



L.T.F

Q-LUX DC LED Boards

Ultra High Light Output QLUXR7615W48LED Series



| Information Overview | |
|----------------------|------------|
| Wattage | 22W |
| Available CRI | 80/90+ * |
| Available CCT | 2200-5000K |
| Dimensions | 76mm (OD) |
| Number of LEDs | 16 |
| Beam Angle | 120 |

RoHS



5
Year Warranty

FEATURES

- High Color Rendering Index (CRI) Ra max. 98
- High efficacy lumen output
- LM-80 compliant LEDs
- Tight Binning 3 Step Mac Adam Ellipses
- Uniform & Crisp Light Source Intensity
- Hot Spot Free Design
- Exceed ENERGY STAR lumen maintenance requirements
- Extra thin low profile
- Low heat generation, easy thermal management
- Easy to fit in new design or retrofit applications

APPLICATIONS

For Architectural New Designs and Retrofits lighting fixtures:

Indoor Lightings:

- Recessed can light
- Ceiling light
- Wall sconces
- Table lamps
- Fixtures
- Signage

Outdoor Lightings:

- Street light
- Marker lights
- Wall sconces
- Signage lights

ELECTRICAL SPECS.

| 22W Round | Wattage | Forward Voltage | | | Forward Current | |
|-----------------|---------|-----------------|---------|---------|-----------------|-------|
| Model Number | Max. | Typ. | Vf Min. | Vf Max. | Typ. | Max. |
| QLUXR7615W48LED | 22W | 36V | 33V | 40V | 420mA | 600mA |

| Order Number | CRI | CCT |
|-----------------------|-----|-------|
| QLUXR7615W48LED22K8CR | 80+ | 2200K |
| QLUXR7615W48LED25K8CR | 80+ | 2500K |
| QLUXR7615W48LED27K8CR | 80+ | 2700K |
| QLUXR7615W48LED30K8CR | 80+ | 3000K |
| QLUXR7615W48LED32K8CR | 80+ | 3200K |
| QLUXR7615W48LED35K8CR | 80+ | 3500K |
| QLUXR7615W48LED40K8CR | 80+ | 4000K |
| QLUXR7615W48LED50K8CR | 80+ | 5000K |

| Order Number | CRI | CCT |
|-----------------------|-----|-------|
| QLUXR7615W48LED22K9CR | 90+ | 2200K |
| QLUXR7615W48LED25K9CR | 90+ | 2500K |
| QLUXR7615W48LED27K9CR | 90+ | 2700K |
| QLUXR7615W48LED30K9CR | 90+ | 3000K |
| QLUXR7615W48LED32K9CR | 90+ | 3200K |
| QLUXR7615W48LED35K9CR | 90+ | 3500K |
| QLUXR7615W48LED40K9CR | 90+ | 4000K |
| QLUXR7615W48LED50K9CR | 90+ | 5000K |

* Up to 98 CRI

ELECTRICAL SPECIFICATIONS - 80 CRI

| Absolute Maximum Ratings (Ta=25C, RH30%) | | | |
|--|-----------------|-----------|------|
| Parameter | Symbol | Rating | Unit |
| DC Input Forward Current * | I _{IN} | 600 | mA |
| Power Dissipation | P _D | 22 | W |
| Junction Temperature* | T _j | 125 | °C |
| Operating Temperature | Topr | -20 ~ +50 | °C |
| ESD | HBM | 5000 | V |
| Storage Temperature | Tstg | -40 ~ +80 | °C |
| Temperature of AI MCPCB** Max. | TS | 85 | °C |

| Electrical & Optical Characteristics (Ta=25C, RH30%) | | | | | | | |
|--|-------------------|-------------------------|-------|------|-------|------|--------|
| Parameter | Symbol | Condition | Model | Min. | Typ. | Max. | Unit |
| Forward Voltage* | VF | I _f = 420 mA | --- | 33 | 36 | 40 | V |
| Total Flux | ΦV | I _f = 420 mA | 2700K | --- | 1890 | --- | lm |
| | | | 3000K | --- | 1966 | --- | |
| | | | 3500K | --- | 2041 | --- | |
| | | | 4000K | --- | 2117 | --- | |
| | | | 5000K | --- | 2268 | --- | |
| Efficacy | η | I _f = 420 mA | 2700K | --- | 125 | --- | lm/W |
| | | | 3000K | --- | 130 | --- | |
| | | | 3500K | --- | 135 | --- | |
| | | | 4000K | --- | 140 | --- | |
| | | | 5000K | --- | 150 | --- | |
| Color Temperature | CCT | I _f = 420 mA | 2700K | --- | 2700 | --- | K |
| | | | 3000K | --- | 3000 | --- | |
| | | | 3500K | --- | 3500 | --- | |
| | | | 4000K | --- | 4000 | --- | |
| | | | 5000K | --- | 5000 | --- | |
| Color Rendering Index** | CRI | I _f = 420 mA | --- | 80 | --- | --- | --- |
| Viewing Angle*** | 2θ _{1/2} | I _f = 420 mA | --- | --- | 120 | --- | degree |
| Life Time (L ₇₀) | T | 65C at T _s | --- | --- | 50000 | --- | hours |

* Notes: All measurements were made under the standardized environment of SSC.

** CCT is <90 for +4000K boards

*** 2θ_{1/2} is the off-axis where the luminous intensity is 1/2 of the peak intensity.

**** Thermal resistance: RthJS (junction / solder)

Tolerance: VF :±0.1V, IV :±7%, Ra :±2, x,y :±0.007



ELECTRICAL SPECIFICATIONS - 90 CRI

| Absolute Maximum Ratings (Ta=25C, RH30%) | | | |
|--|-----------------|-----------|------|
| Parameter | Symbol | Rating | Unit |
| DC Input Forward Current * | I _{IN} | 600 | mA |
| Power Dissipation | P _D | 22 | W |
| Junction Temperature* | T _j | 125 | °C |
| Operating Temperature | Topr | -20 ~ +50 | °C |
| ESD | HBM | 5000 | V |
| Storage Temperature | Tstg | -40 ~ +80 | °C |
| Temperature of AI MCPCB** Max. | TS | 85 | °C |

| Electrical & Optical Characteristics (Ta=25C, RH30%) | | | | | | | |
|--|-------------------|-------------------------|-------|------|-------|------|--------|
| Parameter | Symbol | Condition | Model | Min. | Typ. | Max. | Unit |
| Forward Voltage* | VF | I _F = 420 mA | --- | 33 | 36 | 40 | V |
| Total Flux | ΦV | I _F = 420 mA | 2700K | --- | 1650 | --- | lm |
| | | | 3000K | --- | 1800 | --- | |
| | | | 3500K | --- | 1875 | --- | |
| | | | 4000K | --- | 1950 | --- | |
| | | | 5000K | --- | 2175 | --- | |
| Efficacy | η | I _F = 420 mA | 2700K | --- | 110 | --- | lm/W |
| | | | 3000K | --- | 120 | --- | |
| | | | 3500K | --- | 125 | --- | |
| | | | 4000K | --- | 130 | --- | |
| | | | 5000K | --- | 145 | --- | |
| Color Temperature | CCT | I _F = 420 mA | 2700K | --- | 2700 | --- | K |
| | | | 3000K | --- | 3000 | --- | |
| | | | 3500K | --- | 3500 | --- | |
| | | | 4000K | --- | 4000 | --- | |
| | | | 5000K | --- | 5000 | --- | |
| Color Rendering Index** | CRI | I _F = 420 mA | --- | 90 | --- | 98 | --- |
| Viewing Angle*** | 2θ _{1/2} | I _F = 420 mA | --- | --- | 120 | --- | degree |
| Life Time (L ₇₀) | T | 65C at T _S | --- | --- | 50000 | --- | hours |

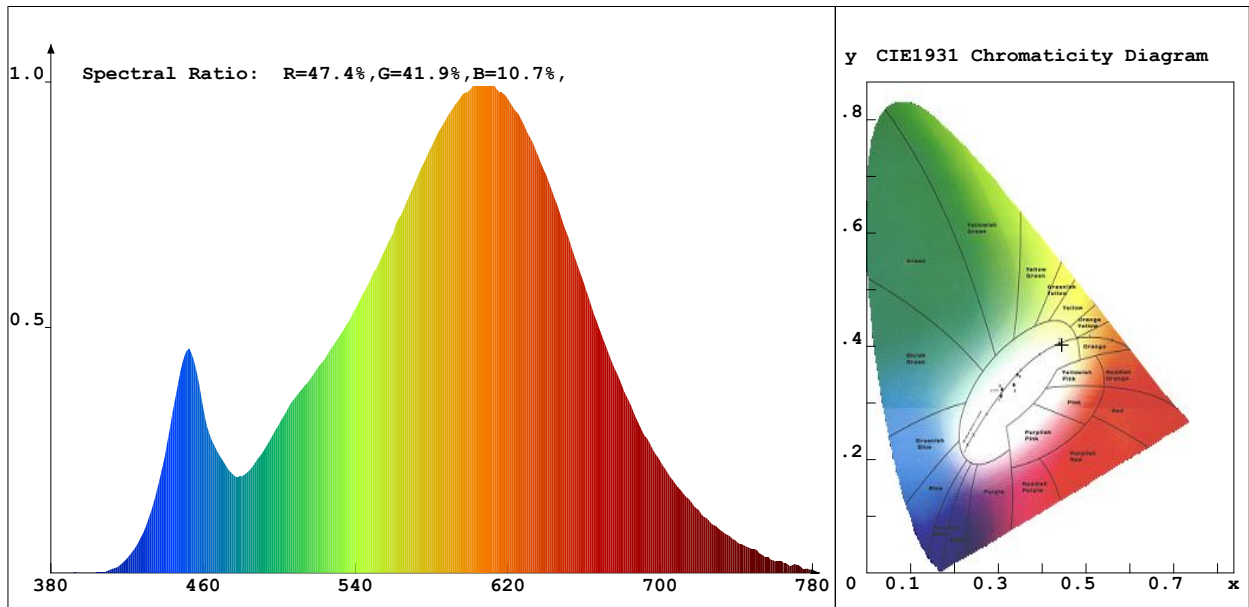
* Notes: All measurements were made under the standardized environment of SSC.

** CCT is <90 for +4000K boards

*** 2θ_{1/2} is the off-axis where the luminous intensity is 1/2 of the peak intensity.

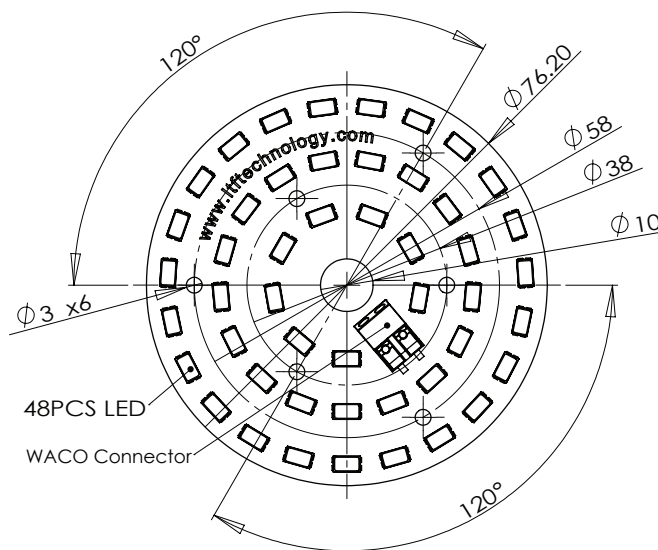
**** Thermal resistance: RthJS (junction / solder)

Tolerance: VF :±0.1V, IV :±7%, Ra :±2, x,y :±0.007



| Recommended LED Drivers | | | |
|-------------------------|-----------|-----------|-----------|
| 120V | 277V | 200-240V | Universal |
| DA25W420C | DE25W420C | DU25W420C | DS25W420C |

MECHANICAL SPECS.



CAUTION!

- Turn the power off before installing LED to the proper constant current LED driver.
- Avoid short circuit, or drilling / cutting the LED board! It will damage its electrical circuit!



Precaution for use:

(1) Storage

To avoid the moisture penetration, we recommend store in a dry box with a desiccant . The recommended storage temperature range is 5C to 30C and a maximum humidity of RH50%.

(2) Use Precaution after Opening the Packaging as separation of the lens may affect the light output efficiency.

Pay attention to the following:

a. Recommend conditions after opening the package

- Sealing

- Temperature : 5 ~ 40°C Humidity : less than RH30%

b. If the package has been opened more than 4 week(MSL_2a) or the color of the desiccant changes, components should be dried for 10-12hr at 60±5°C

(3) Do not apply mechanical force or excess vibration during the cooling process to normal temperature after soldering.

(4) Do not rapidly cool device after soldering.

(5) Components should not be mounted on warped (non coplanar) portion of PCB.

(6) Radioactive exposure is not considered for the products listed here in.

(7) Gallium arsenide is used in some of the products listed in this publication. These products are dangerous if they are burned or shredded in the process of disposal. It is also dangerous to drink the liquid or inhale the gas generated by such products when chemically disposed of.

(8) This device should not be used in any type of fluid such as water, oil, organic solvent and etc. When washing is required, IPA (Isopropyl Alcohol) should be used.

(9) When the LEDs are in operation the maximum current should be decided after measuring the package temperature.

(10) LEDs must be stored properly to maintain the device. If the LEDs are stored for 3 months or more after being shipped from SSC, a sealed container with a nitrogen atmosphere should be used for storage.

(11) The appearance and specifications of the product may be modified for improvement without notice.

(12) Long time exposure of sunlight or occasional UV exposure will cause lens discoloration.

(13) VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate silicone encapsulants of LEDs and discolor when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture.

Knowledge of the properties of the materials selected to be used in the construction of fixtures can help prevent these issues.

(14)Attaching LEDs, do not use adhesives that outgas organic vapor.

(15)The driving circuit must be designed to allow forward voltage only when it is ON or OFF.

If the reverse voltage is applied to LED, migration can be generated resulting in LED damage.