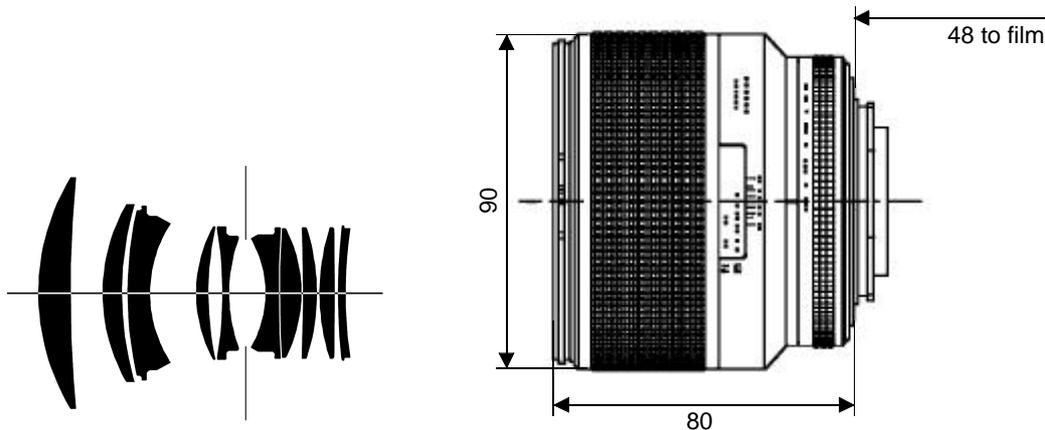


# Planar® T\* 1.4/85



CONTAX® N

High speed lenses with a somewhat longer focal length are among the most popular in top class 35 mm SLR camera systems.

For the Contax N system, Carl Zeiss has designed an all new Planar® 1,4/85 lens . This lens excels with very high image quality over the entire frame, clearly visible in the SLR viewfinder. The full speed of f/1.4 can be utilized not only for composing and focussing, but for actual picture taking, too. At f/1.4, the wide open aperture enables image compositions with selective focus, that is very pleasing for portraiture. As a novelty in such a fast lens, the high performance is maintained over the entire focusing range from infinity down to minimum object distance.

Carl Zeiss achieves this with a new internal focussing design IFD, which moves 6 of the 10 elements for focussing. This lens, with its large amount of optical glass, and attendant mass provides high stabilization during the exposure. Thus, significantly longer exposure times can be obtained handheld with good results. These exposure times, combined with a fully open aperture of f/1.4 and high speed films enable unusual images.

**Preferred use:** photojournalism, portraits under available light, kids, sports, theatrical and stage photography under available light, interiors without flash, dynamic subjects requiring fast shutter speeds.

<b>Cat. No. of lens</b>	<b>10 22 33</b>	Close limit field size	221 mm x 335 mm
Number of elements	10	Max. scale	1 : 8.9
Number of groups	9	Entrance pupil*	
Max. aperture	f/1.4	Position	99.7 mm behind the first lens vertex
Focal length	83,0 mm	Diameter	57.5 mm
Negative size	24 x 36 mm	Exit pupil*	
Angular field 2w*	width 25°; height 17°; diagonal 29°	Position	28.3 mm in front of the last lens vertex
Min. aperture	16	Diameter	50.9 mm
Camera mount	Contax N	Position of principal planes*	
Filter connection	M 82 x 0.75	H	82.7 mm behind the first lens vertex
Focussing range	infinity to 0.83 m	H'	43.7 mm in front of the last lens vertex
Working distance (between mechanical front end of lens and subject)	0.70 m	Back focal distance	40.6 mm
		Distance between first and last lens vertex	85.1 mm
		Weight	800 g

\* at infinity



Performance data:

**Planar<sup>®</sup> T\* 1.4/85**

Cat. No. 10 22 33

**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.

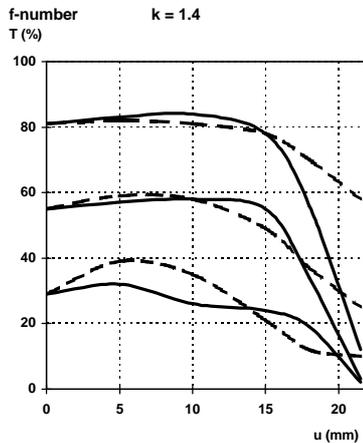
**2. Relative illuminance**

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.

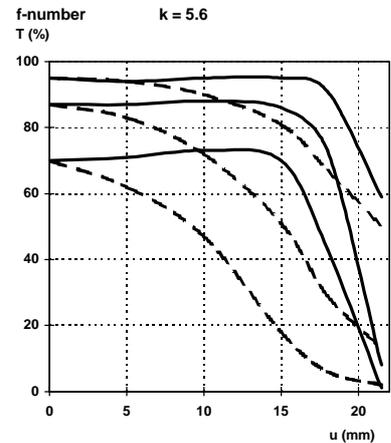
**3. Distortion**

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.

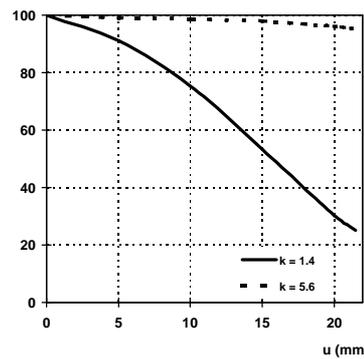
Modulation transfer  $T$  as a function of image height  $u$ .  
White light. Spatial frequencies  $R = 10, 20$  and  $40$  cycles/mm



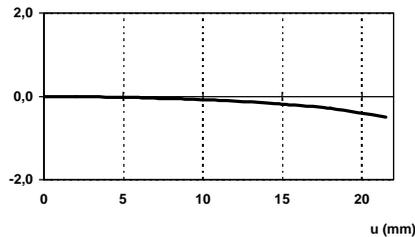
Slit orientation: — sag — tan



Relative illuminance  $E$  (%)



Distortion in % of image height  $v$



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