Claims

1. A contact lens, the lens including an optic zone comprising:

a central region, the central region having a base power; and

an annular region, wherein

light rays passing through the central region form a focused image at a distal focal surface and light rays passing through the annular region will form an unfocused annulus at a distal focal surface;

at a first proximal focal surface that is closer to the lens than the distal focal surface, light rays passing through the central region will generate a first blur circle, and light rays passing thorough the annular region will generate a second blur circle; and

at a second proximal focal surface that is closer to the lens than the first proximal focal surface, light rays passing through the central region will generate a third blur circle, and light rays passing through the annular region will generate a focused annulus lying within the third blur circle.

2. A contact lens, the lens including an optic zone comprising:

a central region, the central region having a first optical axis, a base power, a centre of curvature that is on the first optical axis and a first radius of curvature; and

an annular region, the annular region having a centre of curvature that is shifted, by a first distance, away from the first optical axis, and a second radius of curvature that is smaller than the first radius of curvature, wherein light rays passing through the central region form a focused image at a distal focal surface, and light rays passing through the annular region form a focused annulus at the distal focal surface.

3. A contact lens, the lens including an optic zone comprising:

a central region, the central region having a first optical axis, a base power, a centre of curvature that is on the first optical axis and a first radius of curvature; and

an annular region, wherein the annular region is tilted relative to the central region and has a radial curvature add power that is greater than the base power, wherein

light rays passing through the central region form a focused image at a distal focal surface, and light rays passing through the annular region do not form a spot of light at the distal focal surface.

4. A contact lens according to any preceding claim, wherein the base power of the central region results from a curvature of an anterior surface and/or a posterior surface of the lens.

5. A contact lens according to any preceding claim, wherein the radial curvature power of the annular region results from a curvature of an anterior surface and/or a posterior surface of the lens.

6. A contact lens according to any preceding claim, wherein at a point halfway across the radial width of the annular region, the annular region has a radial curvature power that is about +10.0 D greater than the base power.

7. A contact lens according to any preceding claim, wherein the base power of the lens is between 0.5 D and -15.0 D.

8. The contact lens according to any preceding claim, wherein the lens comprises an elastomer material, a silicone elastomer material, a hydrogel material, or a silicone hydrogel material, or mixtures thereof.

9. The contact lens according to any preceding claim, wherein the lens is formed using a lathing process or a cast molding process.

10. A method of manufacturing a contact lens, the method comprising:

forming a contact lens according to any preceding claim.

11. A method according to claim 10, including a step of designing the contact lens, wherein designing the contact lens comprises:

(a) modelling a first contact lens, the first contact lens having:

a central region, wherein the central region has a base power and a centre of curvature that is on a first optical axis; and

an annular region that surrounds the central region, the annular region having a radius of curvature that is centred on the first optical axis, wherein a curvature of the annular region gives rise to a first add-power that is greater than the base power;

(b) modelling a second contact lens, wherein the second contact lens has the same central region as the first contact lens, and an annular region that surrounds the central region, wherein the annular region has a radius of curvature that is centred on the optical axis, and the annular region gives rise to a second add-power that is greater than the first add power of the first contact lens;

(c) within the model, tilting the annular region of the second contact lens, such that an outer edge of the annular region matches an outer edge of the annular region of the first lens, thereby generating a third contact lens, wherein the annular region of the third lens has the second add-power of the annular region of the second contact lens, but a centre of curvature that is a first distance from the first optical axis.

12. A method according to claim 11, comprising manufacturing a lens based on the modelled third contact lens.