

Features

- Independent White and Amber channels for White Light Effects and control (external driver required)
- Selected LUXEON High Brightness LEDs
- Luxeon Optics Compatible
- High Luminous Output
- High Lumen Maintenance
- No UV
- Aluminium-Core PCB
- Over Temperature sensor
- Optimised thermal management
- Energy efficient
- Compact low profile design
- RoHS 6 compliant (Directive 2002/95/EC)



Optical & Electrical Characteristics

ROAL's planar LED arrays are designed to operate under constant current operating conditions, and controlled operating temperatures. The parameters listed below are designed to detail limitations of the device. These limitations are specific to the LEDs deployed on the board. For more detail we recommend you consult the LED manufacturer's datasheets. All parameters assume a junction temperature of 25°C.

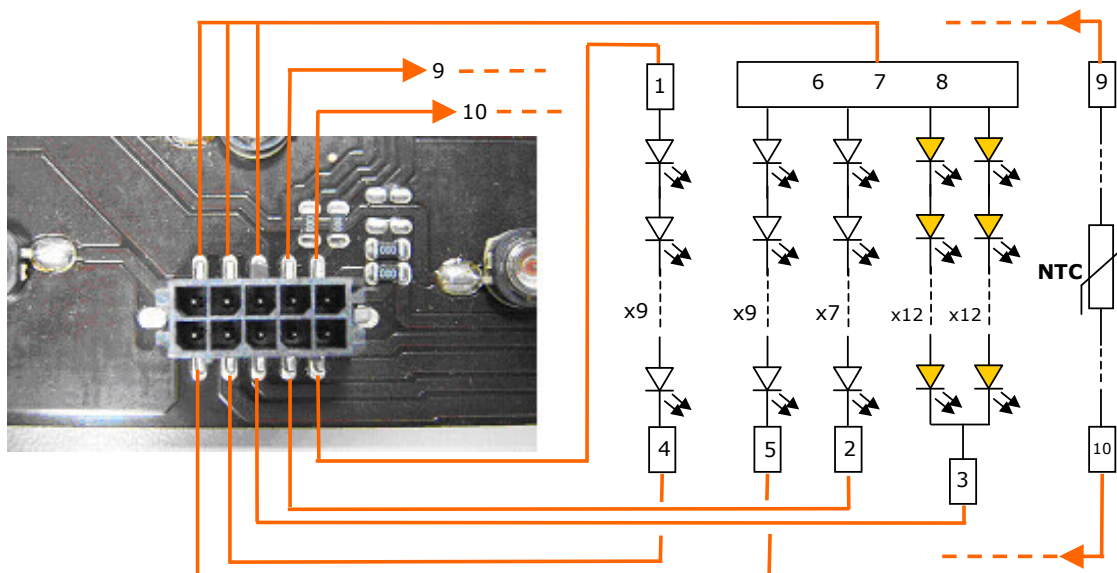
Parameter	Channel	White	Amber
Qty LEDs		25	24
Series Qty		9_9_7	12
Number of strings in parallel		Single	2
LEDs Part Number		LXHL-PW09	LXHL-PL09
Design Forward Current (mA)		700 each string	350 each string
Typical Luminous Flux per LED (lm) *		65	33
Typical Luminous Flux per Array (lm) *		1625	792
Minimum CCT / Dominant Wavelength **		4500 K	584.5 nm
Maximum CCT / Dominant Wavelength **		10000 K	597 nm
Radiation Pattern		Lambertian	Lambertian
Secondary Optics		Available	Available
Maximum Input Voltage per LED (VDC)		4.47	3.51
Maximum Input Voltage per Array (VDC)		40.23	42.12
Maximum Input Current per LED (mA) ***		1000	1400
Maximum Input Current per Array (mA) ***		1000	1400

Notes:

- * Typical Flux is per LED manufacturer's data sheets at the design forward current listed.
- ** White LED is binned by Colour Temperature (K) rather than Peak or Dominant Wave Length (nm).
- *** This is an absolute maximum rating based on LED limitations only. It does not factor in thermal design.



Components and Circuit Configuration



Substrate	Aluminium Clad Single Layer PCB
White LEDs	25 Luxeon III, LXHL-PW09 from Lumiled; two x12 LEDs strings in parallel
Amber LEDs	24 Luxeon III, LXHL-PL09 from Lumiled; two x9 LEDs, one x7 independent strings
I/O Connector	MOLEX 43045-1018
Thermal Sensor	10 kΩ Epcos B57621C103J62

Environmental and Application Note

Maximum Operating Temperature	55 °C at the baseplate (thermally controlled)
Over Temperature Protection	By on board thermal sensor, providing feedback to the LED Driver module.
Absolute Maximum PCB Temperature	105 °C
Humidity	10% to 95% (operating), RH, non-condensing
Cooling	Natural Convection*

* To enhance luminous performance flux and/or when the thermal condition are demanding, it is recommended the use of an additional heat-sink as per LED manufacturer's thermal design guide.

Eu and RoW

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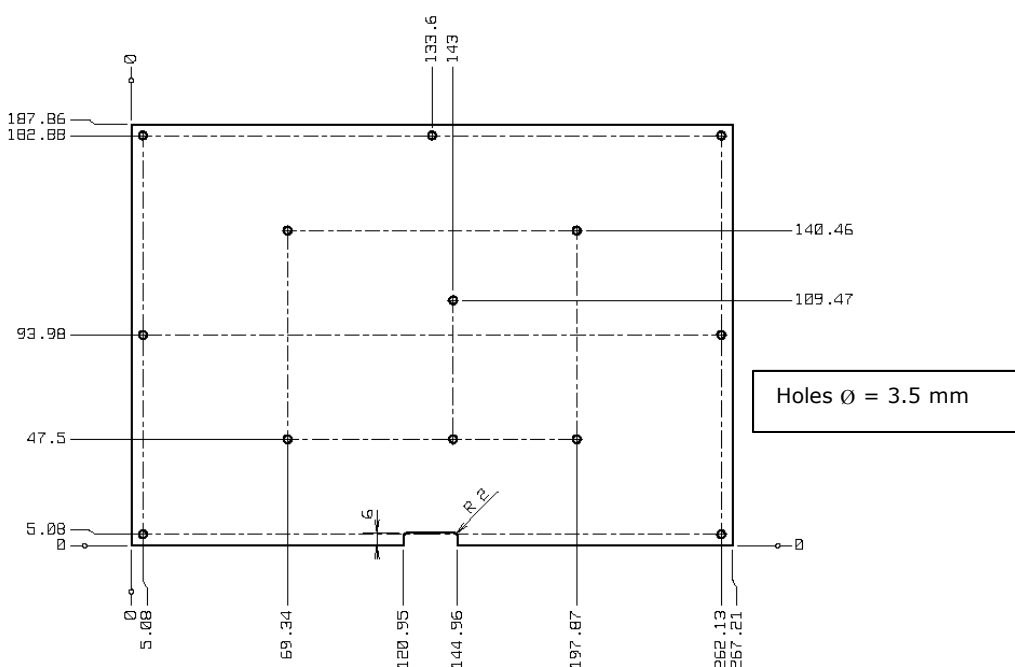
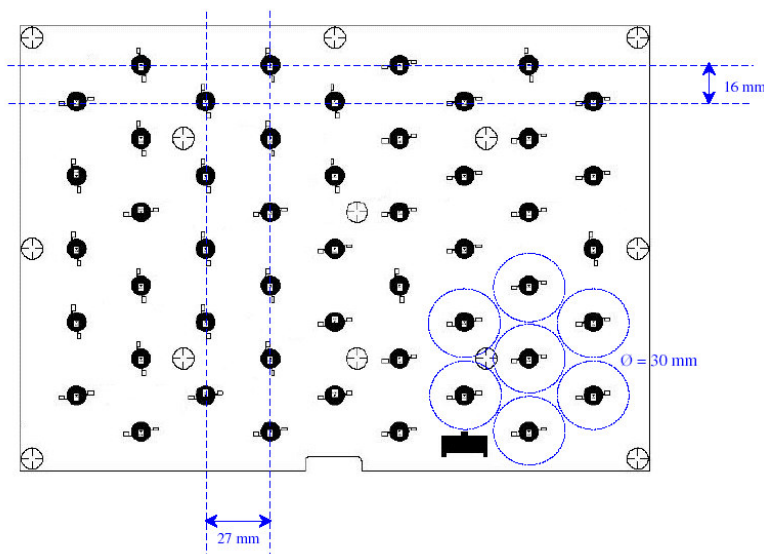
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Physical Specifications

Unit dimensions (WxLxH) 188 mm x 267 mm x 7.6 mm = 7.40 in x 10.51 in x 0.3 in
Unit weight 0.27 kg = 0.6 lb

Outline Drawing and LEDs matrix pattern



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