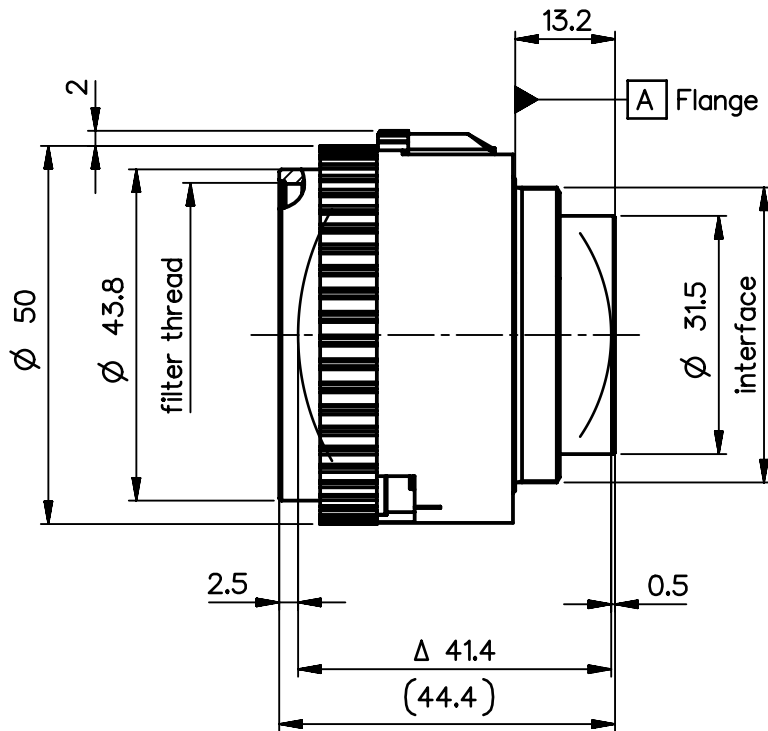
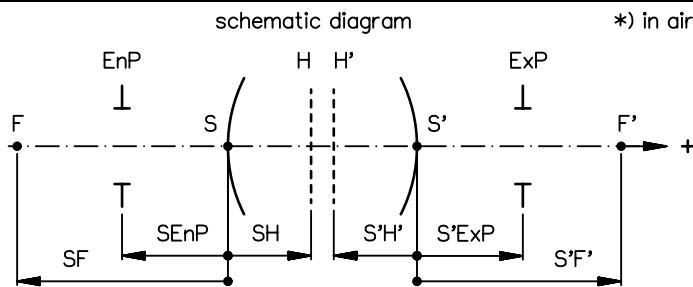


order number	lens name
0703-094-000-20	Apo-Rodagon-N 4/90



Specification		ON	7512-9122
image circle max. (mm)	90	working distance (mm)	241 - 1426
focal length f' (mm) *	90.1	interface	M39 x1/26" (Leica)
magnification β' [range]	-0.1 [-0.5 ... -0.066]	filter thread	M40.5 x0.5
spectral range λ (nm)	400 - 750	weight (g)	120

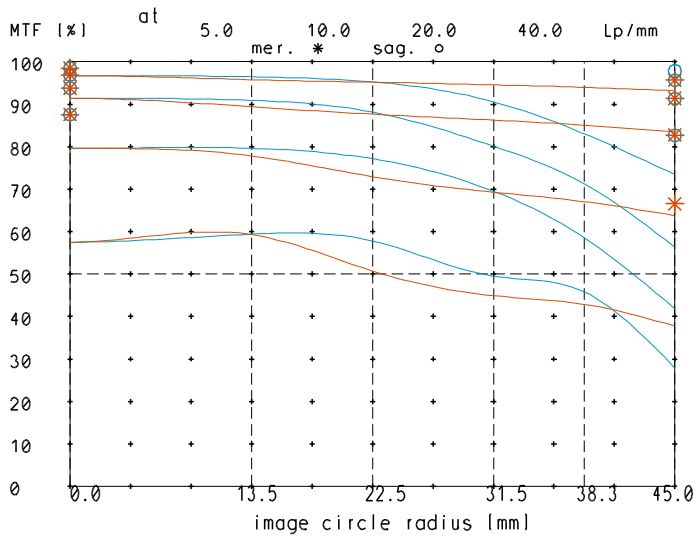


design includes CCD cover glass:		no	
SF (mm)	-63.4	f-stop	4
S'F' (mm) *	72.2	\varnothing EnP	22.0
HH' (mm) *	-3.2	\varnothing Exp	22.2
SH (mm)	26.65		
S'H' (mm) *	-17.9		
SEnP (mm)	25.8		
S'Exp (mm) *	-18.8		

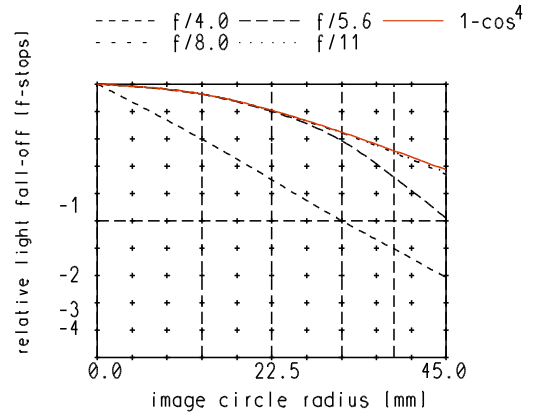
NX	EU-D	AL-T1A	US-D	US-ML	not export controlled	
				PDM Status Freigabe	-	
	REV	ECC	DATE	APPROVED	GENERAL TOLERANCE OF DIMENSION, FORM, POS.	
	a	Neuausg			ISO 2768-mH	
PROTECTIVE NOTE "DIN ISO 16016" TO BE OBSERVED	b	11-262	20.05.11	Kuehne	SCALE 1:1 MATERIAL	
	c	14-0184	19.08.14	Schiffel		
						BASIC TOLERANCING PRINCIPLE ISO 8015
						TITLE Apo-Rodagon-N 4/90
DIN A 4				FIRST DATE NAME	DRAWING NO. 0703-094-100-00-0001c	
				ISSUE 23.02.09 Kuehne		
				CHKD 23.02.09 Schaeffler		
	ALL DIMENSIONS ARE IN MM AND INCLUDE SURFACE TREATMENT				REPLACES 0703-055-100-00	
					SHEET 1 OF 1	

Apo-Rodagon-N₄/90

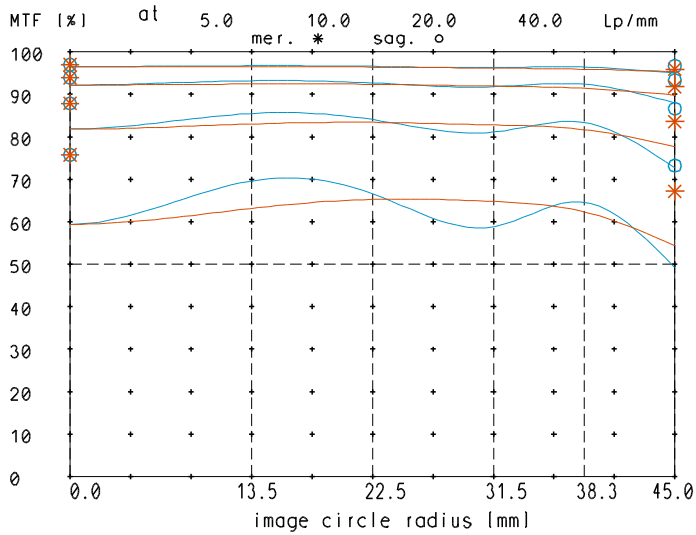
MTF at ratio -0.1 f/ 4.0



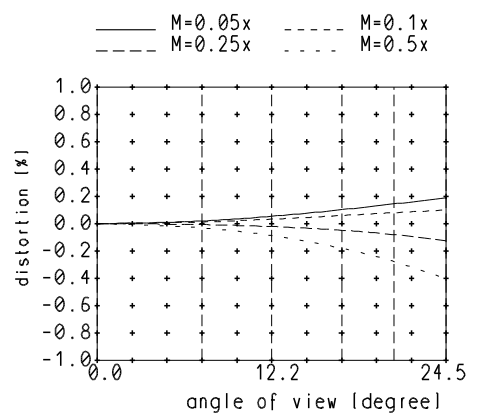
relative light fall-off at ratio -0.1



MTF at ratio -0.1 f/ 8.0

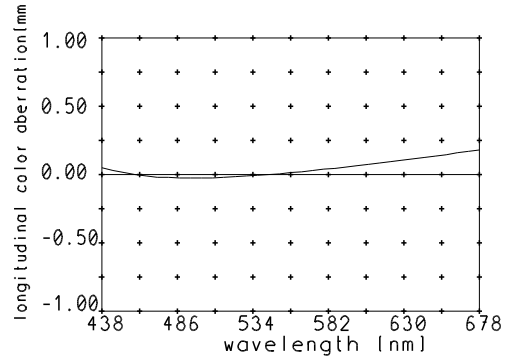


Distortion at ratio 0.05x to 0.5x



— sagittal. o Diffraction limited value
— meridional * Diffraction limited value

Longitudinal color aberration at ratio -0.1



Named frequencies (line pairs/mm) in modular transfer function (MTF) as well as diagrams of relative light fall-off, distortion and longitudinal color aberration refer to film plane.