BRIEF SUMMARY

In certain embodiments, calculating intraocular lens (IOL) power includes determining locations of parts of an eye along an axis of the eye. The locations include the location of a cornea, the anterior and posterior locations of a crystalline lens, and the location of a retina. An IOL location of an IOL is calculated according to the anterior and posterior locations of the crystalline lens. Corneal data is also determined. The IOL power is calculated using the corneal data, the IOL location, and the retinal location. In certain embodiments, features of the IOL, such as aspects of the optic or haptics, may be used in the calculation. In certain embodiments, refractive indices are determined for segments of the axis, and at least one location is adjusted according to the refractive indices.

According to a first aspect, there is provided a method for calculating intraocular lens (IOL) power comprising: determining a plurality of locations of parts of an eye along an axis of the eye, the locations comprising a corneal location of a cornea, a crystalline lens anterior location of a crystalline lens, a crystalline lens posterior location of the crystalline lens, and a retinal location of a retina; calculating an IOL location of an IOL according to the crystalline lens anterior location and the crystalline lens posterior location; determining corneal data of the cornea; and calculating the IOL power of the IOL according to the corneal data, the IOL location, and the retinal location

According to a second aspect, there is provided a system for calculating intraocular lens (IOL) power comprising: a memory configured to store location information; and one or more processors configured to: determine a plurality of locations of parts of an eye along an axis of the eye, the locations comprising a corneal location of a cornea, a crystalline lens anterior location of a crystalline lens, a crystalline lens posterior location of the crystalline lens, and a retinal location of a retina; calculate an IOL location of an IOL according to the crystalline lens anterior location and the crystalline lens posterior location; determine corneal data of the cornea; and calculate the IOL power of the IOL according to the corneal data, the IOL location, and the retinal location.

According to a third aspect, there is provided one or more non-transitory computer-readable media storing logic for calculating intraocular lens (IOL) power, when executed by one or more processors the logic configured to: determine a plurality of locations of parts of an eye along an axis of the eye, the locations comprising a corneal location of a cornea, a crystalline lens anterior location of a crystalline lens, a crystalline lens posterior location of the crystalline lens, and a retinal location of a retina; calculate an IOL location of an IOL according to the crystalline lens anterior location and the crystalline lens posterior location; determine corneal data of the cornea; and calculate the IOL power of the IOL according to the corneal data, the IOL location, and the retinal location.