

Title (en)
ILLUMINATION DEVICE FOR VEHICLES

Title (de)
BELEUCHTUNGSVORRICHTUNG FÜR FAHRZEUGE

Title (fr)
DISPOSITIF D'ECLAIRAGE POUR VÉHICULES

Publication
EP 3312501 B1 20220323 (DE)

Application
EP 17196439 A 20171013

Priority
DE 102016119880 A 20161019

Abstract (en)
[origin: US2018106450A1] A lighting device for vehicles having a light source and having an optical unit for generating a predetermined light distribution, wherein the optical unit has a micro-optical array having a plurality of micro-optical elements and a microshutter array having a plurality of microshutter elements, wherein the microshutter array has a thickness in the range of 0.1 mm to 2.00 mm.

IPC 8 full level
F21S 41/143 (2018.01); **F21S 41/20** (2018.01); **F21S 41/25** (2018.01); **F21S 41/265** (2018.01); **F21S 41/275** (2018.01); **F21S 41/29** (2018.01); **F21S 41/40** (2018.01); **F21S 41/43** (2018.01); **F21S 41/47** (2018.01)

CPC (source: CN EP US)
F21S 41/141 (2017.12 - US); **F21S 41/143** (2017.12 - EP US); **F21S 41/265** (2017.12 - EP US); **F21S 41/275** (2017.12 - EP US); **F21S 41/285** (2017.12 - EP US); **F21S 41/43** (2017.12 - EP US); **F21S 41/47** (2017.12 - EP US); **F21V 5/002** (2013.01 - US); **F21V 17/101** (2013.01 - US); **F21S 41/25** (2017.12 - EP US); **F21Y 2115/10** (2016.07 - CN US)

Citation (examination)
US 2001030805 A1 20011018 - SAWAKI IPPEI [JP], et al

Cited by
EP3636992A1; CN112789446A; US11708289B2; US11815241B2; EP3907107A1; EP3767161A1; EP3982037A1; WO2021151711A1; WO2021143981A1; WO2020074218A1; US11884570B2; WO2021008793A1; US11365863B2; US11826935B2; US11932566B2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 3312501 A1 20180425; **EP 3312501 B1 20220323**; CN 107965730 A 20180427; DE 102016119880 A1 20180419; US 10465874 B2 20191105; US 2018106450 A1 20180419

DOCDB simple family (application)
EP 17196439 A 20171013; CN 201710973683 A 20171019; DE 102016119880 A 20161019; US 201715787997 A 20171019