



L.T.F

Q-LUX DC LED Boards

Ultra High Light Output QLUXR15230W96LED Series



Information Overview	
Wattage	48W
Available CRI	80/90+ *
Available CCT	2200-5000K
Dimensions	152mm (OD)
Number of LEDs	96
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.

48W Round	Wattage	Forward Voltage			Forward Current	
Model Number	Max.	Typ.	Vf Min.	Vf Max.	Typ.	Max.
QLUXR15230W96LED	48W	36V	33V	40V	900mA	1200mA

Order Number	CRI	CCT
QLUXR15230W96LED22K8CR	80+	2200K
QLUXR15230W96LED25K8CR	80+	2500K
QLUXR15230W96LED27K8CR	80+	2700K
QLUXR15230W96LED30K8CR	80+	3000K
QLUXR15230W96LED32K8CR	80+	3200K
QLUXR15230W96LED35K8CR	80+	3500K
QLUXR15230W96LED40K8CR	80+	4000K
QLUXR15230W96LED50K8CR	80+	5000K

Order Number	CRI	CCT
QLUXR15230W96LED22K9CR	90+	2200K
QLUXR15230W96LED25K9CR	90+	2500K
QLUXR15230W96LED27K9CR	90+	2700K
QLUXR15230W96LED30K9CR	90+	3000K
QLUXR15230W96LED32K9CR	90+	3200K
QLUXR15230W96LED35K9CR	90+	3500K
QLUXR15230W96LED40K9CR	90+	4000K
QLUXR15230W96LED50K9CR	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}	1200	mA
Power Dissipation	P _D	48	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 = 900 mA	---	33	36	40	V
Total Flux	ΦV	I _f = 900 mA	2700K	---	4050	---	lm
			3000K	---	4212	---	
			3500K	---	4374	---	
			4000K	---	4536	---	
			5000K	---	4860	---	
Efficacy	η	I _f = 900 mA	2700K	---	125	---	lm/W
			3000K	---	130	---	
			3500K	---	135	---	
			4000K	---	140	---	
			5000K	---	150	---	
Color Temperature	CCT	I _f = 900 mA	2700K	---	2700	---	K
			3000K	---	3000	---	
			3500K	---	3500	---	
			4000K	---	4000	---	
			5000K	---	5000	---	
Color Rendering Index**	CRI	I _f = 900 mA	---	80	---	---	---
Viewing Angle***	2θ _{1/2}	I _f = 900 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}	1200	mA
Power Dissipation	P _D	48	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 Al MCPCB** Max.	TS	85	°C

Electrical & Optical Characteristics (Ta=25C, RH30%)							
Parameter	Symbol	Condition	Model	Min.	Typ.	Max.	Unit
Forward Voltage*	VF	I _F = 900 mA	---	33	36	40	V
Total Flux	ΦV	I _F = 900 mA	2700K	---	3520	---	lm
			3000K	---	3840	---	
			3500K	---	4000	---	
			4000K	---	4160	---	
			5000K	---	4640	---	
Efficacy	η	I _F = 900 mA	2700K	---	110	---	lm/W
			3000K	---	120	---	
			3500K	---	125	---	
			4000K	---	130	---	
			5000K	---	145	---	
Color Temperature	CCT	I _F = 900 mA	2700K	---	2700	---	K
			3000K	---	3000	---	
			3500K	---	3500	---	
			4000K	---	4000	---	
			5000K	---	5000	---	
Color Rendering Index**	CRI	I _F = 900 mA	---	90	---	98	---
Viewing Angle***	2θ _{1/2}	I _F = 900 mA	---	---	120	---	degree
Life Time (L ₇₀)	T	65C at T _s	---	---	50000	---	hours

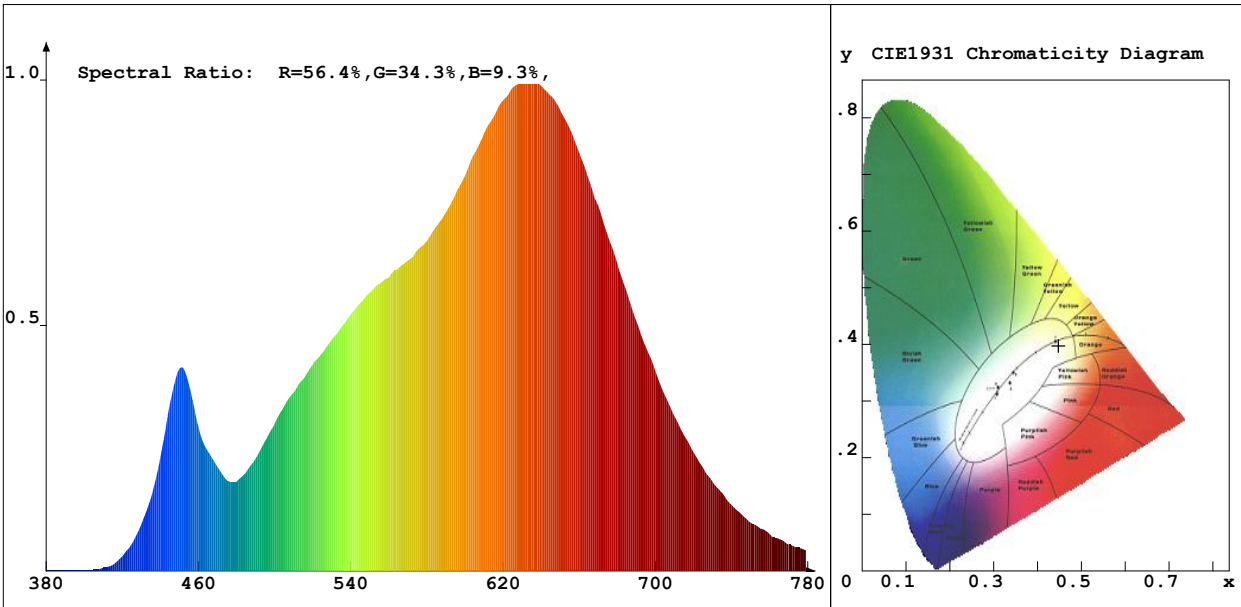
* Notes: All measurements were made under the standardized environment of SSC.

** CCT is <90 for +4000K boards

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

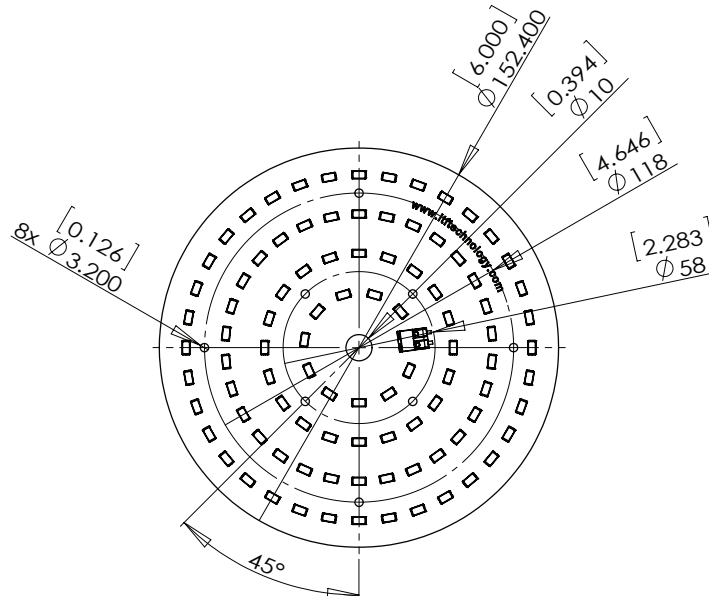
**** Thermal resistance: RthJS (junction / solder)

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



Recommended LED Drivers			
120V	277V	200-240V	Universal
DA50W900C	DE50W900C	DU50W900C	DS50W900C

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.