

Camera Calibration Certificate

Object	Aerial Survey Camera Type	Lens Cone Type	Lens Serial-No	Remarks
	RC30	15/4 UAG-S	13220	

Acceptance	Characteristics	Acceptance	Remarks
	Radial distortion	yes	
	Photographic resolution	yes	
	Principal point of autocollimation (PPA)	yes	
	Principal point of symmetry (PPS)	yes	
	Fiducial marks	yes	
	Mean radial distortion	yes	
	Radial distortion for semi-diagonals referred to PPS	yes	

Inspection			Signature / Remarks
	Date of calibration	13.03.2009	Lens cone operating hours
	Inspector	Name Dietsche Paul	
		Position Supervisor	Signature: <i>P. Dietsche</i>
		Inspection-No SO112	
	Inspection plan	Identification-No 487872	
		Version 14.04.1989	
	Lens cone calibration	No 870105	
	Process specification	Version 24.07.2006	

Maintenance			
	The last date, when service/ overhaul of this lens cone was performed.	12.12.2005	Lens cone operating hours 698
	Overhaul urgently required:	no	

This Camera Calibration Certificate contains five pages. It may not be reproduced other than in full.
Camera Calibration Certificates without signature and seal are not valid.

RC30

15/4 UAG-S

No.13220

13.03.2009

Calibrated Focal Length (CFL)

Aperture	4.0
Filter on goniometer	VIS (400 - 700 nm)
Filter on camera	--
C.F.L. :	152.51 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	-0.3	0.1	-0.1	0.0
20	0.4	-0.3	0.3	0.1	0.1
30	0.6	-0.1	1.0	0.1	0.4
40	0.9	0.8	1.3	0.9	0.9
50	1.7	1.2	2.0	1.5	1.6
60	1.2	1.8	2.7	1.6	1.8
70	1.9	2.1	2.8	2.0	2.2
80	1.4	2.6	3.0	2.1	2.2
90	3.0	2.5	2.7	1.7	2.4
100	1.6	2.1	3.0	1.3	2.0
110	0.5	1.1	1.9	0.9	1.1
120	-0.1	0.3	0.0	0.1	0.0
130	-2.4	-1.8	-2.0	-1.2	-1.8
140	-4.4	-4.2	-4.4	-3.2	-4.0
148	-4.1	-6.1	-5.2	-3.9	-4.8

Photographic resolution [line pairs per millimeter]

Internal 3-line test-chart contrast log 2.0

Apertur:	4,0
Filter:	VIS(400-700nm)
Film:	KODAK PANATOMIC X 2412
Developer:	KODAK HC110

Angle: [deg]	0	5	10	15	20	25	30	35	40	45
Radial:	117	117	103	90	78	84	90	108	113	83
Tangential:	117	116	101	97	92	86	88	88	87	59

AWAR (Area Weighted Average Resolution) in lp/mm

93


SO 112

RC30

15/4 UAG-S

No.13220

13.03.2009

Principal point of autocollimation (PPA)

Principal point of symmetry (PPS)

Referred to central cross (FC), see diagram

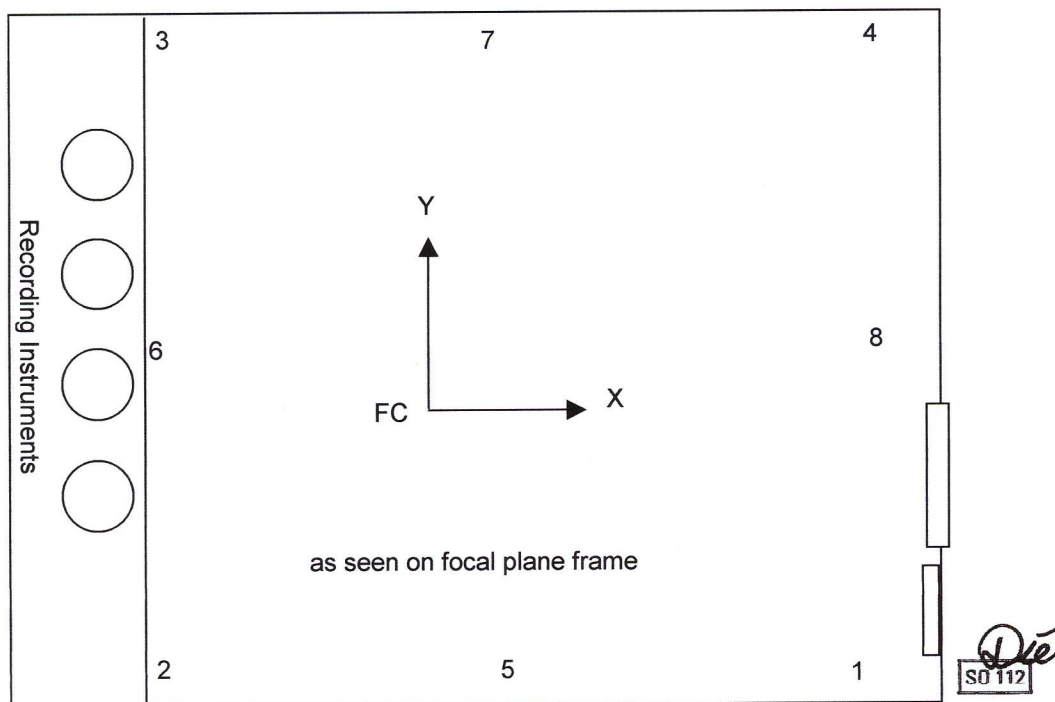
	x[mm]	y[mm]
PPA	0.006	0.001
PPS	-0.004	0.005

Fiducial marks

Referred to central cross (FC)

	x[mm]	y[mm]
1	105.997	-106.000
2	-106.000	-106.004
3	-106.001	106.004
4	106.001	106.005

	x[mm]	y[mm]
5	-0.002	-112.007
6	-111.993	0.000
7	0.002	112.006
8	111.996	0.002



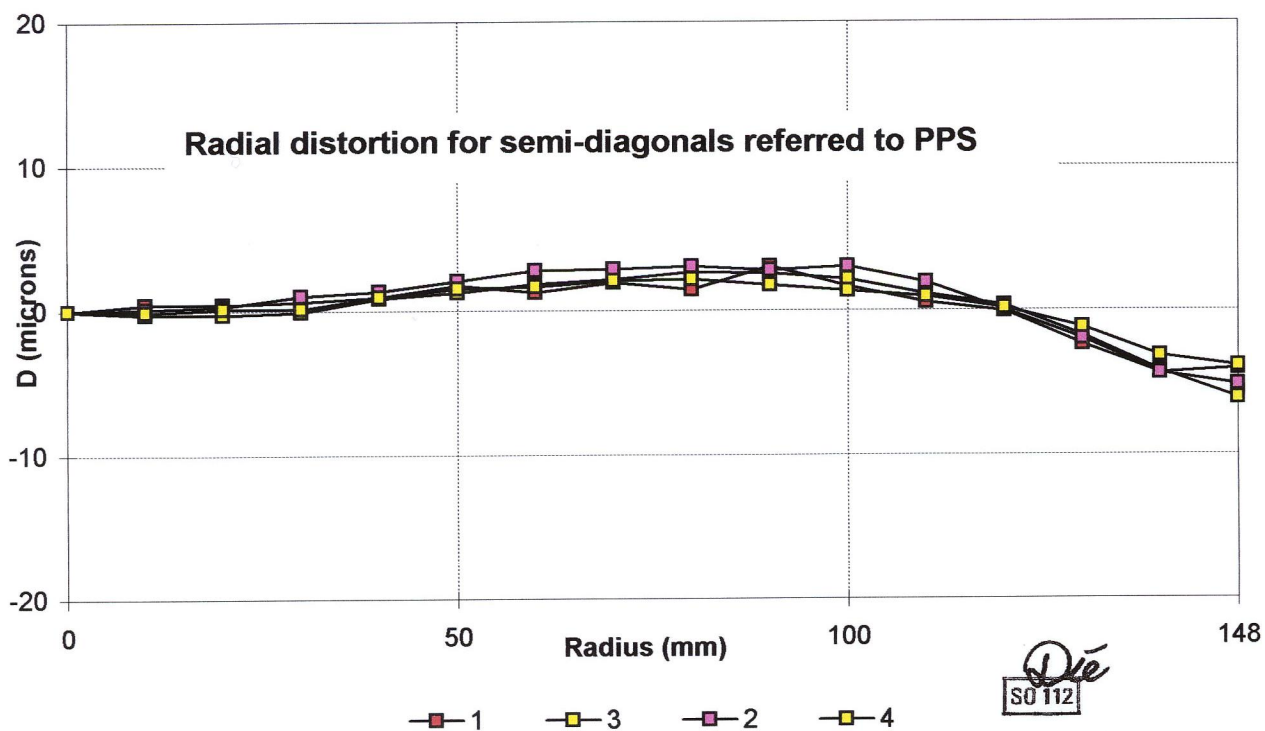
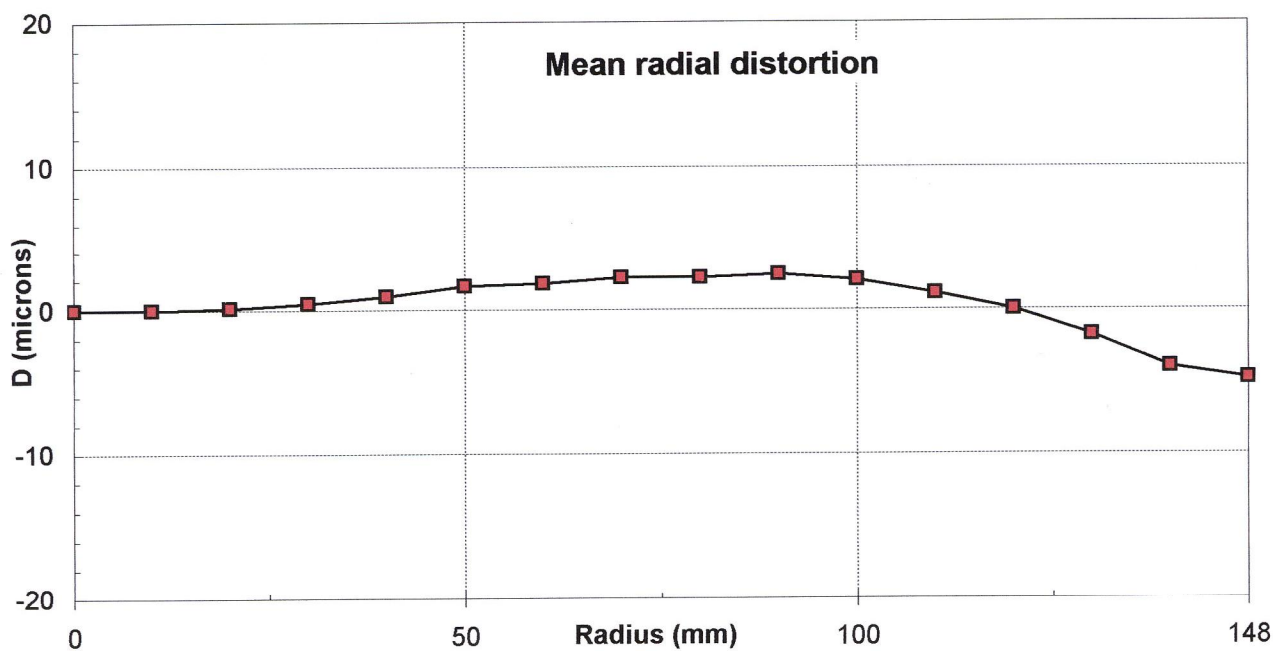
RC30

15/4 UAG-S

No. 13220

13.03.2009

Aperture:	4.0
Filter on goniometer:	VIS (400 - 700 nm)
Filter on camera:	--
C.F.L. :	152.51 mm



RC30

15/4 UAG-S

No. 13220

13.03.2009

Aperture:	4.0
Filter on goniometer:	VIS (400 - 700 nm)
Filter on camera:	--
C.F.L. :	152.51 mm

