

Title (en)
ILLUMINATION DEVICE

Title (de)
BELEUCHTUNGSEINRICHTUNG

Title (fr)
DISPOSITIF D'ECLAIRAGE

Publication
EP 1960830 A1 20080827 (DE)

Application
EP 06828696 A 20061215

Priority

- DE 2006002266 W 20061215
- DE 102005060382 A 20051216
- DE 102006033893 A 20060721

Abstract (en)
[origin: DE102006033893A1] The device has multiple light modules (1a, 1b) provided, where each module has multiple groups (2a, 2b, 20a, 20b) of light sources (3a, 3b, 3c) that are applied on a printed circuit board (4) of the modules. One of the light sources has a light emitting diode that exhibits an optical unit, where the optical unit exhibits a radiation emission surface. The radiation emission surface exhibits a convex curved portion that partially surrounds a concave curved portion at a distance to an optical axis, where the optical axis runs through the concave curved portion.

IPC 8 full level
G02F 1/13357 (2006.01); **F21K 99/00** (2016.01); **H01L 33/58** (2010.01)

CPC (source: EP US)
G02B 19/0014 (2013.01 - EP US); **G02B 19/0066** (2013.01 - EP US); **G02F 1/133603** (2013.01 - EP US); **G02F 1/133613** (2021.01 - EP US); **H01L 33/58** (2013.01 - EP US)

Citation (search report)
See references of WO 2007076818A1

Citation (examination)

- JP H113051 A 19990106 - NICHIA KAGAKU KOGYO KK
- WO 02079862 A2 20021010 - KONINKL PHILIPS ELECTRONICS NV [NL]

Designated contracting state (EPC)
DE

DOCDB simple family (publication)
DE 102006033893 A1 20070628; **DE 102006033893 B4 20170223**; CN 101375202 A 20090225; CN 101375202 B 20120905; EP 1960830 A1 20080827; JP 2009519568 A 20090514; JP 5021671 B2 20120912; KR 101290136 B1 20130726; KR 20080080150 A 20080902; TW 200731176 A 20070816; TW I309398 B 20090501; US 2009213575 A1 20090827; US 7918574 B2 20110405; WO 2007076818 A1 20070712

DOCDB simple family (application)
DE 102006033893 A 20060721; CN 200680047182 A 20061215; DE 2006002266 W 20061215; EP 06828696 A 20061215; JP 2008544758 A 20061215; KR 20087015543 A 20061215; TW 95146419 A 20061212; US 9684806 A 20061215