Stark White light for linear applications
34W 4800lm

STARK

Product description

- Compact linemodule with high efficacy
- CRI 80+
- SDCM3
- 116° angle
- Polarity protected

Technical parameters

Electrical and optical [1]

CCT	Min. luminous flux [lm]		Typ. forward voltage [V]		Typ. power consumpt. [W]		Efficacy [lm/W]	
	500mA	700mA	500mA	700mA	500mA	700mA	500mA	700mA
3000K	3384	4561	46.1	47.9	23.0	33.5	147	136
4000K	3584	4829	46.1	47.9	23.0	33.5	156	144

Forward voltage values are typical values.

Forward voltage range [1]

CCT	At 500mA [V]			At 700mA [V]		
	Min.	Typ.	Max.	Min.	Typ.	Max.
3000K	43.7	46.1	48.5	45.5	47.9	50.3
4000K	43.7	46.1	48.5	45.5	47.9	50.3

Actual forward voltage, Vf, in delivered LED module depends on bin/rank of the LEDs. Vf varies depending on working temperature and driving current. More information can be provided by Lightronic.

[1] Values are presented at junction temperature T_J = 85°C. T_J can be calculated, see section 'Junction Temperature'

Photometric

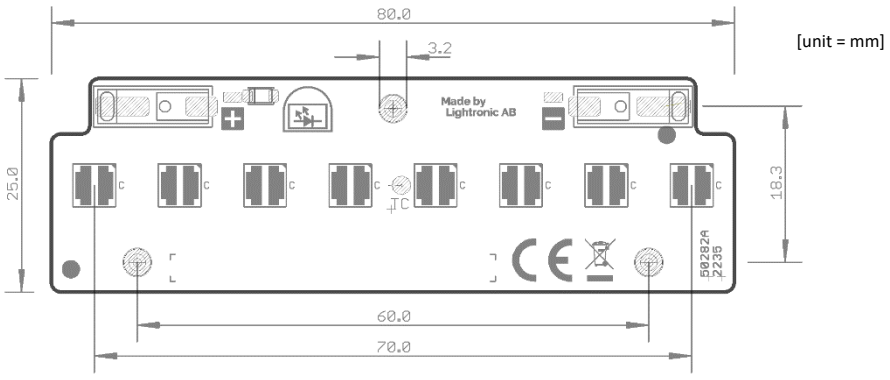
CCT	Colour consistency SDCM	Colour rendering index CRI	R9 value
3000K	3	> 80	-
4000K	3	> 80	-

Beam characteristics

Name	Digits in part # [2]	Angle [FWHM]	Type
No optics	No digits	116°	-

[2] See chapter for Ordering data

Mechanical dimensions



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Handling

Electrical supply

Stark LED module must be connected to a constant current driver. Using constant voltage drivers will permanently damage the module. Stark has a built-in polarity protection device. This means that voltages (up to 60V) connected with reversed polarity will not damage the LEDs. Higher voltages will risk the LEDs to get permanently damaged.

Stark modules are not protected against overvoltages, overcurrents, overloads or short-circuit currents. Safe and reliable operation can only be guaranteed in conjunction with a LED driver which complies with the relevant standards.

Several modules can be connected in series.

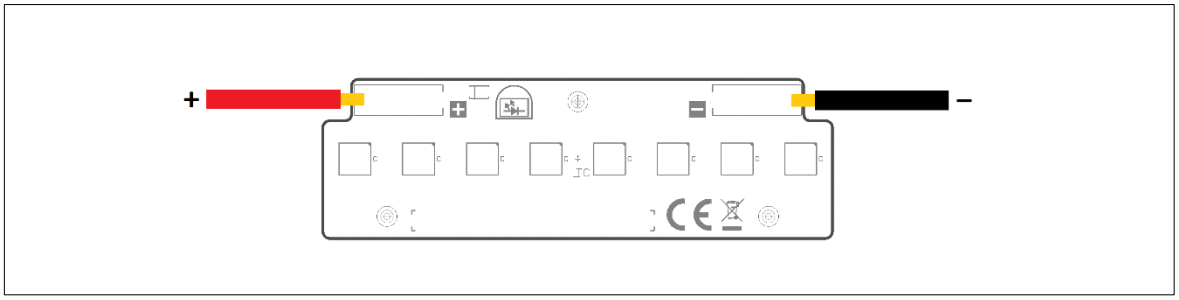
Mounting

Mounting should be done with 3 pcs of Ø3mm screws. The surface should be cleaned with isopropanol to remove any grease before mounting. **Note! For maximal thermal connection always attach to a clean and flat metal surface using thermal paste.**

Wiring

Power the module from a LED driver using wires with stripped ends. Both solid and stranded wires are accepted.

Actuation type	Push-button
Solid Conductor	0.2 to 0.75 mm² / 24 … 18 AWG.
Fine-stranded conductor	0.2 to 0.75 mm² / 24 … 18 AWG.
Stripping length	7 to 9 mm



Removal and recycling

Removing Stark after it has been mounted is simply done by reversing the mounting procedure. Push down the buttons on the two circuit board connectors and pull out the wires. Unscrew the three screws.

In order to recycle Stark it should be discarded at a recycling station in the bin for electronics.

Technical data

LED type	LUXEON® 5050
LED current, max	800mA
Board temperature at TC point, max	80°C
Reverse voltage, max	60V
ESD sensitivity	>8kV (Class 3B HBM)
Thermal resistance $Rth_{J\text{-}A}$	1.3°C/W
PCB material	Aluminium PCB 2W/m-K 1.6mm thickness
Connector	2 pcs of 1-pos cage clamp connector with push-buttons

Lifetime and thermal details

The lifetime of an LED module is defined by the time measured from when a certain number of LEDs is switched on and to the point when the percentage of its original lumen output has decreased to a certain level. It is most common to use L70B50 to represent the lifetime figure of an LED. The L value represents the remaining light level and the B value defines the quantity of the test objects that has failed. L70B50 means that 50% of the LEDs are below the 70% original light output.

Parameter	LED-current	Max temp at TC-point	Estimated lifetime
L70B50	640mA	70°C when using optics	>60 000 hours

To define the temperature of the module the power should be switched on long enough for the system to get a stable temperature, typically 60-90 minutes. Measurement can be done in two ways:

- Using a thermal logger with a thermocouple. The tip of the thermocouple should be glued to the TC point.
- Using a thermal imaging camera

By using a thermocouple; remove the secondary optics in order to measure the temperature at the TC point. The point is marked and located just below the LED. It is recommended to use a micro, AWG 40 or smaller, thermocouple in order to prevent light being absorbed by the sensor.

By using a thermal imaging camera; measurement should be done immediately after turning the LED off so that the emitting photons will not interfere with the sensor.

Junction temperature

The junction temperature T_J can be calculated by this formula:

$T_J = T_C + P \times 8$ where T_C is the temperature at the TC-point and P is the electrical power that is fed to the LED. P = Vf x If.

Energy efficiency class

CCT	Classification
3000K	D
4000K	D

Energy efficiency class is defined at LED current 70mA. At other currents the energy efficiency class might be another.

Harmonizing standards

Standard	Description
IEC 62471	Photobiological safety of lamps and lamp systems
IEC 62778	Blue light hazards

Ordering data

Part number	CCT	Qty per carton
LM8-STA-30K8-5050B	3000K	TBD
LM8-STA-40K8-5050B	4000K	TBD

Accessories

A table with examples of accessories available for Stark LED modules. More accessories can be found at https://lightronic.se/led-accessories/

Name	Part #	Specification	More information
Constant current driver 30W	LD30C-PV2	250-700 mA CC, push-dim, 0-10V dim, 12/24V CV	Drivers
Constant current driver 50W	KL50C-PV5	500-1200 mA CC, push-dim, 0-10V dim, 12/24V CV	Drivers