

**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
<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>	Ultraviolet Short / 365nm
<b>UV395</b>	Ultraviolet Long / 395nm
<b>RGB</b>	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)

MB-DL

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)	∅ 1.5 (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)			16 AWG 4 Conductor	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)				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 (700S) [RA3.2UM]	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	ANGLES $\pm$ 1°	
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.