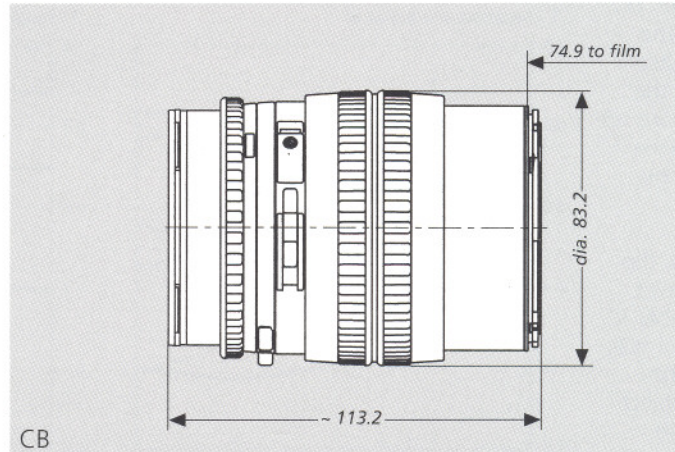
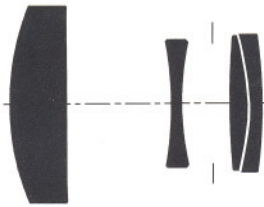


160 mm Tessar® T* f/4.8



H A S S E L B L A D



The Carl Zeiss 160 mm Tessar® T* f/4.8 CB lens can be used with all Hasselblad cameras of the 200 and 500 type. Its focal length makes it ideal for portrait and similar photography. The Tessar design makes a lighter and less expensive lens featuring this focal length possible than the Sonnar design – a benefit which photographers enjoy, especially when working without a tripod. In addition, the amount of scattered light in the 160 mm Tessar® T* f/4.8 CB lens has been markedly reduced. Its design incorporates new ergonomic features. The legibility of the scale lettering has been considerably improved over that of the lenses of the previous CF line. The shutter-speed setting ring provides considerably more grip. All grip controls can be

operated with gloves and are rounded for greater comfort. The flash terminal features a lock for the flash lead connector. The front bayonet has been designed as a smooth-action type and ensures smooth mounting of high-quality filters, lens hoods and effects boxes. The bayonet will retain its matte black color and absorbs any knocks or bangs on the front edge of the lens. Due to the new, broader structure of the camera connection bayonet of the CB lens, it has been possible to markedly increase the rigidity of this bayonet compared with the previous CF-type. The integrated between-lens shutter ensures exact interaction with the mechanical functions of cameras and accessories. In addition, the use of new materials has made it possible to increase the service life of the lens bayonet even further.

Cat. No. of lens:	100349
Number of elements:	4
Number of groups:	3
Max. aperture:	f/4.8
Focal length:	161.1 mm
Negative size:	55 x 55 mm
Angular field 2w*:	26.8°
Spectral range:	visible spectrum
Aperture scale:	4.8 – 5.6 – 8 – 11 – 16 – 22
Mount:	coupling system for automatic diaphragm function
Shutter:	Prontor CB
Filter connection:	bayonet for Hasselblad series 60

Focusing range:	∞ to 1.5 m
Weight:	approx. 650 g
Entrance pupil*:	
Position:	51.1 mm behind the first lens vertex
Diameter:	34.0 mm
Exit pupil*:	
Position:	11.7 mm in front of the last lens vertex
Diameter:	27.7 mm
Position of principal planes*:	
H:	12.9 mm behind the first lens vertex
H':	7.9 mm in front of the last lens vertex
Back focal distance:	119.5 mm
Distance between first and last lens vertex*:	50.5 mm

* at ∞



Performance data: 160 mm Tessar® T* f/4.8 No. 100349

1. MTF Diagrams

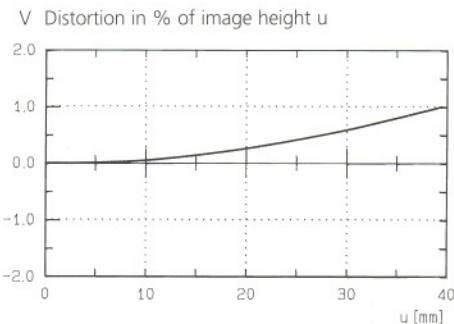
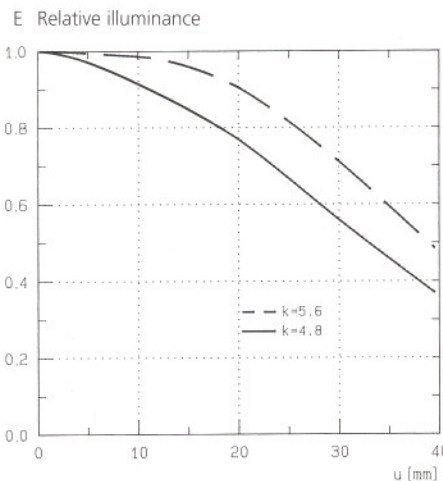
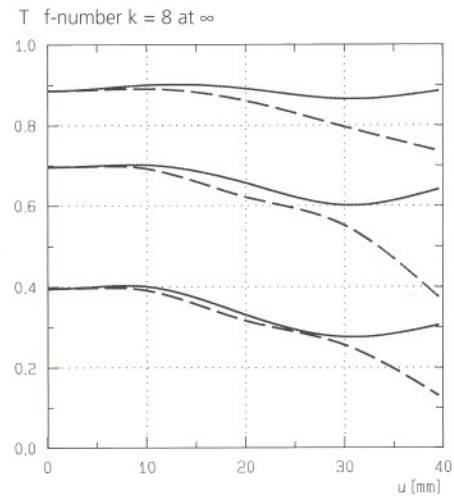
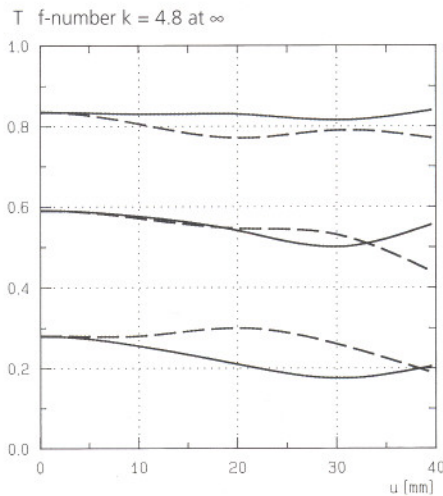
The image height u – calculated from the image center – is entered in mm on the horizontal axis of the graphs. The modulation transfer T (MTF = Modulation Transfer Factor) is entered on the vertical axis. Parameters of the graphs are the spatial frequencies R in cycles (line pairs) per mm given at the 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.

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



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.



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