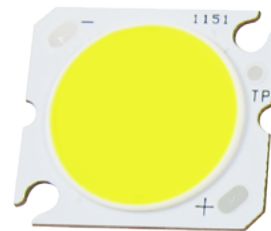


EdiPower® II HS Series Datasheet



Features :

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

Typical applications :

- Stage Lighting
- Street Lighting
- Decorative Lighting
- Architectural Lighting
- Downlights

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General Information

Introduction

EdiPower II HV/HS 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.

Ordering Code Format

<u>2</u> X1	<u>P</u> X2	<u>HV</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	HV	HV/HS Series	05	CW	Cool White
						06	NW	Neutral White
						07	WW	Warm White
						10		
						15		
						24		

X6 Internal code	X7 PCB Board	X8 Serial Number
--	P00	1416
--	P02	2325
--	P05	Star

Absolute Maximum Ratings

Parameter	Symbol	Value	Units	
DC Forward Current ¹	I _F	2PHV05xW0xP05001	500	mA
		2PHV06xW0xP00001	1000	
		2PHV07xW0xP05001	700	
		2PHV10xW0xP05001	500	
		2PHV10xW0xP00001	1000	
		2PHV15xW0xP02001	1200	
		2PHV24xW0xP02001	1500	
Max Forward Current	I _F	2PHV05xW0xP05001	500	mA
		2PHV06xW0xP00001	1200	
		2PHV07xW0xP05001	700	
		2PHV10xW0xP05001	700	
		2PHV10xW0xP00001	1200	
		2PHV15xW0xP02001	1500	
		2PHV24xW0xP02001	1800	
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	
ESD Sensitivity	V _B	2,000	V	
Isolation Voltage	-	1,000	V	
Thermal Measurement Point (T _p)	T _s	<80	°C	

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

Parameter	Symbol	Value	Units
Viewing Angle	(Typ.) $2\theta_{1/2}$	105~120	Degree
Forward voltage	V_F	2PHV05xW0xP05001	9.3
		2PHV06xW0xP00001	6.4-6.7
		2PHV07xW0xP05001	18.6-20.4
		2PHV10xW0xP05001	18.6-20.4
		2PHV10xW0xP00001	9.5-9.8
		2PHV15xW0xP02001	12.1-12.3
		2PHV24xW0xP02001	15.4-15.7
λ_d/CCT	-	Cool White	5000 - 10000
		Neutral White	3800 - 5000
		Warm White	2670 - 3800
Thermal resistance	$R\theta_{J-B}$	2PHV05xW0xP05001	2.4
		2PHV06xW0xP00001	2
		2PHV07xW0xP05001	1.8
		2PHV10xW0xP05001	1.8
		2PHV10xW0xP00001	1.8
		2PHV15xW0xP02001	1.4
		2PHV24xW0xP02001	1.2
$\Delta V_F/\Delta T$	-	2PHV05xW0xP05001	-8 to -16
		2PHV06xW0xP00001	-2 to -8
		2PHV07xW0xP05001	-6 to -12
		2PHV10xW0xP05001	-2 to -8
		2PHV10xW0xP00001	-2 to -8
		2PHV15xW0xP02001	-5 to -10
		2PHV24xW0xP02001	-5 to -12
CRI	-	2PHV05xW0xP05001	CW: 70 / NW : 75 / WW : 75
		2PHV06xW0xP00001	CW : 70 / NW : 75 / WW : 80
		2PHV07xW0xP05001	CW: 70 / NW : 75 / WW : 75
		2PHV10xW0xP05001	CW : 70 / NW : 75 / WW : 80
		2PHV10xW0xP00001	
		2PHV15xW0xP02001	
		2PHV24xW0xP02001	

Note:

$2\theta_{1/2}$ is the off-axis angle where the luminous intensity is half of the axial luminous intensity.

CCT is measured with an accuracy of $\pm 5\%$.

Luminous Flux Characteristic

Wattage (W)	Color	Typical Luminous Flux(lm) T _p =60°C	Typical Luminous Flux(lm) T _j =25°C	Typical Forward Voltage V _F (V)	Forward Current (mA)	Order Code
5W	Cool White	340	360	9.3	350	2PHV05CW06P05001
		460	490	10.5	500	
	Neutral White	320	340	9.3	350	2PHV05NW05P05001
		440	460	10.5	500	
	Warm White	300	320	9.3	350	2PHV05WW05P05001
		410	430	10.5	500	
6W	Cool White	590	610	6.4	700	2PHV06CW06P00001
		710	740	6.7	1000	
	Neutral White	580	600	6.4	700	2PHV06NW05P00001
		700	730	6.7	1000	
	Warm White	460	480	6.4	700	2PHV06WW03P00001
		570	600	6.7	1000	
7W	Cool White	440	470	9.2	500	2PHV07CW06P05001
		620	650	10.3	700	
	Neutral White	430	450	9.2	500	2PHV07NW05P05001
		590	625	10.3	700	
	Warm White	370	390	9.2	500	2PHV07WW05P05001
		520	550	10.3	700	
10W	Cool White	900	950	18.6	500	2PHV10CW06P05001
		1210	1280	20.4	700	
	Neutral White	800	850	18.6	500	2PHV10NW05P05001
		1080	1140	20.4	700	
	Warm White	760	800	18.6	500	2PHV10WW11P05001
		1020	1080	20.4	700	
10W	Cool White	780	820	9.5	700	2PHV10CW06P00001
		1050	1100	9.8	1000	
	Neutral White	700	740	9.5	700	2PHV10NW05P00001
		950	1000	9.8	1000	
	Warm White	630	660	9.5	700	2PHV10WW03P00001
		845	890	9.8	1000	
15W	Cool White	1470	1540	12.1	1000	2PHV15CW06P02001
		1720	1800	12.3	1200	
	Neutral White	1430	1500	12.1	1000	2PHV15NW05P02001
		1650	1750	12.3	1200	
	Warm White	1140	1200	12.1	1000	2PHV15WW03P02001
		1330	1400	12.3	1200	
24W	Cool White	2180	2300	15.4	1200	2PHV24CW06P02001
		2650	2800	15.7	1500	
	Neutral White	2150	2260	15.4	1200	2PHV24NW05P02001
		2600	2750	15.7	1500	
	Warm White	1720	1800	15.4	1200	2PHV24WW03P02001
		2080	2200	15.7	1500	

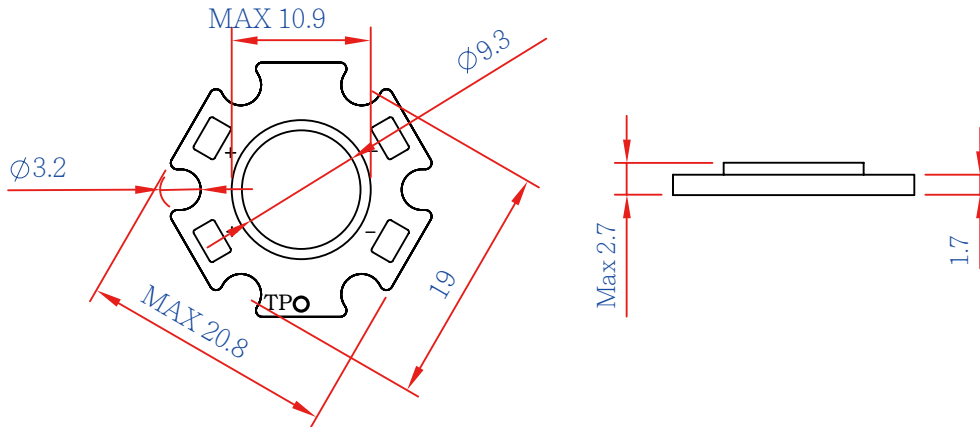
Notes:

1. The emphasised value with bold font showed at forward current means the DC forward current value.
2. 5W/7W: Forward Voltage has ±0.9V tolerance.
3. 6W: Forward Voltage has ±0.6V tolerance.
4. 10W: Forward Voltage has ±1.0V tolerance.
5. 15W: Forward Voltage has ±1.2V tolerance.
6. 24W: Forward Voltage has ±1.5V tolerance.

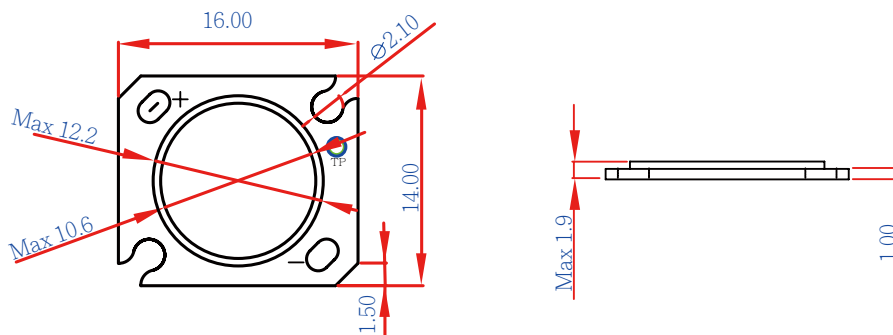
Mechanical Dimensions

Emitter Dimensions

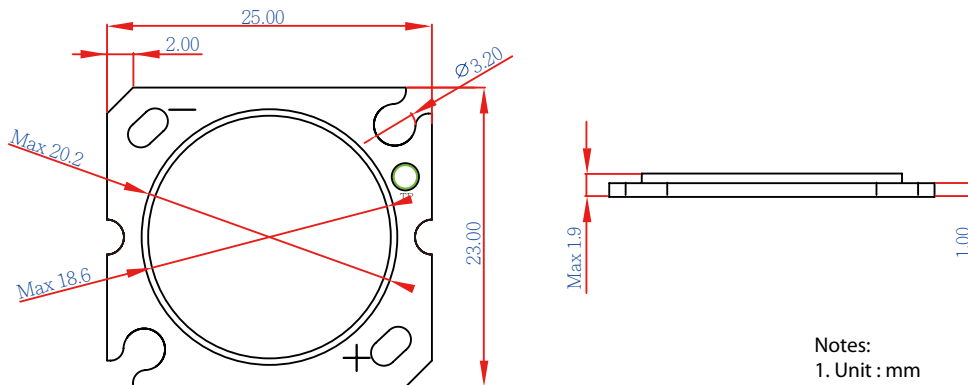
5W / 7W / 10W Emitter Dimensions



6W / 10W Emitter Dimensions



15W / 24W Emitter Dimensions

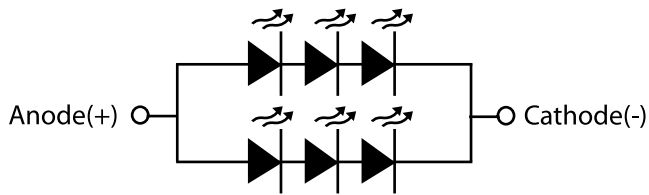


- Notes:
1. Unit : mm
 2. Tolerance : ± 0.2 mm
 3. Drawings are not to scale
 4. T_p : Thermal measurement point

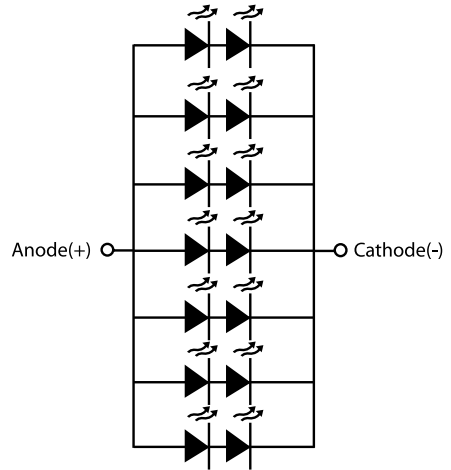
EdiPower II HV/HS Series Dimensions

Emitter Circuit Layout

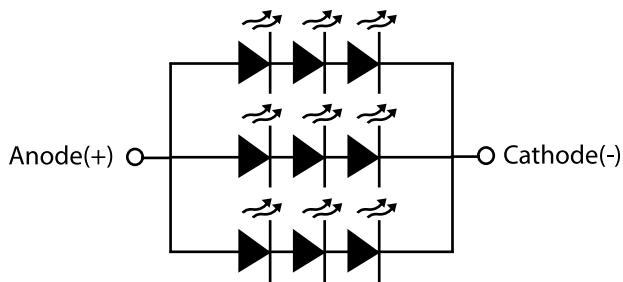
5W Emitter Circuit Layout



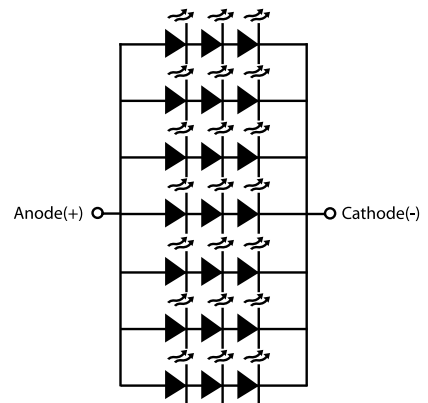
6W Emitter Circuit Layout



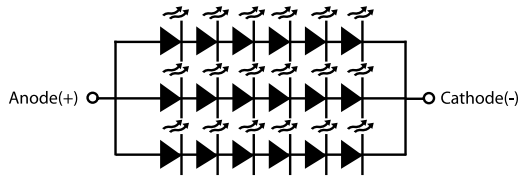
7W Emitter Circuit Layout



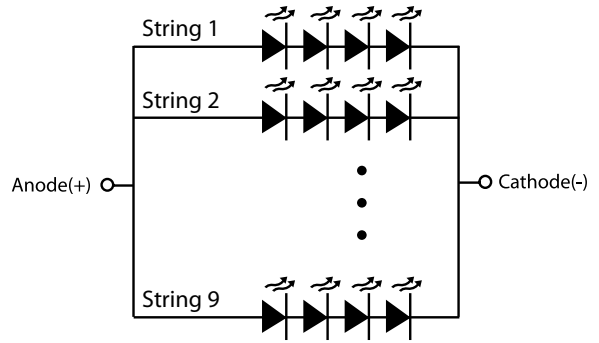
10W Emitter Circuit Layout



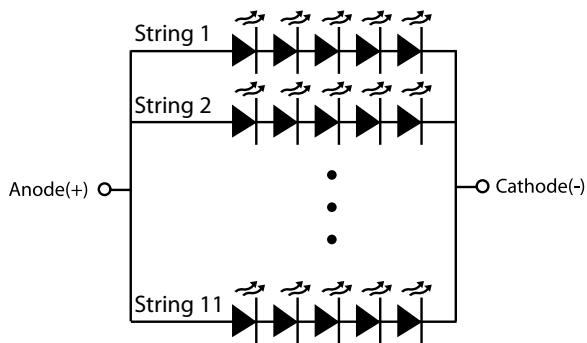
10W Emitter Circuit Layout



15W Emitter Circuit Layout



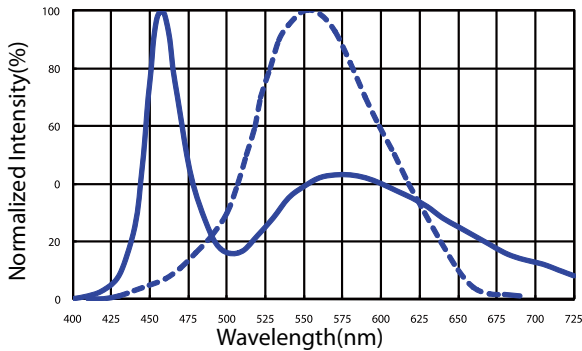
24W Emitter Circuit Layout



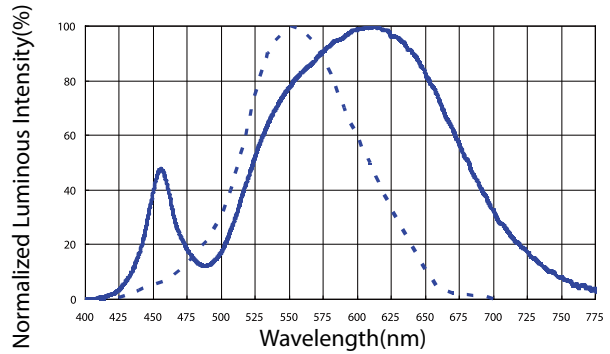
EdiPower II HV/HS Series Emitter Circuit Layout

Characteristic Curve

Spectrum

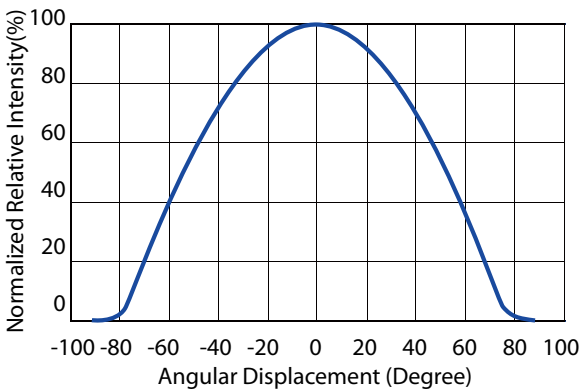


Color spectrum for EdiPower® II HV/HS Cool White



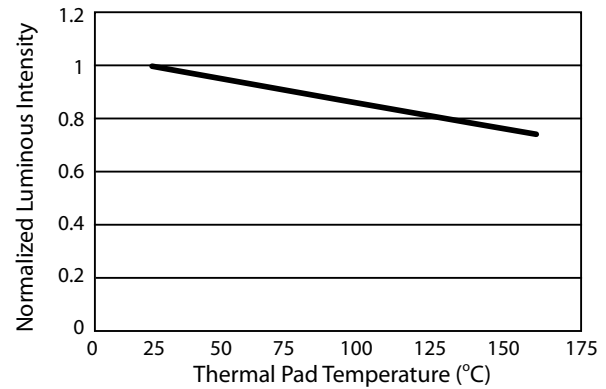
Color spectrum for EdiPower® II HV/HS Warm White and Neutral White

Radiation Diagram



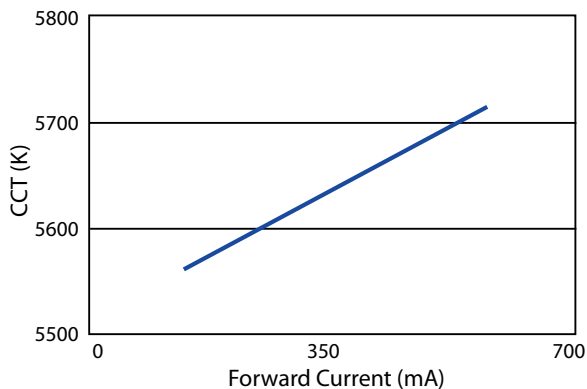
Lambertian at $T_j=25^\circ\text{C}$ for EdiPower II HV/HS series

Luminous Flux vs. Junction Temperature

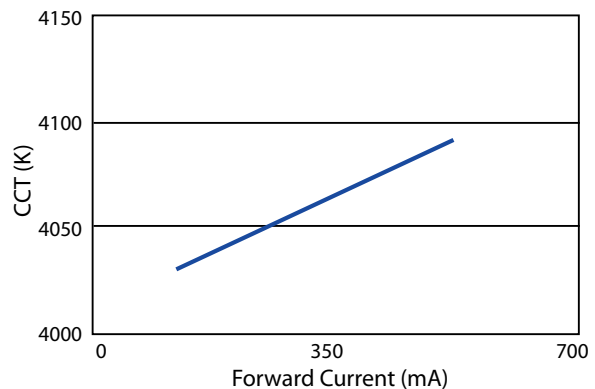


Luminous flux vs. thermal pad temperature for Cool White

CCT vs. Forward Current

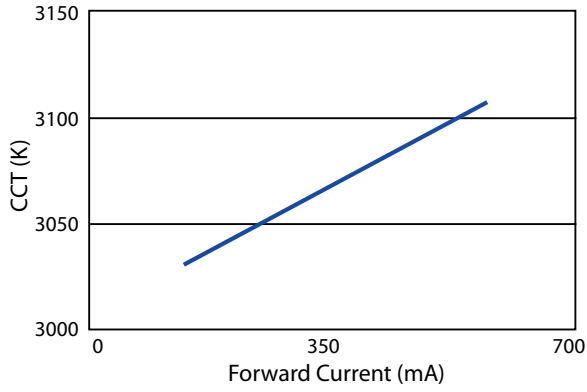


CCT shift for 5W EdiPower II HV/HS Cool White

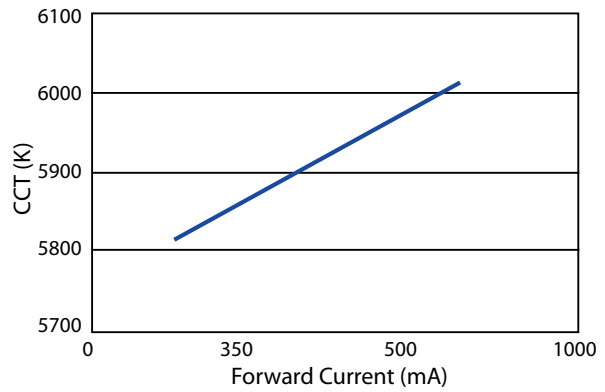


CCT shift for 5W EdiPower II HV/HS Neutral White

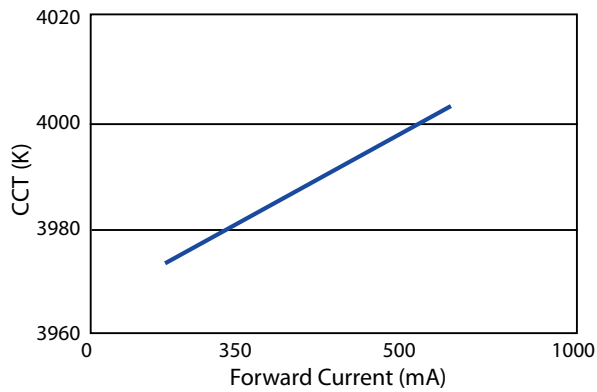
CCT vs. Forward Current



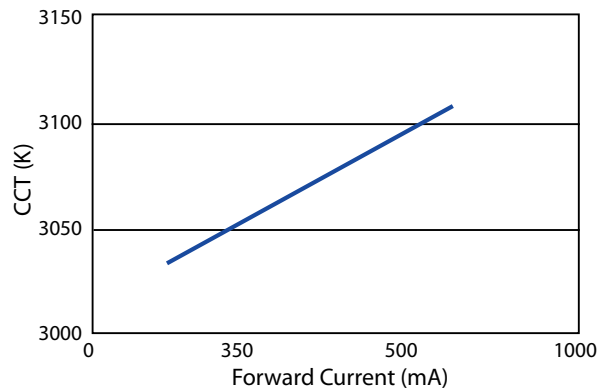
CCT shift for 5W EdiPower II HV/HS Warm White



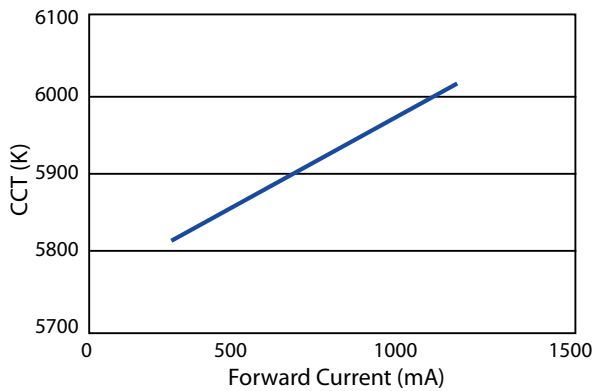
CCT shift for 7W /10W EdiPower II HV/HS Cool White



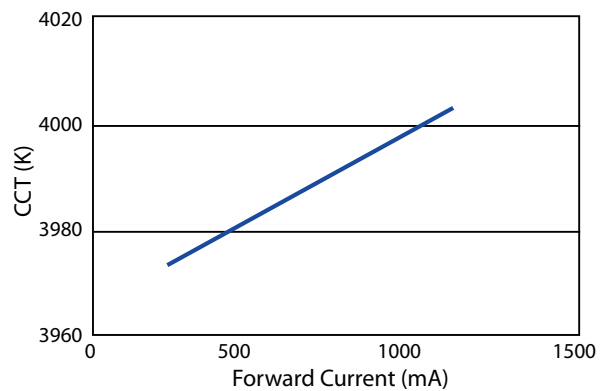
CCT shift for 7W /10W EdiPower II HV/HS Neutral White



CCT shift for 7W /10W EdiPower II HV/HS Warm White

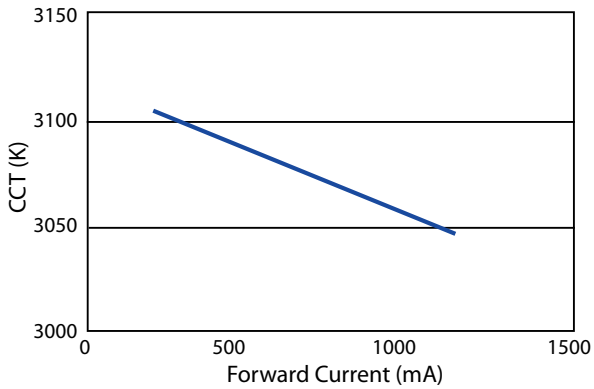


CCT shift for 6W / 10W EdiPower II HV/HS Cool White

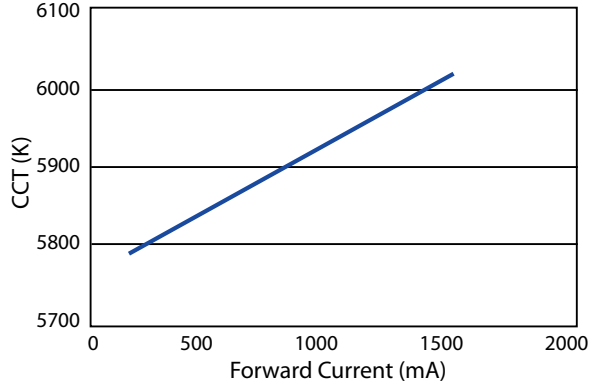


CCT shift for 6W / 10W EdiPower II HV/HS Neutral White

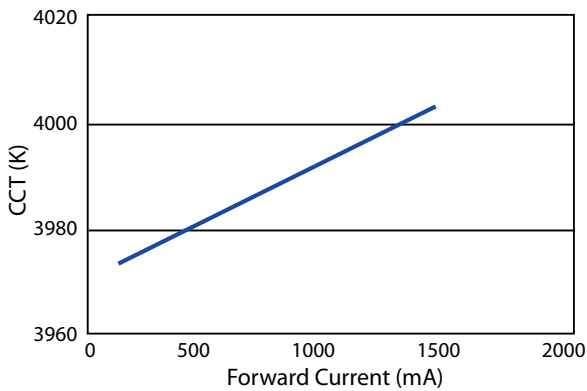
CCT & Forward Current



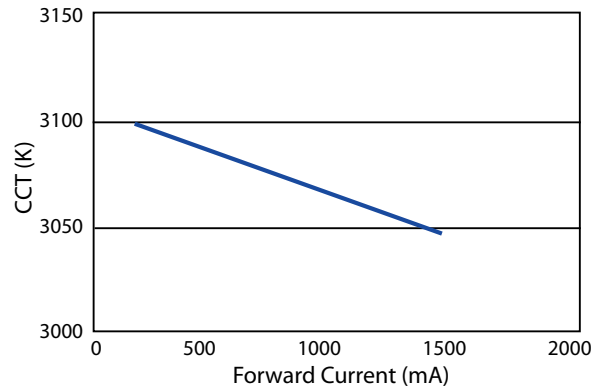
CCT shift for 6W / 10W EdiPower II HV/HS Warm White



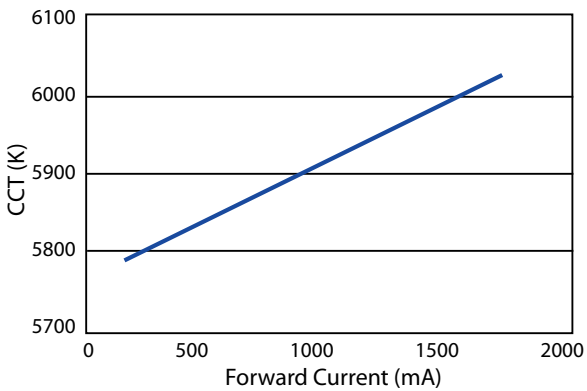
CCT shift for 15W EdiPower II HV/HS Cool White



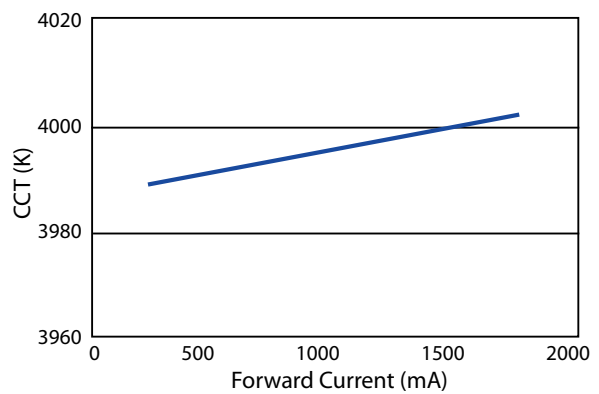
CCT shift for 15W EdiPower II HV/HS Neutral White



CCT shift for 15W EdiPower II HV/HS Warm White

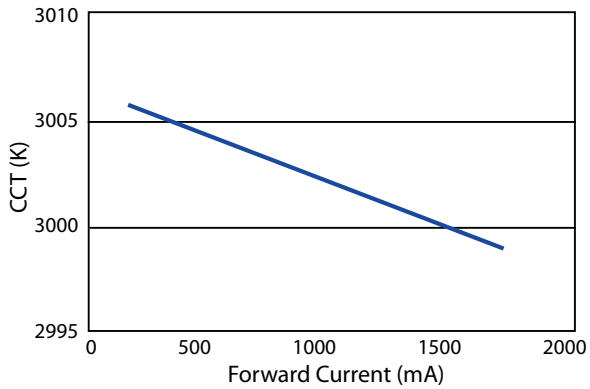


CCT shift for 24W EdiPower II HV/HS Cool White



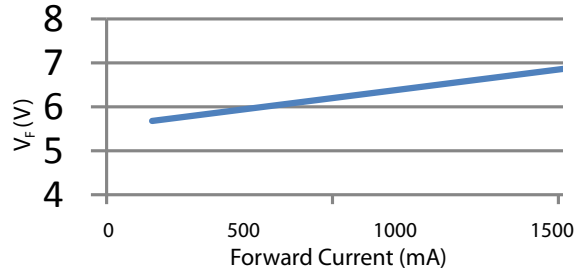
CCT shift for 24W EdiPower II HV/HS Neutral White

CCT vs. Forward Current

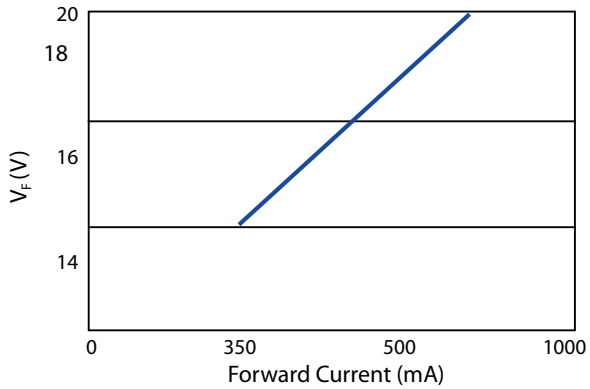


CCT shift for 24W EdiPower II HV/HS Warm White

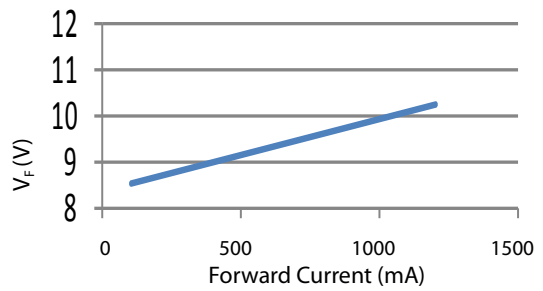
Forward Current vs. Voltage



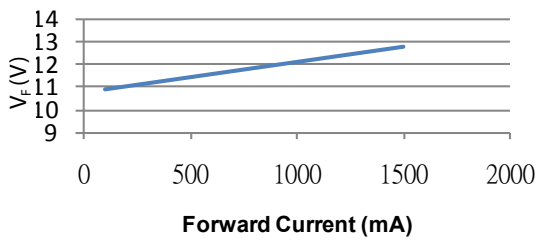
Voltage shift for 5W/6W /7W EdiPower II HV/HS



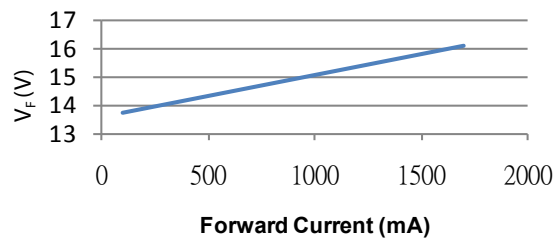
Voltage shift for 10W EdiPower II HV/HS



Voltage shift for 10W EdiPower II HV/HS

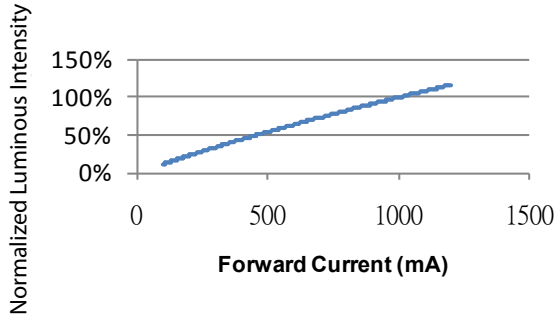


Voltage shift for 15W EdiPower II HV/HS

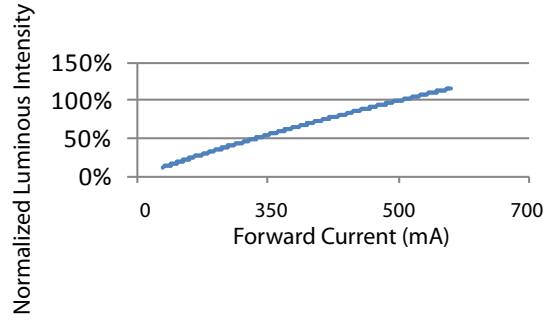


Voltage shift for 24W EdiPower II HV/HS

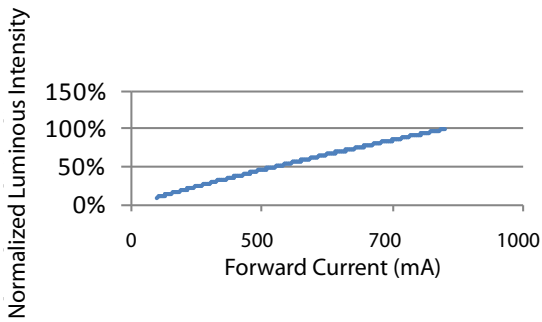
Forward Current vs. Luminous Intensity



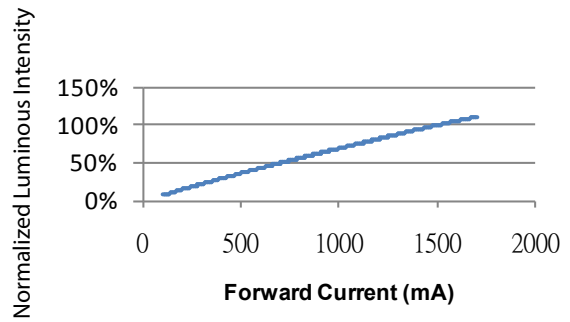
Luminous Intensity shift for 6W/10W/15W EdiPower II HV/HS



Luminous Intensity shift for 5W/10W EdiPower II HV/HS



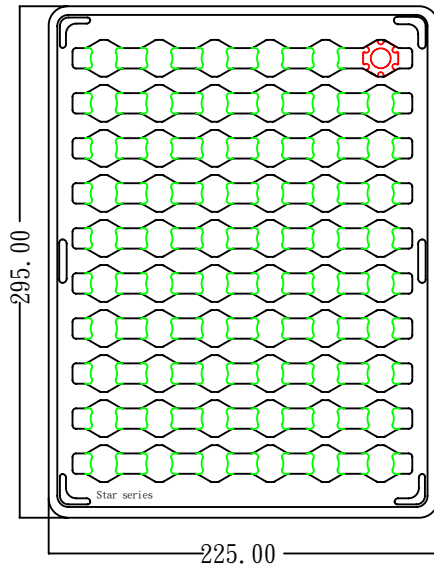
Luminous Intensity shift for 7W EdiPower II HV/HS



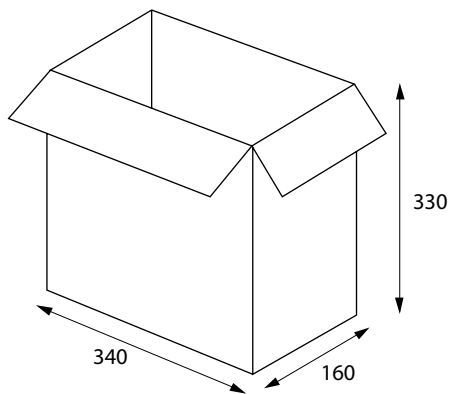
Luminous Intensity shift for 24W EdiPower II HV/HS

Product Packaging Information

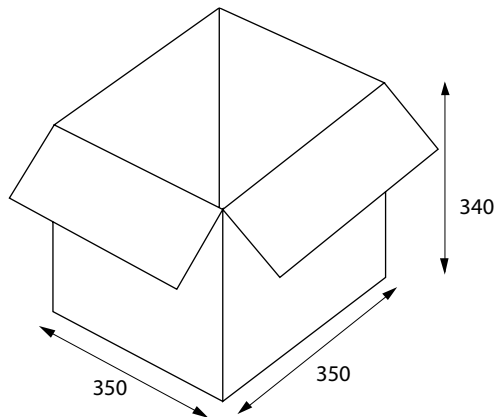
Tray Packing for 5W / 7W / 10W



Tray package dimension.



Box



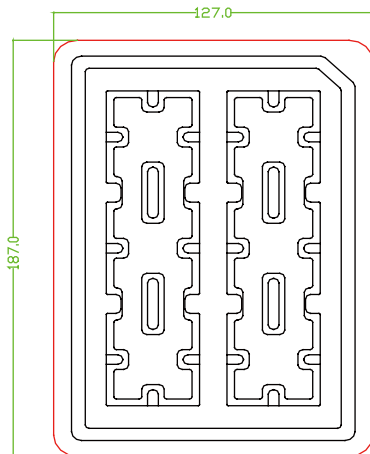
Carton

Packaging steps.

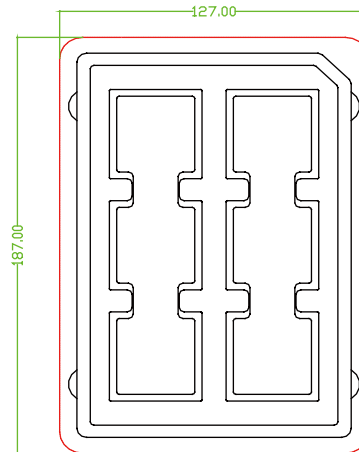
Notes:

1. All dimensions are in mm.
2. There are 60pcs stars in a 5W/7W star tray.
3. There are 10 trays in a bag.
4. There are 20 trays in a box.
5. There are 2 boxes in a carton.

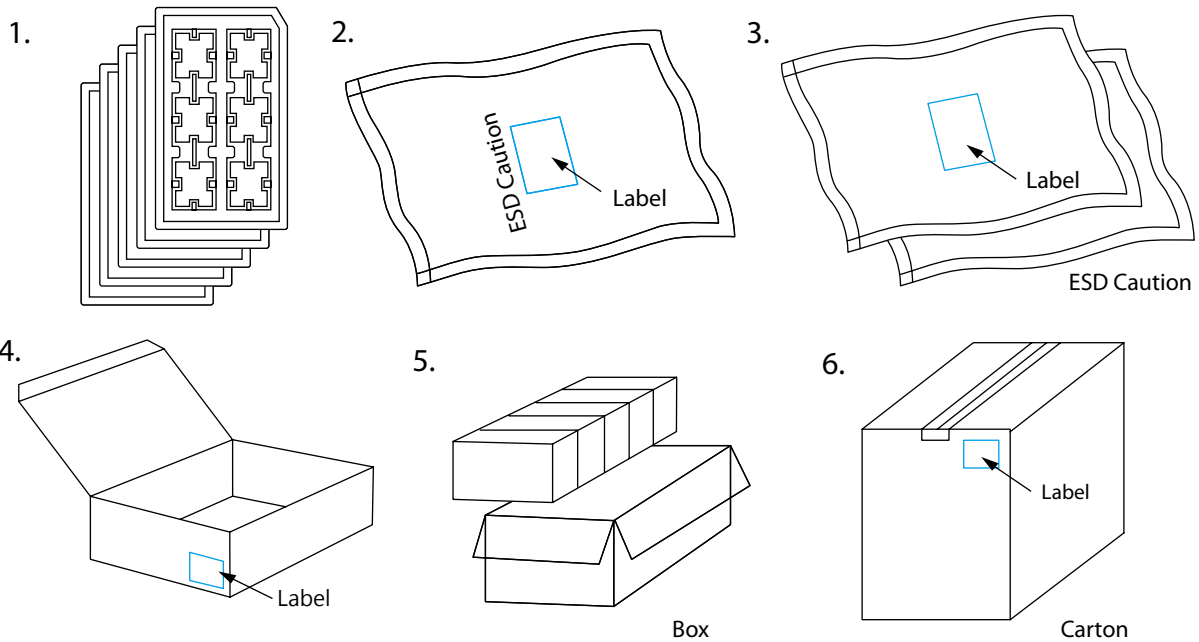
Tray Packing for 6W / 10W



Tray Packing for 15W / 24W



Tray package dimension.



Packaging steps.

Notes:

1. All dimensions are in mm.
2. There are 5 trays in a bag.
3. There are 5 bags in a box.
4. There are 5 boxes in a carton.
5. A bag contains one humidity indicator card and drying agent.

Revision History

Versions	Description	Release Date
1	Establish order code information	2012/12/11
2	<ol style="list-style-type: none"> 1. Modify the name of document 2. Add 7W components' data 3. Add 10W components' data 	2013/02/04
3	Correct the order code of luminous flux characteristic	2013/02/21
4	Correct the 10W order code of Luminous Flux Characteristic	2013/04/12

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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