WHAT IS CLAIMED IS:

1. A blank mask, comprising:

a light transmitting substrate;

a light shielding film disposed on the light transmitting substrate; and

a phase shift film disposed between the light transmitting substrate and the light shielding film,

wherein the blank mask comprises a center measuring area based on a center of the light shielding film and an edge measuring area being distant by 20 mm from an edge of the light shielding film,

wherein the center measuring area and the edge measuring area are respectively squares having a side of 20 μm,

wherein the blank mask includes:

a center Rz roughness measured from the center measuring area,

an edge Rz roughness measured from the edge measuring area, and

an Rz roughness non-uniformity of 20 % or less expressed by Equation 1-1 below:

[Equation 1-1]

Rz Roughness Non-uniformity = (Absolute Value of Difference between Center Rz Roughness and Edge Rz roughness/Center Rz Roughness) ×100%.

2. The blank mask of claim 1, wherein the edge of the light shielding film is composed of four sides, and

wherein the edge measuring area comprises four edge measuring areas being distant in equivalent intervals from two sides among the four sides.

3. The blank mask of claim 1, wherein a center Rsk roughness is measured from the center measuring area,

wherein an edge Rsk roughness is measured from the edge measuring area, and

wherein an Rsk roughness difference of 0.5 nm or less is expressed by Equation 1-2 below:

[Equation 1-2]

Rsk Roughness Difference = (Absolute Value of Difference between Center Rsk Roughness and Edge Rsk Roughness).

4. The blank mask of claim 1, wherein a center Rku roughness is measured from the center measuring area,

wherein an edge Rku roughness is measured from the edge measuring area, and

wherein an Rku roughness non-uniformity of 40 % or less is expressed by Equation 1-3 below:

[Equation 1-3]

Rku Roughness Non-uniformity = (Absolute Value of Difference between Center Rku Roughness and Edge Rku Roughness/Center Rku Roughness) ×100%.

5. The blank mask of claim 1, wherein the light shielding film comprises:

a center thickness measured from the center measuring area;

an edge thickness measured from a second measuring area; and

a thickness non-uniformity of 2 % or less as expressed by Equation 1-4 below:

[Equation 1-4]

Thickness Non-uniformity = (Absolute Value of Difference between Center Thickness and Edge Thickness Difference/Center Thickness) ×100%.

6. The blank mask of claim 1, wherein the light shielding film comprises:

a center optical density measured from the center measuring area;

an edge optical density measured from the edge measuring area; and

an optical density non-uniformity of 2.7 % or less expressed by Equation 1-5:

[Equation 1-5]

Optical Density Non-uniformity = (Absolute Value of Difference between Center Optical Density and Edge Optical Density/Center Optical Density) ×100%.

7. An apparatus for forming a layer, comprising:

a chamber;

a stage in which a target substrate is placed inside the chamber;

a target unit comprising a raw material target for forming the target substrate; and

a supplementary heater disposed to have an interval from the stage for heating the target substrate, wherein the stage and the target unit are rotatable, and wherein the apparatus is suitable for use in manufacturing the blank mask of claim 1.

8. The apparatus for forming a layer of claim 7, wherein the target unit is prepared to form the target substrate through direct current (DC) sputtering or radio frequency (RF) sputtering process, and wherein the supplementary heater is being distant by a value of 50 mm to 250 mm from a side of the stage.

9. The apparatus for forming a layer of claim 8, wherein the supplementary heater is configured to heat the target substrate on the stage through heat radiation.

10. A manufacturing method of the blank mask of claim 1 through the apparatus for forming a layer of claim 7, the method comprising:

a first film formation operation of forming a phase shift film on a light transmitting substrate; and

a second film formation operation of forming a light shielding film on the phase shift film;

wherein the first film formation operation applies an electric power of 0.3 kW to 1.5 kW by the supplementary heater,

wherein the second film formation operation applies an electric power of 0.1 kW to 0.6 kW by the supplementary heater, and

wherein the target substrate comprises a light transmitting substrate.