

RAL

Our Round Area Front Light is a proven design with thousands of installations around the world. Manufactured from a solid one-piece machined aluminum housing with thermal potting assures long life performance in rugged environments.



FEATURES

- Homogenous light output that provides high intensity illumination
- Shock and vibration resistant
- LED thermal management for stable performance
- Industry proven for virtually any lighting application
- Flicker-free performance and instant start up with Metaphase analog driver technology
- Economical, low cost
- An ideal light for many applications
- Optional Constant Current Driver with 0-10VDC intensity control, compatible with DDC-3 and ILD-35 Dimmers

WAVELENGTHS

Order ID	Description / nanometers
W	White (6000K), Nominal
R	Red / 630nm
G	Green / 530nm
B	Blue / 470nm
IR880	Infrared / 880nm
UV365	Ultraviolet Short / 365nm
UV395	Ultraviolet Long / 395nm

GENERAL SPECIFICATIONS

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

RAL

Round Area Front Light							
MODEL	Dimensions L x OD(Ø) Inches (mm)	Lens Diameter Inches (mm)	Weight (includes cable) lbs (grams)	Cable QTY	Cable Length	Cable Description	Max Input Current @24VDC
RAL050	1.88 x .90 (47.8 x 22.9)	.67 (17.0)	.27 (120)	1	10ft	24 AWG 4 Wire	100mA
RAL101	2.10 x 1.50 (53.3 x 38.1)	1.25 (31.75)	.45 (205)				150mA
RAL105	2.10 x 1.50 (53.3 x 38.1)	1.10 (27.94)	.43 (195)				150mA
RAL201	1.50 x 2.13 (38.1 x 54.0)	1.77 (45.0)	.50 (227)				200mA

Wiring (4 conductor with Intensity Control)**	
Wire Color	Function
RED	+24VDC
WHITE	0-10VDC INTENSITY CONTROL
BLACK	GROUND (24V RTN)
GREEN	SIGNAL GROUND

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

RAL

PART NUMBER KEY									
MODEL	SIZE (outside diameter)	-	WAVELENGTH	-	DRIVER* (most common)	-	CABLE LENGTH	-	CONN.** (most common)
RAL	XXX	-	XXXXX	-	XXXXXXXX	-	XXX	-	XXXX
RAL	050 (.90") 101 (1.0") 105 (1.5") 201 (2.1")		W (White 6000K, Nominal) R (Red 630nm) G (Green 530nm) B (Blue 470nm) IR880 (Infrared 880nm) UV365 (UV Short 365nm) UV395 (UV Long 395nm)		24CV 24-ILSXXX 24-ILD U¹ 24Z		5M 10M Length can be customized: ex.7M=7meters Select or leave blank for 3 meters		M12D^{1 2} BC^{1 3} Select or leave blank for flying leads
Example 1: RAL050-W-24CV Example 2: RAL201-R-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.

RAL

Sample Part Number: **RAL201-R-24CV**

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	4/2/2016	
B	Redrawn in Solidworks, ECR #0020, KW	2/8/2012	
C	"QC'd design, added tolerances, redrawn"	4/5/2016	

LENS OPENING
Ø 1.77
[45.01]

1.50
[38.10]

Ø 2.13
[53.98]

.32
[8.13]

.33
[8.26]

.37
[9.35]

M5 MOUNTING STUD

POWER CABLE

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	TOLERANCE/FINISH UNLESS OTHERWISE SPECIFIED	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	INCHES (MM)		
FINISH: Black Anodize	.X .X .XX .XXX [125/3.00] [RA3.2um]	TITLE: Round Area Light; 2.1"	USED ON: Per customer
TREATMENT: N/A	[±.76] [±.03] [±.05] [±.13] ±.005 ANGLES ±1°	SIZE: B	SCALE: 1:4
Approval Signature	Date	REV: RAL201-1	SHEET 1 OF 2

COMPLIANCE

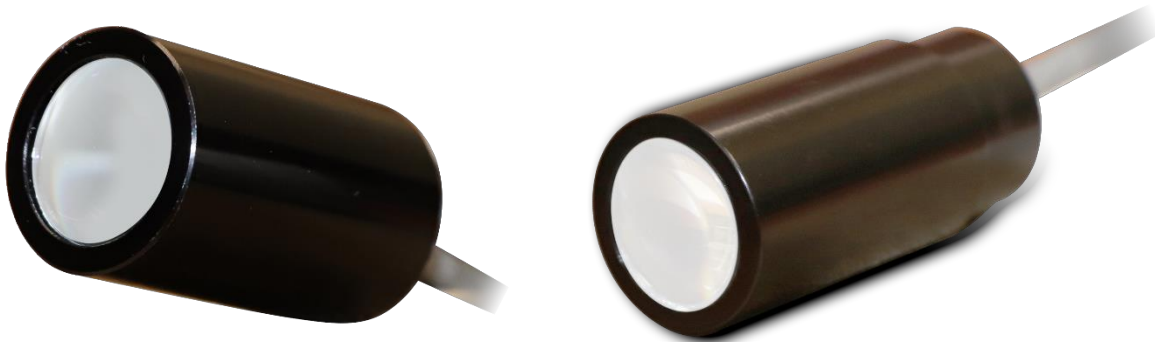


CONTACT US

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

MB-RAL

Our MetaBright™ Round Area Light is an improved design with brighter intensity and a built-in Constant Current driver with intensity control. These lights are manufactured from a solid one-piece machined aluminum housing that includes thermal potting for long life performance in rugged environments.



FEATURES

- Homogenous light output that provides high intensity illumination
- Shock and vibration resistant
- LED thermal management for stable performance
- Industry proven for virtually any lighting application
- Flicker-free performance and instant start up with Metaphase analog driver technology
- Economical, low cost
- An ideal light for many applications
- Built-in Constant Current Driver with 0-10VDC intensity control, compatible with DDC-3 and ILD-35 Dimmers

WAVELENGTHS

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

*UV365 Ultraviolet Short / 365nm

*Offered in specific models

GENERAL SPECIFICATIONS

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

MB-RAL

Round Area Front Light							
MODEL	Dimensions L x OD(Ø) Inches (mm)	Lens Diameter Inches (mm)	Weight (includes cable) lbs (grams)	Cable QTY	Cable Length	Cable Description	Max Input Current @24VDC
MB-RAL050	3.67 x .90 (93.4 x 22.9)	.67 (17.0)	.34 (154)	1	10ft	24AWG 4 cond.	150mA
MB-RAL055	3.30 x .90 (83.9 x 22.9)	.67 (17.0)	.31 (141)				150mA
MB-RAL105	2.10 x 1.50 (53.3 x 38.1)	1.25 (31.75)	.45 (205)				150mA
MB-RAL155	2.10 x 1.50 (53.3 x 38.1)	1.10 (27.94)	.43 (195)				150mA
MB-RAL205	1.50 x 2.13 (38.1 x 54.0)	1.77 (45.0)	.50 (227)				200mA

Wiring (4 conductor with Intensity Control)**	
Wire Color	Function
RED	+24VDC
WHITE	0-10VDC INTENSITY CONTROL
BLACK	GROUND (24V RTN)
GREEN	SIGNAL GROUND

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

MB-RAL

PART NUMBER KEY													
MODEL	SIZE (outside diameter)	-	WAVELENGTH	-	DRIVER* (most common)	-	POLARIZER	-	DIFFUSER	-	CABLE LENGTH	-	CONN.** (most Common)
MB-RAL	XXX	-	XXXXX	-	XXXXX	-	XXX	-	XX	-	XXX	-	XXXX
MB-RAL	050 (.90") 105 (1.5") 205 (2.1")		W (White 6000K, Nominal) R (Red 630nm) G (Green 530nm) B (Blue 470nm) IR850 (Infrared 850nm) UV395 (UV Long 395nm)		24Z 24-ILSXXX 24-ILD U¹		POLO (0°)		CC (Clear Cover) D2 (Single Matte) D3 (TIR/SLK) D4 (Milky White) D5 (Double Matte)		5M 10M		M12D^{1 2}
	055 (.90") 155 (1.5")		UV365 (UV Short 365nm)		XXX=rate in μs Example: 250		(N/A) Select or leave blank for no polarizer		CC (Clear Cover) Select one		Length can be customized: ex.7M=7meters Select or leave blank for 3 meters		Select or leave blank for flying leads
Example 1: MB-RAL050-W-24Z-D2												¹ Not available in lights exceeding 4A input current	
Example 2: MB-RAL155-UV365-24Z-CC-M12D												² Default cable length for an M12D connector is 19 inches	

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-RAL

Sample Part Number: **MB-RAL155-UV365-24Z-CC**

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	3/6/2019	

Metaphase Technologies, Inc. 211 Sinclair Road, Suite 100, Bristol, PA. 19007 215-639-8699 Fax 215-639-0977																														
SEE SHEET 2 FOR EXPLODED VIEW AND BILL OF MATERIALS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>QUANTITY:</th> <td>Per order</td> <th>TOLERANCE / FINISH</th> <td>UNLESS OTHERWISE SPECIFIED</td> </tr> <tr> <th>MATERIAL:</th> <td>Per BOM</td> <th>INCHES (MM)</th> <td>X .X .XX .XXX (125/200) (R0.3/200)</td> </tr> <tr> <th>FINISH:</th> <td>Black Anodize</td> <th>±.001</th> <td>±.010 ±.005 ANGLES 1°</td> </tr> <tr> <th>TREATMENT:</th> <td>N/A</td> <td></td> <td></td> </tr> </table>	QUANTITY:	Per order	TOLERANCE / FINISH	UNLESS OTHERWISE SPECIFIED	MATERIAL:	Per BOM	INCHES (MM)	X .X .XX .XXX (125/200) (R0.3/200)	FINISH:	Black Anodize	±.001	±.010 ±.005 ANGLES 1°	TREATMENT:	N/A			<p style="font-size: small;">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.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">TITLE</td> <td style="width: 70%;">AREA FRNT LIGHT, 1.1"</td> </tr> <tr> <td>USED ON</td> <td>Per customer</td> </tr> <tr> <td>SIZE</td> <td>B</td> </tr> <tr> <td>SCALE</td> <td>1:1</td> </tr> <tr> <td>REV</td> <td>A</td> </tr> <tr> <td>SHEET</td> <td>1 OF 1</td> </tr> </table>	TITLE	AREA FRNT LIGHT, 1.1"	USED ON	Per customer	SIZE	B	SCALE	1:1	REV	A	SHEET	1 OF 1
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SIZE	B																													
SCALE	1:1																													
REV	A																													
SHEET	1 OF 1																													
Approval Signature _____	/ / Date _____																													

For more information please contact:



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COMPLIANCE



CONTACT US