CLAIMS

1. An optical device, comprising a substrate with a front surface, a back surface and a circumferential side surface, wherein at least one portion of an edge of the front surface has a texturization, wherein recesses of the texturization are filled with a light-absorbent material, and wherein the circumferential side surface is free of light-absorbent material.

2. The optical device of claim 1, wherein the recesses of the texturization extend from the front surface into the substrate.

3. The optical device of claim 1 or 2, wherein at least one portion of an edge of the back surface has a texturization, and wherein the recesses of the texturization extend from the back surface into the substrate and are filled with a light-absorbent material.

4. The optical device any of claims 1 to 3, wherein the at least one portion of the edge of the front surface having the texturization with recesses filled with the light-absorbent material provides a front edge surface which is at the same level as an adjacent non-edge surface of the front surface.

5. The optical device of any of claims 1 to 4, wherein the at least one portion of the edge of the back surface having the texturization with recesses filled with the light-absorbent material provides a back-edge surface which is at the same level as an adjacent non-edge surface of the back surface.

6. The optical device of any of claims 1 to 5, wherein the optical device is selected from the group consisting of: a waveguide, a wave guide combiner, a flat optical device, a substrate having optical structures, a cover glass, a lens and a metasurface lens.

7. The optical device of any of claims 1 to 6, wherein the substrate is made of transparent material comprising one or more constituents selected from the group consisting of silicon (Si), silicon dioxide (SiO_2), fused silica, quartz, silicon

carbide (SiC), germanium (Ge), silicon germanium (SiGe), indium phosphide (InP), gallium arsenide (GaAs), gallium nitride (GaN), sapphire, lithium tantalate ($LiTaO_3$), lithium niobate ($LiNbO_3$), or combinations thereof.

8. The optical device of any of claims 1 to 7, the optical device being manufactured by a method according to any of claims 9 to 20.

9. A method of manufacturing a plurality of optical devices, comprising:
- defining individual edges of the plurality of optical devices on a substrate surface;
- texturizing at least one portion of the individual edges by removing material from the substrate surface;
- filling recesses of the at least one texturized portion with a light-absorbent material; and
- cutting the plurality of optical devices out of the substrate.

10. The method of claim 9, wherein filling the recesses of the at least one texturized portion with the light-absorbent material comprises pushing the light-absorbent material into the recesses of the at least one texturized portion.

11. The method of claim 9 or 10, wherein filling the recesses of the at least one texturized portion with the light-absorbent material comprises using a screen-printing method.

12. The method of any of claims 9 to 11, wherein a refractive index of the light-absorbent material substantially matches a refractive index of the substrate.

13. The method of any of claims 9 to 12, wherein removing material from the substrate surface comprises using one or more techniques selected from the group consisting of: wet etching, dry etching and laser ablation.

14. The method of any of claims 9 to 13, wherein texturizing comprises creating one or more of a random texture, a targeted random texture, a randomized grating, an oriented grating, a microstructure comprising a plurality of micro pyramids.

15. The method of any of claims 9 to 14, wherein the at least one portion of the individual edges has a band width W of 1.0 mm $\leq W \leq$ 3.0 mm.

16. The method of any of claims 9 to 15, wherein the at least one portion of the individual edges comprises a first portion having a first width W_1 and a second portion having a second width W_2, wherein the first width W_1 is smaller than the second width.

17. The method of claim 16, wherein 1.0 mm $\leq W_1 \leq$ 3.0 mm, and wherein 3.0 mm $< W_2 \leq$ 5.0 mm.

18. The method of any of claims 9 to 17, further comprising curing the light-absorbent material prior to cutting the plurality of optical devices out of the substrate.

19. The method of any of claims 9 to 18, wherein the optical devices are selected from the group consisting of: a waveguide, a wave guide combiner, a flat optical device, a substrate having optical structures, a cover glass, a lens and a metasurface lens.

20. The method of any of claims 9 to 19, wherein the substrate is made of transparent material comprising one or more constituents selected from the group consisting of silicon (Si), silicon dioxide (SiO_2), fused silica, quartz, silicon carbide (SiC), germanium (Ge), silicon germanium (SiGe), indium phosphide (InP), gallium arsenide (GaAs), gallium nitride (GaN), sapphire, lithium tantalate ($LiTaO_3$), lithium niobate ($LiNbO_3$), or combinations thereof.