     |                                       |                                       |   |  |   |   |                       |
|-------------------|----------------------------|---------------------------|-------------------------------------|---------------------------------------|---------------------------------------|---|--|---|---|-----------------------|
|                   |                            |                           |                                     | (1150 mW Min)                         | (1150 mW Min)                         | M455L4<br>(490 mW) <sup>d</sup>                                     | (24.5 mW)                                      |   | Source<br>(310 mW)  |                       |
| 465 nm            | LED465E<br>(20 mW)         | -                         | -                                   | -                                     | -                                     | -   | -  | -   | -   | -                     |
| 470 nm            | LED470L<br>(170 mW)        | EP470S04<br>(18 mW Min)   | -                                   | M470D2<br>(650 mW Min)                | M470L4<br>(760 mW Min)                | M470L3<br>(250 mW) <sup>d</sup>                                     | M470F3<br>(17.2 mW)                            | SOLIS-470C<br>(3.0 W) <sup>e</sup>                | 4-<br>Wavelength<br>Source<br>(250 mW)                                  | LIU470A<br>(253 mW)   |
|                   |                            | EP470S10<br>(100 mW Min)  |                                     | M470D3<br>(760 mW Min)                |                                       | M470L4<br>(330 mW) <sup>d</sup>                                     |  |   |   |                       |
| 475 nm            | -                          | -                         | -                                   | -                                     | -                                     | -   | -  | -   | Chrolis<br>(630 mW)   | -                     |
| 490 nm            | LED490L(3<br>mW)           | -                         | -                                   | M490D3<br>(205 mW Min)                | M490L4<br>(205 mW Min)                | -   | M490F3<br>(2.3 mW)                             | -   | Chrolis<br>(120 mW)   | -                     |
|                   |                            |                           |                                     | 4-<br>Wavelength<br>Source<br>(50 mW) |                                       |   |  |   |   |                       |
| 505 nm            | LED505L<br>(4 mW)          | -                         | -                                   | M505D2<br>(400 mW Min)                | M505L4<br>(400 mW Min)                | M505L3<br>(150 mW) <sup>g</sup>                                     | M505F3<br>(11.7 mW)                            | SOLIS-505C<br>(1.0 W) <sup>e</sup>                | 4-<br>Wavelength<br>Source<br>(170 mW)                                  | -                     |
|                   |                            |                           |                                     | M505D3<br>(400 mW Min)                |                                       | M505L4<br>(170 mW) <sup>d</sup>                                     |  |   |   |                       |
| 525 nm            | LED525E<br>(2.6 mW<br>Max) | -                         | -                                   | -                                     | -                                     | -   | -  | SOLIS-525C<br>(2.4 W) <sup>e</sup>                | Chrolis<br>(180 mW)   | LIU525A<br>(111 mW)   |
|                   | LED525L<br>(4 mW)          |                           |                                     |                                       |                                       |   |  |   |   |                       |
|                   | LED528EHP<br>(7 mW)        |                           |                                     |                                       |                                       |   |  |   |   |                       |
| 530 nm            | -                          | -                         | -                                   | M530D3<br>(370 mW Min)                | M530L4<br>(370 mW Min)                | M530L3<br>(150 mW) <sup>g</sup>                                     | M530F2<br>(6.8 mW)                             | -   | 4-<br>Wavelength<br>Source<br>(100 mW)                                  | -                     |
|                   |                            |                           |                                     |                                       |                                       | M530L4<br>(160 mW) <sup>d</sup>                                     |  |   |   |                       |
| 554 nm            | -                          | -                         | -                                   | MINTD3<br>(650 mW Min)                | MINTL5<br>(650 mW Min)                | -   | MINTF4<br>(21 mW<br>Min)                       | -   | -   | -                     |
| 565 nm            | -                          | -                         | -                                   | M565D2<br>(880 mW Min)                | M565L3<br>(880 mW Min)                | -   | M565F3<br>(13.5 mW)                            | SOLIS-4C<br>(3.2 W) <sup>e</sup>                  | Chrolis<br>(350 mW)   | -                     |
|                   |                            |                           |                                     |                                       |                                       |   |  |   | 4-<br>Wavelength<br>Source<br>(106 mW)                                  |                       |
| 570 nm            | LED570L<br>(0.3 mW)        | -                         | -                                   | -                                     | -                                     | -   | -  | -   | -   | -                     |
| 590 nm            | LED590L<br>(2 mW)          | EP590S04<br>(3.5 mW Min)  | -                                   | M590D3<br>(230 mW Min)                | M590L4<br>(230 mW Min)                | M590L3<br>(60 mW) <sup>d</sup>                                      | M590F3<br>(4.6 mW)                             | SOLIS-590C<br>(350 mW) <sup>e</sup>               | Chrolis<br>(140 mW)   | LIU590A<br>(109 mW)   |
|                   | LED591E<br>(2 mW)          | EP590S10<br>(18 mW Min)   |                                     |                                       |                                       | M590L4<br>(100 mW) <sup>d</sup>                                     |  |   | 4-<br>Wavelength<br>Source<br>(65 mW)                                   |                       |
| 595 nm            | -                          | -                         | -                                   | M595D3<br>(820 mW Min)                | M595L4<br>(820 mW Min)                | -   | M595F2<br>(8.7 mW)                             | SOLIS-595C<br>(700 mW) <sup>e</sup>               | -   | -                     |
| <b>Wavelength</b> | <b>Unmounted<br/>LEDs</b>  | <b>Pigtailed<br/>LEDs</b> | <b>LEDs in<br/>SMT<br/>Packages</b> | <b>PCB-<br/>Mounted<br/>LEDs</b>      | <b>Heatsink-<br/>Mounted<br/>LEDs</b> | <b>Collimated<br/>LEDs<br/>for<br/>Microscopy<br/>(Item #<br/>a</b> | <b>Fiber-<br/>Coupled<br/>LEDs<sup>b</sup></b> | <b>High-Power<br/>LEDs<br/>for<br/>Microscopy</b> | <b>Multi-<br/>Wavelength<br/>LED<br/>Source<br/>Options<sup>c</sup></b> | <b>LED<br/>Arrays</b> |



|                          |                       |                         |                             |                         |                              |   |                                       |                                       |  |                     |
|--------------------------|-----------------------|-------------------------|-----------------------------|-------------------------|------------------------------|---|---------------------------------------|---------------------------------------|--|---------------------|
| 800 nm                   | (20 mW)               | -                       | -                           | -                       | -                            | -   | -                                     | -                                     | -  | -                   |
| 810 nm                   | LED810L<br>(22 mW)    | EP810S04<br>(16 mW Min) | -                           | M810D2<br>(325 mW Min)  | M810L3<br>(325 mW Min)       | M810L3<br>(210 mW) <sup>d</sup>                                   | M810F2<br>(6.5 mW)                    | -                                     | -  | -                   |
|                          |                       | EP810S10<br>(90 mW Min) |                             | M810D3<br>(363 mW Min)  | M810L4<br>(363 mW Min)       |   |                                       |                                       |  |                     |
| 830 nm                   | LED830L<br>(22 mW)    | -                       | -                           | -                       | -                            | -   | -                                     | -                                     | -  | -                   |
| 840 nm                   | LED840L<br>(22 mW)    | -                       | -                           | -                       | -                            | -   | -                                     | -                                     | -  | -                   |
| 850 nm                   | LED851L<br>(13 mW)    | -                       | -                           | M850D2<br>(900 mW Min)  | M850L3<br>(900 mW Min)       | M850L3<br>(330 mW) <sup>d</sup>                                   | M850F2<br>(13.4 mW)                   | SOLIS-850C<br>(2.7 W) <sup>e</sup>    | -  | LIU850A<br>(322 mW) |
|                          |                       |                         |                             | M850D3<br>(1400 mW)     | M850LP1<br>(1400 mW Min)     |   |                                       |                                       |  |                     |
| 870 nm                   | LED870E<br>(22 mW)    | -                       | -                           | -                       | -                            | -   | -                                     | -                                     | -  | -                   |
|                          | LED870L<br>(24 mW)    |                         |                             |                         |                              |   |                                       |                                       |  |                     |
| 880 nm                   | -                     | -                       | -                           | M880D2<br>(300 mW Min)  | M880L3<br>(300 mW Min)       | -   | M880F2<br>(3.4 mW)                    | -                                     | -  | -                   |
| 890 nm                   | LED890L<br>(12 mW)    | -                       | -                           | -                       | -                            | -   | -                                     | -                                     | -  | -                   |
| 910 nm                   | LED910L<br>(10 mW)    | -                       | -                           | -                       | -                            | -   | -                                     | -                                     | -  | -                   |
|                          | LED910E<br>(12 mW)    |                         |                             |                         |                              |   |                                       |                                       |  |                     |
| 930 nm                   | LED930L<br>(15 mW)    | -                       | -                           | -                       | -                            | -   | -                                     | -                                     | -  | -                   |
| 940 nm                   | LED940E<br>(18 mW)    | -                       | -                           | M940D2<br>(800 mW Min)  | M940L3<br>(800 mW Min)       | M940L3<br>(320 mW) <sup>d</sup>                                   | M940F3<br>(14.2 mW)                   | SOLIS-940C<br>(2.5 W) <sup>e</sup>    | -  | -                   |
| 970 nm                   | LED970L<br>(5 mW)     | -                       | -                           | M970D3<br>(600 mW Min)  | M970L4<br>(600 mW Min)       | -   | M970F3<br>(8.1 mW)                    | -                                     | -  | -                   |
| <b>Wavelength</b>        | <b>Unmounted LEDs</b> | <b>Pigtailed LEDs</b>   | <b>LEDs in SMT Packages</b> | <b>PCB-Mounted LEDs</b> | <b>Heatsink-Mounted LEDs</b> | <b>Collimated LEDs for Microscopy (Item # Prefix<sup>a</sup>)</b> | <b>Fiber-Coupled LEDs<sup>b</sup></b> | <b>High-Power LEDs for Microscopy</b> | <b>Multi-Wavelength LED Source Options<sup>c</sup></b> | <b>LED Arrays</b>   |
| <b>Single Color LEDs</b> |                       |                         |                             |                         |                              |   |                                       |                                       |  |                     |
| 1050 nm                  | LED1050E<br>(2.5 mW)  | -                       | -                           | M1050D1<br>(50 mW Min)  | M1050L2<br>(50 mW Min)       | -   | -                                     | -                                     | -  | -                   |
|                          | LED1050L<br>(4 mW)    |                         |                             | M1050D3<br>(160 mW Min) | M1050L4<br>(160 mW Min)      |   | M1050F3<br>(3 mW)                     |                                       |  |                     |
| 1070 nm                  | LED1070L<br>(4 mW)    | -                       | -                           | -                       | -                            | -   | -                                     | -                                     | -  | -                   |
|                          | LED1070E<br>(7.5 mW)  |                         |                             |                         |                              |   |                                       |                                       |  |                     |
| 1085 nm                  | LED1085L<br>(5 mW)    | -                       | -                           | -                       | -                            | -   | -                                     | -                                     | -  | -                   |
| 1200 nm                  | LED1200E<br>(2.5 mW)  | -                       | -                           | M1200D2<br>(30 mW Min)  | M1200L3<br>(30 mW Min)       | -   | -                                     | -                                     | -  | -                   |
|                          | LED1200L<br>(5 mW)    |                         |                             |                         |                              |   |                                       |                                       |  |                     |
| 1300 nm                  | LED1300E<br>(2 mW)    | -                       | -                           | M1300D2<br>(25 mW Min)  | M1300L3<br>(25 mW Min)       | -   | -                                     | -                                     | -  | -                   |
|                          | LED1300L              |                         |                             |                         |                              |   |                                       |                                       |  |                     |



| 4200 nm                                       | (0.03 mW Quasi-CW, 0.2 mW Pulsed)            | -              | -                    | -                    | -                     | -  | -                               | -                              | -  | -                |
|---|--|----------------|----------------------|----------------------|-----------------------|--|---------------------------------|--------------------------------|--|------------------|
| 4300 nm                                       | LED4300W (0.18 mW Quasi-CW, 1.5 mW Pulsed)   | -              | -                    | -                    | -                     | -  | -                               | -                              | -  | -                |
| 4500 nm                                       | LED4600P (0.006 mW Quasi-CW, 0.12 mW Pulsed) | -              | -                    | -                    | -                     | -  | -                               | -                              | -  | -                |
| Wavelength                                    | Unmounted LEDs                               | Pigtailed LEDs | LEDs in SMT Packages | PCB-Mounted LEDs     | Heatsink-Mounted LEDs | Collimated LEDs for Microscopy (Item # Prefix <sup>a</sup> ) | Fiber-Coupled LEDs <sup>b</sup> | High-Power LEDs for Microscopy | Multi-Wavelength LED Source Options <sup>c</sup> | LED Arrays       |
| <b>Multi-Color, Broadband, and White LEDs</b> |  |                |                      |                      |                       |  |                                 |                                |  |                  |
| 455 nm (12.5% <sup>h</sup> ) and 640 nm       | -  | -              | -                    | MPRP1D2 (275 mW Min) | MPRP1L4 (275 mW Min)  | -  | -                               | -                              | -  | -                |
| 572 nm and 625 nm                             | LEDGR (0.09 mW and 0.19 mW)                  | -              | -                    | -                    | -                     | -  | -                               | -                              | -  | -                |
| 588 nm and 617 nm                             | LEDRY (0.09 mW and 0.19 mW)                  | -              | -                    | -                    | -                     | -  | -                               | -                              | -  | -                |
| 467.5 nm, 525 nm, and 627.5 nm                | LEDRGBE (5.8 mW, 6.2 mW, and 3.1 mW)         | -              | -                    | -                    | -                     | -  | -                               | -                              | -  | -                |
| 430 - 660 nm (White)                          | LEDWE-15 (13 mW)                             | -              | -                    | -                    | -                     | -  | -                               | -                              | -  | -                |
|   | LEDW7E (15.0 mW)                             |                |                      |                      |                       |  |                                 |                                |  |                  |
|   | LEDW25E (15.0 mW)                            |                |                      |                      |                       |  |                                 |                                |  |                  |
| 470 - 850 nm (Broadband)                      | -  | -              | -                    | MBB1D1 (70 mW Min)   | MBB1L3 (70 mW Min)    | -  | MBB1F1 (1.2 mW)                 | -                              | -  | -                |
| 6500 K (Cold White)                           | -  | -              | -                    | MCWHD4 (990 mW Min)  | MCWHL6 (990 mW Min)   | MCWHL5 (440 mW) <sup>f</sup>                                 | -                               | SOLIS-1C (3.3 W) <sup>e</sup>  | -  | -                |
|   |  |                |                      | MCWHD3 (2350 mW Min) | MCWHL1 (2350 mW Min)  | MCWHL6 (354 mW) <sup>d</sup>                                 |                                 |                                |  |                  |
| 6200 K (Cold White)                           | -  | -              | -                    | -                    | -                     | -  | MCWHF2 (21.5 mW)                | -                              | -  | -                |
| 5000 K (Cold White)                           | -  | -              | LEDW50 (110 mW)      | -                    | -                     | -  | -                               | -                              | -  | -                |
| 4600 - 9000 K (Cold White)                    | -  | -              | -                    | -                    | -                     | -  | -                               | -                              | -  | LIUCWHA (250 mW) |
| 4000 K (Warm White)                           | -  | -              | LEDW40 (115 mW)      | -                    | -                     | -  | MWWHF2 (16.3 mW)                | -                              | -  | -                |

|                             |   |   |                     |                         |                          |   |   |                                  |   |   |
|-----------------------------|---|---|---------------------|-------------------------|--------------------------|---|---|----------------------------------|---|---|
| 3000 K<br>(Warm White)      | - | - | LEDSW30<br>(100 mW) | MWWHD3<br>(2000 mW Min) | MWWHL4<br>(570 mW Min)   | - | - | SOLIS-2C<br>(3.2 W) <sup>e</sup> | - | - |
|                             |   |   |                     |                         | MWWHLP1<br>(2000 mW Min) |   |   |                                  |   |   |
| 5700 K<br>(Day Light White) | - | - | -                   | -                       | -                        | - | - | SOLIS-3C<br>(3.5 W)              | - | - |

- a. These Collimated LEDs are compatible with the standard and epi-illumination ports on the following microscopes: Olympus BX/IX (Item # Suffix: -C1), Leica DMI (Item # Suffix: -C2), Zeiss Axioskop (Item # Suffix: -C4), and Nikon Eclipse (Bayonet Mount, Item # Suffix: -C5).
- b. Typical power when used with MM Fiber with Ø400 µm core, 0.39 NA.
- c. Our Multi-Wavelength LED Sources are available with select combinations of the LEDs at these wavelengths.
- d. Typical power for LEDs with the Leica DMI collimation package (Item # Suffix: -C2).
- e. Minimum power for the collimated output of these LEDs. The collimation lens is installed with each LED.
- f. Typical power for LEDs with the Olympus BX and IX collimation package (Item # Suffix: -C1).
- g. Typical power for LEDs with the Nikon Eclipse collimation package (Item # Suffix: -C5).
- h. Percentage of LED intensity that emits in the blue portion of the spectrum, from 400 nm to 525 nm.

[Hide Collimated LED Light Sources for Olympus BX and IX Microscopes](#)

### Collimated LED Light Sources for Olympus BX and IX Microscopes

- ▶ Approximate Beam Diameter: 50 mm
- ▶ Approximate Beam Area: 1960 mm<sup>2</sup>
- ▶ AR-Coated Aspheric Collimation Lens (EFL: 40 mm)
- ▶ See the *Specs* Tab for a Complete List of Specifications
- ▶ Cable Length: 2 m

| Item #                  | Color <sup>a</sup> | Housing   | Total Beam Power <sup>b</sup> |
|-------------------------|--------------------|---|-------------------------------|
| M365L2-C1               | UV                 |  | 120 mW                        |
| M365L3-C1               | UV                 |  | 520 mW                        |
| M365LP1-C1 <sup>c</sup> | UV                 |  | 745 mW                        |
| M385L2-C1               | UV                 |  | 170 mW                        |
| M385L3-C1               | UV                 |  | 680 mW                        |
| M385LP1-C1 <sup>c</sup> | UV                 |  | 795 mW                        |
| M405L4-C1               | UV                 |  | 510 mW                        |
| M405LP1-C1 <sup>c</sup> | UV                 |  | 750 mW                        |
| M455L4-C1               | Royal Blue         |  | 630 mW                        |
| M470L4-C1               | Blue               |  | 420 mW                        |
| M505L4-C1               | Cyan               |  | 220 mW                        |
| M530L4-C1               | Green              |  | 200 mW                        |

| Item #    | Color <sup>a</sup> | Housing   | Total Beam Power <sup>b</sup> |
|-----------|--------------------|---|-------------------------------|
| M590L3-C1 | Amber              |  | 80 mW                         |
| M590L4-C1 | Amber              |  | 130 mW                        |
| M617L3-C1 | Orange             |  | 320 mW                        |
| M617L4-C1 | Orange             |  | 360 mW                        |
| M625L4-C1 | Red                |  | 630 mW                        |
| M660L4-C1 | Deep Red           |  | 590 mW                        |
| M780L3-C1 | IR                 |  | 210 mW                        |
| M810L3-C1 | IR                 |  | 245 mW                        |
| M850L3-C1 | IR                 |  | 480 mW                        |
| M940L3-C1 | IR                 |  | 430 mW                        |
| MCWHL5-C1 | Cold White         |  | 440 mW                        |
| MCWHL6-C1 | Cold White         |  | 548 mW                        |

- a. Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual spectral output of any given LED will vary. Output plots are only intended to be used as a guideline.
- b. After collimation package. Due to variations in the manufacturing process and operating parameters such as temperature and current, the total beam power of any given LED will vary.
- c. These LEDs have a higher output power and are mounted to a Ø57.0 mm heat sink for increased heat dissipation.



Click to Enlarge

| Part Number | Description  | Price    | Availability |
|-------------|--|----------|--------------|
| M365L2-C1   | 365 nm, 120 mW (Typ.) Collimated LED for Olympus BX & IX, 700 mA       | \$450.00 | Today        |
| M365L3-C1   | NEW! 365 nm, 520 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA | \$557.68 | Today        |

|            |  |          |           |
|------------|--|----------|-----------|
| M365LP1-C1 | 365 nm, 745 mW (Typ.) Collimated LED for Olympus BX & IX, 1700 mA      | \$653.68 | Today     |
| M385L2-C1  | 385 nm, 170 mW (Typ.) Collimated LED for Olympus BX & IX, 700 mA       | \$450.00 | Today     |
| M385L3-C1  | NEW! 385 nm, 680 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA | \$577.85 | 5-8 Days  |
| M385LP1-C1 | 385 nm, 795 mW (Typ.) Collimated LED for Olympus BX & IX, 1700 mA      | \$588.68 | Today     |
| M405L4-C1  | 405 nm, 510 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$495.61 | Today     |
| M405LP1-C1 | 405 nm, 750 mW (Typ.) Collimated LED for Olympus BX & IX, 1400 mA      | \$588.68 | Today     |
| M455L4-C1  | 455 nm, 630 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$577.85 | Today     |
| M470L4-C1  | 470 nm, 420 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$577.85 | Today     |
| M505L4-C1  | 505 nm, 220 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$577.85 | Today     |
| M530L4-C1  | 530 nm, 200 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$577.85 | Today     |
| M590L3-C1  | 590 nm, 80 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA       | \$349.17 | Today     |
| M590L4-C1  | 590 nm, 130 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$495.61 | Lead Time |
| M617L3-C1  | 617 nm, 320 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$349.17 | Today     |
| M617L4-C1  | 617 nm, 360 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$495.61 | Today     |
| M625L4-C1  | 625 nm, 630 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$478.95 | 5-8 Days  |
| M660L4-C1  | 660 nm, 590 mW (Typ.) Collimated LED for Olympus BX & IX, 1200 mA      | \$495.61 | Today     |
| M780L3-C1  | 780 nm, 210 mW (Typ.) Collimated LED for Olympus BX & IX, 800 mA       | \$548.63 | Today     |
| M810L3-C1  | 810 nm, 245 mW (Typ.) Collimated LED for Olympus BX & IX, 500 mA       | \$548.63 | Today     |
| M850L3-C1  | 850 nm, 480 mW (Typ.) Collimated LED for Olympus BX & IX, 1200 mA      | \$548.63 | 5-8 Days  |
| M940L3-C1  | 940 nm, 430 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$548.63 | Today     |
| MCWHL5-C1  | 6500 K, 440 mW (Typ.) Collimated LED for Olympus BX & IX, 1000 mA      | \$529.15 | 5-8 Days  |
| MCWHL6-C1  | 6500 K, 548 mW (Typ.) Collimated LED for Olympus BX & IX, 1200 mA      | \$532.00 | Today     |















[Hide Collimated LED Light Sources for Leica DMI Microscopes](#)


### Collimated LED Light Sources for Leica DMI Microscopes

- ▶ Approximate Beam Diameter: 37 mm
- ▶ Approximate Beam Area: 1080 mm<sup>2</sup>
- ▶ AR-Coated Aspheric Collimation Lens (EFL = 40 mm)
- ▶ See the *Specs* Tab for a Complete List of Specifications
- ▶ Cable Length: 2 m

The M730L4-C2 will be retired without replacement when stock is depleted. If you require this part for line production, please contact our OEM Team.

**Limited  
STOCK**

| Item #                  | Color <sup>a</sup> | Housing   | Total Beam Power <sup>b</sup> |
|-------------------------|--------------------|---|-------------------------------|
| M365L2-C2               | UV                 |  | 60 mW                         |
| M365L3-C2               | UV                 |  | 320 mW                        |
| M365LP1-C2 <sup>c</sup> | UV                 |  | 435 mW                        |
| M385L2-C2               | UV                 |  | 90 mW                         |
| M385L3-C2               | UV                 |  | 450 mW                        |
| M385LP1-C2 <sup>c</sup> | UV                 |  | 520 mW                        |
| M405L3-C2               | UV                 |  | 440 mW                        |
| M405LP1-C2 <sup>c</sup> | UV                 |  | 450 mW                        |
| M455L3-C2               | Royal Blue         |  | 360 mW                        |
| M455L4-C2               | Royal Blue         |  | 490 mW                        |
| M470L3-C2               | Blue               |  | 250 mW                        |
| M470L4-C2               | Blue               |  | 330 mW                        |
| M505L3-C2               | Cyan               |  | 150 mW                        |
| M505L4-C2               | Cyan               |  | 170 mW                        |

| Item #    | Color <sup>a</sup> | Housing   | Total Beam Power <sup>b</sup> |
|-----------|--------------------|---|-------------------------------|
| M530L4-C2 | Green              |  | 160 mW                        |
| M590L4-C2 | Amber              |  | 100 mW                        |
| M617L3-C2 | Orange             |  | 230 mW                        |
| M617L4-C2 | Orange             |  | 280 mW                        |
| M625L3-C2 | Red                |  | 270 mW                        |
| M625L4-C2 | Red                |  | 490 mW                        |
| M660L4-C2 | Deep Red           |  | 400 mW                        |
| M730L4-C2 | Far Red            |  | 165 mW                        |
| M780L3-C2 | IR                 |  | 130 mW                        |
| M810L3-C2 | IR                 |  | 210 mW                        |
| M850L3-C2 | IR                 |  | 330 mW                        |
| M940L3-C2 | IR                 |  | 320 mW                        |
| MCWHL6-C2 | Cold White         |  | 354 mW                        |

- a. Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual spectral output of any given LED will vary. Output plots are only intended to be used as a guideline.

- b. After collimation package. Due to variations in the manufacturing process and operating parameters such as temperature and current, the total beam power of any given LED will vary.
- c. These LEDs have a higher output power and are mounted to a Ø57.0 mm heat sink for increased heat dissipation.



Click to Enlarge

| Part Number | Description  | Price    | Availability |
|-------------|--|----------|--------------|
| M365L2-C2   | 365 nm, 60 mW (Typ.) Collimated LED for Leica DMI, 700 mA        | \$450.00 | Today        |
| M365L3-C2   | NEW! 365 nm, 320 mW (Typ.) Collimated LED for Leica DMI, 1000 mA | \$557.68 | 5-8 Days     |
| M365LP1-C2  | 365 nm, 435 mW (Typ.) Collimated LED for Leica DMI, 1700 mA      | \$678.56 | Today        |
| M385L2-C2   | 385 nm, 90 mW (Typ.) Collimated LED for Leica DMI, 700 mA        | \$450.00 | Today        |
| M385L3-C2   | NEW! 375 nm, 450 mW (Typ.) Collimated LED for Leica DMI, 1000 mA | \$577.85 | 5-8 Days     |
| M385LP1-C2  | 385 nm, 520 mW (Typ.) Collimated LED for Leica DMI, 1700 mA      | \$613.56 | Today        |
| M405L3-C2   | 405 nm, 440 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$495.61 | Today        |
| M405LP1-C2  | 405 nm, 450 mW (Typ.) Collimated LED for Leica DMI, 1400 mA      | \$613.56 | Today        |
| M455L3-C2   | 455 nm, 360 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$407.88 | Lead Time    |
| M455L4-C2   | 455 nm, 490 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$577.85 | Today        |
| M470L3-C2   | 470 nm, 250 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$407.88 | 5-8 Days     |
| M470L4-C2   | 470 nm, 330 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$577.85 | Today        |
| M505L3-C2   | 505 nm, 150 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$407.88 | 5-8 Days     |
| M505L4-C2   | 505 nm, 170 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$577.85 | Today        |
| M530L4-C2   | 530 nm, 160 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$577.85 | Today        |
| M590L4-C2   | 590 nm, 100 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$495.61 | Today        |
| M617L3-C2   | 617 nm, 230 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$349.17 | Today        |
| M617L4-C2   | 617 nm, 280 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$495.61 | Today        |
| M625L3-C2   | 625 nm, 270 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$495.61 | Today        |
| M625L4-C2   | 625 nm, 490 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$478.95 | Today        |
| M660L4-C2   | 660 nm, 400 mW (Typ.) Collimated LED for Leica DMI, 1200 mA      | \$495.61 | Today        |
| M730L4-C2   | 730 nm, 165 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$548.63 | Today        |
| M780L3-C2   | 780 nm, 130 mW (Typ.) Collimated LED for Leica DMI, 800 mA       | \$548.63 | 5-8 Days     |
| M810L3-C2   | 810 nm, 210 mW (Typ.) Collimated LED for Leica DMI, 500 mA       | \$548.63 | Today        |
| M850L3-C2   | 850 nm, 330 mW (Typ.) Collimated LED for Leica DMI, 1200 mA      | \$548.63 | Today        |
| M940L3-C2   | 940 nm, 320 mW (Typ.) Collimated LED for Leica DMI, 1000 mA      | \$548.63 | 5-8 Days     |
| MCWHL6-C2   | 6500 K, 354 mW (Typ.) Collimated LED for Leica DMI, 1200 mA      | \$532.00 | Today        |

[Hide Collimated LED Light Sources for Zeiss Axioskop and Examiner Microscopes](#)

### Collimated LED Light Sources for Zeiss Axioskop and Examiner Microscopes

- ▶ Approximate Beam Diameter: 44 mm
- ▶ Approximate Beam Area: 1520 mm<sup>2</sup>
- ▶ Compatible with Dovetail Used in Zeiss Axioskop and Examiner Microscopes
- ▶ AR-Coated Aspheric Collimation Lens (EFL: 40 mm)
- ▶ See the *Specs* Tab for a Complete List of Specifications
- ▶ Cable Length: 2 m

| Item #    | Color <sup>a</sup> | Housing | Total Beam Power <sup>b</sup> | Item #    | Color <sup>a</sup> | Housing | Total Beam Power <sup>b</sup> |
|-----------|--------------------|---------|-------------------------------|-----------|--------------------|---------|-------------------------------|
| M365L2-C4 | UV                 |         | 80 mW                         | M530L4-C4 | Green              |         | 220 mW                        |
| M365L3-C4 | UV                 |         | 430 mW                        | M590L3-C4 | Amber              |         | 70 mW                         |



|                         |            |   |        |           |            |   |        |
|-------------------------|------------|---|--------|-----------|------------|---|--------|
| M365LP1-C4 <sup>c</sup> | UV         |   | 615 mW | M590L4-C4 | Amber      |   | 140 mW |
| M385L2-C4               | UV         |  | 110 mW | M617L3-C4 | Orange     |  | 280 mW |
| M385L3-C4               | UV         |  | 570 mW | M617L4-C4 | Orange     |  | 400 mW |
| M385LP1-C4 <sup>c</sup> | UV         |  | 630 mW | M625L4-C4 | Red        |  | 690 mW |
| M405L3-C4               | UV         |  | 600 mW | M660L4-C4 | Deep Red   |  | 570 mW |
| M405LP1-C4 <sup>c</sup> | UV         |  | 570 mW | M780L3-C4 | IR         |  | 180 mW |
| M455L3-C4               | Royal Blue |  | 430 mW | M810L3-C4 | IR         |  | 230 mW |
| M455L4-C4               | Royal Blue |  | 690 mW | M850L3-C4 | IR         |  | 400 mW |
| M470L4-C4               | Blue       |  | 460 mW | M940L3-C4 | IR         |  | 380 mW |
| M505L3-C4               | Cyan       |  | 180 mW | MCWHL5-C4 | Cold White |  | 380 mW |
| M505L4-C4               | Cyan       |  | 240 mW | MCWHL6-C4 | Cold White |  | 493 mW |

- a. Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual spectral output of any given LED will vary. Output plots are only intended to be used as a guideline.
- b. After collimation package. Due to variations in the manufacturing process and operating parameters such as temperature and current, the total beam power of any given LED will vary.
- c. These LEDs have a higher output power and are mounted to a Ø57.0 mm heat sink for increased heat dissipation.



















Click to Enlarge

| Part Number | Description  | Price    | Availability |
|-------------|--|----------|--------------|
| M365L2-C4   | 365 nm, 80 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 700 mA        | \$450.00 | Today        |
| M365L3-C4   | NEW! 365 nm, 430 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA | \$557.68 | 5-8 Days     |
| M365LP1-C4  | 365 nm, 615 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1700 mA      | \$678.56 | Today        |
| M385L2-C4   | 385 nm, 110 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 700 mA       | \$450.00 | Today        |
| M385L3-C4   | NEW! 385 nm, 570 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA | \$577.85 | 5-8 Days     |
| M385LP1-C4  | 385 nm, 660 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1700 mA      | \$613.56 | Today        |
| M405L3-C4   | 405 nm, 600 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$495.61 | 5-8 Days     |
| M405LP1-C4  | 405 nm, 580 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1400 mA      | \$613.56 | Today        |
| M455L3-C4   | 455 nm, 430 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$407.88 | Today        |
| M455L4-C4   | 455 nm, 690 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$577.85 | Today        |
| M470L4-C4   | 470 nm, 460 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$577.85 | Today        |
| M505L3-C4   | 505 nm, 180 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$407.88 | Today        |
| M505L4-C4   | 505 nm, 240 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$577.85 | Today        |
| M530L4-C4   | 530 nm, 220 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$577.85 | Today        |
| M590L3-C4   | 590 nm, 70 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA       | \$349.17 | Today        |
| M590L4-C4   | 590 nm, 140 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$495.61 | Today        |
| M617L3-C4   | 617 nm, 280 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$349.17 | Today        |
| M617L4-C4   | 617 nm, 400 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$495.61 | Today        |
| M625L4-C4   | 625 nm, 690 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$478.95 | Today        |
| M660L4-C4   | 660 nm, 570 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1200 mA      | \$532.41 | Today        |
| M780L3-C4   | 780 nm, 180 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 800 mA       | \$548.63 | Today        |
| M810L3-C4   | 810 nm, 230 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 500 mA       | \$590.84 | Today        |
| M850L3-C4   | 850 nm, 400 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1200 mA      | \$548.63 | Today        |
| M940L3-C4   | 940 nm, 380 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$548.63 | Today        |
| MCWHL5-C4   | 6500 K, 380 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1000 mA      | \$529.15 | Today        |
| MCWHL6-C4   | 6500 K, 493 mW (Typ.) Collimated LED for Zeiss Axioskop & Examiner, 1200 mA      | \$532.00 | 5-8 Days     |

[Hide Collimated LED Light Sources for Nikon Eclipse \(Bayonet Mount\) Microscopes](#)**Collimated LED Light Sources for Nikon Eclipse (Bayonet Mount) Microscopes**

- ▶ Approximate Beam Diameter: 43 mm
- ▶ Approximate Beam Area: 1450 mm<sup>2</sup>
- ▶ AR-Coated Aspheric Collimation Lens (EFL: 40 mm)
- ▶ See the *Specs* Tab for a Complete List of Specifications
- ▶ Cable Length: 2 m

| Item #                  | Color <sup>a</sup> | Housing   | Total Beam Power <sup>b</sup> |
|-------------------------|--------------------|---|-------------------------------|
| M365L2-C5               | UV                 |    | 80 mW                         |
| M365L3-C5               | UV                 |    | 320 mW                        |
| M365LP1-C5 <sup>c</sup> | UV                 |    | 435 mW                        |
| M385L2-C5               | UV                 |    | 120 mW                        |
| M385L3-C5               | UV                 |    | 410 mW                        |
| M385LP1-C5 <sup>c</sup> | UV                 |    | 660 mW                        |
| M405L3-C5               | UV                 |    | 565 mW                        |
| M405LP1-C5 <sup>c</sup> | UV                 |    | 580 mW                        |
| M455L3-C5               | Royal Blue         |    | 400 mW                        |
| M455L4-C5               | Royal Blue         |    | 630 mW                        |
| M470L3-C5               | Blue               |    | 300 mW                        |
| M470L4-C5               | Blue               |    | 420 mW                        |
| M505L3-C5               | Cyan               |    | 170 mW                        |
| M505L4-C5               | Cyan               |   | 220 mW                        |
| M530L3-C5               | Green              |  | 150 mW                        |
| M530L4-C5               | Green              |  | 200 mW                        |

| Item #    | Color <sup>a</sup> | Housing   | Total Beam Power <sup>b</sup> |
|-----------|--------------------|---|-------------------------------|
| M590L3-C5 | Amber              |  | 70 mW                         |
| M590L4-C5 | Amber              |  | 130 mW                        |
| M617L3-C5 | Orange             |  | 260 mW                        |
| M617L4-C5 | Orange             |  | 360 mW                        |
| M625L3-C5 | Red                |  | 300 mW                        |
| M625L4-C5 | Red                |  | 630 mW                        |
| M660L4-C5 | Deep Red           |  | 520 mW                        |
| M780L3-C5 | IR                 |  | 170 mW                        |
| M810L3-C5 | IR                 |  | 225 mW                        |
| M850L3-C5 | IR                 |  | 370 mW                        |
| M940L3-C5 | IR                 |  | 340 mW                        |
| MCWHL5-C5 | Cold White         |  | 340 mW                        |
| MCWHL6-C5 | Cold White         |  | 477 mW                        |

- a. Due to variations in the manufacturing process and operating parameters such as temperature and current, the actual spectral output of any given LED will vary. Output plots are only intended to be used as a guideline.
- b. After collimation package. Due to variations in the manufacturing process and operating parameters such as temperature and current, the total beam power of any given LED will vary.
- c. These LEDs have a higher output power and are mounted to a Ø57.0 mm heat sink for increased heat dissipation.



Click to Enlarge

| Part Number | Description  | Price    | Availability |
|-------------|--|----------|--------------|
| M365L2-C5   | 365 nm, 80 mW (Typ.) Collimated LED for Nikon Eclipse, 700 mA        | \$500.00 | Today        |
| M365L3-C5   | NEW! 365 nm, 320 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$594.65 | 5-8 Days     |
| M365LP1-C5  | 365 nm, 435 mW (Typ.) Collimated LED for Nikon Eclipse, 1700 mA      | \$727.26 | Today        |
| M385L2-C5   | 385 nm, 120 mW (Typ.) Collimated LED for Nikon Eclipse, 700 mA       | \$490.00 | Today        |
| M385L3-C5   | NEW! 385 nm, 410 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$614.65 | 5-8 Days     |
| M385LP1-C5  | 385 nm, 630 mW (Typ.) Collimated LED for Nikon Eclipse, 1700 mA      | \$662.26 | Today        |
| M405L3-C5   | 405 nm, 565 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA      | \$532.41 | Today        |
| M405LP1-C5  | 405 nm, 570 mW (Typ.) Collimated LED for Nikon Eclipse, 1400 mA      | \$662.26 | Today        |
| M455L3-C5   | 455 nm, 400 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA      | \$433.63 | Today        |
| M455L4-C5   | 455 nm, 630 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA      | \$614.65 | Today        |
| M470L3-C5   | 470 nm, 300 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA      | \$433.63 | 5-8 Days     |
| M470L4-C5   | 470 nm, 420 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA      | \$614.65 | Today        |
| M505L3-C5   | 505 nm, 170 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA      | \$433.63 | Today        |

|           |   |          |          |
|-----------|---|----------|----------|
| M505L4-C5 | 505 nm, 220 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$614.65 | Today    |
| M530L3-C5 | 530 nm, 150 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$433.63 | 5-8 Days |
| M530L4-C5 | 530 nm, 200 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$614.65 | Today    |
| M590L3-C5 | 590 nm, 70 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA  | \$375.95 | Today    |
| M590L4-C5 | 590 nm, 130 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$532.41 | Today    |
| M617L3-C5 | 617 nm, 260 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$375.95 | Today    |
| M617L4-C5 | 617 nm, 360 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$532.41 | Today    |
| M625L3-C5 | 625 nm, 300 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$532.41 | Today    |
| M625L4-C5 | 625 nm, 630 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$525.30 | Today    |
| M660L4-C5 | 660 nm, 520 mW (Typ.) Collimated LED for Nikon Eclipse, 1200 mA | \$495.61 | Today    |
| M780L3-C5 | 780 nm, 170 mW (Typ.) Collimated LED for Nikon Eclipse, 800 mA  | \$590.84 | 5-8 Days |
| M810L3-C5 | 810 nm, 225 mW (Typ.) Collimated LED for Nikon Eclipse, 500 mA  | \$548.63 | Today    |
| M850L3-C5 | 850 nm, 370 mW (Typ.) Collimated LED for Nikon Eclipse, 1200 mA | \$590.84 | Today    |
| M940L3-C5 | 940 nm, 340 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$590.84 | 5-8 Days |
| MCWHL5-C5 | 6500 K, 340 mW (Typ.) Collimated LED for Nikon Eclipse, 1000 mA | \$570.28 | 5-8 Days |
| MCWHL6-C5 | 6500 K, 477 mW (Typ.) Collimated LED for Nikon Eclipse, 1200 mA | \$572.00 | Today    |

[Hide Mounted LED Mating Connector](#)

### Mounted LED Mating Connector

- ▶ Pico (M8) Receptacle
- ▶ Female 4-Pin for Front Mounting
- ▶ 0.5 m Long, 24 AWG Wires
- ▶ M8 x 0.5 Panel Mount Thread
- ▶ IP 67 and NEMA 6P Rated

The CON8ML-4 connector can be used to mate mounted LEDs featured on this page to user-supplied power supplies. We also offer a male 4-Pin M8 connector cable (item # CAB-LEDD1).

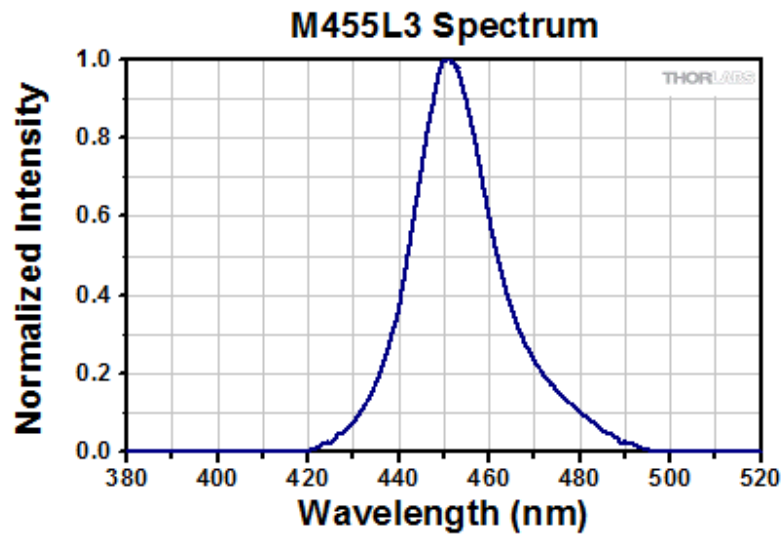
| Pin | Color | Specification |
|-----|-------|---------------|
| 1   | Brown | LED Anode     |
| 2   | White | LED Cathode   |
| 3   | Black | EEPROM GND    |
| 4   | Blue  | EEPROM IO     |



CON8ML-4 Shown Connected to the 4-Pin M8 Plug of Mounted LED

| Part Number | Description                                    | Price   | Availability |
|-------------|--|---------|--------------|
| CON8ML-4    | 4-Pin Female Mating Connector for Mounted LEDs | \$33.28 | Today        |

## Spectrum



The M455L3-C Collimated LEDs each use an M455L3 Mounted LED attached to a microscope-port-compatible collimation package. The spectrum shown here is for the bare (uncollimated) LED.

Click [here](#) to download an Excel file containing the spectral data for a larger wavelength range than shown in the graph above.