

TEST OF AIR SURVEY CAMERA
TO
SPECIFICATION FOR AIR SURVEY PHOTOGRAPHY

for

North West Survey Corp.
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Edmonton, Alberta

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Approved *John H. Fleming*
for Director

Manufacturer: Wild
Camera Type: RC-10
Lens Type: Universal Avigon
Nominal Focal Length: 153 mm
Optical Unit No.: UAg 1048

Lens No.: UAg 1048
Maximum Aperture: f/5.6
Calibration Aperture: f/5.6
Date of Calibration: 24 March 1980
Calibrated Focal Length: 153.266 mm
Photographic Emulsion: Panchromatic

FILTER (Section 1.2.3.7):

Number: 3958 Type: 500 mm AV 1.4X
Maximum deviation: 1 second
Maximum change of deviation: 1 second
Maximum departure from parallelism: 2 seconds

IMAGE ILLUMINATION (Section 1.2.3.6):

Minimum 38% to 140 mm off axis.

CAMERA SHUTTER (Section 1.2.2.7):

Operation: Satisfactory
Speeds:

Mark	200	400	600	800	1000
Total Time Seconds	$\frac{1}{160}$	$\frac{1}{340}$	$\frac{1}{520}$	$\frac{1}{680}$	$\frac{1}{860}$
Effective Time Seconds	$\frac{1}{215}$	$\frac{1}{450}$	$\frac{1}{680}$	$\frac{1}{900}$	$\frac{1}{1130}$

A
212.009

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FILM LOCATION SURFACE (Section 1.2.3.1):

Defined by: Fiducial Frame Deviation from flatness: ± 0.006 mm.

FOCUS (Section 1.2.2.11):

Focus setting: Satisfactory

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FOCAL LENGTH (Section 1.2.3.2):

Calibrated focal length: 153.266 mm.
Equivalent focal length: 153.30 mm.

RADIAL MEASURED DISTORTION (Section 1.2.3.3):

Unit - 0.001 mm

Angle Degrees	Distortion at Semi-Diagonals				Average Distortion	Reference Distortion
	1	2	3	4		
5.63	4	3	4	3	4	5
11.25	8	7	5	7	7	8
16.88	10	8	7	7	8	8
22.50	7	8	5	8	7	6
28.13	2	2	2	3	3	2
33.75	-4	-6	-6	-4	-5	-7
39.38	-10	-5	-10	-12	-9	-7
42.19	1	-2	-7	-7	-4	-3

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 0.004 mm to 42.2 DEG.

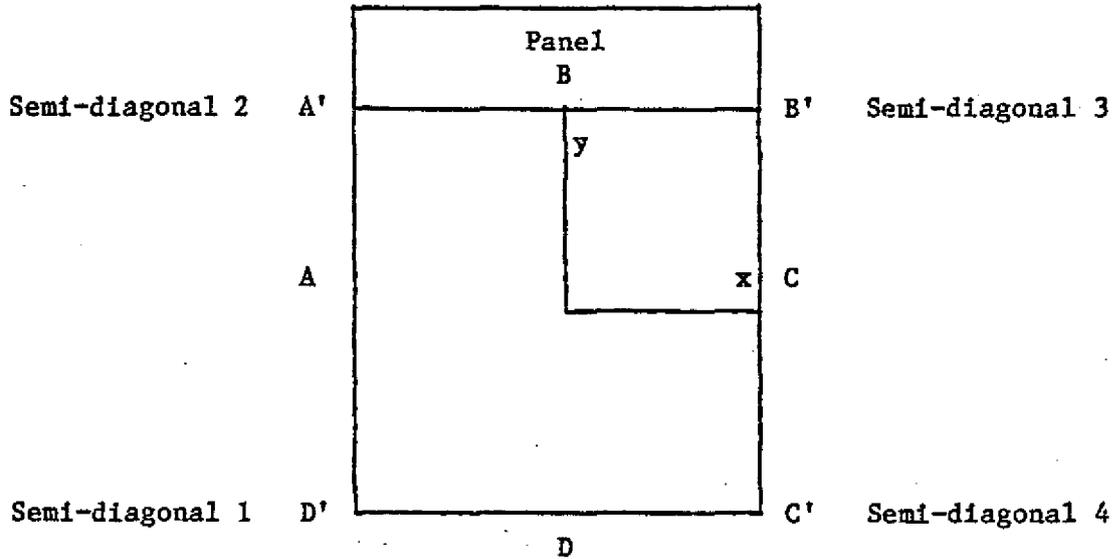
ASYMMETRY ABOUT PRINCIPAL POINT OF BEST SYMMETRY (Section 1.2.3.3):

Maximum asymmetry 0.003 mm to 42.2 DEG.

TANGENTIAL MEASURED DISTORTION (Section 1.2.3.3):

Maximum tangential distortion 0.005 mm to 42.2 DEG.

FIDUCIAL MARKS (Sections 1.2.2.6, 1.2.3.4):



Angle between A C - B D is $90^\circ \pm 2$ seconds. The fiducial centre is within 0.011 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'	212.007 mm	A' - P	149.909 mm
B' - C'	212.014 mm	B' - P	149.926 mm
C' - D'	212.014 mm	C' - P	149.918 mm
D' - A'	<u>212.003 mm</u>	D' - P	149.901 mm
	212.009		

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 = -0.006, y = -0.009) mm.
 Principal point of best symmetry (x = -0.003, y = -0.009) mm.

SUMMARY:

The measured properties of this optical unit meet the requirements of Category A of the Specification.