

[54] LENS DESIGN METHOD AND RESULTING ASPHERIC LENS

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[57] ABSTRACT

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An aspheric lens for providing improved vision and a method for generating such a lens is described. The lens provides a sharp image focus while minimizing image aberrations. The method utilizes ray tracing techniques in conjunction with Modulation Transfer functions to accurately account for the total corrective lens-eye system. The lens may be in the form of a contact lens, an intraocular lens, a natural lens or a spectacle lens, and is suitable for correcting myopia, presbyopia, astigmatism and other focusing problems. The lens is characterized by a hyperbolic or parabolic surface which functions to reduce spherical aberrations and minimize the retinal image spot size.

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[58] Field of Search 351/160 R, 160 H, 161, 351/162, 159, 167, 177

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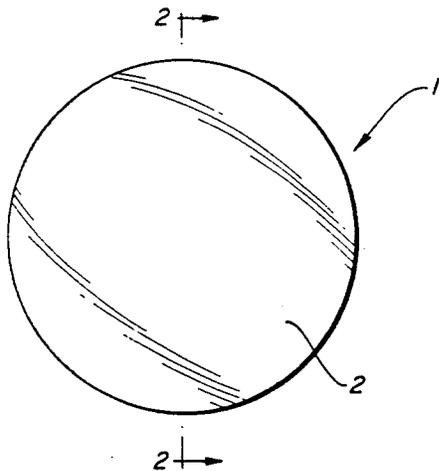
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6 Claims, 9 Drawing Sheets



HYPERBOLA -1.6858 MODULATION TRANSFER FUNCTION | x LENS PERFORMANCE
o DIFFRACTION LIMIT

