

Title (en)  
Reflector and lamp using the same

Title (de)  
Reflektor und Leuchte damit

Title (fr)  
Réflecteur et lampe l'utilisant

Publication  
**EP 2843292 A1 20150304 (EN)**

Application  
**EP 14161469 A 20140325**

Priority  
JP 2013176768 A 20130828

Abstract (en)  
A reflector (14) has a reflective surface (22) for reflecting a light from a light emitter (12). At least an opening part (36) of the reflective surface (22) has a cross-sectional shape formed such that an angle formed by an optical axis (CL) and a tangent (TL) passing through a given point on the reflective surface (22) is gradually increased as a position of the given point gets closer to an opening end (28) of the reflective surface (22).

IPC 8 full level  
**F21K 99/00** (2010.01); **F21V 7/04** (2006.01); **F21V 7/06** (2006.01); **F21V 7/07** (2006.01); **F21V 7/08** (2006.01); **F21V 7/09** (2006.01); **F21Y 101/02** (2006.01)

CPC (source: EP US)  
**F21K 9/23** (2016.08 - EP US); **F21V 7/045** (2013.01 - EP); **F21V 7/06** (2013.01 - EP); **F21V 7/07** (2013.01 - EP); **F21V 7/08** (2013.01 - EP); **F21V 7/09** (2013.01 - EP US); **F21Y 2115/10** (2016.08 - EP US)

Citation (applicant)  
JP 2013114917 A 20130610 - TOSHIBA LIGHTING & TECHNOLOGY

Citation (search report)  
• [XY] EP 2463574 A1 20120613 - KONICA MINOLTA OPTO INC [JP]  
• [XY] US 2009207607 A1 20090820 - HAASE EDWARD H [US], et al  
• [X] US 2012134133 A1 20120531 - KANG KI TAE [KR]  
• [X] US 2012300453 A1 20121129 - ZHOU LI [HK], et al  
• [X] WO 2013102363 A1 20130711 - LEELEDS LIGHTING XIAMEN CO LTD [CN], et al

Citation (examination)  
• CN 202216177 U 20120509 - YOUQIANG MAO  
• JP 2013008582 A 20130110 - TOSHIBA LIGHTING & TECHNOLOGY

Cited by  
US10605432B2

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 2843292 A1 20150304**; CN 104121546 A 20141029; JP 2015046300 A 20150312; JP 5670527 B1 20150218

DOCDB simple family (application)  
**EP 14161469 A 20140325**; CN 201410155326 A 20140417; JP 2013176768 A 20130828