CAMERA CALIBRATION CERTIFICATE

CAMERA TYPE : RC10

LENS TYPE : 21 NAG II

LENS NO. : 7111

CALIBRATION DATE : 16.12.91

LEICA HEERBRUGG LTD

Leica

Leica Heerbrugg Ltd
CH-9435 Heerbrugg

Calibration Department
Supervisor

WILD 310

CAMERA CALIBRATION

CAMERA: RC10 LENS: 21 NAG II NO.: 7111 CALIBRATION DATE: 16.12.91

APERTURE : F / 4.0
FILTER ON GONIOMETER : 450 NM
FILTER ON CAMERA : --
PRINCIPAL DISTANCE FOR FOCUSSING DISTANCE 900 M : 213.79 MM

RADIAL DISTORTION (MICROMETERS)

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

RADIUS	SEMI - DIAGONALS				MEAN
MM	1	3	2	4	
10	0.6	0.9	0.6	0.7	0.7
20	1.5	2.3	1.3	1.7	1.7
30	1.8	4.1	2.3	3.1	2.8
40	3.0	5.2	3.0	4.0	3.8
50	2.7	4.2	2.4	3.8	3.2
60	0.9	3.1	0.9	2.4	1.8
70	-0.4	1.9	-0.9	1.1	0.4
80	-1.3	1.6	-1.0	0.4	0.0
90	0.4	1.0	-0.7	-0.1	0.1
100	0.1	1.2	-0.3	-0.1	0.2
110	0.7	0.6	0.3	0.1	0.4
120	0.1	0.6	-1.0	0.0	0.0
130	0.7	-0.9	-0.8	-1.9	-0.7
140	-0.6	-1.6	-1.9	-2.9	-1.7
148	-2.6	-4.4	-4.3	-5.3	-4.1

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: (DEGREES)	0	5	10	15	20	25	30	35
RAD.	85	67	94	82	81	43	37	44
TANG.	85	75	82	50	59	62	50	28

AWAR (AREA WEIGHTED AVERAGE RESOLUTION) IN LP/MM : 58

WILD 310

CAMERA CALIBRATION

CAMERA: RC10 LENS: 21 NAG II NO.: 7111 CALIBRATION DATE: 16.12.91

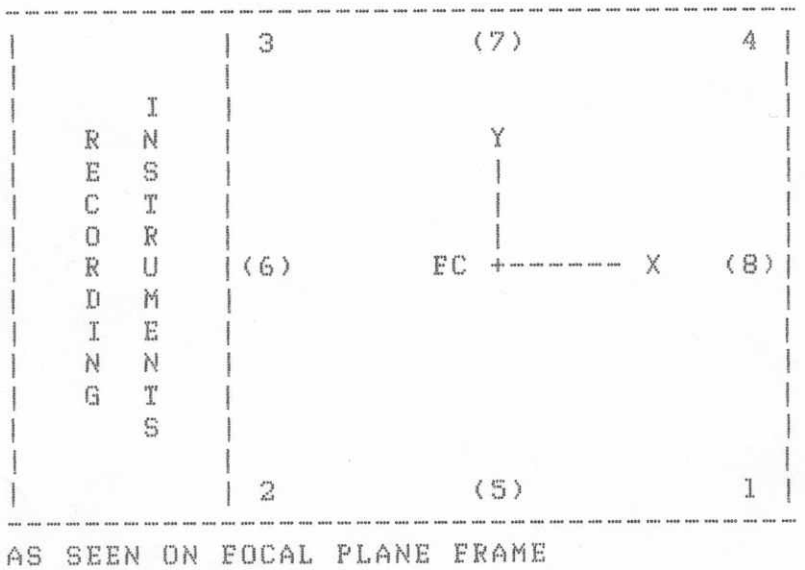
PRINCIPAL POINT OF AUTOCOLLIMATION (PPA) AND PRINCIPAL POINT OF SYMMETRY (PPS)

REFERRED TO FC, SEE DIAGRAM

	X (MM)	Y (MM)
PPA	0.023	-0.008
S	0.012	-0.005

FIDUCIAL MARKS, REFERRED TO FC

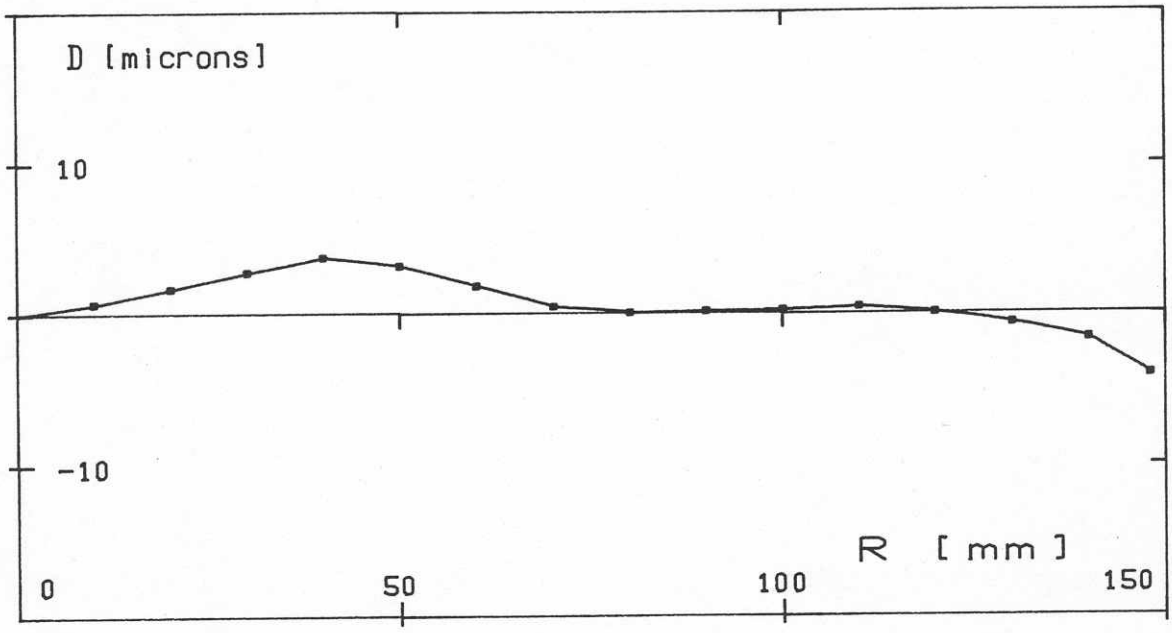
	X (MM)	Y (MM)
1	105.995	-105.996
2	-106.000	-106.000
3	-106.005	106.005
4	106.001	106.002



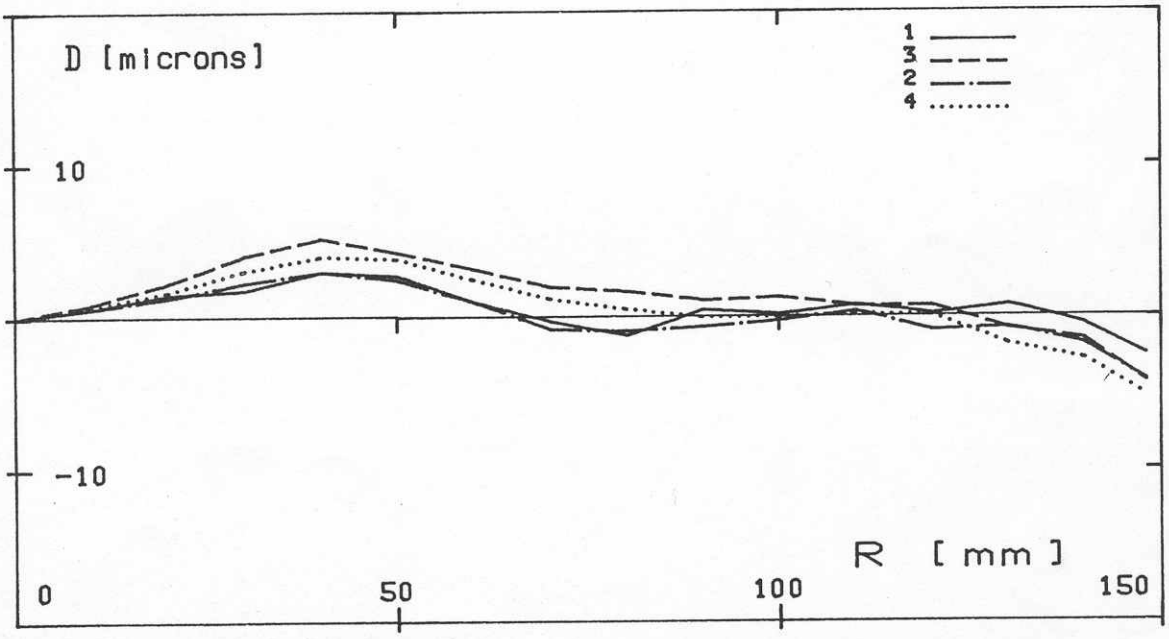
AS SEEN ON FOCAL PLANE FRAME

RC10 21 NAG II NO. 7111 16.12.91

APERTURE : F / 4.0
FILTER ON GONIOMETER : 450 NM
FILTER ON CAMERA : --
P.D.(900 m) :213.79 MM



MEAN RADIAL DISTORTION CURVE



RADIAL DISTORTION FOR SEMI-DIAGONALS
REFERRED TO PPS