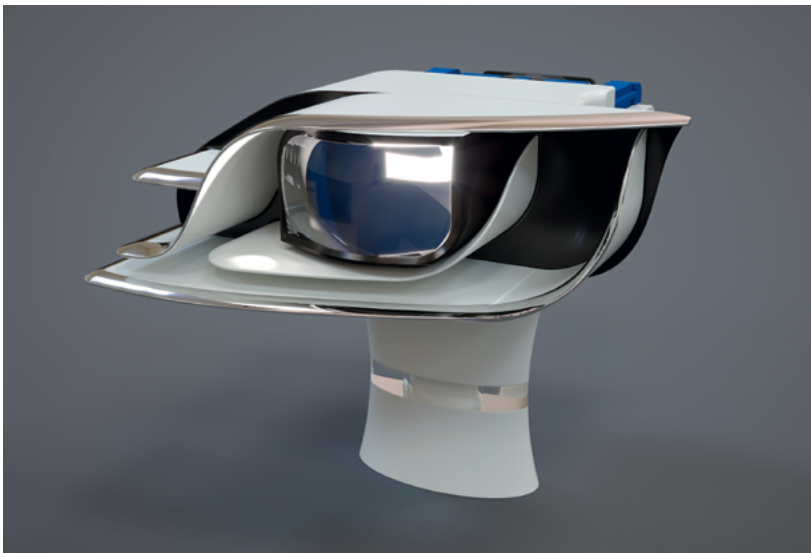


LUXEON Matrix Solutions

Lumileds matrix solutions for Adaptive Front-lighting Systems and main-beam applications using LUXEON Neo LEDs offer greatest efficacy while maintaining customization options and design flexibility



Lumileds offers a variety of integrated and customized solutions from simple high-beam or low-beam applications to full-matrix modules, using the compact-size LUXEON Neo LEDs with small footprint and best-in-class tolerance including electronics and optic integration as required. Our turn-key solutions allow for best time-to-market delivery and superior performance and reliability.

FEATURES AND BENEFITS

- ADB modules with few to many pixels in one or two rows, offering customization flexibility and design freedom while maintaining high efficiency
- Full solution provider guaranteeing time to market, performance and reliability

PRIMARY APPLICATIONS

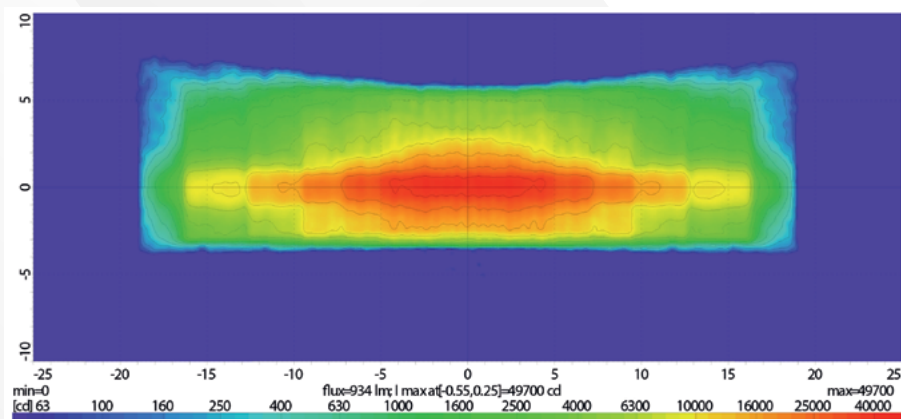
- Adaptive Driving Beam (ADB)
- Glare-free high beam
- Matrix headlighting
- High beam, low beam with reflection and projection optics
- Adaptive Front-lighting Systems (AFS)

LUXEON Matrix Modules

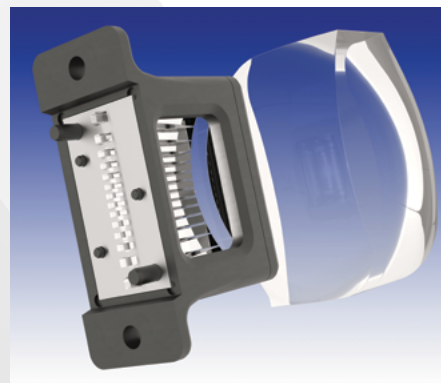
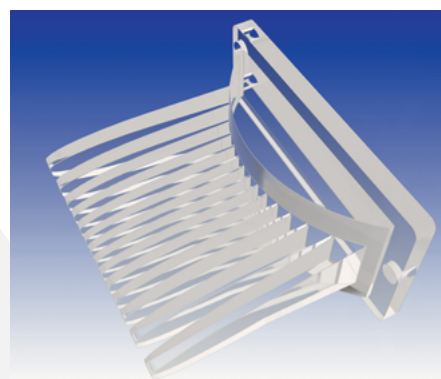
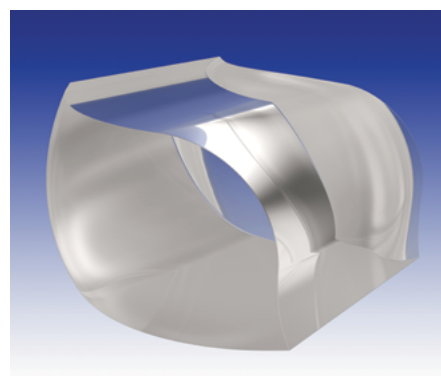
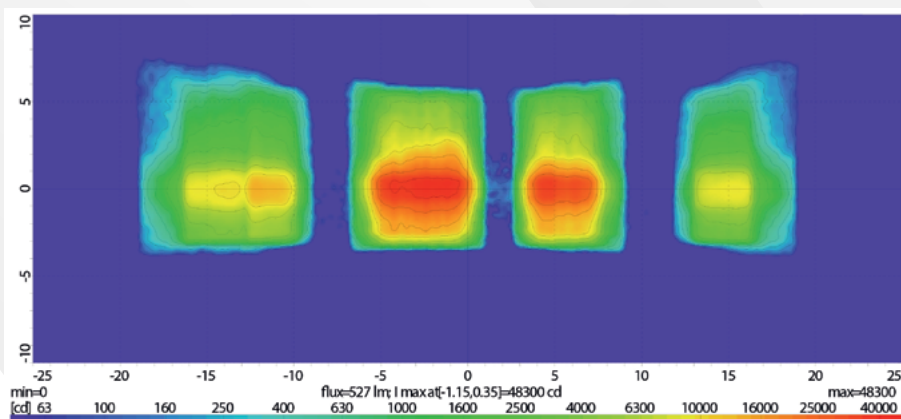
Sourcing the matrix module from the LED manufacturer guarantees best possible performance and quality. The Lumileds Matrix platform will always be released with the latest LED technology and therefore allows faster time to market with reduced development effort. A wide variety of solutions and configurations are possible based on LUXEON Neo LEDs which offer best in class size, tolerances and efficacy.

ADB matrix module demonstrator with 14 pixel

A matrix module with one group of 14 LEDs covering +/- 16° (1.7°- 3.5° resolution) horizontally and 9° vertically is realized with a single lens of 48 x 28 mm² combined with a simple collimator. Each LED has a light emitting area of ~0.5 mm². A total of 1850 lumen installed result in 934 lumen in the beam attributing to 50 % optical efficiency. This includes all optical losses to be expected in the headlamp.



The collimator is manufactured as a silicone optic with 26 x 16 x 25 mm³ and designed for a spacing of 200 μm to the LUXEON Neo LEDs which are pitched at 1.35 mm – 3.15 mm. Pixel count can be adjusted to customer needs, however multiples of six should be used to optimize for available channels of common matrix switcher ICs.



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