

29.3.93

ca 1710193

CAMERA CALIBRATION CERTIFICATE

CAMERA TYPE : RC30
LENS TYPE : 30/4 NAT-S
LENS NO. : 17101

CALIBRATION DATE : 29.03.93

LEICA HEERBRUGG LTD

Leica

Leica Heerbrugg Ltd
CH-9435 Heerbrugg

Calibration Department
Supervisor



CAMERA CALIBRATION

CAMERA: RC30 LENS: 30/4 NAT-S NO.: 17101 CALIBRATION DATE: 29.03.93

APERTURE : F / 4.0
 FILTER ON GONIOMETER : VIS (400 - 700 NM)
 FILTER ON CAMERA : ---
 PRINCIPAL DISTANCE FOR FOCUSING DISTANCE 850 M : 303.81 MM

RADIAL DISTORTION (MICROMETERS)

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

RADIUS MM	SEMI - DIAGONALS				MEAN
	1	3	2	4	
10	-0.5	-0.4	-0.7	-0.3	-0.4
20	-1.1	-0.7	-1.1	-0.9	-0.9
30	-1.3	-0.7	-0.5	-1.0	-0.8
40	-1.1	0.2	-0.4	-0.4	-0.4
50	-0.2	0.1	0.2	-0.1	0.0
60	-0.7	0.8	0.6	-0.4	0.0
70	0.3	0.4	0.6	-0.2	0.2
80	0.3	1.0	1.0	0.1	0.6
90	1.3	1.2	0.8	-0.1	0.8
100	0.4	0.9	0.5	-0.6	0.3
110	1.0	1.2	0.8	0.2	0.8
120	0.8	1.3	-0.5	0.0	0.4
130	0.1	0.1	-1.2	-0.6	-0.4
140	-0.2	-0.8	-1.7	-1.4	-1.0
148	0.3	-0.6	-1.0	0.0	-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: (DEGREES)	0	5	10	15	20	25
RAD.	93	93	82	114	111	75
TANG.	93	105	103	123	117	97

AWAR (AREA WEIGHTED AVERAGE RESOLUTION) IN LP/MM : 107



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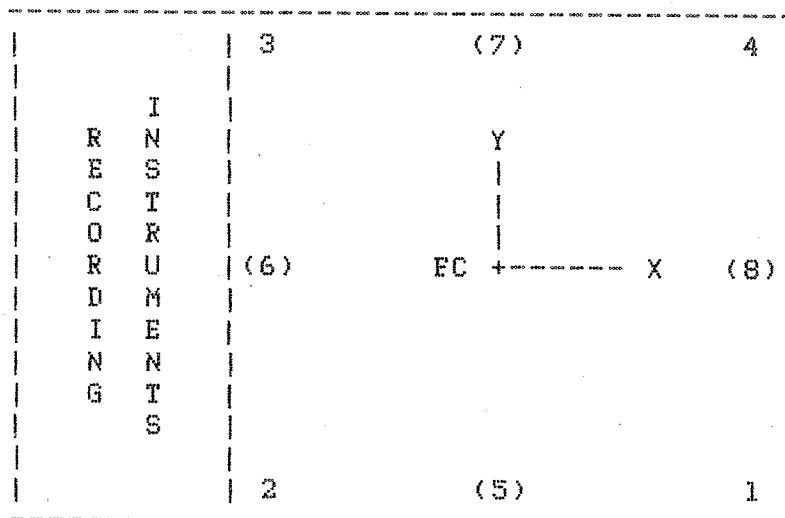
PRINCIPAL POINT OF AUTOCOLLIMATION (PPA) AND
PRINCIPAL POINT OF SYMMETRY (PPS)

REFERRED TO FC, SEE DIAGRAM

	X (MM)	Y (MM)
PPA	-0.008	0.020
S	-0.009	-0.029

FIDUCIAL MARKS, REFERRED TO FC

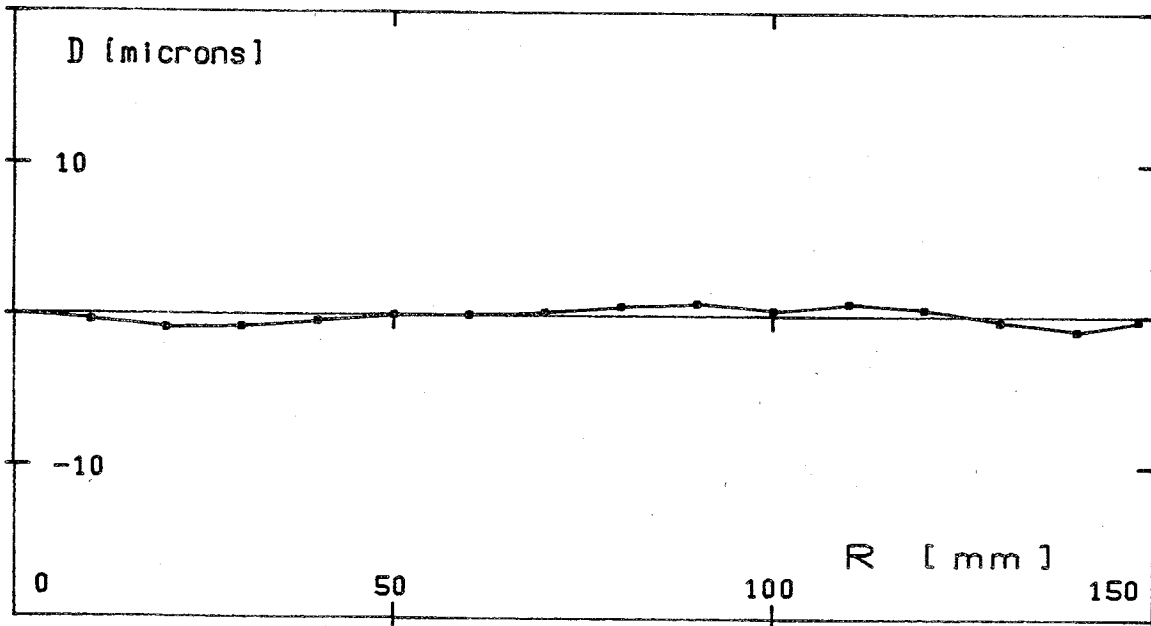
	X (MM)	Y (MM)		X (MM)	Y (MM)
1	105.999	-105.997	5	0.004	-111.992
2	-105.997	-105.994	6	-111.993	0.002
3	-106.002	106.000	7	-0.001	111.989
4	105.999	105.996	8	111.998	0.001



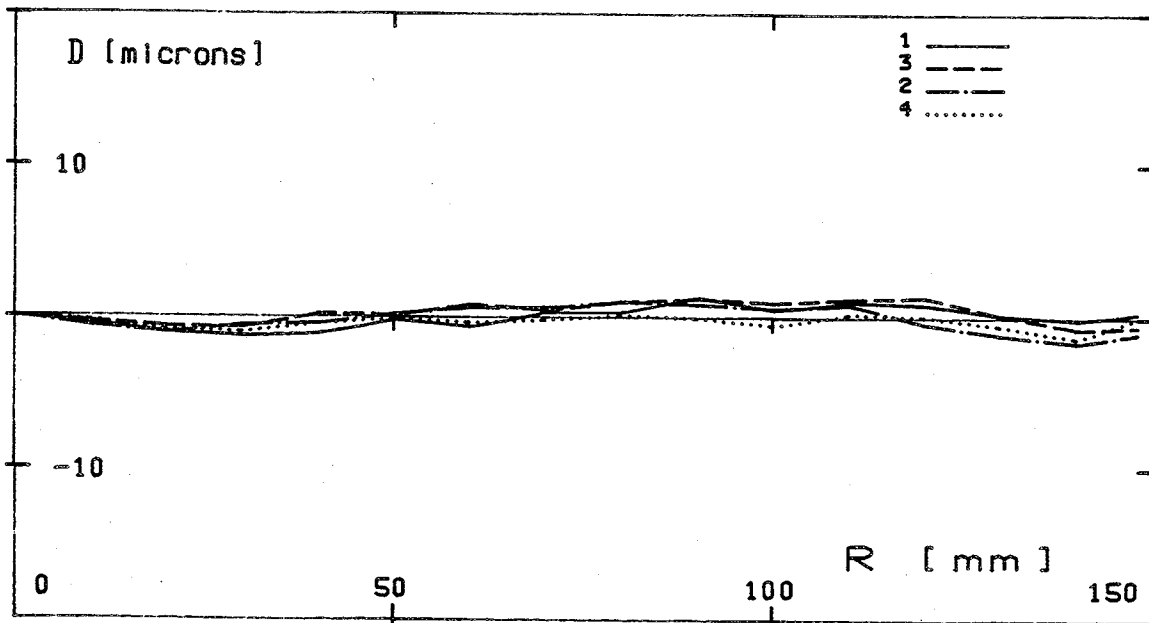
AS SEEN ON FOCAL PLANE FRAME



APERTURE : F / 4.0
FILTER ON GONIOMETER : UIS (400 - 700 NM)
FILTER ON CAMERA : --
P.D. (850 m) : 303.81 MM



MEAN RADIAL DISTORTION CURVE



RADIAL DISTORTION FOR SEMI-DIAGONALS REFERRED TO PPS