LIGHTHOUSE LEDs

Technical Data Sheet

Product Name:	3mm Piranha UV / Purple LED - Ultra Bright Superflux
Part Number:	3MMPIRANHALEDUVPURPLE
SKU:	3MMPIRANHALEDUVPURPLE
Package:	3mm Piranha Superflux
Date:	2026-03-30

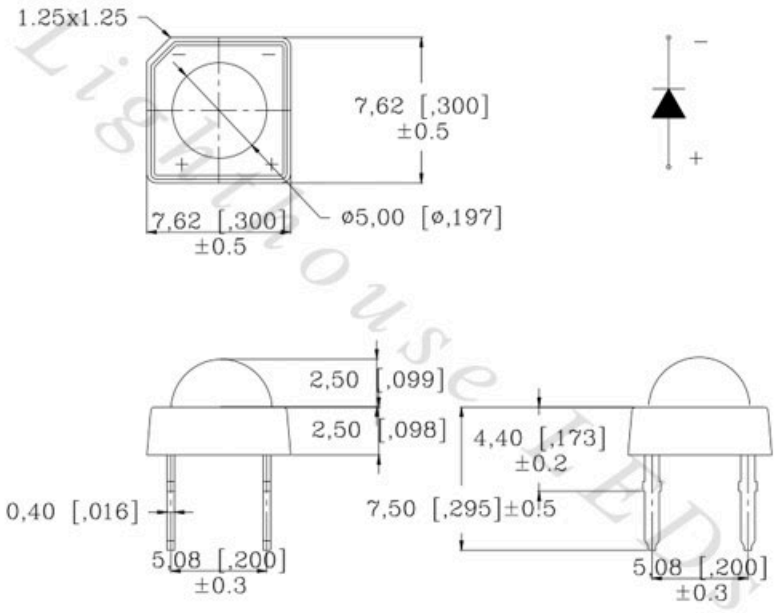
Document Control		
Prepared by	Checked by	Approved by

Lighthouse LEDs

1. Features

- Package: 3mm Piranha Superflux
- Color: Ultra Bright UV/Purple
- Lens: Clear
- Die Material: InGaN
- RoHS Compliant, Lead-Free

2. Outline Dimensions



Unit	Tolerance	Die Material	Lens Color	Emission Color
mm	±0.2mm	InGaN	Clear	UV/Purple

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

Parameter	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward Voltage	VF	IF = 20mA	3.0	—	3.6	V
Reverse Current	IR	VR = 5V	—	—	5	μA
Luminous Intensity	IV	IF = 20mA	2000	—	4000	mcd
Viewing Angle	2θ1/2	IF = 20mA	—	100	—	°
Dominant Wavelength	λd	IF = 20mA	395	—	400	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	70	mA	—
Peak Forward Current	IFM	100	mA	F=1kHz, duty cycle 1/10
Reverse Voltage	VRP	5	V	—
Power Dissipation	Pd	200	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		

Lightbulbs LEDs

5. Typical Electrical / Optical Characteristic Curves

Fig.1 Relative Intensity vs. Wavelength

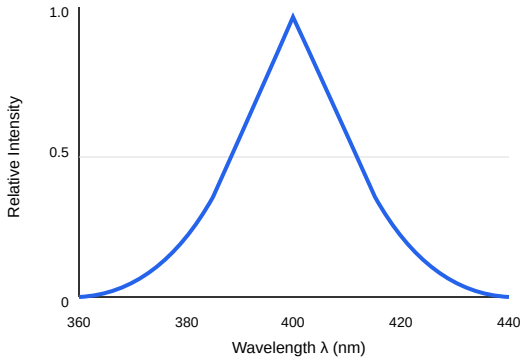


Fig.2 Forward Current Derating vs. Temperature

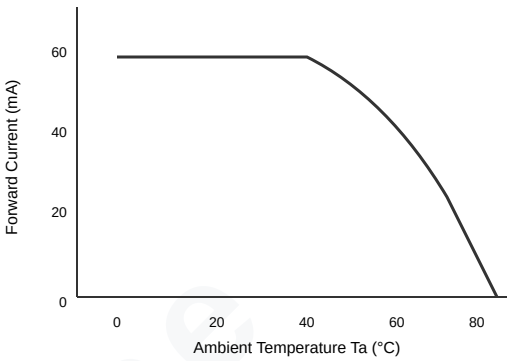


Fig.4 Relative Intensity vs. Forward Current

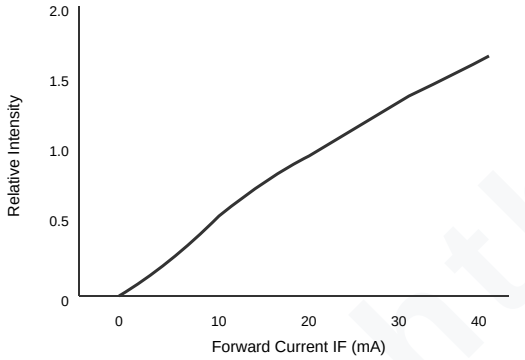


Fig.5 Intensity vs. Ambient Temperature

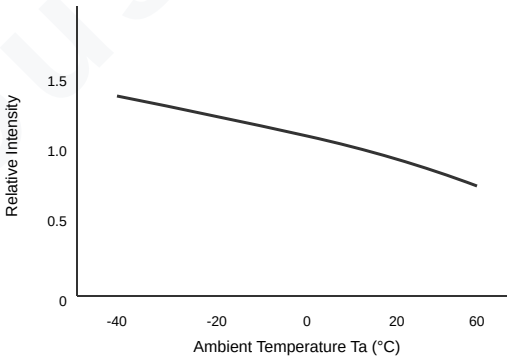
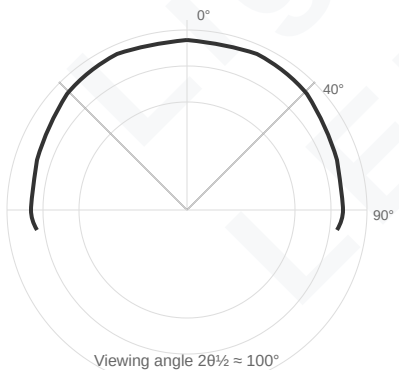


Fig.6 Spatial Distribution (Radiation Pattern)



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 (70mA 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.