



YJ-BC-270H-G01

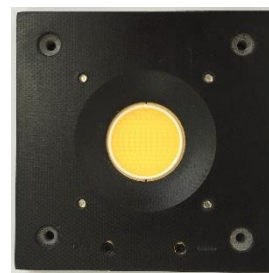
High CRI LED

PRODUCT:

500W CHIP ON BOARD LED

FEATURES:

27 mm x 27 mm x 0.5 mm chip-on-board LED
120° emission angle
95 min Ra



DESCRIPTION

Yuji LED's BC270H series high CRI COB provides high CRI, high luminous flux solution. Providing 95 CRI (typical) at 20000 lm, this high-power LED can be used in a variety of applications demanding high color quality and light output.



ELECTRICAL-OPTICAL CHARACTERISTICS (T _A = 25 °C)							
PARAMETER	SYMBOL	VALUE			UNIT	TOLERANCE	CONDITION
		MIN.	TYP.	MAX.			
Forward Voltage	V _f	35	--	39	V	±0.05	I _f = 12.0A
Thermal Resistance*	R _{th}	--	0.10	--	°C/W	±0.01	I _f = 12.0A
Luminous flux	Φ _{3200K}	18000	--	21000	lm	--	I _f =12.0A
	Φ _{5600K}	20000		24000			
Color temperature	CCT _{3200K}	3050	3200	3350	K	--	I _f =12.0A
	CCT _{5600K}	5300	5600	5900			
Color rendering index	Ra	95	--	--	--	±1	I _f =12.0A
TCS R9 (CRI Red)	R9	--	90	--	--	--	I _f =12.0A
Chromaticity coordinates	(X,Y)	--	--	--	--	±0.005	--
Reverse current	I _r	--	--	100	μA	±0.1	V _r =50V
Viewing angle	2θ1/2	--	120	--	Deg	±5	I _f =12.0A

*The definition of Thermal Resistance is between LED junction and COB bottom surface.
Junction Temperature T_j = T_b + Power(W) x R_{th}, where T_b is the temperature at COB bottom surface.



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ABSOLUTE MAXIMUM RATING (TC = 25 °C)			
PARAMETER	SYMBOL	LIMIT	UNIT
Power Consumption	P _D	500	W
DC Forward Current (pulsed)*	I _{Fp}	15000	mA
DC Forward Current	I _F	12000	mA
Reverse Voltage	V _R	50	V
Junction Temperature	T _j	150	°C
Case Temperature***	T _C	65	°C
Operating Temperature	T _{opr}	-30 ~ +60	°C
Storage Temperature	T _{stg}	-30 ~ +80	°C
Soldering Temperature	T _{sol}	260 ± 5	°C
Reflow Cycles Allowed	--	2	--

* Pulse width ≤ 0.1ms, Duty ≤ 1/10.

** Theoretical data.

*** See page 4 for solder point definition.

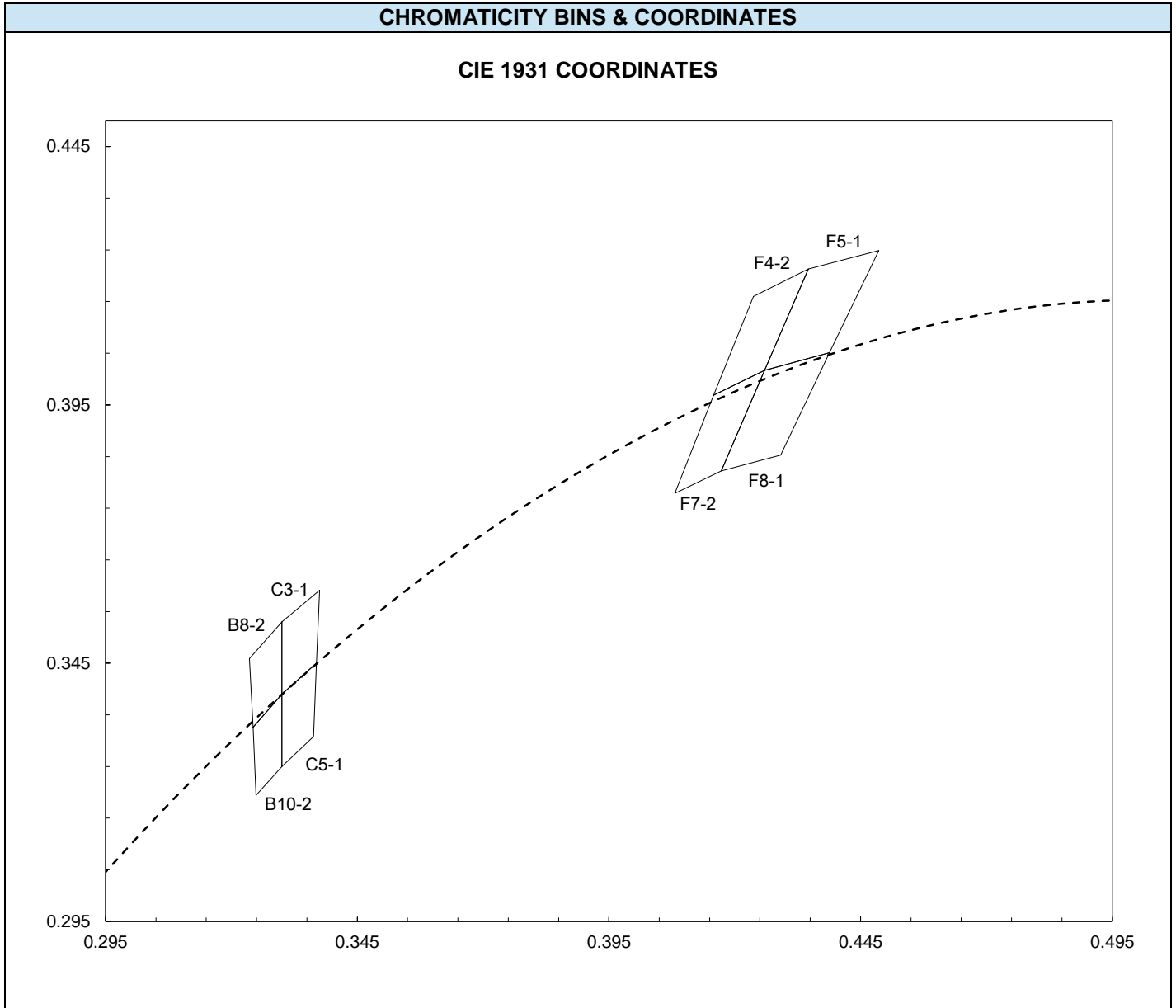
ORDERING INFORMATION		
PART NUMBER	CCT	CHROMATICITY BINS
YJ-BC-270H-G01-32	3200K ± 150K	F4-2, F7-2, F5-1, F8-1
YJ-BC-270H-G01-56	5600K ± 300K	B8-2, B10-2, C3-1, C5-1
YJ-BC-270H-G01-XX	CUSTOM	--

CHROMATICITY BINS & COORDINATES									
CCT	BIN	CIE 1931 COORDINATES							
		X0	Y0	X1	Y1	X2	Y2	X3	Y3
5600K	B8-2	0.3236	0.3459	0.3243	0.3326	0.3300	0.3390	0.3300	0.3530
	B10-2	0.3243	0.3326	0.3249	0.3194	0.3300	0.3250	0.3300	0.3390
	C3-1	0.3300	0.3530	0.3300	0.3390	0.3369	0.3450	0.3375	0.3591
	C5-1	0.3300	0.3390	0.3300	0.3250	0.3363	0.3308	0.3369	0.3450
3200K	F4-2	0.4237	0.4160	0.4158	0.3969	0.4259	0.4017	0.4346	0.4213
	F7-2	0.4158	0.3969	0.4081	0.3779	0.4173	0.3822	0.4259	0.4017
	F5-1	0.4346	0.4213	0.4259	0.4017	0.4388	0.4051	0.4486	0.4249
	F8-1	0.4259	0.4017	0.4173	0.3822	0.4291	0.3853	0.4388	0.4051



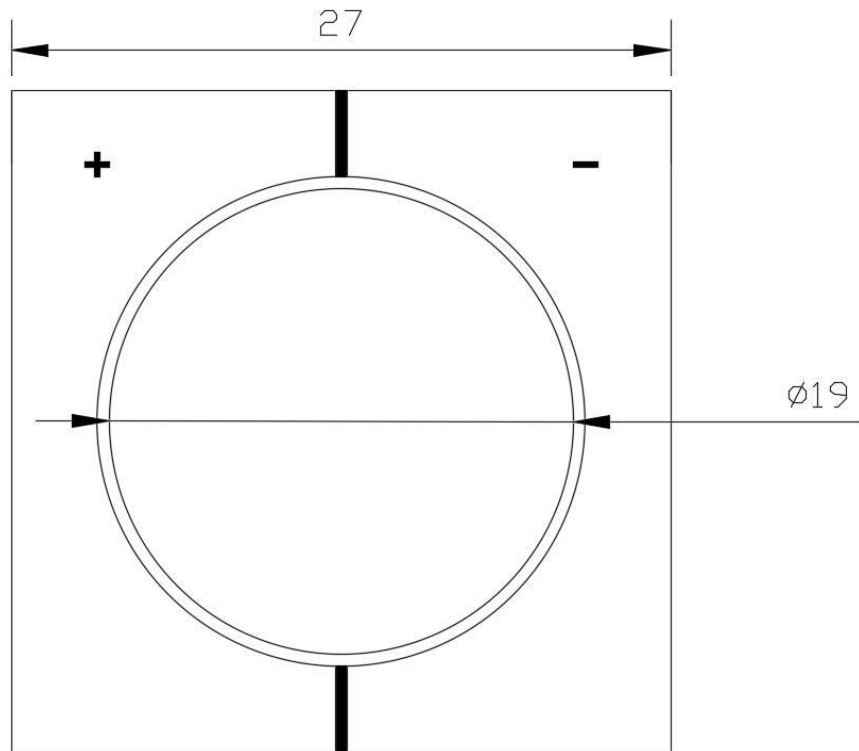
CHROMATICITY BINS & COORDINATES

CIE 1931 COORDINATES



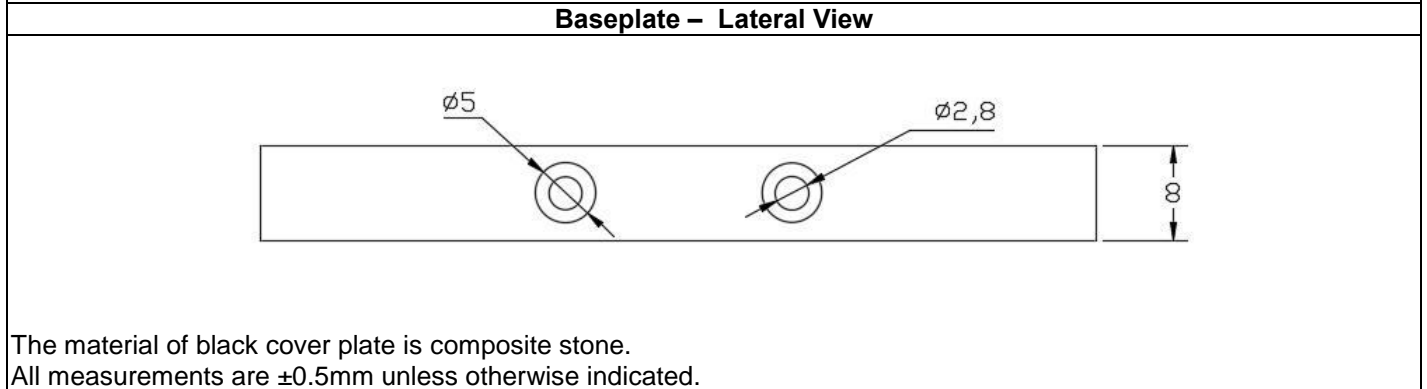
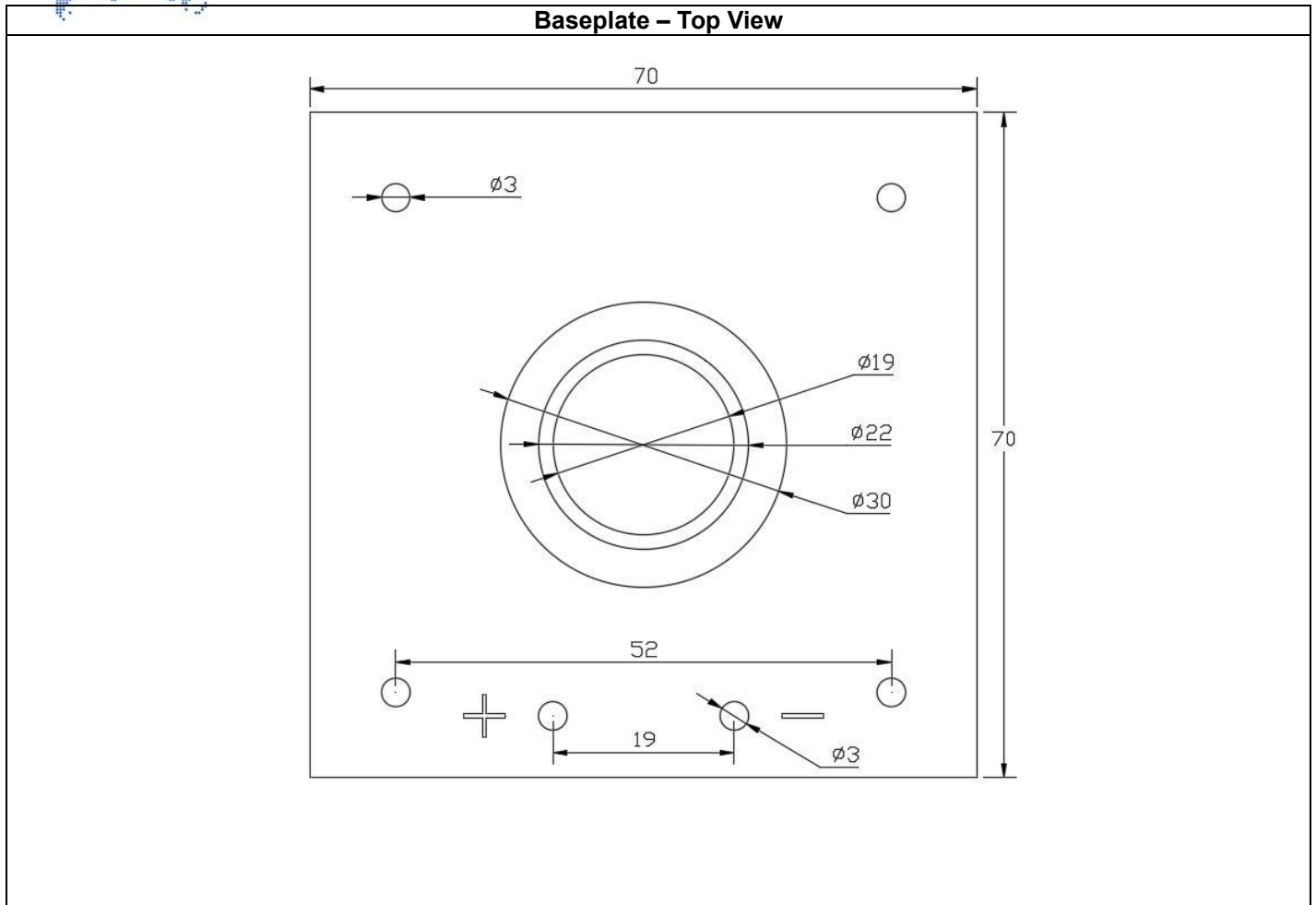
MECHANICAL DIMENSION

COB – Top View



COB – Lateral View



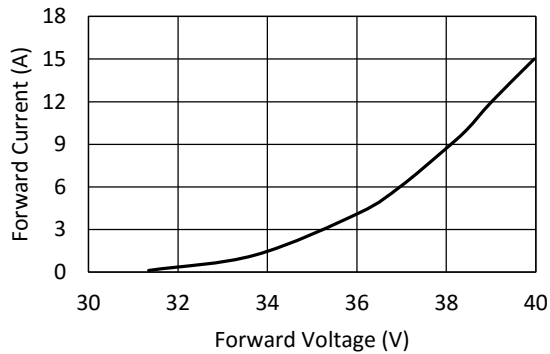


MATERIALS	
ITEM	DESCRIPTION
DIE MATERIAL	InGaN
SUBSTRATE	AlN
ENCAPSULANT RESIN MATERIAL	SILICONE

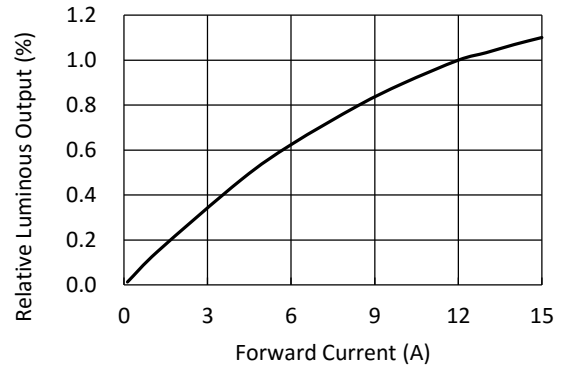
CHARACTERISTIC CURVES

ALL CHARACTERISTIC CURVES ARE FOR REFERENCE ONLY AND NOT GUARANTEED

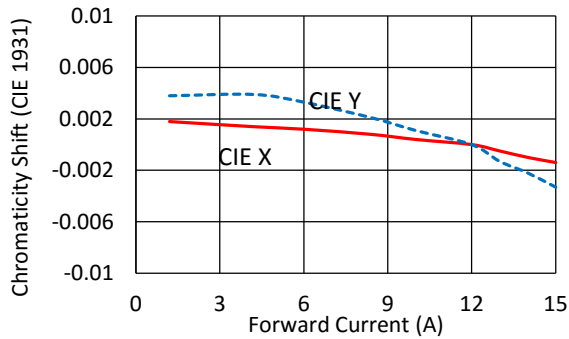
FORWARD CURRENT
VS FORWARD VOLTAGE ($T_A=25^\circ\text{C}$)



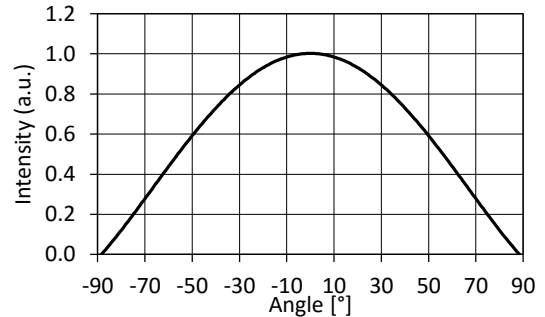
FORWARD CURRENT
VS RELATIVE LUMINOUS OUTPUT ($T_A=25^\circ\text{C}$)



FORWARD CURRENT VS CHROMATICITY SHIFT
(5600K, $T_A=25^\circ\text{C}$)

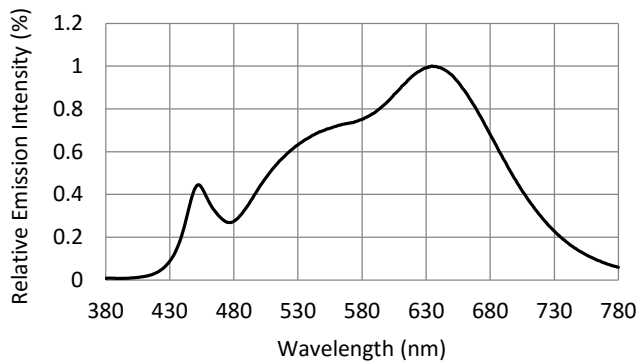


TYPICAL SPATIAL DISTRIBUTION
($T_A=25^\circ\text{C}$, $I_F = 10.0\text{ A}$)

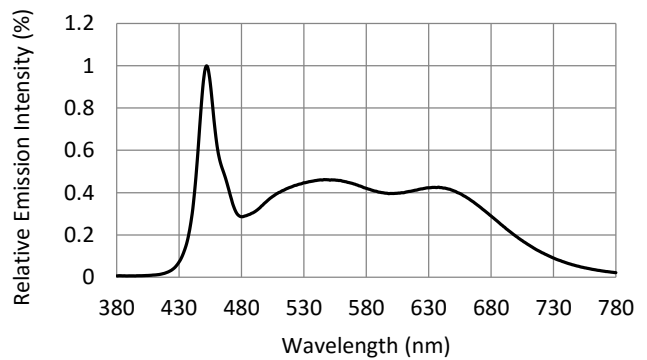


TYPICAL SPECTRAL DISTRIBUTION GRAPHS

3200K



5600K



Picture	Dimensions (mm)	Power	Weight	Material
Pictures as follow	D160*H158	500W	2.1Kg	copper and aluminum

