

CAMERA CALIBRATION CERTIFICATE

CAMERA TYPE : RC20
LENS TYPE : 30/4 NATA-F
LENS NO. : 17040

Calibration date: 09.11.1994

LEICA AG, HEERBRUGG

The Leica logo is written in a stylized, cursive script.

Leica Heerbrugg Ltd
CH-9435 Heerbrugg

Calibration Department
Supervisor



Aperture: 4.0
 Filter on goniometer: VIS (400 - 700 NM)
 Filter on camera: --
 Principal distance for focussing distance 850 m : 303.88 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	0.4	0.0	0.1	0.3	0.2
20	0.3	-0.1	0.3	0.2	0.1
30	0.3	-0.1	0.7	-0.3	0.1
40	0.1	-0.3	0.2	-0.4	-0.1
50	-0.3	-0.7	-0.1	-0.5	-0.4
60	-1.3	-0.9	-0.3	-1.4	-0.9
70	-1.2	-1.3	-1.0	-1.3	-1.2
80	-1.8	-0.7	-1.1	-1.0	-1.1
90	-1.1	-0.7	-1.3	-1.0	-1.0
100	-1.4	-0.3	-1.0	-0.4	-0.7
110	-0.3	0.4	0.3	0.8	0.3
120	0.8	1.2	0.2	1.4	0.9
130	1.6	1.3	1.1	1.5	1.3
140	1.4	1.3	1.1	1.0	1.2
148	1.0	-0.6	0.1	-1.3	-0.2

Photographic resolution (line pairs per millimeter)

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

Aperture: 4.0
 Filter: 450 NM
 Film: KODAK TECHNICAL PAN 2415
 Developer: KODAK HC110

Angle (deg)	0	5	10	15	20	25
Radial:	67	67	74	51	56	48
Tangential:	67	66	58	44	42	55

AWAR (Area weighted average resolution) in lp/mm: 53

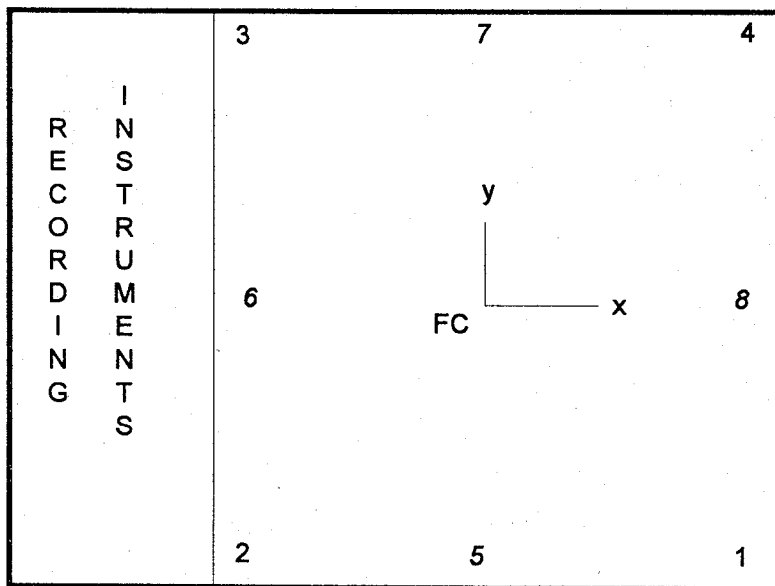


**Principal point of autocollimation (PPA) and
principal point of symmetry (PPS)**
referred to central cross (FC), see diagram

	x (mm)	y (mm)
PPA	-0.002	0.007
PPS	-0.008	-0.004

Fiducial marks, referred to central cross (FC)

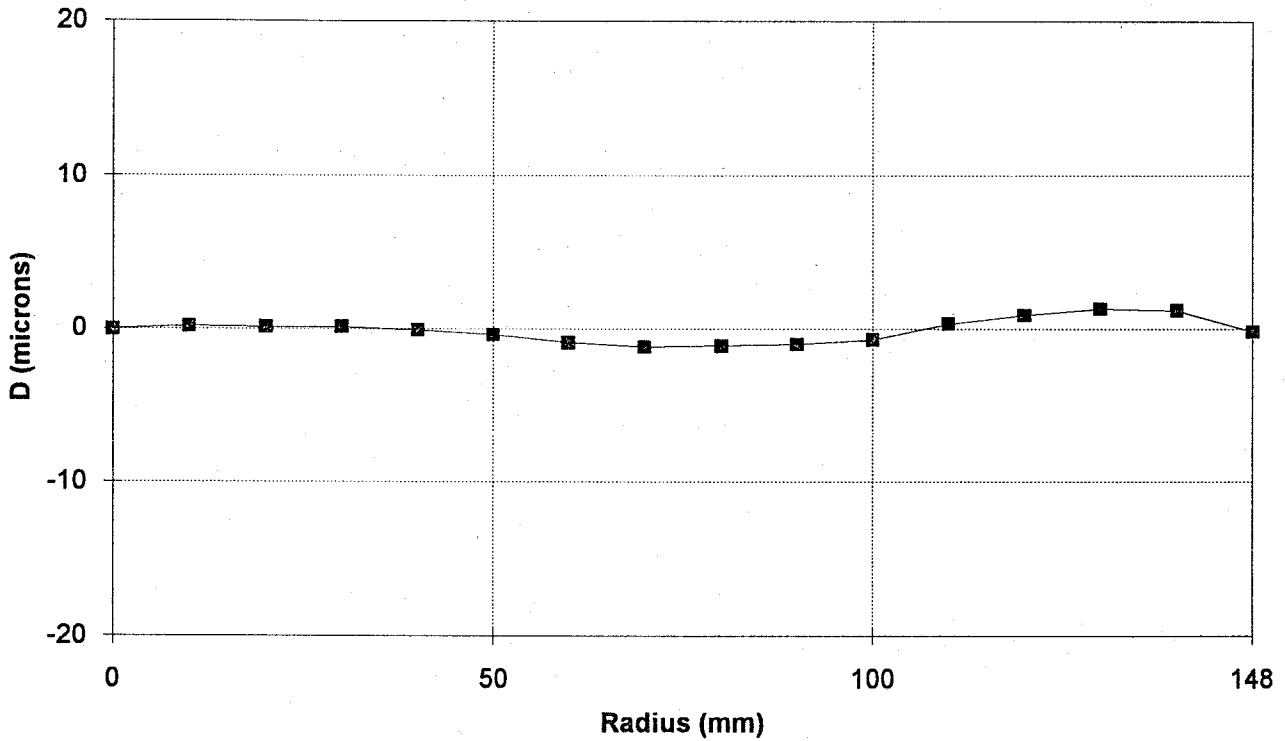
	x (mm)	y (mm)		x (mm)	y (mm)
1	105.998	-106.000	5	-0.001	-110.005
2	-106.003	-106.004	6	-110.006	-0.003
3	-105.999	106.000	7	0.001	109.995
4	106.003	106.003	8	109.998	0.000



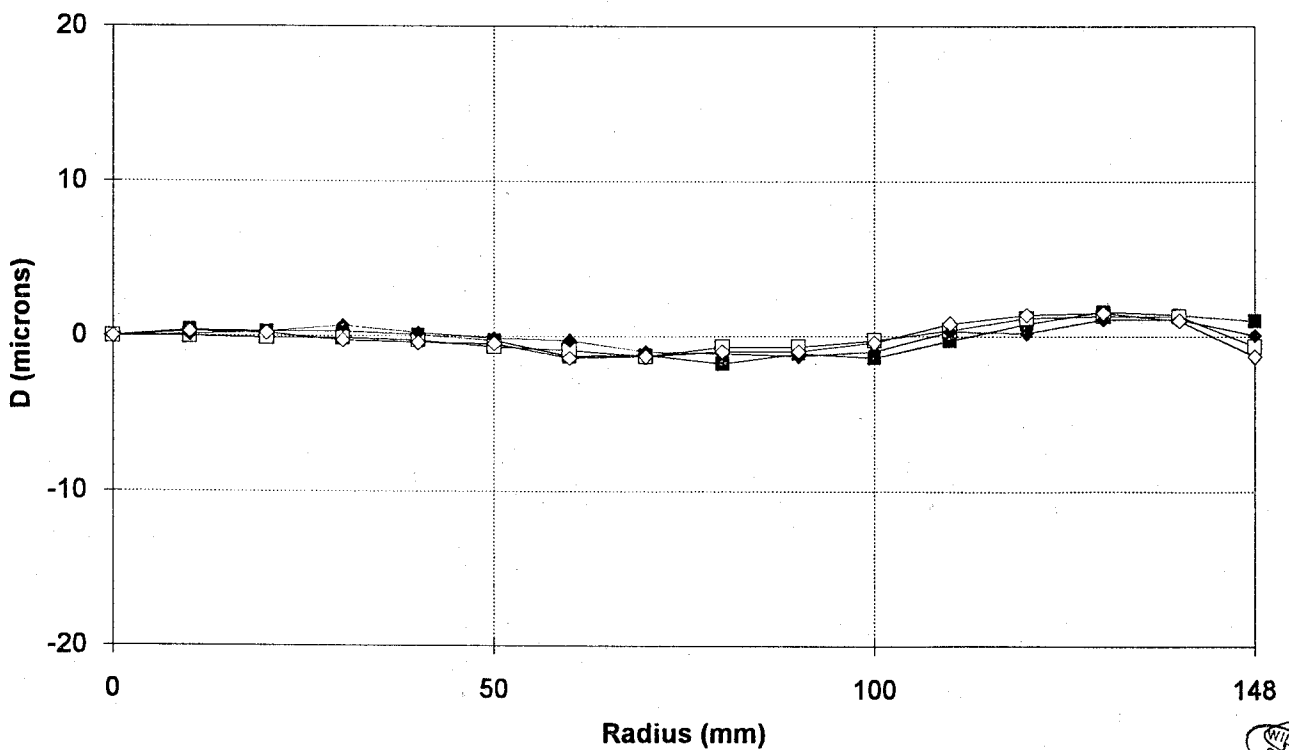
as seen on focal plane frame

Aperture: 4.0
Filter on goniometer: VIS (400 - 700 NM)
Filter on camera: --
Principal distance for focussing distance 850 m : 303.88 mm

Mean radial distortion



Radial distortion for semi-diagonals referred to PPS



—■— 1 —□— 3 —◆— 2 —◇— 4

