Date April 3, 1979 Report No. PO-478/1

TEST OF AIR SURVEY CAMERA TO SPECIFICATION FOR AIR SURVEY PHOTOGRAPHY

for

Global Remote Sensing Inc., Unit 6-B
650 Woodlawn Rd. W.
GUELPH, Ontario N1H 1B6

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Approved for Director

Manufacturer: Wild
Camera Type: RC-10
Lens Type: Universal Aviogon II
Nominal Focal Length: 153 mm
Optical Unit No: UAg II 3090

Lens No: UAg II 3090
Maximum Aperture: f/4
Calibration Aperture: f/4
Date of Calibration: 10 January 1979
Calibrated Focal Length: 153.241 mm
Photographic Emulsion: Panchromatic

FILTER (Section 1.2.3.7):

Number: 4797 Type: 525 nm AV2X
Maximum deviation: 1 second
Maximum change of deviation: 1 second
Maximum departure from parallelism: 2 seconds

IMAGE ILLUMINATION (Section 1.2.3.6):

A.
212.002

Minimum 58 % to 140 mm off axis. ✻

CAMERA SHUTTER (Section 1.2.2.7):

Operation: Satisfactory
Speeds:

Mark	200	400	600	800	1,000		
Total Time Seconds	1/184	1/360	1/518	1/665	1/840		
Effective Time Seconds	1/225	1/445	1/658	1/840	1/1048		

FILM LOCATION SURFACE (Section 1.2.3.1):

Defined by: Fiducial Frame Deviation from flatness: ± 0.004 mm.

FOCUS (Section 1.2.2.11):

Focus setting: Satisfactory

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FOCAL LENGTH (Section 1.2.3.2):

Calibrated focal length: 153.241 mm.
Equivalent focal length: 153.23 mm.

RADIAN MEASURED DISTORTION (Section 1.2.3.3):

Unit - 0.001 mm

Angle Degrees	Distortion at Semi-Diagonals 1	2	3	4	Average Distortion	Reference Distortion
5.63	0	-1	-2	0	-1	-1
11.25	-1	-3	-5	-2	-3	-1
16.88	-1	-0	-2	-1	-1	0
22.50	4	1	2	0	2	1
28.13	3	4	6	0	3	2
33.75	-1	-1	1	-3	-1	0
39.38	-11	0	-4	-6	-5	-3
42.19	-3	5	2	1	1	-1

Maximum departure of average from reference 0.002 mm to 42.2 DEG

ASYMMETRY ABOUT PRINCIPAL POINT OF AUTOCOLLIMATION (Section 1.2.3.3):

Maximum asymmetry 0.006 mm to 42.2 DEG

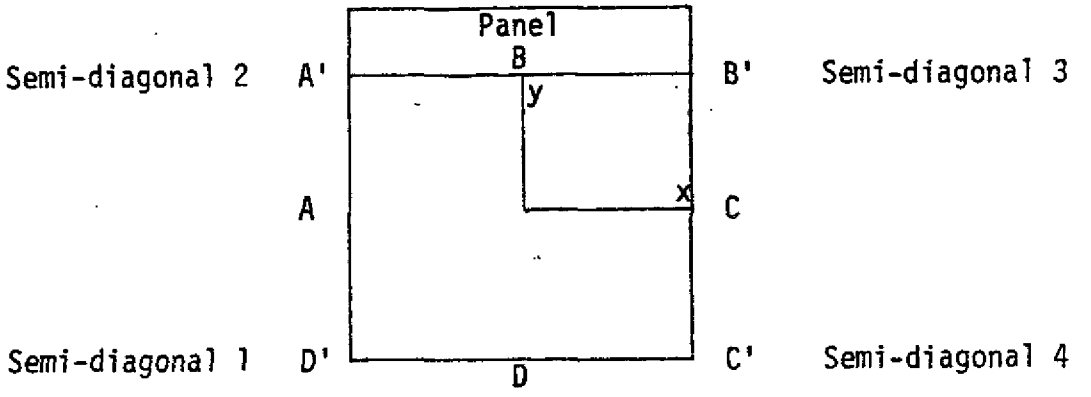
ASYMMETRY ABOUT PRINCIPAL POINT OF BEST SYMMETRY (Section 1.2.3.3):

Maximum asymmetry 0.003 mm to 42.2 DEG

TANGENTIAL MEASURED DISTORTION (Section 1.2.3.3):

Maximum tangential distortion 0.004 mm to 42.2 DEG.

FIDUCIAL MARKS (Sections 1.2.2.6, 1.2.3.4):



Angle between A C - B D is 90° ± 7 seconds. The fiducial centre is within 0.004 mm of the point of autocollimation. Distances between the fiducial marks, and also between the marks and the principal point of autocollimation, P , are as follows:

A' - B'	211.995 MM	A' - P	149.908 MM
B' - C'	212.001 MM	B' - P	149.897 MM
C' - D'	212.002 MM	C' - P	149.911 MM
D' - A'	212.009 MM	D' - P	149.916 MM
	212.002		

The positions of the principal point of autocollimation and of the principal point of best symmetry are given in a rectangular coordinate system as shown, with the fiducial centre as origin.

Principal point of autocollimation (x = 0.002 , y = 0.004) mm.
Principal point of best symmetry (x = 0.001 , y = -0.002)

SUMMARY:

The measured properties of this optical unit meet the requirements of category A of the specification.