Lumistrips

DATASHEET

BACKMATRIX-49-2080 NICHIA LED MODULE WARM WHITE CRI80 2700K 1150LM 49 LEDS 24V 10.9W 180° 28X28CM

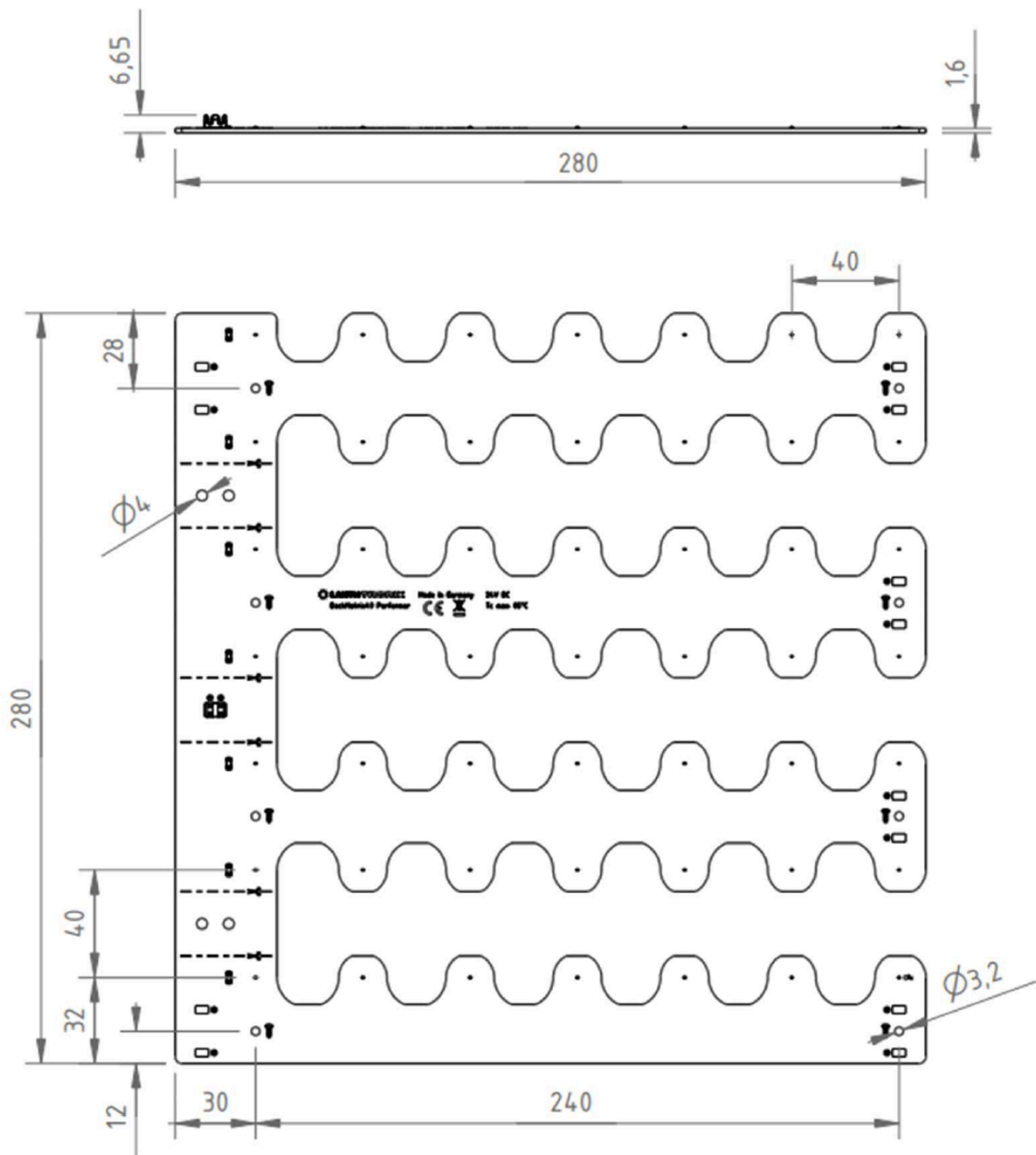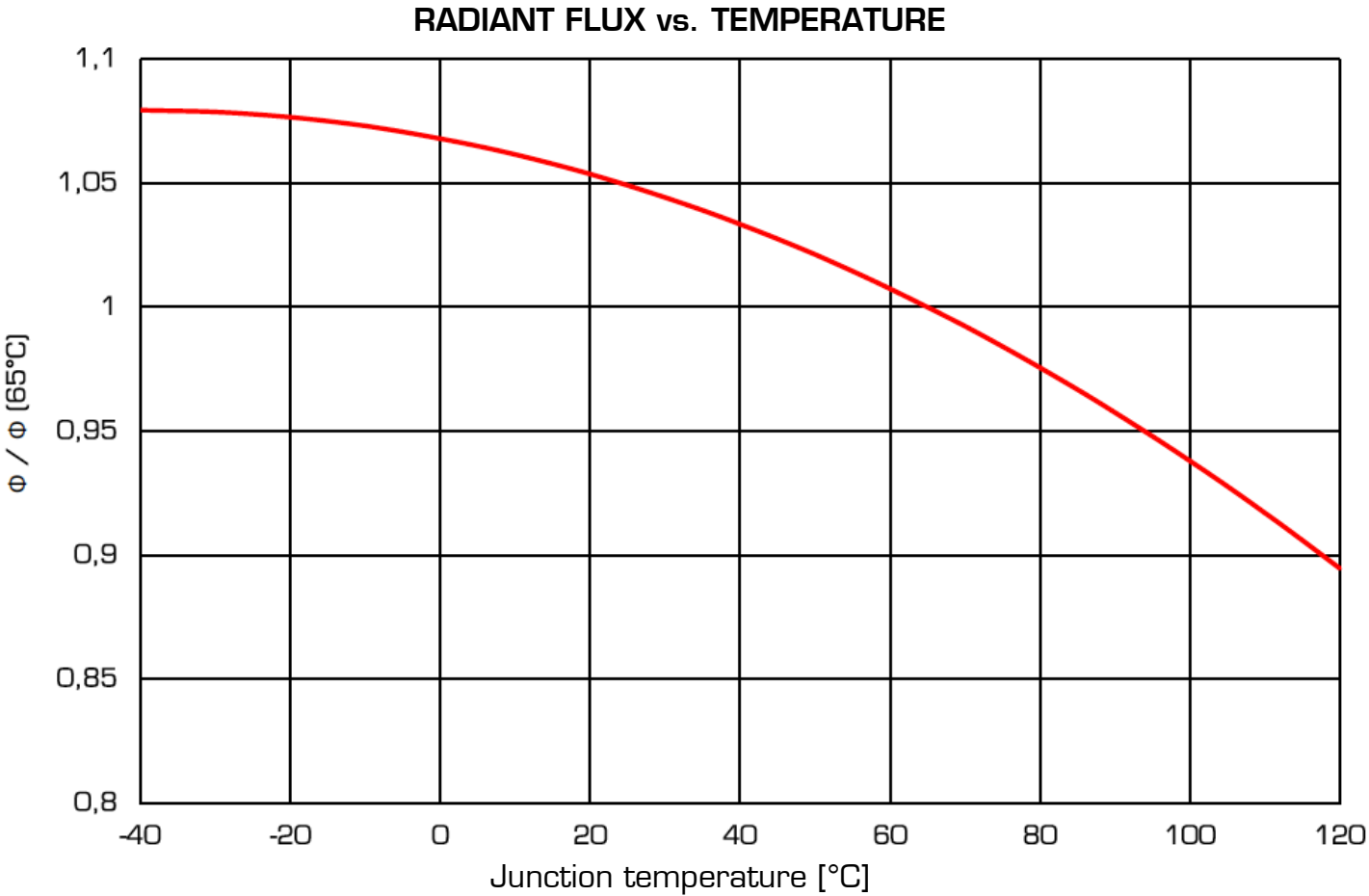**SKU: 36742**

BACKMATRIX-49-2080 NICHIA LED MODULE WARM WHITE CRI80 2700K 1150LM 49 LEDS 24V 10.9W 180° 28X28CM

| Article number (SKU)	36742	
Product name	BackMatrix-49-2080 Nichia LED Module warm white CRI80 2700K 1150lm 49 LEDs 24V 10.9W 180° 28x28cm	
Classification	Professional	
Model identifier (equivalent models)	BackMatrix 49	
Photometric data (at TJ = 65°C, ± 10%)		
Light color	Warm white	
Binning	3-Step MacAdam	
Color temperature (**K**)	2700 K	
Dominant wavelength (**nm**)		
Luminous flux (**lm**)	1150 lm	16582 lm/sqm
Radiant power (**mW**)		
CRI (**Ra**)	80	
Efficiency (**lm/W**)	121 lm/W	
Beam angle FWHP	180°	
Lifetime L80B10C1 (**h**)	>60000 h	
Photometric code	827/339	
Electrical data (at TJ = 65°C, ± 10%) (reference settings)		
Operating mode	Constant voltage	
Voltage (**V**)	24 V	
Current (**mA**)	399 mA	
Power (**W**)	9.58 W	125 W/sqm
Dimmable	Yes	
Dimensions / Mechanical data	**Metric units**	**Imperial units**
Length	280 mm	11.004"
Width	280 mm	11.004"
Height	6.65 mm	0.261"
Area (sqm / sqft)	0.0784 sqm	0.844sqft
Number of LEDs (pcs)	49 pcs	
Weight (g)	145 g	
Temperatures		
Operating temperature at Tc	-40 °C to +85 °C	
Ambient temperature	-40 °C to +50 °C	
Storage temperature	-40 °C to +100 °C	
Approvals / Certifications		
CE / RoHS / Reach	Yes	
EN 62471 Risk group	RG0	
Energy efficiency class	E	
Mains voltage luminous efficacy (lm/W)	121 lm/W	
Version		
Date	15. July 2022	

Lumistrips

BACKMATRIX-49-2080 NICHIA LED MODULE WARM WHITE CRI80 2700K 1150LM 49 LEDS 24V 10.9W 180° 28X28CM

Lumistrips

BACKMATRIX-49-2080 NICHIA LED MODULE WARM WHITE CRI80 2700K 1150LM 49 LEDS 24V 10.9W 180° 28X28CM

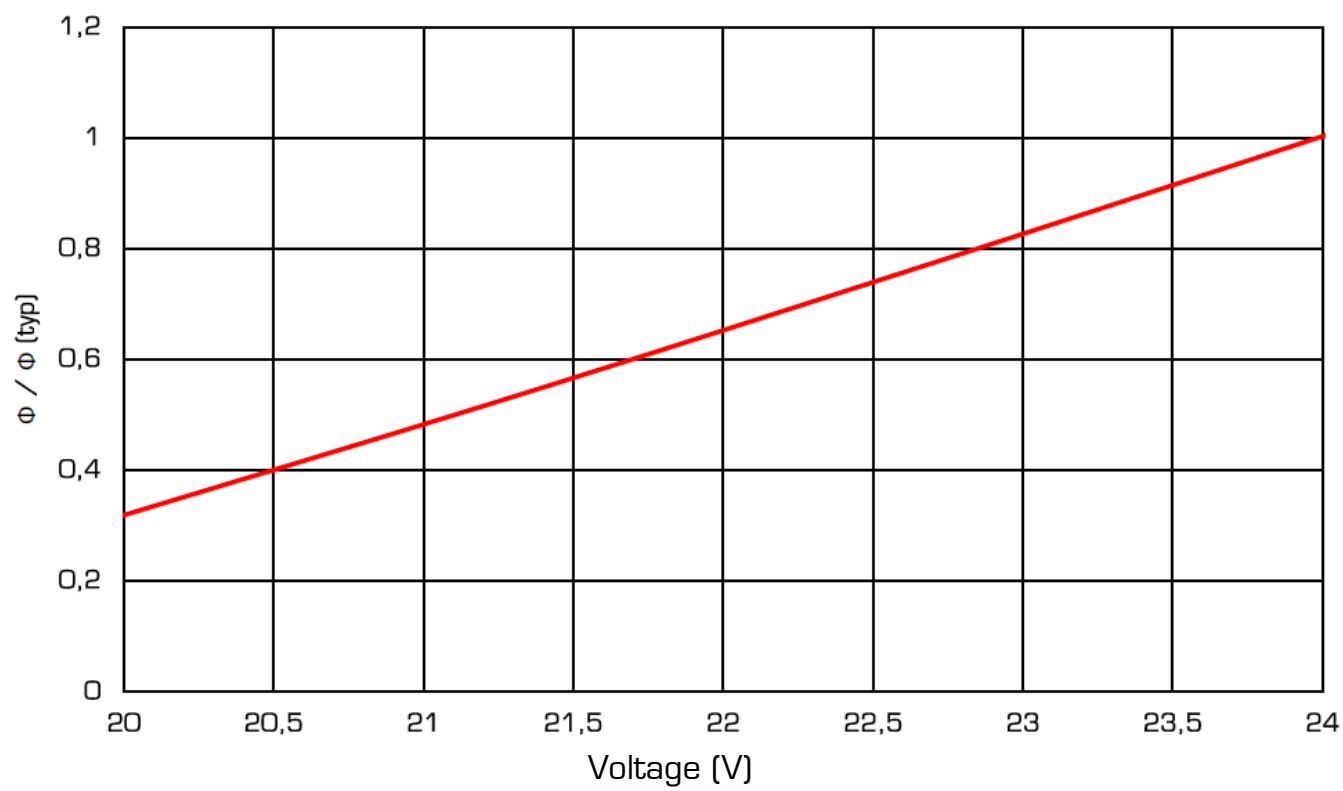**RADIANT FLUX vs. TEMPERATURE**

Lumistrips

BACKMATRIX-49-2080 NICHIA LED MODULE WARM WHITE CRI80 2700K 1150LM 49 LEDS 24V 10.9W 180° 28X28CM

CURRENT vs. VOLTAGE
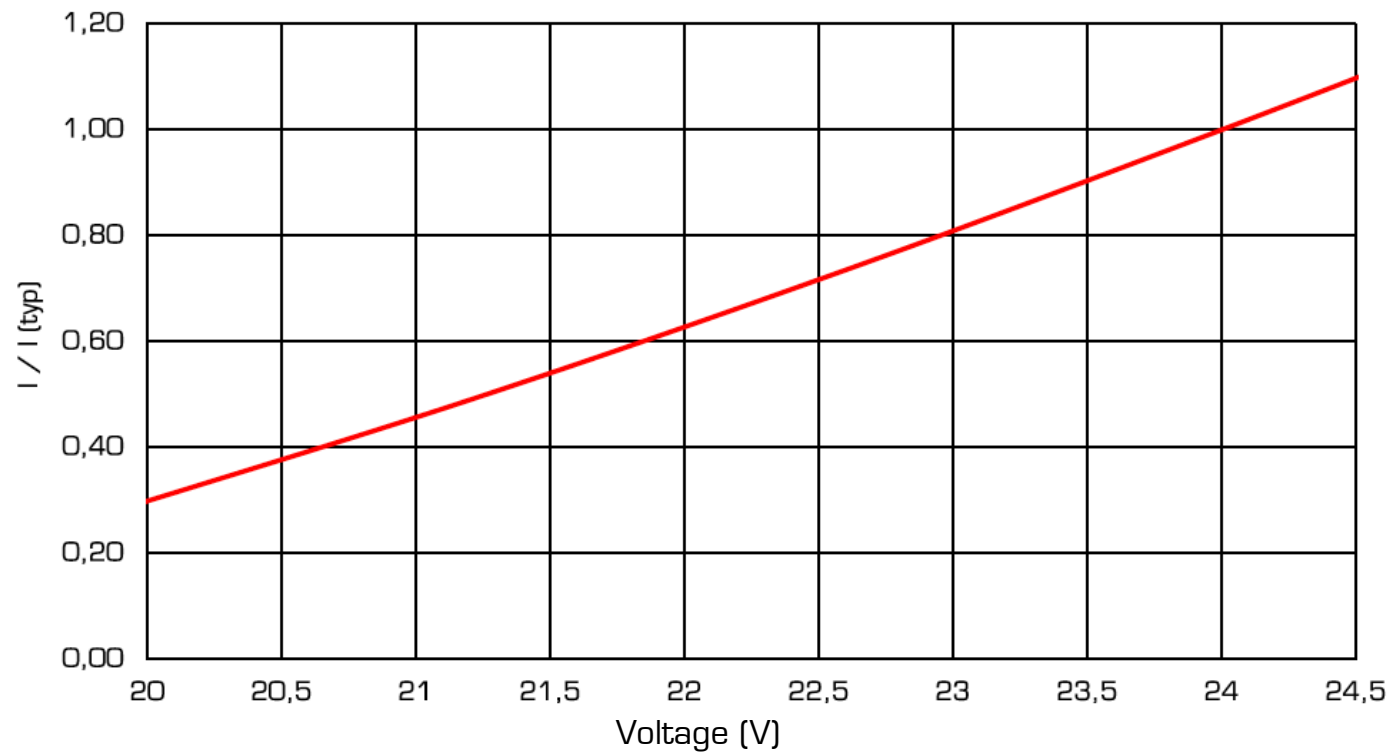
LUMINOUS FLUX vs. VOLTAGE

Lumistrips

BACKMATRIX-49-2080 NICHIA LED MODULE WARM WHITE CRI80 2700K 1150LM 49 LEDS 24V 10.9W 180° 28X28CM

WARRANTY INFO

This LED module has 5 years commercial warranty. Please refer to https://www.lumistrips.com/lumistrips-en-warranty for warranty terms.

MANUFACTURING INFO

The LED module is **made in Germany**, at a production line that uses the innovative manufacturing technology of plasma direct metallization, to turn substrates into electrical conductive and solderable circuit boards, even those that before have not been suitable for an assembly with electronic components.

Lumistrips

BACKMATRIX-49-2080 NICHIA LED MODULE WARM WHITE CRI80 2700K 1150LM 49 LEDS 24V 10.9W 180° 28X28CM

This LED module is made on a ISO-certified production line that has been tailored specifically to the requirements of assemblies with LED technology. Nearly one million components can be processed per day in the production line.

In the in-house assembly line, high performance automatic placement machines by Siemens place large and small components in an extremely fast and precise way. The vapour phase soldering machine by the market leader Asscon differs from ordinary convection soldering furnaces by its extraordinarily gentle soldering process under protection gas atmosphere. This prevents oxidation and cold solder joints and improves the thermal connection of component and PCB. This is particularly advantageous for LEDs, whose aging scales with the operating temperature.

The entire process is flexibly adaptable to the requirements and batch sizes of our customers and runs fully automatically.

- State-of-the-art machinery with the latest technology
- Production of circuit boards with lengths of up to 600 mm
- Traceability thanks to laser bar codes
- Maximum process safety with fully automated processing
- ISO certification

ISO 9001 quality management system.   OHSAS 18000 health and safety management system.   ISO 14001 Environment Management System

Lumistrips

Our professional LED Strips and Modules use LEDs from market leaders

We develop and produce our LED strips at a state of the art facility in Germany, with the highest quality standards and by using only LEDs from market leaders such as Nichia, Samsung or Toshiba.

- **Nichia** is the LED market leader, with over 25% market share and decades of experience. Nichia researchers invented the blue and white LED production technology, also receiving the Nobel Prize for this achievement. Nichia LEDs are the **most efficient** (200 lm / w efficacy), durable (> 100,000 hours) and are also available with unique technologies such as **Optisolis**, CRI98+ natural light spectrum and **RspOa,** special white light for horticulture.
- **Samsung** is in the top 10 of global LED manufacturers and a well-known brand, renowned for the high performance of its products combined with the competitive price
- **Toshiba** is a Japanese conglomerate with a history of more than a century, now specialized in semiconductors, electronics and hardware, with nearly 20,000 employees and an annual turnover of 40 billion USD. Toshiba has built the TRI-R technology and built the LED chips used in **SunLike CRI97+ LEDs** produced by Seoul Semiconductor in South Korea. With the new **SunLike™ TRI-R™** technology from Toshiba-SSC (Seoul Semiconductor) and our strips and modules you can always enjoy a natural light source with the light spectrum very close to the sun.
- **Seoul Semiconductor** is in the top 10 of global LED manufacturers and renowned for innovation, durability and competitive price

**Our strips have high quality components and professional support:**

- We use LEDs from top brands and have superior designs
- We offer **professional support** for lighting projects
- The PCBs use high quality materials for best resistance, current flow and heat transfer
- Performance values in this datasheet match those in real world applications
- Function perfectly at high temperatures that would destroy many other strips

Lumistrips

BACKMATRIX-49-2080 NICHIA LED MODULE WARM WHITE CRI80 2700K 1150LM 49 LEDS 24V 10.9W 180° 28X28CM

CONNECTION OF LED MODULE

The insulation displacement terminal allows a solder free connection of the BackMatrix LED modules.
Connection cables with a conductor cross-section up to 1 sqmm (AWG18) can be used (SKU 37592). The tool Bit for BackMatrix LED modules (SKU 95402) is recommended for connection.
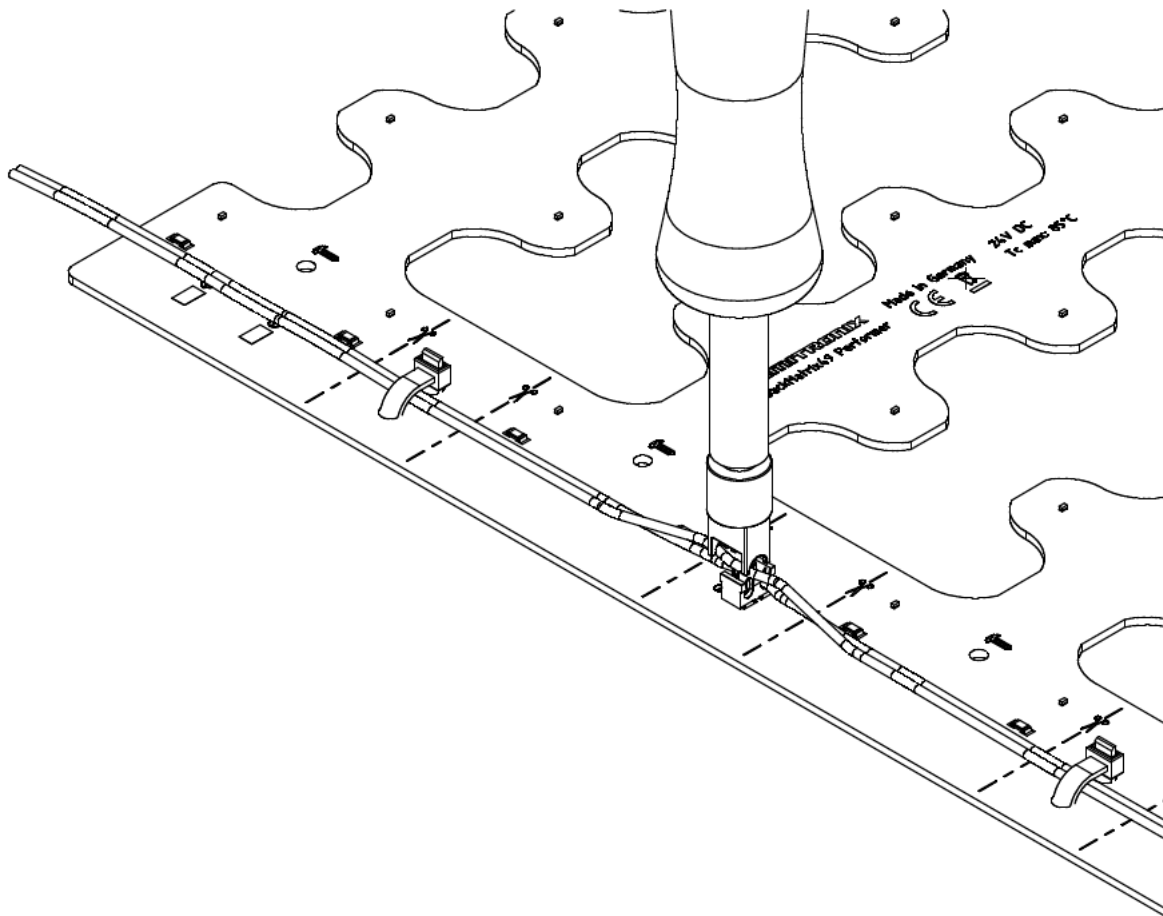
Lumistrips

BACKMATRIX-49-2080 NICHIA LED MODULE WARM WHITE CRI80 2700K 1150LM 49 LEDS 24V 10.9W 180° 28X28CM

In this way, several modules can also be connected to each other without any problems. For additional cable fixation, holes are provided for e.g. cable ties.

Alternatively, the BackMatrix LED modules can also be electrically connected in the classic way with a solder connection.
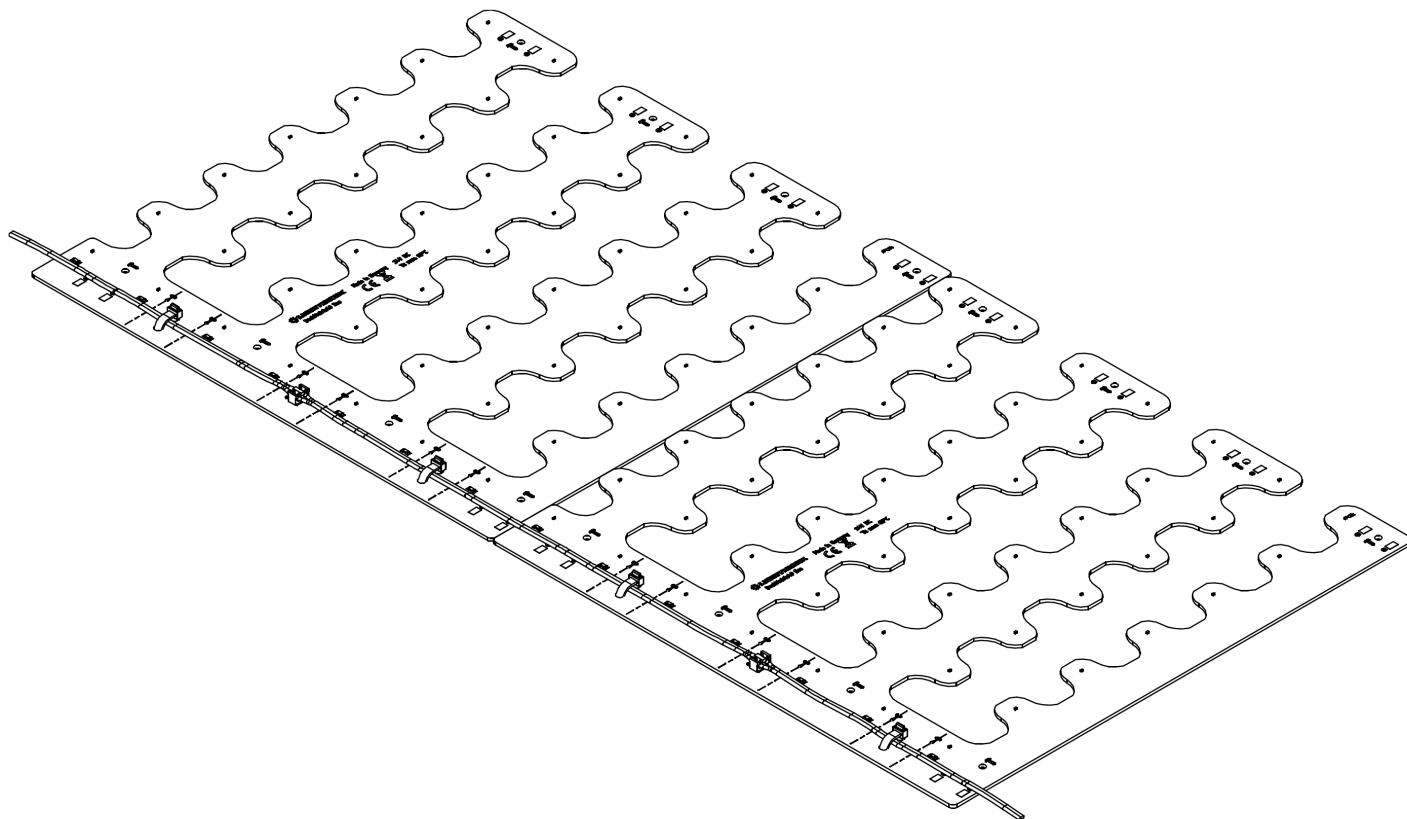
LED MODULE PRODUCT NAME EXPLAINED

BackMatrix3080 Nichia LED Module warm white CRI80 3000K 6500lm 24V 49 LEDs 29x29cm (23233 lm/sqm)

Product name

Primary application:
10XX = LED module for ambient light (up to 5000 lm/sqm)

20XX = LED module for general light, when combined with other sources (up to 15000 lm/sqm)

30XX = LED module for general light (up to 25000 lm/sqm)

40XX = LED module for work light (up to 100000 lm/sqm)

Spectrum quality (CRI):
xx80 = minimum accepable

xx90 = good

xx95 = very good

xx98 = best
(full spectrum light)

LED brand

Product type

Photometric data

Electrical data

Dimensions

Mechanical data

Key Photometric and electrical data per meter, for easy comparison to other LED modules

Lumistrips

Due to the special conditions in the production process of LEDs, the specified values are statistical averages. The individual LED may deviate from them.

The LED modules and all their components must not be mechanically stressed.

Avoid undue claw action, e.g. by screwing or excessive bending.

The LED modules must not come into contact with aggressive chemical substances, either in operation or in storage.

The installation of the module (with the operating device) must be carried out in compliance with all applicable electrical and safety standards.

Pay attention to standard ESD precautions when installing the modules.

- The components on the LED modules must not be subjected to mechanical stress.

- The conductive paths on the boards must not be damaged or interrupted by the installation.

- Store and operate the LED modules only at a final humidity of 10% to 60%.

Our LED modules are not protected against overload, overtemperature and short-circuit currents. To operate the modules safely and reliably, it is therefore necessary to use an electronically stabilized power supply unit in which these

in which these safety functions are already integrated. If other power supplies than the ones distributed by us are used, the following protective

the following protective measures must be ensured on the power supply side:

MINIMUM REQUIREMENTS FOR POWER SUPPLIES: Short circuit protection - Overload protection - Overtemperature protection

- The installation of LED modules may only be carried out in compliance with all applicable regulations and standards by an authorized electrician.

Distribution and reproduction of this document, utilization and communication of its contents are prohibited unless expressly permitted. Any infringement will result in compensation for damages. All rights reserved in the event of patent, utility model or design registration.

We reserve the right to make technical changes.

This LED module can be purchased via the following websites:
www.ledrise.eu / www.lumistrips.com

Lumistrips