# Sonnar T* f/5.6–250 mm Superachromat Cat. No. 104515

HASSELBLAD

ZEISS

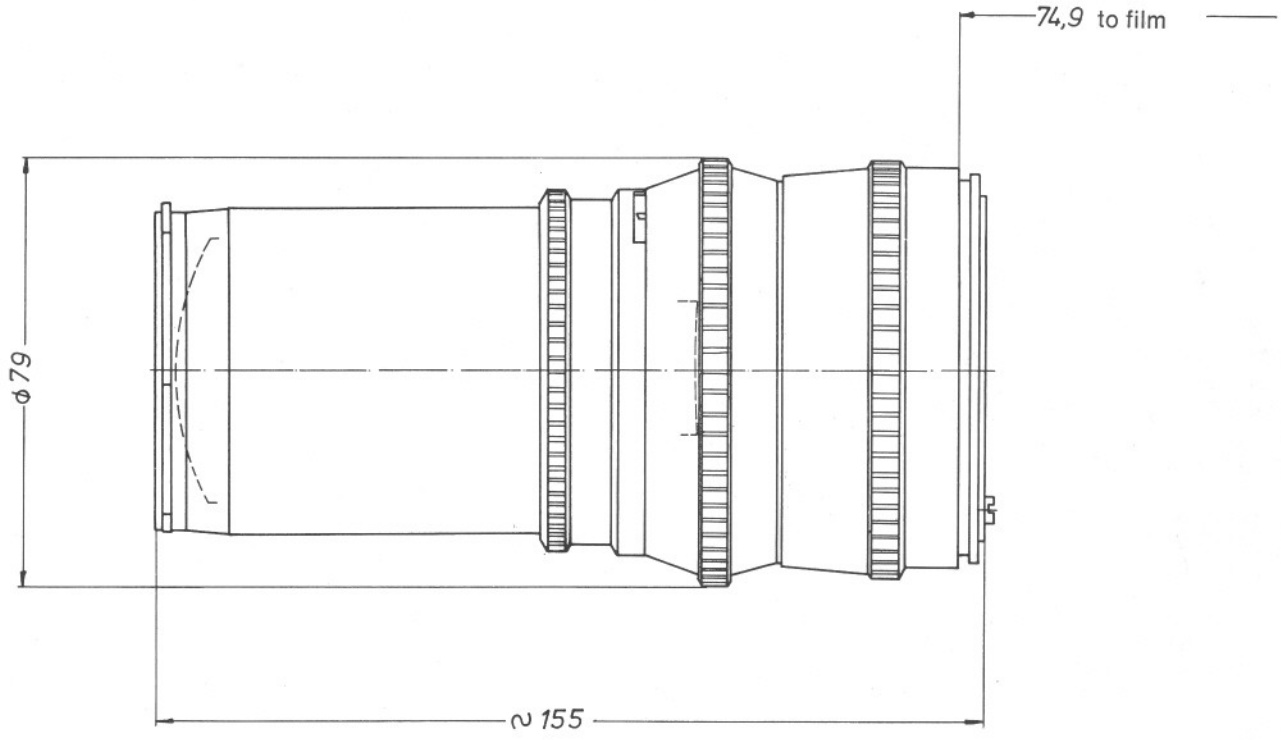
Carl Zeiss
D-7082 Oberkochen
West Germany

This lens has a so far unachieved correction of chromatic aberrations. The secondary spectrum which is the dominating aberration of lenses of long focal length, is corrected for the entire spectral range between approx. 400 and 1000 nm.

Visual focusing in visible light guarantees optimum sharpness even on IR or false-color film.

The Sonnar f/5.6–250 mm Superachromat lends itself to taking photographs which are to be considerably re-enlarged. It is primarily applied in technical and scientific IR photography. Special effects in landscape and architectural photography, geology, hydrology and archaeological documentation with the aid of the aerial photograph, botany, plant pathology, environmental control and multi-spectral photography are examples of the wide range of application of this extraordinary lens.

As the distance setting ring has no ∞-stop position, focusing for long-range work must be made on the groundglass of the camera.

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|---|---|
| Number of lens elements: | 6 |
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| f-number: | 5.6 |
| Focal length: | 249.6 mm |
| Negative size: | 56.5 x 56.5 mm |
| Angular field 2w: | diagonal 18°, side 13° |
| Spectral range: | 400 to 1000 nm |
| f-stop scale: | 5.6 - 8 - 11 - 16 - 22 - 32 - 45 |
| Mount: | Compur interchangeable reflex shutter size 0 with automatic iris diaphragm |
| Filter mounting: | bayonet for Hasselblad series 50 |
| Weight: | approx. 800 g |

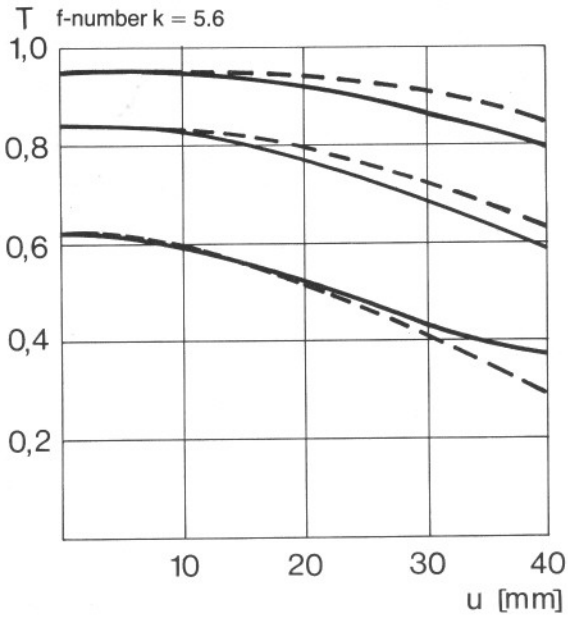
| | |
|---|---|
| Distance range: | ∞ [1]) to 2.8 m |
| Automatic depth-of-field indication for z = 0.06 mm [2]) | |
| Position of entrance pupil: | 130.5 mm behind the first lens vertex |
| Diameter of entrance pupil: | 44.6 mm |
| Position of exit pupil: | 5.1 mm in front of the last lens vertex |
| Diameter of exit pupil: | 23.0 mm |
| Position of principal plane H: | 107.0 mm in front of the first lens vertex |
| Position of principal plane H′: | 27.9 mm in front of the first lens vertex |
| Distance between first and last lens vertex: | 98.7 mm |

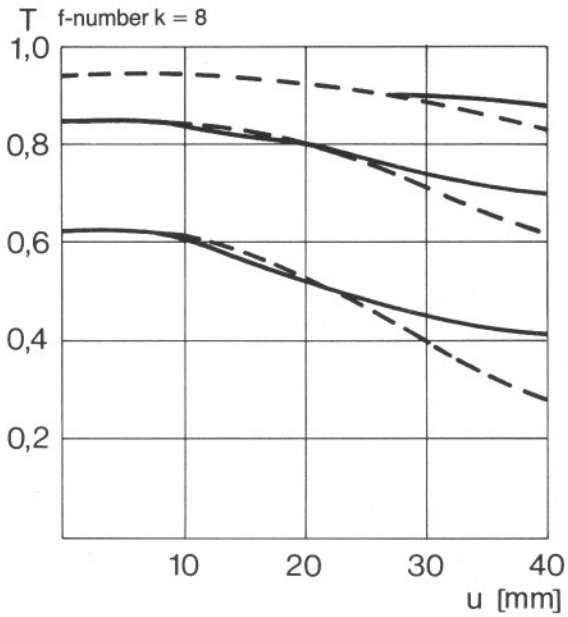
[1]) no stop position for ∞ [2]) z = circle-of-confusion diameter

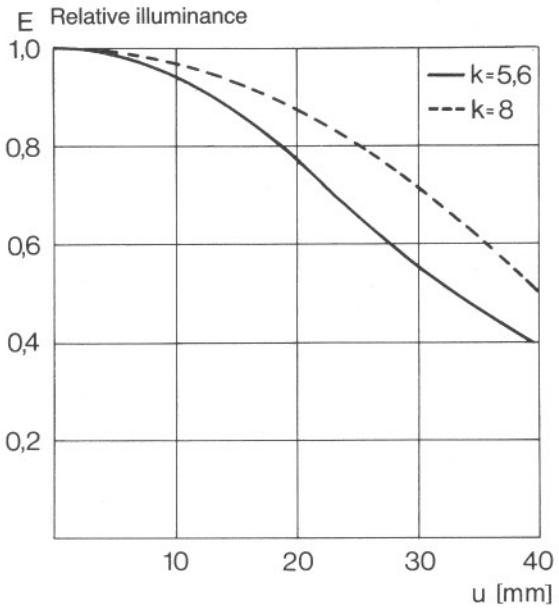
# Performance data: Sonnar f/5.6–250 mm Superachromat Cat. No. 104515

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



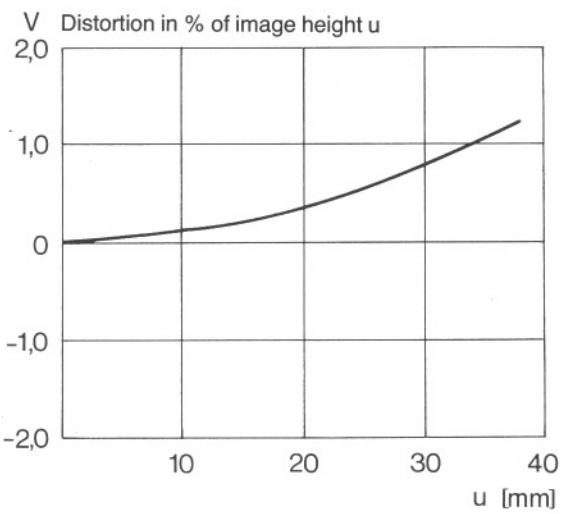




**1. MTF Diagrams**
The image height u – reckoned from the image center – is entered in mm on the horizontal axis of the graph. The modulation transfer T (MTF = **M**odulation **T**ransfer **F**actor) is entered on the vertical axis. Parameters of the graph are the spatial frequencies R in cycles (line pairs) per mm given at the top right hand above the diagrams.
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.




Subject to technical amendment