showing the color dispersion provided by the diffraction structure, that is, the change in the refractive index depending on the wavelength. In the present specification, v_D is defined as follows.

Assuming that the wavelengths of the C'-line, e-line, and F'-line are λ_c, λ_e, and λ_f, and the diffraction frequencies of the C'-line, e-line, and F'-line are D_c, D_e, and D_f, the following relationship holds true.

$D_c:D_e:D_f = \lambda_c:\lambda_e:\lambda_f$

When the above-described relationship is applied to the relational expression of the power of the Abbe number, Formula 2 below is achieved.

$$v_D=D_e/(D_f-D_c)=\lambda_e/(\lambda_f-\lambda_c) \quad ...(\text{Formula 2})$$

[0060] The derivation process of Formula 1 above will be described.

Assuming that the power provided by portions other than the diffraction structure is D_R (unit: diopter [D]), the following formula holds true.

$$D=D_R+D_D \quad ...(\text{Formula 3})$$

[0061] The longitudinal chromatic aberration caused by refraction in an eyeglass lens is expressed by $D_R\times(1/v)=(D-D_D)\times(1/v)$ according to Formula 3.

[0062] The longitudinal chromatic aberration caused by diffraction in an eyeglass lens is represented by $D_D\times(1/v_D)$. Since both D_D and v_D are less than zero, the longitudinal chromatic aberration caused by diffraction is greater than zero.

[0063] That is, in order for the eyeglass lens to have positive longitudinal chromatic aberration, it is necessary to satisfy the following formula.

$$(D-D_D)\times(1/v)+D_D\times(1/v_D)>0 \quad ...(\text{Formula 4})$$

[0064] By rearranging Formula 4 for D_D, Formula 1 above can be obtained.

$$D_D<D\times v_D/(v_D-v) \quad ...(\text{Formula 1})$$

[0065] The blaze wavelength is preferably greater than 477 nm and less than 535 nm. This preferable wavelength range is a configuration conceived of in consideration of the diffraction efficiencies of each of the blue wavelength, the green wavelength, and the red wavelength in visible light. The derivation process of this preferable wavelength range will be described.

[0066] First, the diffraction efficiency is set high according to the following order.

CLAIMS

1. An ophthalmic lens,

wherein a prescription power is zero or less,

a diffraction structure for which a blaze wavelength is set to a short wavelength side of visible light is provided on at least one of an object-side surface side and an eyeball-side surface side, and

the ophthalmic lens includes positive longitudinal chromatic aberration.

2. The ophthalmic lens according to claim 1, comprising

a wavelength filter for attenuating light with a wavelength longer than a set main wavelength.

3. The ophthalmic lens according to claim 1 or 2,

wherein a power D_D provided by the diffraction structure satisfies the following relationship

$D_D<D\times v_D/(v_D-v)$

where D is the prescription power, v_D is an Abbe number provided by the diffraction structure, and v is an Abbe number of a lens base material.

4. The ophthalmic lens according to any one of claims 1 to 3,

wherein the blaze wavelength is greater than 477 nm and less than 535 nm.

5. The ophthalmic lens according to any one of claims 1 to 4,

wherein the power D_D provided by the diffraction structure is preferably 15% or more of the prescription power D.

6. The ophthalmic lens according to any one of claims 1 to 5,

wherein the power D_D provided by the diffraction structure is preferably less than 50% of the prescription power D.

7. The ophthalmic lens according to any one of claims 1 to 3,

wherein the blaze wavelength is greater than 477 nm and less than 535 nm,

the power D_D provided by the diffraction structure is preferably 15% or more of the prescription power D, and

the power D_D provided by the diffraction structure is preferably less than 50% of the prescription power D.

8. The ophthalmic lens according to any one of claims 1 to 7,

wherein the ophthalmic lens is an eyeglass lens.