

CAMERA CALIBRATION CERTIFICATE

CAMERA TYPE : RC20
LENS TYPE : 21/4 NAGA-F
LENS NO. : 7171

CALIBRATION DATE : 01.12.92

LEICA HEERBRUGG LTD

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

Leica Heerbrugg Ltd
CH-9435 Heerbrugg

Calibration Department
Supervisor



CAMERA CALIBRATION

CAMERA: RC20 LENS: 2 1/4 NAGA-F NO.: 7171 CALIBRATION DATE: 01.12.92

APERTURE : F / 4.0
 FILTER ON GONIOMETER : 450 NM
 FILTER ON CAMERA : ---
 PRINCIPAL DISTANCE FOR FOCUSSING DISTANCE 900 M : 213.55 MM

RADIAL DISTORTION (MICROMETERS)

 REFERRED TO PRINCIPAL POINT OF SYMMETRY (PPS)
 (POSITIVE VALUES DENOTE IMAGE DISPLACEMENT AWAY FROM CENTER)

RADIUS MM	SEMI - DIAGONALS				MEAN
	1	3	2	4	
10	0.2	-0.5	0.0	-0.3	-0.1
20	0.0	-1.0	0.0	-0.4	-0.3
30	-0.2	-0.6	0.2	-0.6	-0.3
40	0.8	1.1	0.6	0.8	0.8
50	0.7	0.7	0.1	1.0	0.6
60	-1.1	0.1	-0.7	0.1	-0.4
70	-2.3	-1.2	-2.9	-0.7	-1.7
80	-3.1	-1.7	-3.7	-1.3	-2.4
90	-2.4	-1.8	-3.5	-1.5	-2.3
100	-3.2	-1.8	-2.8	-1.8	-2.4
110	-2.1	-1.9	-1.9	-1.2	-1.7
120	-0.1	-0.8	-0.7	-0.4	-0.5
130	1.9	1.0	2.1	1.6	1.6
140	2.9	2.5	3.7	2.1	2.8
148	3.2	2.6	4.4	2.5	3.1

PHOTOGRAPHIC RESOLUTION (LINE PAIRS PER MILLIMETER)

 INTERNATIONAL 3-LINE TEST-CHART, CONTRAST (LOG) : 2.0
 APERTURE : 4.0
 FILTER : 450 NM
 FILM : AGFAPAN 25 PROFESSIONAL (ASA SPEED: 25)
 DEVELOPER : KODAK HC110

ANGLE: (DEGREES)	0	5	10	15	20	25	30	35
RAD.	75	75	83	82	50	43	37	49
TANG.	75	75	82	70	53	49	50	40

AWAR (AREA WEIGHTED AVERAGE RESOLUTION) IN LP/MM : 55

WILD
710

CAMERA CALIBRATION

CAMERA: RC20 LENS: 2 1/4 NAGA-F NO.: 7171 CALIBRATION DATE: 01.12.92

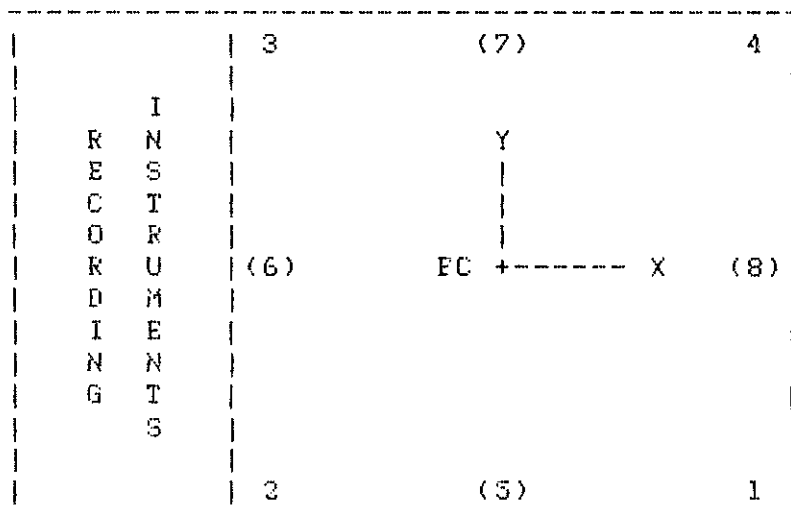
PRINCIPAL POINT OF AUTOCOLLIMATION (PPA) AND
PRINCIPAL POINT OF SYMMETRY (PPS)

REFERRED TO FC, SEE DIAGRAM

	X (MM)	Y (MM)
PPA	-0.012	0.004
S	-0.012	0.001

FIDUCIAL MARKS, REFERRED TO FC

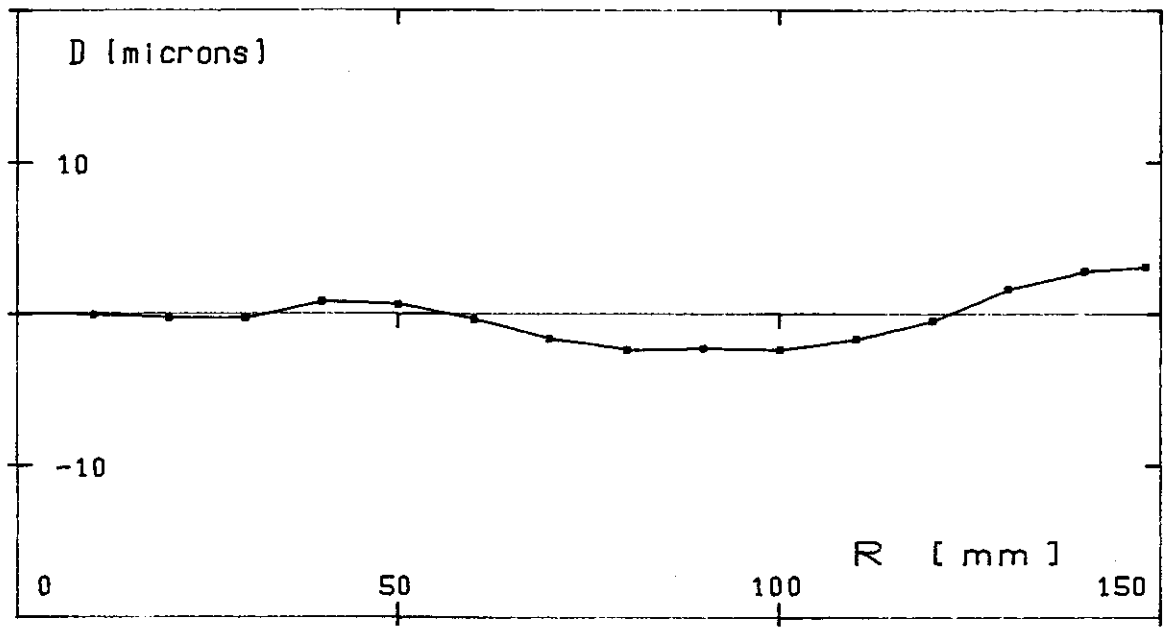
	X (MM)	Y (MM)		X (MM)	Y (MM)
1	105.999	-105.999	5	-0.002	-109.999
2	-105.997	-105.998	6	-110.001	0.002
3	-106.000	106.000	7	0.000	110.004
4	105.995	105.996	8	109.996	0.001



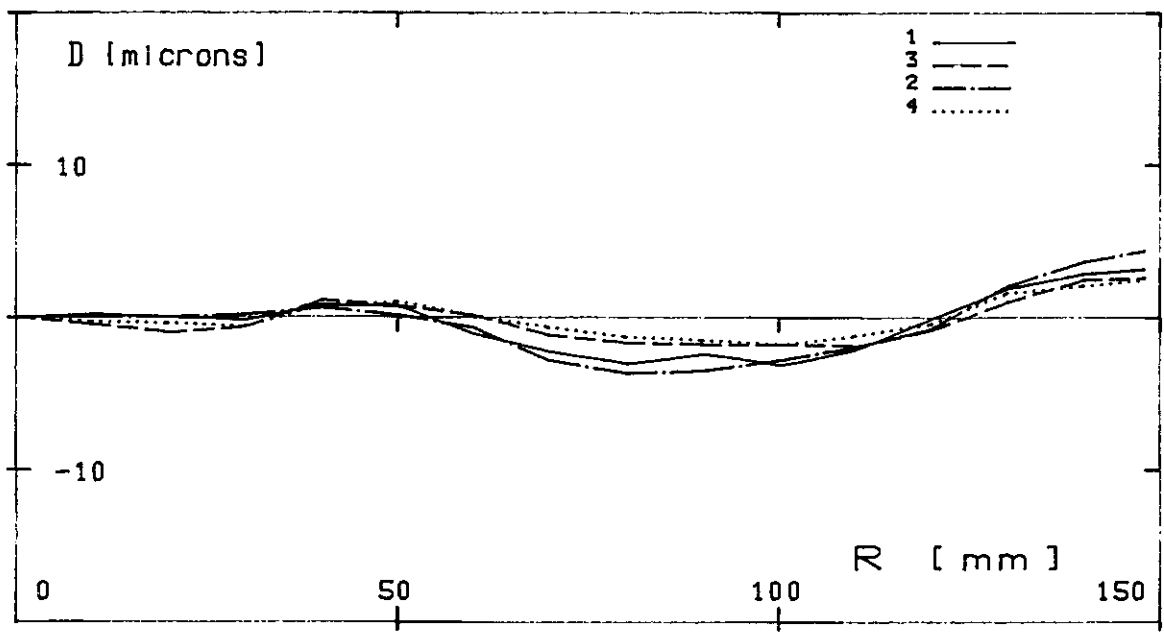
AS SEEN ON FOCAL PLANE FRAME

WILD
30

APERTURE : F / 4.0
FILTER ON GONIOMETER : 450 NM
FILTER ON CAMERA : --
P.D. (900 m) : 213.55 MM



MEAN RADIAL DISTORTION CURVE



RADIAL DISTORTION FOR SEMI-DIAGONALS REFERRED TO PPS

RC20
370