

Planar T\*  
f/3.5–100 mm  
Cat. No.  
102111)\*

H A S S E L B L A D



ZEISS

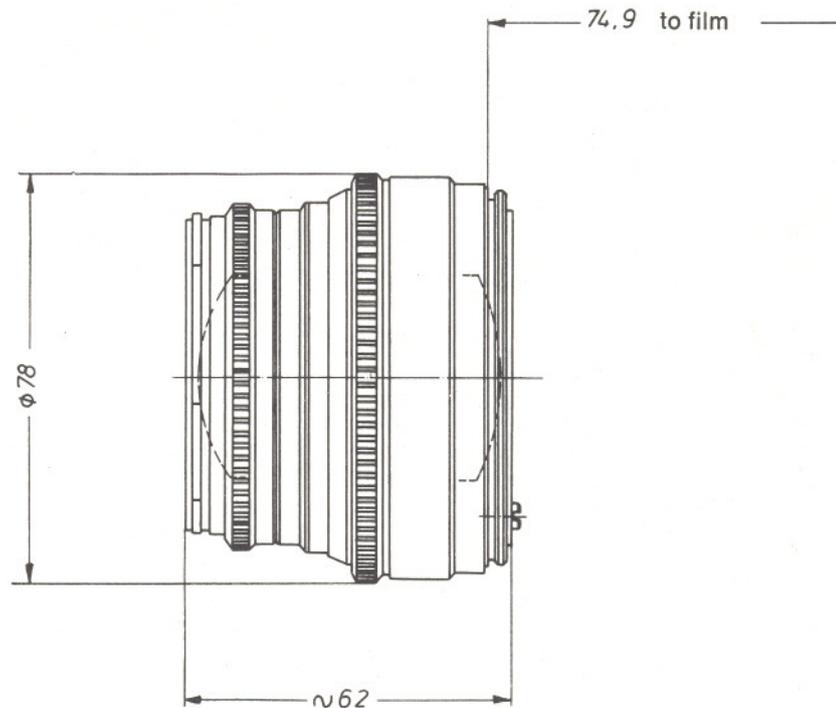
Carl Zeiss  
D-7082 Oberkochen  
West Germany

The Planar T\* f/3.5–100 mm is a lens of outstanding freedom from distortion and image quality owing to optimum speed and focal length. This lens with Compur interchangeable shutter has been specially developed for the Hasselblad camera.

The excellent distortion correction is also of great importance for architectural photography and for all applications which require an exact reproduction of the geometry of the object (e. g. for surveying).

At full aperture and when stopped down moderately, the image quality of the Planar T\* f/3.5–100 mm is superior to that of the 80 mm Planar lens. For this reason the lens is recommended as standard lens for photography where the demands for detail recognition and brilliance are high.

)\* See also the Hasselblad reprint on the Planar T\* f/3.5–100 mm.



Number of lens elements: 5  
 Number of components: 4  
 f-number: 3.5  
 Focal length: 100.3 mm  
 Negative size: 56.5 x 56.5 mm  
 Angular field 2w: diagonal 43°, side 32°  
 Spectral range: visible spectrum  
 f-stop scale: 3.5 - 4 - 5.6 - 8 - 11 - 16 - 22  
 Mount: Compur interchangeable reflex shutter size 0 with automatic iris diaphragm bayonet for Hasselblad series 50  
 Filter mounting:  
 Weight: 610 g

Distance range: ∞ to 0.9 m  
 Automatic depth-of-field indication for  $z = 0.06 \text{ mm}^*$ )  
 Position of entrance pupil: 32.9 mm behind the first lens vertex  
 Diameter of entrance pupil: 28.7 mm  
 Position of exit pupil: 42.6 mm in front of the last lens vertex  
 Diameter of exit pupil: 33.4 mm  
 Position of principal plane H: 42.2 mm behind the first lens vertex  
 Position of principal plane H': 27.1 mm in front of the last lens vertex  
 Distance between first and last lens vertex: 57.2 mm

\*)  $z$  = circle-of-confusion diameter

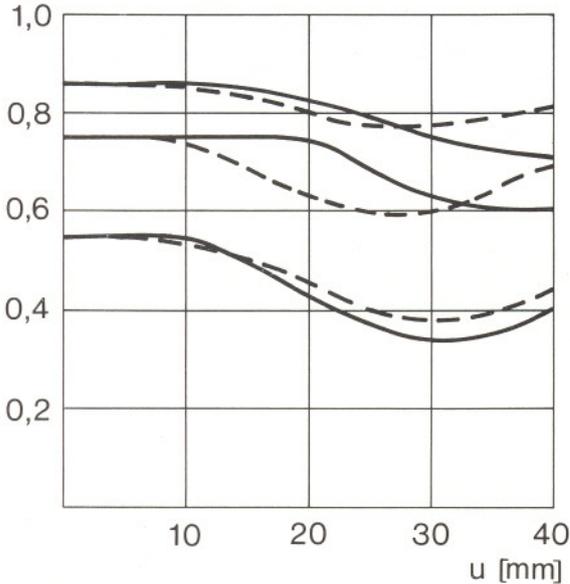
Modulation transfer T as a function of image height u

Slit orientation tangential — — — —  
sagittal —————

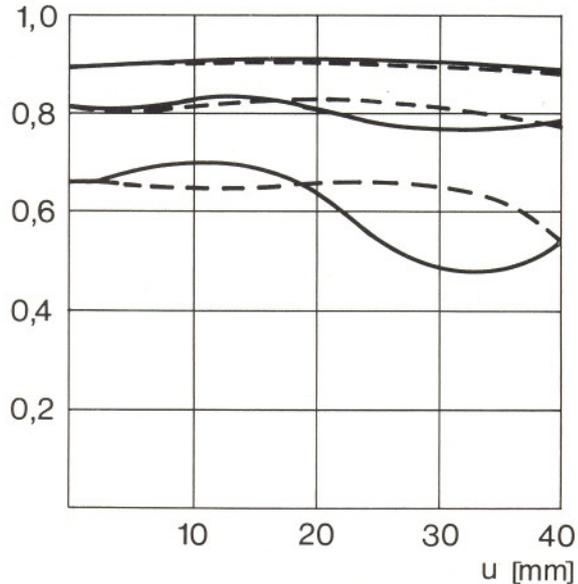
White light

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

T f-number k = 3.5



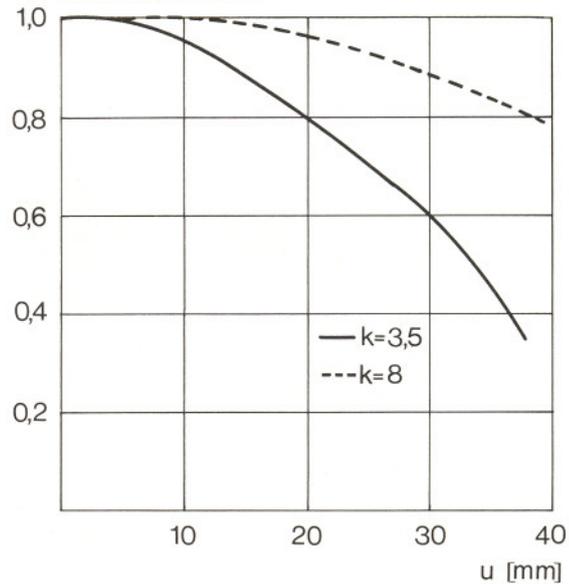
T f-number k = 8



**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 = 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 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.

E Relative illuminance

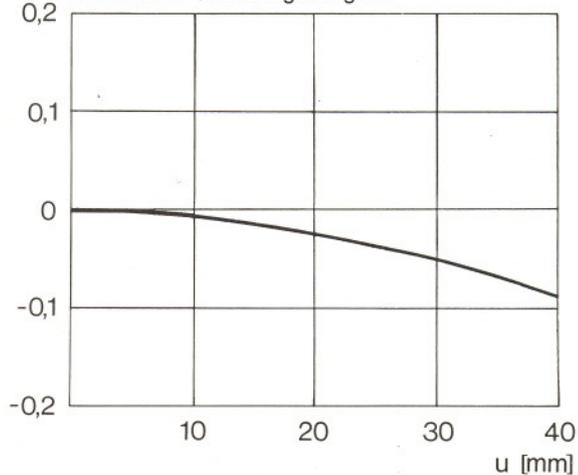


Unless otherwise indicated, the performance data refer to large object distances, for which normal photographic lenses are primarily used.

**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.

V Distortion in % of image height u



**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.