

CAMERA CALIBRATION CERTIFICATE

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

Calibration date: 29.03.1994

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. : 152.82 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	0.0	-0.7	-0.2	-0.2	-0.2
20	-0.3	-1.0	-0.2	-0.7	-0.5
30	-0.8	-1.6	0.0	-1.6	-1.0
40	-1.1	-2.0	-0.4	-2.0	-1.3
50	-1.1	-2.7	-0.3	-2.4	-1.6
60	-1.7	-2.6	0.2	-2.6	-1.6
70	-1.1	-2.3	0.2	-2.0	-1.3
80	-1.2	-1.0	0.7	-1.0	-0.6
90	-0.1	-0.3	0.7	-0.1	0.0
100	0.2	0.5	2.0	1.2	0.9
110	0.6	1.2	2.9	2.3	1.7
120	0.7	1.1	2.6	2.6	1.7
130	0.6	0.9	2.8	2.8	1.7
140	-0.8	-0.4	1.0	1.8	0.4
148	-3.2	-3.4	-2.2	0.9	-1.9

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	90	87	119	128	96	80	83
Tangential:	117	116	114	87	92	96	111	99	87	47

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

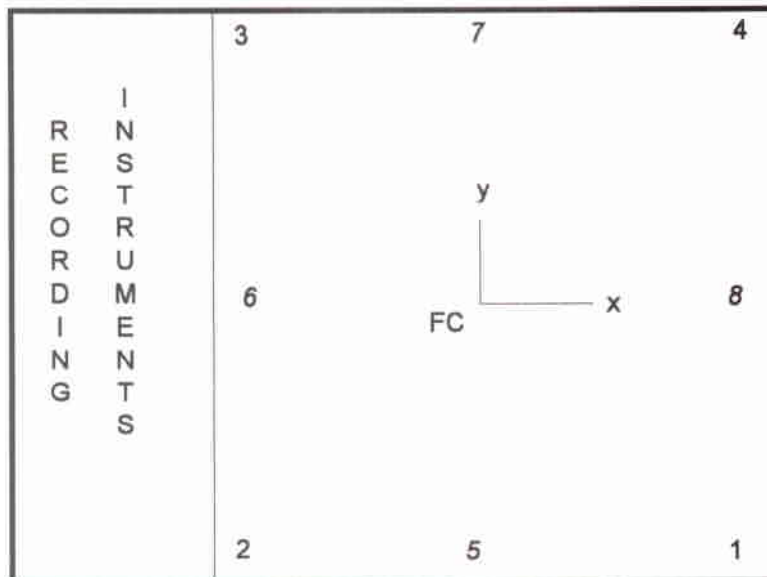


**Principal point of autocollimation (PPA) and
principal point of symmetry (PPS)**
referred to central cross (FC), see diagram

	x (mm)	y (mm)
PPA	-0.002	-0.009
PPS	-0.003	0.000

Fiducial marks, referred to central cross (FC)

	x (mm)	y (mm)		x (mm)	y (mm)
1	105.997	-105.996	5	-0.002	-111.995
2	-105.999	-105.998	6	-111.998	0.001
3	-106.000	105.998	7	-0.001	111.997
4	105.998	105.997	8	111.997	0.000

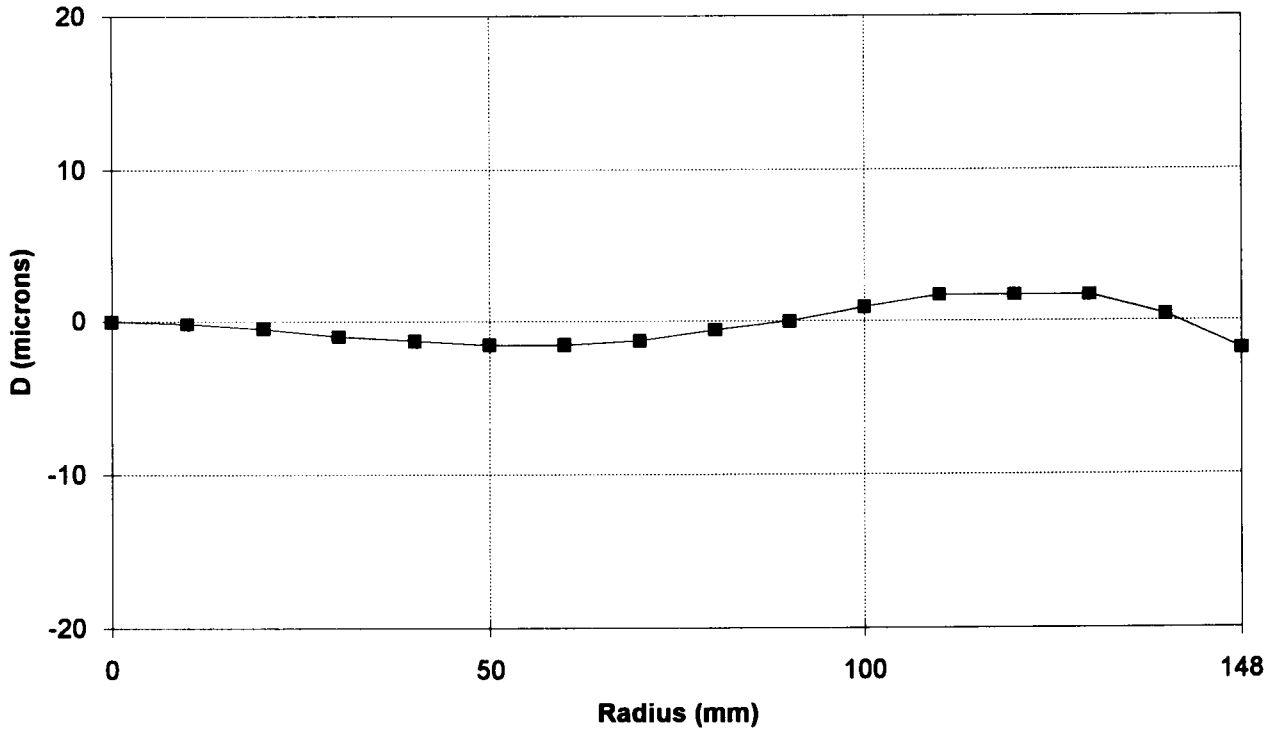


as seen on focal plane frame



Aperture: 4.0
Filter on goniometer: VIS (400 - 700 NM)
Filter on camera: --
C.F.L. : 152.82 mm

Mean radial distortion



Radial distortion for semi-diagonals referred to PPS

