730-780

Station	Main Studio	Freq	Power	Date
NEW	Vernon, BC	730	10 kW/DA-2	4/7/78
NEW	North Bay, ON	730	10 kW/DA-1	9/23/77
NEW	Rutland, BC	730	1 kW/DA-1	10/26/70
CHYR	Leamington, ON	730	1 kW/DA-N	5/4/82
CHYR	Leamington, ON	730	0.25 kW/DA-N	4/29/68
CJNR	Blind River, ON	730	1 kW/DA-N	6/5/78
CKAC	Montreal, QU	730	50 kW/DA-1	1/14/57
CKDM	Dauphin, MB	730	5/10 kW/DA-N	7/8/59
CKGA	Gander, NF	730	1 kW/DA-1	9/26/68
CKGB	Timmins, ON	730	25 kW/DA-2	12/7/79
CKLG	Vancouver, BC	730	10 kW/DA-2	8/23/63
CMCA	Havana, CU	730	10 kW/DA-1	10/16/52
KDAZ	Albuquerque, NM	730	1 kW/DA-D	4/24/58
KKDA	Grand Prairie, TX	730	0.5 kW/DA-D	2/7/57
WIAC	Senturce, PR	730	10 kW/DA-1	
WMGS	Bowling Green, OH	730	1 kW/DA-D	7/8/59
WMNA	Grenta, VA	730	1 kW/DA-D	9/14/56
WPIK	Alexandria, VA	730	5 kW/DA-D	10/29/75
WVIC	East Lansing, MI	730	0.5 kW/DA-D	12/28/62
XEX	Mexico, DF	730	500 kW	6/25/48
NEW	Vernon, BC	730	10 kW/DA-2	2/11/76
CBL	Toronto, ON	740	50 kW	11/20/52
CBNM	Marystown, NF	740	10 kW/DA-N	9/26/68
CBX	Edmonton, AB	740	50 kW/DA-2	1/28/66
CMKJ	Holguin, CU	740	10 kW/DA-1	6/52
KBRT	Avalon, CA	740	10 kW/DA-D	2/9/53
KCBS	San Francisco, CA	740	50 kW/DA-2	7/21/50

730-780

Station	Main Studio	Freq	Power	Date
KCMC	Texarkana, TX	740	1 kW/DA-1	5/27/60
KMEO	Phoenix, AZ	740	1 kW/DA-D	7/11/56
KRMG	Tulsa, OK	740	25/50 kW/DA-2	12/27/49
KSSS	Colorado Springs, CO	740	0.25/1 kW/DA-2	1/8/59
KTRH	Houston, TX	740	50 kW/DA-2	9/28/79
KVFC	Cortez, CO	740	0.25/1 kW/DA-N	4/22/59
WBAM	Montgomery, AL	740	50 kW/DA-D	2/2/53
WGSM	Huntington, NY	740	25 kW/DA-D	9/28/79
WGSM	Huntington, NY	740	1/5 kW/DA-D	9/27/60
WIAC	San Juan, PR	740	10 kW/DA-1	10/22/71
WKIS	Orlando, FL	740	1/5 kW/DA-2	3/29/54
WNOP	Newport, KY	740	1 kW/DA-D	8/11/76
WRNR	Martinsburg, WV	740	0.5 kW/DA-D	11/9/79
WRNR	Martinsburg, WV	740	0.25 kW/DA-D	9/5/75
WSBR	Boca Raton, FL	740	0.5/1 kW/DA-2	8/30/78
WSBR	Boca Raton, FL	740	1 kW/DA-D	6/14/61
KMMJ	Grand Island, NE	750	10 kW/DA-1	7/15/57
KXL	Portland, OR	750	50 kW/DA-1	9/25/74
NEW	Gander, NF	750	10 kW/DA-2	5/12/76
CMCD	Ensonada do Marimolona, Havana	750	10 kW/DA-2	11/18/52
KFMB	San Diego, CA	750	5 kW/DA-N	11/30/61
WORA	Mayaguez, PR	750	5 kW/DA-1	5/27/60
XEABC	Mexico, DF	750	5 kW/DA-2	1/26/72
KOB	Albuquerque, NM	750	50 kW/DA-N	2/28/64
WABC	New York, NY	750	50 kW/DA-N	3/28/60
CMHD	Santa Clara, Las Villas	750	5 kW/DA-1	10/22/52

730-780

Station	Main Studio	Freq	Power	Date
KCRL	Reno, NV	750	50 kW/DA-N	11/24/70

ANTENNA DESCRIPTION SHEET

STATION CALL: NEW

MAIN STUDIO: VERNON, BRITISH COLUMBIA

FREQUENCY: 730 kHz

POWER: 10 kW

CLASS: II

MODE: DA-2

TIME: UNLIMITED

NOTIFICATION LIST NO.: 372.. DATE: April 7, 1978.

GEOGRAPHICAL LOCATION: Latitude: 50° 12' 50" North
Longitude: 119° 12' 45" West

ARRAY CHARACTERISTICS: Four guyed steel towers of uniform cross section, base-insulated. Series fed; each top loaded by means of a horizontal steel hat.

TOWER NUMBER:	1(NW)	2(NE)	3(SE)	4(SW)
HEIGHT ABOVE INSULATOR:	250' 66.8°	250' 66.8°	290'* 77.4°	250' 66.8°
OVERALL HEIGHT ABOVE GRADE:	255'	255'	295'	255'
ELECTRICAL HEIGHT:	80°	76°	111.6°	80°
DAY{ FIELD RATIO:		1.00	0.56	
DAY{ PHASE ANGLE:		0°	101°	
NIGHT{ FILED RATIO:	1.00	0.98	1.00	1.00
NIGHT{ PHASE ANGLE:	0°	341.7°	100.9°	119.2°
SPACING:	0°	185° 692.6'	140.6° 526.4'	87° 325.7'
ORIENTATION:	ref.	75.3°	102.6°	207.9°

GROUND SYSTEM: 120 equally spaced radial wires per tower of #10 AWG bare copper wire, buried approximately 12" below grade, of average effective length 540'(0.4λ) excluding those jointed along common chords; minimum effective length 337'(0.25λ).

PREDICTED EFFECTIVE FIELD: (UNATTENUATED AT ONE MILE) 600 mV/m for 10 kW day, and 560 mV/m for 10 kW night, or 189.9 and 177.2 mV/m per kW

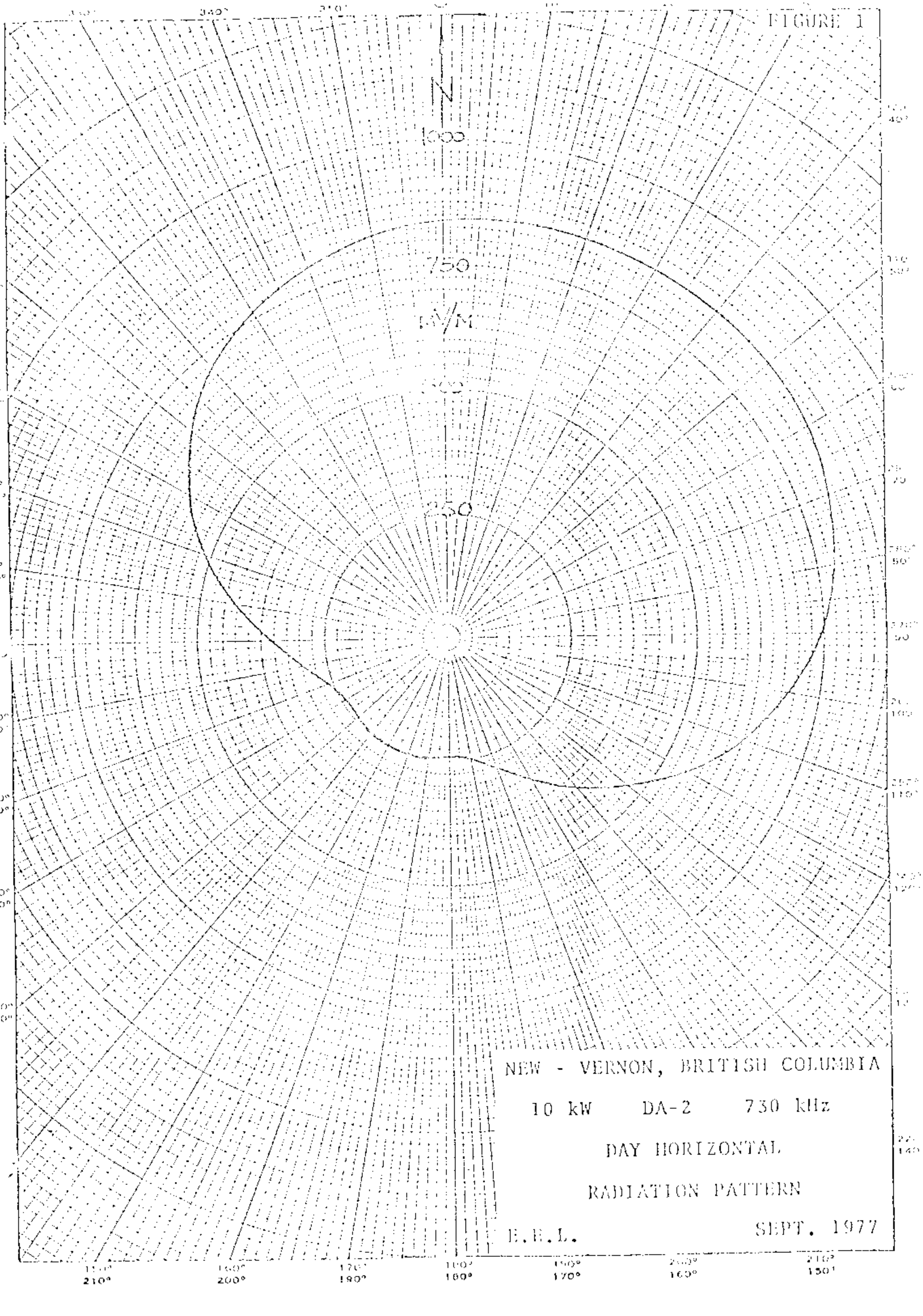


FIGURE 1
N
1000
750
MV/M
500
250
NEW - VERNON, BRITISH COLUMBIA
10 kW DA-2 730 kHz
DAY HORIZONTAL
RADIATION PATTERN
E.E.L.
SEPT. 1977

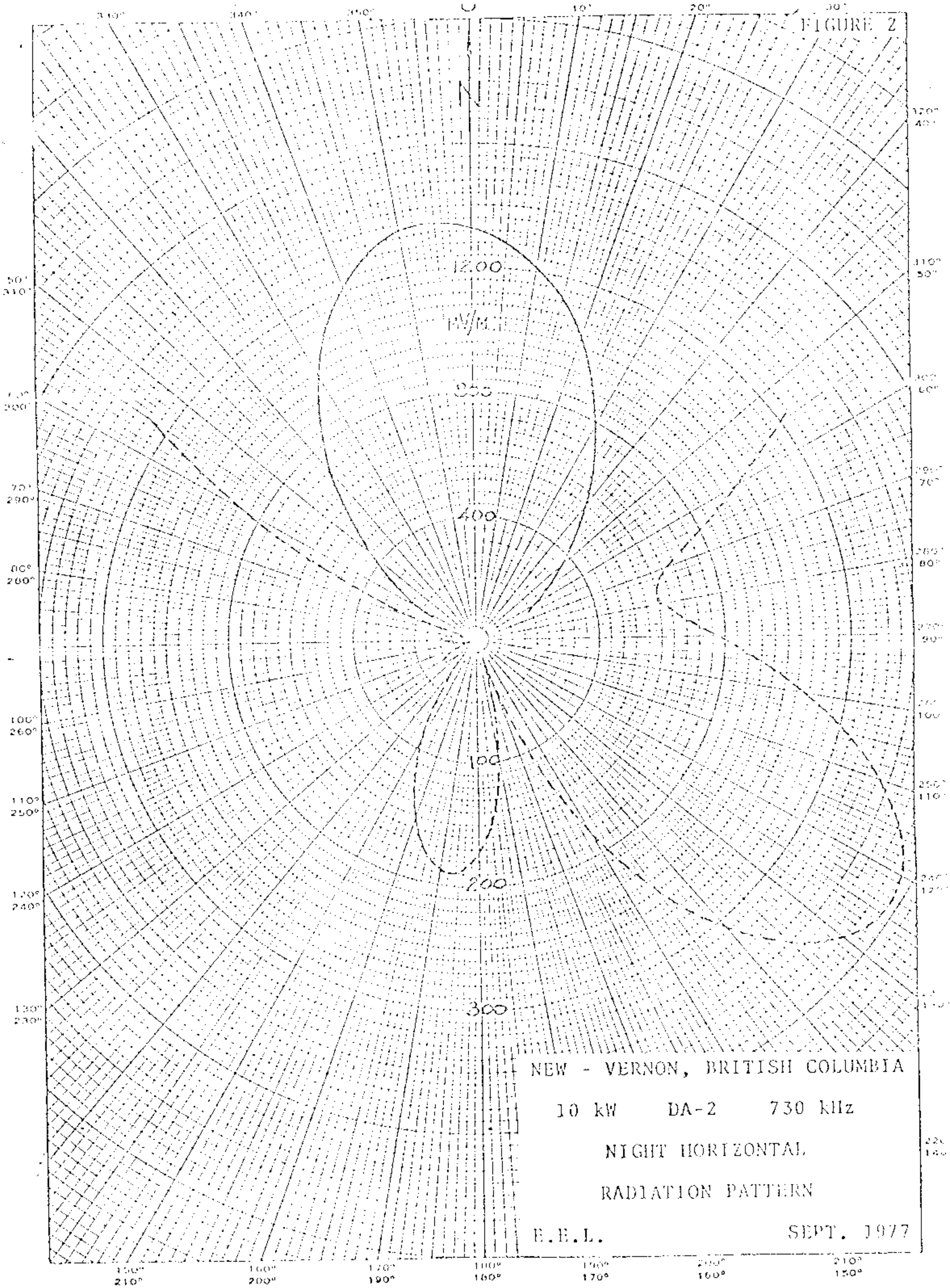


FIGURE 2

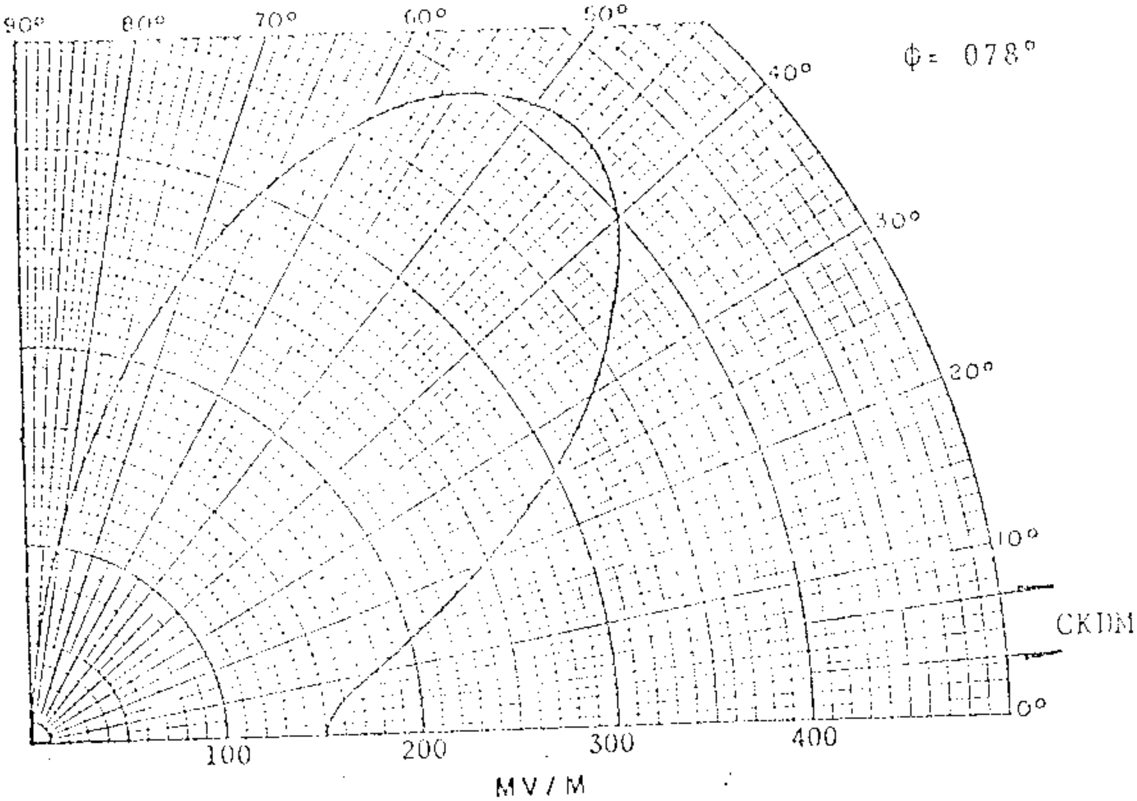
NEW - VERNON, BRITISH COLUMBIA

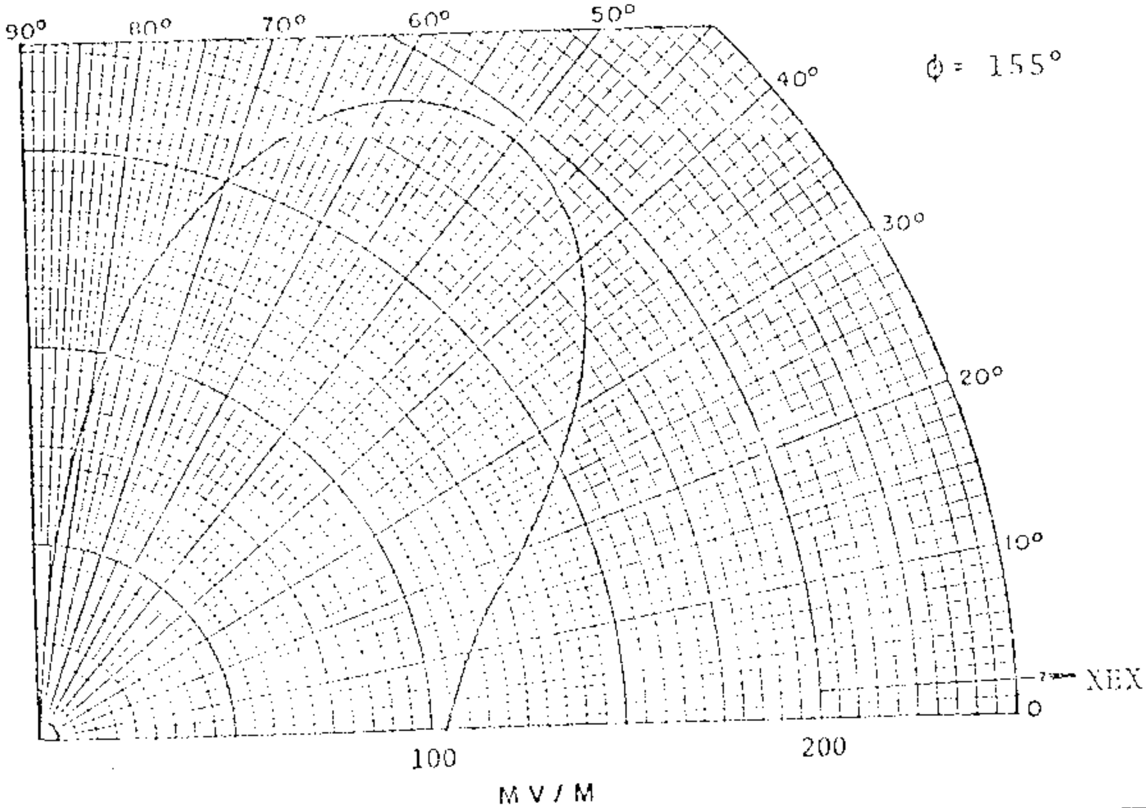
10 kW DA-2 730 kHz

NIGHT HORIZONTAL

RADIATION PATTERN

E.E.L. SEPT. 1977



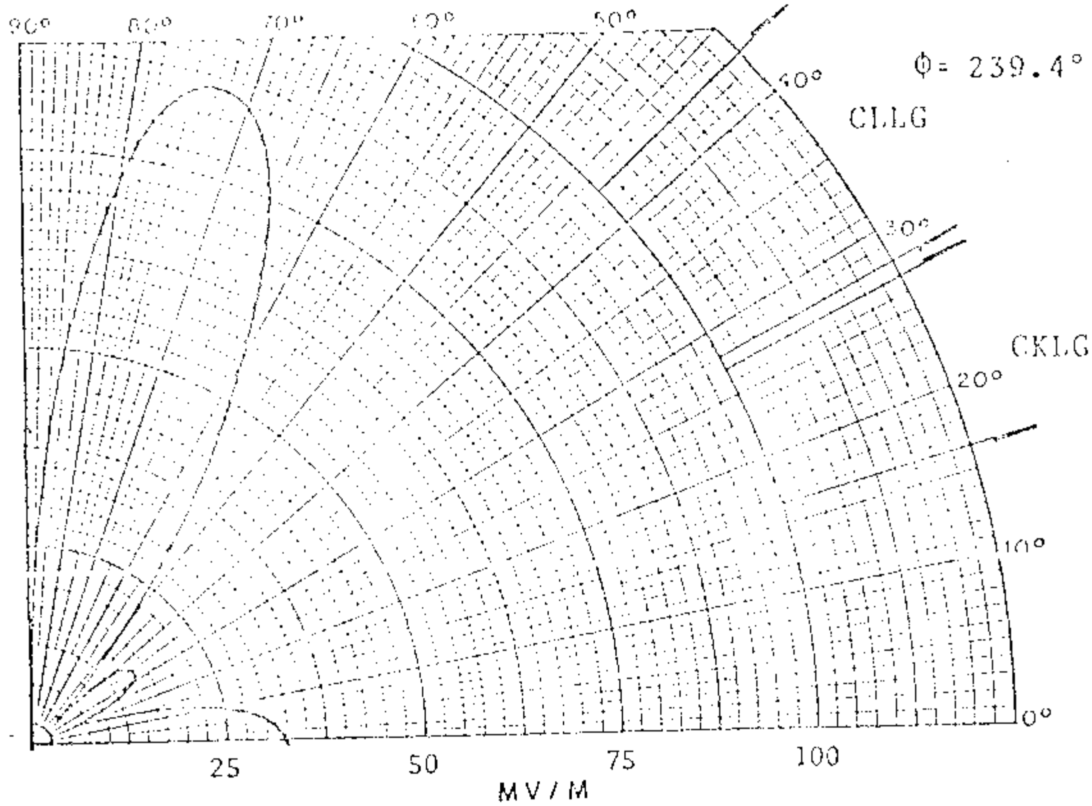


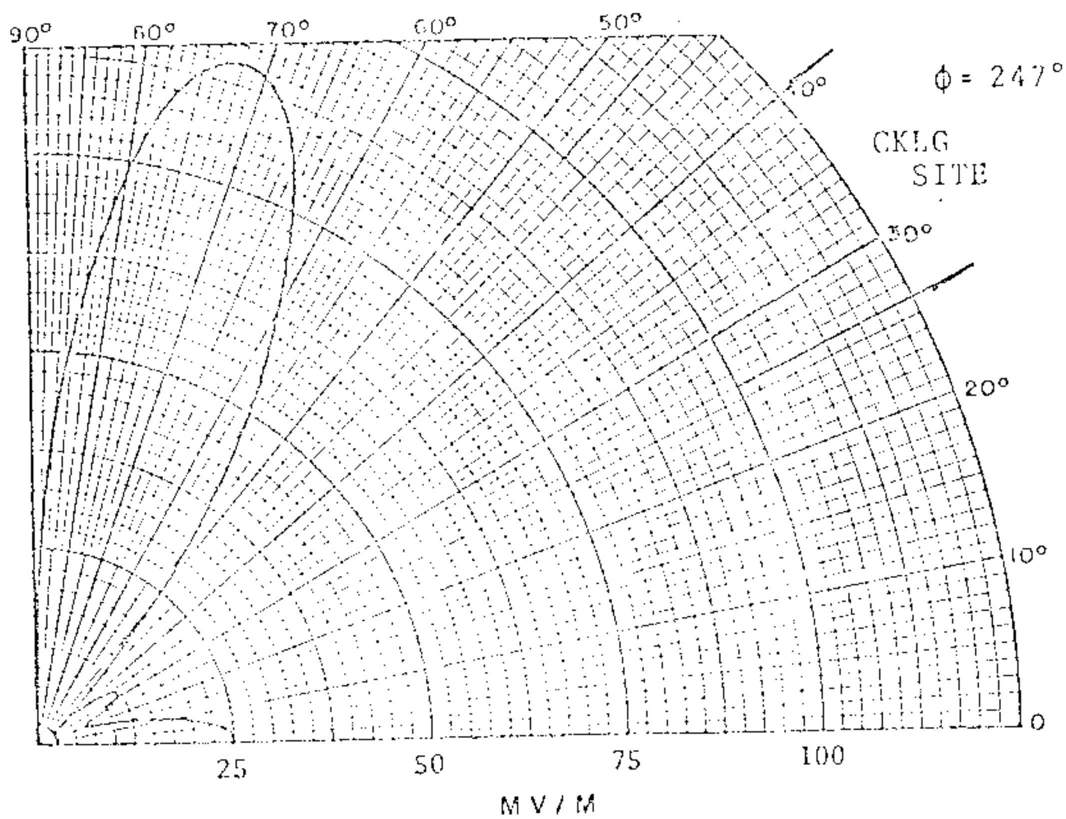
VERTICAL RADIATION PATTERNS

NEW - VERNON, BRITISH COLUMBIA

10 kW DA-2 730 kHz CLASS II

B.E.L. SEPT. 1977



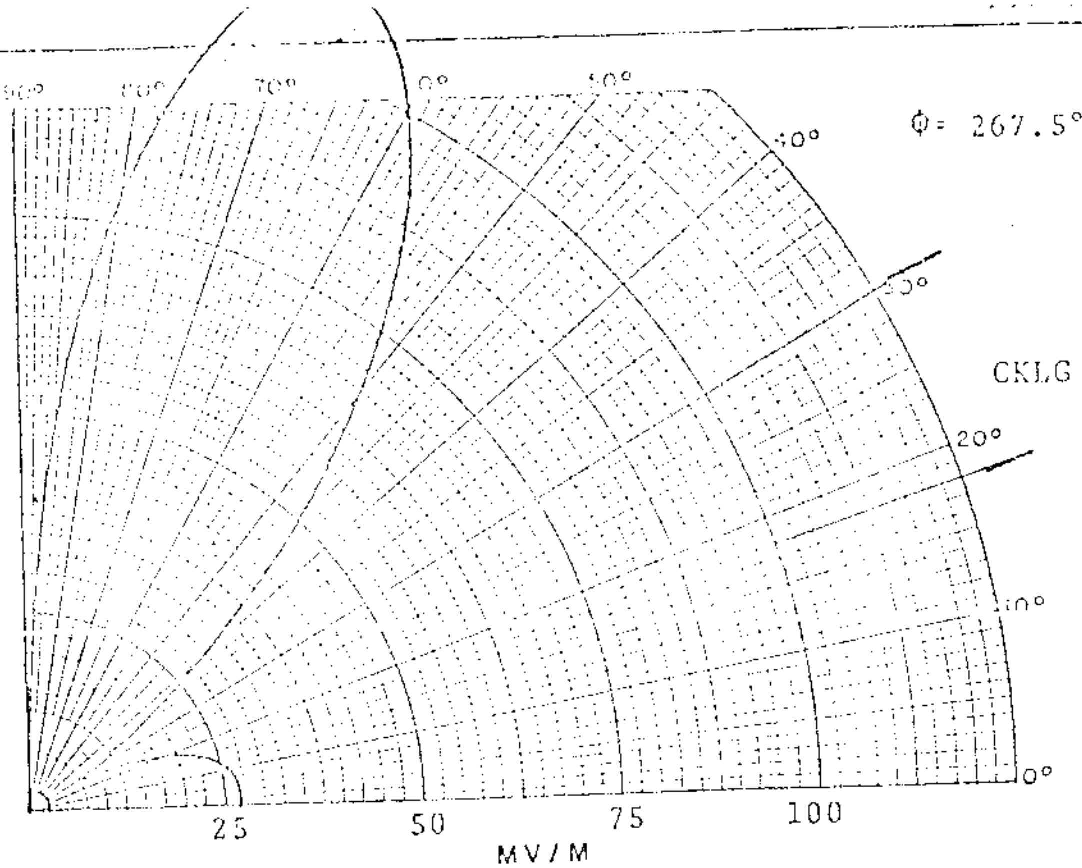


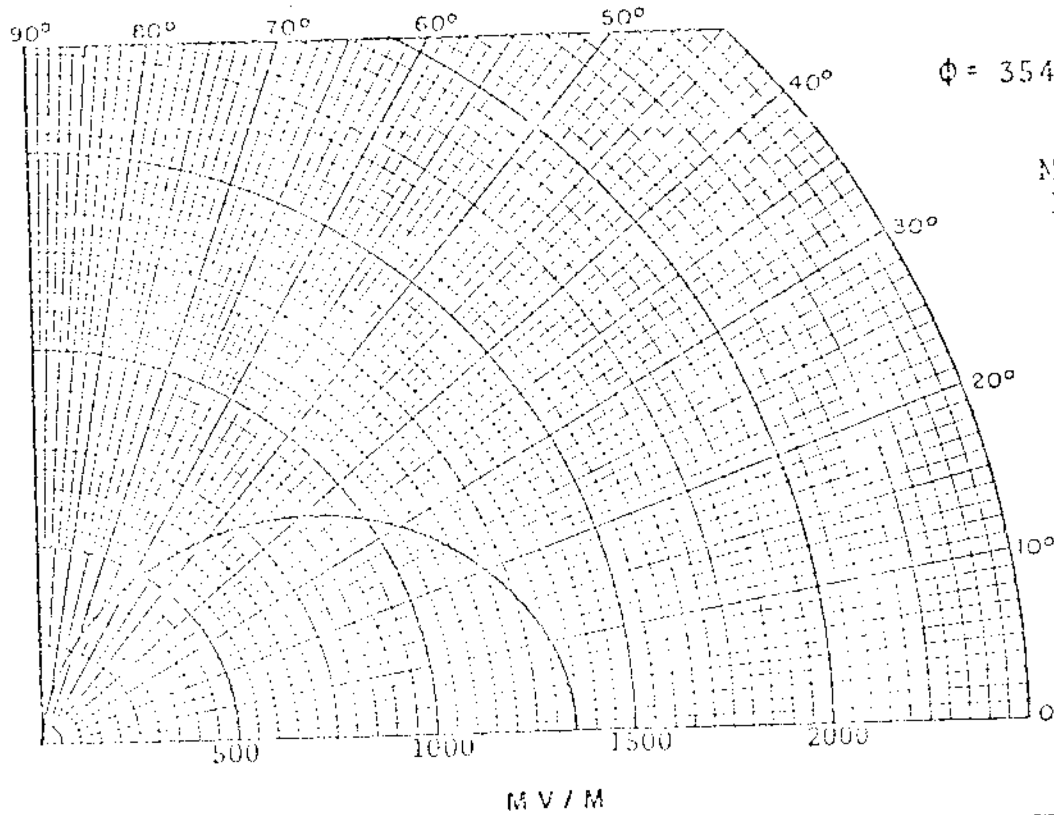
VERTICAL RADIATION PATTERNS

NEW - VERNON, BRITISH COLUMBIA

10 kW DA-2 730 kHz CLASS II

E.E.L. SEPT. 1977





VERTICAL RADIATION PATTERNS

NEW - VERNON, BRITISH COLUMBIA

10 KW DA-2 730 kHz CLASS II

E.E.L. SEPT. 1977

DESCRIPTION SHEET

Station:	New	Main Studio:	North Bay, Ontario
Frequency:	730 kHz	Power:	10 kW
Time:	Unlimited	Class:	II
Notification List No.	367	Date:	September 23, 1977

Geographic Location: North Lat. 46° 15' 16"

West Long. 79° 23' 15"

Antenna System:

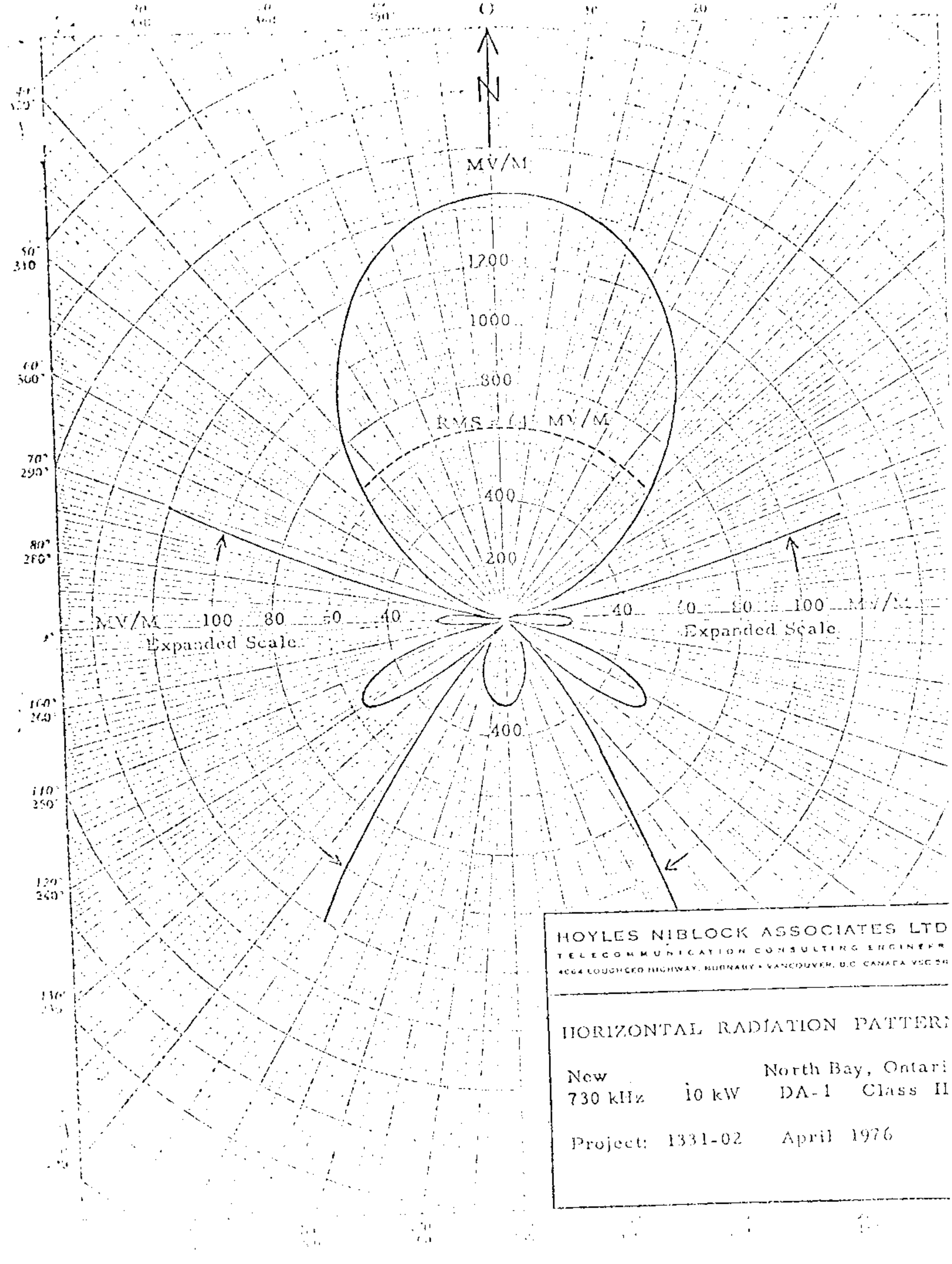
Mode of Operation: DA-1

Elements: Four uniform cross-section, guyed steel towers, base insulated and series fed. Top loaded using the upper portion of the guys to an equivalent height of 90°.

Towers:	1	2	3	4
Height above Insulators:	290'	290'	290'	290'
Overall Height:	295'	295'	295'	295'
Spacing:	0°	90°	180°	270°
Phasing:	0°	-157.5°	47°	-109.5°
Current Radio:	1.00	2.57	2.57	1.00
Orientation:	0°	2.5°	2.5°	2.5°

Ground System: The ground system shall consist of 120, No. 10 copper wire radials buried approximately 8 inches below grade. The system is equivalent to 0.4λ

Predicted Effective Field: 645 mV/m for 10 kW

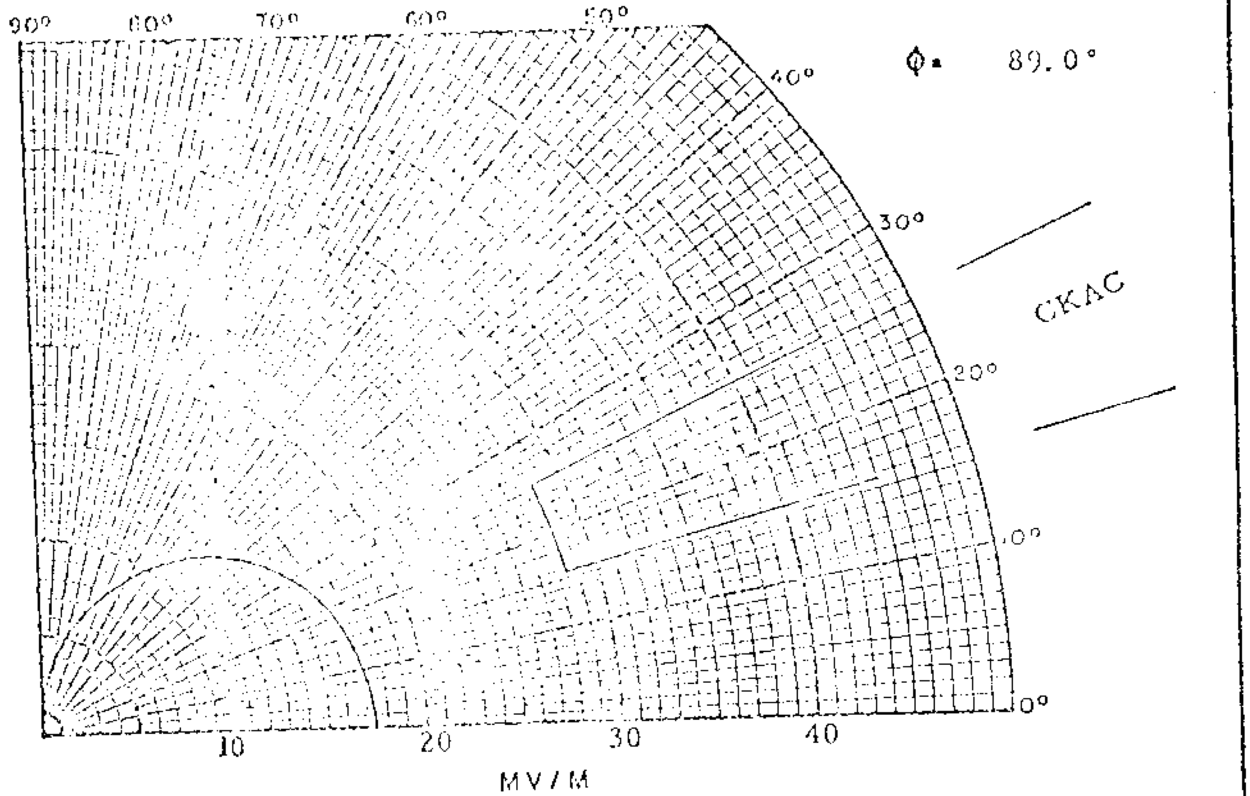


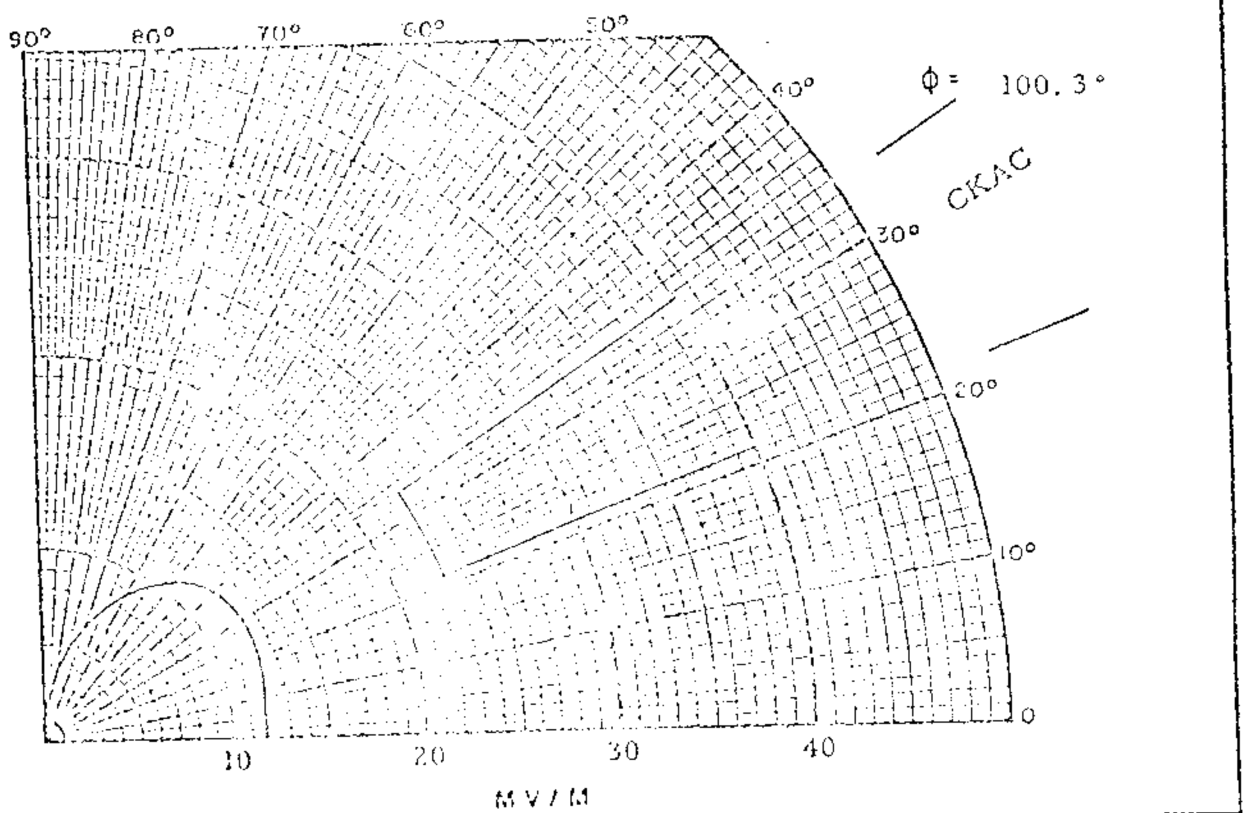
HOYLES NIBLOCK ASSOCIATES LTD
TELECOMMUNICATION CONSULTING ENGINEER
4664 LOUGHEED HIGHWAY, BURNABY • VANCOUVER, B.C. CANADA

HORIZONTAL RADIATION PATTERN

New
730 kHz 10 kW
North Bay, Ontari
DA-1 Class II

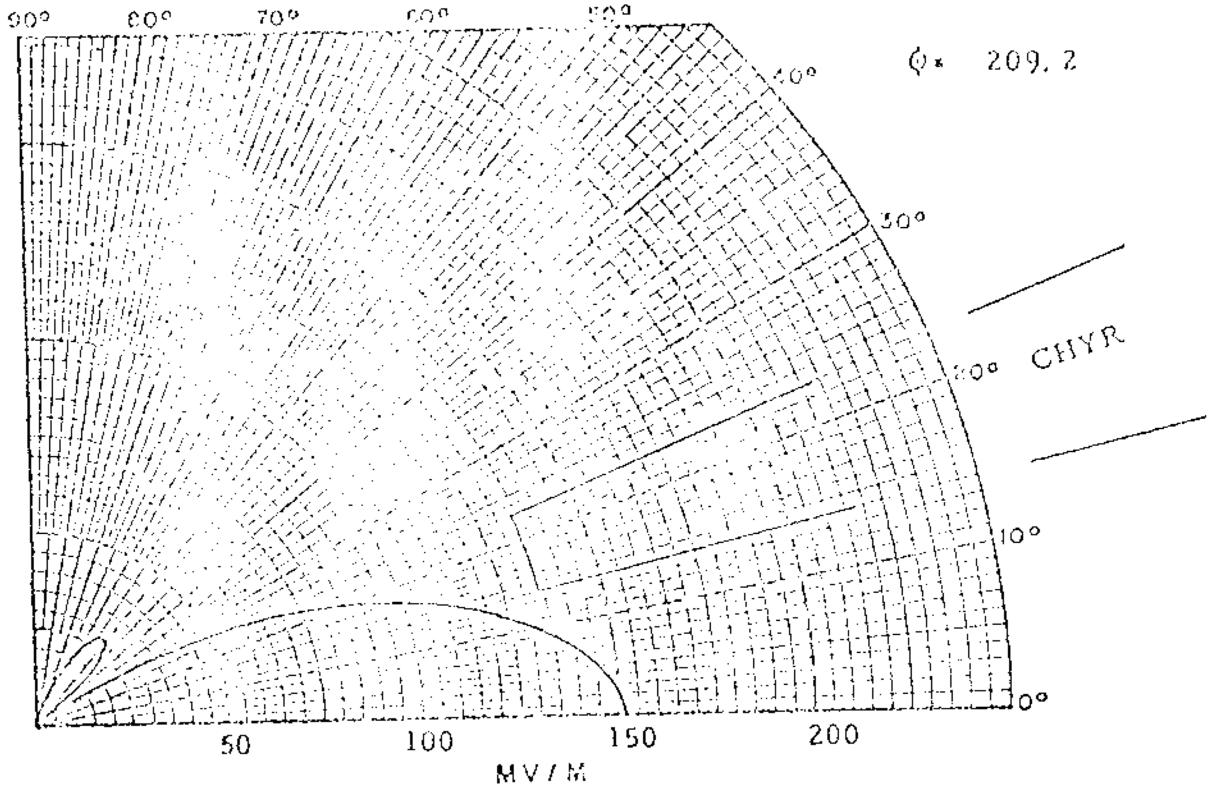
Project: 1331-02 April 1976

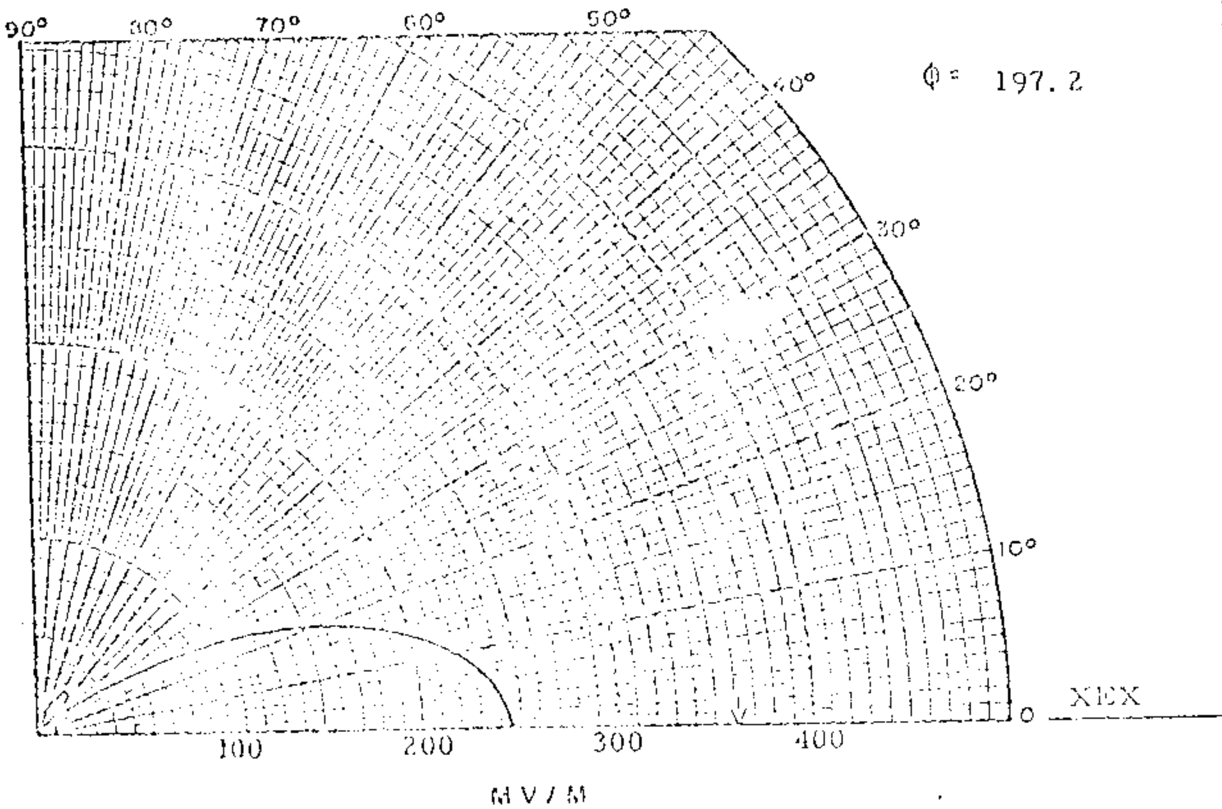




VERTICAL RADIATION PATTERNS

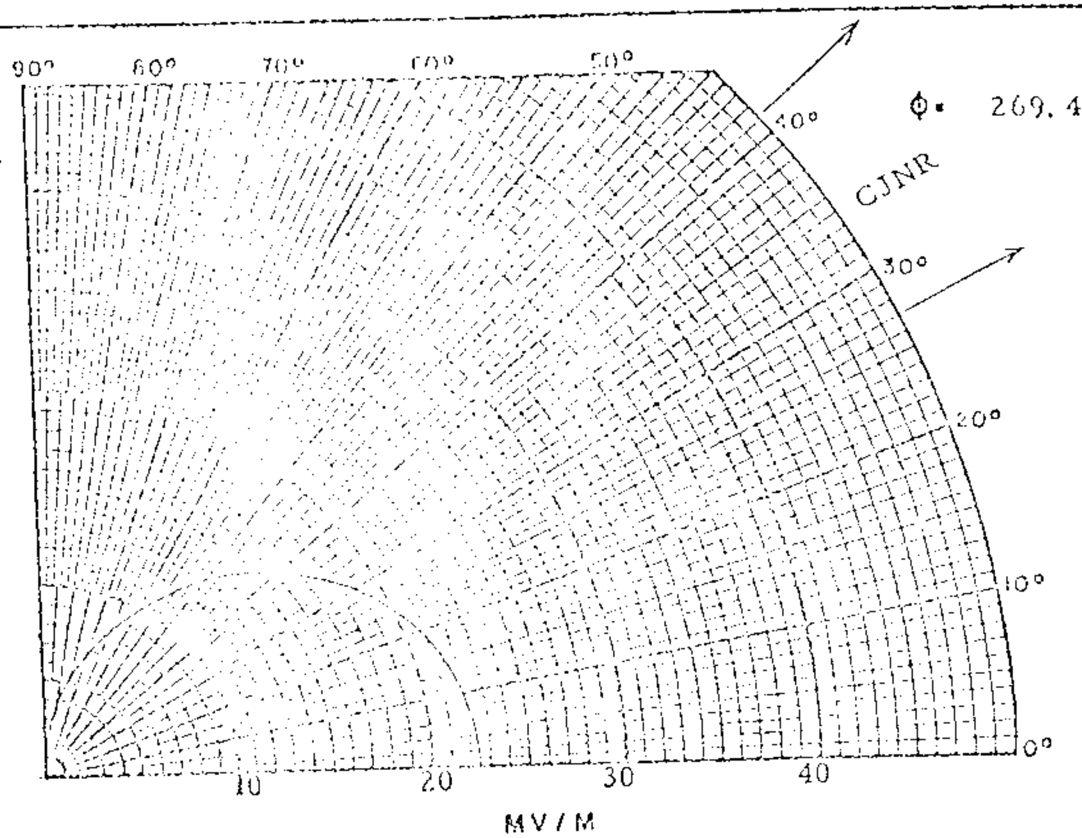
New
North Bay, Ontario
730 kHz 10 kW DA - 1 Class II
Project: 1331-02 April 1976

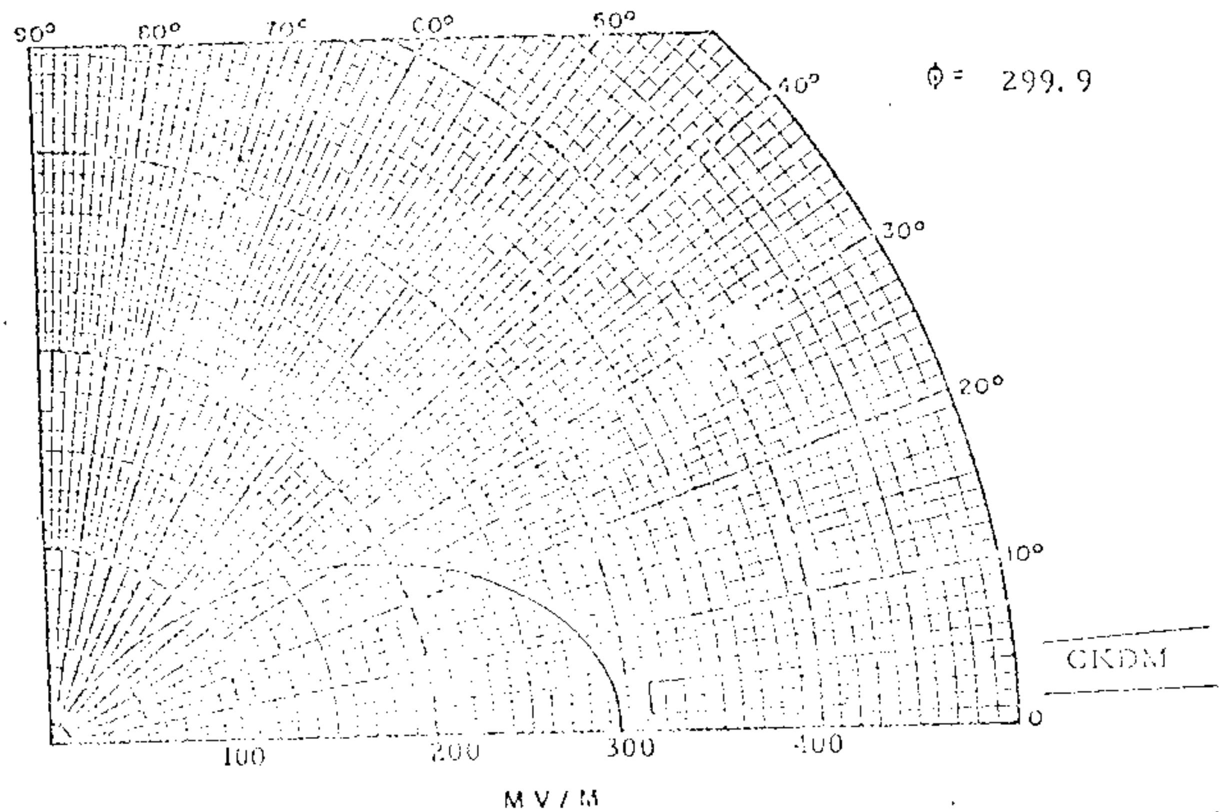




VERTICAL RADIATION PATTERNS

New
North Bay, Ontario
730 kHz 10 kW DA - 1 Class II
Project: 1331-02
April 1976

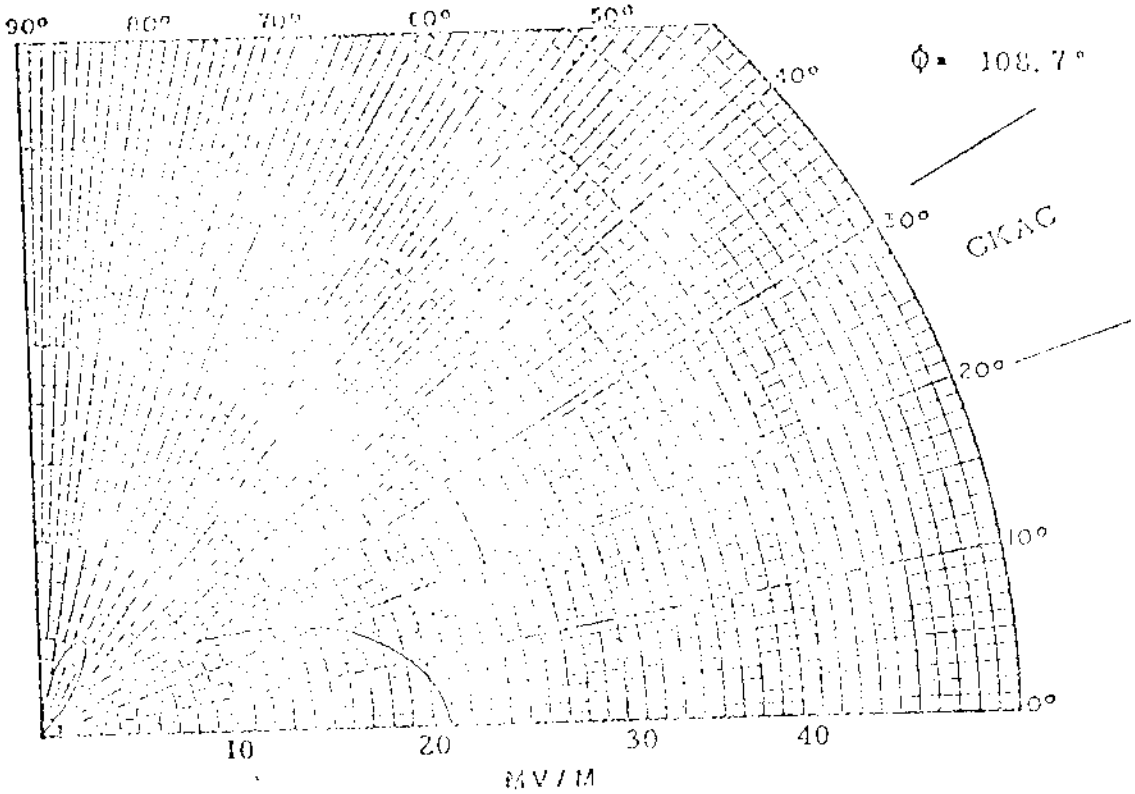


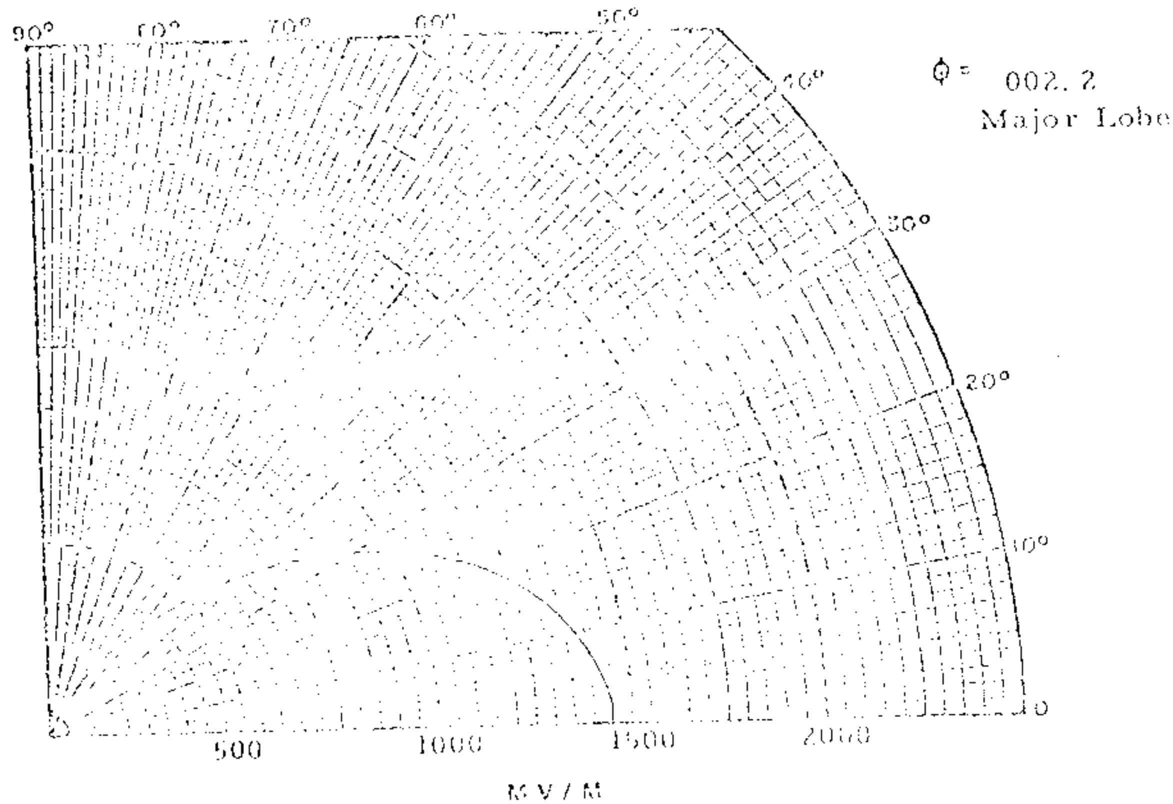


VERTICAL RADIATION PATTERNS

New
730 kHz 10 kW
Project: 1331-02

North Bay, Ontario
DA-1 Class II
April 1976





VERTICAL RADIATION PATTERNS

New
North Bay, Ontario
730 kHz 10 kW DA-1 Class II
Project: 1331-02 April 1976

TABLE 1

ANTENNA DESCRIPTION SHEET

STATION CALL: NEW

MAIN STUDIO: RUTLAND, BRITISH COLUMBIA

FREQUENCY: 730 kHz

POWER: 1 kW

CLASS: II

MODE: DA-1

TIME: UNLIMITED

NOTIFICATION LIST NO.: 272 DATE: September 3, 1970

GEOGRAPHICAL LOCATION: Latitude 49° 51' 35" North
Longitude 119° 26' 50" West

ARRAY CHARACTERISTICS: Two guyed steel towers of uniform cross section; base-insulated, series fed; no top loading.

TOWER #:	1 (South)	2 (North)
HEIGHT ABOVE INSULATOR:	250'(66.8°)	250'(66.8°)
HEIGHT ABOVE GROUND:	255'	255'
CURRENT RATIO:	1.00	0.90
PHASE ANGLE:	0°	-142°
SPACING:	337'(90°)	
ORIENTATION:	ref.	013° true

GROUND SYSTEM: 120 equally spaced buried copper radial wires per tower; of average effective length 540'(0.4λ), minimum length 337' (0.25λ), except those joined along the common chord.

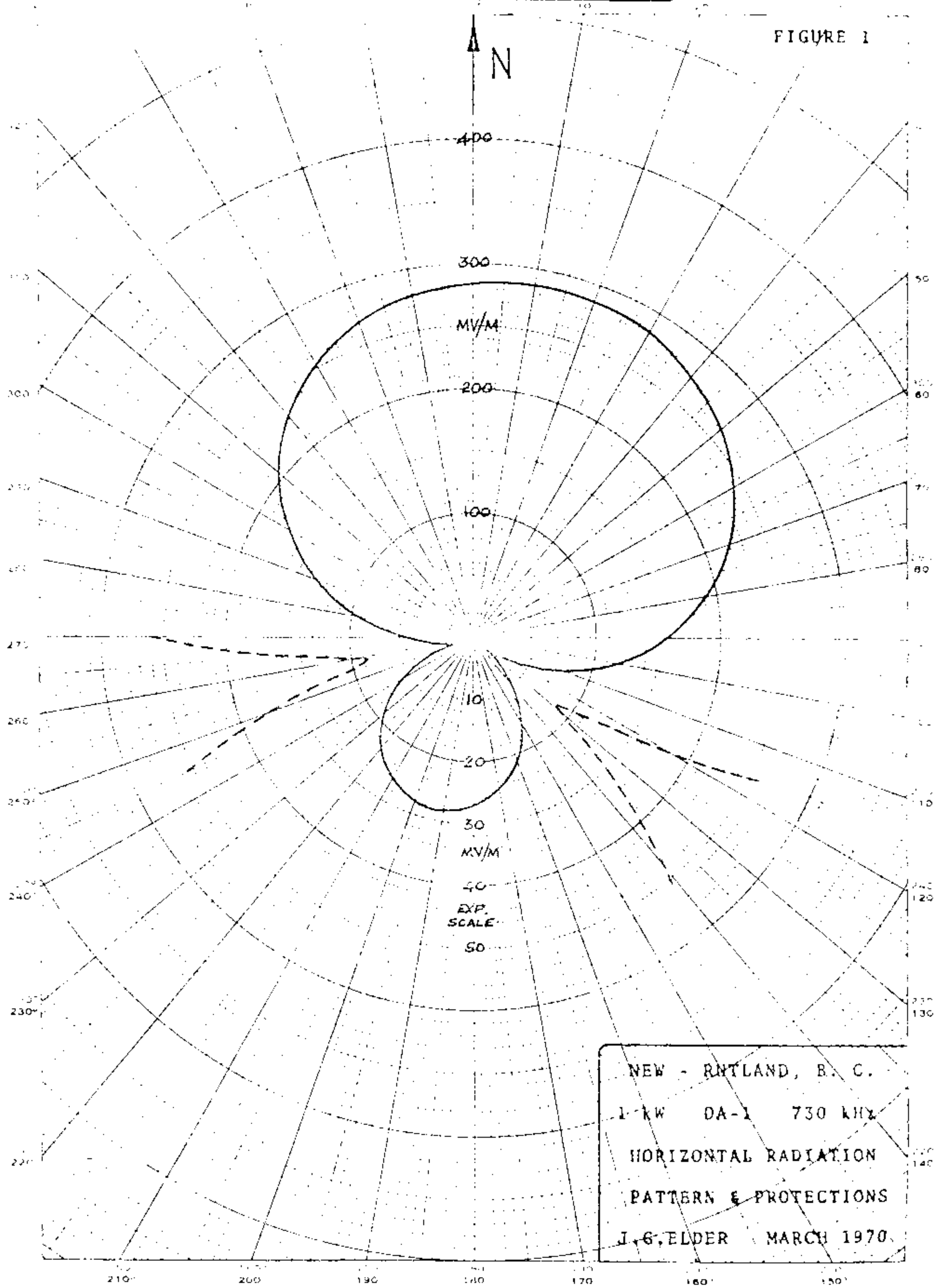
PREDICTED EFFICIENCY: 180 mV/m unattenuated at one mile for one kilowatt.

Proposed Day & Night (10-26-70ct)

New Station
Rutland, British Columbia

1kw,DA-1,U,Class II
730 kc

FIGURE 1



CHYK-7
730 kHz

IFRB Serial No. 12094

FORM FOR THE APPLICATION OF ARTICLE 4 OF THE AGREEMENT

CHARACTERISTICS OF A REGION 2 BROADCASTING STATION IN THE BAND 535 - 1605 kHz

PART I GENERAL INFORMATION

(a) Administration: CANADA | Sheet No. 412 | Date 820504

Assigned frequency (kHz)		02	730
Transmitting station	Name of the station	03	LEAMINGTON ON
	Call sign	04	CHYK-7
	Additional Identification	05	
	Station class	06	
	Operational Status	07	
Country		08	CAN
Geographical coordinates of the transmitting station		09	W N

(11) a) New assignment [ ] b) Modification of characteristic of an assignment recorded in the plan [X] c) Cancellation of an assignment [ ]

(12) Modification under Section 4.2.14 Yes [X] No [ ]

(13) Date of bringing into service or cessation of operation: 82 09 01 (Year Month Day)

STATION PARAMETERS	DAYTIME OPERATION		NIGHT-TIME OPERATION	
Station power (kW)	21		31	
r.m.s. value of radiation for station power (mV/m at 1 km)	25		35	
Antenna type	26		36	
Simple vertical antenna electrical height (degrees)	27		37	

(44) Remarks

COORDINATION UNDER ARTICLE 4								
COUNTRY	USA							
IN PROGRESS								
ACCEPTANCE OBTAINED								

FORM FOR THE APPLICATION OF ARTICLE 4 OF THE AGREEMENT

IFRB Serial No.

CHYR-7
730 kHz

FORM FOR THE APPLICATION OF ARTICLE 4 OF THE AGREEMENT
CHARACTERISTICS OF A REGION 2 BROADCASTING STATION IN THE BAND 535 – 1605 kHz

PART IV

1,2,0,9,/ | IFRB Serial No.

Description of the top-loaded or sectionalized towers used for :

A) Directional antenna systems for towers entered in Part II Section I as top-loaded or sectionalized (column 12), or

B) Non-directional antenna towers entered in Part I as top-loaded or sectionalized (column 26 or 36)

(01) LEAMINGTON ON — Name of transmitting station

(02) CAN — Country

412 — Sheet No.

(03) H N — Hours of Operation

(04) TOWER NUMBER	(05) A	(06) B	(07) C	(08) D
1	66.8	4.2		
2	66.3	4.2		

CHYR-7
730 kHz

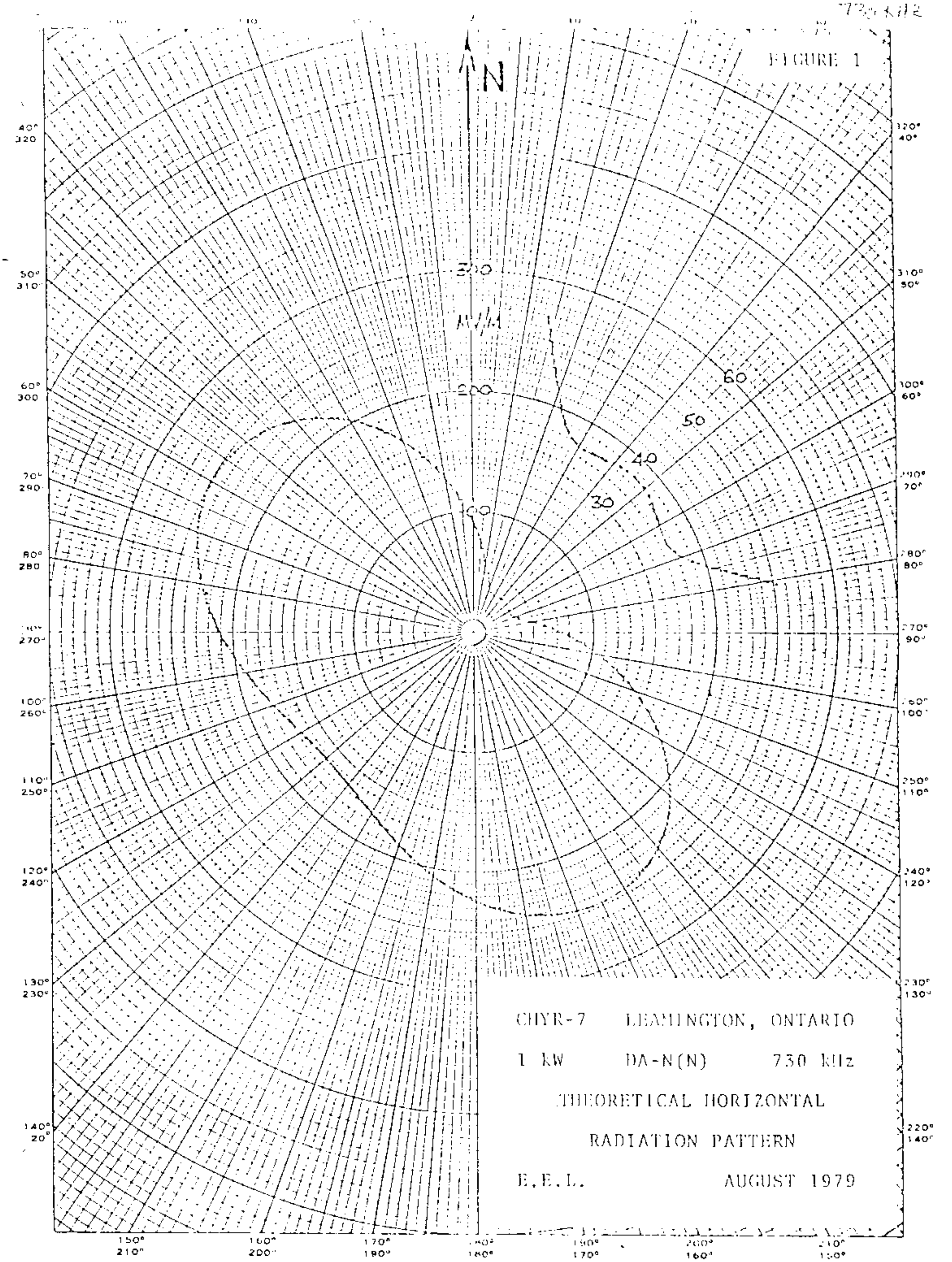
TABLE 1

ANTENNA DESCRIPTION SHEET

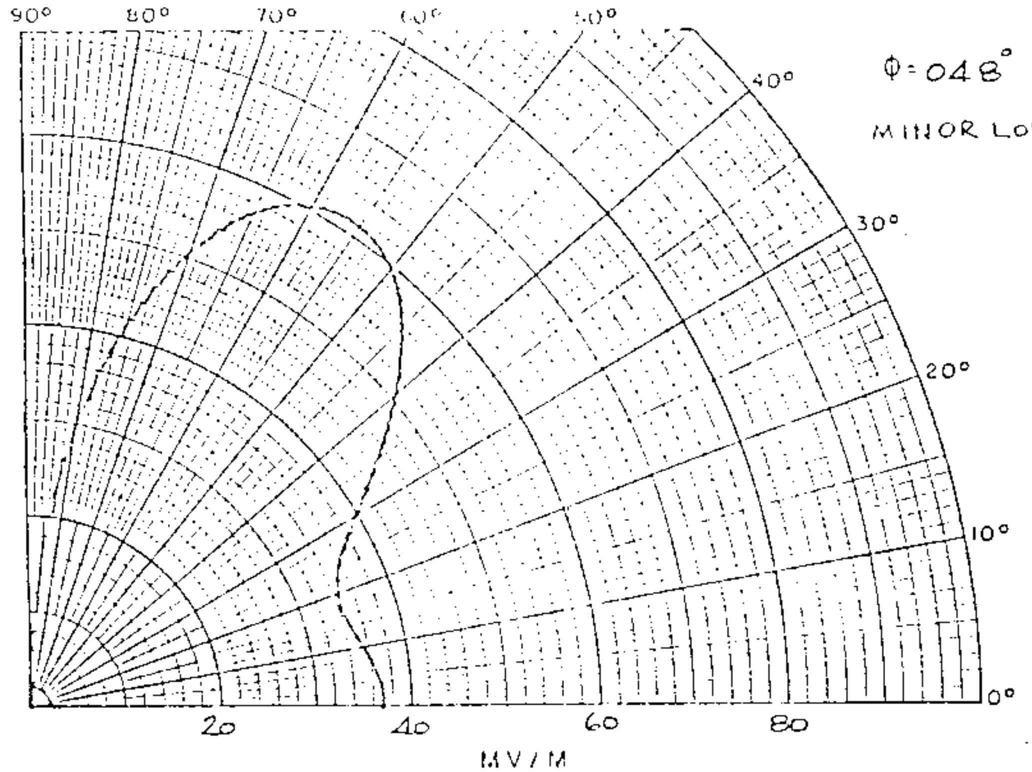
STATION CALL:	CHYR-7
MAIN STUDIO:	LEAMINGTON, ONTARIO
FREQUENCY:	730 kHz
POWER:	1 kW
CLASS:	II
MODE:	DA-N(K)
SCHEDULE:	NIGHTTIME ONLY
NOTIFICATION LIST NO.:	400 DATE: November 17, 1980
GEOGRAPHICAL LOCATION:	Latitude: 42° 00' 30" North Longitude: 82° 33' 40" West
ARRAY CHARACTERISTICS:	Two guyed steel towers of uniform cross section; base insulated; series fed. Overall height 355' for tower 1 and 255' for tower 2; height above base insulator 350' for tower 1 and 250' for tower 2. Tower 2 is loaded by the top 30' of guy wires.

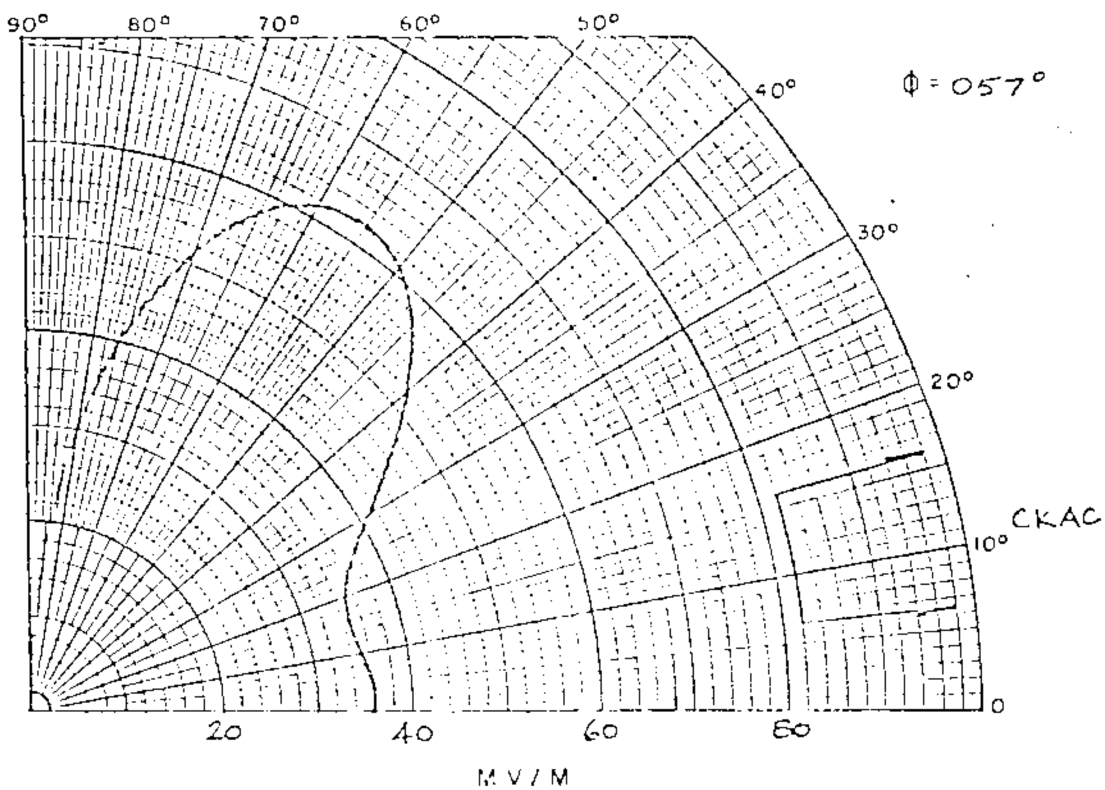
TOWER NUMBER:	1 (SW)	2 (NE)
ELECTRICAL HEIGHT:	93.5°	71°
SPACING:	ref.	142.5° (533.6')
TRUE BEARING:	ref.	048°
FIELD RATIO:	.75	1
PHASE ANGLE:	-43°	0°

GROUND SYSTEM:	120 uniformly spaced radials per tower of #10 AWG soft copper wire buried approx. 12". Radials of average length 0.4λ(555') except those joined along the common chord; plus 120 interspaced radials per tower, of length 50'.
PREDICTED EFFECTIVE FIELD: (UNATTENUATED AT ONE MILE)	175 mV/m for 1 kW


730 kHz
FIGURE 1
N
300
mV/m
200
100
60
50
40
30
CHYR-7 LEAMINGTON, ONTARIO
1 kW DA-N(N) 730 kHz
THEORETICAL HORIZONTAL
RADIATION PATTERN
E.E.L. AUGUST 1979

CHYR-7 730 KHz



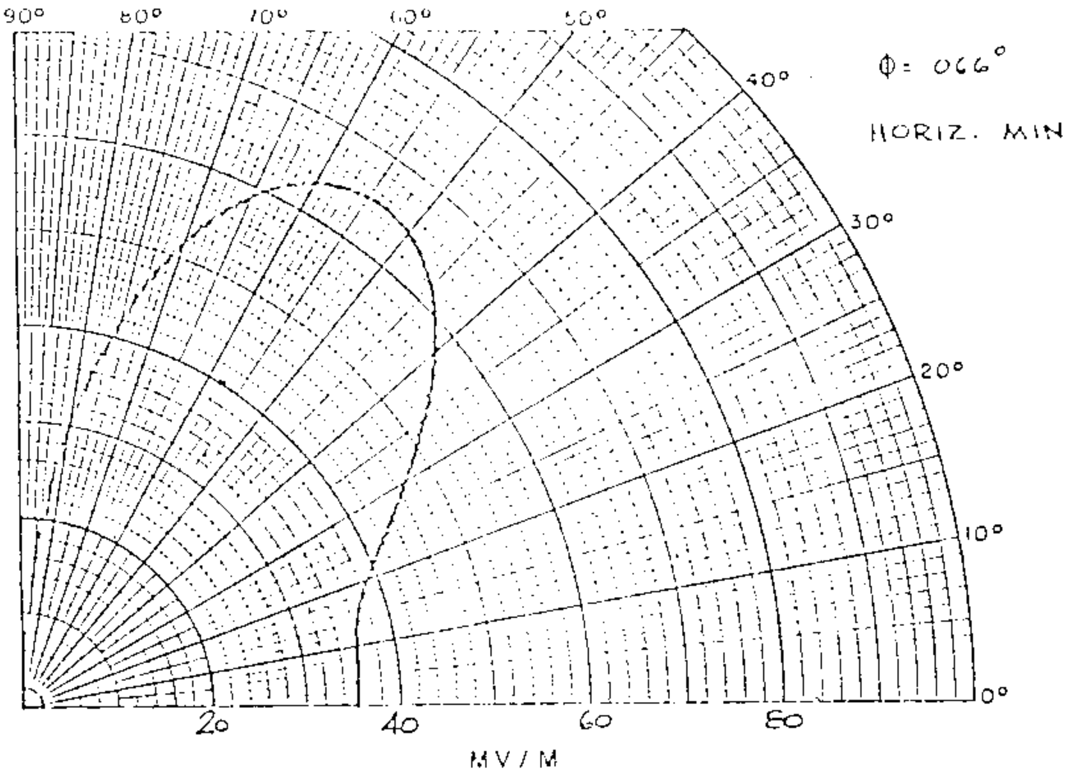


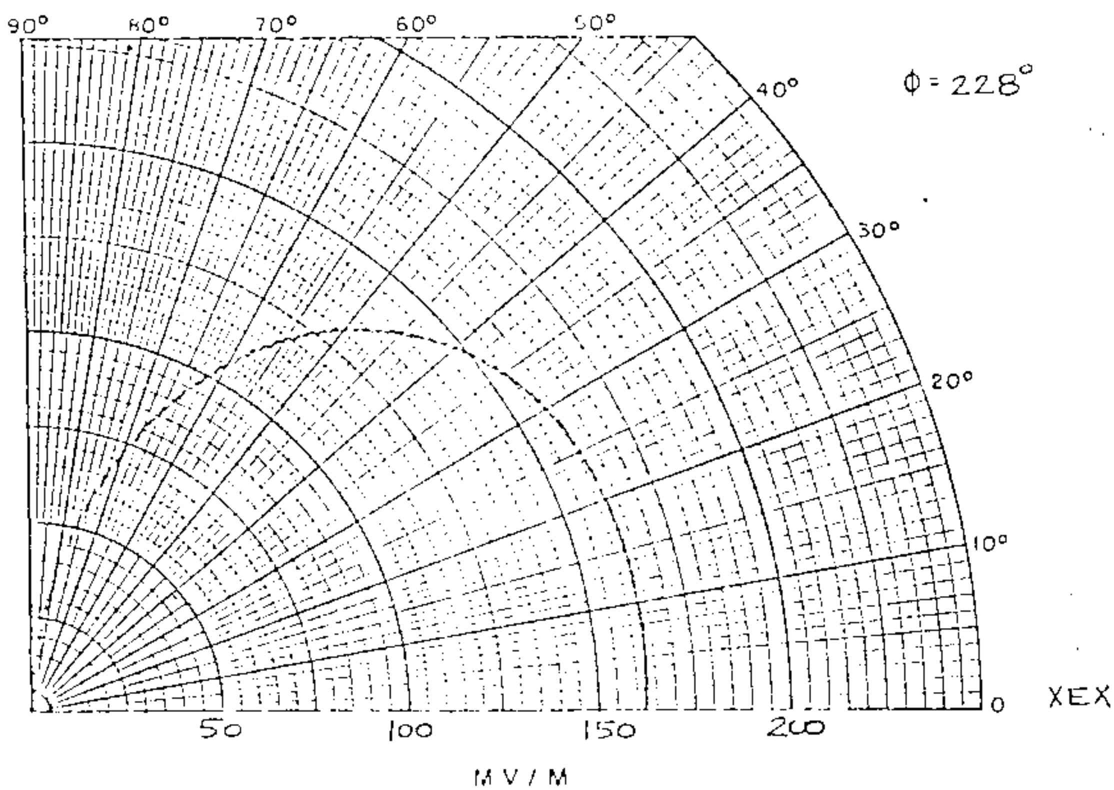
VERTICAL RADIATION PATTERNS

CHYR-7 LEAMINGTON, ONTARIO

1 kW DA-N(N) 730 kHz

E.E.L. AUG. 1979



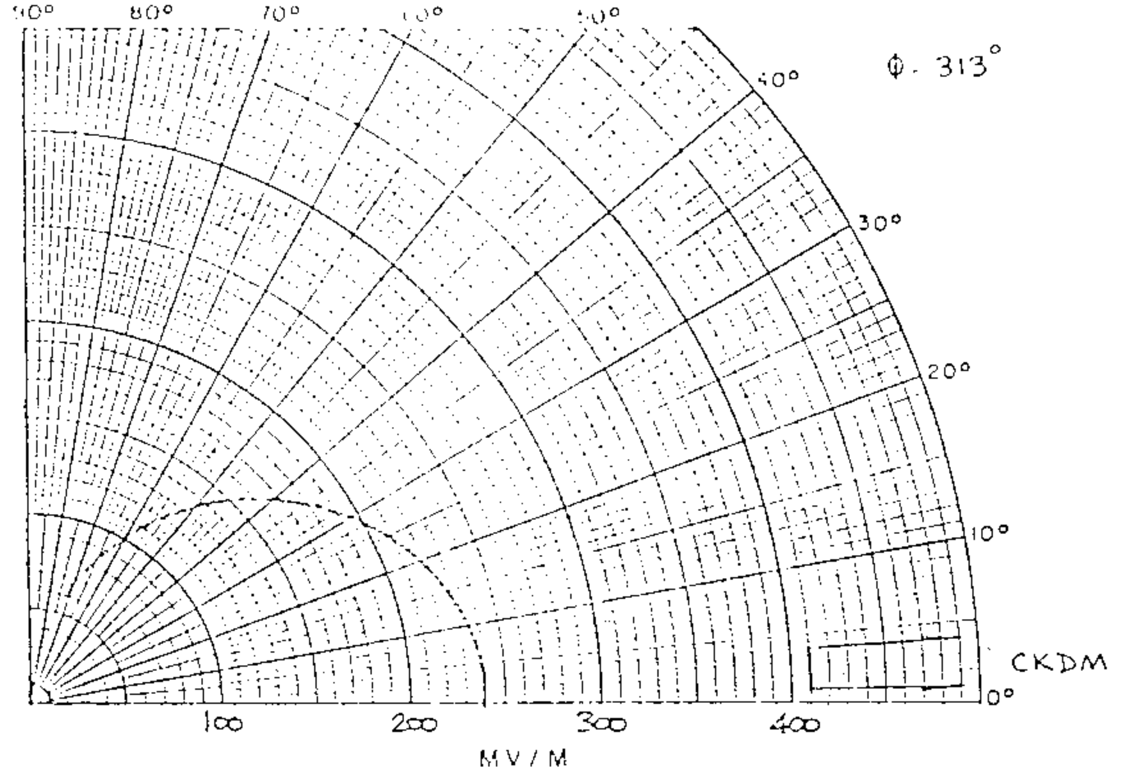


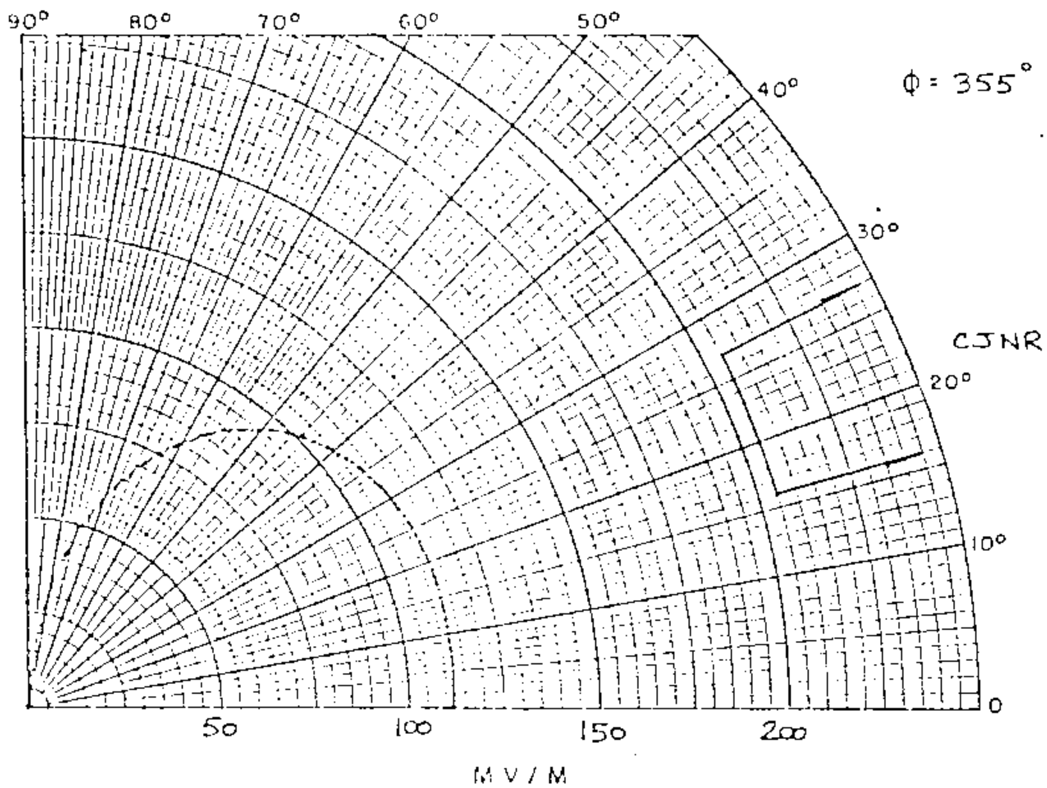
VERTICAL RADIATION PATTERNS

CHYR-7 LEAMINGTON, ONTARIO

1 KW DA-N(N) 730 kHz

E.E.L. AUG. 1979





VERTICAL RADIATION PATTERNS

CHYR-7 LEAMINGTON, ONTARIO
1 kW DA-N(N) 730 kHz
E.E.L. AUG. 1979

CHYR

TABLE 1

ANTENNA DESCRIPTION SHEET

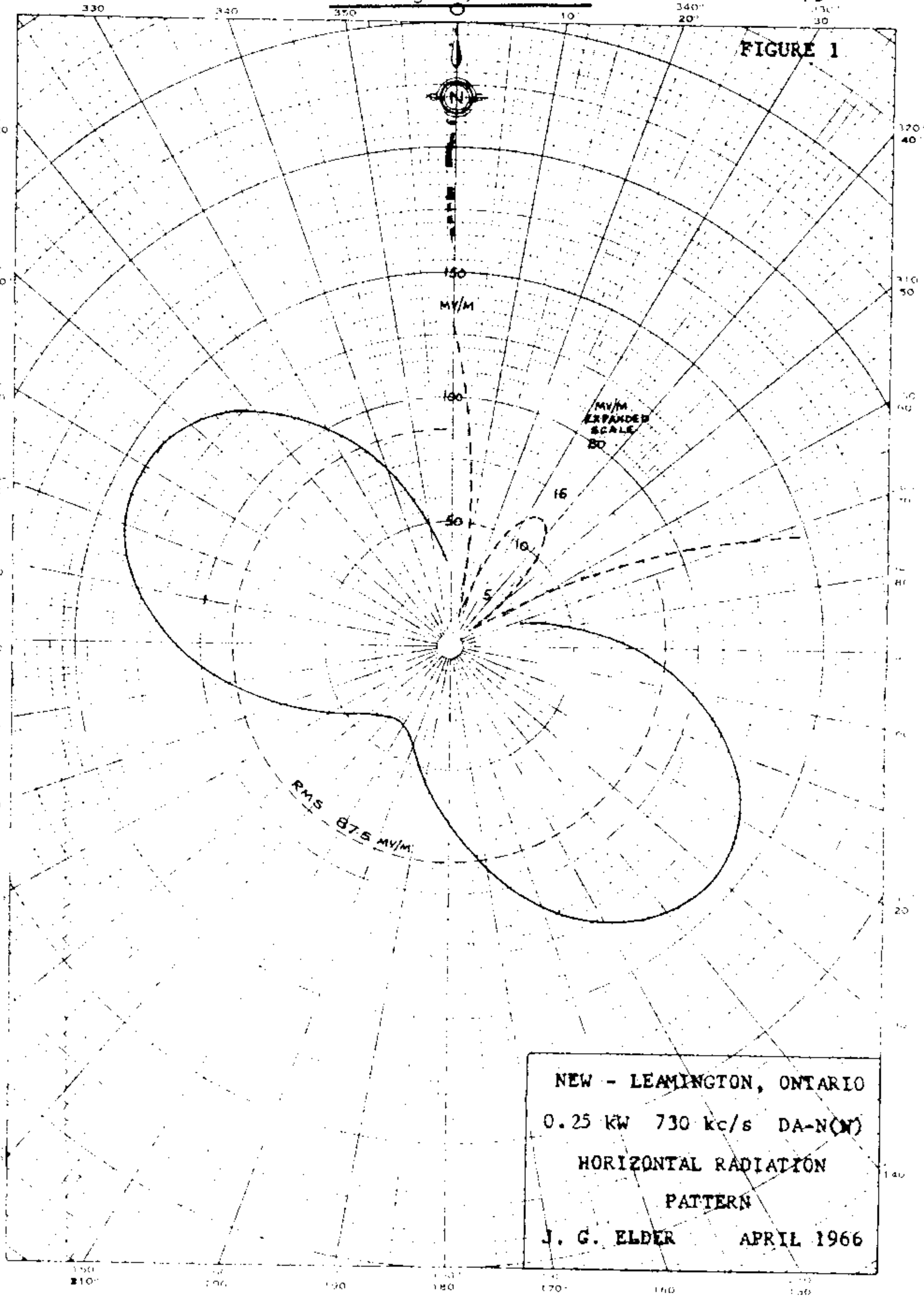
STATION CALL:	NEW	
MAIN STUDIO:	LEAMINGTON, ONTARIO	
FREQUENCY:	730 kc/s	
POWER:	250 WATTS	
CLASS:	II	
MODE:	DA-N(N)	
SCHEDULE:	NIGHT TIME ONLY	
NOTIFICATION LIST NO.:	211	DATE: May 18, 1966
GEOGRAPHICAL LOCATION:	Latitude: 42° 00' 30" North Longitude: 82° 33' 40" West	
ARRAY CHARACTERISTICS:	Two guyed steel towers of uniform cross section; base insulated, series fed. Loaded by the top 30' of the guy wires to an effective height of approximately 71°.	
TOWER:	#1 (SW)	#2 (NE)
HEIGHT ABOVE INSULATOR:	250'(66.8°)	250'
SPACING:	170°(636')	
ORIENTATION:	0°	035° true
CURRENT RATIO:	1.0	0.97
PHASE ANGLE:	0°	20°
GROUND SYSTEM:	120 uniformly spaced radials per tower of #10 AWG soft copper wire buried approx. 12". Radials of average length 0.41λ (555') except those joined along the common chord; plus 120 interspaced radials per tower, of length 50'.	
PREDICTED EFFICIENCY:	87.5 mV/m at one mile for 0.25 kW or 175 mV/m at one mile for 1 kW	

ZHYR

Proposed Night (4-29-68ct)

New Station
Leamington, Ontario

250w, DA-N, N, Class II
730 kc



CHYR

Description Sheet
(7-26-67ct)

New Station
Leamington, Ontario

250w,N,Class II
730 kc

TABLE 1

ANTENNA DESCRIPTION SHEET

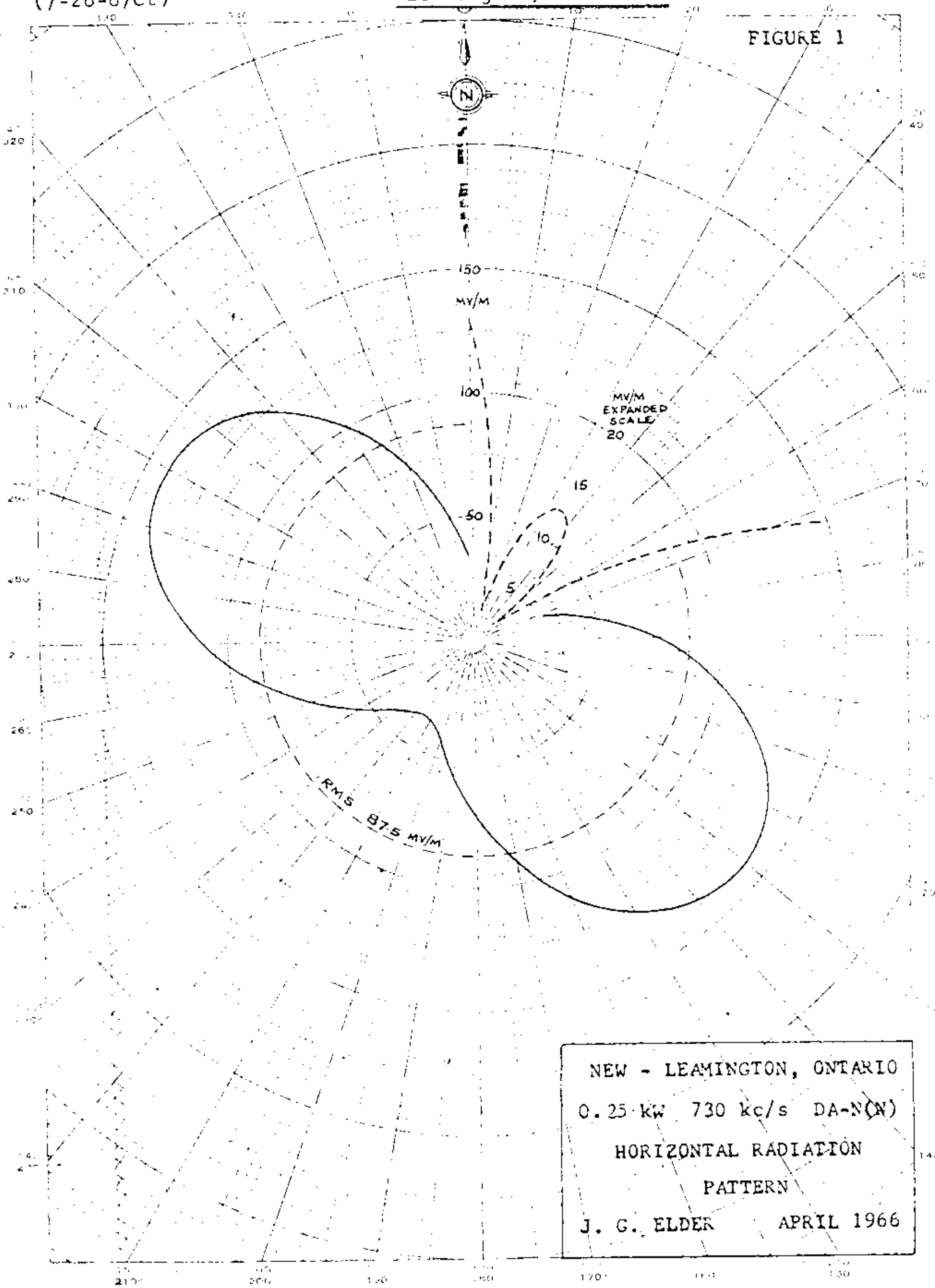
STATION CALL:	NEW	
MAIN STUDIO:	LEAMINGTON, ONTARIO	
FREQUENCY:	730 kc/s	
POWER:	250 WATTS	
CLASS:	II	
MODE:	DA-N(N)	
SCHEDULE:	NIGHT TIME ONLY	
NOTIFICATION LIST NO.:	.211......	DATE: May 18, 1966
GEOGRAPHICAL LOCATION:	Latitude: 42° 00' 30" North Longitude: 82° 33' 40" West	
ARRAY CHARACTERISTICS:	Two guyed steel towers of uniform cross section; base insulated, series fed. Loaded by the top 30' of the guy wires to an effective height of approximately 71°.	
TOWER:	#1 (SW)	#2 (NE)
HEIGHT ABOVE INSULATOR:	250'(66.8°)	250'
SPACING:	170°(636')	
ORIENTATION:	0°	035° true
CURRENT RATIO:	1.0	0.97
PHASE ANGLE:	0°	20°
GROUND SYSTEM:	120 uniformly spaced radials per tower of #10 AWG soft copper wire buried approx. 12". Radials of average length 0.41λ (555') except those joined along the common chord; plus 120 interspaced radials per tower, of length 50'.	
PREDICTED EFFICIENCY:	87.5 mV/m at one mile for 0.25 kW or 175 mV/m at one mile for 1 kW	

CHYR

Proposed Night
(7-26-67ct)

New Station
Leamington, Ontario

250w,N,Class II
730 kc



CJNR

SUPPLEMENTAL DIRECTIONAL

ANTENNA DESCRIPTION SHEET

Station: CJNR

Main Studio: Blind River, Ontario

Frequency: 730 kHz

Power: 1 kW Class: II

Notification List No.: 374

Date: June 5, 1978

Geographical Location of the Center of the Antenna System:

North Latitude: 46° 10' 37"
West Longitude: 82° 59' 03"

Mode of Operation: DA-N

Note: Please retain the description sheet and directional antenna radiation patterns notified for station CJNR in Canadian Change List Number 114 dated August 28, 1957 and attach to this supplemental description sheet. This notification is for the purpose of indicating only a correction in the geographical coordinates.

Blind Riv, Ont. Can CJNR

#11K

DESCRIPTION SHEET (10/11/57g)

New 1kw, DA-N,U
Blind River, Ontario, Canada 730 KC

ANTENNA DESCRIPTION SHEET

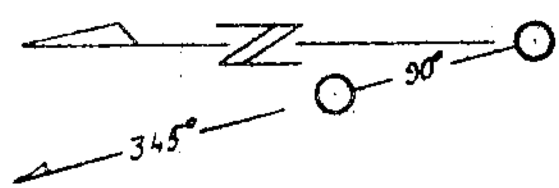
DIRECTIONAL DA-N

STATION CALL:	....
MAIN STUDIO:	Blind River, Ontario.
FREQUENCY:	730 kc/s
POWER:	1000 watts
CLASS:	II
TIME:	Unlimited
NOTIFICATION REFERENCE:	No. 114. August 28, 1957
GEOGRAPHICAL LOCATION:	N.Lat. 46°10'37" W.Long. 82°58'55"
ANTENNA CHARACTERISTICS:	Two elements, guyed, uniform cross section, base insulated, series feed.

ELEMENT	SOUTH	NORTH
HEIGHT	60°	60°(225')
SPACING	Ref.	90°(337')
ORIENTATION	Ref.	345°
FIELD RATIO	1.0	0.7
PHASING	0°	-150°

GROUND SYSTEM: 120 radials per tower, #10 AWG bare soft copper wire, uniformly spaced, depth approximately 8 inches. Radials bonded along a line between towers and bonded to soft copper strap at tower base. Maximum radial length 540 feet.

PREDICTED R. M. S. 180 mv/m at 1 mi. for 1 kw.



OM 20/6/57 # 6

Blind Riv, Ont Can.

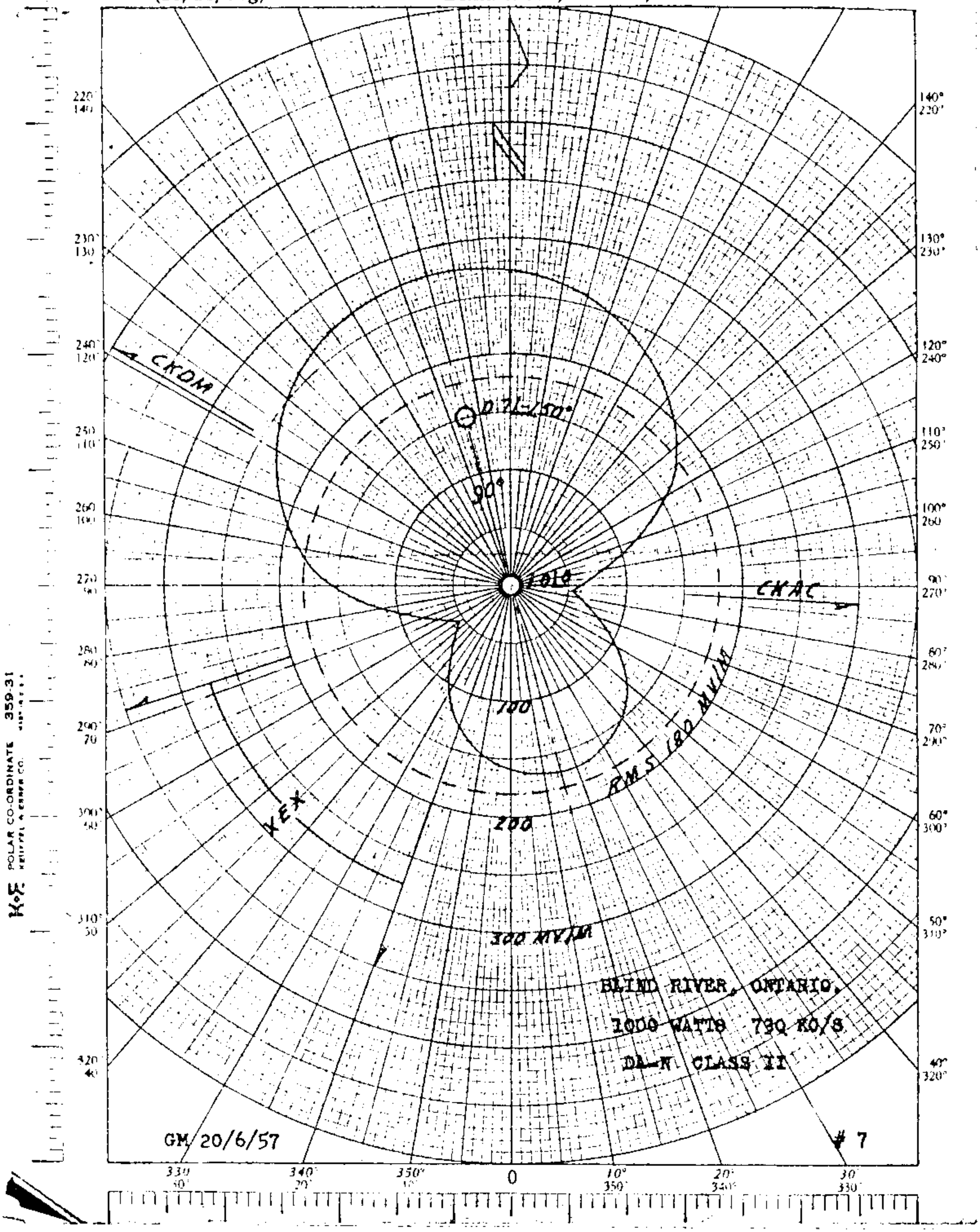
CJNR

F114

PROPOSED NIGHT (10/11/57g)

New 1kw, DA-N,U

Blind River, Ontario, Canada 730 KC



#102

CKAC

730 kc

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CKAC

Main Studio: Montreal, Quebec

Power: 50 kw

Frequency: 730 kcs. Class: II

Notification Reference No. 108

Date: January 14, 1957.

Location:

North Latitude: 45° 30' 50"

West Longitude: 73° 58' 26"

ANTENNA CHARACTERISTICS

Directional Antenna. Same pattern day and night. (DA-1) Two elements, uniform cross-section, guyed steel towers, base insulated for series feed.

TOWER:	East	West
HEIGHT ABOVE INSULATORS:	337' (90°)	337' (90°)
SPACING:	337' (90°)	
PHASING:	0°	110° lead
FIELD RATIO:	1.0	0.8

GROUND SYSTEM: 120 equiangularly spaced radials extend from the base of each tower to a distance of 540' (0.4 wavelength), with the exception of those joined along the common chords. Wires are continuous or bonded together at junction points and consists of solid copper wire, #10 B & S gauge buried to a depth of approximately 8".

PREDICTED EFFECTIVE FIELD: 1340 mv/m at 1 mile for 50 kw. (190 mv/m at 1 mile for 1 kw)

ORIENTATION: Towers are located on a line bearing 40° East of True North.

108

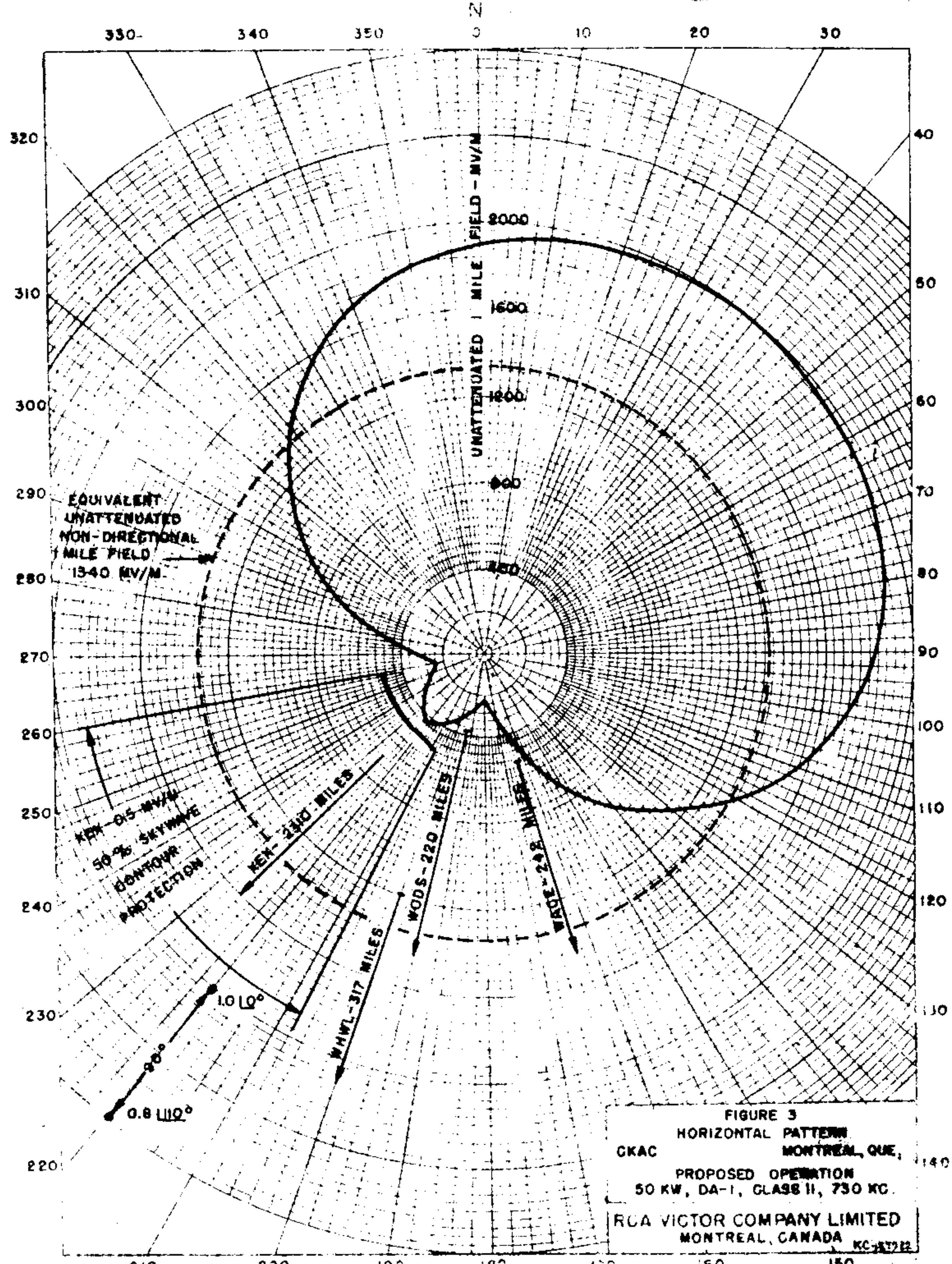


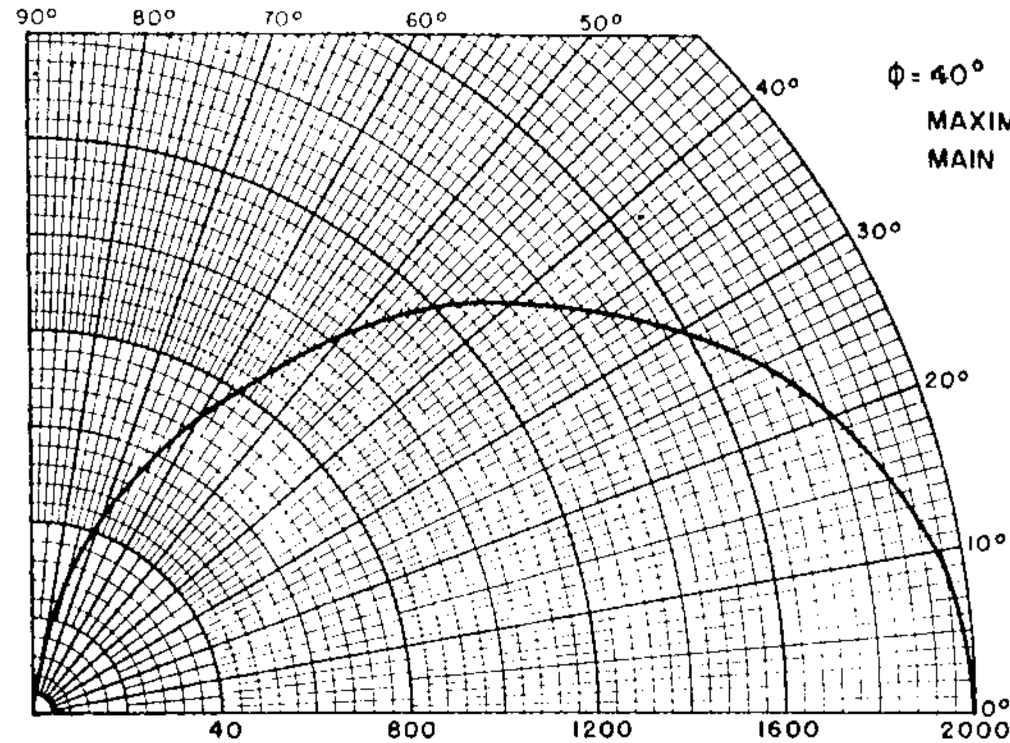
FIGURE 3
HORIZONTAL PATTERN
CKAC MONTREAL, QUE.
PROPOSED OPERATION
50 KW, DA-1, CLASS II, 730 KC.

RCA VICTOR COMPANY LIMITED
MONTREAL, CANADA

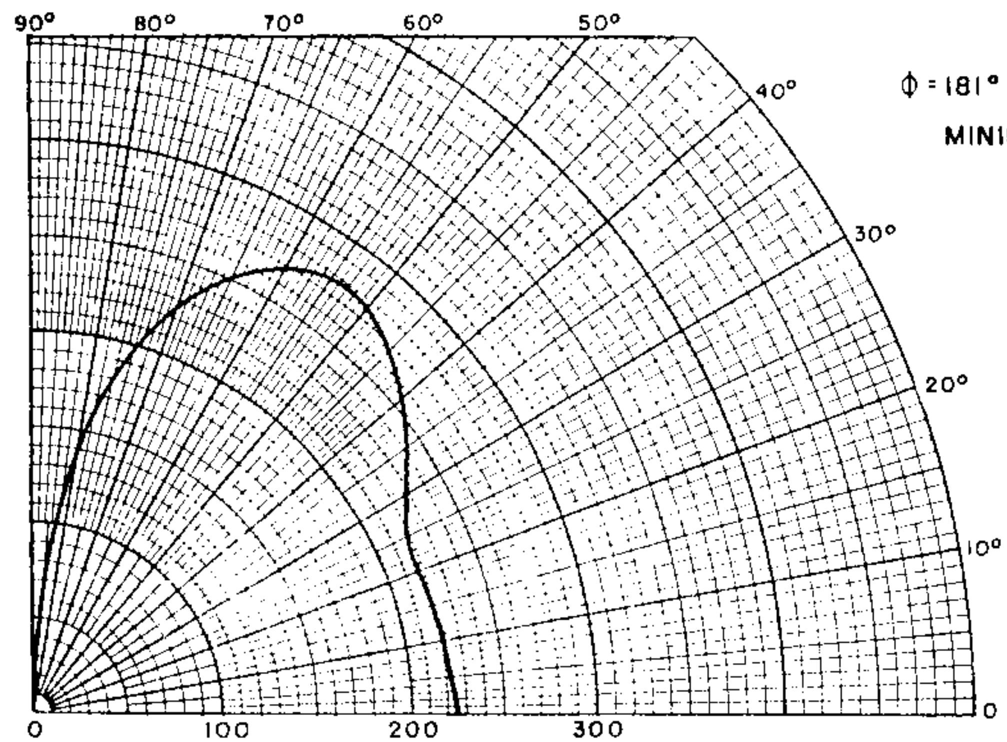
PROJECT 2607-A OCT. 17 1956

R109

CKAC-730



UNATTENUATED 1 MILE FIELD - MV/M



UNATTENUATED 1 MILE FIELD - MV/M MINIMUM

VERTICAL RADIATION PATTERNS

FIGURE 5.

AZIMUTHS 40° & 181°

CKAC MONTREAL, QUEBEC

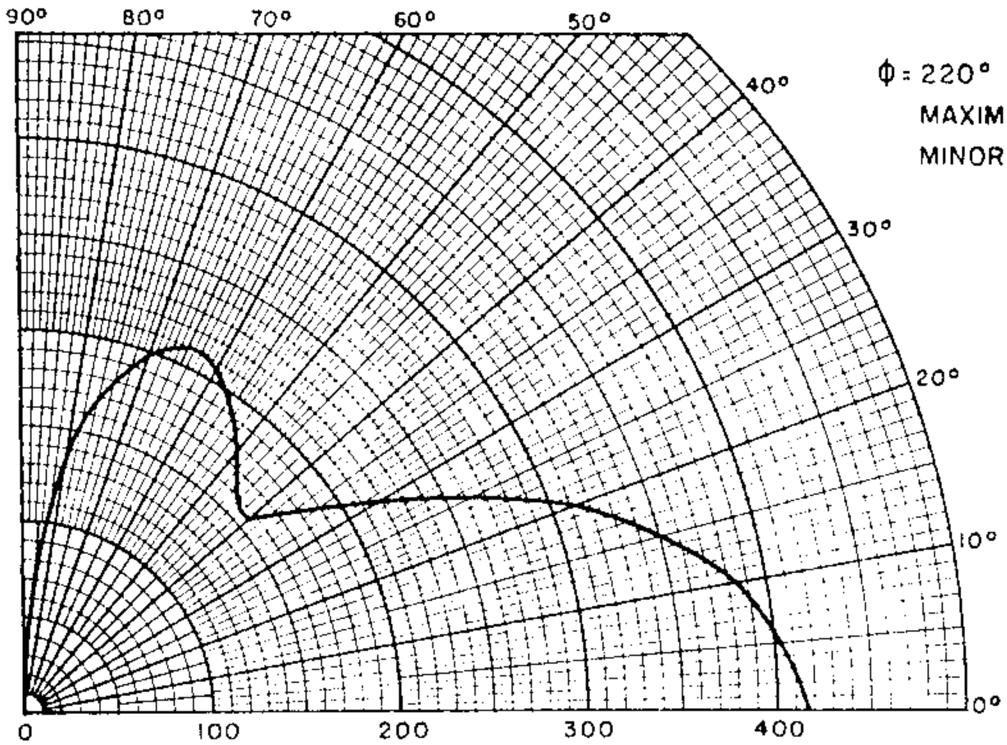
PROPOSED OPERATION 50 KW DA-1 CLASS II 730 KC

PROJECT 2607-A OCTOBER, 1956.

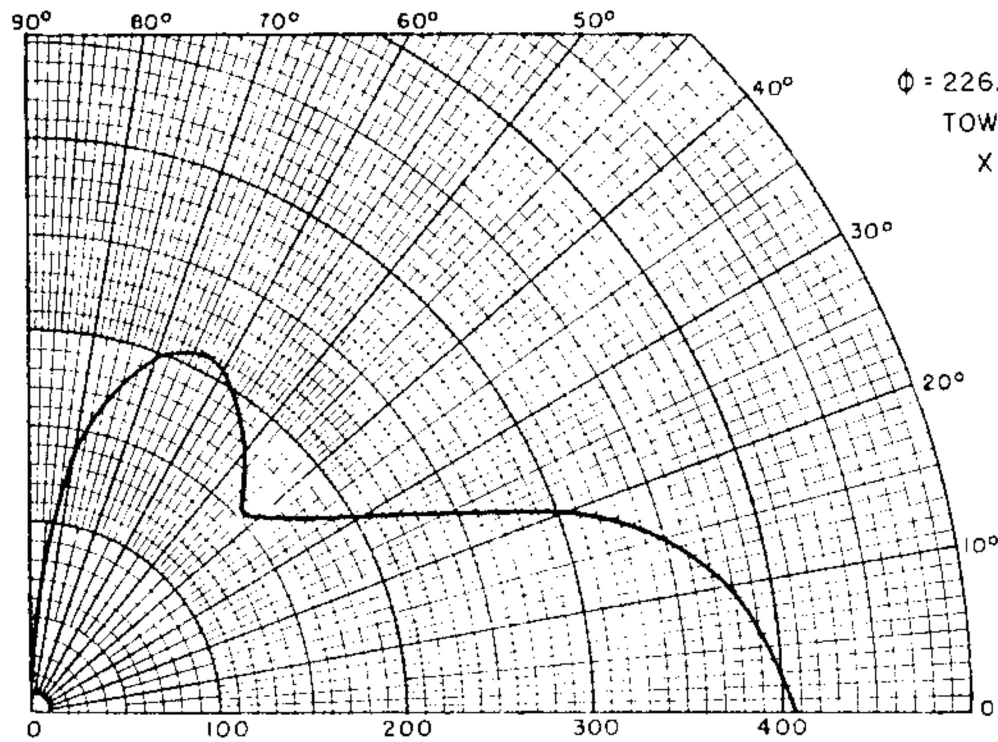
\# 108

CKAC

730 KC



UNATTENUATED I MILE FIELD — MV / M MAXIMUM MINOR LOBE



UNATTENUATED I MILE FIELD — M V / M

VERTICAL RADIATION PATTERNS

FIGURE 6.

AZIMUTHS 220° & 226.5°

CKAC MONTREAL, QUEBEC.

PROPOSED OPERATION 50 KW DA-I CLASS II 730 KC

PROJECT 2607-A OCTOBER, 1956

$5^{\frac{k}{5}}$ CKDM

Part V

Directional Antenna Description Sheet

Station : CKDM **Main Studio** : Dauphin, Manitoba

Frequency : 730 kc **Power** : 10 kw D/5 kw N **Class** : II

Notification List No. : 134 **Date** : June 5, 1959

Geographical Location of Antenna System : North Latitude : 51° 09' 08"
West Longitude : 100° 13' 46"

Antenna Characteristics

Mode of Operation : DA-N
Number of Elements : 2
Type of Elements : guyed, uniform cross section, no top loading

	South Tower	North Tower
Height above Insulators	337' (90°)	337'
Overall Height	342'	342'
Spacing	280' (75°)	
Phasing	0°	105° lag
Field Ratio	1.0	0.77
Orientation	Elements on a line bearing 5°.	
Ground System	120 radials spaced 3° 540' long	120 radials spaced 3° 540' long

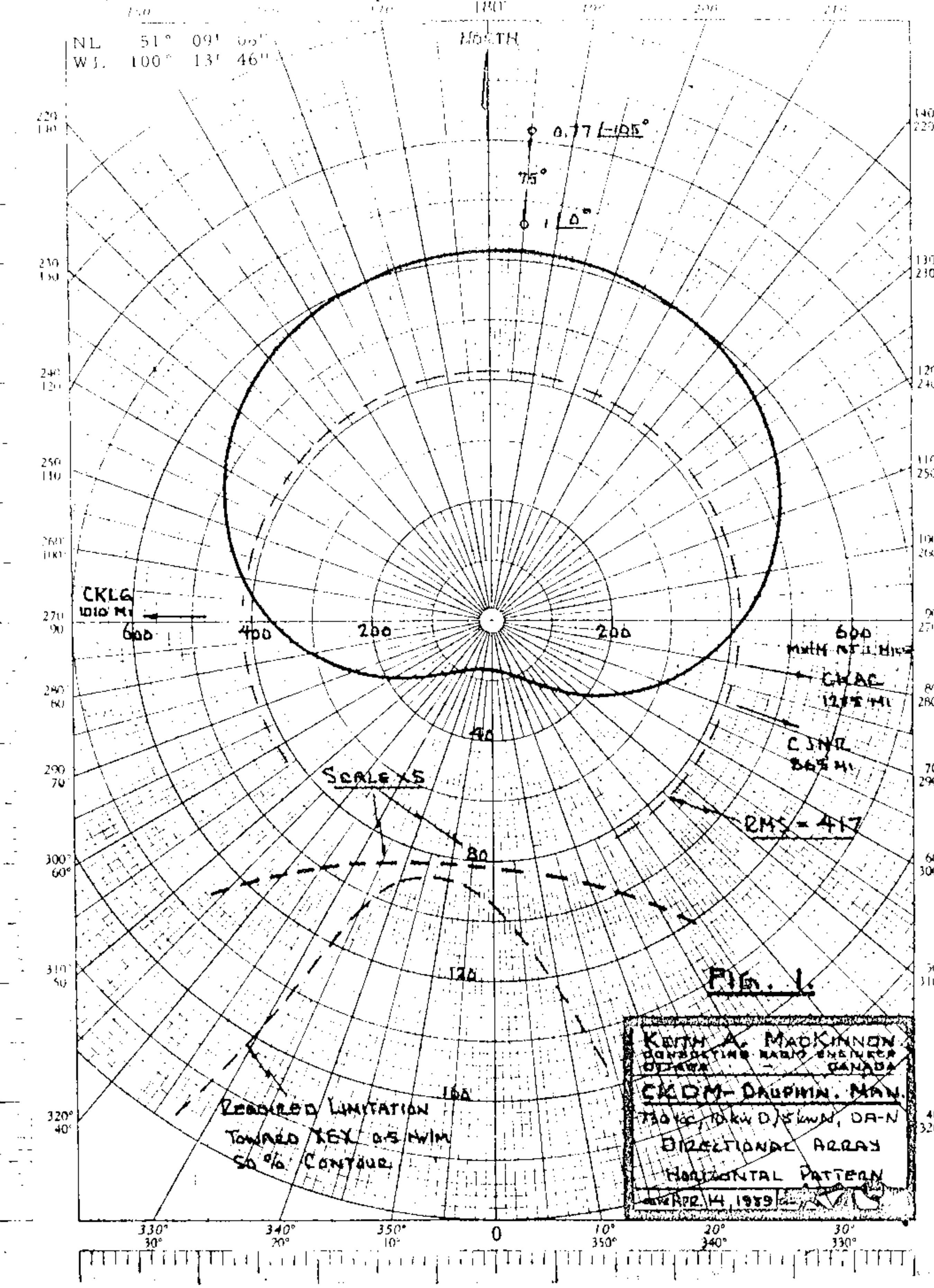
Predicted Effective Field : 417 mv/m at 1 mile (186.5 per kw)

134

PROPOSED NIGHT (7-8-59g)

Station CKDM, Dauphin, Manitoba, Canada

5kw, 10kw-LS, DA-N, U, Class II, 730 KC



CKGA

Description Sheet
(9-26-68ct)

New Station
Gander, Newfoundland

1kw, DA-1, U, Class II
730 kc

DESCRIPTION SHEET

Station: NEW	Location: Gander, Newfoundland
Frequency: 730 KHz	Power: 1 Kw Class: II
Notification List No: 244	Date: August 23, 1968
Geographical Location of Antenna System:	North Latitude: 48° 57' 37" West Longitude: 54° 39' 41"

Antenna Characteristics

Mode of Operation: DA-1
No. of Elements: 2
Type of Elements: Guyed uniform cross section, series fed, no top loading.

TOWER:	No. 1 ([illegible])	No. 2 ([illegible])
HEIGHT ABOVE INSULATORS:	235'(62.8°)	235'
OVERALL HEIGHT:	240'	240'
SPACING:	337' (90°)	
FIELD RATIO:	1	0.7
PHASING:	0°	-135°
ORIENTATION:	Elements on a line oriented Azimuth 105°.	
GROUND SYSTEM:	120 radials per tower of #10 AWG soft drawn bare copper wire, spaced at 3° intervals. Radials between towers are shortened and bonded to #4 AWG bus wire running midway between towers. Radials are of effective length 0.4 λ (540') and buried 8" below ground.	

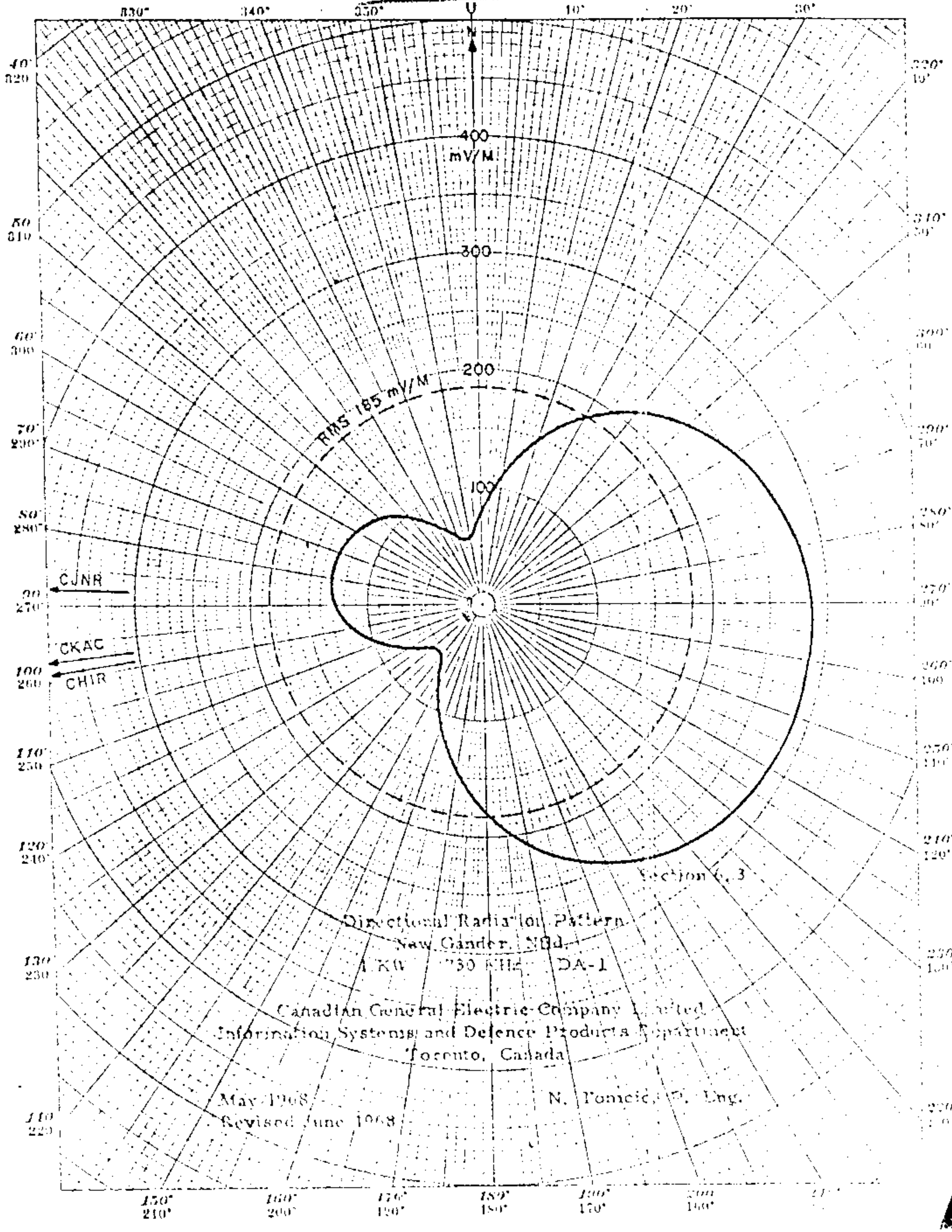
Predicated effective field: 185 mv/m for 1 Kw

CKGA

Proposed Day & Night (9-26-68ct)

New Station
Gander, Newfoundland

1kw, DA-1, U, Class II
730 kc



CKGB
730 kHz

Brian Sawyer & Associates Limited

ANTENNA DESCRIPTION SHEET

Station: CKGB
Main Studio: Timmins, Ontario

Frequency: 730 kHz
Power: 25 kW

Time: Unlimited
Class: II

Notification List No. 392
Date: December 7, 1979

Geographical Location:

North Latitude 48° 25' 42"
West Longitude 81° 20' 07"

Antenna System:

Six elements, guyed, uniform cross-section, base insulated, series fed, no top loading.

Mode of Operation: DA-2

Tower	Number 1	Number 2	Number 3	Number 4	Number 5	Number 6
Height above insulators:	337'(90°)	337'(90°)	337'(90°)	337'(90°)	337'(90°)	337(90°)
Overall Height:	342'	342'	342'	342'	342'	342'
Spacing:	90°	148.786°	228.855°	180°	90°	0° (Ref.)
Orientation:	310°	344.25°	357.037°	18.5°	18.5°	0° (Ref.)
Day field ratio:	-	-	-	-	1.0	1.0
Day phase:	-	-	-	-	-65°	0°
Night field ratio:	1.0	1.471	0.95	0.95	1.471	1.0
Night phase:	0°	-145.7°	71.15°	165.54°	-51.31°	94.39°

Ground System: 120 equally spaced radials per mast extending to a maximum 540' (0.4 wavelengths approx.) and bonded together at the common chords. Radials to be made up of #10 gauge B & S soft drawn copper wire buried at a depth of approximately 8 inches.

Predicted Effective Field:

Day: 912 mV/m at 1 mile for 25 kW
182.4 mV/m at 1 mile for 1 kW

Night: 1,020 mV/m at 1 mile for 25 kW
204 mV/m at 1 mile for 1 kW

To replace previously notified description sheet. Correction to day phase in Tower # 5. Please retain antenna radiation patterns.

Revised - Sept. 18, 1979

Rm. 500 2
CKGB

Brian Sawyer & Associates Limited

ANTENNA DESCRIPTION SHEET

Station: CKGB

Frequency: 730 kHz

Time: Unlimited

Notification List No. 392

Main Studio: Timmins, Ontario

Power: 25 kW

Class: II

Date: December 7, 1979

Geographical Location:

North Latitude 48° 25' 42"
West Longitude 81° 20' 07"

Antenna System:

Six elements, guyed, uniform cross-section, base insulated, series fed, no top loading.

Mode of Operation: DA-2

Tower	Number 1	Number 2	Number 3	Number 4	Number 5	Number 6
Height above insulators:	337'(90°)	337'(90°)	337'(90°)	337'(90°)	337'(90°)	337(90°)
Overall Height:	342'	342'	342'	342'	342'	342'
Spacing:	90°	148.786°	228.855°	180°	90°	0° (Ref.)
Orientation:	310°	344.25°	357.037°	18.5°	18.5°	0° (Ref.)
Day field ratio:	-	-	-	-	1.0	1.0
Day phase:	-	-	-	-	0°	0°
Night field ratio:	1.0	1.471	0.95	0.95	1.471	1.0
Night phase:	0°	-145.7°	71.15°	165.54°	-51.31°	94.39°

Ground System:

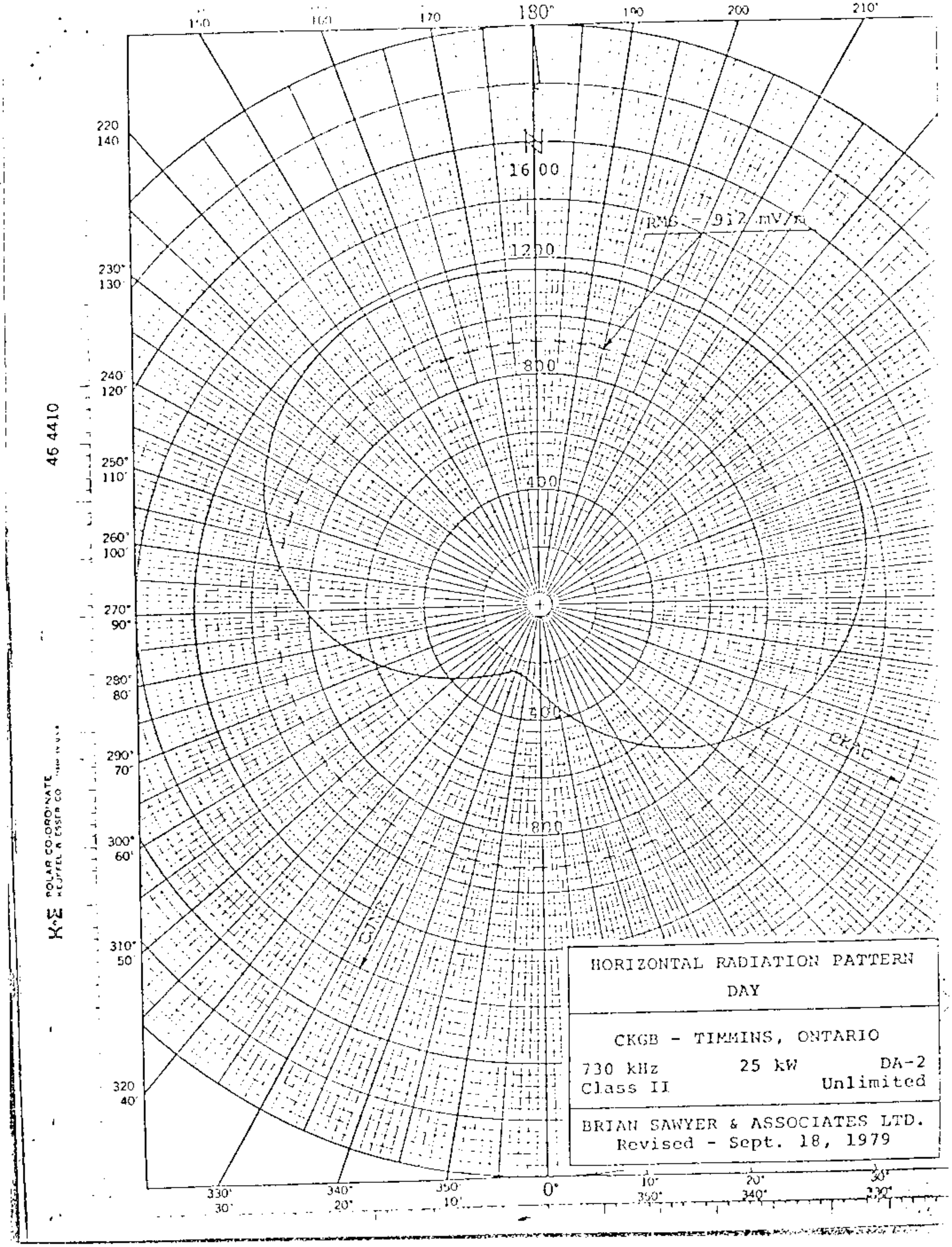
120 equally spaced radials per mast extending to a maximum 540' (0.4 wavelengths approx.) and bonded together at the common chords. Radials to be made up of #10 gauge B & S soft drawn copper wire buried at a depth of approximately 8 inches.

Predicted Effective Field:

Day: 912 mV/m at 1 mile for 25 kW
182.4 mV/m at 1 mile for 1 kW

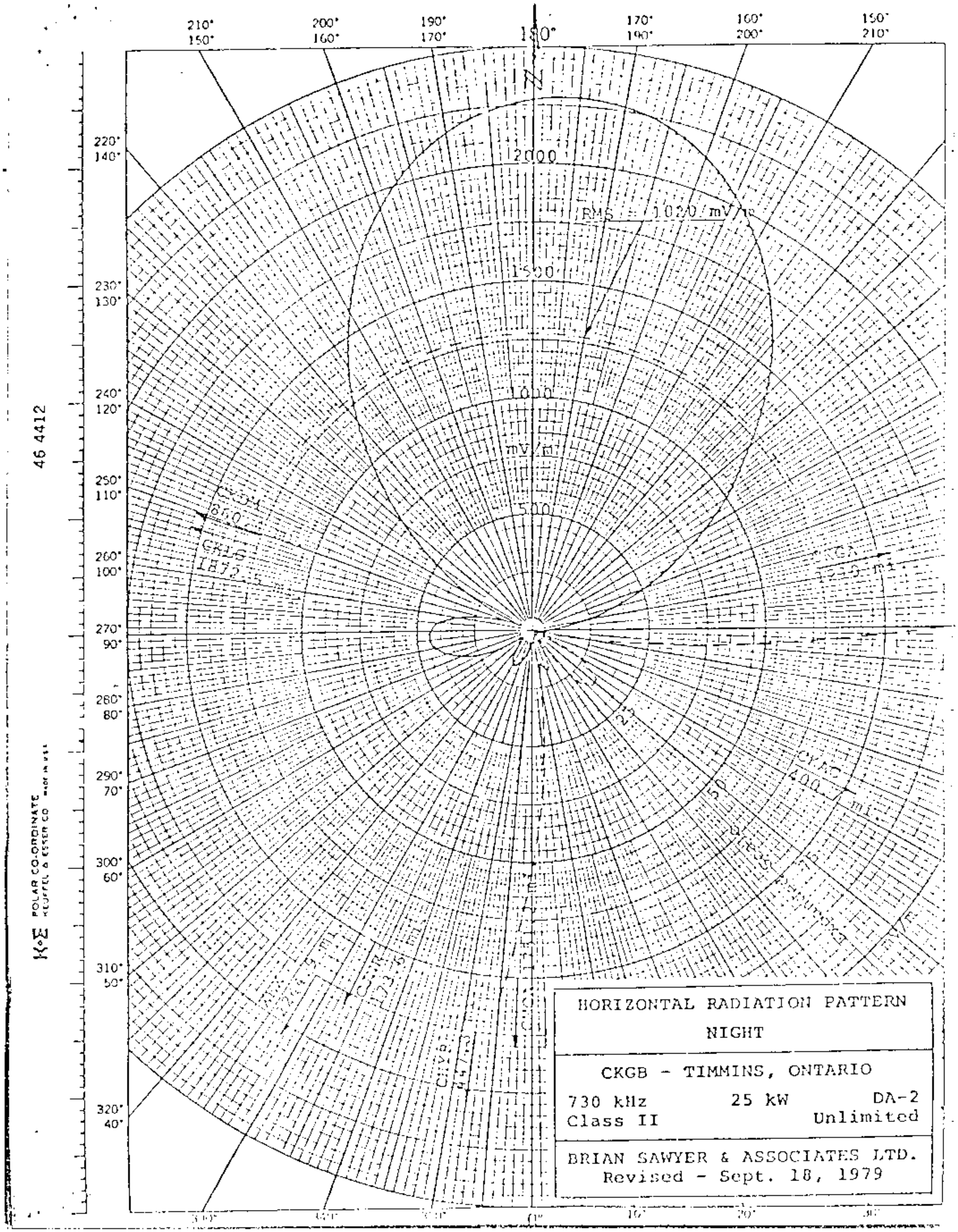
Night: 1,020 mV/m at 1 mile for 25 kW
204 mV/m at 1 mile for 1 kW

CKGB



RMS = 912 mV/m
1600
1200
800
400
CKAC
CJMS
HORIZONTAL RADIATION PATTERN
DAY
CKGB - TIMMINS, ONTARIO
730 kHz
Class II
25 kW
DA-2
Unlimited
BRIAN SAWYER & ASSOCIATES LTD.
Revised - Sept. 18, 1979
46 4410
K&E POLAR CO-ORDINATE
KEUFFEL & ESSER CO.

CKGB



HORIZONTAL RADIATION PATTERN

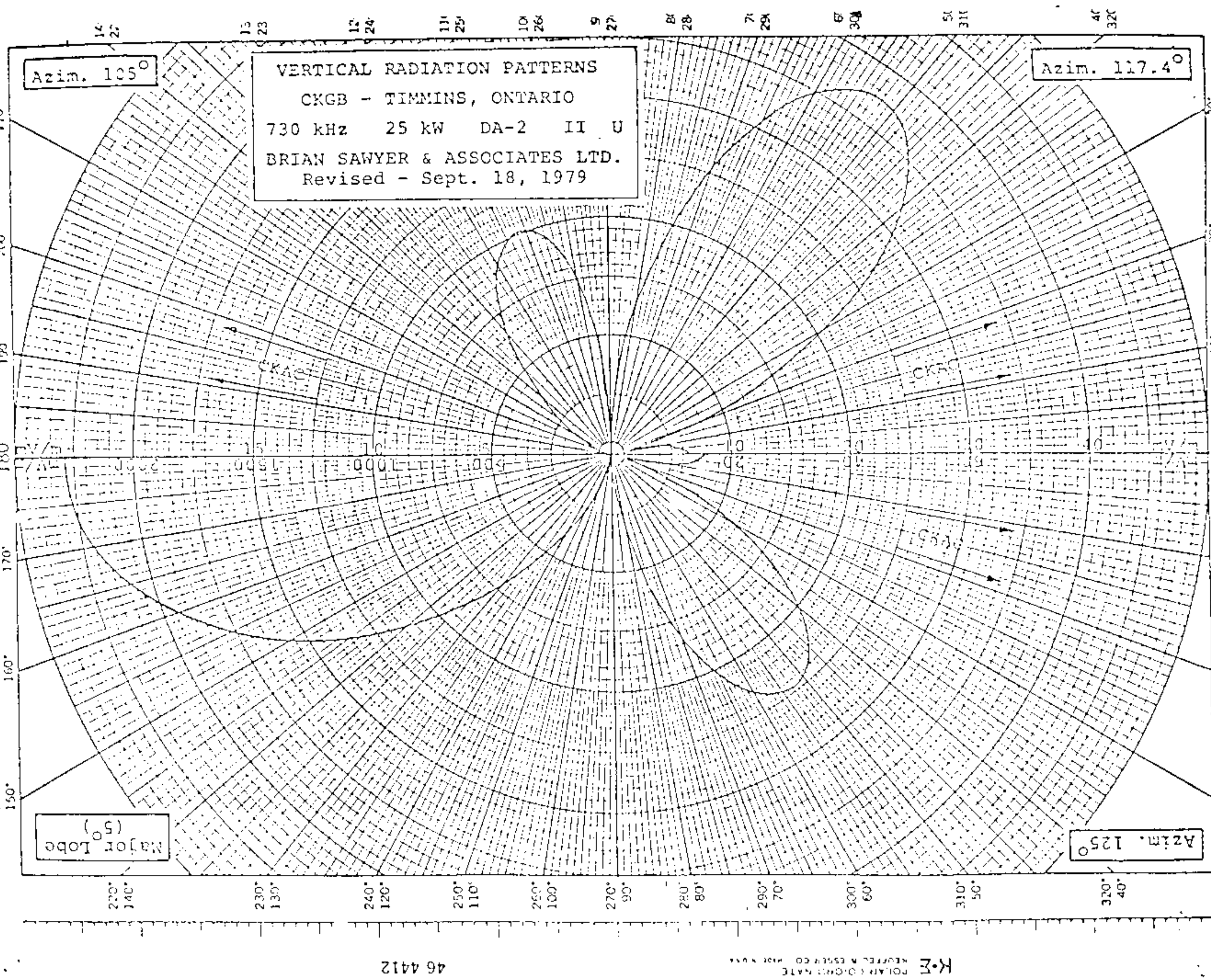
NIGHT

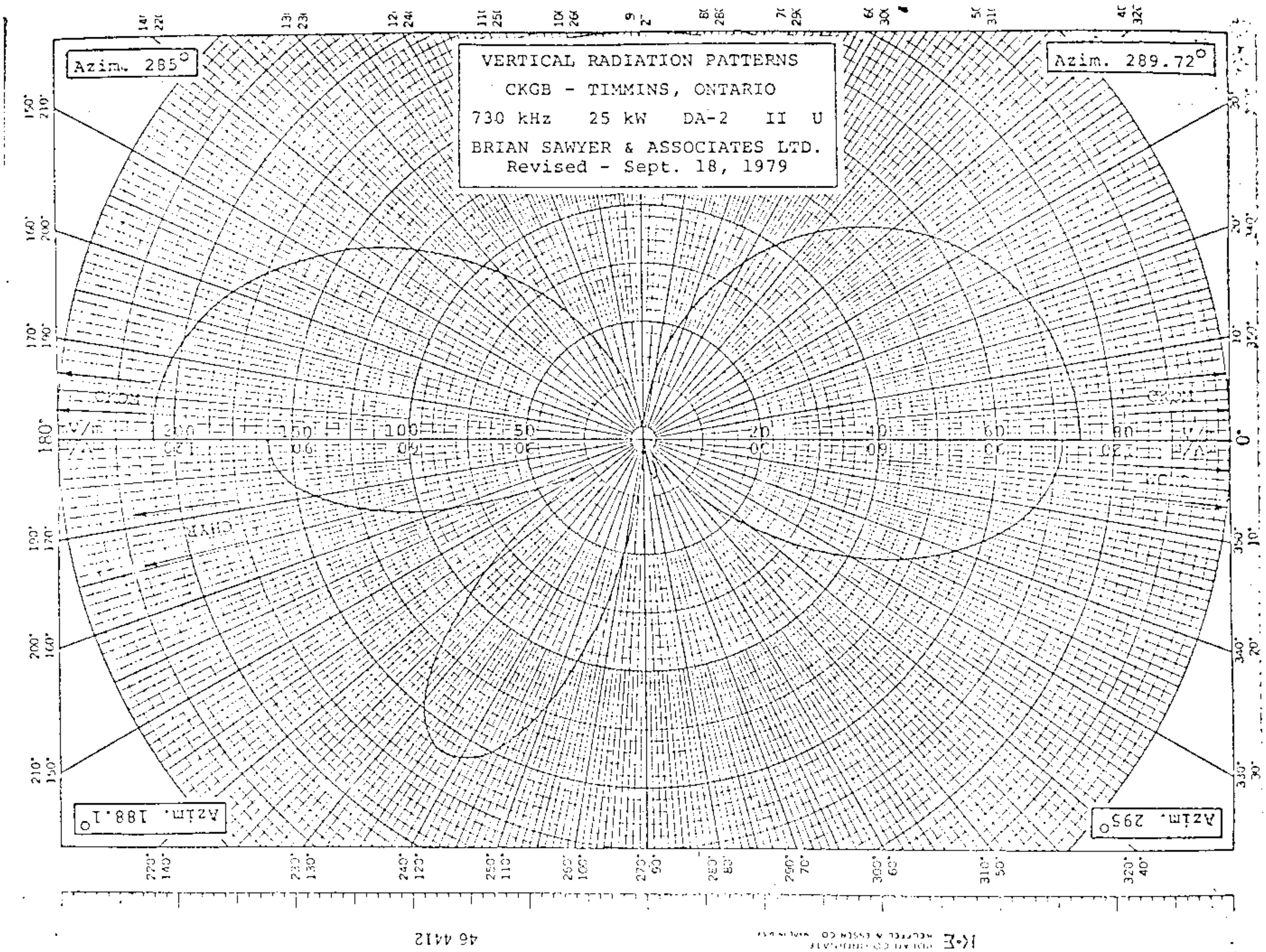
CKGB - TIMMINS, ONTARIO

730 kHz 25 kW DA-2
Class II Unlimited

BRIAN SAWYER & ASSOCIATES LTD.
Revised - Sept. 18, 1979

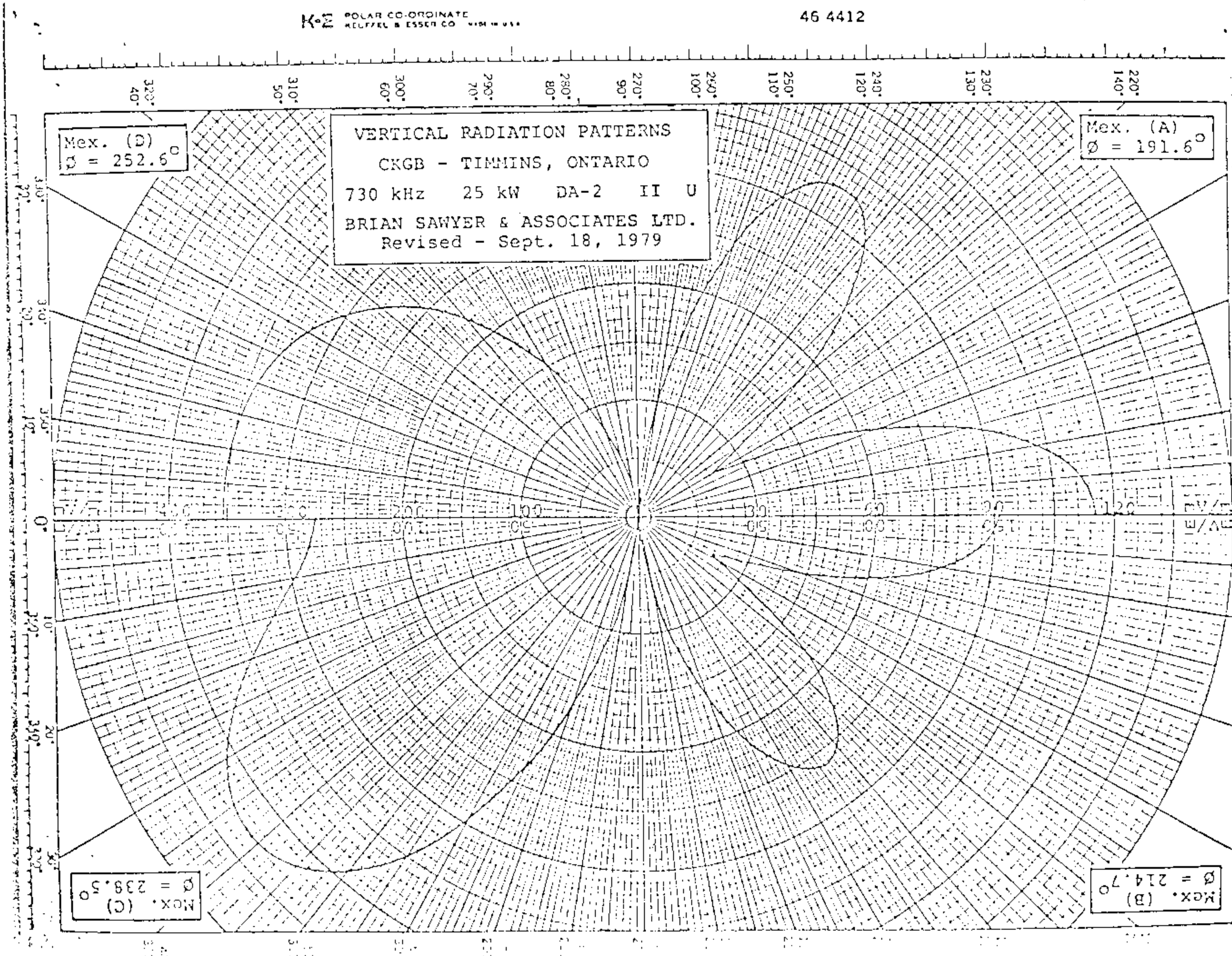
CKGB


VERTICAL RADIATION PATTERNS
CKGB - TIMMINS, ONTARIO
730 kHz 25 kW DA-2 II U
BRIAN SAWYER & ASSOCIATES LTD.
Revised - Sept. 18, 1979
Azim. 105°
Azim. 117.4°
Azim. 125°
Major Lobe (5°)
CKAC
CKRC
46 4412
K·E


VERTICAL RADIATION PATTERNS
CKGB - TIMMINS, ONTARIO
730 kHz 25 kW DA-2 II U
BRIAN SAWYER & ASSOCIATES LTD.
Revised - Sept. 18, 1979
Azim. 285°
Azim. 289.72°
Azim. 188.1°
Azim. 295°
CKGB
CHYR
46 4412
K+E KEUFFEL & ESSER CO.

CKGB

CKGB



VERTICAL RADIATION PATTERNS
CKGB - TIMMINS, ONTARIO
730 kHz 25 kW DA-2 II U
BRIAN SAWYER & ASSOCIATES LTD.
Revised - Sept. 18, 1979
Max. (A) Ø = 191.6°
Max. (B) Ø = 214.7°
Max. (C) Ø = 238.5°
Max. (D) Ø = 252.6°
K+E POLAR CO-ORDINATE KEUFFEL & ESSER CO.
46 4412

179

CKLG

Description Sheet (p.1)
(8-23-63ct)

Station CKLG
Vancouver, B.C.

10kw,DA-2,U,Class II
730 kc

PROJ. 2797-F

DIRECTIONAL ANTENNA-DESCRIPTION SHEET

STATION: CKLG — MAIN STUDIO: Vancouver, B.C.

POWER: 10 kw — FREQUENCY: 730 Kc/s — CLASS: II

NOTIFICATION LIST NO. 179 — DATE: July 26, 1963

GEOGRAPHICAL LOCATION OF ANTENNA SYSTEM:
North Latitude 49° 07' 57"
West Longitude 123° 00' 18"

ANTENNA CHARACTERISTICS

MODE OF OPERATION: Directional Day and Night
Different Patterns Day and Night (DA-2)

NUMBER OF ELEMENTS: Four (4)

TYPE OF ELEMENTS: Uniform cross section guyed steel towers, base insulated for series feed.

TOWER:	#1 (C)	#2 (N)	#3 (NE)	#4 (SE)
HEIGHT ABOVE INSULATORS:	299' (80°)	299'(80°)	299' (80°)	299' (80°)
OVERALL HEIGHT:	305'	305'	305'	305'

SPACING:
From Tower #1 to Tower #2 — 336' (90°)
From Tower #1 to Tower #3 — 672' (180°)
Between Tower #1 and Tower #4 — 523' (140°)

FIELD RATIO: NIGHT	1	.55	Not used	.43
PHASING: NIGHT	0°	+270°	Not used	+50°
FIELD RATIO: DAY	1	.6	.3	Not used
PHASING: DAY	0°	+265°	+30°	Not used

ORIENTATION: Tower #2 is spaced 90° from Tower #1 on a line bearing 10° West of True North. Tower #3 is spaced 180° from Tower #1 on a line bearing 70° East of True North.

Tower #4 is spaced 140° from Tower #1 on a line bearing 120° East of True North.

179

CKLG

Description Sheet (p.2)
(8-23-63ct)

Station CKLG
Vancouver, B.C.

10kw,DA-2,U,Class II
730 kc
CKLG Vancouver, B.C.
730 kc. 10 kw DA-2 Class II

PROJ. 2797-F

DIRECTIONAL ANTENNA-DESCRIPTION SHEET (Cont'd)

GROUND SYSTEM: 120 radials per tower, #10 AWG bare soft copper wire spaced 3° buried to a depth of approximately 8 inches. All radials are greater than 0.25 λ (336 feet). Radials have been extended to the property boundary on the north to make up an area equivalent to the area that would be formed if all radials were 0.4.λ (540 feet) in length.

PREDICTED EFFECTIVE FIELD: Daytime 586 mv/m at 1 mile for 10 Kw. (185 mv/m for 1 Kw)

Nighttime 585 mv/m at 1 mile for 10 Kw. (185 mv/m for 1 Kw)

RCA VICTOR COMPANY, LTD.
MONTREAL, QUEBEC.

MAY 31, 1963

179

CKLG

Proposed Day
(8-23-63ct)

Station CKLG
Vancouver, B.C.

10kw,DA-2,U,Class II
730 kc

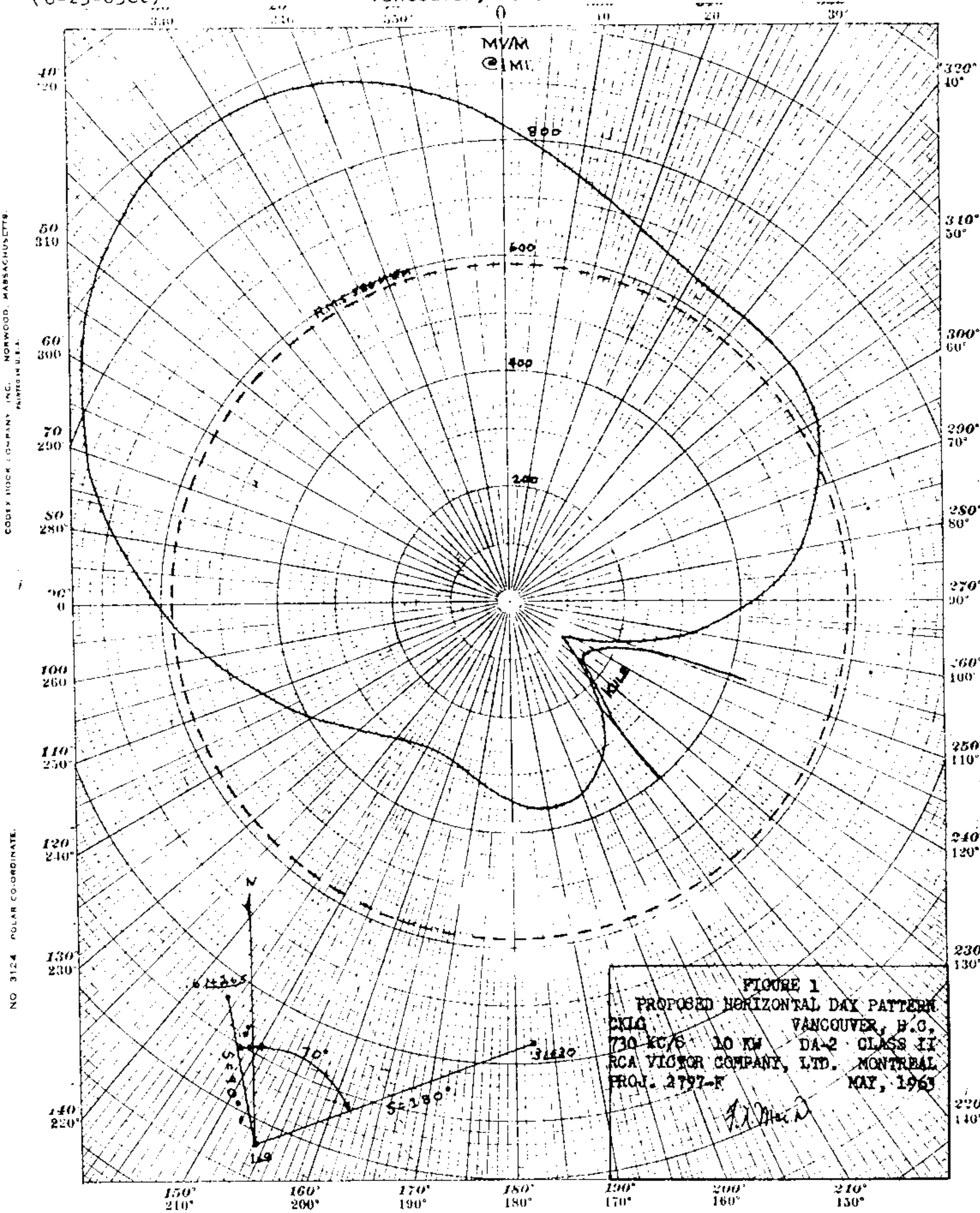


FIGURE 1
PROPOSED HORIZONTAL DAY PATTERN
CKLG VANCOUVER, B.C.
730 KC/S 10 KW DA-2 CLASS II
RCA VICTOR COMPANY, LTD. MONTREAL
PROJ. 2797-F MAY, 1963

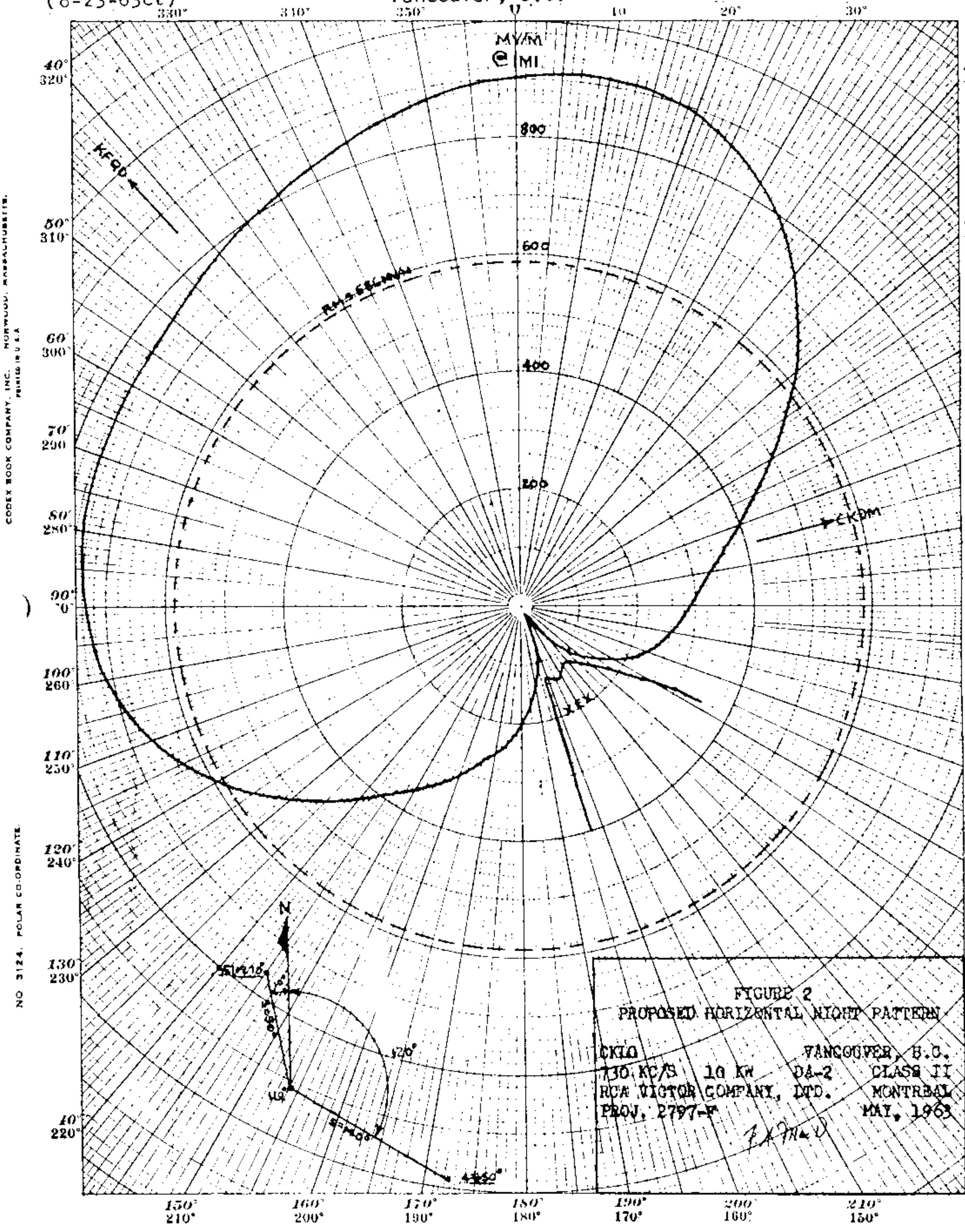
CKLG

#179

Proposed Night
(8-23-63ct)

Station CKLG
Vancouver, B.C.

10kw,DA-2,U,Class II
730 kc



Proposed Night Nulls
(8-23-63ct)

Station CKLG
Vancouver, B.C.

10kw,DA-2,U,Class II
730 kc

#179

CKLG

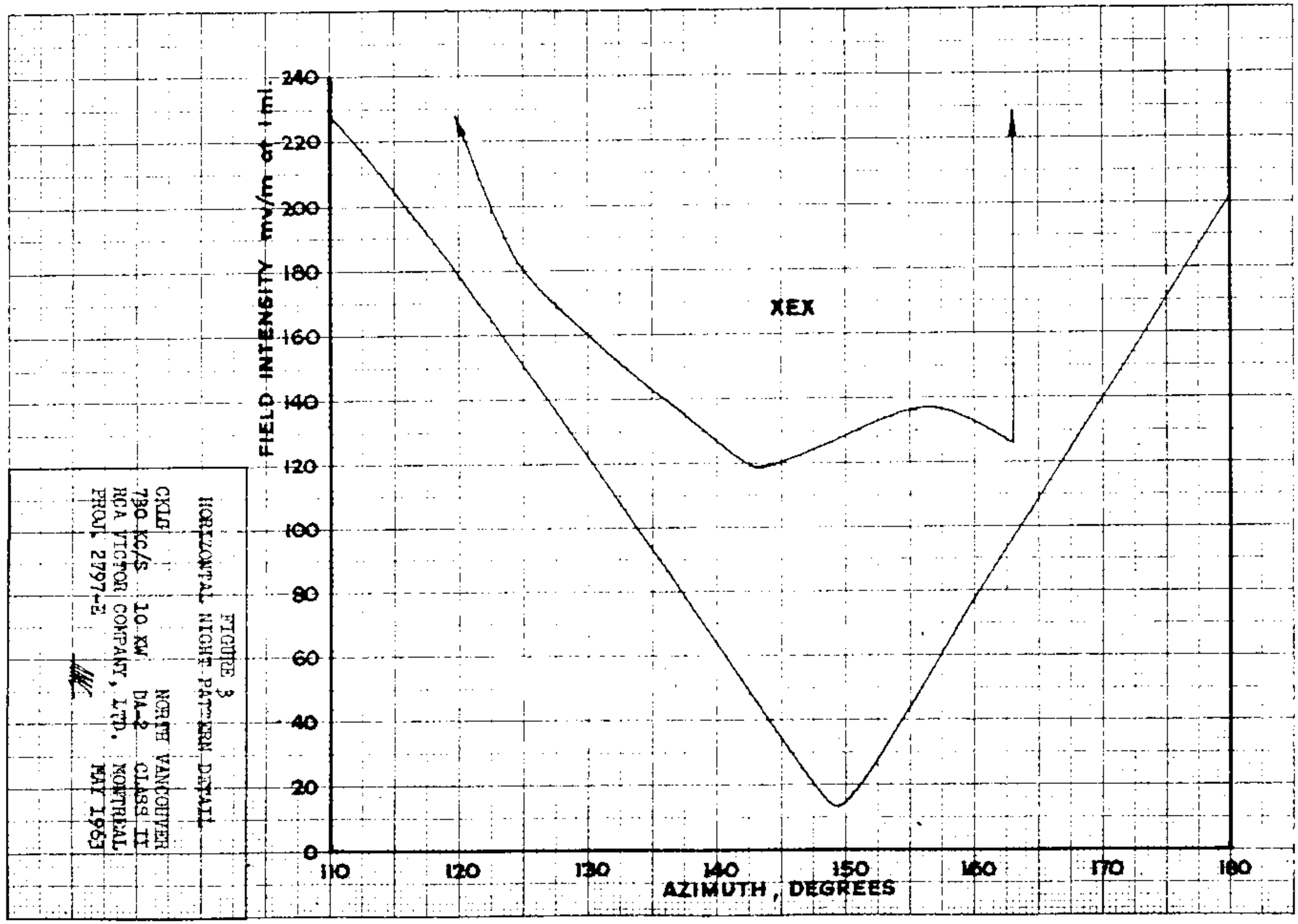


FIGURE 3
HORIZONTAL NIGHT PATTERN DETAIL

CKLG NORTH VANCOUVER
730 KC/S 10 KW DA-2 CLASS II
RCA VICTOR COMPANY, LTD. MONTREAL
PROJ. 2797-E MAY 1963

Cuba

CMCA

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CMCA	Main Studio: Havana
Frequency: 730 Kcs	Power 10 kw
	Received October 16, 1952 Class II
GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:	North Latitude: 23° 05'
	West Longitude: 82° 28'

ANTENNA CHARACTERISTICS

Authorized for Day and Night operation. (DA-1).
Number of elements: two (2)
Type of elements: Series-fed, uniform cross-section, guyed, vertical steel towers.

TOWER:	West	East
HEIGHT ABOVE GROUND	350'	350' (93.5°)
SPACING:	(337.02' or 90° between adjacent towers)	
PHASING:	0°	-95°
FIELD RATIO:	1.0	0.9
ORIENTATION:	(Elements on a line bearing 90° true.)	

Predicted effective Field: 554 mv/m (at rated power)

F.C.C. Note:
This pattern supplements the particulars for this station set forth in Annex 3 to the North American Regional Broadcasting Agreement, Washington, D.C., 1950.

Cuba

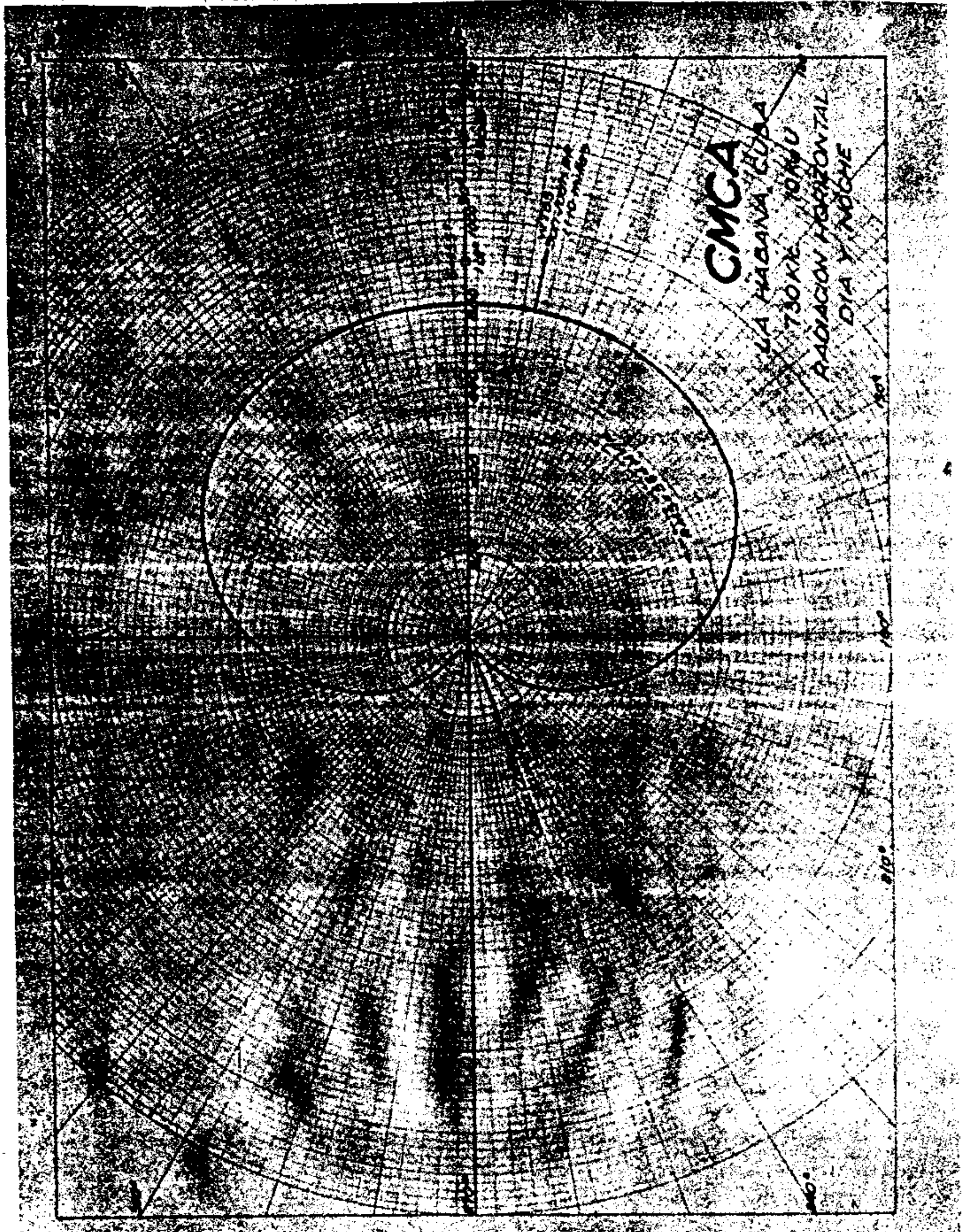
CMCA

PROPOSED
DAY & NIGHT (3/18/53G)

CMCA, HAVANA, CUBA

10 kw, DA-1

730 kc



CMCA, Havana, Cuba 730 kc

Albuquerque, N.M.

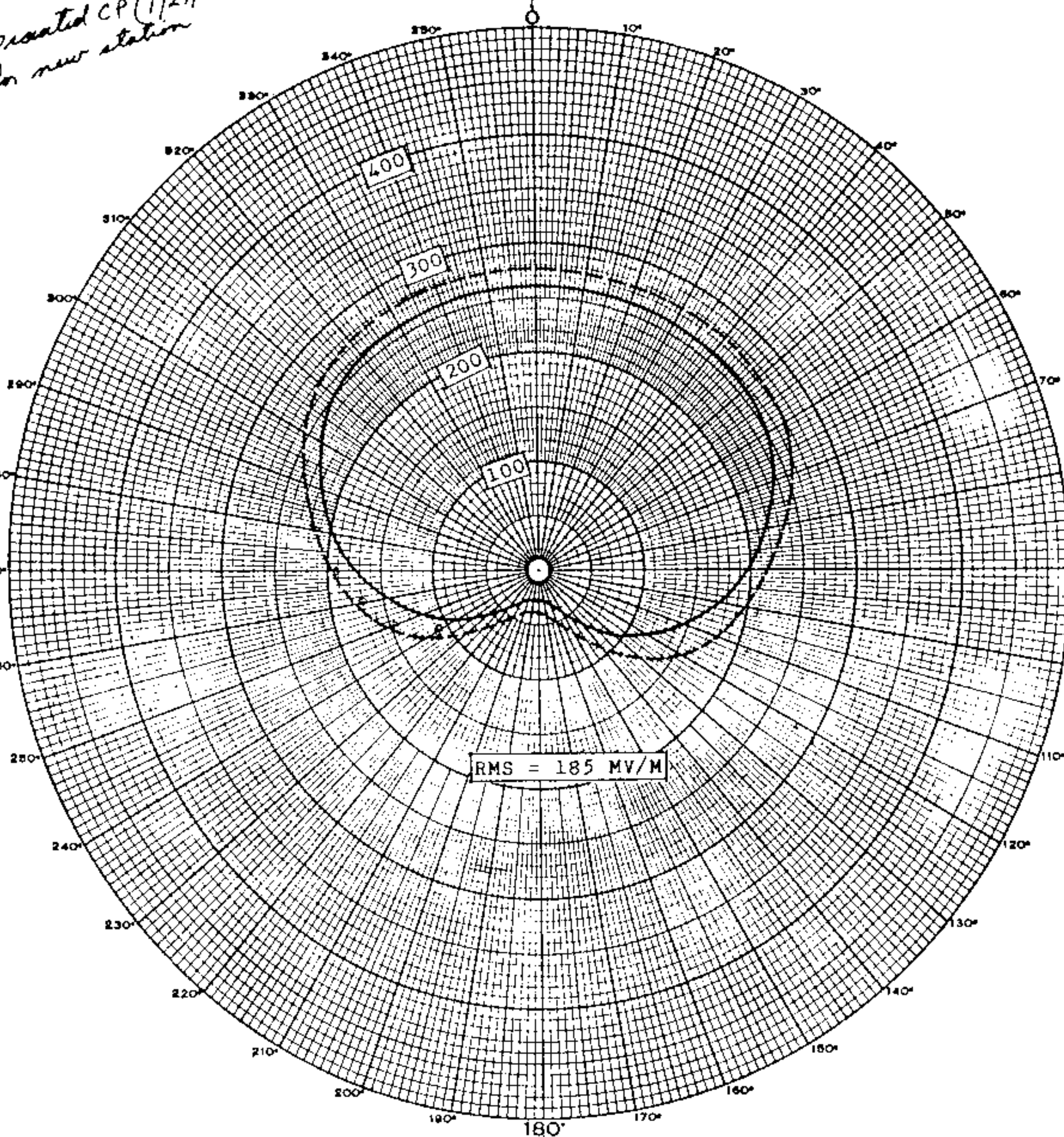
KDAZ

KDAZ

PROPOSED DAY
(4-24-58g)

New; T.I. Moseley 1kw, DA-D,D
Albuquerque, New Mexico 730 KC

Granted CP (1/21/59) for new station



SITE COORDINATES
106° 42' 52"
35° 00' 31"

- - - MEOV

PROPOSED HORIZONTAL PLANE RADIATION PATTERN

1.0∠0 90° 0.8∠90° 185° TRUE G=80°	T. I. MOSELEY ALBUQUERQUE, NEW MEXICO Vandivere and Cohen Consulting Electronic Engineers	PROPOSED OPERATION 730 KC 1 KW D DA MARCH, 1958

FCC File No. BP-11,938
Accepted 4-17-58

T.I. Moseley
Albuquerque New Mexico 730 KC

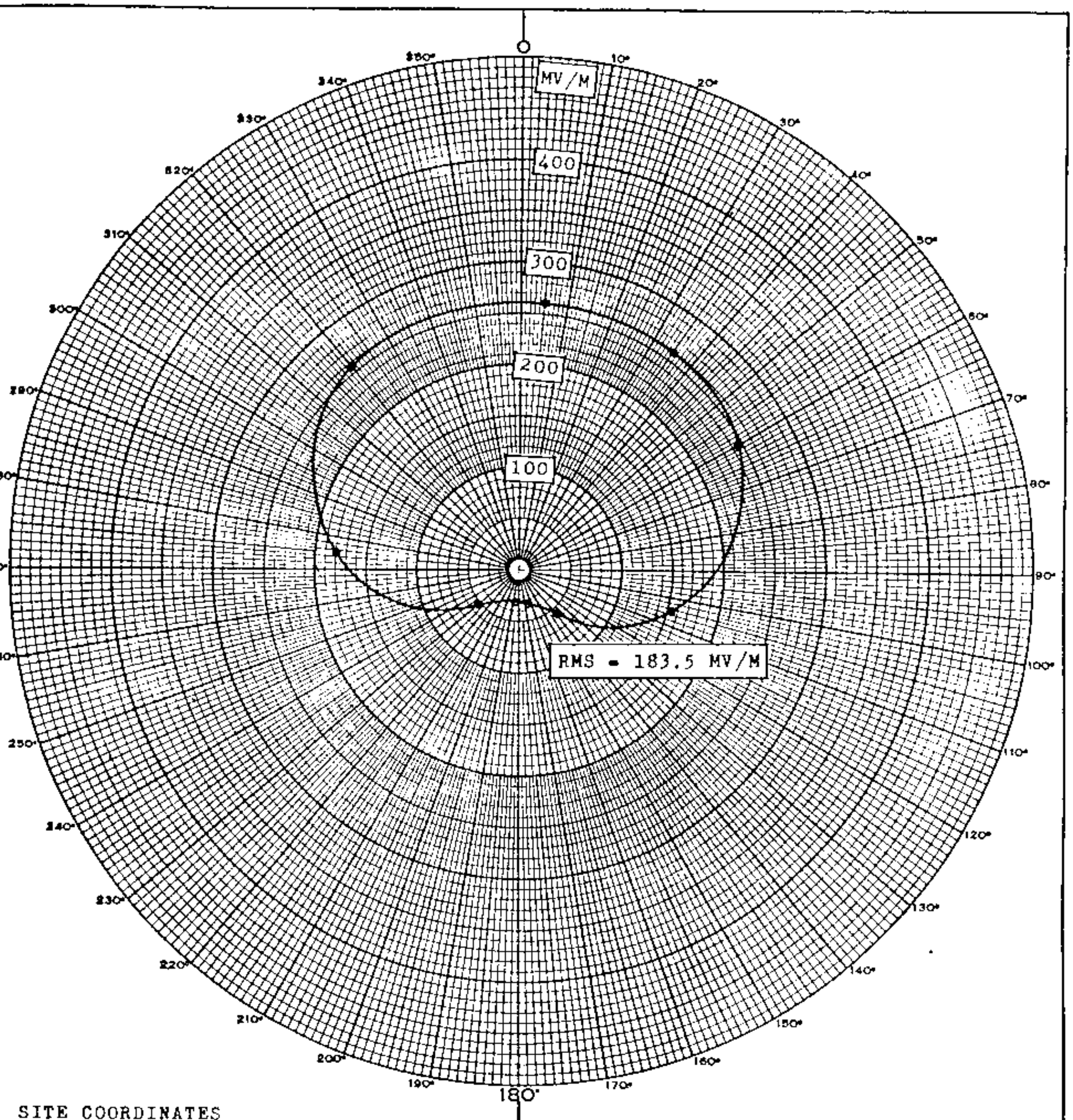
KDAZ

MEASURED DAY
(11-16-59g)

Station KMGM
Albuquerque, New Mexico

1kw, DA-D,D
730 KC

10-4-60



SITE COORDINATES
35° 00' 31" N
106° 42' 52" W

MEASURED DIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN

S = 90° = 336.8'
1.0/0°
S
0.8/90°
185° TRUE
G = 80°

T. I. MOSELEY
ALBUQUERQUE NEW MEXICO

Vandivere and Cohen
Consulting Electronic Engineers

RADIO STATION KMGM
730 KC
1 KW DA D
AUGUST, 1959

FCC File No. BL-7620
Accepted 10-7-59

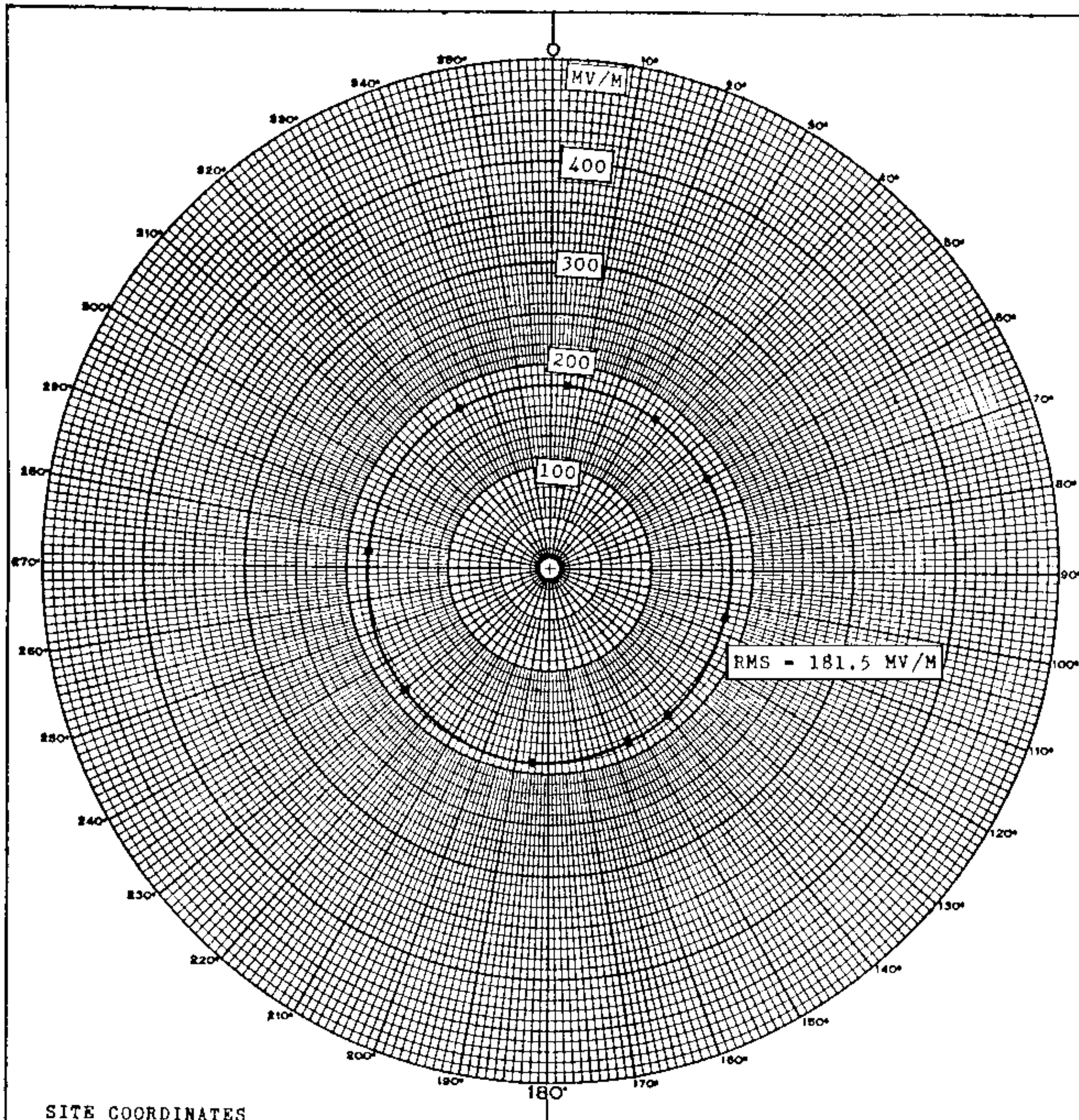
KMGM
Albuquerque, New Mexico

730 KC

MEASURED NON-DA
(11-16-59g)

Station KMGM
Albuquerque, New Mexico

1kw, DA-D,D -KDAZ
730 KC



SITE COORDINATES
35° 00' 31" N
106° 42' 52" W

MEASURED NONDIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN

S = 90° = 336.8'
1.0/0°
S
0.8/90°
185° TRUE G = 80°

T. I. MOSELEY
ALBUQUERQUE NEW MEXICO

Vandivere and Cohen
Consulting Electronic Engineers

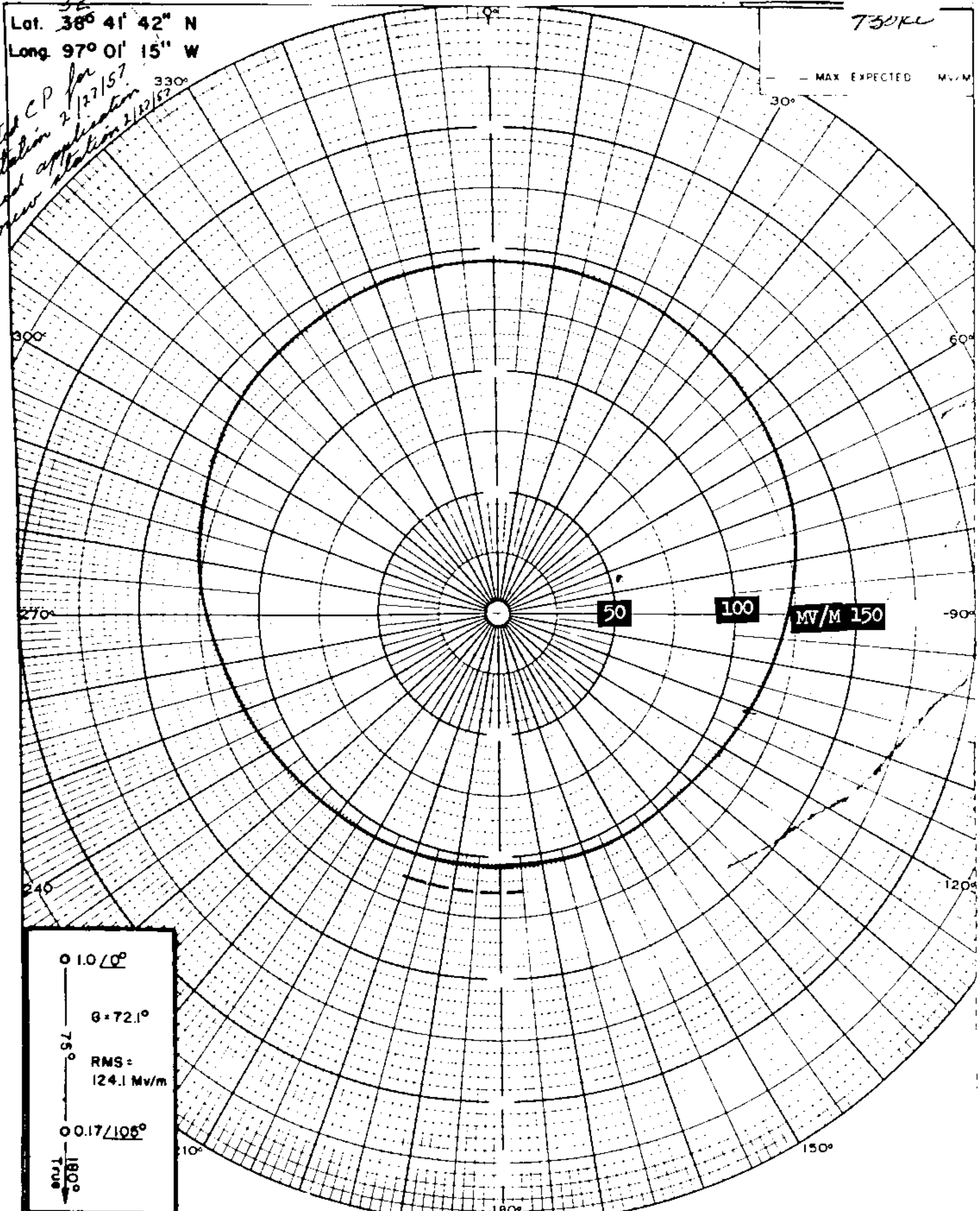
RADIO STATION KMGM
730 KC
1 KW DA D
AUGUST, 1959

FCC File No. BL-7620
Accepted 10-7-59

KMGM
Albuquerque, New Mexico

730 KC

PROPOSED DAY (2/7/57g) | Station ~~KBCS~~ Grand Prairie, Texas | 500w, DA-D,D 730 | KRDA 730kc



COMMERCIAL RADIO EQUIPMENT CO.
RADIO ENGINEERING CONSULTANTS
WASHINGTON, D. C.

PATTERN PROPOSED DAYTIME DA
FOR GRAND PRAIRIE, TEXAS
POWER 500 W. FREQ. 730 KC
DATE 8/31/55

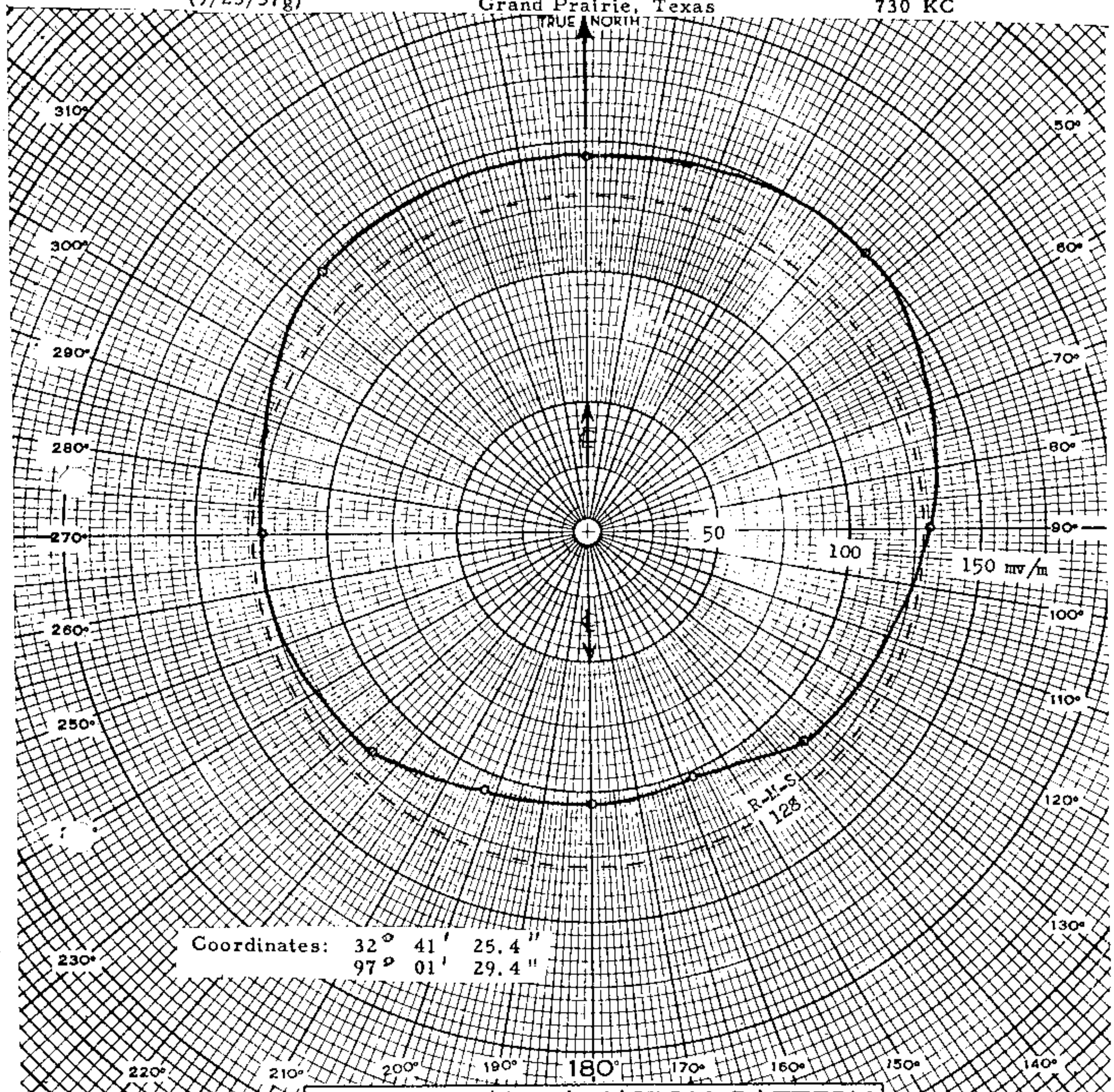
FCC File No. BP 9779 KBCS

KKDA

MEASURED DAY
(9/25/57g)

Station ~~KCBS~~
Grand Prairie, Texas

500w, DA-D, D
730 KC



HORIZONTAL RADIATION PATTERN

ANTENNA LAYOUT
#1 NORTH ANT. 0° 1/0°
75°
#2 SOUTH ANT. 0.2/105°

KBCS — Station
GRAND PRAIRIE, TEXAS — Location
730 kc — Frequency
0.5 kw — Power
128 mv/m (180/kw) — R.M.S Field
2 — No. of Elements
270 ft., 0.2 λ or 72.1° — Height of Antenna
MEASURED ☒ CALCULATED ☐ — Pattern
Fig. 13 — No.
DA DAYTIME PATTERN — Remarks

GUY C. HUTCHESON
CONSULTING RADIO ENGINEER
ARLINGTON, TEXAS

FCC File No. BL-6743
Accepted 9/10/57

KCBS
Grand Prairie, Texas

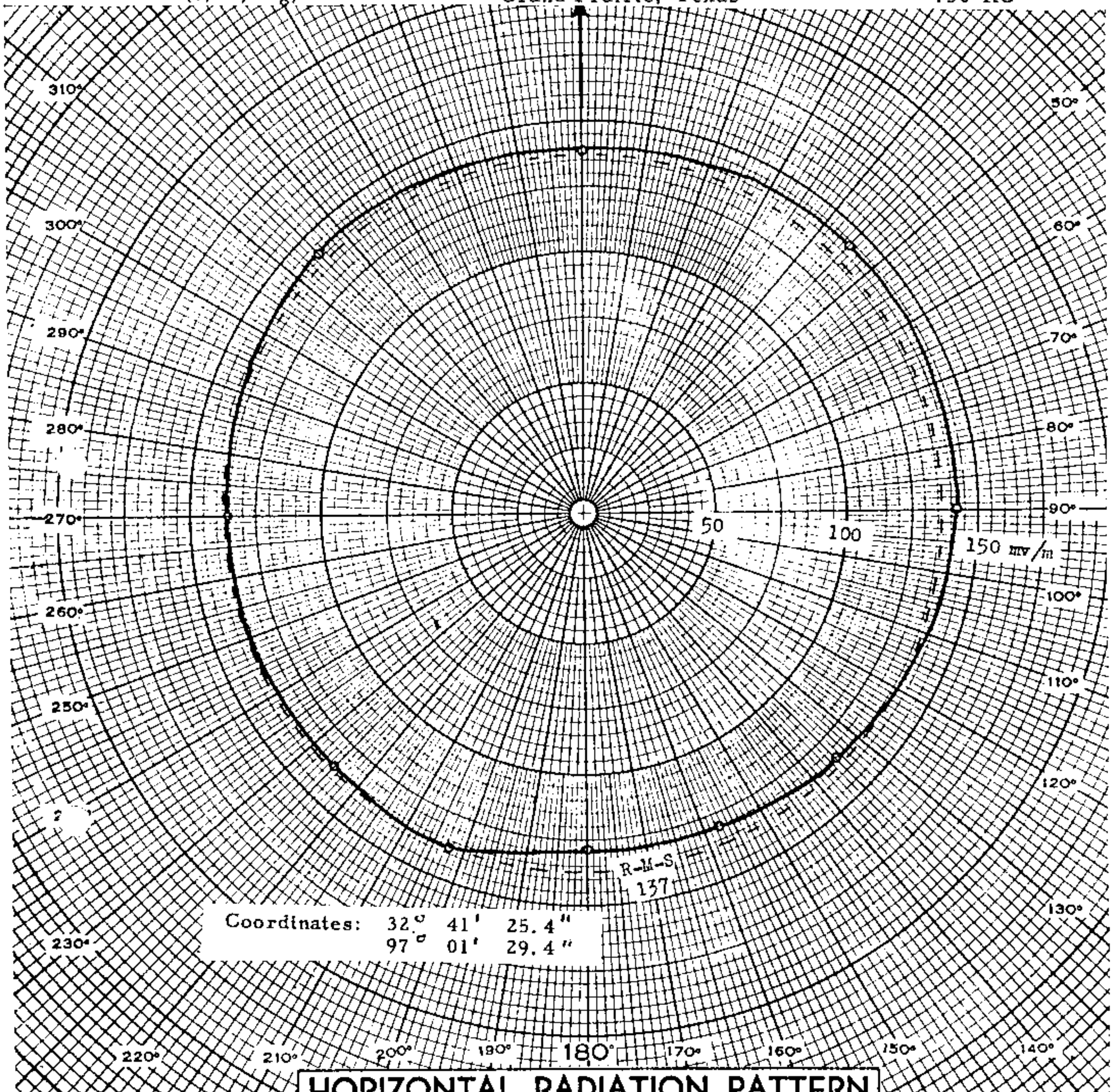
730 KC

KKDA

MEASURED NON-DA
(9/25/57g)

Station ~~KCBS~~
Grand Prairie, Texas

500w, DA-L,
730 KC



HORIZONTAL RADIATION PATTERN

ANTENNA LAYOUT

#1 NORTH ANT. 0° FULL POWER

75°

#2 SOUTH ANT. FLOATING

KBCS — Station
GRAND PRAIRIE, TEXAS — Location

730 kc — Frequency
0.5 kw — Power
137 mv/m (193/kw) — R.M.S Field

1 used — No. of Elements
270 ft., 0.2 λ or 72.1° — Height of Antenna

MEASURED ☒ CALCULATED ☐ — Pattern
Fig. 12 — No.

NON-DA PATTERN — Remarks

GUY C. HUTCHESON
CONSULTING RADIO ENGINEER
ARLINGTON, TEXAS

FCC File No. BL-6743
Accepted 9/10/57

KCBS
Grand Prairie, Texas

730 KC

Senturce P.R. 10 KW, DA-1, U. WIAC

C.P. pending

This station is now licensed for 10 KW, DA-1 operation on 740 KC. They propose to utilize the same facilities as are now in operation.

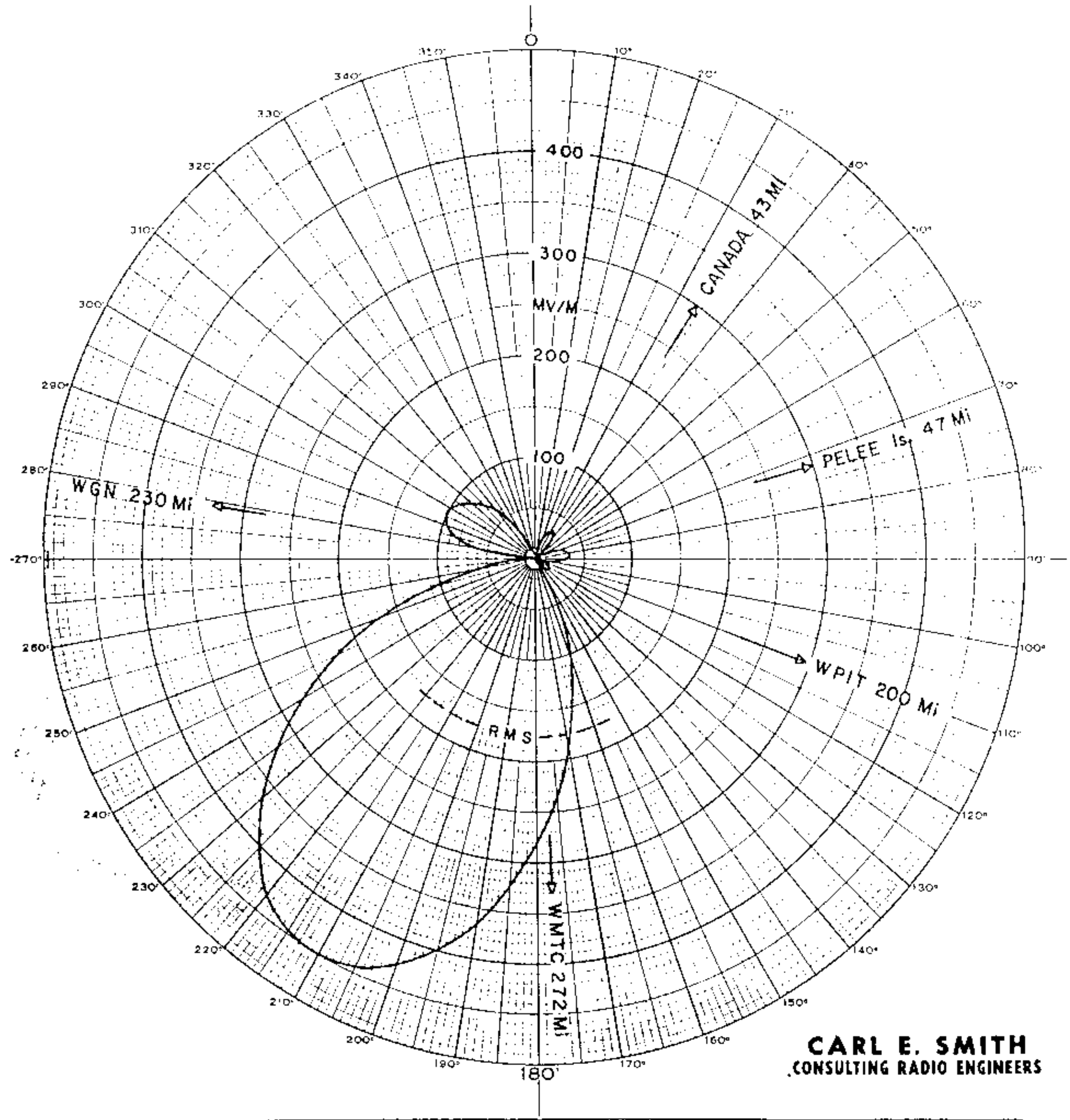
For patterns see WIAC on 740 KC

* when & if license is granted on 730 remove patterns from 740 & put under 730 in place of this info.

This station proposes to use present patterns for 740 KC operation - on 730 KC.

WMGS'

PROPOSED DAY (7-8-59g) | Station WHRW Bowling Green, Ohio | 1kw, DA-D, D 730 KC



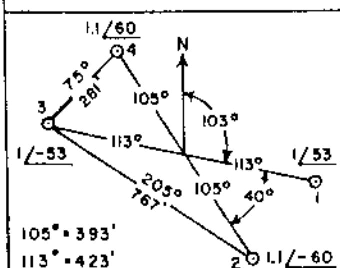
CARL E. SMITH
CONSULTING RADIO ENGINEERS

granted MCP to change location and decrease height 9-8-59

granted MCP to make changes in ant system 9-7-60

granted L for ... 6-21-61

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No	ELECTRICAL HEIGHT $G°$	TRUE TOWER ORIENTATION $\beta°$	SPACING $S°$	PHASING $\psi°$	HORIZONTAL FIELD mv/m E	FIELD RATIO F	ELEV ANGLE $\theta°$	ELEVATION RMS FIELD mv/m E_θ
1	76	103	113	53		1.0	0	175
2	76	143	105	-60		1.1	10	
3	76	283	113	-53		1.0	20	
4	76	323	105	60		1.1	30	
5							40	
6							50	
7							60	
8							70	
9							80	
10							E_s	mv/m
							K	kw

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

STATION DATA

CALL	WHRW
FREQUENCY	730 kc
POWER	1 kw
TIME OF OPERATION	D
TYPE OF OPERATION	CLASS II
DAYTIME TOWERS	4
NIGHTTIME TOWERS	0
No RADIALS PER TOWER	120
LENGTH OF RADIALS	90 - 336 ft
GROUND SCREEN DIMENSION	24'x24'
LAT.	41° 31' 57"
LONG	83° 33' 55"
SUPERSEDES	59 03 07
PATTERN No	59 05 25

HOWARD R. WARD
BOWLING GREEN, OHIO

FIG. V- 3.3 a
HORIZANTAL PATTERN AMENDED C.P.

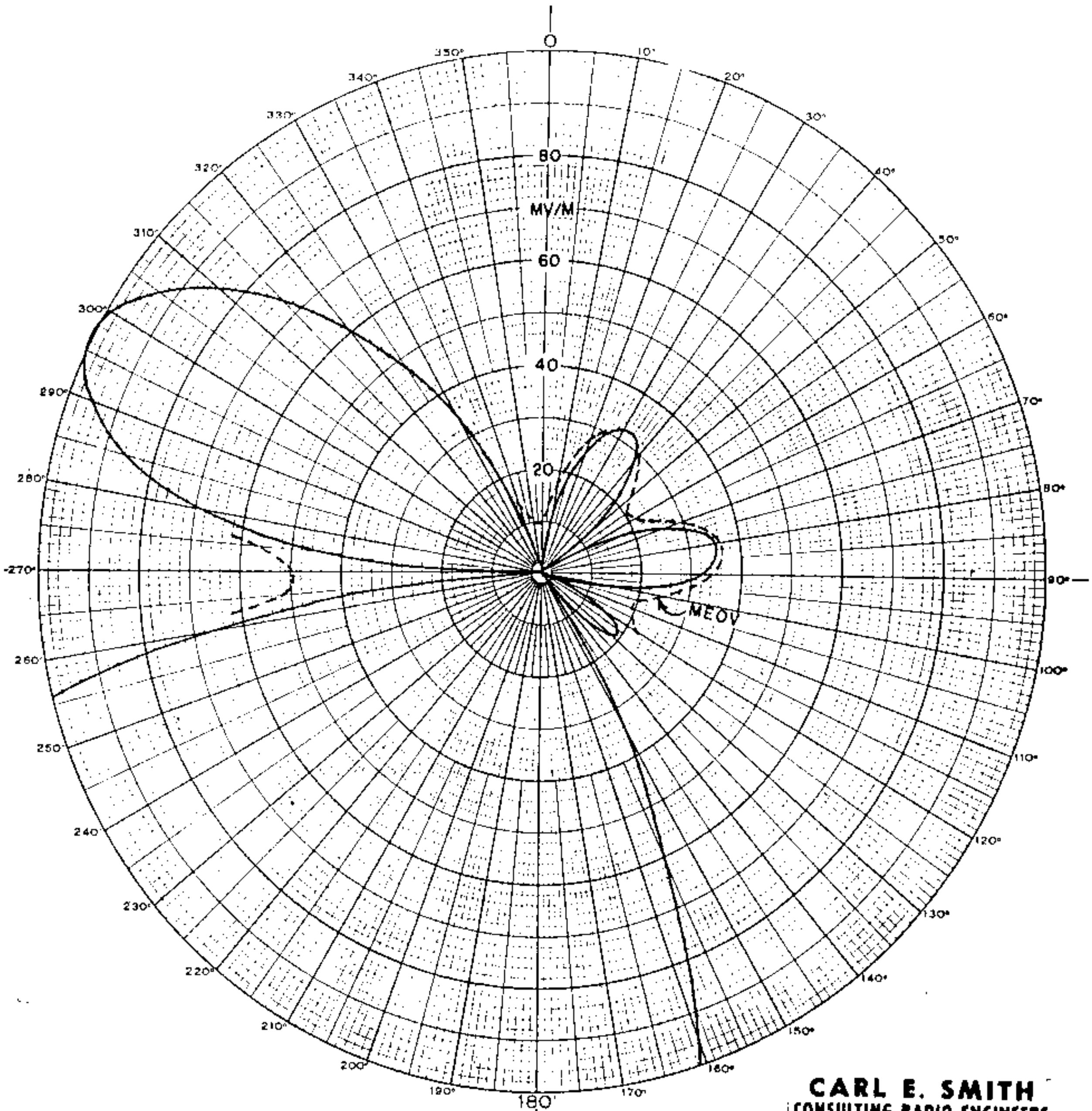
FCC File No. BMP-8577 Accepted 6-18-59 | WHRW Bowling Green, Ohio | 730 KC

WMGS

PROPOSED DAY NULLS
(7-8-59g)

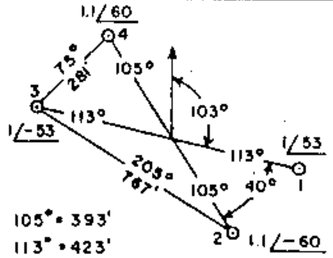
Station WHRW
Bowling Green, Ohio

1kw, DA-D, D
730 KC



CARL E. SMITH
CONSULTING RADIO ENGINEERS

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No.	ELECTRICAL HEIGHT $G°$	TRUE TOWER ORIENTATION $\phi°$	SPACING $S°$	PHASING $\psi°$	HORIZONTAL FIELD mv/m E	FIELD RATIO F	ELEV. ANGLE $\theta°$	ELEVATION RMS FIELD mv/m E_θ
1	76	103	113	53		1.0	0	175
2	76	143	105	-60		1.1	10	
3	76	283	113	-53		1.0	20	
4	76	323	105	60		1.1	30	
5							40	
6							50	
7							60	
8							70	
9							80	
10							E_c =	mv/m
							E_r =	kw

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

STATION DATA

CALL	WHRW
FREQUENCY	730 kc
POWER	1 kw
TIME OF OPERATION	D
TYPE OF OPERATION	CLASS II
DAYTIME TOWERS	4
NIGHTTIME TOWERS	0
No. RADIALS PER TOWER	120
LENGTH OF RADIALS	90 - 336 ft
GROUND SCREEN DIMENSION	24'x24'
LAT.	41° 31' 57"
LONG	83° 33' 55"
SUPERSEDES	59 03 07
PATTERN No.	59 05 25

HOWARD R. WARD
BOWLING GREEN, OHIO

FIG. V- 4.3a
EXPANDED HORIZANTAL PATTERN AMENDED C.P.

FCC File No. BMP-8577
Accepted 6-18-59

WHRW
Bowling Green, Ohio

730 KC

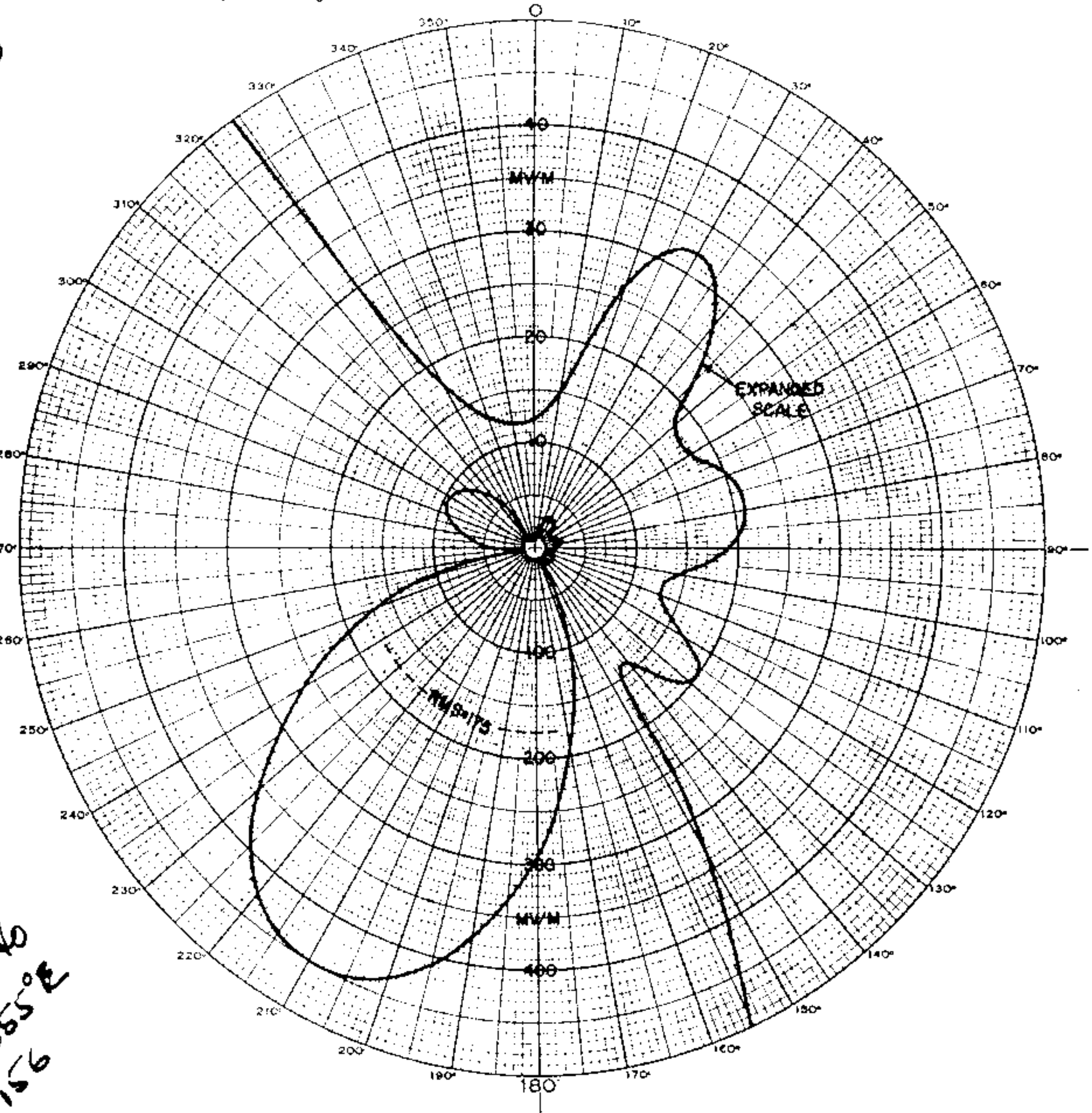
POLAR COORDINATES NO. 10 HP CLEVELAND INSTITUTE OF RADIO ELECTRONICS CLEVELAND, OHIO

WMGS

granted Lifo make changes in antenna system 6-21-61

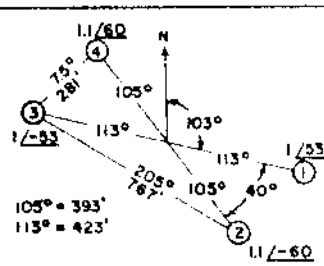
MEASURED DAY (11-11-60g)

Station WHRW 1kw, DA-D,D
Bowling Green, Ohio 730 KC



application for mcp to change MEOV at N 355°E to 25 mv/m #156 granted CP for it 12-22-60

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	STATION DATA



TOWER No.	ELECTRICAL HEIGHT G°	TRUE TOWER HEIGHT	SPACING S°	PHASING ψ°	HORIZONTAL FIELD mv/m	FIELD RATIO F
1	76	103	113	53		1.0
2	76	143	105	-60		1.1
3	76	283	113	-53		1.0
4	76	323	105	60		1.1
5						
6						
7						
8						
9						
10						

ELEV ANGLE θ°	ELEVATION PROFILE mv/m
0	175
10	
20	
30	
40	
50	
60	
70	
80	

CALL	WHRW
FREQUENCY	730 kc
POWER	1.0 kw
TIME OF OPERATION	DA - D
TYPE OF OPERATION	CLASS II
DAYTIME TOWERS	NO 1,2,3,4
NIGHTTIME TOWERS	—
No RADIALS PER TOWER	120
LENGTH OF RADIALS	90 - 336 ft
GROUND SCREEN DIMENSION	24'x24'
LAT	41 31 57
LONG	83 33 55
REFERENCES	
PATTERN No	600727

CARL E. SMITH
CONSULTING RADIO ENGINEERS

FIG. 7.15
DIRECTIONAL
MEASURED HORIZONTAL PATTERN

Howard R. Ward
Bowling Green, Ohio

FCC File No. BL-8105
Accepted 10-26-60

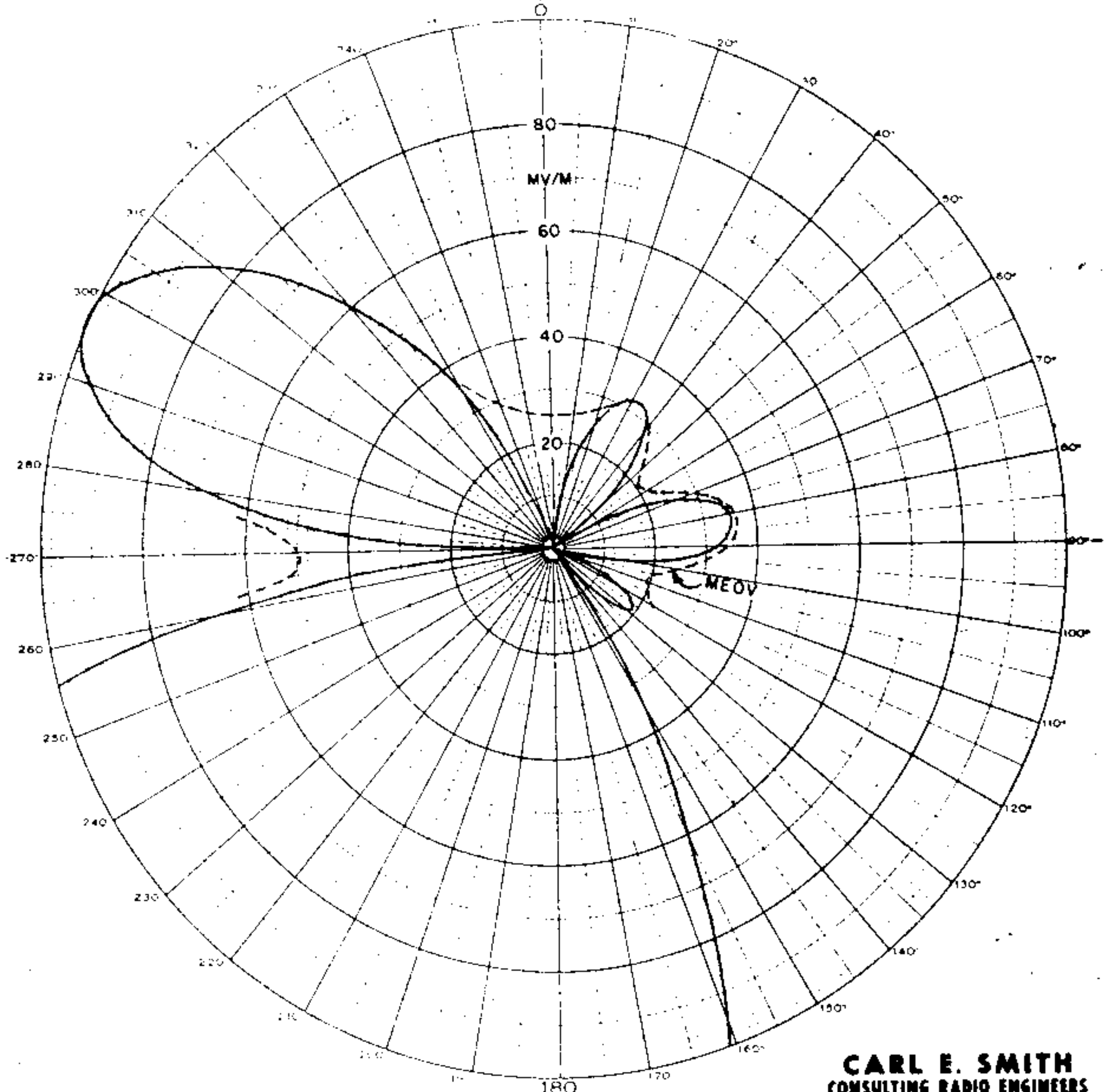
WHRW
Bowling Green, Ohio 730 KC

WMGS

NO. 10 HP

MEASURED DAY NULLS
(11-11-60g)

Station WHRW 1kw, DA-D,D
Bowling Green, Ohio 730 KC



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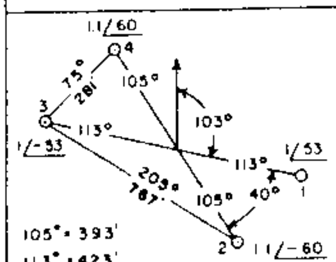
CONSULTING RADIO ENGINEERS

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

1	76	103	113	53		1.0
2	76	143	105	-60		1.1
3	76	283	113	-53		1.0
4	76	323	105	60		1.1

ELEV. ANGLE	ELEVATION RMS FIELD
0	175
10	
20	
30	
40	
50	
60	

STATION DATA

CALL	WHRW
FREQUENCY	730
POWER	1
TIME OF OPERATION	DA-D
TYPE OF OPERATION	CLASS II
DAYTIME TOWERS	4
NIGHTTIME TOWERS	0
NO. RADIALS PER TOWER	120
LENGTH OF RADIALS	90-336
GROUND SCREEN DIMENSION	24'x24'
LAT.	41° 31' 57"
LONG.	83° 33' 55"
SUPERSEDES	590525
PATTERN NO.	600624

CARL E. SMITH
CONSULTING RADIO ENGINEERS

FIG. 7.14
DIRECTIONAL
EXPANDED PROPOSED HORIZONTAL PATTERN

Howard R. Ward
Bowling Green, Ohio

FCC File No. BL-8105
Accepted 10-26-60

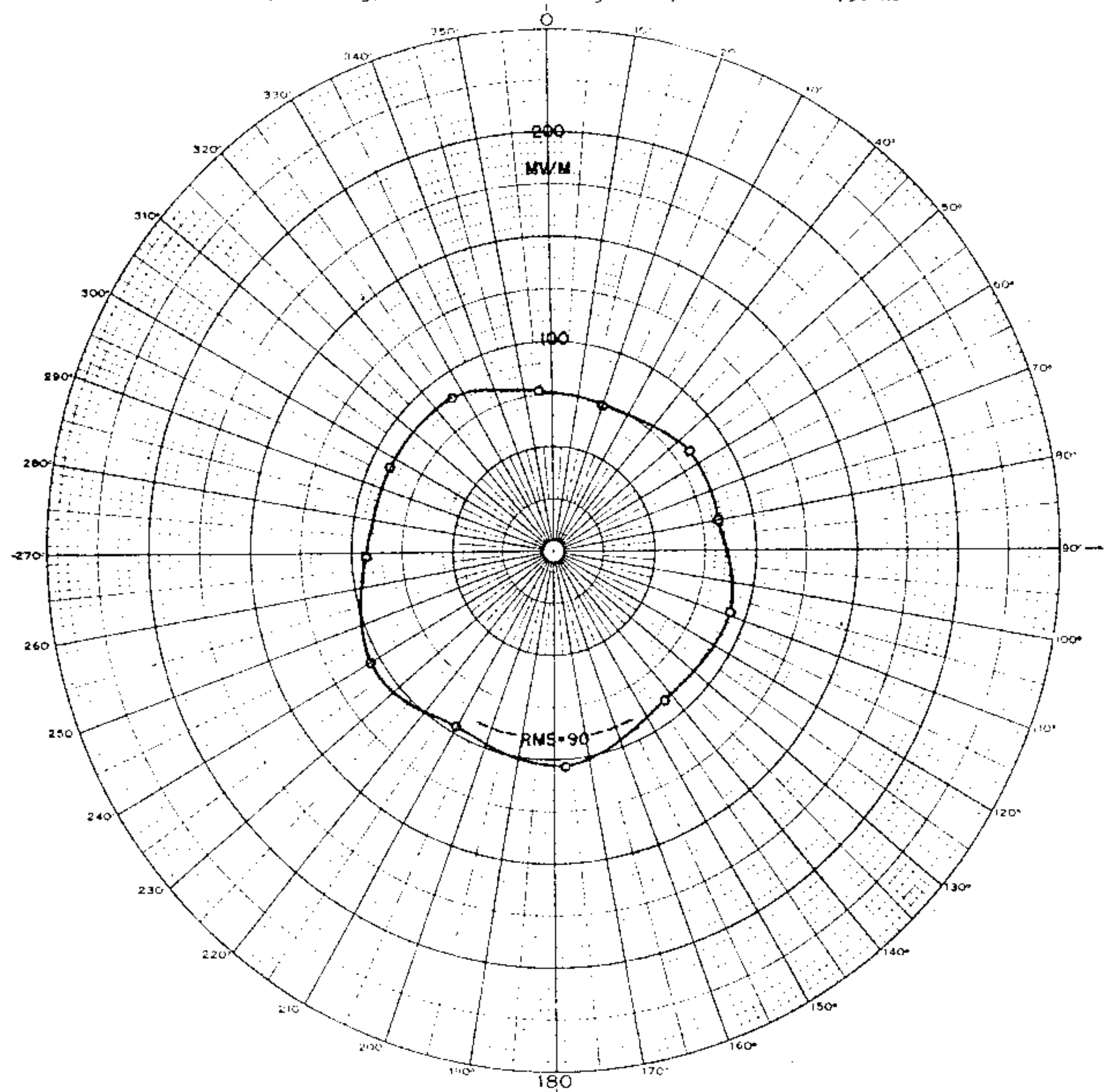
WHRW
Bowling Green, Ohio 730 KC

WMGS

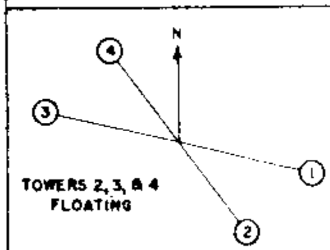
POLAR CO-ORDINATE NO 10 HP CLEVELAND INSTITUTE OF RADIO ELECTRONICS

MEASURED NON-DA
(11-11-60g)

Station WHRW 1kw, DA-D,D
Bowling Green, Ohio 730 KC



TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	STATION DATA



Tower No.	Height					Field Ratio
1	76					
2						
3						
4						
5						
6						
7						
8						
9						

Elev. Angle	Elevation RMS Field
0	90.0
10	
20	
30	
40	
50	
60	
70	
80	

CALL	WHRW
FREQUENCY	730 KC
POWER	0.25 KW
TIME OF OPERATION	DA - D
TYPE OF OPERATION	CLASS II
DAYTIME TOWERS	NO. 1,2,3,4
NIGHTTIME TOWERS	
NO. RADIALS PER TOWER	120
LENGTH OF RADIALS	90 - 336 FT
GROUND SCREEN DIMENSION	24'x24'
LAT	41 31 57
LONG	83 33 55
PATTERN NO.	600725

CARL E. SMITH
CONSULTING RADIO ENGINEERS

FIG. 6.13
NON-DIRECTIONAL
MEASURED HORIZONTAL PATTERN

Howard R. Ward
Bowling Green, Ohio

FCC File No. BL-8105
Accepted 10-26-60

WHRW
Bowling Green, Ohio

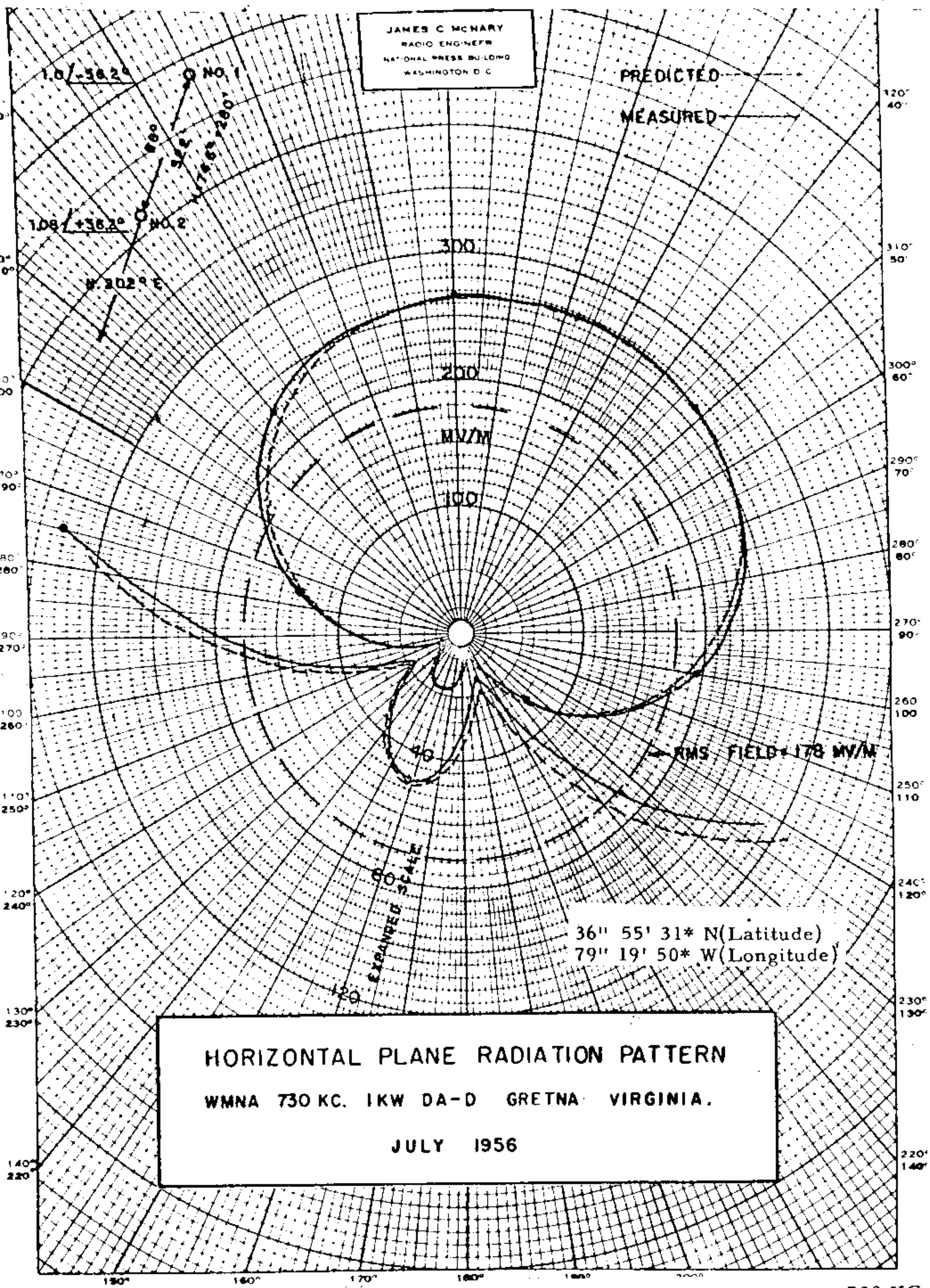
730 KC

WMNA

MEASURED
DAY (9-14-56g)

STATION W M N A 1 KW, DA-D
Gretna, Virginia

730KC



FCC File
BL-6283

Accepted 9-4-56

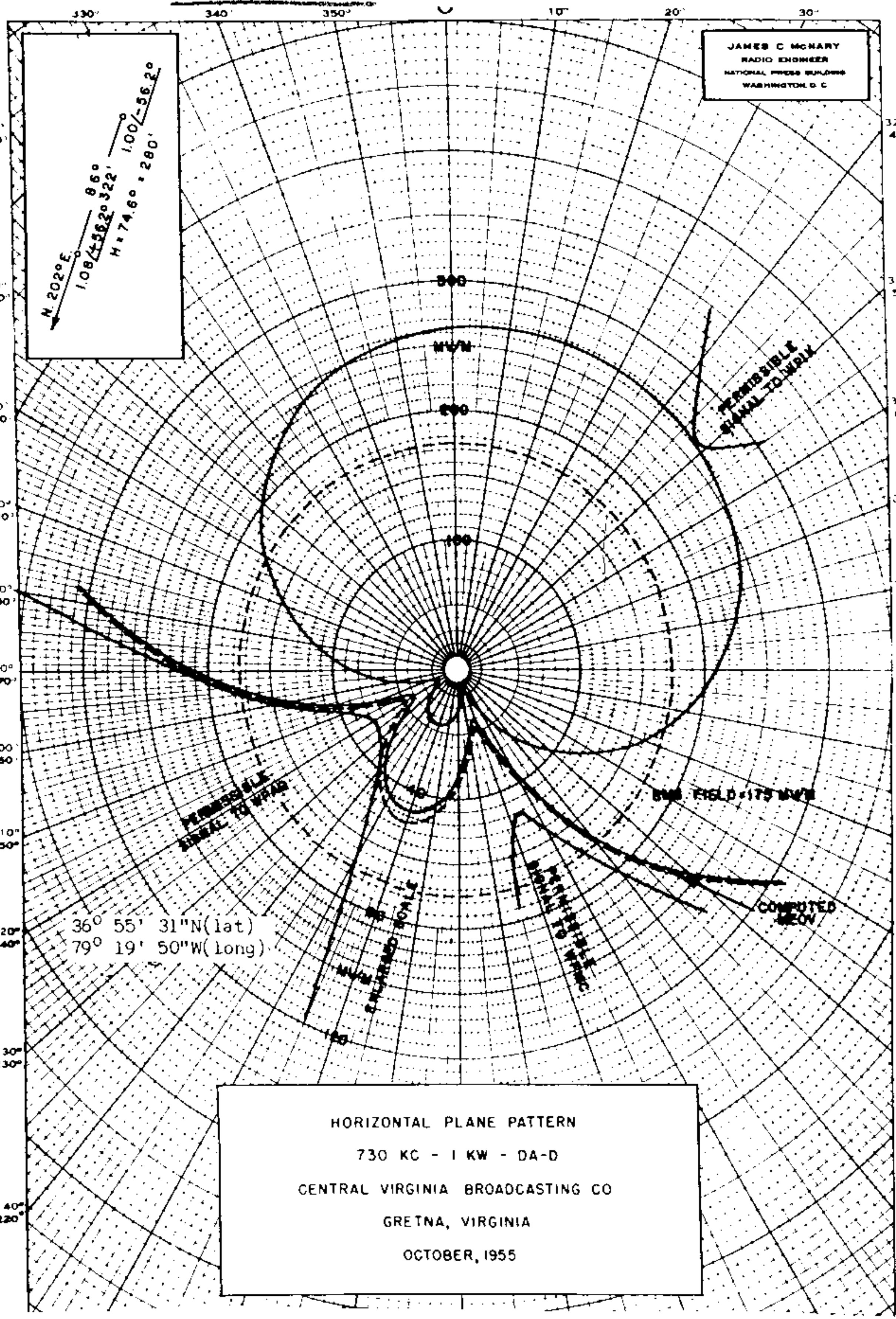
Station WMNA
Gretna, Virginia

730 KC

WMNA

PROPOSED DAY
(11-28-55G)

CENTRAL VIRGINIA BRCG. CO., INC. 1KW
GRETNA, VIRGINIA DA-D, D 730 KC



FILE NO. BP-10,157 ACCEPTED 11-1-55 FCC

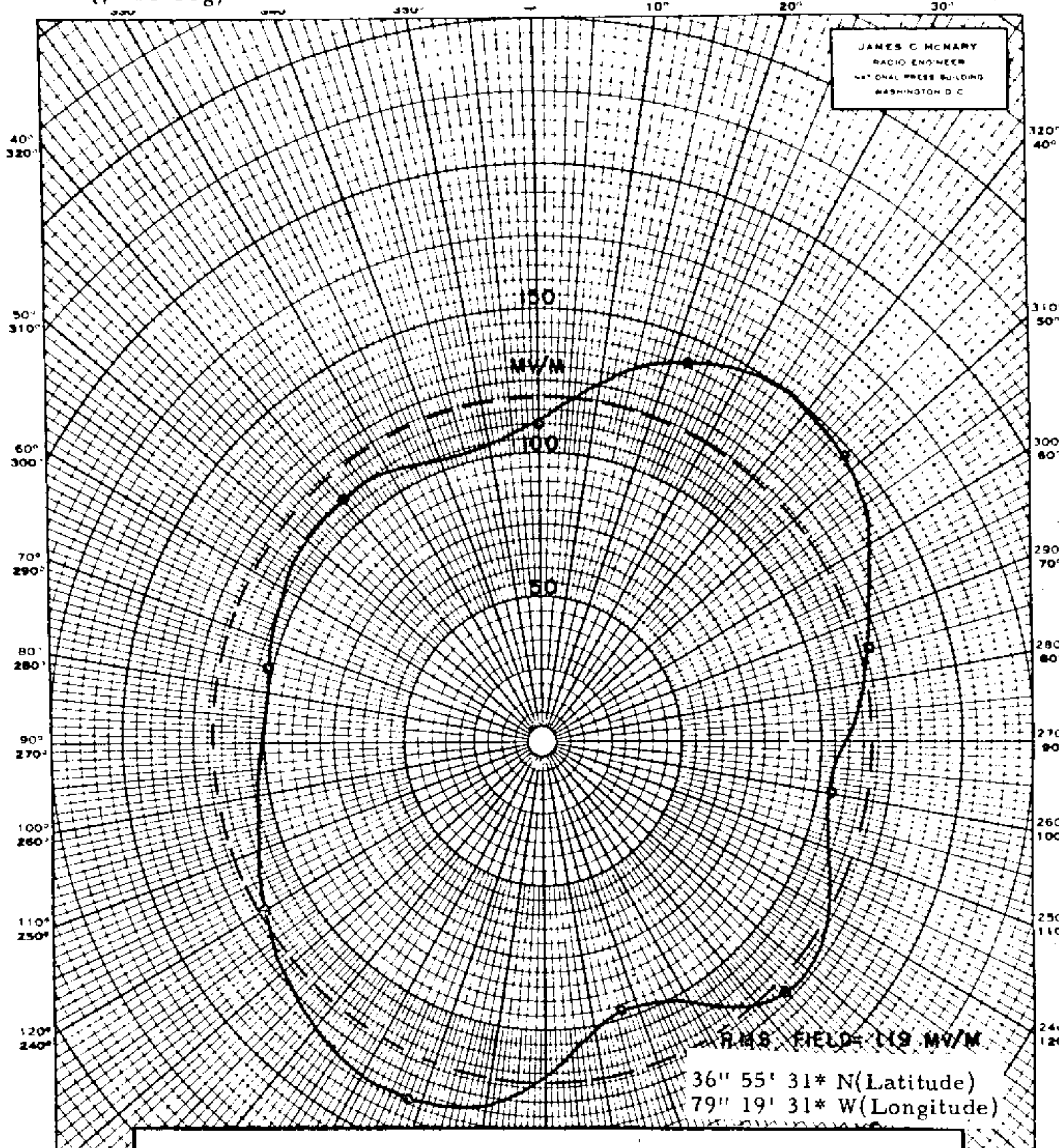
CENTRAL VA. BCG. CO., INC.
Gretna, Virginia 730 KC

WMNA

MEASURED
NON-DA
(9-14-56g)

STATION W M N A 1 KW, DA-D
Gretna, Virginia

730 KC



HORIZONTAL PLANE RADIATION PATTERN

450 WATTS SOUTHWEST TOWER

WMNA 730 KC GRETNA VIRGINIA

JULY 1956

EXHIBIT 5

FCC File
BL-6283

Accepted 9-4-56

STATION WMNA
Gretna, Virginia

730 KC

WPIK

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WPIK

Main Studio: Alexand‘'a, Virginia

Frequency: 730 kHz

Power: 5 kW

Notification List No. 1656

Date: October 29, 1975

Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 38° 44' 41"
West Longitude: 77° 05' 57"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 2
Type of elements: Uniform cross-section, guyed, vertical steel towers. Tower #1 is shunt fed, folded unipole and tower #2 is series fed.

TOWER:	W(#2)	E(#1)
HEIGHT ABOVE INSULATORS:	224.56'(60°)	505.259'(135°)
PHASING:	+148°	0°
FIELD RATIO:	0.26	1.0

SPACING AND ORIENTATION: Elements are spaced 168.42' (45°) on a line bearing 270° true.

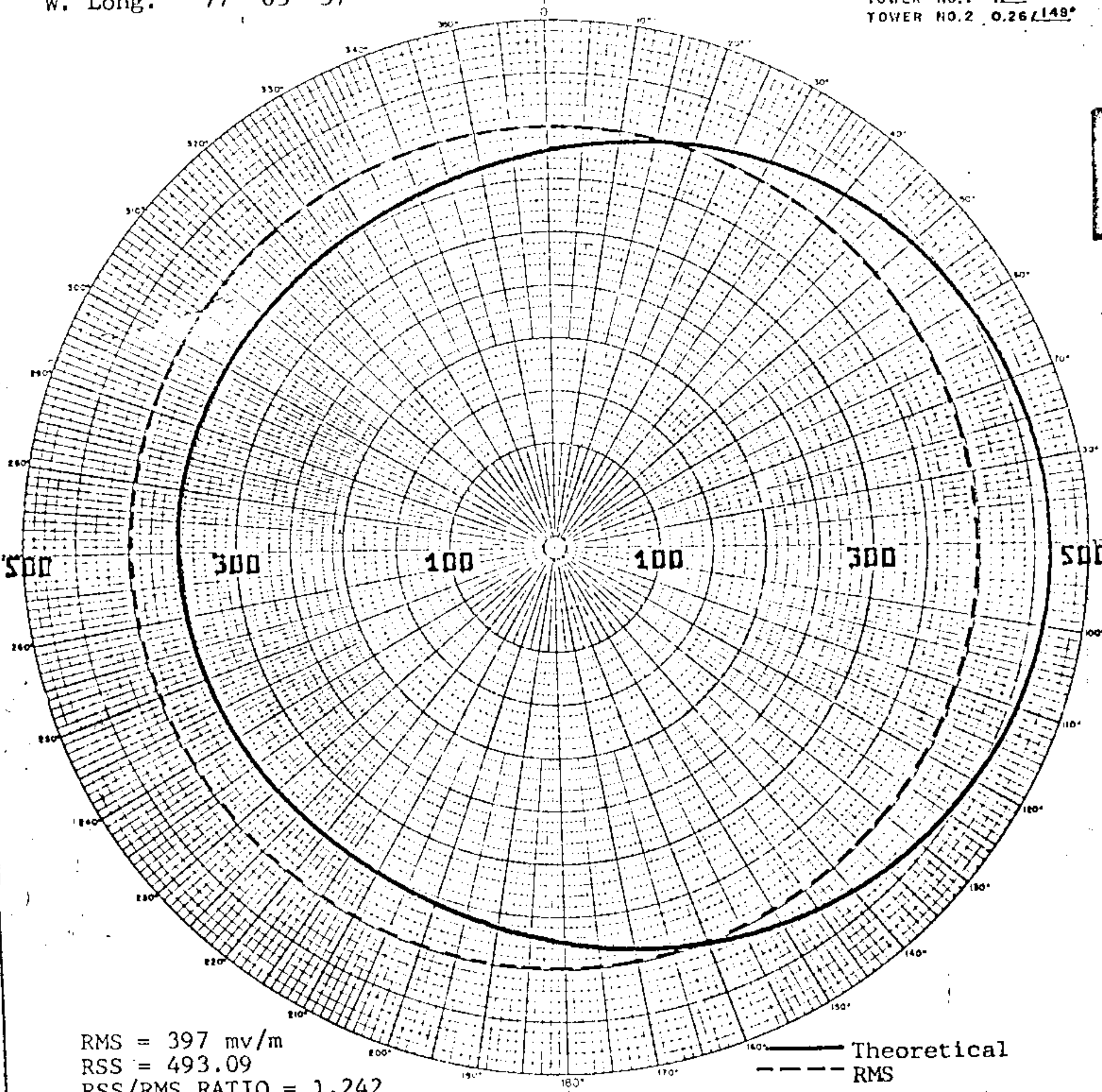
GROUND SYSTEM: 120-187' to 345' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

Predicted effective Field: 397 mv/m at rated power by adjustment of input power.

Note: This notification concerns only minor changes in the directional antenna system and radiation pattern.

N. Lat. 38° 44' 41"
W. Long. 77° 05' 57"

THEORETICAL PARAMETERS
TOWER NO.1 1∠0°
TOWER NO.2 0.26∠149°



RMS = 397 mv/m
RSS = 493.09
RSS/RMS RATIO = 1.242

THEORETICAL DIRECTIONAL PATTERN
WPIK 730 KHz 5 KW, DA-D
ALEXANDRIA, VIRGINIA

N-270°-E ←O——S——O
#2 #1

S = 45° = 168.49'
G1= 135.67° = 508'
G2= 60° = 225'

JOHN H. MULLANEY
CONSULTING
RADIO ENGINEER

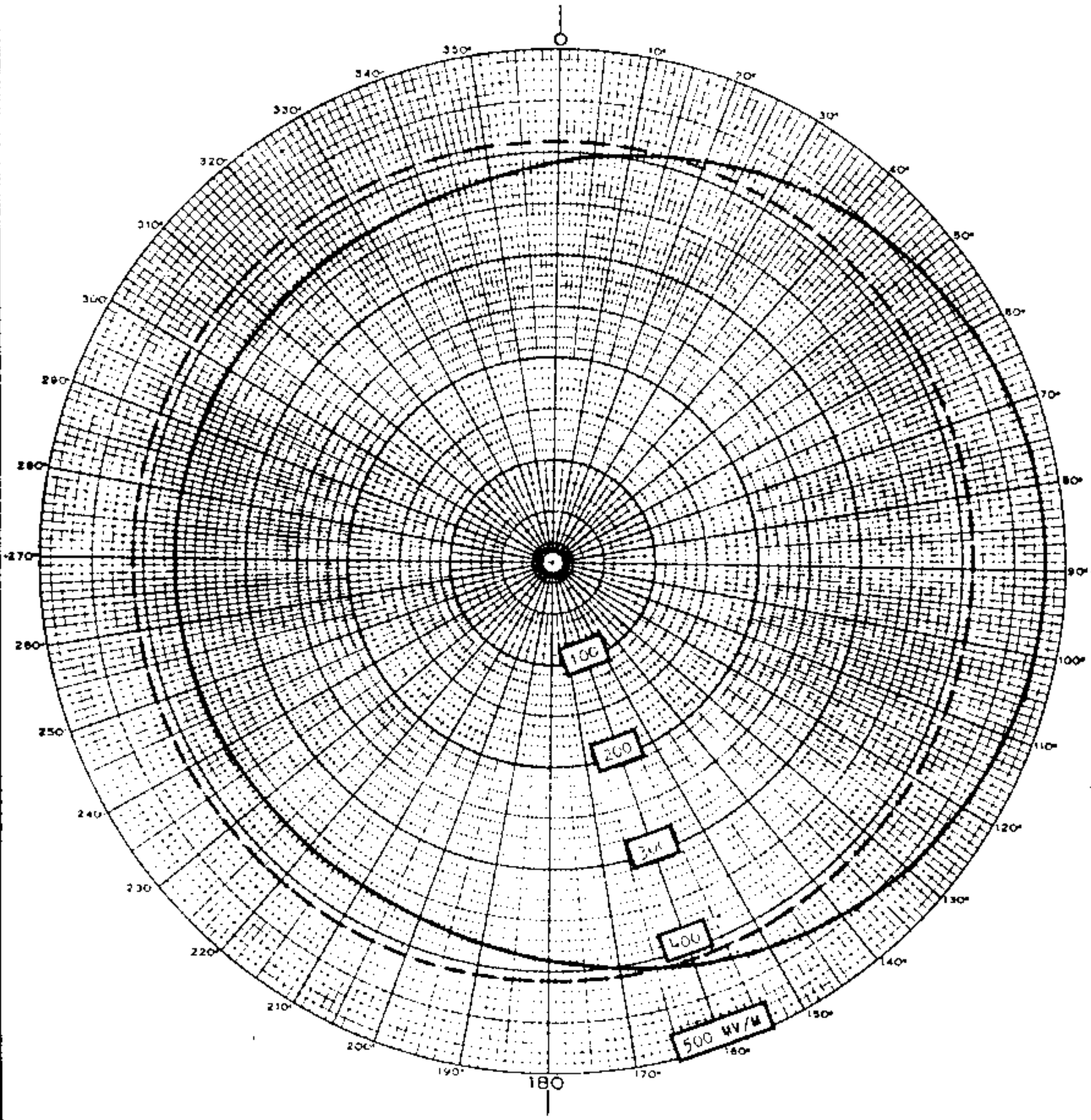
FIGURE 2

Proposed Day
(6-28-65ct)

Station WPIK
Alexandria, Virginia

5kw,DA-D,D
730 kc

CP 7-30-65
CHG. DA's



E_{RMS} = 410 MV/M -------

LATITUDE 38° 44' 41" LONGITUDE 77° 05' 57"	ANTENNA PARAMETERS	FIGURE 5 PROPOSED DIRECTIONAL PATTERN RADIO STATION WPIK ALEXANDRIA, VIRGINIA
JOHN H. MULLANEY AND ASSOCIATES A DIVISION OF MULTRONICS, INC	N-270°E ← 0.26/148° #2 --- S --- 1/0 #1 S = 45°/168.5' G_1 = 107°/400' G_2 = 60°/225'	730 KC 5 KW, DA-D

FCC File No. BMP-10936
Accepted 5-5-65 Amended

Station WPIK
Alexandria, Virginia

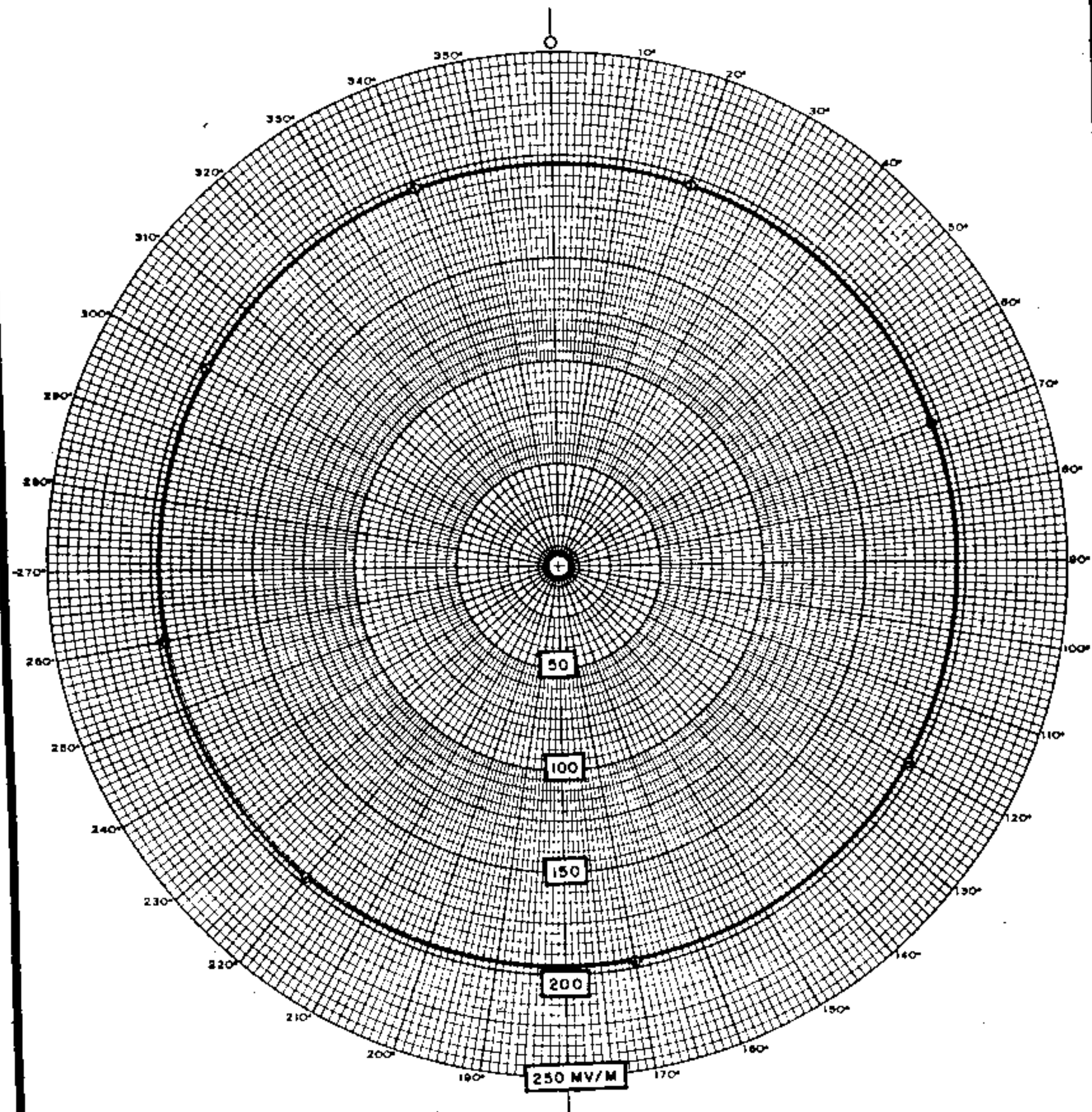
730 kc

WPIK

Measured Non-DA
(12-29-66ct)

Station WPIK
Alexandria, Virginia

5kw,DA-D,D
730 kc



E_{RMS} = 197 MV/M

LATITUDE: 38° 44' 41" LONGITUDE: 77° 05' 57"	ANTENNA PARAMETERS	FIGURE 18 MEASURED NONDIRECTIONAL PATTERN RADIO STATION WPIK ALEXANDRIA, VIRGINIA 730 KHz 5 KW, DA-D,D
JOHN H. MULLANEY AND ASSOCIATES A DIVISION OF MULTRONICS INC	TOWER #1 (1.0 KW)	

FCC File No. BL-11469
Accepted 12-6-66

Station WPIK
Alexandria, Virginia

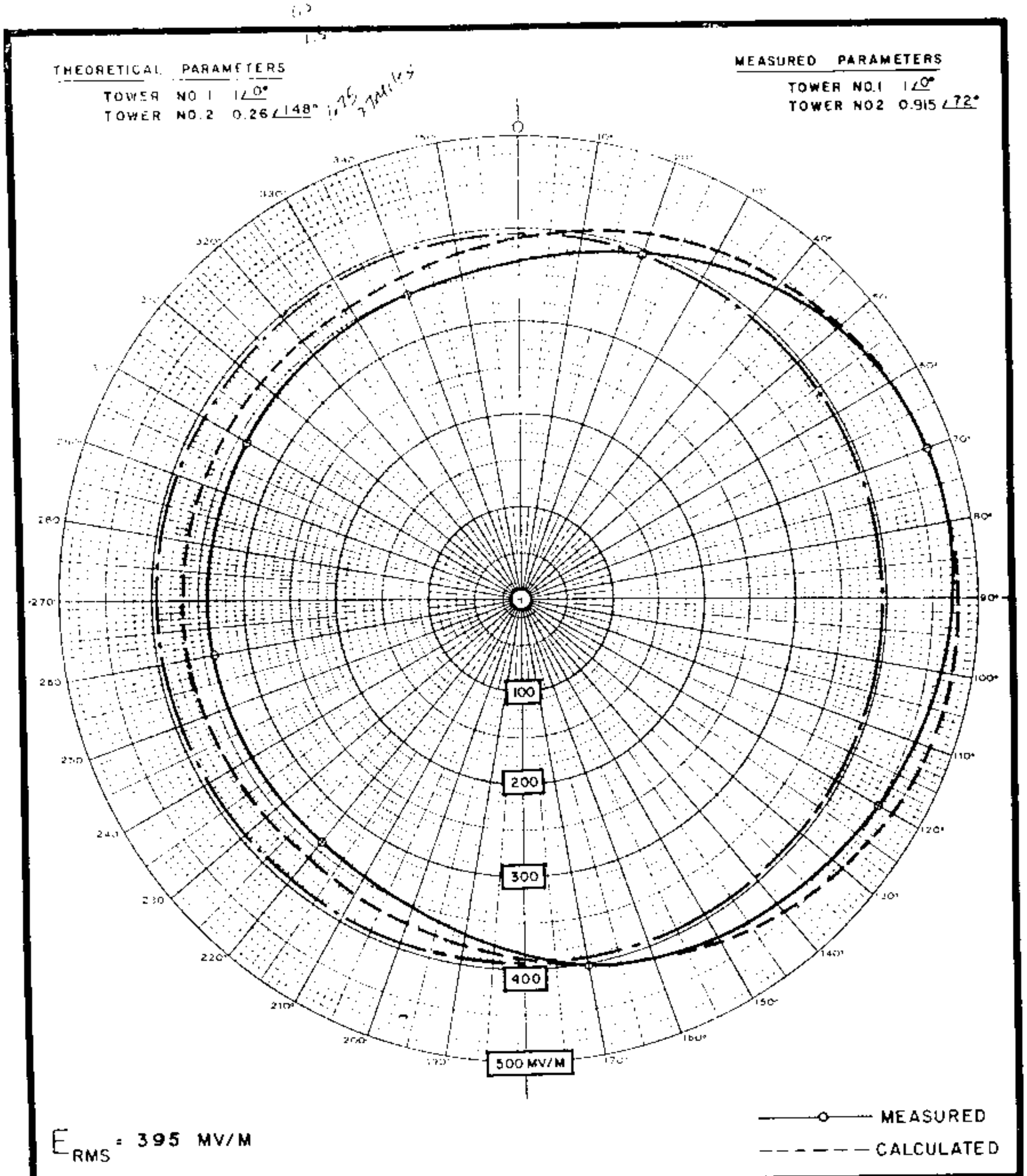
730 kc

WPIK

Measured Day
(12-29-66ct)

Station WPIK
Alexandria, Virginia

5kw,DA-D,D
730 kc



LATITUDE 38° 44' 41" LONGITUDE 77° 05' 57"	ANTENNA PARAMETERS	FIGURE 19 MEASURED DIRECTIONAL PATTERN
JOHN H. MULLANEY AND ASSOCIATES A DIVISION OF MULTRONICS INC	N-270°-E ←O---S —O #2 #1 S = 45° = 168.5' G_1 = 107° = 400' G_2 = 60° = 225'	RADIO STATION WPIK ALEXANDRIA, VIRGINIA 730 KHz 5 KW, DA-D,D

FCC File No.BL-11469
Accepted 12-6-66

Station WPIK
Alexandria, Virginia

730 kc

GPIK

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WPIK | Main Studio: Alexandria, Virginia

Frequency: 730 kHz | Power 5kw

Notification List No. 1763 | Date: December 28, 1977 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 38° 44' 41"
West Longitude: 77° 05' 57"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 2
Type of elements: Uniform cross-section, guyed, vertical steel towers. Tower #1 is shunt fed, folded unipole and tower #2 is series fed.

TOWER:	W(#2)	E(#1)
HEIGHT ABOVE INSULATORS:	224.56'(60°)	505.259'(135°)
PHASING:	+148°	0°
FIELD RATIO:	0.26	1.0

SPACING AND ORIENTATION: Elements are spaced 168.42' (45°) on a line bearing 270° true.

GROUND SYSTEM: 120 - 187' to 345' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

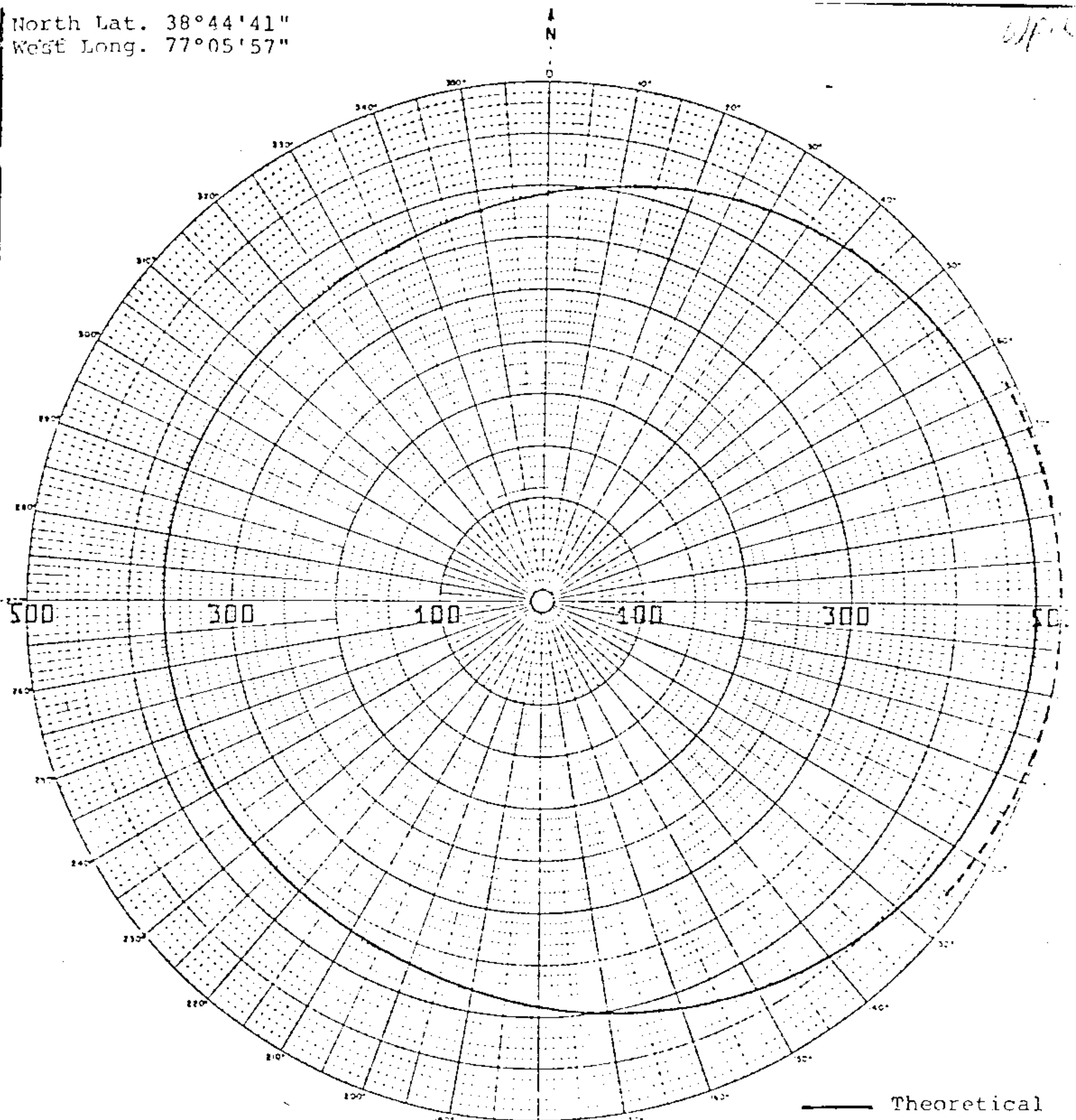
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL	
	RMS	RSS
1/	410.0 mv/m	509.2 mv/m

1/ By adjustment of input power.

This notification concerns only a minor changes in the proposed directional antenna radiation patterns.

North Lat. 38°44'41"
West Long. 77°05'57"



RMS to be by adjustment

RSS 509.239

RMS 410.000

RSS/RMS 1.242

JOHN H. MULLANEY

CONSULTING
RADIO ENGINEER

.36/ 148°

1/0°

N-270°-E

② 45° ①

$G_2=60°$ $G_1=135°$

DAYTIME DIRECTIONAL PATT

RADIO STATION WPIK
ALEXANDRIA, VIRGINIA

730 KHz. 5 KW DA-

FIGURE 3

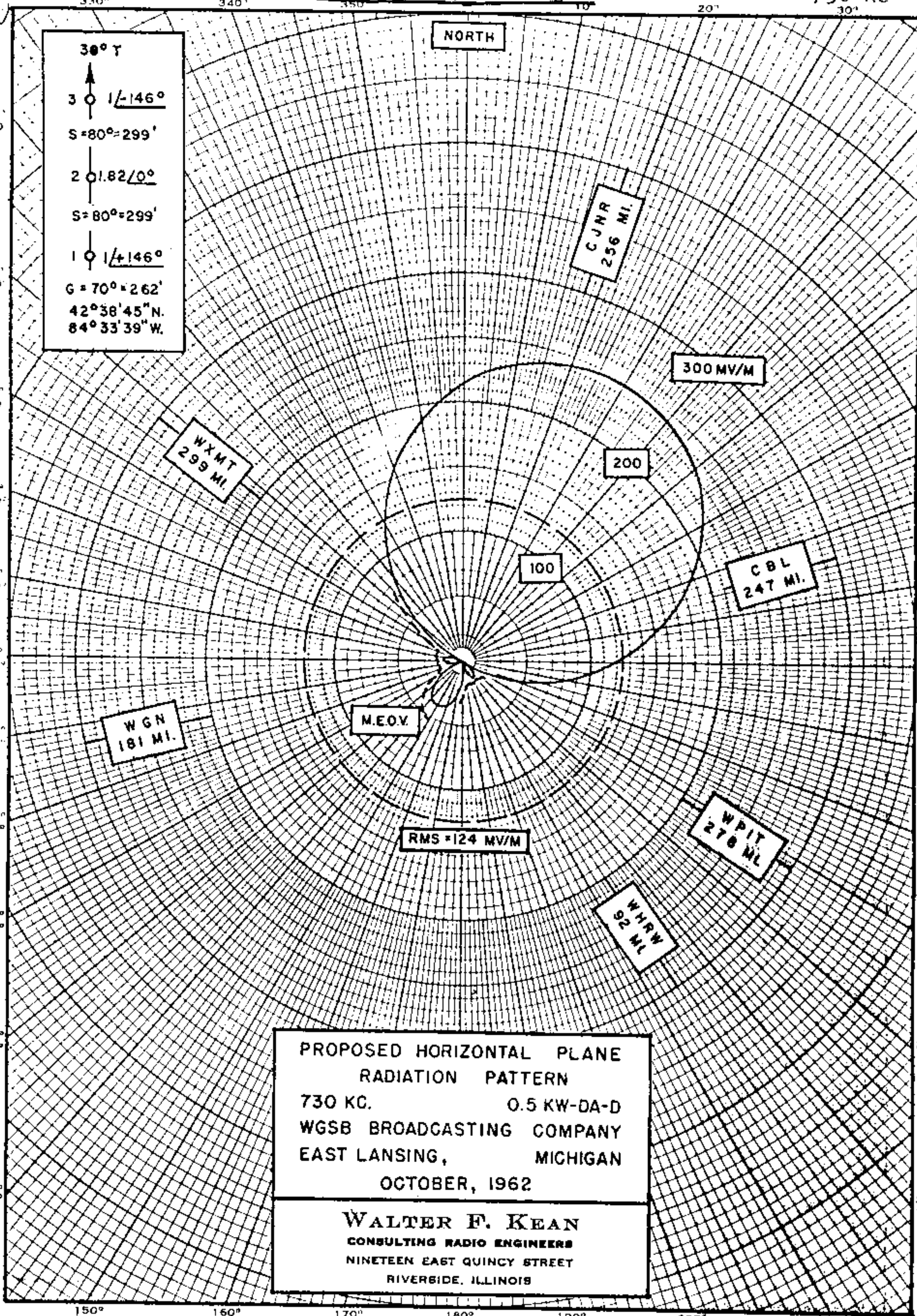
~~WGSB~~
WVIC

Proposed Day
(12-28-62ct)

New; WGSB Broadcasting Co.
East Lansing, Michigan

500w,DA-D,D
730 kc

7-29-64
Granted CP for
new station



FCC File No.BP-14976
Accepted 12-10-62 Amended

New; WGSB Broadcasting Co.
East Lansing, Michigan

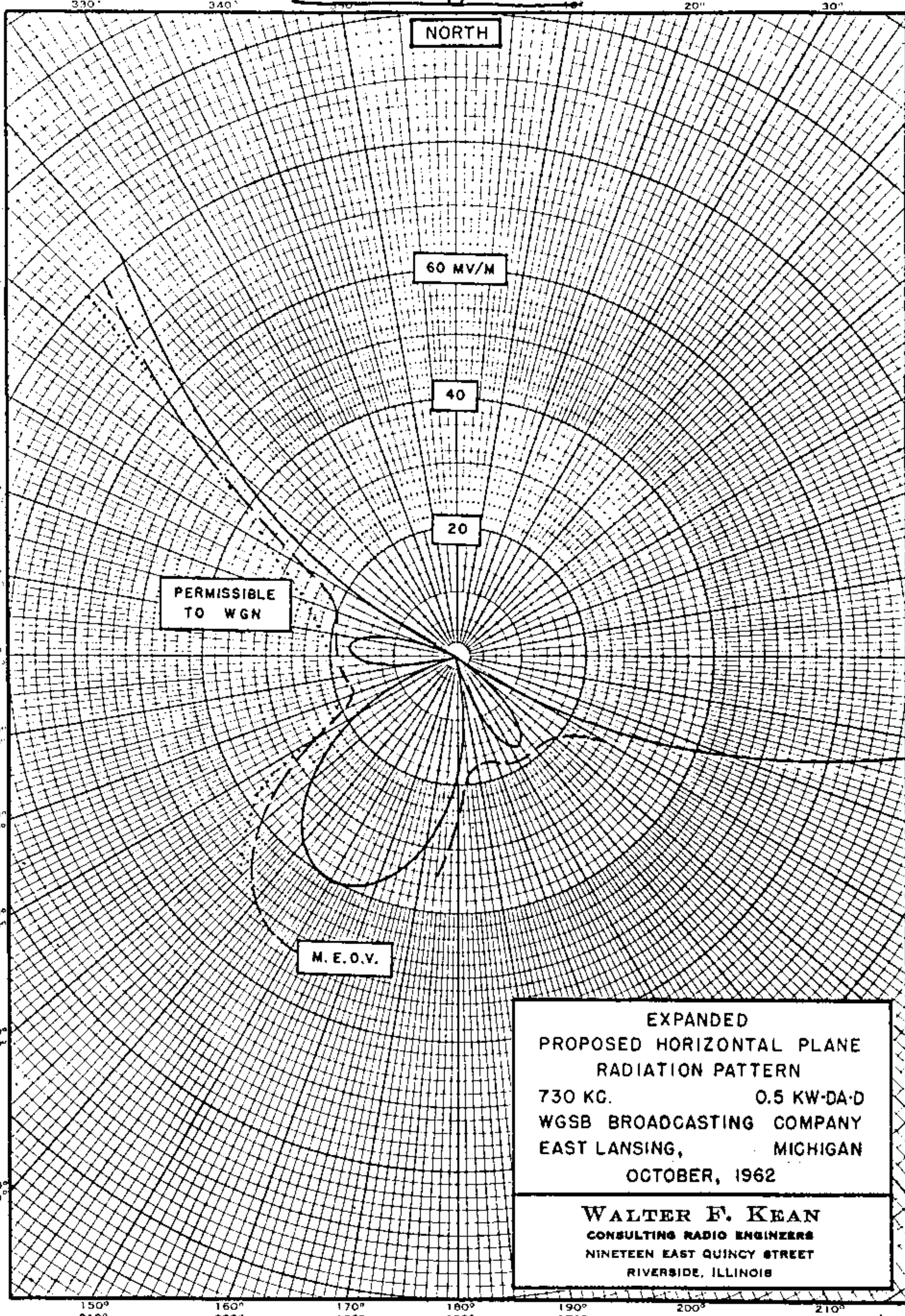
730 kc

~~WGSB~~ WVIC

Proposed Day Nulls (12-28-62ct)

New; WGSB Broadcasting Co.
East Lansing, Michigan

500w,DA-D,D
730 kc



FCC File No. BP-14976
Accepted 12-10-62 Amended

New; WGSB Broadcasting Co.
East Lansing, Michigan

730 kc

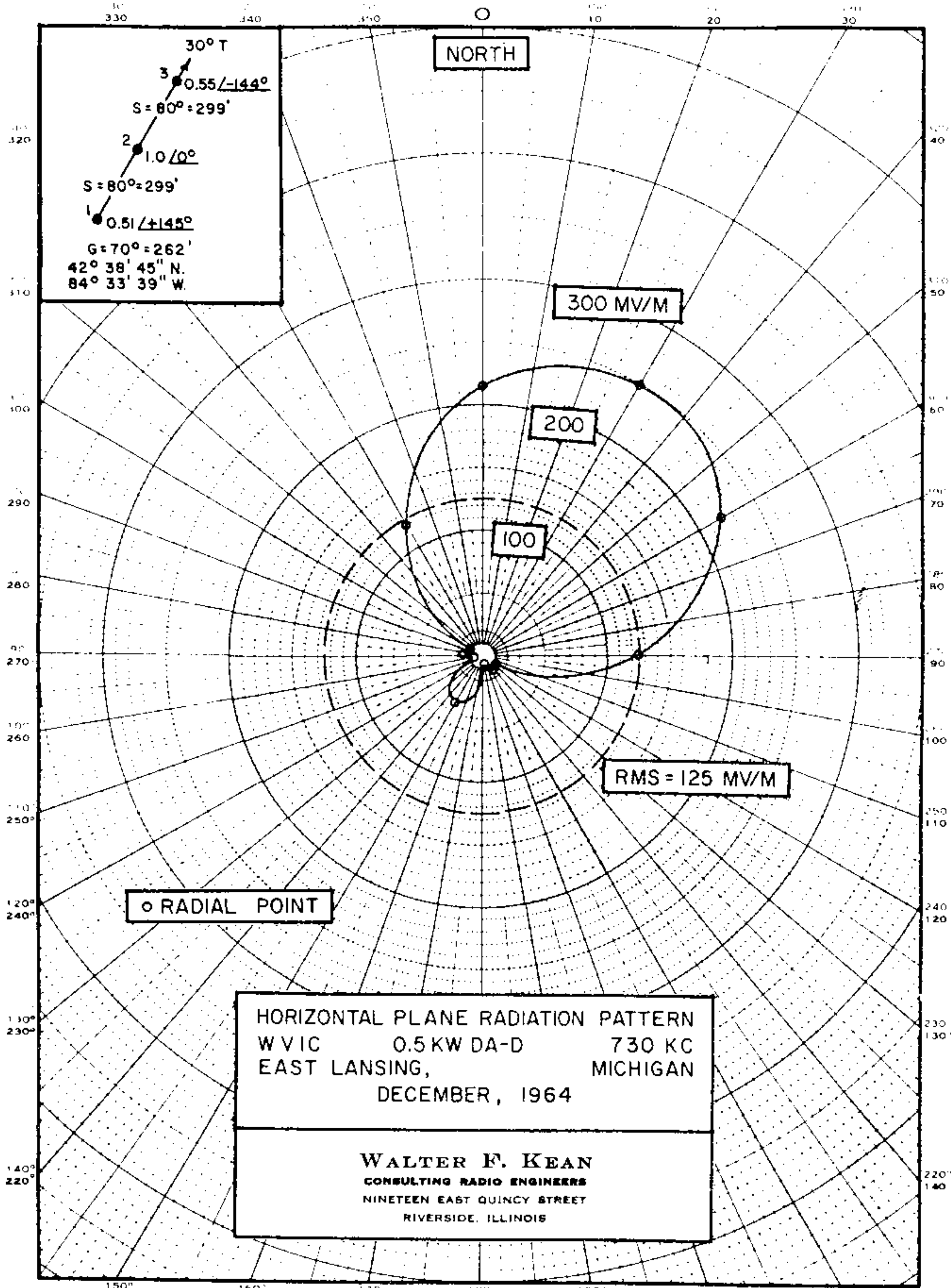
WVIC

Measured Day
(4-28-65ct)

Station WVIC
East Lansing, Michigan

500w, DA-D, D
730 kc

LIC 12-6-65



HORIZONTAL PLANE RADIATION PATTERN
WVIC 0.5 KW DA-D 730 KC
EAST LANSING, MICHIGAN
DECEMBER, 1964

WALTER F. KEAN
CONSULTING RADIO ENGINEERS
NINETEEN EAST QUINCY STREET
RIVERSIDE, ILLINOIS

FCC File No. BL-10859
Accepted 4-8-65

Station WVIC
East Lansing, Michigan

730 kc

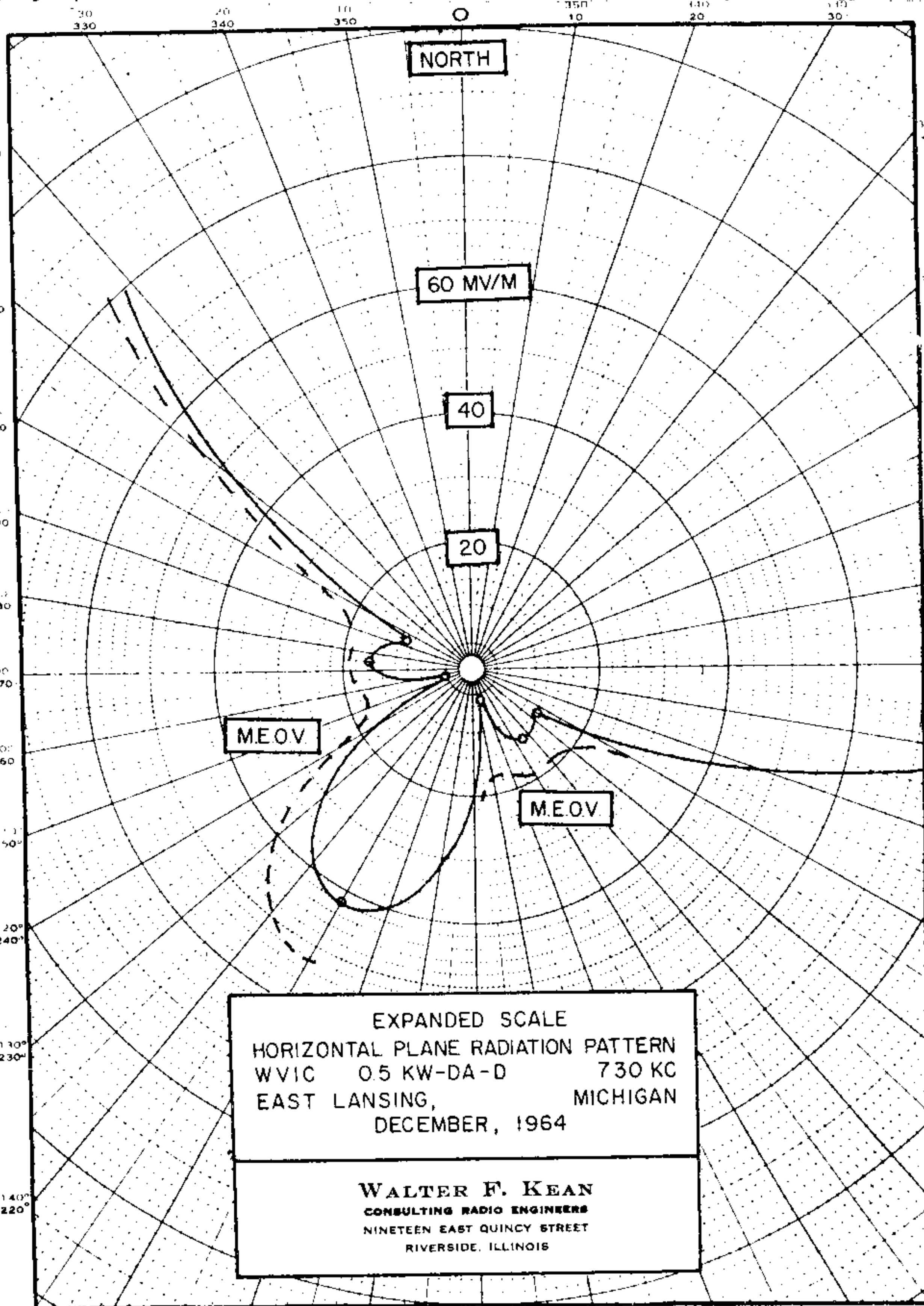
WVIC

Measured Day Nulls
(4-28-65ct)

Station WVIC
East Lansing, Michigan

500w,DA-D,D
730 kc

LIC 12-6-65



EXPANDED SCALE
HORIZONTAL PLANE RADIATION PATTERN
WVIC 0.5 KW-DA-D 730 KC
EAST LANSING, MICHIGAN
DECEMBER, 1964

WALTER F. KEAN
CONSULTING RADIO ENGINEERS
NINETEEN EAST QUINCY STREET
RIVERSIDE, ILLINOIS

FCC File No. BL-10859
Accepted 4-8-65

Station WVIC
East Lansing, Michigan

730 kc

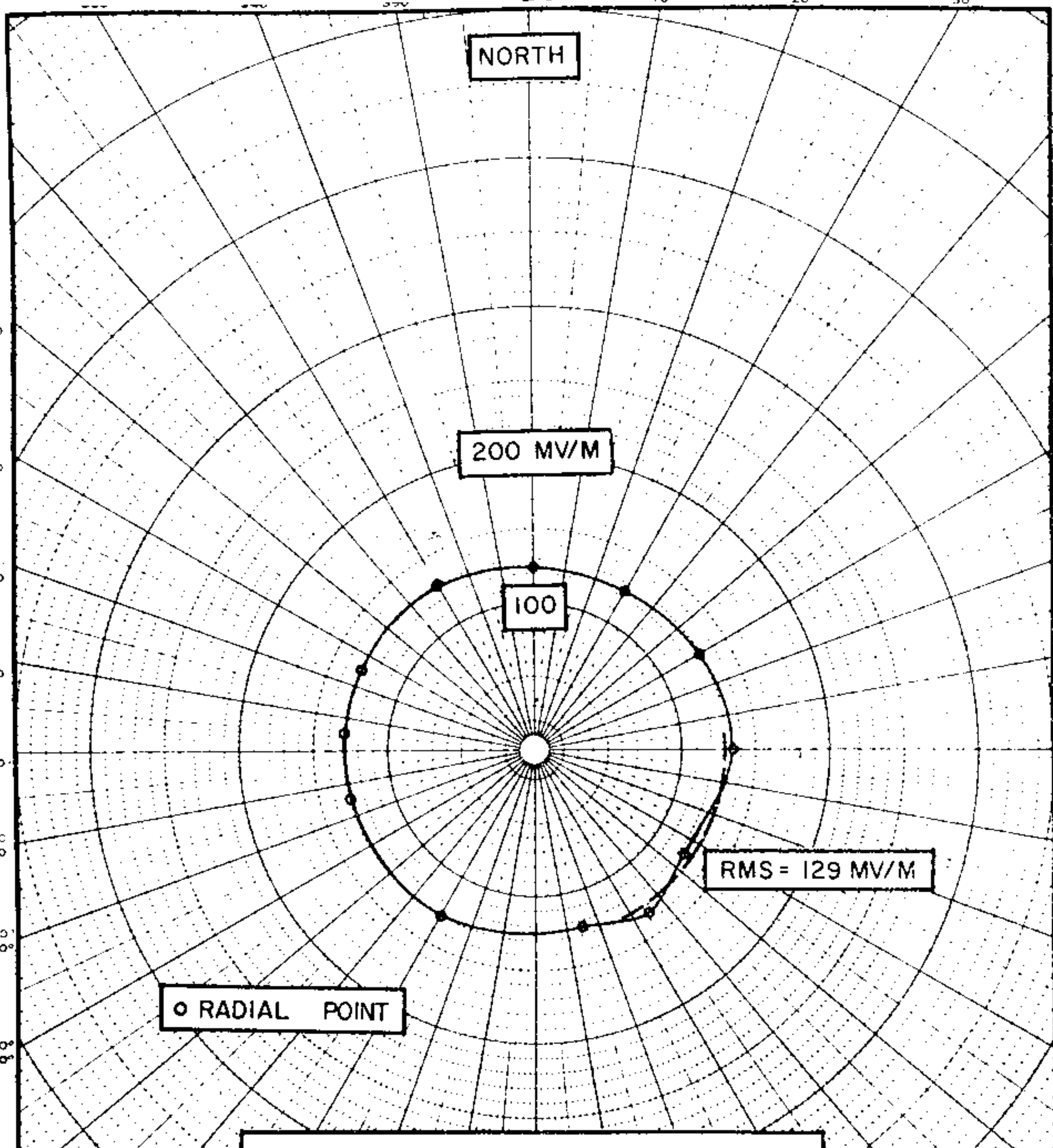
WVIC

Measured Non-DA
(4-28-65ct)

Station WVIC
East Lansing, Michigan

500w,DA-D,D
730 kc

LIC.
12-6-65



CENTER TOWER
HORIZONTAL PLANE RADIATION PATTERN
WVIC 0.5 KW-DA-D 730 KC
EAST LANSING, MICHIGAN
DECEMBER, 1964

WALTER F. KEAN
CONSULTING RADIO ENGINEERS
NINETEEN EAST QUINCY STREET
RIVERSIDE, ILLINOIS

FCC File No. BL-10859
Accepted 4-8-65

Station WVIC
East Lansing, Michigan
730 kc

XEX
730

JUN 25 1948 G

Station: X E X

Location: Mexico, D. F., Mexico

Frequency: 730 Kcs.

Class: I-A

Notified on Change List No. 92 dated November 24, 1947

I-GENERAL INFORMATION ON THE ANTENNA SYSTEMS:

Geographical coordinates: Latitude: 19° 18' 52" North

Longitude: 99° 04' 30" West

Channel: I-A

Authorized power: 500,000 watts

II-OTHER STATIONS TO WHICH PROTECTION MUST BE FURNISHED:

None

III-TECHNICAL DATA ON THE DIRECTIONAL ANTENNA SYSTEMS:

Number of elements: Six

Type of elements: Self-supporting Eiffel type, with capacitive top-loading consisting of a hexagonal "hat" whose dimensions are equivalent to those of the base (12 Meters from one extremity to the other). The towers are insulated from ground.

Height of elements: 105 Meters (90°) above ground.

Spacing and orientation of towers: The six towers are arranged in two rows of three towers each. The rows are on a line bearing 54° true. (The lobe of radiation is normal to the line of the towers). The two parallel rows of towers are spaced 90° apart and the towers are spaced 180° apart within each row.

Phasing and spacing of the array:

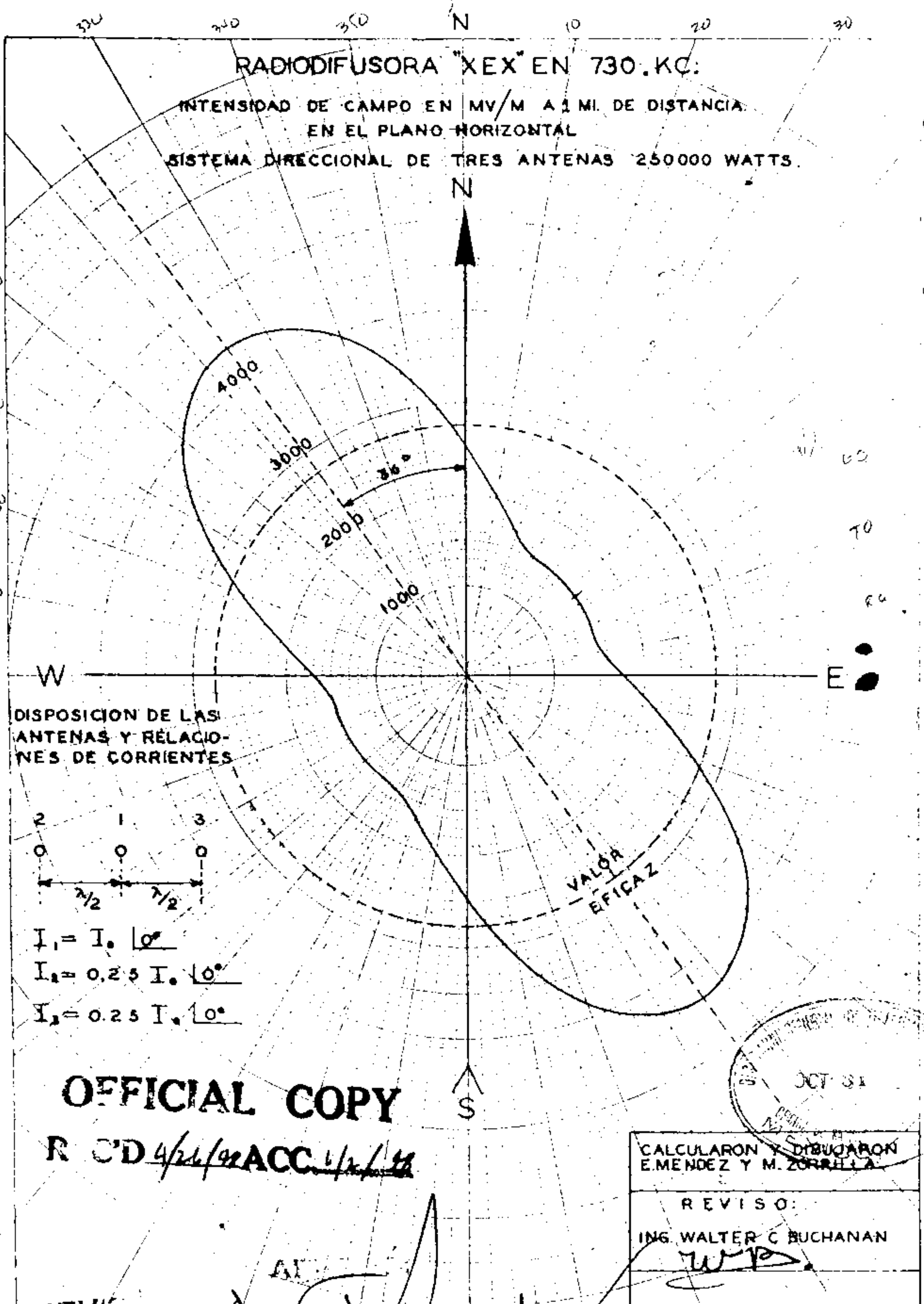
"See sketch on face of polar diagrams"

IV-GROUND SYSTEM:

The space within the six towers contains a screen consisting of #10 copper wire spaced 1 Meter lengthwise. 120 - 200 meter (180°) radials about each tower of #10 copper wire. Copper bonding strip (#28, 10cm wide) between systems.

JUN 25 1948 G

XEX
730



Proposed diag. Night Antennas

OFFICIAL COPY
R CD 4/21/49 ACC 1/ /49

CALCULARON Y DIBUJARON
E. MENDEZ Y M. ZORRILLA

REVISO:
ING. WALTER C. BUCHANAN

OCT 31

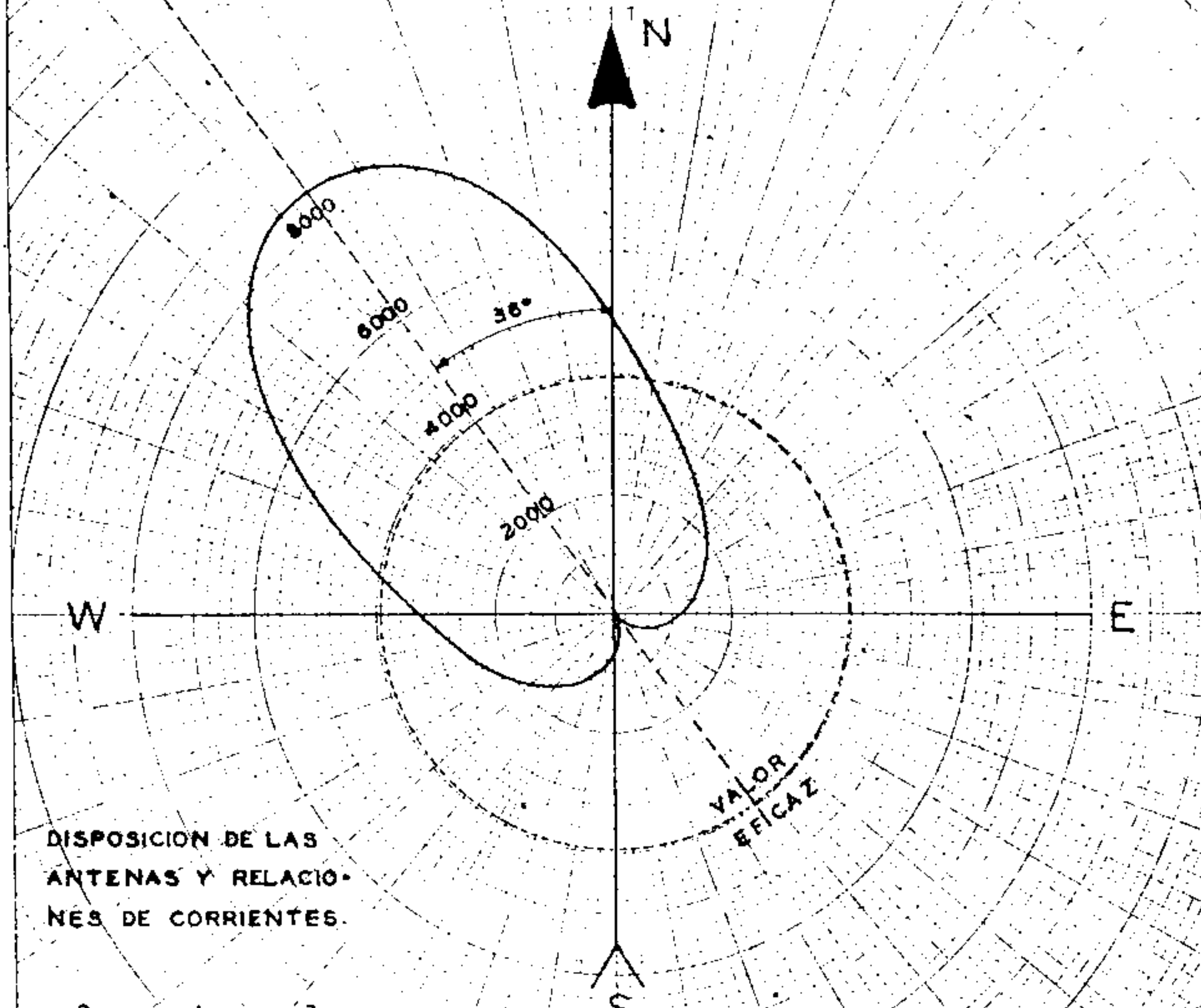
Luis Sanchez

XEX
730

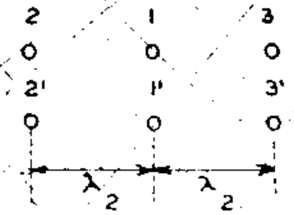
JUN 25 1948 G

RADIODIFUSORA "XEX" EN 730 KC.

INTENSIDAD DE CAMPO EN MV/M A I MI. DE DISTANCIA,
EN EL PLANO HORIZONTAL
SISTEMA DIRECCIONAL DE SEIS ANTENAS HACIA EL N-W
500 000 WATTS



DISPOSICION DE LAS ANTENAS Y RELACIONES DE CORRIENTES.



$I_1 = I_0 \angle 0°$ $I_1' = I_0 \angle 90°$

$I_2 = 0.25\ I_0 \angle 0°$ $I_2' = 0.25\ I_0 \angle 90°$

$I_3 = 0.25\ I_0 \angle 0°$ $I_3' = 0.25\ I_0 \angle 90°$

OFFICIAL COPY

R_C'D 4/26/49 ACC. 6/2/49

CALCULARON Y DIBUJARON
E. MENDEZ Y M. ZORRILLA

REVISO
ING. WALTER C. BUCHANAN

OCT 31

APRO

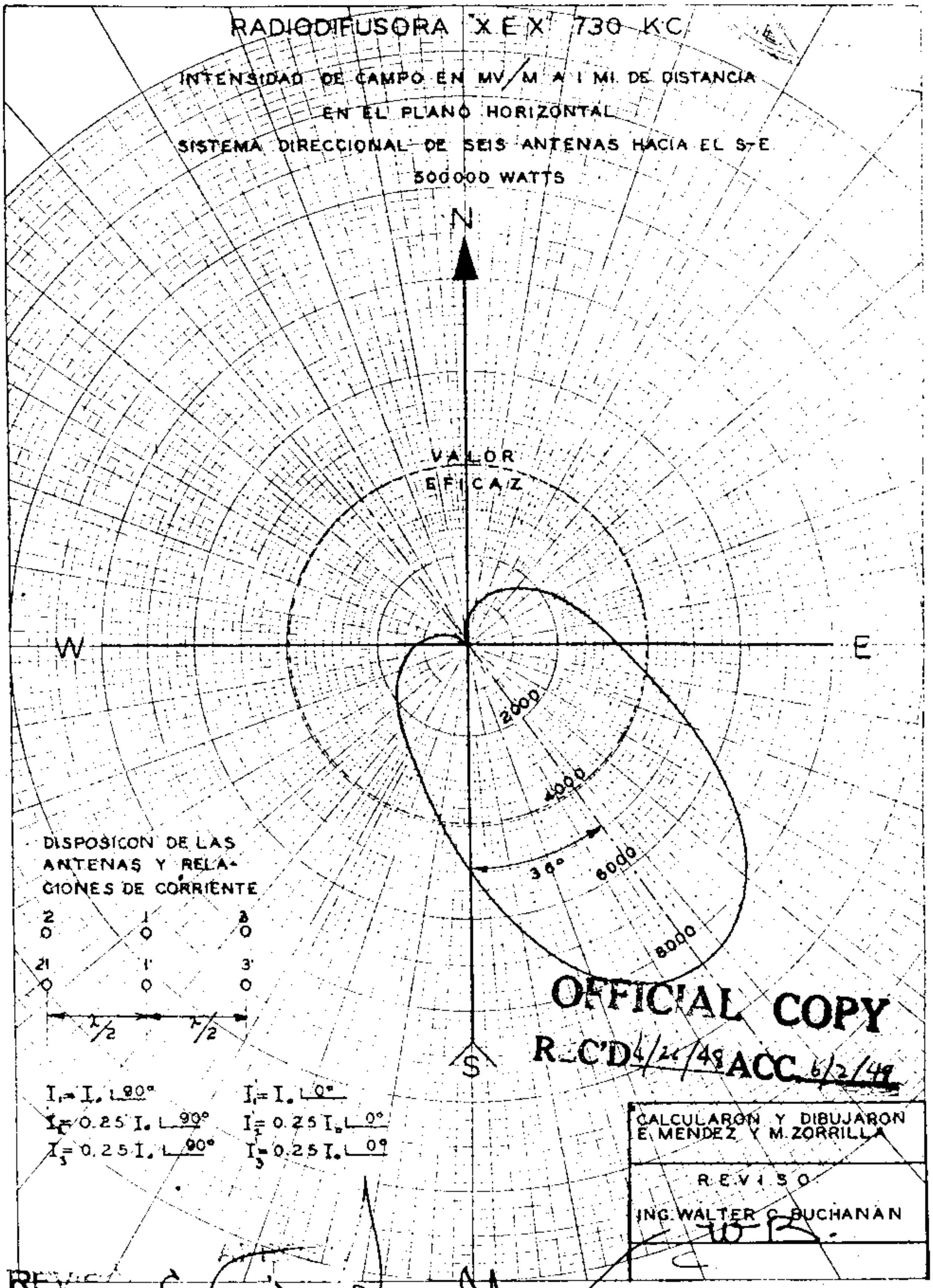
REVISO:

Proposed day and night
6 antennas N.W.

Luis Sanchez

JUN 25 1948 G

XEX
730



Proposed day and night
6 antennas S.E.

Luis Sanchez

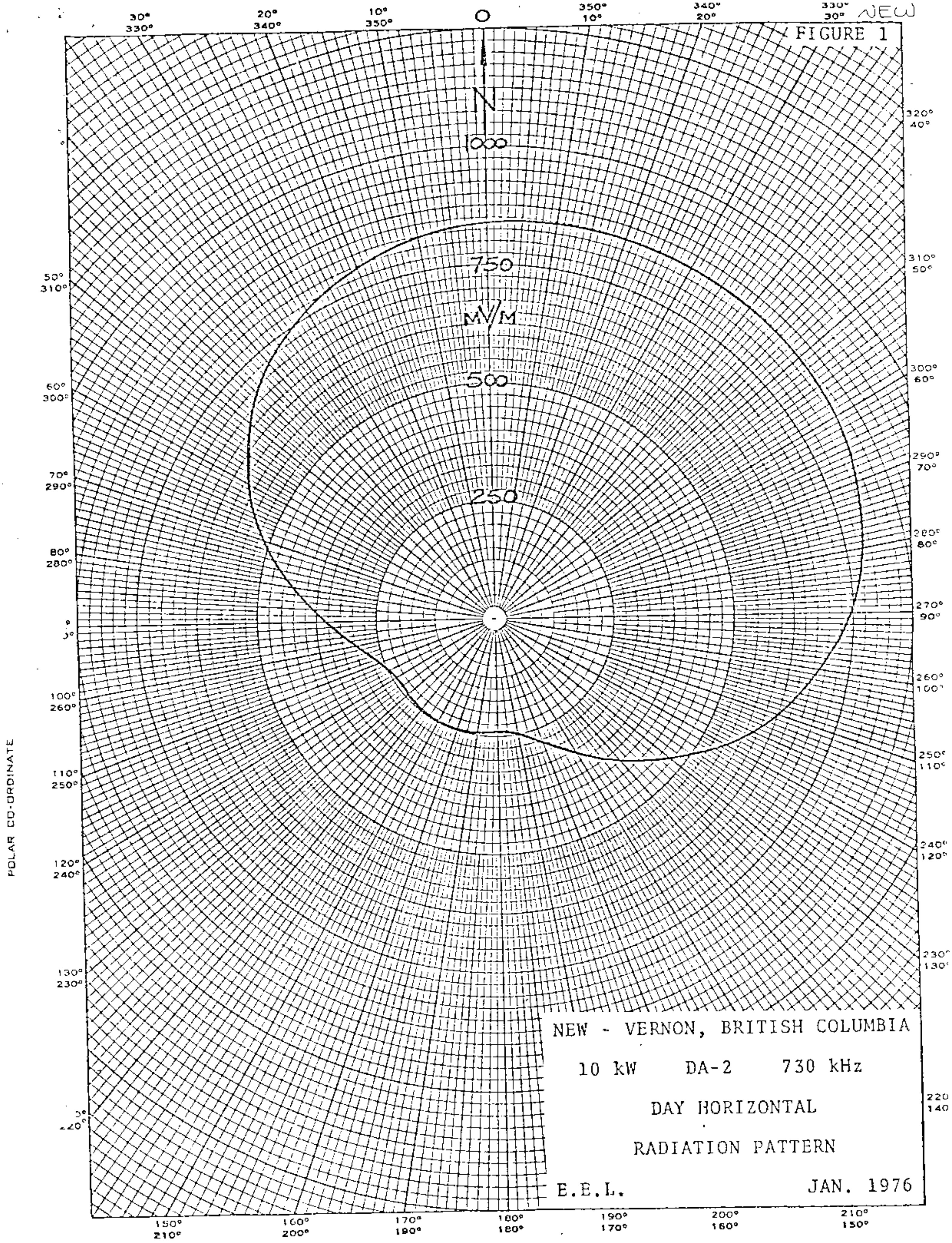
KEUFFEL & ESSER CO., N. Y. NO.
POLAR COORDINATE
MADE IN U.S.A.

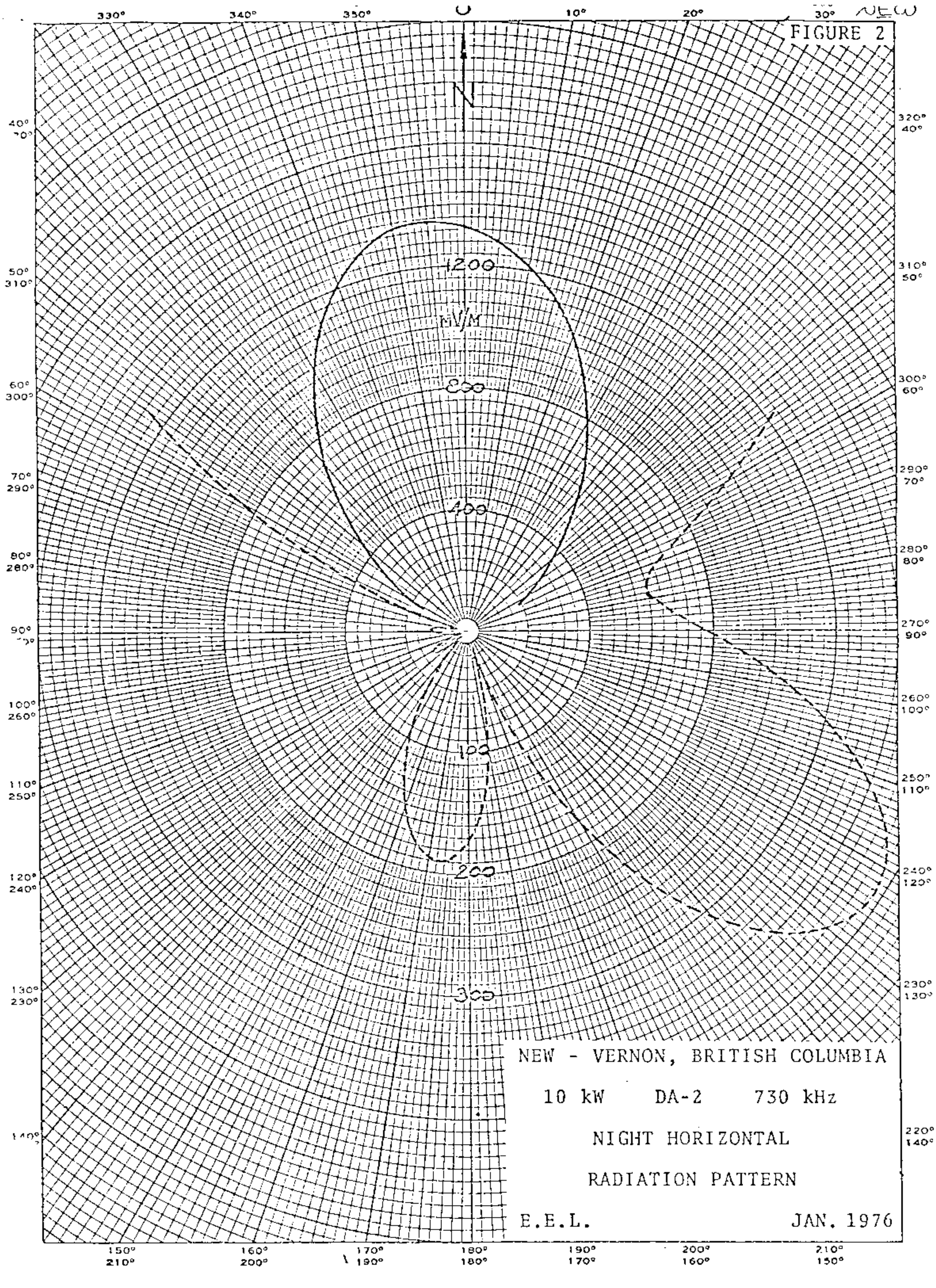
NEW

TABLE 1

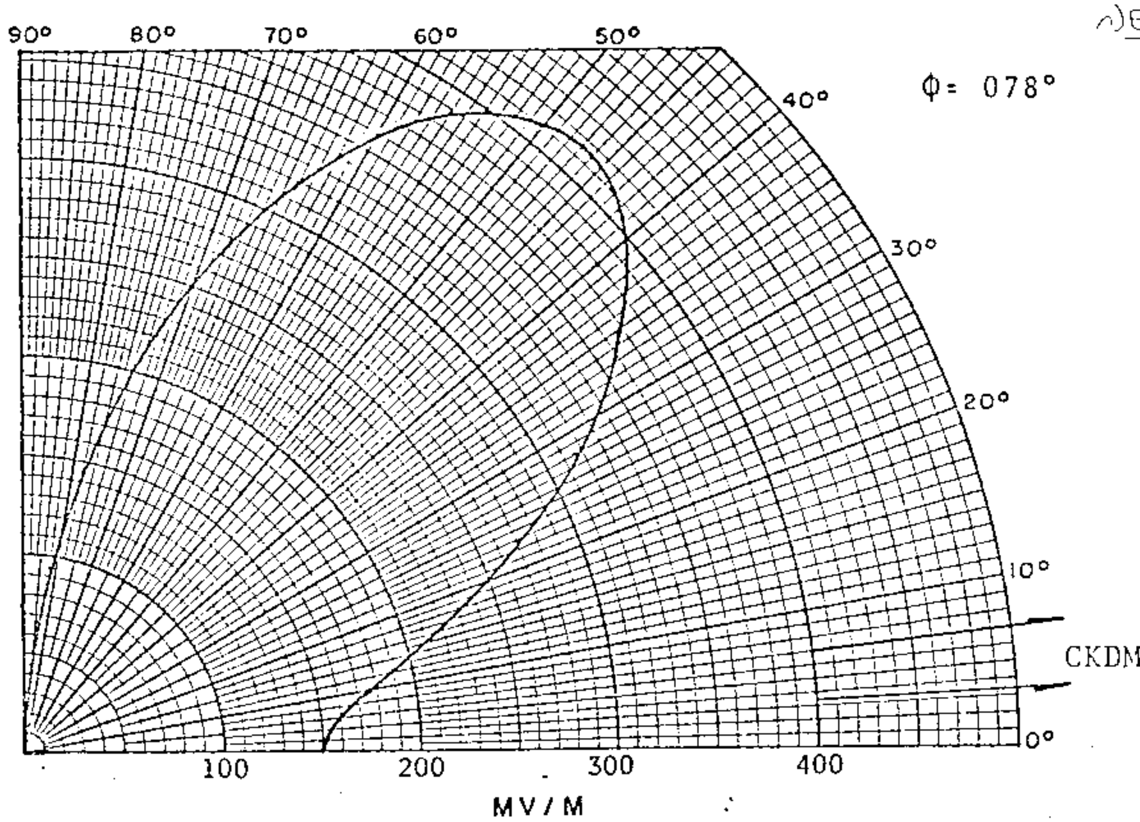
ANTENNA DESCRIPTIONS SHEET

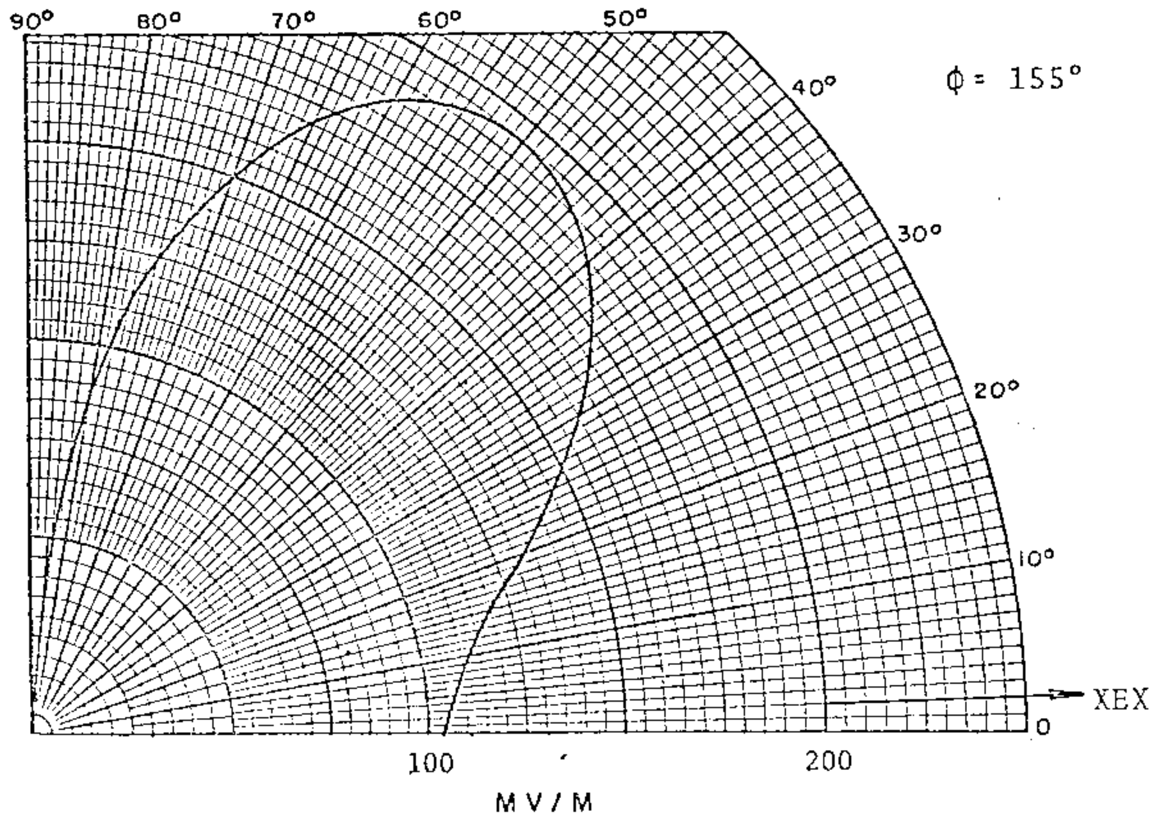
STATION CALL:	NEW			
MAIN STUDIO:	VERNON, BRITISH COLUMBIA			
FREQUENCY:	730 kHz			
POWER:	10 kW			
CLASS:	II			
MODE:	DA-2			
TIME:	UNLIMITED			
NOTIFICATION LIST NO.:	351	DATE: February 11, 1976		
GEOGRAPHICAL LOCATION:	Latitude: 50° 13' 45" North Longitude: 119° 20' 35" West			
ARRAY CHARACTERISTICS:	Four guyed steel towers of uniform cross section, base-insulated, series fed; no top loading except on #3, where the upper 20' of the guy wires will be used to provide an effective electrical height of 111.6°.*			
TOWER NUMBER:	1(NW)	2(NE)	3(SE)	4(SW)
HEIGHT ABOVE INSULATOR:	300' 80.1°	285' 76.1°	360'* 96.1°	300' 80.1°
OVERALL HEIGHT ABOVE GRADE:	305'	290'	365'	305'
DAY FIELD RATIO:		1.00	0.56	
DAY PHASE ANGLE:		0°	101°	
NIGHT FIELD RATIO:	1.00	0.98	1.00	1.00
NIGHT PHASE ANGLE:	0°	341.7°	100.9°	119.2°
SPACING:	0°	185° 692.6'	140.6° 526.4'	87° 325.7'
ORIENTATION:	ref.	75.3°	102.6°	207.9°
GROUND SYSTEM:	120 equally spaced radial wires per tower of #10 AWG bare copper wire, buried approximately 12" below grade, of average effective length 540'(0.4λ) excluding those joined along common chords; minimum effective length 337'(0.25λ).			
PREDICTED EFFECTIVE FIELD: (UNATTENUATED AT ONE MILE)	600 mV/m for 10 kW day, and 560 mV/m for 10 kW night, or 189.9 and 177.2 mV/m per kW.			


NEW
FIGURE 1
N
1000
750
MV/M
500
250
NEW - VERNON, BRITISH COLUMBIA
10 kW DA-2 730 kHz
DAY HORIZONTAL
RADIATION PATTERN
E.E.L.
JAN. 1976
POLAR CO-ORDINATE


NEW
FIGURE 2
N
1200
MV/M
800
400
100
200
300
NEW - VERNON, BRITISH COLUMBIA
10 kW DA-2 730 kHz
NIGHT HORIZONTAL
RADIATION PATTERN
E.E.L.
JAN. 1976

NEW





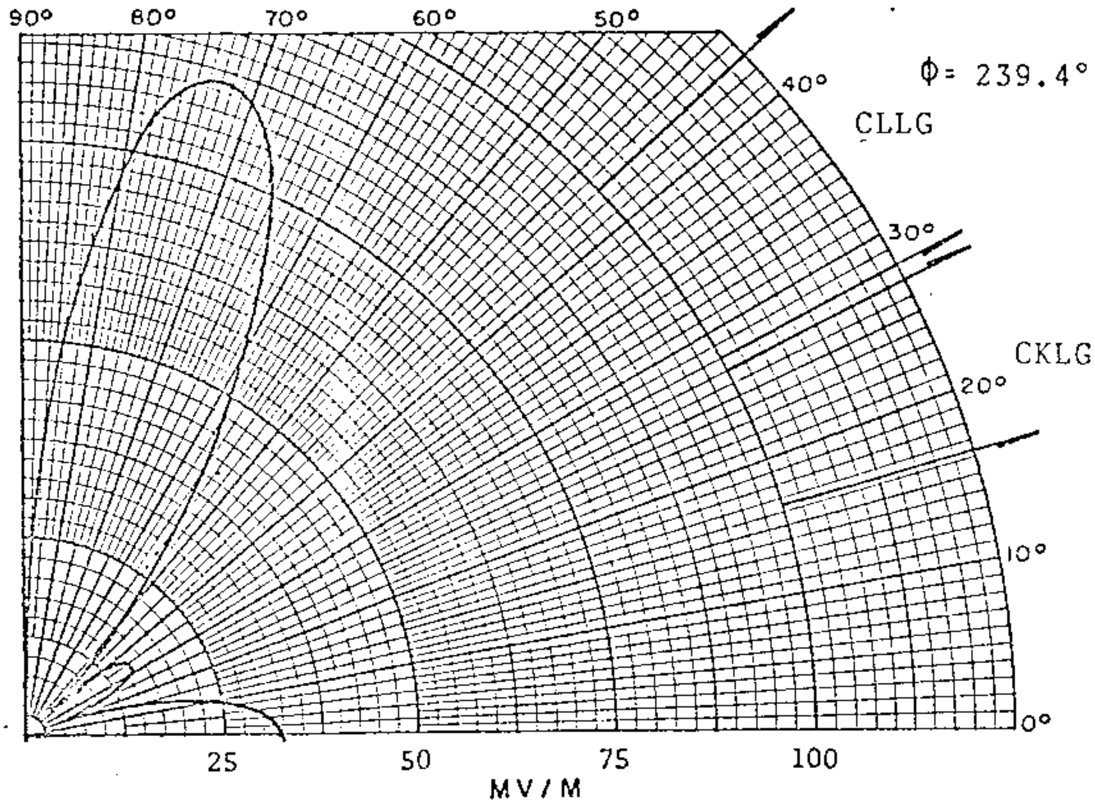
VERTICAL RADIATION PATTERNS

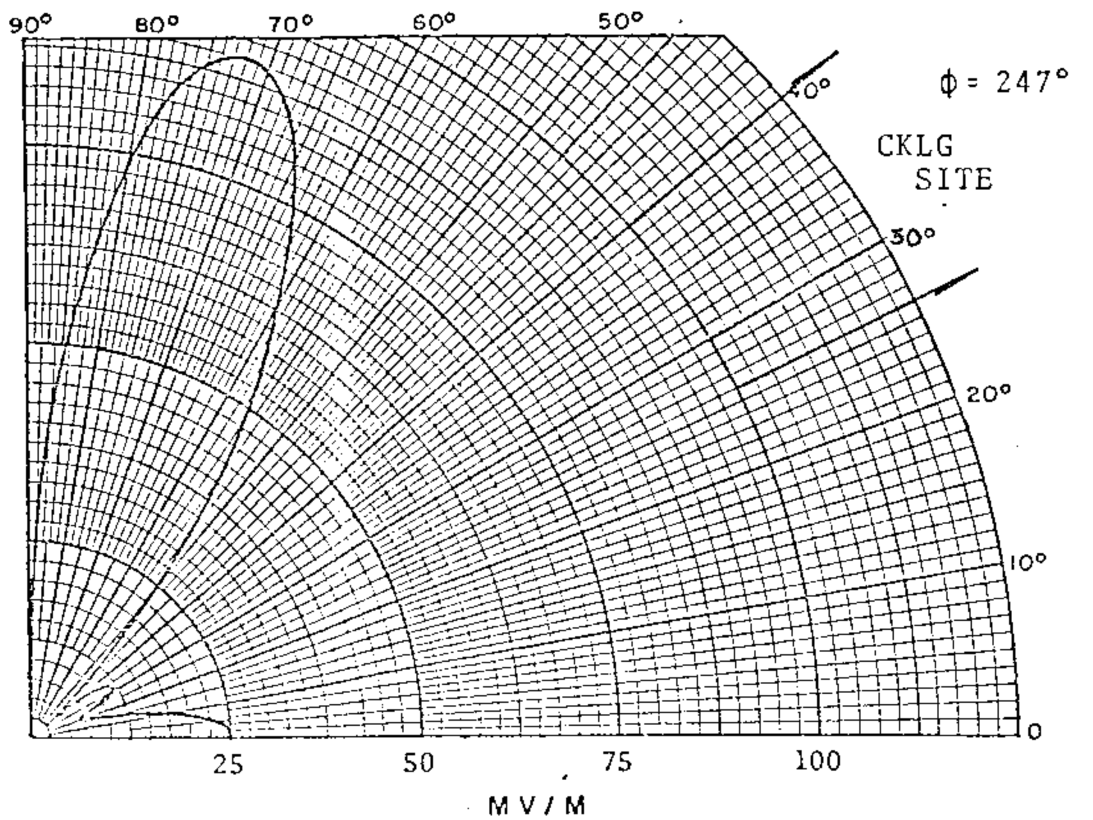
NEW - VERNON, BRITISH COLUMBIA

10 kW DA-2 730 kHz CLASS II

E.E.L. JAN. 1976

NEW





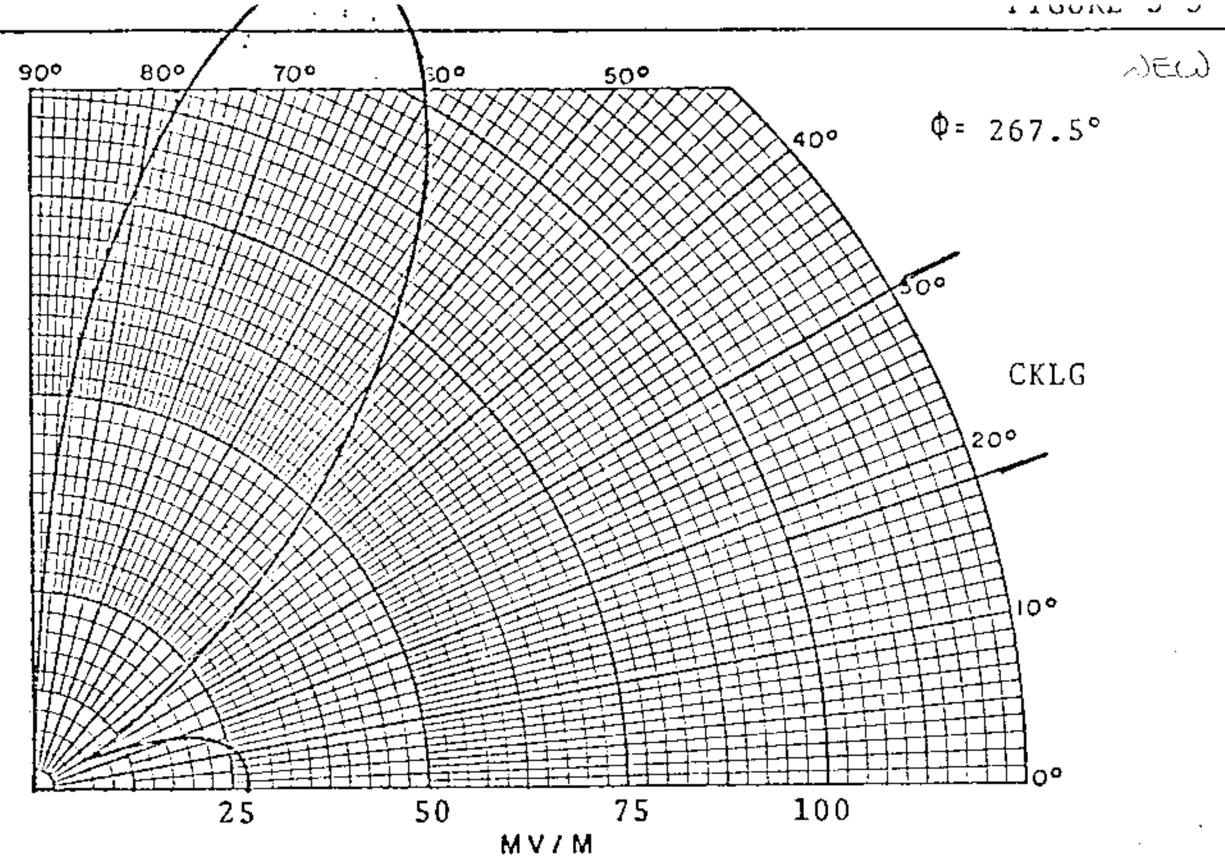
VERTICAL RADIATION PATTERNS

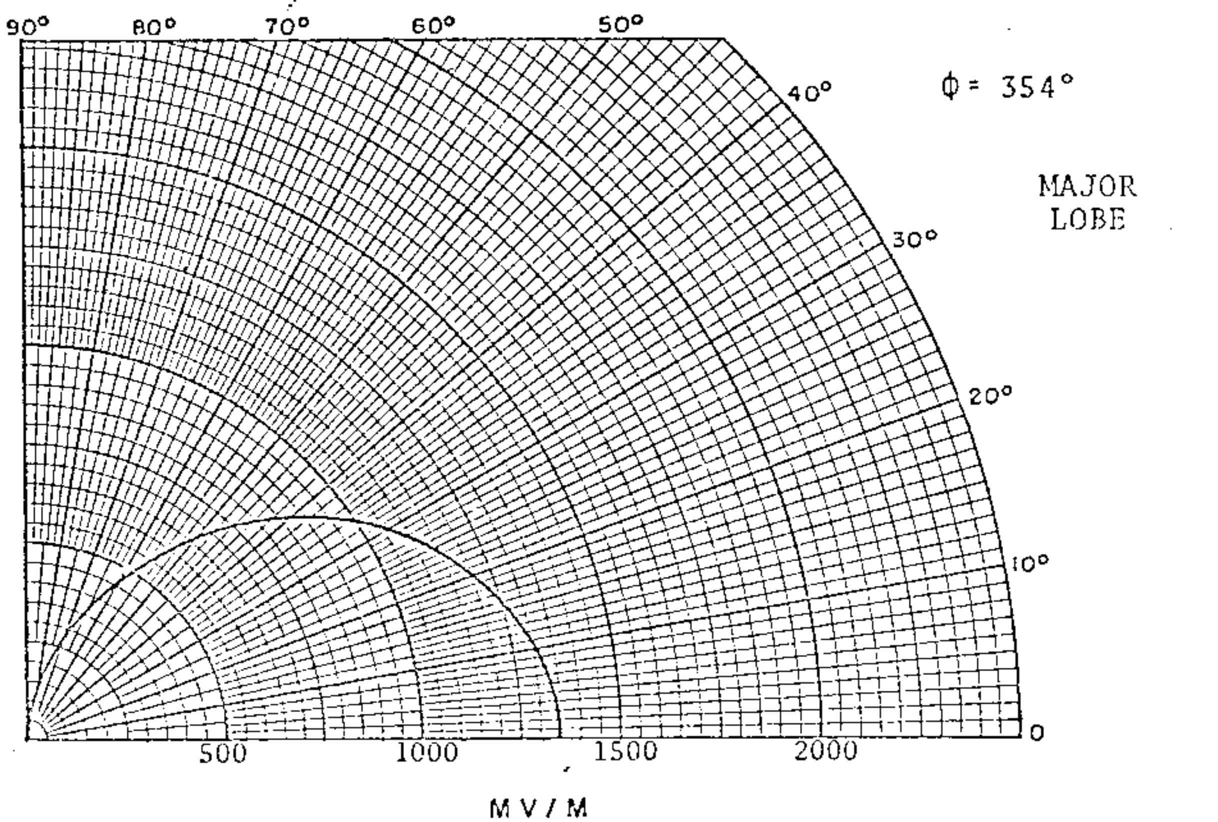
NEW - VERNON, BRITISH COLUMBIA

10 kW DA-2 730 kHz CLASS II

E.E.L. JAN. 1976

NEW





VERTICAL RADIATION PATTERNS

NEW - VERNON, BRITISH COLUMBIA

10 kW DA-2 730 kHz CLASS II

E.E.L. JAN. 1976

CBL
740

REFER TO FILE NUMBER

Air Services
Telecommunications Division
(5-10-50)

CANADA

DEPARTMENT OF TRANSPORT
OTTAWA

DESCRIPTIVE SHEET - OMNIDIRECTIONAL ANTENNA

Station Call: CBL

Main Studio: Toronto, Ontario.

Frequency: 740 Kc/s.

Power: 50 Kw.

Class: I-A

Time: U

Notification Reference: NARBA Annex 3

Geographical Location:

North Latitude: 43° 34' 32"

West Longitude: 79° 49' 03"

Antenna Characteristics:

Height: 645 ft. 183.6 degrees

Expected Efficiency: 1618 mv/m at 1 mi. for 50 Kw.

or: 231.5mv/m at 1 mi. for 1 Kw.

Ground System:

120 radials 645 feet long. No groundscreen screen used.

Type of Element:

1 element, uniform square cross-section, insulated, guyed, and series-fed.

November 20, 1952

CBNM

Description Sheet , New Station 10kw,DA-N,U,Class II
(9-26-68ct) Marystown, Newfoundland 740 kc

CANADIAN BROADCASTING CORPORATION

ENGINEERING DIVISION MONTREAL

TITLE NEW Marystown, Nfld.
740 kHz, 10 kW DA-N

DWG. No.
DATE Feb. /68 ISS.
ENG. J.L. APP. R.E.S.

DESCRIPTION OF ANTENNA ARRAY

Station Call:	NEW	
Location:	Marystown, Nfld.	
Frequency:	740 kHz	
Power:	10 kW	
Mode.	DA - N	
Class:	II	
Time:	Day and Night	
Notification List No: 96	Date: AUGUST 23, 1968	
Geographic Location:	Latitude - 47° 08' 4[illegible]	
	Longitude - 55° 10' 22" [illegible]	
Tower No:	1 (WEST)	2 (EAST)
Height of radiating element:	332'	332'
Physical height:	90°	90°
Over-all height:	342'	342'
Field ratio:	1	0.92
Current phase.	0°	-91°
Spacing:	332.5' (90°)	
Orientation:	65° east of true north	

Type of elements: Two guyed, base insulated series fed steel towers of constant cross section. They will meet the requirements of Broadcast Procedure 1, Rule [illegible]

Ground system: Each tower will have 120 radials of length 530 feet (0.4λ) except where limited by the bisectors between towers. Radials will be no. 10 B&S gauge, [illegible] deep.

Expected efficiency. 616 mV/m at 1 mile for 10 kW
195 mV/m at 1 mile for 1 kW

Day and Night

Transmission Department.

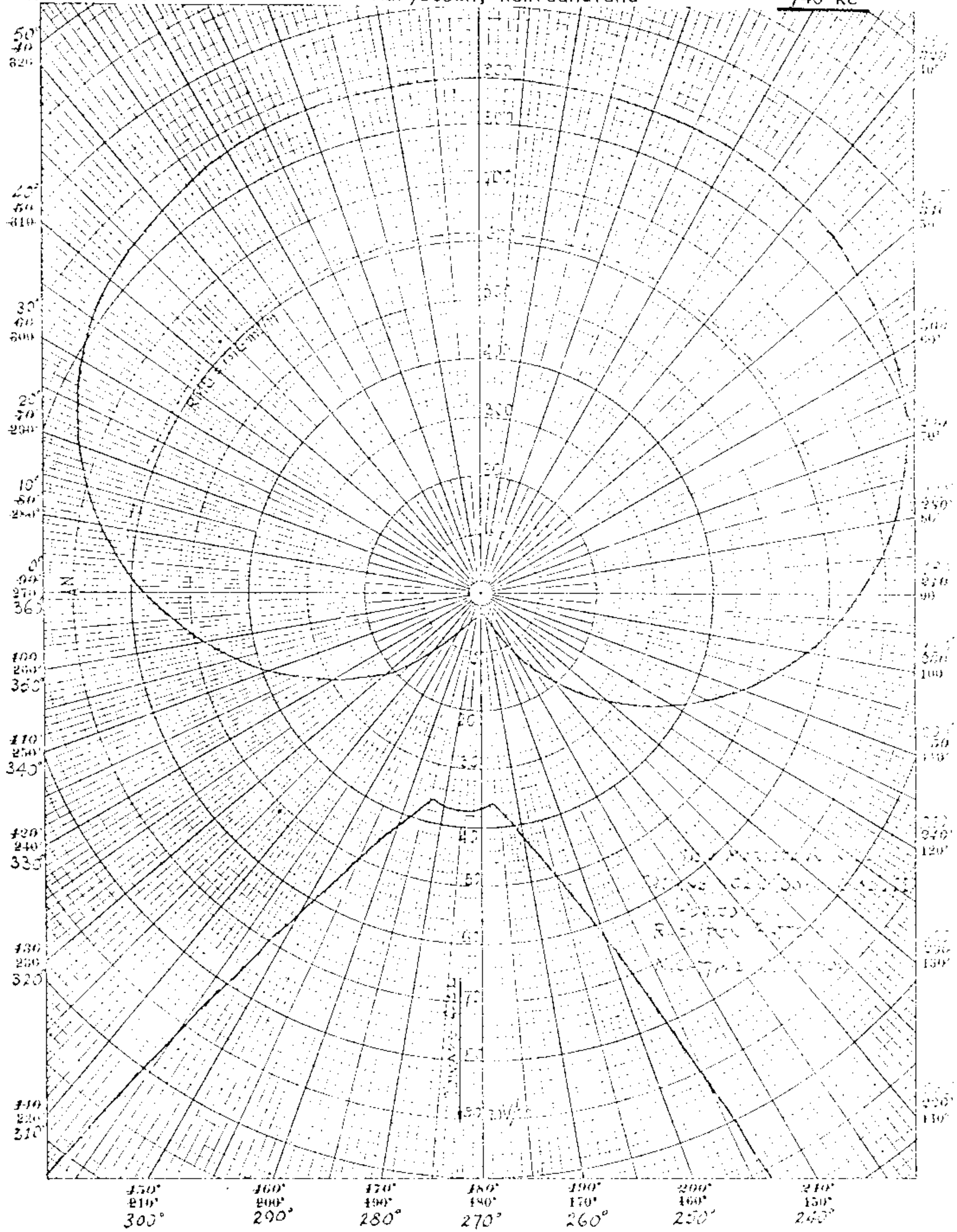
C.B.C.-152A

CBNM

Proposed Night
(9-26-68ct)

New Station
Marystown, Newfoundland

10kw,DA-N,U,Class II
740 kc



206

Description Sheet p.1of2 (1-28-66ct)

Station CBX Edmonton, Alberta

50kw,DA-2,U,Class II 740 kc

CBX

Engineering Sites CBX Edmonton, Alberta

Date August 31/65 Eng. J.H.S. App. R.F.S.

Description of Antenna System

Station:	CBX	Main Studio:		Edmonton, Alberta
Frequency:	740 kc/s	Power: 50 kw		Class 11

Geographical Location of Antenna Centre: 53° 19' 10" N. Lat, 113° 26' 43" W. Long.

Notification List: 206   Date: December 14, 1965

Antenna Characteristics

Day and Night operation: DA-2

Number of Elements: 4

Type of Elements: Series fed, uniform triangular cross-section, guyed steel tower

Tower:	1 (S.W.)	2 (N.W.)	3 (S.E.)	4 (N.E.)
Height above insulator:	316 ft.(86°)	316 ft.(86°)	316 ft.(86°)	316 ft.(86°)
Night Phasing:	0°	-90°	1°	-89°
Night Current Ratio:	1	1.13	1.08	1.22
Day Phasing:			0	-120°
Day Current Ratio:			1.0	2.0

Spacing and Orientation: The elements form the vertices of a rectangle of which the long sides are 668 ft.(180.8°) and the short sides are 334 ft.(90.4°). The short sides lie on a line bearing 13° T.

Ground System: Each antenna has 120 radials spaced 3°, of average length 530 ft. (0.4λ) except in the area between the towers, where the radials are bonded to a common transverse copper strap midway between tower positions.

Transmission & Development Department

EHQ 29 (10/63)

X206

Station CBX
Edmonton, Alberta

CBX

50kw,DA-2,U,Class II
740 kc

CANADIAN BROADCASTING CORPORATION

Engineering Brief
CBX Edmonton, Alberta

DWG. NO.
DATE August 31/65 ISS.
ENG. J.H.S. APP. R.E.S.

Antenna Efficiency:

Daytime	predicted	1370 MV/M for 50 kw
		194 MV/M for 1 kw
	measured	1500 MV/M for 51.2 kw
		210 MV/M for 1 kw
Night-time	predicted	1330 MV/M for 50 kw
		188 MV/M for 1 kw

Transmission & Development Department

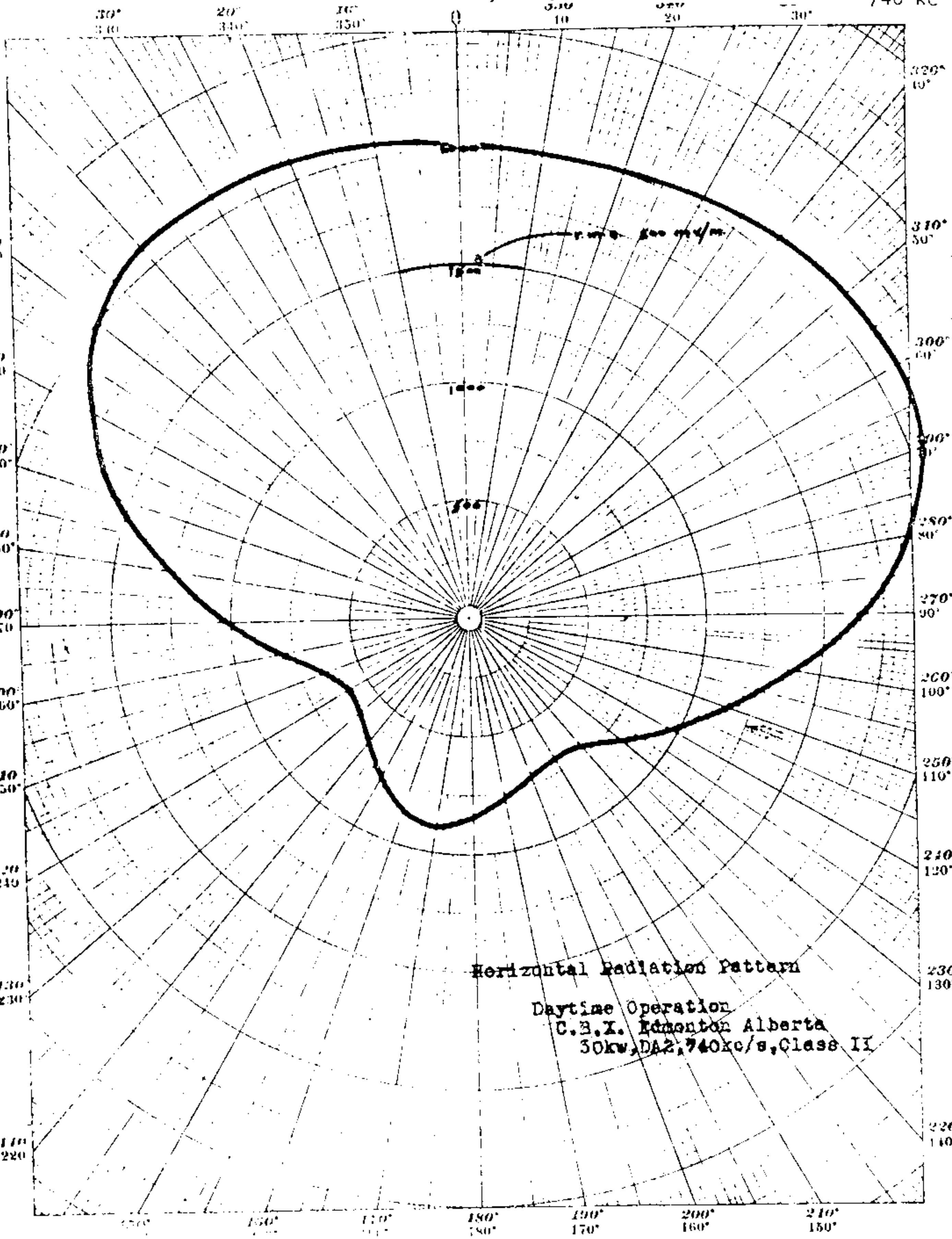
#206

CBX

Proposed Day
(1-28-66ct)

Station CBX
Edmonton, Alberta

50kw,DA-2,U,Class II
740 kc



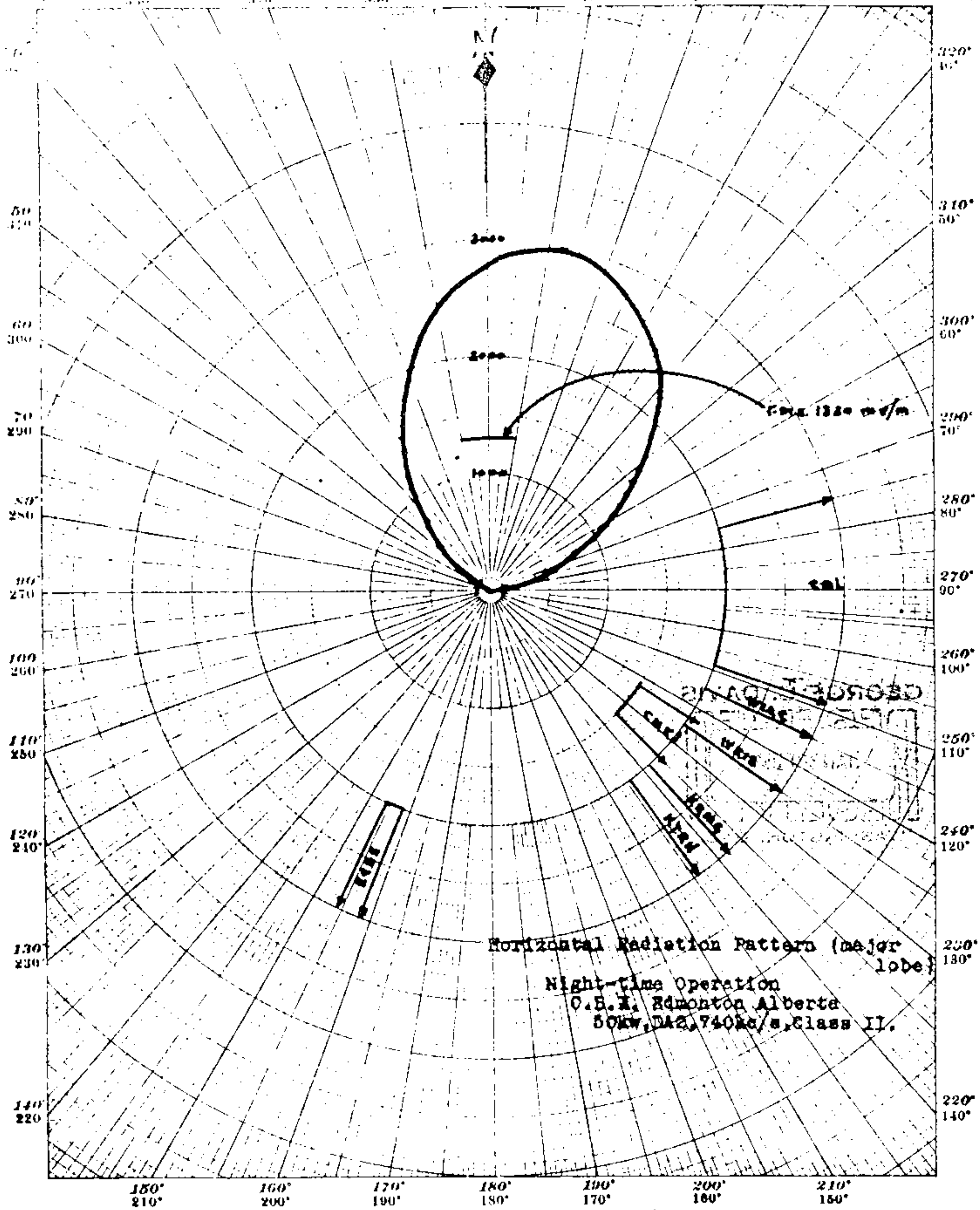
#206

CBX

Proposed Night
(1-28-66ct)

Station CBX
Edmonton, Alberta

50kw,DA-2,U,Class II
740 kc



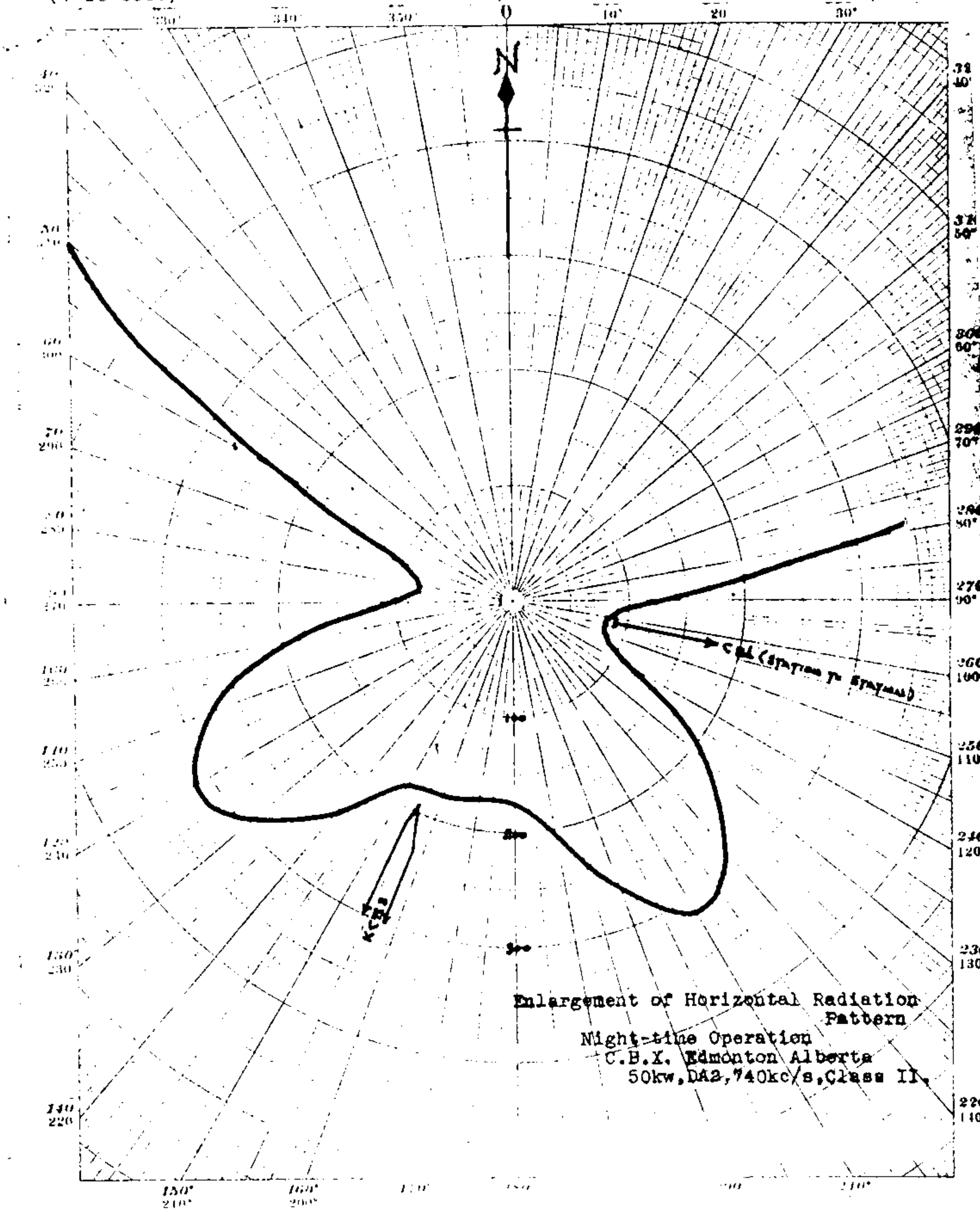
206

CBX

Proposed Night Nulls
(1-28-66ct)

Station CBX
Edmonton, Alberta

50kw,DA-2,U,Class II
740 kc



Enlargement of Horizontal Radiation Pattern
Night-time Operation
C.B.X. Edmonton Alberta
50kw,DA2,740kc/s,Class II.

768

CBX

Description Sheet (9-29-64ct) | Station CBXA Edmonton, Alberta | 50kw, DA-2, U, Class II 740 kc

NOW OPERATING WITH INCR. PWR. CHG. LIST 191

CANADIAN BROADCASTING CORPORATION
ENGINEERING DIVISION MONTREAL

TITLE ....

DWG. NO. ....
DATE .... ISS. ....
ENG. .... APP. ....

Oficina Interamericana de Radio - PAI
OIR/NARBA 2550 Canadá C. 2615
La Habana. 24 IV 62

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CBXA

Main Studio: Edmonton, Alberta

Frequency: 740 kc/s

Power: 50 kw

Notification List No.: 168

Date: March 9, 1962

Class: II

Geographical Location of the centre of the antenna system: Lat.: 53° 19' 10" N.
Long.: 113° 26' 43" W.

Antenna Characteristics

Day and Night Operation: (DA-2)

Number of Elements: 4

Type of Elements: Series excited, uniform cross-section, guyed, vertical steel towers.

Tower:	1 (South West)	2 (North West)	3 (South East)	4 (North East)
Height above insulators:	316' (86°)	316' (86°)	316' (86°)	316' (86°)
Night Phasing:	0°	-90°	0°	-90°
Night Field Ratio:	1.0	1.0	1.0	1.0
Day Phasing:	0°	-120°	--	--
Day Field Ratio:	1.0	1.0	--	--

Spacing and Orientation: Elements form vertices of rectangle of which the length of long sides are 668' and short sides are 334'. The long side lies on a line bearing 103° T.

Ground System: 120 radials per tower spaced 3° and averaging 530 ft. long, except in area between towers, where the radials are bonded to a common transverse copper strap mid-way between tower positions.

Antenna Efficiency: Day: 1370 mv/m at 1 mile
Night: 1230 mv/m at 1 mile

C.B.C.-238A

Transmission & Development Department

168

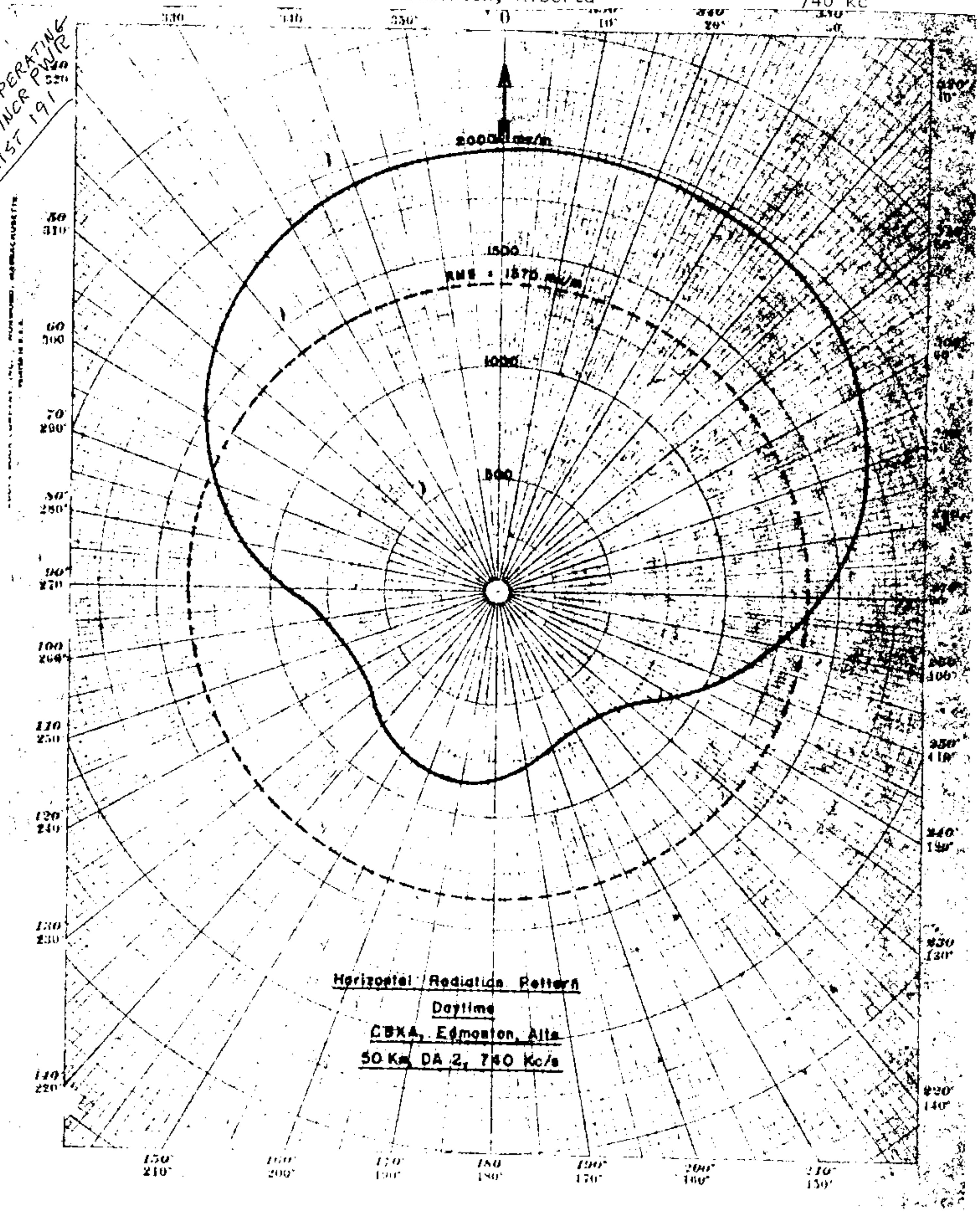
CBX

Proposed Day
(9-29-64ct)

Station CBXA
Edmonton, Alberta

50kw,DA-2,U,Class II
740 kc

JW OPERATING
WITH INCR PWR
CHG LIST 191



#168

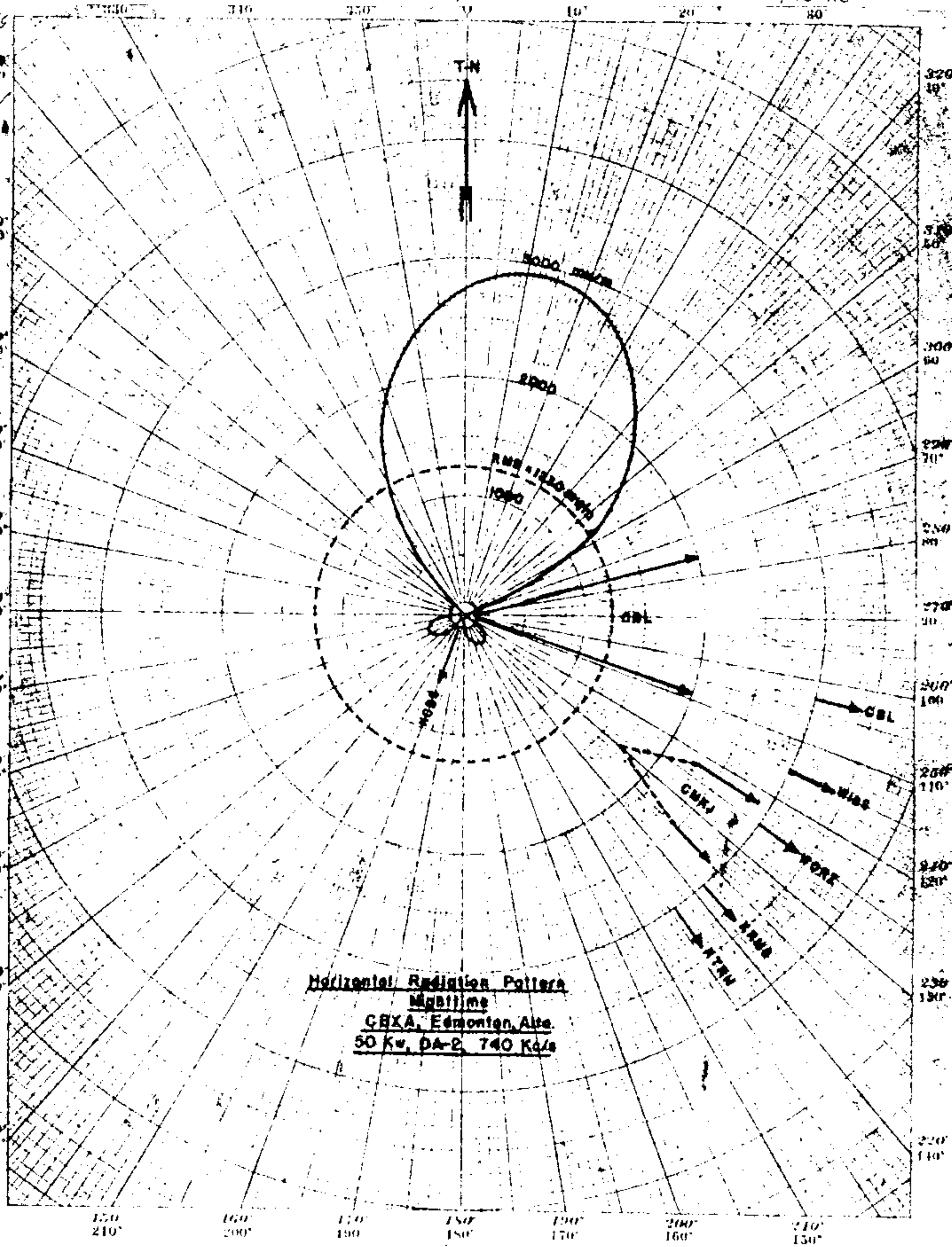
CBX

Proposed Night
(9-29-64ct)

Station CBXA
Edmonton, Alberta

50kw,DA-2,U,Class II
740 kc

NOW OPERATING
WITH INCR. PWR
CHG. LIST 191



168

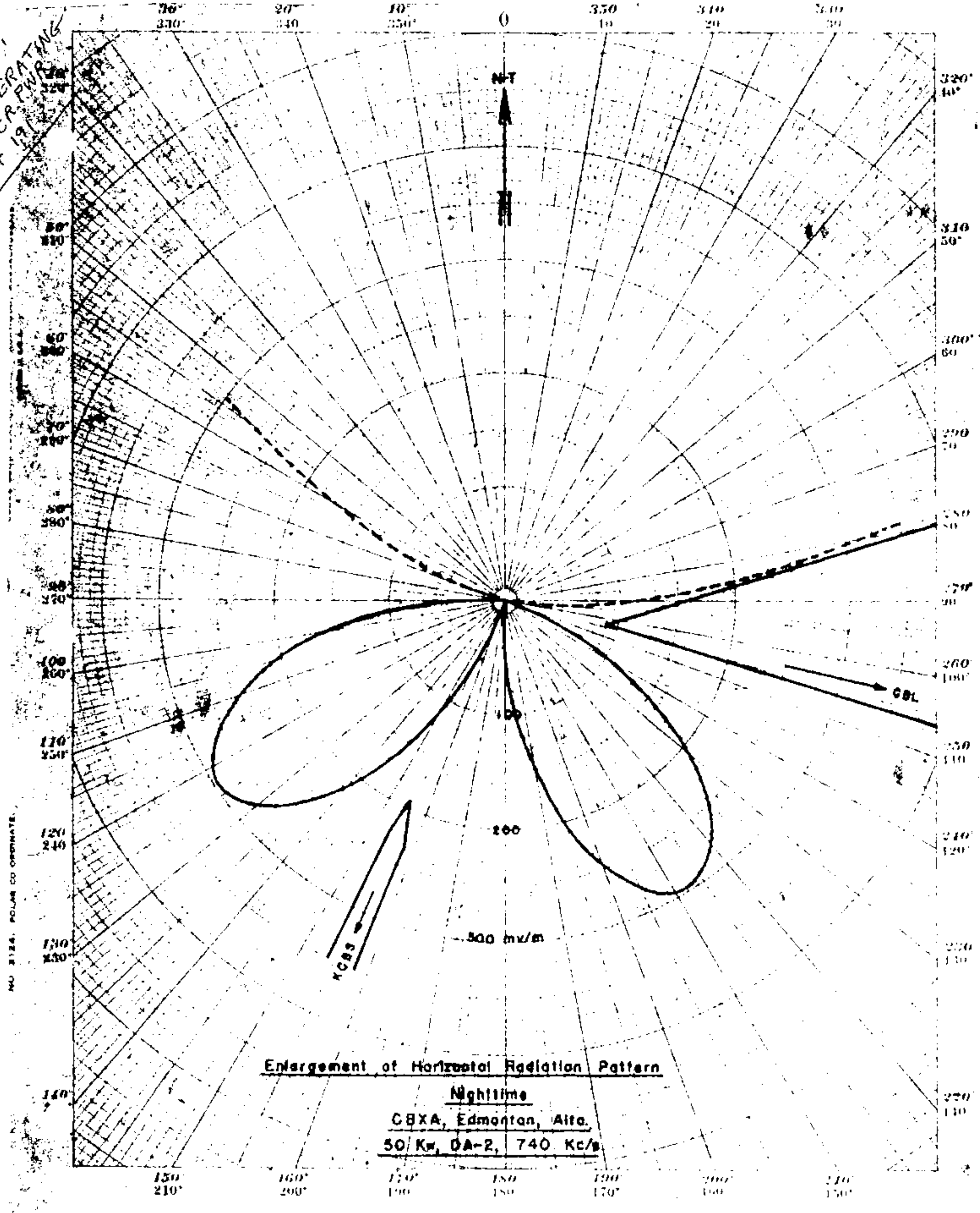
CBX

Proposed Night Nulls
(9-29-64ct)

Station CBXA
Edmonton, Alberta

50kw,DA-2,U,Class II
740 kc

NOW OPERATING WITH INCR. PWR. AG. LIST 19..



Cuba

CMKJ

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CMKJ

Main Studio: Holguin, Cuba

Frequency: 740 kcs.

Power: 10 kw

Date: June 1952 Class I-D

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 20° 52' 15"

West Longitude: 76° 16' 46"

ANTENNA CHARACTERISTICS

Authorized for Day and Night operation. (DA-1)
Number of elements: Two (2)
Type of elements: Series-fed, self-supporting, vertical steel towers.

TOWER:	Northwest	Southeast
HEIGHT ABOVE GROUND	300'	300' (81.1°)
SPACING:	(496.92' or 135° between adjacent towers)	
PHASING:	0°	0°
RATIO:	1	1

ORIENTATION: (Elements on a line bearing 335° true.)

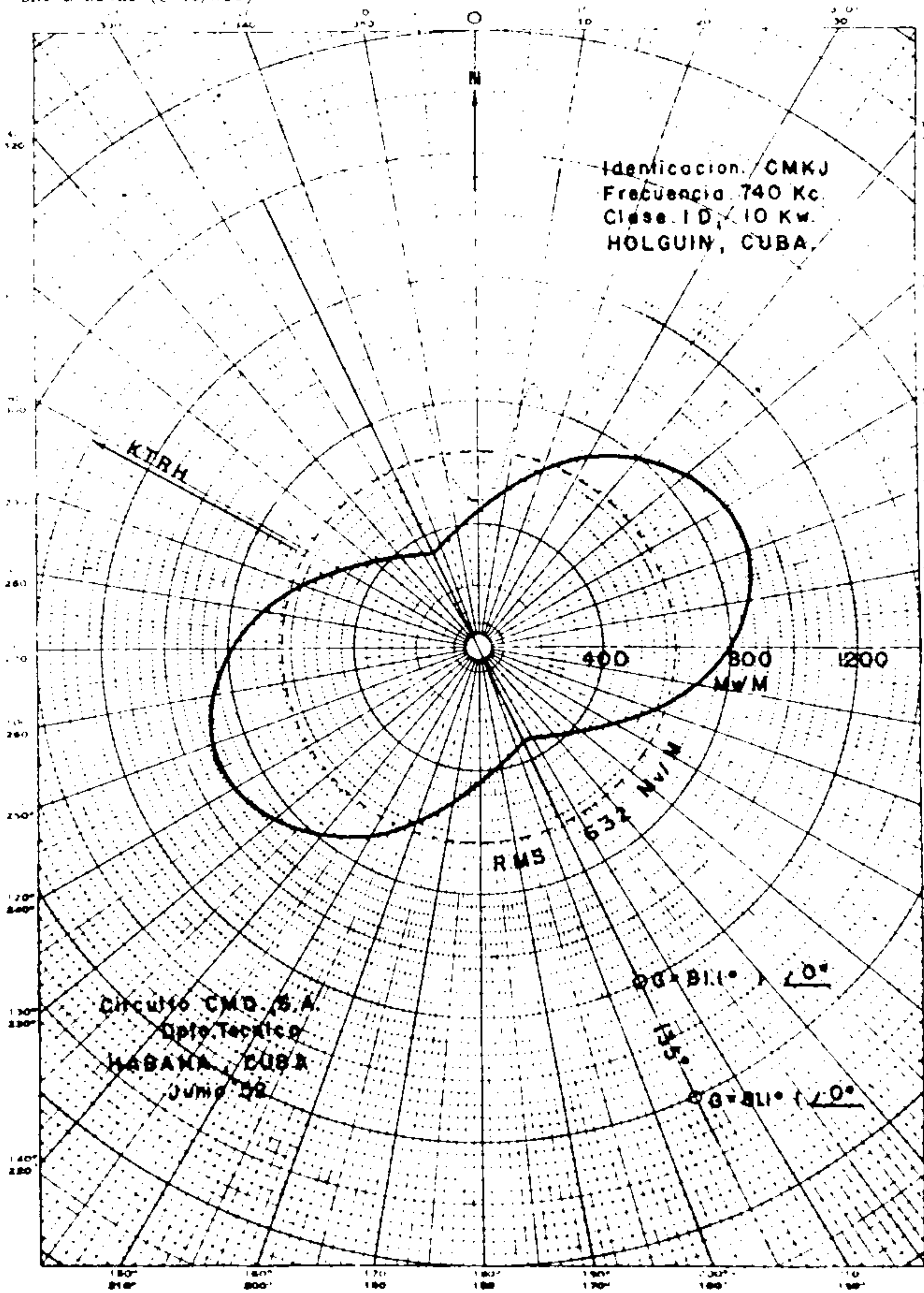
Predicted effective Field: 632 mv/m (at rated power)

F.C.C. Note:
This pattern supplements the particulars for this station set forth in Annex 3 to the North American Regional Broadcasting Agreement, Washington, D. C., 1950.

PROPOSED
DAY & NIGHT (3/18/53G)

CMKJ, HOLGUIN, CUBA

10 kw, DA-1 740 kc



~~KBIG~~ KBRT

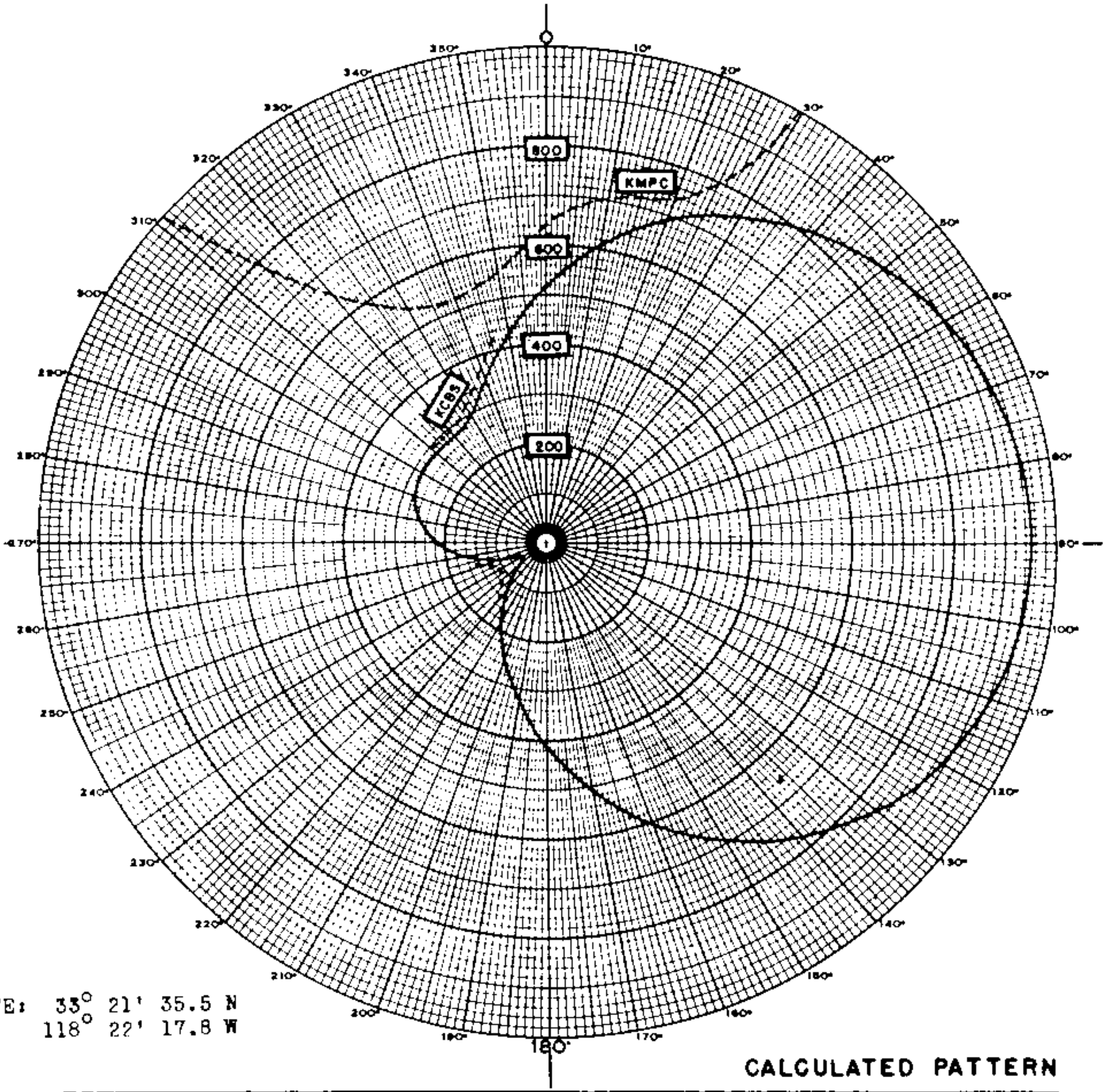
~~KBIG~~

PROPOSED
DAY (2/9/53G)

~~KBIG~~, AVALON, CALIF. 10kw, D, DA-D 740 kc

POLAR CO-ORDINATE NO. 10 HP CLEVELAND INSTITUTE OF RADIO ELECTRONICS CLEVELAND, OHIO

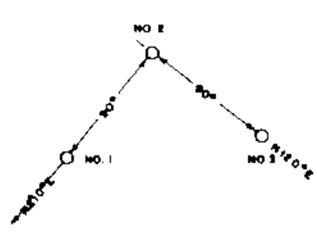
8-1-63 change call



SITE: 33° 21' 35.5 N
118° 22' 17.8 W

CALCULATED PATTERN

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No.	ELECTRICAL HEIGHT	TRUE TOWER ORIENTATION	SPACING	PHASING	FIELD RATIO	HORIZONTAL FIELD	ELEV. ANGLE	ELEVATION RMS FIELD
1	76.6	N210°E	90°	+45°	0.950	—	0	535
2	76.6	0°	—	0°	1.000	534.8	10	
3	76.6	N120°E	90°	−90°	1.000	—	20	
4							30	
5							40	
6							50	
7							60	
8							70	
9							80	
10							E_r =	mv/m
DAYTIME OPERATION ☒			NIGHTTIME OPERATION ☐				E_r =	kw

STATION DATA

CALL	KBIG
FREQUENCY	740 kc
POWER	10 kw
TIME OF OPERATION	DAY
TYPE OF OPERATION	DA
DAYTIME TOWERS	3
NIGHTTIME TOWERS	—
No RADIALS PER TOWER	120
LENGTH OF RADIALS	90° 333 ft
GROUND SCREEN DIMENSION	120 R X 90
LAT.	33° 21' 35.5"
LONG.	118° 22' 17.8"
SUPERSEDES	
PATTERN No.	60071

FIG 1C

JOHN POOLE BROADCASTING CO.
Avalon, Santa Catalina
California

7/18/50

GEORGE P. ADAIR
Radio Engineering Consultants
WASHINGTON, D. C.

FCC File No. BL-4897 Date Recd 5/16/52

KBIG, Avalon, Calif. 740 kc

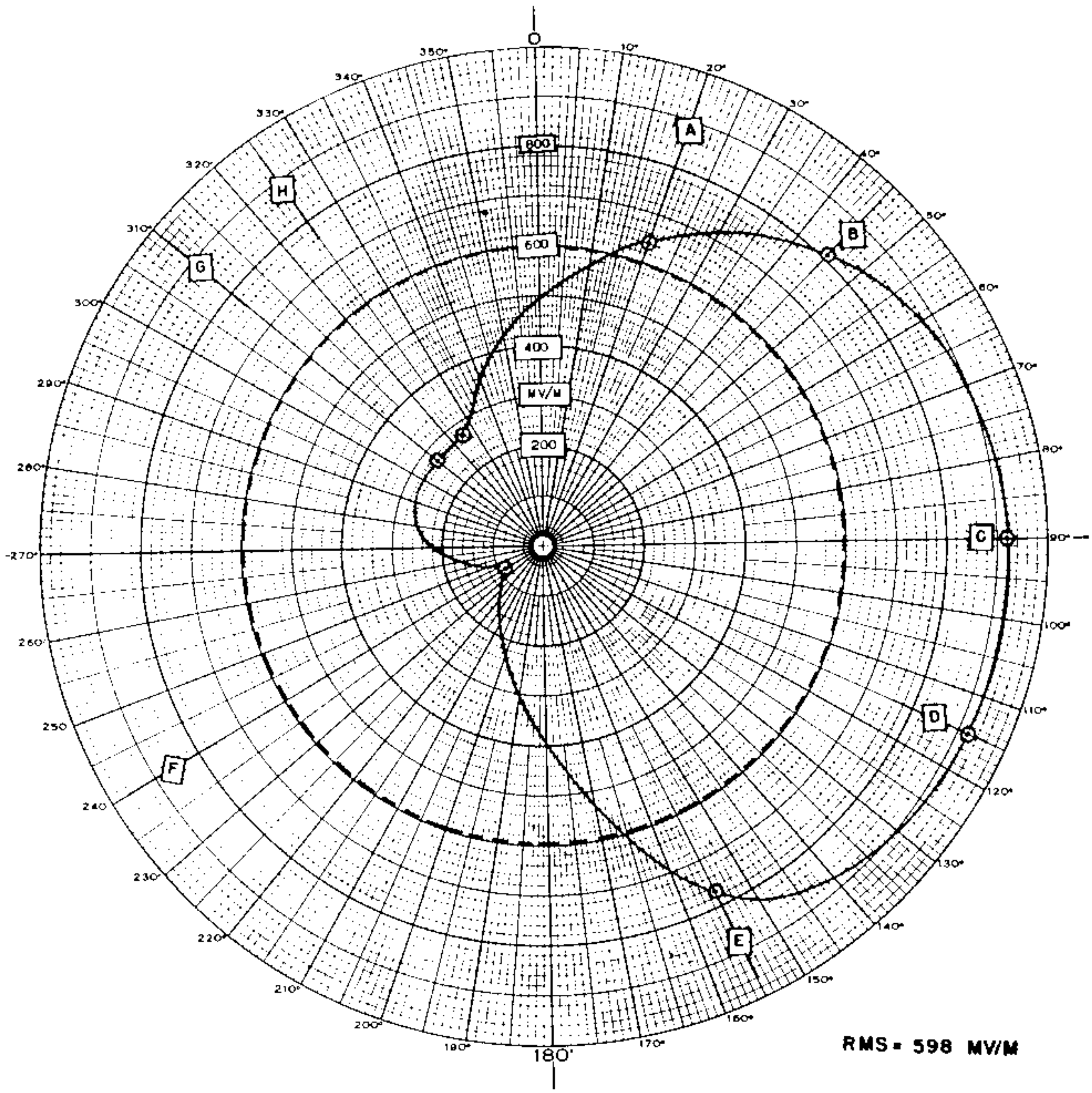
KBRT ~~KGLM~~ ~~KBIG~~

MEASURED DAY
(4-9-56G)

STATION ~~KBIG~~ KGLM
AVALON, CALIFORNIA

10KW
DA-D, U

740 KC



RMS = 598 MV/M

33° 21' 35.5" N. lat.
118° 22' 17.8" W. long.

KBIG

740 KC - 10 KW - DA

Avalon, California

FIG. 1A

PATTERN BASED ON
FIELD INTENSITY
MEASUREMENTS

GEORGE P. ADAIR
Radio Engineering Consultants
WASHINGTON, D. C.

FILE NO. BL-4897 FILED 5-16-52FCC KBIG, Avalon, Calif. 740 KC

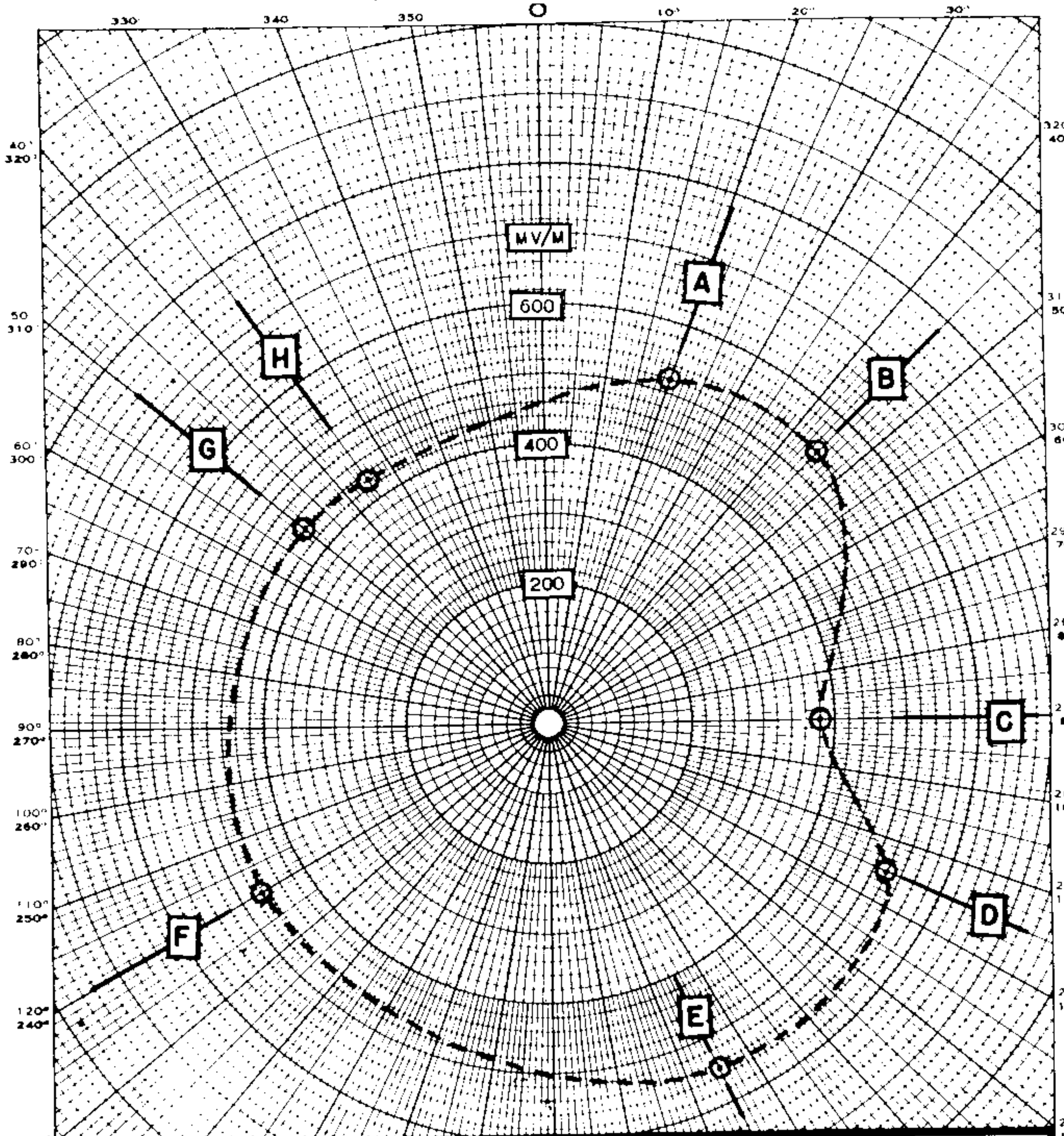
KBRT ~~KGEM~~ ~~KBIG~~

MEASURED NON-DIRECTIONAL (4-9-56G)

STATION KBIG
AVALON, CALIFORNIA

10kw
DA-D, D

740 KC



33° 21' 35.5" N. lat.
118° 22' 17.8" W. long.

ELEMENT NO. 2
5 KW NON-D

AVALON, CALIFORNIA

Figure 1 B *Page*

5-9-52

GEORGE P. ADAIR
Radio Engineering Consultants
WASHINGTON, D. C.

*CORRECTED
U.S. DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: K C B S

Main Studio: San Francisco, California

Frequency: 740 kc/s

Power: 50kw

Notification List No. 367

Date: July 21, 1950 Class II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 38° 08' 20"
West Longitude: 122° 31' 35"

ANTENNA CHARACTERISTICS

Authorized for Day and Night operation. (DA-2)
Number of elements: four (4)
Type of elements: Series-fed, uniform cross-section, guyed vertical steel towers.

TOWER:	North	West	South	East
HEIGHT ABOVE INSULATOR:	500'	500'	500'	500' (135.5)
NIGHT PHASING:	0°	-4°	-120°	-116°
NIGHT FIELD RATIO:	1.0	0.9	0.81	0.9
DAY PHASING:	0°	-4°	-120°	-116°
DAY FIELD RATIO:	1.0	0.4	0.21	0.6

SPACING AND ORIENTATION: Towers located at corners of rectangle, short sides 332' (90°) bear 328° true, long sides 664' (180°) bear 238° true.

GROUND SYSTEM: 100-500' equally spaced radials about each tower base. Radials are shortened and bonded by transverse straps along intersections between towers. Centers of systems bonded together.

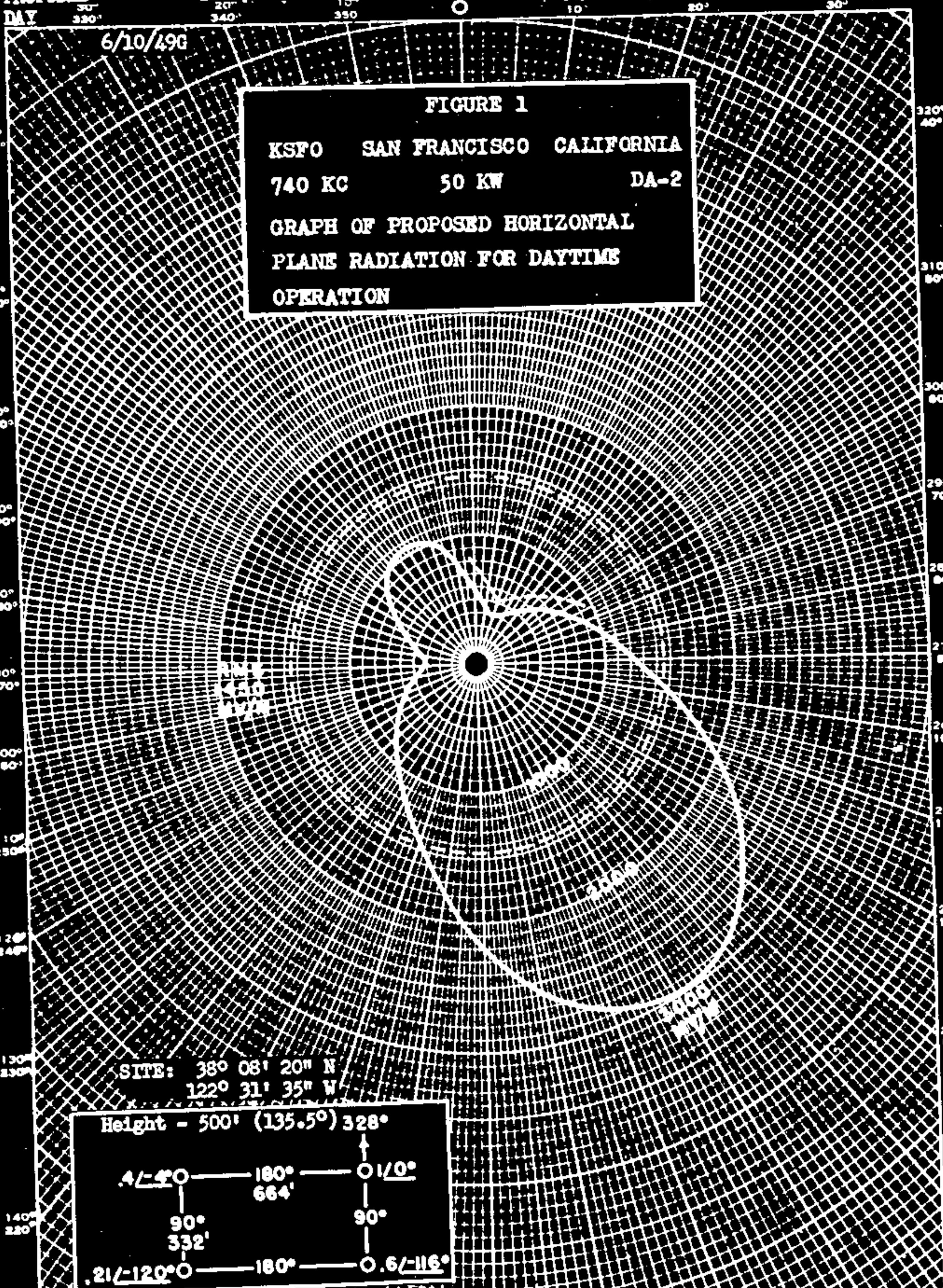
Predicted effective Night Field: 1428 mv/m (at rated power)
Predicted effective Day Field: 1450 mv/m (at rated power)

*Corrected day and night patterns. Wrong pattern and description sheet were previously supplied corresponding to Change List #367. These should be discarded.

F.C.C. 7/9/51

KCBS

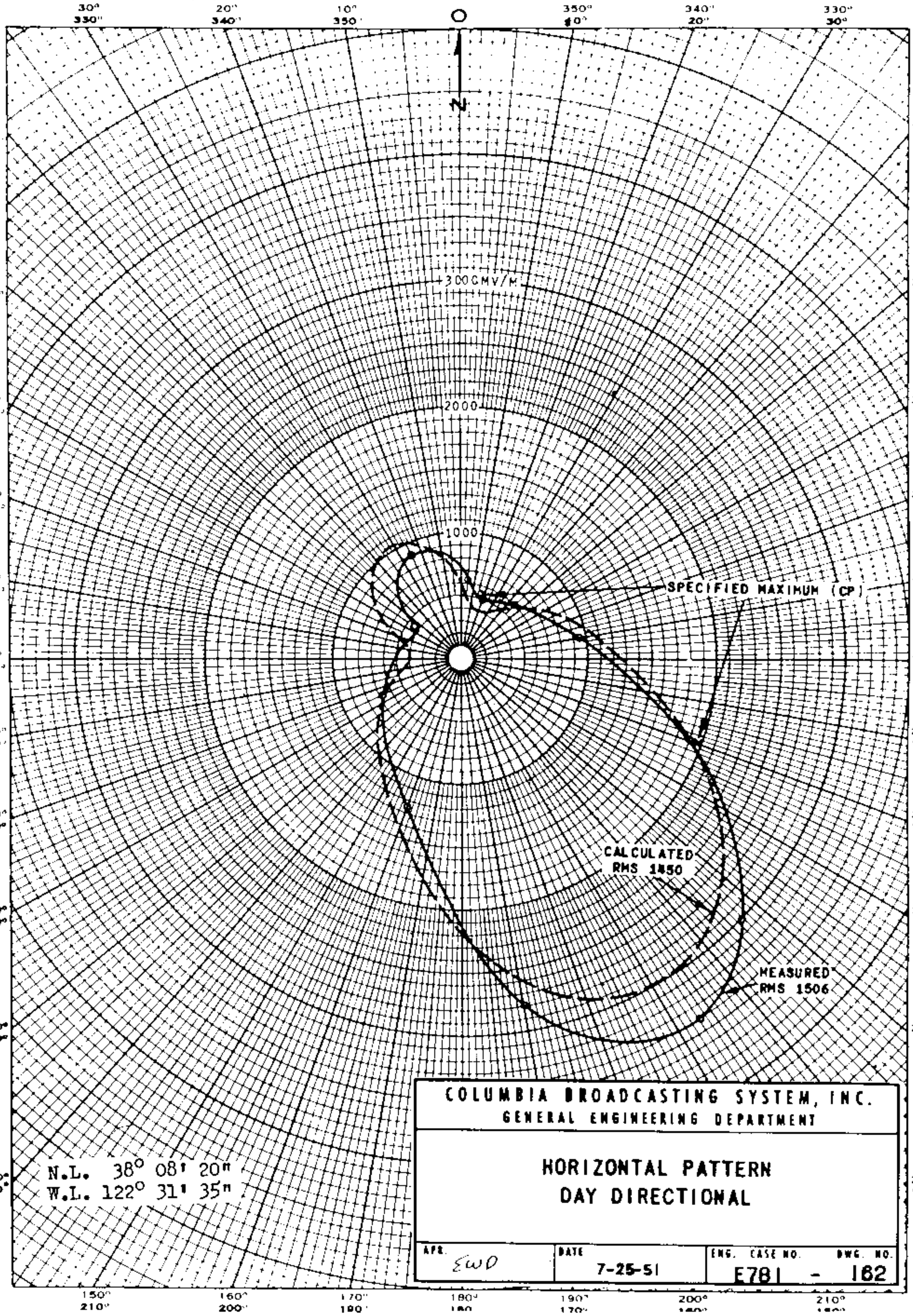
PROPOSED DAY [illegible], SAN FRANCISCO, CAL. 6-8-49 50kw, DA2 740 kc



KSFO, San Francisco, Cal. 740 kc

KCBS

MEASURED DAY   KCBS, SAN FRANCISCO, CAL.   50 KW, U, DA-2   740 KC
8/9/51



COLUMBIA BROADCASTING SYSTEM, INC.
GENERAL ENGINEERING DEPARTMENT

HORIZONTAL PATTERN
DAY DIRECTIONAL

APR.	DATE	ENG. CASE NO.	DWG. NO.
EWD	7-25-51	E781	- 162

APPL RECD 7/27/51   BL-4514   KCBS, SAN FRANCISCO, CAL.   740 KC

KCBS

PROPOSED NIGHT KSFO, SAN FRANCISCO, CAL. 6-8-49 50kw, DA2 740 kc

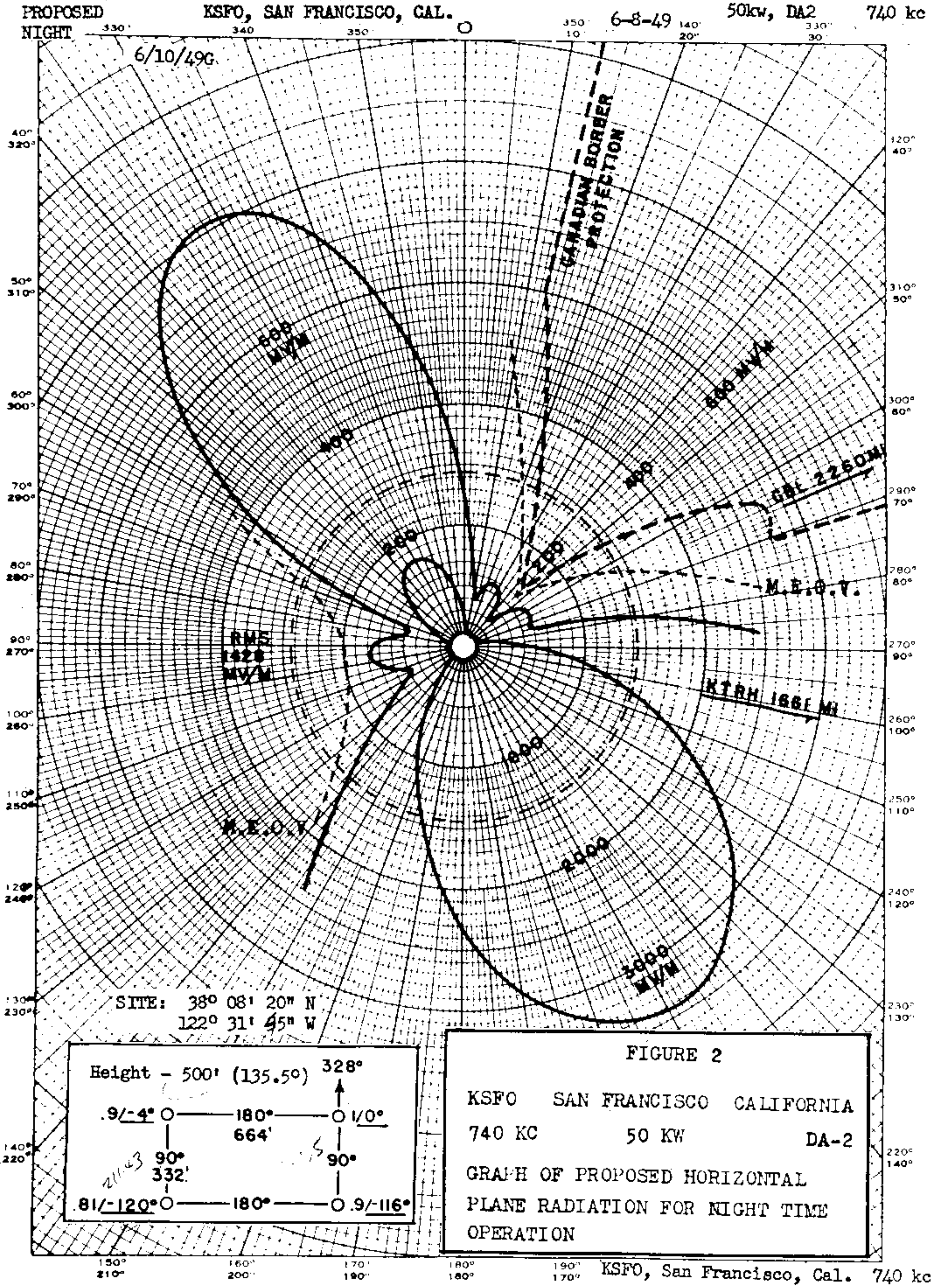


FIGURE 2

KSFO SAN FRANCISCO CALIFORNIA

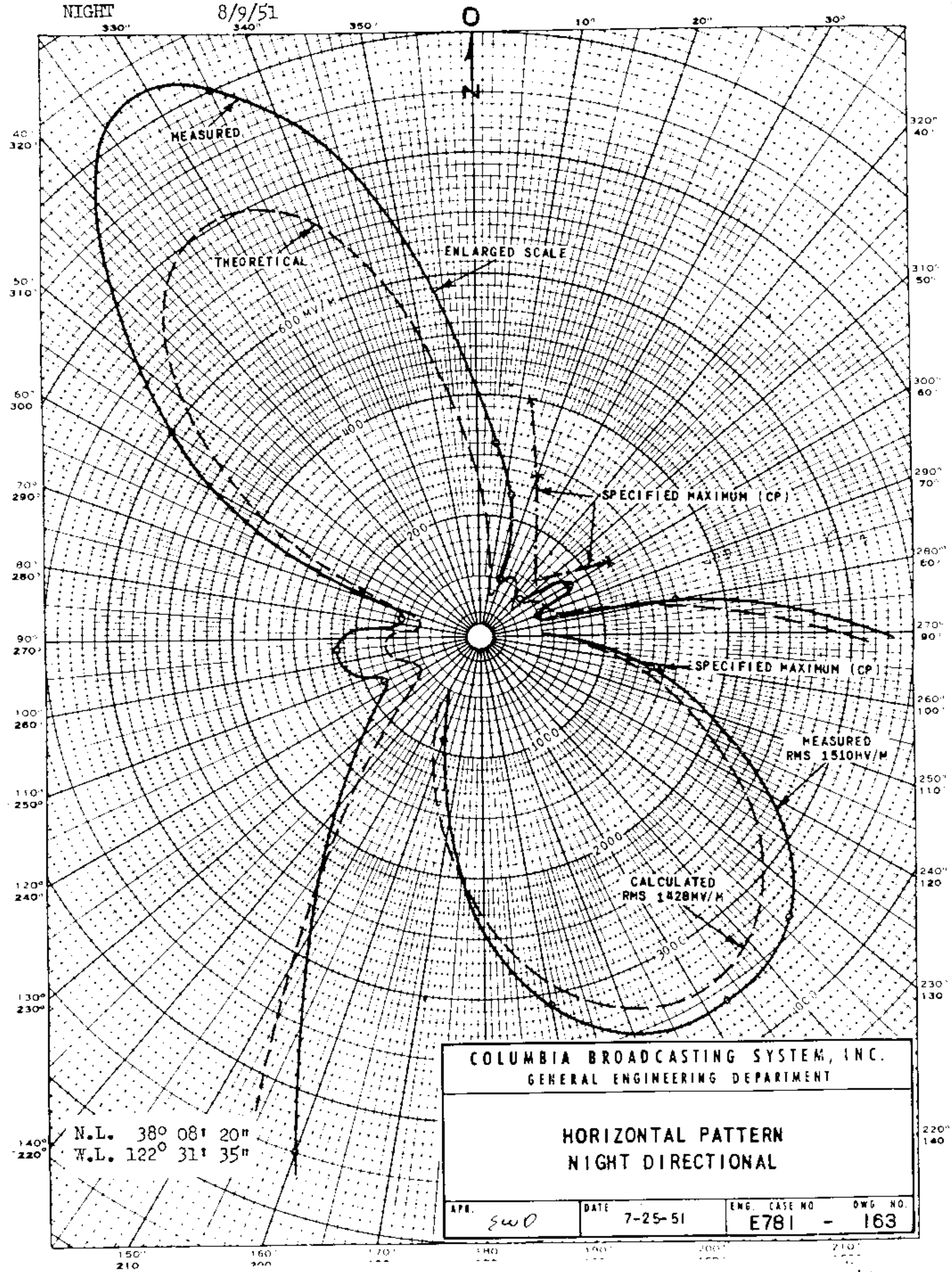
740 KC 50 KW DA-2

GRAPH OF PROPOSED HORIZONTAL PLANE RADIATION FOR NIGHT TIME OPERATION

KSFO, San Francisco, Cal. 740 kc

KCBS

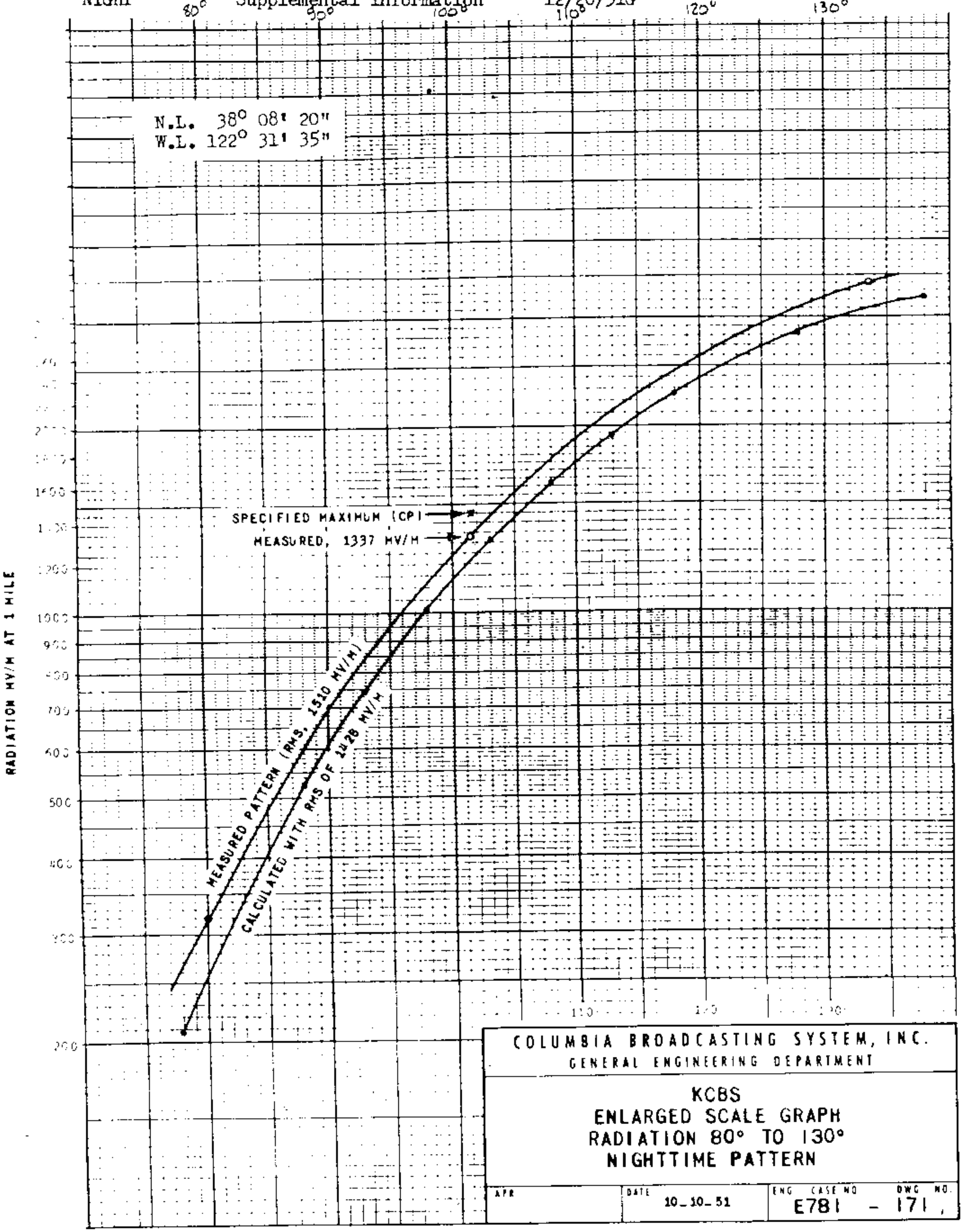
MEASURED NIGHT — KCBS, SAN FRANCISCO, CAL. — 8/9/51 — 50 KW, U, DA-2 — 740 KC



APPL RECD 7/27/51 — BL-4514 — KCBS, SAN FRANCISCO, CAL. — 740 KC

KCBS

MEASURED NIGHT | KCBS, SAN FRANCISCO, CALIF. Supplemental Information | 50 KW, U, DA-2 12/20/51G | 740 KC



RECD AT FCC 10/23/51 ACC 10/23/51

KCBS, SAN FRANCISCO, CALIF. 740 KC

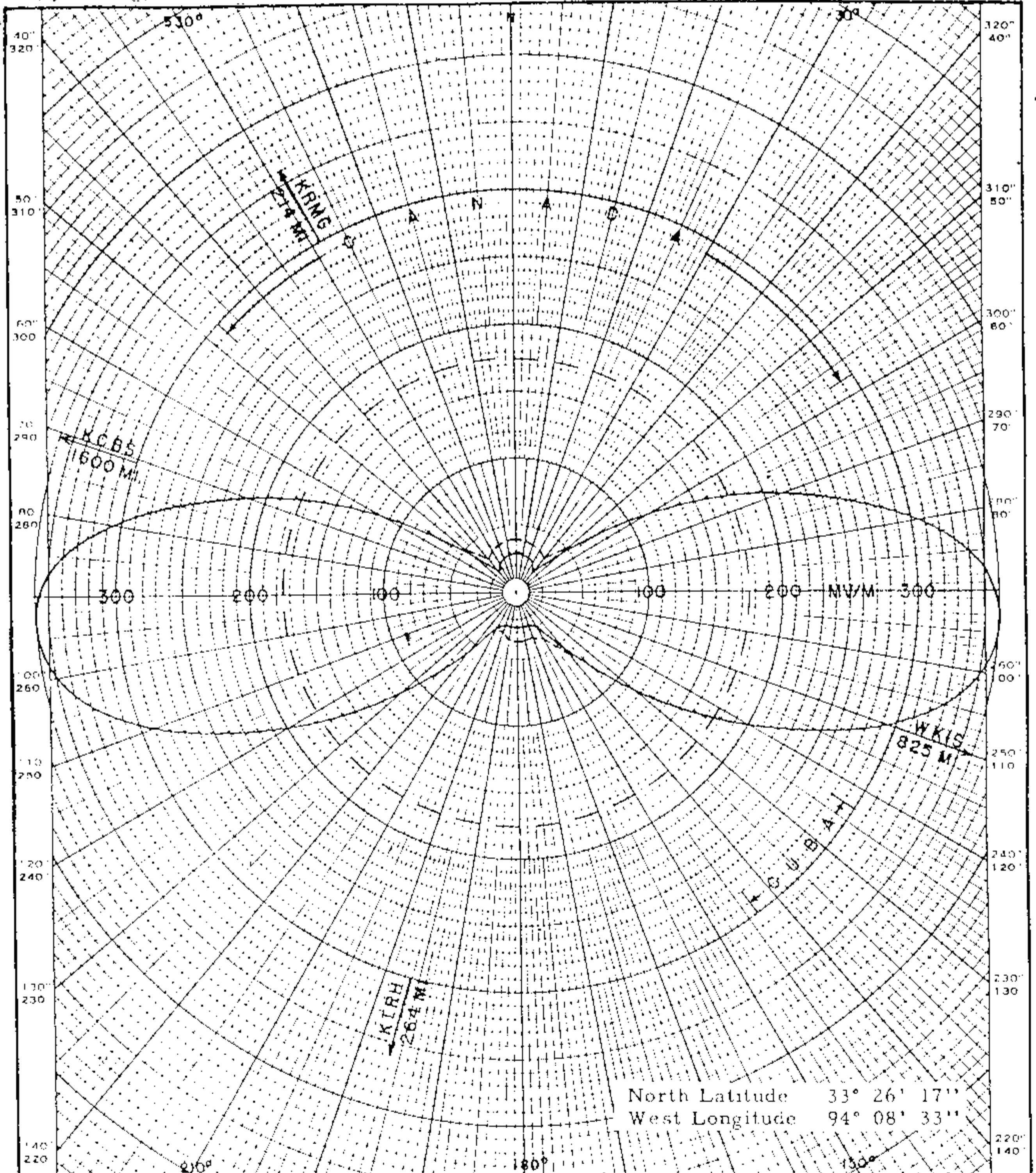
KCMC

GRANTED CP
7-27-60

PROPOSED DAY & NIGHT
(5-27-60g)

Station KCMC
Texarkana, Texas

1kw, DA-1,U
740 KC



S = 192° = 709.8 FT. G'S = 81.2° = 300 FT.

0.49/-5.5° 1/0° 0.56/20.5°

③ ← S → ② ← S → ① — N →

RMS = 175 MV/M --- MEOV

J. G. ROUNTREE
CONSULTING ENGINEER
P. O. BOX 9044
AUSTIN 17, TEXAS

KCMC, INC.
TEXARKANA, TEXAS
740 KC, 1000 W, DA-1

600401 MODIFIED FIGURE 4A

FCC File No. BP-12194
Accepted 4-21-60 (Amended)

KCMC
Texarkana, Texas 740 KC

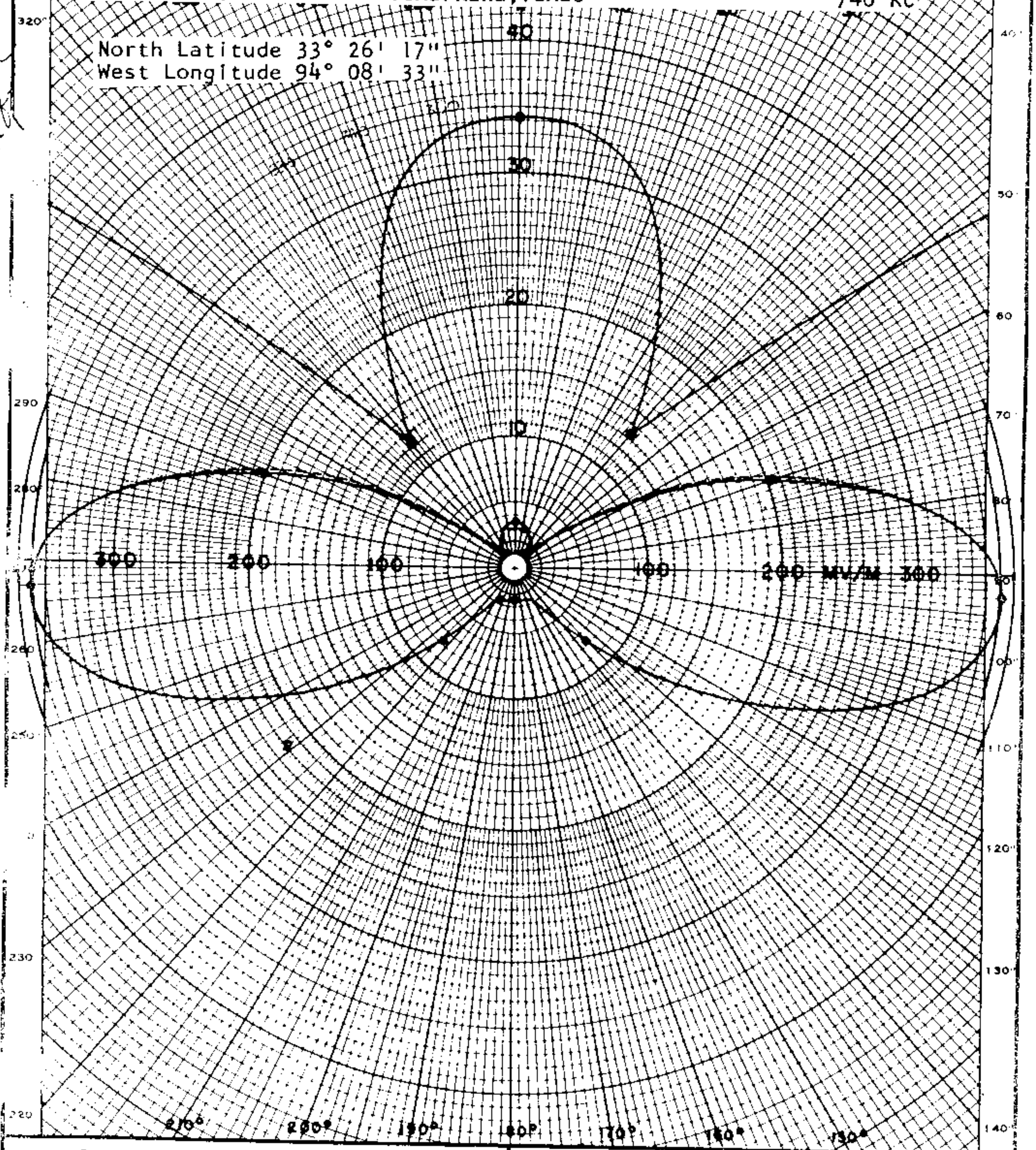
KCMC

MEASURED DAY
(8-22-61ct)

KCMC
Texarkana, Texas

1kw, DA-1, U
740 KC

painted L for
nge in freq
nd install DA-1
(9-20-61)



S = 192° = 709.8 FT.

G'S = 81.2° = 300 FT.

SEE FIGURE I FOR OPERATING PARAMETERS

0.49/-5.5° — 1/0° — 0.56/20.5°

3 ← S → 2 ← S → 1 — N →

RMS = 175 MV/M

— — — THEOR.

J. G. ROUNTREE
CONSULTING ENGINEER
P. O. BOX 9044
AUSTIN 17, TEXAS

KCMC, INC.
TEXARKANA, TEXAS
MEASURED DA PATTERN

610630

FIGURE 2B

FCC File No. BL-8603
Accepted 8-16-61

KCMC
Texarkana, Texas

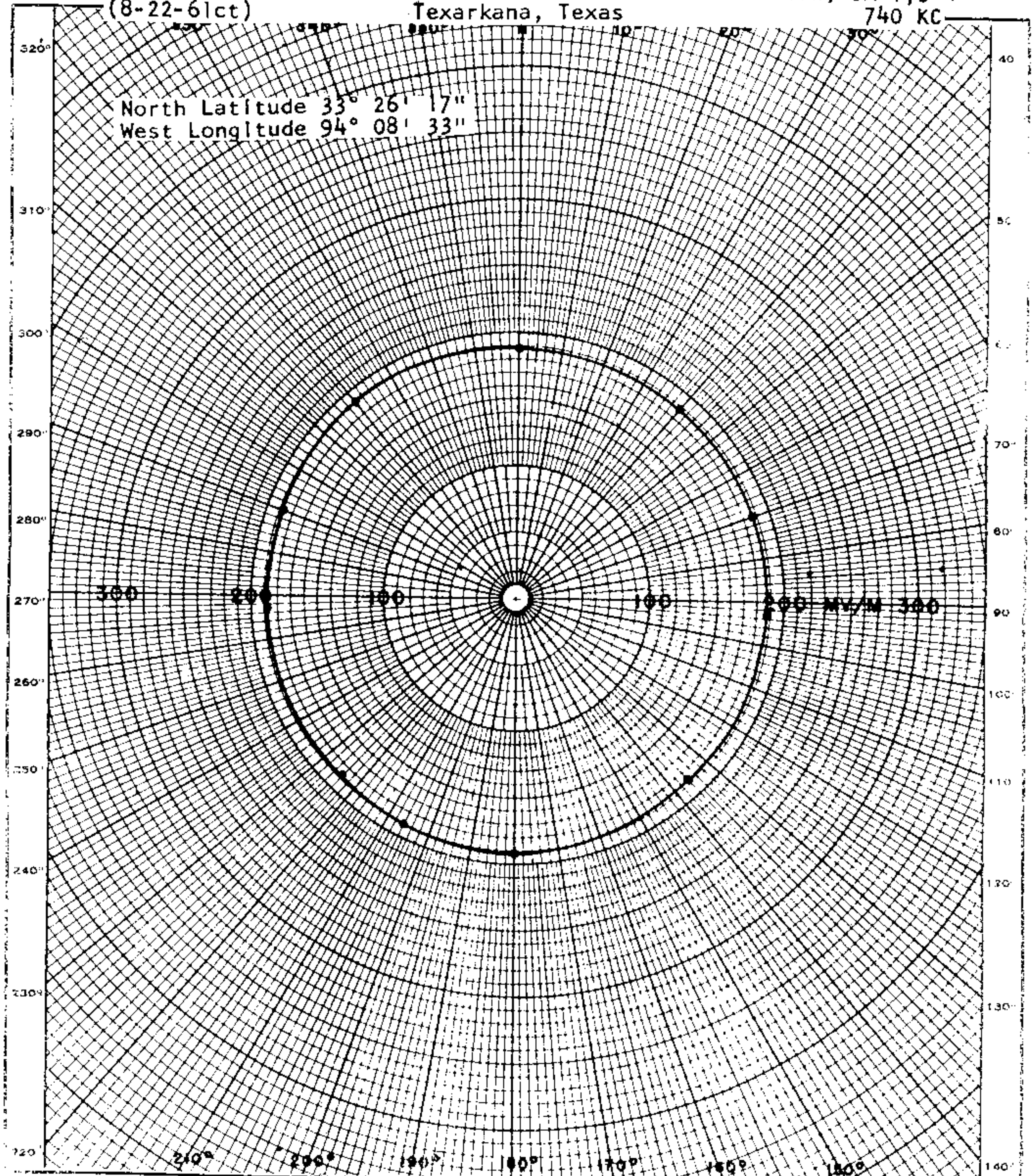
740 KC

KCMC

MEASURED NON-DA
(8-22-61ct)

KCMC
Texarkana, Texas

1kw, DA-1,U
740 KC



S=192°=709.8 FT.   G'S=81.2°=300 FT.

DETUNED ③←S→② ND TOWER←S→① DETUNED ----N→

J. G. ROUNTREE
CONSULTING ENGINEER
P. O. BOX 9044
AUSTIN 17, TEXAS

KCMC, INC.
TEXARKANA, TEXAS
MEASURED ND PATTERN

FIGURE 2A

RMS = 188 MV/M

610630

FCC File No. BL-8603
Accepted 8-16-61

KCMC
Texarkana, Texas

740 KC

Regranted CP 3/20/57

PHOENIX, ARIZ

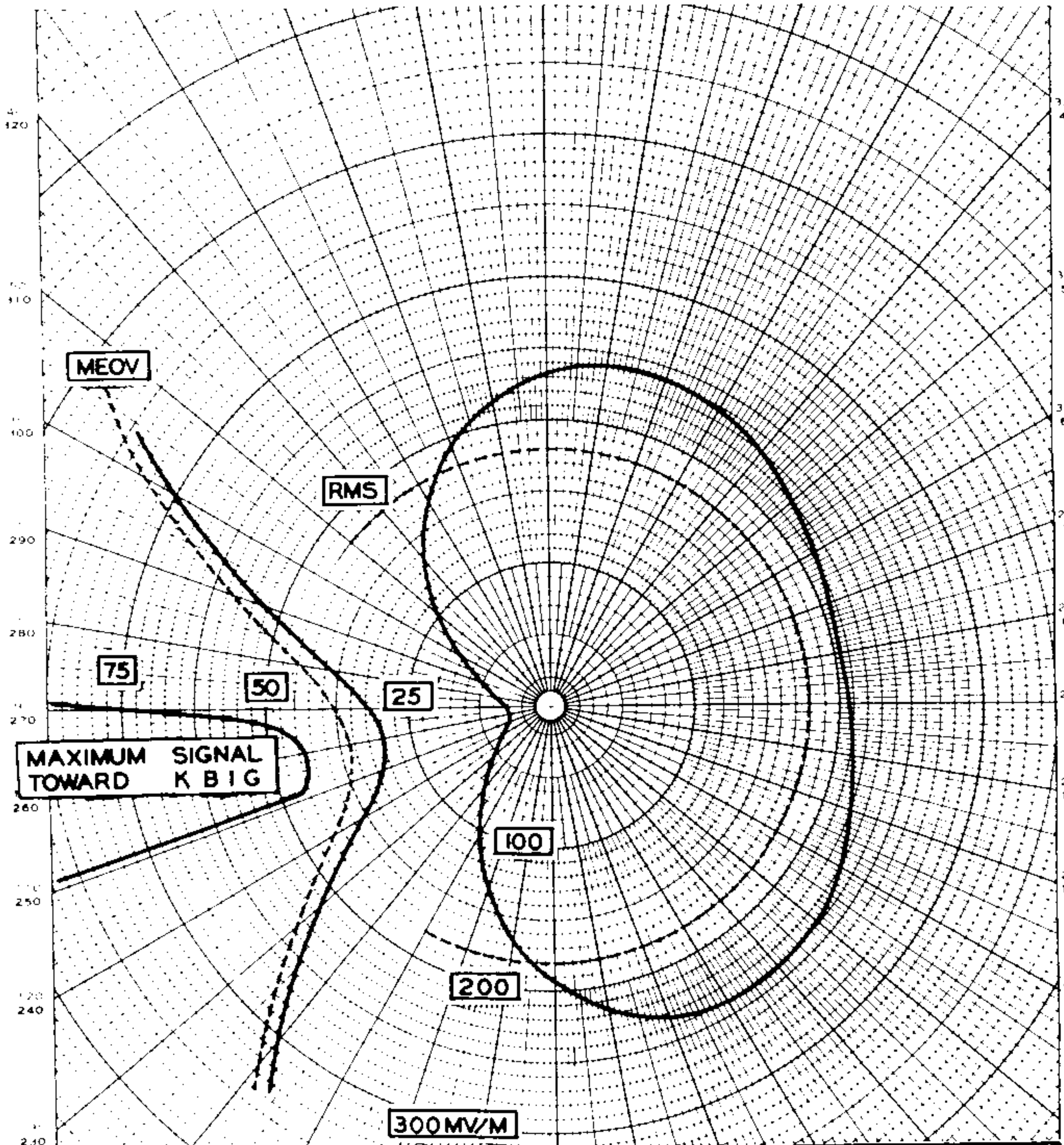
KMEO ~~KUEQ~~

PROPOSED
DAY (7-11-56g)

Q. BROADCASTING CO., INC.
PHOENIX, ARIZ.

1 KW
DA-D, D

740 KC



LATITUDE: 33°22′55″ N
LONGITUDE: 112° 6′ 30″ W

DAWKINS ESPY
CONSULTING
RADIO ENGINEER
BEVERLY HILLS
CALIF.
6/8/56

G = 76°

1.0 /0°

120°

442′

0.8 /-54°

N 260° E

RMS = 180.7 MV/M

EXHIBIT V-11

PROPOSED DAYTIME HORIZONTAL RADIATION PATTERN

740 KC 1000-D(DA)

Q BROADCASTING CO.

PHOENIX, ARIZONA

740 KC

FCC File No. BP, 10,178
(Amended)

Accepted 7-5-56

Q. Broadcasting Co., Inc.
Phoenix, Ariz.

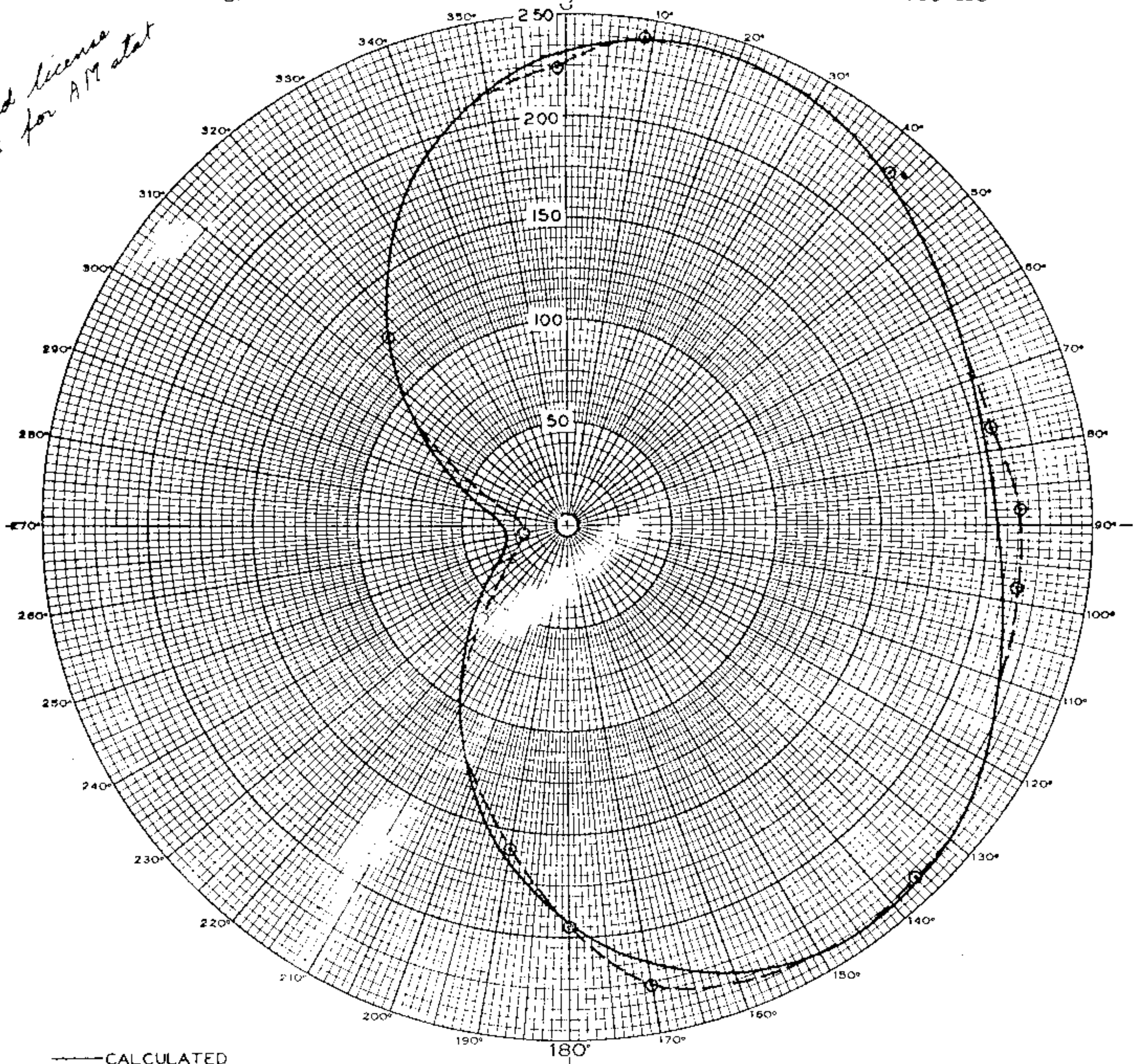
KTEC ~~KUEQ~~

MEASURED DAY
(3-3-58g)

Station KUEQ
Pheonix, Arizona

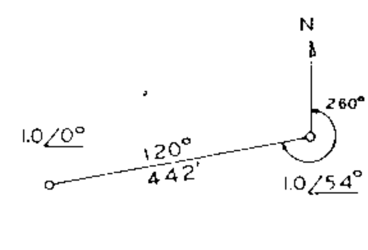
1kw, DA-D,D
740 KC

Granted license 3/26/58 for AM stat



——CALCULATED
– – –MEASURED

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No	ELECTRICAL HEIGHT G°	TRUE TOWER ORIENTATION Φ°	SPACING S°	PHASING ψ°	HORIZONTAL FIELD mv/m f	FIELD RATIO F	ELEV ANGLE θ°	ELEVATION RMS FIELD mv/m Eθ
1	76	—	—	0		1.0	0	181
2	76	260	120	-54°		1.0	10	
3							20	
4							30	
5							40	
6							50	
7							60	
8							70	
9							80	
10								

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

STATION DATA

CALL	KUEQ
FREQUENCY	740 kc
POWER	1.0 kw
TIME OF OPERATION	DAY
TYPE OF OPERATION	DA-D
DAYTIME TOWERS	2
NIGHTTIME TOWERS	—
No. RADIALS PER TOWER	240
LENGTH OF RADIALS	— ft
GROUND SCREEN DIMENSION	—
LAT	33° 21' 55"
LONG	112° 6' 30"
SUPERSEDES	—
PATTERN No	—

Q BROADCAS[illegible] [illegible]PANY INC
NEW 74[illegible] 000-D-(DA)
PHOENIX, ARIZ.

FIGURE 6 C

MEASURED (DIRECTIONAL)
HORIZONTAL RADIATION
PATTERN

DAWKINS ESPY
CONSULTING RADIO ENGINEERS
BEVERLY HILLS, CALIF.
JANUARY 2, 1958

FCC File No. BL-7012
Accepted 2-25-58

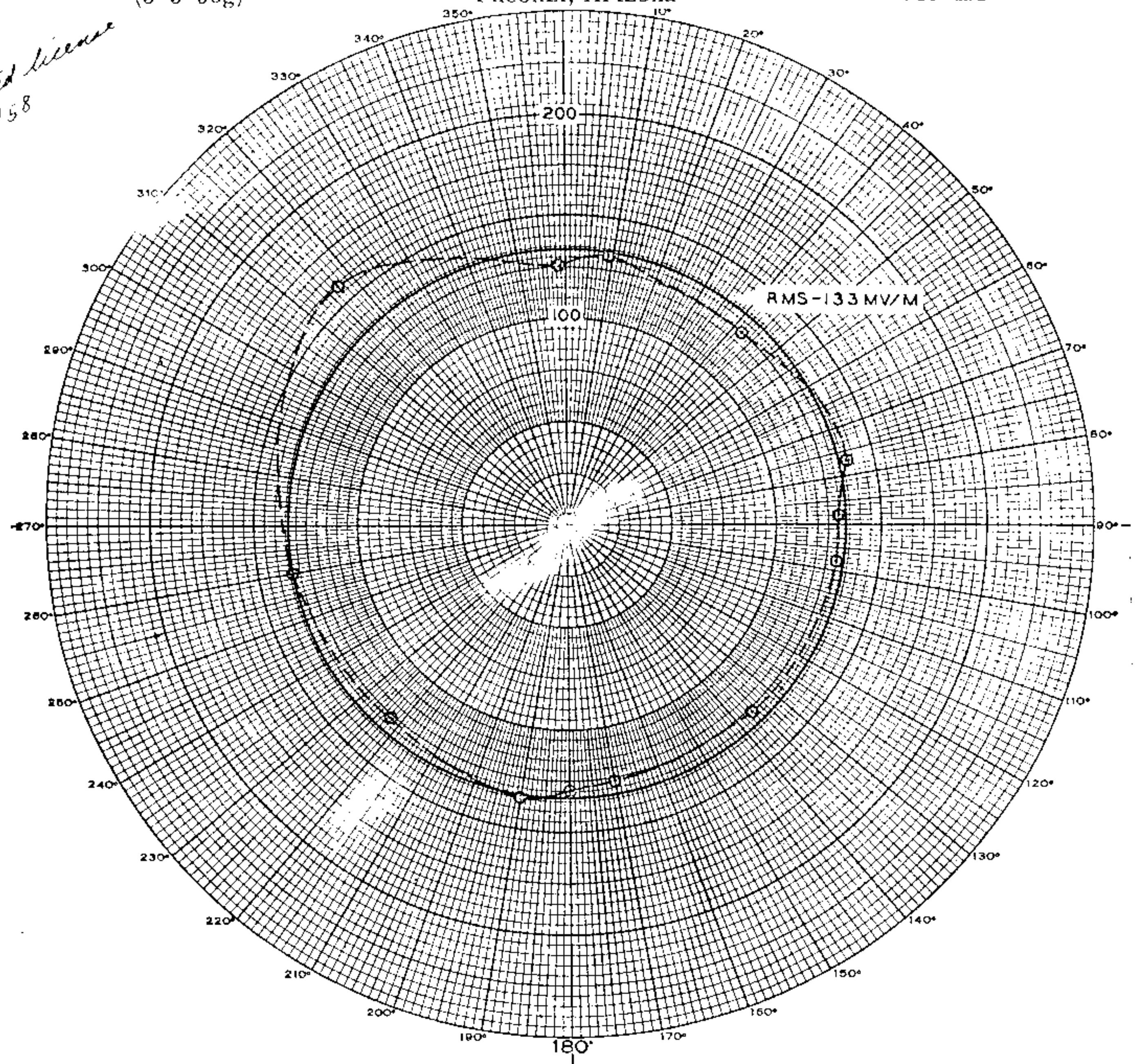
KUEQ
Pheonix, Arizona

740 KC

KMEU ~~KUEQ~~

MEASURED NON - DA (3-3-58g) Station KUEQ Pheonix, Arizona 1kw, DA-D,D 740 KC

Granted license 3/26/58



MEASURED 500 WATTS

TOWER PLACEMENT SKETCH

PATTERN PARAMETERS

TOWER No.	ELECTRICAL HEIGHT G°	TRUE TOWER ORIENTATION ϕ°	SPACING S°	PHASING ψ°	HORIZONTAL FIELD mv/m E	FIELD RATIO F	ELEV. ANGLE θ°	ELEVATION RMS FIELD mv/m E_θ
1							0	133
2							10	
3							20	
4							30	
5							40	
6							50	
7							60	
8							70	
9							80	
10							E_s =	mv/m
	DAYTIME OPERATION ☒			NIGHTTIME OPERATION ☐			P_r =	kw

STATION DATA

CALL	KUEQ
FREQUENCY	740 kc
POWER	1.0 kw
TIME OF OPERATION	DAY
TYPE OF OPERATION	DA-D
DAYTIME TOWERS	2
NIGHTTIME TOWERS	
No. RADIALS PER TOWER	240
LENGTH OF RADIALS	° ft.
GROUND SCREEN DIMENSION	
LAT.	33 ° 21 ' 55 "
LONG.	112 ° 6 ' 30 "
SUPERSEDES	
PATTERN No.	

Q BROADCAST G COMPANY INC.
NEW 740 _ 1000---D(DA)
PHOENIX, ARIZ.

FIGURE 6 B

MEASURED (NON-DIRECTIONAL) HORIZONTAL RADIATION PATTERN

DAWKINS ESPY
CONSULTING RADIO ENGINEERS
BEVERLY HILLS, CALIF.
JANUARY 2, 1958

FCC File No. BL-7012
Accepted 2-25-58

KUEQ
Pheonix, Arizona

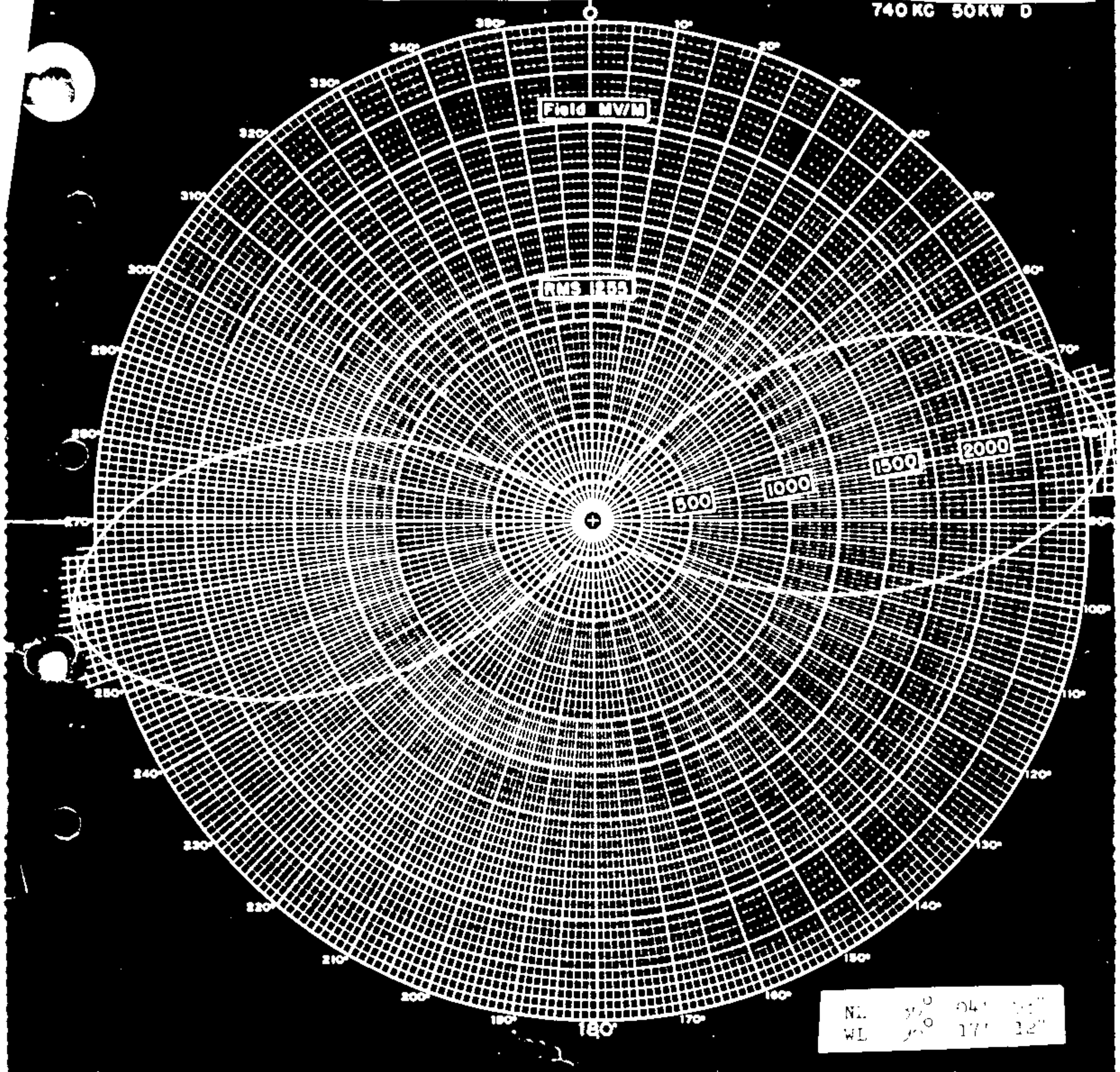
740 KC

PROPOSED DAY

Station ~~KRGM~~ KRMG
Tulsa, Oklahoma

?kw, 50kw-LS, DA-2,U
740 KC

740 KC 50KW D



NL [illegible]° 04' [illegible]"
WL [illegible]° 17' 12"

ALL-OKLAHOMA BROADCASTING CO.
TULSA, OKLAHOMA

Figure 3 A
Series 471103C

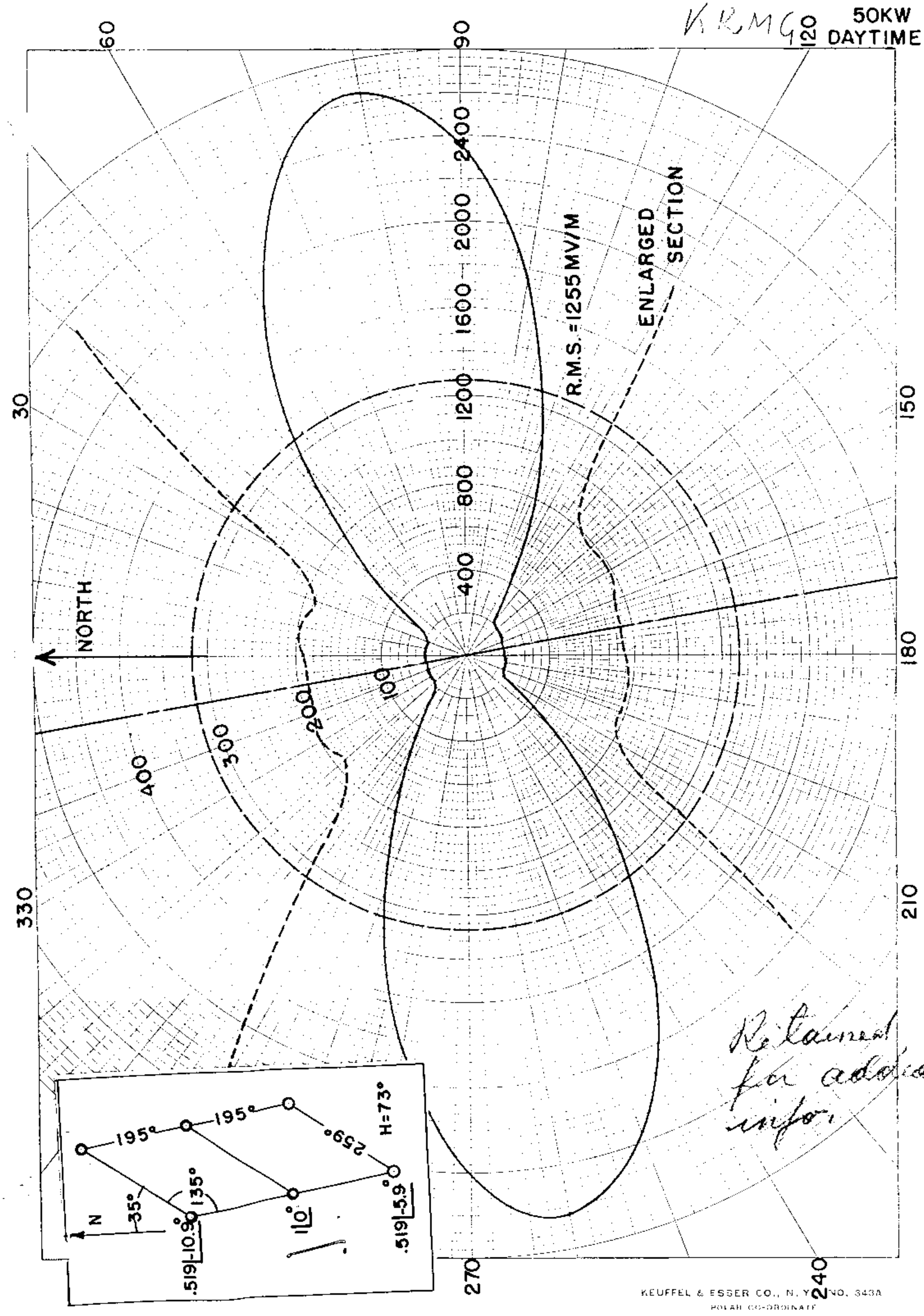
740 KC
50000 WATTS
DAY

SPACING
1-2: 135°
2-3: 135°
H = 73°

PROPOSED
DIRECTIONAL ANTENNA PATTERN

FRANK H. McINTOSH
Consulting Radio Engineer
Washington, D.C.

TULSA - 740KC
50KW
DAYTIME



KRMG

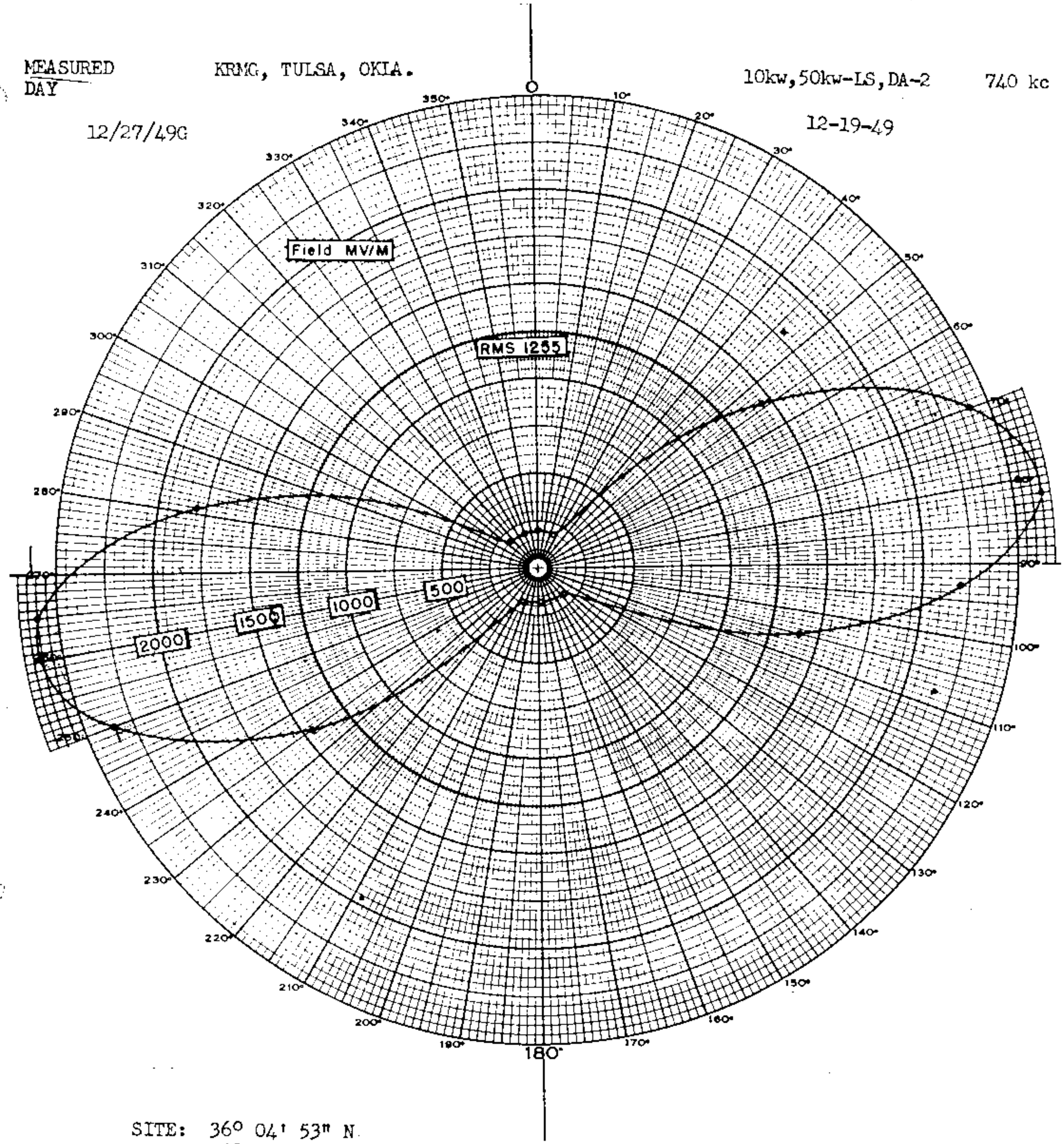
MEASURED DAY

KRMG, TULSA, OKLA.

10kw,50kw-LS,DA-2 740 kc

12/27/49G

12-19-49



SITE: 36° 04' 53" N
96° 17' 12" W

STATION KRMG TULSA, OKLAHOMA	Figure 13 Series C491210 740 KC 50 KW DAY 10 KW NIGHT DA-2
MEASURED DAYTIME DIRECTIONAL PATTERN	McINTOSH & INGLIS *Consulting Radio Engineers* Washington, D.C.

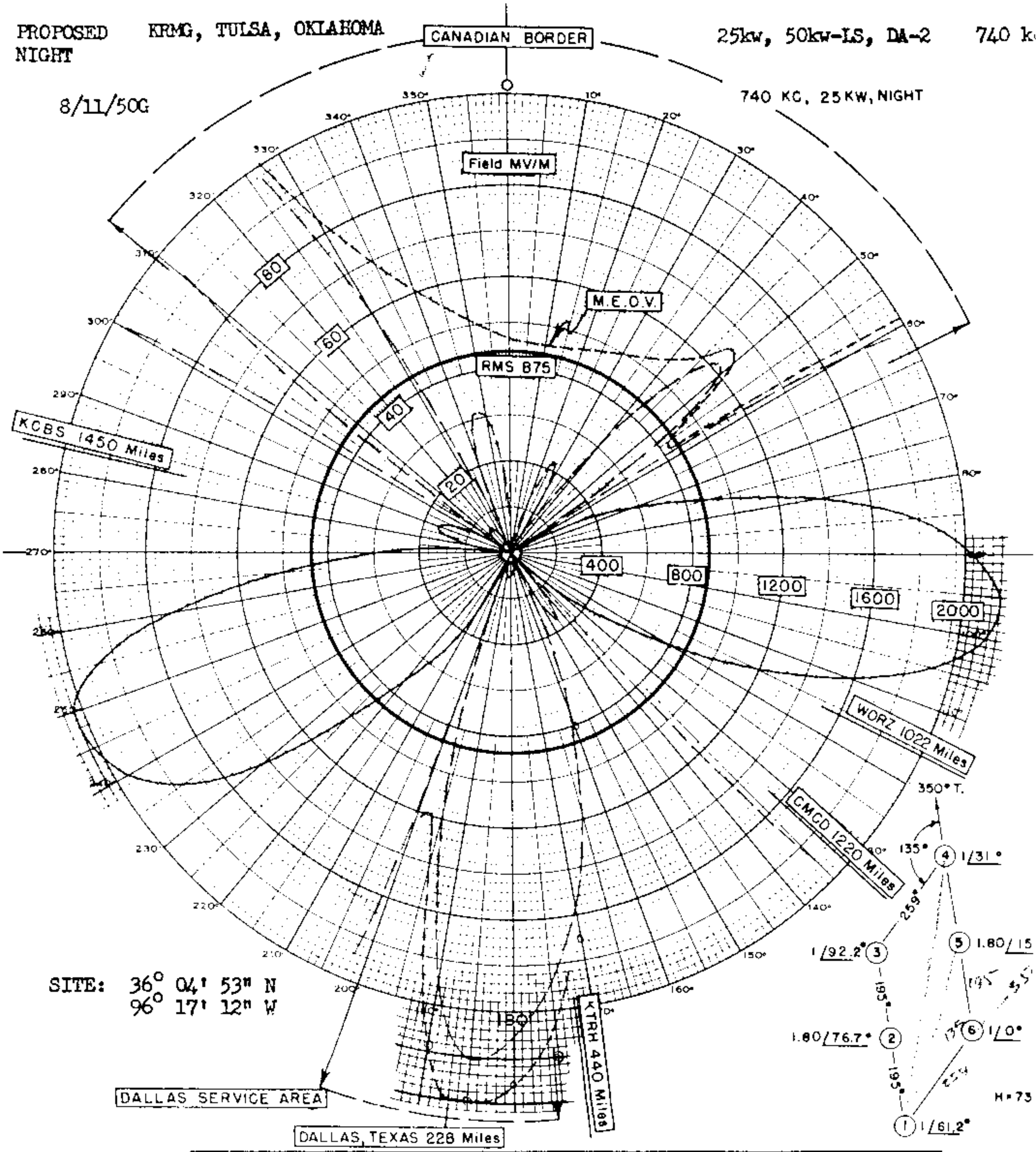
KRMG, Tulsa, Okla. 740 kc

KRMG

PROPOSED KRMG, TULSA, OKLAHOMA
NIGHT

8/11/50G

25kw, 50kw-LS, DA-2 740 k



SITE: 36° 04' 53" N
96° 17' 12" W

ALL-OKLAHOMA BROADCASTING CO. TULSA, OKLAHOMA	Figure 1 Amended Series 0500727 740 KC 25 KW, NIGHT
PROPOSED DIRECTIONAL ANTENNA PATTERN	McINTOSH & INGLIS *Consulting Radio Engineers* Washington, D.C.

AMENDMENT RECD 8-2-50 ACC 8-4-50 BP-7420

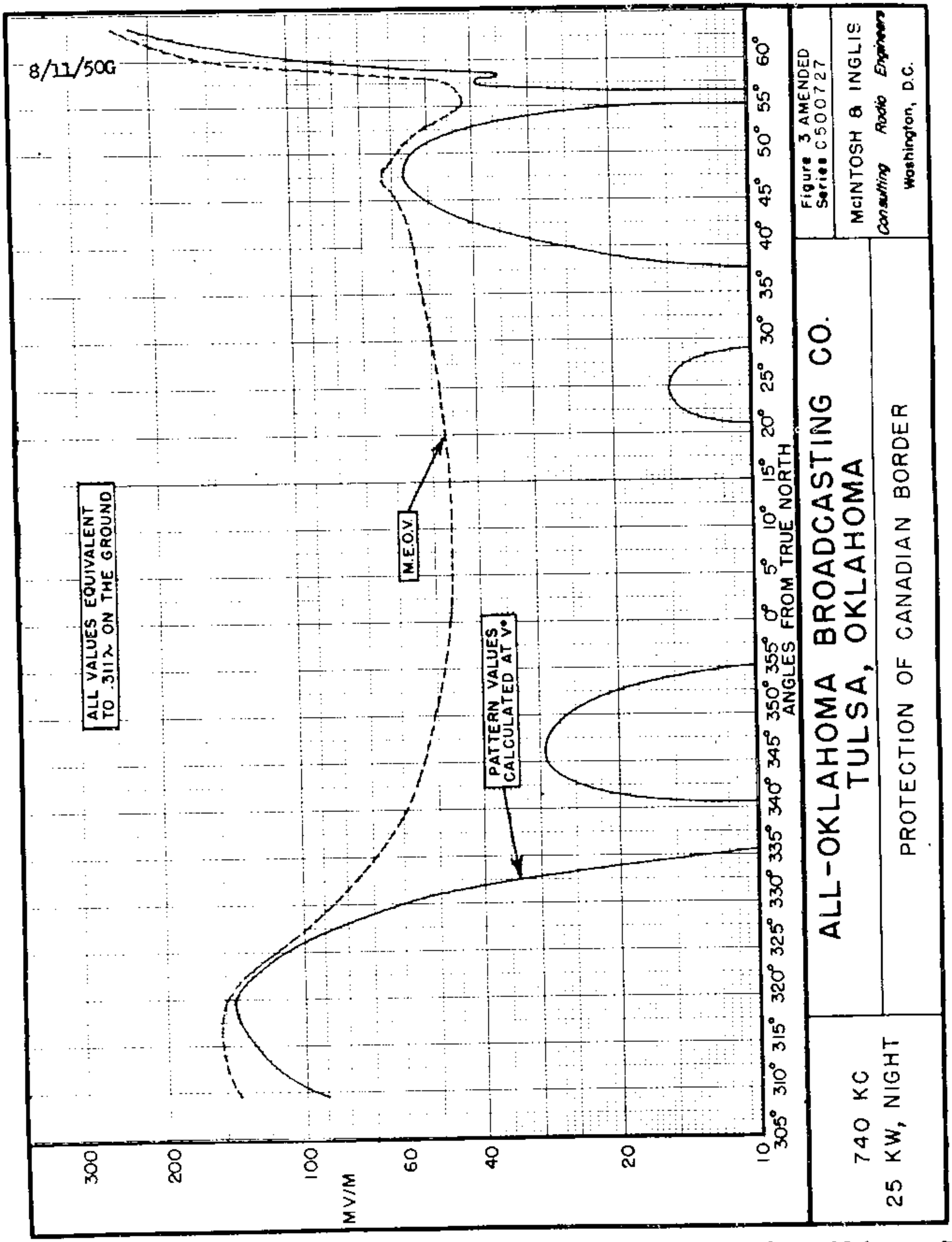
KRMG, Tulsa, Oklahoma 740 k

KRMG

PROPOSED
NIGHT NULLS

KRMG, TULSA, OKLAHOMA

25kw, 50kw-LS, DA-2 740 kc

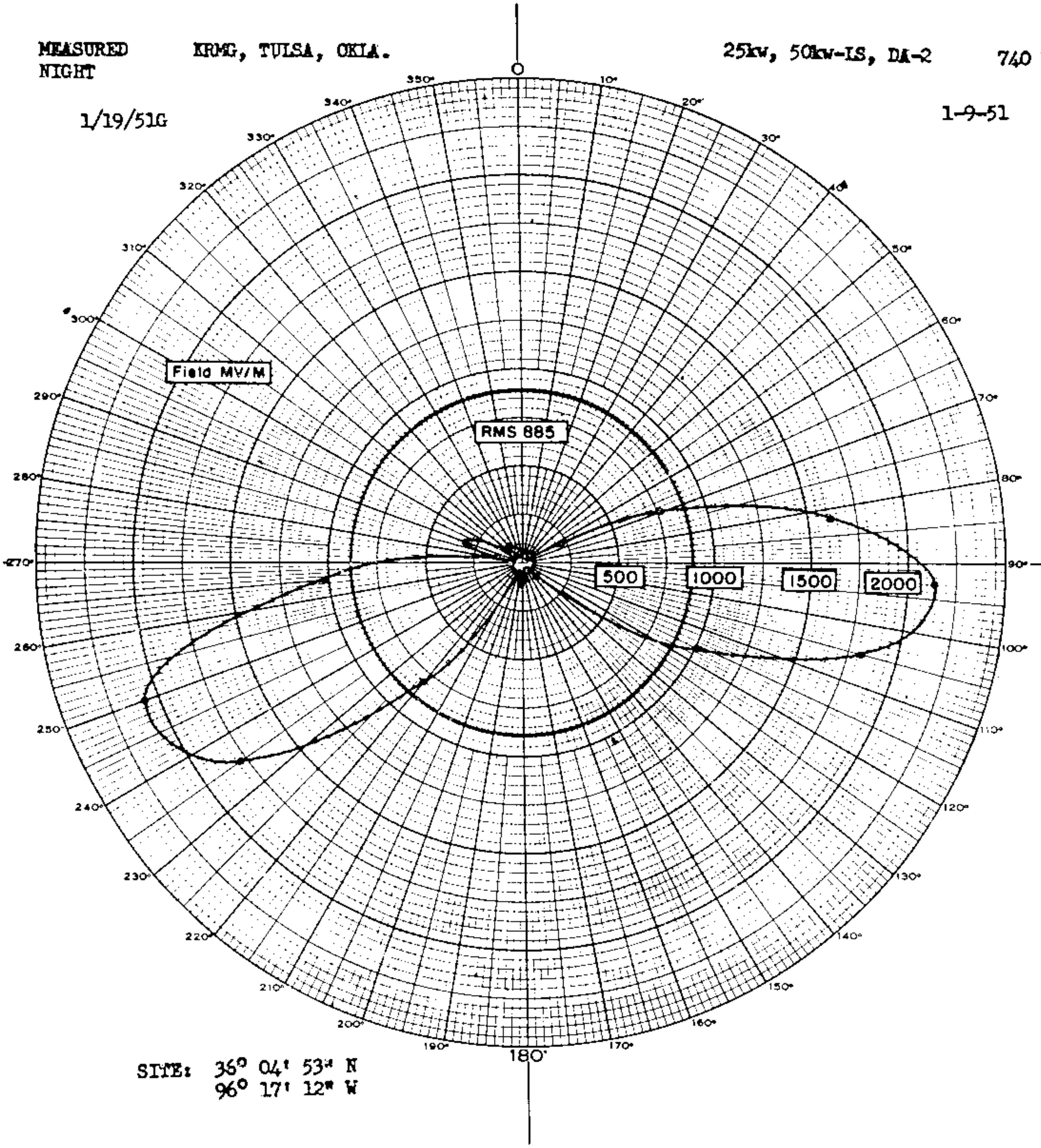


AMENDMENT RECD 8-2-50 ACC 8-4-50 BP-7420

KRMG, Tulsa, Oklahoma 740 k

MEASURED NIGHT KRMG, TULSA, OKLA. 25kw, 50kw-LS, DA-2 740 kc

1/19/51G 1-9-51



SITE: 36° 04' 53" N
96° 17' 12" W

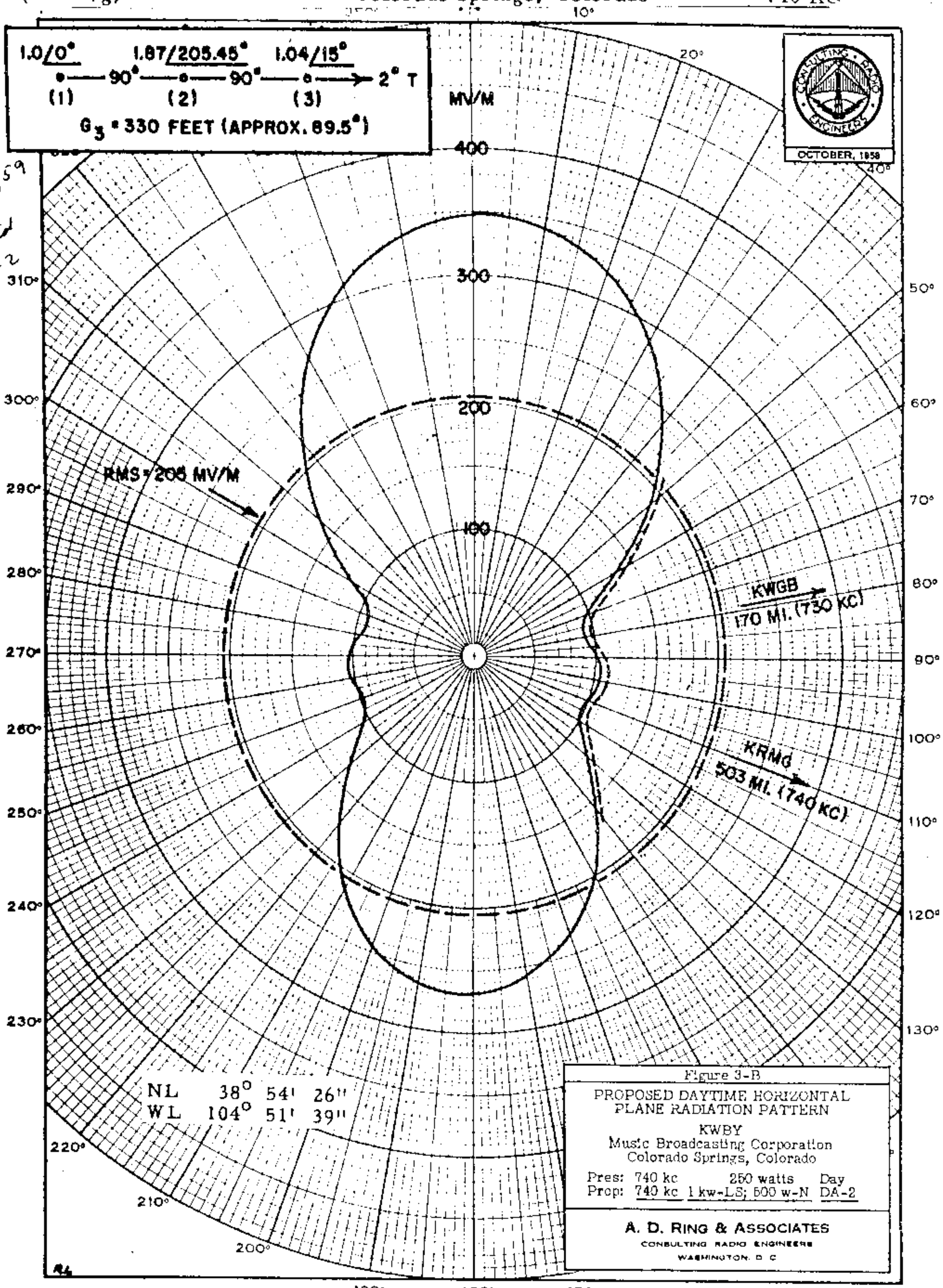
STATION KRMG TULSA, OKLAHOMA	Figure 7B Series C501221 740 KC 50 KW DAY 25 KW NIGHT DA-2
MEASURED NIGHTTIME DIRECTIONAL PATTERN	McINTOSH & INGLIS Consulting Radio Engineers Washington, D.C.

KSSS

PROPOSED DAY
(1-8-59g)

Station KWBY 250w, 1kw-LS, DA-2, U
Colorado Springs, Colorado 740 KC

Granted CP 2/3/59 for increase in power, unlimited time + for DA-2 operation



A. D. RING & ASSOCIATES - 1/56 - M

FCC File No. BP-11,595
Accepted 12-9-58 (Amended)

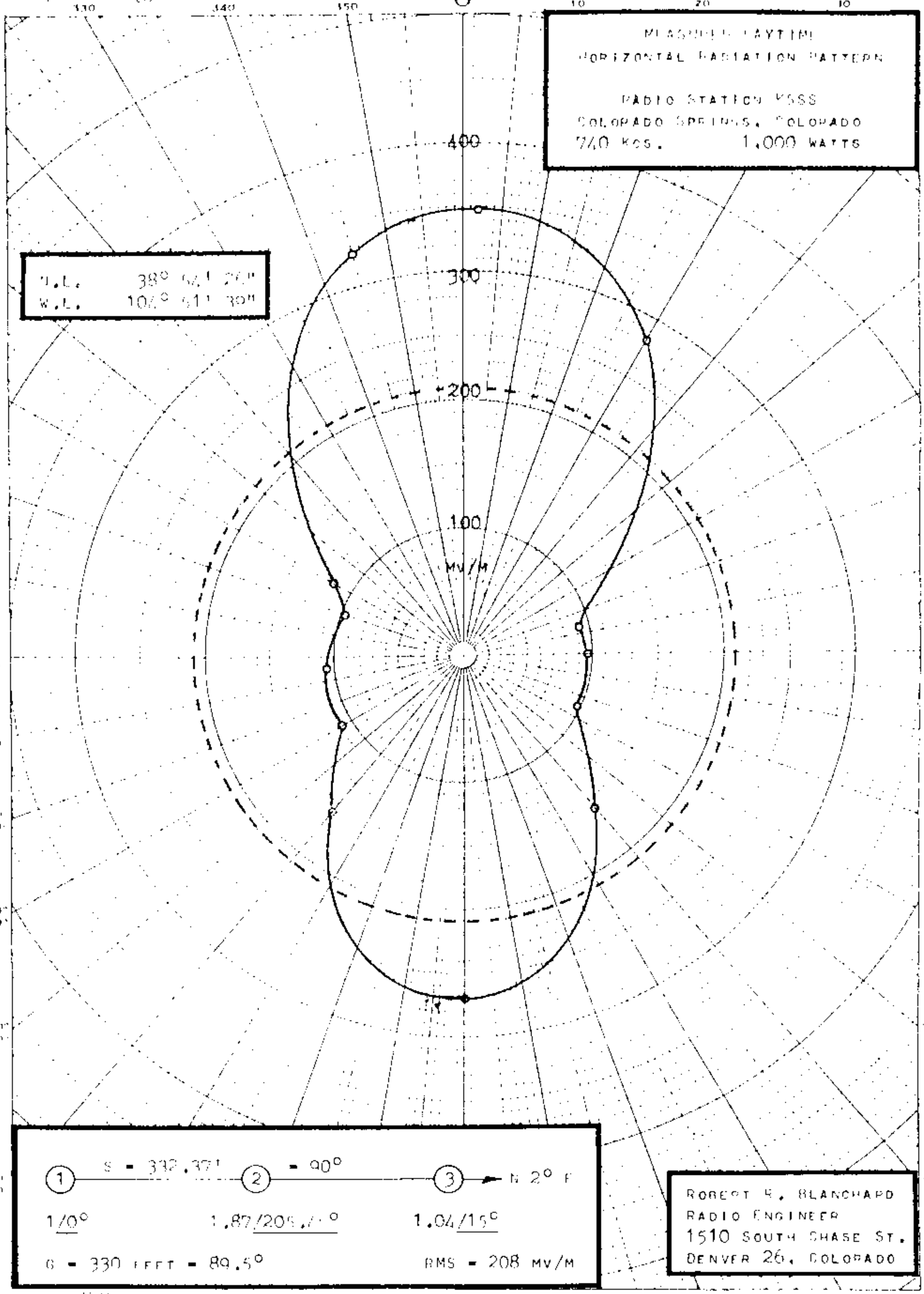
KWBY
Colorado Springs, Colorado 740 KC

KSSS

MEASURED DAY
(2-26-60g)

Station KSSS
Colorado Springs, Colorado

250w, 1kw-LS, DA-2,U 9
740 KC



FCC File No. BL-7810
Accepted 2-9-60

KSSS
Colorado Springs, Colorado

740 KC

KSSS

PROPOSED NIGHT
(12-12-58g)

Station KWBY 250w, 1kw-LS, DA-2, U
Colorado Springs, Colorado 740 KC

Granted CP 2/3/59 for increase in power, unlimited time & for DA-2 operation.

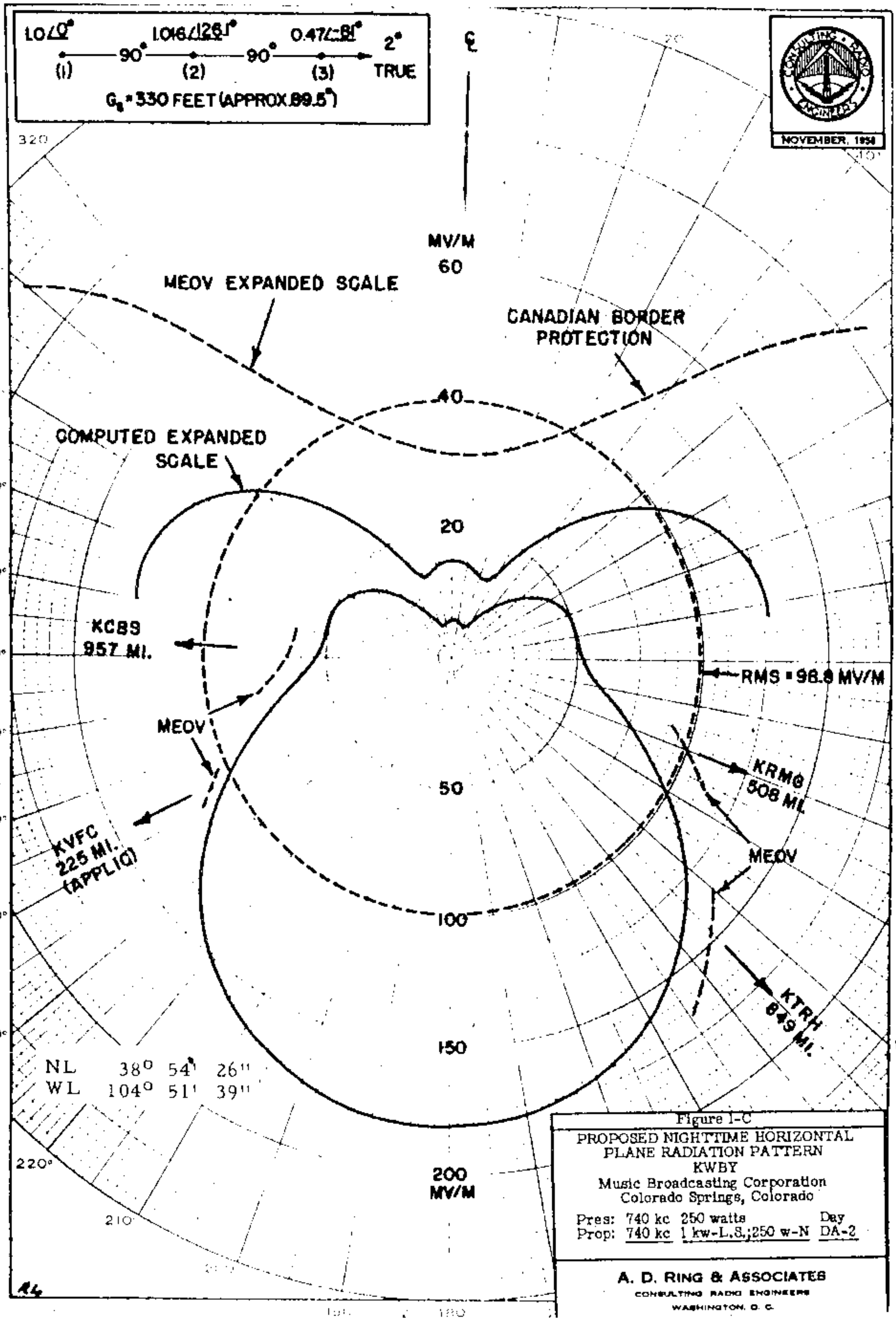


Figure 1-C
PROPOSED NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN
KWBY
Music Broadcasting Corporation
Colorado Springs, Colorado

Pres: 740 kc 250 watts Day
Prop: 740 kc 1 kw-L.S.;250 w-N DA-2

A. D. RING & ASSOCIATES
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.

FCC File No. BP-11595
Accepted 12-2-58 Amended

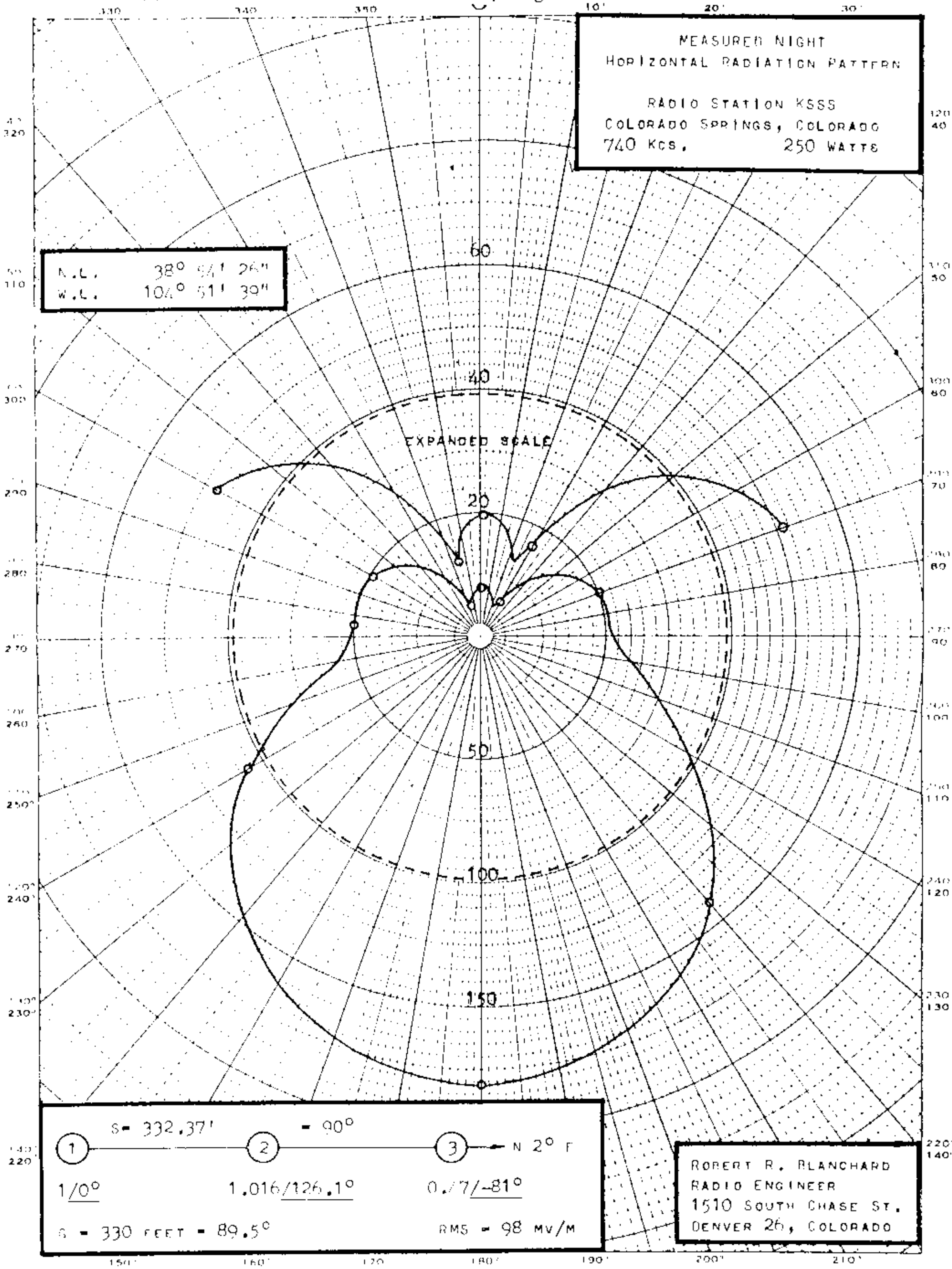
KWBY
Colorado Springs, Colorado 740 KC

KSSS

MEASURED NIGHT
(2-26-60g)

Station KSSS
Colorado Springs, Colorado

250w, 1kw-LS, DA-2,U
740 KC



FCC File No. BL-7810
Accepted 2-9-60

KSSS
Colorado Springs, Colorado

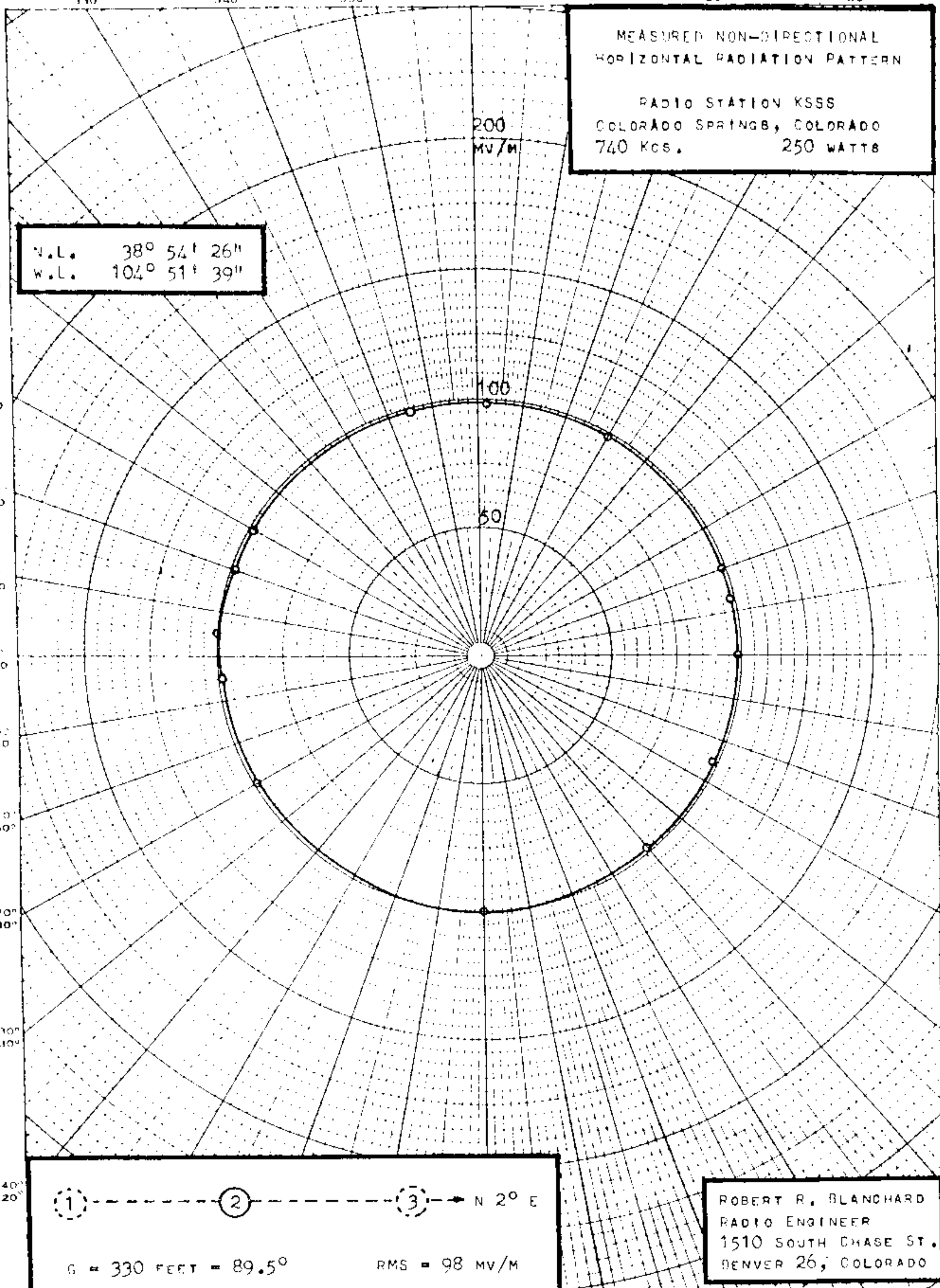
740 KC

KSSS

MEASURED NON-DA
(2-26-60g)

Station KSSS
Colorado Springs, Colorado

250w, 1kw-LS, DA-2,U
740 KC



FCC File No. BL-7810
Accepted 2-9-60

KSSS
Colorado Springs, Colorado

740 KC

KTRH

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station : KTRH — Main Studio: Houston, Texas

Frequency : 740 KHz — Power : 50 kW Night 50 kW Day

Notification : 1780 — Date : Sept. 28, 1979 — Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 29 57 57

West Longitude: 94 56 32

ANTENNA CHARACTERISTICS

Authorized for Nighttime and Daytime operation. (DA-2)
Number of elements: 4
Type of elements : Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER :	S(#1)	WC(#2)	EC(#3)	N(#4)		
HEIGHT ABOVE INSULATORS :	275'	275'	275'	275'	(74.5°)	
NIGHT PHASING :	0°	+73°	+120°	+193°		
NIGHT FIELD RATIO:	1.0	1.0	1.0	1.0		
DAY PHASING :	0°	+60°	+90°	+150°		
DAY FIELD RATIO :	1.0	3.516	2.849	10.016		

SPACING AND ORIENTATION : The towers are located at the vertices of a parallelogram the sides of which are 443' (119.93°) in length on a line bearing 5° true, and 443' (119.93°) in length on a line bearing 55° true.

GROUND SYSTEM : 120 - 330 equally spaced copper radials plus a 24' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of system are bonded together.

KTRH

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

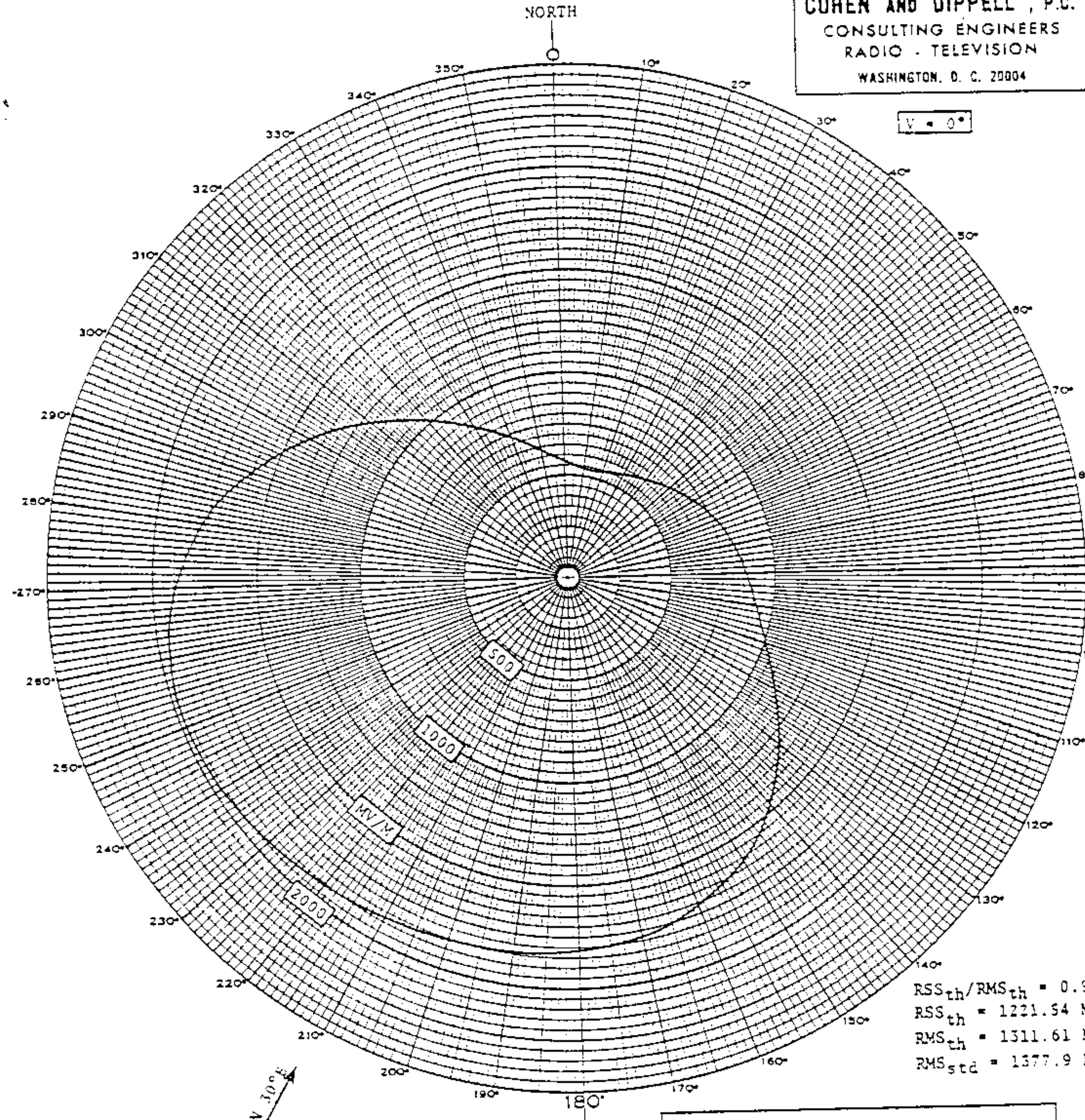
	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	1311.61 mV/m	1221.54 mV/m	1377.9 mV/m
Night	1250 mV/m	mV/m	mV/m

Note:

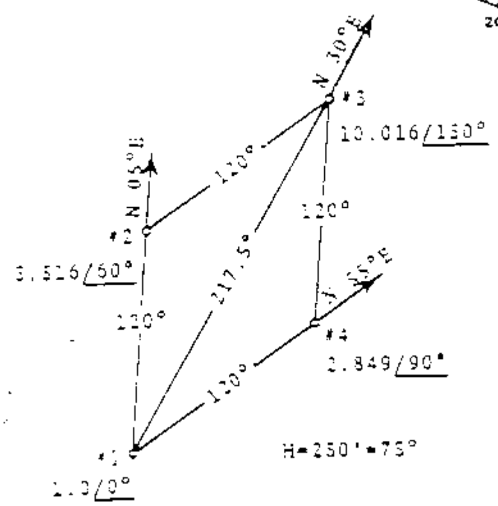
KTRH

COHEN AND DIPPELL , P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 0°



RSS_{th}/RMS_{th} = 0.93
RSS_{th} = 1221.54 MV/M
RMS_{th} = 1311.61 MV/M
RMS_{std} = 1377.9 MV/M



STANDARD RADIATION PATTERN

HORIZONTAL PLANE

FOR THE PROPOSED DAYTIME OPERATION

KTRH, HOUSTON, TEXAS

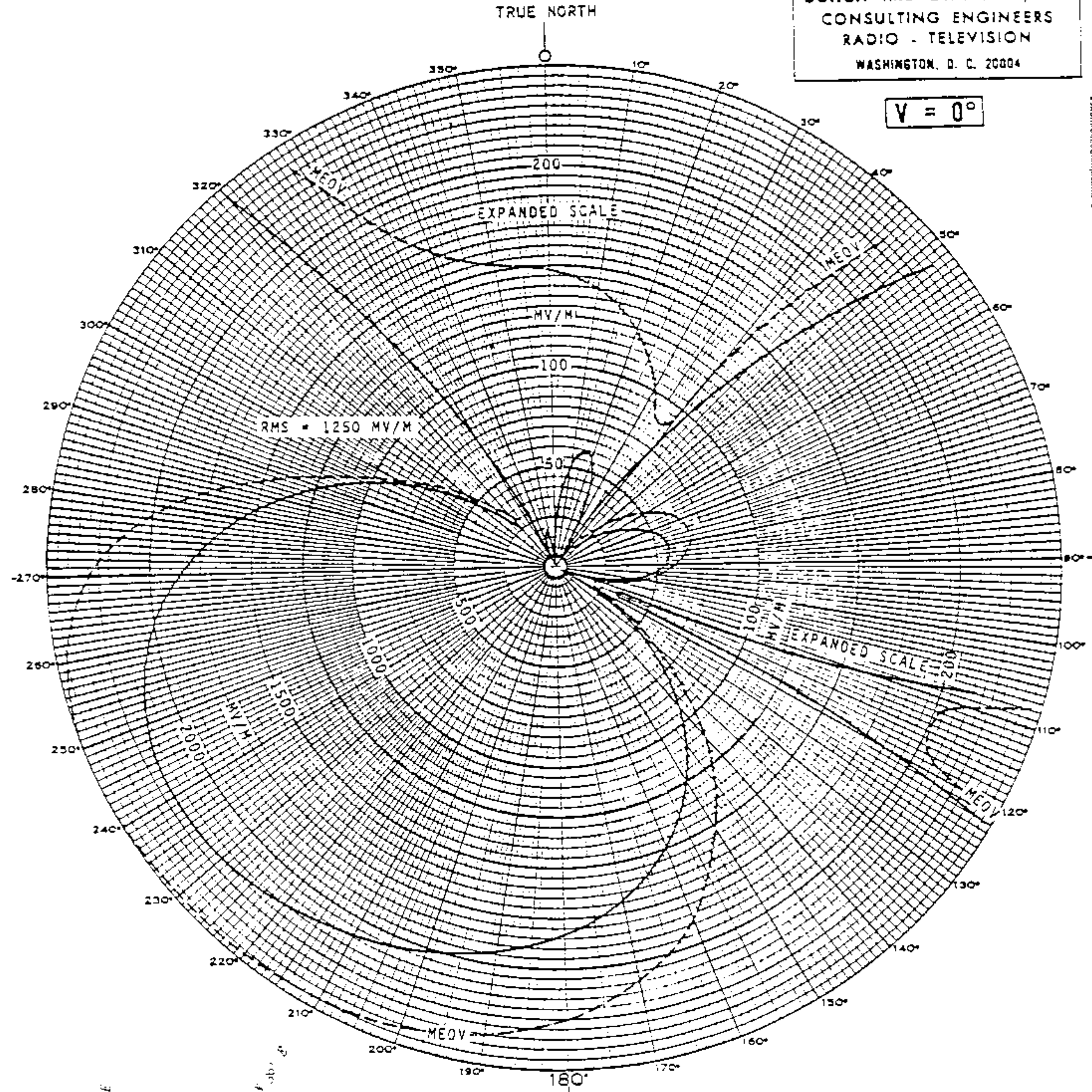
740 KHz 50 KW DA-2 U

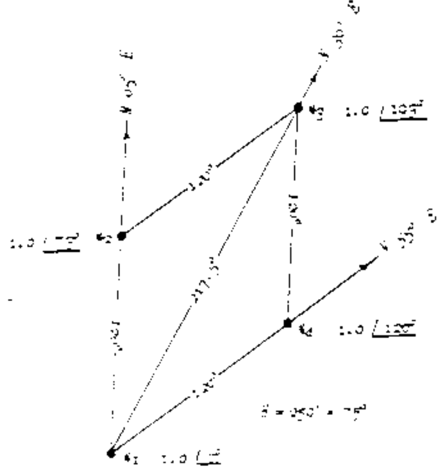
OCTOBER 1977

KTRH

COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 0°





COMPUTED HORIZONTAL
PLANE RADIATION PATTERN
UNATTENUATED FIELD AT ONE MILE
FOR THE PROPOSED NIGHTTIME OPERATION OF
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

N.L. 29° 57′ 56.6″
W.L. 94° 56′ 32″

KTRH

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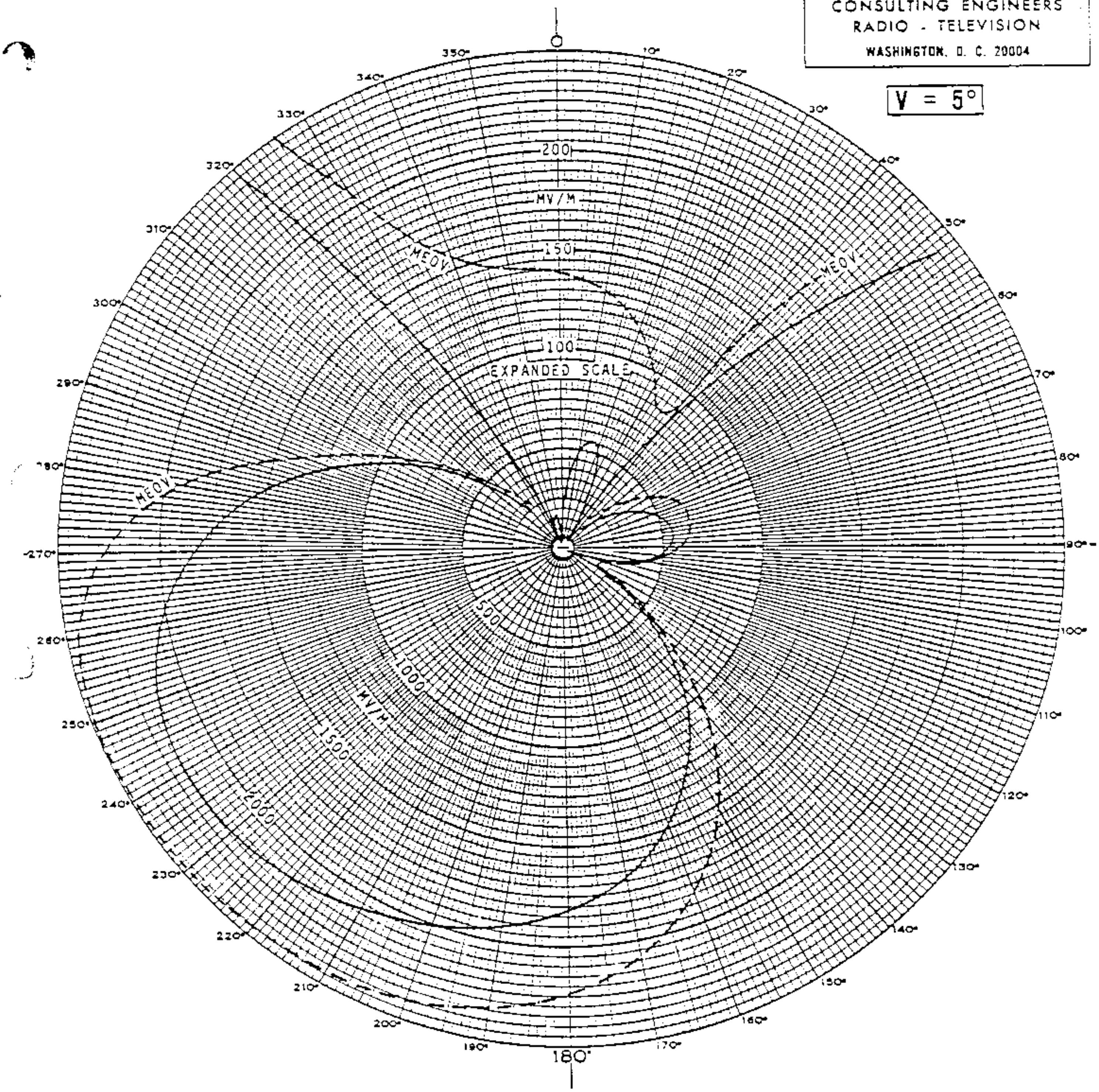
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 5°

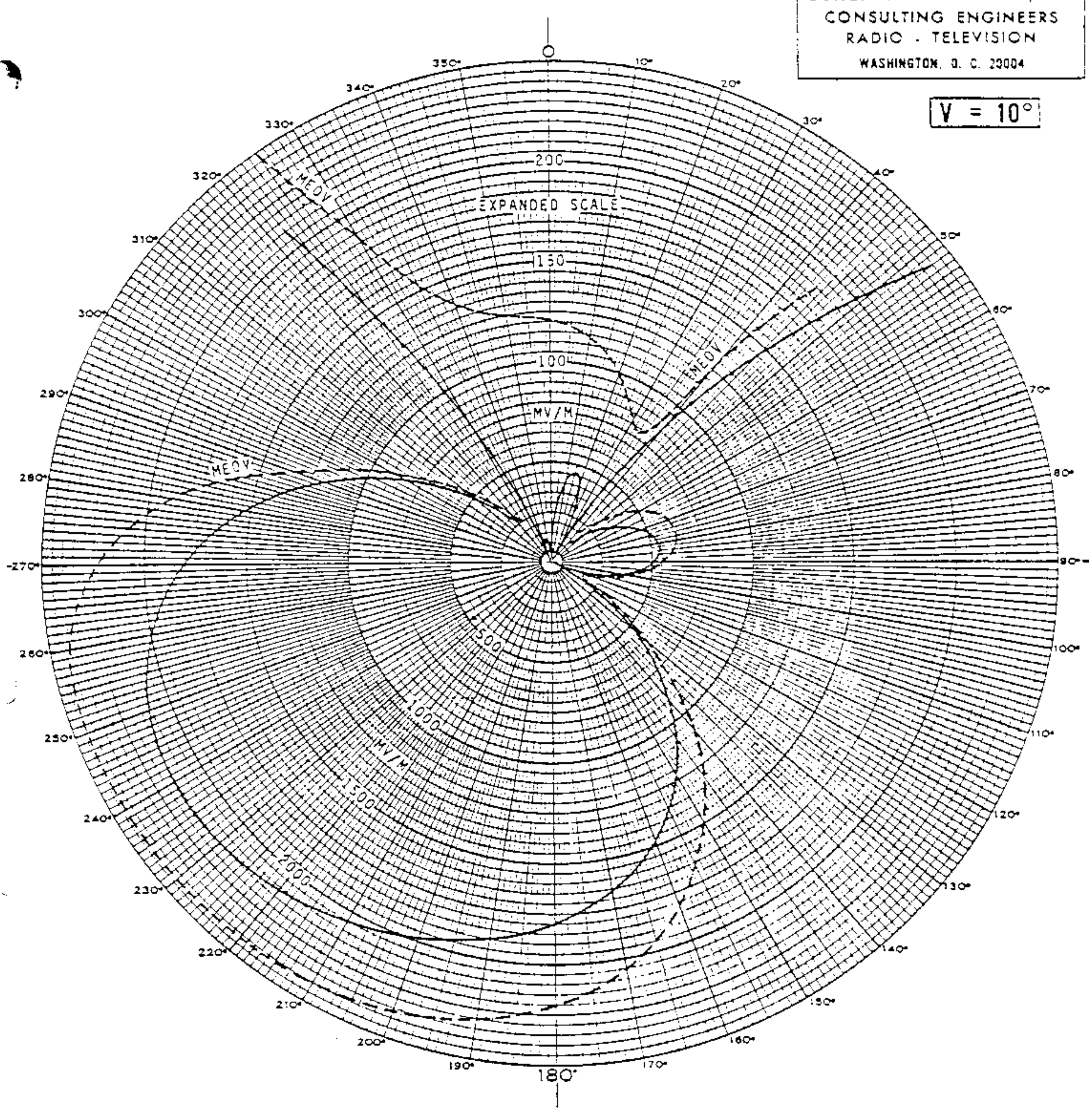


COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

KTRH

COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 10°



COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

KTRH

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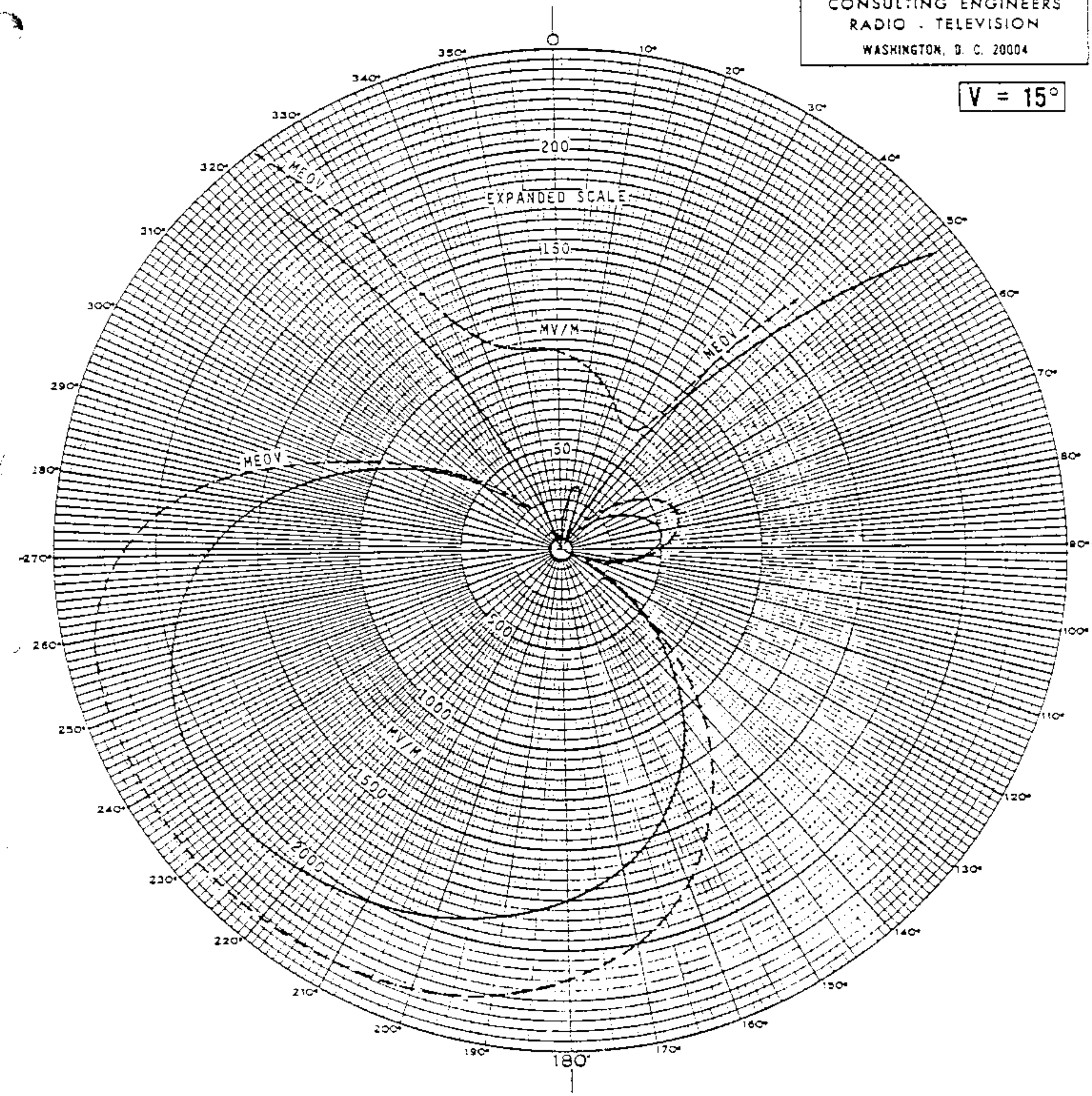
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 15°

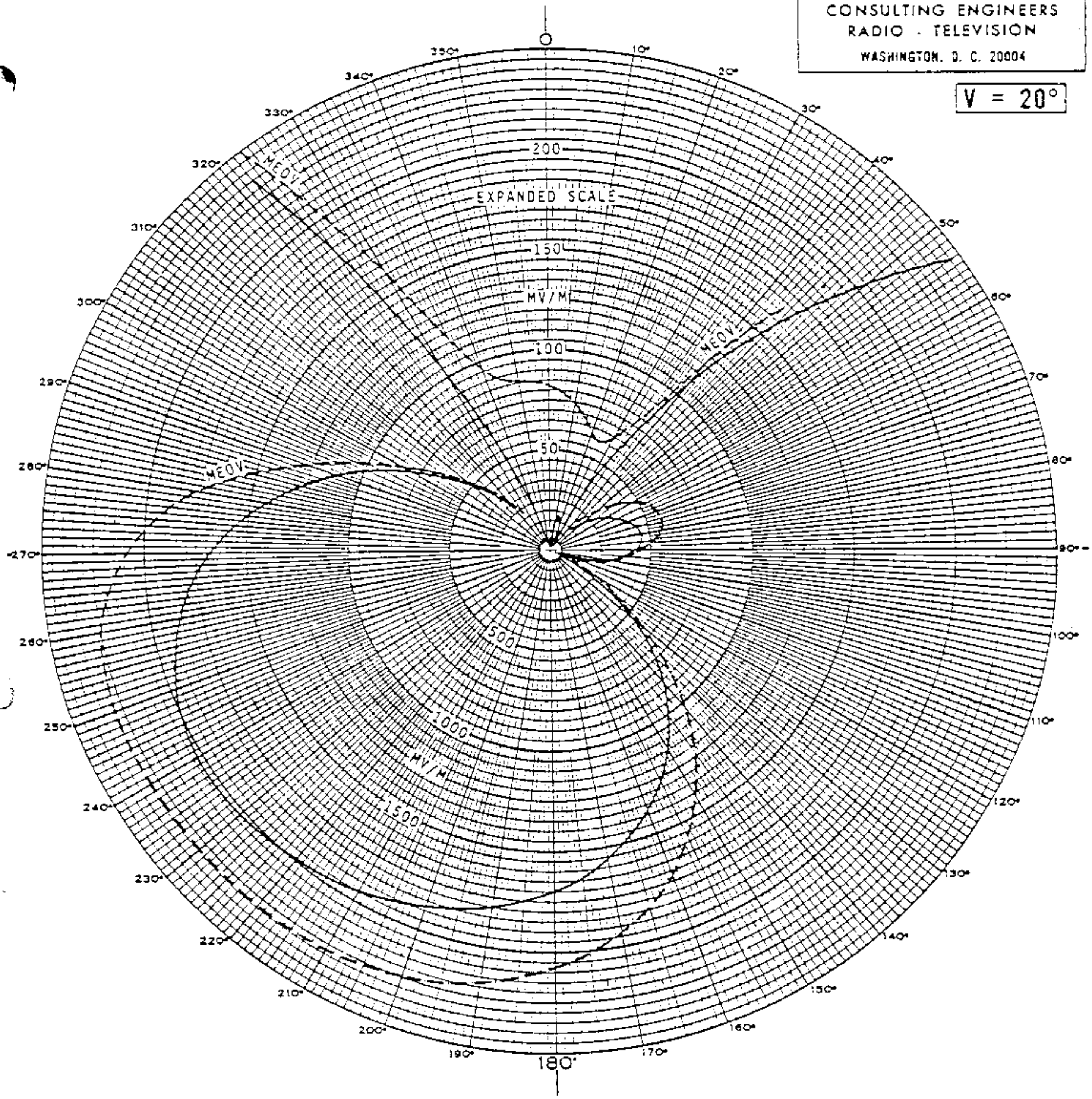


COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

KTRH

COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 20°



COMPUTED RADIATION PATTERN

VERTICAL PLANE

FOR THE PROPOSED NIGHTTIME OPERATION

KTRH, HOUSTON, TEXAS

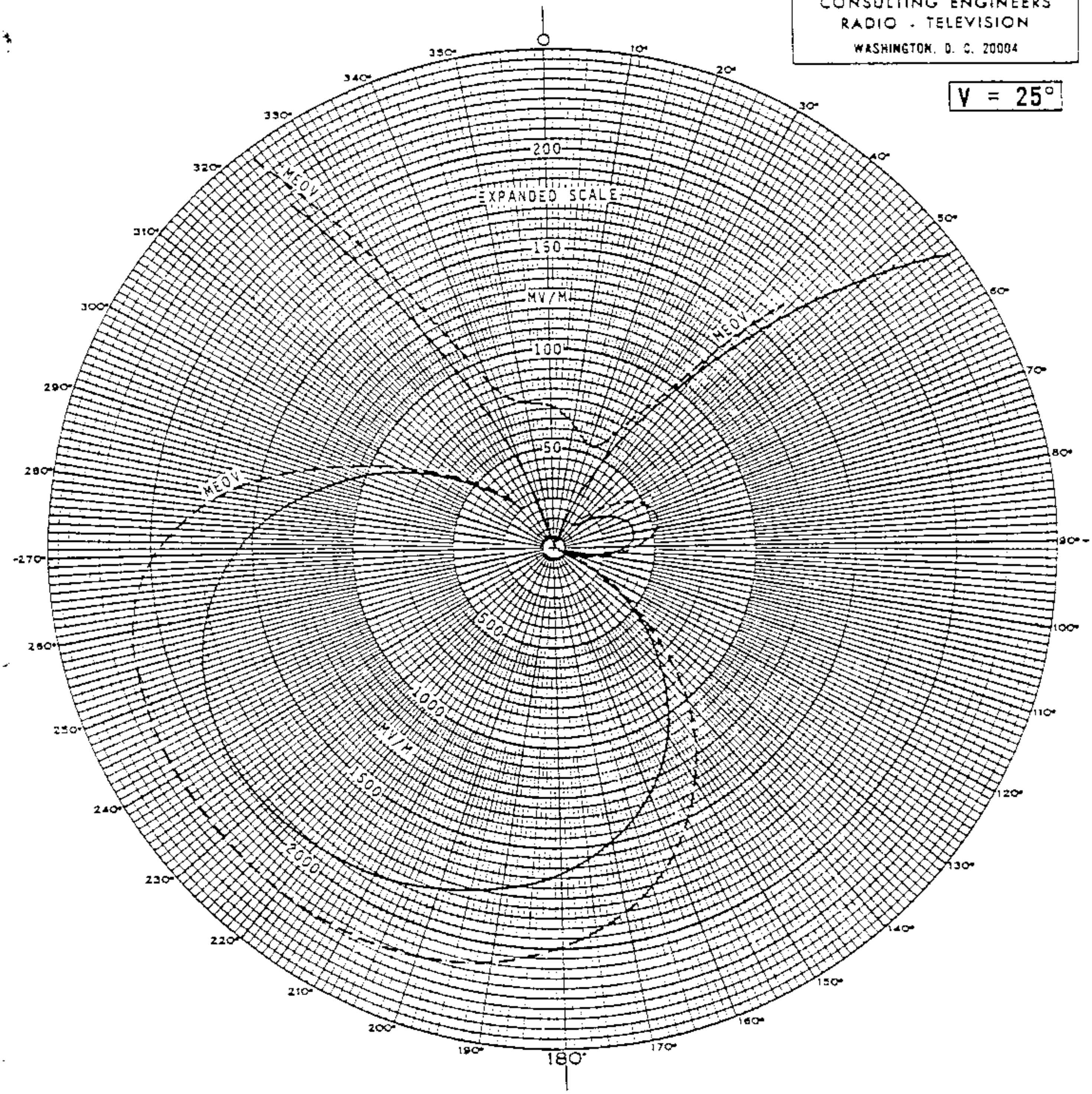
740 kHz - 50 KW - DA-2 U

APRIL 1979

KTRH

COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 25°

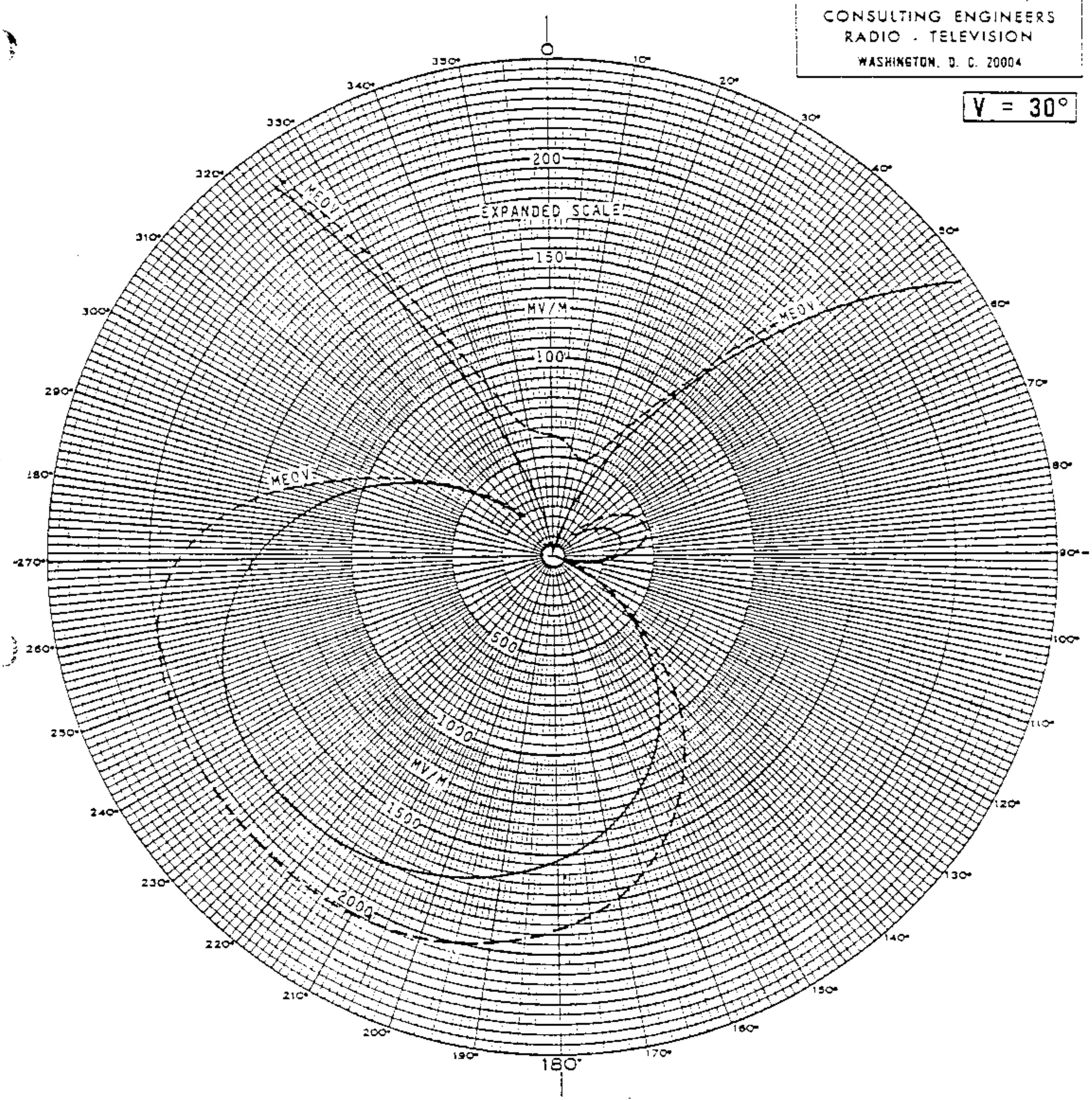


COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

KTRH

COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 30°



COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

KTRH

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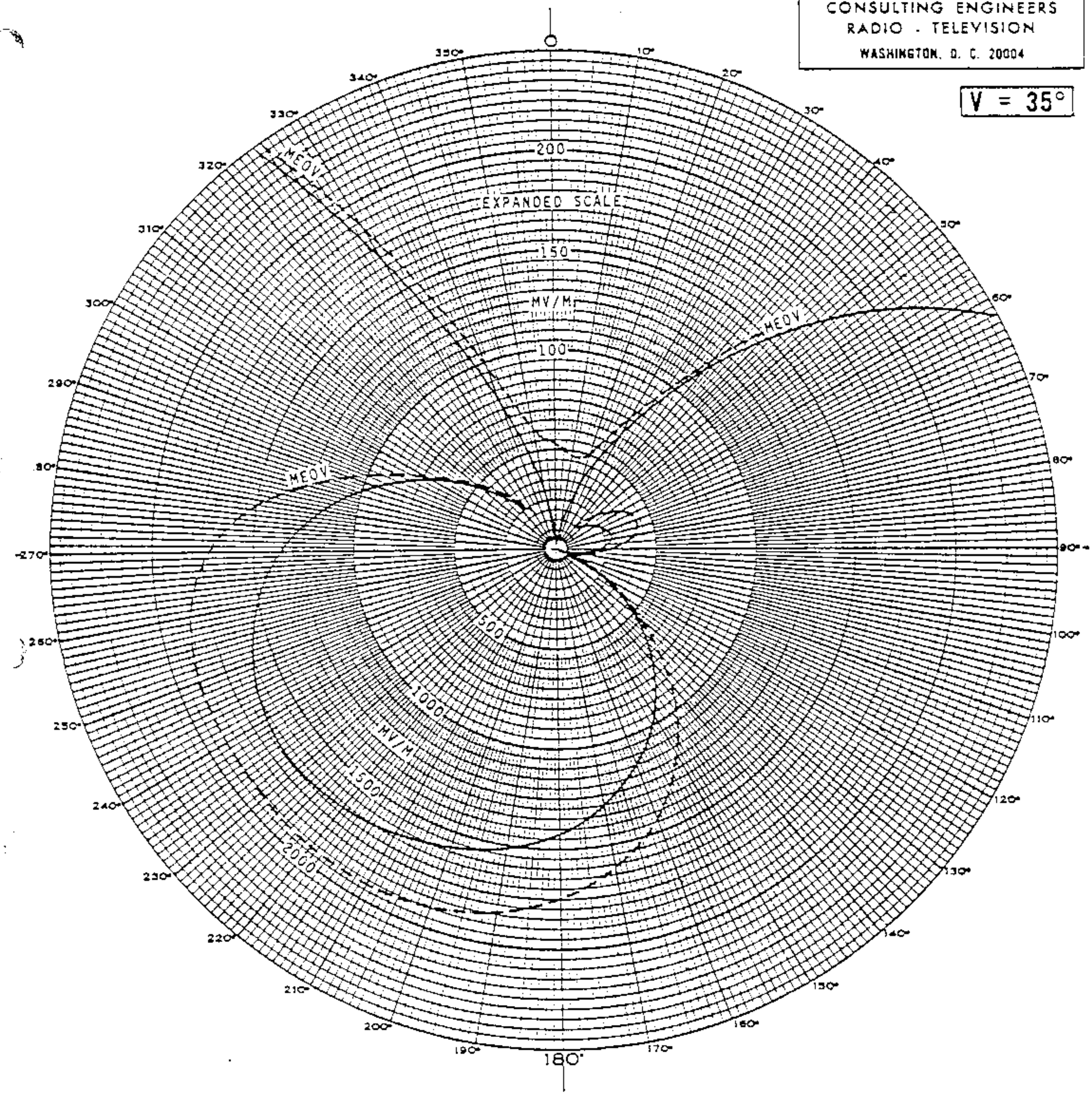
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 35°



COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

KTRH

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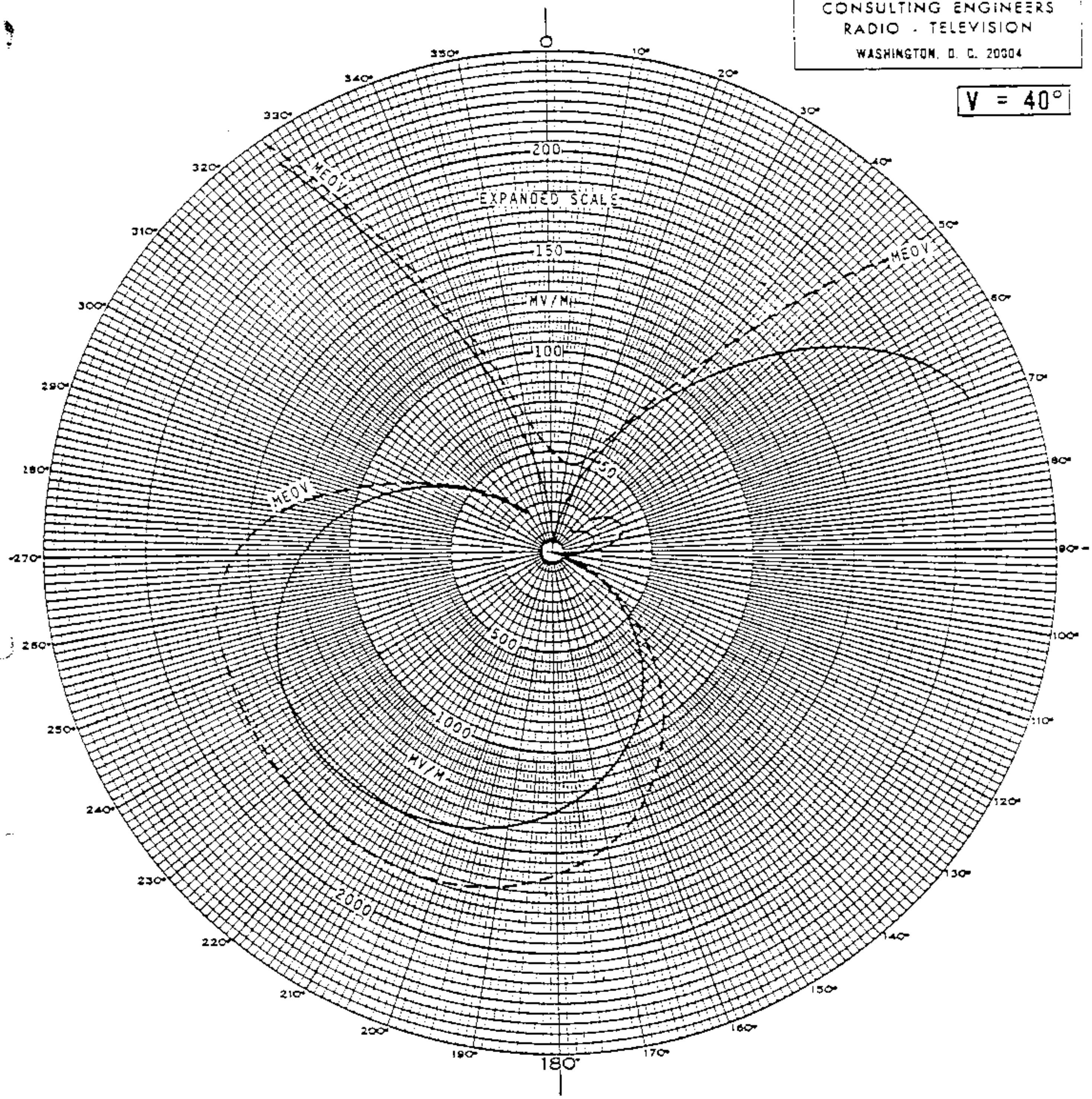
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 40°

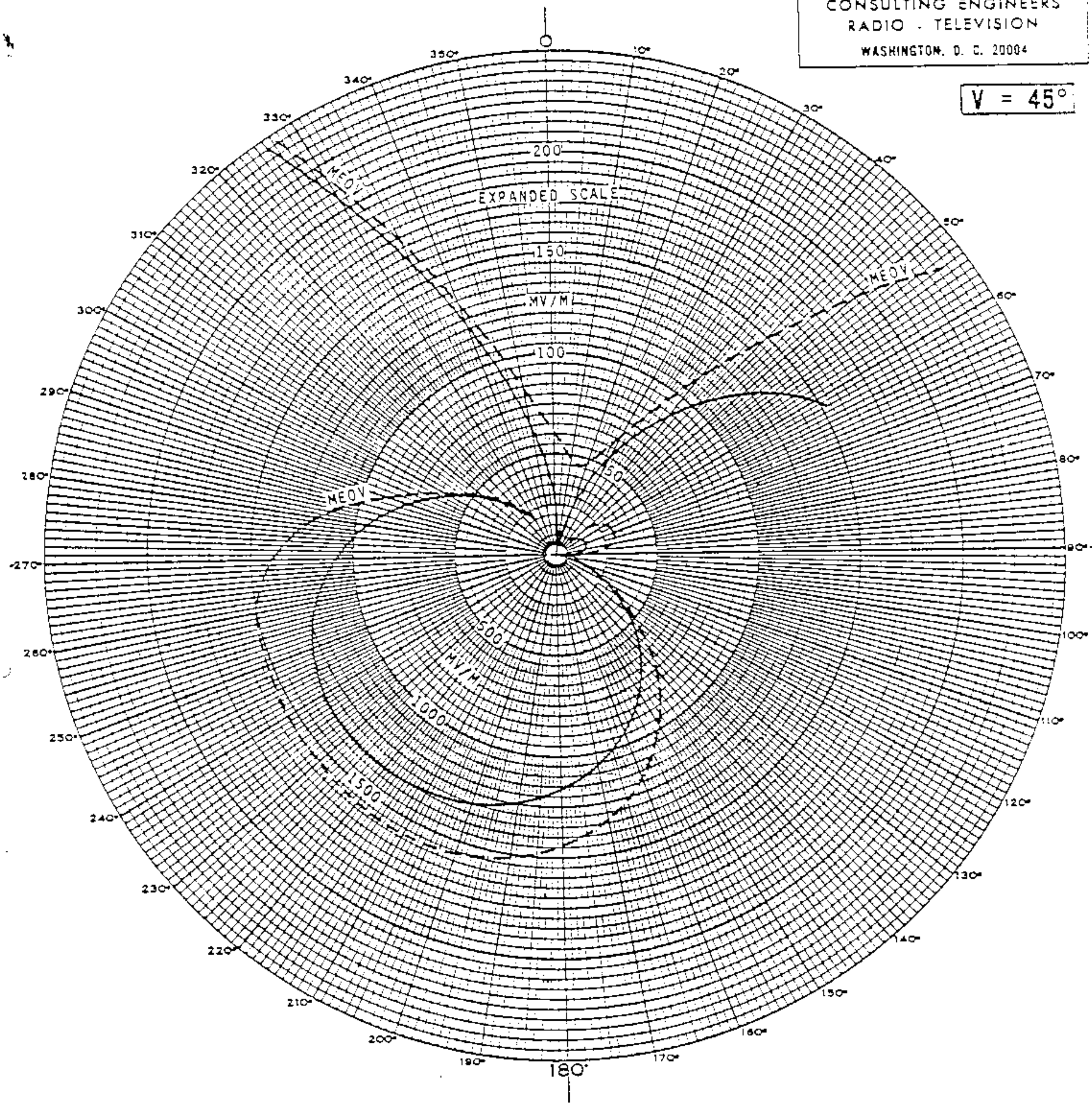


COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

KTRH

COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 45°



COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

K.TRH

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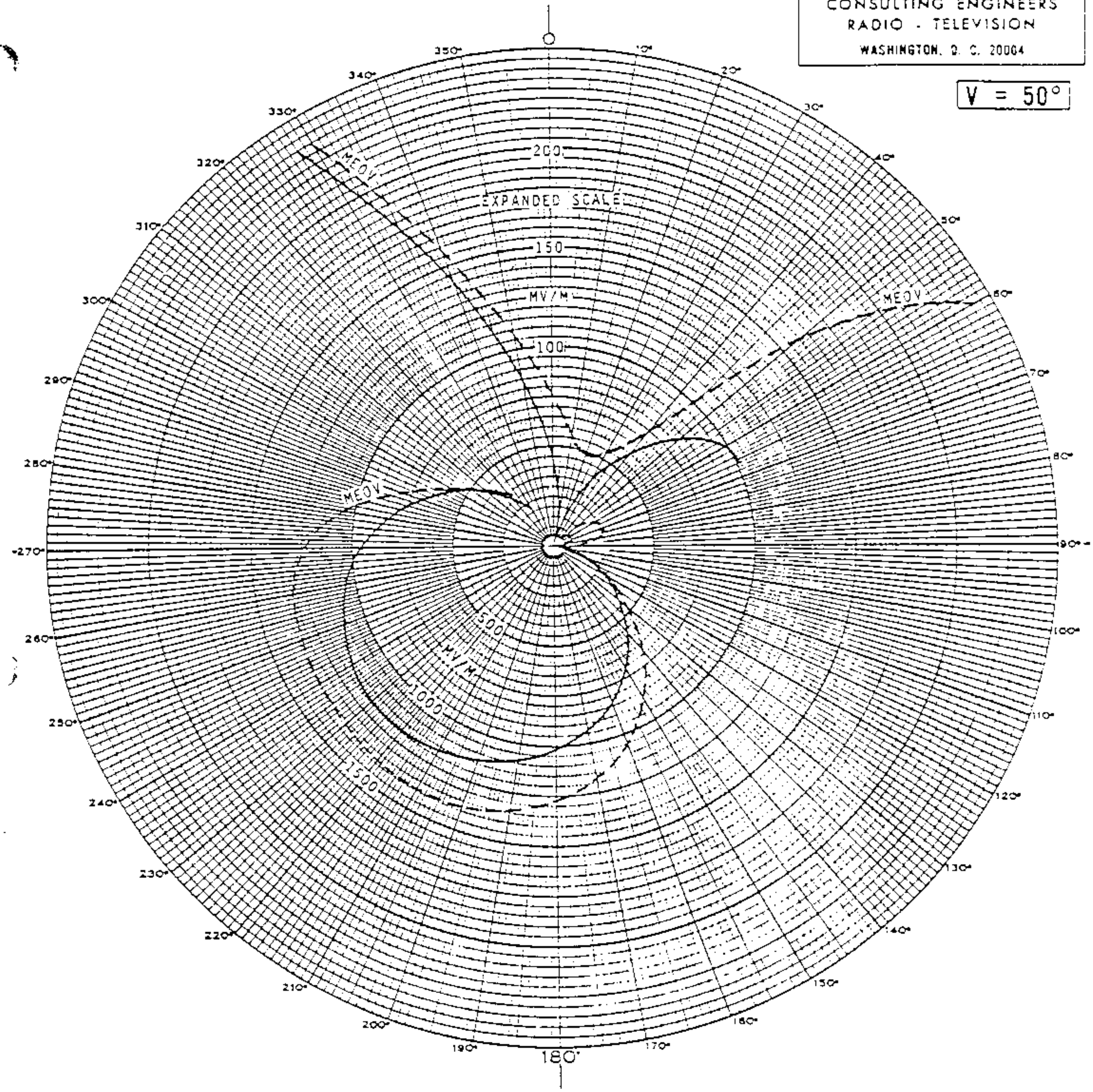
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 50°

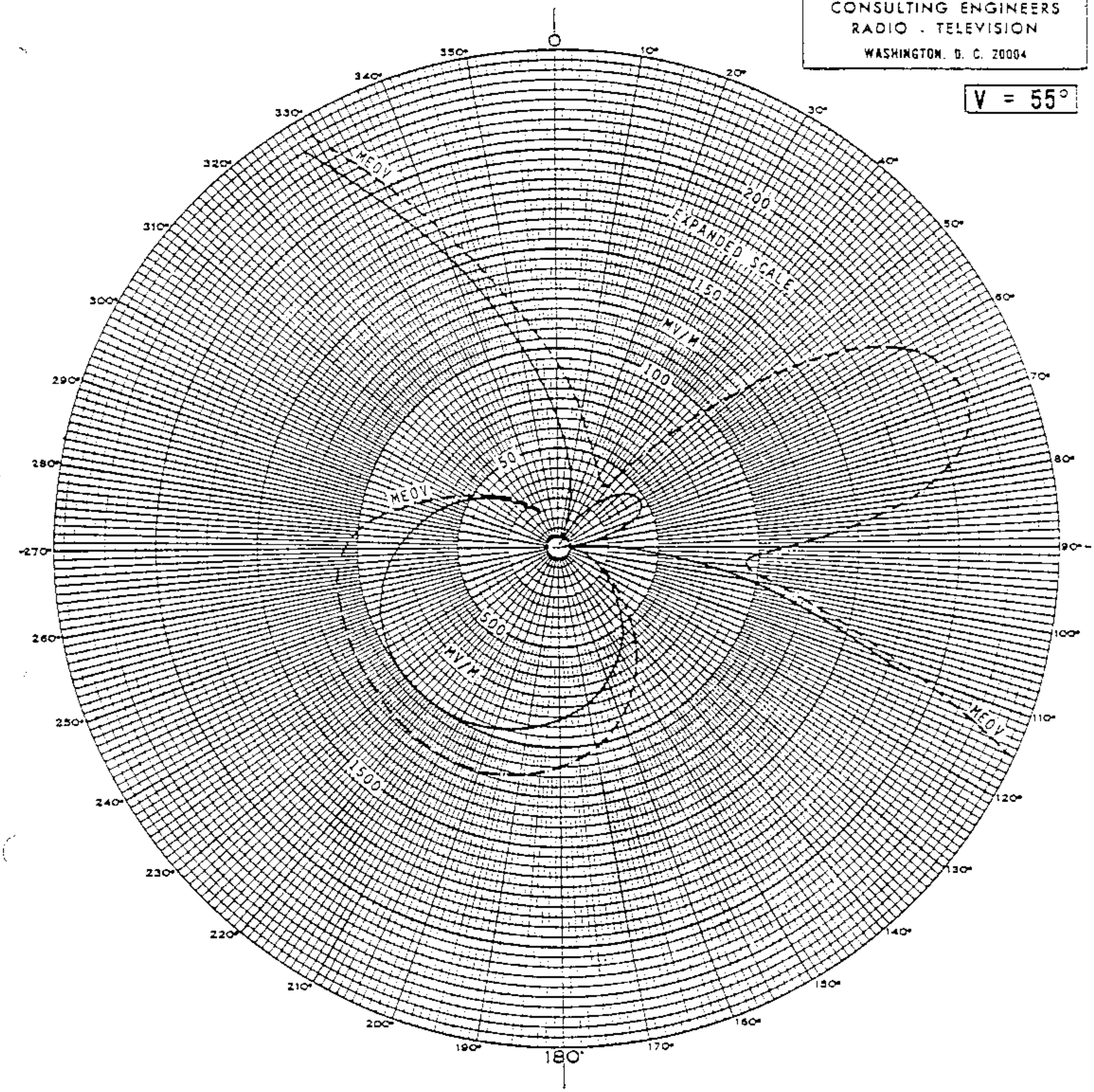


COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

KTRH

COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 55°



COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

KTRH

COHEN AND DIPPELL, P.C.
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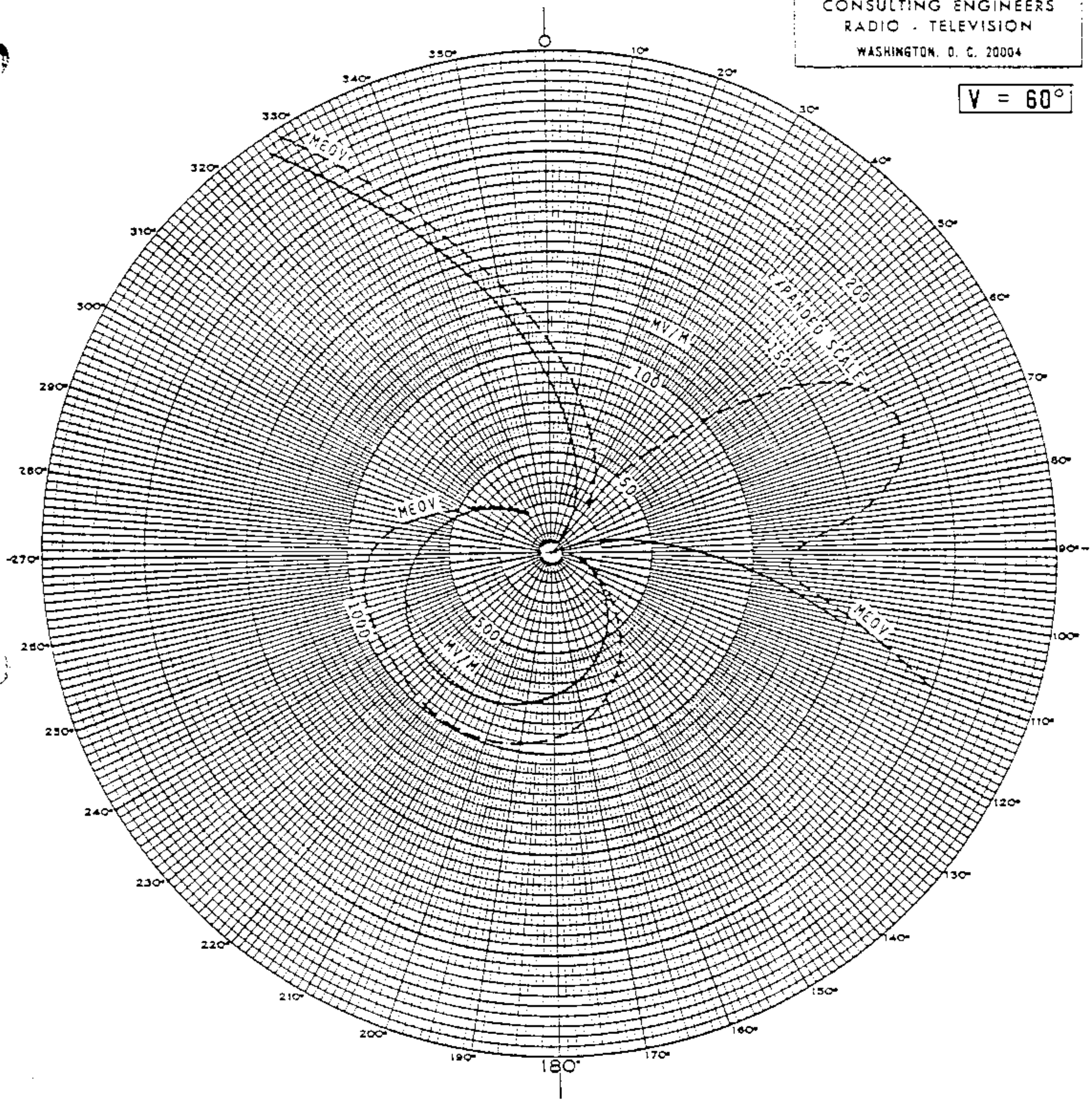
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V = 60°



COMPUTED RADIATION PATTERN
VERTICAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
KTRH, HOUSTON, TEXAS
740 kHz - 50 KW - DA-2 U
APRIL 1979

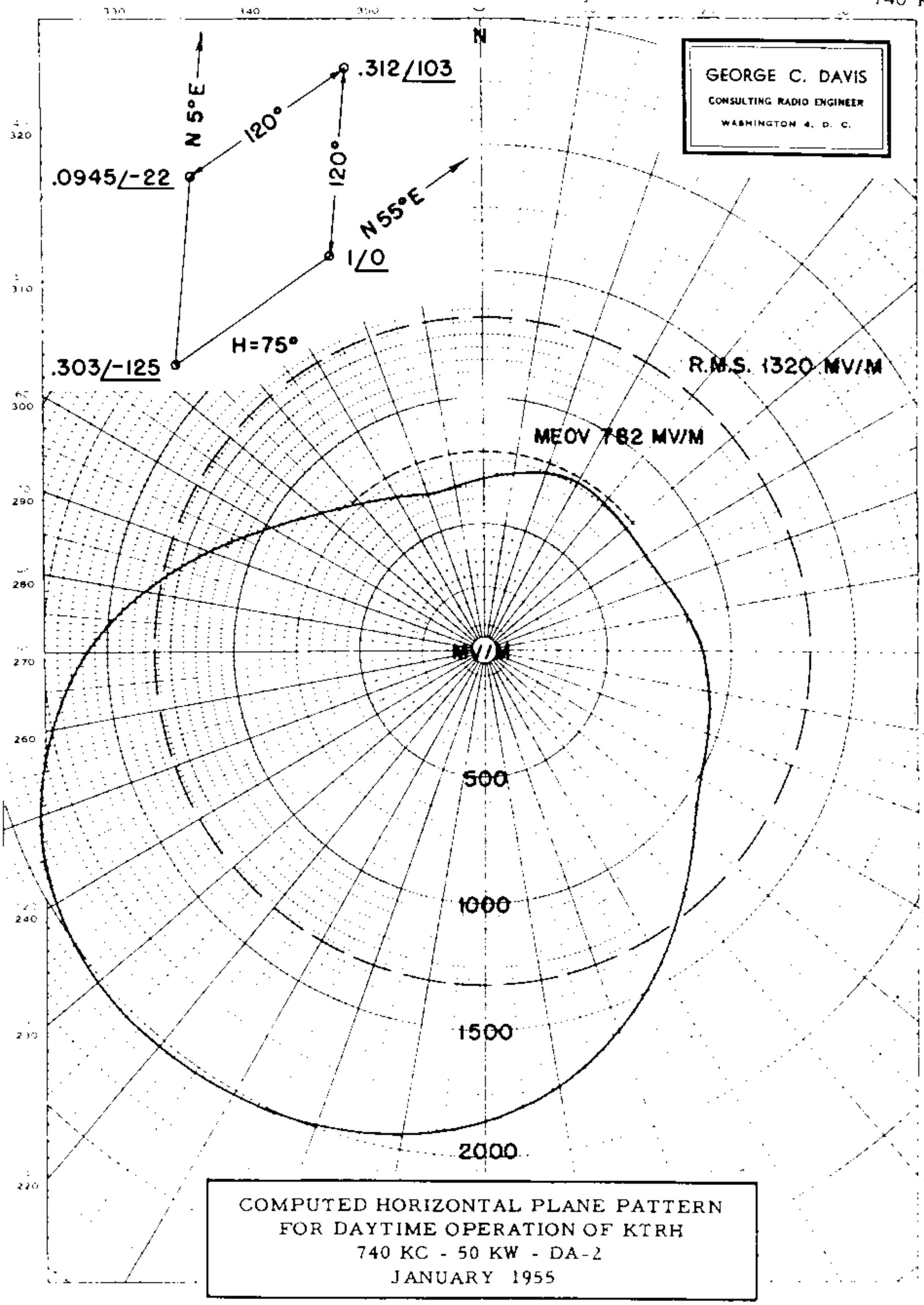
KTRH

PROPOSED DAY
(3/22/55G)

STATION KTRH
HOUSTON, TEXAS

50 KW
DA-2, U

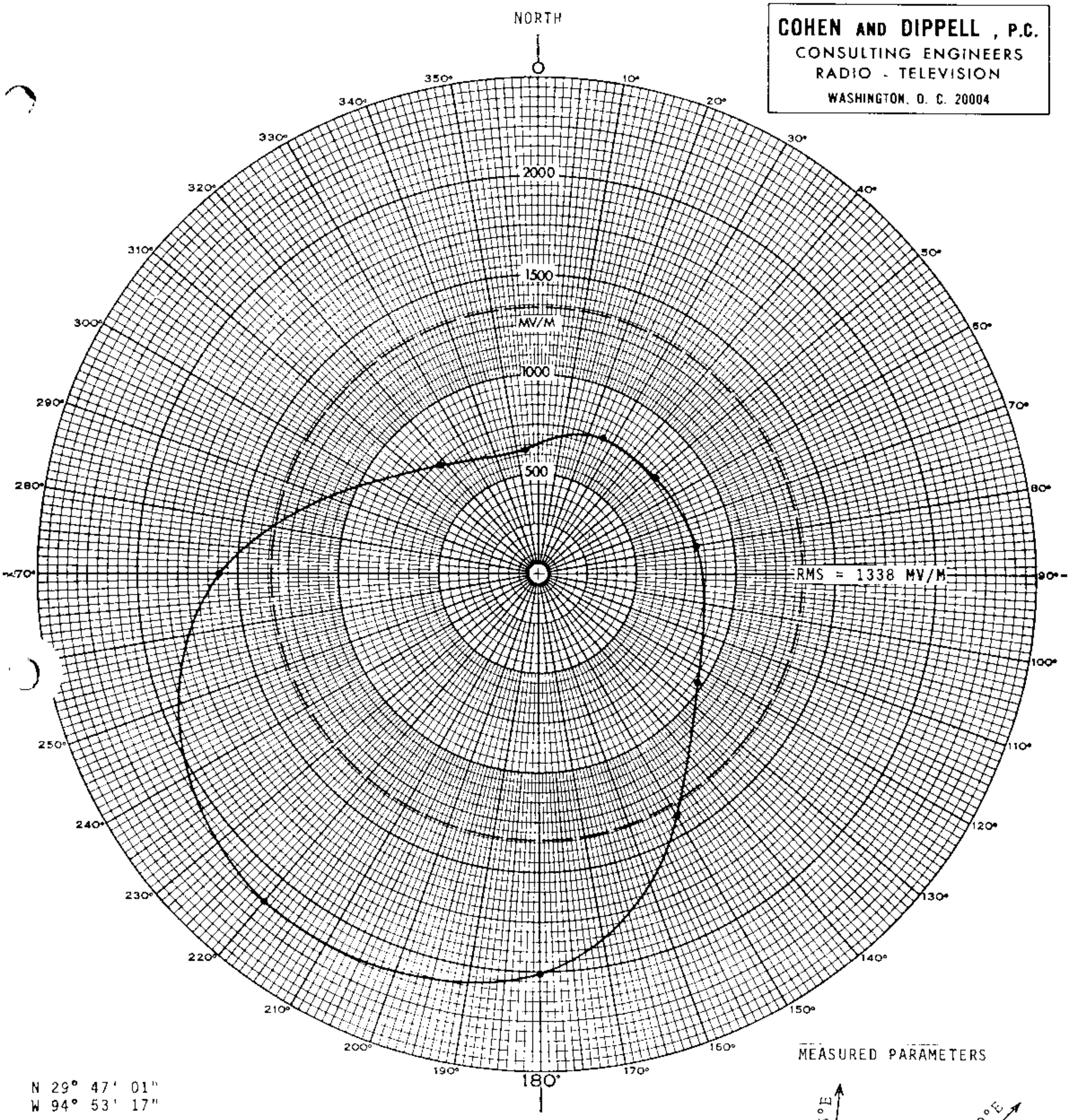
740 KC



COMPUTED HORIZONTAL PLANE PATTERN
FOR DAYTIME OPERATION OF KTRH
740 KC - 50 KW - DA-2
JANUARY 1955

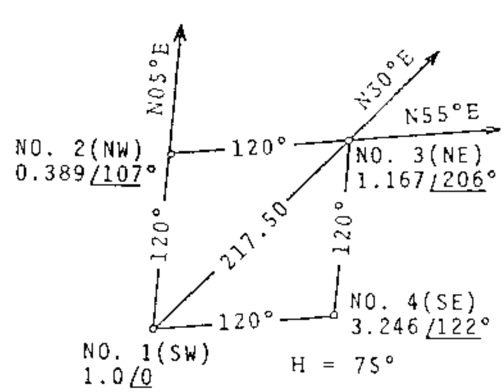
KTRH

COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

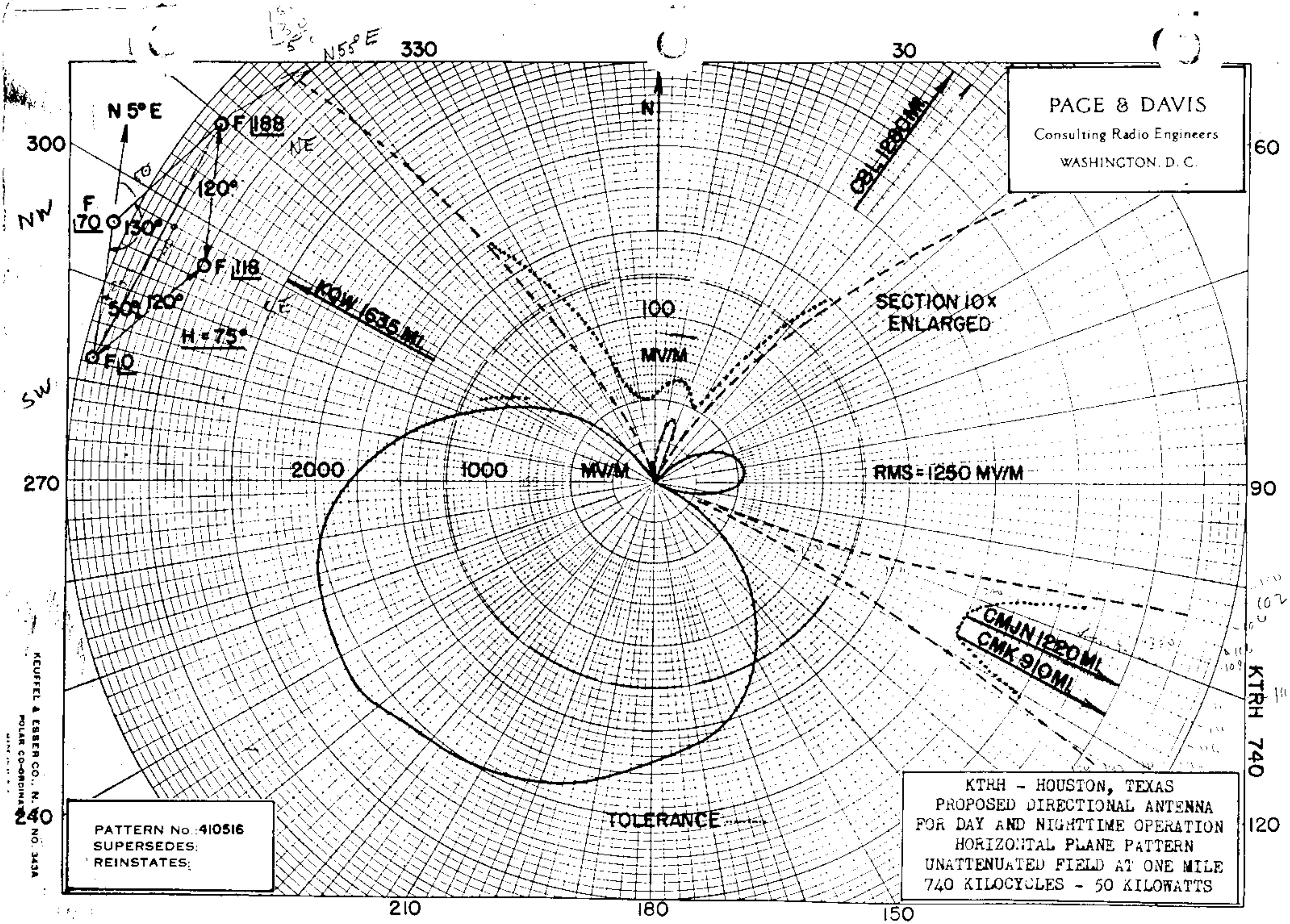


N 29° 47' 01"
W 94° 53' 17"

MEASURED PARAMETERS

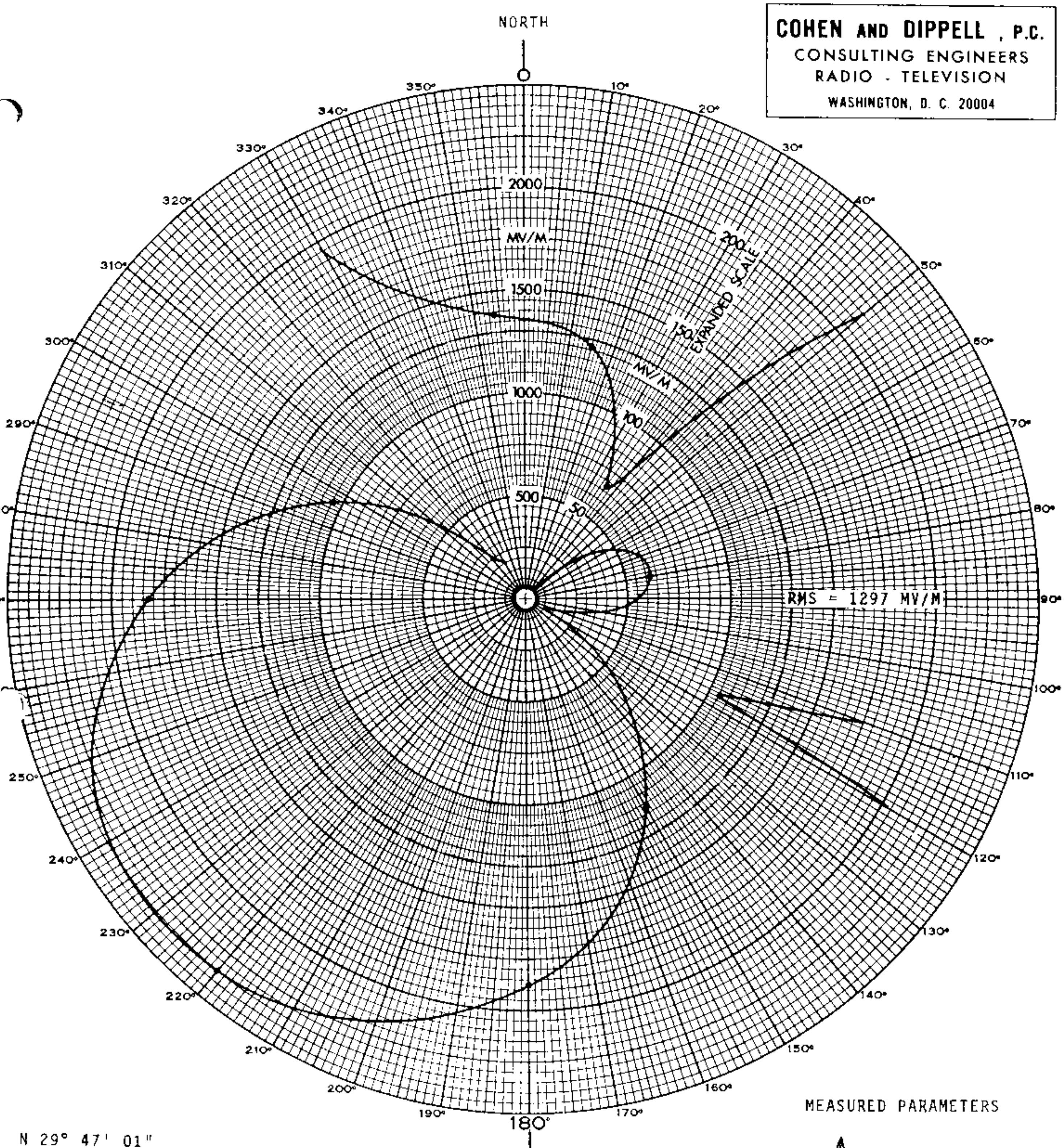


MEASURED HORIZONTAL
PLANE RADIATION PATTERN
FOR THE DAYTIME OPERATION OF
KTRH, HOUSTON, TEXAS
740 KHz - 50 KW - DA-2 U
JULY 1974


KTRH 740
PAGE & DAVIS
Consulting Radio Engineers
WASHINGTON, D. C.
KTRH - HOUSTON, TEXAS
PROPOSED DIRECTIONAL ANTENNA
FOR DAY AND NIGHTTIME OPERATION
HORIZONTAL PLANE PATTERN
UNATTENUATED FIELD AT ONE MILE
740 KILOCYCLES - 50 KILOWATTS
PATTERN No. 410516
SUPERSEDES:
REINSTATES:
N 5° E
N55°E
N
F 188
F 118
F 70
F 0
120°
130°
120°
50°
H = 75°
KOW 1635 MI.
CMJN 1220 MI.
CMK 910 MI.
SECTION 10 x
ENLARGED
RMS = 1250 MV/M
100
MV/M
1000
2000
TOLERANCE
NW
SW
NE
330
30
300
60
270
90
240
120
210
180
150
KEUFFEL & ESSER CO., N. Y. NO. 343A
POLAR CO-ORDINATE

KTRH

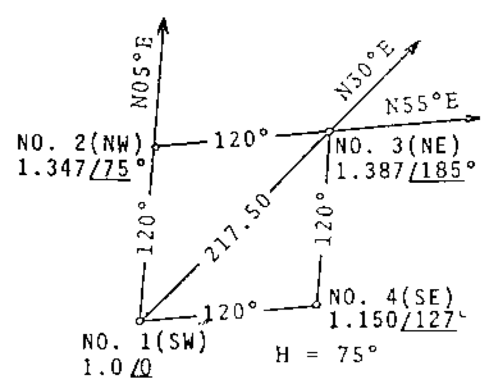
COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004



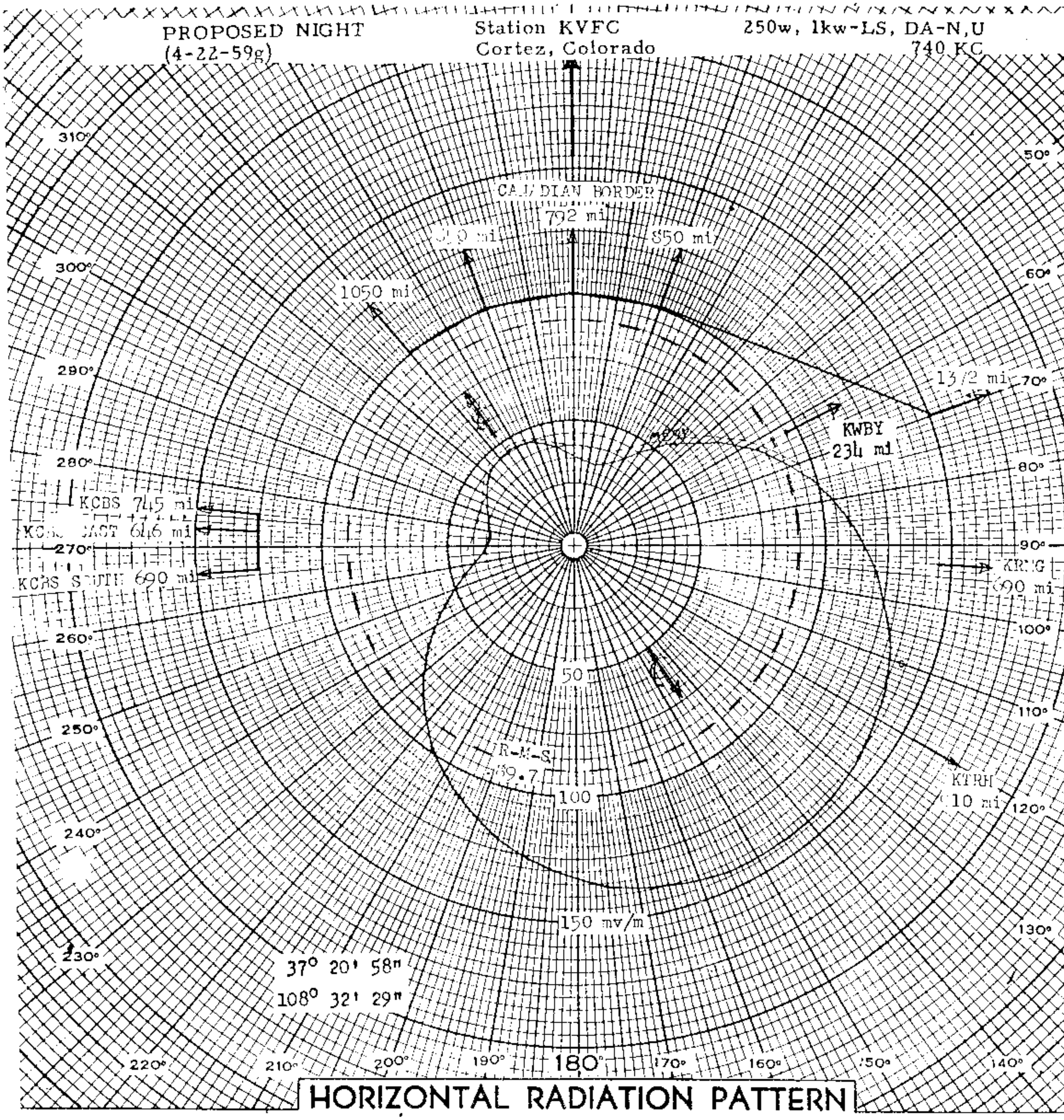
N 29° 47' 01"
W 94° 53' 17"

MEASURED HORIZONTAL
PLANE RADIATION PATTERN
FOR THE NIGHTTIME OPERATION OF
KTRH, HOUSTON, TEXAS
740 KHz - 50 KW - DA-2 U
JULY 1974

MEASURED PARAMETERS

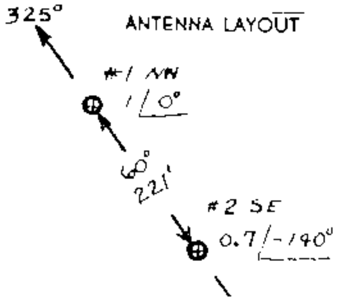


KVFC



HORIZONTAL RADIATION PATTERN

ANTENNA LAYOUT



KVFC	CORTEZ, COLORADO	
Station	Location	
740 kc	0.25 kw	89.7 mv/m (179.5/kw)
Frequency	Power	R-M-S Field
2	282 ft. = 0.212 λ = 76.6°	
No. of Elements	Height of Antenna	
MEASURED ☐	CALCULATED ☒	590305.1
	Pattern	No.
PROPOSED NIGHTTIME PATTERN		GUY C. HUTCHESON CONSULTING RADIO ENGINEER
Remarks		

FCC File No. BP-11847
Accepted 3-18-59 (Amended)

KVFC
Cortez, Colorado

740 KC

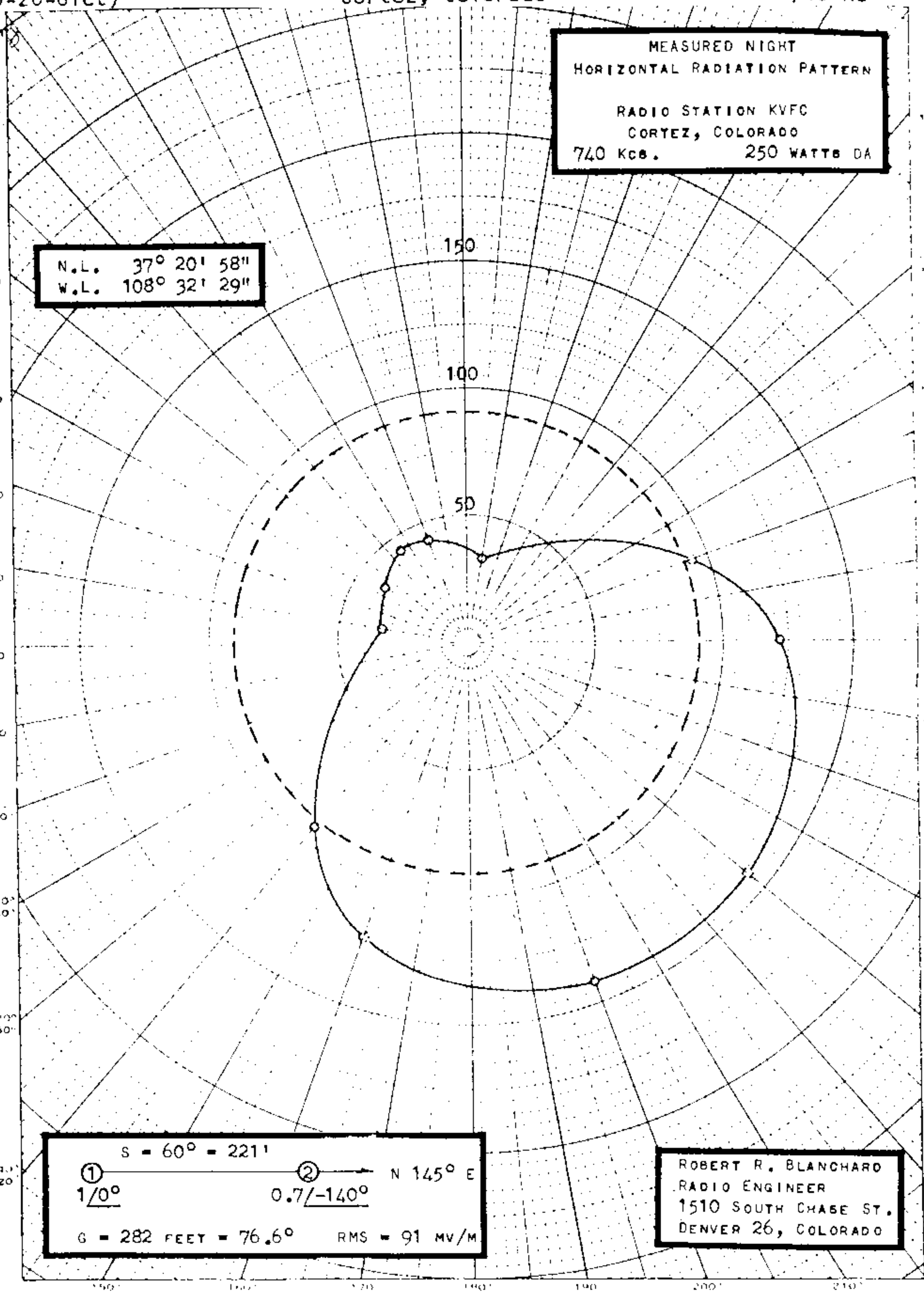
KVFC

MEASURED NIGHT
(9-20-61ct)

Station KVFC
Cortez, Colorado

250w,1kw-LS,DA-N,U
740 kc

11-6-61
granted L covering
ange in hours of
peration + DA-N



FCC File No.BL-8636
Accepted 8-21-61

Station KVFC
Cortez, Colorado

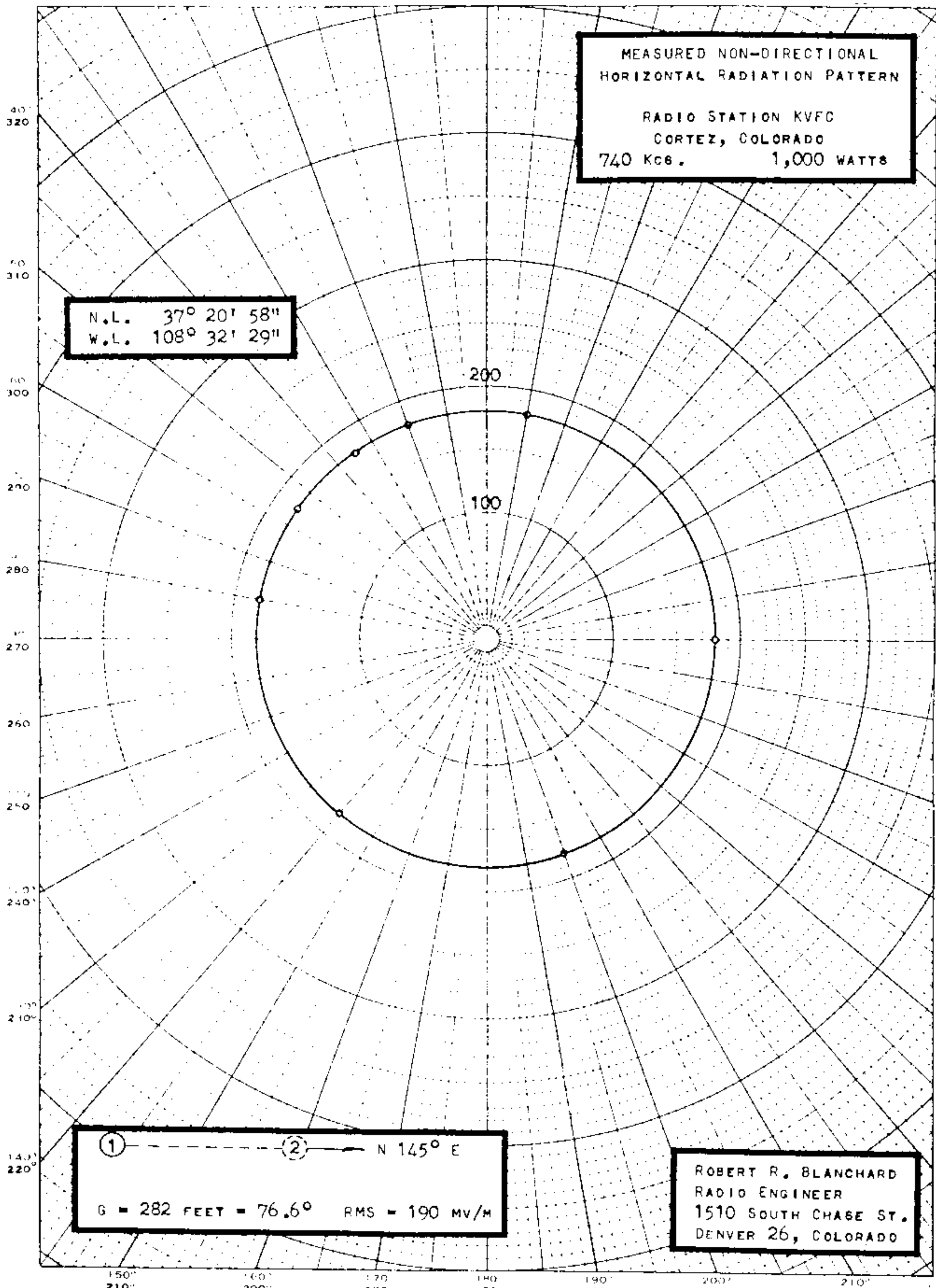
740 kc

KVFC

MEASURED NON-DA
(9-20-61ct)

Station KVFC
Cortez, Colorado

250w,1kw-LS,DA-N,U
740 kc



FCC File No.BL-8636
Accepted 8-21-61

Station KVFC
Cortez, Colorado

740 kc

PROPOSED DAY (2/2/53G) WBAM, MONTGOMERY, ALA. 50 kw, D, DA-D 740 kc

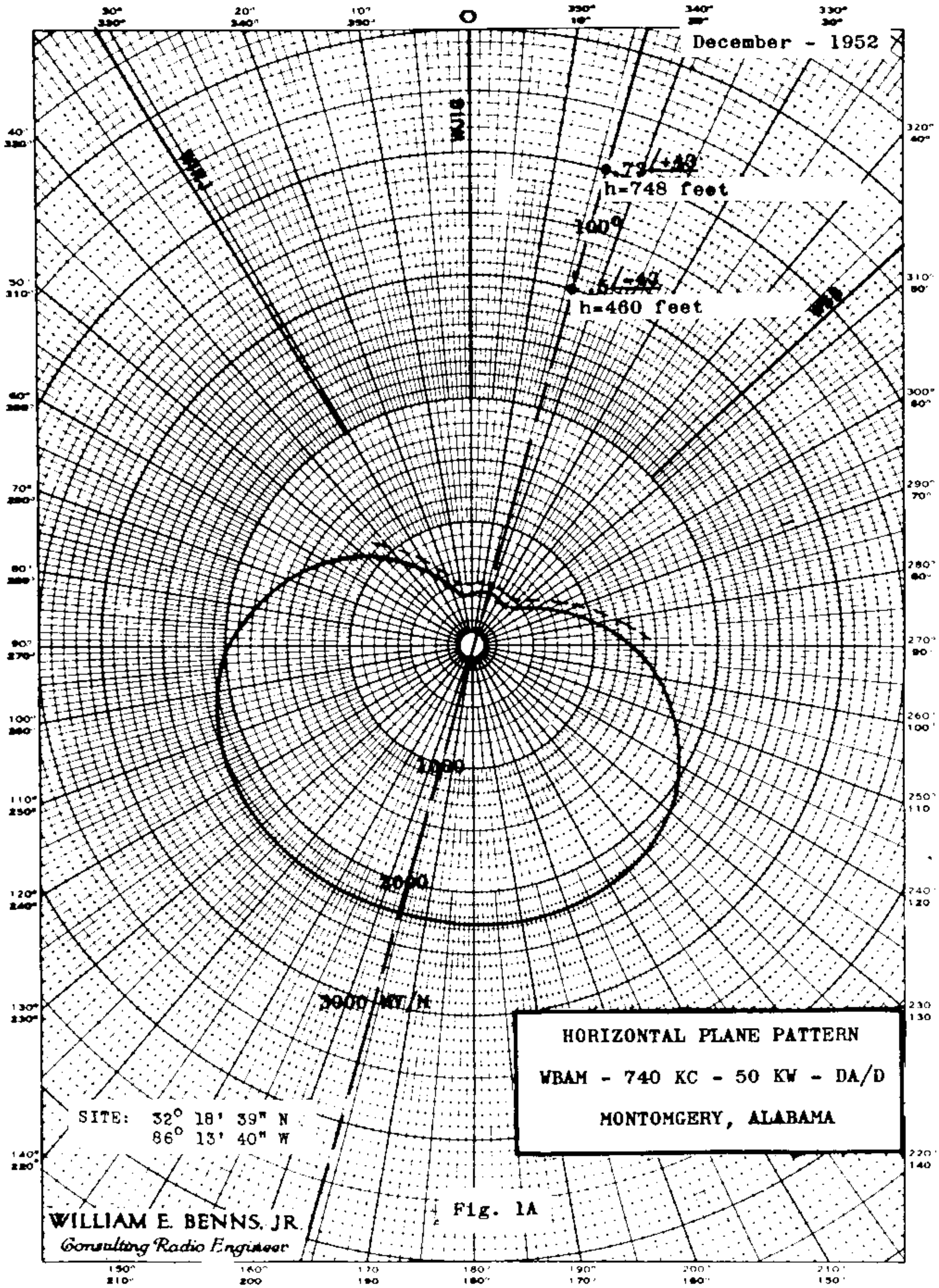
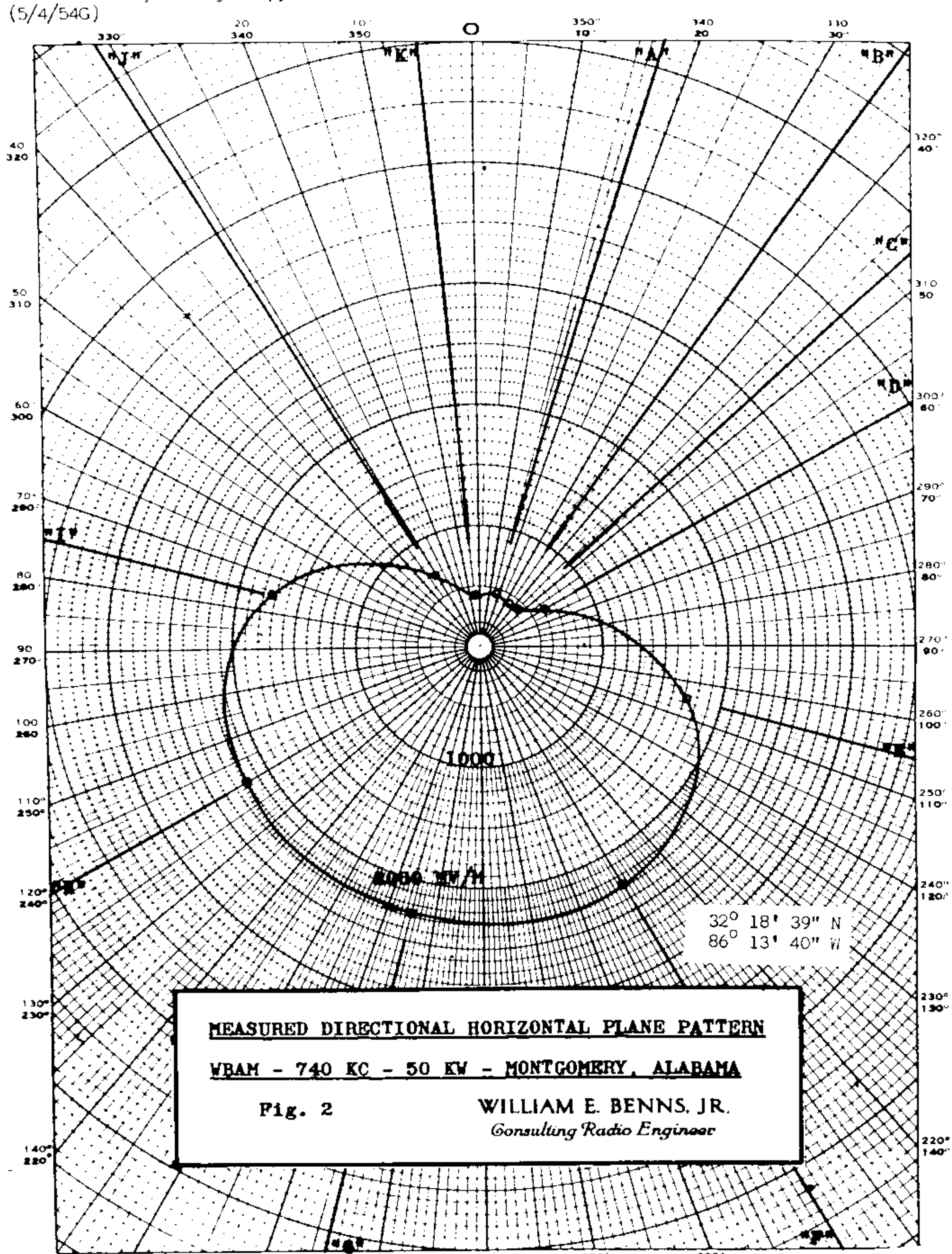


Fig. 1A

WBAM

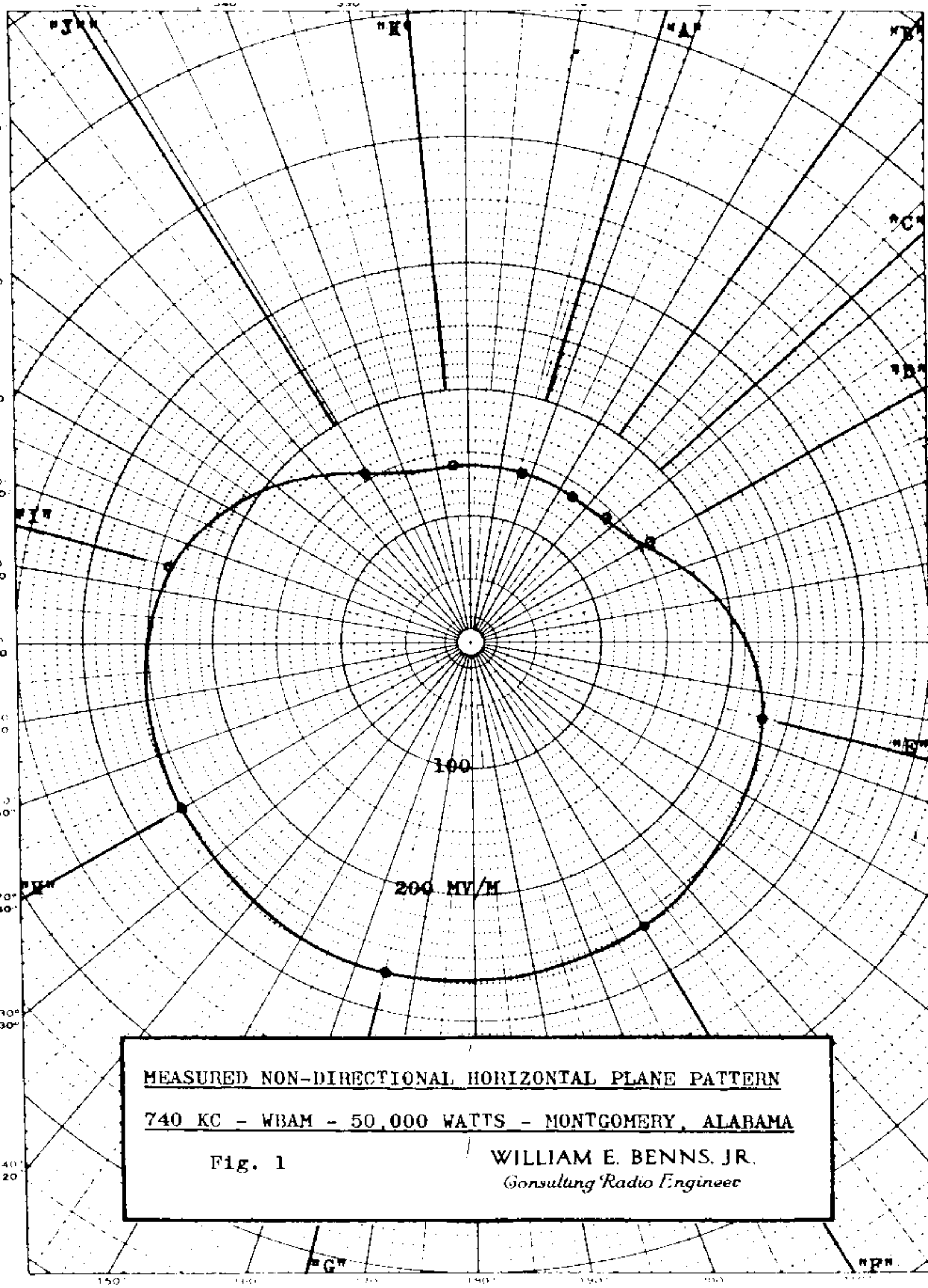
MEASURED WBAM, Montogomery, Alabama 50KW, D, DA-D 740 kc
DAY (5/4/54G)



740 kc

FCC File No. BL-5169 WBAM, Montgomery, Alabama

MEASURED NON-DA (5/4/54G) WBAM, Montgomery, Alabama 50KW, D, DA-D 740 kc



MEASURED NON-DIRECTIONAL HORIZONTAL PLANE PATTERN

740 KC - WBAM - 50,000 WATTS - MONTGOMERY, ALABAMA

Fig. 1

WILLIAM E. BENNS, JR.
Consulting Radio Engineer

WGSM

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WGSM

Main Studio: Huntington, New York

Frequency: 740 kHz

Power: 25kw Day

Notification List No. 1780

Date: September 28, 1979 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 40° 51' 04"
West Longitude: 73° 26' 16"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation (DA-D)
Number of elements: 4
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	S(#1)	SC(#2)	NC(#3)	N(#4)
HEIGHT ABOVE INSULATORS:	200'(54.17°)	280'	280'(75.84°)	200(54.17°)
PHASING:	0°	+150.5°	-57°	+85°
FIELD RATIO:	1.0	2.25	2.37	1.03

SPACING AND ORIENTATION: With the S(#1) tower as reference the SC(#2) tower is spaced 332.29'(90°) on a line bearing 300° true, the NC(#3) tower is spaced 664.6'(180°) on a line bearing 310° true, and the NC(#4) tower is spaced 996.8'(270°) on a line bearing 306.5° true.

GROUND SYSTEM: 120-210' to 365' equally spaced copper radials plus a 36' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	979 mv/m	1944 mv/m	1029 mv/m

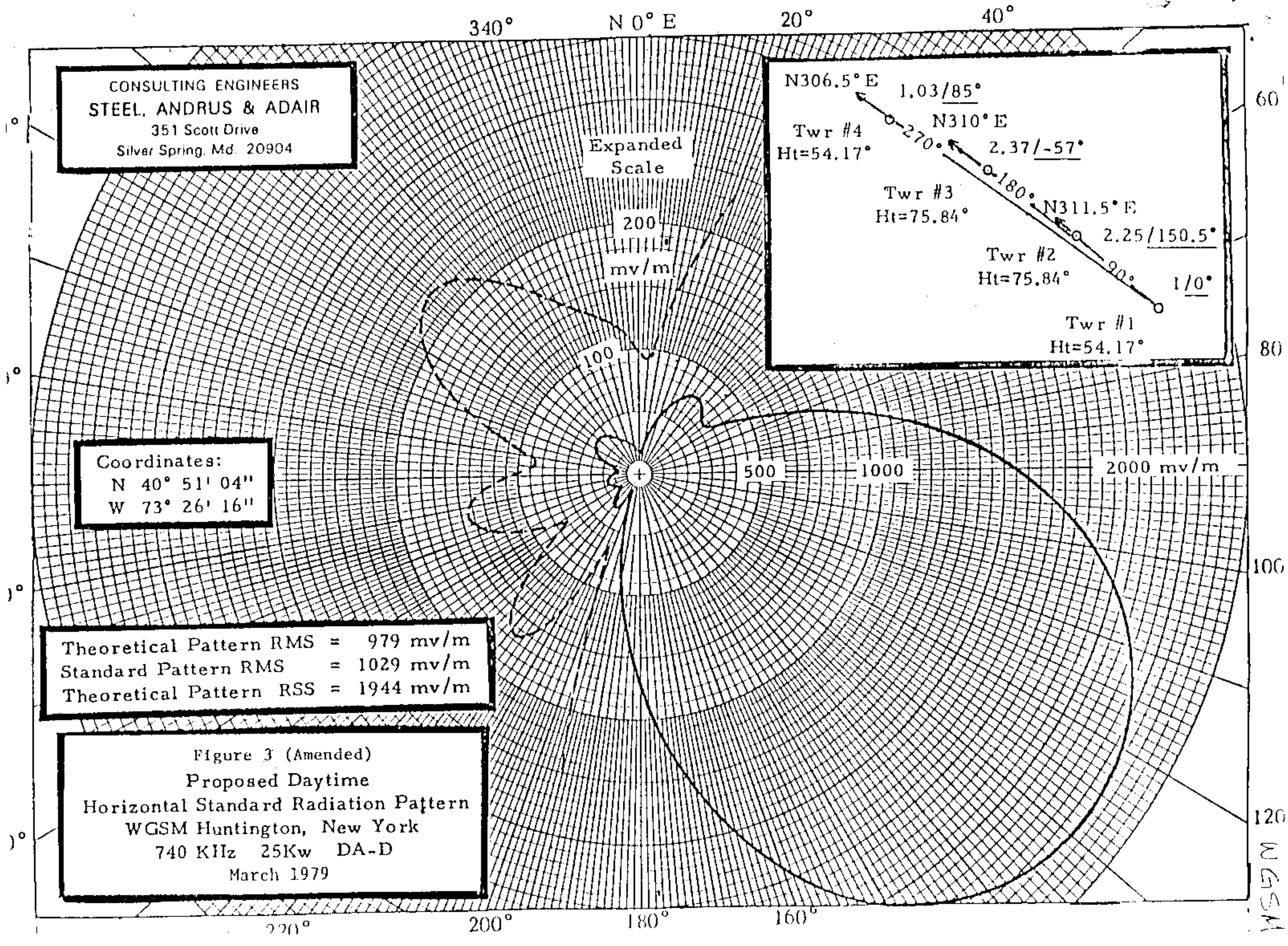


Figure 3 (Amended)
Proposed Daytime
Horizontal Standard Radiation Pattern
WGSM Huntington, New York
740 KHz 25Kw DA-D
March 1979

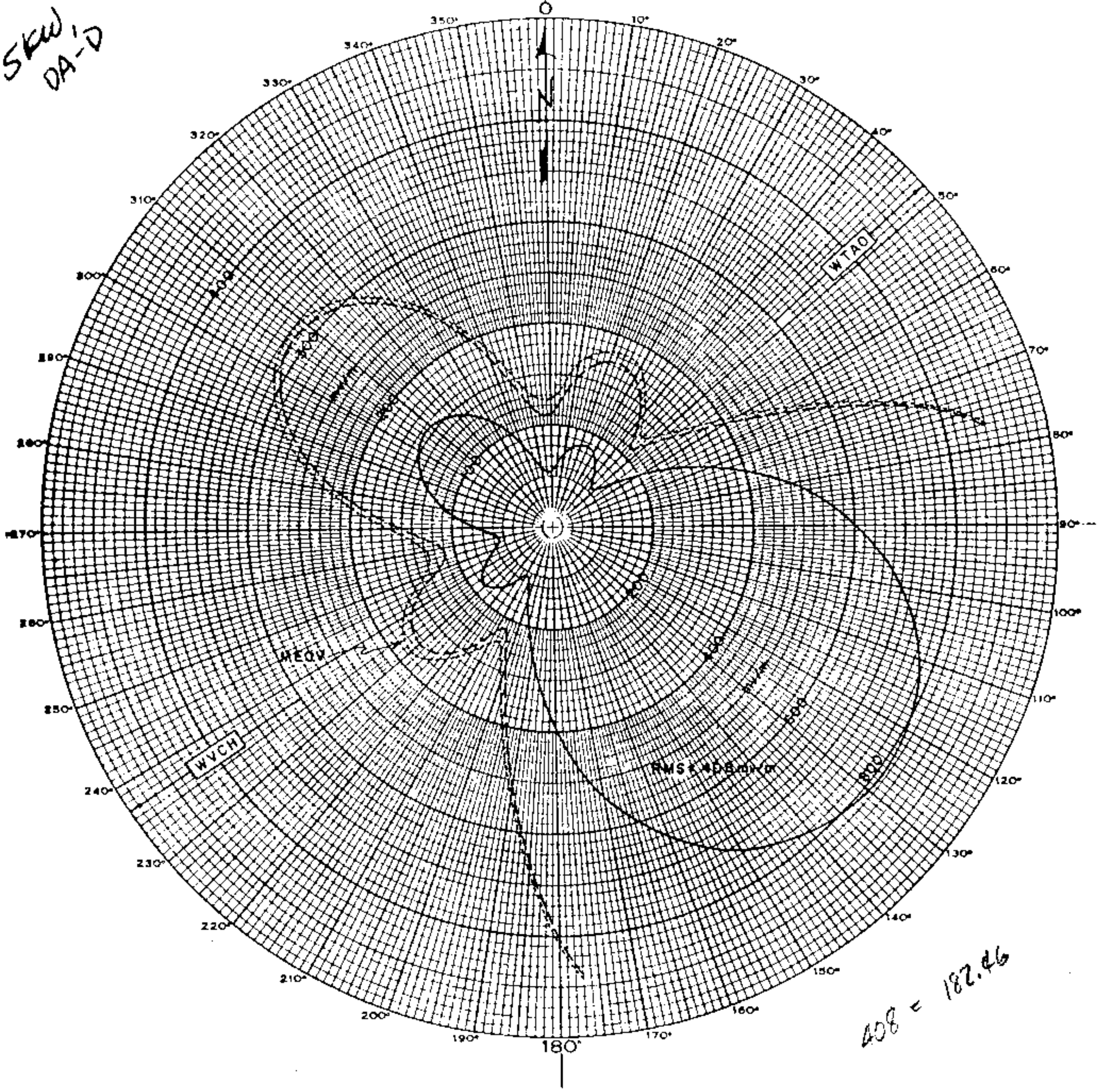
WGSM

PROPOSED DAY
(9-27-60g)

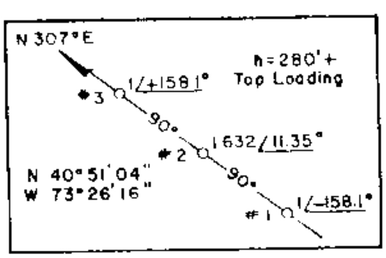
Station WGSM
Huntington, New York

1kw-CR, 5kw,DA-D,D
740 KC

12-26-62 granted CP for 5kw, DA-D
1KWCH-ND



408 = 182.46



PAGE, CREUTZ, STEEL & WALDSCHMITT
Consulting Engineers
1413 K STREET, NORTHWEST
WASHINGTON 5, D. C.

FIGURE 7

CALCULATED HORIZONTAL

PLANE RADIATION PATTERN

HUNTINGTON-MONTAUK BROADCASTING CO., INC.

WGSM, HUNTINGTON, NEW YORK

740 KC 5 KW D, DA-D

AUGUST 1960

FCC File No. BP-14332
Accepted 9-14-60

WGSM
Huntington, New York 740 KC

WGSM

Measured Day
(5-28-64ct)

Station WGSM
Huntington, New York

5kw,DA-D,D,(1kw,Non-DA,CH)
740 kc

-28-64
wanted I for
increase in power
and DA-D

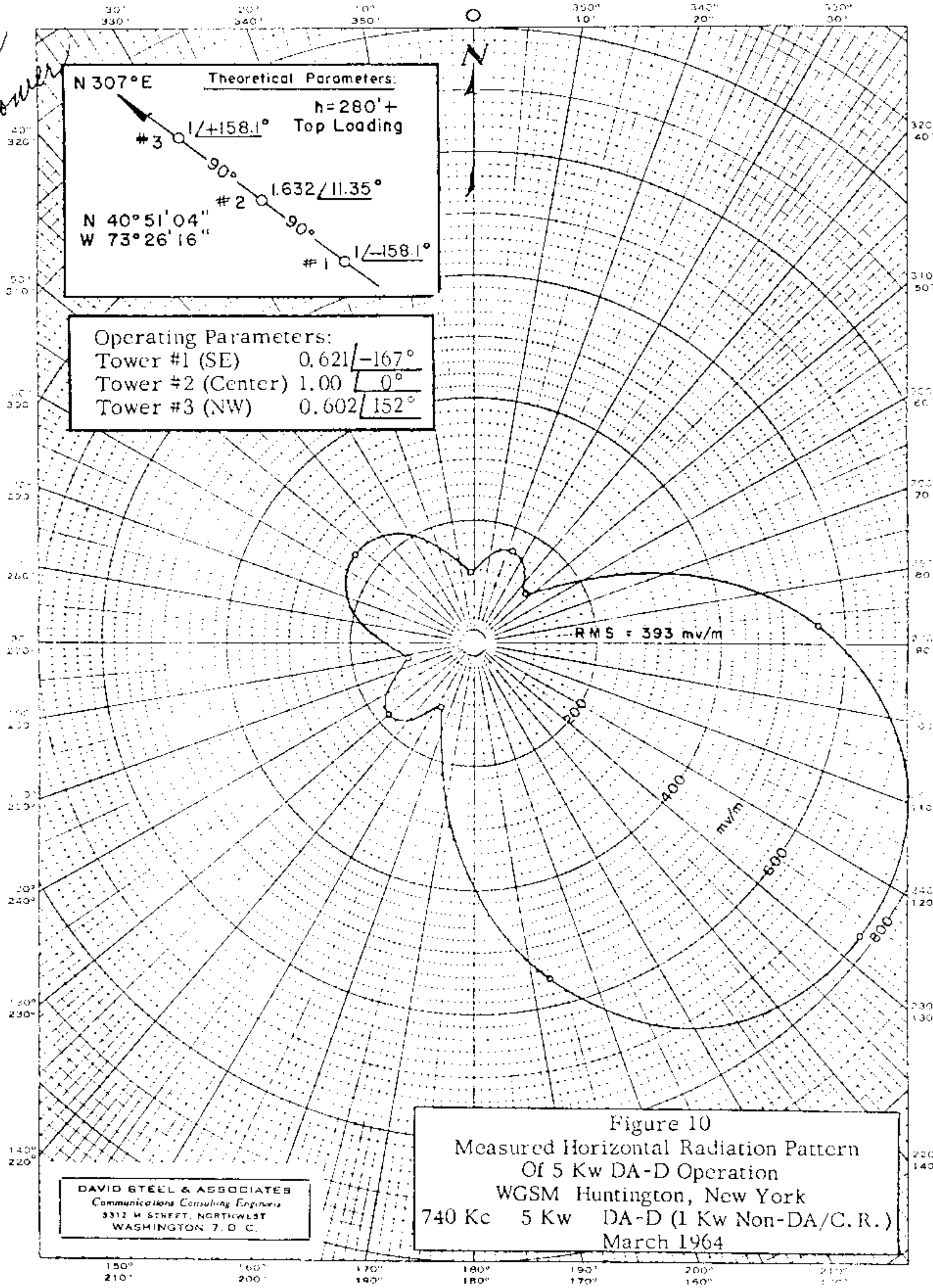


Figure 10
Measured Horizontal Radiation Pattern
Of 5 Kw DA-D Operation
WGSM Huntington, New York
740 Kc 5 Kw DA-D (1 Kw Non-DA/C.R.)
March 1964

175.75

FCC File No.BL-10577
Accepted 5-22-64

Station WGSM
Huntington, New York

740 kc

WGSM

Measured Non-DA
(5-28-64ct)

Station WGSM
Huntington, New York

5kw,DA-D,D,(1kw,Non-DA,CH)
740 kc

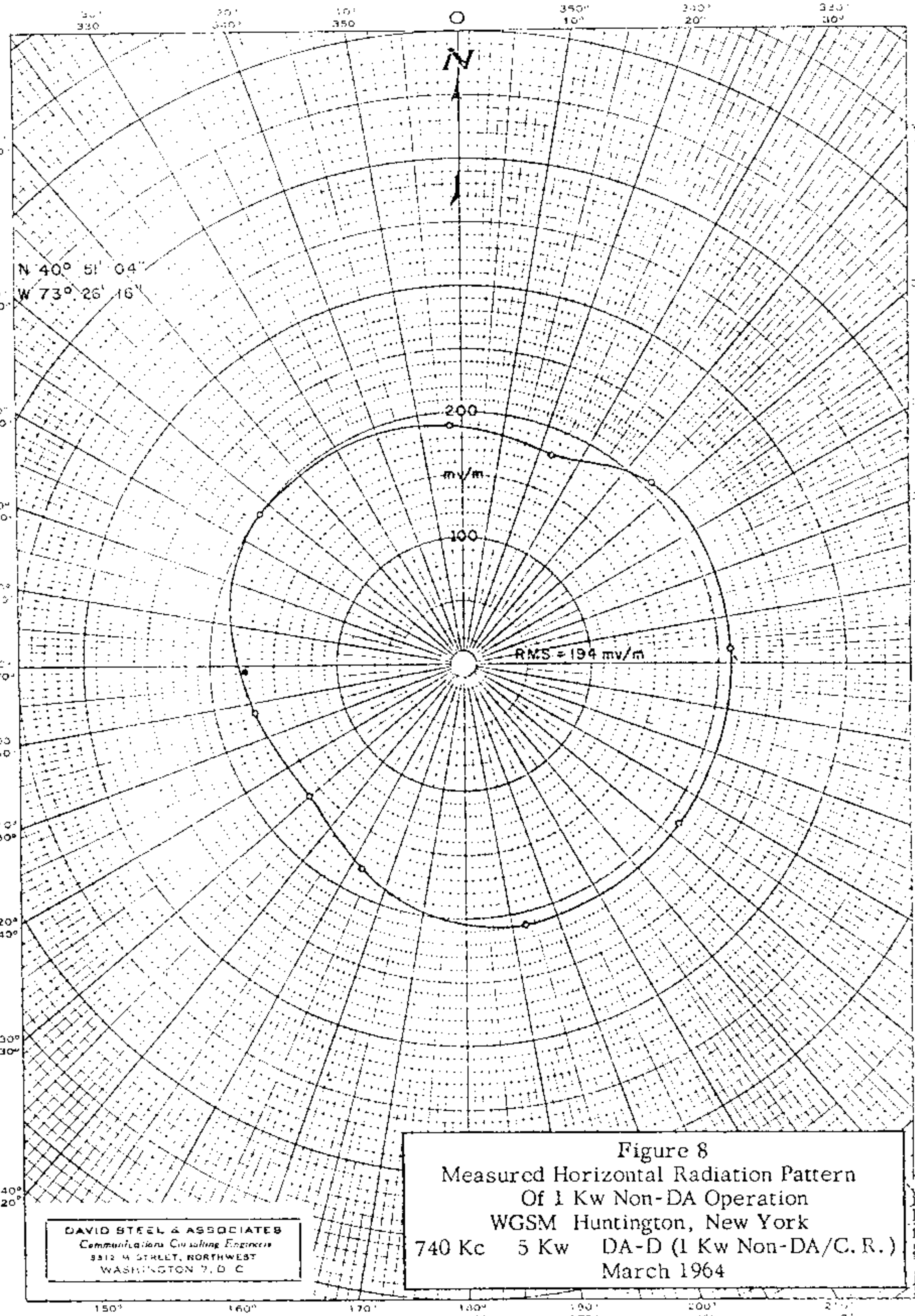


Figure 8
Measured Horizontal Radiation Pattern
Of 1 Kw Non-DA Operation
WGSM Huntington, New York
740 Kc 5 Kw DA-D (1 Kw Non-DA/C. R.)
March 1964

FCC File No.BL-10577
Accepted 5-22-64

Station WGSM
Huntington, New York

740 kc

Senturce P.R. 10 KW, DA-1, U. WIAC

C.P. pending

This station is now licensed for 10 KW, DA-1 operation on 740 KC. They propose to utilize the same facilities as are now in operation.

For patterns see WIAC
on 740 KC

* when tis license is granted on 730 remove patterns from 740 + put under 730 in place of this info.

This station proposes to use present patterns for 740 KC operation - on 730 KC.

ANTENNA SPECIFICATION
WIAC
San Juan, Puerto Rico
730 Kc, 10Kw, DA-1, U

NUMBER OF ELEMENTS

Two

TYPE OF ELEMENTS

Vertical, guyed, uniform cross section

HEIGHT OF ELEMENTS

Top of beacon to insulator	321'
Tower top to insulator	318'
Insulator above ground	5'
Ground above sea level	14'
Electrical height	85°

ORIENTATION AND SPACING

Towers to be aligned on azimuth N299°E true bearing. Tower spacing is 90 Electrical Degree, 337 Feet Linear.

PHASING AND FIELD RATIO

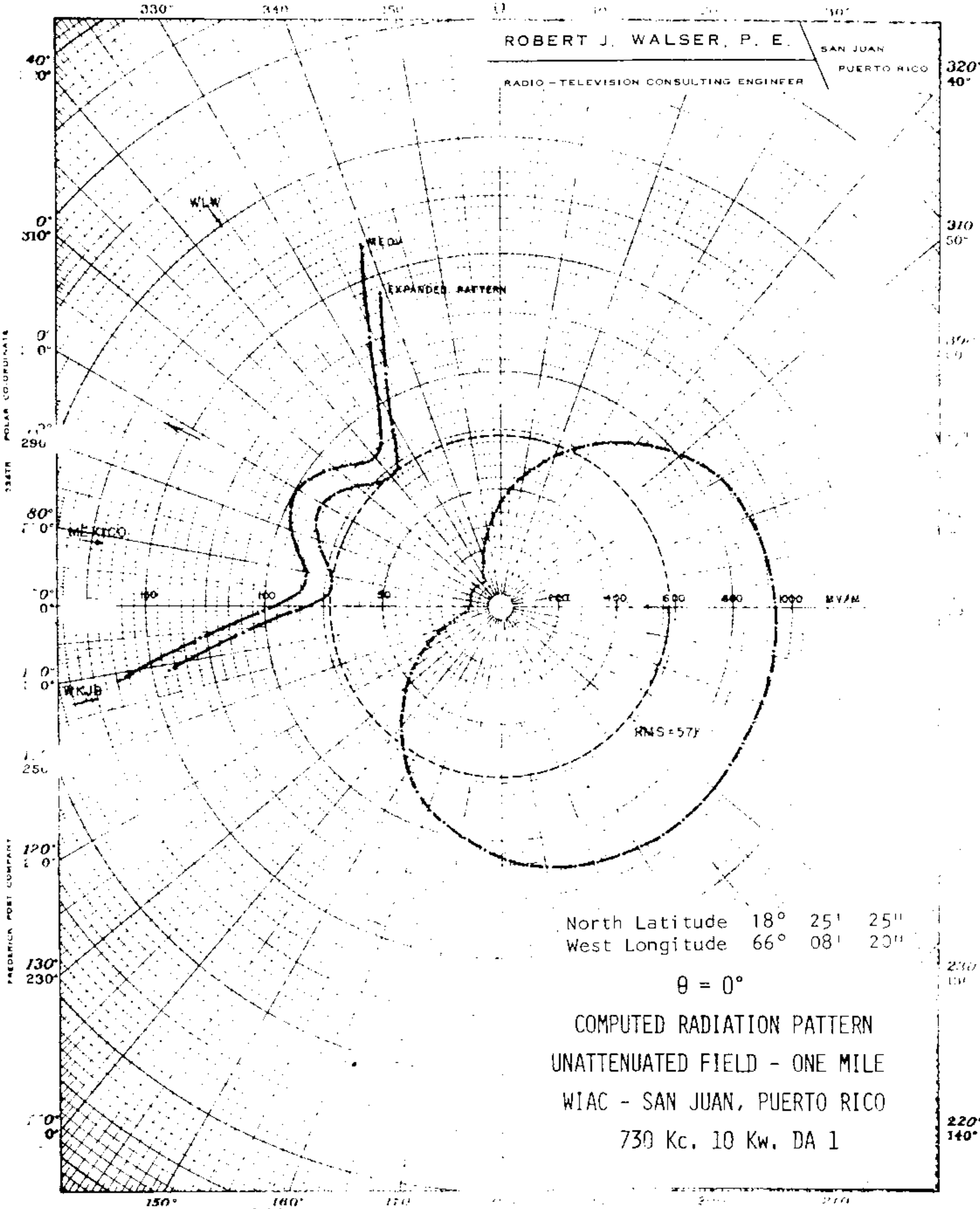
	Phase Angle	Field Ratio
Tower #1	0°	[illegible]
Tower #2	+96°	.86

W IAC

Proposed Day & Night
(1-22-71ct)

Station WIAC
San Juan, Puerto Rico

10kw, DA-1, U
740 kc



FCC File No.BP-18667
Accepted 1-13-71

Station WIAC
San Juan, Puerto Rico

740 kc

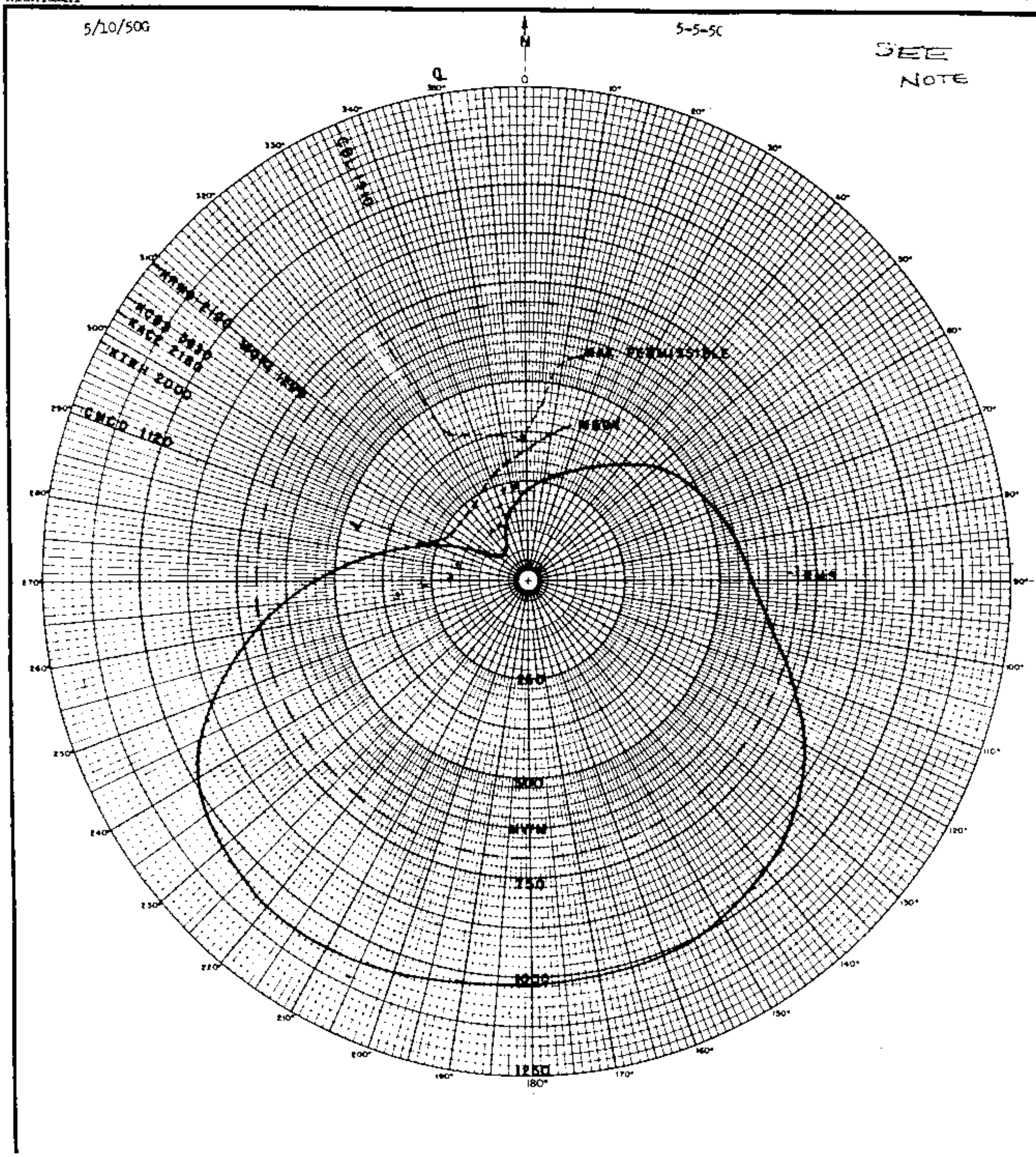
PROPOSED
NIGHT&DAY

WIBS, ~~SANTURCE,~~ San Juan P. R.

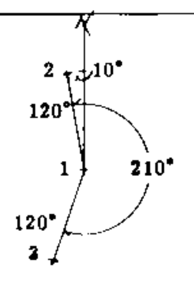
10kw, DA-1 740 kc

~~WIBS~~ WIAC

granted in Lic Move to San Juan



ANTENNA PARAMETERS									
Tower No.	Electrical Height	True Tower Orientation	Spacing	Phasing	Horizontal Field mv/m	Field Ratio	Elev Angle	Elevation Field mv/m
0							0	
1	180	0	0	0	1.0		10	
2	86	350	120	76	.5		20	
3	86	200	120	-130	.35		30	
4							40	
5							50	
6							60	
7							70	
8							80	
9								



Glenn D. Gillett And Associates
Consulting Radio Engineers
National Press Building
Washington, D.C.

WIBS
SANTURCE, PUERTO RICO
10 KW DA-1 740 KC
PROPOSED
HORIZONTAL RADIATION PATTERN

Latitude 18° 25′ 25″
Longitude 66° 08′ 22″
Supersedes 491005
Pattern No. 500425

WIBS, Santurce, P. R. 740 kc

WIAC

MEASURED
DAY & NIGHT

WIBS, SANTURCE, P. R.

10kw, DA-1

740 kc

See
Note

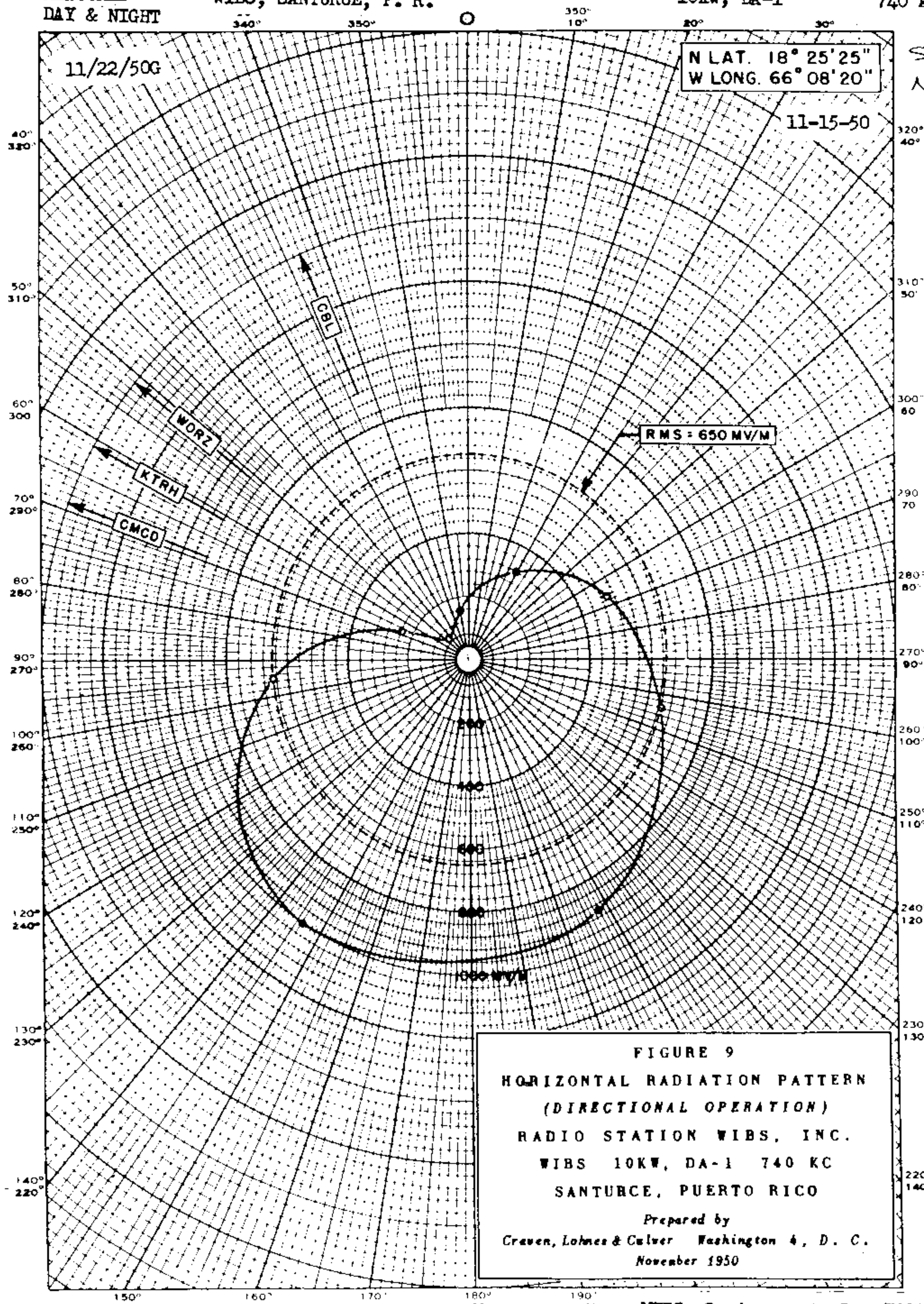


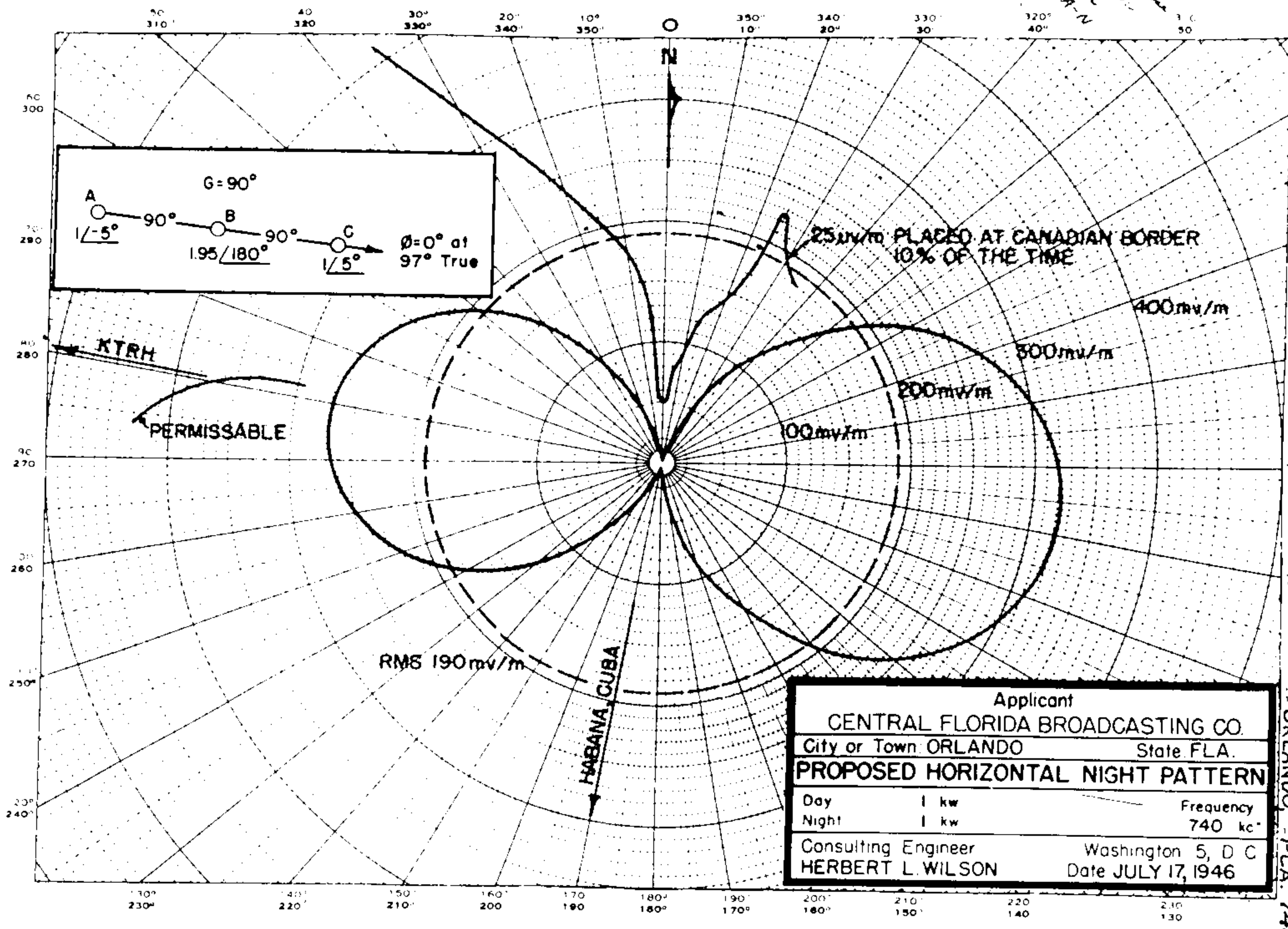
FIGURE 9
HORIZONTAL RADIATION PATTERN
(DIRECTIONAL OPERATION)
RADIO STATION WIBS, INC.
WIBS 10KW, DA-1 740 KC
SANTURCE, PUERTO RICO

Prepared by
Craven, Lohnes & Culver Washington 4, D. C.
November 1950

WIBS, Santurce, P. R. 740 kc

Granted m lic. move to San Juan

Grants license 10/9/52 for change from DA-2 to DA-N



ORLANDO, FLA. 740

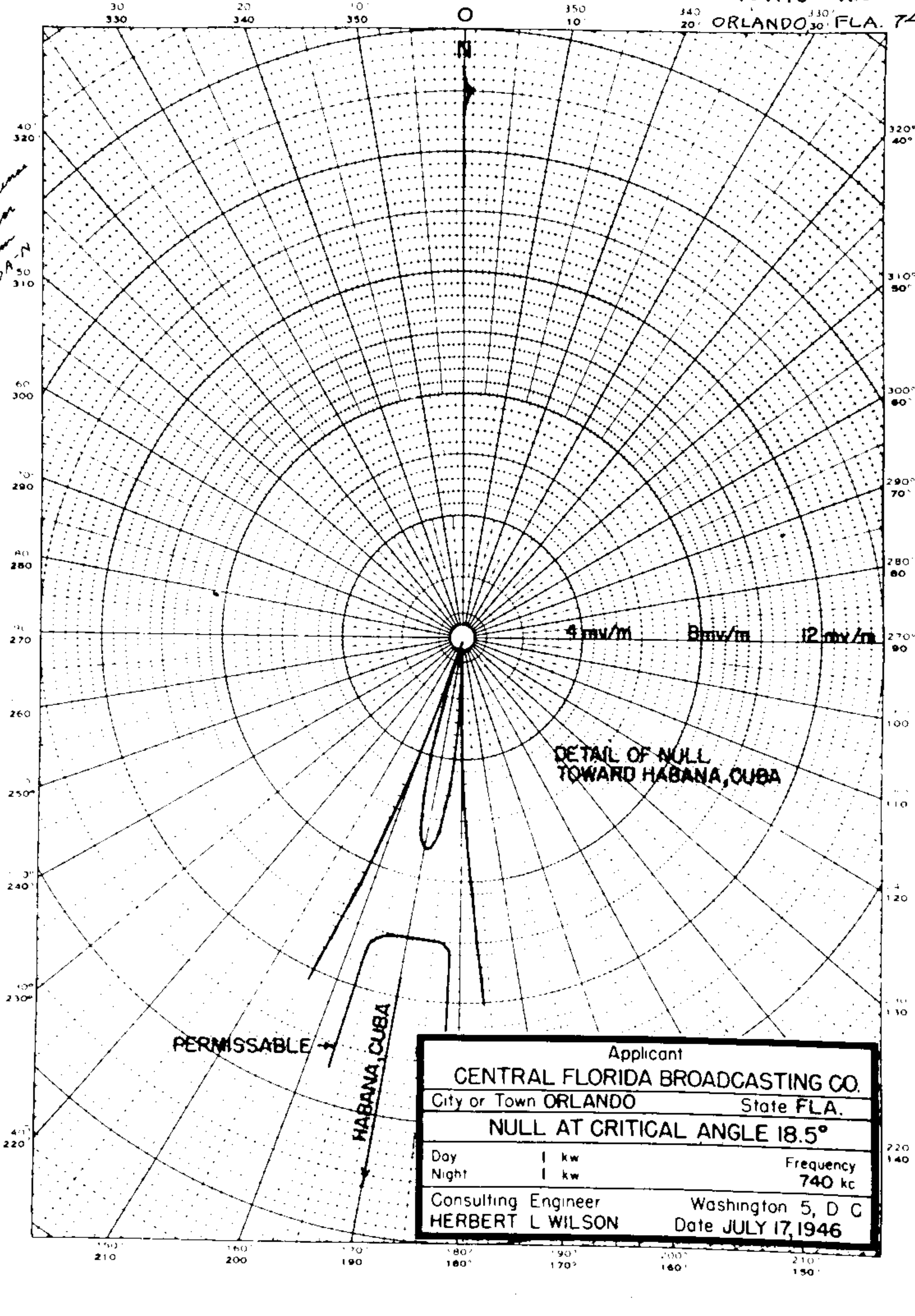
~~WORZ~~

WKIS

WKIS ~~WORZ~~

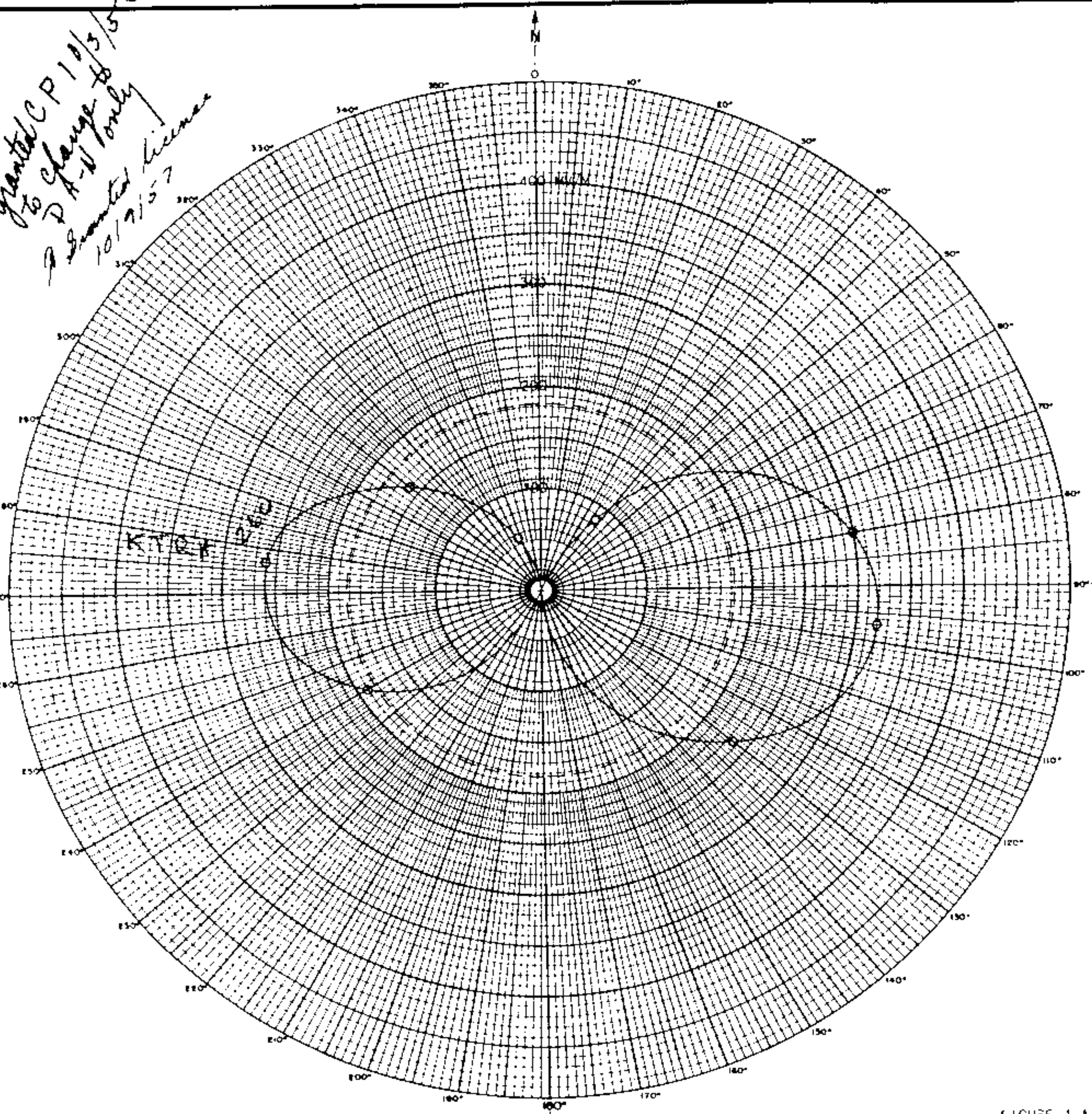
ORLANDO FLA. 740

Granted license 10/9/50 for change from DA-2 to DA-N



WKIS ~~WORZ~~

MEASURED WORZ, Orlando, Florida 1KW, 5KW-LS, U, DA-2 740 kc
NIGHT (3/29/54G)



○ MEASURED RAD AL VALUES

FIGURE 1-A

WORZ - ORLANDO, FLORIDA

HORIZONTAL RADIATION PATTERN

MEASURED NIGHT

	WEST	CENTER	EAST			
ANTENNA	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
PHASE DEG	175°	0°	-175°			
HEIGHT DEG	90°	90°	90°			
FIELD RATIO	1.00	1.95	1.00			
NON-DA ANT.						

SPACING 90° ORIENTATION N 97° E

FREQUENCY 740 KC
ASSIGNMENT: 5 Kw-LS, 1 Kw-N (DA-2)
LONGITUDE 81 DEG. 25 MIN. 37 SEC.
LATITUDE 28 DEG. 32 MIN. 55 SEC.
WHEN USED: NIGHTTIME
R.M.S FIELD 182.5 MV/M (MEASURED)
DATE JANUARY 1954

ROBERT M. SILLIMAN
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.

WKIS ~~WORZ~~

MEASURED WORZ, Orlando, Florida 1KW, 5KW-LS, U, DA-2 740 kc
NIGHT NULLS (3/29/54G)

granted CP 10/3/56 to change to DA-N only
& granted license 10/9/57

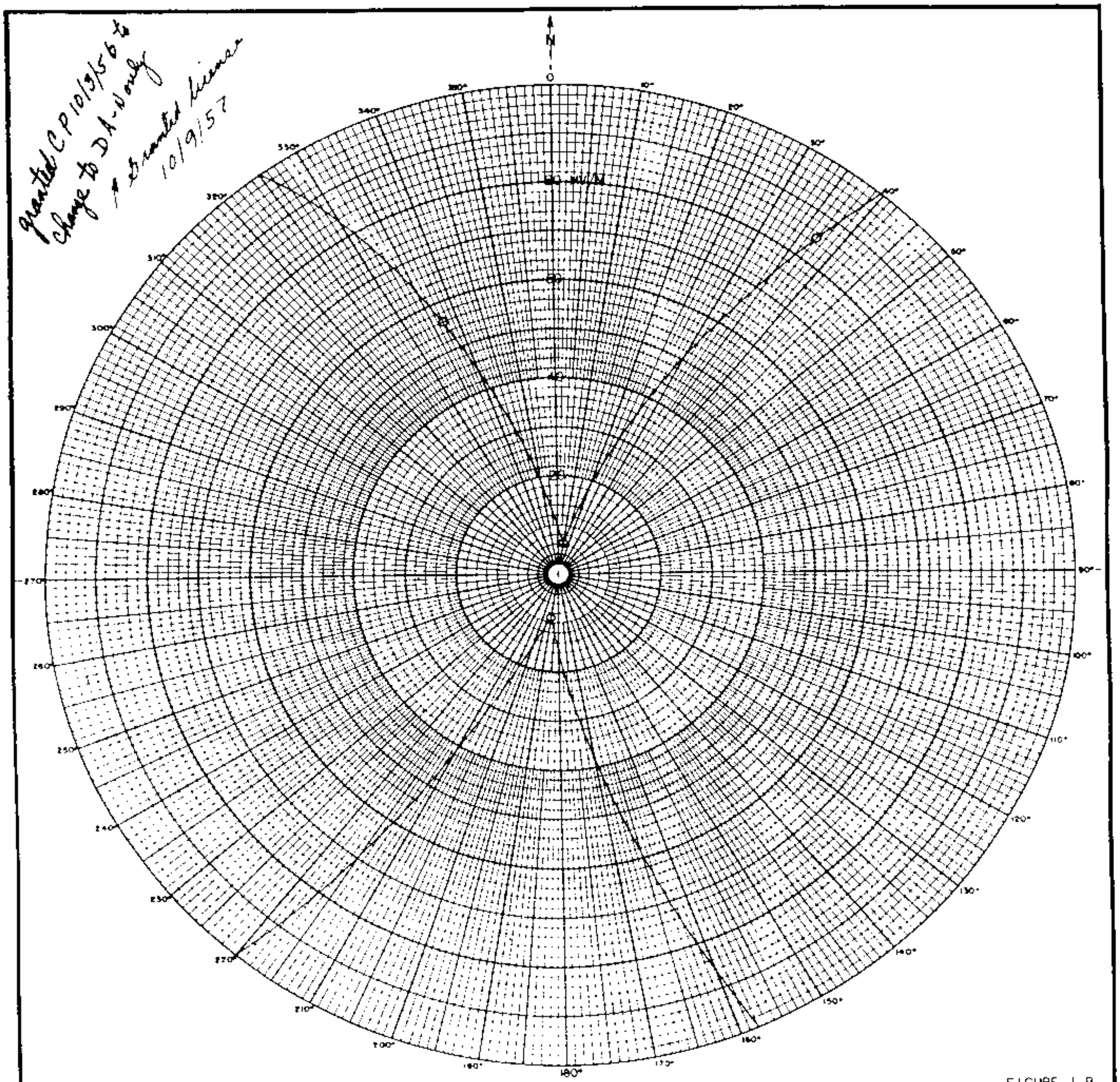


FIGURE 1-B

O MEASURED RADIAL VALUES

WORZ - ORLANDO, FLORIDA

HORIZONTAL RADIATION PATTERN

MEASURED NIGHT NULLS

	WEST	CENTER	EAST			
ANTENNA	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
PHASE DEG	175°	0°	-175°			
HEIGHT DEG	90°	90°	90°			
FIELD RATIO	1.00	1.95	1.00			
NON-DA ANT.						

SPACING 90° ORIENTATION N 57° E

FREQUENCY:	740 KC
ASSIGNMENT:	5 KW-LS, 1 KW-N (DA-2)
LONGITUDE:	81 DEG 25 MIN 37 SEC.
LATITUDE:	28 DEG. 32 MIN. 53 SEC.
WHEN USED:	NIGHTTIME
RMS FIELD	182.5 MV/M (MEASURED)
DATE	JANUARY 1954

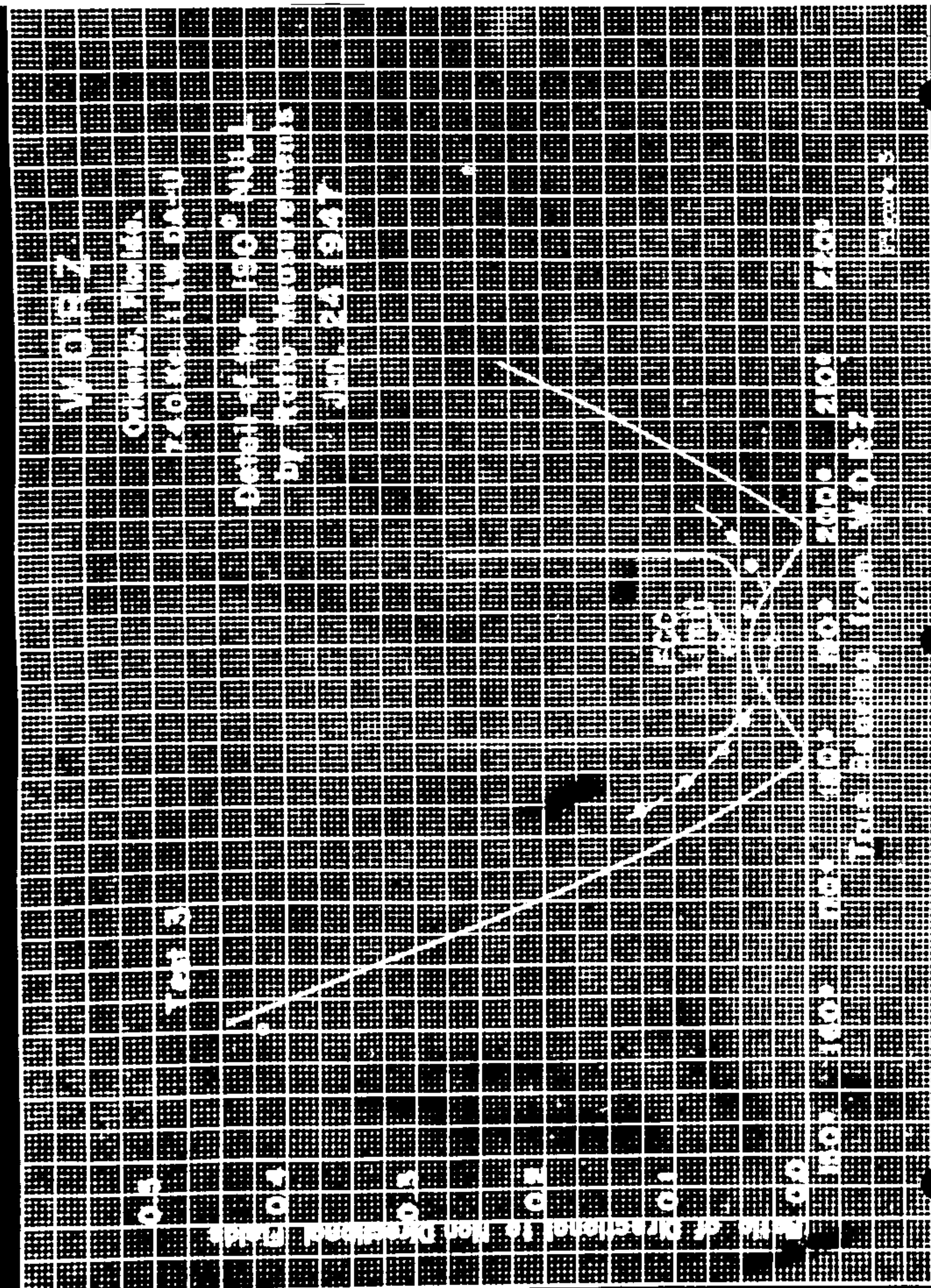
ROBERT M. SILLIMAN

CONSULTING RADIO ENGINEERS

WASHINGTON, D. C.

FCC File No. BL-5228 Accepted 3/12/54 WORZ, Orlando, Florida 740 kc

PROPOSED NIGHT NULLS | Station WKIS Orlando, Florida | 1kw, 5kw-LS, DA-2, U | WKIS 740 KC



WNOP

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WNOP

Main Studio: Newport, Kentucky

Frequency: 740 kHz

Power: 1 kW

Notification List No. 1697

Date: August 11, 1976

Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 39° 05' 41"
West Longitude: 84° 34' 59"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	N(#2)	S(#1)	W(#3)
HEIGHT ABOVE INSULATORS:	295.4'	295.4'	295.4' (80°)
PHASING:	+96.24°	0°	+148.67°
FIELD RATIO:	1.052	1.000	1.618

SPACING AND ORIENTATION: From tower #1, tower #2 is spaced 702.9' (190.37°) on a line bearing 5.58° true, and tower #3 is spaced 234.8' (63.59°) on a line bearing 286.12° true.

GROUND SYSTEM: 120-280' equally spaced copper radials plus 120-50' inter-spaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of system are bonded together.

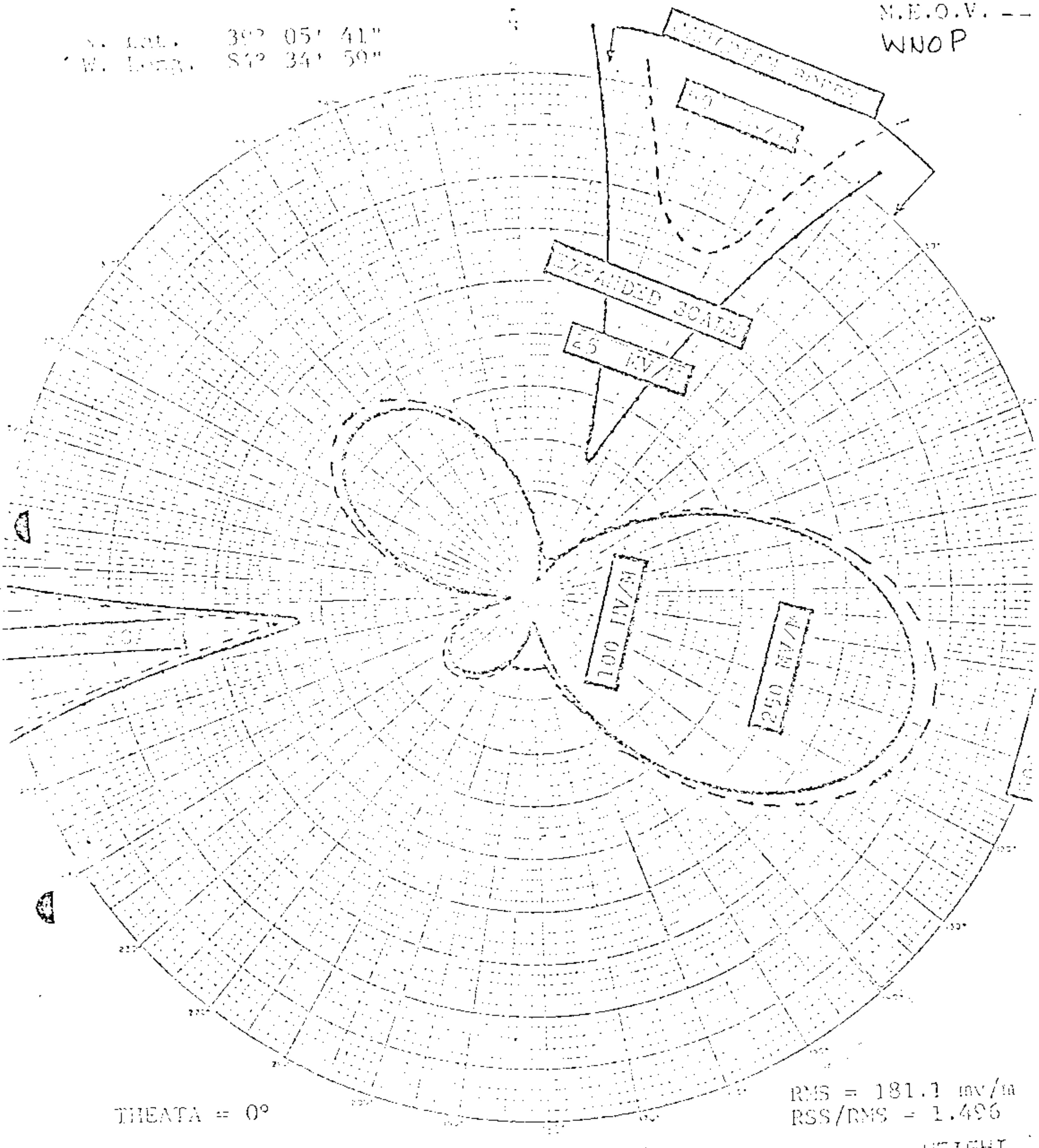
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL
RMS
181.1 mv/m

Note: This notification concerns changes in meovs of radiation in the directional antenna pattern.

N. LAT. 39° 05' 41"
W. LONG. 84° 34' 50"

M.E.O.V. --
WNOP



THEATA = 0°

RMS = 181.1 mv/m
RSS/RMS = 1.496

ORIENTATION DEGREES	SPACING DEGREES	SPACING FEET	FIELD RATIO	PHASING DEGREES	HEIGHT DEGREES	HEIGHT FEET
0.000	0.000	0.000	1.000	0.000	90.000	295.
5.590	190.??4	709.877	1.0??	9?.???	90.000	295.
321.120	??.???	834.77?	1.618	1??.???	90.000	[illegible]

JOHN H. MULLANEY

CONSULTING

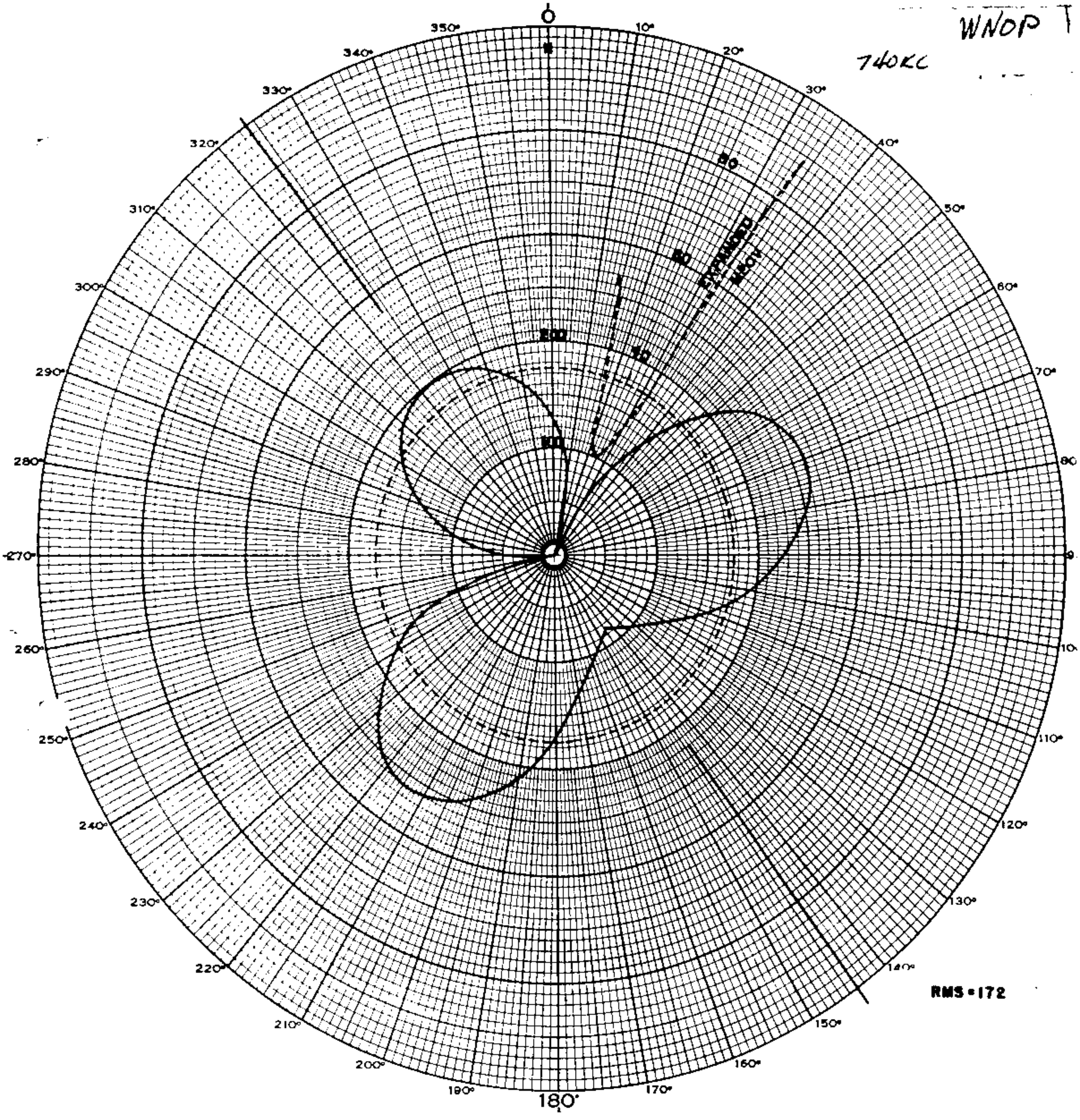
WNOP NEWPORT KY., DA-D

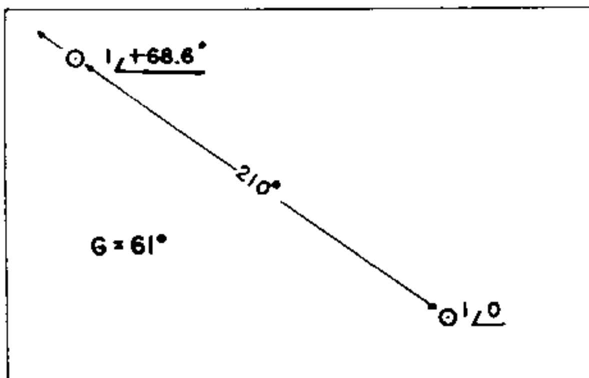
740 KHZ 1.000 KW 1

FIGURE 3

Nov. 22, 1974

WNOP T
740KC



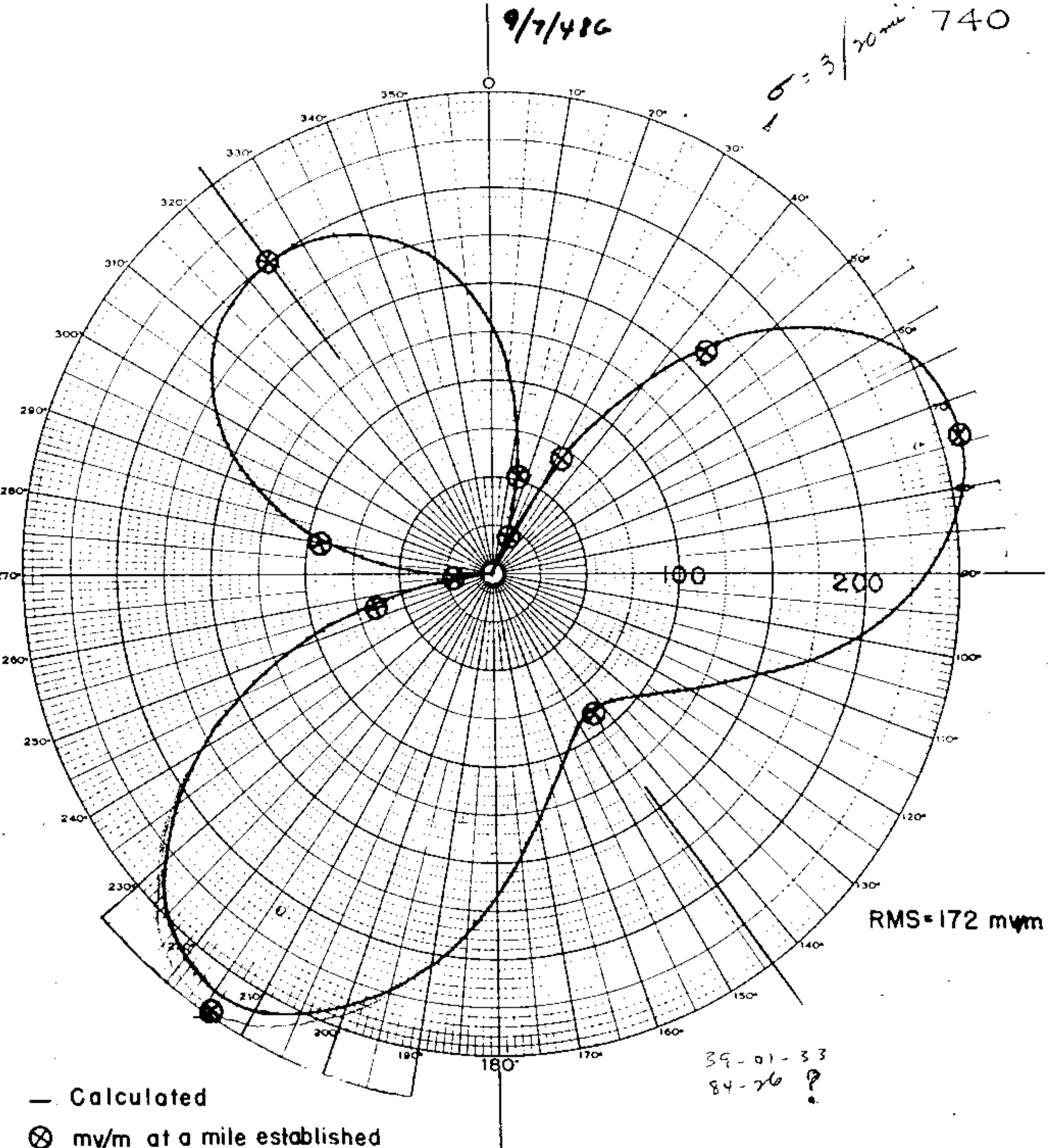


PROPOSED HORIZONTAL PATTERN
W-WNL NEWPORT, KY.
740kc 1 Kw DA-D

E. C. PAGE
Consulting Radio Engineers
Washington, D. C.

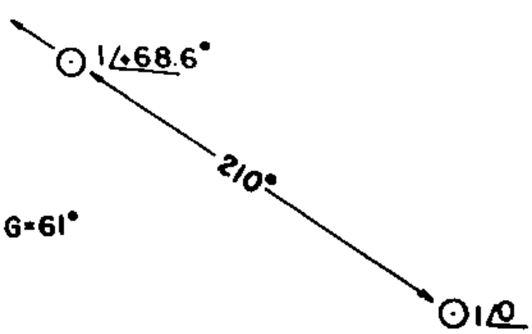
VE:FL Jan. 30, 1948

WNOP
740



— Calculated

⊗ mv/m at a mile established by radial measurements



G=61°

FIGURE 1 Measured Pattern	
WNOP 740 kc	Newport, Ky. 1kw D
E.C. PAGE Consulting Radio Engineers Washington D. C.	
VE:RO	Aug.16,1948

WRNR
740 KHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: W R N R

Main Studio: Martinsburg, West Virginia

Frequency: 740 kHz

Power: 0.5 kW Day

Notification List No. 1784

Date: November 9, 1979 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 39° 28' 25"
West Longitude: 77° 55' 56"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	#1 (SW)	#2 (C)	#3 (NE)
HEIGHT ABOVE INSULATORS:	258'	258'	258' (70°)
DAY PHASING:	0°	134.47°	302.0°
DAY FIELD RATIO:	1.0	1.634	1.030

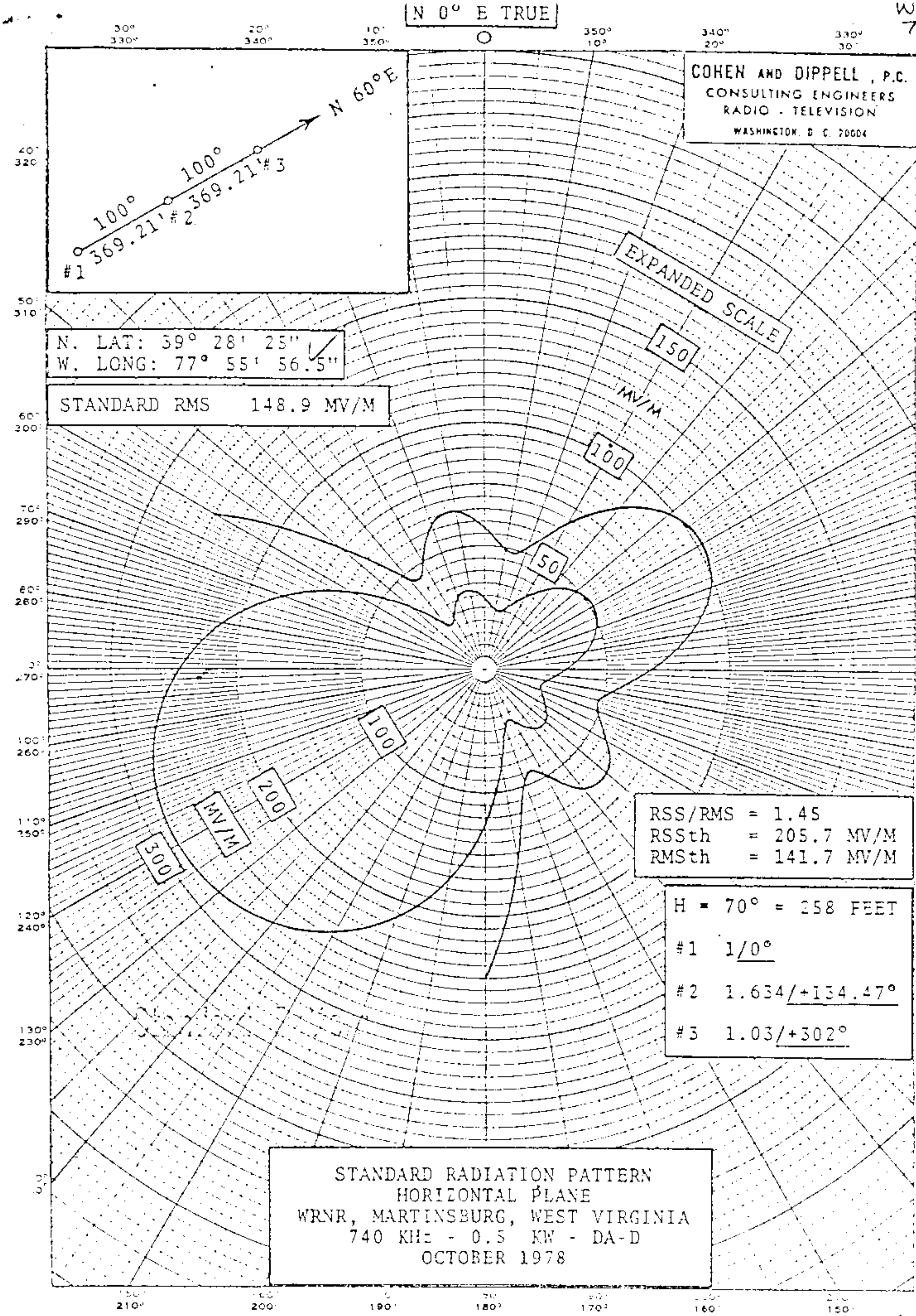
SPACING AND ORIENTATION: Adjacent towers are spaced (100°) on a line bearing 60° true.

GROUND SYSTEM: 120-332' equally spaced copper radials plus 120-50' inter-spaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	141.7 mV/m	205.7 mV/m	148.9 mV/m

WKNK
740 KHZ



N 0° E TRUE
COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004
N 60°E
100°
100°
369.21'
369.21'
#1
#2
#3
EXPANDED SCALE
150
MV/M
100
50
N. LAT: 39° 28' 25"
W. LONG: 77° 55' 56.5"
STANDARD RMS 148.9 MV/M
100
200
MV/M
300
RSS/RMS = 1.45
RSSth = 205.7 MV/M
RMSth = 141.7 MV/M
H = 70° = 258 FEET
#1 1/0°
#2 1.634/+134.47°
#3 1.03/+302°
STANDARD RADIATION PATTERN
HORIZONTAL PLANE
WRNR, MARTINSBURG, WEST VIRGINIA
740 KHz - 0.5 KW - DA-D
OCTOBER 1978

C.OR.OR

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WRNR — Main Studio: Martinsburg, West Virginia

Frequency: 740 kHz — Power: 0.25 kW

Notification List No. 1648 — Date: September 5, 1975 — Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 39° 28' 25"
West Longitude: 77° 55' 56"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 3
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	SW(#1)	C(#2)	NE(#3)
HEIGHT ABOVE INSULATORS:	258'	258'	258' (70°)
PHASING:	0°	+151.12°	+317°
FIELD RATIO:	1.0	1.671	1.06

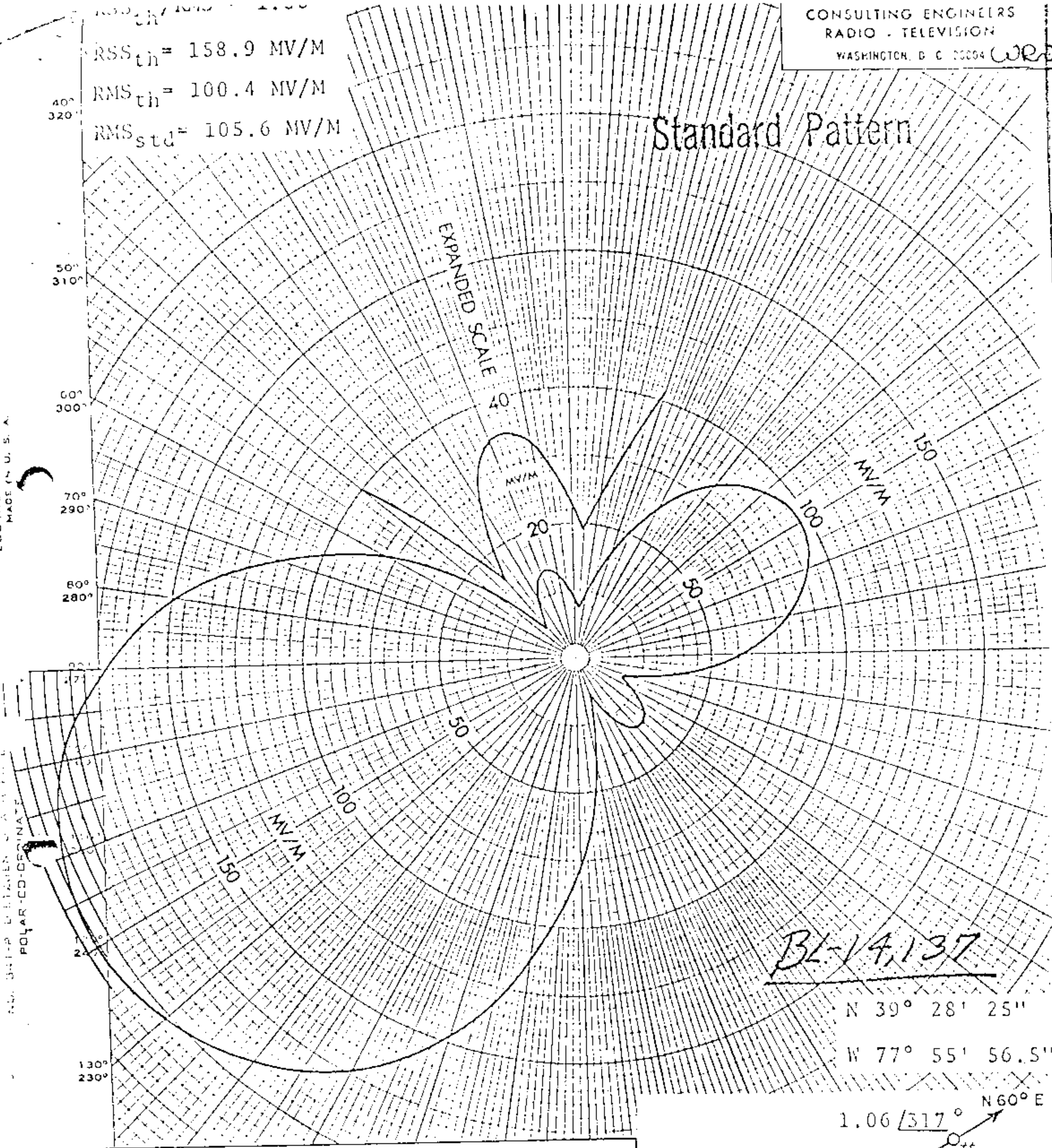
SPACING AND ORIENTATION: Adjacent elements are spaced 369' (100°) on a line bearing 60° true.

GROUND SYSTEM: 120-332' equally spaced copper radials plus a 24' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

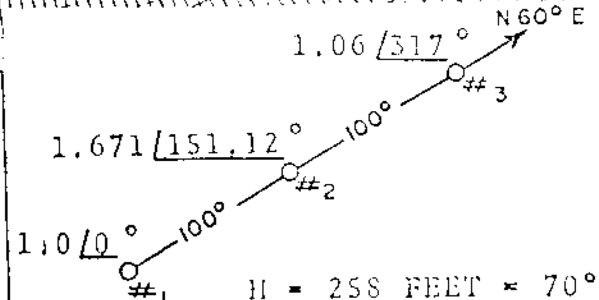
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
100.4 mv/m	158.9 mv/m	105.6 mv/m

CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004



STANDARD RADIATION PATTERN
HORIZONTAL PLANE
FOR THE PROPOSED DAYTIME OPERATION
WRNR, MARTINSBURG, WEST VIRGINIA
740 KHz - 250 WATTS - DA-D
JULY 1975



H = 258 FEET = 70°
S = 369 FEET = 100°

WSBR

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WSBR

Main Studio: Boca Raton, Florida

Frequency: 740 KHz

Power: 0.5 Kw Night 1 Kw Day

Notification: 1778

Date: August 30, 1978 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE DAYTIME AND NIGHTTIME ANTENNA SYSTEMS:

Daytime:	North Latitude:	26°	20'	46"
	West Longitude:	80°	12'	32"
Nighttime:	North Latitude:	26°	20'	43"
	West Longitude:	80°	12'	32"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA 2)
Number of elements: 5
Type of elements: Series excited, uniform cross-section, guyed, Self supporting, tapered, vertical steel towers.

TOWER :	NE (#1)	NC (#2)	NW (#3)	SW (#4)	SC (#5)	
HEIGHT ABOVE INSULATORS :	330'	330'	330'	330'	330'	(89.4°)
NIGHT PHASING :	-	- 103°	0°	25°	- 78°	
NIGHT FIELD RATIO:	-	0.78	1	1.16	0.9	
DAY PHASING :	+217.77°	0°	-217.77°	-	-	
DAY FIELD RATIO :	1.0	1.332	1.0	-	-	

SPACING AND ORIENTATION : Using the NC (#2) tower as reference the NE (#1) tower is spaced 370' (100.2°) in length on a line bearing 66° true, the NW (#3) tower is spaced 370' (100.2°) in length on a line bearing 246° true, and the SC (#5) tower is spaced 617' (167.1°) on a line bearing 170° True. Using the NW (#3) tower as reference, the SW (#4) tower is spaced 617' (167.1°) on a line bearing 170° True.

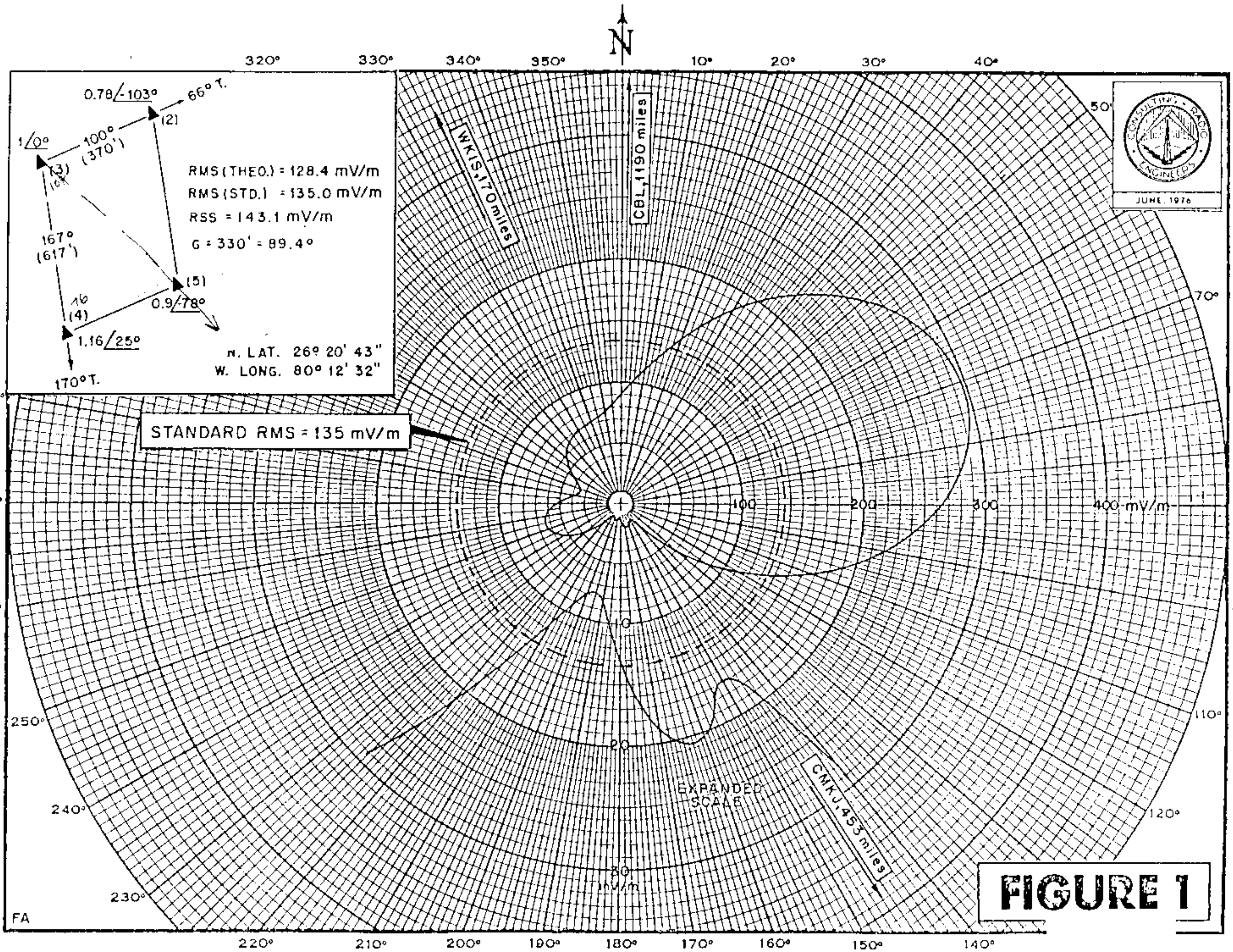
GROUND SYSTEM: 120 - 335' to ________' equally spaced copper radials plus a 32' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of system are bonded together.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day 1/	180 mv/m		
Night 1/	128.4 mv/m	143.1 mv/m	135.0 mv/m

1/ By adjustment of input power.

Note: Please retain the Daytime directional antenna radiation pattern notified for Station WFSG in United States Change List Number 1040 dated December 11, 1963 and attach to this Revised Description Sheet and Nighttime patterns. This notification concerns only a change in the Nighttime operation of the station with Daytime operation continued as previously notified. Also correction of antenna height in electrical degrees of the Daytime antenna.



WSBR - 740 kHz

FIGURE 1

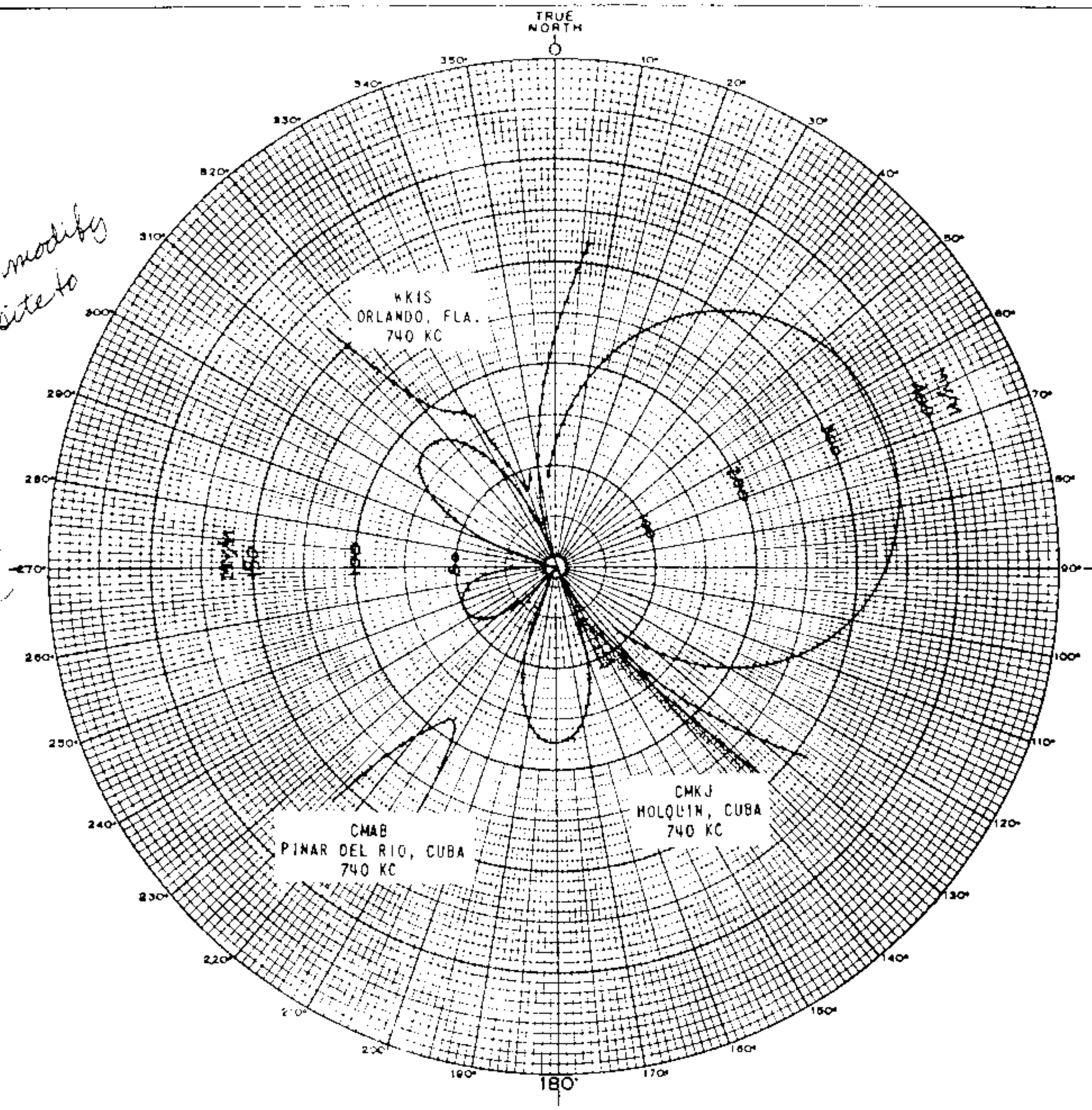
~~WFSG~~ WSBR

PROPOSED DAY (6-14-61g) | New; Boca Broadcasters Boca Raton, Florida | 1kw, DA-D,D 740 KC

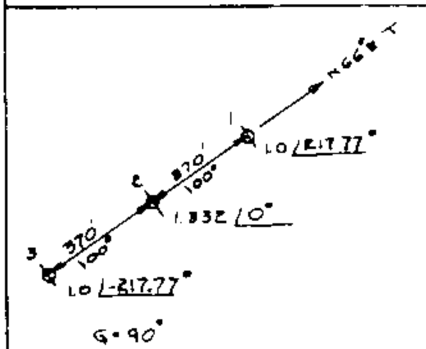
1-11-62 granted CP for new station

6-12-63 application to modify P to change site to 26 20 46 80 12 32

12-3-63 granted Mod CP to change site.



CALCULATED ———
M.E.O.V. - - - -



FIELD INTENSITY VERSUS AZIMUTH

ELEVATION ANGLE 0°	BOCA BROADCASTERS
RMS 180 MV/M	BOCA RATON, FLORIDA
N. LATITUDE 26° 20' 38"	740 KC - 1 KW - DAYTIME (DA-D)
W. LONGITUDE 80° 10' 56"	PROPOSED
SUPERSEDES 610419	HORIZONTAL RADIATION
PATTERN NO 610523	PATTERN
RUSSELL P. MAY CONSULTING RADIO ENGINEER WASHINGTON 5, D.C.	FIGURE NO. 2B

FCC File No. BP-14568
Accepted 6-8-61 (Amended)

Boca Broadcasters
Boca Raton, Florida 740 KC

WSBR

Measured Day
(9-28-65ct)

Station WSBR
Boca Raton, Florida

1kw,DA-D,D
740 kc

1C 11-1-65

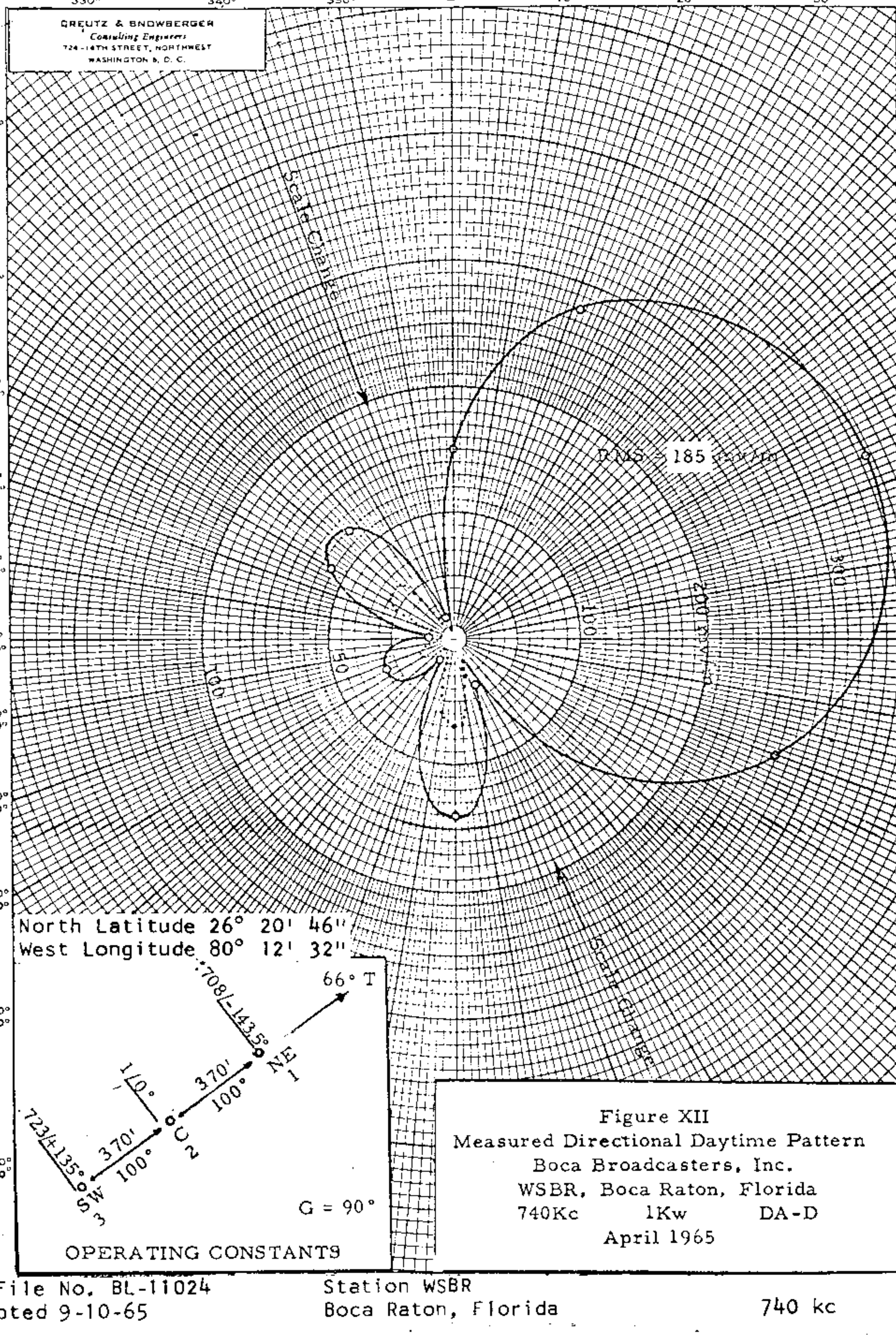


Figure XII
Measured Directional Daytime Pattern
Boca Broadcasters, Inc.
WSBR, Boca Raton, Florida
740Kc 1Kw DA-D
April 1965

EUGENE DIETZGEN CO. MADE IN U.S.A.
NO. 340R-P DIETZGEN GRAPH PAPER POLAR CO-ORDINATE

FCC File No. BL-11024
Accepted 9-10-65

Station WSBR
Boca Raton, Florida

740 kc

WSBR

Measured Non-DA
(9-28-65ct)

Station WSBR
Boca Raton, Florida

1kw,DA-D,D
740 kc

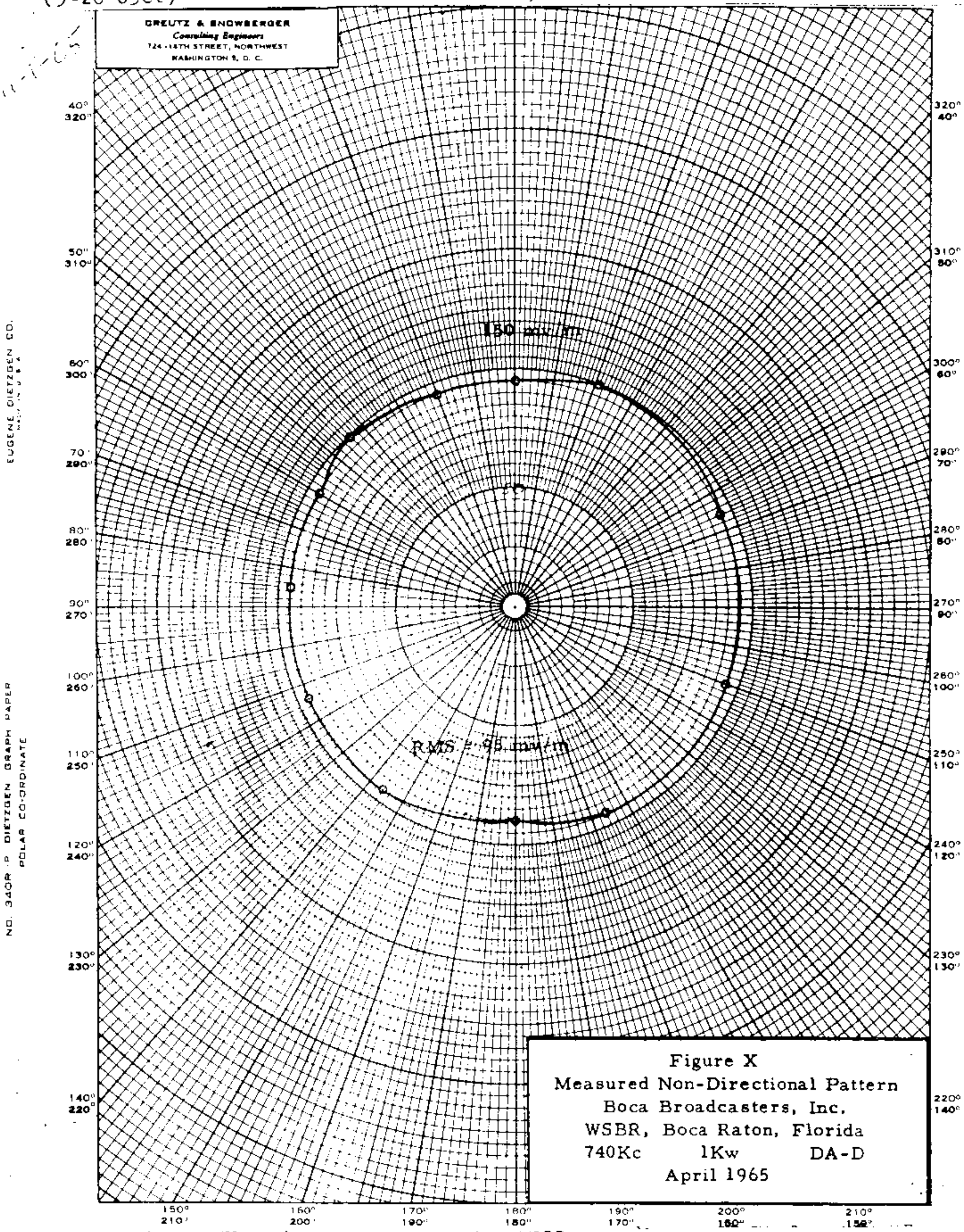


Figure X
Measured Non-Directional Pattern
Boca Broadcasters, Inc.
WSBR, Boca Raton, Florida
740Kc 1Kw DA-D
April 1965

FCC File No. BL-11024
Accepted 9-10-65

Station WSBR
Boca Raton, Florida

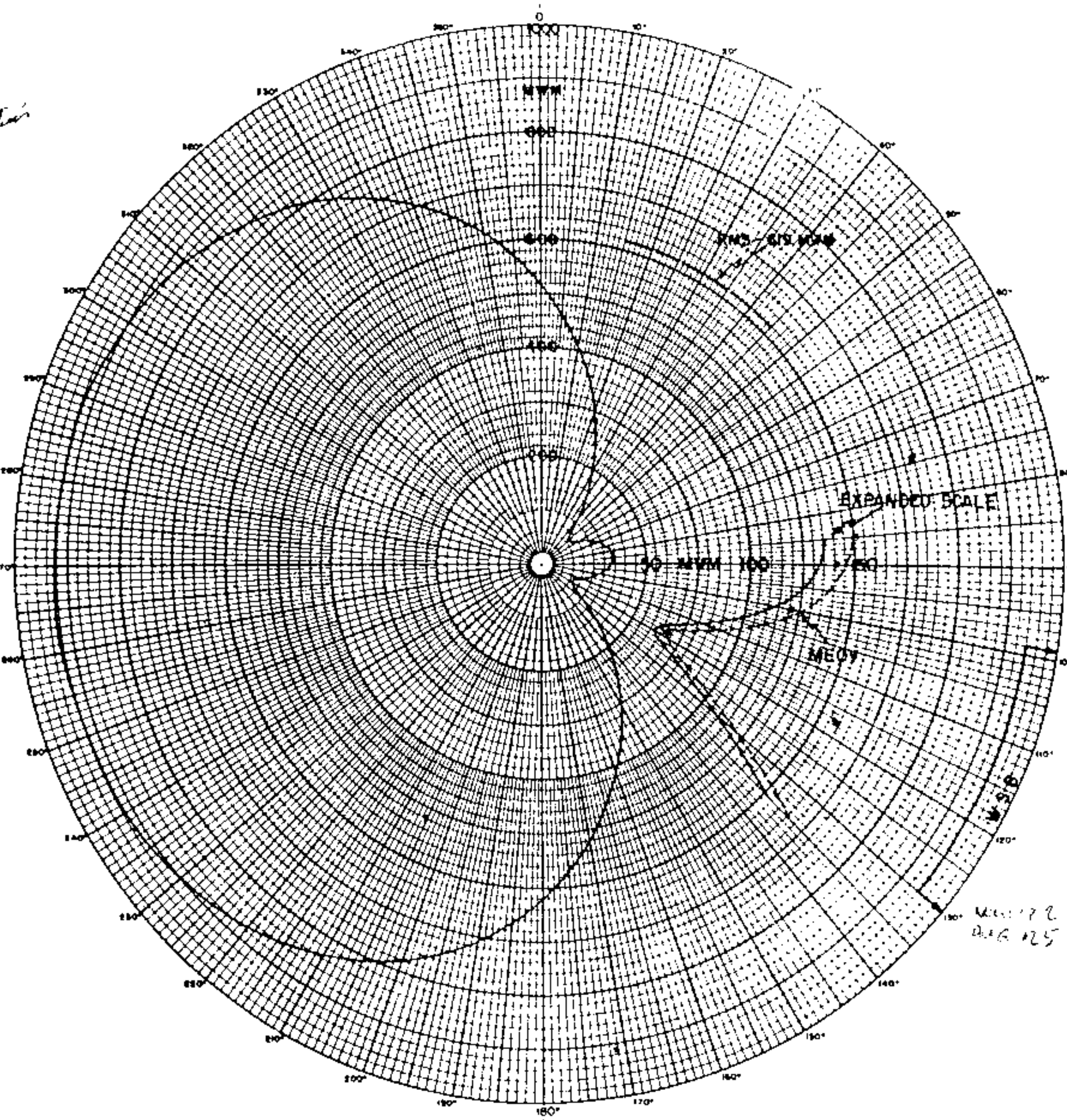
740 kc

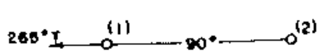
KMMJ

PROPOSED DAY & NIGHT (7/15/57g)

Station KMMJ 10kw, DA-1, L-WSB
Grand Island, Nebraska 750 KC

Granted (CP) increase in power 1/9/57 & installation of DA





W LATITUDE 41° 08' 14"
LONGITUDE 97° 59' 32"

ANTENNA NUMBER	AZIMUTH DEG	SPACING DEG	PHASING DEG	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG
1	SEE DIAGRAM	0	0	1	193.5	99.3 (360')
2		90	105	1.14		

HORIZONTAL PLANE PATTERN
FOR
PROPOSED KMMJ
GRAND ISLAND, NEBRASKA
750 KC 10 KW L-WSB, DA
570620

KEAR AND KENNEDY
CONSULTING ENGINEERS
WASHINGTON, D.C.

BP-4535

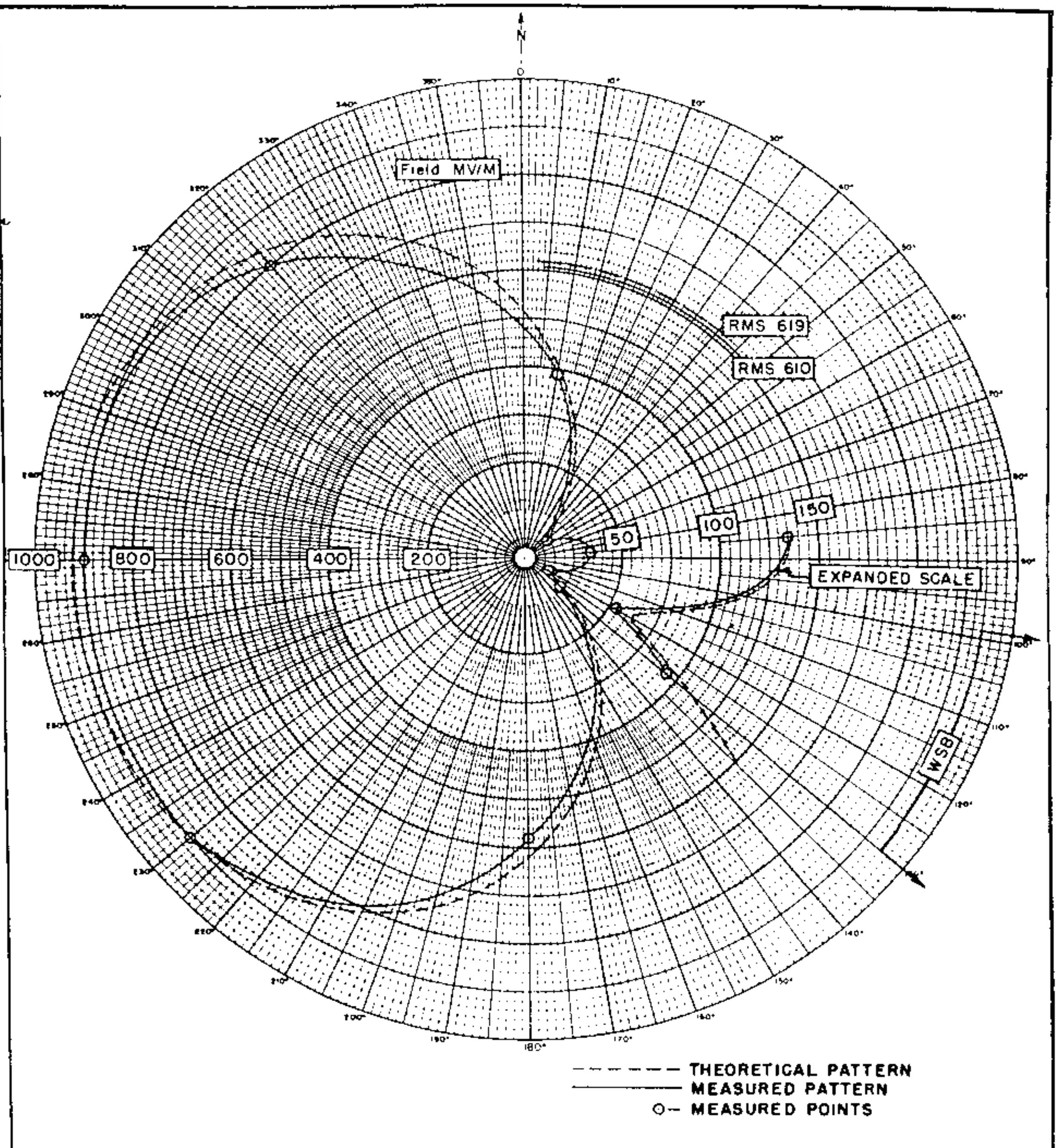
FCC File No. BP-4535
Accepted 7/10/57 (Amended)

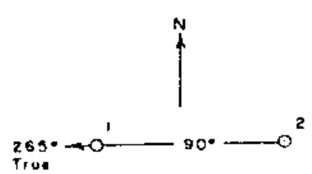
KMMJ
Grand Island, Nebraska 750 KC

KMMJ

MEASURED DAY & NIGHT (5-8-58g) | Station KMMJ Grand Island, Nebraska | 10kw, DA-1, L-WSB 750 KC

Granted license 6/16/58 for change in antenna & ground system





LATITUDE 41° 08' 08"
LONGITUDE 97° 59' 34"

ANTENNA NUMBER	AZIMUTH DEG	SPACING DEG	PHASING DEG	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG
1		0	0	1	191.5	94 (343)
2		90	105	1.14		

MEASURED HORIZONTAL RADIATION PATTERN
KMMJ
GRAND ISLAND, NEBRASKA
750 KC 10 KW L-WSB, DA
580314

KEAR AND KENNEDY
CONSULTING ENGINEERS
WASHINGTON, D.C.

FCC File No. BL-7093
Accepted 4-23-58

KMMJ
Grand Island, Nebraska
750 KC

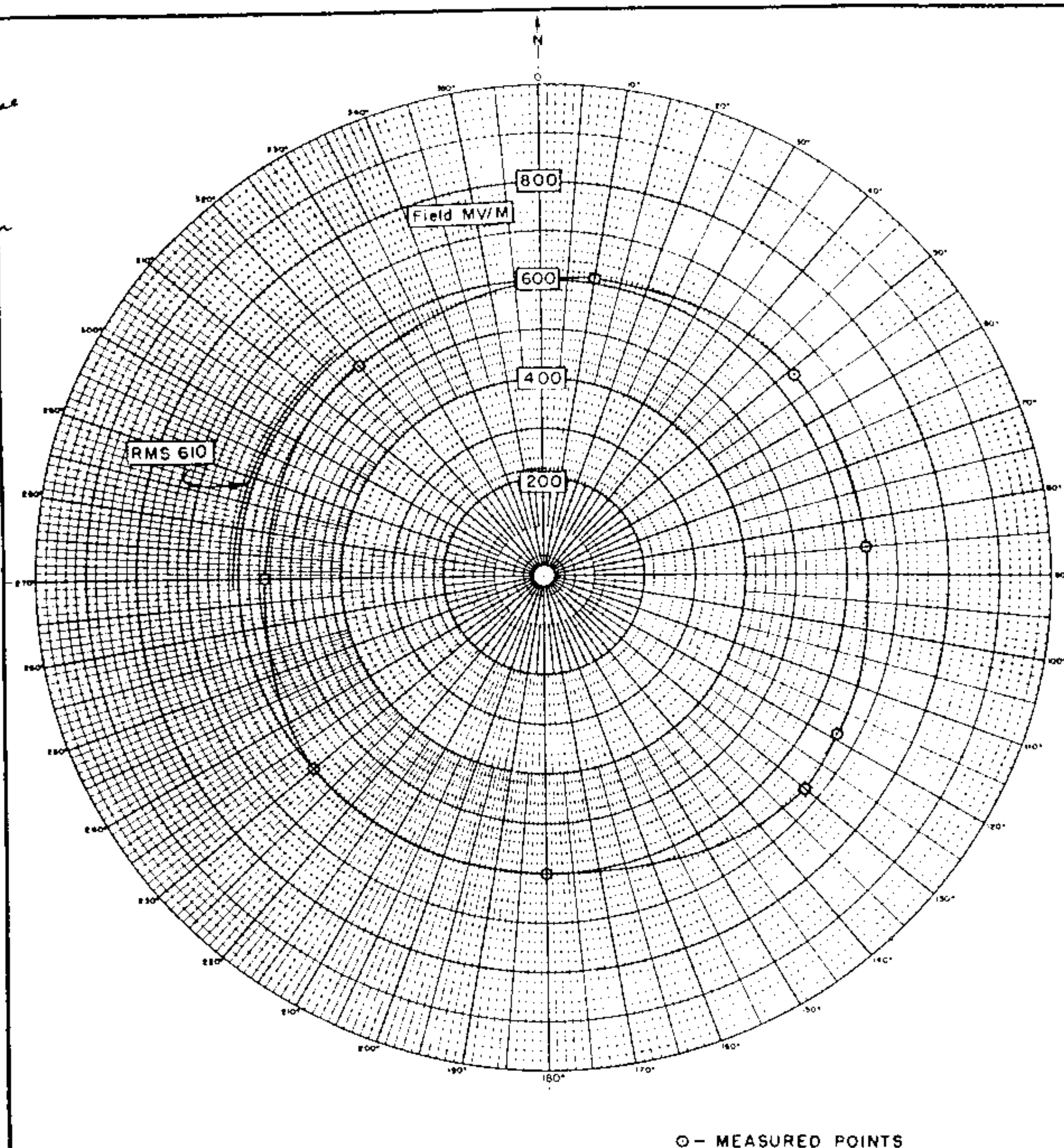
K MMJ

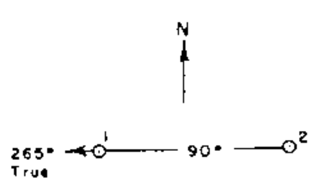
MEASURED NON-DA
(5-8-58g)

Station KMMJ
Grand Island, Nebraska

10kw, DA-1, L-WSB
750 KC

Granted license 6/16/58 for change in antenna & ground system





LATITUDE 41° 08' 08"
LONGITUDE 97° 59' 34"

ANTENNA NUMBER	AZIMUTH DEG	SPACING DEG	PHASING DEG	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG

MEASURED NON-DIRECTIONAL HORIZONTAL RADIATION PATTERN
KMMJ
GRAND ISLAND, NEBRASKA
750 KC 10 KW L-WSB, DA
580314

KEAR AND KENNEDY
CONSULTING ENGINEERS
WASHINGTON, D.C.

FCC File No. BL-7093
Accepted 4-23-58

KMMJ
Grand Island, Nebraska

750 KC

KXL

SUPPLEMENTAL DIRECTIONAL
ANTENNA DESCRIPTION SHEET

Station: KXL   Main Studio: Portland, Oregon

Frequency: 750 kHz   Power: 50 kW

Notification List No. 1599   Date: September 25, 1974   Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude:	45°	24'	05"
West Longitude:	122°	26'	47"

Authorized for Day and Night operation (DA-1).

Predicted effective Field: 1273.27 mv/m at rated power.

Note: Please retain the description sheet and directional antenna radiation patterns notified for station KXL in United States Change List Number 807, dated April 22, 1959, and attach to this supplemental Description Sheet. This notification is for the purpose of indicating only a change in the geographical coordinates of the center of the antenna system.

CTR NO 30550A3

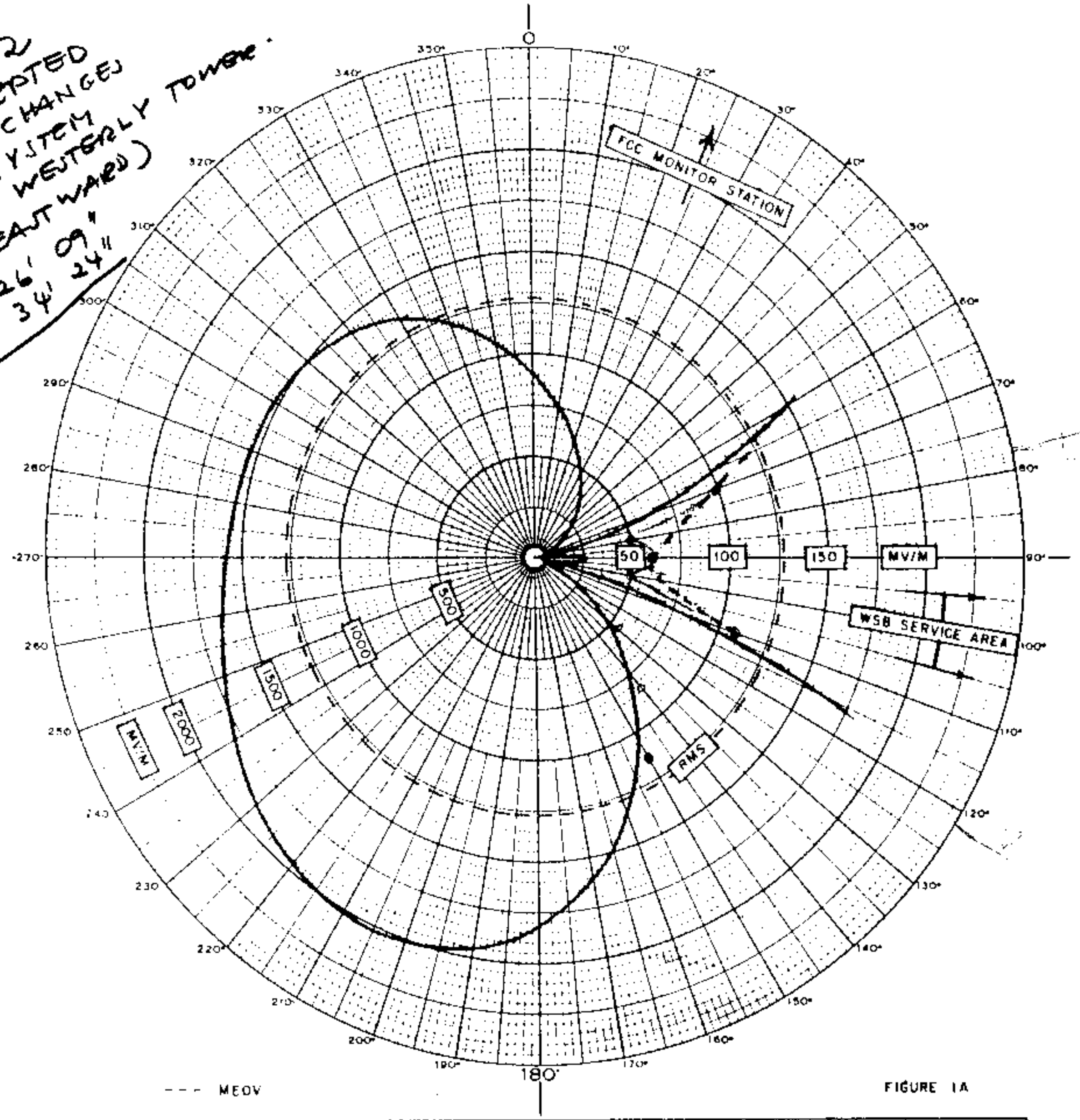
KXL

PROPOSED DAY & NIGHT
(11-17-58g)

Station KXL
Portland, Oregon

50kw, DA-1, Limited
750 KC

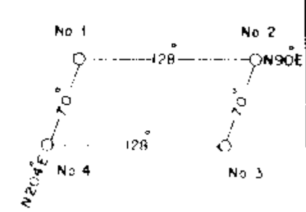
4-3-68
BP-18112
APPL. ACCEPTED
FOR CP CHANGES
IN ANT. SYSTEM
(MOVE TWO WESTERLY TOWER.
934 FT. EASTWARD)
N.L. 45° 26' 09"
W.L. 122° 34' 24"
OVER



--- MEOV

FIGURE 1A

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No	ELECTRICAL HEIGHT $G°$	TRUE TOWER ORIENTATION $\phi°$	SPACING $S°$	PHASING $\psi°$	HORIZONTAL FIELD mv/m E	FIELD RATIO F	ELEV ANGLE $\theta°$	ELEVATION RMS FIELD mv/m E_θ
1	77	—	—	56.50	510.33	1.00	0	1273.27
2	77	N90°E	128°	110.44		1.00	10	
3	90	N122.5°E	118.1°	53.94		1.00	20	
4	90	N204°E	70°	0		1.00	30	
5							40	
6							50	
7							60	
8							70	
9							80	
10							E_s = mv/m	
							θ_s =	

DAYTIME OPERATION [ ] NIGHTTIME OPERATION [ ]

STATION DATA

CALL	KXL
FREQUENCY	750 KC
POWER	50 KW
TIME OF OPERATION	L
TYPE OF OPERATION	DA-1
DAYTIME TOWERS	4
NIGHTTIME TOWERS	4
No RADIALS PER TOWER	120
LENGTH OF RADIALS	' "
GROUND SCREEN DIMENSION	
LAT.	N 45° 26' 09"
LONG.	W 122° 34' 31"
SUPERSEDES	
PATTERN No	580902

SEATTLE, PORTLAND, SPOKANE RADIO

Portland, Oregon

CONSULTING ENGINEERS GEORGE P. ADAIR ENGINEERING COMPANY WASHINGTON D. C.

FCC File No. BP-5325
Accepted 11-13-58 Amended

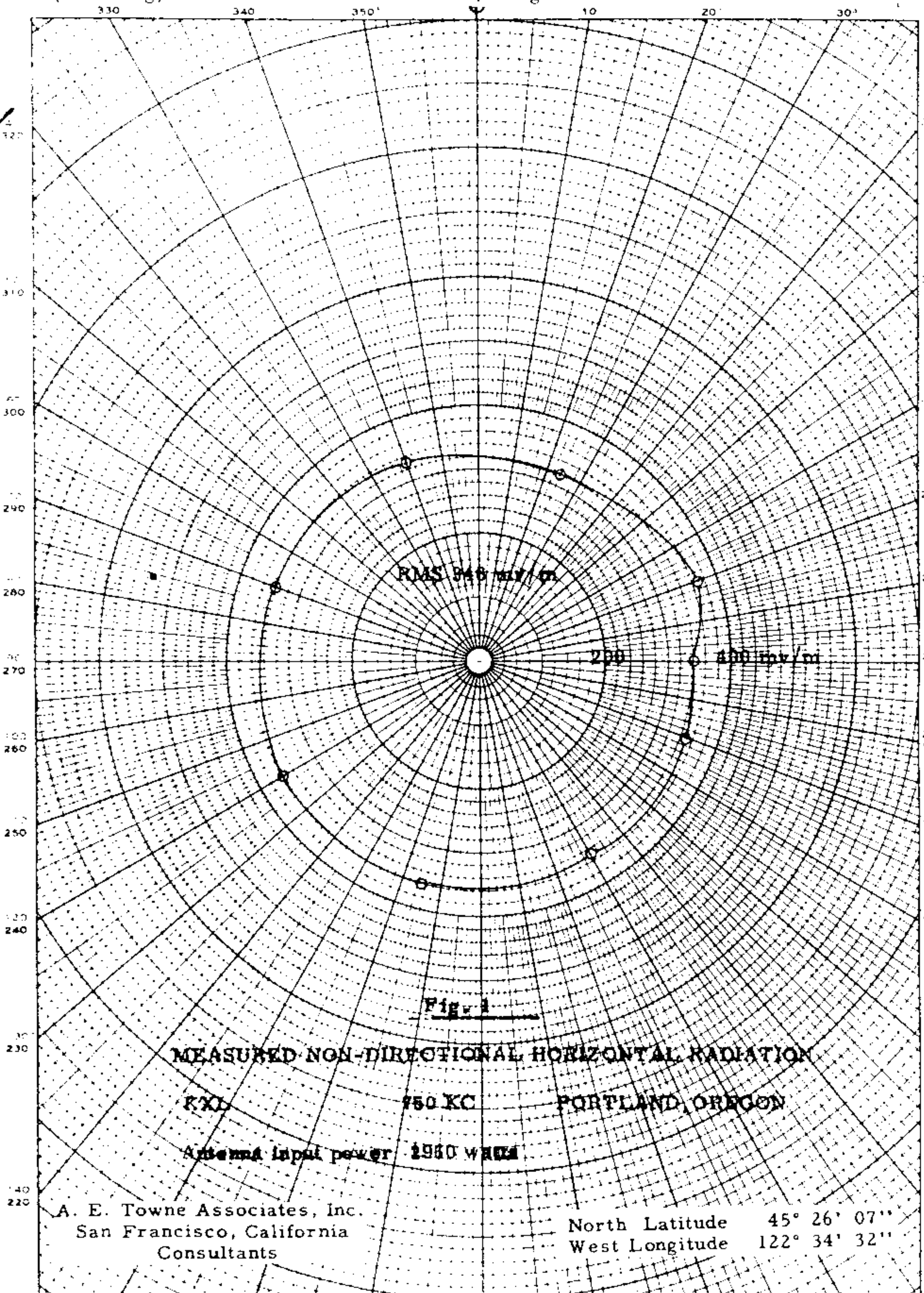
KXL
Portland, Oregon

750 KC

KXL

OVER

MEASURED NON-DA (8-12-60g) | Station KXL, Portland, Oregon | 50kw, DA-1, L-WSB, 750 KC



FCC File No. BL-8016
Accepted 7-27-60

KXL
Portland, Oregon

750 KC

ЛЕ.)

DIRECTIONAL ANTENNA DESCRIPTION SHEET

STATION: (New) Bonavista Bay, Nfld. MAIN STUDIO: Gander, Nfld.

POWER : 10 KW FREQUENCY : 750 KHz

NOTIFICATION LIST NO.: 354 DATE : May 12, 1976

GEOGRAPHICAL LOCATION: North Latitude: 48°40'27"

West longitude: 53°46'23"

ANTENNA CHARACTERISTICS

MODE OF OPERATION		:	DA-2	
NUMBER OF ELEMENTS		:	Two (2)	
TYPE OF ELEMENTS		:	Uniform cross-section, guyed steel towers, base-insulated for series feed	
TOWERS		:	No. 1 (West)	No. 2 (East)
Height above insulator		:	328' (90°)	328' (90°)
Overall height		:	333'	333'
Field ratio:	Day	:	1.0	1.0
	Night	:	1.0	0.95
Phasing:	Day	:	0°	0°
	Night	:	0°	-61°
Spacing		:	437' (120°)	
Orientation		:	Ref.	80°
GROUND SYSTEM		:	120 equiangularly-spaced radials of No. 10 B&S bare copper wire for each tower, buried approximately 8" deep, 525' long (.4 λ), except those bonded along the common cord between the towers	

PREDICTED EFFECTIVE FIELD:

Day : 178.4 mV/m for 1 KW
564 mV/m for 10 KW

Night: 181.3 mV/m for 1 KW
573 mV/m for 10 KW

Pierre Labarre, Eng.
Broadcast Consultant
Radio • Television • Cable

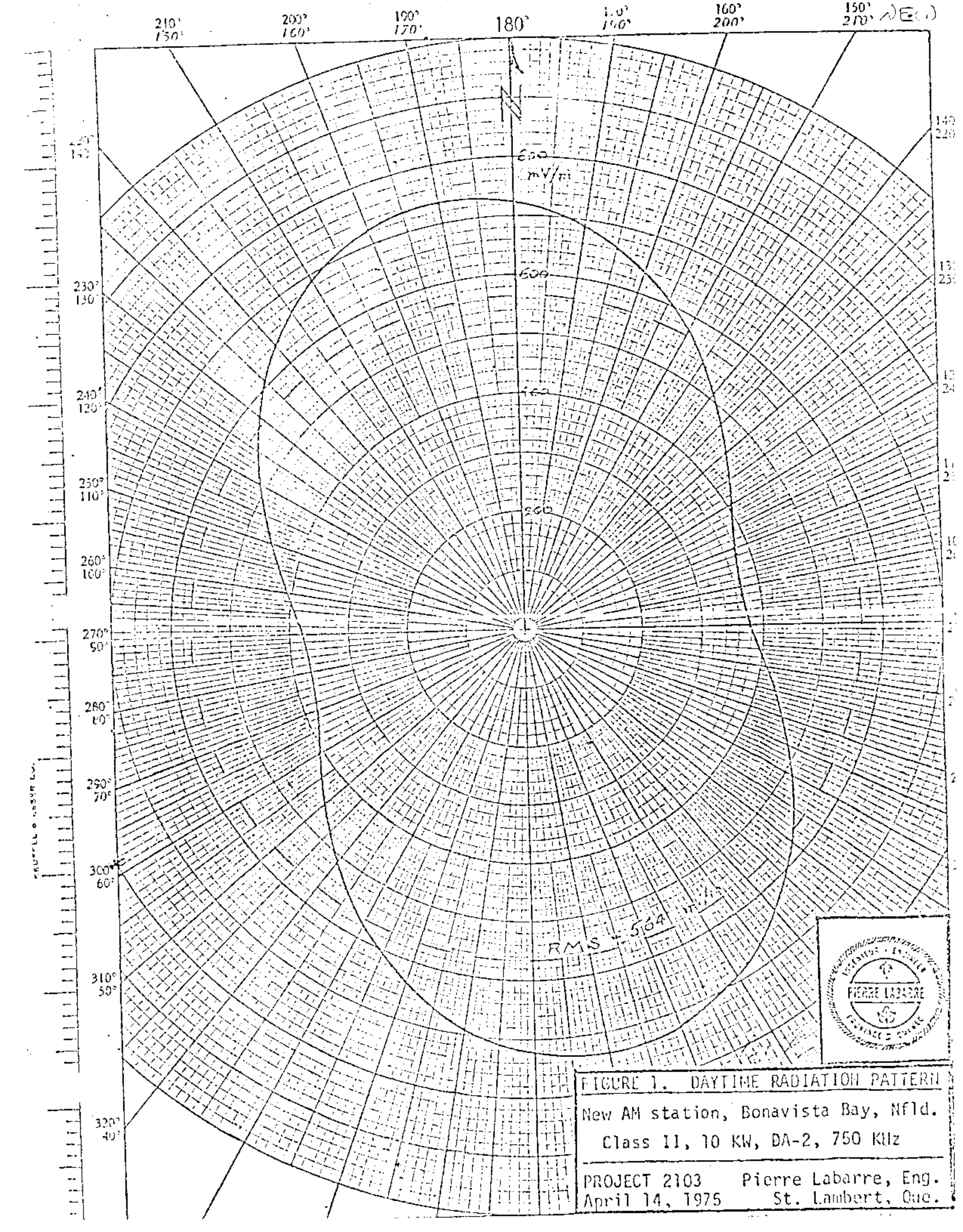


FIGURE 1. DAYTIME RADIATION PATTERN

New AM station, Bonavista Bay, Nfld.

Class II, 10 KW, DA-2, 750 KHz

PROJECT 2103 Pierre Labarre, Eng.
April 14, 1975 St. Lambert, Que.

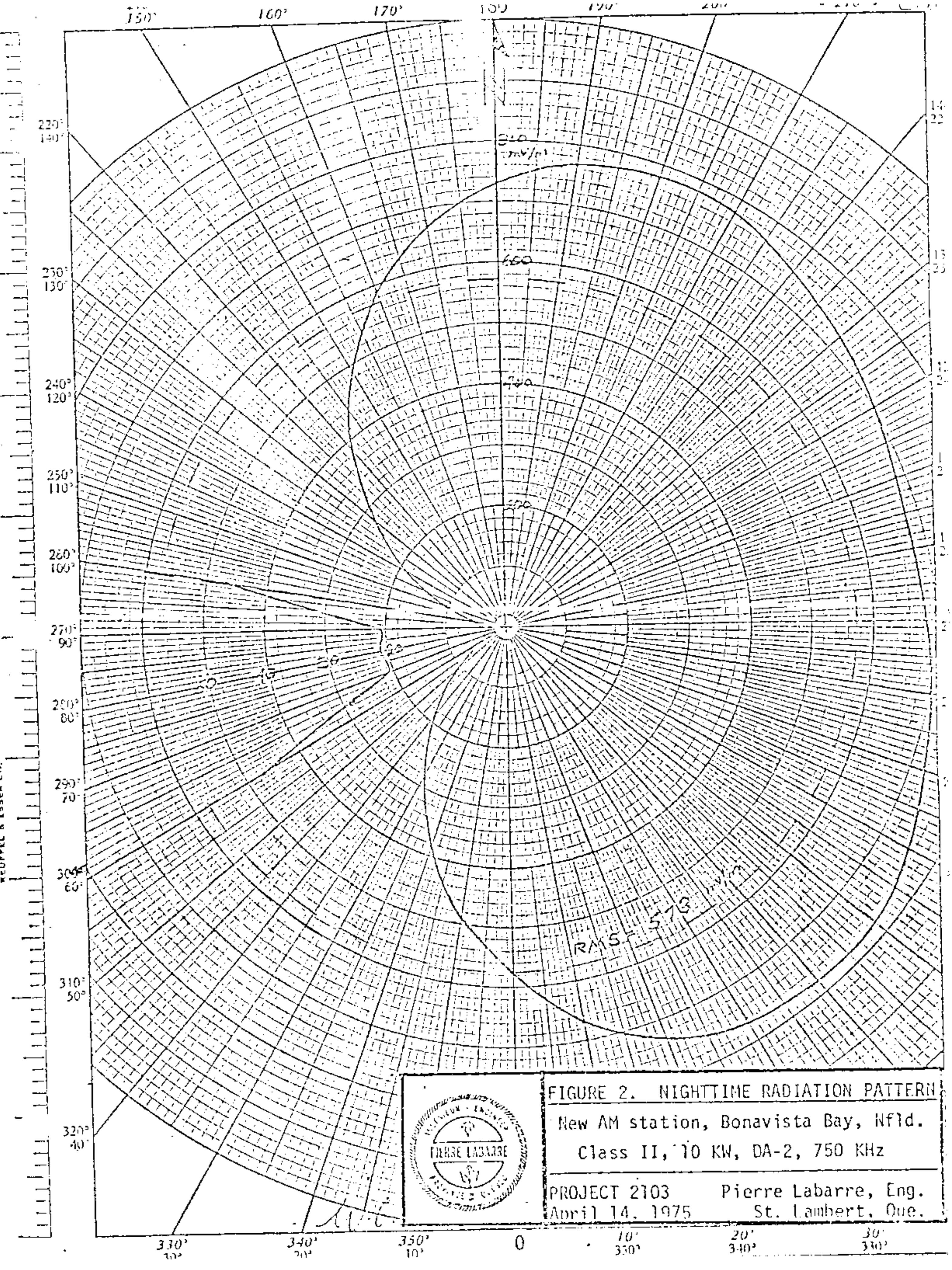


FIGURE 2. NIGHTTIME RADIATION PATTERN

New AM station, Bonavista Bay, Nfld.

Class II, 10 KW, DA-2, 750 KHz

PROJECT 2103 Pierre Labarre, Eng.

April 14, 1975 St. Lambert, Que.

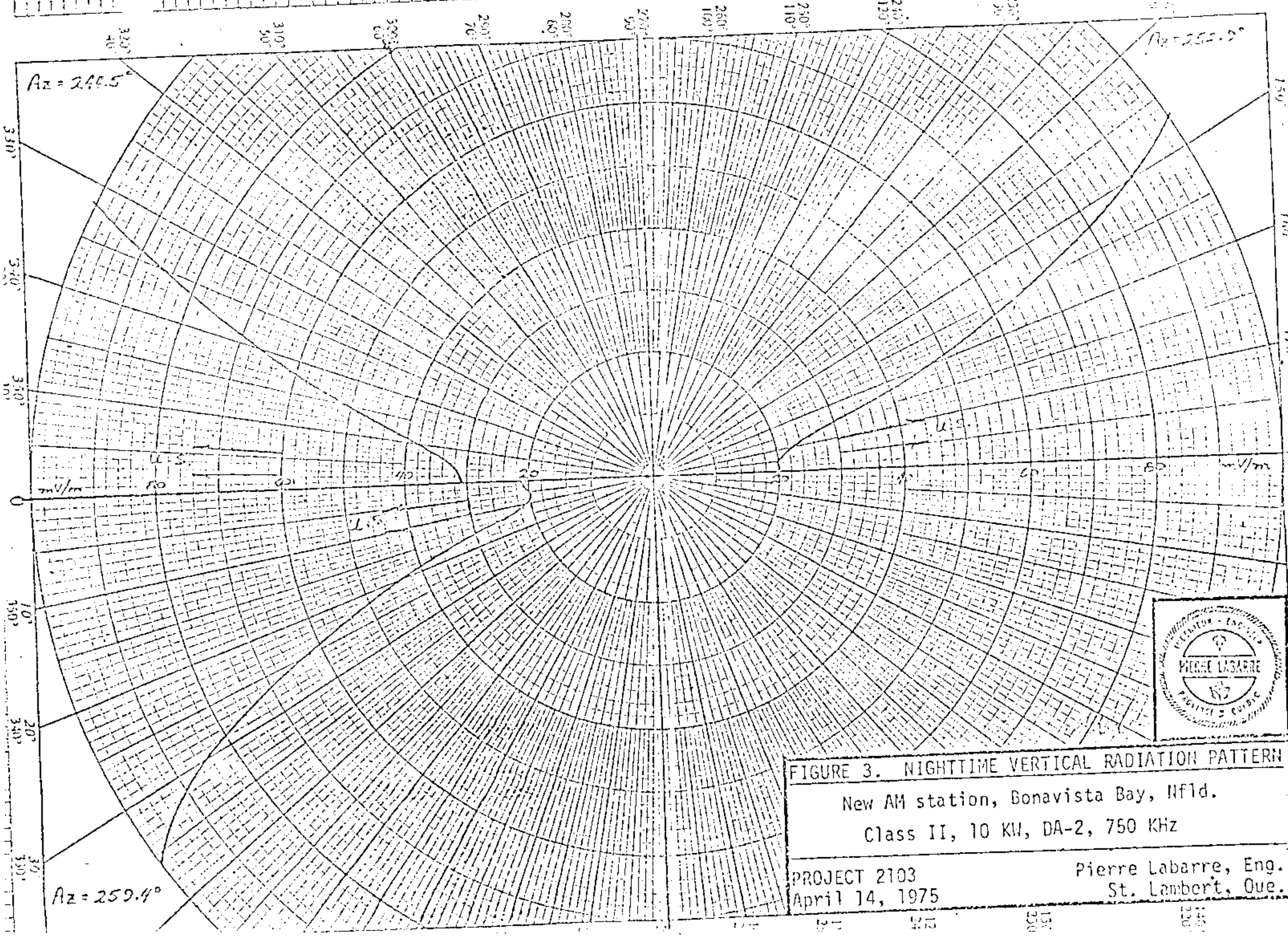


FIGURE 3. NIGHTTIME VERTICAL RADIATION PATTERN

New AM station, Bonavista Bay, Nfld.

Class II, 10 KW, DA-2, 750 KHz

PROJECT 2103
April 14, 1975

Pierre Labarre, Eng.
St. Lambert, Que.

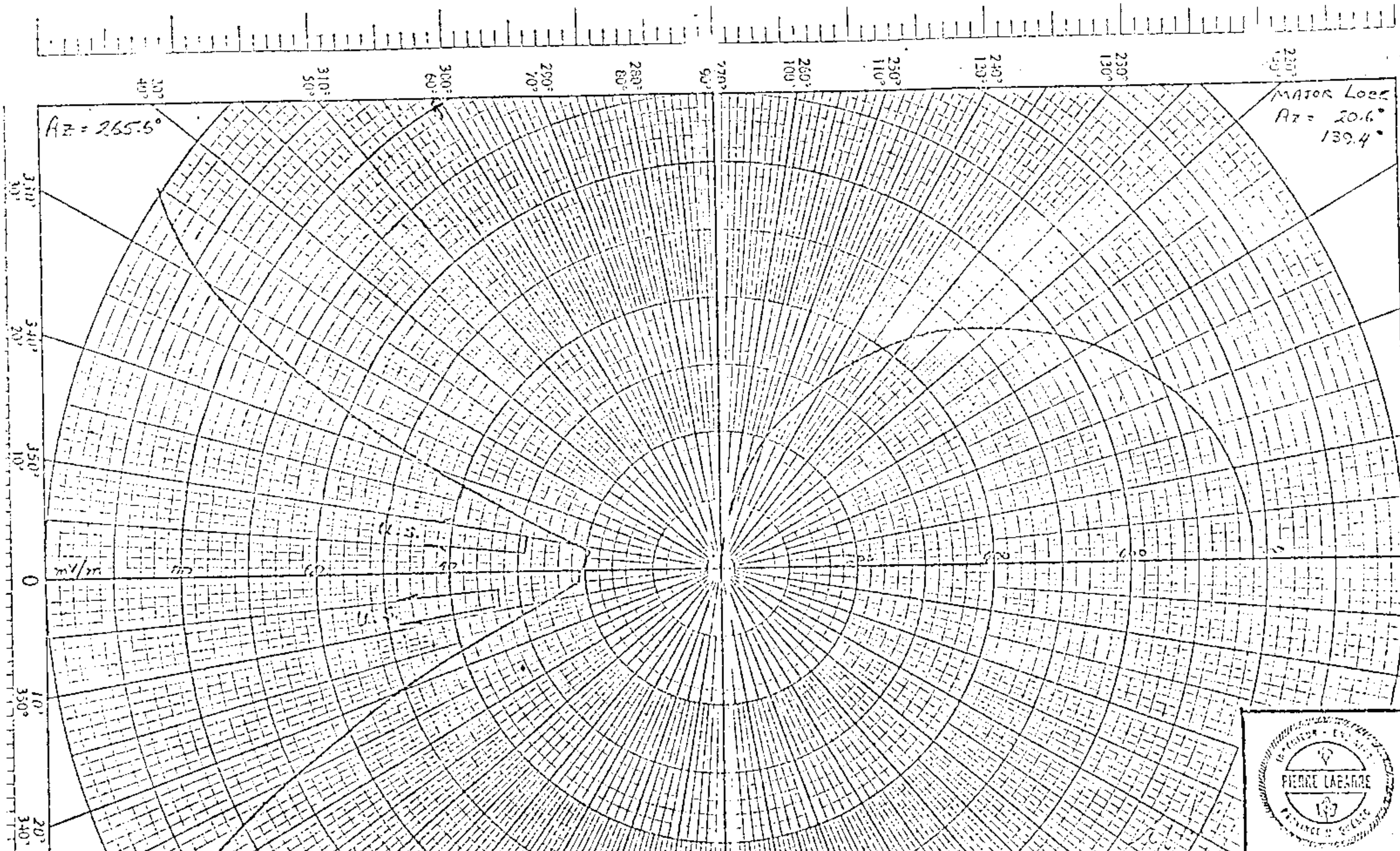


FIGURE 4. NIGHTTIME VERTICAL RADIATION PATTERN

New AM station, Bonavista Bay, Nfld.

Class II, 10 KW, DA-2, 750 KHz

PROJECT 2103
April 14, 1975

Pierre Labarre, Eng.
St. Lambert, Que.

Cuba

CMCD

10 KW, LA-2

83350

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CMCD

760

Main Studio: Ensenada de Marimelena, Havana, Cuba.

Power: 10 kw

Date Received: November 18, 1952

Class: II-E

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:

North Latitude: 23° 00' 00"
West Longitude: 82° 19' 20"

ANTENNA CHARACTERISTICS

Number of elements: Three (3)
Type of elements: End elements are of steel, self-supporting; Center element is a vertical wire.

Tower:	North	Center	South
Height above Ground:	265'	265'	265' (73.1°)
Spacing:	292.5' or 81.5° between adjacent elements.		
Phasing:	106°	0°	-106°
Field Ratio:	1	1.995	1

Orientation: Elements on a line bearing 0° true.

Predicted effective Field: 556 mv/m (at rated power)

F.C.C. Note:
This pattern supplements the particulars for this station set forth in Annex 3 to the North American Regional Broadcasting Agreement, Washington, D.C., 1950.

Cuba

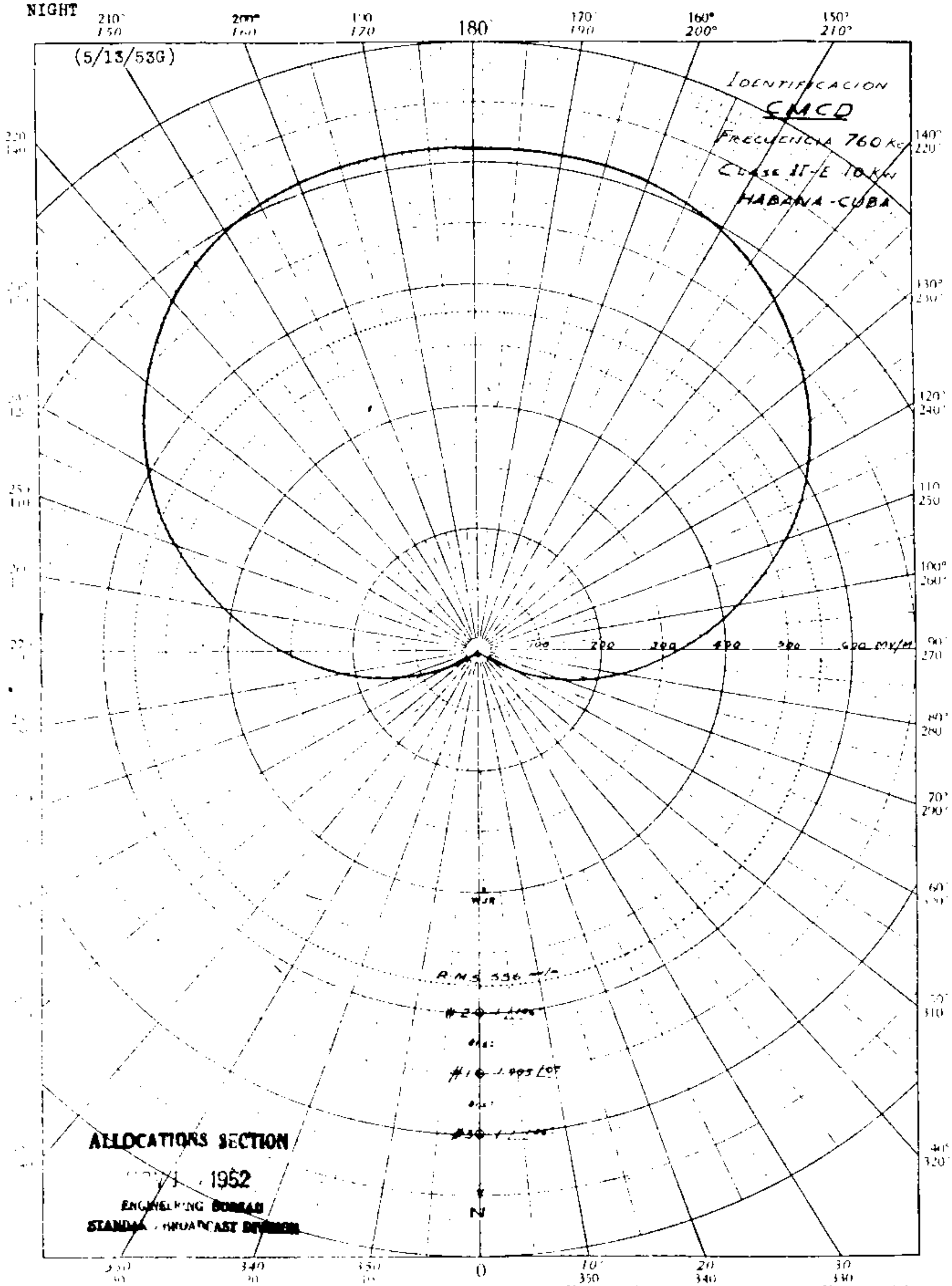
CMCD

PROPOSED NIGHT

CMCD, HAVANA, CUBA

10 kw

760 kc



This pattern replaces that dated (5/18/53G)

CMCD, HAVANA, CUBA 760 kc

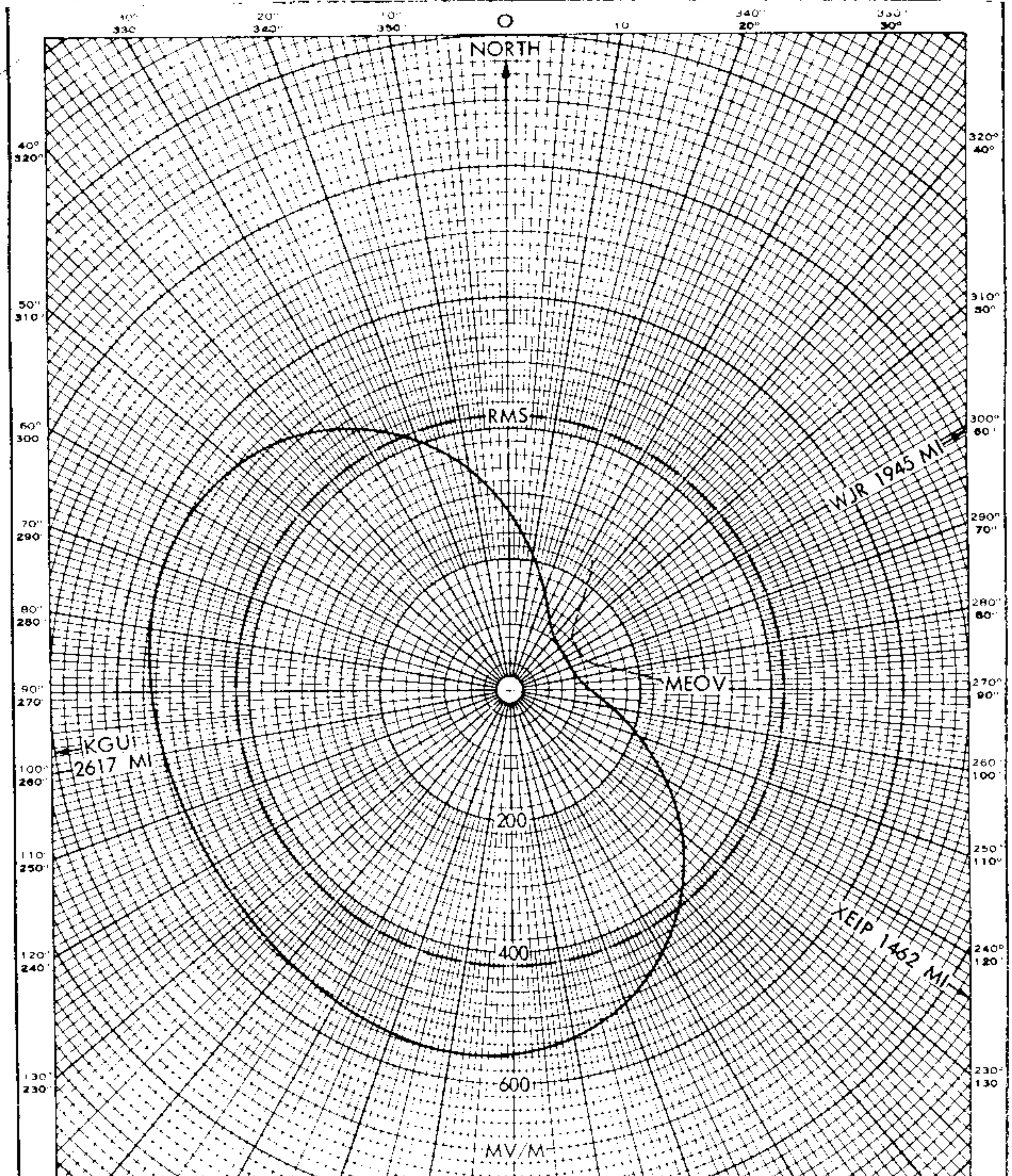
KFMB

11-18-64
granted cp to change
to 760, 5Kw-DAN
(from 540 KC)

Proposed Night
(11-30-61ct)

Station KFMB
San Diego, California

5kw,DA-N,U
760 kc



N.LAT. 32° 50' 30"
W.LONG. 117° 01' 20"

S=110°=396'

G=87.6°=315'

RMS=420 MV/M

N 60° E
1 1.00 /0°
S
2 0.70 /-70°

HORIZONTAL RADIATION PATTERN
NIGHTTIME

UNATTENUATED FIELD INTENSITY
AT ONE MILE

HAMMETT & EDISON
CONSULTING RADIO ENGINEERS

RADIO STATION KFMB
760 KC, 5 KW, DA-N

FCC File No.BMP-9905
Accepted 11-15-61

Station KFMB
San Diego, California

760 kc

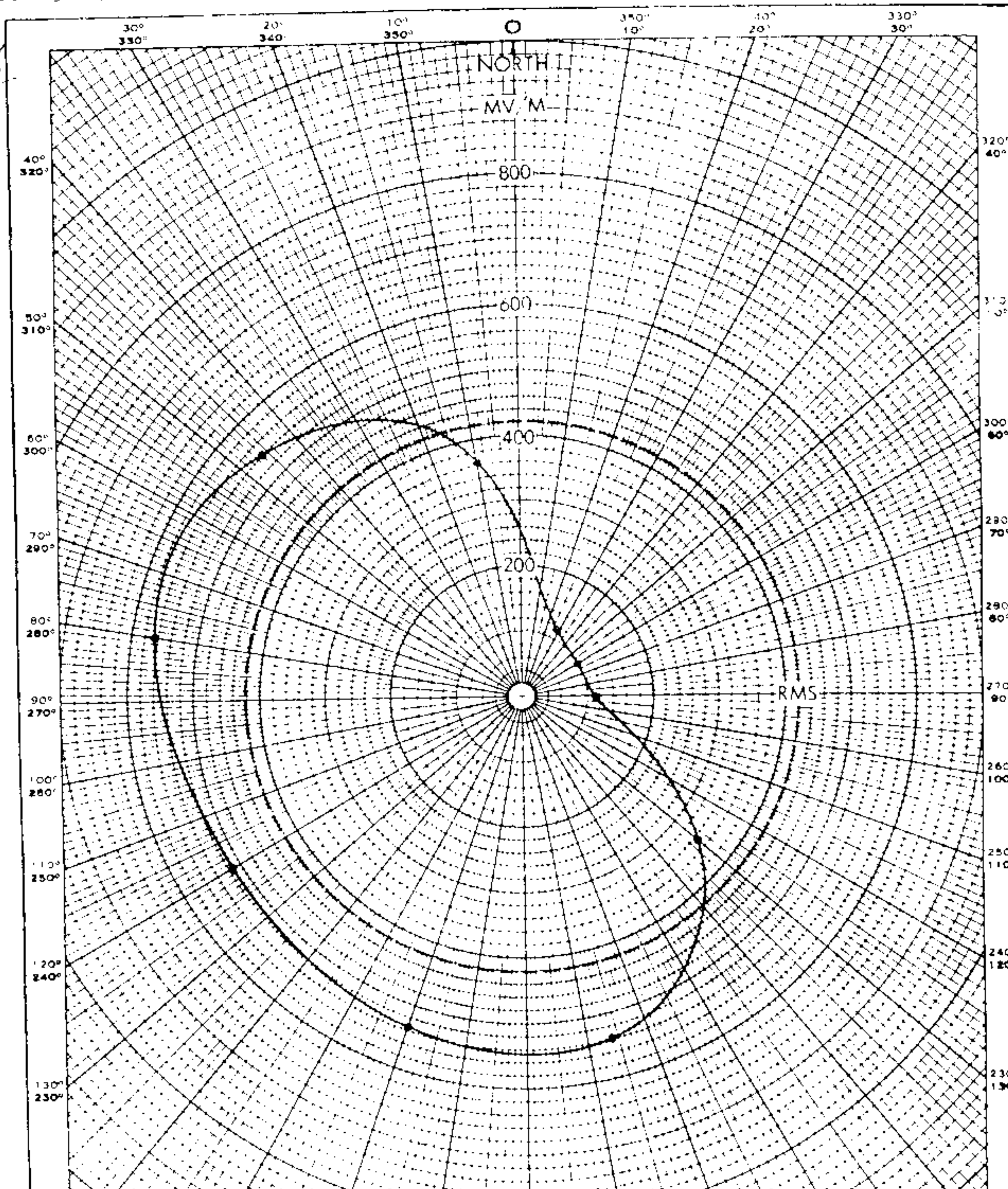
KFMB

Measured Night
(10-26-65ct)

Station KFMB
San Diego, California

5kw,DA-N,U
760 kc

Ac 12-29-65



N. LAT. 32° 50' 32"
W. LONG. 117° 01' 29"

G : 87.6°: 315
S . 110°: 396'
RMS : 421 MV/M

OPERATING	THEORETICAL
N60°E	N60°E
1 • 1.0 ∠0°	1 • 1.0 ∠0°
S	S
2 • 0.68 ∠66.5°	2 • 0.70 ∠70°

HAMMETT & EDISON
CONSULTING RADIO ENGINEERS
SAN FRANCISCO

RADIO STATION KFMB
760 KC 5 KW DA-N
SAN DIEGO, CALIFORNIA

MEASURED DIRECTIONAL HORIZONTAL RADIATION

UNATTENUATED FIELD INTENSITY
AT ONE MILE

650601

FIGURE 10B

FCC File No. BL-11063
Accepted 10-8-65

Station KFMB
San Diego, California

760 kc

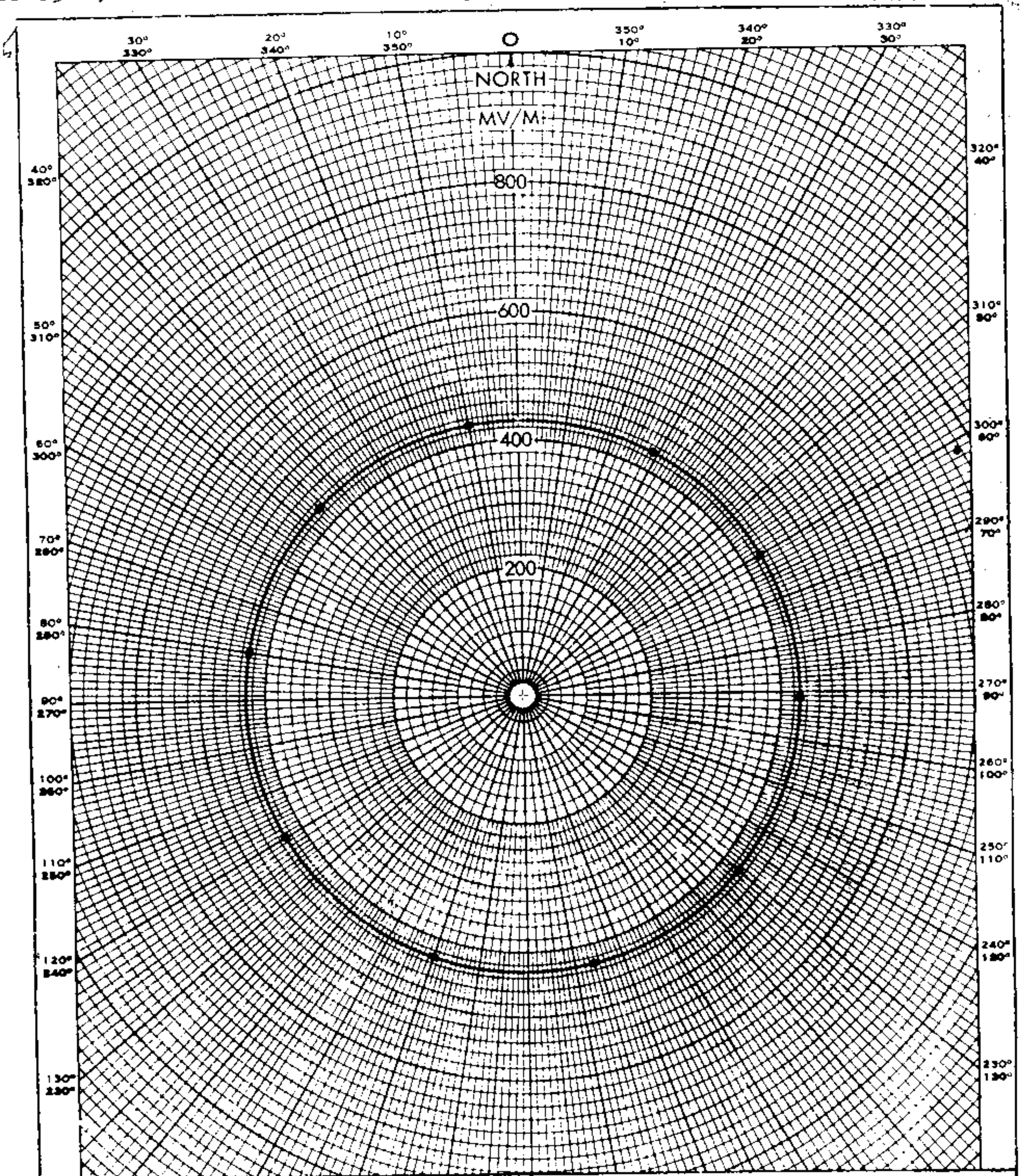
KFMB

Measured Non-DA
(10-26-65ct)

Station KFMB
San Diego, California

5kw,DA-N,U
760 kc

10-12-29-65



N. LAT. 32° 50' 32"
W. LONG. 117° 01' 29"

G = 87.6°, 315'

RMS = 430 MV/M

5 KW INTO TOWER 1 WITH TOWER 2 FLOATING

HAMMETT & EDISON
CONSULTING RADIO ENGINEERS
SAN FRANCISCO

RADIO STATION KFMB
760 KC. 5 KW. DA-N
SAN DIEGO CALIFORNIA

MEASURED NON-DIRECTIONAL
HORIZONTAL RADIATION

UNATTENUATED FIELD INTENSITY
AT ONE MILE

650601

FIGURE 10A

FCC File No. BL-11063
Accepted 10-8-65

Station KFMB
San Diego, California

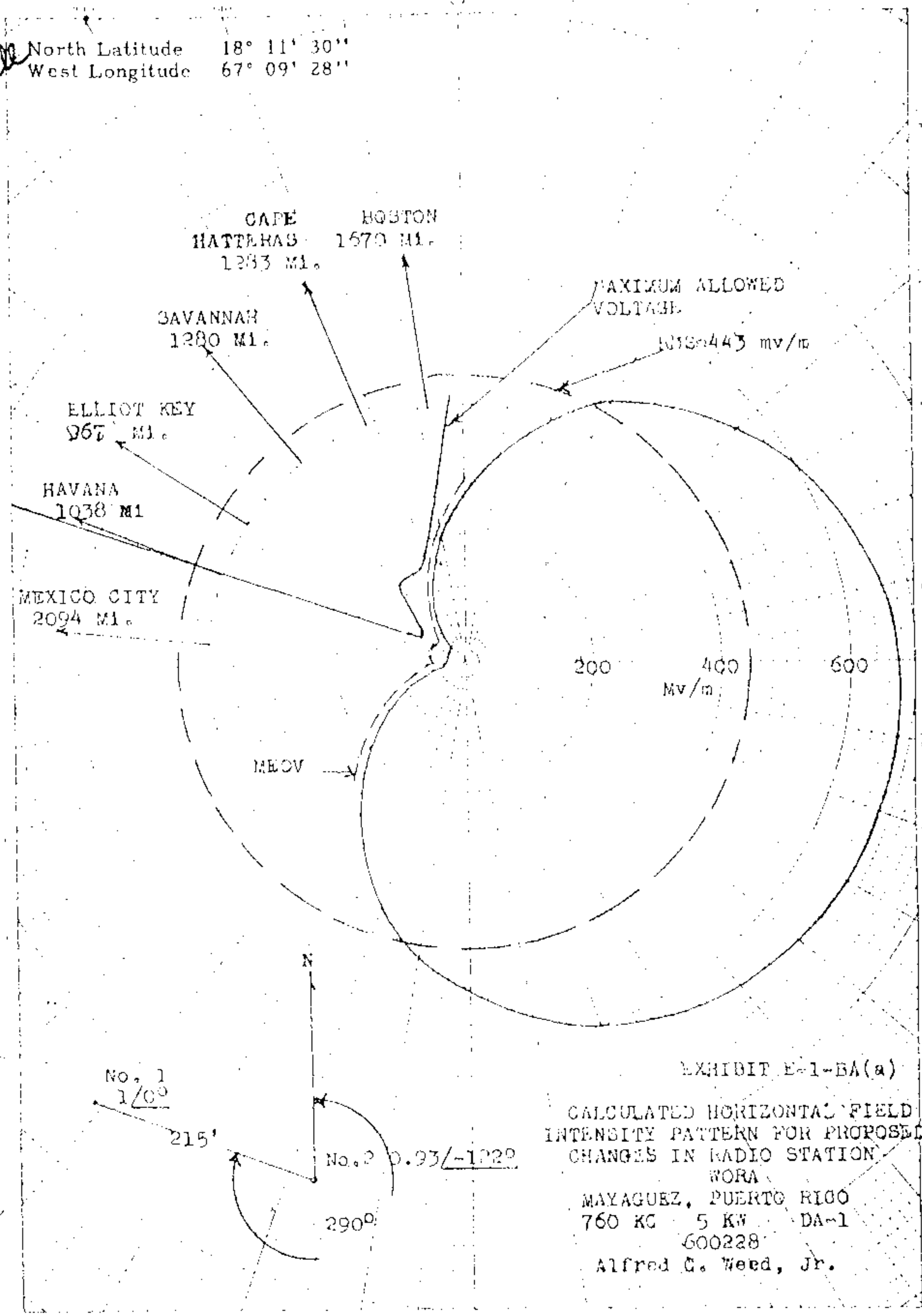
760 kc

WORA

PROPOSED DAY & NIGHT
(5-27-60g)

Station WORA 5kw, DA-1,U
Mayaguez, Puerto Rico 760 KC

-16-60
filed for change
on 1150 and install
DA-1



FCC File No. BP-11925
Accepted 4-28-60 (Amended)

WORA
Mayaguez, Puerto Rico 760 KC

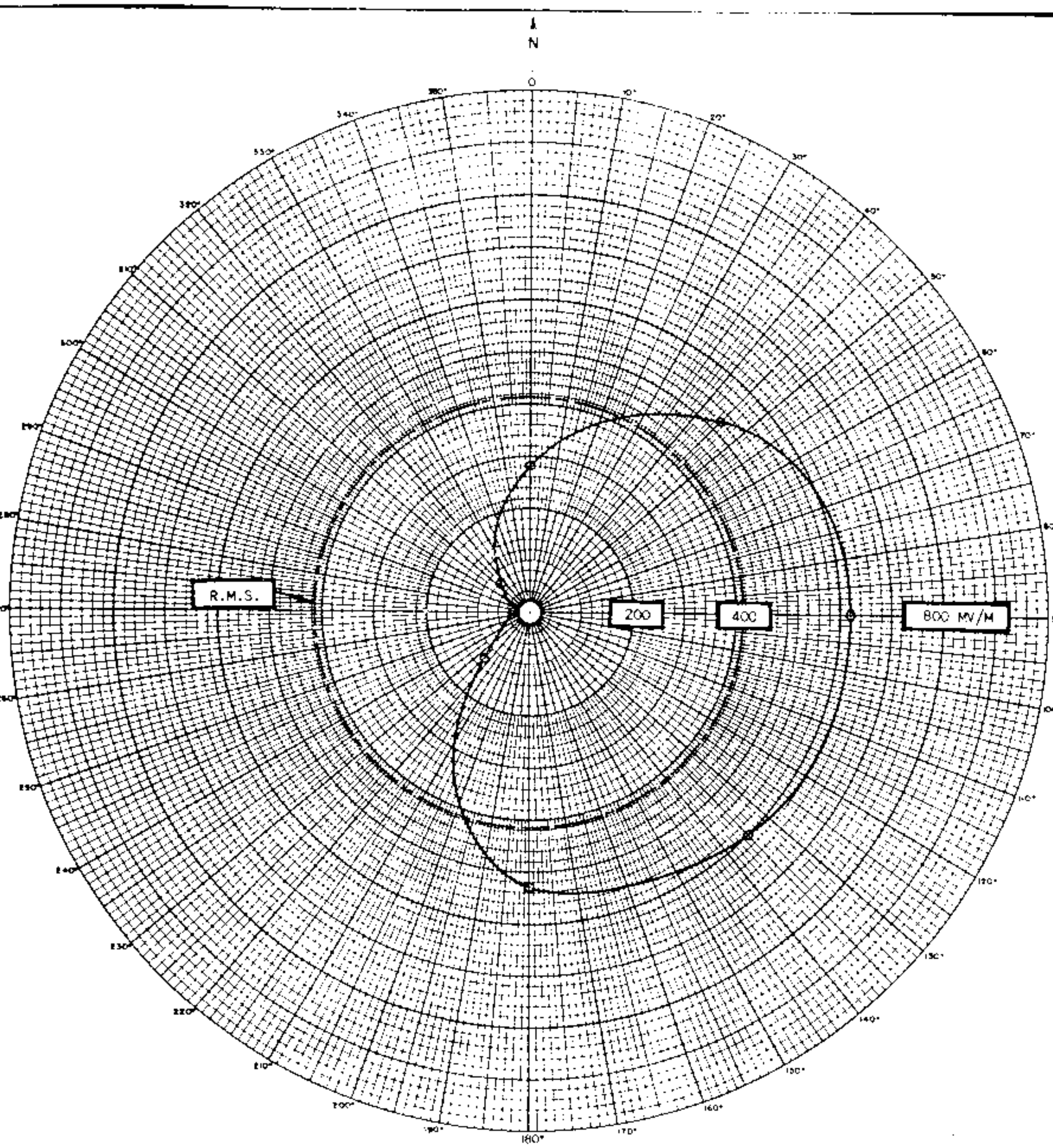
WORA

15-62
anted L for
ange in freq.
ned DA-1

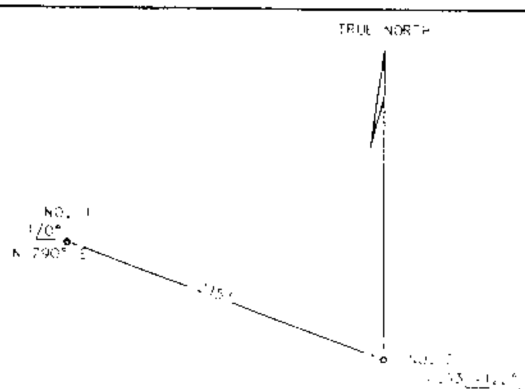
Measured
~~Proposed~~ Day & Night
(11-30-61ct)

Station WORA
Mayaquez, Puerto Rico

5kw,DA-1,U
760 kc



HORIZONTAL RADIATION PATTERN



APPLICANT	W O R A
LOCATION	MAYAQUEZ, PUERTO RICO
FREQUENCY	760 KC/S
POWER	5 Kw.; DA-1
LATITUDE	18 DEG 1[illegible] MIN 3[illegible] SEC
LONGITUDE	67 DEG [illegible] MIN 28 SEC
WHEN USED	UNLIMITED
RMS FIELD	41[illegible] MV/M
DATE	SEPTEMBER 1961

FCC File No.BL-8796
Accepted 11-15-61

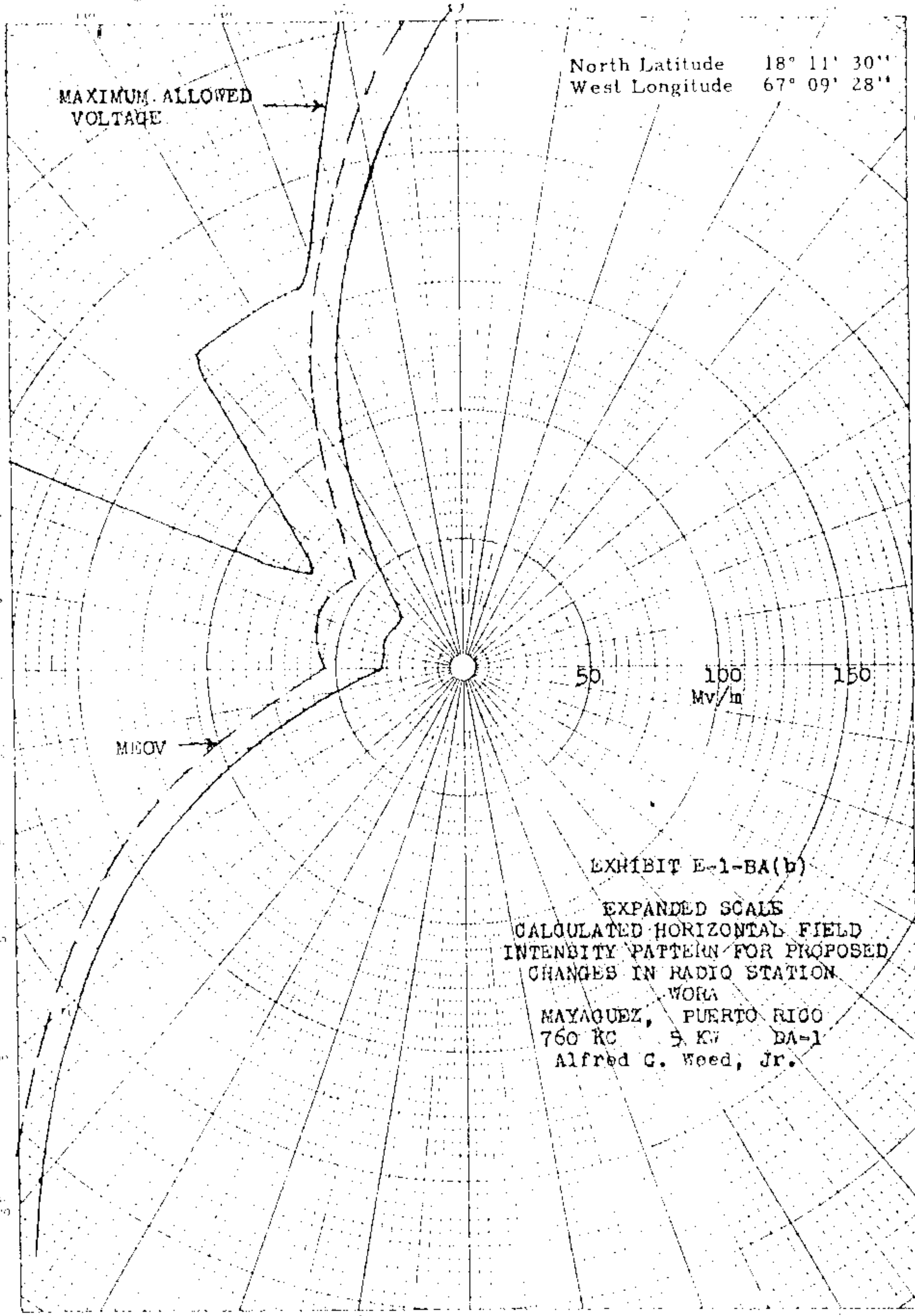
Station WORA
Mayaquez, Puerto Rico

760 kc

WORA

PROPOSED DAY & NIGHT NULLS
(5-27-60g)

Station WORA 5kw, DA-1,U
Mayaguez, Puerto Rico 760 KC



FCC File No. BP-11925
Accepted 4-28-60 (Amended)

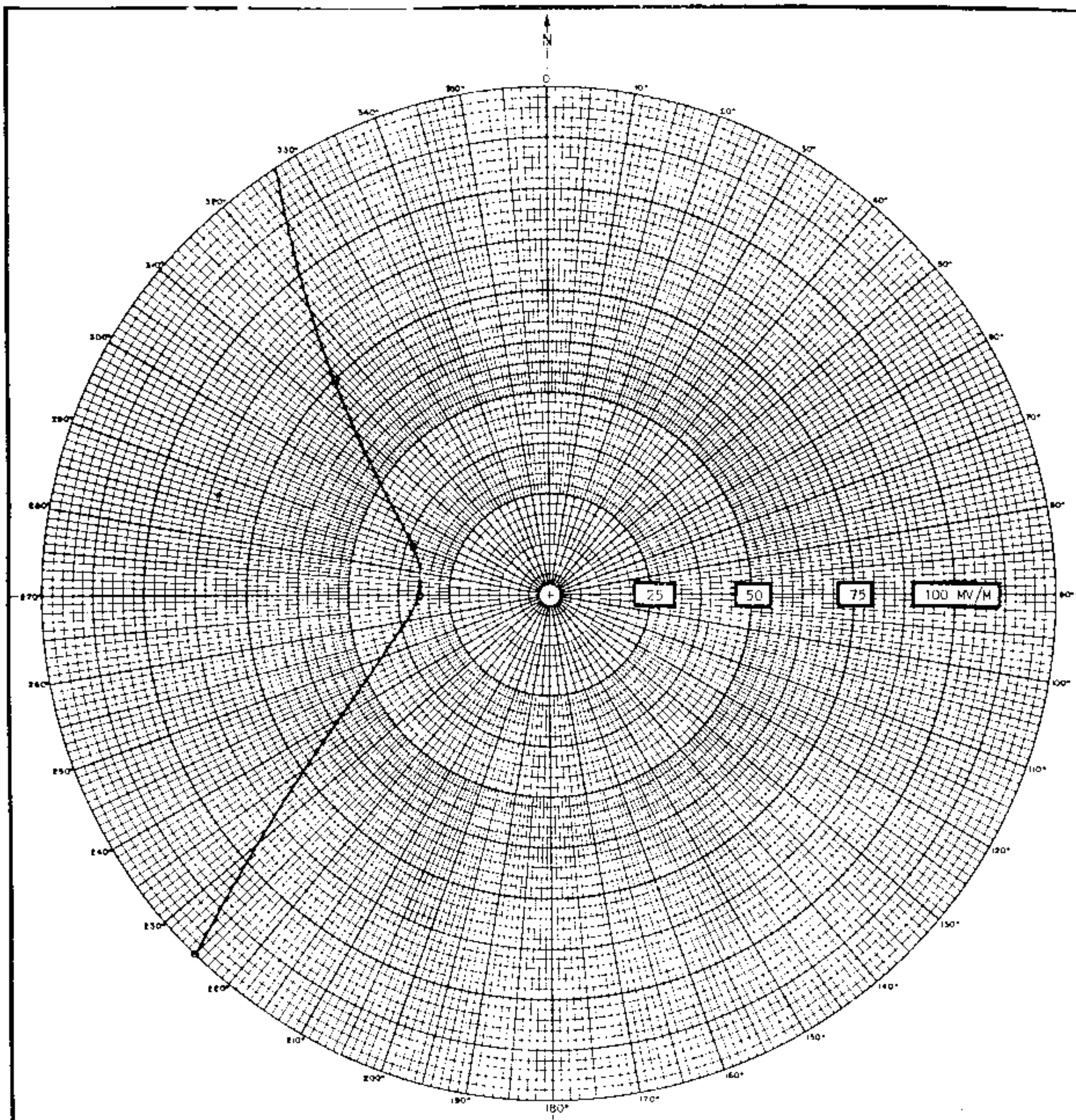
WORA
Mayaguez, Puerto Rico 760 KC

WORA

Measured ~~Proposed~~ Day & Night Nulls (11-30-61ct)

Station WORA
Mayaquez, Puerto Rico

5kw,DA-1,U
760 kc



EXPANDED VIEW

FCC File No.BL-8796
Accepted 11-15-61

Station WORA
Mayaquez, Puerto Rico

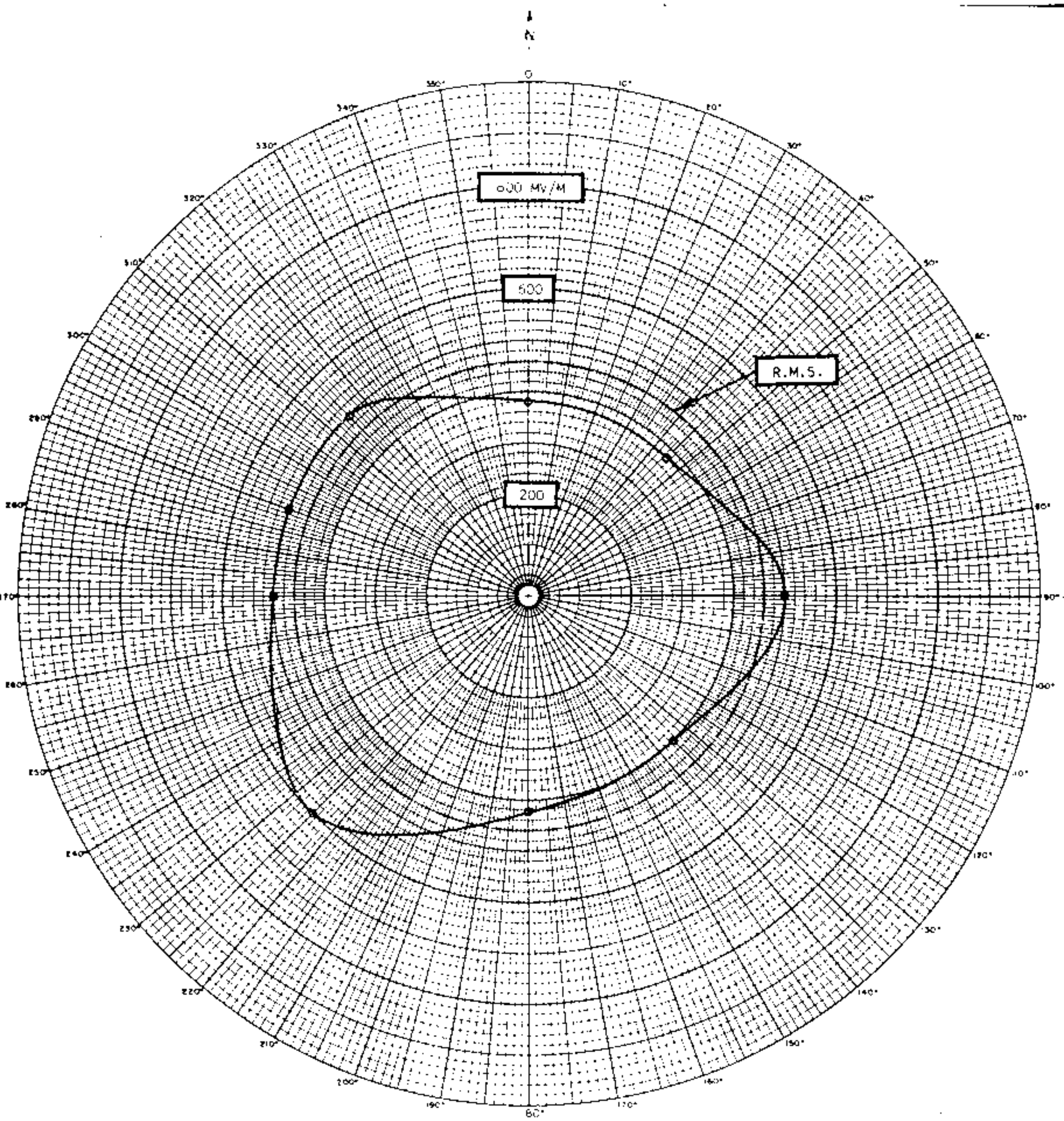
760 kc

WORA

Measured Non-DA
(11-30-61ct)

Station WORA
Mayaquez, Puerto Rico

5kw,DA-1,U
760 kc



HORIZONTAL RADIATION PATTERN

NON-DIRECTIONAL SURVEY

APPLICANT	W O R A
LOCATION	MAYAQUEZ, PUERTO RICO
FREQUENCY	760 KC/S
POWER	5 Kw.; DA-1
LATITUDE	18 DEG 11 MIN 50 SEC
LONGITUDE	67 DEG 05 MIN 28 SEC
WHEN USED	NON-DIRECTIONAL SURVEY
R M S FIELD	460 MV/M
DATE	SEPTEMBER 1961

FCC File No.BL-8796
Accepted 11-15-61

Station WORA
Mayaquez, Puerto Rico

760 kc

XEABC

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: XEABC

Main Studio: Mexico, D.F.

Frequency: 760 kHz

Power: 5 kW Night

Notification List No. ----

Date: -----

Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 19° 28' 19"
West Longitude: 98° 58' 35"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 2
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	N(#2)	S(#1)
HEIGHT ABOVE INSULATORS:	359.7'	359.7' (100°)
NIGHT PHASING:	+95°	0°
NIGHT FIELD RATIO:	1	1

SPACING AND ORIENTATION: Elements are spaced 359.7' (100°) on a line bearing 39° true.

GROUND SYSTEM: 90-324' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

Predicted effective Night Field: 442.728 mv/m at rated power.

CTR NO 20419A5

XEABC

DESCRIPCION DEL SISTEMA DIRECCIONAL DE RADIACION

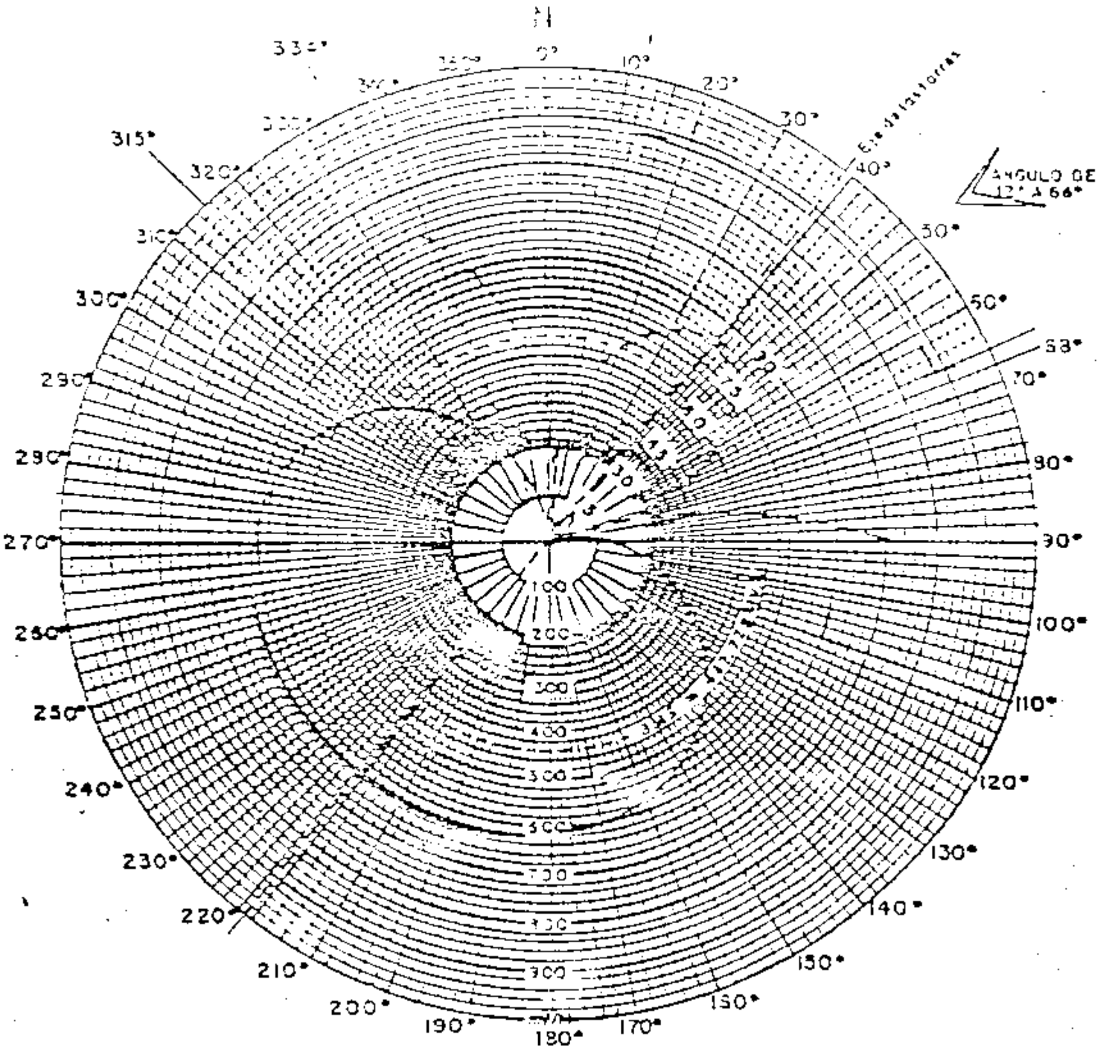
OPERACION NOCTURNA

ESTACION. XEABC	ESTUDIOS EN: MEXICO, D.F.
FRECUENCIA. 760 KHz.	POTENCIA: DE NOCHE 5 KW.
CLASE II.	
LOCALIZACION GEOGRAFICA DEL SISTEMA RADIADOR.	LONGITUD W. 98° 58' 35" LATITUD N. 19° 28' 19"
LISTA DE NOTIFICACIONES.	
AUTORIZADO PARA OPERACION.	AD-2
NUMERO DE ELEMENTOS RADIADORES.	DOS.
TIPO DE ELEMENTOS RADIADORES.	TORRES VERTICALES DE ACERO DE SECCION UNIFORME TRIANGULAR SOPORTADAS CON RETENIDAS ALIMENTACION TIPO SERIE.

	NORTE (2)	SUR (1)
TORRES.		
ALTURA SOBRE LOS AISLADORES	109.64 M. 100°E	109.64 M. 100°E
SEPARACION ENTRE TORRES	109.64 M 100°E	
MAGNITUDES RELATIVAS DE CORRIENTES	1	1
DEFASAMIENTO.	+95°	0°
AZIMUT DEL EJE DE LAS TORRES.	MOSTRADO EN EL LOBULO HORIZONTAL 39° 00' 00"	
RAIZ CUADRATICA MEDIA TEORICA.	442.728 mV/M	
INTENSIDAD DE CAMPO R.C.M. NO ATENUADO A UNA MILLA POR KILOWATT DE POTENCIA RADIADA.	198.00 mV/M	

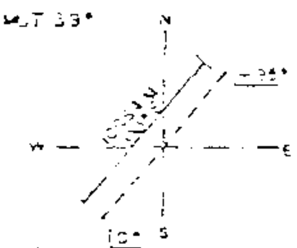
——— o o o 0 o o o ———

XEABC

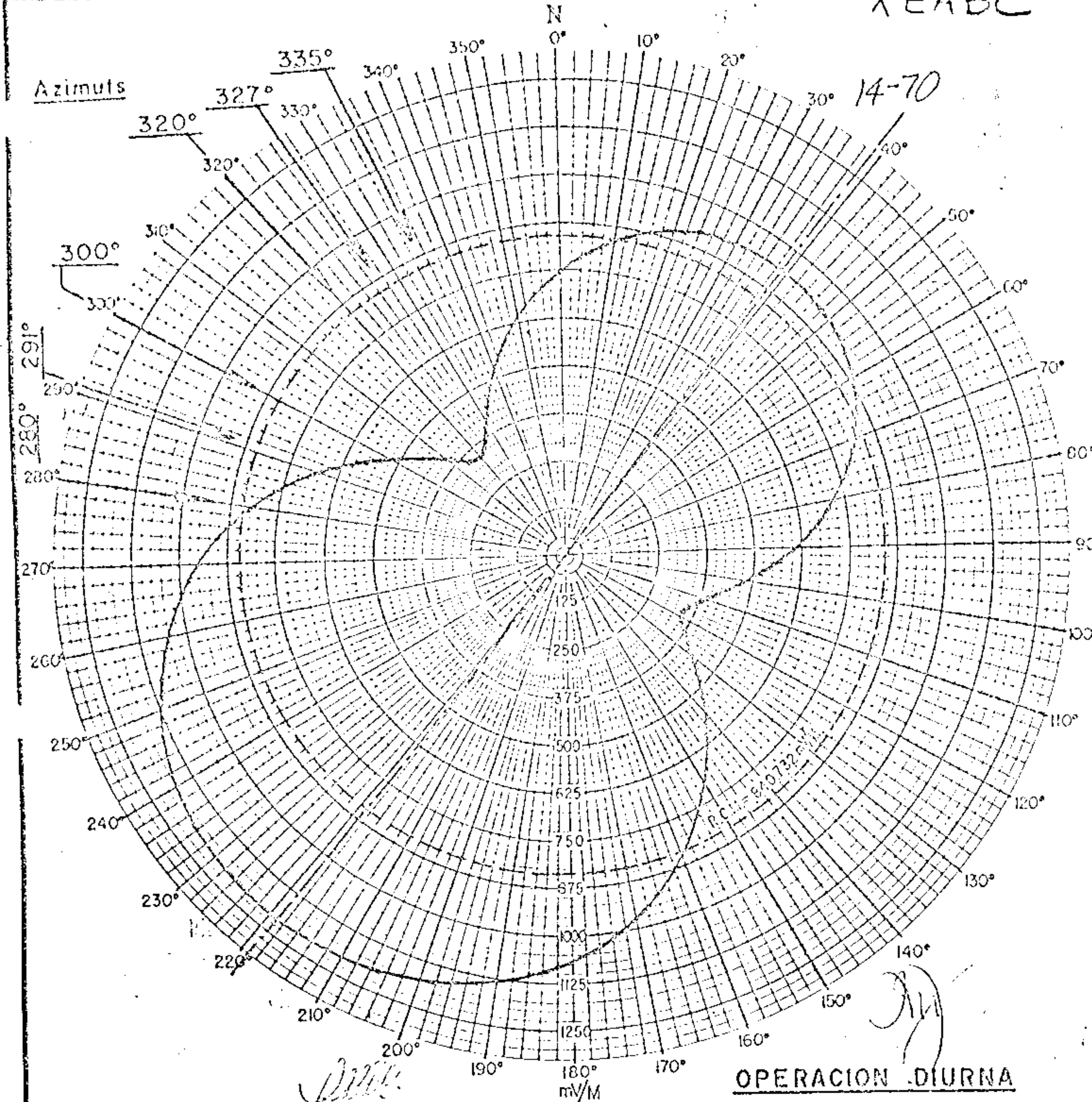


NOCTURNO

PATRON DE RADIACION HORIZONTAL CALCULADO EN mV/M A 1609 Mts.

ESQUEMA DE LAS TORRES Y SU ORIENTACION CON RESPECTO AL NORTE ASTRONOMICO	RADIODIFUSORA	FRECUENCIA: 760 KHz.
AZIMUT 39° 	XEABC	POTENCIA 5 KWatts
	LOS REYES LA PAZ EDO. DE MEX.	DISEÑO Ing. ALBERTO TORRES SOTO RADIOTELEFONISTA CE 1ª Nº 967
		DIBUJO A. Torres B

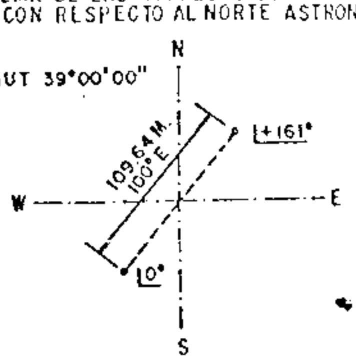
XEABC



OPERACION DIURNA

PATRON DE RADIACION HORIZONTAL CALCULADO EN mV/M A 1609 Mts.

ESQUEMA DE LAS TORRES Y SU ORIENTACION CON RESPECTO AL NORTE ASTRONOMICO



RADIODIFUSORA

XEABC

México, D.F.

760 KHz
DIA 20 K Watts.
NOCHE 10 K Watts.

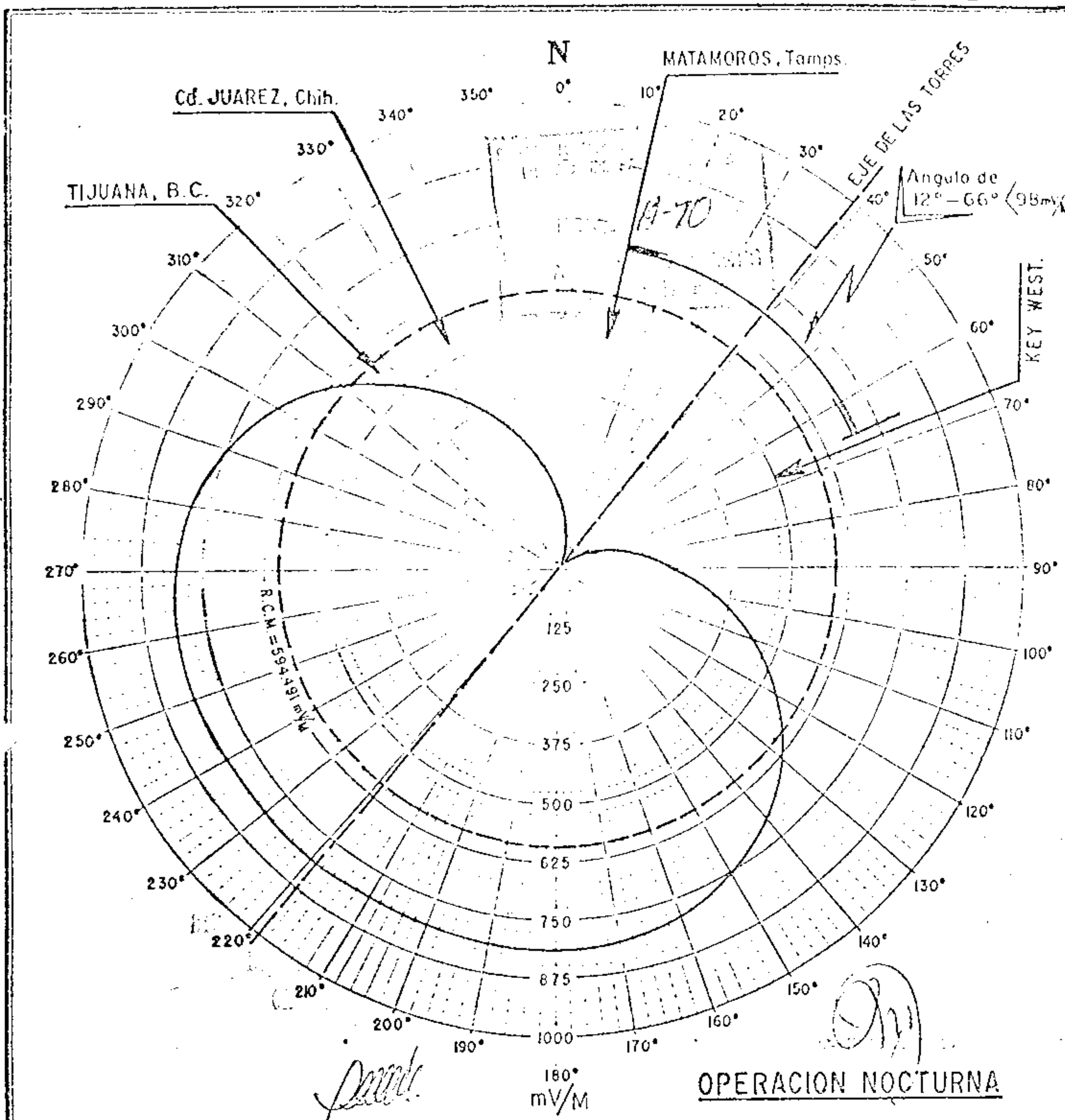
DISENO:

ING. ALBERTO TORRES SOTO.

DIBUJO

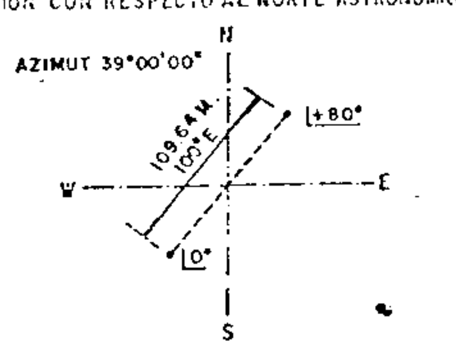
E. Sesma.

XEABC



PATRON DE RADIACION HORIZONTAL CALCULADO EN mV/M A 1609 Mts.

ESQUEMA DE LAS TORRES Y SU ORIENTACION CON RESPECTO AL NORTE ASTRONOMICO



RADIODIFUSORA

XEABC

México, D.F.

760 KHz.
DIA 20K Watts.
NOCHE 10K Watts.

DISEÑO.
ING ALBERTO TORRES SOTO.

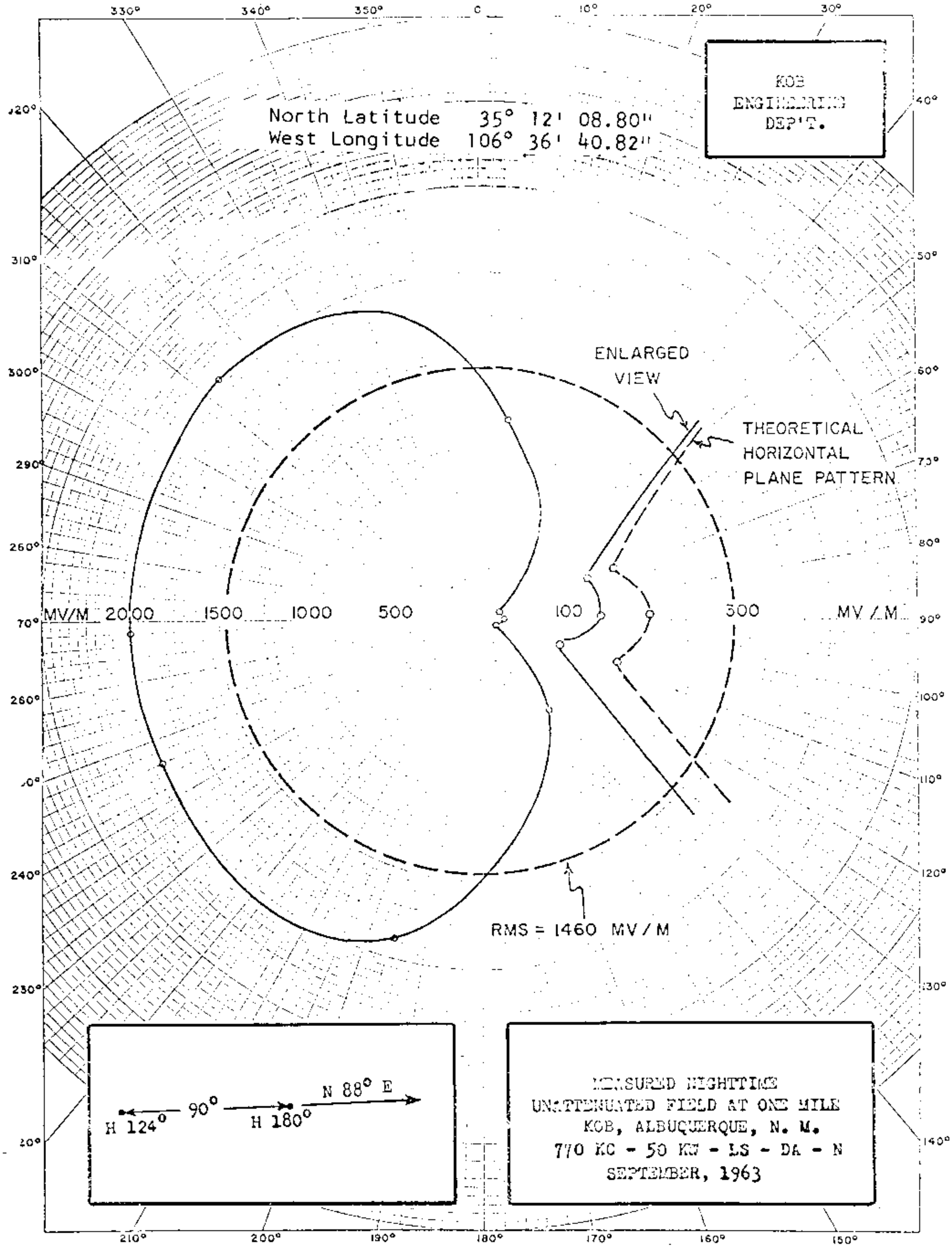
DIBUJO.
E Sesma.

KOB

Measured Night
(2-28-64ct)

Station KOB
Albuquerque, New Mexico

50kw,DA-N,U
770kc



FCC File No.BL-10368
Accepted 2-10-64

Station KOB
Albuquerque, New Mexico

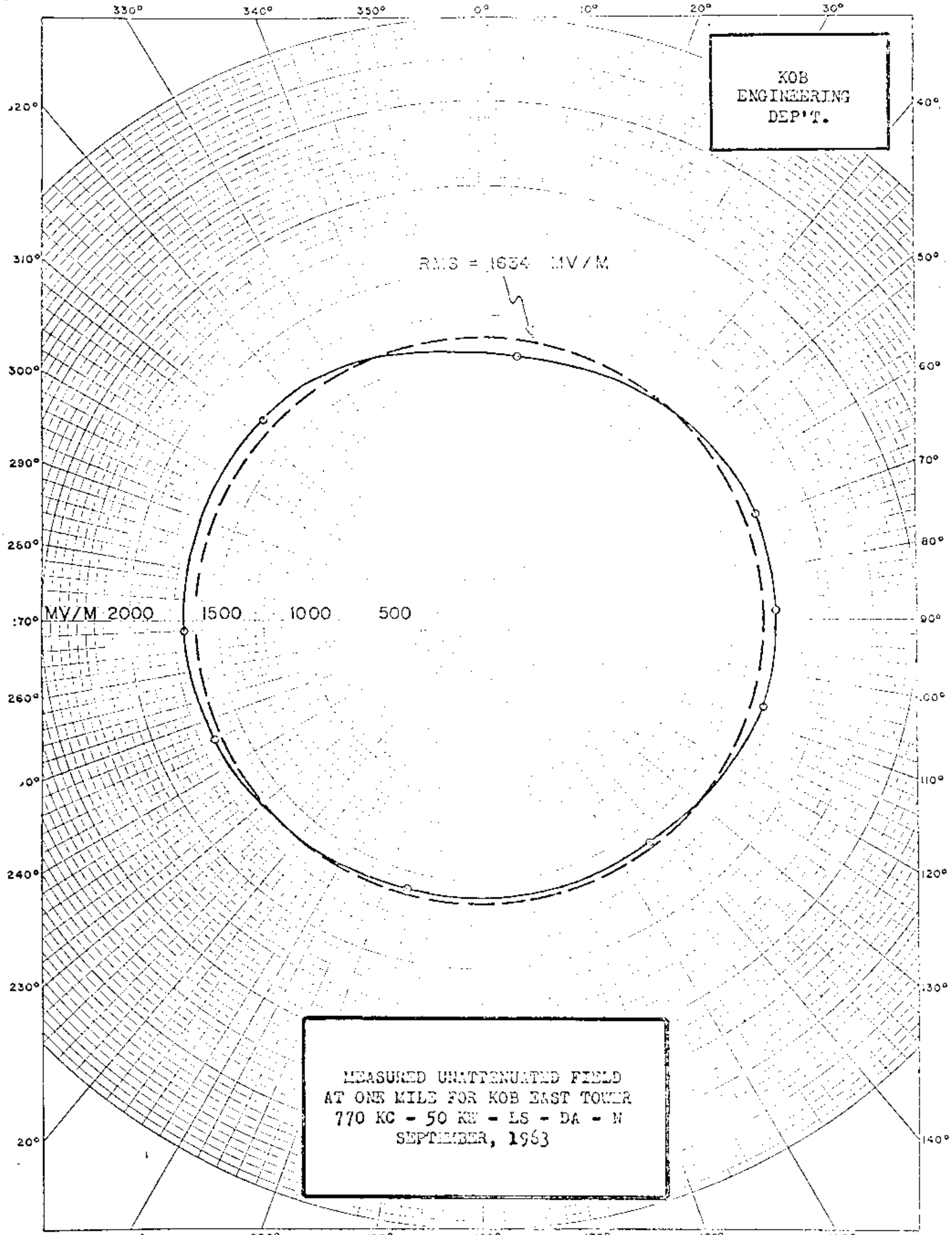
770 kc

KOB

Measured Non-DA
(2-28-64ct)

Station KOB
Albuquerque, New Mexico

50kw,DA-N,U
770kc



FCC File No. BL-10368
Accepted 2-10-64

Station KOB
Albuquerque, New Mexico

770 kc

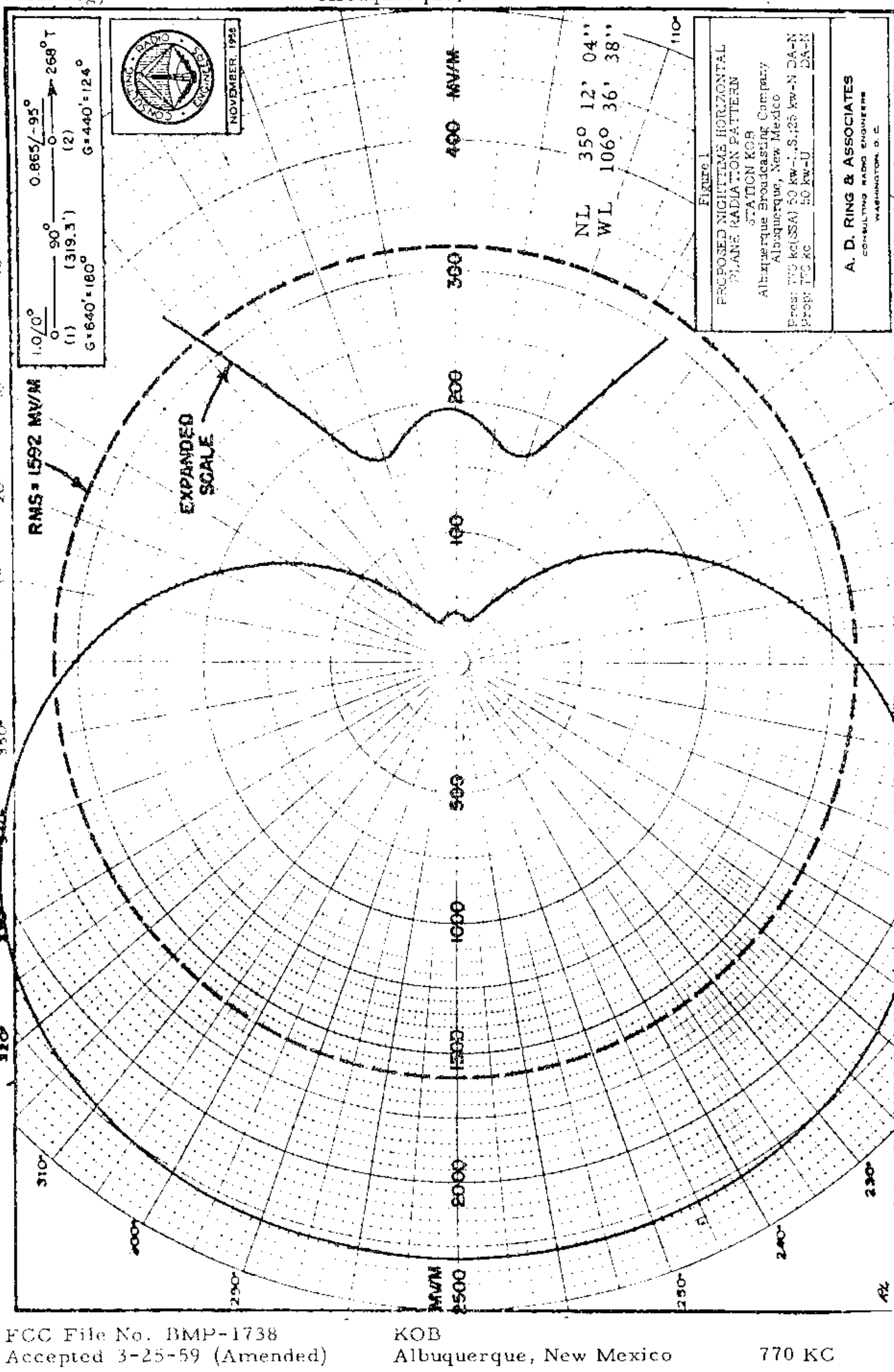
KOB

PROPOSED NIGHT
(4-22-59g)

Station KOB
Albuquerque, New Mexico

50kw, DA-N,U
770 KC

8-1-63
granted
mod. of CP
for 50 kw
full time



FCC File No. BMP-1738
Accepted 3-25-59 (Amended)

KOB
Albuquerque, New Mexico

770 KC

WABC

PROPOSED ~~DAY~~ NIGHT
(3-28-60g)

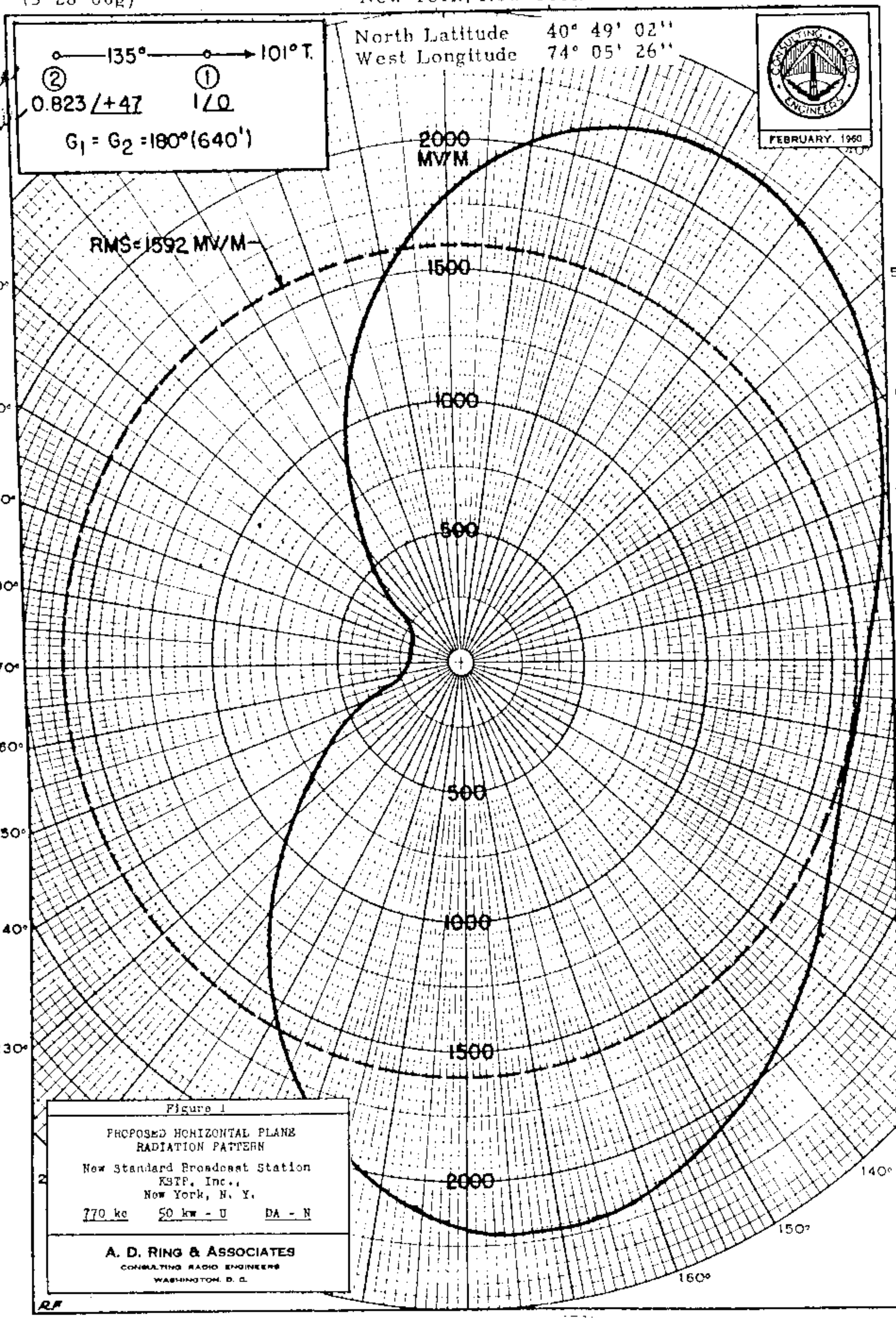
Hubbard B/cng Inc.
~~New, KSTP, Inc.~~
New York, New York

50kw, DA-N,U
770 KC

#154
amend to reduce interference
sig. +22'/42' smaller

#170 (ch)
amend to
NL: 40-48-09
WL: 74-05-08

#155
amend to
40-47-10
74-06-14



A. D. RING & ASSOCIATES - 1/56 - M

FCC File No. BP-13932
Accepted 3-10-60

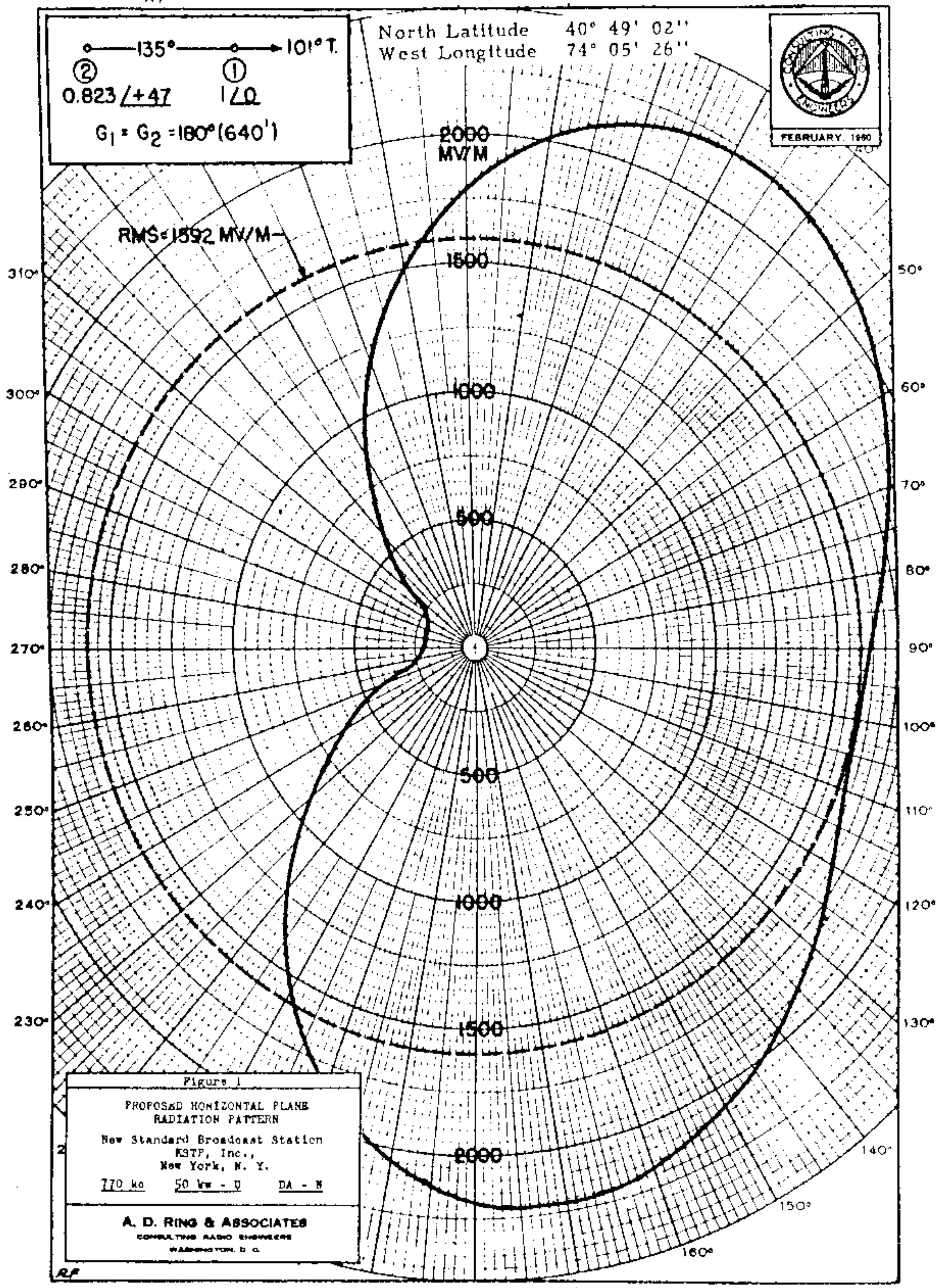
KSTP, Inc.
New York, New York
770 KC

WABC

PROPOSED NIGHT
(3-28-60g)

New; KSTP, Inc.
New York, New York

50kw, DA-N,U
770 KC



A. D. RING & ASSOCIATES - 1/56 - 2

FCC File No. BP-13932
Accepted 3-10-60

KSTP, Inc.
New York, New York

770 KC

Cuba

CMHD

?2359

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CMHD

Frequency: 780 Kcs.

Main Studio: Santa Clara, Las Villas

Power: 5 kw

Received October 22, 1952 **Class** II-E

GEOGRAPHICAL LOCATION OF THE ANTENNA STYSTEM:

North Latitude: 22° 25'

West Longitude: 79° 56'

ANTENNA CHARACTERISTICS

Authorized for Day and Night operation. (DA-1)
Number of elements: Two (2)
Type of elements: Series-fed, guyed, vertical steel towers.

TOWER:	North	South
HEIGHT ABOVE GROUND:	300'	300' (85.71°)
SPACING:	(210.5' or 60° between adjacent towers)	
PHASING:	0°	-122°
FIELD RATIO:	1	0.95

ORIENTATION: (Elements on a line bearing 163° true)

Predicted effective Night Field: 392 mv/m

F.C.C. Note:
This pattern supplements the particulars for this station set forth in Annex 3 to the North American Regional Broadcasting Agreement, Washington, D.C., 1950.

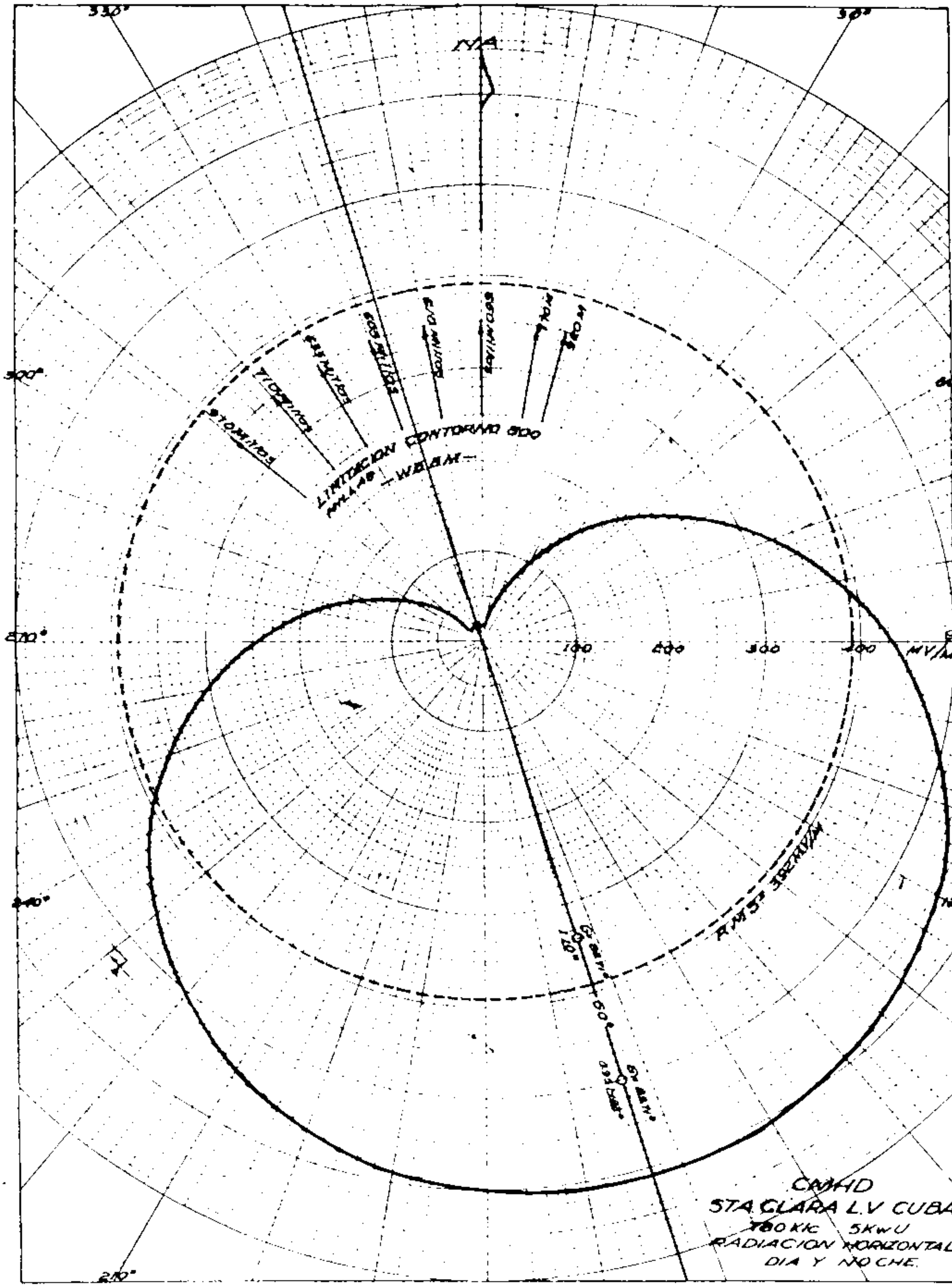
Cuba

CMHD

PROPOSED
NIGHT & DAY

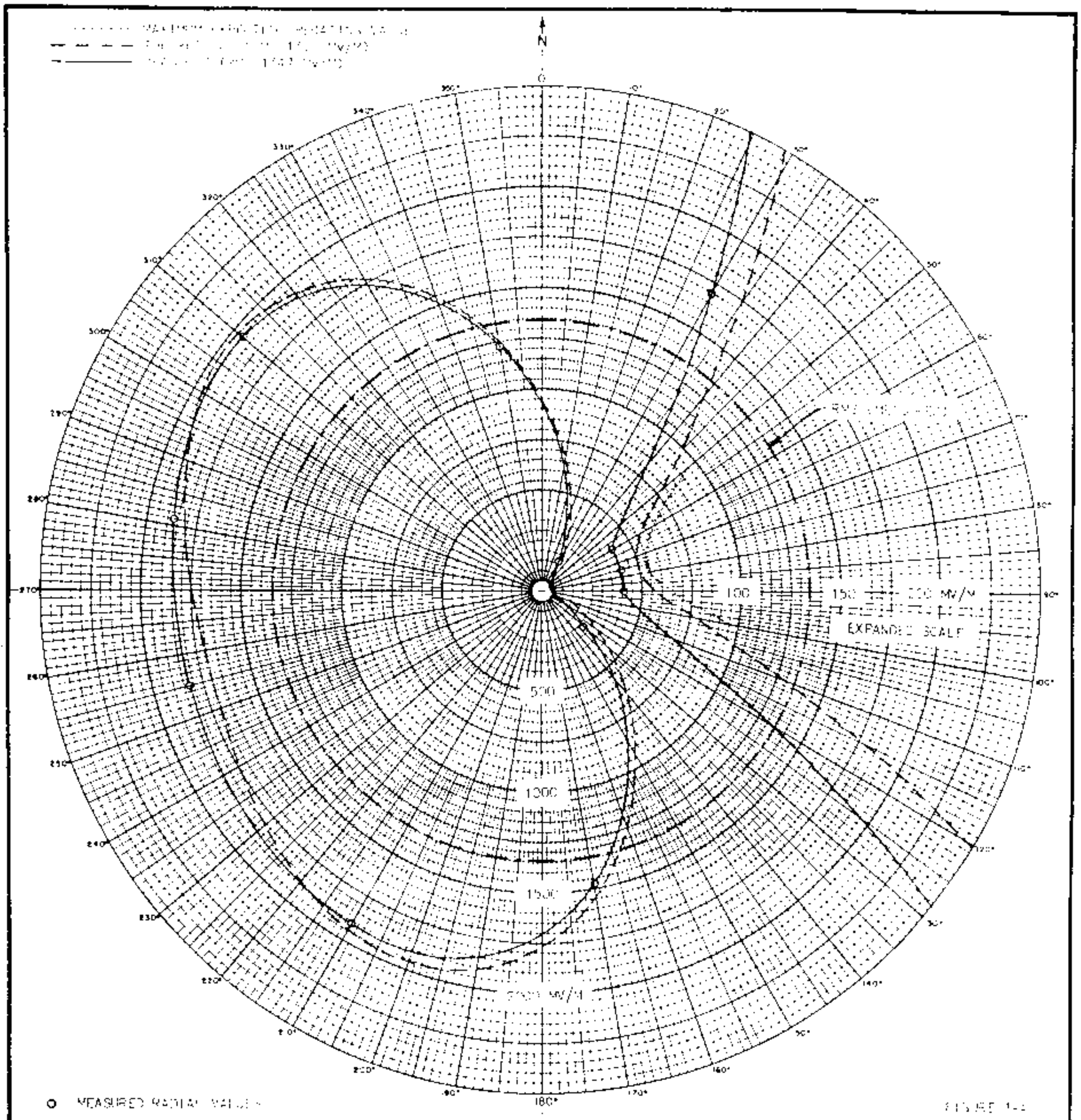
CMHD, SANTA CLARA, L.V. 5 kw, DA-1
(5/13/53G)

780 kc

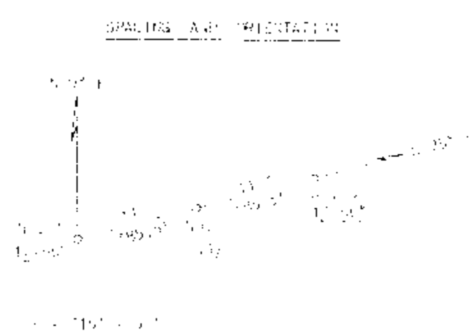


This pattern replaces that dated (3/18/53G)

CMHD, SANTA CLARA, L.V. 780 kc



HORIZONTAL RADIATION PATTERN

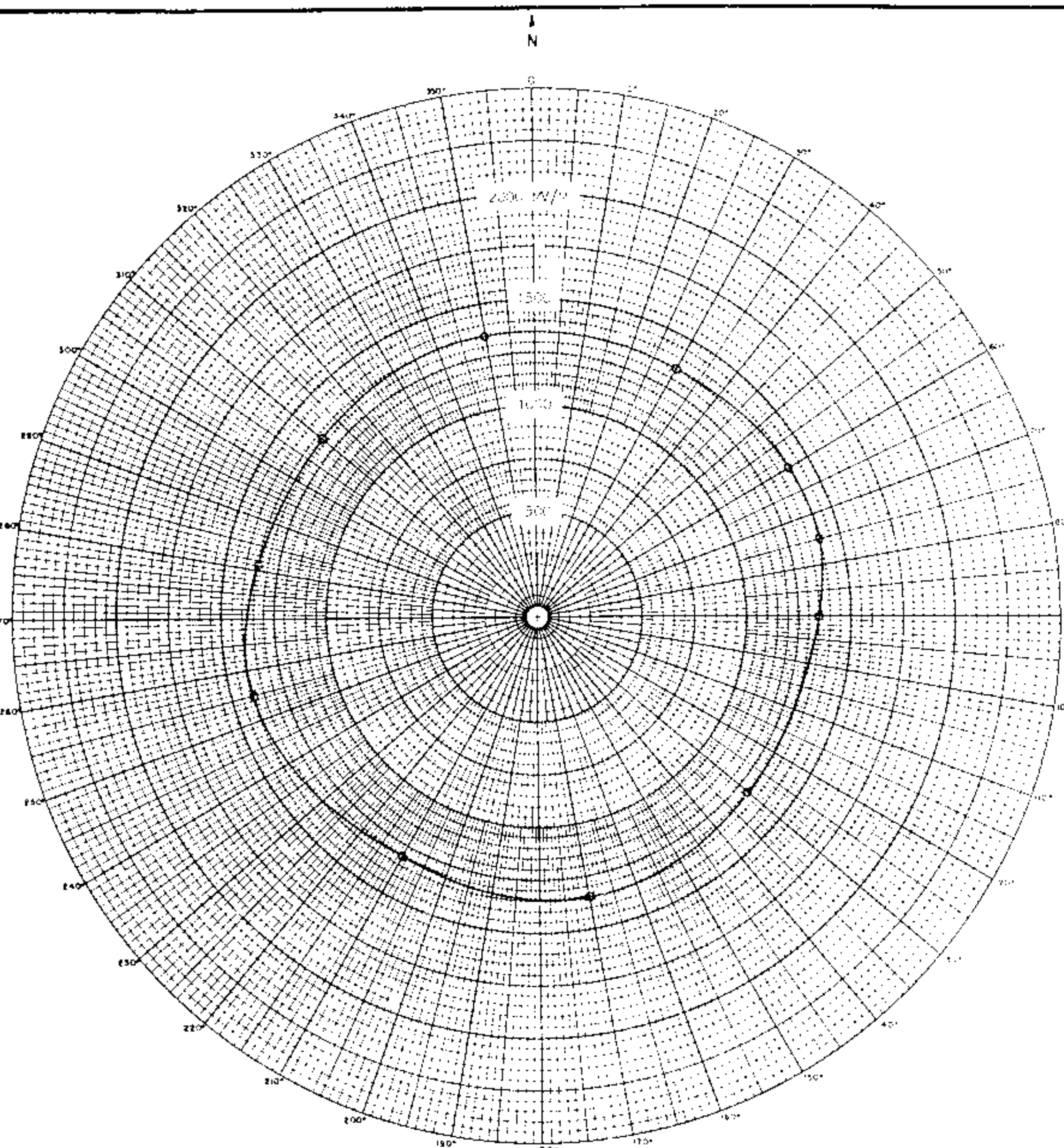


APPLICANT	CAPITAL [illegible] (KCRL)
LOCATION	RENO, N[illegible]
FREQUENCY	78[illegible] KC'S
POWER	[illegible]
LATITUDE	[illegible] DEG [illegible] MIN [illegible] SEC
LONGITUDE	[illegible] DEG [illegible] MIN [illegible] SEC
WHEN USED	NIGHTTIME
RMS FIELD	1347 MV/M (MEASURED)
DATE	AUGUST 197[illegible]

SILLIMAN, MOFFET & KOWALSKI
CONSULTING RADIO ENGINEERS
WASHINGTON, D.C.

KCRL

Measured Non-DA (11-24-70ct)	Station KCRL Reno, Nevada	50kw,DA-N,U 780 kc



O MEASURED RADIAL VALUES

HORIZONTAL RADIATION PATTERN

NON-DIRECTIONAL SURVEY

APPLICANT	[illegible] (KCRL)
LOCATION	[illegible]
FREQUENCY	[illegible]
POWER	[illegible]
LATITUDE	[illegible] DEG [illegible] MIN [illegible] SEC
LONGITUDE	[illegible] DEG [illegible] MIN [illegible] SEC
WHEN USED	[illegible]
R M S FIELD	[illegible]
DATE	[illegible]

SILLIMAN, MOFFET & KOWALSKI

CONSULTING RADIO ENGINEERS

WASHINGTON, D.C.

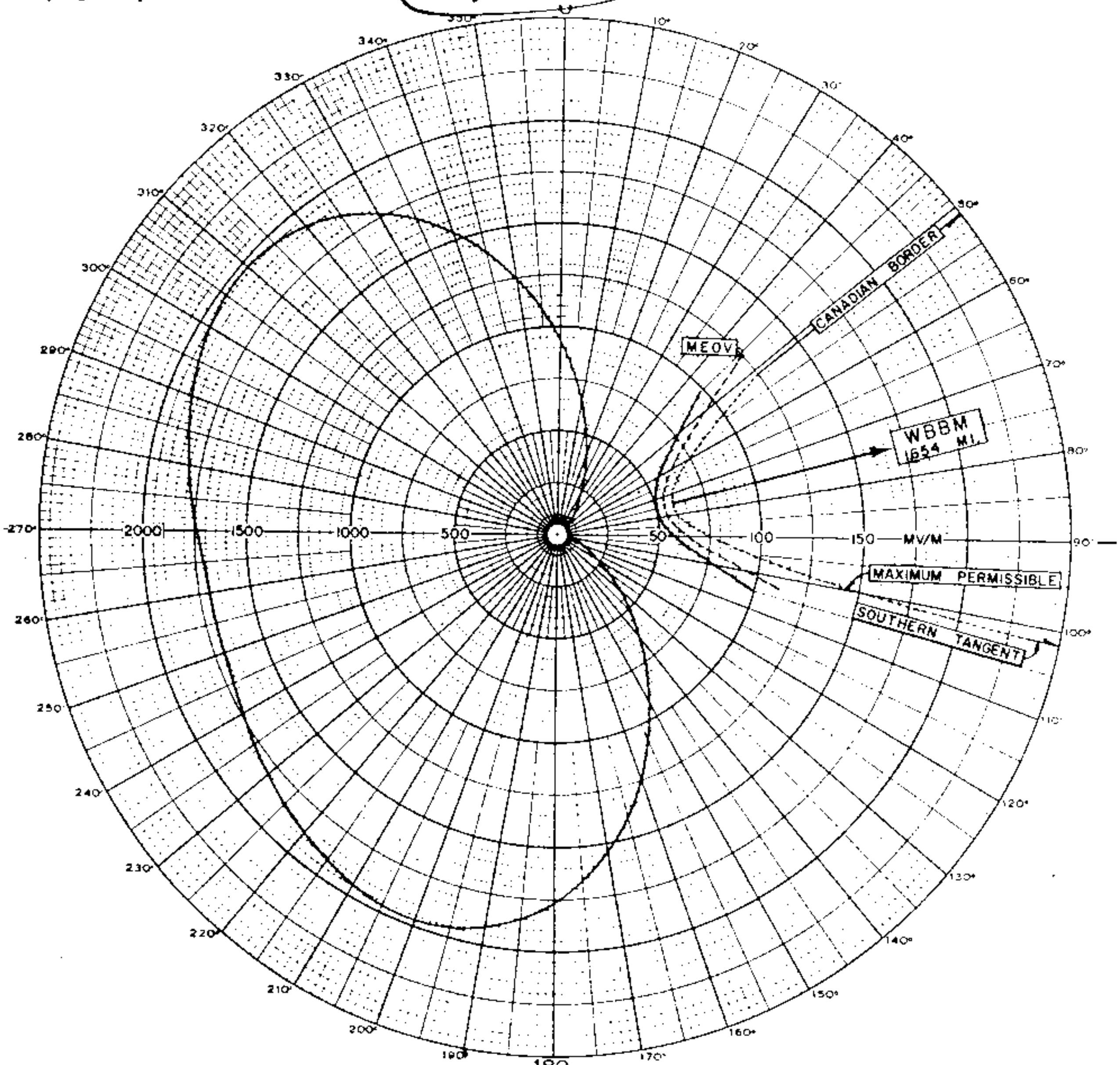
FCC File No.BL-12767 Accepted 10-26-70	Station KCRL Reno, Nevada	780 kc

KCRL

Proposed Night (4-27-62ct)

New; Circle L, Inc.
Reno, Nevada

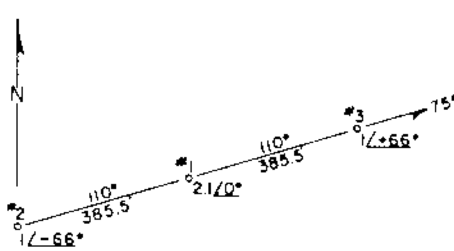
50kw,DA-N,U
780 kc



E_{RMS} = 1,350 MV/M

620212

LATITUDE: 39° 40' 41"
LONGITUDE: 119° 48' 06"



H = 315' = 90°

FIGURE 1

PROPOSED NIGHTTIME PATTERN
HORIZONAL FIELD INTENSITY AT ONE MILE

780 KC, 50 KW, DA-N, U
RENO, NEVADA
CIRCLE L, INC.
FEBRUARY, 1962

RON OAKLEY
Consulting Radio Engineer

FCC File No.BP-15413
Accepted 4-16-62

New; Circle L, Inc.
Reno, Nevada

780 kc