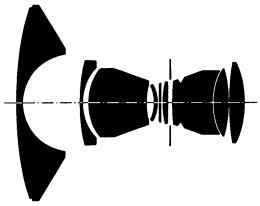
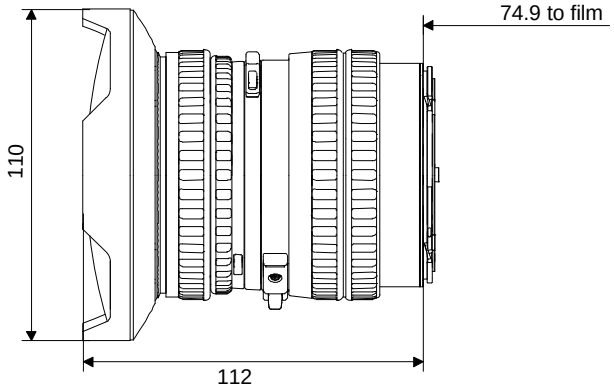
F-**Distagon**® T***** 3.5/30 CFi





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The F-**Distagon**® T* 3.5/30 CFi lens is a fast ultra wide angle lens of 'fisheye' type. It covers an angle of view of 180° over the diagonal of the frame. Its distortion characteristic and focal length are chosen so that the complete frame is utilized for information recording, including the corners. It has been designed as a special lens for scientific and technical documentation and offers therefore outstanding image quality and very even illumination from corner to corner – and all this even at wide open aperture. Focusing can be done down to just 10 cm (4 inches) in front of the front element (this equals 0.3 meters distance from the film) thus enabling breathtaking photos. So the photographer can easily close in on interesting details he wants to highlight and still have the complete situation in the same frame.

The F-**Distagon**® T* 3.5/30 CFi lens can record a maximum of information within cramped spaces. The optical performance is so great that today's highest resolving color films can be utilized to their very limit.

The special fisheye distortion depicts a subject in the center of the frame quite largely, but captures also most of its surroundings. Up to 180° in the corners of the frame. Straight lines running through the center of the image remain straight. Circles around the center remain circles.
However, straight lines being tangential to the aforementioned circles, will become bent. The closer a line is located to the edge, the more it will become bent. This effect can be clearly seen and controlled in the SLR viewfinder. So it can be used for image creation – by either exaggerating it to extremes, or reducing it down to levels where it can hardly be noticed at all.

The F-**Distagon**® T* 3.5/30 CFi lens is an extremely interesting lens for stunning images. Be it in advertising, nature, or documentation under very cramped conditions.

Preferred use: documentation, industrial, advertising, nature

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Cat. No. of lens	**10 49 41**
Number of elements	8
Number of groups	7
Max. aperture	f/3.5
Focal length	30.6 mm
Negative size	55 x 55 mm
Angular field	width 112°, height 112°, diagonal 180°
Min. aperture	22
Camera mount	CFi
Shutter	Prontor CFi 1s-1/500s, b, f
Filter connection	M 24 x 0.5 (replaceable after removal of front component)
Focusing range	infinity to 0.3 m
Working distance (between mechanical front end of lens and subject)	0.1 m
Close limit field size	338 mm x 338 mm
Max. scale	1 : 4.2
Entrance pupil	
Position	28.8 mm behind the first lens vertex
Diameter	8.5 mm
Exit pupil	
Position	33.1 mm in front of the last lens vertex
Diameter	29.1 mm
Position of principal planes	
H	50.4 mm behind the first lens vertex
H'	40.2 mm behind the last lens vertex
Back focal distance	70.8 mm
Distance between first and last lens vertex	113.8 mm
Weight	1360 g

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Performance data:
Distagon® **T*** 3.5/30 CFi
Cat. No. 10 49 41

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 = M odulation 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.

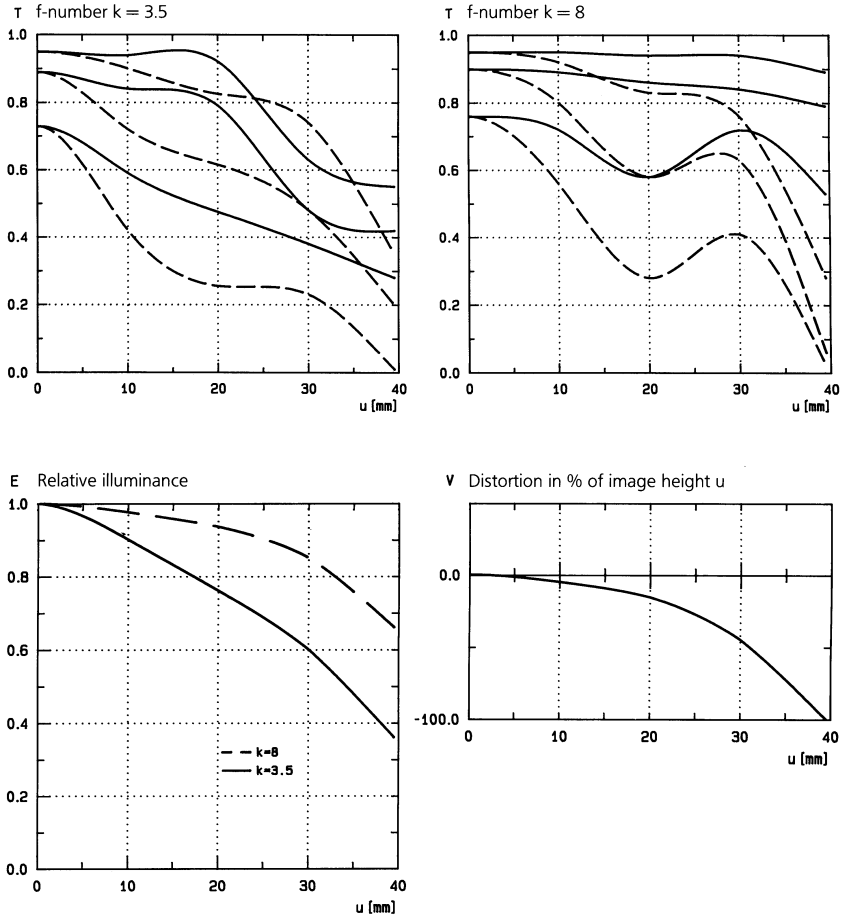
2. Relative illuminance

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



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