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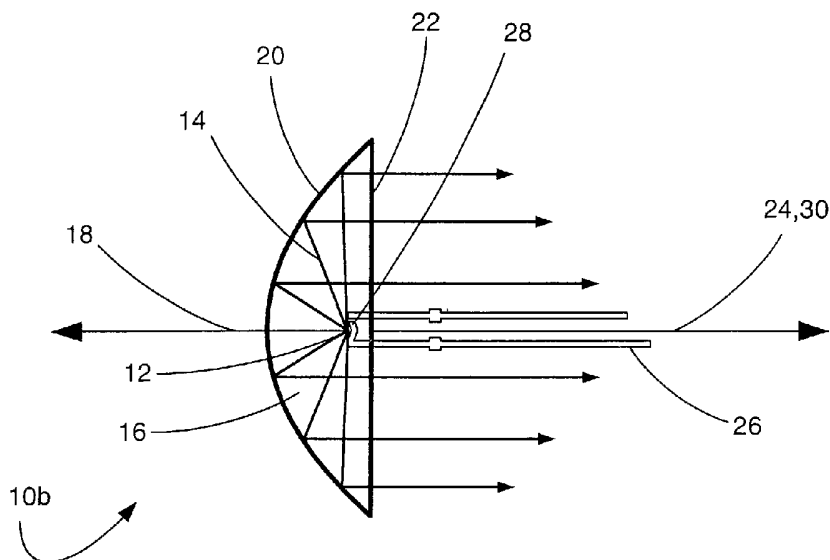
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[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR THE EFFICIENT COLLECTION AND DISTRIBUTION OF LIGHT FOR ILLUMINATION



(57) Abstract: The emitter within LED lamp(s) radiates light over of solid angle of approximately 2π steradians or an approximate hemisphere. Conventionally, some of the light emitted is directly transmitted to the object to be illuminated and another portion is indirectly transmitted by means of a reflector, refractive optic or both. The disclosed method increases the collection efficiency of the radiated energy from LED lamp(s) by turning the LED or other light source so that all of its transmitted light is directed away from the object of the apparatus and directed into a reflector. The reflector then reflects the light toward the object. This singular handling of all the energy from the emitter results in more precise control of the radiated energy of the source. Optional subsequent controlling elements may be utilized efficiently due to the fact that the rays they will affect are of a single class of rays.

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— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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US CL : 313/113

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)

U.S. : 313/113, 512; 362/255, 555, 800, 298, 346; 257/80, 100

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,618,102 A (FERRELL) 08 April 1997 (08.04.1997), Figure 1; column 2, lines 32-44.	1, 3, 13-15
X	US 6,076,948 A (BUKOSKY et al) 20 June 2000 (20.06.2000), Figures 5A, 6A.	1-9
X,P --- A,P	US 6,641,287 B2 (SUEHIRO) 04 November 2003 (04.11.2003), Figures 1A, 2B, 3B; column 5, lines 56-58; column 6, lines 14-44; column 7, lines 33-52.	16-42 ----- 10-12, 43-45

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