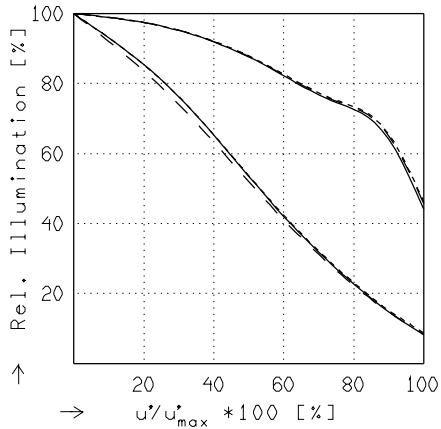
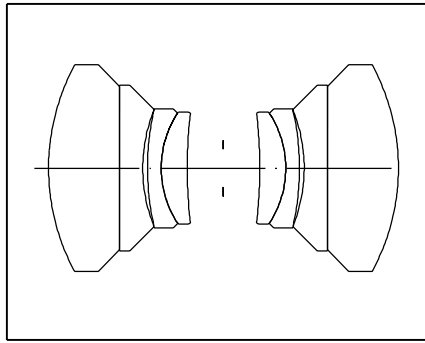


MAKRO-SYMMAR 5.6/180

$f' = 179.9 \text{ mm}$ $\beta_p = 1.000$
 $s_F = -140.3 \text{ mm}$ $s_{EP} = 39.7 \text{ mm}$
 $s_{F'} = 140.3 \text{ mm}$ $s_{AP} = -39.6 \text{ mm}$
 $HH' = -2.7 \text{ mm}$ $\Sigma d = 76.6 \text{ mm}$

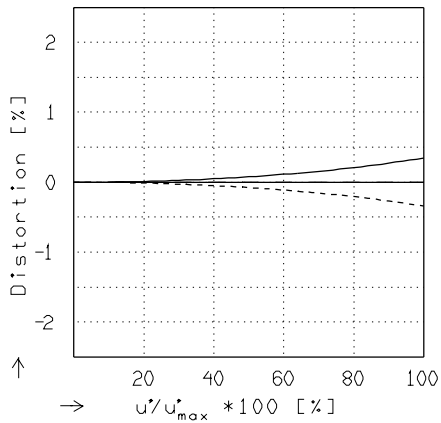


RELATIVE ILLUMINATION

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

$f / 5.6$ $f / 16.0$

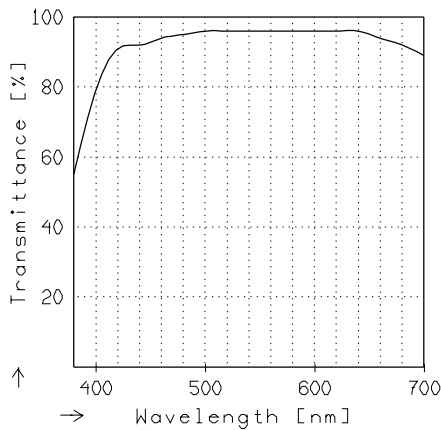
— $\beta' = -0.5000$ $u'_{max} = 141.5$ $00' = 807.$
 - - $\beta' = -1.0000$ $u'_{max} = 187.5$ $00' = 717.$
 - · - $\beta' = -2.0000$ $u'_{max} = 280.5$ $00' = 807.$



DISTORTION

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

— $\beta' = -0.5000$ $u'_{max} = 141.5$ $00' = 807.$
 - - $\beta' = -1.0000$ $u'_{max} = 187.5$ $00' = 717.$
 - · - $\beta' = -2.0000$ $u'_{max} = 280.5$ $00' = 807.$



TRANSMITTANCE

Relative spectral transmittance is shown with reference to wavelength.

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