

Title (en)
SOLID STATE LIGHTING LUMINAIRE WITH MODULAR REFRACTORS

Title (de)
FESTKÖRPERBELEUCHTUNG MIT MODULAREN REFRAKTOREN

Title (fr)
LUMINAIRE D'ÉCLAIRAGE À SEMI-CONDUCTEURS AVEC RÉFRACTEURS MODULAIRES

Publication
EP 2870406 A4 20150603 (EN)

Application
EP 13816884 A 20130709

Priority
• US 201261669555 P 20120709
• US 2013049776 W 20130709

Abstract (en)
[origin: WO2014011670A1] Solid State Lighting (SSL) luminaires, and methods for constructing the same, are provided, with the SSLs having enhanced efficacy through reduction of the number of lens surfaces through which light must pass while still providing the necessary protection against the environment. Modular refractors are provided having optic components that may be coupled with lighting modules. The modular refractors may provide environmental protection to lighting components housed within the refractor, and a separate external protective lens may not be required. One or more lenses of one or more of the modular refractors may include materials of at least two different refractive indices that are co-molded together.

IPC 8 full level
F21V 5/04 (2006.01); **F21S 8/08** (2006.01); **F21V 17/02** (2006.01); **F21V 21/00** (2006.01); **F21W 131/103** (2006.01); **F21Y 101/02** (2006.01)

CPC (source: CN EP US)
F21S 8/086 (2013.01 - EP); **F21V 5/04** (2013.01 - CN EP US); **F21V 17/02** (2013.01 - CN); **F21V 21/00** (2013.01 - CN); **F21V 31/00** (2013.01 - EP); **F21V 7/06** (2013.01 - EP); **F21W 2131/103** (2013.01 - EP); **F21Y 2115/10** (2016.07 - EP US)

Citation (search report)
• [XYI] US 2010073928 A1 20100325 - KIM SANG-OK [KR], et al
• [X] WO 2011013913 A2 20110203 - ISC TECHNOLOGY CO LTD [KR], et al
• [X] DE 102010001860 A1 20110811 - EWO SRL GMBH [IT]
• [I] DE 102008036020 A1 20090625 - OSRAM OPTO SEMICONDUCTORS GMBH [DE]
• [I] WO 2011040724 A2 20110407 - AMOLUXE CO LTD [KR], et al & US 8434899 B2 20130507 - LEE JAE YEONG [KR], et al
• [I] DE 202010004874 U1 20100722 - LIGHTDESIGN SOLUTIONS GMBH [DE]
• [YA] US 2012126268 A1 20120524 - SEO SATOSHI [JP], et al
• [YA] CN 101556023 A 20091014 - SVA GROUP CO LTD [CN]
• See references of WO 2014011670A1

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

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WO 2014011670 A1 20140116; CN 104822984 A 20150805; EP 2870406 A1 20150513; EP 2870406 A4 20150603

DOCDB simple family (application)
US 2013049776 W 20130709; CN 201380046893 A 20130709; EP 13816884 A 20130709