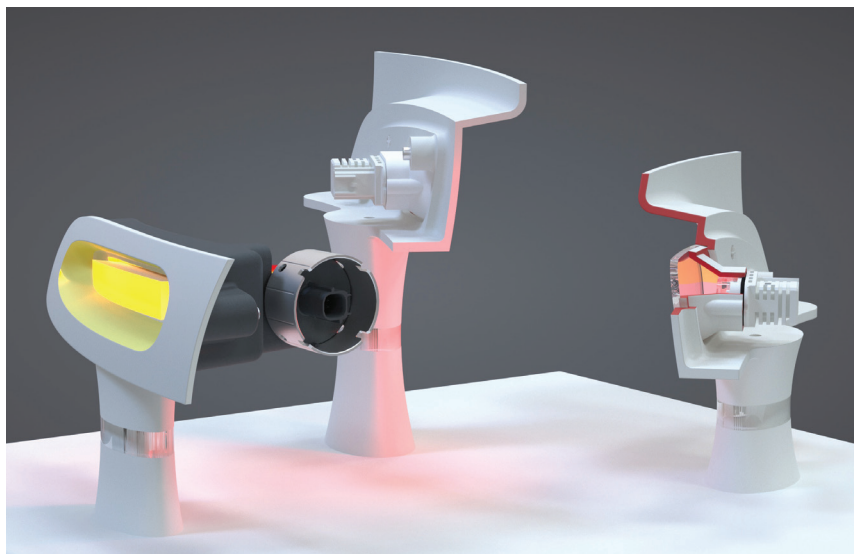


LED Bulbs and Modules

Standardized LED solutions for mass market are now on the road



Designing a LED lighting solution has never been so easy with LED bulbs and modules.

Standardized interfaces allow for minimal effort in design phase, faster proliferation and roll-out, by still enabling a wide styling flexibility. All signaling functions, as well as front fog, can now be addressed thanks to the complete product range we are offering.

FEATURES AND BENEFITS

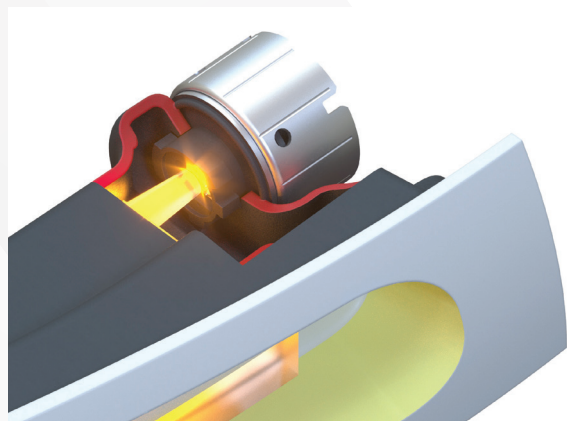
- Powerful light from a small source provides design freedom for meeting various styling needs compared to conventional solutions
- Turnkey solutions with integrated heat sink and driver
- Easy thermal management enables compact luminaire design
- Standard interface allows for minimal effort in product proliferation
- Easy to mount and replace when needed thanks to its standard interface

PRIMARY APPLICATIONS

- External car lighting applications
- Regulated LxN bulbs:
All signaling and front fog functions
- Standard LED Modules:
Rear fog and backup functions

In this demonstrator, we are highlighting how designs based on LED Bulbs or Modules can be easily realized.

LED solutions are now at your fingertips for mass market adoption!

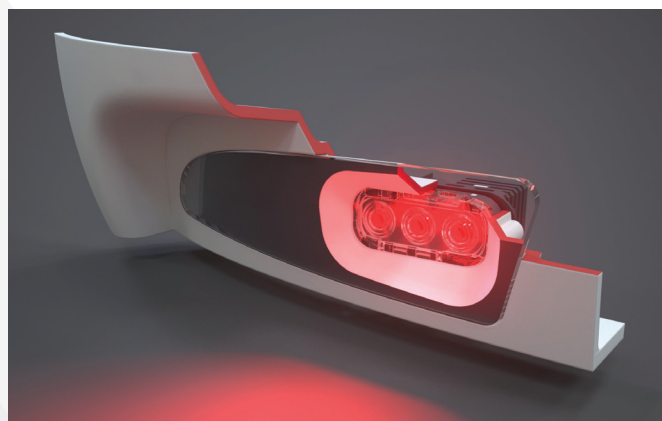


Compact front turn using LED bulb

- High luminous flux from a single bulb, enabling various styling possibilities
- Easy integration in your systems for a real plug-and-play solution:
 - Thermal management at bulb level
 - Fully sealed application
 - Standard electrical connection
 - Regulated and replaceable bulb
- Same advantages apply for other signaling functions realized with LED bulbs, including front fog application
- Already on the road on many platforms

Rear fog and backup modules:

- Standard modules for rear fog and backup functions, meeting ECE R38 and ECE R23 with minimal design effort
- Easy mechanical integration into your rear combination lamps or bumper leading to a fully sealed solution
- Same mechanical footprint between modules for an easy adaptation to different hand drive sides
- No electronic drivers required for direct operation on board net
- Standalone in thermal management
- Industry standard connector types



Regulated LED bulbs - LxN family



Function	Stop/tail	Stop/tail, rear fog	DRL, reverse light	Front fog	Turn
Luminous flux [lm]	80 / 6	120	350	355	280
Voltage range	9 V - 16 V	9 V - 16 V	9 V - 16 V	9 V - 16 V	9 V - 16 V
Typ. power consumption at 13.5V [W]	3 / 0.75	2.5	4.8	4.8	6
Ambient temperature	-40°C to 85°C				

Standardized modules



Rear fog module	Backup module
Rear fog	Reverse light
ECE R38	ECE R23
9 V - 16 V	9 V - 16 V
1.9 (RF75) 1.5 (RF92)	2.5
-40°C to 85°C	

©2019 Lumileds Holding B.V. All rights reserved.
LUXEON is a registered trademark of the Lumileds Holding B.V. in the United States and other countries.

lumileds.com

Neither Lumileds Holding B.V. nor its affiliates shall be liable for any kind of loss of data or any other damages, direct, indirect or consequential, resulting from the use of the provided information and data. Although Lumileds Holding B.V. and/or its affiliates have attempted to provide the most accurate information and data, the materials and services information and data are provided "as is," and neither Lumileds Holding B.V. nor its affiliates warrants or guarantees the contents and correctness of the provided information and data. Lumileds Holding B.V. and its affiliates reserve the right to make changes without notice. You as user agree to this disclaimer and user agreement with the download or use of the provided materials, information and data. A listing of Lumileds product/patent coverage may be accessed at lumileds.com/patents.