

CAMERA CALIBRATION CERTIFICATE

CAMERA TYPE : RC30
LENS TYPE : 15/4 UAG-S
LENS NO. : 13240

Calibration date: 03.02.2000

SwissOptic AG, Heerbrugg

 **swissoptic**
SwissOptic AG
Heinrich-Wild-Strasse
CH-9435 Heerbrugg
Schweiz

 10187

Aperture: 4.0
 Filter on goniometer: VIS (400 - 700 NM)
 Filter on camera: --
 C.F.L. : 152.633 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	-0.2	-1.0	-0.4	-0.7	-0.5
20	-0.4	-1.4	-0.5	-1.0	-0.8
30	-0.8	-2.1	-0.6	-2.2	-1.4
40	-0.9	-2.4	-1.0	-2.8	-1.7
50	-1.2	-3.2	-1.1	-3.1	-2.1
60	-1.8	-3.3	-0.7	-3.2	-2.2
70	-1.0	-3.1	-0.5	-2.4	-1.7
80	-1.1	-2.0	-0.3	-1.3	-1.1
90	0.0	-1.4	0.2	-0.5	-0.4
100	0.0	-0.6	1.3	1.2	0.4
110	0.0	0.3	2.3	2.8	1.3
120	0.4	0.7	2.1	3.4	1.6
130	-0.3	0.8	2.9	3.4	1.7
140	-0.7	0.1	2.1	2.2	0.9
148	-1.5	-0.6	1.5	2.1	0.3

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

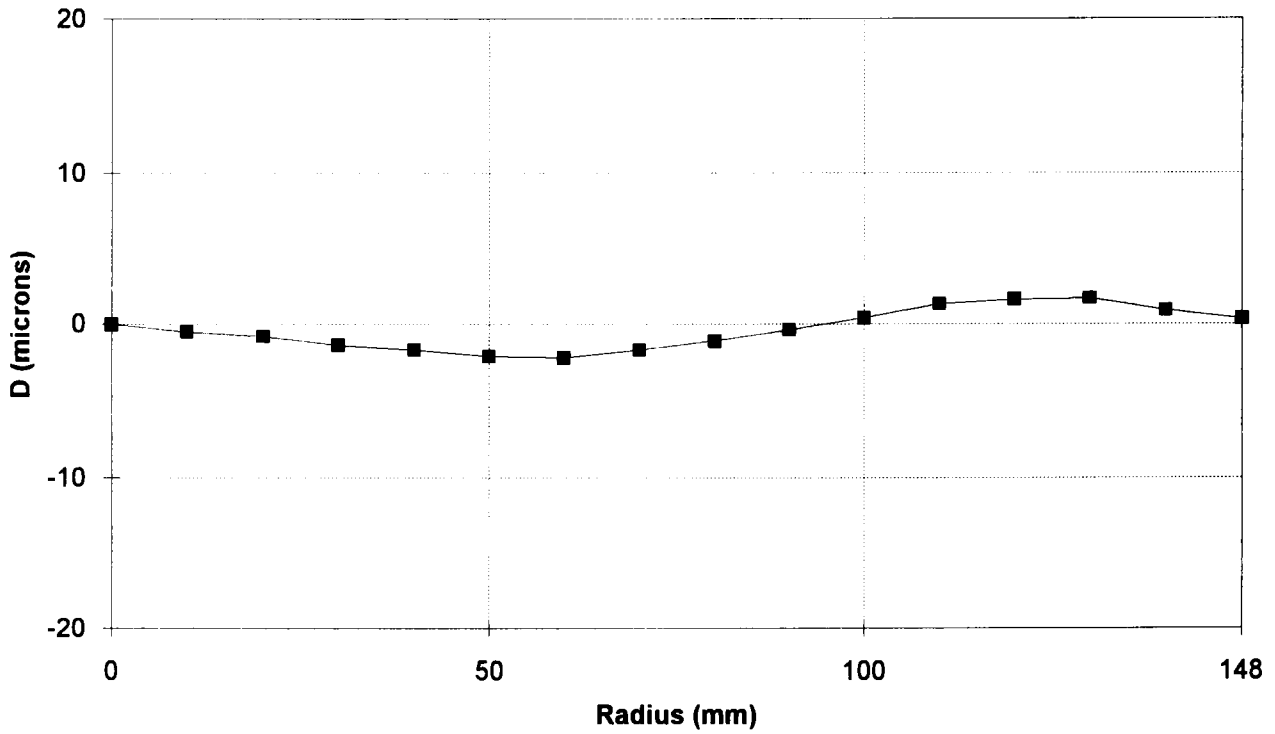
Angle (deg)	0	5	10	15	20	25	30	35	40	45
Radial:	117	104	115	113	123	119	128	96	90	83
Tangential:	117	116	101	97	92	96	99	70	61	59

AWAR (Area weighted average resolution) in lp/mm: 96

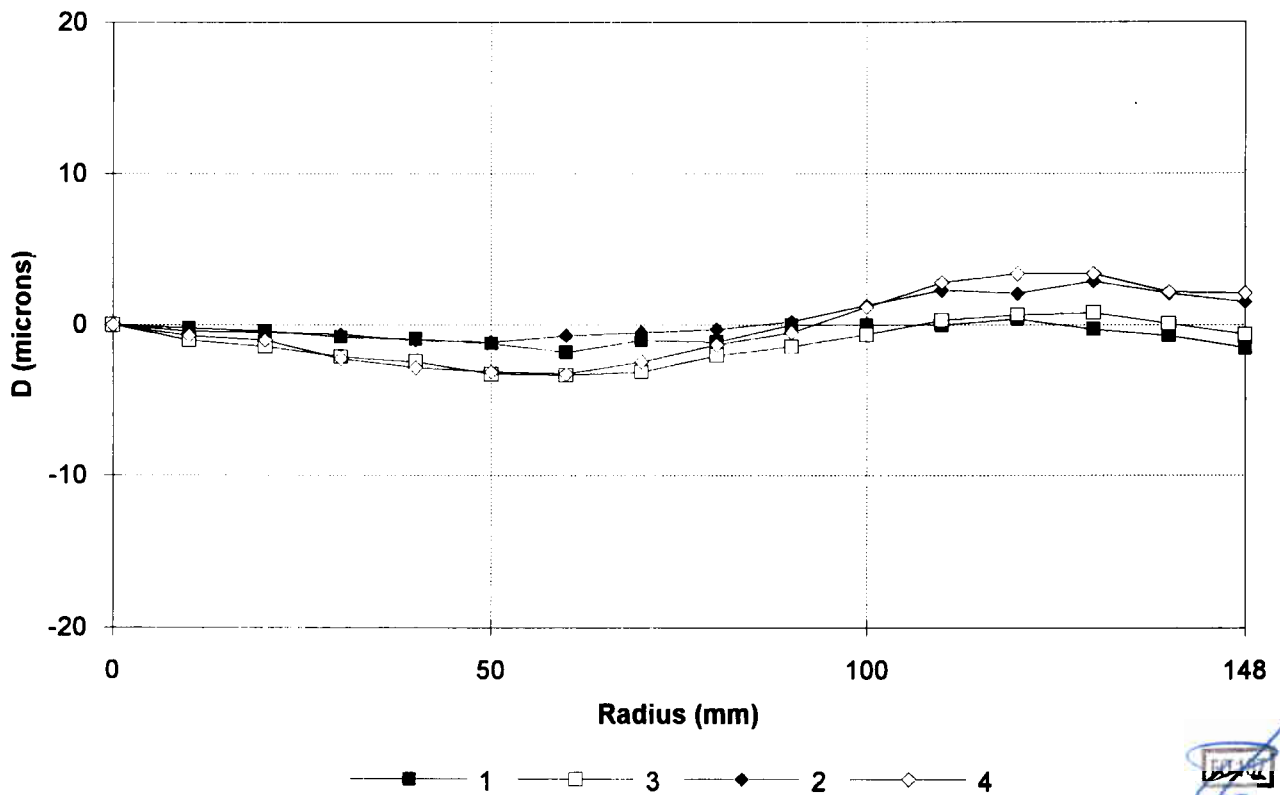


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Mean radial distortion



Radial distortion for semi-diagonals referred to PPS

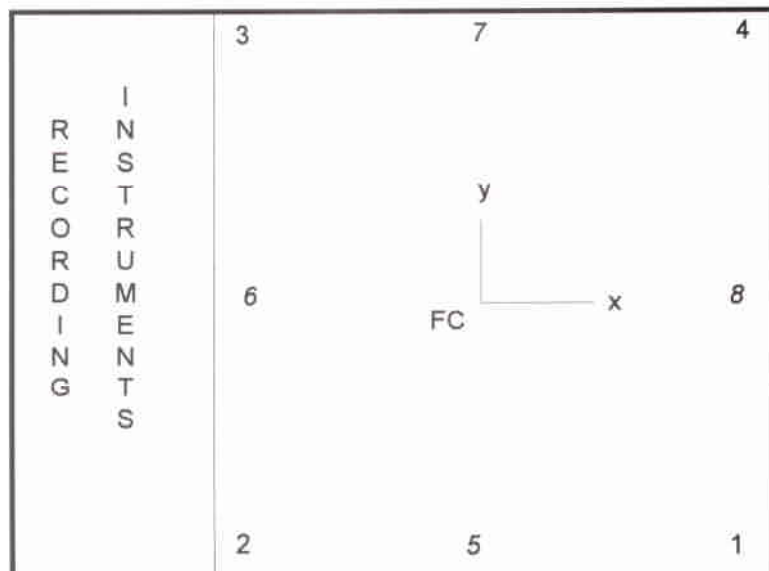


**Principal point of autocollimation (PPA) and
principal point of symmetry (PPS)**
referred to central cross (FC), see diagram

	x (mm)	y (mm)
PPA	-0.003	0.006
PPS	-0.002	-0.009

Fiducial marks, referred to central cross (FC)

	x (mm)	y (mm)		x (mm)	y (mm)
1	106.003	-106.000	5	-0.004	-112.003
2	-106.003	-106.003	6	112.008	0.002
3	-106.003	106.000	7	0.002	111.996
4	106.002	106.002	8	111.999	0.002



as seen on focal plane frame

