

Light is OSRAM



# PrevaLED® Core Z4 Style

## Best color perception in spotlighting and downlighting



### Design-in

- **Easy design-in**
  - LES19
  - Improved poke-in connector for stranded and solid wires
  - Compatible with all Zhaga book 3 accessories
- **Dimensions**
  - Ø 50 x 7 mm (Zhaga)
  - Identical with Z4 module

### Benefits

- Best color perception for vivid white and colors in shop lighting (even compared to HID solutions)
- New OSRAM “true color technology” optimized to achieve a high FCI
- All LED module advantages with additional functionalities (LEDset, thermal derating, thermal shutdown)
- No bleaching

### System

- **System approach**
  - System match and 3-year/5-year guarantee
  - With on/off and intelligent OPTOTRONIC® LED driver ranges
- **Thermal protection**
  - Thermal derating (and auto calibration) with OTi
- **Thermal protection**
  - Reversible shutdown built on module

### Optical characteristics at $t_p = 65^\circ\text{C}$

Product	Luminous flux [lm]	FCI	CRI typ.	CCT [K]	LES category	Initial color consistency
PL-CORE-Z4-S32	3000	138	88*	3250	19	<3 SDCM

\*Preliminary



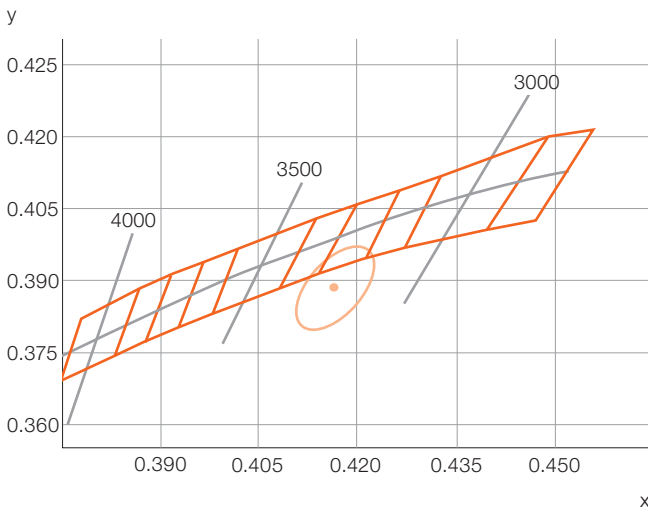
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### Color temperature

The PrevaLED® Core Z4 Style is currently available with 3250K. The color coordinates within the CIE 1931 color space are  $C_x$ : 0.4165 and  $C_y$ : 0.3891.

Within each available color temperature, the PrevaLED® Core Z4 series provides a maximum color variation of three threshold value units (MacAdam steps). The following diagram shows these threshold values within the CIE 1931 color space.

### Color coordinates and variation within the CIE 1931 color space



Chromaticity coordinate groups: Chromaticity coordinates are measured during a current pulse of typically 25 ms, with an internal reproducibility of  $\pm 0.005$  and an expanded uncertainty of  $\pm 0.01$  (acc. to GUM with a coverage factor of  $k = 3$ ). For testing, the chromaticity coordinate ellipses are approximated with polygons.

### Color rendering

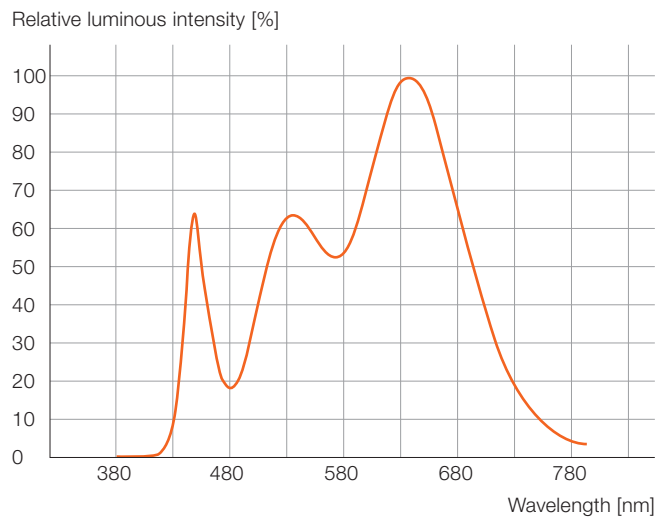
PrevaLED® Core Z4 Style LED modules provide a color rendering index (CRI) of 88. The table below shows the individual  $R_a$  values from R1 to R14.

	Dusky pink	Mustard yellow	Yellowish green	Light green	Turquoise	Azure	Aster violet	Lilac violet	Red, saturated	Yellow, saturated	Green, saturated	Blue, saturated	Pink, skin color	Leaf green	General CRI
	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	$R_a$
	86	96	86	82	88	95	90	80	63	96	77	88	88	90	88

### Spectral distribution

The typical spectral distribution of the PrevaLED® Core Z4 Style LED modules is shown in the following diagram.

### Spectral distribution of PrevaLED® Core Z4 Style



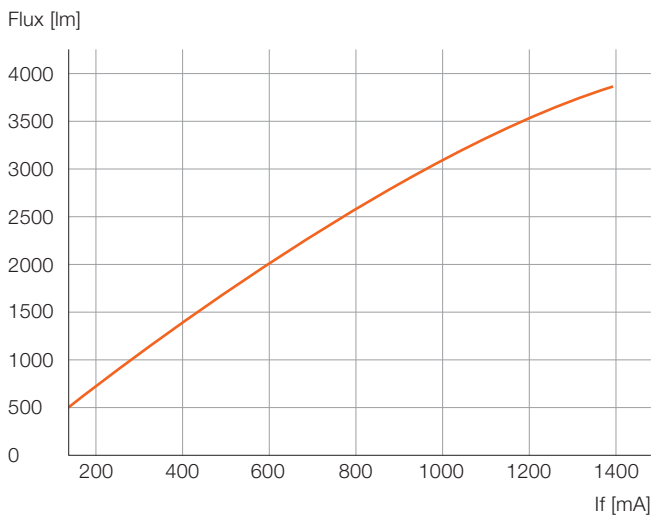


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### Flux behavior

The following diagram shows the luminous flux over the operating current for PrevaLED® Core Z4 Style LED modules. The data related to the operating current is derived from a  $t_p$  temperature of 65 °C.

### Luminous flux as a function of forward current



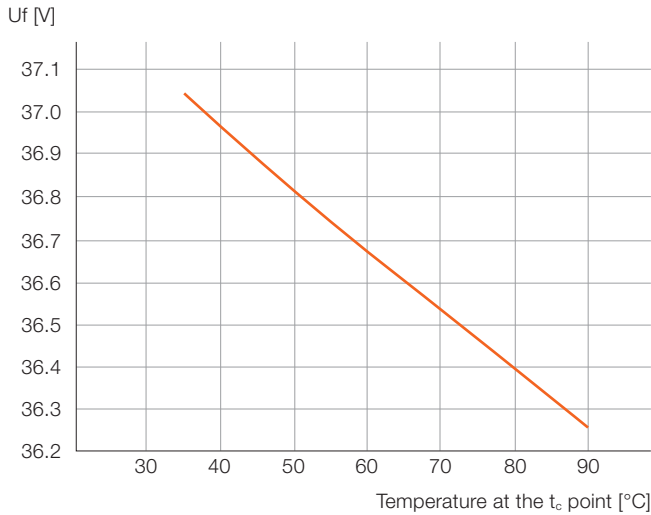
### Electrical driving conditions at $t_p = 65^\circ\text{C}$

Product	Nominal current [mA]	Max. current [mA]	Nominal voltage [V]	Max. voltage [V] at $t_p = 65^\circ\text{C}$	Typ. electrical power [W]	Typ. efficacy [lm/W]
PL-CORE-Z4-S32	960	1400	36.0	39.6	34.8	86

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### Forward voltage as a function of $t_p$ temperature



### Thermal data

Product	$t_p$ at $t_c$ point [°C]	$t_c$ max [°C]	Storage temperature [°C]	Ambient temperature [°C]	Typ. thermal power [W] <sup>1)</sup>	Max. thermal power [W] at nominal current <sup>1)</sup>	Max. allowable thermal resistance $R_{th}$ [K/W]
PL-CORE-Z4-S32	65	90	-25-85	-20-50	23.7	26.0	1.22 <sup>2)</sup>

1) Value measured at the  $t_c$  point at a reference temperature ( $t_r$ ) of 65 °C

2) Value measured on the back of the luminaire at an ambient temperature of 25 °C

Driver specifications should be taken into account when defining a system.

### Dimensions

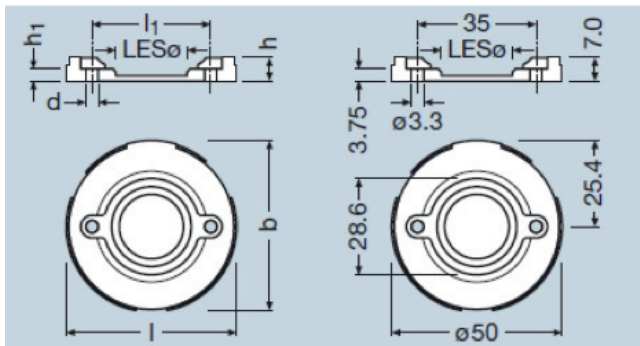
The general dimensions of all modules are identical. All modules are fully compliant to Zhaga book 3 standards.

Detailed technical drawings are available at

[www.osram.com/prevaled-core](http://www.osram.com/prevaled-core)

### Lifetime and guarantee

- Lifetime L70B10 at  $t_c = 65$  °C: 50 000 hours  
Lifetime L80B10 at  $t_c = 65$  °C: 30 000 hours
- Guarantee: 5-year guarantee on modules. For more information on system release with OSRAM LED drivers, please refer to our website.



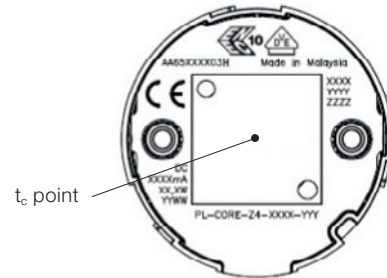
PL-CORE-Z4-Style

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### Case temperature

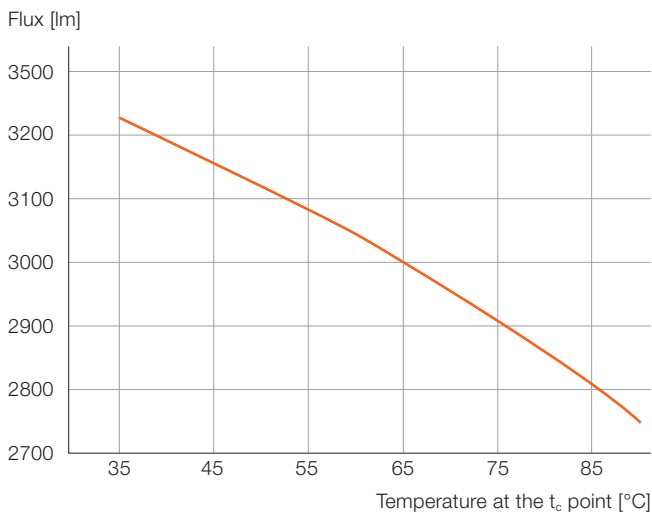
Please measure the case temperature for PrevaLED® Core Z4 Style LED modules in **the center of the back** of the LED module. This can be achieved by a thin, milled channel or a drilled hole. The  $t_p$  and  $t_r$  measurement points are also located at the  $t_c$  point.



### Electrical connection

PrevaLED® Core Z4 Style LED modules are equipped with a 3-terminal poke-in connector. The input clamps used in PrevaLED® Core Z4 Style LED modules can handle wires with a cross section of 0.5–0.75 mm<sup>2</sup> (AWG 22–18).

### Luminous flux as a function of $t_p$ temperature



### Order information

Product name	EAN 10	EAN 40
PL-CORE-Z4-S32 (Style)	40528999 <b>945975</b>	40528999 <b>945982</b>

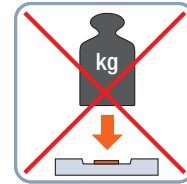
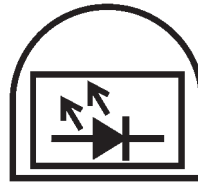
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## Safety and general notes

### Safety

- High-power LED modules: do not stare into beam or view directly with optical instruments.
- Product shall only be handled by trained/skilled personnel; any liability of OSRAM is excluded to the extent possible under German law.
- Installation of LED modules (with LED drivers) needs to be carried out with regard to all applicable electrical and safety standards.
- The LED modules can be used without any additional insulation with LED drivers with SELV and a max. voltage of 120V<sub>DC</sub>.
- When mounting a PrevaLED® Core Z4 Style LED module within a luminaire, it is mandatory to use thermal interface material (TIM) between the back of the LED module and the luminaire housing or heat sink (for details, please see application guide).



### Contact

- For further details, please go to [www.osram.com/prevaled-core](http://www.osram.com/prevaled-core)
- At our website, all OSRAM subsidiaries are listed with complete address and phone numbers.

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