QP系列产品规格书

GS-QP serises SPECIFICATION

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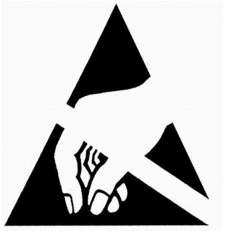
一、产品概述 Product overview

1.产品型号命名原则 Part code

GSCOBWXX-750W30-CQP14

① ② ③ ④ ⑤ ⑥

① 光硕代码 Greatshine code
② 光源类型 Light type
③ 色温 27-2700K、30-3000K・・・
Color temperature 27-2700K、30-3000K・・・
④ 额定电流 Rated current
⑤ 额定功率 Rated power
⑥ 光源系列
Series of light source



注意 ATTENTION
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES
请勿裸手接触器件

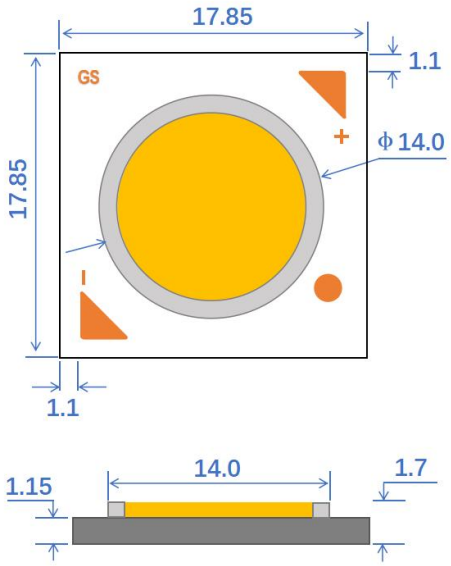
2.特点 Features

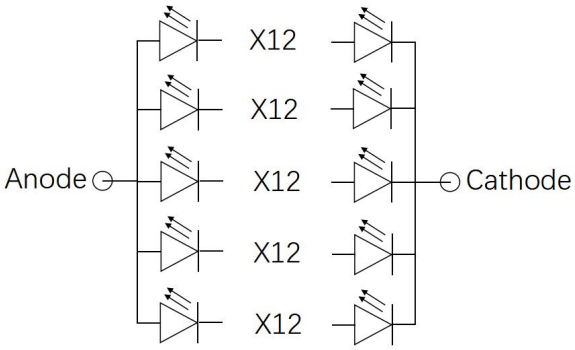
全光谱 COB 光源
Full-spectral COB light source
显色指数：98
CRI：98
高流明输出
High lumen output
手工焊接
Manual Soldering

3.应用 Applications

商超照明 Business super lighting
博物馆照明 Museum lighting
酒店照明 Hospitality Lighting
护眼灯 Eye lamp
建筑和专业照明 Architectural and Specialty Lighting

4. 封装尺寸 Package Dimensions





Concatenation: 12S5P

尺寸公差为 ±0.3 毫米除非另有说明

Tolerance unless otherwise specified: ±0.3mm

5. 性能 Performance

(1) 绝对最大额定值 Absolute Maximum Ratings

参数 Parameter	符号Symbol	值 Value	单 位 Units
输入功率 Input Power	Pi	42.5	W
直流正向电流 DC Forward Current	I_F	1125	mA
反向电流 Reverse Current	I_R	0.5	mA
工作温度 Operating Temperature	T_{op}	-35°C To +100	°C
储藏温度 Storage Temperature	T_{st}	-40°C To +100	°C
结温 Junction Temperature	T_j	125	°C
表面温度 Case Temperature	T_C	105	°C

注意： Notes

1、LED 的工作电流不能超过直流正向电流。

DC forward current should not exceed LED's operating current.

2、使用时应当适当的降低工作电流，以保证结温始终低于最大值。

Proper current derating must be observed to maintain junction temperature below the maximum at all time.

3、直流电流下结温 D.C Current:$T_j=T_C+R_{j-C}\times Pi$

(2) 光电参数（Tc=25℃）

Photoelectric parameters

参 数 Parameter	符号Symbol	条件 Condition	Min.	Typ.	Max.	LM/W（Typ.）	单位 Unit
正向电压 Forward Voltage	VF	IF=750mA	34.0	36.5	38.0	—	V
光通量 Luminous Flux	Φv	TC=2700K	2150	2400	2800	88	Lm
		TC=3000K	2300	2550	2900	93	
		TC=3500K	2350	2600	2950	95	
		TC=4000K	2550	2790	3150	102	
		TC=4500K	2550	2790	3150	102	
		TC=5000K	2550	2790	3150	102	
		TC=5700K	2550	2790	3150	102	
		TC=6500K	2500	2750	3100	100	
显色指数 CRI	Ra	IF=750mA	97	98	—	—	—
显色指数 CRI	R9	IF=750mA	85	—	—	—	—
热阻 Thermal Resistance	R（j-c）	IF=750mA	—	1.7	—	—	°C/W

1、不同标准源测试存在仪器公差：电压±3%；光通量±10%；Ra、R9 和 R12±2。

The instrument tolerance of different light source test standards: voltage±3%;luminous flux±10%;Ra, R9 and R12±-2.

2、色坐标的测量误差允许在±0.005。

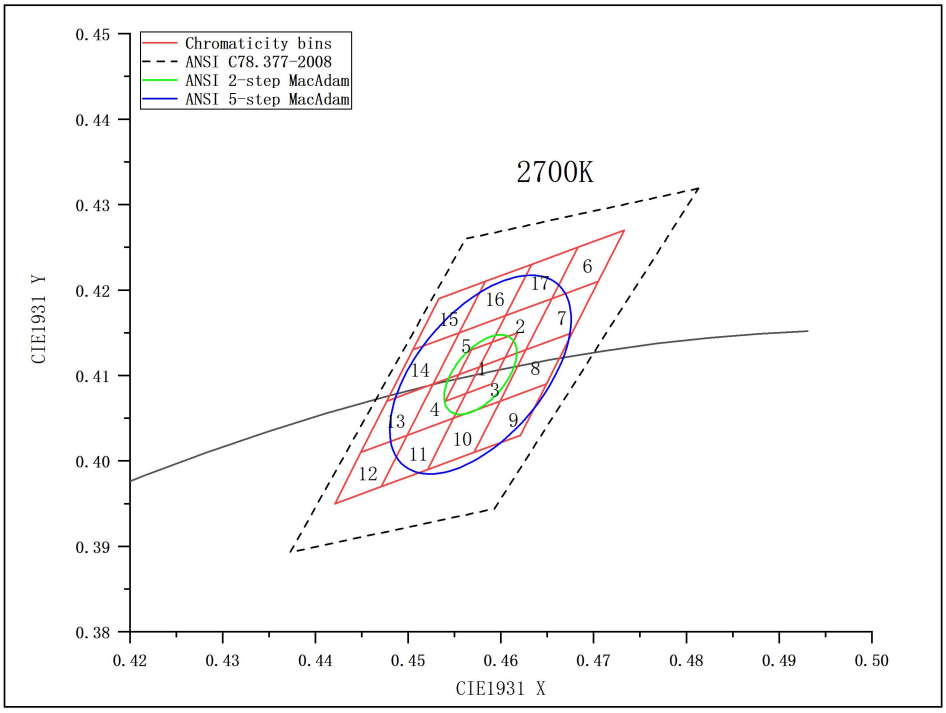
Tolerence of ±0.005 on x,y coordinates.

二、产品分级 Product bins

下表描述了各色温中心点、麦克亚当椭圆的方向角以及椭圆的最大半径。ANSI 分 Bin 以供参考。

The following tables describe the chromaticity bin center point, the orientation angle for the MacAdam ellipse, and the maximum radii for the ellipses. the ANSI Bin is provided for reference

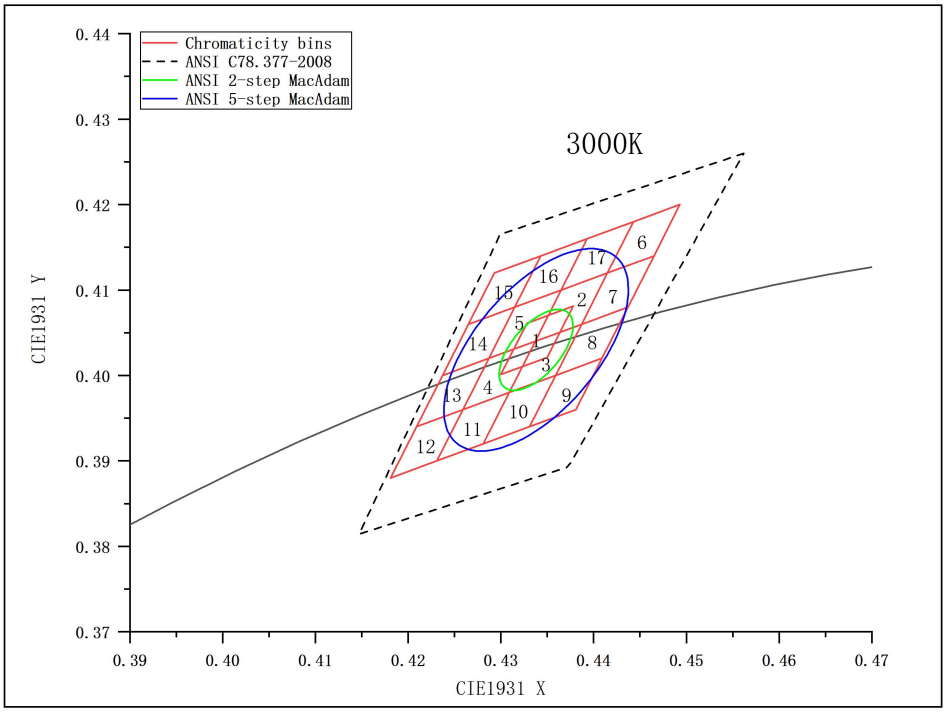
Nominal	Center Point		MAJOR AXIS(a,b)			Angle(θ)
CCT	X	Y	2 step	3step	5step	
2700K	0.4578	0.4101	0.0054，0.0028	0.0081，0.0042	0.0135，0.0070	53.7°
3000K	0.4339	0.4033	0.0055，0.0027	0.0083，0.0041	0.0138，0.0068	53.2°
3500K	0.4078	0.3930	0.0061，0.0028	0.0093，0.0041	0.0153，0.0070	52.5°
4000K	0.3818	0.3797	0.0062，0.0026	0.0094，0.0040	0.0155，0.0065	53.7°
4500K	0.3613	0.3670	0.0062，0.0026	0.0094，0.0040	0.0155，0.0065	53.7°
5000K	0.3446	0.3551	0.0055，0.0028	0.0082，0.0035	0.0138，0.0070	59.6°
5700K	0.3287	0.3425	0.0054，0.0024	0.0075，0.0032	0.0135，0.0060	59.6°
6500K	0.3123	0.3283	0.0045，0.0020	0.0067，0.0029	0.0113，0.0050	58.2°



不同 BIN 号对应标签色温与色温范围。

Different BIN correspond to the CCT and CCT range .

标称色温 CCT	BIN	色温范围 CCT range	标称色温 CCT	BIN	色温范围 CCT range
2700K	1：2700	2680-2780K	2700K	10：2709	2640-2740K
2700K	2：2701	2640-2740K	2700K	11：2710	2720-2820K
2700K	3：2702	2640-2740K	2700K	12：2711	2750-2850K
2700K	4：2703	2720-2820K	2700K	13：2712	2750-2850K
2700K	5：2704	2720-2820K	2700K	14：2713	2750-2850K
2700K	6：2705	2600-2700K	2700K	15：2714	2750-2850K
2700K	7：2706	2600-2700K	2700K	16：2715	2720-2820K
2700K	8：2707	2600-2700K	2700K	17：2716	2640-2740K
2700K	9：2708	2600-2700K			



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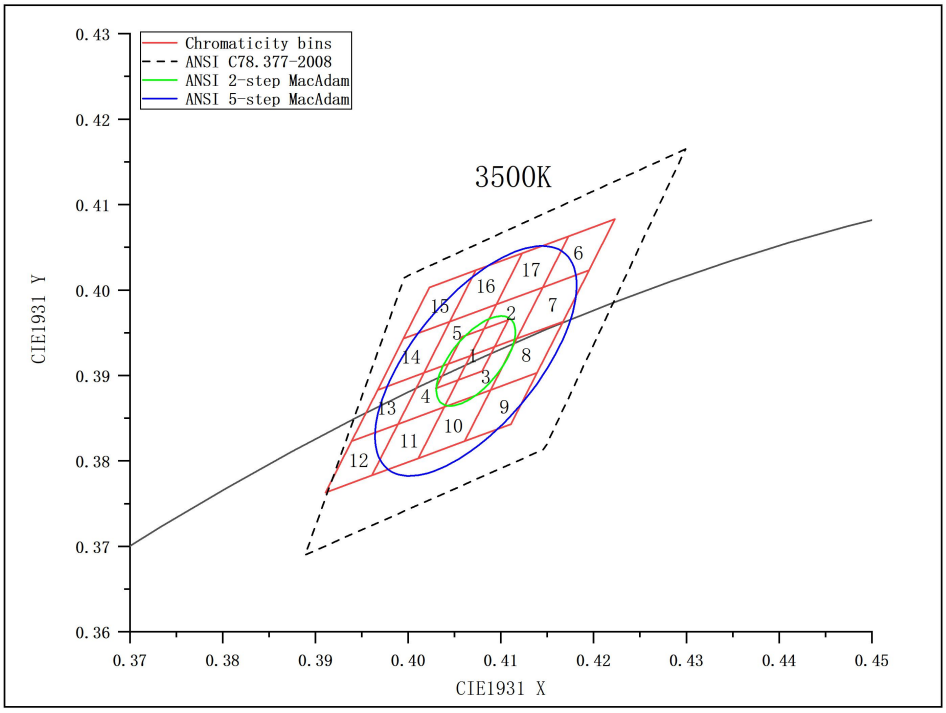
标称色温 CCT	BIN	色温范围 CCT range	标称色温 CCT	BIN	色温范围 CCT range
3000K	1：3000	3000-3100K	3000K	10：3009	3040-3140K
3000K	2：3001	2960-3060K	3000K	11：3010	3040-3140K
3000K	3：3002	2960-3060K	3000K	12：3011	3100-3200K
3000K	4：3003	3040-3140K	3000K	13：3012	3100-3200K
3000K	5：3004	3040-3140K	3000K	14：3013	3100-3200K
3000K	6：3005	2900-3000K	3000K	15：3014	3100-3200K
3000K	7：3006	2900-3000K	3000K	16：3015	3040-3140K
3000K	8：3007	2900-3000K	3000K	17：3016	3040-3140K
3000K	9：3008	2900-3000K			



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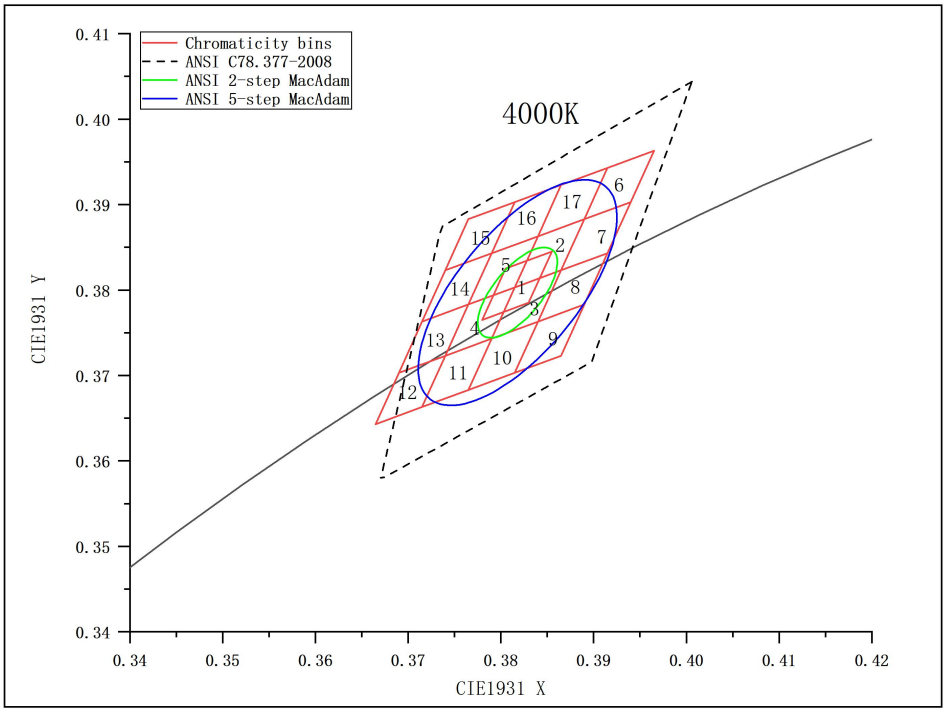
Different BIN correspond to the CCT and CCT range .

标称色温 CCT	BIN	色温范围 CCT range	标称色温 CCT	BIN	色温范围 CCT range
3500K	1：3500	3440-3560K	3500K	10：3509	3380-3500K
3500K	2：3501	3380-3530K	3500K	11：3510	3490-3640K
3500K	3：3502	3380-3530K	3500K	12：3511	3580-3730K
3500K	4：3503	3470-3620K	3500K	13：3512	3550-3700K
3500K	5：3504	3470-3620K	3500K	14：3513	3550-3700K
3500K	6：3505	3280-3400K	3500K	15：3514	3550-3700K
3500K	7：3506	3280-3400K	3500K	16：3515	3460-3580K
3500K	8：3507	3280-3400K	3500K	17：3516	3380-3500K
3500K	9：3508	3280-3400K			



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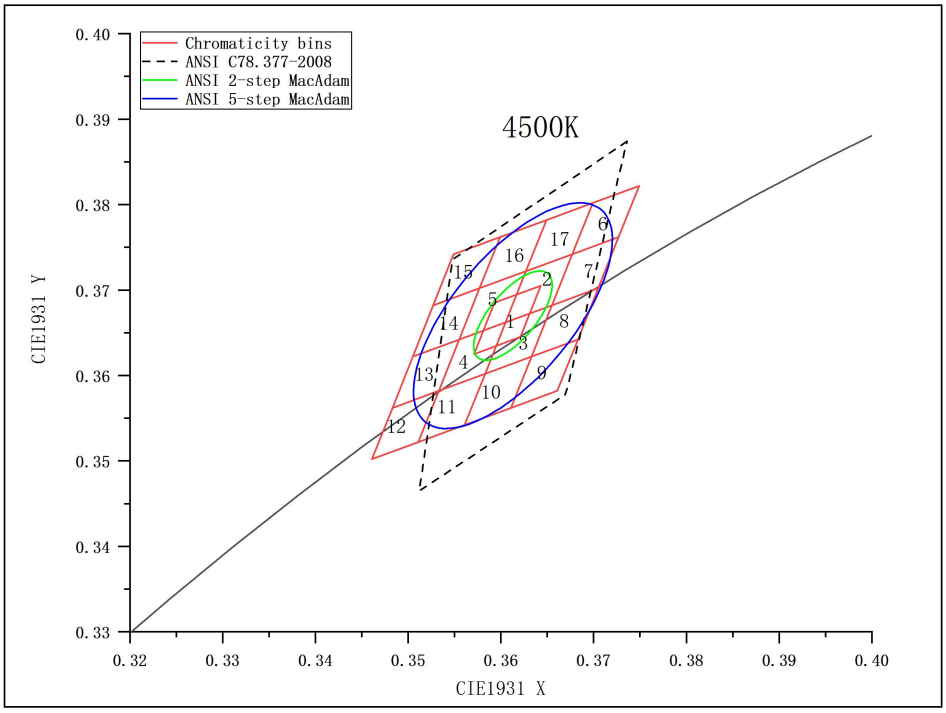
Different BIN correspond to the CCT and CCT range .

标称色温 CCT	BIN	色温范围 CCT range	标称色温 CCT	BIN	色温范围 CCT range
4000K	1：4000	3900-4100K	4000K	10：4009	3850-4050K
4000K	2：4001	3850-4050K	4000K	11：4010	3980-3180K
4000K	3：4002	3850-4050K	4000K	12：4011	4100-4300K
4000K	4：4003	3980-3180K	4000K	13：4012	4100-4300K
4000K	5：4004	3980-3180K	4000K	14：4013	4100-4300K
4000K	6：4005	3720-3920K	4000K	15：4014	4100-4300K
4000K	7：4006	3720-3920K	4000K	16：4015	3980-3180K
4000K	8：4007	3720-3920K	4000K	17：4016	3850-4050K
4000K	9：4008	3720-3920K			



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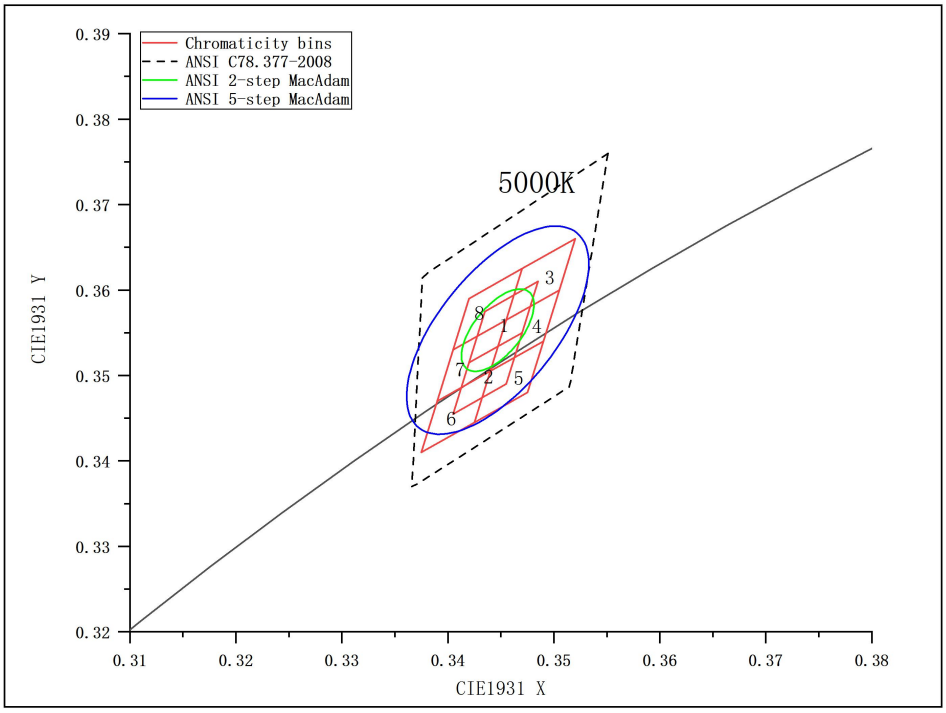
Different BIN correspond to the CCT and CCT range .

标称色温 CCT	BIN	色温范围 CCT range	标称色温 CCT	BIN	色温范围 CCT range
4500K	1：4500	4400-4600K	4500K	10：4509	4200-4450K
4500K	2：4501	4350-4550K	4500K	11：4510	4350-4550K
4500K	3：4502	4350-4550K	4500K	12：4511	4700-4900K
4500K	4：4503	4500-4700K	4500K	13：4512	4650-4850K
4500K	5：4504	4500-4700K	4500K	14：4513	4600-4800K
4500K	6：4505	4200-4400K	4500K	15：4514	4600-4800K
4500K	7：4506	4200-4450K	4500K	16：4515	4550-4750K
4500K	8：4507	4200-4450K	4500K	17：4516	4400-4600K
4500K	9：4508	4200-4450K			



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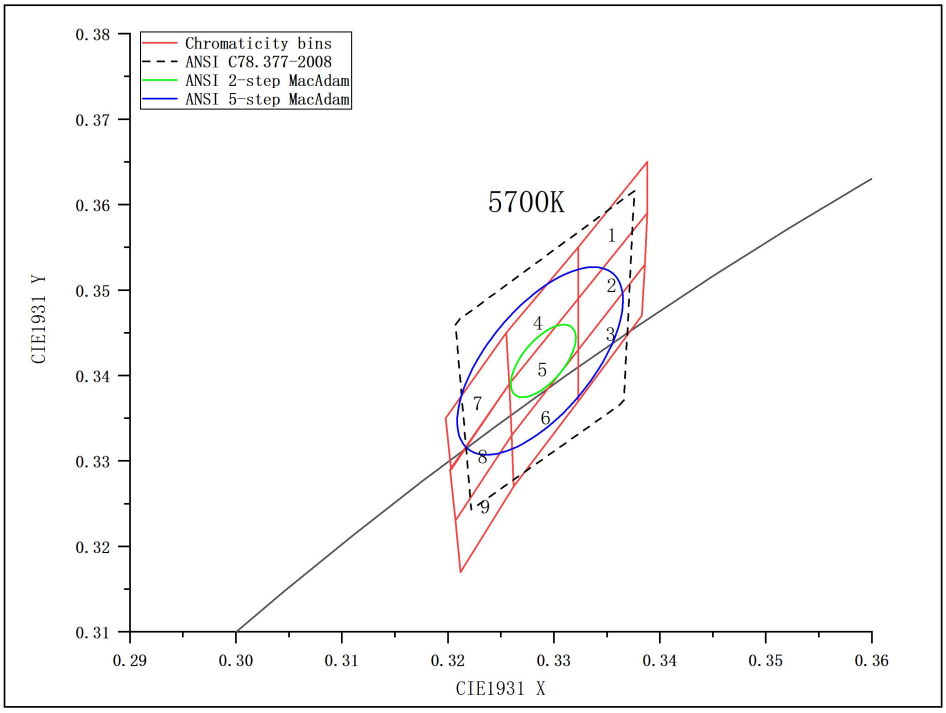
Different BIN correspond to the CCT and CCT range .

标称色温 CCT	BIN	色温范围 CCT range	标称色温 CCT	BIN	色温范围 CCT range
5000K	1：5000	4850-5150K	5000K	5：5004	4850-5150K
5000K	2：5001	4900-5200K	5000K	6：5005	5100-5300K
5000K	3：5002	4750-5050K	5000K	7：5006	5000-5300K
5000K	4：5003	4750-5050K	5000K	8：5007	4950-5250K



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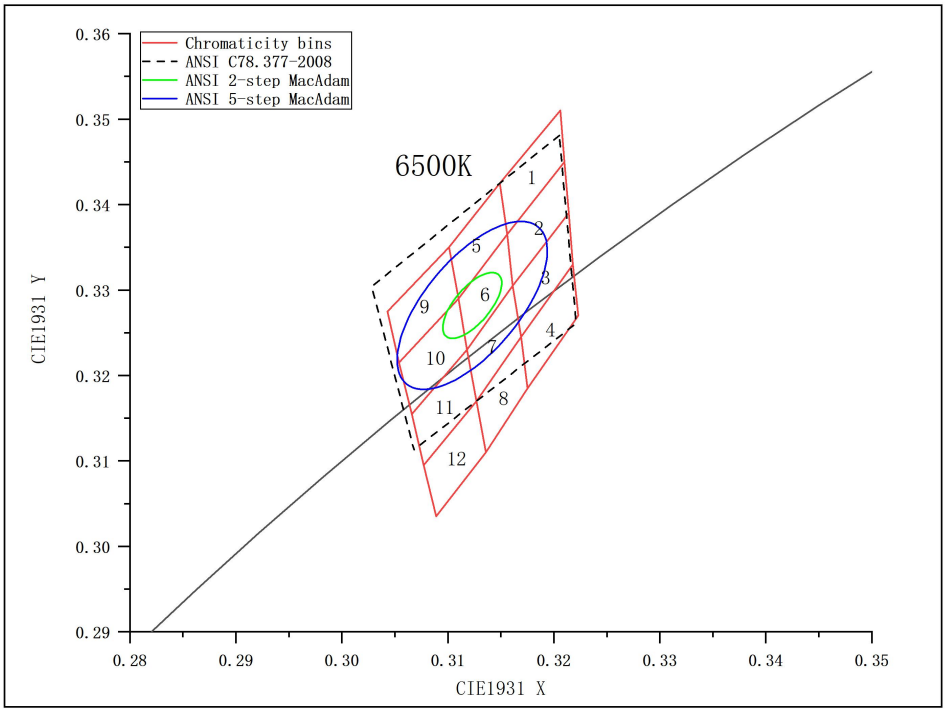
Different BIN correspond to the CCT and CCT range .

标称色温 CCT	BIN	色温范围 CCT range	标称色温 CCT	BIN	色温范围 CCT range
5700K	1：57A01	5250-5550K	5700K	6：57B03	5500-5800K
5700K	2：57A02	5250-5550K	5700K	7：57C01	5800-6100K
5700K	3：57A03	5250-5550K	5700K	8：57C02	5800-6100K
5700K	4：57B01	5500-5800K	5700K	9：57C03	5800-6100K
5700K	5：57B02	5500-5800K			



不同 BIN 号对应标签色温与色温范围。

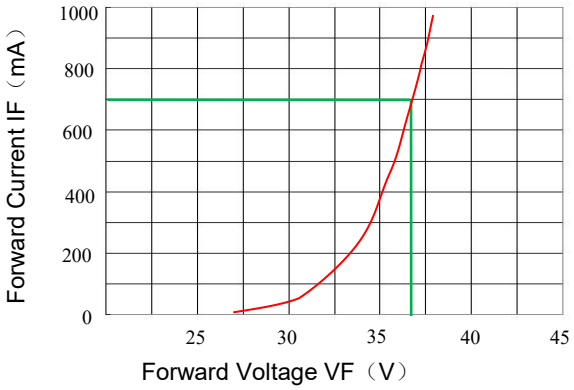
Different BIN number correspond to the CCT and CCT range .

标称色温 CCT	BIN	色温范围 CCT range	标称色温 CCT	BIN	色温范围 CCT range
6500K	1：65A01	6000-6300K	6500K	7：65B03	6300-6600K
6500K	2：65A02	6000-6300K	6500K	8：65B04	6300-6600K
6500K	3：65A03	6000-6300K	6500K	9：65C01	6600-7000K
6500K	4：65A04	6000-6300K	6500K	10：65C02	6600-7000K
6500K	5：65B01	6300-6600K	6500K	11：65C03	6600-7000K
6500K	6：65B02	6300-6600K	6500K	12：65C04	6600-7000K

三、光电特性曲线 Electro-Optical Characteristics

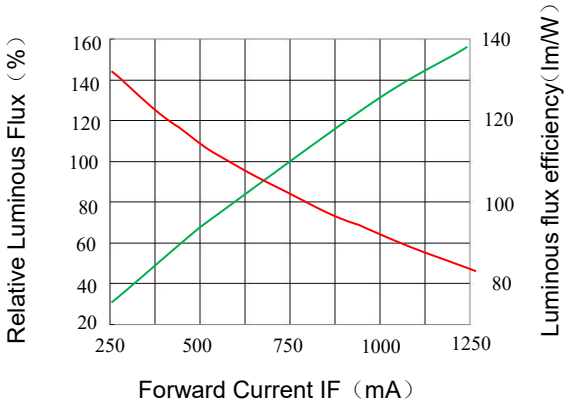
正向电流与正向电压曲线图

Forward Current VS. Relative Forward Voltage



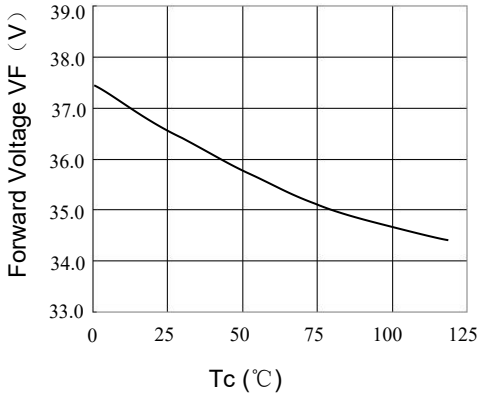
正向电流与相对光通量曲线图

Forward Current VS. Relative Luminous Flux



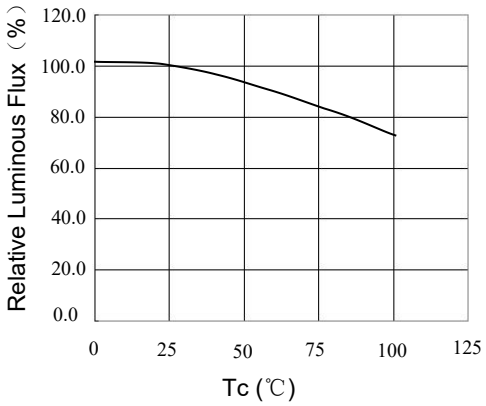
温度与正向电压曲线图

Temperature VS.Forward Voltage(IF=0.75A)



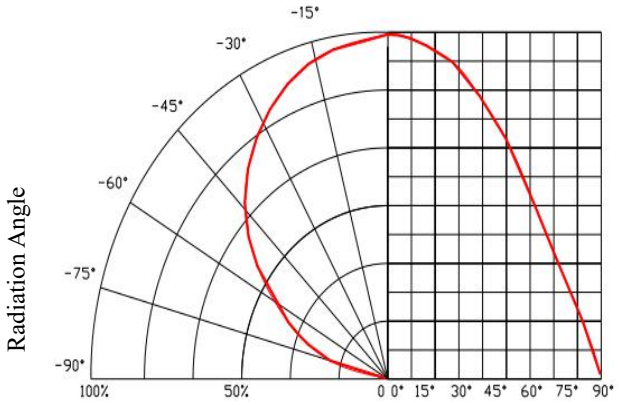
温度与相对光通量曲线图

Temperature VS. Relative Luminous Flux (IF=0.75A)



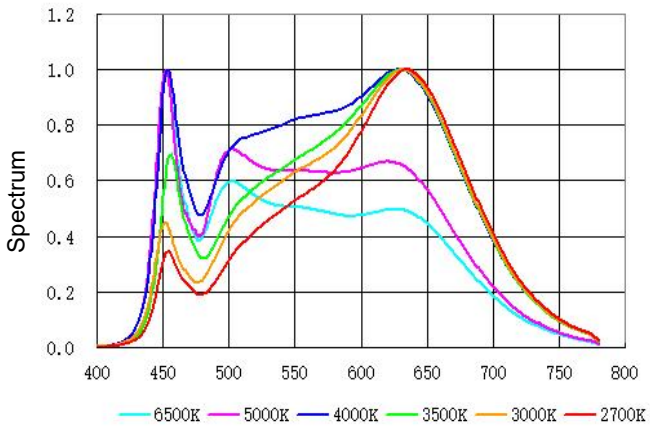
发光角度

Radiation Angle



相对光谱分布曲线图

Relative Spectral Distribution



四、信赖性测试 Reliability Test

测试项目 Test Items	参考标准 Ref. Standard	测试条件 Test Conditions	失效判定 Failure judgment	抽样标准 Sampling standards
冷热冲击 Thermal Shock	JEDEC JESD22-A106	-40℃(15min) ~ 120℃ (15min), 200 cycles	No catastrophic failure	0/22
高温存储 High Temperature Storage	JESD22-A103	Ta=120℃, 1000h	△Vf≥0.2V , Luminance decay≥ 10%	0/22
低温存储 Low Temperature Storage	JESD22-A119	Ta=-40℃, 1000h	△Vf≥0.2V , Luminance decay≥ 10%	0/22
高温高湿测试 High Temperature High Humidity Life Test	JESD22-A101	Ta=85℃, RH>=85%, 1000h	△Vf≥0.2V , Luminance decay≥ 10%	0/22
高温寿命测试 High-Temperat ure Life Test	JESD22 -A108	Tc=105℃, If=150mA, 1000h	△Vf≥0.2V , Luminance decay≥ 10%	0/22
硫化测试 Vulcanization Test	——	Sulfur powder concentration =1g/500mL, Ta=80℃, T=4h	No catastrophic failure, No obvious blackening, Luminance decay≥ 5%	0/22

注意： Notes for Table

1、灾难性失效：死灯、封装材料受损或发生形变。

No catastrophic failure：Dead lights、Damage or deformation of packaging material.

2、因 COB 各型号串并联的不同，本测试项目中的 Vf 和 If 是代表单晶的电压和电流。

Due to the different series-parallel connection of COB models，the Vf and If in this test project are the voltage and current representing the single chip.

五、包装说明 Package instructions

吸塑盒　　铝箔袋　　包装箱

规格 specification	数量（PCS）/盒 quantity(PCS)/dish	数量（PCS）/包 quantity(PCS)/bag
1818-14	40	200

- 我司在每个 COB 产品背面都有一个激光打标标签，有助于辨别产品情况。
  We have a laser marking label on the back of each COB product to help identify the product.

生产编码
光源系列　芯片代码
串并联
色温

六、防护措施 Precaution for use

1. 存储: storage

为避免受潮的影响，我司建议产品在未开包装前除储存条件为15-40℃，相对湿度20%-60%。已开包装的LED光源请在168小时内使用安装完毕，如未用完的产品，请进行除潮并抽真空后密封保存。除潮条件：100° C±5° C,6小时。产品密封保存有效使用期为一年。

To avoid moisture, we recommend storage conditions for the unopened LED +15 ~ +40 °C, rela- tive humidity 20%-60%. LED should be used within 168 Hrs. of opening the package. Please make sure to dehumidify and vacuum pack the remaining/ unused LED. Dehumidifying condition: +100 ° C ± 5 ° C,6 Hrs. Effective age for the sealed led is one year.

本产品电极采用镀金工艺，暴露在包含腐蚀性气体的环境中可能会使电极发生变质，导致LED出现不良。禁止长期暴露在多尘埃、紫外直射以及过高室温的环境中。

The electrodes of this product are gold-plated, and exposure to corrosive gases may deteriorate the electrodes, resulting in adverse effects on the LEDs. Long-term exposure to dust, direct ultraviolet rays and excessive room temperature is prohibited.

2. 组装注意事项：The soldering precautions

焊接条件：此产品不推荐使用回流焊接的作业方式，手工焊接烙铁温度设定350℃，焊接时间不可超过5秒，第一焊点焊接后请确保基板表面温度恢复到环境温度，方可进行第二次的焊接。焊接时请注意不可有外力作用与胶体表面及外圈的围坝胶上（如压力，摩擦或锋利金属钉等），以免造成金线变形或断线等异常；如果超出此使用条件，我司将不能保证产品的稳定性，如果使用超出操作条件，请务必进行风险评估。

Soldering conditions: Reflow soldering is not recommended for this LED. If hand soldering, set sol- dering iron temperature at 350°C and soldering time not More than 5 seconds, after the first soldering, make sure the substrate surface temperature returns to ambient temperature before a second soldering. Please make sure when soldering, there is no external force on the soldering surface and silicon batardeau (such as pressure, friction or sharp metal nails, etc.), to avoid gold wire deformation or dam- age and other abnormalities. If beyond recommended conditions, we cannot guarantee the LED stability, please do the risk assessment first.

灯具的组装材料（灯具外壳、垫圈、粘合剂、二次光学透镜、透镜盖）发出的挥发性有机化合物可能会侵入到LED封装胶中。在密闭条件下，这些挥发性有机化合物因为受热可能会导致LED光输出大幅度降低和出现颜色差异。为了预防以上不良发生，请贵司必须事先进行产品组装后的亮灯测试，以确认在实际使用中光学特性不会收到不良影响。

Volatile organic compounds emitted by the luminaire's assembly materials (luminaire housings, gaskets, adhesives, secondary optical lenses, lens covers) can invade the LED encapsulant. Under closed conditions, these volatile organic compounds may cause a significant reduction in LED light output and color differences due to heating. In order to prevent the above defects, you must conduct a lighting test after product assembly in advance to confirm that the optical properties will not be adversely affected in actual use.

使用不合适的固定支架可能会使本产品表面胶体受力从而发生金线变形或断线，因此在组装过程中最好使用专用的

固定支架。

The use of an unsuitable fixing bracket may cause the surface colloid of this product to be stressed and the gold wire will be deformed or broken, so it is best to use a special fixing bracket during the assembly process.

最好在本产品与模块之间使用导热胶，否则可能导致散热性能低下。

It is best to use thermal adhesive between this product and the module, otherwise it may result in poor heat dissipation.

3. 防静电措施： Anti-Static Measures

本产品对静电与浪涌电压敏感，在静电与浪涌电压冲击下芯片可能会发生损伤，使本产品可靠性受到影响，因此在实际操作中请采取足够的措施来防止静电产生。

This product is sensitive to static electricity and surge voltage, and the chip may be damaged under the impact of static electricity and surge voltage, which affects the reliability of this product, so please take sufficient measures to prevent static electricity in actual operation.

使用静电环、防静电手指套、导电式服装。

Use electrostatic rings, antistatic finger covers, conductive clothing.

将操作区域内的设备、工具接地除去电荷。

Ground equipment and tools in the operating area to remove charge.

使用导电性材料制作的工作台和货架。

Workbenches and shelves made of conductive materials.

本产品的防静电敏感度超过2000V，装配后的最终灯具产品建议检查是否损坏LED（漏电现象）。

The ESD sensitivity of this product is > 2000V, after assembly the final lamp, please make sure to discharge Static Electricity by proper ESD equipment.

4. 温度控制: Temperature Control

保证散热前提条件为：建议TC点（负极焊盘）在85℃以下，并且控制胶体表面温度 ≤130℃。

Recommended temperature conditions for enhanced product life: TS (Cathode Point) is <85°C , And control the colloid surface temperature ≤130℃.

使用不同的散热材料（导热片、导热硅脂等）、热沉的材料特性和表面状态，都会导致热阻发生变化。为确保在组装时降低接触热阻，请注意导热胶涂布均匀并且分布面积合理，不可出现导热胶太少或涂抹高低不平等现象。如果使用导热胶垫时，请确保螺丝安装后基板与导热胶垫的完全接触，不可存在中空现象。产品在此类耐热介质下，能通过至少500V的耐压测试。

Changes in thermal resistance can occur due to different heat dissipation materials (thermal conductive sheets, thermal greases), material

properties and surface conditions of the heat sink. Therefore, pay attention to the following points.During assembly, please ensure that a good quality thermal paste is applied and distributed evenly over the surface. While using thermal pad (Heat Sink), make sure LED is firmly tightened and there is no gap between surfaces. In such heat-media products, through a pressure test of at least 500 volts.

5. 清洗：Clean

不能使用水和有机溶剂（轻油精或稀释剂等）清洗本产品。

Do not use water and organic solvents (light olein or thinner, etc.) to clean this product.

本产品最好使用酒精清洗。如果使用其他清洗剂必须实现确认不会对外封装和封装硅胶造成不良影响。

This product is best cleaned with alcohol. If other cleaning agents are used, confirmation must be achieved that there is no adverse effect on the external encapsulation and encapsulation of the silicone.

需要对本产品附着污垢清洗时，最好使用无尘布沾取少量酒精进行擦拭。

When it is necessary to clean the dirt attached to this product, it is best to use a dust-free cloth dipped in a small amount of alcohol to wipe.

6. 其他：Other

本产品不可在以下条件下使用，如果产品在以下条件下使用，评估其使用效果和风险是有必要的：

Product is not suitable to use in following conditions：

-直接或间接的打湿会受潮，比如淋雨等；

-Direct or indirect wet / damp conditions, such as rain, etc.;

-被海水损害或侵蚀；

-In contact with sea water and erosive materials

-被暴露于腐蚀性气体（如Cl2、H2S、NH3、SOx、NOx等）；

-Exposed to corrosive gases (e.g., Cl2, H2S, NH3, SOx, NOx, etc.);

-被暴露于粉尘、液体或油。

-Exposed to dust, liquids or oils.