

Title (en)
VEHICULAR LIGHTING EQUIPMENT

Title (de)
FAHRZEUGBELEUCHTUNGSVORRICHTUNG

Title (fr)
ÉQUIPEMENT D'ÉCLAIRAGE POUR VÉHICULE

Publication
EP 2280214 A4 20180411 (EN)

Application
EP 09754705 A 20090526

Priority
• JP 2009059620 W 20090526
• JP 2008139586 A 20080528

Abstract (en)
[origin: EP2280214A1] A vehicle lamp of a direct projection type is configured to control deflection of direct light from a light emitting surface 14A serving as a surface light source using a convex lens 12. A lower end edge of the light emitting surface 14A includes a first side 14A1 and a second side 14A2, each extending linearly so as to form an obtuse angle with each other in a front view of the lamp, a point of intersection thereof is positioned on a rear focal point F of the convex lens 12, and is disposed to face forward such that the first side 14A1 is disposed on a horizontal plane including an optical axis Ax. It is configured such that, using first and second lens portions 12Z1, 12Z2 of the convex lens 12 respectively, the light from the light emitting surface 14A is deflected and/or diffused in directions respectively parallel to the first side 14A1 and the second side 14A2. According to this vehicle lamp, it is possible to form a light distribution pattern having horizontal and oblique cutoff lines on an upper end portion thereof, while providing a degree of freedom for a light intensity distribution on the light distribution pattern and suppressing generation of great unevenness in light distribution on a road surface ahead of a vehicle.

IPC 8 full level
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CPC (source: EP US)
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Citation (search report)
• [XY] DE 19526512 A1 19960125 - NIPPON DENSO CO [JP]
• [Y] WO 2007022861 A1 20070301 - DOCTER OPTICS GMBH [DE], et al
• [X] JP S6340201 A 19880220 - KOITO MFG CO LTD
• [Y] US 2005041434 A1 20050224 - YATSUDA YASUSHI [JP], et al
• [Y] EP 1686308 A1 20060802 - ICHIKOH INDUSTRIES LTD [JP]
• [A] US 2004196663 A1 20041007 - ISHIDA HIROYUKI [JP], et al
• [A] GB 2412159 A 20050921 - KOITO MFG CO LTD [JP]
• [A] US 2007291499 A1 20071220 - TANAKA HIDETADA [JP]
• [A] EP 0623780 A2 19941109 - ZIZALA LICHTSYSTEME GMBH [AT]
• [A] FR 2894322 A1 20070608 - KOITO MFG CO LTD [JP]
• See references of WO 2009145197A1

Cited by
EP2503226A3; CN106764809A; CN108603646A; EP4050257A4; CN104736926A; EP2910848A4; EP3460319A1; CN109539160A; US9482401B2; US9638386B2; US9822942B2; US10731816B2; US10502381B2; EP2921769A4; DE102017105027A1; US2018259147A1; CN108571702A; WO2015071529A1; US9816677B2; US10281102B2; US10465873B2; WO2024131722A1; EP2578452B1

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