

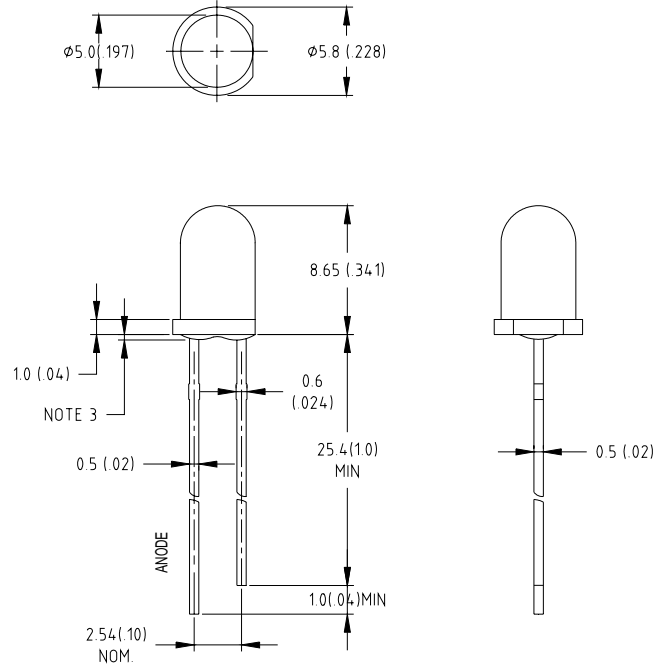
SPECIFICATIONS FOR UPEC LAMP TYPE BLUE LED

MODEL: UE-LR500NB0-1XB-CL

Features

- High Luminous intensity
- Standard T-1 3/4 diameter package
- General purpose leads
- Reliable and rugged

Package Dimensions



Part NO.	Chip Material	Lens Color	Source Color
UE-LR500NB0-1XB-CL	InGaN	Water Clear	Blue

Notes

- All dimensions are in millimeters (inches).
- Tolerance is $\pm 0.25\text{mm}$ (.010") unless otherwise noted.
- Protruded resin under flange is 1.5mm (.06") max.
- Lead spacing is measured where the leads emerge from the package.

			Approved	Checked	Symbol	UPEC LED
			Joseph	Stone	Name	UE-LR500NB0-1XB-CL
					Drawing No	WIENDS433
-	MAR/03/05					
Mark	Date	Description Approve				

Absolute Maximum Ratings at Ta=25

Parameter	Symbol	Max	Unit
Power Dissipation	PD	110	mW
Pulse Forward Current	IPF	100	mA
Forward Current	IF	30	mA
Reverse Voltage	VR	5	V
Operating Temperature Range	Topr	- 40 to + 80	°C
Storage Temperature Range	Tstg	- 40 to + 80	°C
Lead Soldering Temperature [1.6mm (0.063inch) From Body] 260 °C For 5 Seconds			

Electrical / Optical Characteristics at Ta=25

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	Iv	2200	4900	---	mcd	IF=20mA
Viewing Angle	2θ _{1/2}	---	15	---	Deg	IF=20mA
Dominant Wavelength	λ _d	465	470	475	nm	IF=20mA
Forward Voltage	V _F	---	3.2	4.0	V	IF=20mA
Reverse Current	I _R	---	---	100	μA	VR = 5V

BIN	LR	LS	LT	LU	---	---
Range	2200-3300	3300-4900	4900-7300	7300---	---	---

Measurement Uncertainty of the Luminous Intensity: ± 15%

Measurement Uncertainty of the Dominant Wavelength: ±1nm

Measurement Uncertainty of the Forward Voltage: ±0.1V

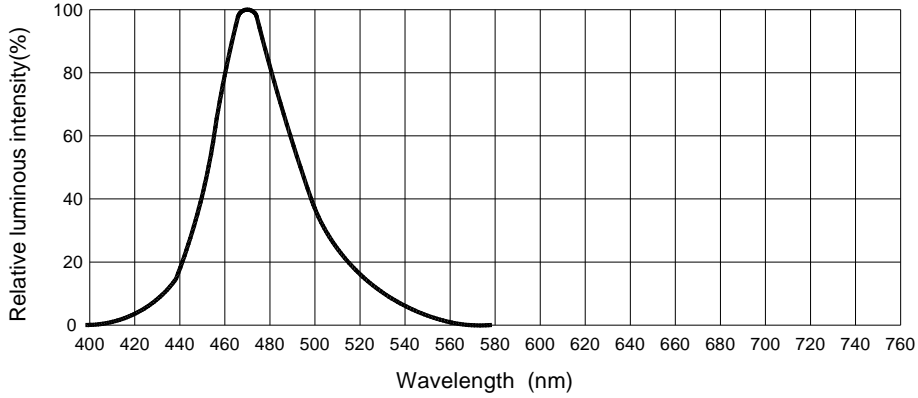
Notes

- Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
- θ_{1/2} is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
- The dominant wavelength (λ_d) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.

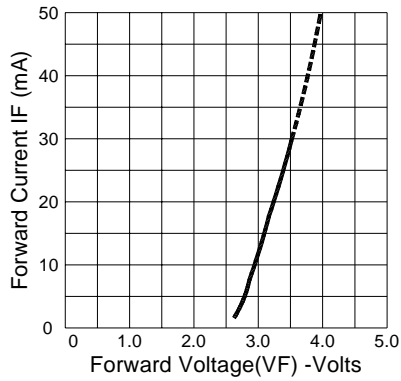
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Typical Electrical / Optical Characteristics Curves

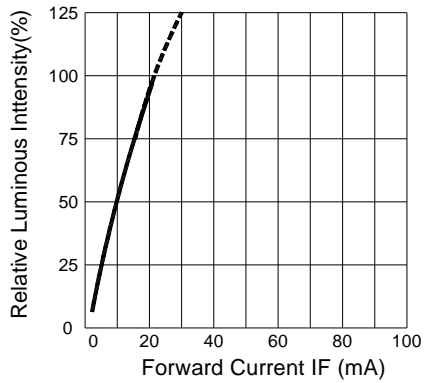
Spectrum Distribution



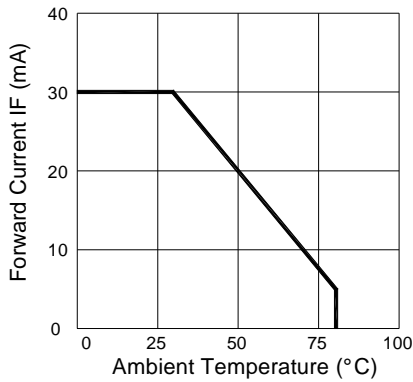
Forward Current VS. Forward Voltage



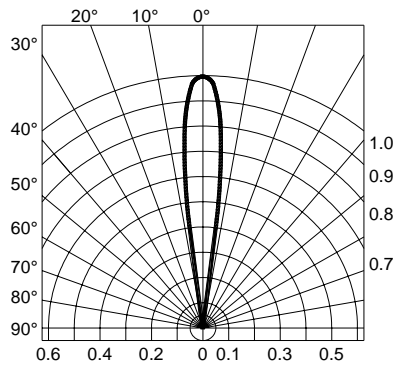
Luminous Intensity VS. Forward Current



Forward Current VS. Ambient Temperature



Radiation Diagram



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Reliability Test Items and Conditions

No.	Item	Test Conditions	Test Hours / Cycle	Sample Q'ty	Ac/Re
1	Solder Heat	TEMP : 260 ±5	5 sec	22 pcs	0/1
2	Temperature Cycle	H : +85 30min. ∩ 5min. L : -35 30min.	50 cycle	22 pcs	0/1
3	Thermal Shock	H : +85 ∩ 5min. L : -35 5min.	50 cycle	22 pcs	0/1
4	High Temperature Storage	TEMP : 85	1000 hrs	22 pcs	0/1
5	Low Temperature Storage	TEMP : -35	1000 hrs	22 pcs	0/1
6	DC Operating Life	I _F = 20mA	1000 hrs	22 pcs	0/1
7	High Temperature / High Humidity	65 / 85 ~ 90% R.H.	1000 hrs	22 pcs	0/1

Judgment Criteria

Forward Voltage V _f	V _{fmax} Increase < 1.2x
Reverse Current I _r	I _{rmax} Increase < 2x
Luminous Intensity I _v	I _v Decay < 50%

Note : Measurement shall be taken after the tested samples have been returned to normal ambient conditions (generally after two hours)

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