



(51) International Patent Classification:

F21V 3/04 (2006.01) *F21S 8/02* (2006.01)
E06B 7/28 (2006.01) *F21V 7/00* (2006.01)
E04B 9/32 (2006.01) *F21W 121/00* (2006.01)

Davide; c/o LIGHT IN LIGHT S.r.l., Via G. Ferrari, 14, I-22100 Como (IT).

(21) International Application Number:

PCT/IB2013/060141

(74) **Agents:** **BOGGIO, Luigi** et al.; STUDIO TORTA S.p.A., Via Viotti, 9, I-10121 Torino (IT).

(22) International Filing Date:

14 November 2013 (14.11.2013)

(25) Filing Language:

Italian

(26) Publication Language:

English

(30) Priority Data:

TO2012A000988 14 November 2012 (14.11.2012) IT
 13/838,998 15 March 2013 (15.03.2013) US

(71) **Applicants:** **LIGHT IN LIGHT S.R.L.** [IT/IT]; Via G. Ferrari, 14, Como (IT). **UNIVERSITA' DEGLI STUDI DELL'INSUBRIA** [IT/IT]; Via Ravasi, 2, Varese (IT).

(72) **Inventors:** **DI TRAPANI, Paolo**; c/o LIGHT IN LIGHT S.r.l., Via G. Ferrari, 14, I-22100 Como (IT). **MAGATTI,**

(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, BN, 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, IR, IS, JP, KE, KG, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK,

[Continued on next page]

(54) Title: ARTIFICIAL LIGHTING SYSTEM FOR SIMULATING A NATURAL LIGHTING

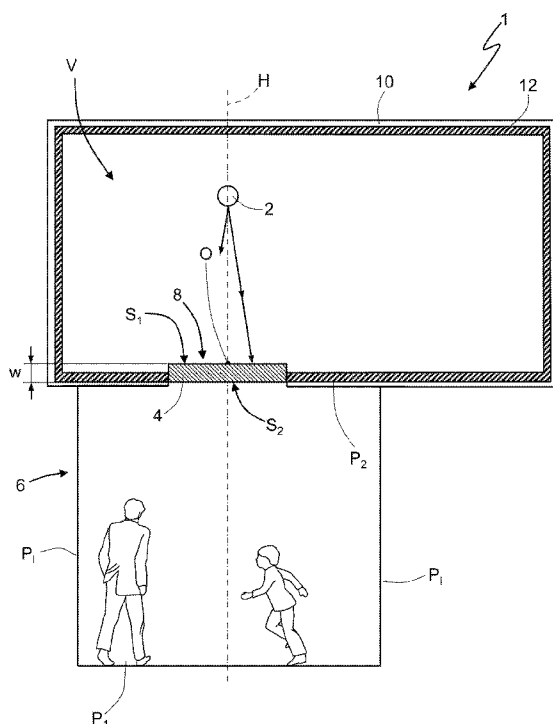


Fig.1

(57) **Abstract:** A lighting system for illuminating (1) an environment (6) with lighting that simulates natural lighting, which includes: a first light source (2) which emits a beam of visible light; a diffused-light generator (4; 68) delimited by an inner surface (S₁, S₃), which receive the light beam, and an outer surface (S₂), the diffused-light generator being at least partially transparent to the light beam. The diffused light generator transmits at least part of the light beam and emits through the outer surface, visible diffused light, the correlate color temperature (CCT) of the transmitted light being lower than the CCT of the visible diffused light. The lighting system includes a dark structure (10, 12; 300; 310) which is optically coupled to the environment via the diffused-light generator and provides a substantially uniform background to the first light source (2).



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, KM, ML, MR, NE, SN, TD, TG).

— *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))*

Published:

— *with international search report (Art. 21(3))*