

CAMERA CALIBRATION CERTIFICATE

CAMERA TYPE : RC30
LENS TYPE : 15/4 UAG-S
LENS NO. : 13258

Calibration date: 25.03.1996

LEICA AG, HEERBRUGG

Leica

*Leica Heerbrugg Ltd
CH-9435 Heerbrugg*

*Calibration Department
Supervisor*



Aperture: 4.0
 Filter on goniometer: VIS (400 - 700 NM)
 Filter on camera: --
 C.F.L. : 153.15 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	-0.6	-0.2	-0.3	-0.3
20	-0.5	-1.3	-0.4	-1.0	-0.8
30	-1.3	-2.0	-0.7	-2.1	-1.5
40	-1.5	-2.3	-1.1	-2.4	-1.8
50	-1.7	-2.8	-1.2	-2.5	-2.0
60	-2.3	-2.6	-0.9	-2.6	-2.1
70	-1.7	-2.3	-1.1	-2.1	-1.8
80	-1.6	-1.0	-0.4	-0.6	-0.9
90	-0.3	-0.2	0.0	0.4	0.0
100	-0.2	0.4	1.4	1.2	0.7
110	0.3	0.3	2.4	2.3	1.3
120	0.6	0.5	2.0	2.4	1.3
130	0.2	0.4	2.7	3.2	1.6
140	-0.1	0.2	3.0	2.7	1.4
148	-1.6	-1.9	0.7	1.6	-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	117	103	101	98	106	128	108	71	83
Tangential:	117	116	101	87	103	96	111	99	77	41

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

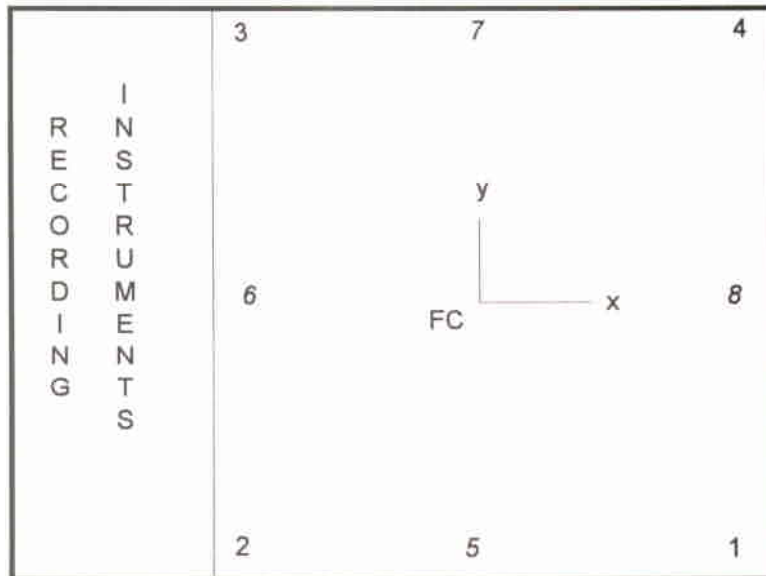


**Principal point of autocollimation (PPA) and
principal point of symmetry (PPS)**
referred to central cross (FC), see diagram

	x (mm)	y (mm)
PPA	0.006	-0.009
PPS	0.001	-0.008

Fiducial marks, referred to central cross (FC)

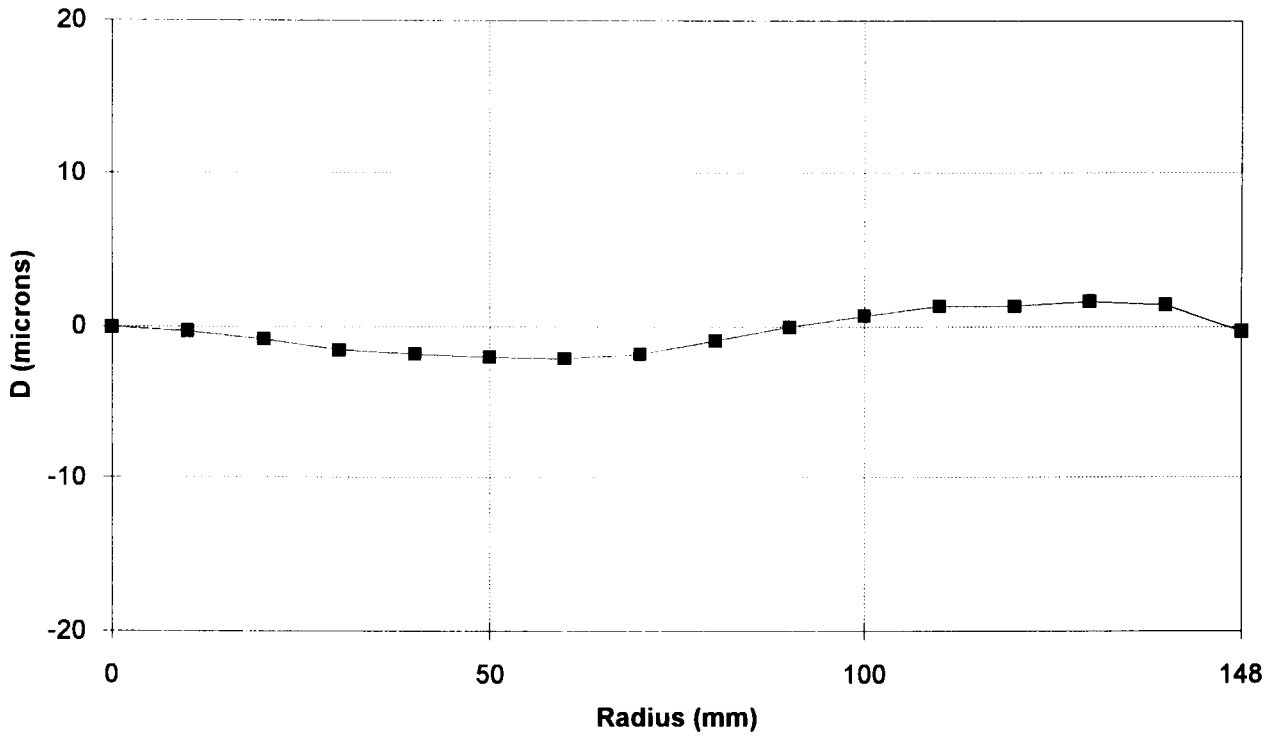
	x (mm)	y (mm)		x (mm)	y (mm)
1	105.997	-105.997	5	-0.002	-112.001
2	-106.001	-106.001	6	-111.998	0.003
3	-106.001	106.000	7	-0.001	112.000
4	105.999	106.000	8	111.996	0.002



as seen on focal plane frame

Aperture: 4.0
Filter on goniometer: VIS (400 - 700 NM)
Filter on camera: --
C.F.L. : 153.15 mm

Mean radial distortion



Radial distortion for semi-diagonals referred to PPS

