

CAMERA CALIBRATION CERTIFICATE

CAMERA TYPE : RC 30
LENS TYPE : 30/4 NAT-S
LENS NO. : 17124

Calibration date: 10.11.1997

SwissOptic AG, Heerbrugg

 **swissoptic**

SwissOptic AG
Heinrich-Wild-Strasse
CH-9435 Heerbrugg

Schweiz

 488

Aperture: 4.0
 Filter on goniometer: VIS (400 - 700 NM)
 Filter on camera: --
 Principal distance for focussing distance 850 m : 303.148 mm

Radial distortion (micrometers) referred to principal point of symmetry (PPS)
 (Positive values denote image displacement away from center)

Radius mm	Half - Sides				Mean
	1	3	2	4	
10	-0.1	-0.7	-0.5	-0.5	-0.4
20	-0.9	-0.9	-1.2	-0.6	-0.9
30	-1.0	-1.0	-0.9	-1.2	-1.0
40	-1.0	0.0	-1.5	-0.3	-0.7
50	-0.7	-0.2	-0.7	-0.1	-0.4
60	-1.8	-0.4	-0.1	-0.1	-0.6
70	-0.7	-0.5	0.0	-0.2	-0.3
80	-0.9	0.5	0.5	0.3	0.1
90	-0.2	0.2	0.3	0.2	0.1
100	-1.4	-0.3	0.1	-0.9	-0.6
110	-2.2	-1.0	-0.6	-1.1	-1.2
120	-2.2	-1.8	-1.9	-1.4	-1.8
130	-0.7	-0.9	-0.4	0.2	-0.4
140	0.6	-0.1	1.1	1.4	0.7
148	4.5	2.7	4.7	4.4	4.0

Photographic resolution (line pairs per millimeter)

International 3-line test-chart, contrast (log) : 2.0

Aperture: 4.0
 Filter: 450 NM
 Film: KODAK PANATOMIC X 2412
 Developer: KODAK HC110

Angle (deg)	0	5	10	15	20	25
Radial:	118	117	116	114	111	96
Tangential:	118	117	114	110	104	87

AWAR (Area weighted average resolution) in lp/mm: 109

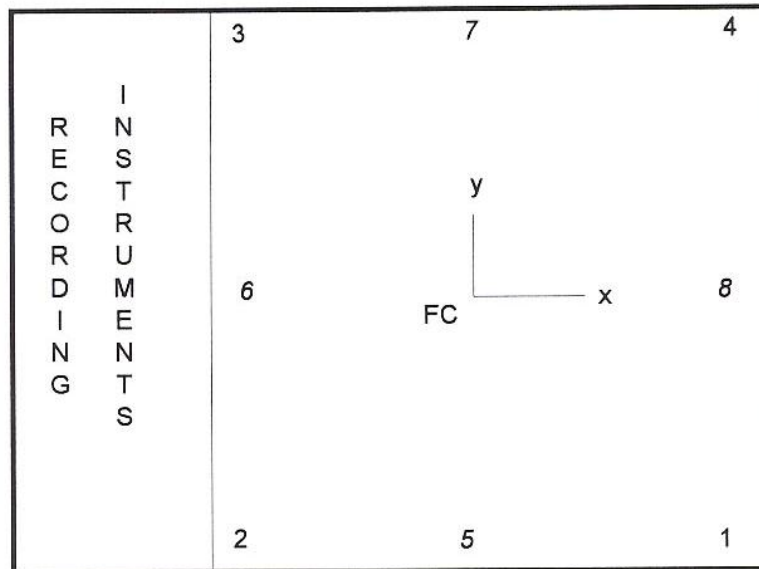


Principal point of autocollimation (PPA) and principal point of symmetry (PPS)
referred to central cross (FC), see diagram

	x (mm)	y (mm)
PPA	0.018	0.005
PPS	-0.012	0.007

Fiducial marks, referred to central cross (FC)

	x (mm)	y (mm)		x (mm)	y (mm)
1	106.004	-106.003	5	0.000	-112.003
2	-106.000	-105.999	6	-112.001	0.004
3	-106.004	106.003	7	-0.002	112.004
4	106.000	106.000	8	111.997	0.002

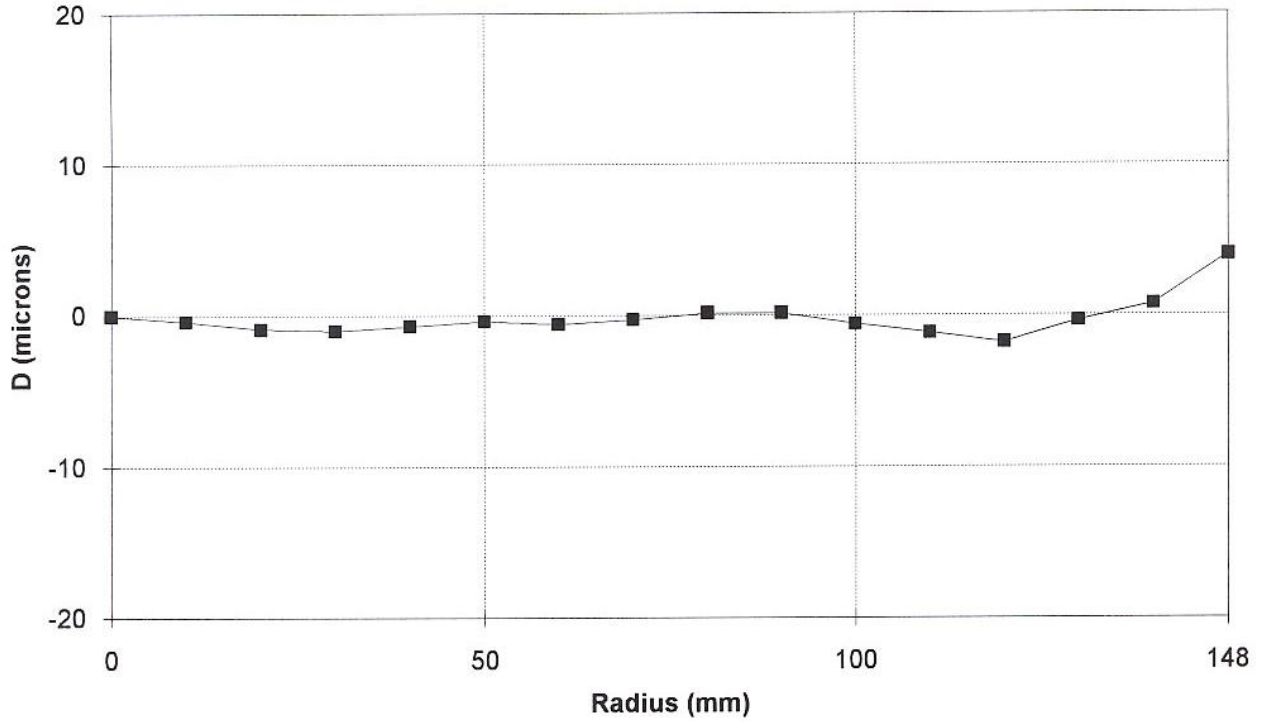


as seen on focal plane frame

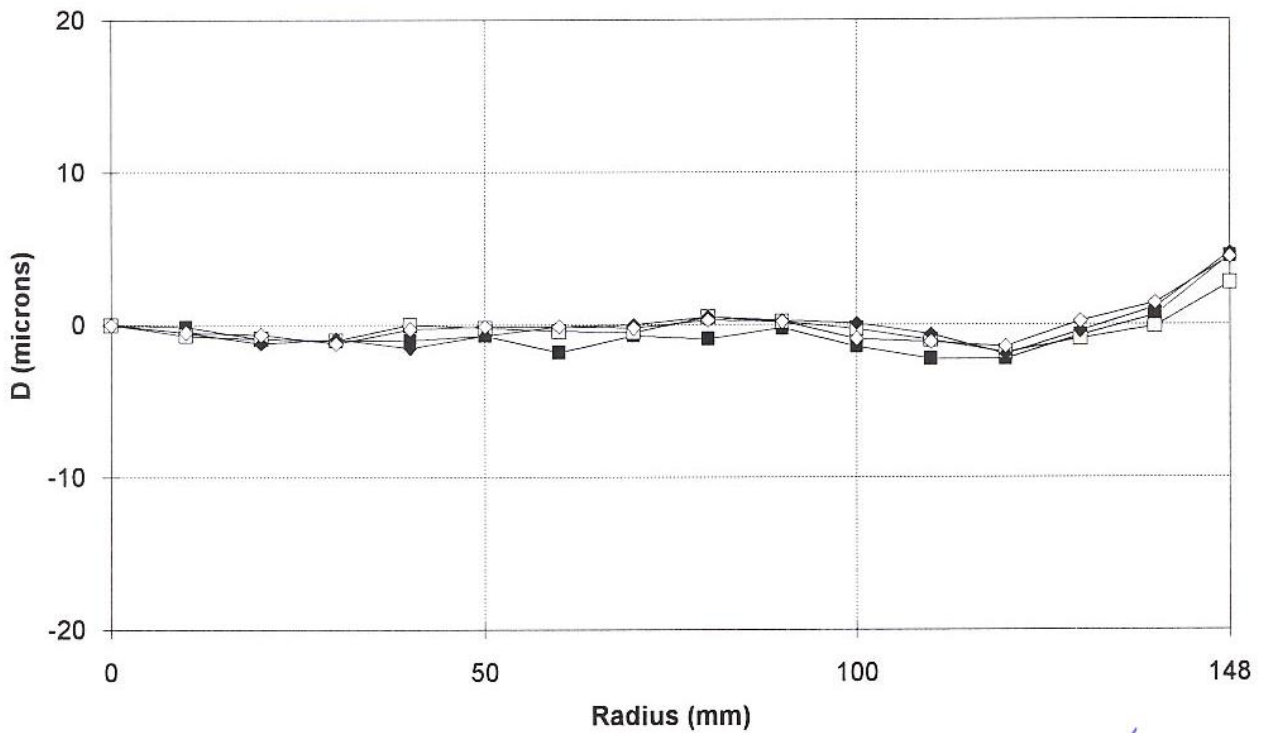
16188

Aperture: 4.0
Filter on goniometer: VIS (400 - 700 NM)
Filter on camera: --
Principal distance for focussing distance 850 m : 303.148 mm

Mean radial distortion



Radial distortion for semi-diagonals referred to PPS



—■— 1 —□— 3 —◆— 2 —◇— 4

