

APODIZED DIFFRACTIVE IOL WITH FRUSTRATED DIFFRACTIVE
REGION

Abstract

In one aspect, the present invention provides a diffractive ophthalmic lens (e.g., a diffractive IOL) that includes an optic having an anterior surface and a posterior surface, where the optic provides a far focus. A frustrated diffractive structure comprising a plurality of diffractive zones is disposed on at least one of those surfaces so as to provide a near focus. Each zone is separated from an adjacent zone by a zone boundary that imparts an optical delay to the incident light. Further, at least two consecutive zone boundaries are configured such that a difference between their associated phase delays for at least one wavelength of the incident light is greater than about $\frac{1}{4}$ wavelength so as to direct a portion of the incident light to a location between the near and far foci.

Fig. 1A