

Date: July 10, 1963.

Report No. AP10-205

TEST OF AIR SURVEY CAMERA
TO
SPECIFICATION FOR AIR SURVEY PHOTOGRAPHY
for

Commanding Officer
R.C.A.F. Station, Rockcliffe
Ottawa, Ontario

Author: H. Brown.

Approved: [Signature]
Director

Manufacturer: Wild
Nominal Focal Length: 6 inches
Optical Unit No.: Ag 194
Date of calibration: June 26/63
Camera received: June 21/63

Camera Type: RCS Lens Type: Aviogon
Maximum aperture: f/5.6 Body No.: Ag 194
Lens No.: 15 Ag 194
Calibration aperture: f/5.6
Order received: July 4/63 Test finished: July 6/63

FILM PLANE (Section 1.1.1.5):

Defined by: fiducial frame. Deviation from flatness: ± 0.005 mm.

FILTER (Section 1.1.3):

Number: URL 23-5-n2-1 Type: 2%, minus blue, anti-vignetting.
Maximum deviation: 2 seconds.
Maximum change of deviation: 1 seconds.
Maximum departure from parallelism: + seconds.

FOCUS (Section 1.2.2.1):

Focus setting: Satisfactory.

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211 995

IMAGE ILLUMINATION (Section 1.2.4):

Minimum 51 % to 42.5° off axis.

FOCAL LENGTH (Section 1.2.2.3):

Calibrated focal length: 152.45 mm.
Equivalent focal length: 152.50 mm.

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RADIAL MEASURED DISTORTION (Section 1.2.2.4):

Angle		7.5°	15.0°	22.5°	30.0°	35.0°	40.0°	45.0°
Distortion (mm) at Semi-diagonal Nos. 1, 2, 3, 4	1	+0.005	+0.008	+0.007	-0.002	-0.014	-0.018	--
	2	+0.006	+0.010	+0.010	-0.001	-0.005	-0.003	--
	3	+0.008	+0.008	+0.009	+0.004	-0.002	0.000	--
	4	+0.005	+0.007	+0.011	-0.001	-0.010	-0.015	--
Average		+0.006	+0.008	+0.009	0.000	-0.008	-0.009	--
Reference		+0.007	+0.008	+0.006	-0.001	-0.008	-0.006	--

Maximum departure of average from reference 0.003 mm. to 42.5°, -- mm. to 45°.

ASYMMETRY ABOUT PRINCIPAL POINT OF AUTOCOLLIMATION (Section 1.2.2.5):

Maximum asymmetry 0.009 mm. to 42.5°, -- mm. to 45°.

ASYMMETRY ABOUT PRINCIPAL POINT OF BEST SYMMETRY (Section 1.2.2.6):

Maximum asymmetry 0.003 mm. to 42.5°, -- mm. to 45°.

TANGENTIAL MEASURED DISTORTION (Section 1.2.2.7):

Maximum tangential distortion 0.003 mm. to 42.5°, -- mm. to 45°.

CAMERA SHUTTER (Section 1.3.3.4):

Operation: Satisfactory.

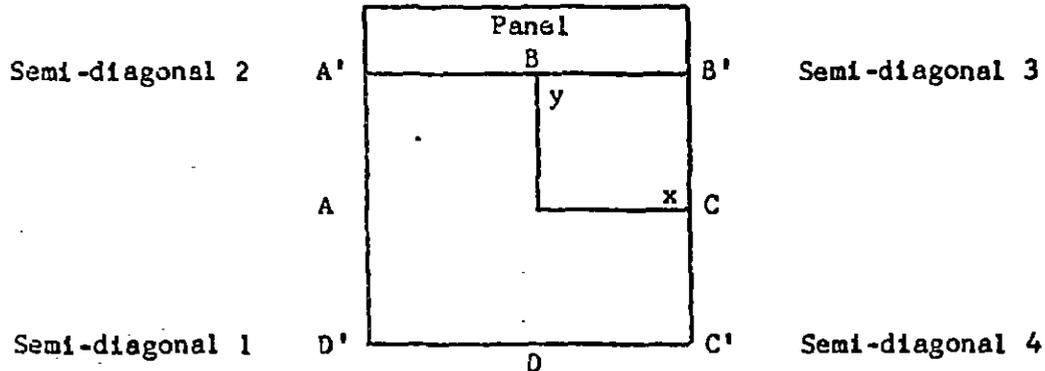
Speeds:

Mark	Total Time Seconds	Effective Time Seconds
200	1/190	1/220
300	1/290	1/350
400	1/390	1/470
500	1/460	1/560
600	1/570	1/710
700	1/660	8/820

RESOLUTION (Section 1.2.1):

Average resolution /mm.

FIDUCIAL MARKS (Section 1.1.1.6):



Angle between AC-BD is $90^\circ \pm 5$ seconds. The fiducial centre is within 0.02 mm. of the point of autocollimation. Distances between fiducial marks are as follows:

A' - B' 212.00 mm. C' - D' 211.99 mm.

B' - C' 212.00 mm. D' - A' 211.99 mm.

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 = +0.01 , y = +0.01) mm.
Principal point of best symmetry (x = 0.00 , y = 0.00) mm.

SUMMARY:

The measured properties of this cone meet the requirements of category A of the Specification.

The cone will remain category A, in use, only if it is supported in accordance with Section 1.1.1.1 of the Specification.