LIGHTHOUSE LEDs

Technical Data Sheet

Product Name:	5mm / 4.8mm Diffused Straw Hat Wide Angle Blue LED - Wide Angle
Part Number:	5MMSTRAWHATDIFFUSEDLEDBLUE
SKU:	5MMSTRAWHATDIFFUSEDLEDBLUE
Package:	5mm Straw Hat
Date:	2026-03-30

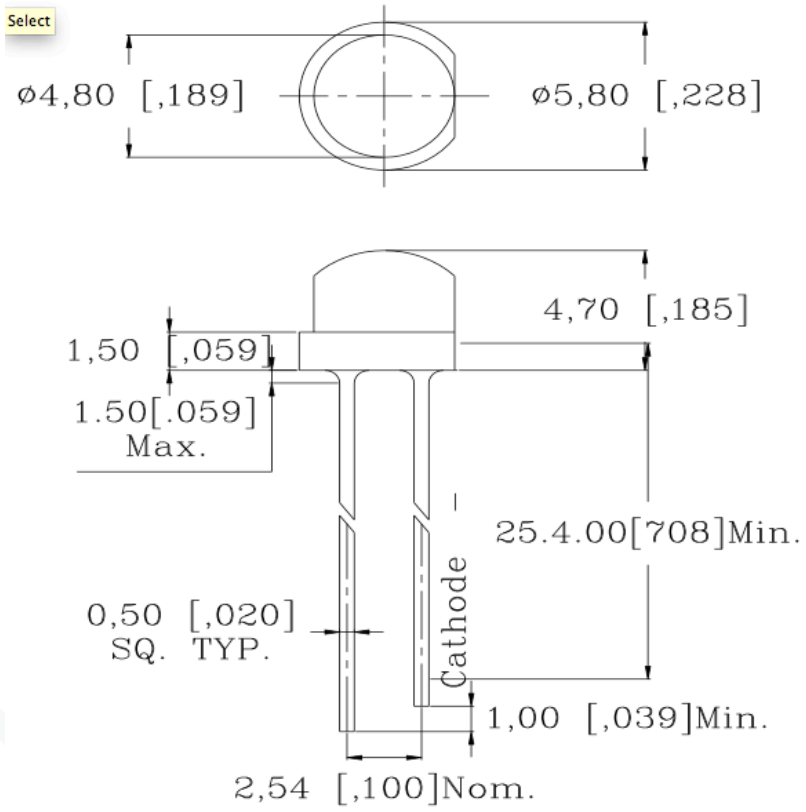
Document Control		
Prepared by	Checked by	Approved by

Lighthouse LEDs

1. Features

- Package: 5mm Straw Hat
- Color: Ultra Bright Blue
- Lens: Diffused In Emitting Color
- Die Material: InGaN
- RoHS Compliant, Lead-Free

2. Outline Dimensions



Unit	Tolerance	Die Material	Lens Color	Emission Color
mm	±0.2mm	InGaN	Diffused In Emitting Color	Blue

3. Electrical / Optical Characteristics (Ta = 25°C, RH 60%)

Parameter	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward Voltage	VF	IF = 20mA	3.0	—	3.4	V
Reverse Current	IR	VR = 5V	—	—	5	μA
Luminous Intensity	IV	IF = 20mA	7000	—	9000	mcd
Viewing Angle	2θ1/2	IF = 20mA	—	120	—	°
Dominant Wavelength	λd	IF = 20mA	460	—	465	nm
Spectral Line Half-Width	Δλ	IF = 20mA	—	20	—	nm

Remark: Tolerance of intensity ±15%, wavelength ±1nm, forward voltage ±0.05V. For reference only.

4. Absolute Maximum Ratings (Ta = 25°C, RH 60%)

Parameter	Symbol	Value	Unit	Remark
Forward Current	IF	20	mA	—
Peak Forward Current	IFM	75	mA	F=1kHz, duty cycle 1/10
Reverse Voltage	VRP	15	V	—
Power Dissipation	Pd	85	mW	—
Operating Temperature	Tamb	-25 to +80	°C	—
Storage Temperature	Tstg	-35 to +85	°C	—
Soldering Temperature	Tsol	320°C wave, 3mm from body, ≤5s		

Lightronics LEDs

5. Typical Electrical / Optical Characteristic Curves

Fig.1 Relative Intensity vs. Wavelength

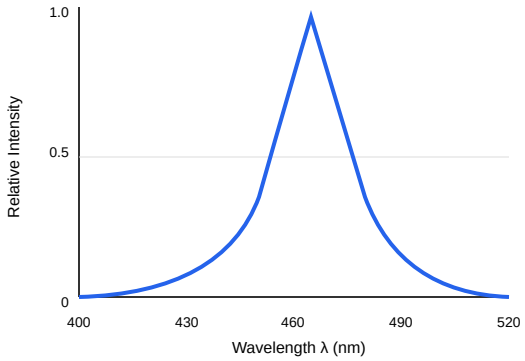


Fig.2 Forward Current Derating vs. Temperature

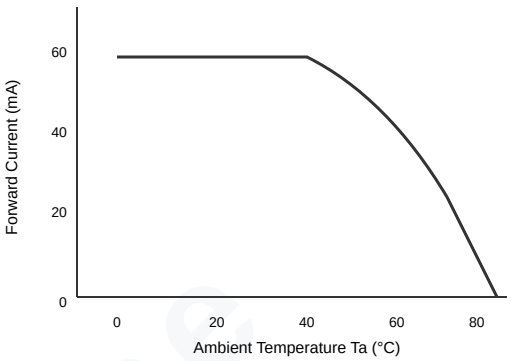


Fig.4 Relative Intensity vs. Forward Current

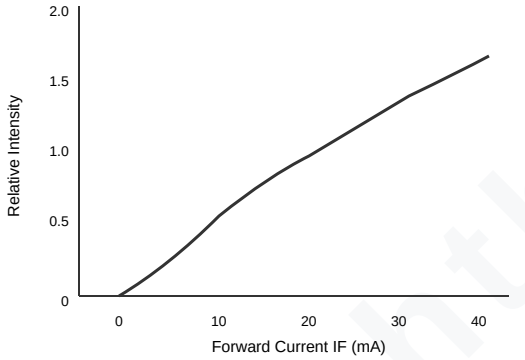


Fig.5 Intensity vs. Ambient Temperature

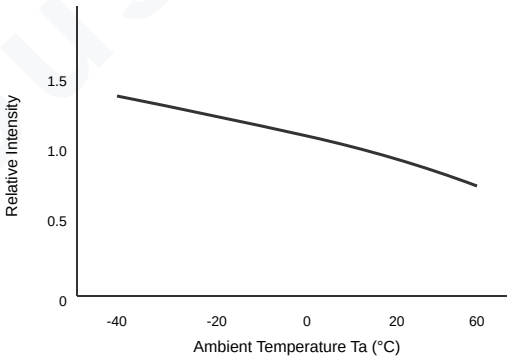
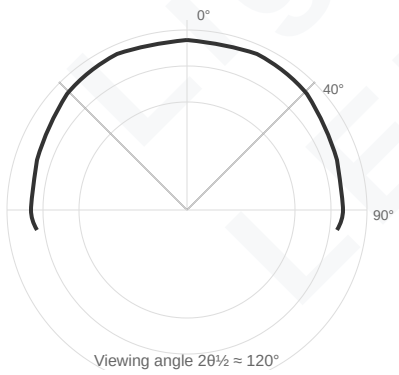


Fig.6 Spatial Distribution (Radiation Pattern)



Lighthouse LEDs

6. Reliability Test Data

Test	Standard	Conditions	Duration	Qty	Failures
Life Test (room temp)	JIS7021:B4	Ta = 25°C ±5°C, IF = 30mA	100 hrs	22	0
High Temperature Storage	JIS7021:B10 / MIL-STD-202:210A	Ta = 85°C ±5°C	1000 hrs	22	0
Low Temperature Storage	JIS7021:B12	Ta = -35°C ±5°C	1000 hrs	22	0
High Temp / Humidity	JIS7021:B11 / MIL-STD-202:103D	Ta = 85°C ±5°C, RH = 85%	1000 hrs	22	0
Thermal Shock	JIS7021:B4 / MIL-STD-202:107D	-10°C ↔ +100°C, 5min each	50 cycles	22	0
Temperature Cycling	JIS7021:A3 / MIL-STD-705:105E	-35°C ~ -25°C ~ 85°C ~ -35°C	50 cycles	22	0

7. Application Notes

- Always use a current-limiting resistor. See **lighthouseleds.com/blog/led-resistor-calculator.html**
- For AC or DCC power, add a bridge rectifier. See **lighthouseleds.com/blog/bridge-rectifier-led-ac-dcc-landscape-lighting.html**
- Observe polarity: longer lead = anode (+), shorter lead with flat = cathode (−).
- Do not exceed maximum forward current (20mA continuous).

Lighthouse LEDs, LLC — Medical Lake, WA 99022
lighthouseleds.com — support@lighthouseleds.com — 509-220-7537
Specifications subject to change without notice. Data is for reference only.