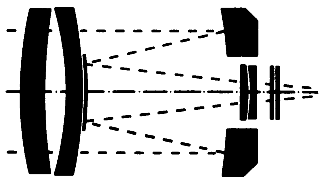
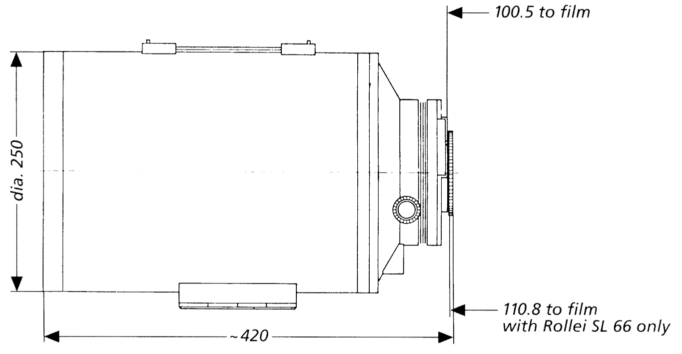
Mirotar® f/5.6 - 1000 mm





The basic design of the **Mirotar**® lens - concave primary mirror with a hole in the center and convex secondary mirror - is similar to the design frequently applied in astronomical telescopes. It further contains two lens elements in front of and two behind the mirror surfaces. They reduce the aberrations caused by the mirror to a minimum.

Whereas conventional lenses with a long focal length and apertures larger than f/8 exhibit disturbing chromatic aberrations, these are completely eliminated when mirrors are used. The elements employed for correction in the mirror lens are of low refractive power and are chromatically corrected so that the focus is maintained over the entire photographic spectrum. Even in IR photography, the focus is retained once it has been set visually.

The very high uniform image quality of the **Mirotar**® lens is due not only to the extremely good overall correction, but also to the meticulous care taken in the production of the mirror and lens systems, the mounts and in the assembly of the lens. Distant objects are imaged with keen definition in every detail. Pictures taken with the **Mirotar**® lens thus permit considerable subsequent enlargement. The high speed permits press and wildlife photography even under unfavorable lighting conditions.

Cat. No. of lens:	**10 46 04**
Number of elements:	5 (including primary mirror)
Number of groups:	5
Max. aperture:	f/5.6
Focal length:	1020.6 mm
Negative size:	up to 60 x 60 mm
Angular field 2w:	up to 4.5º diagonal
Spectral range:	visible spectrum
Aperture scale:	filter turret with neutral density filters corresponding to the f/stops 5.6, 8 and 11
Mount:	tube mount with attached bellows for focusing camera adapter for Contax/Yashica mount - 9012 Rollei SL 66** - 9016 Further adapters on request ** with rod and rider

Filters:	slider with screw-in filter S 60 (IR, orange, yellow, UV, neutral density filter 8x)
Focusing range:	∞ to 12 m
Entrance pupil:	
Position:	on first lens vertex
Diameter:	212.0 mm
Exit pupil:	
Position:	372.4 mm in front of last lens vertex
Diameter:	112.0 mm
Position of principal planes:	
H:	920.4 mm in front of first lens vertex
H':	528.7 mm in front of first lens vertex
Back focal distance*:	164.3 mm
Distance between first and last lens vertex:	327.6 mm (without filter)
Weight:	approx. 16.5 kg

* at ∞

Performance data:

Mirotar® f/5.6 - 1000 mm

Cat. No. 10 46 04

1. MTF Diagrams

The image height u - calculated from the image center - is entered in mm on the horizontal axis of the graph. The modulation transfer T (MTF = Modulation Transfer Factor) is entered on the vertical axis. Parameters of the graph are the spatial frequencies R in cycles (line pairs) per mm given at the top of this page. The lowest spatial frequency corresponds to the upper pair of curves, the highest spatial frequency to the lower pair. Above each graph, the f-number k is given for which the measurement was made. "White" light means that the measurement was made with a subject illumination having the approximate spectral distribution of daylight. Unless otherwise indicated, the performance data refer to large object distances, for which normal photographic lenses are primarily used.

2. Relative illuminance

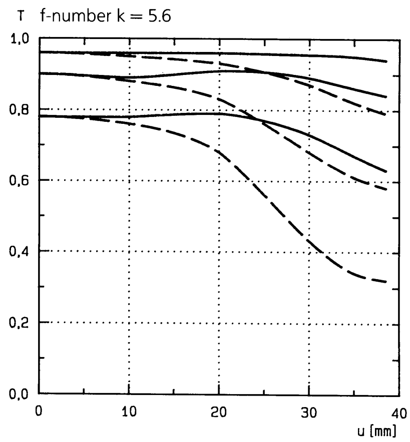
In this diagram the horizontal axis gives the image height u in mm and the vertical axis the relative illuminance E, both for full aperture and a moderately stopped-down lens. The values for E are determined taking into account vignetting and natural light decrease.

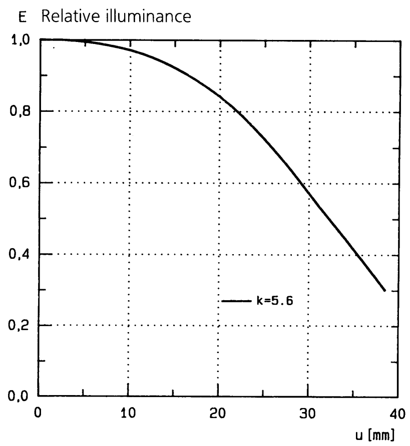
3. Distortion

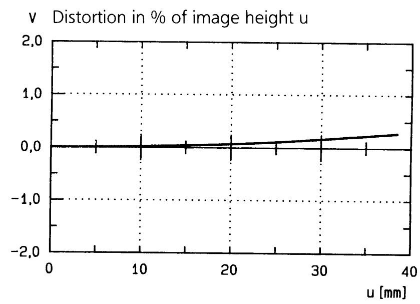
Here again the image height u is entered on the horizontal axis in mm. The vertical axis gives the distortion V in % of the relevant image height. A positive value for V means that the actual image point is further from the image center than with perfectly distortion-free imaging (pincushion distortion); a negative V indicates barrel distortion.

Modulation transfer T as a function of image height u. Slit orientation: tangential – – – sagittal ——

White light. Spatial frequencies R = 10, 20 and 40 cycles/mm







Carl Zeiss

Photoobjektive

D-73446 Oberkochen

Telephone (07364) 20-6175

Fax (07364) 20-4045

eMail: photo@zeiss.de

http://www.zeiss.de

Subject to change.