

Title (en)
LIGHTING MODULE WITH DIODES HAVING IMPROVED COOLING

Title (de)
BELEUCHTUNGSMODUL MIT DIODEN MIT VERBESSERTER KÜHLUNG

Title (fr)
MODULE D'ECLAIRAGE A DIODES A REFROIDISSEMENT AMELIORE

Publication
EP 3245447 B1 20181128 (FR)

Application
EP 16703568 A 20160111

Priority

- FR 1550210 A 20150112
- FR 2016050041 W 20160111

Abstract (en)
[origin: WO2016113491A1] In a diode lighting module (10) comprising an array of diodes (12) mounted on a support plate (14) and heat dissipation means for dissipating heat released by the diode array, a metal plate (22) is provided, an external face of which is in contact with said support plate and an internal face supports a metallic honeycomb foam (24) comprising a plurality of graded holes (24A) crossing each honeycomb cell in two perpendicular directions and a housing (26) forming a vessel, filled with the metallic honeycomb foam and for which the metal plate constitutes the cover, the housing comprising inlet and outlet openings crossing the housing in order to receive a cooling liquid and a separator (28) defining, in the metallic honeycomb foam, two separate circulation regions for the cooling fluid, one region for the inflow of the cooling fluid and one region for the back-flow of the cooling fluid, the passage from one region to the other taking place at a cut-out (28A) in the separator.

IPC 8 full level
F21V 29/58 (2015.01); **F28F 3/12** (2006.01); **F28F 13/00** (2006.01)

CPC (source: EP US)
F21V 29/58 (2015.01 - EP US); **F21V 29/59** (2015.01 - EP US); **F28F 3/12** (2013.01 - EP US); **F28F 13/003** (2013.01 - EP US);
F21V 15/01 (2013.01 - US); **F21W 2131/205** (2013.01 - EP US); **F21Y 2105/10** (2016.07 - EP US); **F21Y 2115/10** (2016.07 - EP US)

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)
FR 3031569 A1 20160715; FR 3031569 B1 20181116; EP 3245447 A1 20171122; EP 3245447 B1 20181128; US 10378750 B2 20190813;
US 2018003372 A1 20180104; WO 2016113491 A1 20160721

DOCDB simple family (application)
FR 1550210 A 20150112; EP 16703568 A 20160111; FR 2016050041 W 20160111; US 201615542996 A 20160111