

CLAIMS

1. A spectacle lens, comprising:
a plurality of compound microlenses arranged in a pattern; and
5 at least one compound microlens of the plurality of microlenses includes
an on-axis microlenslet, and
at least one off-axis sub-lenslet located on the on-axis microlenslet,
wherein the at least one off-axis sub-lenslet has a different optical functionality than
the on-axis microlenslet.
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2. The spectacle lens according to claim 1, wherein the at least one off-axis sub-
lenslet has a different shape than the on-axis microlenslet.
3. The spectacle lens according to claim 1 or 2, wherein a center portion of the on-axis
15 microlenslet provides optical power, and the at least one off-axis sub-lenslet provides
peripheral defocus.
4. The spectacle lens according to any of the preceding claims, wherein the on-axis
microlenslet is a spherical shape and the at least one off-axis sub-lenslet is a spherical shape.
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5. The spectacle lens according to any of the preceding claims, wherein height of the
on-axis microlenslet is less than or equal to two microns.

6. The spectacle lens according to any of the preceding claims, wherein two sub-lenslets of the least one off-axis sub-lenslet are respectively located at two different positions on the on-axis microlenslet.

5 7. The spectacle lens according to any of the preceding claims, wherein three sub-lenslets of the least one off-axis sub-lenslet are located on apexes in a triangular arrangement around the on-axis microlenslet.

8. The spectacle lens according to any of the preceding claims, wherein four sub-lenslets of the least one off-axis sub-lenslet are located on different opposing sides around the on-axis microlenslet.

9. The spectacle lens according to any of the preceding claims, wherein the on-axis microlenslet is a spherical shape and the least one off-axis sub-lenslet is a concave sphere.

10 10. The spectacle lens according any of the preceding claims, wherein the on-axis microlenslet is one of a spherical shape, aspherical shape, prismatic shape, cylindrical shape, toric shape, semi-spherical shape, half cylindrical shape.

11. The spectacle lens according to any of the preceding claims, wherein the at least one off-axis sub-lenslet is one of convex sphere, concave sphere, and prism shape.

12. The spectacle lens according to any of the preceding claims, wherein a plurality of the at least one off-axis sub-lenslet have different shapes.

13. The spectacle lens according to any of the preceding claims, wherein the plurality of compound microlenslets are arranged in one quadrant of four of quadrants of the spectacle lens.

- 5 14. The spectacle lens according to any of the preceding claims, wherein the plurality of compound microlenses are arranged such that the pattern is a ring pattern.

15. The spectacle lens according to claim 14, wherein the ring pattern is a plurality of concentric rings.