CLAIMS

1. A light diffusion film for use on a side opposite to a visual side of a display panel for image display device, comprising:

a transparent base (A); and

a light diffusion layer (B), wherein

the light diffusion layer (B) is laminated on at least one side of the transparent base (A),

the light diffusion layer (B) contains a filler, wherein the filler comprises particles,

the weight average particle diameter of the particles is 2 to 10 μm,

the overall haze value in the light diffusion film is 10 to 40%,

asperities are formed on an outermost surface of the light diffusion film on a side of the light diffusion layer (B), and

the asperities satisfy the following mathematical equations (1) and (2):

$$0.110 \leq Sm \quad (1)$$

$$Rsk \leq 0.200 \quad (2)$$

where in the mathematical equation (1), Sm is an average convex-to-convex distance (mm) of the asperities measured according to JIS B0601 (1994 edition), and

in the mathematical equation (2), Rsk is a skewness of the asperities measured according to JIS B0601 (1994 edition).

2. The light diffusion film according to claim 1, wherein

a luminous transmittance loss factor at a wavelength of 380 nm to 780 nm is 3.0% or less.

3. The light diffusion film according to claim 1 or 2, further comprising:

other layer laminated on the surface of the light diffusion layer (B) on a side facing away from the transparent base (A).

4. A light diffusion film for use on a side opposite to a visual side of a display panel for image display device, comprising:

a transparent base (A);

a light diffusion layer (B); and

other layer, wherein

the light diffusion layer (B) and the other layer are laminated on at least one side of the transparent base (A),

the light diffusion layer (B) contains a filler, wherein the filler comprises particles,

the weight average particle diameter of the particles is 2 to 10 μm,

the overall haze value in the light diffusion film is 10 to 40%,

asperities are formed on an outermost surface of the other layer, and

the asperities satisfy the following mathematical equations (1) and (2):

$$0.110 \leq Sm \quad (1)$$

$$Rsk \leq 0.200 \quad (2)$$

where in the mathematical equation (1), Sm is an average convex-to-convex distance (mm) of the asperities measured according to JIS B0601 (1994 edition), and

in the mathematical equation (2), Rsk is a skewness of the asperities measured according to JIS B0601 (1994 edition).

5. The light diffusion film according to any one of claims 1 to 4, wherein the transparent base (A) contains an acrylic resin.

6. The light diffusion film according to any one of claims 1 to 5, wherein the transparent base (A) is an acrylic film.

7. The light diffusion film according to any one of claims 1 to 6, wherein the light diffusion layer (B) contains a binder resin.

8. The light diffusion film according to any one of claims 1 to 7, wherein a refractive index difference between the particles and the binder resin is 0.200 or less.

9. The light diffusion film according to any one of claims 1 to 8, further comprising:

an intermediate layer containing a resin derived from the transparent base (A) and a resin derived from the light diffusion layer (B) between the transparent base (A) and the light diffusion layer (B).

10. A method for producing the light diffusion film according to any one of claims 1 to 9, comprising the steps of:

forming a light diffusion layer (B) on a transparent base (A), and

forming asperities on an outermost surface of the light diffusion film on a side of the light diffusion layer (B) so as to satisfy the mathematical equations (1) and (2), wherein

the light diffusion layer (B) forming comprises the steps of:

coating a coating liquid on the transparent base (A); and

forming a coating film by drying the coated coating liquid, and

the coating liquid contains a resin and a solvent.

11. The method according to claim 10, wherein

the light diffusion layer (B) forming further comprises the step of curing the coating film.

12. The method according to claim 10 or 11, wherein

the solvent contains toluene and cyclopentanone.

13. The method according to any one of claims 10 to 12, wherein

the light diffusion film is the light diffusion film according to claim 3 or 4, and

the asperities forming comprises the step of forming the other layer on the light diffusion layer (B).

14. An optical member, comprising:

the light diffusion film according to any one of claims 1 to 9.

15. A display panel for image display device, comprising:

the light diffusion film according to claim 9.

16. An image display device, comprising:

the light diffusion film according to any one of claims 1 to 9;

the optical member according to claim 14; or

the display panel for image display device according to claim 15.

17. The image display device according to claim 16, comprising:

the display panel for image display device according to claim 15; and

a backlight for the image display device.