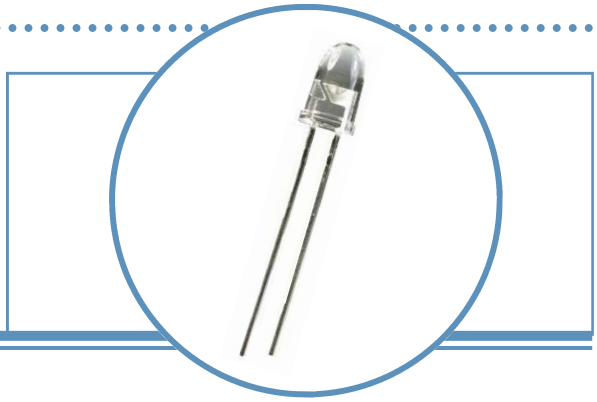
White High-Intensity LED Lamp (5 mm, 15° Viewing Angle)

TT electronics
OPTEK Technology

OVLEW1CB9

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

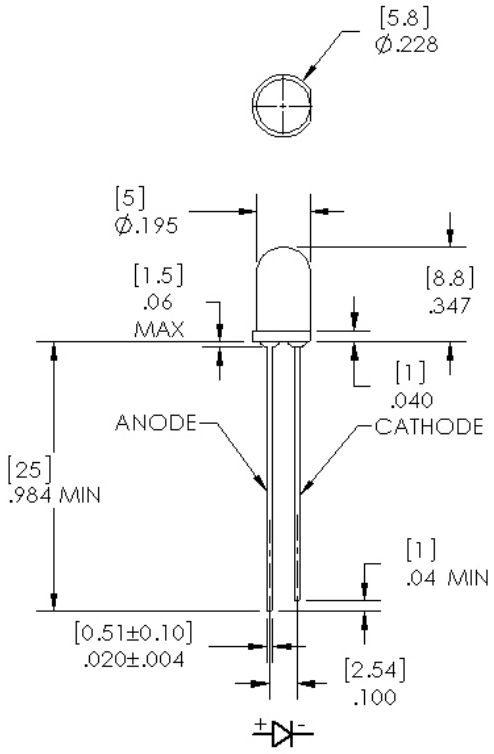


The round **OVLEW1CB9** is designed for applications that require a focused high luminous output, such as indoor and outdoor displays, marker lights and optical indicators. The phosphor used in the reflector converts the blue emission of the InGaN chip to the ideal white light.

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 ±.010 [.25].

RoHS

ATTENTION
OBSERVE PRECAUTIONS
ELECTROSTATIC
SENSITIVE DEVICES

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

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

Absolute Maximum Ratings $T_A = 25^o C$

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 $T_A = 25^o C$

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
I_V	Luminous Intensity	16,800	35,000		mcd	$I_F = 20$ mA
V_F	Forward Voltage	----	3.2	4.0	V	$I_F = 20$ mA
I_R	Reverse Current	----	----	100	µA	$V_R = 5$ V
2 Θ½	50% Power Angle	----	15	----	deg	$I_F = 20$ mA
x	Chromaticity Coordinates	----	0.2895	----	----	$I_F = 20$ mA
y		----	0.2905	----	----	$I_F = 20$ mA

Standard Bins (I_F = 20mA)

LEDs are sorted to luminous intensity (IV), 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)
Ba	16,800	20,150
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

OPTEK Technology Inc. — 1645 Wallace Drive, Carrollton, Texas 75006
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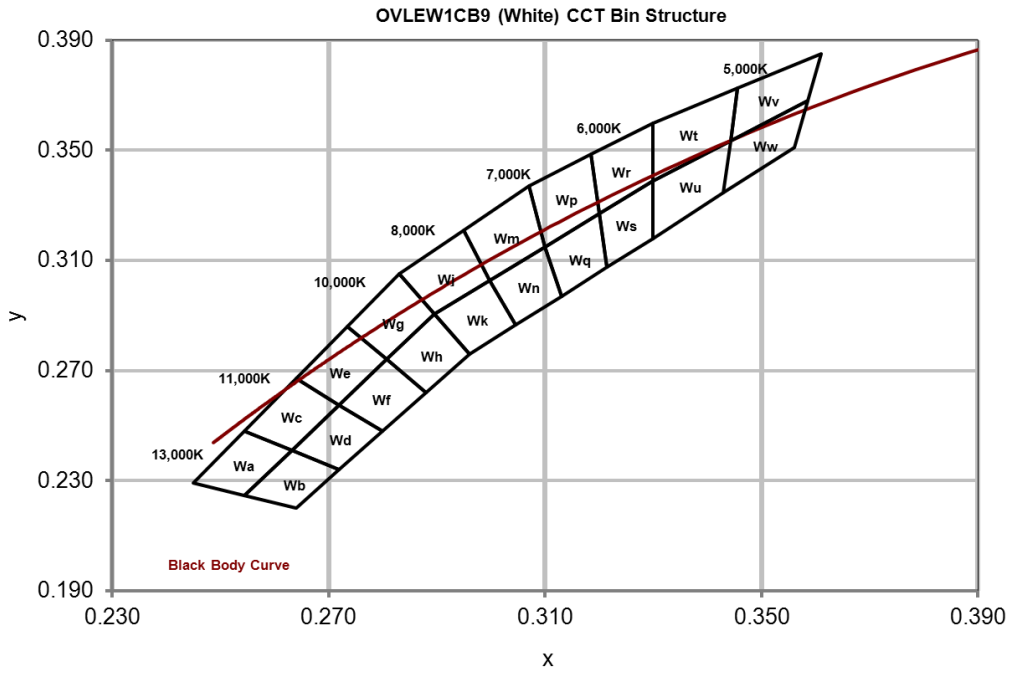
LEDs are sorted to luminous intensity (IV), forward voltage (V_F) and chromaticity coordinates (x, y) bins listed in the following tables. Each bag consists of a single luminous intensity bin, single forward voltage bin and a single chromaticity bin. Orders are filled using all intensity and chromaticity bins listed in the following tables. Optek will not accept orders for single intensity bins, single forward voltage bins or single chromaticity bins.



Chromaticity Coordinates (x, y)

Rank	Wa				Wb				Wc				Wd			
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	**We**				**Wf**				**Wg**				**Wh**			
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	**Wj**				**Wk**				**Wm**				**Wn**			
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	**Wp**				**Wq**				**Wr**				**Ws**			
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	**Wt**				**Wu**				**Wv**				**Ww**			
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

Typical Electro-Optical Characteristics Curves

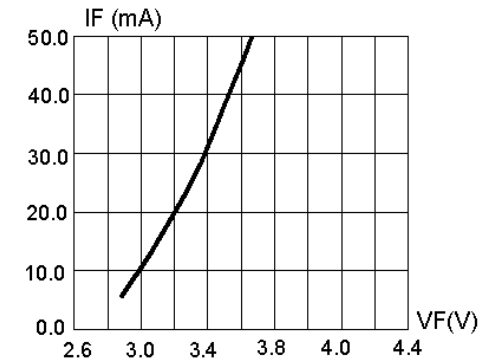


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

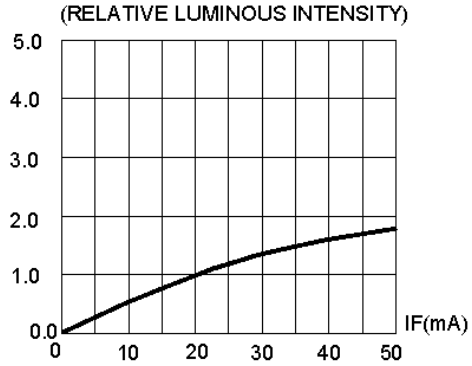


FIG.2 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

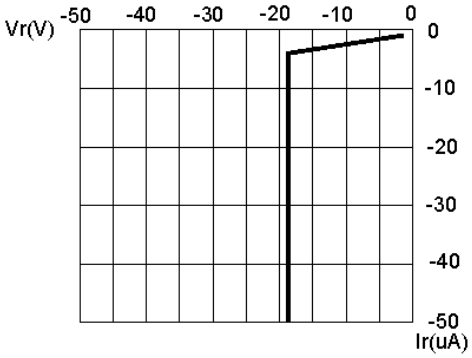


FIG.3 REVERSE CURRENT VS. REVERSE VOLTAGE.

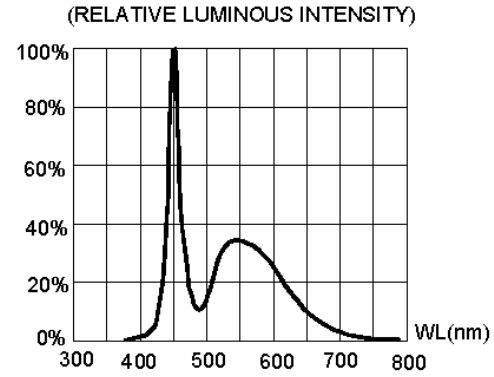


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

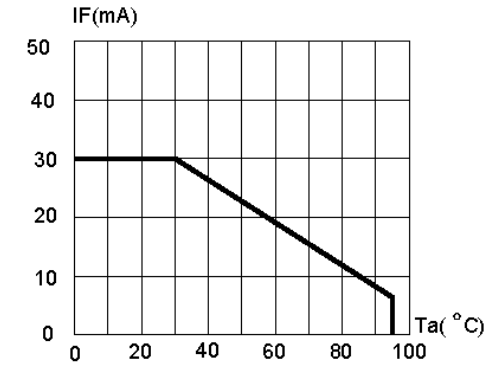


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE (Tjmax=105°C)

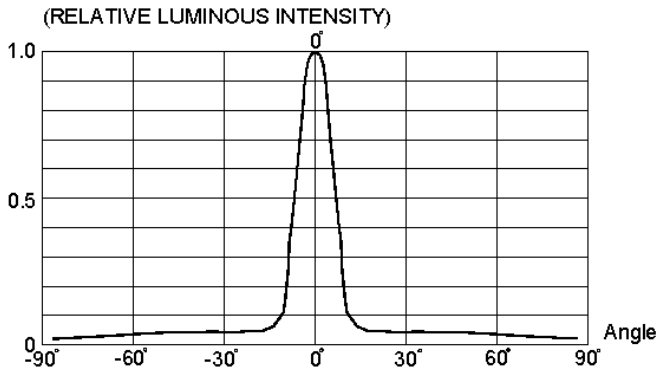


FIG.6 FAR FIELD PATTERN

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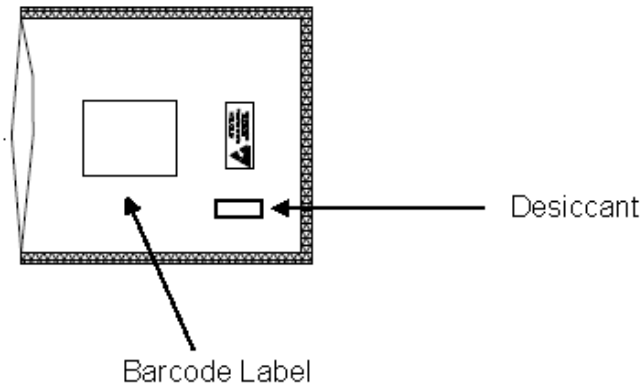
Packaging: 500 pcs per anti-static bag with desiccant



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