

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

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