

MB-CTL

Metaphase Technologies Collimated Tube lights are ideal for producing high contrast silhouettes. The Collimated Tube Light boasts increased illumination compared to standard backlights when used with Telecentric camera lensing. Due to collimated light rays, this telecentric illumination is ideal for precision measurements where accuracy, repeatability, and throughput are key factors in the application's success.



FEATURES

- Collimated spot size of 1.5 inches (3.81 cm)
- Passive thermal management design draws heat directly from the LED die ensuring long life
- Compact housing for easy integration
- Built-in Constant Current Driver with 0-10VDC Intensity Control.
- Compatible with DDC-3 and ILD-35 Dimmers
- Optional mounting bracket available
- 5° Collimation angle

WAVELENGTH (nanometers)

W	White 6000K, Nominal
R	Red 630nm
G	Green 530nm
B	Blue 470nm
IR850	Infrared 850nm
IR940	Infrared 940nm
UV365	UV Short 365nm
UV395	UV Long 395nm

SPECIFICATIONS

Power Source:	24VDC ±5%
Cable (Standard):	10 ft. (3 m) with flying leads
Housing:	Black Anodized Aluminum
Ambient Temperature:	-20°C to 40°C
Lifetime Expectancy:	75,000 hours (except UV)

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Collimated Tube Backlight								
MODEL	Length Inches (mm)	Lens Diameter Inches (mm)	Weight lbs (grams)	Cable QTY	Cable Length	Cable Description	Typical Input Current	
							Visible	IR/UV
MB-CBL41	6.3 (159.54)	1.6 (40.23)	0.9 (408.2)	1	10ft	24 AWG 4-conductor	0.1A	0.4A

Wiring (flying leads)**	
Wire Color	Function
RED	+24VDC
WHITE	0-10VDC INTENSITY CONTROL
BLACK	GROUND (24V RTN)
GREEN	SIGNAL GROUND

M12 (5 position male)**	
Pin #	Function
1	+24VDC
2	0-10VDC Intensity Control
3	GROUND (24V RTN)
4	SIGNAL GROUND
5	No Connection
<p>The M12 connector option is not recommended for lights rated more than 4 amps</p>	

Wiring with ULC-2	
Wire Color	Function
RED, WHITE (+)	LED INPUT
BLACK, GREEN (-)	
<p>Terminated within a 2 position ULC-2 output connector (Phoenix Contact P/N: BCP-508-2)</p>	

**Note: The 0-10VDC Intensity Control input can accept voltages from 0-24VDC where the light will operate at full intensity in the 10-24VDC range. The light is proportionally dimmer for any Intensity Control voltage less than 10VDC and the light is OFF at approximately 0V or not connected (floating).

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PART NUMBER KEY									
MODEL	SIZE	-	WAVELENGTH	-	DRIVER* (most common)	-	CABLE LENGTH	-	CONN.** (most common)
MB-CTL	XXX	-	XXXXX	-	XXXXXXX	-	XXX	-	XXXX
MB-CTL	41 (41mm)		W (White 6000K, Nominal) R (Red 630nm) G (Green 530nm) B (Blue 470nm) IR850 (Infrared 850nm) IR940 (Infrared 940nm) UV365 (UV Short 365nm) UV395 (UV Long 395nm)		24Z 24NZ 24-ILSXXX 24-ILD U¹		5M 10M		M12D^{1 2} BC^{1 3}
					XXX=rate in μ s Example: 250	Length can be customized: ex.7M=7meters		Select or leave blank for flying leads	
Example 1: MB-CTL41-W-24Z Example 2: MB-CTL41-IR940-24-ILD					¹ Not available in lights exceeding 4A input current ² Default cable length for an M12D connector is 19 inches ³ Default cable length for a Barrel Connector is 10 feet				

Contact Metaphase Technologies or your local representative for options such as custom diffusers, lenses, polarizers, IP-rated enclosures for harsh environments, higher intensity, custom wavelengths, higher uniformity, etc. Not all options are available for all lights.

Link to [*Driver Options Key](#) / [**Connector Options Key](#)

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Sample Model Number: **MB-CTL41-W-24Z**

Technical drawings showing dimensions: 1.250 [31.75], 6.3 (5.2 min) [159.54], 5.03 [127.79], 19.0°, Ø 1.90 [48.26], Ø 1.19 [30.18], 1.875 [47.63], 1.500 [38.10], 1.000 SQ [25.40], 1.375 [34.92], 2X 7.14MM THRU, SIX 1/4-20, FOUR 8-32.

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
H	REFORMATTED	6/26/2017	
J	ADDED OPTIONAL BRACKET DETAIL SHEET 2	1/26/2018	

Metaphase Technologies, Inc. 211 Sinclair Road, Suite 100, Bristol, PA. 19007 215-639-8699 Fax 215-639-0977

QUANTITY: Per order

MATERIAL: Per BOM

FINISH: See note

TREATMENT: N/A

Approval Signature _____ Date / /

TOLERANCE / FINISH UNLESS OTHERWISE SPECIFIED

INCHES (MM)		INCHES (MM)		INCHES (MM)	
X	.XXX	.XXX	.XXX	.XXX	.XXX
[±.76]	[±.03]	[±.03]	[±.01]	[±.005]	ANGLES ±1°

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TITLE: COLLIMATING TUBE LIGHT

USED ON: Per customer

SIZE: B

DRAWING NUMBER: CTL-200

SCALE: 1:2

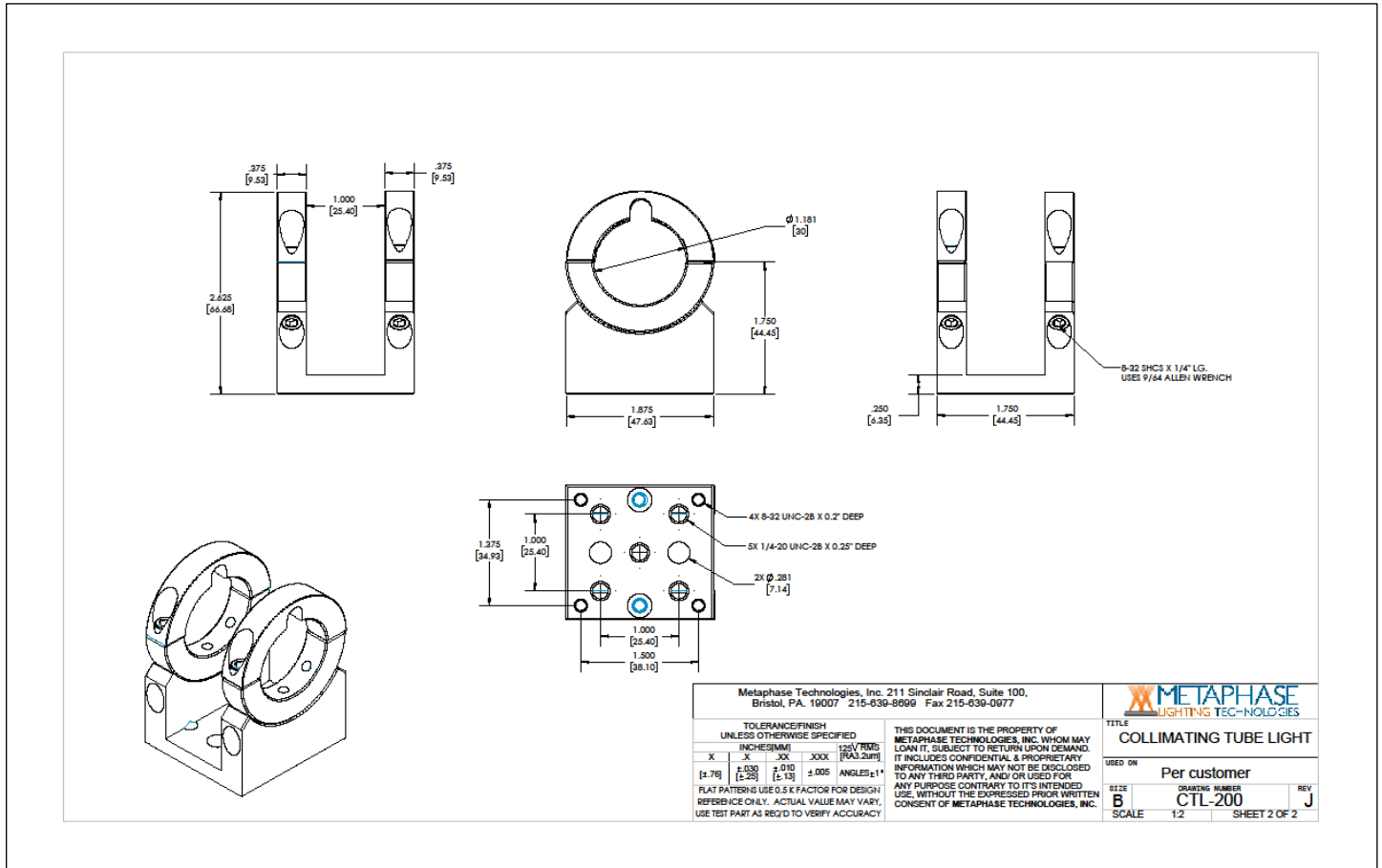
REV: J

SHEET 1 OF 2

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Mounting Options:

Please contact your local Metaphase representative to learn more about mounting options for the MB-CTL41. The bracket shown below is adjustable with twin-ring mounting clips.



COMPLIANCE



CONTACT US

Contact Metaphase Technologies at **215-639-8699** or your local representative for additional details, options and customizations.