LA LUCE
LIGHT - DESIGN - MORE

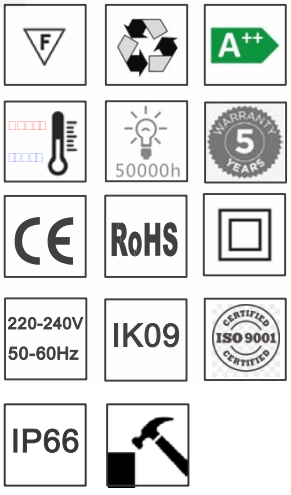
WALL RECESSED LIGHT

WLR03 is a recessed LED wall light, producing a clearly defined wash of light. Adapted to illuminate ground surfaces with the downward orientation of light with different size, wattage, lumen, beam angle, CRI, and CCT option.

WLR03 è una lampada da parete a LED da incasso, che produce un fascio di luce chiaramente definito. Adattato per illuminare le superfici del terreno con l'orientamento verso il basso della luce con diverse dimensioni, potenza, lumen, angolo del fascio, CRI e CCT.

TECHNICAL DATA

Type	Wall Light
Installation	Recessed
Housing	Die-cast Aluminium
Processing	Powder Coated
Diffuser	Safety Glass
Light Emission Direction	Asymmetrical
Glow Wire Test	850□
Safety Class	II
Direct Mounting on Normal Flammable Surface	Yes
Driver Included	Yes
Adjustable	No



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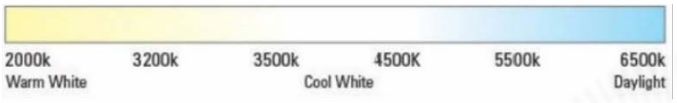
MODEL CODE

LL – WLR03 – W – CCT – IP – WH

- LL — Manufacturer
- WLR03 — Luminaire Family Name
- W — Luminaire Power
- CCT — Color Temperature
- IP — IP Rating
- WH — Finish

Code No.	System Wattage (W)	Lumen Output (lm)	Luminaire Efficacy (lm/W)	CRI
☐ WLR03-1.5W	1.5	143	95	>90
☐ WLR03-2W	2	190	95	>90
☐ WLR03-3W	3	285	95	>90
☐ WLR03-4W	4	380	95	>90
☐ WLR03-3W	8	760	95	>90
☐ WLR03-5W	12	1140	95	>90

COLOR TEMPERATURE OPTION



☐ 2700K ☐ 3000K ☐ 4000K ☐ 5000K ☐ 6000K

BEAM ANGLE OPTION

☐ Asymmetric

FINISH OPTION

☐ SS-Stainless Steel ☐ PPG ☐ GR-Grey ☐ BR-Black

CONTROL OPTION

☐ DD	DALI DIM	DALI
☐ D1	0-10V DIM	DIMMABLE 1-10V
☐ PD	Phase Cut DIM	CUT PHASE
☐ D0	On/Off	

LED CHIPS

OSRAM · SEOUL · NICHIA · CREE · Panasonic · LUMINUS · TRIDONIC · CITIZEN ELECTRONICS CO., LTD. · TCI · bridgelux · LUMILEDS

more information in www.la-luce.it

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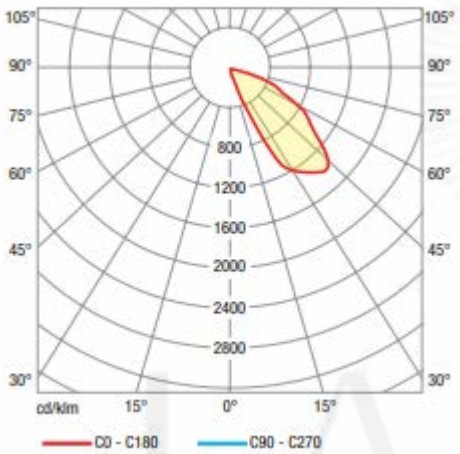
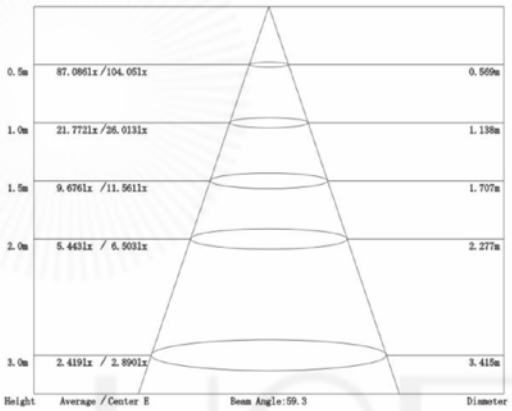
LED DRIVERS

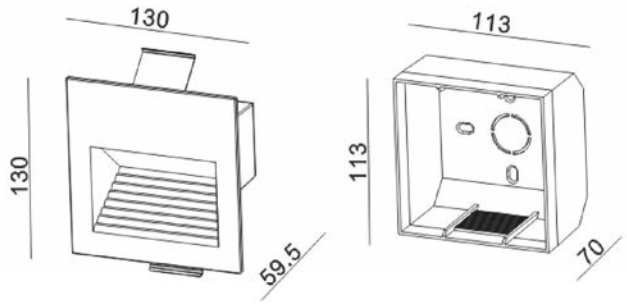
MEAN WELL · TRIDONIC · EAGLERISE · DONE · TCI LED · PHILIPS · ACTEC · LA LUCE · Helvar · OSRAM

PHOTOMETRIC





3D MODULE

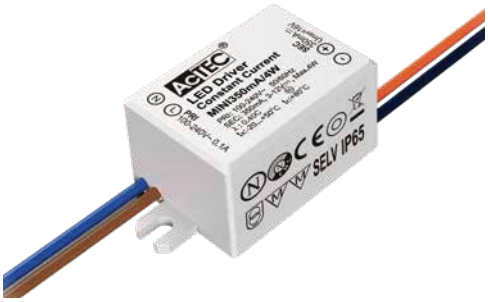


Unit: mm

Mini Series

Constant Current LED Driver

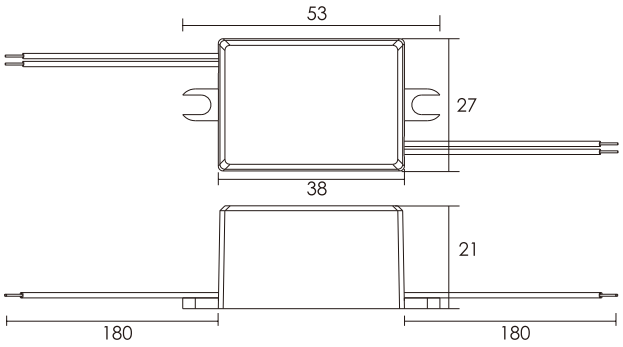
LED恒流驱动器



Features:

- Super compact design
- Universal AC input
- Primary and secondary sides come with leads
- Protections: opencircuit, shortcircuit, overload, overtemperature
- Simple installation
- IP65 design

– 紧凑型设计
– 全电压输入规格AC100–240V
– 输入和输出端引线型
– 输出开路, 短路, 过载和超温保护
– 安装经济便捷
– IP65防护等级



Parameters:

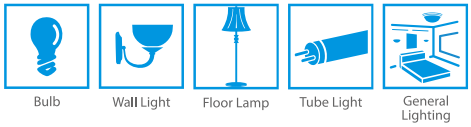
Model No. 型 号	Input voltage 额定电压 (V)	Max. output 功率 (W)	Output current 输出电流 (mA)	Output voltage 输出电压 (V)	Power factor 功率因数 (λ)	Efficiency full load 效率 (%)	No-load power 空载功率 (W)	Ambient temperature 环境温度 ta (°C)	Max. casing temperature 最大外壳温度 tc (°C)	Isolation 隔离	Dimensions LxWxH 尺寸 (mm)	Weight 重量 (g)
MINI200mA/4W	100-240	4	200	6-20	0.40C	78	<0.5	-20...+50	80	SELV	53x27x21	40
MINI300mA/4W	100-240	4	300	3-14	0.40C	78	<0.5	-20...+50	80	SELV	53x27x21	40
MINI350mA/4W	100-240	4	350	3-12	0.40C	78	<0.5	-20...+50	80	SELV	53x27x21	40
MINI500mA/4W	100-240	4	500	2-8	0.40C	76	<0.5	-20...+50	80	SELV	53x27x21	40
MINI600mA/4W	100-240	4	600	2-7	0.40C	75	<0.5	-20...+50	80	SELV	53x27x21	40
MINI700mA/4W	100-240	4	700	2-6	0.40C	73	<0.5	-20...+50	80	SELV	53x27x21	40

IP65

PLCC Series

3014 0.1W CRI80

Datasheet



Introduction :

Ultra high luminous efficacy, combined with the flexibility in design due to its slim and miniature size, PLCC LED Series are optimized to be used as lighting for building.

Description :

- Best luminous and color uniformity
- Enables halogen and CDM replacement
- The article itself presents the actual color.

Feature and Benefits :

- High luminous Intensity and high efficiency
- Based on Blue : InGaN technology
- Wide viewing angle : 120°
- Excellent performance and visibility
- Suitable for all SMT assembly methods
- IR reflow process compatible
- Environmental friendly; RoHS compliance

Lighting Design Manufacturing Service

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Lighting Design Manufacturing Service

General Information

Ordering Code Format

2	T	0 1	X 1	x W	x x	0 0 0	x x x
X1	X2	X3-X4	X5-X6	X7-X8	X9-X10	X11-X13	X14-X16

X1		X2		X3-X4		X5-X6		X7-X8	
Type		Component		Series		Wattage		Color	
2	Emitter	T	PLCC	01	3014	X1	0.1W	CW	Cool White
								NW	Neutral White
								WW	Warm White

X9-X10		X11-X13		X14-X16	
Internal code		PCB Board		Serial Number	
-	-	000	-	-	-

Lighting Design Manufacturing Service

Absolute Maximum Ratings

Absolute maximum ratings (T_a=25°C)

Parameter	Symbol	Value	Units
Forward Current	I_F	40	mA
Pulse Forward Current (tp<=100μs, Duty cycle=0.25)	I_{pulse}	100	mA
Reverse Current	I_R	10	uA
Reverse Voltage	V_R	5	V
LED Junction Temperature	T_J	125	°C
Operating Temperature	-	-40 ~ +85	°C
Storage Temperature	-	-40 ~ +125	°C
ESD Sensitivity (HBM)	V_B	2,000	V
Soldering Temperature	T_s	Reflow Soldering : 255~260°C/10~30sec Manual Soldering : 350°C/3sec	

Notes:
1. Proper current derating must be observed to maintain junction temperature below the maximum at all time.
2. LEDs are not designed to be driven in reverse bias.

Characteristics

Parameter		Symbol	Value	Units
Viewing Angle	(Typ.)	$2\Theta_{1/2}$	120	Degree
Forward voltage	(Typ.)	V_F	3.2	V
Thermal resistance		-	40	°C/W
CRI		-	>80	-
CCT	(Cool White) (Neutral White) (Warm White)	-	2,700 3,000 3,500 4,000 5,000 5,700 6,500	K
JEDEC Moisture Sensitivity		-	Level 3 **Floor Life** Conditions: ≤30°C / 60% RH **Soak Requirements(Standard)** Time (hours): 40+1/-0 Conditions: 60°C / 60% RH	-

Notes:
1. $2\theta_{1/2}$ is the off-axis angle where the luminous intensity is half of the axial luminous intensity.
2. Color Rendering Index CRI Tolerance: ±2
3. CIE_x/y tolerance: ±0.005

Luminous Flux Characteristic

Luminous Flux Characteristics, I_F=30mA and T_J=25˚C

Color	Group	Min. Luminous Flux(lm)	Max. Luminous Flux(lm)	Forward Current(mA)	Order Code
Cool White	11	11	12	30	2T01X1CW14000001
	12	12	13		
	13	13	14		
	14	14	15		
Neutral White	11	11	12		2T01X1NW11000001
	12	12	13		
	13	13	14		
	14	14	15		
Warm White	10	10	11		2T01X1WW11000001
	11	11	12		
	12	12	13		
	13	13	14		

Note:
The luminous flux performance is guaranteed within published operating conditions. Edison Opto maintains a tolerance of ±10% on flux measurements.

Voltage Bin Structure

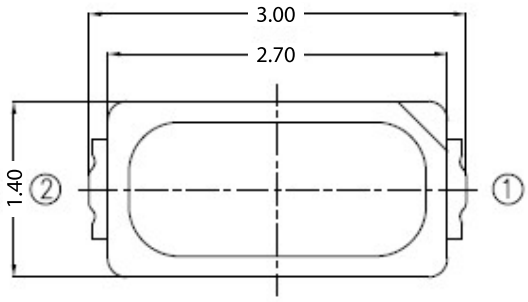
Group	Min. Voltage (V)	Max. Voltage (V)
VB0	2.6	2.7
VC0	2.7	2.8
VA1	2.8	2.9
VB1	2.9	3.0
VC1	3.0	3.1
VA2	3.1	3.2
VB2	3.2	3.3

Note:
Forward voltage measurement allowance is ± 0.06V.

Lighting Design Manufacturing Service

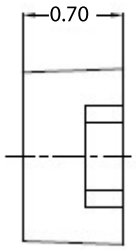
Mechanical Dimensions

Emitter Type Dimension

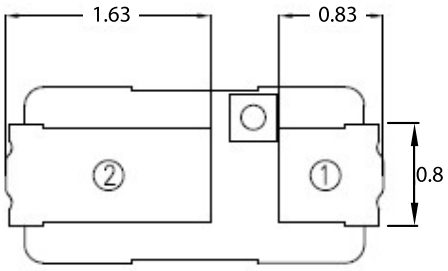


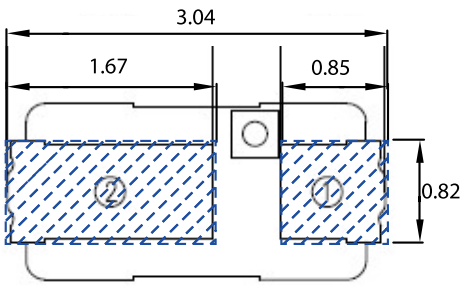
Circuit

Polarity



Solder Pad





Notes:
1. All dimensions are measured in mm.
2. Tolerance : ± 0.20 mm

Lighting Design Manufacturing Service

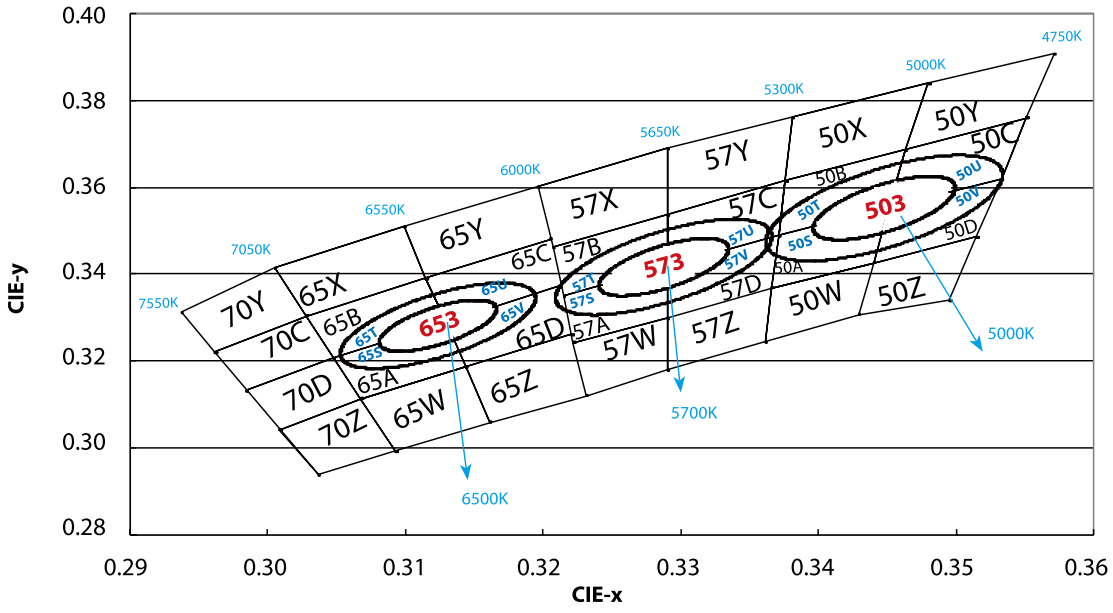
Color BIN code

Color region stay within Macadam "3-Step/5-step" ellipse from the chromaticity center.
The chromaticity center refers to ANSI C78.377:2008.
Please refer to ANSI C78.377 for the chromaticity center.

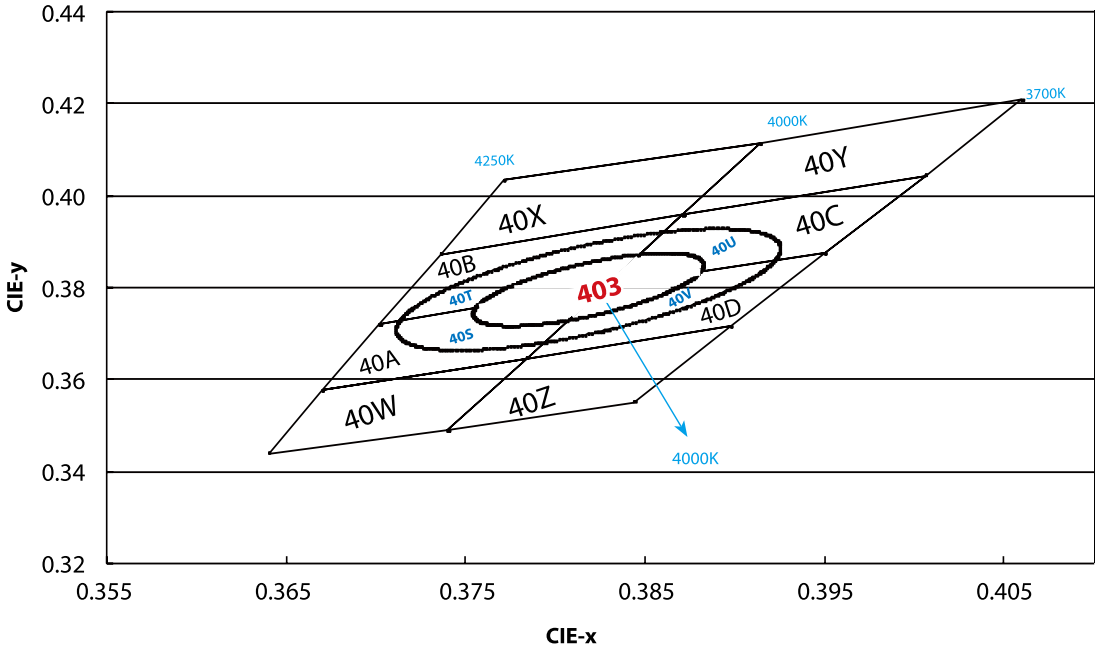
CCT	Steps	Cx	Cy	a	b	theta
2700K	5	0.4578	0.4101	0.01350	0.00700	53.70
3000K	5	0.4338	0.4030	0.01390	0.00680	53.22
3500K	5	0.4073	0.3917	0.01545	0.00690	54.00
4000K	5	0.3818	0.3797	0.01565	0.00670	53.72
5000K	5	0.3447	0.3553	0.01370	0.00590	59.62
5700K	5	0.3287	0.3417	0.01243	0.00533	59.09
6500K	5	0.3123	0.3282	0.01115	0.00475	58.57

CCT	Steps	Cx	Cy	a	b	theta
2700K	3	0.4578	0.4101	0.00810	0.00420	53.70
3000K	3	0.4338	0.4030	0.00834	0.00408	53.22
3500K	3	0.4073	0.3917	0.00927	0.00414	54.00
4000K	3	0.3818	0.3797	0.00939	0.00402	53.72
5000K	3	0.3447	0.3553	0.00822	0.00354	59.62
5700K	3	0.3287	0.3417	0.00746	0.00320	59.09
6500K	3	0.3123	0.3282	0.00669	0.00285	58.57

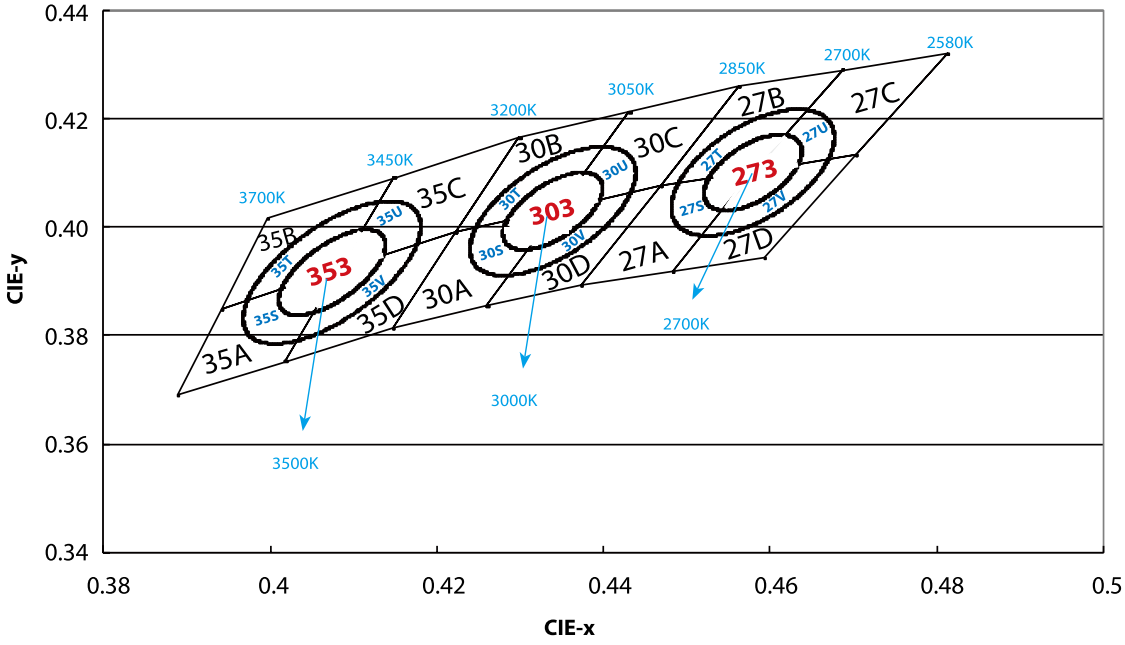
Cool White



Neutral White



Warm White



Lighting Design Manufacturing Service

6500K

65X		65B		65A		65W	
X	Y	X	Y	X	Y	X	Y
0.3005	0.3415	0.3115	0.3391	0.3130	0.3290	0.3068	0.3113
0.3099	0.3509	0.3028	0.3304	0.3048	0.3207	0.3144	0.3186
0.3115	0.3391	0.3048	0.3207	0.3068	0.3113	0.3161	0.3059
0.3028	0.3304	0.3130	0.3290	0.3144	0.3186	0.3093	0.2993

65Y		65C		65D		65Z	
X	Y	X	Y	X	Y	X	Y
0.3099	0.3509	0.3205	0.3481	0.3213	0.3373	0.3144	0.3186
0.3196	0.3602	0.3115	0.3391	0.3130	0.3290	0.3221	0.3261
0.3205	0.3481	0.3130	0.3290	0.3144	0.3186	0.3231	0.3120
0.3115	0.3391	0.3213	0.3373	0.3221	0.3261	0.3161	0.3059

5700K

57X		57B		57A		57W	
X	Y	X	Y	X	Y	X	Y
0.3196	0.3602	0.3290	0.3538	0.3290	0.3417	0.3222	0.3243
0.3290	0.3690	0.3207	0.3462	0.3215	0.3350	0.3290	0.3300
0.3290	0.3538	0.3215	0.3350	0.3222	0.3243	0.3290	0.3180
0.3207	0.3462	0.3290	0.3417	0.3290	0.3300	0.3231	0.3120

57Y		57C		57D		57Z	
X	Y	X	Y	X	Y	X	Y
0.3290	0.3690	0.3376	0.3616	0.3371	0.3490	0.3290	0.3300
0.3381	0.3762	0.3290	0.3538	0.3290	0.3417	0.3366	0.3369
0.3376	0.3616	0.3290	0.3417	0.3290	0.3300	0.3361	0.3245
0.3290	0.3538	0.3371	0.3490	0.3366	0.3369	0.3290	0.3180

5000K

50X		50B		50A		50W	
X	Y	X	Y	X	Y	X	Y
0.3381	0.3762	0.3463	0.3687	0.3451	0.3554	0.3366	0.3369
0.3480	0.3840	0.3376	0.3616	0.3371	0.3490	0.3440	0.3427
0.3463	0.3687	0.3371	0.3490	0.3366	0.3369	0.3429	0.3307
0.3376	0.3616	0.3451	0.3554	0.3440	0.3427	0.3361	0.3245

50Y		50C		50D		50Z	
X	Y	X	Y	X	Y	X	Y
0.3480	0.3840	0.3551	0.3760	0.3533	0.3620	0.3440	0.3427
0.3571	0.3907	0.3463	0.3687	0.3451	0.3554	0.3515	0.3487
0.3551	0.3760	0.3451	0.3554	0.3440	0.3427	0.3495	0.3339
0.3463	0.3687	0.3533	0.3620	0.3515	0.3487	0.3429	0.3307

4000K

40X		40B		40A		40W	
X	Y	X	Y	X	Y	X	Y
0.3771	0.4034	0.3871	0.3959	0.3828	0.3803	0.3670	0.3578
0.3736	0.3874	0.3736	0.3874	0.3702	0.3722	0.3640	0.3440
0.3871	0.3959	0.3702	0.3722	0.3670	0.3578	0.3740	0.3491
0.3914	0.4115	0.3828	0.3803	0.3784	0.3647	0.3784	0.3647

40Y		40C		40D		40Z	
X	Y	X	Y	X	Y	X	Y
0.3914	0.4115	0.4006	0.4044	0.3950	0.3875	0.3784	0.3647
0.3871	0.3959	0.3871	0.3959	0.3828	0.3803	0.3740	0.3491
0.4006	0.4044	0.3828	0.3803	0.3784	0.3647	0.3844	0.3552
0.4060	0.4208	0.3950	0.3875	0.3898	0.3716	0.3898	0.3716

3500K

35A		35B		35C		35D	
X	Y	X	Y	X	Y	X	Y
0.4083	0.3921	0.4148	0.4090	0.4299	0.4165	0.4223	0.399
0.3941	0.3848	0.3996	0.4015	0.4148	0.4090	0.4083	0.3921
0.3889	0.3690	0.3941	0.3848	0.4083	0.3921	0.4018	0.3752
0.4018	0.3752	0.4083	0.3921	0.4223	0.399	0.4147	0.3814

3000K

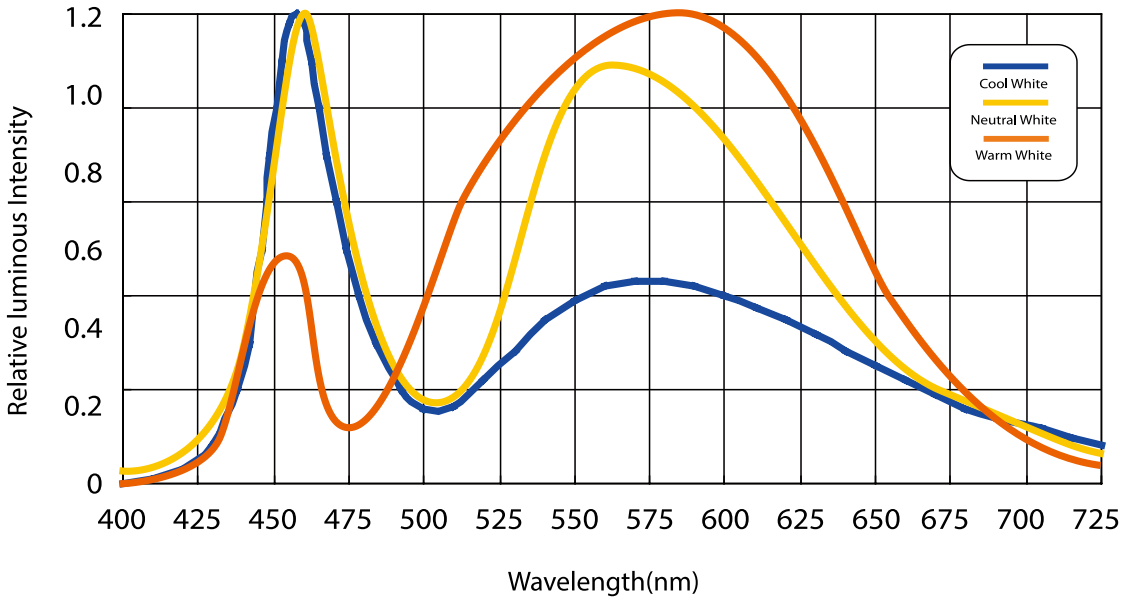
30A		30B		30C		30D	
X	Y	X	Y	X	Y	X	Y
0.4345	0.4033	0.4431	0.4213	0.4562	0.4260	0.4468	0.4077
0.4223	0.3990	0.4299	0.4165	0.4431	0.4213	0.4345	0.4033
0.4147	0.3814	0.4223	0.3990	0.4345	0.4033	0.4260	0.3854
0.4260	0.3854	0.4345	0.4033	0.4468	0.4077	0.4373	0.3893

2700K

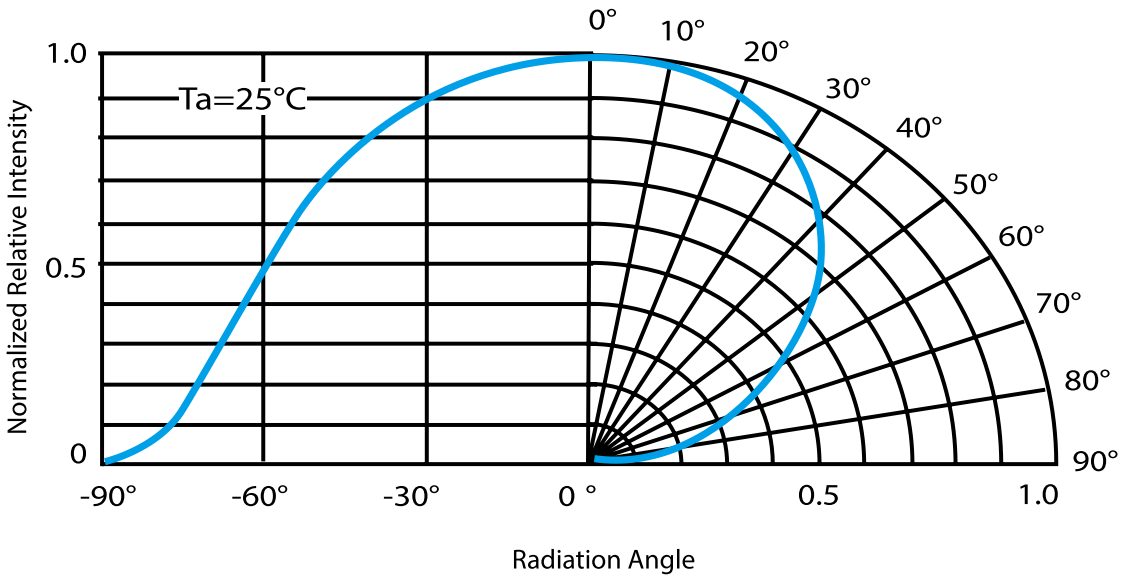
27A		27B		27C		27D	
X	Y	X	Y	X	Y	X	Y
0.4578	0.4101	0.4687	0.4289	0.4813	0.4319	0.4703	0.4132
0.4468	0.4077	0.4562	0.4260	0.4687	0.4289	0.4578	0.4101
0.4373	0.3893	0.4468	0.4077	0.4578	0.4101	0.4483	0.3919
0.4483	0.3919	0.4578	0.4101	0.4703	0.4132	0.4593	0.3944

Characteristic Curve

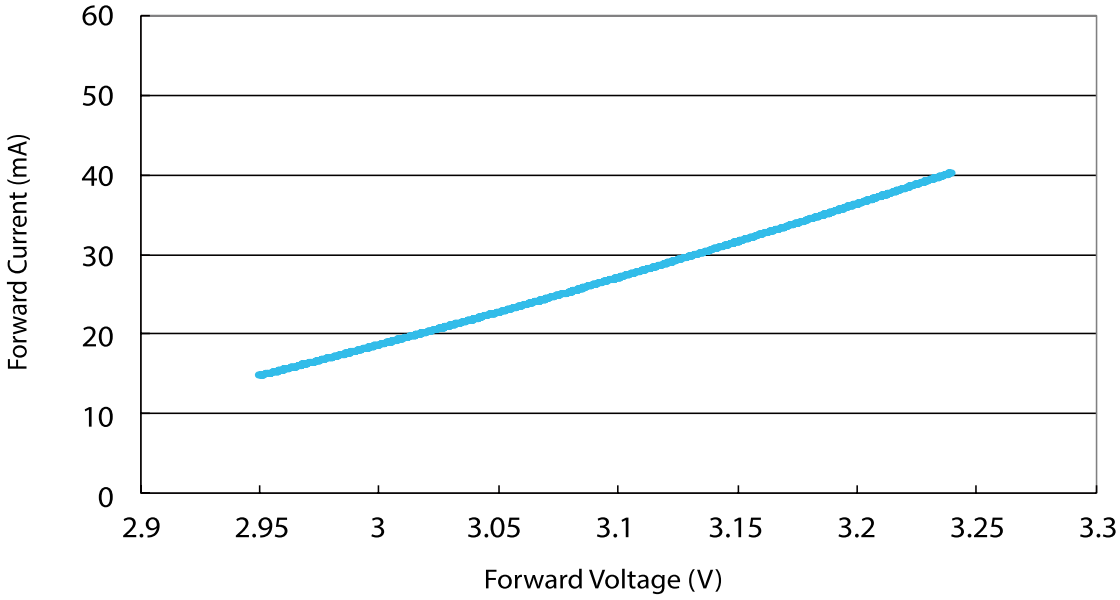
Color Spectrum



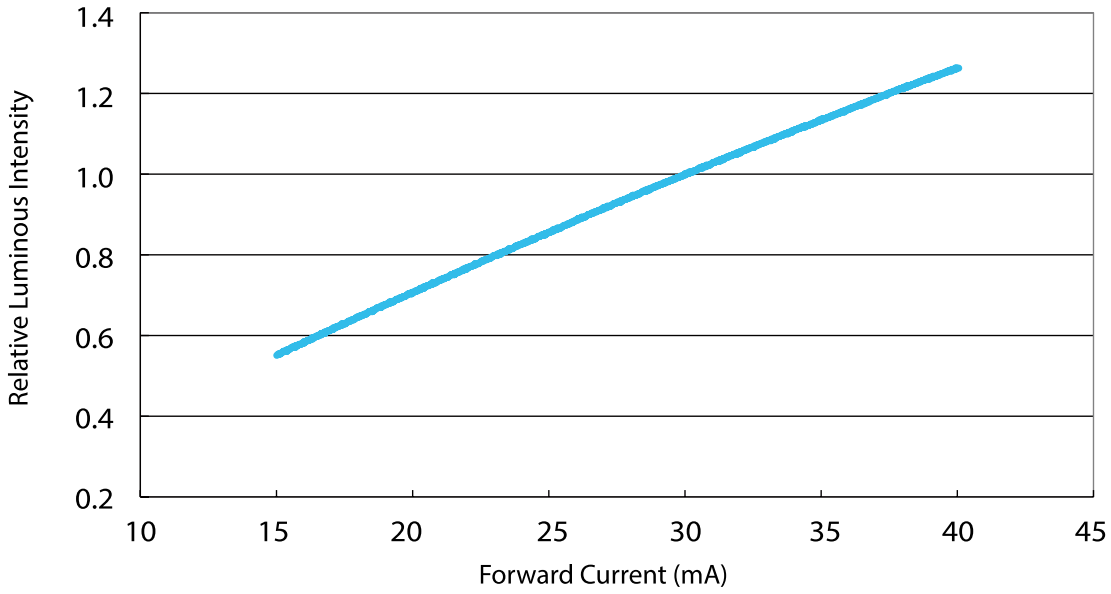
Beam Pattern



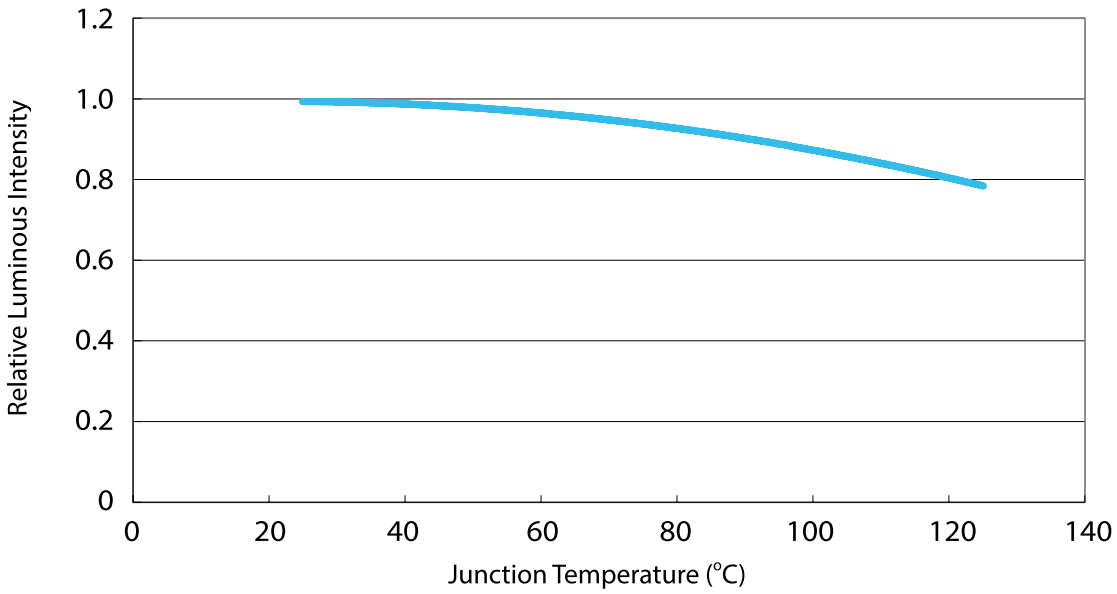
Forward Current vs. Forward Voltage



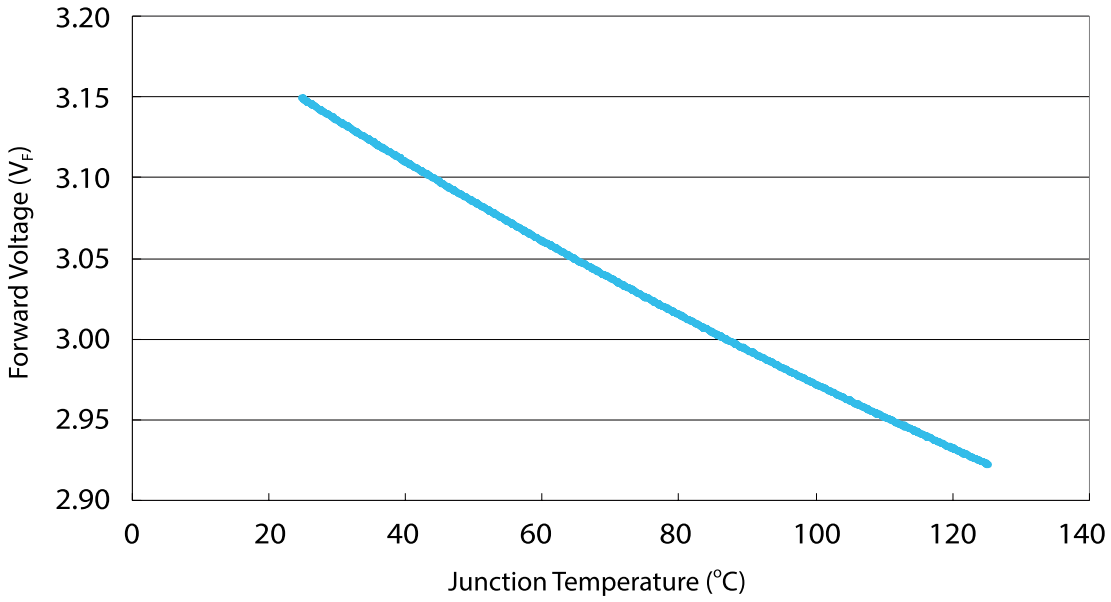
Relative Luminous Intensity vs. Forward Current



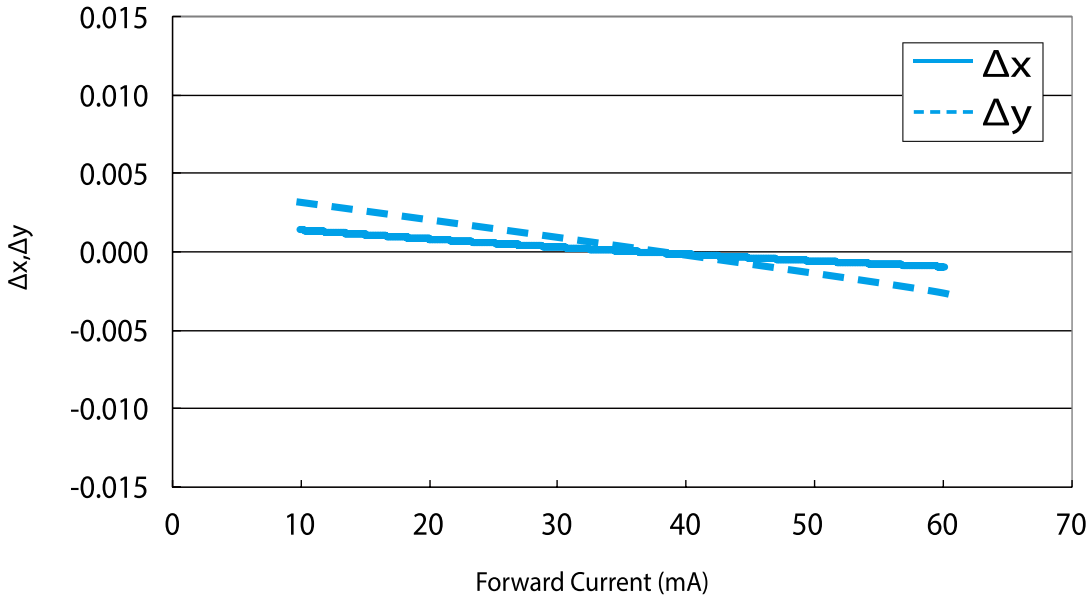
Relative Luminous Intensity vs. Junction Temperature



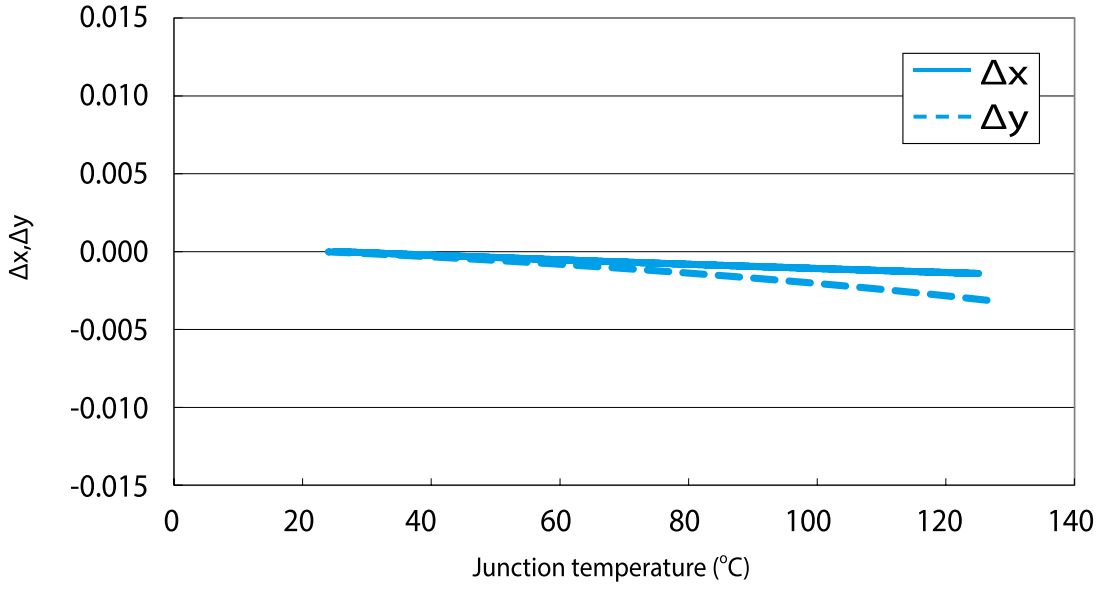
Forward Voltage vs. Junction Temperature



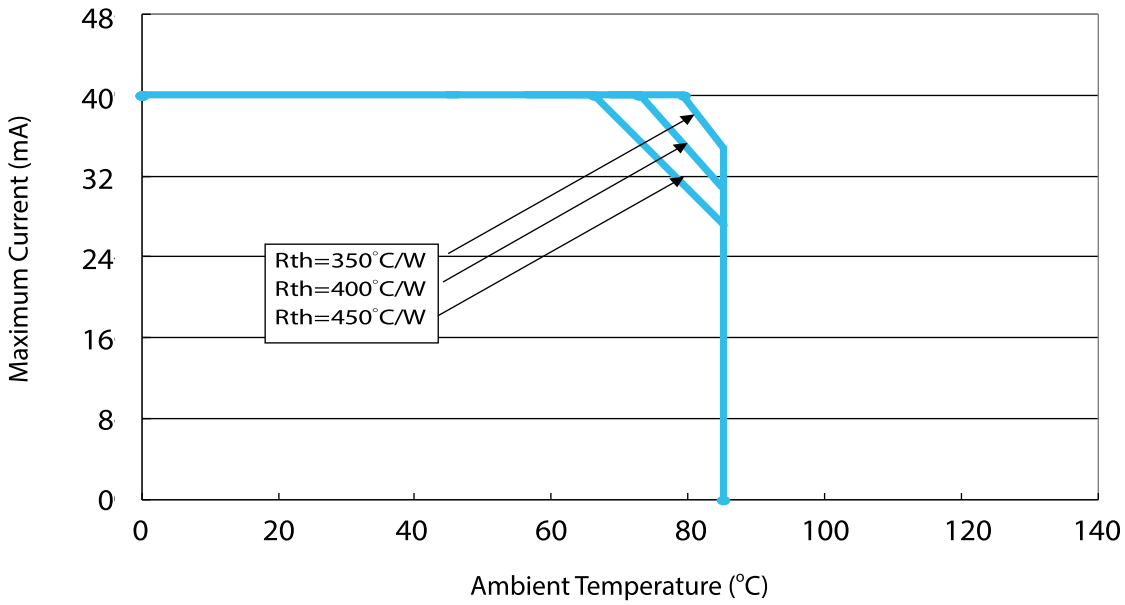
Δx,Δy vs. Forward Current



Δx,Δy vs. Junction Temperature



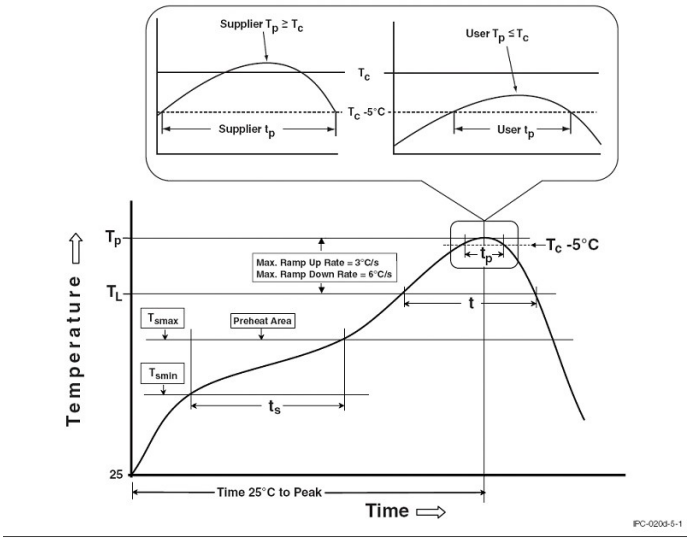
Maximum Current vs. Ambient Temperature



Lighting Design Manufacturing Service

Reflow Profile

The following reflow profile is from IPC/JEDEC J-STD-020D which provided here for reference.



Reflow Profiles

Classification Reflow Profiles

Profile Feature	Pb-Free Assembly
Preheat & Soak Temperature min (Tsmin) Temperature max (Tsmax) Time (Tsmin to Tsmax) (ts)	150 °C 200 °C 60-120 seconds
Average ramp-up rate (Tsmax to Tp)	3 °C/second max.
Liquidous temperature (TL) Time at liquidous (tL)	217 °C 60-150 seconds
Peak package body temperature (Tp)*	255 °C ~260 °C *
Classification temperature (Tc)	260 °C
Time (tp)** within 5 °C of the specified classification temperature (Tc)	30** seconds
Average ramp-down rate (Tp to Tsmax)	6°C/second max.
Time 25°C to peak temperature	8 minutes max.

Notes:
1. * Tolerance for peak profile temperature (Tp) is defined as a supplier minimum and a user maximum.
2. ** Tolerance for time at peak profile temperature (tp) is defined as a supplier minimum and a user maximum.

Reliability

NO .	Test Item	Test Condition	Remark
1	Temperature Cycle	-40°C~100°C 30, 30, mins	100 Cycle
2	Thermal Shock	-40°C~100°C 15, 15 mins ≦10 sec	100 Cycle
3	Resistance to Soldering Heat	T_{SOL}=260°C, 30 sec	3 times
4	Moisture Resistance	25°C~65°C 90% RH 24 hrs / 1 cycle	10 Cycle
5	High-Temperature Storage	T_A=100°C	1,000 hrs
6	Humidity Heat Storage	T_A=85°C RH=85%	1,000 hrs
7	Low-Temperature Storage	T_A=-40°C	1,000 hrs
8	Operation Life test	25°C	1,000 hrs
9	High Temperature Operation Life test	85°C	1,000 hrs
10	High Humidity Heat Life Test	85°C, 85%RH	1,000 hrs
11	ON/OFF Test	30 sec ON, 30 sec OFF	1.5W times

Failure Criteria

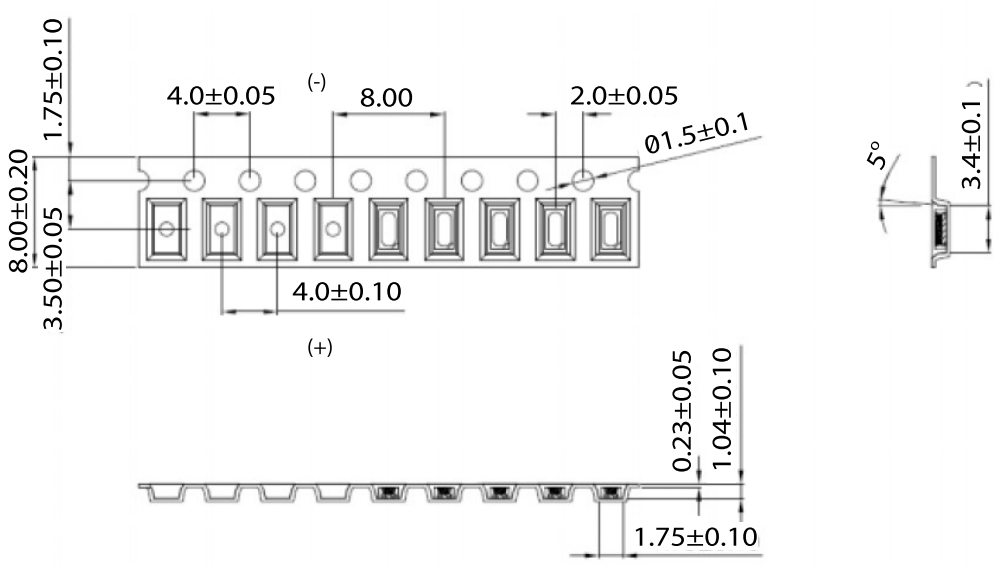
Item	Criteria for Judgment	
	Min.	Max.
Lumen Maintenance	85%	-
Δu'v'	-	0.006
Forward Voltage	-	Initial Data x 1.1
Reverse Current	-	10 μA
Resistance to Soldering Heat	No dead lamps or visual damage	

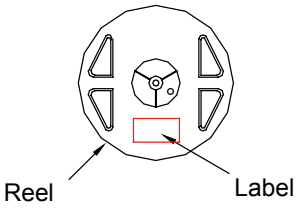
Cautions

LED avoids being stored and lighted in the environment containing sulfur. Some materials, such as seals, printing ink, enclosure and adhesives, may contain sulfur, avoiding the exposure in acid or halogen environment.

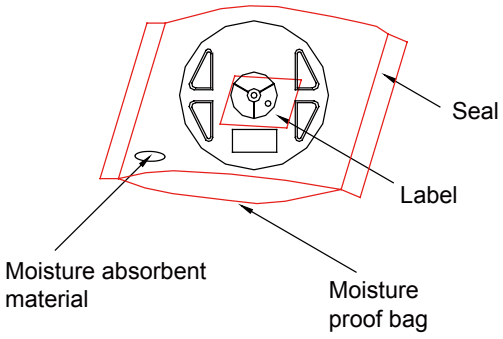
Lighting Design Manufacturing Service

Product Packaging Information





Taping reel dimensions



Package & label

Item	Quantity	Total	Dimensions(mm)
Reel	4,000pcs	4,000pcs	R=178
Carton	25 reels	100,000pcs	353*254*256
Starting with 50pcs empty,and 50pcs empty at the last			

Lighting Design Manufacturing Service

Revision History

Versions	Description	Release Date
1	Establish order code information	2013/01/07
2	Add the Characteristic curve	2013/03/11
3	1. Revise Order code & Luminous flux characteristic 2. Update all the Characteristic curve 3. Add Reliability 4. Revise Color BIN Code & Max current 5. Revise the name of datasheet	2014/01/27
4	1. Revise Order code 2. Update Characteristics 3. Update Failure criteria of Reliability 4. Add JEDEC Moisture Sensitivity	2014/04/18
5	1. Update Characteristic curve 2. Revise characteristic	2014/05/26
6	Revise Reliability	2014/08/22
7	Add CIE_x/y tolerance	2015/01/09
8	1. Add the cautions of reliability 2. Update the front page to new pattern 2. Revise the characteristic curve 3. Add Luminous flux characteristic	2017/06/19
9	Update Luminous flux characteristic Update Voltage Bin Structure	2020/03/11

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

www.edison-opto.com

For general assistance please contact:
service@edison-opto.com.tw

For technical assistance please contact:
LED.Detective@edison-opto.com.tw