

## MB-DL

These special illuminators provide intense, evenly diffused illumination. The Diffused Dome Light is ideal for inspection of reflective, specular, rough or topographic surfaces. Optical grade reflector coating returns 99.9% of light for optimum diffused output. Current dome lights range in size from 1.4 inches (36mm) to 44 inches (1106mm) ID. The Diffused Dome Light is available with a wide variety of LED colors such as white, red, green, blue, IR, UV (365nm and 395nm), and RGB.



### FEATURES

- High intensity and uniform, non-directional illumination across the entire lighting hemisphere
- Ideal for highly reflective surfaces and textured or topographic objects
- LED thermal management for stable performance
- Provides cloudy day illumination, minimizing shadows and glare
- Flicker free performance and instant start up with Metaphase analog driver technology
- Enclosed workspace blocks interference of ambient light
- Optical grade reflector coating reflects 99.9% of light for optimum diffused output
- Built-in Constant Current Driver with 0 – 10VDC intensity control, compatible with DDC-3 and ILD-35-24-L

### WAVELENGTHS

Order ID	Description / nanometers
W	White (6000K), Nominal
R	Red / 630nm
G	Green / 530nm
B	Blue / 470nm
IR850	Infrared / 850nm
UV365	Ultraviolet Short / 365nm
UV395	Ultraviolet Long / 395nm
RGB	Red-Green-Blue

### 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)

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Single Color DOME LIGHTS							
MODEL	Dimensions: OD x ID x H Inches (cm)	Camera opening diameter at top of dome Inches (cm)	Weight lbs (Kg)	Cable QTY	Cable Length	Standard Cable Description	Typical Current @24VDC (White)
MB-DL101	3.00 x 1.40 x 1.77 (7.62 x 3.56 x 4.49)	∅ .75 (1.90)	.67 (.30)	1	10ft	24 AWG 4 Conductor	0.2A
MB-DL206	4.00 x 1.86 x 2.11 (10.16 x 4.71 x 5.36)	∅ .75 (1.90)	0.82 (.37)				0.3A
MB-DL306	7.40 x 4.00 x 3.12 (18.80 x 10.16 x 79.17)	∅ .74 (1.88)	1.85 (.48)				0.6A
MB-DL406	11.53 x 7.00 x 5.19 (29.28 x 17.78 x 13.18)	∅ .74 (1.88)	3.5 (1.58)				1.0A
MB-DL606	18.90 x 12.00 x 8.29 (48.01 x 30.48 x 21.05)	∅ 2.0 (5.08)	10.6 (4.8)			18 AWG 4 Conductor	1.3A
MB-DL706	25.08 x 17.5 x 10.76 (63.70 x 44.45 x 27.34)	∅ 2.0 (5.08)	17.0 (7.7)			1.9A	
MB-DL906	36.00 x 27.50 x 16.54 (91.44 x 69.85 x 42.01)	∅ 2.1 (5.33)	34.5 (15.6)			16 AWG 4 Conductor	3.5A
MB-DL1006	43.00 x 34.56 x 20.77 (109.2 x 87.78 x 52.76)	∅ 1.8 (4.57)	42.0 (19.0)			6.0A	
MB-DL1206	52.00 x 43.56 x 24.47 (132.1 x 110.6 x 62.16)	∅ 1.8 (4.57)	57.0 (25.9)			18 AWG 6 Conductor	8.6A

\*Custom sizes and configurations available

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Wiring (4 conductors, flying leads)**	
Wire Color	Function
RED	+24VDC
WHITE	0-10VDC INTENSITY CONTROL
BLACK	GROUND (24V RTN)
GREEN	SIGNAL GROUND

Wiring (4 conductors, without Intensity Control)	
Wire Color	Function
RED	+24VDC
WHITE	+24VDC
BLACK	GROUND (24V RTN)
GREEN	GROUND (24V RTN)

Wiring (6 conductors, flying leads)**	
Wire Color	Function
RED, BROWN	+24VDC
YELLOW	SIGNAL GROUND
BLACK, BLUE	GROUND (24V RTN)
ORANGE	0-10VDC INTENSITY CONTROL

When not using Intensity Control, connect the 0-10V control line to +24VDC and connect Signal Ground to Ground (24V RTN)

Wiring (6 conductors, without Intensity Control)	
Wire Color	Function
RED	+24VDC
BROWN	+24VDC
ORANGE	+24VDC
BLACK	GROUND (24V RTN)
BLUE	GROUND (24V RTN)
YELLOW	GROUND (24V RTN)

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

Wiring with ULC-2	
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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PART NUMBER KEY									
MODEL	SIZE (inside diameter)	-	WAVELENGTH	-	DRIVER* (most common)	-	CABLE LENGTH	-	CONN.** (most common)
MB-DL	XXX	-	XXXXX	-	XXXXXXXX	-	XXX	-	XXXX
<b>MB-DL</b>	<b>101</b> (Ø1.40") <b>206</b> (Ø1.86") <b>306</b> (Ø4.00") <b>406</b> (Ø7.00") <b>606</b> (Ø12.0") <b>706</b> (Ø17.5") <b>906</b> (Ø27.5") <b>1006</b> (Ø34.56") <b>1206</b> (Ø43.56")		<b>W</b> (White 6000K, Nominal) <b>R</b> (Red 630nm) <b>G</b> (Green 530nm) <b>B</b> (Blue 470nm) <b>IR850</b> (Infrared 850nm) <b>UV365</b> (UV Short 365nm) <b>UV395</b> (UV Long 395nm) <b>RGB</b> (Red-Green-Blue)		<b>24Z</b> <b>24NZ</b> <b>24-ILSXXX</b> <b>24-ILD</b> <b>U<sup>1</sup></b>		<b>5M</b> <b>10M</b>  Length can be customized: ex.7M=7meters  Select or leave blank for 3 meters		<b>M12D<sup>1 2</sup></b> <b>BC<sup>1 3</sup></b>  Select or leave blank for flying leads
Example 1: <b>MB-DL306-W-24Z</b> Example 2: <b>MB-DL1006-B-24-ILD</b>					<sup>1</sup> Not available in lights exceeding 4A input current <sup>2</sup> Default cable length for an M12D connector is 19 inches <sup>3</sup> 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.

**MB-DL**

Sample Model Number: **MB-DL606-W-24Z**

**REVISIONS**

REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	7/12/2012	
B	REDESIGN	7/17/2014	
C	DESIGN UPDATE	12/19/2014	
D	REMOVED DOME SCREWS; ADDED NEW CLAMP AND SCREWS. SEE SHEET 2	8/29/2015	
E	ADDED CLIP FOR POWER CABLE; MODIFIED BASE PLATE-SEE SHEET 2; ADDED SHEET 3.	4/11/2016	

**Labels and Dimensions:**  
 -  $\phi$  1.50 CAMERA HOLE [38.10]  
 - MOUNTING HOLES 4X  $\phi$  .260 [6.60] THRU ALL  
 -  $\phi$  .529 [13.44] X 90°  
 - C'SINKS LOCATED FAR SIDE  
 - 17.78 [451.61] MOUNTING HOLES  
 - TOP VIEW  
 -  $\phi$  18.900 OD [480.06]  
 - 8.317 [211.24]  
 - R7.75 DOME [196.93]  
 - .750 [19.05]  
 - .25 [6.35]  
 - POWER CABLE  
 - COOLING FINS AROUND PERIMETER  
 - 2.50 [63.50] MOUNTING HOLES  
 - DOME INTERIOR PAINTED BRILLIANT WHITE  
 - BOTTOM ISO VIEW  
 -  $\phi$  12.0 [304.80] HOLE ON BOTTOM

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

QUANTITY:	Per order	TOLERANCE/FINISH UNLESS OTHERWISE SPECIFIED INCHES (MM) 125V TYPED [FA3.2UM] X .X .XX .XXX [1.78] [1.27] [1.13] [1.005] ANGLES ±1°	THIS DOCUMENT IS THE PROPERTY OF METAPHASE TECHNOLOGIES, INC. WHOM MAY LOAN IT. SUBJECT TO RETURN UPON DEMAND. IT INCLUDES CONFIDENTIAL & PROPRIETARY INFORMATION WHICH MAY NOT BE DISCLOSED TO ANY THIRD PARTY, AND OR USED FOR ANY PURPOSE CONTRARY TO ITS INTENDED USE, WITHOUT THE EXPRESSED PRIOR WRITTEN CONSENT OF METAPHASE TECHNOLOGIES, INC.
MATERIAL:	Per BOM		
FINISH:	Black Paint/ Powder Coat		
TREATMENT:	N/A		

SEE SHEET 2 FOR EXPLODED VIEW AND BOM

Approval Signature: \_\_\_\_\_ / / Date: \_\_\_\_\_

TITLE	Dome Light- 12"
USED ON	Per customer
SIZE	B
DRAWING NUMBER	DL606-1
REV	E
SCALE	1:5
SHEET	1 OF 1

**COMPLIANCE**



**CONTACT US**

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