

## Parabolic Lens of Internal Reflection | CPC

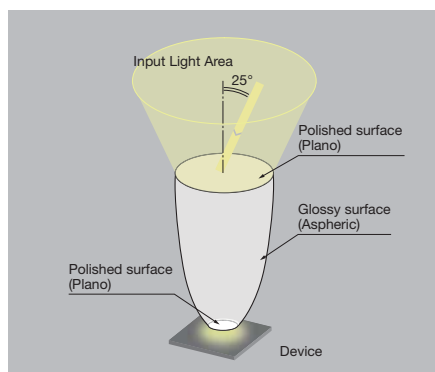
RoHS

Parabolic lens of internal reflection type is an optical element that, with incident lights from various directions reflected at the streamlined side surface, can collect the lights on the emitting end surface. It is used as a collector of solar cells.

- With the parallel light of 25° or less as an incident angle it is possible to collect efficiently the light at the emitting end surface even though the incident from any directions occurs.
- Since it uses the internal reflection of the glass, the configuration is simplified compared with a lens system.
- By using the press molding technique of the glass lens, it achieves both high performance and low cost.



## Schematic



## Specifications

Part Number	CPC-14.24C29.02-P
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## Specifications

Material	B270® equivalent
Coating	Uncoated
Allowable acceptance angle	25°
Surface Quality (Scratch-Dig)	Both end surfaces: 80-50 Side surface (non-spherical): 160-50

\* B270® is a registered trademark of SCHOTT AG.

## Guide

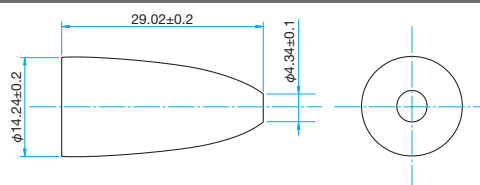
- ▶ It is available with anti-reflection coating on both end surfaces upon request.
- ▶ Other sizes in addition to products listed on the website and in our catalog are available, please contact our Sales Division with your request.

## Attention

- ▶ Since it is totally reflected at the side (non-spherical), reflectance may be significantly worse if fingerprints and dirt are on that surface.
- ▶ The transmittance of the side is 99% or more, but since anti-reflection coating is not applied in the incident surface and emitting surface, the reflection loss of about 4% occurs.
- ▶ Light emitted from the end surface diverges largely and randomly without condensing to one point. Therefore, it should not be used for focused beam and collimated beam applications.

## Outline Drawing

(in mm)



## Formula for Aspheric

$$Z(x) = 1 + \frac{Cx^2}{\sqrt{1 - (1+K)Cx^2}} + a^2x^2 + a^4x^4 + a^6x^6 + a^8x^8 + a^{10}x^{10} + a^{12}x^{12}$$

Coefficient	Numerical value
C	-0.00661615
K	21.98945555
a <sup>2</sup>	6.634803136×10 <sup>-4</sup>
a <sup>4</sup>	-3.044342187×10 <sup>-6</sup>
a <sup>6</sup>	6.004115152×10 <sup>-9</sup>
a <sup>8</sup>	-1.208582175×10 <sup>-11</sup>
a <sup>10</sup>	1.189971496×10 <sup>-14</sup>
a <sup>12</sup>	-5.290757204×10 <sup>-18</sup>

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