CLAIMS

1. (Original) An optical device comprising:

a fisheye lens configured to provide a substantially 360° azimuthal angle view with a forward direction at 0° radial angle and with a maximum radial angle θ_m;

a sensor configured to record an image through the fisheye lens; and

one or more wedge prisms disposed adjacent the fisheye lens;

wherein each wedge prism is configured such that a ray incident at more than θ_m radial angle is deflected to be captured through the fisheye lens onto the sensor while a ray incident along the forward direction of the fisheye lens is not incident on the one or more wedge prisms; and

wherein for each wedge prism, an entry surface and an exit surface for the ray incident at more than θ_m radial angle form a wedge with a constant wedge angle that is smaller than 90°.

2. (Original) The optical device of claim 1, wherein the sensor is rectangular and one wedge prism is disposed along each of two long sides of the rectangular sensor and configured such that each of a horizontal angular range and a vertical angular range of the recorded image is +/-θ_m extending over substantially the full horizontal and vertical axes, respectively, of the sensor.

3. (Currently amended) The optical device of claims 1 or 2, wherein the one or more wedge prisms comprise right angle wedge prisms with a sloped face of the right angle wedge prism facing outwards from the fisheye lens.

4. (Currently amended) The optical device of claims 1 or 2, wherein the one or more wedge prisms comprise right angle wedge prisms with a vertical face of the right angle wedge prism facing outwards from the fisheye lens.

5. (Currently amended) The optical device of claims 1 or 2, wherein the one or more wedge prisms comprise isosceles wedge prisms with one of a pair of equal length sloped faces of the isosceles wedge prism facing outwards from the fisheye lens.

6. (Currently amended) The optical device of any one of claims 1 to 5, wherein the one or more wedge prisms each comprise angled extension portions on either side thereof, and three or more such wedge prisms are disposed around the fisheye lens to direct rays from substantially the full 360° azimuthal angle view through the fisheye lens onto the sensor.

7. (Currently amended) The optical device of claims 1 or 2, wherein the one or more wedge prisms comprise a conical wedge prism or portions thereof.

8. (Original) The optical device of claim 7, wherein the one or more wedge prisms comprise one full conical wedge prism, two half-conical wedge prisms, or four quarter-conical

wedge prisms disposed around the fisheye lens to direct rays from substantially the full 360° azimuthal angle view through the fisheye lens onto the sensor.

9. (Currently amended) The optical device of any one of claims 1 to 6, wherein the one or more wedge prisms comprise two wedge prisms such that rays incident at more than θ_m radial angle from two opposing sides of the substantially full 360° azimuthal angle view are deflected to be captured through the fisheye lens onto the sensor.

10. (Original) The optical device of claim 9, wherein the two wedge prisms comprise quarter-conical wedge prisms.

11. (Original) A method of extending a field of view of an optical device comprising a fisheye lens configured to provide a substantially 360° azimuthal angle view with a forward direction at 0° radial angle and with a maximum radial angle θ_m, and a sensor configured to record an image through the fisheye lens, the method comprising the step of:

disposing one or more wedge prisms adjacent the fisheye lens, wherein each of the one or more prisms is configured such that a ray incident at more than θ_m radial angle is deflected to be captured through the fisheye lens onto the sensor while a ray incident along the forward direction of the fisheye lens is not incident on the one or more wedge prisms, and wherein for each wedge prism, an entry surface and an exit surface for the ray incident at more than θ_m radial angle form a wedge with a constant wedge angle.

12. (Original) The method of claim 11, wherein the sensor is rectangular and one wedge prism is disposed along each of two long sides of the rectangular sensor and configured such that each of a horizontal angular range and a vertical angular range of the recorded image is +/- θ_m extending over substantially the full horizontal and vertical axes, respectively, of the sensor.

13. (Currently amended) The method of claims 11 or 12, comprising disposing one or more right angle wedge prisms with a sloped face of the right angle wedge prism facing outwards from the fisheye lens.

14. (Currently amended) The method of claims 11 or 12, comprising disposing one or more right angle wedge prisms with a vertical face of the right angle wedge prism facing outwards from the fisheye lens.

15. (Currently amended) The method of claims 11 or 12, comprising disposing one or more isosceles wedge prisms with one of a pair of equal length sloped faces of the isosceles wedge prism facing outwards from the fisheye lens.

16. (Currently amended) The method of any one of claims 11 to 15, wherein the one or more wedge prisms each comprise angled extension portions on either side thereof, and the method comprises disposing three or more such wedge prisms around the fisheye lens to direct rays from the substantially full 360° azimuthal angle view through the fisheye lens onto the sensor.

17. (Original) The method of claim 16, wherein the one or more wedge prisms comprise a conical wedge prism or portions thereof.

18. (Currently amended) The method of claims 16 or 17, comprising disposing one full conical wedge prism, two half-conical wedge prisms, or four quarters-conical wedge prisms around the fisheye lens to direct rays from the substantially full 360° azimuthal angle view through the fisheye lens onto the sensor.

19. (Currently amended) The method of any one of claims 11 to 16, comprising disposing two wedge prisms such that rays incident at more than θ_m radial angle from two opposing sides of the substantially full 360° azimuthal angle view are deflected to be captured through the fisheye lens onto the sensor.

20. (Original) The method of claim 19, wherein the two wedge prisms comprise quarter-conical wedge prisms.