

Title (en)

Projection headlamp with targeted weakened light intensity gradients at the light-dark border

Title (de)

Projektionsscheinwerfer mit gezielt abgeschwächtem Lichtintensitätsgradienten an der Hell-Dunkel-Grenze

Title (fr)

Phare avec gradient d'intensité lumineuse ciblée amortie sur la limite de clair-obscur

Publication

EP 2420728 B1 20130529 (DE)

Application

EP 11175421 A 20110726

Priority

DE 102010035767 A 20100820

Abstract (en)

[origin: EP2420728A1] The headlamp has an optical element (14) collecting light of a light source (12). A shutter edge (34) is formed in light distribution unit as a bright-dark boundary between a relatively brighter region and relatively darker region of the light distribution unit. A movable shutter (32) includes a projection and/or semi-open notches in the shutter edge, and recesses that limit a closed edge. The projection and/or semi-open notches are arranged at a distance to the shutter edge whose width is smaller than fifth of width of the shutter.

IPC 8 full level

F21V 5/00 (2006.01); **F21V 11/16** (2006.01); **F21V 14/08** (2006.01)

CPC (source: EP US)

F21S 41/143 (2017.12 - EP US); **F21S 41/147** (2017.12 - EP US); **F21S 41/25** (2017.12 - US); **F21S 41/255** (2017.12 - EP); **F21S 41/275** (2017.12 - EP); **F21S 41/43** (2017.12 - EP); **F21S 41/683** (2017.12 - US); **F21S 41/686** (2017.12 - EP); **F21S 41/689** (2017.12 - EP); **F21W 2102/16** (2017.12 - EP)

Cited by

CN113167936A; CN104471310A; EP3527875A1; CN111699344A; US11371671B2; CN103672656A; EP2706286A3; CN114576592A; US11353187B1; EP3431866A1; FR3069046A1; WO2019158319A1; US9228711B2; EP2984396B1

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 2420728 A1 20120222; **EP 2420728 B1 20130529**; DE 102010035767 A1 20120223; JP 2012043797 A 20120301; JP 5844088 B2 20160113

DOCDB simple family (application)

EP 11175421 A 20110726; DE 102010035767 A 20100820; JP 2011179677 A 20110819