

ABSTRACT

LENS DESIGN AND METHOD FOR MINIMIZING VISUAL ACUITY VARIATION EXPERIENCED BY MYOPIA PROGRESSORS

Contact lenses incorporate power profiles that minimize visual acuity variation for progressing myopes based upon minimization of the variation of neural sharpness image quality over a specific time period. The contact lens includes a center and at least one peripheral zone surrounding the center and having a different dioptric power than at the center. The lens has power profile selected from the group consisting of a power profile with spherical aberration, a multifocal power profile, a freeform power profile, and a segmented freeform power profile. The power profile is based on an initial paraxial power of a myopia progressor and a defined myopia progression rate over a specific time period, resulting in controlled change of the neural sharpness, thereby minimizing changes in changes in visual acuity at a beginning of the time period and at an end of the time period.

Figure 7