

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 August 2011 (25.08.2011)

(10) International Publication Number
WO 2011/103204 A3

PCT

(51) International Patent Classification:

F21S 4/00 (2006.01) *F21V 29/00* (2006.01)
F21V 5/00 (2006.01) *F21Y 101/02* (2006.01)
F21V 9/10 (2006.01)

(21) International Application Number:

PCT/US2011/025109

(22) International Filing Date:

16 February 2011 (16.02.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/338,268 17 February 2010 (17.02.2010) US

(71) Applicant (for all designated States except US): **INTELLILIGHT CORP.** [US/US]; 439 Avila Street, San Francisco, CA 94123 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BRETSCHNEIDER, Eric** [US/US]; 528 Apt. B. Grant Avenue, Satellite Beach, FL 32937 (US). **BERKOWITZ, Zach** [US/US]; 439 Avila Street, San Francisco, CA 94123 (US). **SOSNICK, Randall** [US/US]; 45 Buena Vista Avenue, Mill Valley, CA 94941 (US). **PATTISON, Lisa** [US/US]; 122 Morris Lane, Johnson City, TN 37615 (US). **PATTISON, P., Morgan** [US/US]; 122 Morris Lane, Johnson City, TN 37615 (US).

(74) Agents: **KIM, Elaine, A.** et al.; Wilson Sonsini Goodrich & Rosati, 650 Page Mill Road, Palo Alto, CA 94304-1050 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

1 December 2011

(54) Title: LIGHTING UNIT HAVING LIGHTING STRIPS WITH LIGHT EMITTING ELEMENTS AND A REMOTE LUMINESCENT MATERIAL

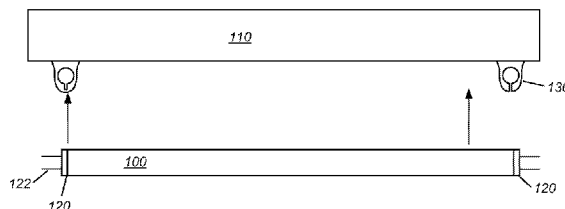


FIG. 1a

(57) Abstract: The invention provides systems and methods for providing illumination. A lighting unit may have a support structure, and one or more light emitting elements supported by a circuit board contacting the support structure. A first optical element and a second optical element may be provided. A remote luminescent material may be provided on one or more optical elements. Light emitting elements configured to excite the luminescent material such as highly efficient light emitting diodes may be directed towards the luminescent material. The support structure may be a heat dissipating element, which may conduct heat from a heat source to a surface of the support structure. The heat dissipating element may have a passageway permitting the formation of a convection path to dissipate heat from the support structure. Such lighting units may be used to replace conventional fluorescent light tubes or other lighting devices, or may be provided as standalone lighting units.



WO 2011/103204 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2011/025109**A. CLASSIFICATION OF SUBJECT MATTER*****F21S 4/00(2006.01)i, F21V 5/00(2006.01)i, F21V 9/10(2006.01)i, F21V 29/00(2006.01)i, F21Y 101/02(2006.01)n***

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F21S 4/00; F21V 9/10; G02B 27/14; F21V 7/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: light emitting, reflector, luminescent, heat

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2008-0204888 A1 (KAN PETER et al.) 28 August 2008 See pars. [0010],[0046],[0050]~[0053],[0071],[0072];Fig.5	46 1-45,47-67
A	US 2008-0117627 A1 (LU YING-TSUNG et al.) 22 May 2008 See pars.[0030]~[0032];Fig.1	1-67
A	US 2007-0133212 A1 (WAN-CHUN LIN et al.) 14 June 2007 See pars. [0033],[0034],[0038];Fig.1	1-67

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

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Date of the actual completion of the international search

10 OCTOBER 2011 (10.10.2011)

Date of mailing of the international search report

11 OCTOBER 2011 (11.10.2011)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 189 Cheongsu-ro,
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

CHOI, Jinho

Telephone No. 042 481 5406



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2011/025109

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2008-0204888 A1	28.08.2008	WO 2008-098360 A1	21.08.2008
US 2008-0117627 A1	22.05.2008	None	
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