

iW MR


IntelliWhite™ iW MR is a compact lamp designed to retrofit into standard MR16 fixtures and sockets. It is well suited for use with tracks, rails, cables and pendants in interior architectural, retail, exhibit, display, and residential applications. The lamp features standard MR16 bi-pin connectors and a sleek housing with painted silver finish. iW MR is available in three distinct kelvin temperatures: 3000K, 3500K, and 6500K.

iW MR leverages Color Kinetics' new DIMand™ technology developed specifically for solid-state lighting devices. It uniquely allows the adjustment of light intensity using standard low-voltage dimmers, making the product suitable for retrofitting into existing low voltage MR16 systems. Unlike conventional light sources, which decrease in color temperature as they are dimmed, the iW MR will maintain a constant color temperature at any intensity.

iW MR fits most standard, low voltage MR16 lighting fixtures, including: track, cable, and rail styles. iW MR is equipped with a factory installed clear lens and includes a tempered sand blasted lens. An accessory/adaptor ring (Item# 101-000050-00) is available for attaching lighting accessories and to ensure a proper fixture fit in some fixtures.

iW MR SPECIFICATIONS

TEMPERATURE RANGE	3000 kelvin (+250/-50K) 3500 kelvin (+/- 150K) 6500 Kelvin (+/- 500K)
SOURCE	4 white high power LEDs
BEAM ANGLE	18°
MIN. BEAM DISTANCE	6 inches, (15 cm)
HOUSING	Painted silver, die cast zinc, 2" (5 cm) diameter
BASE	GX5.3

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE RANGE	Ambient: - 4°F to 104°F (- 20°C to 40°C); Surface: 167°F (75°C)
HUMIDITY RANGE	0 to 95% non-condensing humidity

ELECTRICAL SPECIFICATIONS

POWER REQUIREMENT	12VAC
POWER CONSUMPTION	Maximum: 4 Watt
TRANSFORMER	Low-voltage magnetic or electronic to provide 12VAC

LED SOURCE LIFE

In traditional lamp sources, lifetime is defined as the point at which 50% of the lamps fail. This is also termed Mean Time Between Failure [MTBF]. LEDs are semiconductor devices and have a much longer MTBF than conventional sources. However, MTBF is not the only consideration in determining useful life. Color Kinetics uses the concept of useful light output for rating source lifetimes. Like traditional sources, LED output degrades over time (lumen depreciation) and this is the metric for SSL lifetime.

LED lumen depreciation is affected by numerous environmental conditions such as ambient temperature, humidity, and ventilation. Lumen depreciation is also affected by means of control, thermal management, current levels, and a host of other electrical design considerations. Color Kinetics systems are expertly engineered to optimize LED life when used under normal operating conditions. Lumen depreciation information is based on LED manufacturers' source life data as well as other third party testing. Low temperatures and controlled effects have a beneficial effect on lumen depreciation. Overall system lifetime could vary substantially based on usage and the environment in which the system is installed.

Temperature and effects will affect lifetime. Color Kinetics rates product lifetime using lumen depreciation to 70% of original light output. When the fixture is running on warm or cool, at room temperature, the LED lifetime is in the range 50,000 – 70,000 hours. This is LED manufacturers' test data. High output is defined as any LED device that is 1/2 watt or above. For more detailed information on source life, please see www.colorkinetics.com/lifetime.

OPTIBIN®

There are inherent variations in the fabrication processes of all semiconductor materials. For LEDs, this variance results in differences in the color and intensity of light output as well as electrical characteristics. Due to these differences, LED manufacturers sort production into "bins," but insuring the availability of a single bin is very difficult. To minimize this issue and achieve optimal color consistency in its products, Color Kinetics has developed and uses a proprietary technology called Optibin. Optibin is an advanced production binning optimization process that minimizes the effects of LED variance for the best possible output uniformity in the final product. Color Kinetics Optibin technology gives you the most consistent control of color and intensity from product to product.



ITEM# 500-000002-00 (3000 K)
ITEM# 500-000002-01 (3500 K)
ITEM# 500-000002-02 (6500 K)

This product is protected by one or more of the following patents: U.S. Patent Nos. 6,016,038, 6,150,774 and other patents listed at <http://colorkinetics.com/patents/>. Other patents pending.

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BRO142 Rev 03

Specifications subject to change without notice. Refer to www.colorkinetics.com for the most recent data sheet versions.

iW MR 3000K, 3500K, AND 6500K

PHOTOMETRIC PERFORMANCE

Photometric data is based on test results from an independent testing lab.

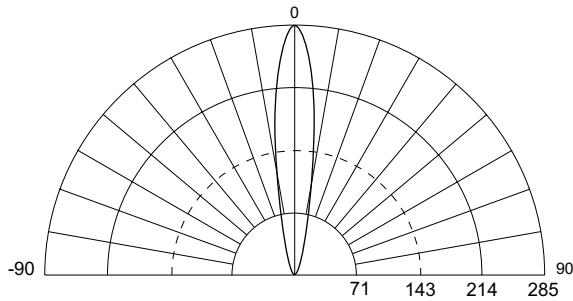
SOURCE SPECIFICATIONS

Optics:	Metalized polycarbonate reflectors
Lens:	Tempered clear glass lens
Source:	4 LEDs
Beam Angle:	18°
Distribution:	Symmetric direct illumination
CCT:	3000K, 3500K, 6500K
CRI:	72 (3000K), 77 (3500K), 83 (6500K)

ILLUMINANCE DISTRIBUTION PARAMETERS

Units: Footcandles (top)/Lux (bottom)
 Location: 1.5'/0.6m from, and perpendicular to surface
 Measured reflectance: 50

CANDLE POWER DISTRIBUTION



Measured on: All
 Beam center: 285 cd (3000K), 272 cd (3500K), 309cd (6500K)
 Dashed lined: Indicates 50% of peak

ILLUMINANCE

CCT	0.5' 0.15m	1' 0.3m	2' 0.6m	3' 1m
3000K	1161.0 12497.0	287.0 3089.3	71.6 770.7	31.8 342.3
3500K	1108.0 11926.5	274.0 2949.3	68.3 735.2	30.3 326.1
6500K	1259.0 13551.9	312.0 3358.4	77.6 835.3	34.4 370.3

Measured in Footcandles (top)/Lux (bottom) on axis
 Measured on: Reflectance 0

LIGHT OUTPUT

	TOTAL OUTPUT (lumens)	POWER (Watts)	EFFICACY (lm/W)
3000K	41	3.5	11.7
3500K	38	3.4	11.2
6500K	49	3.7	13.2

Note: Efficacy figures are for a complete tested fixture not simply a lamp source.

ILLUMINANCE DISTRIBUTION 3000K

0.7 7.5	2.0 21.5	2.2 23.7	3.5 37.7	2.1 22.6	0.7 7.5	1.5'/0.5m
2.0 21.5	4.7 50.6	7.3 78.6	7.3 78.6	4.7 50.6	2.1 22.6	
3.4 36.6	7.3 78.6	12.4 133.5	11.2 120.6	7.3 78.6	3.5 37.7	0'/0m
2.2 23.7	7.3 78.6	11.2 120.6	12.4 133.5	7.3 78.6	2.3 24.8	
2.1 22.6	4.7 50.6	7.3 78.6	7.3 78.6	4.7 50.6	2.1 22.6	
0.7 7.5	2.1 22.6	2.3 24.8	3.5 37.7	2.1 22.6	0.7 7.5	1.5'/0.5m

ILLUMINANCE DISTRIBUTION 3500K

0.5 5.4	1.9 20.5	2.0 21.5	3.2 34.4	1.9 20.5	0.5 5.4	1.5'/0.5m
1.8 19.4	4.4 47.4	6.9 74.3	6.9 74.3	4.4 47.2	1.8 19.4	
3.2 34.4	6.9 74.3	11.8 127.0	10.6 114.1	6.9 74.3	3.2 34.4	0'/0m
2.0 21.5	6.9 74.3	10.6 114.1	11.8 127.0	6.9 74.3	2.0 21.5	
1.9 20.5	4.4 47.4	6.9 74.3	6.9 74.3	4.4 47.4	1.9 20.5	
0.6 6.5	1.9 20.5	2.1 22.6	3.2 34.4	1.9 20.5	0.5 5.4	1.5'/0.5m

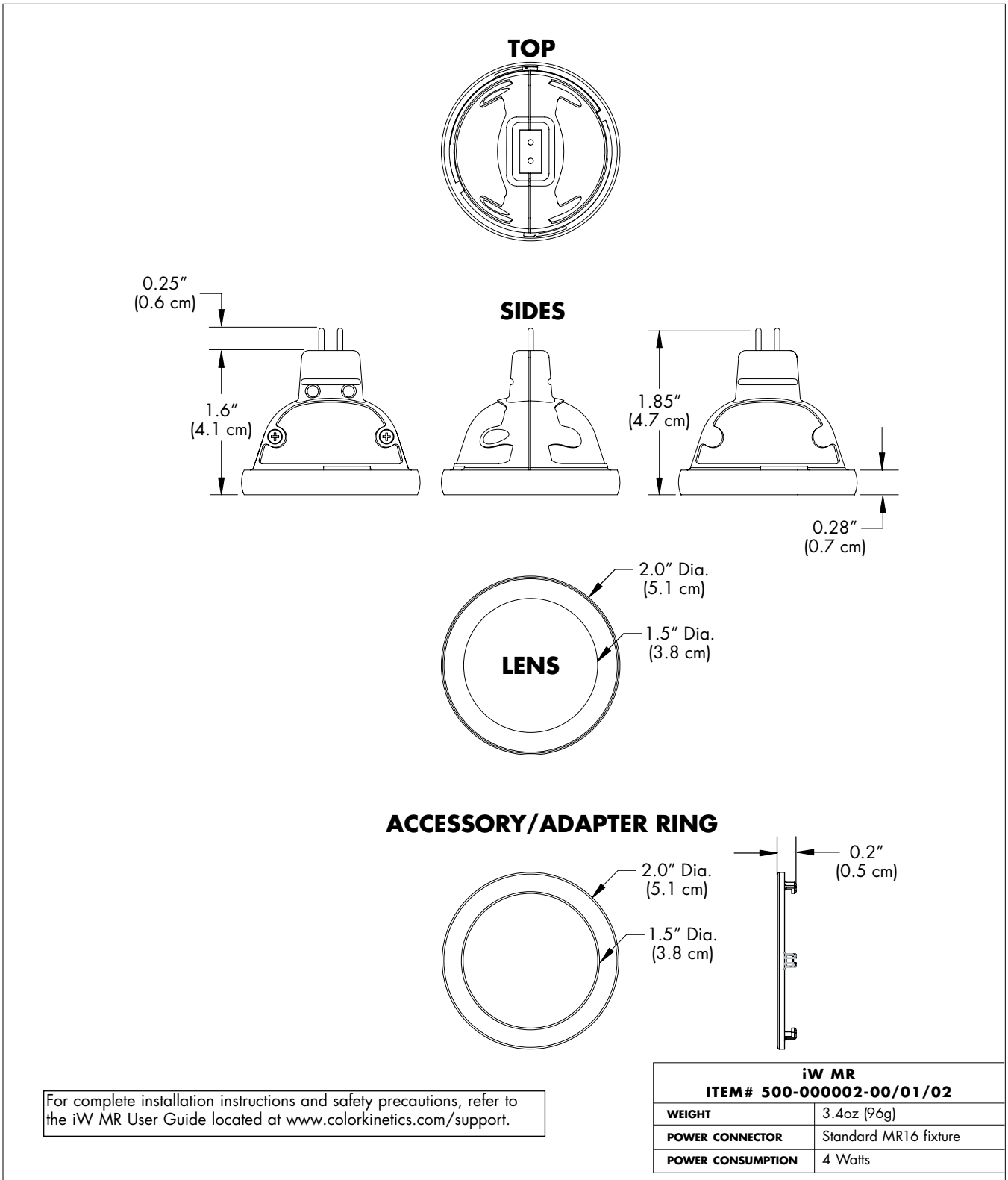
ILLUMINANCE DISTRIBUTION 6500K

0.8 8.6	2.4 25.8	2.6 28.0	4.2 45.2	2.4 25.8	0.8 8.6	1.5'/0.5m
2.4 25.8	5.4 58.1	8.5 91.5	8.5 91.5	5.5 59.2	2.4 25.8	
4.0 43.1	8.5 91.5	14.4 155.0	13.0 139.9	8.5 91.5	4.0 43.1	0'/0m
2.6 28.0	8.5 91.5	13.0 139.9	14.4 155.0	8.5 91.5	2.6 28.0	
2.4 25.8	5.5 59.2	8.6 92.6	8.6 92.6	5.5 59.2	2.4 25.8	
0.8 8.6	2.5 26.9	2.7 29.1	4.1 44.1	2.4 25.8	0.8 8.6	1.5'/0.5m

Units: Footcandles (top)/Lux (bottom); 10.8 lux = 1 fc
 Location: 1.5' (0.46 m) perpendicular from surface
 Measured on: Reflectance model 50%

iW MR

PHYSICAL DIMENSIONS

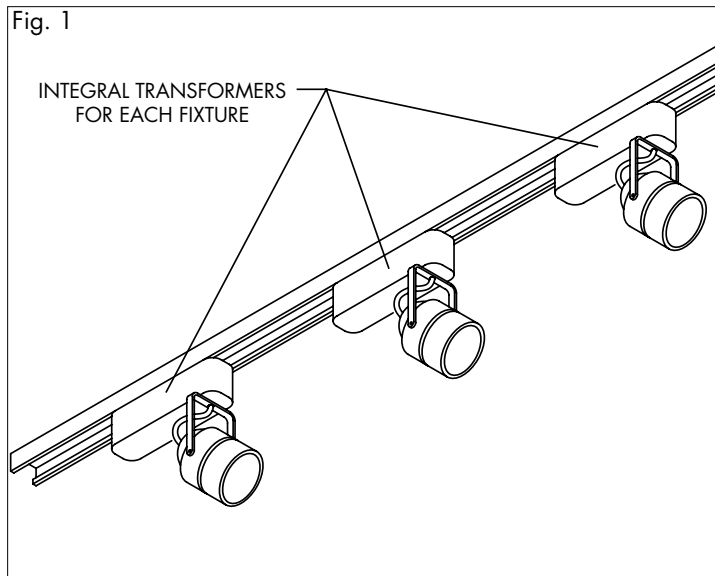


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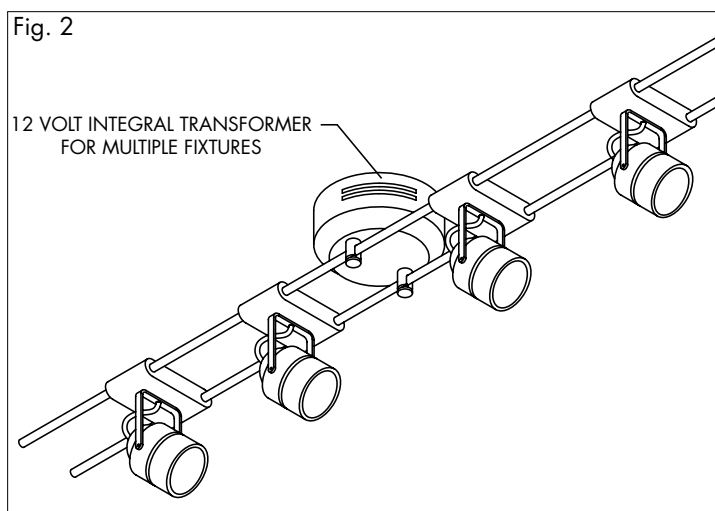
FIXTURE/TRANSFORMER COMPATIBILITY

Two types of low-voltage transformers are used with traditional MR16 lamps: magnetic and electronic. Consider the following when selecting the appropriate transformer for use with iW MR.

- **MAGNETIC:** iW MR is compatible with all types of magnetic transformers used with 12 volt lighting. Additionally, magnetic transformers are considered more reliable than electronic transformers; however, magnetic transformers are heavier, less efficient, and sometimes make noise (buzzing).
- **ELECTRONIC:** iW MR is not compatible with all electronic transformers due to its low power consumption of only 4 watts. Most electronic transformers require a minimum load greater than 4 watts in order to work properly. This is especially true of lighting fixtures that have an integral transformer for each. See Fig. 1. Symptoms of incompatibility include: no light output, flickering, strobing, or random shutdown.



- Transformers can be integral to the fixture or remotely located, and can be used to power a group of fixtures, tracks, cables, or rails See Fig. 2.



CRI

It is common practice in the lighting industry to use color rendering index (CRI) to compare the properties of various light sources. There are known deficiencies and limitations associated with CRI and as a result, it is not always an accurate indicator of good object color appearance. This is especially true for LED-based sources. Until a better method for measuring color rendering in LEDs is accepted, Color Kinetics measures CRI in accordance with the current CIE 13.3-1995 standard using the Ra calculation. The reference illuminants employed are the Planckian locus below 5000K and CIE Daylight reference above 5000K. All measurements for Color Kinetics products are performed by third party laboratories using NIST-traceable instruments.