

[54] **NONIMAGING LIGHT SOURCE**

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[58] **Field of Search:** 357/17, 69, 70; 362/32, 362/297, 298, 302, 346, 347, 800, 336, 337, 338, 339

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[57] **ABSTRACT**

The principles of non-imaging optics, rather than imaging optics, are used to provide a high power LED illumination lamp that has a specified limited viewing angle. A compound parabolic flux extractor extracts and concentrates light emitted by an LED chip and a light pipe continues the concentration into the specified viewing angle. A lens or a diffusant may be used to modify the light output of the lamp. A light constructed as an array of the lamps is suitable for use as an automobile external light such as a center high mounted stop light.

21 Claims, 9 Drawing Sheets

