

EdiPower II HR series Reliability Document



As part of Edison Opto commitment for quality products, this document presents, in accordance to the latest industry standards and stress criteria, the results of ongoing, long-term stress testing of high power LED.

This reliability document defines in the context such that high power LEDs can be measured and evaluated with lifetime projection. Also it describes the color temperature maintenance of white light products for it is an essential factor for the general lighting specifications.

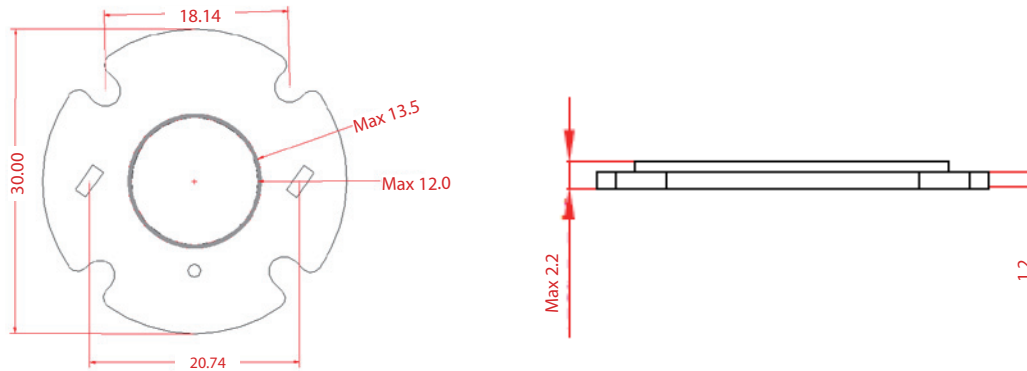
Through continuous advancement and dynamic evolving technology in LED industry, Edison Opto continues to offer industry leading, reliable, competent products with definitive performance over time.

Table of Contents

- [Edipower II HR series Package Dimensions](#)
- [Edipower II HR series Reliability Information](#)
- [Edipower II HR series Reliability Test Items](#)
- [Reliability Measuring Equipment Information](#)



4W Emitter Dimensions

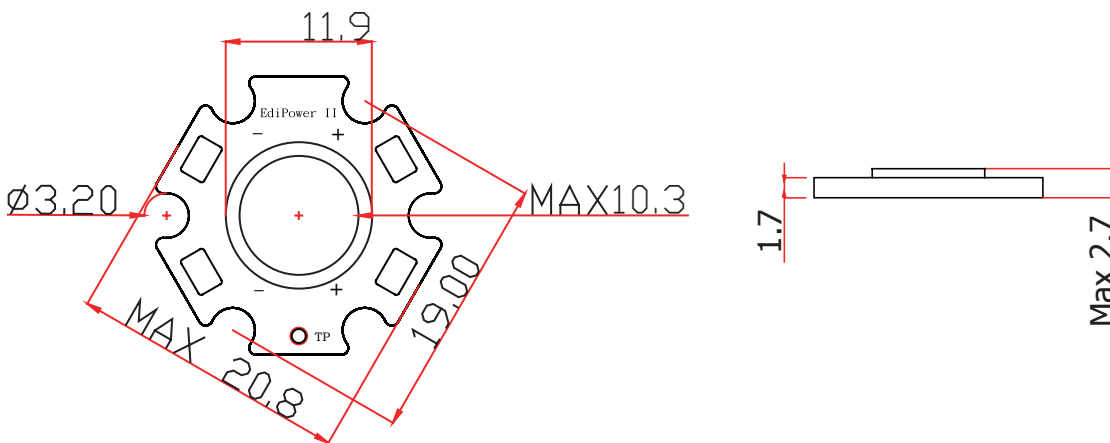


Notes:

1. Unit : mm
2. Tolerance : ± 0.2 mm
3. Drawings are not to scale
4. TP : Thermal measurement point

Figure 1. 4W EdiPower II HR Series Dimensions

9W Emitter Dimensions



Notes:

1. Unit : mm
2. Tolerance : ± 0.2 mm

Figure 2. 9W EdiPower II HR Series Dimensions

13W Emitter Dimensions

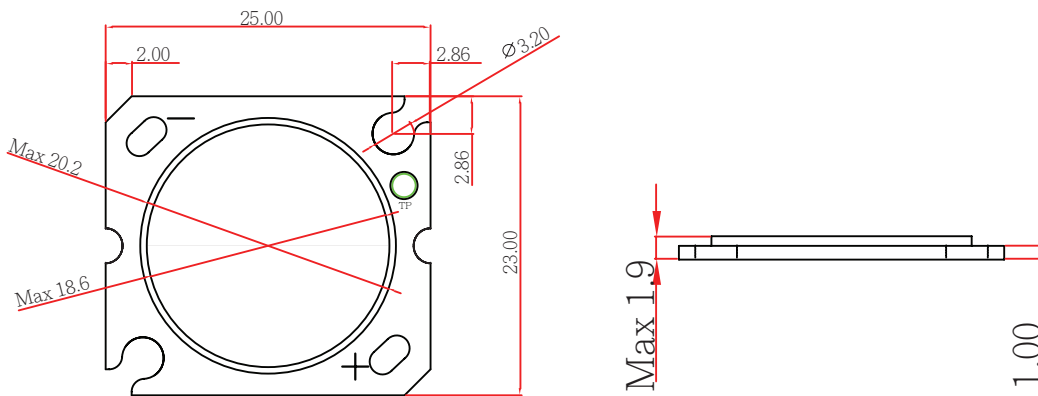


Figure 3. 13W EdiPower II HR Series Dimensions

Notes:

1. Unit : mm
2. Tolerance : ± 0.2 mm
3. Drawings are not to scale
4. TP : Thermal measurement point

24/35W Emitter Dimensions

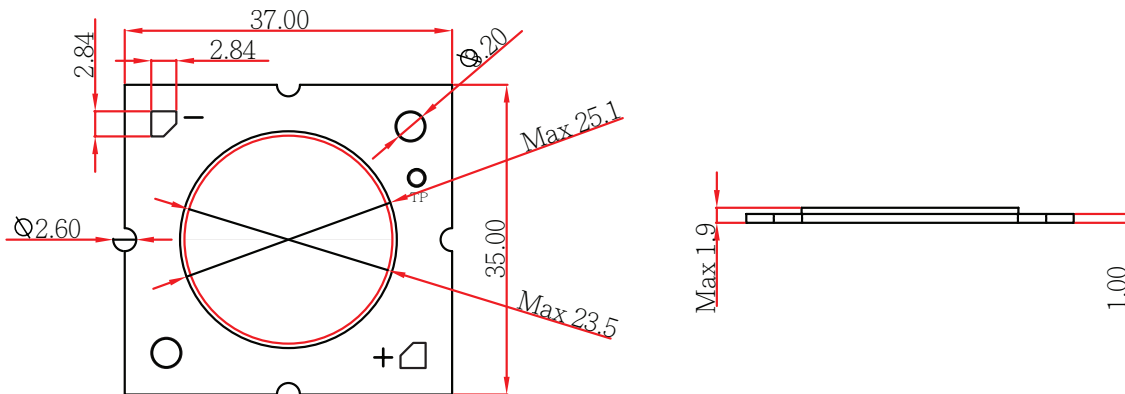


Figure 4. 24/35W EdiPower II HR Series Dimensions

Notes:

1. Unit : mm
2. Tolerance : ± 0.2 mm
3. Drawings are not to scale
4. TP : Thermal measurement point

LED Package Dimensions and Polarity

4W Emitter Circuit Layout

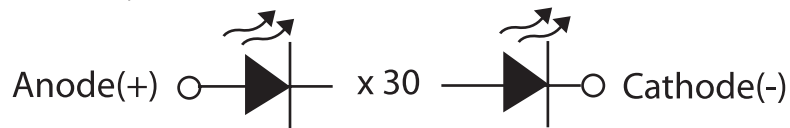


Figure 5.4W EdiPower II HR Series Circuit Layout

9W Emitter Circuit Layout

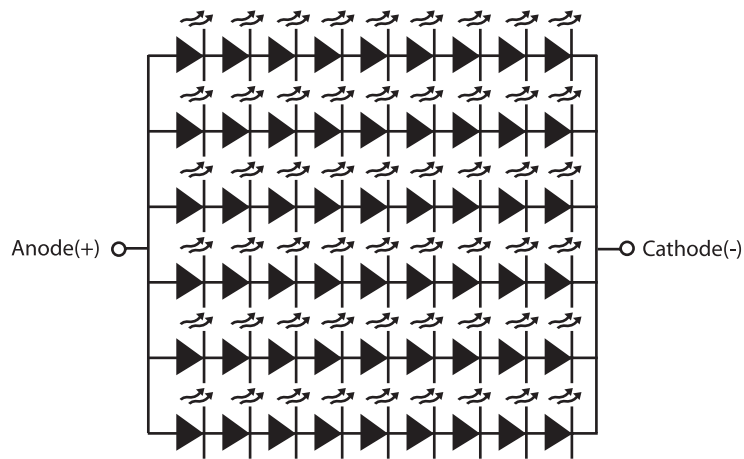


Figure 6.9W EdiPower II HR Series Circuit Layout

13W Emitter Circuit Layout

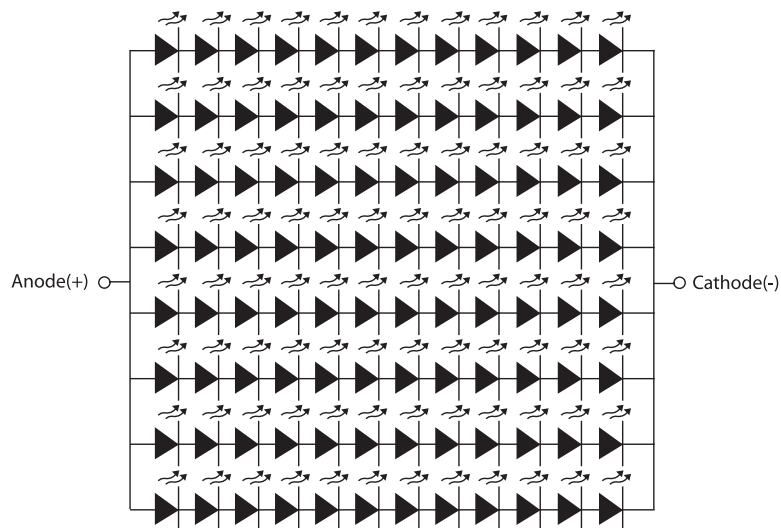


Figure 7.13W EdiPower II HR Series Circuit Layout

24W Emitter Circuit Layout

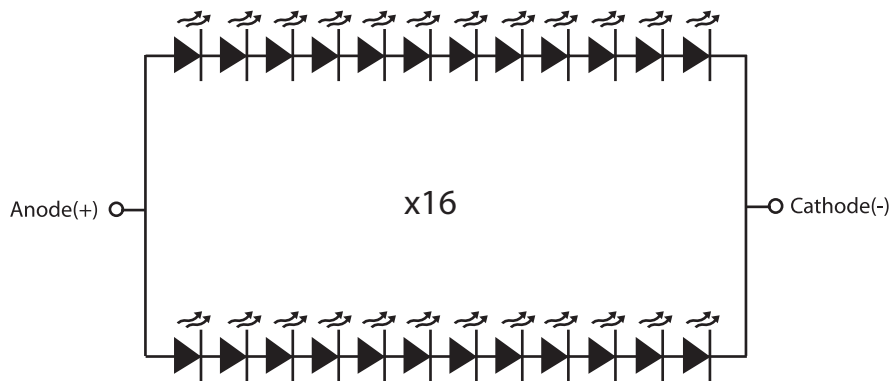


Figure 8.24W EdiPower II HR Series Circuit Layout

35W Emitter Circuit Layout

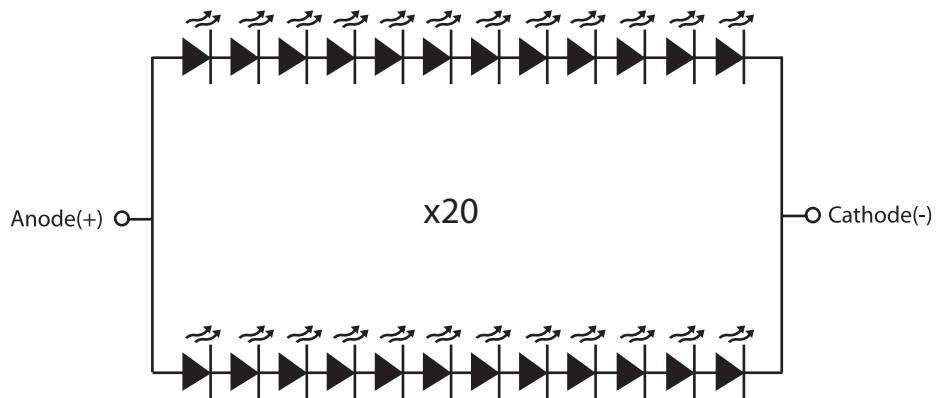
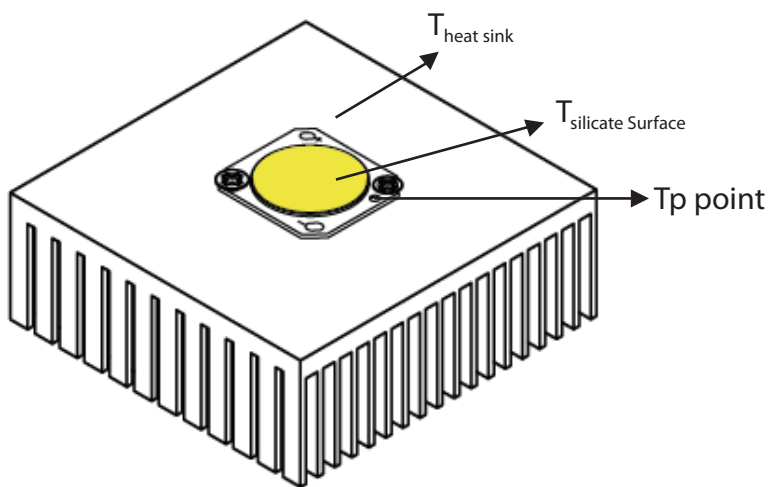
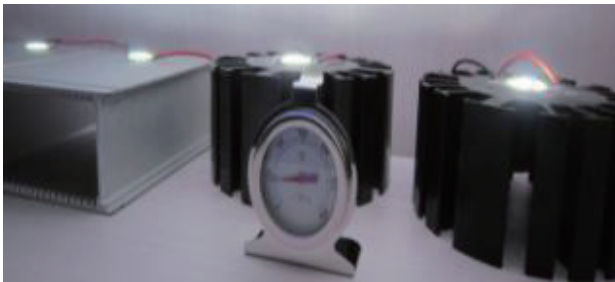


Figure 9.35W EdiPower II HR Series Circuit Layout


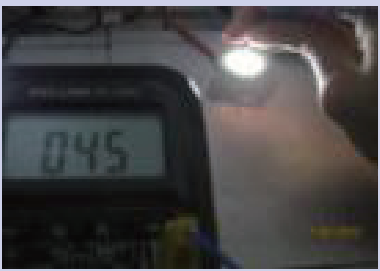


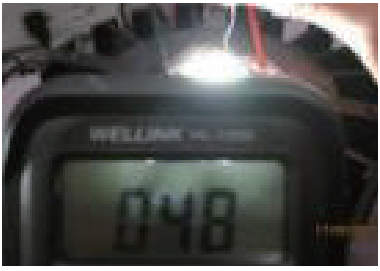



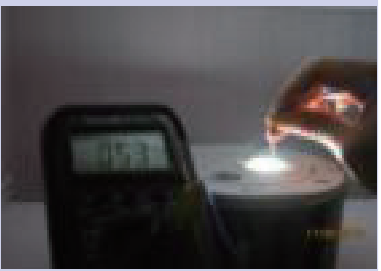
EdiPower II HR series Reliability Test Items

No.	Test Type	Test Conditions	units	Test Point	Failure
1	Ambient Temperature Operating Life (13W)	Ta = 40°C DC = 40V If = 350mA	2	0hrs 168hrs 500hrs 1000hrs 2000hrs	C=0
2	Ambient Temperature Operating Life (24W)	Ta = 40°C DC = 40V If = 700mA	2	0hrs 168hrs 500hrs 1000hrs 2000hrs	C=0
3	Ambient Temperature Operating Life (35W)	Ta = 40°C DC = 40V If = 1000mA	2	0hrs 168hrs 500hrs 1000hrs 2000hrs	C=0



Ta = 40°C

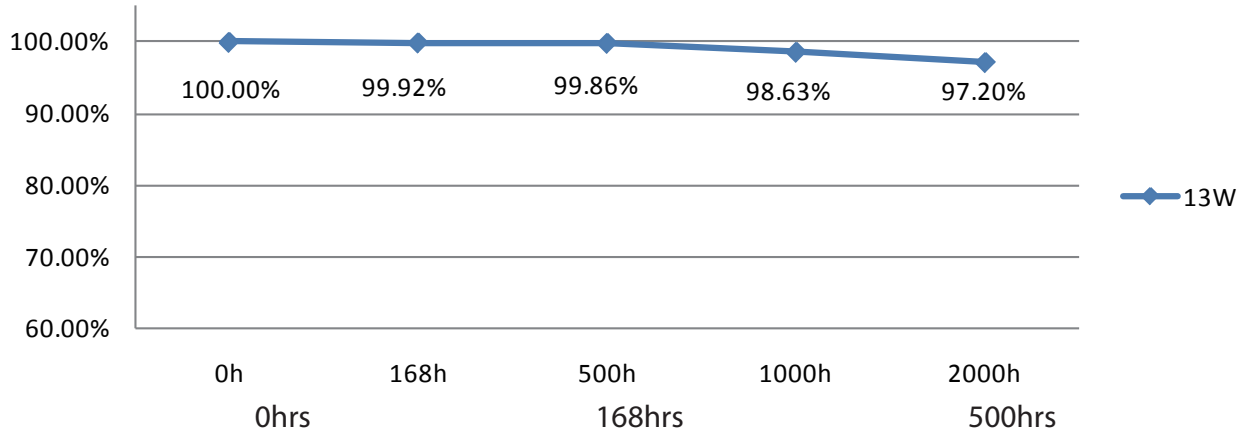
EdiPower II HR series Reliability Test Items

13W	$T_{\text{Silicate Surface}} = 102^{\circ}\text{C}$	$T_p = 45^{\circ}\text{C}$	$T_{\text{heatsink}} = 45^{\circ}\text{C}$
			
24W	$T_{\text{Silicate Surface}} = 137^{\circ}\text{C}$	$T_p = 48^{\circ}\text{C}$	$T_{\text{heatsink}} = 43^{\circ}\text{C}$
			
35W	$T_{\text{Silicate Surface}} = 180^{\circ}\text{C}$	$T_p = 63^{\circ}\text{C}$	$T_{\text{heatsink}} = 53^{\circ}\text{C}$
			

Ambient Temperature Operating Life

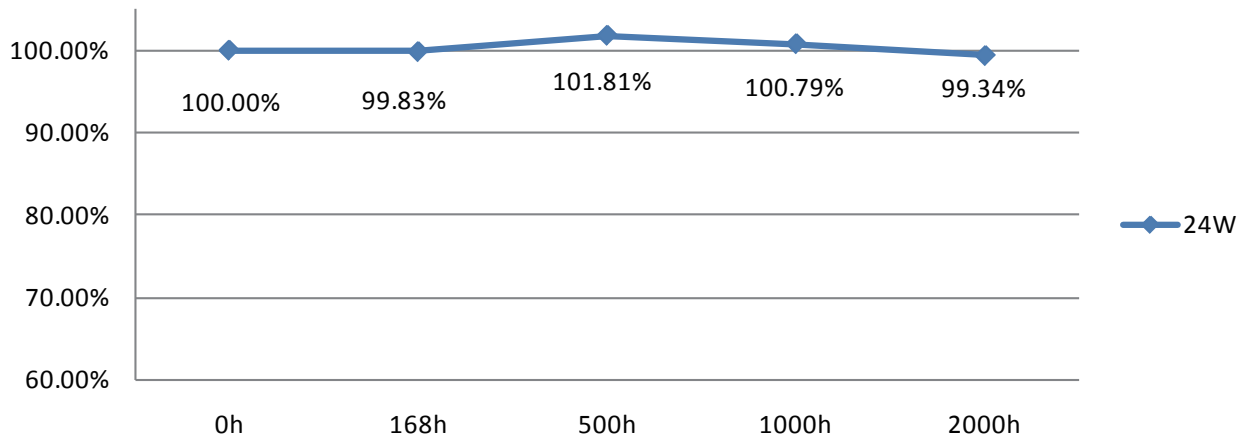
13W EdiPower II HR Series

Im decay



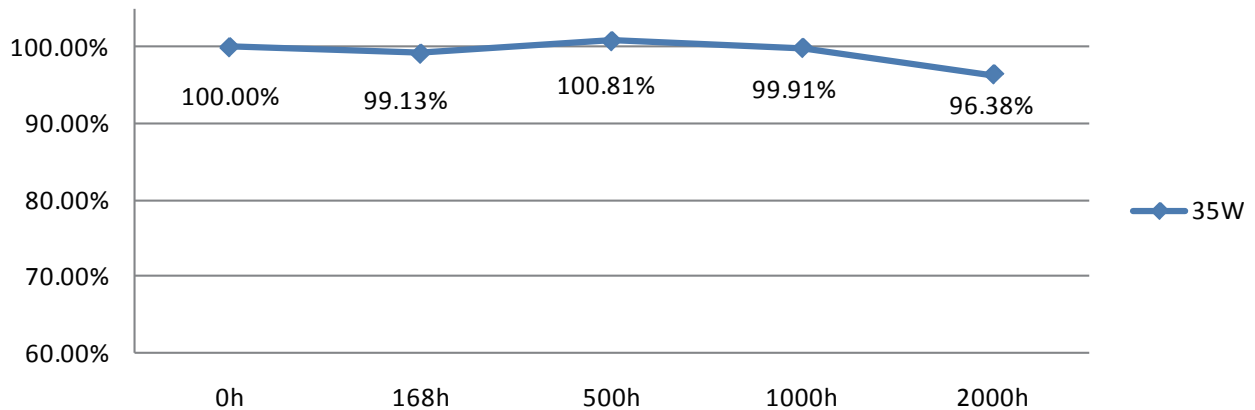
24W EdiPower II HR Series

Im decay

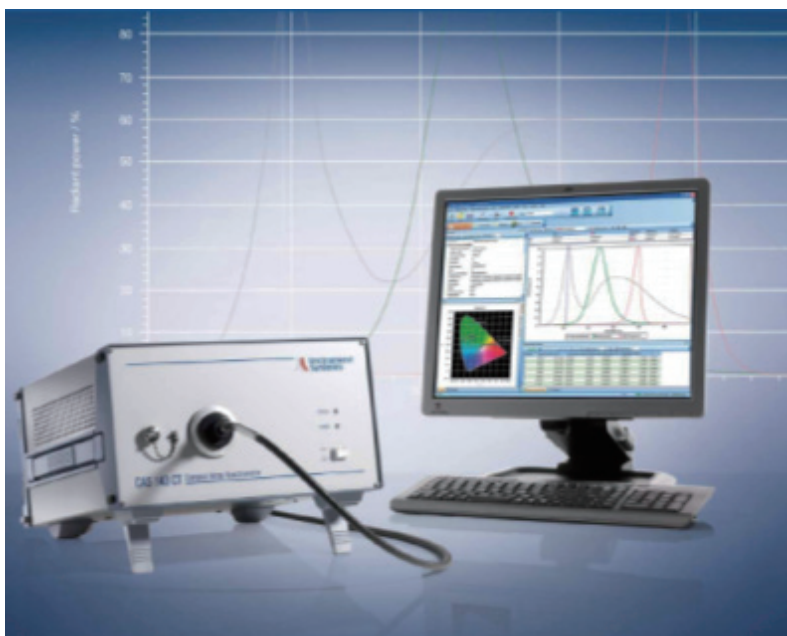


35W EdiPower II HR Series

Im decay

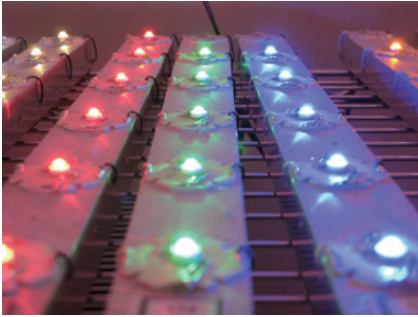


Instrument systems from Germany



Technical specifications for LED measurement

Model	CAS140CT-154 UV/VIS/NIR
Spectral range	220-1020 nm
Spectral resolution	3.7 nm
Sensitivity	
Luminous Intensity	0.002 mcd-8kcd
Luminous Flux	0.05 mlm - 250 klm
Measurement uncertainty	
Luminous Intensity	+/-4%
Luminous Flux	+/-4%
Dominant Wavelength	+/-0.5 nm
Color Coordinates (x, y)	+/-0.002



About Edison Opto

Edison Opto is a leading high power LED manufacturer and a solution provider experienced in optical design and thermal management for the emerging SSL market. With R&D headquarter in Taiwan, as well as distribution network over twenty-six countries, Edison Opto offers a diverse ranges of high power LED products to worldwide commercial, industrial, retail, and residential markets.

Disclaimer. Edison Opto may make conditional changes affecting the performance or other characteristics of our products in conforming to the latest technology advancement of LED manufacturing processes. The products constructed after such changes will continue to adhere the test criteria according to published data. The correlative data of technical parameters are presented as accumulated statistical figures. These figures do not necessarily reflect the actual parameters of each single product and may differ from the typical characteristic presented in this document. Edison Opto assumes neither warranty, nor guarantee for any other liability of any damage resulting from the usage of the presented data. As part of its policy of continuous research and development, Edison Opto reserves the right to change or withdraw specifications without prior notice.