

Date: 12 April, 1965

Report No. ...AP10-35711.....

TEST OF AIR SURVEY CAMERA
TO
SPECIFICATION FOR AIR SURVEY PHOTOGRAPHY

for

Commanding Officer
RCAF Materiel Laboratory
RCAF Station Rockcliffe
Ottawa 7, Ontario

Author: H. Brown

Approved: [Signature]
Director

Manufacturer: Wild	Camera Type: RC8	Lens Type: Avilogon
Nominal Focal Length: 6 ins.	Maximum aperture: f/5.6	Body No.: 496
Optical Unit No.: 15Ag191	Lens No.: 15Ag191	
Date of calibration: 16 Mar 65	Calibration aperture: f/5.6	
Camera received: 9 Mar 65	Order received: 11 Mar 65	Test finished: 18 Mar 65

FILM PLANE (Section 1.1.1.5):

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

FILTER (Section 1.1.3):

Number: NRL 1-8-62-1 Type: 2X, minus blue, anti vignetting
Maximum deviation: 2 seconds.
Maximum change of deviation: 0 seconds.
Maximum departure from parallelism: + seconds.

FOCUS (Section 1.2.2.1):

Focus setting: Satisfactory

A
212.000

IMAGE ILLUMINATION (Section 1.2.4):

Minimum 43% to 42.5° off axis.

FOCAL LENGTH (Section 1.2.2.3):

Calibrated focal length: $\frac{152.13}{152.17}$ mm.
Equivalent focal length: mm.

This report may not be published in whole or
in part without the written consent of
The National Research Council

Copy No. 17

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	+0.004	+0.007	+0.007	+0.001	-0.008	-0.013	-
	2	+0.003	+0.006	+0.006	-0.004	-0.008	-0.009	-
	3	+0.006	+0.007	+0.009	0.000	-0.007	-0.003	-
	4	+0.005	+0.008	+0.011	+0.001	-0.003	-0.003	-
Average		+0.005	+0.007	+0.008	0.000	-0.006	-0.007	-
Reference		+0.007	+0.008	+0.006	-0.001	-0.003	-0.006	-

Maximum departure of average from reference 0.002 mm. to 42.5°, mm. to 45°.

ASYMMETRY ABOUT PRINCIPAL POINT OF AUTOCOLLIMATION (Section 1.2.2.5):

Maximum asymmetry 0.006 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):

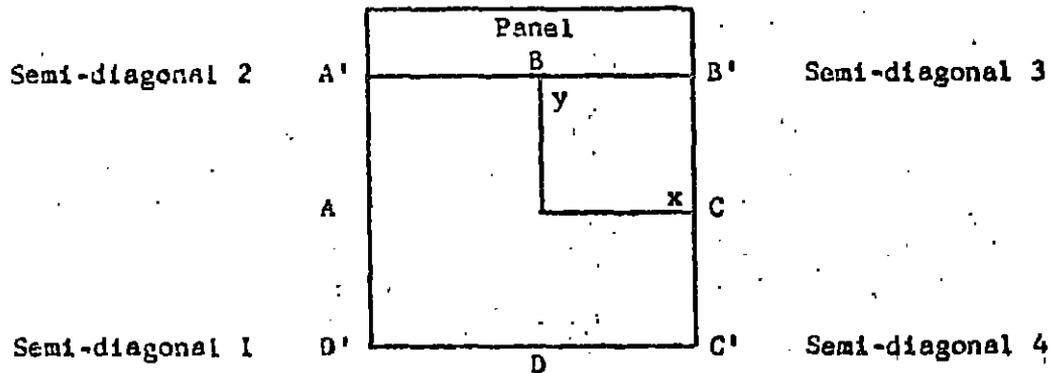
Operation: Satisfactory

Speeds:

Mark	Total Time Seconds	Effective Time Seconds
200	1/180	1/220
300	1/290	1/350
400	1/380	1/460
500	1/460	1/560
600	1/540	1/650
700	1/640	1/800

RESOLUTION (Section 1.2.1):

Average resolution /mm.

FIDUCIAL MARKS (Section 1.1.1.6):

Angle between $AC'-BD'$ is $90^\circ \pm 8$ 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	$C'-D'$	212.00 mm
$B'-C'$	212.00 mm	$D'-A'$	212.00 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 ($x = +0.01$, $y = +0.02$) mm.
 Principal point of best symmetry ($x = 0.00$, $y = +0.02$) 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.