

Title (en)

Projection lens for use in an LED module of a motor vehicle headlight, and LED module and motor vehicle headlamp with such a projection lens

Title (de)

Projektionsoptik zum Einsatz in einem LED-Modul eines Kraftfahrzeugscheinwerfers, sowie LED-Modul und Kraftfahrzeugscheinwerfer mit einer solchen Projektionsoptik

Title (fr)

Optique de projection destinée à être utilisée dans un module à DEL d'un phare de véhicule automobile, et module à DEL et phare de véhicule automobile doté d'une telle optique de projection

Publication

EP 2846077 A3 20150325 (DE)

Application

EP 14180018 A 20140806

Priority

DE 102013217843 A 20130906

Abstract (en)

[origin: US2015070926A1] The invention relates to a projection lens for use in an LED module of a motor vehicle headlamp. The LED module has a light source in the form of an LED matrix including numerous LED chips disposed in a matrix adjacent to and/or above one another, a primary lens including numerous primary lens elements disposed in a matrix adjacent to and/or above one another for bundling light emitted from the light source, and a projection lens. The projection lens projects a light exit surface of the primary lens to generate a predefined light distribution on a surface in front of the vehicle. The projection lens is designed such that it generates at least two separate images of the light exit surface of the primary lens on its image side, which are offset to one another in the horizontal direction.

IPC 8 full level

F21S 8/10 (2006.01)

CPC (source: CN EP US)

F21S 41/143 (2017.12 - CN EP US); **F21S 41/153** (2017.12 - EP US); **F21S 41/24** (2017.12 - CN EP US); **F21S 41/25** (2017.12 - US); **F21S 41/255** (2017.12 - CN EP US); **F21S 41/275** (2017.12 - CN EP US); **F21S 41/285** (2017.12 - CN EP US); **F21S 41/32** (2017.12 - CN EP US); **F21S 41/323** (2017.12 - CN EP US); **F21S 41/663** (2017.12 - CN EP US); **F21W 2102/00** (2017.12 - US); **F21W 2102/155** (2017.12 - EP); **F21W 2102/20** (2017.12 - EP); **F21Y 2115/10** (2016.07 - EP US)

Citation (search report)

- [YD] DE 102011077636 A1 20111103 - AUTOMOTIVE LIGHTING REUTLINGEN [DE]
- [AD] EP 2306075 A2 20110406 - AUTOMOTIVE LIGHTING REUTLINGEN [DE]
- [Y] DE 102008005488 A1 20090723 - HELLA KGAA HUECK & CO [DE]
- [A] EP 2620695 A2 20130731 - KOITO MFG CO LTD [JP]
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Designated contracting state (EPC)

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Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2846077 A2 20150311; **EP 2846077 A3 20150325**; **EP 2846077 B1 20200422**; CN 104421714 A 20150318; CN 104421714 B 20170922; DE 102013217843 A1 20150312; US 2015070926 A1 20150312; US 9476558 B2 20161025

DOCDB simple family (application)

EP 14180018 A 20140806; CN 201410445932 A 20140903; DE 102013217843 A 20130906; US 201414477429 A 20140904