

**TOP SECRET**

FILTER DESIGNATION	DESCRIPTION	NOMINAL SPECTRAL TRANSMISSION (50% T p+ (s) )	NOMINAL FILTER FACTOR WITH 3404	NEAREST WRATTEN EQUIVALENT	AXIS OF POLARIZATION**
SF01	Long Wave Pass Orange	550	1.8	W/21	N/A
SF02	Long Wave Pass Orange-Red	580	2.3	W/23A	N/A
SF03	Long Wave Pass Red	600	2.5	W/25	N/A
SF04	Visual Band Pass Orange	570-680	3.1	None	N/A
SF05	Visual Band Pass Green	490-600	2.8	W/57	N/A
SF06	Long Wave Pass Yellow	530*	N/A***	W/15 + 1.0ND	N/A
SF07	Polarizer	Neutral	3.0	0.45 ND	0°
SF08	Polarizer	Neutral	3.0	0.45 ND	10°
SF09	Polarizer	Neutral	3.0	0.45 ND	20°

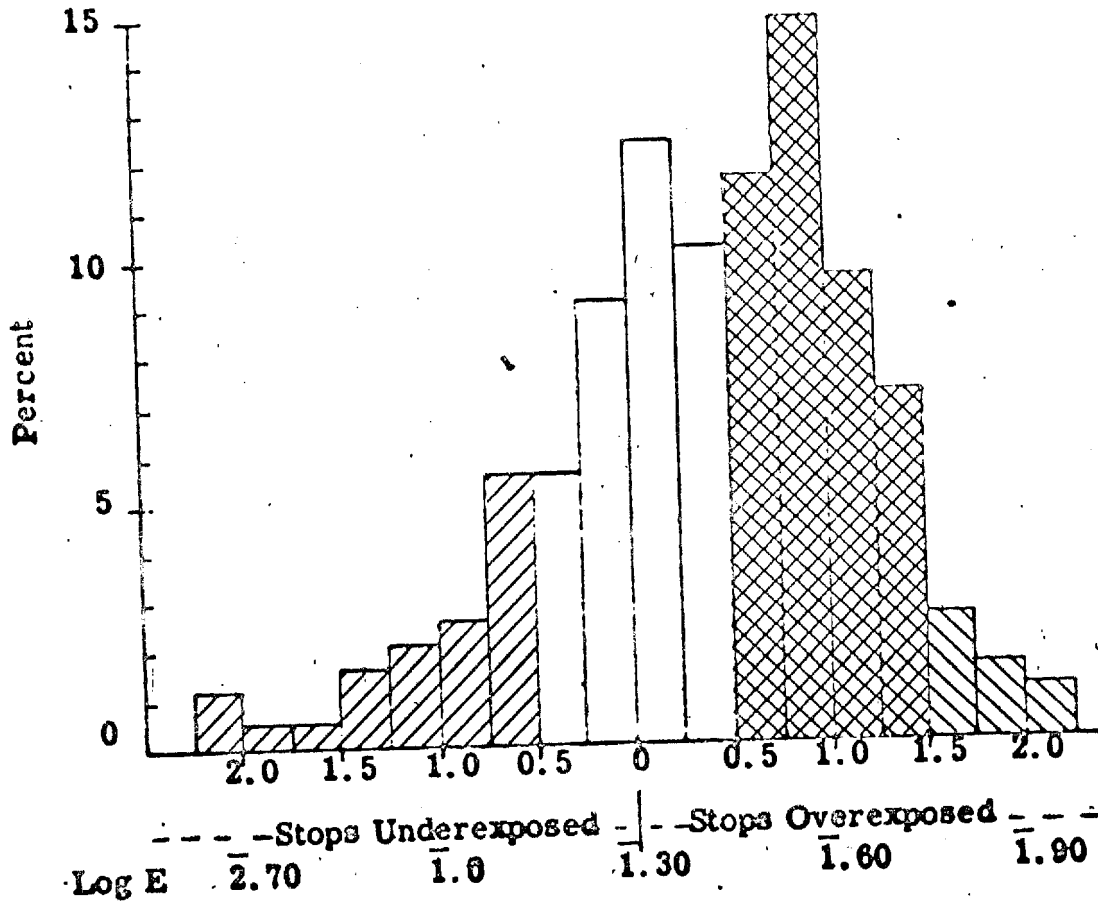
\* - Actually 5% transmission as the base transmission will be 10%.

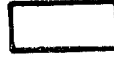



\*\* - Axis of polarization measured from the long dimension of the filter.

\*\*\* - This filter is for use with color films.

**TOP SECRET**

### Percentage Frequency Distribution of Recommended Exposure Changes for 1000-Series Acquisitions



-  Within 1/2 Stop of Desired Exposure
-  Overexposed but within System Capability to Compensate
-  Overexposed Beyond System Capability to Compensate
-  Underexposed Beyond System Capability to Compensate

**TOP SECRET**

More Than  
.5 Stops  
Under

38% in Cloud  
Shadow  
25% at a Solar  
Altitude of  
20° or Below

More Than  
.5 Stops  
Over

30.5% Snow or Snow  
Surround  
29.1% Cloud Cover or  
Partial Cloud  
Cover  
11.2% At Solar Altitude  
of 60° or Above

HANDLE VIA  
CONTROL SYSTEM ONLY

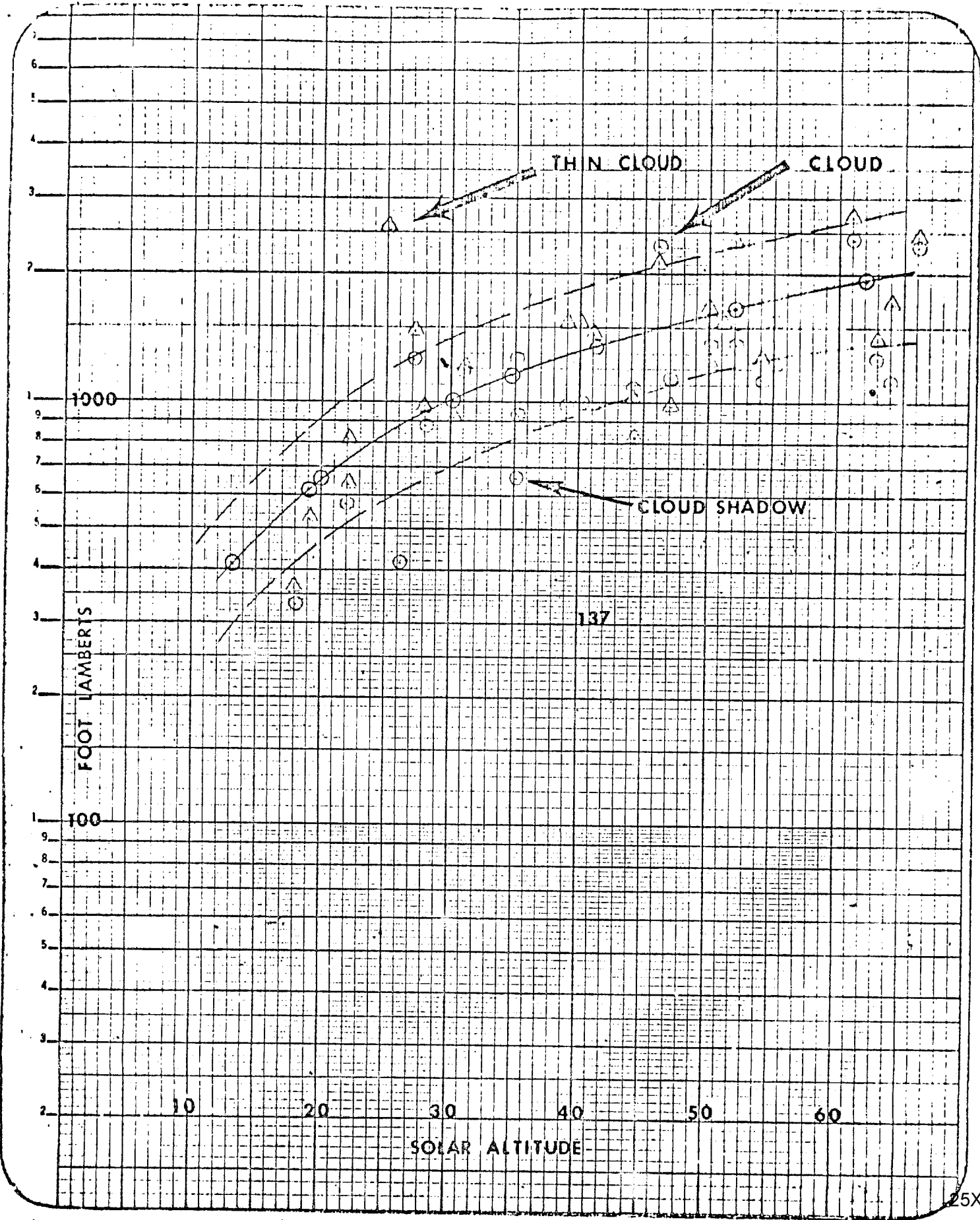
25X5

TOP SECRET

25X5

7012/68  
Attach 2 Fig 2

~~TOP SECRET~~



~~TOP SECRET~~

*BEST COPY  
Available*

25X1D

25X1A

Approved For Release 2002/05/02 : CIA-RDP78B04767A000300050005-7

Next 1 Page(s) In Document Exempt

Approved For Release 2002/05/02 : CIA-RDP78B04767A000300050005-7

25X1A 12/68

Approved For Release 2002/05/02 : CIA-RDP78B04767A000300050005-7 Attachment 5

# SECRET/SPECIAL HANDLING

CURRENT PLANS FOR SYSTEMS CAPABILITY EFFORT

11 JANUARY 1968

SECRET/SPECIAL HANDLING

25X1A

Approved For Release 2002/05/02 : CIA-RDP78B04767A000300050005-7

HANDLE VIA   
CONTROL SYSTEM ONLY

SECRET/SPECIAL HANDLING

<u>FLIGHT</u>	<u>TEST</u>	<u>DESCRIPTION</u>
CR-1	FILTER EXPOSURE	21, 23A, 25 1 1/3 STOP RANGE; DENSITY COMPARISON
CR-2	BISPECTRAL POLARIZER SO-230	W/25 + SF-05 POLOCOAT, 20° ANGLE "FASTER" 3404 TYPE FILM
CR-3	BISPECTRAL WIDE BAND FILTER SO-380	W/25 + SF-05, OPERATIONAL WRATTEN NO. 12 ULTRATHIN BASE FILM
CR-4	SO-180 NIGHT	COLOR INFRARED FILM SO-340 (TRI-X TYPE EMULSION)

TENTATIVE

CR-5	KODACHROME II	HIGH RESOLUTION COLOR FILM
CR-6(CR-7)	POLARIZER THROUGH FOCUS	<sup>(D)</sup> PRINTER, PROPER AZIMUTH STEPPED GLASS FILTER

SECRET/SPECIAL HANDLING



## SECRET/SPECIAL HANDLING

### 1. FILTER EVALUATION

- BASIC OBJECTIVE: SEE WHAT DIFFERENCES OCCUR IN OPERATIONAL PHOTOGRAPHY WITH THE WRATTEN NO. 12, 21, 23A, AND 25 FILTERS
  - A. SUBJECTIVE EVALUATION
  - B. MTF ANALYSIS OF IMAGE QUALITY
  - C. TRADEOFF BETWEEN EXPOSURE TIME AND ATMOSPHERICS

### 2. EXPOSURE ANALYSIS

- BASIC OBJECTIVE: DETERMINE:
  - 1. IF SLIT CHANGED PROPERLY
  - 2. IF WE EXPOSE PROPERLY
  - 3. COMPARISON BETWEEN TARGETS AND TERRAIN DENSITIES
- A. SUBJECTIVE EVALUATION
- B. DENSITY VERSUS FREQUENCY ANALYSIS
- C. EXPOSURE ANALYSIS WITH HIGH PRIORITY TARGETS
- D. COMPARISON OF TARGETS AND TERRAIN DENSITIES

### 3. BISPECTRAL PHOTOGRAPHY

- BASIC OBJECTIVE: TEST THE OPERATIONAL FEASIBILITY OF OBTAINING BISPECTRAL PHOTOGRAPHY FROM MISSION PHOTOGRAPHY
  - A. SUBJECTIVE ANALYSIS OF TARGETS WITH RESPECT TO TONAL DIFFERENCES, (NPIC)
  - B. OBTAIN GOOD BISPECTRAL PRINTS
  - C. IMAGE QUALITY ANALYSIS OF SF-05 IMAGERY
  - D. TEST BEST METHOD OF OBTAINING BISPECTRAL IMAGES

SECRET/SPECIAL HANDLING

## SECRET/SPECIAL HANDLING

### 4. POLARIZER FILTER

- BASIC OBJECTIVE: DETERMINE THE EFFECTIVENESS OF A POLARIZER AS A HAZE-CUTTING FILTER
  - A. IMAGE QUALITY ANALYSIS
  - B. ATMOSPHERIC EFFECTS AS A FUNCTION OF SOLAR ALTITUDE AND AZIMUTH
  - C. DETERMINE EFFECTIVE FILTER FACTOR
  - D. SUBJECTIVE ANALYSIS OF TONAL RENDITION

### 5. SO-230

- BASIC OBJECTIVE: COMPARE SO-230 WITH 3404 IN AN OPERATIONAL MISSION
  - A. FILM SENSITOMETRIC CHARACTERISTICS (FOG, GAMMA, SPEED, FILTER FACTORS)
  - B. FILM IMAGE QUALITY ANALYSIS (MTF, RESOLUTION)
  - C. SUBJECTIVE EVALUATION OF FLIGHT FILM
  - D. SYSTEM RESOLUTION
  - E. TONE REPRODUCTION COMPARISON

### 6. SO-380

- BASIC OBJECTIVE: TEST SO-380 IN THE SYSTEM
  - A. FILM SENSITOMETRIC CHARACTERISTICS (FOG, GAMMA, SPEED, FILTER FACTORS)
  - B. FILM IMAGE QUALITY ANALYSIS (MTF, RESOLUTION)
  - C. SUBJECTIVE EVALUATION OF FLIGHT FILM
  - D. SYSTEM RESOLUTION (MTF/AIM)
  - E. LAB CHAMBER TESTS
  - F. LIMITED DIMENSIONAL STABILITY ANALYSIS

SECRET/SPECIAL HANDLING

25X1A

SECRET/SPECIAL HANDLING

7. SO-180

- BASIC OBJECTIVE: OBTAIN MISSION PHOTOGRAPHY WITH CAMOUFLAGE COLOR FILM
  - A. SUBJECTIVE ANALYSIS OF INFORMATION CONTENT
  - B. TONE REPRODUCTION ANALYSIS
  - C. RELATIVE IMAGE QUALITY (RESOLUTION, MICROPHOTOGRAPHS)

8. NIGHT PHOTOGRAPHY

- BASIC OBJECTIVE: DETERMINE IF ACTIVITY CAN BE DETECTED AT NIGHT
  - A. SUBJECTIVE ANALYSIS
  - B. STATIC ANALYSIS
  - C. THEORETICAL ANALYSIS OF NIGHT DETECTION CAPABILITY

SECRET/SPECIAL HANDLING

25X1A

**TOP SECRET**

CONTROL NO.  

7012/68 cy-6

25X1A

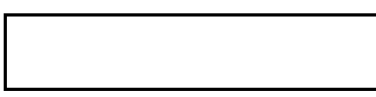
25X1A

31 JAN

*change + file in 22538-8*

REFERRED TO OFFICE	RECEIVED			RELEASED		SEEN BY	
	SIGNATURE	DATE	TIME	DATE	TIME	NAME & OFFICE SYMBOL	DATE
<i>Sucas</i>	<i>[Signature]</i>					<i>CH</i>	
						<i>[Signature]</i>	

Handle Via Indicated Controls



25X1A

Access to this document will be restricted to those persons cleared for the specific projects;

*.CORONA*.....

.....

WARNING

This document contains information affecting the national security of the United States within the meaning of the espionage laws U. S. Code Title 18, Sections 793 and 794. The law prohibits its transmission or the revelation of its contents in any manner to an unauthorized person, as well as its use in any manner prejudicial to the safety or interest of the United States or for the benefit of any foreign government to the detriment of the United States. It is to be seen only by personnel especially indoctrinated and authorized to receive information in the designated control channels. Its security must be maintained in accordance with regulations pertaining to   Control System.

25X1A

**TOP SECRET**

GROUP 1  
Excluded from automatic  
downgrading and declassification