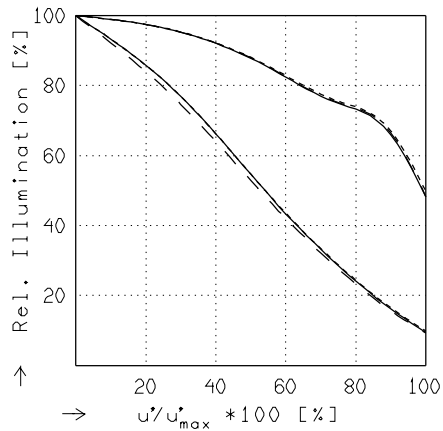
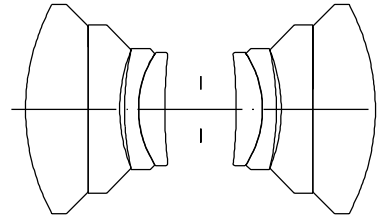


MAKRO-SYMMAR 5.6/120

$$\begin{aligned} f' &= 119.9 \text{ mm} & \beta_p &= 1.000 \\ s_F &= -93.9 \text{ mm} & s_{EP} &= 26.0 \text{ mm} \\ s_{F'} &= 93.9 \text{ mm} & s_{AP} &= -26.0 \text{ mm} \\ HH' &= -1.5 \text{ mm} & \Sigma d &= 50.5 \text{ mm} \end{aligned}$$

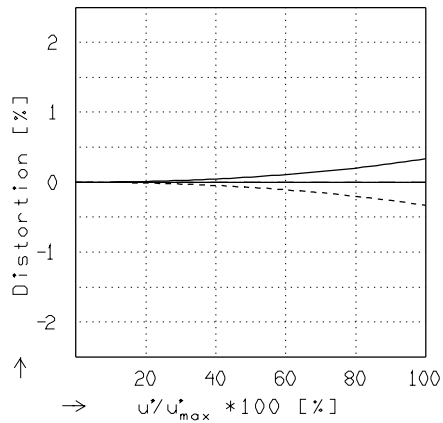


RELATIVE ILLUMINATION

The relative illumination is shown for the given focal distances or magnifications.

$$f / 5.6 \quad f / 16.0$$

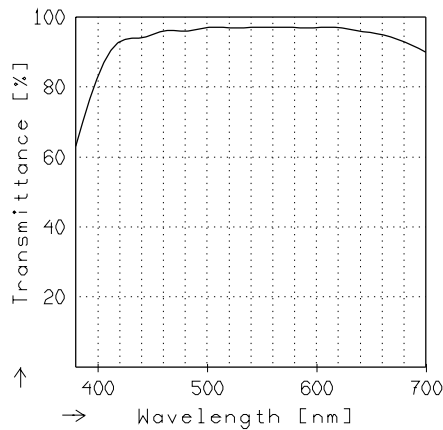
— $\beta' = -0.5000$	$u'_{\max} = 93.8$	$00' = 538.$
- - $\beta' = -1.0000$	$u'_{\max} = 125.0$	$00' = 478.$
.... $\beta' = -2.0000$	$u'_{\max} = 186.4$	$00' = 538.$



DISTORTION

Distortion is shown for the given focal distances or magnifications. Positive values indicate pincushion distortion and negative values barrel distortion.

— $\beta' = -0.5000$	$u'_{\max} = 93.8$	$00' = 538.$
- - $\beta' = -1.0000$	$u'_{\max} = 125.0$	$00' = 478.$
.... $\beta' = -2.0000$	$u'_{\max} = 186.4$	$00' = 538.$



TRANSMITTANCE

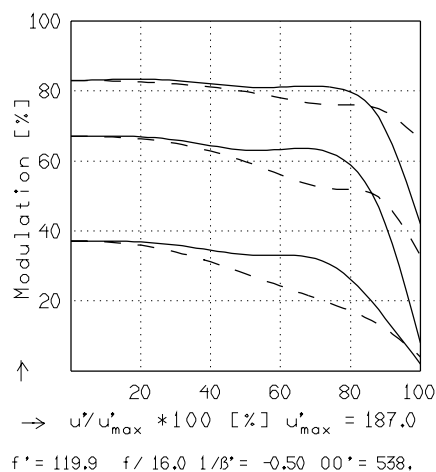
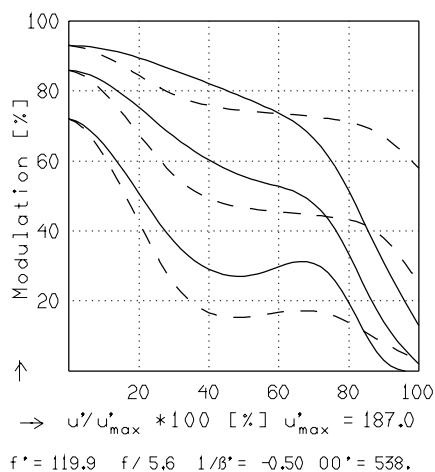
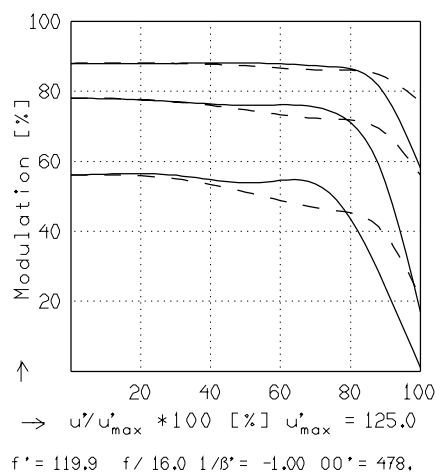
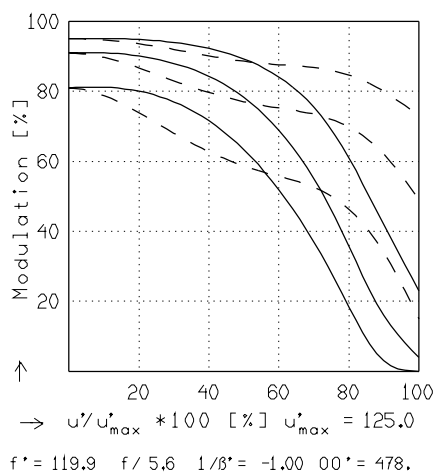
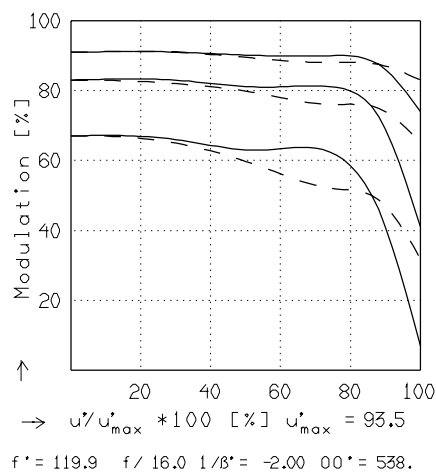
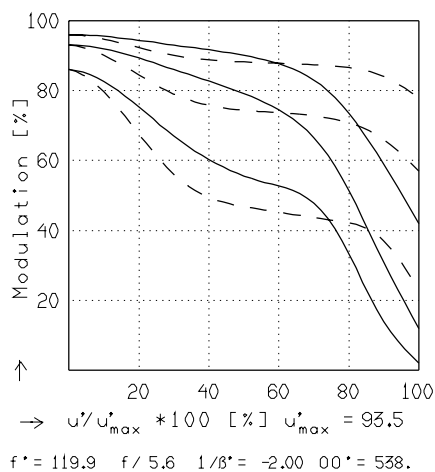
Relative spectral transmittance is shown with reference to wavelength.

MAKRO-SYMMAR 5.6/120

MODULATION with reference to the relative image height

Wavelength λ	[nm]	546	644	588	480	436	405
Spectral weighting	[%]	24.6	18.6	22.1	12.4	15.2	7.1
Spatial frequency R	[1/mm]	5	10	20			
Image- $\emptyset$ f / 5.6	[mm]	250.0					
Image- $\emptyset$ f / 16.0	[mm]	250.0					

radial —
tangential - -



Focusing : $MTF_{\max}$ at f / 5.6 , R = 20 1/mm. $u'/u'_{\max} = 0$