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.

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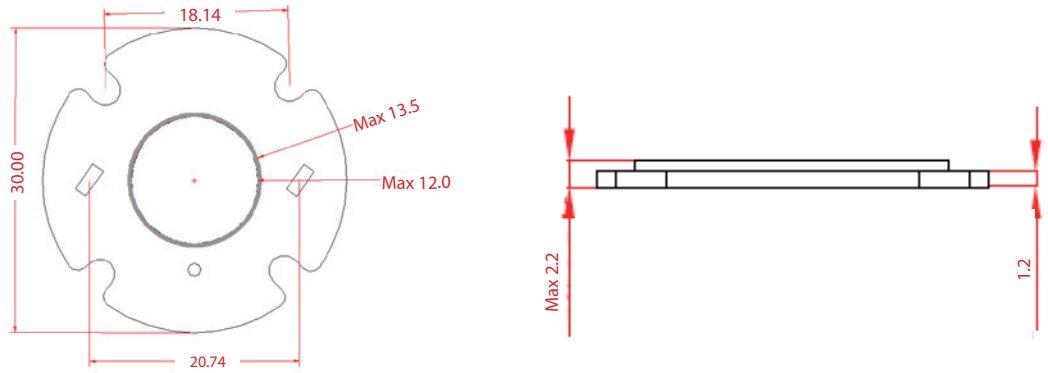
EDISON

Lighting Design Manufacturing Service

version : 1

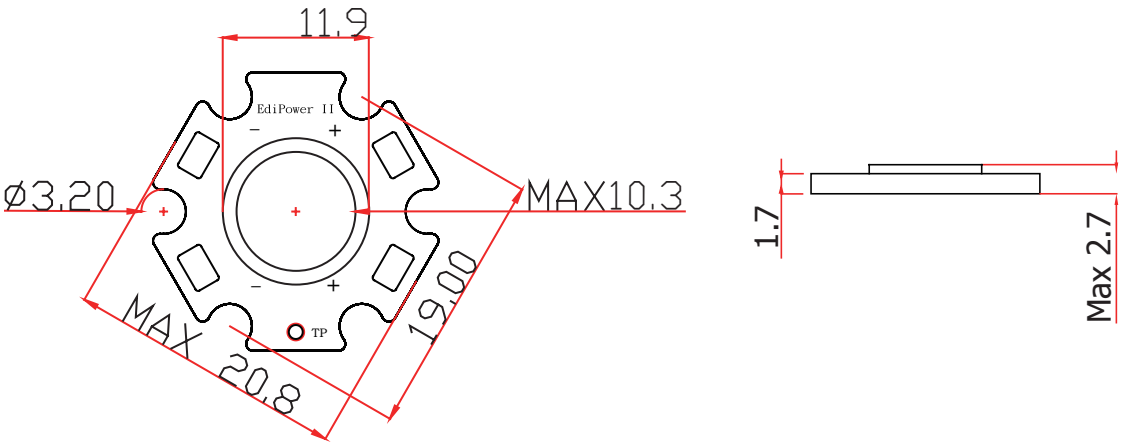
4W Emiiter Dimensions



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 Emiiter Dimensions



Notes:
1. Unit : mm
2. Tolerance : ± 0.2 mm

Figure 2. 9W EdiPower II HR Series Dimensions

13W Emitter Dimensions

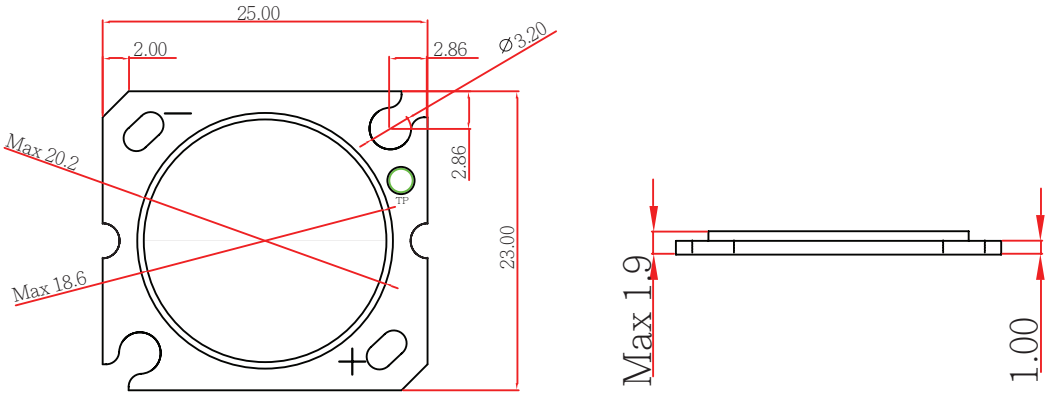


Figure 3. 13W EdiPower II HR Series Dimensions

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

24/35W Emitter Dimensions

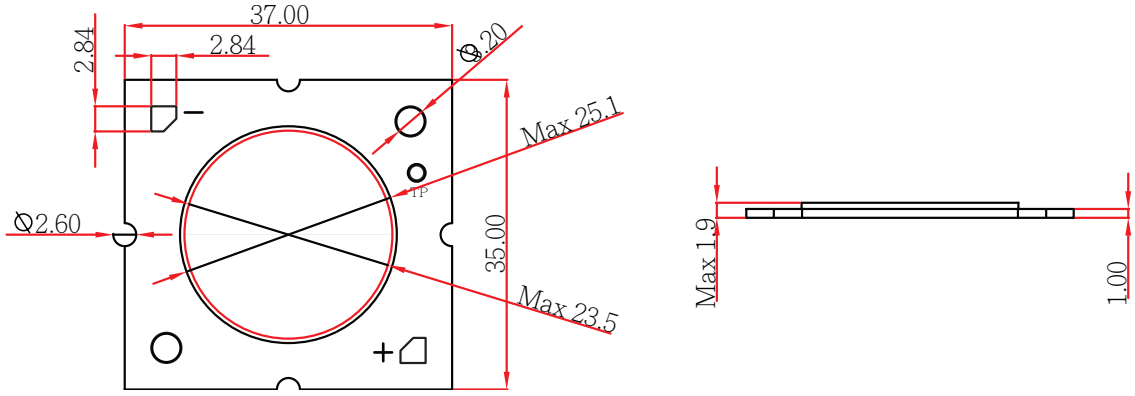


Figure 4. 24/35W EdiPower II HR Series Dimensions

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

4W Emitter Circuit Layout

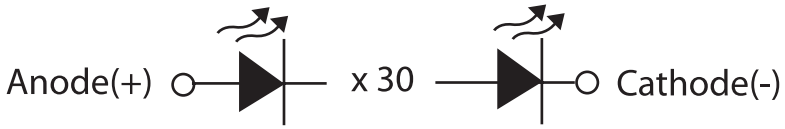


Figure 5.4W EdiPower II HR Series Circuit Layout

9W Emitter Circuit Layout

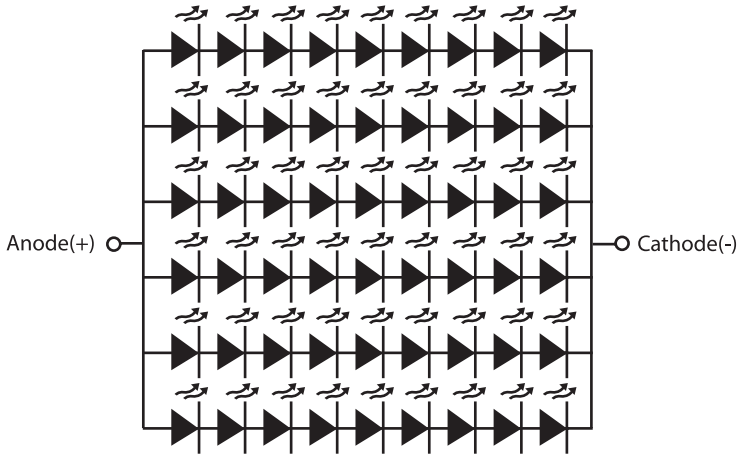


Figure 6.9W EdiPower II HR Series Circuit Layout

13W Emitter Circuit Layout

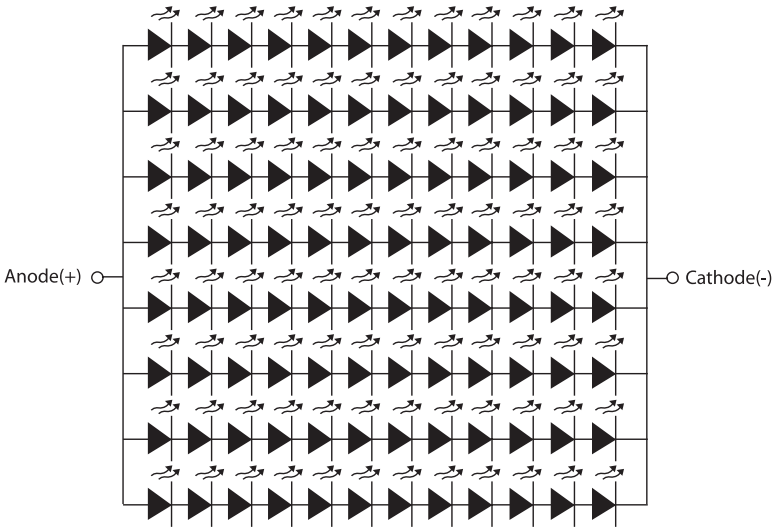


Figure 7.13W EdiPower II HR Series Circuit Layout

24W Emitter Circuit Layout

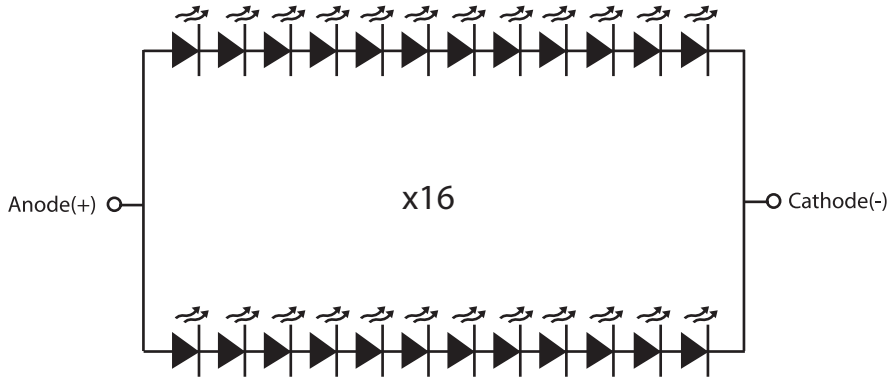


Figure 8.24W EdiPower II HR Series Circuit Layout

35W Emitter Circuit Layout

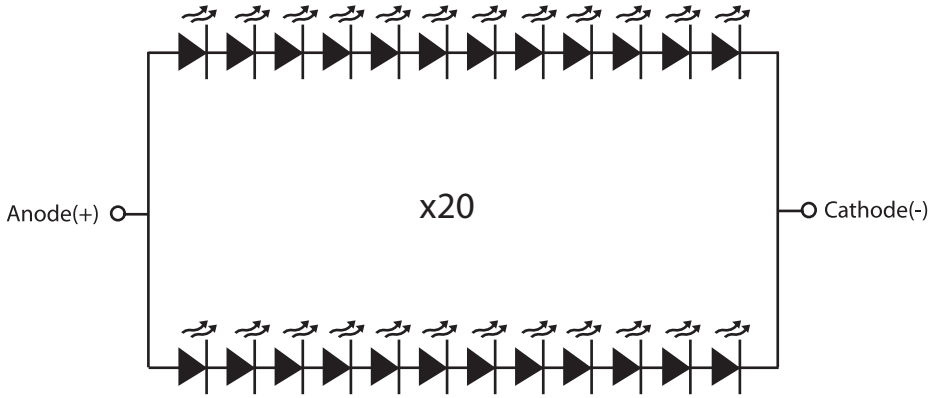
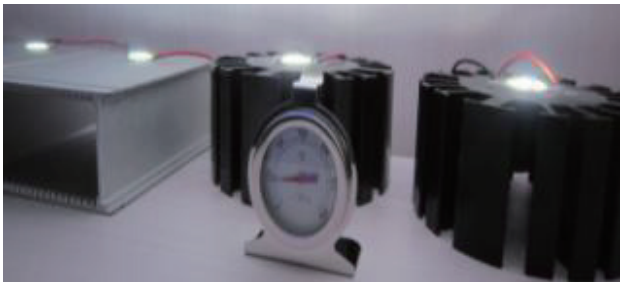
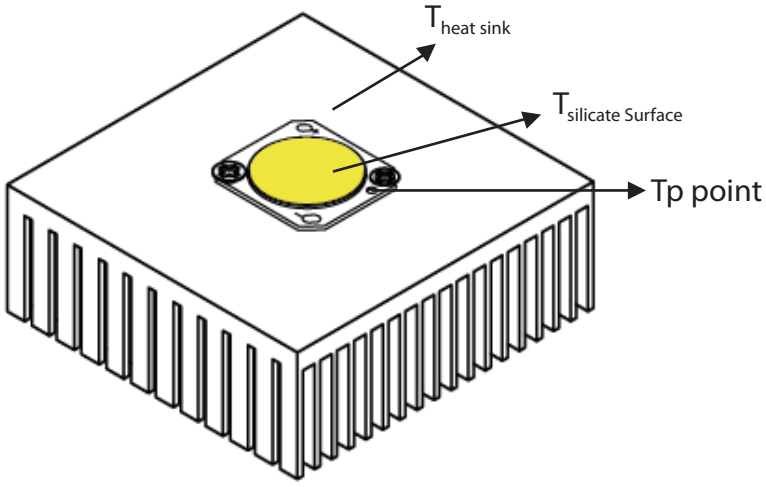


Figure 9.35W EdiPower II HR Series Circuit Layout

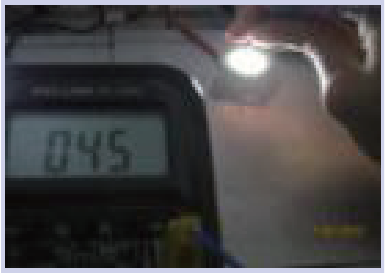
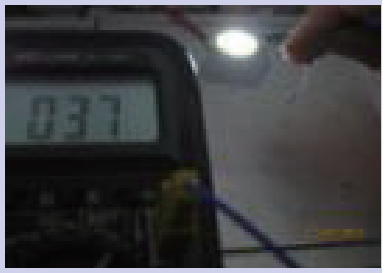
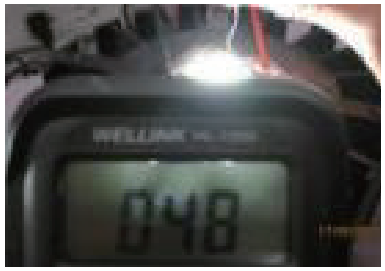
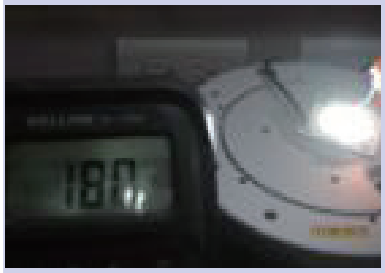
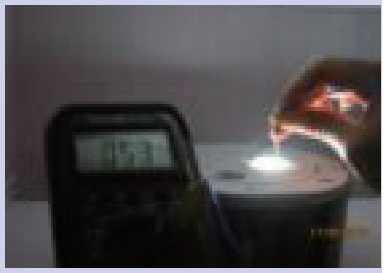
EdiPower II HR series Reliability Test Items

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



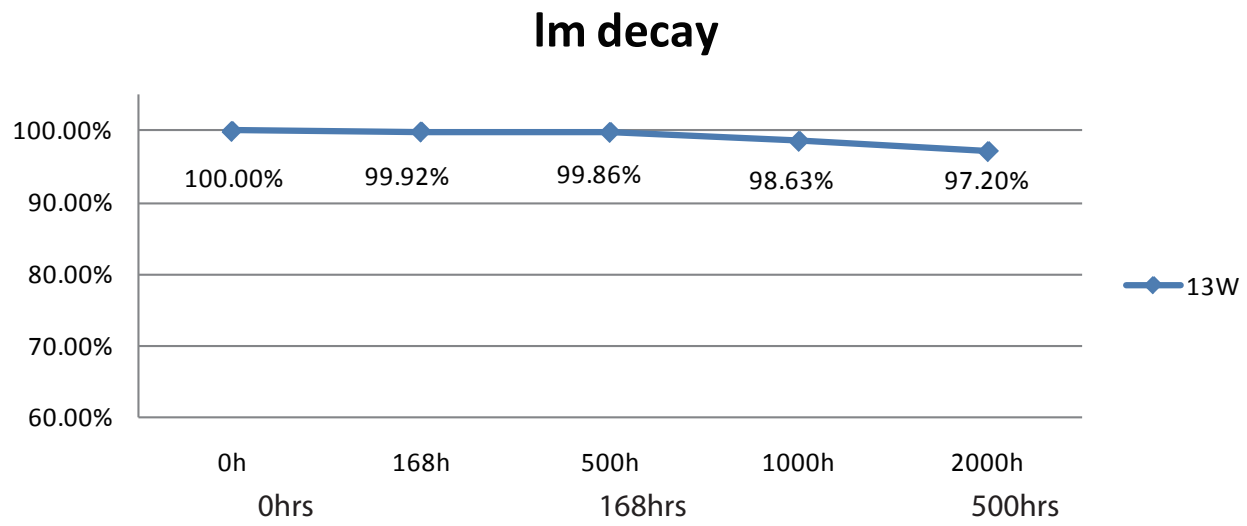


Ta = 40˚C

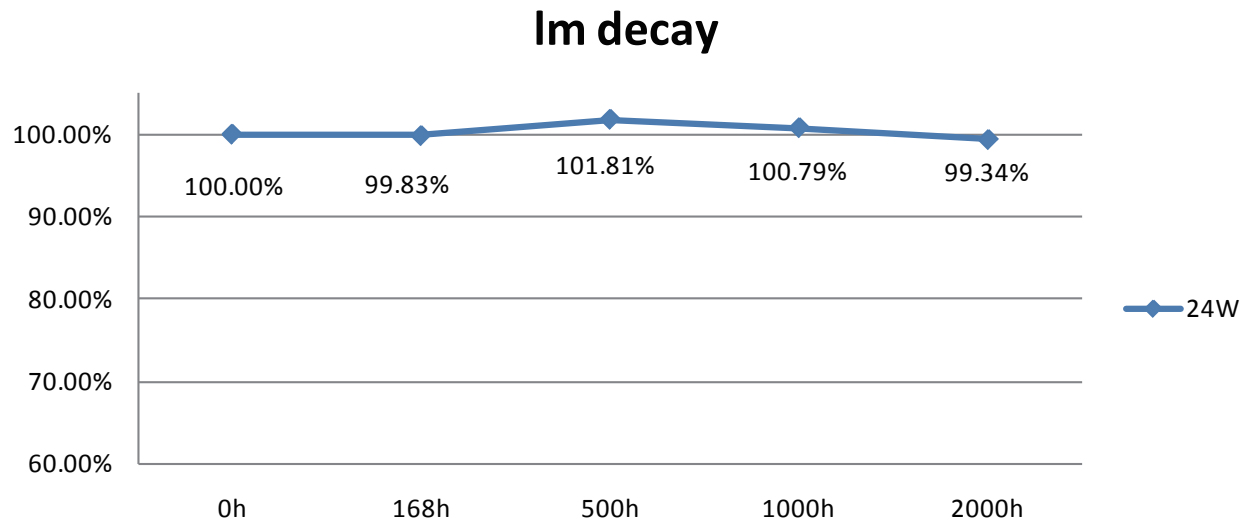
13W	$T_{Silicate\ Surface} = 102^{\circ}C$	$T_P = 45^{\circ}C$	$T_{heatsink} = 45^{\circ}C$
			
24W	$T_{Silicate\ Surface} = 137^{\circ}C$	$T_P = 48^{\circ}C$	$T_{heatsink} = 43^{\circ}C$
			
35W	$T_{Silicate\ Surface} = 180^{\circ}C$	$T_P = 63^{\circ}C$	$T_{heatsink} = 53^{\circ}C$
			

Ambient Temperature Operating Life

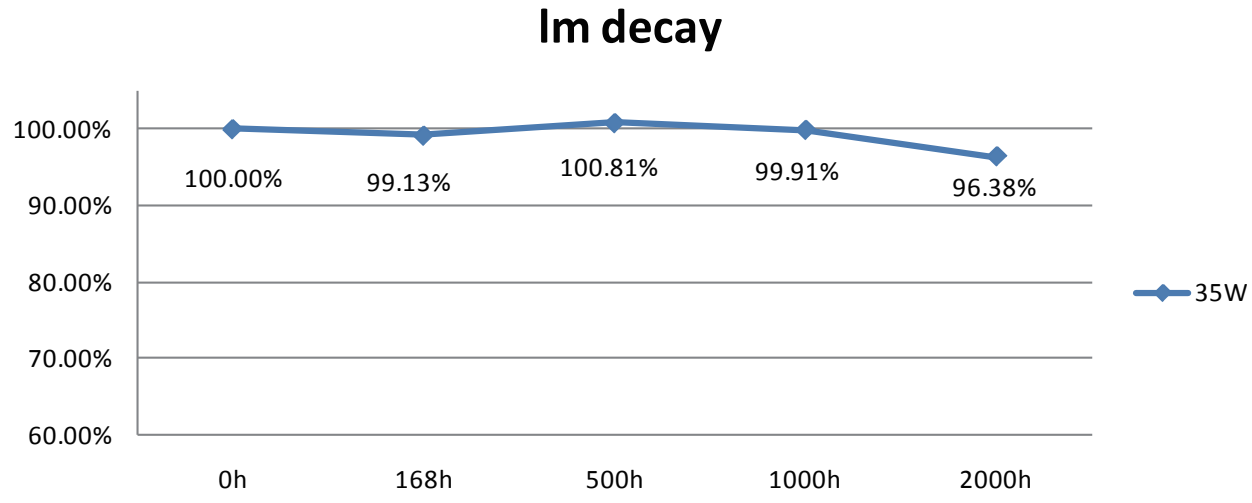
13W EdiPower II HR Series



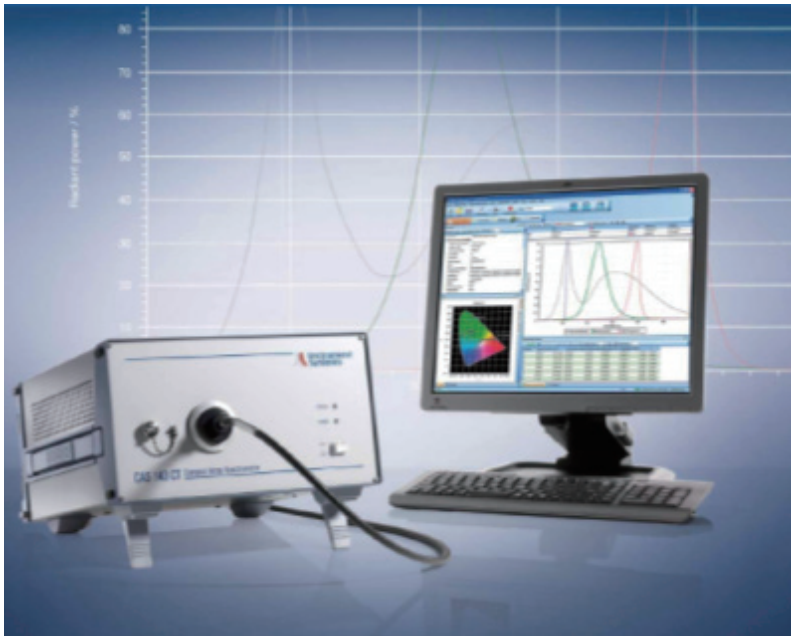
24W EdiPower II HR Series



35W EdiPower II HR Series

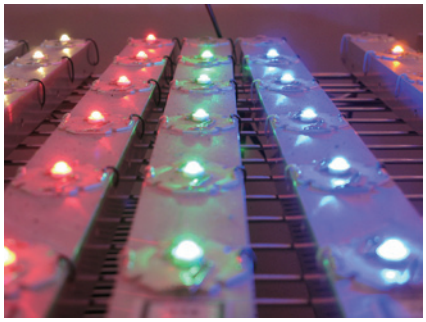


Instrument systems from Germany



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.