

# High-Power LED Collimator Sources

(Part Numbers: LCS-xxxx-xx-xx)

## FEATURES

- Interchangeable aspherical collimating lens
- High numerical aperture(NA)
- High power
- Wide range of available wavelengths
- Adjustable focus
- Optional focusing module
- Optional lightguide adapter
- Multiple mounting features for lab and OEM applications
- Integrated heat sink
- Cooling fan for > 7W models

## APPLICATIONS

- Microscope illuminator
- General purpose light sources
- Fiber coupling with optional

## PRODUCT DESCRIPTION

A LED collimator consists of a collimating lens and a LED emitter. The LED emitter is placed at the focal plane of the collimating lens which images the LED emitter into infinity. LED collimators can be used as the light source in an illumination system. For example LED collimators can replace the standard lamp assembly in a microscope to provide stable, intense, and fast-modulated illumination. Typically the rest of the illumination optics will image the LED emitter onto the pupil of the imaging optics whereas the lens aperture on the collimator where Intensity is uniform will be projected onto the object. The LED emitters are mounted directly onto the metal base of the collimator which also features an integrated heat sink.

The LED collimators include a 1.5-meter cable with two bare-wire terminals at the end. The light sources can be driven by Mightex LED controllers or other LED controllers and current sources. An optional focusing module can be mounted on the front of the LED collimator to focus light into a tight spot which is an image of the LED emitter. One of the applications with the focusing module is coupling LED light into a fiber or a light guide.

Multi-chip LED emitters have been added to the product portfolio. Some of these 7W to 15W LEDs have total optical power exceeding 1W, quadrupling the power of a single-chip LED. Models with higher powers (7W and higher) feature a cooling fan, and have a different formfactor compared to other models. Please examine the

## PERFORMANCE SPECIFICATIONS

**Type-A LCS** (passively cooled with no cooling fan)

**Type-B LCS** (with a cooling fan)

Part Number	Type <sup>2</sup> (A or B)	Wavelength (nm)	Half Diverging Angle(deg.)				I <sub>op</sub> (mA)	V <sub>op</sub> (V)	Output Power (mW)
			φ11mm <sup>1</sup>	φ22mm <sup>1</sup>	φ38mm <sup>1</sup>	φ48mm <sup>1</sup>			
LCS-0365-02-xx	A	365	3.4	1.7	1.0	0.75	500	3.8	80
LCS-0365-07-xx	B	365	6.8	3.4	2.0	1.5	500	15	400
LCS-0365-11-xx	B	365	6.8	3.4	2.0	1.5	700	15.8	500
LCS-0385-02-xx	A	385	3.4	1.7	1.0	0.75	500	3.8	100
LCS-0385-07-xx	B	385	6.8	3.4	2.0	1.5	500	15	500
LCS-0385-11-xx	B	385	6.8	3.4	2.0	1.5	700	15.5	625
LCS-0400-01-xx	A	400	5.0	2.5	1.5	1.1	350	3.5	100
LCS-0400-05-xx	A	400	7.5	6.3	2.3	1.7	1,000	4.1	240
LCS-0400-17-xx	B	400	15	12.6	4.6	3.4	1,000	16.5	810
LCS-0420-02-xx	A	420	3.4	1.7	1.0	0.75	500	3.9	100
LCS-0455-03-xx	A	455	3.4	1.7	1.0	0.75	1,000	3.9	280
LCS-0455-05-xx	A	455	10	5.0	3.0	2.2	700	6.8	350
LCS-0470-03-xx	A	470	3.4	1.7	1.0	0.75	1,000	3.9	200
LCS-0470-15-xx	B	470	6.8	3.4	2.0	1.5	1,000	15	600
LCS-0470-14-xx	B	470	3.4	1.7	1.0	0.75	3,000	4.6	500
LCS-0490-03-xx	A	490	5.0	2.5	1.5	1.1	700	3.7	120
LCS-0505-03-xx	A	505	3.4	1.7	1.0	0.75	1,000	3.9	135
LCS-0530-03-xx	A	530	3.4	1.7	1.0	0.75	1,000	3.9	100
LCS-0530-15-xx	B	530	10	5.0	3.0	2.2	1,000	15	300
LCS-0540-14-xx	B	540	4.4	2.2	1.3	1.0	3,000	4.6	500
LCS-0590-03-xx	A	590	3.4	1.7	1.0	0.75	1,000	3.9	65
LCS-0590-10-xx	B	590	10	5	3	2.2	1,000	10	200
LCS-0617-03-xx	A	617	3.4	1.7	1.0	0.75	1,000	3.9	280
LCS-0617-10-xx	B	617	6.8	3.4	2.0	1.5	1,000	10.8	600
LCS-0625-03-xx	A	625	3.4	1.7	1.0	0.75	1,000	3.9	280
LCS-0656-03-xx	A	656	3.4	1.7	1.0	0.75	1,000	3.1	280
LCS-0657-01-xx	A	657	5	2.5	1.5	1.1	350	2.4	100
LCS-0680-02-xx	A	680	3.4	1.7	1.0	0.75	600	2.7	75
LCS-0740-03-xx	A	740	7.5	6.3	2.3	1.7	1,000	2.5	200
LCS-0740-10-xx	B	740	15	12.6	4.6	3.4	1,000	9.5	600
LCS-0780-02-xx	A	780	3.4	1.7	1.0	0.75	800	2.5	110
LCS-0850-02-xx	A	850	3.4	1.7	1.0	0.75	1,000	2.1	240
LCS-0850-03-xx	A	850	3.4	1.7	1.0	0.75	1,000	3.0	430
LCS-0940-02-xx	A	940	3.4	1.7	1.0	0.75	1,000	1.8	200
LCS-6500-03-xx	A	glacier white 6,500K	3.4	1.7	1.0	0.75	1,000	3.6	180
LCS-6500-15-xx	B	glacier white 6,500K	6.8	3.4	2.0	1.5	1,000	15	540
LCS-5500-03-xx	A	cool white 5,500K	3.4	1.7	1.0	0.75	1,000	3.9	170
LCS-4000-03-xx	A	warm white 4,000K	3.4	1.7	1.0	0.75	1,000	3.9	180

1. Clear aperture diameter. Use these two-digit numbers to replace xx in the part number; and 2. Type-A, Type-B and Type-H LED collimator sources have different installation drawings. Type-A does not include a cooling fan, whereas Type-B and Type-H do. When ordering an LED controller for a Type-B LED, please make sure to upgrade the AC/DC power adapter from the 'standard' 12V to 24V.



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# High-Power LED Collimator Sources

(Part Numbers: LCS-xxxx-xx-xx )

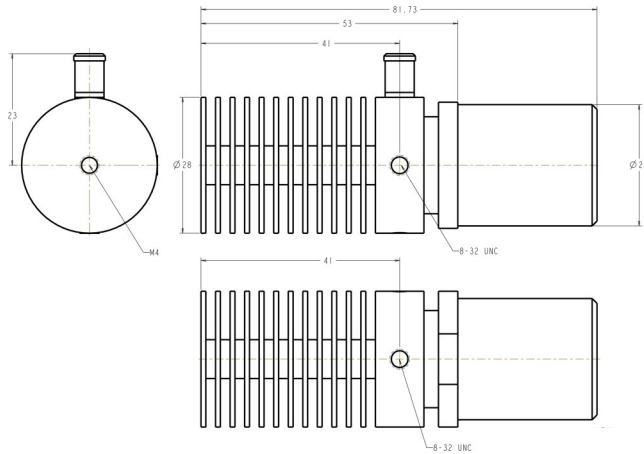
**Type-H LCS** (high current, with a cooling fan)

Part Number	Type <sup>2</sup>	Wavelength (nm)	Half Diverging Angle(deg.)				I <sub>op</sub> (A)	V <sub>op</sub> (V)	Output Power (mW)
			φ11mm <sup>1</sup>	φ22mm <sup>1</sup>	φ38mm <sup>1</sup>	φ48mm <sup>1</sup>			
LCS-0405-50-xx	H	405	10	5.0	3.0	2.2	13	3.8	2,500
LCS-0470-50-xx	H	470	10	5.0	3.0	2.2	13	3.8	3,300
LCS-0525-60-xx	H	525	10	5.0	3.0	2.2	13	4.6	1,300
LCS-0625-38-xx	H	625	10	5.0	3.0	2.2	13	2.9	1,100
LCS-6500-33-xx	H	glacier white 6,500	10	5.0	3.0	2.2	9	3.7	2,000

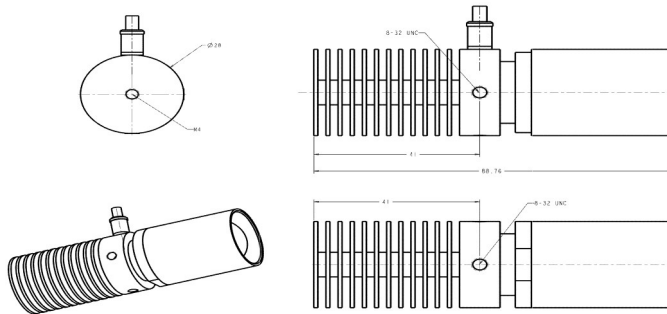
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## INSTALLATION DRAWINGS

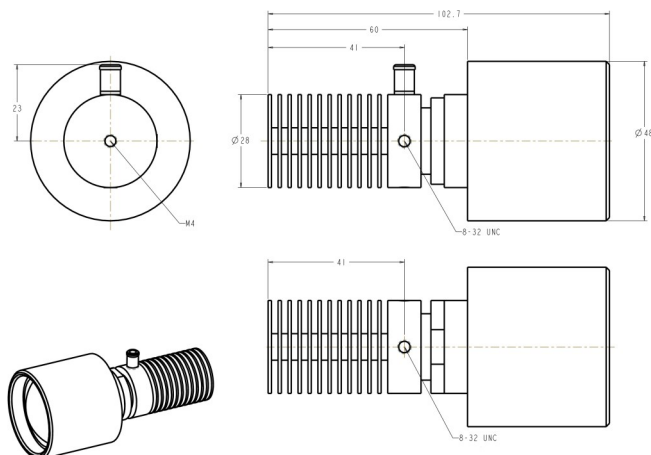
### 1. Installation Drawing for 11-mm LED Collimator, Type-A



### 2. Installation Drawing for 22-mm LED Collimator, Type-A

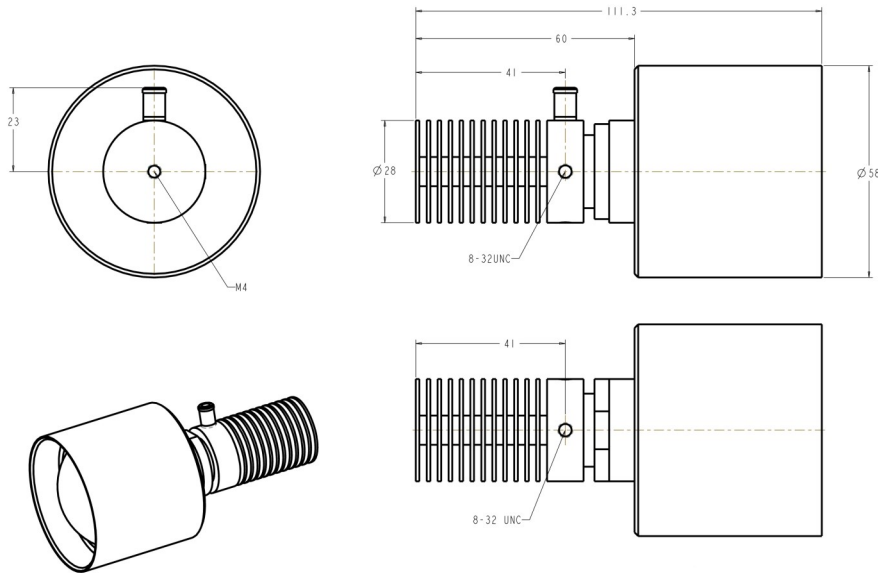


### 3. Installation Drawing for 38-mm LED Collimator, Type-A

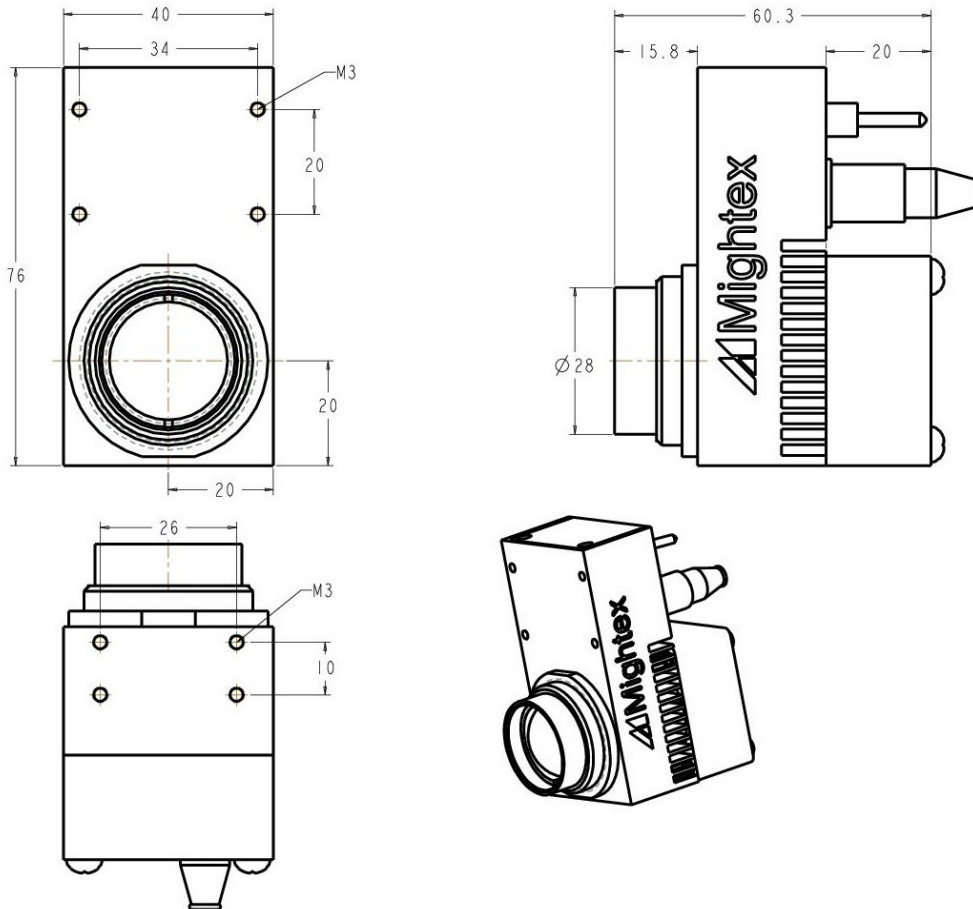


## INSTALLATION DRAWINGS (cont'd)

### 4. Installation Drawing for 48-mm LED Collimator, Type-A

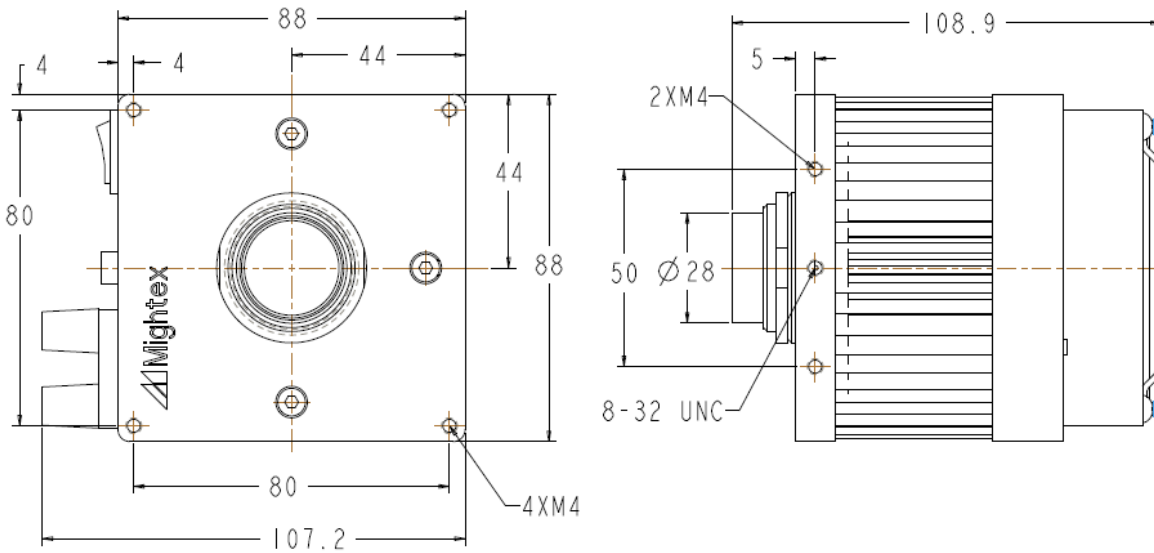


### 5. Installation Drawing for 22-mm LED Collimator, Type-B



## INSTALLATION DRAWINGS (cont'd)

### 6. Installation Drawing for 22-mm LED Collimator, Type-H



## PART NUMBER AND ORDERING INFORMATION

LCS -     -   -

Wavelength
Electrical Power
Clear Aperture

For example, LCE-0455-03-22 has a wavelength of 455nm, electrical power consumption of 3W, and a clear aperture diameter of 22mm.

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