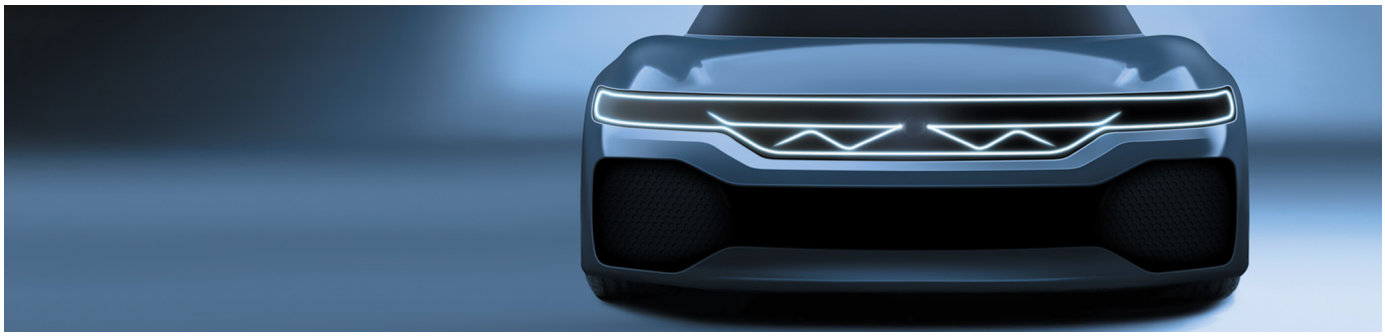
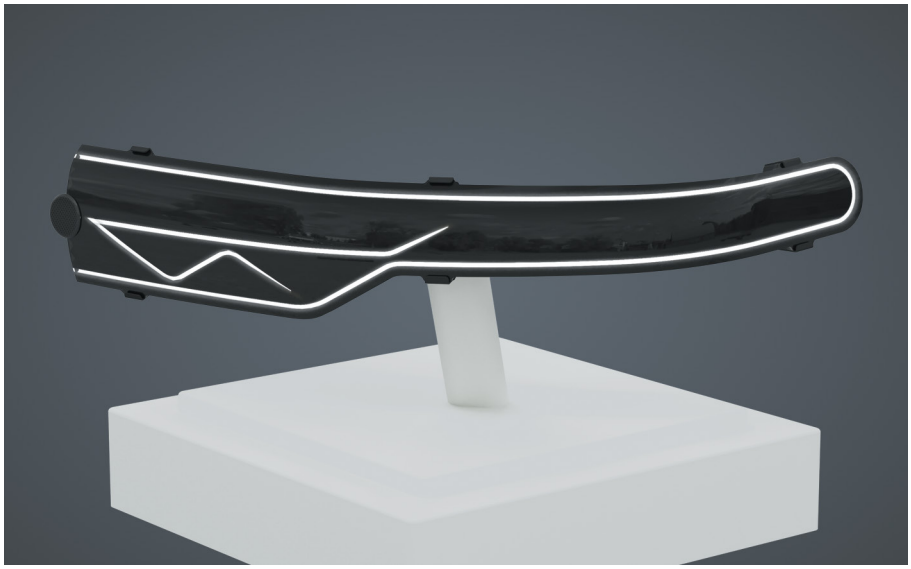
LUMILEDS

AUTOMOTIVE



LUXEON 3D LED

New Styling Opportunities for Decorative Car-Body Signature Lighting



LUXEON 3D LED opens up new possibilities for car-body signature lighting in space-constrained environments that require homogeneous illumination. Versatile brightness levels provide flexibility for a broad variety of styling designs. The soft, flexible, silicone-based structure promotes pedestrian protection at the front of the vehicle.

FEATURES AND BENEFITS

- Extremely compact form enables integration into previously inaccessible areas of the car body
- Smart optical design and universally bendable light source can adapt to a wide variety of 3D shapes while maintaining a consistent appearance from any angle
- Segmented animation provides a simple solution for dynamic lighting scenarios
- Easy handling and assembly due to integrated thermal, mechanical, and optical design
- Robust architecture allows minimal protection of the light source
- Soft materials help meet pedestrian-protection requirements

PRIMARY APPLICATIONS

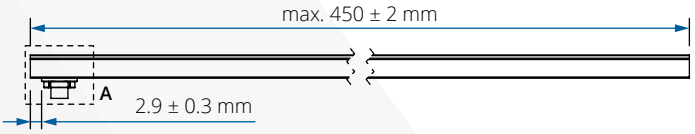
- Decorative car-body lighting
- Grille illumination
- Animated welcome-scenario lighting
- Position light, daytime running light (DRL)
- Front turn, rear turn
- Tail, stop, center high-mounted stop light (CHMSL)

LUXEON 3D LED Product-Family Specification

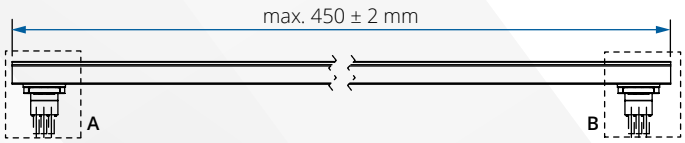
3D LED is an elongated light source that is bendable in both *y*- and *z*-directions and can be twisted in *x*-direction. The length of each strip is customizable to 45 cm maximum. Multiple 3D LED strips can be optically combined to achieve a seamless connection.

Mechanical Dimensions

Static version



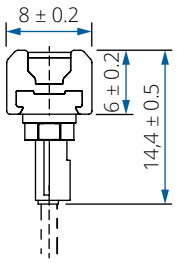
Dynamic version



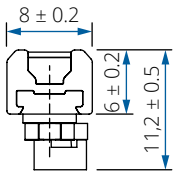
For illustration purpose, displayed as electrical interface are JST-SJN connector for the static version and JST-SAN connector for the dynamic version. Both can be applied for either version without mixing of variants.

Cross Sections

JST-SAN

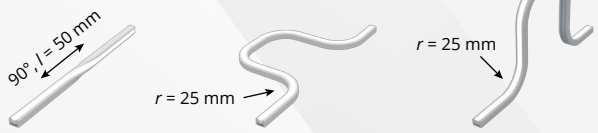


JST-SJN



LUXEON 3D LED: grille illumination demonstrator (slice view)

Mechanical Flexibility



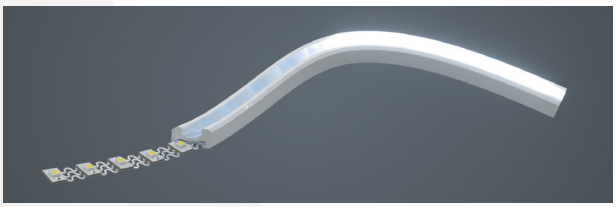
x-twist | *y*-bend (in-plane) | *z*-bend (out-of-plane)

Thermal Specifications

T_{min} = −40 °C $T_{max,op}$ = 105 °C $T_{max,storage}$ = 125 °C

Animation Capabilities

- The dynamic version is segmented into five individually addressable segments, typically ranging from 5 cm to 9 cm maximum.
- Each segment can be powered individually within a specified current range from 30 mA to 60 mA per LED to achieve smooth gradients.



Product Portfolio Range

Color	Lum. flux	Illuminance	Homogeneity	Static version V_f	Static version I	Static version SOP	Dynamic version V_f	Dynamic version I	Dynamic version SOP
Cool White	775 lm	250 cd	> 90%	9 V	900 mA	Q3/2022	27 V	300 mA	Q4/2022
PC Amber	540 lm	170 cd	> 90%	9 V	900 mA	Q4/2022	27 V	300 mA	Q4/2022
Red Orange (615 nm)	270 lm	90 cd	> 95%	7.5 V	900 mA	Q4/2022	22.5 V	300 mA	Q4/2022
Long Red (630 nm)	135 lm	45 cd	> 95%	7.5 V	900 mA	Q4/2022	22.5 V	300 mA	Q4/2022
Super Red (635 nm)	110 lm	36 cd	> 95%	7.5 V	900 mA	Q4/2022	22.5 V	300 mA	Q4/2022