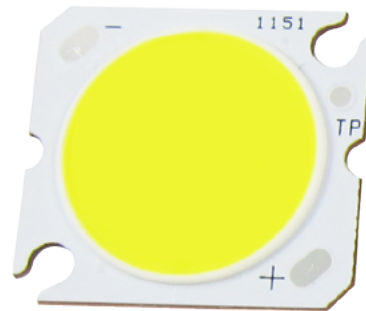


EdiPower II HR Series Datasheet



Features :

- LED light engine
- High power operation
- Instant on
- Long lifetime



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General Information

Introduction

EdiPower II HR Series can provide different operating powers and different colors. They serve as optical engine and can be utilized in general lighting and special lighting applications, such as MR16 and projectors. Furthermore, the high CRI options allow the customers to optimize the effect in various fields such as interior architecture.

Order Code Format

<u>2</u> X1	<u>P</u> X2	<u>HR</u> X3	<u>xx</u> X4	<u>xW</u> X5	<u>xx</u> X6	<u>Pxx</u> X7	<u>xxx</u> X8
X1 Type	X2 Component		X3 Series		X4 Wattage		X5 Color
2	L1	P	EdiPower II	HR	HR Series	07	Cool White
						09	Neutral White
						13	Warm White
						24	
						35	
X6 Internal code		X7 PCB Board		X8 Serial Number			
--	--	P00	1416	--	--		
		P02	2325				
		P03	3537				
		P05	Star				

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
DC Forward Current ¹	(7W)	350	mA
	(9W)	350	
	(13W)	350	
	(24W)	700	
	(35W)	1000	
Max Forward Current	(7W)	420	mA
	(9W)	350	
	(13W)	500	
	(24W)	1000	
	(35W)	1200	
Reverse Voltage ²	V_R	Note 2	V
LED junction Temperature ³	T_J	150	°C
Operating Temperature	-	-40 ~ +80	°C
Storage Temperature	-	-40 ~ +120	°C
Thermal Measurement Point (T_p)	T_s	<80	°C
ESD Sensitivity	V_B	2,000	V
Isolation Voltage	-	1,000	V

Notes:

- DC forward current should not exceed LED's operating current; the current tolerance should be kept within a range of 5%.
- LEDs are not designed to be driven in reverse bias.
- Proper current derating must be observed to maintain junction temperature below the maximum at all time.

Characteristics

Characteristics performance at $T_J=25^\circ\text{C}$ for EdiPower II HR series.

Parameter	Symbol	Value	Units
Viewing Angle	(Typ.) $2\theta_{1/2}$	105~120	Degree
Forward voltage	(7W)	18~18.5	V
	(9W)	25~25.5	
	(13W / 24W / 35W)	34~38	
λ_d /CCT	(Cool White)	5000 - 10000	K
	(Neutral White)	3800 - 5000	
	(Warm White)	2670 - 3800	
Thermal resistance (Typ.)	(7W)	1.2	°C/W
	(9W)	0.6	
	(13W)	0.5	
	(24W)	0.4	
	(35W)	0.3	
Temperature coefficient of voltage	(7W)	-5 to -12	mV/°C
	(9W)	-8 to -16	
	(13W)	-8 to -18	
	(24W)	-8 to -16	
	(35W)	-8 to -18	
CRI (Min.)	-	85	-

Notes:

- Edison Opto maintains a tolerance of $\pm 0.5\text{nm}$ for dominant wavelength, $\pm 2\text{nm}$ for peak wavelength and $\pm 5\%$ on CCT measurement.
- Edison Opto maintains a tolerance of 0.06V on forward voltage measurement.
- Wavelength is measured with an accuracy of $\pm 0.5\text{nm}$.

Luminous Flux Characteristics

Luminous flux characteristics at $T_j=25^\circ\text{C}$ for EdiPower II HR Series.

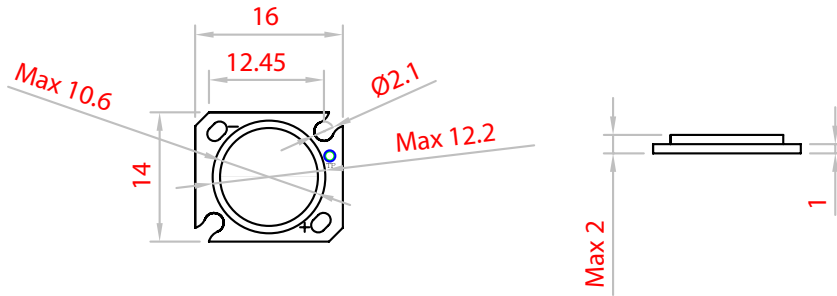
Color	Power	Typical Flux(lm) $T_{\text{case}}=60^\circ\text{C}$	Typical Flux(lm) $T_j=25^\circ\text{C}$	Typical Forward Voltage V_f (V)	Forward Current (mA)	Order Code
Cool White	7W	625	700	18	350	2PHR07CW11P00001
		720	800	18.5	420	
	9W	810	900	25.5	350	2PHR09CW11P05001
	13W	1250	1400	37	350	2PHR13CW11P02001
		1800	2000	38	500	
	24W	2350	2600	37	700	2PHR24CW11P03001
3350		3700	38	1000		
35W	3360	3700	37	1000	2PHR35CW11P03001	
	3860	4290	38	1200		
Neutral White	7W	625	700	18	350	2PHR07NW11P00001
		720	800	18.5	420	
	9W	810	900	25.5	350	2PHR09NW11P05001
	13W	1250	1400	36	350	2PHR13NW11P02001
		1800	2000	37	500	
	24W	2350	2600	36	700	2PHR24NW11P03001
3350		3700	37	1000		
35W	3360	3700	36	1000	2PHR35NW11P03001	
	3860	4290	37	1200		
Warm White	7W	625	700	17.5	350	2PHR07WW05P00001
		720	800	18	420	
	9W	810	900	25	350	2PHR09WW05P05001
	13W	1250	1400	34	350	2PHR13WW05P02001
		1800	2000	35	500	
	24W	2350	2600	34	700	2PHR24WW05P03001
3350		3700	35	1000		
35W	3360	3700	34	1000	2PHR35WW05P03001	
	3860	4290	35	1200		

Notes:

1. The emphasised value with bold font showed at forward current means the DC forward current value.
2. 7W: Forward Voltage has $\pm 1.8\text{V}$ tolerance.
3. 9W: Forward Voltage has $\pm 2.7\text{V}$ tolerance.
4. 13W/24W/35W: Forward Voltage has $\pm 3.6\text{V}$ tolerance.

Mechanical Dimensions

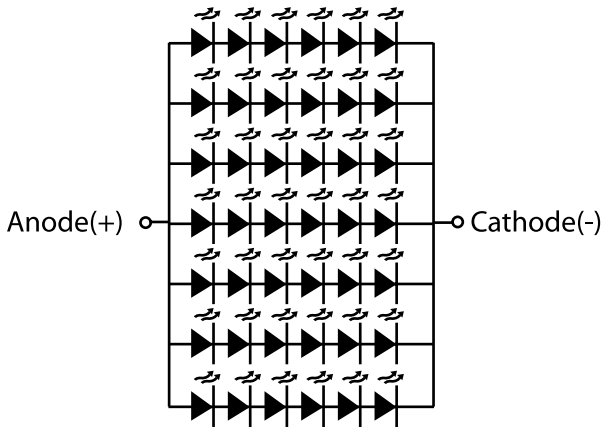
7W Emitter Dimensions & Circuit



Notes:

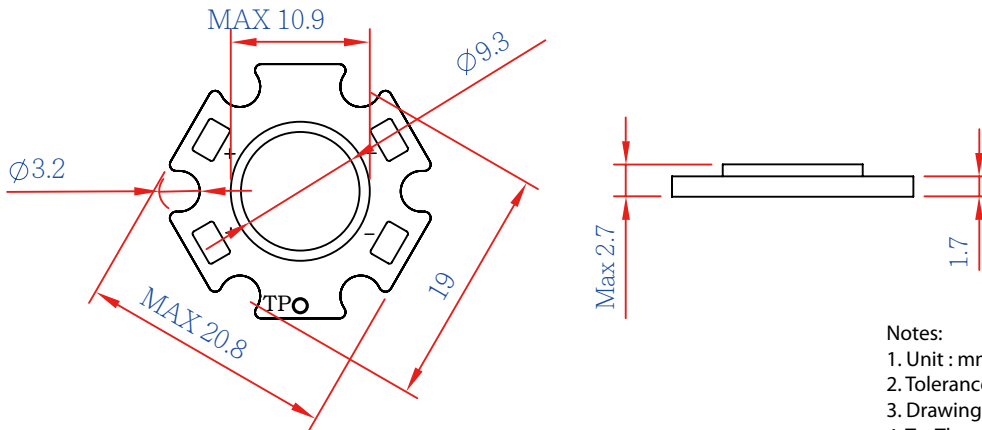
1. Unit : mm
2. Tolerance : ± 0.2 mm
3. Drawings are not to scale.
4. T_p : Thermal measurement point.

7W EdiPower II HR Series Dimensions.



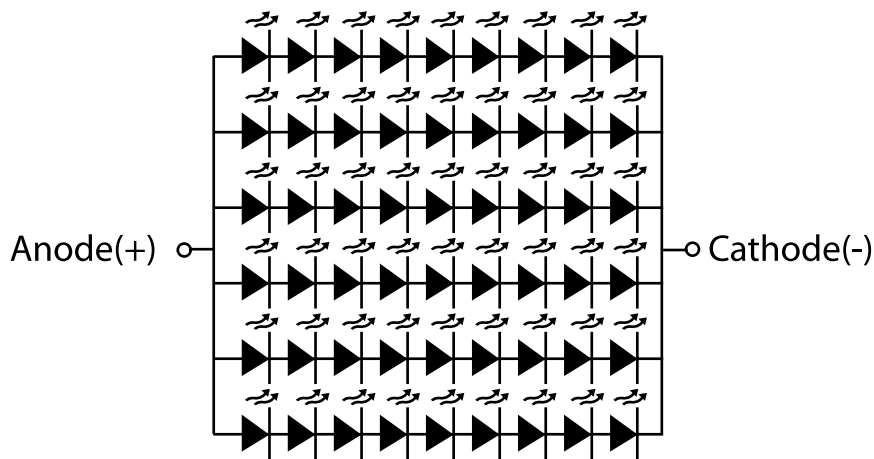
7W EdiPower II HR Series Circuit Layout.

9W Emitter Dimensions & Circuit



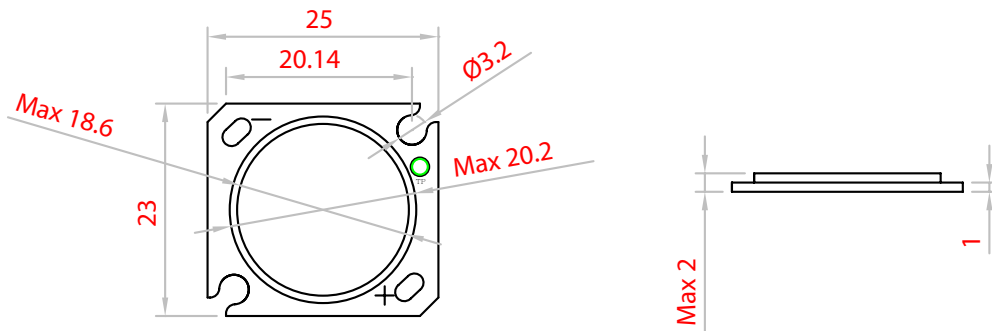
- Notes:
1. Unit : mm
 2. Tolerance : ± 0.2 mm
 3. Drawings are not to scale.
 4. T_p : Thermal measurement point.

9W EdiPower II HR Series Dimensions.



9W EdiPower II HR Series Circuit Layout.

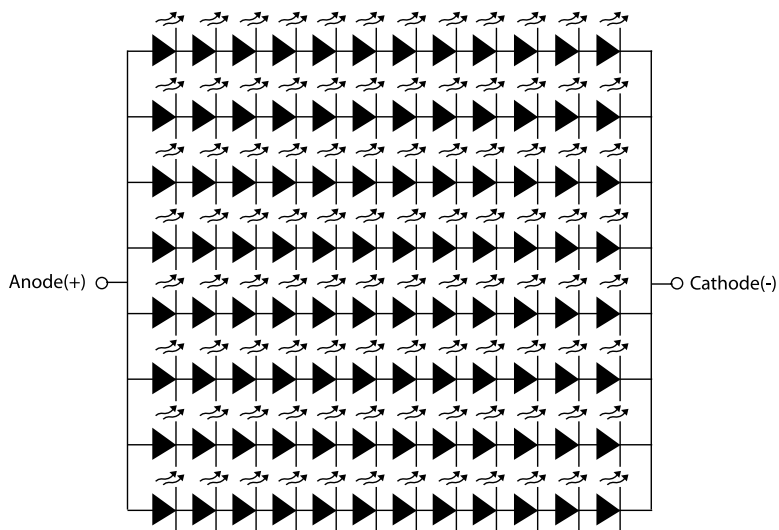
13W Emitter Dimensions & Circuit



13W EdiPower II HR Series Dimensions .

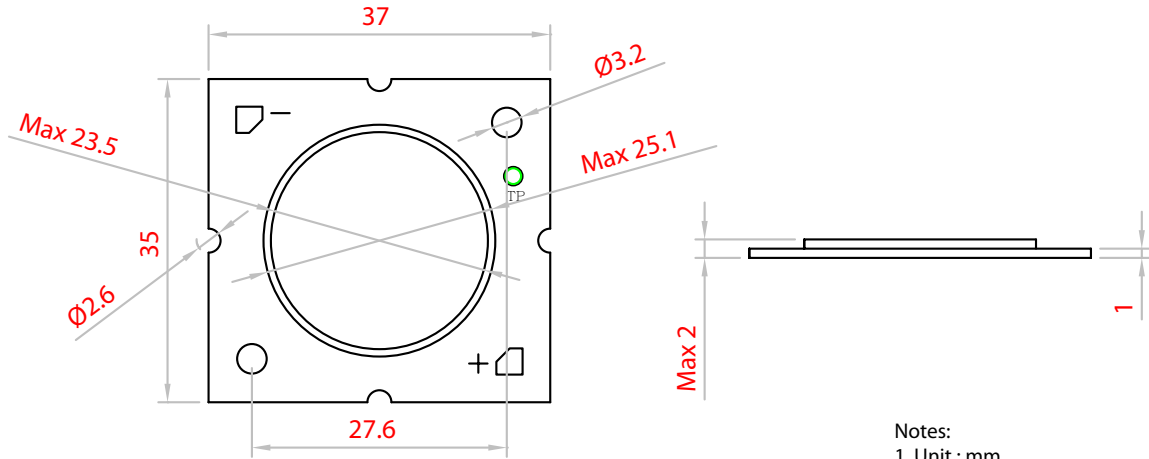
Notes:

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



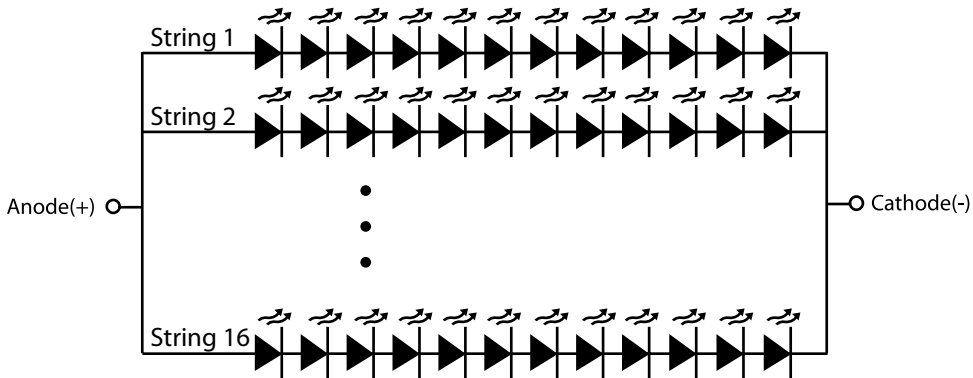
13W EdiPower II HR Series Circuit Layout

24W /35W Emitter Dimensions & Circuit

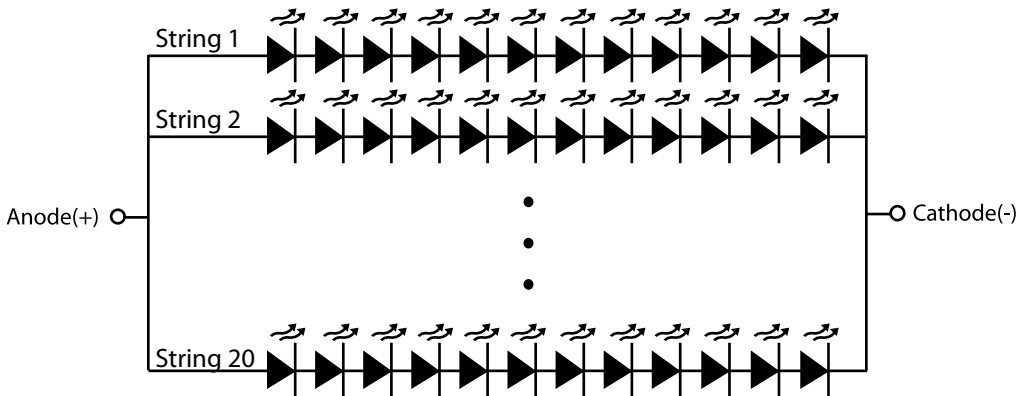


- Notes:
1. Unit : mm
 2. Tolerance : ± 0.2 mm
 3. Drawings are not to scale.
 4. T_p : Thermal measurement point.

24W /35W EdiPower II HR Series Dimensions.



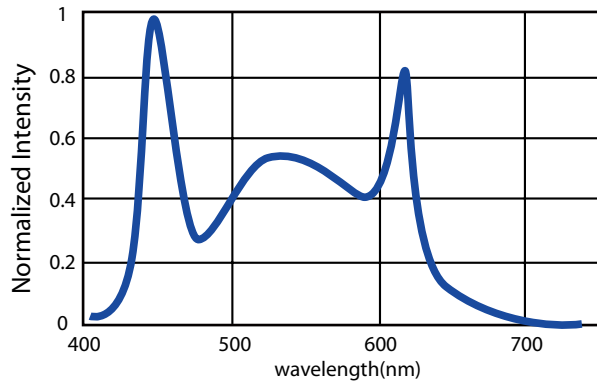
24W EdiPower II HR Series Circuit Layout



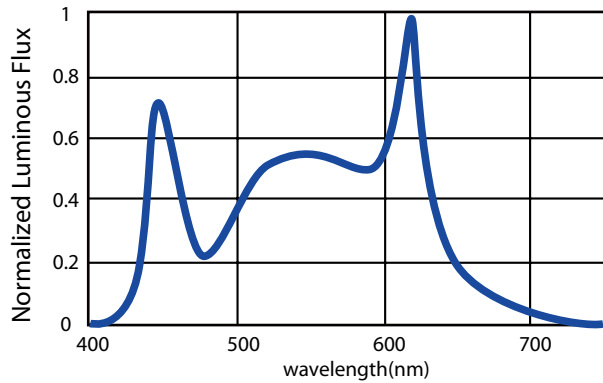
35W EdiPower II HR Series Circuit Layout

Characteristic Curve

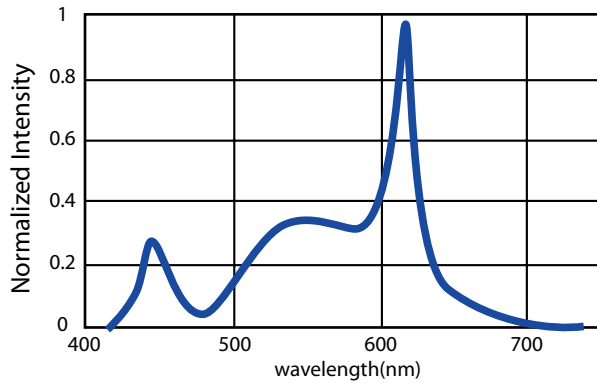
Spectrum



Color spectrum for EdiPower HR series Cool White

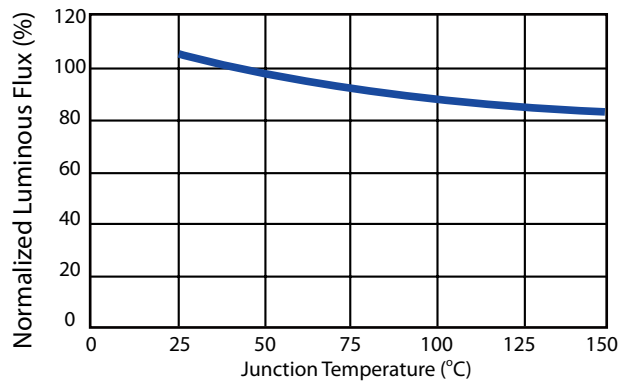


Color spectrum for EdiPower HR series Neutral White

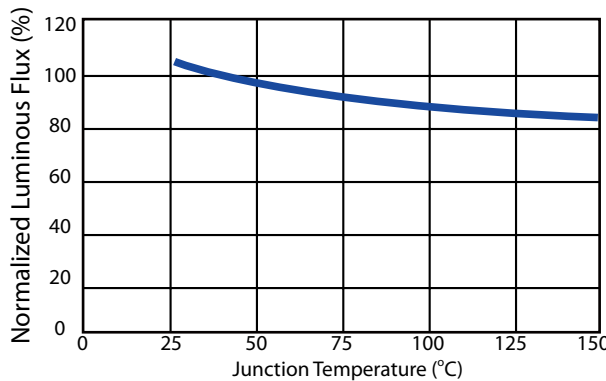


Color spectrum for EdiPower HR series Warm White

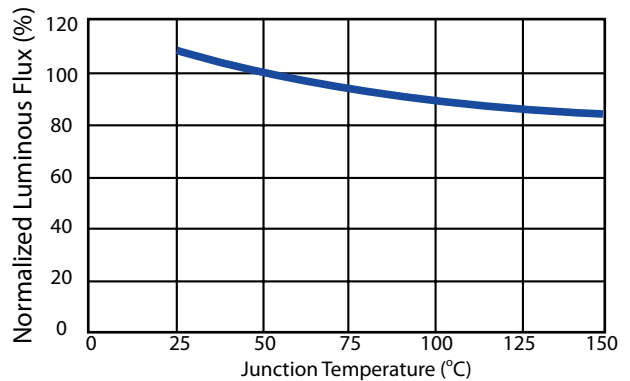
Luminous Flux vs. Junction Temperature



Luminous Flux vs. Junction Temperature for Cool White

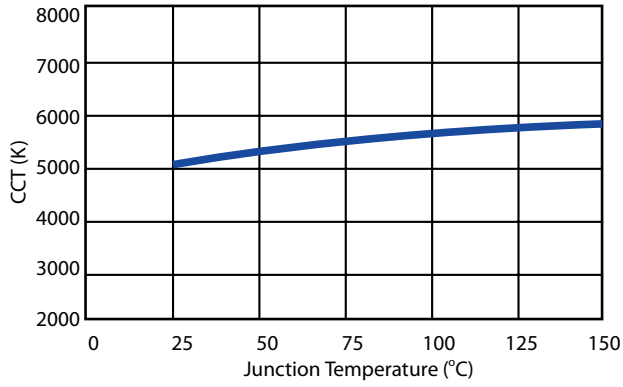


Luminous Flux vs. Junction Temperature for Neutral White

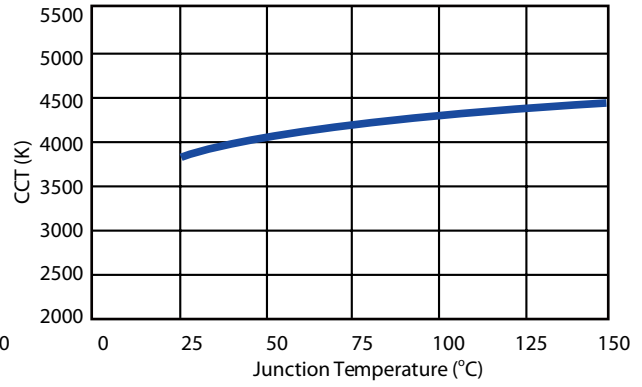


Luminous Flux vs. Junction Temperature for Warm White

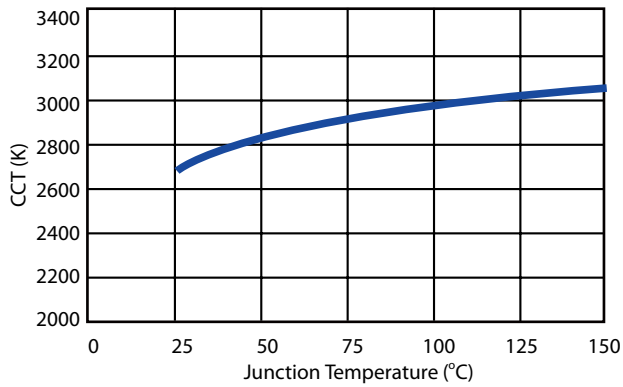
CCT vs. Junction Temperature



Typical CCT vs. Junction Temperature for Cool White

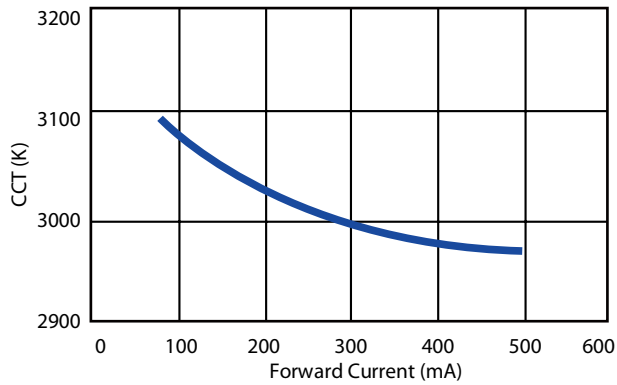


Typical CCT vs. Junction Temperature for Neutral White

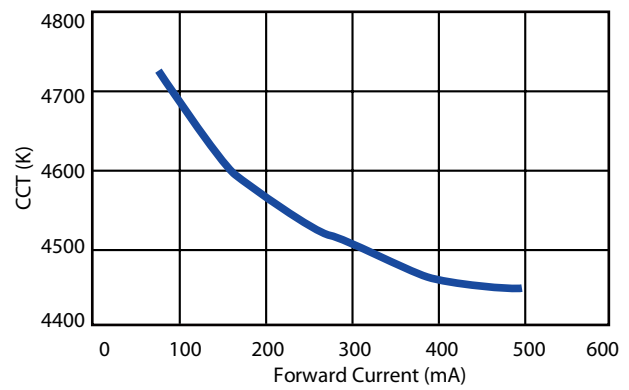


Typical CCT vs. Junction Temperature for Warm White

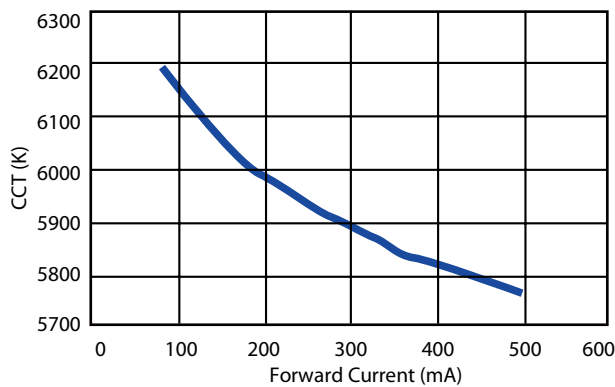
CCT vs. Forward Current



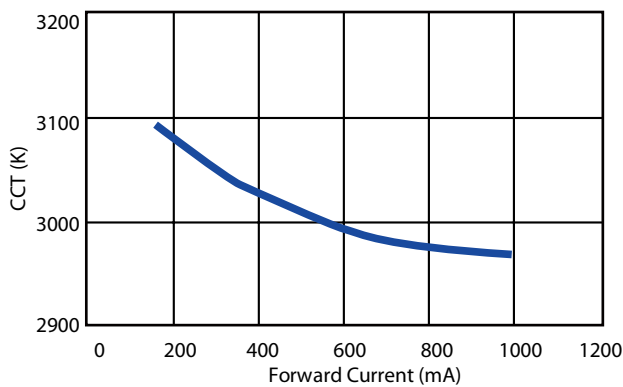
Color Temperature vs. Forward Current for 13W Warm White



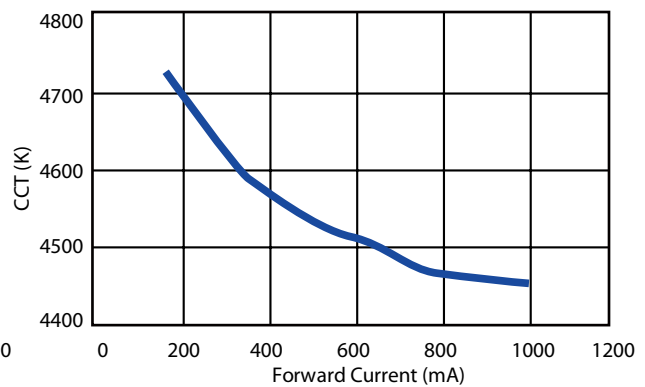
Color Temperature vs. Forward Current for 13W Neutral White



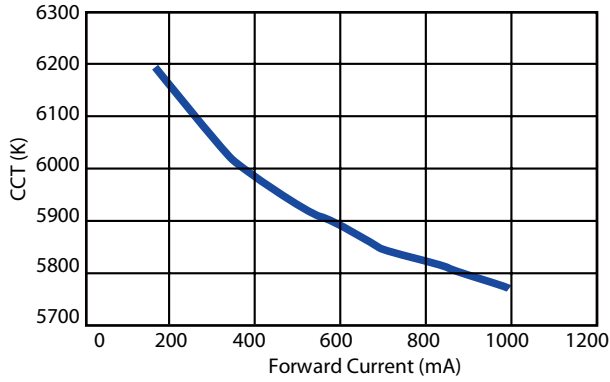
Color Temperature vs. Forward Current for 13W Cool White



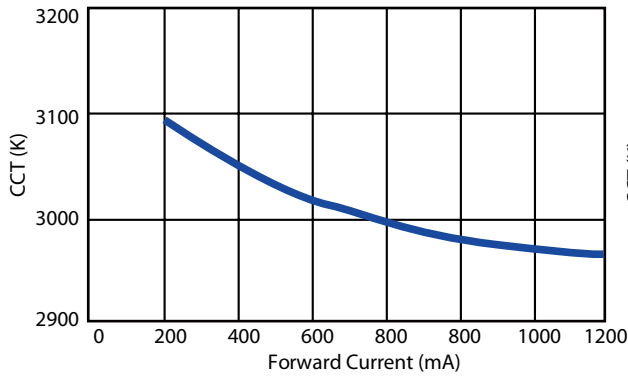
Color Temperature vs. Forward Current for 24W Warm White



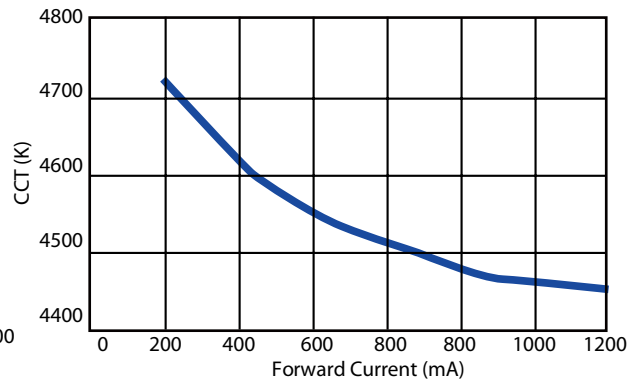
Color Temperature vs. Forward Current for 24W Neutral White



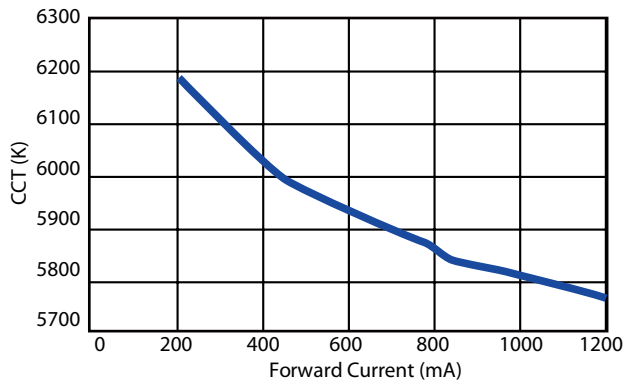
Color Temperature vs. Forward Current for 24W Cool White



Color Temperature vs. Forward Current for 35W Warm White

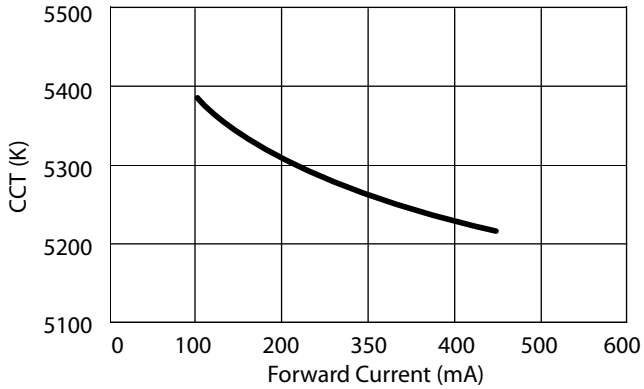
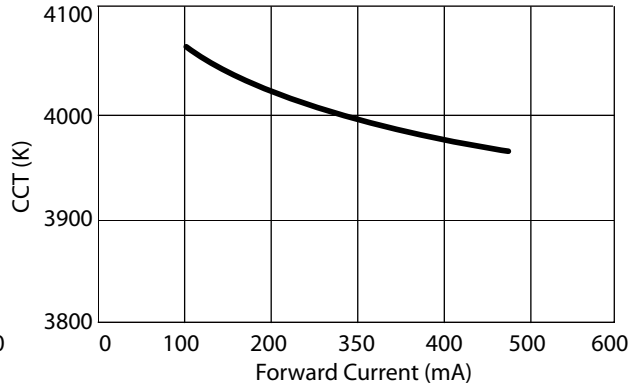
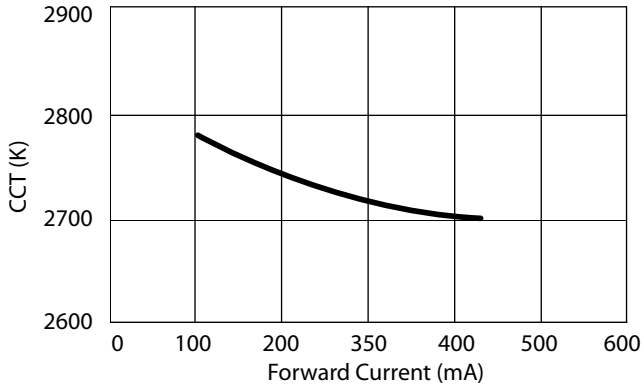


Color Temperature vs. Forward Current for 35W Neutral White

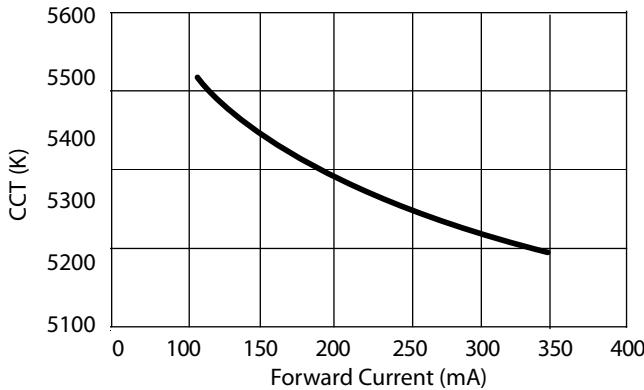
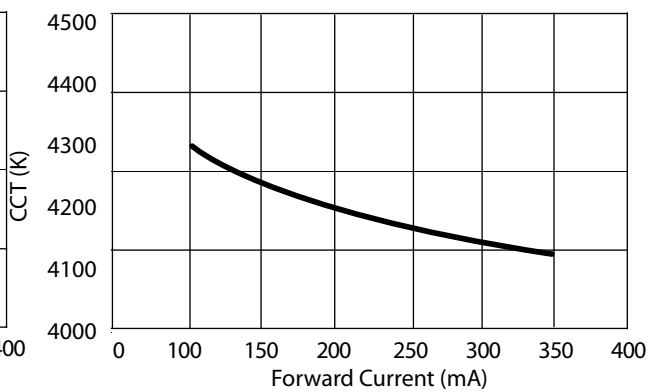
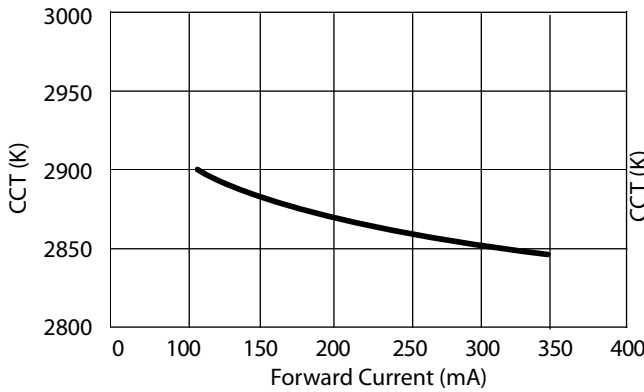


Color Temperature vs. Forward Current for 35W Cool White

CCT & Forward Current

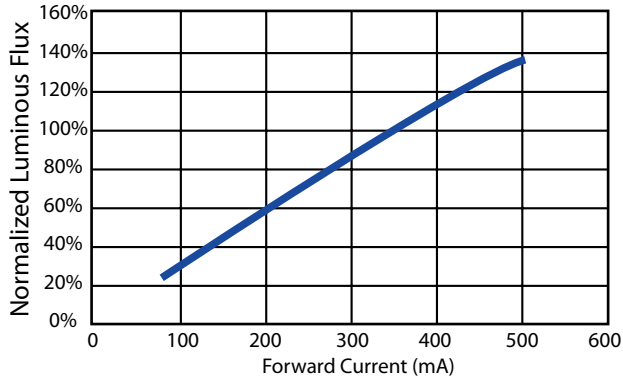


Color Temperature vs. Forward Current for 7W EdiPower II HR Series

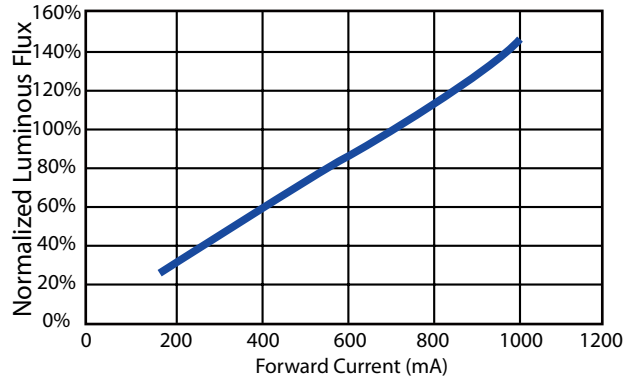


Color Temperature vs. Forward Current for 9W EdiPower II HR Series

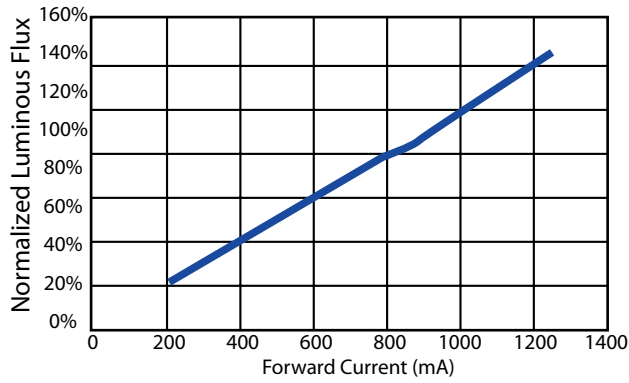
Forward Current vs. Luminous Flux



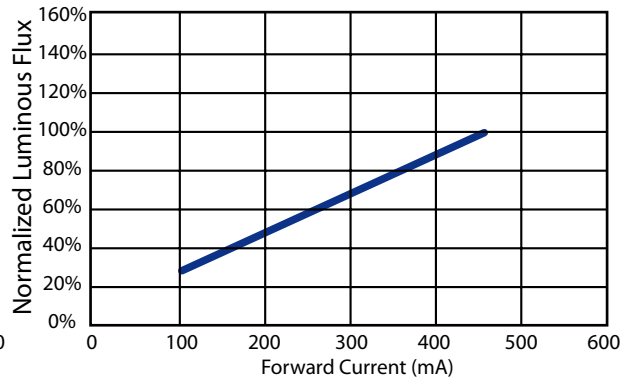
Forward current vs. luminous flux for 13W EdiPower II HR series



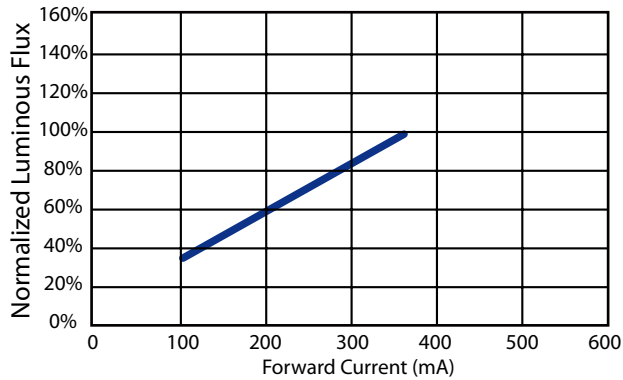
Forward current vs. luminous flux for 24W EdiPower II HR series



Forward current vs. luminous flux for 35W EdiPower II HR series



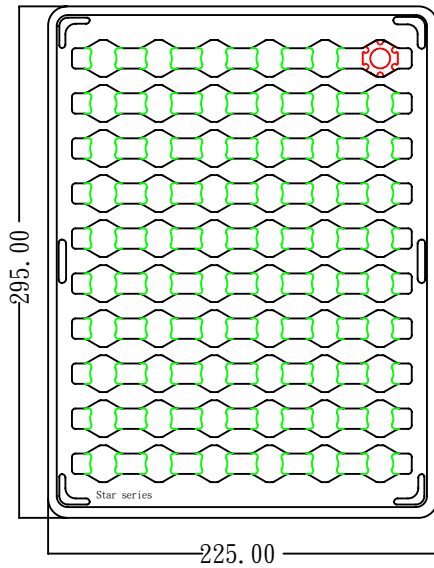
Forward current vs. luminous flux for 7W EdiPower II HR series



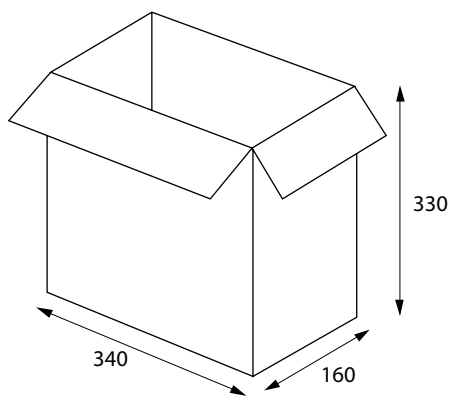
Forward current vs. luminous flux for 9W EdiPower II HR series

Product Packaging Information

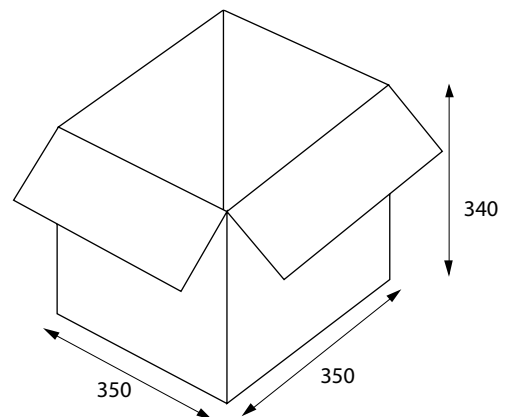
Tray Packing for 9W



Tray package dimension.



Box



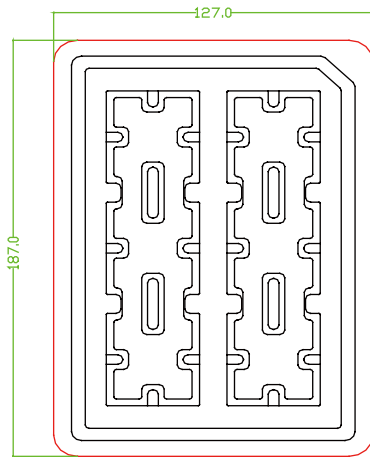
Carton

Packaging steps.

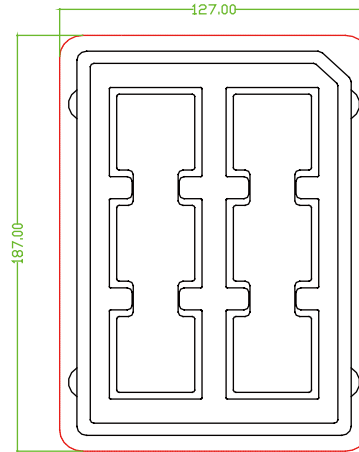
Notes:

1. All dimensions are in mm.
2. There are 40pcs stars in a 9W star tray.
3. There are 10 trays in a box.
4. There are 2 boxes in a carton.

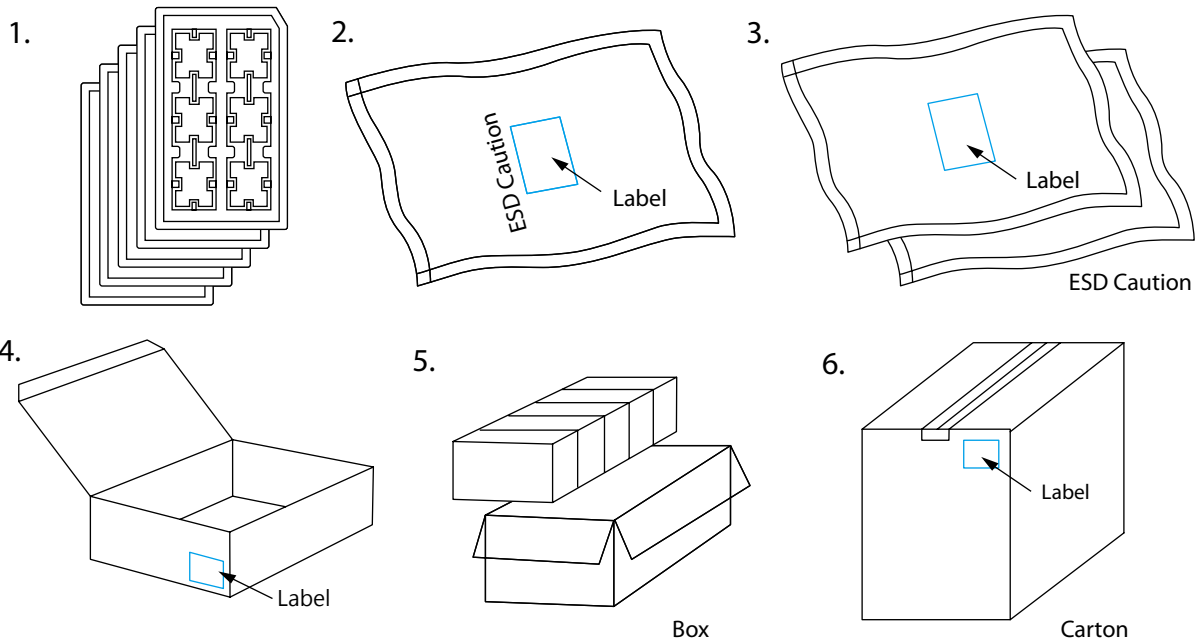
Tray Packing for 7W



Tray Packing for 13W/24W / 35W



Tray package dimension.



Packaging steps.

Notes:

1. All dimensions are in mm.
2. There are 7W 24 pcs or 13W/24W/35W 6pcs emitters in a full tray.
3. There are 5 trays in a bag.
4. There are 5 boxes in a box.
5. There are 5 boxes in a carton.
6. A bag contains one humidity indicator card and drying agent.

Revision History

Version	Description	Release Date
1	Establish a datasheet	2012/12/11
2	Revise the Value of thermal resistance	2013/04/25

About Edison Opto

Edison Opto is a leading manufacturer of high power LED and a solution provider experienced in LDMS. LDMS is an integrated program derived from the four essential technologies in LED lighting applications- Thermal Management, Electrical Scheme, Mechanical Refinement, Optical Optimization, to provide customer with various LED components and modules. More Information about the company and our products can be found at www.edison-opto.com

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