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REPORT NO. ERB-173

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LABORATORIES

OF

THE NATIONAL RESEARCH COUNCIL OF CANADA

ELECTRICAL ENGINEERING AND RADIO BRANCH

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SEARCHLIGHT CONTROL ANTENNA

BY

D. P. SMITH

(AN UNCOMPLETED REPORT)

OTTAWA

OCTOBER, 1947

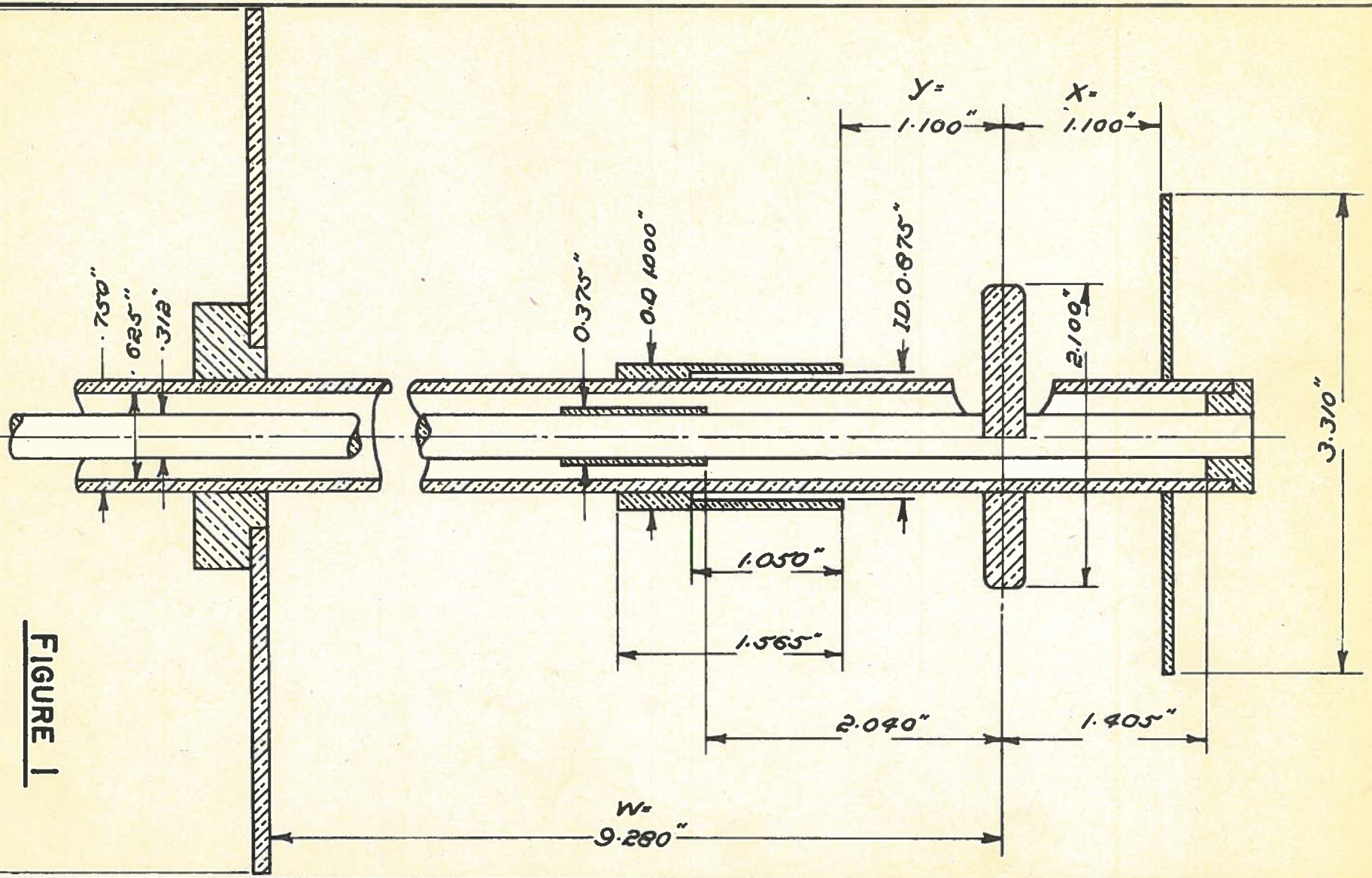
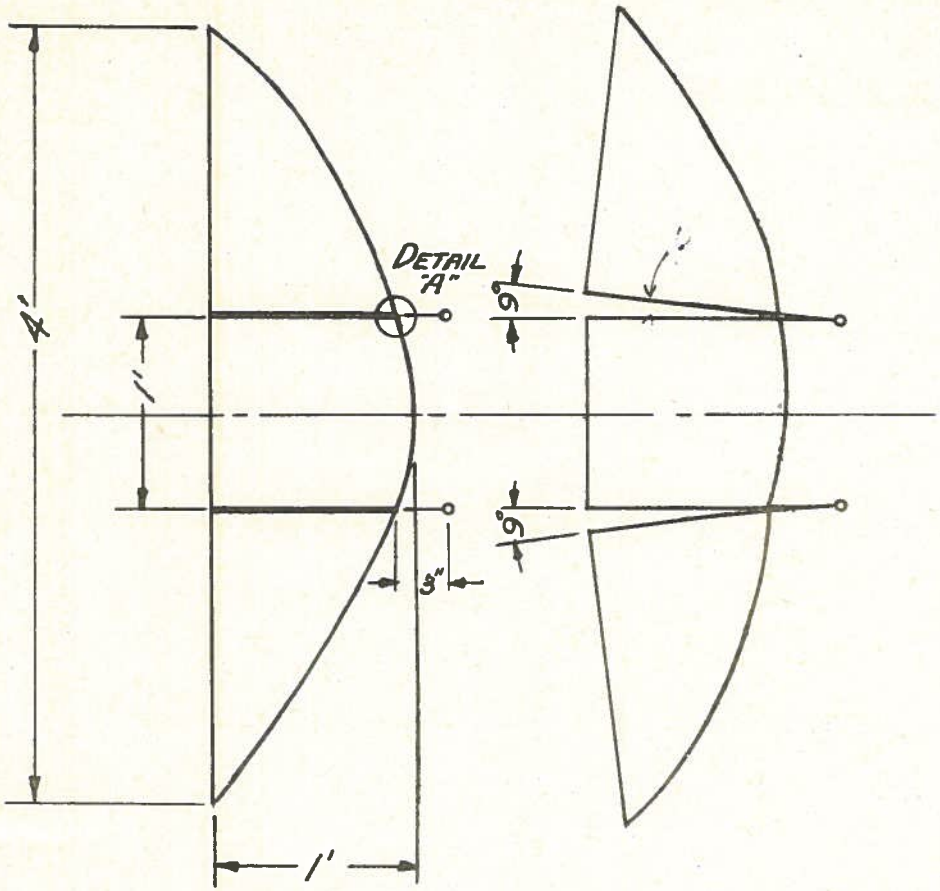


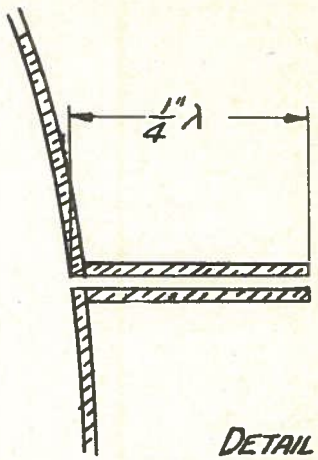
FIGURE 1

533 PRA 97	NATIONAL RESEARCH COUNCIL – RADIO BRANCH. OTTAWA CANADA		
	APPROVED –		DATE



ELEVATION
PARAB. CLOSED

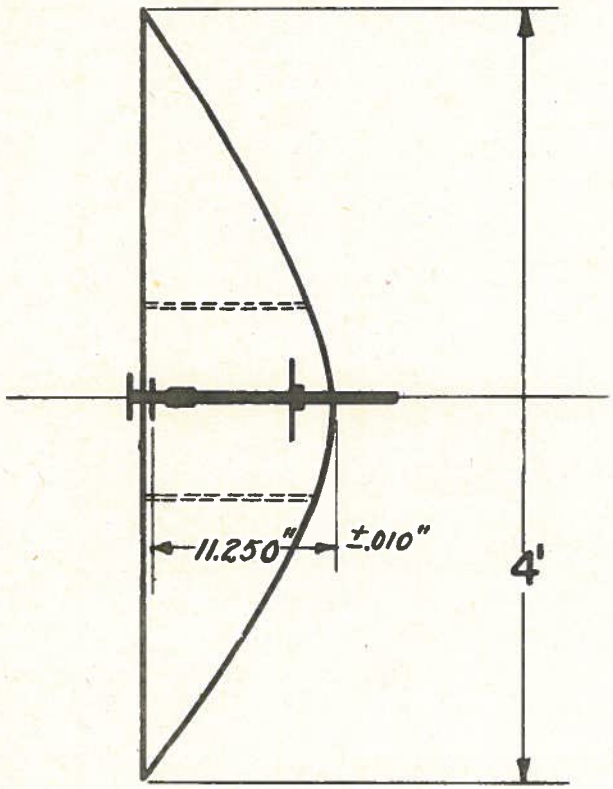
ELEVATION
PARAB. OPEN



DETAIL "A"
CROSS SECTION OF
1/4 λ SKIRTS

FIGURE 2

534 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH. OTTAWA CANADA	
APPROVED —	RDX ANTENNA PARAB.	DATE



SYMBOLS USED FOR ANTENNA DIMENSIONS

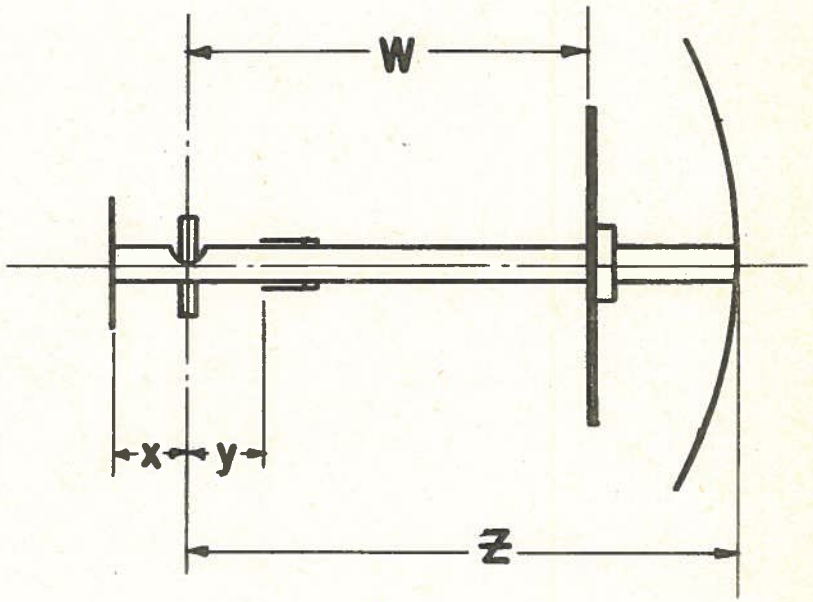


FIGURE 3

535 PRA 97	NATIONAL RESEARCH COUNCIL – RADIO BRANCH. OTTAWA CANADA		
	APPROVED –	RDX ANTENNA POSITION OF ANTENNA UNIT IN PARABOLA	DATE SEPT. 20, 1943

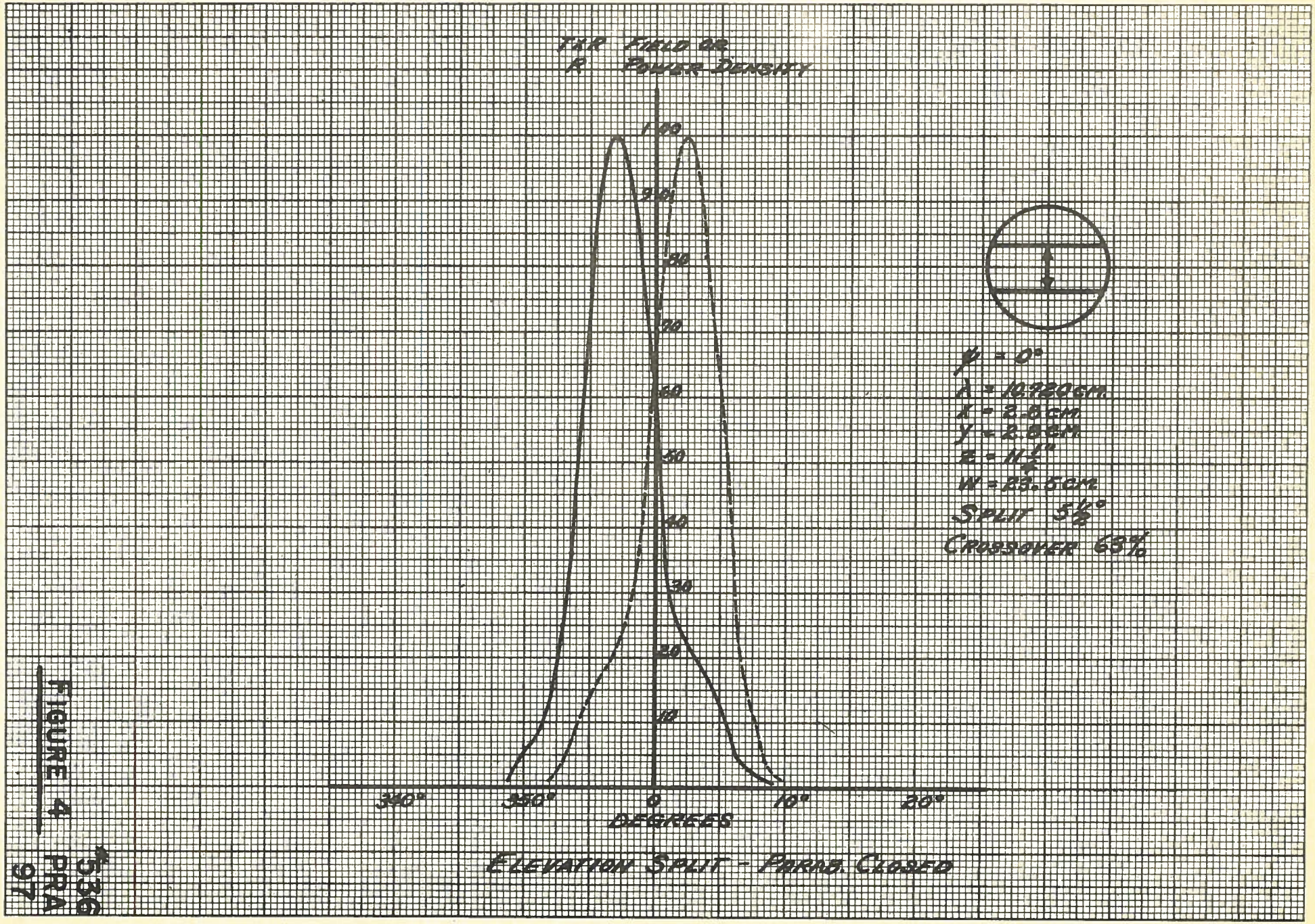


FIGURE 4 5°36 PRA 97

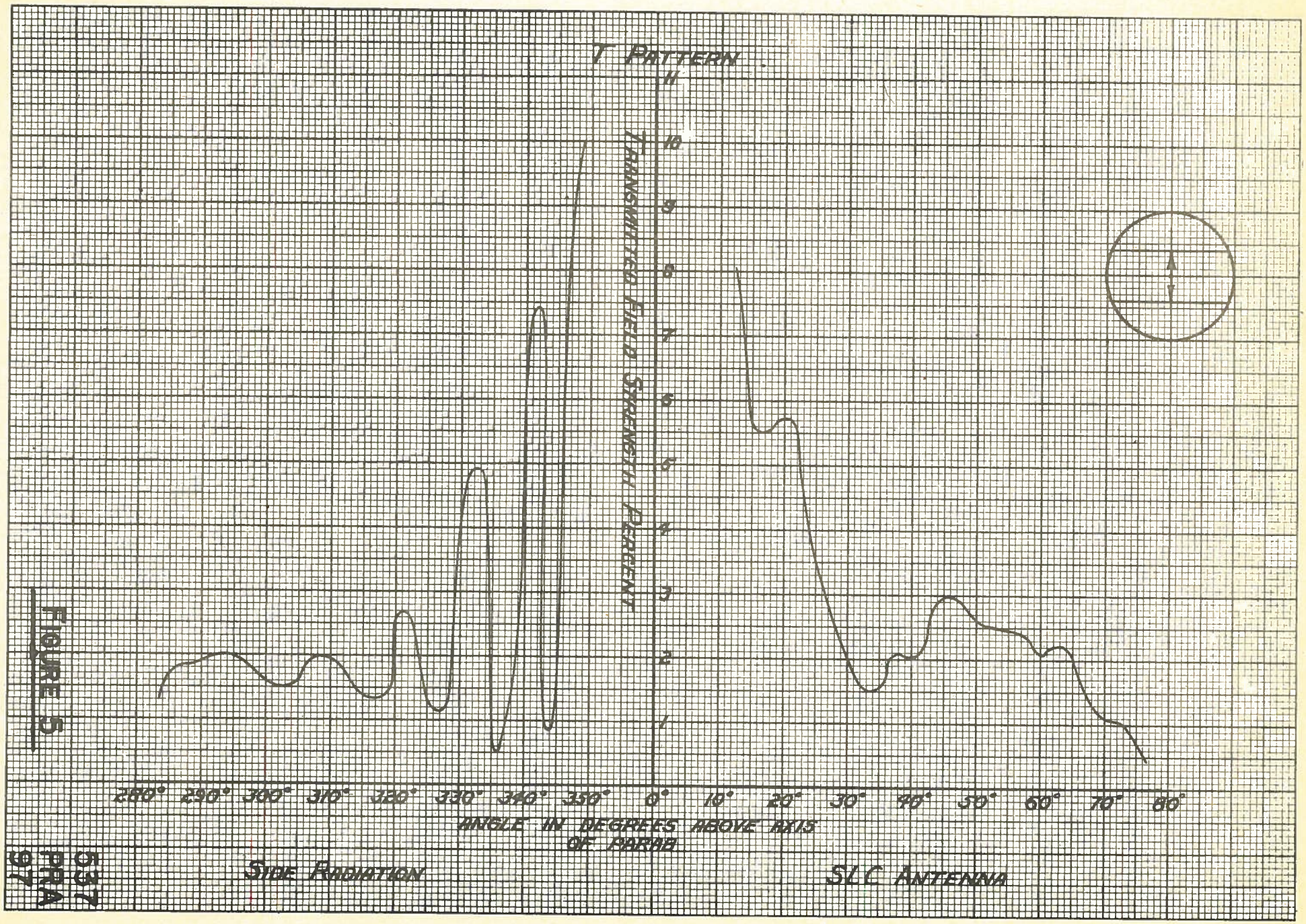
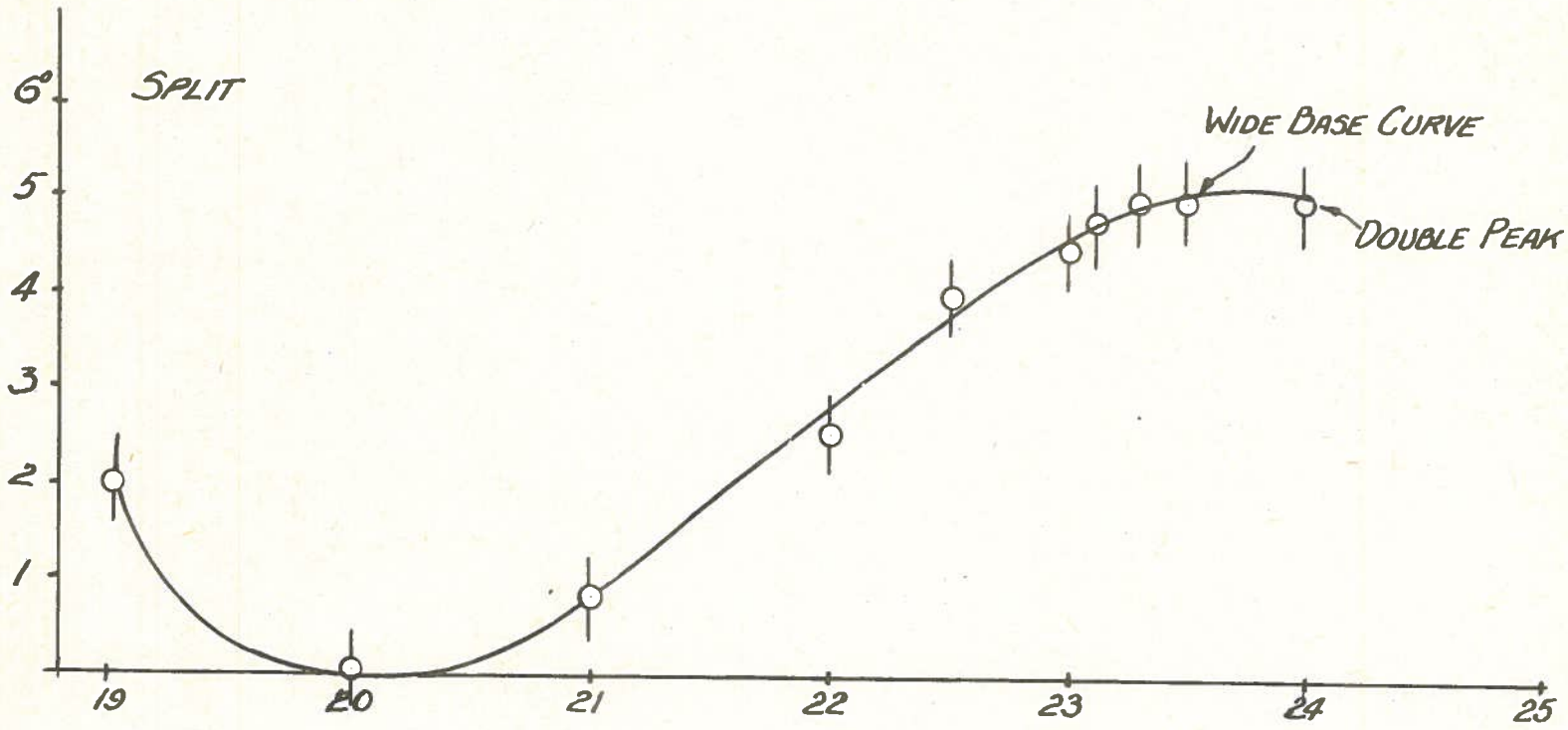

T PATTERN
TRANSMITTED FIELD STRENGTH IN PERCENT
11
10
9
8
7
6
5
4
3
2
1
280° 290° 300° 310° 320° 330° 340° 350° 0° 10° 20° 30° 40° 50° 60° 70° 80°
ANGLE IN DEGREES ABOVE AXIS OF PARAB
SIDE RADIATION
SLC ANTENNA

FIGURE 5

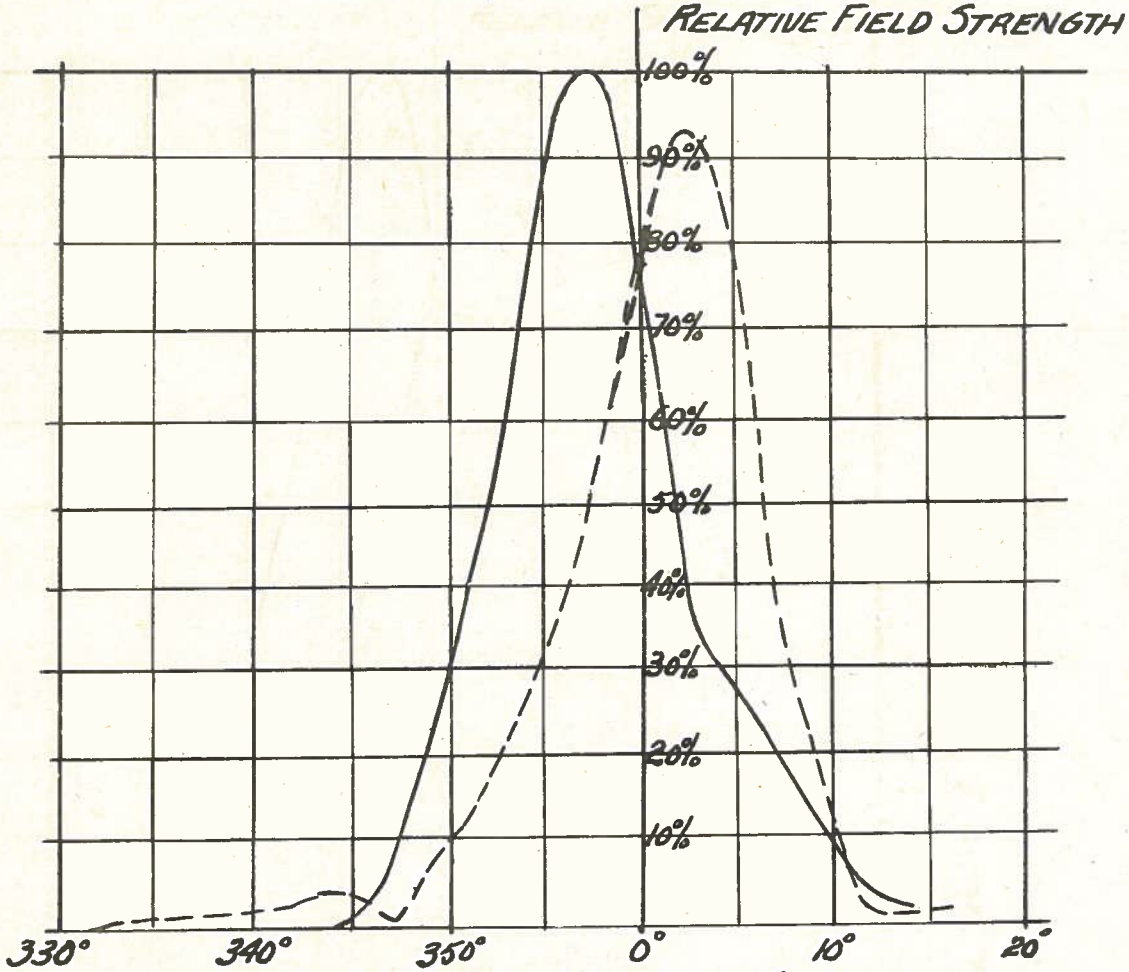


VARIATION OF SPLIT WITH W. THE DISTANCE FROM THE DIPOLE AXIS TO THE 6" DIAM. PLATE

FIGURE 6

FIXED DIMENSIONS
X = 2.8 CMS.
Y = 2.8 CMS.
Z = 1 1/4 INCHES

538 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH. OTTAWA CANADA		
	APPROVED —	RDX ANTENNA	DATE



VARIATION OF SPLIT WITH WAVE LENGTH

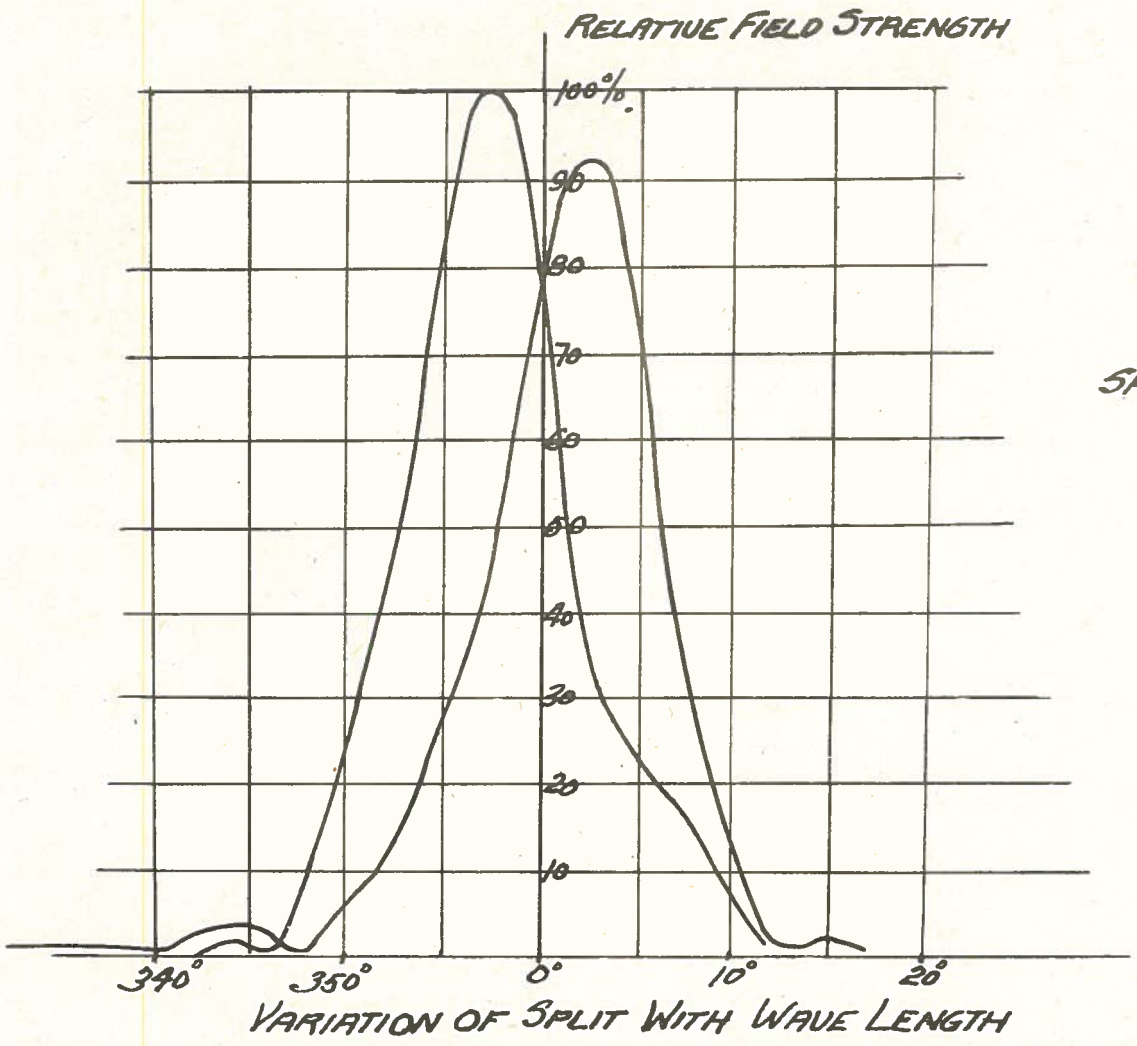
ANTENNA DIMENSIONS

X = 2.8 CMS.
Y = 2.8 CMS.
Z = 11 1/4"
W = 23.5 CMS.

λ = 10.602 CMS.
SPLIT 5°

FIGURE 7

539 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH. OTTAWA CANADA	
APPROVED —	ADX ANTENNA	DATE



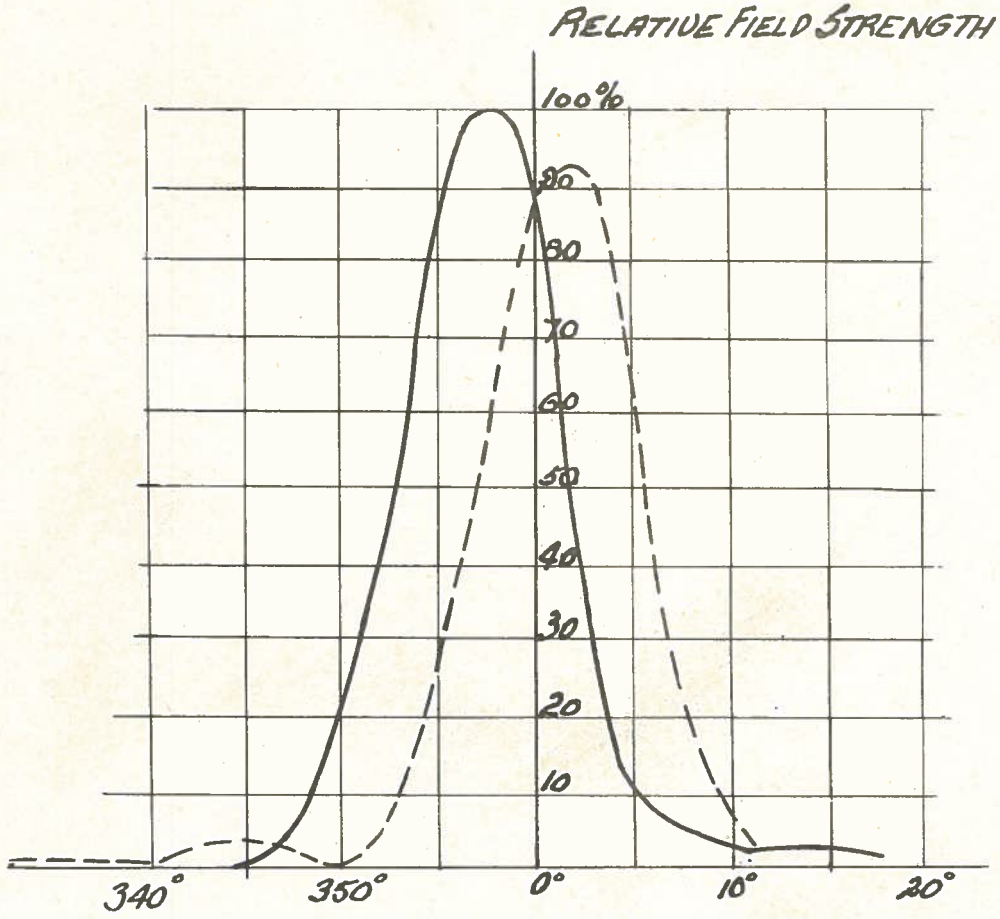
VARIATION OF SPLIT WITH WAVE LENGTH

ANTENNA DIMENSIONS
x = 2.8 CMS
y = 2.8 CMS.
z = 11 1/4 INCHES
W = 23.5 CMS.

λ = 10.711
SPLIT 5°

FIGURE 8

540 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH. OTTAWA CANADA	
APPROVED —	RDX ANTENNA	DATE



ANTENNA DIMENSIONS

X = 2.8 CMS.
Y = 2.8 CMS.
Z = 11 1/4 INCHES.
W = 23.5 CMS.

λ = 10.806 CMS.
SPLIT 4°.

FIGURE 9

VARIATION OF SPLIT WITH WAVE LENGTH

541 PRA 97	NATIONAL RESEARCH COUNCIL – RADIO BRANCH. OTTAWA CANADA	
	APPROVED –	RDX ANTENNA	DATE

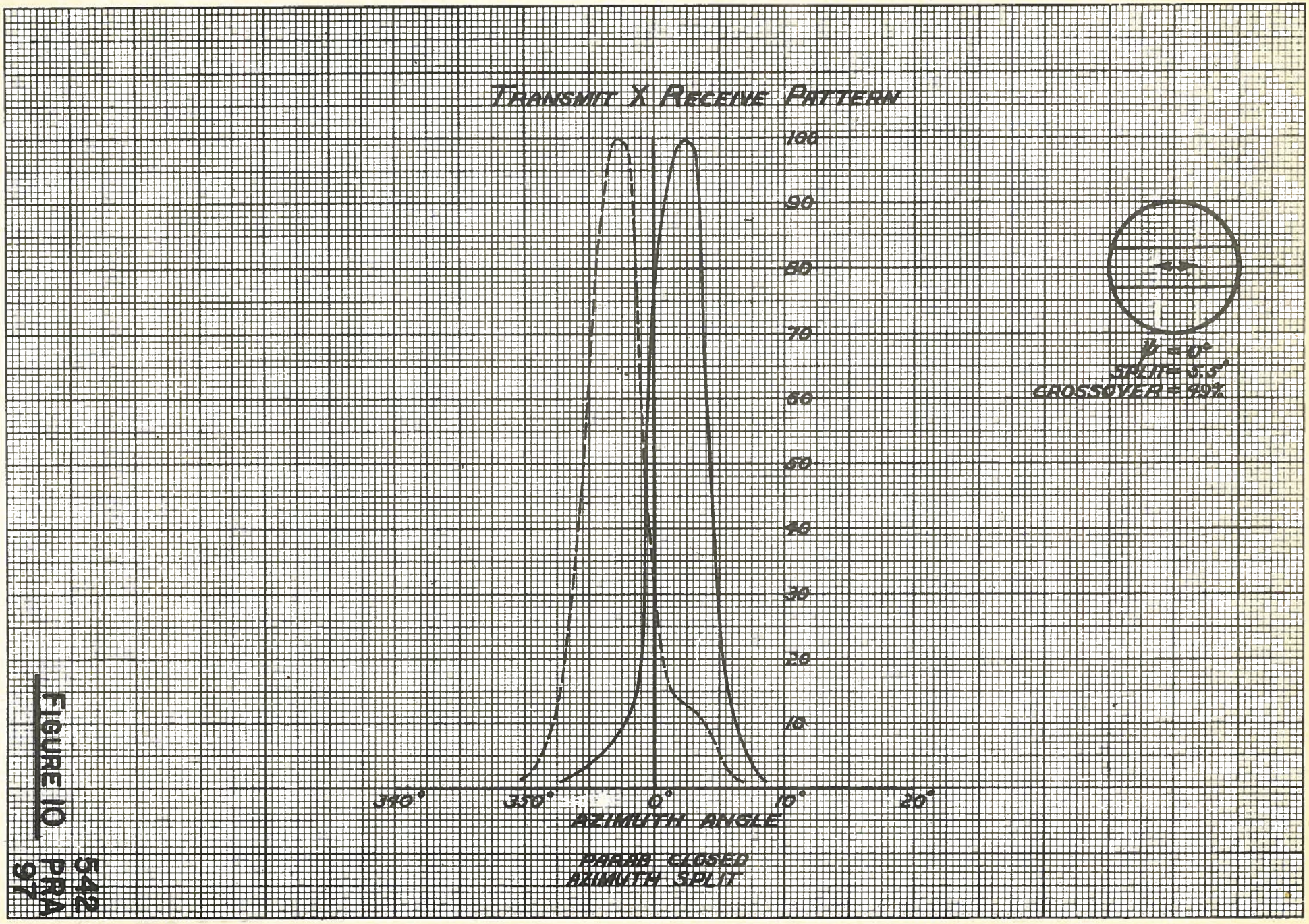


FIGURE 10

S42
PRA
6/92

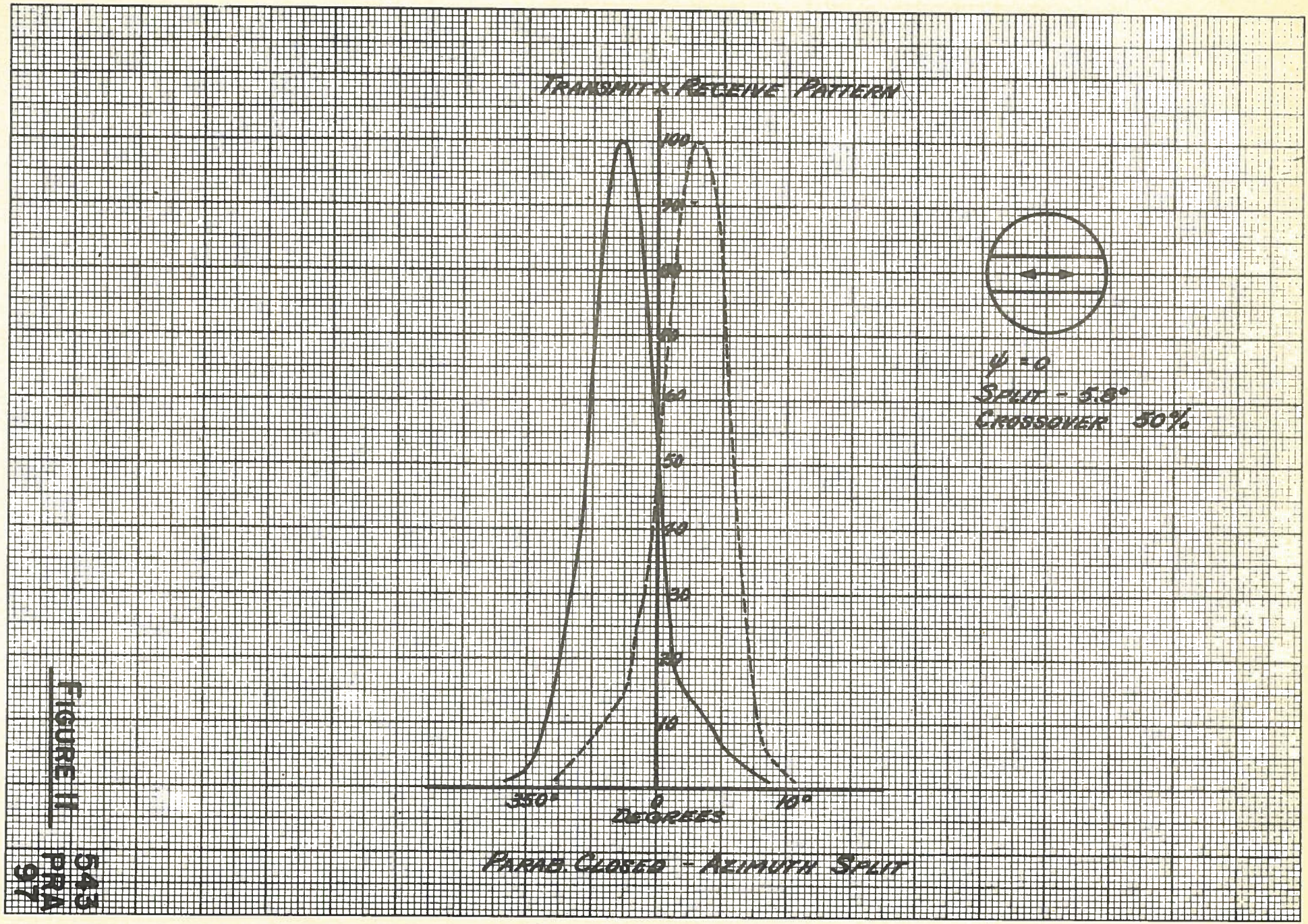
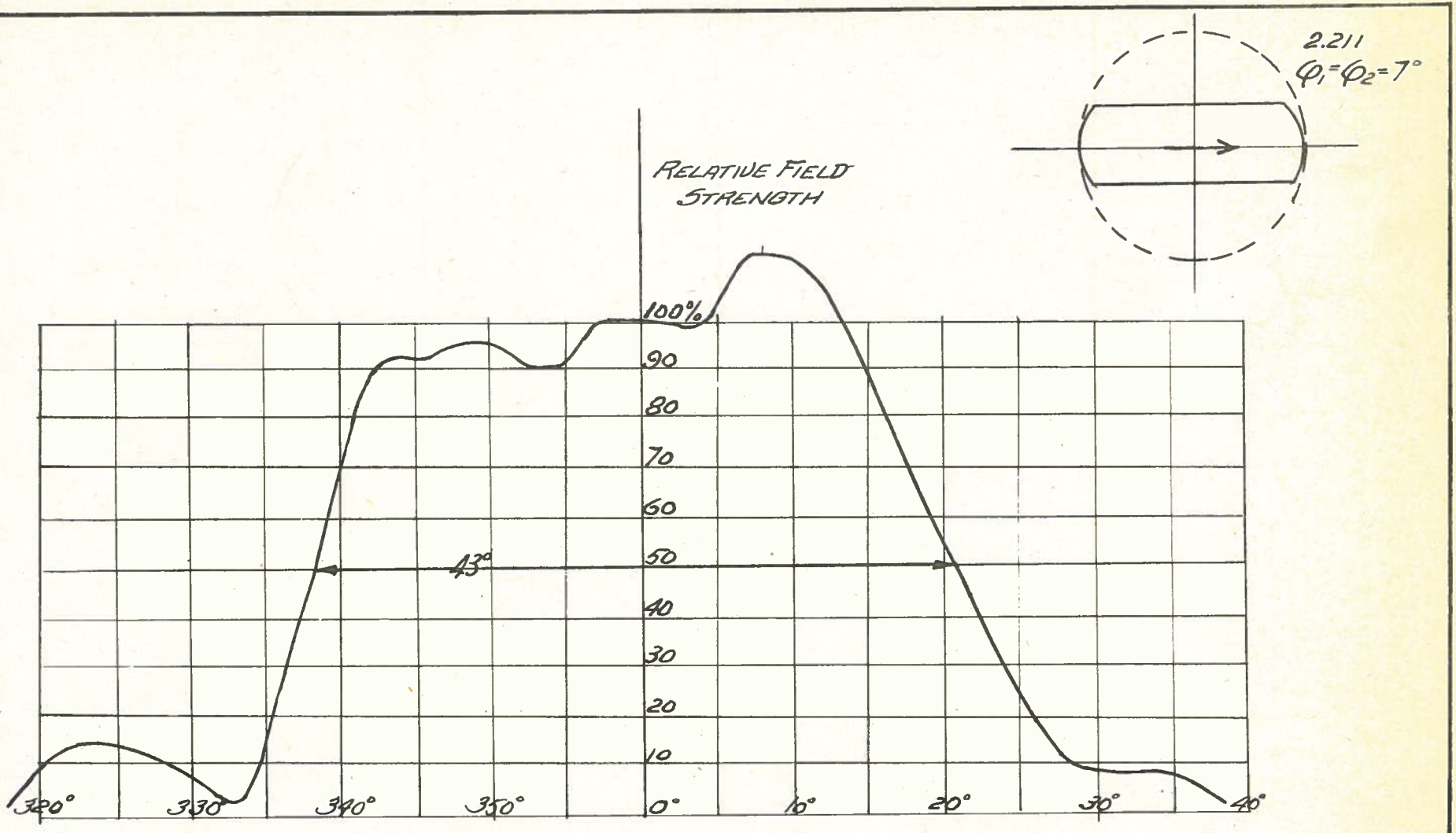


FIGURE II

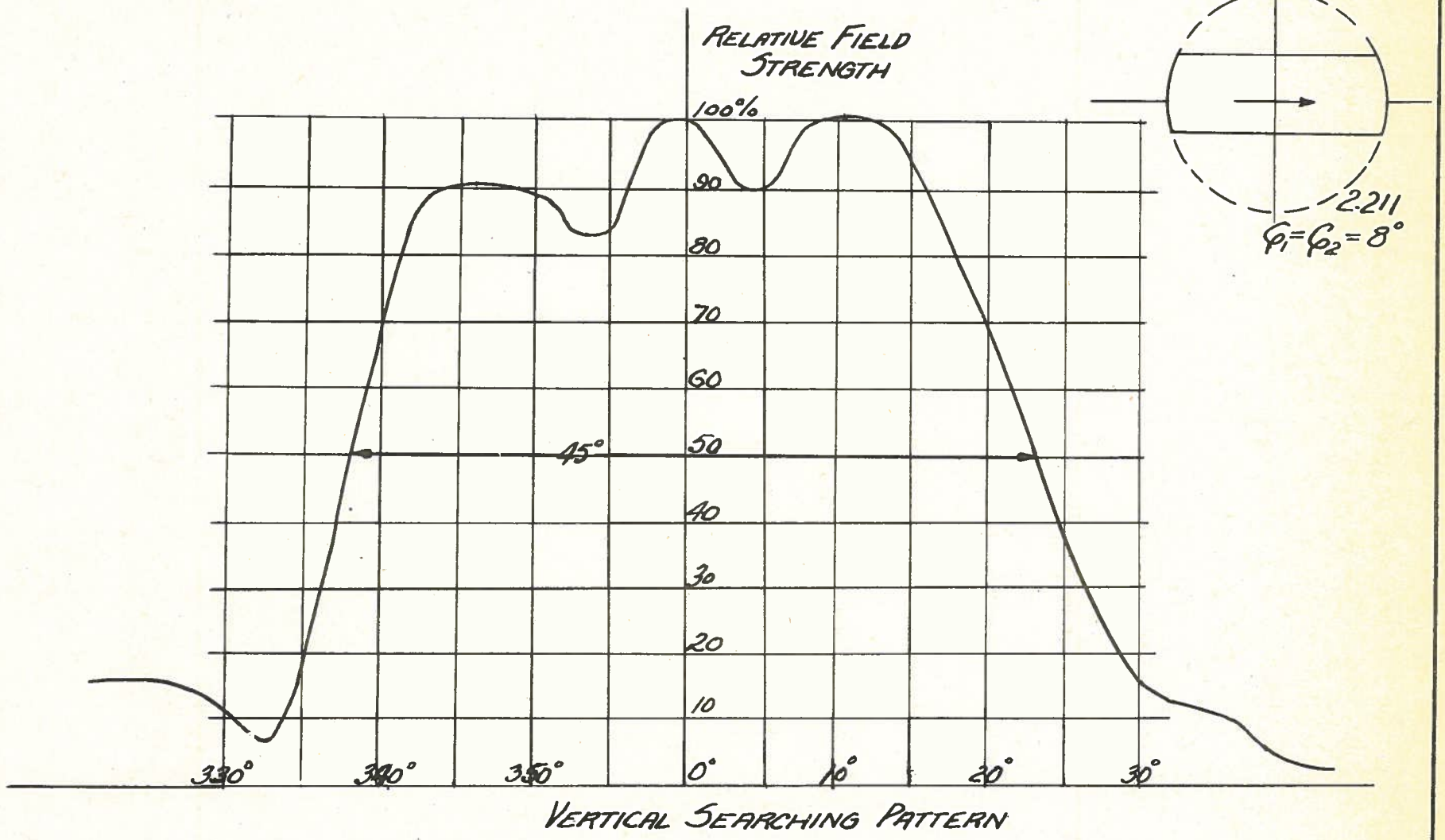
942
REV
9-72



VERTICAL SEARCHING PATTERN

FIGURE 12

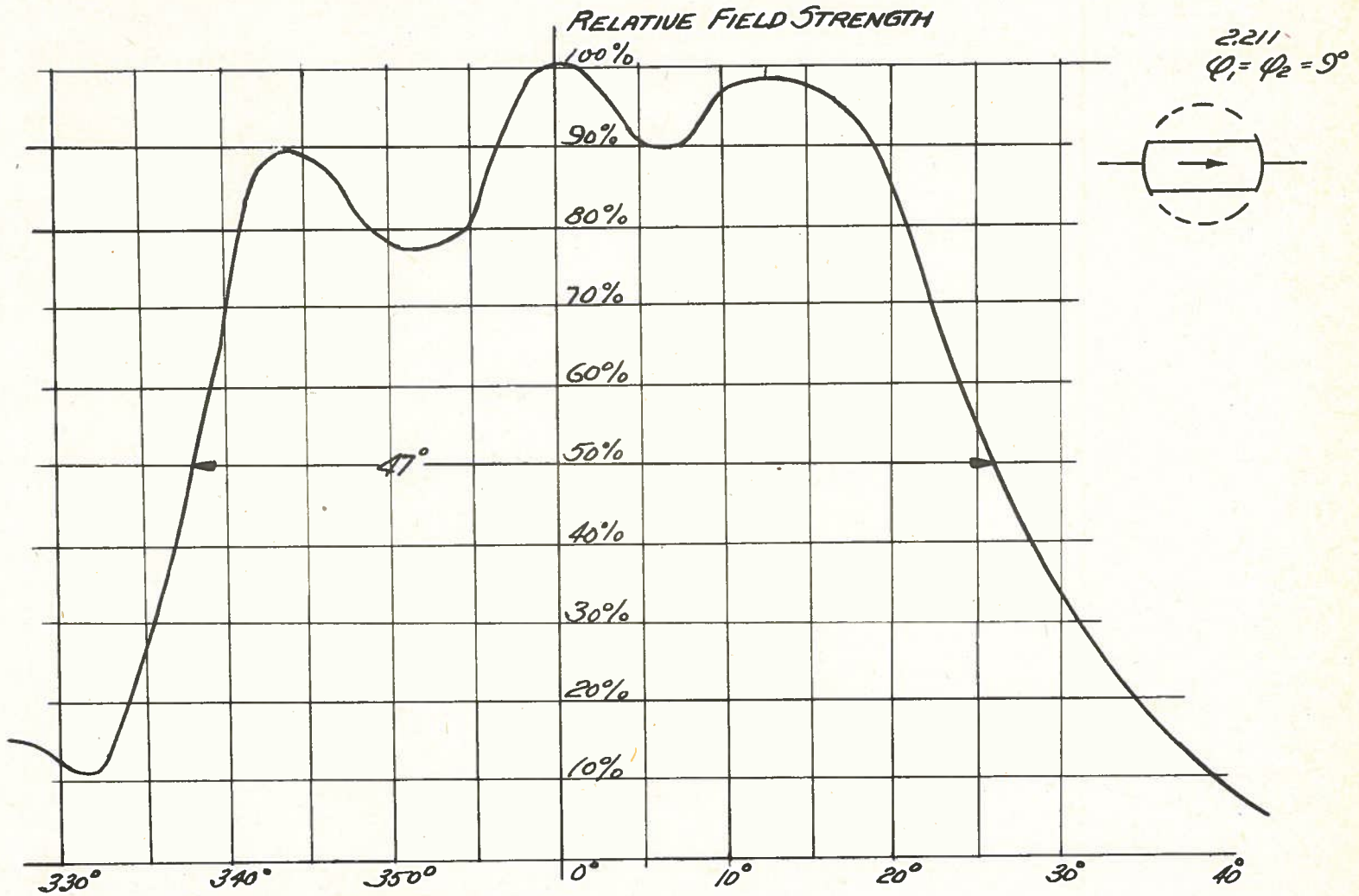
544 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH. OTTAWA CANADA	
	APPROVED —	RDX ANTENNA — DATE



VERTICAL SEARCHING PATTERN

FIGURE 13

545 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH. OTTAWA CANADA	
	APPROVED —	DATE
	RDX ANTENNA	



VERTICAL SEARCHING PATTERN

CURVE #210

FIGURE 14

546 PRA 97	NATIONAL RESEARCH COUNCIL – RADIO BRANCH. OTTAWA CANADA	
	APPROVED –	RDX ANTENNA (12.3) DATE

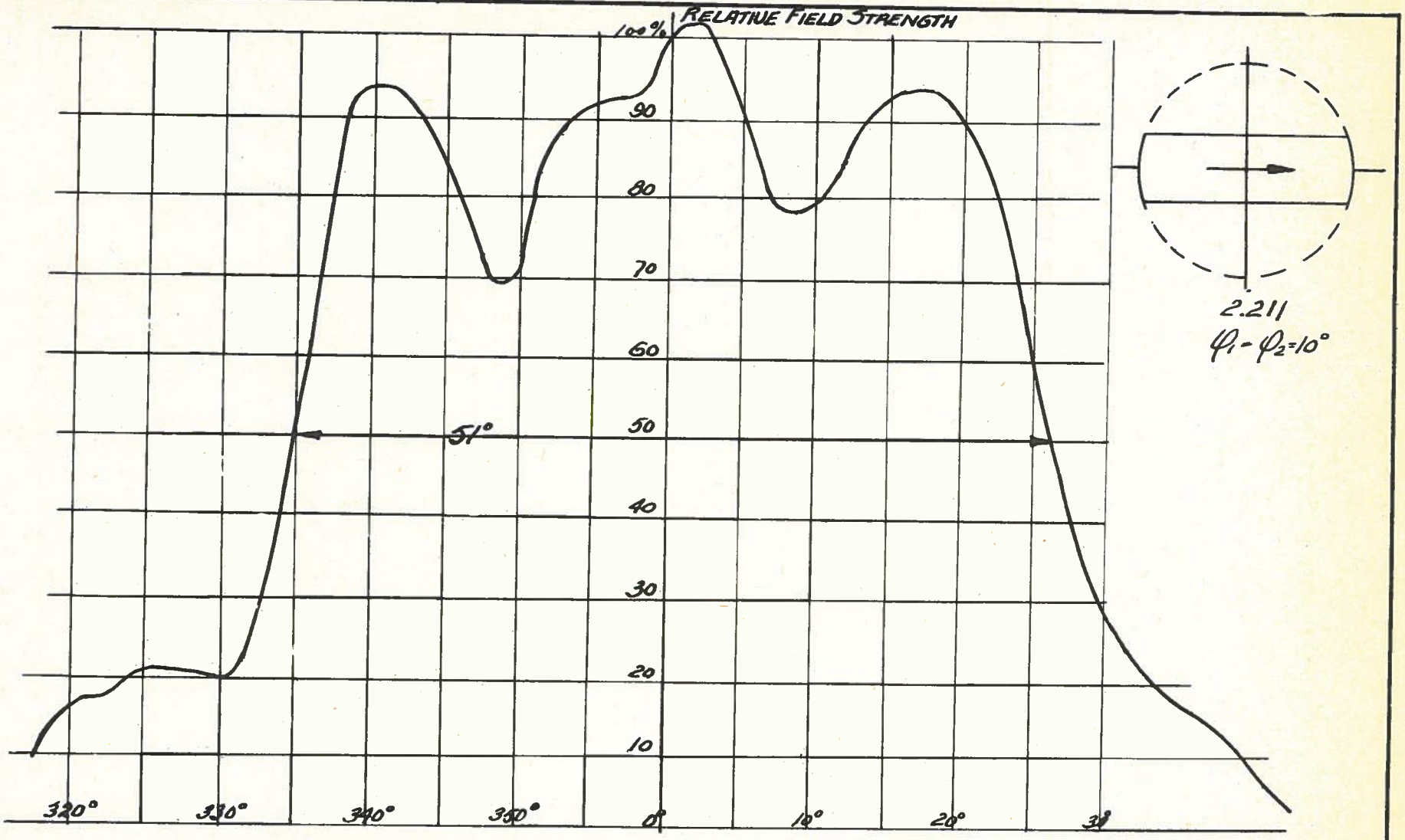


FIGURE 15

VERTICAL SEARCHING PATTERN.

547 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH. OTTAWA CANADA	
APPROVED —	ROX ANTENNA	DATE

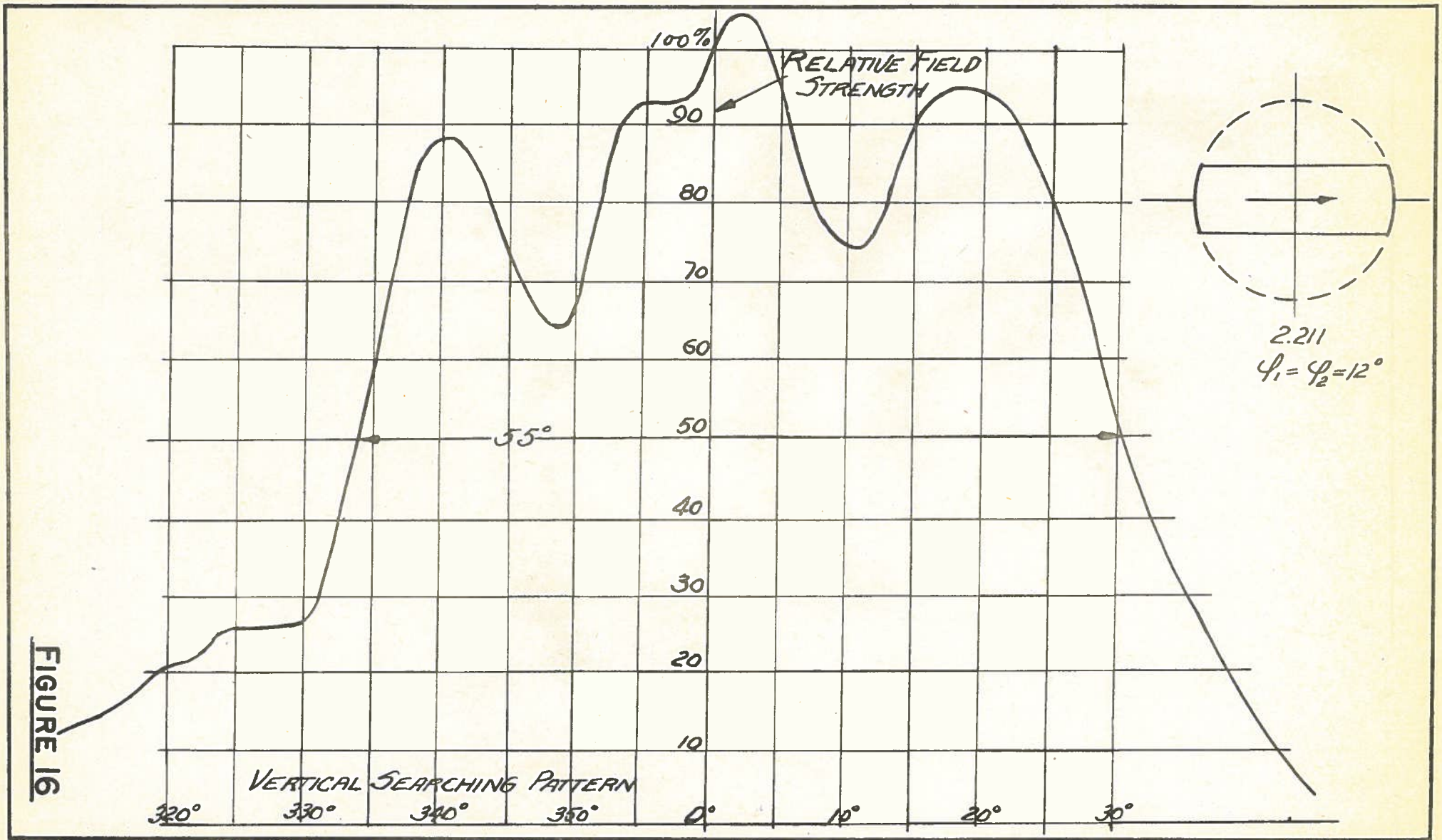


FIGURE 16

548 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH. OTTAWA CANADA	
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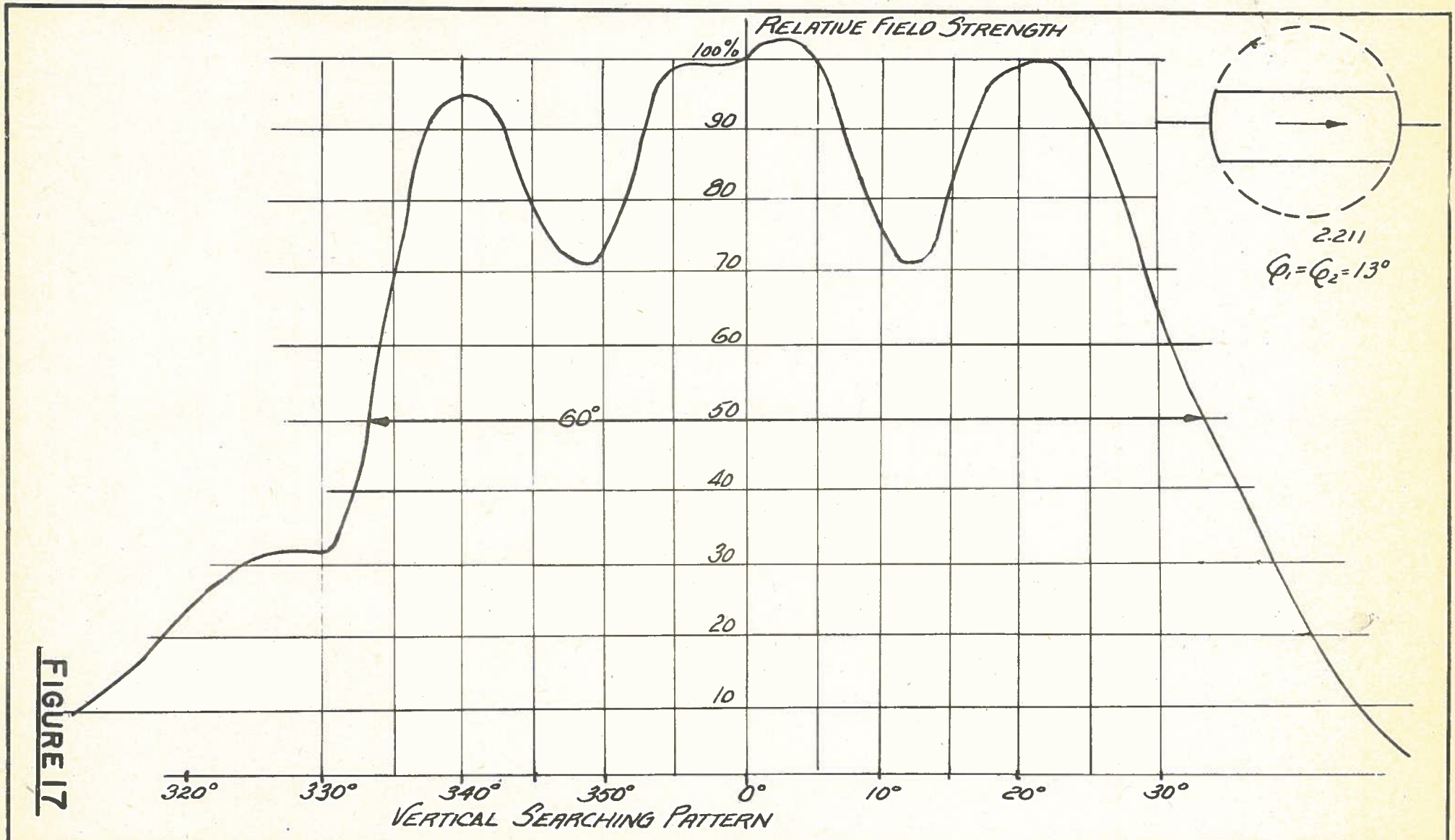


FIGURE 17

549 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH. OTTAWA CANADA	
APPROVED —	RDX ANTENNA.	DATE

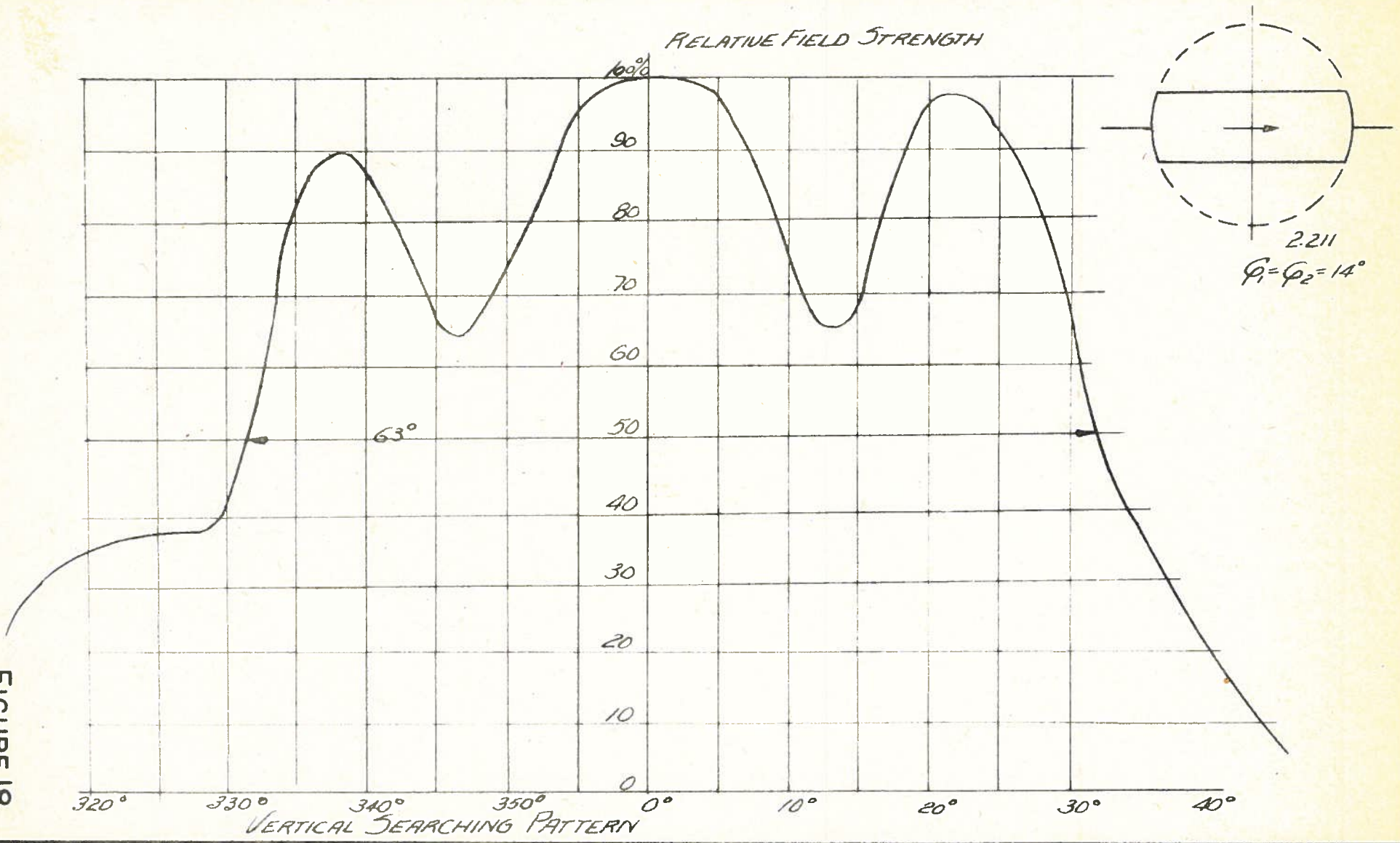


FIGURE 18

550 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH. OTTAWA CANADA	
	APPROVED —	RDX ANTENNA
		DATE

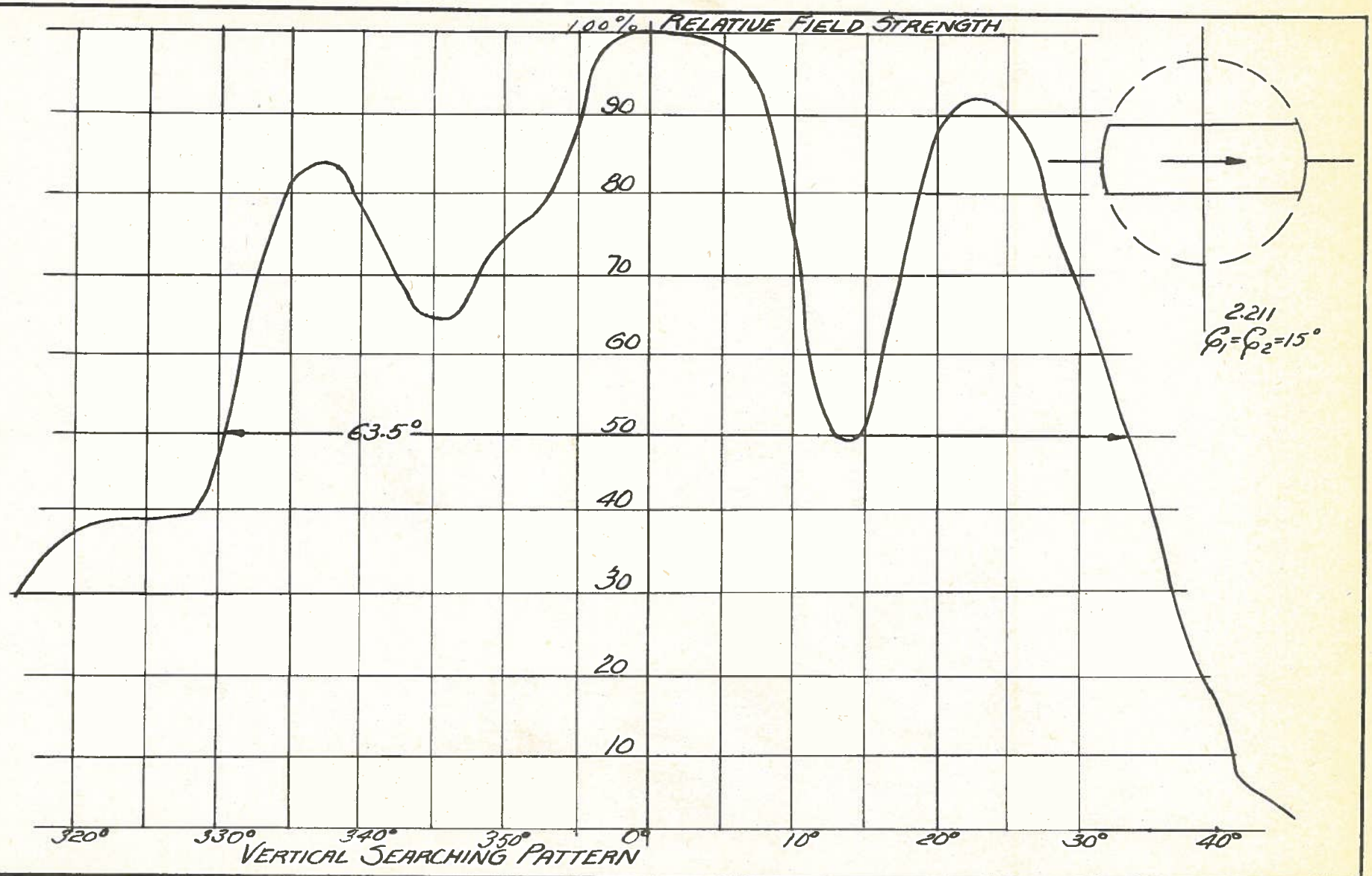
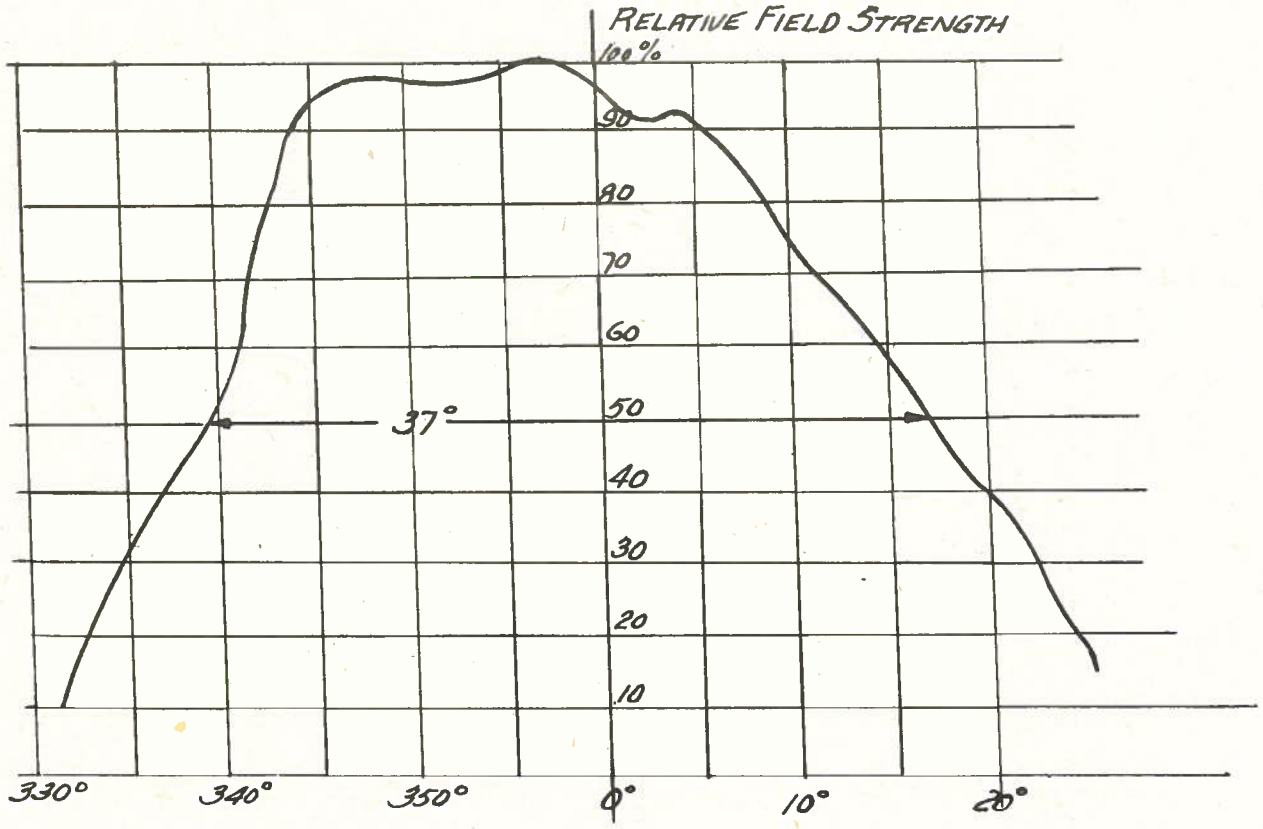


FIGURE 19

551 PRA 97	NATIONAL RESEARCH COUNCIL — RADIO BRANCH.		OTTAWA CANADA
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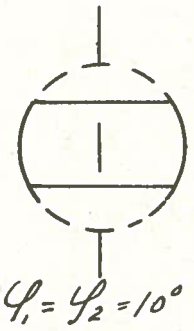


FIGURE 20

552 PRA 97	NATIONAL RESEARCH COUNCIL – RADIO BRANCH. OTTAWA CANADA		
	APPROVED –	RDX ANTENNA	DATE

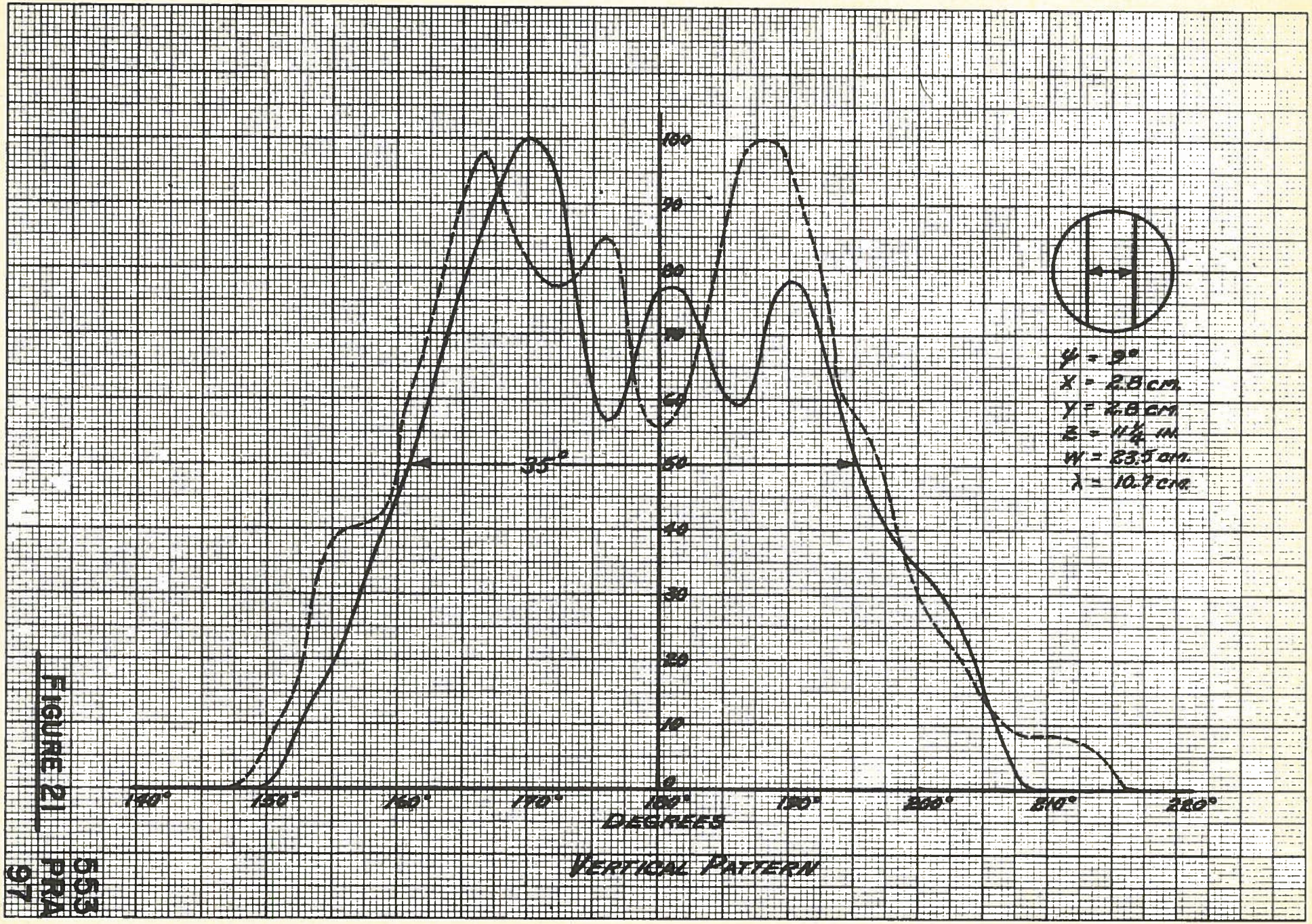


FIGURE 12

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67

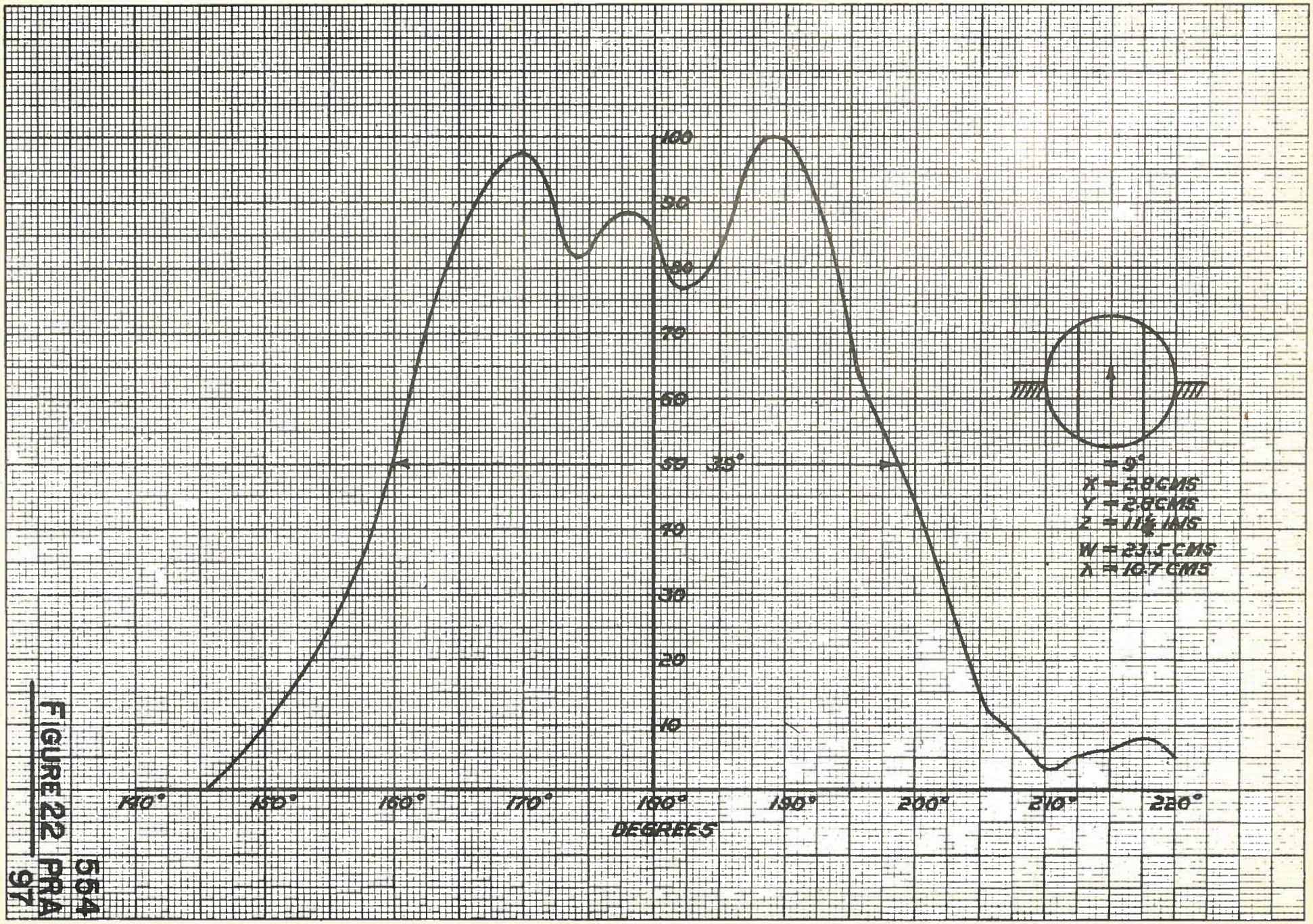


FIGURE 22 PRA 554 97

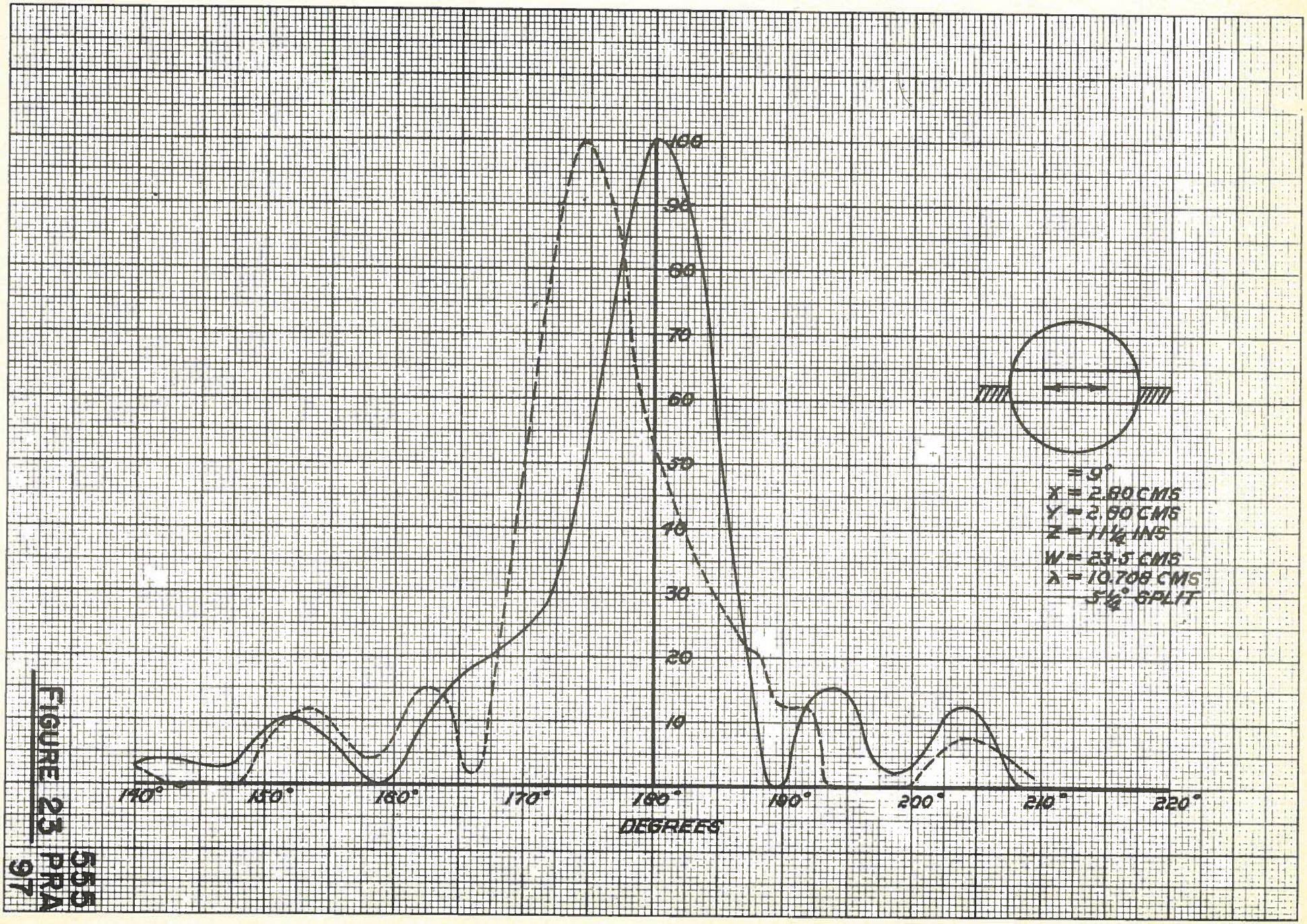


FIGURE 23 555 PRA 9-7

FIGURE 24

5569
PRA
9/7

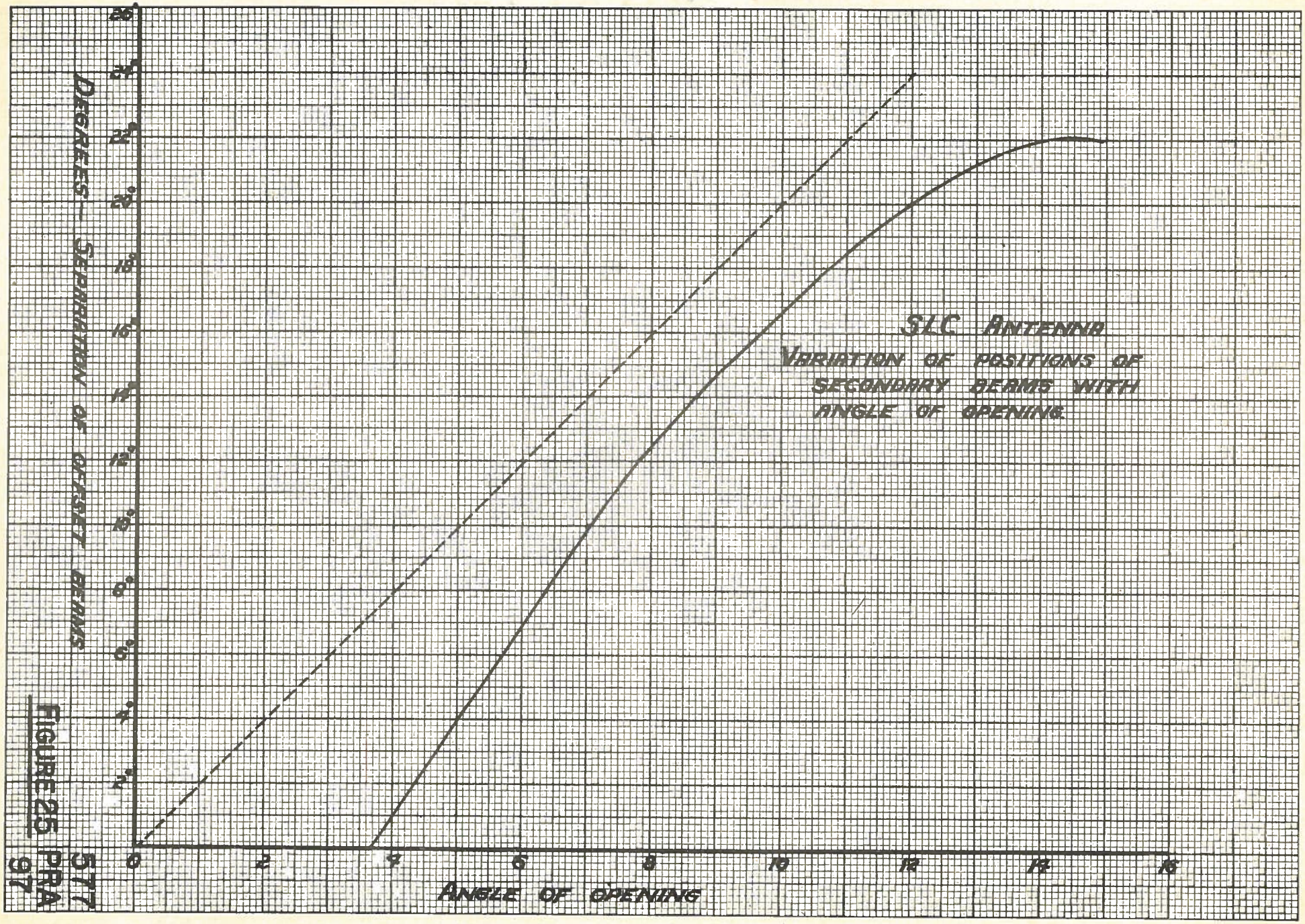


FIGURE 25 PRA 577 97

