



V01 1

# ES-14-EQ012-300-2760T85 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**

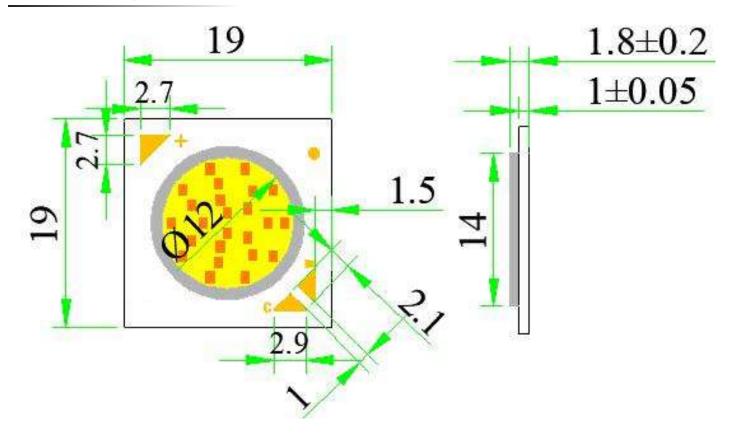
- Good reliability
- Less light decay
- High CRI(Color Rendering Index)
- High lighting efficiency
- Even and soft light radiation
- No glaring
- No lighting spots
- Healthy and environment-friendly

#### **APPLICATIONS**

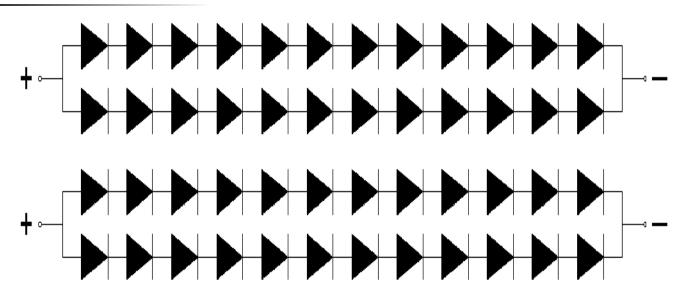
- LED spot lights/Down Light / Trunk lamp
- LED recessed lights and LED miner lights
- Decorative and landscape lighting
- Residential lighting
- Museum and high retail lighting
- Public and commercial building
- Human centric lighting
- Multi function space lighting



#### 1. Dimensions and product data



### 2. Equivalent circuit diagram



2 Parallel 12 Series\*2

### 3. Basic parameters

Model Dimension (mm)		plate type	lighting source	Size of lighting plane	CCT(K)	Work Temp
ES-14-EQ012-300-2760T85	19*19*H1.8mm	Aluminium	Planar	Ф14mm	2700-6000K	Room Temp.

## 4. Nominal parameters (Ta=25 $^{\circ}$ C)

Parameters	CCT mode	2700K	3000K	3500K	4000K	4500K	5000K	5700K	6000K	К		
	Forward V		34-40									
	Forward A	W350	W300 +C50	-	W200+ C150	-	-	W50+ C300	C350	mA		
Ta=25℃	Power		12+12									
Tx=28℃ If:	Luminous flux	1250	-	-	-	-	-	-	1500	Lm		
W(Warm current)	Ra	>85										
C(Cold current)	Junction temperatu re		135									
	Heat Resistanc e	1.5										

#### Note:

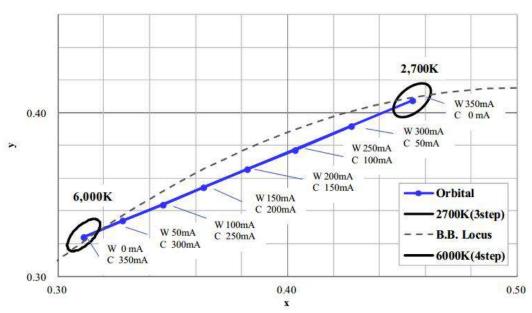
1) Device tolerance for luminous flux:±4%

2) Device tolerance for color coordinate:±0.002

3) Max forward current=500mA

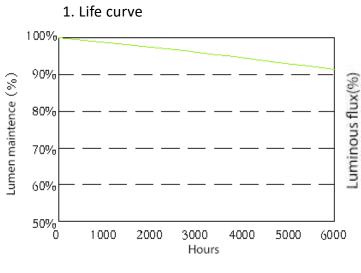
4) Device tolerance for forward voltage: $\pm 0.1 V$ 

5) Device tolerance for angle :±5 degrees

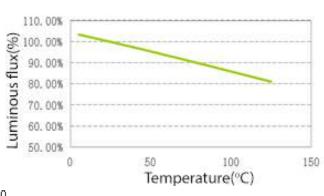


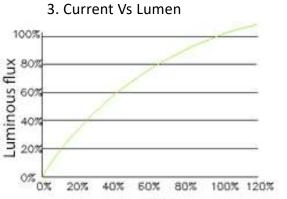


### 5. Reliability test curve



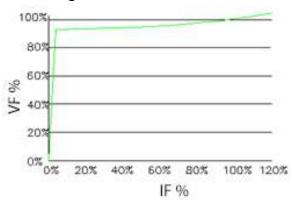
## 2. Temperature Vs Lumen

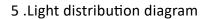




100% 120%

4. Voltage Vs Current





60%

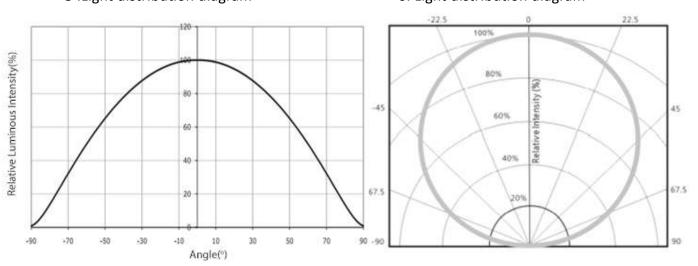
IF %

80%

20%

40%

6. Light distribution diagram





### 6. Test items

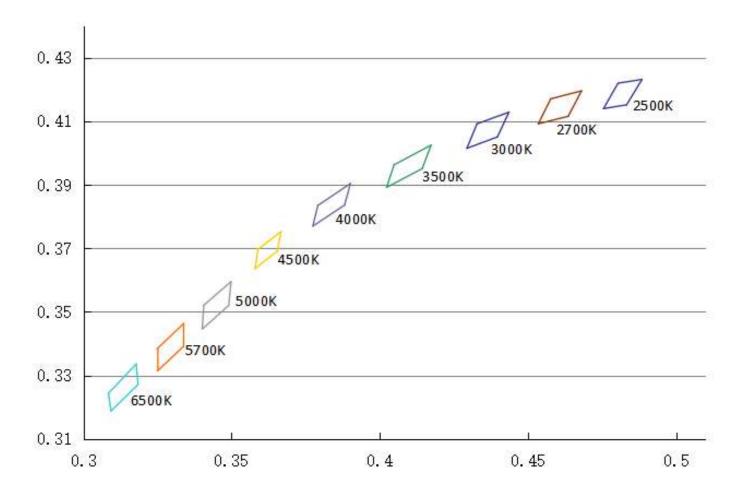
Туре	Type Test items standards		Test conditions	duration	Sample quantity	result
	Temp. cycle JEITA ED-4701 100 105		-40°C→25°C→100°C→25°C 30Min 5Min 30Min 5Min	100 cycles	5	0/5
Environment test	Storage with high temp	JEITA ED-4701 200 201	Ta=100℃	168 hrs	5	0/5
	Storage with low temp	JEITA ED-4701 200 202	Ta=-40°C	168 hrs	5	0/5
	room temp	-	Ta=25°C @If	1000/3000/6000 hrs	1	0/1
	high temp -		Ta=85°C @If	168 hrs	1	0/1
Life test	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	Soldering resistance	JEITA ED-4701 300 301	Tsol=260°C±5°C,10S	One time	5	0/5
test	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	lf	Initial value±2V
Luminous flux	Ф	lf	6000H: maintenance factor: >91%
Weldability	-	-	Dip soldering area≥95%



### 7. White bins on CIE-1931 ( Ta=25 $^{\circ}$ C)



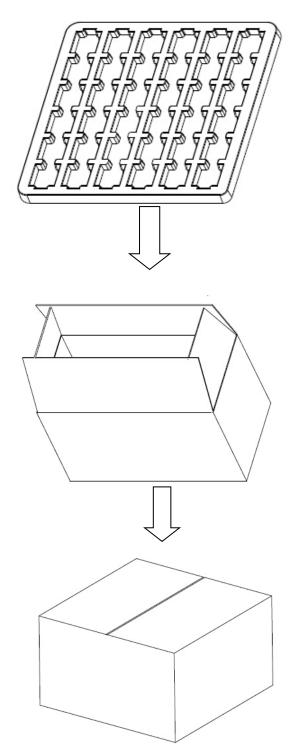
### Color Temperature and BIN

СТ	2500	2700	3000	3500	4000	4500	5000	5700	6500
CT Range	2410-	2640-	2940-	3330-	3820-	4375-	4840-	5400-	6150-
CT Kange	2550	2810	3140	3580	4120	4635	5200	5900	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

# ES-14-EQ012-300-2760T85

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

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

