

## MB-CLL

Using Metaphase’s proprietary optics, the Collimated Line Light works like a traditional line light but can project its light at a lower divergence angle. This helps keep a tight, structured beam of light at longer working distances, possibly many meters away while delivering high intensity light. This works great for applications where you cannot have the light close to the object or web. These features are useful for creating clearances for robotics, imaging high tunnel ceilings, creating distances from hot objects, or applications requiring precise backlight imaging. The Collimated Line Light is a great tool for any line scan or machine vision lighting application.



### FEATURES

- Proprietary collimated lens for low divergence angle
- High intensity, over 1.5 million Lux
- Lens options for various beam widths and working distances
- Lengths range from 5 inches to 120 inches
- High Uniformity using Metaphase’s unique diffuser technology
- Built-in Constant Current Driver(s) with 0-10VDC Intensity Control
- Compatible with DDC-3 and ILD-35-24-L Dimmers

### APPLICATIONS

- Geometry measurements of long targets
- Direct position measurement
- Web inspection (foil, plastic film, PCBs, glass, paper, web converting, etc.)
- Printed circuit board inspection
- Long working distance applications such as tunnels, rails, or ceiling inspections
- Tube or bottle inspection
- Quality control in food, chemicals, and textile industry
- Fabrics
- Solar Cells
- Hot Steel Inspection

### WAVELENGTHS

Order ID	Description / nanometers
W	White (6000K), Nominal
R	Red / 630nm
G	Green / 530nm
B	Blue / 470nm
IR850 (or IRN)	Infrared / 850nm
IR880 (or IRL)	Infrared / 880nm
IR940	Infrared / 940nm
UV365 (or UVS)	Ultraviolet Short / 365nm
UV395 (or UVL)	Ultraviolet Long / 395nm

### GENERAL SPECIFICATIONS

<b>Power Source:</b>	24VDC ±5%
<b>Cable (Standard):</b>	10-foot cable with flying leads
<b>Housing:</b>	Black Anodized Aluminum
<b>Ambient Temp:</b>	-20°C to 40°C
<b>Lifetime Expectancy:</b>	75,000 hours (except UV)

MB-CLL

SINGLE COLOR MetaBright COLLIMATED LINE LIGHTS														
				Cable(s)			*Typical Current (Amps) @24VDC							
MODEL	Overall Length Inches / cm	Lens Length Inches / cm	Weight lbs/Kg	Quantity	Length	AWG/ Conductors	WHITE	RED	GREEN	BLUE	IR	UVS	UVL	
MB-CLL206	5.90 / 14.98	5.0 / 12.7	1.4 / .635	1	10ft	18/4	1.4	1.0	1.4	1.4	0.9	0.9	0.8	
MB-CLL306	10.94 / 27.80	10.0 / 25.4	2.6 / 1.18	2		18/4(1) 24/4(1)	2.8	2.1	2.8	2.8	2.0	1.8	1.5	
MB-CLL406	16.00 / 40.64	15.0 / 38.1	3.8 / 1.72				4.1	3.1	4.1	4.2	3.0	2.7	2.3	
MB-CLL506	21.06 / 53.50	20.0 / 50.8	5.0 / 2.27				5.5	4.1	5.5	5.6	4.0	3.5	3.0	
MB-CLL606	26.17 / 66.48	25.0 / 63.5	6.2 / 2.81				6.9	5.1	6.9	7.0	5.0	4.4	3.8	
MB-CLL706	31.20 / 79.25	30.0 / 76.2	7.4 / 3.36				8.3	6.2	8.3	8.4	6.0	5.3	4.5	
MB-CLL806	36.30 / 92.20	35.0 / 88.9	9.4 / 4.26				9.7	7.2	9.7	9.8	7.0	6.2	5.3	
MB-CLL907	42.03 / 106.8	40.0 / 101.6	12.2 / 5.53				16/4(1) 24/4(1)	11.0	8.2	11.0	11.2	8.0	7.1	6.1
MB-CLL1007	47.03 / 119.5	45.0 / 114.3	15.0 / 6.80			12.4		9.2	12.4	12.6	9.0	8.0	6.8	
MB-CLL1107	52.03 / 132.2	50.0 / 127.0	17.7 / 8.03			13.8		10.3	13.8	14.0	10.0	8.8	7.6	
MB-CLL1207	57.03 / 144.9	55.0 / 139.7	20.0 / 9.07			15.2		11.3	15.2	15.4	11.0	9.7	8.3	
MB-CLL1307	62.03 / 157.6	60.0 / 152.4	21.7 / 9.84			16.5		12.3	16.6	16.8	12.0	10.6	9.1	
MB-CLL1407	67.03 / 170.3	65.0 / 165.1	23.5 / 10.7			17.9		13.4	17.9	17.2	13.0	11.5	9.8	
MB-CLL1507	72.03 / 183.0	70.0 / 177.8	25.2 / 11.4			3		20ft	16/4(2) 24/4(1)	19.3	14.4	19.3	19.6	14.0
MB-CLL1607	77.03 / 195.7	75.0 / 190.5	28.5 / 12.9		20.7		15.4			20.7	21.0	15.0	13.3	11.4
MB-CLL1707	82.03 / 208.4	80.0 / 203.2	31.2 / 14.2	22.1	16.4		22.1			22.4	16.0	14.1	12.1	
MB-CLL1807	87.03 / 221.1	85.0 / 215.9	34.0 / 15.4	23.4	17.5		23.4			23.8	17.0	15.0	12.9	
MB-CLL1907	92.03 / 233.8	90.0 / 228.6	36.8 / 16.7	16/6(2) 24/4(1)	24.8		18.5			24.8	25.2	18.0	15.9	13.6
MB-CLL2007	97.03 / 246.5	95.0 / 241.3	38.9 / 17.6		26.2		19.5		26.2	26.6	19.0	16.8	14.4	
MB-CLL2107	102.03 / 259.1	100.0 / 254.0	44.8 / 20.3		27.6		20.5		27.6	28.0	20.0	17.7	15.1	
MB-CLL2207	107.03 / 271.9	105.0 / 266.7	48.1 / 21.8		29.0		21.6		29.0	29.4	21.0	18.6	15.9	
MB-CLL2307	112.03 / 284.6	110.0 / 279.4	51.5 / 23.4		30.4		22.6		30.3	30.9	22.0	19.4	16.7	
MB-CLL2407	117.03 / 297.3	115.0 / 292.1	56.0 / 25.4	31.7	23.6		31.7		32.3	23.0	20.3	17.4		
MB-CLL2507	122.03 / 310.0	120.0 / 304.8	61.0 / 27.7	33.1	24.6	33.1	33.7	24.0	21.2	18.2				

\*Add 20-25% to all input current calculations for cooling fans.

## MB-CLL

1 Cable Wiring	
Wire Color	Function
RED	+24VDC
GREEN	SIGNAL GROUND
BLACK	GROUND (24 RTN)
WHITE	0-10VDC Intensity Control

2 Cable Wiring			
Wire Color	Function	Wire Color	Function
RED	+24VDC	RED	No Connection
GREEN	GROUND (24V RTN)	GREEN	SIGNAL GROUND
BLACK	GROUND (24 RTN)	BLACK	No Connection
WHITE	0-10VDC Intensity Control	WHITE	0-10VDC Intensity Control

3 Cable Wiring					
Wire Color	Function	Wire Color	Function	Wire Color	Function
RED	+24VDC	RED	+24VDC	RED	No Connection
GREEN	GROUND (24V RTN)	GREEN	GROUND (24V RTN)	GREEN	SIGNAL GROUND
BLACK	GROUND (24V RTN)	BLACK	GROUND (24V RTN)	BLACK	No Connection
WHITE	+24VDC	WHITE	+24VDC	WHITE	0-10VDC Intensity Control

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

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

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).

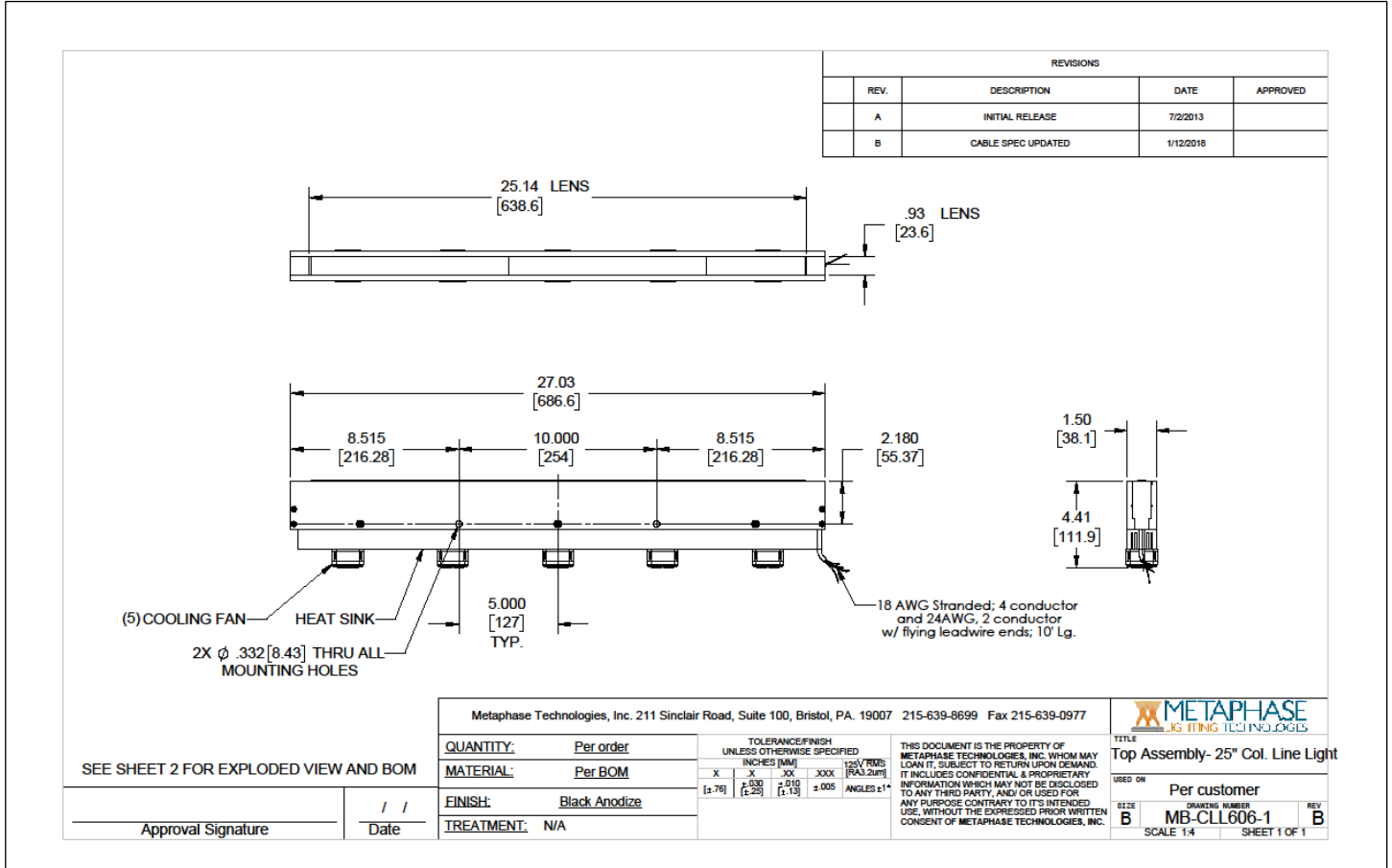
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MODEL NUMBER KEY						
MODEL	-	WAVELENGTH	-	OPTION 1	-	OPTION 2
MB-CLLXXX	-	XXX	-	XXX	-	X-XXX
<b>MB-CLL</b> Enter model designator from above chart: <b>206 to 2507</b>	<b>W</b> (White 6000K, Nominal) <b>R</b> (Red 630nm) <b>G</b> (Green 530nm) <b>B</b> (Blue 470nm) <b>IR850 (or IRN)</b> (Infrared 850nm) <b>IR880 (or IRL)</b> (Infrared 880nm) <b>IR940</b> (Infrared 940nm) <b>UV365 (or UVS)</b> (UV Short 365nm) <b>UV395 (or UVL)</b> (UV Long 395nm)	<b>24</b> (+24VDC, standard)	<b>U</b> (ULC-2 interface) <b>KEY</b> (Keyence Controller) <b>ILD</b> (In Line Dimmer) <b>ILS</b> (In Line Strobe)	<b>Z</b> (0-10V Intensity Control)	<b>FTRG</b> (300kHz Fast Trigger)	
				<b>T</b> (M12 Connector)		<b>XXX</b> (Custom code)

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.

**MB-CLL**

Sample Model Number: MB-CLL606-W-24



SEE SHEET 2 FOR EXPLODED VIEW AND BOM

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:	Black Anodize
TREATMENT:	N/A

TOLERANCE/FINISH UNLESS OTHERWISE SPECIFIED		125V TRIMS [RA3.2UM]	
INCHES	MM	X	XXX
±.005	±.13	±.005	±.005
±.010	±.25	±.010	±.010
±.015	±.38	±.015	±.015
±.020	±.51	±.020	±.020
±.030	±.76	±.030	±.030
±.040	±.10	±.040	±.040
±.050	±.13	±.050	±.050
ANGLES ±1°			

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TITLE	Top Assembly- 25" Col. Line Light		
USED ON	Per customer		
SIZE	B	DRAWING NUMBER	MB-CLL606-1
SCALE	1:4	REV	B
			SHEET 1 OF 1

**COMPLIANCE**



**CONTACT US**

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