CAMERA CALIBRATION CERTIFICATE

CAMERA TYPE :	RC30
LENS TYPE :	15/4 UAG-S
LENS NO. :	13242

Calibration date: 06.03.2003

LEICA AG, HEERBRUGG

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

FO 068

RC30 15/4 UAG-S No. 13242 06.03.2003

Aperture: 4.0
Filter on goniometer: 450 NM
Filter on camera: --
C.F.L. : 152.82 mm

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

Radius	Half - Sides				Mean
mm	1	3	2	4	
10	-0.3	-1.2	-0.5	-0.9	-0.7
20	-1.0	-1.9	-0.8	-1.6	-1.3
30	-1.1	-2.4	-0.6	-2.4	-1.6
40	-1.3	-2.2	-0.6	-2.3	-1.6
50	-0.8	-2.2	-0.2	-2.0	-1.3
60	-1.0	-1.6	0.5	-1.7	-0.9
70	-0.2	-1.0	0.4	-1.0	-0.4
80	-0.5	-0.2	0.6	-0.4	-0.1
90	0.3	0.2	0.3	-0.1	0.1
100	0.3	0.6	1.1	0.7	0.6
110	0.7	0.9	1.6	1.3	1.1
120	1.1	0.8	1.2	1.0	1.0
130	0.7	0.6	1.3	1.1	0.9
140	-0.1	0.3	-0.1	0.7	0.2
148	-0.8	-0.5	-1.3	0.8	-0.4

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	117	103	90	98	119	128	86	80	66
Tangential:	117	130	101	87	92	108	111	99	87	52

AWAR (Area weighted average resolution) in lp/mm: 100

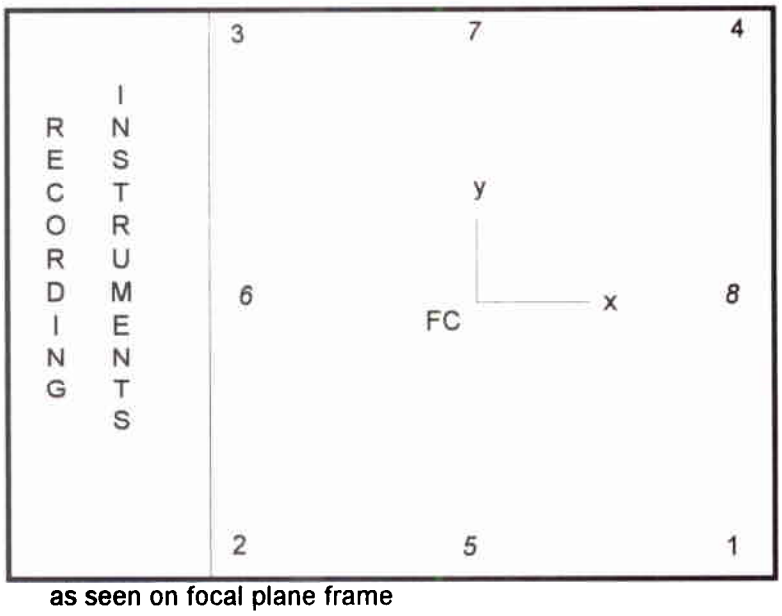
FC 053

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

	x (mm)	y (mm)
PPA	-0.004	-0.009
PPS	-0.002	0.002

Fiducial marks, referred to central cross (FC)

	x (mm)	y (mm)		x (mm)	y (mm)
1	106.001	-106.000	**5**	-0.003	-111.998
2	-106.006	-106.006	**6**	-112.006	-0.001
3	-106.003	106.002	**7**	0.001	111.998
4	106.003	106.003	**8**	112.005	0.002



as seen on focal plane frame

FD068

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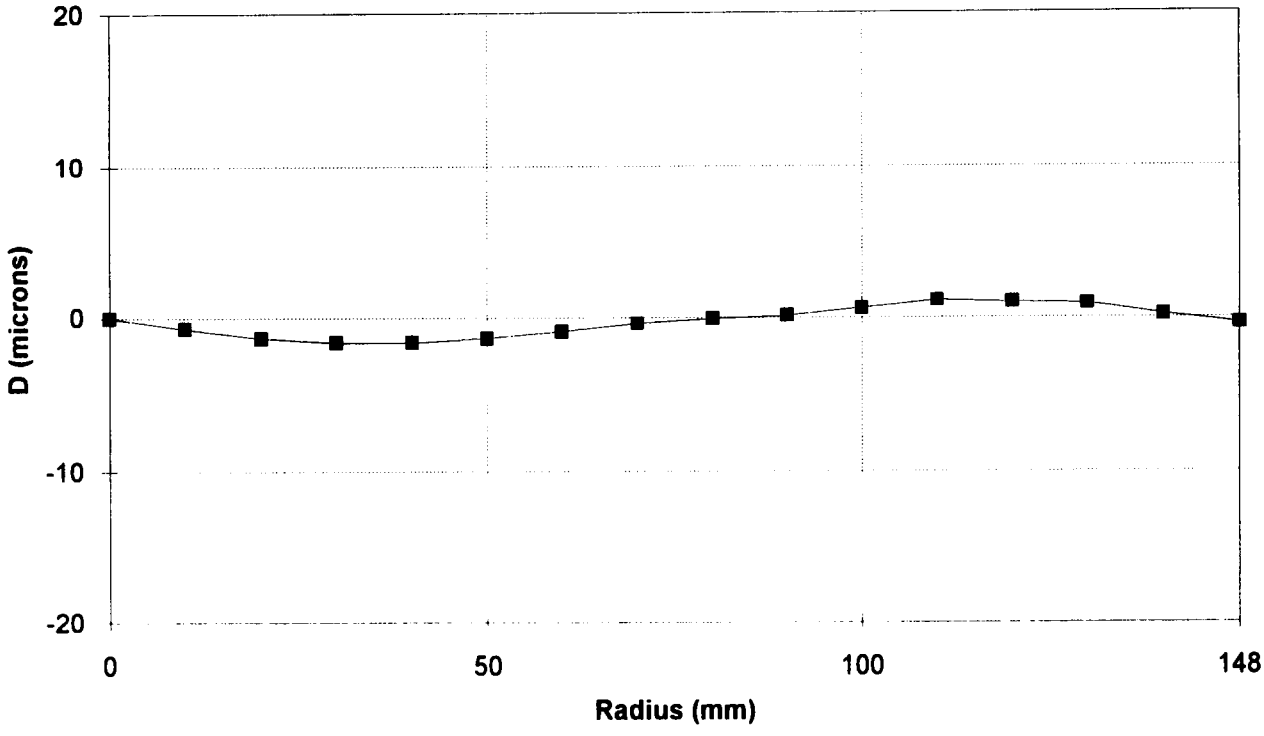
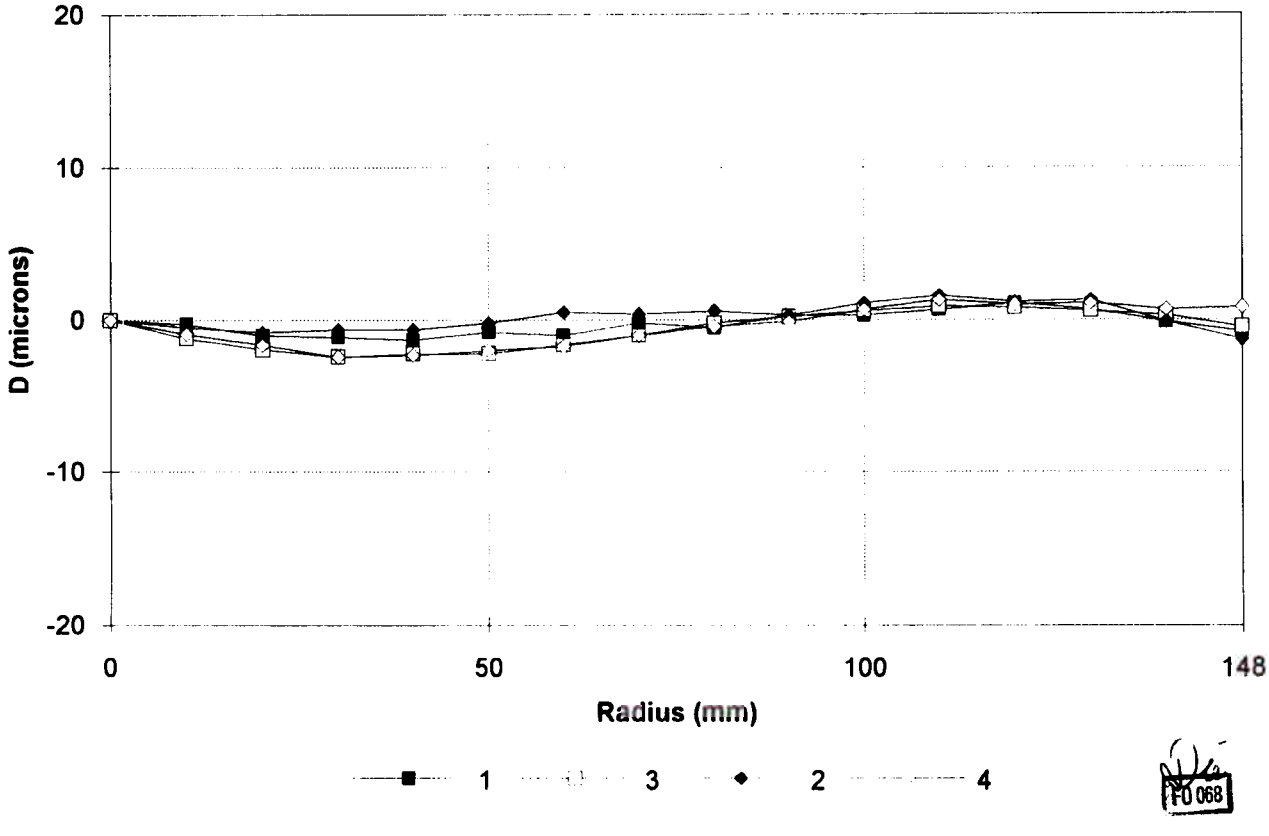
Mean radial distortion



Radial distortion for semi-diagonals referred to PPS



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