What is claimed is:

1. A method comprising:

pressing a face of a stamp into a first portion of a replication material disposed on a substrate, to cause the replication material to have a predetermined characteristic;

exposing the first portion of the replication material to illumination~~, to modify the first portion of the replication material~~; and

subsequently removing a second portion of the replication material that was not exposed to the illumination,

wherein the stamp comprises a masking layer, wherein the masking layer is disposed on a second face of the stamp, the second face being opposite the face that is pressed into the first portion of the replication material, and wherein the masking layer shields the second portion of the replication material from the illumination when the first portion of the replication material is exposed to the illumination.

2. The method of claim 1, wherein exposing the first portion of the replication material to the illumination comprises

exposing the first portion of the replication material to the illumination while the face of the stamp is maintained in contact with the first portion of the replication material.

~~3. The method of claim 1, wherein the stamp comprises a masking layer, the masking layer shielding the second portion of the replication material from the illumination when the first portion of the replication material is exposed to the illumination.~~

~~4~~3. The method of claim ~~3~~1, wherein the masking layer is disposed on a surface of the stamp facing the substrate.

~~5. The method of claim 3, wherein the masking layer is disposed on a second face of the stamp, the second face being opposite the face that is pressed into the first portion of the replication material.~~

~~6~~4. The method of claim ~~3~~1, wherein an aperture defined in the masking layer is aligned with the first portion of the replication material.

~~7~~5. A method comprising:

pressing a face of a stamp into a first portion of a replication material disposed on a substrate, to cause the replication material to have a predetermined characteristic;

exposing the first portion of the replication material to illumination; and

subsequently removing a second portion of the replication material that was not exposed to the illumination, ~~The method of claim 1,~~

wherein the substrate comprises a masking layer on a second surface of the substrate, the second surface being opposite a surface on which the replication material is disposed,

wherein the masking layer shields the second portion of the replication material from the illumination when the first portion of the replication material is exposed to the illumination,

wherein at least a portion of the substrate is transparent to the illumination, and

wherein exposing the first portion of the replication material to the illumination comprises directing the illumination through the substrate.

~~8~~6. The method of claim 1, wherein removing the second portion of the replication material comprises dissolving the second portion of the replication material using a solvent.

~~9~~7. The method of claim ~~8~~6, wherein the solvent selectively dissolves the second portion of the replication material that is not exposed to the illumination, relative to the first portion of the replication material that is exposed to the illumination.

~~10~~8. The method of claim ~~8~~6, wherein removing the second portion of the replication material comprises

directing the solvent into gaps between the stamp and the substrate while the face of the stamp is maintained in contact with the first portion of the replication material.

~~11~~9. The method of claim 1, wherein the predetermined characteristic comprises a surface structure of the replication material.

~~12~~10. The method of claim ~~11~~9, wherein the surface structure provides an optical functionality.

~~13~~11. The method of claim 1, wherein the illumination comprises ultraviolet light.

~~14~~12. The method of claim 1, wherein the second portion of the replication material is disposed on a first area of a surface of the substrate, the method further comprising,

subsequent to removing the second portion of the replication material, dicing the substrate through the first area.

~~15~~13. An optical device comprising

a substrate;

a portion of replication material disposed on a first surface of the substrate, the portion of replication material forming one or more diffractive optical elements; and

a masking layer disposed on a second surface of the substrate, the second surface being opposite the first surface, the masking layer being composed of a material that blocks transmission of UV light,

wherein a sidewall of the portion of the replication material has a straight profile, and

wherein the masking layer defines an aperture aligned with the portion of the replication material.

~~16~~14. An optical device comprising

a substrate; and

a replication material disposed on a surface of the substrate, the replication material forming one or more diffractive optical elements;, and

a masking layer on a second surface of the substrate opposite the surface on which the replication material is disposed,

wherein a sidewall of the replication material has a straight profile and is sloped with an acute angle with respect to the surface of the substrate.

1715. An optical device comprising

a substrate; and

a replication material disposed on a first surface of the substrate, the replication material forming one or more diffractive optical elements; and,

a masking layer on a second surface of the substrate opposite the surface on which the replication material is disposed,

———wherein a sidewall of the replication material has a straight profile and is sloped with an obtuse angle with respect to the first surface of the substrate.

1816. The optical device of claim 1715, comprising a masking layer disposed on a second surface of the substrate, the second surface being opposite the first surface.

1917. A module comprising:

at least one of a light-emitting device or a light-sensitive device; and

an optical device in accordance with any one of claims 1412-1816,

wherein the optical device is configured (i) to interact with light generated by the light emitting device or (ii) to interact with light incident on the module such that light passing through the optical device is received by the light-sensitive device.