

Title (en)
A LIGHTING APPARATUS AND A VEHICLE FRONT HEADLIGHT EQUIPPED THEREWITH

Title (de)
BELEUCHTUNGSVORRICHTUNG UND DAMIT AUSGESTATTETER FAHRZEUGSCHEINWERFER

Title (fr)
DISPOSITIF D'ÉCLAIRAGE ET PHARE DE VÉHICULE ÉQUIPÉ D'UN TEL DISPOSITIF

Publication
EP 3366982 A1 20180829 (EN)

Application
EP 17158273 A 20170228

Priority
EP 17158273 A 20170228

Abstract (en)
Disclosed herein is a lighting apparatus (100) for a vehicle front headlight (900) and vehicle front headlight (900) equipped therewith. The lighting apparatus comprises at least one first projection light unit (700) for providing a low-beam function and a second projection light unit (500, 600) for providing a high-beam function, as well as a light shield (4) arranged in a central plane (40) extending between the first and second projection light units (700, 500, 600). Each projection light unit (700, 500, 600) has at least one LED (7, 5, 6) as the light source. The lighting apparatus (100) is provided with a common lens (1), for the first and second projection light units (700, 500, 600), positioned in front in the main irradiation direction. The light shield (4) extends outwards from the focal point (10) of the lens (1) disposed at the side thereof facing the projection light unit (700, 500, 600) in parallel to the optical axis (101) of the lens (1). The first projection light unit (700) is arranged at a side along the central plane (40). The LED (7) thereof reflects its light outwards from the central plane (40), upwards along the first axis (70). The first projection light unit (700) comprises a first optical element (800), said element orienting the light distributed by the LED (7) thereof towards the focal point (10) of the lens (1). The second projection light unit (500, 600) is arranged under the light shield (4). The LED (5, 6) thereof is oriented towards the focal point (10) of the lens (1) and it reflects its light over a second axis (50, 60) intersecting a focal point (10) of the lens (1). The second projection light unit (500, 600) comprises a second optical element (200, 300) which is designed as a collimation unit, said element aligning the light emitted by its LED (5, 6) in the focal point (10) direction of the lens (1). A light conducting element (2, 3) is present which is designed as a refractor or a light refracting body to serve as the second optical element (200, 300), the light coupling area (21, 31) of which faces towards the LED (5, 6) of the second projection light unit (500, 600) and the light output area (25, 35) of which is oriented to the focal point (10) of the lens (1). Each light emitted by an LED (5, 6) within the light conducting element (2, 3) is subject to one light deflection at most via total internal reflection (TIR). The light conducting element (2, 3) comprises a surface (20, 24, 30, 34) having a continuous, parabolic geometry

IPC 8 full level
F21Y 115/10 (2016.01)

CPC (source: EP)
F21S 41/147 (2017.12); **F21S 41/148** (2017.12); **F21S 41/255** (2017.12); **F21S 41/285** (2017.12); **F21S 41/32** (2017.12); **F21S 41/322** (2017.12); **F21S 41/40** (2017.12)

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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

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3366982 A1 20180829; EP 3366982 B1 20190619; EP 3366982 B8 20190814

DOCDB simple family (application)
EP 17158273 A 20170228