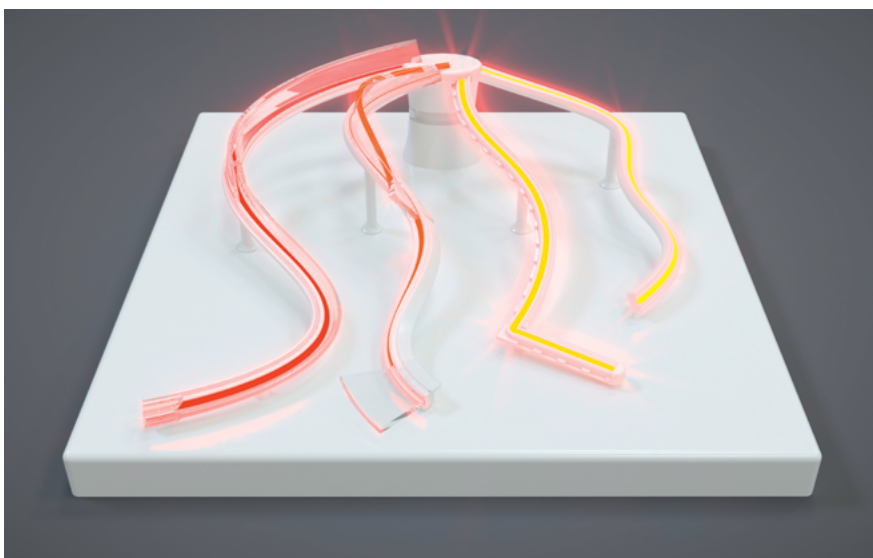




LUXEON 3D

New styling opportunities for rear lamps



3D LED solutions allow set makers to create OEM's future lighting design wishes in an attractive and cost-effective manner, while introducing new differentiation value to styling-driven market segments.

FEATURES AND BENEFITS

- Bi-directional, bendable and compact light source achieves full freestanding 3D sculptures and linear lighting profiles, fitting into previously unreachable areas in car body.
- Rear-signaling color range and integrated optics accommodate all rear-exterior signaling functions
- Embedded optical, thermal and mechanical interface allows for easy handling and assembling.

PRIMARY APPLICATIONS

- Tail, Stop and Rear Turn
- Signature function in Super-Red, Red-Orange and Amber
- Attractive and uniform elongated CHMSL



3D LED AVAILABILITY

Tail (RO / LR / SR)	mid-2020
Stop (RO / LR / SR)	mid-2021
Rear Turn (amber)	mid-2021

3D LED specifications

3D LED is an elongated light source that is bendable in both Y and Z directions and can be twisted in X direction

Optical

Lambertian profile, Light Emitting Area 4 mm

	Homogeneity (%)	Wavelength (nm)	Intensity (cd/mm)
Tail	90	615 (RO)	0.10
		630 (SR)	0.05
Stop	90	615 (RO)	0.10
Rear Turn	50	592 (Amber)	0.10

Electrical

V_{forward}	8 V
$I_{\text{forward}} (480 \text{ mm})$	960 mA
Power	8 W

Mechanical

Material	Silicone
Max. Length	480 mm
Min. Length	30 mm
Depth x Width	5.5 mm x 8 mm
Min. Bending Radius (y, z)	25 mm
Twisting (x)	90° within 50 mm

Thermal

T_{min}	-40 °C
$T_{\text{max, op}}$	85 °C
$T_{\text{max, storage}}$	105 °C

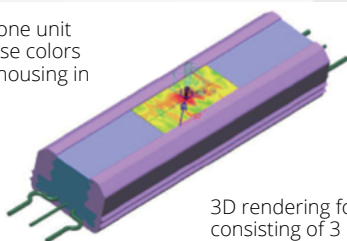
Application design rules

3D LED is designed to be applied in sealed lamp (IP5K2). 3D LED can be used for direct emission or in conjunction with optical elements.

Optical

For optical design, a light emission of one unit cell can be used to generate surface emission characteristics.

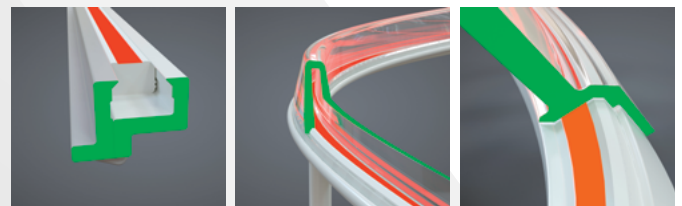
Light emission of one unit cell is shown in false colors on the top of the housing in this rendering



3D rendering for 3D LED consisting of 3 unit cells

Mechanical

3D LED can be placed in a holder for attachment in lamp and safe-guarding desired structure:



Stand alone structure

In conjunction with optical hollow-body

Light blade

Electrical

Cable connector at rear side
Flexible cable length
Flexible connector choice
Constant-current electrical driving

Climate

Thermal shock	1.000 cycles	✓
Power temperature	1.000 cycles	✓
Wet heat	1.000 cycles	✓
Damp heat	240 cycles	✓

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