

**DATA SHEET**

**ES-14-EQ018-500-2760T85  
CCT Tunable COB**

## ES-14-EQ018-500-2760T85 Datasheet



Everstar CCT Tunable COB is a chip-on-board LED module that enables independent adjustment of brightness and CCT, this technology provides the ability to control the color temperature (2700K to 6000K) of a LED luminaire.

Ideal for human-centric architectural lighting applications, the 2-channel design provides high-quality white light without sacrificing efficacy.



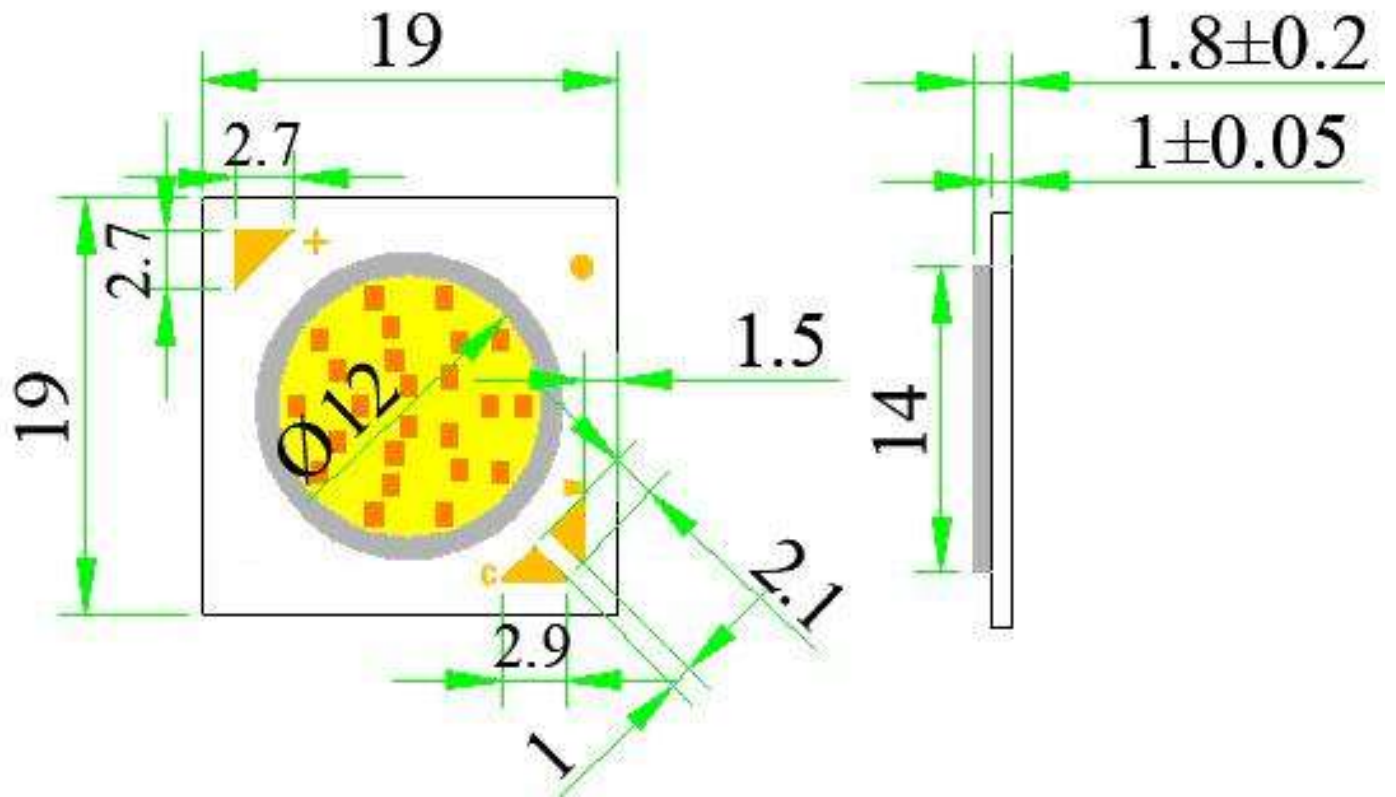
### FEATURES

- Good reliability
- Less light decay
- High CRI(Color Rendering Index)
- High lighting efficiency
- Even and soft light radiation
- No glaring
- No lighting spots
- Healthy and environment-friendly

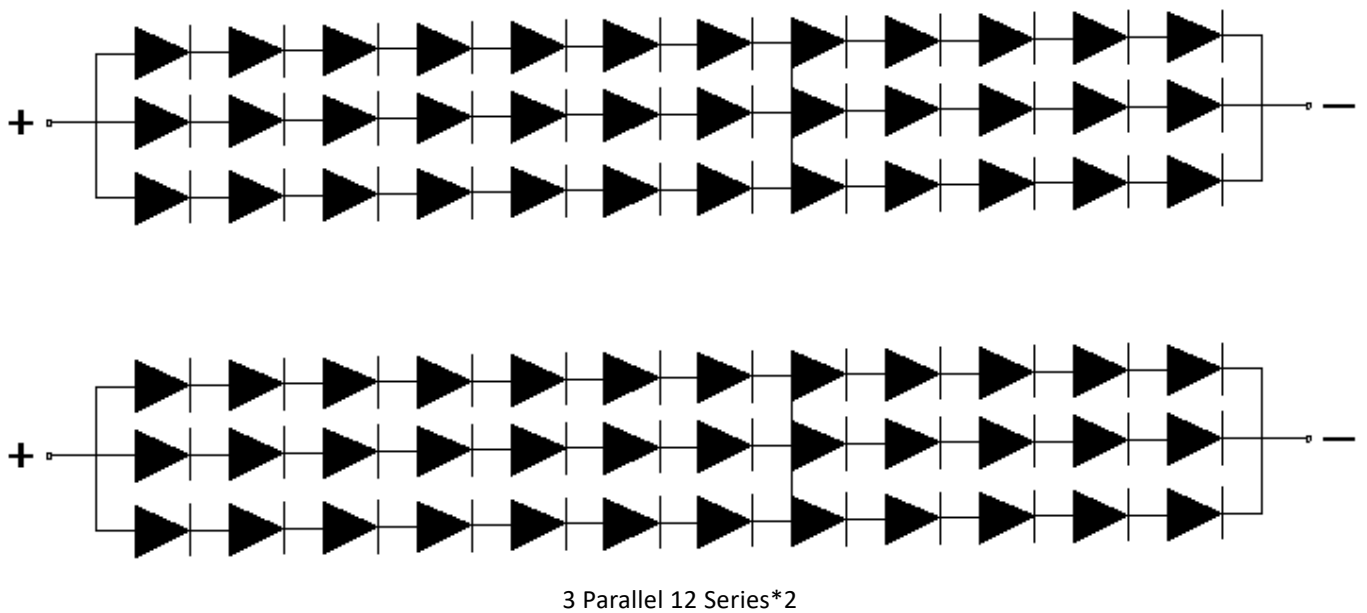
### APPLICATIONS

- LED spot lights/Down Light / Trunk lamp
- LED recessed lights and LED miner lights
- Decorative and landscape lighting
- Residential lighting
- Museum and high retail lighting
- Public and commercial building
- Human centric lighting
- Multi function space lighting

1. Dimensions and product data



2. Equivalent circuit diagram



### 3. Basic parameters

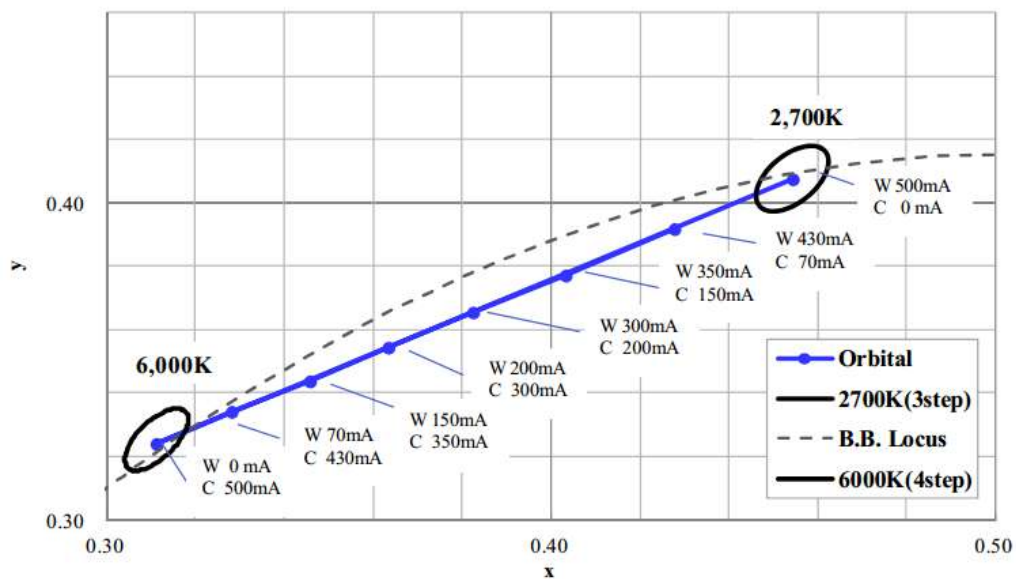
Model	Dimension (mm)	plate type	lighting source	Size of lighting plane	CCT(K)	Work Temp
ES-14-EQ018-500-2760T85	19*19*H1.8mm	Aluminium	Planar	Φ14mm	2700-6000K	Room Temp.

### 4. Nominal parameters (Ta=25°C)

Parameters	CCT mode	2700K	3000K	3500K	4000K	4500K	5000K	5700K	6000K	K
Ta=25°C Tx=28°C If: W(Warm current) C(Cold current)	Forward V	34-40								V
	Forward A	W500	W430+C70	-	W300+C200	-	-	W70+C430	C500	mA
	Power	18+18								W
	Luminous flux	1800	-	-	-	-	-	-	2050	Lm
	Ra	>85								Ra
	Junction temperature	135								°C
	Heat Resistance	1.5								°C/W

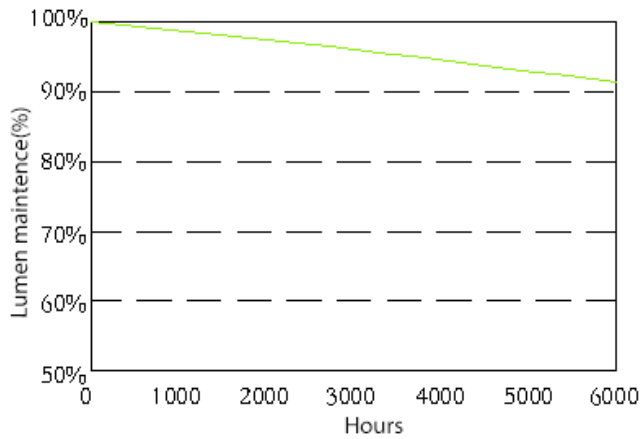
Note:

- 1) Device tolerance for luminous flux:±4%
- 2) Device tolerance for color coordinate:±0.002
- 3) Max forward current=800mA
- 4) Device tolerance for forward voltage:±0.1V
- 5) Device tolerance for angle :±5 degrees

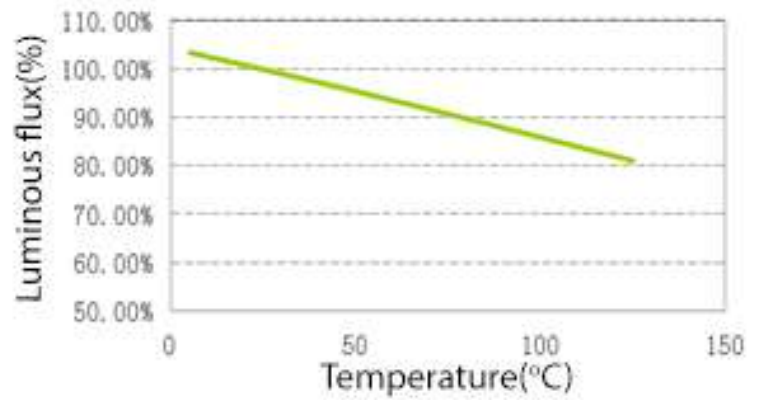


5. Reliability test curve

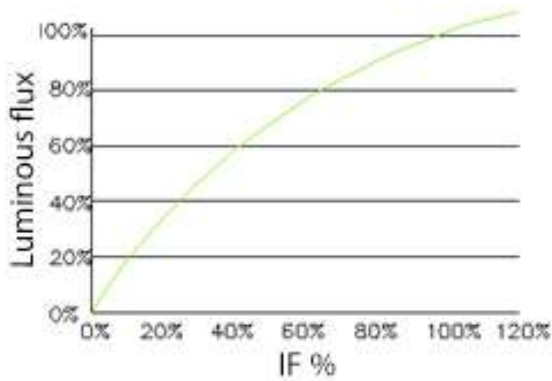
1. Life curve



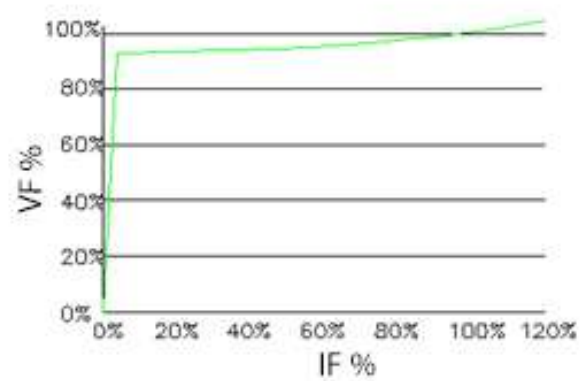
2. Temperature Vs Lumen



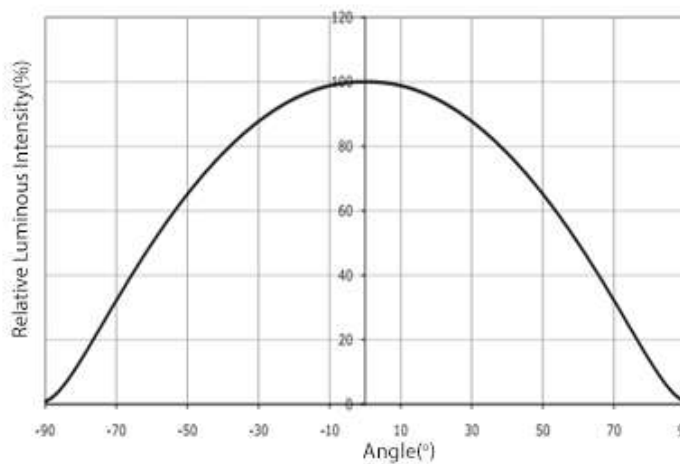
3. Current Vs Lumen



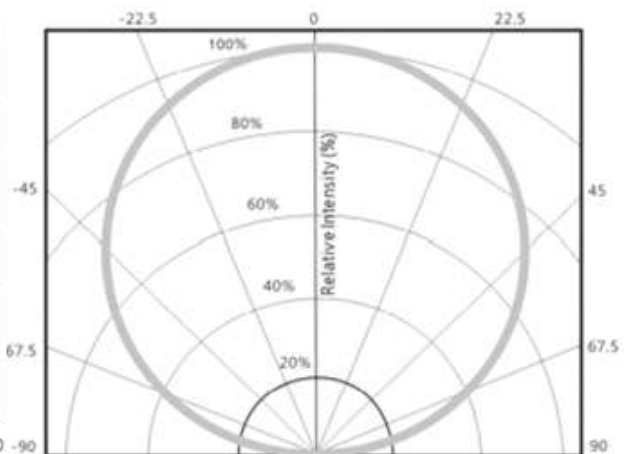
4. Voltage Vs Current



5. Light distribution diagram



6. Light distribution diagram



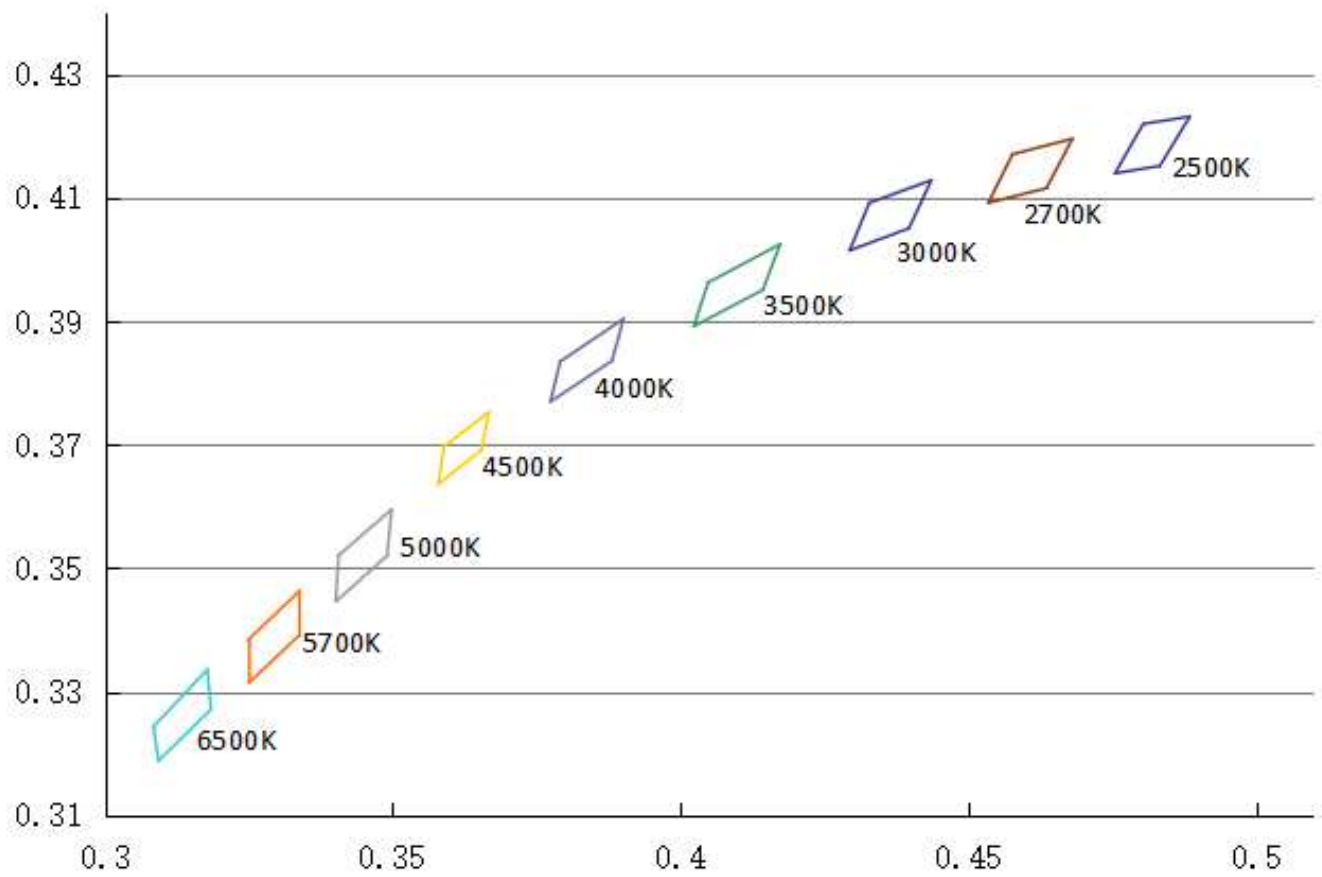
## 6. Test items

Type	Test items	standards	Test conditions	duration	Sample quantity	result
Environment test	Temp. cycle	JEITA ED-4701 100 105	-40°C→25°C→100°C→25°C 30Min 5Min 30Min 5Min	100 cycles	5	0/5
	Storage with high temp	JEITA ED-4701 200 201	Ta=100°C	168 hrs	5	0/5
	Storage with low temp	JEITA ED-4701 200 202	Ta=-40°C	168 hrs	5	0/5
Life test	room temp	-	Ta=25°C @If	1000/3000/6000 hrs	1	0/1
	high temp	-	Ta=85°C @If	168 hrs	1	0/1
	high temp and high humidity	-	Ta=70°C RH=85% @If	264 hrs	1	0/1
	High power with Room Temp	-	@1.5*If	72 hrs	1	0/1
Destructive test	Soldering resistance	JEITA ED-4701 300 301	Tsol=260°C±5°C, 10S	One time	5	0/5
	Weldability	-	Tsol=245°C±5°C, 5S with soldering flux	One time	5	0/5

Failure Evaluation standard:

Item	Symbol	Test conditions	standard
Forward voltage	Vf	If	Initial value±2V
Luminous flux	Φ	If	6000H: maintenance factor: >91%
Weldability	-	-	Dip soldering area≥95%

7. White bins on CIE-1931 (Ta=25°C)



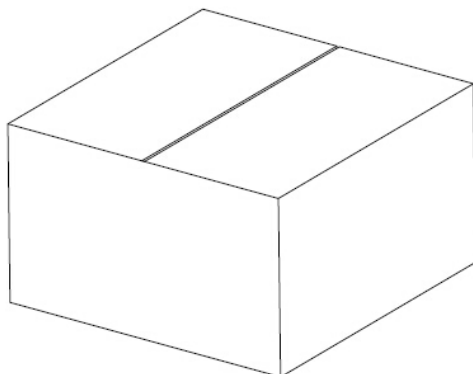
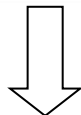
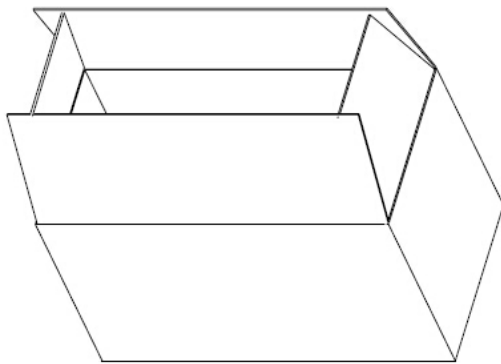
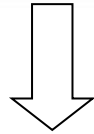
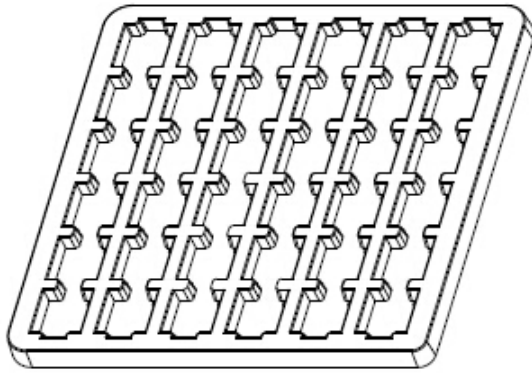
Color Temperature and BIN

CT	2500	2700	3000	3500	4000	4500	5000	5700	6500
CT Range	2410-2550	2640-2810	2940-3140	3330-3580	3820-4120	4375-4635	4840-5200	5400-5900	6150-6850
CT Factor	±70	±85	±100	±125	±150	±130	±180	±250	±350
Center CT	2480	2725	3045	3465	3985	4503	5028	5665	6530
Code	K52	L5	M5	N5	O5	P5	Q5	R5	S5

6500K	S5	0.3178	0.3336	0.3184	0.3271	0.3093	0.3188	0.3084	0.3243
5700K	R5	0.3338	0.3463	0.3336	0.3390	0.3251	0.3315	0.3248	0.3383
5000K	Q5	0.3498	0.3595	0.3490	0.3520	0.3401	0.3446	0.3406	0.3521
4500K	P5	0.3667	0.3753	0.3654	0.3691	0.3579	0.3636	0.3589	0.3697
4000K	O5	0.3901	0.3904	0.3881	0.3836	0.3774	0.377	0.3791	0.3835
3500K	N5	0.4173	0.4025	0.4143	0.3951	0.4023	0.3892	0.4048	0.3963
3000K	M5	0.4436	0.4129	0.4397	0.4051	0.4294	0.4015	0.4328	0.4092
2700K	L5	0.4681	0.4196	0.4636	0.4116	0.4535	0.4092	0.4577	0.4171
2500K	K52	0.4885	0.4232	0.4833	0.4152	0.414	0.422	0.4885	0.4232



## 2) Packing Description



Inner Box Size : 37\*18.5\*10.6 cm  
10 vacuumed bags in one inner box  
COB Quantity per inner box : 980 pcs  
Total gross weight : 1.2 KG

Carton Size :41\*41\*27 cm  
4 inner boxes in one carton  
COB Quantity per carton : 3920 pcs  
Total gross weight : 5.7 KG

\*Above is for reference only, actual packaged quantities are based on the order.