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**Cao**

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(54) **SEMICONDUCTOR LIGHT SOURCE USING A HEAT SINK WITH A PLURALITY OF PANELS**

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(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(57) **ABSTRACT**

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A semiconductor light source for illuminating a physical space has been invented. In various embodiments of the invention, a semiconductor such as an LED chip, laser chip, LED chip array, laser array, an array of chips, or a VCSEL chip is mounted on a heat sink. The heat sink may have multiple panels for mounting chips in various orientations. The chips may be mounted directly to a primary heat sink which is in turn mounted to a multi-panel secondary heat sink. A TE cooler and air circulation may be provided to enhance heat dissipation. An AC/DC converter may be included in the light source fitting.

(51) **Int. Cl.<sup>7</sup>** ..... **B60Q 1/02**

(52) **U.S. Cl.** ..... **315/58; 362/83.1; 362/235**

(58) **Field of Search** ..... 315/58, 185; 313/512; 362/83.1, 800, 293, 230, 231, 235, 246, 249; 250/339.13

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**20 Claims, 16 Drawing Sheets**

