

White High-Intensity LED Lamp

(5 mm, 15° Viewing Angle)

OVLEW1CB9



Features:

- Narrow beam angle
- High luminous intensity
- Water clear plastic package
- InGaN White
- Pb-free

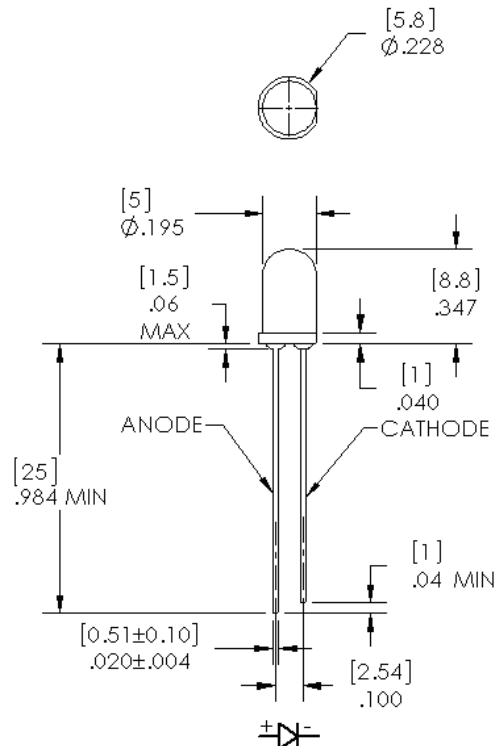
Description:

The round **OVLEW1CB9** is designed for applications that require a focused high luminous output, such as indoor and outdoor displays, marker lights and optical indicators. The phosphor used in the reflector converts the blue emission of the InGaN chip to the ideal white light.

Applications:

- Indoor/outdoor displays and applications
- Message boards
- Store front signage
- Indicators
- Retail display lighting

Part Number	Material	Emitted Color	Intensity Typ. mcd	Lens Color
OVLEW1CB9	InGaN	White	35,000	Clear



ALL DIMENSIONS ARE IN INCHES [MM].
UNLESS OTHERWISE SPECIFIED TOLERANCES ARE ± 0.10 [.25].



DO NOT LOOK DIRECTLY AT LED WITH UNSHIELDED EYES OR DAMAGE TO RETINA MAY OCCUR.

General Note
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OPTEK Technology, Inc.
1645 Wallace Drive, Carrollton, TX 75006 | Ph: +1 972 323 2200
www.ttelectronics.com/optek-technology

Electrical Specifications

Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)	
Storage Temperature Range	-40 ~ +100 °C
Operating Temperature Range	-40 ~ +95 °C
Reverse Voltage	5 V
Continuous Forward Current	30 mA
Peak Forward Current (10% Duty Cycle, 1 KHz)	100 mA
Power Dissipation	120 mW
Lead Soldering Temperature (3 mm from the base of the epoxy bulb / 3 seconds max).	260° C
Electrostatic Discharge Classification (JEDEC-JESD22-A114F)	Class 2

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
I_V	Luminous Intensity	20,150	35,000	46,100	mcd	$I_F = 20\text{ mA}$
V_F	Forward Voltage	----	3.2	4.0	V	$I_F = 20\text{ mA}$
I_R	Reverse Current	----	----	100	μA	$V_R = 5\text{ V}$
$2\theta_{\frac{1}{2}}$	50% Power Angle	----	15	----	deg	$I_F = 20\text{ mA}$
x	Chromaticity Coordinates	----	0.2895	----	----	$I_F = 20\text{ mA}$
y		----	0.2905	----	----	$I_F = 20\text{ mA}$

Standard Bins ($I_F = 20\text{mA}$)

LEDs are sorted to luminous intensity (I_V), forward voltage (V_F) and chromaticity coordinates (x, y) bins listed in the following tables. Each bag consists of a single luminous intensity bin, single forward voltage bin and a single chromaticity bin. Orders are filled using all intensity and chromaticity bins listed in the following tables. Optek will not accept orders for single intensity bins, single forward voltage bins or single chromaticity bins.

IV	Luminous Intensity	
	Code	Min (mcd) / Max (mcd)
Bb	20,150 / 23,500	
Ca	23,500 / 28,200	
Cb	28,200 / 32,900	
Da	32,900 / 39,500	
Db	39,500 / 46,100	

V_F	Forward Voltage	
	Code	Min (V) / Max (V)
27	2.8 / 3.0	
28	3.0 / 3.2	
29	3.2 / 3.4	
2a	3.4 / 3.6	
2b	3.6 / 3.8	
2c	3.8 / 4.0	

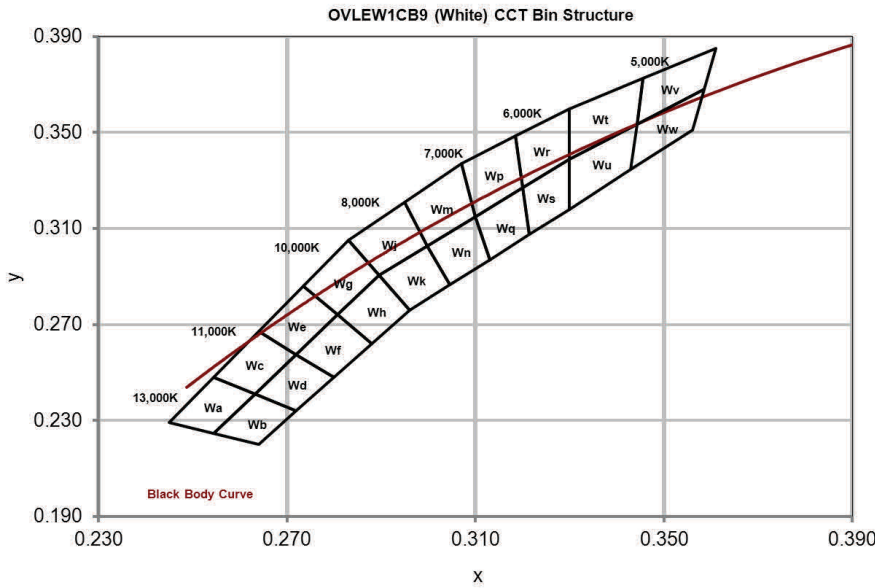
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Chromaticity Coordinates (x, y)

Rank	W_a				W_b				W_c				W_d			
Cx	0.2545	0.2633	0.2545	0.2450	0.2633	0.2720	0.2640	0.2545	0.2545	0.2640	0.2720	0.2633	0.2633	0.2720	0.2800	0.2720
Cy	0.2480	0.2410	0.2245	0.2290	0.2410	0.2340	0.2200	0.2245	0.2480	0.2670	0.2575	0.2410	0.2410	0.2575	0.2480	0.2340
Rank	W_e				W_f				W_g				W_h			
Cx	0.2640	0.2735	0.2808	0.2720	0.2720	0.2808	0.2880	0.2800	0.2735	0.2830	0.2895	0.2808	0.2808	0.2895	0.2960	0.2880
Cy	0.2670	0.2860	0.2740	0.2575	0.2575	0.2740	0.2620	0.2480	0.2860	0.3050	0.2905	0.2740	0.2740	0.2905	0.2760	0.2620
Rank	W_j				W_k				W_m				W_n			
Cx	0.2830	0.2950	0.2998	0.2895	0.2895	0.2998	0.3045	0.2960	0.2950	0.3070	0.3100	0.2998	0.2998	0.3100	0.3130	0.3045
Cy	0.3050	0.3210	0.3028	0.2905	0.2905	0.3028	0.2865	0.2760	0.3210	0.3370	0.3150	0.3028	0.3028	0.3150	0.2970	0.2865
Rank	W_p				W_q				W_r				W_s			
Cx	0.3070	0.3185	0.3200	0.3100	0.3100	0.3200	0.3215	0.3130	0.3185	0.3300	0.3300	0.3200	0.3200	0.3300	0.3300	0.3215
Cy	0.3370	0.3485	0.3270	0.3150	0.3150	0.3270	0.3075	0.2970	0.3485	0.3600	0.3390	0.3270	0.3270	0.3390	0.3180	0.3075
Rank	W_t				W_u				W_v				W_w			
Cx	0.3300	0.3455	0.3443	0.3300	0.3300	0.3443	0.3430	0.3300	0.3455	0.3610	0.3585	0.3443	0.3443	0.3585	0.3560	0.3430
Cy	0.3600	0.3725	0.3535	0.3390	0.3390	0.3535	0.3345	0.3180	0.3725	0.3850	0.3680	0.3535	0.3535	0.3680	0.3510	0.3345

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Performance

Typical Electro-Optical Characteristics Curves

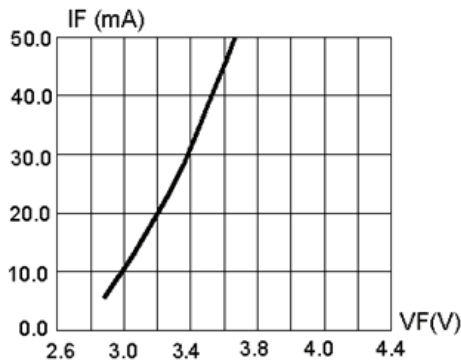


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

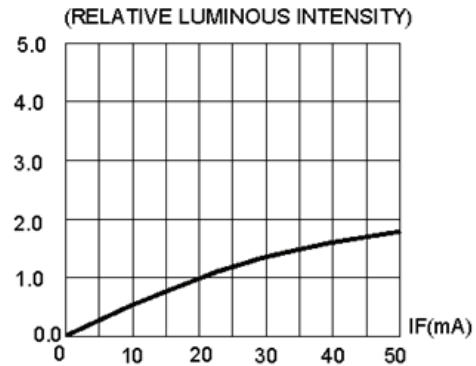


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

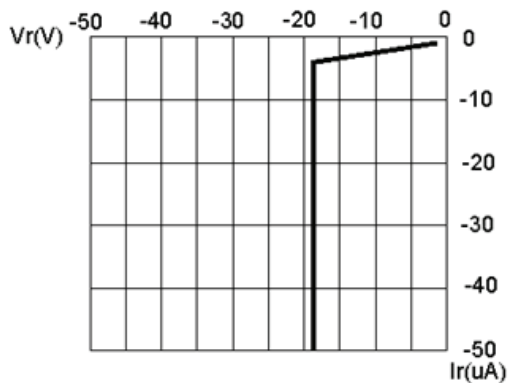


FIG.3 REVERSE CURRENT VS. REVERSE VOLTAGE.

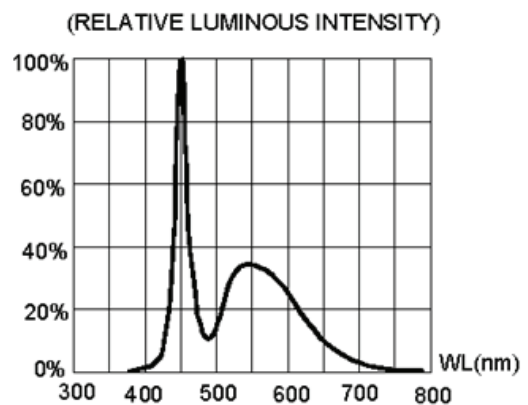


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

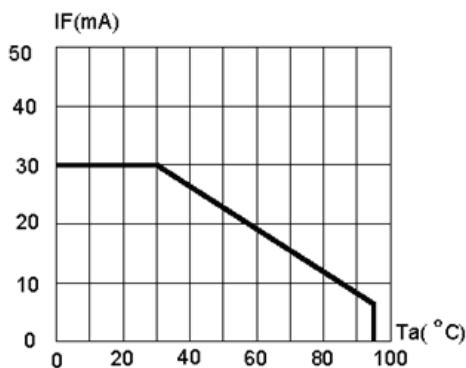


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE ($T_{jmax}=105^{\circ}\text{C}$)

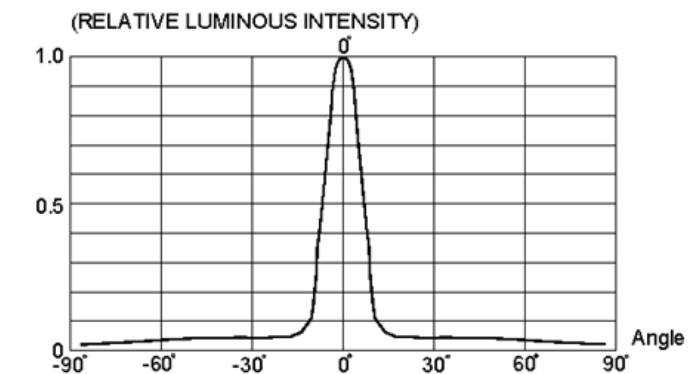


FIG.6 FAR FIELD PATTERN

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Packaging

Packaging: 500 pcs per anti-static bag with desiccant

