



INTEGRA LED MR16 – A LED Lamp with some BIG Differences

Description:

LED Lights Direct's line of INTEGRA LED lamps use some of the most advanced components currently available; CREE XR-E chips, proprietary full IC stepped drivers, advanced optics and unique heat sink technologies.

The INTEGRA LED MR16 uses Cree 3X2W XR-E series chips and comes packaged in a 6W power rating. They are currently available in a warm white (3000K) that closely mimics the light output of a quality halogen MR16 lamp. Our new LED driver is a first for the industry and when combined with the unique heat sink this lamp is capable of operating at temperatures well below the heat specifications of the LED chips, even when sealed inside weatherproof fixtures! This lamp is safe to the touch and has a life expectancy of over 10 times that of most halogen equivalents.

The INTEGRA LED MR16 retrofits into standard MR16 fixtures and housings and enables the installer to achieve immediate efficiencies in terms of reduced electrical consumption and drastically reduced maintenance without any additional adjustments.

The INTEGRA LED MR16 is equipped with optical grade polycarbonate collimators that allow light transmission at 45° and 15° beam spreads. With our unique optimized driver that was specifically developed to address heat issues, we are able to maximize the light output of the lamp while maintaining a very low lamp temperature of approx 45°C.

Main Features

- Base : 2 pin GX5.3/GU5.3 (this is a direct replacement for MR16 halogen lamp)
- Input Voltage: 12V AC or DC (will operate between 10v to 15v AC)
- Light Source: 3 X 2W CREE XR-E power LED
- Output Power: 6W
- Light Output: 250 Lumens
- Lens Beam Angle: 45° Flood or 15° Spot.
- Colour Temperature: 3000K (Warm White)
- Ambient Operating Temperature: -20°C to 40°C
- L70 Rating (effective lamp life): 40,000 Hours
- Product Standards: CE & ROHS
- Built in Over Current Protection
- Built in Reversed Polarity Protection
- Unique Driver Technology – Full Solid State Components

Typical Applications

- Landscape Lighting
- Architectural Lighting
- Retail Displays (no heat compared to halogen)
- Highlighting Artwork (no damaging UV)
- General Interior Lighting (not for use with electronic LV transformers)
- Commercial Applications

Environmental Specifications

-Environmental Temperature Range Ambient: -20°C to 40°C

-Humidity Range 0 to 95% non-condensing humidity

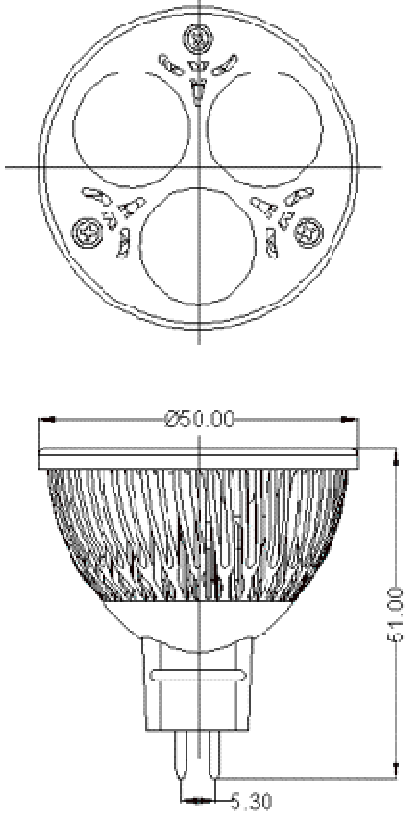
General Characters

Symbol	Parameter		Minimum	Typical	Maximum	Unit
Vac	AC input voltage		10	12	15	Volt
Vdc	DC input voltage		11	12	14	Volt
Ldc	LED driver current	Stepped Driver Circuit		xxx		mA
L70	Life time			40,000		Hours
Lm	Luminous flux		220	235	250	Lumen
T	Junction Temperature	ambient temp at 21 C	29	33	35	Celsius



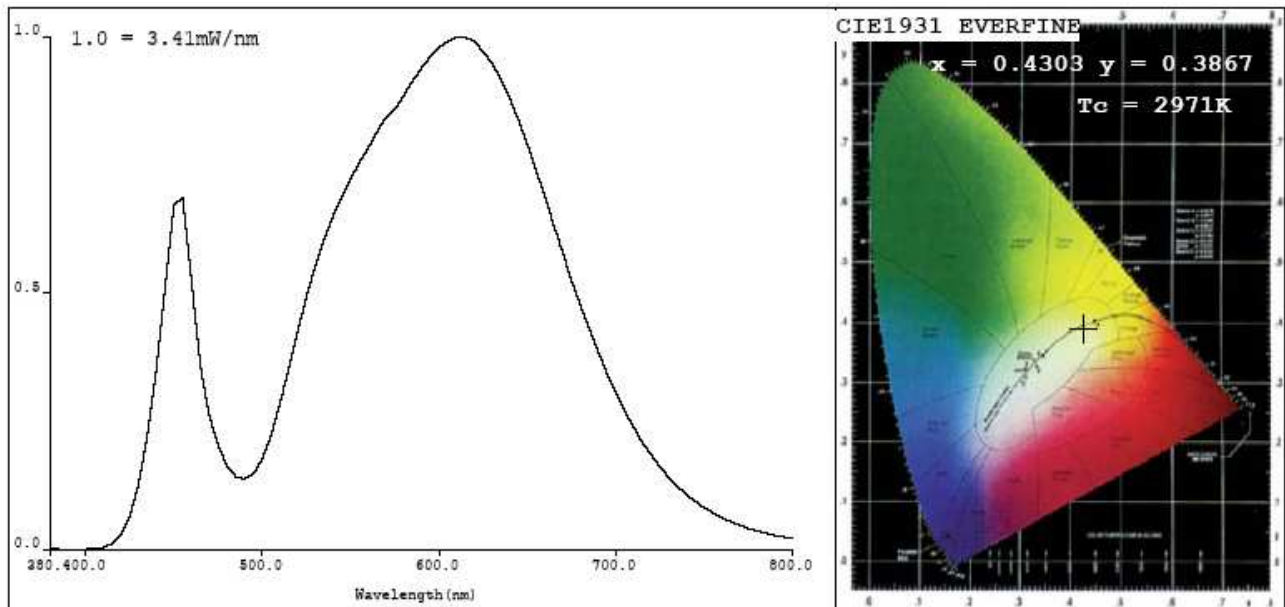
INTEGRA LED MR16 - LED Specifications

1: Design Features:

	<p>Base Type : 2 pin GX5.3/GU5.3</p> <p>Input Voltage: AC/DC 10V~15V</p> <p>Light source: 3 pieces 2W CREE XR-E power LED</p> <p>Power Consumption: 5.4 Watts</p> <p>CRI (Colour Rendering Index): 83</p> <p>Highest optical efficiency achieved : 250LM(Warm White), Typical 235LM</p> <p>Lens beam angle: 45° Flood, OR 15° Spot</p> <p>Color: Warm white(3000K)</p> <p>Operating Temperature: -25° C to 40° C</p> <p>Life Span: 40,000 Hours +</p> <p>Certification: CE , RoHS,</p> <p>Protection:</p> <ol style="list-style-type: none">1. Over current protection2. Reversed polarity protection3. Overload protection <p>Humidity Range : 0 to 95% non-condensing humidity</p> <p>Surface temperature of Lamp: 33°C (ambient temperature: 21°C)</p> <p>L70 Rating: 40,000 hours</p>
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2: Photometry colorimetry and electricity:

A. (3000K, 15degree sample)



CIE Color Specification:

Chromaticity coordinates: $x=0.4303$ $y=0.3867$ / $u=0.2539$ $v=0.3422$

Correlated color temperature: $T_c = 2971K$ Dominant Wavelength: $\lambda_d = 585.5nm$, Purity; 45.2%

Peak Wavelength: $\lambda_p = 615nm$, Semibreadth: $\Delta\lambda_p = 151.9nm$

Colorimetric: R=23.4% G=74.4% B=2.2%

Average Wavelength; $\lambda_{av} = 597nm$

Color Rendering Index: $R_a=82.5$

R1 = 82 R2 =89 R3 =90 R4 =79 R5 =80 R6 =82 R7 =87 R8 =71

R9 =33 R10 =70 R11 =73 R12 =60 R13 =84 R14 =93 R15 =81

Electronic Specification:

U=12.0V I=0.365A P=4.4W PF=1.000

Apparatus Status:

Scanning Range: 380.0nm- 800.0nm

Scanning Alternation: 5.0nm Main channel peak value: $I_p=51055$

Ref Channel: REF=10233 Maximum Fluctuation: %=-1.107%

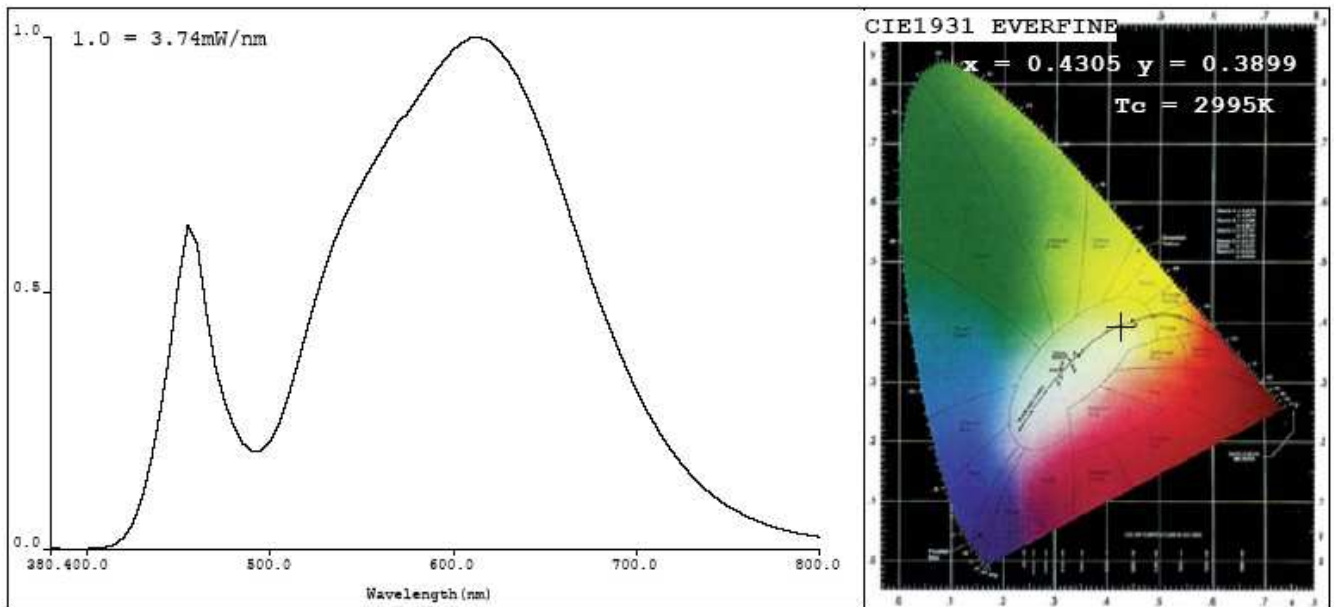
Multiplier working temperature: 33.0°C

Illuminance:

0.5meter center illuminance is 6350 Lux

1.0meter center illuminance is 1570 Lux

B: (3000K, 45degree sample)



CIE Color Specification:

Chromaticity coordinates: $x=0.4305$ $y=0.3899$ / $u=0.2525$ $v=0.3431$
Correlated color temperature: $T_c = 2995K$ Dominant Wavelength: $\lambda_d = 584.8nm$, Purity; 46.2%
Peak Wavelength: $\lambda_p = 610nm$, Semibreadth: $\Delta\lambda_p = 152.3nm$
Colorimetric: R=23.4% G=74.0% B=2.6%
Average Wavelength; $\lambda_{av} = 597nm$
Color Rendering Index: $R_a=84.7$
R1 = 82 R2 = 91 R3 = 93 R4 = 80 R5 = 82 R6 = 86 R7 = 88 R8 = 72
R9 = 38 R10 = 76 R11 = 75 R12 = 65 R13 = 86 R14 = 95 R15 = 83

Electronic Specification:

U=12.0V I=0.358A P=4.3W PF=1.000

Apparatus Status:

Scanning Range: 380.0nm- 800.0nm
Scanning Alternation: 5.0nm Main channel peak value: $I_p=51538$
Ref Channel: REF=9992
Maximum Fluctuation: %=-1.448%
Multiplier working temperature: 33.0°C

Illuminance:

0.5meter center illuminance is 1410 Lux
1.0meter center illuminance is 370 Lux