

PART NUMBER:
H3YW-*22B-YA3F**

HXY 3030 Series Product is a collection of compact devices that allows for design freedom and provides a superior overall system solution when a project requires high lumen output and good efficacy. With an industry standard footprint, the HXY 3030 Series is the perfect upgrade for other 3030 products and other common mid power offerings. The HXY 3030 Series is color targeted for application needs and delivers efficacy and reliability for a variety of applications. It is available in three product offerings, HXY 3030 HE for higher output, HXY 3030 HP for lower output, and HXY 3030 HS for Special product design.



3030 HE-D (1.0W)

Product Data Summary

Product	Power Class (W)	Test Temperature (°C)	Test Current (mA)	Typical Forward Voltage	3000K,80CRI		5000K,80CRI		Maximum Current (mA)
					Typical Flux	Typical Efficacy	Typical Flux	Typical Efficacy	
H3YW-***22B-YA3F	0.7W	25 °C	120mA	5.8V	130lm	187 LPW	140lm	201 LPW	240mA
	1W	25 °C	150mA	6.0V	157.5lm	175 LPW	172.8lm	192 LPW	
	0.5W	25 °C	80mA	5.6V	91.84lm	205 LPW	98.56lm	220 LPW	
	0.2W	25 °C	30mA	5.4V	35.64lm	220 LPW	38.07lm	235 LPW	

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Product Code Information

1	2	3	-	4	5	6	7	-	8	9	10
H	30	W	-	50	8	21	B	-	Y	S	3F

Digit	PKG Information	Code	Specification
1	Company Code	H	HENGXINGYUAN(HXY)
2	Shape Code	28 30 3S 3Y	28:2835 30:3030 Round LES 3S:3030 Square LES 3Y:Symmetrical pad
3	Color	W	White
4	CCT(K)	22 27 30 40 50 57 65 00	22:2200K 27:2700K 30:3000K 40:4000K 50:5000K 57:5700K 65:6500K 00:Color led
5	CRI	7 8 9 A B C 0	70:Min.70 80:Min.80 90:Min.90 A:Min.95 B:Min.97 C:Full Spectrum 0:No CRI
6	Serial-parallel mode	21	Two-string-1 combination
7	Support Material	A B C	A:PPA B:PCT C:EMC
8 9 10	Internal Code	--	Internal Code

Product Bin and Labeling Definitions

HXY 3030 Series LEDs are labeled using digits alphanumeric CAT code following the format below:

AA-BB-CC-XX

Where:

- AA -- designates luminous flux bin (example: D2=135 to 140 lm)
- BB -- designates correlated color bin (example: 503 for 5000K parts)
- CC -- designates forward voltage bin (example: RB=5.8 to 6.0V)
- XX -- Standard Current

Therefore, a HXY 3030 HE-D LED with a lumen range of 135 to 140 lm, color bin of 503, Standard Current of 120mA and a forward voltage range of 5.8 to 6.0V has the following CAT code:

D2-503-RB-120

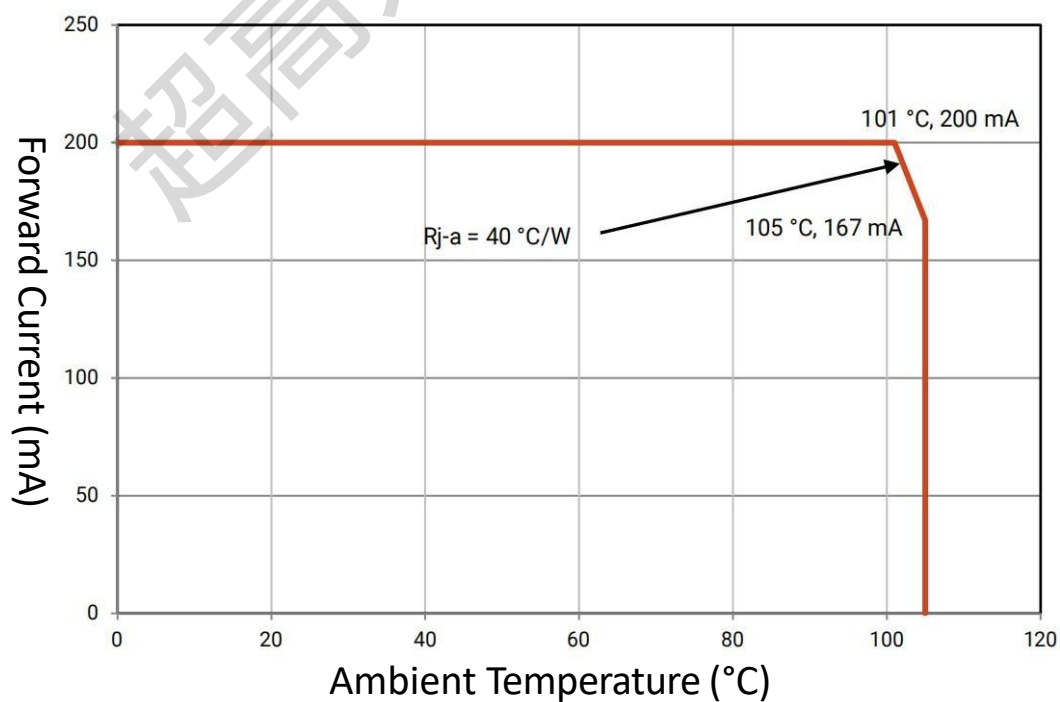
超高光效系列 HE-D

Optical Characteristics

Characteristics	Unit	Minimum	Typical	Maximum
Thermal resistance, junction to solder point	°C/W		11	
Viewing angle (FWHM)	degrees		120	
Temperature coefficient of voltage	mV/°C		-1.7	
ESD withstand voltage	V		2000	
DC forward current	mA			240
Reverse voltage	V			5
Forward voltage (@ 120mA, 25 °C)	V		5.8	6.0
LED junction temperature	°C			125
Operating temperature	°C	-40		105

Operating Limits

The maximum forward current is determined by the thermal resistance between the LED junction and ambient.



Performance Characteristics

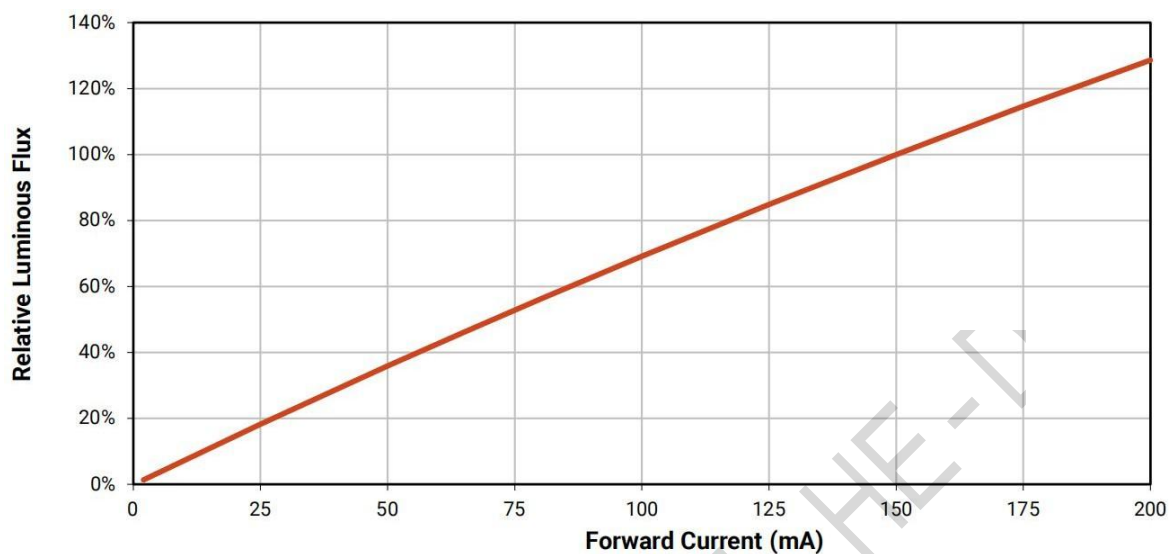
Product performance of HXY 3030 HE-D at specified test conditions.

Product	Nominal CCT	Min. CRI	Luminous Flux(lm)		Typical Luminous Efficacy (lm/W)	Test Current (mA)	Part Number
			Minimum	Typical			
3030 HE-D 6V 120mA	2700K	70	134	137	195	120	H3YW-27722B-YA3F
	3000K	70	135	138	196	120	H3YW-30722B-YA3F
	4000K	70	141	147	210	120	H3YW-40722B-YA3F
	5000K	70	135	149	213	120	H3YW-50722B-YA3F
	5700K	70	143	149	213	120	H3YW-57722B-YA3F
	6500K	70	143	149	213	120	H3YW-65722B-YA3F
	2200K	80	122	125	178	120	H3YW-22822B-YA3F
	2700K	80	127	130	186	120	H3YW-27822B-YA3F
	3000K	80	128	131	187	120	H3YW-30822B-YA3F
	4000K	80	136	141	200	120	H3YW-40822B-YA3F
	5000K	80	137	142	201	120	H3YW-50822B-YA3F
	5700K	80	137	142	201	120	H3YW-57822B-YA3F
	6500K	80	137	142	201	120	H3YW-65822B-YA3F
	2700K	90	114	118	167	120	H3YW-27922B-YA3F
	3000K	90	117	120	171	120	H3YW-30922B-YA3F
	4000K	90	125	129	184	120	H3YW-40922B-YA3F
	5000K	90	126	130	186	120	H3YW-50922B-YA3F

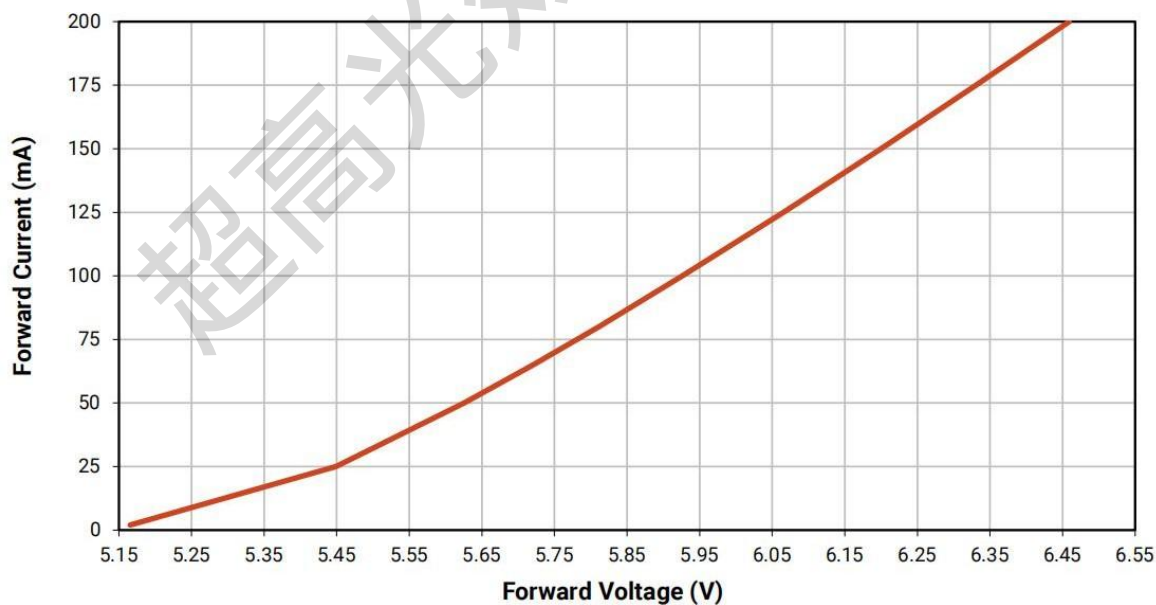
Note:

HXY maintains a tolerance of ± 2 on CRI and $\pm 7.5\%$ on luminous flux measurements.

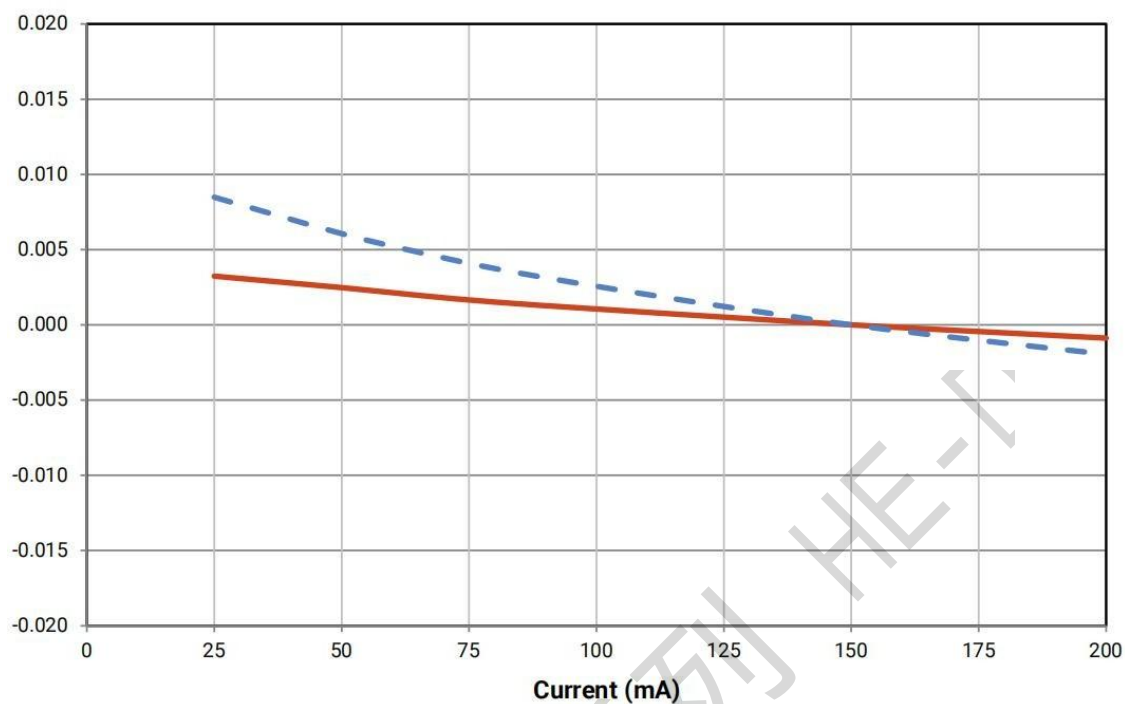
Relative Luminous Flux vs. Current



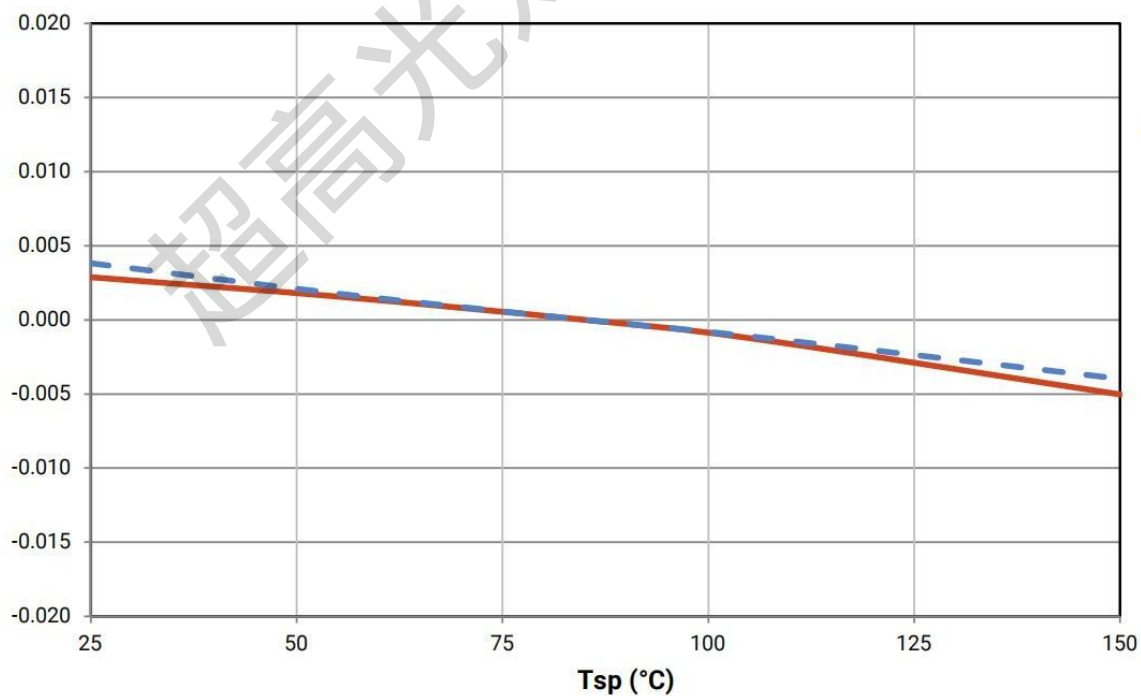
Electrical Characteristics



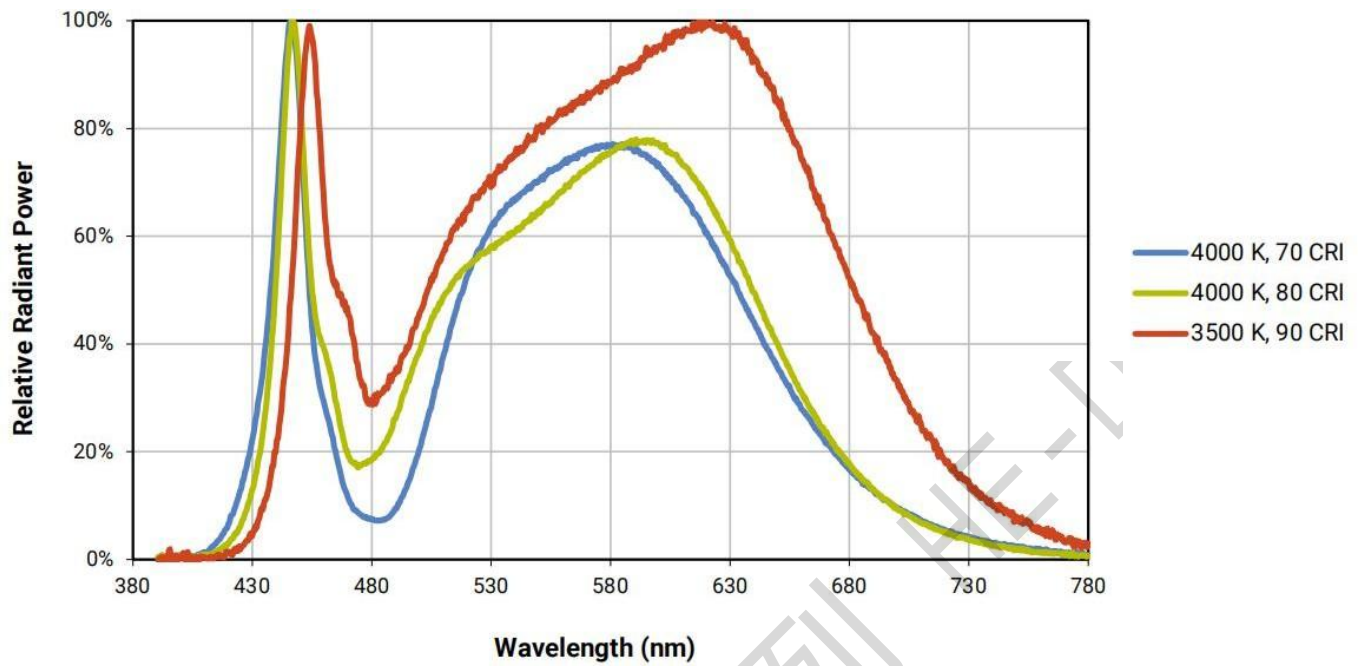
Relative Chromaticity vs. Current



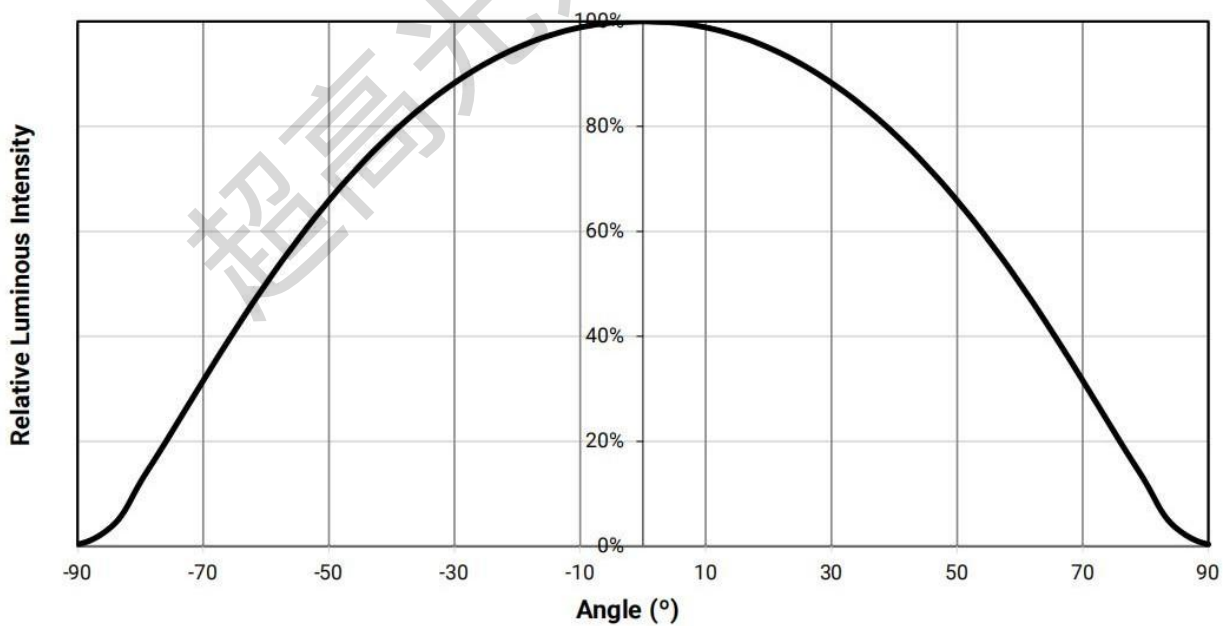
Relative Chromaticity vs. Temperature



Relative Spectral Power Distribution



Typical Spatial Distribution



Performance Groups - Luminous Flux (T_j= 25 °C)

6-V LEDs are tested for luminous flux at 120 mA and placed into one of the following luminous-flux groups.

Group Code	Minimum Luminous Flux (lm)	Maximum Luminous Flux (lm)
B2	115	120
C1	120	125
C2	125	130
D1	130	135
D2	135	140
E1	140	145
E2	145	150
F1	150	155

Note:

HXY maintains a tolerance of $\pm 7.5\%$ on luminous flux measurements.

Performance Groups - Forward Voltage (T_a=25 °C)

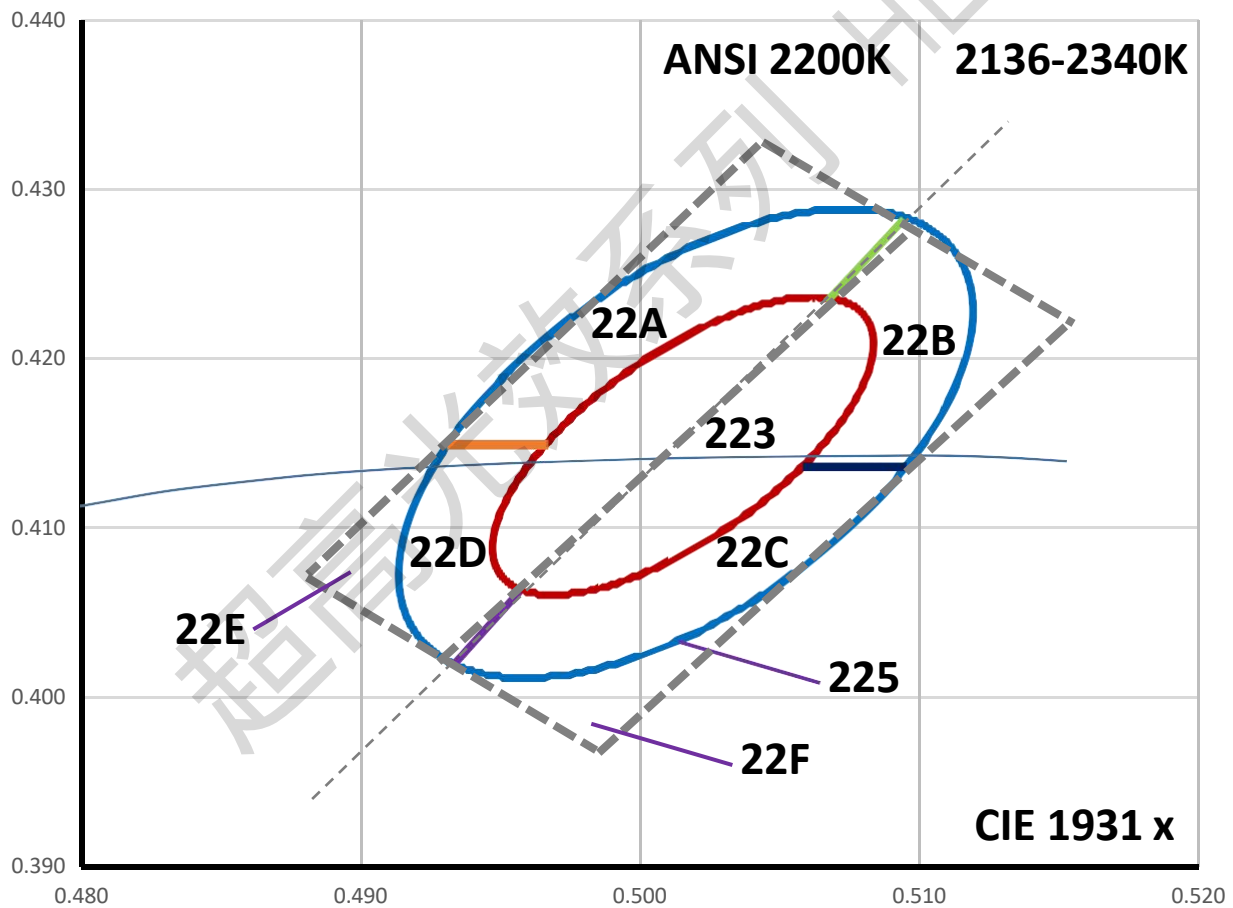
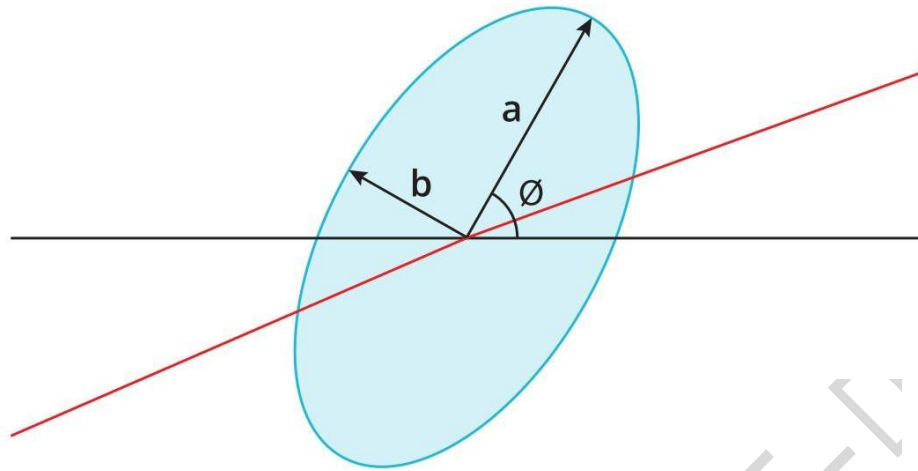
The following voltage bins are indicated in the Forward Voltage Bin field in the bin code for 3030 6-V LEDs.

Voltage Bin	Minimum Forward Voltage (V)	Maximum Forward Voltage (V)
RA	5.6	5.8
RB	5.8	6.0
RC	6.0	6.2

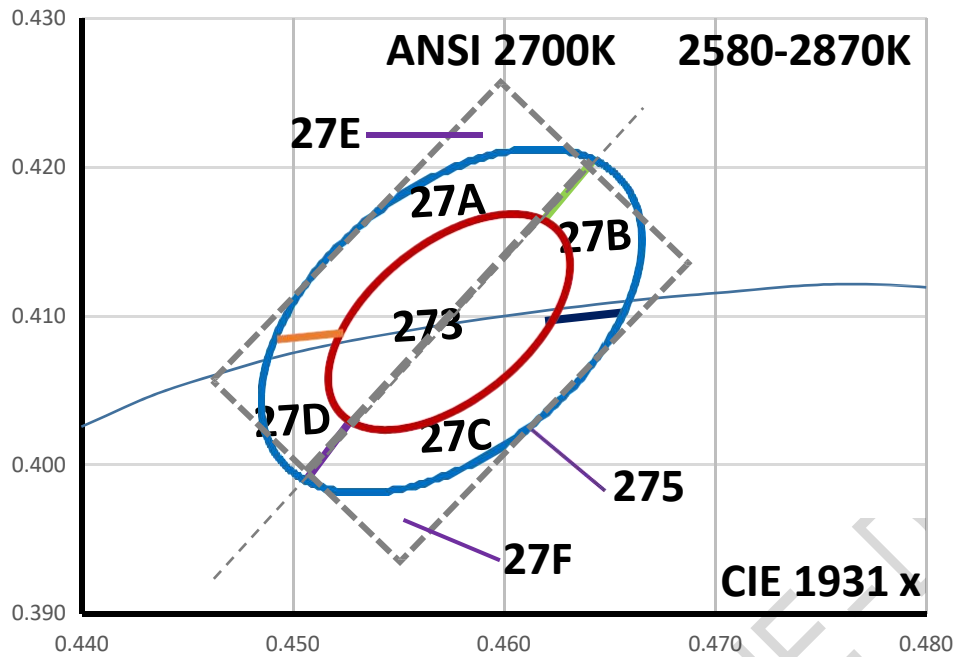
Note:

HXY maintains a tolerance of $\pm 0.10V$ on forward voltage measurements.

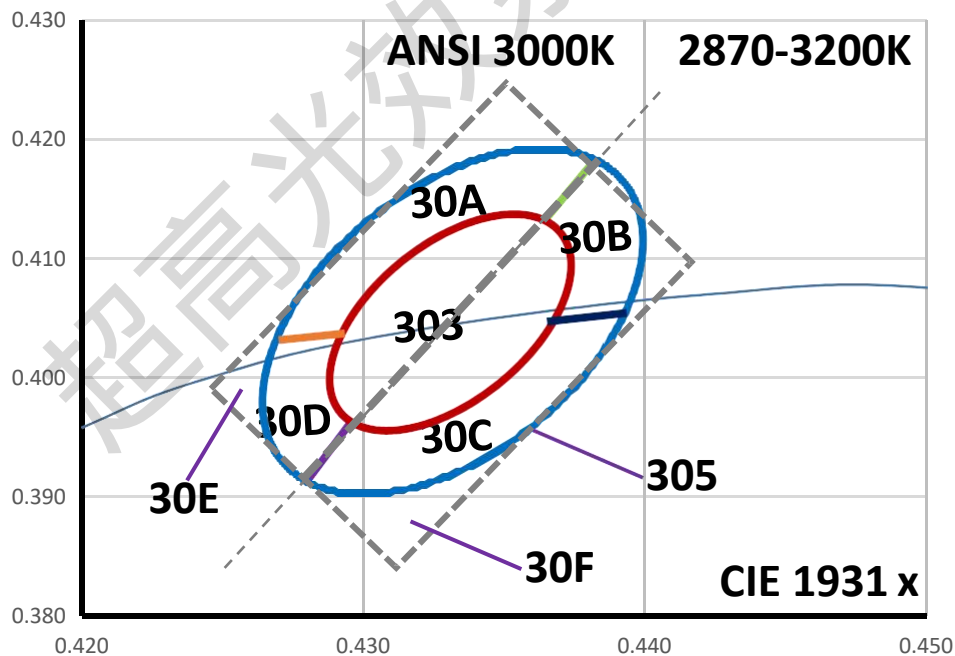
Color Bin Definition



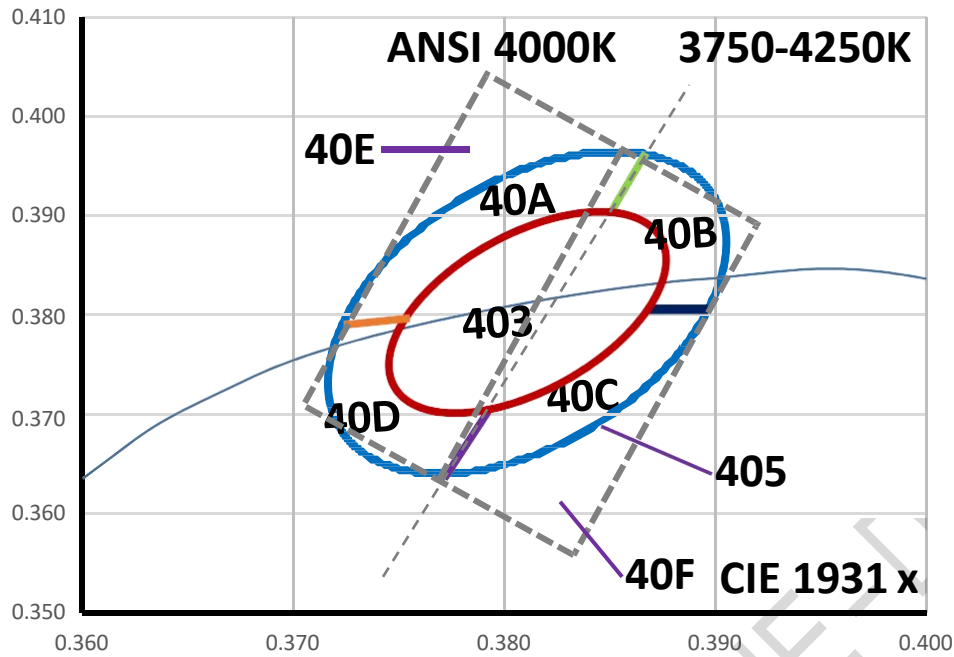
Nominal CCT	Color Space	CENTER POINT (cx, cy)	Major Axis, a	Minor Axis, b	Ellipse Rotation Angle, θ
2200K	3-step MacAdam	(0.5018, 0.4153)	0.00863	0.00398	49.27°
2200K	5-step MacAdam	(0.5018, 0.4153)	0.01438	0.00663	49.27°



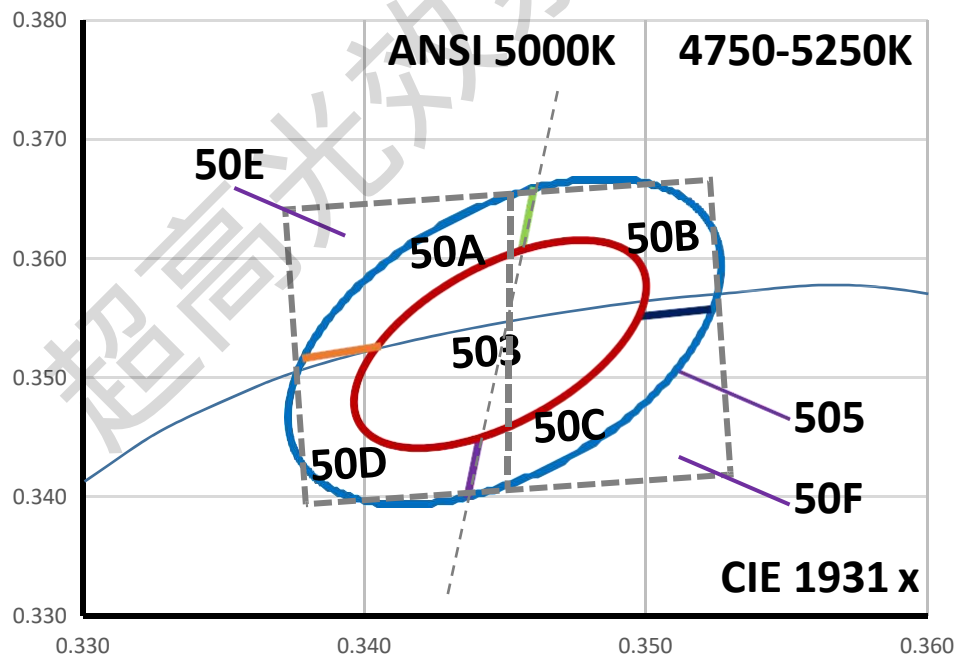
Nominal CCT	Color Space	CENTER POINT (cx, cy)	Major Axis, a	Minor Axis, b	Ellipse Rotation Angle, Θ
2700K	3-step MacAdam	(0.4578, 0.4101)	0.00810	0.00420	53.70°
2700K	5-step MacAdam	(0.4578, 0.4101)	0.01350	0.00700	53.70°



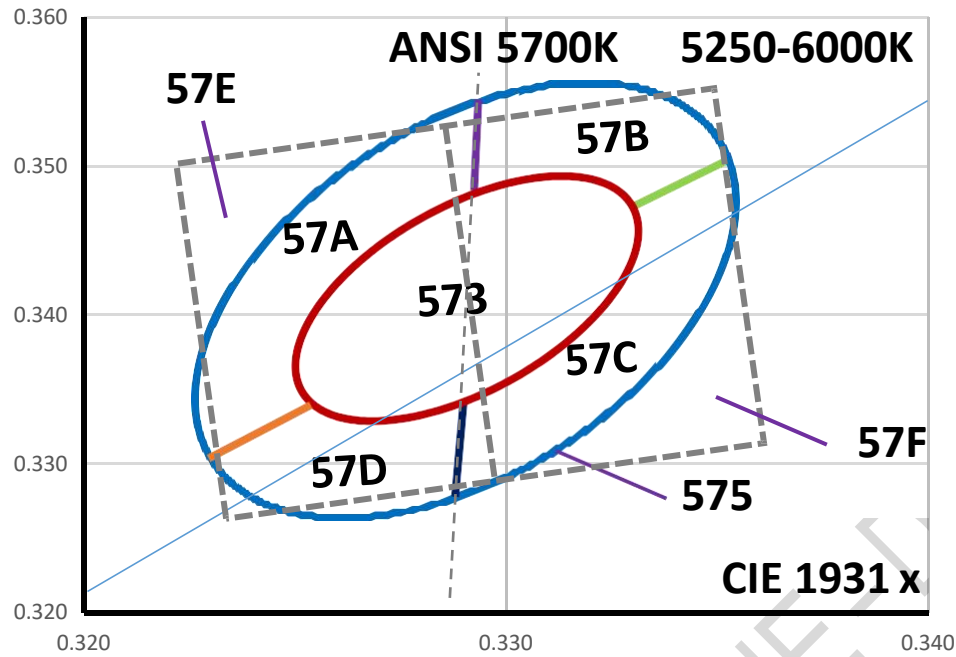
Nominal CCT	Color Space	CENTER POINT (cx, cy)	Major Axis, a	Minor Axis, b	Ellipse Rotation Angle, Θ
3000K	3-step MacAdam	(0.4338, 0.4030)	0.00834	0.00408	53.22°
3000K	5-step MacAdam	(0.4338, 0.4030)	0.01390	0.00680	53.22°



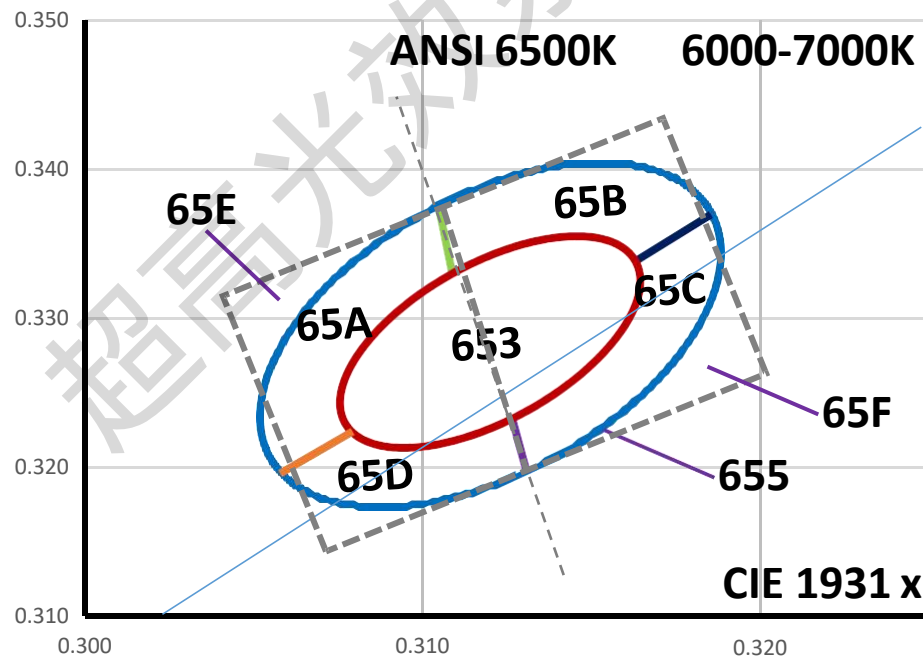
Nominal CCT	Color Space	CENTER POINT (cx, cy)	Major Axis, a	Minor Axis, b	Ellipse Rotation Angle, θ
4000K	3-step MacAdam	(0.3818, 0.3797)	0.00939	0.00402	53.72°
4000K	5-step MacAdam	(0.3818, 0.3797)	0.01565	0.00670	53.72°



Nominal CCT	Color Space	CENTER POINT (cx, cy)	Major Axis, a	Minor Axis, b	Ellipse Rotation Angle, θ
5000K	3-step MacAdam	(0.3447, 0.3553)	0.00822	0.00354	59.62°
5000K	5-step MacAdam	(0.3447, 0.3553)	0.00822	0.00590	59.62°

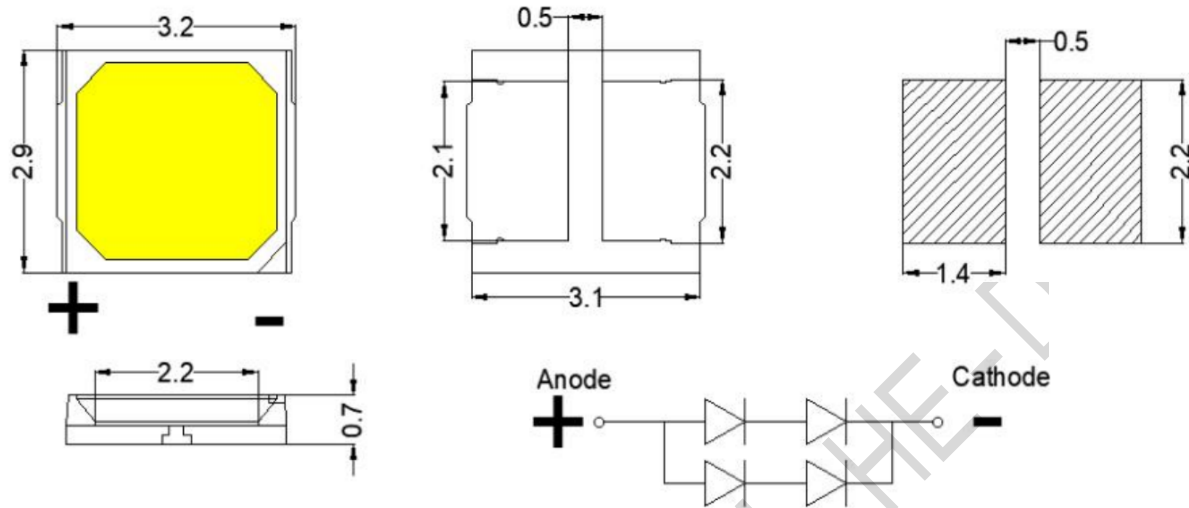


Nominal CCT	Color Space	CENTER POINT (cx, cy)	Major Axis, a	Minor Axis, b	Ellipse Rotation Angle, θ
5700K	3-step MacAdam	(0.3287, 0.3417)	0.00746	0.00320	59.09°
5700K	5-step MacAdam	(0.3287, 0.3417)	0.01243	0.00533	59.09°



Nominal CCT	Color Space	CENTER POINT (cx, cy)	Major Axis, a	Minor Axis, b	Ellipse Rotation Angle, θ
6500K	3-step MacAdam	(0.3123, 0.3282)	0.00669	0.00285	58.57°
6500K	5-step MacAdam	(0.3123, 0.3282)	0.01115	0.00475	58.57°

Mechanical Dimensions

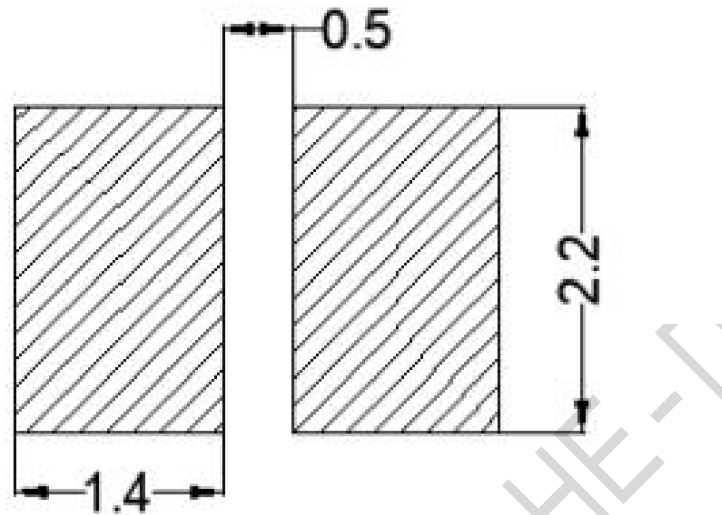


Item	Description
Package Materials	PCT
Electrodes Materials	Ag-plated Copper Alloy
Wire Material	Alloy Wire
Chip	22*35mil

Note:

1. Drawings are not to scale.
2. All dimensions are in millimeters.

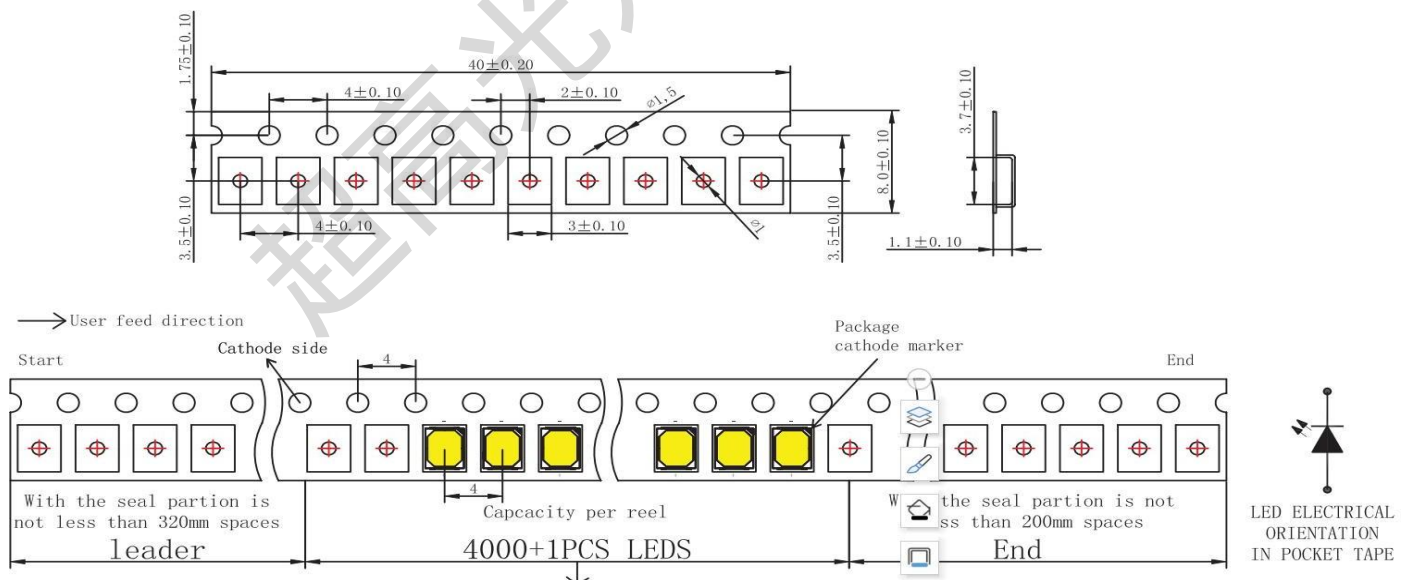
Solder Pad Design



Note:

1. Drawings are not
2. All dimensions are in millimeters.

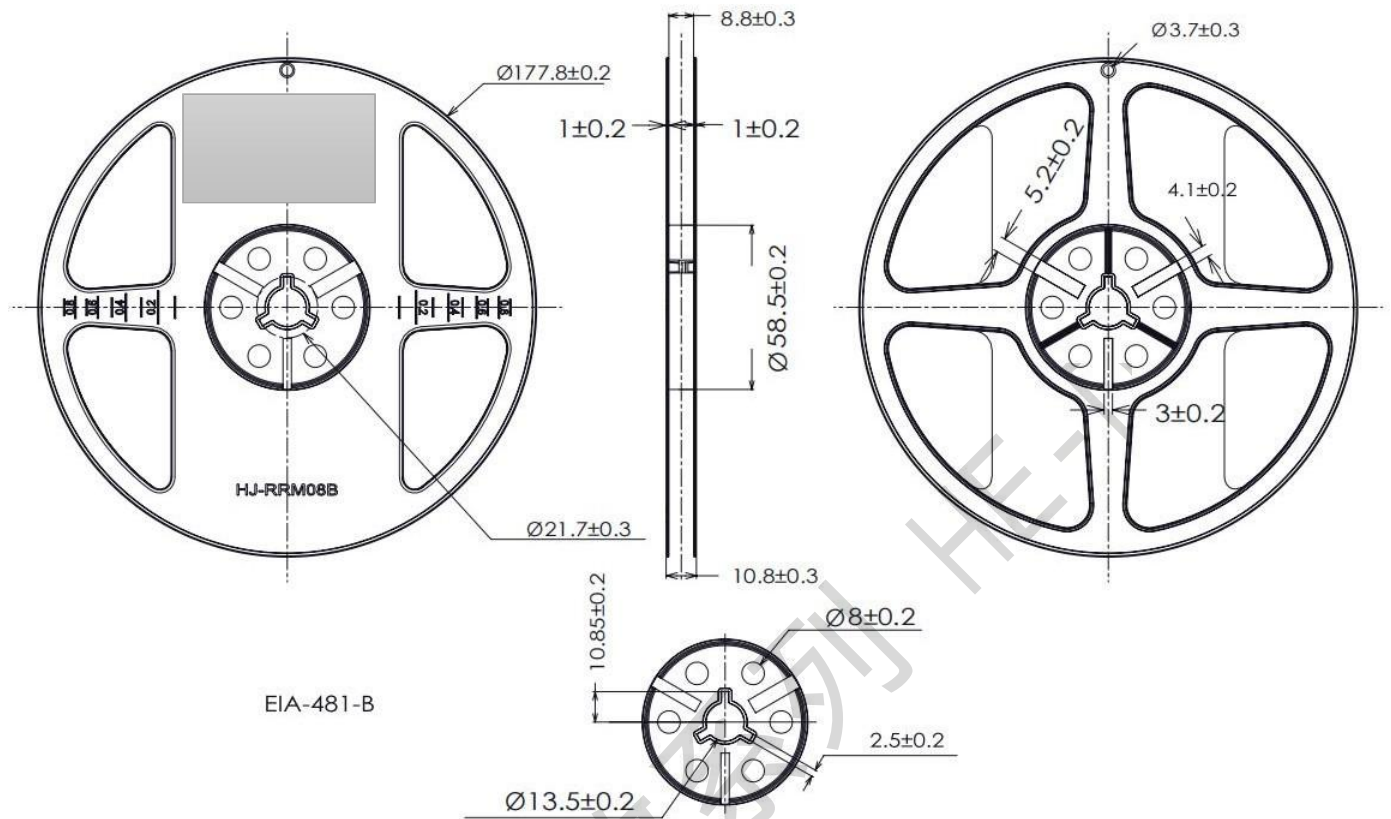
Packaging Information



Note:

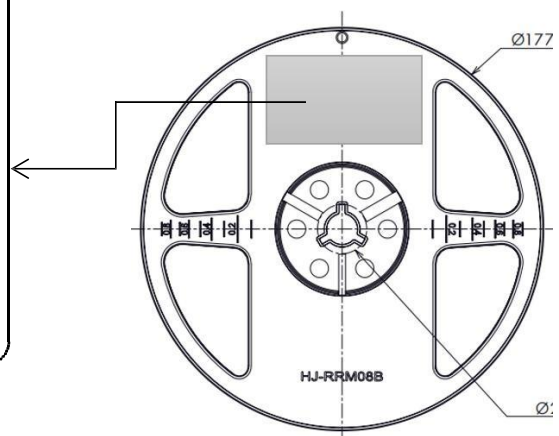
1. Drawings are not to scale.
2. All dimensions are in millimeters.

Reel Dimensions



Label Structure

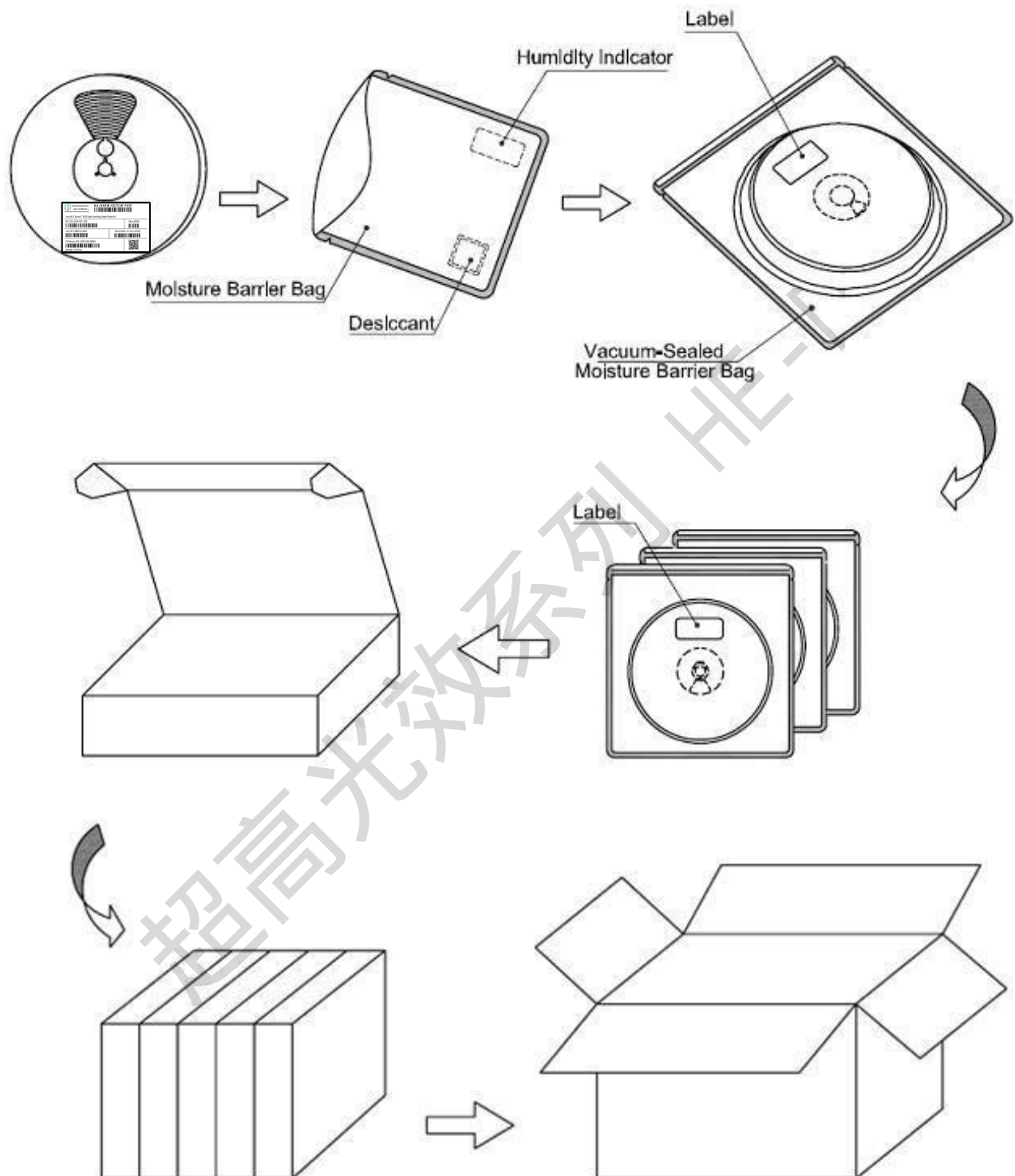
HENGXINGYUAN LED COMPANY™		Kit: H30W-65721B-YS3F	
Hxy HE-C Series™ 3030 Light Emitting Diode White 6V			
Bin: D2 65E B2 120		Qty: 4000	
Lot ID: 190611L0C1		Seal Date: 11-Jun-2019	
PO Num: PO-2019-06-0005			
Made in China			



Bin Code:

- (a): Luminous Flux bin (refer to page 10)
- (b): Chromaticity bin (refer to page 11-14)
- (c): Forward Voltage bin (refer to page 10)
- (d): Standard Current(example: 120=120mA;60=60mA)

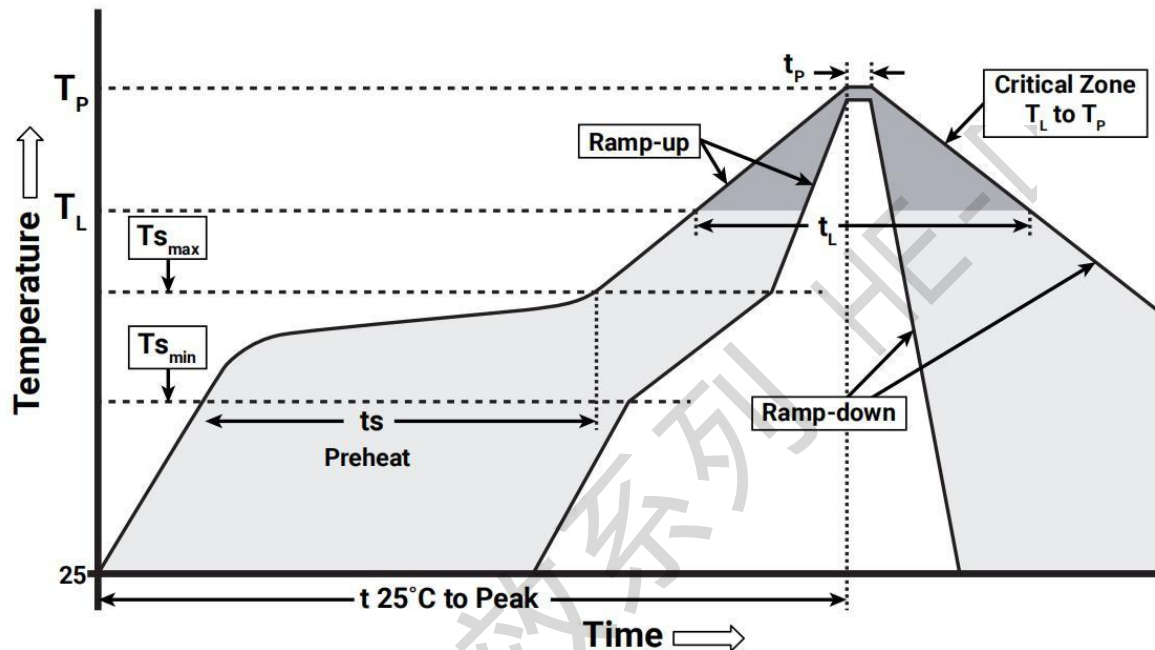
Packing Process (The quantity of PKG on the Reel to be Max 4,000 pcs)



Performance Groups - Luminous Flux ($T_j = 25\text{ }^{\circ}\text{C}$)

As a general guideline, CreeVenture recommends that users follow the recommended soldering profile provided by the manufacturer of the solder paste used, and therefore it is the lamp or luminaire manufacturer's responsibility to determine applicable soldering requirements.

Note that this general guideline may not apply to all PCB designs and configurations of reflow soldering equipment.



Profile Feature	Lead-Free Solder
Temperature Min. (T_{smin})	150 °C
Temperature Max. (T_{smax})	200 °C
Time (t_s) from T_{smin} to T_{smax}	60-120 seconds
Ramp-Up Rate (T_L to T_P)	3 °C/second
Liquidus Temperature (T_L)	217°C
Time (t_L) Maintained Above T_L	60-150 seconds
Peak Package Body Temperature (T_P)	260 °C max.
Time (t_p) Within 5 °C of the Specified Classification Temperature (T_c)	30 seconds max.
Ramp-Down Rate (T_P to T_L)	6 °C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

Note: All temperatures refer to the topside of the package, measured on the package body surface.

About Hengxingyuan

Hengyuanyuan Technology's LED products pursue high efficiency, high quality, and high reliability, and aim to meet the needs of customers to the greatest extent. With the supply of high-standard supply chain services as the driving force, they contribute to the development of global LED green and healthy lighting power.

To learn more about our lighting solutions, visit hxyleds.com

超高光效系列 HE-1