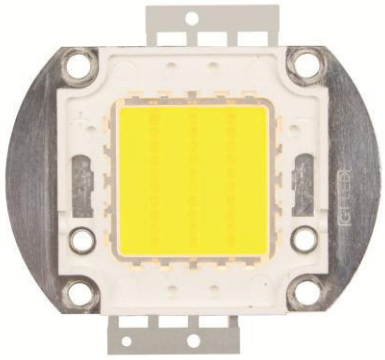
L-H30CW / L-H30WW — DATASHEET

CW: HIGH POWER LED – 30 W – COLD WHITE – 3150 LM
WW: HIGH POWER LED – 30 W – WARM WHITE – 3000 LM



Note: This power LED is delivered without heat sink. Take care of proper heat dissipation when using this LED.

Technical Datasheet

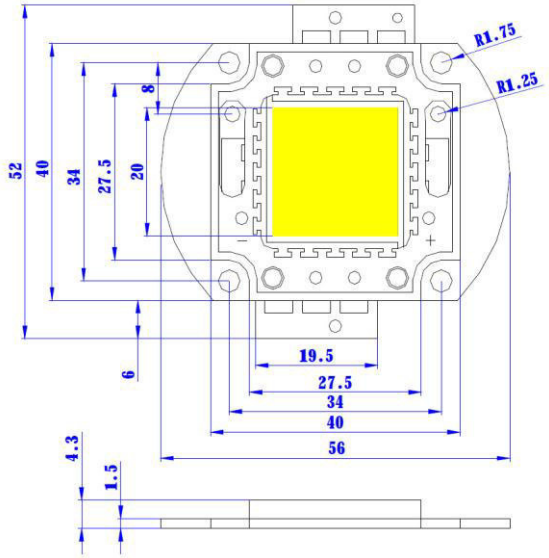
Applications

- general lighting
- architectural lighting
- decorative lighting
- flood lights, cast light lamps
- street and tunnel lamps.

Specification Summary

	L-H30CW	L-H30WW
colour	cold white	warm white
colour temperature	5500–6000 K	2900–3200 K
luminous flux	3150 lm	3000 lm
colour rendering index	> 80	
viewing angle	120°	
thermal resistance	12 °C/W	
forward current	1050 mA	
forward voltage	30–36 V	
maximum junction temperature	120 °C	
maximum operating temperature	60 °C	

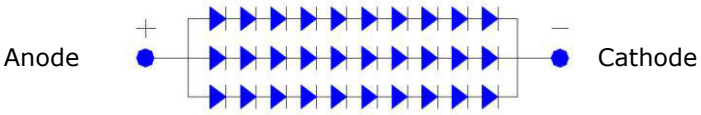
Dimensions



Notes:

- All dimensions are in millimetres (tolerance ± 0.20 mm).
- Drawings are not to scale.
- The appearance and specifications of the product may be changed for improvement without notice.

Circuit Layout



Characteristics

Electro-optical characteristics at T_a = 25 °C

Parameter	Symbol		Min.	Typ.	Max.	Unit
Luminous flux	Φ_V	CW	3000	–	3300	lm
		WW	2850	–	3150	
Correlated colour temperature	CCT	CW	5500	–	6000	K
		WW	2900	–	3200	
CRI	R_a		–	80	–	–
Forward voltage	V_F		30	–	36	V
Power dissipation	P_D		–	31.5	–	W
View angle	2θ½		–	120	–	deg.
Thermal resistance	$R_{\theta J-B}$		–	12	–	°C/W

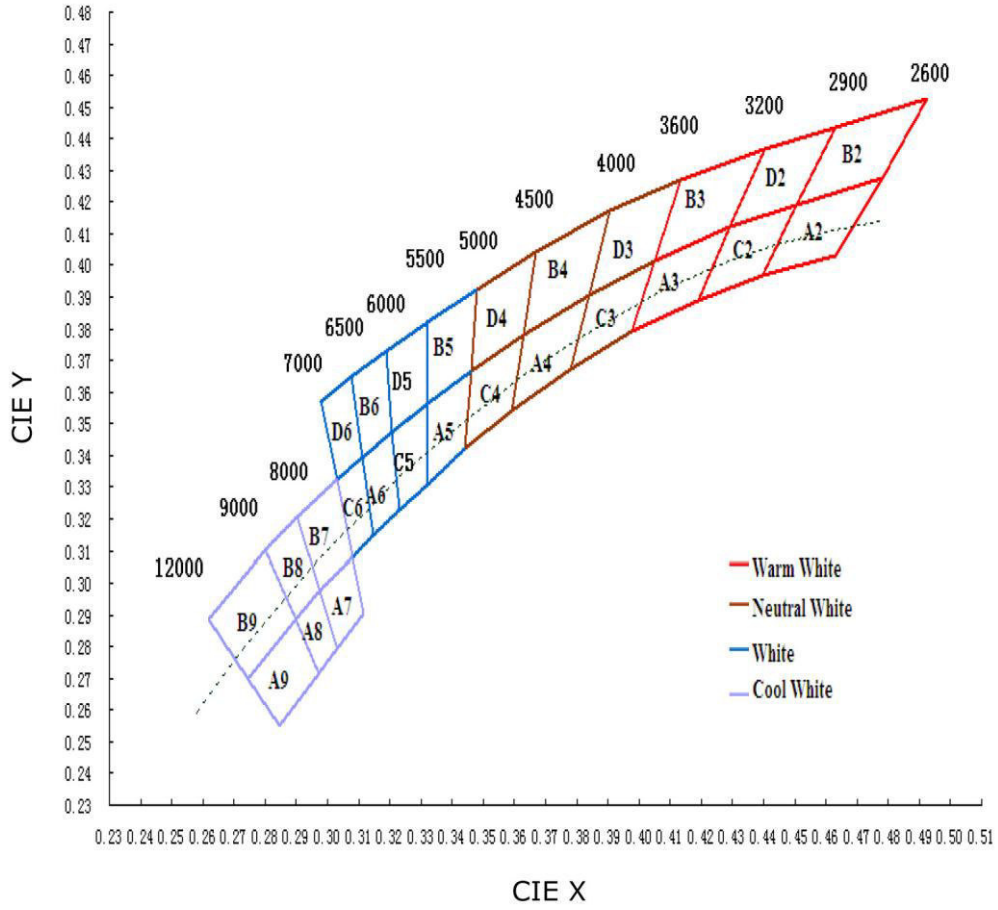
Notes

- Tolerance of luminous flux is ± 3 %.
- Tolerance of forward voltage is ± 0.1 V.

Absolute maximum ratings

Parameter	Symbol	Value	Unit
Forward current	I_F	1050	mA
Junction temperature	T_j	120	°C
Operating temperature	T_{opr}	-40 to +60	°C
Storage temperature	T_{stg}	0–60	°C
ESD sensitivity	–	± 2000 V HBM	–
Reverse voltage	V_R	Not designed for reverse operation	

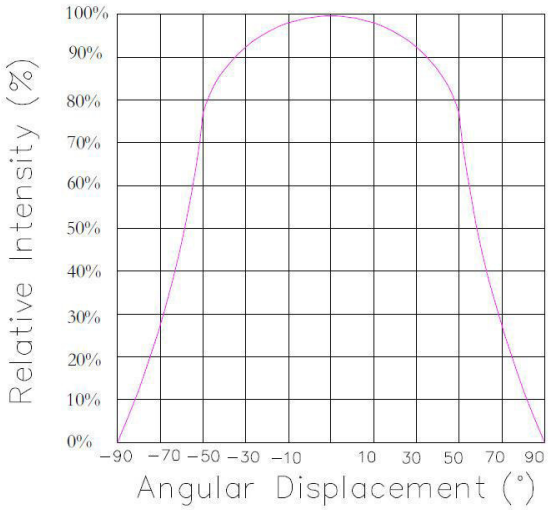
White Binning



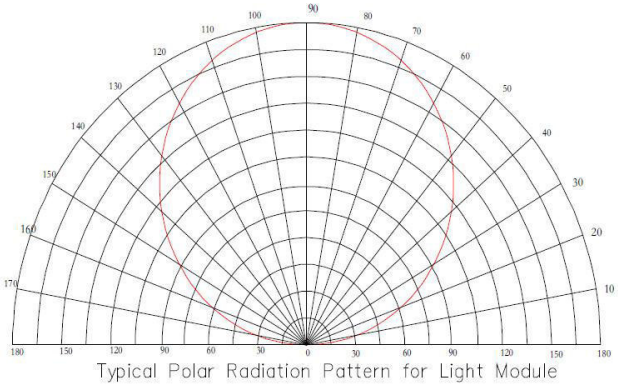
Note: The black line represents the black body locus in the CIE 1931 graph.

Typical Characteristic Curves

1. Typical Light Distribution Curve

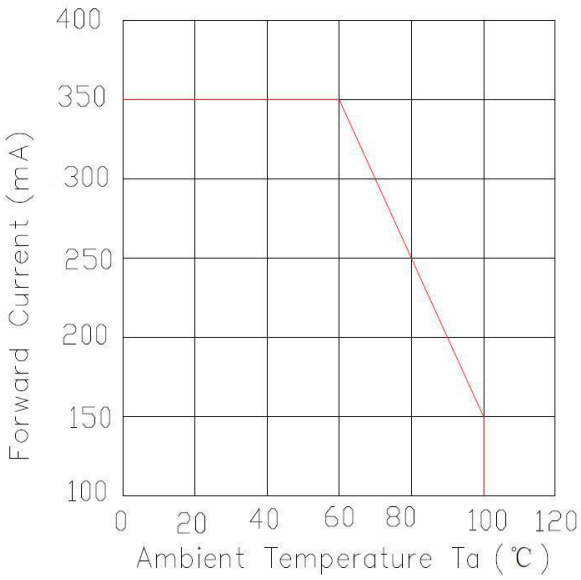


2. Typical Light-Emitting Angle Radiation Pattern

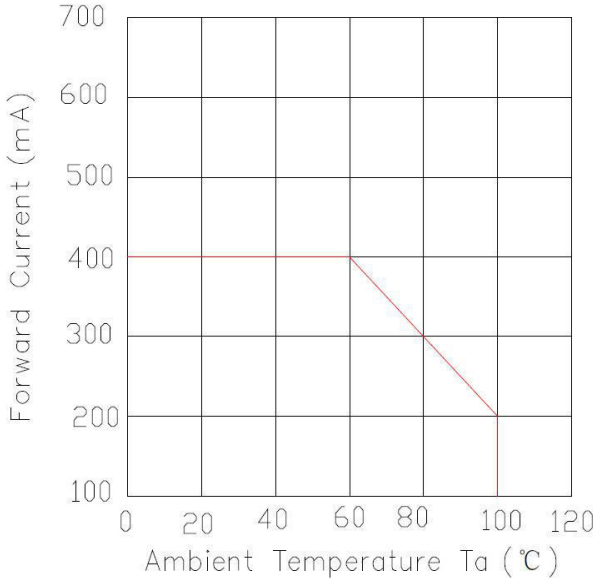


3. Forward Current Derating Curve Derating based on T_{imax} = 115 °C

3.1 White, Royal Blue, Blue, Green

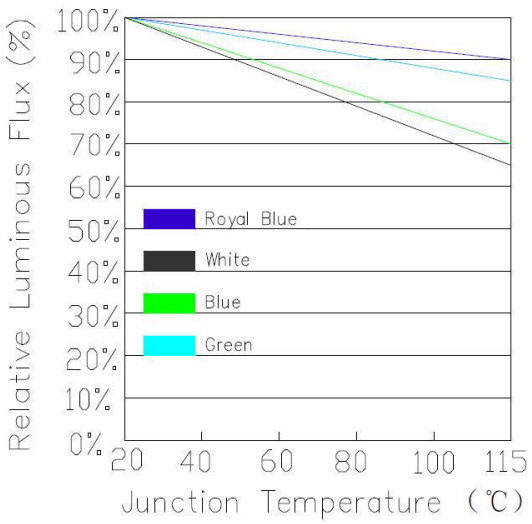


3.2 Amber, Red

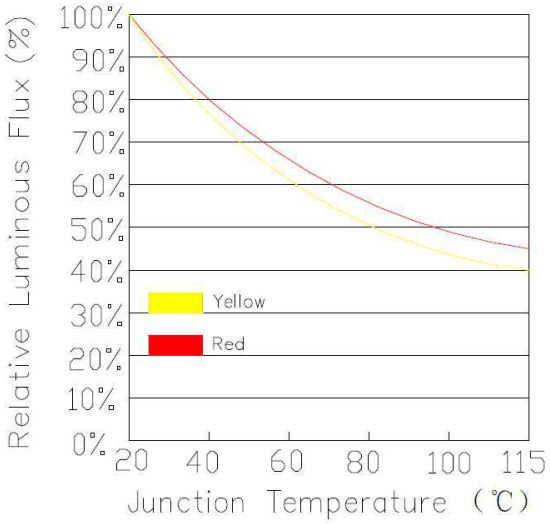


4. Relative Flux vs. Junction Temperature

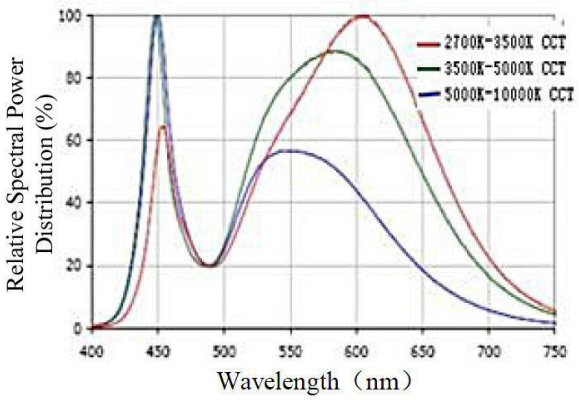
4.1 White, Royal Blue, Blue, Green



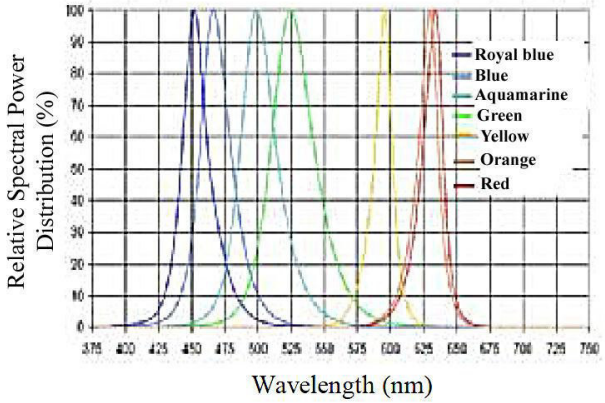
4.2 Amber, Red



5. Typical White Spectral Distribution



6. Relative Spectral Power Distribution



Reliability Test Items and Conditions

Test items	Test condition	Test hours / cycles	Sample size	Ac/Re
DC ageing	T_a = 25 °C I_F = 1050 mA	1000 h	22	0/1
Hot and cold shock	-40 °C, 30 min +100 °C, 30 min	100 cycles	22	0/1
High temperature storage	T_a = 100 °C	1000 h	22	0/1
High temperature high humidity	85 °C, 85 % RH	1000 h	22	0/1
Low temperature storage	T_a = -40 °C	1000 h	22	0/1
ESD (HBM)	2000 V HBM	1 time	10	0/1

Criteria for Judging Damage

Items	Symbol	Test condition	Criteria for judging damage
Forward voltage	V_F	I_F = 1050 mA	Initial data ± 10 %
Reverse current	I_R	V_R = 50 V	I_R ≤ 30 µA
Luminous flux	Φ_V	I_F = 1050 mA	Average Φ_V degradation ≤ 30 % Single LED Φ_V degradation ≤ 50 %

Soldering Condition

Only by manual welding.

Temperature	Soldering time
Highest 350 °C	3 s once

Note: Module holder products do not use reflow soldering.