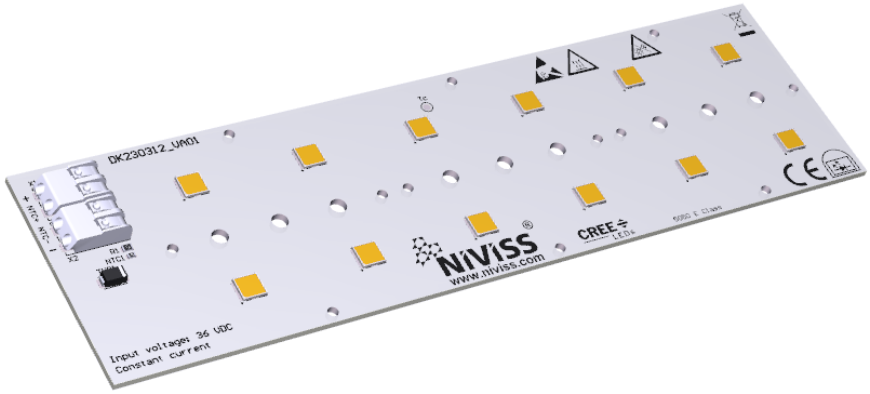
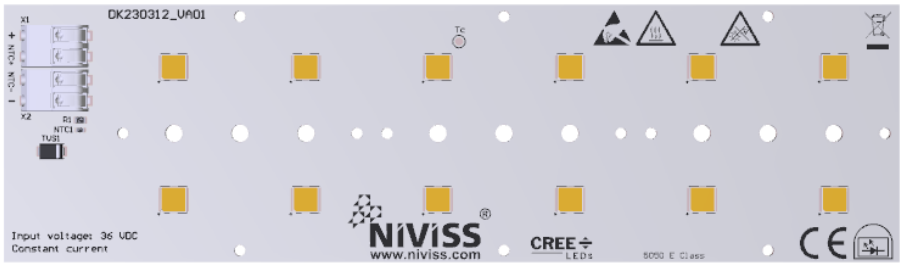
CREE LED® High Efficacy
LED Modules 12R172.2x49.5-JR5050C

DK230312

12R172.2x49.5-JR5050C family are LED modules based on the CREE LED® J_Series® 5050 optimized for cost effective and high efficacy applications. A wide variety of module versions are available, offering the flexibility to select the best combination of price and brightness while maintaining consistent reliability and accuracy for a wide range of uses.
For lighting purposes that prioritize both high efficiency and durability, like street lights, outdoor spaces, and focused indoor lighting, it is advisable to opt for the 12R172.2x49.5-JR5050C modules. These modules are specifically designed to deliver superior performance and longevity.
High efficacy and luminous flux up to **225 lm/W** and **12788 lm**





LM-80 lifetime projections (IEC 62717)
> 60 500 (L70B10)[1]

MCPCB thermal conductivity up to **2 W/mK** based in UHT (Ultra High Thermal), Lead Free HASL

EPREL registered product

➢ PRODUCT SUMMARY

LED FAMILY	MOD-12R172.2x49.5-JR5050C						
CCT/SDCM	2700K 3-STEP	3000K 3-STEP	3500K 3-STEP	4000K 3-STEP	5000K 3-STEP	5700K 3-STEP	6500K 3-STEP
Viewing Angle	120°						
Nominal Module Lumen Output[2]	CRI 70						
	1834 lm	1935 lm	1952 lm	2015 lm	2015 lm	2015 lm	1981 lm
	CRI 80						
	1712 lm	1780 lm	1830 lm	1880 lm	1880 lm	1880 lm	1859 lm
Nominal Efficacy[2]	CRI 70						
	205 lm/W	216 lm/W	218 lm/W	225 lm/W	225 lm/W	225 lm/W	205 lm/W
	CRI 80						
	191 lm/W	199 lm/W	205 lm/W	210 lm/W	210 lm/W	210 lm/W	208 lm/W
CRI	70; 80						
Nominal Driving Current	280 mA						
Voltage DC (typ.) [2]	36 V						
Power Consumption[2]	8.9 W						
Max. LED module working current [3]	**2000 mA / module**						
Voltage DC (max)[3]	**38.2 V**						
Max power[3]	**72 W**						
Max. LED module lumen output[3]	**CRI 70**						
	11643	**12282**	**12389**	**12788**	**12788**	**12788**	**12575**
	CRI 80						
	10870	**11296**	**11616**	**11936**	**11936**	**11936**	**11803**
Number of LEDs	12						
Power Supply Type	Constant Current						
Risk Group Classification[4]	RG-1 Low Risk for 2700K, 3000K, 3500K, 4000K; RG-2 Moderate Risk for 5000K, 5700K, 6500K when above 365 mA per LED						
Energy Class	**J class CRI 80**						
	B	**A**	**A**	**A**	**A**	**A**	**B**
	J class CRI 90						
	B	**B**	**B**	**B**	**B**	**B**	**B**
Operating Temperature	-30°C ÷ +60°C						
Tc max.	85°C						
Lifetime[1]/Tc life	>60 5000 h @ 85˚C/105 ˚C, 240 mA,						

[1] **Lifetime of LEDs as declared by the manufacturer CREE LED® according to IES LM-80-2015 Testing Results Revision:32 :2025.**
[2] **Source performance in real-life conditions at Tc=55°C, 280 mA without heatsink.**
[3] **External heatsink required.**
[4] **According to Eye safety Cree document**

➢ ORDERING CODES

ORDERING CODE / ARTICLE CODE	DESCRIPTION
MOD-12R172.2x49.5-JR5050C-2770-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 2700K, CRI 70, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-3070-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 3000K, CRI 70, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-3570-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 3500K, CRI 70, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-4070-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 4000K, CRI 70, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-5070-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 5000K, CRI 70, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-5770-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 5700K, CRI 70, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-6570-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 6500K, CRI 70, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-2780-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 2700K, CRI 80, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-3080-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 3000K, CRI 80, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-3580-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 3500K, CRI 80, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-4080-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 4000K, CRI 80, 1.6 mm MCPCB
MOD-12R172.2x49.5-JR5050C-5080-VA01	Linear Led Module 36V, High Efficacy, High Reflectivity White Soldermask, 12 LED, JR5050C, 5000K, CRI 80, 1.6 mm MCPCB
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➢ FEATURES

Application:

- ❖ Decorative lighting
- ❖ Accent lighting
- ❖ Task lighting
- ❖ General lighting
- ❖ Street lighting
- ❖ Recessed furniture LED spotlight

Features:

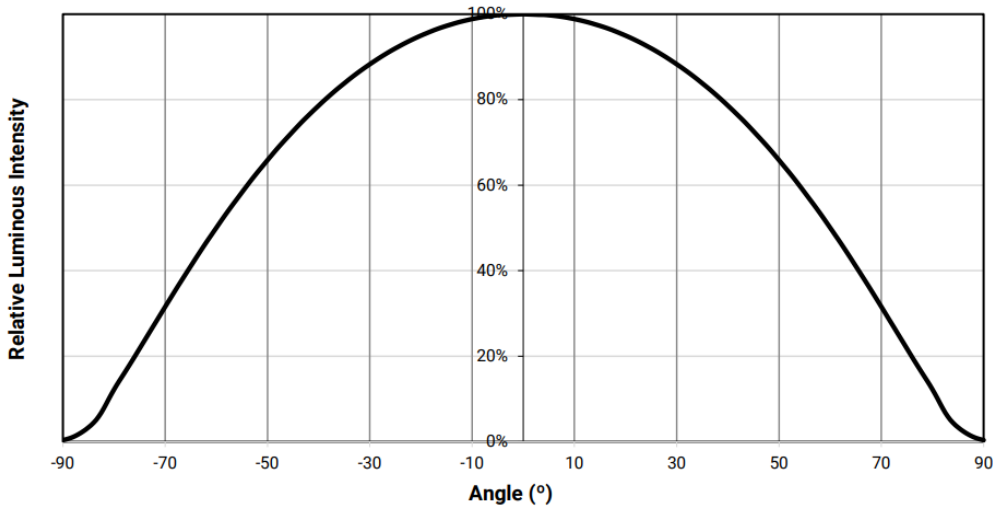
- ❖ The module is dimmable by current set (0-100%)
- ❖ Long Lifetime
- ❖ Energy Saving

EPREL Database link

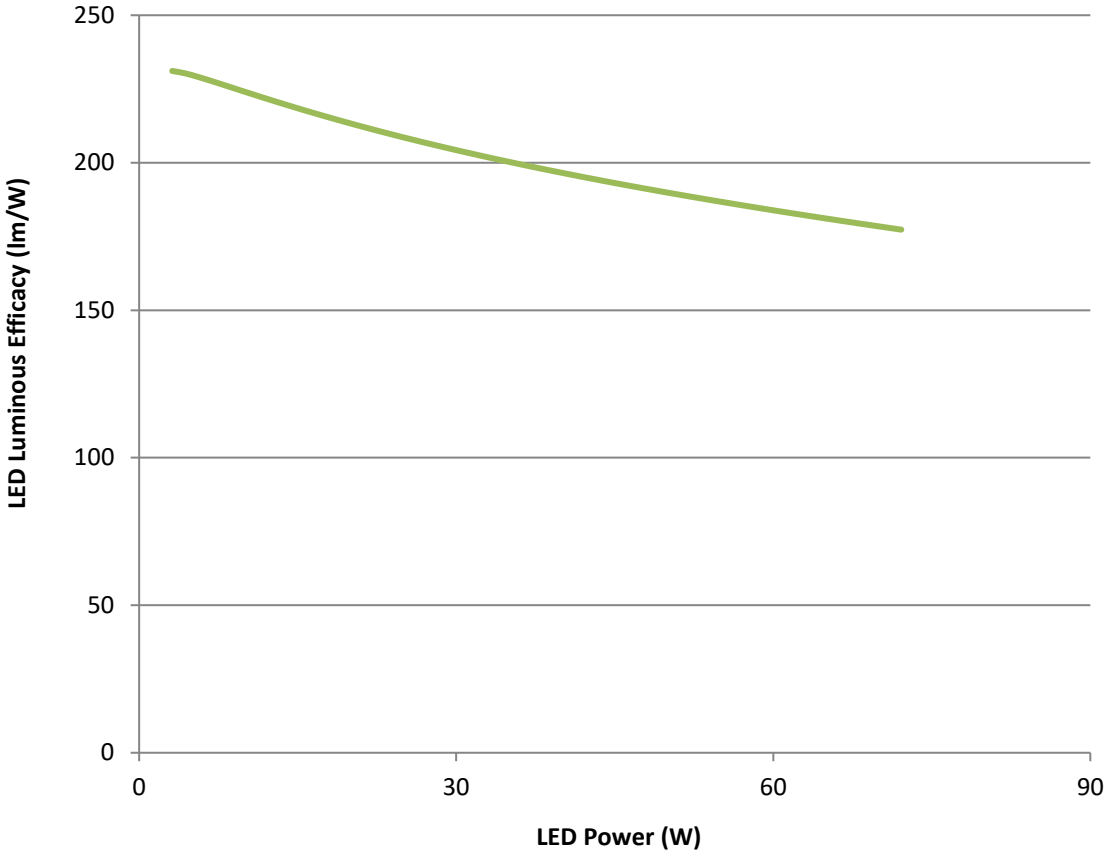
2700K 70CRI 3000K 70CRI 3500K 70CRI 4000K 70CRI 5000K 70CRI 5700K 70CRI 6500K 70CRI

2700K 80CRI 3000K 80CRI 3500K 80CRI 4000K 80CRI 5000K 80CRI 5700K 80CRI 6500K 80CRI

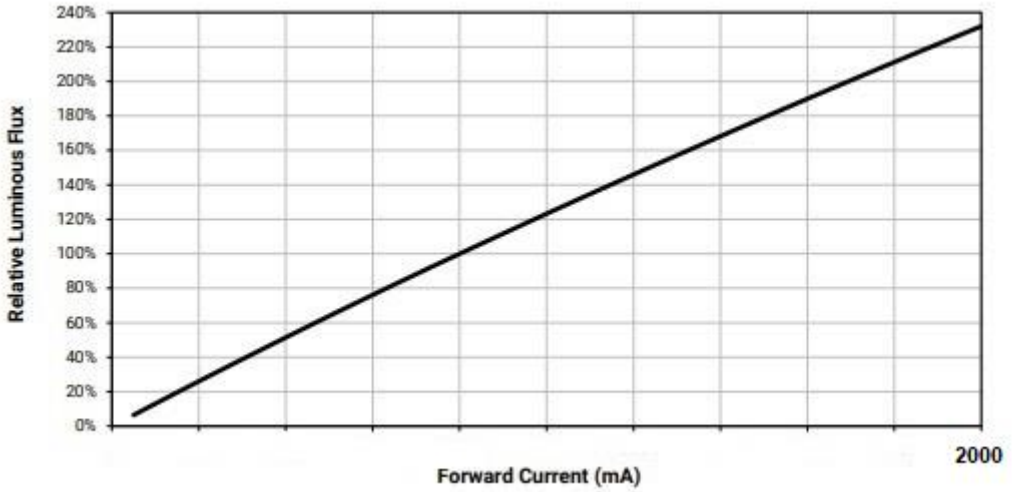
➢ TYPICAL SPATIAL DISTRIBUTION



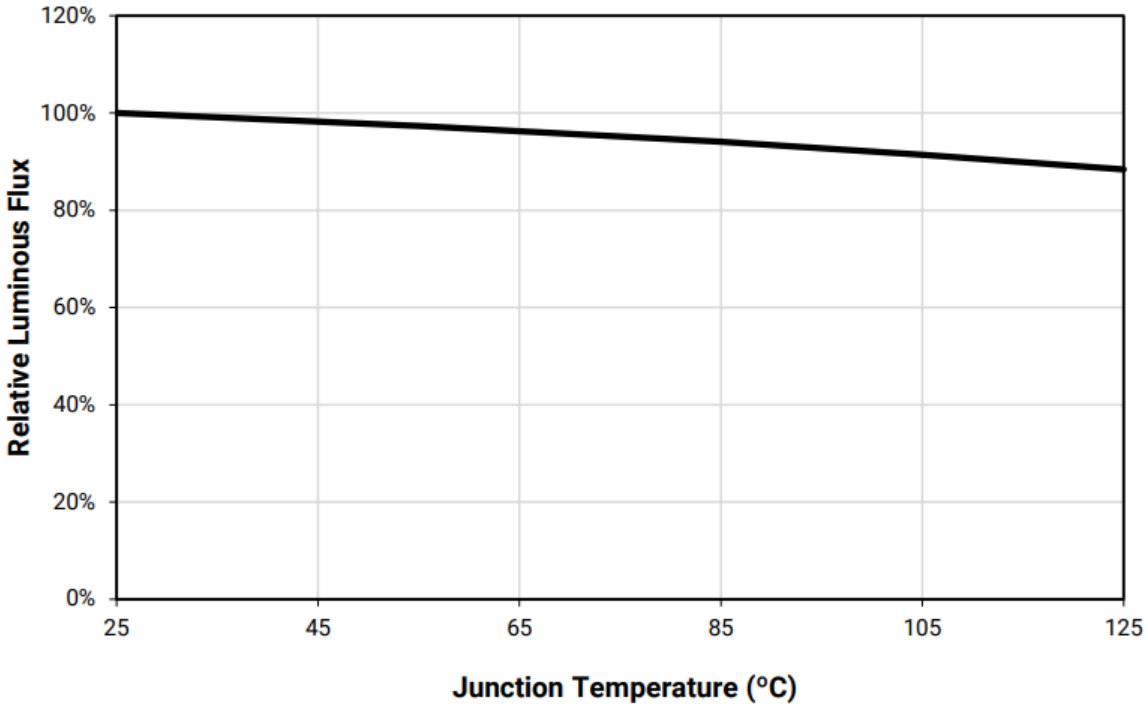
- **LUMINOUS EFFICACY VS. POWER**



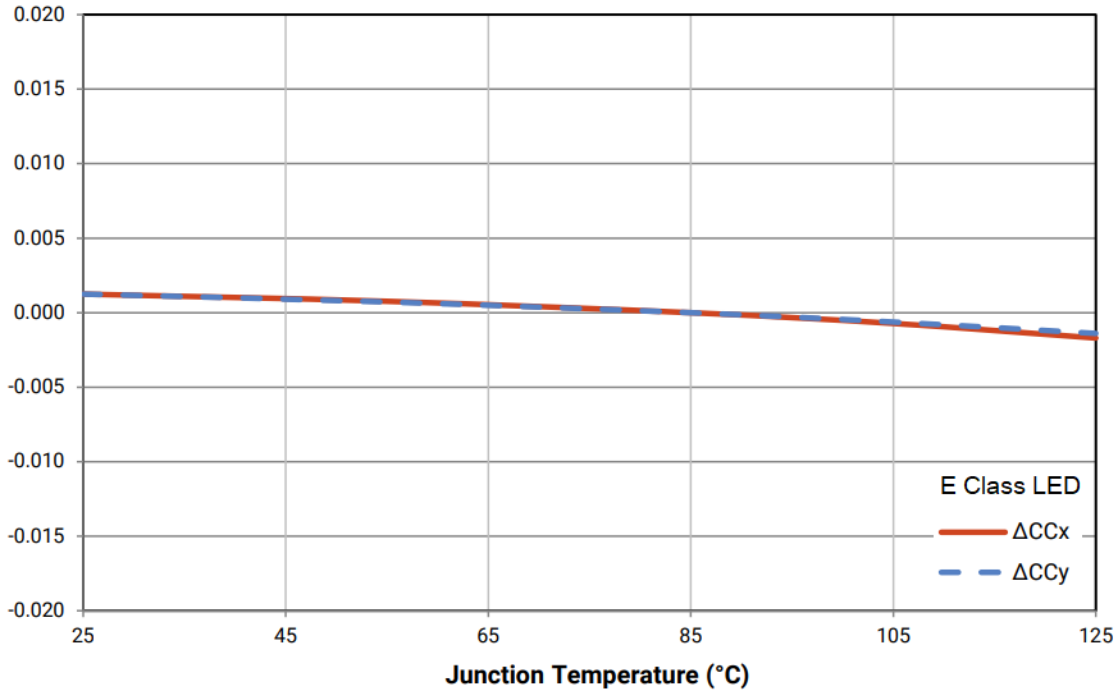
- **LUMINOUS FLUX VS. FORWARD CURRENT**



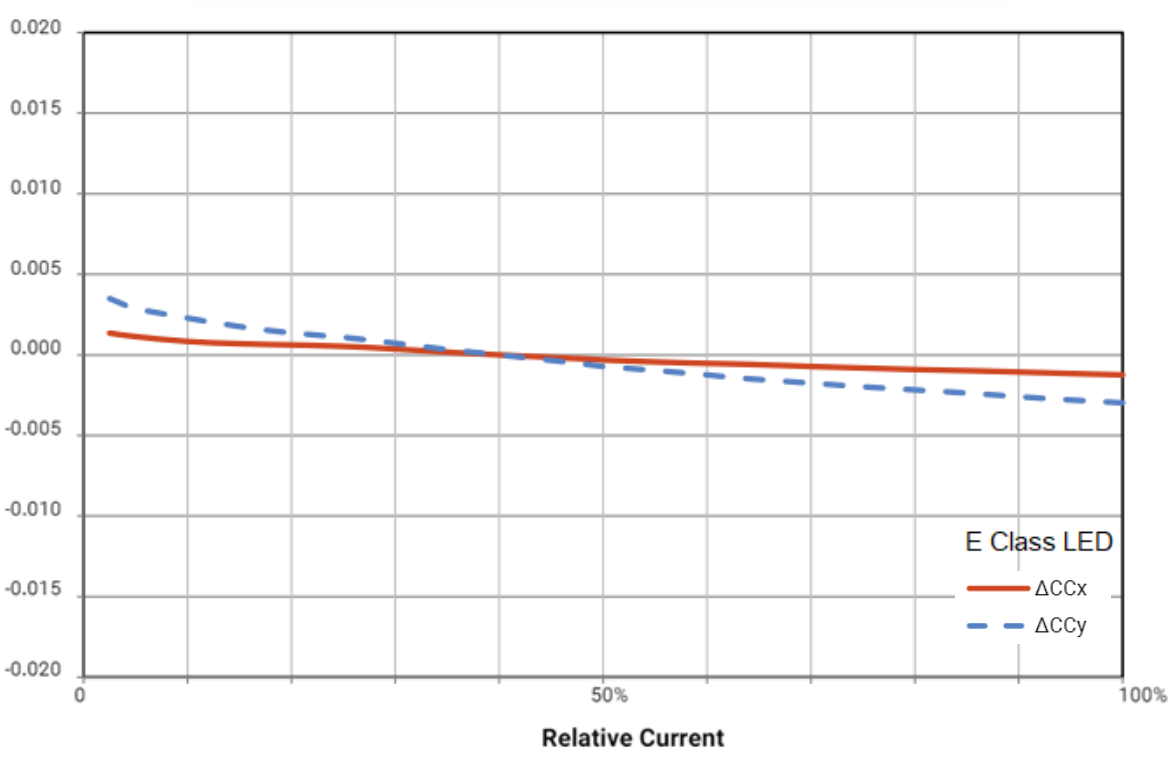
- **RELATIVE LUMINOUS FLUX VS. JUNCTION TEMPERATURE**



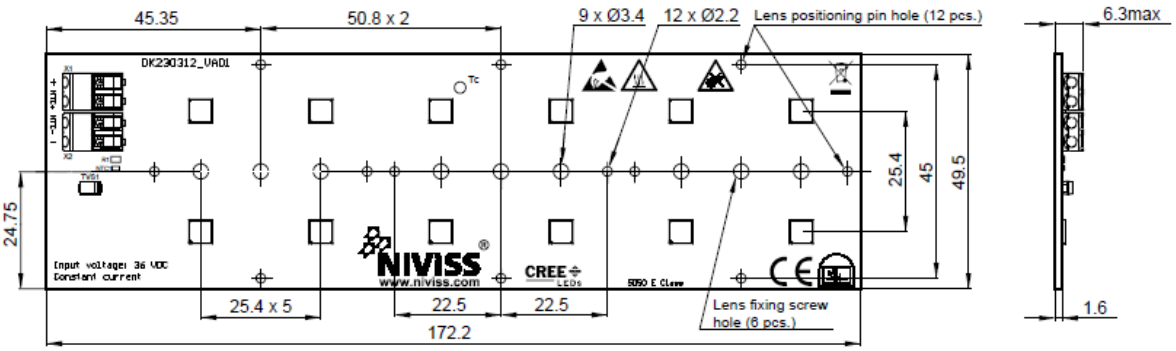
- **RELATIVE CHROMATICITY VS. TEMPERATURE**



➢ RELATIVE CHROMATICITY VS. CURRENT



➢ DIMENSIONS

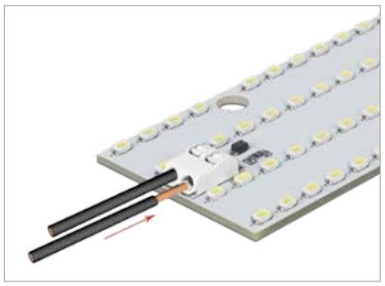


Notes:

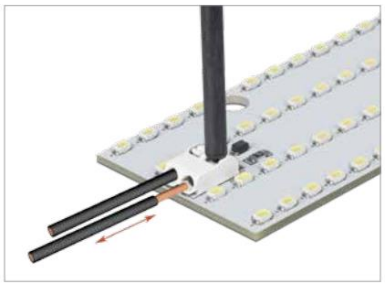
- Drawing is not to scale.
- All dimensions are in millimeters.

MECHANICAL SPECIFICATION	
Dimensions	172.2 x 49.5 mm
Board Thickness	1.6 mm
Shape	Rectangular

➢ CONNECTION

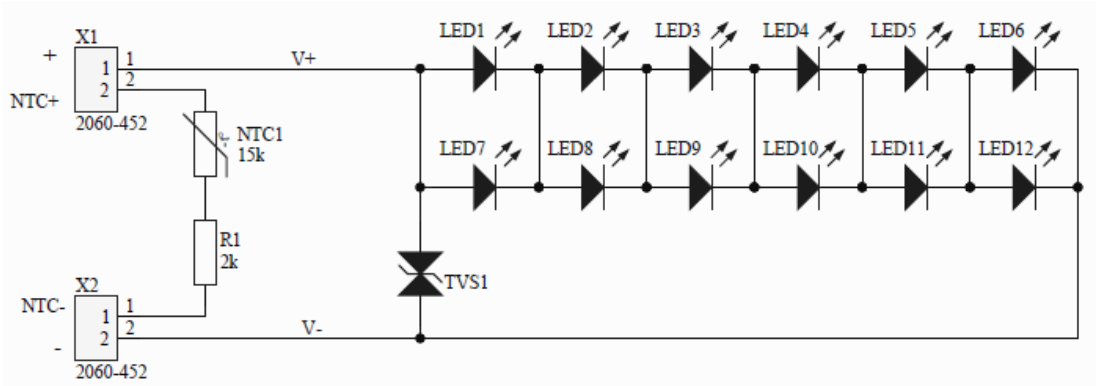


Inserting solid conductors via push-in termination.



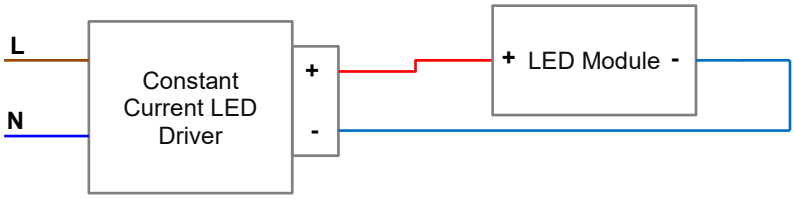
Inserting/removing fine-stranded conductors by lightly pressing on push-button (e.g., using a 206-860 operating tool).

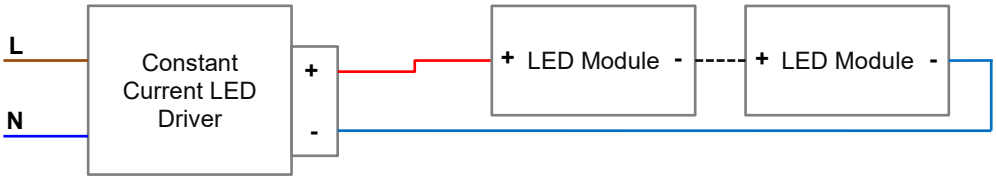
➢ ELECTRICAL SCHEMA



COMPONENT	DESCRIPTION
R1	Resistor 2 kΩ
NTC1	Thermistor NTC 15 kΩ 3950K
X1, X2	Connector WAGO 2060

➢ ELECTRICAL INSTALLATION





NUMBER OF MODULES	MAX
Series	10
Parallel	No limits

➢ COMMERCIAL INFORMATION

COMMERCIAL INFORMATION	
Available Lenses	LENS-KH-04 https://www.maritex.eu/en/search/products?phrase=LENS-KH-04 LENS-HK-50 https://www.maritex.eu/en/search/products?phrase=LENS-HK-50 LENS-LI-STRADA-2x2 https://www.maritex.eu/en/search/products?phrase=LENS-LI-STRADA-2x2
Minimum Order Quantity	5 pcs.
Warranty	2 years
Power Supply	PS-XLG-50-A PS-IDLC-45A-1050 PS-PU025H070AQ_0-10V

➢ GENERAL TERMS OF USE

1. The range of acceptable input voltages must include the expected voltage dropout across the LED string check on CREE LED Website J Series® 5050
2. Connecting to the power supply should be done when the power supply is off.
3. Modules should be connected to heatsink to dissipate heat form LED module. Temperature on the module shouldn't be higher than recommended by Cree®. Due to power of the module, appropriate heatsink should be used with thermal conductive tape or paste. The lower temperature on LED module causes longer lifetime.
4. During installation of the LED module it is absolutely necessary to use ESD protection. Luminaire design should protect the module from ESD. Installation of the LED module should be done by qualified person.
5. Lenses, diodes and other components on the module must be protected against mechanical damage and exposure to liquids and dirt.
6. The modules shouldn't have contact with hazardous and corrosive substances or aromatic organic compounds such as toluene, acetone, xylene, benzene.
7. For installation of modules use substances recommended and tested by the CREE LED®. List of substances available on the manufacturer's website: cree-led.com

Niviss is not responsible for any damage or failure due to not comply with above rules.

Otherwise, the complaint will not be taken into account.

➢ ENVIRONMENTAL CAUTION

Caution!

It is prohibited to dispose of obsolete and waste electrical and electronic equipment together with regular household wastes. They should be properly sorted and recycled. Old electrical and electronic equipment should be returned to a waste collection point established by a waste-management service. Waste electrical and electronic equipment can be broken down to base materials and then recycled. For more information regarding waste management please contact your local authorities, waste-management service or the seller of electrical and electronic devices.

➢ DATA DOWNLOAD

- ➢ **3D PDF FILE**
- ➢ **STEP FILE**
- ➢ **EU DECLARATION OF CONFORMITY (CE)**