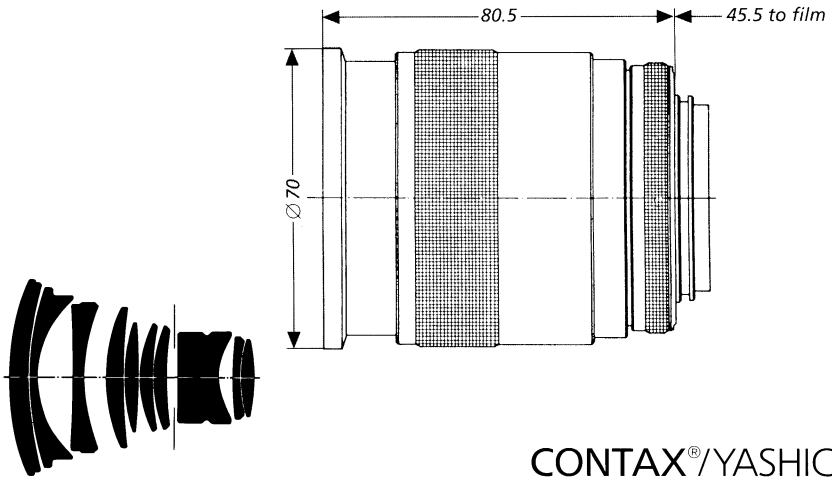
Vario-**Sonnar**® T* f/3.4 35 - 70 mm



CONTAX®/YASHICA® mount

Superb image quality and - unusual for a zoom lens - very low distortion throughout the entire focal length range are the hallmarks of this 35-70 mm Vario-**Sonnar**® T* f/3.4 lens from Carl Zeiss. It is a compact one-touch zoom lens, i.e. the same ring is used for focusing and zooming. Its continuously variable focal length from 35 mm to 70 mm and its weight of approx. 475 g make this lens an exceedingly light universal lens.

In addition, a macro setting permits you to take pictures down to a reproduction ratio of 1:2.5. To achieve this ratio in practice, the one-touch zoom ring is first set to the focal length f = 35 mm and 0.7 m. Turn ring clockwise until the slight resistance is overcome and the macro range marked in red is reached.

Cat. No. of lens:	**10 47 33**
Number of elements:	10
Number of groups:	10
Max. aperture:	f/3.4
Focal length:	35.7-69.0 mm
Negative format:	24 x 36 mm
Angular field 2w:	63º-34º
Spectral region:	visible spectrum
Aperture scale:	3.4 - 5.6 - 8 - 11 - 16 - 22
Mount:	focusing helicoid with bayonet; TTL metering either at full aperture or in stopped-down position. Aperture priority/Shutter priority/ Automatic programs (Multi-Mode Operation).
Filter connection:	thread M 67 x 0.75 mm, screw-in type clip-on, diameter 70 mm
Weight:	approx. 475 g
Minimum focusing range:	0.7 m, macro setting

Entrance pupil:		
Position:	a)	26.5 mm behind first lens vertex
	b)	39.5 mm behind first lens vertex
Diameter:	a)	19.7 mm
	b)	10.3 mm
Exit pupil:		
Position:	a)	16.4 mm in front of last lens vertex
	b)	16.4 mm in front of last lens vertex
Diameter:	a)	22.7 mm
	b)	16.7 mm
Position of principal planes:		
H:	a)	35.0 mm behind first lens vertex
	b)	52.9 mm behind first lens vertex
H':	a)	6.8 mm in front of last lens vertex
	b)	4.9 mm behind last lens vertex
Back focal distance:	a)	62.2 mm
	b)	40.6 mm
Distance between first and last lens vertex:	a)	61.8 mm
	b)	100.6 mm

a) f = 70 mm b) f = 35 mm

ZEISS

Performance data:
Vario-**Sonnar**® T* f/3.4 35 - 70 mm
Cat. No. 10 47 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.

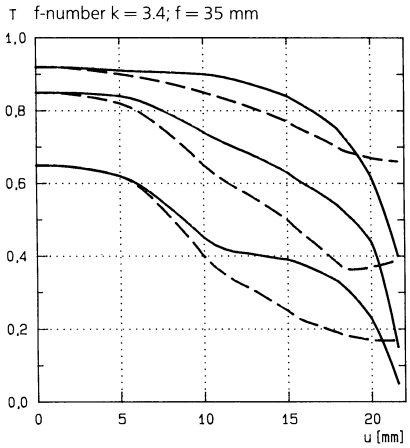
2. Relative illuminance

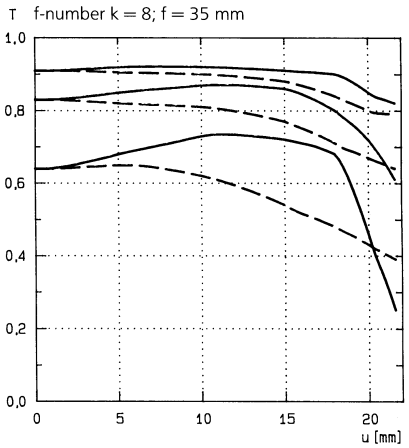
In this diagram the horizontal axis gives the image height u in mm and the vertical axis the relative illuminance E, both for full aperture and a moderately stopped-down lens. The values for E are determined taking into account vignetting and natural light decrease.

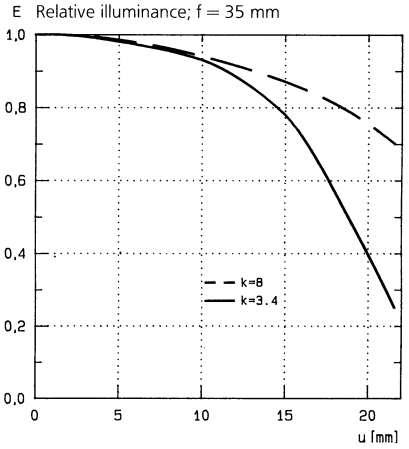
3. Distortion

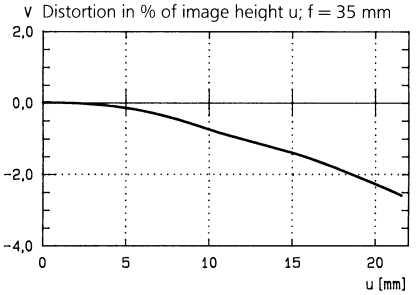
Here again the image height u is entered on the horizontal axis in mm. The vertical axis gives the distortion V in % of the relevant image height. A positive value for V means that the actual image point is further from the image center than with perfectly distortion-free imaging (pincushion distortion);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

Modulation transfer T as a function of image height u. Slit orientation: tangential — — — sagittal ———
White light. Spatial frequencies R = 10, 20 and 40 cycles/mm

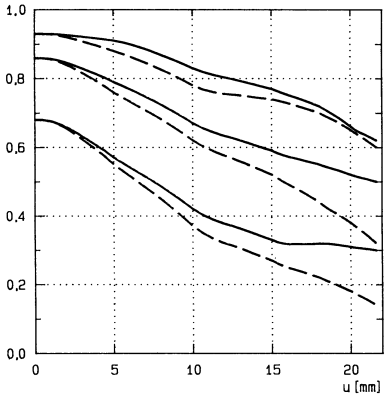




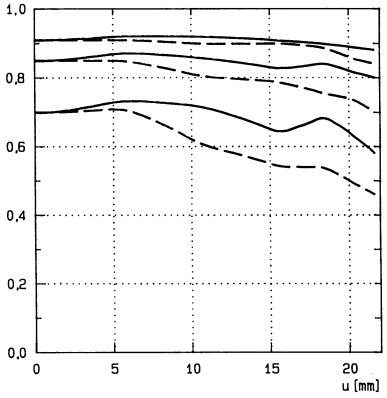




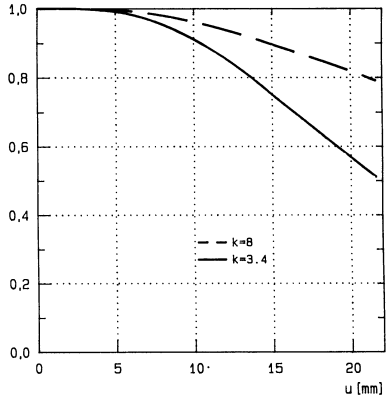
T f-number k = 3.4; f = 50 mm



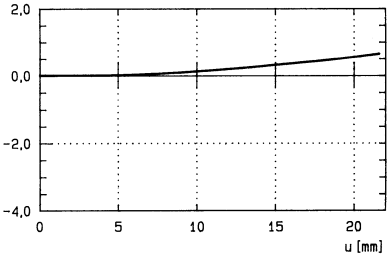
T f-number k = 8; f = 50 mm



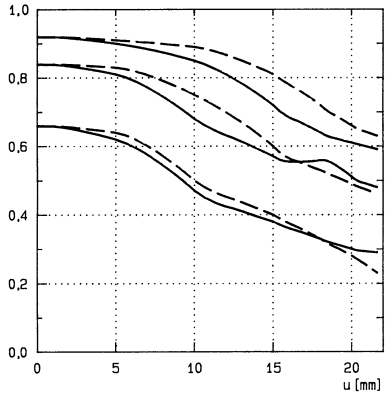
E Relative illuminance; f = 50 mm



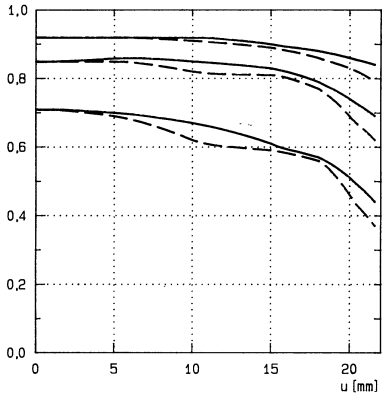
V Distortion in % of image height u; f = 50 mm



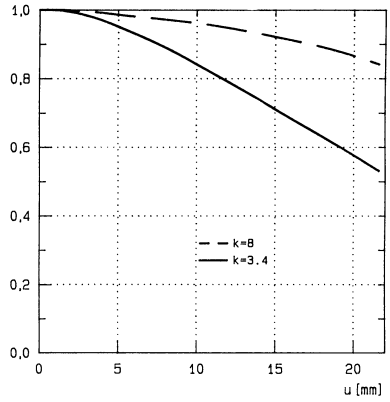
T f-number k = 3.4; f = 70 mm



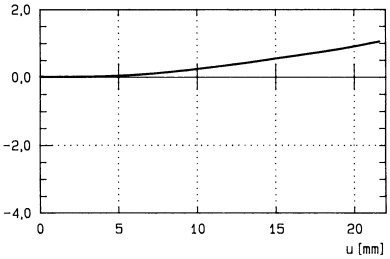
T f-number k = 8; f = 70 mm



E Relative illuminance; f = 70 mm



V Distortion in % of image height u; f = 70 mm



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