

# TX-4566RGBW400FC120-NUVENG-05

## PRODUCT SPECIFICATION

### Features:

- ◆ Excellent transiting heat from LED chip operating under 1300mA.
- ◆ Light emitting area is small, power per unit area of up to 5W/mm<sup>2</sup>.
- ◆ High luminous output.
- ◆ Encapsulated materials are environmentally certified and meet environmental requirements.

### Chip Material:

- ◆ Red: AlInGaP
- ◆ Green: GaInN
- ◆ Blue: GaN
- ◆ White: GaN

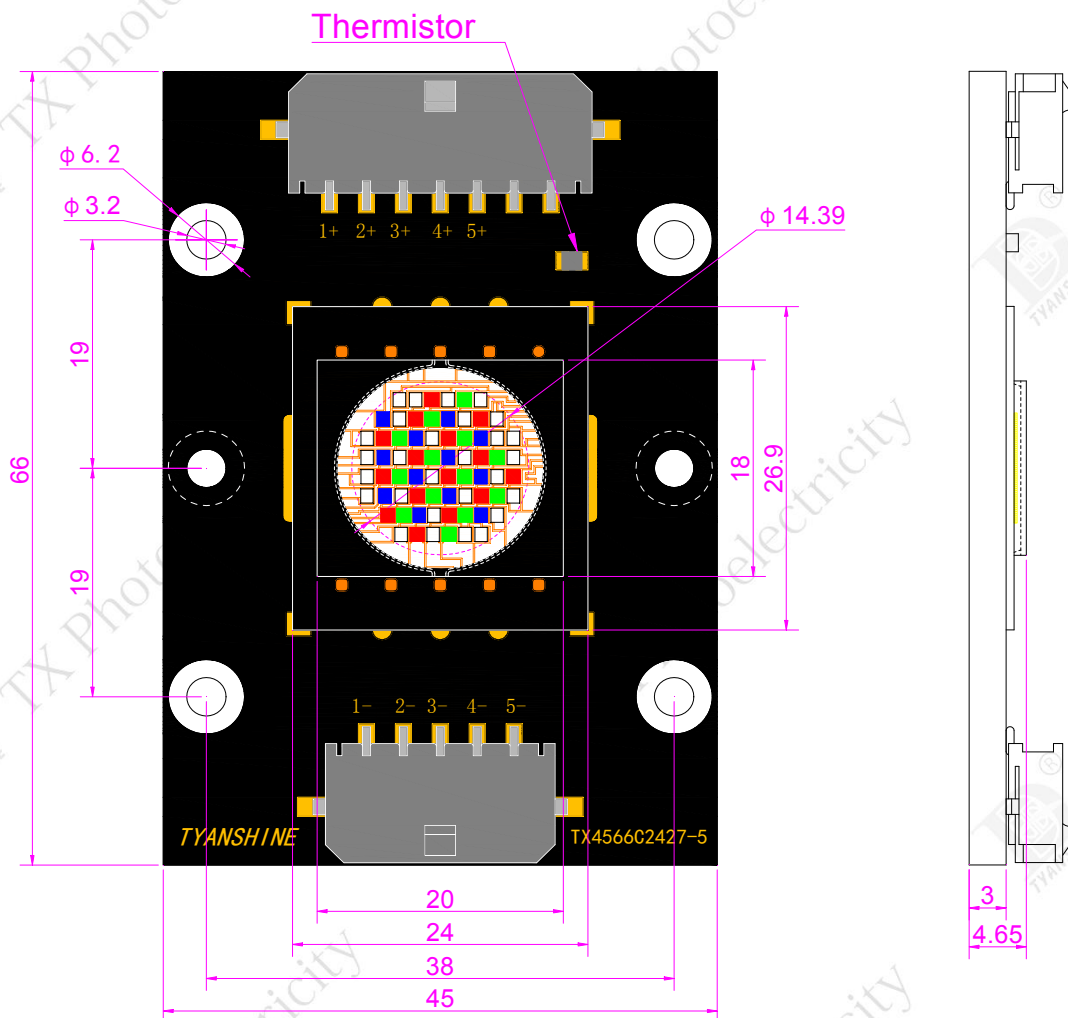
### Emitting Color:

- ◆ Red
- ◆ Green
- ◆ Blue
- ◆ White

### Applications:

- ◆ Stage lighting
- ◆ Landscape Lighting
- ◆ Entertainment lighting

### Package Dimensions:



1-Red (R) ; 2-White1 (W1) ; 3-White2 (W2) ; 4-Blue (B) ; 5-Green (G)

#### Notes:

- 1.All dimensions are in millimeters .
- 2.Tolerances unless otherwise mentioned are  $\pm 0.1\text{mm}$  .

## Absolute Maximum Ratings

Parameter	Symbol	Max Ratings	Unit	
Forward Current	IF (Ta=25°C)	R	1.8	A
		G	1.8	
		B	2.4	
		W1	2.4	
		W2	2.4	
	IF (Ta=85°C)	R	1.5	
		G	1.5	
		B	2.0	
		W1	2.0	
		W2	2.0	
Reverse Voltage	VR	—	Not designed for reverse operation	V
Power Dissipation	PD (Ta=25°C)	R	73.24	W
		G	85.69	
		B	92.47	
		W1	106.35	
		W2	106.35	
	PD (Ta=85°C)	R	57.13	
		G	64.50	
		B	72.97	
		W1	84.24	
		W2	84.24	
Junction Temperature	Tj	R	115	°C



		G	150	
		B	150	
		W1	150	
		W2	150	
Electrostatic Discharge Threshold (ESD)	ESD		2000	V
Storage Temperature	T <sub>stg</sub>		-40~70	°C
Operation Temperature	T <sub>opr</sub>		-40~100	

**Notes:**

- 1.Specifications are subject to change without notice.
- 2.Under the stipulated Characteristics parameters above, the life span of the LED is more than 50,000hours.
- 3.The data on this specification is for reference only and the actual data is in accordance with the acknowledgment.
- 4.Precautions for ESD:  
 STATIC SHIELD Electricity and surge damages the LED. It is recommended to use a wrist band or anti-electrostatic glove when handling the LED. All devices, equipment and machinery must be properly grounded.

## Electrical Optical Characteristics

Parameter	Symbol	Condition	Emitting Color	Min.	Typ.	Max.	Units
Luminous Flux	$\phi_v$	If=1300mA (Ta=25°C)	R	1600	1750	1900	lm
			G	3000	3200	3400	
			B	550	625	700	
			W1	4300	4550	4800	
			W2	4300	4550	4800	
		If=1300mA (Ta=85°C)	R	700	850	1000	
			G	2700	2900	3100	
			B	570	645	720	
			W1	4000	4250	4500	
			W2	4000	4250	4500	
Dominant Wavelength	$\lambda_d$	If=1300mA (Ta=25°C)	R	618	623	628	nm
			G	520	525	530	
			B	448	453	458	
		If=1300mA (Ta=85°C)	R	620	625	630	
			G	522	527	532	
			B	450	455	460	
Correlated Colour Temperature	CCT	If=1300mA (Ta=25°C)	W1	6000	6500	7000	K
			W2	6000	6500	7000	
		If=1300mA (Ta=85°C)	W1	6200	6700	7200	
			W2	6200	6700	7200	
Peak-emission Wavelength	$\lambda_p$	If=1300mA (Ta=25°C)	R	628	633	638	nm
			G	514	519	524	
			B	443	448	453	
		If=1300mA (Ta=85°C)	R	638	643	648	
			G	516	521	526	
			B	447	452	457	
Spectral Line Half-Width	$\Delta\lambda$	If=1300mA (Ta=25°C)	R	13	18	23	nm
			G	30	35	40	
			B	16	21	26	
			W1	20	25	30	
			W2	20	25	30	
		If=1300mA (Ta=85°C)	R	16	21	26	
			G	32	37	42	
			B	18	23	28	



			W1	23	28	33	
			W2	23	28	33	
Forward Voltage	V <sub>f</sub>	If=1300mA (Ta=25°C)	R	35	37	39	V
			G	41	44	46	
			B	35	37	39	
			W1	40	42	44	
			W2	40	42	44	
	If=1300mA (Ta=85°C)	R	34	36	38		
		G	39	42	45		
		B	33	35	37		
		W1	39	41	43		
		W2	39	41	43		
Reverse Current	I <sub>R</sub>	—	—	—	—	—	μA
Viewing Angle at 50% IV	2θ <sub>1/2</sub>	—	—	—	120	—	Deg
Thermal Resistance Junction to Case	R <sub>θJ-c</sub>	—	R	—	0.19	—	K/W
			G	—	0.21	—	
			B	—	0.19	—	
			W1	—	0.17	—	
			W2	—	0.17	—	
			Total thermal resistance	—	0.06	—	
Temperature Coefficient of Voltage	VΔF/T	If=1300mA	R	—	-10.3	—	mV/°C
			G	—	-51.6	—	
			B	—	-19.7	—	
			W1	—	-25.8	—	
			W2	—	-25.8	—	
Thermistor(NTC)	Rt25	—	—	—	10	—	KΩ



### White light Color coordinate filing (IF=1300mA)

Grade	TC	P1		P2		P3		P4	
		X1	Y1	X2	Y2	X3	Y3	X4	Y4
D121	7250	0.3027	0.3014	0.3016	0.3053	0.3043	0.3083	0.3052	0.3042
D111		-	0.3016	0.3053	0.3000	0.3115	0.3029	0.3147	0.3043
D011	7500 K	0.3000	0.3115	0.2984	0.3180	0.3014	0.3213	0.3029	0.3147
D013		-	0.2984	0.3180	0.2971	0.3229	0.3003	0.3265	0.3014
D122	7000	0.3052	0.3042	0.3043	0.3083	0.3073	0.3118	0.3082	0.3074
D112		-	0.3043	0.3083	0.3029	0.3147	0.3061	0.3182	0.3073
D012	7250 K	0.3029	0.3147	0.3014	0.3213	0.3047	0.3250	0.3061	0.3182
D014		-	0.3014	0.3213	0.3003	0.3265	0.3036	0.3302	0.3047
E121	6750	0.3078	0.3099	0.3068	0.3143	0.3098	0.3173	0.3106	0.3127
E111		-	0.3068	0.3143	0.3054	0.3213	0.3086	0.3246	0.3098
E011	7000 K	0.3054	0.3213	0.3044	0.3262	0.3078	0.3297	0.3086	0.3246
E013		-	0.3044	0.3263	0.3035	0.3309	0.3070	0.3344	0.3078
E122	6500	0.3106	0.3127	0.3098	0.3173	0.3139	0.3214	0.3145	0.3167
E112		-	0.3098	0.3173	0.3086	0.3246	0.3128	0.3289	0.3139
E012	6750 K	0.3086	0.3246	0.3078	0.3297	0.3120	0.3339	0.3128	0.3289
E014		-	0.3078	0.3297	0.3070	0.3344	0.3114	0.3389	0.3121
F121	6250	0.3146	0.3161	0.3139	0.3210	0.3177	0.3249	0.3183	0.3199
F111		-	0.3139	0.3210	0.3129	0.3283	0.3169	0.3325	0.3177
F011	6500 K	0.3129	0.3283	0.3122	0.3334	0.3164	0.3377	0.3169	0.3326
F013		-	0.3122	0.3334	0.3115	0.3386	0.3158	0.3430	0.3164
F122	6000	0.3183	0.3199	0.3177	0.3249	0.3219	0.3294	0.3223	0.3238
F112		-	0.3177	0.3249	0.3169	0.3325	0.3214	0.3373	0.3219
F012	6250 K	0.3169	0.3325	0.3164	0.3377	0.3210	0.3425	0.3214	0.3373
F014		-	0.3164	0.3377	0.3158	0.3430	0.3207	0.3479	0.3211

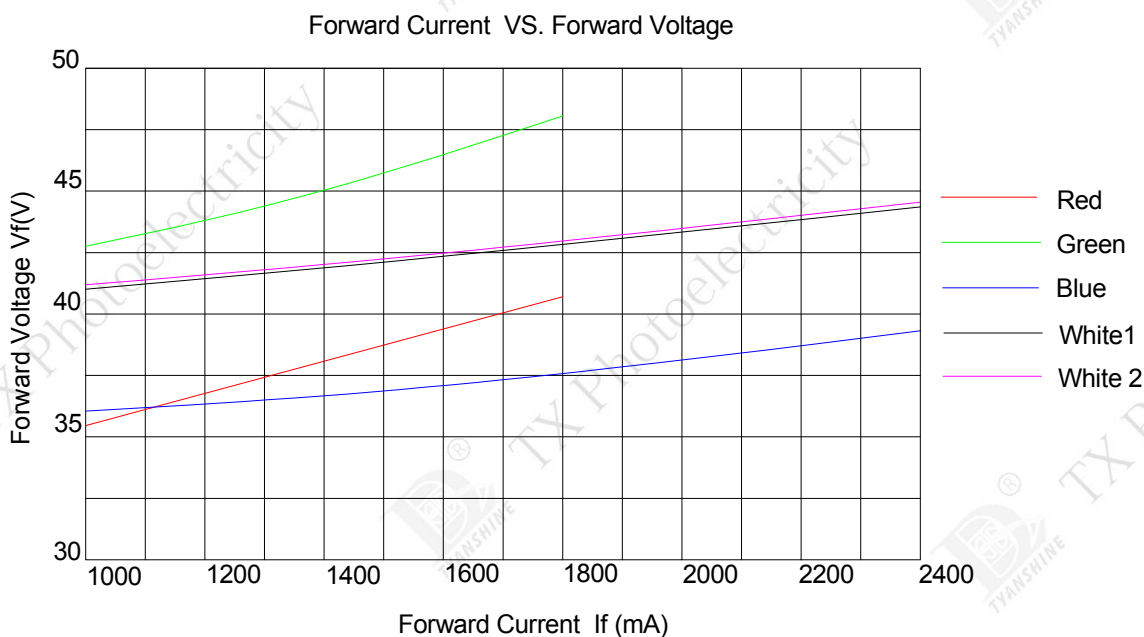


**Notes:**

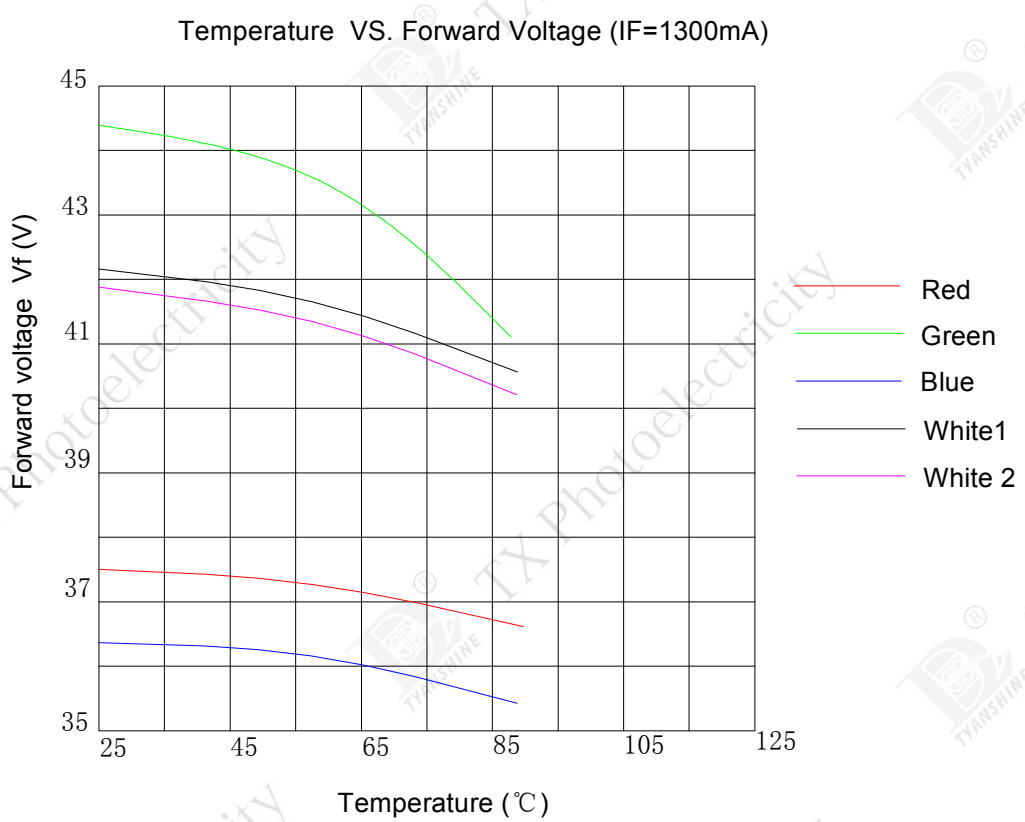
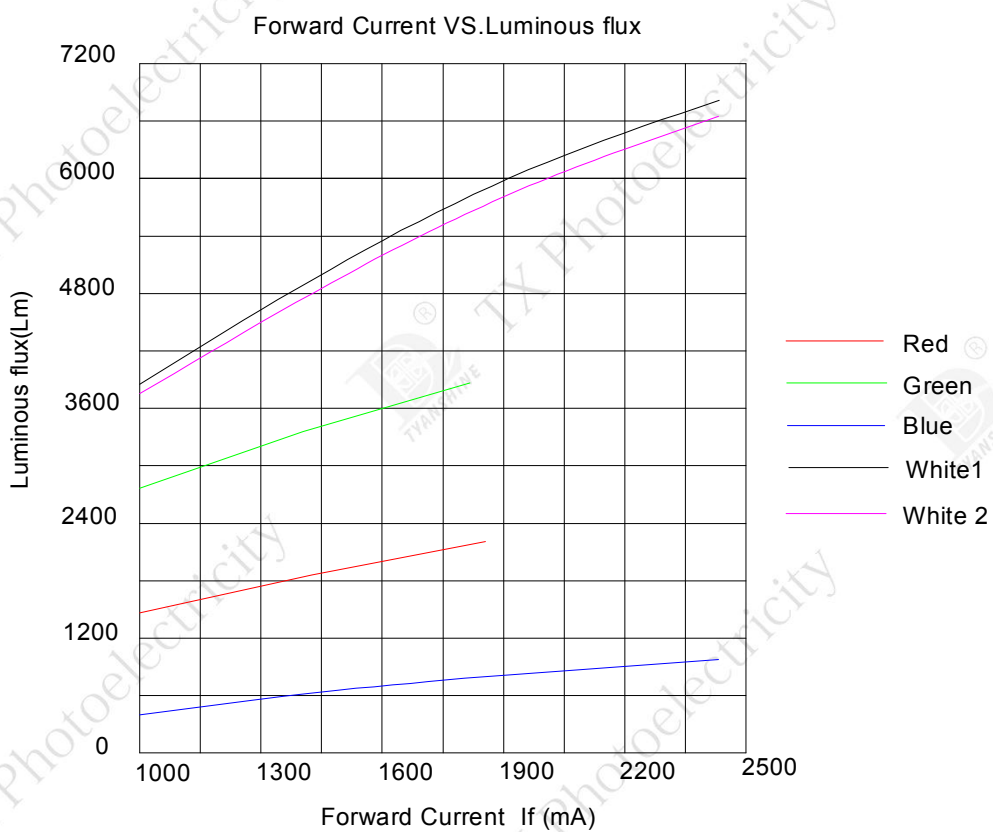
- 1.Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- 3.The dominant wavelength ( $\lambda_d$ ) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
- 4.Luminous flux measurement tolerance: $\pm 15\%$ .
- 5.Forward voltage measurement tolerance: $\pm 0.15V$ .

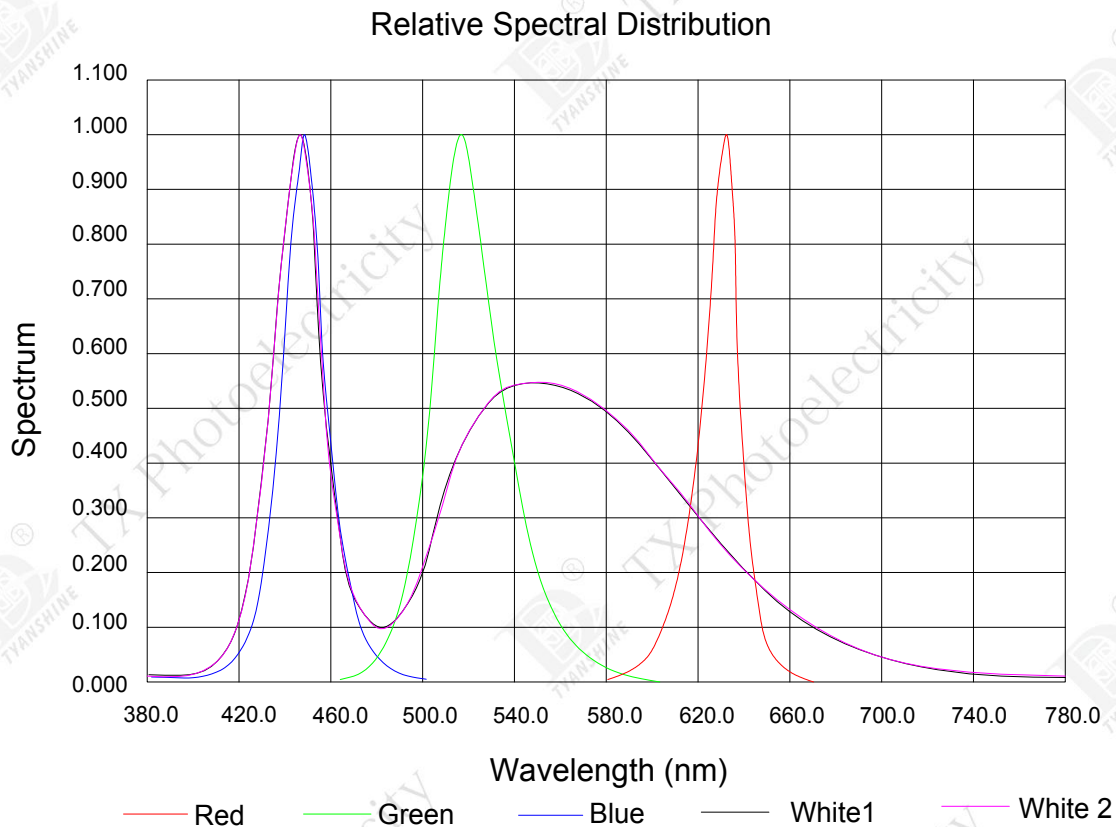
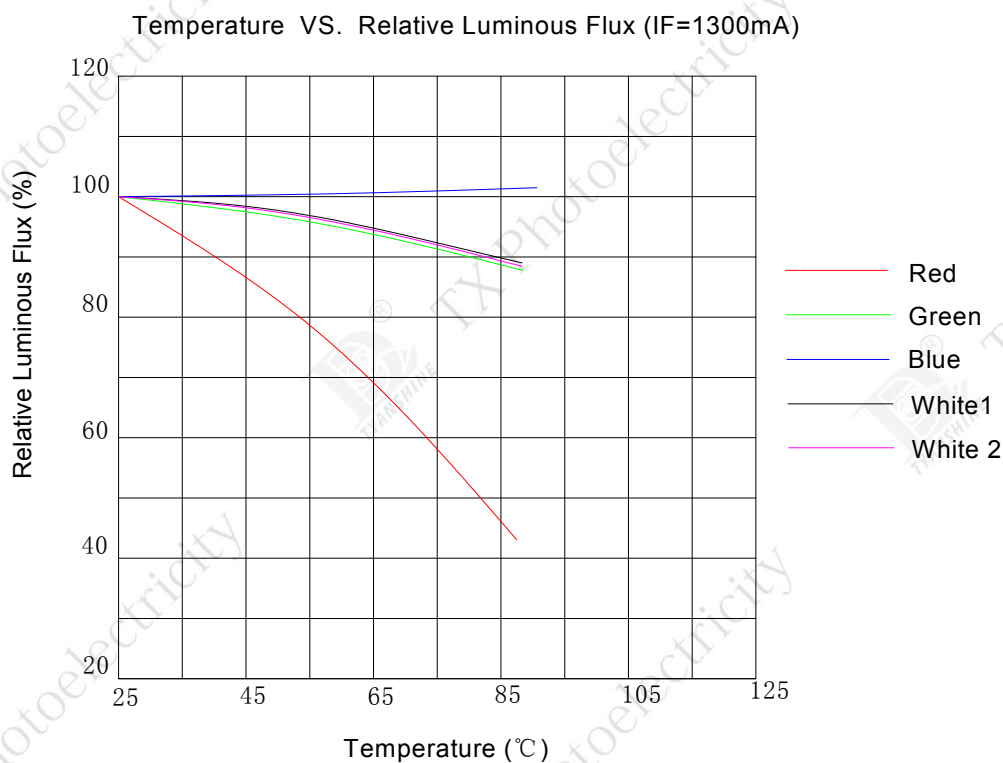
**Typical Electrical/Optical Characteristics Curves**

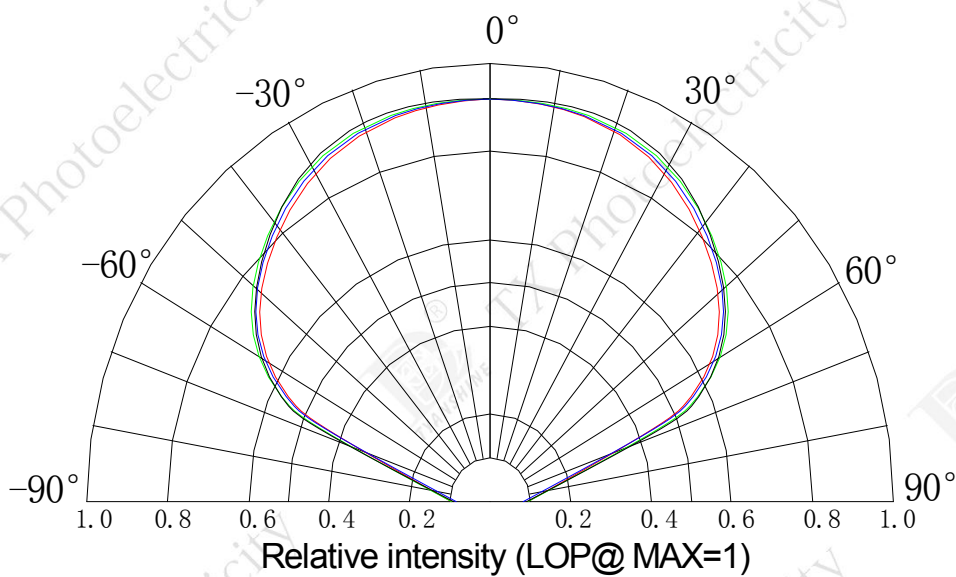
(25°C Ambient Temperature Unless Otherwise Noted)









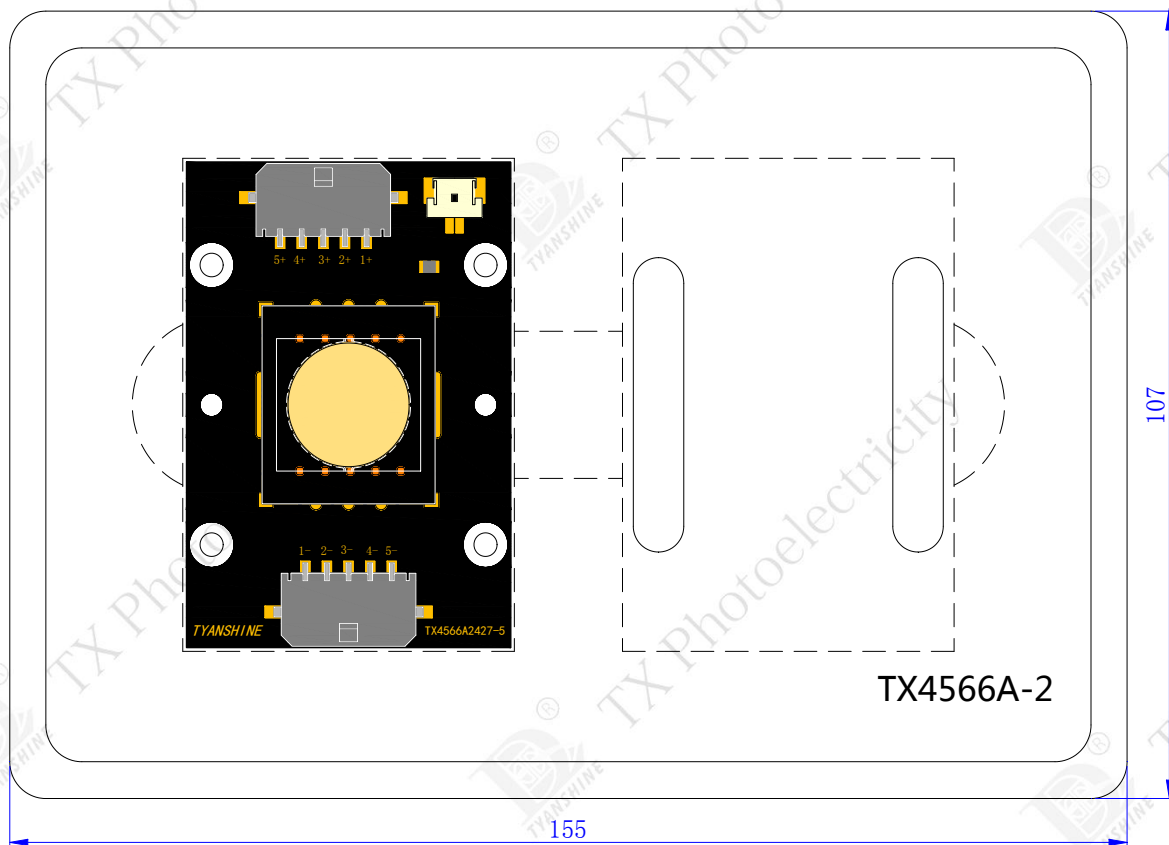


**Notes:**

1.  $2\theta_{1/2}$  is the off axis angle from lamp centerline where the luminous intensity is 1/2 of the peak value.
2. View angle tolerance is  $\pm 5^\circ$ .

## Dimensions For Cannulation And Packaging

Quantity: 2PCS



### Notes:

1. All dimensions are in millimeters.
2. Tolerances are  $\pm 2.0$  mm unless otherwise noted.
3. The products are packaged together with silica gel, Transport, not to the weight of welding LED light-emitting area, As a result of the weight of LED light-emitting zone in the quality of, Irresponsible of the Company.