790-800

Station	Main Studio	Freq	Power	Date
NEW	Bedford, NS	790	10 kW/DA-2	10/4/76
CFAN	New Castle, NB	790	1 kW/DA-1	1/13/55
CFAN	New Castle, NB	790	5/1 kW/DA-2	8/26/77
CFNW	Port aux Choix, NF	790	1 kW/DA-1	7/30/71
NEW	Bedford, NS	790	10 kW/DA-2	10/4/76
CFDR	Dartmouth, NS	790	5 kW/DA-1	3/28/68
CHIC	Brampton, ON	790	5 kW/DA-2	12/4/74
CKBH	Baie-Comeau, QU	790	1/0.25 kW/DA-1	3/28/79
CKLW	Windsor, ON	790	50 kW/DA-2	11/23/76
CKSO	Sudbury, ON	790	50 kW/DA-2	5/12/76
CKSO	Sudbury, ON	790	5/10 kW/DA-2	5/28/59
CMCH	Havana, CU	790	10 kW	6/15/53
KABC	Los Angeles, CA	790	5 kW/DA-N	9/12/80
KCEE	Tucson, AZ	790	0.5/5 kW/DA-2	10/25/61
KFGO	Fargo, ND	790	5 kW/DA-N	3/27/70
KFYO	Lubbock, TX	790	1/5 kW/DA-2	1/23/50
KGHL	Billings, MT	790	5 kW/DA-N	4/28/71
KGMI	Bellingham, WA	790	1/5 kW/DA-N	5/28/63
KJRB	Spokane, WA	790	5 kW/DA-N	9/29/79
KOSY	Texarkana, AR	790	0.5/1 kW/DA-N	5/4/50
KULF	Houston, TX	790	5 kW/DA-2	8/28/74
KWIL	Albany, OR	790	1 kW/DA-2	9/17/52
KXQR	Clovis, CA	790	0.5 kW/DA-D	11/77
WAEB	Allentown, PA	790	1 kW/DA-2	9/27/78
WAEB	Allentown, PA	790	1/0.5 kW/DA-1	4/15/49
WAKY	Louisville, KY	790	1/5 kW/DA-2	8/7/74
WEAN	Providence, RI	790	5 kW/DA-2	2/5/57

790-800

Station	Main Studio	Freq	Power	Date
WEAQ	Eau Claire, WI	790	5 kW/DA-N	11/24/48
WFUN	South Miami, FL	790	5 kW/DA-2	8/5/76
WHTH	Heath, OH	790	0.5 kW/DA-D	11/2/79
WLBE	Leesburg, FL	790	1/5 kW/DA-N	9/19/46
WLBE	Leesburg, FL	790	1 kW/DA-1	
WMC	Memphis, TN	790	5 kW/DA-N	8/22/80
WQXI	Atlanta, GA	790	1/5 kW/DA-N	4/28/65
WRMS	Beardstown, IL	790	0.5 kW/DA-D	5/29/58
WSGW	Saginaw, MI	790	1/5 kW/DA-2	6/22/62
WTAR	Norfolk, VA	790	5 kW/DA-N	8/46
WWNY	Watertown, NY	790	1 kW/DA-N	11/73
WYNR	Brunswick, GA	790	0.5 kW/DA-D	1/28/65
XEAN	El Salto de Juanacatlan, Jalisco	790	5 kW/DA-D	2/24/65
CBQ	Thunder Bay, ON	800	10/5 kW/DA-1	3/15/77
CFOB	Fort Frances, ON	800	0.5/1 kW	5/10/59
CHAB	Moose Jaw, Sask.	800	10 kW/DA-N	11/17/80
CHRC	Quebec, PQ	800	50 kW/DA-1	7/26/66
CJAD	Montreal, QU	800	10/50 kW/DA-2	6/28/63
CJBQ	Belleville, ON	800	1 kW/DA-1	9/17/56
CJBQ	Belleville, ON	800	10 kW/DA-2	4/29/69
CJBQ	Belleville, ON	800	1 kW/DA-1	10/5/56
CJJC	Langley, BC	800	10 kW/DA-2	10/28/69
CJJC	Langley, BC	800	5 kW/DA-2	8/28/67
CJLX	Fort William, ON	800	5/10 kW/DA-1	2/28/62
CKLW	Windsor, ON	800	50 kW/DA-2	11/17/48
CKOK	Penticton, BC	800	0.5/10 kW	11/28/58

790-800

Station	Main Studio	Freq	Power	Date
VOWR	St. John’s NF	800	1 kW	4/29/68
KQAD	Luverne, MN	800	0.5 kW/DA-D	2/28/68
KQIN	Burien, WA	800	0.5 kW/DA-D	6/28/67
KQIN	Burien, WA	800	1 kW/DA-D	10/25/61
KXIC	Iowa City, IA	800	1 kW/DA-D	8/26/66
WDUX	Waupaca, WI	800	5 kW/DA-D	10/28/66
WKVE	Cave City, KY	800	0.25 kW/DA-D	10/30/74
WRKV	Rockville, CT	800	1 kW/DA-D	8/22/61
WSHO	New Orleans, LA	800	1 kW/DA-N	6/12/50
WSST	Largo, FL	800	0.25 kW	1/74
WTMR	Camden, NJ	800	5 kW/DA-D	8/22/61
NEW	Largo, FL	800	0.25 kW/DA-D	4/10/61
WVAL	Sauk Rapids, MN	800	2.5 kW/DA-D	11/16/79

DIRECTIONAL ANTENNA DESCRIPTION SHEET
(Revised August 17, 1976)

Station: NEW	Main Studio: Bedford, Nova Scotia.
Frequency: 790 kHz	Power: 10 kW Day and Night
Time: Unlimited	Class: III
Notification List No: 359	Date: October 4, 1976
Goegraphical Location:	North Lat: 44° 47'15" West Long: 63° 44'40"

Antenna System: Three elements, guyed, uniform cross section, base insulated, series feed, no top loading. Height above insulator 311.4ft.

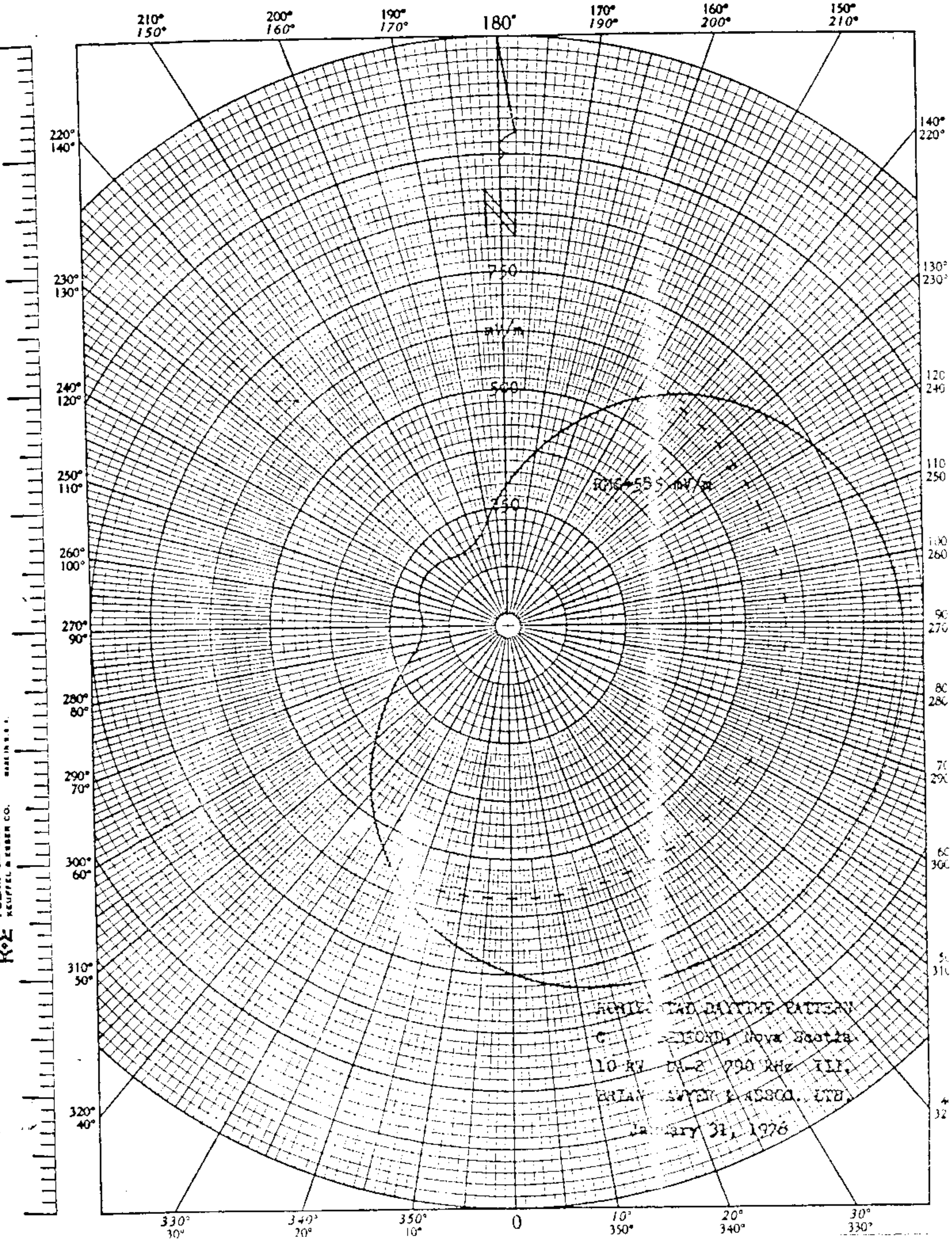
Element:	One	Two	Three
Electrical Height:	90°	90°	90°
Spacing:	REF.	90° (311.4')	180° (622.8')
Bearing:	REF.	120°	120°
Field Ratio DAY:	1.0	0.65	
NIGHT:	1.0	1.313	0.425
Phase DAY:	REF.	-103°	
NIGHT:	REF.	-120.7°	-234°

Ground System: 120 radials per tower, #10 AWG bare soft copper wire, spaced uniformly, depth approx. 8 inches. Radials bonded along line between towers and bonded to soft copper straps at tower bases. Maximum length 498ft.

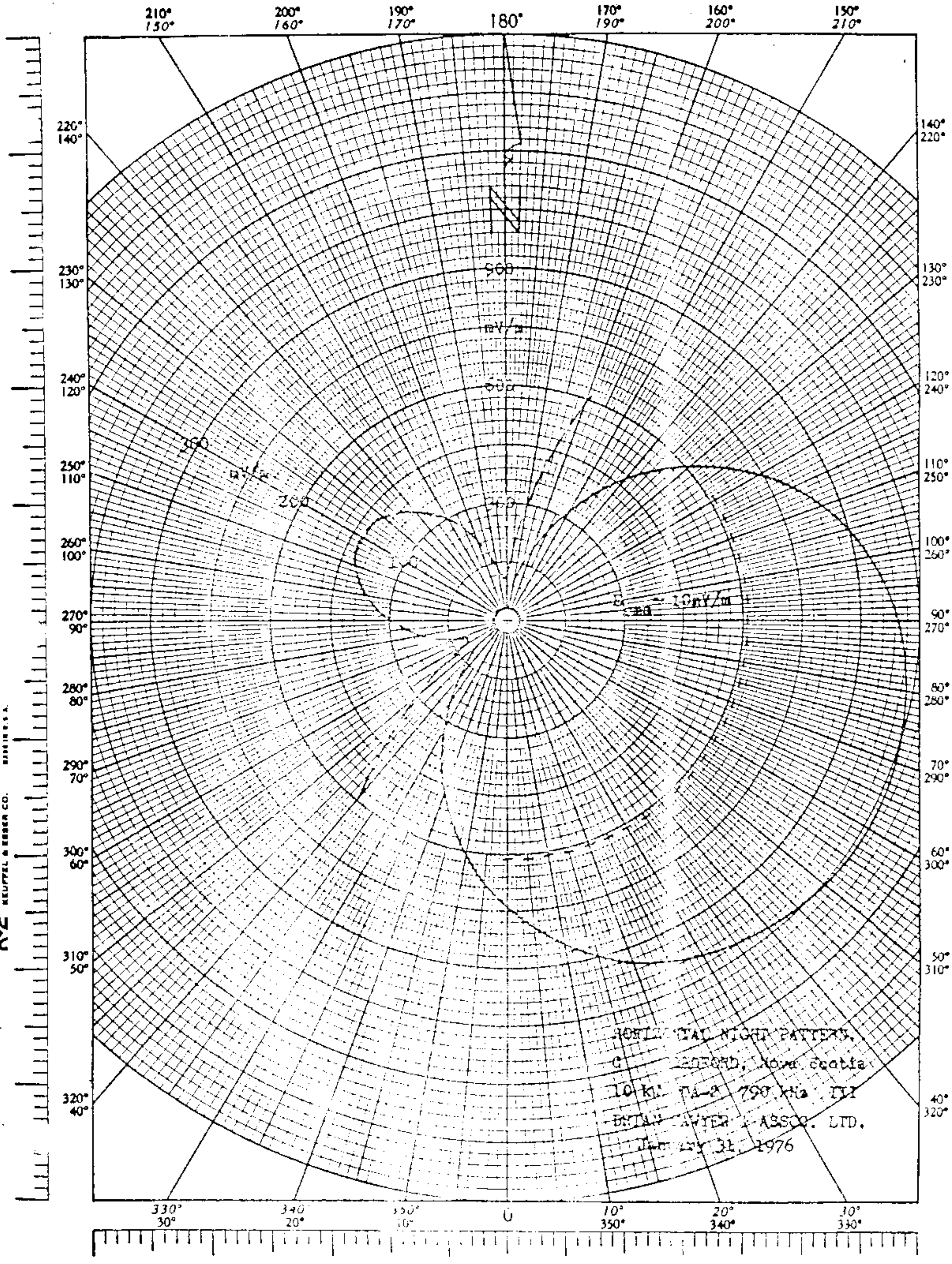
Predicted Effective Field:

DAY - 585 mV/m at one mile for 10 kW
185 mV/m at one mile for 1 kW

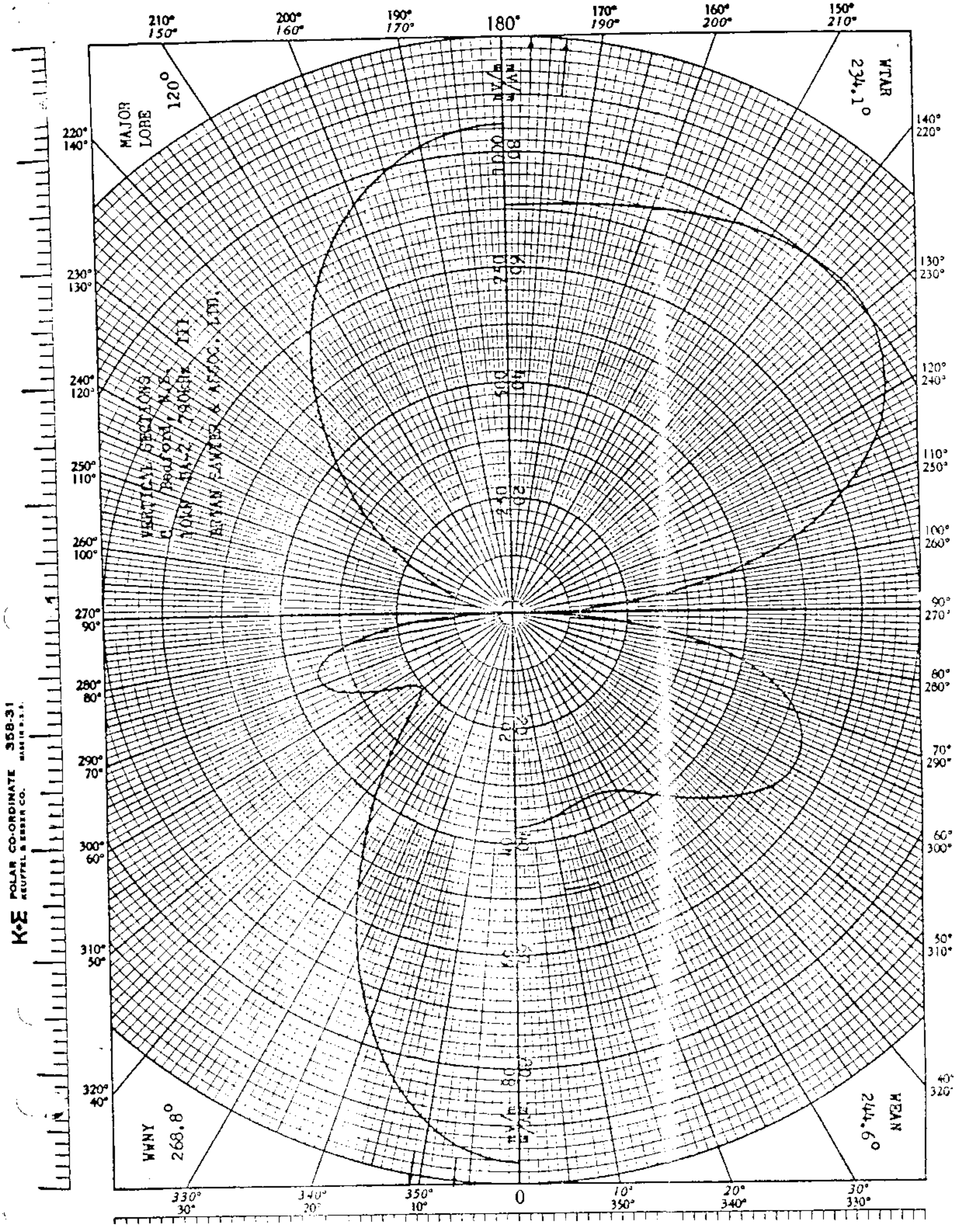
NIGHT- 610 mV/m at one mile for 10 kW
192.9mV/m at one mile for 1 kW



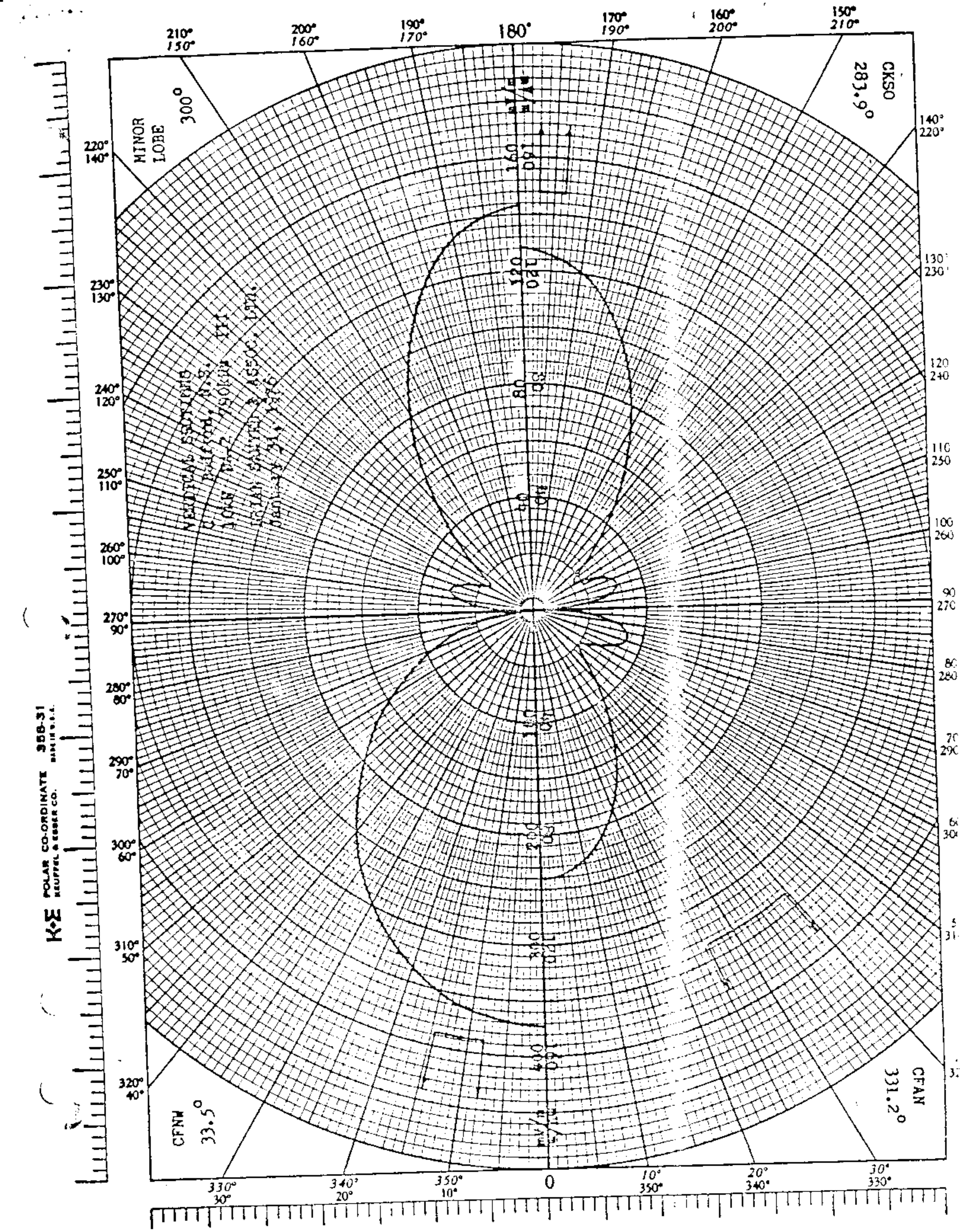
180°
750
mV/m
500
250
0
Nova Scotia
10 KW
790 KHz
31, 1976
K&E POLAR CO-ORDINATE 358-31
KEUFFEL & ESSER CO.



180°
900
mV/m
500
300
mV/m
200
100
10mV/m
0
TAL NIGHT PATTERN,
Nova Scotia
10 KW DA-2 790 kHz
ASSOC. LTD.
31, 1976
K+E POLAR CO-ORDINATE 358-31
KEUFFEL & ESSER CO.



180°
0
MAJOR LOBE
120°
WTAR
234.1°
WWNY
268.8°
WEAN
244.6°
VERTICAL SECTIONS
K+E POLAR CO-ORDINATE 358-31
KEUFFEL & ESSER CO.



MINOR LOBE
300°
CKSO
283.9°
CFNW
33.5°
CFAN
331.2°
180°
0
K+E POLAR CO-ORDINATE 358-31
KEUFFEL & ESSER CO.

CFAN ~~CKMR~~

#89

5-10-458

Directional Antenna Description Sheet

Station: CKMR

Main Studio: Newcastle, N.B.

Frequency: 790 Kc

Power: 1 Kw   Class: III

Notification List No. 89

Date: December 3, 1954

Geographical Location of the Centre of the Antenna System:

North Latitude: 47° 00' 32"
West Longitude: 65° 33' 01"

Antenna: Mode of operation: DA-1
Elements: two, guyed, uniform cross-section, series-fed.

Towers:	West	East
Height above Insulators:	208' (60°)	208'
Spacing:	623.2' (180°)	
Phasing:	30° lead	0°
Field Ratio:	1.5	1.0
Ground System:	350' radials spaced 3°	350' radials spaced 3°

Orientation: Line through towers bears N 72.5° E.

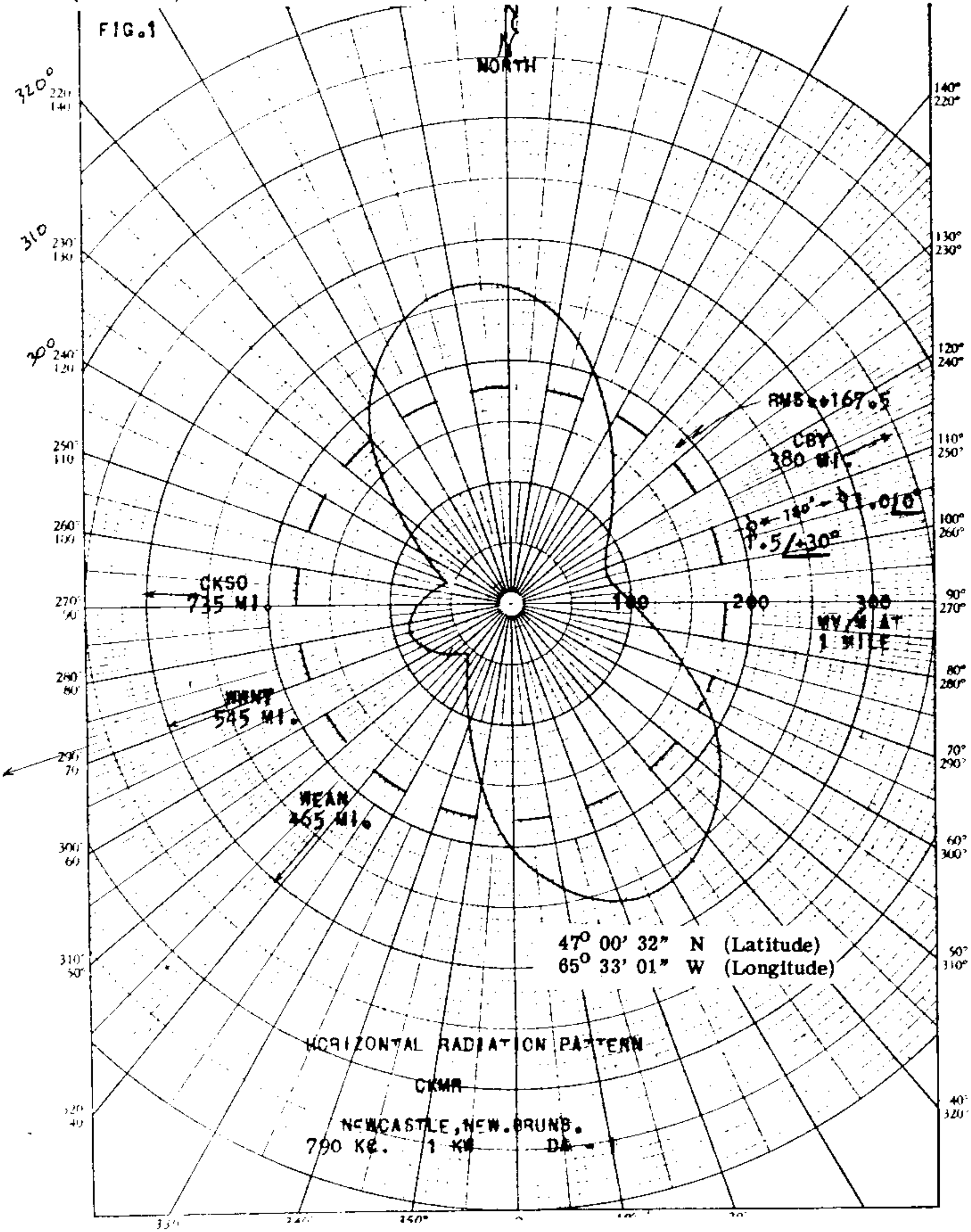
Predicted Effective Field: 167.5 mv/m at 1 mile per Kw.

(PO 1340, 250 w ND IV)

CFAN ~~CKMR~~

F89

PROPOSED NIGHT AND DAY (1-13-55G) | **CKMR NEWCASTLE, N.B.** | **1 KW DA-1, CLASS III** | **790 KC**



CKMR, NEWCASTLE, N.B. **790 KC**

CFAN

CFAN - NEWCASTLE, N.B.

Directional Antenna Description Sheet

DA-2

Station: CFAN	Main Studio: Newcastle, N.B.
Frequency: 790 kHz	Power: 5 kW-D/1kW-N
Time: Unlimited	Class: III
Notification List No: 366	Date: August 26, 1977

Geographical Location: 47° 00' 21" North Latitude
65° 33' 10" West Longitude

Antenna System: Two elements, guyed, uniform cross-section, base insulated, series feed.

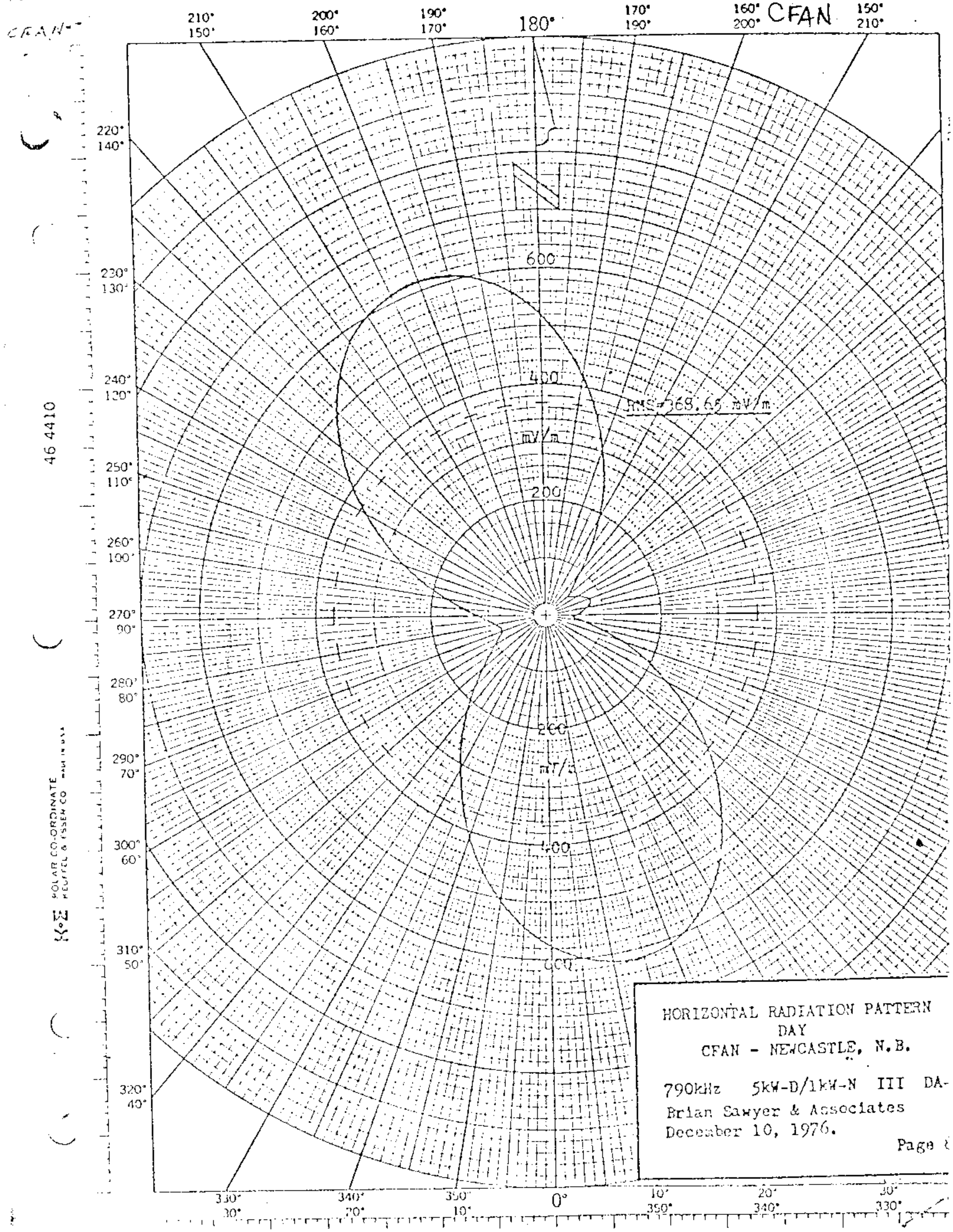
Tower	No. 1(W)	No. 2(E)
Height above insulators	208' (60°)	208' (60°)
Overall Height	213'	213'
Spacing	180°	REF
Orientation	252.5°	REF
Day Field Ratio	1.0	0.85
Day Phase	0°	+12°
Night Field Ratio	1.0	0.667
Night Phase	0°	-30°

Ground System: 120 radials, equiangularly spaced around each mast, extending to the boundary of the property and resulting in an equivalent 0.4 wavelength system. The radials are #10 (B & S) bare, soft-drawn copper wire, buried 8" in ground, and joined at the common chords.

Predicted RMS: Day - 368.65 mV/m at 1 mile for 5 kW or
164.87 mV/m at 1 mile for 1 kW

Night - 167.5 mV/m at 1 mile for 1 kW

Note: The proposed change is for the day-time operation of CFAN only. Please retain the night-time radiation patterns, horizontal and vertical, which were notified in Canadian Change List No. 89 dated



HORIZONTAL RADIATION PATTERN
DAY
CFAN - NEWCASTLE, N.B.

790kHz 5kW-D/1kW-N III DA-

Brian Sawyer & Associates
December 10, 1976.

Page 8

#281

CFNW

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

STATION : New (CFNW) LOCATION : Port aux Choix, Nfld.

FREQUENCY : 790 kHz POWER : 1 kW CLASS : III

NOTIFICATION LIST : 281 DATE : July 30, 1971.

GEOGRAPHICAL LOCATION : Lat. : 50° 42' 00" North
Long.: 57° 24' 00" West

ANTENNA CHARACTERISTICS :

Mode of Operation : DA-1
No. of Elements : Two (2)
Type of Elements : Guyed steel towers, uniform cross-section, base insulated, series fed, no top loading.

Tower No. :	1 (W)		2 (E)
Height above Insulators :	213'	(60°)	213'
Overall Height :	218'		218'
Field Ratio :	1		1
Phasing :	0°		- 75°

Ground System : 120 equally spaced radials per tower of No. 10 AWG bare copper wire, buried approx. 8". Length of radials 500 ft. (= 0.4) with the exception of those radials joined along the common chord.

Spacing and Orientation of Towers :

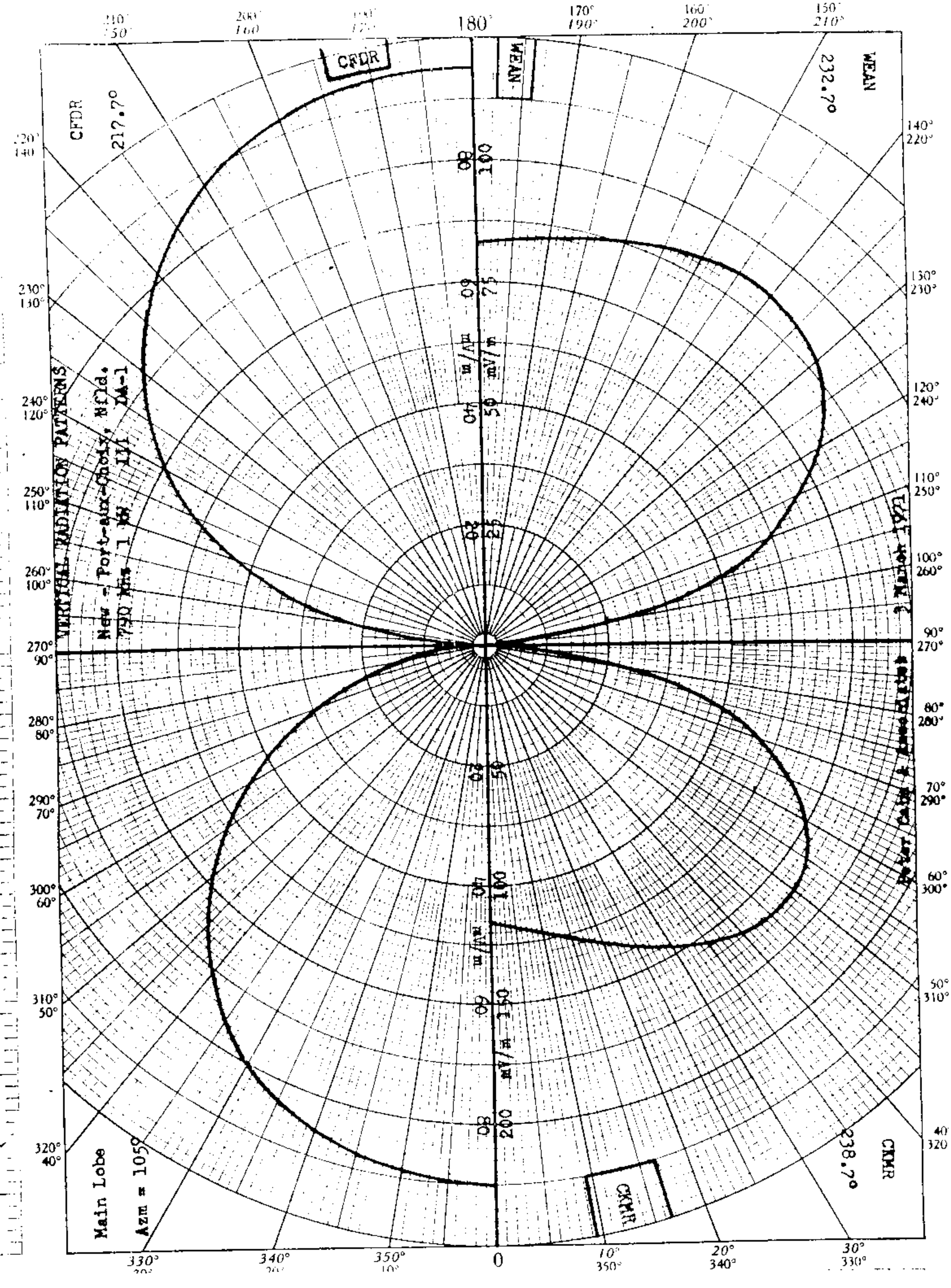
On a line bearing 105° East of True N. and spaced 415.4 ft. apart (120°).

Predicted Effective Field :

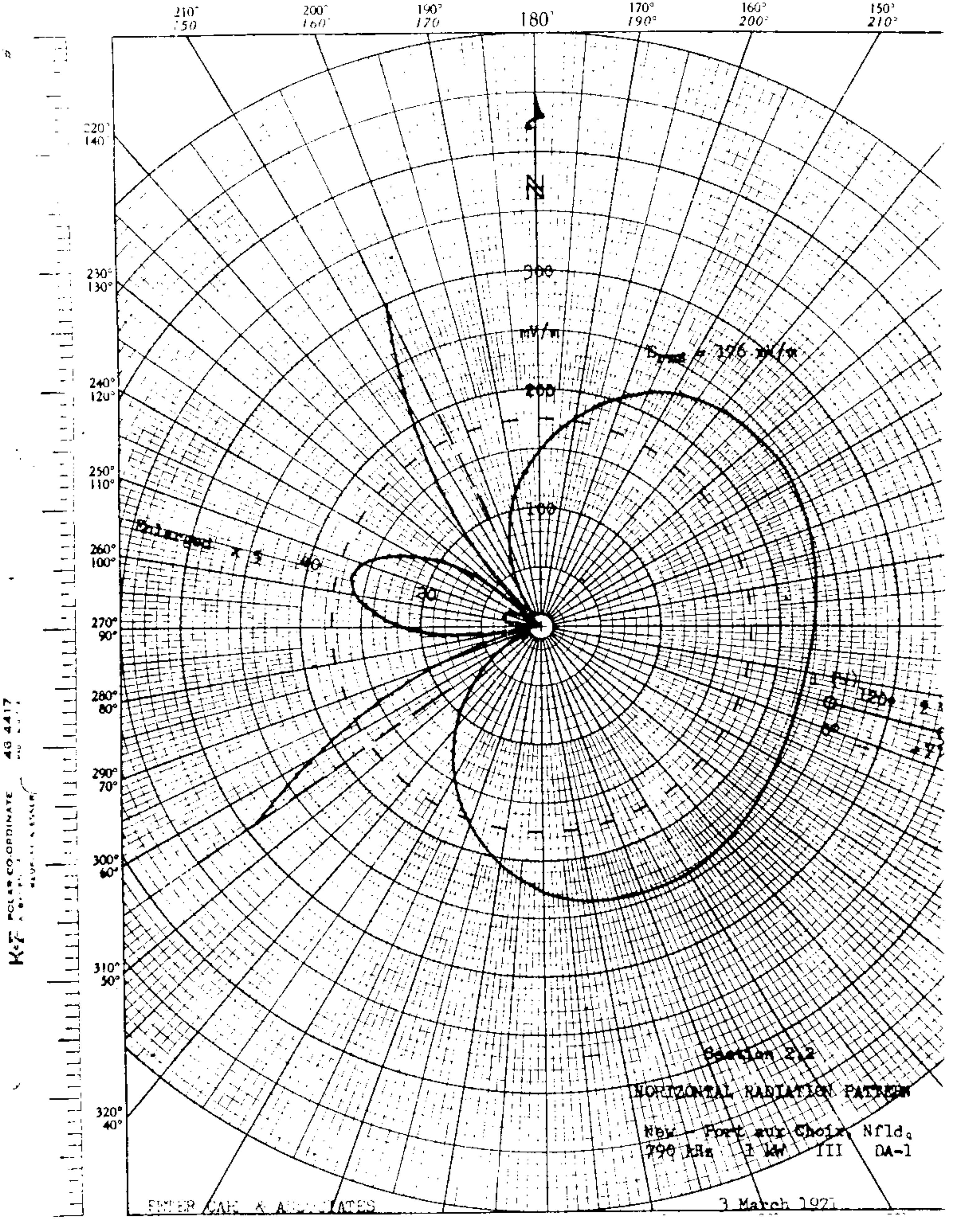
176 mV/m at one mile for 1 kW.

PETER CAHN & ASSOCIATES
CONSULTING ENGINEERS

CFNW


VERTICAL RADIATION PATTERNS
CFDR
217.7°
WEAN
232.7°
CKMR
238.7°
Main Lobe
Azm = 105°
mV/m
180°
0

CFNW



Erms = 176 mV/m
mV/m
300
200
100
Enlarged x 5
40
30
Section 2.2
HORIZONTAL RADIATION PATTERN
New - Port aux Choix, Nfld.
790 kHz 1 kW III DA-1
3 March 1971
K+E POLAR CO-ORDINATE 46 4417

#359

(NEW)
Bedford N.S

DIRECTIONAL ANTENNA DESCRIPTION SHEET
(Revised August 17, 1976)

Station: NEW
Main Studio: Bedford, Nova Scotia.
Frequency: 790 kHz
Power: 10 kW Day and Night
Time: Unlimited
Class: III
Notification List No: 359 Date: October 4, 1976
Goegraphical Location: North Lat: 44° 47'15" West Long: 63° 44'40"

Antenna System: Three elements, guyed, uniform cross section, base insulated, series feed, no top loading. Height above insulator 311.4ft.

Element:	One	Two	Three
Electrical Height:	90°	90°	90°
Spacing:	REF.	90° (311.4')	180° (622.8')
Bearing:	REF.	120°	120°
Field Ratio DAY:	1.0	0.65	
NIGHT:	1.0	1.313	0.425
Phase DAY:	REF.	-103°	
NIGHT:	REF.	-120.7°	-234°

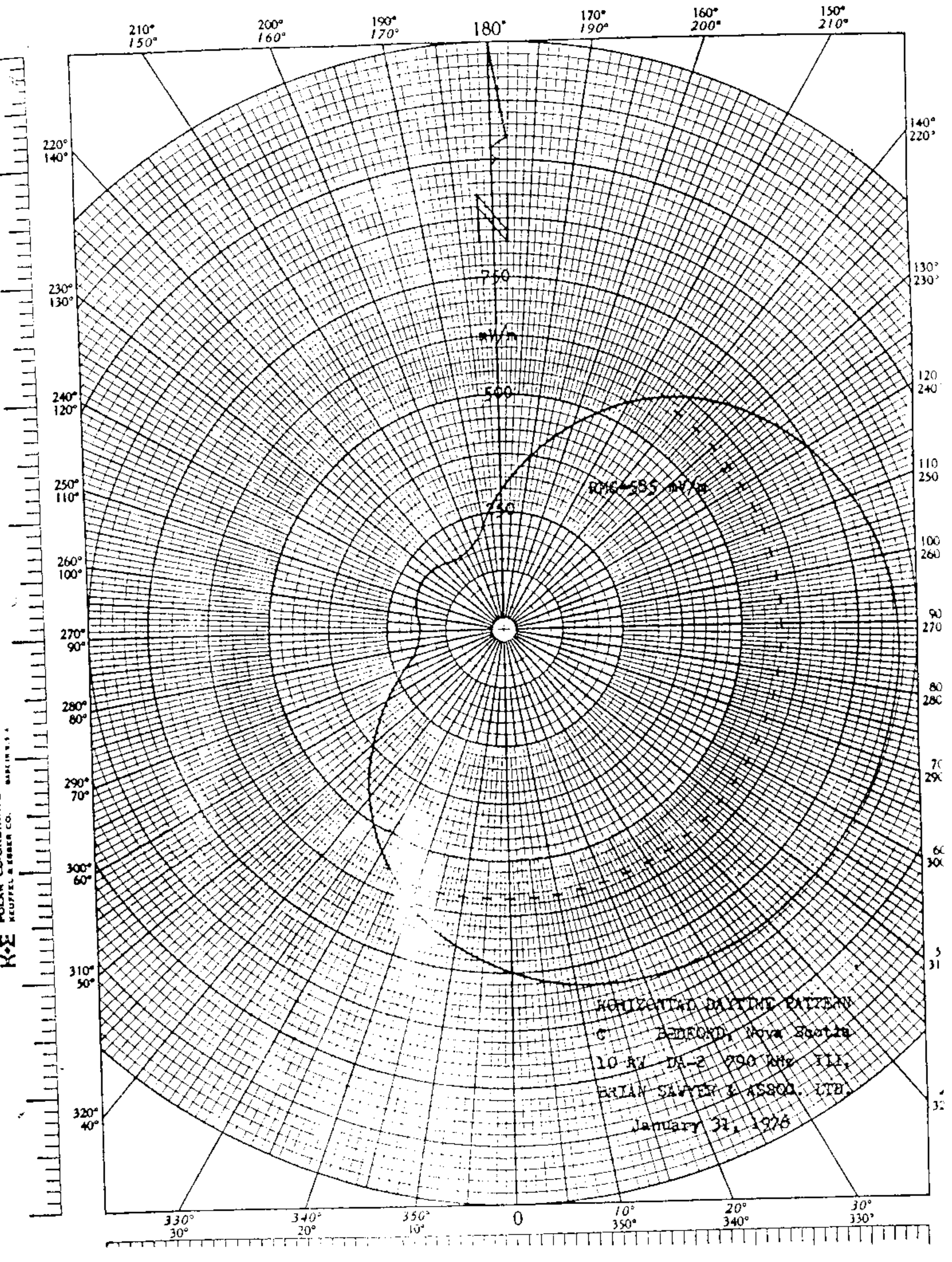
Ground System: 120 radials per tower, #10 AWG bare soft copper wire, spaced uniformly, depth approx. 8 inches. Radials bonded along line between towers and bonded to soft copper straps at tower bases. Maximum length 498ft.

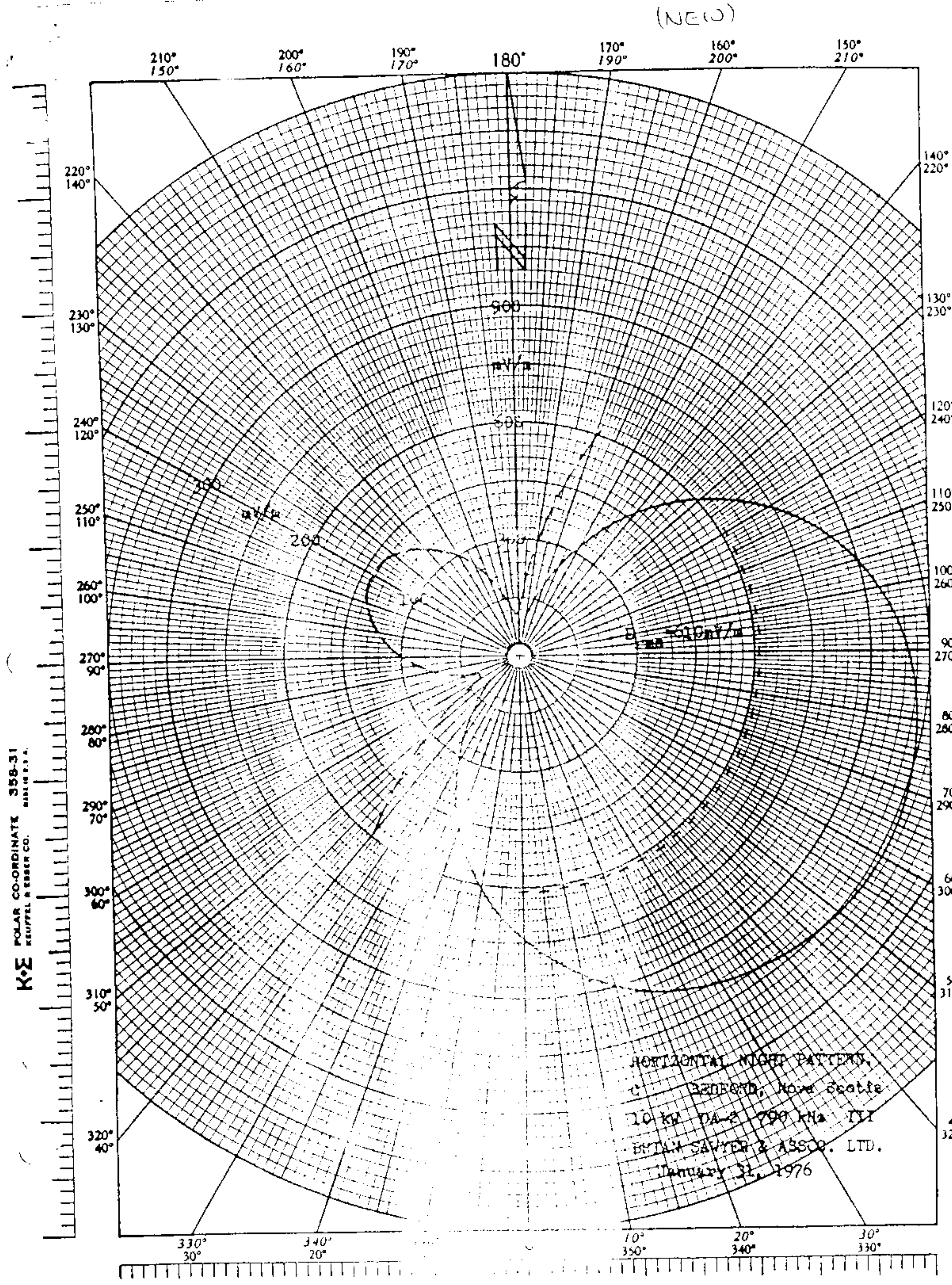
Predicted Effective Field:

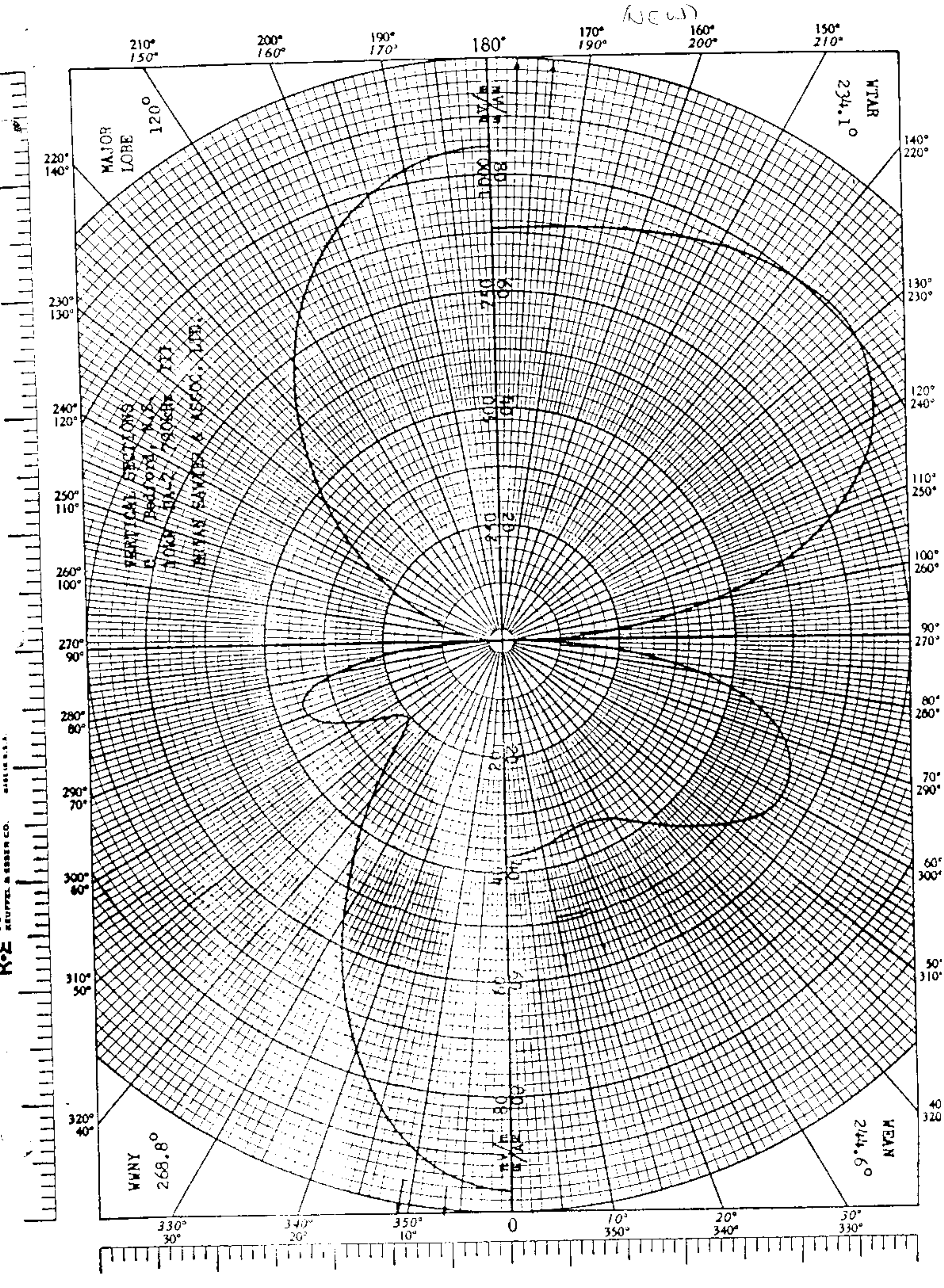
DAY - 585 mV/m at one mile for 10 kW
185 mV/m at one mile for 1 kW

NIGHT- 610 mV/m at one mile for 10 kW
192.9mV/m at one mile for 1 kW

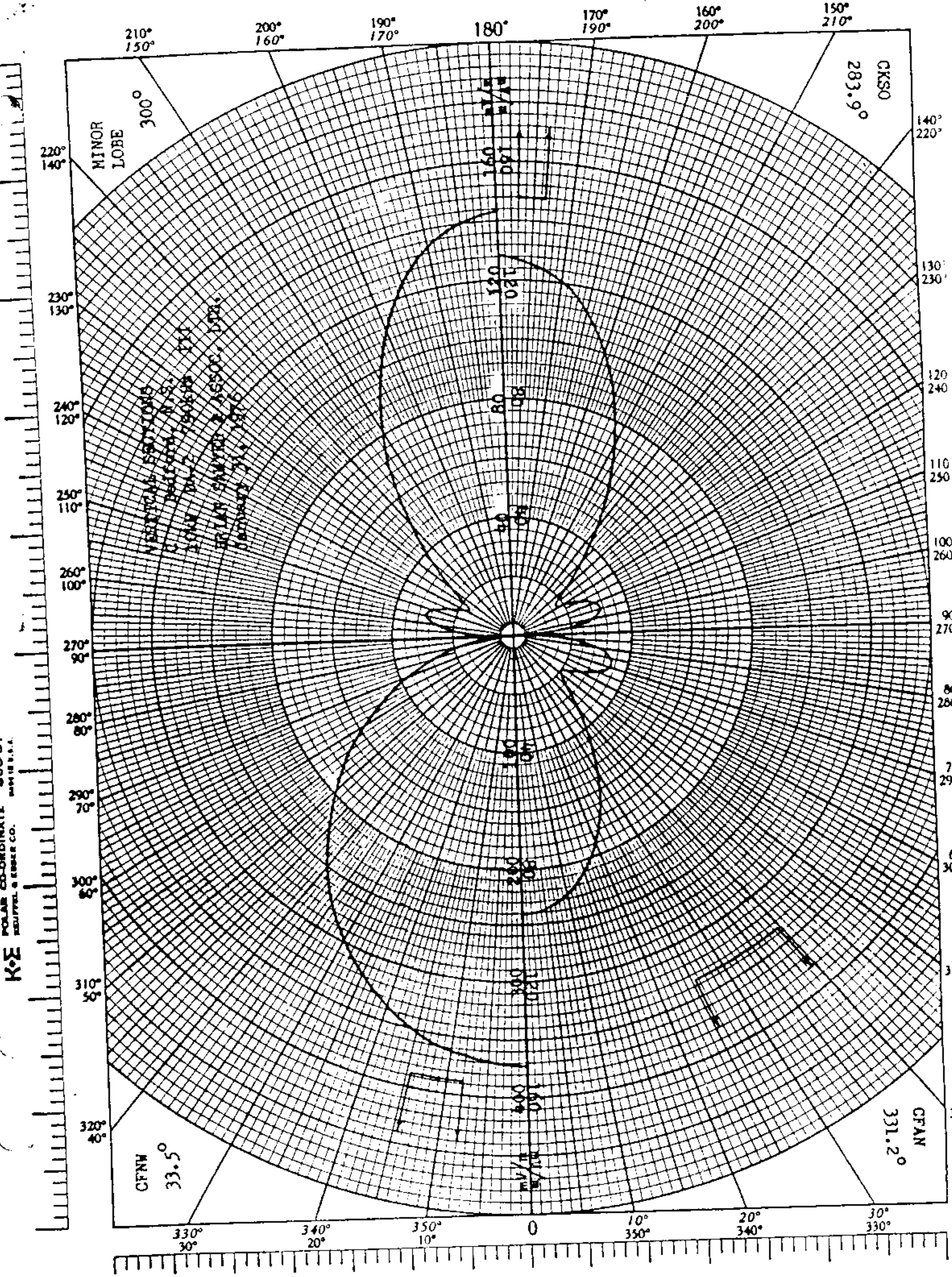
(NEW)


750
mV/m
500
250
RMS=585 mV/m
HORIZONTAL DAYTIME PATTERN
C BEDFORD, Nova Scotia
10 KW DA-2 790 kHz ILL.
BRIAN SAWYER & ASSOC. LTD.
January 31, 1976
K+E POLAR CO-ORDINATE 358-31
KEUFFEL & ESSER CO.


(NEW)
HORIZONTAL NIGHT PATTERN,
C BEDFORD, Nova Scotia
10 kW DA-2 790 kHz III
BRIAN SAWYER & ASSOC. LTD.
January 31, 1976
900
mV/m
600
300
mV/m
200
K+E POLAR CO-ORDINATE 358-31
KEUFFEL & ESSER CO.


(NEW)
MAJOR LOBE
120°
WTAR
234.1°
WWNY
268.8°
WEAN
244.6°
VERTICAL SECTIONS
K+E POLAR CO-ORDINATE 358-31
KEUFFEL & ESSER CO.

(NEW)



MINOR LOBE
300°
CKSO
283.9°
CFNW
33.5°
CFAN
331.2°
180°
0
K+E POLAR CO-ORDINATE 358-31
KEUFFEL & ESSER CO.

\# 240

CFDR

(To Shift to 680 KHz)

Description Sheet
(3-28-68ct)

Station CFDR
Dartmouth, Nova Scotia

5kw, DA-1, U, Class III
790 kc

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CFDR — Main Studio: Dartmouth, Nova Scotia

Frequency: 790 KHz — Power: 5 Kw Class III

Notification List No: 240 — Date: March 11, 1968

GEOGRAPHICAL LOCATION
OF THE ANTENNA SYSTEM:

North Latitude: 44° 42' 08"
West Longitude: 63° 41' 58"

ANTENNA CHARACTERISTICS:

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

TOWER:	No. 1	No. 2
HEIGHT ABOVE INSULATORS:	294'	294' (85°)
OVERALL HEIGHT:	299'	299'
SPACING:	0	311.6' (90°)
PHASING:	0	-117.5°
FIELD RATIO:	1.0	1.0
ORIENTATION:	Towers on a line bearing 119° East of True North.	
GROUND SYSTEM:	120 equally spaced radials per tower extending to a maximum of 500' (0.4 wavelengths) and bonded together at points equidistant between towers.	
PREDICTED EFFECTIVE FIELD:	RMS 415 mv/m for 5 Kw 185.5 mv/m for 1 Kw	

170

CFDR

Description Sheet
(5-25-62ct)

New Station
Dartmouth, N. S.

5kw,DA-1,U,Class III
790 kc

DIRECTIONAL ARRAY - DESCRIPTION SHEET

STATION: NEW

MAIN STUDIO: Dartmouth, N.S.

FREQUENCY: 790 Kc/s **POWER:** 5 Kw **CLASS:** III

Notification List No.: 170 Date: April 24, 1962.

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:

NORTH LATITUDE: 44° 43' 31"

WEST LONGITUDE: 63° 31' 23"

ANTENNA CHARACTERISTICS:

Mode of Operation: Directional full time, same pattern day and night (DA-1)

Number of Elements: Two (2)

Type of Elements: Square uniform cross-section, guyed, insulated from ground, series fed, no top loading.

TOWER:	#1 (W)	#2 (E)
HEIGHT ABOVE INSULATOR:	294'	294' (85°)
OVERALL HEIGHT:	299'	299'
SPACING:	90° between towers (311.6')	
PHASING:	0	-117.5°
FIELD RATIO:	1	1

ORIENTATION: on a line bearing 115° East of True North

GROUND SYSTEM: 120 equally spaced radials per mast extending to a maximum of 500 feet (0.4 of a wavelength approx.) and bonded together at points equidistant between towers.

PREDICTED EFFECTIVE FIELD: 415 mv/m at 1 mile for 5 Kw. radiated

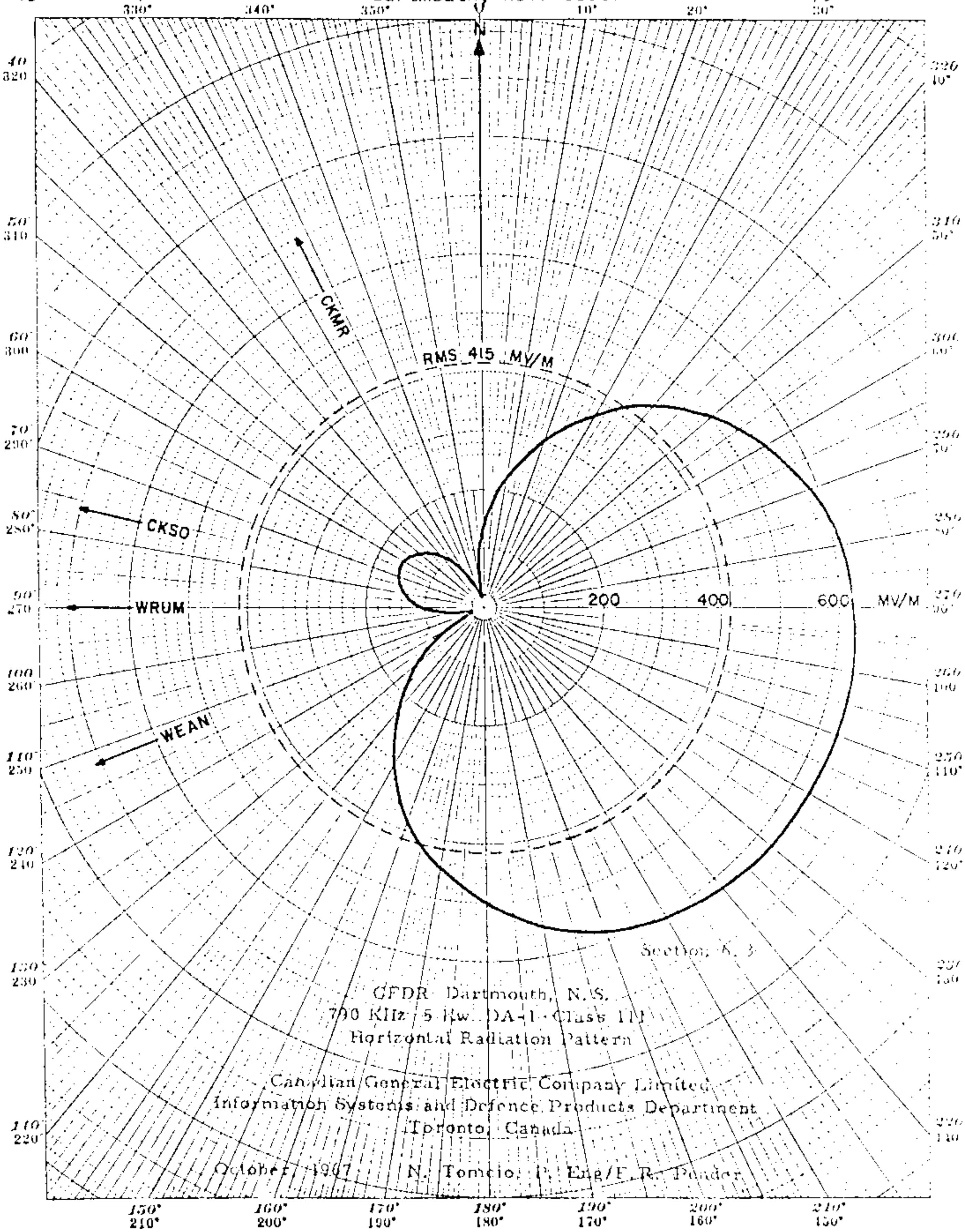
or 185.5 mv/m at 1 mile per Kw. radiated.

CFDR

Proposed Day & Night
(3-28-68ct)

Station CFDR
Dartmouth, Nova Scotia

5kw, DA-1, U, Class III
790 kc



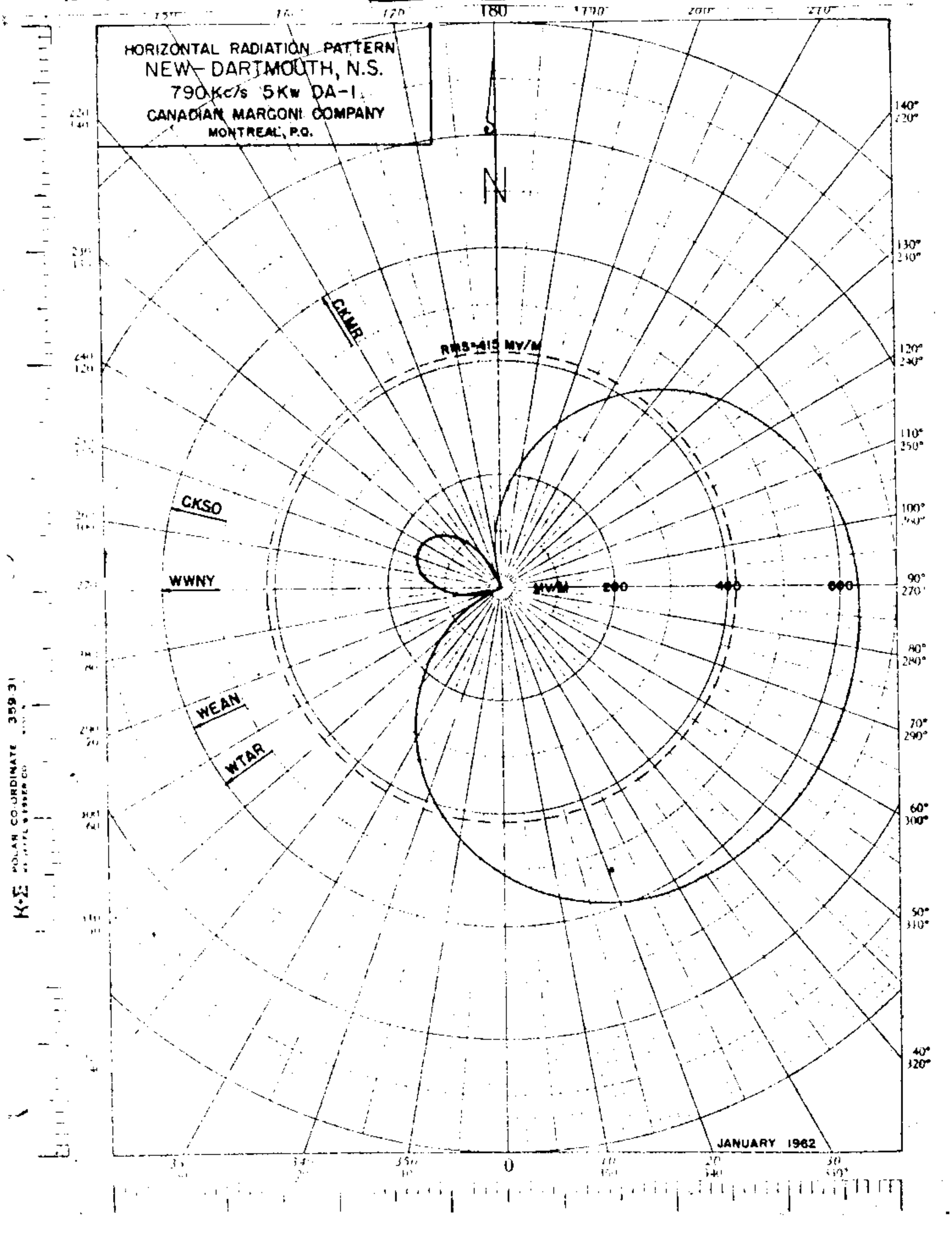
170

CFDR

Proposed Day & Night
(5-25-62ct)

New Station
Dartmouth, N. S.

5kw,DA-1,U,Class III
790 kc



#334

CHIC

ANTENNA DESCRIPTION SHEET

DIRECTIONAL DA-2

STATION CALL: C H I C
LOCATION: Brampton, Ontario.
FREQUENCY: 790 kc/s
POWER: 5000 watts
CLASS: III
TIME: Unlimited
NOTIFICATION REFERENCE: LIST #334 dated December 4, 1974.

GEOGRAPHICAL COORDINATES: Lat 43°35'20" Lon 79°52'54"

ARRAY CHARACTERISTICS: Ten elements, guyed, uniform cross section, base insulated, series feed. Height 298 feet or 86.1 degrees. No top loading.

Element	Day R	Day Ø	Night R	Night Ø
1	0.6000	+00.0°	1.0000	+00.0°
2	1.2750	+17.0	2.4170	+02.5
3	1.1250	+31.0	2.5540	+03.2
4	0.4000	+48.0	1.3547	+02.9
5	----	-----	0.3136	+00.0
6	----	-----	0.2948	-81.0
7	0.4000	-33.0	1.2734	-78.1
8	1.1250	-50.0	2.4011	-77.8
9	1.2750	-64.0	2.2720	-78.5
10	0.6000	-81.0	0.9400	-81.0

Orientation

1 2 3 4 5
10 9 8 7 6

On a line bearing 303° spaced 240° or 830.6 ft between adjacent towers

1 10
2 9
3 8
4 7
5 6

On a line bearing 023°, spaced 100° or 346.1 feet between the adjacent towers

Ground System: 120 radials per tower, #10 AWG bare, soft copper wire, spaced uniformly, depth 6 in. approximately. Radials bonded along lines between towers and bonded to soft copper strap at tower base. Maximum radial length 467 feet.

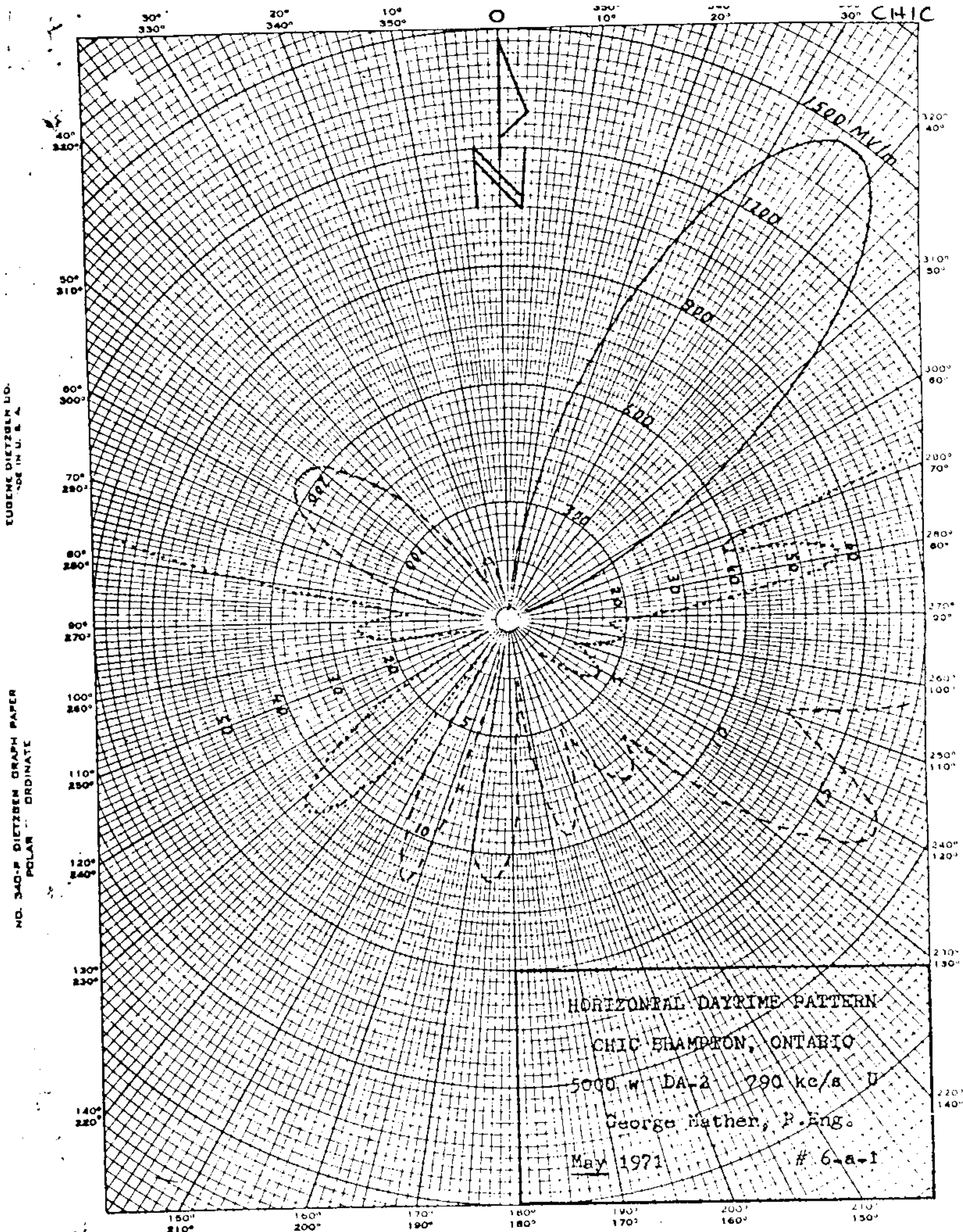
Predicted RMS

Day 400 Mv/m at 1 mile for 5 kw
179 Mv/m at 1 mile for 1 kw

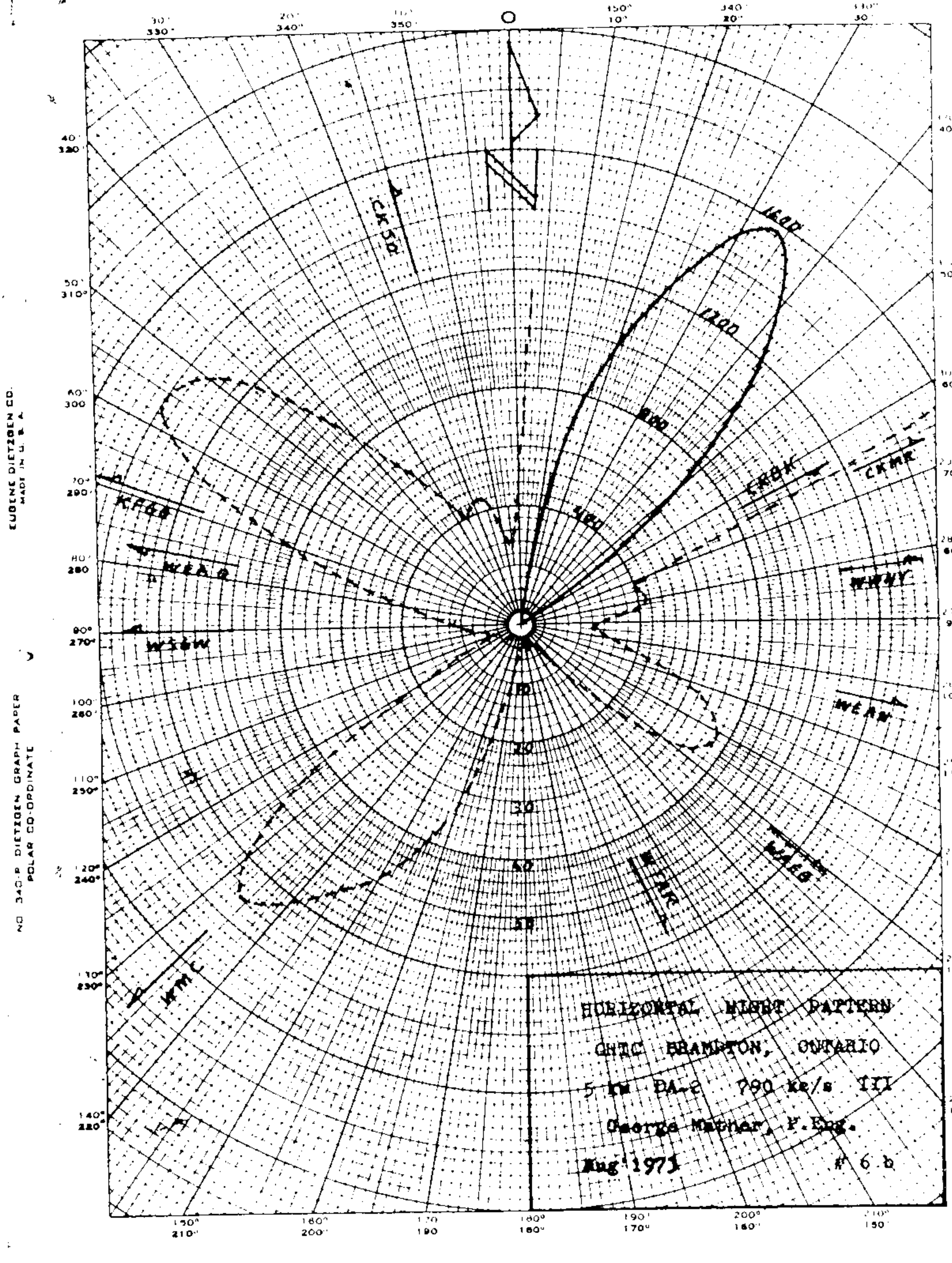
Night 400 Mv/m at 1 mile for 5 kw
179 Mv/m at 1 mile for 1 kw

May 1971

5


CHIC
1500 MV/m
1100
900
600
300
HORIZONTAL DAYTIME PATTERN
CHIC BRAMPTON, ONTARIO
5000 w DA-2 790 kc/s U
George Mather, P.Eng.
May 1971
6-a-1
NO. 340-R DIETZGEN GRAPH PAPER
POLAR ORDINATE
EUGENE DIETZGEN CO.

CHIC



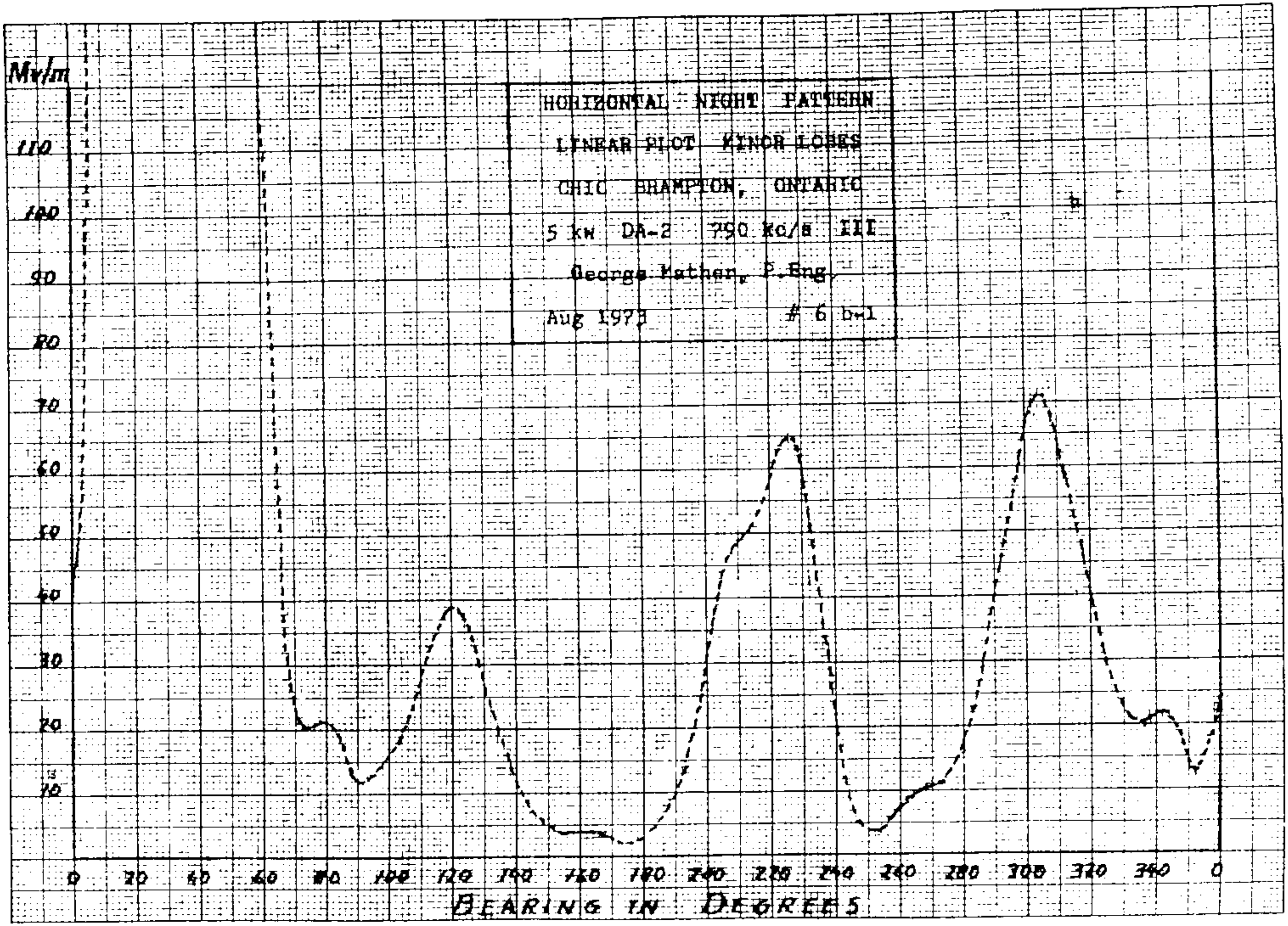
HORIZONTAL NIGHT PATTERN

CHIC BRAMPTON, ONTARIO

5 kw DA-2 790 kc/s III

George Mather, P.Eng.

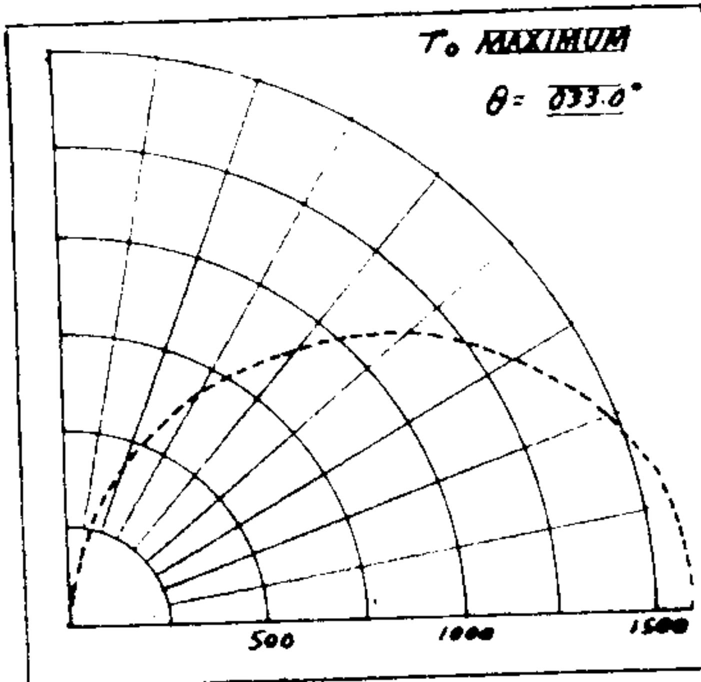
Aug 1971 # 6 b

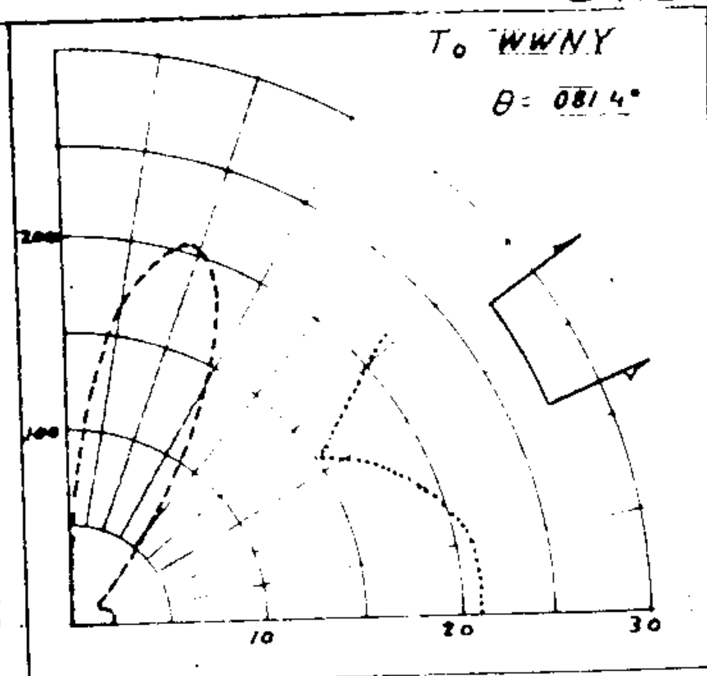


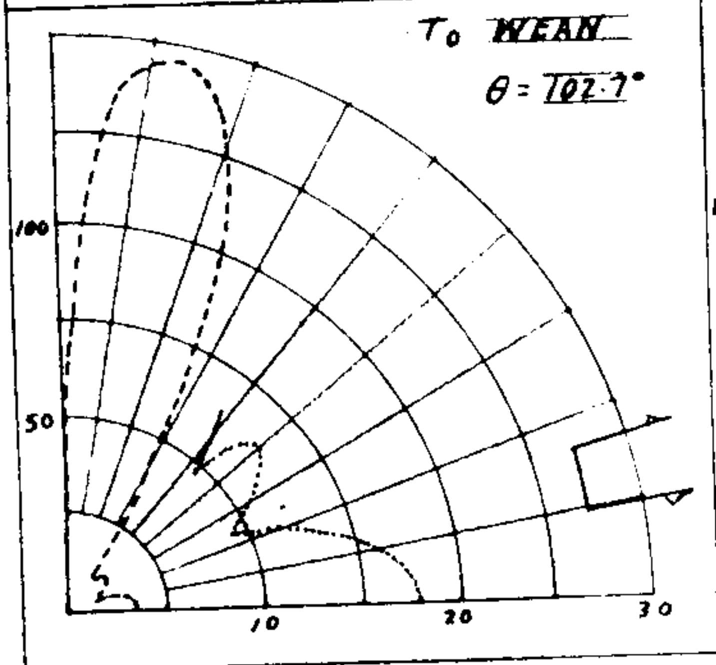
Mv/m
110
100
90
80
70
60
50
40
30
20
10
HORIZONTAL NIGHT PATTERN
LINEAR PLOT MINOR LOBES
CHIC BRAMPTON, ONTARIO
5 kW DA-2 790 Kc/s III
George Mather, P.Eng.
Aug 1973
6 b-1
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 0
BEARING IN DEGREES

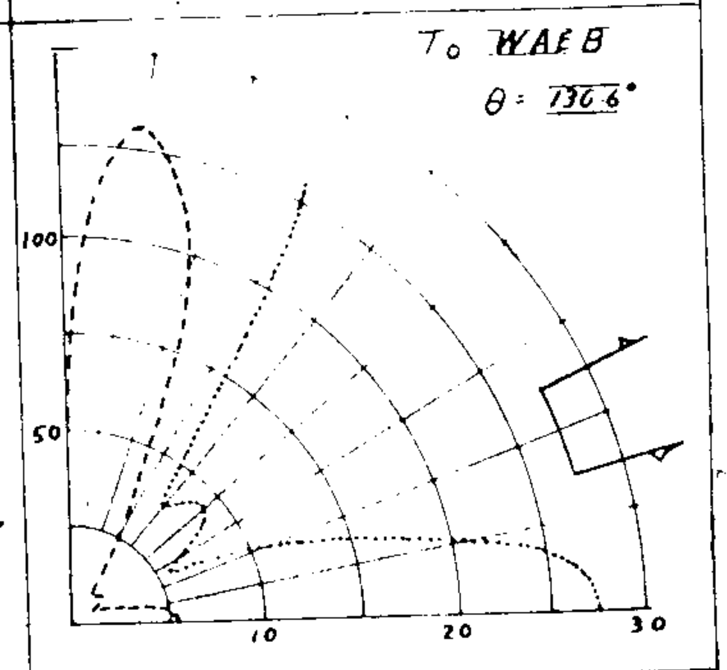
CHIC

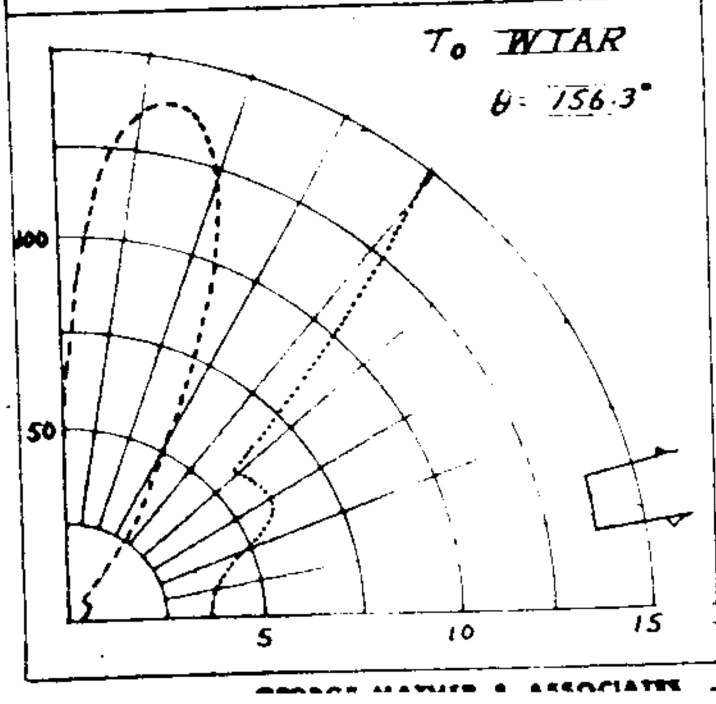
6-b-1











VERTICAL RADIATION PATTERNS

FIELD IN MV/M

NIGHT ANTENNA ARRAY

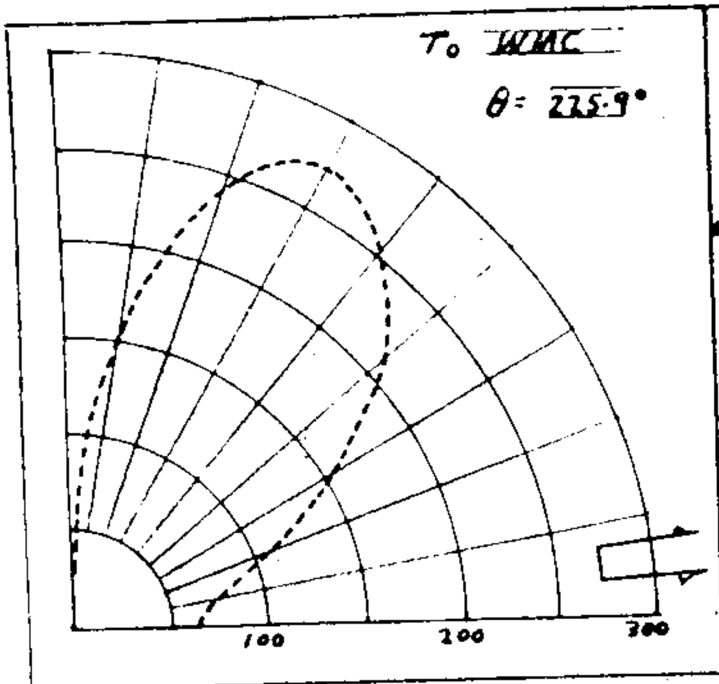
CHIC BRAMPTON, ONTARIO

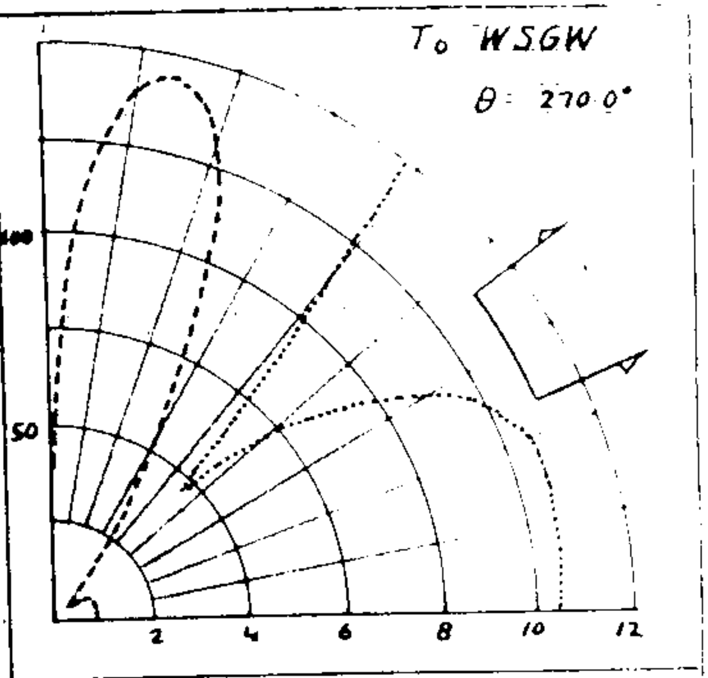
5 kw DA-2 790 kc/s III

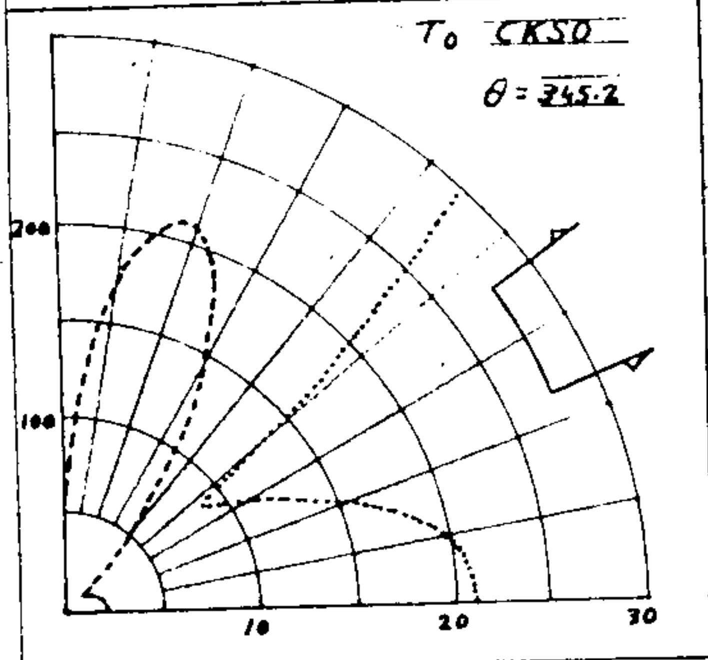
George Mather, P.Eng.

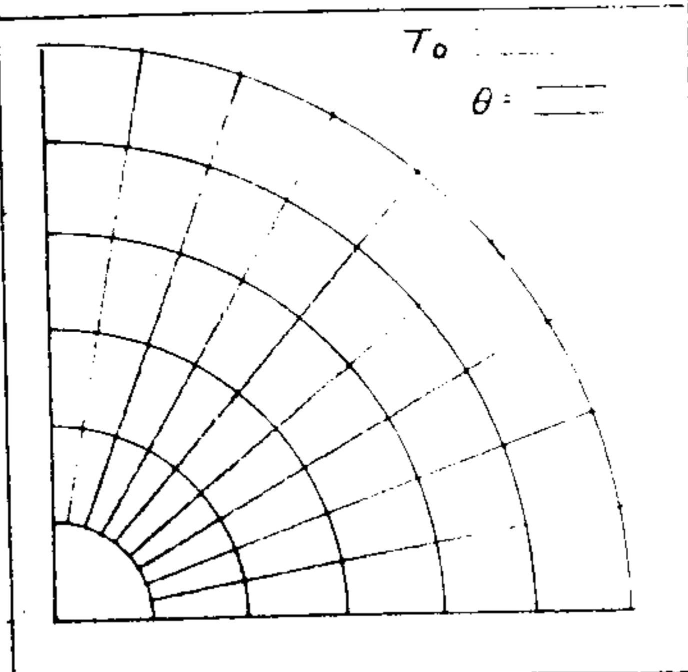
Aug 1973

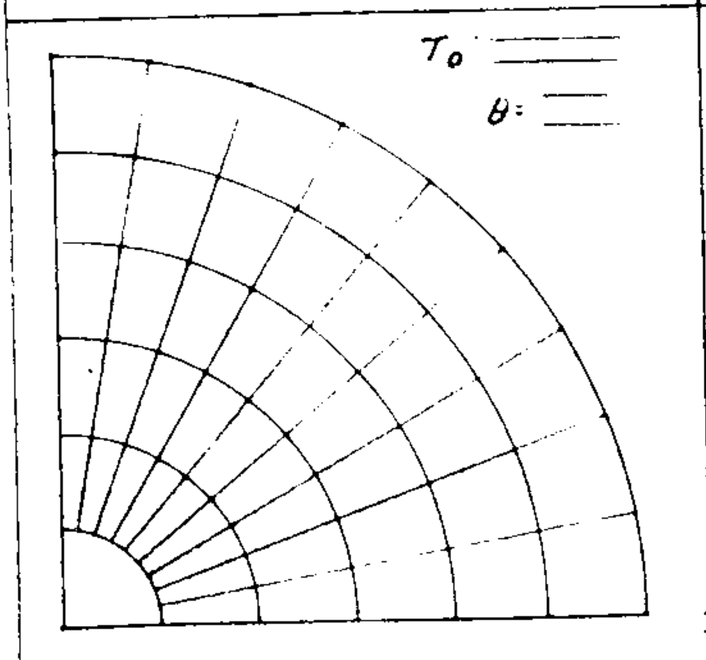
7 a











VERTICAL RADIATION PATTERNS

FIELD IN MV/M

NIGHT ANTENNA ARRAY

CHIC BRAMPTON, ONTARIO

5 kw DA-2 790 kc/s III

George Mather, P.Eng.

Aug 1973

7 b

CKBH

DESCRIPTION DU RESEAU D'ANTENNES

Station : CKBH Studio principal: Baie-Comeau, Québec
Fréquence : 790 KHz
Puissance : 1 KW de jour, 0.25 KW de nuit
Classe : III (U)
Notification : Liste 383 Date: le 28 mars 1979
Coordonnées : Latitude Nord : 49°12'0"
Longitude Ouest : 68°11'23"

Système d'antennes: Fonctionnement : DA-1

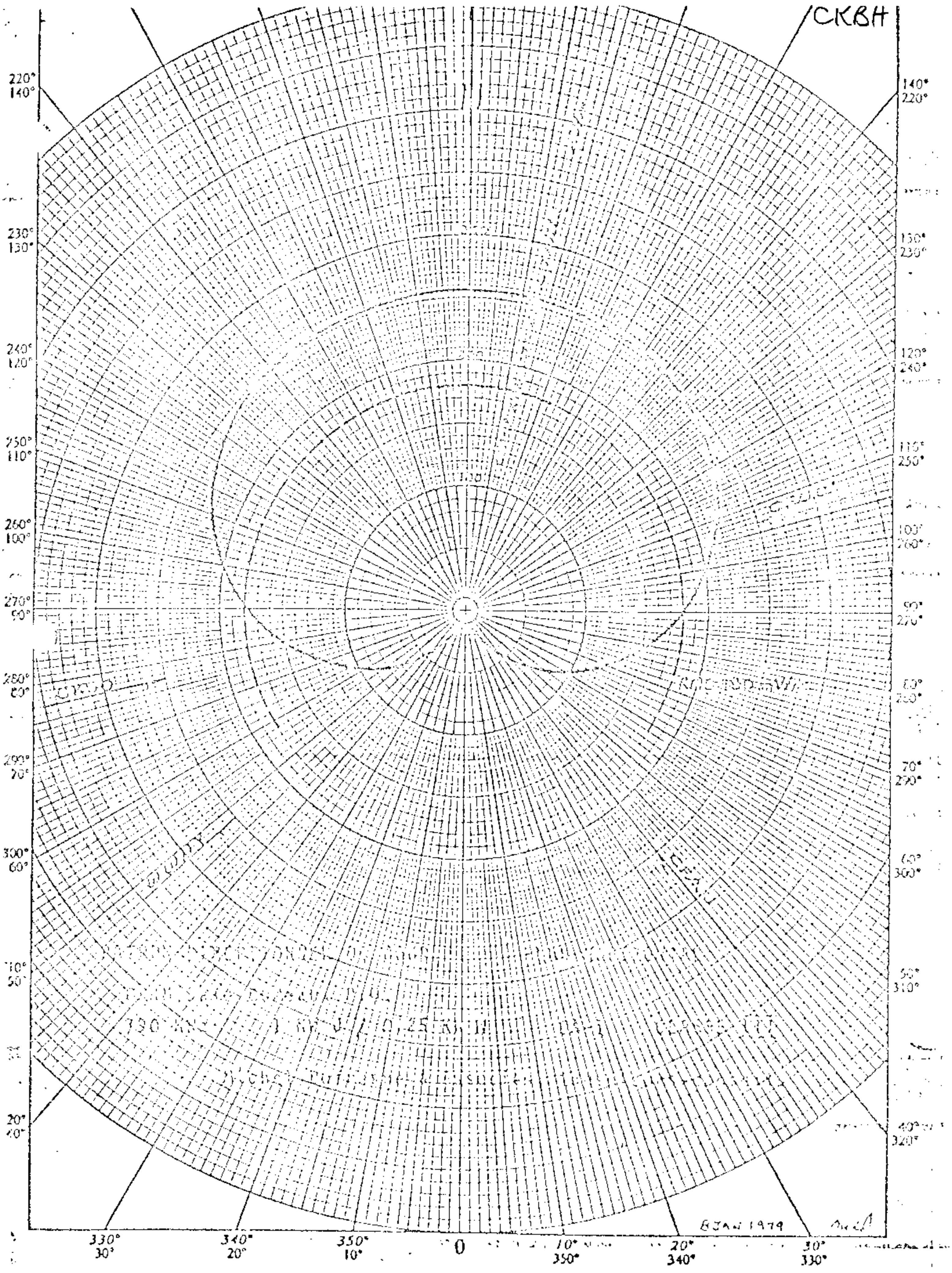
Nombre d'éléments : Deux (2) à section triangulaire uniforme haubannée et isolée à la base.

Tour no:	1 (N)	2 (S)
Orientation	0°	0°
Hauteur au-dessus des isolateurs	242'	242'
Rapport de champ	1	1
Décalage des phases	0°	-90°

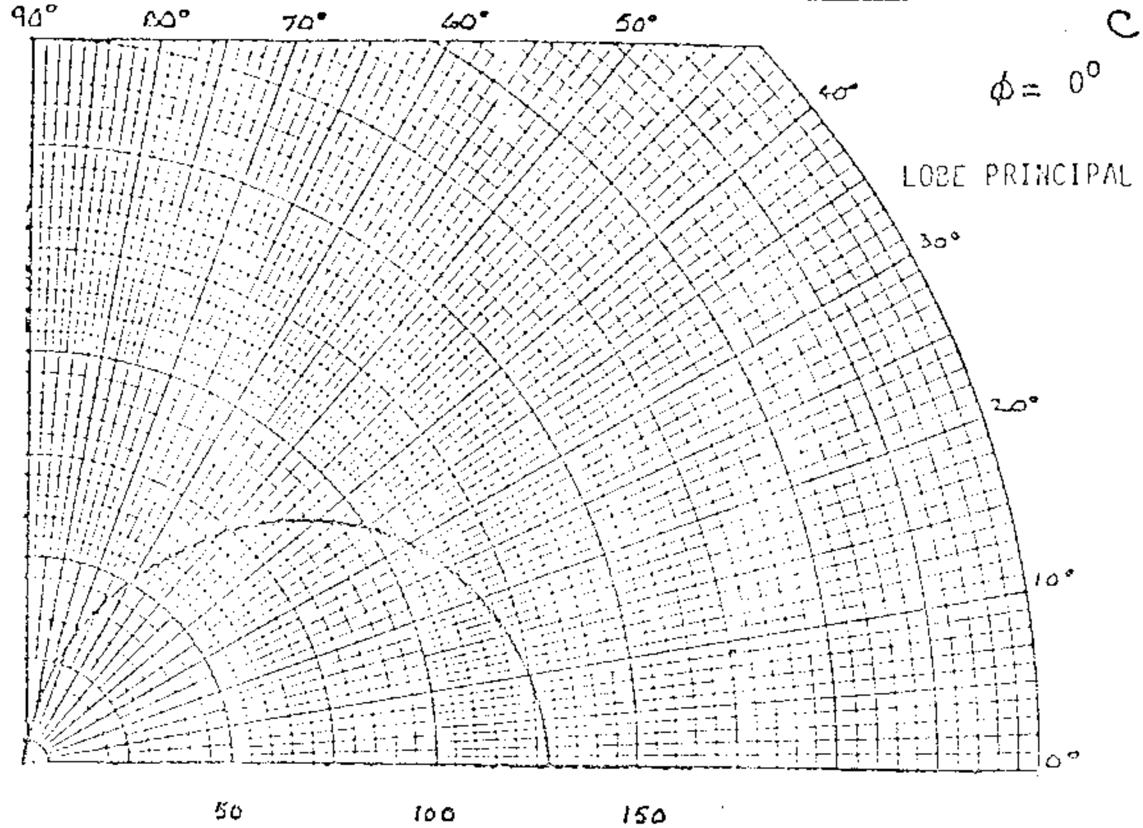
Espacement: 311.6' (90°)

Prise de terre: 120 fils radiaux également espacés et disposés en rayons à partir de la base de chaque élément rayonnant d'une longueur de 312 pieds (0.25λ) constitués de fils de cuivre nu # 10 AWG avec courroies d'interconnexion et enfouis à environ 8 pouces.

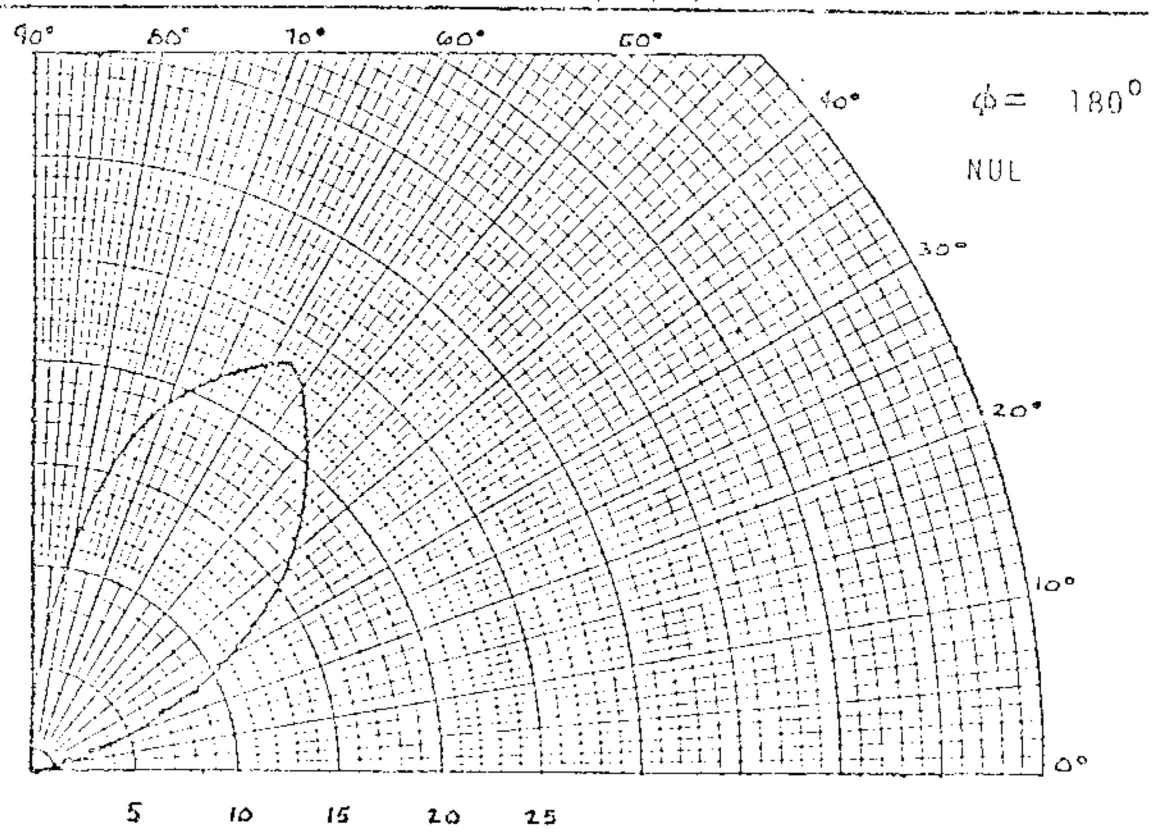
Champ effectif
Prévu : Jour: 180 mV/m à 1 mille pour 1 KW
Nuit: 90 mV/m à 1 mille pour 0.25 KW


CKBH
8 JAN 1979
0
220° 140°
230° 130°
240° 120°
250° 110°
260° 100°
270° 90°
280° 80°
290° 70°
300° 60°
20° 40°
330° 30°
340° 20°
350° 10°
10° 350°
20° 340°
30° 330°
140° 220°
130° 230°
120° 240°
110° 250°
100° 260°
90° 270°
80° 280°
70° 290°
60° 300°
50° 310°
40° 320°

CKBH



Champ non attenue à 1 mille (mV/m)



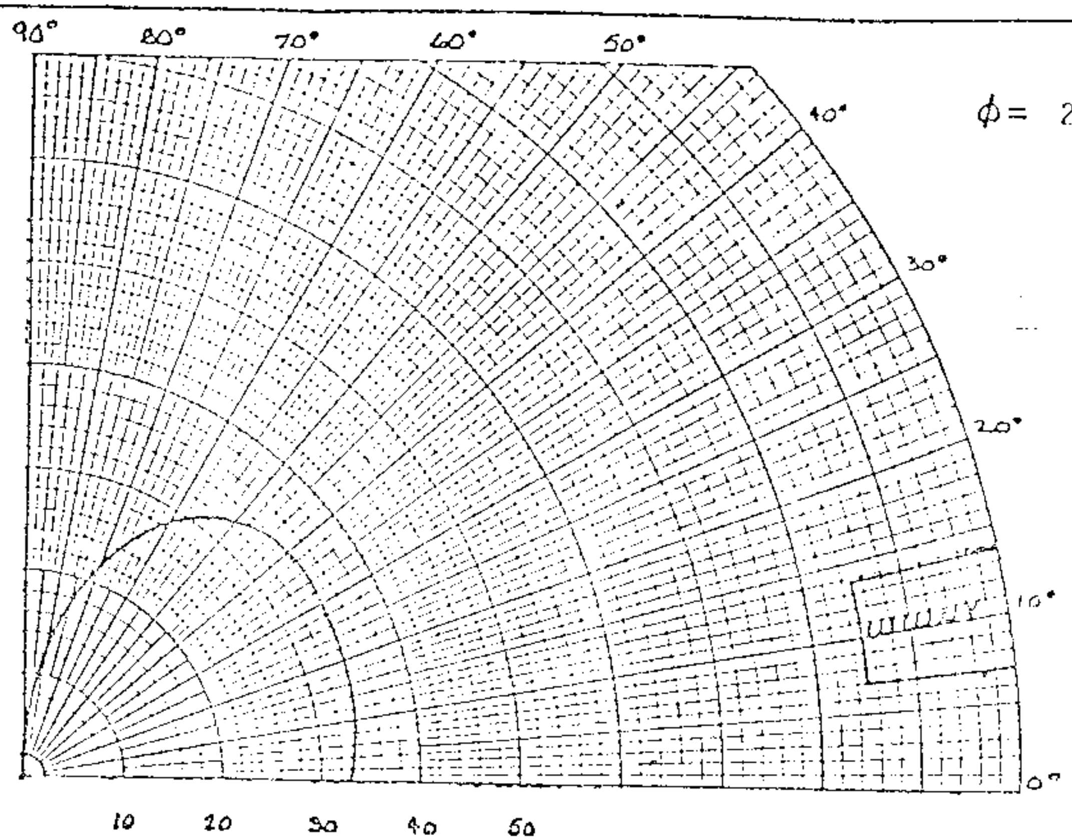
Champ non attenue à 1 mille (mV/m)

PATRON DIRECTIONNEL DE NUIT PLAN VERTICAL

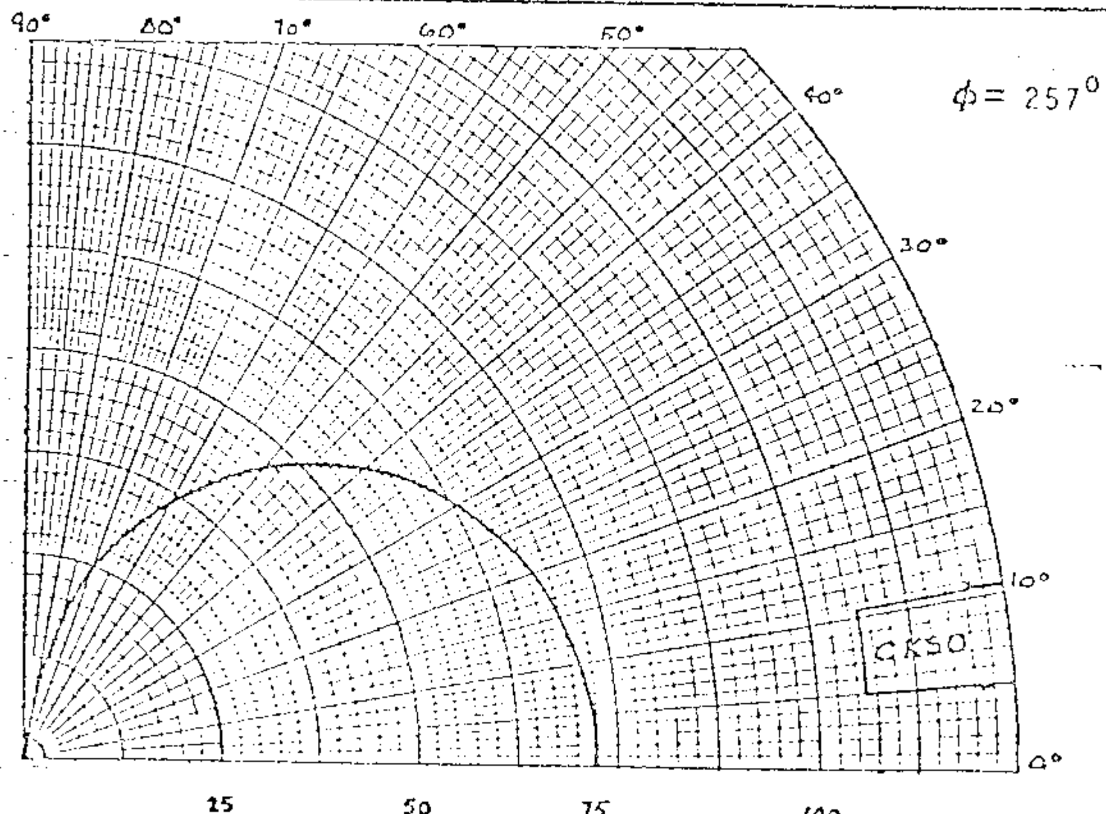
CKBH Baie-Comeau, P.Q.

790 KHz 1 KW J / 0.25 KW N DA-1 CLASSE III

Michel Dufresne & Associés, ingénieurs-conseils



Champ non atténué à 1 mille (mV/m)



Champ non atténué à 1 mille (mV/m)

PATRON DIRECTIONNEL DE NUIT PLAN VERTICAL

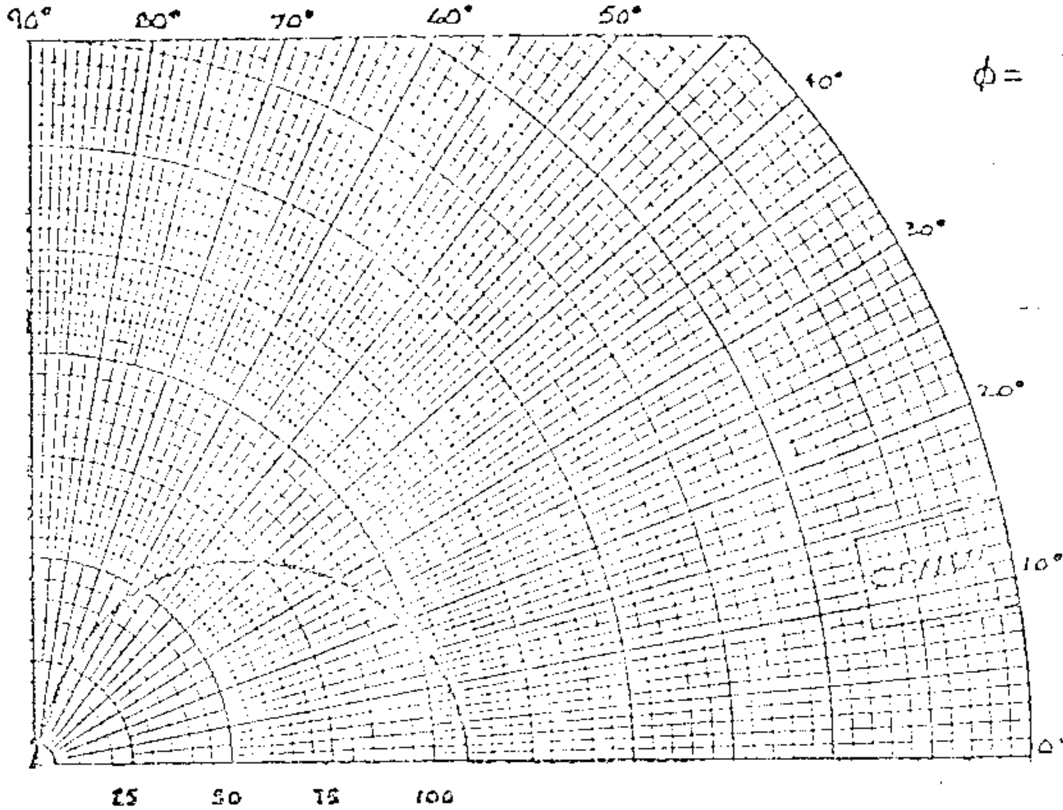
CKBH Baie-Comeau, P.Q.

790 KHz 1 KW J / 0.25 KW N DA-1 CLASSE III

Michel Dufresne & Associés, ingénieurs-conseils

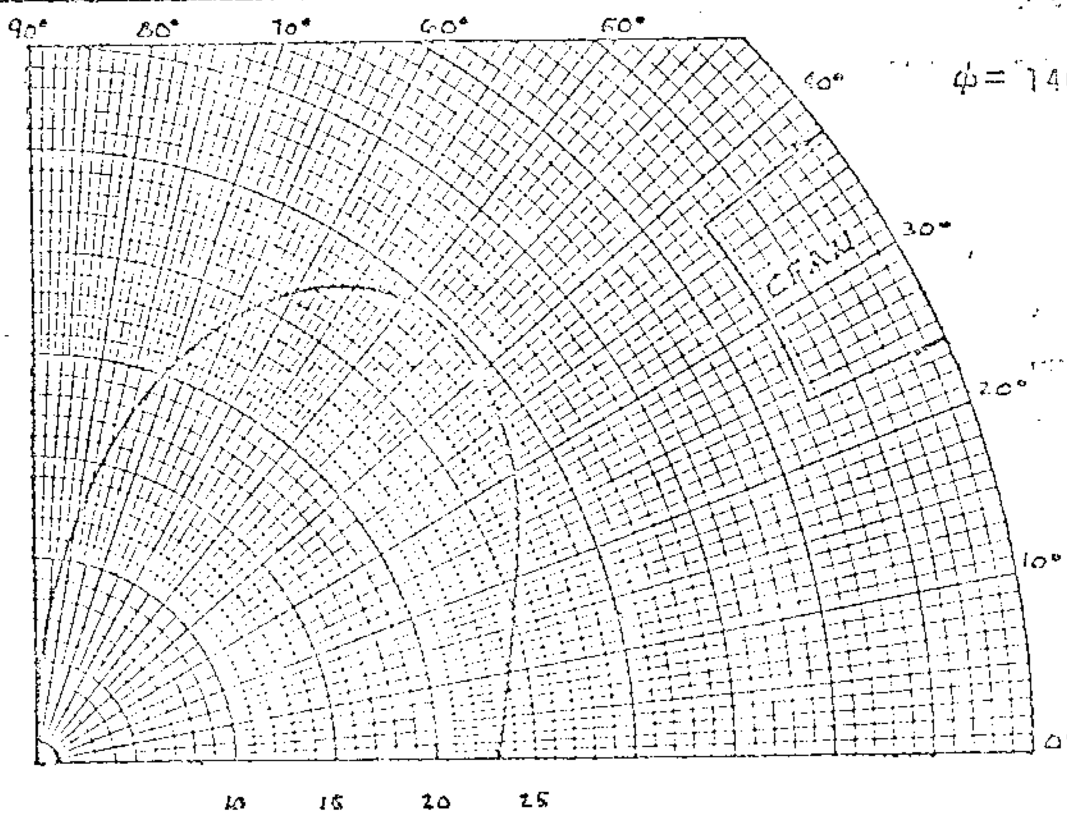
CKBH

$\phi = 74^0$



Champ non atenué à 1 mille (mV/m)

$\phi = 140^0$



Champ non atenué à 1 mille (mV/m)

PATRON DIRECTIONNEL DE NUIT PLAN VERTICAL

CKBH Baie-Comeau, P.Q.

790 KHz 1 KW J / 0.25 KW N DA-1 CLASSE III

Michel Dufresne & Associés, ingénieurs-conseils

CKLW

CKLW - Windsor, Ont.

SECTION III : DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station Call : CKLW

Main Studio : Windsor, Ont.

Frequency : 800 kHz   Power : 50 kW   Class : II

Geographical Location of the Antenna System : 42° 03' 25" N. Latitude
83° 00' 10" W. Longitude

Notification List No. : 360

Date : November 23, 1976

Antenna Characteristics : Number of Elements : Five (5)
Mode of Operation : DA-2, Unlimited Time
Type of Elements : Guyed, uniform cross-section, base insulated, series fed steel masts; no top loading.

Tower No.	1	2	3	4	5
Height above Insulator	300'	300'	300'	300'	300'
Overall Height	307'	307'	307'	307'	307'
Bearing (E of T.N.)	REF.	288°	108°	320°	140°
Spacing	REF.	115°(393')	115°(393')	135°(461')	135°(461')
Field Ratio - Day	0.70	1.00	1.00	1.00	1.00
- Night	0.57	1.13	1.18	0.98	1.00
Phasing - Day	+150°	+037°	-037°	-127°	+127°
- Night	-145°	+016°	-016°	-089°	+089°

Ground System : 120 radials per tower, No. 10 AWG bare, soft-drawn copper wire, uniformly spaced every three degrees, buried approx. 8" in ground, bonded along line between towers. Maximum length : 500 ft.

Predicted Effective Field : 1173.0 mV/m at 1 mile for 50 kW
165.9 mV/m at 1 mile for 1 kW   DAY

1340.0 mV/m at 1 mile for 50 kW
189.5 mV/m at 1 mile for 1 kW   NIGHT

CTR NO 10180A3

CKSO

PROJECT #6629

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

STATION CKSO | LOCATION: Sudbury, Ontario

FREQUENCY: 790 kHz | POWER: 50 kW CLASS III

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

GEOGRAPHICAL LOCATION: Latitude 46° 25' 24" North
Longitude 80° 56' 13" West

ANTENNA CHARACTERISTICS:

Mode of Operation: DA-2
Number of Elements: 6 (Six)
Type of Elements: Guyed steel towers, uniform cross-section, base insulated for series feed

Tower	#1 (S)	#2 (WC)	#3 (W)	#4 (E)	#5 (EC)	#6 (N)
Height above base insulator:	290'(83.8°)	290'	290'	290'	290'	290'
Overall Height:	295'	295'	295'	295'	295'	295'
Field Ratio						
Nighttime	1.07	2.14	1.0	1.0	2.0	1.04
Daytime	.8	1.0	unused	unused	1.0	1.3
Phasing						
Nighttime	Ref.	-95°	163°	-75°	-168.5°	107°
Daytime	Ref.	-90°	unused	unused	-66°	-129°
Spacing	Ref.	311.5' (90°)	622.9' (180°)	415.3' (120°)	479.3' (138.5°)	692.2' (200°)
Orientation	Ref.	322.5°	322.5°	61.5°	21.5°	359°

GROUND SYSTEM: 120 equally spaced radials of No. 10 bare copper wire extend from each tower base. Radial Length: 498' (144°), with the exception of those joined along the common chords.

PREDICTED EFFECTIVE FIELDS:

Nighttime: 1317 mV/m at 1 mile for 50 kW
186 mV/m at 1 mile for 1 kW

Daytime: 1240 mV/m at 1 mile for 50 kW
175 mV/m at 1 mile for 1 kW

COHEN AND DIPPELL
RECEIVED
JUN 9 1976
WASHINGTON, D.C.

April 28, 1975

CKSO

SUPPLEMENTAL DIRECTIONAL ANTENNA DESCRIPTION SHEET
Issued: August 30, 1976

Station: CKSO

Main Studio: Sudbury, Ontario

Frequency: 790 kHz

Power: 50 kW

Notification List No. 354

Date: May 12, 1976 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 46° 25' 24"

West Longitude: 80° 56' 13"

Authorized for Day and Night operation (DA-2).

Predicted effective Day Field: 1240 mv/m at rated power.

Predicted effective Night Field: 1317 mv/m at rated power.

Note: Please retain the description sheet and directional antenna radiation patterns notified for station CKSO in Canadian Change List Number 354, dated May 12, 1976 and attach to this supplemental Description Sheet and vertical radiation pattern. This notification is for the purpose of supplying additional information concerning the horizontal and vertical radiation at 281.3°.

CKSO

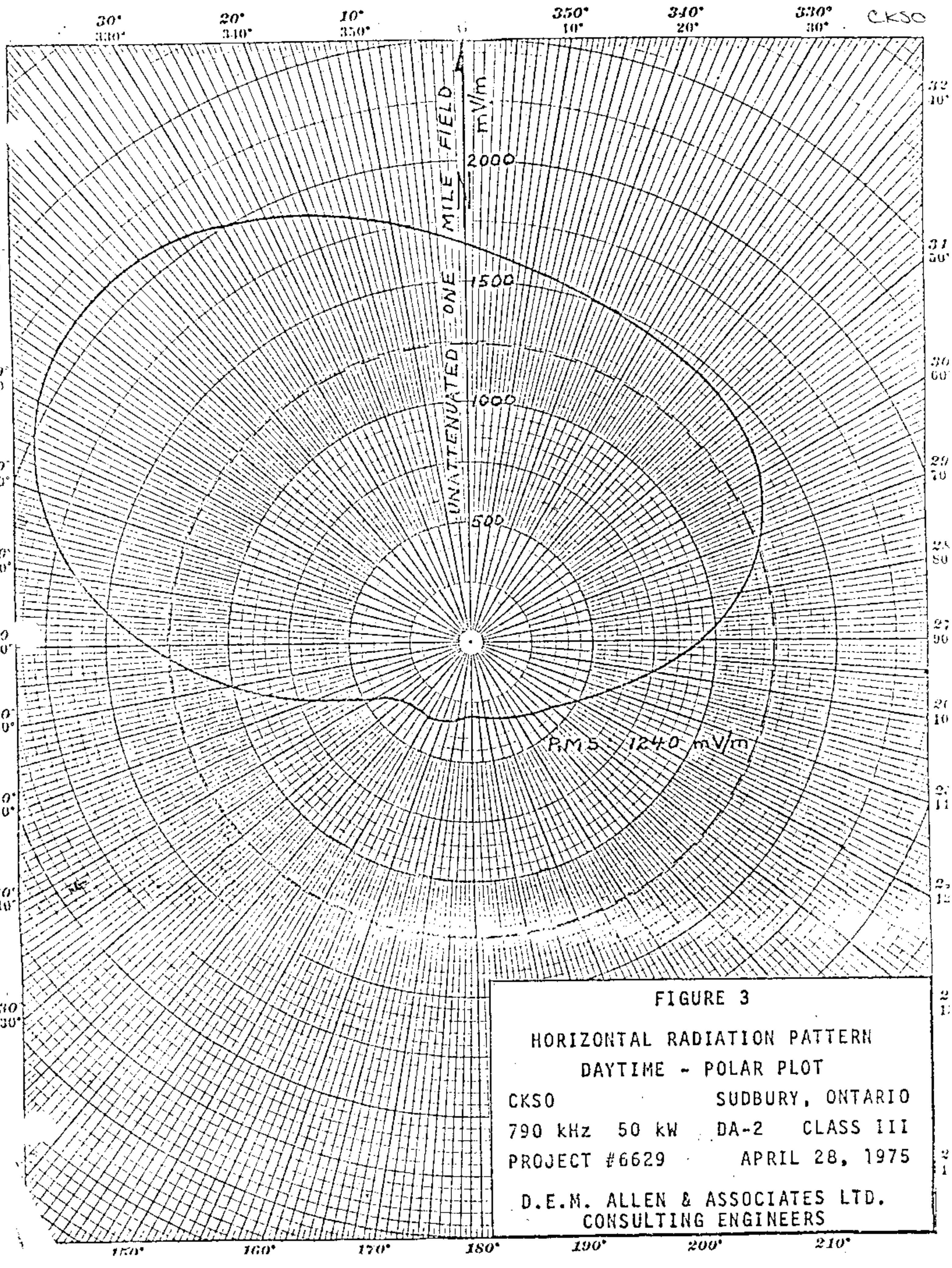


FIGURE 3

HORIZONTAL RADIATION PATTERN

DAYTIME - POLAR PLOT

CKSO SUDBURY, ONTARIO

790 kHz 50 kW DA-2 CLASS III

PROJECT #6629 APRIL 28, 1975

D.E.M. ALLEN & ASSOCIATES LTD.
CONSULTING ENGINEERS

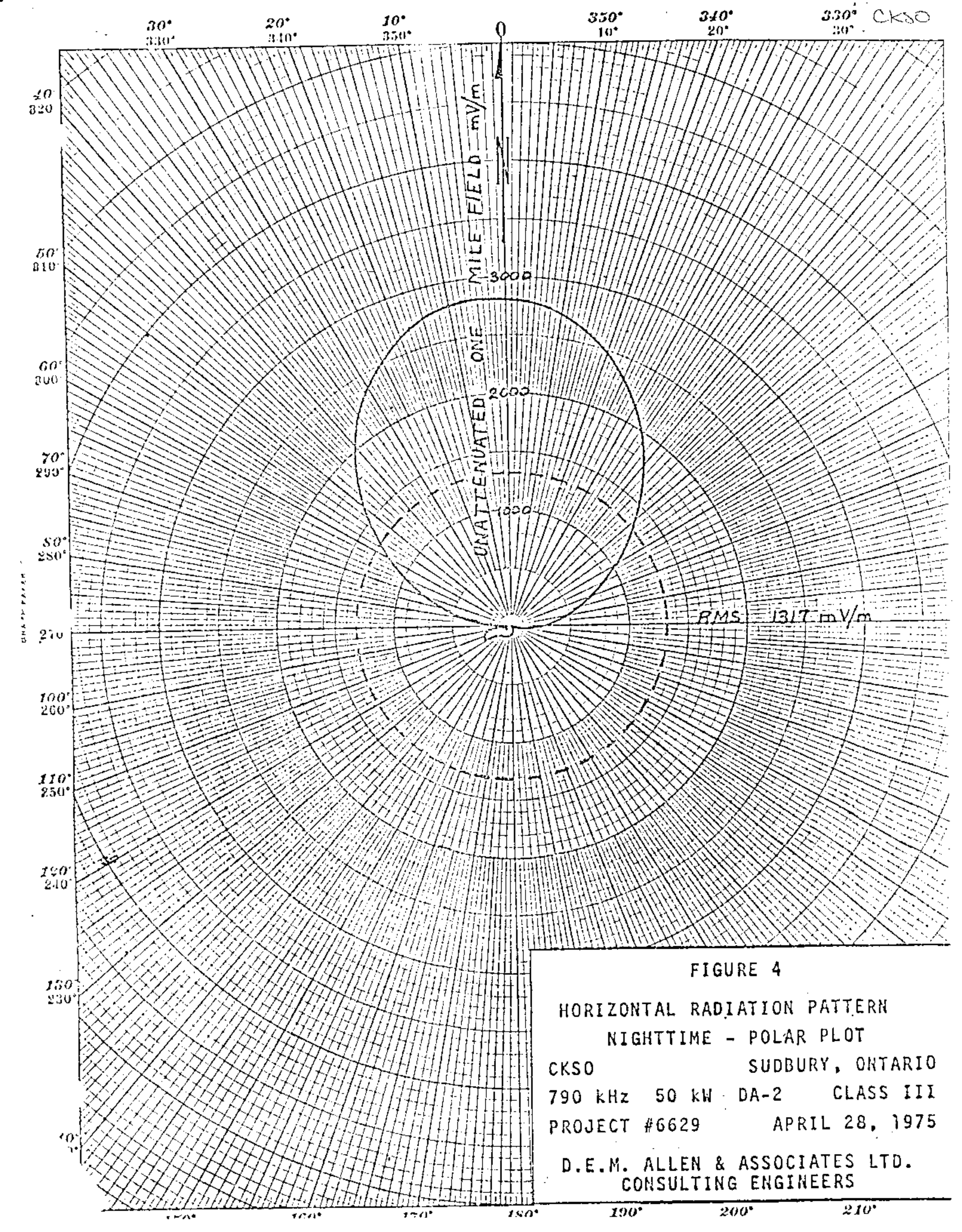


FIGURE 4

HORIZONTAL RADIATION PATTERN
NIGHTTIME - POLAR PLOT

CKSO SUDBURY, ONTARIO
790 kHz 50 kW DA-2 CLASS III
PROJECT #6629 APRIL 28, 1975

D.E.M. ALLEN & ASSOCIATES LTD.
CONSULTING ENGINEERS

K&E 10 X 10 TO ½ INCH 46 1323
7 X 10 INCHES MADE IN U.S.A.
KEUFFEL & ESSER CO.

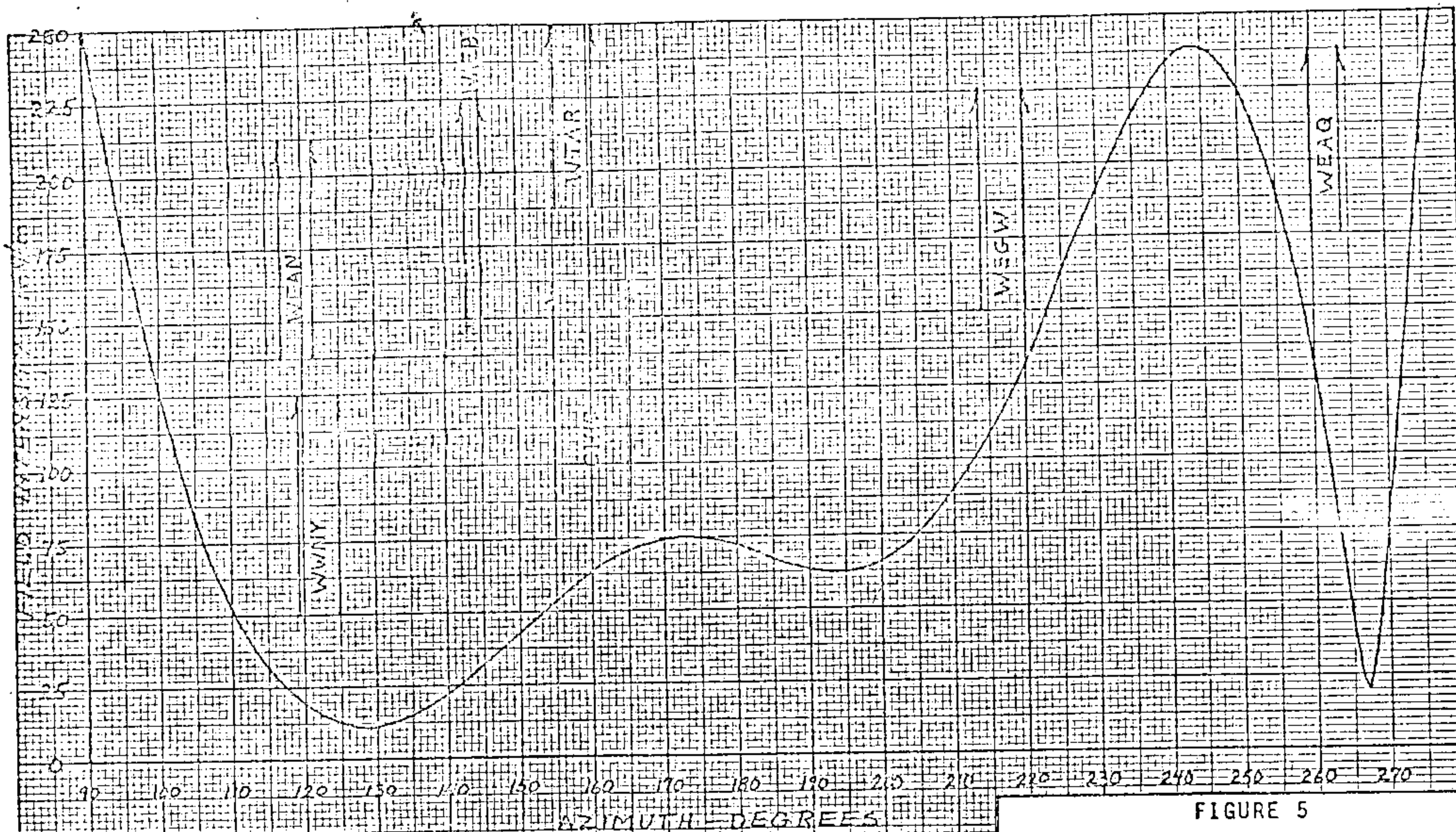


FIGURE 5

HORIZONTAL RADIATION PATTERN

NIGHTTIME - EXPANDED PLOT

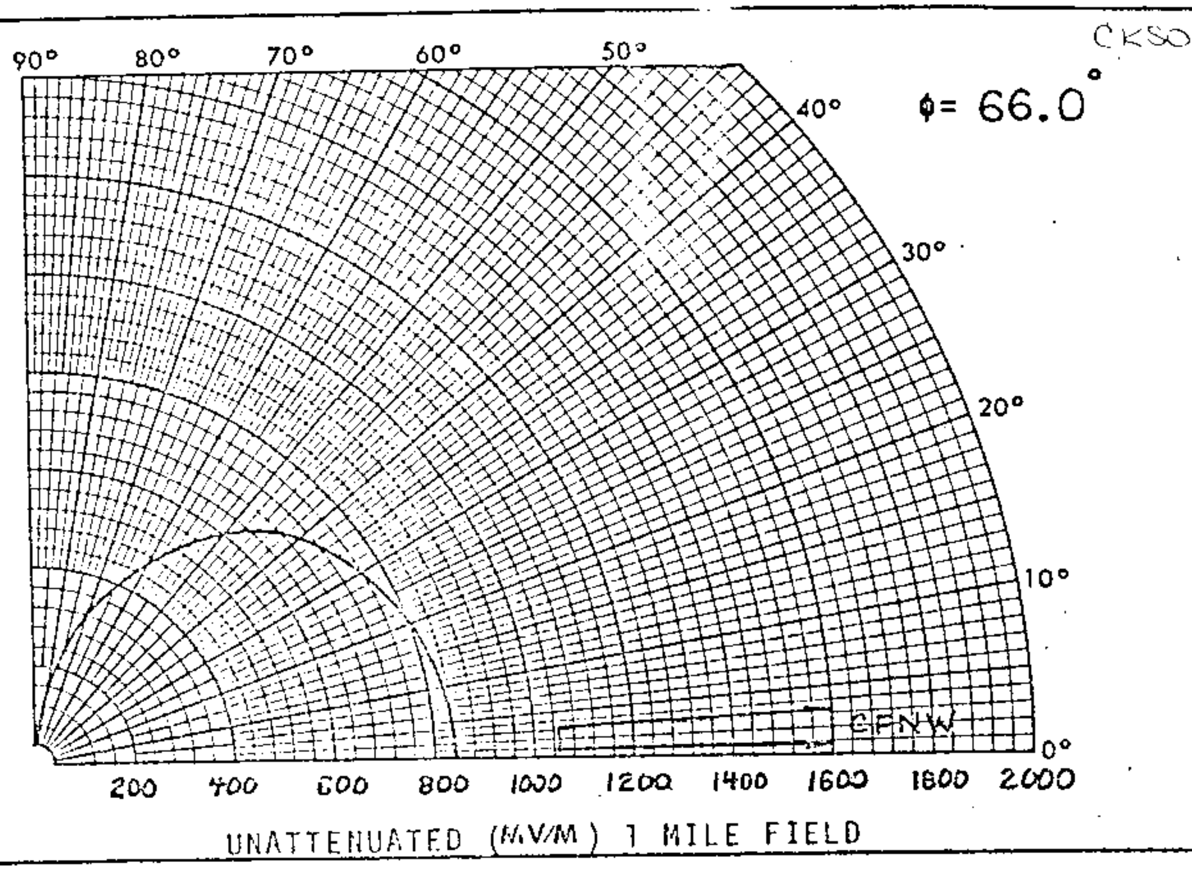
CKSO SUDBURY, ONTARI

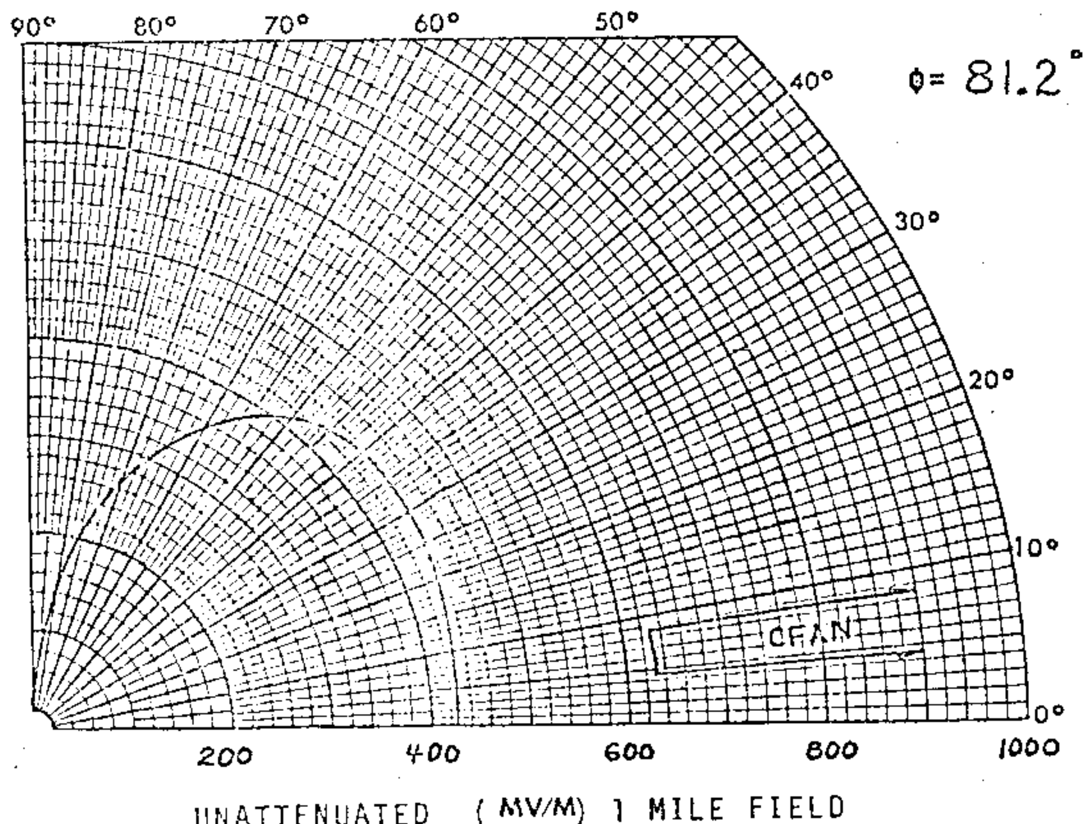
790 kHz 50 kW DA-2 CLASS II

PROJECT #6629 APRIL 28, 19

D.E.M. ALLEN & ASSOCIATES LTD.

CKSO





VERTICAL RADIATION PATTERNS

FIGURE 6

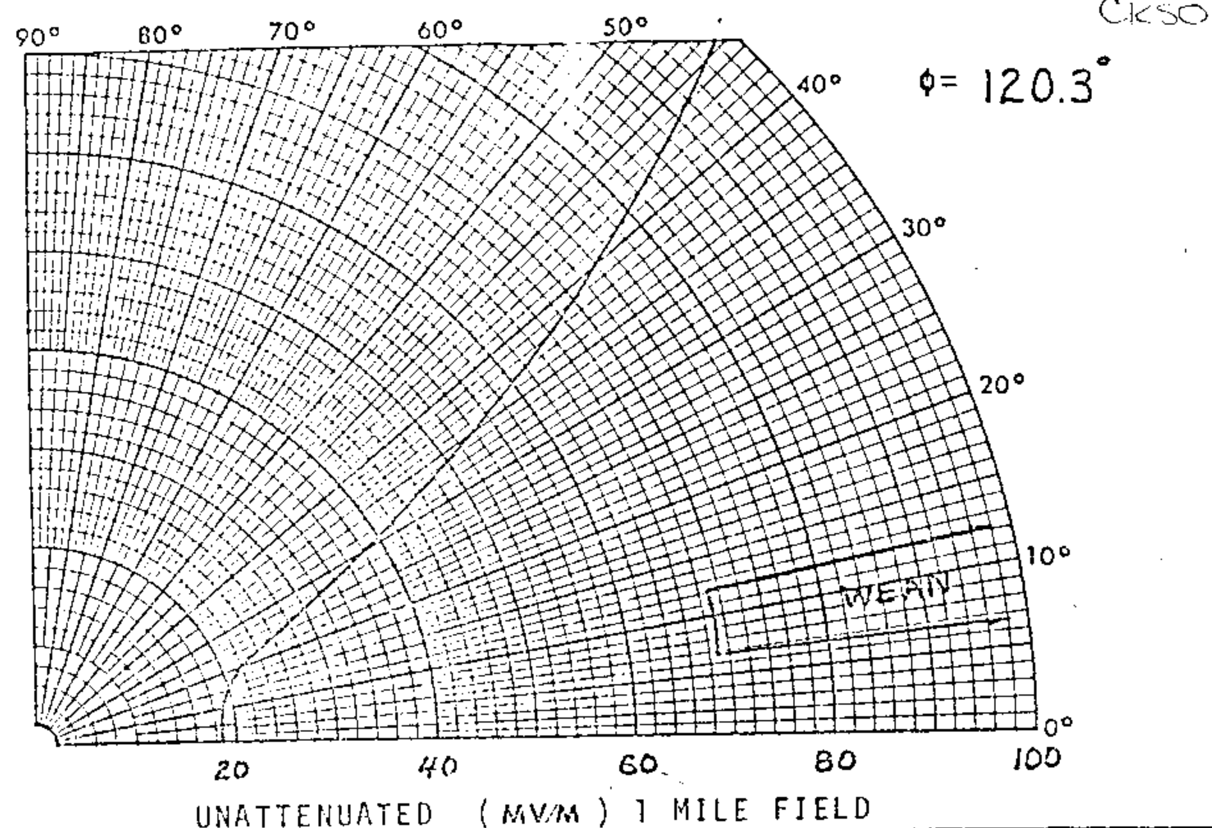
CKSO
790 kHz
PROJECT #6629

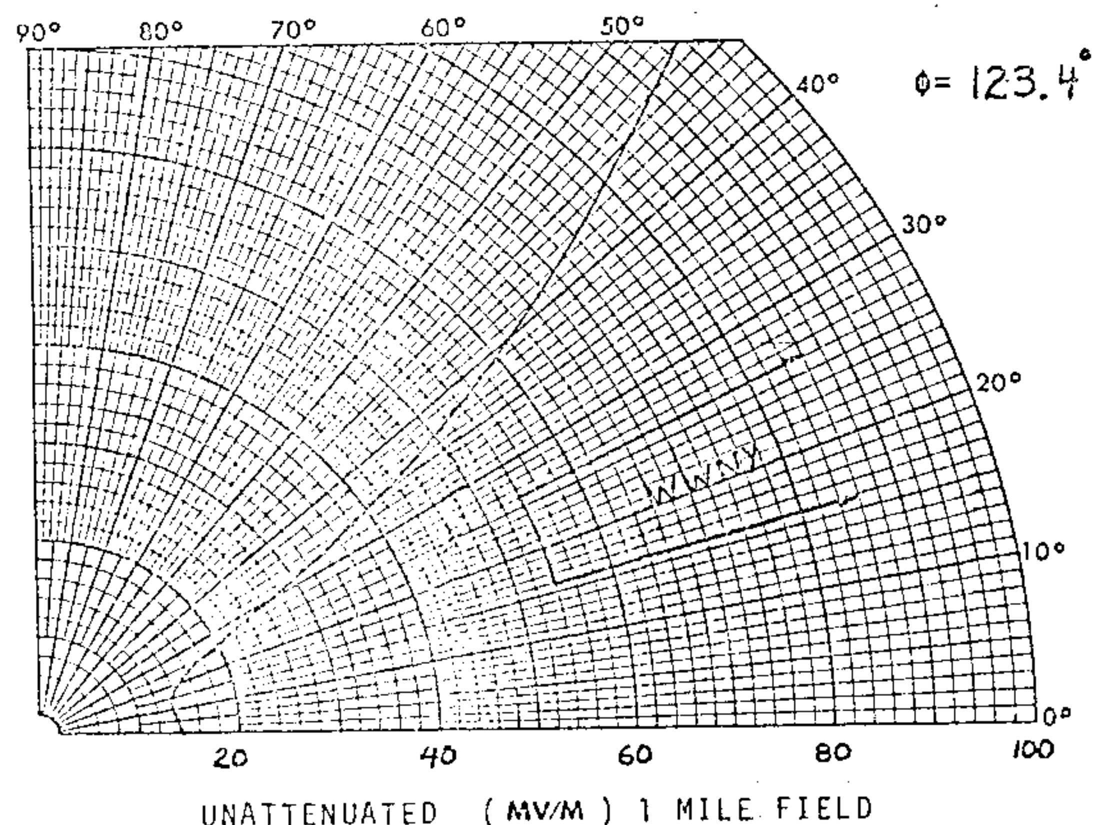
50 kW

DA-2

SUDBURY, ONTARIO
CLASS III
APRIL 28, 1975

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS





VERTICAL RADIATION PATTERNS

FIGURE 7

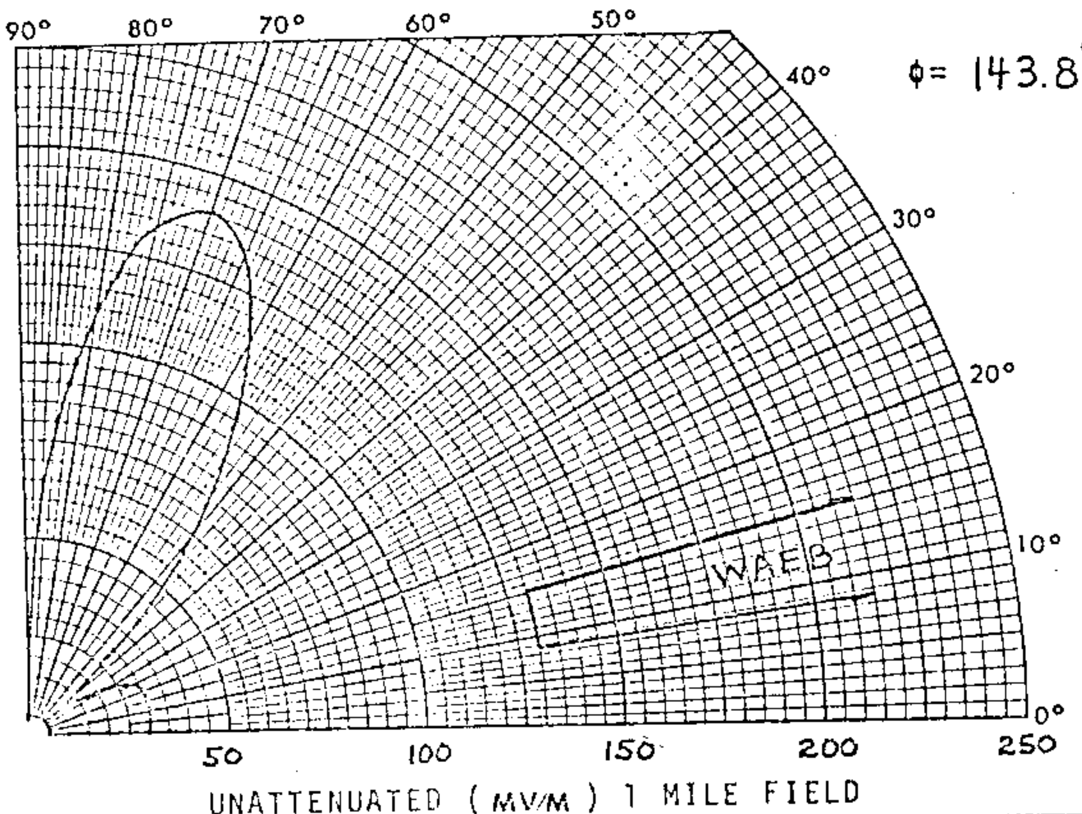
CKSO — SUDBURY, ONTARIO

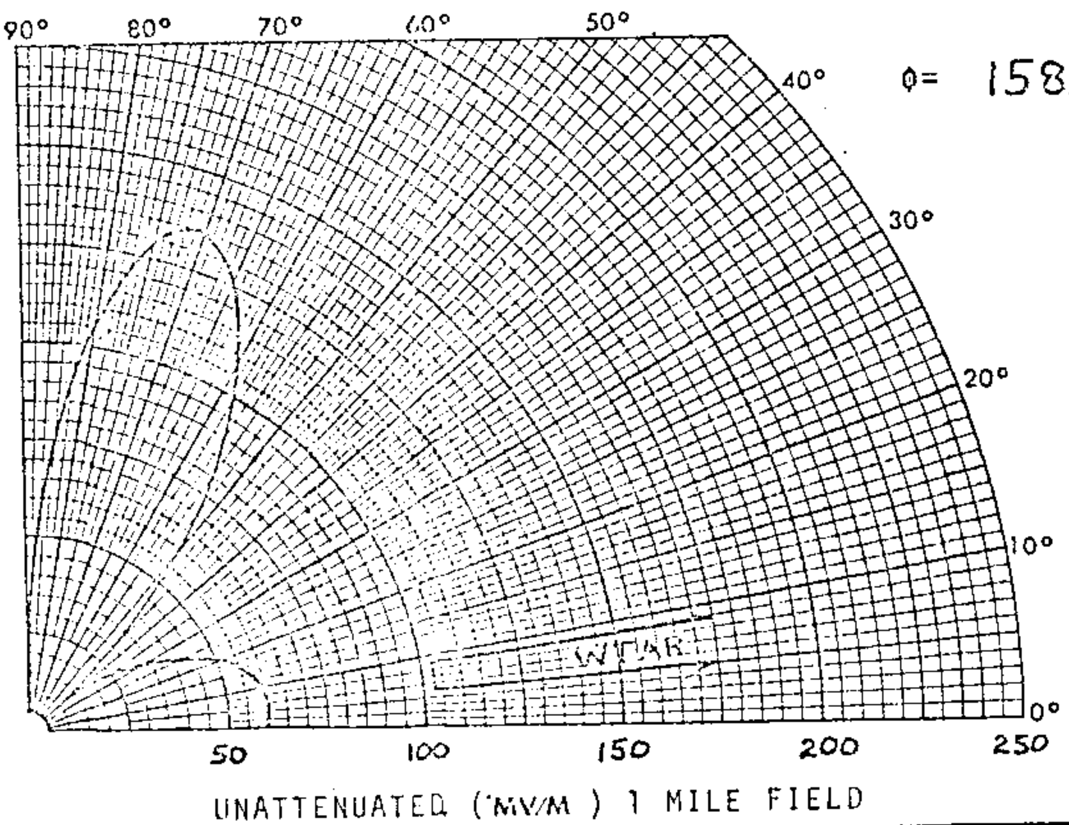
790 kHz — 50 kW — DA-2 — CLASS III

PROJECT #6629 — APRIL 28, 1975

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS

CKSO





VERTICAL RADIATION PATTERNS

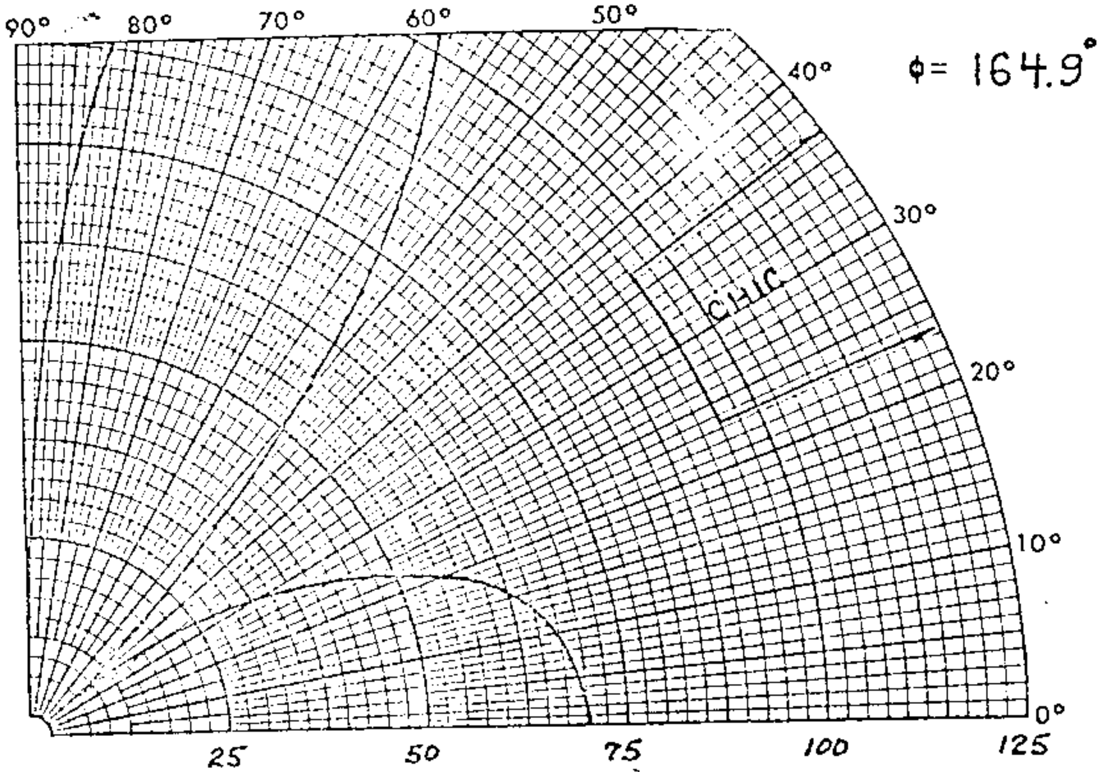
FIGURE 8

CKSO
790 kHz 50 kW DA-2
PROJECT #6629

SUDBURY, ONTARIO
CLASS III
APRIL 28, 1975

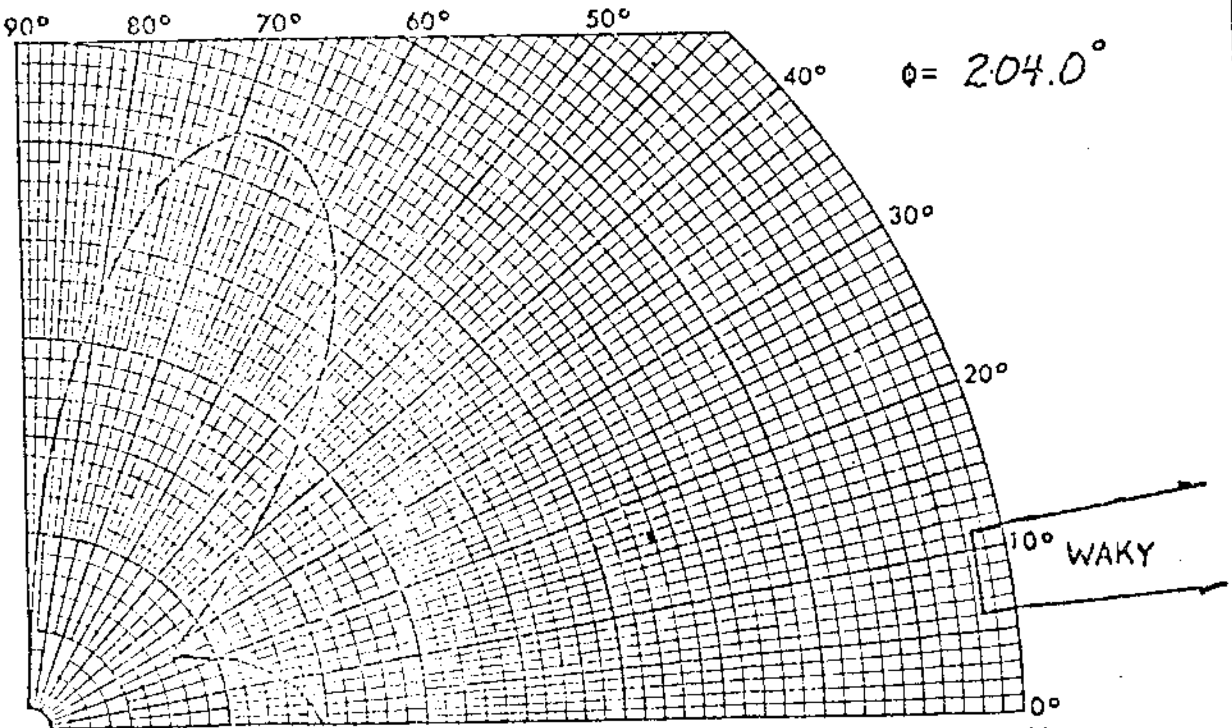
D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS

CKSO



ϕ= 164.9°

UNATTENUATED (MV/M) 1 MILE FIELD



ϕ= 204.0°

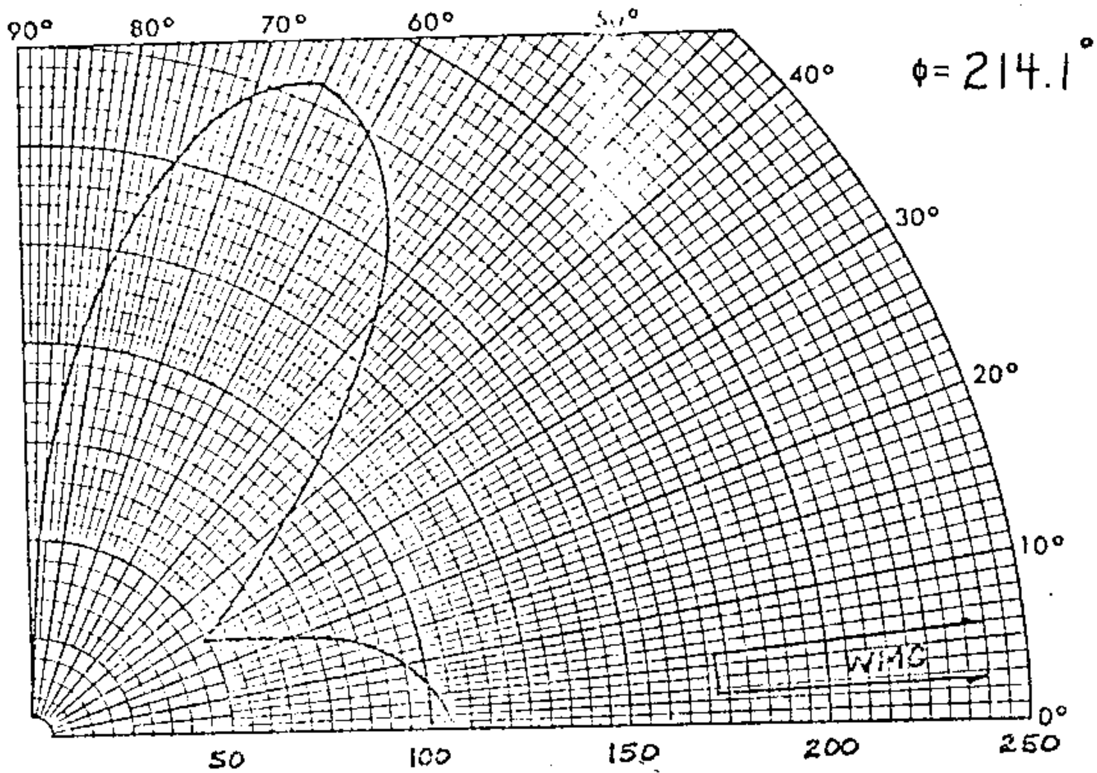
UNATTENUATED (MV/M) 1 MILE FIELD

VERTICAL RADIATION PATTERNS

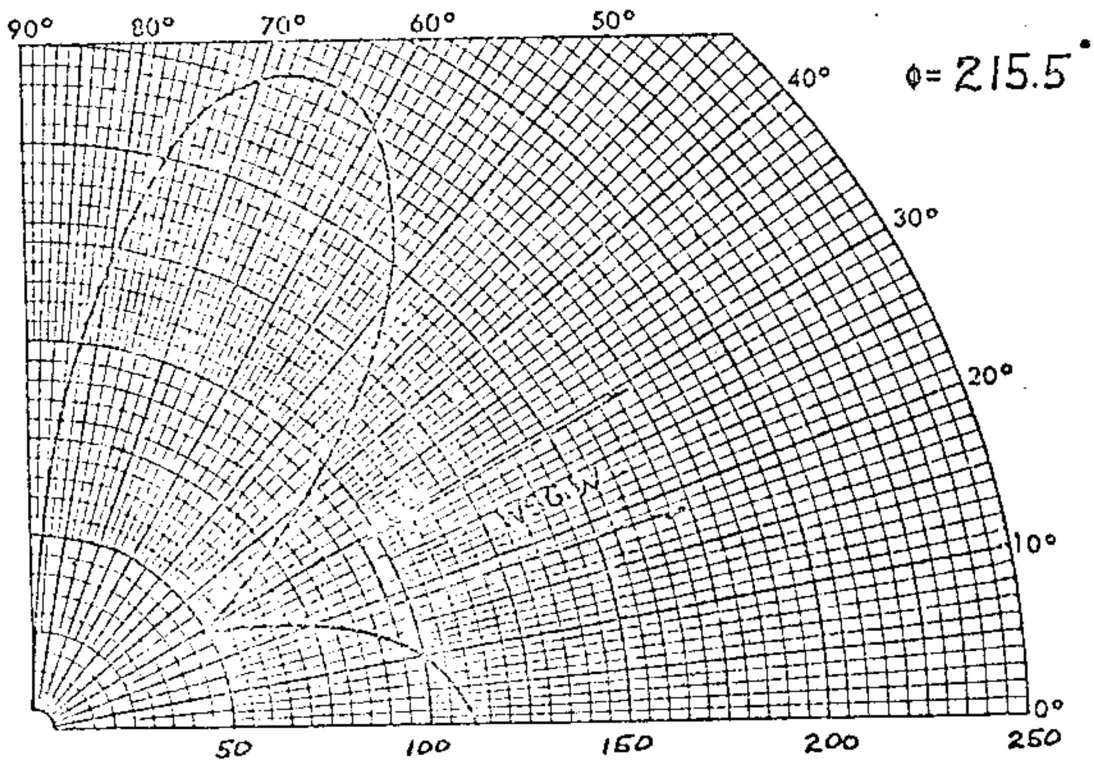
FIGURE 9

CKSO
790 kHz
50 kW
DA-2
SUDBURY, ONTARIO
CLASS III
APRIL 28, 1975
PROJECT #6629
D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS

CKSO



UNATTENUATED (MV/M) 1 MILE FIELD



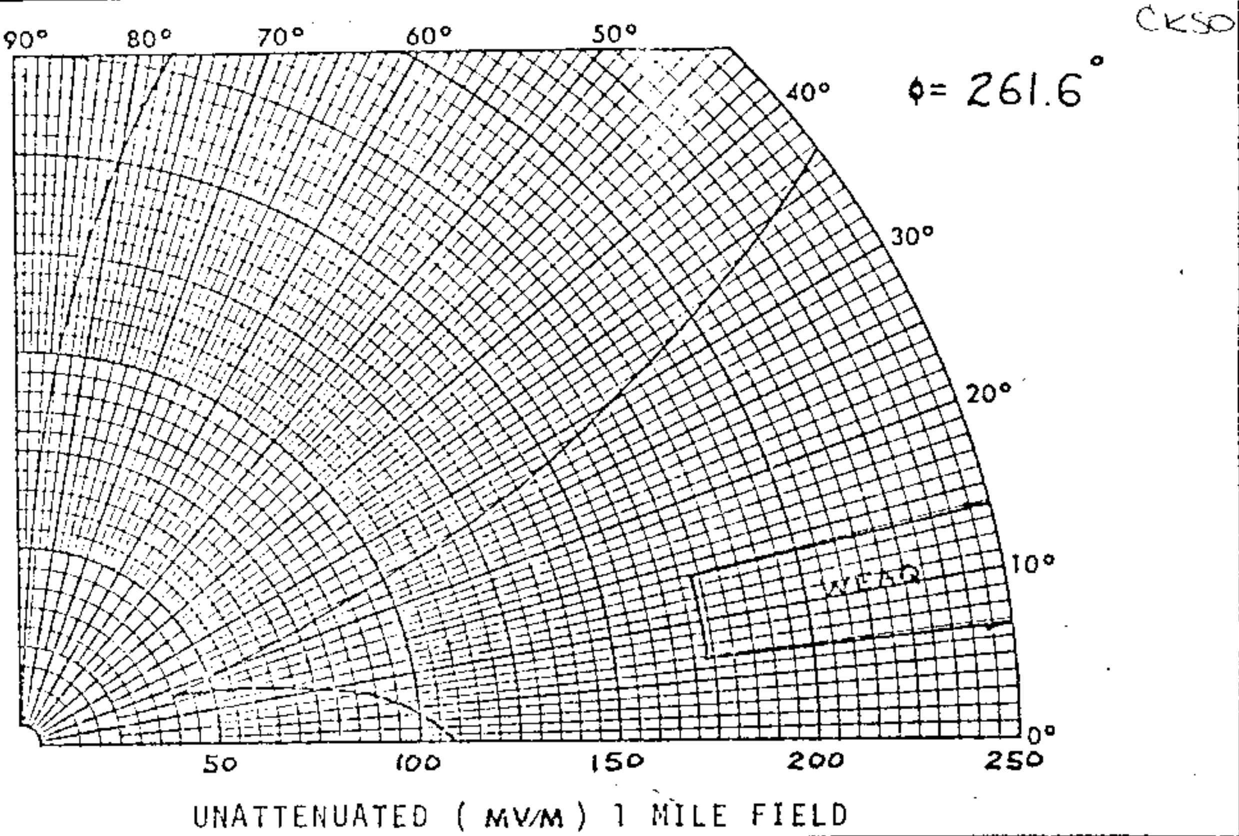
UNATTENUATED (MV/M) 1 MILE FIELD

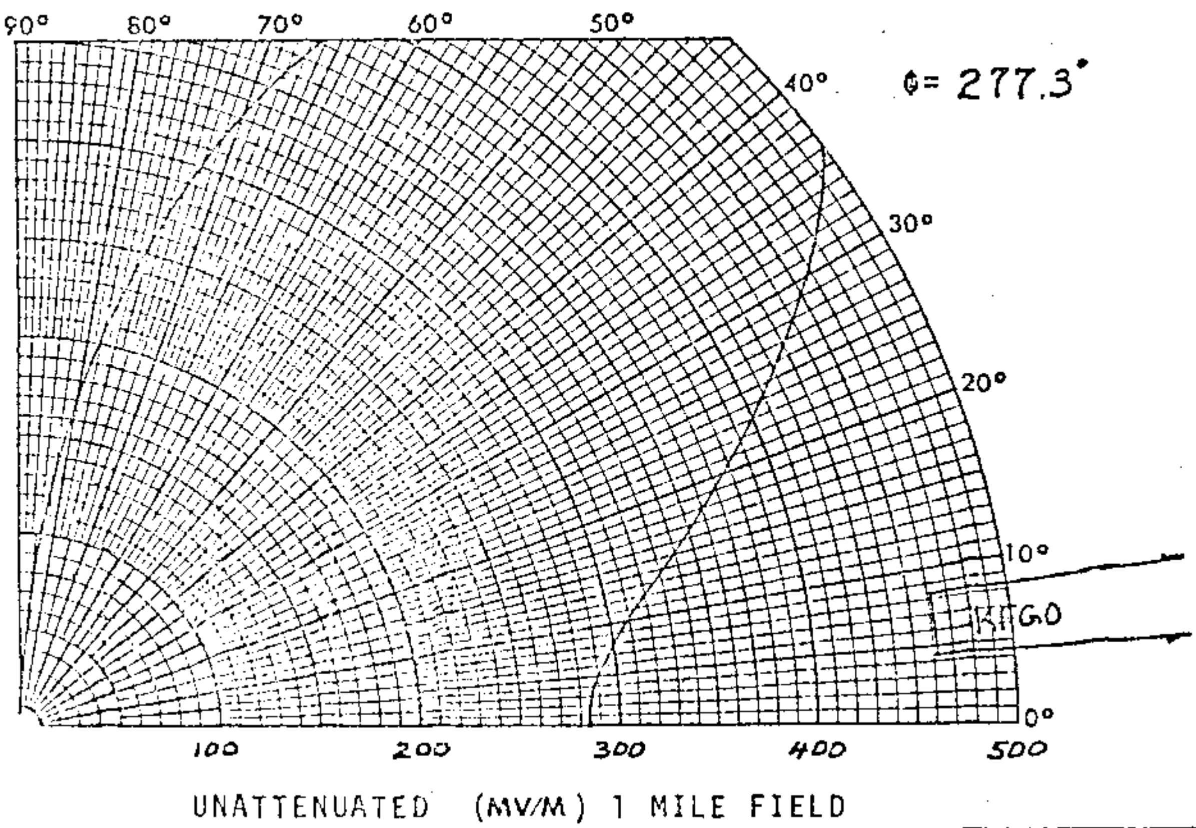
VERTICAL RADIATION PATTERNS

FIGURE 10

CKSO			SUDBURY, ONTARIO
790 kHz	50 kW	DA-2	CLASS III
PROJECT #6629			APRIL 28, 1975

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS



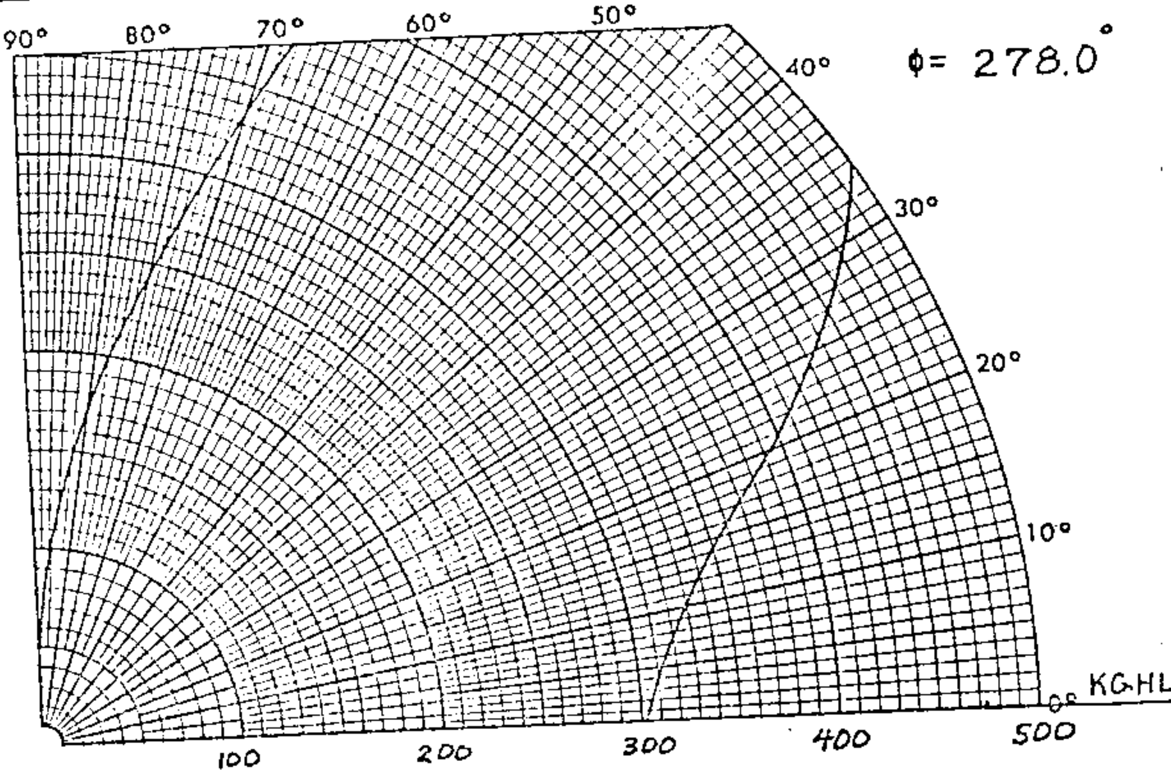


VERTICAL RADIATION PATTERNS

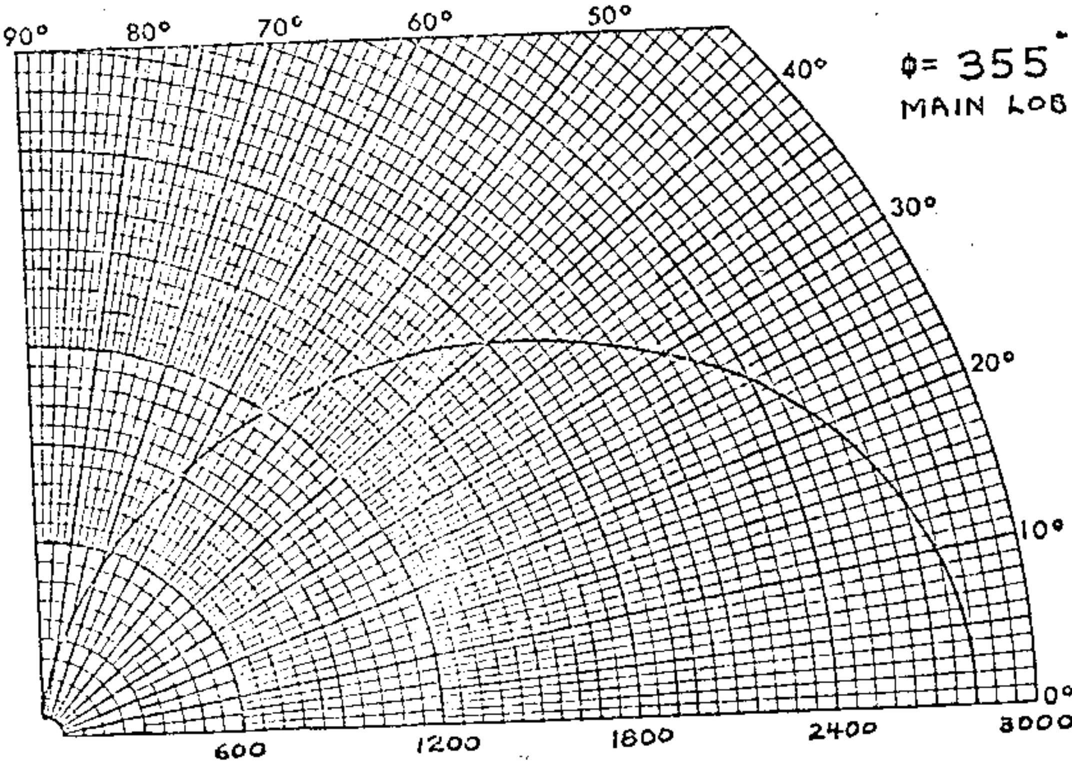
FIGURE 11

CKSO — SUDBURY, ONTARIO
790 kHz — 50 kW — DA-2 — CLASS III
PROJECT #6629 — APRIL 28, 1975

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS



UNATTENUATED (MV/M) 1 MILE FIELD



UNATTENUATED (MV/M) 1 MILE FIELD

VERTICAL RADIATION PATTERNS

FIGURE 12

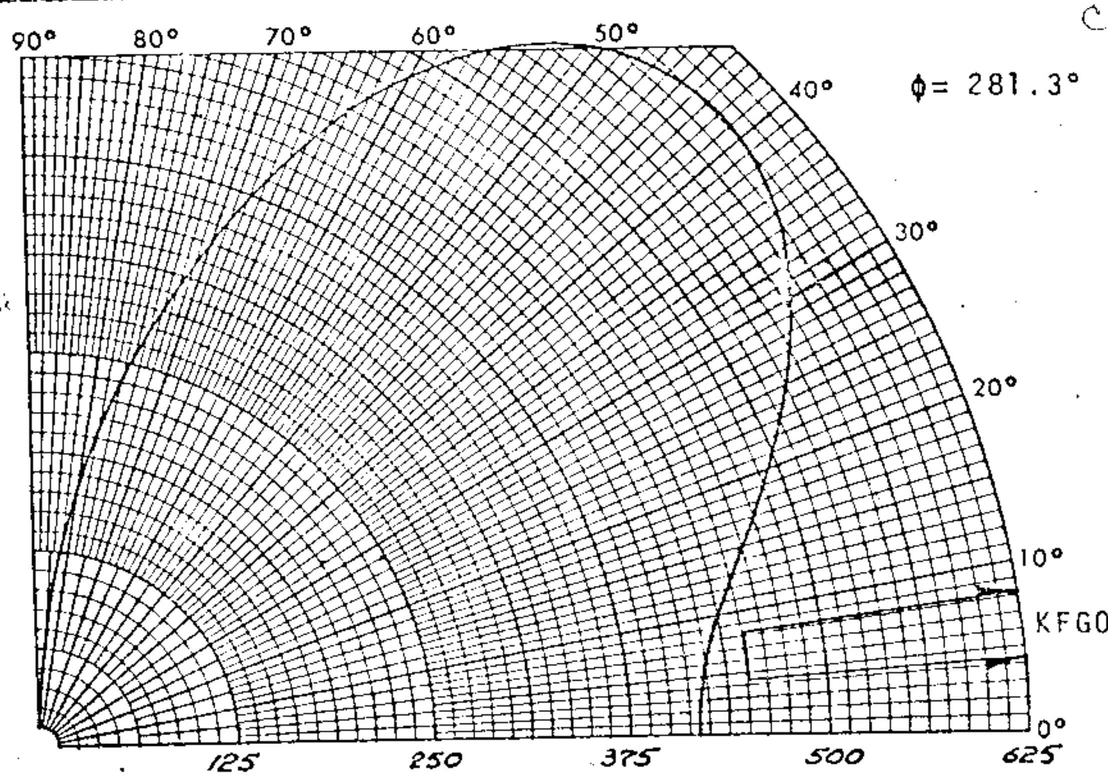
CKSO
790 kHz 50 kW
PROJECT #6629

DA-2

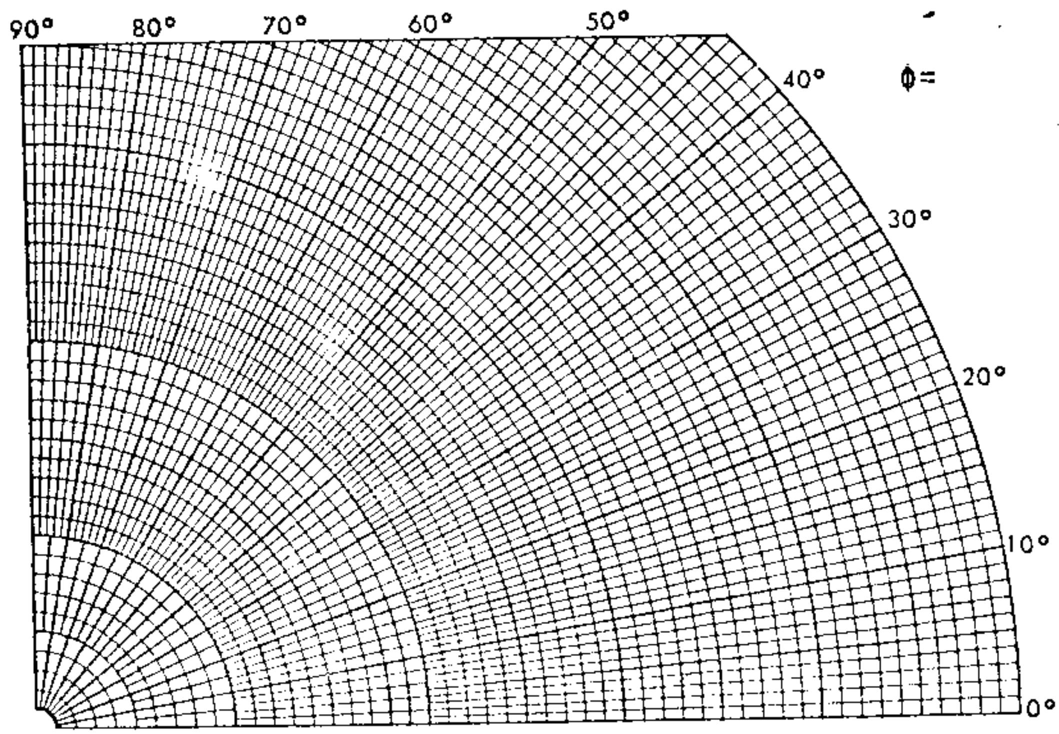
SUDBURY, ONTARIO
CLASS III
APRIL 28, 1975

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS

CKSO



UNATTENUATED (MV/M) 1 MILE FIELD



MV/M

VERTICAL RADIATION PATTERNS

FIGURE 12A

CKSO
790 kHz 50 kW DA-2
PROJECT #6629

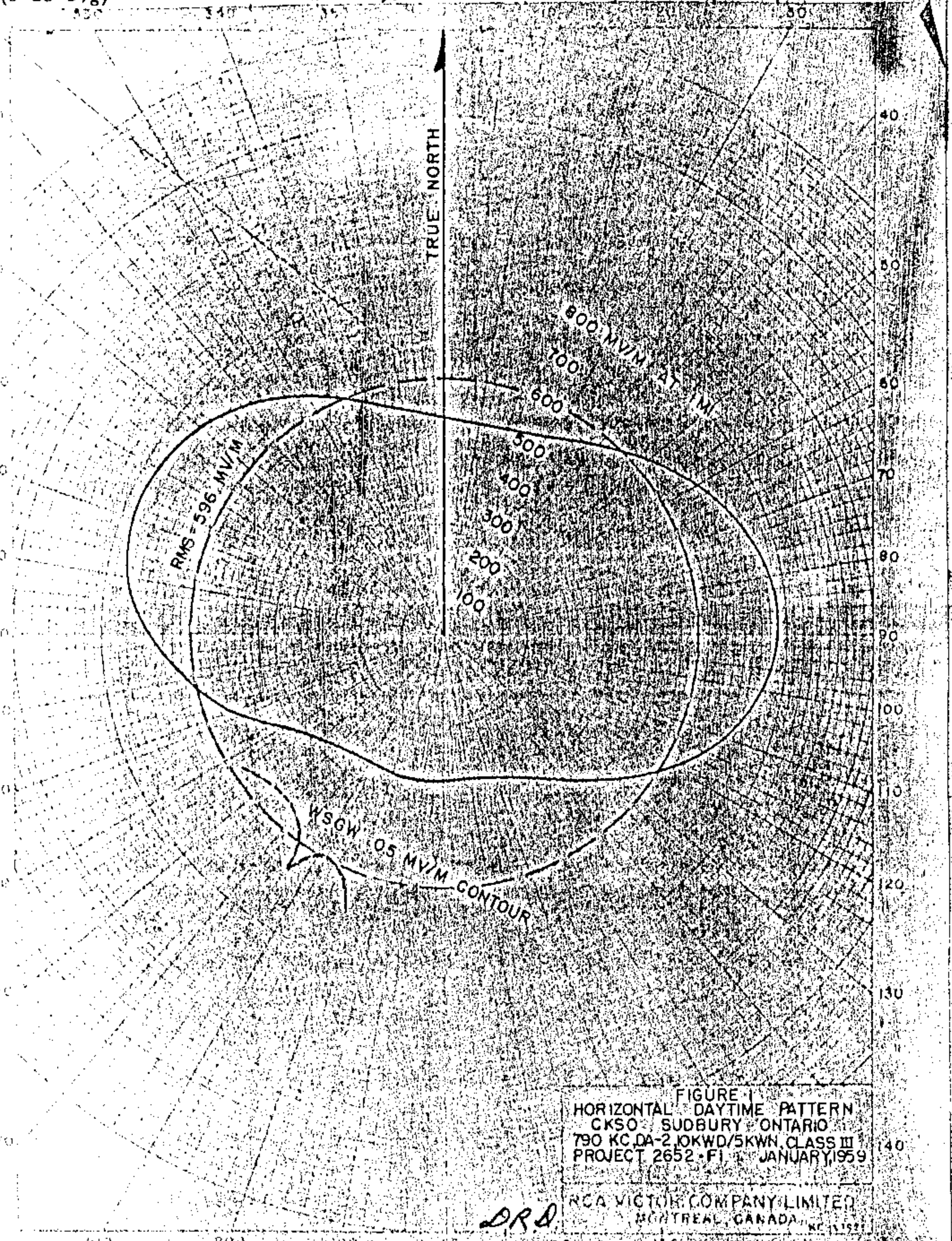
SUDBURY, ONTARIO
CLASS III
AUGUST 10, 1976

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS

CKSO

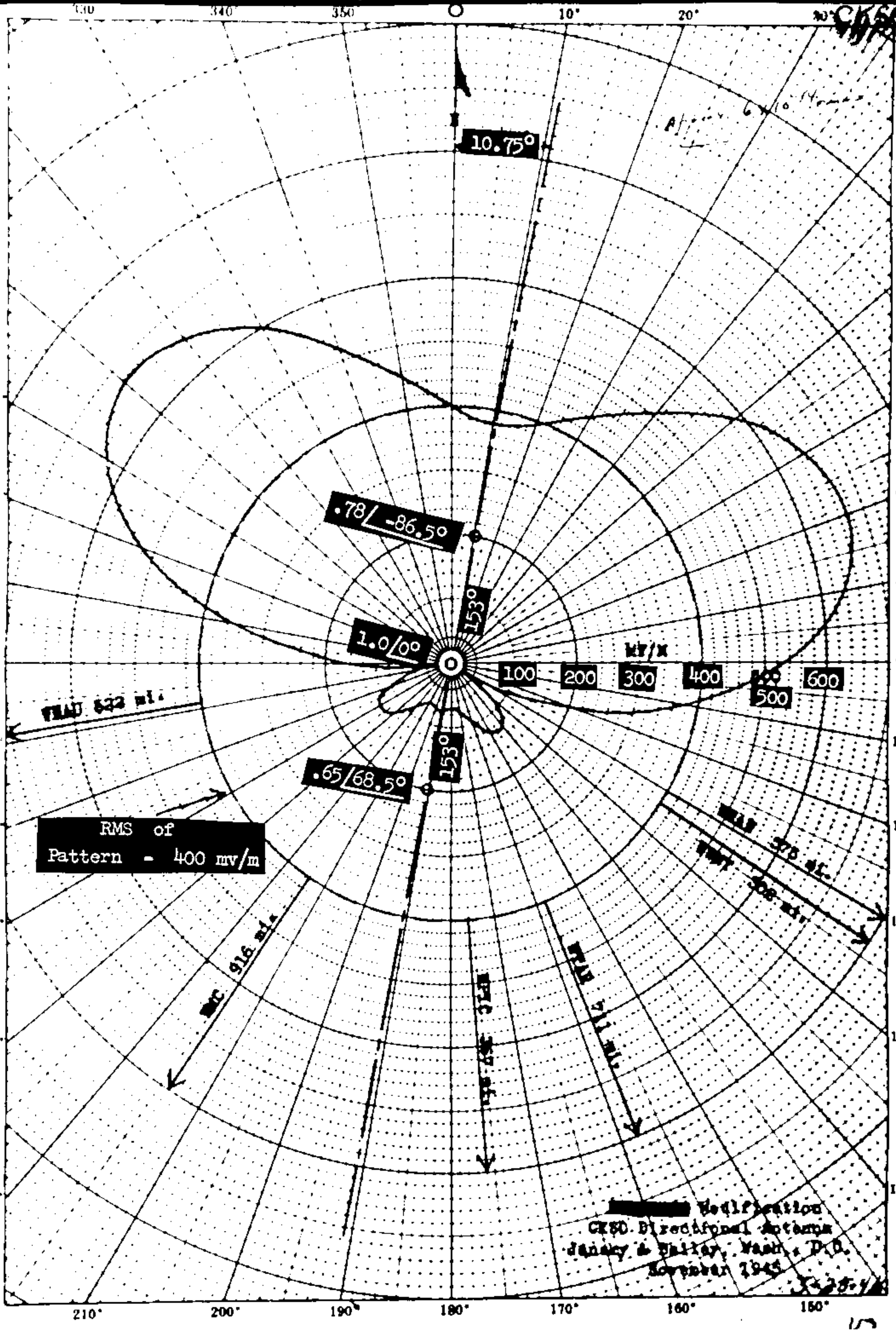
PROPOSED DAY
(5-28-59g)

Station CKSO 5kw, 10kw-LS, DA-2, U, Class III
Sudbury, Ontario, Canada 790 KC

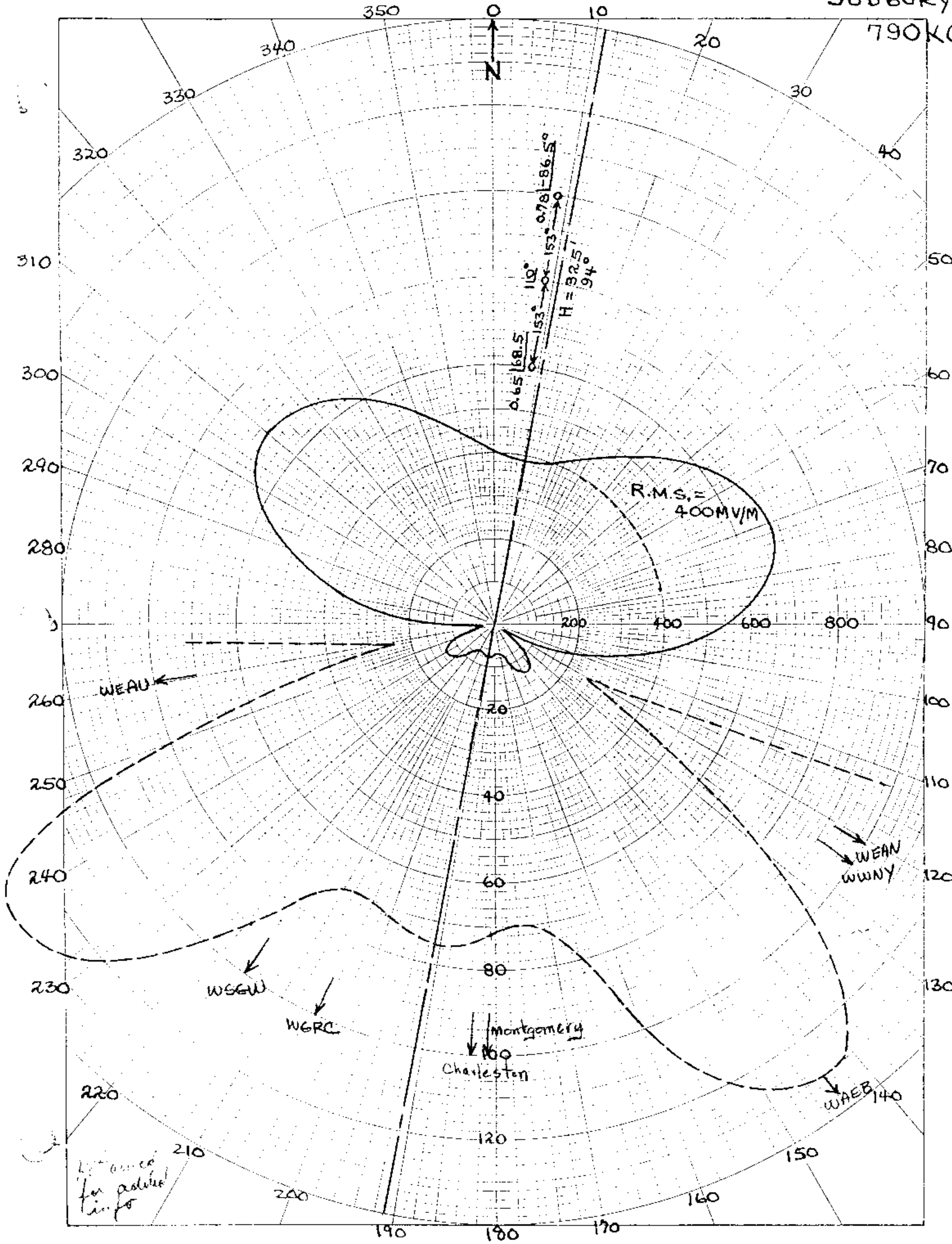


PROPOSED . . NIGHT Station CKSO 5kw, DA-1,III-A

Sudbury, Ontario 790 KC



NIGHT CKSO
SUDBURY, ONT
790KC



Cuba

CMCH
790kc

92276

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CMCH

Main studio: Havana, Cuba

Frequency: 790kc/s

Power: 10 kw

Date: Received June 15, 1953

Class: II-E.

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 23° 07' 29"
West Longitude: 82° 20' 58"

ANTENNA CHARACTERISTICS

Number of elements: Two (2)
Type of elements: Series-fed, uniform cross-section, guyed, vertical steel towers.

Tower:	Northwest	Southeast
Height Above Insulators:	250'	250' (72.15°)
Spacing:	311.3' or 90° between adjacent towers.	
Phasing:	100°	0°
Field Ratio:	1	0.9

Orientation: Elements on a line bearing 140° true.

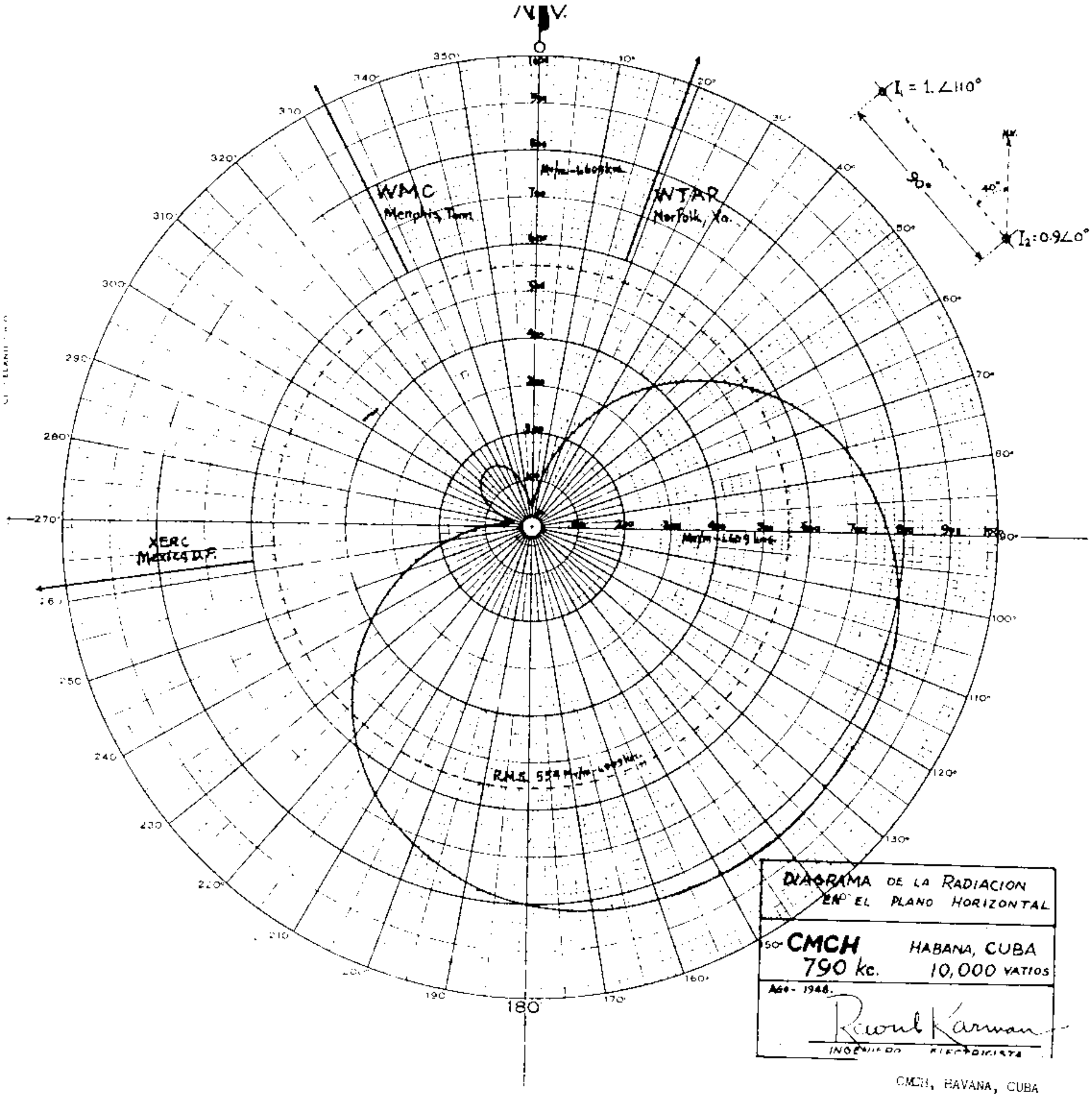
Ground System: 120-328' equally spaced radials about each tower base.

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 5 to the North American Regional Broadcasting Agreement, Washington, D. C., 1950.

Cuba CMCH

PROPOSED
DAY & NIGHT (7/9/53G) CMCH, HAVANA, CUBA 10 kw, DA-1 790 kc



CMCH, HAVANA, CUBA

KABC
790KHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KABC

Main Studio: Los Angeles, California

Frequency: 790 KHz

Power: 5kw Night 5kw Day

Notification List No. 1789

Date: September 12, 1980 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 34° 01' 41"
West Longitude: 118° 22' 22"

ANTENNA CHARACTERISTICS

Authorized for Nighttime operation (DA-N)
Number of elements: 2
Type of elements; Tower SE(#1) Series excited, uniform cross-section, guyed, vertical steel radiator. Tower NW(#2) Series excited, Self supporting, tapered, vertical steel radiator.

TOWER:	SE(#1)	N#(#2)
HEIGHT ABOVE INSULATORS:	480'(138.8°)	278' (80.39°)
NIGHT PHASING:	+180°	0°
NIGHT FIELD RATIO:	1.0	0.44

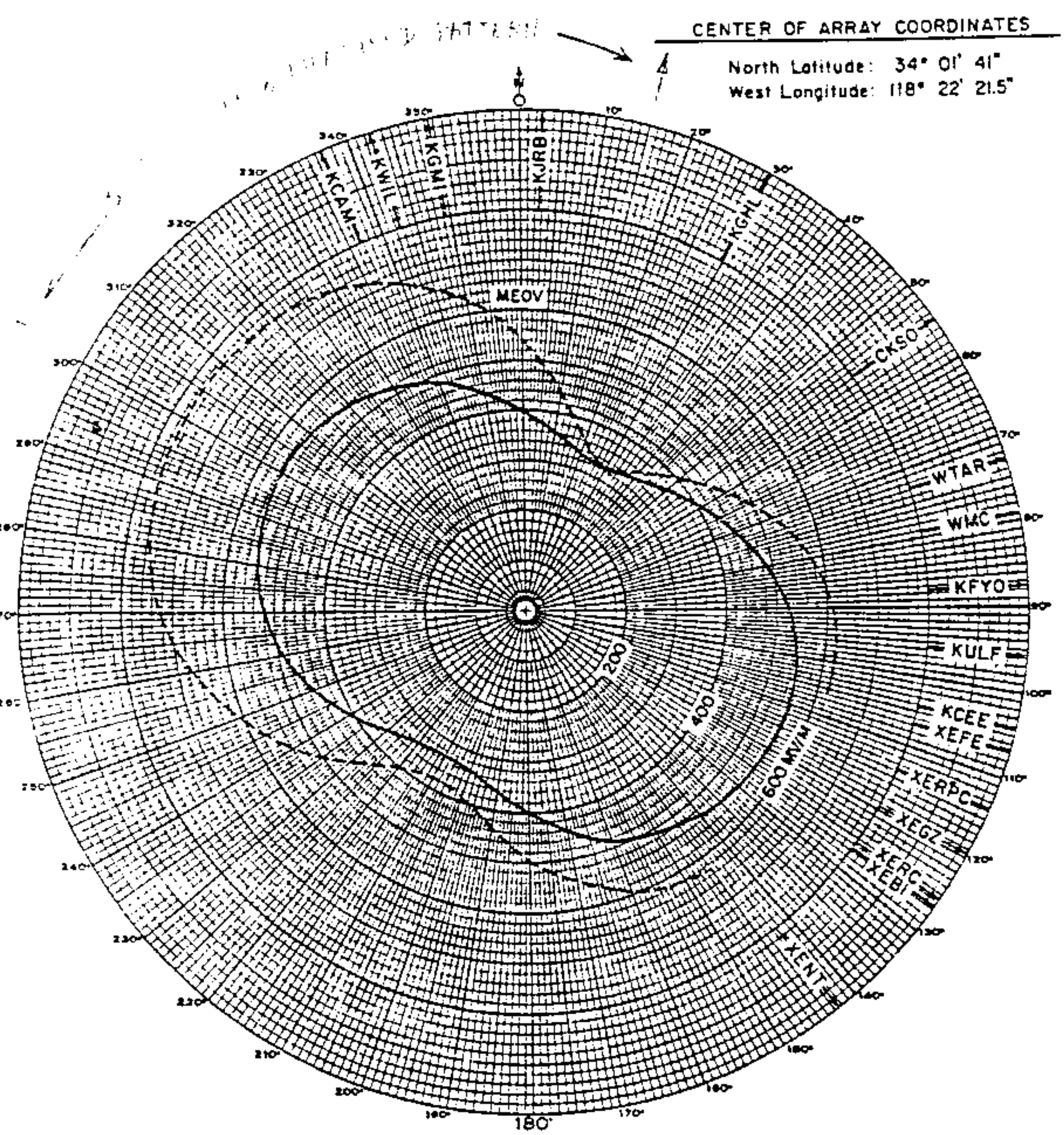
SPACING AND ORIENTATION: Towers in a row are spaced 241' (69.7°) on a line bearing 119° true.

GROUND SYSTEM: 120-300' equally spaced copper radials about each tower.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	RSS	STANDARD RMS
Day	474 mv/m	(Omnidirectional)	
Night	487.79 mv/m		

KABC
790KHZ



CALCULATED RMS = 460 MV/M

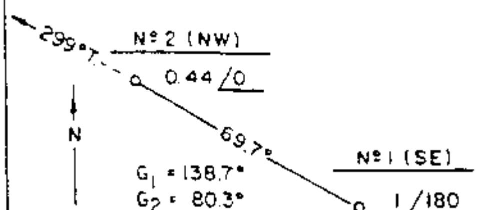


EXHIBIT D-1

HORIZONTAL RADIATION PATTERN

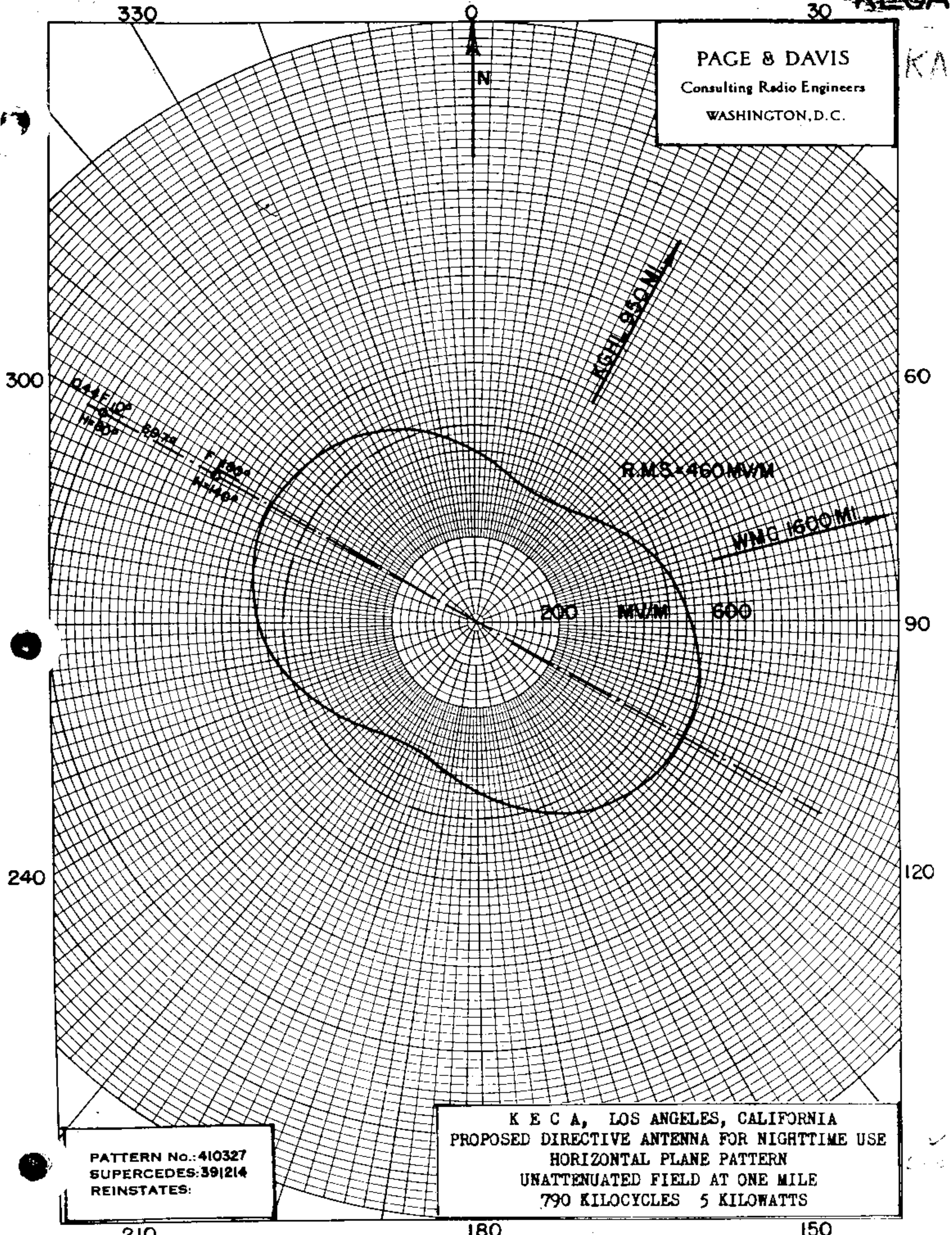
KABC

790 KHZ, 5 KW, DA-N

LOS ANGELES, CALIFORNIA

KECA

KABC



PAGE & DAVIS
Consulting Radio Engineers
WASHINGTON, D.C.

PATTERN No.: 410327
SUPERCEDES: 391214
REINSTATES:

K E C A, LOS ANGELES, CALIFORNIA
PROPOSED DIRECTIVE ANTENNA FOR NIGHTTIME USE
HORIZONTAL PLANE PATTERN
UNATTENUATED FIELD AT ONE MILE
790 KILOCYCLES 5 KILOWATTS

KEUFFEL & ESSER CO., N. Y. NO. 343A
POLAR CO-ORDINATE
MADE IN U. S. A.

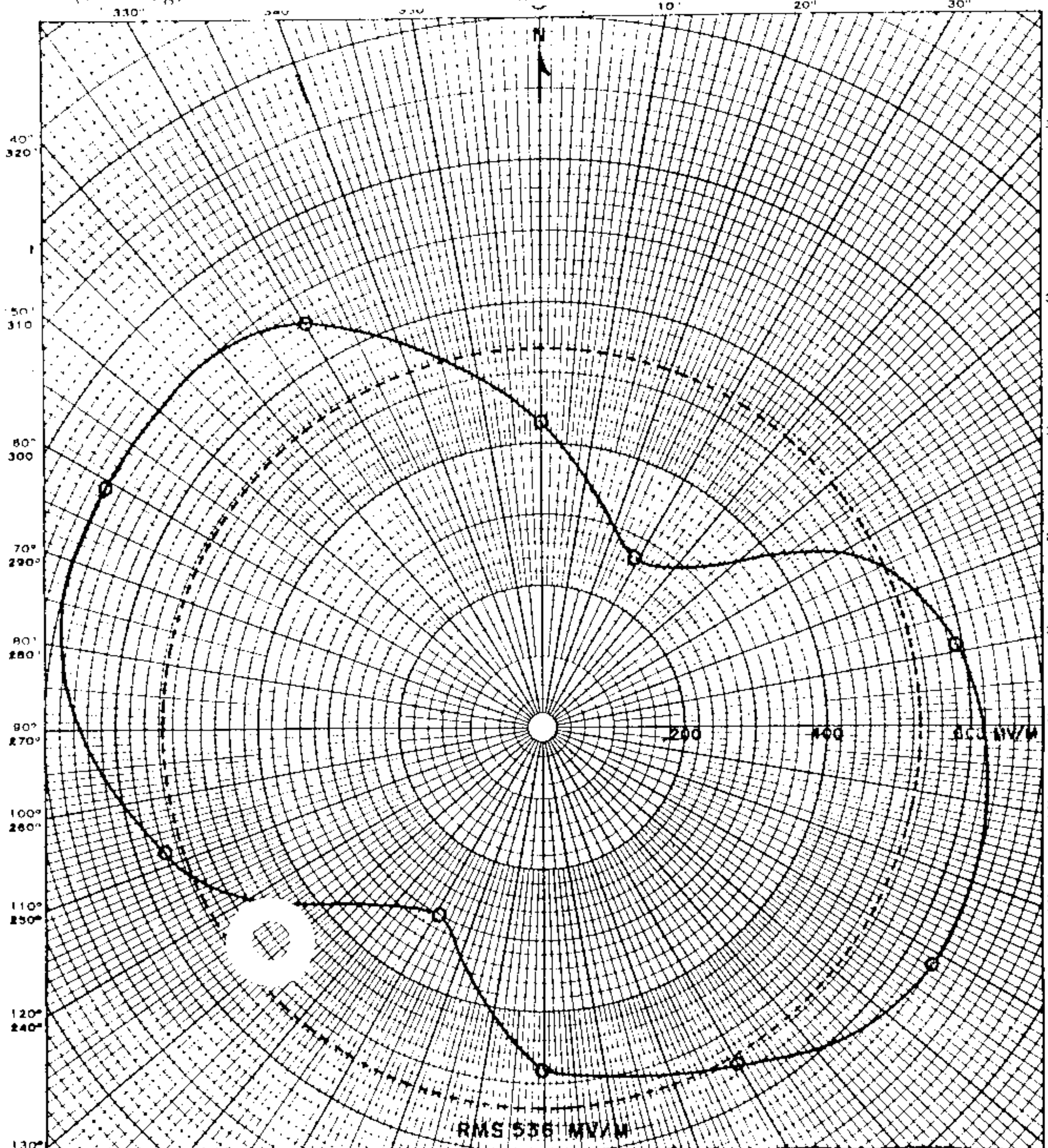
KABC

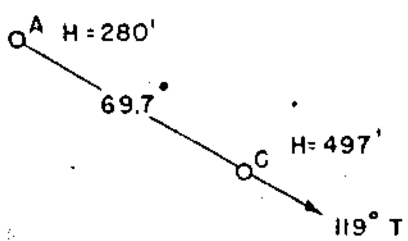
MEASURED NIGHT
(9-4-59g)

Station KABC
Los Angeles, California

5kw, DA-N, U
790 KC

GRANTED
LICENSE
7-29-60
BL-7586





LATITUDE 34° 01' 40"
LONGITUDE 118° 22' 20"

ANTENNA NUMBER	AZIMUTH DEG.	SPACING DEG.	PHASING DEG.	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG.
A	0	0	0	0.44	195	81
C	119	69.7	180	1.00	206	144

MEASURED
HORIZONTAL PLANE PATTERN
STATION KABC
LOS ANGELES, CALIFORNIA
790 KC 5 KW U, DA-N

AMERICAN BROADCASTING CO.
ENGINEERING DEPARTMENT
590706

FCC File No. BL-7586
Accepted 8-27-59

KABC
Los Angeles, California

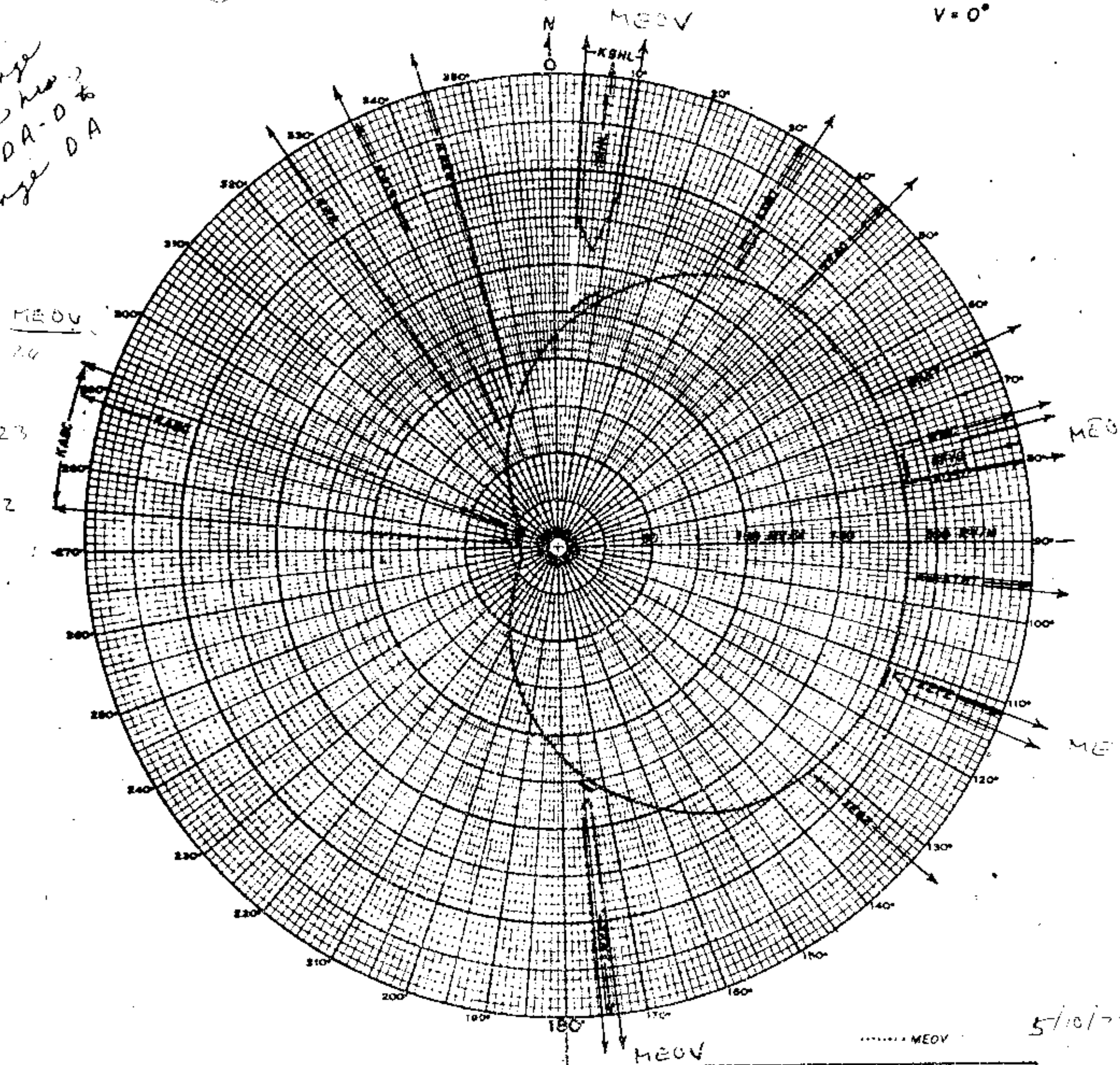
790 KC

PROPOSED NIGHT
(10-25-61ct)

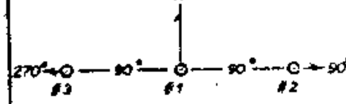
Station KCEE
Tucson, Arizona

500w,5kw-LS,DA-2,U
790 kc

9-9-63
Granted mod of CP. to change to unlimited hrs., change from DA-D to DA-2, change DA



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	72.3	0	0	0	103.50	1.0	0	125.3
2	72.3	90	90	-90		0.2	10	
3	72.3	270	90	+90		0.6	20	
4							30	
5							40	
6							50	
7							60	
8							70	
9							80	
10							E_r =	mv/m
							P_r =	kw

DAYTIME OPERATION ☐ NIGHTTIME OPERATION ☒

STATION DATA

- CALL: KCEE
- FREQUENCY: 790 kc
- POWER: 0.5 kw
- TIME OF OPERATION: UNLIMITED
- TYPE OF OPERATION: DA-NIGHT
- DAYTIME TOWERS: 3
- NIGHTTIME TOWERS: 3
- No. RADIALS PER TOWER: 120
- LENGTH OF RADIALS: 90 ° 311 ft
- GROUND SCREEN DIMENSION:
- LAT.: 32 ° 14 ' 53.5 "
- LONG.: 111 ° 00 ' 30.0 "
- SUPERSEDES:
- PATTERN No.

EXHIBIT NO. I-A

RADIO STATION KCEE
790 KC — 0.5 KW — DA-2
TUCSON, ARIZONA

FEBRUARY
1961

FCC File No. BMP-9774
Accepted 9-20-61

Station KCEE
Tucson, Arizona

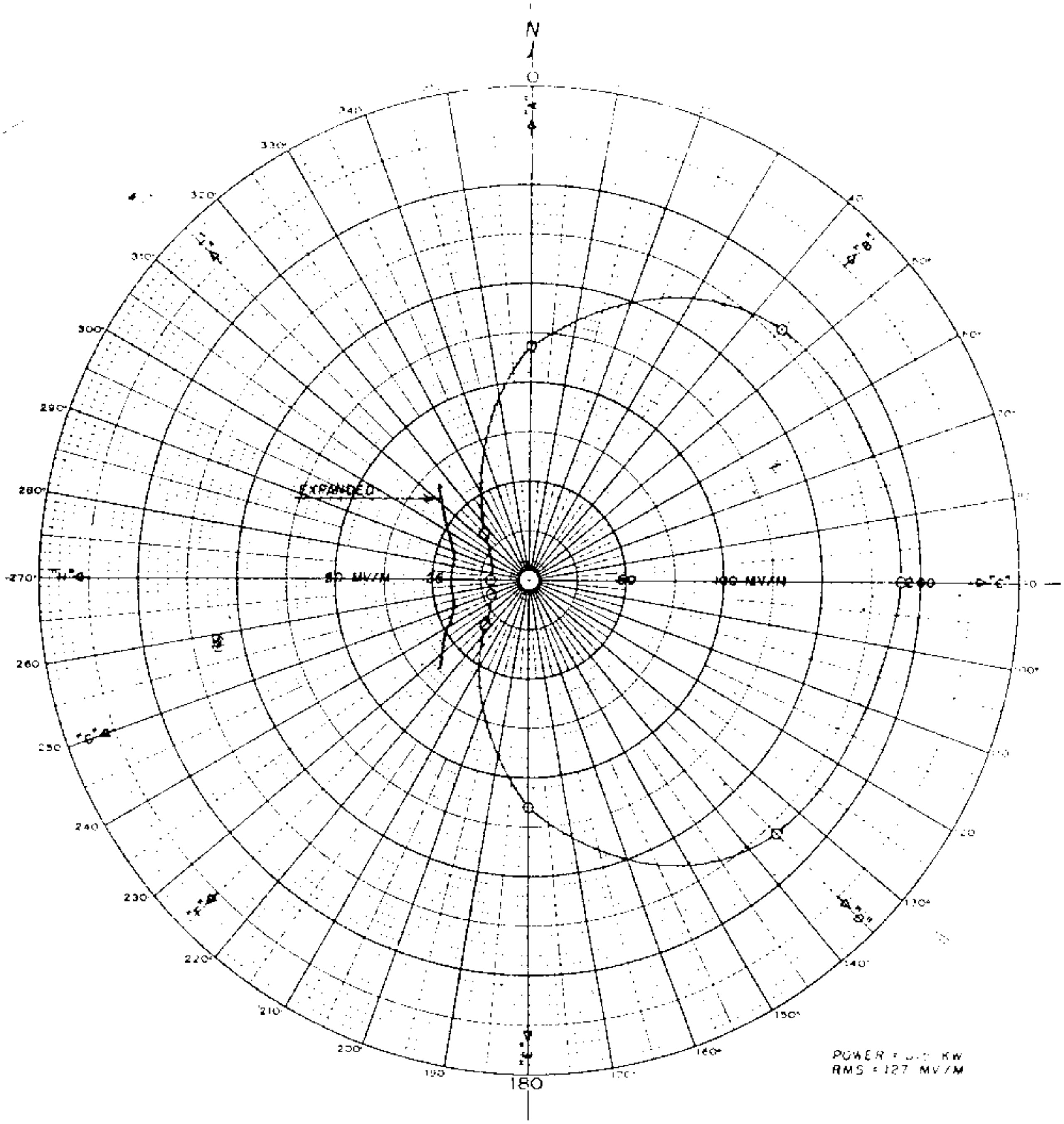
790 kc

Measured Night
(1-28-65ct)

Station KCEE
Tucson, Arizona

KCEE
500w,5kw-LS,DA-2,U
790 kc

LIC 3-28-66
CHG. HRS.
" DA



TOWER PLACEMENT SKETCH	FIGURE NO. 13
32° 14' 54" N	DIRECTIONAL ANTENNA RADIATION PATTERN NIGHT
	BASED ON FIELD INTENSITY MEASUREMENTS
	STATION KCEE —— TUCSON, ARIZONA
	790 KC/S —— 5/0.5 KW —— DA-2

FCC File No. BL-10741
Accepted 1-15-65

Station KCEE
Tucson, Arizona

790 kc

KCEE

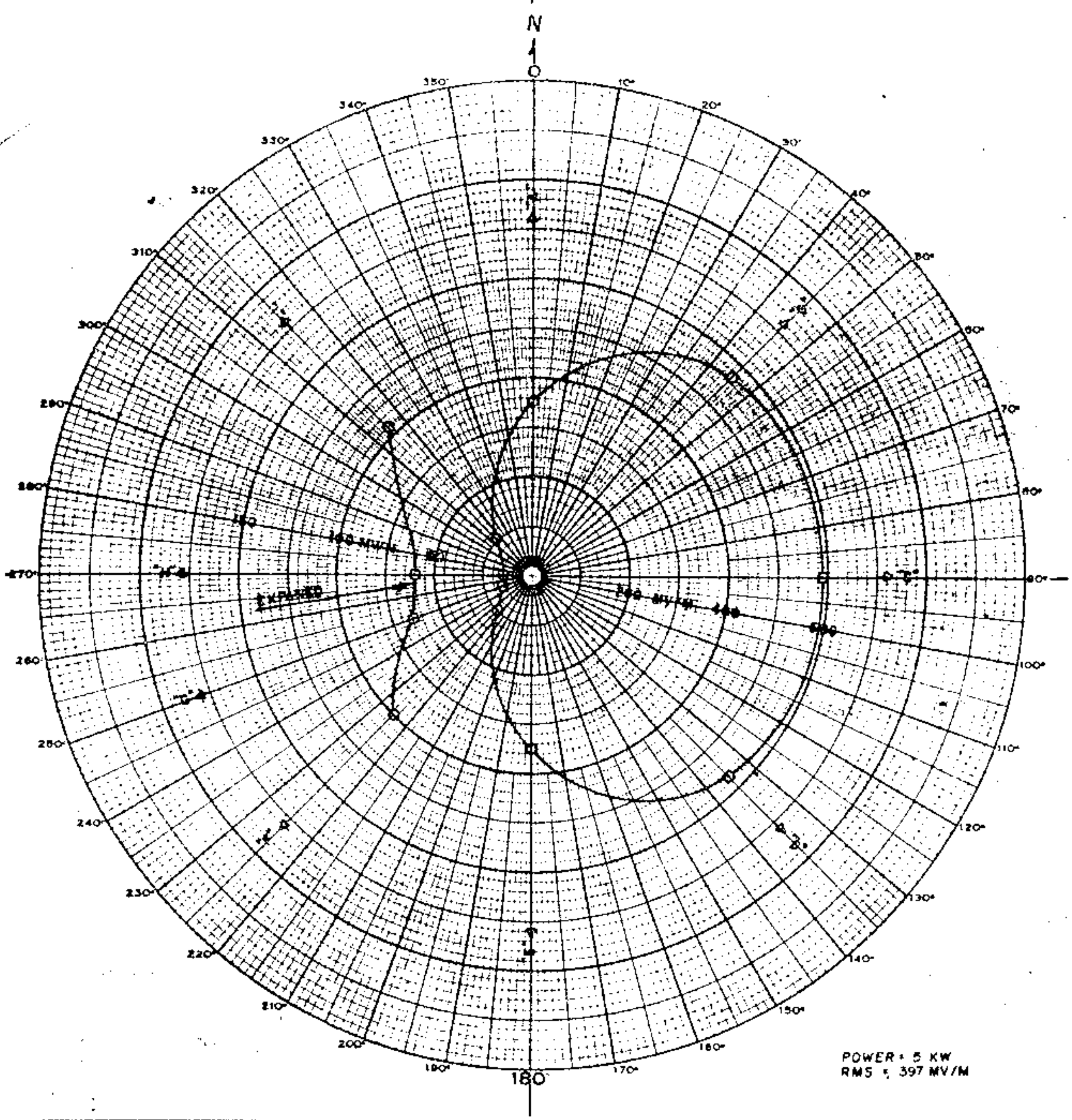
Measured Day
(1-28-65ct)

Station KCEE
Tucson, Arizona

500w,5kw-LS,DA-2,U
790 kc

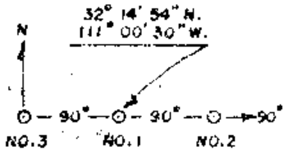
NO 10 HP

IC 3-28-66
CHG. HRS.
" DA



POWER = 5 KW
RMS = 397 MV/M

TOWER PLACEMENT SKETCH	
32° 14' 54" N. 111° 00' 30" W.	



90° = 311' AT 790 KC/S

NO. 1 = 1.0 0°
NO. 2 = 0.2 −90°
NO. 3 = 0.6 +90°

H = 72.3°

FIGURE NO. 12

DIRECTIONAL ANTENNA RADIATION PATTERN DAY

BASED ON FIELD INTENSITY MEASUREMENTS

STATION KCEE — TUCSON, ARIZONA

790 KC/S — 5/0.5 KW — DA-2

JULY 7, 1964

FCC File No. BL-10741
Accepted 1-15-65

Station KCEE
Tucson, Arizona

790 kc

KCEE

Measured Non-DA
(1-28-65ct)

Station KCEE
Tucson, Arizona

500w,5kw-LS,DA-2,U
790 kc

LIC 3-28-66
CHG HRS.
" DA

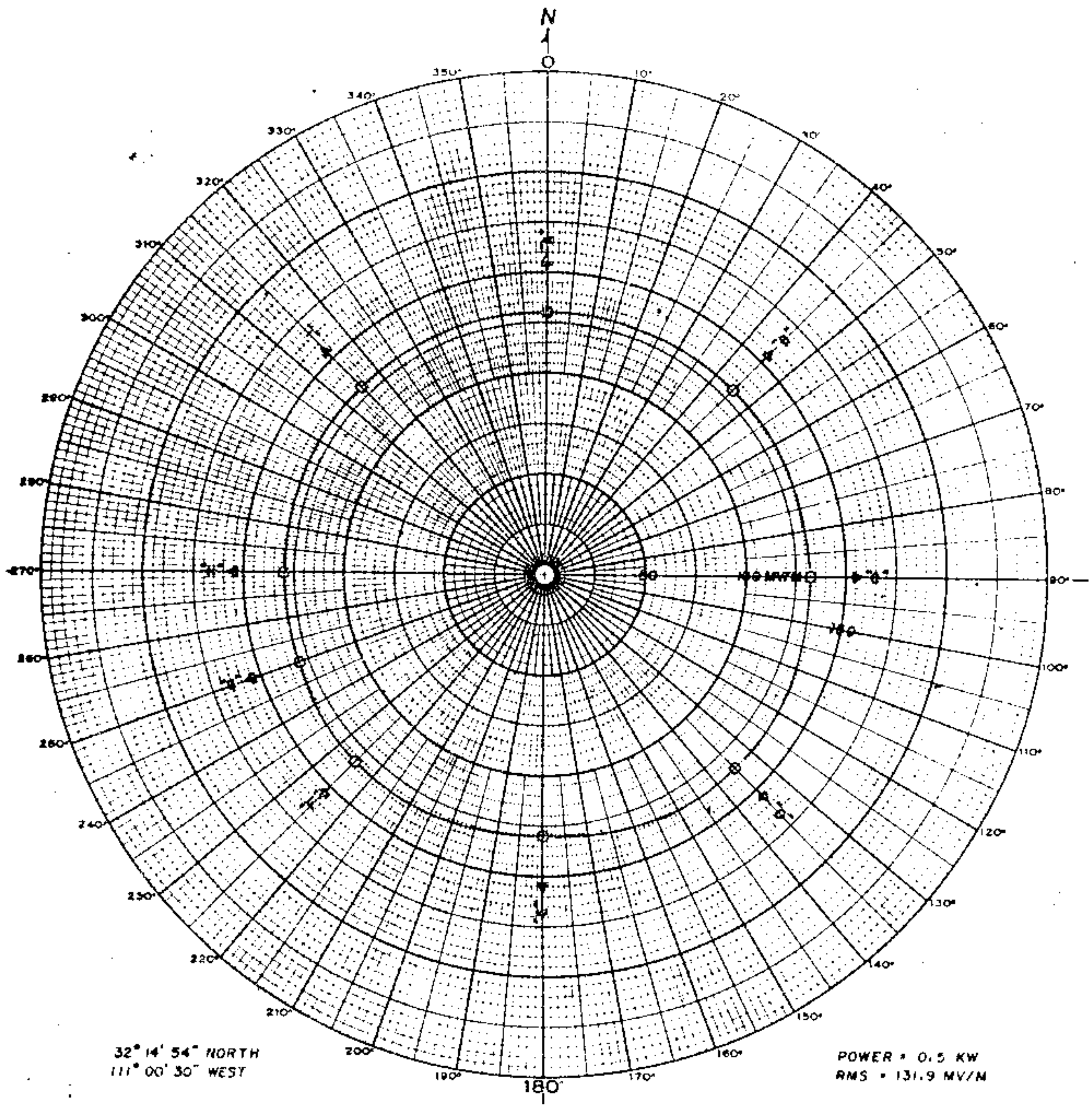


FIGURE NO. 11

NON-DIRECTIONAL ANTENNA RADIATION PATTERN
BASED ON FIELD INTENSITY MEASUREMENTS

790 KC/S — 5/0.5 KW — DA-2

STATION KCEE — TUCSON, ARIZONA

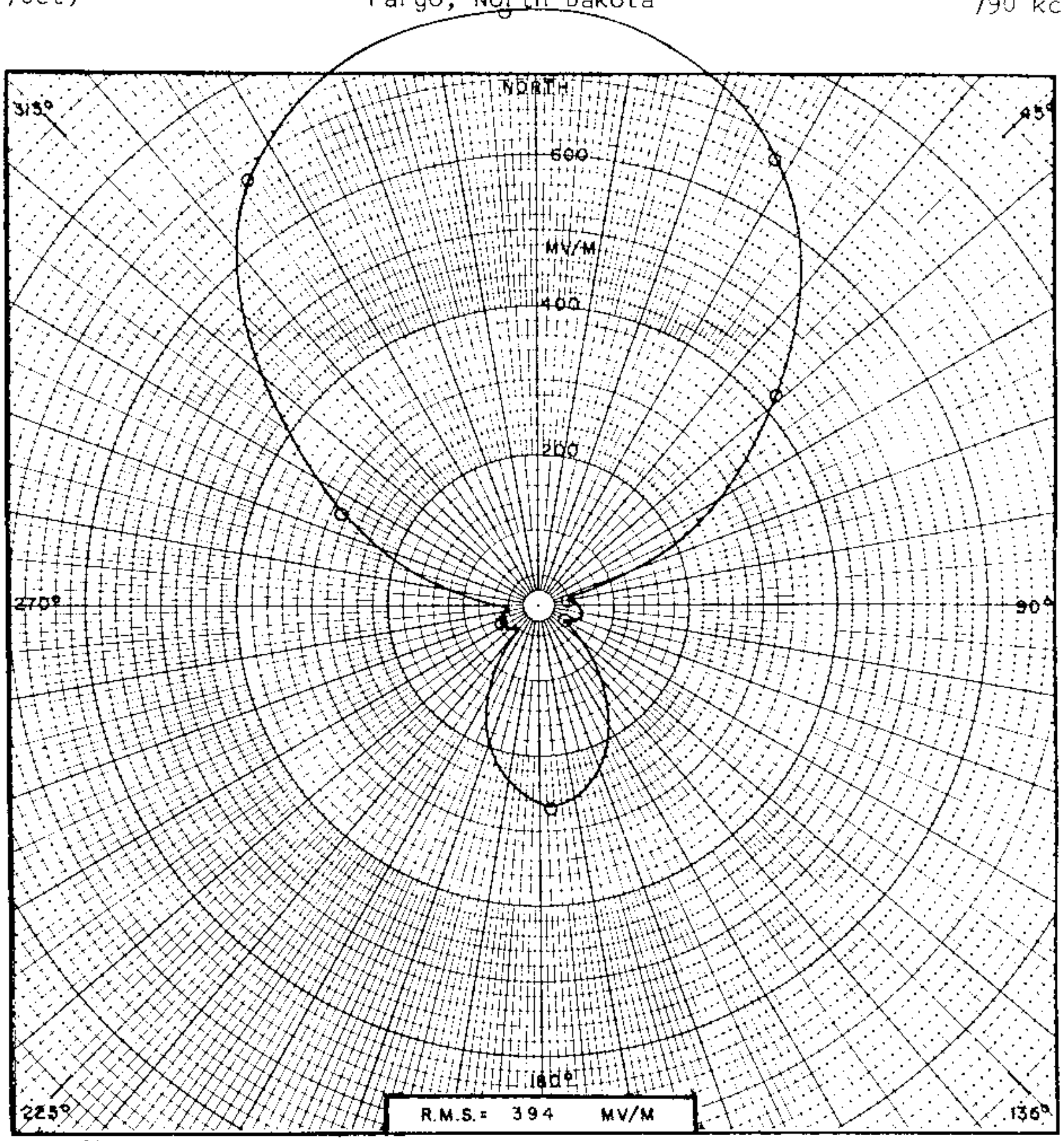
JULY
1964

BL-12504
GR (3-6-70) Lic. Cov. CP to change Inverse fields

KFGO
5kw, DA-N, U
790 kc

Measured Night
(3-27-70ct)

Station KFGO
Fargo, North Dakota



220 210

PATTERN PARAMETERS		
377°	THEO.	MEAS.
N.	.500/-161.4	0.605/-166
C.	.954/ 0	1.000/ 0
S.	.500/ 161.4	0.532/165
S = 60°	G = 76.6°	

DIRECTIONAL RADIATION PATTERN

Communications Properties, Inc.

[X] MEASURED [ ] PROPOSED

FREQ. 790 (KHZ) POWER 5 (KW) [ ] DA-D

N. LAT. 46 ° 43 ' 05 " [X] DA-N

W. LONG. 96 ° 48 ' 05 " [ ] N-D

LOCATION: Fargo, North Dakota

DATE: August, 1968

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No. BL-12504
Accepted 2-25-70

Station KFGO
Fargo, North Dakota

790 kc

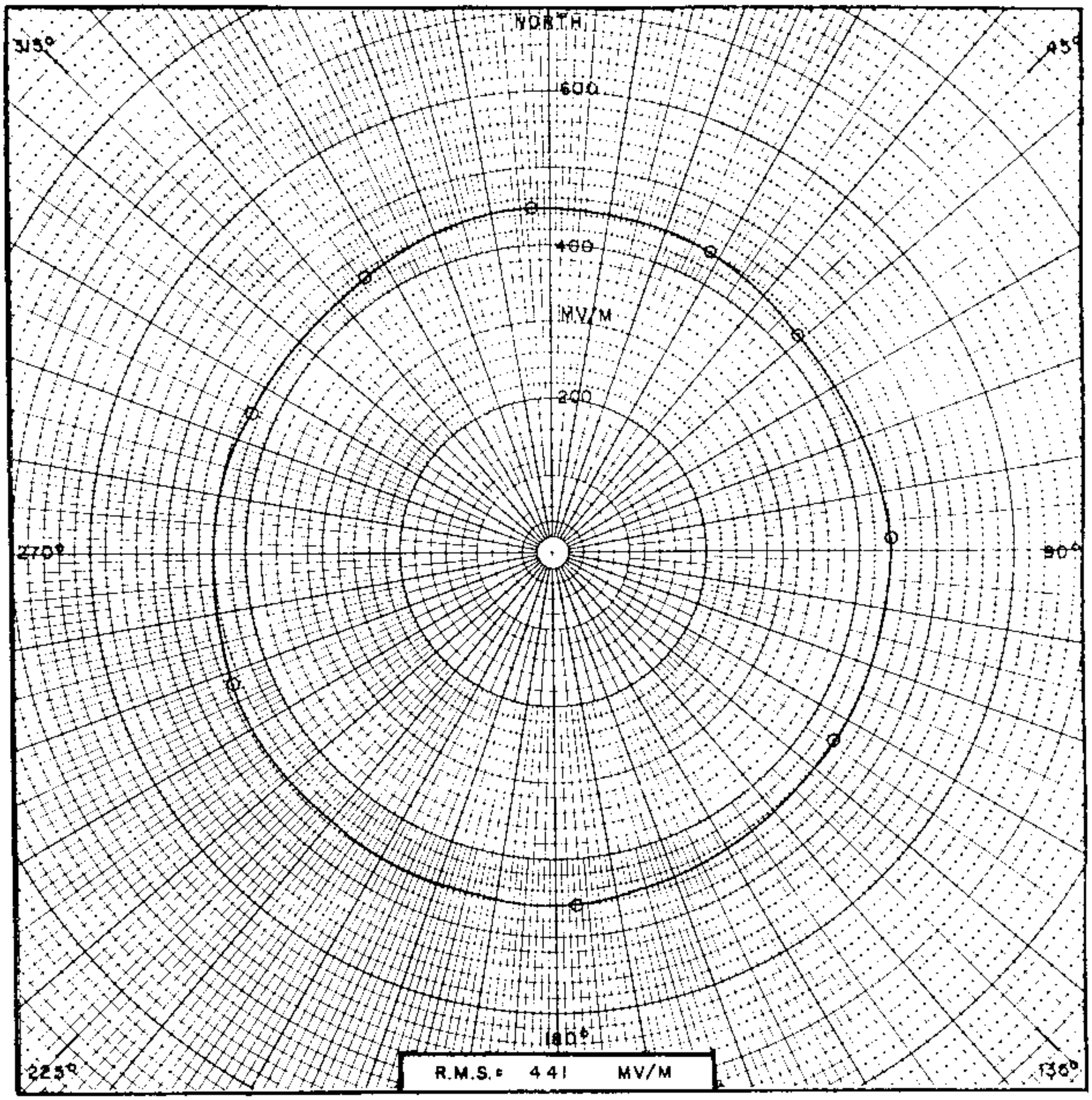
BL 12504
GR. (3-6-70) Lic. Cov. CP to change Inverse Fields

KFGO

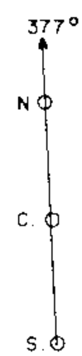
Measured Non-DA
(3-27-70ct)

Station KFGO
Fargo, North Dakota

5kw, DA-N, U
790 kc



PATTERN PARAMETERS



CENTER TOWER ONLY TOWER USED IN N-D PATTERN.

DIRECTIONAL
RADIATION PATTERN

Communications Properties, Inc.

[X] MEASURED [ ] PROPOSED

FREQ. 790 (KHZ) POWER 5 (KW) [ ] DA-D

N. LAT. 46 ° 43' 05" [ ] DA-N

W. LONG. 96 ° 48' 05" [X] N-D

LOCATION: Fargo, North Dakota

DATE: August, 1968

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No. BL-12504
Accepted 2-25-70

Station KFGO
Fargo, North Dakota

790 kc

KFGO 790

Station K F G O Main Studio Fargo, North Dakota

Power 5 kw Frequency 790 kc

Authorized March 31, 1947 Notification No. 221

Location: North Latitude 46° 43' 05"

West Longitude 96° 48' 05"

Antenna:

Authorized for nighttime operation (DA-N)

Three elements, vertical series feed

Tower:	North	Center	South
Height above insulators:	265'	265'	265'
Spacing:	60° between adjacent towers		
Phasing:	-161.4°	0°	+ 161.4°
Field Ratio:	0.5	954	0.5

Ground System: 120 radials 311 feet long about each tower except where individual system overlap.

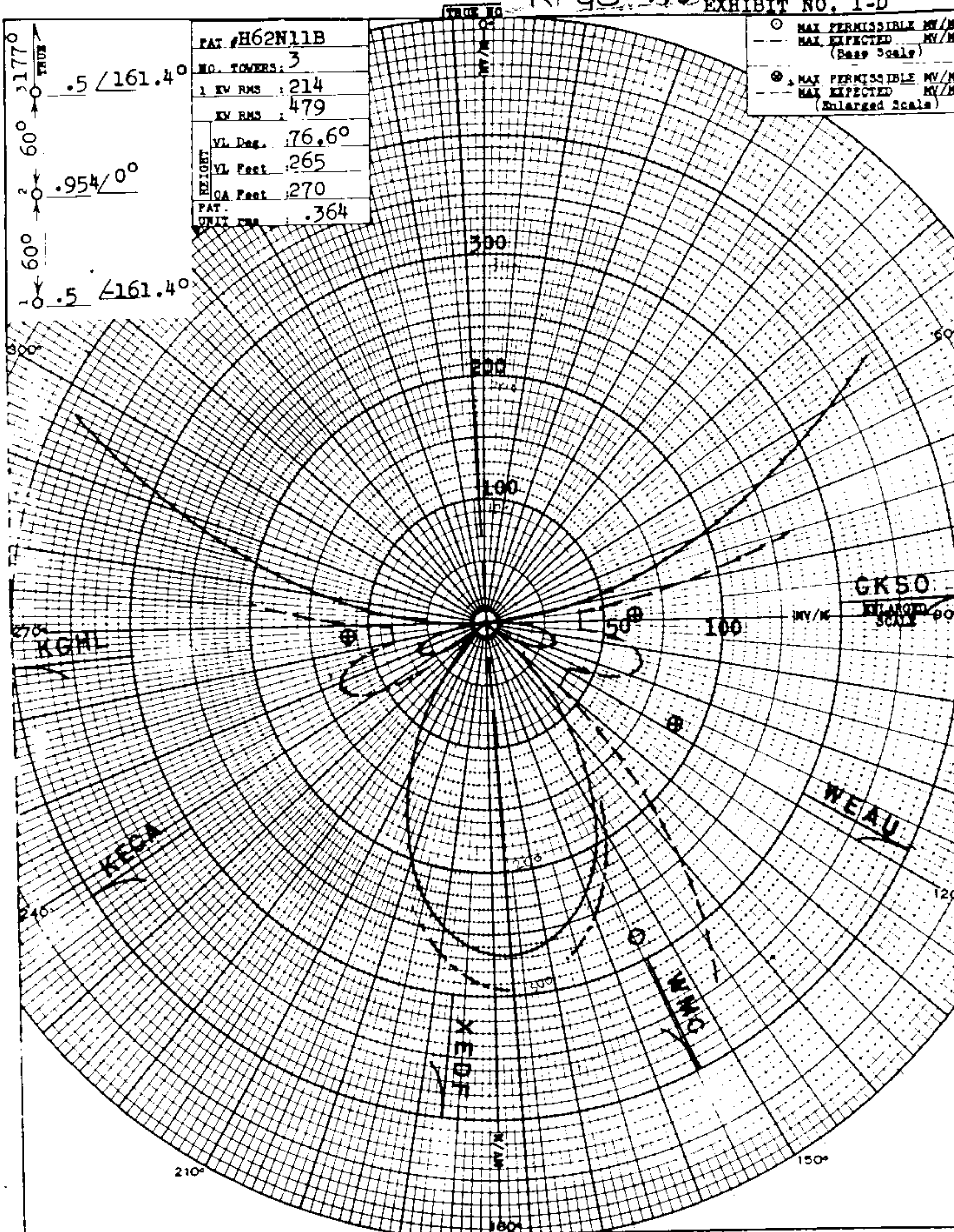
Orientation: Towers in a line bearing 177° true.

Predicted effective field 479 mv/m

KFGO 790

EXHIBIT NO. 1-D

FARGO-790



PATTERN:	PROPOSED NIGHTTIME
FOR:	FARGO, NORTH DAKOTA
POWER:	5 KW FREQ: 790 KC
DATE:	11/11/45

COMMERCIAL RADIO EQUIPMENT CO.

RADIO ENGINEERING CONSULTANTS

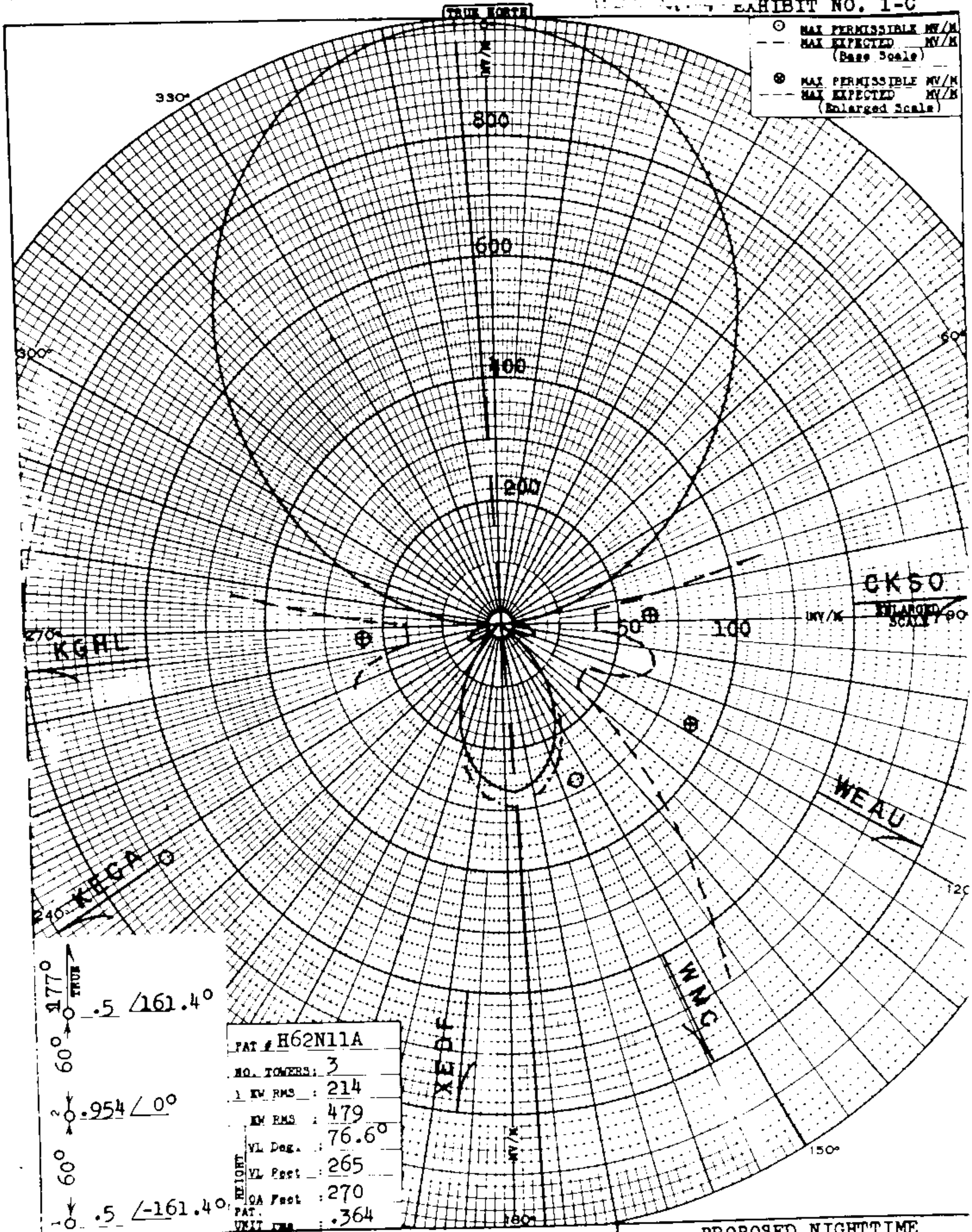
KANSAS CITY WASHINGTON, D.C. HOLLYWOOD

7 northern States B/C Co.

PROP NIGHT

KRGO 790 FARGO- 790

EXHIBIT NO. 1-C



COMMERCIAL RADIO EQUIPMENT CO.

RADIO ENGINEERING CONSULTANTS

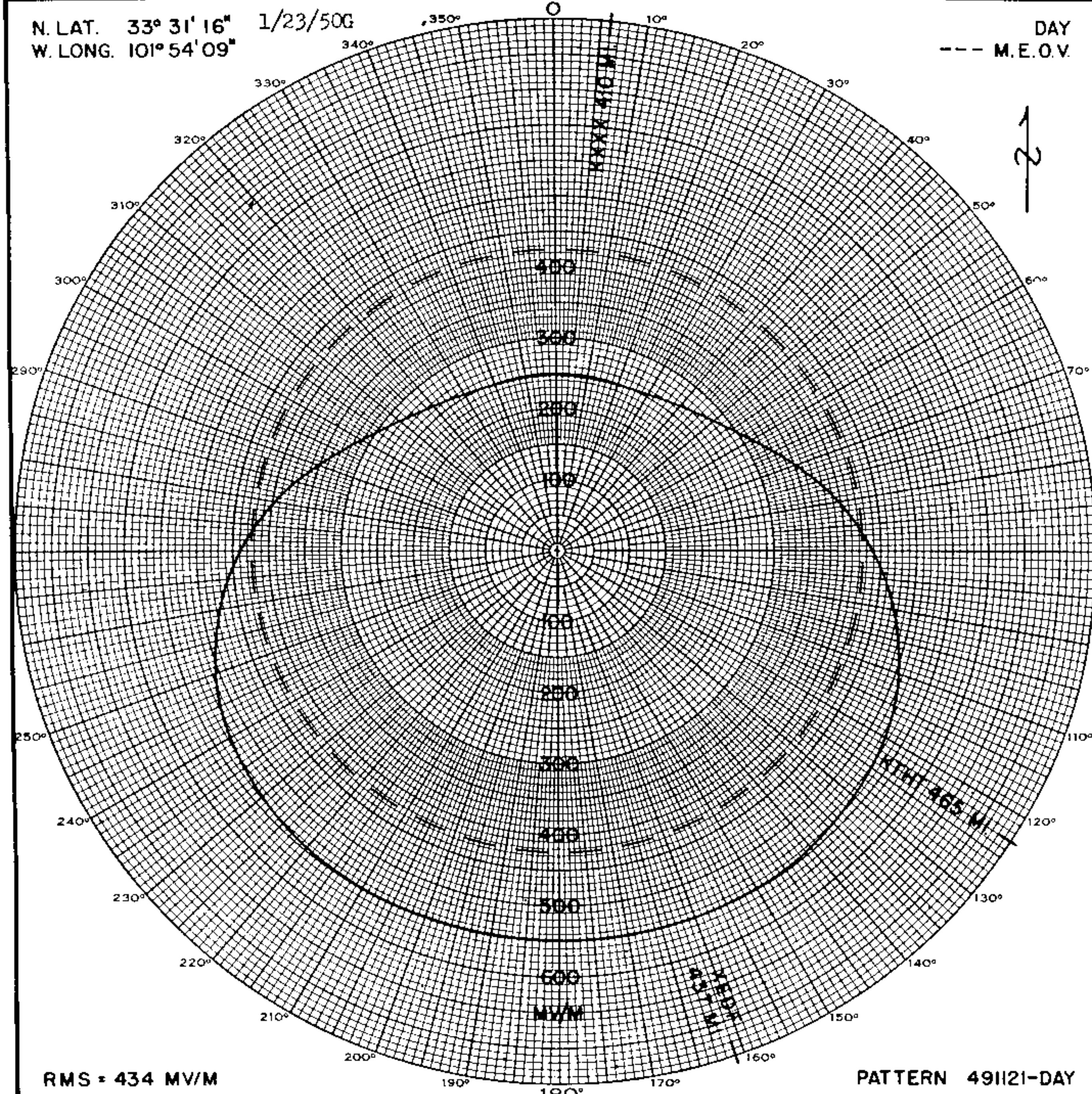
KANSAS CITY WASHINGTON, D.C. HOLLYWOOD

PATTERN:	PROPOSED NIGHTTIME
FOR:	FARGO, NORTH DAKOTA
POWER:	5 KW FREQ: 790 KC
DATE:	11/11/45

State B/C Co

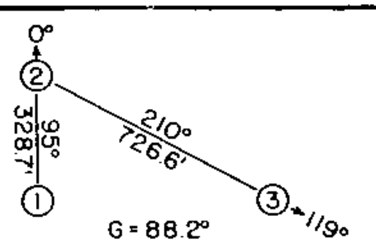
N. LAT. 33° 31' 16"
W. LONG. 101° 54' 09"
1/23/50G

DAY
--- M.E.O.V.



RMS = 434 MV/M

PATTERN 491121-DAY



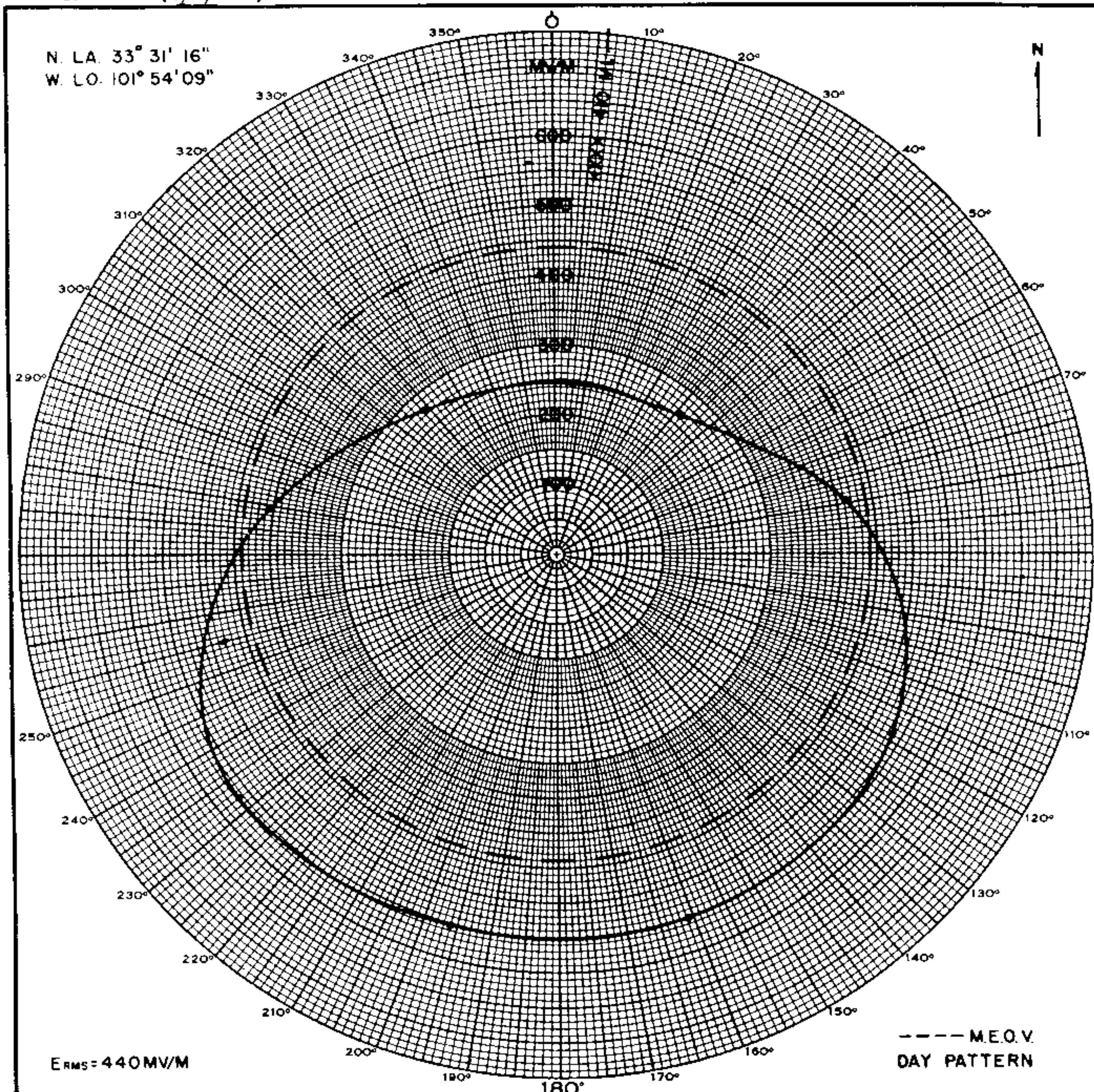
RADIO STATION KFYO
LUBBOCK, TEXAS
790 KC 1 KW 5 KW-LS DA-2

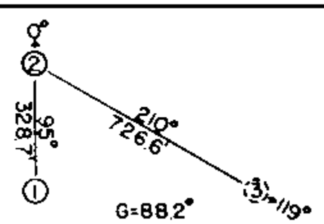
TOWER	1	2	3
FIELD	1.00	0.38	0.00
PHASE	0°	85°	XX

A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEERS

491121 FIGURE 6 A

MEASURED DAY (3/4/53G) KFYO, LUBBOCK, TEXAS 1kw, 5kw-LS, U, DA-2 790 kc





RADIO STATION KFYO

LUBBOCK, TEXAS

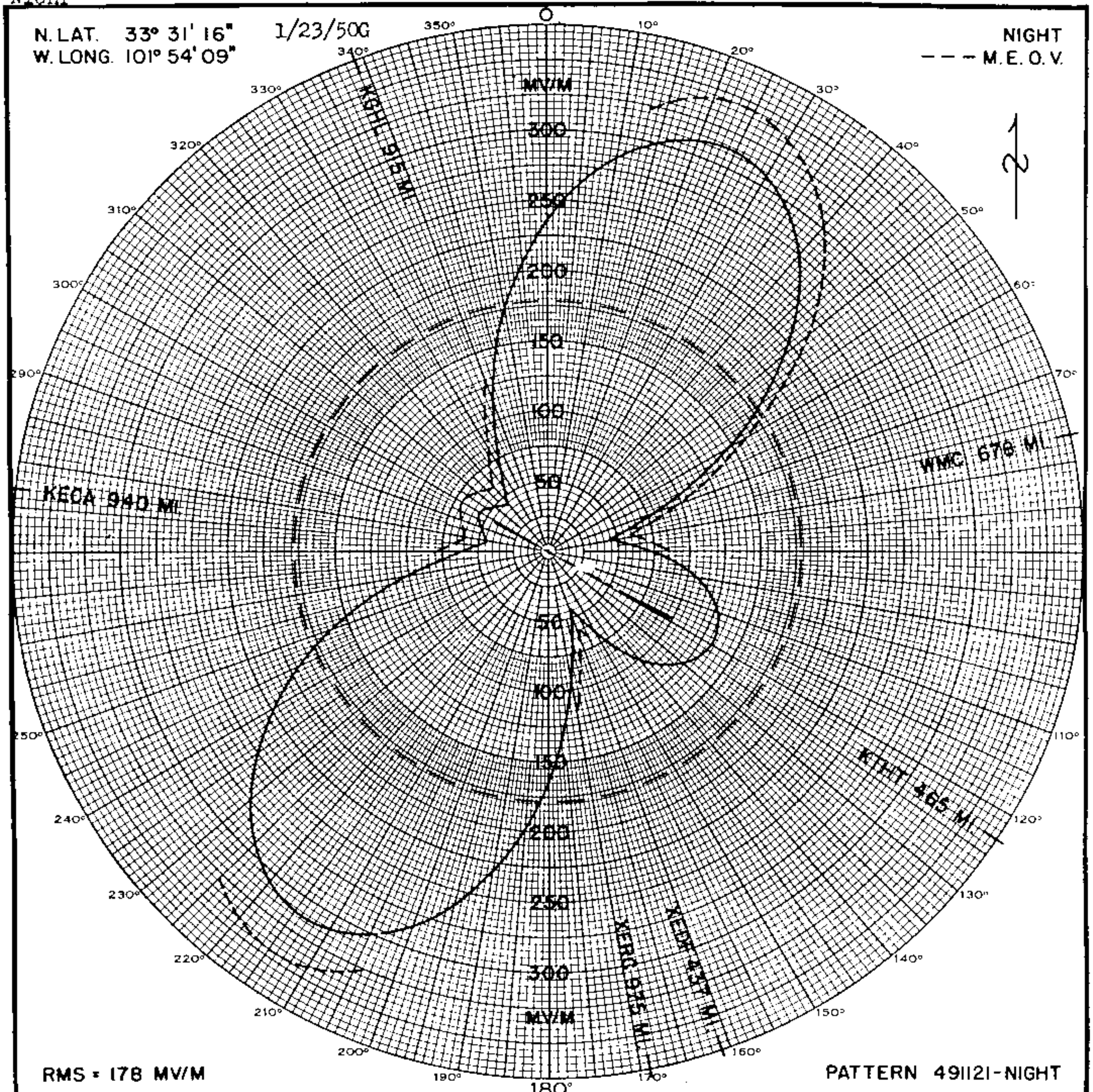
790 KC 1KW 5KW-LS DA-2

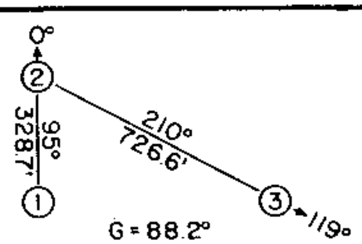
PATTERN BASED ON MEASUREMENTS

A. EARL CULLUM, JR.

CONSULTING RADIO ENGINEERS

521205 FIGURE 4B





RADIO STATION KFYO

LUBBOCK, TEXAS

790 KC 1 KW 5 KW-LS DA-2

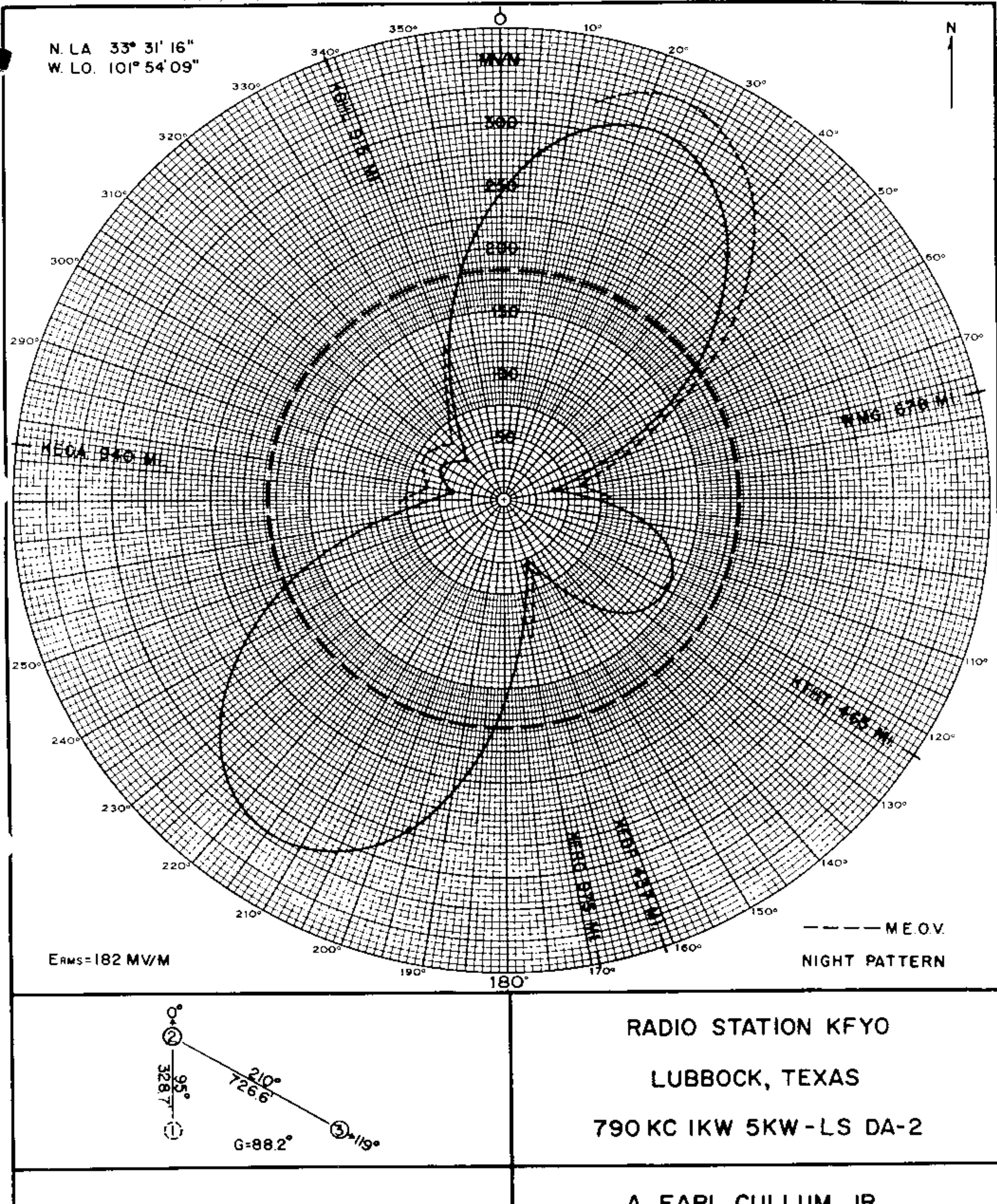
TOWER	1	2	3
FIELD	0.00	1.00	0.75
PHASE	XX	0°	18°

A. EARL CULLUM, JR.

CONSULTING RADIO ENGINEERS

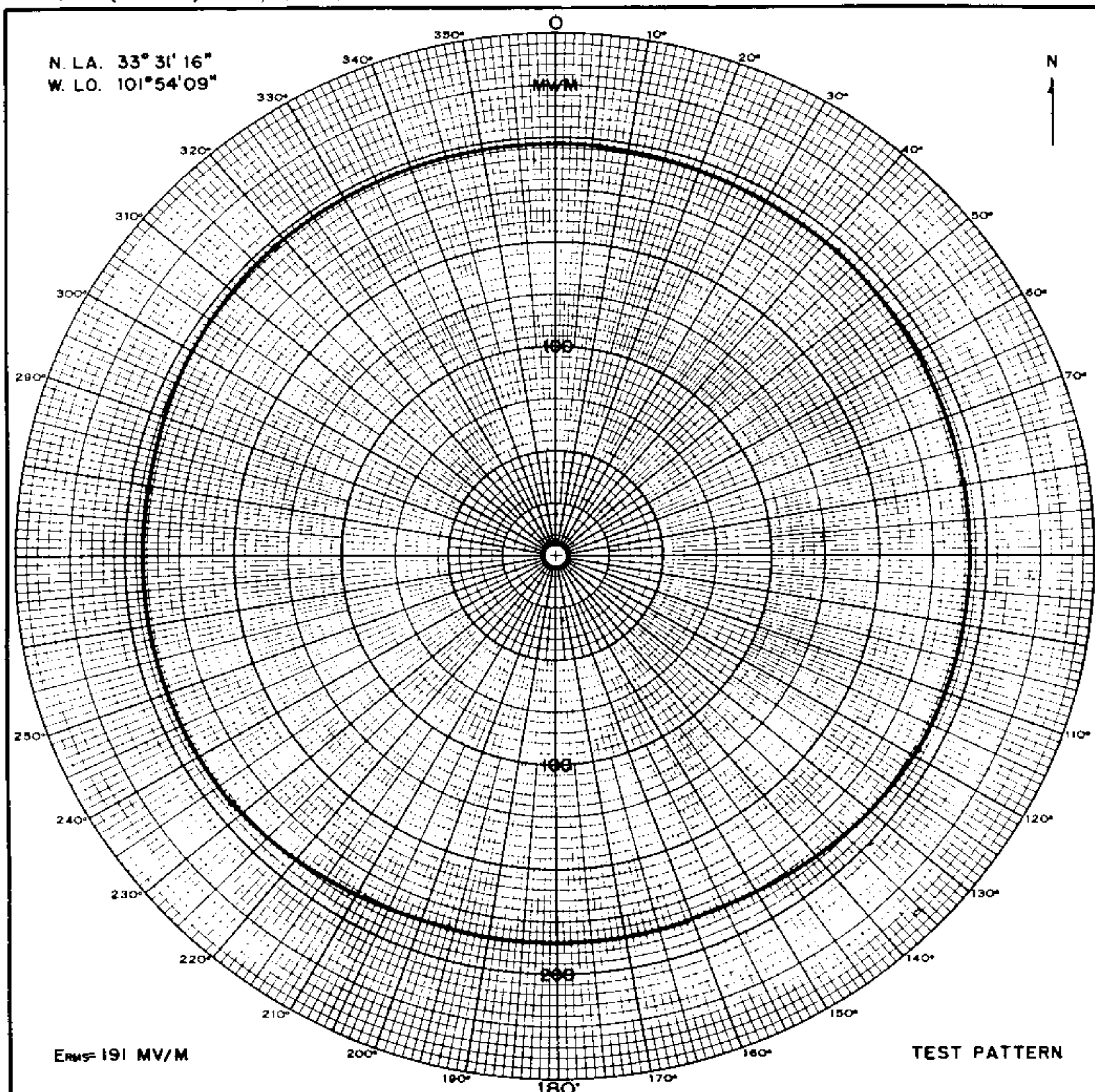
491121 FIGURE 7A

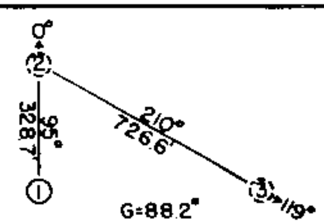
MEASURED NIGHT (3/4/53) KFYO, LUBBOCK, TEXAS 1kw, 5kw-LS, U, DA-2 790 kc



	RADIO STATION KFYO LUBBOCK, TEXAS 790 KC 1KW 5KW-LS DA-2
PATTERN BASED ON MEASUREMENTS	A. EARL CULLUM, JR. CONSULTING RADIO ENGINEERS 521205 FIGURE 4C

MEASURED KFYO, LUBBOCK, TEXAS 1kw, 5kw-LS, U, DA-2 790 kc
DAY (NON-DA) 3/4/53G)





RADIO STATION KFYO

LUBBOCK, TEXAS

790 KC 1KW 5KW-LS DA-2

PATTERN BASED ON MEASUREMENTS

A. EARL CULLUM, JR.

CONSULTING RADIO ENGINEERS

521205 FIGURE 4A

August 10, 1971 K & E

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KGHL

Main Studio: Billings, Montana

Frequency: 790 kHz

Power: 5kw

Notification List No. 1422

Date: April 28, 1971

Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 45° 43' 18"
West Longitude: 108° 33' 52"

ANTENNA CHARACTERISTICS

Authorized for Nighttime operation. (DA-N)
Number of elements: 2
Type of elements: Series-excited, Self-supporting, tapered, vertical steel towers.

TOWER:	N(#1)	S(#2)
HEIGHT ABOVE INSULATORS:	544.5'(157.5°)	290'(84°)
NIGHT PHASING:	0°	-42°
NIGHT FIELD RATIO:	1	0.5

SPACING AND ORIENTATION: Elements are spaced 1048' (303°) on a line bearing 176.2° true.

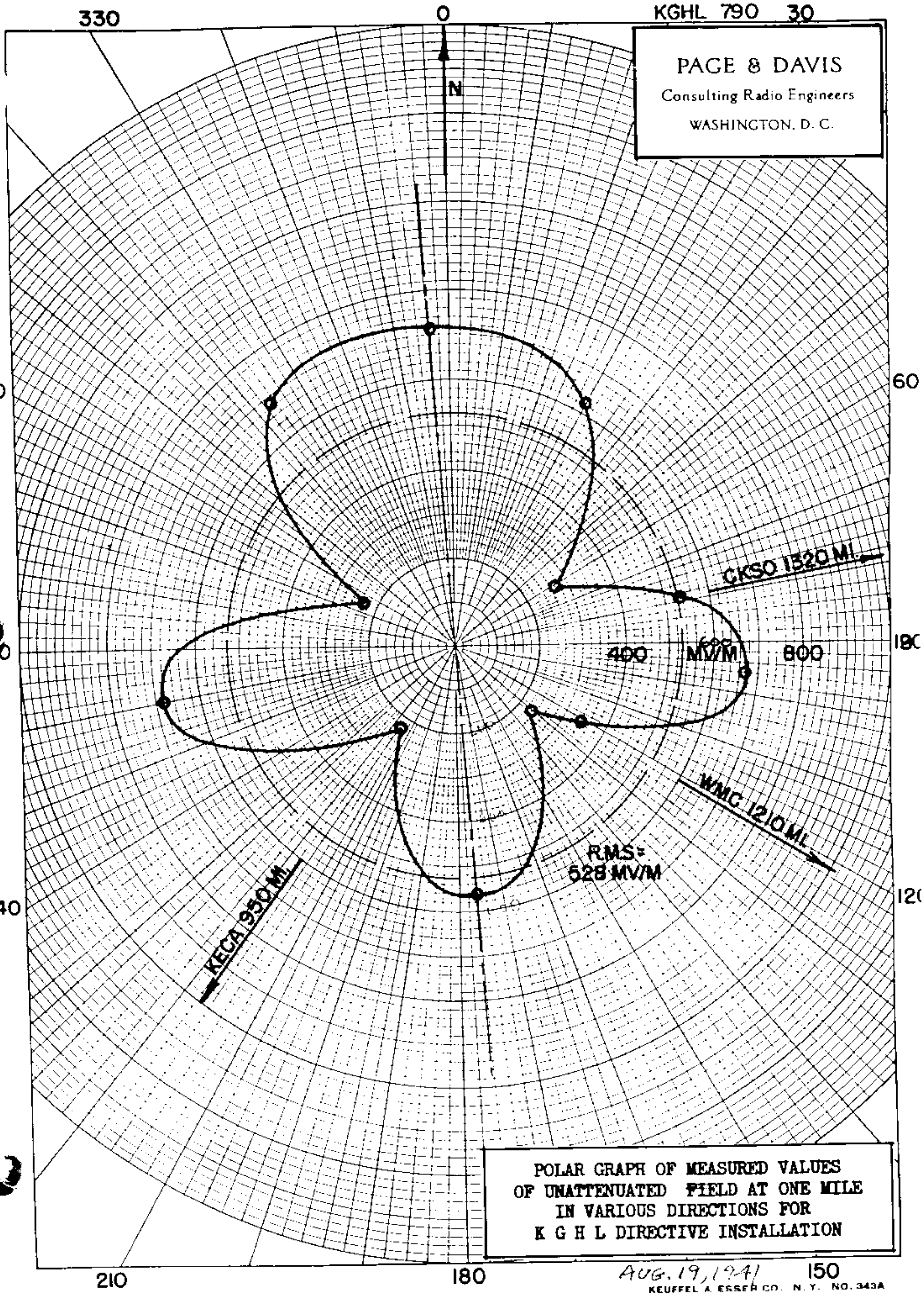
GROUND SYSTEM: 120 - 316' equally spaced copper radials plus a 50' square ground screen about the north tower plus a 32' square ground screen about the south tower. Centers of systems are bonded together.

Predicted effective Night Field: 526 mv/m at rated power.

Predicted effective Day Field: (omnidirectional tower #1) 494 mv/m at rated power.

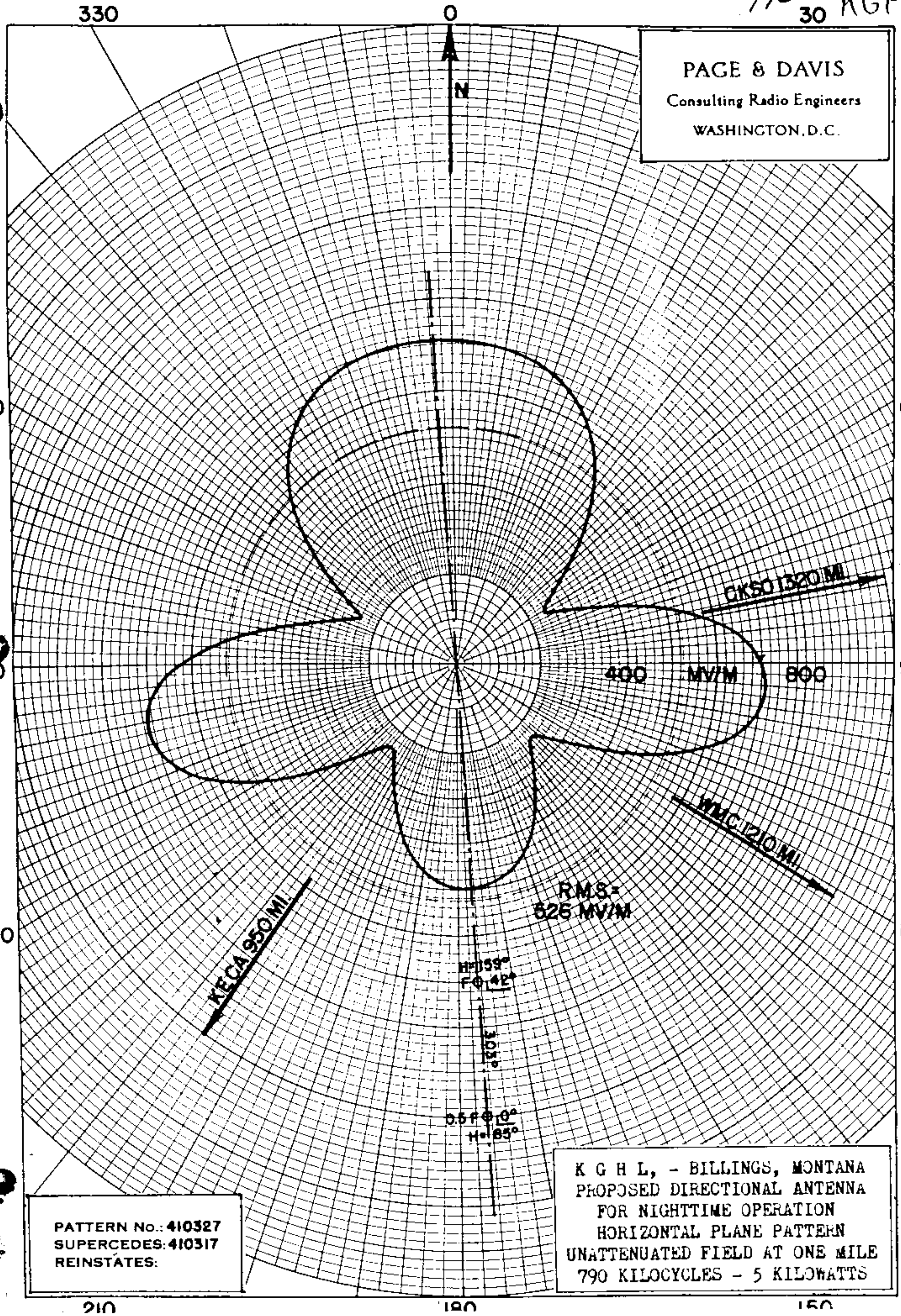
Note: Please retain the directional antenna radiation pattern notified originally in 1941 for Station KGHL and attach to this Revised Description Sheet. This notification concerns only a correction in the orientation of the towers.

CTR NO 30717A5



POLAR GRAPH OF MEASURED VALUES
OF UNATTENUATED FIELD AT ONE MILE
IN VARIOUS DIRECTIONS FOR
K G H L DIRECTIVE INSTALLATION

790 KGHL



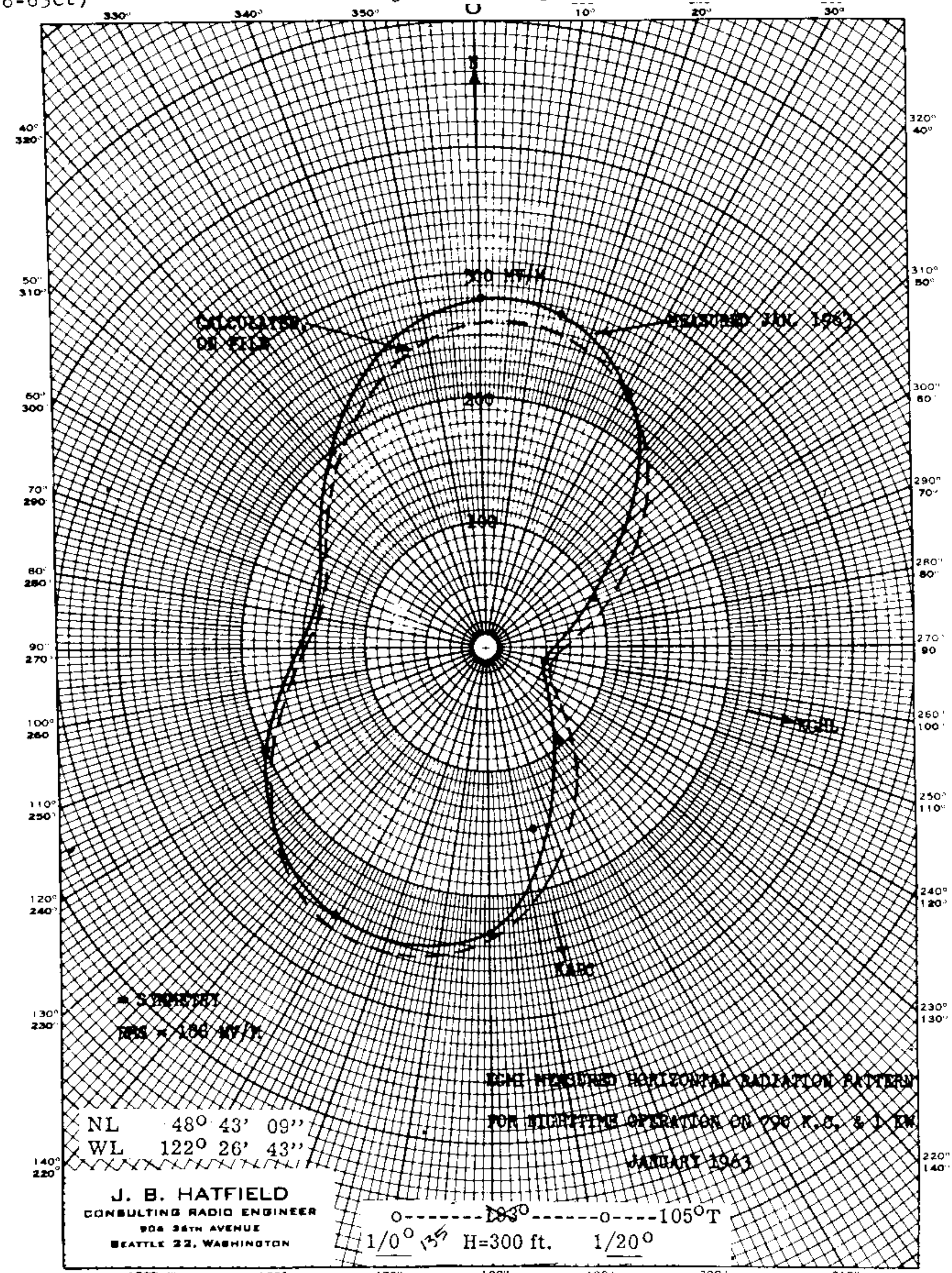
330
0
30
N
PAGE & DAVIS
Consulting Radio Engineers
WASHINGTON, D.C.
300
60
CKSO 1320 MI.
270
400
MV/M
800
90
WMC 1210 MI.
R.M.S.=
526 MV/M
240
120
KECA 950 MI.
H=159°
F⊖ 42°
303°
0.5 F⊖ 0°
H=85°
PATTERN No.: 410327
SUPERCEDES: 410317
REINSTATES:
K G H L, - BILLINGS, MONTANA
PROPOSED DIRECTIONAL ANTENNA
FOR NIGHTTIME OPERATION
HORIZONTAL PLANE PATTERN
UNATTENUATED FIELD AT ONE MILE
790 KILOCYCLES - 5 KILOWATTS
210
180
150

KGMI

Measured Night
(5-28-63ct)

Station KGMI
Bellingham, Washington

1kw,5kw-LS,DA-N,U
790 kc



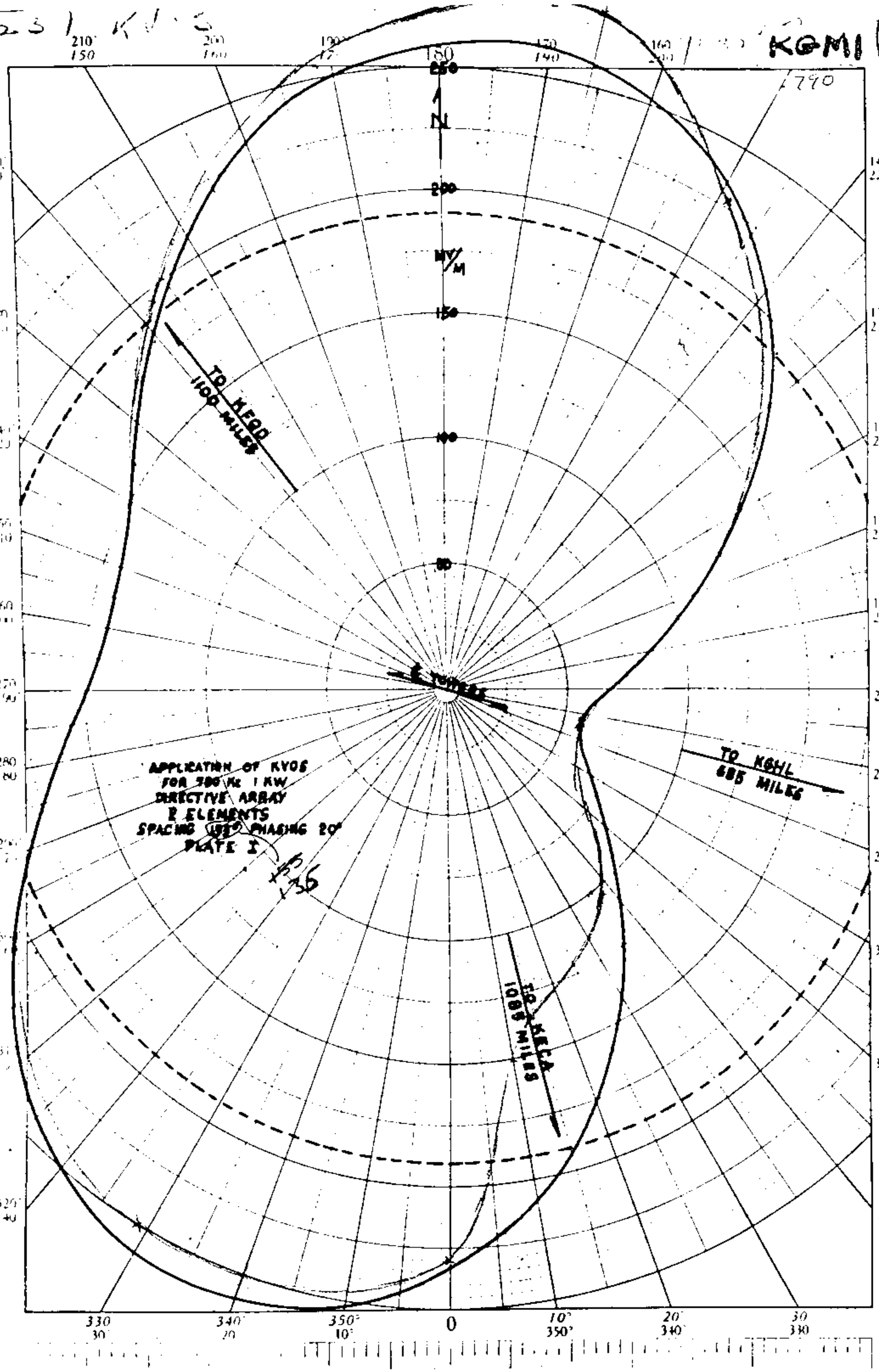
FCC File No.BZ-4903
Accepted 5-1-63

Station KGMI
Bellingham, Washington

790 kc

P-3231 KVOS

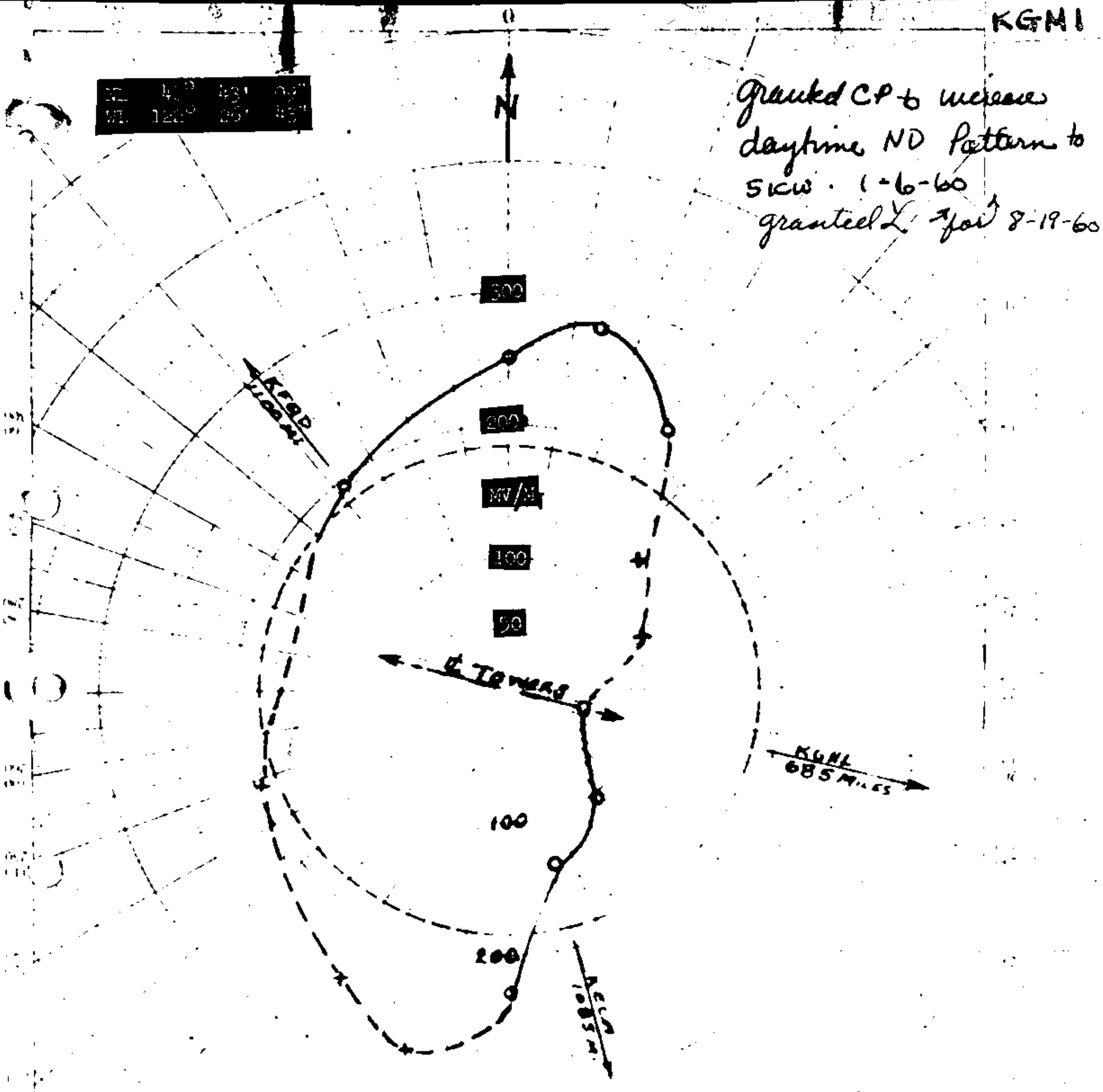
KGMI



NOTIFIED CANADIAN PATTERN

KGMI

Granted CP to increase daytime ND Pattern to 5KW. 1-6-60
granted L for 8-19-60



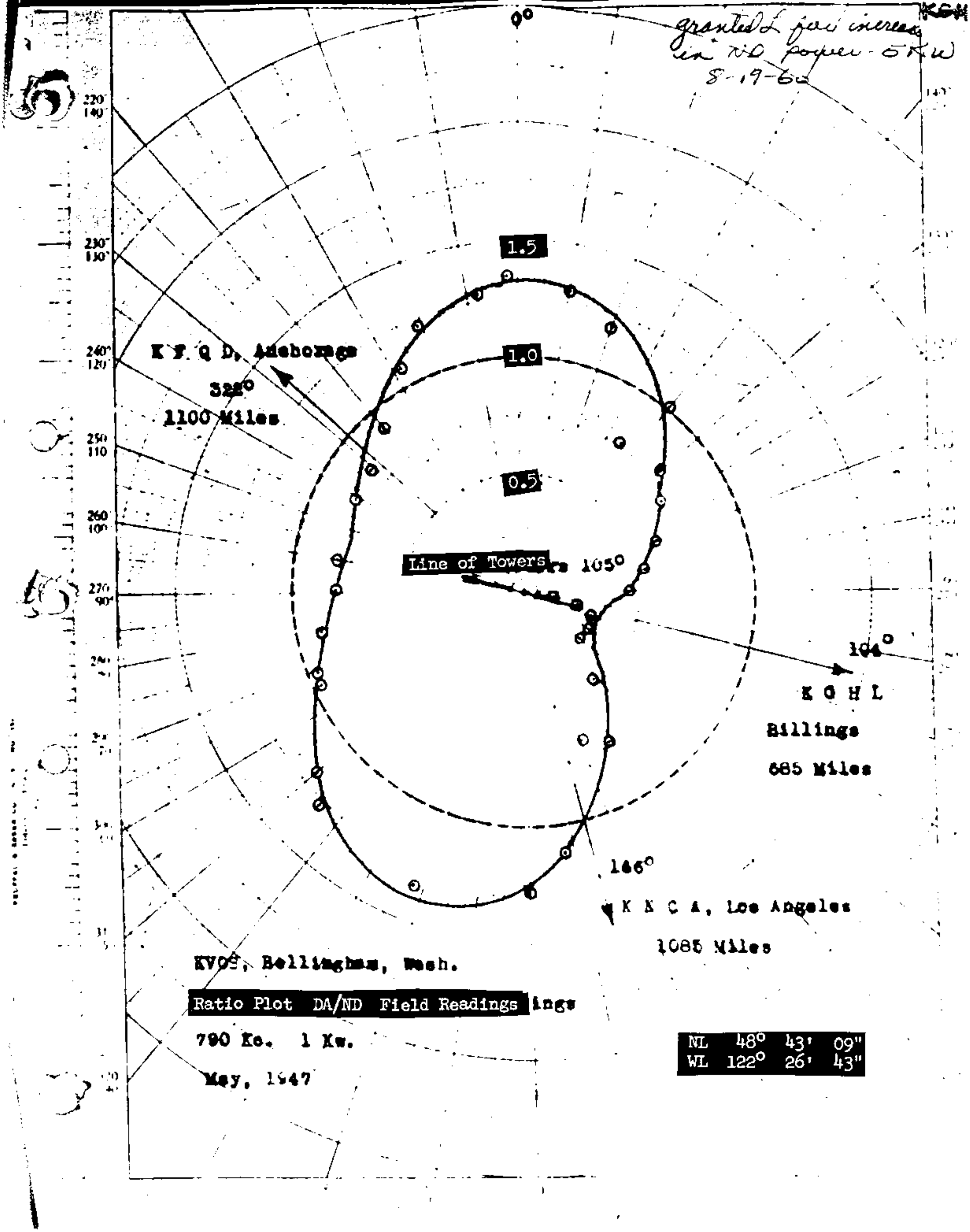
KVOS , Bellingham, Wash.

DIRECTIONAL FIELD INTENSITY
EFFECTIVE FIELD 1 MILE - 185 MV/M

790 KC. 1 KW

May , 1947

MEASURED NIGHT Station KVOS 1kw, DA-N,U
Bellingham, Washington 790 KC



KJRB

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station : KJRB Main Studio: Spokane, Washington

Frequency : 790 KHz Power : 5 kW Night 5 kW Day

Notification : 1780 Date : Sept. 29, 1979 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 47 36 16
West Longitude: 117 23 11

ANTENNA CHARACTERISTICS

Authorized for Nighttime operation. (DA-N)
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	:	265'	265'	265'(76.6°)	325'(93.9°)		
PHASING	:	-70.1°	+140.5°	0°	-158.1°		
FILED RATIO	:	0.43	0.90	1.0	0.5		

SPACING AND ORIENTATION : The towers are located at the vertices of a square, parallelogram, rectangle the tower in a row are spaced 339' (98°) on a line bearing 14° true.

GROUND SYSTEM : 120 - 310 equally spaced copper radials plus 120 - 30' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

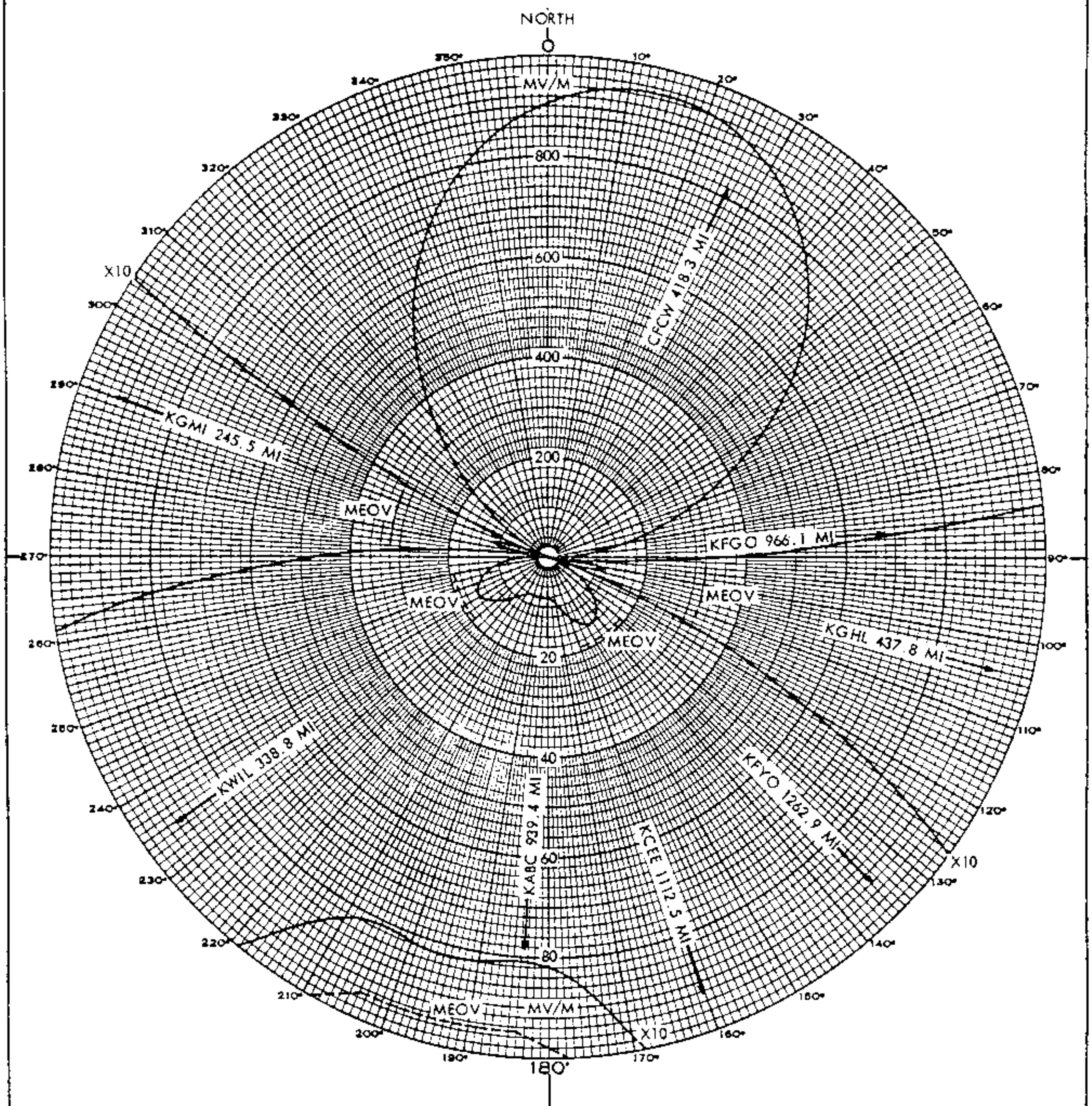
KJRB

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS
Night	430 mV/m

Note: This notification concerns only a change in the Nighttime operation of the statio with Daytime operation continued as previously notified.

KJRB



N. LAT. 47°36' 16"
W. LONG. 117°23' 11"

RMS_{THEO} = 430 MV/M

S_1-S_2-S_3-98°-339 FT.
G_1-G_2-G_3-76.6°-265 FT.
G_4-93.9°-325 FT.

N 14° E

4 0.50/-158.1°
S_3
3 1.0/0°
S_2
2 0.90/140.5°
S_1
1 0.43/-70.1°

PROPOSED THEORETICAL HORIZONTAL RADIATION NIGHTTIME

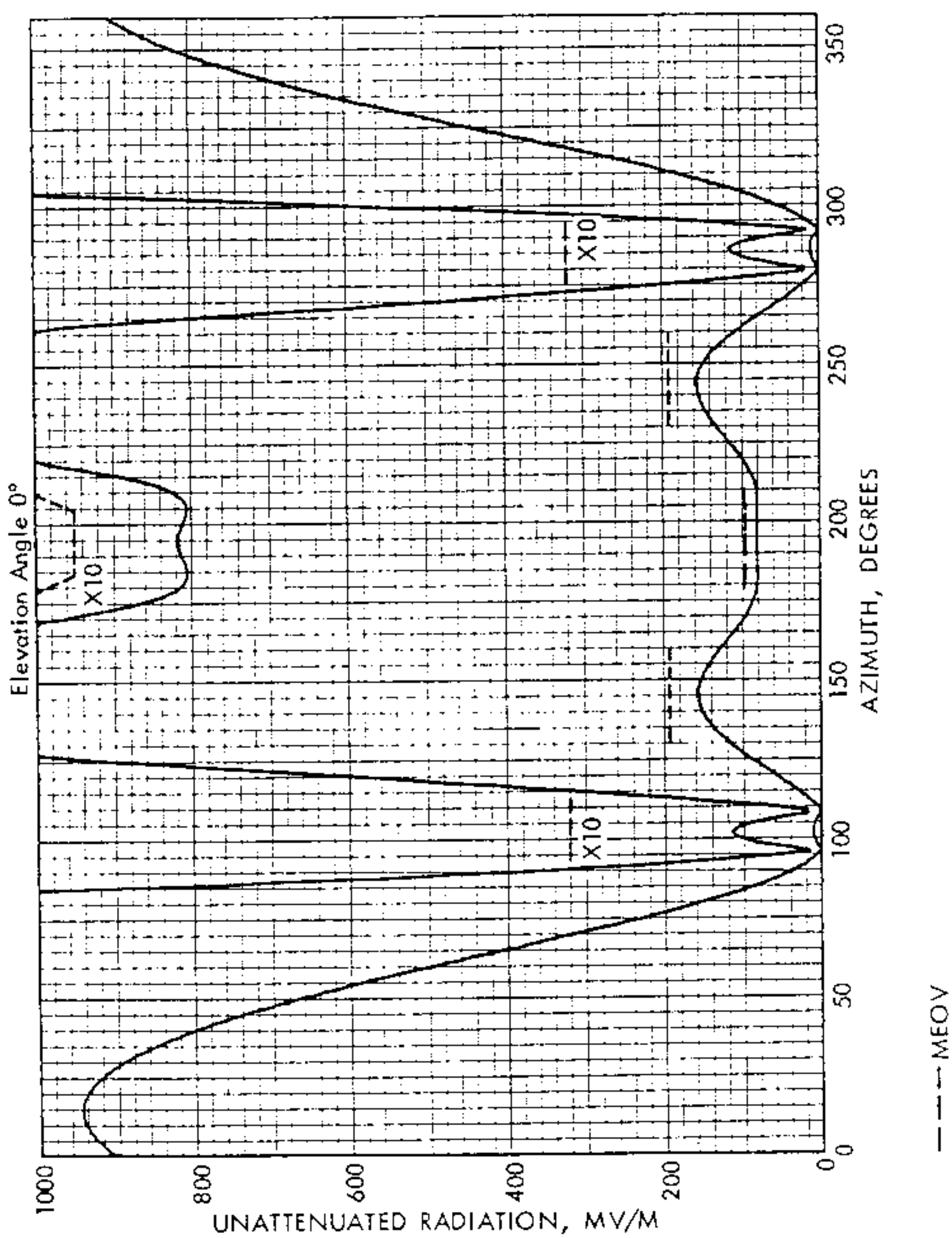
UNATTENUATED FIELD STRENGTH AT ONE MILE

HAMMETT & EDISON, INC. CONSULTING ENGINEERS SAN FRANCISCO	RADIO STATION KJRB 790 KHZ 5 KW DA-N SPOKANE, WASHINGTON	771010	FIGURE 38

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION
PROPOSED OPERATION



Hammett & Edison, Inc.
Consulting Engineers

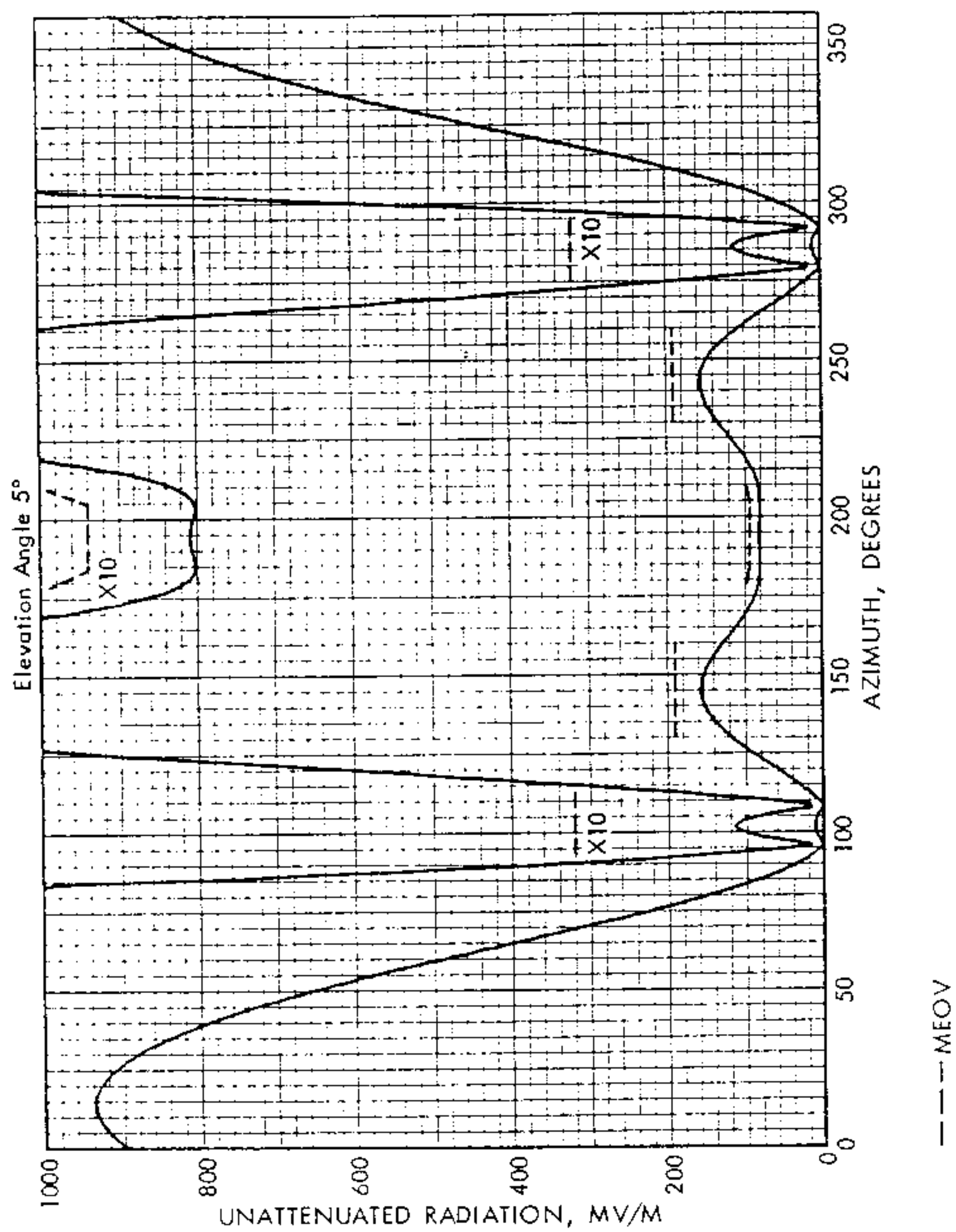
771010

FIGURE 3C

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION
PROPOSED OPERATION



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Consulting Engineers

771010

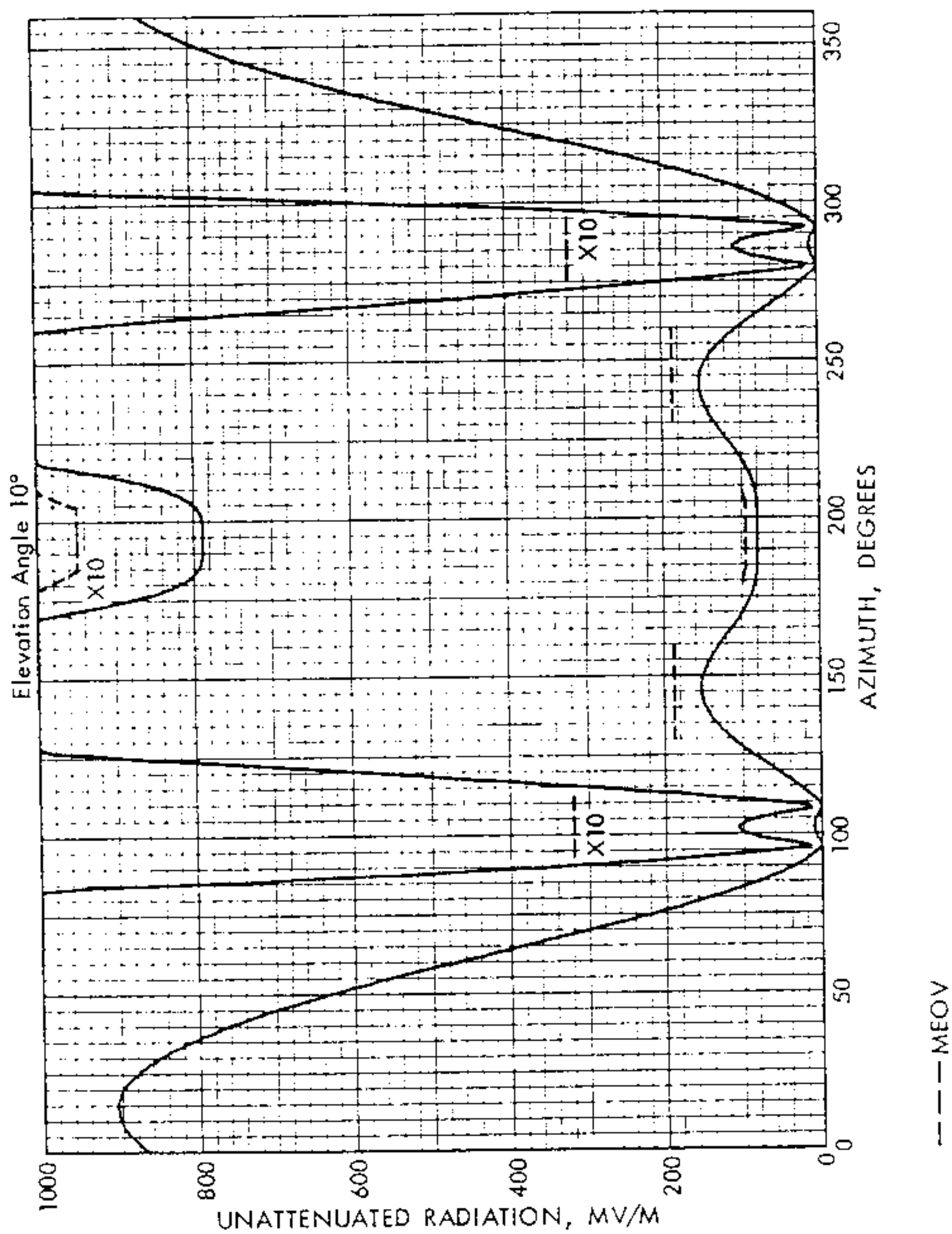
FIGURE 3D

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION

PROPOSED OPERATION



Hammett & Edison, Inc.
Consulting Engineers

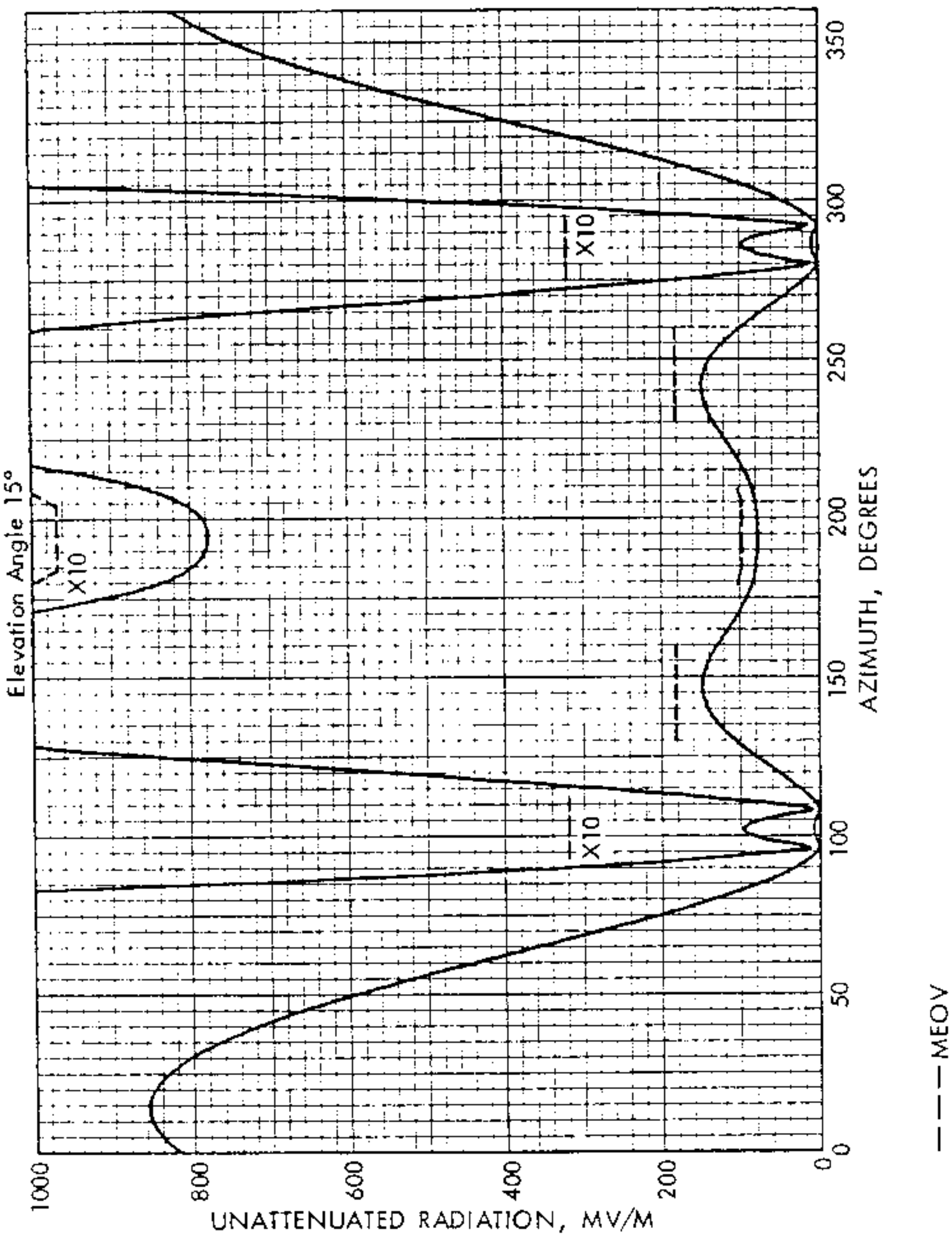
771010

FIGURE 3E

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION
PROPOSED OPERATION



Hammett & Edison, Inc.
Consulting Engineers

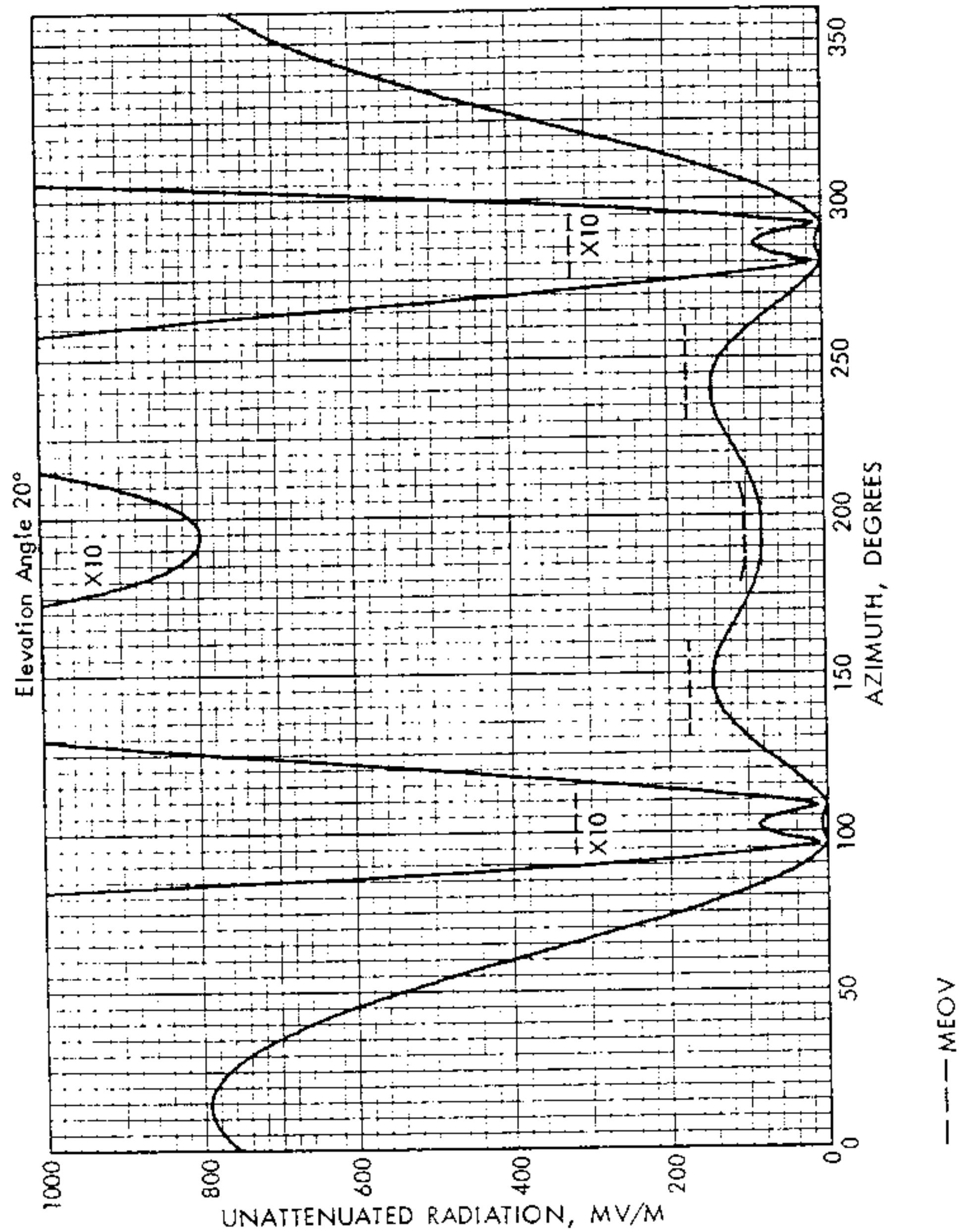
771010

FIGURE 3F

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION
PROPOSED OPERATION



Hammett & Edison, Inc.
Consulting Engineers

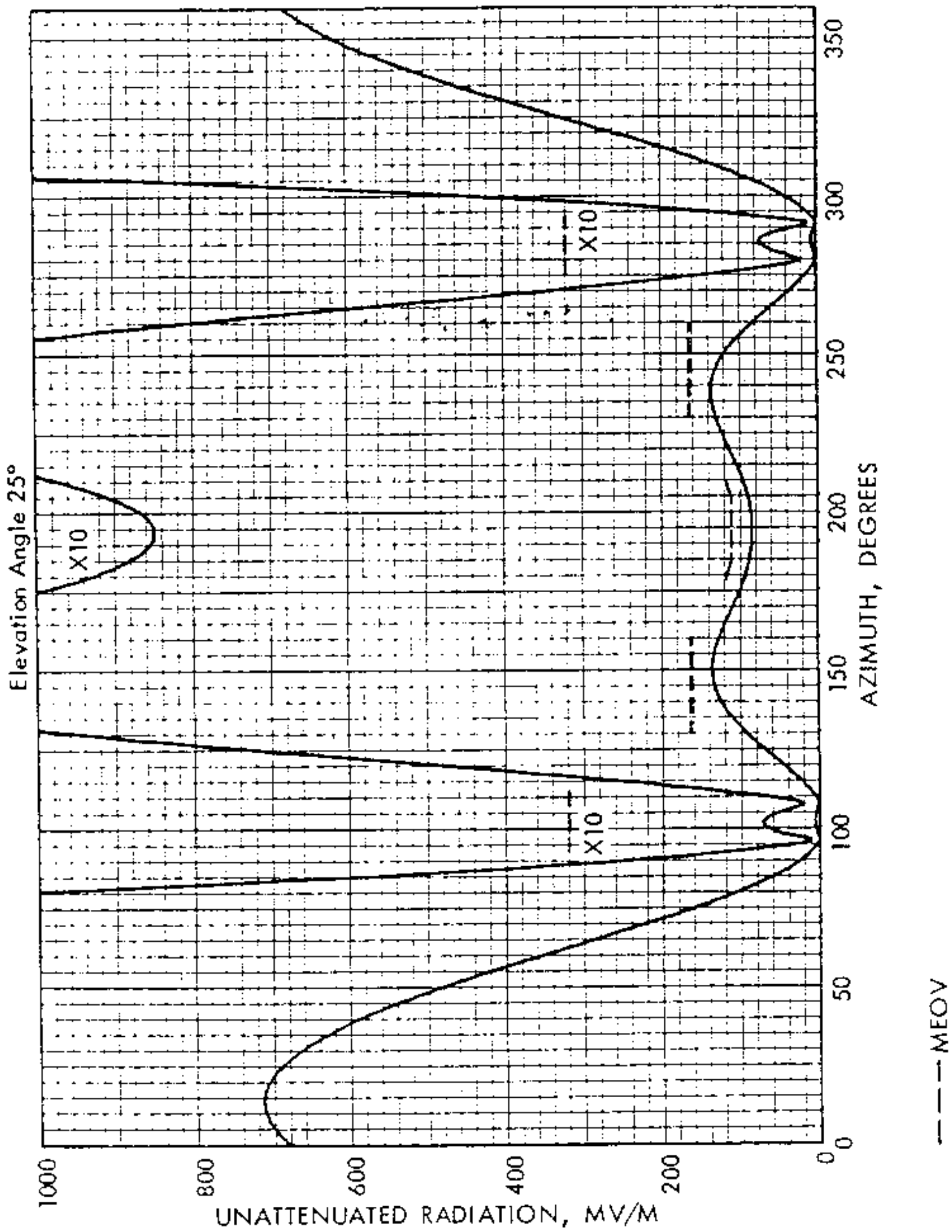
771010

FIGURE 3G

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION
PROPOSED OPERATION



Hammett & Edison, Inc.
Consulting Engineers

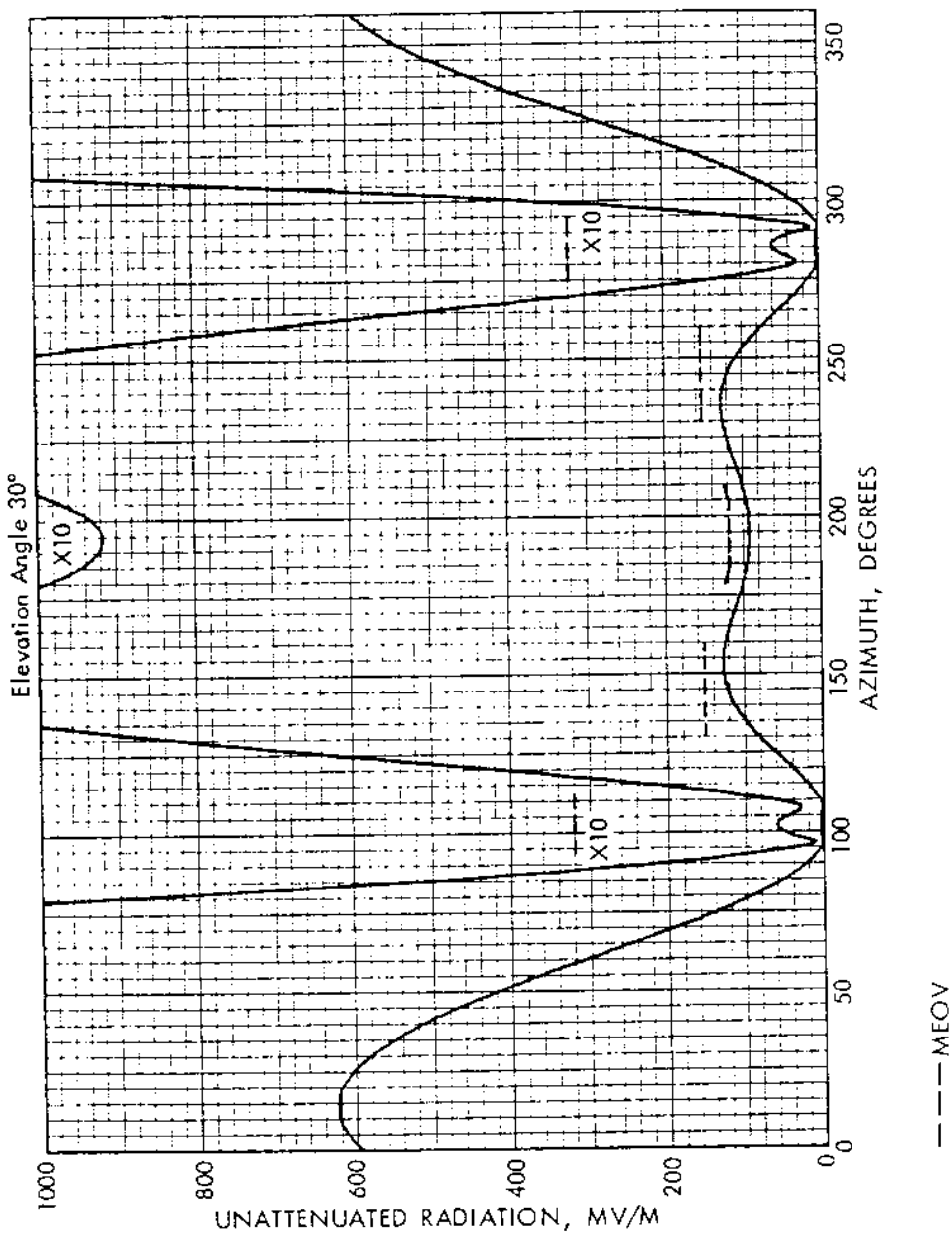
771010

FIGURE 3H

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION
PROPOSED OPERATION



Hammett & Edison, Inc.
Consulting Engineers

771010

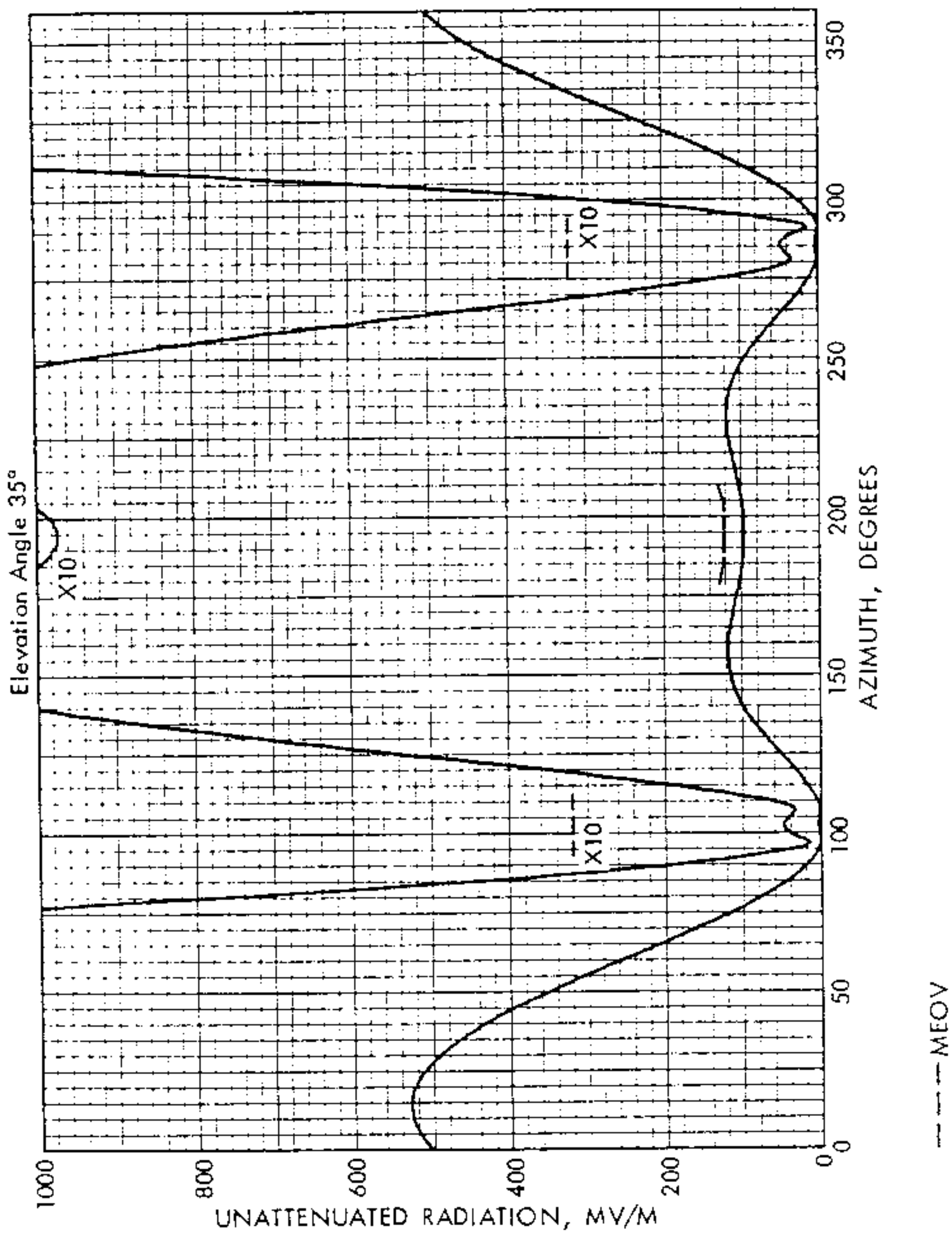
FIGURE 3J

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION

PROPOSED OPERATION



Hammett & Edison, Inc.
Consulting Engineers

771010

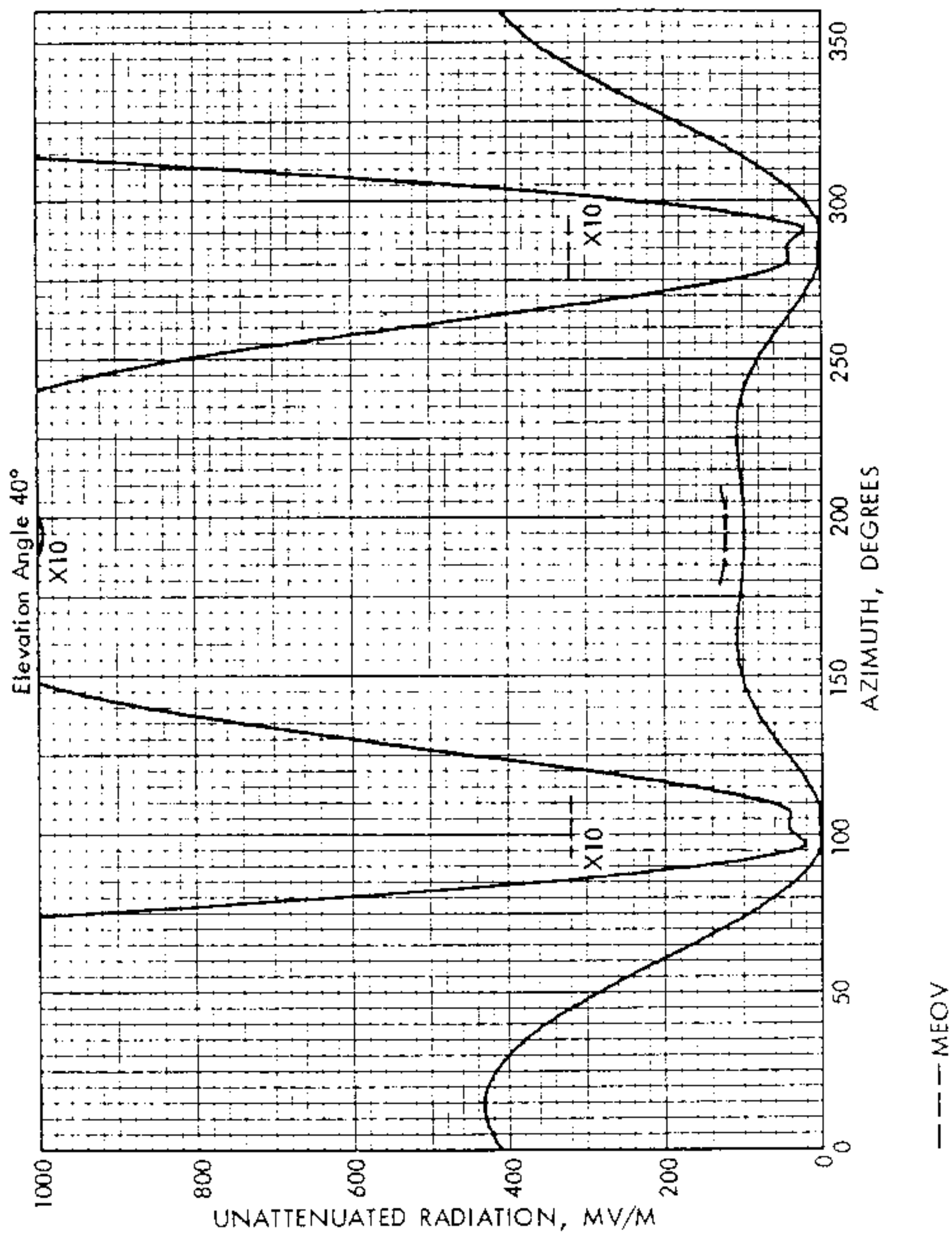
FIGURE 3K

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION

PROPOSED OPERATION



Hammett & Edison, Inc.
Consulting Engineers

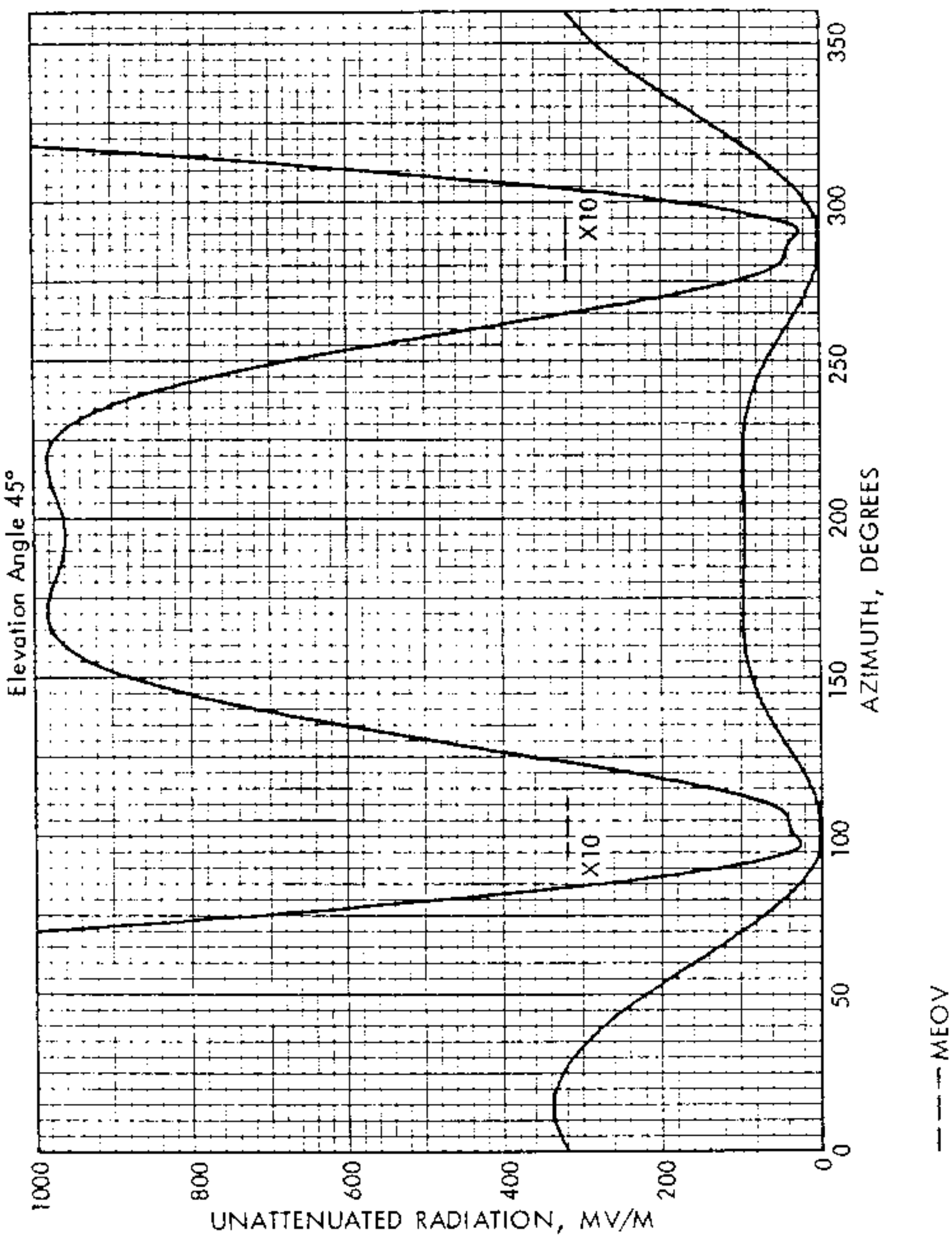
771010

FIGURE 3L

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION
PROPOSED OPERATION



Hammett & Edison, Inc.
Consulting Engineers

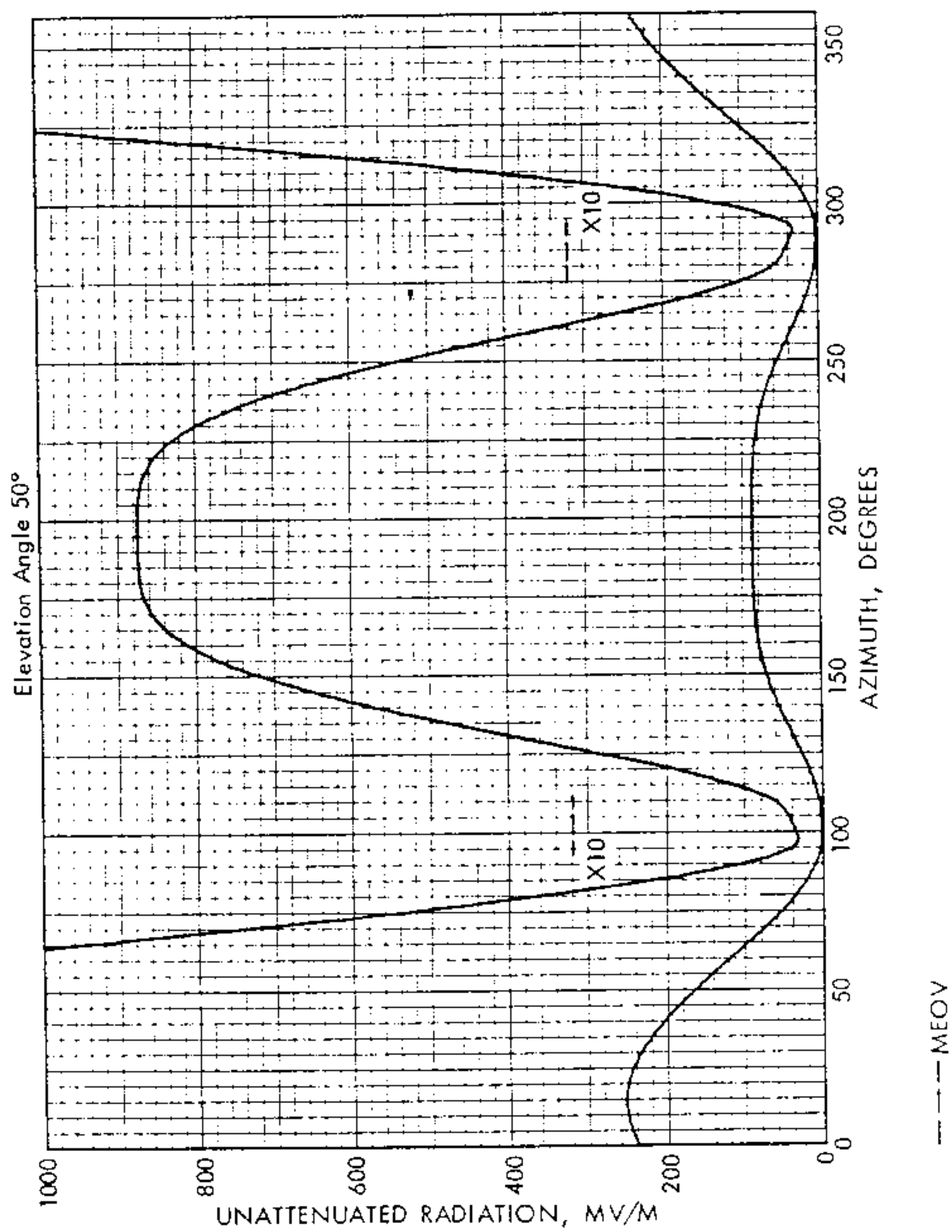
771010

FIGURE 3M

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION
PROPOSED OPERATION



Hammett & Edison, Inc.
Consulting Engineers

771010

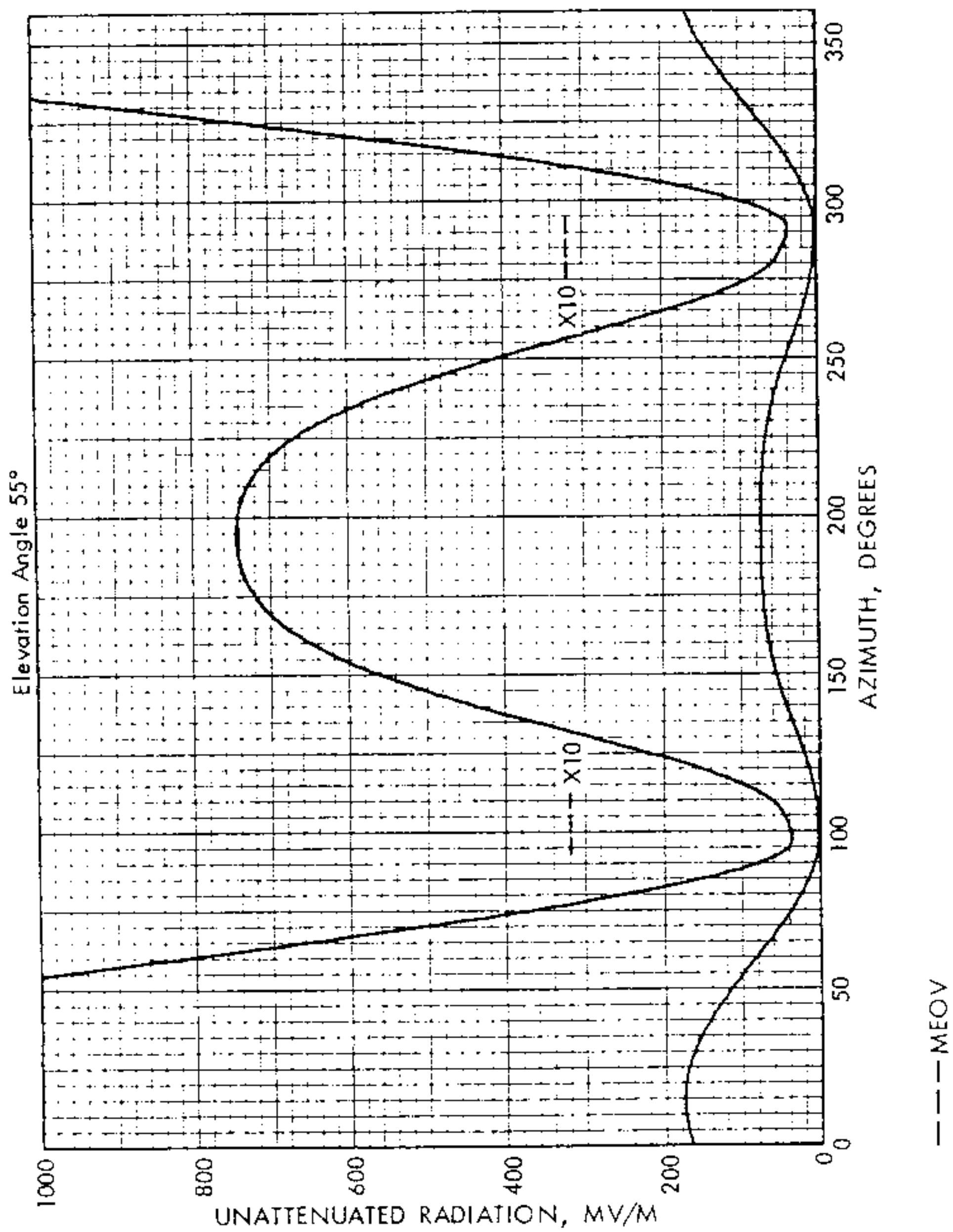
FIGURE 3N

KJRB

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION

PROPOSED OPERATION



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Consulting Engineers

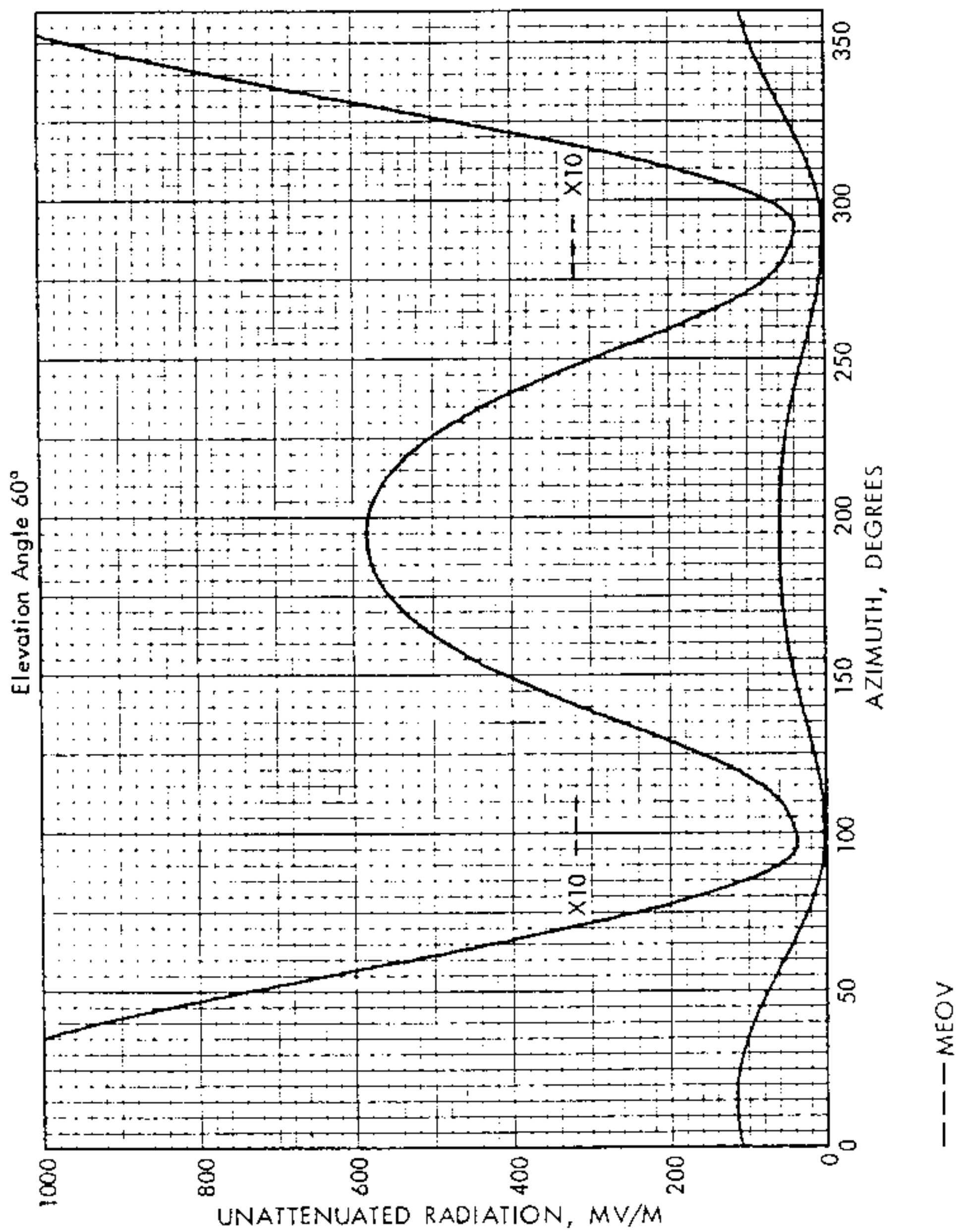
771010

FIGURE 3P

RADIO STATION KJRB

CALCULATED THEORETICAL RADIATION

PROPOSED OPERATION



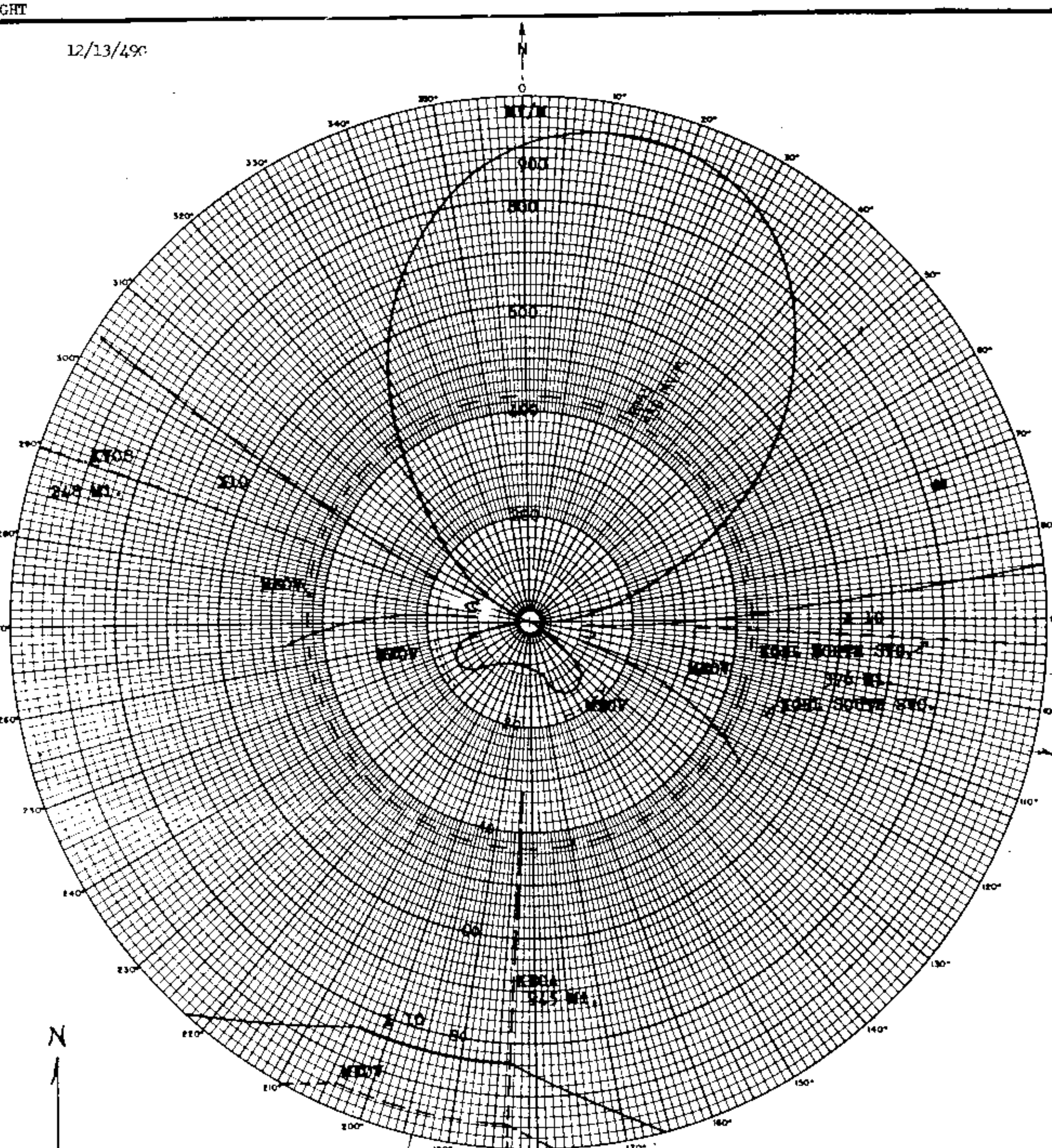
Hammett & Edison, Inc.
Consulting Engineers

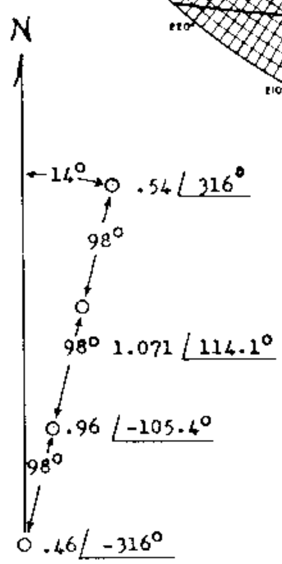
771010

FIGURE 3Q

KURB

12/13/49





Height - 265' (76.7°)

SITE: 47° 36' 14" N
117° 23' 20" W

Engineer: C. W. Evans
Chief Engineer

AMENDMENT TO BP-7064

NOV. 22, 1949

KNEW Spokane, Wash.

EXHIBIT 1 (h)

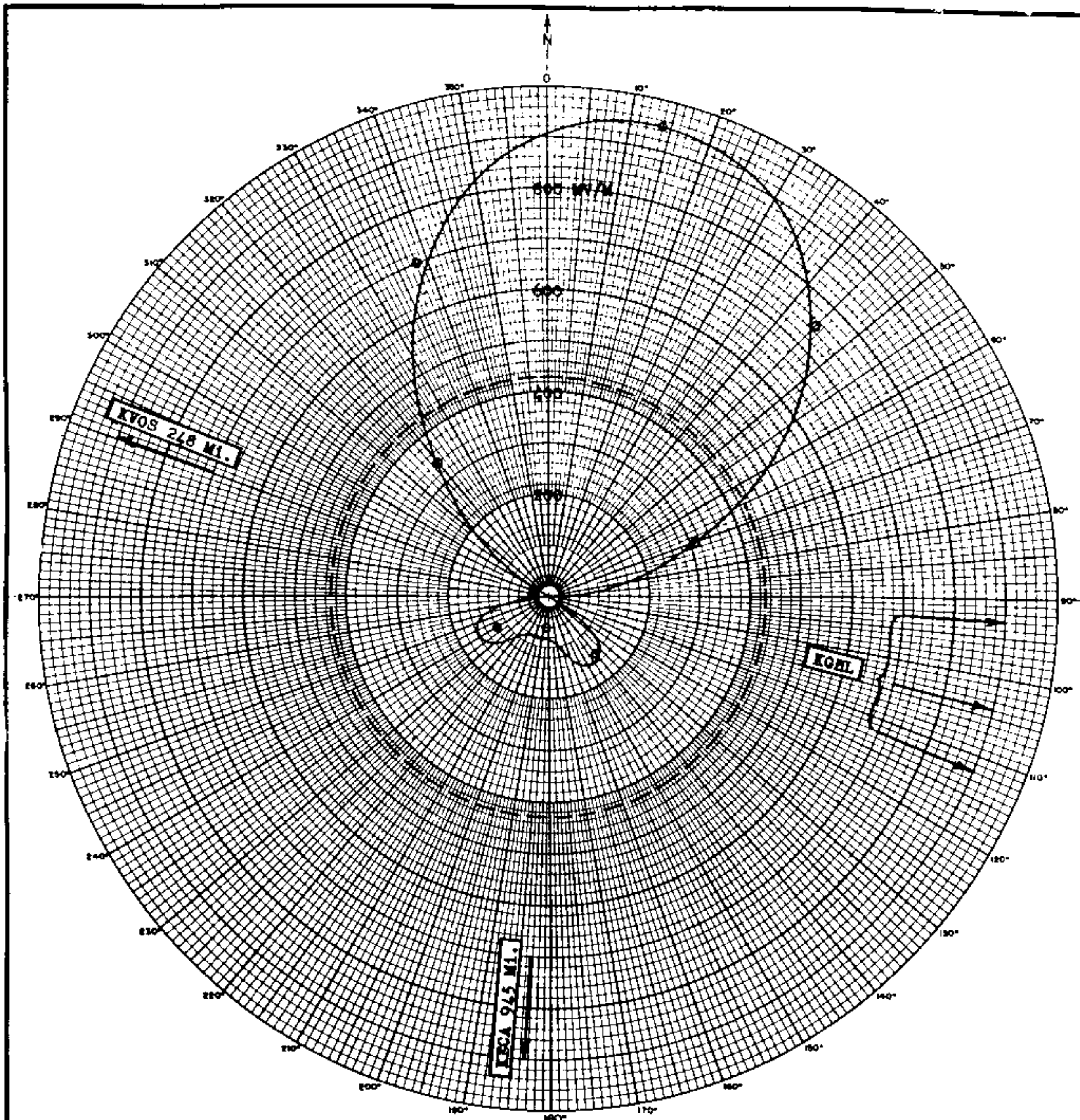
HORIZONTAL POLAR PATTERN

NIGHT-TIME

MEASURED
NIGHT

KNEW, SPOKANE, WASH.

5kw, DA-N-U 790 kc



o MEASURED POINTS

Calculated Pattern

KNEW

HORIZONTAL RADIATION PATTERN

FREQUENCY: 790 KC.
ASSIGNMENT: 5 Kw.-U(DA-2)
LONGITUDE: 117 DEG. 23 MIN. 20 SEC.
LATITUDE: 47 DEG. 36 MIN. 14 SEC.
WHEN USED: NIGHTIME
R.M.S. FIELD: 430 MV/M
DATE: JUNE 1950

ANTENNA	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
PHASE DEG.	149.4°	0°	-140.5°	61.4°		
HEIGHT DEG.	76.5°	76.5°	76.5°	76.5°		
FIELD RATIO	0.48	1.00	1.11	0.56		
~~NON-DA WATT~~	ORIENTATION 1[illegible]° TRUE		SPACING 98°			

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

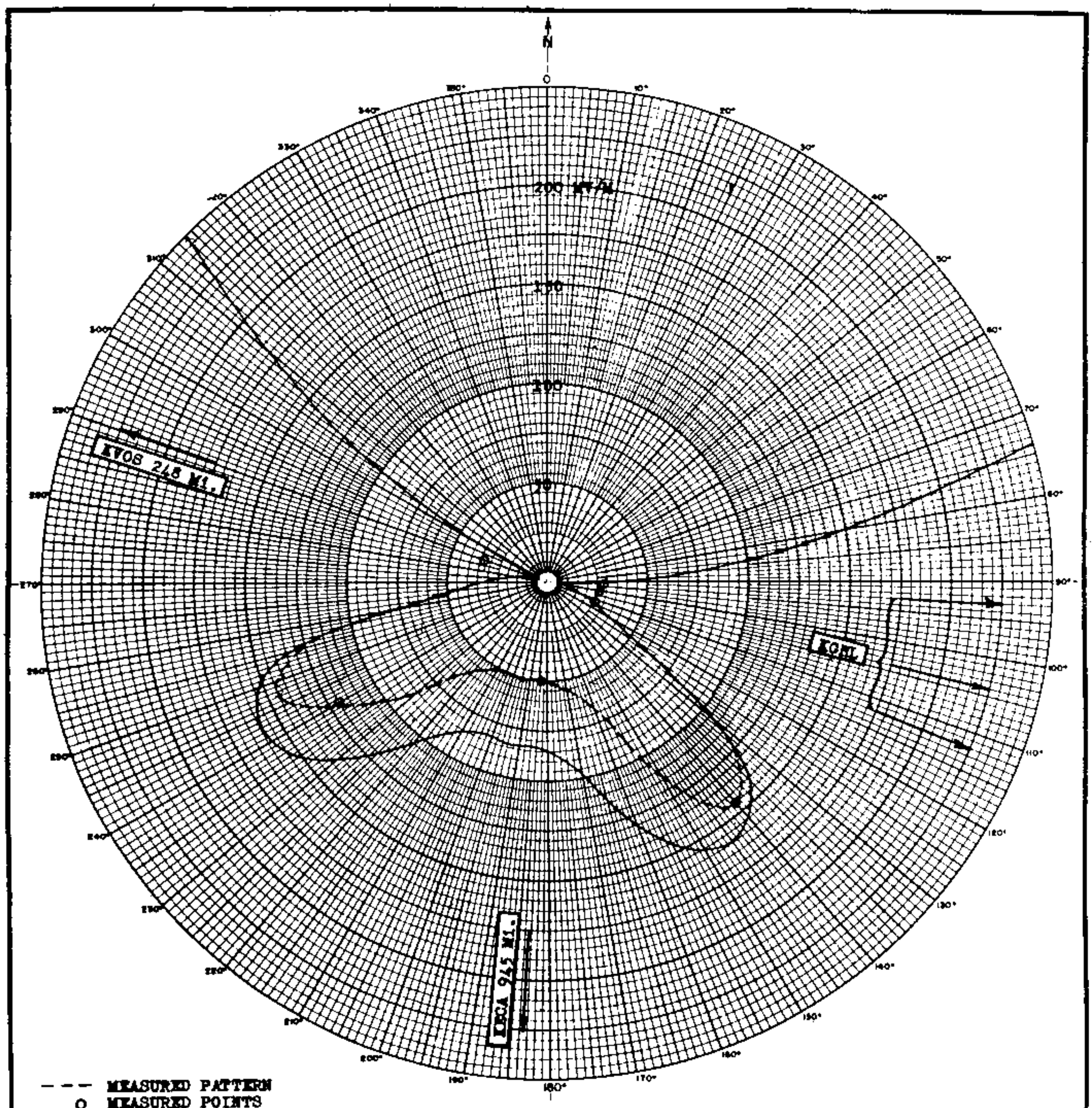
KNEW, ~~Seattle~~, Wash. 790 kc

KJRF

MEASURED
NIGHT NULLS

KNEW, SPOKANE, WASH.

5kw, DA-N-U 790 kc



KNEW

HORIZONTAL RADIATION PATTERN

ENLARGED VIEW

FREQUENCY:	790 KC.
ASSIGNMENT:	5 Kw.-U(DA-2)
LONGITUDE:	117 DEG. 23 MIN. 20 SEC.
LATITUDE:	47 DEG. 36 MIN. 14 SEC.
WHEN USED:	NIGHTTIME
R.M.S. FIELD:	430 MV/M
DATE:	JUNE 1950

ANTENNA	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
PHASE DEG.	149.4°	0°	-140.5°	61.4°		
HEIGHT DEG.	76.5°	76.5°	76.5°	76.5°		
FIELD RATIO	0.48	1.00	1.11	0.56		
~~NON-DA-ANT.~~	ORIENTATION 14° TRUE			SPACING 98°		

ROBERT M. SILLIMAN

CONSULTING RADIO ENGINEERS

WASHINGTON, D. C.

KNEW, ~~Spokane~~, Wash. 790 kc

PROPOSED NIGHT

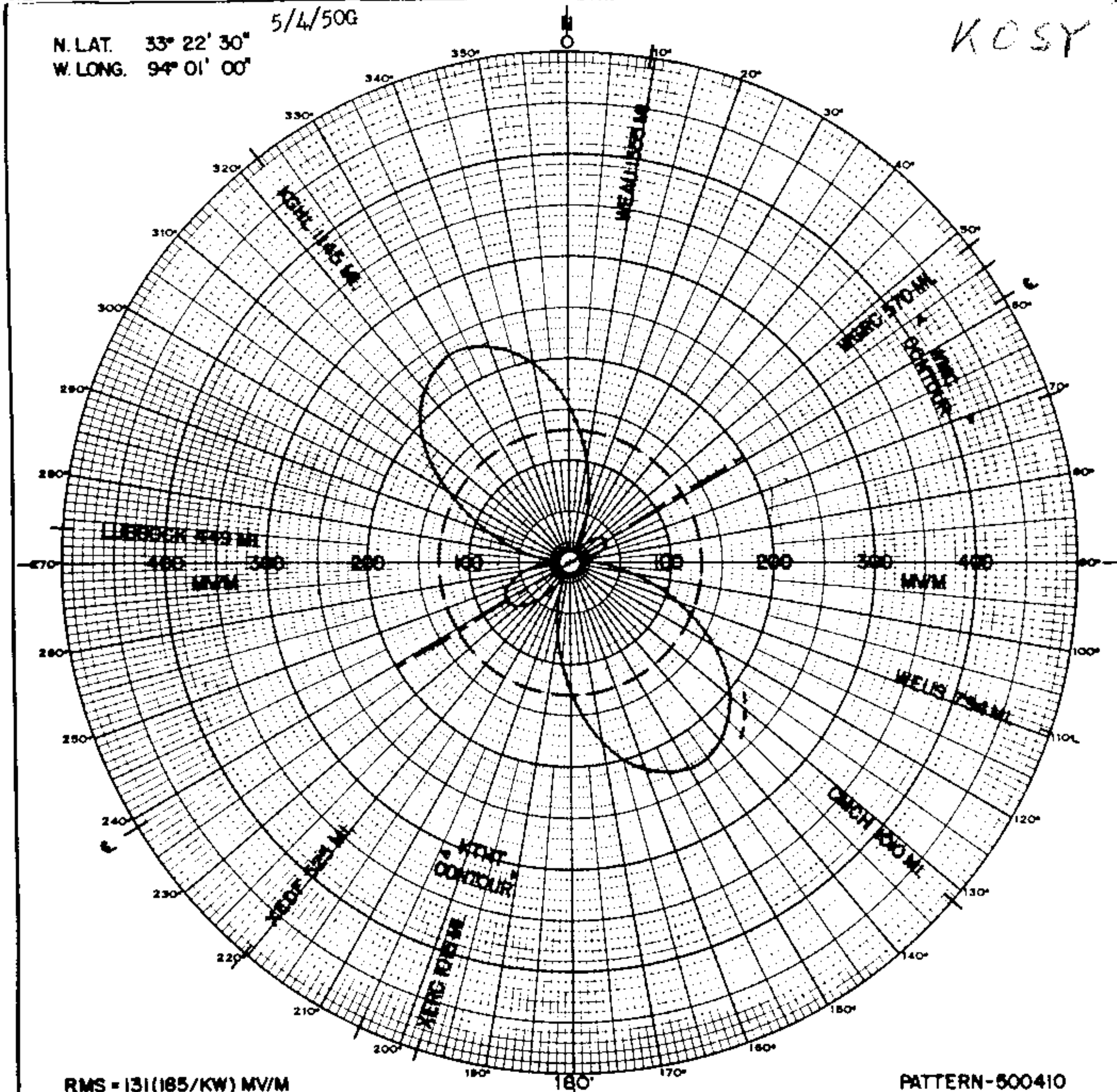
NEW, TEXARKANA, ARK.
(Gateway Bg. Co.)

500w,1kw-LS,DAN 790 kc KOSY

5/4/50G

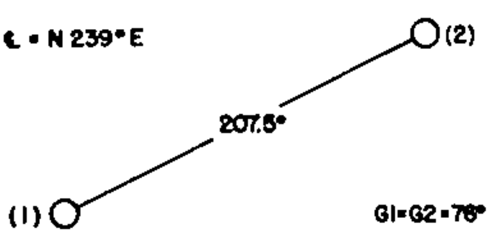
KOSY

N. LAT. 33° 22' 30"
W. LONG. 94° 01' 00"



RMS = 131 (185/KW) MV/M

PATTERN-500410



TOWER	(1)	(2)
FIELD	1.00	0.90
PHASE	00°	-08°

BROADCAST ENGINEERING SERVICE

Radio Engineering Consultants

SHREVEPORT, LA. 500410

GATEWAY B/C COMPANY

PROPOSED-790 KC 500 W DA-N

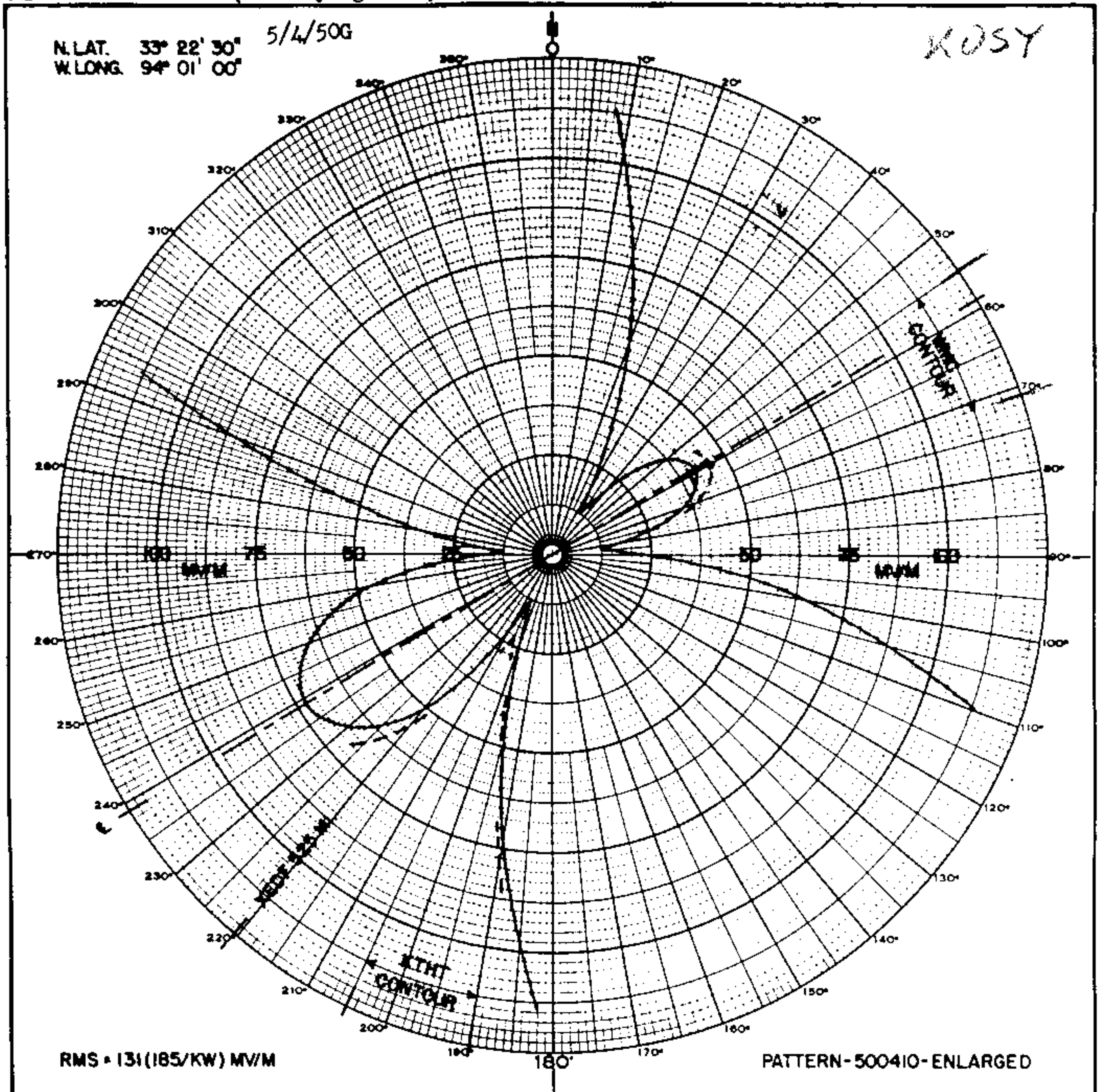
FIGURE 6A

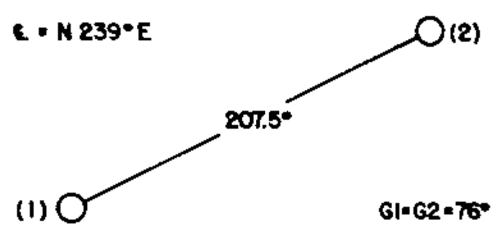
AMENDMENT RECD 4-13-50 ACC 4-21-50 BP-7333

NEW, Texarkana, Ark. 790 kc

KOSY

PROPOSED NIGHT NULLS — NEW, TEXARKANA, ARK. (Gateway Bg. Co.) — 500w,1kw-LS,DAN — 790 kc





TOWER	(1)	(2)
FIELD	1.00	0.90
PHASE	00°	-08°

BROADCAST ENGINEERING SERVICE

Radio Engineering Consultants

SHREVEPORT, LA. 500410

GATEWAY B/C COMPANY

PROPOSED-790 KC 500 W DA-N

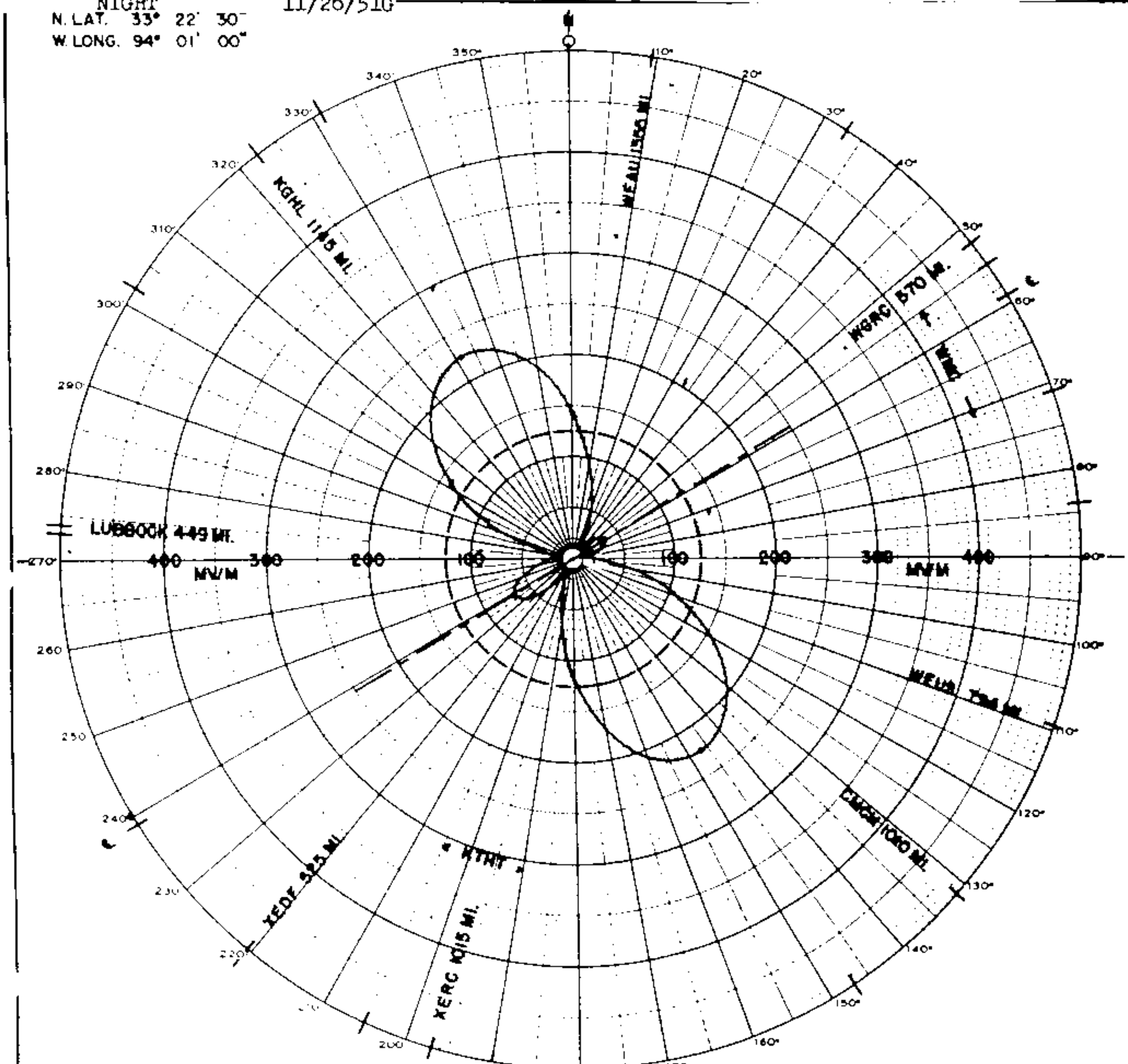
FIGURE

AMENDMENT RECD 4-13-50 ACC 4-21-50 BP-7333 — NEW, Texarkana, Ark. 790 kc

KOSY

MEASURED NIGHT
KOSY, TEXARKANA, ARK. 11/26/51G
0.5KW, 1KW-LS, U, DA-N
790 KC

N. LAT. 33° 22' 30"
W. LONG. 94° 01' 00"



RMS = 125 (177/KW) MV/M

NIGHT PATTERN - 511026

℄ = N 59° E

② 0.89/-08°

S

S = 207.5° ① 1.00/0° G'S = 76°

PATTERN BASED ON

FIELD INTENSITY MEASUREMENTS

BROADCAST ENGINEERING SERVICE

Radio Engineering Consultants

SHREVEPORT, LA. 511025

RADIO STATION KOSY

790 KC 1 KW ND-D, 0.5 KW DA-N

FIGURE 18

APPL RECD 11/5/51 BL-4583

KOSY, TEXARKANA, ARK. 790 KC

KOSY

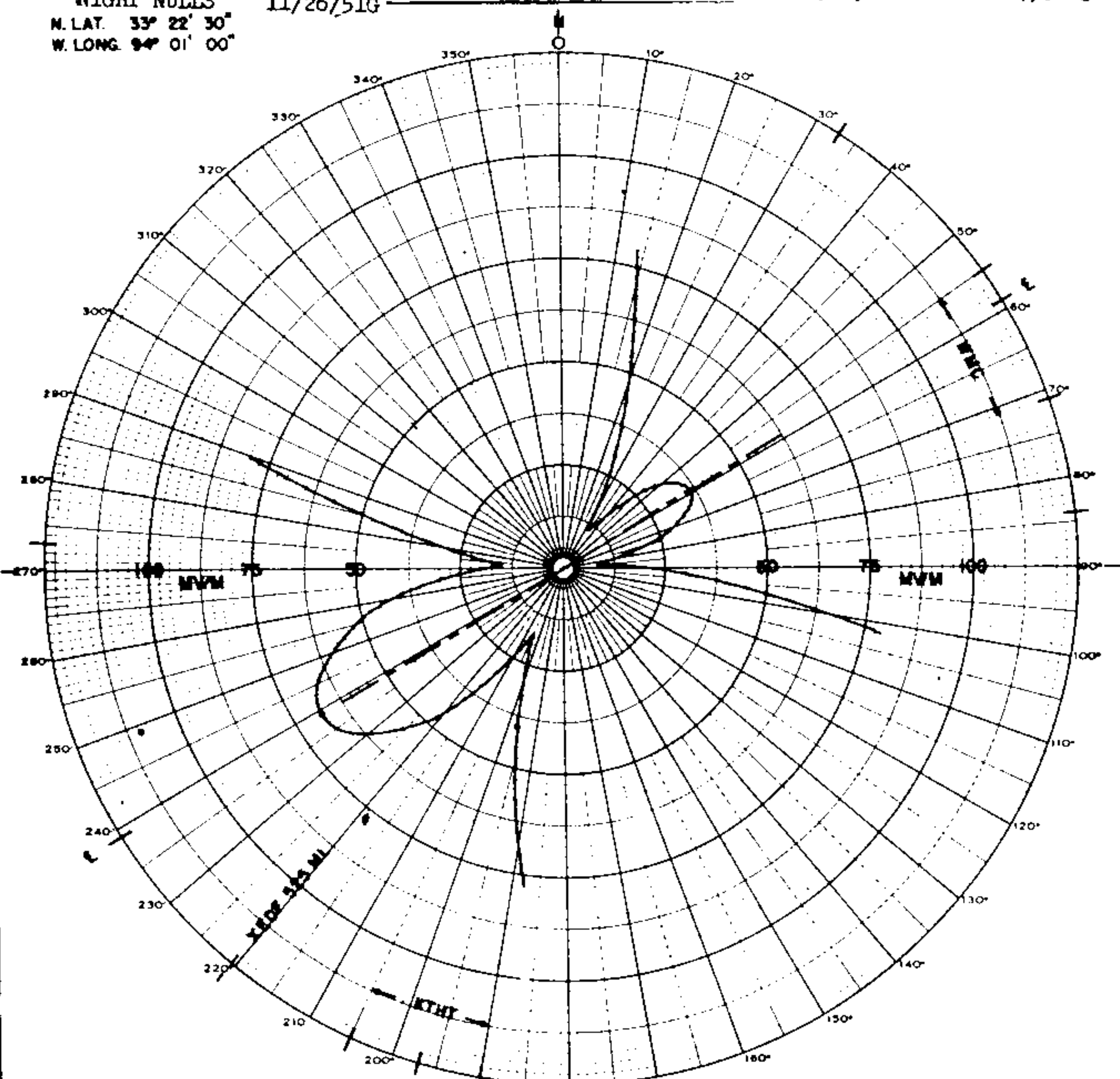
MEASURED NIGHT NULLS

N. LAT. 33° 22' 30"
W. LONG. 94° 01' 00"

KOSY, TEXARKANA, ARK.
11/26/51G

0.5 KW, 1KW-LS, U, DA-N

790 Kc



RMS = 125 (177/KW) MVM

NIGHT PATTERN - 511025 - ENLARGED

℄ = N 59° E ② 0.89∠-08° S ① 1.00∠0° S = 207.5° G's = 76°	PATTERN BASED ON FIELD INTENSITY MEASUREMENTS
BROADCAST ENGINEERING SERVICE Radio Engineering Consultants SHREVEPORT, LA. 511025	RADIO STATION KOSY 790 KC 1 KW ND-D, 0.5 KW DA-N FIGURE 1C

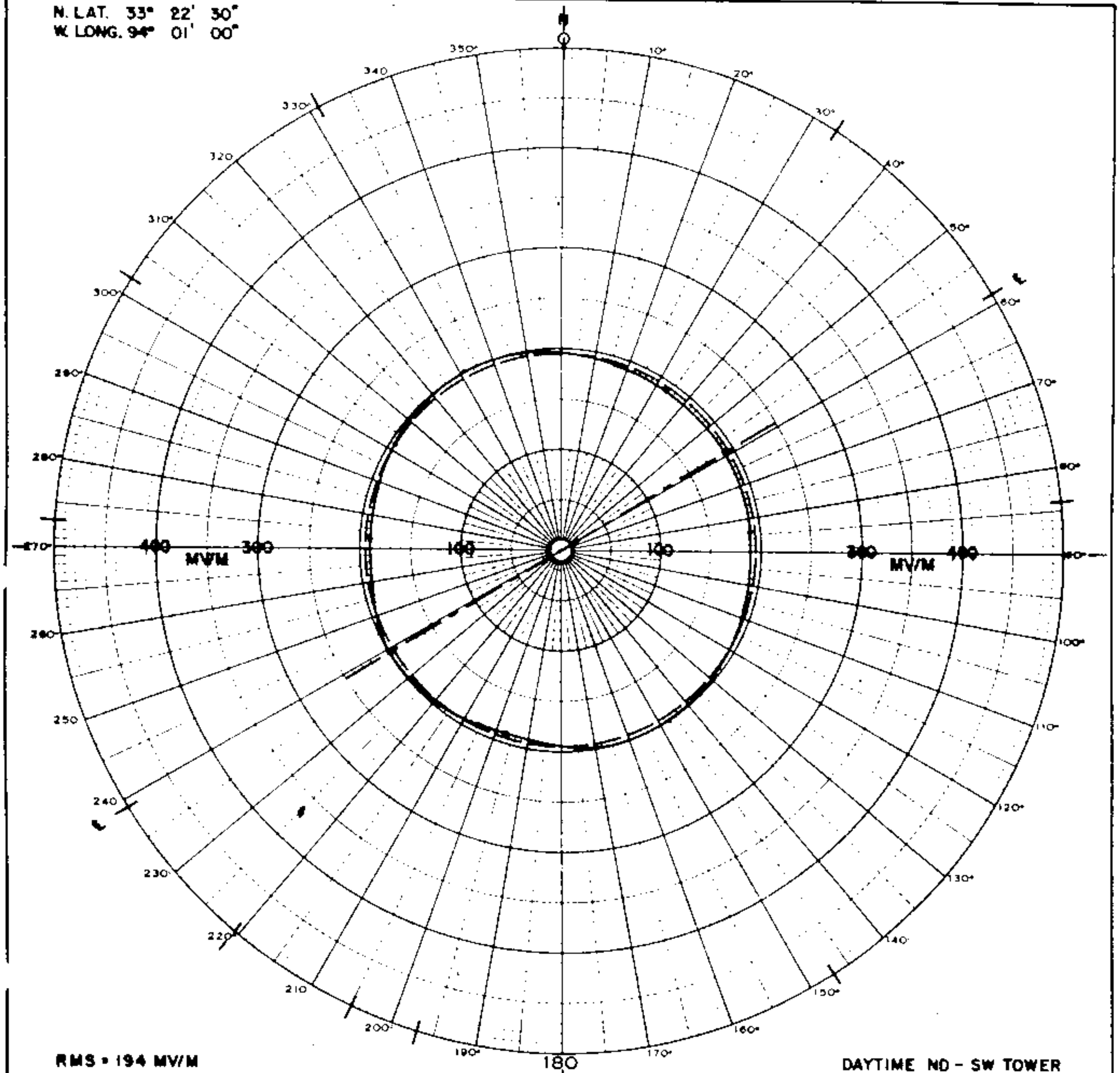
APPL RECD 11/5/51 BL-4583

KOSY, TEXARKANA, ARK. 790 KC

KOSY

MEASURED
DAY (NON-DA) KOSY, TEXARKANA, ARK. 11/26/51G 0.5 KW, 1 KW-LS, U, DA-N 790 KC

N. LAT. 33° 22' 30"
W. LONG. 94° 01' 00"



RMS = 194 MV/M

DAYTIME ND - SW TOWER

℄ = N 59° E

② 0.89∠-08°

S

① 1.00∠0°

S = 207.5°

G'S = 76°

PATTERN BASED ON

FIELD INTENSITY MEASUREMENTS

BROADCAST ENGINEERING SERVICE
Radio Engineering Consultants
SHREVEPORT, LA. 511025

RADIO STATION KOSY
790 KC 1 KW ND-D, 0.5 KW DA-N
FIGURE 1A

APPL RECD 11/5/51 BL-4583

KOSY, TEXARKANA, ARK. 790 KC

KULF

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KULF

Main Studio: Houston, Texas

Frequency: 790 kHz

Power: 5 kW

Notification List No. 1595

Date: August 28, 1974 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 29° 54' 54"
West Longitude: 95° 27' 42"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 8
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	NW(#1)	(#2)	(#3)	SW(#4)	NE(#5)	(#6)	(#7)	SE(#8)
HEIGHT ABOVE INSULATORS:	340'	340'	340'	340'	340'	340'	340'	340'(9[illegible]
NIGHT PHASING:	-34°	+161°	0°	-113°	-44°	+151°	-10°	-123
NIGHT FIELD RATIO:	0.78	0.85	1.0	0.41	0.61	0.66	0.78	0.32
DAY PHASING:	+98°	-22°	-	-	-	-	0°	-120
DAY FIELD RATIO:	0.55	0.11	-	-	-	-	1.0	0.[illegible]

SPACING AND ORIENTATION: Nighttime: Towers are located in two rows with four towers per row. Adjacent elements in a row are spaced 346.1'(100°) on a line bearing 175° true. End towers of each row forming the short sides of the parallelogram are spaced 671.4'(194°) on a line bearing 45° true.

Daytime: The towers are located at the vertices of a parallelgram the long sides of which are 166.6° in length on a line bearing 111.87° true. The short sides are 100° in length on a line bearing 175° true.

GROUND SYSTEM: 120-312' equally spaced copper radials plus 120-50' interspaced radials about each tower. Radials are shortened and bonded to transverse strap along intersections between towers. Centers of systems are bonded together.

(Cont'd)

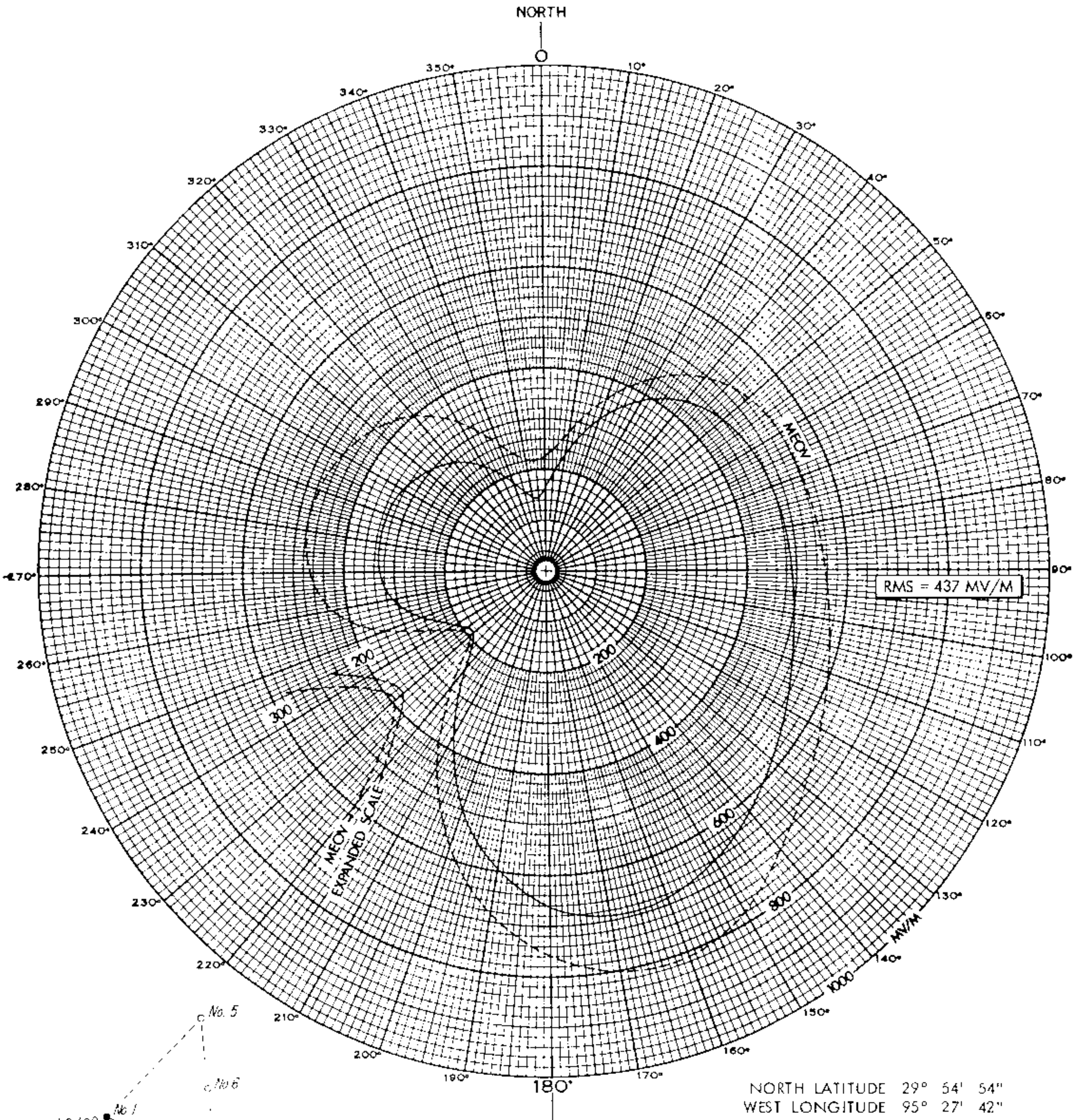
KULF

Predicted effective Night Field: 417 mv/m at rated power.

Predicted effective Day Field: 437 mv/m at rated power.

Note: This notification concerns changes in the transmitter location and directional antenna systems.

CTR NO 30721A4



NORTH LATITUDE 29° 54' 54"
WEST LONGITUDE 95° 27' 42"

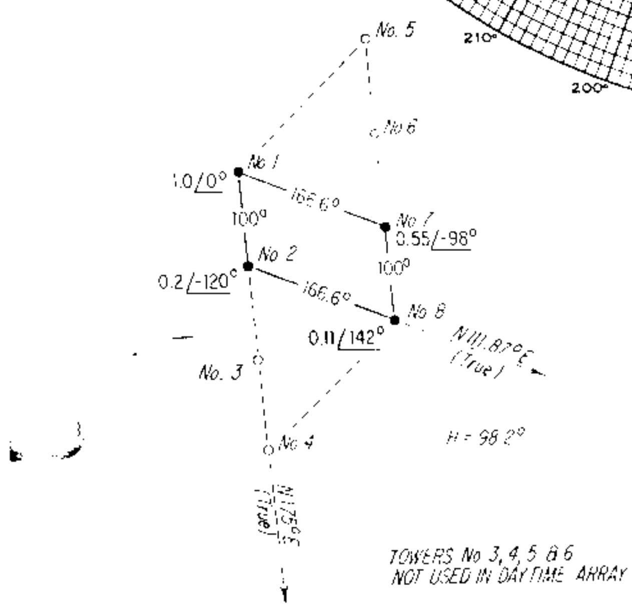


FIGURE 1
PROPOSED DAYTIME HORIZONTAL
PLANE RADIATION PATTERN
SOUTHERN BROADCASTING COMPANY
KULF 5 KW, DA-2 790 KHz
HOUSTON, TEXAS

Prepared by
Lohnes and Culver Washington, D. C
March, 1976

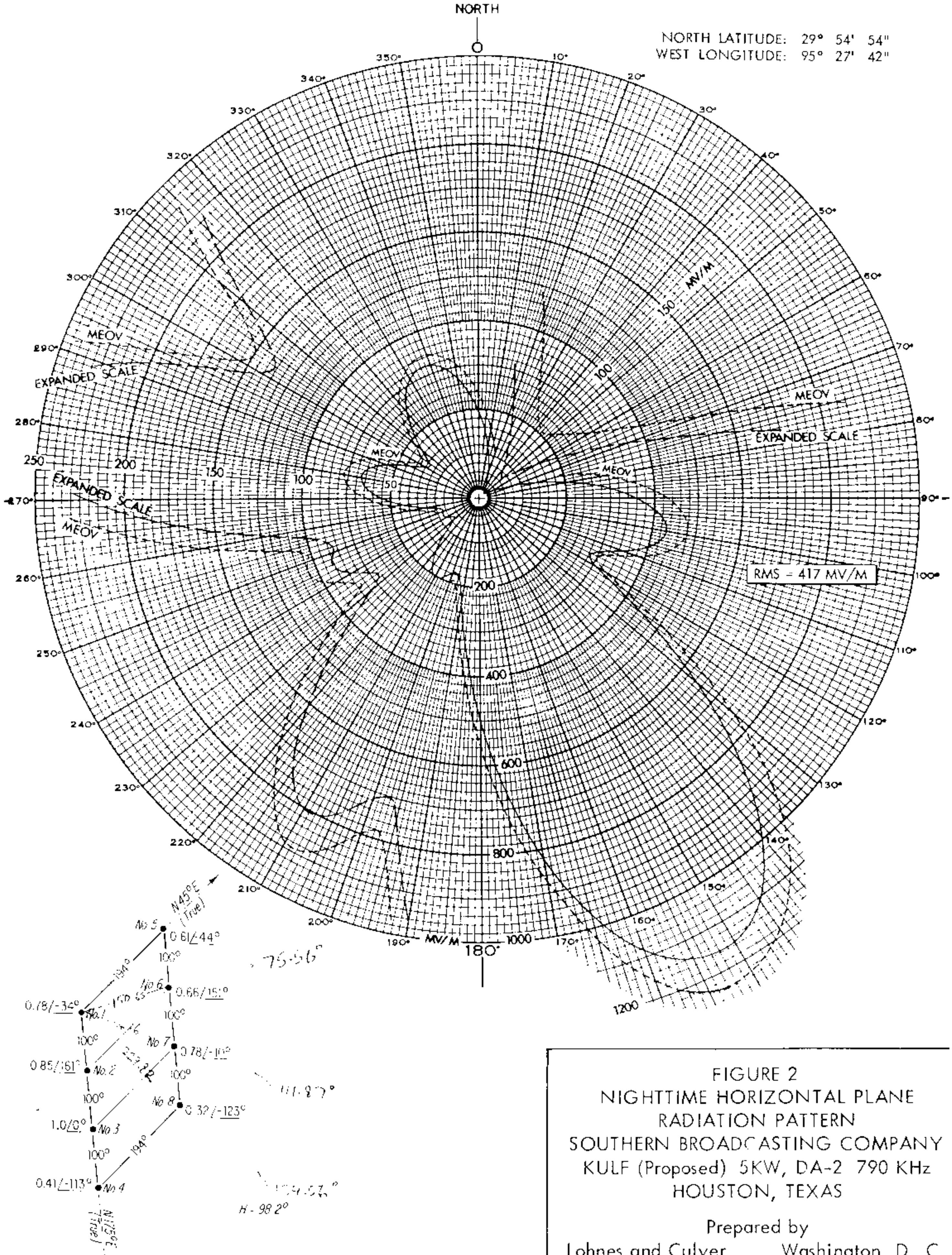
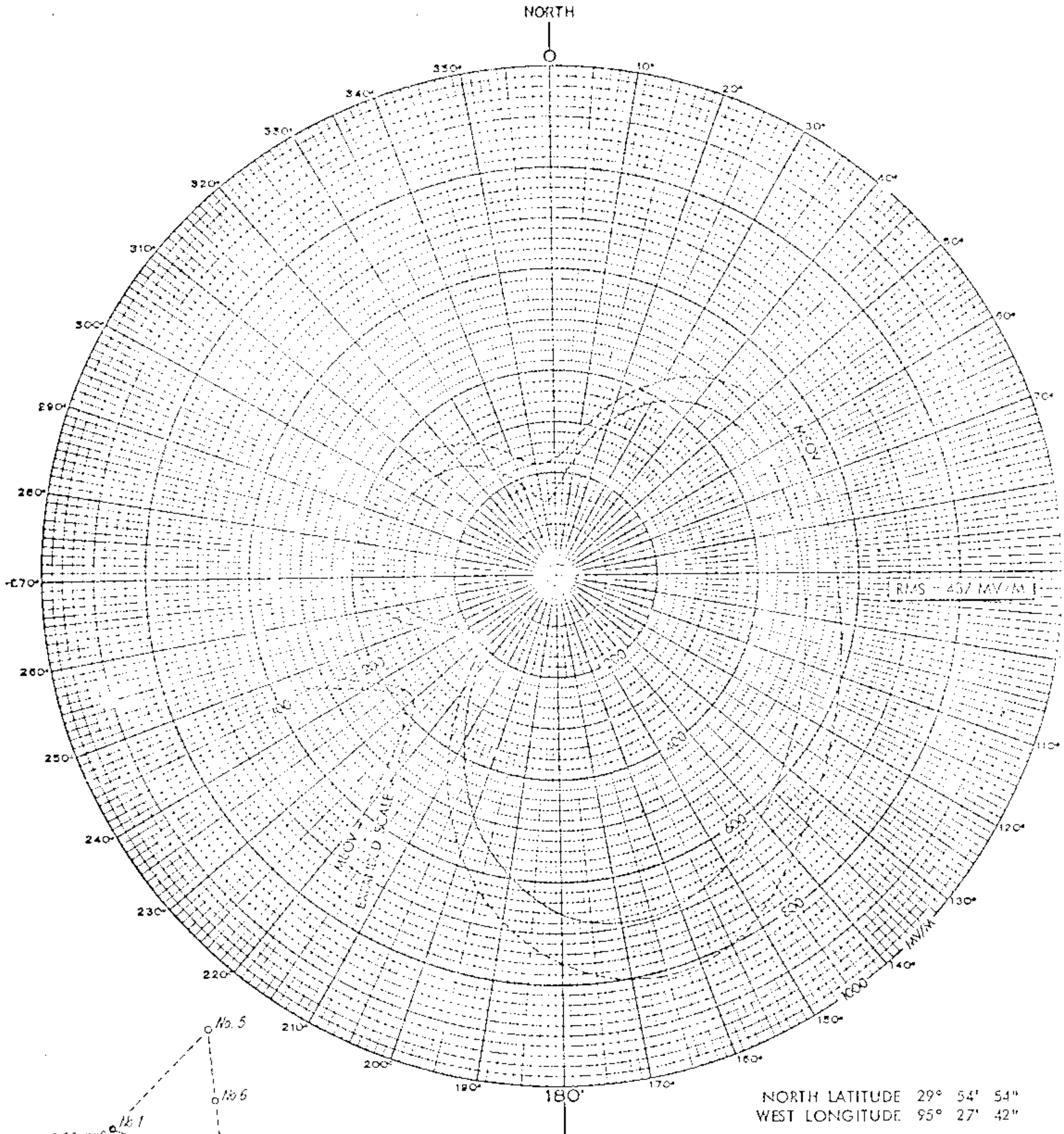


FIGURE 2
NIGHTTIME HORIZONTAL PLANE
RADIATION PATTERN
SOUTHERN BROADCASTING COMPANY
KULF (Proposed) 5KW, DA-2 790 KHz
HOUSTON, TEXAS

Prepared by
Lohnes and Culver Washington, D. C.
June, 1974



NORTH LATITUDE 29° 54' 54"
WEST LONGITUDE 95° 27' 42"

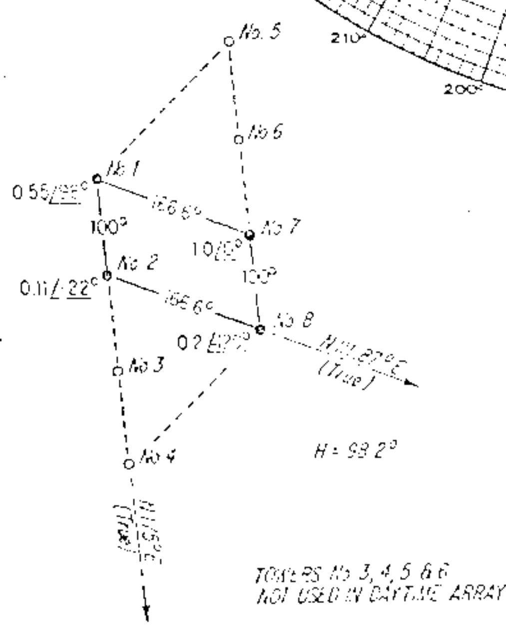


FIGURE 3
DAYTIME HORIZONTAL PLANE
RADIATION PATTERN
SOUTHERN BROADCASTING COMPA
KULF (Proposed) 5KW, DA-2 790 K
HOUSTON, TEXAS

Prepared by
Lohnes and Culver Washington, D

KULF

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KULF

Main Studio: Houston, Texas

Frequency: 790 kHz

Power: 5 kW

Notification List No. 1690

Date: June 24, 1976

Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 29° 54' 54"
West Longitude: 95° 27' 42"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 8
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	NW(#1)	(#2)	(#3)	SW(#4)	NE(#5)	(#6)	(#7)	SE(#8)
HEIGHT ABOVE INSULATORS:	All towers 340' (98.2°)							
NIGHT PHASING:	-34°	+161°	0°	-113°	-44°	+151°	-10°	-123°
NIGHT FIELD RATIO:	0.78	0.85	1.0	0.41	0.61	0.66	0.78	0.32
DAY PHASING:	0°	-120°	---	---	---	---	-98°	+142°
DAY FIELD RATIO:	1.0	0.2	---	---	---	---	0.55	0.11

SPACING AND ORIENTATION: Nighttime: Towers are located in two rows with four towers per row. Adjacent elements in a row are spaced 346.1' (100°) on a line bearing 175° true. End towers of each row forming the short sides of the parallelogram are spaced 671.4' (194°) on a line bearing 45° true.

Daytime: The towers are located at the vertices of a parallelogram the long sides of which are 166.6° in length on a line bearing 111.87° true. The short sides are 100° in length on a line bearing 175° true.

GROUND SYSTEM: 120-312' equally spaced copper radials plus 120-50' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of systems are bonded together.

(Cont'd.)

KULE

KULF
Houston, Texas

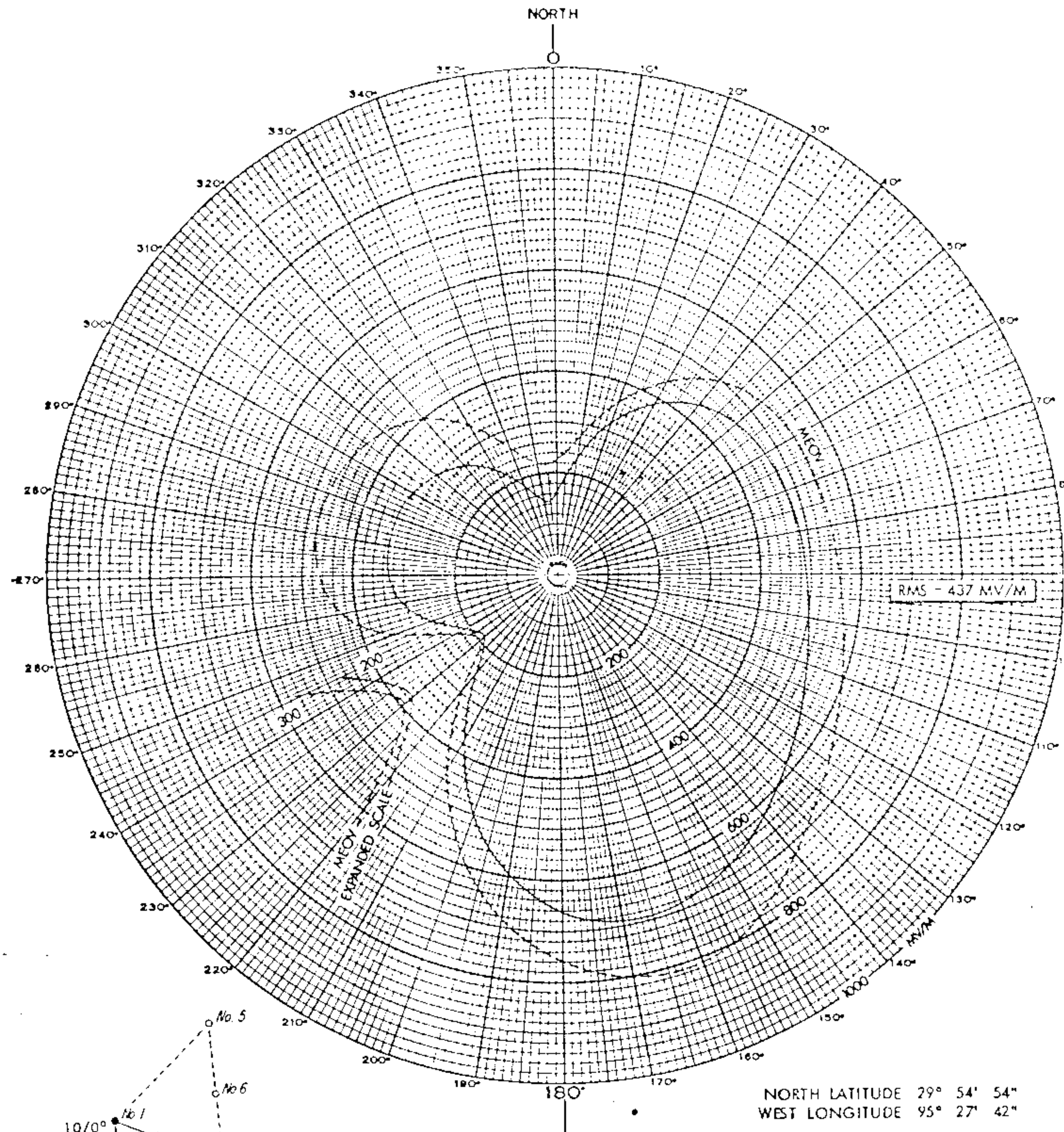
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	437 mv/m	---	---
Night	417 mv/m	---	---

Note: Please retain the Nighttime directional antenna radiation patterns notified for Station KULF in United States Change List Number 1595, dated August 28, 1974, and attach to this Revised Description Sheet and Daytime pattern. This notification concerns only a change in the Daytime operation of the station with Nighttime operation continued as previously notified.

CTR NO 30721A4

KULF



NORTH LATITUDE 29° 54' 54"
WEST LONGITUDE 95° 27' 42"

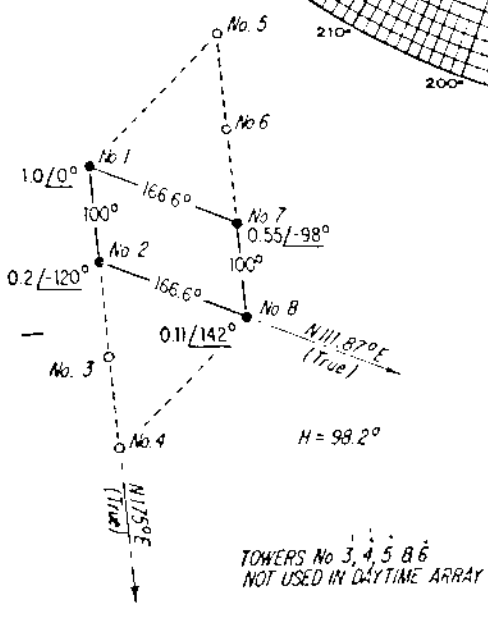
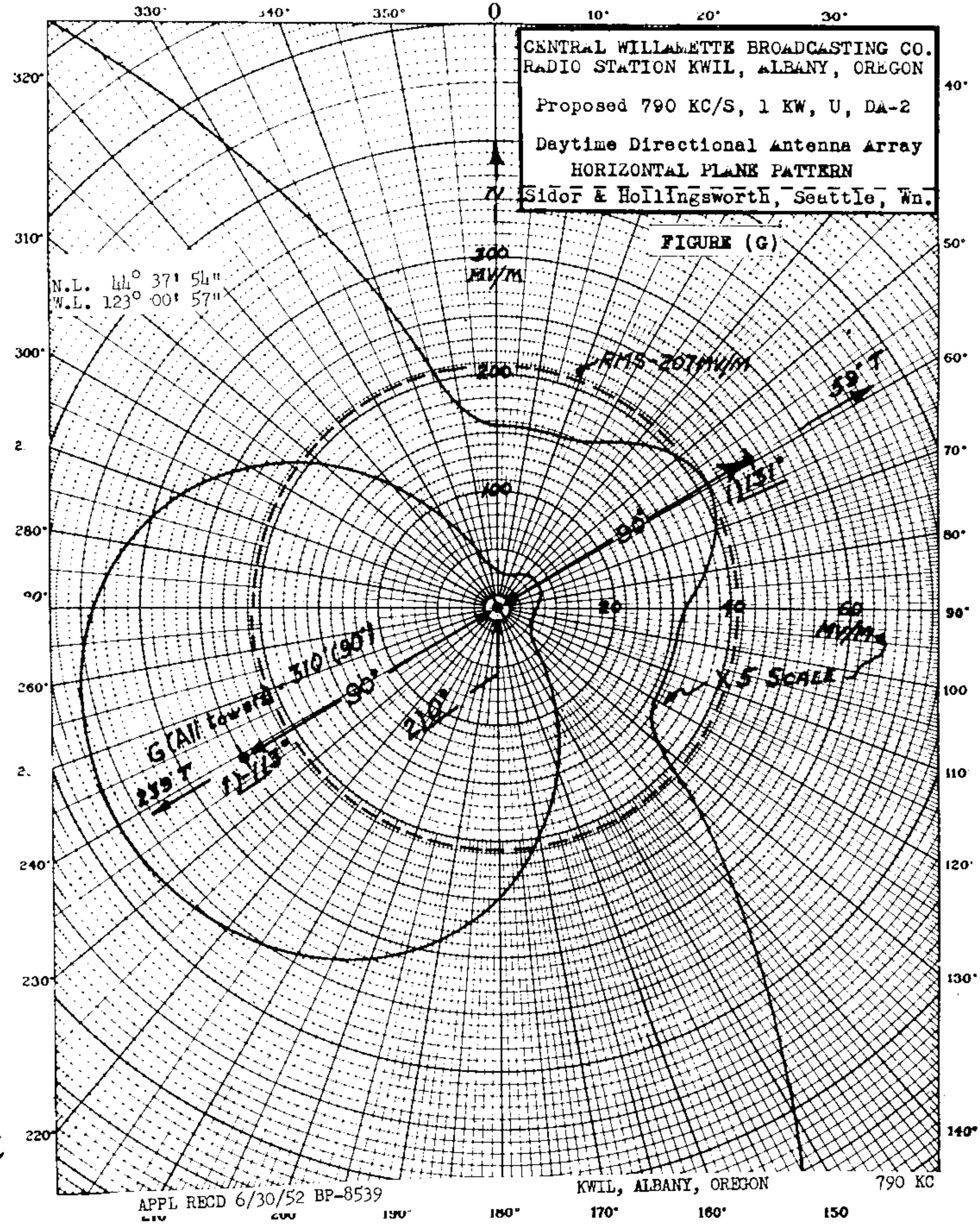


FIGURE 1
PROPOSED DAYTIME HORIZONTAL
PLANE RADIATION PATTERN
SOUTHERN BROADCASTING COMPAN
KULF 5 KW, DA-2 790 KHz
HOUSTON, TEXAS

Prepared by
Lohnes and Culver Washington, D. (

KWIL

PROPOSED DAY KWIL, ALBANY, OREGON 9/17/52G 1 KW, U, DA-2 790 KC



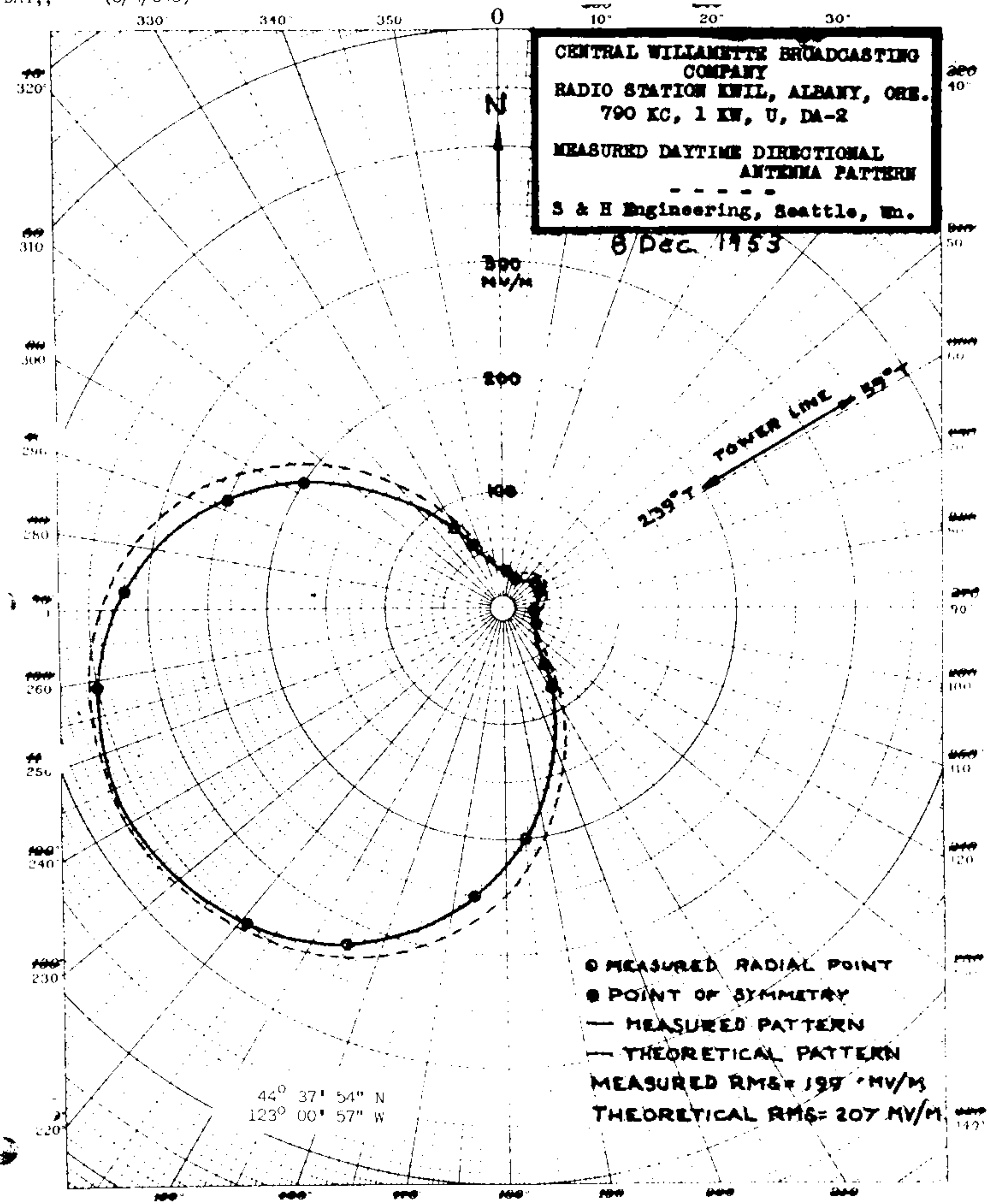
APPL RECD 6/30/52 BP-8539

KWIL, ALBANY, OREGON 790 KC

PRINTED IN U.S.A.

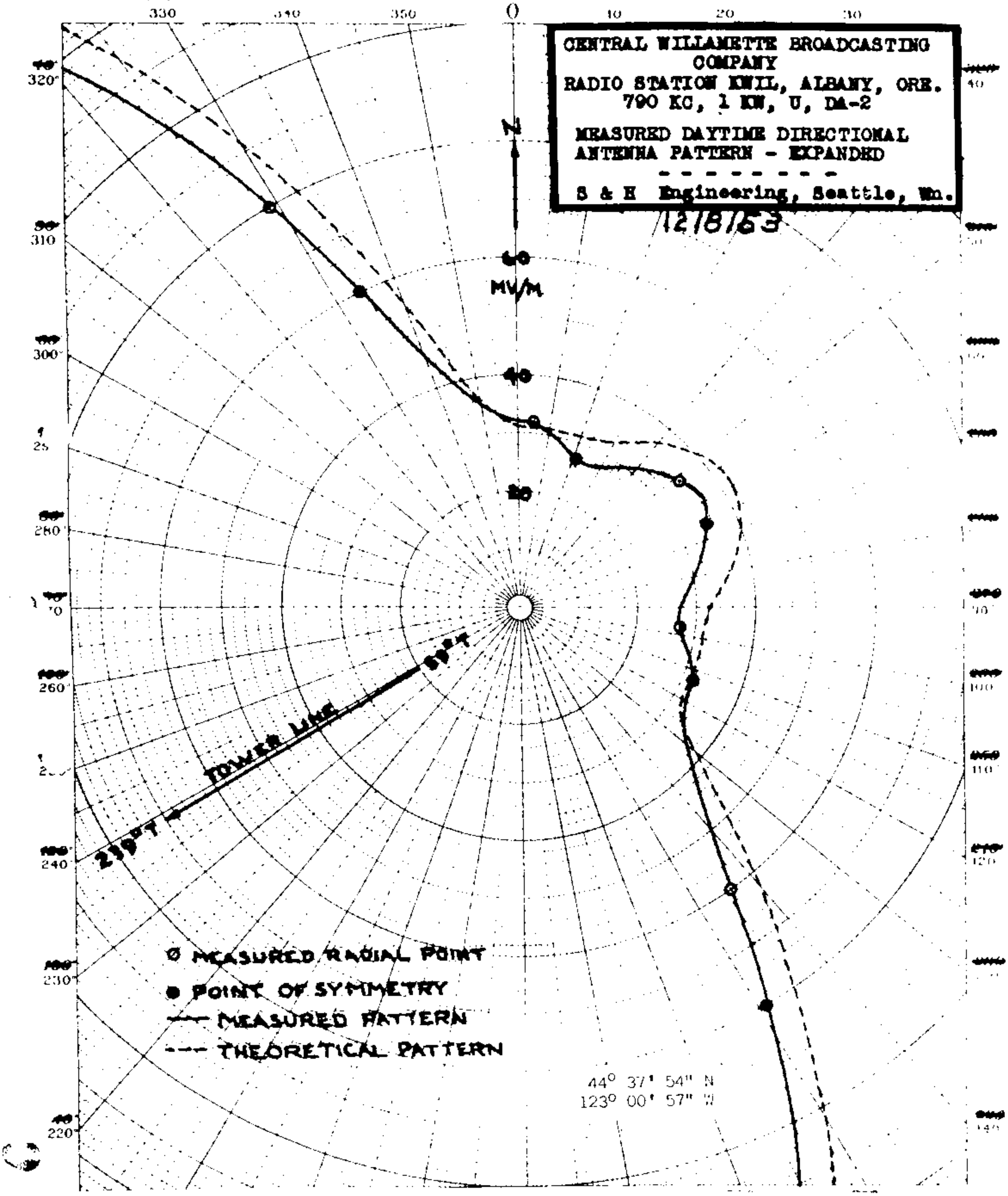
KWIL

MEASURED KWIL, Albany, Oregon 1KW, U, DA-2 790 kc
DAY,, (5/4/54G)



KWIL

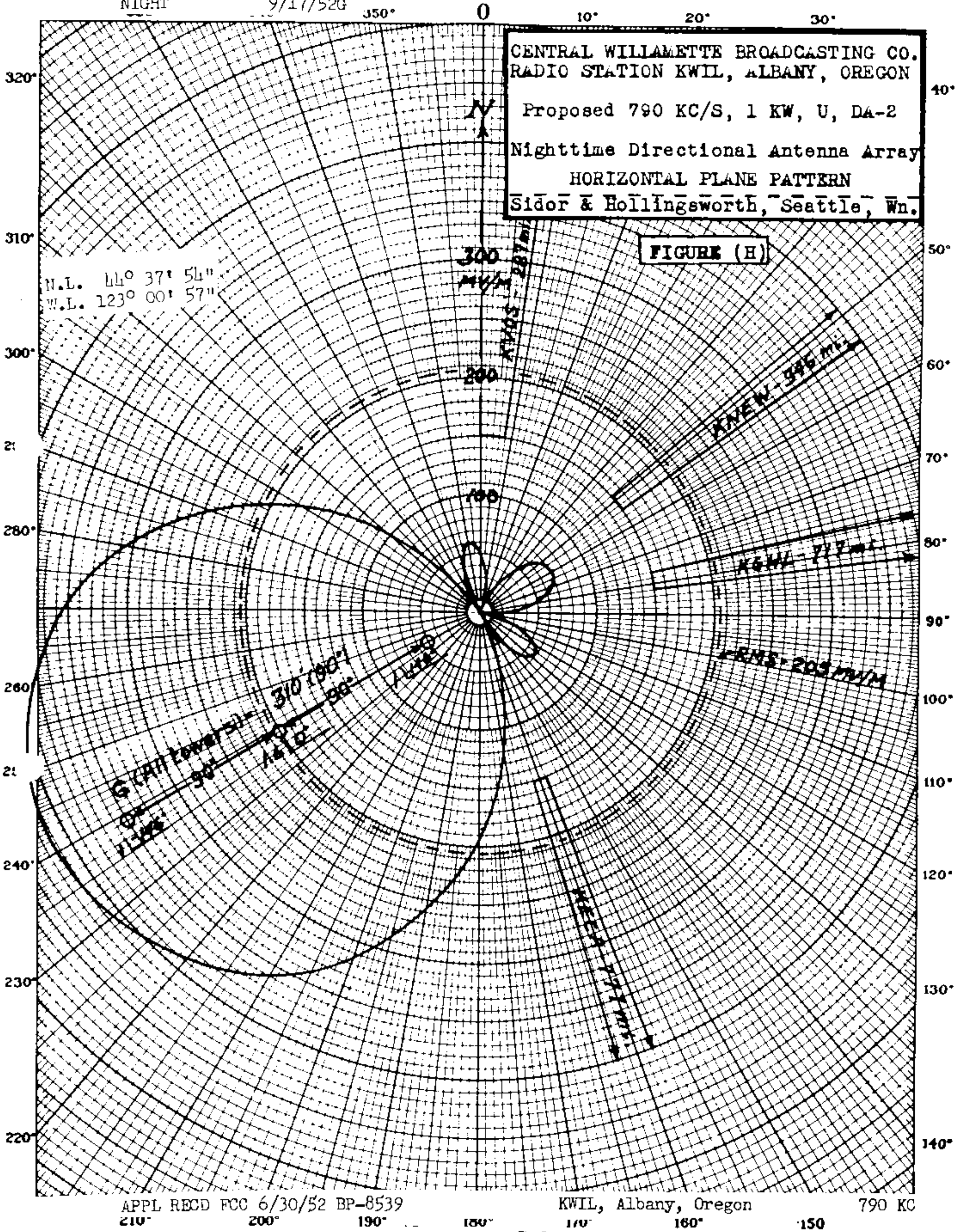
MEASURED DAY NULLS (5/4/54G) KWIL, Albany, Oregon 1KW, U, DA-2 790 kc



FCC File No. BL-5284 Accepted 5/3/54 KWIL, Albany, Oregon 790 kc

KWIL

PROPOSED NIGHT | KWIL, ALBANY, OREGON 9/17/52G | 1 KW, U, DA-2 | 790 KC

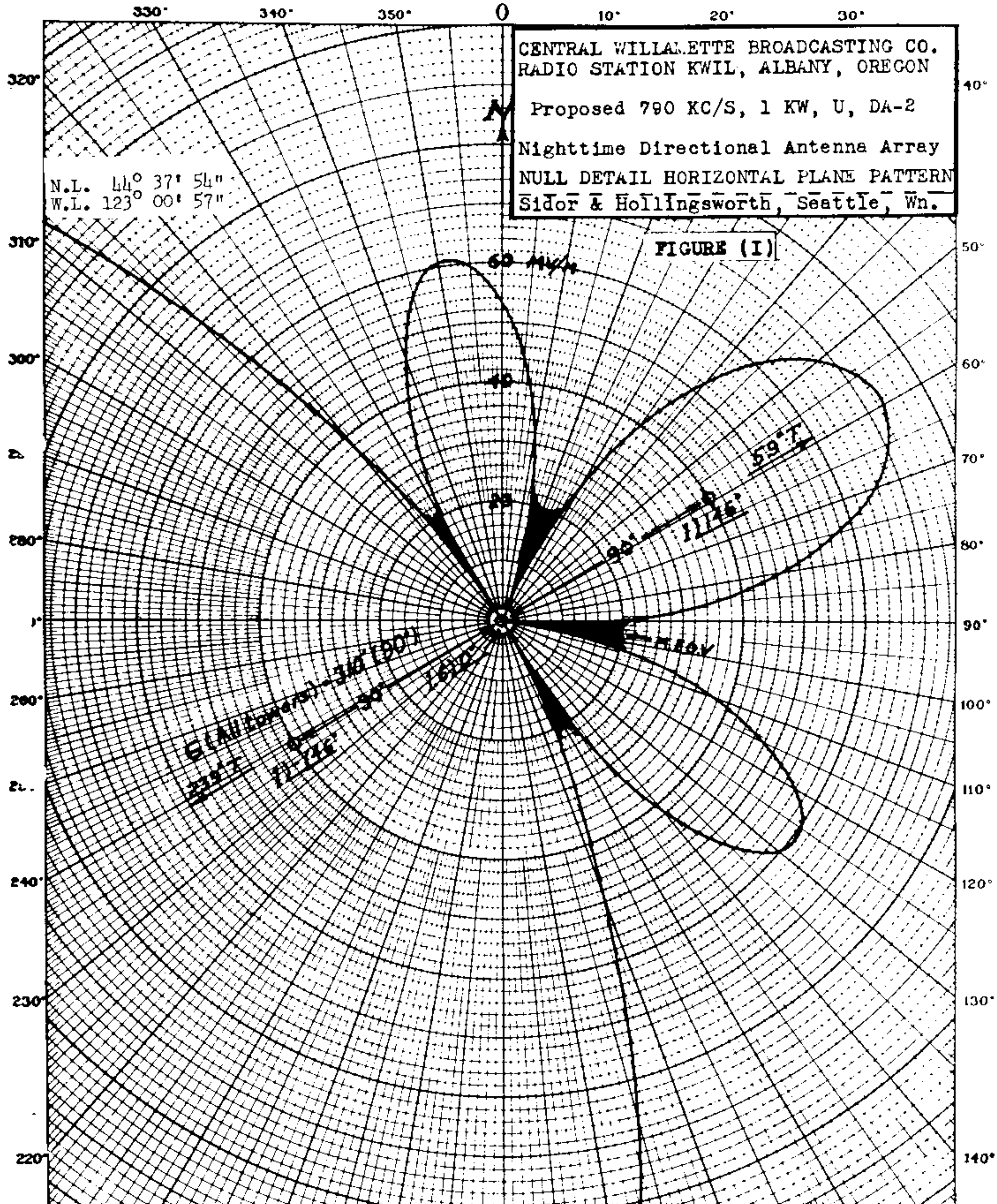


APPL RECD FCC 6/30/52 BP-8539 | KWIL, Albany, Oregon | 790 KC

PRINTED IN U.S.A.

KWIL

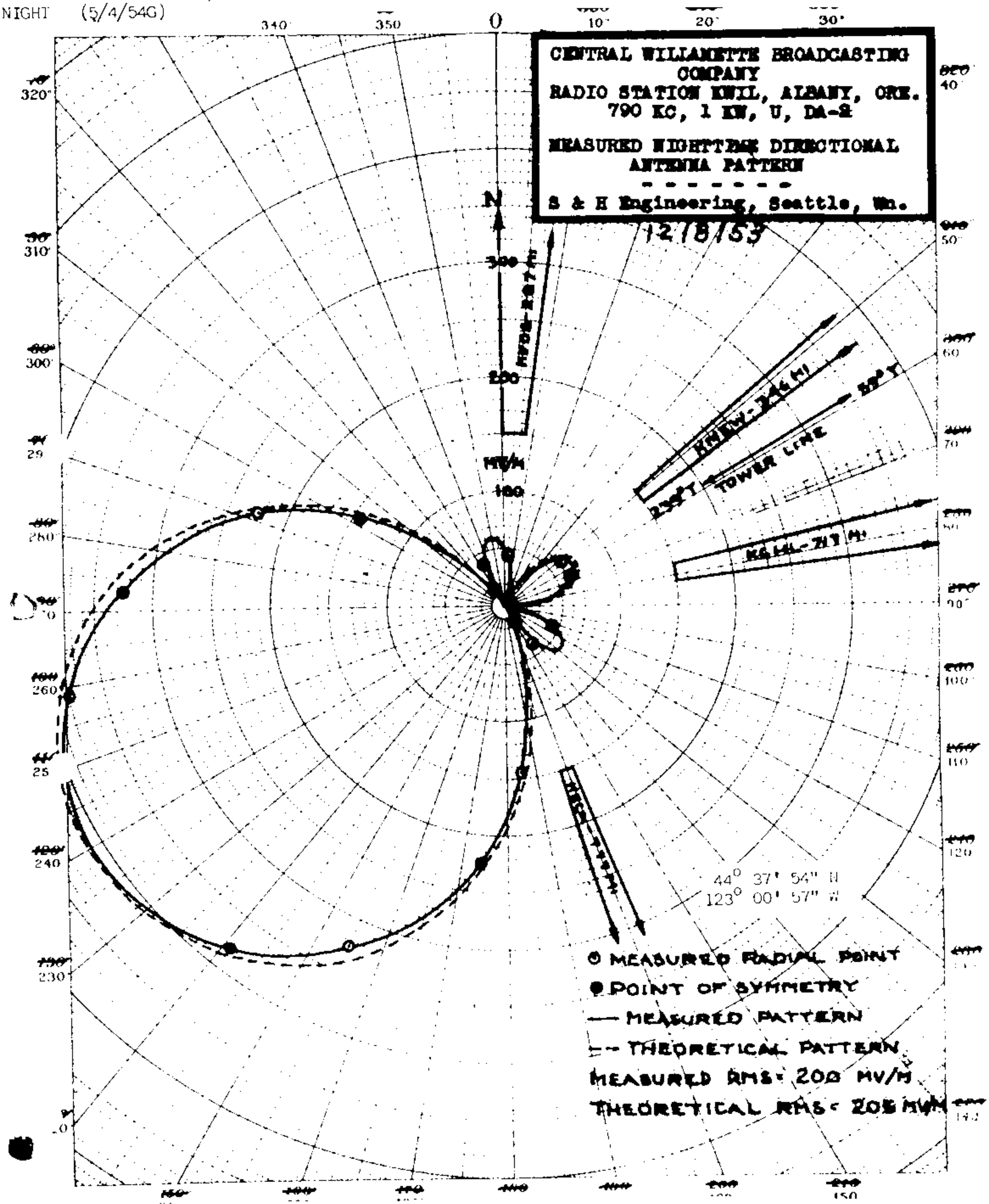
PROPOSED NIGHT NULLS — KWIL, ALBANY, OREGON — 9/17/52G — 1 KW, U, DA-2 — 790 KC



APPL RECD 6/30/52 BP-8539 — KWIL, ALBANY, OREGON — 790 KC

KWIL

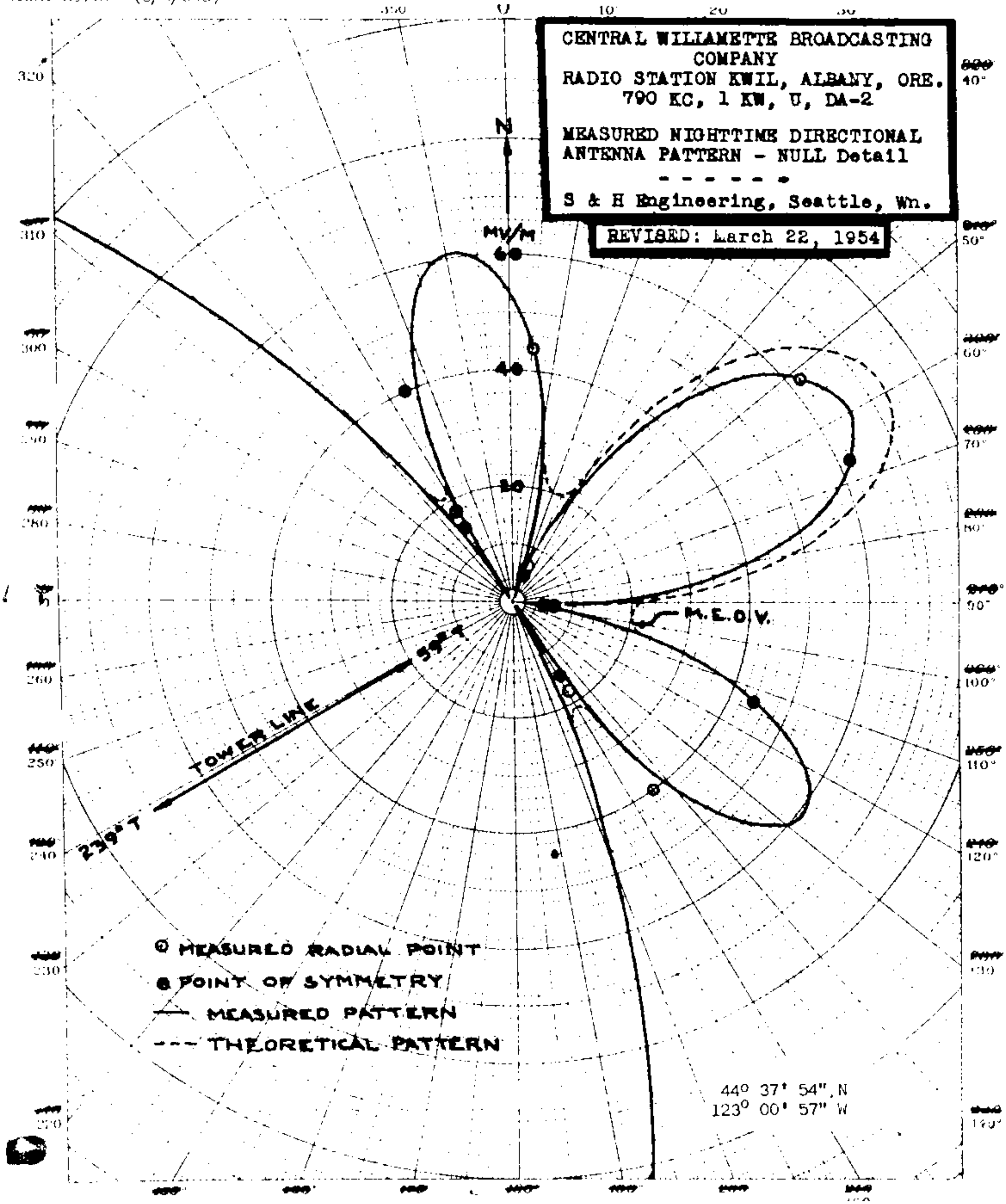
MEASURED KWIL, Albany, Oregon 1KW, U, DA-2 790 kc
NIGHT (5/4/54G)



FCC File No. BL-5284 Accepted 5/3/54 KWIL, Albany, Oregon 790 kc

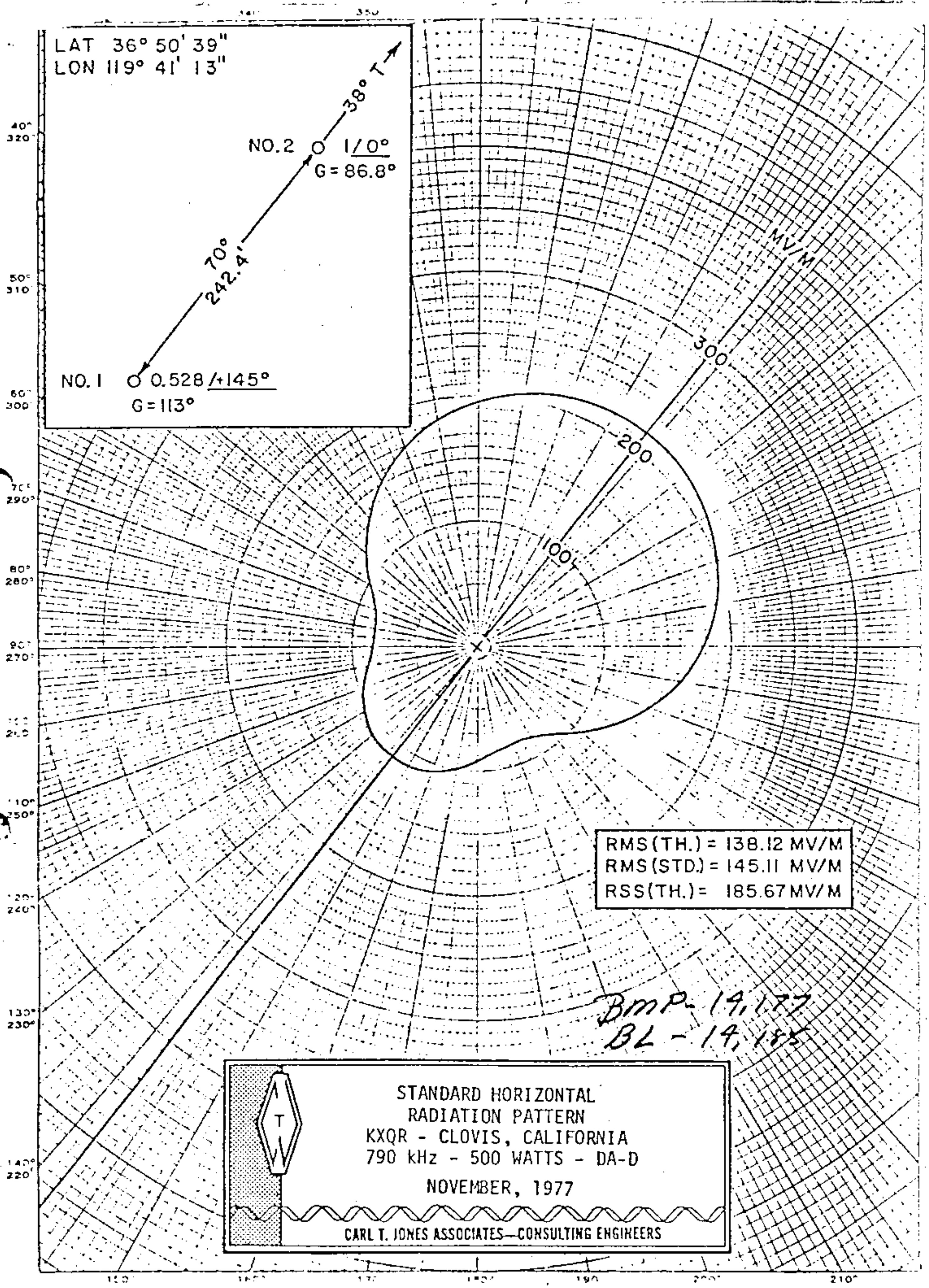
KWIL

MEASURED NIGHT NULLS (5/4/54G) KWIL, Albany, Oregon 1KW, U, DA-2 790 kc



FCC File No. BL-5284 Accepted 5/3/54 KWIL, Albany, Oregon 790 kc

KXQR


LAT 36° 50' 39"
LON 119° 41' 13"
38° T
NO.2
1/0°
G = 86.8°
70°
242.4'
NO.1
0.528 /+145°
G = 113°
MV/M
300
200
100
RMS(TH.) = 138.12 MV/M
RMS(STD.) = 145.11 MV/M
RSS(TH.) = 185.67 MV/M
BMP-14,177
BL-14,185
STANDARD HORIZONTAL
RADIATION PATTERN
KXQR - CLOVIS, CALIFORNIA
790 kHz - 500 WATTS - DA-D
NOVEMBER, 1977
CARL T. JONES ASSOCIATES—CONSULTING ENGINEERS

1862

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KXQR | Main Studio: Clovis, California
Frequency: 790 kHz | Power: 0.5kw
Notification List No. 1770 | Date: February 1[illegible], 19[illegible] Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude:	36°	50'	39"
West Longitude:	119°	41'	13"

ANTENNA CHARACTERISTICS

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

TOWER:	SW(#1)	NE(#2)
HEIGHT ABOVE INSULATORS:	390' (113°)	300' (86.8°)
NIGHT PHASING:	+145°	0°
NIGHT FIELD RATIO:	0.528	1
DAY PHASING:		
DAY FIELD RATIO:		

SPACING AND ORIENTATION: Towers are spaced 242.4' (70°) on a line bearing 38° true.

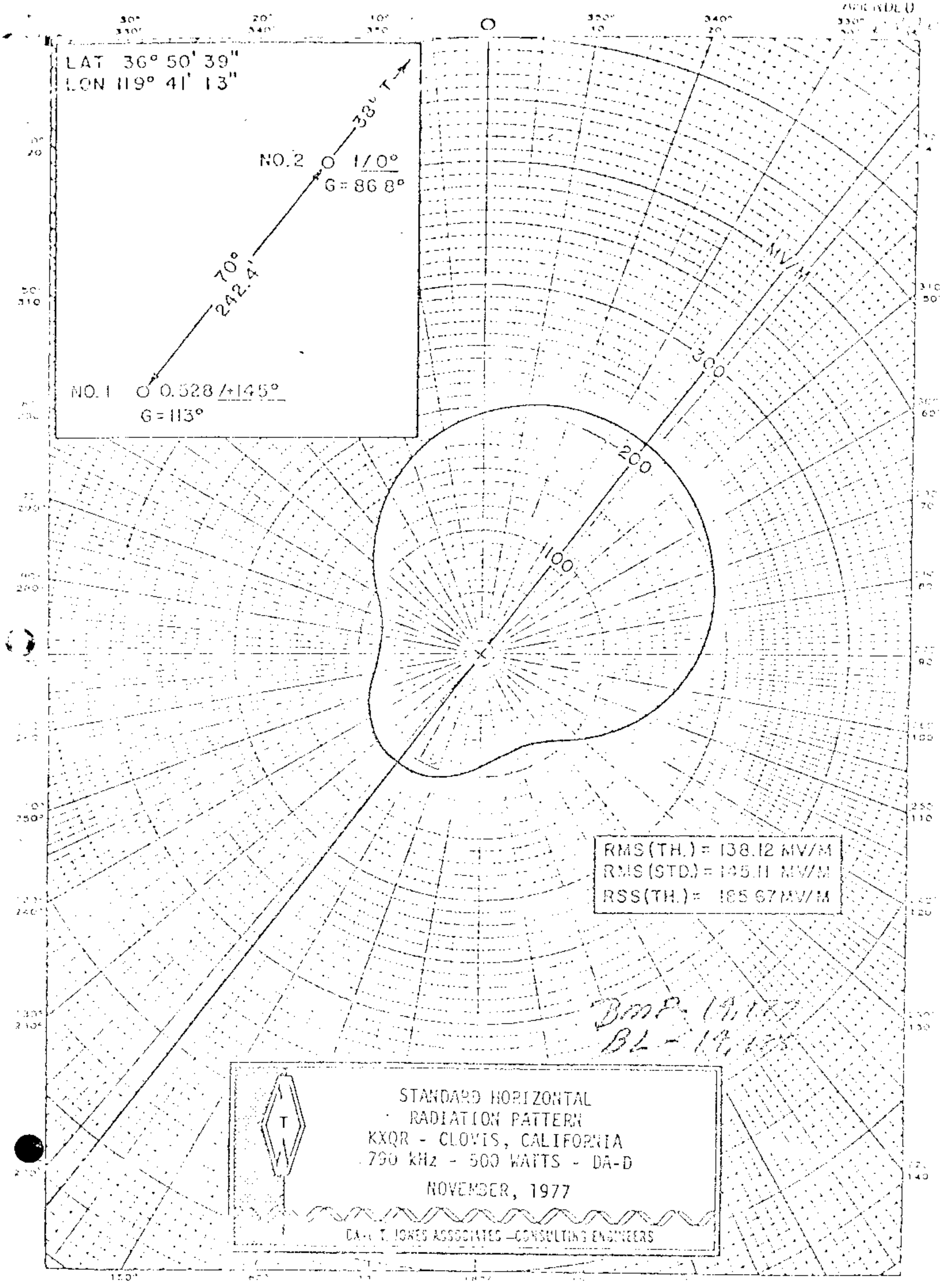
GROUND SYSTEM: 120 - 300' equally spaced copper radials plus 120 - 30' interspaced radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day 1/	138.12 mv/m	186.67 mv/m	145.11 mv/m

1/ By adjustment of input power.

Note: This notification concerns only a change in the directional antenna radiation pattern.



LAT 36° 50' 39"
LON 119° 41' 13"
38° T
NO.2 O 1/0°
G = 86.8°
70°
242.4'
NO.1 O 0.528 /+145°
G = 113°
MV/M
300
200
100
RMS (TH.) = 138.12 MV/M
RMS (STD.) = 145.11 MV/M
RSS (TH.) = 185.67 MV/M
BMP-11,172
BL-11,175
STANDARD HORIZONTAL
RADIATION PATTERN
KXQR - CLOVIS, CALIFORNIA
790 kHz - 500 WATTS - DA-D
NOVEMBER, 1977
DA... T. JONES ASSOCIATES — CONSULTING ENGINEERS

WAEB

SUPPLEMENTAL AND CORRECTED
DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: W A E B

Main Studio: Allentown, Pennsylvania

Frequency: 790 kHz

Power: 1 kW Night 1 kW Day

Notification List No. 1779

Date: September 27, 1978 Class: III

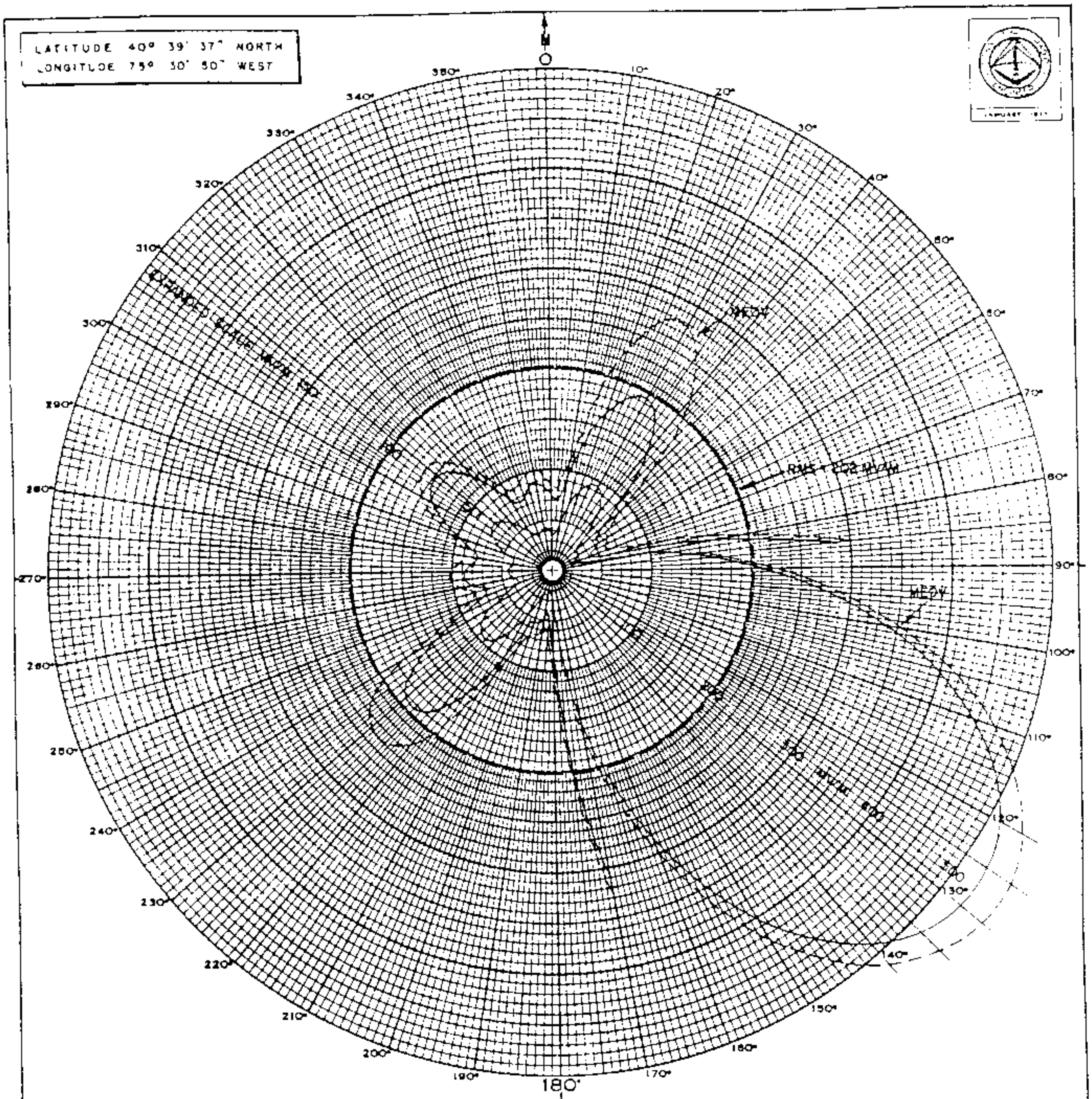
GEOGRAPHICAL LOCATION OF THE CENTERS OF THE DAYTIME AND NIGHTTIME ANTENNA SYSTEMS:

NIGHTTIME		DAYTIME	
North Latitude:	40° 39' 37"	North Latitude:	40° 37' 05"
West Longitude:	75° 30' 50"	West Longitude:	75° 26' 58"

Note: Please retain the description sheet notified for station WAEB in United States Change List Number 1546, dated September 19, 1973 and attach to this suplemental Description Sheet. This notification is for the purpose of indicating only a change in the MEOV's of the nighttime directional radiation patterns.

WAEB

LATITUDE 40° 39' 37" NORTH
LONGITUDE 75° 30' 50" WEST



THEORETICAL

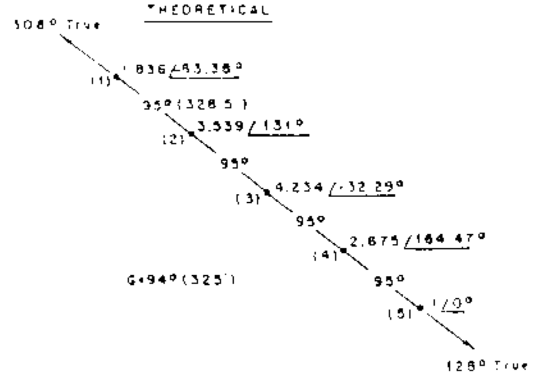


FIGURE 1

CALCULATED NIGHTTIME DIRECTIONAL
HORIZONTAL PLANE
RADIATION PATTERN
STATION WAEB

RUST COMMUNICATIONS GROUP, INC.
ALLENTOWN, PENNSYLVANIA

790 kHz | 1 kW-U | DA-2

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

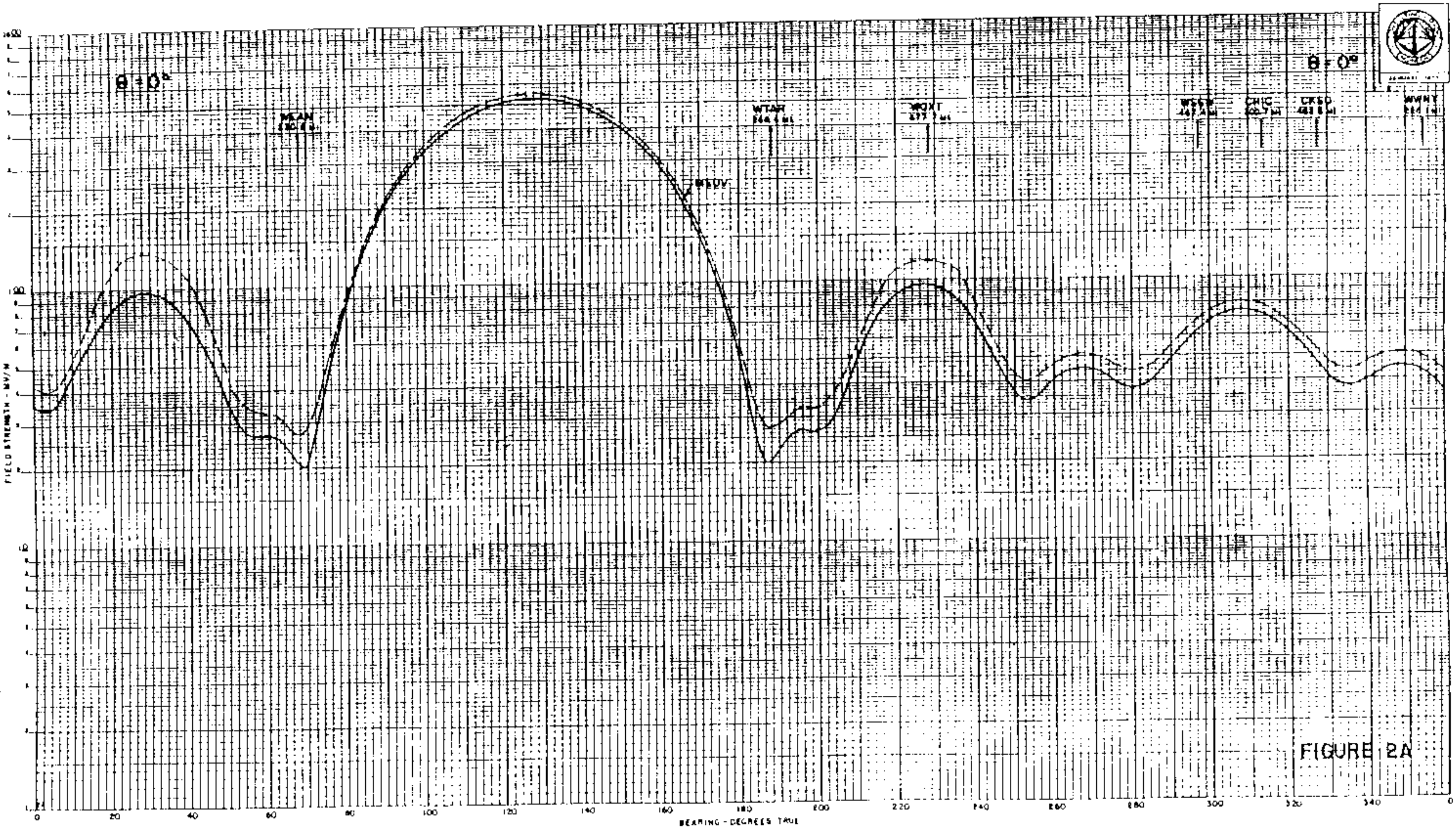
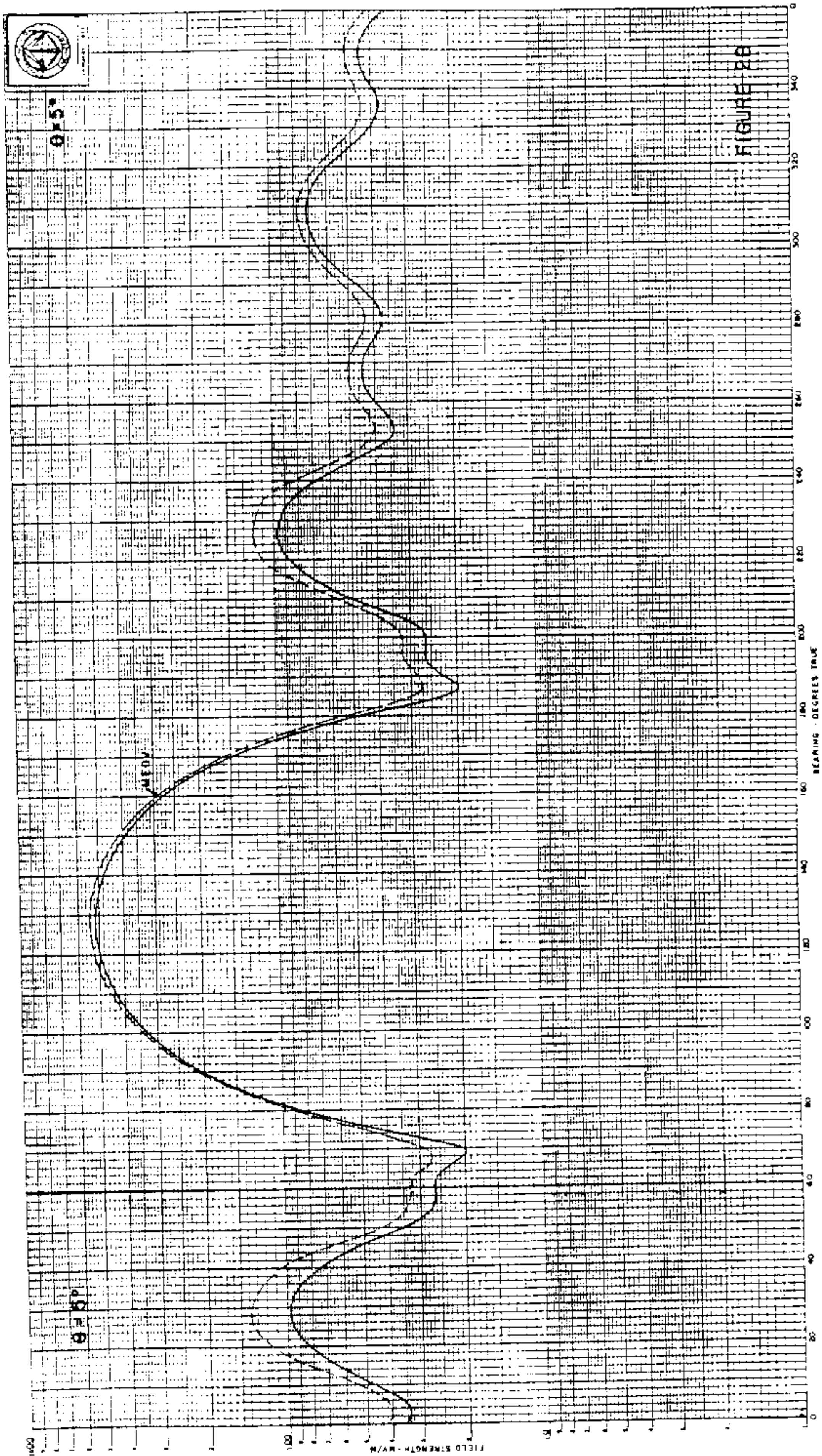


FIGURE 2A

WAEB

WAEB



WAEB

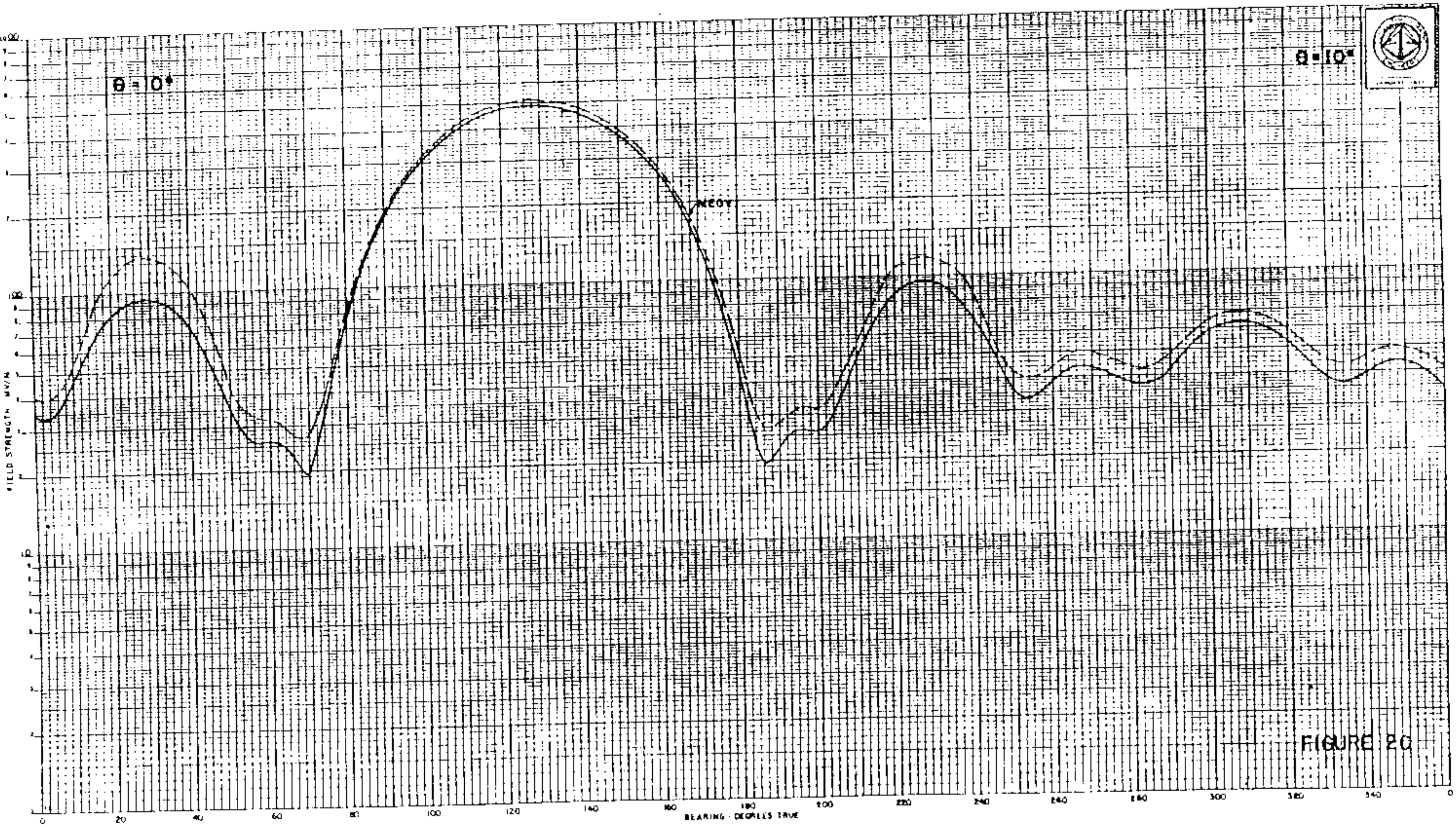


FIGURE 20

WAEB

FIGURE 2D

WAEB

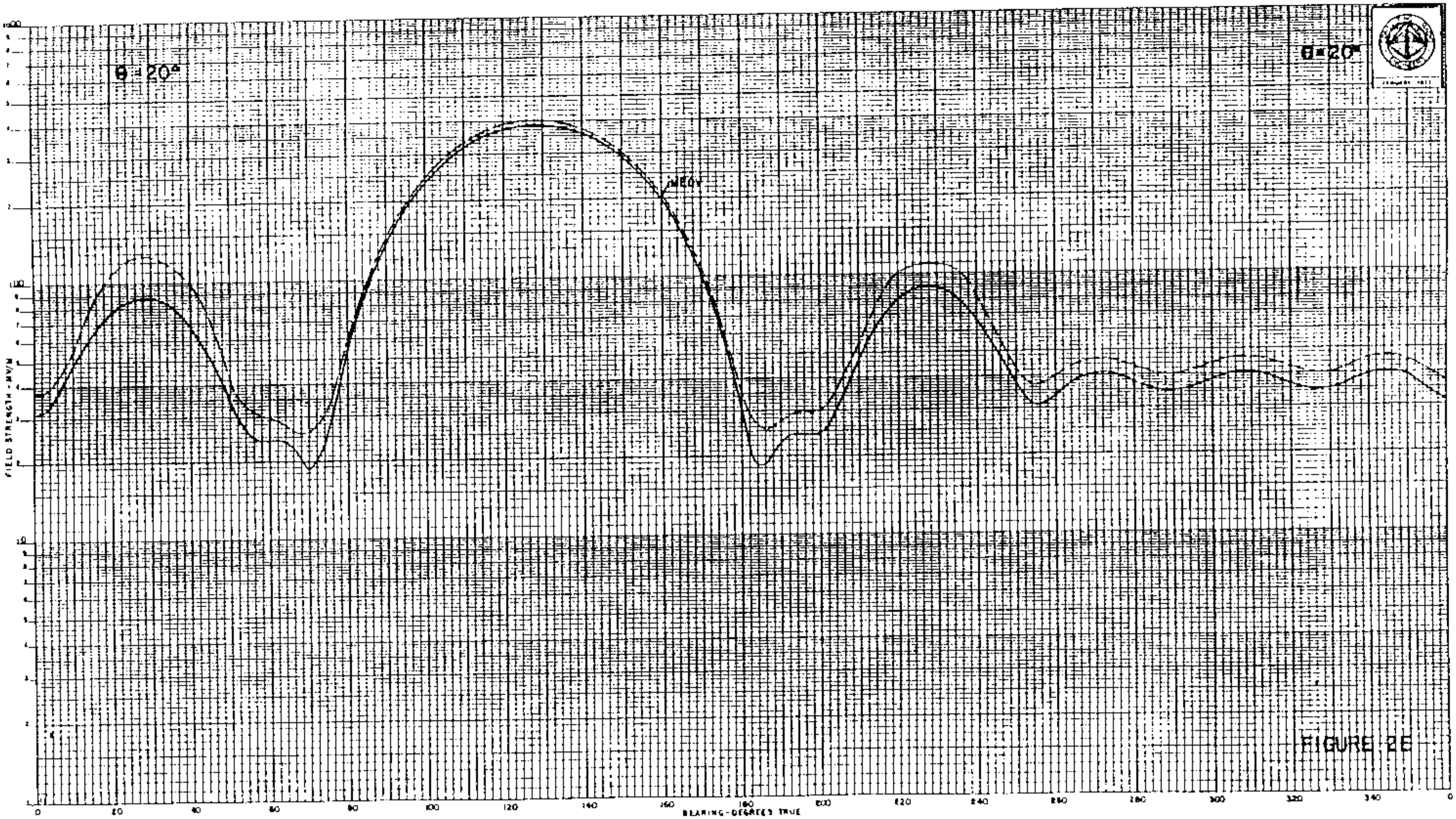


FIGURE 2E

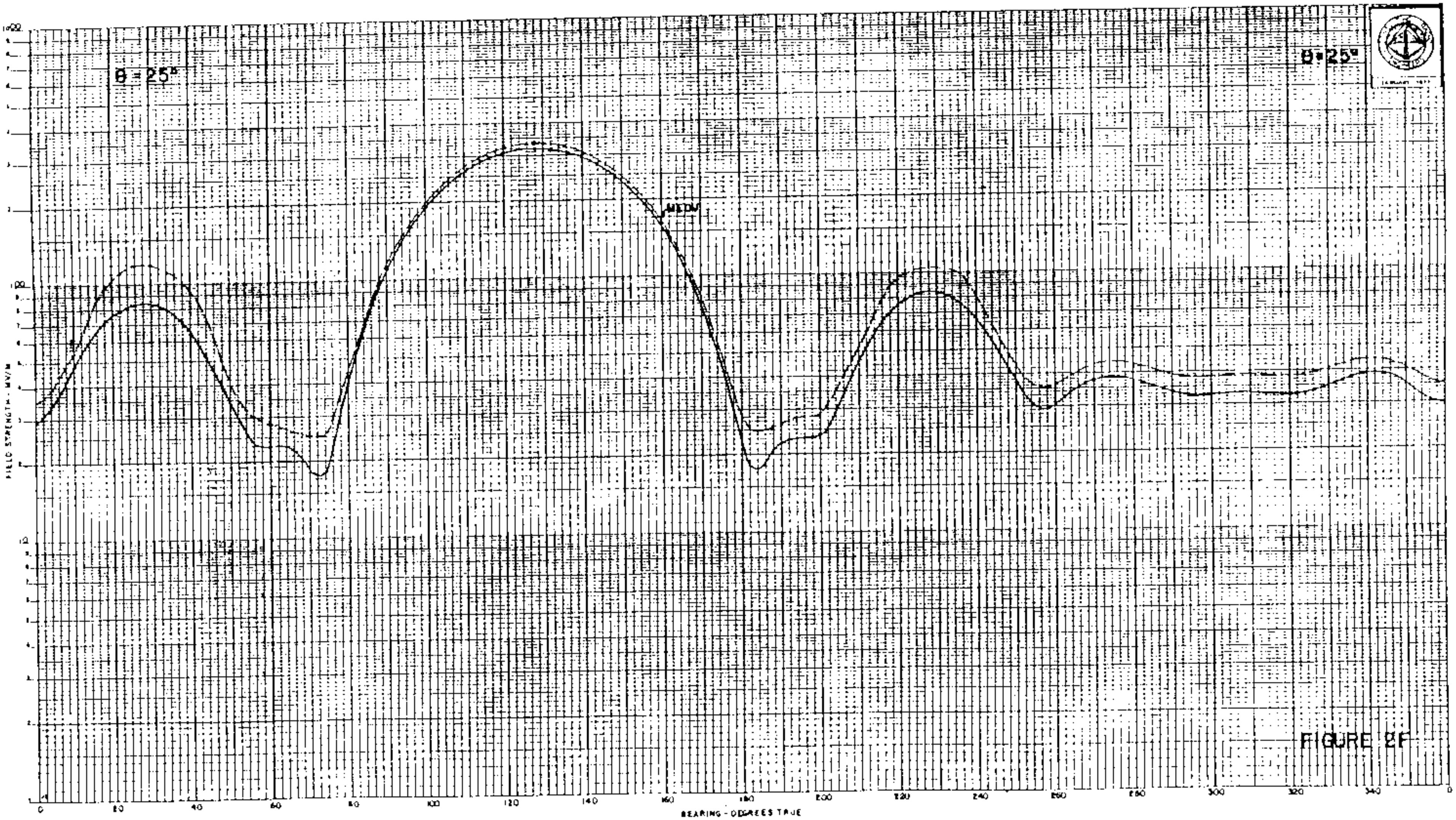


FIGURE 2F

WAEB

WAEB

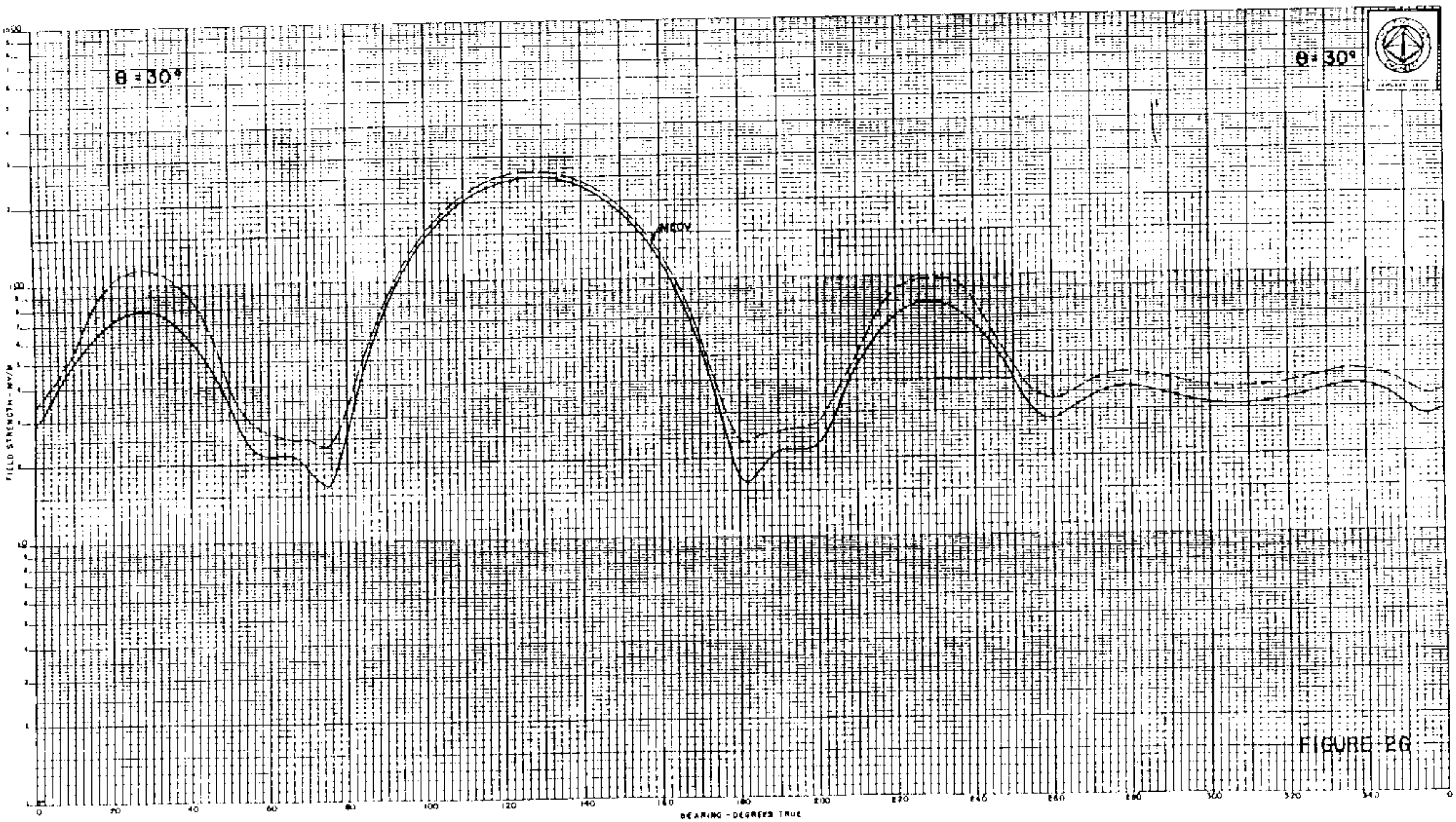
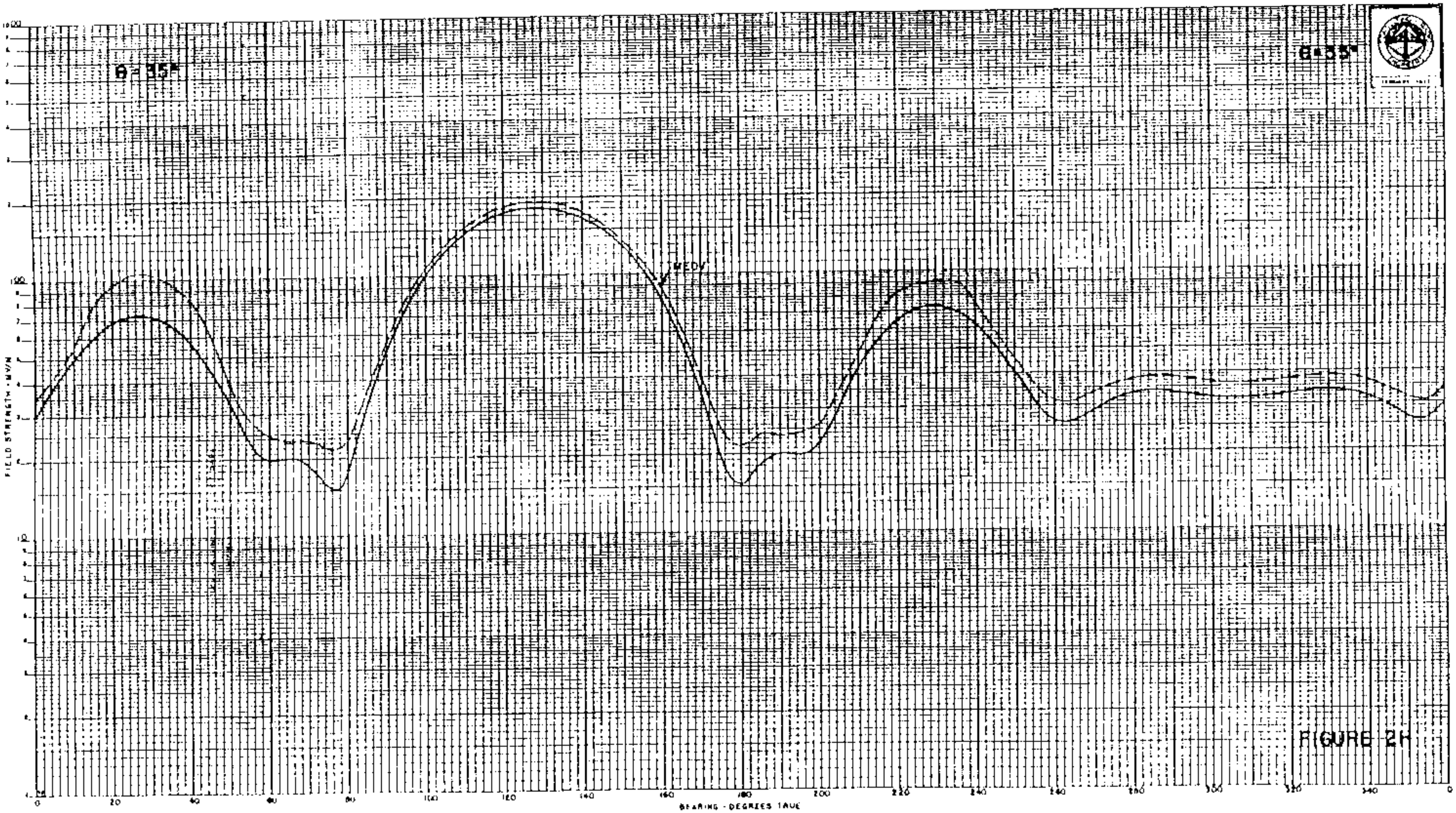


FIGURE 26



θ = 35°
θ = 35°
MEDV
FIELD STRENGTH - MV/M
BEARING - DEGREES TRUE
FIGURE 2H

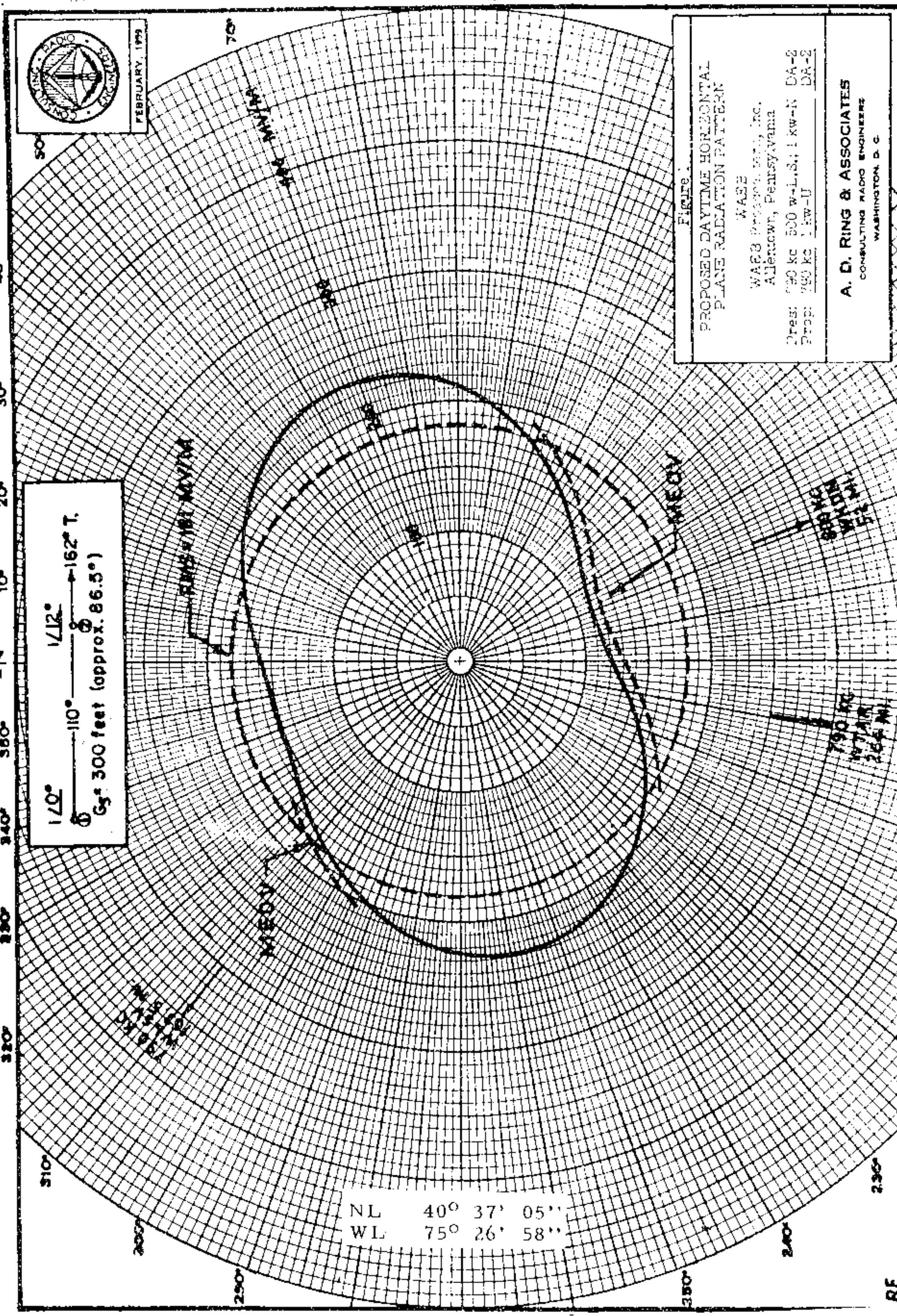
WAEB

WAEB

PROPOSED DAY (4-22-59g)

Station WAEB 1kw, DA-2,U
Allentown, Pennsylvania 790 KC

10-64 entered ... for station



FCC File No. BP-12918
Accepted 4-8-59

WAEB
Allentown, Pennsylvania 790 KC

WAEB

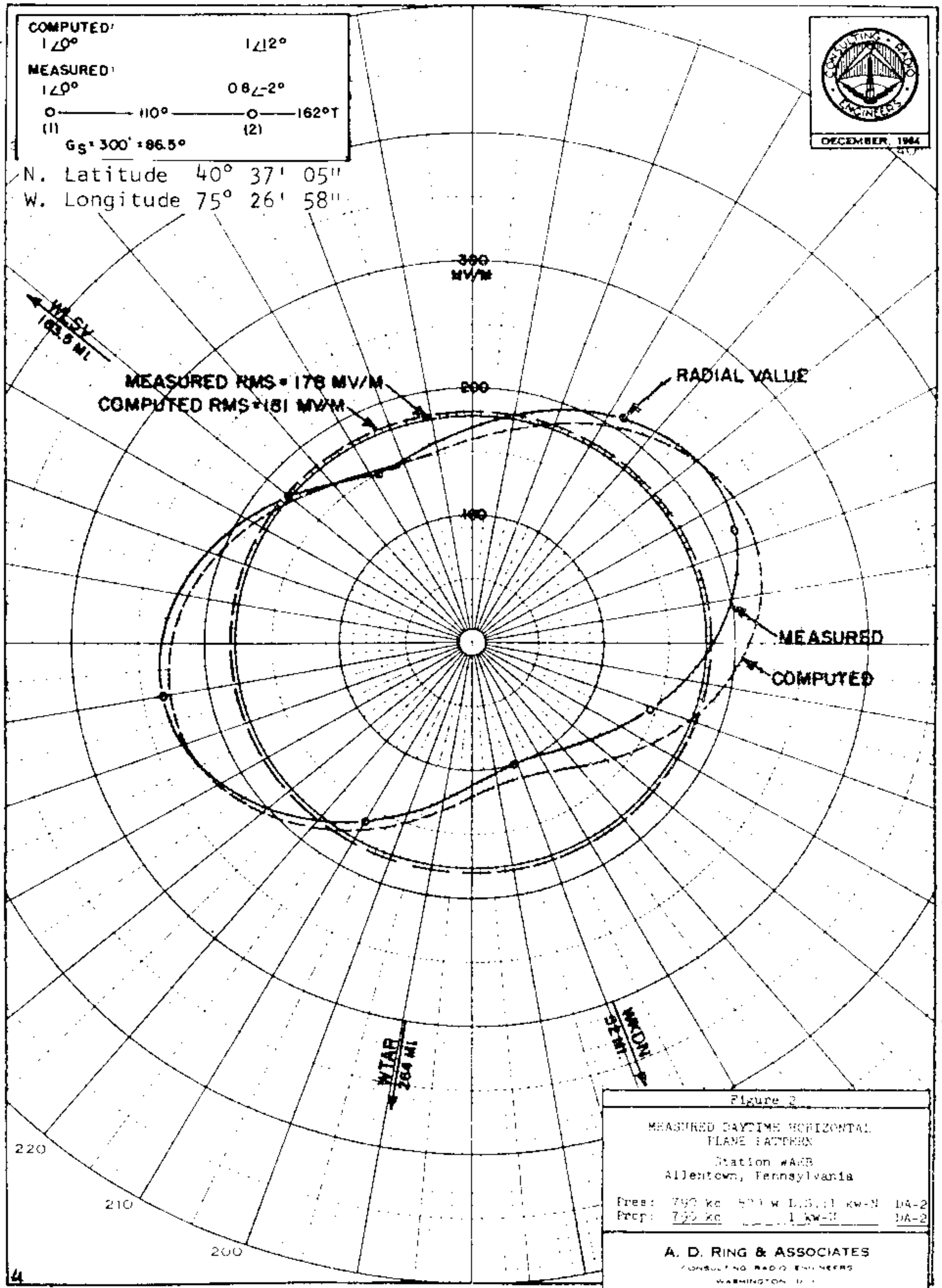
Measured Day
(4-28-65ct)

Station WAEB
Allentown, Pennsylvania

1kw,DA-2,U
790 kc

WAEB—790 KC

BL-10847
4-22-65
LIC. INCR. DAY PWR



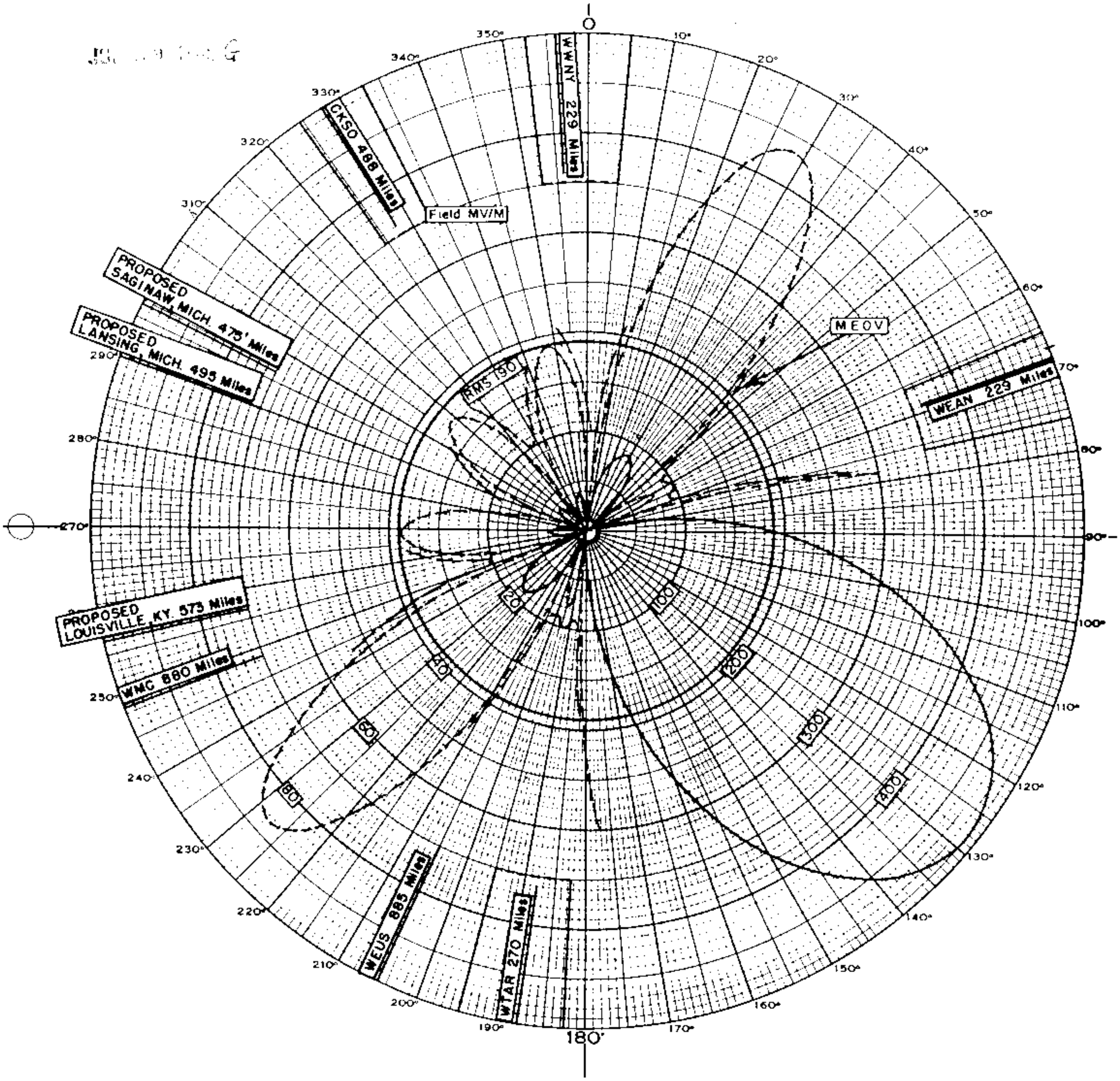
A. D. RING & ASSOCIATES - 4/64 - N

FCC File No. BL-10847
Accepted 4-7-65

Station WAEB
Allentown, Pennsylvania

790 kc

WAEB
790



WAEB, VALLEY BROADCASTING CO. ALLENTOWN, PENNSYLVANIA		Figure I Series 480712C 790 KC 1000 WATTS NIGHT
N; Spacing 95° H= 94° 128° (1) 1∠-33.3° (2) 2.24∠162.2° (3) 3.07∠0° (4) 2.24∠-162.2° (5) 1∠33.3°	**PROPOSED** **DIRECTIONAL ANTENNA PATTERN**	**FRANK H. McINTOSH** ***Consulting Radio Engineer*** **Washington, D.C.**

7-27-48

WAEB

MEASURED
NIGHT

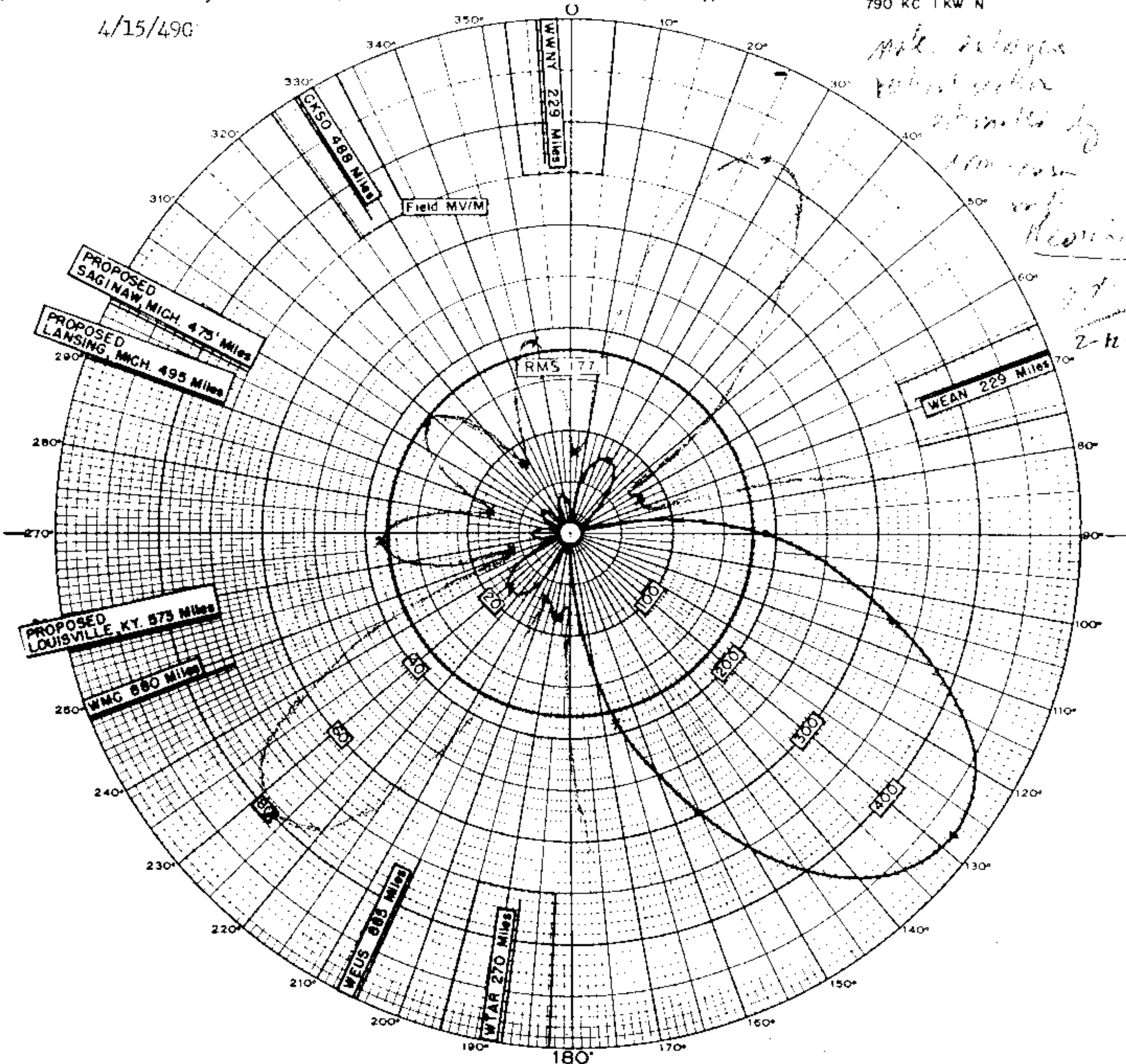
WAEB, ALLENTOWN, PA.

4/15/49C

License 4-12-49

1kw, 500w-LS, DA1 790 kc

790 KC 1 KW N



SITE: 40° 39' 37" N
75° 30' 50" W

STATION WAEB ALLENTOWN, PENNSYLVANIA		Figure 6B Series C490330
		790 KC 1000 WATTS NIGHT
	MEASURED **DIRECTIONAL ANTENNA PATTERN**	FRANK H. McINTOSH *Consulting Radio Engineer* Washington, D.C.

WAEB

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

Station WAEB
Allentown, Pennsylvania

1kw,DA-2,U
790 kc

WAEB - 790 KC

L-10847
4-22-65
IC. INCR. DAY PWR.

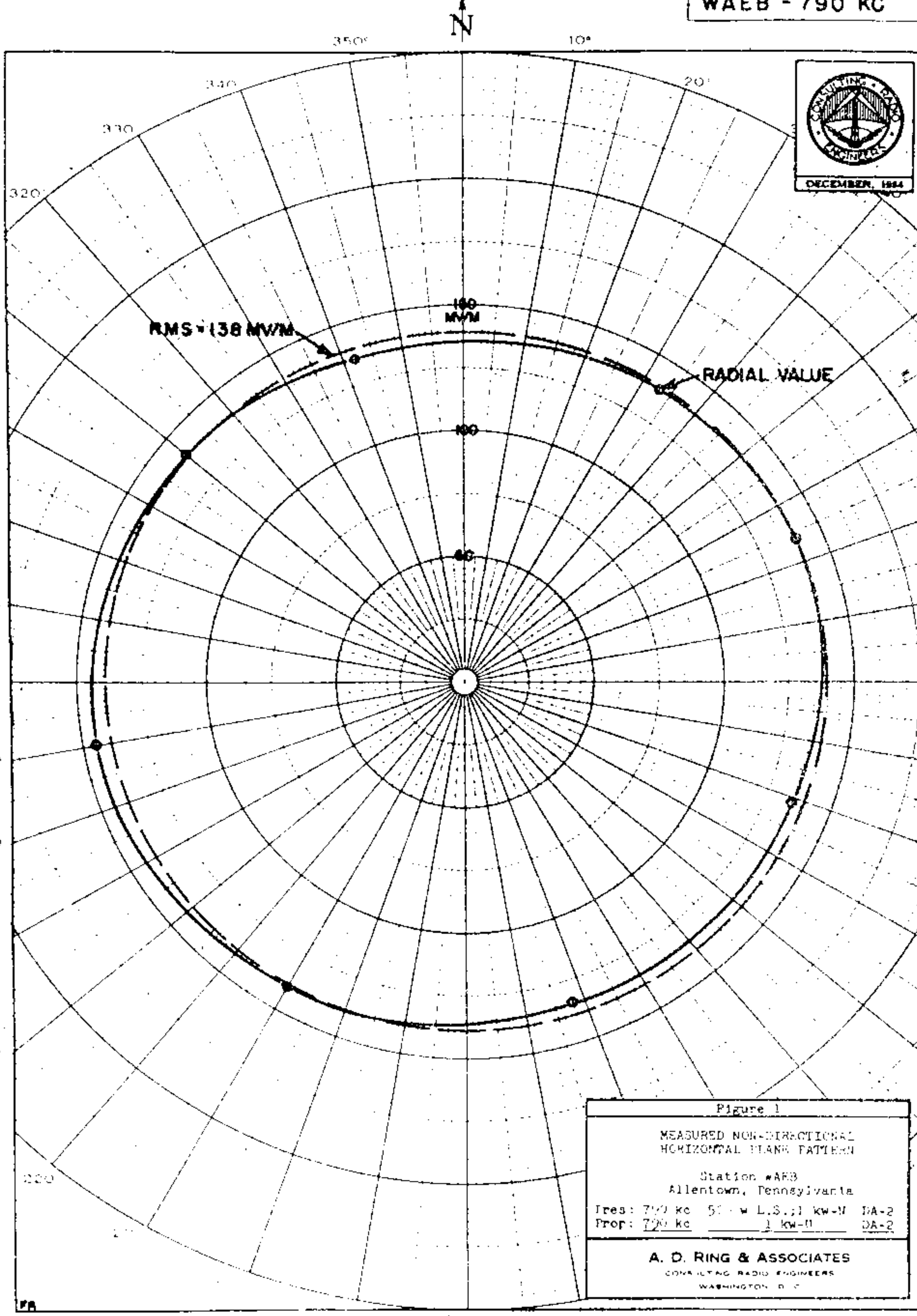


Figure 1

MEASURED NON-DIRECTIONAL
HORIZONTAL PLANE PATTERN

Station WAEB
Allentown, Pennsylvania

Pres: 790 kc 500 w L.S.;1 kw-N DA-2
Prop: 790 kc 1 kw-U DA-2

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

A. D. RING & ASSOCIATES · 4/64 · N

FCC File No. BL-10847
Accepted 4-7-65

Station WAEB
Allentown, Pennsylvania

790 kc

WAKY

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WAKY | Main Studio: Louisville, Kentucky

Frequency: 790 kHz | Power: 1 kW Night 5 kW Day

Notification List No. 1592 | Date: August 7, 1974 | Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:
North Latitude: 38° 11' 34"
West Longitude: 85° 31' 14"

ANTENNA CHARACTERISTICS

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

TOWER:	SW(#1)	SE(#2)	NE(#3)	NW(#4)
HEIGHT ABOVE INSULATORS:	473'	473'	473'	473' (136.8°)
NIGHT PHASING:	+29°	-17°	-29°	+17°
NIGHT FIELD RATIO:	1	1	1	1
DAY PHASING:	0°	-	-	0°
DAY FIELD RATIO:	0.4	-	-	1.0

SPACING AND ORIENTATION: The towers are located at the vertices of a parallelogram the long sides of which are 809' (234°) in length on a line bearing 95° true. The short sides are 713' (206°) in length on a line bearing 25° true.

GROUND SYSTEM: 120-215' to 610' equally spaced copper radials plus a 48' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

Predicted effective Night Field: 186 mv/m at rated power by adjustment of input power.

Predicted effective Day Field: 447.1 mv/m at rated power.

Note: Please retain the Nighttime directional antenna radiation pattern notified for station WAKY in United States Change List Number 1450 dated November 30, 1971, and attach to this Revised Description Sheet and Daytime pattern. This notification concerns only minor changes in the Daytime operation of the station with the proposed Nighttime operation continued as previously notified.

OIR NO 30588A3

WAKY

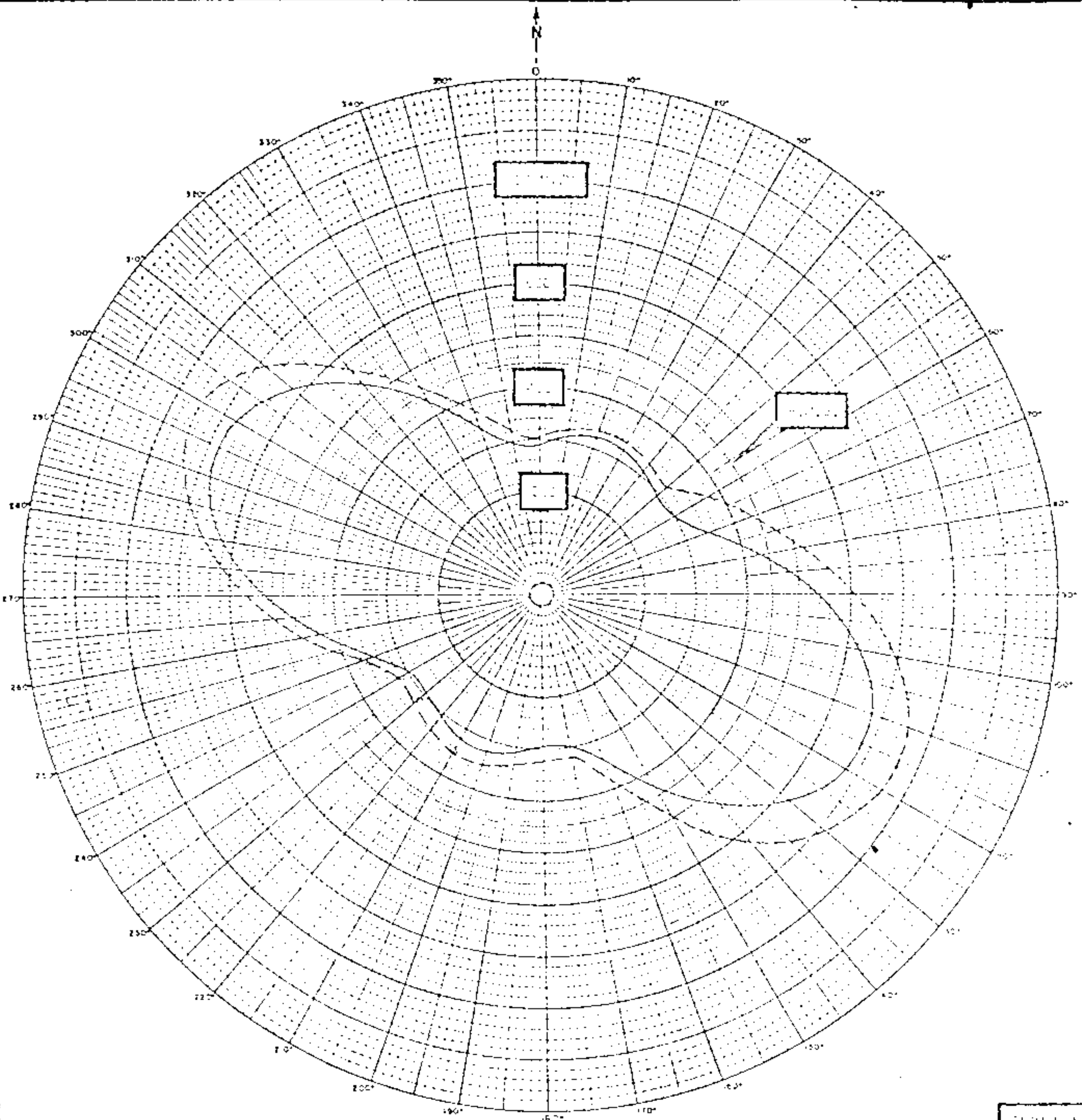
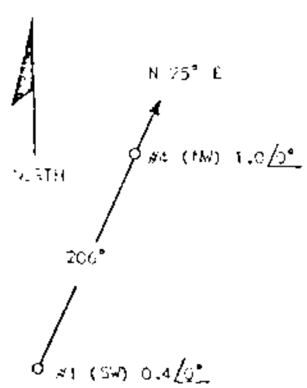


FIGURE 3

HORIZONTAL RADIATION PATTERN



S = 135.8° (ALL TOWERS)

APPLICANT WAKY

LOCATION LOUISVILLE, KENTUCKY

FREQUENCY [illegible] KC/S

POWER 5 KW

LATITUDE 38 DEG 11 MIN 54 SEC.

LONGITUDE 85 DEG 31 MIN 14 SEC.

WHEN USED: DAY

RMS FIELD: 447.1 MV/M

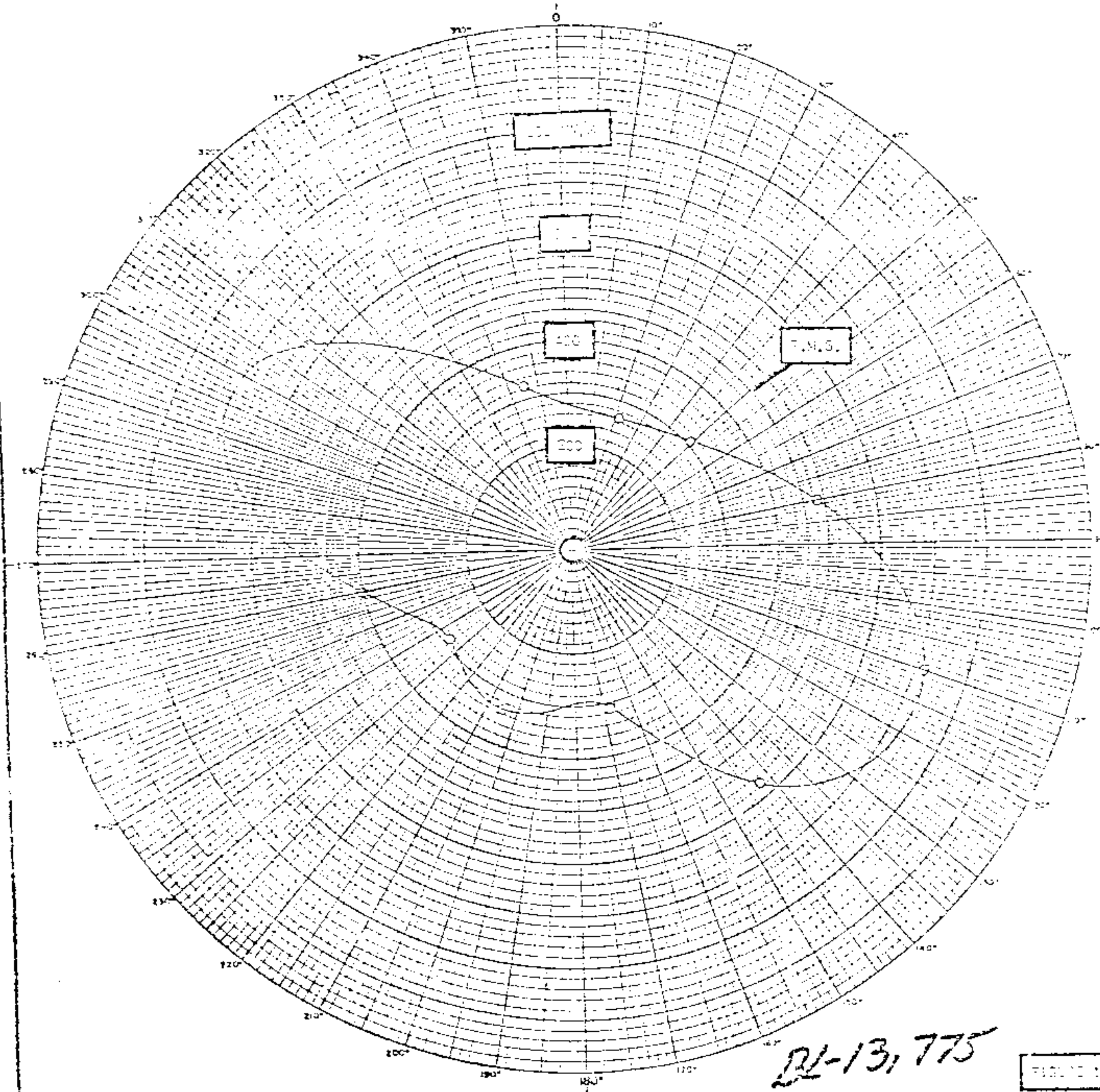
DATE JUNE 1958

SILLIMAN, MOFFET & KOWALSKI

CONSULTING RADIO ENGINEERS

WASHINGTON, D.C.

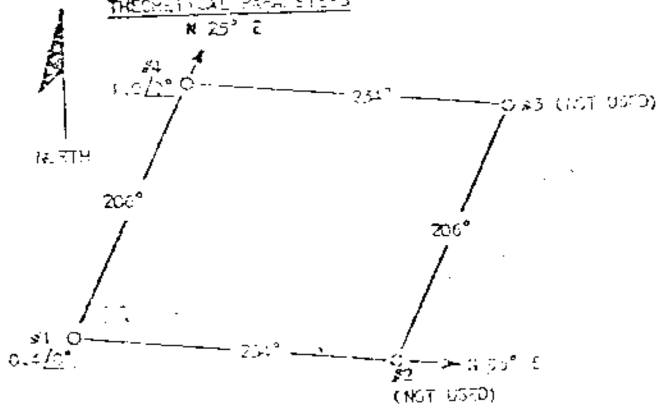
WAKY



BL-13,775

HORIZONTAL RADIATION PATTERN

THEORETICAL PARAMETERS



APPLICANT	WAKY
LOCATION	LOUISVILLE, KENTUCKY
FREQUENCY	790 KC/S
POWER	1 KW-5 KW-LS [illegible]
LATITUDE	38 DEG 11 MIN [illegible] SEC
LONGITUDE	85 DEG 31 MIN [illegible] SEC
WHEN USED	DAYTIME (MEASURED)
RMS FIELD	[illegible] MV/M
DATE	JUNE 1974

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

LOUISVILLE, KENTUCKY WAKY

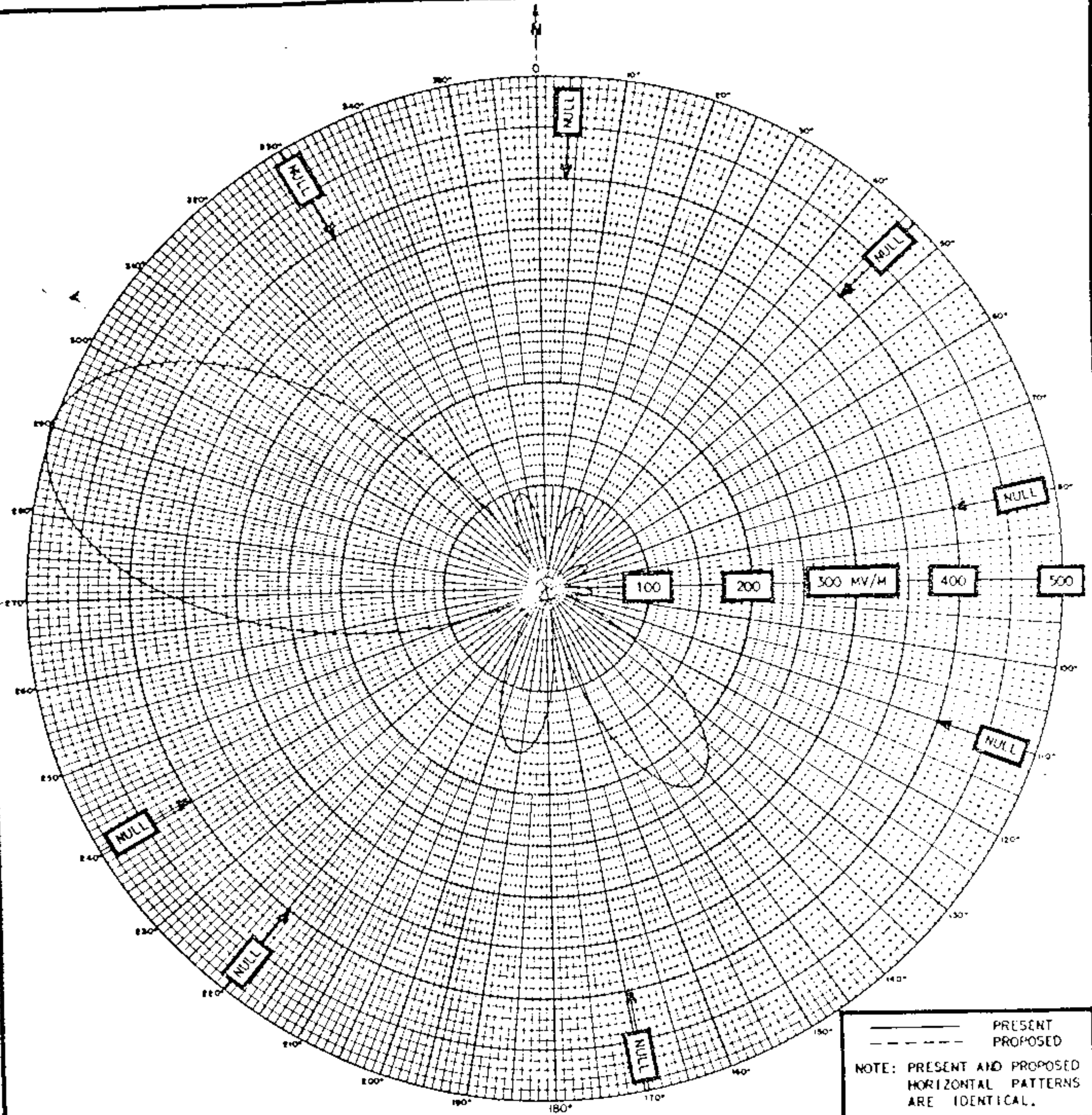
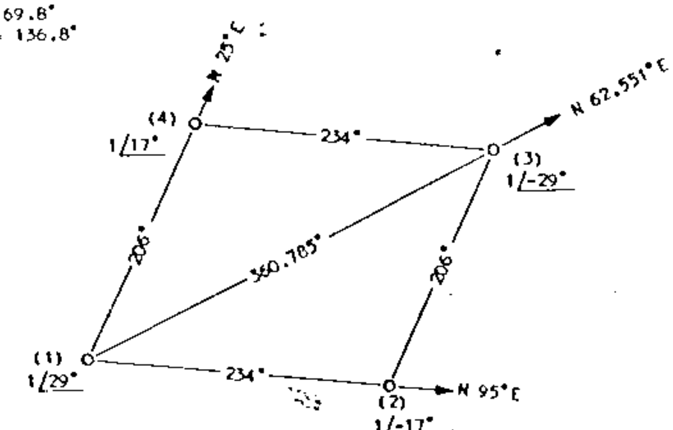


FIGURE 1- A

HORIZONTAL RADIATION PATTERN

PRESENT G = 69.8°
PROPOSED G = 136.8°



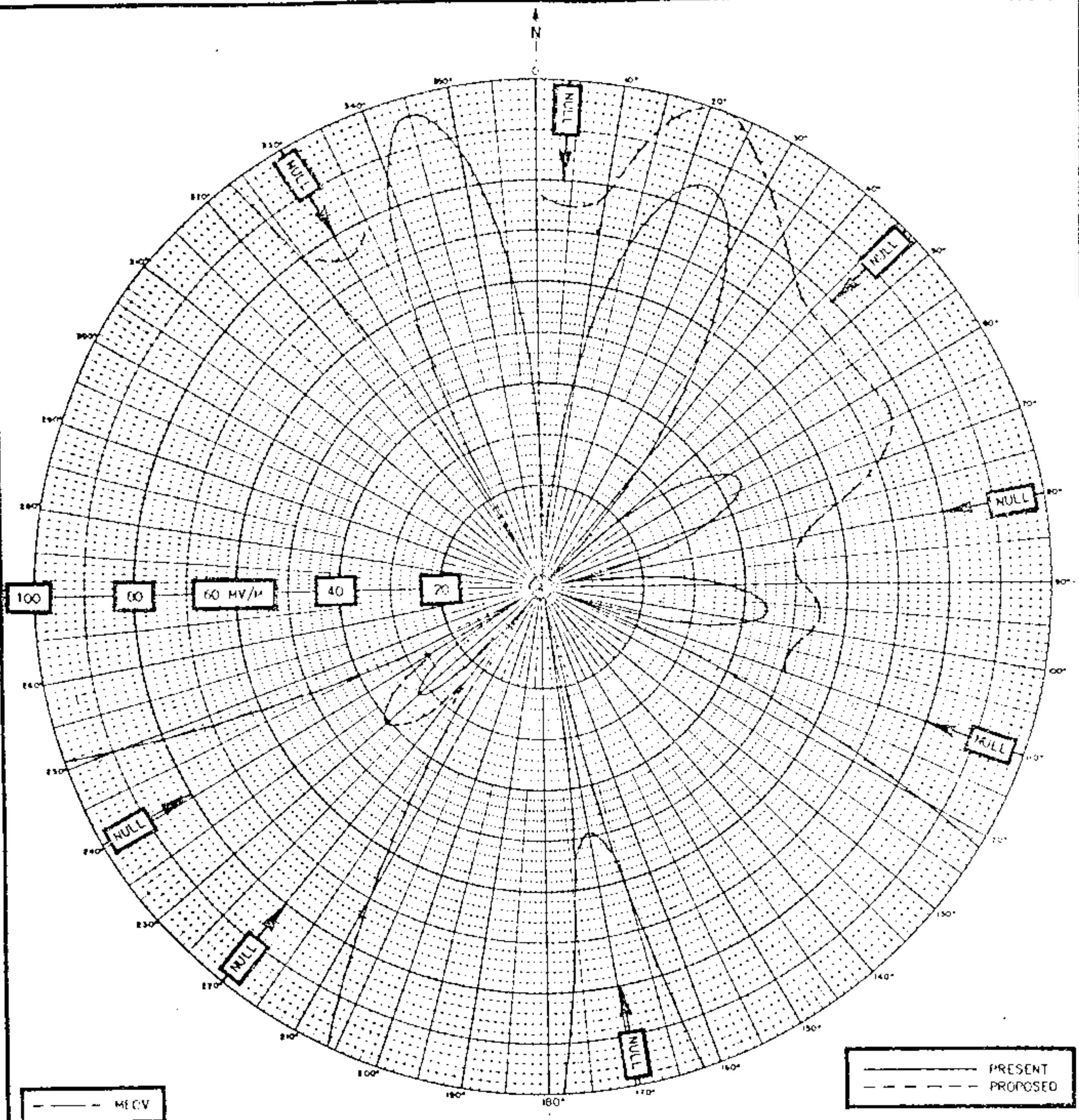
APPLICANT	WAKY, INC.
LOCATION	LOUISVILLE, KENTUCKY
FREQUENCY	790 KC/S
POWER	1 KW.
LATITUDE	38 DEG 11 MIN 34 SEC
LONGITUDE	85 DEG 31 MIN 14 SEC
WHEN USED	NIGHT
RMS FIELD	186 MV/M
DATE	MARCH 1971

SILLIMAN, MOFFET & KOWALSKI

CONSULTING RADIO ENGINEERS

WASHINGTON, D.C.

LOUISVILLE, KENTUCKY WAKY



HORIZONTAL RADIATION PATTERN

FIGURE I-B

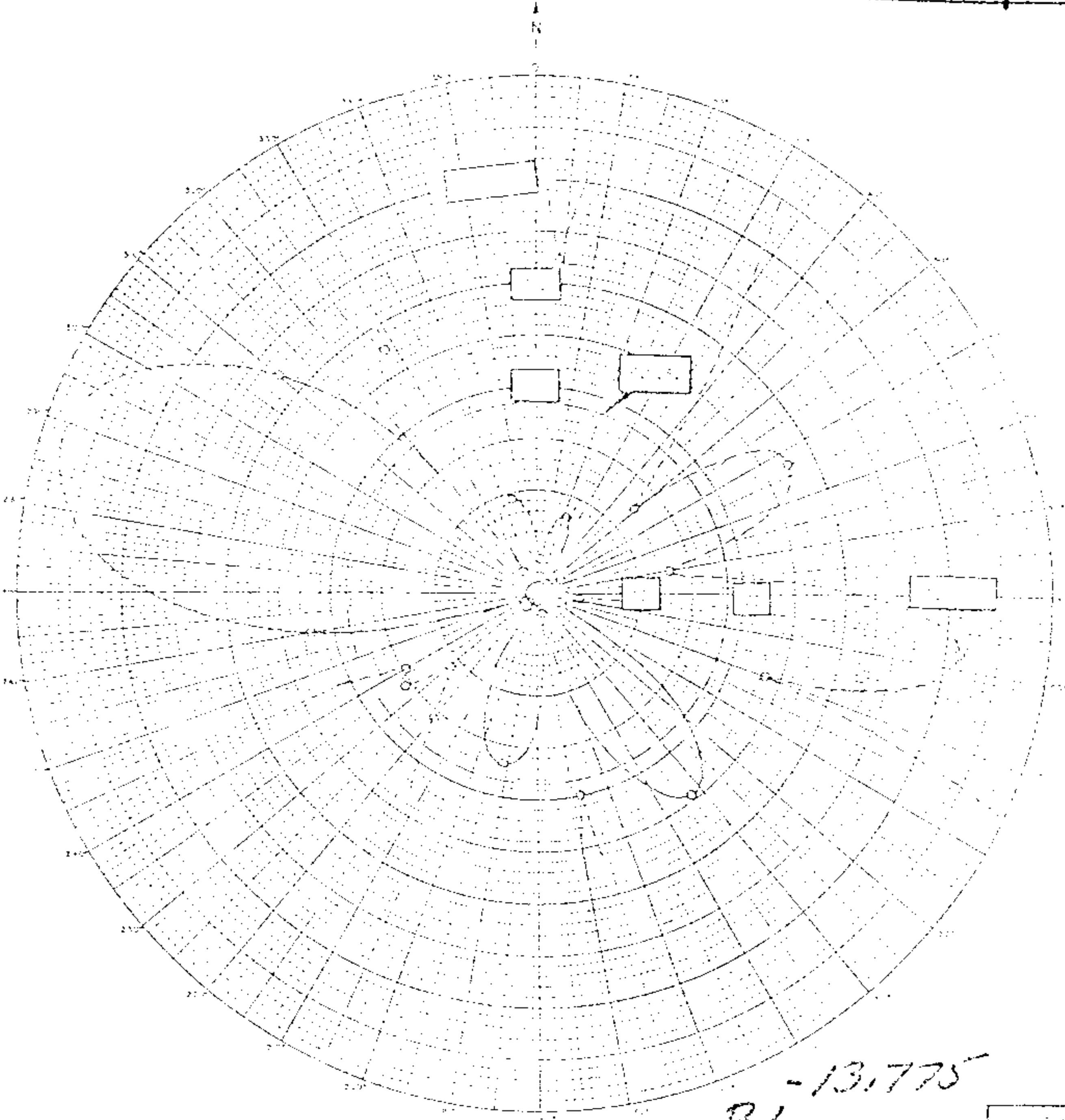
EXPANDED VIEW

SILLIMAN, MOFFET & KOWALSKI

CONSULTING RADIO ENGINEERS

WASHINGTON, D.C.

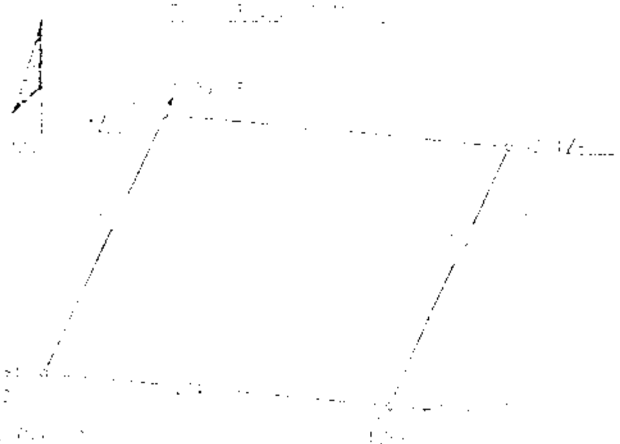
WAKY



-13,775

BL

HORIZONTAL RADIATION PATTERN



APPLICANT

CITY-STATE

FREQUENCY

POWER

LATITUDE DEG MIN SEC

LONGITUDE DEG MIN SEC

WHEN USED

MODIFIED

DATE

SILLIMAN, MOFFET & KOWALSKI

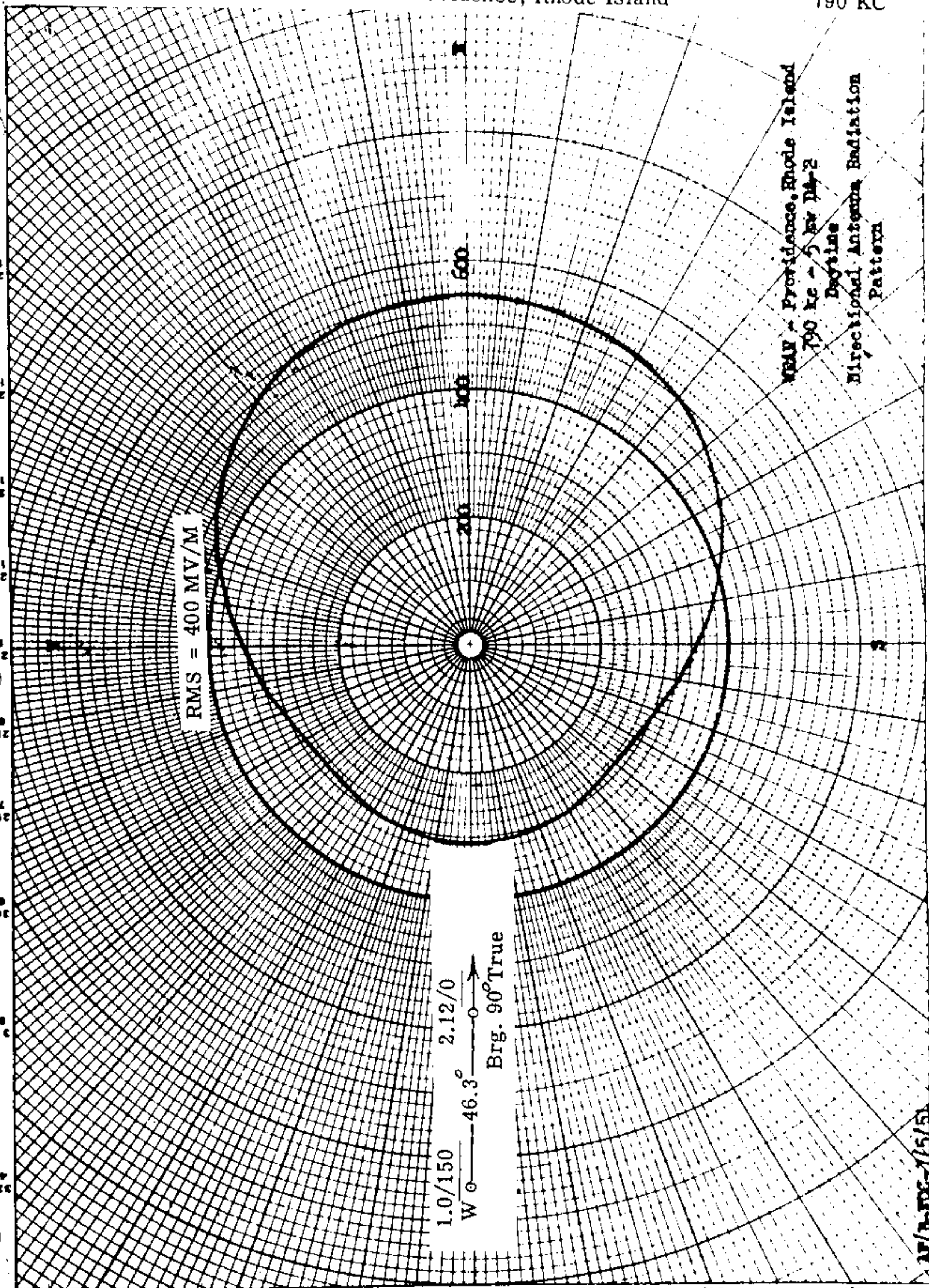
WEAN

PROPOSED DAY
(2/5/57g)

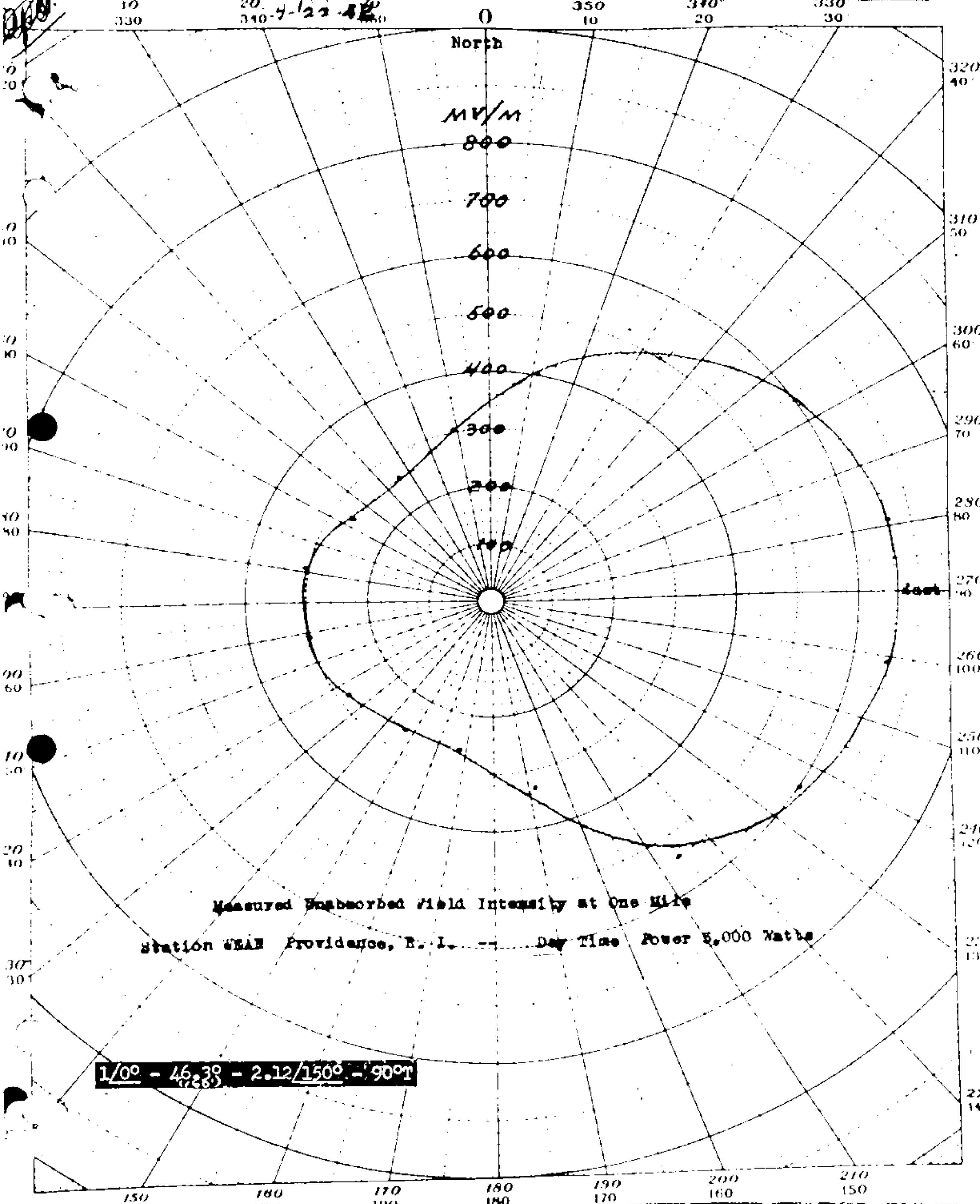
Station WEAN
Providence, Rhode Island

5kw, DA-2,U

790 KC



WEAN-790



WEAN Providence, R. I. 790kc

SUPERSEDES:

WEAN - 790 kc

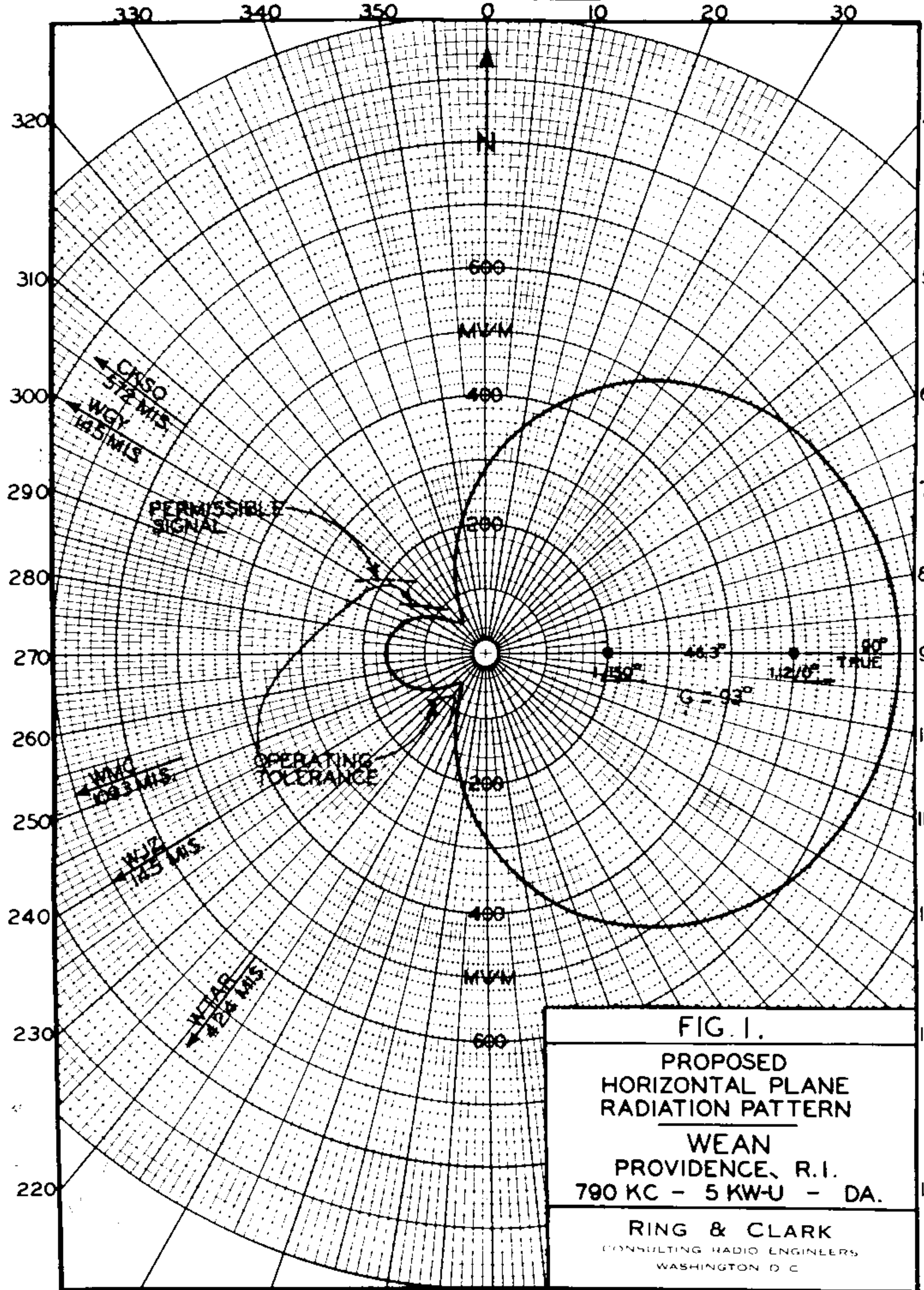


FIG. 1.

PROPOSED
HORIZONTAL PLANE
RADIATION PATTERN

WEAN
PROVIDENCE, R.I.
790 KC - 5 KW-U - DA.

RING & CLARK
CONSULTING RADIO ENGINEERS
WASHINGTON D.C.

(L 16341)

PATTERN No 420316
SUPERSEDES 40501

WEAN - 790 kc

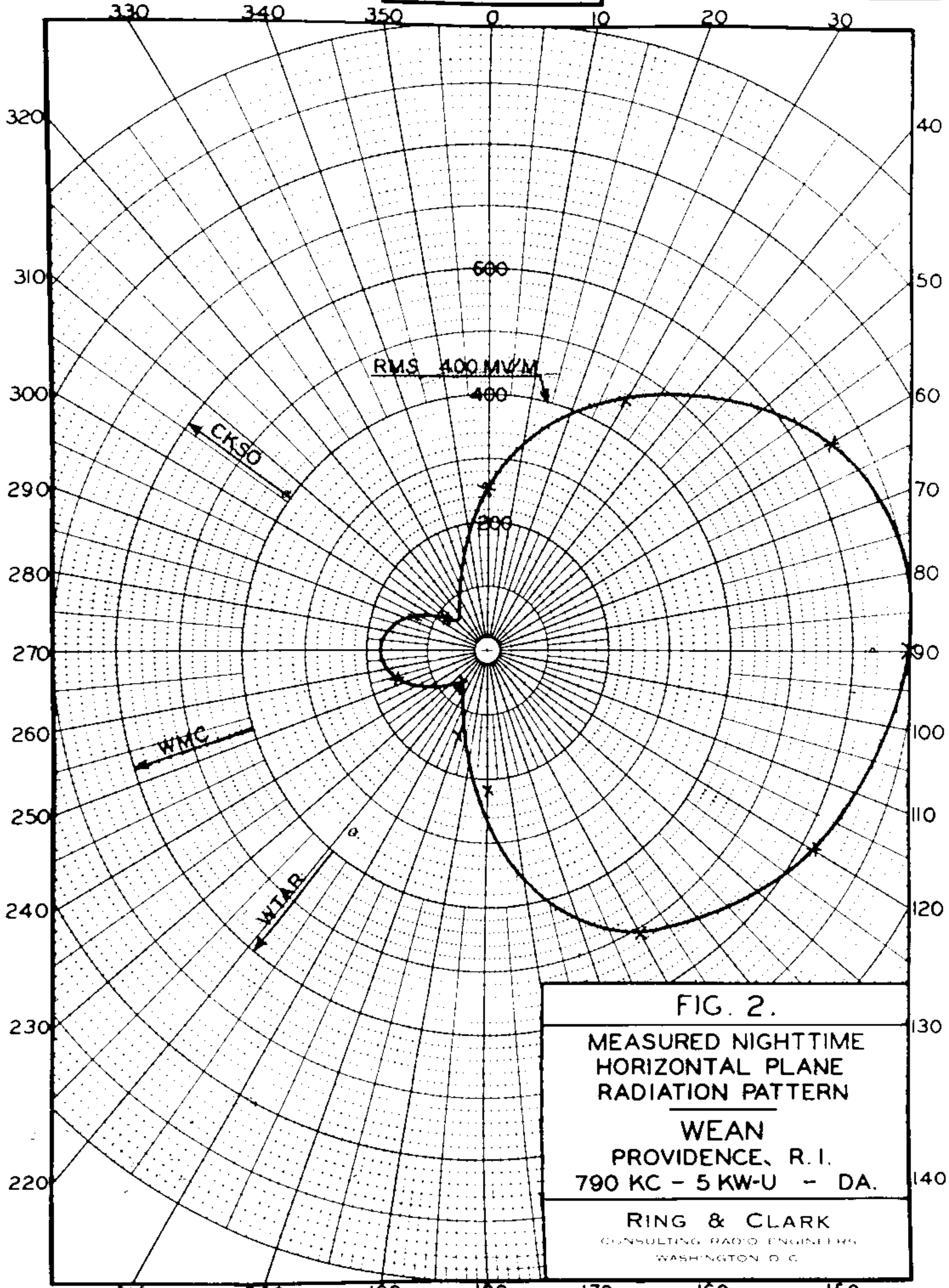


FIG. 2.

MEASURED NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN

WEAN
PROVIDENCE, R.I.
790 KC - 5 KW-U - DA.

RING & CLARK
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.

WEAO

PROPOSED
NIGHT

WEAU, EAU CLAIRE, WISC. 11/22/48 5kw, DAN, U 790 kc

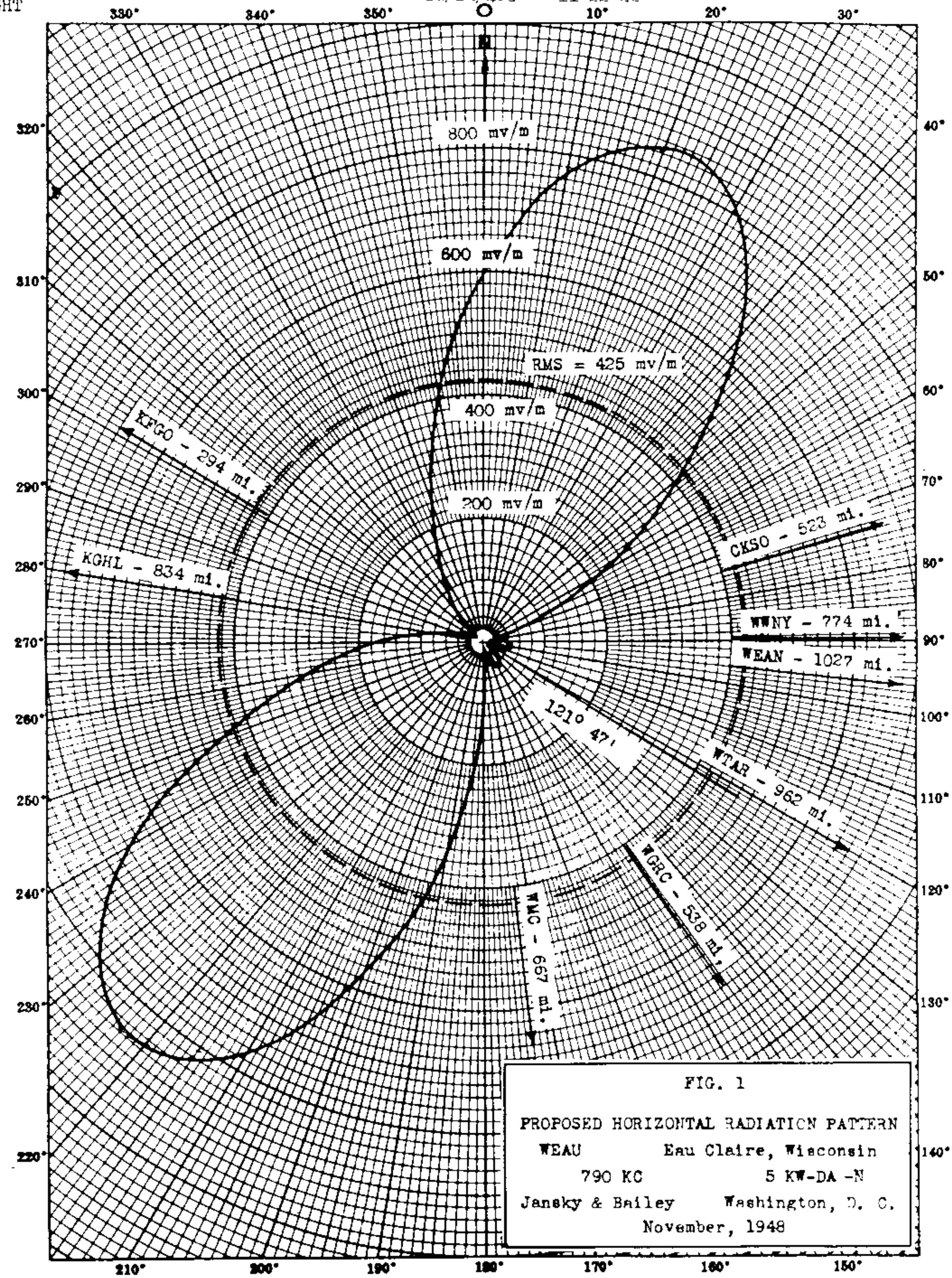


FIG. 1

PROPOSED HORIZONTAL RADIATION PATTERN

WEAU Eau Claire, Wisconsin

790 KC 5 KW-DA -N

Jansky & Bailey Washington, D. C.

November, 1948

WEAG

PROPOSED
NIGHT
NULLS

WEAU, EAU CLAIRE, WISC. 11-22-48 11/24/48 5kw, DAN, U 790 kc

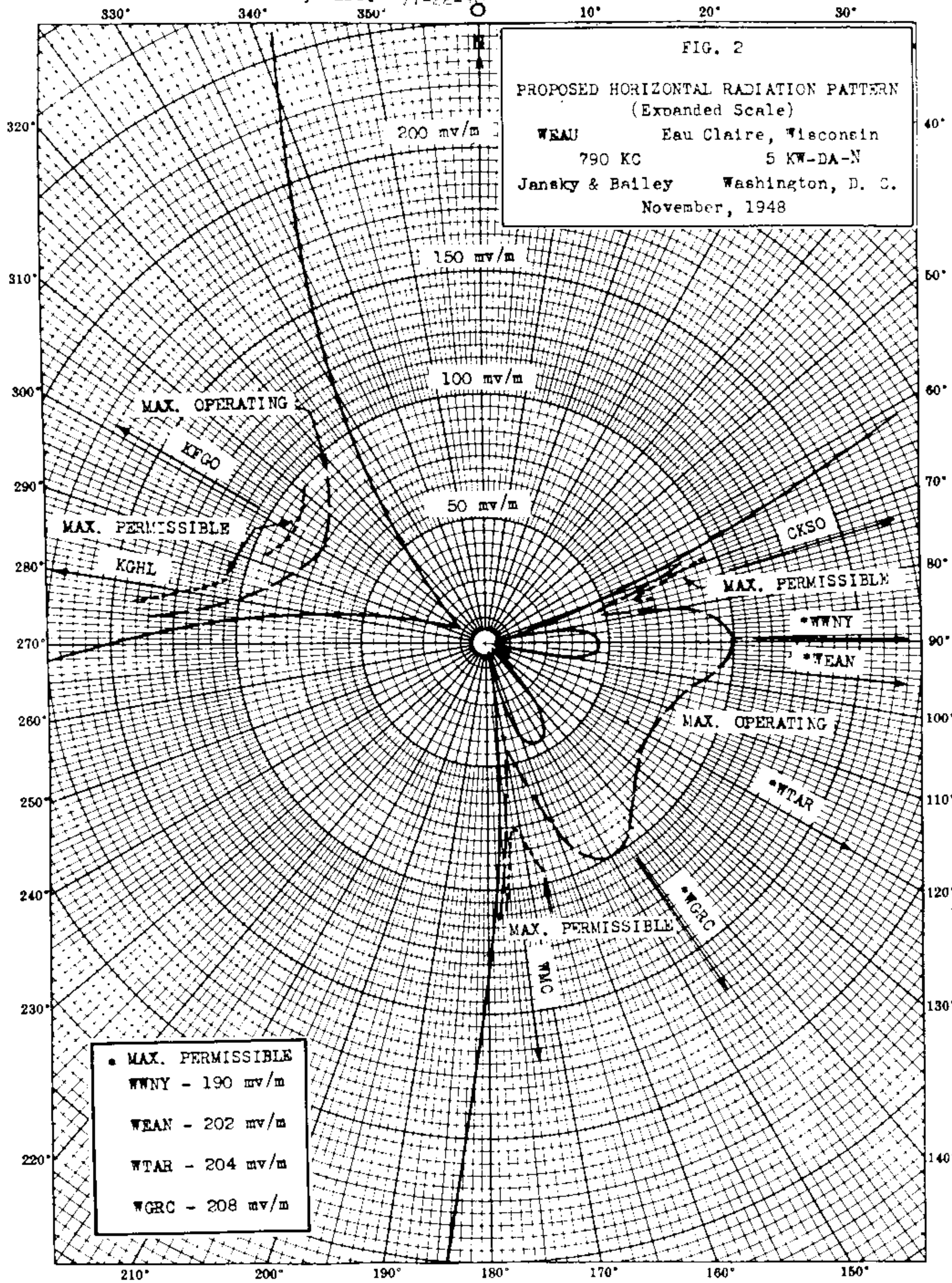


FIG. 2

PROPOSED HORIZONTAL RADIATION PATTERN
(Expanded Scale)

WEAU Eau Claire, Wisconsin
790 KC 5 KW-DA-N
Jansky & Bailey Washington, D. C.
November, 1948

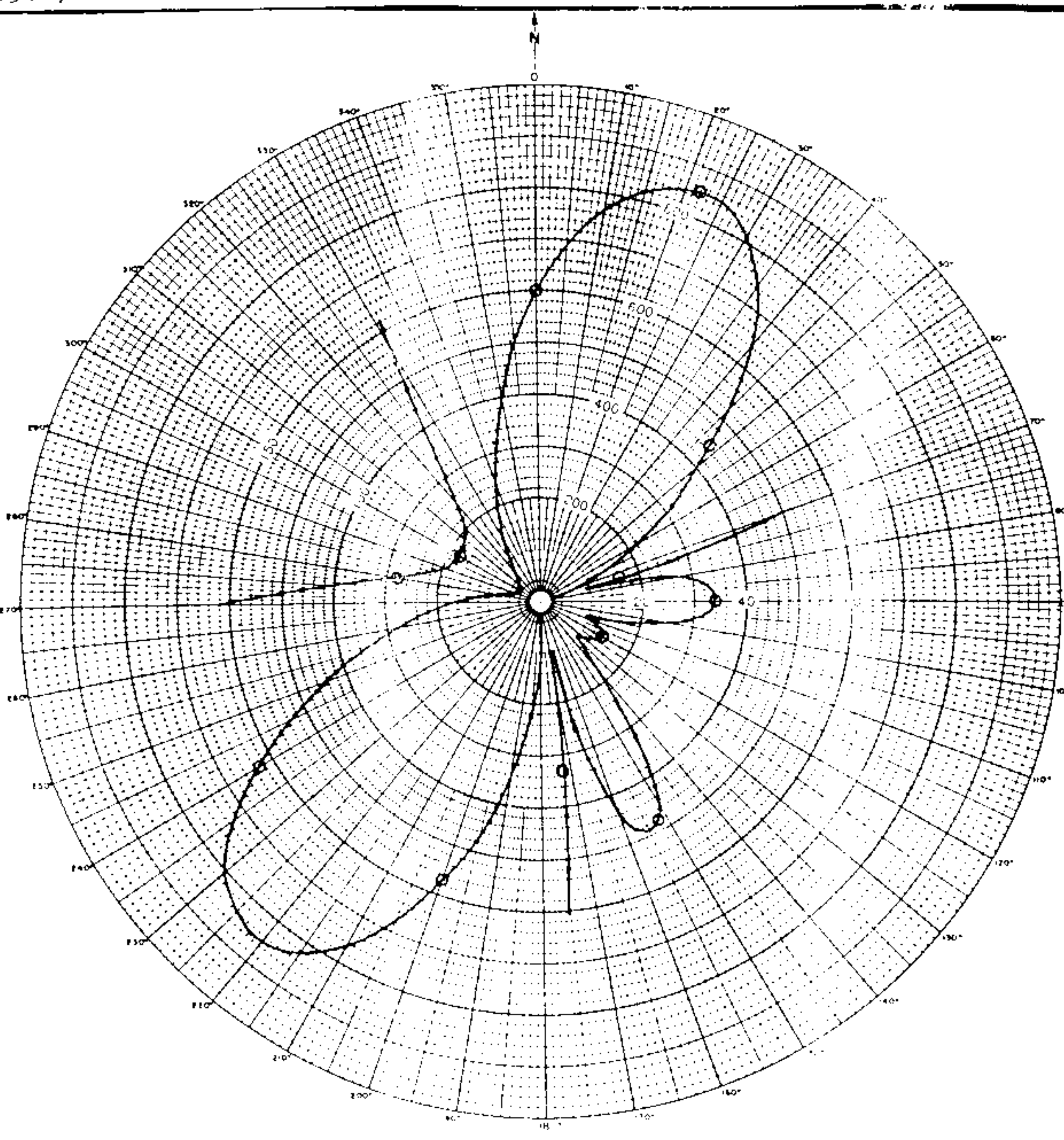
WEAU, EAU CLAIRE, WISC. 790 KC

WEAQ

Measured Night
(10-26-65ct)

Station WEAQ
Eau Claire, Wisconsin

5kw,DA-N,U
7[illegible] kc



E_{RMS} = 41[illegible] mV/m

LATITUDE 44° 49' 51"

LONGITUDE 91° 26' 58"

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

ANTENNA PARAMETERS

SPACING BETWEEN ADJOINING TOWERS = 180°

S_1 - 130° - S_2 = 7[illegible].5° - S_3 = 77.2°

0.56/-30°
3

1.0/0°
2

0.56/+30°
1 → 121°47'

650604 FIGURE 3

MEASURED

NIGHTTIME DIRECTIONAL ANTENNA PATTERN

RADIO STATION WEAQ

EAU CLAIRE, WISCONSIN

790 KC 5000 LS, DA-N, U

FCC File No. BZ-5740
Accepted 10-20-65

Station WEAQ
Eau Claire, Wisconsin

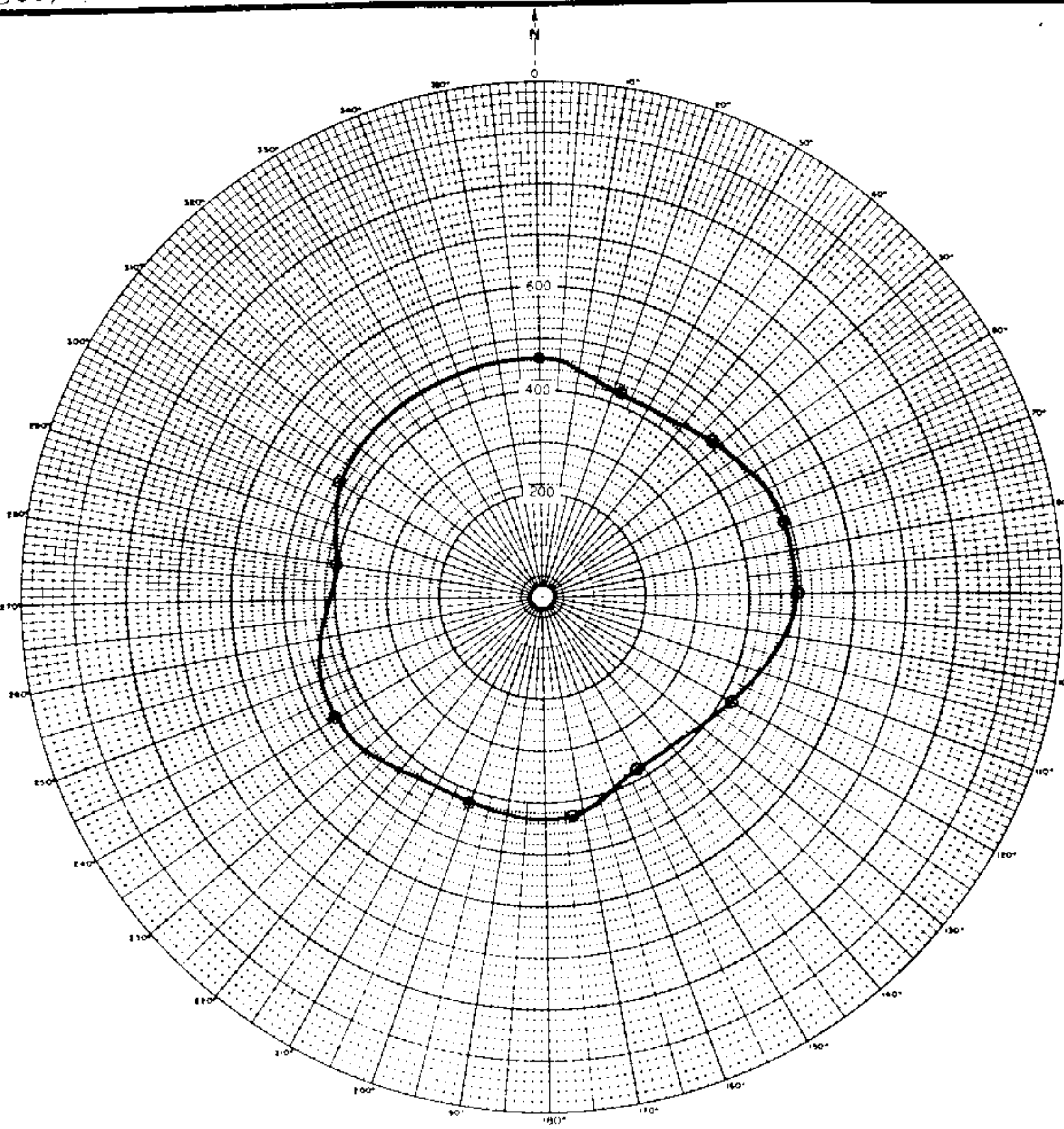
790 kc

WEAQ

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

Station WEAQ
Eau Claire, Wisconsin

5kw,DA-N,U
790 kc



E_{RMS} = 444 MV/M

LATITUDE: 44° 49' 48"

LONGITUDE: 91° 26' 48"

ANTENNA PARAMETERS

S_1 = 130° (TAPERED, SELF-SUPPORTING)

650604 FIGURE 2

MEASURED NON-DIRECTIONAL RADIATION
RADIO STATION WEAQ
EAU CLAIRE, WISCONSIN

790 KC 5000 LS, DA-N, U

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

FCC File No. BZ-5740
Accepted 10-20-65

Station WEAQ
Eau Claire, Wisconsin

790 kc

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WFUN

Main Studio: South Miami, Florida

Frequency: 790 kHz

Power: 5 kW

Notification List No. 1696

Date: August 5, 1976

Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 25° 45' 25"
West Longitude: 80° 38' 13"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 5
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers, top loaded by upper sections of guy wires to an effective electrical height of 79.64°(*)

TOWER:	W(#1)	NC(#2)	NE(#3)	S(#4)	SE(#5)
HEIGHT ABOVE INSULATORS:	All towers 250.5' (*)				
NIGHT PHASING:	-	-19.7°	-113.7°	0°	-94°
NIGHT FIELD RATIO:	-	0.85	0.765	1.0	0.9
DAY PHASING:	0°	-102.56°	-205.11°	-	-
DAY FIELD RATIO:	1.00	1.947	1.00	-	-

SPACING AND ORIENTATION: Nighttime towers #2, #3, #4 and #5 are located at the vertices of a parallelogram the long sides of which are 778.5' (225°) in length on a line bearing 351° true. The short sides are 346' (100°) in length on a line bearing 46° true.

Daytime towers #1, #2 and #3 are located in a row with adjacent towers spaced 346' (100°) on a line bearing 46° true.

GROUND SYSTEM: 120-310' 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.

(Cont'd)

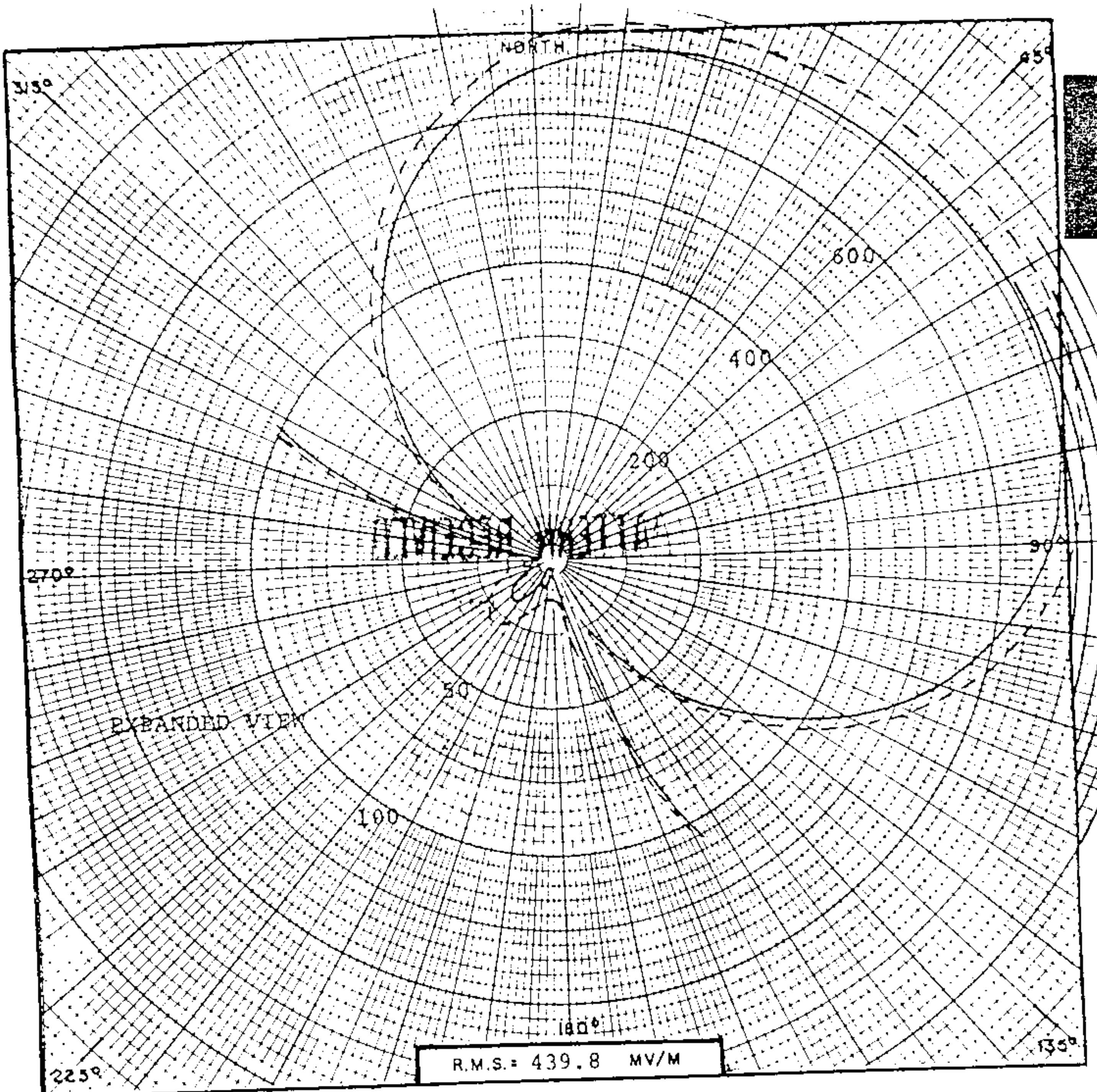
WFUN

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS
Day	439.8 mv/m
Night	425 mv/m

Note: Please retain the Nighttime directional antenna radiation pattern notified for Station WFUN in United States Change List Number 1676 dated March 19, 1976, and attach to this Revised Description Sheet and Daytime pattern. This notification concerns only a change in the Daytime operation of the station with Nighttime operation continued as previously notified.

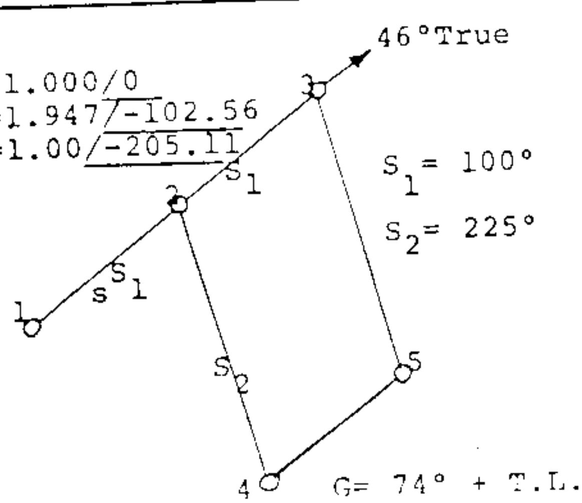
CTR NO 30641A3



PATTERN PARAMETERS

1=1.000/0
2=1.947/-102.56
3=1.00/-205.11

S_1= 100°
S_2= 225°



G= 74° + T.L.

DIRECTIONAL RADIATION PATTERN

W F U N

☐ MEASURED ☒ PROPOSED

FREQ 790 (KHZ) POWER 5.0 (KW) ☒ DA-D

N LAT. 25° 45' 25" ☐ DA-N

W. LONG. 80° 38' 13" ☐ N-D

LOCATION: South Miami, Florida

DATE: September, 1975

ROBERT A JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

WFUN

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WFUN

Main Studio: South Miami, Florida

Frequency: 790 kHz

Power: 5 kW

Notification List No. 1676

Date: March 19, 1976 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE DAY AND NIGHT ANTENNA SYSTEMS:

	Daytime				Nighttime		
North Latitude	25°	41'	28"	North Latitude	25°	45'	25"
West Longitude	80°	24'	02"	West Longitude	80°	38'	13"

Authorized for Daytime and Nighttime operation. (DA-2)

NIGHTTIME ANTENNA CHARACTERISTICS

Number of elements: 4

Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers, top loaded by upper sections of guy wires to an effective electrical height of 79.64°. (*)

TOWER:	W(#2)	N(#3)	S(#4)	E(#5)
HEIGHT ABOVE INSULATORS:	All towers 250.5' (*)			
NIGHT PHASING:	-19.7°	-113.7°	0°	-94°
NIGHT FIELD RATIO:	0.85	0.765	1.0	0.9

The towers are located at the vertices of a parallelogram the long sides of which are 778.5' (225°) in length on a line bearing 351° true. The short side are 346' (100°) in length on a line bearing 46° true.

Note: Tower #1 shown on the attached horizontal nighttime radiation pattern is not in use.

GROUND SYSTEM: 120-310' 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 systems are bonded together.

Predicted effective Night Field: 425 mv/m at rated power.

DAYTIME ANTENNA CHARACTERISTICS

Number of elements: 6

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

(Cont'd)

WFUN

TOWER:	S(#1)	SE(#2)	E(#3)	W(#4)	NW(#5)	N(#6)
HEIGHT ABOVE INSULATORS:	All towers 300' (86.7°)					
DAY PHASING:	+98.5°	0°	-98.5°	+101°	+2.5°	-96°
DAY FIELD RATIO:	0.5085	0.95	0.4589	0.2746	0.513	0.2478

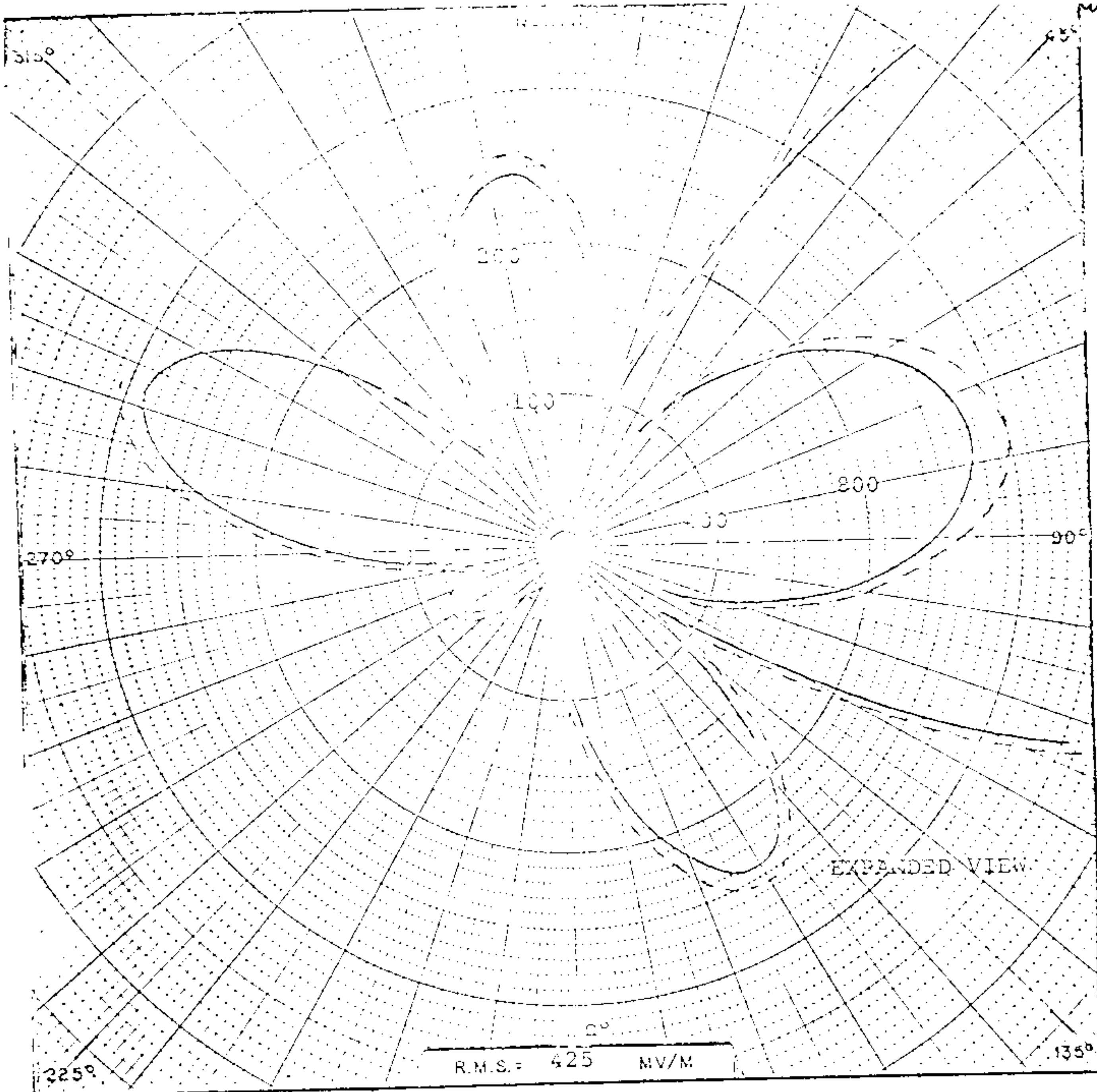
SPACING AND ORIENTATION: The towers are located in two rows with three towers per row. Towers in a row are spaced 346' (100°) between adjacent towers on a line bearing 45° true. End towers forming the remaining sides of the parallelogram are spaced 645' (186.6°) on a line bearing 324° true.

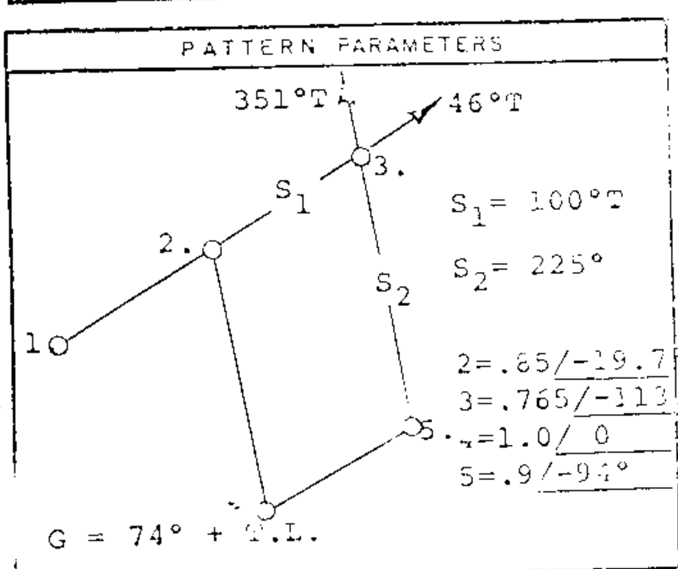
GROUND SYSTEM: 120-170' to 310' equally spaced copper radials plus a 24' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of systems are bonded together.

Predicted effective Day Field: 480 mv/m at rated power.

Note: Please retain the Daytime directional antenna radiation pattern notified for station WMBM (now WFUN) in United Stated Change List Number 775, dated September 10, 1958 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.

CTR NO 30641A3





DIRECTIONAL RADIATION PATTERN

RADIO STATION WFUN

☐ MEASURED ☒ PROPOSED

FREQ 790 (KHZ) POWER 5.0 (KW) DA-D / DA-N / ND

N LAT ° ' "

W LONG ° ' "

LOCATION South Miami, Florida

DATE December 1975

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

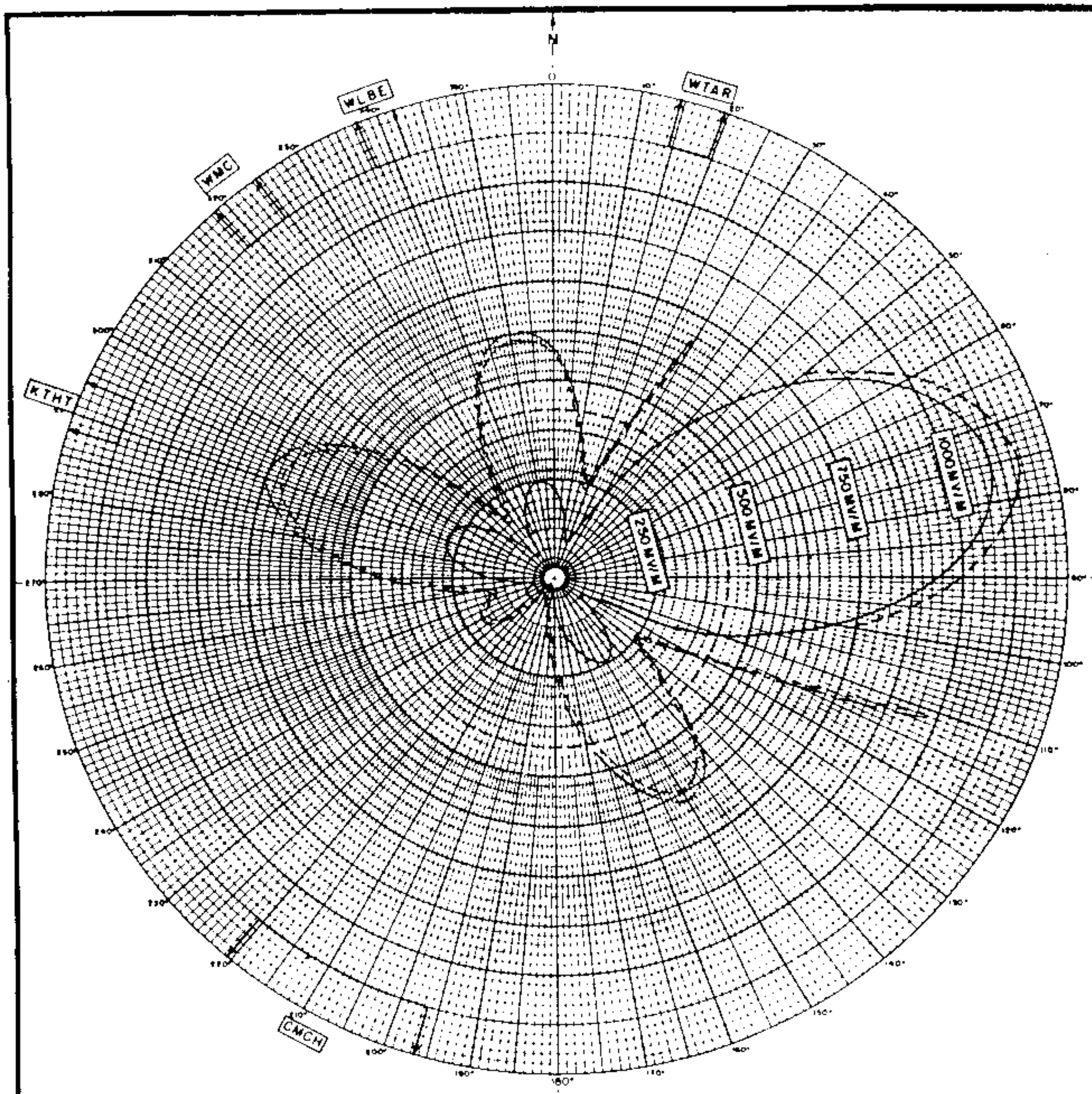
FIGURE A-1

WFUN

PROPOSED NIGHT
(6-20-58g)

Station WMBM 5kw, DA-2,U
South Miami, Florida 790 KC

Granted CP 1/10/58 for change in reg. + DA pattern



— — MEOV
- - - EXPANDED SCALE

E_{RMS} = 425 MV/M

LATITUDE: 25° 41' 27.7"
LONGITUDE: 80° 24' 01.5"

JOHN H. MULLANEY
Consulting Radio Engineers
Washington, D. C.

ANTENNA PARAMETERS

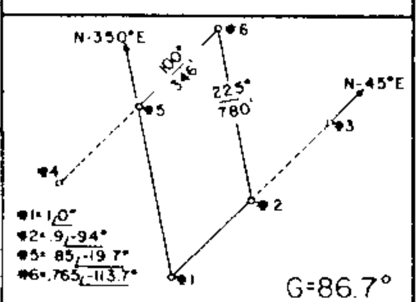


FIGURE 6

(NIGHTTIME)
HORIZONTAL POLAR
PATTERN

RADIO STATION WMBM
SOUTH MIAMI, FLA.

790 KC 5 KW, DA-2,U

FCC File No. BP-11,316
Accepted 5-26-58 (Amended)

WMBM
South Miami, Florida 790 KC

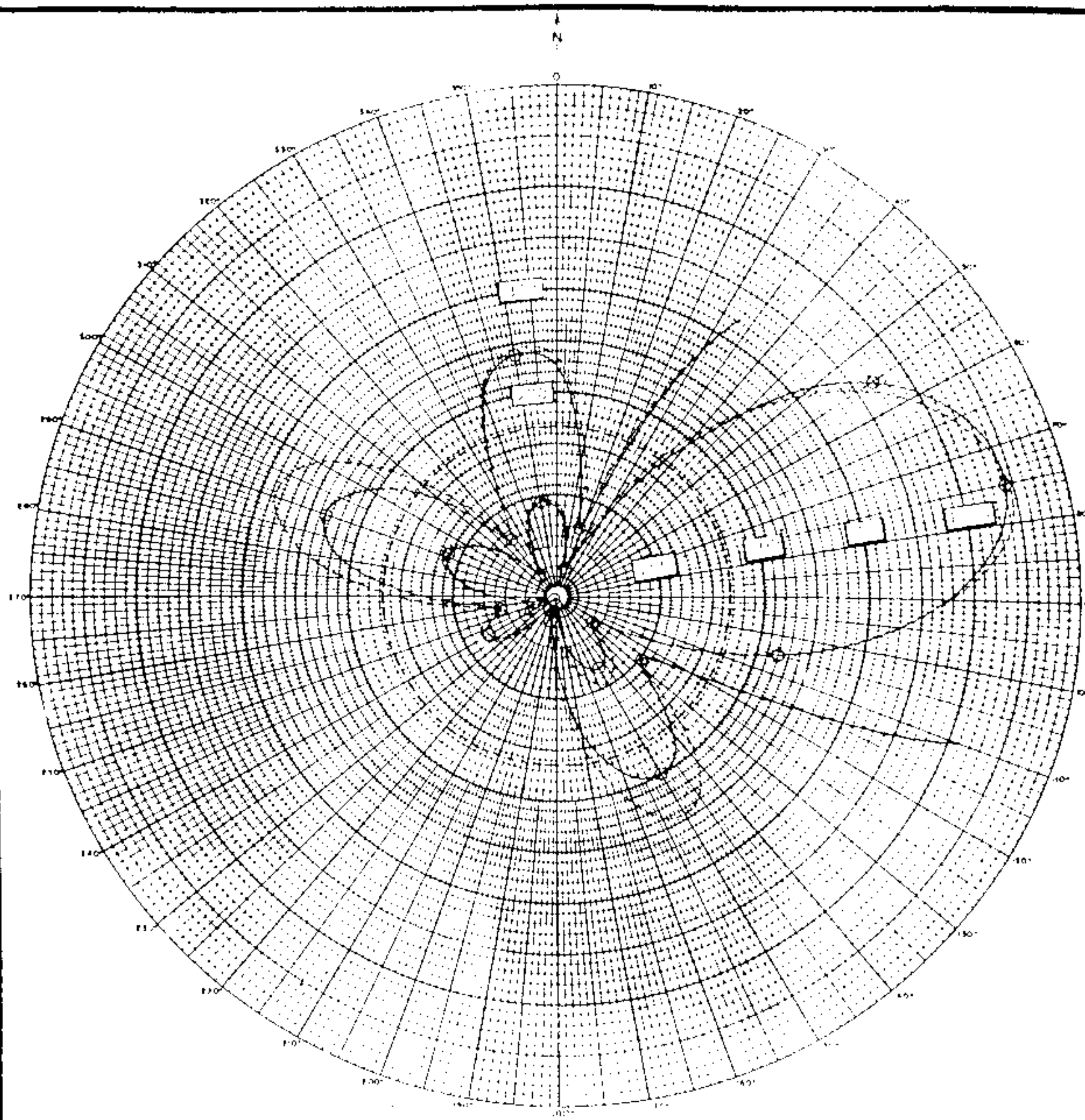
WFUN

MEASURED NIGHT (4-22-60?)

Station WMBM
South Miami, Florida

5kw, DA-2,U
790 KC

punted in for DA-28-16-60



o RADIAL VALUES
---- THEORETICAL PATTERN
—— MEASURED PATTERN

E_{RMS} = 417 MV/M (MEASURED)

LATITUDE: 25° 41' 27.7"
LONGITUDE: 80° 24' 01.5"

JOHN H. MULLANEY
Consulting Radio Engineers
Washington, D. C.

ANTENNA PARAMETERS

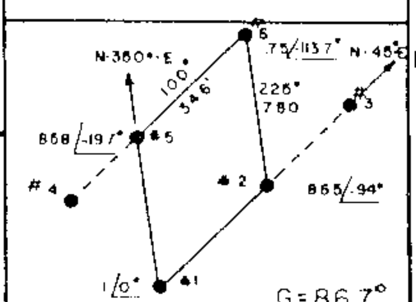


FIGURE 30
PLOT OF MEASURED NIGHTTIME HORIZONTAL PATTERN

RADIO STATION WMBM
SOUTH MIAMI, FLORIDA

790 KC 5 KW, DA-2,U

FCC File No. BL-7874
Accepted 4-7-60

WMBM
South Miami, Florida

790 KC

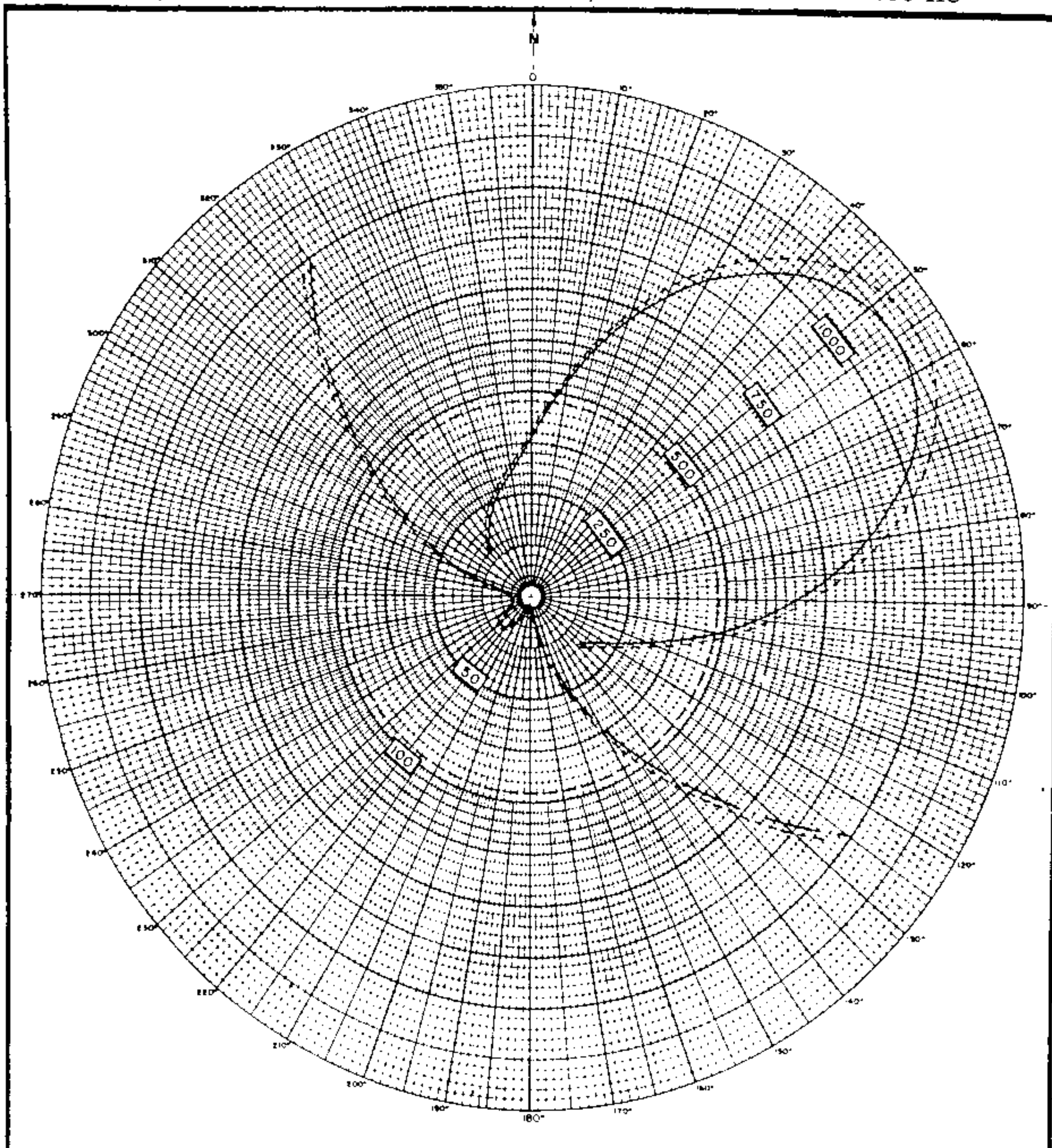
WFUN

anted CP
9/10/58) for
hange in freq
DA system

PROPOSED DAY
(8-18-58g)

Station WMBM
South Miami, Florida

5kw, DA-2,U
790 KC



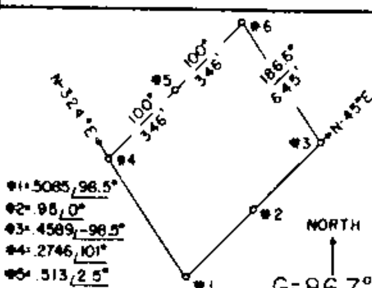
E_{RMS} = 480 MV/M

--- MEOV
— — EXPANDED SCALE

LATITUDE: 25° 41' 27.7"
LONGITUDE: 80° 24' 01.5"

JOHN H. MULLANEY
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.

ANTENNA PARAMETERS



#1=.5085 ∠96.5°
#2=.96 ∠0°
#3=.4589 ∠-98.5°
#4=.2746 ∠101°
#5=.513 ∠2.5°
#6=.2478 ∠-96°

G=86.7°

FIGURE 4

(DAYTIME)
HORIZONTAL POLAR
PATTERN

RADIO STATION WMBM
SOUTH MIAMI, FLA.

790 KC 5 KW, DA-2, U

FCC File No. BP-11316
Accepted 8-8-58 (Amended)

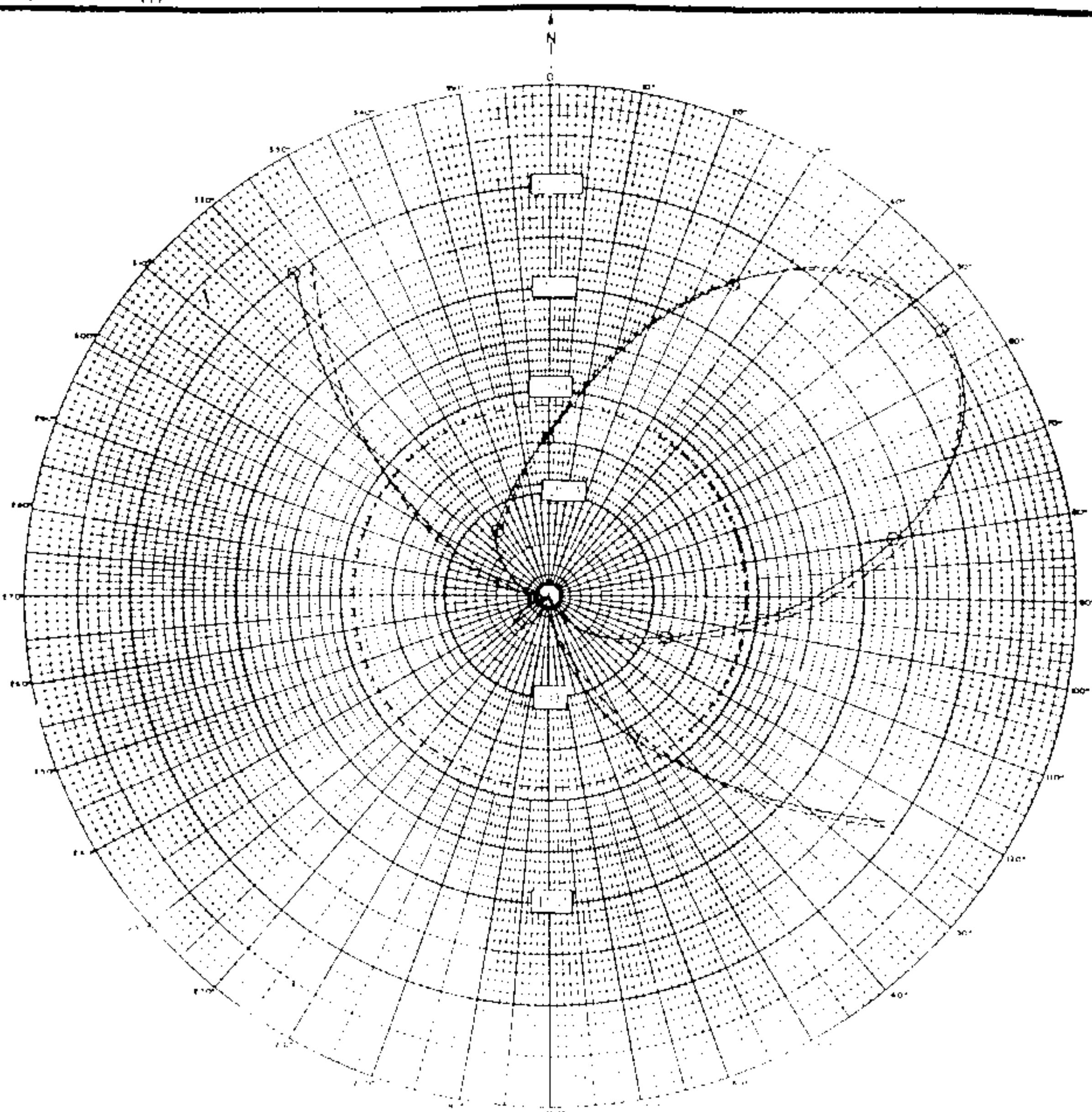
WMBM
South Miami, Florida

790 KC

WFUN

MEASURED DAY (4-22-60g) | Station WMBM, South Miami, Florida | 5kw, DA-2,U 790 KC

printed L. for DA-2 8-16-60



o RADIAL VALUES
----- THEORETICAL PATTERN
——— MEASURED PATTERN

E_{RMS} 472 MV/M (MEASURED)

LATITUDE 25° 41' 27.7"
LONGITUDE 80° 24' 01.5"

JOHN H. MULLANEY
CONSULTING RADIO ENGINEER
WASHINGTON, D.C.

ANTENNA PARAMETERS

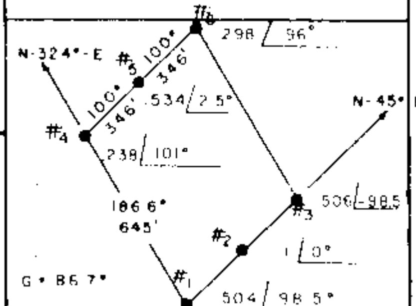


FIGURE 28
PLOT OF MEASURED DAYTIME HORIZONTAL PATTERN

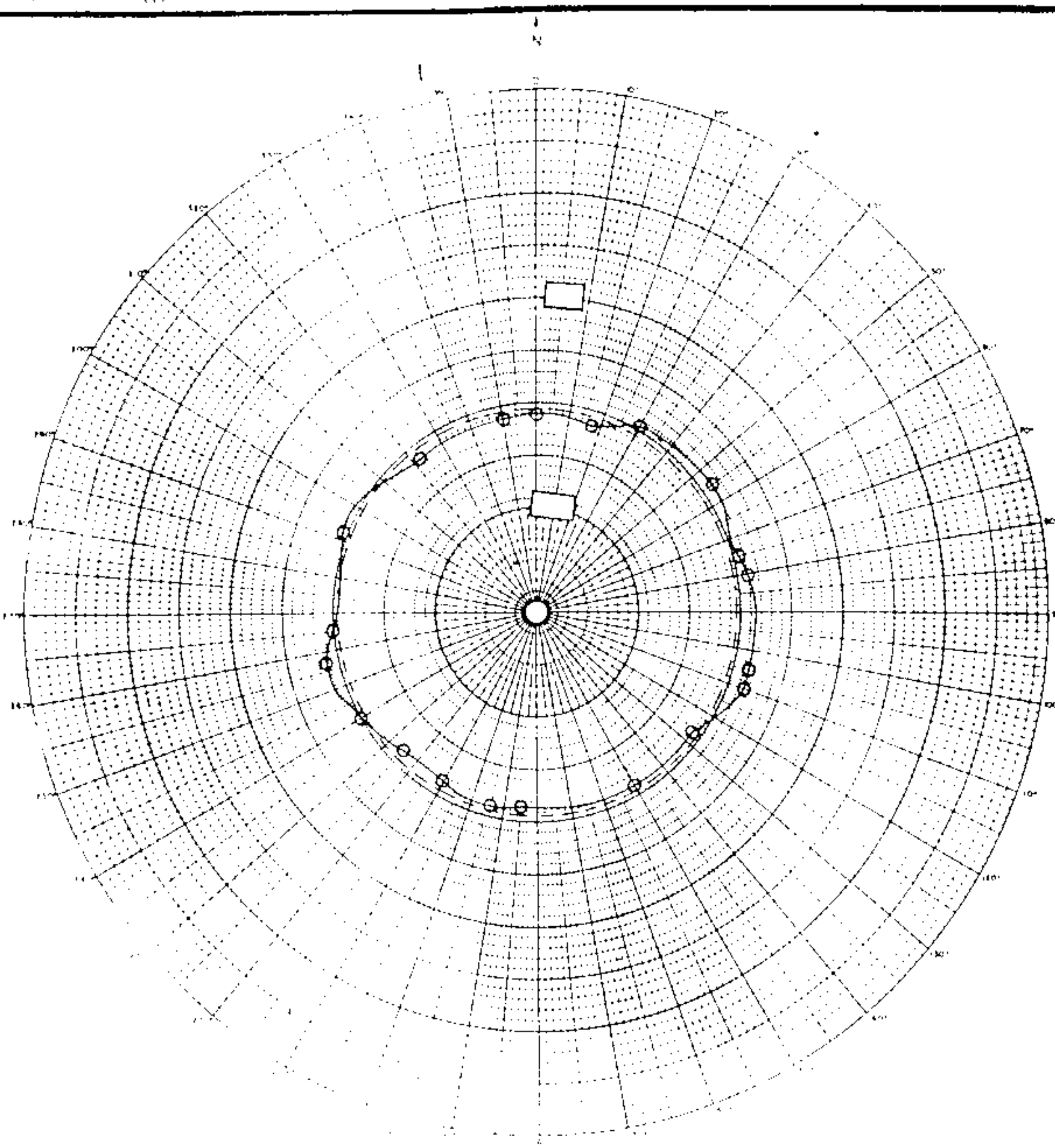
RADIO STATION WMBM
SOUTH MIAMI, FLORIDA

790 KC 5 KW,DA-2,U

FCC File No. BL-7874
Accepted 4-7-60
WMBM
South Miami, Florida 790 KC

WFUN

MEASURED NON-DA (4-22-60g) | Station WMBM South Miami, Florida | 5kw, DA-2,U 790 KC



E_{RMS} 197 MV/M (MEASURED) ⊙ RADIAL VALUE

LATITUDE 25° 41' 27.7"
LONGITUDE 80° 24' 01.5"

JOHN H. MULLANEY
CONSULTING RADIO ENGINEERS

ANTENNA PARAMETERS

G=86.7

FIGURE 26
PLOT OF MEASURED NON-DIRECTIONAL PATTERN

RADIO STATION WMBM
SOUTH MIAMI, FLORIDA

790 KC 5 KW, DA-2, U

FCC File No. BL-7874
Accepted 4-7-60

WMBM
South Miami, Florida 790 KC

WHTH
790 kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WHTH

Main Studio: Heath, Ohio

Frequency: 790 kHz

Power: 0.5kw Day

Notification List No. 1783

Date: November 2, 1979 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 40° 03' 05"
West Longitude: 82° 28' 08"

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:	NW(1)	C(#2)	SE(#3)
HEIGHT ABOVE INSULATORS:	218.6'	218.6'	218.6' (63.2°) top loaded to 70°
PHASING:	0	+204.5°	+52.38°
FIELD RATIO:	1	1.270	0.584

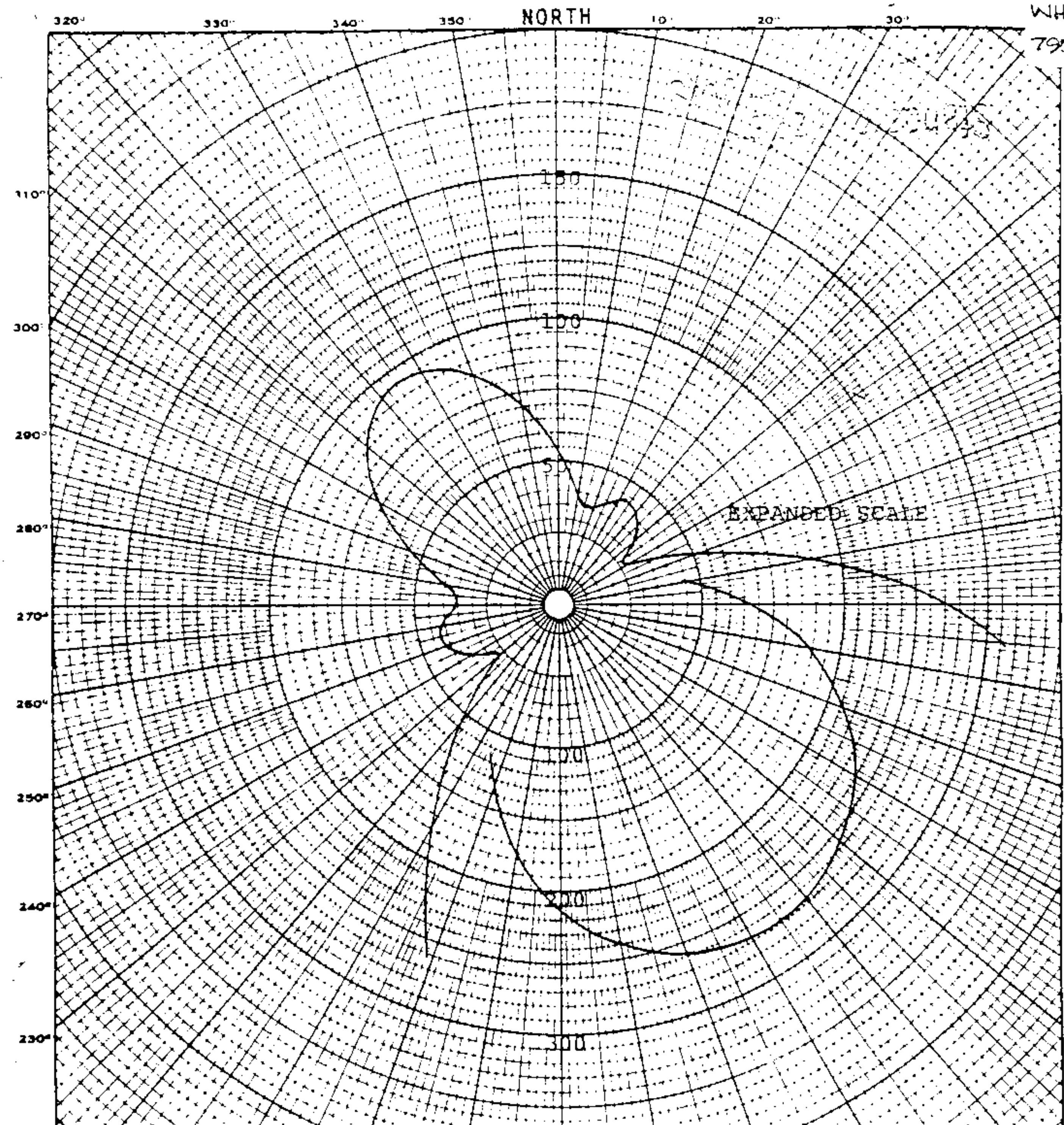
SPACING AND ORIENTATION: Towers in a row are spaced 90° on a line bearing 145° true.

GROUND SYSTEM: 120-311' 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		STANDARD
	RMS	RSS	RMS
Day	129.44 mv/m	219.48 mv/m	135.91mv/m

WHTH
790kHz



R.M.S. (THEO) 129.44 MV/M   R.M.S. (STND) 135.91 MV/M   R.S.S. 219.48 MV/M

220° 210° 200° 190° 180° 170° 160° 150° 140°

PATTERN PARAMETERS

1.00/ 0°

S

1.270/204.5°

S

0.584/52.38°

S = 90°

G = 70°

Radio Station W H T H

☐ MEASURED ☒ PROPOSED

FREQ. 790 (KHZ) POWER 0.50 (KW) ☒ DA-D

N. LAT. 40 ° 03 ' 05 " ☐ DA-N

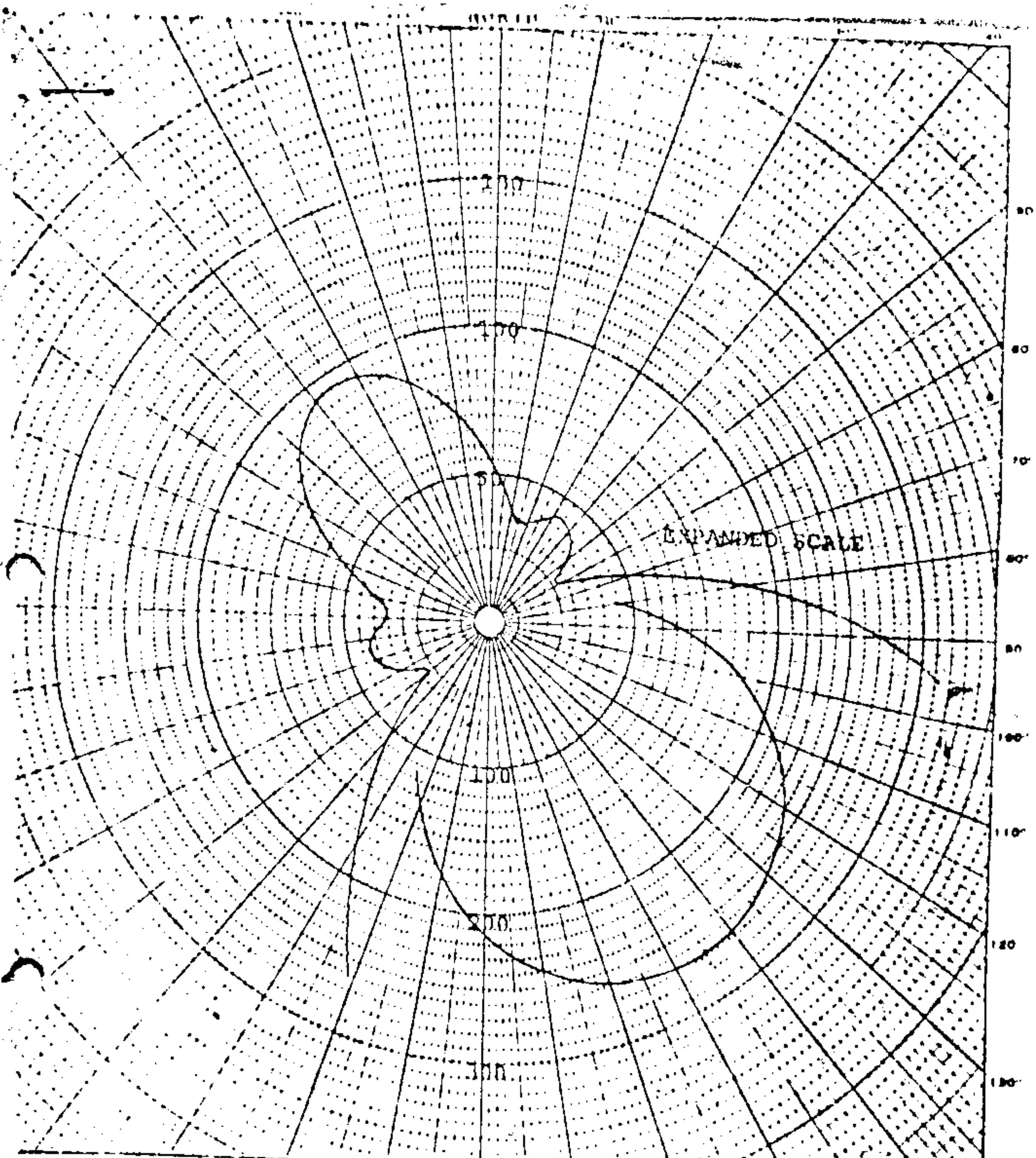
W. LONG. 82 ° 28 ' 08 " ☐ N-D

LOCATION: Heath, Ohio

DATE: February 1978

ROBERT A JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

WATH
790 kHz



M.S. (THEO) [illegible] MV/M R.M.S. (STND) 135.[illegible] MV/M R.S.S. 219.48 MV/M

PATTERN PARAMETERS

1.00/ 0°

S

1.270/204.5°

S

0.584/52.38°

S = 90°

G = 70°

Radio Station WHTH

[ ] MEASURED [x] PROPOSED

FREQ 790 (KHZ) POWER 0.50 (KW) [x] DA-D

N LAT 40 ° 03 ' 05 " [ ] DA-N

W LONG 82 ° 28 ' 08 " [ ] N-D

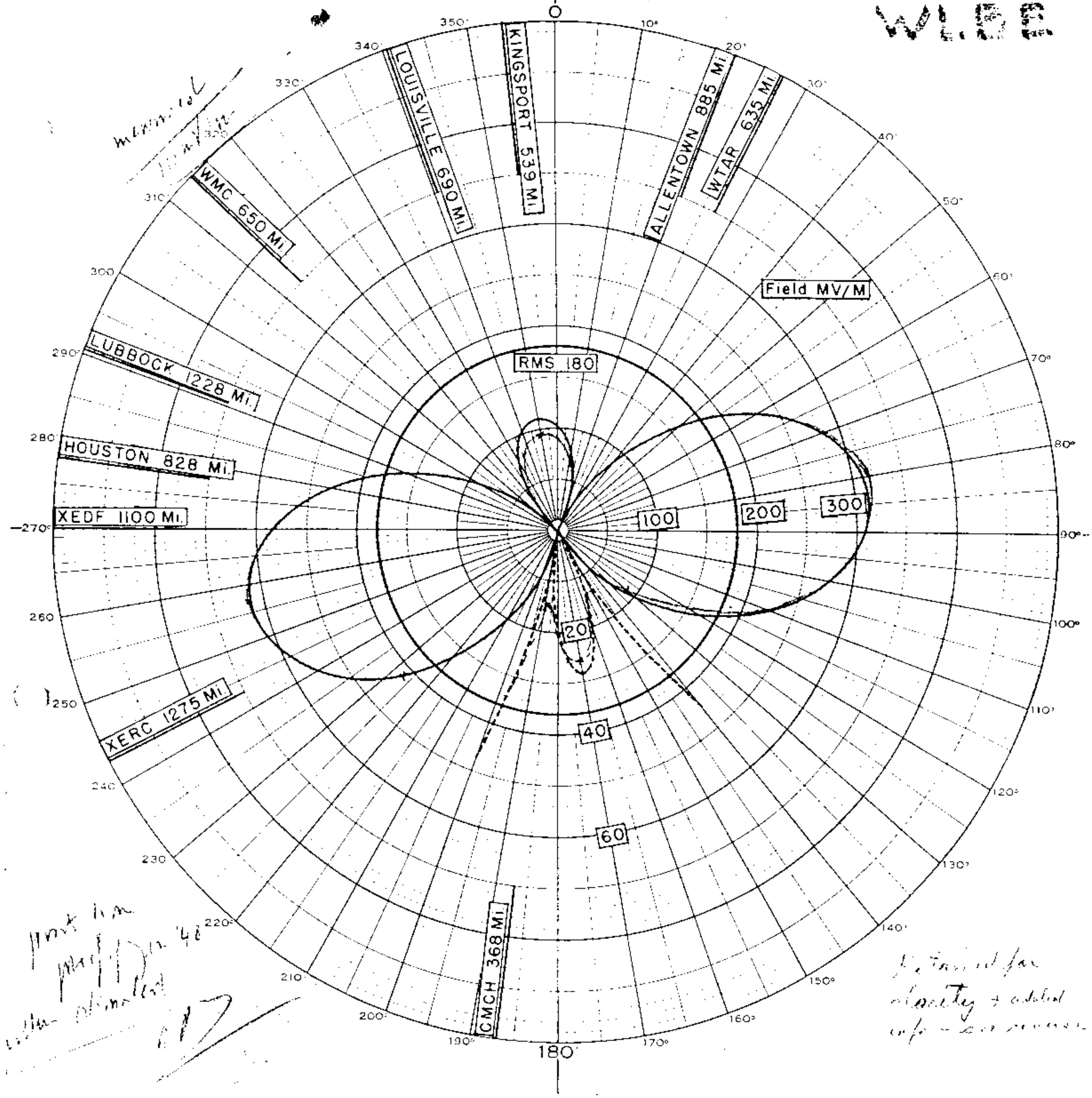
LOCATION Heath, Ohio

DATE February 1978

ROBERT A JONES
CONSULTING ENGINEERS

WLBE, Leesburg-Eustis, Fla 1/5' DA-N, U

WLBE



LAKE COUNTY BROADCASTERS ~~EUSTIS,~~ Leesburg FLORIDA	Exhibit E1 Series 460820P 790 KC 1000 WATTS DAY-NIGHT
PROPOSED DIRECTIONAL ANTENNA PATTERN	FRANK H McINTOSH *Consulting Radio Engineer* Washington, D.C.

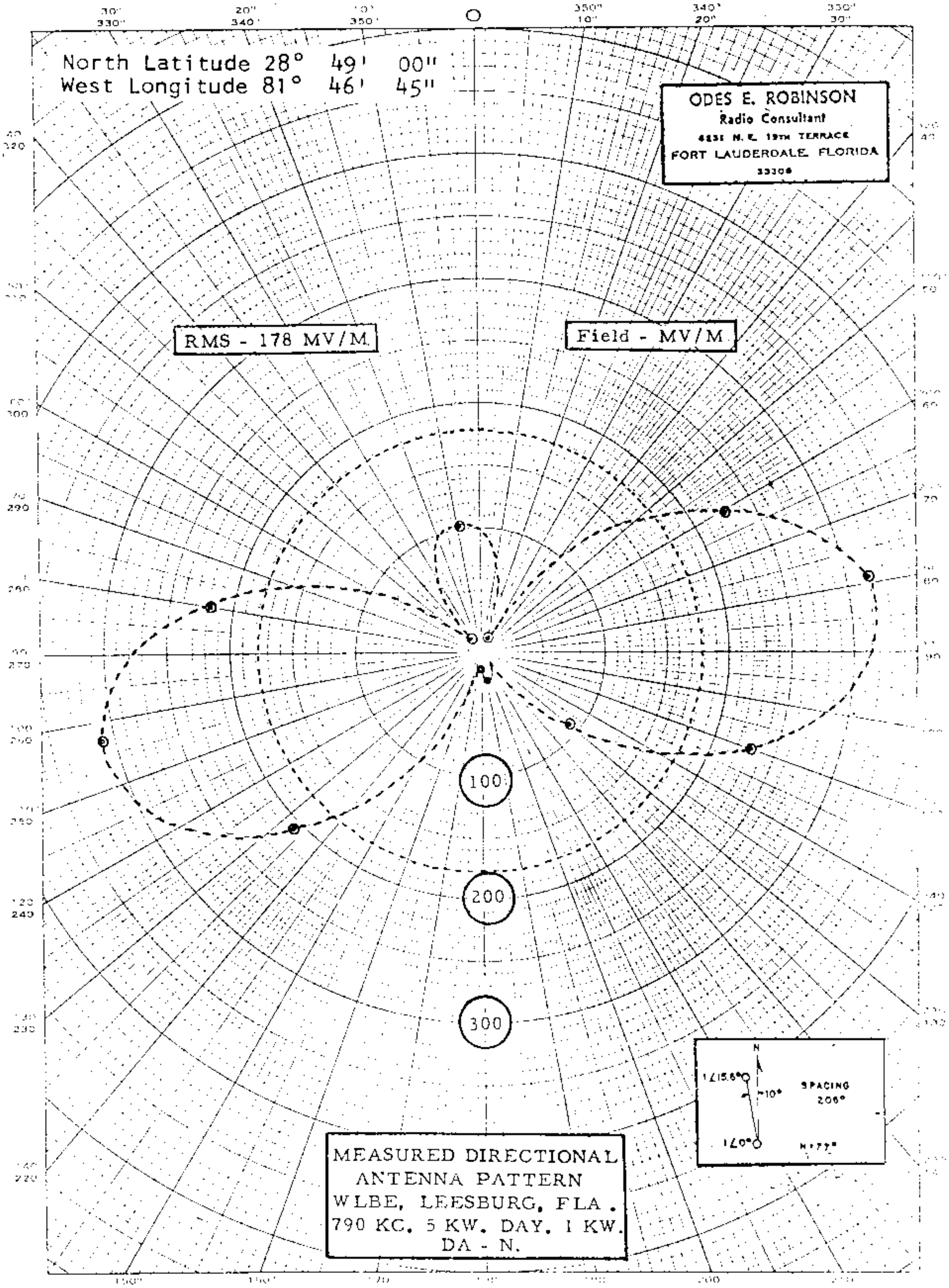
SPACING 206°

WLBE

Measured Night
(5-27-69ct)

Station WLBE
Leesburg-Eustis, Florida

1kw,5kw-LS,DA-N,U
790 kc



FCC File No.BZ-7178
Accepted 5-12-69

Station WLBE
Leesburg-Eustis, Florida

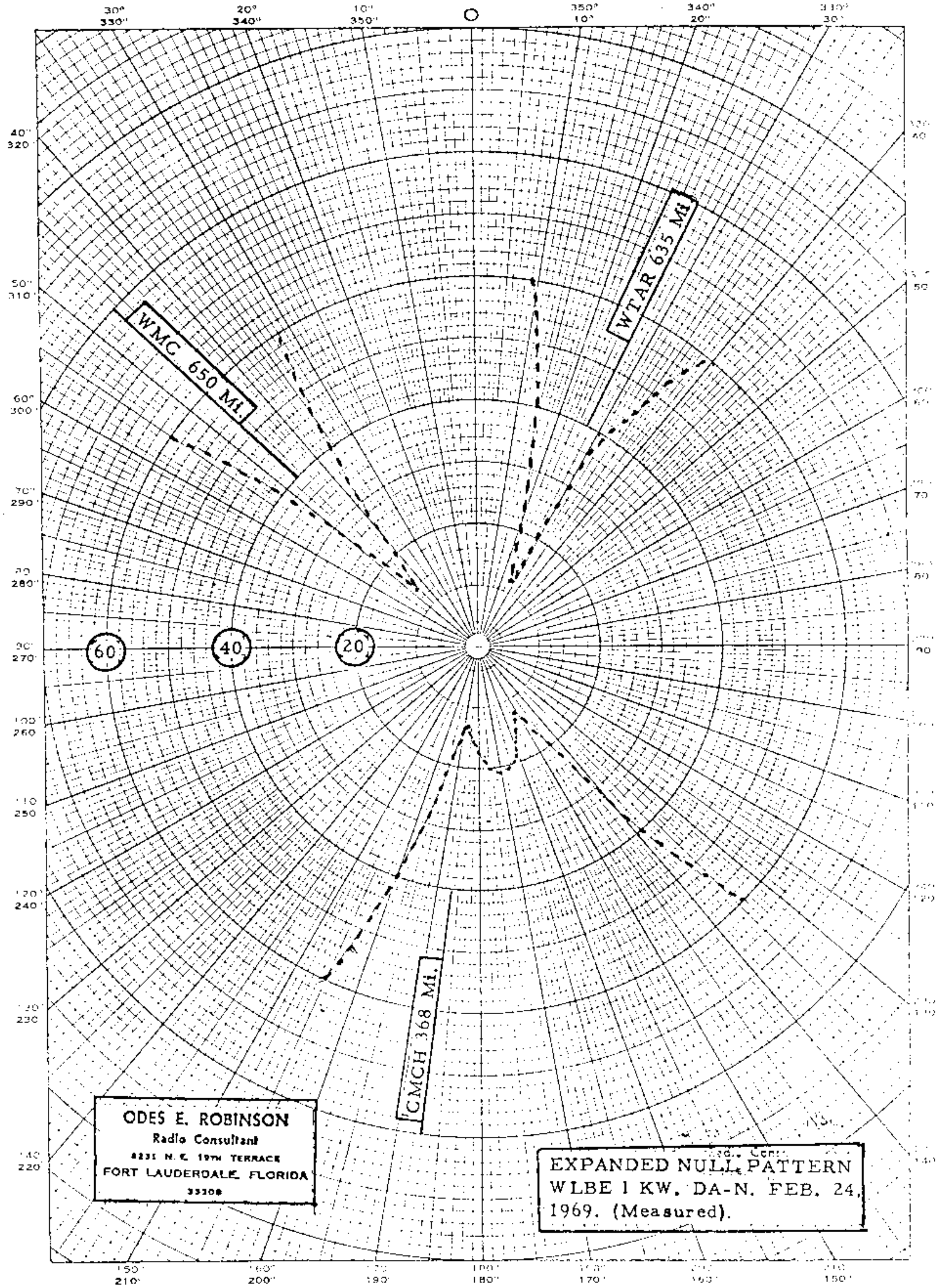
790 kc

WLBE

Measured Night Nulls
(5-27-69ct)

Station WLBE
Leesburg-Eustis, Florida

1kw,5kw-LS,DA-N,U
790 kc



FCC File No.BZ-7178
Accepted 5-12-69

Station WLBE
Leesburg-Eustis, Florida

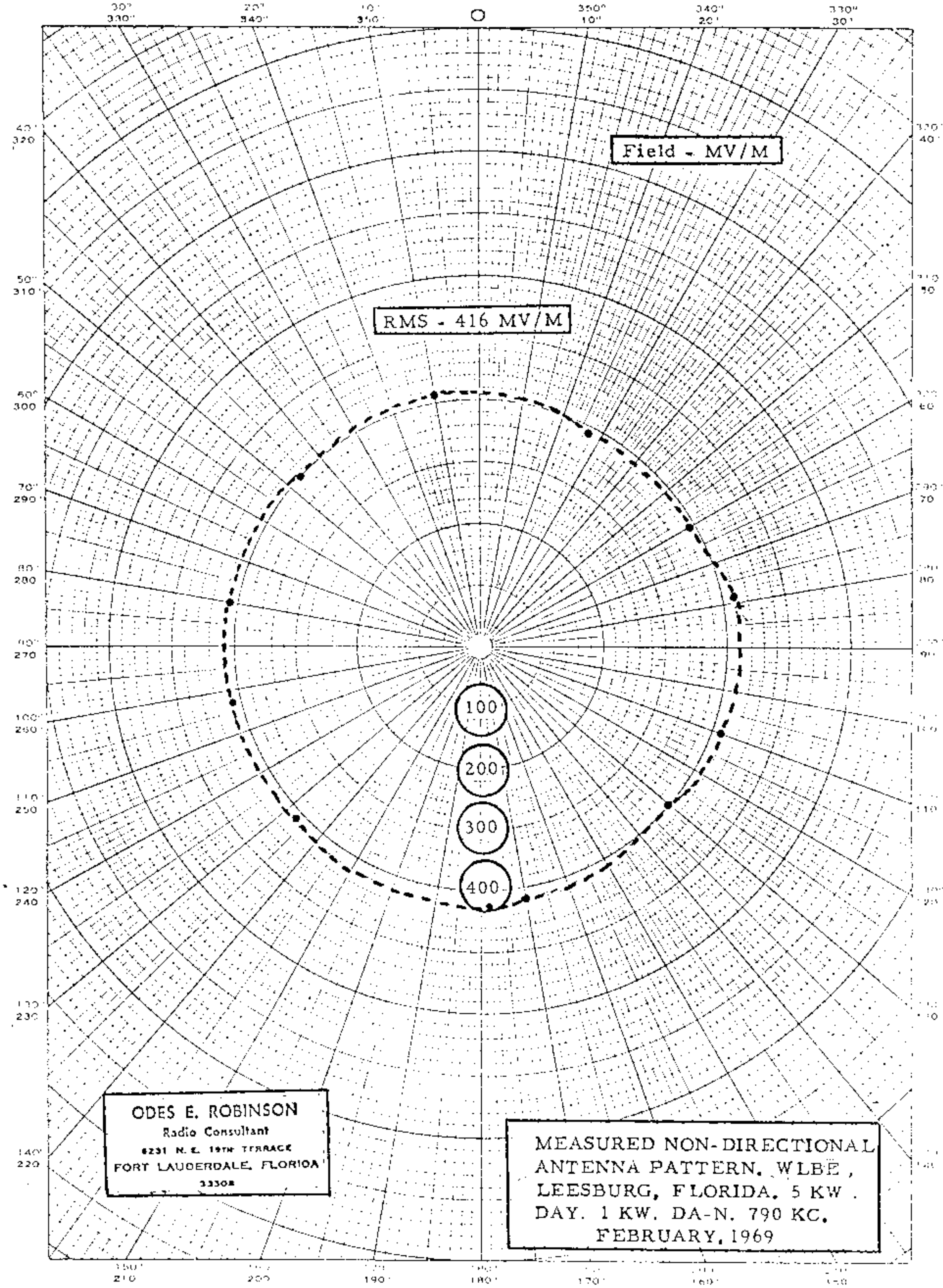
790 kc

WLBE

Measured Non-DA
(5-27-69ct)

Station WLBE
Leesburg-Eustis, Florida

1kw,5kw-LS,DA-N,U
790 kc



FCC File No.BZ-7178
Accepted 5-12-69

Station WLBE
Leesburg-Eustis, Florida

790 kc

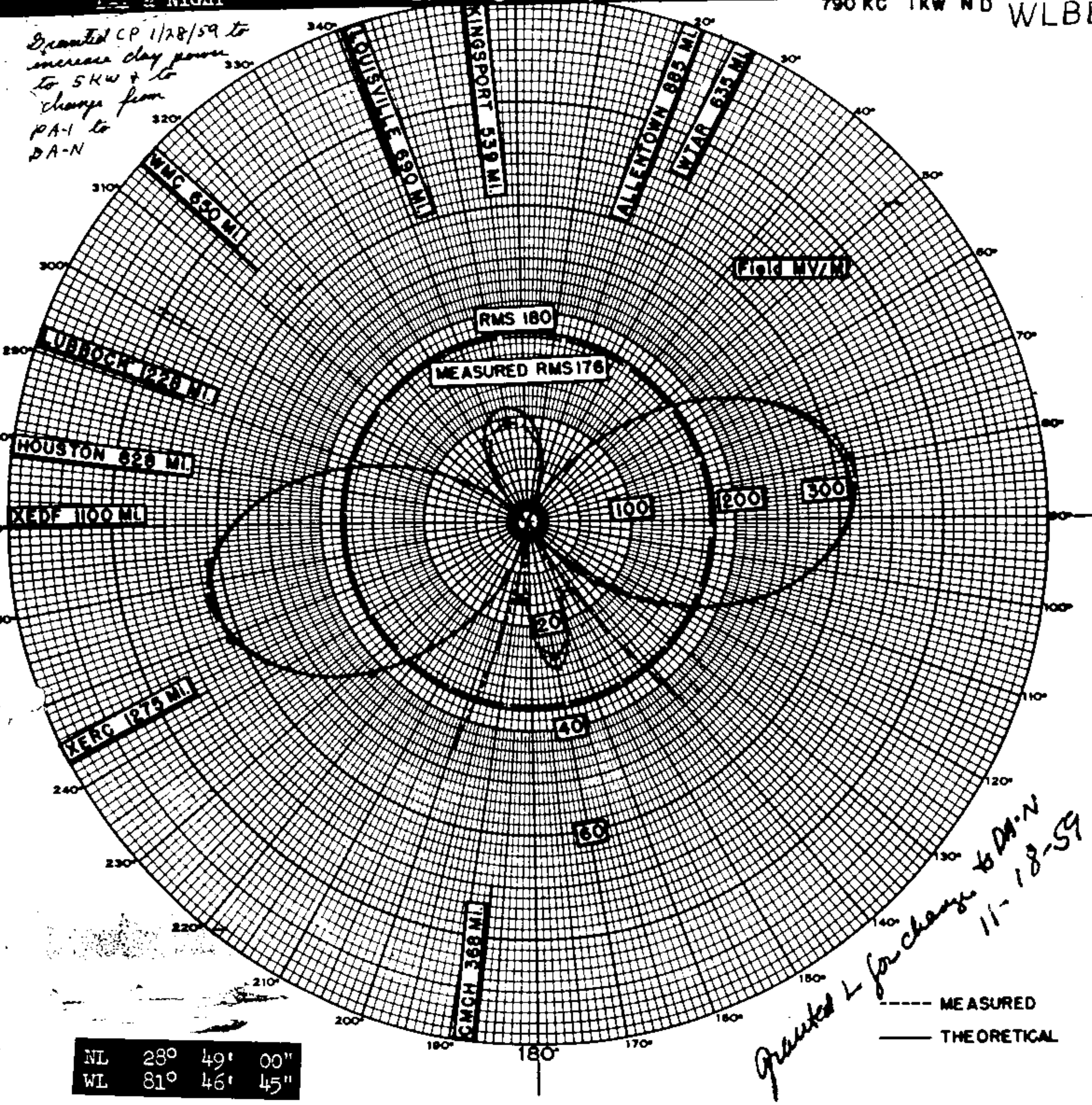
PROPOSED & MEASURED
DAY & NIGHT

Station WLBE
Leesburg-Eustis, Florida

1kw, DA-1,U
790 KC

790 KC 1KW ND WLBE

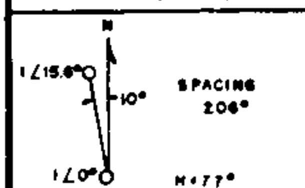
Granted CP 1/28/59 to increase day power to 5KW & to change from DA-1 to DA-N



Granted L for change to DA-N 11-18-59

NL 28° 49' 00"
WL 81° 46' 45"

LAKE COUNTY BROADCASTERS EUSTIS, FLORIDA	Figure 6 A Series 480131A
	790 KC 1000 WATTS DAY-NIGHT
MEASURED DIRECTIONAL ANTENNA PATTERN	FRANK H. McINTOSH *Consulting Radio Engineer* Washington, D.C.



WMC
790 kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WMC

Main Studio: Memphis, Tennessee

Frequency: 790 kHz

Power: 5kw Night 5kw Day

Notification List No. 1788

Date: August 22, 1980 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 35° 10' 15"
West Longitude: 89° 53' 12"

ANTENNA CHARACTERISTICS

Authorized for Nighttime operation. (DA-N)
Number of elements: 4
Type of elements: Northwest tower: Series excited, uniform cross-section, guyed, vertical steel tower; Other three, series excited, self supporting, tapered, vertical steel towers.

TOWERS:	NW(#1)	NE(#2)	SE(#3)	SW(#4)
HEIGHT ABOVE INSULATORS:	640' (185°)	315'	315'	315' (91°)
NIGHT PHASING:	0°	+31.25°	-62.5°	-93.75°
NIGHT FIELD RATIO:	1.0	1.30	1.69	1.30

SPACING AND ORIENTATION: The towers are located at the vertices of a parrallelogram the long sides of which are 974.6' (281.8°) in length on a line bearing 91.5° true. The short sides are 399.4' (115.5°) in length on a line bearing 35.5° true.

GROUND SYSTEM: 120 - 750' equally spaced copper radials plus a 24' square ground screen about the northwest tower and 120 - 315' equally spaced copper radials plus 120 - 45' interspaced radials about the base of each of the other towers.

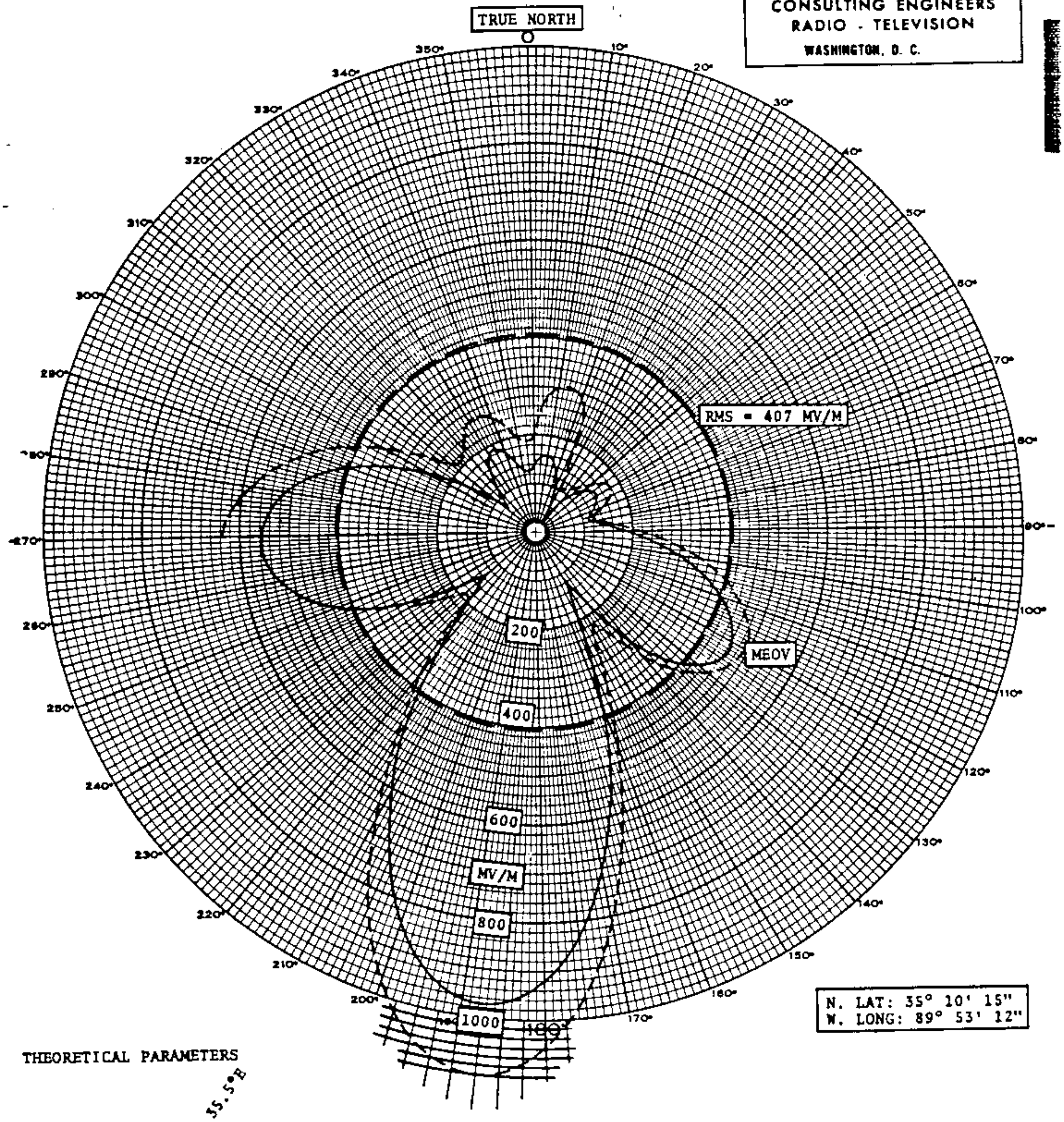
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL		STANDARD
	RMS	RSS	RMS
Night	407 mv/m		

This notification concerns only a change in the Nighttime directional radiation pattern MEOV's.

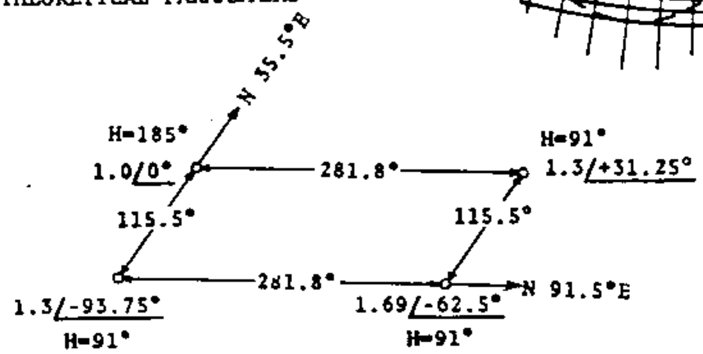
WMC
790 KHz

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



N. LAT: 35° 10' 15"
W. LONG: 89° 53' 12"

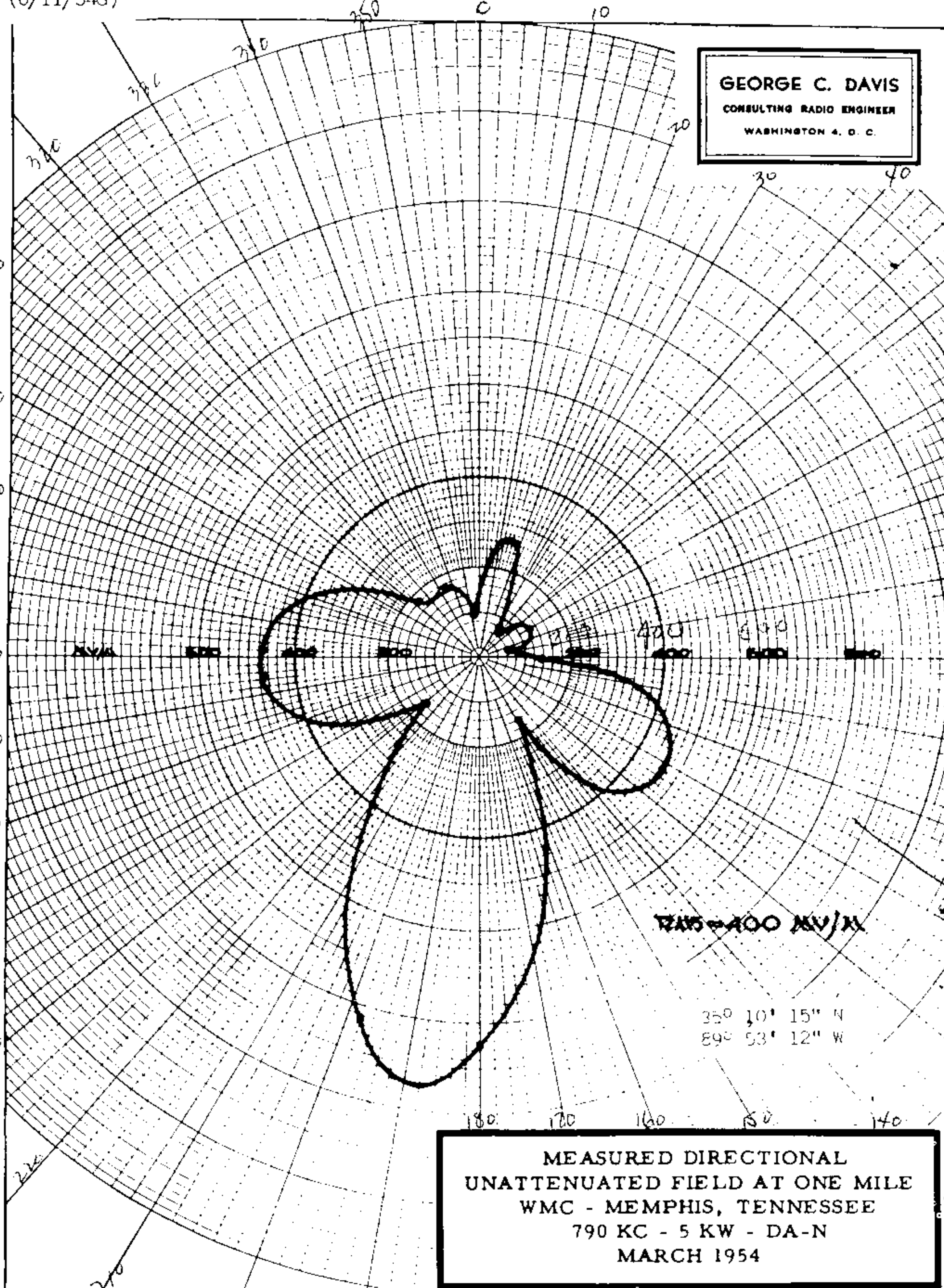
THEORETICAL PARAMETERS



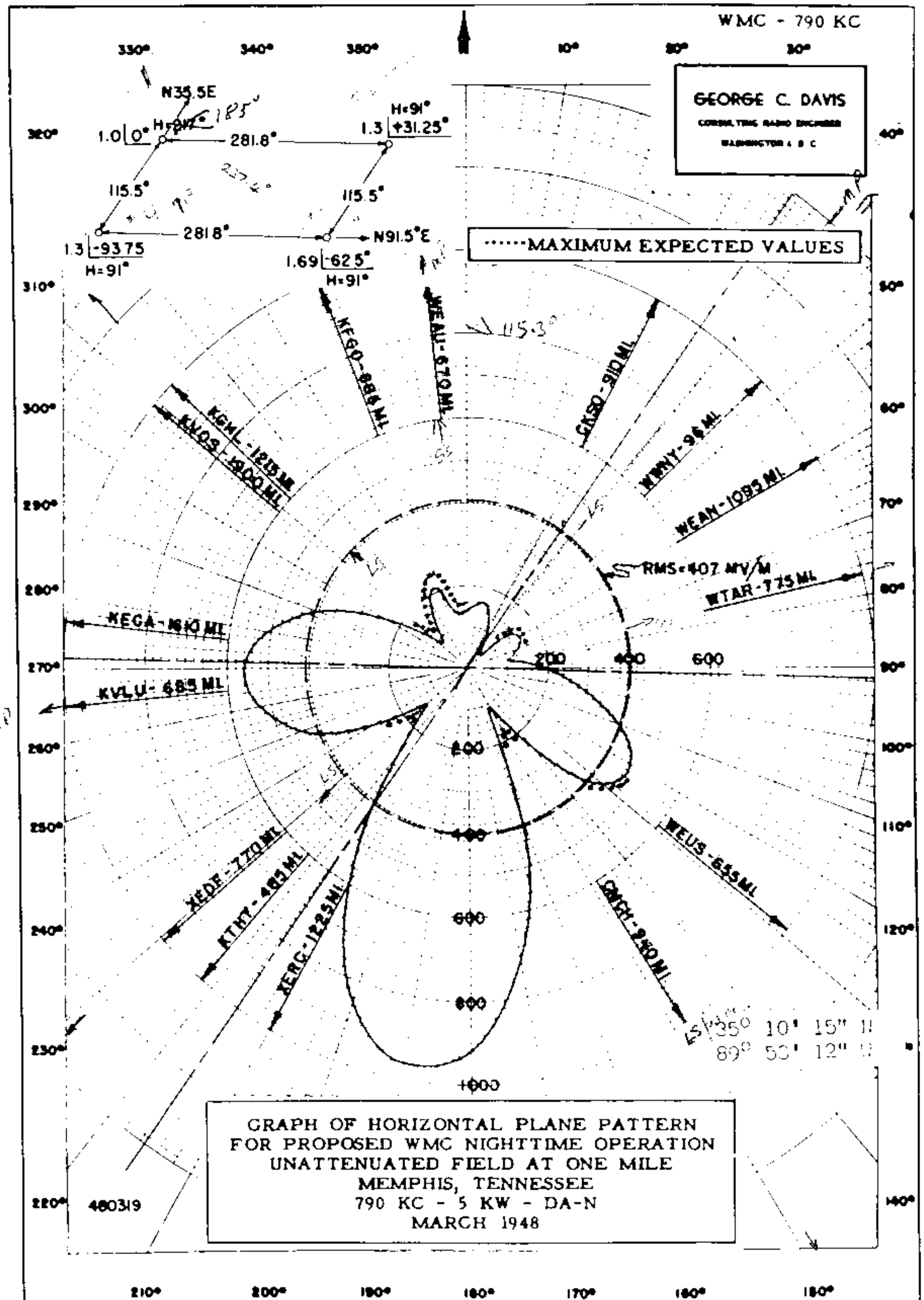
HORIZONTAL PLANE RADIATION PATTERN
FOR THE PROPOSED NIGHTTIME OPERATION OF
WMC, MEMPHIS, TENNESSEE
790 KHz 5 KW LS DA-N
NOVEMBER 1979

WMC

MEASURED NIGHT WMC, Memphis, Tenn. 5KW, U, DA-N 790 kc
~~DAY~~ (6/11/54G)

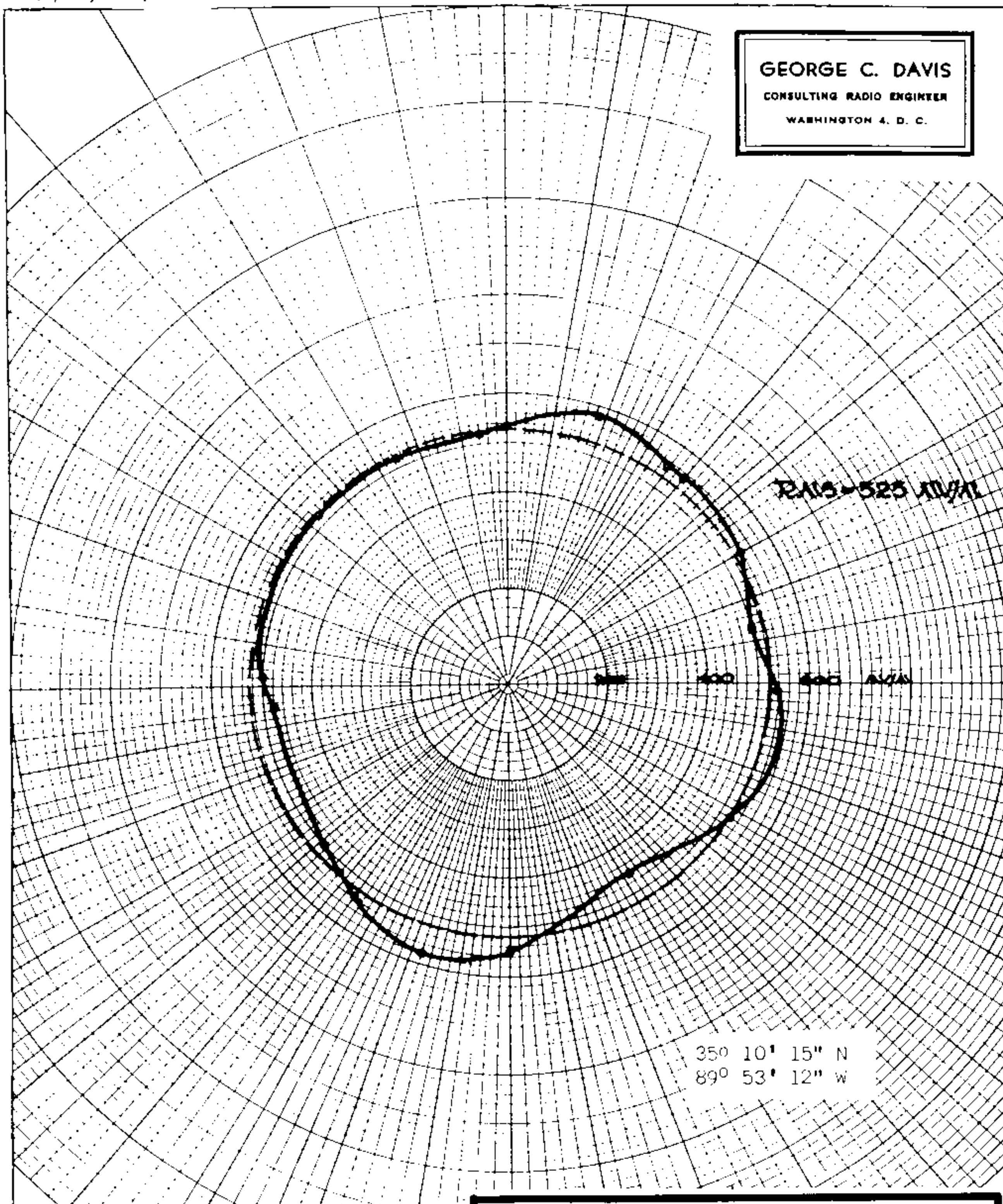


MEASURED DIRECTIONAL
UNATTENUATED FIELD AT ONE MILE
WMC - MEMPHIS, TENNESSEE
790 KC - 5 KW - DA-N
MARCH 1954



GRAPH OF HORIZONTAL PLANE PATTERN
FOR PROPOSED WMC NIGHTTIME OPERATION
UNATTENUATED FIELD AT ONE MILE
MEMPHIS, TENNESSEE
790 KC - 5 KW - DA-N
MARCH 1948

MEASURED NON-DA (6/11/54G)   WMC, Memphis, Tenn.   5KW, U, DA-N



MEASURED NON-DIRECTIONAL
UNATTENUATED FIELD AT ONE MILE
WMC - MEMPHIS, TENNESSEE
790 KC - 5 KW - DA-N
MARCH 1954

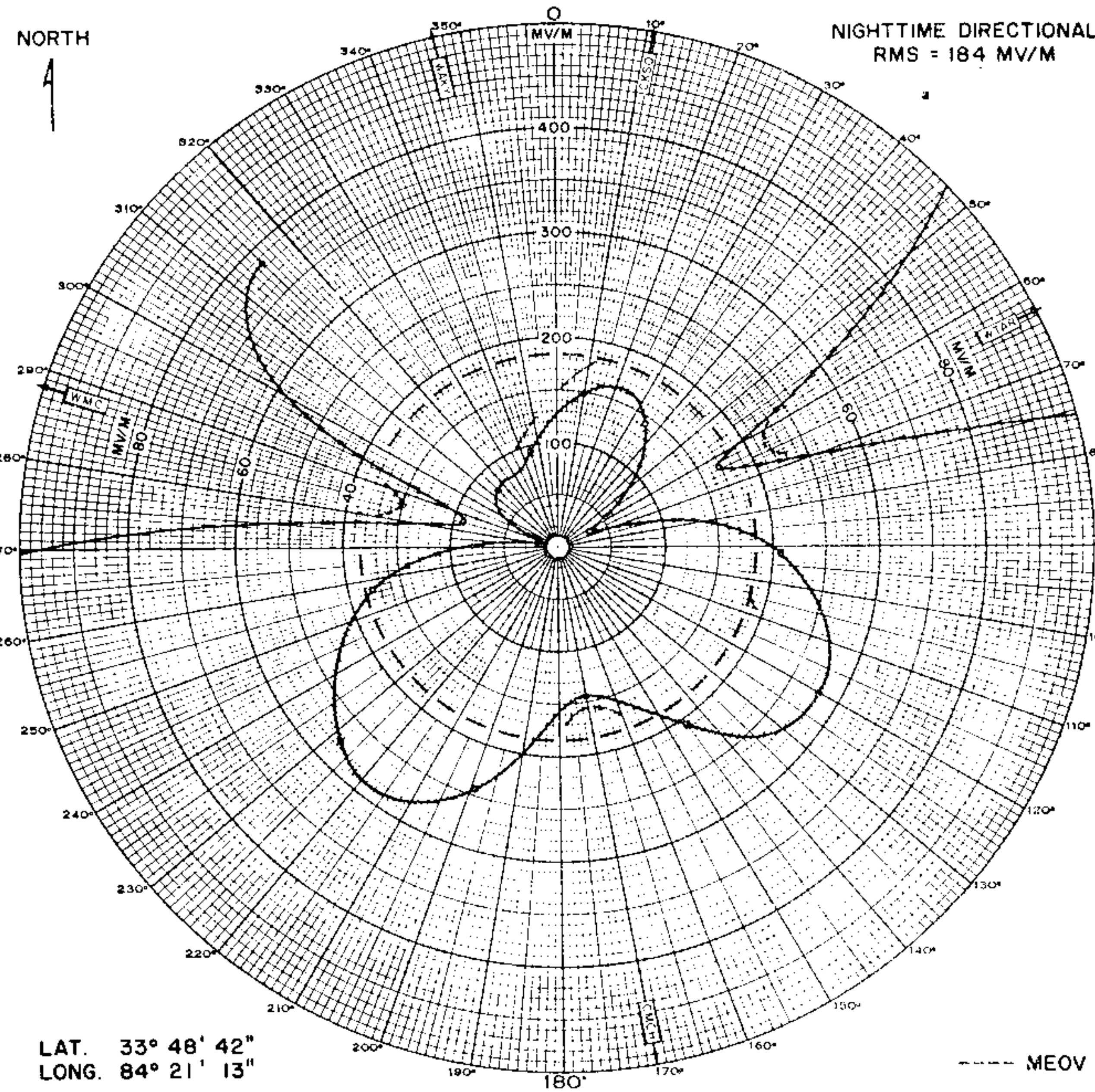
Measured Night
(4-28-65ct)

Station WQXI
Atlanta, Georgia

WQXI
1kw,5kw-LS,DA-N,U
790 kc

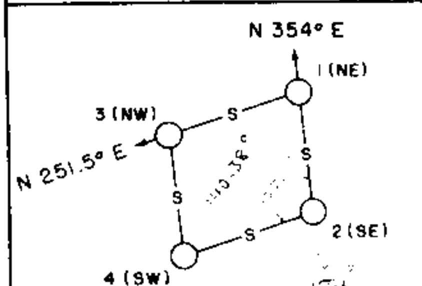
NORTH

NIGHTTIME DIRECTIONAL
RMS = 184 MV/M



LAT. 33° 48' 42"
LONG. 84° 21' 13"

---- MEOV



S = 311.4' = 90°
G = 246' = 71°

ANTENNA PARAMETERS

TOWER	THEORETICAL FIELD	THEORETICAL PHASE	INDICATED FIELD	INDICATED PHASE
1	1.000	0.0°	.957	146°
2	0.93	-147.0°	1.000	0°
3	0.6315	168.3°	.554	-43°
4	0.5873	21.3°	.598	170°

212-75

PREPARED BY
THE FIRM OF A. EARL CULLUM, JR.
CONSULTING ENGINEERS

RADIO STATION WQXI
790 KC 1.0 KW 5.0 KW-LS DA-N
640929
FIGURE 2B

FCC File No. BZ-5506
Accepted 4-19-65

Station WQXI
Atlanta, Georgia

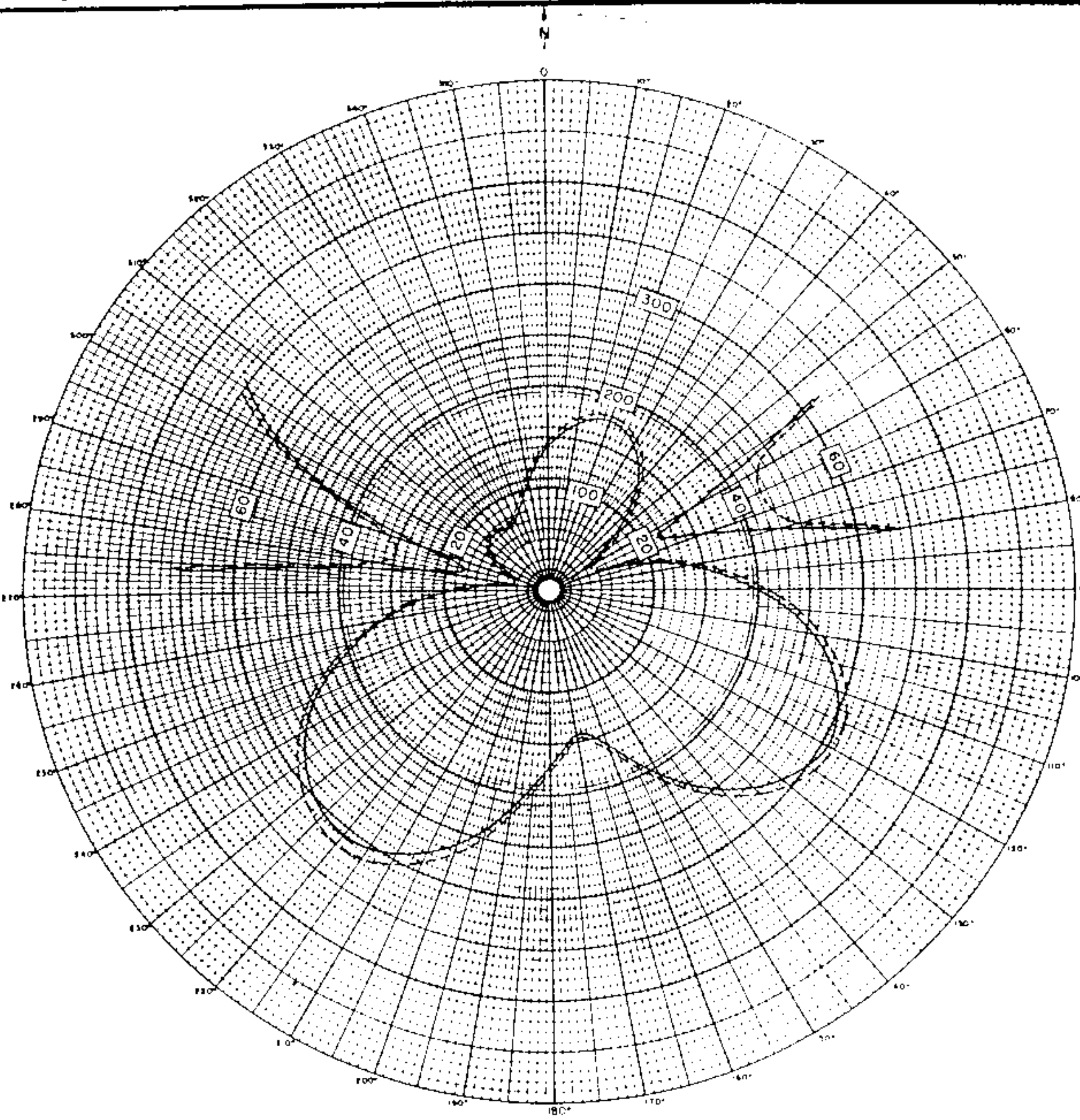
790 kc

WQXI

PROPOSED NIGHT
(8-8-59g)

Station WQXI
Atlanta, Georgia

1kw, 5kw-LS, DA-N, U
790 KC



E_{RMS} =190.5 MV/M

---- MEOV

LATITUDE 33° 48' 43"
LONGITUDE 84° 21' 7.8"

JOHN H MULLANEY
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.

ANTENNA PARAMETERS

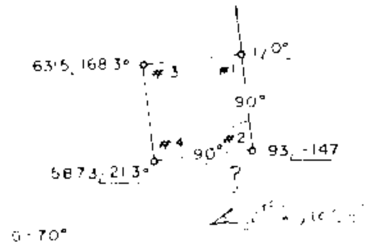


FIGURE 3

HORIZONTAL POLAR PATTERN
(NIGHTTIME)

RADIO STATION WQXI
ATLANTA, GA

790 KC   1 KW, 5 KW-LS, DA-N, U

FCC File No. BP-13231
Accepted 7-9-59

WQXI
Atlanta, Georgia

790 KC

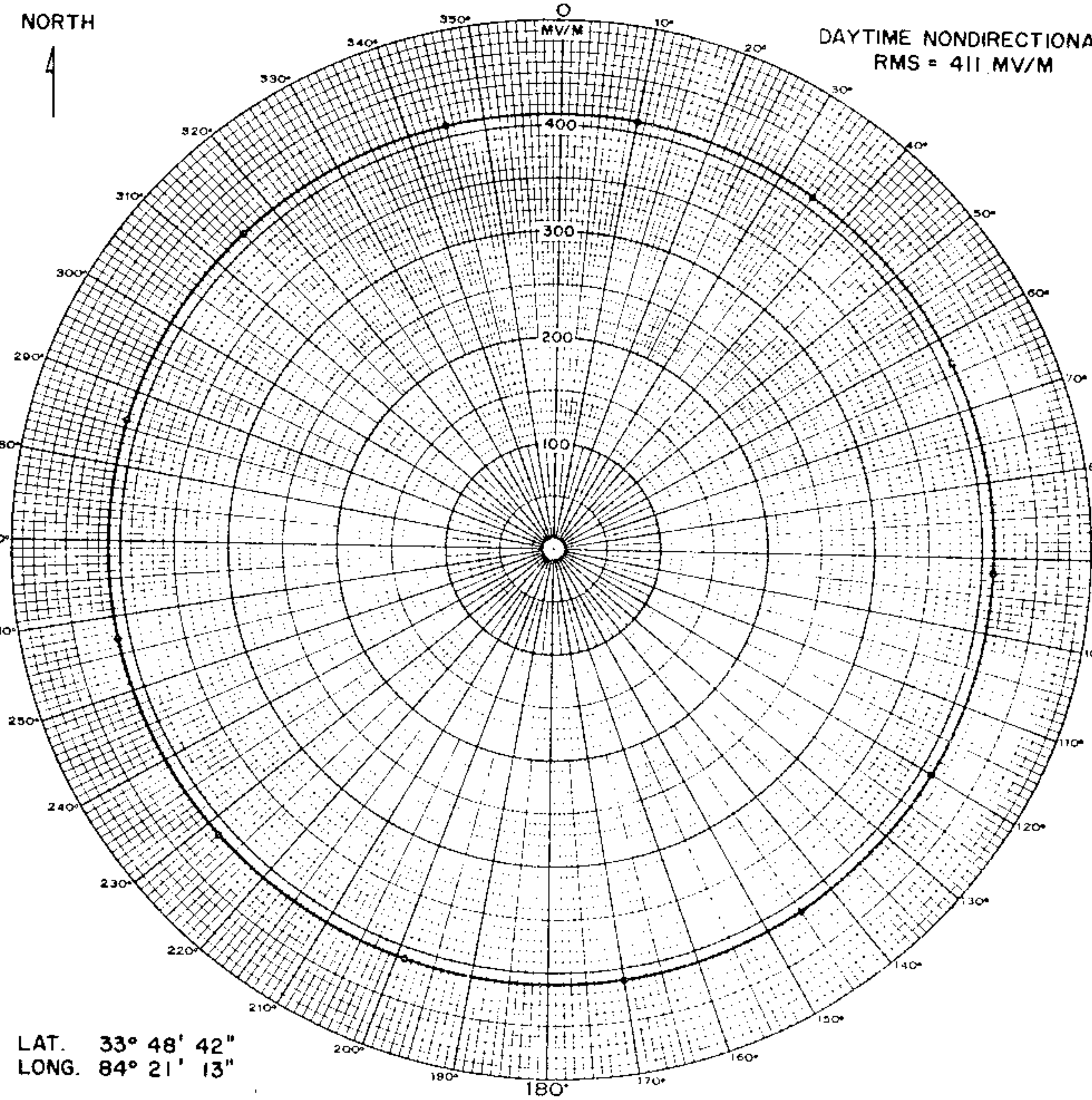
Granted CP to make changes in nighttime DA

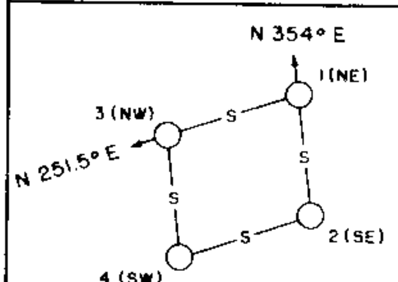
WQXI

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

Station WQXI
Atlanta, Georgia

1kw,5kw-LS,DA-N,U
790 kc





S = 311.4' = 90°
G = 246' = 71°

RADIATING ELEMENTS

NONDIRECTIONAL DAYTIME

TOWER	
1	SERIES FED
2	DETUNED
3	DETUNED
4	DETUNED

PREPARED BY
THE FIRM OF A. EARL CULLUM, JR.
CONSULTING ENGINEERS

RADIO STATION WQXI
790 KC 1.0 KW 5.0 KW-LS DA-N
640929 FIGURE 2A

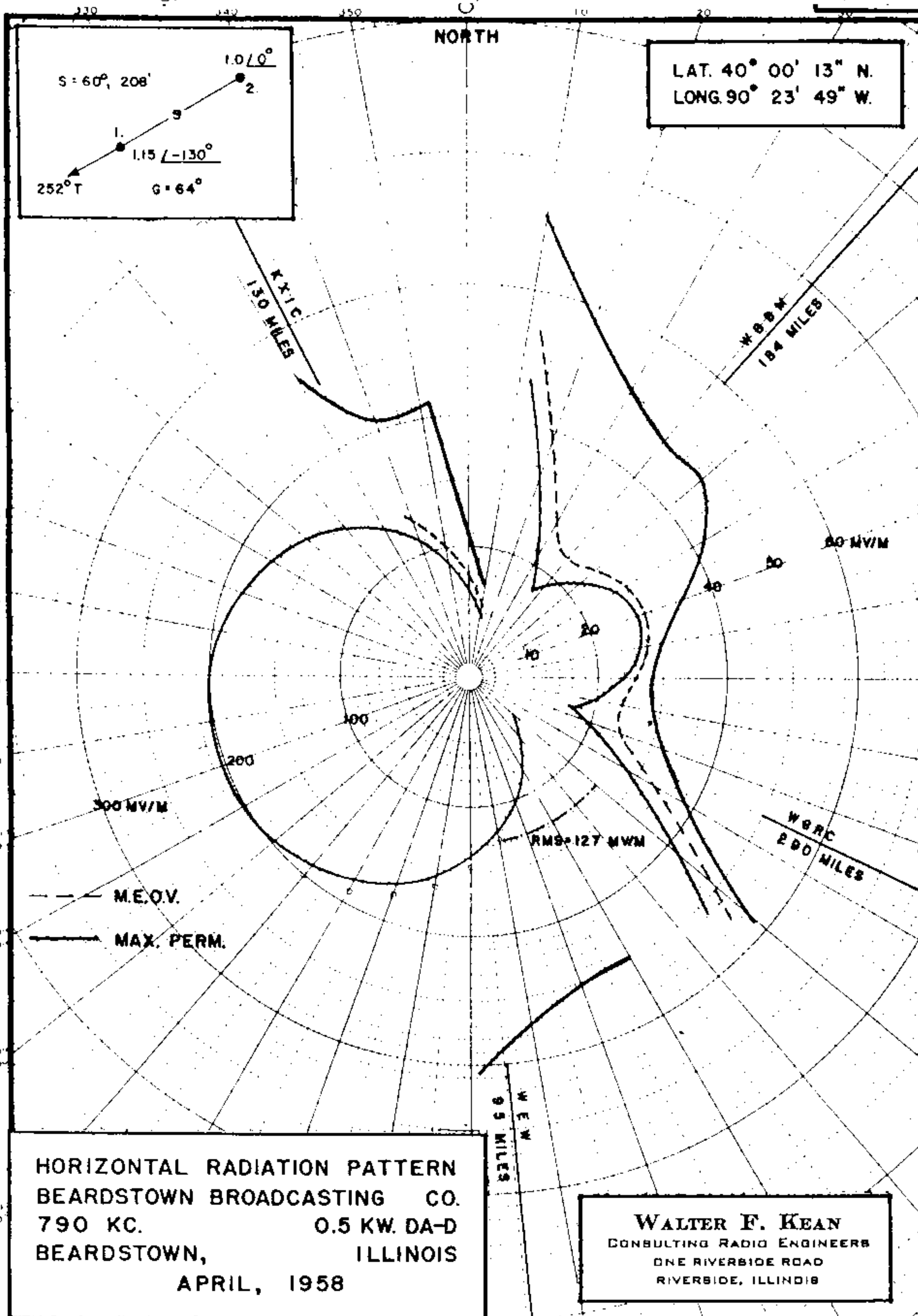
FCC File No. BZ-5506
Accepted 4-19-65

Station WQXI
Atlanta, Georgia

790 kc

Beardstown, Ill. WRMS

PROPOSED DAY New; Beardstown B/C Co. 500w, DA-D,D
(5-29-58g) Beardstown, Illinois 790 KC



Granted CP 7-29-59 - for new station

FCC File No. BP-11,970 Beardstown Broadcasting Company
Accepted 5-9-58 Beardstown, Illinois 790 KC

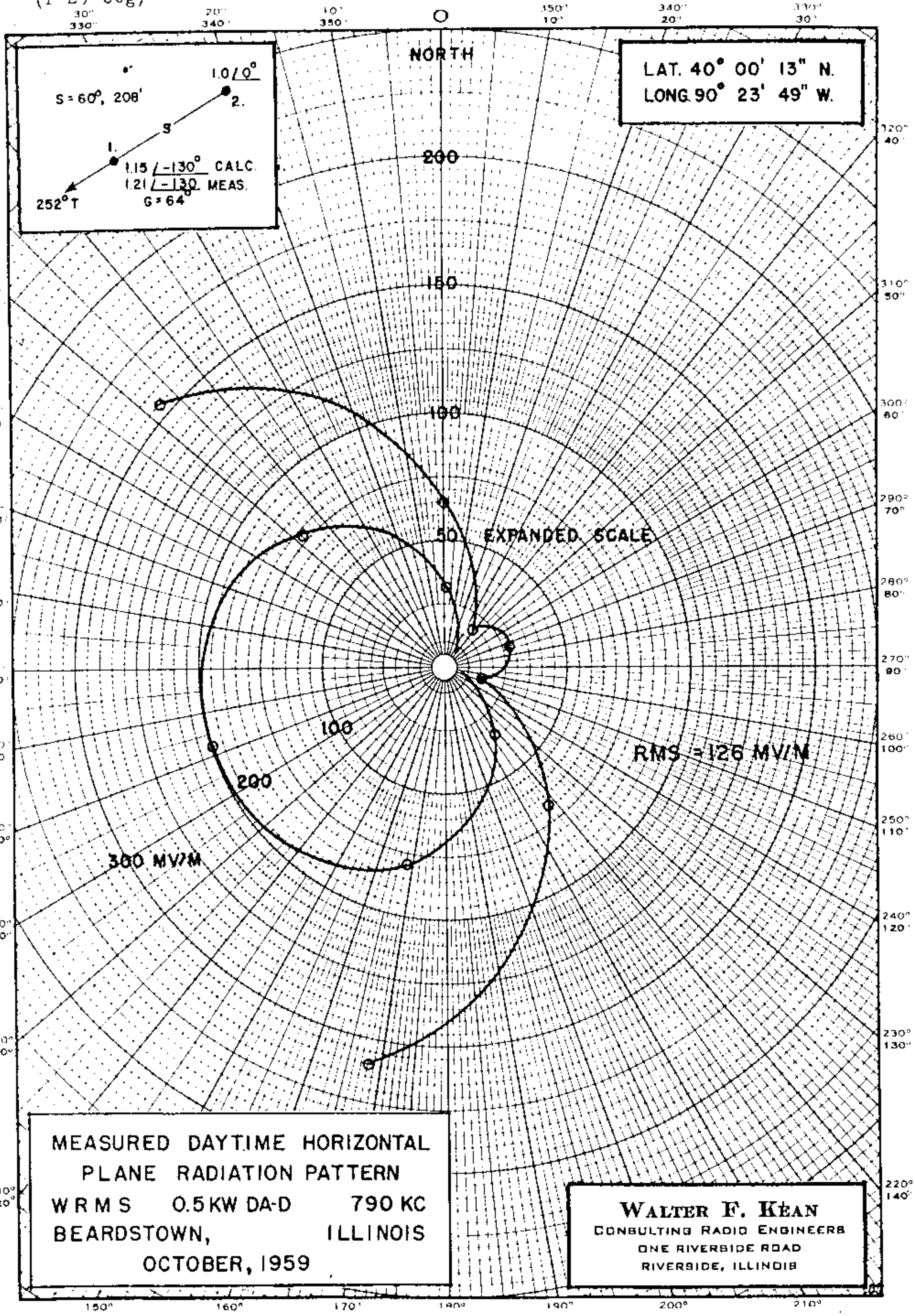
WRMS

MEASURED DAY
(1-29-60g)

Station WRMS
Beardstown, Illinois

500w, DA-D,D
790 KC

GRANTED
LICENSE
7-20-60



6

FCC File No. BL-7761
Accepted 12-30-60

WRMS
Beardstown, Illinois

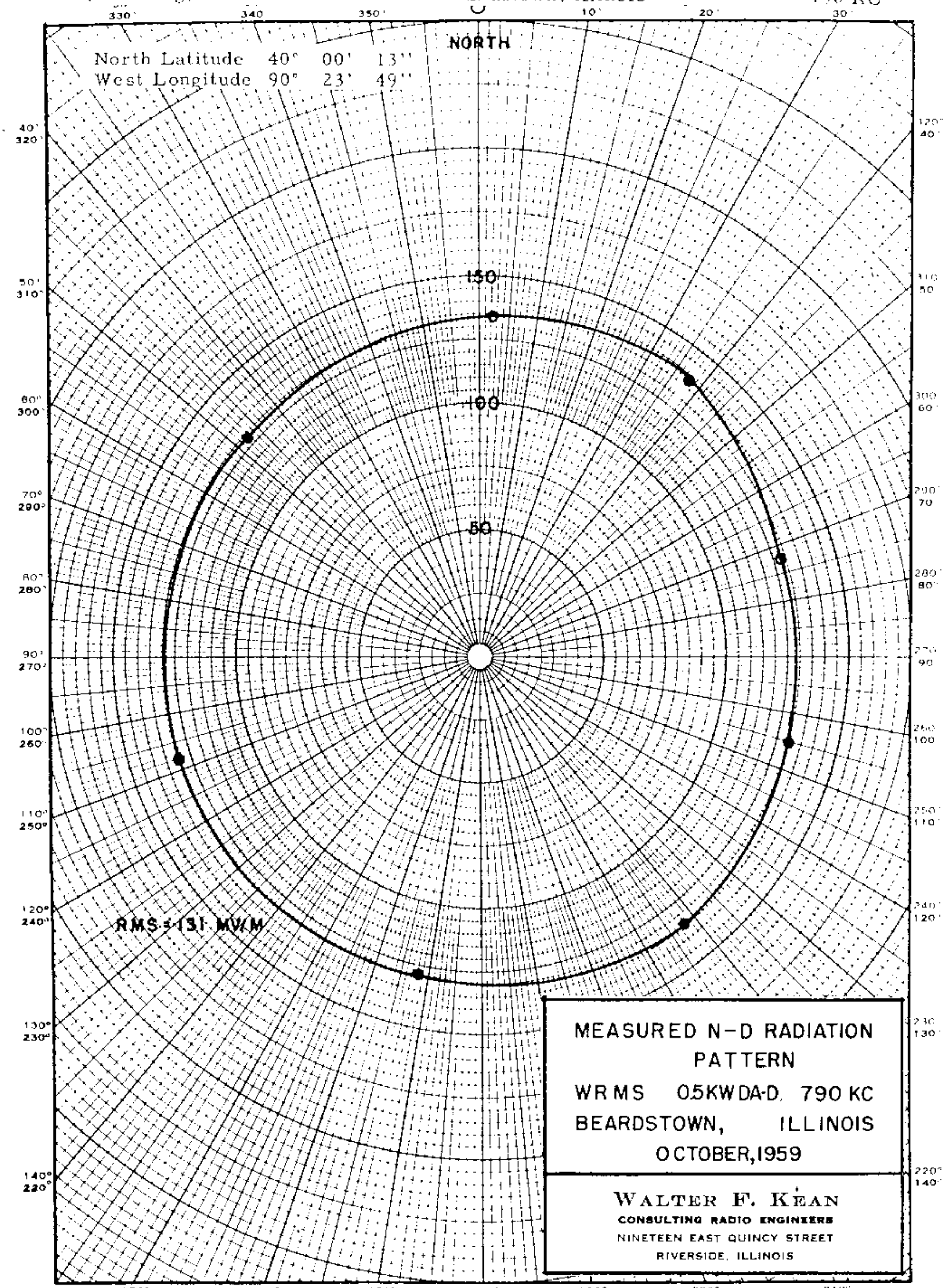
790 KC

WRMS

MEASURED NON-DA
(1-29-60g)

Station WRMS
Beardstown, Illinois

500w, DA-D,D
790 KC



7

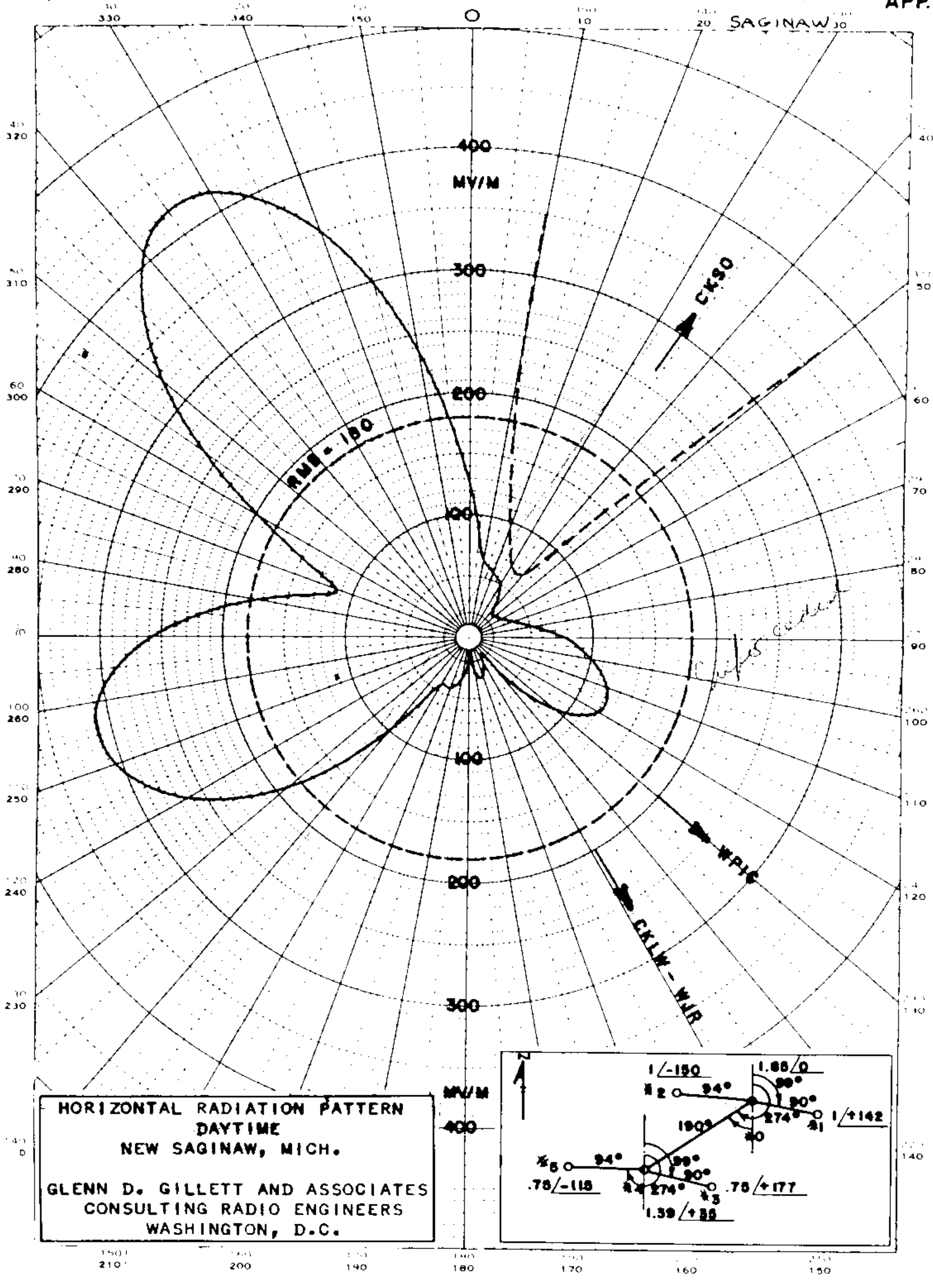
FCC File No. BL-7761
Accepted 12-30-60

WRMS
Beardstown, Illinois

790 KC

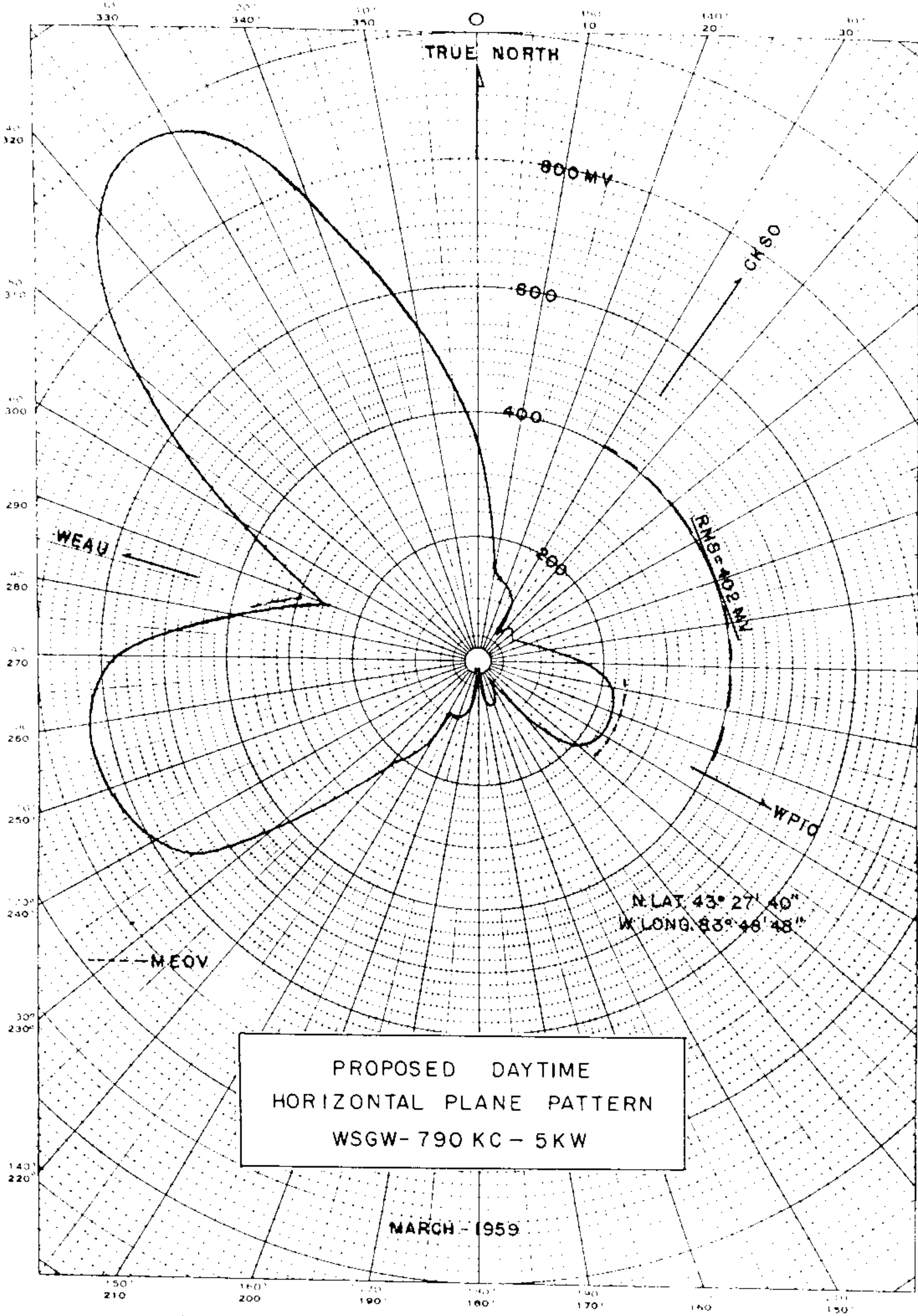
FAY 77 WSGW SAGINAW

APP. 3

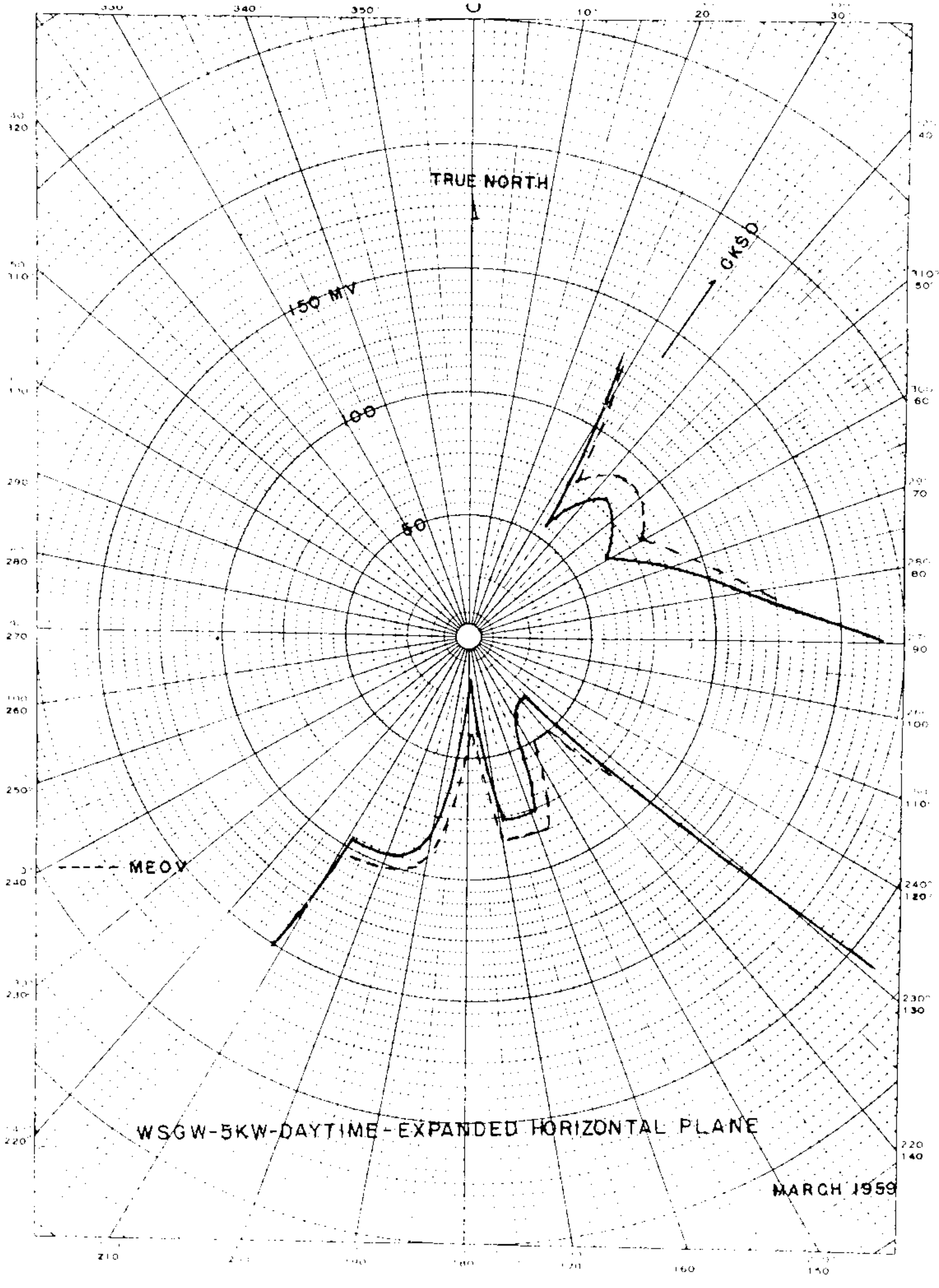


HORIZONTAL RADIATION PATTERN
DAYTIME
NEW SAGINAW, MICH.

GLENN D. GILLETT AND ASSOCIATES
CONSULTING RADIO ENGINEERS
WASHINGTON, D.C.



PROPOSED DAYTIME
HORIZONTAL PLANE PATTERN
WSGW- 790 KC - 5 KW



TRUE NORTH
CKSO
150 MV
100
50
MEOV
WSGW-5KW-DAYTIME-EXPANDED HORIZONTAL PLANE
MARCH 1959

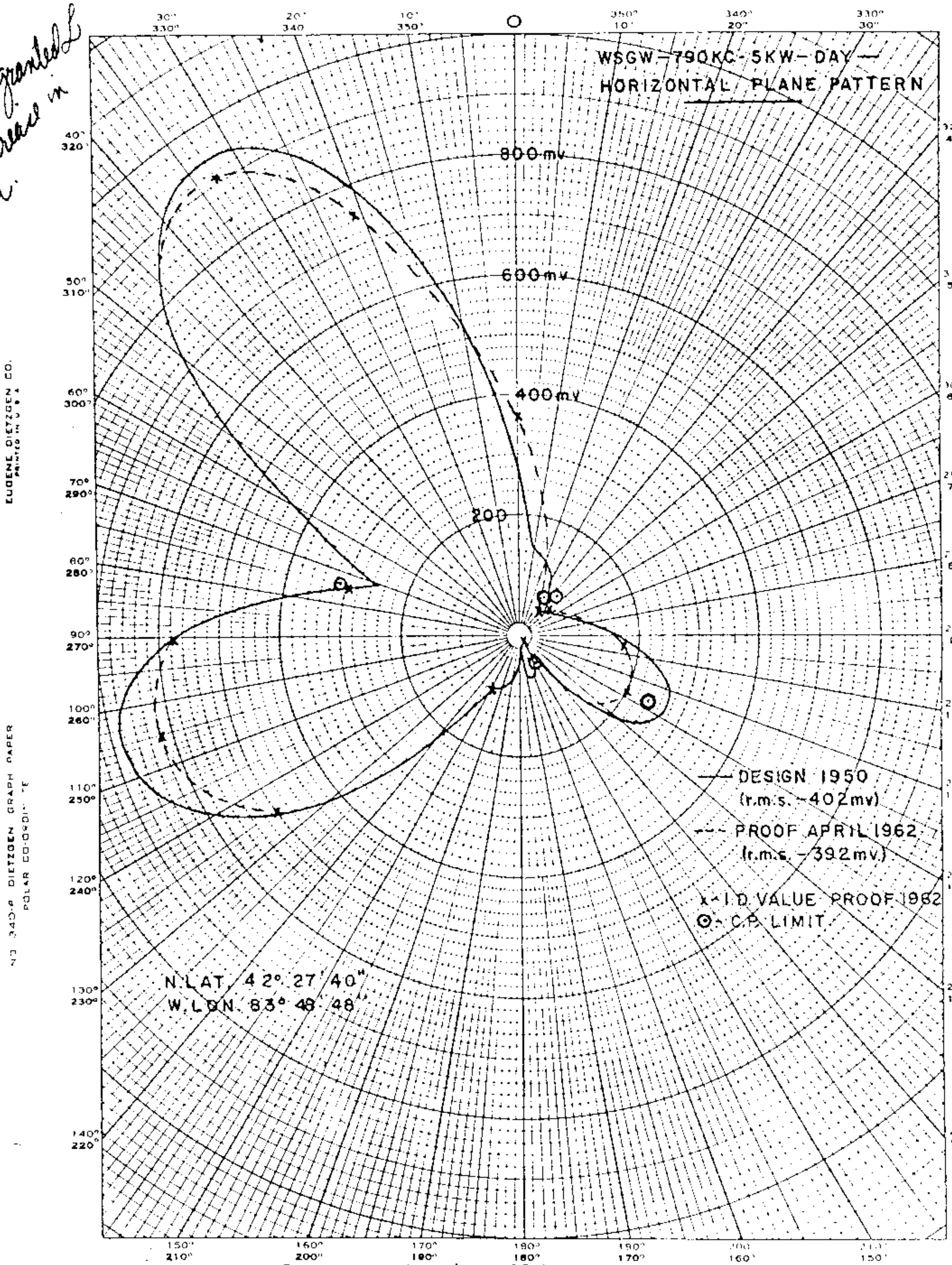
WSGW

Measured Day
(6-22-62ct)

Station WSGW
Saginaw, Michigan

1kw,5kw-LS,DA-2,U
790 kc

10-62 - granted L
rering increase in
ay power.



FCC File No.BL-9358
Accepted 6-15-62

Station WSGW
Saginaw, Michigan

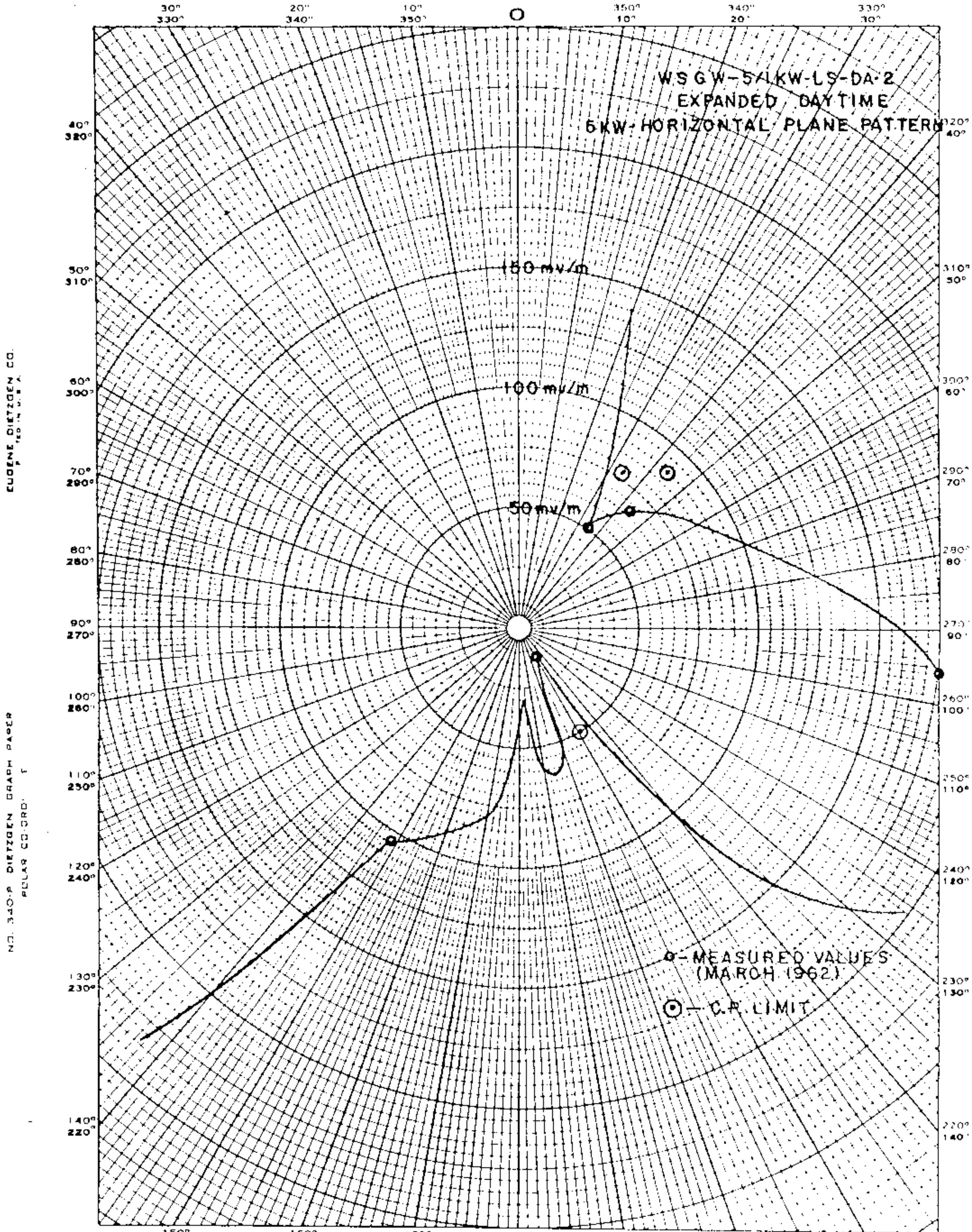
790 kc

WSGW

Measured Day Nulls
(6-22-62ct)

Station WSGW
Saginaw, Michigan

1kw,5kw-LS,DA-2,U
790 kc



FCC File No.BL-9358
Accepted 6-15-62

Station WSGW
Saginaw, Michigan

790 kc

WSGW

PROPOSED
NIGHT

WSGW, SAGINAW, MICH.

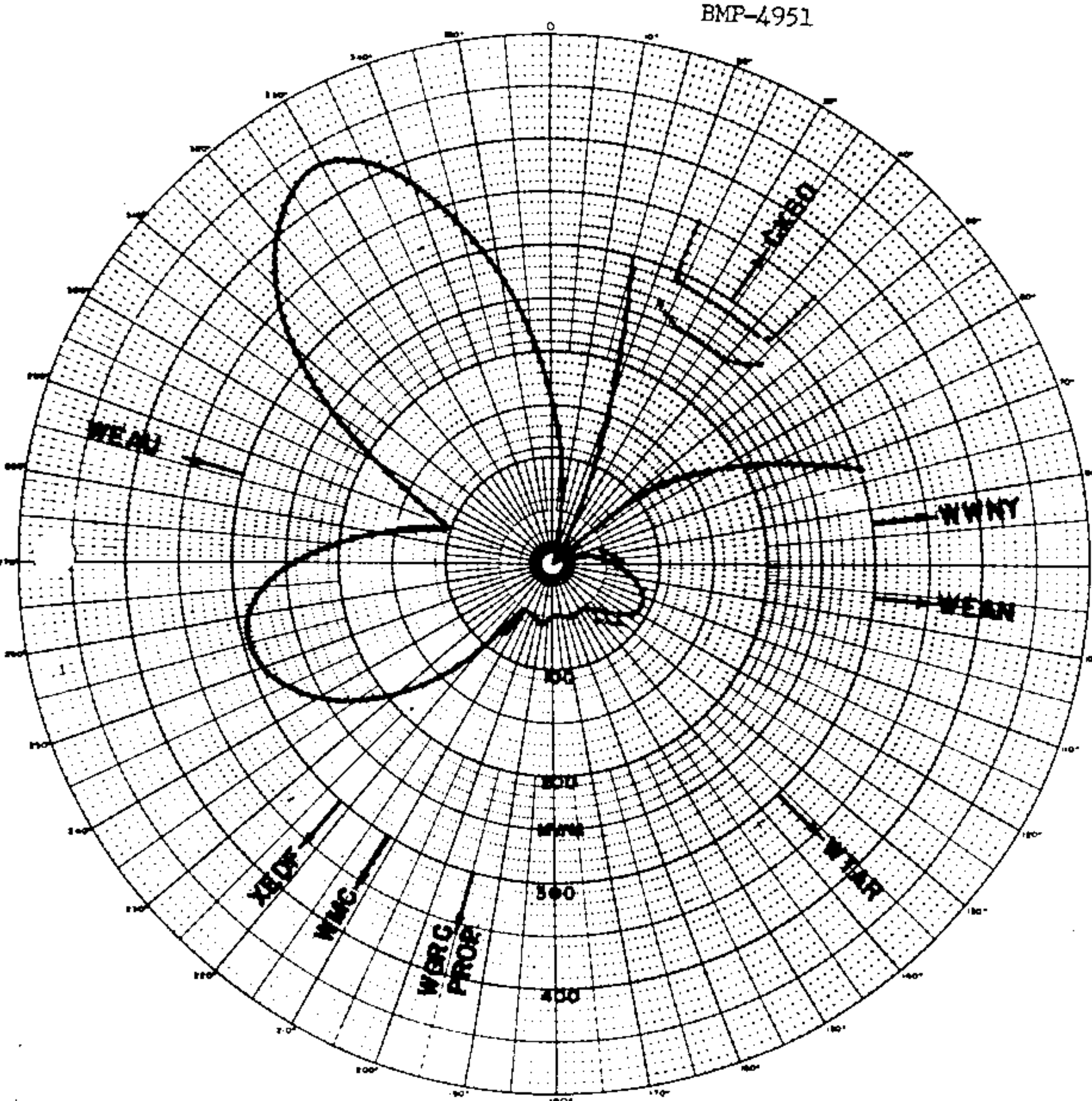
1kw, DA-2

790 kc

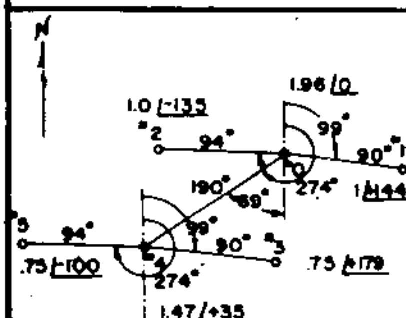
1/13/50G

1-3-50

BMP-4951



SITE: 43° 27' 40" N
83° 48' 48" W



BOOTH RADIO STATIONS INC.
SAGINAW, MICH.
WSGW

NIGHT TIME

HORIZONTAL RADIATION PATTERN
790 KC

ANT	α-DEG	S-DEG	σ-DEG	FIELD R	F-GND	H-DEG
0	—	—	0	1.96	180 MVM	110
1	0	90	+144	1.0	180	110
2	175°	94	-135	1.0	180	110
3	128.2°	121	+179	.75	180	110
4	150°	190	+35	1.47	180	110
5	158.2°	278	-100	.75	180	110

GLENN D GILLETT AND ASSOCIATES
CONSULTING RADIO ENGINEERS
NATIONAL PRESS BUILDING
WASHINGTON 4, D C

PATTERN NO 470310-A
SUPERSEDES 3 A 1
APP 3 A 2

WSGW, Saginaw, Mich. 790 kc

WSGW

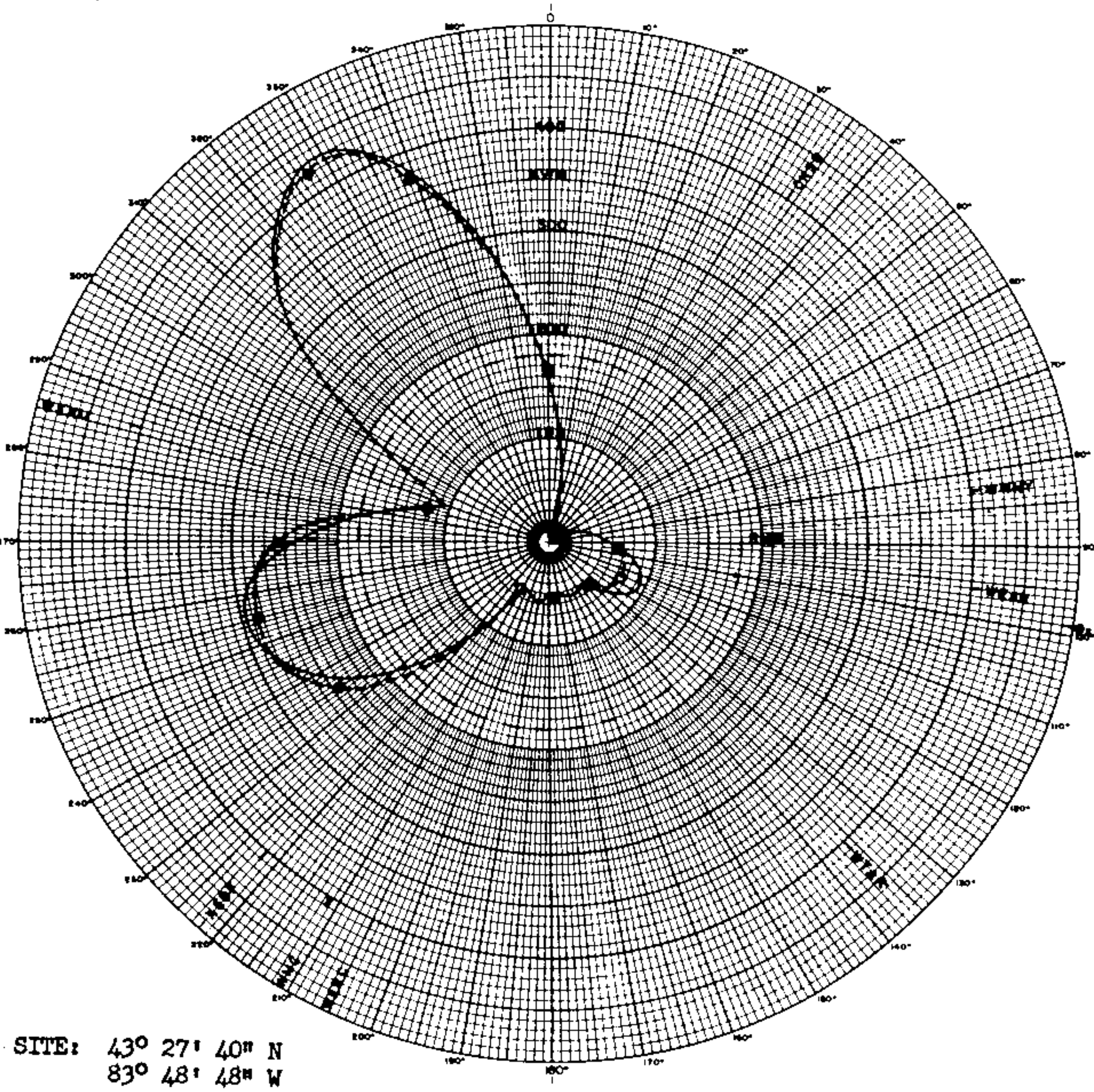
MEASURED
NIGHT

WSGW, SAGINAW, MICH.

1kw, DA-2 790 kc

8/14/50G

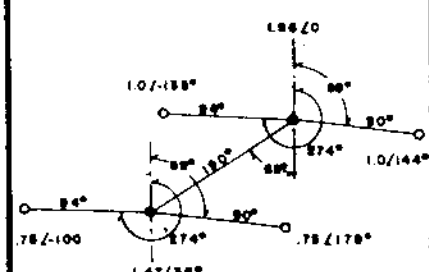
8-7-50



SITE: 43° 27' 40" N
83° 48' 48" W

Computed RMS = 180 MV/M
Measured RMS = 178 MV/M

———THEORETICAL VALUE
– – –MEASURED VALUE



WSGW
SAGINAW, MICH.

ANT	α-DEG	S-DEG	σ-DEG	FIELD-K	F-GND	H-DEG
0	—	—	0	1.96	180 MVM	85
1	0	90	+144	1.0	180	85
2	175°	94	-135	1.0	180	85
3	128.2°	121	+179	.75	180	85
4	150°	190	+35	1.47	180	85
5	156.2°	278	-100	.75	180	85

1 KW DA-2 790 KC
MEASURED NIGHTTIME

PATTERN NO 500
SUPERSEDES
APP APP 1 1 b

WSGW, Saginaw, Mich. 790 kc

W S G W

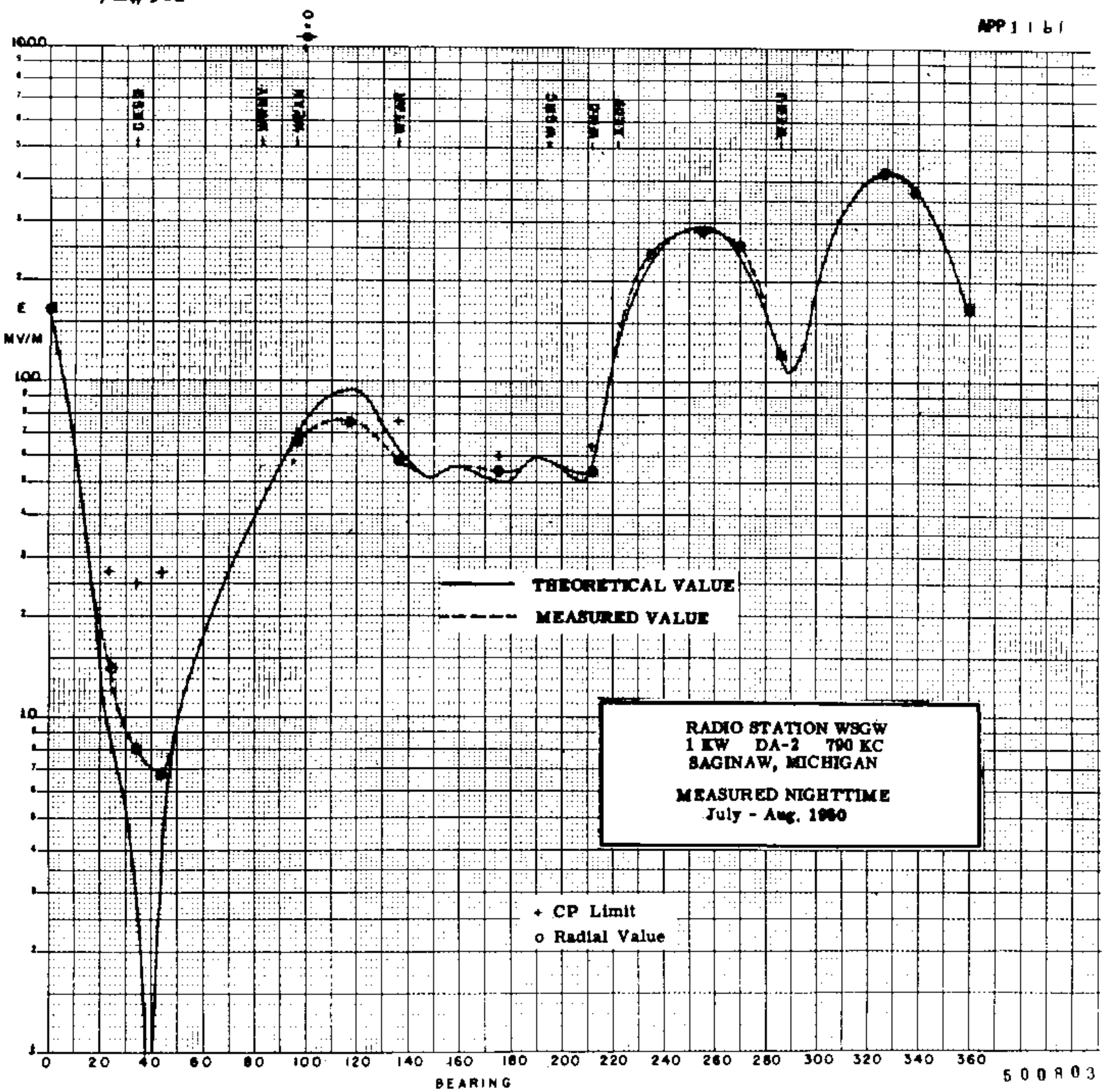
MEASURED
NIGHT EXPANDED

WSGW, SAGINAW, MICH.

1kw, DA-2 790 kc

8-7-50

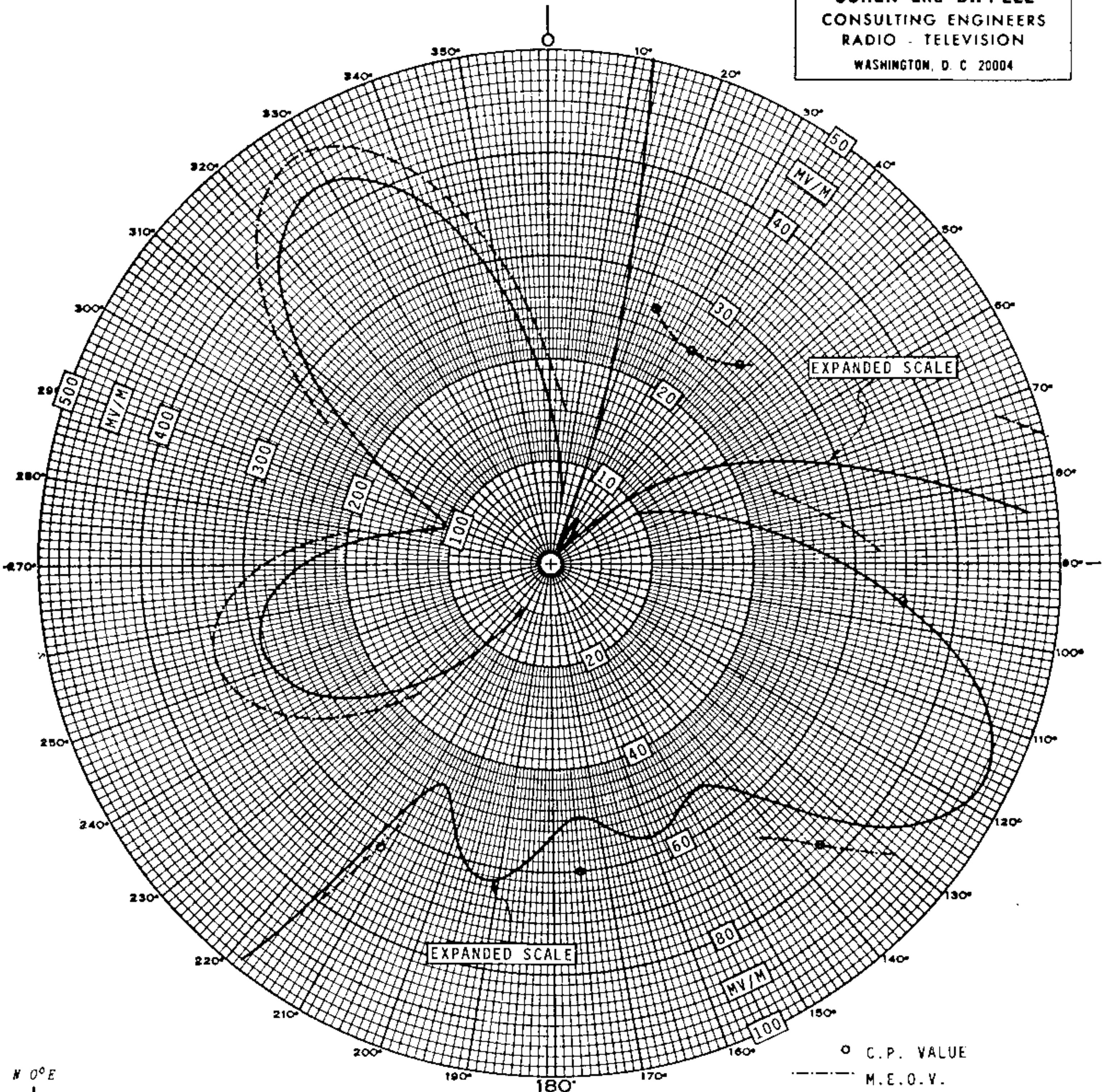
8/14/50G



WSGW, Saginaw, Mich. 790 kc

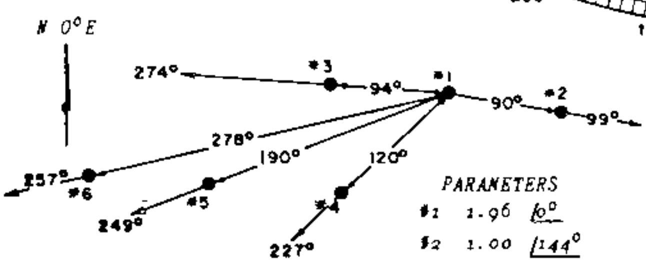
WSGW

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



○ C.P. VALUE
—·—·— M.E.O.V.

RMS= 180 MV/M



PARAMETERS

#1	1.96	/0°
#2	1.00	/144°
#3	1.00	/-135°
#4	0.75	/179°
#5	1.47	/35°
#6	0.75	/-100°

H = 110°

PROPOSED HORIZONTAL PLANE
RADIATION PATTERN
FOR NIGHTTIME OPERATION
WSGW, SAGINAW, MICHIGAN
790 KHz 1/5 KW-LS, DA-2, U
OCTOBER 1972

WTAR

PROPOSED NIGHT WTAR, NORFOLK, VA. 5kw, DAN 790 kc

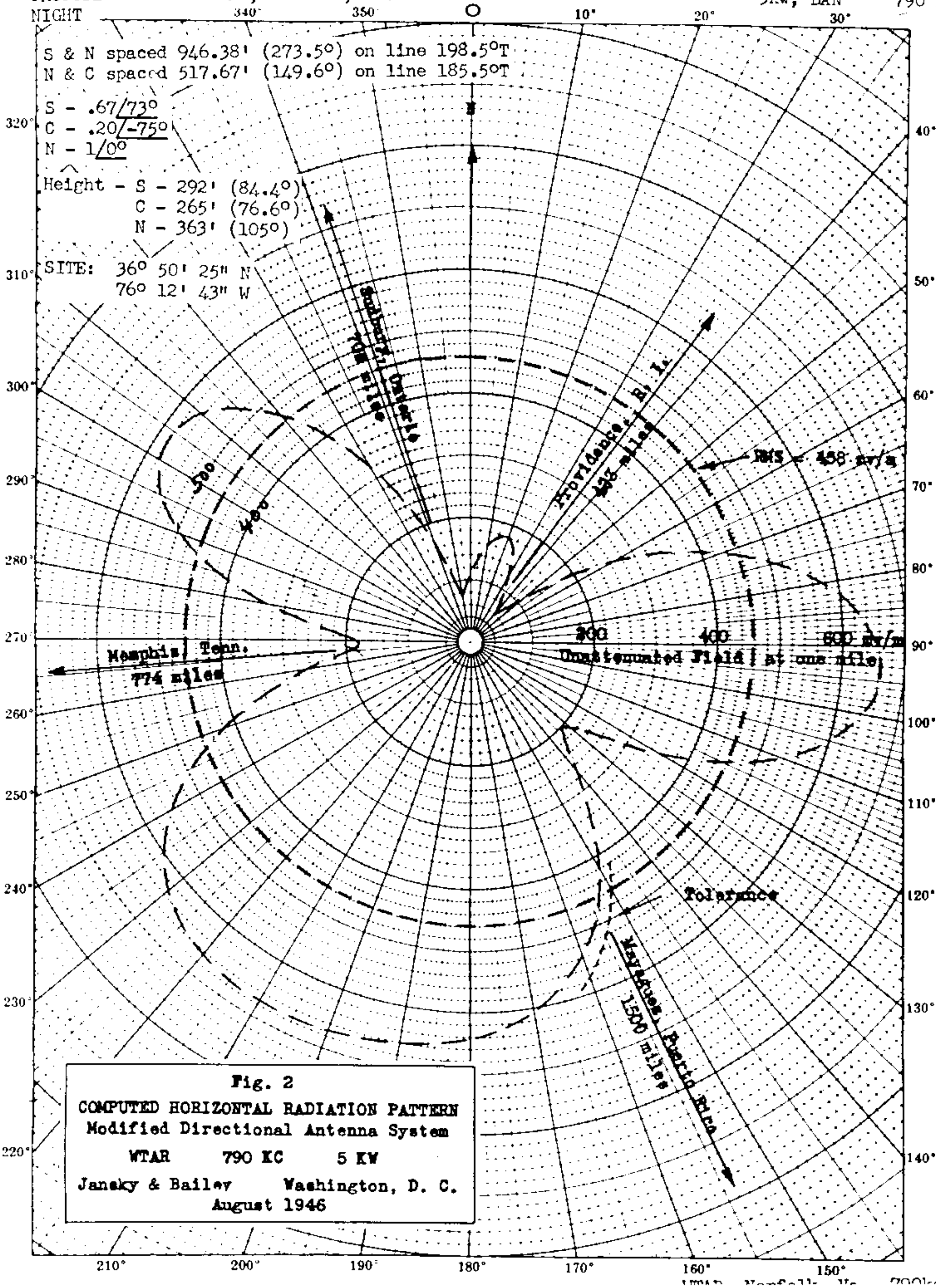
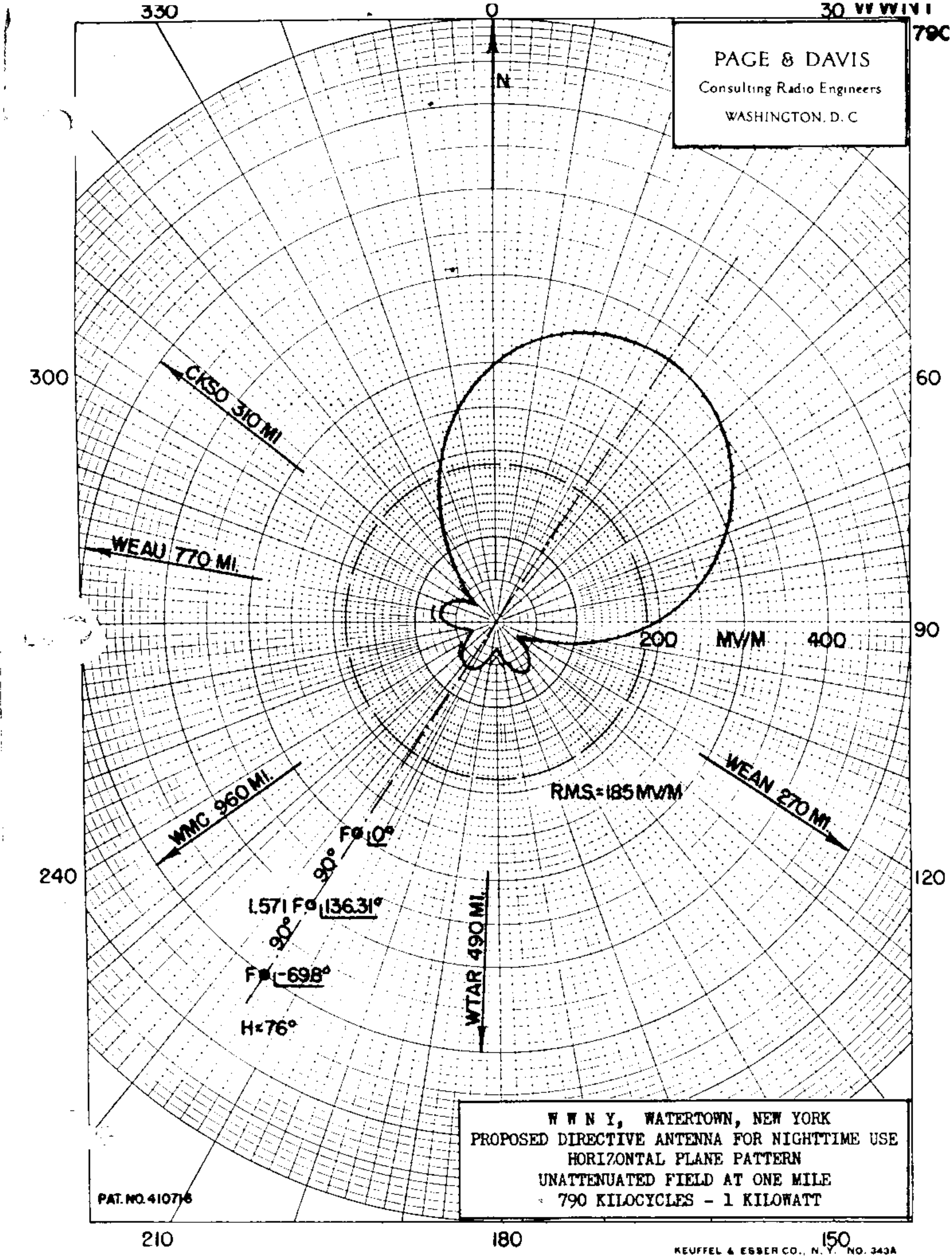


Fig. 2

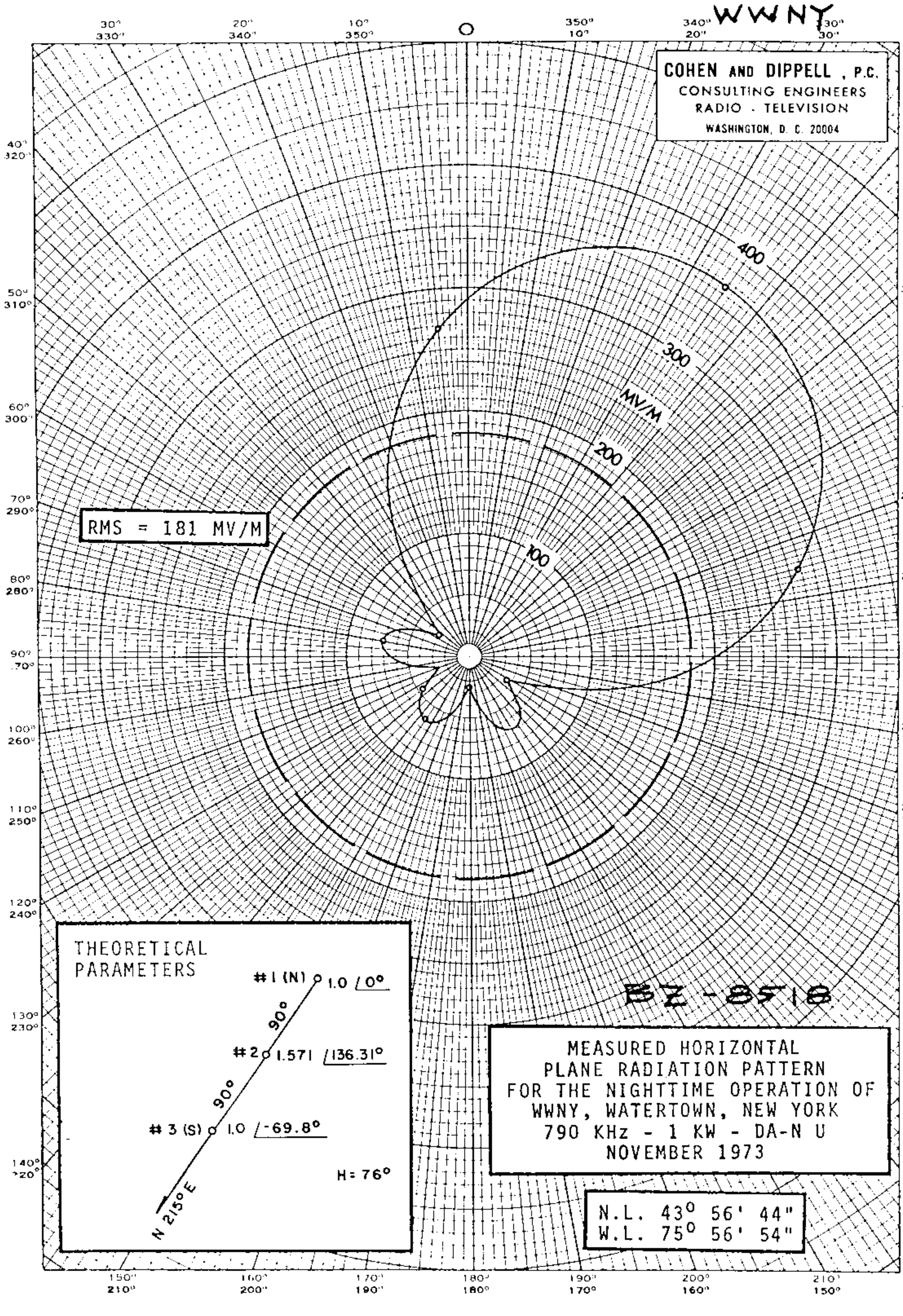
COMPUTED HORIZONTAL RADIATION PATTERN
Modified Directional Antenna System

WTAR 790 KC 5 KW

Janaky & Bailey Washington, D. C.
August 1946



W W N Y, WATERTOWN, NEW YORK
PROPOSED DIRECTIVE ANTENNA FOR NIGHTTIME USE
HORIZONTAL PLANE PATTERN
UNATTENUATED FIELD AT ONE MILE
790 KILOCYCLES - 1 KILOWATT


WWNY
COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004
400
300
MV/M
200
100
RMS = 181 MV/M
THEORETICAL
PARAMETERS
#1 (N) 1.0 /0°
90°
#2 1.571 /136.31°
90°
#3 (S) 1.0 /-69.8°
N 215° E
H: 76°
BZ-8518
MEASURED HORIZONTAL
PLANE RADIATION PATTERN
FOR THE NIGHTTIME OPERATION OF
WWNY, WATERTOWN, NEW YORK
790 KHz - 1 KW - DA-N U
NOVEMBER 1973
N.L. 43° 56' 44"
W.L. 75° 56' 54"

790 KC
WWNY

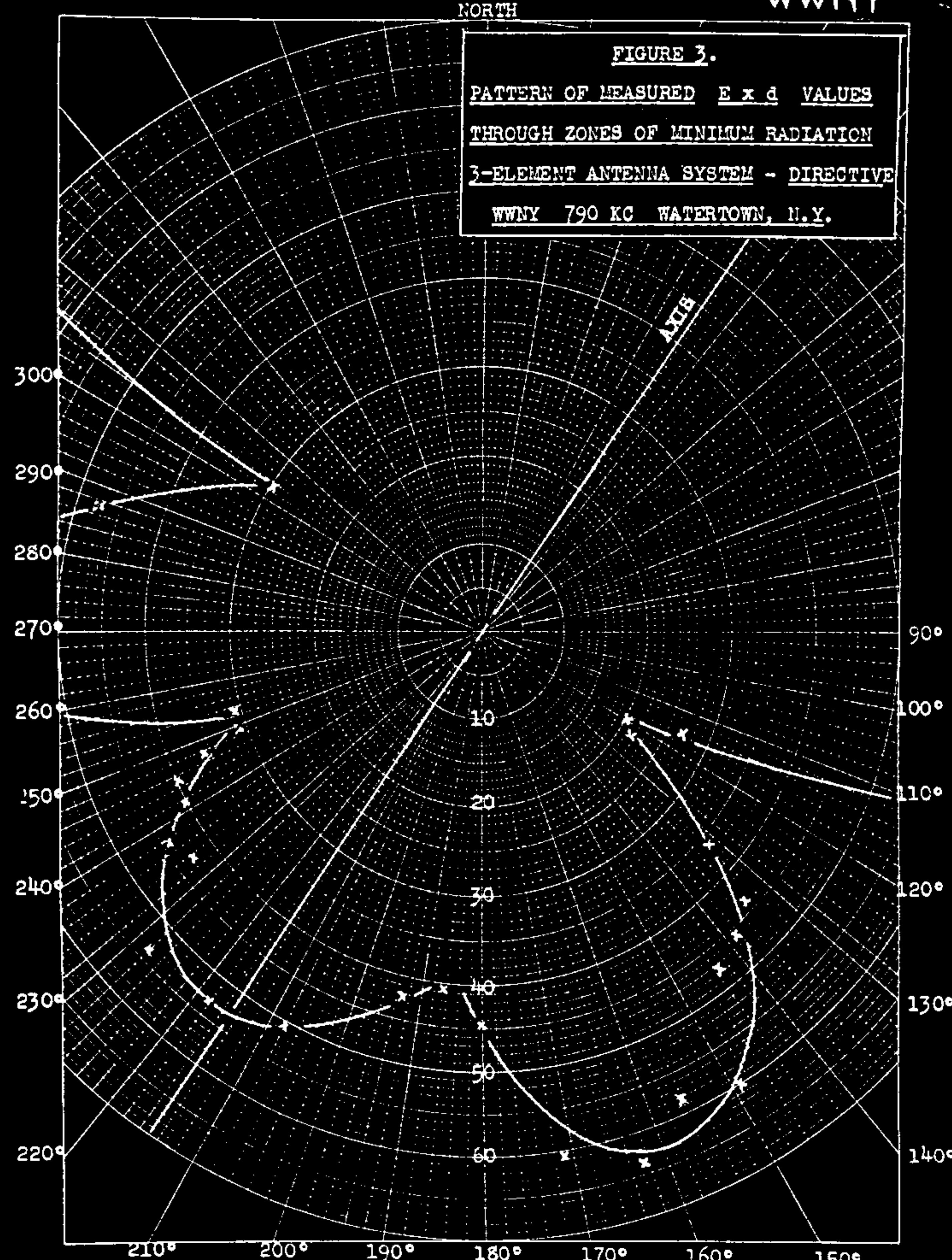


FIGURE 3.

PATTERN OF MEASURED E x d VALUES

THROUGH ZONES OF MINIMUM RADIATION

3-ELEMENT ANTENNA SYSTEM - DIRECTIVE

WWNY 790 KC WATERTOWN, N.Y.

Paul F Godley
Montclair N J 10/'42

Proposed Day
(1-28-65ct)

Station WYNR
Brunswick, Georgia

500w,DA-D,D WYNK
790 kc

MISS OSTERMILLER
FE 8 3800
BOTH CURRENT

MOD. 2-9-65
MP-11427
CHG ANT LOC

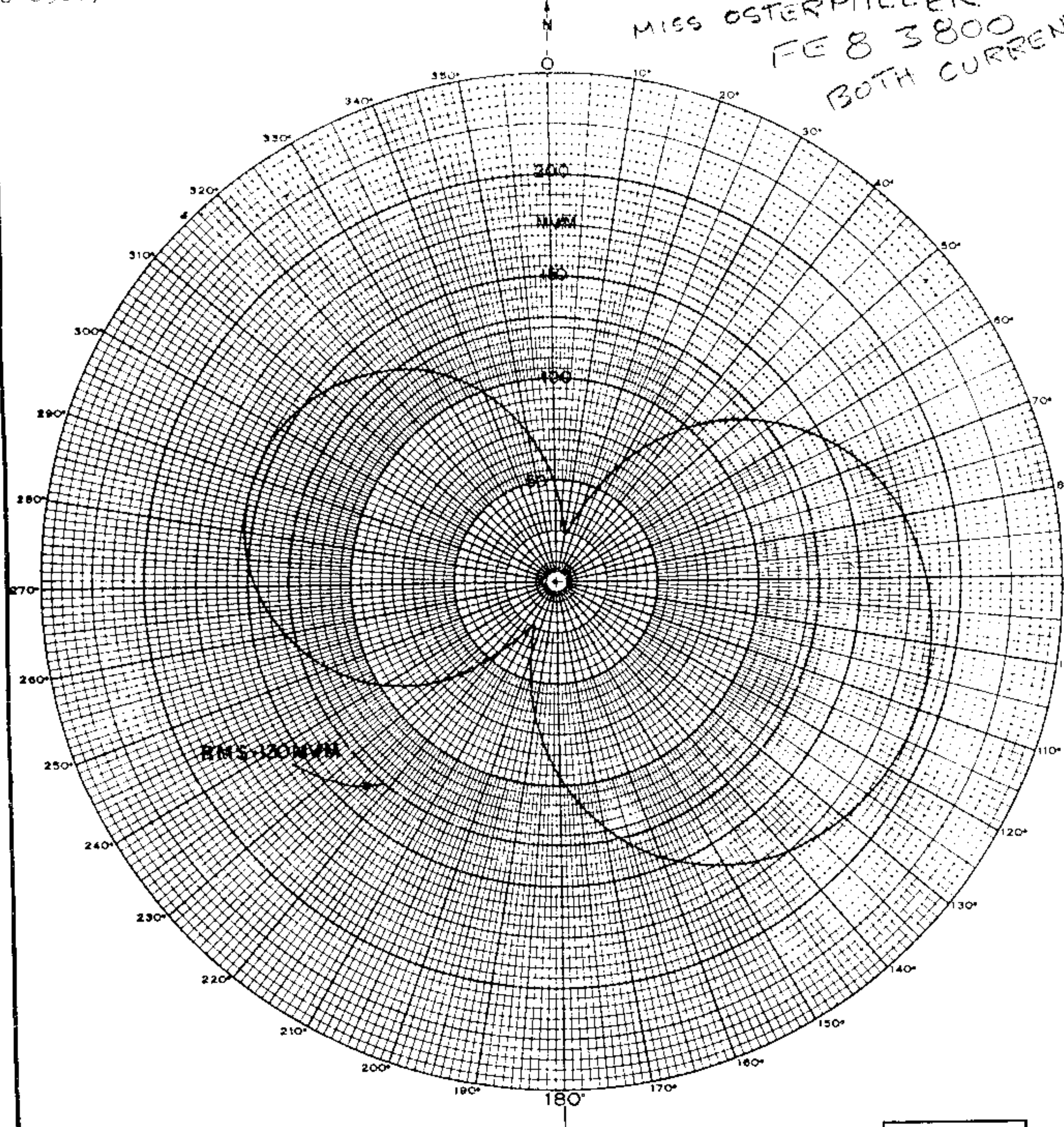
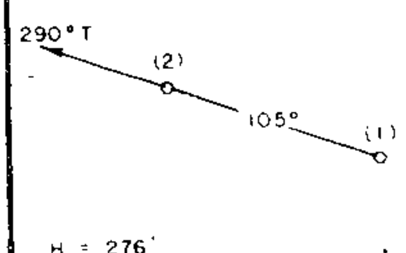


EXHIBIT F

RMS = 130 MV/M



LATITUDE	31°	08'	40"	N.
LONGITUDE	81°	34'	56"	W.

ANTENNA NUMBER	AZIMUTH DEG	SPACING DEG	PHASING DEG	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG
1	—	—	0	1.0		80
2	290	105	165	0.8		80

DAYTIME
HORIZONTAL PLANE PATTERN
PROPOSED WYNR
BRUNSWICK , GEORGIA
790 KC. 500 W. DA - D
641120

KEAR & KENNEDY
CONSULTING ENGINEERS
WASHINGTON D. C.

FCC File No. BMP-11427
Accepted 1-21-65

Station WYNR
Brunswick, Georgia

790 kc

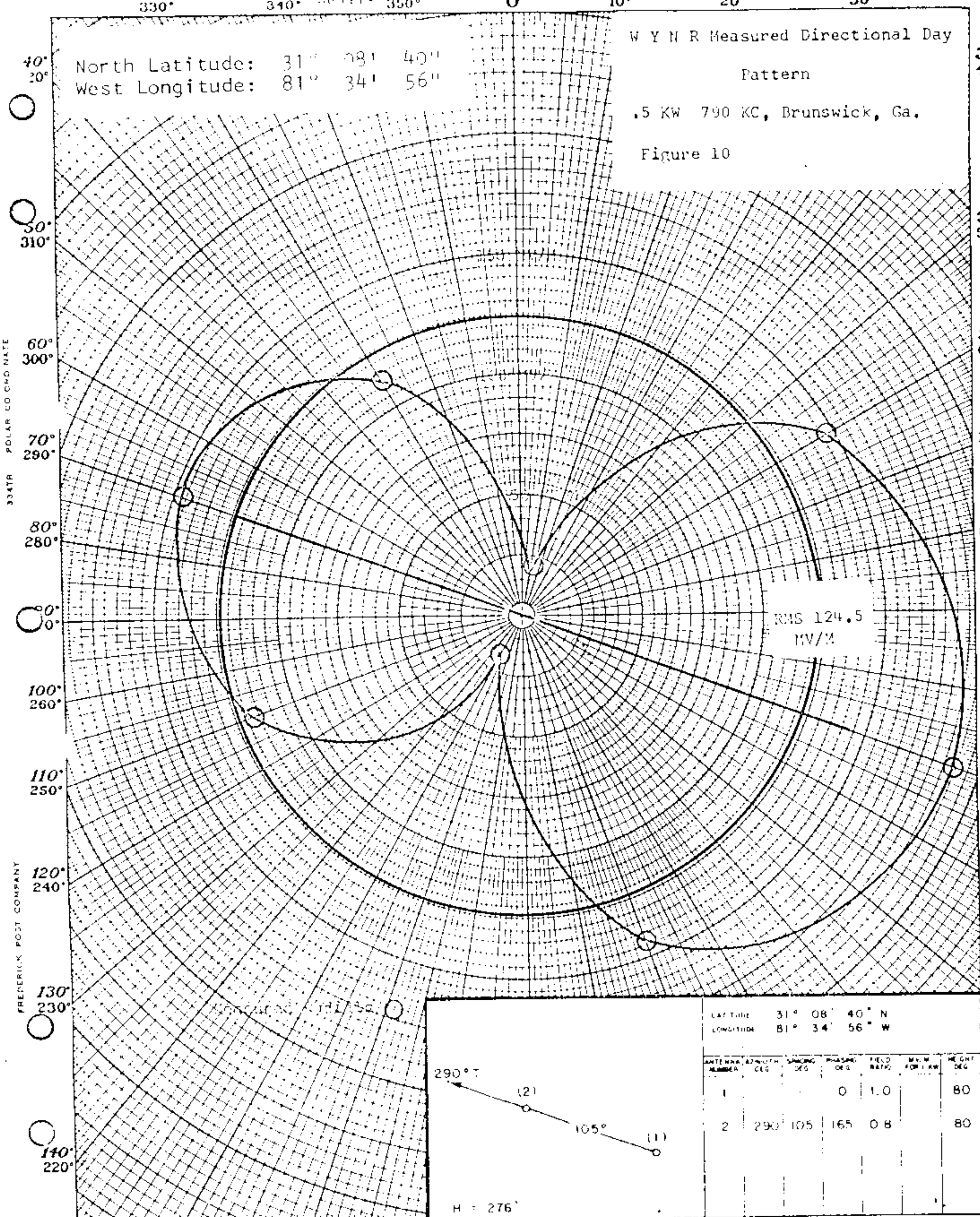
BL - 11446 (4-6-67)

GRANTED LICENSE FOR A NEW AM STATION

Measured Day (12-29-66ct)

Station WYNR
Brunswick, Georgia

500w, DA-D, D
790 kc



ANTENNA NUMBER	AZIMUTH DEG	SPACING DEG	PHASING DEG	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG
1			0	1.0		80
2	290	105	165	0.8		80

FCC File No. BL-11446
Accepted 12-5-66

Station WYNR
Brunswick, Georgia

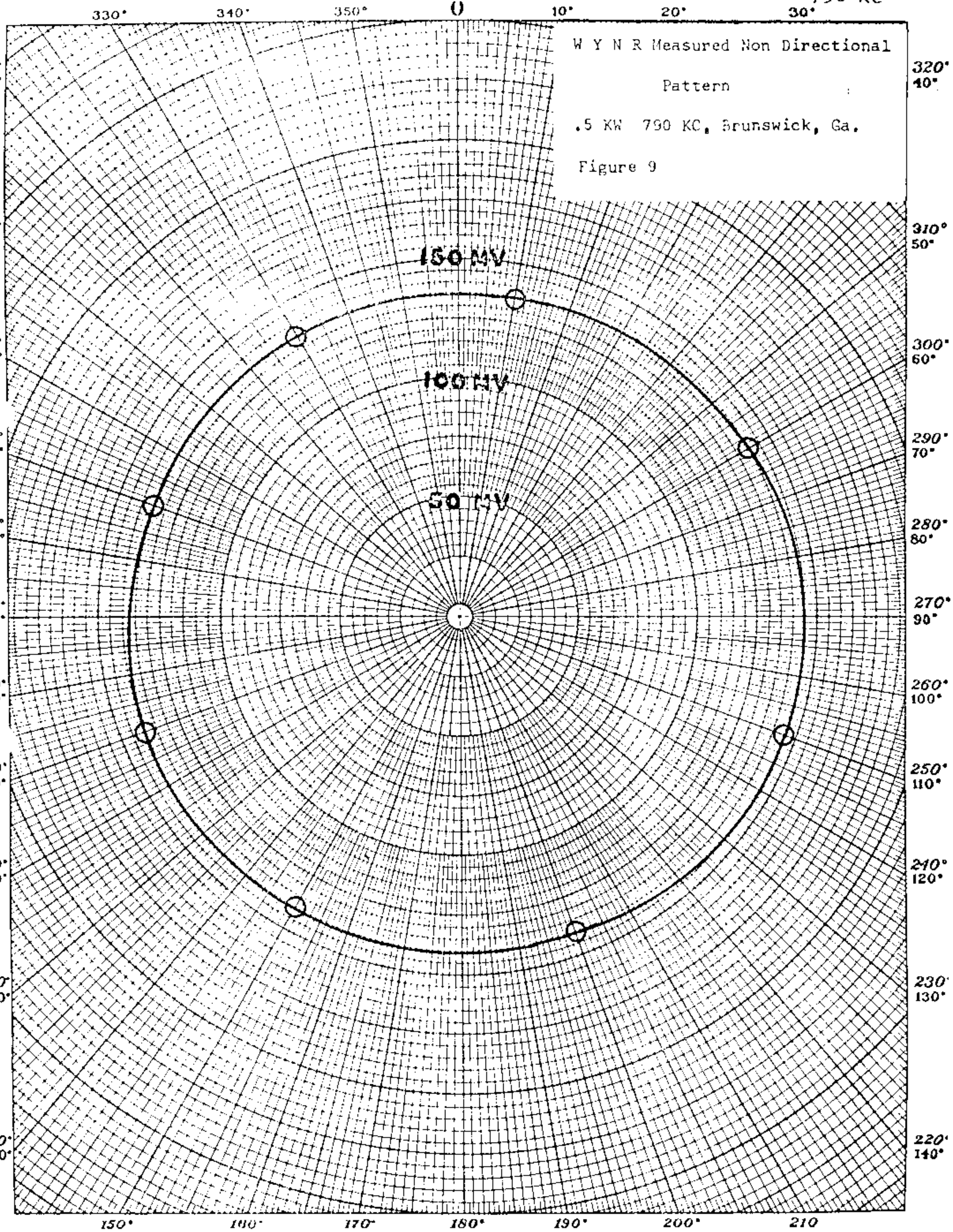
790 kc

BL-11446 (4-6-67)

WYNR

Measured Non-DA GRANTED LIC Station WYNR
(12-29-66ct) Brunswick, Georgia

500w, DA-D, D
790 kc



FCC File No. BL-11446
Accepted 12-5-66

Station WYNR
Brunswick, Georgia

790 kc

XEAN

DESCRIPTION SHEET
2-24-65ct)

Station XEAN 5kw,DA-D,D,Class III
El Salto de Juanacatlan,Jalisco 790 kc

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: XEAN

Main Studio: El Salto de Juanacatlan, Jalisco

Frequency: 790 kc/s

Power: 5 kw

Notification List No. 232

Date: September 10, 1964 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 20° 30'

West Longitude: 103° 10'

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 2
Type of elements: Guyed vertical steel towers.

Tower:	#1(E)	#2(W)
Height above insulators:	311.465'	311.465'(90°)
Phasing:	0°	150°
Field Ratio:	1	1

Spacing and Orientation: Elements are spaced 259.527'(75°) on a line bearing 95° true.

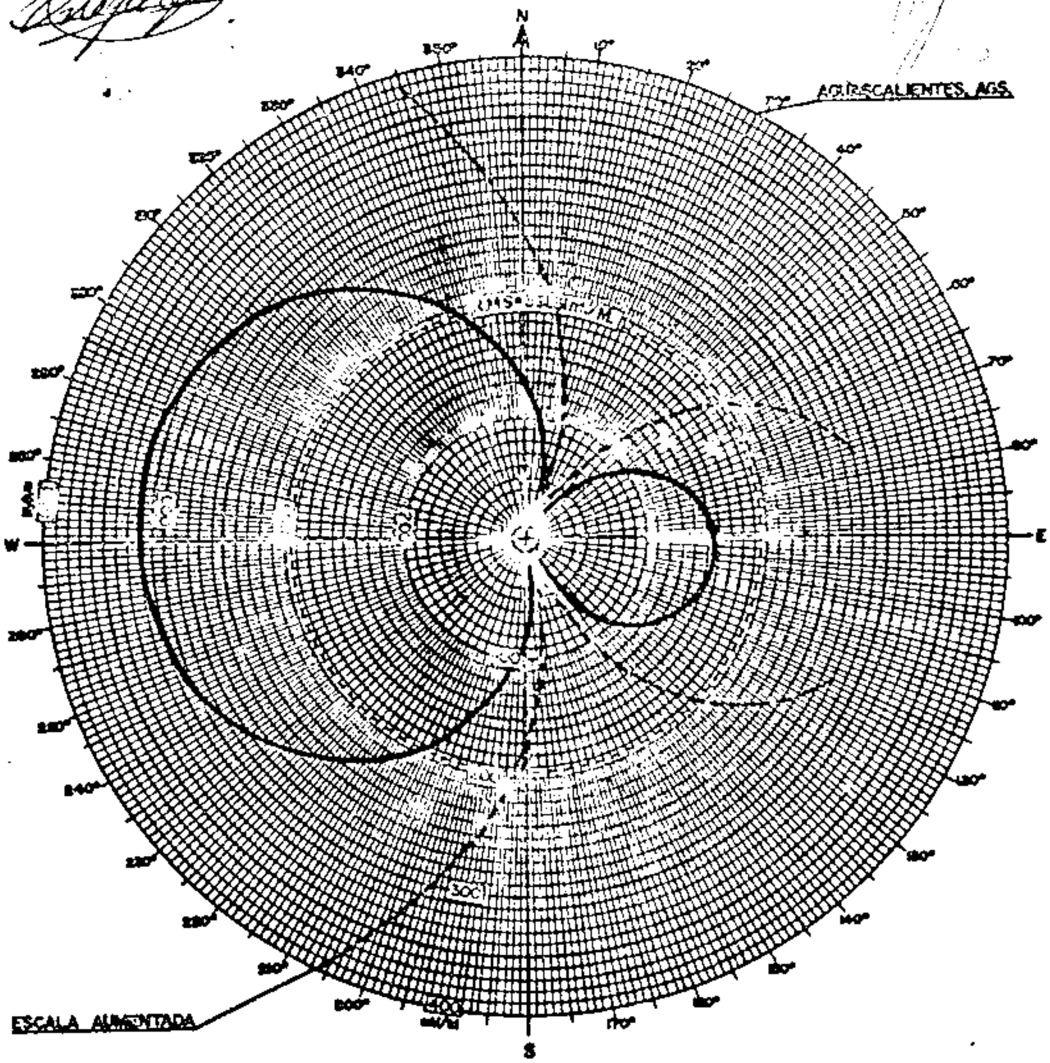
Predicted effective Field: 391.3118 mv/m at rated power.

XEAN

Proposed Day
(2-24-65ct)

Station XEAN
El Salto de Juanacatlan, Jalisco

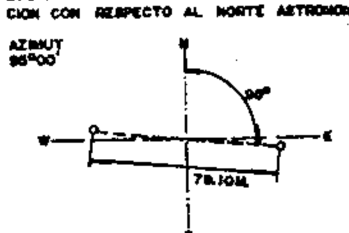
5kw, DA-D, D, Class III
790 kc



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

XEAN

EL SALTO DE JUANACATLAN, JAL.

790 KHz.

5,000 Watts.

DISEÑO:

ROBERTO DIAZ MORALES

RADIOTELEFONISTA PRIMERA No. 1014.

DIBUJO:

L. GUEVARA P.

CBQ

PROJECT #10315-B

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

STATION: CBQ

MAIN STUDIO: Thunder Bay, Ontario

FREQUENCY: 800 kHz

POWER: 10 kW D/5 kW N CLASS: II

NOTIFICATION LIST NO: 362

DATE: March 15, 1977

GEOGRAPHICAL LOCATION: Latitude 48° 18' 38" North
Longitude 89° 21' 30" West

ANTENNA CHARACTERISTICS:

Mode of Operation: DA-1

Number of Elements: 3 (Three)

Type of Elements: Guyed steel towers, uniform cross-section, base insulated for series feed

Tower	#1 (South)	#2 (Centre)	#3 (North)
Height above base insulator:	255' (74.6°)	255' (74.6°)	255' (74.6°)
Overall height:	258'	258'	258'
Field Ratio:	.58	1.0	.57
Phasing:	141°	0°	-153

GROUND SYSTEM:

120 equally spaced radials per tower of No. 10 B & S gauge bare soft copper wire, buried approximately 8". Length of radials 492' (0.4 wavelength) with the exception of those joined along the common chords.

SPACING AND ORIENTATION OF TOWERS:

The towers are equally spaced on a line bearing 25°. The spacing between the towers is 239.2' (70°).

PREDICTED EFFECTIVE FIELD:

569 mV/m at 1 mile for 10 kW
402 mV/m at 1 mile for 5 kW
180 mV/m at 1 mile for 1 kW

March 19, 1976
Rev. October 1, 1976

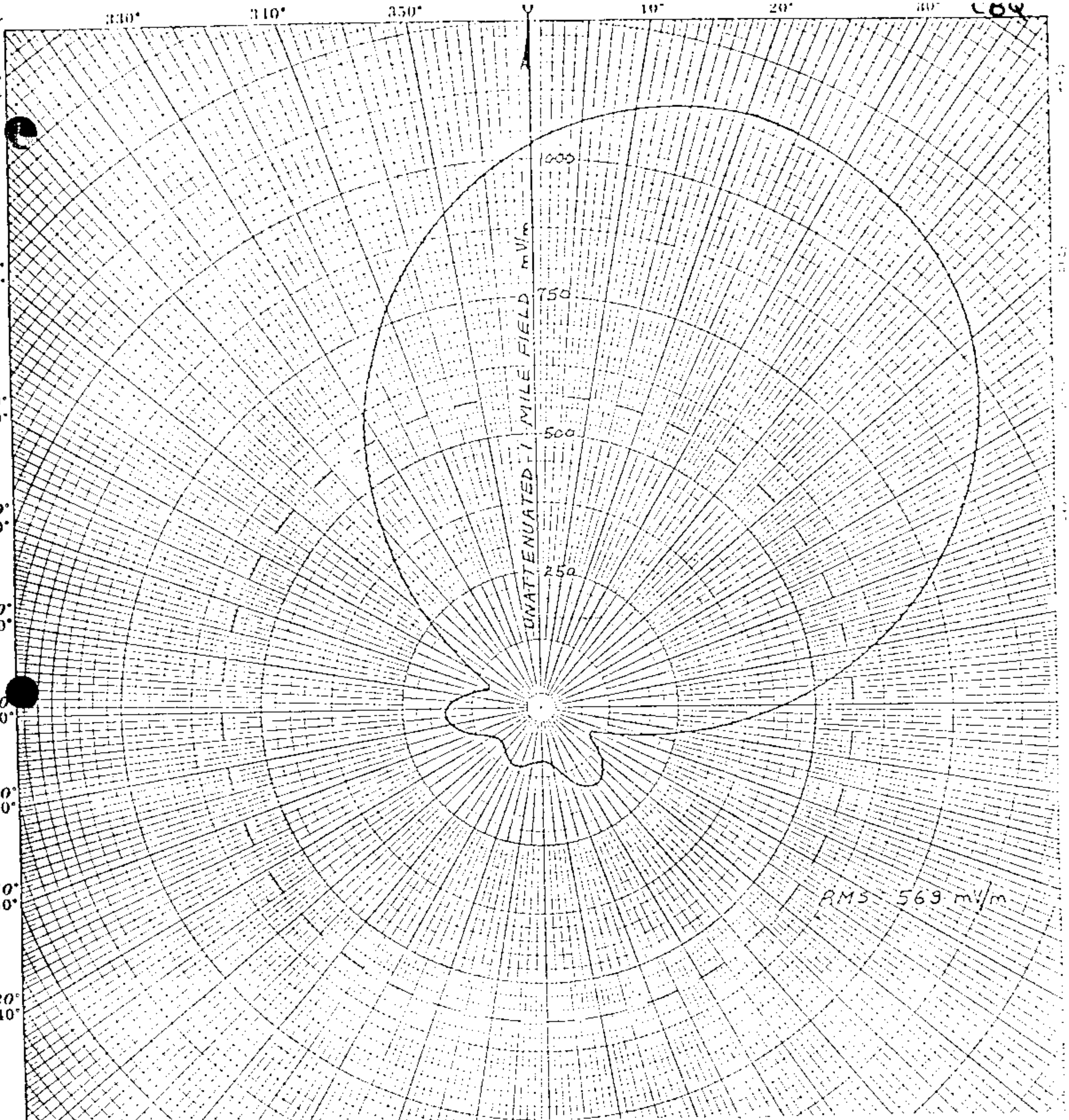


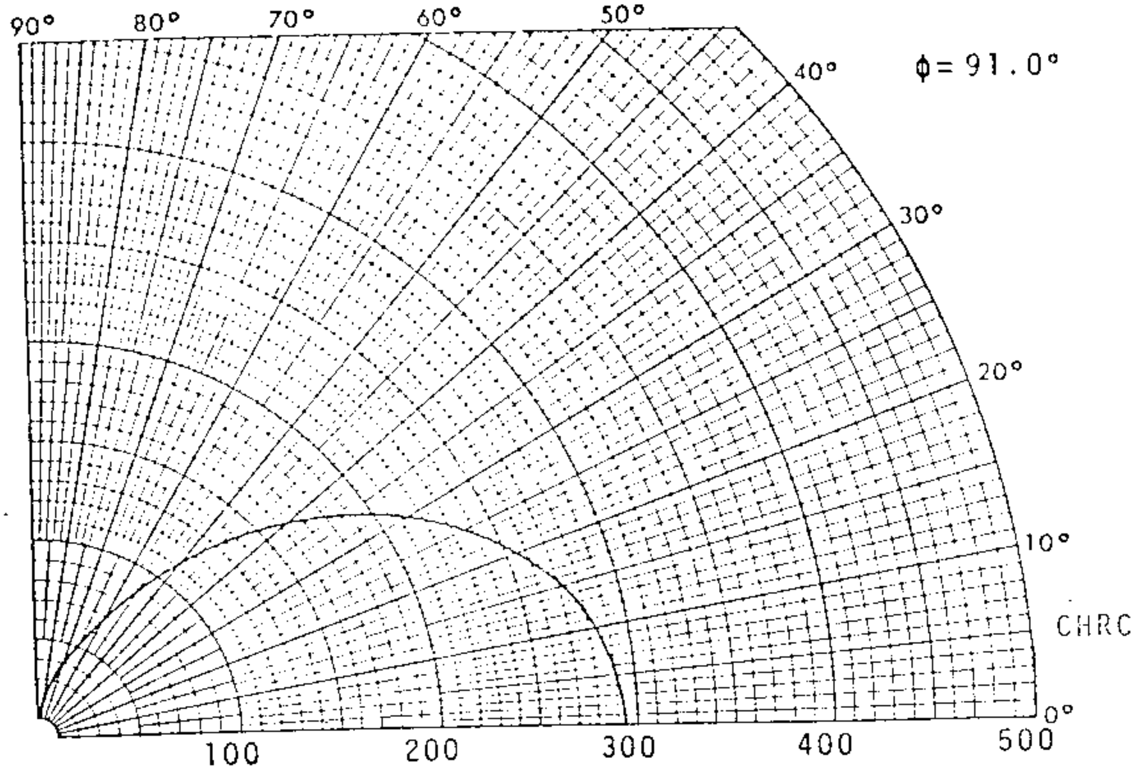
FIGURE 3

HORIZONTAL RADIATION PATTERN
POLAR PLOT 10 kW DAYTIME

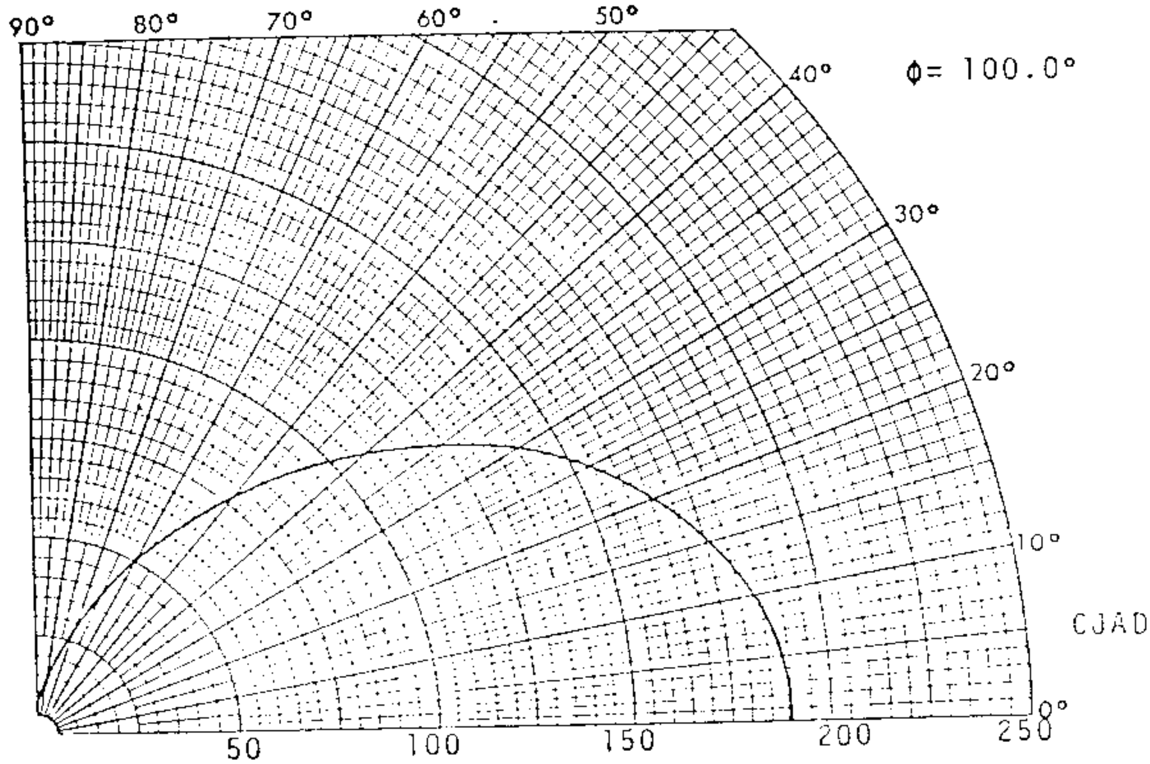
CBQ THUNDER BAY, ONTARIO
800 kHz 10 D/5 N DA-1 CLASS II
PROJECT #10315-B MARCH 19, 1976
REVISED OCTOBER 1, 197[illegible]

D.E.M. ALLEN & ASSOCIATES LTD.
CONSULTING ENGINEERS

CBQ



UNATTENUATED (MV/M) 1 MILE FIELD

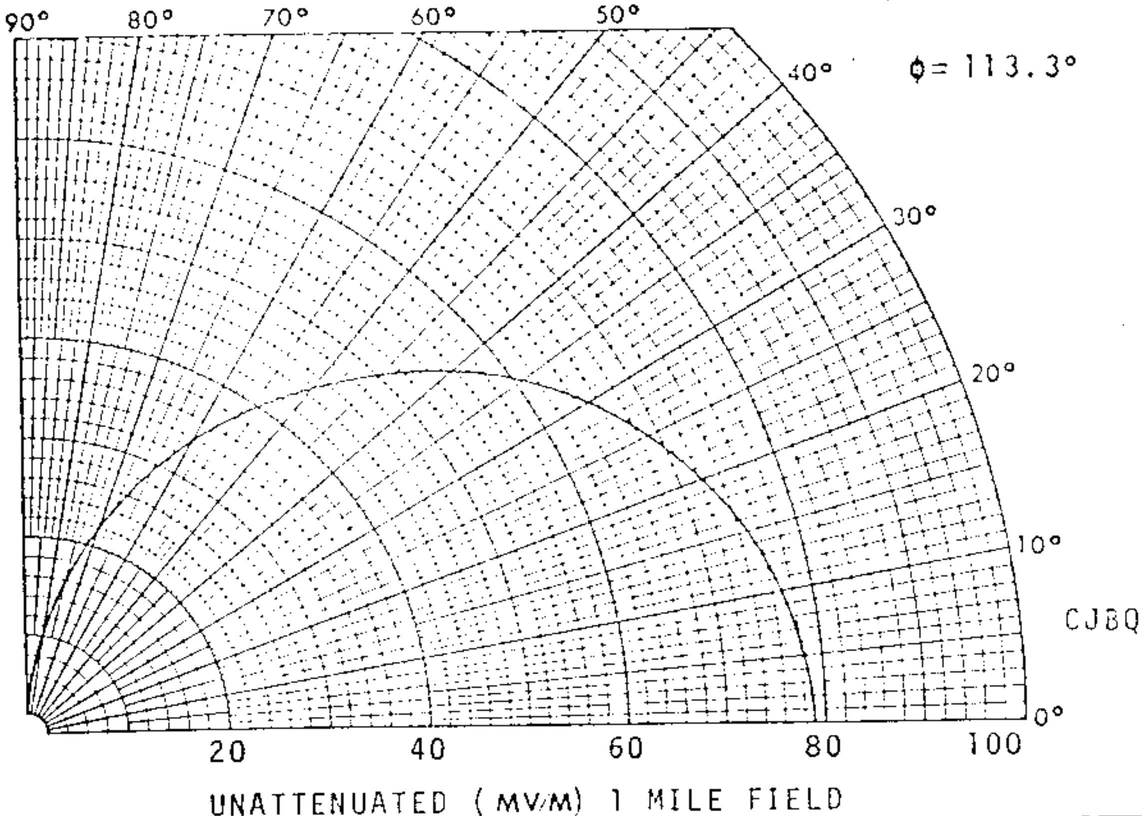


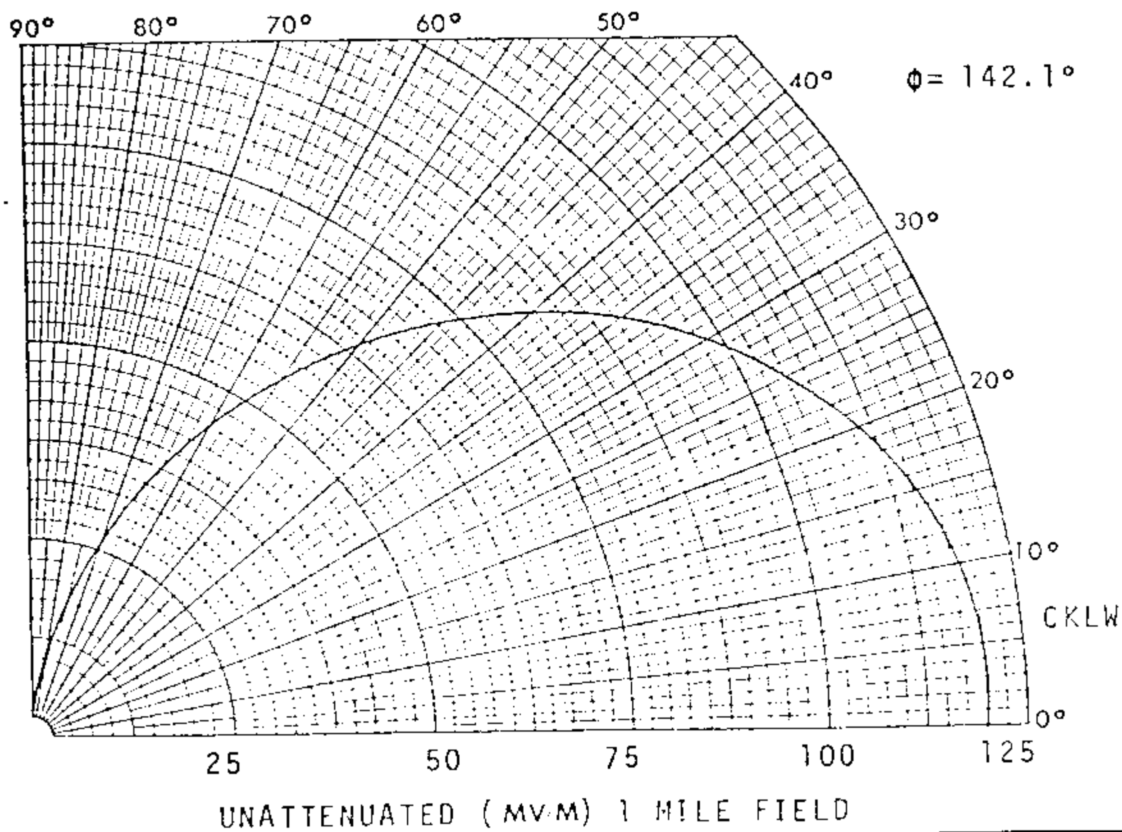
UNATTENUATED (MV/M) 1 MILE FIELD

VERTICAL RADIATION PATTERNS

FIGURE 4

CBQ THUNDER BAY, ONTA
800 kHz 10 D/5 N DA-1 CLASS
PROJECT #10315-B MARCH 19, 1976 REVISED OCTOBER 1,
D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS





VERTICAL RADIATION PATTERNS

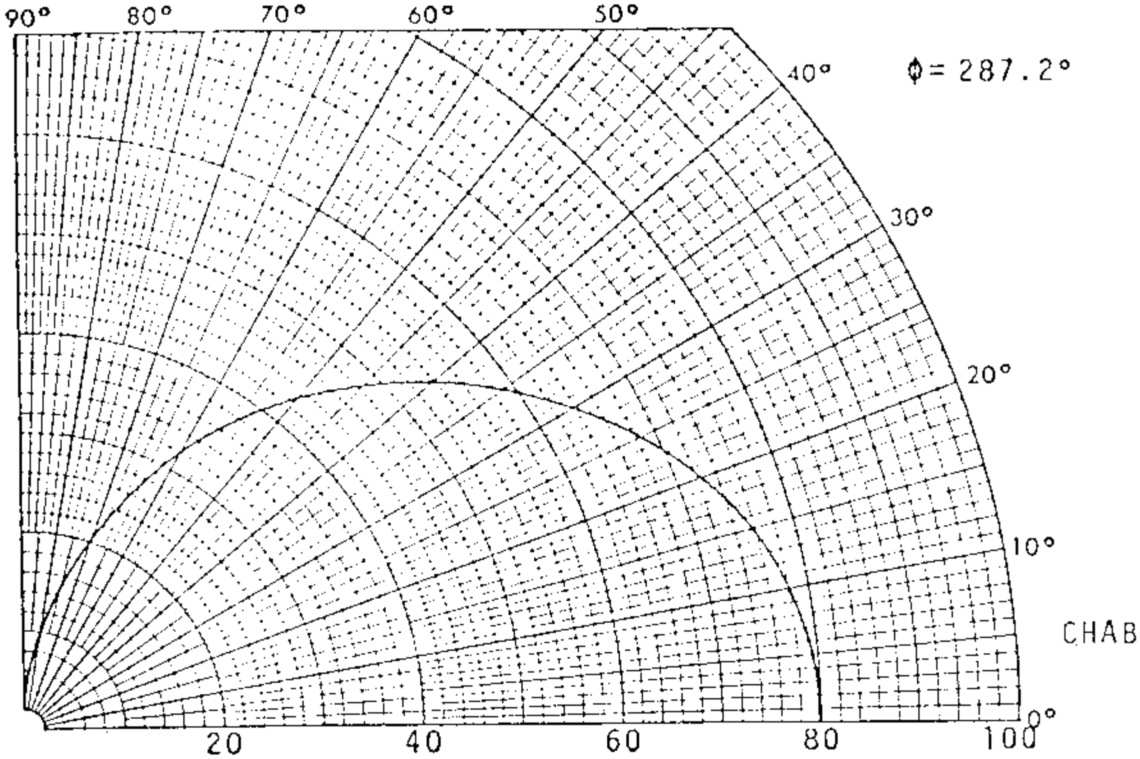
FIGURE 5

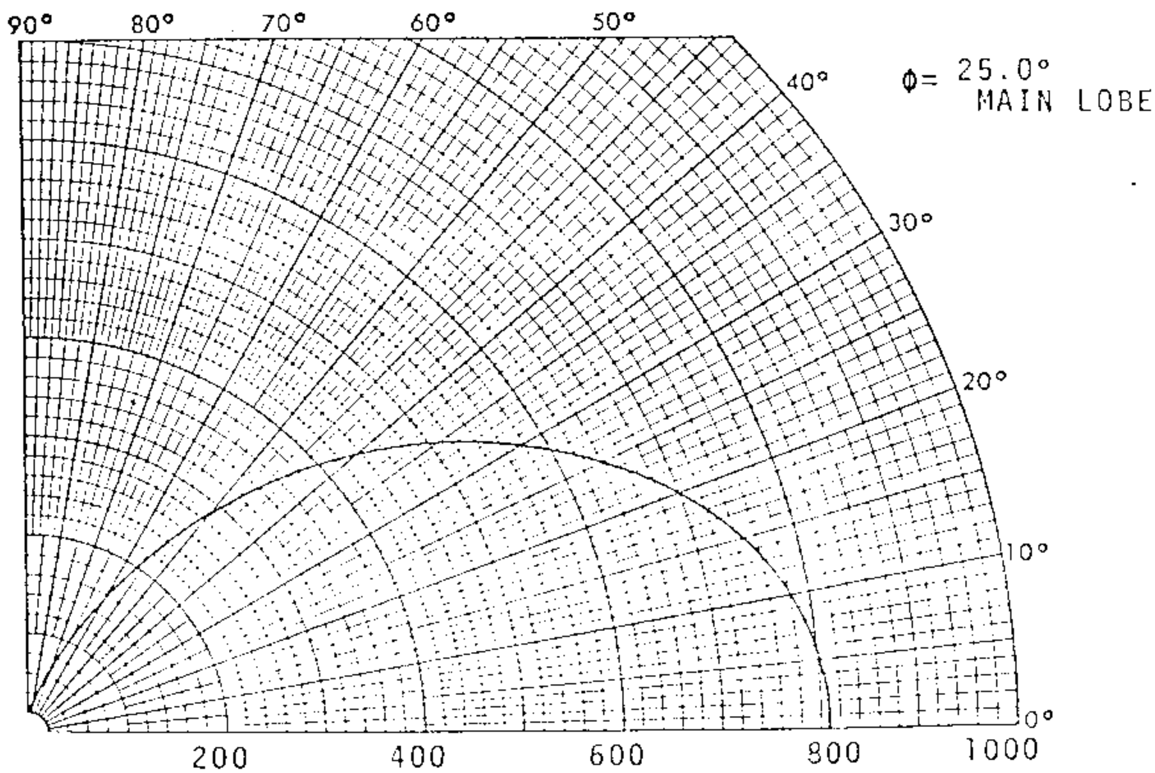
CBQ — THUNDER BAY, ONTARIO

800 kHz — 10 D/5 N — DA-1 — CLASS II

PROJECT #10315-B — MARCH 19, 1976 REVISED OCTOBER 1, 1976

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS





VERTICAL RADIATION PATTERNS

FIGURE 7

CBQ — THUNDER BAY, ONTARIO

800 kHz — 10 D/5 N — DA-1 — CLASS II

PROJECT #10315-B — MARCH 19, 1976 REVISED OCTOBER 1, 1976

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS

Nov. 20-52

CFOB 800

REFER TO FILE NUMBER

Air Services
Telecommunications Division
(5-10-59)

CANADA

DEPARTMENT OF TRANSPORT
OTTAWA

DESCRIPTIVE SHEET - OMNIDIRECTIONAL ANTENNA

Station Call: CKFI

Main Studio: Fort Frances, Ontario

Frequency: 800 Kc/s.

Power: 0.5kw-n/1kw.D

Class: II

Time: U

Notification Reference: NARBA Annex 3

Geographical Location:

North Latitude: 48° 36' 10"

West Longitude: 93° 26' 52"

Antenna Characteristics:

Height: 205 ft. 56° degrees

Expected Efficiency: 124 mv/m at 1 mi. for 0.5 Kw.

or: 175 mv/m at 1 mi. for 1 Kw.

Ground System:

240 radials, each 435 feet long.

Type of Element:

1 uniform cross-section, guyed, rivetted angle iron construction.

November 20, 1952

CHAB
800 KHz

PROJECT #1519

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

STATION: CHAB

MAIN STUDIO: Moose Jaw, Sask.

FREQUENCY: 800 kHz

POWER: 10,000 Watts CLASS: II

NOTIFICATION LIST: 400

DATE: November 17, 1980

GEOGRAPHICAL LOCATION: Latitude 50° 22' 38" North
Longitude 105° 23' 35" West

ANTENNA CHARACTERISTICS:

Mode of Operation: DA-N
Number of Elements: 3 (Three)
Type of Elements: Guyed steel towers, uniform cross-section, base insulated for series feed

TOWERS:	#1(E)	#2(N)	#3(W)
Height above Base Insulators:	295' (86.3°)	295' (86.3°)	295' (86.3°)
Overall Height:	299'	299'	299'
Orientation:	Ref.	326.75°	294°
Spacing:	Ref.	134.3°	165°
Phasing:	Ref.	-76°	37°
Field Ratio:	1.0	1.5	1.0

GROUND SYSTEM: 120 equally spaced radials of #10 bare soft copper wire extending 492' (0.4 wavelength) from the base of each tower with the exception of those joined along the common chords.

PREDICTED EFFECTIVE FIELD:

Night

552 mV/m at 1 mile for 10 kW
175 mV/m at 1 mile for 1 kW

Day

591 mV/m at 1 mile for 10 kW
187 mV/m at 1 mile for 1 kW

May 30, 1980

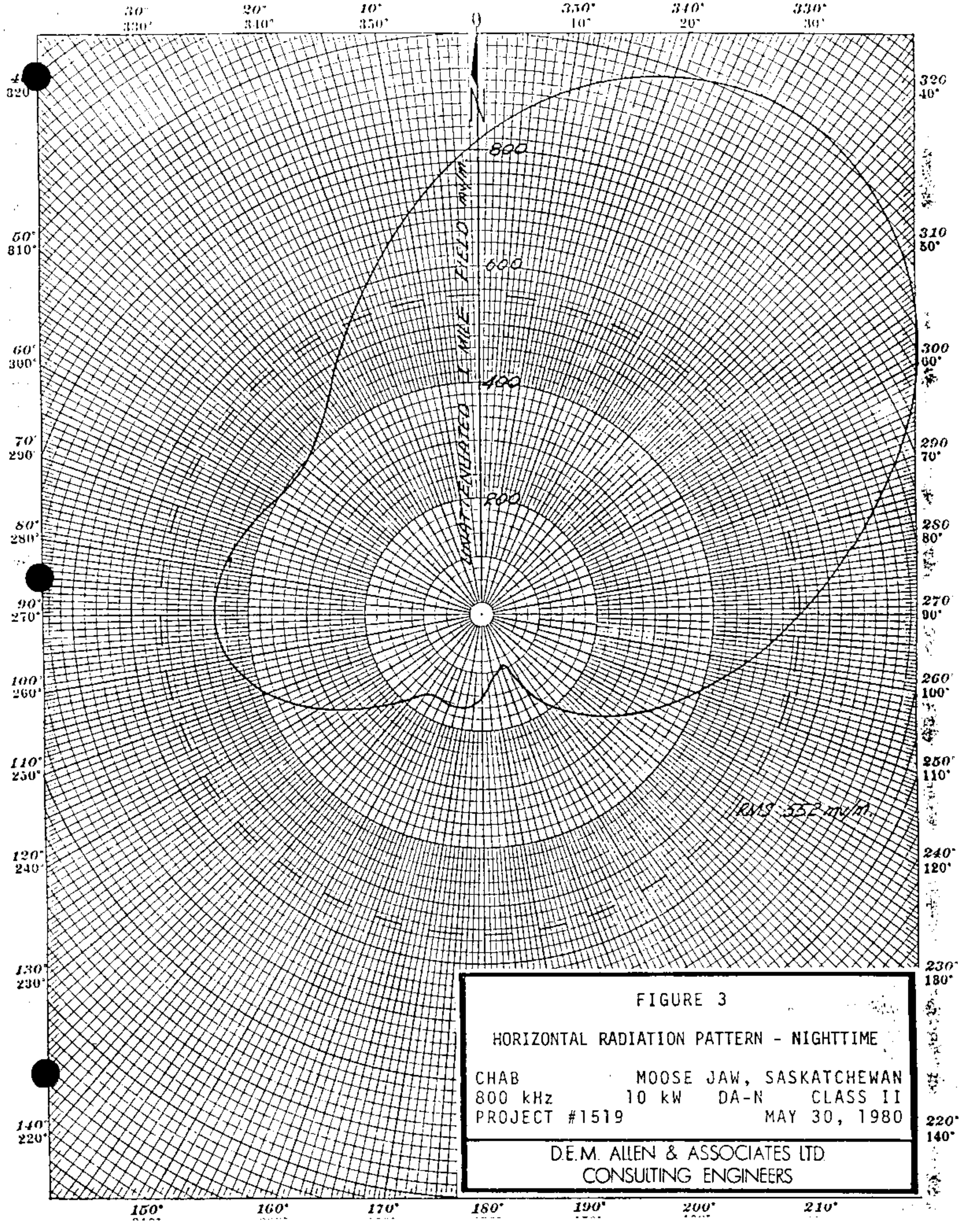


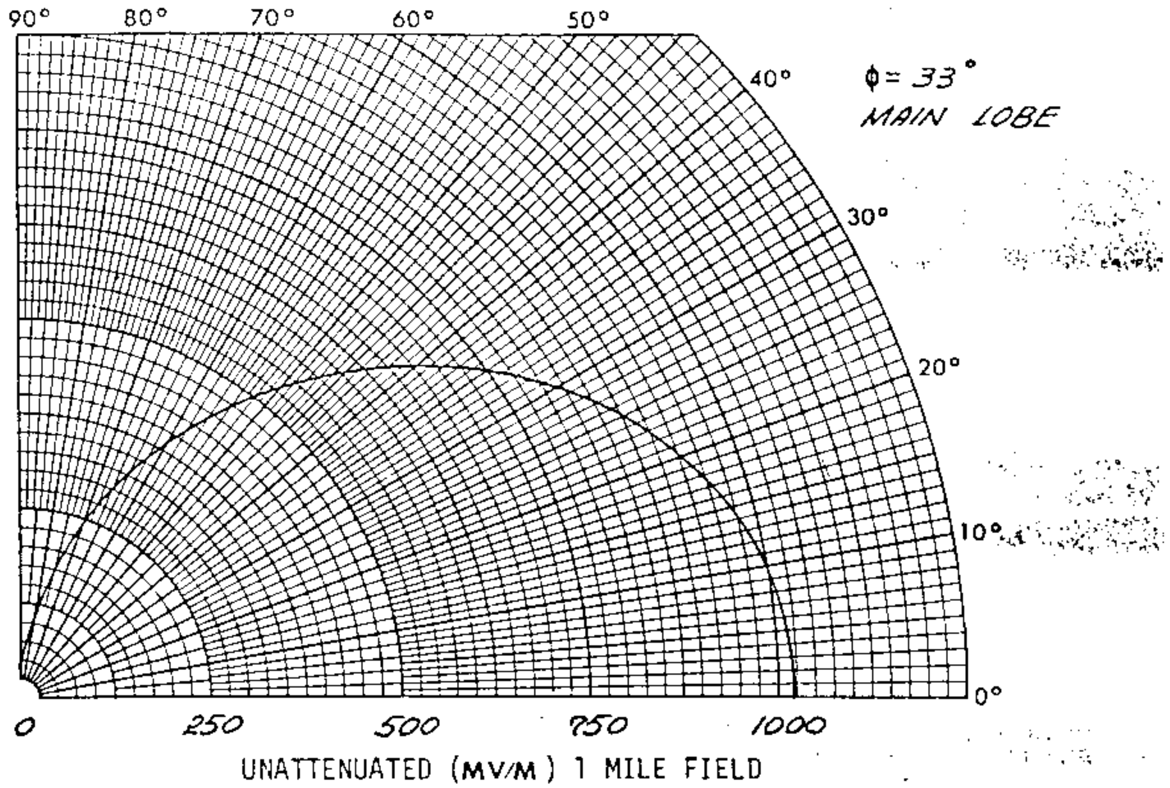
FIGURE 3

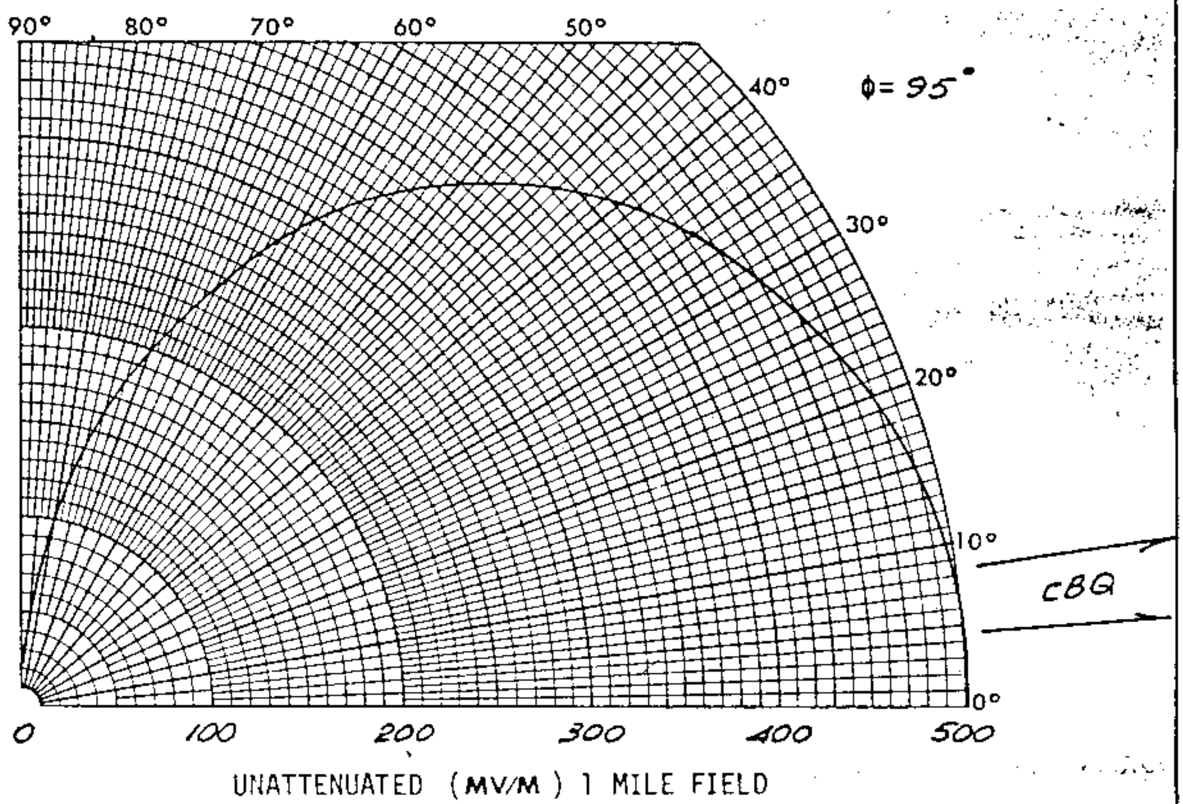
HORIZONTAL RADIATION PATTERN - NIGHTTIME

CHAB MOOSE JAW, SASKATCHEWAN
800 kHz 10 kW DA-N CLASS II
PROJECT #1519 MAY 30, 1980

D.E.M. ALLEN & ASSOCIATES LTD.
CONSULTING ENGINEERS

CHAB
800 KHZ



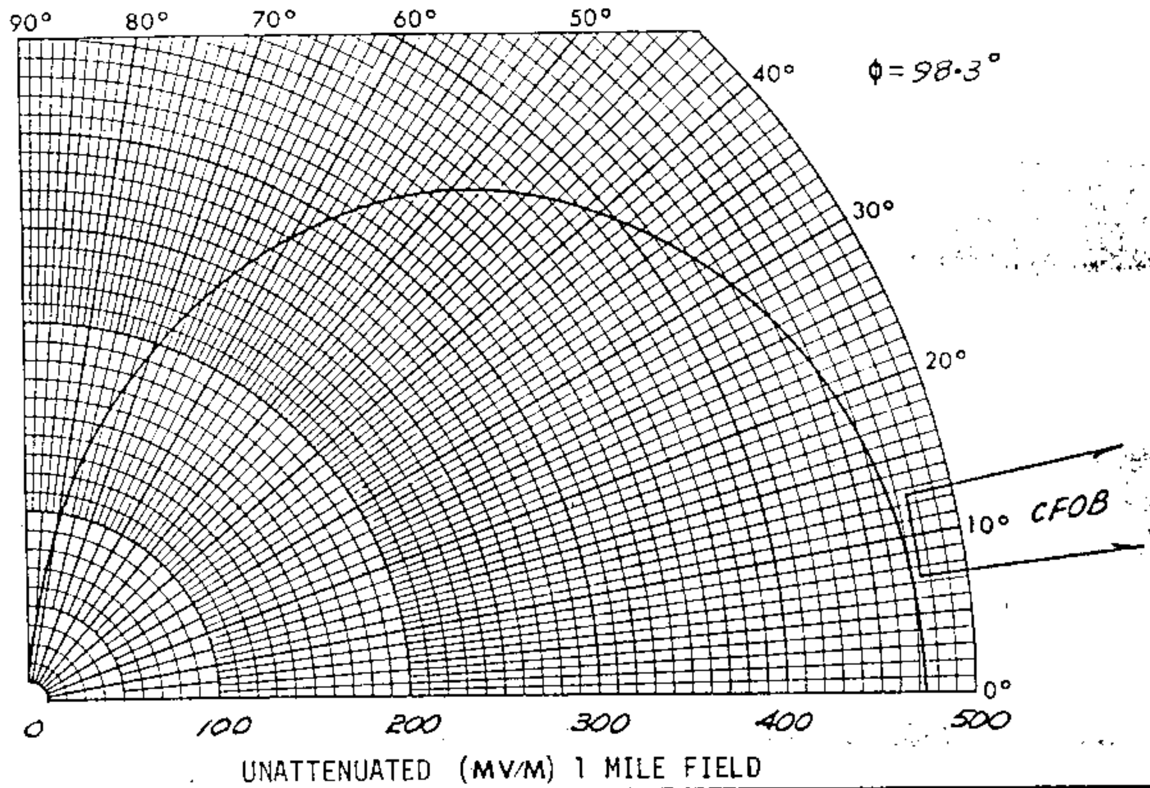


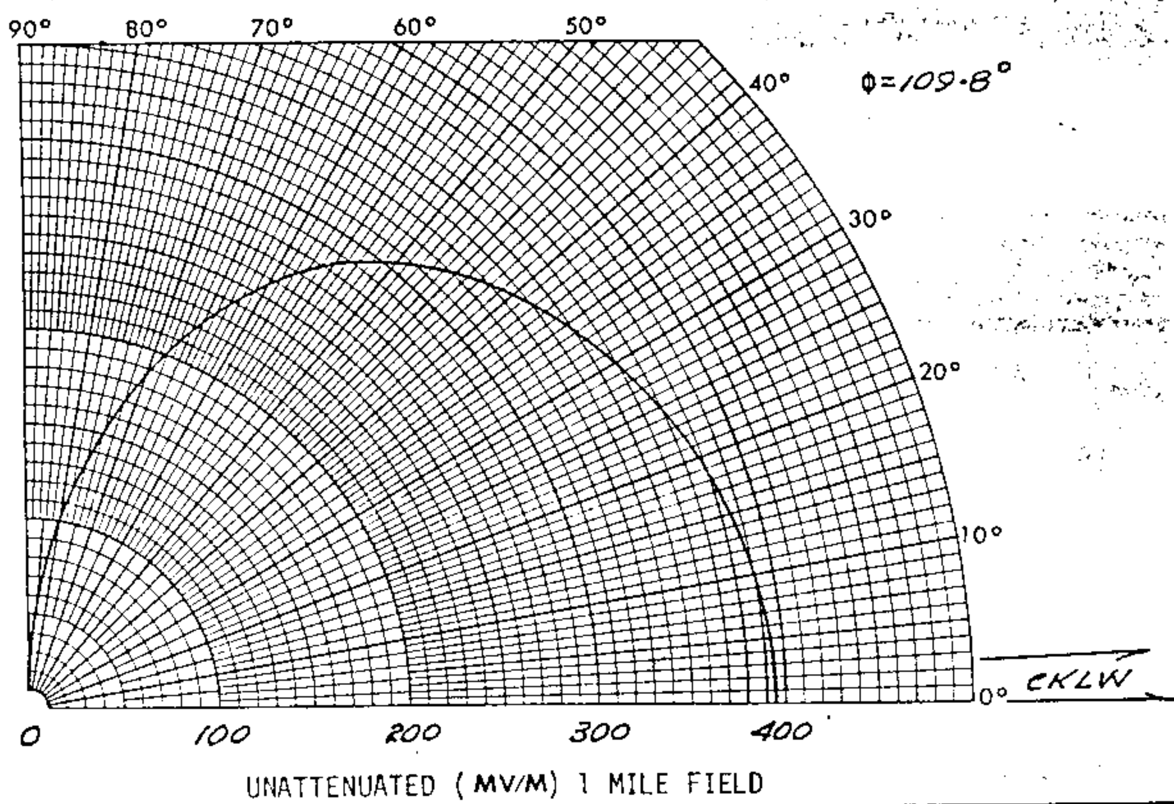
VERTICAL RADIATION PATTERNS

FIGURE 4

CHAB — MOOSE JAW, SASKATCHEWAN
800 kHz — 10 kW — DA-N — CLASS II
PROJECT #1519 — MAY 30, 1980

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS



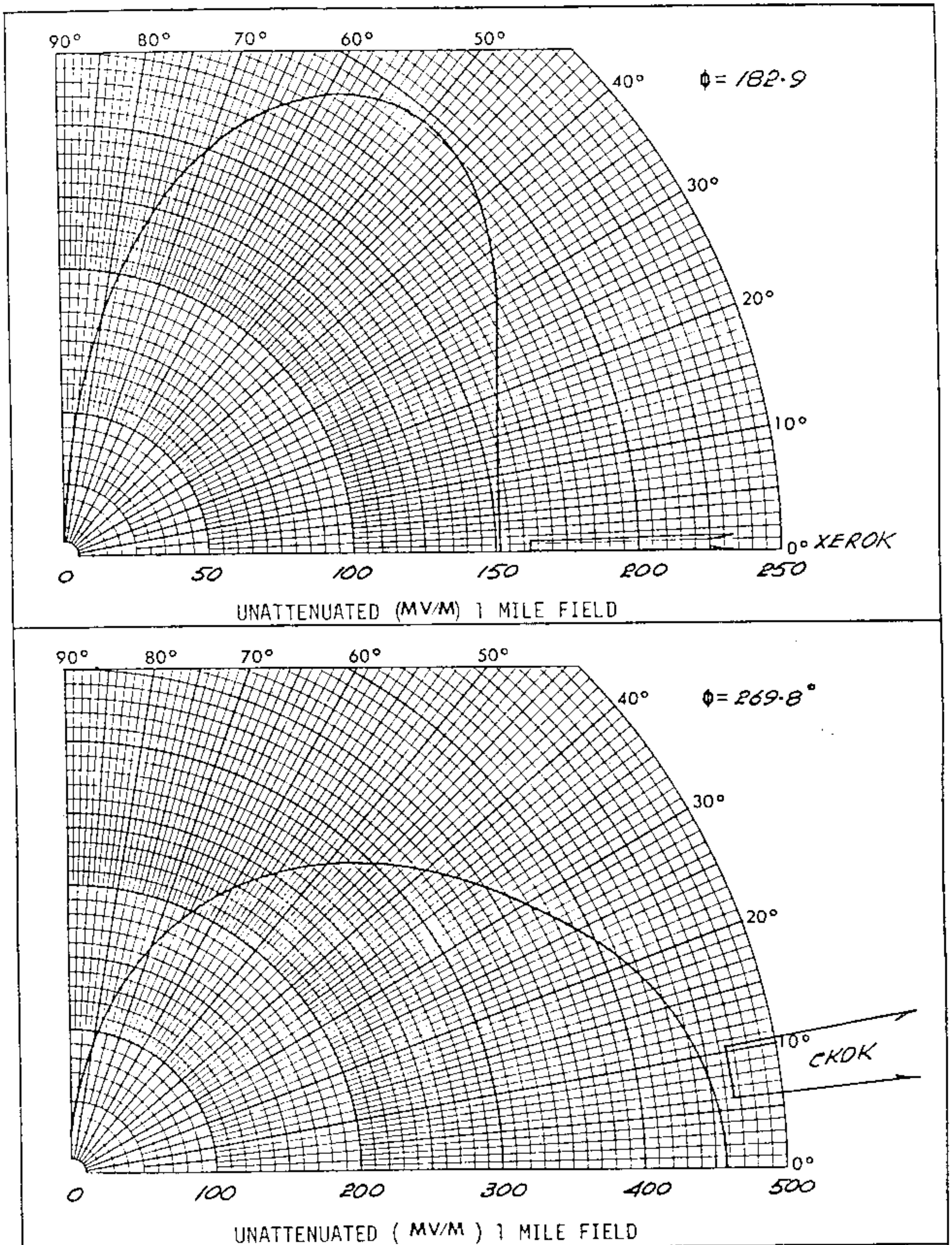


VERTICAL RADIATION PATTERNS

FIGURE 5

CHAB — MOOSE JAW, SASKATCHEWAN
800 kHz — 10 kW — DA-N — CLASS II
PROJECT #1519 — MAY 30, 1980

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS



VERTICAL RADIATION PATTERNS

FIGURE 6

CHAB MOOSE JAW, SASKATCHEWAN
800 kHz 10 kW DA-N CLASS II
PROJECT #1519 MAY 30, 1980
D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS

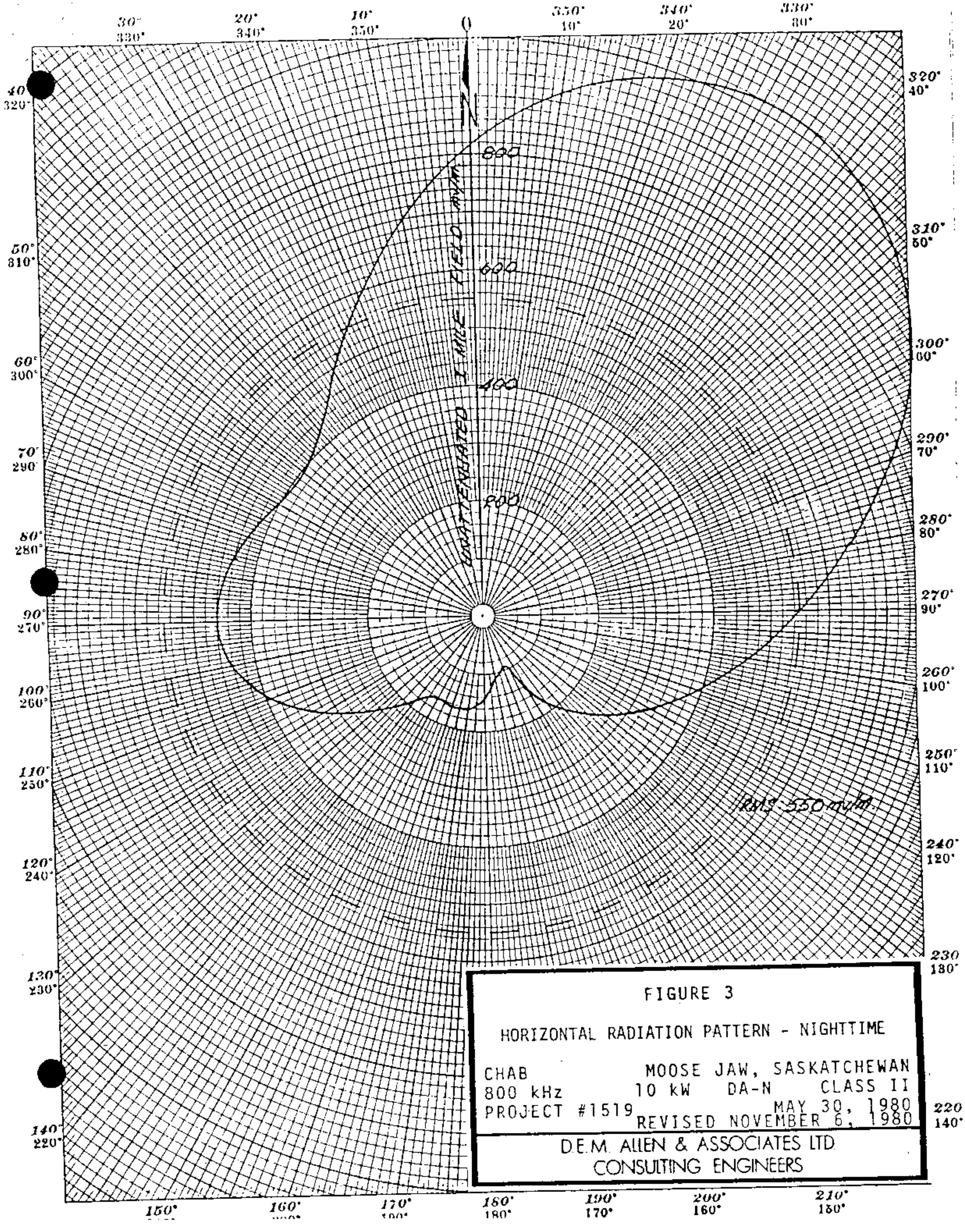


FIGURE 3

HORIZONTAL RADIATION PATTERN - NIGHTTIME

CHAB MOOSE JAW, SASKATCHEWAN
800 kHz 10 kW DA-N CLASS II
PROJECT #1519 MAY 30, 1980
REVISED NOVEMBER 6, 1980

D.E.M. ALLEN & ASSOCIATES LTD.
CONSULTING ENGINEERS

CHAB
800kHz

PROJECT #1519

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

STATION: CHAB — MAIN STUDIO: Moose Jaw, Sask.

FREQUENCY: 800 kHz — POWER: 10,000 Watts CLASS: II

NOTIFICATION LIST: — DATE:

GEOGRAPHICAL LOCATION: Latitude 50° 22' 38" North
Longitude 105° 23' 35" West

ANTENNA CHARACTERISTICS:

Mode of Operation: DA-N
Number of Elements: 3 (Three)
Type of Elements: Guyed steel towers, uniform cross-section, base insulated for series feed

TOWERS:	#1(E)	#2(N)	#3(W)
Height above Base Insulators:	295' (86.3°)	295' (86.3°)	295' (86.3°)
Overall Height:	299'	299'	299'
Orientation:	Ref.	326.75°	294°
Spacing:	Ref.	134.3°	165°
Phasing:	Ref.	-76°	37°
Field Ratio:	1.0	1.5	1.0

GROUND SYSTEM: 120 equally spaced radials of #10 bare soft copper wire extending 492' (0.4 wavelength) from the base of each tower with the exception of those joined along the common chords.

PREDICTED EFFECTIVE FIELD:

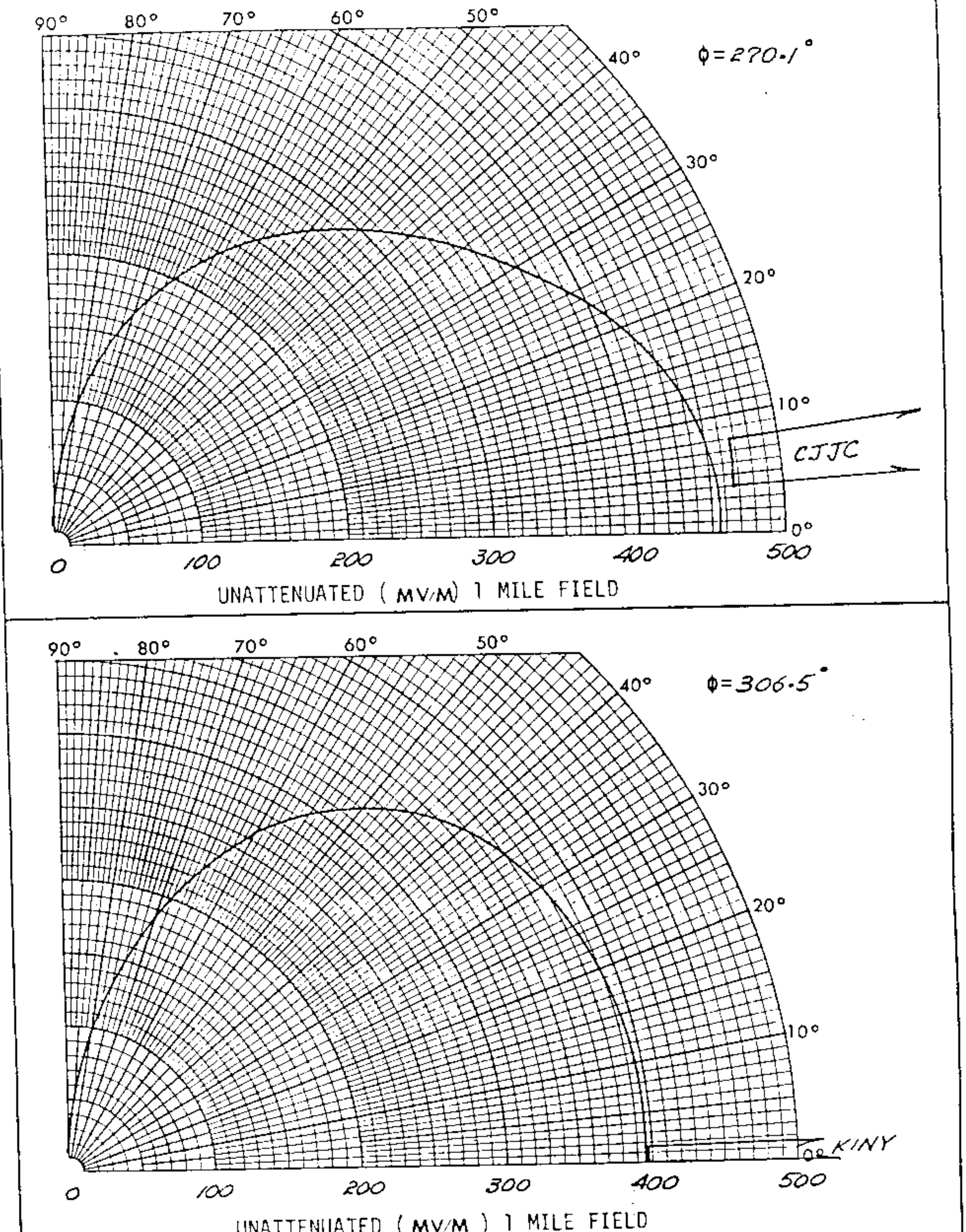
Night

550 mV/m at 1 mile for 10 kW
174 mV/m at 1 mile for 1 kW

Day

591 mV/m at 1 mile for 10 kW
187 mV/m at 1 mile for 1 kW

May 30, 1980
Revised November 6, 1980



VERTICAL RADIATION PATTERNS

FIGURE 7

CHAB
800 kHz 10 kW DA-N
PROJECT #1519

MOOSE JAW, SASKATCHEWAN
CLASS II
MAY 30, 1980

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS

CHAB

DESCRIPTION SHEET -- DIRECTIONAL ANTENNA

STATION: CHAB

MAIN STUDIO: Moose Jaw, Saskatchewan

FREQUENCY: 800 kHz

POWER: 10,000 Watts CLASS II

NOTIFICATION LIST: 322

DATE: April 16, 1974

GEOGRAPHICAL LOCATION:

Latitude 50° 23' 55" North
Longitude 105° 42' 10" West

ANTENNA CHARACTERISTICS:

Mode of Operation: DA-N
Number of Elements: 3 (Three)
Type of Elements: Guyed steel towers, uniform cross-section, base insulated for series feed

TOWERS:	#1(E)	#2(N)	#3(W)
Height above base insulators:	200'(60°)	200'(60°)	200'(60°)
Overall Height:	205'	205'	205'
Orientation:	Ref.	327°	294°
Spacing:	Ref.	138.5°	165°
Phasing:	Ref.	-68.5°	37.5°
Field Ratio:	1.00	1.60	1.00

GROUND SYSTEM: 120 radials per tower 0.4 wavelength buried 8" below grade

PREDICTED EFFECTIVE FIELD:

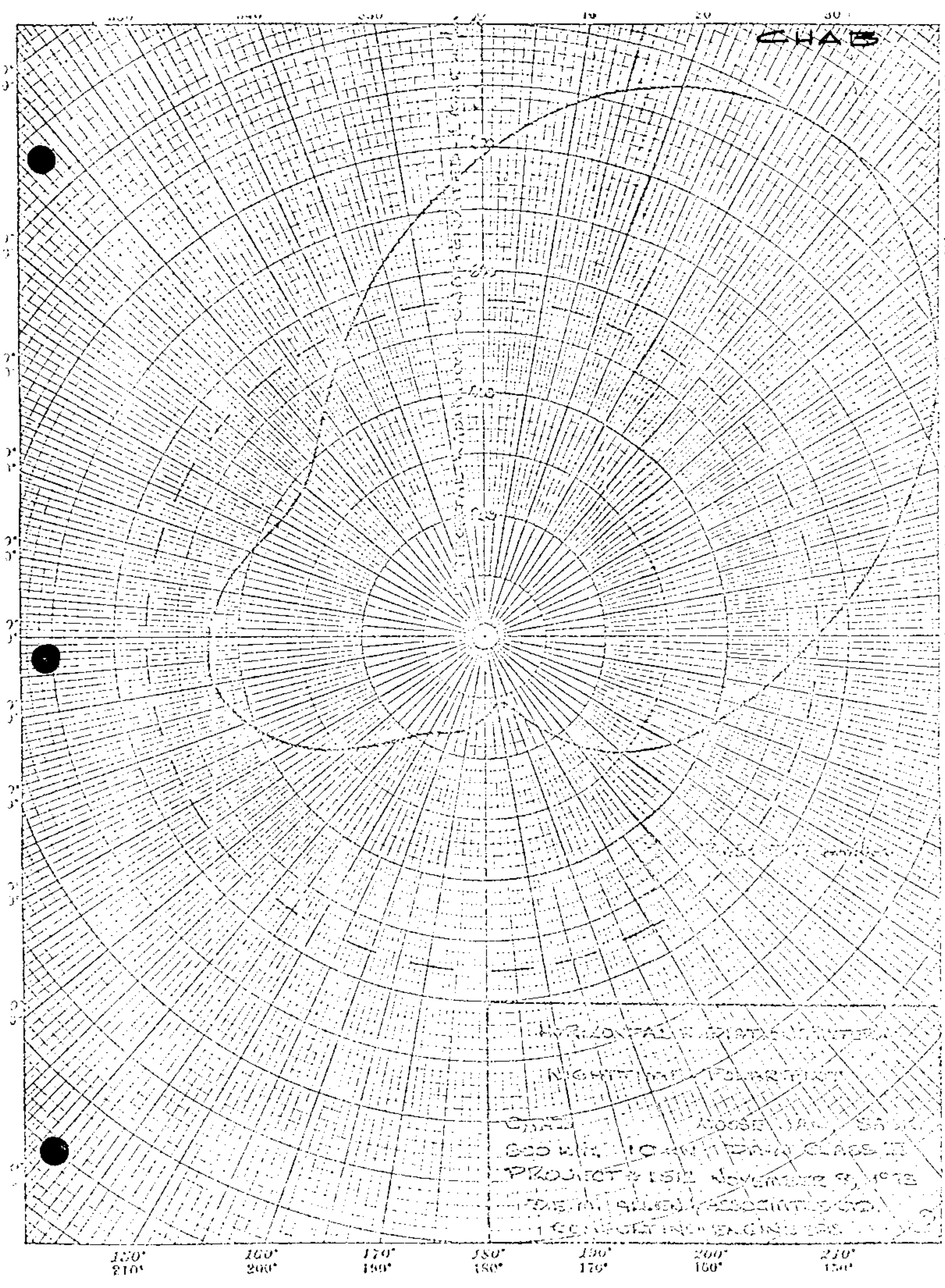
Night

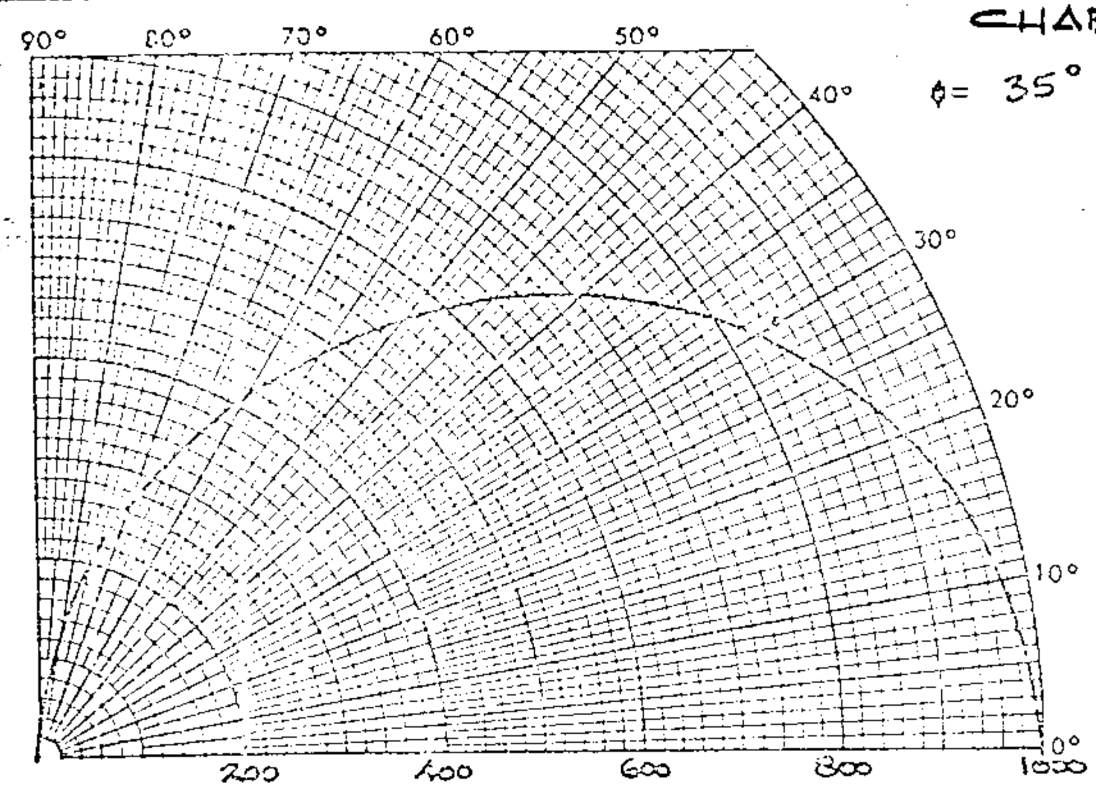
547 mV/m at 1 mile for 10 kW
173 mV/m at 1 mile for 1 kW

Day

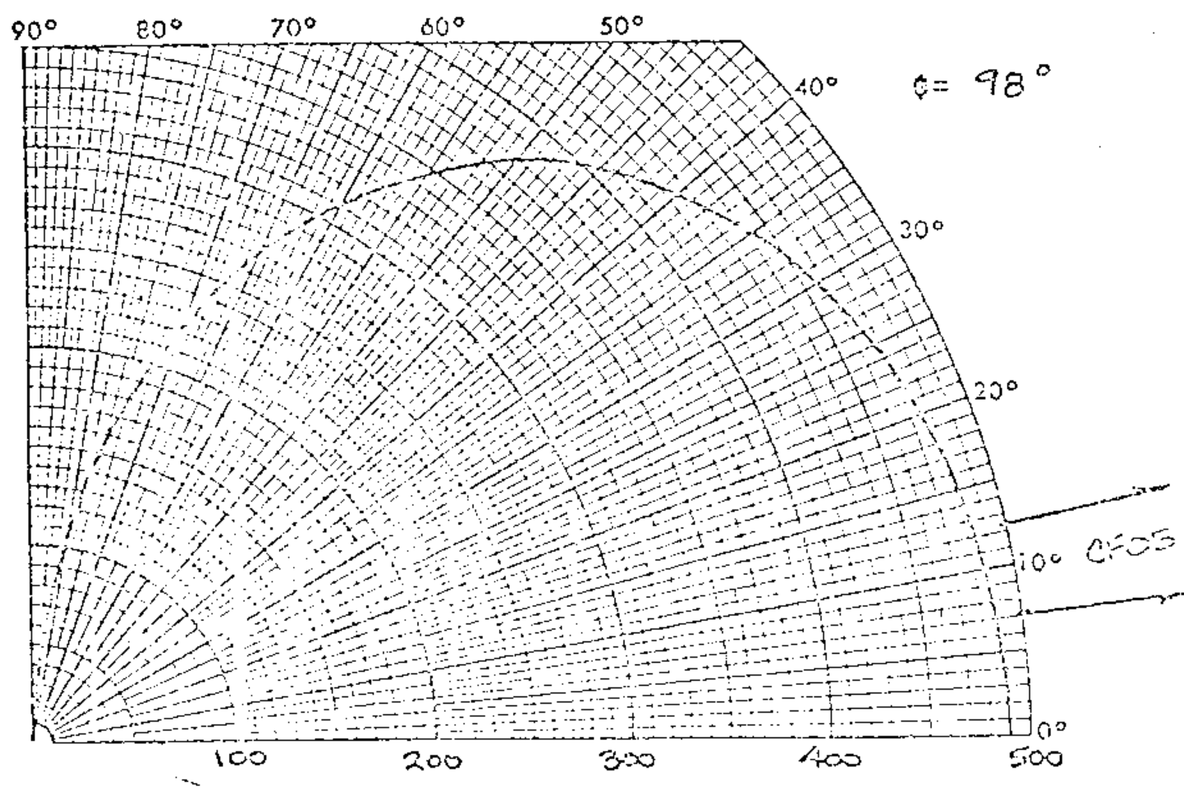
570 mV/m at 1 mile for 10 kW
180 mV/m at 1 mile for 1 kW

November 9, 1973


CHAB
150° 210°
160° 200°
170° 190°
180° 180°
190° 170°
200° 160°
210° 150°



UNATTENUATED (MV/M) 1 MILE FIELD

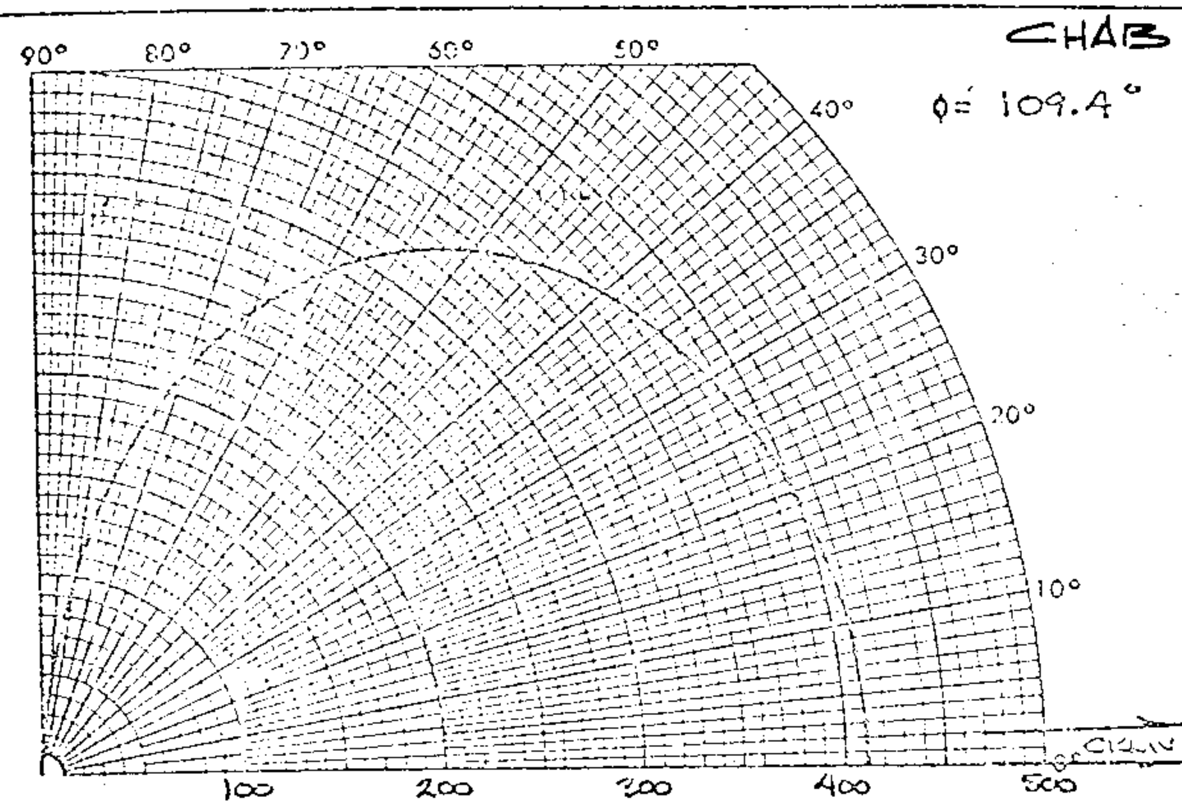


UNATTENUATED (MV/M) 1 MILE FIELD

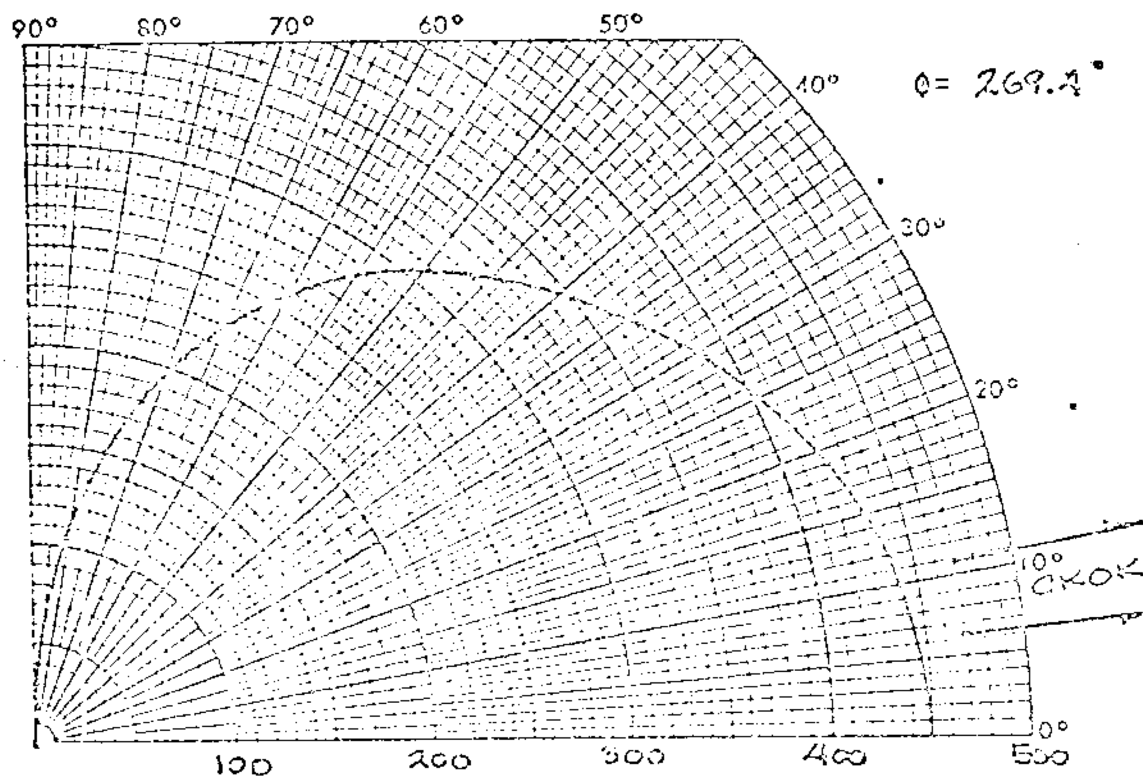
VERTICAL RADIATION PATTERNS

CHAB			MOOSE JAW, SASKATCHEWAN
800 kHz	10 kW	DA-N	CLASS II
PROJECT #1512			NOVEMBER 9, 197[illegible]

D.E.M. ALLEN & ASSOCIATES LTD.
CONSULTING ENGINEERS



UNATTENUATED (MV/M) 1 MILE FIELD

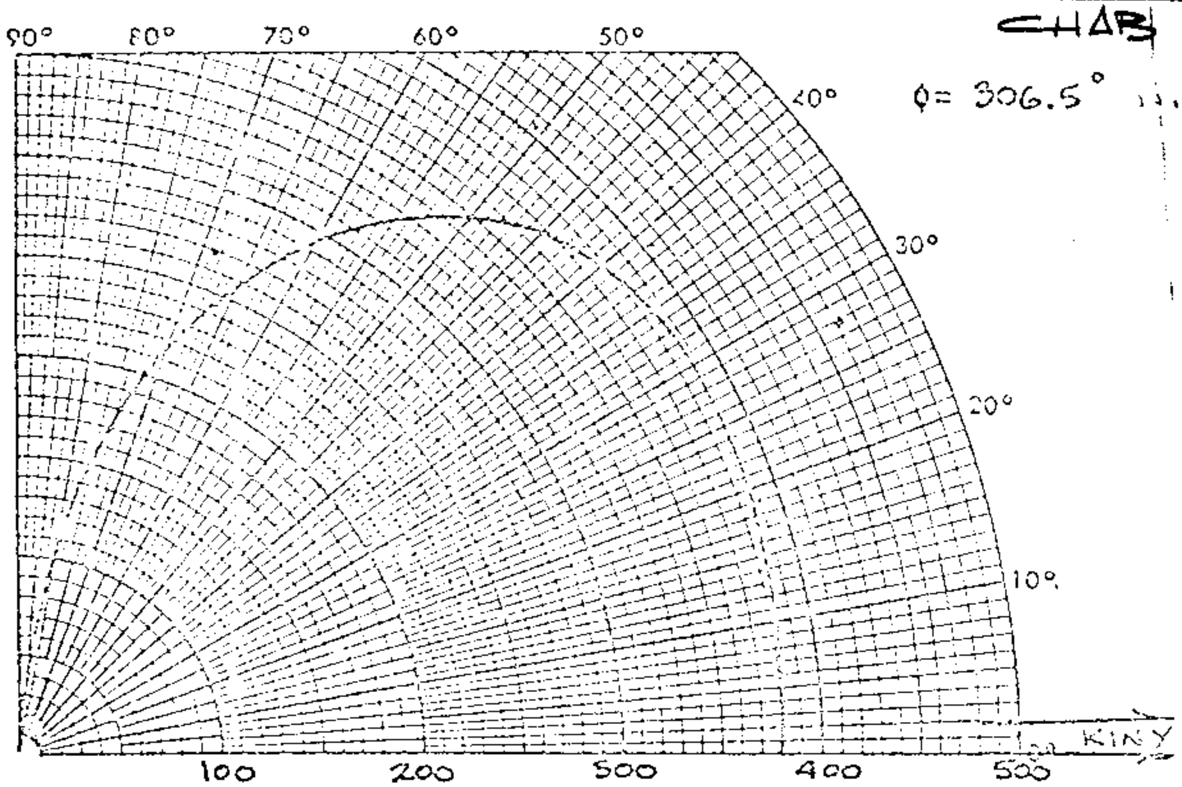


UNATTENUATED (MV/M) 1 MILE FIELD

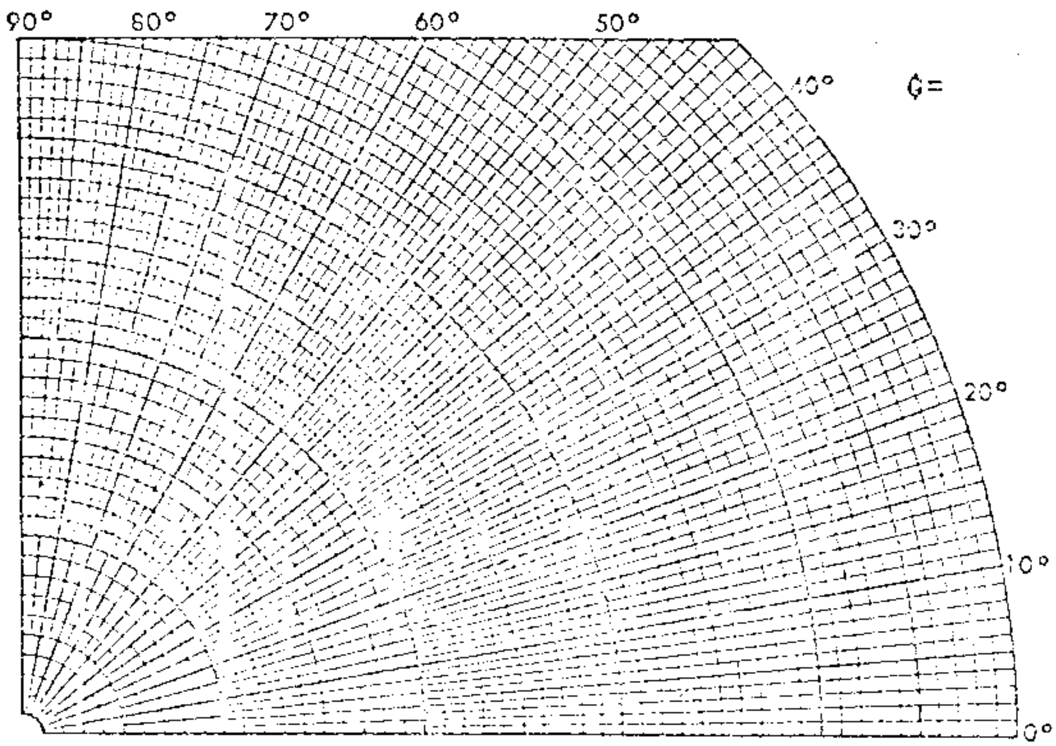
VERTICAL RADIATION PATTERNS

CHAB — MOOSE JAW, SASKATCHEWAN
800 kHz — 10 kW — DA-N — CLASS II
PROJECT #1512 — NOVEMBER 9, 1973

D.E.M. ALLEN & ASSOCIATES LTD.
CONSULTING ENGINEERS



UNATTENUATED (MV/M) 1 MILE FIELD



MV/M

VERTICAL RADIATION PATTERNS

CHAB
800 kHz
PROJECT #1512

10 kW

DA-N

MOOSE JAW, SASKATCHEWAN
CLASS II
NOVEMBER 9, 1973

D.E.M. ALLEN & ASSOCIATES LTD.
CONSULTING ENGINEERS

216

CHRC

Description Sheet
(8-26-66ct)

Station CHRC
Quebec, P. Q.

50kw, DA-1, U, Class II
800 kc

LIST NO. 242,
STATION IS OPER.
WITH INC. POWER.

DIRECTIONAL ANTENNA DESCRIPTION SHEET

STATION: CHRC
FREQUENCY: 800 KHz
NOTIFICATION LIST NO.: 216
GEOGRAPHICAL COORDINATES OF SYSTEM:

MAIN STUDIO: QUEBEC, P.Q.
POWER: 50 Kw CLASS: II
DATE: July 26, 1966

North Latitude: 46° 33' 34"
West Longitude: 71° 14' 45"

CHARACTERISTICS

Mode of Operation: same pattern day and night (DA-1)
Number of elements: six (6)
Type of elements: uniform cross section, guyed steel towers, base insulated for series feed, no top loading.

TOWER:	No.1	No.2	No.3	No.4	No.5	No.6
HEIGHT ABOVE INSULATOR:	205'	205'	205'	205'	205'	205'
OVERALL HEIGHT:	208'	208'	208'	208'	208'	208'
SPACING:	52.5° (179.4')	157° (536')	131.5° (449')	52.5° (179.4')	157° (536')	131.5° (449')
PHASING:	0°	+61°	-89°	-150°	-211°	-61°
FIELD RATIO:	1.00	.50	.30	.60	.30	.54
ORIENTATION:	153°	209.1°	250.7°	333°	29.1°	70.7°

GROUND SYSTEM: 120 equiangularly spaced radials of No. 10B & S gauge wire extended from the base of each tower to cover surface equivalent to that covered by radials 0.4 λ. No radials will be shorter than 0.25 λ. All radials buried approximately 8" in the ground.

PREDICTED EFFECTIVE FIELD: 180 mv/m at 1 mi. per 1 kw.
1270 mv/m at 1 mi. per 50 kw.

216

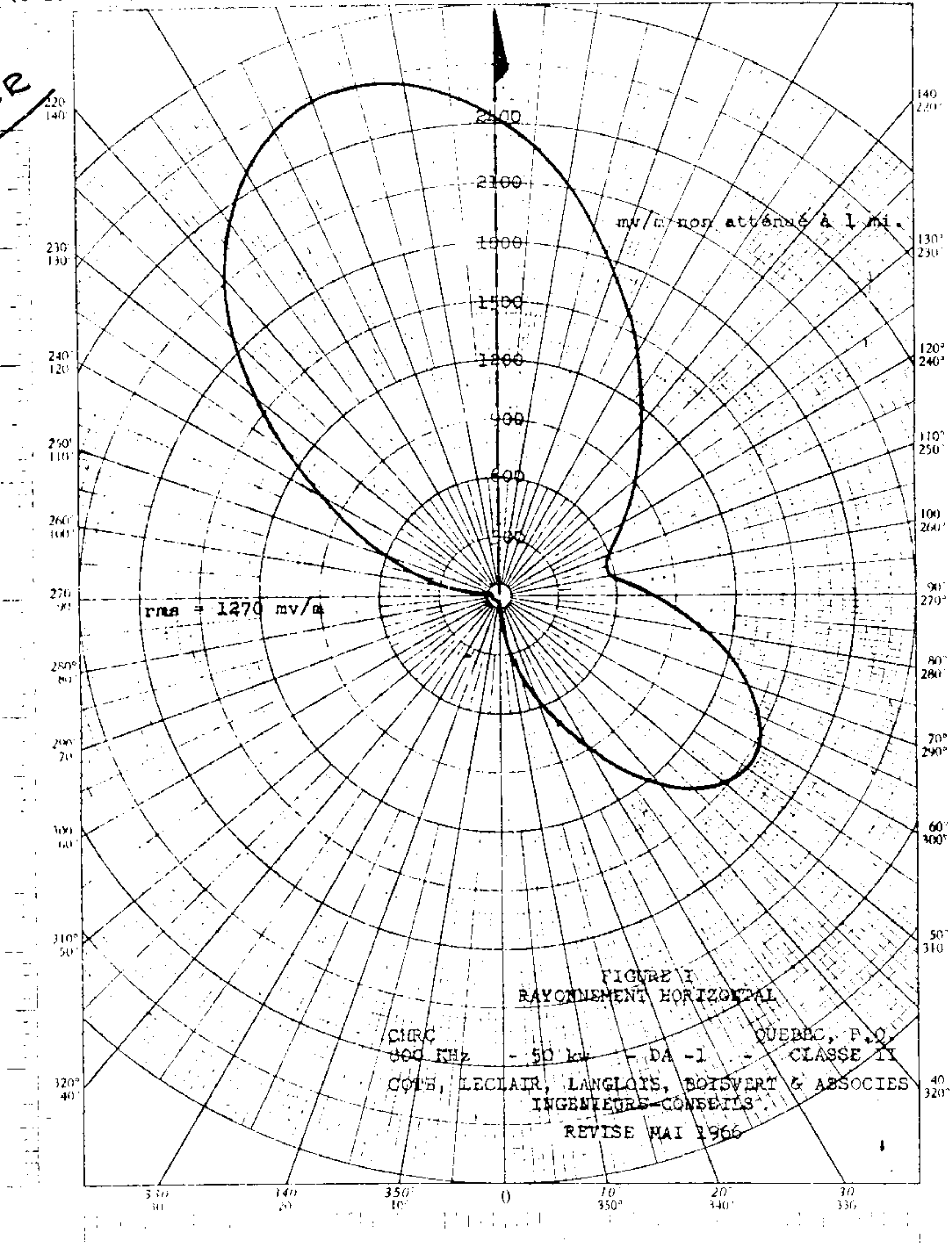
CHRC

Proposed Day & Night
(8-26-66ct)

Station CHRC
Quebec, P. Q.

50kw,DA-1,U,Class II
800 kc

OVER



216

CHRC

Proposed Day & Night Nulls
(8-26-66ct)

Station CHRC
Quebec, P. Q.

50kw DA-1,U,Class II
800 kc

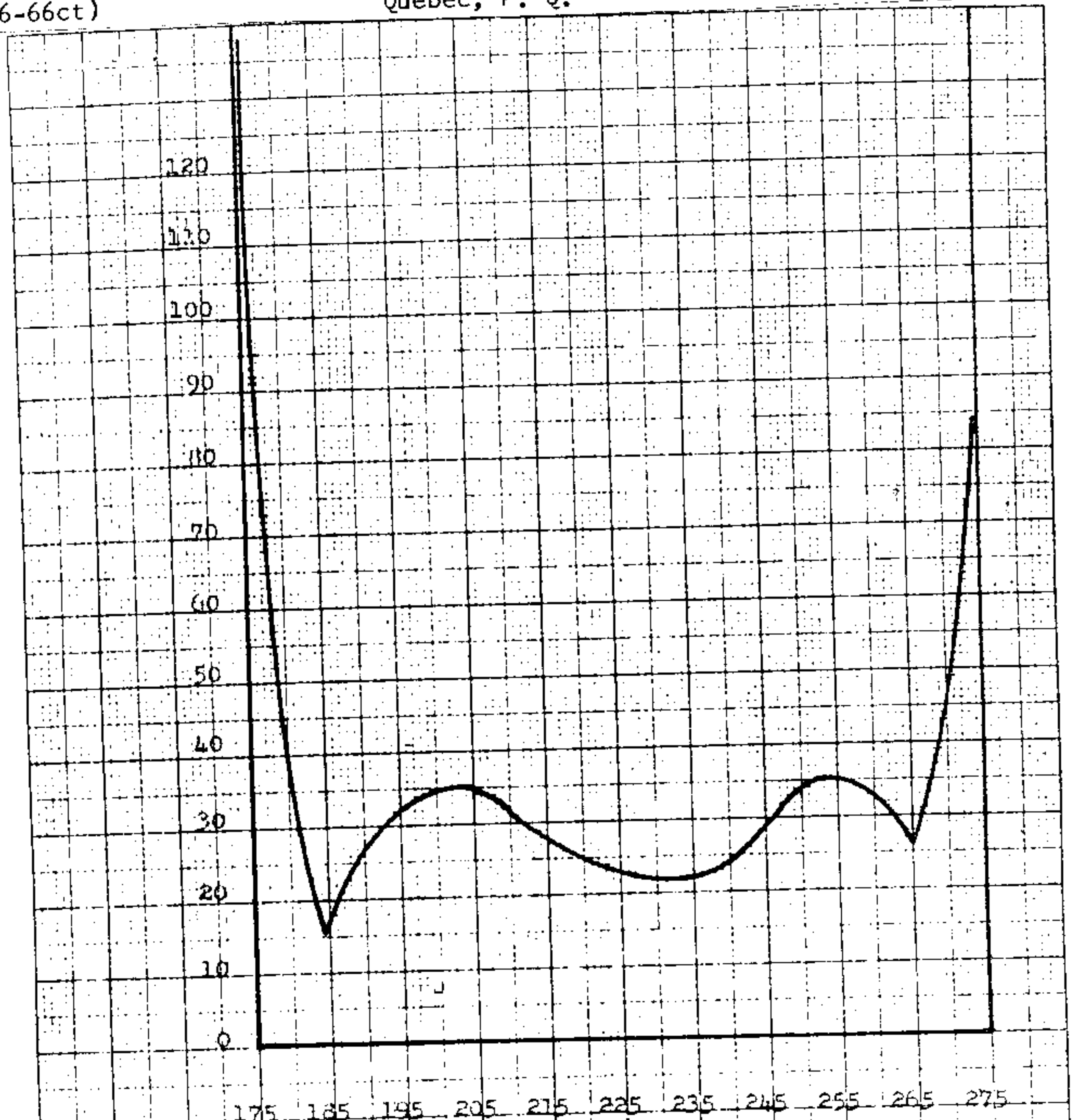


FIGURE 2

~~DETAILS DU RAYONNEMENT HORIZONTAL~~

CHRC
800 KHz - 50 Kw - DA-1

QUEBEC, P.Q.
CLASSE II

COTE, LECLAIR, LANGLOIS, BOISVERT & ASSOCIES
INGENIEURS-CONSEILS
REVISE MAI 1966

177

CJAD

Description Sheet
(6-28-63ct)

Station CJAD
Montreal, Quebec

10kw,50kw-LS,DA-2,U,Class II
800 kc

CHG LIST 190
NOW OPERATING
WITH INCR. DAY PWR

DIRECTIONAL ANTENNA DESCRIPTION SHEET

STATION: CJAD

MAIN STUDIO: Montreal, Quebec.

POWER: 50D/10N

FREQUENCY: 800 Kc/s **CLASS II**

NOTIFICATION LIST NO: 177

DATE: May 7, 1963

GEOGRAPHICAL LOCATION:
North Latitude 45° 14' 50"
West Longitude 73° 31' 25"

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 S	#2 W	#3 N	#4 E
HEIGHT ABOVE INSULATORS:	667' (195°)	667' (195°)	667' (195°)	667' (195°)
OVERALL HEIGHT:	673'	673'	673'	673'
FIELD RATIO NIGHT:	1	1	1	1
PHASING: NIGHT	0	+90	+80	-10
FIELD RATIO DAY:	1	1	1	1
PHASING: DAY	0	+127	+119	-8

SPACING AND ORIENTATION: The four towers are located at the corners of a parallelogram having the short sides 188° in length at an azimuth of 46° and the long sides 278° at an azimuth of 341°.

GROUND SYSTEM: 120 equally spaced radials of #10 B & S bare copper wires per mast buried approximately 8", length of radials 492' (.4).

PREDICTED EFFECTIVE FIELD:
Night 695 mv/m (10Kw) or 220 mv/m 1Kw.
Day 1570 mv/m (50Kw) or 222 mv/m 1Kw.

RCA Victor Company, Ltd.
Montreal, Quebec.
April 23, 1963

Project 2688-Q

177

CJAD

Proposed Day
(6-28-63ct)

Station CJAD
Montreal, Quebec

10kw,50kw-LS,DA-2,U,Class II
800 kc

...W OPERATING
...ITH INCR. DAY PWR
CHG. LIST 190

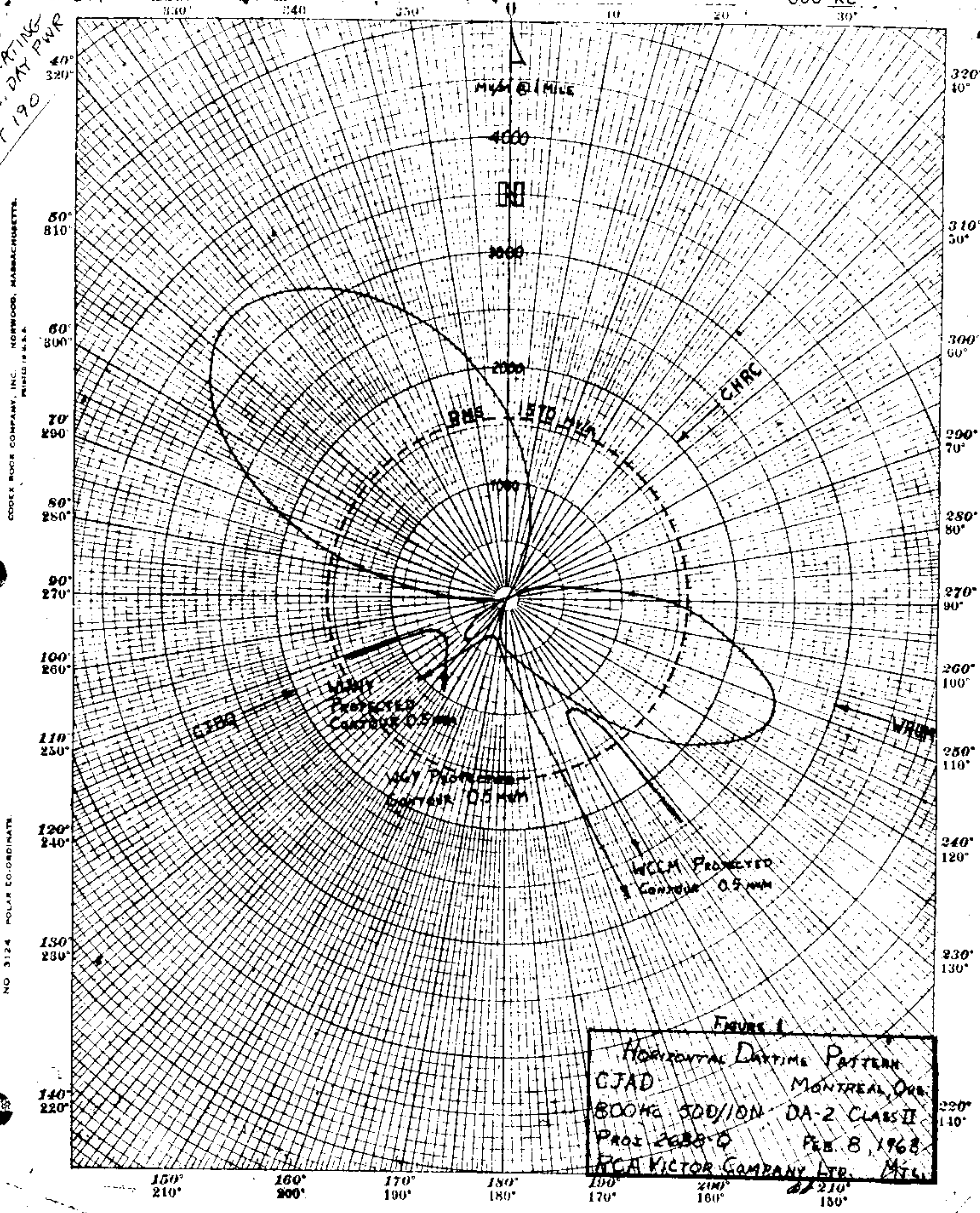


FIGURE 1

HORIZONTAL DAYTIME PATTERN
CJAD MONTREAL, QUE.
800 KC 50D/10N DA-2 CLASS II
PROJ 2688-Q FEB. 8, 1963
RCA VICTOR COMPANY LTD. MTL.

CJAD

Proposed Day Nulls
(6-28-63ct)

Station CJAD
Montreal, Quebec

10kw,50 kw-LS,DA-2,U,Class II
800 kc

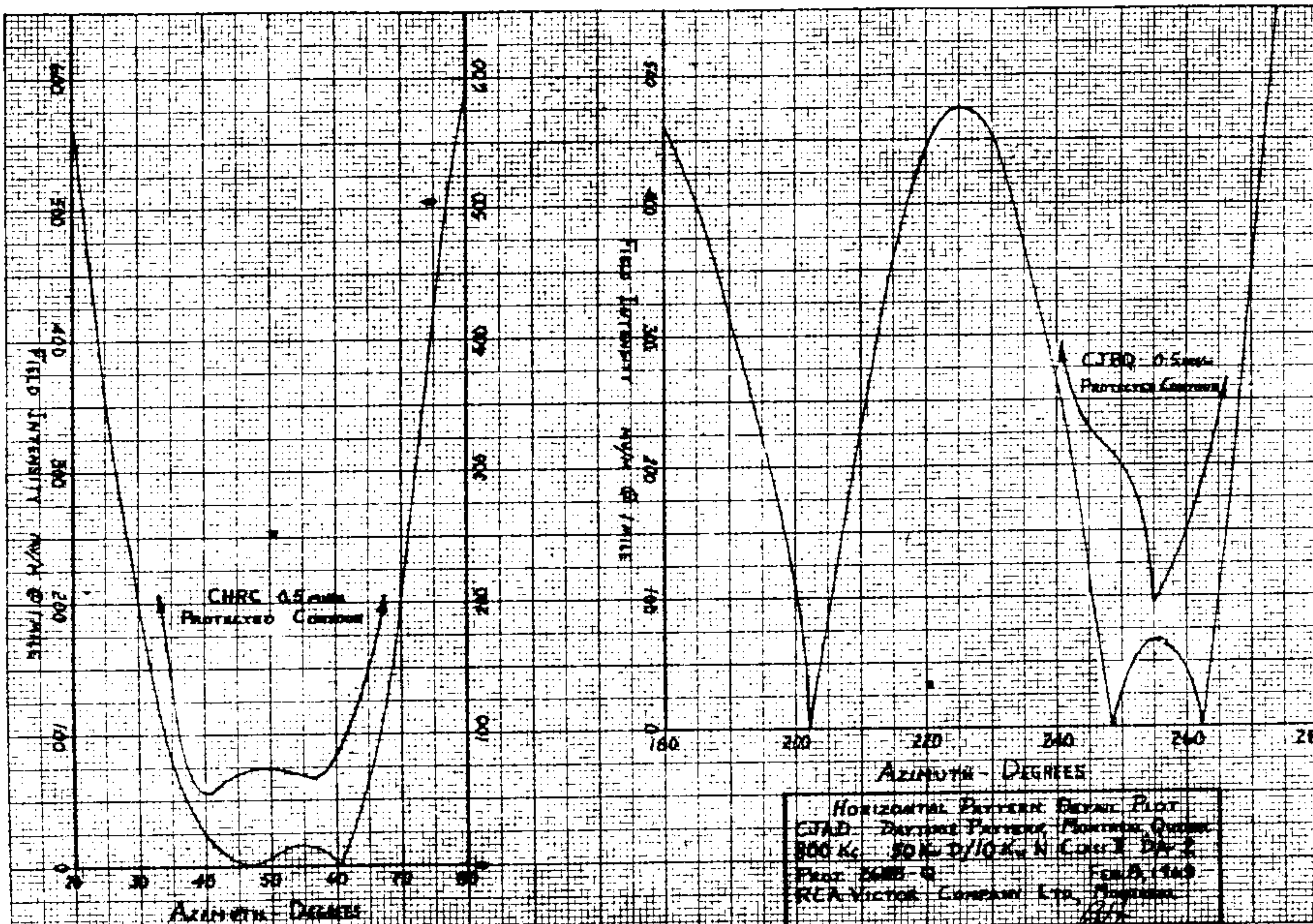


Figure 2

#177

HG LIST 190
OW OPERATING
ITH INCR. DAY PWR

#177

CJAD

Proposed Night (6-28-63ct)

Station CJAD
Montreal, Quebec

10kw,50kw-LS,DA-2,U,Class II
800kc

CHG. LIST 190
NOW OPERATING
WITH INCR DAY PWR

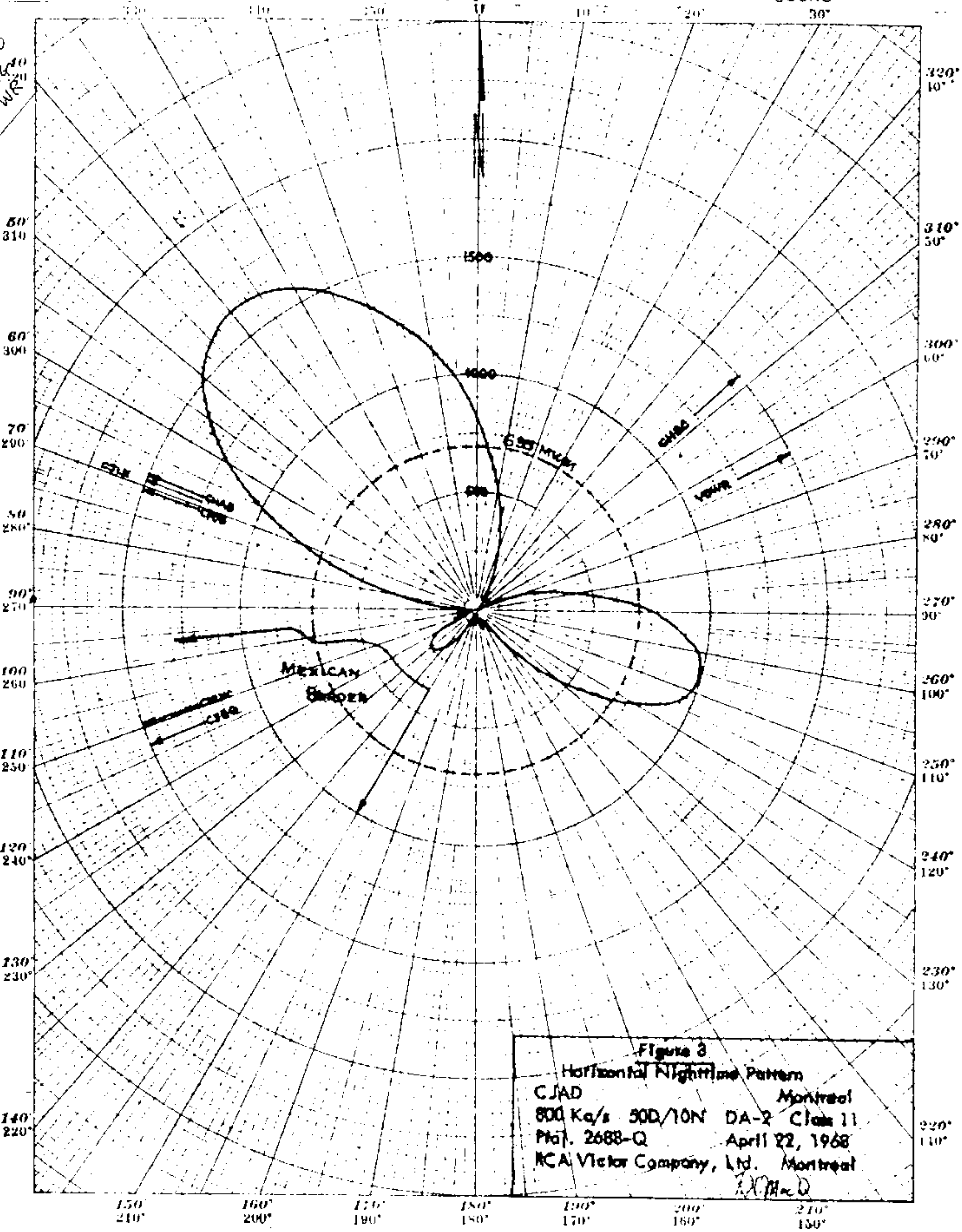


Figure 3
Horizontal Nighttime Pattern
CJAD Montreal
800 Kc/s 50D/10N DA-2 Class II
Plat. 2688-Q April 22, 1968
RCA Victor Company, Ltd. Montreal

CJAD

Proposed Night Nulls
(6-28-63ct)

Station CJAD
Montreal, Quebec

10kw,50kw-LS,DA-2,U,Class II
800 kc

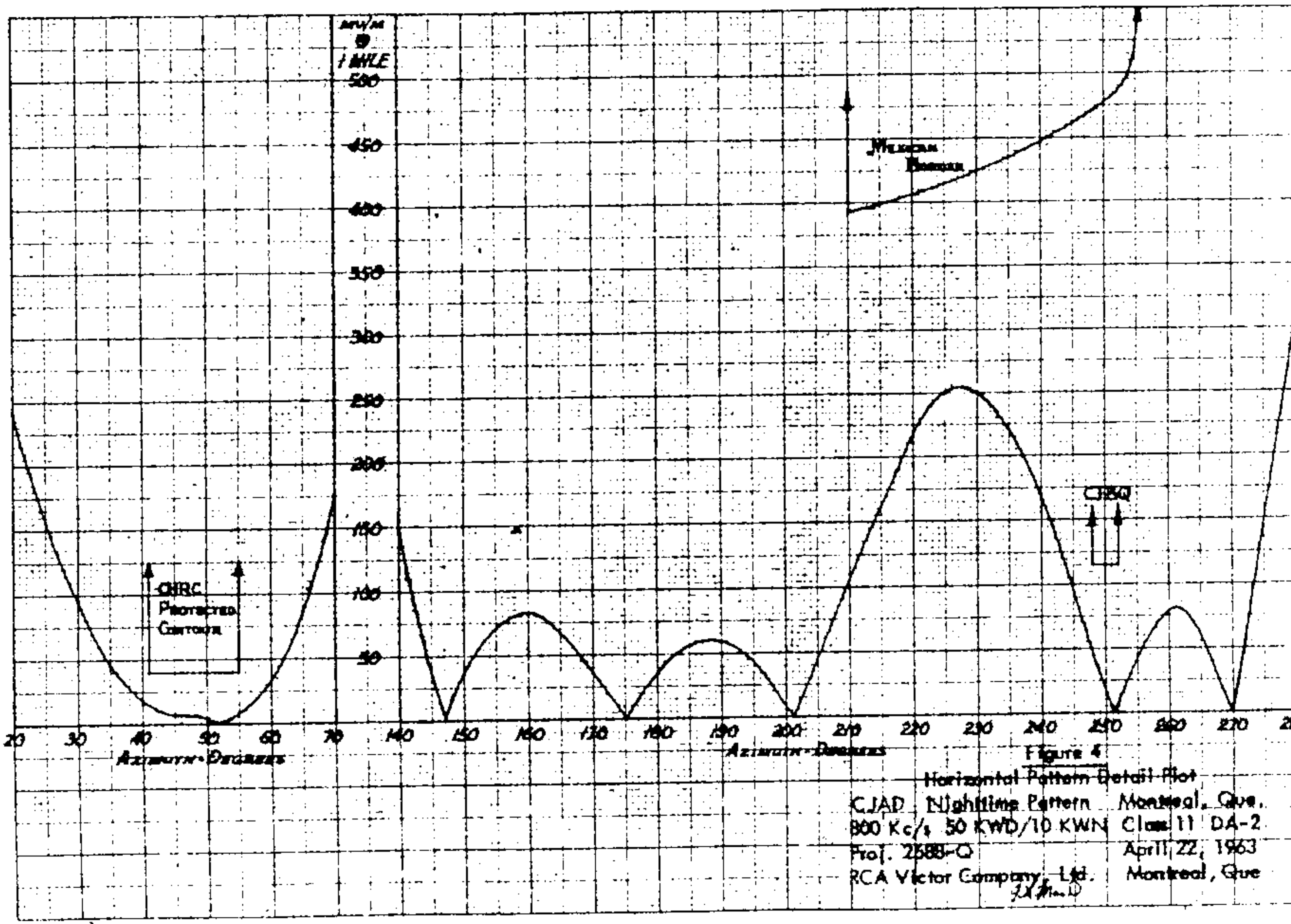


Figure 4
Horizontal Pattern Detail Plot
CJAD Nighttime Pattern Montreal, Que.
800 Kc/s 50 KWD/10 KWN Class II DA-2
Proj. 2588-Q April 22, 1963
RCA Victor Company, Ltd. Montreal, Que

...NG LIST 190
...ON OPERATING
...ITH INCR. DAY PWR

177

CJBQ

Description of Array

Station	CJBQ	Main Studio - Belleville, Ont.	
Power	1 Kw	Class II	
Frequency	800 Kc		
Location	Belleville, Ontario		
	North Latitude	44° 05' 05"	
	West Longitude	77° 22' 55"	
Antenna	Mode of Operation DA-1 3 guyed elements, base insulated, series fed		
Tower	#1 (Northwest)	#2 (Center)	#3 (Southeast)
Height above Insulators	205' (60°)	205' (60°)	205' (60°)
Overall Height	209'	209'	209'
Spacing		359' (105°)	359' (105°)
Field Ratio	0.7	1.4	1.0
Phasing	-130°	0	+141°
Ground System	120 radials per tower, #10 AWG Bare Soft Copper Wire, uniformly spaced, depth 8" approx. 492' long except between towers		
Predicted Effective Field	180 mv/m for 1 Kw		
Orientation of Towers	On a line bearing 25° west of true north		

SEP 17 1956

CJBQ

Description Sheet
(4-29-69ct)

Station CJBQ
Belleville, Ontario

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

DESCRIPTION SHEET

Station	CJBQ	Main Studio:	Belleville, Ontario
Frequency:	800 kc/s	Power:	10 kw
Time:	Unlimited	Class:	II
Notification List No.	255	Date:	April 8, 1969

Geographic Location: North Lat. 43° 57' 49''
West Long. 77° 25' 00''

Antenna System

Mode of Operation: DA-2
Elements: Six uniform cross-section, guyed steel towers, base insulated and series fed.

Towers	1(NC)	2(NW)	3(SW)	4(SC)	5(SE)	6(NE)
Height above insulators	308' (90°)	308' (90°)	308' (90°)	308' (90°)	308' (90°)	308' (90°)
Overall Height	313'	313'	313'	313'	313'	313'
Spacing	45°	188.845°	207.088°	45°	188.845°	207.088°
Phasing: Night	-117.75°	-141°	-38.5°	-15.2°	0	-102.5°
Day	216.695°	-191.5°	-89°	-38.6517	0	-102.5°
Current: Night	1.8371	0.97	1.0	1.75	1.0	0.97
Day	1.3933	.552	.552	1.4371	1.0	1.0
Orientation:	11.5°	-77.021°	257.228°	191.5°	102.979°	77.288°

Ground System: The ground system shall consist of 120, 0.4 No. 10 copper wire radials buried approximately 8'' to 14'' below grade. The radials shall be shortened between towers and bonded to transverse straps along the common chord between the towers. Radials to the south and east of towers 5 and 6 will be shortened. However, an equivalent ground system area will be maintained.

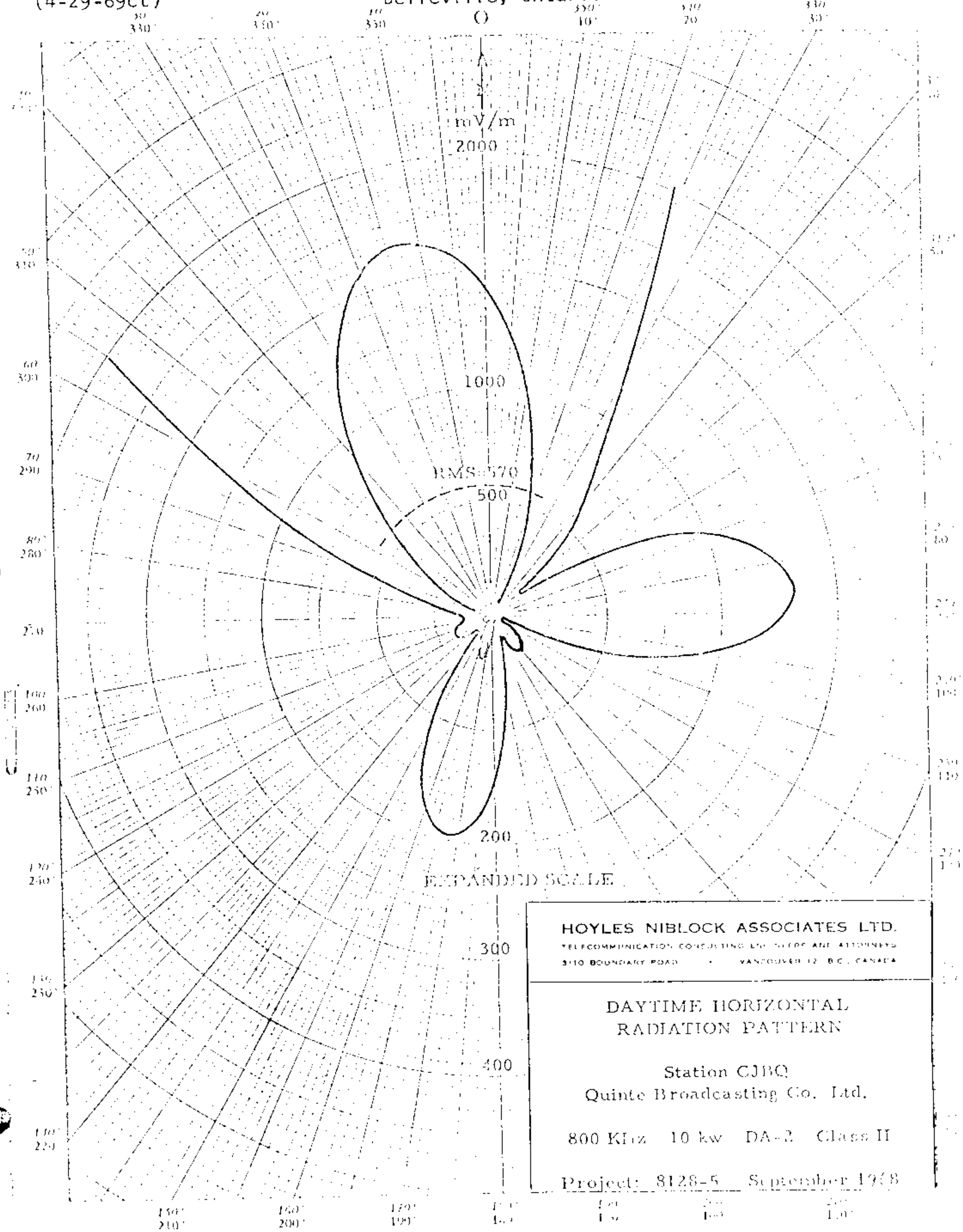
Predicted Effective Field: Day and Night 570 mv/m for 10 kw
180 mv/m for 1 kw

CJBQ

Proposed Day
(4-29-69ct)

Station CJBQ
Belleville, Ontario

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

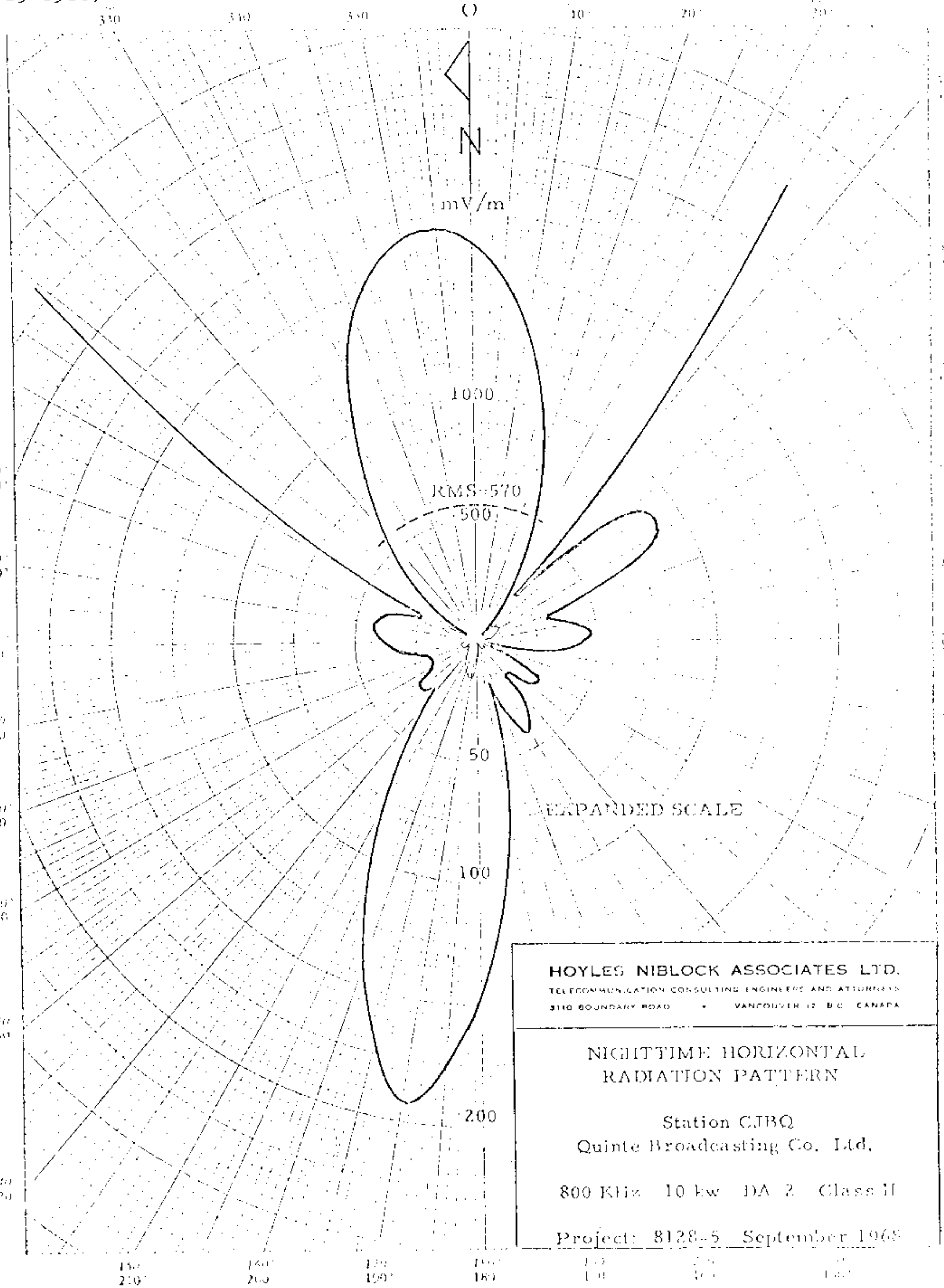


CJBQ

Proposed Night
(4-29-69ct)

Station CJBQ
Belleville, Ontario

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



HOYLES NIBLOCK ASSOCIATES LTD.
TELECOMMUNICATION CONSULTING ENGINEERS AND ATTORNEYS
3110 BOUNDARY ROAD • VANCOUVER 12 B.C. CANADA

NIGHTTIME HORIZONTAL
RADIATION PATTERN

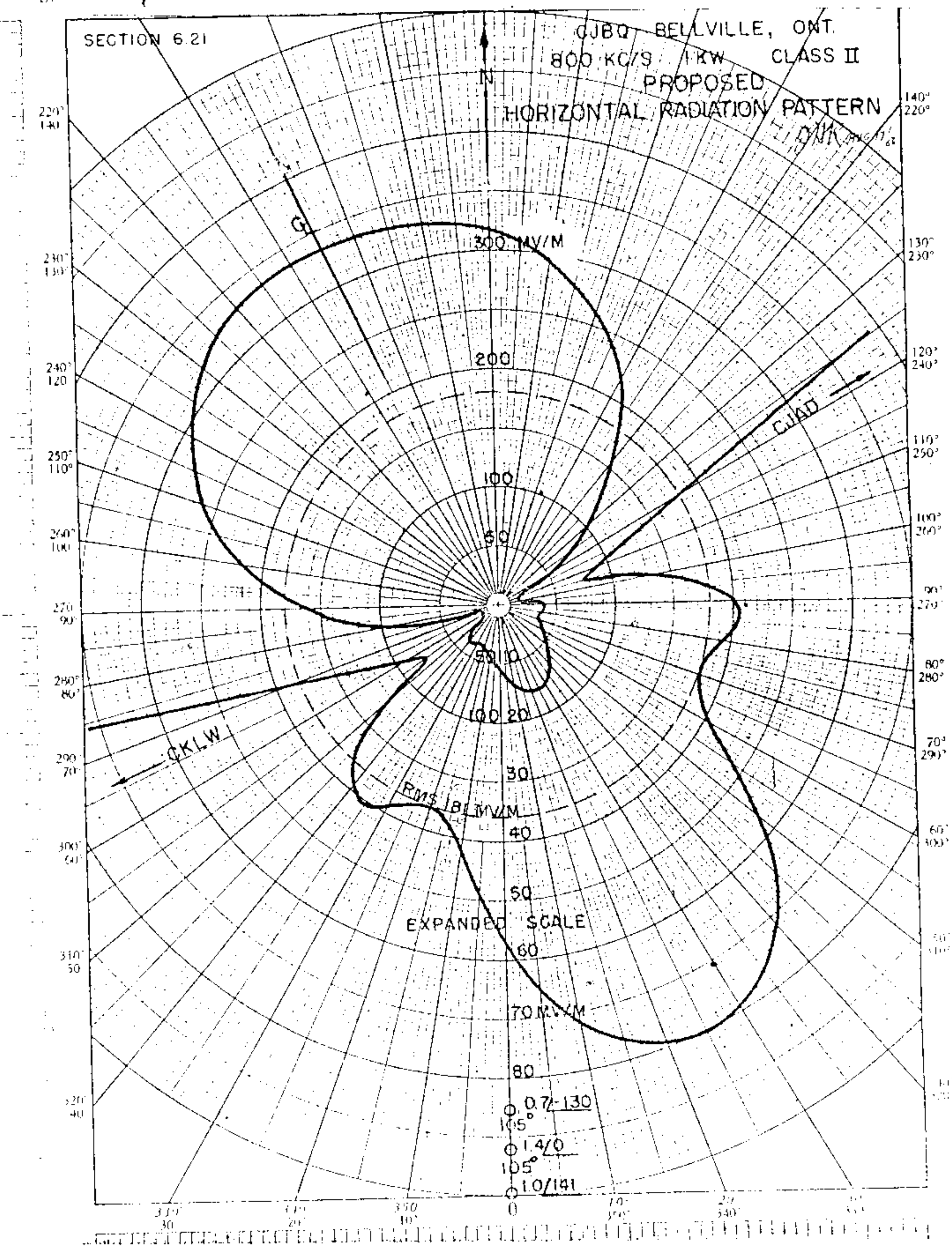
Station CJBQ
Quinte Broadcasting Co. Ltd.

800 KHz 10 kw DA 2 Class II

Project: 8128-5 September 1968

BELLEVILLE, ON
CJBQ

DA-1 (10-5-56g) Station C J B Q Bellesville, Ont. 1 KW, Class II 800 KC



CJJC

Description Sheet
(10-28-69ct)

Station CJJC
Langley, B. C.

10kw,DA-2,U,ClassII
800 kc

DESCRIPTION SHEET

Station:	CJJC	Main Studio:	Langley, B. C.
Frequency:	800 kc/s	Power:	10 kw
Time:	Unlimited	Class:	II
Notification List No.:	259	Date:	September 22, 1969.

Geographic Location: 49° 06' 56" North Lat.
122° 32' 38" West Long.

Antenna System

Mode of Operation: DA-2

Elements: Six uniform-cross-section, guyed steel towers, base insulated and series fed.

		1(SW)	2(CW)	3(NW)	4(NE)	5(CE)	6(SE)
Towers Height above insulators		238' (70°)	238' (70°)	238' (70°)	238' (70°)	238' (70°)	238' (70°)
Overall Height		243'	253'	248'	243'	253'	243'
Spacing		-	854.4' 250°	1736.1' 508°	1669.4' 488.5°	807.9' 236.4°	290.5' 85°
Phasing:	Night	0	37.5°	87.0°	184.0°	135.0°	97.0°
	Day	-1.01°	32.9°	100.4°	184.5°	128.3°	98.5°
Current:	Night	1.0	1.85	1.0	1.0	1.85	1.0
	Day	.965	1.82	.94	.815	1.88	.92
Orientation		Ref.	31.0	32.0	41.5	50.87	140.0

Ground System: The ground system shall consist of 120 0.4 copper radials buried approximately 8" to 14" below grade. The radials shall be shortened between the towers and bonded to transverse straps along the common chords between the towers. Radials to the north of towers 3 and 4 will be shortened. However, an equivalent ground system area will be maintained.

Predicted Effective Field: Day and Night 550 mv/m for 10 kw
174 mv/m for 1 kw

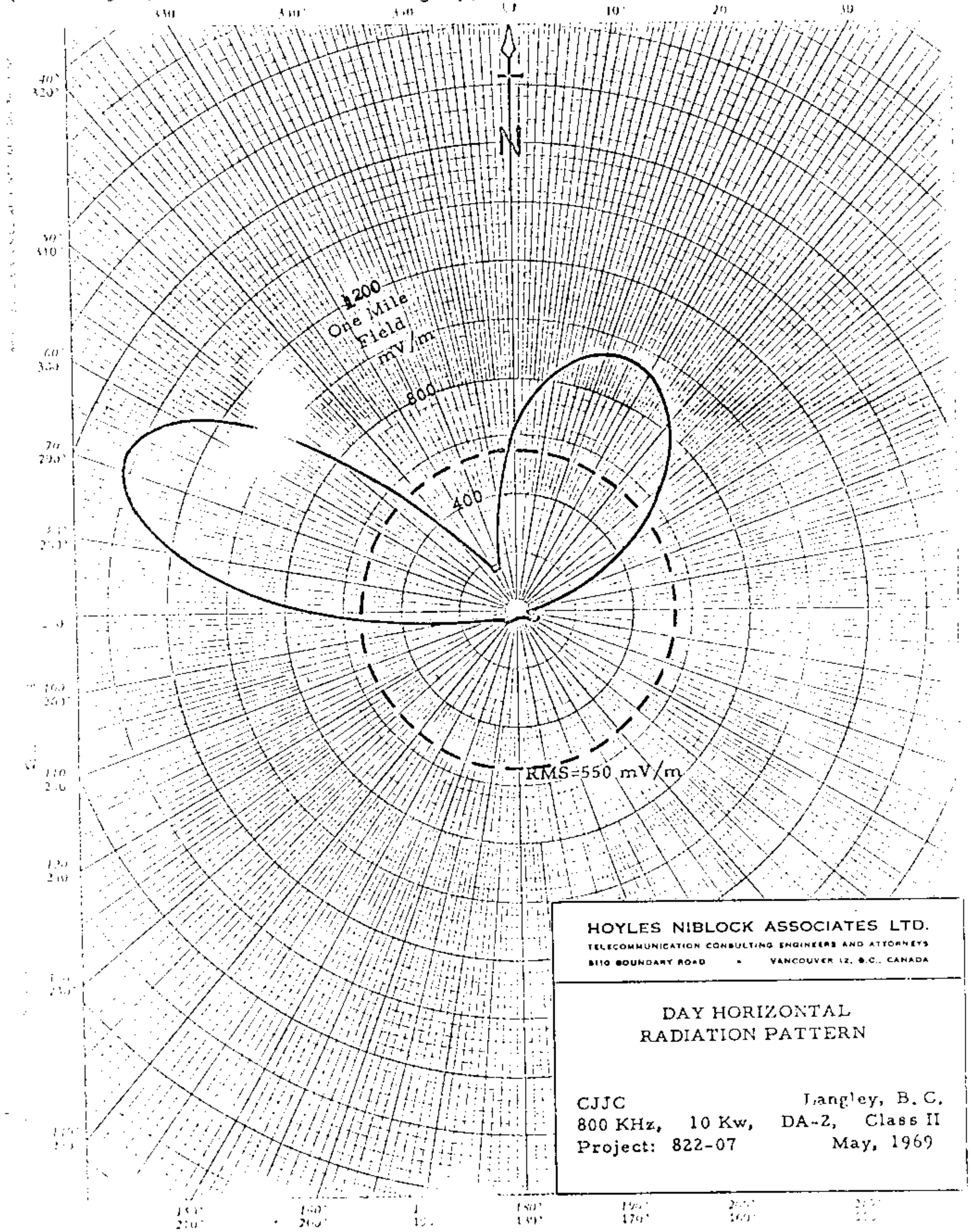
Note:
To this description sheet and day-time pattern attach the night-time patterns notified with list #252 dated February 5, 1969.

CJJC

Proposed Day
(10-28-69ct)

Station CJJC
Langley, B. C.

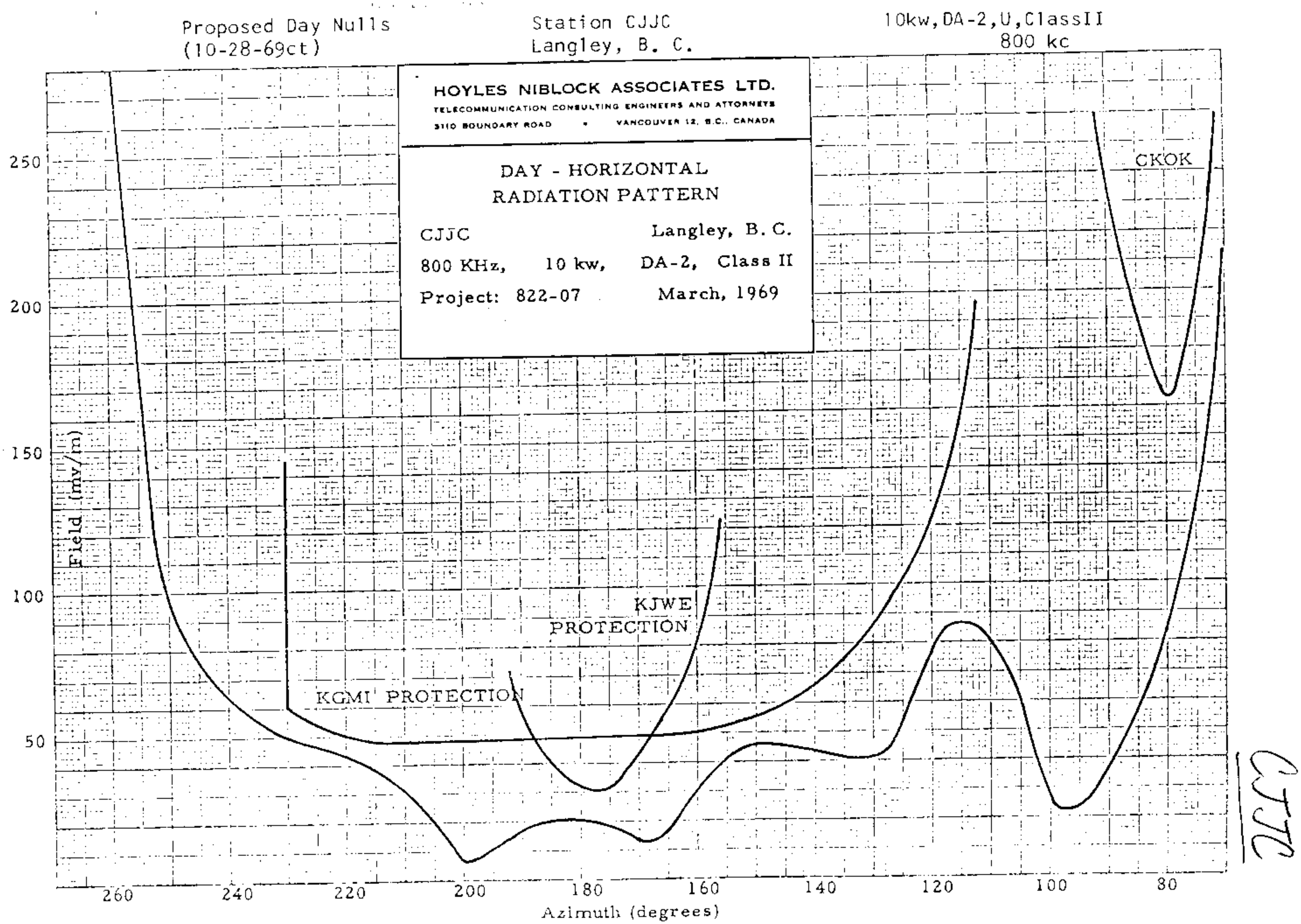
10kw,DA-2,U,ClassII
800 kc



HOYLES NIBLOCK ASSOCIATES LTD.
TELECOMMUNICATION CONSULTING ENGINEERS AND ATTORNEYS
8110 BOUNDARY ROAD • VANCOUVER 12, B.C., CANADA

DAY HORIZONTAL
RADIATION PATTERN

CJJC Langley, B. C.
800 KHz, 10 Kw, DA-2, Class II
Project: 822-07 May, 1969



Proposed Day Nulls
(10-28-69ct)
Station CJJC
Langley, B. C.
10kw,DA-2,U,ClassII
800 kc
HOYLES NIBLOCK ASSOCIATES LTD.
TELECOMMUNICATION CONSULTING ENGINEERS AND ATTORNEYS
3110 BOUNDARY ROAD • VANCOUVER 12, B.C., CANADA
DAY - HORIZONTAL
RADIATION PATTERN
CJJC
Langley, B. C.
800 KHz, 10 kw, DA-2, Class II
Project: 822-07
March, 1969
CKOK
KJWE
PROTECTION
KGMI PROTECTION
Field (mv/m)
250
200
150
100
50
260
240
220
200
180
160
140
120
100
80
Azimuth (degrees)
CJJC

DESCRIPTION SHEET

Station:	CJJC	Main Studio:	Langley, B.C.
Frequency:	800 kc/s	Power:	5 kw
Time:	Unlimited	Class:	II
Notification List No.	229	Date:	July 31, 1967

Geographic Location: 49° 06' 56" North Lat.
122° 32' 38" West Long.

Antenna System

Mode of Operation — DA-2

Elements — Six uniform-cross-section, guyed steel towers, base insulated and series fed.

Towers	1(SW)	2(CW)	3(NW)	4(NE)	5(CE)	6(SE)
Height above insulators	238' (70°)	238' (70°)	238' (70°)	238' (70°)	238' (70°)	238' (70°)
Overall Height	243'	253'	248'	243'	253'	243'
Spacing	-	836' (246.0°)	1700' (500.0°)	1643' (483.2°)	785' (230.7°)	287' (85°)
Phasing: Night	0	34.4°	80.5°	180.0°	132.1°	98.5°
Day	0	25.3°	96.5°	174.0°	126.2°	102.5°
Current: Night	1.0	1.87	1.02	1.02	1.88	0.92
Day	1.0	2.55	1.15	1.20	2.86	0.95
Orientation	Ref.	28.7	31.7	41.4	48.8	139.2

Ground System: The ground system shall consist of 120 0.4λ copper radials buried approximately 8" to 14" below grade. The radials shall be shortened between the towers and bonded to transverse straps along the common chords between the towers. Radials to the north of towers 3 and 4 will be shortened. However, an equivalent ground system area will be maintained.

Predicted Effective Field — Day and Night 389 mv/m for 5 kw
174 mv/m for 1 kw

CJJC

Description Sheet
(1-30-67ct)

Station CJJC
Langley, British Columbia

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

DESCRIPTION SHEET

Station:	CJJC	Main Studio:	Langley, B. C.
Frequency:	800 kc/s	Power:	10 kw
Time:	Unlimited	Class:	II
Notification List No. **221**		Date:	**December 29, 1966.**

Geographic Location: 49° 06' 56" North Lat.
122° 32' 38" West Long.

Antenna System

Mode of Operation: DA-2

Elements: Six uniform-cross-section, guyed steel towers, base insulated and series fed.

Towers	1(SW)	2(CW)	3(NW)	4(SE)	5(CE)	6(NE)
Height above insulators	238' (70°)	238' (70°)	238' (70°)	238' (70°)	238' (70°)	238' (70°)
Overall Height	243'	253'	248'	243'	253'	243'
Spacing	-	836' (246.0°)	1700' (500.0°)	1643' (483.2°)	785' (230.7°)	287' (85°)
Phasing: Night	0	+33.0°	+80.5°	+180.0°	+130.5°	+98.5°
Phasing: Day	0	+27.0°	+96.5°	+174.0°	+128.0°	+102.5°
Current: Night	1.00	1.84	1.02	1.02	1.86	0.92
Current: Day	1.00	2.40	1.15	1.20	2.70	0.95
Orientation	Ref.	29.5°	32.5°	42.2°	49.6°	140.0°

Ground System: The ground system shall consist of 120 0.4λ copper radials buried approximately 8" to 14" below grade. The radials shall be shortened between the towers and bonded to transverse straps along the common chords between the towers. Radials to the north of towers 3 and 4 will be shortened. However, an equilivent ground system area will be maintained.

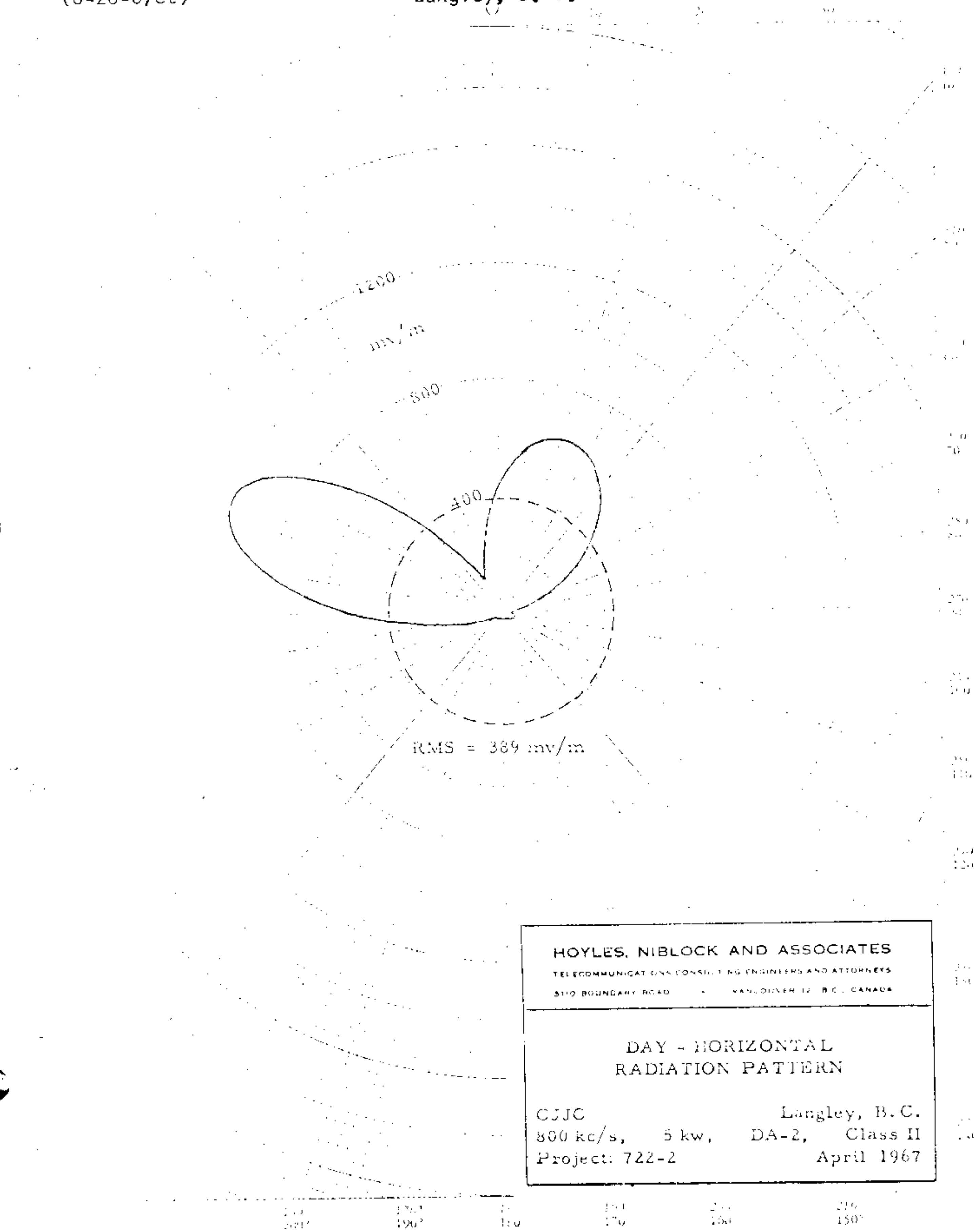
Predicted Effective Field: Day and Night 550 mv/m for 10 kw
174 mv/m for 1 kw

CJJC

Proposed Day
(8-28-67ct)

Station CJJC
Langley, B. C.

5kw,DA-2,U,Class I
800 kc



HOYLES, NIBLOCK AND ASSOCIATES
TELECOMMUNICATIONS CONSULTING ENGINEERS AND ATTORNEYS
3110 BOUNDARY ROAD · VANCOUVER 12, B.C., CANADA

DAY - HORIZONTAL
RADIATION PATTERN

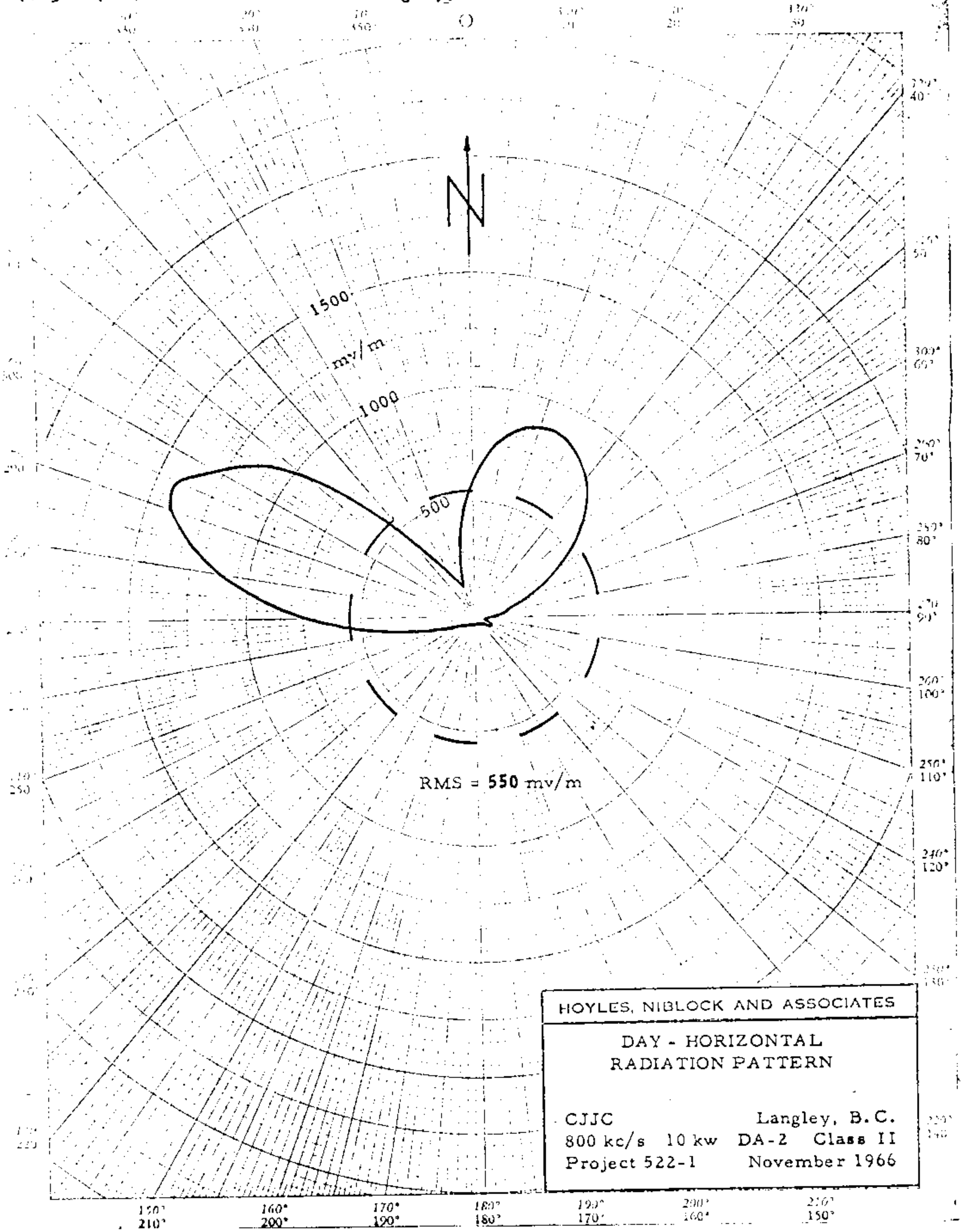
CJJC	Langley, B.C.
800 kc/s, 5 kw,	DA-2, Class II
Project: 722-2	April 1967

CJJC

Proposed Day
(1-30-67ct)

Station CJJC
Langley, British Columbia

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



CJJC

Description Sheet (2-28-69ct) | Station CJJC Langley, B.C. | 10kw,DA-2,U,Class II 800 kc

DESCRIPTION SHEET

Station:	CJJC	Main Studio:	Langley, B.C.
Frequency:	800 kc/s	Power:	10 kw
Time:	Unlimited	Class:	II
Notification List No.:	252	Date:	February 5, 1969

Geographic Location: 49° 06' 56" North Lat.
122° 32' 38" West Long.

Antenna System

Mode of Operation: DA-2

Elements: Six uniform-cross-section, guyed steel towers, base insulated and series fed.

Towers	1(SW)	2(CW)	3(NW)	4(NE)	5(CE)	6(SE)
Height above insulators	238' (70°)	238' (70°)	238' (70°)	238' (70°)	238' (70°)	238' (70°)
Overall Height	234'	253'	248'	243'	253'	243'
Spacing	-	854.4' 250°	1736.1' 508°	1669.4' 488.5°	807.9' 236.4°	290.5' 85°
Phasing: Night	0	37.5°	87.0°	184.0°	135.0°	97.0°
Phasing: Day	1.8°	32.9°	100.4°	181°	128.3°	98.5°
Current: Night	1.0	1.85	1.0	1.0	1.85	1.0
Current: Day	.98	1.82	.94	.81	1.88	.92
Orientation	Ref.	31.0	32.0	41.5	50.87	140.0

Ground System: The ground system shall consist of 120 0.4 copper radials buried approximately 8" to 14" below grade. The radials shall be shortened between the towers and bonded to transverse straps along the common chords between the towers. Radials to the north of towers 3 and 4 will be shortened. However, an equivalent ground system area will be maintained.

Predicted Effective Field: Day and Night 550 mv/m for 10 kw
174 mv/m for 1 kw

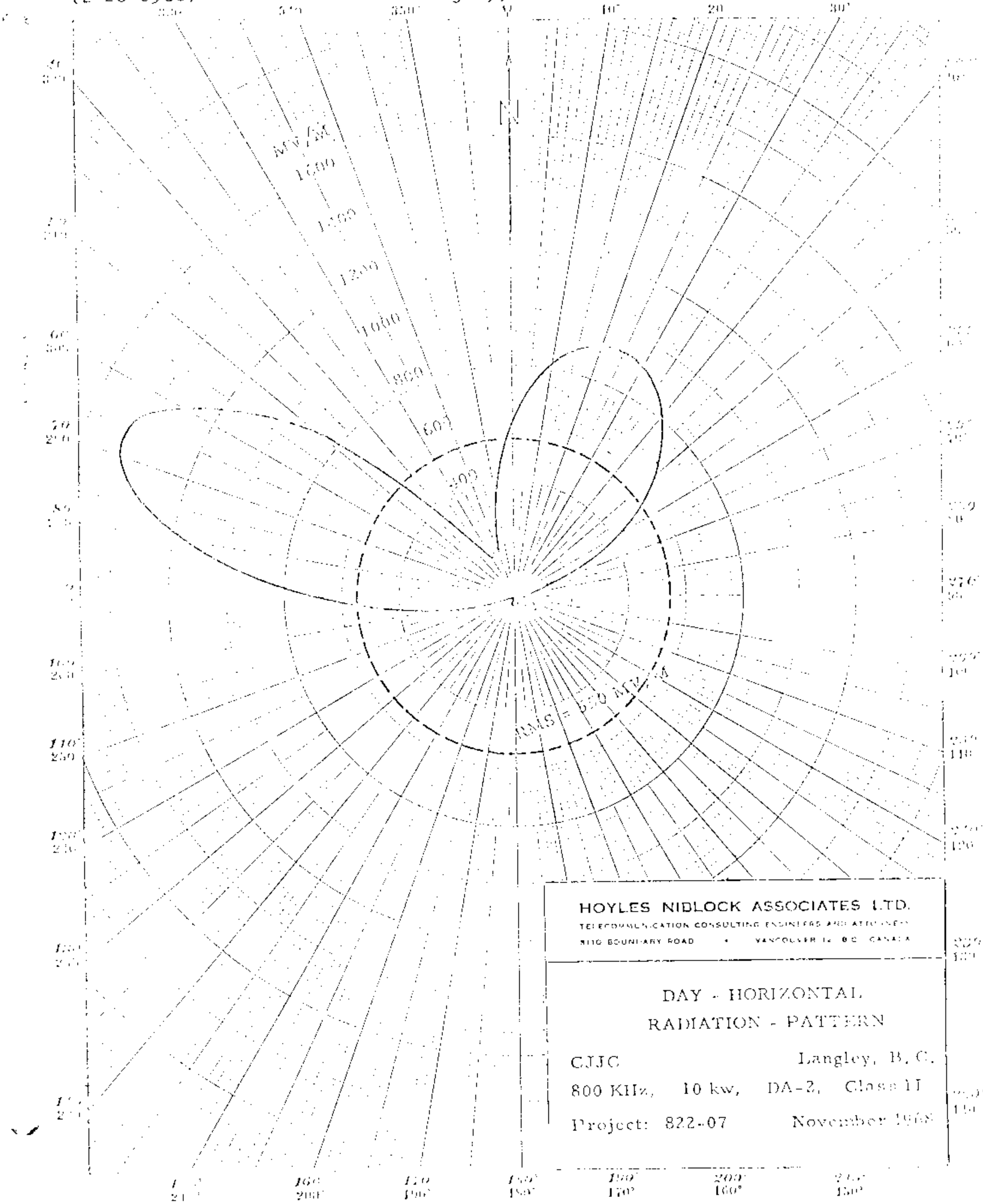
HOYLES NIBLOCK ASSOCIATES | CONSULTING ENGINEERS

CJJC

Proposed Day
(2-28-69ct)

Station CJJC
Langley, B.C.

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



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TELECOMMUNICATION CONSULTING ENGINEERS AND ATTORNEYS
BOUNDARY ROAD · VANCOUVER 12, B.C. CANADA

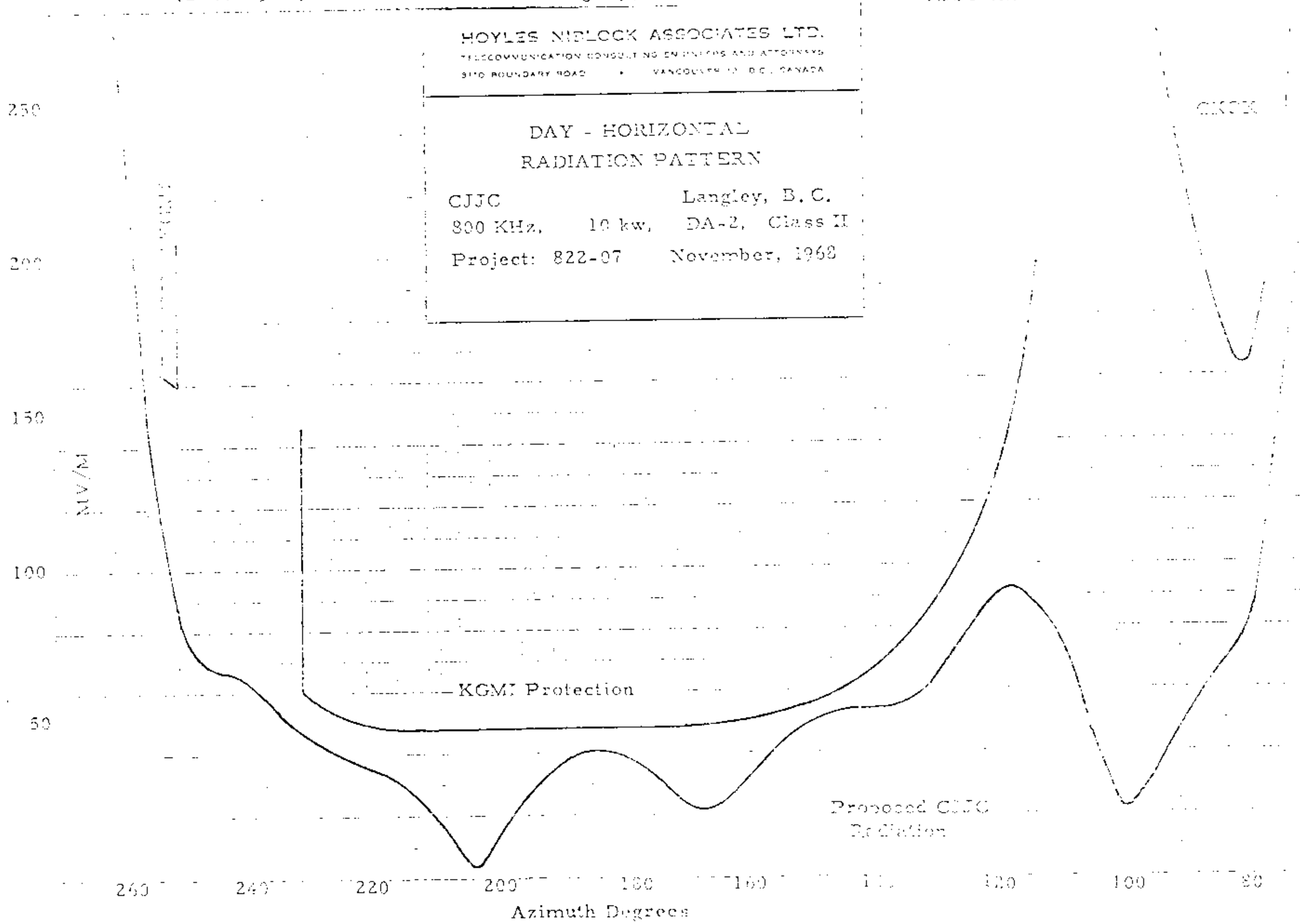
DAY - HORIZONTAL
RADIATION - PATTERN

CJJC Langley, B.C.
800 KHz, 10 kw, DA-2, Class II
Project: 822-07 November 1968

Proposed Day Nulls
(2-28-69ct)

Station CJJC
Langley, B.C.

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



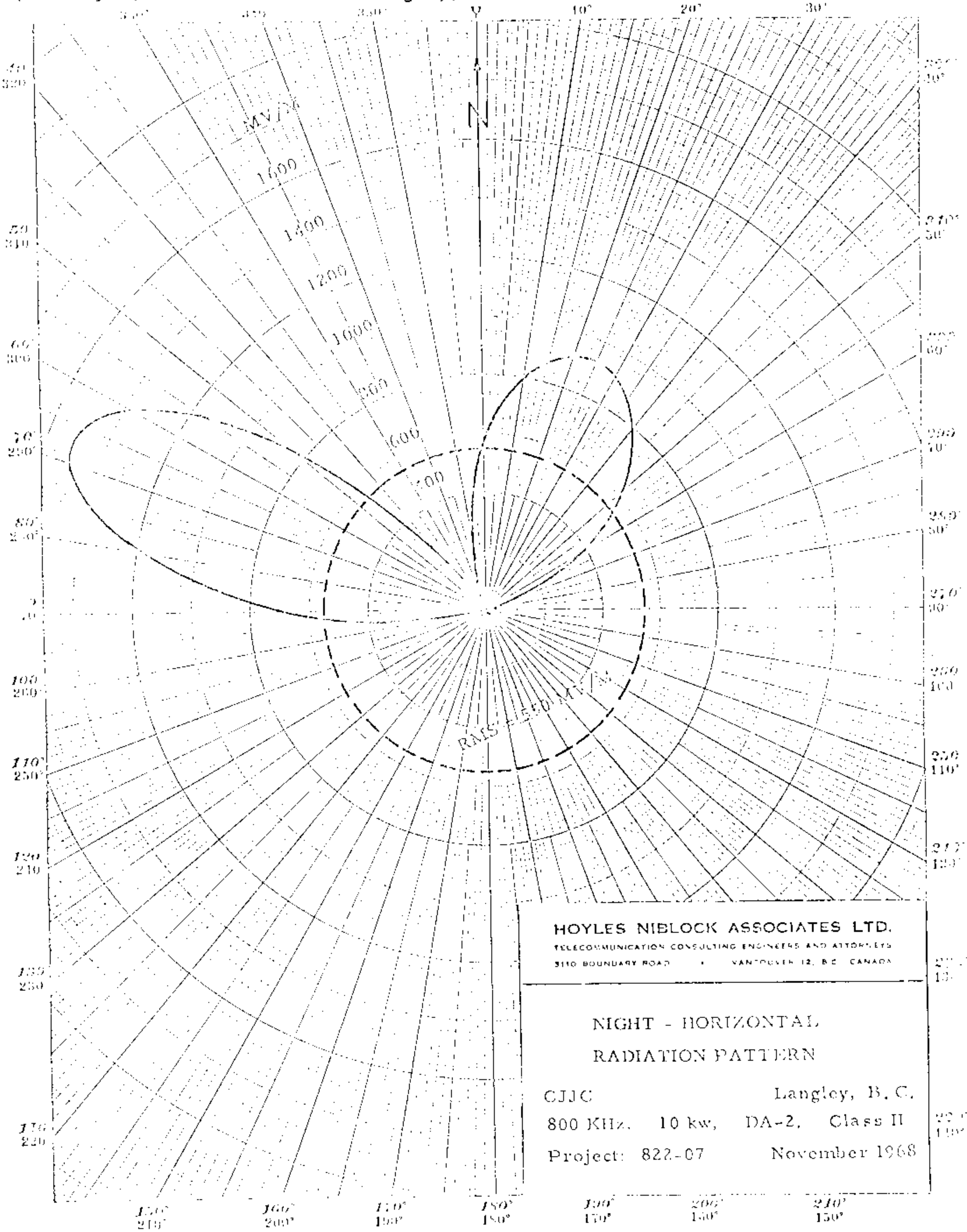
CJJC

CJJC

Proposed Night
(2-28-69ct)

Station CJJC
Langley, B.C.

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



HOYLES NIBLOCK ASSOCIATES LTD.
TELECOMMUNICATION CONSULTING ENGINEERS AND ATTORNEYS
3110 BOUNDARY ROAD · VANCOUVER 12, B.C. CANADA

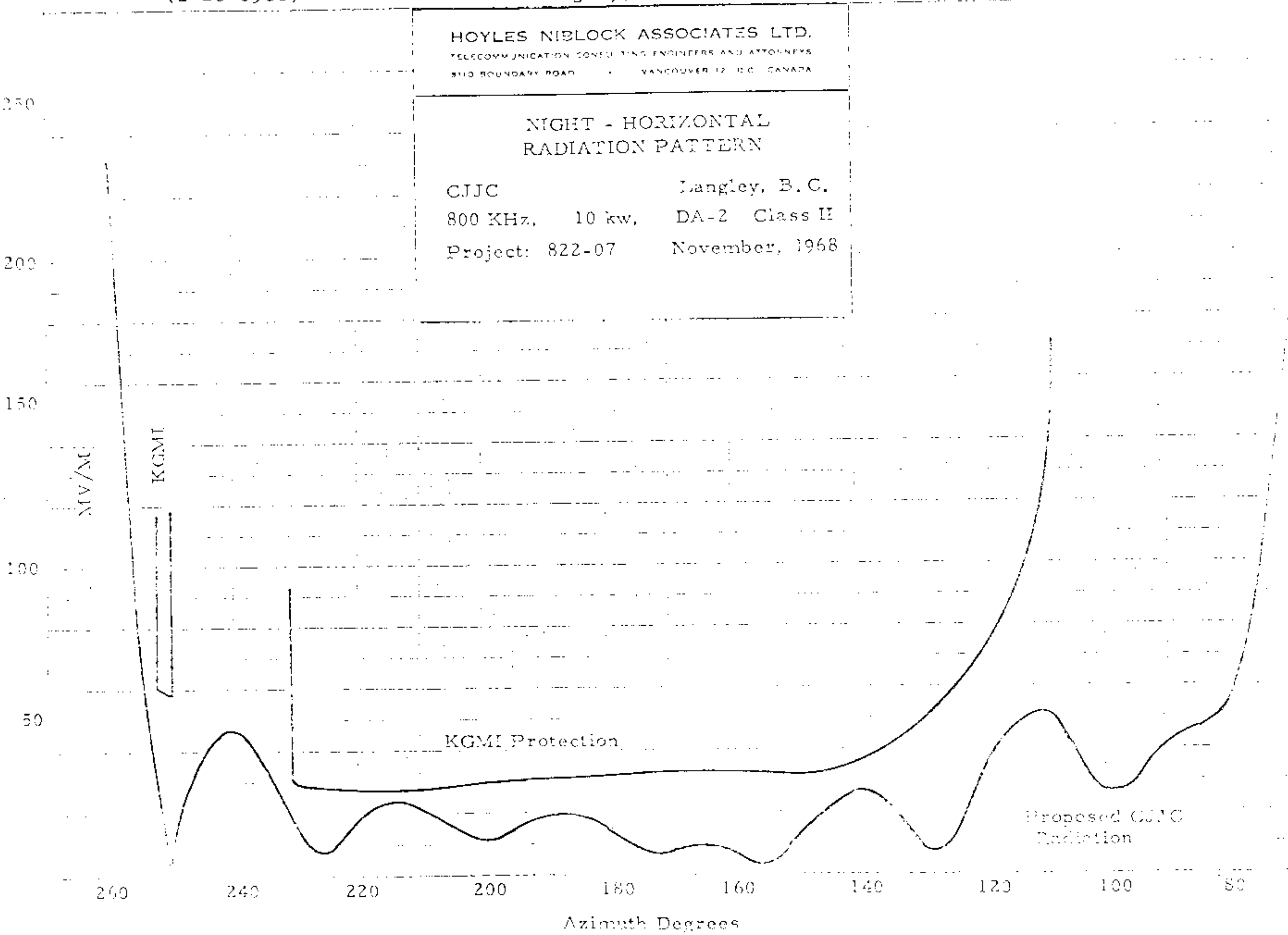
NIGHT - HORIZONTAL
RADIATION PATTERN

CJJC Langley, B.C.
800 KHz. 10 kw, DA-2, Class II
Project: 822-07 November 1968

Proposed Night Nulls
(2-28-69ct)

Station CJJC
Langley, B.C.

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

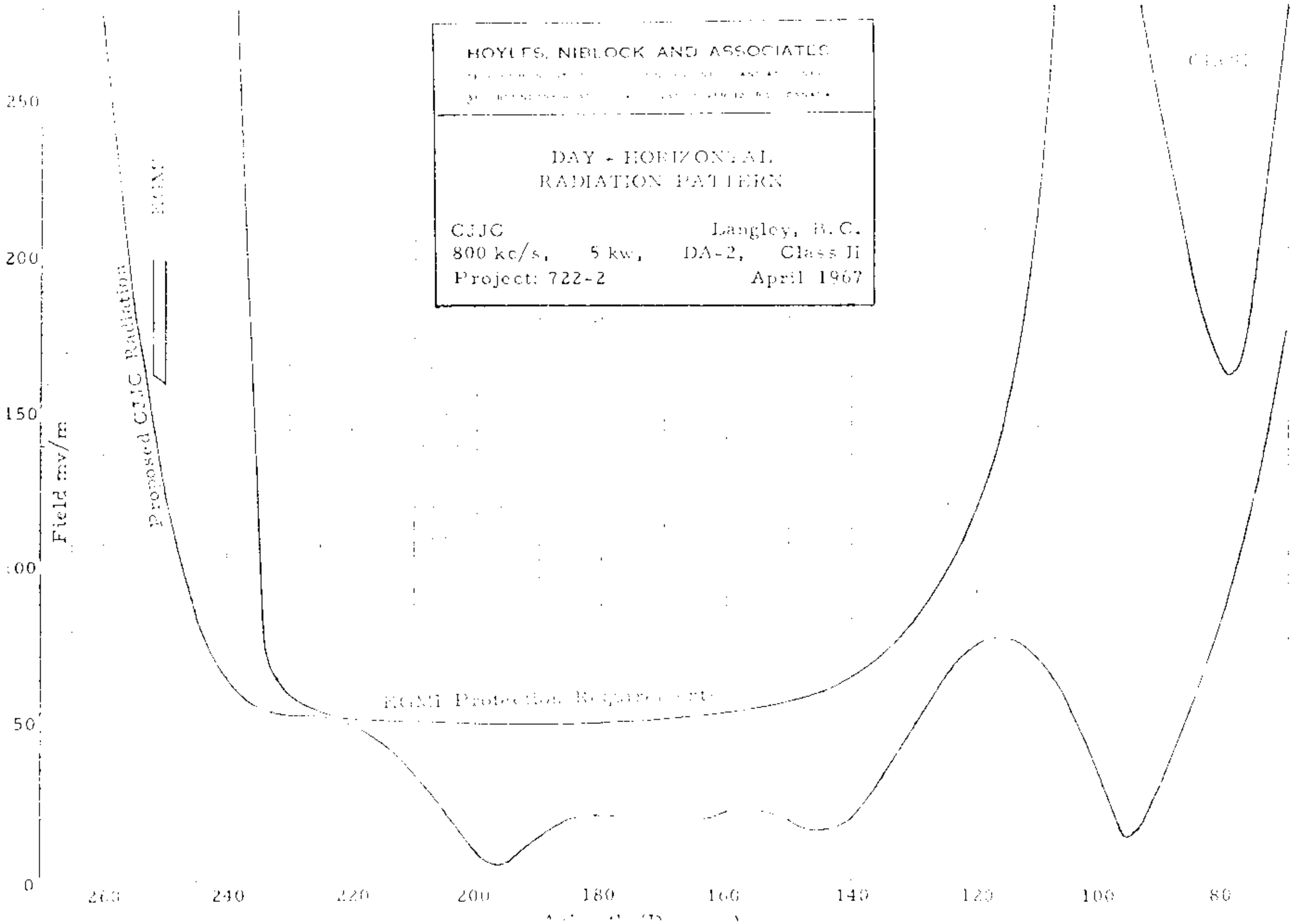


CJJC

Proposed Day Nulls
(8-28-67ct)

Station CJJC
Langley, B. C.

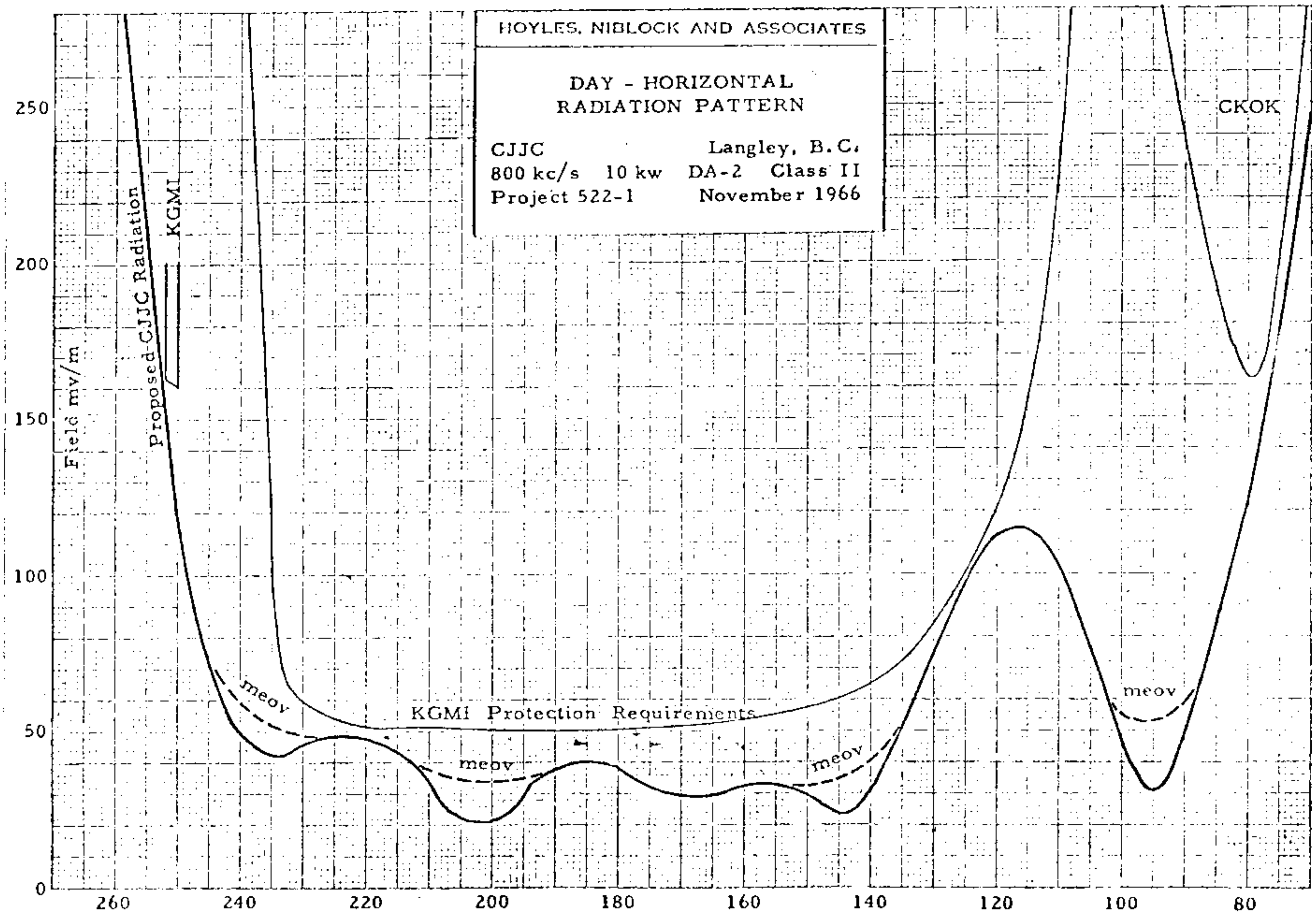
5kw,DA-2,U,Class II
800 kc



Proposed Day Nulls
(1-30-67ct)

Station CJJC
Langley, British Columbia

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



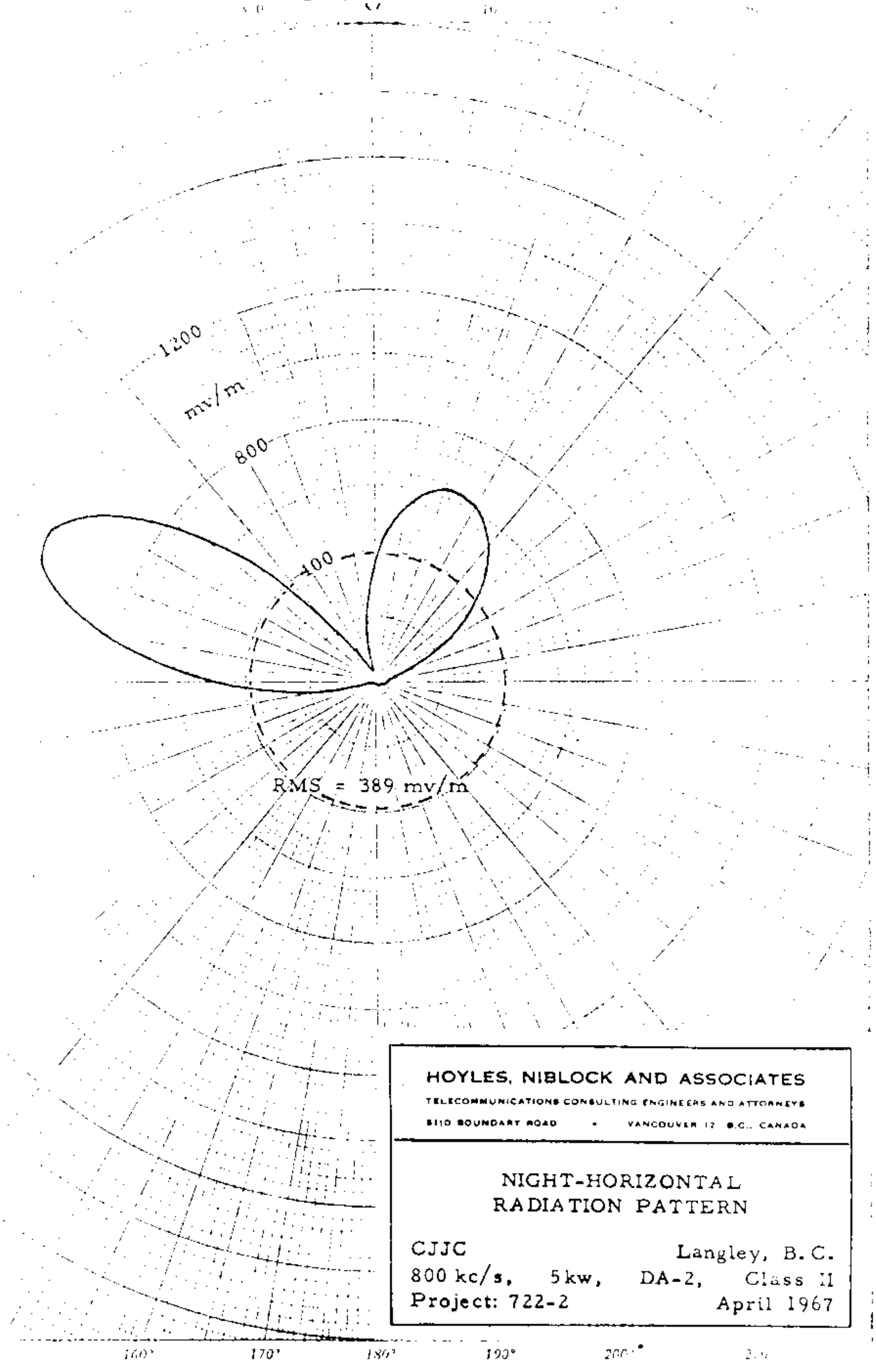
CJJC

CJJC

Proposed Night
(8-28-67ct)

Station CJJC
Langley, B. C.

5kw,DA-2,U,Class
800 kc



HOYLES, NIBLOCK AND ASSOCIATES
TELECOMMUNICATIONS CONSULTING ENGINEERS AND ATTORNEYS
5110 BOUNDARY ROAD • VANCOUVER 12 B.C., CANADA

NIGHT-HORIZONTAL
RADIATION PATTERN

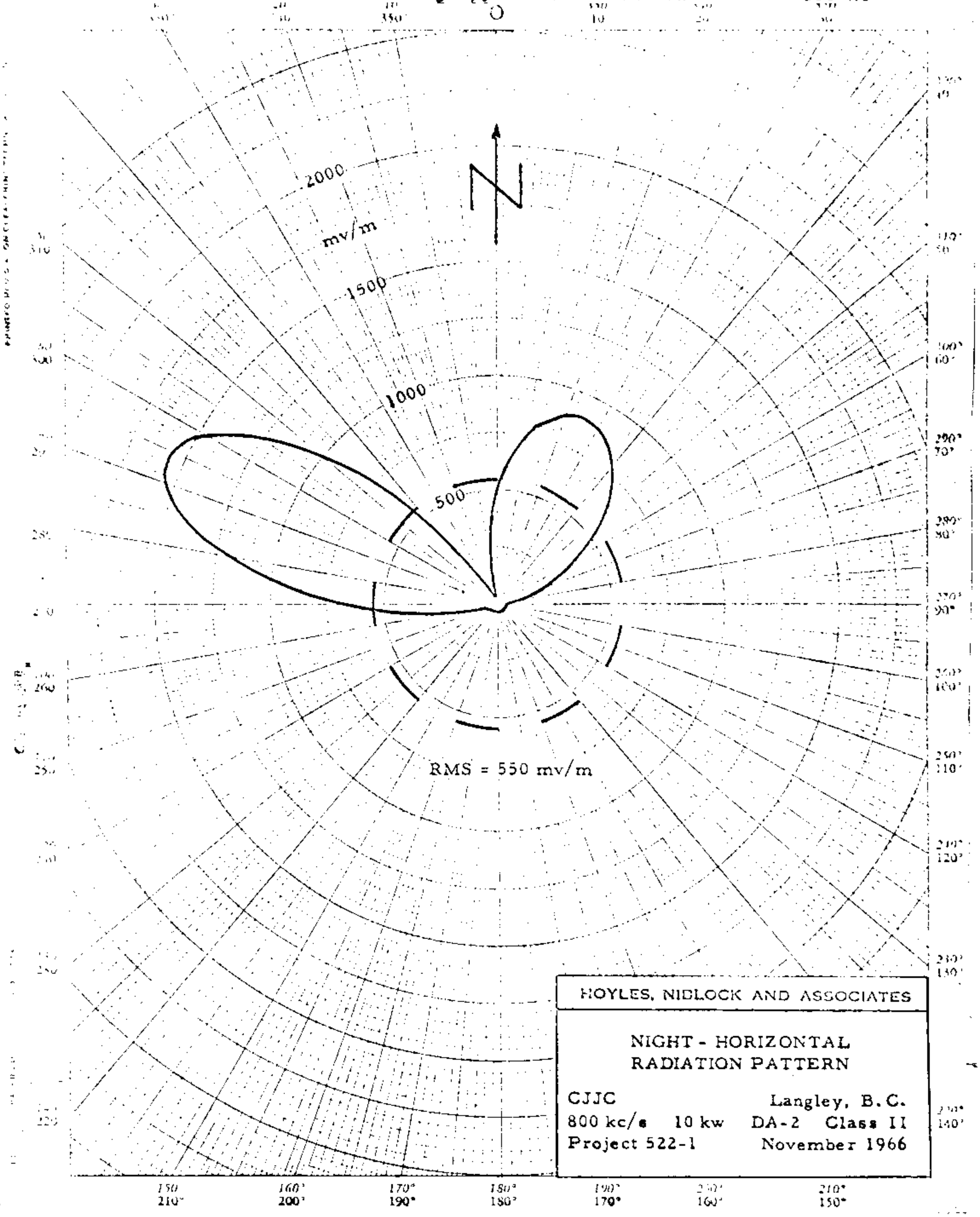
CJJC Langley, B.C.
800 kc/s, 5 kw, DA-2, Class II
Project: 722-2 April 1967

CJJC

Proposed Night
(1-30-67ct)

Station CJJC
Langley, British Columbia

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



HOYLES, NIBLOCK AND ASSOCIATES

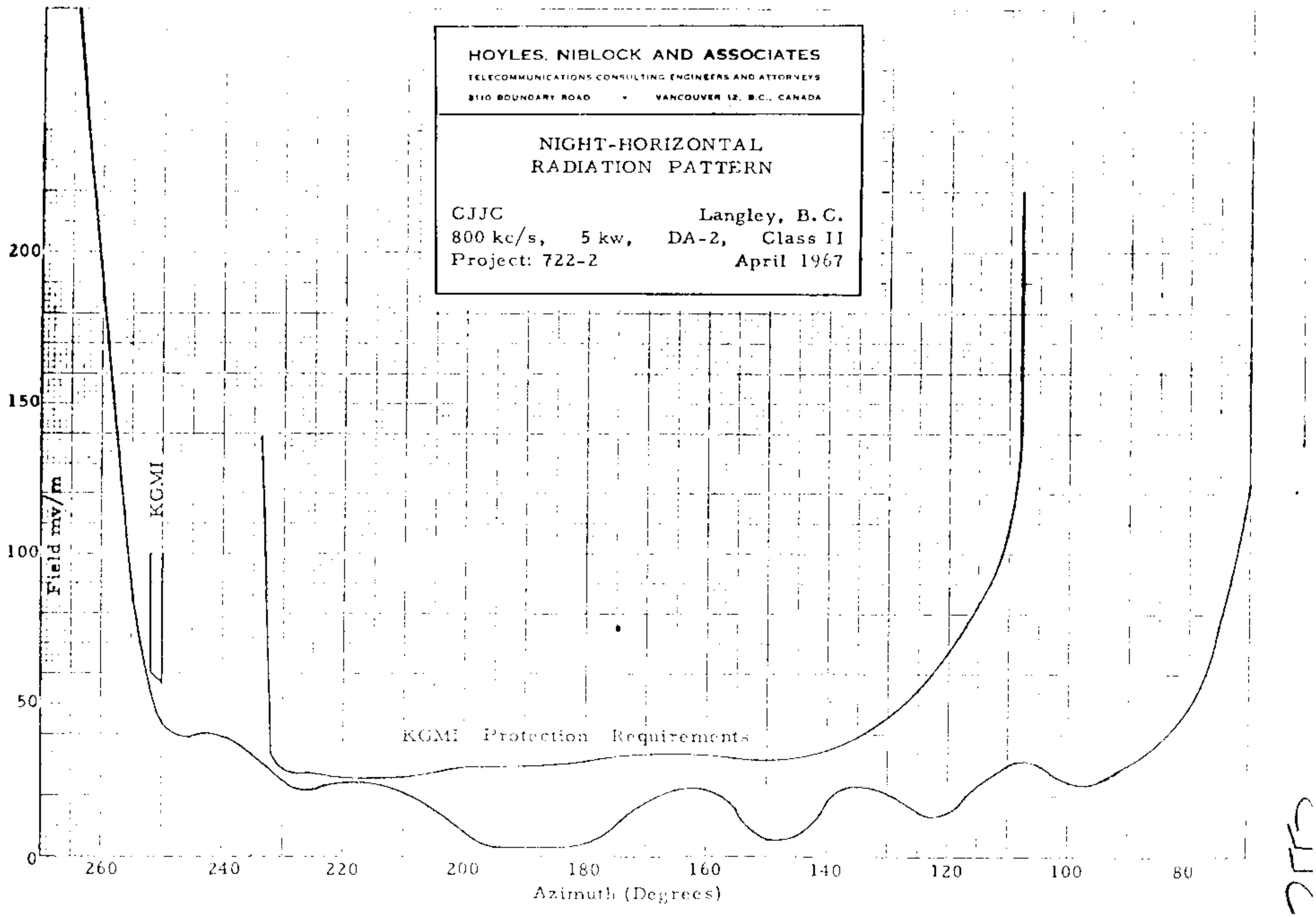
NIGHT - HORIZONTAL
RADIATION PATTERN

CJJC Langley, B.C.
800 kc/s 10 kw DA-2 Class II
Project 522-1 November 1966

Proposed Night Nulls
(8-28-67ct)

Station CJJC
Langley, B. C.

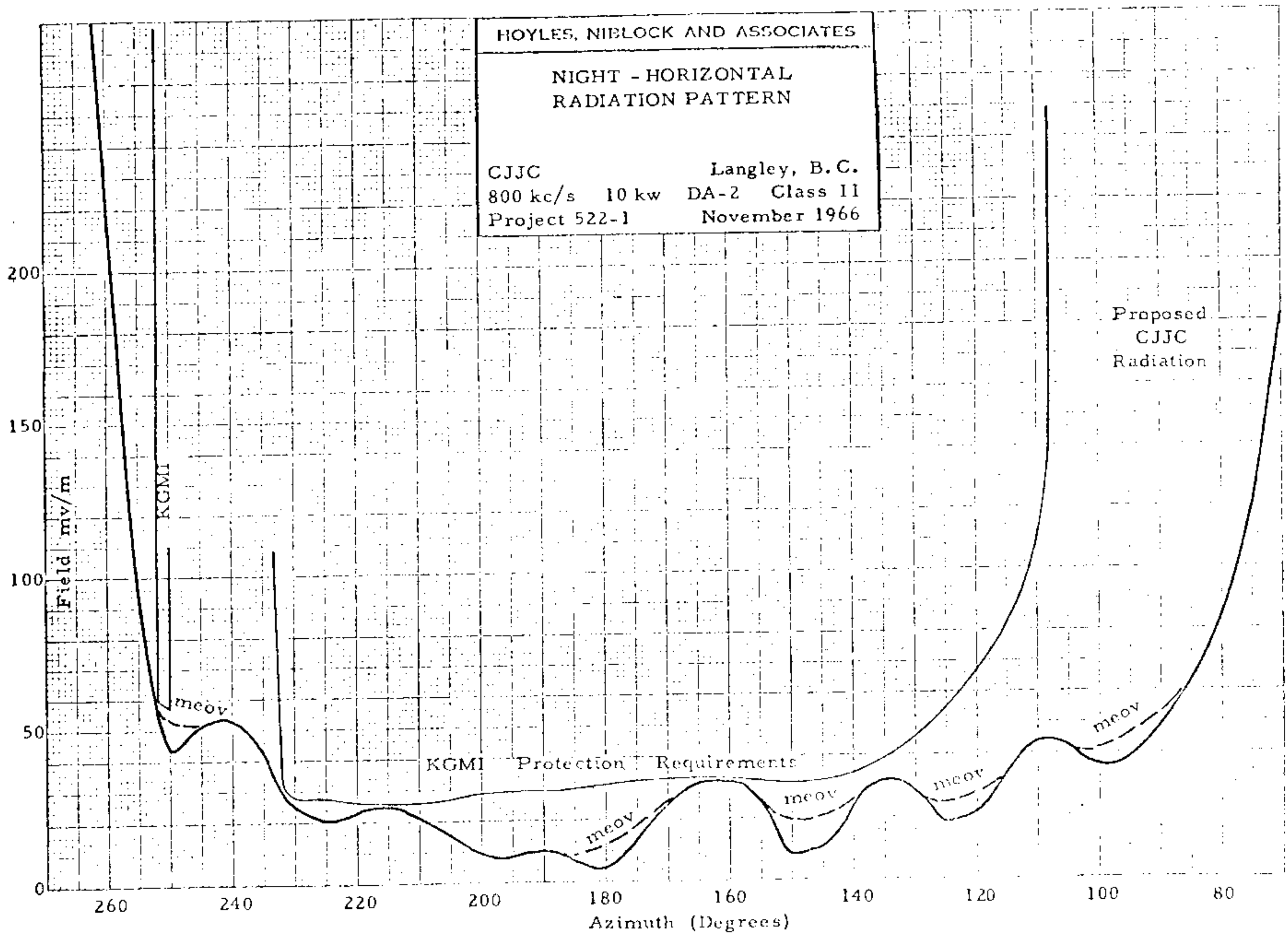
5kw, DA-2, U, Class II
800 kc



Proposed Night Nulls
(1-30-67ct)

Station JC
Langley, British Columbia

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



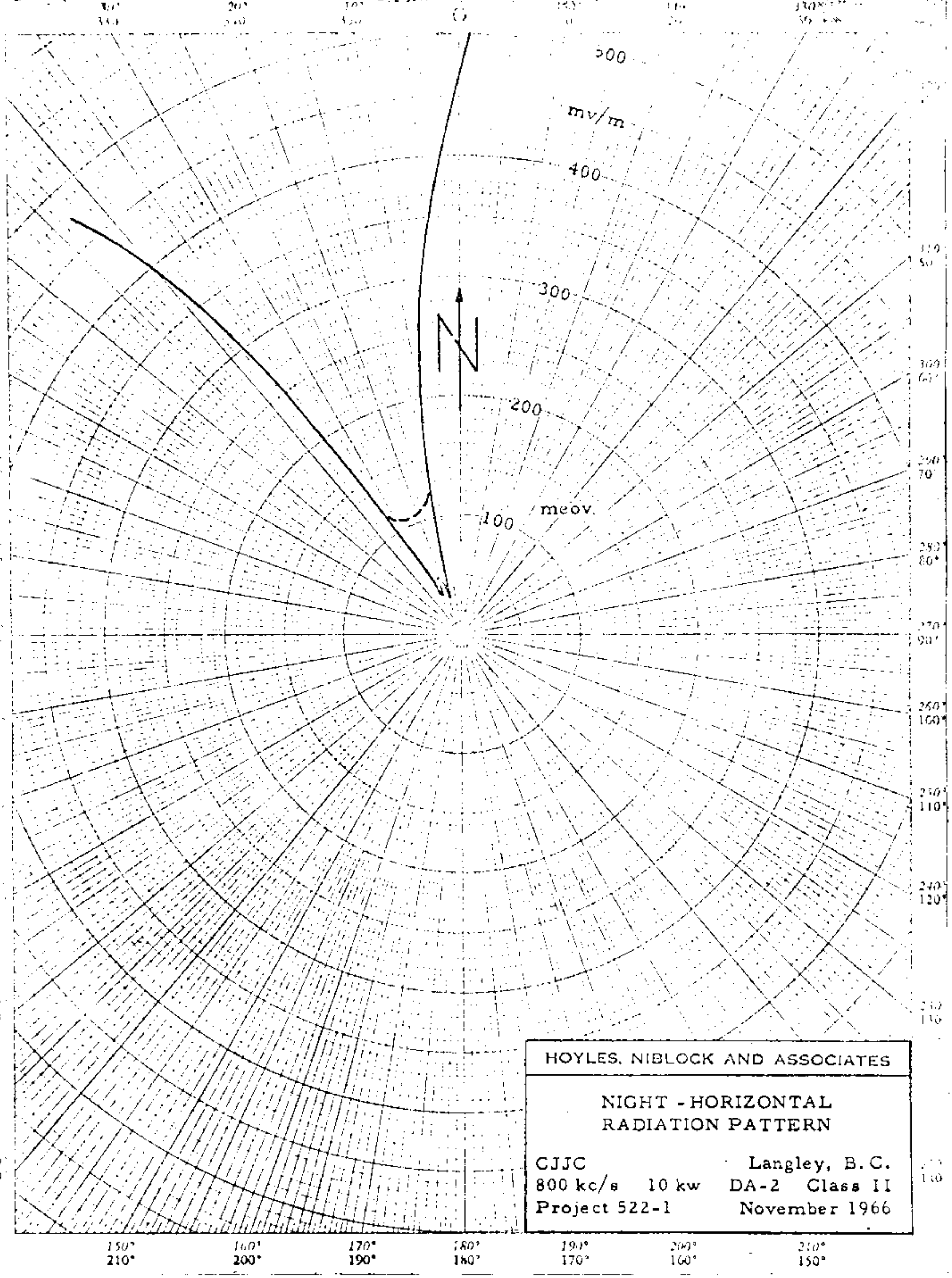
CJJC

CJJC

Proposed Night Nulls
(1-30-67ct)

Station CJJC
Langley, British Columbia

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



HOYLES, NIBLOCK AND ASSOCIATES

NIGHT - HORIZONTAL
RADIATION PATTERN

CJJC Langley, B.C.
800 kc/s 10 kw DA-2 Class II
Project 522-1 November 1966

#166

Description Sheet
(2-28-62ct)

Station CJLX
Fort William, Ontario

5kw,10kw-LS,DA-1,U,Class II
800 kc

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CJLX

Frequency: 800 kc/s

Notification List No. 166

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:

Main Studio: Fort William, Ont.

Power: 10 KW D/5 KW/N Class: 11

Date : January 5, 1962

North Latitude: 48° 18' 38"

West Longitude: 89° 21' 30"

ANTENNA CHARACTERISTICS

Mode of Operation: DA-1
Number of elements:
Type of elements: Guyed, uniform cross-section, series fed, no top leading.

TOWER:	#1(SW)	#2(C)	#3(NE)
HEIGHT ABOVE INSULATORS:	255'	255'	255'
OVERALL HEIGHT:	258'	258'	258'
SPACING:	70°	70°(240')	
PHASING:	+144°	0°	-144°
FIELD RATIO:	0.58	1.0	0.58

ORIENTATION: On a line bearing 25° East of True North.

GROUND SYSTEM: The existing ground system is 120 radials of #10 soft copper per tower, joined at intersections and buried 8" approximately.

Predicted effective field	180	mv/m	(for 1 kw)
	403	mv/m	(" 5 kw)
	570	mv/m	(" 10 kw)

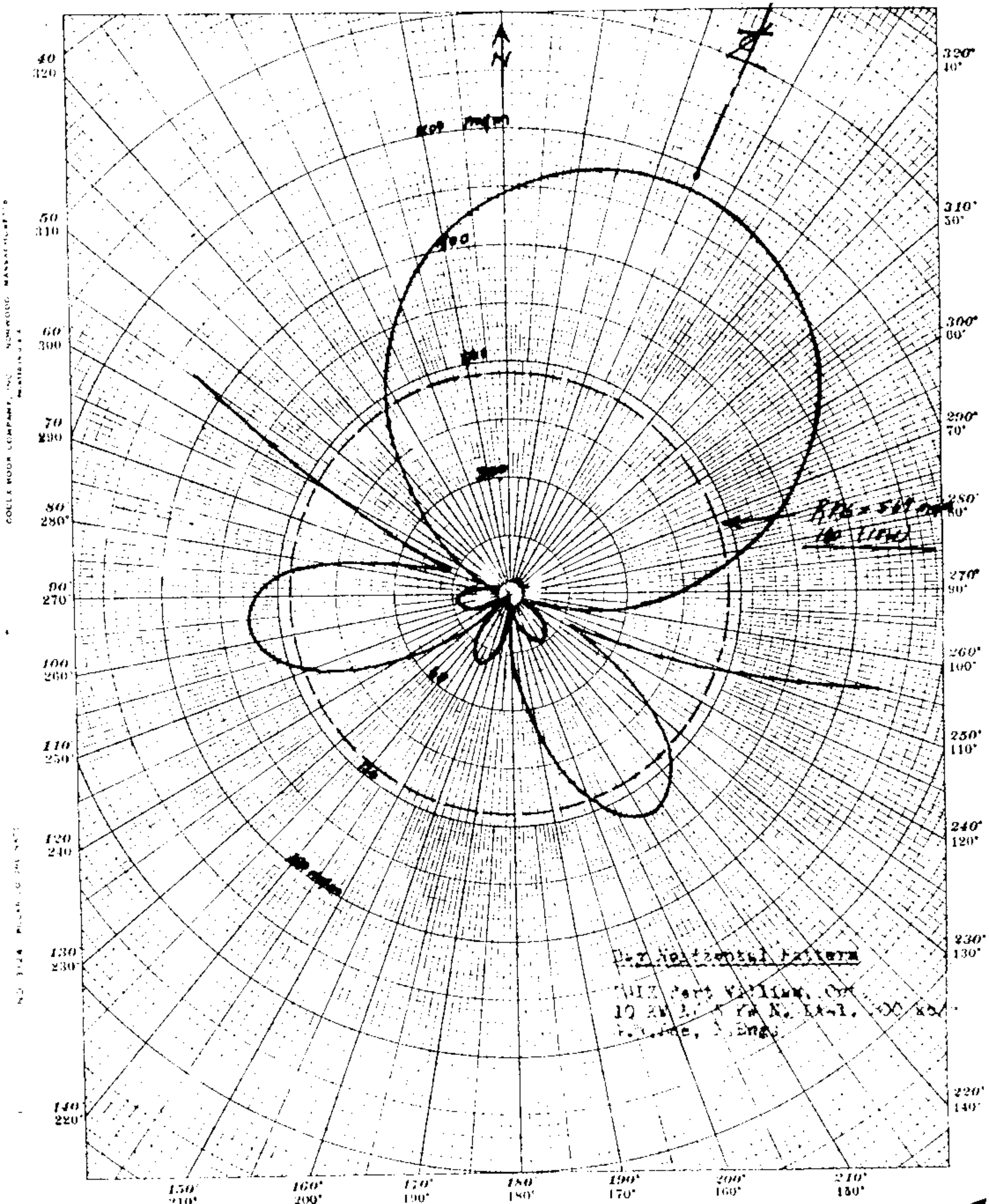
#166

CJLX

Proposed Day (2-28-62ct)

Station CJLX
Fort William, Ontario

5kw,10kw-LS,DA-1,U,Class II
800 kc



CKLW
800

STATION: C K L W MAIN STUDIO: WINDSOR, ONTARIO.

POWER: 50 KW FREQUENCY: 800 KC CLASS: II

LOCATION: NORTH LATITUDE: 42° 03' 18"

WEST LONGITUDE: 83° 00' 05"

ANTENNA: AUTHORIZED FOR DAY AND NIGHT OPERATION. (DA-2)

FIVE ELEMENTS, SERIES-FED, UNIFORM CROSS-SECTION, GUYED, INSULATED, VERTICAL STEEL TOWERS.

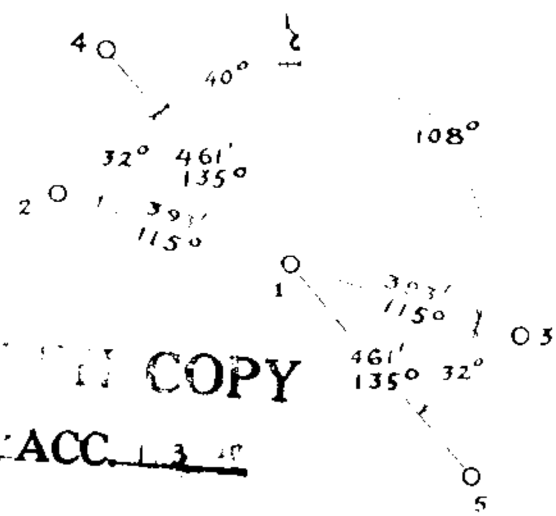
DAYTIME ARRAY ADJUSTMENT

TOWER:	#1	#2	#3	#4	#5
HEIGHT ABOVE INSULATORS:	300'	300'	300'	300'	300'
SPACING:	SEE SKETCH BELOW				
DAY PHASING:	+150°	+37°	-37°	-127°	+127°
DAY FIELD RATIO:	0.7	1.0	1.0	1.0	1.0

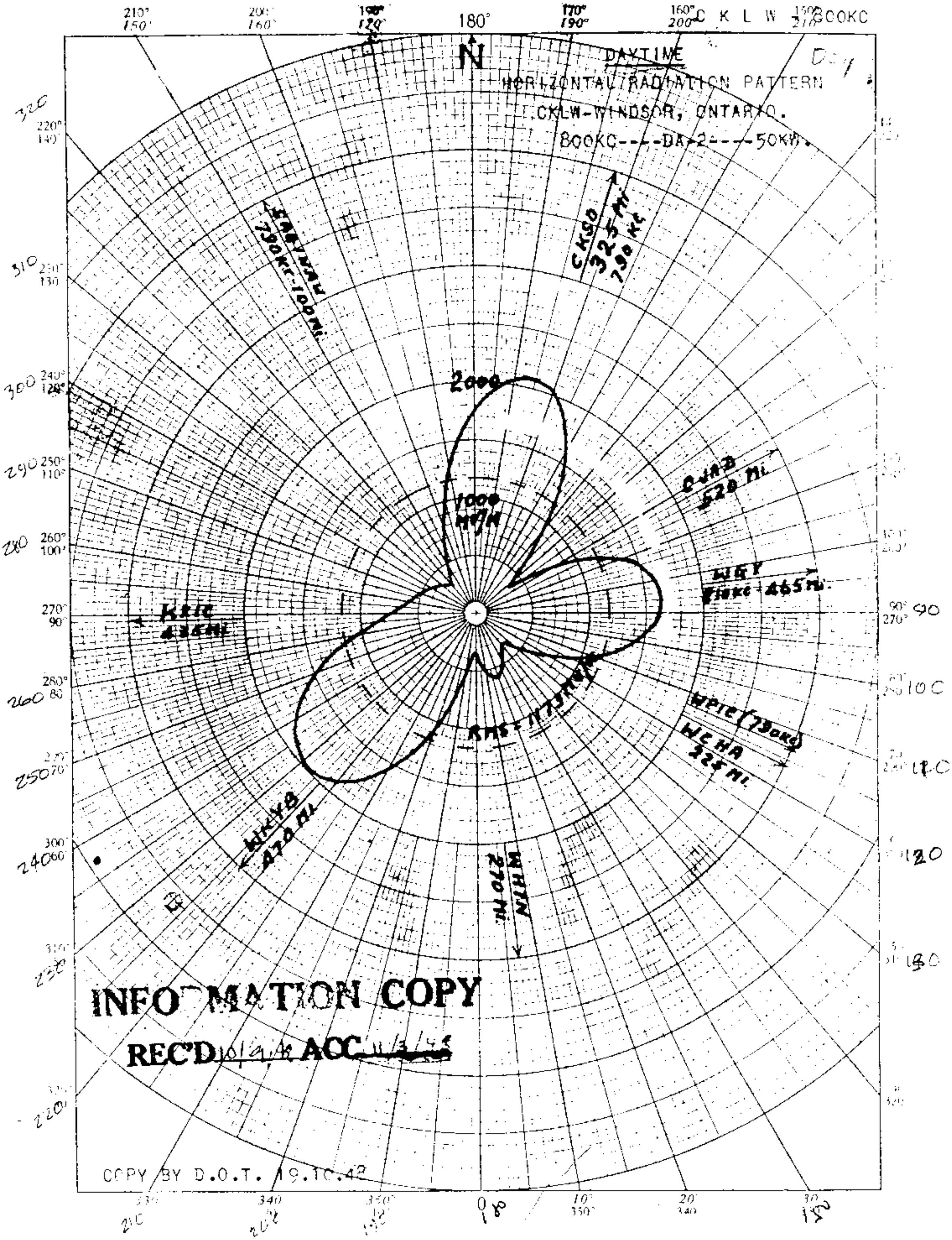
GROUND SYSTEM: 120 RADIALS OF 500' MAXIMUM RADIUS ABOUT EACH TOWER

PREDICTED EFFECTIVE FIELD: <u>1173 MV/M</u> (166 MV/M PER KW)

<u>NOTE:</u> <u>THIS REVISION INVOLVES A CHANGE FROM DA-1 TO DA-2. THE DAYTIME PATTERN IS ATTACHED. THE DA-1 PATTERN PREVIOUSLY DISTRIBUTED REMAINS THE SAME FOR NIGHTTIME OPERATION.</u>



CKLW
800


C K L W 800KC
DAYTIME
HORIZONTAL RADIATION PATTERN
CKLW-WINDSOR, ONTARIO.
800KC---DA-2----50KW.
N
2000
1000 MV/M
CKSO 325 MI 790 KC
SAGINAW 790KC-100MI
CJAD 520 MI
WGY 810KC-465MI
WPIC (790KC)
WCHA 225 MI
INFORMATION COPY
COPY BY D.O.T. 19.10.42

CKLW
800

JUN 25 1948 G

STATION: C K L W MAIN STUDIO: WINDSOR, ONTARIO. Night

POWER: 50 KW. FREQUENCY: 800KC CLASS: II

LOCATION: (APPROX) NORTH LATITUDE: 42^0 03'
WEST LONGITUDE: 83^0 01'

ANTENNA: MODE OF OPERATION: DIRECTIONAL ANTENNA DAY AND NIGHT

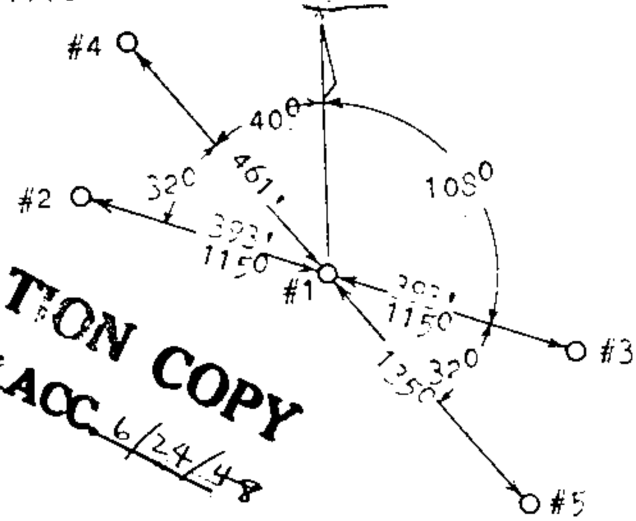
FIVE ELEMENTS, GUYED, UNIFORM CROSS-SECTION, INSULATED.

TOWER:	#1	#2	#3	#4	#5
HEIGHT ABOVE INSULATORS:	300'	300'	300'	300'	300'
SPACING:	SEE SKETCH BELOW.				
PHASING:	0^0	$+152^0$	$+112^0$	$+27^0$	$+237^0$
FIELD RATIO:	0.423	1.0	1.0	0.7	0.7

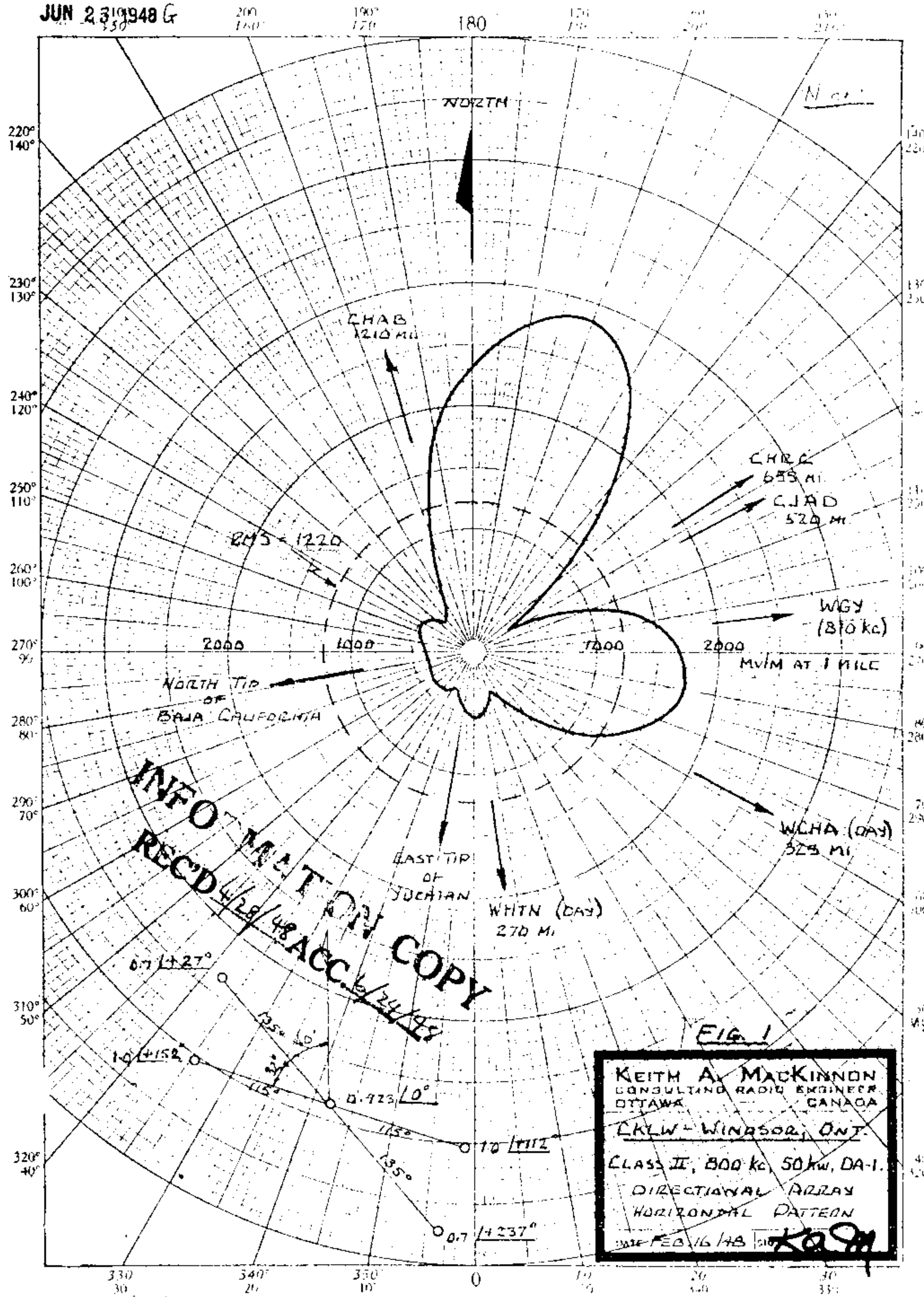
GROUND SYSTEM: 120 RADIALS OF 500' MAXIMUM RADIUS ABOUT EACH TOWER.

ORIENTATION: SEE SKETCH BELOW.

PREDICTED EFFECTIVE FIELD: 1220 MV/M (172.5 PER KW)



CKLW
800



JUN 23 1948 G
NORTH
CHAB
1210 MI
CHRC
655 MI
CJAD
520 MI
BMS – 1220
WGY
(810 kc)
2000
1000
1000
2000
MV/M AT 1 MILE
NORTH TIP OF BAJA CALIFORNIA
WCHA (DAY)
325 MI
EAST TIP OF YUCATAN
WHTN (DAY)
270 MI
INFORMATION COPY
RECD 4/28/48 ACC. 6/24/48
0.7 /+27°
1.0 /+152
0.923 /0°
1.0 /+112
0.7 /+237°
135°
115°
135°
FIG. 1
KEITH A. MACKINNON
CONSULTING RADIO ENGINEER
OTTAWA CANADA
CKLW – WINDSOR, ONT.
CLASS II, 800 kc, 50 kw, DA-1.
DIRECTIONAL ARRAY
HORIZONTAL PATTERN
FEB 16/48

CKLW

CKLW - Windsor, Ont.

SECTION III : DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station Call : CKLW

Main Studio : Windsor, Ont.

Frequency : 800 kHz   Power : 50 kW   Class : II

Geographical Location of the Antenna System : 42° 03' 25" N. Latitude
83° 00' 10" W. Longitude

Notification List No. : 360

Date : November 23, 1976

Antenna Characteristics : Number of Elements : Five (5)
Mode of Operation : DA-2, Unlimited Time
Type of Elements : Guyed, uniform cross-section, base insulated, series fed steel masts; no top loading.

Tower No.	1	2	3	4	5
Height above Insulator	300'	300'	300'	300'	300'
Overall Height	307'	307'	307'	307'	307'
Bearing (E of T.N.)	REF.	288°	108°	320°	140°
Spacing	REF.	115°(393')	115°(393')	135°(461')	135°(461')
Field Ratio - Day	0.70	1.00	1.00	1.00	1.00
- Night	0.57	1.13	1.18	0.98	1.00
Phasing - Day	+150°	+037°	-037°	-127°	+127°
- Night	-145°	+016°	-016°	-089°	+089°

Ground System : 120 radials per tower, No. 10 AWG bare, soft-drawn copper wire, uniformly spaced every three degrees, buried approx. 8" in ground, bonded along line between towers. Maximum length : 500 ft.

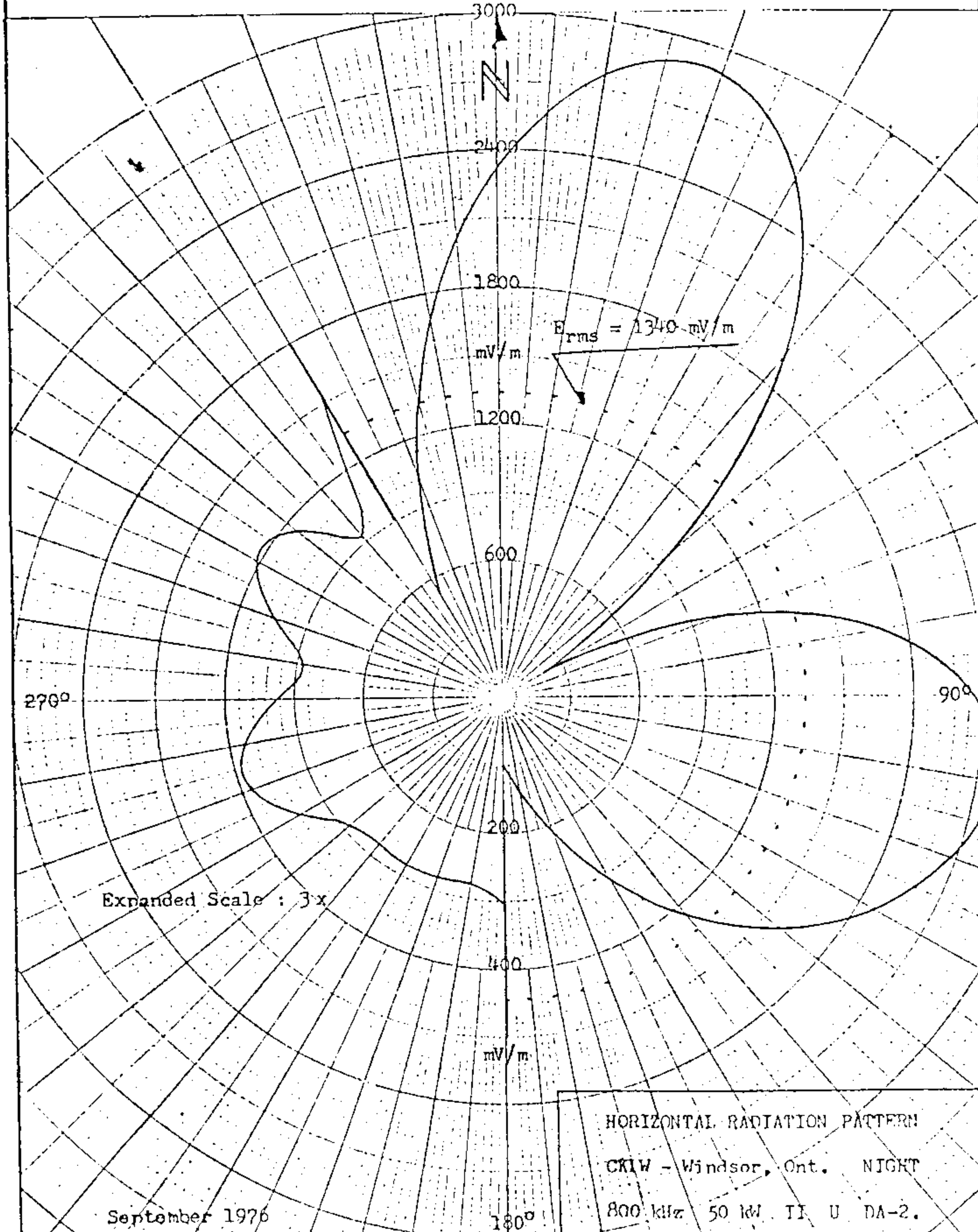
Predicted Effective Field : 1173.0 mV/m at 1 mile for 50 kW DAY
165.9 mV/m at 1 mile for 1 kW

1340.0 mV/m at 1 mile for 50 kW NIGHT
189.5 mV/m at 1 mile for 1 kW

CTR NO 10180A3

CKLW

CKLW - Windsor, Ont. 7r



HORIZONTAL RADIATION PATTERN

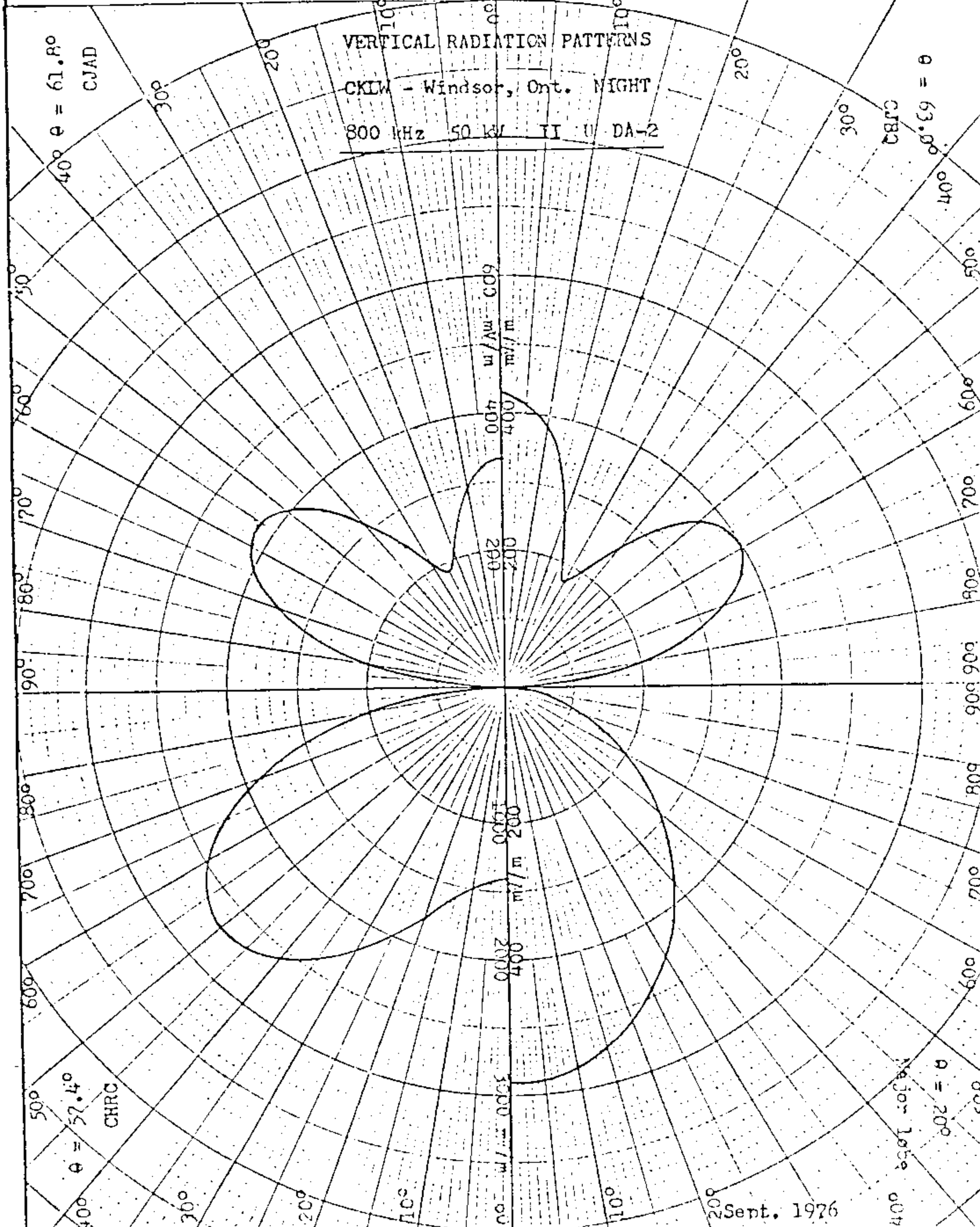
CKLW - Windsor, Ont. NIGHT

800 kHz 50 kW II U DA-2.

PETER CAHN & ASSOCIATES

CKLW

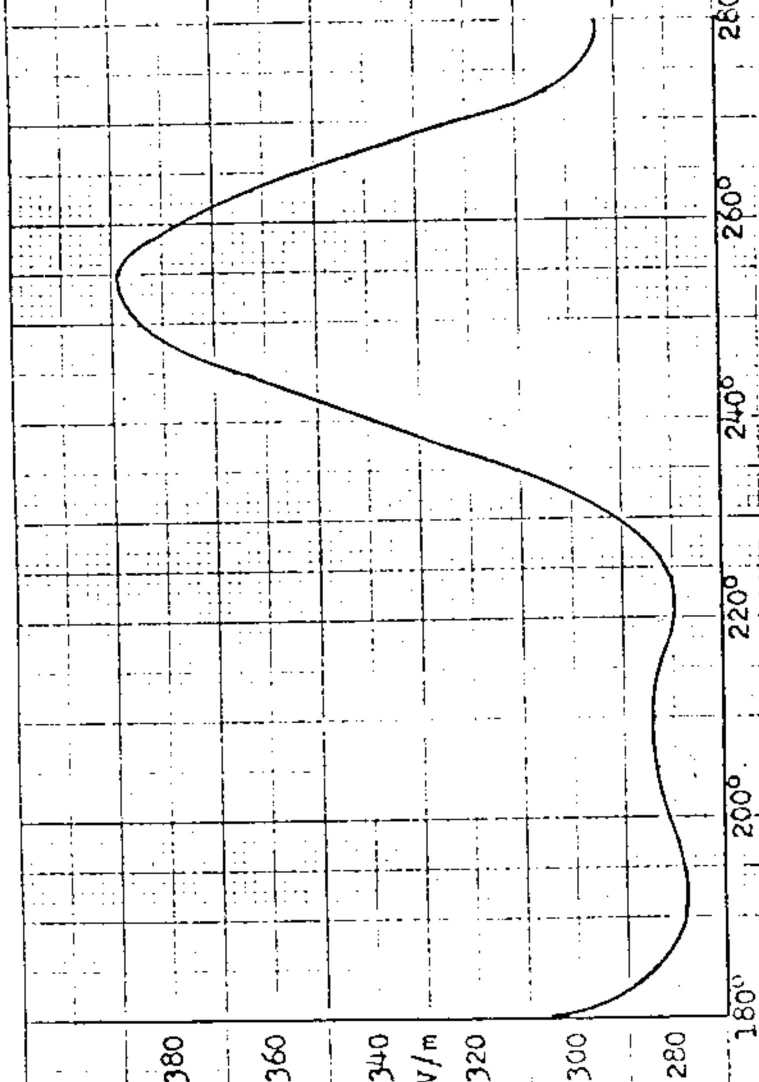
CKLW - Windsor, Ont. 8&9r



CKLW

CKLW - Windsor, Ont. 10r

Section 3.2 : Section of Radiation Pattern from Azimuth 180° to 280° at Pertinent Angle of 0° towards Mexican Border, and Tables for Radiation at Pertinent Angles of 0.5°, 1.0° and 1.5°.



AZIMUTH	0.5	1.0	1.5
180.0	306.051	306.016	305.958
185.0	285.518	285.474	285.400
190.0	278.394	278.340	278.249
195.0	278.253	278.188	278.020
200.0	280.979	280.903	280.777
205.0	283.792	283.705	283.561
210.0	284.640	284.547	284.394
215.0	282.809	282.722	282.576
220.0	280.078	280.010	279.998
225.0	281.008	280.973	280.916
230.0	290.885	290.889	290.898
235.0	311.637	311.676	311.741
240.0	339.445	339.506	339.609
245.0	366.600	366.675	366.800
250.0	385.143	385.227	385.368
255.0	389.486	389.580	389.736
260.0	377.803	377.905	378.075
265.0	352.799	352.903	353.076
270.0	322.242	322.327	322.470

September 1976

PETER CAHN & ASSOCIATES
CONSULTING ENGINEERS

CKOK

127

DESCRIPTION SHEET
(5-28-59g)

Station CKOK 500w, 10kw-LS,U, Class II
Penticton, British Columbia, Canada 800 KC

DESCRIPTION SHEET - OMNIDIRECTIONAL ANTENNA

Station Call: CKOK

Main Studio: Penticton, B.C.

Frequency: 800 kcs.

Power: 10,000 watts Day; 500 watts Night

Class: II

Time: Unlimited

Notification List No. 127 Date: November 28, 1958

GEOGRAPHICAL LOCATION
OF THE ANTENNA SYSTEM: North Latitude: 49° 27' 45"

West Longitude: 119° 34' 33"

ANTENNA CHARACTERISTICS:

Height: 205' (65°)

Type of Element: Single element, uniform, guyed, series fed, no top loading.

Ground System: 120 radials 0.4 wavelength, buried 8" below ground.

Expected Efficiency:

570 mv/m at 1 mile for 10 KW
or: 180 mv/m at 1 mile for 1 KW

VOWR

Description Sheet
(4-29-68ct)

Station VOWR
St. John's, Newfoundland

1kw,U,Class II
800 kc

DESCRIPTION SHEET - OMNIDIRECTIONAL ANTENNA

Station Call: VOWR

Main Studio: St. John's, Newfoundland

Frequency: 800 KC.

Power: 1 KW

Class: II

Time: U

Notification Reference: #241 Date: March 26, 1968.

Geographical Location:

North Latitude: 47° 34' 19"

West Longitude: 52° 45' 14"

Antenna Characteristics:

Height: 200 ft. 60 degrees

Expected Efficiency: 190 mv/m at 1 mi. for 1 Kw.

Ground System:

120 equally spaced radials of No. 10 B. & S. bare copper extending to a length of 492 ft. and buried approximately 8 inches.

Type of Elements:

One, square, uniform cross-section, guyed, insulated from ground, series fed, no top loading.

VOWR
800

AIR SERVICES
TELECOMMUNICATIONS DIVISION

5-10-285

CANADA

DEPARTMENT OF TRANSPORT

REFER TO FILE NUMBER

Oficina Interamericana de Radio (OIR)
OIR/NARBA 1440 Canada/R.
La Habana. 17. XII. 53 -

DESCRIPTIVE SHEET - OMNIDIRECTIONAL ANTENNA

Station Call: VOWR

Main Studio: St. John's, Newfoundland

Frequency: 800 KC.

Power: 1 KW

Class: II

Time: U

Notification Reference: #79 Date: October 26, 1953.

Geographical Location:

North Latitude: 47° 34' 17"

West Longitude: 52° 45' 20"

Antenna Characteristics:

Height: 200 Ft. 60 degrees

Expected Efficiency: mv/m at 1 mi. for KW
or: 190 mv/m at 1 mi. for 1 Kw

Ground System:

120 equally spaced radials of No. 10 B. & S. bare copper extending to a length of 492 ft. and buried approximately 8 inches.

Type of Elements:

One, square, uniform cross-section, guyed, insulated from ground, series fed, no top loading.

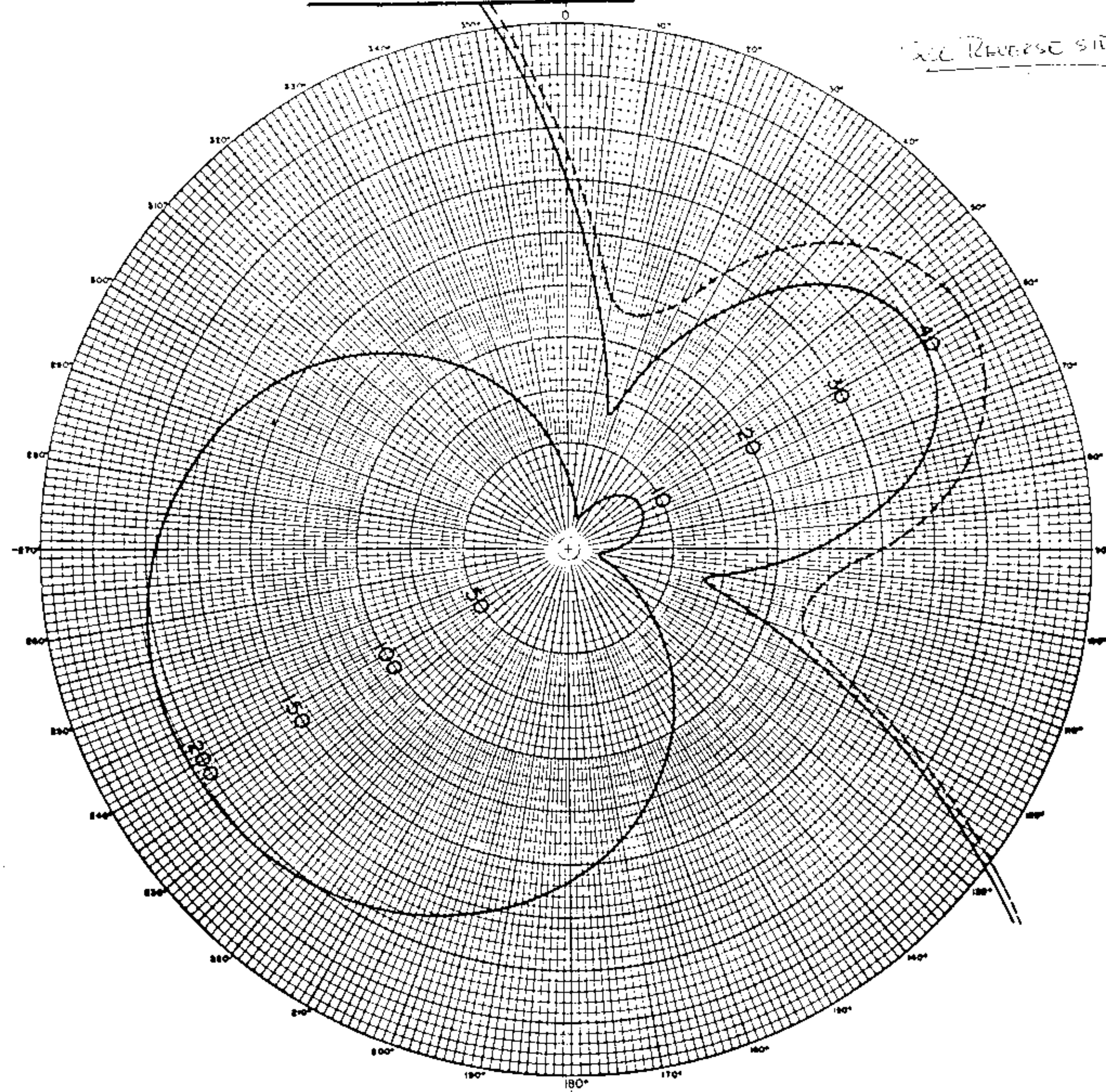
KQAD

Proposed Day
(2-28-68ct)

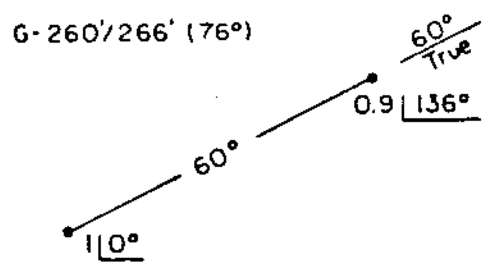
SIOUXLAND BROADCASTING, INC.
New; ~~Sioux Land Communications~~
Luverne, Minnesota

500w,DA-D,D
800 kc

See Reverse Side



HORIZONTAL RADIATION PATTERN



APPLICANT	Sioux Land Communications
LOCATION	Luverne, Minnesota
FREQUENCY	800 KC/S
POWER	0.5 KW
LATITUDE	43 DEG 39 MIN. 01 SEC.
LONGITUDE	96 DEG 10 MIN. 19 SEC.
WHEN USED	Daytime
R.M.S. FIELD	127 MV/M
DATE	November 24 th, 1967

RALPH J. BITZER
CONSULTING RADIO ENGINEERS

FCC File No.BP-17996
Accepted 2-9-68

New; Sioux Land Communications
Luverne, Minnesota

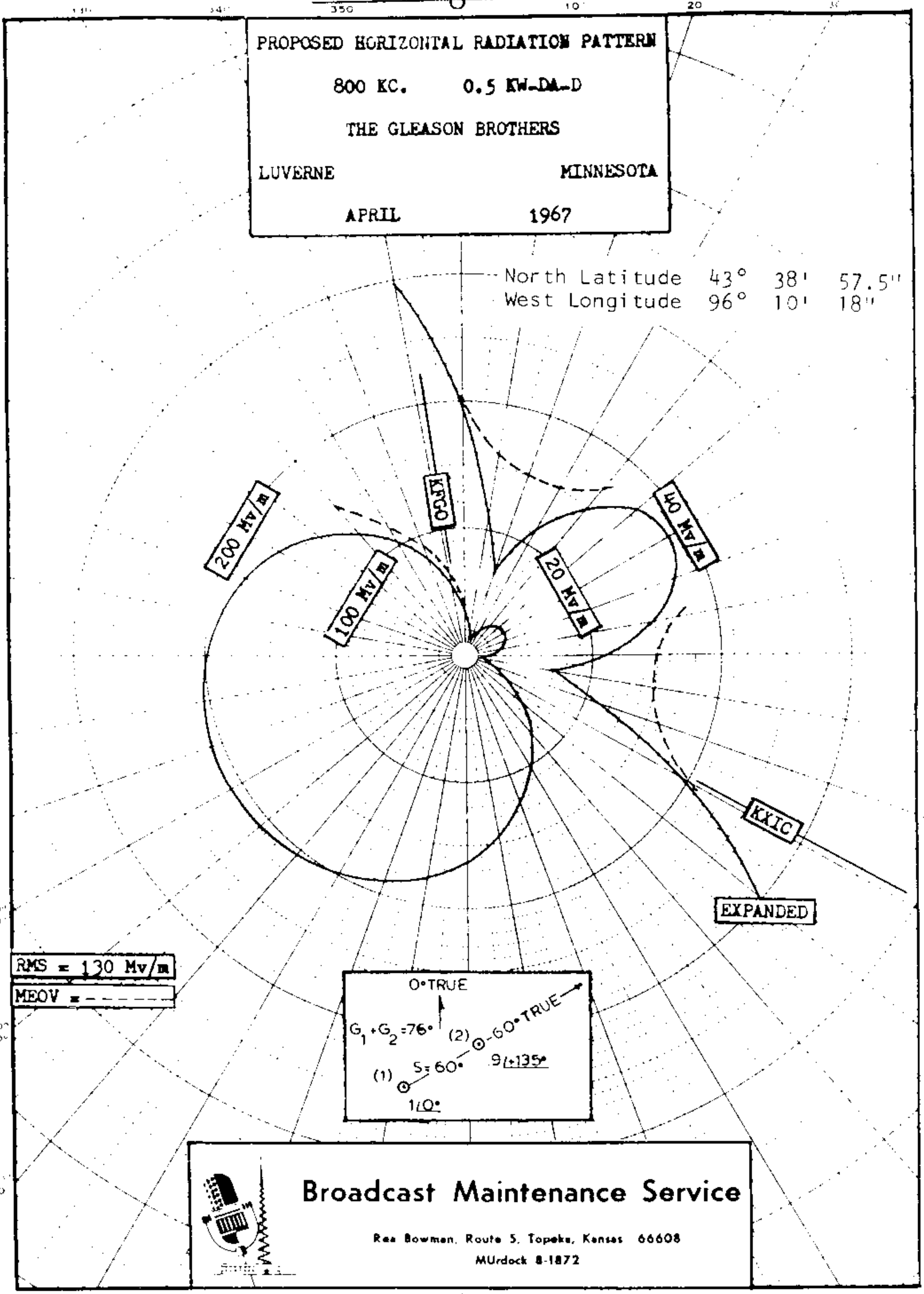
800 kc

KQAD

Proposed Day
(9-28-67ct)

New; Gleason Brothers
Luverne, Minnesota

500w,DA-D,D
800 kc



FCC File No.BP-17755
Accepted 9-5-67

New; Gleason Brothers
Luverne, Minnesota

800 kc

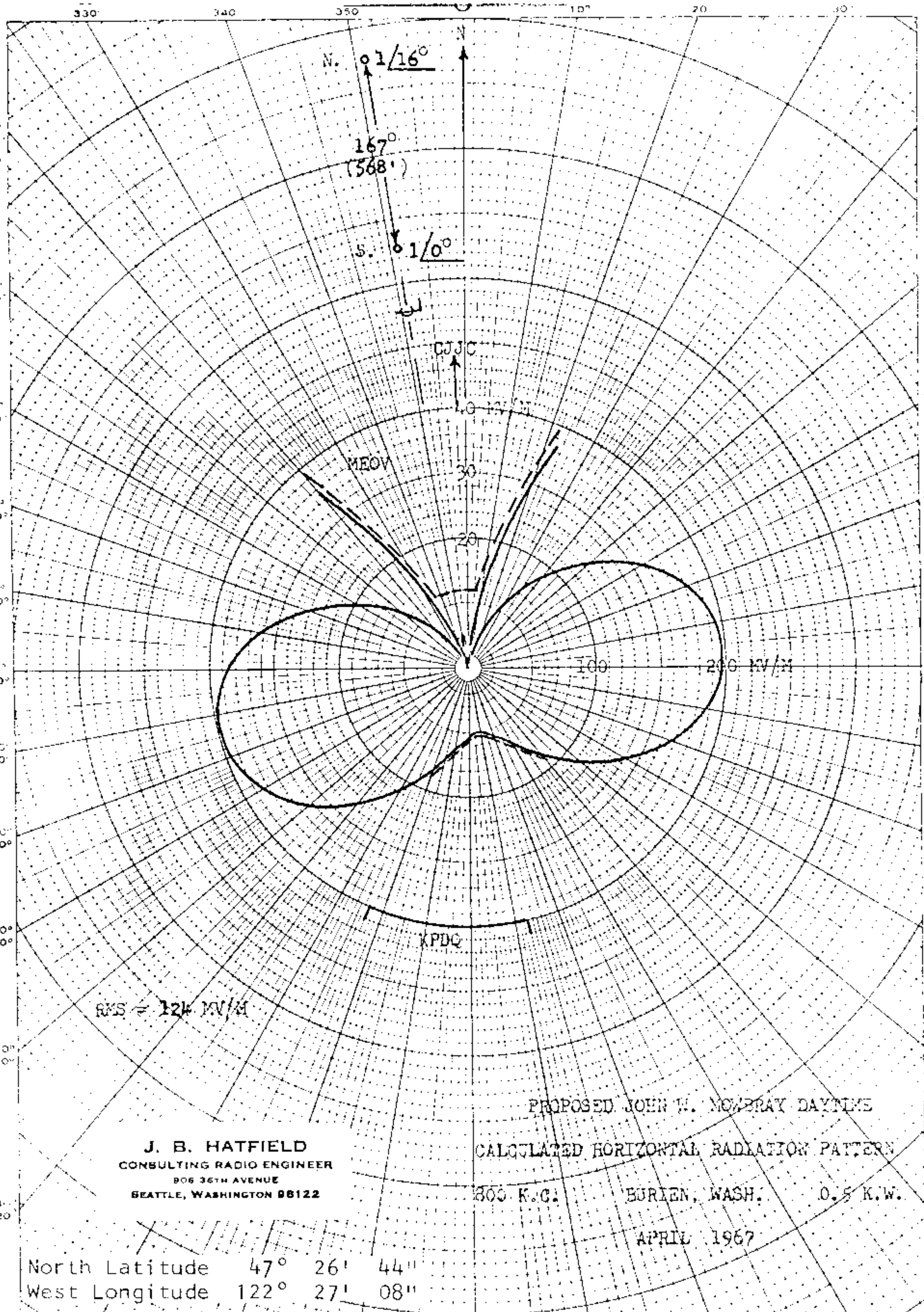
KQIN

Proposed Day (6-28-67c.t) | New; Suburban Broadcasters Burien, Washington | 500w, DA-D, D 800 kc

5-8-68 GRANTED CP for NEW AM STATION

EUGENE DIETZGEN CO. MADE IN U. S. A.

NO. 340-P DIETZGEN GRAPH PAPER POLAR CO-ORDINATE



FCC File No. BP-15077
Accepted 6-8-67 Amended

New; Suburban Broadcasters
Burien, Washington

800 kc

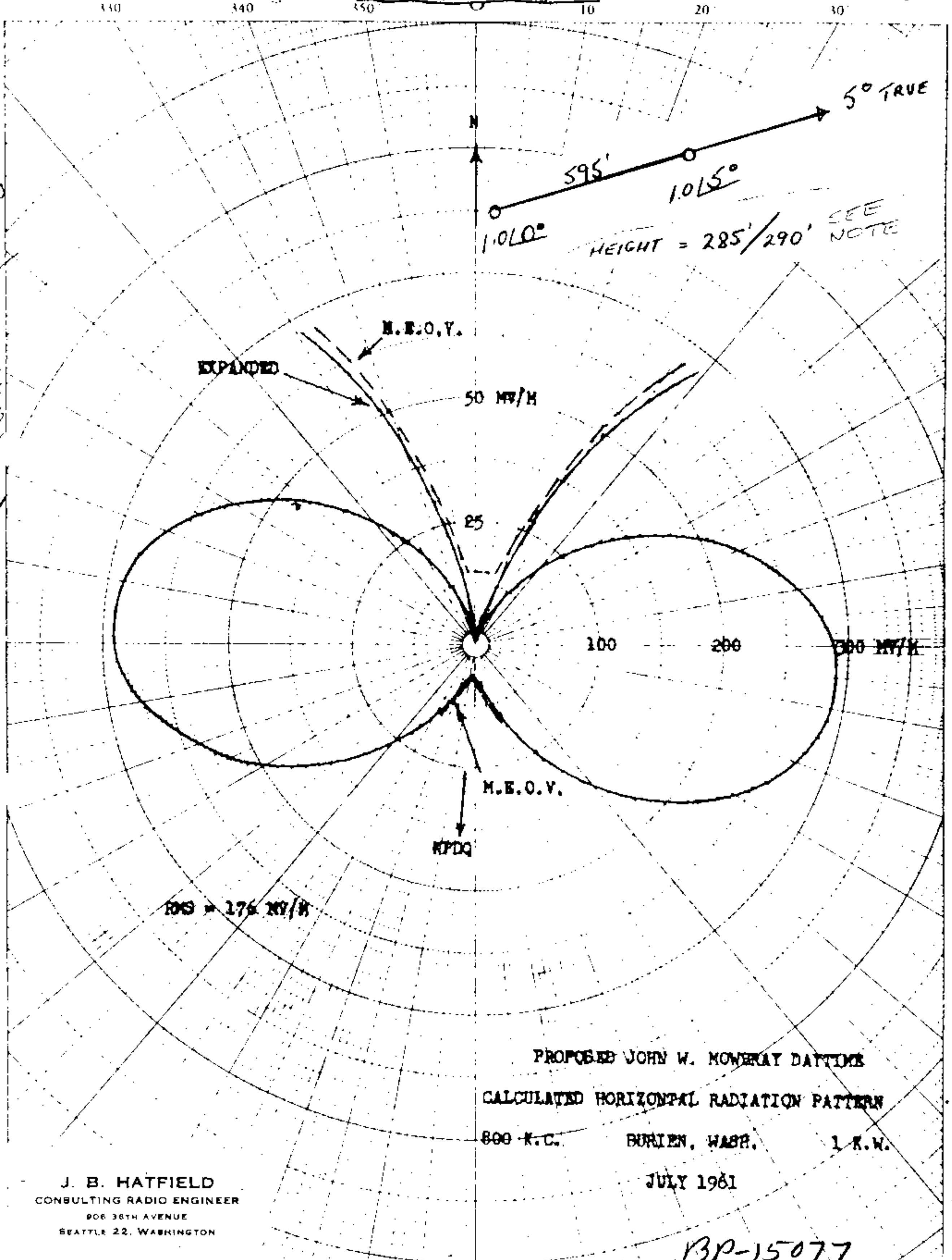
KQIN

PROPOSED DAY
(10-25-61ct)

New; Suburban Broadcasters
Burien, Washington

1kw,DA-D,D
800 kc

BP-15077
AMENDED
12-10-64
INCR. HT TO
295'/300'
AMENDED
1-5-66
47°26'44
122 27 08
OVER



FCC File No. BP-15077
Accepted 9-20-61

New; Suburban Broadcasters
Burien, Washington

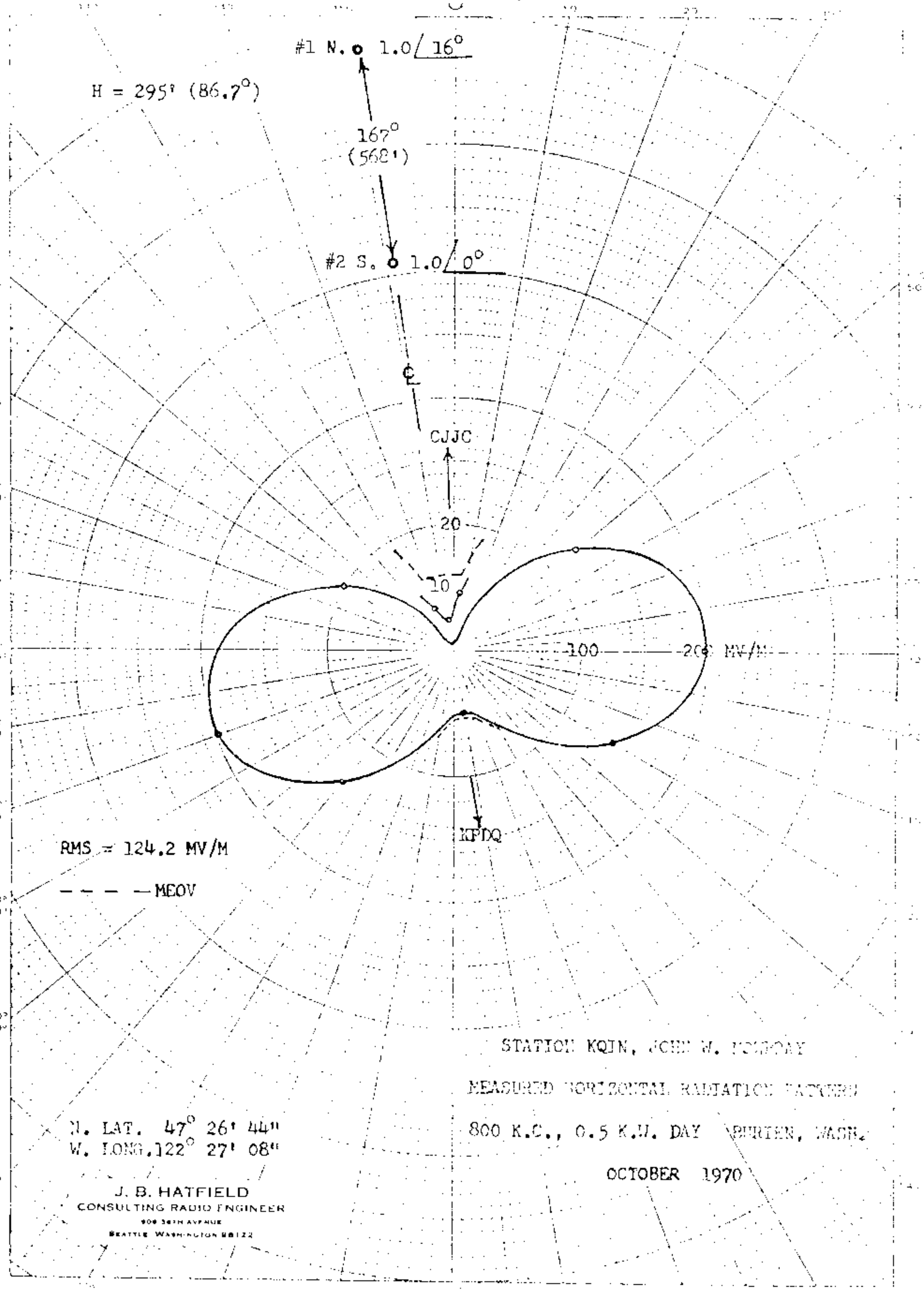
800 kc

KQIN

Measured Day
(11-24-70ct)

Station KQIN
Burien, Washington

500w, DA-D, D
800 kc



FCC File No. BL-12792
Accepted 11-20-70

Station KQIN
Burien, Washington

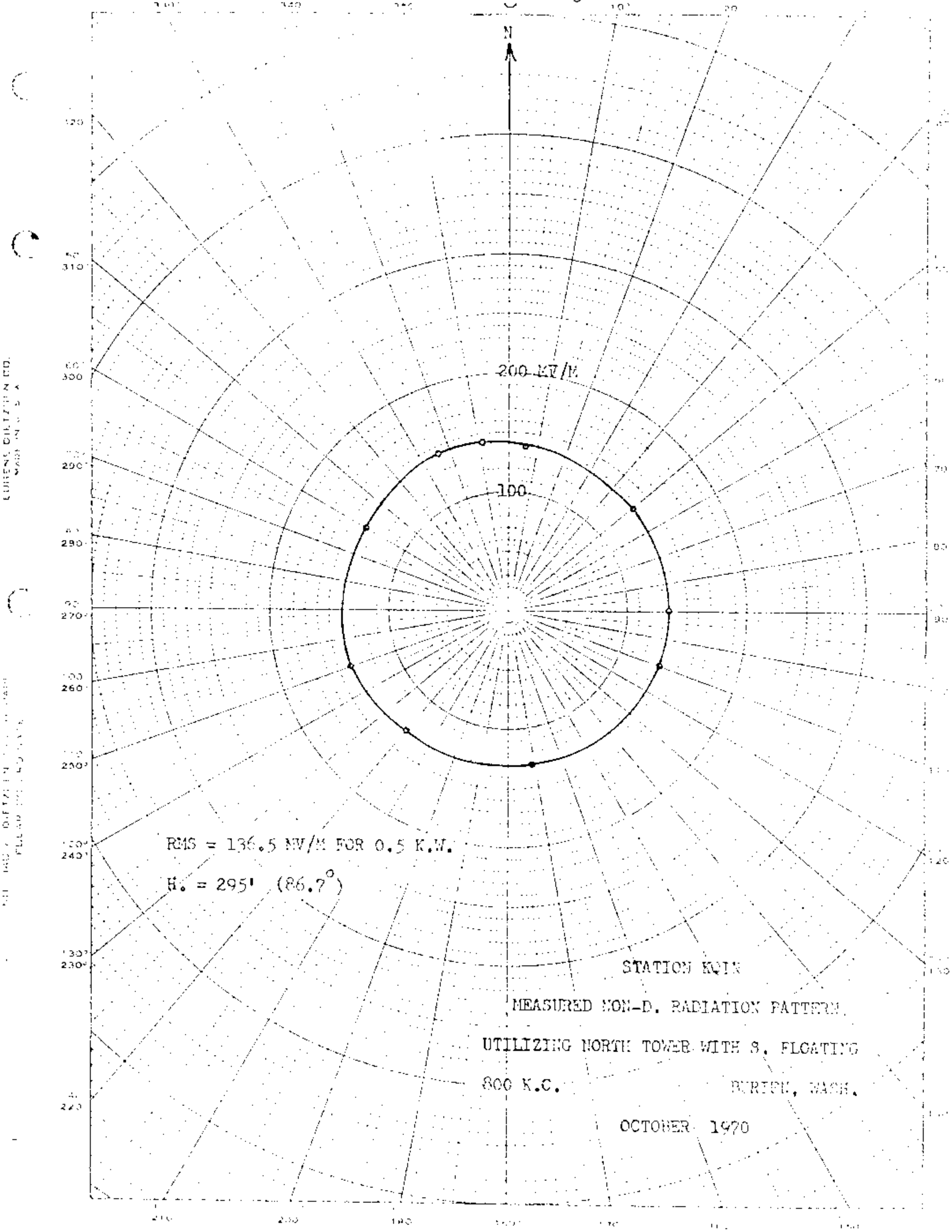
800 kc

KQIN

Measured Non-DA
(11-24-70ct)

Station KQIN
Burien, Washington

500w,DA-D,D
800 kc



FCC File No.BL-12792
Accepted 11-20-70-

Station KQIN
Burien, Washington

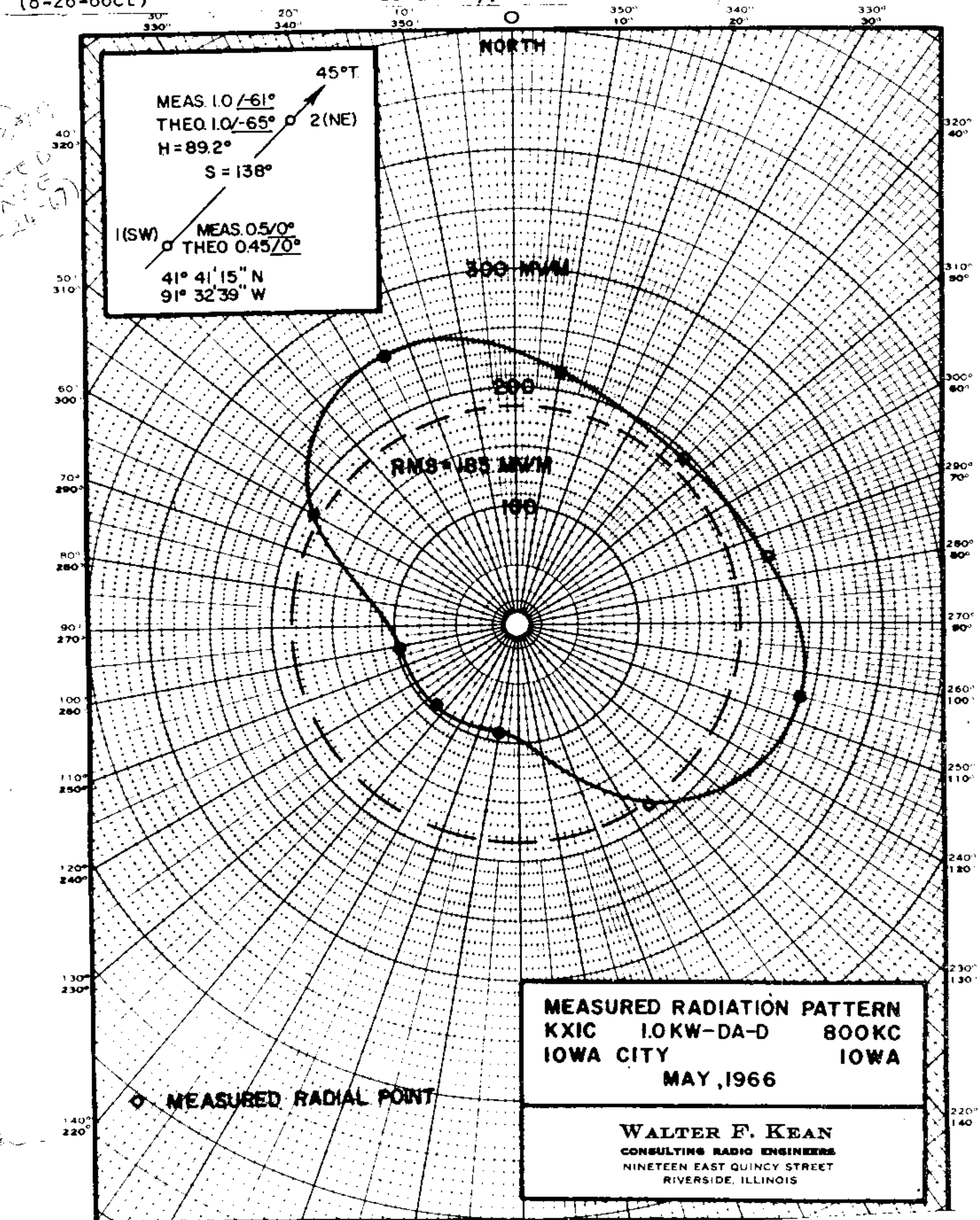
800 kc

KXIC

Measured Day
(8-26-66ct)

Station KXIC
Iowa City, Iowa

1kw,DA-D,D
800 kc



FCC File No. BL-11379
Accepted 8-18-66

Station KXIC
Iowa City, Iowa

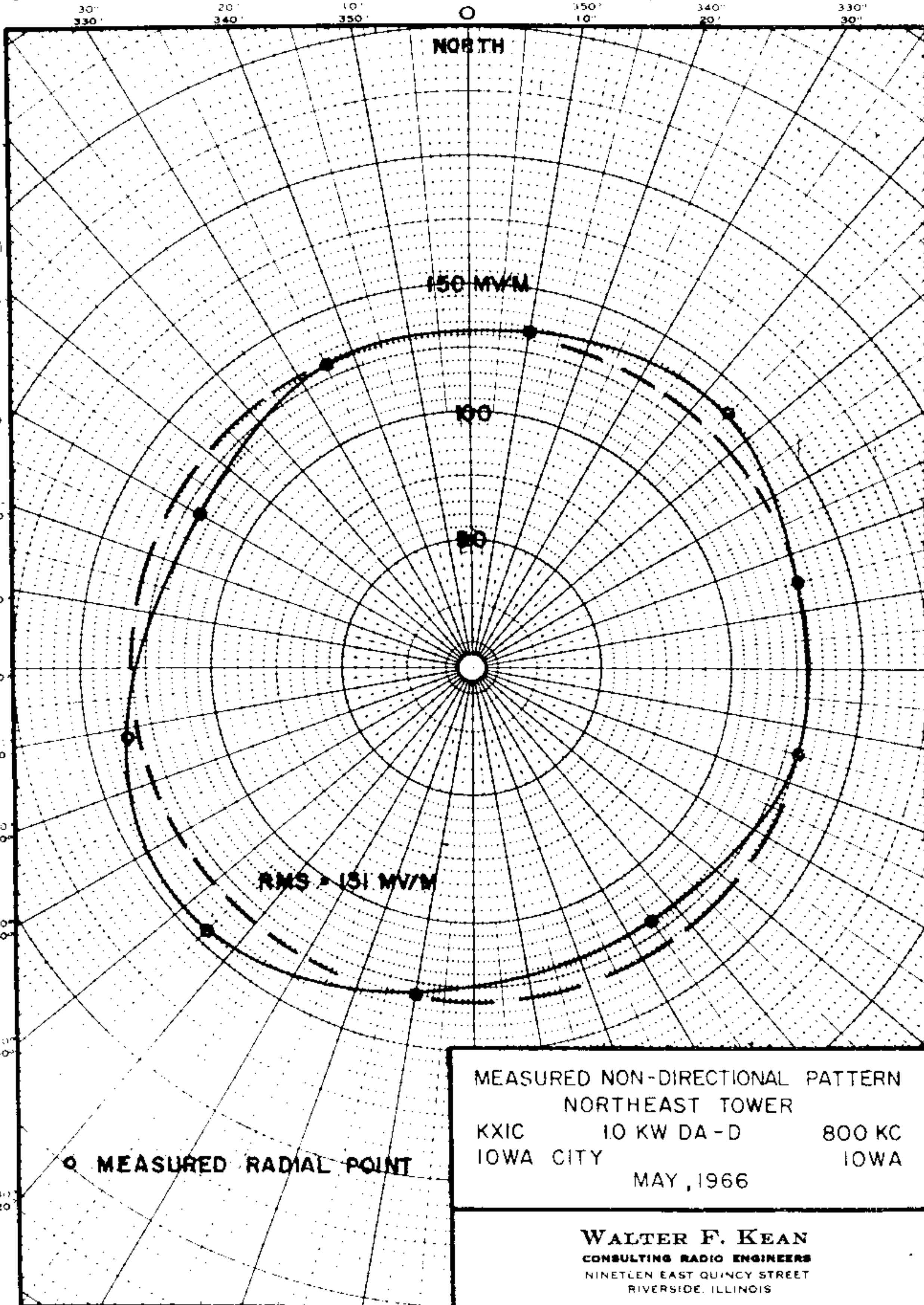
800 kc

KXIC

Measured ~~Day~~ ND (8-26-66ct)

Station KXIC
Iowa City, Iowa

1kw,DA-D,D
800 kc



MEASURED NON-DIRECTIONAL PATTERN
NORTHEAST TOWER
KXIC 1.0 KW DA-D 800 KC
IOWA CITY IOWA
MAY, 1966

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

FCC File No. BL-11379
Accepted 8-18-66

Station KXIC
Iowa City, Iowa

800 kc

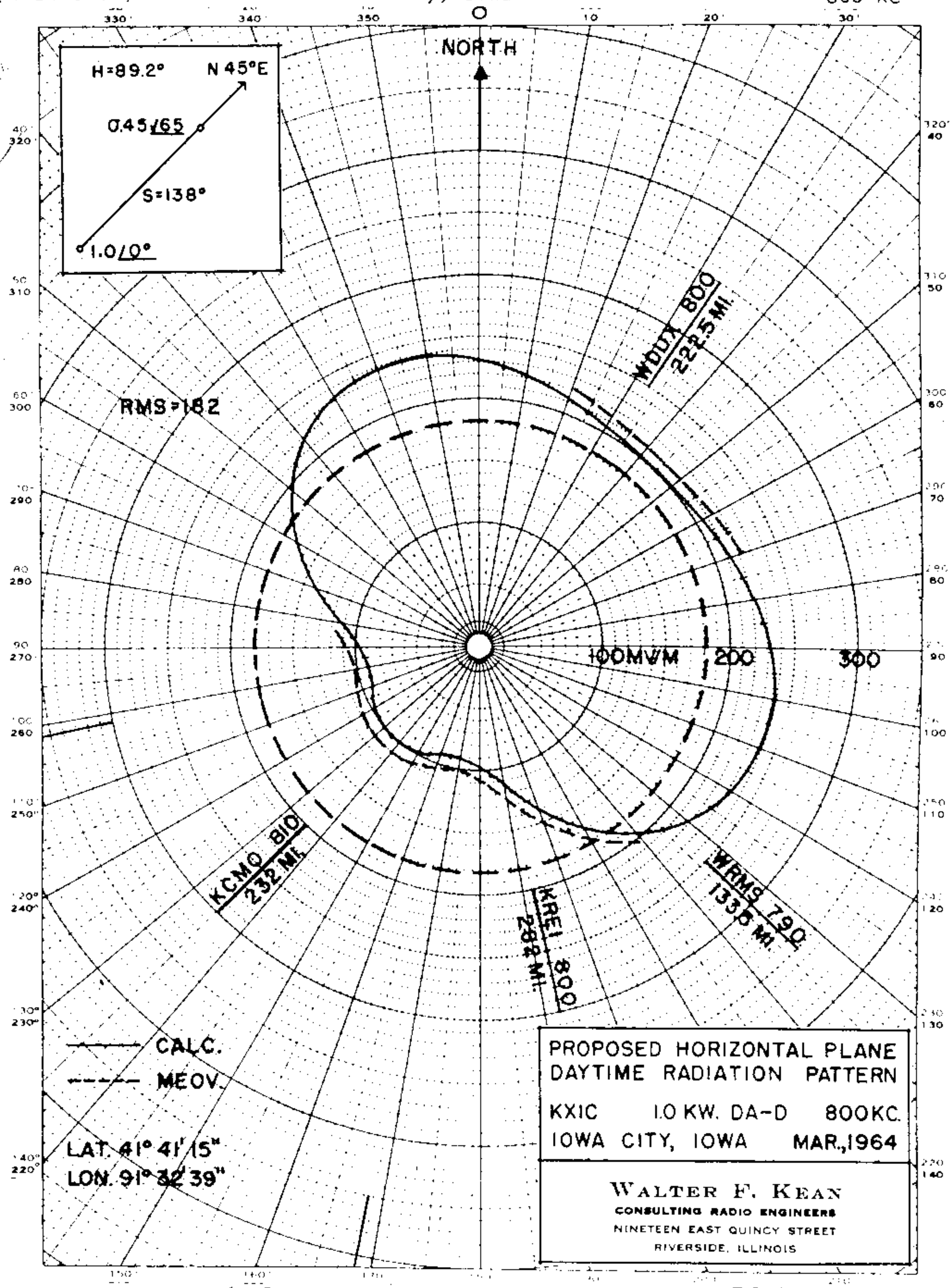
KXIC

Proposed Day
(4-24-64ct)

Station KXIC
Iowa City, Iowa

1kw,DA-D,D
800 kc

HW 41
change DA
GR. APPL.
4-27-66
CHG DA
BP 17165



FCC File No. BP-~~16138~~ BP17165
Accepted 4-14-64

Station KXIC
Iowa City, Iowa

FIG. 1

800 kc

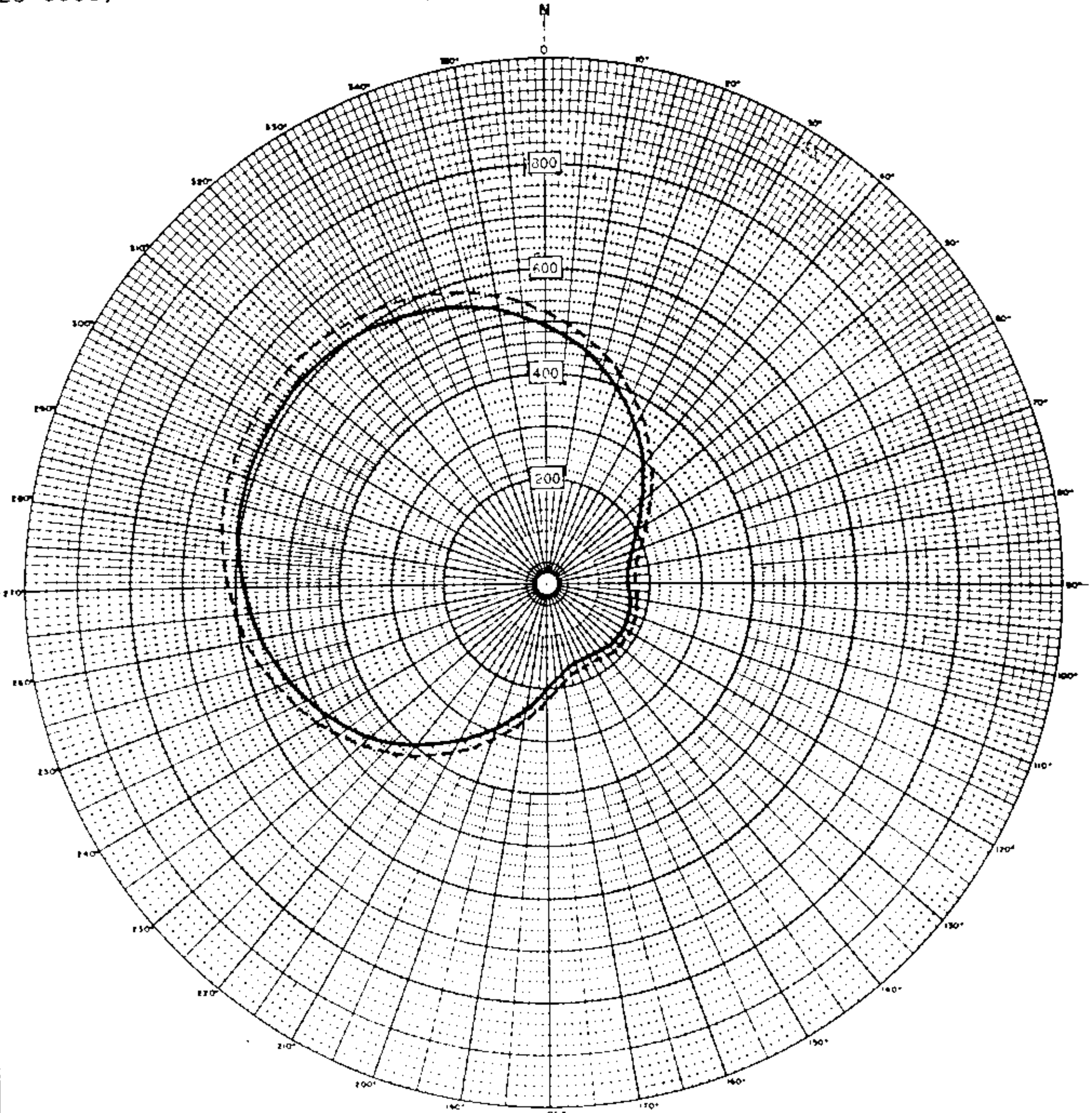
WDUX

Proposed Day
(10-28-66ct)

BP 17381
CP 11-17-66

Station WDUX
Waupaca, Wisconsin

5kw,DA-D,D
800 kc



E_{RMS} = 404 mv/m

LATITUDE: 44° 21' 15" LONGITUDE: 89° 03' 29"	ANTENNA PARAMETERS	660722 FIGURE 2 RADIO STATION WDUX WAUPACA, WISCONSIN 800 KC 5000 DA-D PROPOSED HORIZONTAL PATTERN
CHARLES E. BRENNAN CONSULTING RADIO ENGINEERS MILWAUKEE, WISCONSIN	$G_1 = G_2 = 76°$ N 300° E 2 O 0.65/-130° S = 60° 1 O 1.0/0°	

FCC File No.BP-17381
Accepted 10-7-66

Station WDUX
Waupaca, Wisconsin

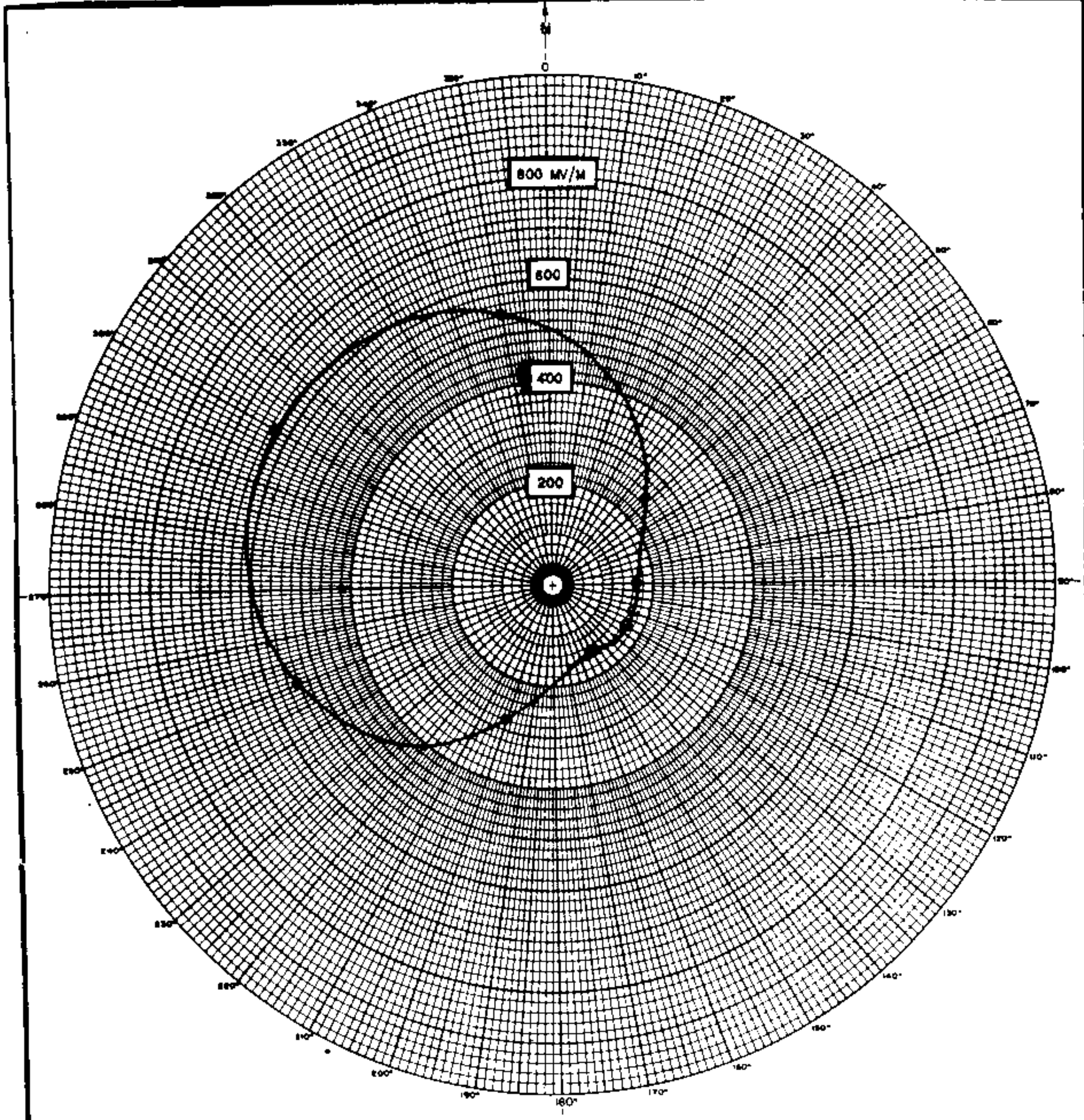
800 kc

WDUX

Measured Day
(2-28-67ct)

Station WDUX
Waupaca, Wisconsin

5kw,DA-D,D
800 kc



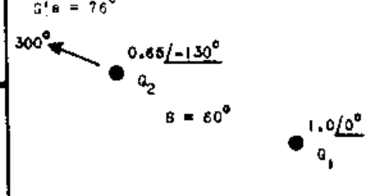
E_{RMS} = 404 MV/M

LATITUDE: 44° 21' 15"

LONGITUDE: 89 03' 29"

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

ANTENNA PARAMETERS



MEASURED DIRECTIONAL ANTENNA PATTERN
RADIO STATION WDUX
WAUPACA, WISCONSIN

800 KC 5000 DA-D

661202 FIGURE 2

FCC File No.BL-11553
Accepted 2-13-67

Station WDUX
Waupaca, Wisconsin

800 kc

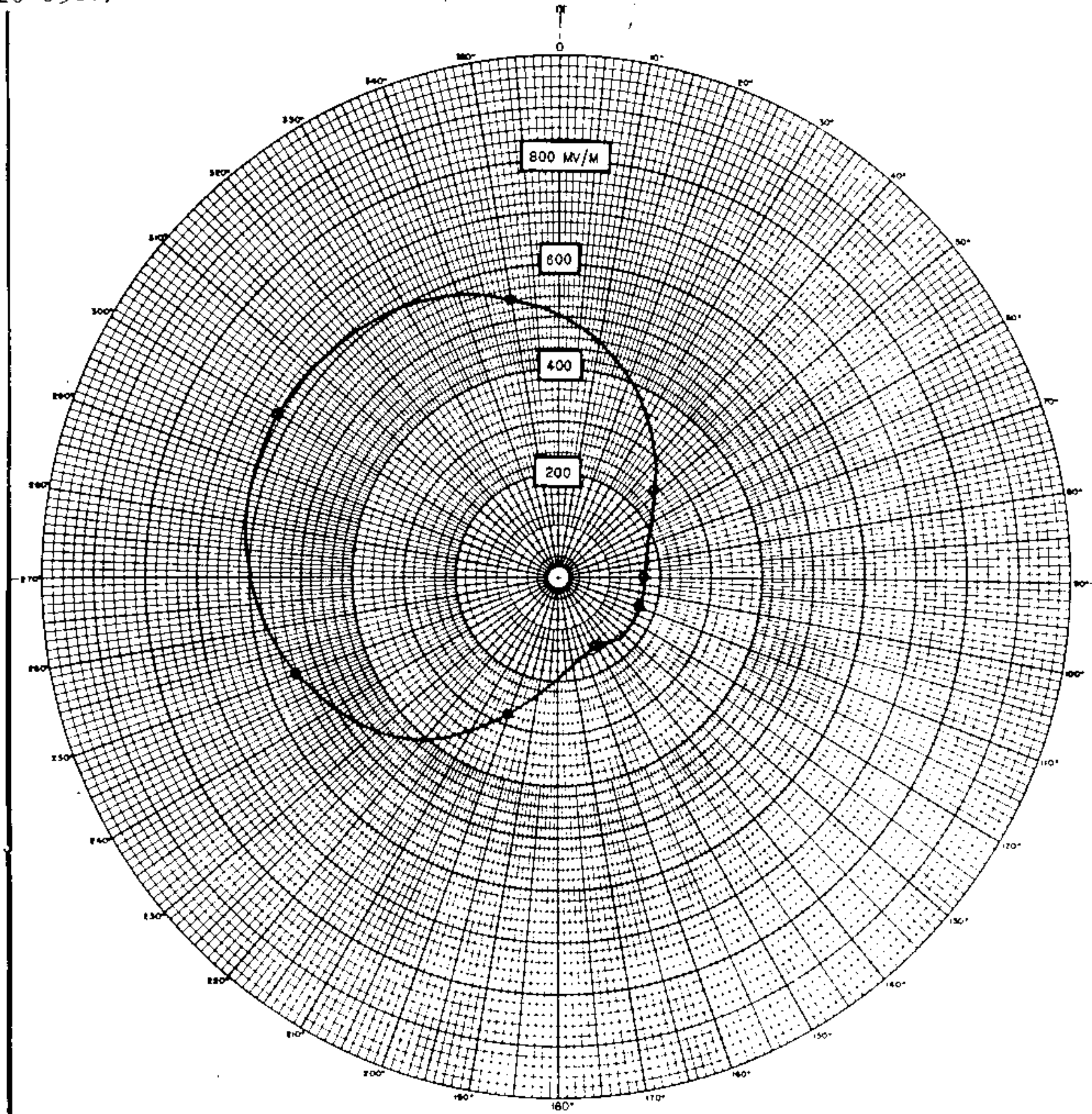
WDUX

Measured Day
(3-26-65ct)

Lic. 7-30-65
INCR. PWR
DA-D
CHG. LOG

Station WDUX
Waupaca, Wisconsin

5kw,DA-D,D
800 kc



E_{RMS} = 404 MV/M

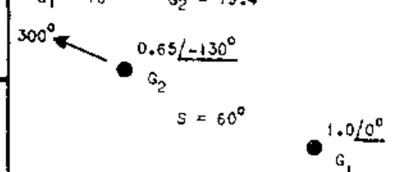
LATITUDE: 44° 21' 15"

LONGITUDE: 89 03' 29"

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

ANTENNA PARAMETERS

$G_1 = 76°$ $G_2 = 79.4°$



MEASURED DIRECTIONAL ANTENNA PATTERN
RADIO STATION WDUX
WAUPACA, WISCONSIN

800 KC 5000 DA-D

641116 FIGURE 3

FCC File No. BL-10815
Accepted 3-17-65

Station WDUX
Waupaca, Wisconsin

800 kc

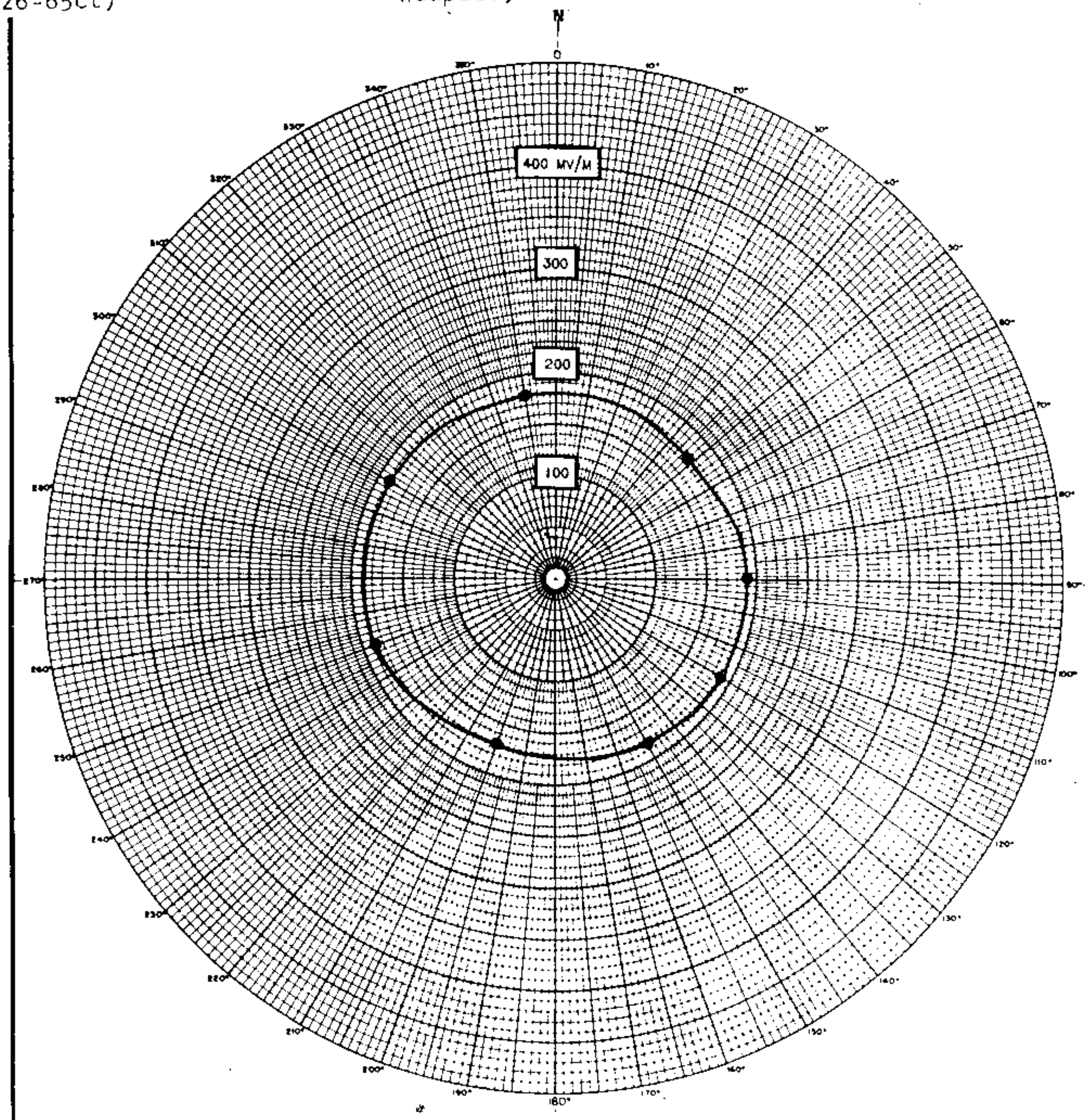
WDUX

Measured Non-DA
(3-26-65ct)

Station WDUX
Waupaca, Wisconsin

5kw,DA-D,D
800 kc

JC 7-30-65
NCR PWR
DA-D
CHG LOC



E_{RMS} = 182 MV/M

LATITUDE: 44° 21' 15" LONGITUDE: 89° 03' 29"	**ANTENNA PARAMETERS** G_2 = 79.4° 300° ● 2 O 1 MEASURED WITH 1000 WATTS INPUT TO G_2	MEASURED NON-DIRECTIONAL ANTENNA PATTERN RADIO STATION WDUX WAUPACA, WISCONSIN 800 KC 5000 DA-D 641116 FIGURE 2
CHARLES E. BRENNAN CONSULTING RADIO ENGINEERS MILWAUKEE, WISCONSIN		

FCC File No. BL-10815
Accepted 3-17-65

Station WDUX
Waupaca, Wisconsin

800 kc

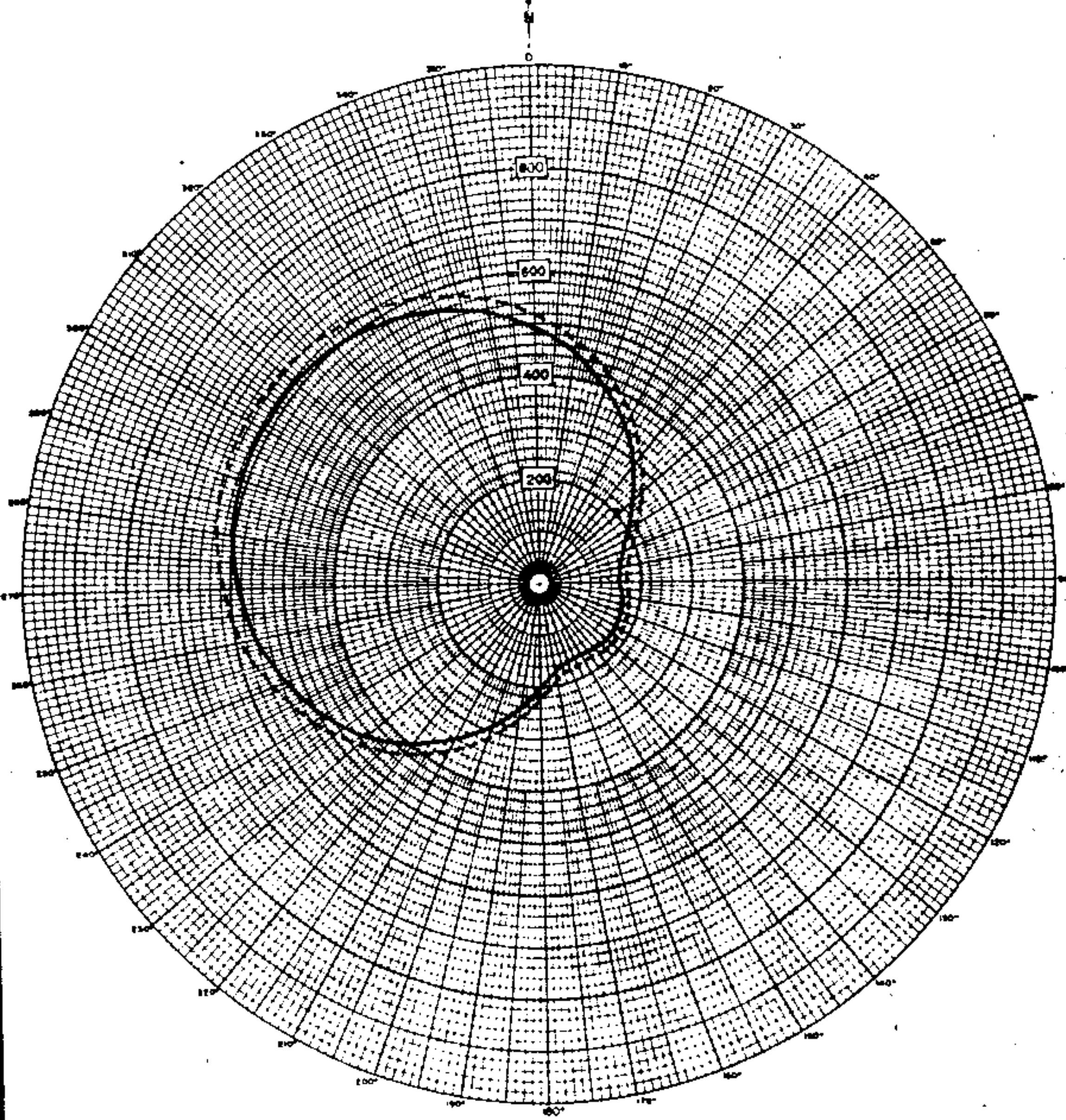
WDUX

Proposed Day
(11-27-64ct)

Station WDUX
Waupaca, Wisconsin

5kw,DA-D,D
800 kc

11-20-64 granted MCP to change ∇ xmtr site



E_{RMS} = 404 MV/M

SUPERSEDES PATTERN 640211

LATITUDE 44° 21' 15" LONGITUDE 89° 03' 29"	ANTENNA PARAMETERS	641014	FIGURE 7
CHARLES E. BRENNAN CONSULTING RADIO ENGINEERS MILWAUKEE, WISCONSIN	G_2 = 73.4° G_1 = 76° N 300° E 2 ⊙ 0.65/-130° S = 60° 1 ⊙ 1.0/0°	RADIO STATION WDUX WAUPACA, WISCONSIN 800 KC 5000 DA-D PROPOSED HORIZONTAL PATTERN	

FCC File No. BMP-11357
Accepted 11-13-64

Station WDUX
Waupaca, Wisconsin

800 kc

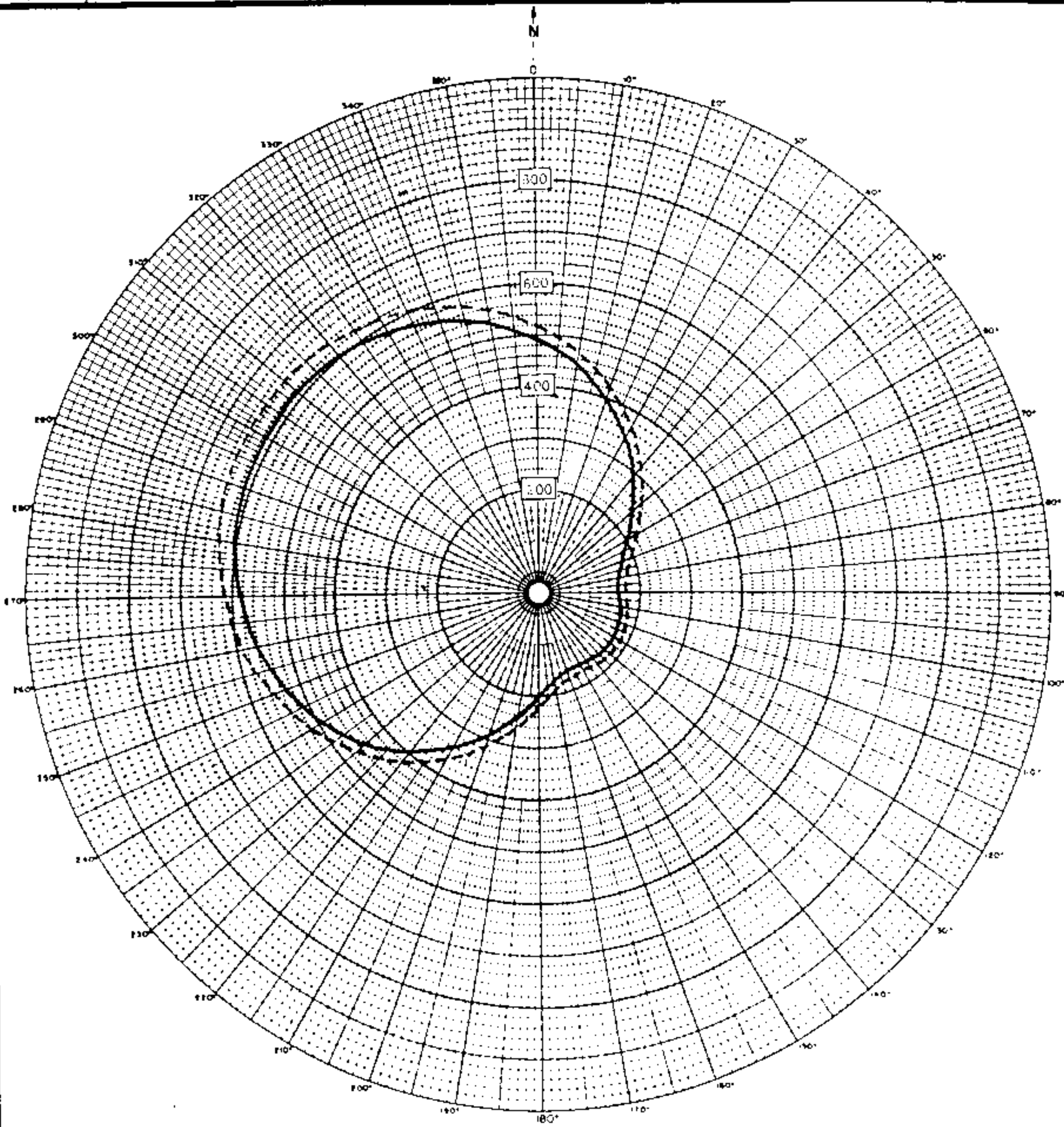
WDUX

Proposed Day
~~(3-30-64ct)~~ DELETE
(11 27 64ct)

BETTER PRINT THAN 11-27-64ct

Station WDUX
Waupaca, Wisconsin

5kw,DA-D,D
800kc



E_{RMS} = 404 mv/m

SUPERSEDES PATTERN 30705

LATITUDE 44° 21' ~~16"~~ 15

LONGITUDE 89° 03' ~~3"~~ 29

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

ANTENNA PARAMETERS

G_1 = 79.4° G_2 = 70°

N 300° E

2 O 0.85/-130°

S = 60°

1 O 1.0/0°

640211 FIGURE 7

RADIO STATION WDUX
WAUPACA, WISCONSIN

800 KC 5000 DA-D

PROPOSED HORIZONTAL PATTERN

FCC File No. BP-14278
Accepted 3-13-64 Amended

Station WDUX
Waupaca, Wisconsin

800kc

WKVE

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: (New) Main Studio: Cave City, Kentucky

Frequency: 800 kHz Power: 0.25 kW

Notification List No. 1604 Date: October 30, 1974 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 37° 07' 23"
West Longitude: 85° 58' 03"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D) STANDARD PATTERN
Number of elements: 2
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel tower.

TOWER:	W(#1)	E(#2)
HEIGHT ABOVE INSULATORS:	280'	280' (82°)
PHASING:	0°	+160°
FIELD RATIO:	1	0.65

SPACING AND ORIENTATION: Elements are spaced 170.9' (50°) on a line bearing 80° true.

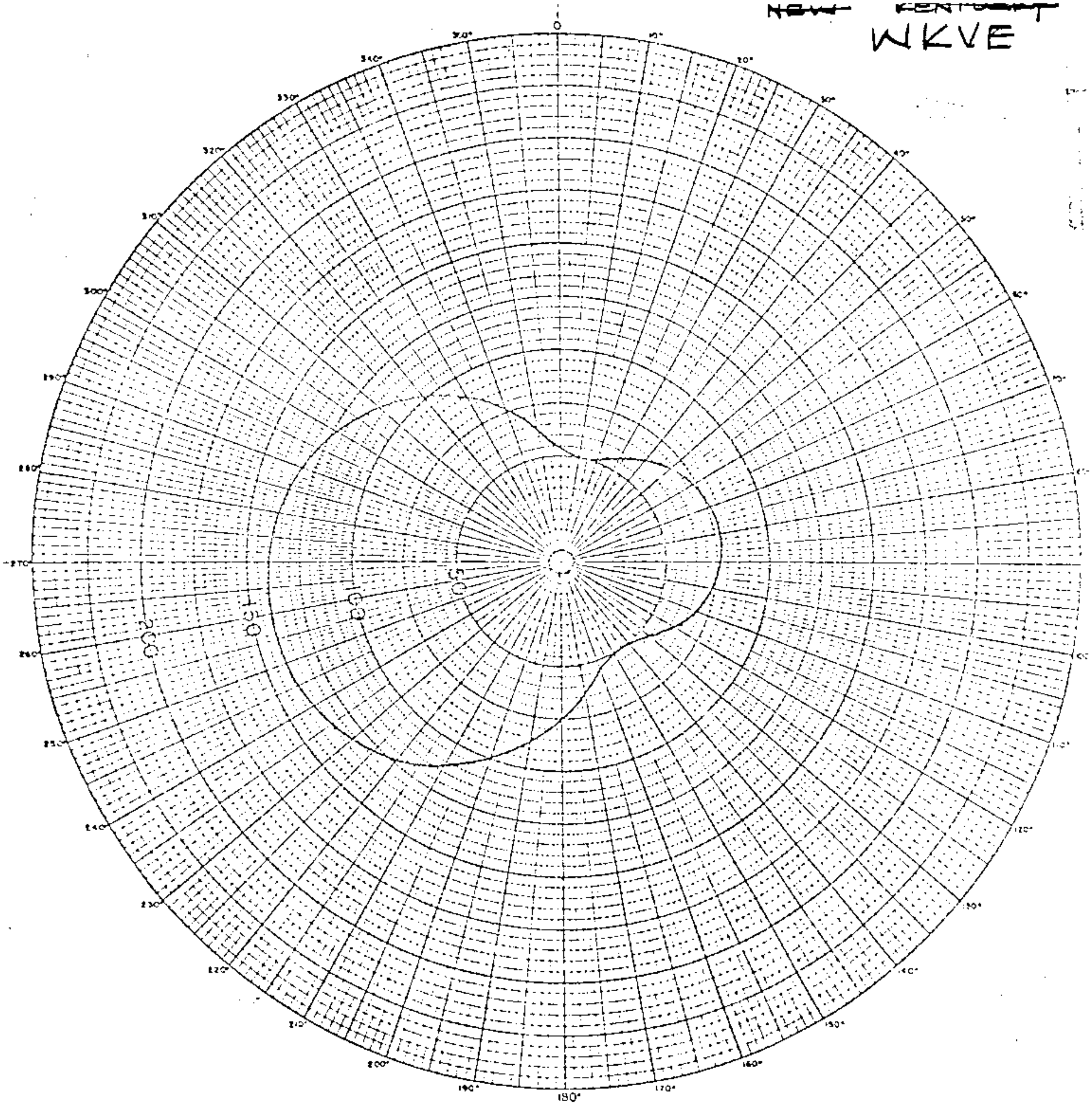
GROUND SYSTEM: 120-180' to 280' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
88.0 mv/m	97.9 mv/m	92.7 mv/m

COHEN AND DIPPELL
RECEIVED
MAY 15 1975
WASHINGTON, D.C.

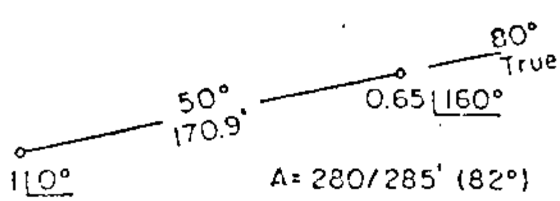
~~NEW~~ ~~KENTUCKY~~ WKVE



HORIZONTAL RADIATION PATTERN

STANDARD PATTERN

Standard Pattern RMS - 92.7 MV/M
Theoretical RMS - 88.0 MV/M
RSS - 97.9 MV/M



APPLICANT	Twin City Bcstg.
LOCATION	Cave City, Kentucky
FREQUENCY	800 KC/S
POWER	250 Watts
LATITUDE	37 DEG 07 MIN 23 SEC
LONGITUDE	85 DEG 58 MIN 03 SEC
WHEN USED	Daytime
R.M.S. FIELD	Tabulated
DATE	October 19th, 1973

Rev. May 29th, 1974

RALPH J. BITZER
CONSULTING RADIO ENGINEERS
ST. LOUIS, MISSOURI

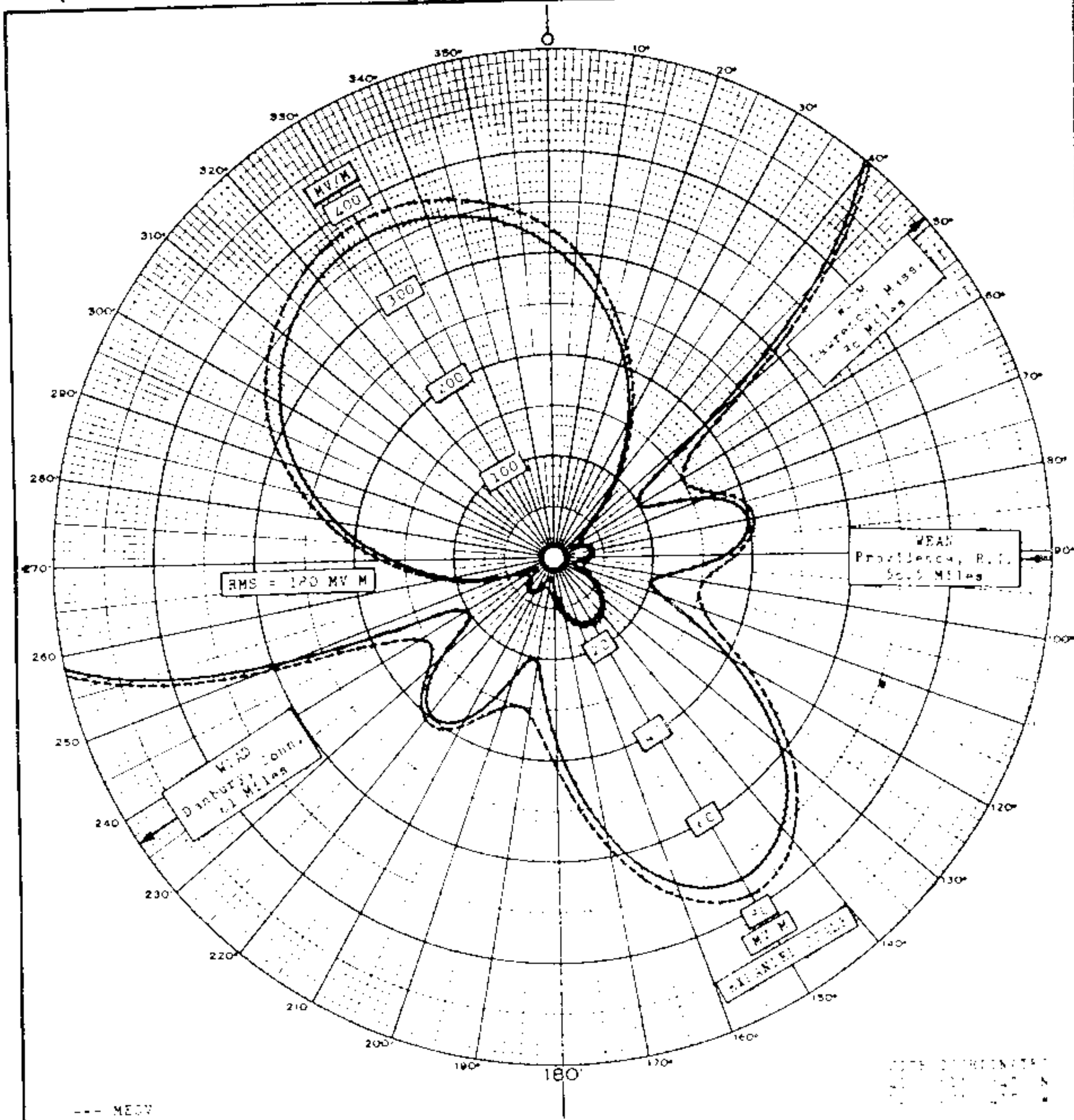
WRKV

CP 6-18-65
GR 11-10-65

PROPOSED DAY
(8-22-61ct)

New; Eaglecon
Rockville, Connecticut

1kw, DA-D,D
800 KC 7



CALCULATED HORIZONTAL PLANE RADIATION PATTERN

(1) 1/0°
S
(2) 1.80/155.8°
S
(3) 1/-56.4°
149° T

EAGLECON
ROCKVILLE, CONNECTICUT

Jules Cohen
Consulting Electronic Engineer

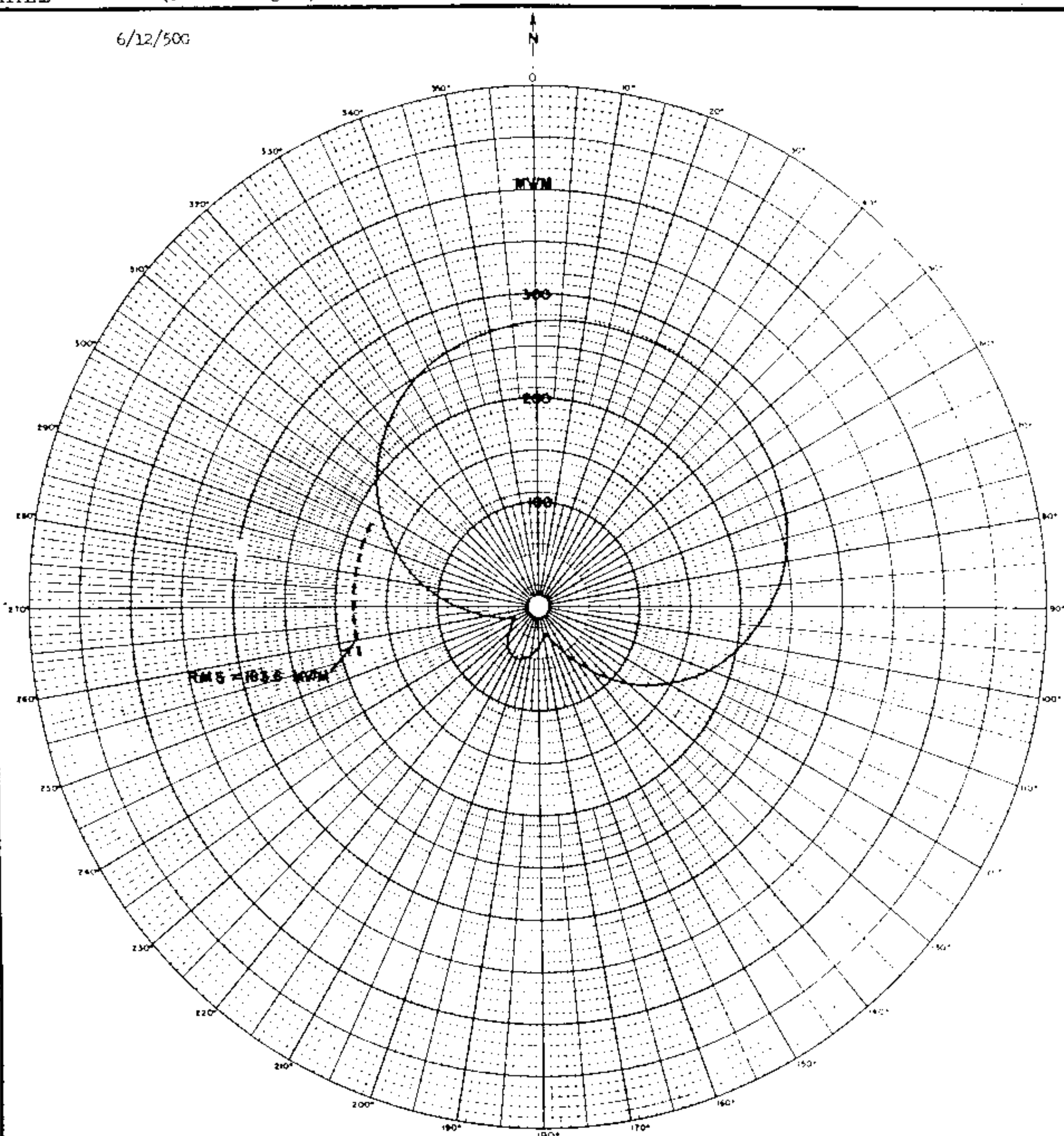
PROPOSED OPERATION
800 KC
1 KW D DA

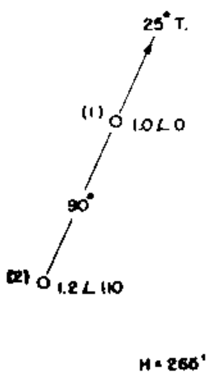
FCC File No. BP-14991
Accepted 8-14-61

New; Eaglecon
Rockville, Connecticut

800 KC

6/12/50G





LATITUDE 29° 50' 42"
LONGITUDE 90° 06' 39"

ANTENNA NUMBER	AZIMUTH DEG	SPACING DEG	PHASING DEG	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG
1	-	-	0	1.0	180	78
2	205	90	110	1.2	180	78

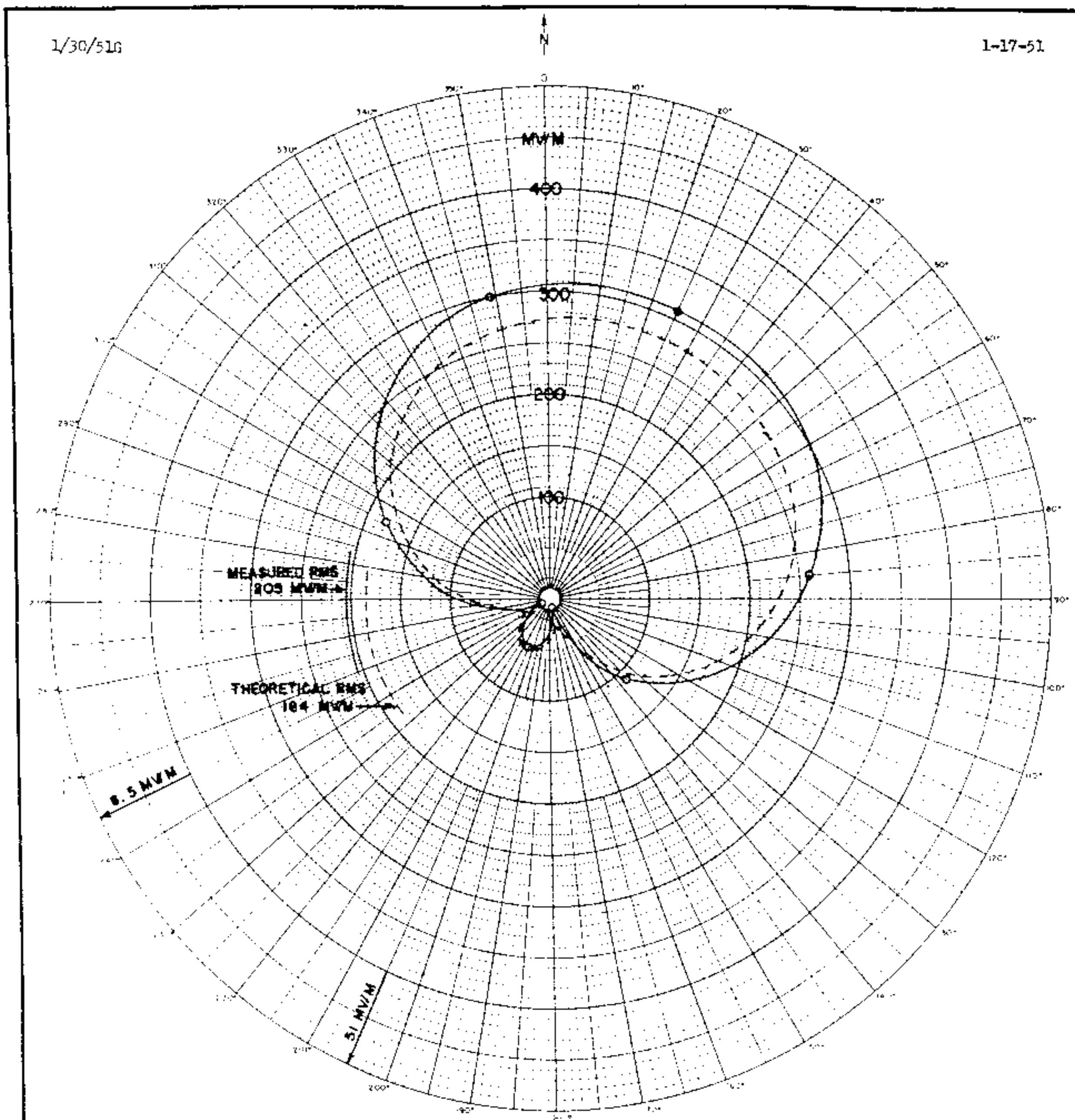
CALCULATED
HORIZONTAL PLANE PATTERN
PROPOSED STATION
NEW ORLEANS, LOUISIANA
800 KC 1 KW DA-D

KEAR AND KENNEDY
CONSULTING ENGINEERS
WASHINGTON, D C

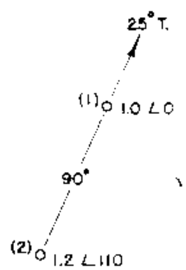
500519

MEASURED DAY   WBOK, NEW ORLEANS, LA.   1kw, DA-D   800 kc

1/30/51G   1-17-51



- - - - - - THEORETICAL PATTERN
———— MEASURED PATTERN
——o—— MEASURED FIELD



LATITUDE 29° 50' 42"
LONGITUDE 90° 06' 39"

ANTENNA NUMBER	AZIMUTH DEG.	SPACING DEG.	PHASING DEG.	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG.
1	—	—	0	1.0	180	78
2	205	90	110	1.2	180	78

MEASURED
HORIZONTAL PLANE PATTERN
FOR
WBOK
NEW ORLEANS, LOUISIANA
800 KC. 1 KW. DA-D

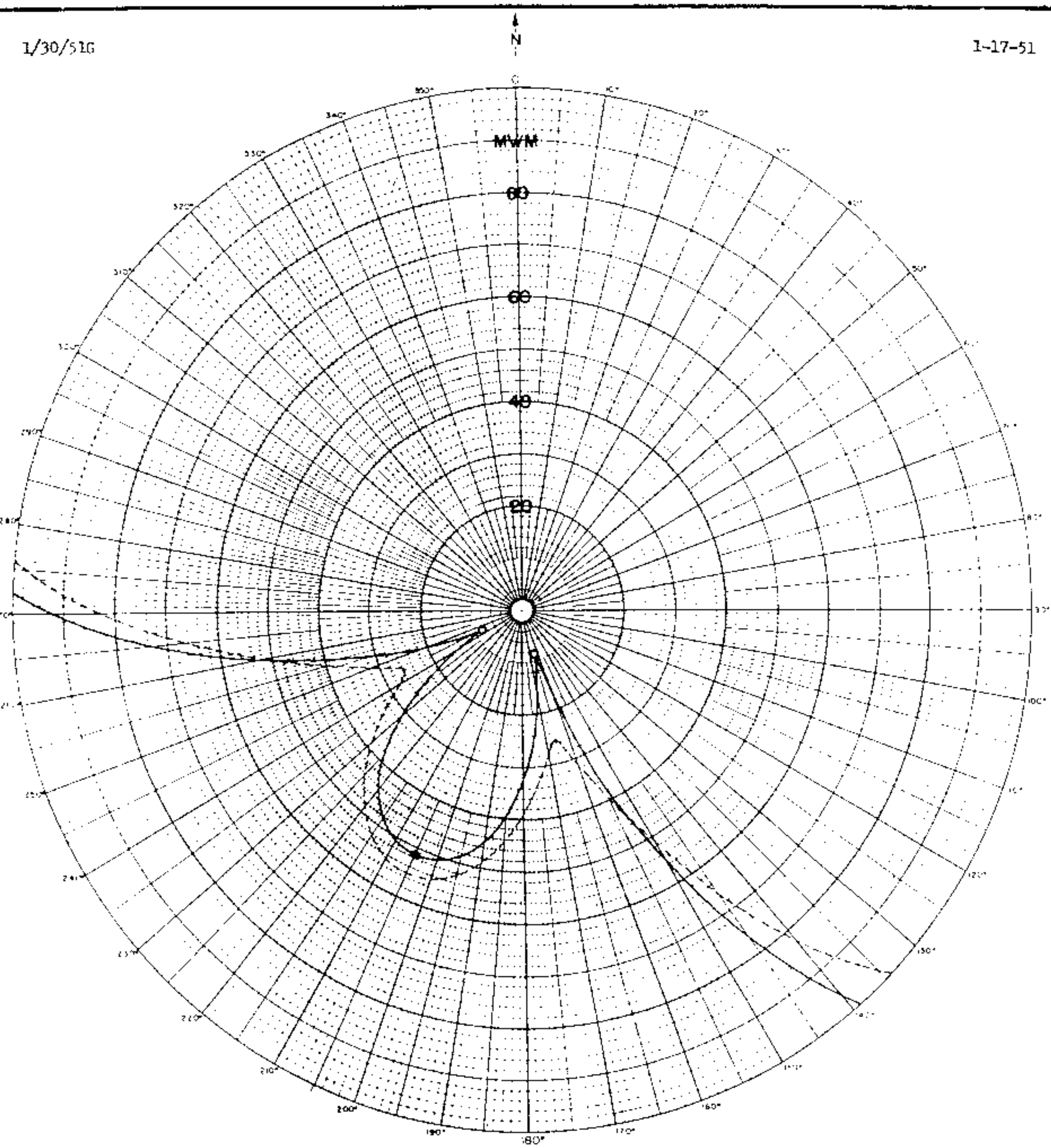
KEAR AND KENNEDY
CONSULTING ENGINEERS
WASHINGTON, D.C.

510112

MEASURED DAY NULLS WBOK, NEW ORLEANS, LA. 1kw, DA-D 800 kc

WSHO

1/30/51G 1-17-51



- - - - - - - THEORETICAL
———o——— MEASURED FIELD

LATITUDE 29° 50' 42"
LONGITUDE 90° 06' 39"

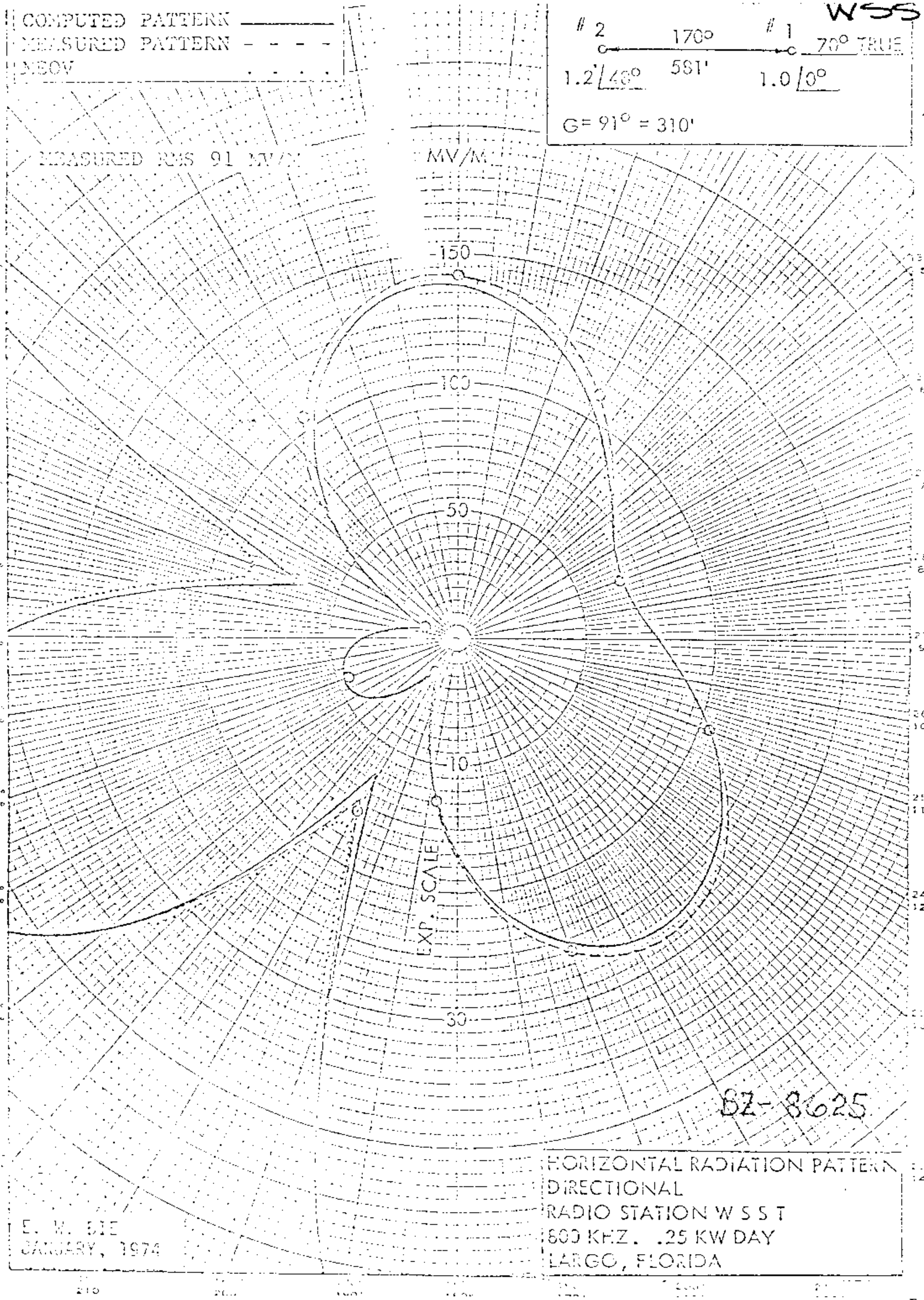
ANTENNA NUMBER	AZIMUTH DEG	SPACING DEG	PHASING DEG	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG
1	-	-	0	1.0	180	78
2	205	90	110	1.2	180	78

EXPANDED SCALE
HORIZONTAL PLANE PATTERN
~~WBOK~~ WSHO
NEW ORLEANS LOUISIANA
800 KC. 1KW. DA — D

KEAR AND KENNEDY
CONSULTING ENGINEERS
WASHINGTON, D.C.

510112

WBOK, New Orleans, La. 800 kc


WSST
COMPUTED PATTERN
MEASURED PATTERN
MEOV
#2
170°
#1
70° TRUE
1.2 /40°
581'
1.0 /0°
G= 91° = 310'
MEASURED RMS 91 MV/M
MV/M
150
100
50
10
30
EXP. SCALE
BZ-8625
HORIZONTAL RADIATION PATTERN
DIRECTIONAL
RADIO STATION W S S T
800 KHZ. .25 KW DAY
LARGO, FLORIDA
E. W. BIE
JANUARY, 1974

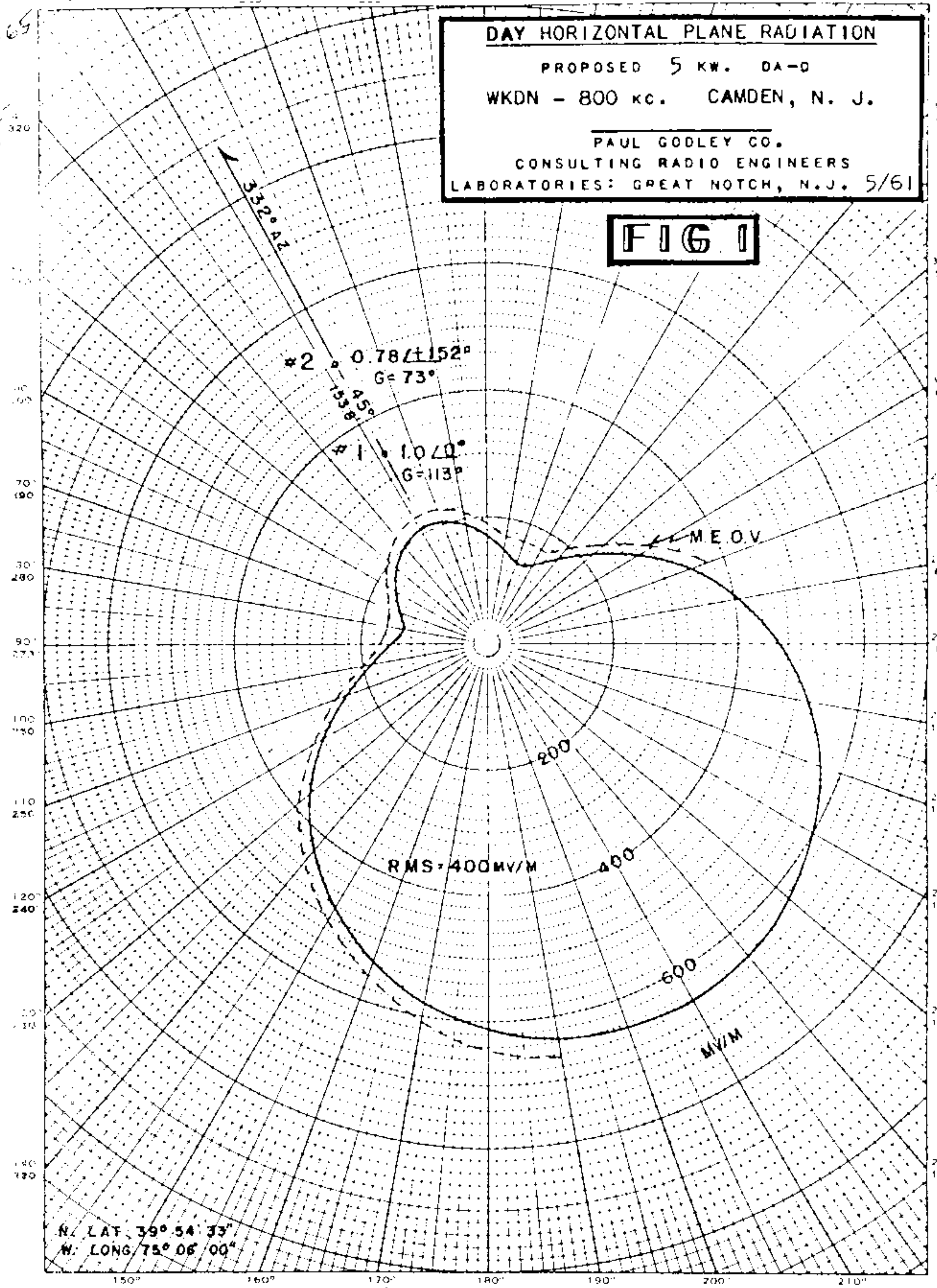
~~WKDN~~
WTMR

PROPOSED DAY
(8-22-61ct)

WTMR
~~WKDN~~
Camden, New Jersey

5kw, DA-D,D
800 KC

R. APPL. 8-18-65
INCR PWR
DA-D
+R 11-10-65
INCR PWR
DA-D



FCC File No. BP-14986
Accepted 8-9-61

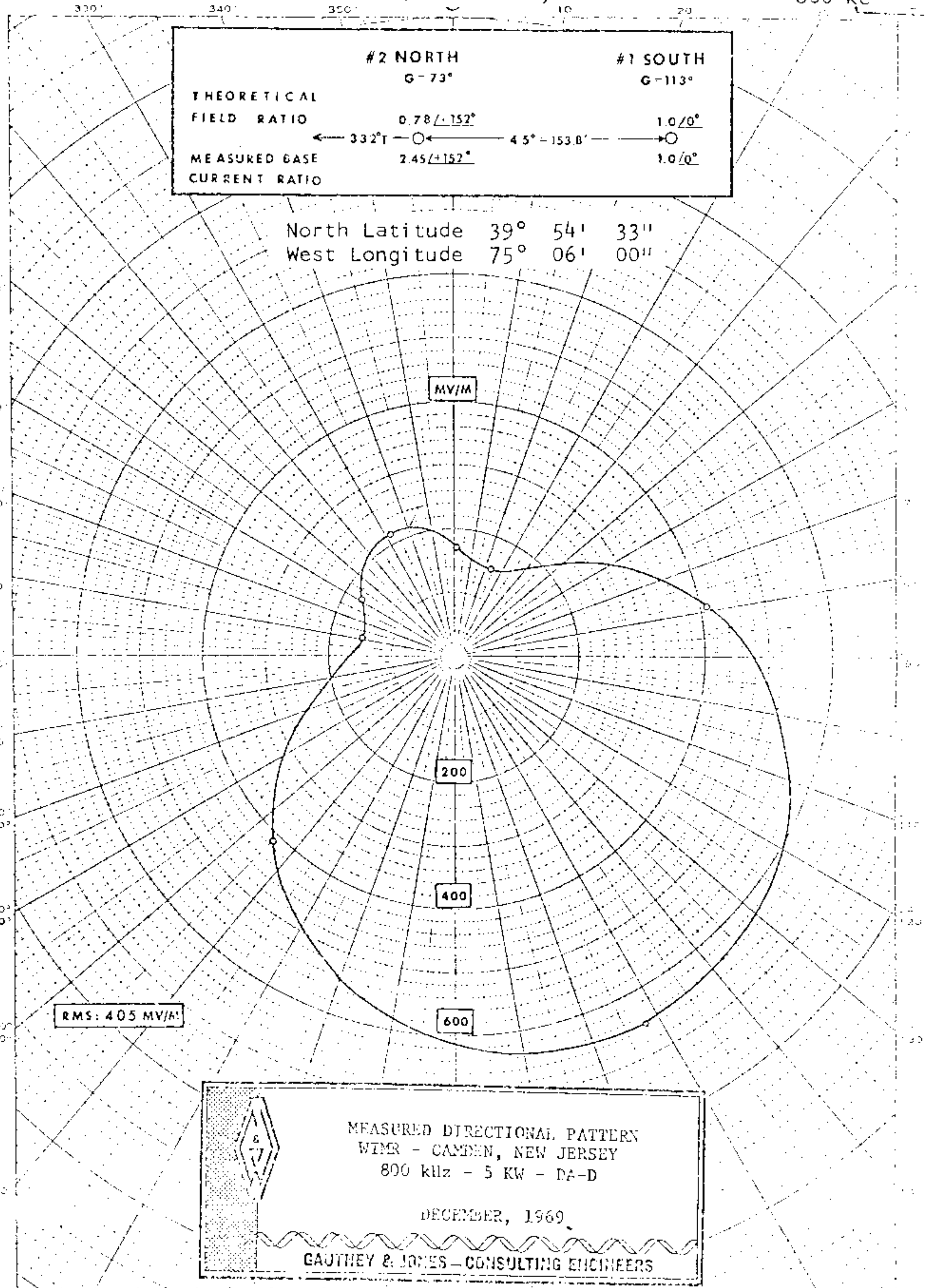
WKDN
Camden, New Jersey

800 KC

Measured Day
(1-22-71ct)

Station WTMR
Camden, New Jersey

WTMR
5kw,DA-D,D
800 kc



FCC File No.BZ-7723
Accepted 1-6-71

Station WTMR
Camden, New Jersey

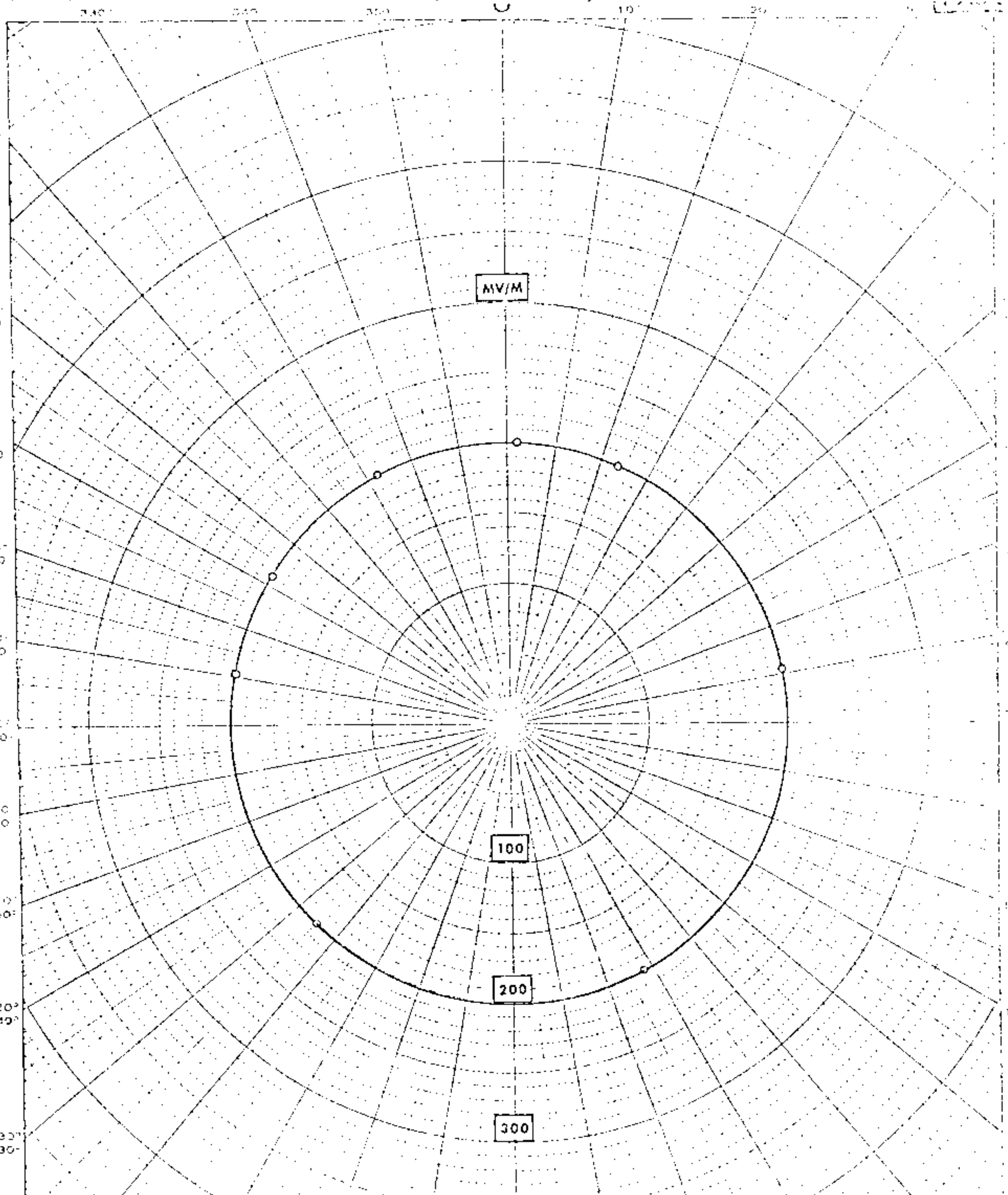
800 kc

WTMR

Measured Non-DA
(1-22-71ct)

Station WTMR
Camden, New Jersey

5kw, DA-D, D
800 kc



MEASURED NON-DIRECTIONAL PATTERN
WTMR - CAMDEN, NEW JERSEY
800 kHz - 5 KW - DA-D

DECEMBER, 1969

GAUTNEY & JONES – CONSULTING ENGINEERS

FCC File No. BZ-7723
Accepted 1-6-71

Station WTMR
Camden, New Jersey

800 kc

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WTMR

Main Studio: Camden, New Jersey

Frequency: 800 kHz

Power: 5kw

Notification List No. 1767

Date: January 25, 1978

Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 39° 54' 33"
75° 06' 00"

ANTENNA CHARACTERISTICS

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

TOWER:	SE(#1)	NW(#2)
HEIGHT ABOVE I INSULATORS:	385' (113°)	600'
PHASING:	0	+152°
FIELD RATIO:	1.0	0.78

SPACING AND ORIENTATION: Towers are spaced 153.8' (45°) on a line bearing 332° true.

GROUND SYSTEM: 120 147' to 300' 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	THEORETICAL RSS	STANDARD RMS
Day 1/	400 mv/m	-	-

1/ By adjustment of input power.

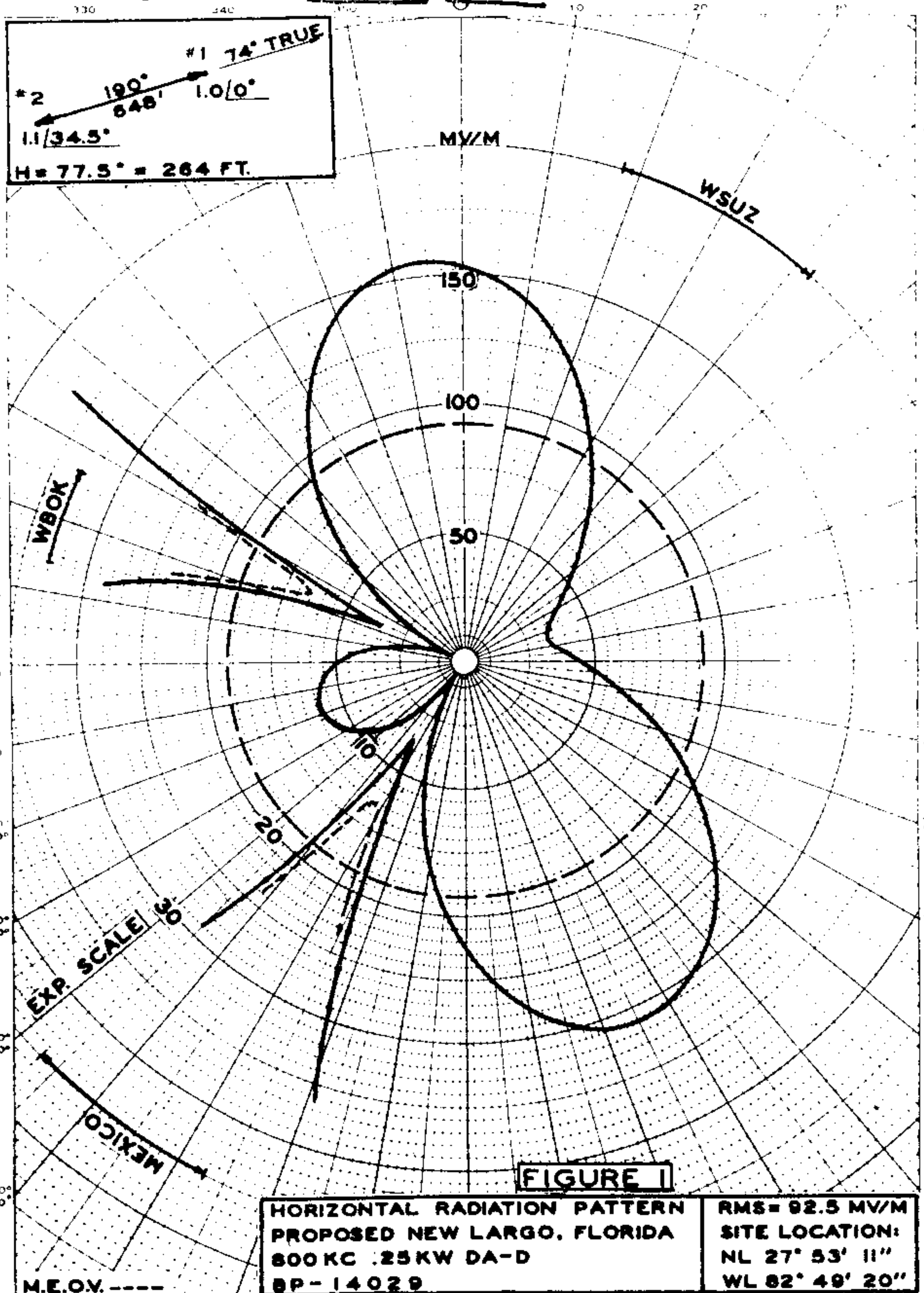
Note: Please retain the directional antenna radiation pattern notified for Station WKDN (now WTMR) in United States Change List Number 1033 dated October 21, 1964 and attach to this Revised Description Sheet. This notification concerns only a change in the height of tower #2 and in the ground system.

(See Reverse Side)

PROPOSED DAY
(4-10-61g)

New; The Largo Bcstng. Co.
New Largo, Florida

250w, DA-D,D
800 KC



FCC File No. BP-14029
Accepted 3-31-61 (Amended)

The Largo Broadcasting Company
New Largo, Florida
800 KC

WVAL
800KHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WVAL

Frequency: 800 kHz

Notification List No. 1785

Main Studio: Sauk Rapids, Minnesota

Power: 2.5kw Day

Date: November 16, 1979 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 45° 35' 48"
West Longitude: 94° 09' 25"

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:	NE(#1)	SE(#2)	NW(#3)	SW(#4)
HEIGHT ABOVE INSULATORS:	290'	290'	290'	290' (84.9°)
DAY PHASING:	0°	47°	111°	158°
DAY FIELD RATIO:	1.0	0.550	0.450	0.250

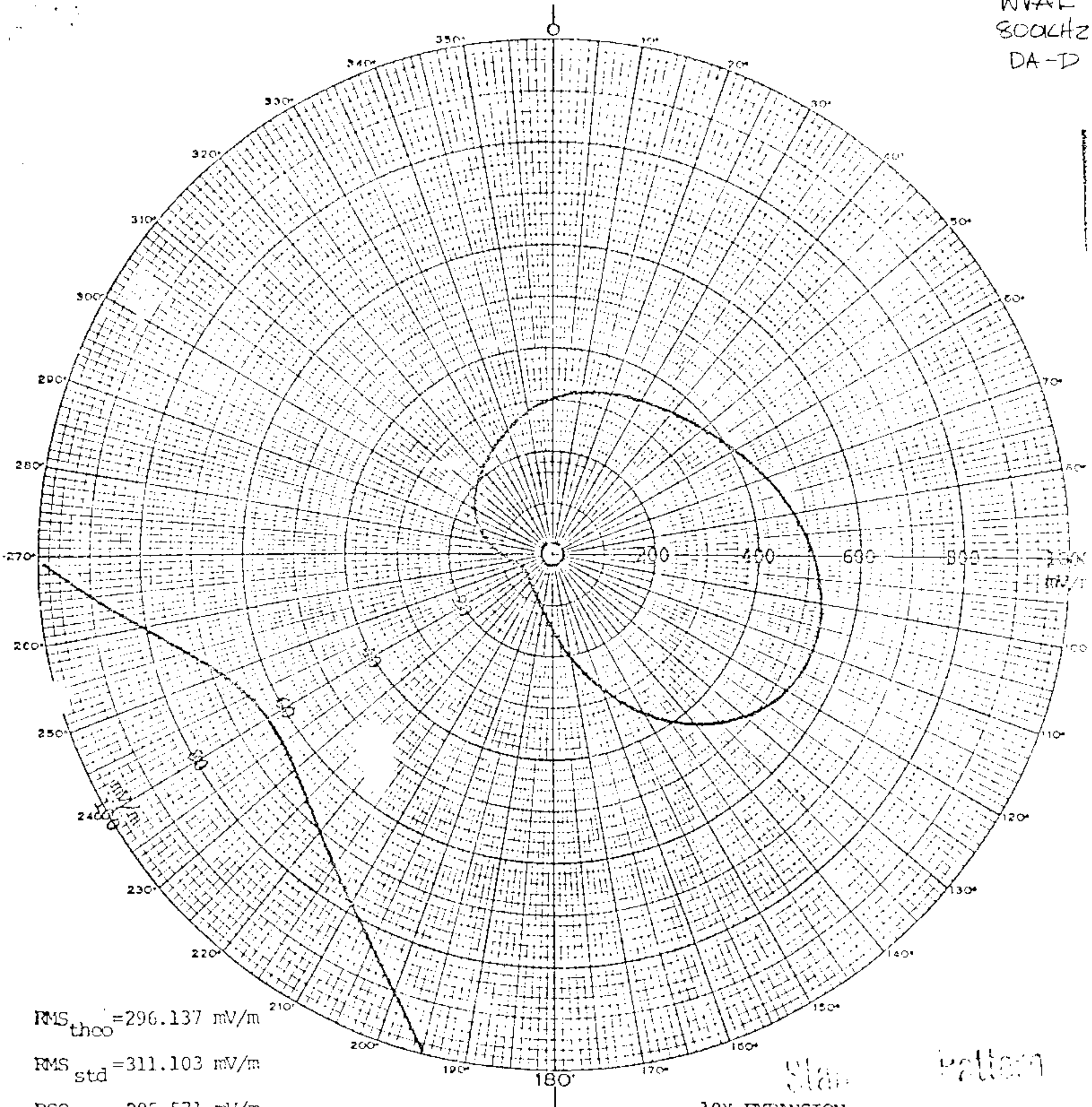
SPACING AND ORIENTATION: Tower #2 is 461.25 feet (135°) from Tower #1(NE) and at an azimuth of 221° T North from tower #1(NE). Tower #3(NW) is 273.33 feet (80°) from towers #1 and on an azimuth of 276° T North from Tower #1(NE). Tower #4(SW) is 657.33 feet (192.4°) from towers #1(NE) and on an an azimuth of 240.9° North from tower #1(NE).

GROUND SYSTEM: 120 - 307.5' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers. Centers of system are bonded together

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	296.137 mv/m	295.571 mv/m	311.103 mv/m

WVAL
800kHz
DA-D



RMS$_{theo}$=296.137 mV/m

RMS$_{std}$=311.103 mV/m

RSS$_{theo}$=295.571 mV/m

10X EXPANSION

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 6	STATION DATA

G's = 84.878°

#3
276° T. ← o– s –o #1
S S
#4 o– s –o #2
221° T.

S = 135°; s = 80°

TOWER No	ELECTRICAL HEIGHT $G°$	SPACING $S°$	PHASING $\psi°$	FIELD RATIO F
1			0°	1.00
2			47°	0.55
3			111°	0.45
4			158°	0.25
5				
6				

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

PROPOSED WVAL
HORIZONTAL
PLANE
STANDARD
PATTERN

SAUK RAPIDS, MINN.

$\theta^0 = 0$

CALL	WVAL
FREQ	800 kHz
POWER	2.5 kW
TYPE	DA-D
TIME	DAYTIME
LAT.	N 45°35'46"
LONG.	W 94°09'25"

E. HAROLD MUNN, JR.
& ASSOCIATES, INC.
COLDWATER, MICH.