

MR16 Series

TrueWhite® LED Lamp

Product Description

The Cree® MR16 Series TrueWhite® LED Lamp is a true 50W halogen MR16 equivalent that delivers up to 584 lumens of superior 90 CRI light with high R9 color quality while achieving up to 67 lumens per watt. This MR16 boasts a slim design to allow universal form and fit into most global MR16 fixtures and is available in a variety of beam angles with a color temperature of 3000K. The Cree MR16 Series TrueWhite® LED Lamp's impressive combination of greater than 80% energy savings and significant maintenance savings make it a perfect solution for track and accent lighting.

Performance Summary

Utilizes Cree TrueWhite® Technology

Initial Delivered Lumens: 540 lumens (15D), 580 lumens (25D), 584 lumens (40D)

Input Power: 8.7 watts (50W equivalent)

CRI: >90

CCT: 3000K

Beam Angle: 15°, 25° and 40°

CBCP: 4,648 (15D), 2,473 (25D), 1,296 (40D)

Limited Warranty*: 3 years

Lifetime: Designed to last 25,000 hours

Dimming: Dimmable to 5% with select dimmers

Must order in multiples of master carton (MC) quantities; MC = 4

* See <http://lighting.cree.com/warranty> for warranty terms

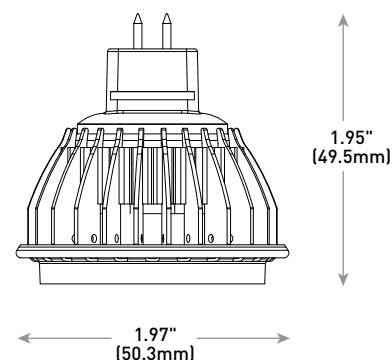
15°



25°



40°



Ordering Information

Example: MR16-50W-30K-25D

| MR16 | 50W | 30K | | |
|---------|-----------------|--------------|--|---------------------|
| Product | Watt Equivalent | CCT | Beam Angle | Base Type |
| MR16 | 50W 50 Watt | 30K 3000K | 15D 15° Spot 25D 25° Flood 40D 40° Wide Flood | Blank GU5.3 Base |



Rev. Date: V7 11/15/2017



US: lighting.cree.com

T (800) 236-6800 F (262) 504-5415

Canada: www.cree.com/canada

T (800) 473-1234 F (800) 890-7507

Product Specifications

CREE TRUEWHITE® TECHNOLOGY

A revolutionary way to generate high-quality white light, Cree TrueWhite® Technology is a patented approach that delivers an exclusive combination of 90+ CRI, beautiful light characteristics, and lifelong color consistency, all while maintaining high luminous efficacy – a true no compromise solution

CONSTRUCTION & MATERIALS

- Durable die-cast aluminum housing with lens protects LEDs and optical system
- Fanless housing design and smart thermal circuit design with embedded intelligent software properly monitors the operating temperature range
- Slim housing design meets ANSI form factor for halogen lamps

OPTICAL SYSTEM

- Single LED source
- Proprietary in-house designed lens is available in three beam angles of 15° Spot, 25° Flood and 40° Wide Flood
- Acrylic lens effectively eliminates surface glare and adds a pleasant touch of soft backlight

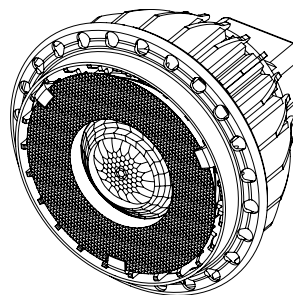
ELECTRICAL SYSTEM

- **Power Factor:** > 0.9 nominal
- **Input Voltage:** 12Vac
- **Dimming:** Dimmable to 5% with select dimmers. Refer to <https://www.creelink.com/exLink.asp?197783280T98U22I37788046> for additional details

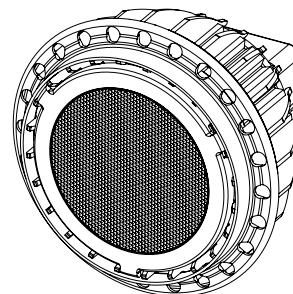
REGULATORY & VOLUNTARY QUALIFICATIONS

- CE Listed
- cULus Listed
- Suitable for damp locations; not for use where exposed directly to water
- Not intended for use in recessed or totally enclosed fixtures
- Suitable for use in partially enclosed track heads (may experience less than nominal performance)
- Not intended for DC operations
- Not intended for use with emergency exit fixtures or emergency lights

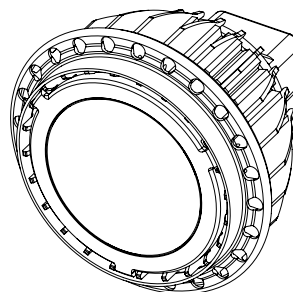
15°



25°



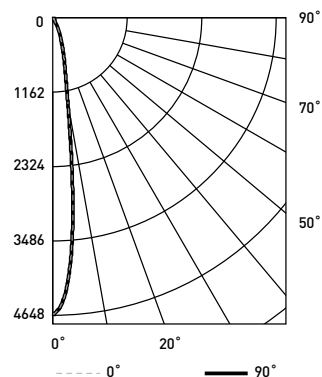
40°



Photometry

MR16-50W-30K-15D BASED ON CESTL REPORT TEST #: PL03761-001

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a luminaire efficiency of 100%.



| Coefficients Of Utilization – Zonal Cavity Method | | | | |
|---|-----|-----|-----|-----|
| RC %: | 80 | | | |
| RW %: | 70 | 50 | 30 | 10 |
| RCR: 0 | 118 | 118 | 118 | 118 |
| 1 | 114 | 112 | 110 | 108 |
| 2 | 110 | 106 | 103 | 101 |
| 3 | 107 | 102 | 98 | 95 |
| 4 | 103 | 98 | 94 | 91 |
| 5 | 100 | 95 | 90 | 87 |
| 6 | 98 | 92 | 87 | 84 |
| 7 | 95 | 89 | 85 | 82 |
| 8 | 93 | 86 | 82 | 80 |
| 9 | 91 | 84 | 80 | 78 |
| 10 | 89 | 82 | 78 | 76 |

Effective Floor Cavity Reflectance: 20%

Reference <http://lighting.cree.com/products/indoor/lamps/mr16-series> for detailed photometric data

| Average Luminance Table (cd/m²) | | | |
|---------------------------------|------------------|--------|--------|
| Vertical Angle | Horizontal Angle | | |
| | 0° | 45° | 90° |
| 45° | 18,154 | 18,154 | 18,154 |
| 55° | 28,725 | 28,725 | 28,725 |
| 65° | 12,316 | 12,316 | 12,316 |
| 75° | 16,452 | 16,452 | 16,452 |
| 85° | 43,781 | 43,781 | 43,781 |

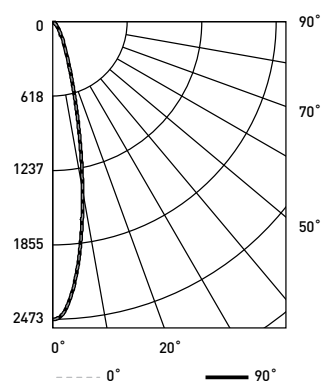
| Zonal Lumen Summary | | | |
|---------------------|--------|--------|-----------|
| Zone | Lumens | % Lamp | Luminaire |
| 0-30 | 489 | N/A | 90.6% |
| 0-40 | 500 | N/A | 92.6% |
| 0-60 | 517 | N/A | 95.8% |
| 0-90 | 528 | N/A | 97.9% |

| Illuminance at a Distance | | |
|---------------------------|----------------|------------|
| | Center Beam fc | Beam Width |
| 2.0 ft | 1,162.1 fc | 0.5 ft |
| 4.0 ft | 290.5 fc | 1.0 ft |
| 6.0 ft | 129.1 fc | 1.5 ft |
| 8.0 ft | 72.6 fc | 2.0 ft |
| 10.0 ft | 46.5 fc | 2.5 ft |

Photometry

MR16-50W-30K-15D BASED ON CESTL REPORT TEST #: PL03761-001

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a luminaire efficiency of 100%.



| Coefficients Of Utilization – Zonal Cavity Method | | | | |
|---|-----|-----|-----|-----|
| RC %: | 80 | | | |
| RW %: | 70 | 50 | 30 | 10 |
| RCR: 0 | 118 | 118 | 118 | 118 |
| 1 | 113 | 111 | 108 | 106 |
| 2 | 109 | 104 | 101 | 98 |
| 3 | 104 | 99 | 94 | 91 |
| 4 | 100 | 94 | 89 | 86 |
| 5 | 97 | 90 | 85 | 81 |
| 6 | 93 | 86 | 81 | 77 |
| 7 | 90 | 82 | 78 | 74 |
| 8 | 87 | 79 | 75 | 71 |
| 9 | 84 | 77 | 72 | 69 |
| 10 | 82 | 74 | 69 | 66 |

Effective Floor Cavity Reflectance: 20%

Reference <http://lighting.cree.com/products/indoor/lamps/mr16-series> for detailed photometric data

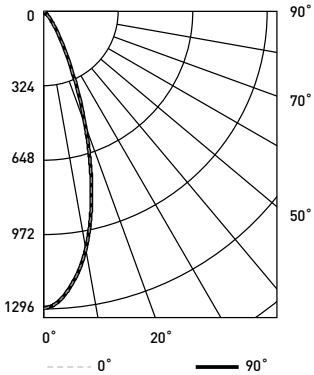
| Average Luminance Table (cd/m²) | | | |
|---------------------------------|------------------|--------|--------|
| Vertical Angle | Horizontal Angle | | |
| | 0° | 45° | 90° |
| 45° | 42,484 | 42,484 | 42,484 |
| 55° | 22,248 | 22,248 | 22,248 |
| 65° | 20,087 | 20,087 | 20,087 |
| 75° | 25,975 | 25,975 | 25,975 |
| 85° | 56,085 | 56,085 | 56,085 |

| Zonal Lumen Summary | | | |
|---------------------|--------|--------|-----------|
| Zone | Lumens | % Lamp | Luminaire |
| 0-30 | 474 | N/A | 81.9% |
| 0-40 | 521 | N/A | 90.0% |
| 0-60 | 548 | N/A | 94.6% |
| 0-90 | 563 | N/A | 97.2% |

Photometry

MR16-50W-30K-40D BASED ON CESTL REPORT TEST #: PL03820-001

Luminaire photometry has been conducted by a NVLAP accredited testing laboratory in accordance with IESNA LM-79-08. IESNA LM-79-08 specifies the entire luminaire as the source resulting in a luminaire efficiency of 100%.



| Coefficients Of Utilization – Zonal Cavity Method | | | | |
|---|-----|-----|-----|-----|
| RC %: | 80 | | | |
| RW %: | 70 | 50 | 30 | 10 |
| RCR: 0 | 118 | 118 | 118 | 118 |
| 1 | 113 | 110 | 108 | 106 |
| 2 | 108 | 103 | 99 | 96 |
| 3 | 103 | 97 | 93 | 89 |
| 4 | 99 | 92 | 87 | 83 |
| 5 | 95 | 87 | 82 | 78 |
| 6 | 91 | 83 | 77 | 73 |
| 7 | 87 | 79 | 73 | 70 |
| 8 | 84 | 75 | 70 | 66 |
| 9 | 81 | 72 | 67 | 63 |
| 10 | 78 | 69 | 64 | 61 |

Effective Floor Cavity Reflectance: 20%

Reference <http://lighting.cree.com/products/indoor/lamps/mr16-series> for detailed photometric data

| Average Luminance Table (cd/m²) | | | | |
|---------------------------------|------------------|--------|--------|--------|
| Vertical Angle | Horizontal Angle | | | |
| | 0° | 45° | 90° | |
| | 45° | 33,521 | 33,521 | 33,521 |
| | 55° | 21,411 | 21,411 | 21,411 |
| | 65° | 21,137 | 21,137 | 21,137 |
| | 75° | 22,017 | 22,017 | 22,017 |
| | 85° | 44,071 | 44,071 | 44,071 |

| Zonal Lumen Summary | | | |
|---------------------|--------|--------|-----------|
| Zone | Lumens | % Lamp | Luminaire |
| 0-30 | 469 | N/A | 80.8% |
| 0-40 | 523 | N/A | 90.1% |
| 0-60 | 548 | N/A | 94.4% |
| 0-90 | 563 | N/A | 97.0% |

