

# FLUXengine Data Sheet and Application Note

v 1.0

Date 4/20/2019



- LED Module for horticulture applications
- Enables individual solutions for all cultivation areas
- Highest efficacy using standard LED drivers
- Optimized for economical thermal management and case design

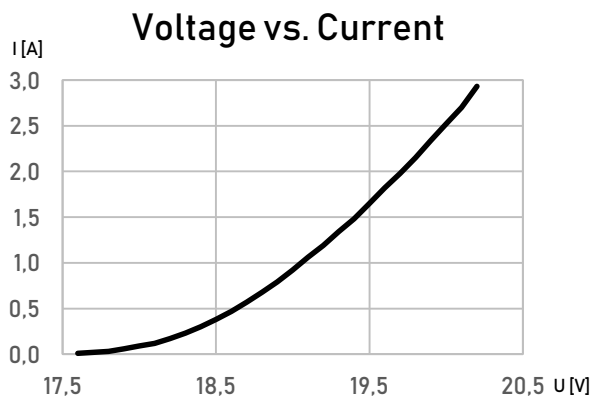


**Please note:** Only properly qualified personnel may carry out the installation and maintenance of live components. Properly qualified personnel are those who are familiar with the assembly, installation, commissioning and operation of the product and must have the relevant qualifications. Please refer to the application notes attached.

# 1. Specifications

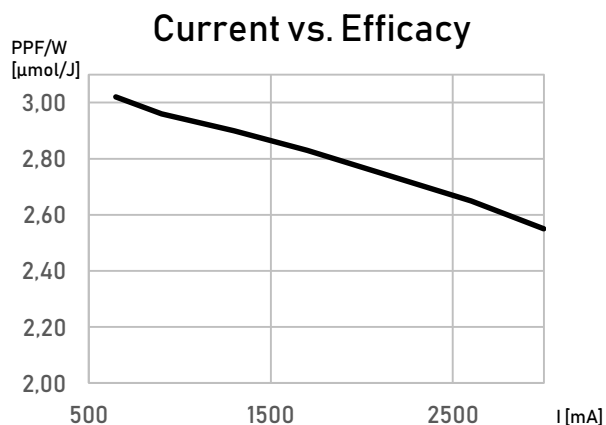
## 1.1 Absolute Maximum Ratings

Property	Max.
Current*	3 A
Voltage**	20,0 V
Humidity	95% RH***
Environment Temperature	45° C
Board Temperature	75° C



## 1.2 Typical Characteristics

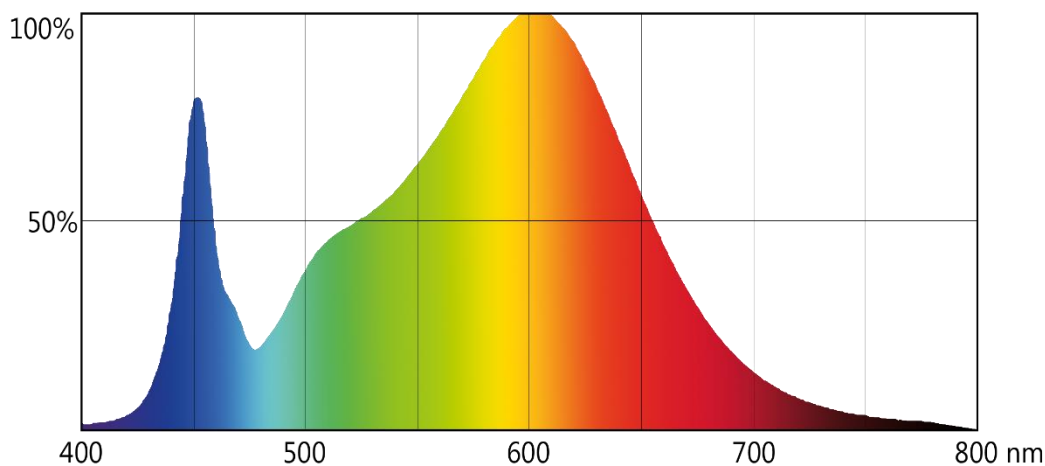
Property	Value
Operational Range CC*	17,6 – 20,5 V
Operational Range CV**	0 – 3,0 A
Color rendering index	CRI 80
Color temperature	3500K
Beam angle	120°
PPF	155 $\mu\text{mol}/\text{s}^2$
PPF/W	2,55 $\mu\text{mol}/\text{J}$



\*) For operation with constant current  
 \*\*) For operation with constant voltage  
 \*\*\*) Non-condensing

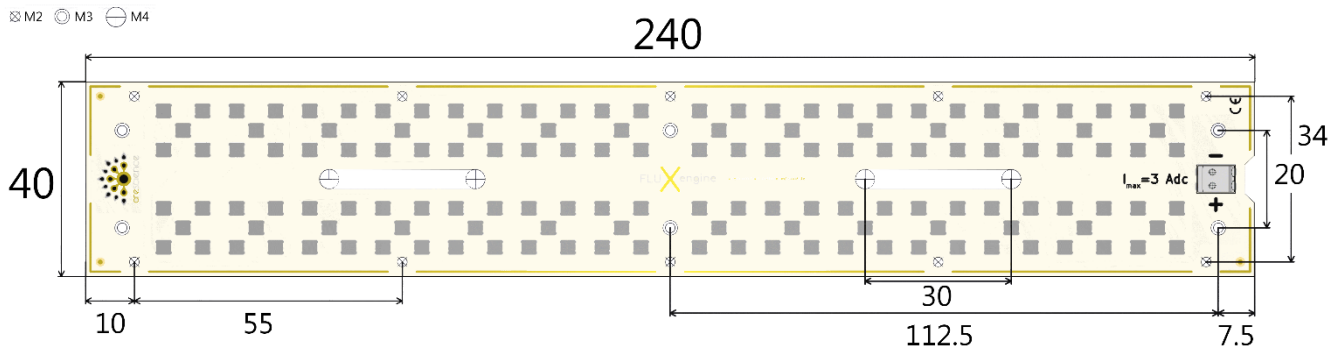
Conditions:  $T_j = 20^\circ\text{C}$   
 Tolerance: Voltage  $\pm 0,5\%$ , Photon Flux  $\pm 7\%$ , CRI  $\pm 3$

### Spectrum 3500K



## 1.3 Dimensions

- Outer dimensions:** 240,0 x 40,0 x 5,7 mm  
**PCB Thickness:** 3,0 mm  
**Connector:** Poke in type connector for solid wire  
**Applicable Wire Size:** 0,14 mm<sup>2</sup>-0,5 mm<sup>2</sup> (AWG 26 – 20), terminal strip length see application note



## 2. Application Note

### 2.1 Safety

- Live components are only to be handled by qualified personell. Any handling may only be carried out at zero-potential.
- Life hazard! Components might carry harmful voltages. Ensure proper contact protection!
- Risk of burns! Do not touch heat conducting parts or heat sinks.

### 2.2 Assembly

- **Please use the pre-packaged plastic shims for mounting with in order to protect the PCB.**
- **Only use solid copper wire.**  
Wire size AWG 26 – 22 (0,14 – 0,34 mm<sup>2</sup>)– Terminal strip length 4 – 5,5 mm. For wire size AWG 20 (0,5 mm<sup>2</sup>) terminal strip length 6 – 7,5 mm. If wiring with AWG 20 (0,5 mm<sup>2</sup>) re-connecting with smaller sizes will be impossible. Connector can be released with operating tool or any SIM card pin.
- **Series wiring preferred.**  
See wiring examples on [www.cre.science/fluxengine-schaltung](http://www.cre.science/fluxengine-schaltung)
- **Constant current operation preferred.**  
Suitable constant current drivers list see [www.cre.science/treiberempfehlungen](http://www.cre.science/treiberempfehlungen)
- **Ensure proper thermal management.**  
Thermal management tests for reference see [www.cre.science/waermemanagement](http://www.cre.science/waermemanagement)

## Disclaimer

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