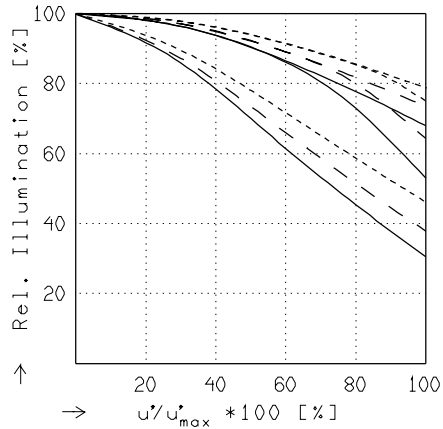
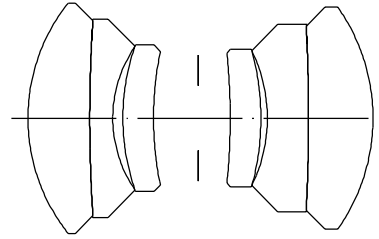


APO-COMPONON 4/45

$$\begin{aligned}
 f' &= 46.5 \text{ mm} & \beta_p &= 1.026 \\
 s_F &= -33.1 \text{ mm} & s_{EP} &= 12.3 \text{ mm} \\
 s_{F'} &= 35.7 \text{ mm} & s_{AP} &= -12.1 \text{ mm} \\
 HH' &= -1.8 \text{ mm} & \Sigma d &= 22.5 \text{ mm}
 \end{aligned}$$

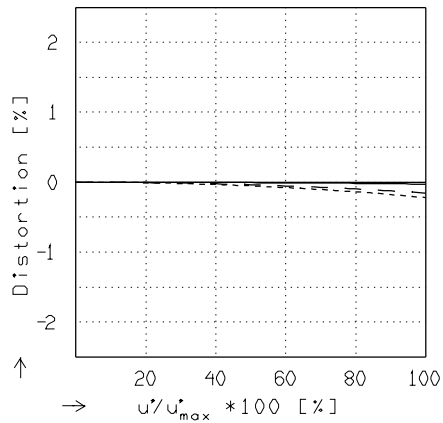


RELATIVE ILLUMINATION

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

$$\begin{array}{ccc}
 f / 4.0 & f / 5.6 & f / 8.0
 \end{array}$$

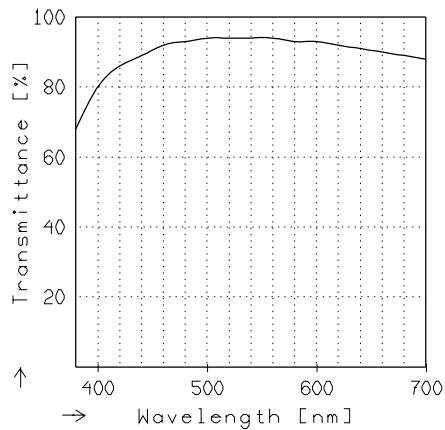
—	$\beta' = -0.0400$	$u'_{\max} = 21.6$	$00' = 1256.$
- -	$\beta' = -0.1667$	$u'_{\max} = 21.6$	$00' = 378.$
- · -	$\beta' = -0.3333$	$u'_{\max} = 21.6$	$00' = 246.$



DISTORTION

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

—	$\beta' = -0.0400$	$u'_{\max} = 21.6$	$00' = 1256.$
- -	$\beta' = -0.1667$	$u'_{\max} = 21.6$	$00' = 378.$
- · -	$\beta' = -0.3333$	$u'_{\max} = 21.6$	$00' = 246.$



TRANSMITTANCE

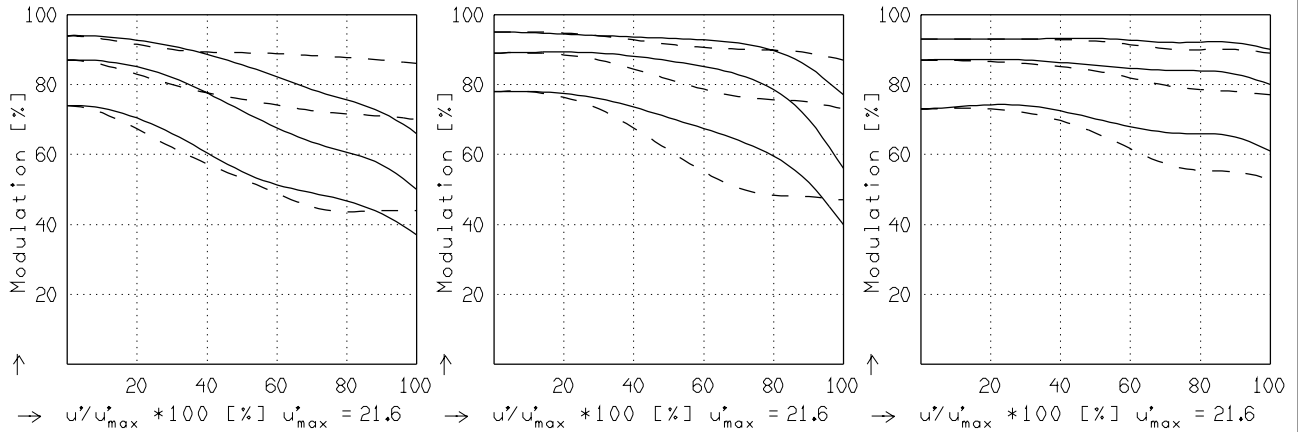
Relative spectral transmittance is shown with reference to wavelength.

APO-COMPONON 4/45

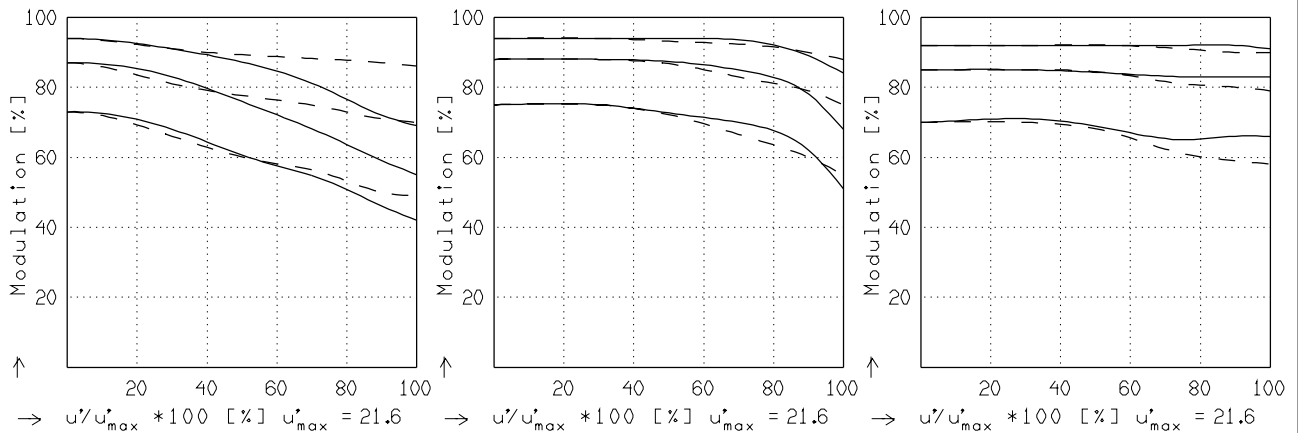
MODULATION with reference to the relative image height

Wavelength λ	[nm]	546	706	644	480	436	405
Spectral weighting	[%]	27.4	12.4	24.1	18.3	12.6	5.2
Spatial frequency R	[1/mm]	10	20	40			
Format	[mm X mm]	24.0	X	36.0			
Diagonal $2u'$	[mm]	43.2					

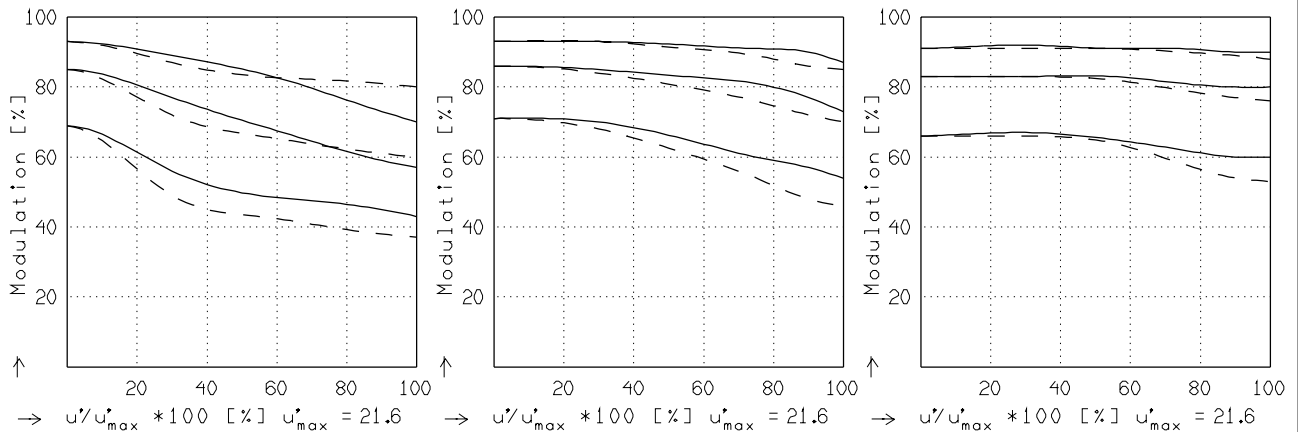
radial —
tangential - -



$f' = 46.5$ $f / 4.0$ $1/\beta' = -25.00$ $00' = 1256.$ $f' = 46.5$ $f / 5.6$ $1/\beta' = -25.00$ $00' = 1256.$ $f' = 46.5$ $f / 8.0$ $1/\beta' = -25.00$ $00' = 1256.$



$f' = 46.5$ $f / 4.0$ $1/\beta' = -6.00$ $00' = 378.$ $f' = 46.5$ $f / 5.6$ $1/\beta' = -6.00$ $00' = 378.$ $f' = 46.5$ $f / 8.0$ $1/\beta' = -6.00$ $00' = 378.$



$f' = 46.5$ $f / 4.0$ $1/\beta' = -3.00$ $00' = 246.$ $f' = 46.5$ $f / 5.6$ $1/\beta' = -3.00$ $00' = 246.$ $f' = 46.5$ $f / 8.0$ $1/\beta' = -3.00$ $00' = 246.$

Focusing : MTF_{max} at $f / 4.0$, $R = 20$ 1/mm, $u'/u'_{max} = 0$