



EDISON OPTO CORPORATION

Edixeon Star 3W High Power LED

DATE : 2005/07/08

VERSION : 1.0

Device No : 3-RD-01-E0008



EDISON OPTO CORPORATION
Office:5F, No. 800, Chung-Cheng Rd,
Chung-Ho, Taipei 235, Taiwan, R.O.C.

Tel: 886-2-8227-6996
Fax: 886-2-8227-6997
<http://www.edison-opto.com.tw>

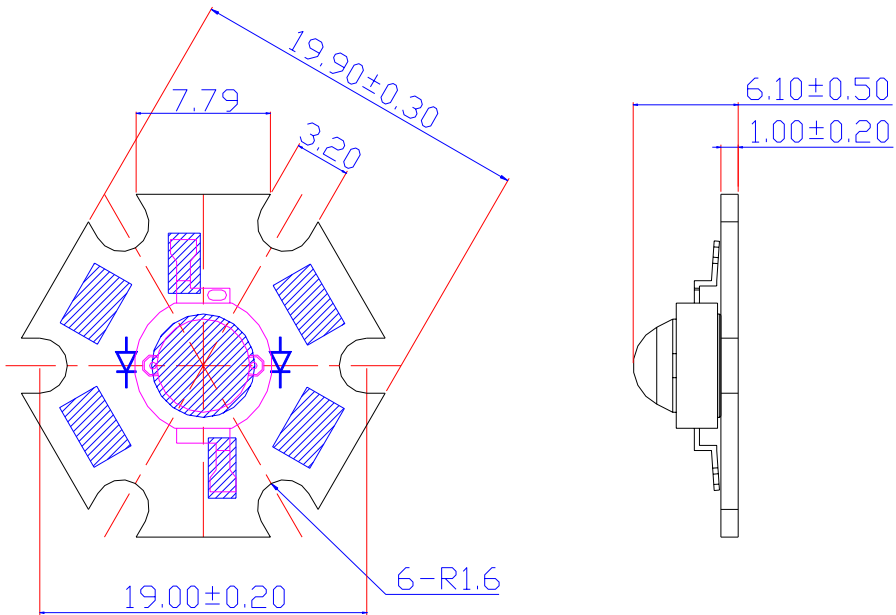
Features

- Long operating life (up to 100,000 hours)
- More Energy Efficient than incandescent and most halogen lamps
- Low forward voltage operated
- Instant light (less than 100 ns)
- No UV

Typical Applications

- Reading lights
- Portable flashlight
- Uplighters and Downlighters
- Bollards / Security / Garden lighting
- Indoor and Outdoor Commercial lighting
- LCD Backlights / Light guides
- General lighting

Lambertian Package Outlines

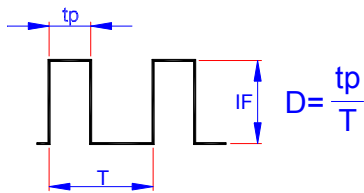


Unit: mm

Absolute Maximum Ratings

Parameter	Symbol	Rating	Units
DC Forward Current	I_F	700	mA
Peak pulse current; ($t_p \leq 100 \mu s$, Duty cycle=0.005) ^{*1}	I_{pulse}	1000	mA
Reverse Voltage	V_R	5	V
LED junction Temperature (at 700 mA)	T_j	125	°C
Operating Temperature	T_{opr}	-30 ~ +110	°C
Storage Temperature	T_{stg}	-40 ~ +120	°C
Thermal Resistance (T_{board} to T_{case})	$R\theta_{B-C}$	25	°C/W

1. Duty cycle:



Luminous Flux

Characteristics at $I_F=700mA(T_a=25^\circ C)$:

Lens Item	Part Name	Color	Flux			Units
			min.	typ.	Max.	
	EDSW-3LA5	White	51.2	60	--	<i>lm</i>
	EDSX-3LA5	Warm White	39.4	45	--	<i>lm</i>
	EDSR-3LA3	Red	39.4	50	--	<i>lm</i>
Lambertian	EDSO-3LA3	Red Orange	51.2	60	--	<i>lm</i>
	EDSA-3LA3	Amber	39.4	55	--	<i>lm</i>
	EDST-3LA1	True Green	51.2	75	--	<i>lm</i>
	EDSB-3LA5	Blue	13.8	20	--	<i>lm</i>

Forward Voltage

Characteristics at $I_F=700mA(T_a=25^\circ C)$:

Lens Item	Part Name	Color	V_F			Units
			min.	typ.	Max.	
	EDSW-3LA5	White	3.4	--	4.9	<i>V</i>
	EDSX-3LA5	Warm White	3.4	--	4.9	<i>V</i>
	EDSR-3LA3	Red	2.0	--	3.0	<i>V</i>
Lambertian	EDSO-3LA3	Red Orange	2.0	--	3.0	<i>V</i>
	EDSA-3LA3	Amber	2.0	--	3.0	<i>V</i>
	EDST-3LA1	True Green	2.8	--	4.0	<i>V</i>
	EDSB-3LA5	Blue	3.4	--	4.9	<i>V</i>

Wavelength or Color Temperature
Characteristics at $I_F=700mA(T_a=25^\circ C)$:

Lens Item	Part Name	Color	$\lambda D/CCT$			Units
			Min.	Typ.	Max.	
	EDSW-3LA5	White	5000	--	8000	<i>K</i>
	EDSX-3LA5	Warm White	2800	--	3800	<i>K</i>
	EDSR-3LA3	Red	620	--	630	<i>nm</i>
Lambertian	EDSO-3LA3	Red Orange	610	--	620	<i>nm</i>
	EDSA-3LA3	Amber	585	--	595	<i>nm</i>
	EDST-3LA1	True Green	515	--	535	<i>nm</i>
	EDSB-3LA5	Blue	460	--	475	<i>nm</i>

Thermal Resistance Junction to Board
Characteristics at $I_F=700mA(T_a=25^\circ C)$:

Lens Item	Part Name	Color	$R\theta_{J-B}$			Units
			Min.	Typ.	Max.	
	EDSW-3LA5	White	--	20	--	$^\circ C/W$
	EDSX-3LA5	Warm White	--	20	--	$^\circ C/W$
	EDSR-3LA3	Red	--	20	--	$^\circ C/W$
Lambertian	EDSO-3LA3	Red Orange	--	20	--	$^\circ C/W$
	EDSA-3LA3	Amber	--	20	--	$^\circ C/W$
	EDST-3LA1	True Green	--	20	--	$^\circ C/W$
	EDSB-3LA5	Blue	--	20	--	$^\circ C/W$

Temperature Coefficient Of Forward Voltage
Characteristics at $I_F=700mA(T_a=25^\circ C)$:

Lens Item	Part Name	Color	$\Delta V_F/\Delta T$			Units
			Min.	Typ.	Max.	
	EDSW-3LA5	White	--	-2	--	mV/°C
	EDSX-3LA5	Warm White	--	-2	--	mV/°C
	EDSR-3LA3	Red	--	-2	--	mV/°C
Lambertian	EDSO-3LA3	Red Orange	--	-2	--	mV/°C
	EDSA-3LA3	Amber	--	-2	--	mV/°C
	EDST-3LA1	True Green	--	-2	--	mV/°C
	EDSB-3LA5	Blue	--	-2	--	mV/°C

Reverse Current
Characteristics at $V_R=5V(T_a=25^\circ C)$:

Lens Item	Part Name	Color	$I_R(V_R=5V)$			Units
			Min.	Typ.	Max.	
	EDSW-3LA5	White	--	--	50	μA
	EDSX-3LA5	Warm White	--	--	50	μA
	EDSR-3LA3	Red	--	--	50	μA
Lambertian	EDSO-3LA3	Red Orange	--	--	50	μA
	EDSA-3LA3	Amber	--	--	50	μA
	EDST-3LA1	True Green	--	--	50	μA
	EDSB-3LA5	Blue	--	--	50	μA

Emission Angle

Characteristics at $I_F=700mA(T_a=25^\circ C)$:

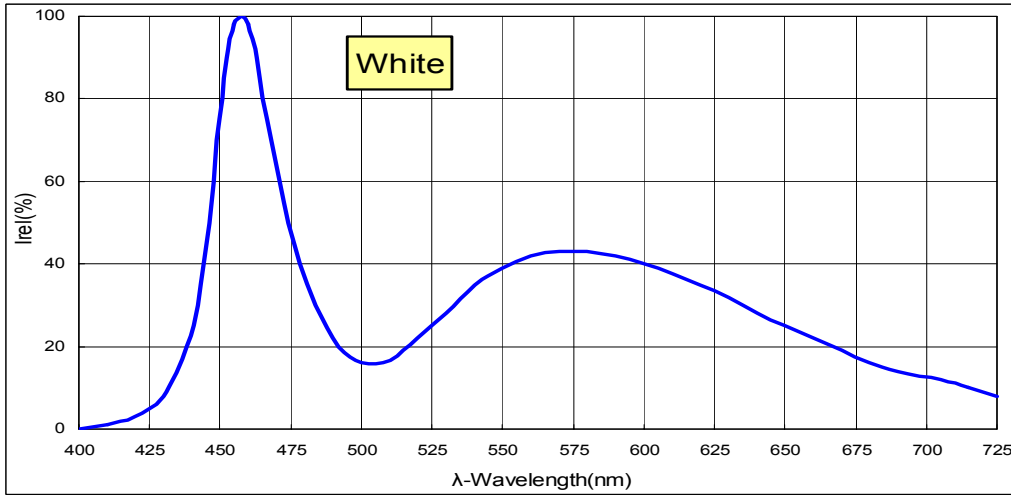
Lens Item	Part Name	Color	2 θ ^{1/2}			Units
			Min.	Typ.	Max.	
Lambertian	EDSW-3LA5	White	--	140	--	Degrees
	EDSX-3LA5	Warm White	--	140	--	Degrees
	EDSR-3LA3	Red	--	120	--	Degrees
	EDSO-3LA3	Red Orange	--	120	--	Degrees
	EDSA-3LA3	Amber	--	120	--	Degrees
	EDST-3LA1	True Green	--	140	--	Degrees
	EDSB-3LA5	Blue	--	140	--	Degrees

Note

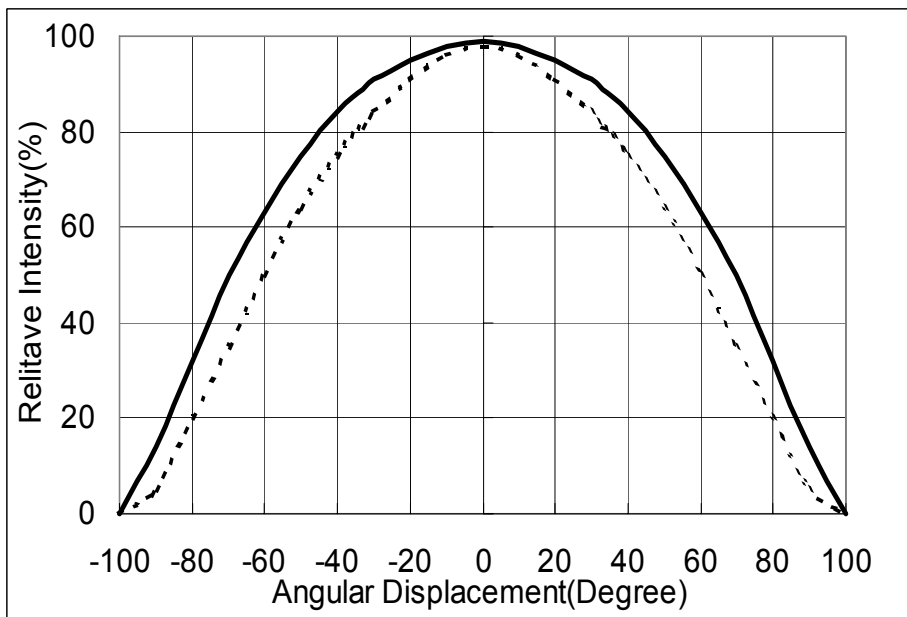
1. Flux is measured with an accuracy of $\pm 15\%$.
2. CCT selection acc. to CCT groups and an accuracy of $\pm 400K$
3. Forward Voltage is measured with an accuracy of $\pm 0.2V$.
4. Wavelength is measured with an accuracy of $\pm 3nm$
5. Angle is measured with an accuracy of ± 15 degree

Electrical & Optical Curves

Wavelength Spectrum of White



Typical Radiation Pattern for Lambertian



Edixeon Star 3W High Power LED

3-RD-01-E0008

Revision History

Version	Page	Subjects (major changes since last revision)	Date
1.0			