1250-1260

Station	Main Studio	Freq	Power	Date
NEW	Sarnia, ON	1250	1 kW/DA-2	1/10/68
CBOF	Ottawa, ON	1250	10 kW/DA-1	6/18/63
CHSN	Steinbach, MB	1250	10 kW/DA-2	6/29/64
CHWO	Oakville, ON	1250	1/0.5 kW/DA-1	1/16/56
CHWO	Oakville, ON	1250	5/10 kW/DA-2	9/26/68
CKBL	Matane, QU	1250	5/10 kW/DA-N	4/29/69
CKBL	Matane, QU	1250	5 kW/DA-1	9/16/57
CKOM	Saskatoon, Sask.	1250	10 kW/DA-N	10/18/60
NEW	Grass Valley, CA	1250	0.5 kW/DA-D	1/12/78
NEW	Willits, CA	1250	2.5 kW/DA-D	11/16/79
KALO	Little Rock, AR	1250	0.5/1 kW/DA-N	7/46
KBRF	Fergus Falls, MN	1250	1/5 kW/DA-2	10/26/79
KCFI	Cedar Falls, IA	1250	0.5 kW/DA-2	10/26/79
KICM	Golden, CO	1250	1 kW/DA-D	5/27/69
KICM	Golden, CO	1250	0.5/5 kW/DA-2	3/8/61
KNCO	Grass Valley, CA	1250	1/0.5 kW/DA-2	7/10/80
KPAC	Port Arthur, TX	1250	1/5 kW/DA-N	6/28/63
KTMS	Santa Barbara, CA	1250	1 kW/DA-1	2/24/50
KUKA	San Antonio, TX	1250	1 kW/DA-N	8/30/78
KYAC	Seattle, WA	1250	5 kW/DA-N	9/12/80
WARE	Ware, MA	1250	2.5/5 kW/DA-2	10/26/79
WARE	Ware, MA	1250	1/5 kW/DA-2	5/31/78
WDAE	Tampa, FL	1250	5 kW/DA-1	4/27/62
WDVA	Danville, VA	1250	5 kW/DA-N	3/26/65
WEMP	Milwaukee, WI	1250	5 kW/DA-2	8/12/60
WFAG	Farmville, NC	1250	2.5/5 kW/DA-2	10/26/79
WGL	Fort Wayne, IN	1250	1 kW/DA-2	2/28/69

1250-1260

Station	Main Studio	Freq	Power	Date
WGUY	Brewer, ME	1250	5 kW/DA-N	12/4/80
WHNY	McComb, MS	1250	1/5 kW/DA-N	1/28/69
WIZZ	Streator, IL	1250	0.5 kW/DA-D	9/4/59
WKBR	Manchester, NH	1250	5 kW/DA-2	1/29/69
WMTR	Morristown, NJ	1250	5 kW/DA-D	7/8/59
WREN	Topeka, KS	1250	5 kW/DA-N	6/16/47
WTAE	Pittsburgh, PA	1250	5 kW/DA-N	8/40
WTMA	Charleston, SC	1250	1 kW/DA-N	3/6/48
NEW	Nanaimo, BC	1260	10 kW/DA-2	5/29/80
CFRN	Edmonton, AB	1260	50 kW/DA-N	5/27/60
CIHI	Fredericton, NB	1260	10 kW/DA-N	5/10/77
KGBX	Springfield, MO	1260	5 kW/DA-N	1/40
KGIL	San Fernando, CA	1260	5 kW/DA-2	6/14/61
KMCM	McMinnville, OR	1260	1 kW/DA-N	2/24/49
KPOW	Powell, WY	1260	1 kW/DA-N	6/20/47
KROX	Crookston, MN	1260	0.5/1 kW/DA-N	5/2/49
KWHK	Hutchinson, KS	1260	0.5/1 kW/DA-2	8/21/50
KWSH	Wewoka, OK	1260	1 kW/DA-2	10/19/50
WALM	Albion, MI	1260	0.5/1 kW/DA-N	4/22/59
WBNR	Beacon, NY	1260	1 kW/DA-D	3/5/56
WBUD	Trenton, NJ	1260	1/5 kW/DA-2	1/72
WBUD	Trenton, NJ	1260	1 kW/DA-1	11/15/50
WCHV	Charlottesville, VA	1260	1/5 kW/DA-2	2/21/56
WCHV	Charlottesville, VA	1260	1 kW/DA-N	1/12/56
WEZE	Boston, MA	1260	5 kW/DA-N	5/27/43
WGWR	Asheboro, NC	1260	0.5/5 kW/DA-2	12/30/63
WIBV	Belleville, IL	1260	5 kW/DA-2	8/23/63

1250-1260

Station	Main Studio	Freq	Power	Date
WIXY	Cleveland, OH	1260	5 kW/DA-2	10/30/74
WJBL	Holland, MI	1260	5 kW/DA-D	5/28/63
WMMM	Westport, CT	1260	1 kW/DA-D	7/2/74
WNAC	Boston, MA	1260	5 kW/DA-N	1/31/45
WNDE	Indianapolis, IN	1260	5 kW/DA-N	3/22/71
WNDR	Syracuse, NY	1260	5 kW/DA-N	3/77
WNRK	Newark, DE	1260	1 kW/DA-D	10/26/79
WNRK	Newark, DE	1260	0.5 kW/DA-D	5/26/71
WNXT	Portsmouth, OH	1260	1/5 kW/DA-2	12/9/52
WWDC	Washington	1260	5 kW/DA-2	2/21/56
WWOK	Miami, FL	1260	5 kW/DA-2	4/10/61
WWPF	Palatka, FL	1260	0.5 kW/DA-N	7/10/53
WWYN	Erie, PA	1260	5 kW/DA-2	8/17/49
NEW	Amery, Wi	1260	5 kW/DA-2	7/20/76

Description Sheet
(2-28-68ct)

New Station
Sarnia, Ontario

1kw,DA-2,U,Class III
1250 kc

DIRECTIONAL ANTENNA DESCRIPTION SHEET

STATION :

MAIN STUDIO : Sarnia, Ontario.

FREQUENCY : 1250 Kc/s

POWER : 1KW CLASS: III

NOTIFICATION LIST : #237

DATE : January 10, 1968

GEOGRAPHICAL LOCATION OF ANTENNA SYSTEM:

NORTH LATITUDE : 42 52' 12"
WEST LONGITUDE : 82 23' 50"

ANTENNA CHARACTERISTICS

MODE OF OPERATION : DA-2 (Different patterns, Day and Night)

NUMBER OF ELEMENTS : Seven (7)

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

HEIGHT ABOVE INSULATORS: All towers 200' = 91.5

OVERALL HEIGHT : 205'

TOWER:	1	2	3	4	5	6	7
DAY							
Field :	.60	1.00	.60	--	.66	1.10	.66
Phase :	+16°	+8°	-16°		+76°	+68°	+44°
NIGHT							
Field :	.60	1.00	.60	.72	1.2	.72	--
Phase :	+16°	+8°	-16°	+137°	+129°	+105°	--

SPACING & ORIENTATION : See attached Diagram

GROUND SYSTEM : 120 equally spaced radials of AWG No. 10 bare soft drawn copper wire per tower, extending to a distance of no less than 315 ft., (.4 wavelength) except where bonded along the common chord between towers and toward small sections of the lot line where radials are at least 250 ft. (.32 wavelength) long. Wires are buried approximately 8 inches.

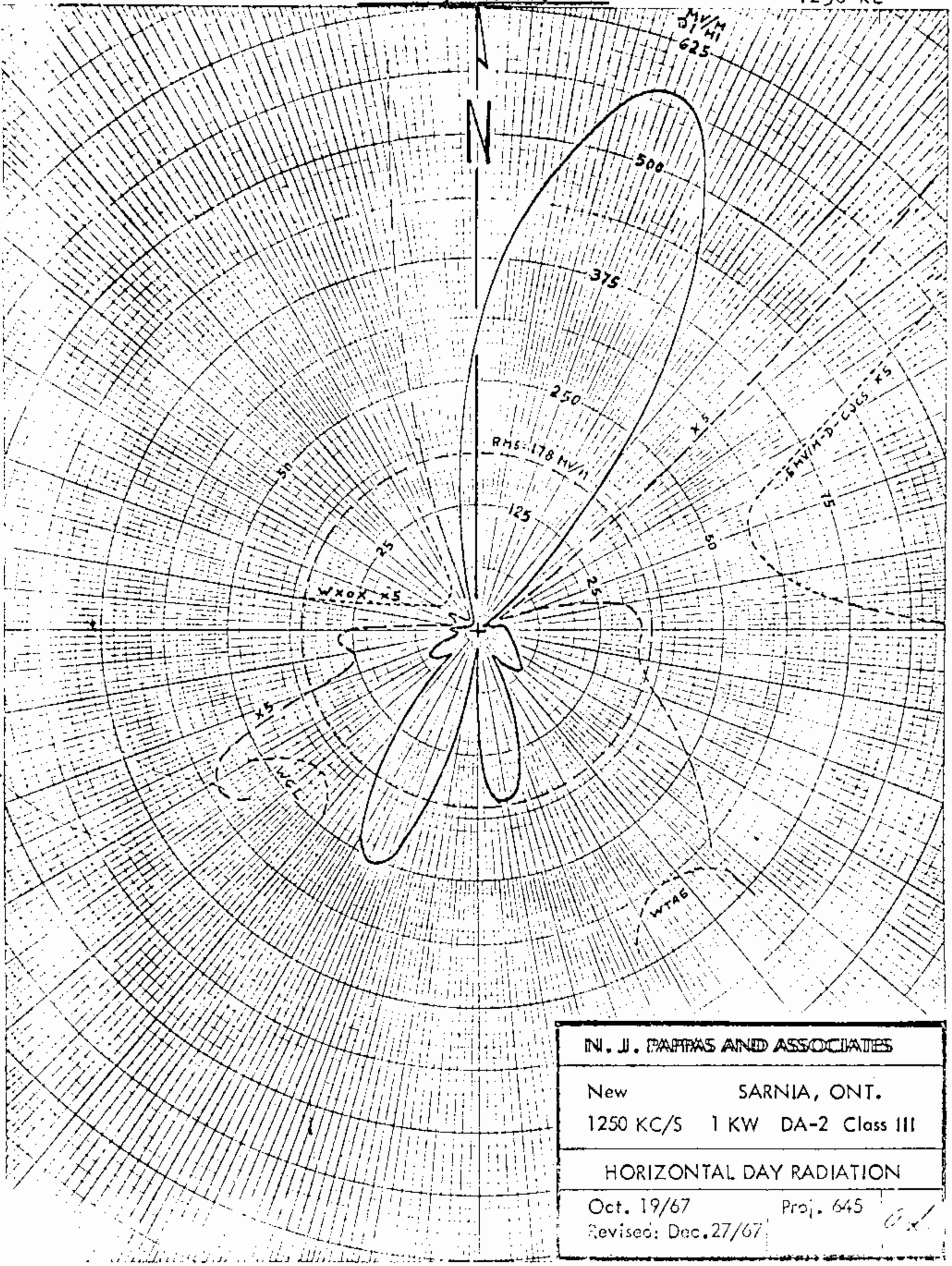
PREDICTED EFFECTIVE FIELD: Day: 178 MV/M at 1 mile
Night: 187 MV/M at 1 mile

FCC Note: The Spacing and Orientation Diagram was not received with the initial supplementary data for this station. This information is now reissued with the diagram attached.

Proposed Day
(2-28-68ct)

New Station
Sarnia, Ontario

1kw,DA-2,U,Class III
1250 kc



N. J. PAPPAS AND ASSOCIATES

New SARNIA, ONT.
1250 KC/S 1 KW DA-2 Class III

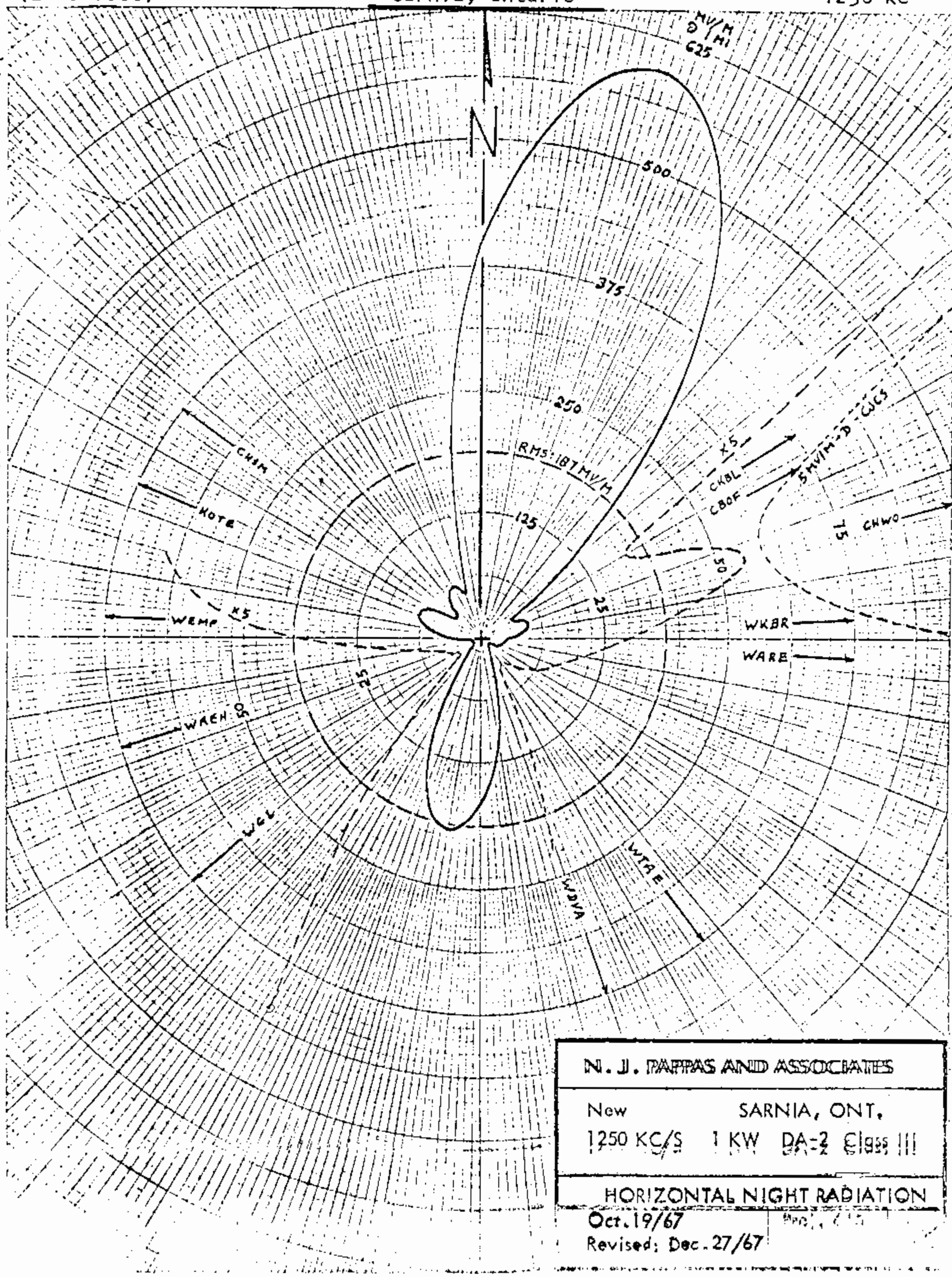
HORIZONTAL DAY RADIATION

Oct. 19/67 Proj. 645
Revised: Dec. 27/67

Proposed Night (2-28-68ct)

New Station
Sarnia, Ontario

1kw,DA-2,U,Class III
1250 kc



N. J. PAPPAS AND ASSOCIATES

New SARNIA, ONT.

1250 KC/S 1 KW DA-2 Class III

HORIZONTAL NIGHT RADIATION

Oct. 19/67

Revised: Dec. 27/67

1178

CBOF

Description Sheet
(7-24-63ct)

New Station
Ottawa, Ontario

10kw,DA-1,U,ClassIII
1250 kc

CANADIAN BROADCASTING CORPORATION
ENGINEERING DIVISION MONTREAL

TITLE CHANGE OF SITE AND PATTERN
NEW 1250 KC/S. 10 KW, DA-1, OTTAWA

DWG. No.
DATE JUNE 11/63 ISS. 2
ENG. J. L. APP. R. E. S.

DESCRIPTION OF ARRAY

Station: New

Main Studio: Ottawa, Ontario

Frequency: 1250 kc/s

Power: 10 kw

Class: III
Notification List No. 178 Date: June 18, 1963
Time: U

Location: North Latitude: 45° 15' 23"
West Longitude: 75° 37' 35"

Antenna:

Mode of Operation: DA 1

Number of Elements: 4

Type of Elements: Guyed uniform triangular cross-section base insulated, series fed no top loading. They shall meet the requirements of Broadcast Procedure No. 1, Rule 1

Tower:	North	North-Centre	South-Centre	South
Height above Insulators:	200' (91°)	200' (91°)	200' (91°)	200' (91°)
Over-all Height:	207'	207'	207'	207'
Spacing from North Tower:	----	202.8' (92.5°)	405.6 (185°)	608.4' (277.5°)
Phasing:	-76.1°	+70.2°	-142.4°	0°
Field Ratio:	0.61	1.73	2.06	1.0
Orientation from North Tower:	----	155°	155°	155°

Ground System: 120 equally spaced radials per tower of length 316 ft. (0.4λ) except where joined at a common chord. The radials will be of solid copper wire not smaller than no. 10B & S gauge buried at least 8 inches, and bonded to the towers.

Predicted Effective Field: 680 mv/m at 1 mile for 10 kw

215 mv/m at 1 mile for 1 kw

NOTE: This notification concerns a change in the location of the antenna system and in the radiation patterns. It replaces the supplementary data notified for this assignment in Canadian Notification List No. 174 dated November 13, 1962.

C.B.C.-252A

Transmission & Development Department

- 1

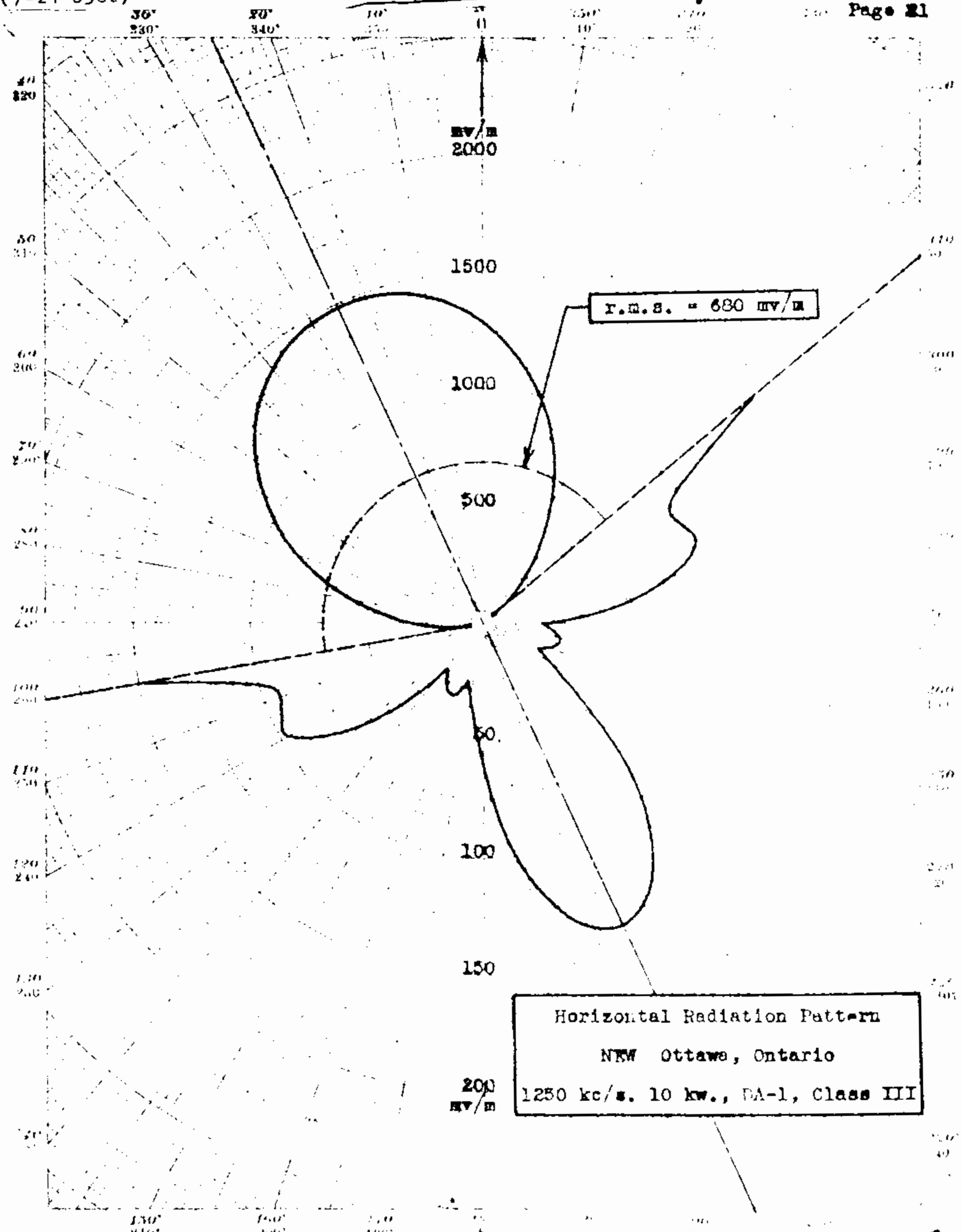
178

CROF

Proposed Day & Night
(7-24-63ct)

New Station
Ottawa, Ontario

10kw,DA-1,U,ClassIII
1250 kc



#184 CHSN

Description Sheet (6-29-64ct) | Station CHSN -M Steinbach, Manitoba | 10kw,DA-2,U,Class III 1250 kc

OW IN OPERATION
HG LIST 190

AMENDED

ANTENNA DESCRIPTION SHEET

DIRECTIONAL DA-2

Oficina Interamericana de Radio - PAU
OIR/NARBA 2770 Canada/C 2835
La Habana 14 V. 64

STATION CALL:	CHSN
LOCATION:	Steinbach, Manitoba
FREQUENCY:	1250 kc/s
POWER:	10,000 watts
CLASS:	III
TIME:	Unlimited
NOTIFICATION REFERENCE:	List No. 184, February 10, 1964
GEOGRAPHICAL LOCATION:	Lat. 49° 30' 15", Long. 96° 58' 54"
ARRAY CHARACTERISTICS:	Four elements, guyed, uniform cross section, base insulated, series feed. Height 197 feet (90°). No top loading.

ELEMENT	ONE	TWO	THREE	FOUR
Spacing	ref	262' 120°	524' 240°	786' 360°
bearing	ref	029°	029°	029°
Day Ratio	1,000	1.909	1.239	0.253
Phase	00°	-94.7°	-187°	-270°
Night Ratio	1.000	1.868	1.451	0.567
Phase	00°	-112.5°	+121.4°	-03°

Ground System	120 radials per tower, #10 AWG bare soft copper wire, spaced uniformly, depth approximately 8 inches. Radials bonded along line between towers and bonded to soft copper strap at tower base. Average length 315 feet.
Predicted R M S	600 mv/m at 1 mile for 10 kw 190 mv/m at 1 mile for 1 kw

NOTE: Please retain the nighttime radiation patterns for NEW Steinbach, Manitoba notified in Canadian Change List No. 181 dated September 30, 1963 and the revised daytime pattern notified in Canadian Change List No. 184 dated February 10, 1964 and attach to this amended description sheet.

February 12, 1963

WITH 134

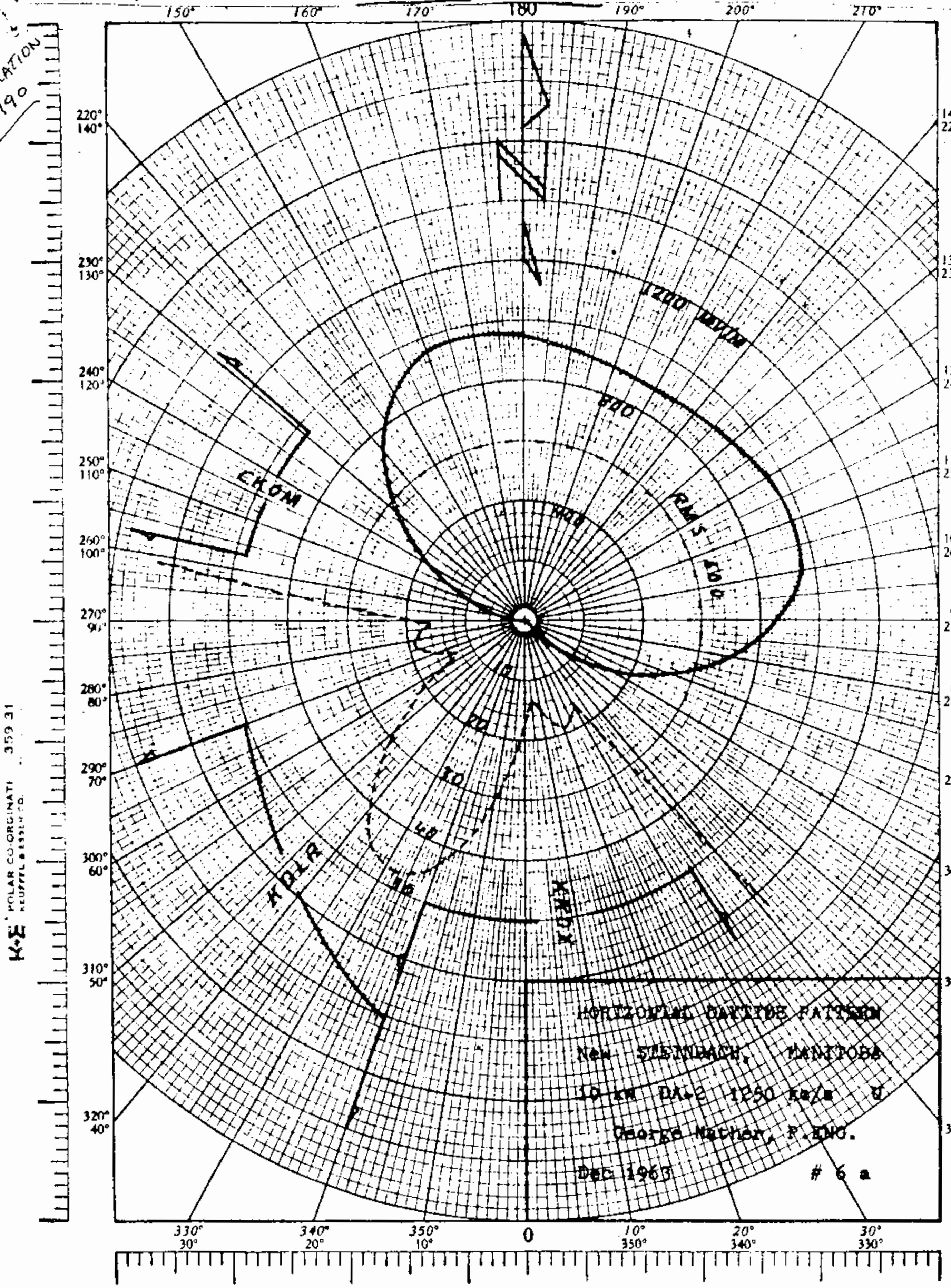
C HSN

Proposed Day
(2-28-64ct)

New Station
Steinbach, Manitoba

10kw,DA-2,U, Class III
1250kc

NOW IN OPERATION
CHG. LIST 190



CHSN

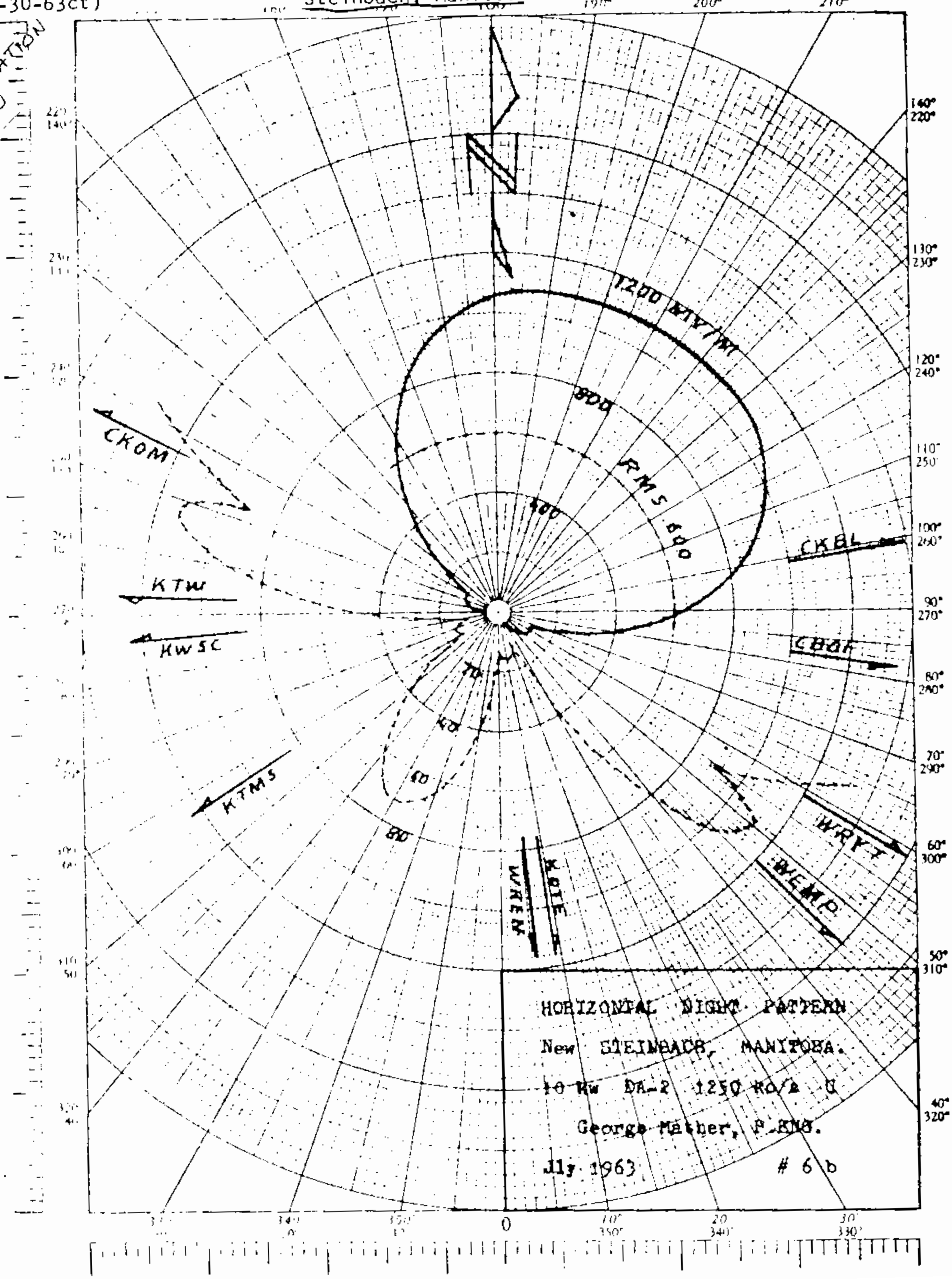
WITH 184

Proposed Night
(10-30-63ct)

New Station
Steinbach, Manitoba

10kw,DA-2,U,Class III
1250 kc

NOW IN OPERATION
CHG. LIST 190



#97

CHWO

Description of Array

Station New Main Studio - Oakville, Ontario.

Power 1 Kw - D/500 W - N Class III January 16, 1956.

Notification List No. 97

Frequency 1250 Kc/s

Location Oakville, Ontario

North Latitude: 43°, 26', 10"
79°, 43', 06"

Antenna Mode of Operation DA-1
2 guyed elements, base insulated, series fed

Tower	#1 (North East)	#2 (South West)
Height above Insulators	160' (73°)	160' (73°)
Overall Height	165'	165'
Spacing	197' (90°)	
Field Ratio	1.0	1.22
Phasing	-122°	0°

Ground System 120 radials spaced every 3° about each tower length per drawing number 603B897.

Predicted Effective Field Day 185 mv/m
Night 131 mv/m

Orientation of Towers On a line bearing 50° true.

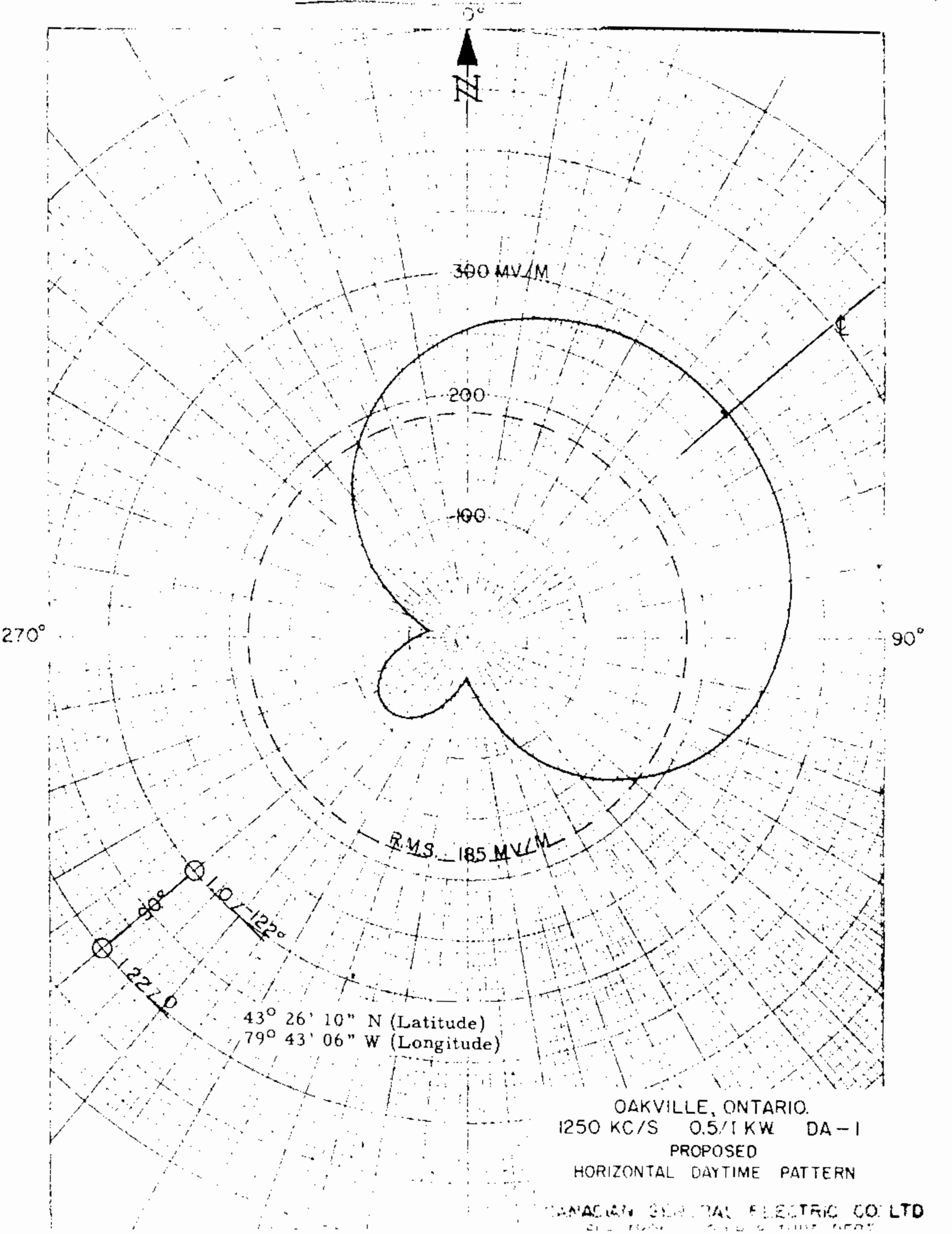
X97

CHWO

PROPOSED
DAY (3/12/56g)

NEW STATION
OAKVILLE, ONTARIO

1 KW - D/500 W-N
DA-1 Class III 1250 KC/S



Notification List No. 97 Accepted 1-16-56 Oakville, Ontario 1250 KC/S

CHW

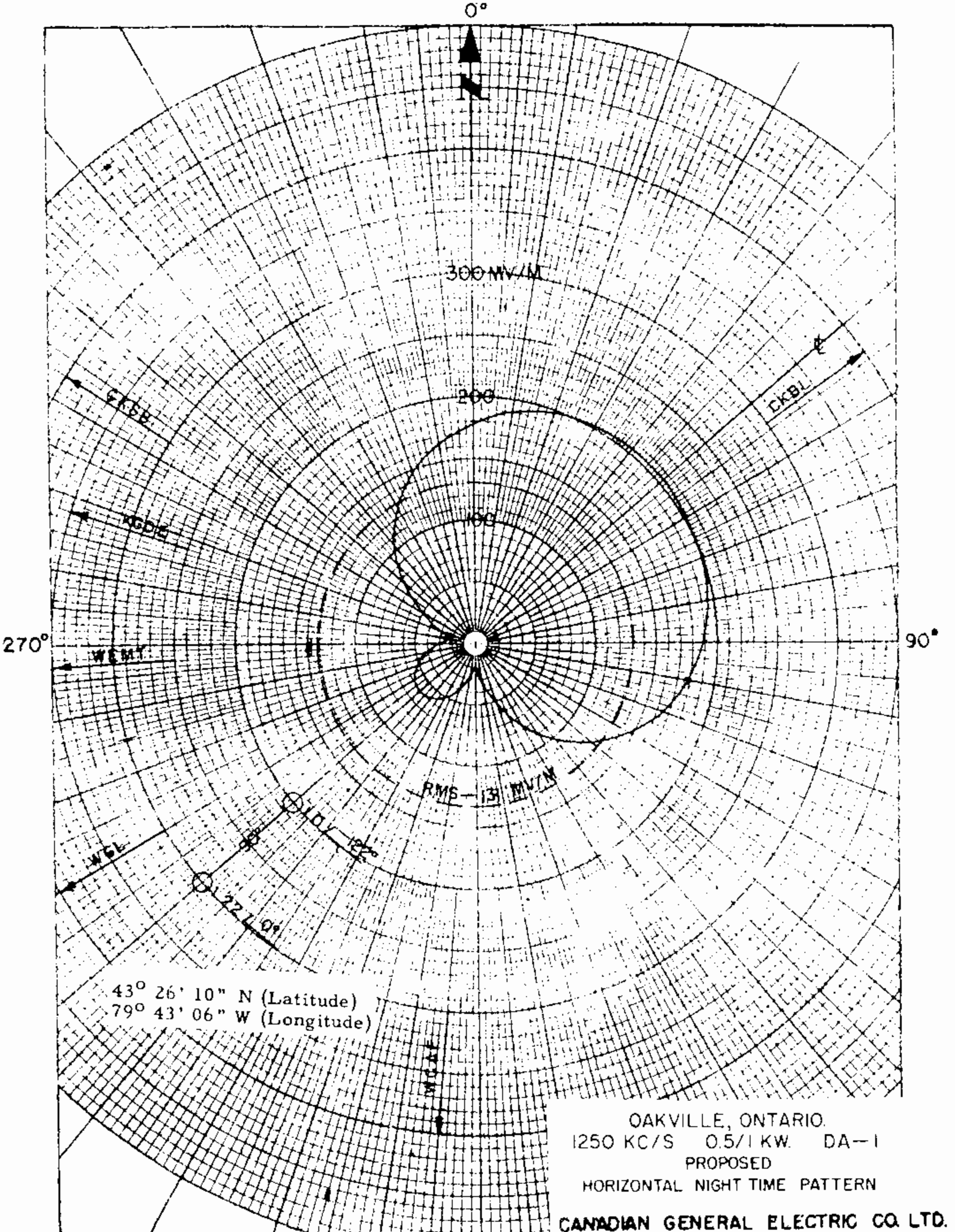
#97

PROPOSED
NIGHT (3/12/56g)

NEW STATION
OAKVILLE, ONTARIO

1 KW - D/500 W-N
DA-1 Class III

1250 KC/S



OAKVILLE, ONTARIO.
1250 KC/S 0.5/1 KW. DA-1
PROPOSED
HORIZONTAL NIGHT TIME PATTERN
CANADIAN GENERAL ELECTRIC CO. LTD.

Notification List No. 97 Accepted 1-16-56 Oakville, Ontario 1250 KC/S

CHWO

Description Sheet
(9-26-68ct)

Station CHWO
Oakville, Ontario

5kw,10kw-LS,DA-2,U,Class III
1250 kc

ANTENNA DESCRIPTION SHEET

DIRECTIONAL DA-2

STATION CALL	C H W O
MAIN STUDIO	Oakville, Ontario
FREQUENCY	1250 kc/s
POWER	Day 10,000 W - 5,000 Night
CLASS	III
TIME	Unlimited
NOTIFICATION REFERENCE	[illegible]
GEOGRAPHICAL LOCATION	Lat 43°26'10", Lon 79°43'06"
ARRAY CHARACTERISTICS	Six elements, guyed, uniform cross section, base insulated, series feed. Height 160 feet or 73 degrees.

TOWER		ONE	TWO	THREE	FOUR	FIVE	SIX
spacing		ref	73.35° 160.4'	144° 315'	169.8° 371.4'	126.5° 276.7'	90° 197'
bearing		ref	331°	320°	352°	15.3°	50°
Day	R	700	550	---	---	300	550
	Ø	+150°	-08°	---	---	-150°	+08°
Night	R	400	940	600	450	705	300
	Ø	+140°	+05°	-140°	+103°	-112°	+23°

Ground System — 120 radials per tower, #10 AWG bare, soft copper wire, spaced uniformly, buried approximately 8 inches. Radials bonded along line between towers and bonded to soft copper strap at tower base. Maximum radial length 350 feet

Predicted R M S

Day 570 mv/m at 1 mile for 10 kw
180 mv/m at 1 mile for 1 kw

Night 425 mv/m at 1 mile for 5 kw
190 mv/m at 1 mile for 1 kw

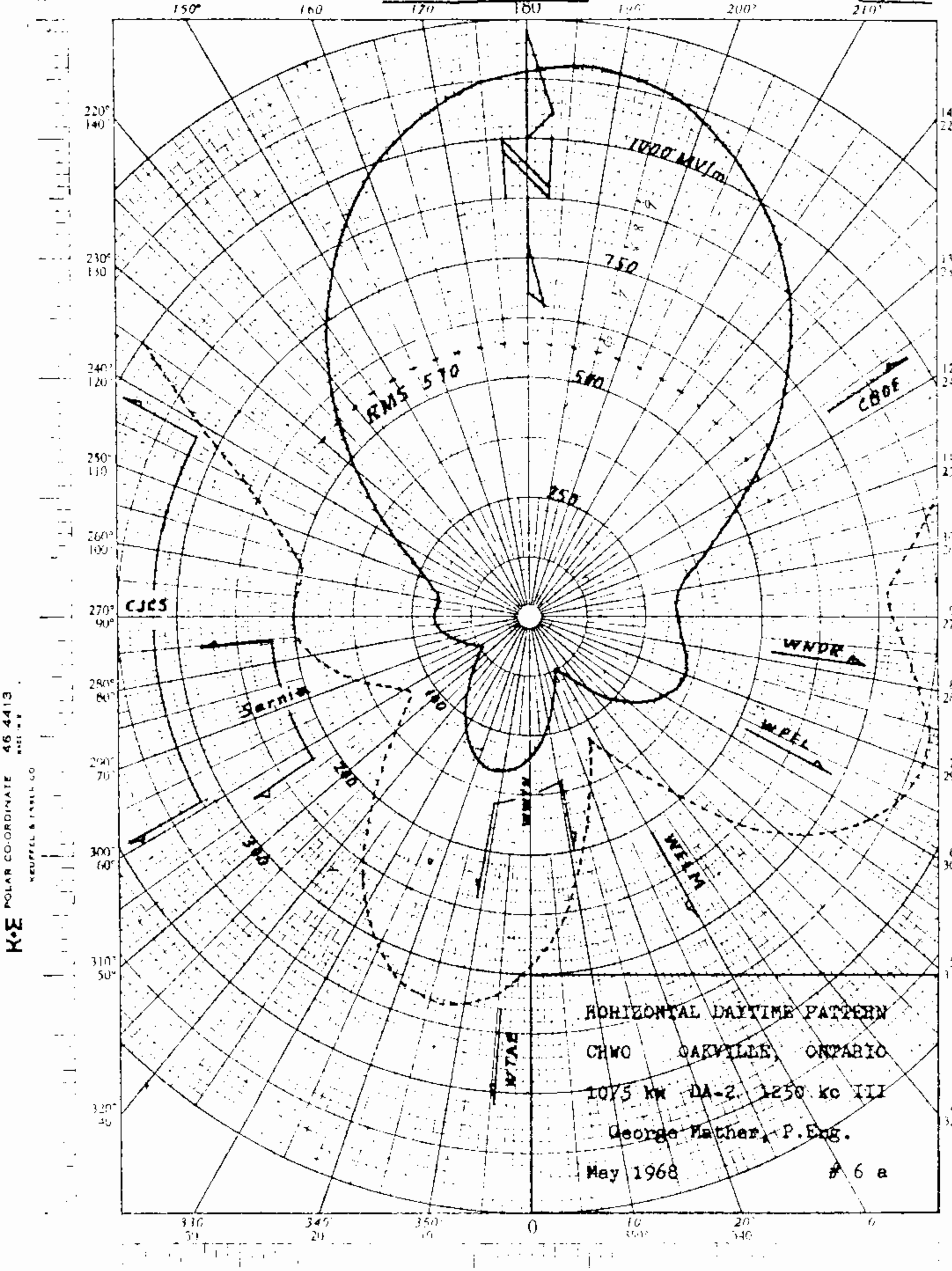
5

CHWO

Proposed Day
(9-26-68ct)

Station CHWO
Oakville, Ontario

5kw,10kw-LS,DA-2,U,Class III
1250 kc

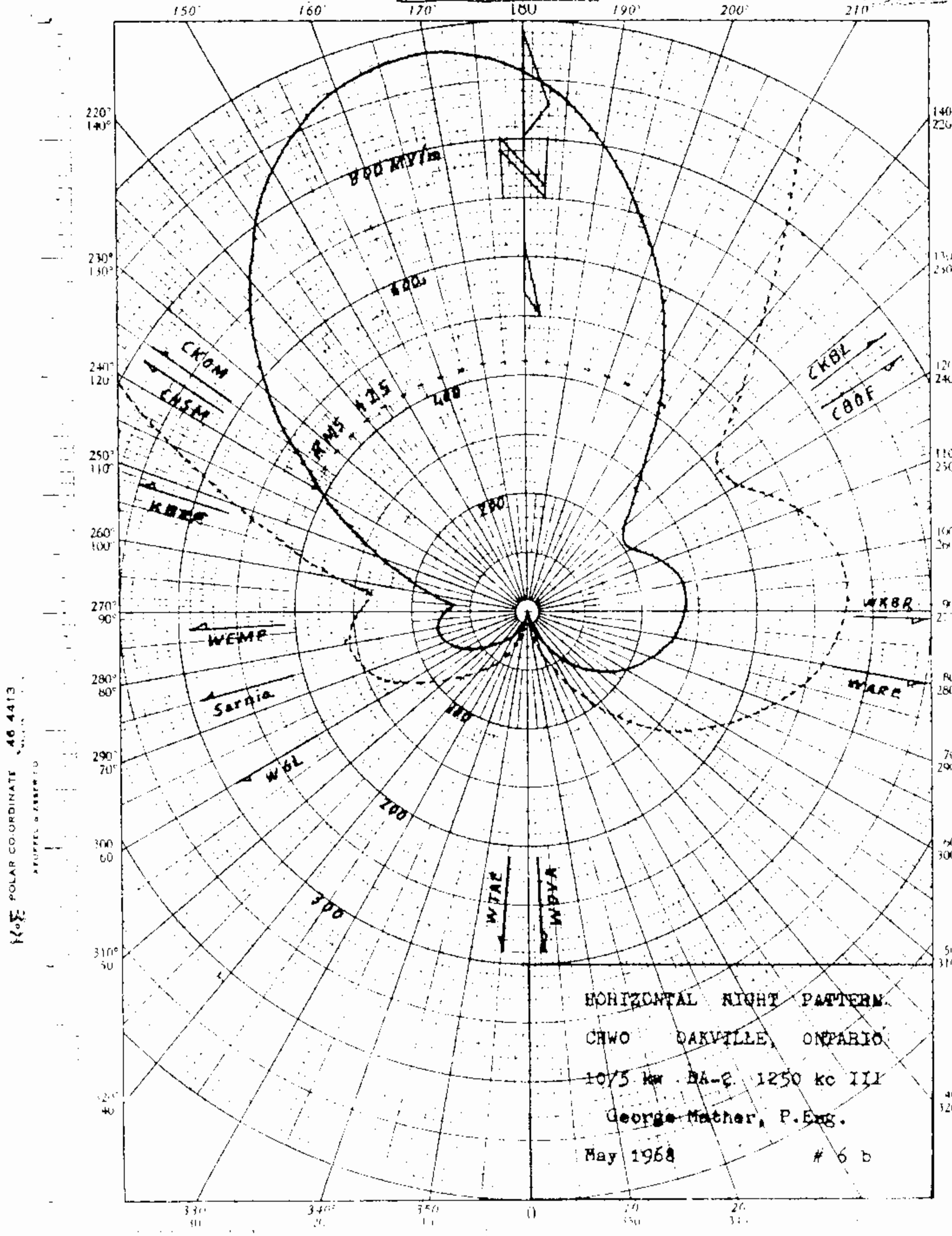


CHWO

Proposed Night
(9-26-68ct)

Station CHWO
Oakville, Ontario

5kw,10kw-LS,DA-2,U,Class III
1250 kc



CHWO

ANTENNA DESCRIPTION SHEET

DIRECTIONAL DA-2

Station Call	C H W O
Location	Oakville, Ontario.
Frequency	1250 kc/s
Power	Day 10 kw - 5 kw Night
Class	III
Time	Unlimited

Notification Reference: 367 DATE: September 23, 1977

Geographical Coordinates Lat 43°26'10", Lon 79°43'06"

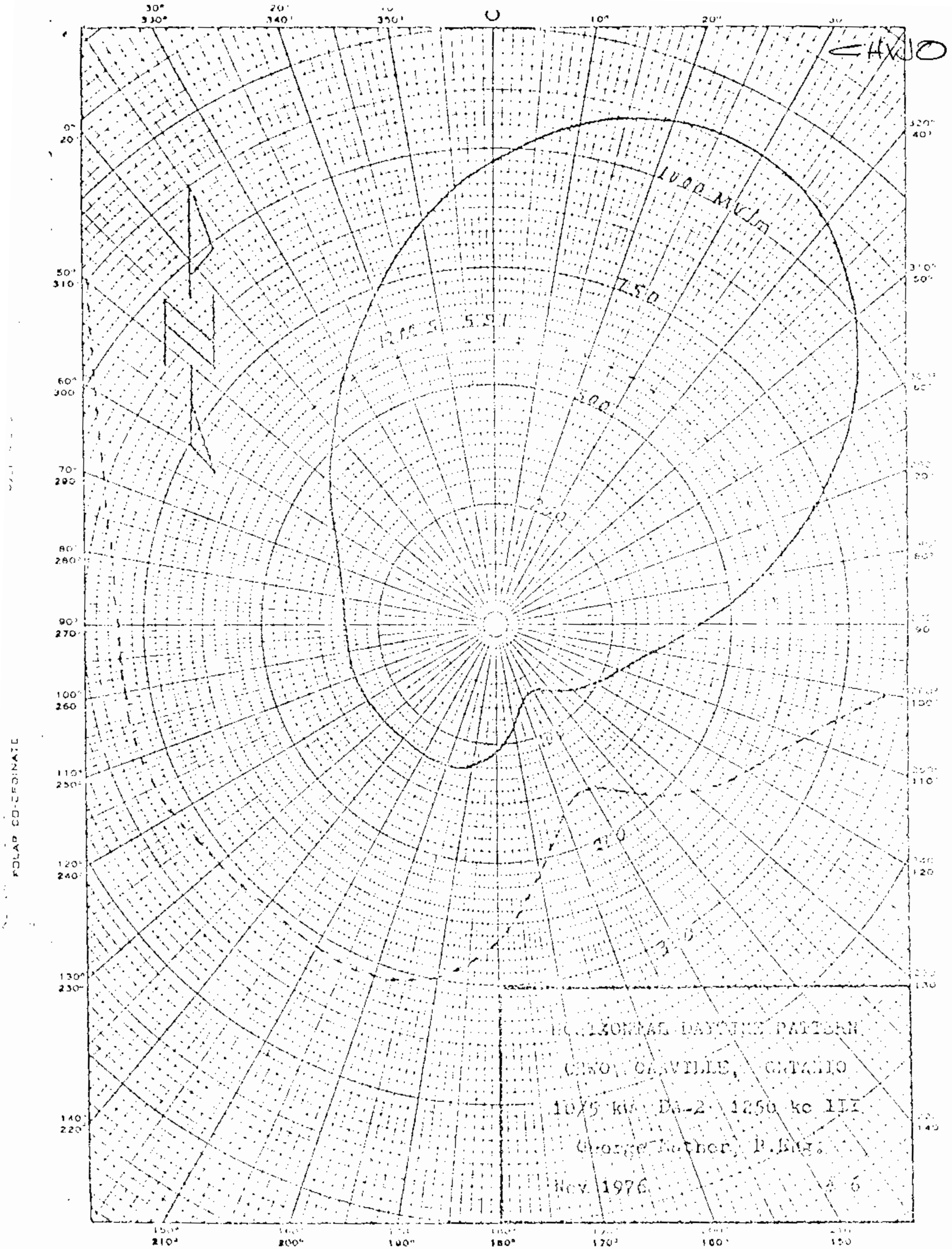
Array Characteristics Six elements, guyed, uniform cross section, base insulated, series feed. Height 160 feet or 73 degrees. No top loading.

ELEMENT		ONE	TWO	THREE	FOUR	FIVE	SIX
spacing		ref	73.35° 160.4'	144.0° 315.0'	169.8° 371.4'	126.5° 276.7'	90.0° 197.0'
bearing		ref	331°	320°	352°	15.3°	50°
Day	R	1.60		1.40	0.40		1.40
	Ø	000°		-55°	-136°		-81°
Night	R	1.0000	2.3500	1.5000	1.1250	1.7625	0.7500
	Ø	000°	-135°	+80°	-37°	+108°	-117°

Ground System 120 radials per tower, #10 AWG bare, soft copper wire, spaced uniformly, depth approximately 8 inches. Radials bonded along lines between the towers and bonded to soft copper straps at tower bases. Maximum radial length 350 feet.

Predicted RMS Day 591 mv/m at 1 mile for 10 kw
187 mv/m at 1 mile for 1 kw

Night 425 mv/m at 1 mile for 5 kw
190 mv/m at 1 mile for 1 kw


CHWO
1000 MV/M
250
RMS 521
100
50
10
HORIZONTAL DAYTIME PATTERN
CHWO, OAKVILLE, ONTARIO
10/5 kW DA-2 1250 kc III
George Mather, P.Eng.
Nov. 1976
4-6
POLAR CO-ORDINATE

CHWO

ANTENNA DESCRIPTION SHEET

DIRECTIONAL DA-2

Station Call	C H W O
Location	Oakville, Ontario.
Frequency	1250 khz
Power	Day 10 kw - 5 kw Night
Class	III
Time	Unlimited

Notification Reference List No. 395 April 11, 1980

Geographical Coordinates Lat 43°27'29", Lon 79°45'18"

Array Characteristics — Six elements, guyed, uniform cross section, base insulated, series feed Height 197 feet or 90 degrees, No top loading.

ELEMENT		ONE	TWO	THREE	FOUR	FIVE	SIX
spacing		ref	73.35° 160.4'	144.0° 315.0'	169.8° 371.4'	126.5° 276.7'	90.0° 197.0'
bearing		ref	331°	320°	352°	15.3°	50°
Day	R	1.60		1.40	0.40		1.40
	∅	000°		-55°	-136°		-81°
Night	R	1.0000	2.3500	1.5000	1.1250	1.7625	0.7500
	∅	000°	-135°	+80°	-37°	+108°	-117°

Ground System — 120 radials per tower, #10 AWG bare, soft copper wire, spaced uniformly, depth 8 inches approximately. Radials bonded along lines between towers and bonded to soft copper straps at tower bases. Maximum length 315 ft.

Predicted RMS

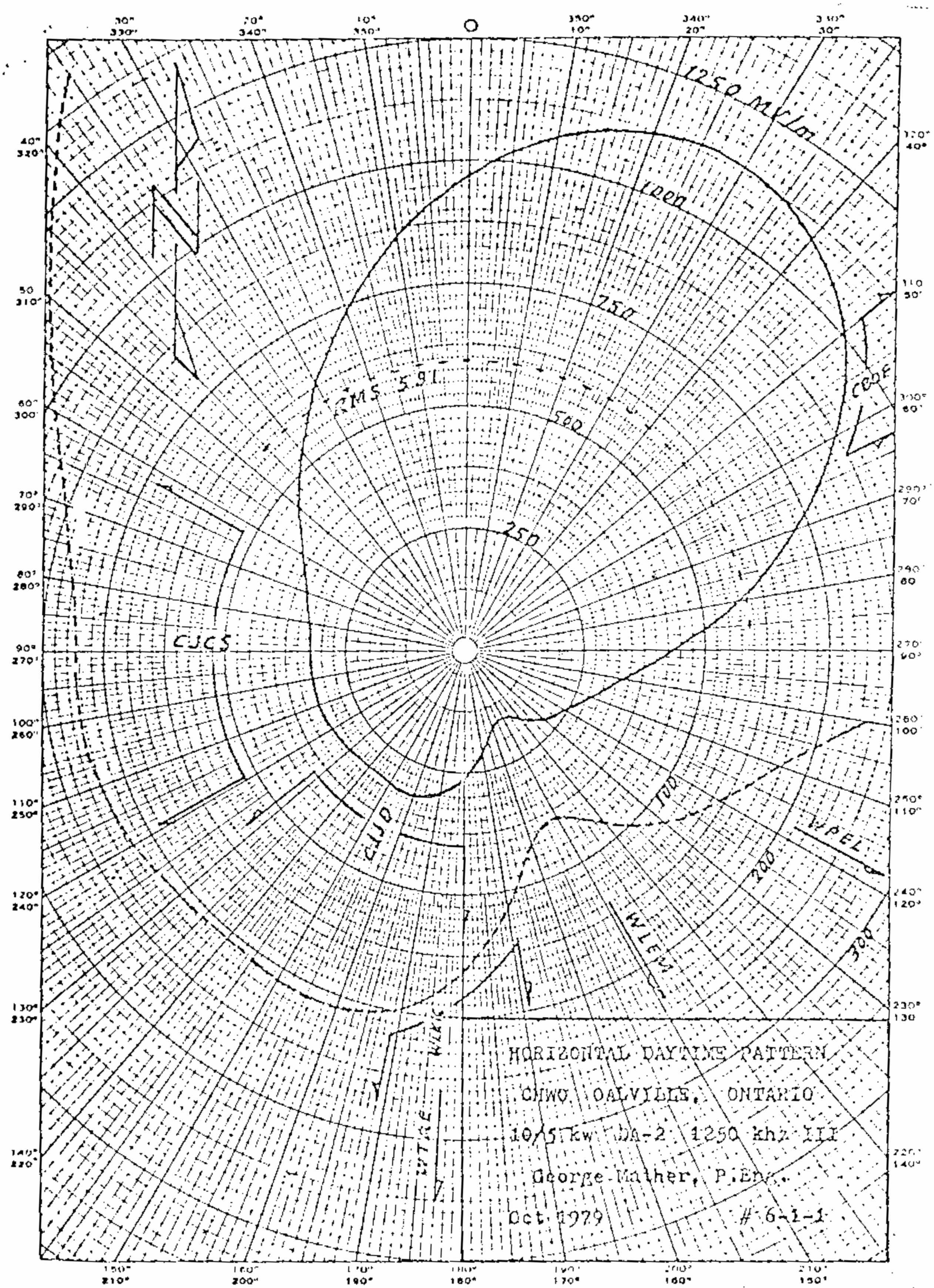
Day
591 mv/m at 1 mile for 10 kw
187 mv/m at 1 mile for 1 kw

Night
425 mv/m at 1 mile for 5 kw
190 mv/m at 1 mile for 1 kw

Oct 1979

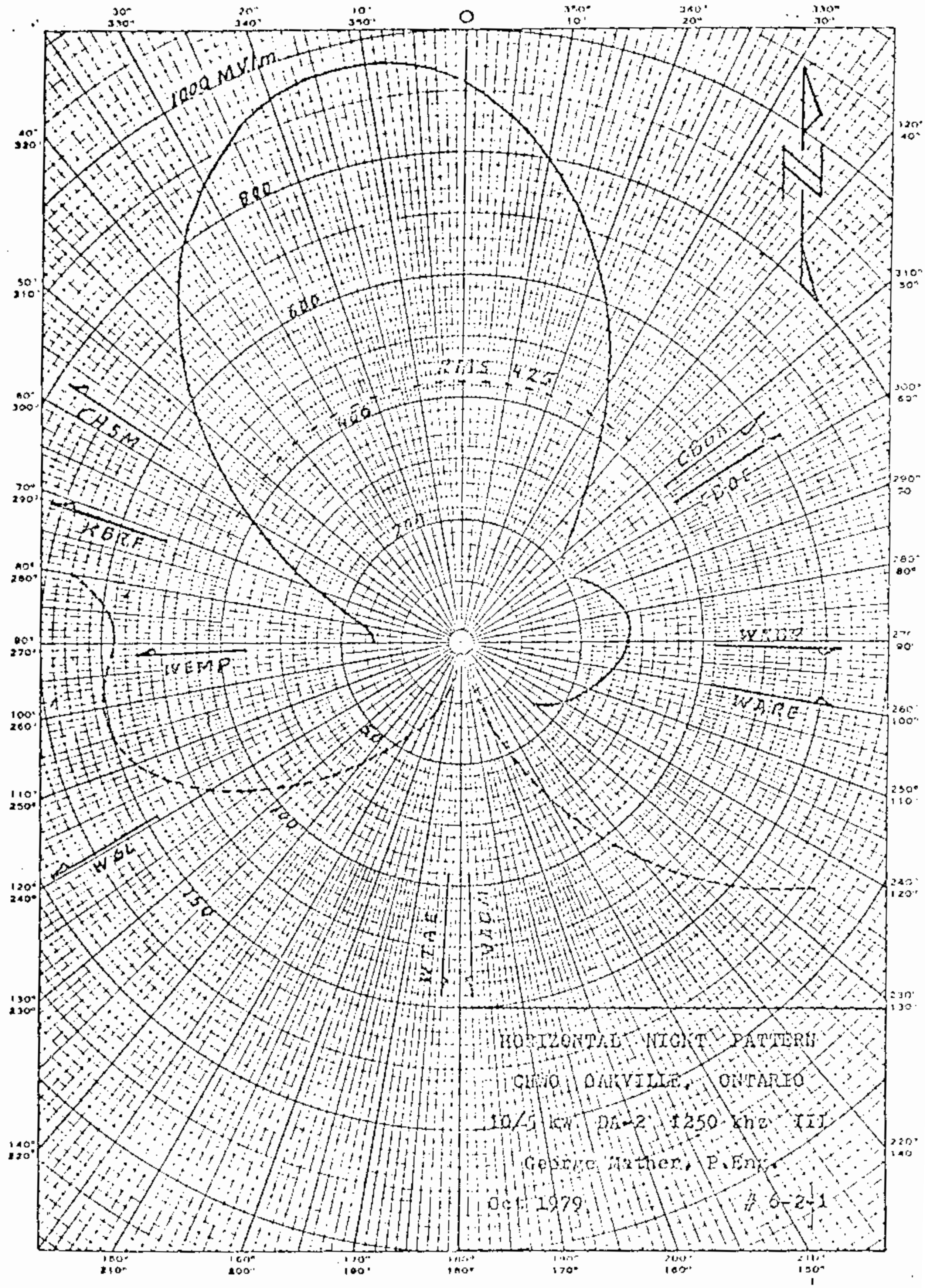
#5

CHWO

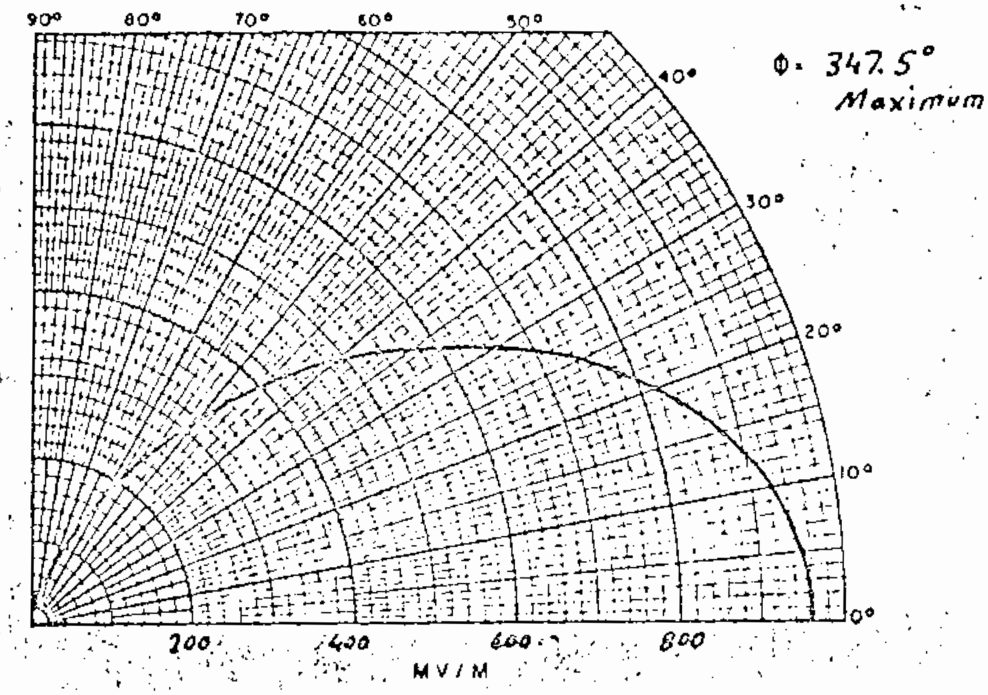


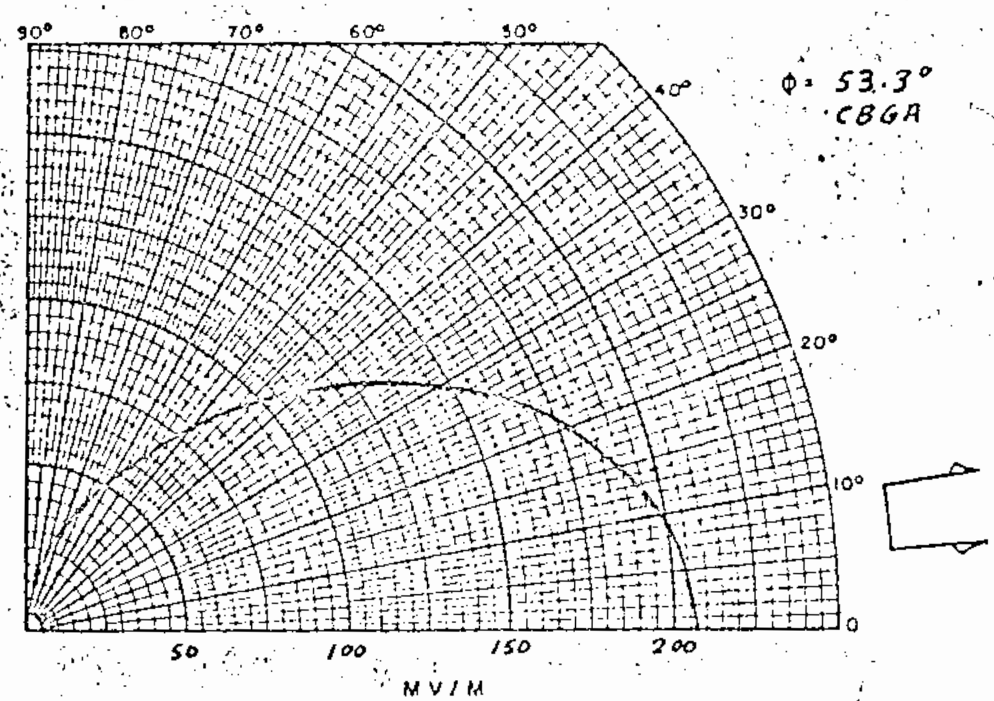
1250 MV/m
1000
750
500
250
RMS 5.91
CJCS
CJJD
WLEM
WPEL
200
300
HORIZONTAL DAYTIME PATTERN
CHWO OALVILLE, ONTARIO
10/5 Kw DA-2 1250 khz III
George Mather, P.Eng.
Oct 1979
6-1-1

CHWO


1000 MV/m
800
600
400
200
RMS 425
CHSM
KBRF
WEMP
WARE
100
150
HORIZONTAL NIGHT PATTERN
CHWO OAKVILLE, ONTARIO
10/5 KW DA-2 1250 khz III
George Mather, P.Eng.
Oct 1979
6-2-1

CHWO





POLAR CO-ORDINATE

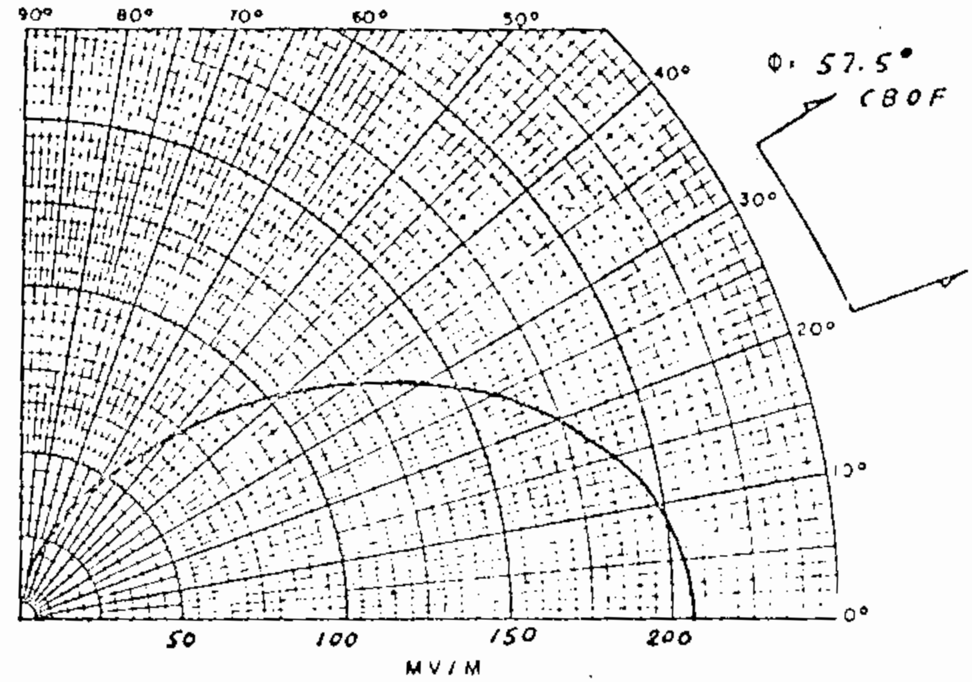
VERTICAL RADIATION PATTERNS

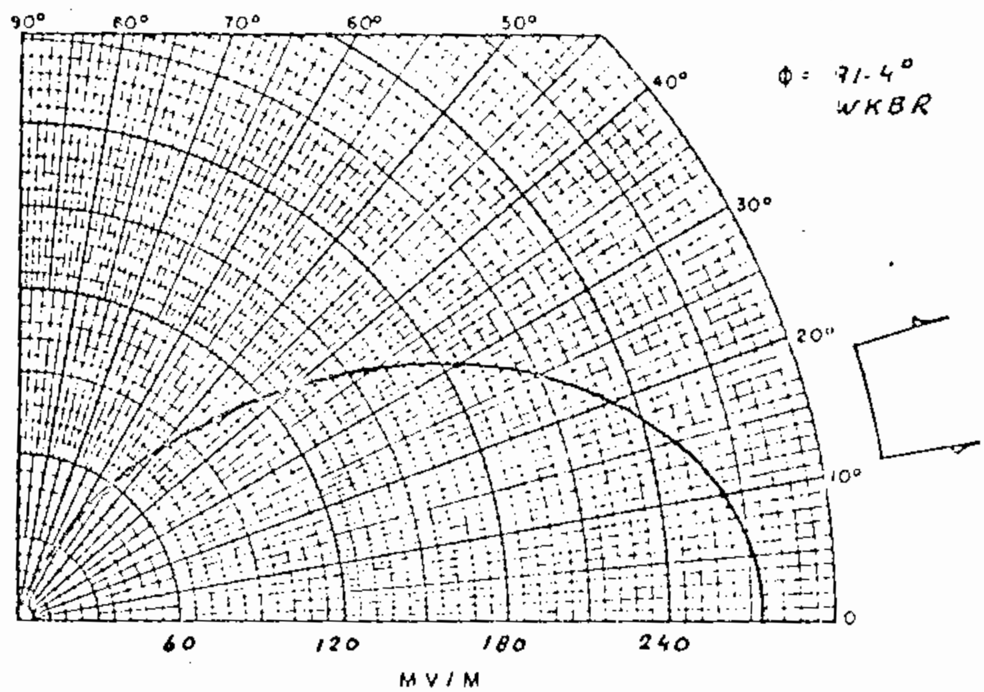
CHWO OAKVILLE, ONTARIO
5 kw DA-N 1250 khz III
George Mather, P.Eng

Oct 1979

7-1

CHWO





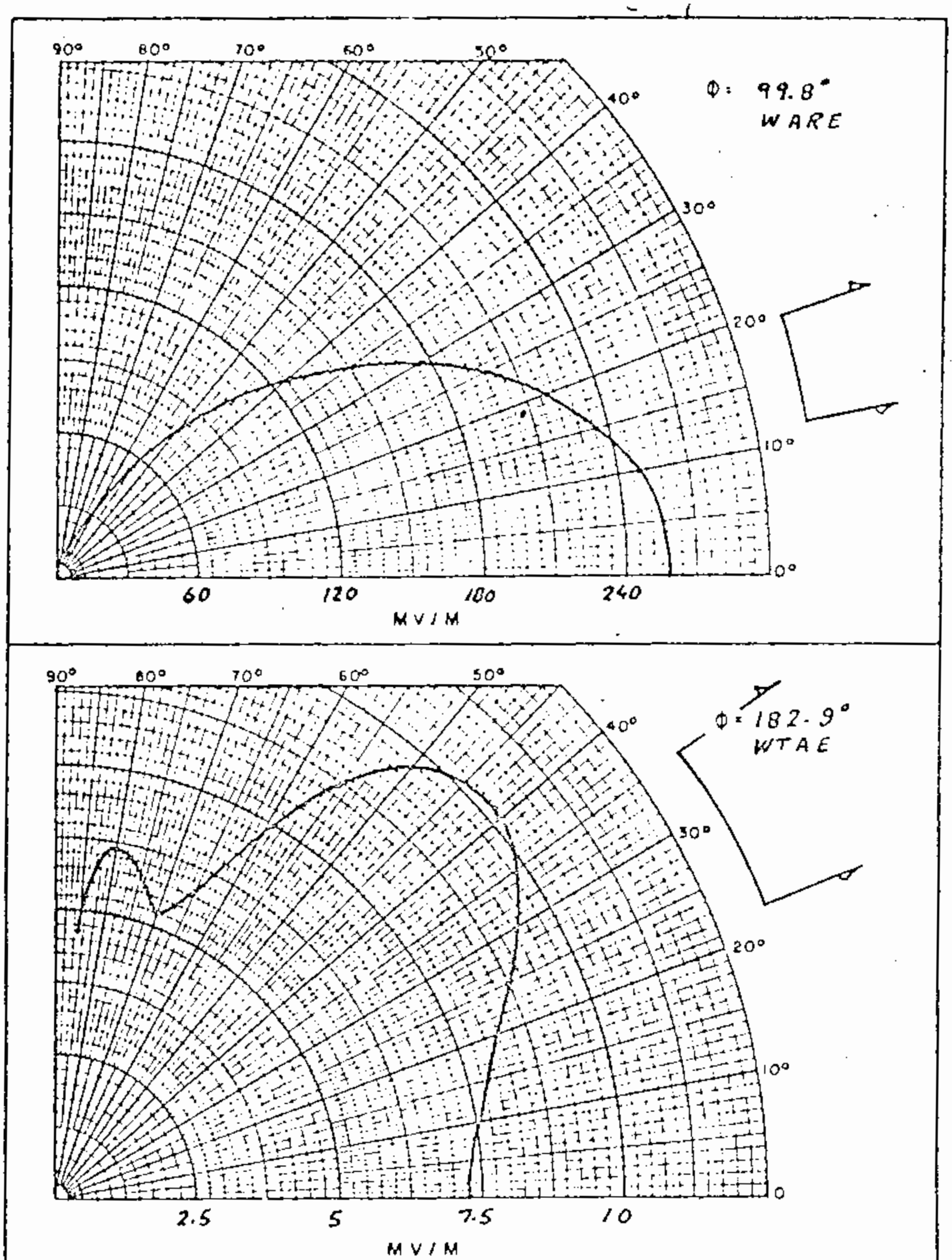
VERTICAL RADIATION PATTERNS

CHWO OAKVILLE, ONTARIO
5 kw DA-N 1250 khz III
George Mather, P.Eng.

Oct 1979

7-2

CHWO



VERTICAL RADIATION PATTERNS

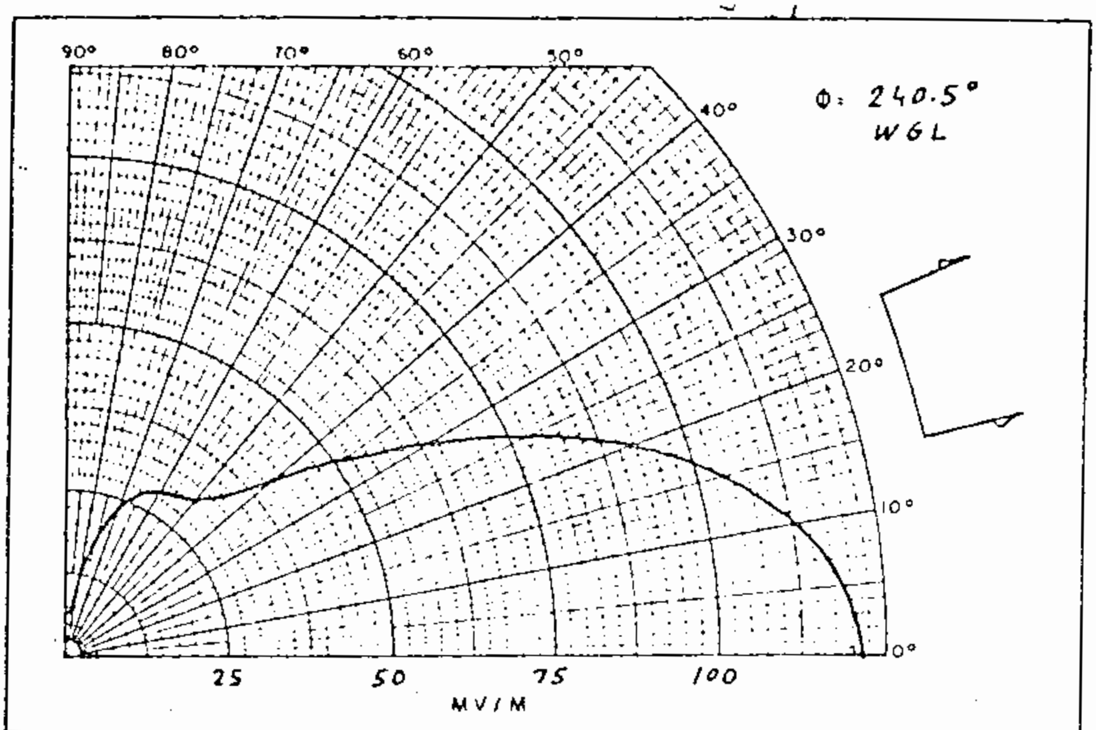
CHWO OAKVILLE, ONTARIO
5 kw DA-N 1250 khz III
George Mather, P.Eng.

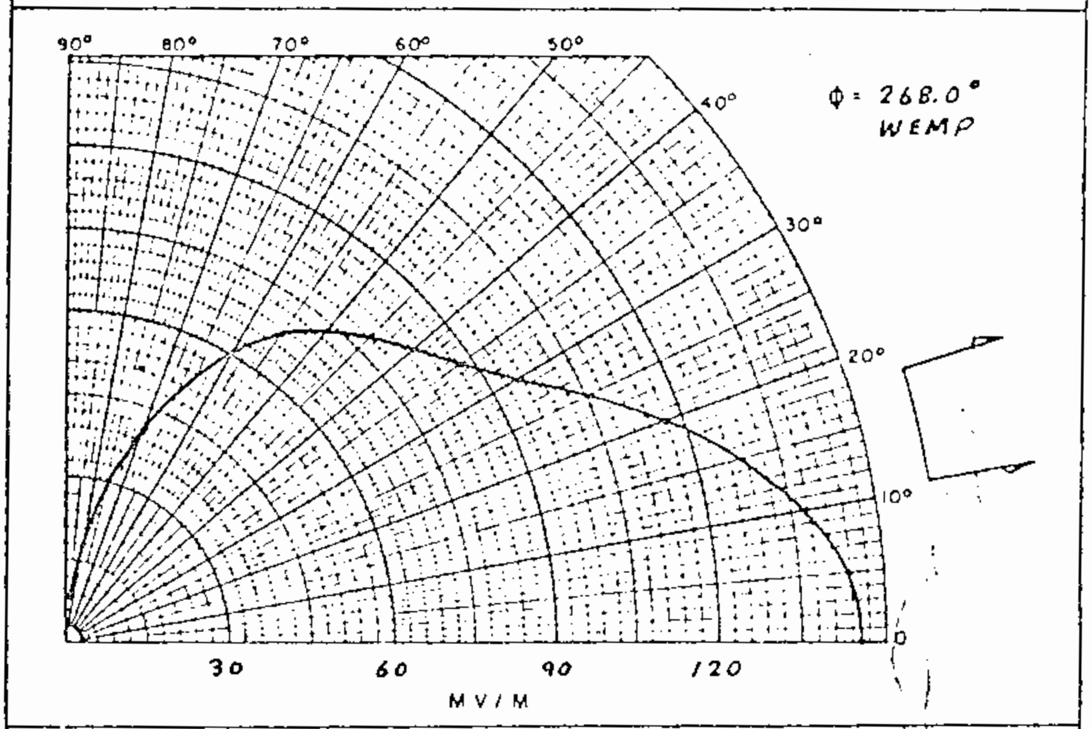
Oct 1979

7-3

POLAR CO-ORDINATE

CHWO





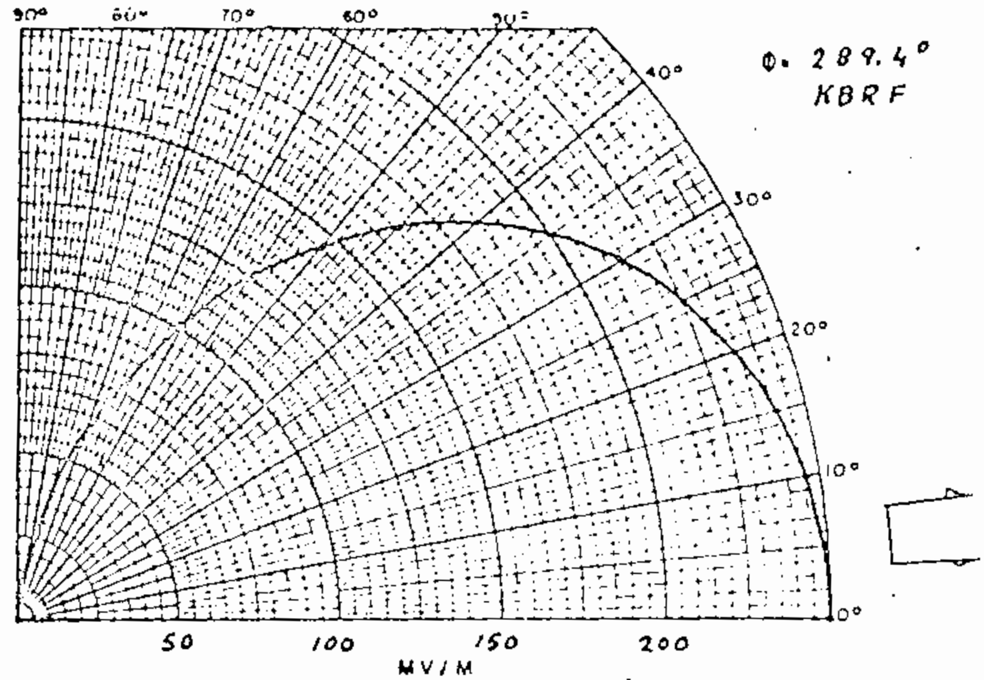
VERTICAL RADIATION PATTERNS

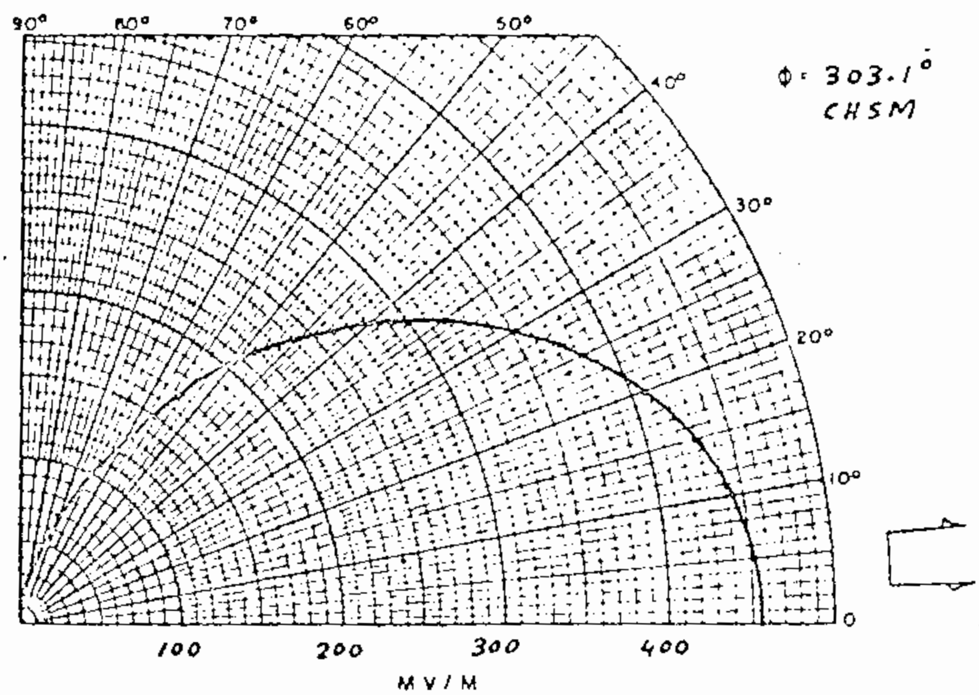
CHWO OAKVILLE, ONTARIO
5 kw DA-N 1250 khz III
George Mather, P.Eng.

Oct 1979 # 7-(i

POLAR CO ORDINATE

CHWO





VERTICAL RADIATION PATTERNS

CHWO OAKVILLE, ONTARIO
5 kw DA-N 1250 khz III
George Mather, P.Eng.

Oct 1979

7-5

CKBL

Description Sheet
(4-29-69ct)

Station CKBL
Matane, Quebec

5kw,10kw-LS,DA-N,U,Class III
1250 kc

CORRECTED

DIRECTIONAL ANTENNA DESCRIPTION SHEET

STATION: CKBL

MAIN STUDIO: Matane, Quebec.

FREQUENCY: 1250 Kc/s   POWER: 10 Kw-D/5KW-N   CLASS: 111

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

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM: North Latitude: 48° 51' 03"

West Longitude: 67° 30' 01"

ANTENNA CHARACTERISTICS:

Mode of Operation	:	DA-N (Directional at Night) (Non-directional at Day)	
Number of Elements	:	Two (2)	
Type of Elements	:	Square, uniform cross-section guyed steel towers, base insulated for series feed, no top loading.	
Tower	:	1 (N.W.)	2 (S.E.)
Height above Insulators		198' (90.6°)	198' (90.6°)
Overall Height	:	203'	203'
Spacing	:	197' (90°) between Towers	
Phasing - Night	:	0	-150.8°
Field Radio - Night	:	1	.788
Orientation	:	Towers on line bearing 124° East of True North	
Ground System	:	120 radials per tower spaced 3° apart and 316' (.4 wavelength) long with 120 radials 30' long interspaced.	
Predicted Effective Field		450 MV/M at 1 mile for 5 KW directional at night 600 MV/M at 1 mile for 10 KW non-directional at day	

NOTE: Please retain the radiation patterns notified in Change List No. 179 dated July 26, 1963 and attach to this corrected description sheet. This notification concerns a change in geographical coordinates only.

Revised: November 30, 1968.

#179 CKBL

DIRECTIONAL ANTENNA DESCRIPTION SHEET

STATION : CKBL MAIN STUDIO : Matane, Quebec

FREQUENCY : 1250 Kc/s POWER : 10 KW-D/5KW-N CLASS : III

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

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM : North Latitude : 48° 51' 12"

West Longitude : 67° 29' 44"

ANTENNA CHARACTERISTIC :

Mode of Operation	:	DA-N (Directional at Night) (Non-directional at Day)	
Number of Elements	:	Two (2)	
Type of Elements	:	Square, uniform cross-section guyed steel towers, base insulated for series feed, no top loading.	
Tower	:	1 (N.W.)	2 (S.E.)
Height above Insulators	:	198' (90.6°)	198' (90.6°)
Overall Height	:	203'	203'
Spacing	:	197' (90°) between Towers	
Phasing - Night	:	0	-150.8°
Field Ratio - Night	:	1	.788
Orientation	:	Towers on line bearing 124° East of True North	
Ground System	:	120 radials per tower spaced 3° apart and 316' (.4 wavelength) long with 120 radials 30' long interspaced.	
Predicted Effective Field	:	450 MV/M at 1 mile for 5 KW directional at night; 600 MV/M at 1 mile for 10 KW non-directional at day	

NOTE: The nighttime radiation pattern remains the same as that notified in List 03 of May 7, 1954. This description only pertains to a change in the daytime operation. The inversion of the night field ratio does not affect the radiation pattern.

n j pappas and associates

#83

Matane, Quebec, Ca. CKBL

DESCRIPTION SHEET
(9/16/57g)

Station CKBL
Matane, Quebec, Canada

5kw, DA-1, Class III
1250 KC

DIRECTIONAL ANTENNA DESCRIPTION SHEET

STATION: CKBL — MAIN STUDIO: Matane, Quebec

FREQUENCY: 1250 — POWER: 5 Kw. — CLASS: III

NOTIFICATION LIST NO: 83 — DATE: May 7, 1954

GEOGRAPHICAL LOCATION OF THE CENTRE OF THE ANTENNA SYSTEM:
North Latitude: 48° 51' 12"
West Longitude: 67° 29' 44"

ANTENNA:

Mode of Operation: Directional Day and Night (DA-1)

Elements: Two, Square, Uniform Cross section, Guyed, Insulated from ground, series fed, no top loading.

TOWER:

	No. 1 (N.W.)	No. 2 (S.E.)
HEIGHT ABOVE INSULATORS:	198' (90.6°)	198' (90.6°)
SPACING:		197'.(90°)
PHASING:	0	-150.8
FIELD RATIO:	1	1.27

GROUND SYSTEM: 120 radials 316 ft. spaced 3°) For each tower.
120 radials 30 ft. interspaced)

PREDICTED EFFECTIVE FIELD: 450 MV/M at 1 mile.

ORIENTATION: Line of towers bears 124° east of true north.

RECEIVED

RECEIVED SEP 7 F.C.C. MAIL & FILES

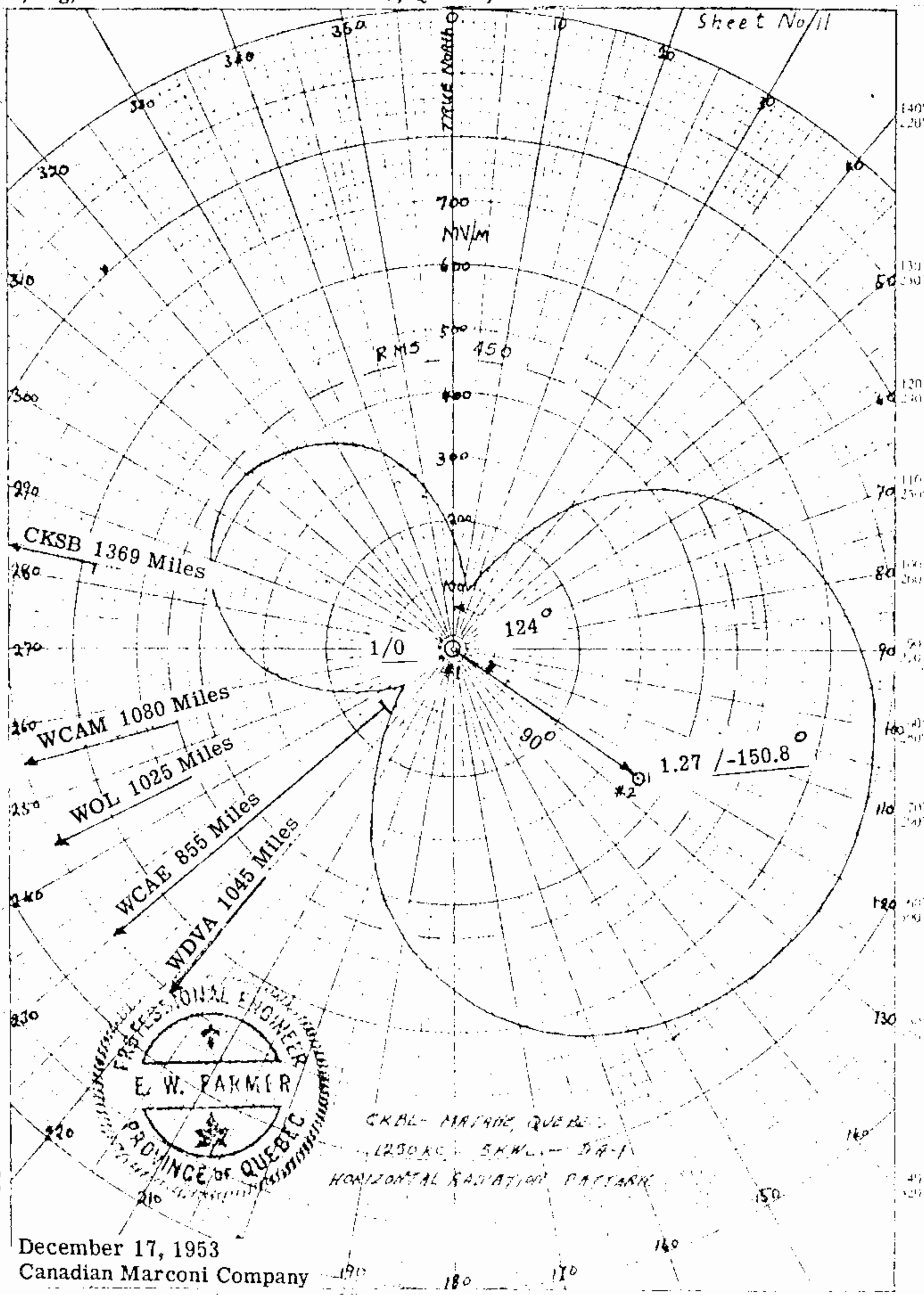
#83

CKBL

PROPOSED ~~DAY &~~ NIGHT (9/16/57g)

Station CKBL
Matane, Quebec, Canada

5kw, DA-1, Class III
1250 KC



December 17, 1953
Canadian Marconi Company

#150

CKOM

DESCRIPTION SHEET
(10-18-60g)

Station CKOM — 10kw, DA-N,U, Class III
Saskatoon, Saskatchewan, Canada — 1250 KC

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CKOM — Main Studio: Saskatoon, Sask.

Frequency: Frequency: 1250 Kc/s — Power: 10 Kw — Class: III

Notification List No. 150 — Date August 31, [illegible]

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:

North Latitude: 52° 04' [illegible]"

West Longitude: 106° 30' [illegible]"

ANTENNA CHARACTERISTICS

Mode of Operation: DA-N
Number of elements: 3 night and 1 day.
Type of elements: Guyed, uniform cross-section, series fed, no top loading.

TOWER:	#1(S)	#2(C)	#3(N)	#4(NW)
HEIGHT ABOVE INSULATORS:	143'(65°)	143'	143'	350' ([illegible]°)
OVERALL HEIGHT:	147'	147'	147'	354'
SPACING:	173'(78°)		173'(78°)	
PHASING:	[illegible]°	0°	-136°	Used for day
FIELD RATIO:	0.[illegible]	1.0	0.465	omni radiation

ORIENTATION: On a line bearing 6° east of true north.

GROUND SYSTEM: 120 #10 wires at 3° and 280' long around the south and centre existing towers. 120 #10 wires at 3° and [illegible]' long around the new north and west tower.

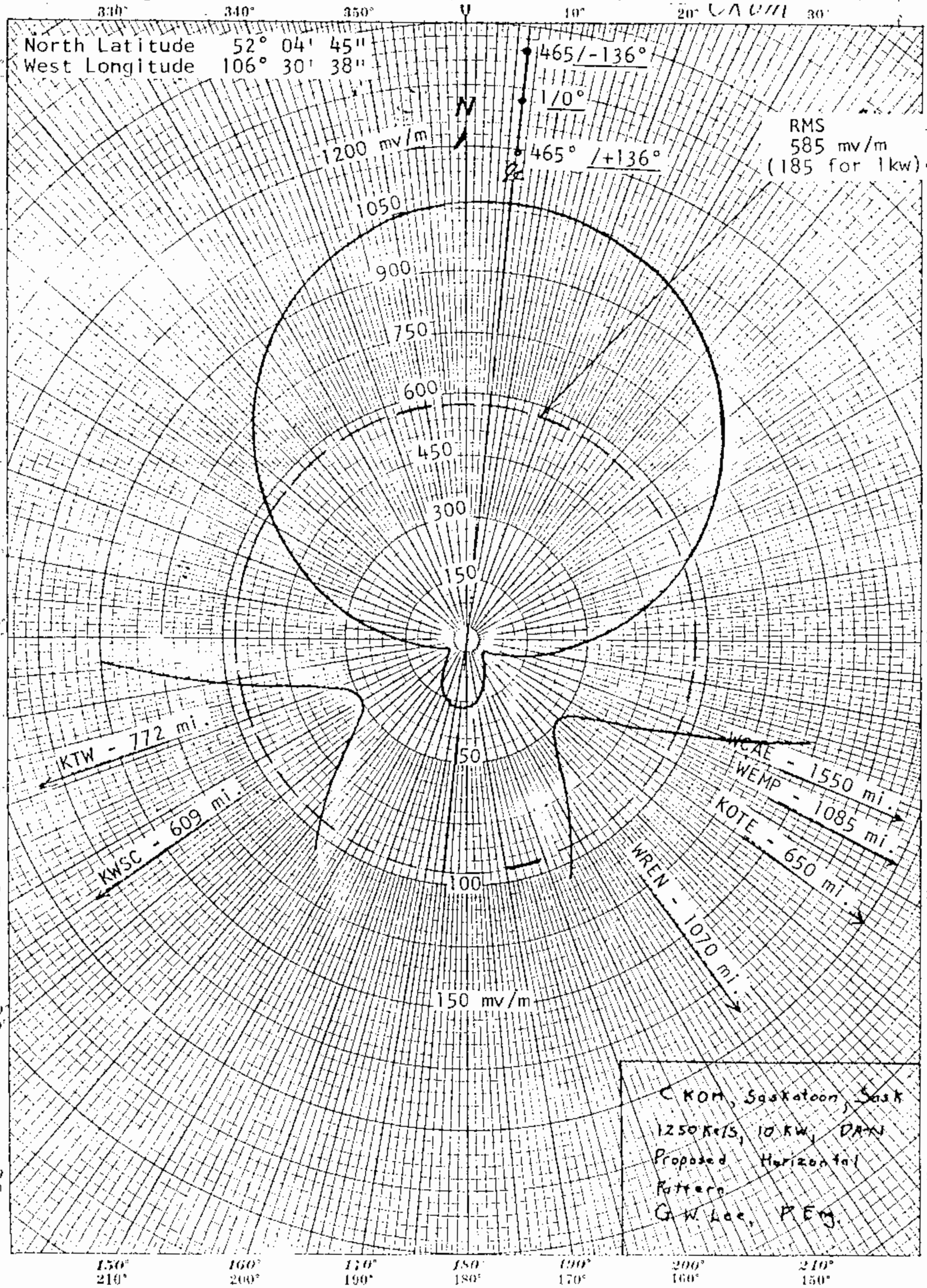
Predicted effective field 565 mv/m (185 for 1 kw) DA
695 mv/m (221 for 1 kw) ND
Daytime only.

#150

CKOM

PROPOSED NIGHT
(10-18-60g)

Station CKOM 10kw, DA-N,U, Class III
Saskatoon, Saskatchewan, Canada 1250 KC



CKOM

CKOM - SASKATOON, SASK.

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CKOM   Main Studio: Saskatoon, Sask.

Frequency: 1250 kHz   Power: 10 kW

Time: Unlimited   Class: III

Notification List No.: 383 Date: March 28, 1979

Geographical Location:

North Latitude 52° 04' 45"
West Longitude 106° 30' 38"

Antenna System: Four elements, guyed, uniform cross-section, series fed, no top loading.

Mode of Operation: DA-N

Tower	No. 1 (S)	No. 2 (EC)	No. 3 (N)	No. 4 (C)
Height above insulators:	143' (65°)	143' (65°)	143' (65°)	350' (158°)
Overall Height:	147'	147'	147'	354'
Spacing:	97°	-	90°	Ref.
Orientation:	178°	-	8°	Ref.
Field Ratio (N):	0.60	-	0.45	1.0
Phase (N):	143°	-	-134°	0°

Note: Tower No. 4 is also used for daytime omni radiation.

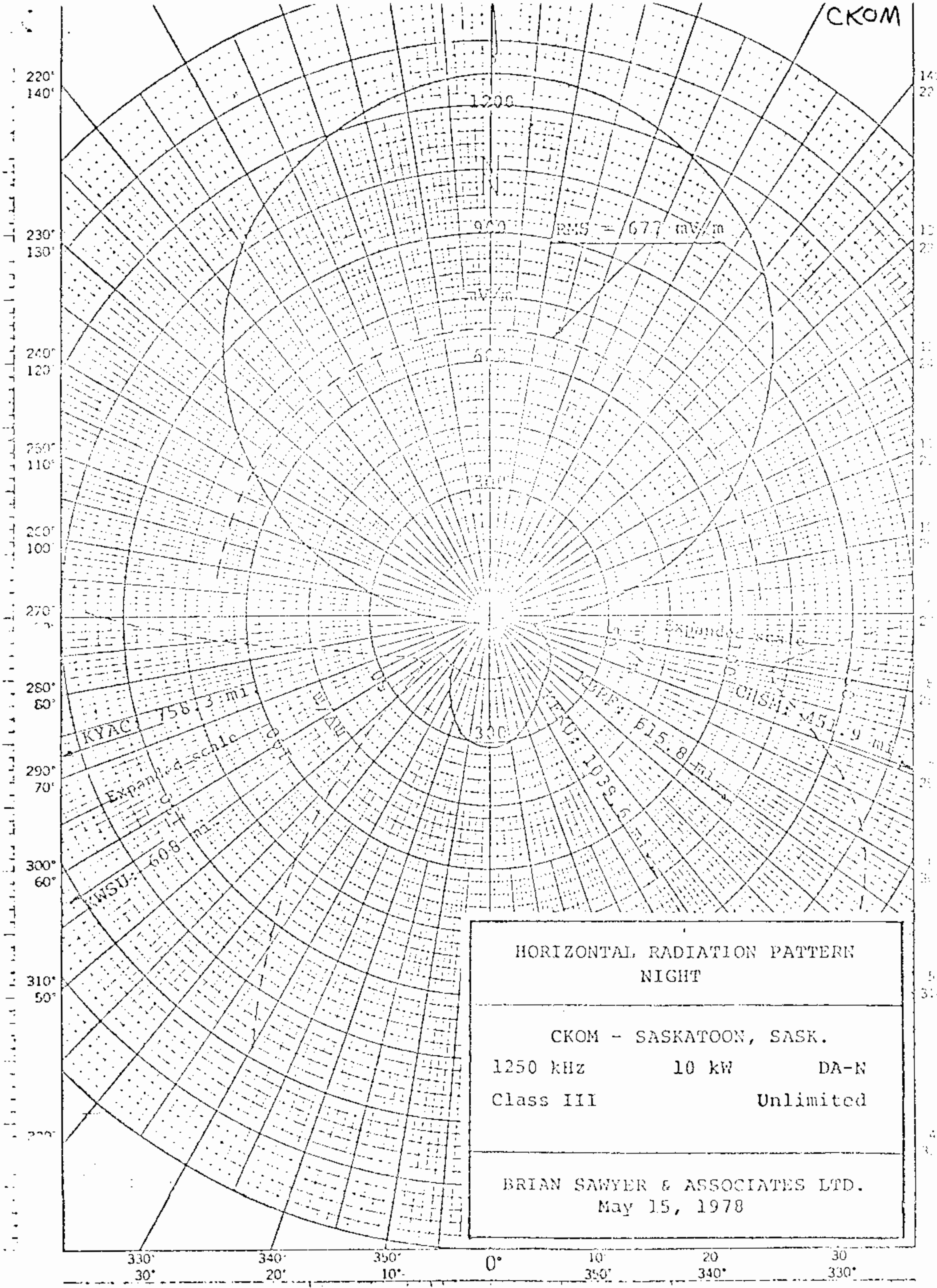
Ground System:

120 radials, equiangularly spaced around each mast extending up to 316 feet (0.4 wavelengths). The radials will be #10 AWG bare, soft drawn copper wire, buried 8 inches below ground level, and joined at the common chords.

Predicted Effective Field:

Night 677 mV/m at 1 mile for 10 kW
214 mV/m at 1 mile for 1 kW (Directional)

Day 695 mV/m at 1 mile for 10 kW
220 mV/m at 1 mile for 1 kW (Non-Directional)



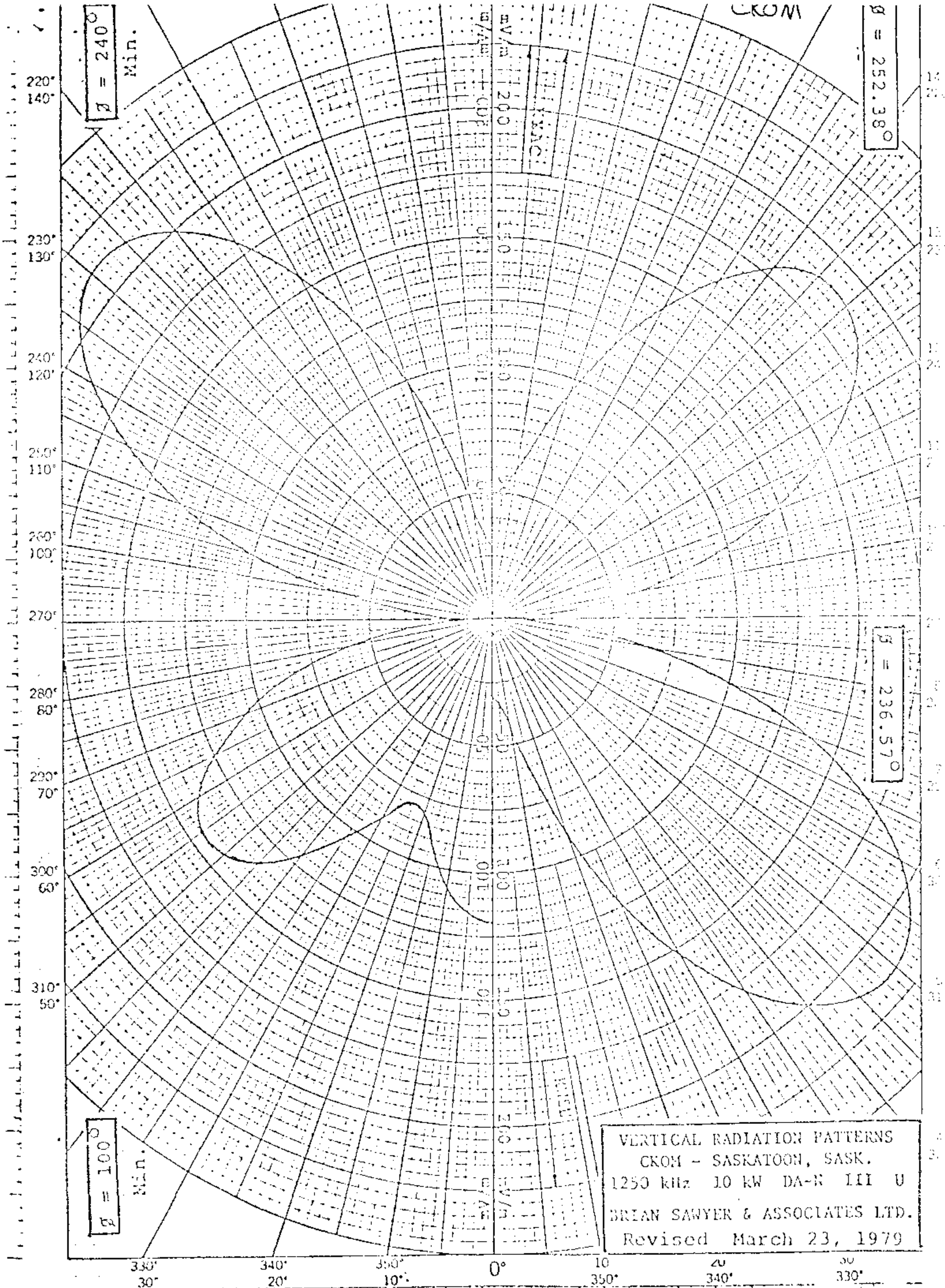
HORIZONTAL RADIATION PATTERN
NIGHT

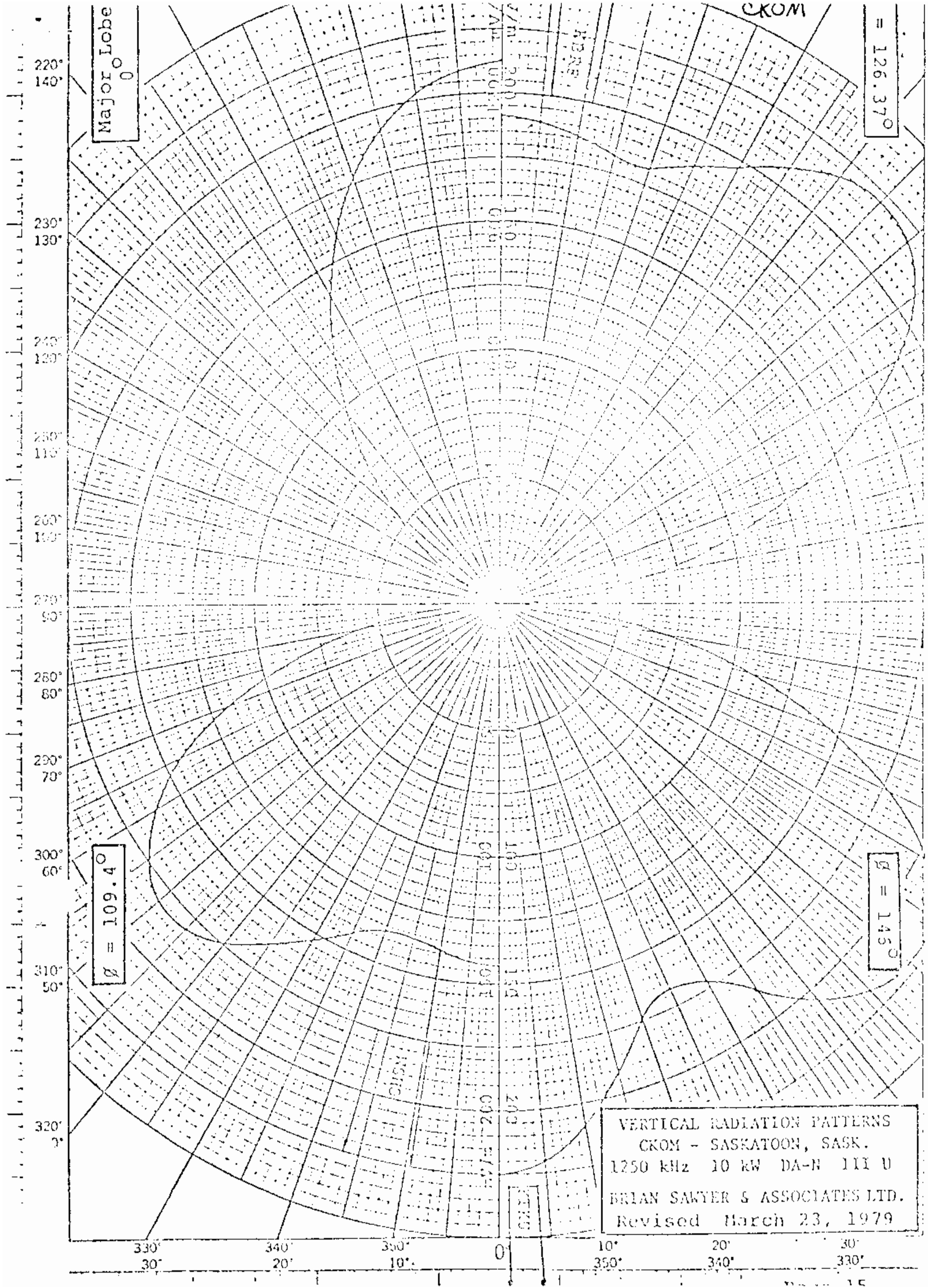
CKOM - SASKATOON, SASK.

1250 kHz   10 kW   DA-N

Class III   Unlimited

BRIAN SAWYER & ASSOCIATES LTD.
May 15, 1978


CKOM
Ø = 240° Min.
Ø = 252.38°
Ø = 236.57°
Ø = 100° Min.
220° 140°
230° 130°
240° 120°
250° 110°
260° 100°
270°
280° 80°
290° 70°
300° 60°
310° 50°
330° 30°
340° 20°
350° 10°
0°
10 350°
20 340°
30 330°
50
100
150
200
VERTICAL RADIATION PATTERNS
CKOM - SASKATOON, SASK.
1250 kHz 10 kW DA-N III U
BRIAN SAWYER & ASSOCIATES LTD.
Revised March 23, 1979


CKOM
Major Lobe 0°
ø = 126.37°
ø = 109.4°
ø = 145°
VERTICAL RADIATION PATTERNS
CKOM - SASKATOON, SASK.
1250 kHz 10 kW DA-N III U
BRIAN SAWYER & ASSOCIATES LTD.
Revised March 23, 1979

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station (NEW) : Main Studio: Grass Valley, California

Frequency 1250 kHz : Power 0.5kw

Notification List No.: 1765 Date January 12, 1978 Class: III

GEORGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 39° 10' 58"
West Longitude: 121° 02' 54"

ANTENNA CHARACTERISTICS

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

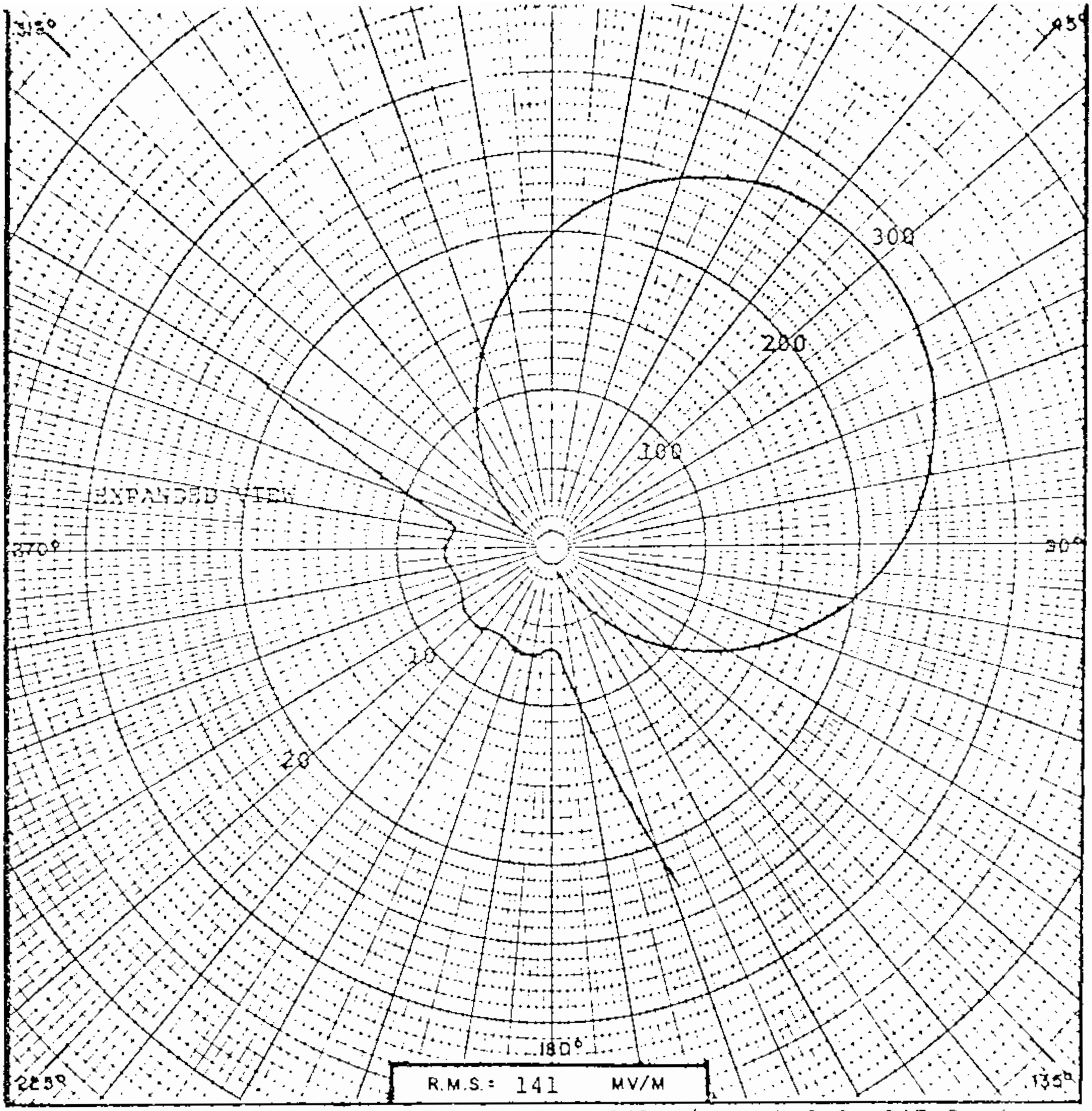
TOWER :	SW(#1)	C(#2)	NE(#3)	
HEIGHT ABOVE INSULATORS :	190'	190'	190'	(86.9°)
PHASING:	0°	-132.52°	+94.95°	
FIELD RATIO:	1	1.9756	1	

SPACING AND ORIENTATION: Towers are spaced 131' (60°) on a line bearing 50° true.

GROUND SYSTEM: 120 - 190' equally spaced copper radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL		STANDARD
RMS	RSS	RMS
141 mv/m	247.8 mv/m	148 mv/m



RMS (Std) = 148mv/m R.S.S.=247.8mv/m

PATTERN PARAMETERS

50°True

3 O 1.00/94.95°

S

2 O 1.9756/-132.52°

S

1 O 1.00/ 0°

S = 60°

G = 86.9°

DIRECTIONAL RADIATION PATTERN

NEVADA COUNTY BROADCASTERS

☐ MEASURED ☒ PROPOSED

FREQ 1250 (KHZ) POWER 0.5 (KW) ☒ DA-D

N LAT 39 ° 10 ' 58 " ☐ DA-N

W LONG 121° 02 ' 54 " ☐ N-D

LOCATION Grass Valley, California

DATE September, 1976

ROBERT A JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FIGURE ______

1250KH2

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: (NEW)

Main Studio: Willits, California

Frequency: 1250 kHz

Power: 2.5kw Day

Notification List No. 1785

Date: November 16, 1979

Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 39° 22' 43"
West Longitude: 123° 20' 10"

ANTENNA CHARACTERISTICS

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

TOWERS:	#1 (W)	#2 (E)
HEIGHT ABOVE INSULATORS:	196.7' (90)	196.7'
DAY PHASING:	0°	20°
DAY FIELD RATIO:	1.0	0.7

SPACING AND ORIENTATION: The towers are spaced 371.6' (170°) on a line bearing 70° true.

GROUND SYSTEM: 120 - 200' 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	282.10 mv/m	319.33 mv/m	296.37 mv/m

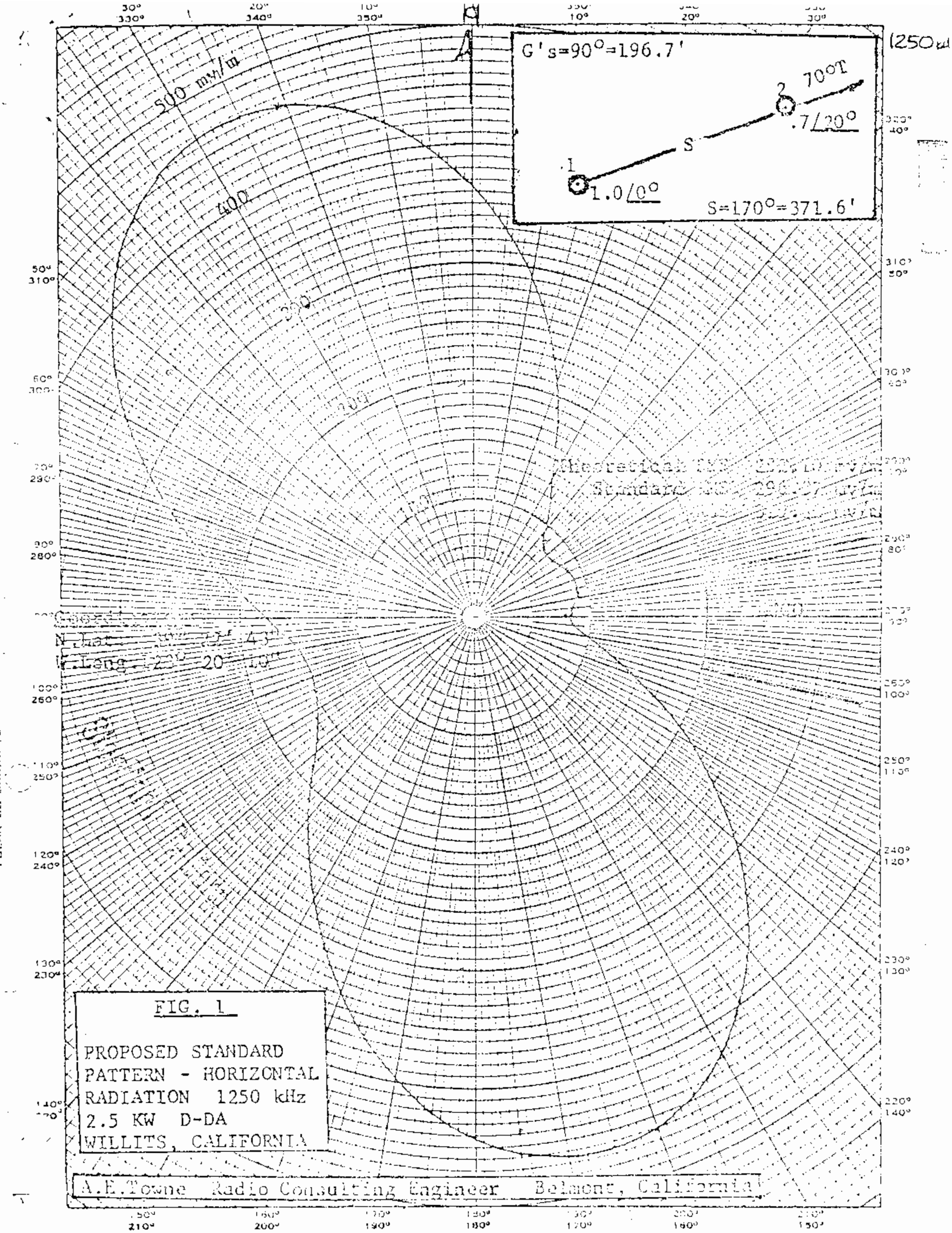
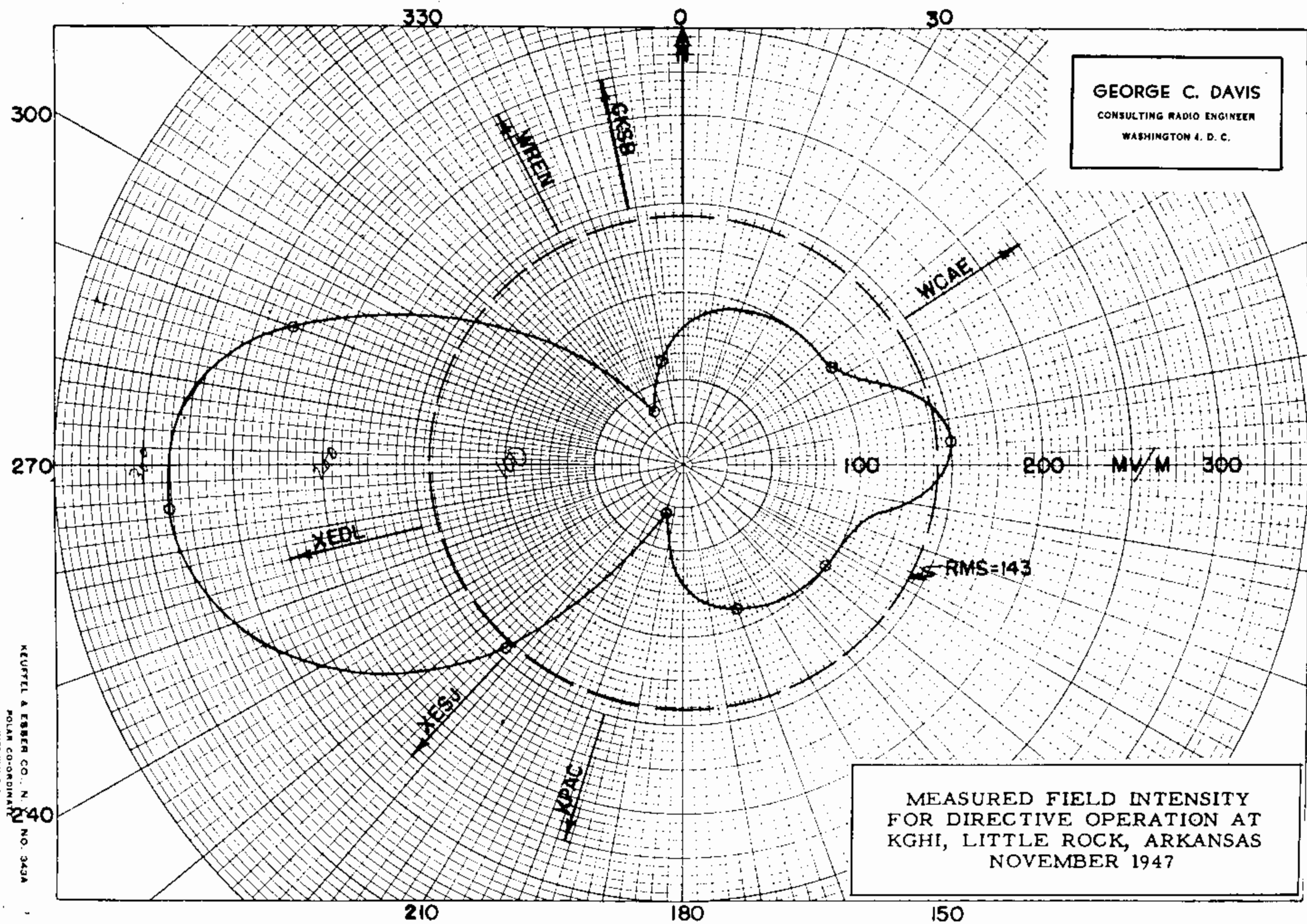


FIG. 1

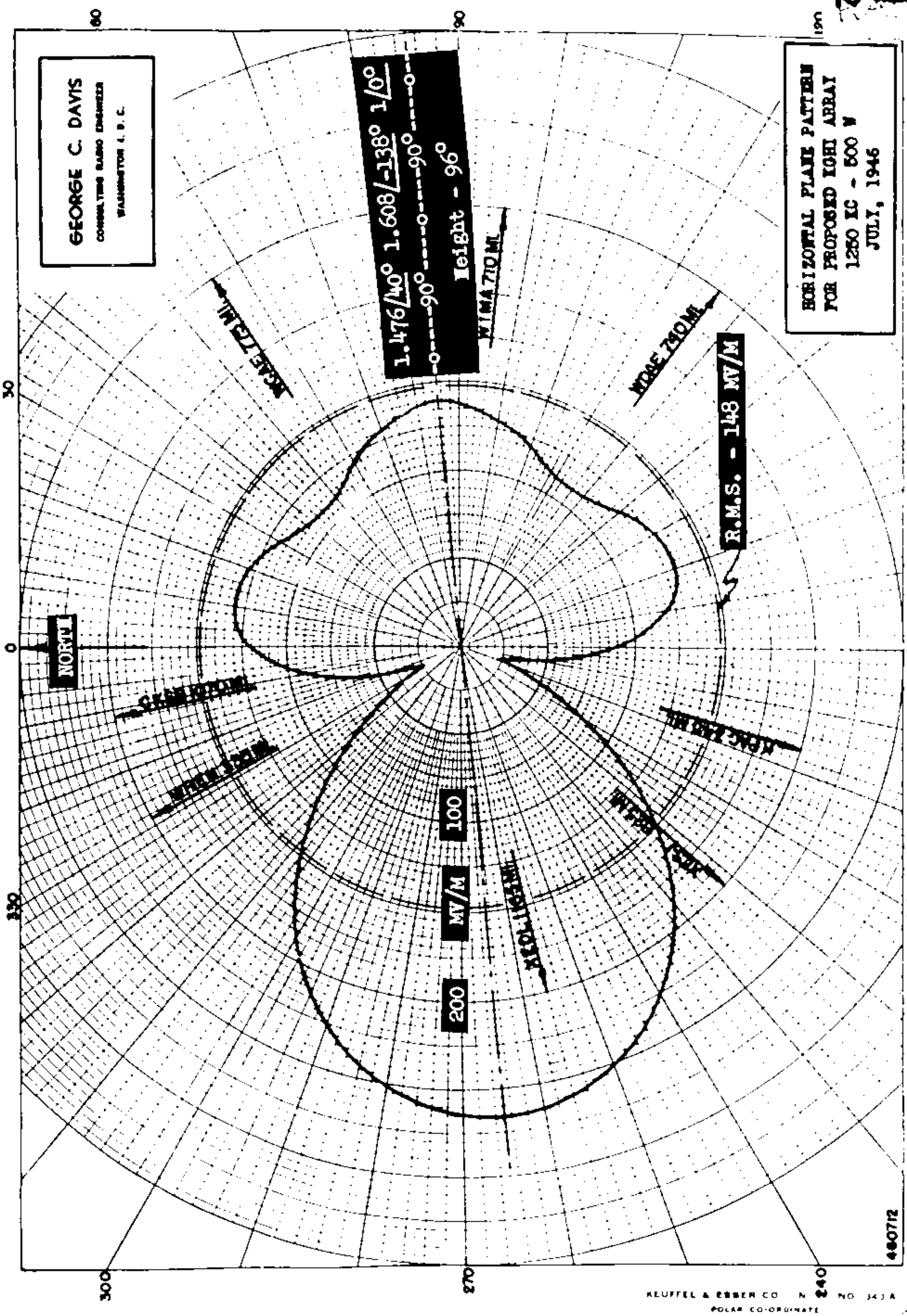
PROPOSED STANDARD PATTERN - HORIZONTAL RADIATION 1250 kHz 2.5 KW D-DA WILLITS, CALIFORNIA

KALO


GEORGE C. DAVIS
CONSULTING RADIO ENGINEER
WASHINGTON 4, D. C.
MEASURED FIELD INTENSITY
FOR DIRECTIVE OPERATION AT
KGHI, LITTLE ROCK, ARKANSAS
NOVEMBER 1947
0
30
60
90
150
180
210
240
270
300
330
100
200
300
MV/M
RMS=143
WCAE
CKSB
WREN
XEDL
XESJ
KPAC
KEUFFEL & ESSER CO., N. Y. NO. 343A
POLAR CO-ORDINATE
MADE IN U. S. A.

PROPOSED NIGHT Station KGHI 500w,1kw-LS, DA-N,U
Little Rock, Arkansas 1250 KC

KALO



KALO

MEASURED
DAY(non-DA)

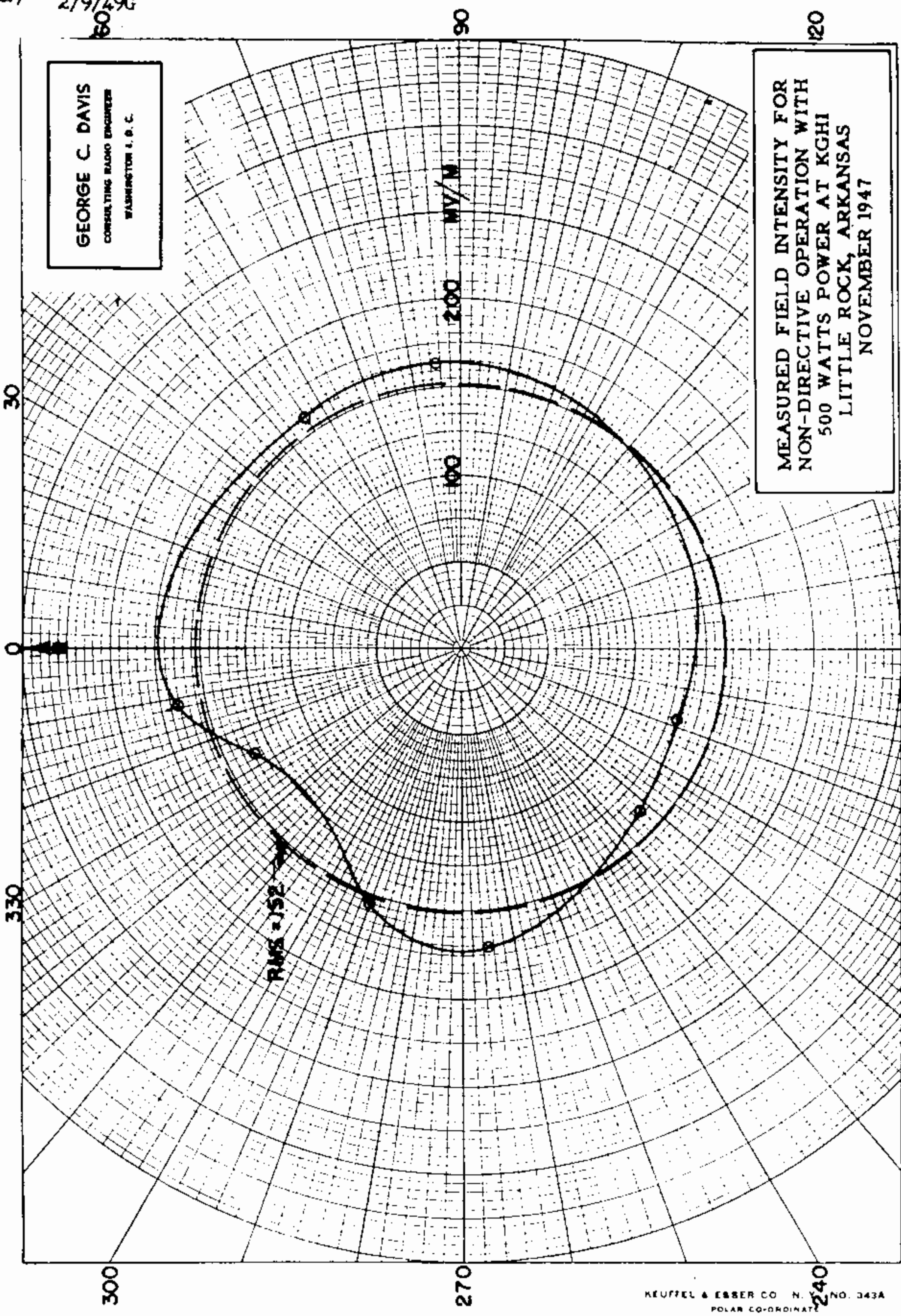
KGHI. LITTLE ROCK, ARK.

2/9/49G

11-13-47

500w.1kw-LS.DAN

1250kc



KGHI, LITTLE ROCK, ARK. 1250kc

KBRF

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station : KBRF Main Studio: Fergus Falls, Minnnesota

Frequency : 1250 KHz Power : 1 kW Night 5 kW Day

Notification : 1782 Date : October 26, 1979 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 46° 17' 19" West Longitude: 96° 06' 17"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER :	NE	NW	S			
HEIGHT ABOVE INSULATORS :	250'(114.4°)	195'	195'(89.2°)			
NIGHT PHASING :	-131°	+10	-10°			
NIGHT FIELD RATIO:	0.26	0.60	0.40			
DAY PHASING :	117.5°	0°	--			
DAY FIELD RATIO :	0.55	1.0	--			

SPACING AND ORIENTATION: The NW and S towers are spaced 480' (219.4°) at 324.1° true. The NE tower is spaced 265' (121.1°) at

GROUND SYSTEM: 120 equally-spaced, buried, copper radials 325' in length about the NE tower, plus a 48' square copper ground screen. Plus 120 equally-spaced, buried, copper radials 275' in length about the NW and S towers, plus 120 equally spaced, buried, copper radials 50' in length about the NW and S towers. Radials shortened at points of intersection.

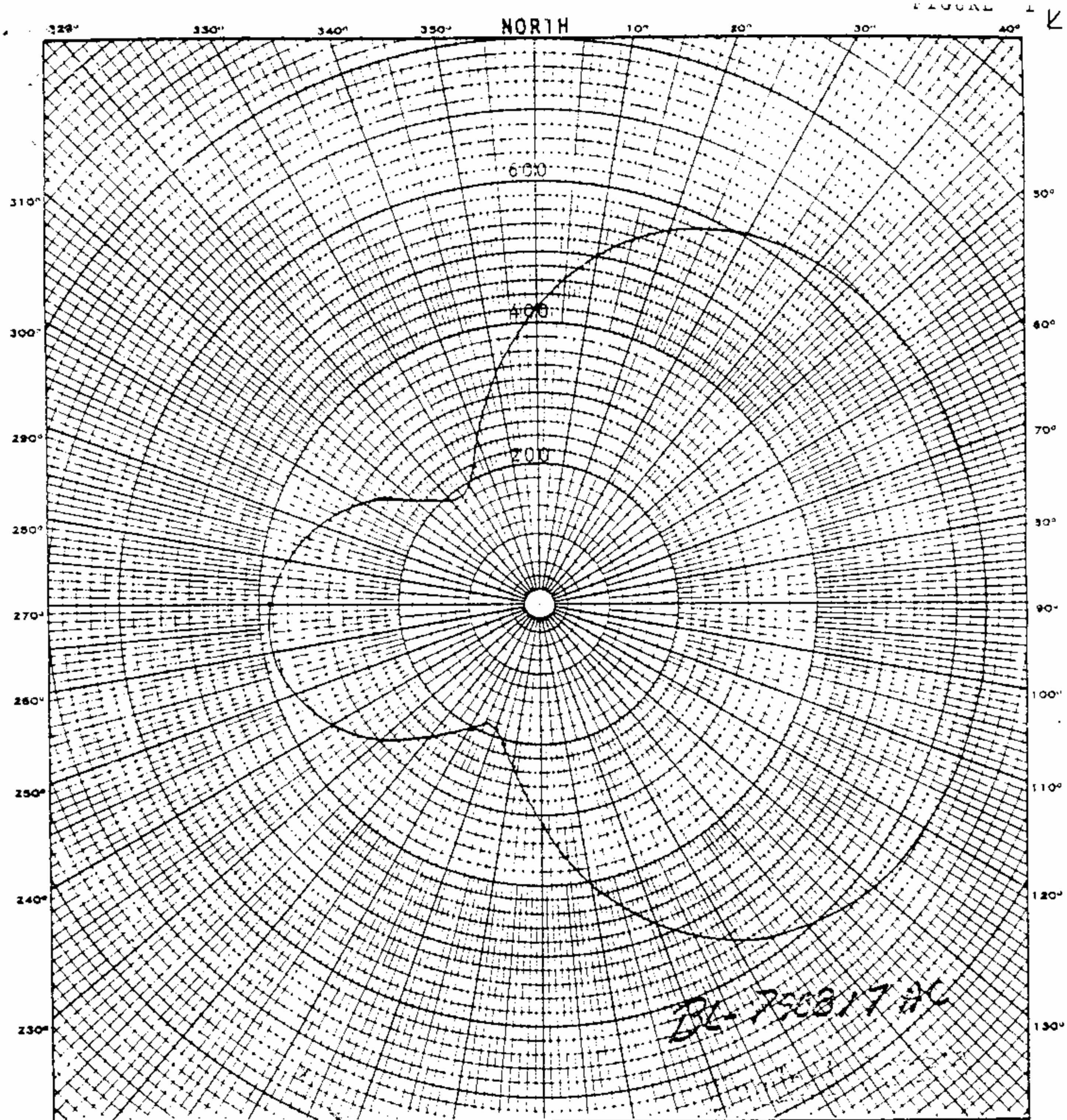
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day 1/	444 mv/m	451.3 mv/m	466.2 mv/m
Night1/	179 mv/m		187.95 mv/m

1/ By adjustment of input power.

Note: Please retain the Nighttime directional antenna radiation pattern notified for Station KBRF in United States Change List Number 1130 dated September 22, 1965, 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.

FIGURE 1 KBRF



R.M.S. (THEO) 444 MV/M R.M.S. (STND) 466.2 MV/M R.S.S. 451.3 MV/M

PATTERN PARAMETERS

83.910°T

2

0.55/-117.5

129.419°

1

1.0/0

G_1=114.5°

G_2=89.2°

Empire Broadcasting Stations, Inc.

MEASURED [ ] PROPOSED [X]

FREQ. 1250 (KHZ) POWER 5.0 (KW) [XX] DA-D

N. LAT. 46 ° 17 ' 19 " [ ] DA-N

W. LONG. 96 ° 06 ' 17 " [ ] N-D

LOCATION: Fergus Falls, Minnesota

DATE: June 1978

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

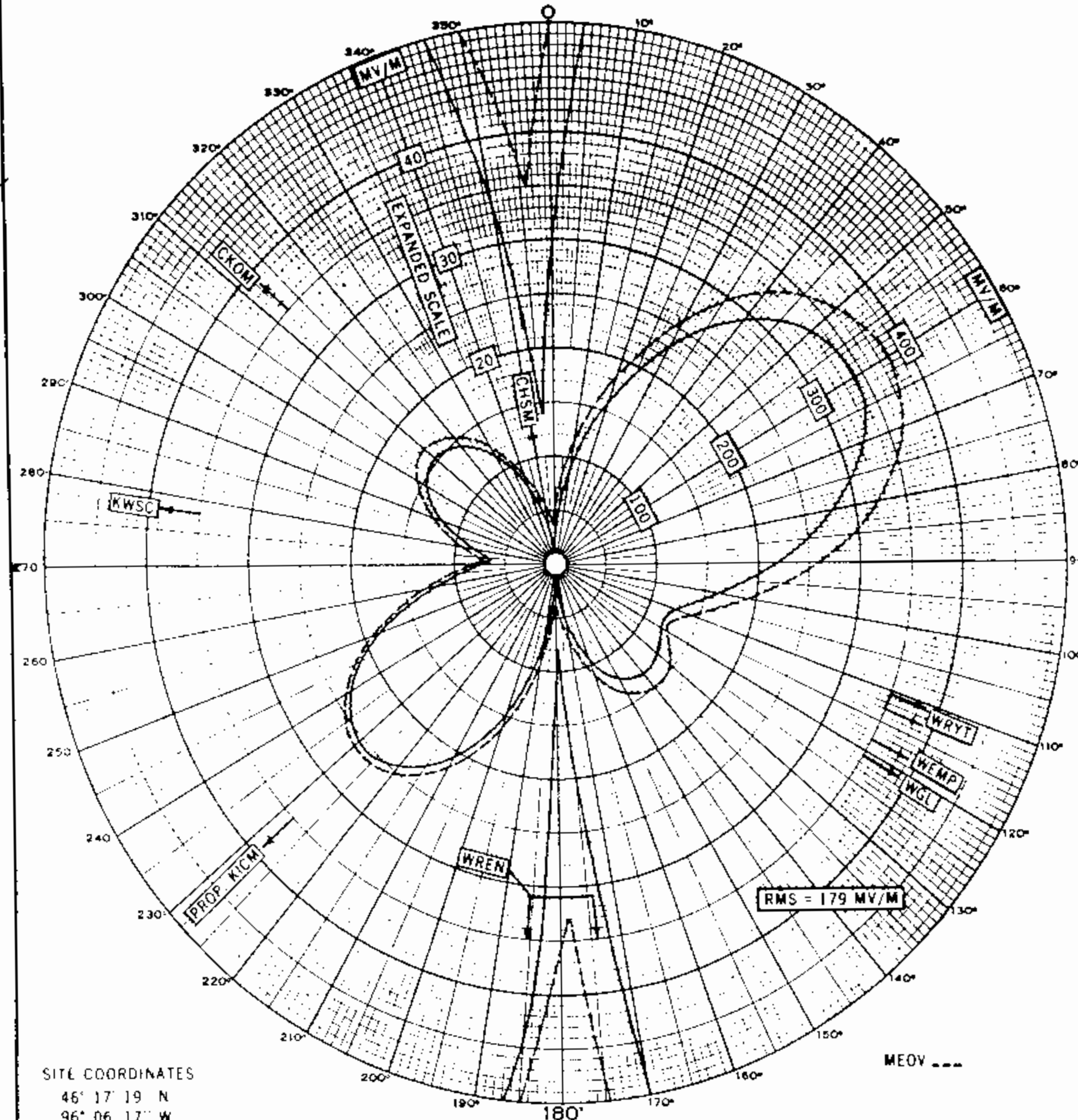
KBRF ~~KOTE~~

Proposed Night
(8-28-67ct)

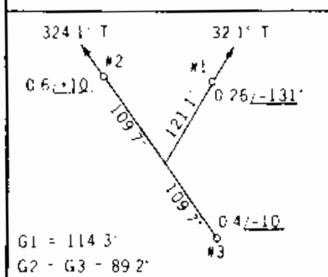
Station KOTE
Fergus Falls, Minnesota

1kw,DA-N,U
1250 kc
Figure 10

11-8-67
GRANTED LIC.
INCR. IN POWER



CALCULATED NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN



NORTHLAND BROADCASTING CORPORATION
FERGUS FALLS, MINNESOTA

Jules Cohen & Associates
Consulting Electronics Engineers

STATION KOTE
1250 KHZ
1 KW U DA-N
PATTERN 650423

FCC File No. BL-11704
Accepted 8-1-67

Station KOTE
Fergus Falls, Minnesota

1250 kc

KBRF ~~KOTE~~

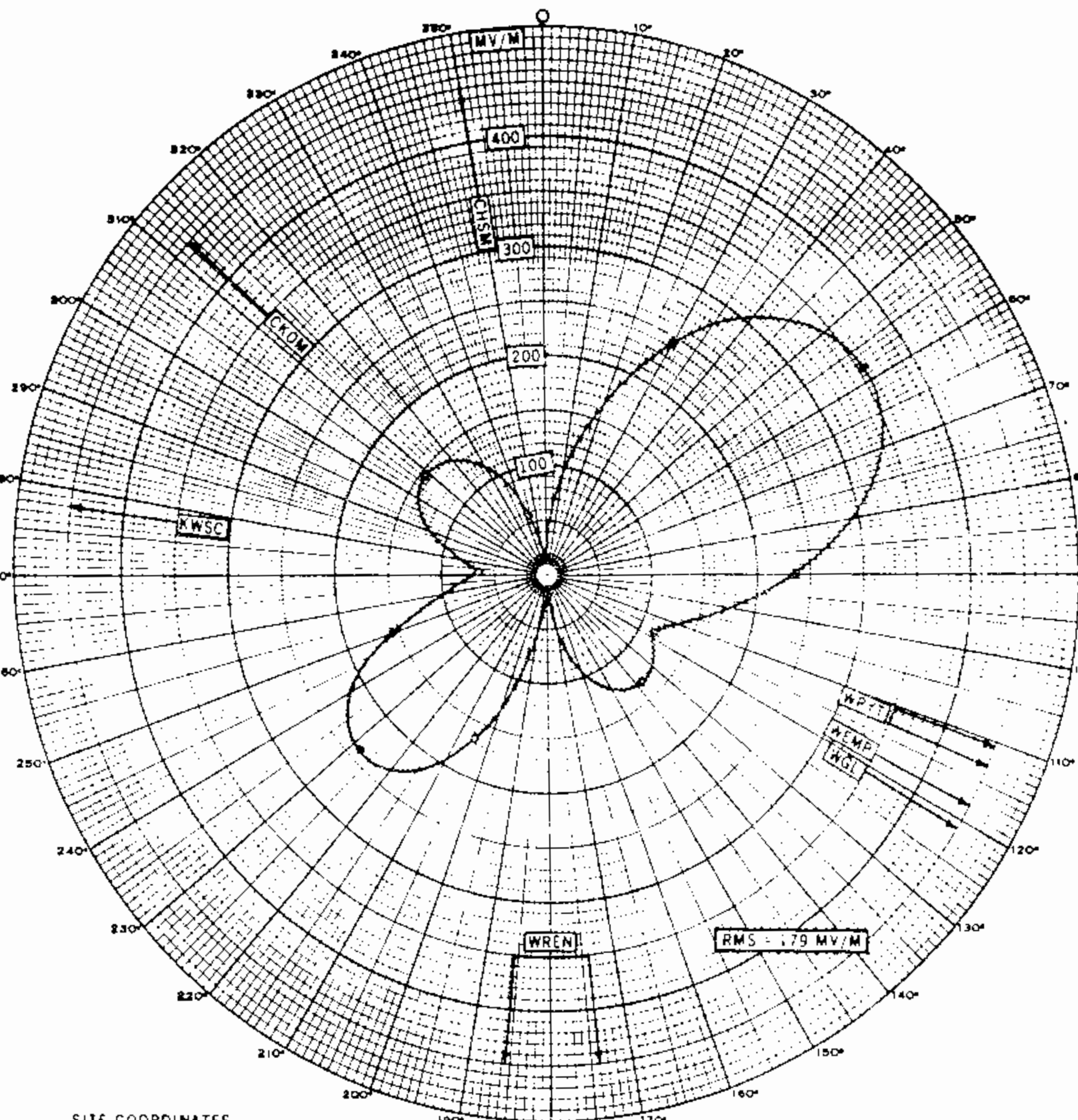
Measured Night
(8-28-67ct)

Station KOTE
Fergus Falls, Minnesota

1kw,DA-N,U
1250 kc

11-8-67
GRANTED
LICENSE
INCR. IN
POWER

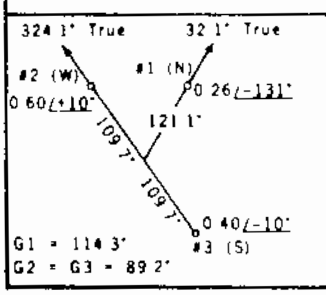
Figure 9



SITE COORDINATES
46° 17' 19'' N
96° 06' 17'' W

o Measured Radial Value

MEASURED NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN



NORTHLAND BROADCASTING CORPORATION
FERGUS FALLS MINNESOTA

Jules Cohen & Associates
Consulting Electronics Engineers

RADIO STATION KOTE
1250 KHZ
1 KW U DA N
PATTERN 670602

FCC File No.BL-11704
Accepted 8-1-67

Station KOTE
Fergus Falls, Minnesota

1250 kc

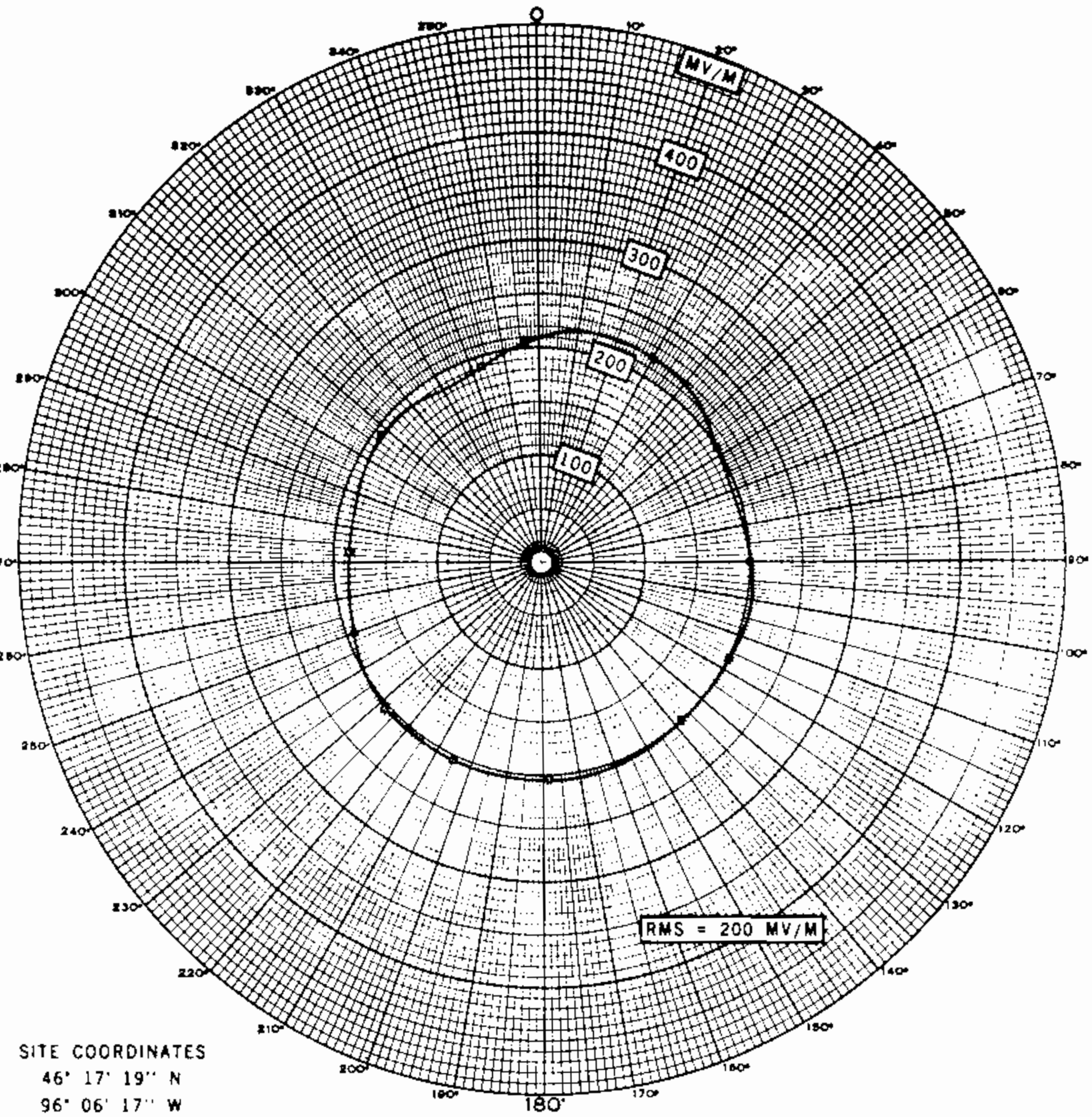
KBRF ~~KOTE~~

Measured Non-DA
(8-28-67ct)

Station KOTE
Fergus Falls, Minnesota

1kw,DA-N,U
1250 kc
Figure 8

11-8-67
GRANTED
LICENSE
NCK. IN pow



SITE COORDINATES
46° 17' 19'' N
96° 06' 17'' W

MEASURED DAYTIME NONDIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN

#1(N)
#2(W) (Not used)
#3(S) (Not used)
G = 114.3°

NORTHLAND BROADCASTING CORPORATION
FERGUS FALLS, MINNESOTA

Jules Cohen & Associates
Consulting Electronics Engineers

RADIO STATION KOTE
1250 KHZ
1 KW U DA-N
PATTERN 670602

FCC File No. BL-11704
Accepted 8-1-67

Station KOTE
Fergus Falls, Minnesota

1250 kc

KCFI

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station : KCFI   Main Studio: Cedar Falls, Iowa

Frequency 1250 KHz   Power : .5 kW Night .5 kW Day

Notification : 1782   Date : October 26, 1979   Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 42° 32' 41"
West Longitude: 92° 29' 16"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER :	(#1)C	(#2)SE	(#3)NE			
HEIGHT ABOVE INSULATORS :	180'	180'	180'(82°)			
NIGHT PHASING :	0°	180'	180'			
NIGHT FIELD RATIO:	1.0	0.4	0.6			
DAY PHASING :	+132°	0°				
DAY FIELD RATIO :	1.0	0.8				

SPACING AND ORIENTATION: With the #1(C) tower as reference, tower #2(SE) is spaced 175' (80°) apart at an azimuth of 125° true, tower #3(NE) is spaced 552' (252.5°) at an azimuth of 25.4° true.

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

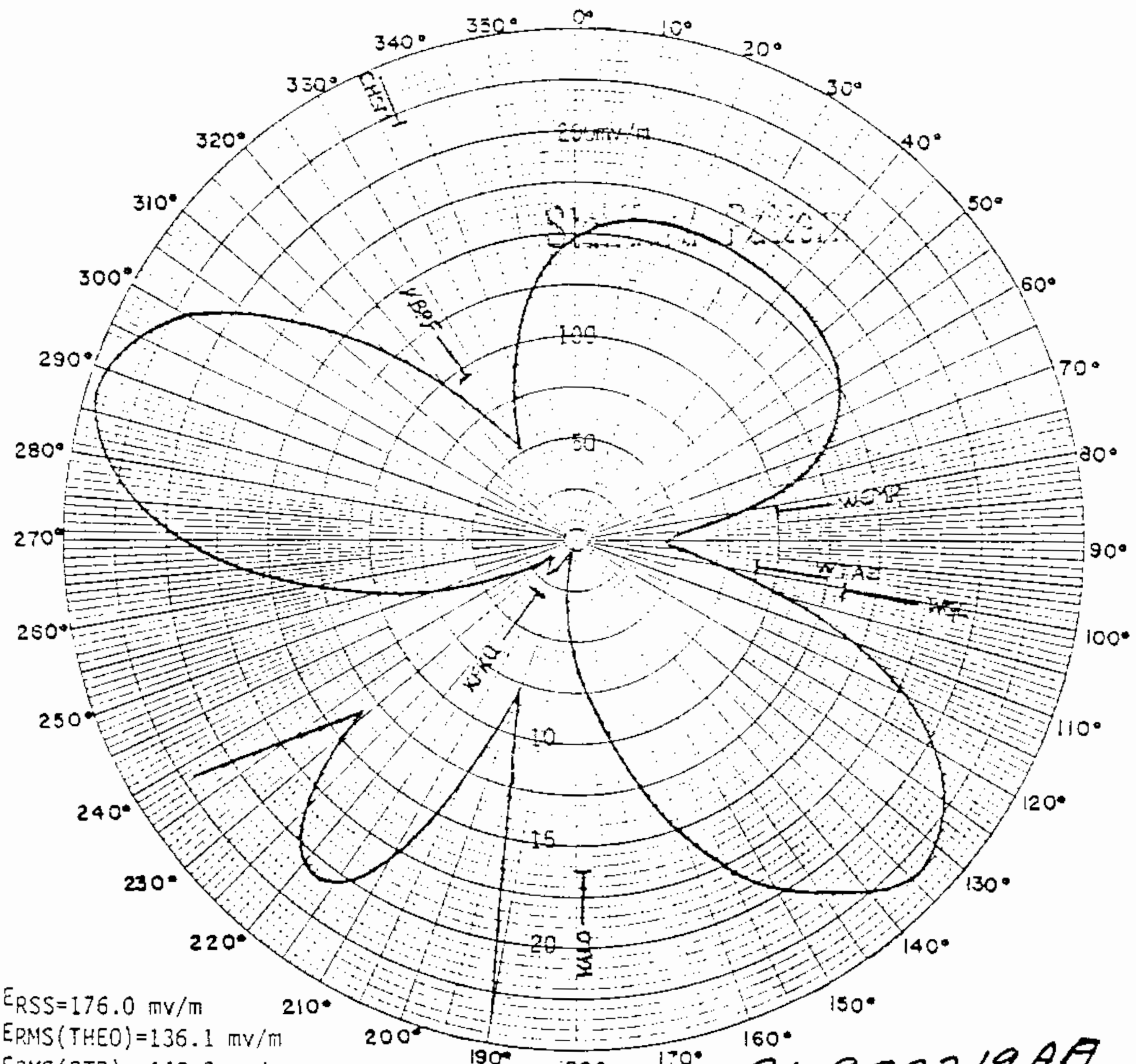
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS		THEORETICAL RSS		STANDARD RMS	
Day	137	mV/m		mV/m		mV/m
Night	136.1	mV/m	176	mV/m	143.0	mV/m

Note: Please retain the nighttime directional antenna radiation pattern notified for Station KCFI in United States Change List Number 698 dated March 20, 1957 and attach to this Revised Description Sheet and Nighttime pattern.

KCFI

STANDARD PATTERN



E_{RSS}=176.0 mv/m

$E_{RMS(THEO)}$=136.1 mv/m

$E_{RMS(STD)}$ =143.0 mv/m

Ratio $\frac{RSS}{RMS}$ = 1.29

BL-800219AA

NIGHTTIME HORIZONTAL STANDARD PATTERN

LATITUDE 42°32'41"

LONGITUDE 92°29'16"

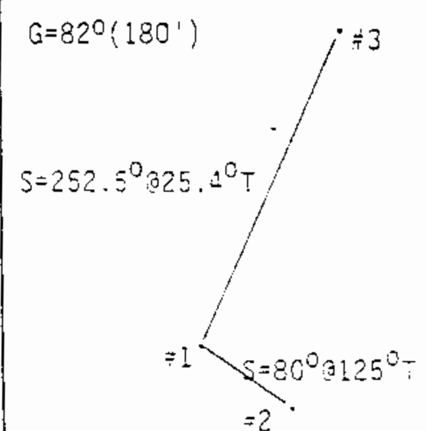
KCFI 1250KHz 500W DA-2

MIDWEST ENGINEERING ASSOCIATES
CONSULTING ENGINEERS
PEORIA, ILLINOIS

ANTENNA PARAMETERS

500watts nighttime

Tower	I_n/I_1	Phase
1	1.0	0°
2	0.4	174.0°
3	0.6	60.3°



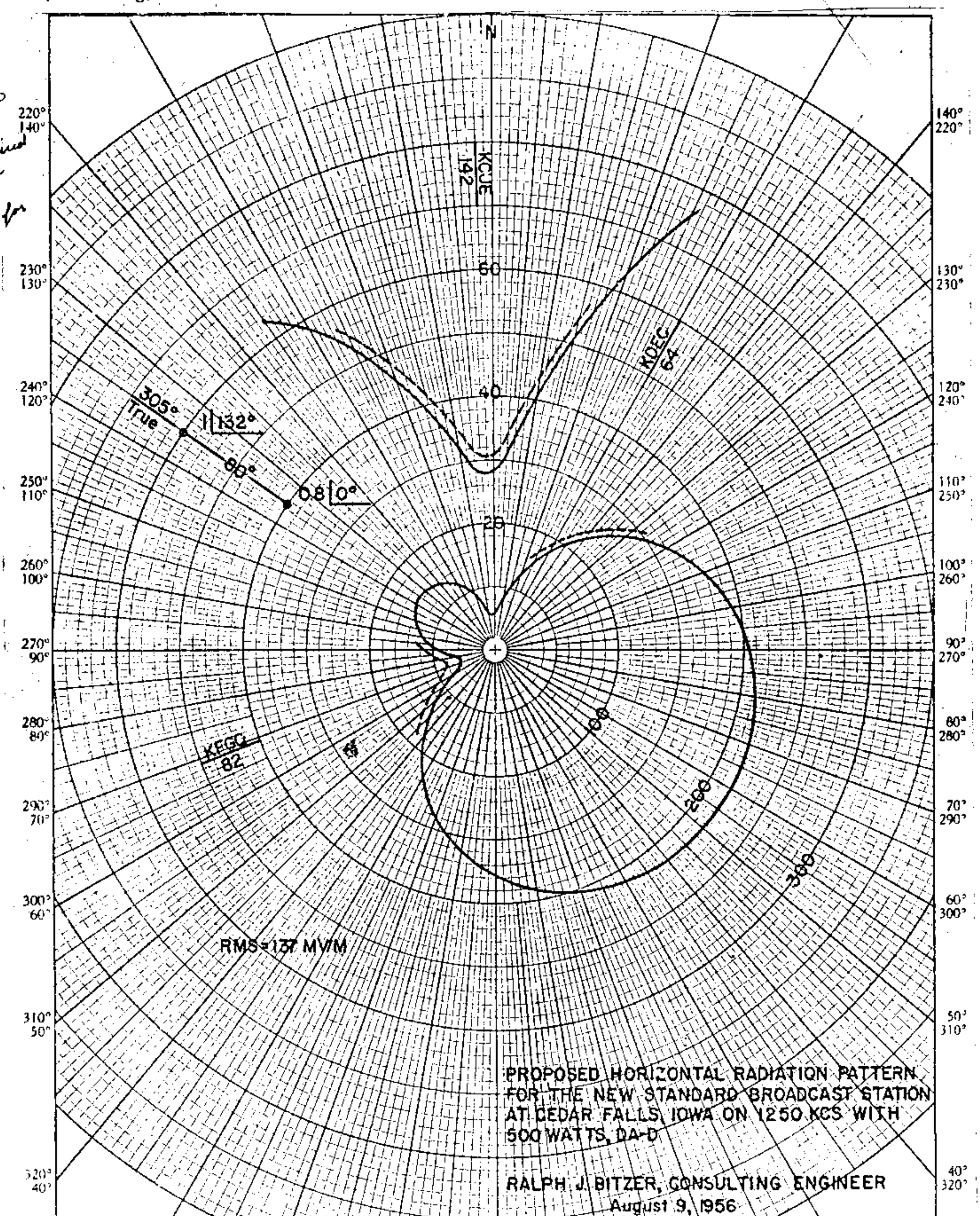
granted CP 3/20/57 for new AM station CEDAR FALLS, IOWA

KCFI

PROPOSED DAY (9-21-56g) | Jane A. Roberts, Cedar Falls, Iowa | 500W, DA-D | 1250 KC

ranted CP 1/17/58 to eplace expired P for new station ee reverse for added info)

1-15-60 Granted L for new tower



R 47 42-32-39 ~~42° 30' 47" N(Latitude)~~

92-29-17 ~~92° 26' 03" W(Longitude)~~

Heights of Towers
180' 183'

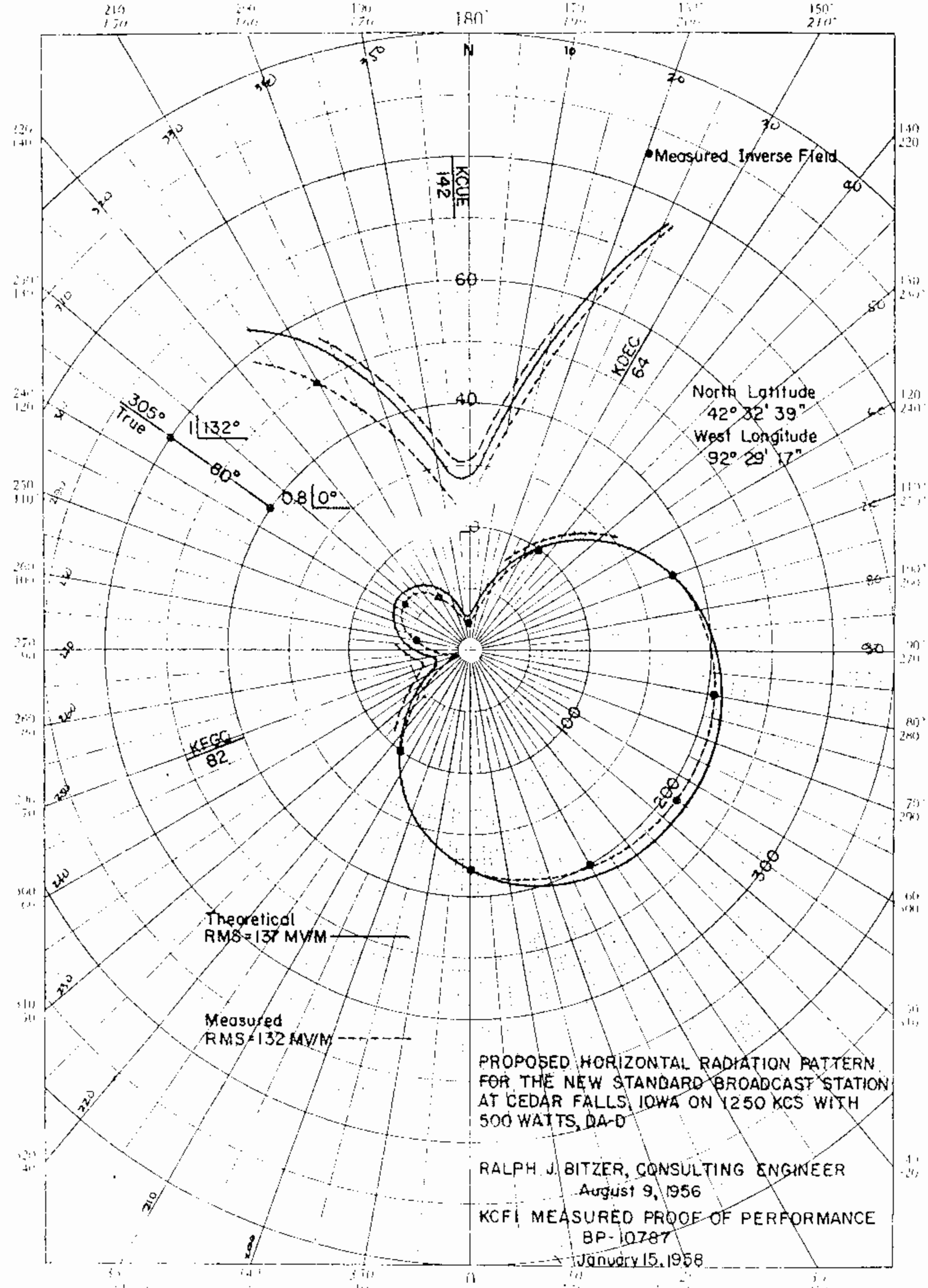
FCC File No. BP-10,787 | Accepted 9-17-56 | Jane A. Roberts, Cedar Falls, Iowa | 1250 KC

KCFI

MEASURED DAY
(3-3-58g)

Station KCFI
Cedar Falls, Iowa

500w, DA-D,D
1250 KC



Grantee's for new station 9-13-00

FCC File No. BL-7011
Accepted 2-25-58

KCFI
Cedar Falls, Iowa

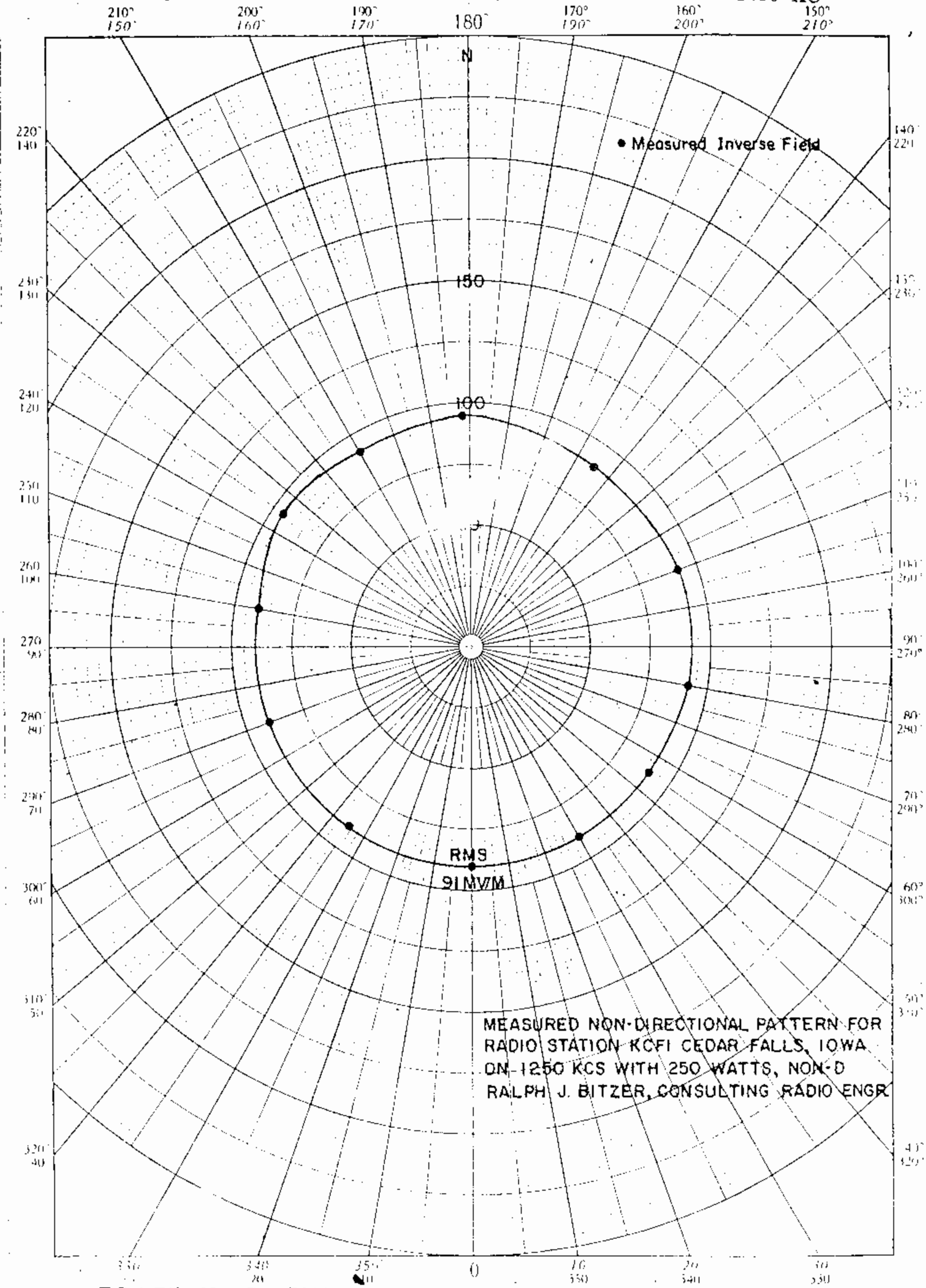
1250 KC

KCFI

MEASURED NON - DA
(3-3-58g)

Station KCFI
Cedar Falls, Iowa

500w, DA-D,D
1250 KC



FCC File No. BL-7011
Accepted 2-25-58

KCFI
Cedar Falls, Iowa

1250 KC

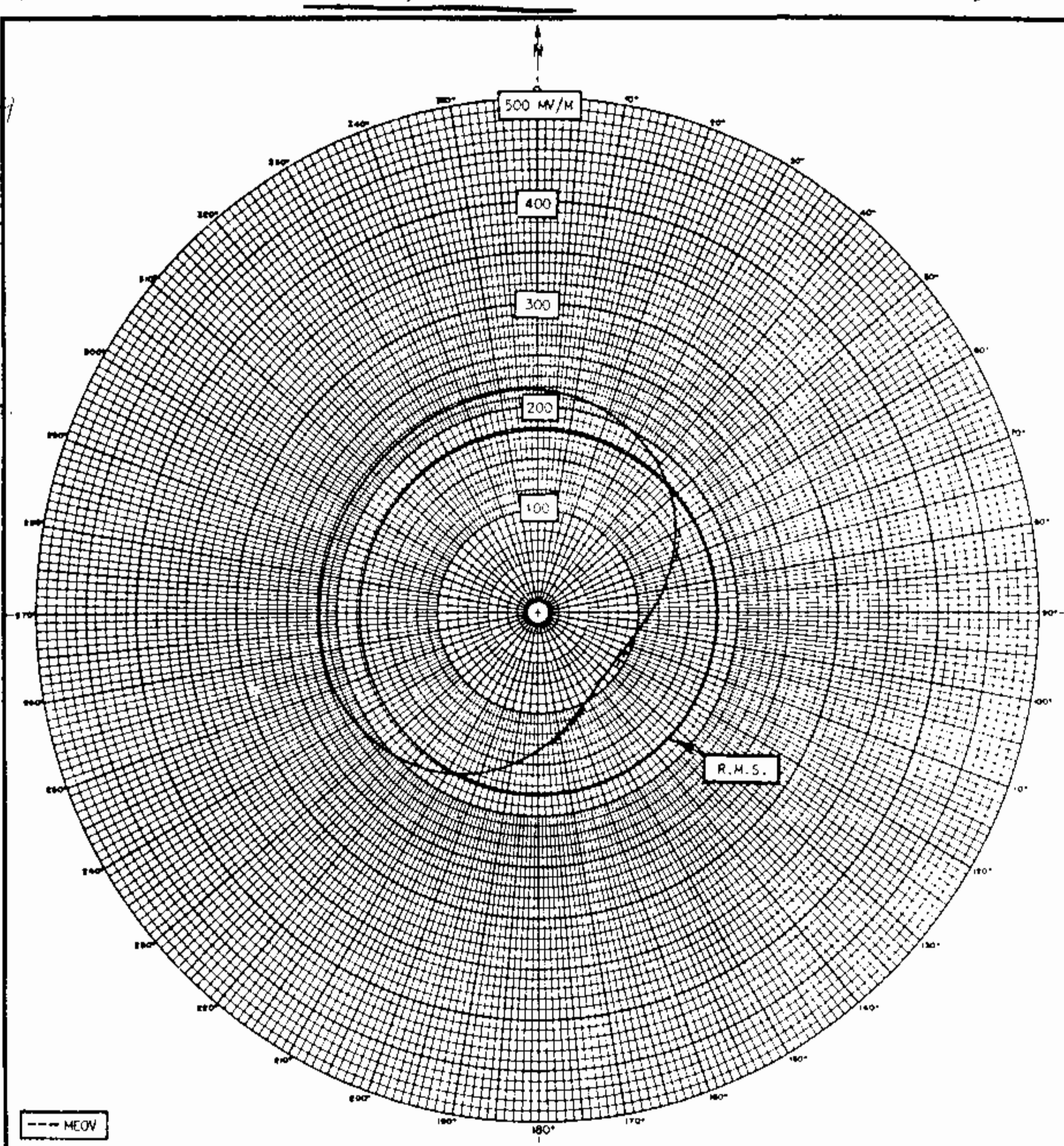
KICM

Proposed Day
(5-27-69ct)

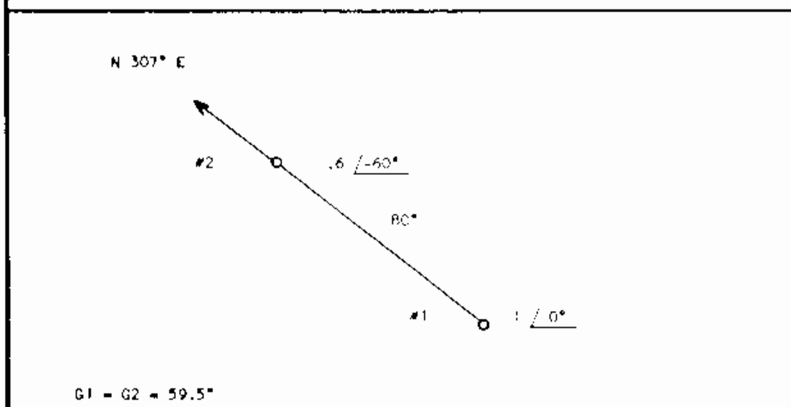
New; Voice of Reason, Inc.
Golden, Colorado

1kw, DA-D, D
1250 kc

granted 4/23/69
allow in operating
capacity for a
period of 90
days
[illegible]



HORIZONTAL RADIATION PATTERN



APPLICANT	VOICE OF REASON, INCORPORATED
LOCATION :	GOLDEN, COLORADO
FREQUENCY	1250 KC/S
POWER	1 Kw
LATITUDE	39 DEG 43 MIN 53 SEC.
LONGITUDE :	105 DEG 11 MIN 59 SEC
WHEN USED	DAYTIME
RMS FIELD	178.5 MV/M
DATE	MARCH 1969

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

FCC File No. BP-18553
Accepted 4-23-69

New; Voice of Reason, Inc.
Golden, Colorado

1250 kc

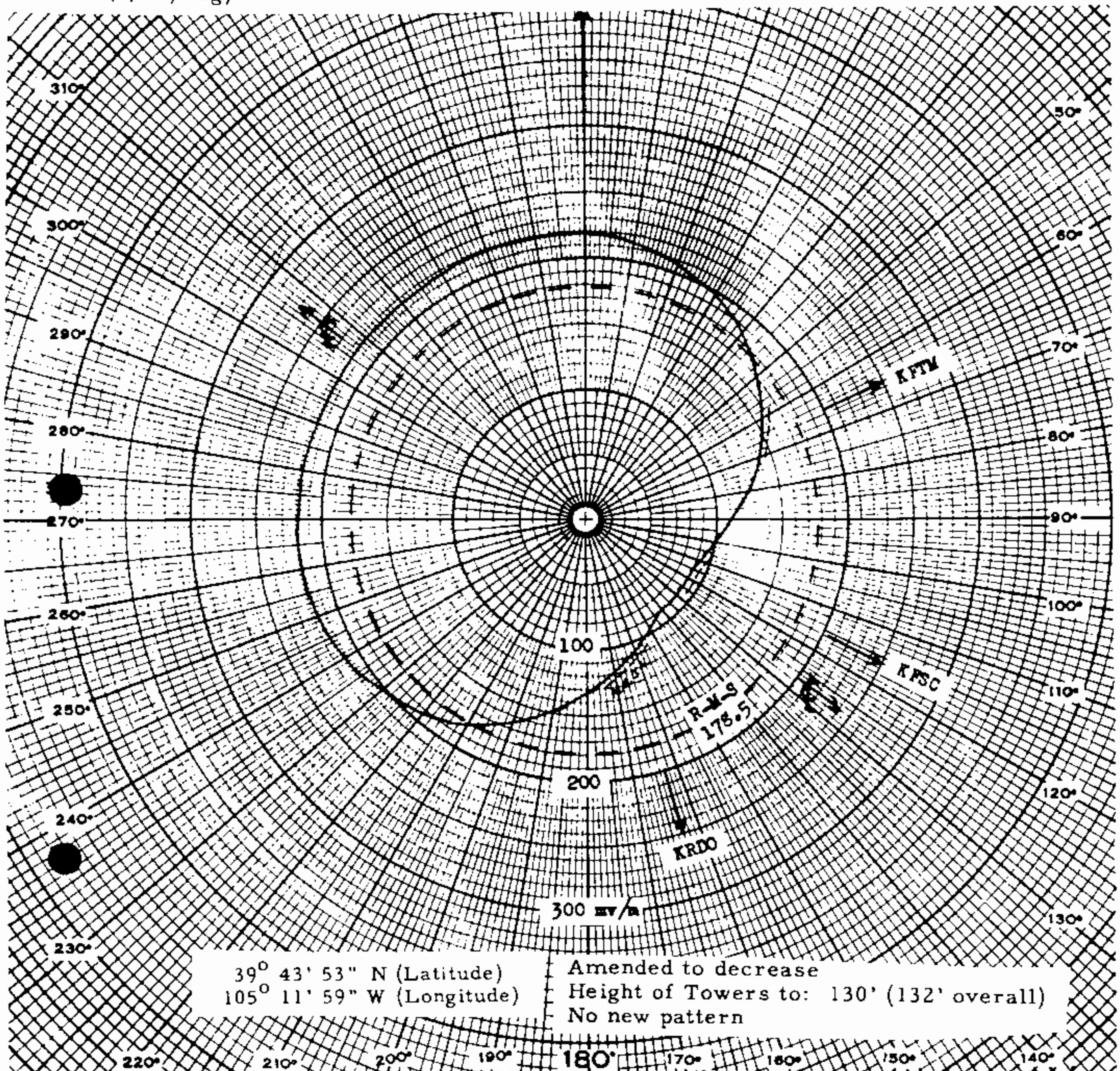
G KICM 10

PROPOSED
DAY (6/11/56g)

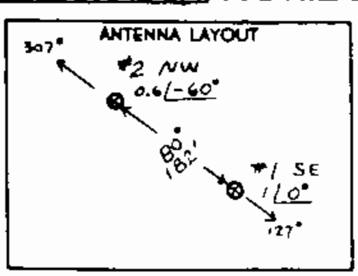
GOLDEN RADIO, INC.
GOLDEN, COLO.

1 KW
DA-D, D

1250 KC



HORIZONTAL RADIATION PATTERN



New GOLDEN, COLORADO	
Station	Location
1250 kc	1000 w. 178.5 mv/m
Frequency	Power / R-M-S Field
2	140 ft., 0.1715 λ
No. of Elements	Height of Antenna
MEASURED ☐ CALCULATED ☒	560502.1
Pattern	No.
DAYTIME PATTERN	GUY C. HUTCHESON CONSULTING RADIO ENGINEER ARLINGTON, TEXAS
Remarks	

FCC File No. BP-10,368(Amended) Accepted 6-6-56 Golden Radio, Inc. Golden, Colo. 1250 KC

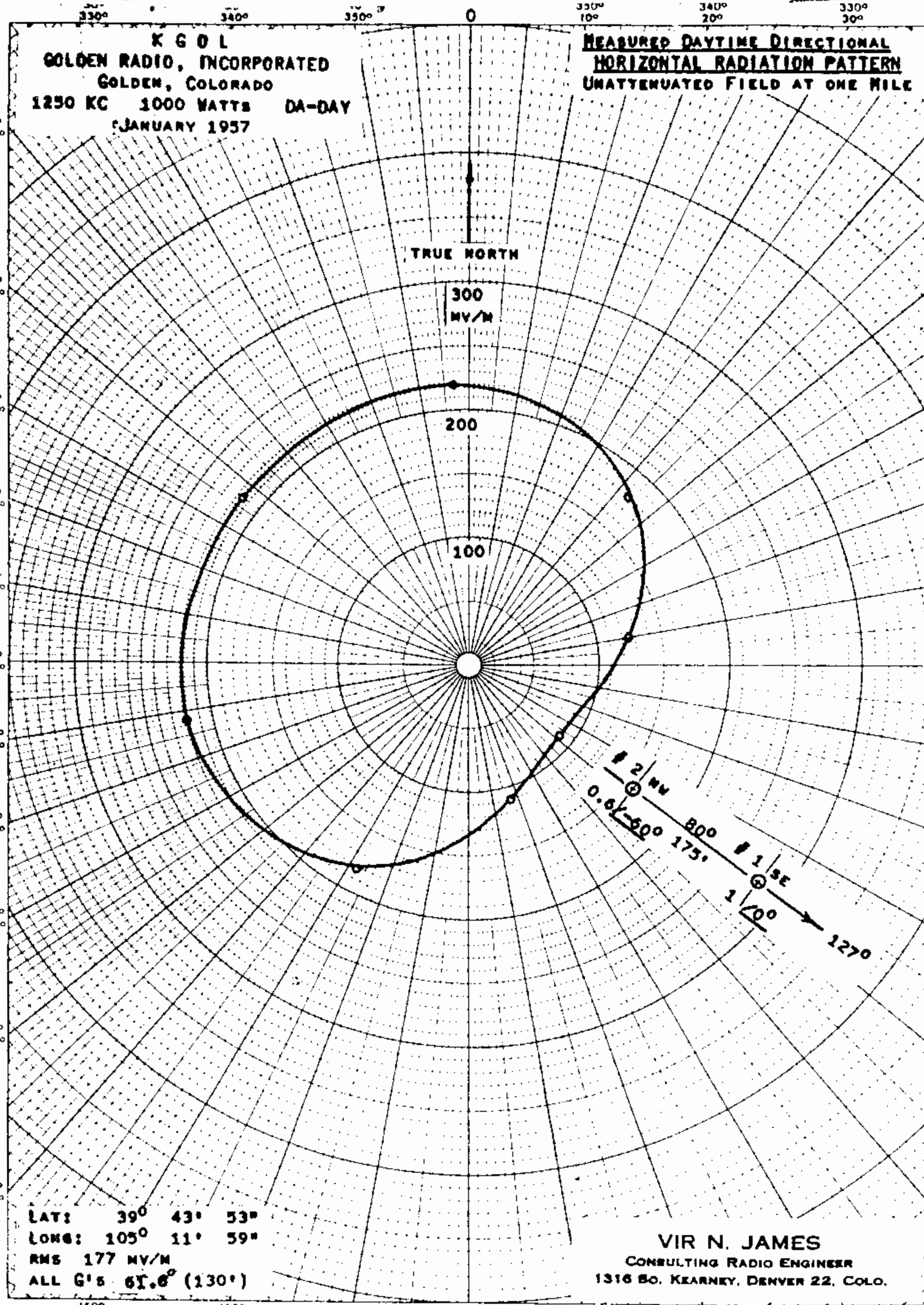
MEASURED DAY (3/4/57g)

Station KGOL
Golden, Colorado

1KW,L

KICM

1250 KC



FCC File No. BL-6532
Accepted 2/20/57

KGOL
Golden, Colorado

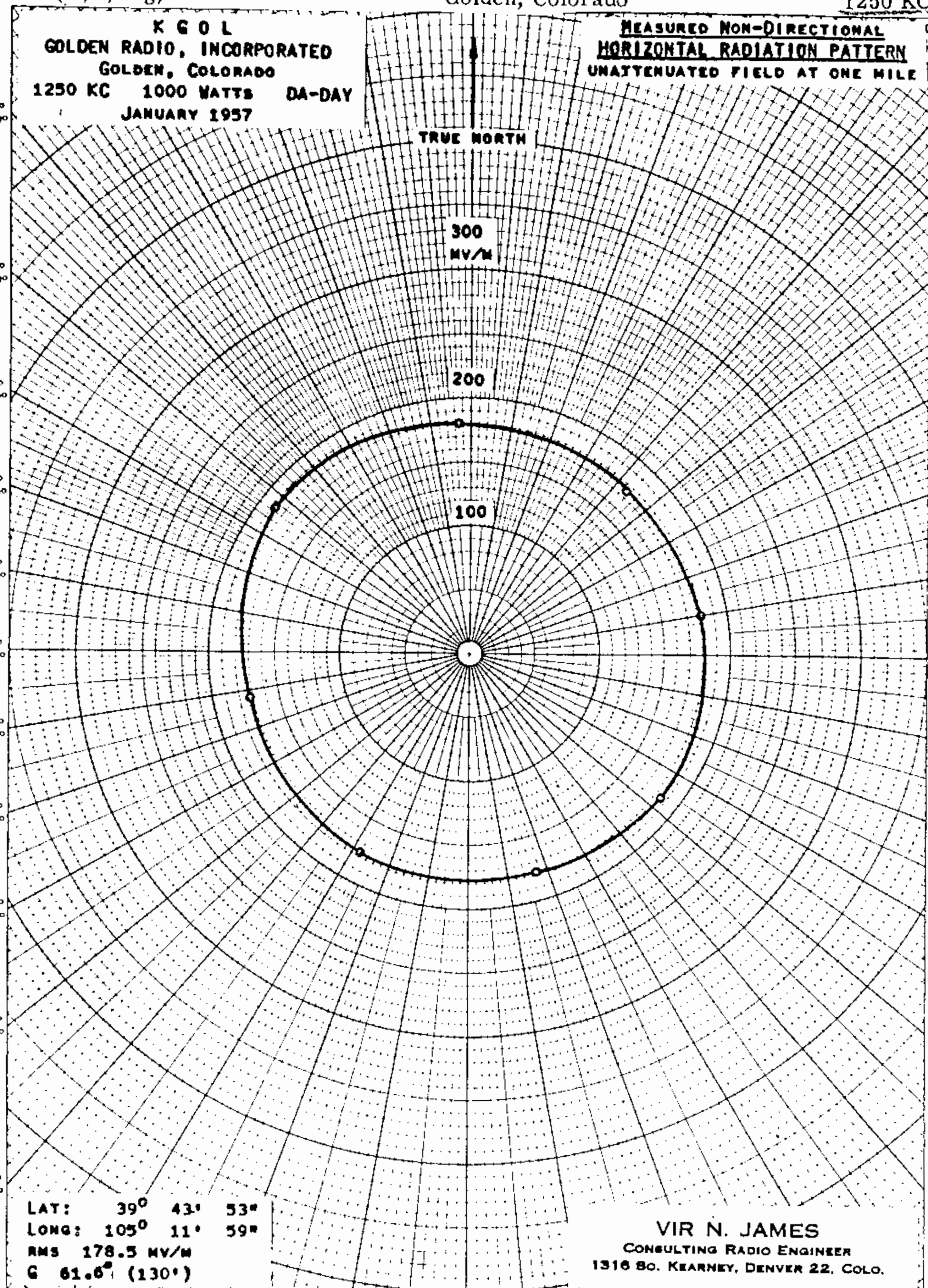
1250 KC

KICM

MEASURED NON-DIRECTIONAL
(3/4/57g)

Station KGOL
Golden, Colorado

1KW,DA-D,U
1250 KC



FCC File No. BL-6532
Accepted 2/20/57

KGOL
Golden, Colorado

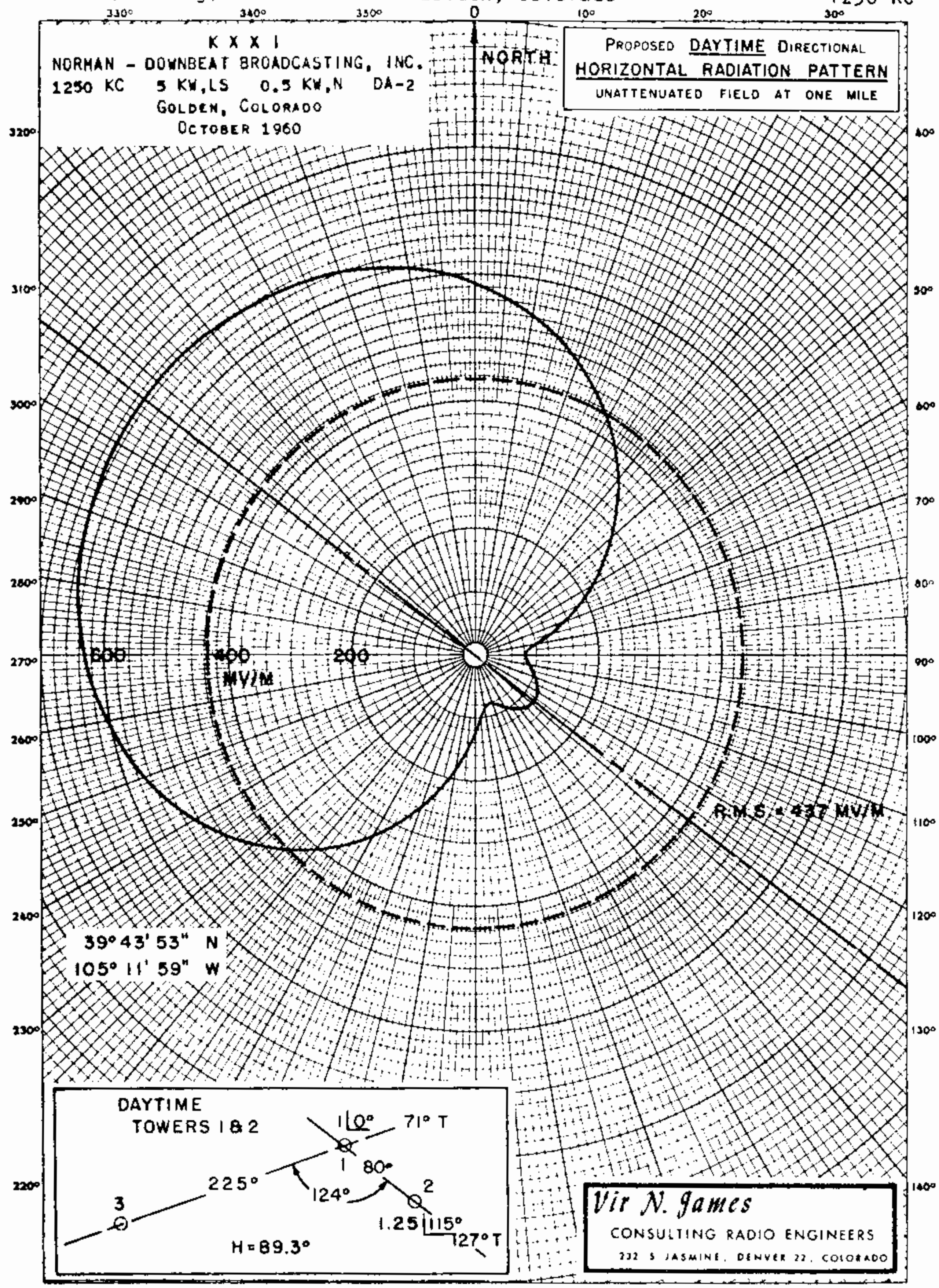
1250 KC

KICM

PROPOSED DAY
(?-8-61g)

Station KTWL
Golden, Colorado

500w,5kw-LS, DA-2,U
1250 KC



FCC File No. BP-14614
Accepted 2-20-61

KTWL
Golden, Colorado

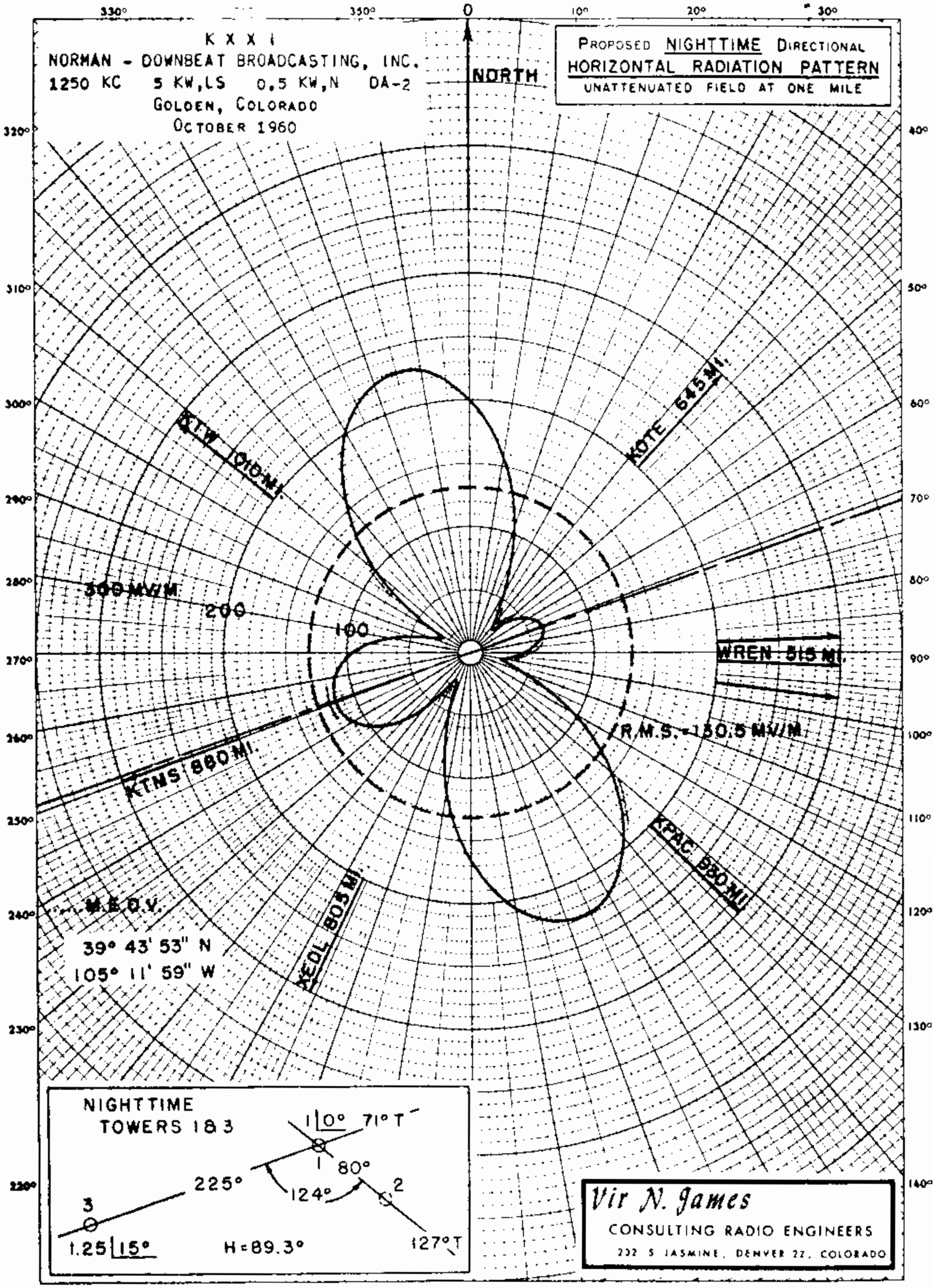
1250 KC

KICM

PROPOSED NIGHT
(3-8-61g)

Station KTWL
Golden, Colorado

500w, 5kw-LS, DA-2,U
1250 KC



FCC File No. BP-14614
Accepted 2-20-61

KTWL
Golden, Colorado

1250 KC

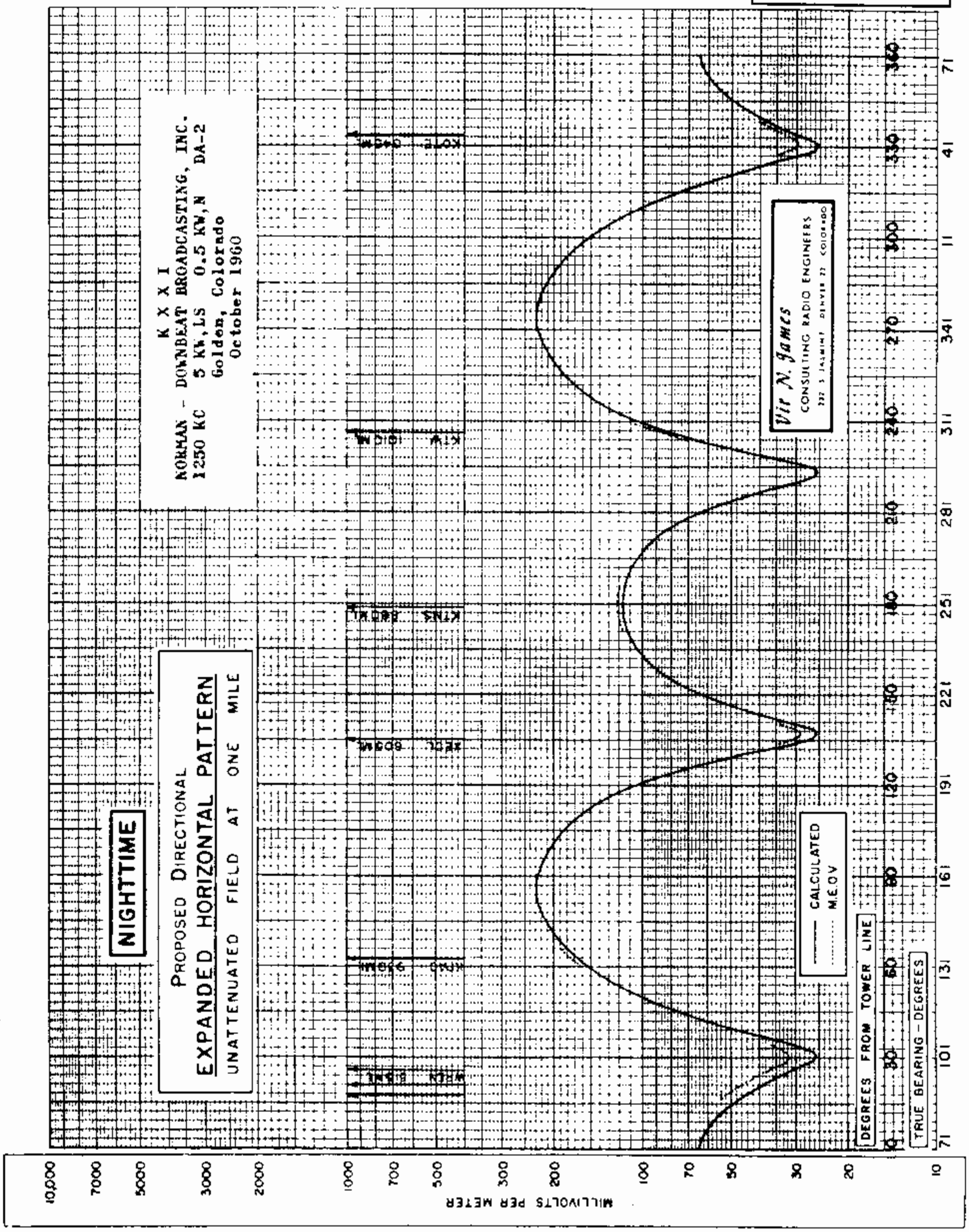
KICM

PROPOSED NIGHT NULLS
(3-8-61g)

Station KTWL
Golden, Colorado

500w, 5kw-LS, DA-2,U
1250 KC

EXHIBIT E-5.2



FCC File No. BP-14614
Accepted 2-20-61

KTWL
Golden, Colorado

1250 KC

KNCO
1250kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KNCO

Main Studio: Grass Valley, California

Frequency: 1250 kHz

Power: 1kw Night 0.5kw Day

Notification List No. 1787

Date: July 10, 1980 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANT ENNA SYSTEM:

North Latitude: 39° 10' 58"
West Longitude: 121° 02' 54"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers. Towers 1(SW) and 4(N) are top loaded 3 degrees.

TOWER:	SW(#1)	C(#2)	N(#3)	N(#4)
HEIGHT ABOVE INSULATORS:	198' (90°)	190' (86.9°)	190'	198'
NIGHT PHASING:	0°	——	——	-29°
NIGHT FIELD RATIO:	1.0	——	——	0.690
DAY PHASING:	0°	-132.52°	94.95°	——
DAY FIELD RATIO:	1.0	1.9756	1.0	——

SPACING AND ORIENTATION: With the SW(#1) tower as reference, the Center (#2) is spaced 131' (60°) on a line bearing 50° true, the NE(#3) tower is spaced 262' (120°) in length on a line bearing 50° true, and the N(#4) tower is spaced 408' (186.6°)

GROUND SYSTEM: 120 - 190' equally spaced copper radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

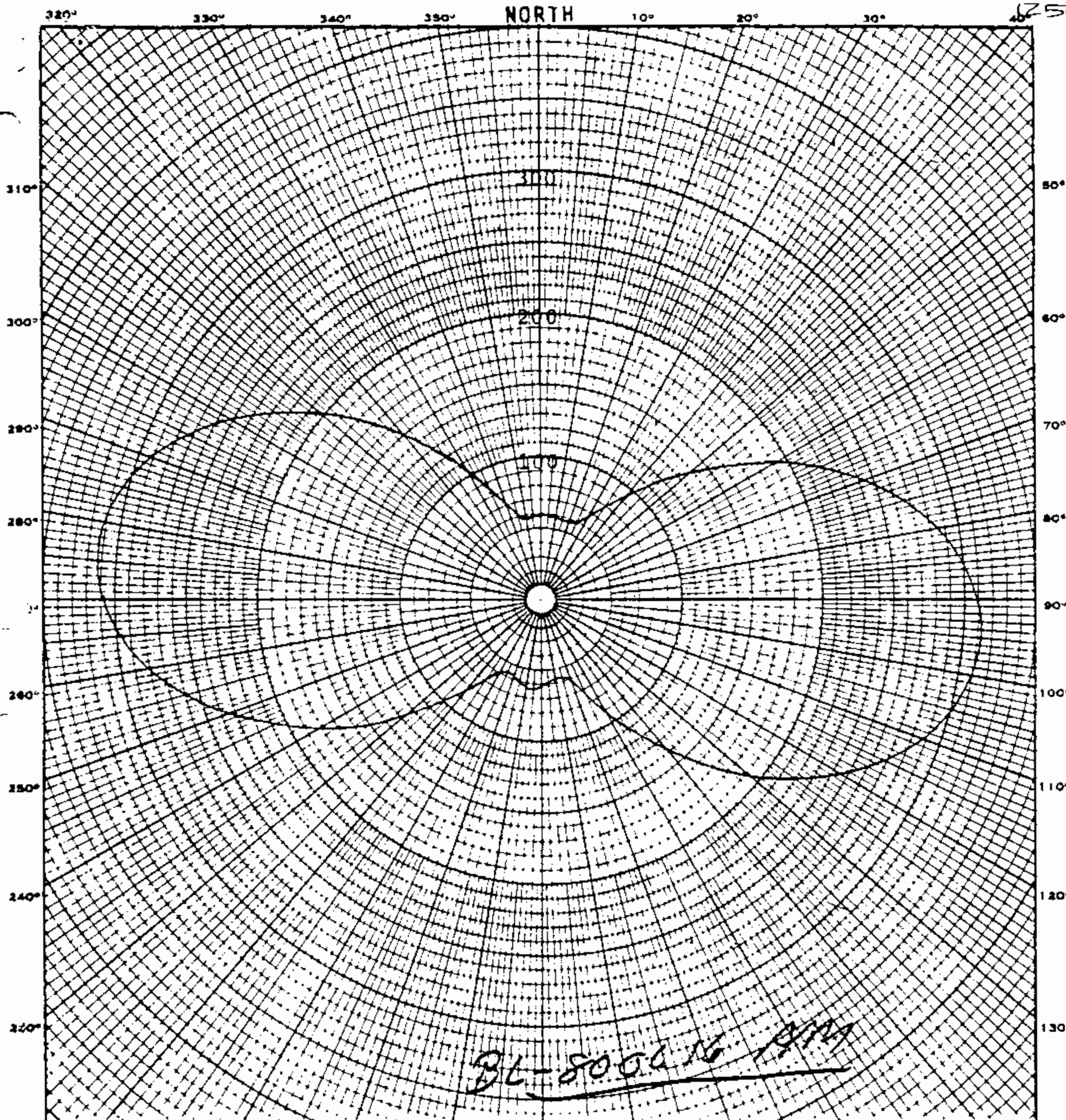
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	141 mv/m	247.8 mv/m	148 mv/m
Night	175.63 mv/m	213.8 mv/m	184.41 mv/m

KNCO
1250kHz

Note: Please retain the Daytime directional antenna radiation pattern notified for a new Station in Grass Valley, California in United States Change List Number 1765 dated January 12, 1978 and attach to this Revised Description Sheet and Nighttime pattern. This notification concerns only the addition of nighttime operation and the addition of 3 degrees top loading to one of the towers used in the Daytime directional antenna system with no change in the Daytime pattern previously notified.

KNCO
1250 kHz



R.M.S. (THEO) 175.63 MV/M   R.M.S. (STND) 184.4 MV/M   R.S.S. 213.8 MV/M

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

PATTERN PARAMETERS

6°True

#2   0.690/-2.9°

186.6°   G = 90°(87°+T.L.)

#1   1.000/ 0°

RADIO STATION K N C O

[ ] MEASURED   [x] PROPOSED

FREQ: 1250 (KHZ) POWER 1.0 (KW)   [ ] DA-D

N. LAT. 39 ° 10 ' 58 "   [x] DA-N

W. LONG. 121 ° 02 ' 54 "   [ ] N-D

LOCATION: Grass Valley, California

DATE: March, 1979

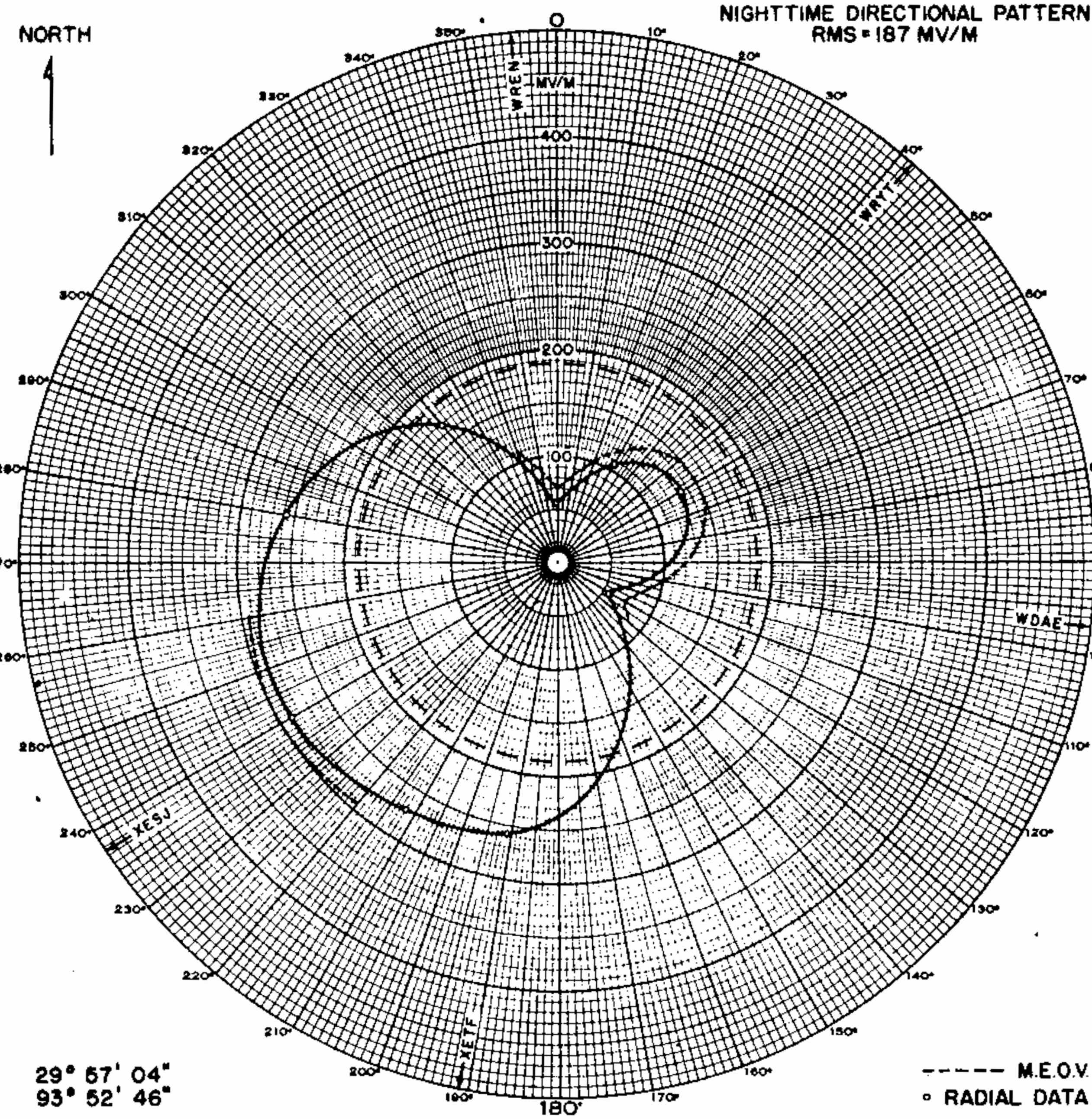
ROBERT A JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

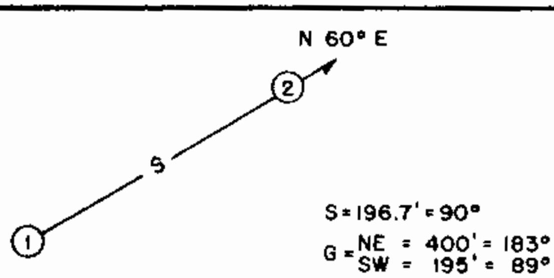
KPAC

Measured Night
(6-28-63ct)

Station KPAC
Port Arthur, Texas

1kw,5kw-LS,DA-N,U
1250 kc





DIRECTIONAL ANTENNA PARAMETERS

TOWER	THEORETICAL FIELD	THEORETICAL PHASE	INDICATED FIELD	INDICATED PHASE
NORTHEAST	1.52	136°	0.696	127.5°
SOUTHWEST	1.00	0°	1.000	0°

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

RADIO STATION KPAC
1250 KC 1.0 KW 5 KW-LS DA-N
630313 FIGURE 2B

FCC File No.BZ-4928
Accepted 6-14-63

Station KPAC
Port Arthur, Texas

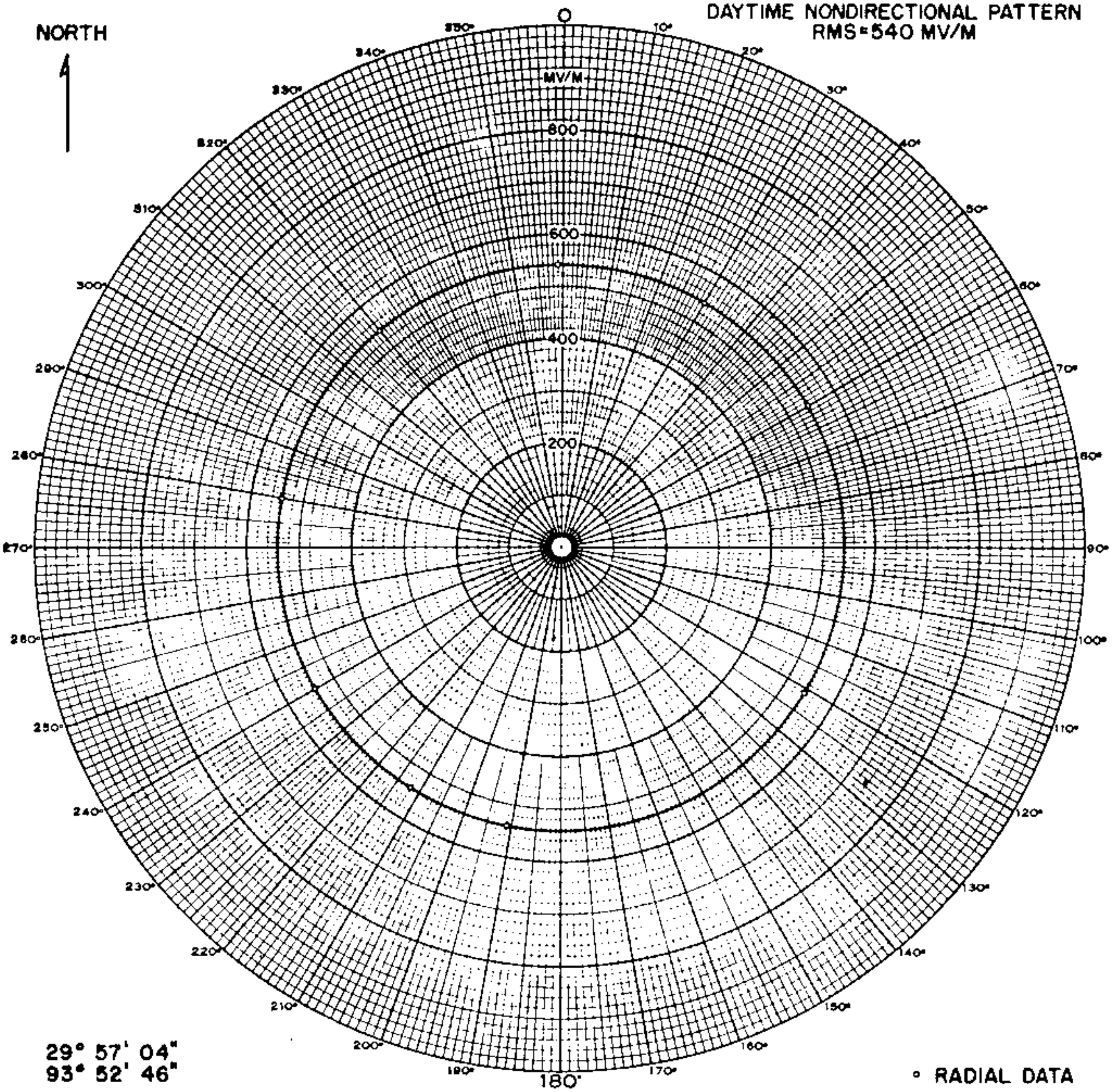
1250 kc

KPAC

Measured Non-DA (6-28-63ct)	Station KPAC Port Arthur, Texas	1kw,5kw-LS,DA-N,U 1250 kc

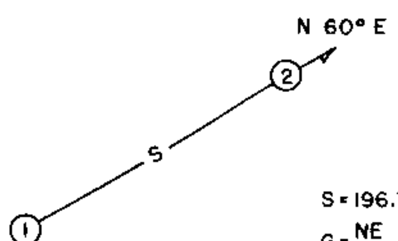
DAYTIME NONDIRECTIONAL PATTERN
RMS=540 MV/M

NORTH



29° 57' 04"
93° 52' 46"

° RADIAL DATA



S = 196.7' = 90°

G = NE = 400' = 183°
SW = 195' = 89°

NONDIRECTIONAL ANTENNA

TOWER	OPERATION
NORTHEAST	SERIES FED
SOUTHWEST	DETUNED

PREPARED BY	RADIO STATION KPAC
THE FIRM OF A. EARL CULLUM, JR.	1250 KC 1.0 KW 5 KW-LS DA-N
CONSULTING ENGINEERS	630313 FIGURE 2A

FCC File No.BZ-4928 Accepted 6-14-63	Station KPAC Port Arthur, Texas	1250 kc

KPAC-1250 KC

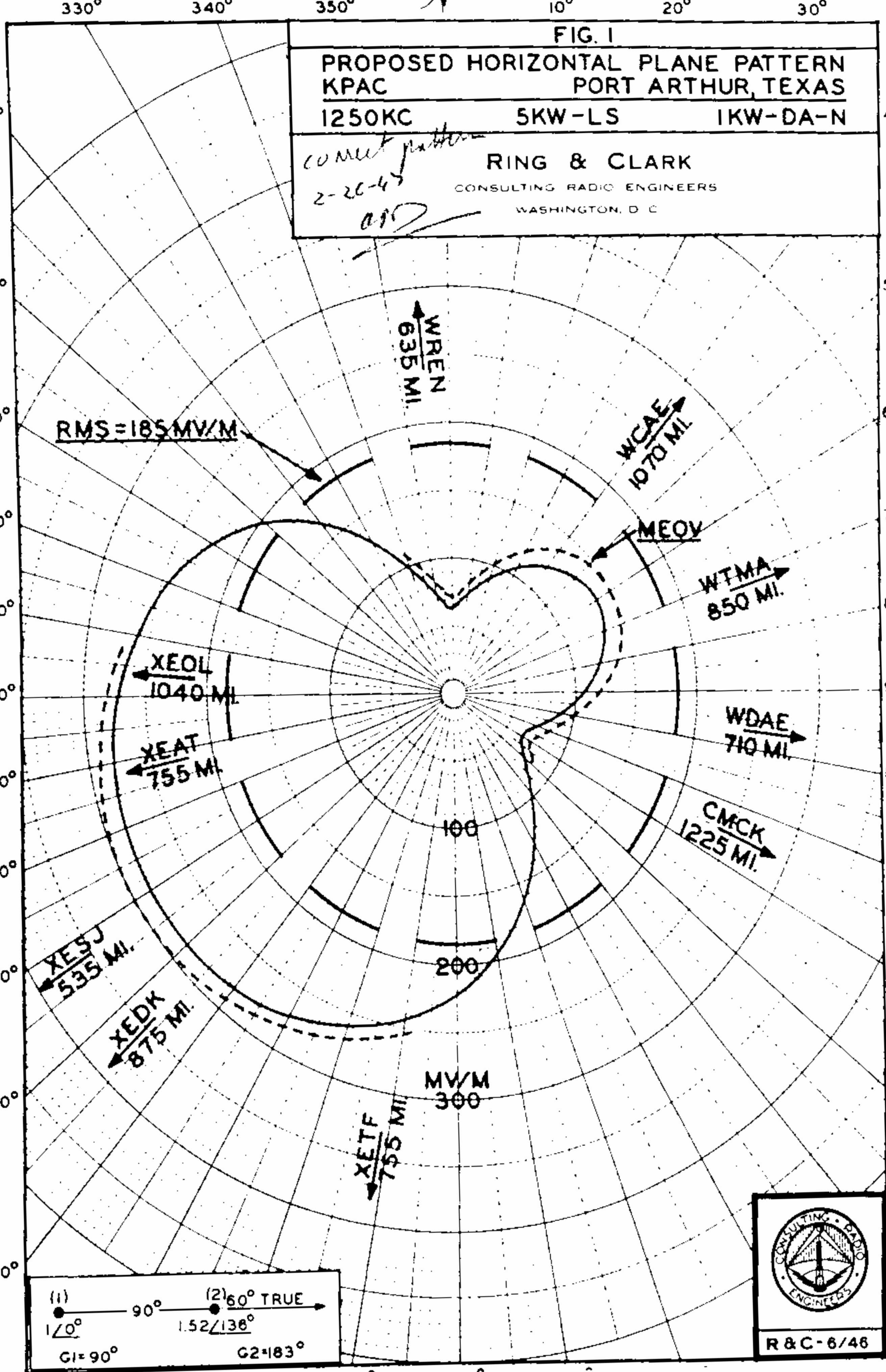
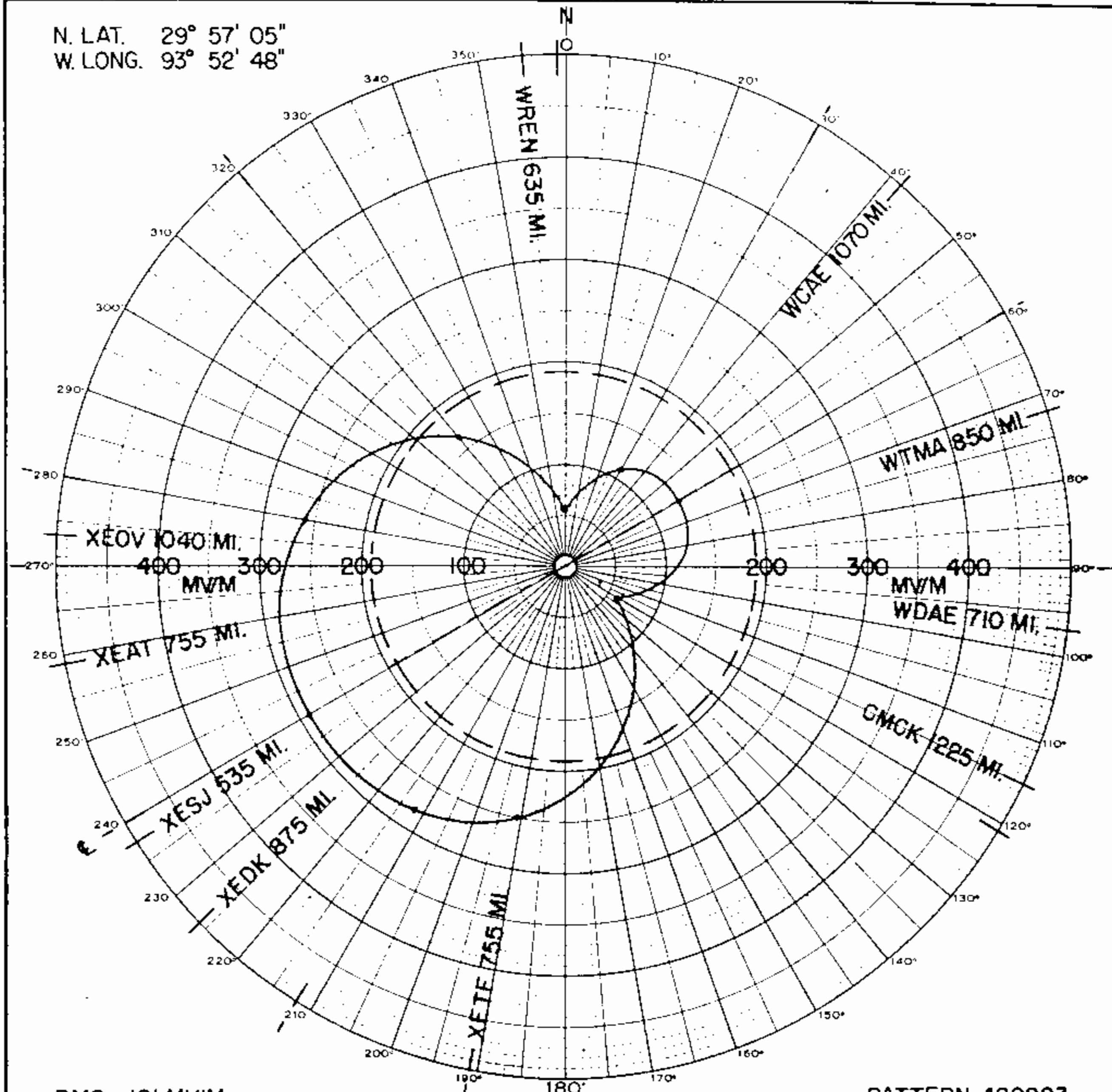


FIG. 1
PROPOSED HORIZONTAL PLANE PATTERN
KPAC PORT ARTHUR, TEXAS
1250KC 5KW-LS 1KW-DA-N
correct pattern
2-20-47
RING & CLARK
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.
N
330° 340° 350° 10° 20° 30°
320° 40°
310° 50°
300° 60°
290° 70°
280° 80°
270° 90°
260° 100°
250° 110°
240° 120°
230° 130°
220° 140°
WREN 635 MI.
RMS=185 MV/M
WCAE 1070 MI.
MEOV
WTMA 850 MI.
XEOL 1040 MI.
WDAE 710 MI.
XEAT 755 MI.
CMCK 1225 MI.
100
200
XESJ 535 MI.
XEDK 875 MI.
MV/M 300
XETF 755 MI.
(1) 90° (2) 60° TRUE
1∠0° 1.52∠136°
G1=90° G2=183°
CONSULTING RADIO ENGINEERS
R & C-6/46

KPAC
1250

September [illegible], 1948 9/8/48G

N. LAT. 29° 57' 05"
W. LONG. 93° 52' 48"



RMS = 191 MV/M

PATTERN 480823

℄ = N 60° E

S = 90°

(2) 1.56/+121°

S

(1) 1.0/0°

G1 = 90°
G2 = 183°

PATTERN BASED ON

FIELD INTENSITY MEASUREMENTS

BROADCAST ENGINEERING SERVICE

Radio Engineering Consultants

SHREVEPORT, LA. 480823

RADIO STATION KPAC

Port Arthur, Texas

1250 KC 5 KW LS, 1 KW DA-N

FIGURE 1 B

KPAC

MEASURED
DAY (non-DA)

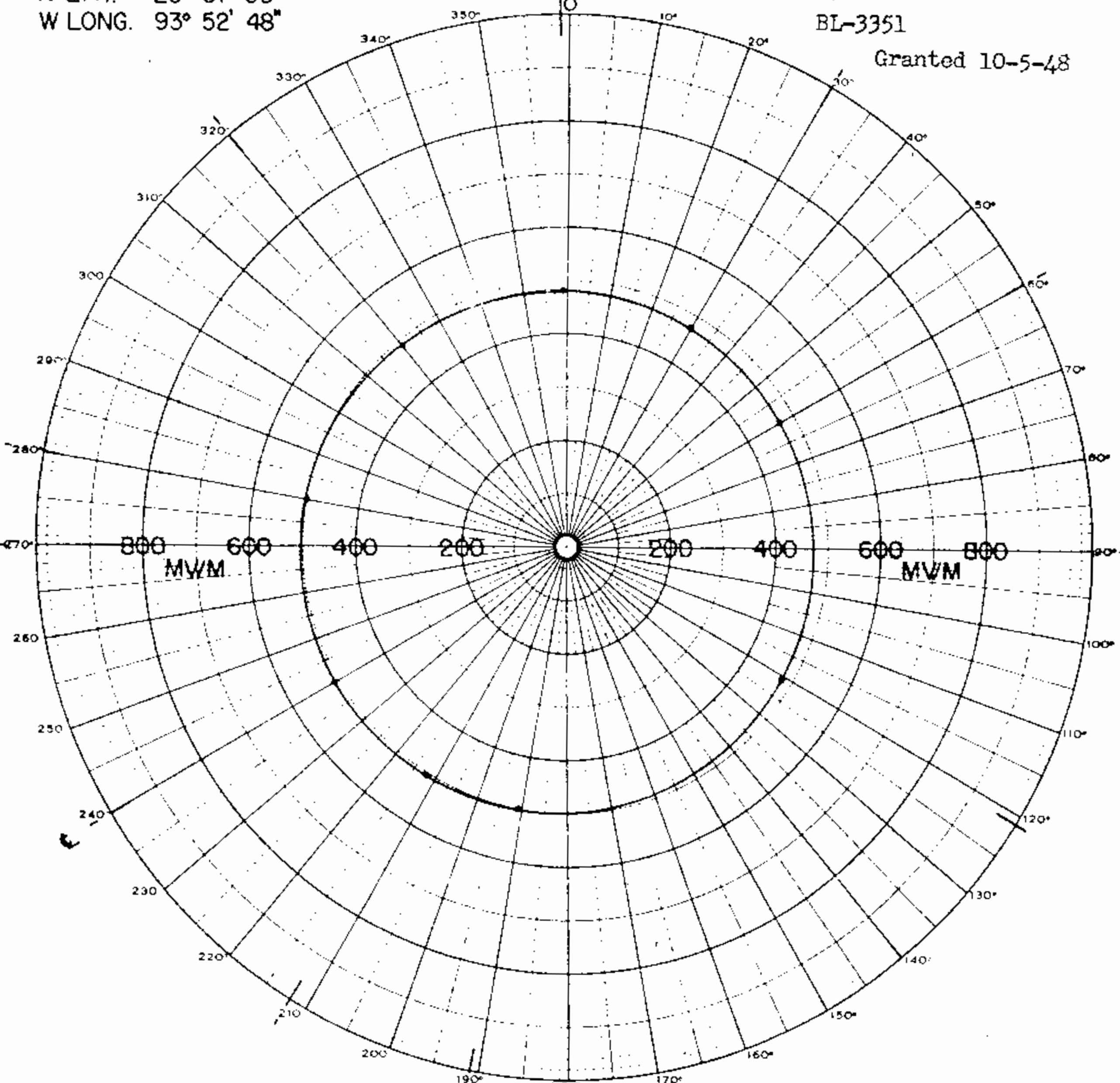
KPAC, PORT ARTHUR, TEX.

1kw,5kw-LS,DAN 1250 kc

N LAT. 29° 57' 05"
W LONG. 93° 52' 48"

2/17/50G

9-3-48
BL-3351
Granted 10-5-48



RMS = 490 MV/M

DAYTIME ND - NE TOWER

℄ = N 60° E

S = 90°

(2) 1.56/+121°

S

(1) 1.0/0°

G1 = 90°
G2 = 183°

PATTERN BASED ON
FIELD INTENSITY MEASUREMENTS

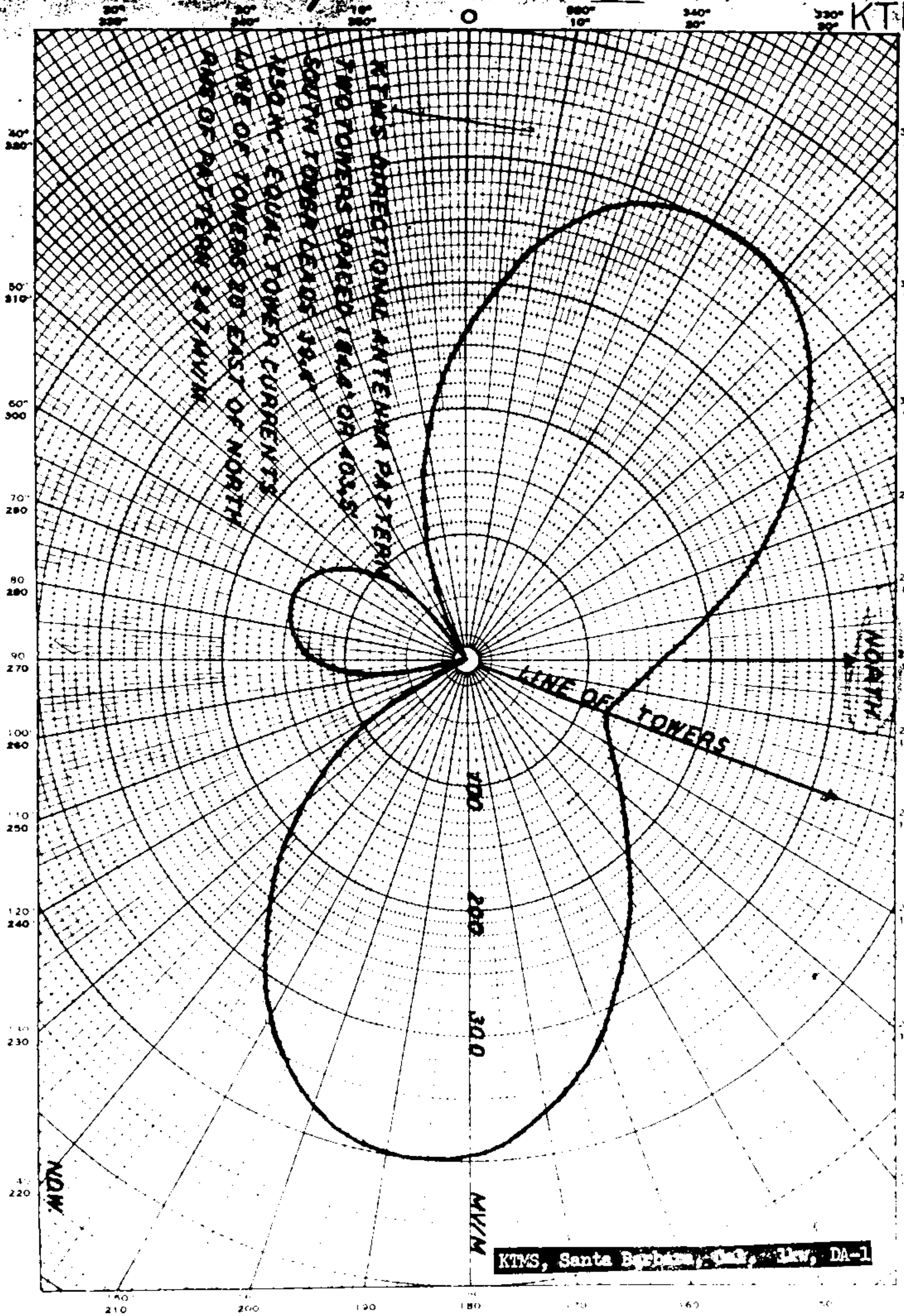
BROADCAST ENGINEERING SERVICE
Radio Engineering Consultants
SHREVEPORT, LA. 480823

RADIO STATION KPAC
1250 KC 5 KW LS, 1 KW DA-N
FIGURE 1 A

KPAC, Port Arthur, Tex. 1250 kc

KTMS, Santa Barbara, Cal. 1250 Kc

KTMS



KTMS, Santa Barbara, Cal., 1kw, DA-1

43

Day & Night KLMS 1250 kc
KTMS 1250

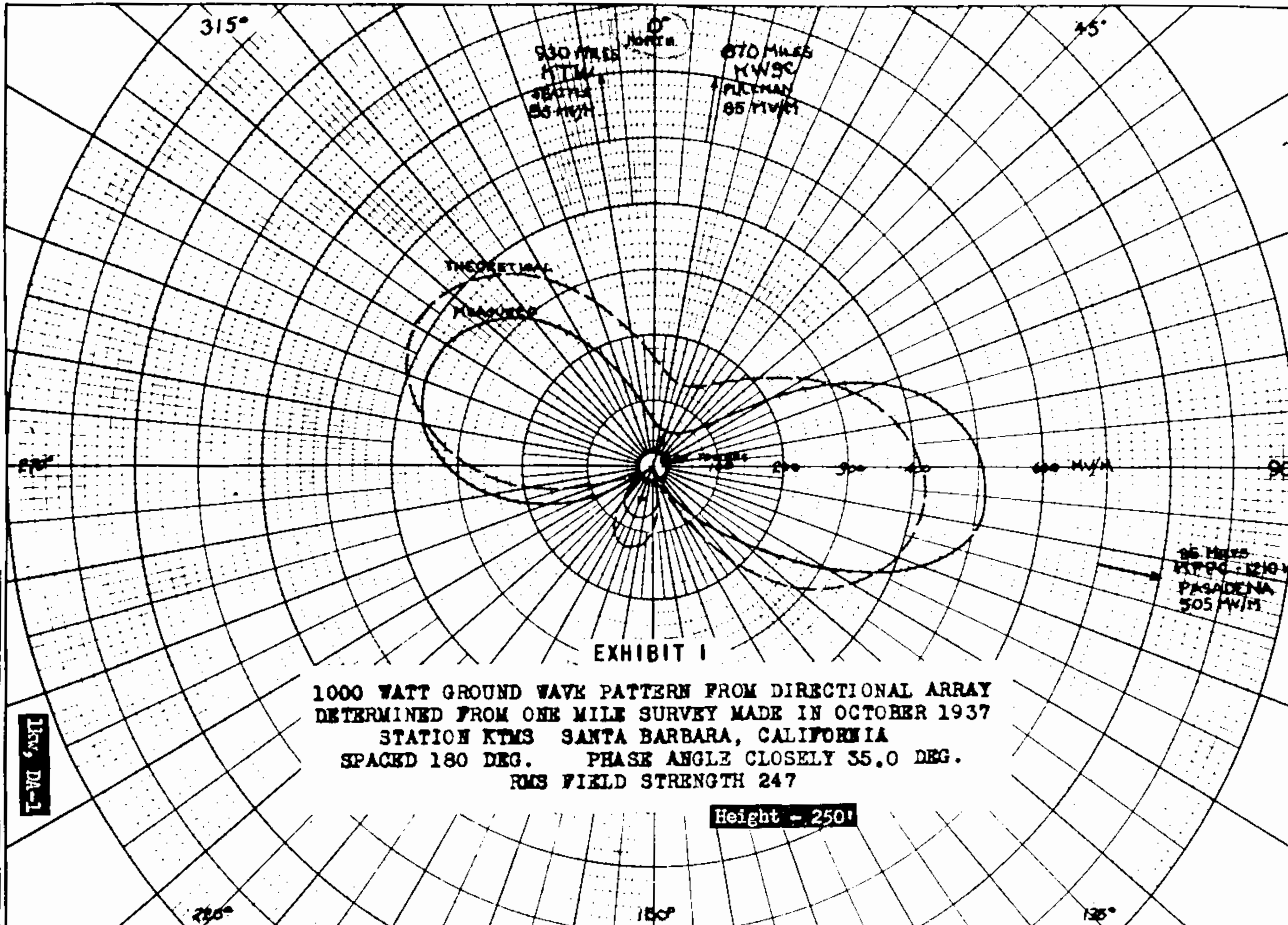


EXHIBIT I

1000 WATT GROUND WAVE PATTERN FROM DIRECTIONAL ARRAY
DETERMINED FROM ONE MILE SURVEY MADE IN OCTOBER 1937
STATION KTMS SANTA BARBARA, CALIFORNIA
SPACED 180 DEG. PHASE ANGLE CLOSELY 35.0 DEG.
RMS FIELD STRENGTH 247

Height - 250'

1kw, DA-1

KUKA

Station: KUKA | Main Studio: San Antonio, Texas

Frequency: 1250 KHz | Power: 1 Kw Night 1 Kw Day

Notification: 1778 | Date: August 30, 1978 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 29° 24' 29" West Longitude: 98° 26' 39"

PREDICTED EFFECTIVE DAYTIME FIELD: (omnidirectional) 191 $\frac{mv}{m}$ at rated power.

ANTENNA CHARACTERISTICS

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

TOWER	:	SW (#1)	NE (#2)					
HEIGHT ABOVE INSULATORS	:	205.5'	205.5'	(94°)				
NIGHT PHASING	:	0°	23.8°					
NIGHT FIELD RATIO	:	1.0	0.75					

SPACING AND ORIENTATION : Towers in a row are spaced 446' (204°) on a line bearing 42° true.

KUKA

GROUND SYSTEM: 120 - 200' equally spaced copper radials 120 - 50' interspaced radials a ________' square ground screen about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

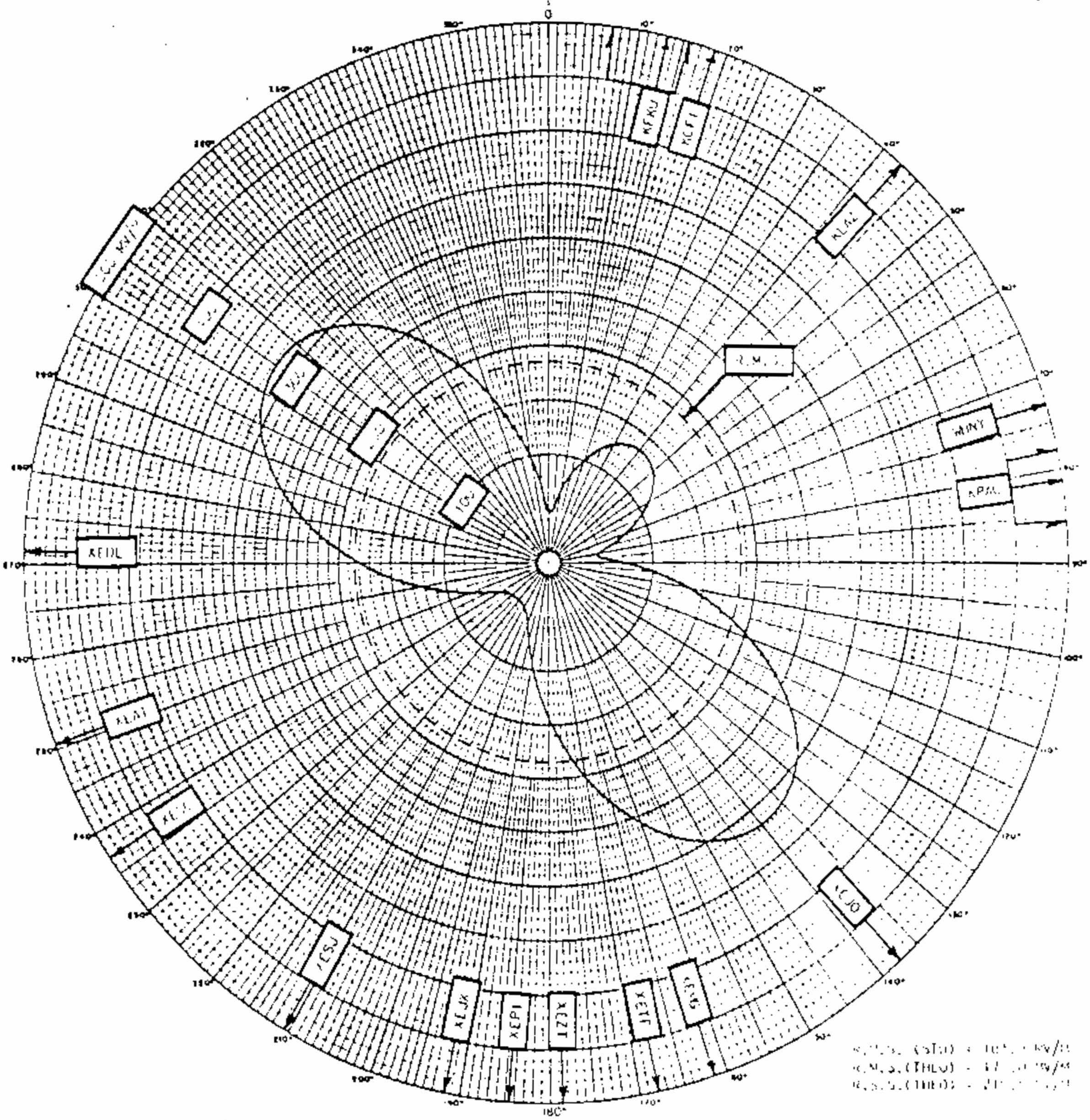
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL		STANDARD
	RMS	RSS	RMS
Night	175.0 mv/m	215.5 mv/m	183.9 mv/m

Note: This notification concerns a change in the height and efficiency of the daytime omnidirectional and the addition of nighttime directional antenna operation.

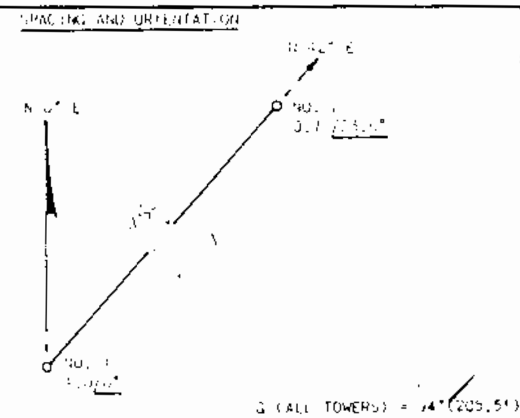
KUKA

Standard Pattern



STANDARD HORIZONTAL RADIATION PATTERN

FIGURE [illegible]-A



APPLICANT	[illegible] FAVOR, [illegible]
LOCATION	SAN ANTONIO, TEXAS
FREQUENCY	1250 KC/S
POWER	1 KW-U, DA-N
LATITUDE	29 DEG 24 MIN [illegible] SEC
LONGITUDE	[illegible] DEG 20 MIN [illegible] SEC
WHEN USED:	NIGHTTIME
R.M.S. FIELD:	[illegible] MV/M (STANDARD)
DATE	[illegible] JANUARY 1978

SILLIMAN, MOFFET & KOWALSKI

CONSULTING RADIO ENGINEERS

EXHIBIT #5

KYAC
1250KHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KYAC

Main Studio: Seattle, Washington

Frequency: 1250 kHz

Power: 5kw Night

Notification List No. 1789

Date: September 12, 1980 Class: III

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

DAYTIME AND NIGHTTIME NON-DIRECTIONAL ANTENNA SYSTEM:

North Latitude: 47° 33' 41"
West Longitude: 122° 21' 34"

NIGHTTIME DIRECTIONAL ANTENNA SYSTEM

North Latitude: 47° 40' 24"
West Longitude: 122° 10' 07"

NIGHTTIME DIRECTIONAL 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:	W(#1)	N(#2)	S(#3)	E(#4)
HEIGHT ABOVE INSULATORS:	150'	150'	150'	150' (68.6°)
NIGHT PHASING:	0°	+155°	+112°	+267°
NIGHT FIELD RATIO:	1.0	1.0	1.0	1.0

SPACING AND ORIENTATION: 131.1'(60°)

With reference to West (#1) Tower, North (#2) Tower spaced 131.1' (60°) on a line bearing 40° true. South(#3) Tower spaced 205.8' (94°) on a line bearing 140° true. East (#4) Tower spaced 223.8' (102.4°) on a line bearing 102.3° true.

GROUND SYSTEM:

120 - 170' 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.

KYAC
1250 kHz

DAYTIME AND NIGHTTIME NON-DIRECTIONAL ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation (ND-1)
Number of elements: 1

HEIGHT ABOVE
INSULATORS: 210'

GROUND SYSTEM: 120-180' to 210' eaually spaced copper radials.

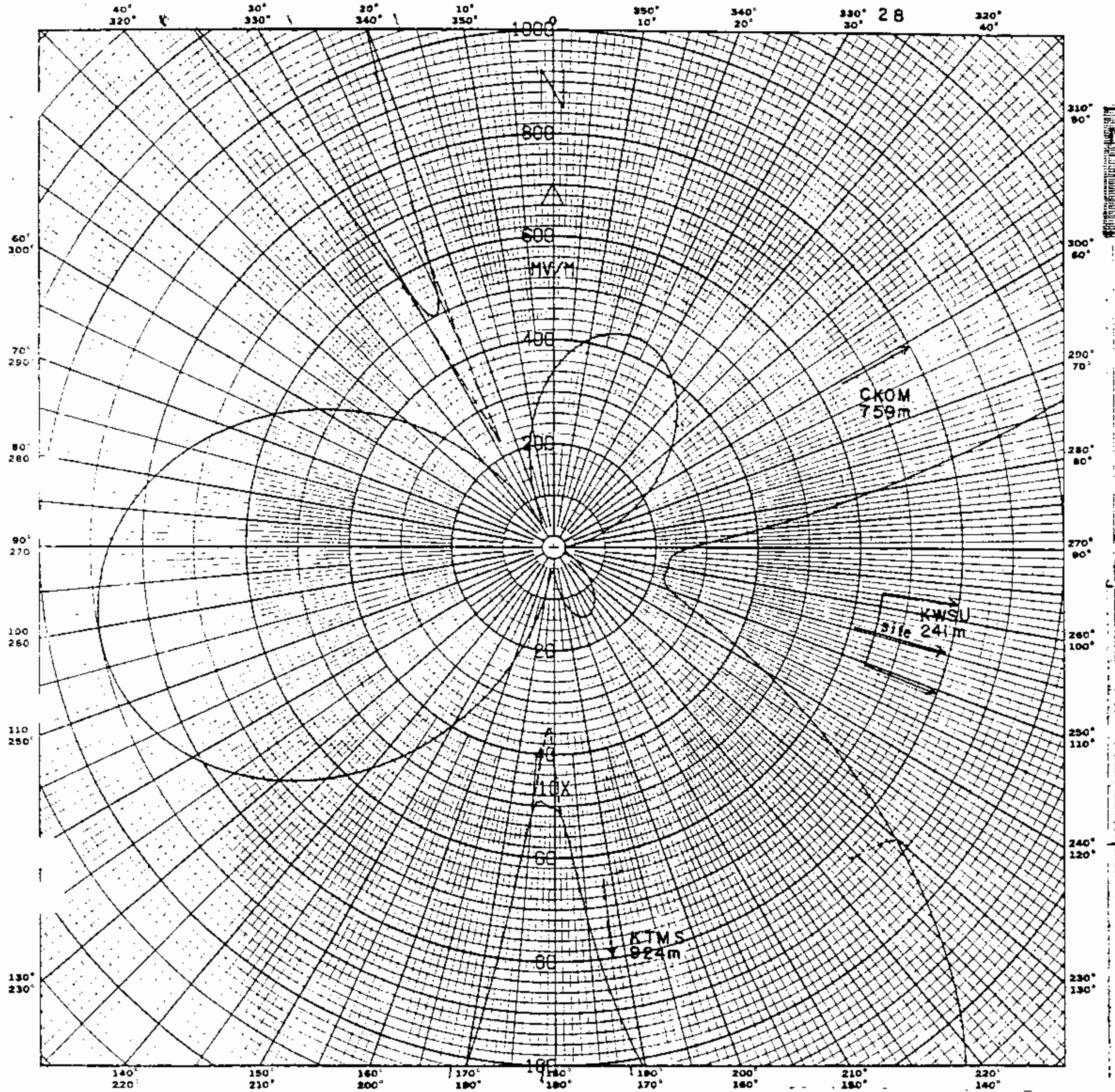
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL		STANDARD
	RMS	RSS	
Day and Night Omnidirectional			
Night 1/	408.40 mv/m	857.73 mv/m	429.41 mv/m

1/ By adjustment of input power.

KYAC
1250 kHz

28



HATFIELD & DAWSON
CONSULTING ELECTRICAL ENGINEERS
3525 STONE WAY N.
SEATTLE, WASHINGTON 98103

RADIO STATION KYAC

SEATTLE, WASHINGTON

3/78 Figure 1

AUGMENTED STANDARD PATTERN 1250 kHz, 5 kw, DA-N (SH)
HORIZONTAL PLANE PATTERN

RMStheo = 408.40 mv/m RMSstd = 429.4107 mv/m
RSS = 857.7294 mv/m K = 428.8647 mv/m
site 47 40 24 NL X 122 10 07 WL

② ① ④ ③

#	F	ψ	S	φ
1	1.0	0	0	0
2	1.0	155.0	60.0	40.0
3	1.0	112.0	94.0	140.0
4	1.0	267.0	102.4	102.3

AUGMENTATION PARAMETERS

E mv/m	CENTER φ	SPAN
50.00	181.5	10.0
50.00	333.0	10.0

KYAC

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KYAC | Main Studio: Seattle, Washington

Frequency: 1250 kHz | Power: 5 kW

Notification List No. 1710 | Date: November 24, 1976 | Class: III

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

Day and Night Omnidirectional 2/

North Latitude 47° 33' 41"
West Longitude 122° 21' 34"

Night Directional 2/

North Latitude 47° 40' 24"
West Longitude 122° 10' 07"

NIGHT DIRECTIONAL ANTENNA CHARACTERISTICS

Authorized for Nighttime operation. (DA-N) 2/
Number of elements: 4
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers, top loaded by upper 50' sections of guy wires to an effective electrical height of 77 degrees.*

TOWER:	W(#1)	N(#2)	S(#3)	E(#4)
HEIGHT ABOVE INSULATORS:	150'	150'	150'	150' (*)
NIGHT PHASING:	0°	+155°	+112°	+267°
NIGHT FIELD RATIO:	1	1	1	1

SPACING AND ORIENTATION: The towers are located at the vertices of a parallelogram the long sides of which are 205' (94°) in length on a line bearing 140° true. The short sides are 131' (60°) in length on a line bearing 40° true.

GROUND SYSTEM: 120-100' to 170' 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.

DAY AND NIGHT OMNIDIRECTIONAL ANTENNA CHARACTERISTICS

Authorized for Day and Night operation. 2/
Number of elements: 1
Height above insulators: 210'
Ground system: 120 radials 180'-210'

(Cont'd)

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

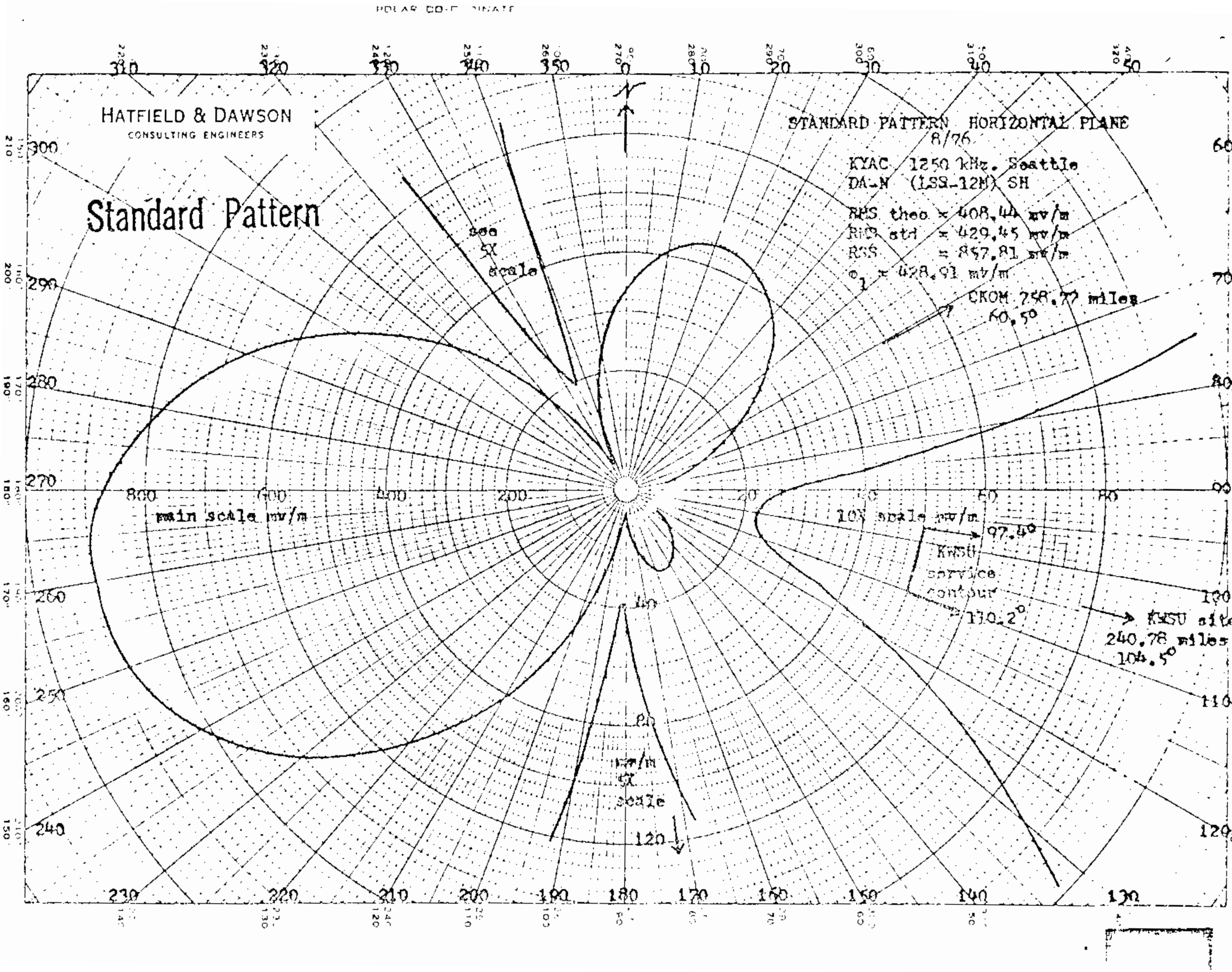
	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day and Night omnidirectional 2/	432 mv/m	- mv/m	- mv/m
Night directional 1/	408.44 mv/m	857.81 mv/m	429.45 mv/m

1/ By adjustment of input power.

2/ Directional antenna radiation pattern will be used nighttime when KWSU, Pullman, Washington, operates; omnidirectional antenna will be used nighttime when KWSU does not operate.

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

CTR NO 30127A
30127A3


HATFIELD & DAWSON
CONSULTING ENGINEERS
Standard Pattern
STANDARD PATTERN HORIZONTAL PLANE
8/76
KYAC 1250 kHz. Seattle
DA-N (LSS-12M) SH
RMS theo = 408.44 mv/m
RMS std = 429.45 mv/m
RSS = 857.81 mv/m
e_1 = 428.91 mv/m
CKOM 758.77 miles
60.5°
main scale mv/m
10X scale mv/m
97.4°
KWSU
service
contour
110.2°
KWSU site
240.78 miles
104.5°
see
5X
scale
mv/m
5X
scale
POLAR COORDINATE

KYAC

WAKE
1250kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WARE — Main Studio: Ware, Massachusetts

Frequency: 1250 kHz — Power: 2.5kw Night 5kw Day

Notification List No. 1782 — Date: October 26, 1979 — Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:
North Latitude: 42° 14' 41"
West Longitude: 72° 12' 30"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 4
Type of elements: Three series excited, uniform cross-section, guyed, towers and one tower (#2) is a self supporting, tapered, vertical steel tower.

TOWER:	S(#1)	NC(#2)	NW(#3)	NE(#4)
HEIGHT ABOVE INSULATORS:	207'	207'	207'	207' (94
NIGHT PHASING:	-159°	0°	125°	___
NIGHT FIELD RATIO:	0.26	1.0	0.68	___
DAY PHASING:	-133°	-176°	---	0°
DAY FIELD RATIO:	0.425	0.33	---	1.0

SPACING AND ORIENTATION: With the S(#1) Tower as reference, the North Center (#2) tower is spaced 264.27' (120.85°) on a line bearing 322.21° true, the NW(#3) tower is spaced 530.27" (24.25°) on a line bearing 318.82° true, and the NE(#4) tower is spaced 123.5' (56.47°) on a line bearing 10.41° true.

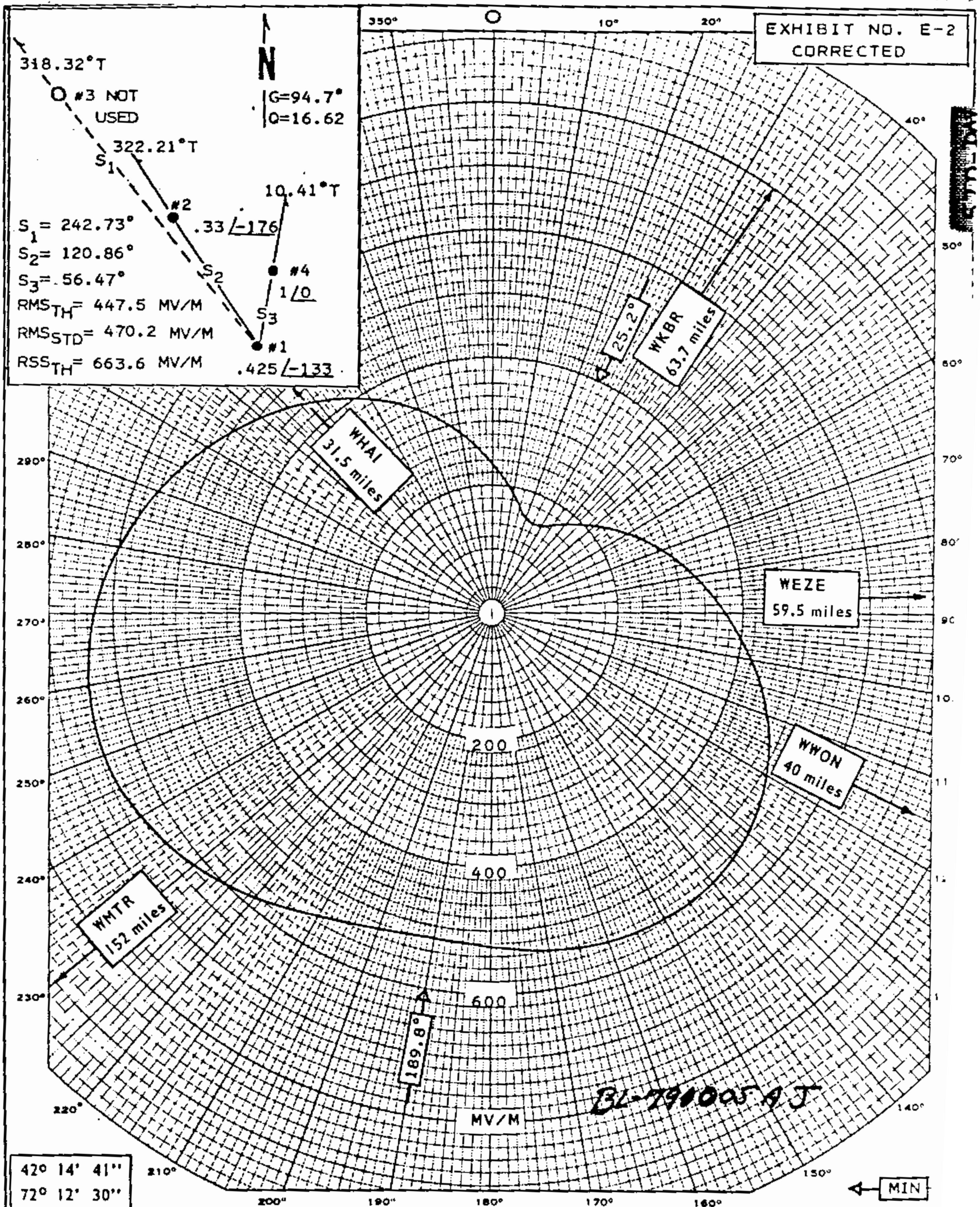
GROUND SYSTEM: 120 - 200' equally spaced copper radials plus a 12' square ground screen about each tower except the North Center (#2) tower where a 24' square ground screen is installed. Radials are shortened and bonded to transverse straps along intersections between towers.

between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL		STANDARD
	RMS	RSS	RMS
Day	447.5 mv/m	663.6 mv/m	470.2 mv/m
Night	324.7 mv/m	351.4 mv/m	341.1 mv/m

WAKL- 1250KHZ DA-2



EDWARD F. LORENTZ & ASSOCIATES
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.

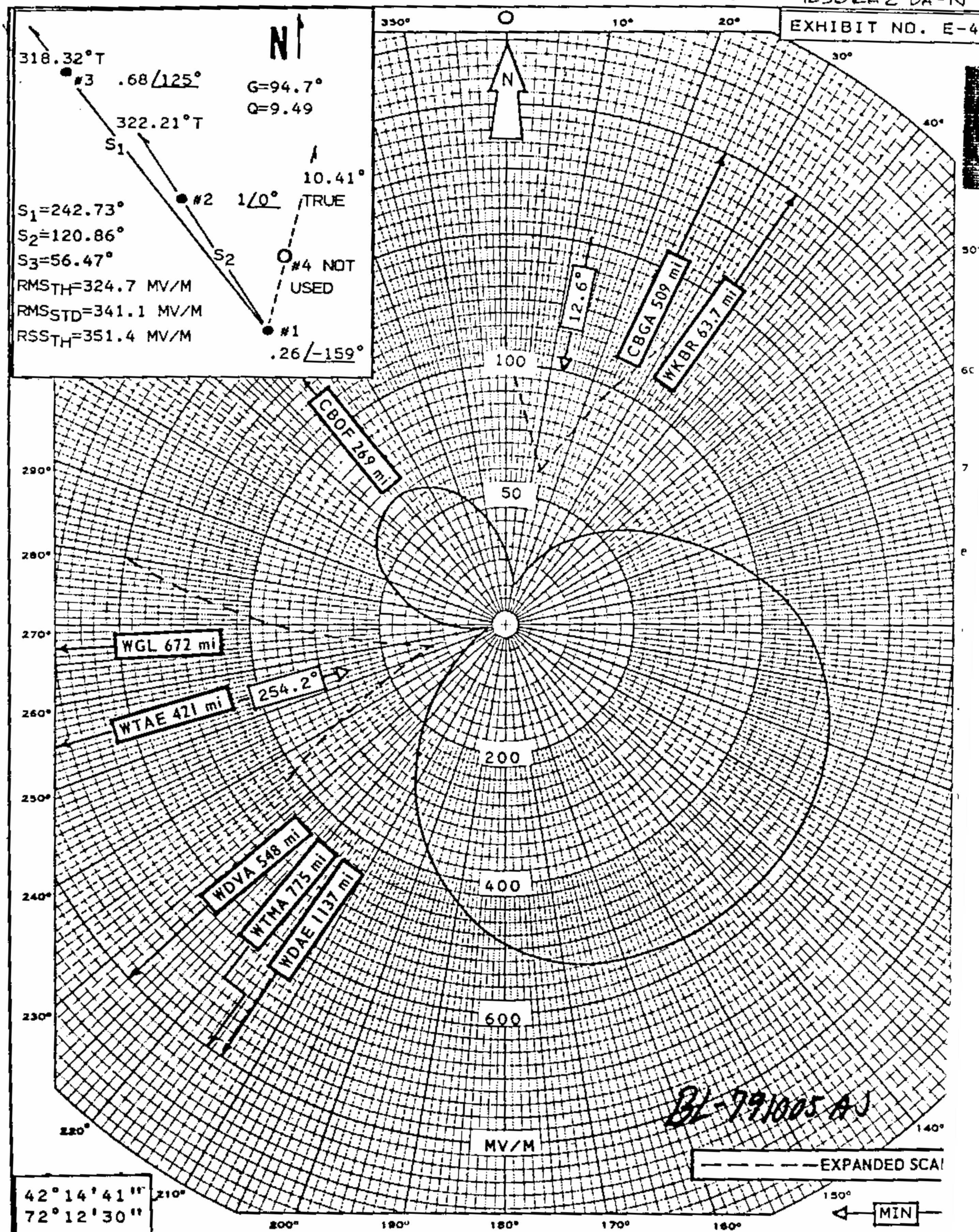
10/79

PROPOSED DAYTIME HORIZONTAL
STANDARD PATTERN

WARE, WARE, MASSACHUSETTS
1250 KHZ 5 KW-D, 2.5 KW-N DA-2

WARE 1250 KHZ DA-N

EXHIBIT NO. E-4



EDWARD F. LORENTZ & ASSOCIATES
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.

PROPOSED NIGHTTIME HORIZONTAL STANDARD PATTERN
WARE, WARE, MASSACHUSETTS
1250 KHZ 5 KW-D, 2.5 KW-N, DA-2

5/79

WARE

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WARE | Main Sutdio: Ware, Massachusetts

Frequency: 1250 kHz | Power: 1kw Night 5kw Day

Notification List No. 1775 | Date: May 31, 1978 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 42° 14' 41" West Longitude: 72° 12' 30"

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:	SE(#1)	C(#2)	NW(#3)	NE(#4)
HEIGHT ABOVE INSULATORS:	207	207	207	207
NIGHT PHASING:	-195.5°	0°	+147.5°	----
NIGHT FIELD RATIO:	0.524	1.0	0.774	----
DAY PHASING:	0	-44°	----	+132°
DAY FIELD RATIO:	1.0	0.8	----	2.4

SPACING AND ORIENTATION: With the SE(#1) tower as reference the C(#2) tower is spaced 257' (117.69°) on a line bearing 322.67° true, the NW(#3) tower is spaced 524' (240°) in length on a line bearing 320° true, and the NE(#4) tower is apaced 125' (56.47°).

GROUND SYSTEM: 120 - 200' equally spaced copper radials plus a 12' square ground screen about the SE(#1), NW(#3), and the NE(#4) towers and a 24' square ground screen about the C(#2) tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of system are bonded together.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL		STANDARD
	RMS	RSS	RMS
Day 1/	447.3 mv/m	666.2 mv/m	470.0 mv/m
Night 1/	211 mv/m		

1/ By adjustment of input power.

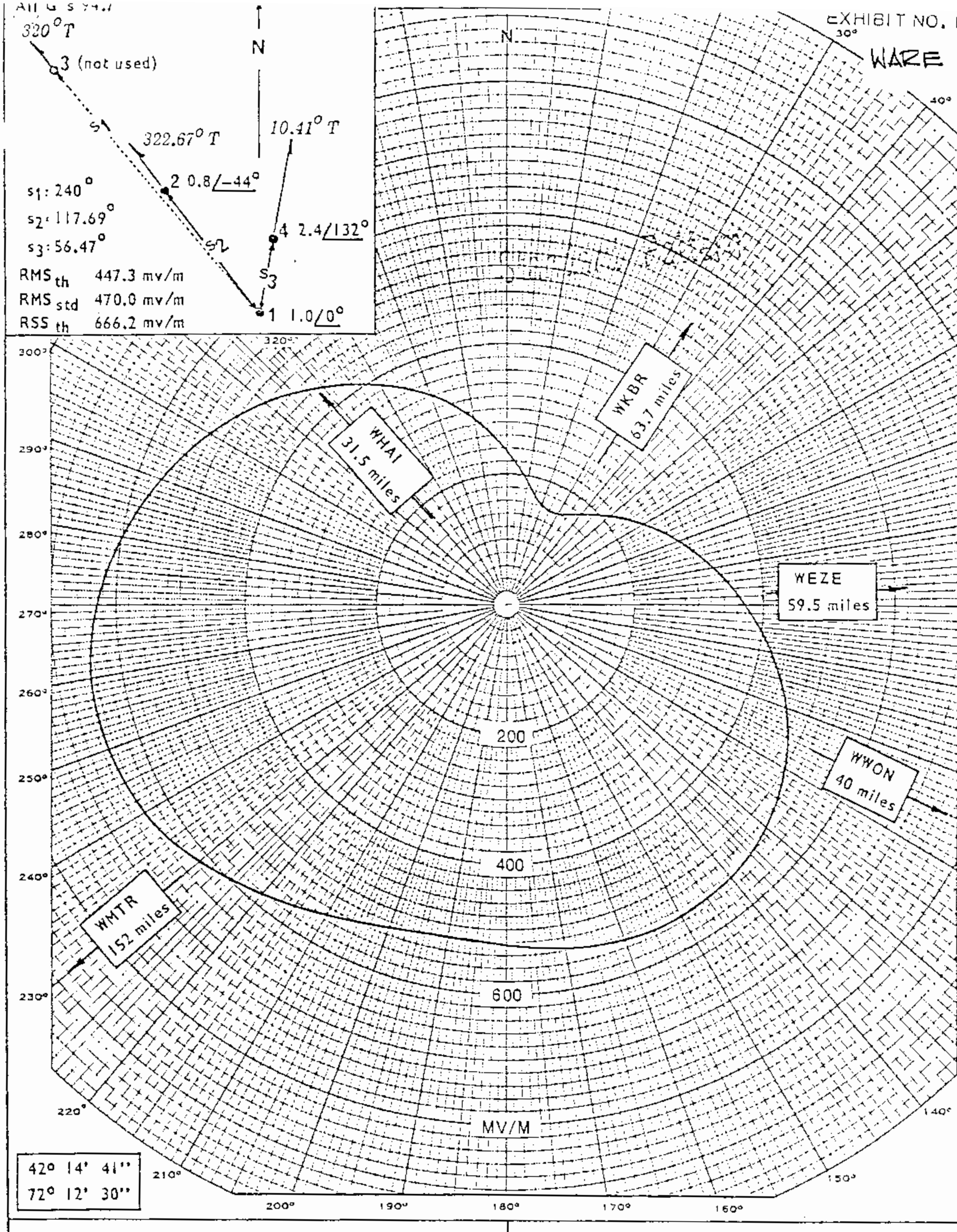
Note: Please retain the Nighttime directional antenna radiation pattern notified for Station WARE in United States Change List Number 622 dated August 31, 1955 and attach to this Revised Description Sheet and Daytime pattern. This notification concerns only a change in the Daytime operation of the station and a correction of nighttime tower height with Nighttime operation continued as previously notified.

WARE

Note: This notification concerns only a change in the Daytime operation of the station with addition of Nighttime operation.

EXHIBIT NO. E-

WARE



EDWARD F. LORENTZ & ASSOCIATES
CONSULTING RADIO ENGINEERS
WASHINGTON, D.C.

PROPOSED DAYTIME HORIZONTAL
STANDARD PATTERN
WARE, WARE, MASSACHUSETTS
1250 kHz 5 KW-D, 2.5 KW-N, DA-2, U
2/76

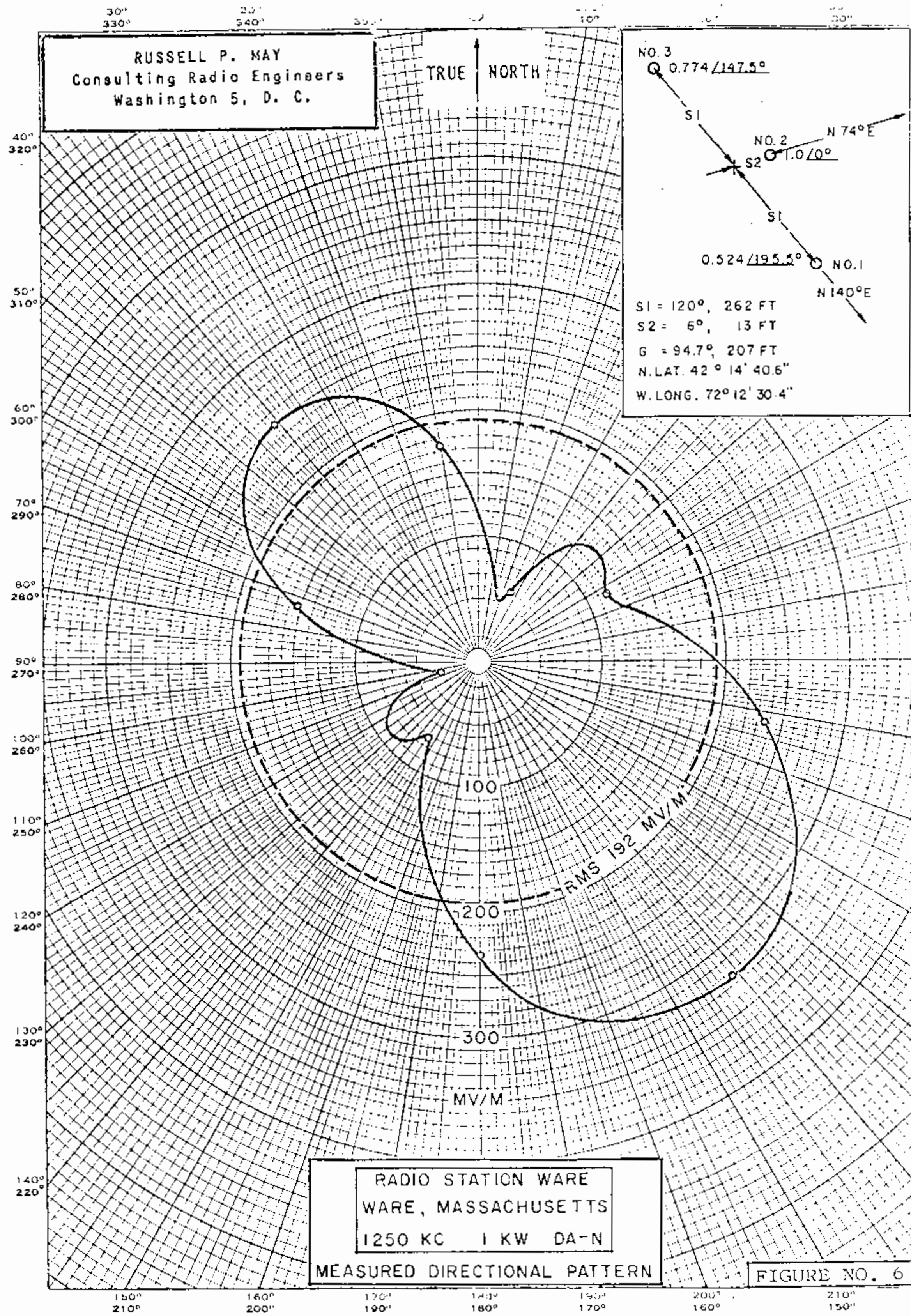
SEE REVERSE SIDE

WARE

Measured Night
(7-28-69ct)

Station WARE
Ware, Massachusetts

1kw,DA-N,U
1250 kc



FCC File No.BL-12388
Accepted 7-2-69

Station WARE
Ware, Massachusetts

1250 kc

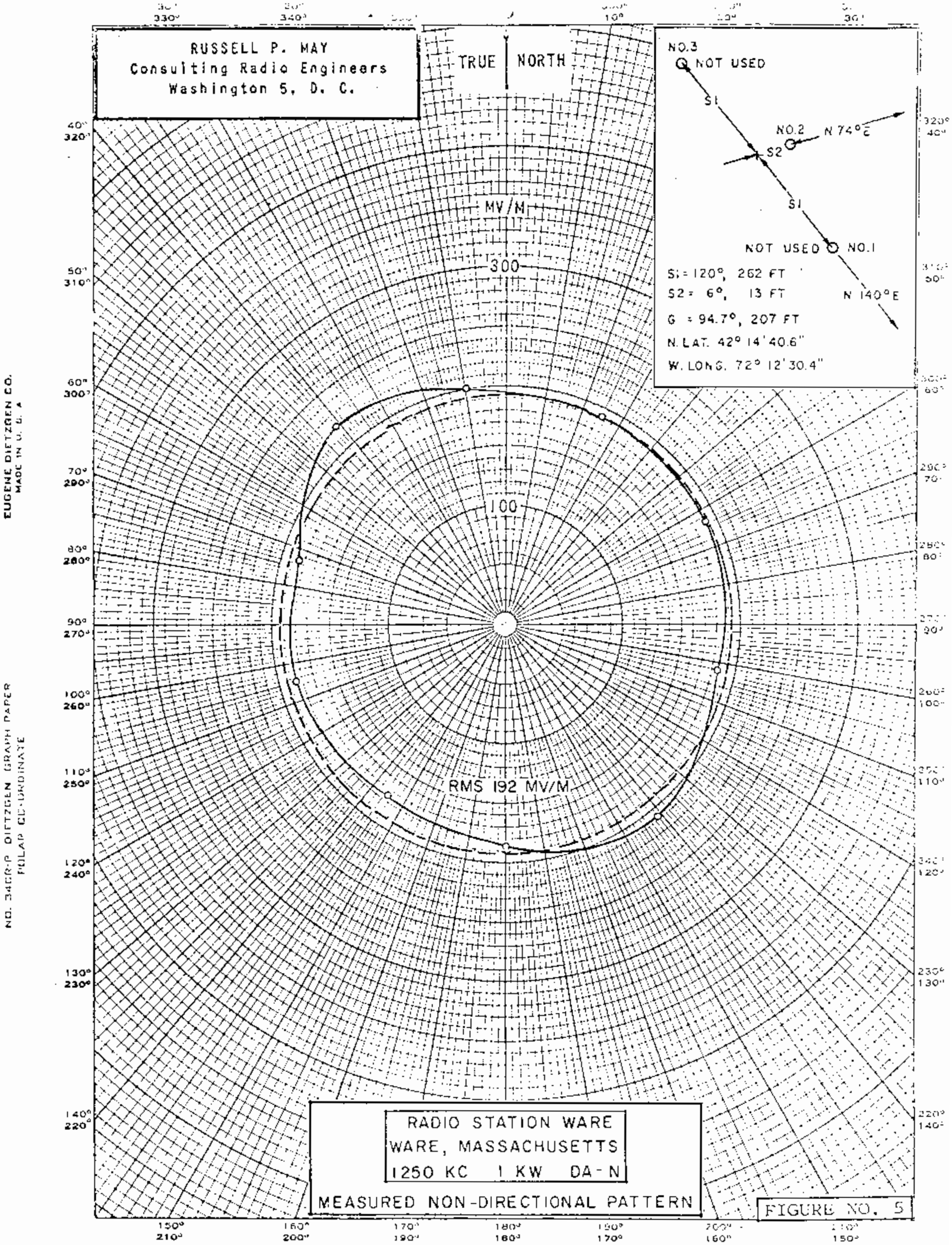
SEE REVERSE SIDE

WARE

Measured Non-DA
(7-28-69ct)

Station WARE
Ware, Massachusetts

1kw,DA-N,U
1250 kc



FCC File No.BL-12388
Accepted 7-2-69

Station WARE
Ware, Massachusetts

1250 kc

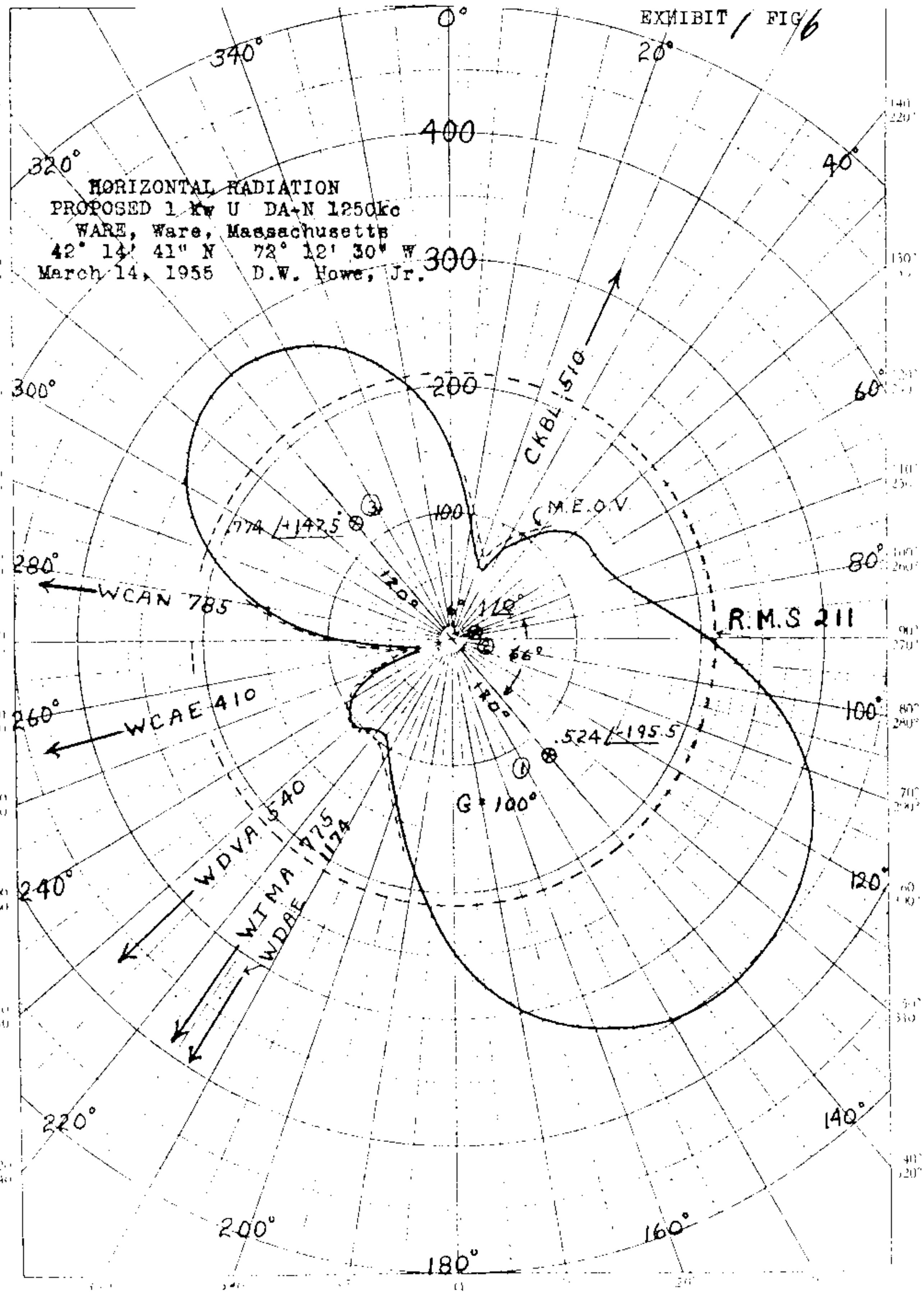
WARE

PROPOSED
NIGHT

WARE, Ware, Mass.
5/11/55G

U, DA-N
1 KW

1250 KC



FCC File No. BP-9827 Accepted 5-6-55 WARE, Ware, Mass. 1250 KC

WDAE

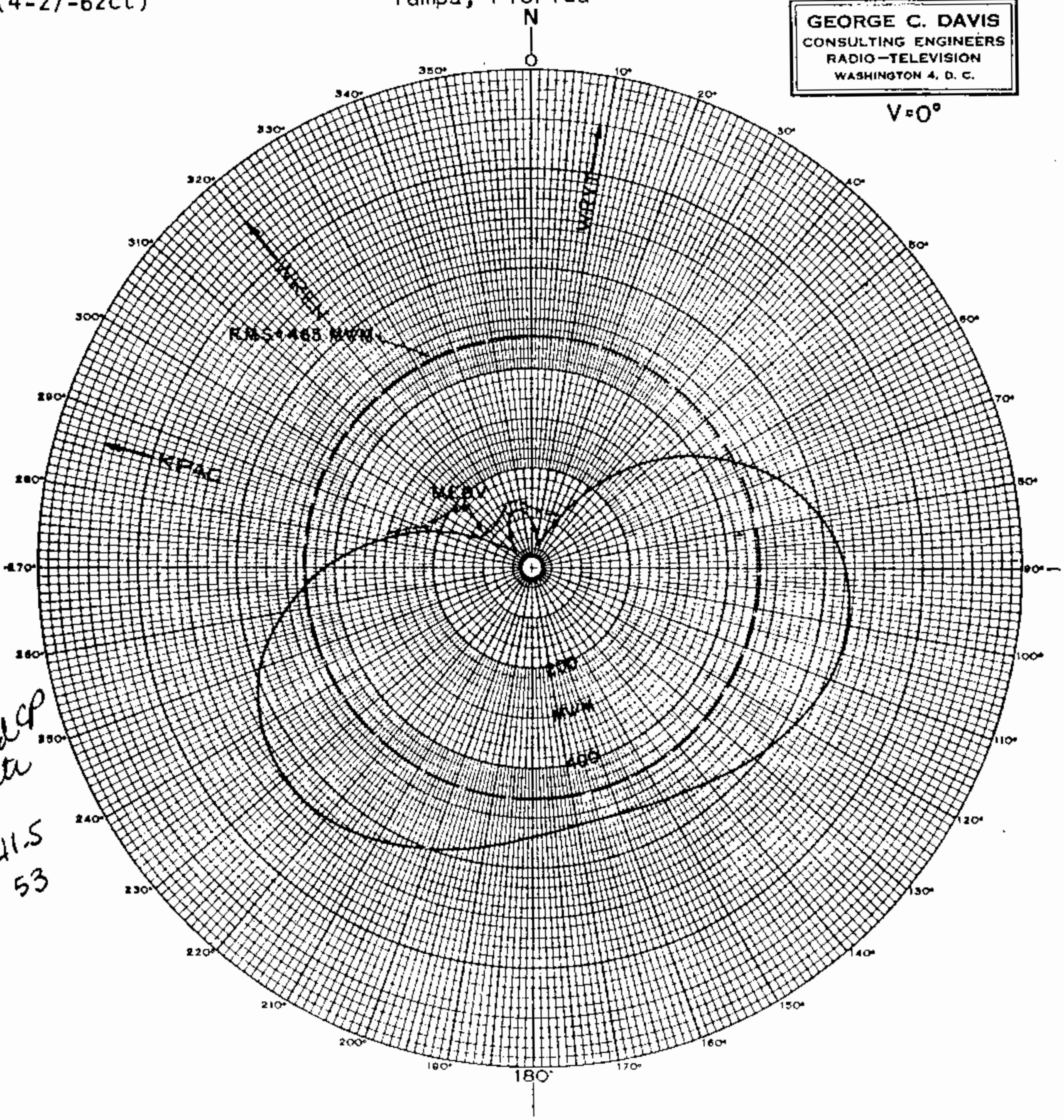
Proposed Day & Night
(4-27-62ct)

Station WDAE
Tampa, Florida

5kw,DA-1,U
1250 kc

GEORGE C. DAVIS
CONSULTING ENGINEERS
RADIO—TELEVISION
WASHINGTON 4, D. C.

V=0°



19-62 granted CP
change xmtr
cation to
L - 28 00 41.5
WL 82 29 53

COMPUTED HORIZONTAL
PLANE RADIATION PATTERN
FOR PROPOSED FULLTIME OPERATION AT
WDAE, TAMPA, FLORIDA
1250 KC 5 KW DA-1 U
MARCH 1962

1.0 ∠+62.5 — 1.11 ∠0

N344°E ← O 1 ←— 138° —→ O 2

H = 230' = 106°

S = 301.5' = 138°

NORTH LATITUDE 28° 00' 41.5"

WEST LONGITUDE 82° 29' 53"

FCC File No.BP-15389
Accepted 3-28-62

Station WDAE
Tampa, Florida

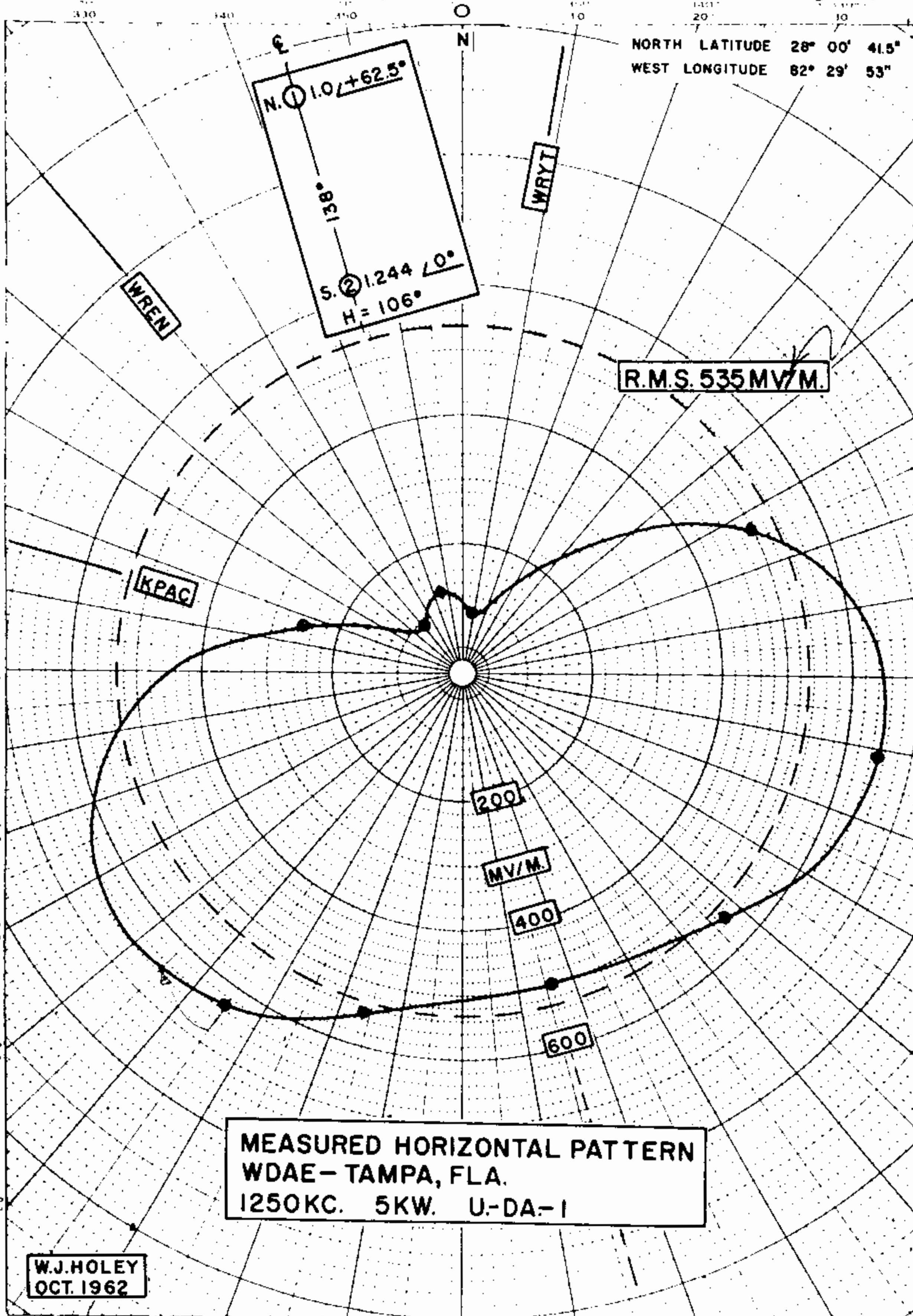
1250 kc

WDAE

Measured Day & Night
(3-30-63ct)

Station WDAE
Tampa, Florida

5kw,DA-1,U
1250 kc



NO 340-P DIETZGEN GRAPH PAPER
POLAR COORDINATE

FCC File No. BL-9804
Accepted 3-14-63

Station WDAE
Tampa, Florida

1250 kc

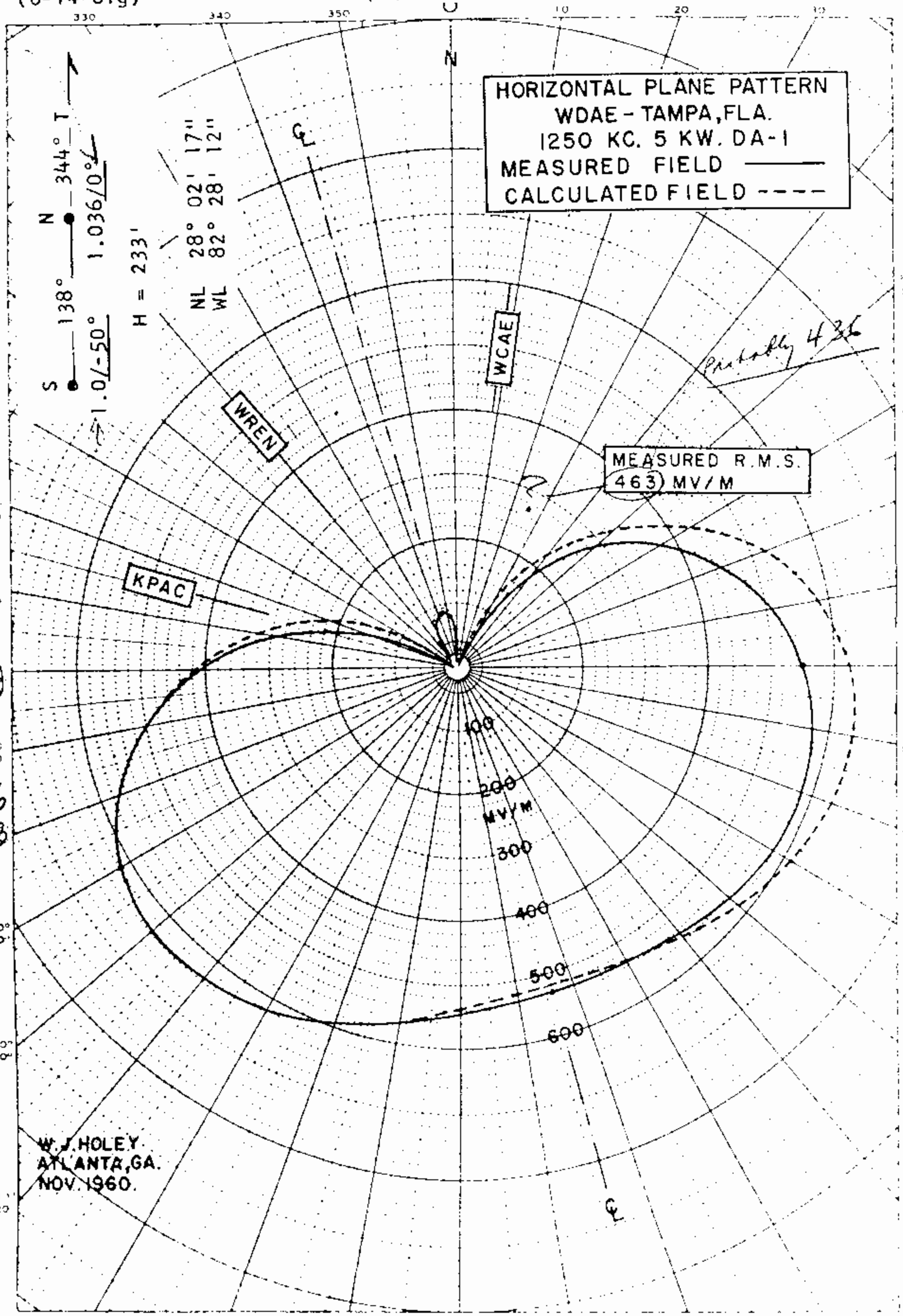
WDAE

MEASURED DAY & NIGHT
(6-14-61g)

Station WDAE
Tampa, Florida

5kw, DA-1,U
1250 KC

OPERATING VALUES



BP 15389 - 4-19-62 granted for T x mtr location to NL - 28-00-41.5 WL - 82-29-53

FCC File No. BZ-4416
Accepted 5-22-61

WDAE
Tampa, Florida

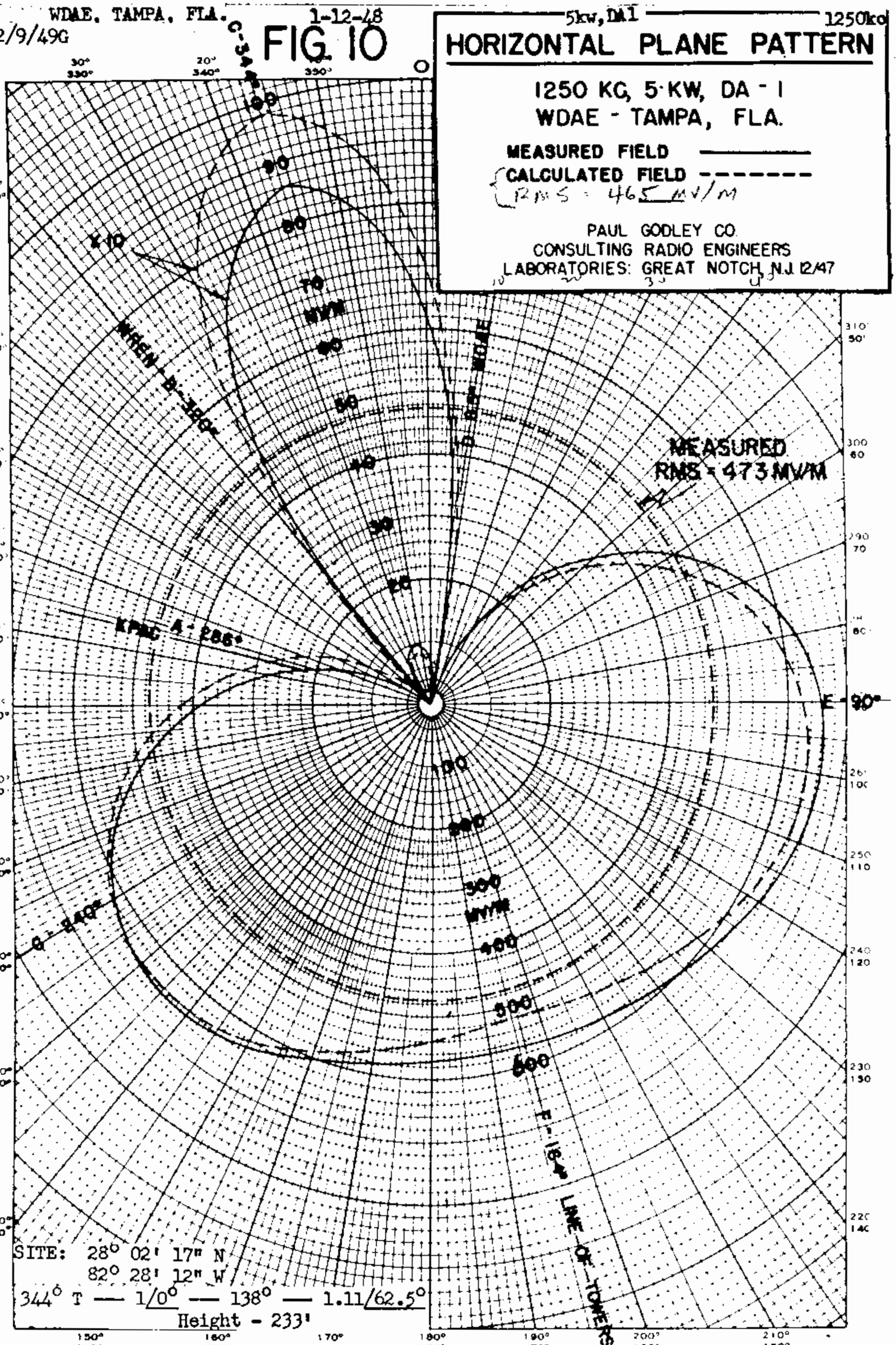
1250 KC

WDAE

MEASURED
NIGHT&DAY. 2/9/49G

WDAE. TAMPA. FLA. 1-12-48

WDAE
1



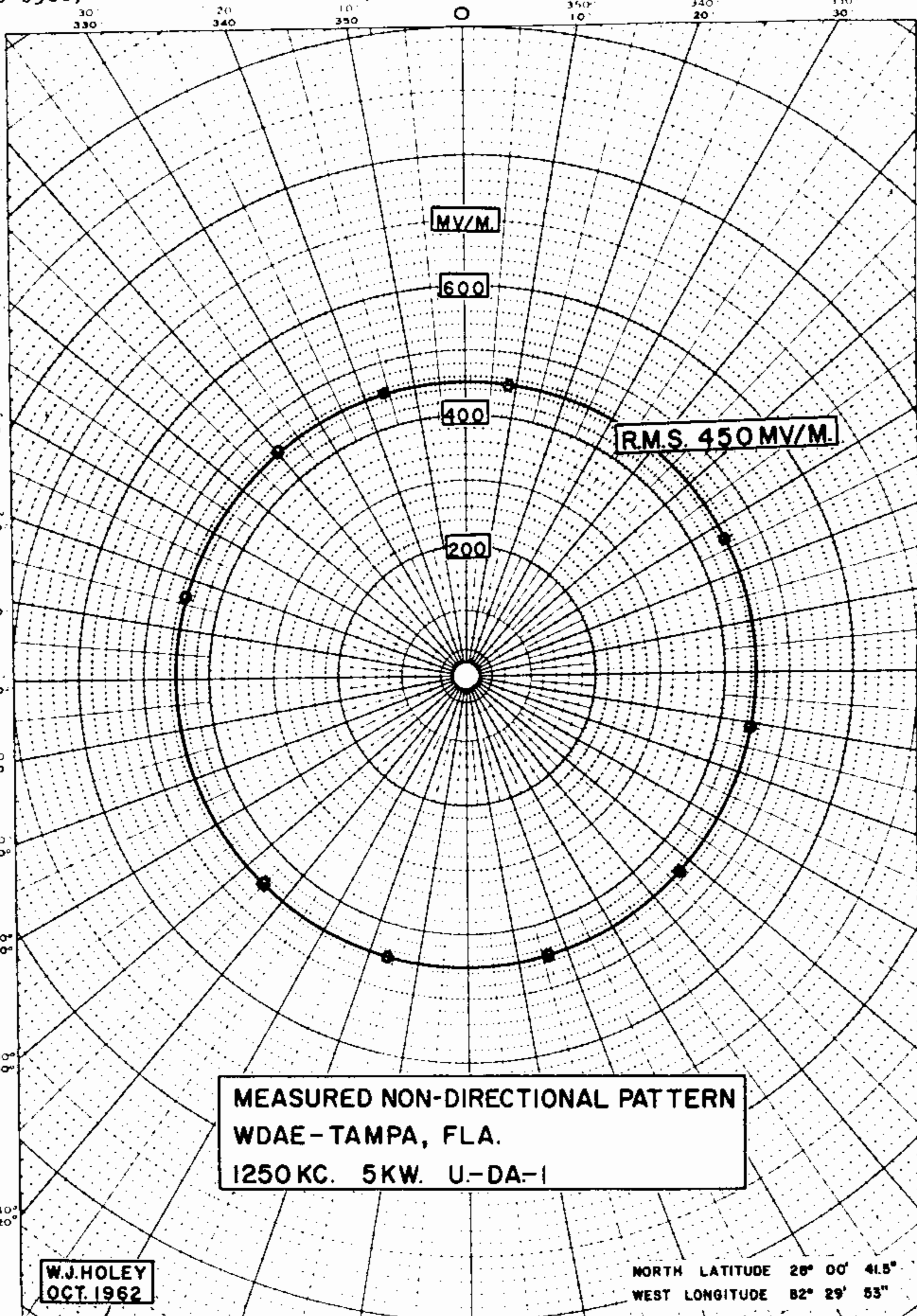
WDAE. TAMPA. FLA. 1250kc

WDAE

Measured Non-DA
(3-30-63ct)

Station WDAE
Tampa, Florida

5kw,DA-1,U
1250 kc



FCC File No. BL-9804
Accepted 3-14-63

Station WDAE
Tampa, Florida

1250 kc

WDVA

SUPPLEMENTAL AND CORRECTED
DIRECTIONAL ANTENNA DESCRIPTION SHEET
Issued: ______________ 19__

Station : WDVA   Main Studio: Danville, Virginia

Frequency : 1250 KHz   Power : 5 kW Night 5 kW Day

Notification: 1782   Date : October 26, 1979   Class: III

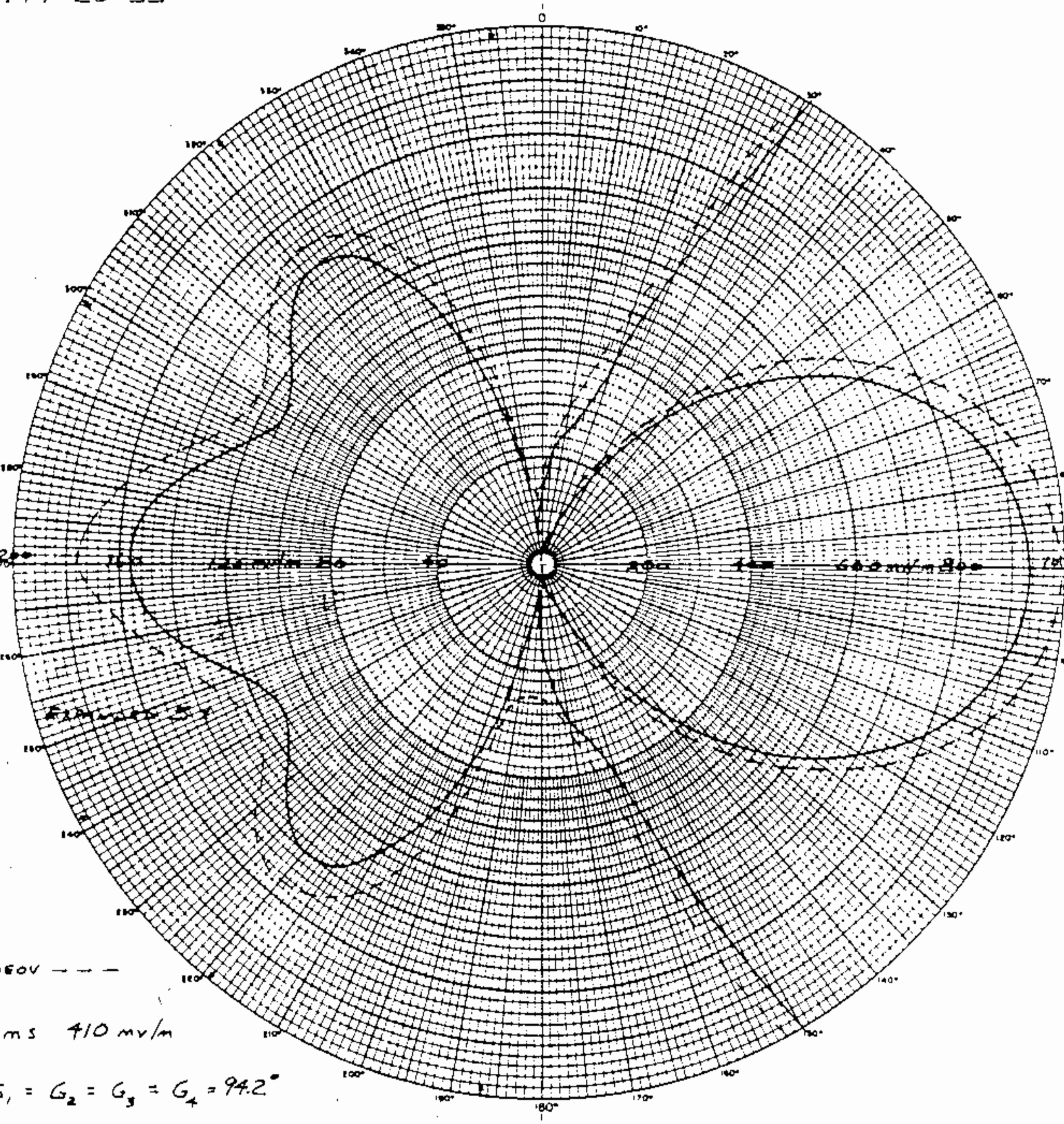
GEOGRAPHICAL LOCATION OF THE
CENTER OF THE ANTENNA SYSTEM: North Latitude: 36 ° 34 ' 53 "
West Longitude: 79 ° 26 ' 33 "

Predicted effective Day Field: (omnidirectional) 192 mV/m at rated power.
Predicted effective Night Field: 410 mV/m at rated power.

Note: The purposes of this notification is to provcide changes in MEOV's

WDVA

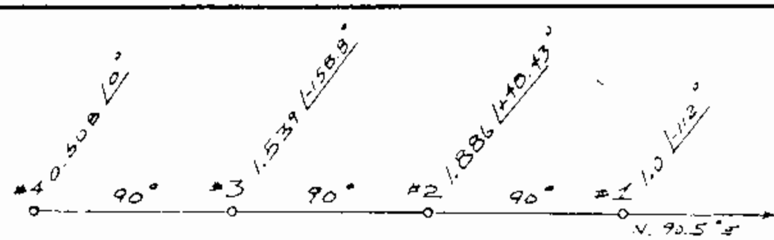
N. 36° 34′ 53″
W. 79° 26′ 33″



MEOV — — —

Rms 410 mv/m

$G_1 = G_2 = G_3 = G_4 = 94.2°$



PALMER A. GREER
227 FARR'S BRIDGE RD
GREENVILLE, S C 29611

FIG. 1 REV.
VIRGINIA-CAROLINA BROADCASTING CORPORATION
RADIO STATION WDVA
DANVILLE, VIRGINIA

1250 KHZ	5 KWS	DA-D

THE THEORETICAL HORIZONTAL RADIATION PATTERN

NO MEOV SHOWN ABOVE 0°

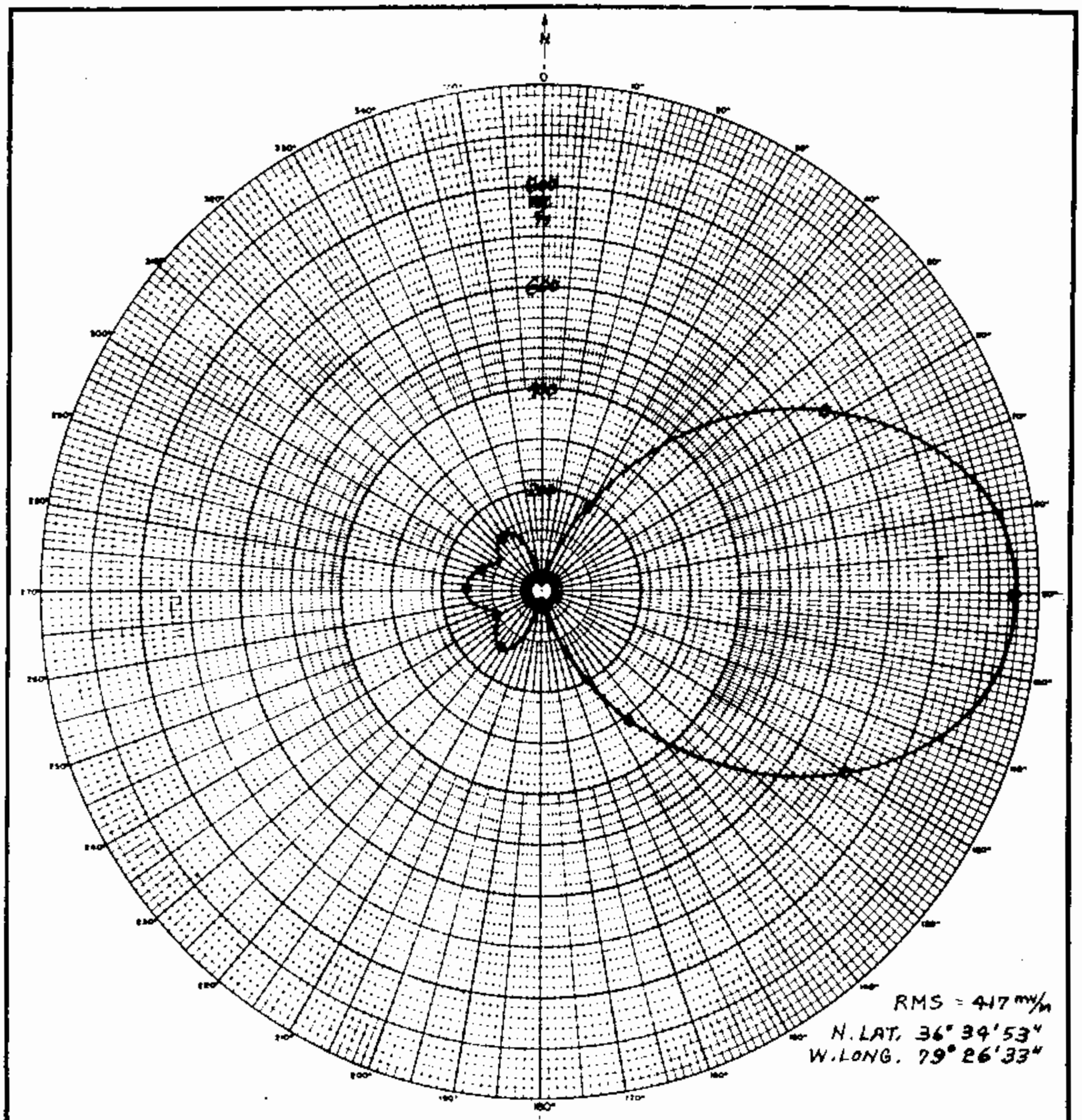
WDVA

Measured Night
(9-28-66ct)

Station WDVA
Danville, Virginia

5kw,DA-N,U
1250 kc

)L-11398
-4-67
=RANTED
LICENSE,



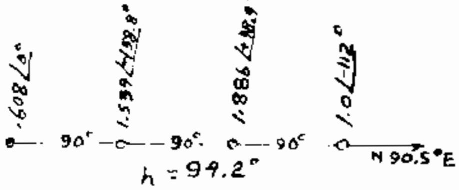


FIGURE XXV

MEASURED RADIATION PATTERN
DIRECTIONAL

WDVA 1250KC 5KW-DA-N

DANVILLE, VIRGINIA

WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON 5, D. C.

PATTERN NO
SUPERSEDES
APP.

FCC File No.BL-11398
Accepted 9-7-66

Station WDVA
Danville, Virginia

1250 kc

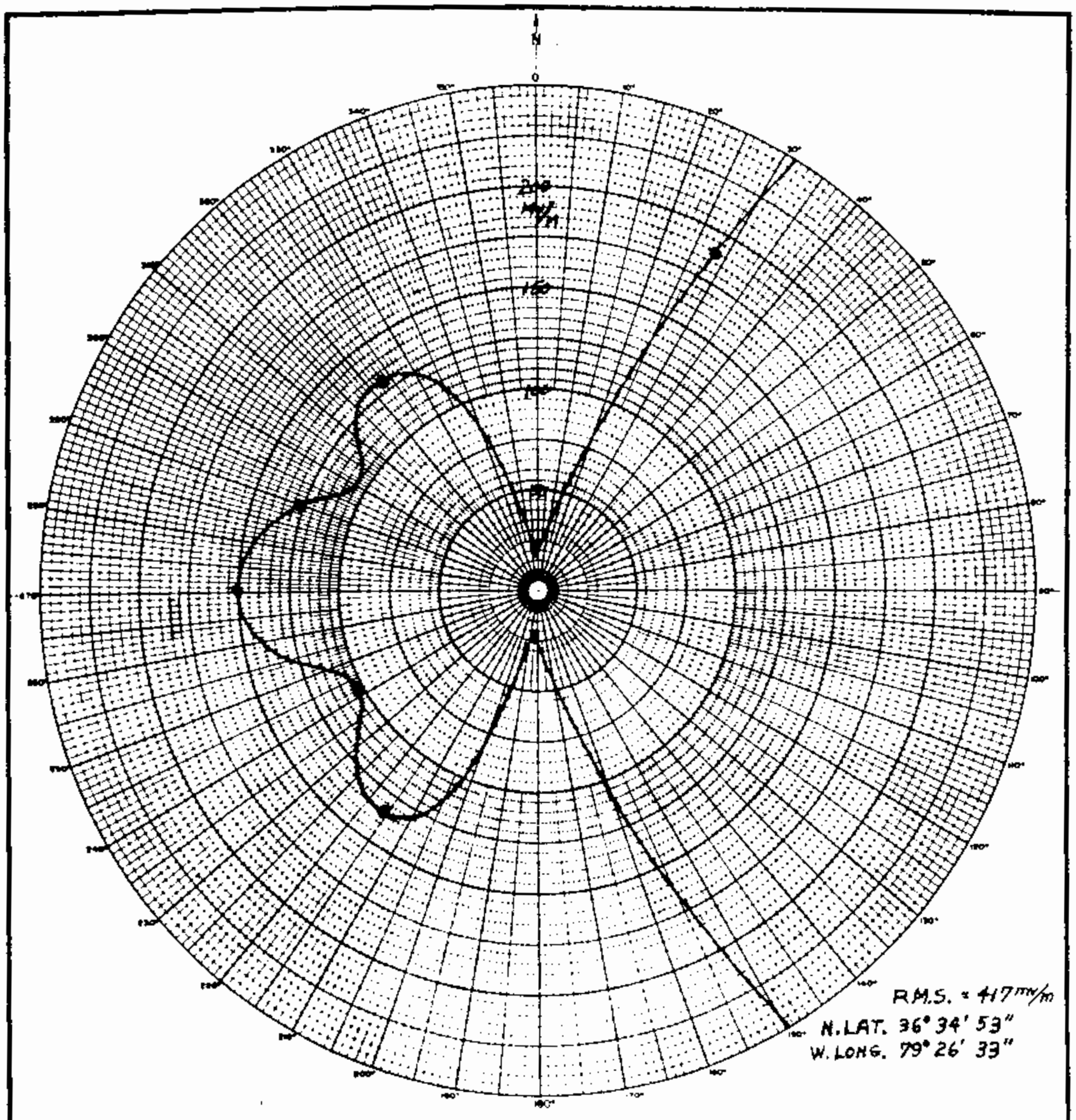
WDVA

Measured Night Nulls
(9-28-66ct)

Station WDVA
Danville, Virginia

5kw,DA-N,U
1250 kc

BL-11398
1-4-67
GRANTED
LICENSE.



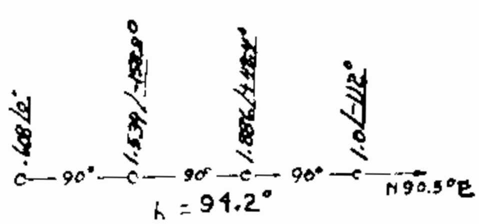


FIGURE XXII
HORIZONTAL RADIATION PATTERN
WDVA 1250KC 5KW-DA-N
DANVILLE, VIRGINIA

WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON 6, D. C.

PATTERN NO
SUPERSEDES
APP

FCC File No.BL-11398
Accepted 9-7-66

Station WDVA
Danville, Virginia

1250 kc

WDVA

Measured Non-DA
(9-28-66ct)

Station WDVA
Danville, Virginia

5kw,DA-N,U
1250 kc

BL-11398
1-4-67
GRANTED
LICENSE,

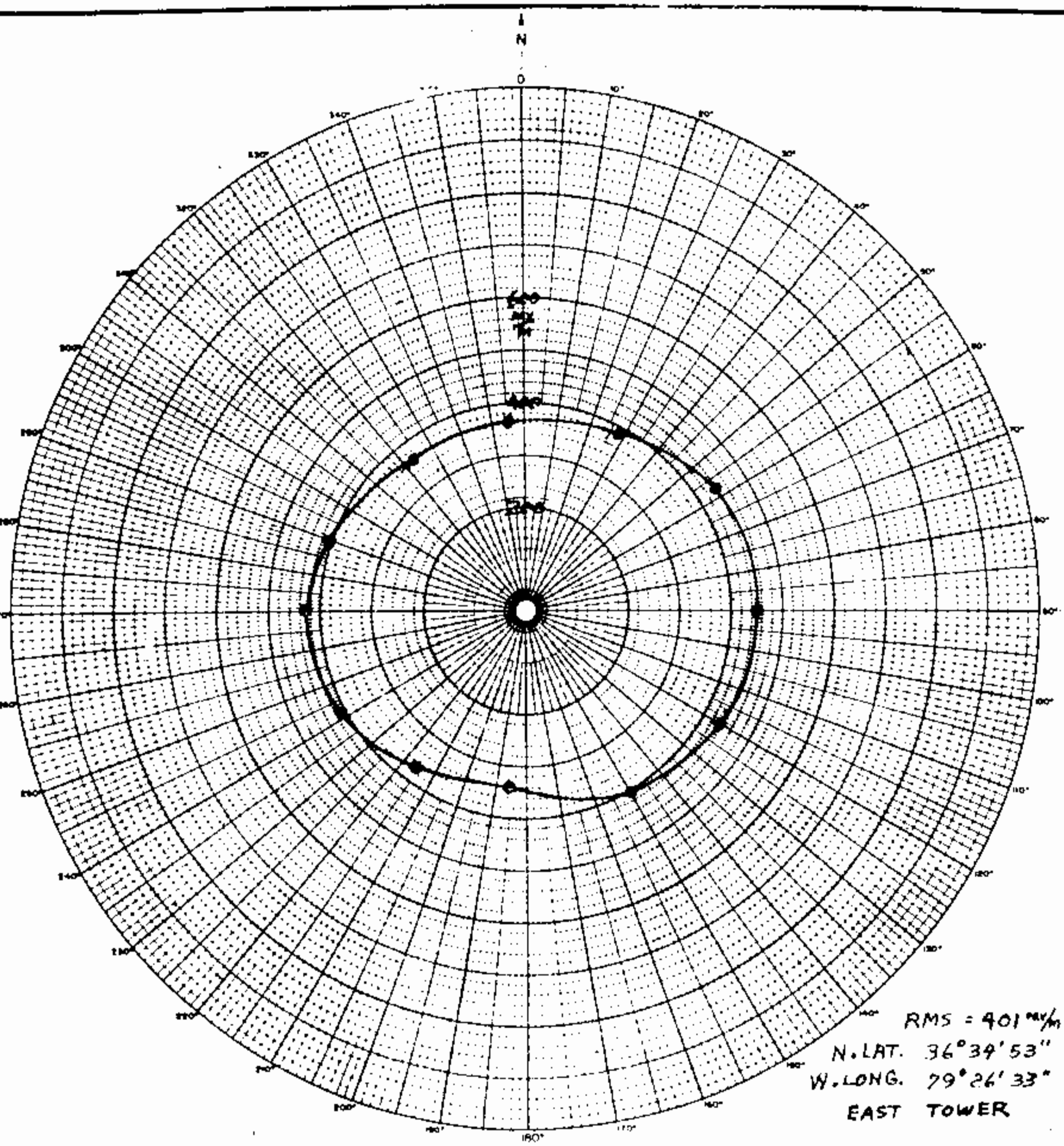


FIGURE XXIV

MEASURED RADIATION PATTERN
EAST TOWER

WDVA 1250KC 5KW-DA-N

DANVILLE, VIRGINIA

WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON 5, D. C.

PATTERN NO
SUPERSEDES
APP.

FCC File No.BL-11398
Accepted 9-7-66

Station WDVA
Danville, Virginia

1250 kc

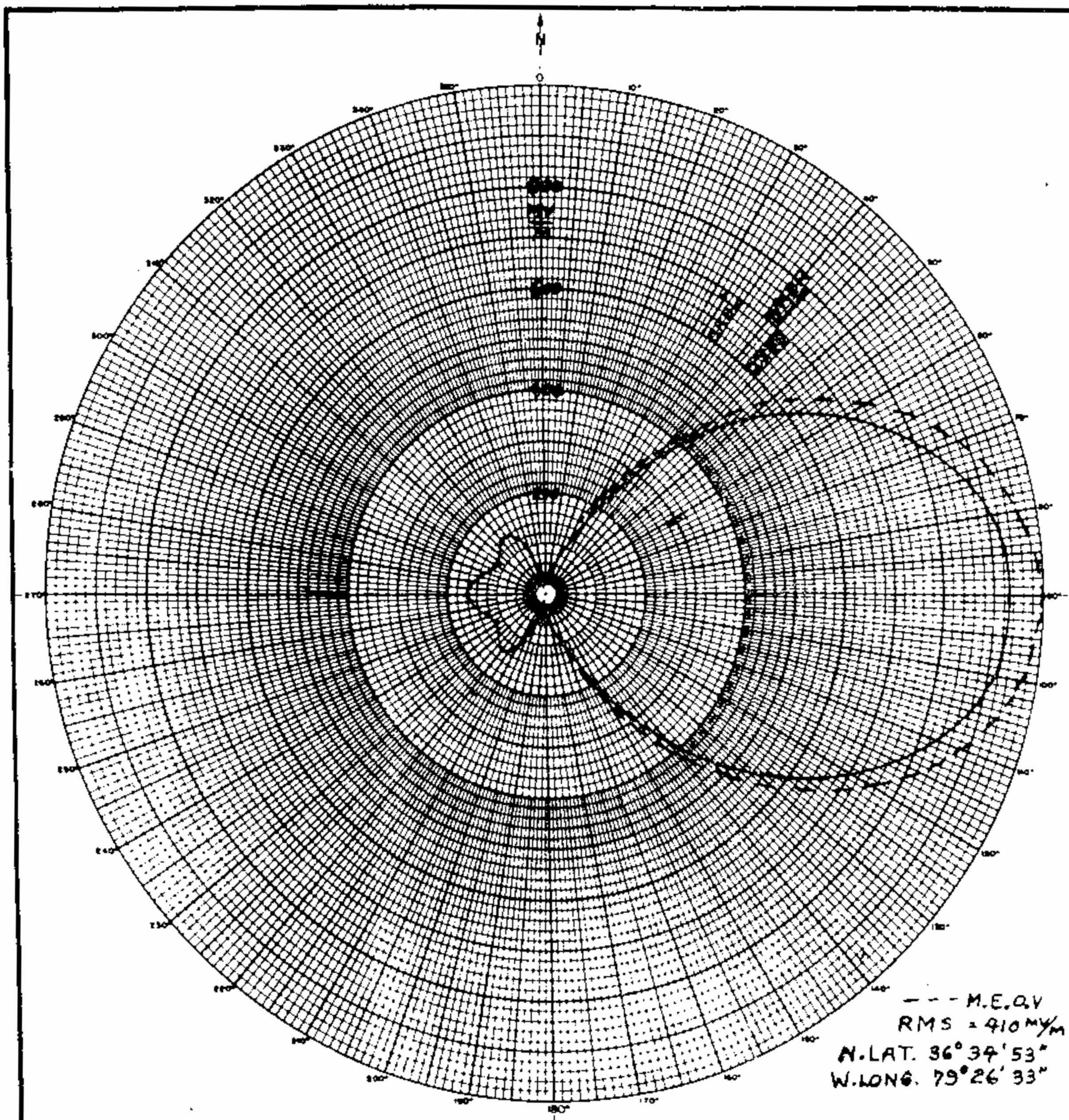
WDVA

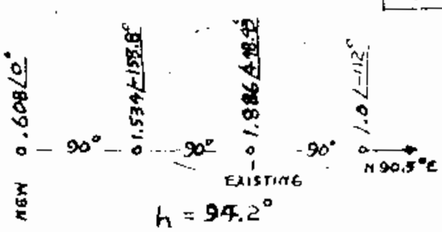
Proposed Night
(3-26-65ct)

Station WDVA
Danville, Virginia

5kw,DA-N,U
1250 kc

GR. 8-20-65
INCR. PWR.-N
1 KW TO 5 KW





WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON D. C.

PATTERN NO	112064
SUPERSEDES	---
APP	

FCC File No. BP-16496
Accepted 3-16-65

Station WDVA
Danville, Virginia

1250 kc

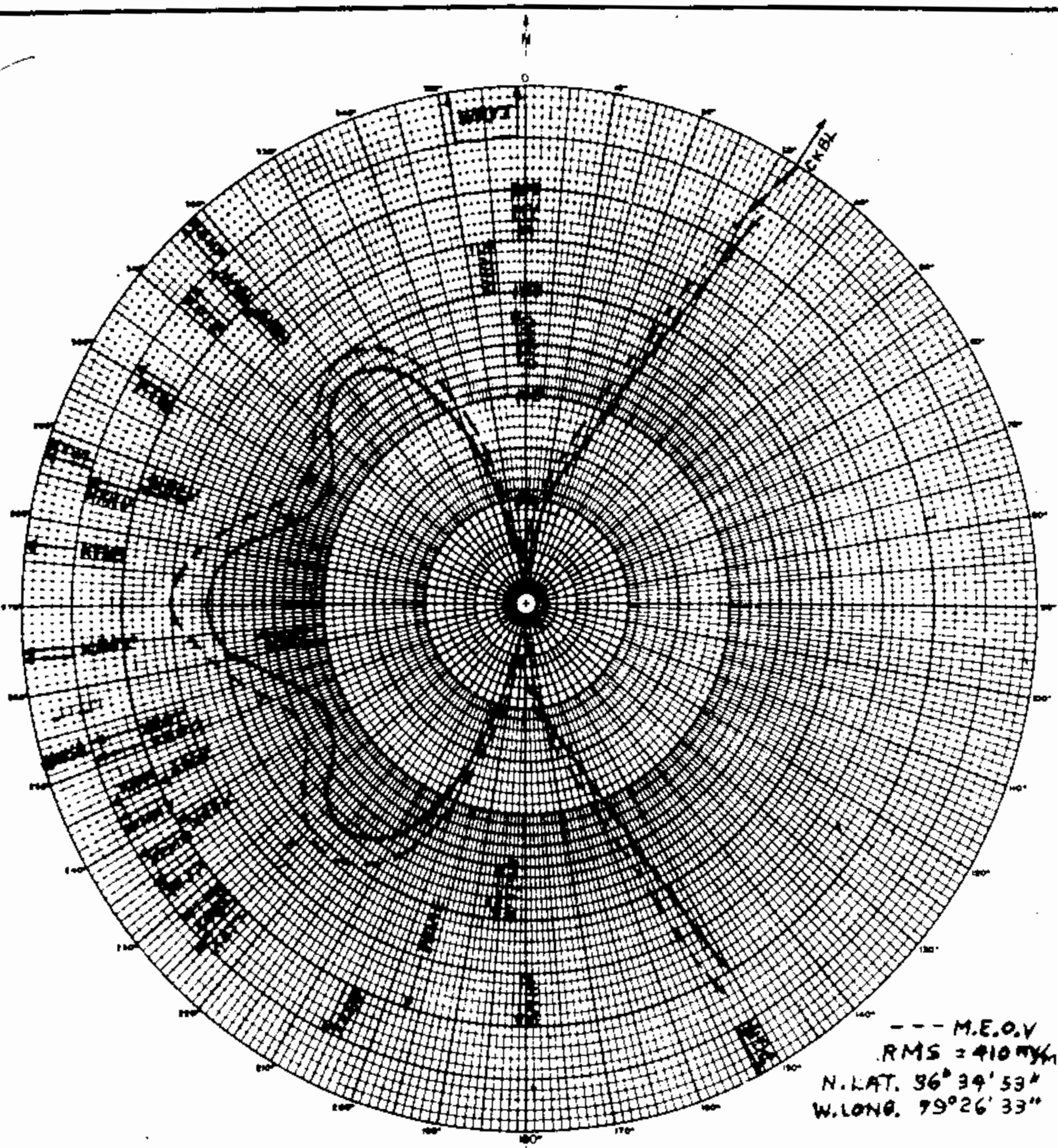
WDVA

Proposed Night Null
(3-26-65ct)

Station WDVA
Danville, Virginia

5kw,DA-N,U
1250 kc

R. 8-20-65
INCR. PWR.-N
1 KW TO 5 KW



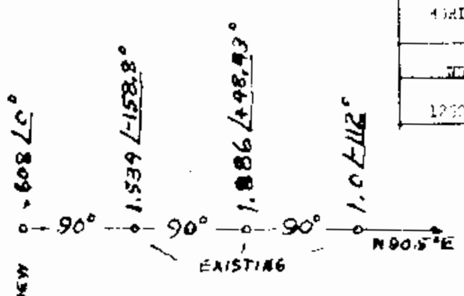
--- M.E.O.V
RMS = 410 mV/m
N. LAT. 36° 34' 53"
W. LONG. 79° 26' 33"

EXHIBIT VII

HORIZONTAL RADIATION PATTERN
EXPANDED SCALE

WDVA DANVILLE, VIRGINIA

1250 KC 5 KW-U DA-N



h = 94.2°

WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON 6, D. C.
927 15th Street, N.W. RE. 8-8880

PATTERN NO 112064
SUPERSEDES
APP

FCC File No. BP-16496
Accepted 3-16-65

Station WDVA
Danville, Virginia

1250 kc

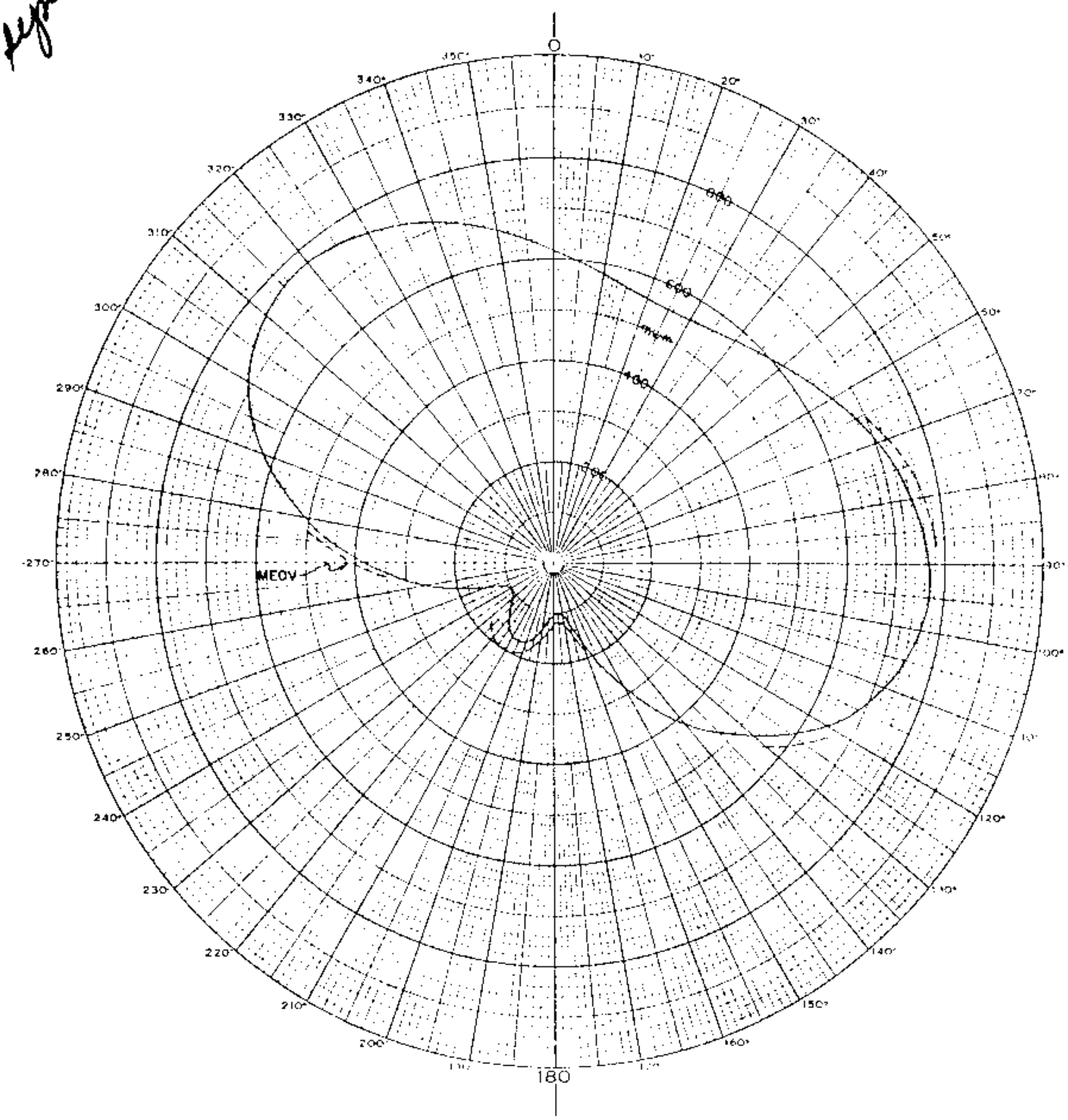
WEMP

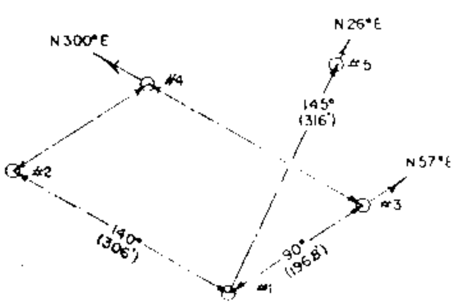
2-13-63
granted CP
to changes in DA system

PROPOSED DAY
(8-12-60g)

Station WEMP
Milwaukee, Wisconsin

5kw, DA-2,U
1250 KC





Daytime Operation

Tower No	Field Ratio	Phasing	Tower Height
1	0.80	+ 57	210° (460')
2	---	–	---
3		--	---
4	---	–	---
5	1.00	0°	183° (400')

Pattern RMS = 538 MV/M

N 42° 56' 44"
W 88° 03' 39"

PAGE, CREUTZ, STEEL & WALDSCHMITT
Consulting Engineers
1416 K STREET, NORTHWEST
WASHINGTON 5, D. C.

FIGURE 7
PROPOSED DAYTIME HORIZONTAL RADIATION PATTERN
WEMP, MILWAUKEE, WISCONSIN
1250 KC 5 KW DA-2, U
JUNE 1960

FCC File No. BP-14238
Accepted 8-4-60

WEMP
Milwaukee, Wisconsin 1250 KC

WEMP

Measured Day
(3-30-64ct)

Station WEMP
Milwaukee, Wisconsin

5kw,DA-2,U
1250kc

200 - 8-17-64
granted L for changes in DA

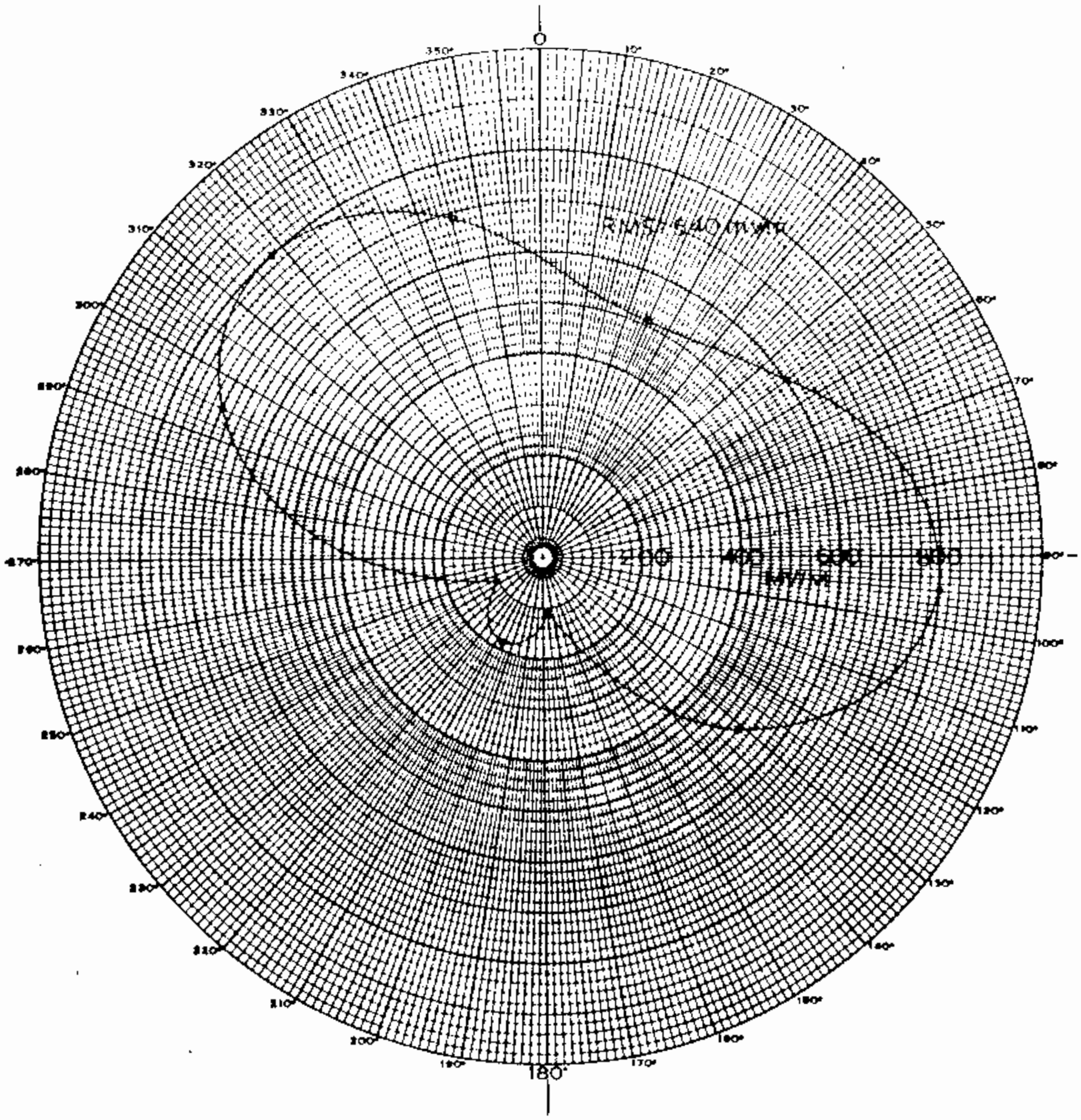


FIGURE II

MEASURED DAYTIME HORIZONTAL

RADIATION PATTERN

RADIO STATION WEMP

MILWAUKEE, WISCONSIN

1250 Kc 5Kw DA-2

OCTOBER 1963

FCC File No. BL-10422
Accepted 3-11-64

Station WEMP
Milwaukee, Wisconsin

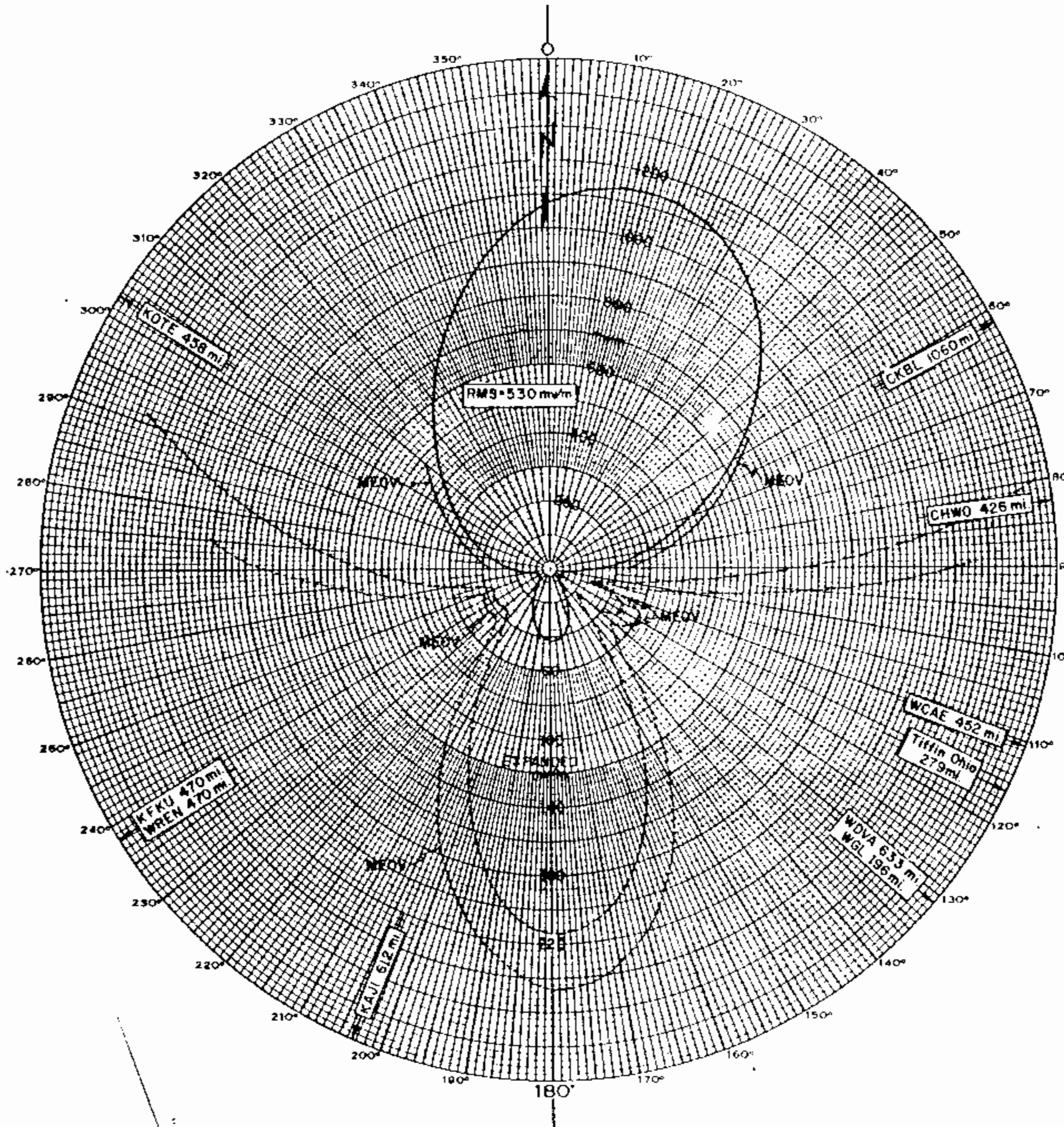
1250kc

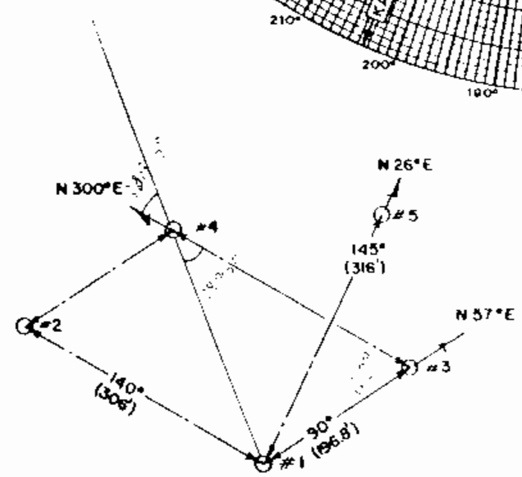
WEMT

Proposed Night
(4-27-62ct)

Station WEMP
Milwaukee, Wisconsin

5kw, DA-2,U
1250 kc





Nighttime Operation

Tower No	Field Ratio	Phasing	Tower Height
1	1.000	0°	210° (460')
2	0.954	−44°	210° (460')
3	1.060	−90.9	210° (460')
4	1.010	−135.8°	210° (460')
5			

Pattern RMS=530MV/M N 42°56'44" W88°03'39"

CREUTZ & SNOWBERGER
Consulting Engineers
1412 K STREET, NORTHWEST
WASHINGTON 5, D. C.

Amended Figure 25
Proposed Nighttime Horizontal Radiation Pattern
WEMP, Milwaukee, Wisconsin
1250Kc 5Kw DA-2,U
File No. BP-14238
February 1962

FCC File No,BP-14238
Accepted 4-19-62

Station WEMP
Milwaukee, Wisconsin

1250 kc

WEMP

Measured Night
(3-30-64ct)

Station WEMP
Milwaukee, Wisconsin

5kw,DA-2,U
1250kc

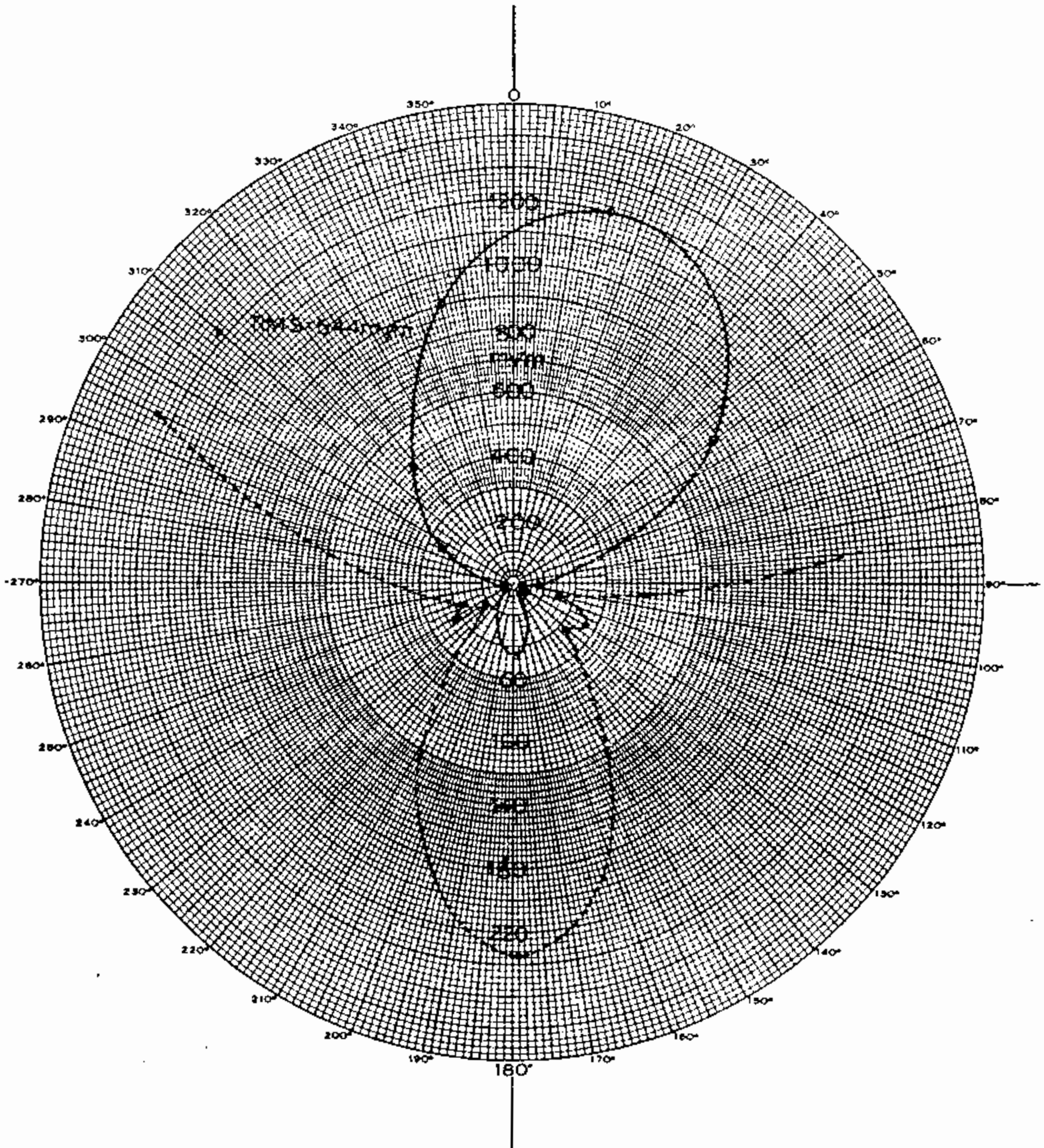


FIGURE 12

MEASURED NIGHTIME HORIZONTAL

RADIATION PATTERN

RADIO STATION WEMP

MILWAUKEE, WISCONSIN

1250 Kc 5Kw Da-2

OCTOBER 1963

FCC File No. BL-10422
Accepted 3-11-64

Station WEMP
Milwaukee, Wisconsin

1250kc

WEMP

Measured Non-DA (3-30-64ct)	Station WEMP Milwaukee, Wisconsin	5kw,DA-2,U 1250kc

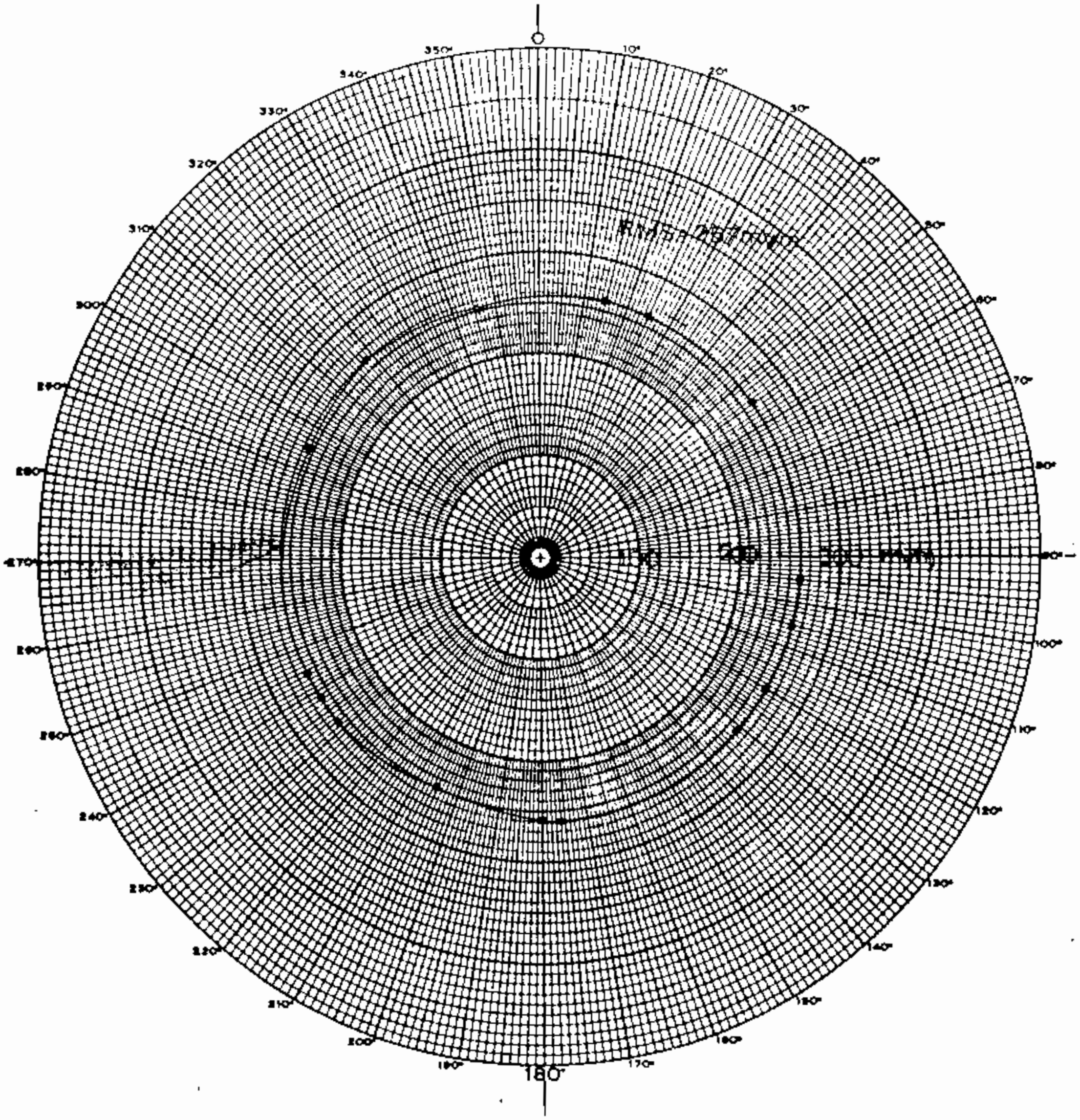


FIGURE 10

MEASURED NON-DIRECTIONAL HORIZONTAL

RADIATION PATTERN

RADIO STATION WEMP

MILWAUKEE, WISCONSIN

1250 Kc 5 Kw DA-2

OCTOBER 1963

WFAG

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WFAG | Main Studio: Farmville, North Carolina

Frequency: 1250 kHz | Power: 2.5kw Night 5kw Day

Notification List No. 1782 | Date: October 26, 1979 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 35° 36' 12"
West Longitude: 77° 34' 27"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation (DA-2)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers. (Note: West tower is a folded unipole)

TOWER:	W(#1)	C(#2)	E(#3)
HEIGHT ABOVE INSULATORS:	334'(152.8°)	196'	196' (89.7°)
NIGHT PHASING:	0	-100.25	168.73
NIGHT FIELD RATIO:	1	0.867	1.016
DAY PHASING:	0°	-145.45°	75.51°
DAY FIELD RATIO:	1	1.566	1.425

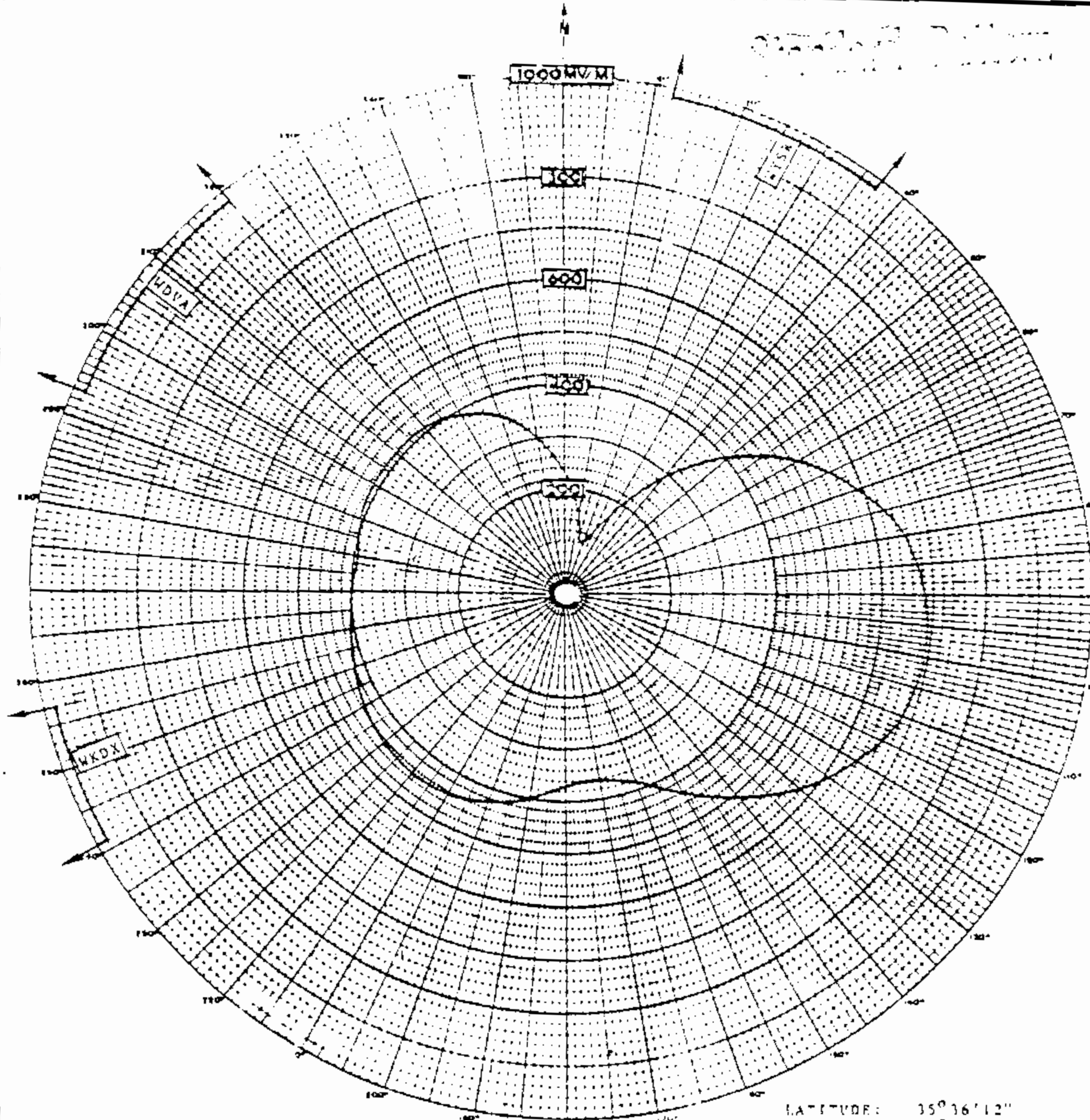
SPACING AND ORIENTATION: 3 towers with center tower (#2) spaced 97'(44.4°) at an 81.2° T azimuth from the west tower (#1) and the east tower (#3) spaced 202' (92.4°) at a 95.1° T azimuth from the west (#1) tower.

GROUND SYSTEM: 120 radials of #10 60 copper wire exists about the west (#1) tower with a 24' x 24' base screen. A like system will be installed about the east (#3) tower. The intersecting system will be bonded to a

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	426.1 mv/m	1062.215 mv/m	447.452 mv/m
Night	323.59 mv/m	426.523 mv/m	339.770 mv/m

WFAG



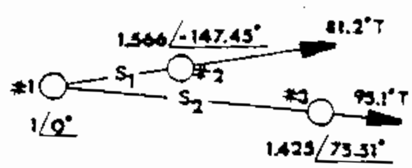
LATITUDE: 35° 36' 12"
LONGITUDE: 77° 34' 27"

LBA

LAWRENCE BEHR ASSOCIATES INC

GREENVILLE N C

ANTENNA PARAMETERS



$S_1 = 44.23°$
$S_2 = 92.46°$

$G_1 = 153°$
$G_2 = G_3 = 90°$

RSS_{th}/RMS_{th} = 2.493
RSS_{th} = 1062.215
RSS_{std} = 1115.126
RMS_{th} = 426.145
RMS_{std} = 447.452

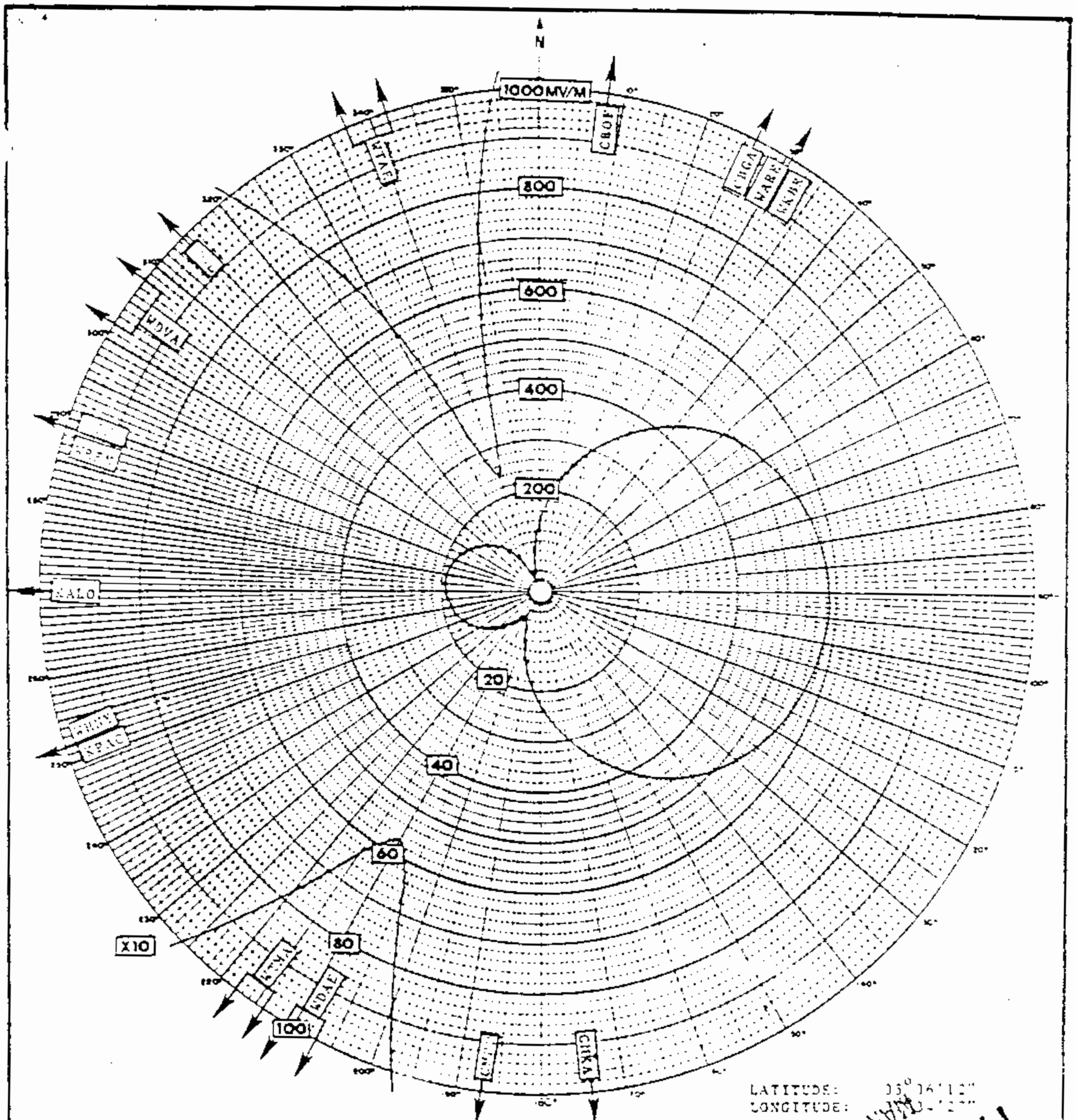
FIGURE 13

PROPOSED STANDARD DAYTIME
HORIZONTAL PATTERN

FARMVILLE BROADCASTING COMPANY
RADIO STATION WFAG
FARMVILLE, NORTH CAROLINA

1250 KHZ, 5D/2.5N, DA-2

WFAG

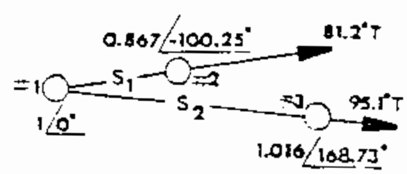


LATITUDE: 35° 36' 12"
LONGITUDE: [illegible]

RSS = [illegible]
RSS = [illegible]
RSS sed = [illegible]
RMS = 328.095
RMS = [illegible]

PATTERN RECEIVED MAR 15 1978

ANTENNA PARAMETERS



$S_1 = 44.32°$
$S_2 = 92.46°$

$G_1 = 153°$
$G_2 = G_3 = 90°$

PATTERN RECEIVED MAR 16 78

LBA

LAWRENCE BEHR ASSOCIATES INC
GREENVILLE, N.C.

FIGURE 18A

PROPOSED STANDARD NIGHTTIME
HORIZONTAL PATTERN

FARMVILLE BROADCASTING COMPANY
RADIO STATION WFAG
FARMVILLE, NORTH CAROLINA

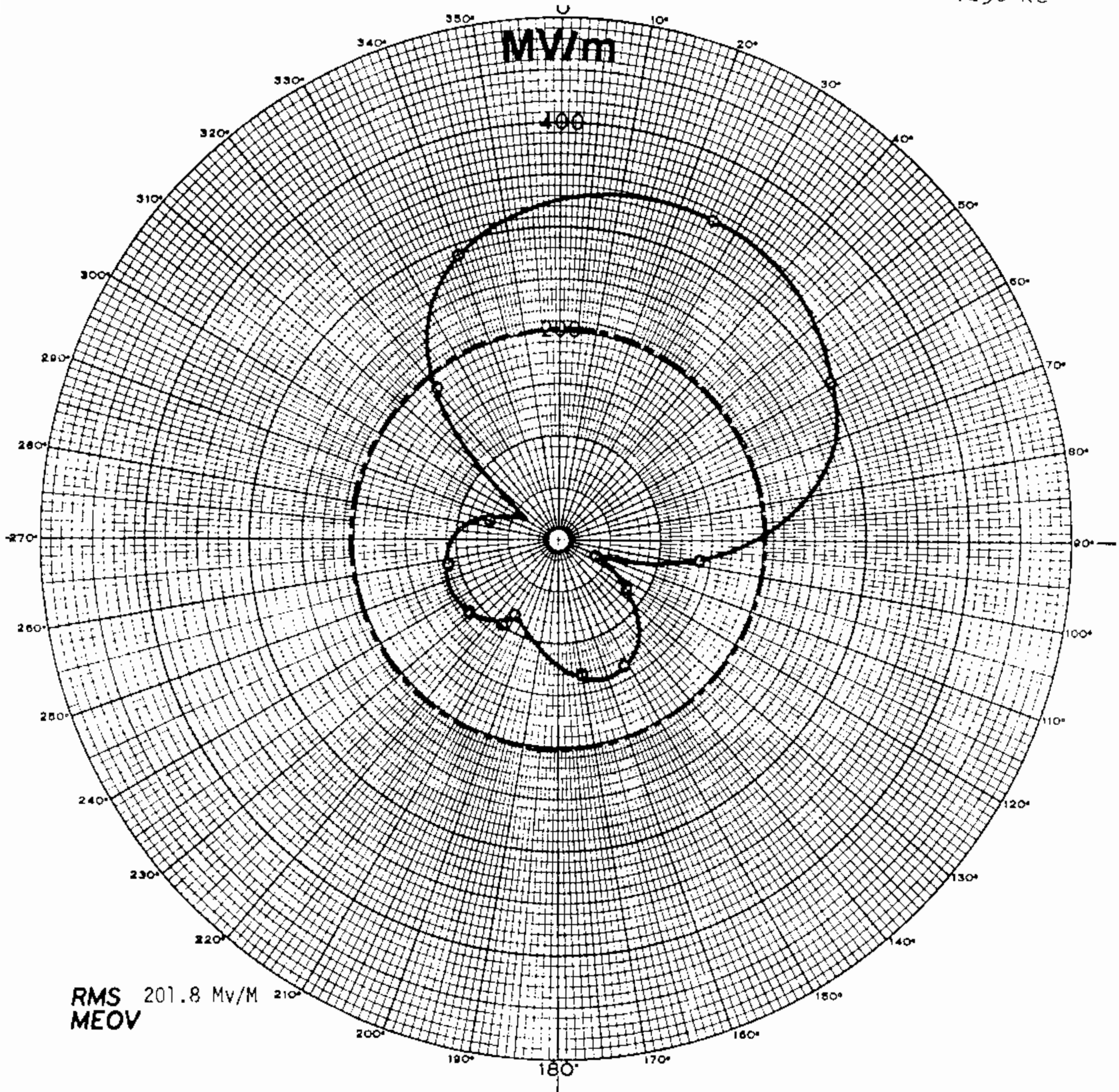
1250 KHZ, 5D/2.5N, DA-2

WGL

Measured Day
(2-28-69ct)

Station WGL
Fort Wayne, Indiana

1kw,DA-2,U
1250 kc



RMS 201.8 Mv/M
MEOV

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 11	STATION DATA
G's = 91.4° S's = 100° 26° T. N 0.722 /-122° S C 1/0° S S 1.50/+113°	(see table below)	MEASURED DAYTIME DIRECTIONAL RADIATION PATTERN WGL - FT. WAYNE NOVEMBER - 1967	**CALL** WGL **FREQ** 1250 kHz **POWER** 1 Kw **TYPE** DA-2 **TIME** DAY **LAT.** N41-01-15.8 **LONG** W85-09-45.6

TOWER No.	ELECTRICAL HEIGHT $G°$	SPACING $S°$	PHASING $\psi°$	FIELD RATIO F
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

$\theta°$ 0°

E.H.MUNN,JR.
RADIO ENGINEER
COLDWATER, MICH.

FCC File No.BZ-7115
Accepted 2-25-69

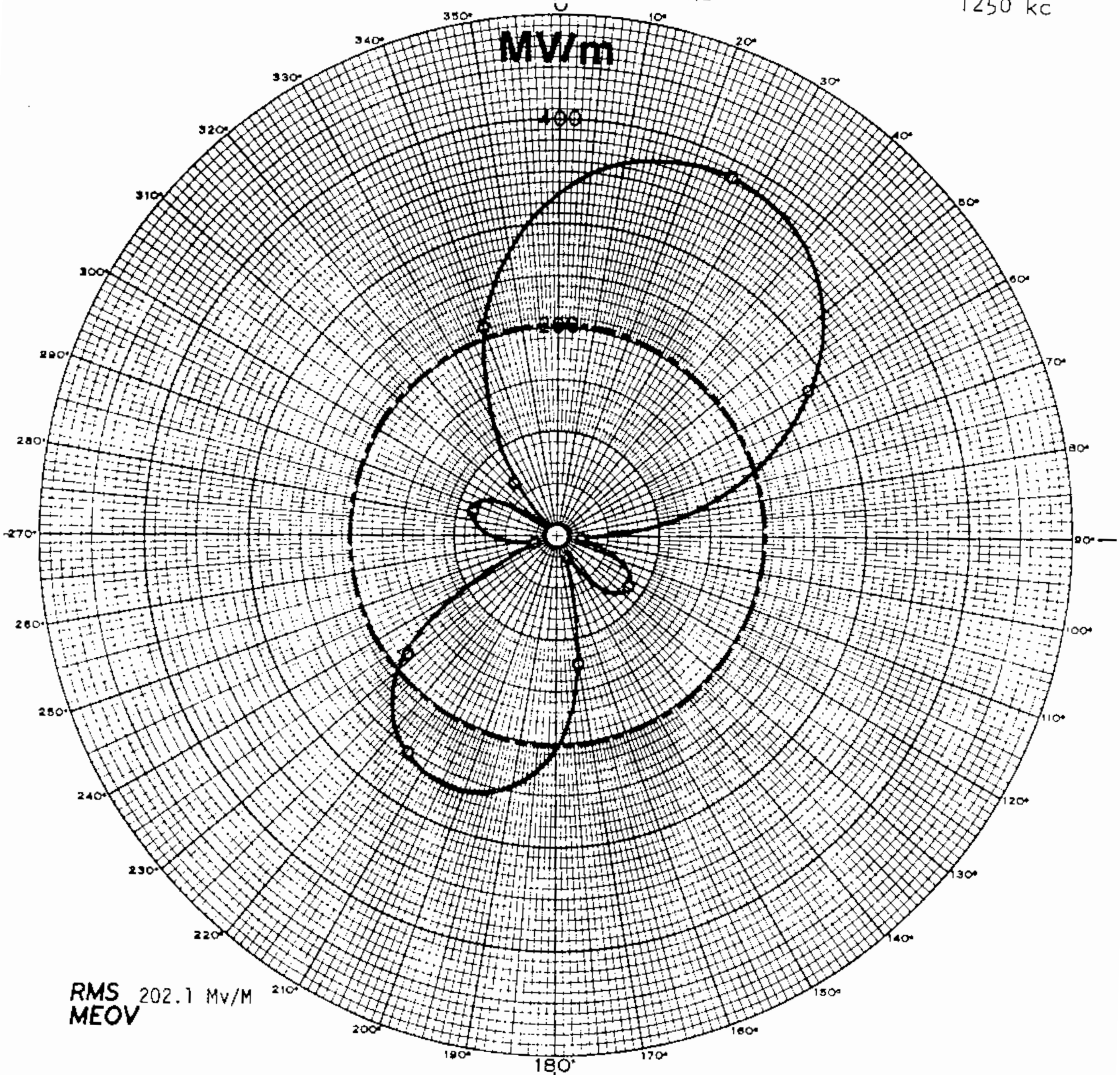
Station WGL
Fort Wayne, Indiana

1250 kc

Measured Night
(2-28-69ct)

Station WGL
Fort Wayne, Indiana

WGL
1kw,DA-2,U
1250 kc



RMS MEOV 202.1 Mv/M

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	*FIGURE* **12**	STATION DATA
G's = 91.4° S's = 100° 26° T. N 0.579 /-167° S C 1/0° S S 0.825/+165	TOWER No. / ELECTRICAL HEIGHT $G°$ / SPACING $S°$ / PHASING $\psi°$ / FIELD RATIO F 1–10 (blank) DAYTIME OPERATION ☐ NIGHTTIME OPERATION ☒	MEASURED NIGHTTIME DIRECTIONAL RADIATION PATTERN WGL - FT. WAYNE NOVEMBER - 1967 $\theta°$ 0°	**CALL** WGL **FREQ** 1250 kHz **POWER** 1 Kw **TYPE** DA-2 **TIME** NIGHT **LAT.** N41-01-15.8 **LONG.** W85-09-45.6 **E.H.MUNN,JR.** **RADIO ENGINEER** **COLDWATER, MICH.**

FCC File No.BZ-7115
Accepted 2-25-69

Station WGL
Fort Wayne, Indiana

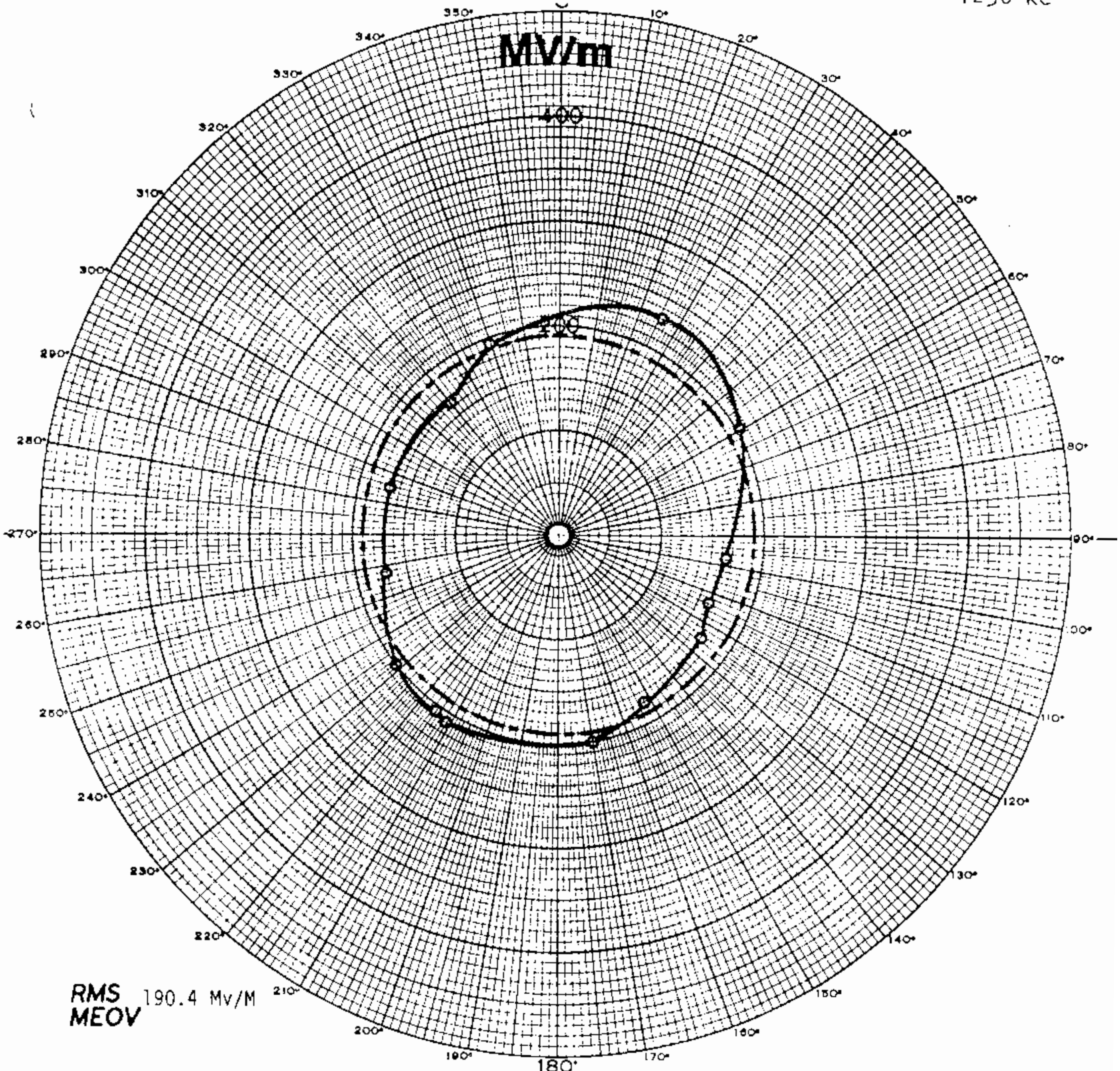
1250 kc

WGL

Measured Non-DA
(2-28-69ct)

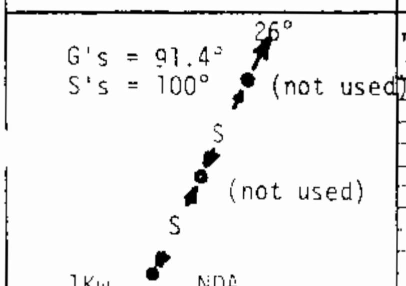
Station WGL
Fort Wayne, Indiana

1kw,DA-2,U
1250 kc



RMS
MEOV 190.4 Mv/M

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 10	STATION DATA



TOWER No.	ELECTRICAL HEIGHT θ	SPACING S	PHASING ψ	FIELD RATIO f
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

WGL MEASURED
NON-DIRECTIONAL
PATTERN USING
SOUTH TOWER ONLY

NORTH & CENTER
OPEN CIRCUITED

NOVEMBER - 1967

θ^{0} 0°

CALL	WGL
FREQ	1250 kHz
POWER	1 Kw
TYPE	TEST ND
TIME	DAY
LAT.	N41-01-15.8
LONG	W85-09-45.6

E.H.MUNN,JR.
RADIO ENGINEER
COLDWATER, MICH.

FCC File No.BZ-7115
Accepted 2-25-69

Station WGL
Fort Wayne, Indiana

1250 kc

WGL-1250KC

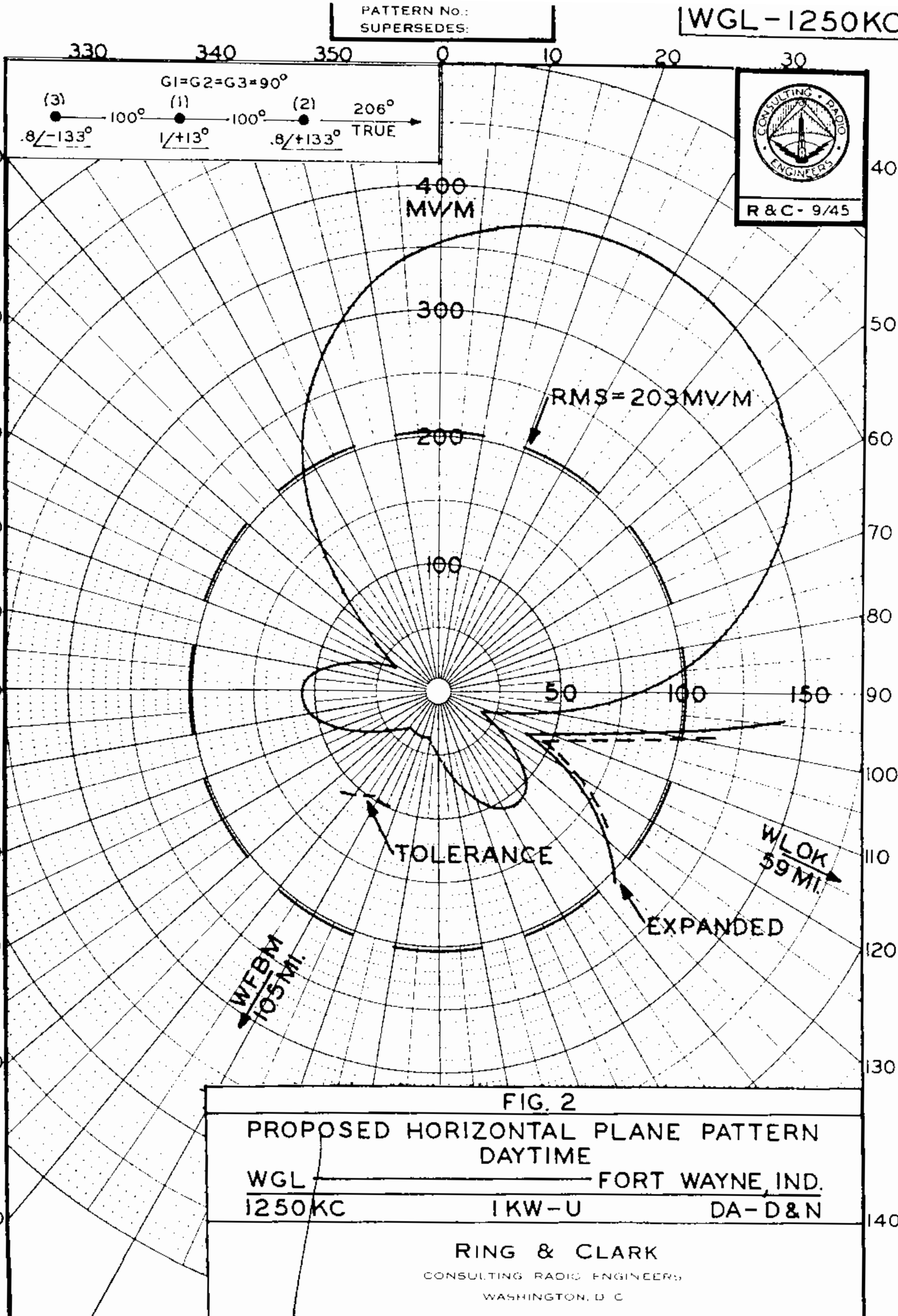


FIG. 2

PROPOSED HORIZONTAL PLANE PATTERN
DAYTIME

WGL — FORT WAYNE, IND.

1250KC 1KW-U DA-D&N

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

Obsolete See new 1955 Proof

Rec'd 9-18-47

9/17/48 GO L-2688

WGL 1250 KC

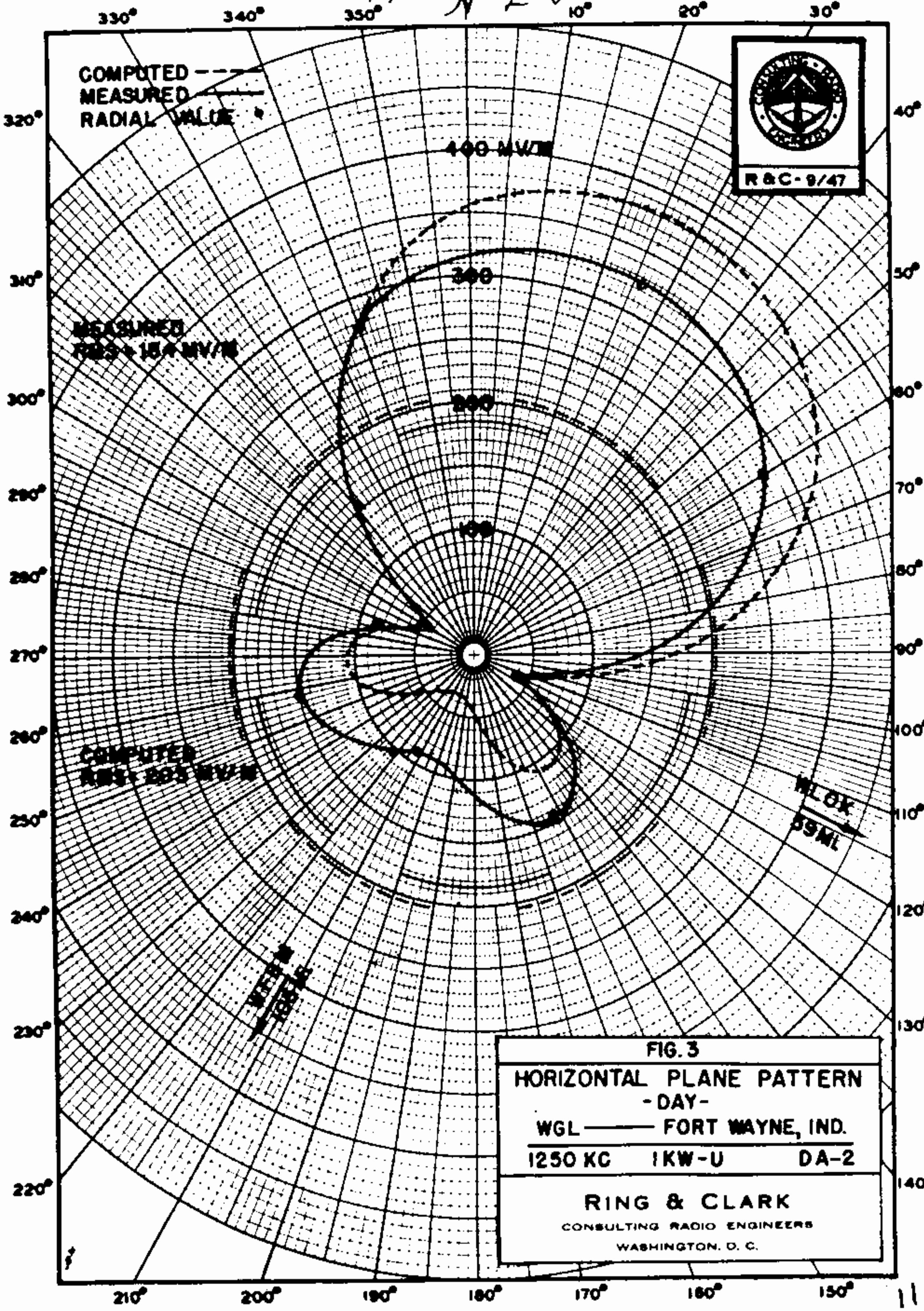


FIG. 3

HORIZONTAL PLANE PATTERN

-DAY-

WGL —— FORT WAYNE, IND.

1250 KC 1KW-U DA-2

RING & CLARK

CONSULTING RADIO ENGINEERS

WASHINGTON, D. C.

11

PATTERN No.:
SUPERSEDES:

WGL-1250 KC

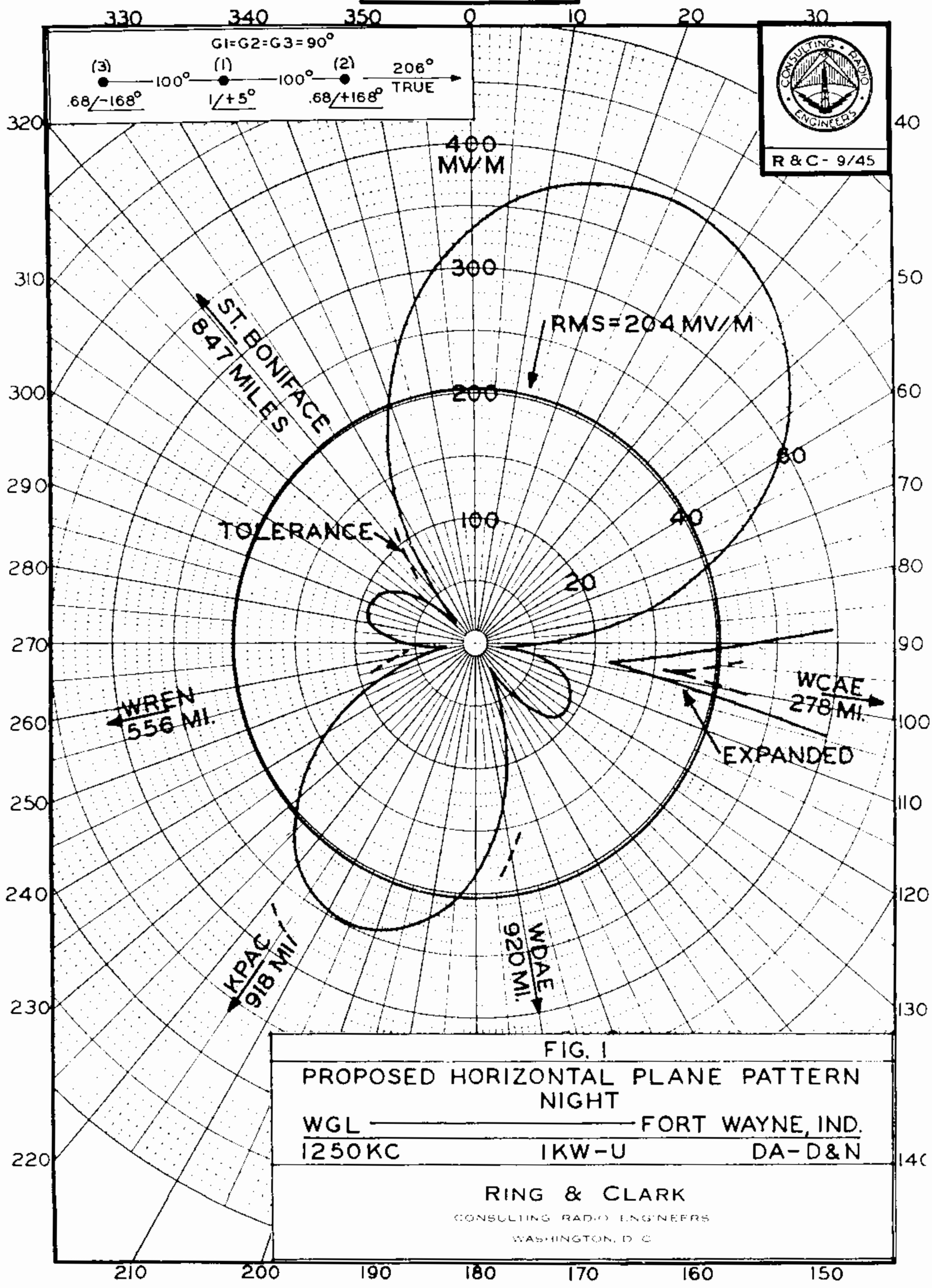


FIG. 1

PROPOSED HORIZONTAL PLANE PATTERN
NIGHT

WGL — FORT WAYNE, IND.

1250 KC | 1 KW-U | DA-D&N

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

Rec'd 9-18-47

9/17/48 G.O. N 2-2688

WGL-1250KC

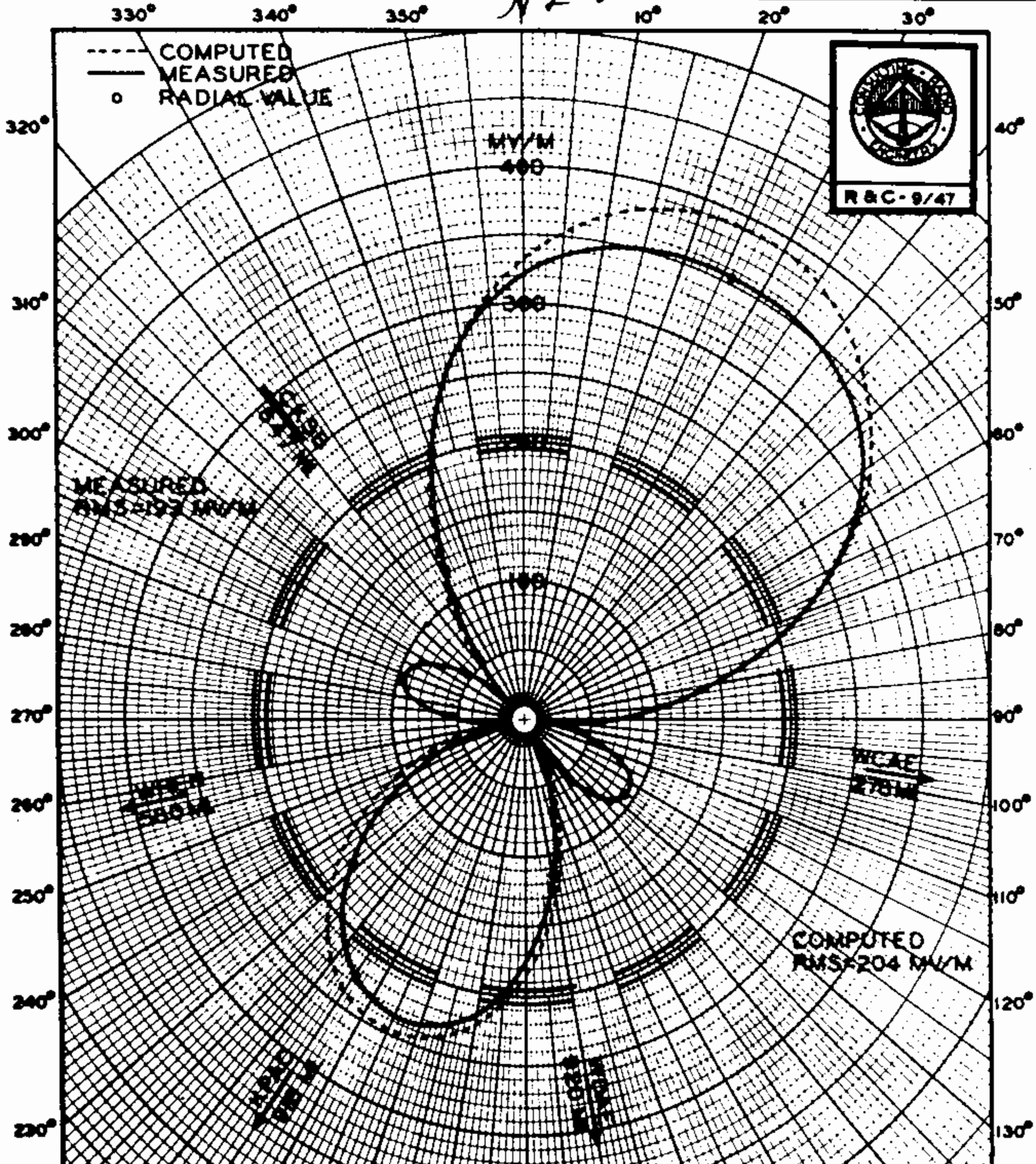


FIG. 2

MEASURED HORIZONTAL PLANE PATTERN

NIGHT

WGL FORT WAYNE, IND.

1250 KC 1 KW-U DA-2

RING & CLARK

CONSULTING RADIO ENGINEERS

WASHINGTON, D. C.

210° 200° 190° 180° 170° 160° 150°

WGUY
1250KHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WGUY | Main Studio: Brewer, Maine

Frequency: 1250 kHz | Power: 5kw Night 5kw Day

Notification List No. 1790 | Date: December 4, 1980 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:
North Latitude: 44° 50' 00"
West Longitude: 68° 48' 36"

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:	N(#1)	NC(#2)	SC(#3)	S(#4)
HEIGHT ABOVE INSULATORS:	225"	225'	225'	225' (102.9°)
NIGHT PHASING:	0°	-146.5°	+65.5°	-81°
NIGHT FIELD RATIO:	1.0	2.6	2.6	1.0

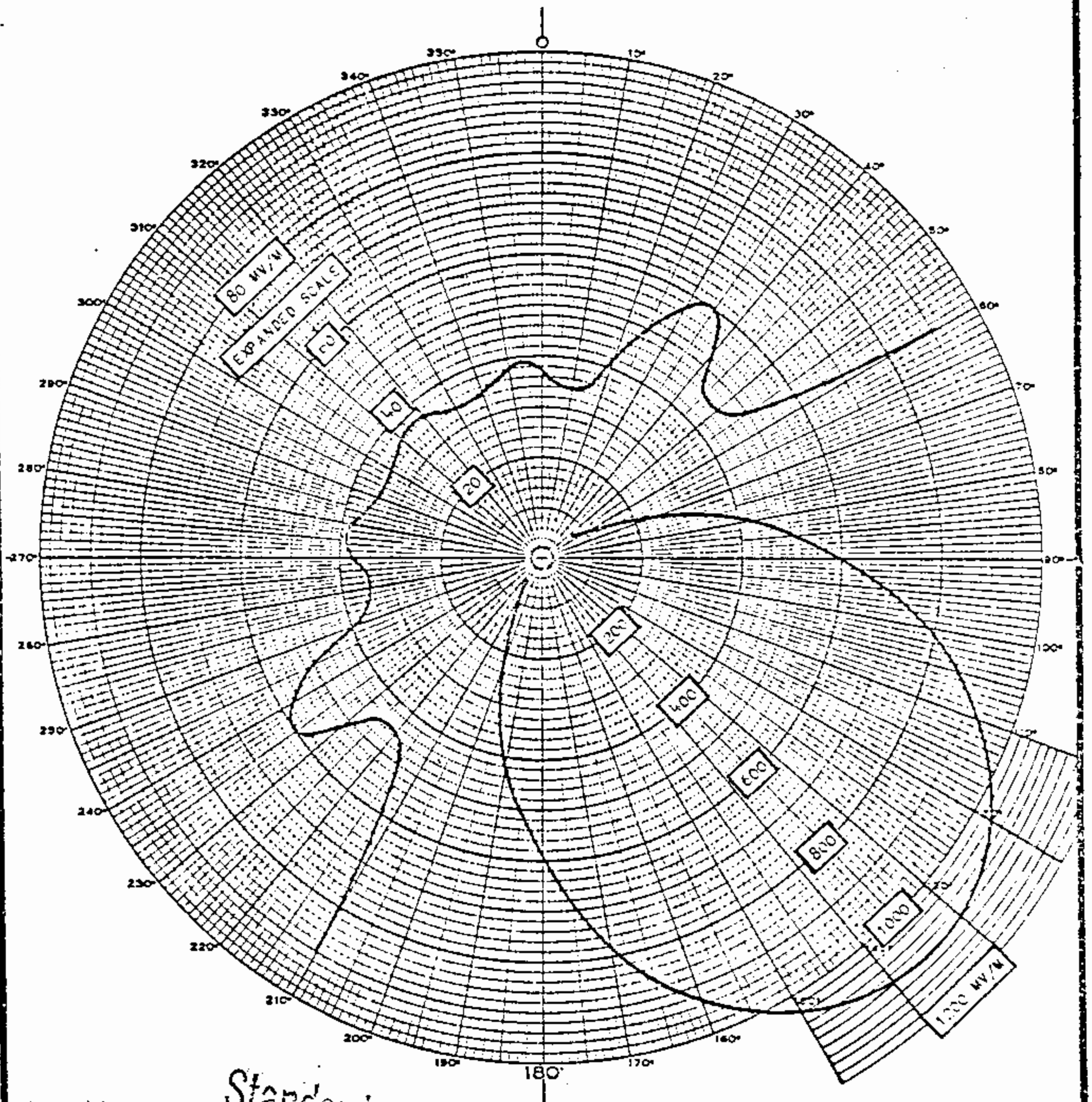
SPACING AND ORIENTATION: Towers in a row are spaced 70° on a line bearing 135° true.

GROUND SYSTEM: 120 - 200' equally spaced copper radials plus 120 - 50' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	436 mv/m		
Night	467.7 mv/m	1298.3652 mv/m	491.0 mv/m

WGOY
1250kHz



Standard Pattern

RMS = 467.7073
RSS = 1298.3652
RSS/RMS = 2.7760
RMS STANDARD RADIATION PATTERN = 491.0927

October 1975

LATITUDE: 44° 50' 04"
LONGITUDE: 68° 47' 48"

PETER V. GURECKIS & ASSOC.
CONSULTING RADIO ENGINEERS
WASHINGTON, D.C.

ANTENNA PARAMETERS

#1 1/ 0°
S
#2 2.6/ -146.5°
S
#3 2.6/ 65.5°
S
#4 1/ -81°

G = 102.90°
S = 70°

N - 135° - E

FIGURE 2A

PROPOSED NIGHTTIME DIRECTIONAL PATTERN

RADIO STATION WGUY
BREWER, MAINE

1250 KHz 5 KW, DA-N, U

WHNY

Measured Night
(1-28-69ct)

Station WHNY
McComb, Mississippi

1kw,5kw-LS,DA-N,U
1250 kc

cancelled
4/25/69)

CALCULATED PARAMETERS:

#1 0.917 /-160.68°

#2 1.0 /0°

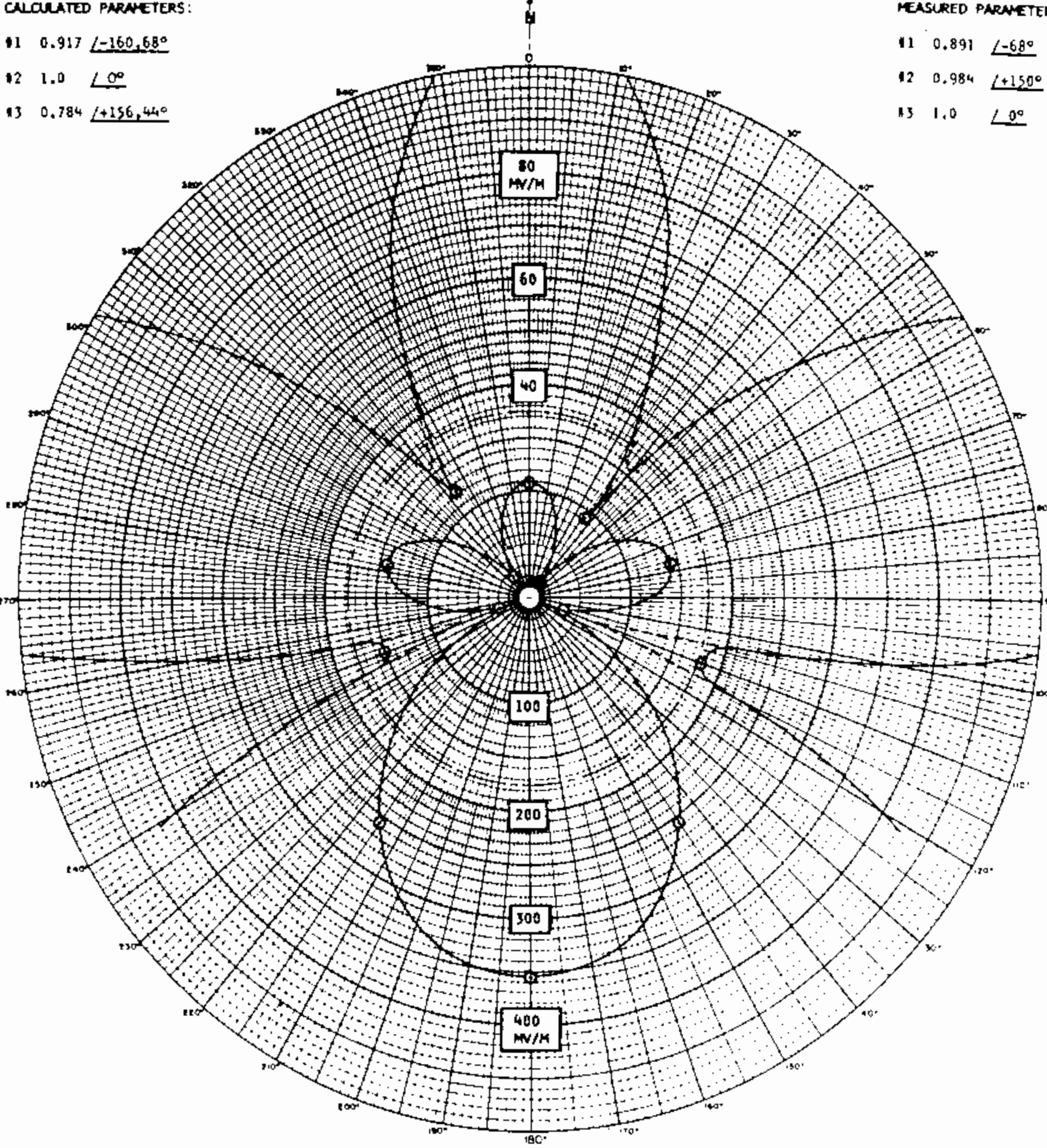
#3 0.784 /+156.44°

MEASURED PARAMETERS:

#1 0.891 /-68°

#2 0.984 /+150°

#3 1.0 /0°



—o— MEASURED

- - - CALCULATED

E_{RMS} = 175 MV/M

NOV. 1968

LATITUDE 31° 16' 07"

LONGITUDE 90° 26' 03"

L. J. N. du Treil & Associates, Inc.
CONSULTING RADIO ENGINEERS
201 Nelson Drive
NEW ORLEANS, LA 70123

ANTENNA PARAMETERS

N-0°-E

3

S

2

S

1

S: 95°
G: 96°

FIGURE 23

MEASURED NIGHTTIME
DIRECTIONAL PATTERN

RADIO STATION WHNY
MCCOMB, MISSISSIPPI

1250 KHZ 1/5 KW-LS, DA-N, U

FCC File No. BL-12210
Accepted 1-3-69

Station WHNY
McComb, Mississippi

1250 kc

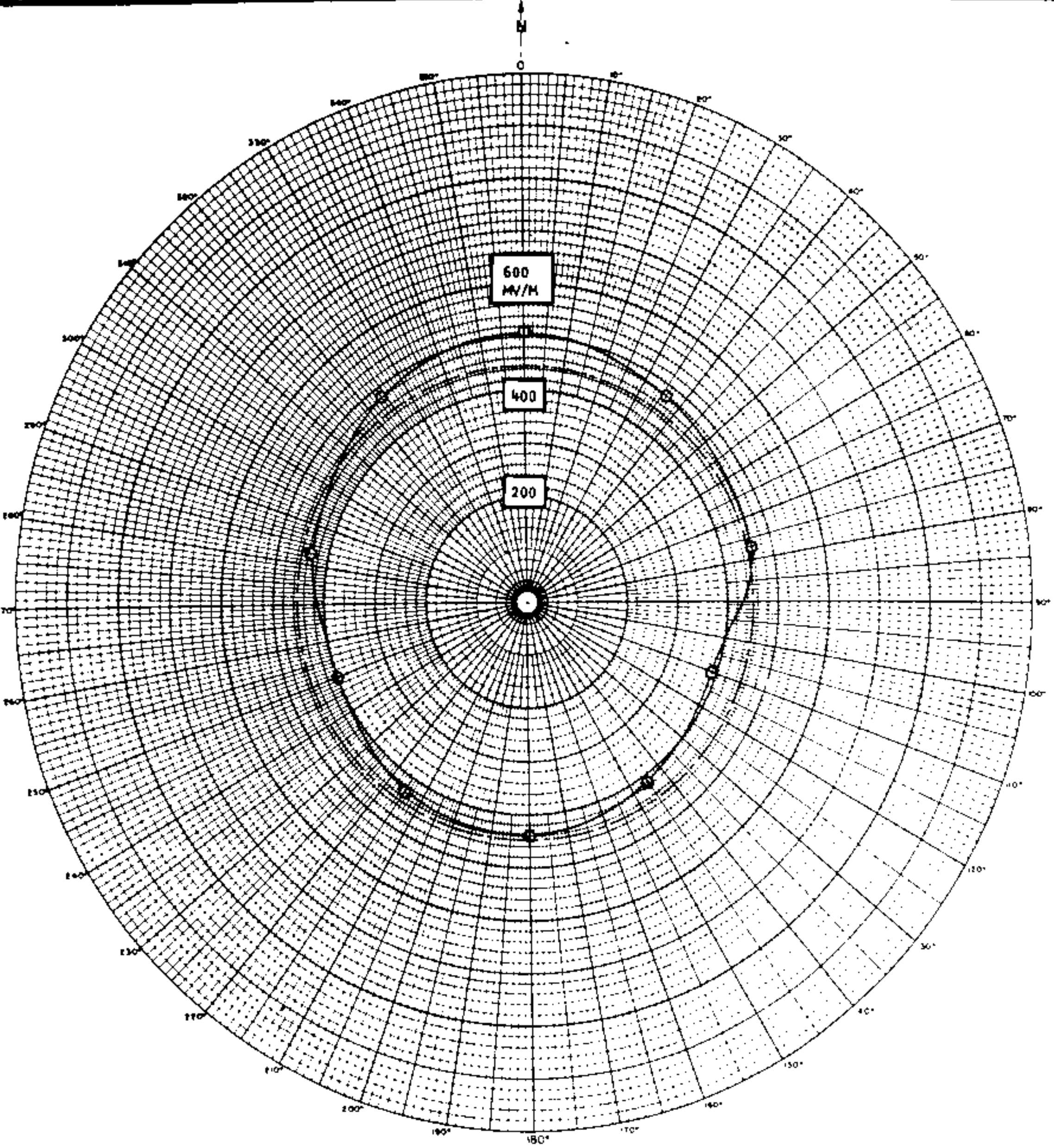
WHNY

Measured Non-DA
(1-[illegible]-69ct)
1-28-69

Station WHNY
McComb, Mississippi

1kw,5kw-LS,DA-N,U
1250 kc

[illegible]
1-25-69
[illegible]



E_{RMS} = 445 MV/M

MEASURED

NOV 1964

LATITUDE: 31° 16' 07"
LONGITUDE: 90° 26' 03"

L. J. N. du Treil & Associates, Inc.
CONSULTING RADIO ENGINEERS
201 Nelson Drive
NEW ORLEANS, LA. 70123

ANTENNA PARAMETERS

TOWER NO. 2
5 KW

FIGURE 22

MEASURED NONDIRECTIONAL PATTERN

RADIO STATION WHNY
MCCOMB, MISSISSIPPI

1250 KHZ 1/5 KW-LS, DA-N, U

FCC File No.BL-12210
Accepted 1-3-69

Station WHNY
McComb, Mississippi

1250 kc

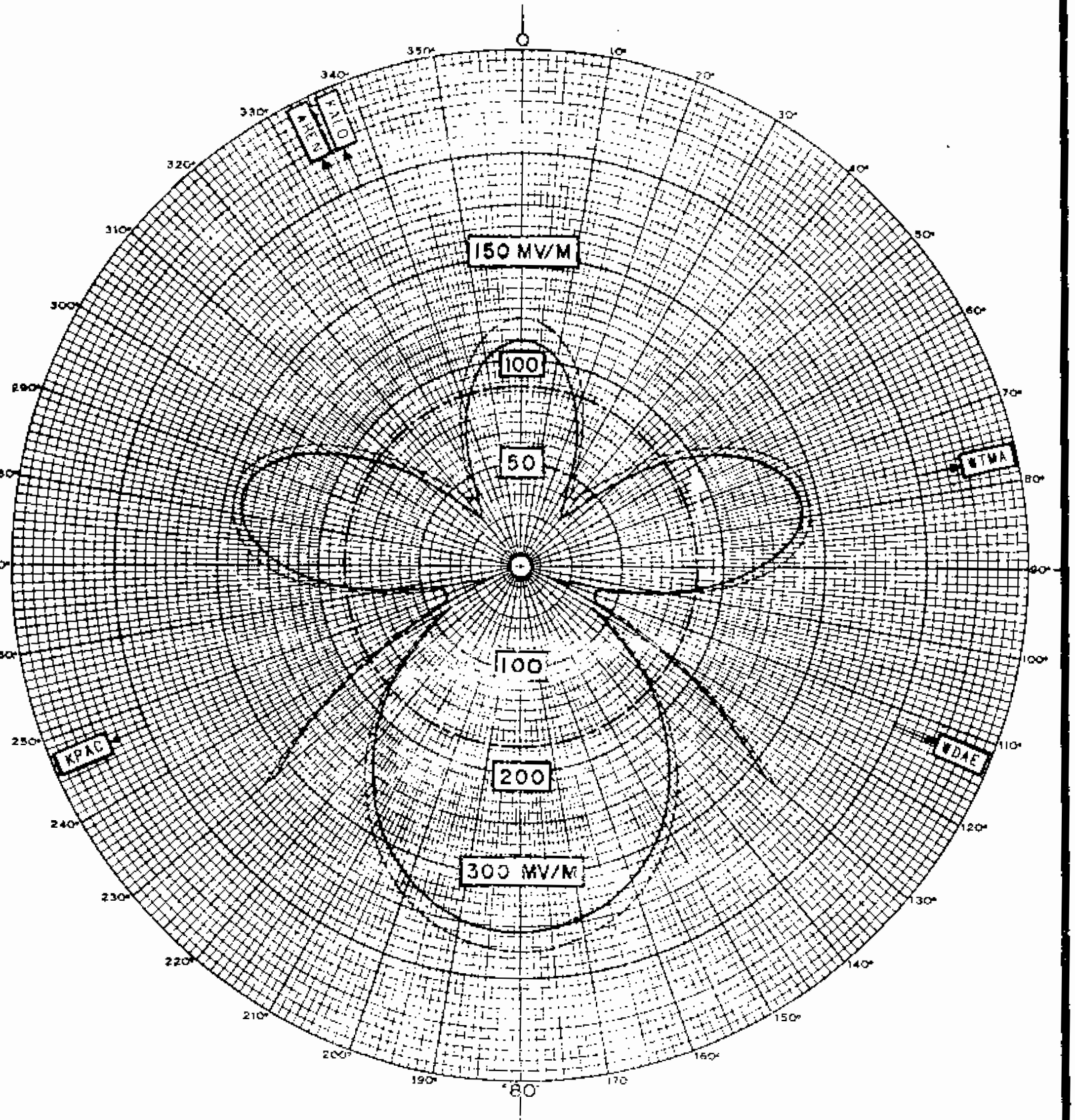
WHNY

Proposed Night
(7-26-66ct)

Station WHNY
McComb, Mississippi

1kw,5kw-LS,DA-N,U
1250 kc

7-3-68
GRANTED
CP



E_{RMS} = 175 MV/M ———

——— CALCULATED
- - - - MEOV

LATITUDE: 31° 16' 07" LONGITUDE: 90° 26' 03"	ANTENNA PARAMETERS	FIGURE 3 PROPOSED NIGHTTIME DIRECTIONAL PATTERN
L. J. N. du TREIL AND ASSOCIATES CONSULTING RADIO ENGINEERS	N-0°-E .784/156.44° 95° 1/0° 95° G = 98.5° .917/-160.68°	RADIO STATION WHNY MC COMB, MISSISSIPPI 1250 KHZ 1.0/5.0-LS, DA-N, U.

FCC File No. BP-17675
Accepted 6-27-67

Station WHNY
McComb, Mississippi

1250 kc

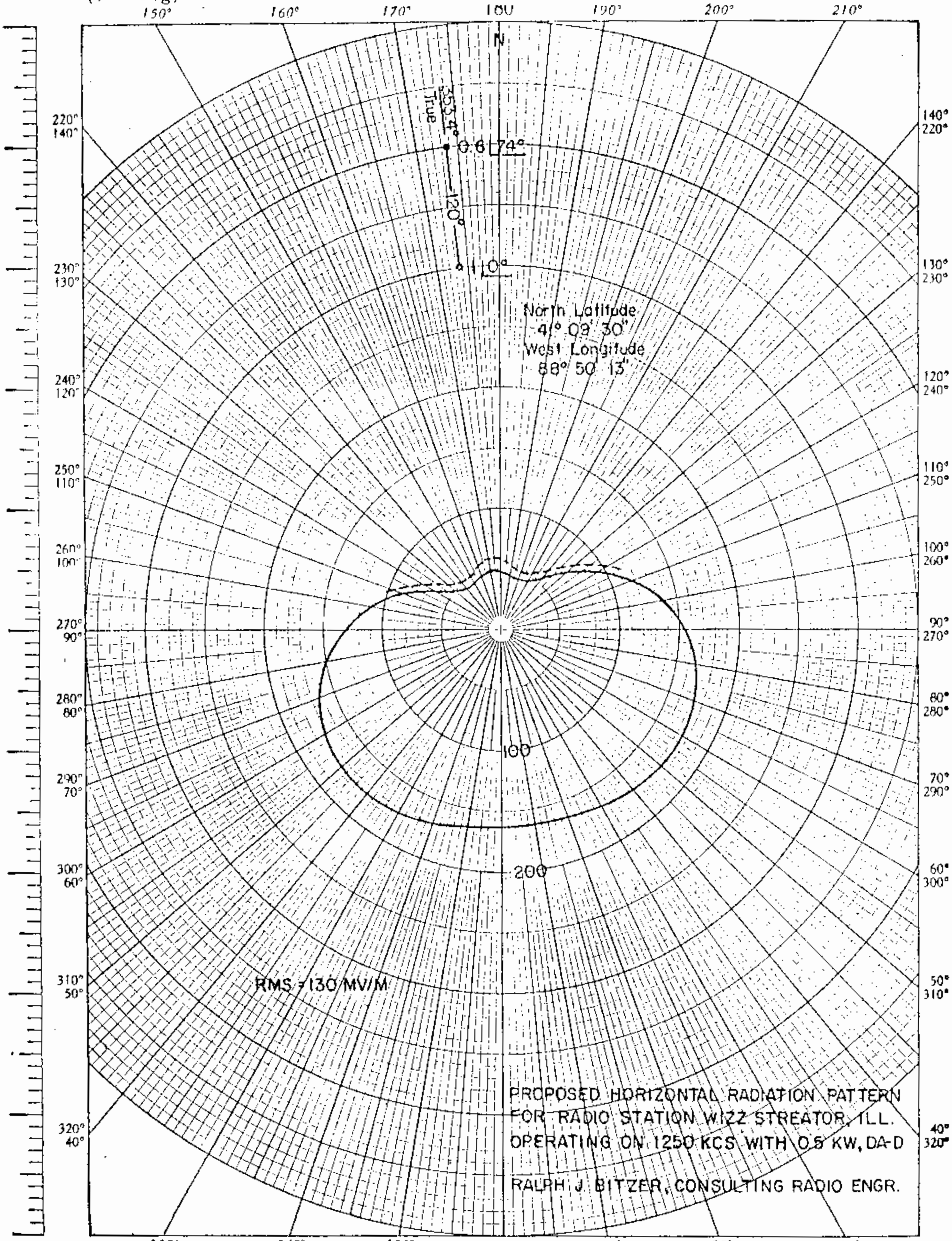
WIZZ

PROPOSED DAY
(9-4-59g)

Station WIZZ
Streator, Illinois

500w, DA-D,D
1250 KC

Granted CP to make changes in DA system 2-9-60



FCC File No. BP-13337
Accepted 8-19-59

WIZZ
Streator, Illinois

1250 KC

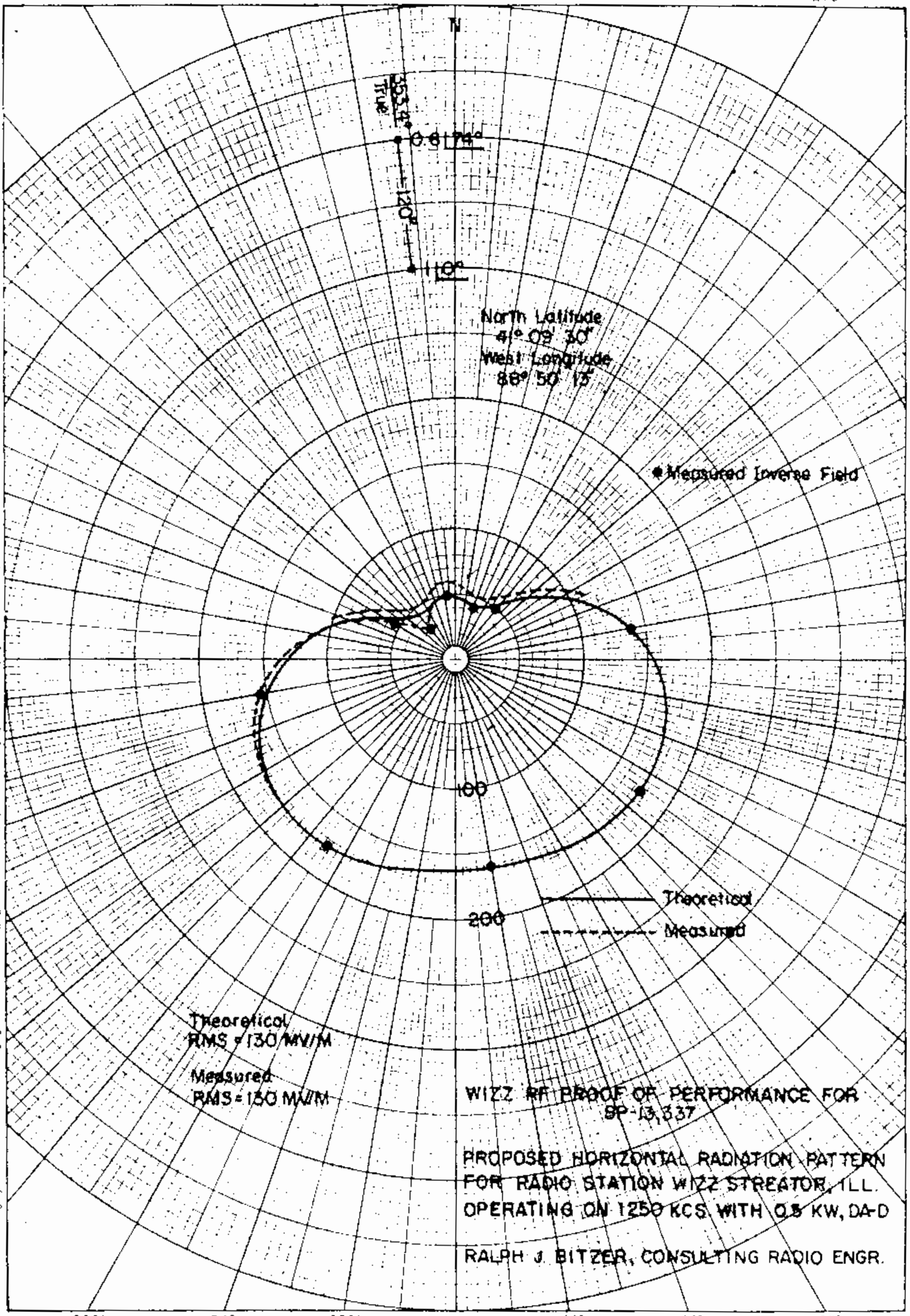
WIZZ

MEASURED DAY
(9-27-60g)

Station WIZZ
Streator, Illinois

500w, DA-D,D
1250 KC

i-9-60
noted
no change in
A-Pattern



FCC File No. BL-8081
Accepted 9-13-60

WIZZ
Streator, Illinois

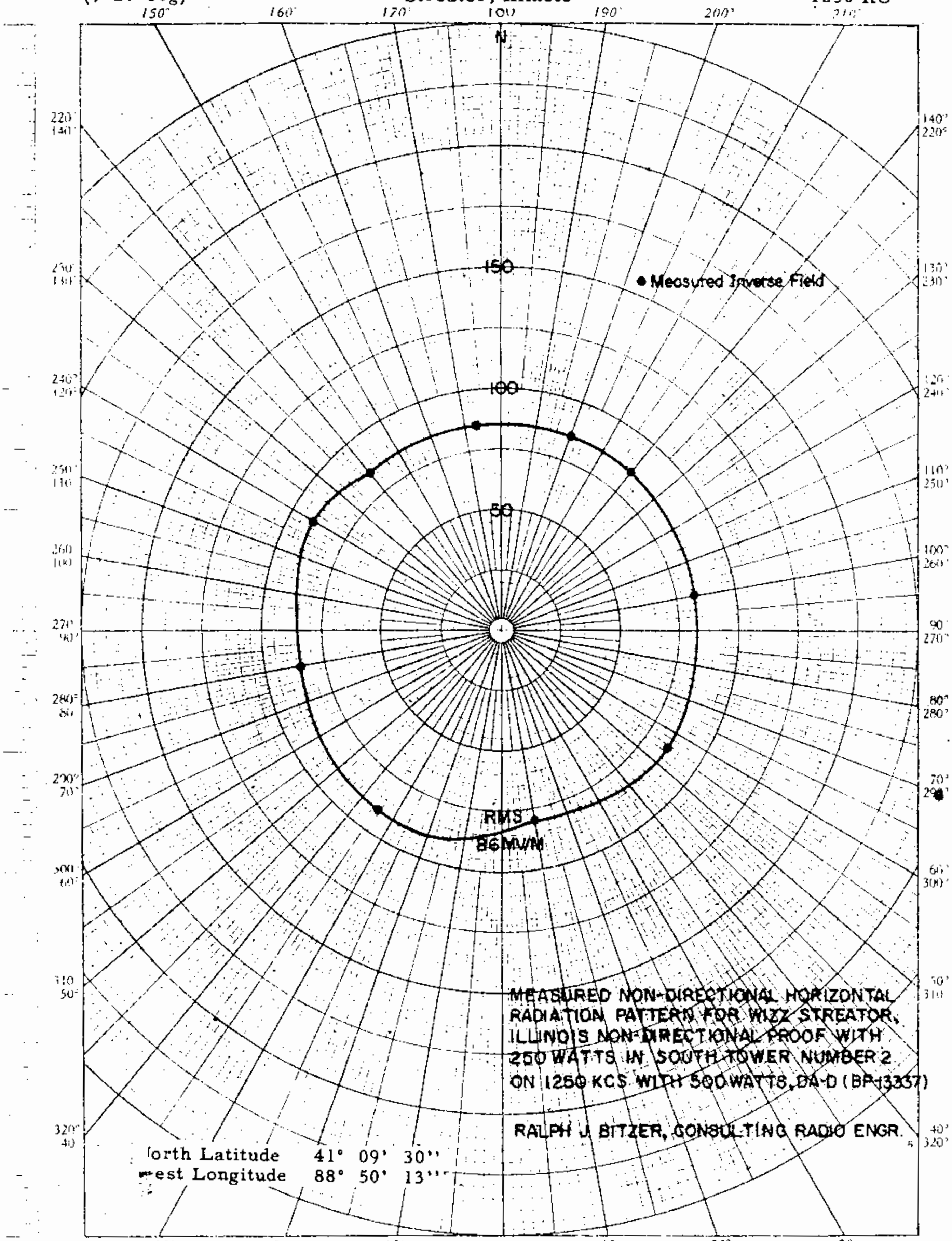
1250 KC

WIZZ

MEASURED NON-DA
(9-27-60g)

Station WIZZ
Streator, Illinois

500w, DA-D,D
1250 KC



K+E POLAR CO-ORDINATE 359-31G KEUFFEL & ESSER CO.

FCC File No. BL-8081
Accepted 9-13-60

WIZZ
Streator, Illinois

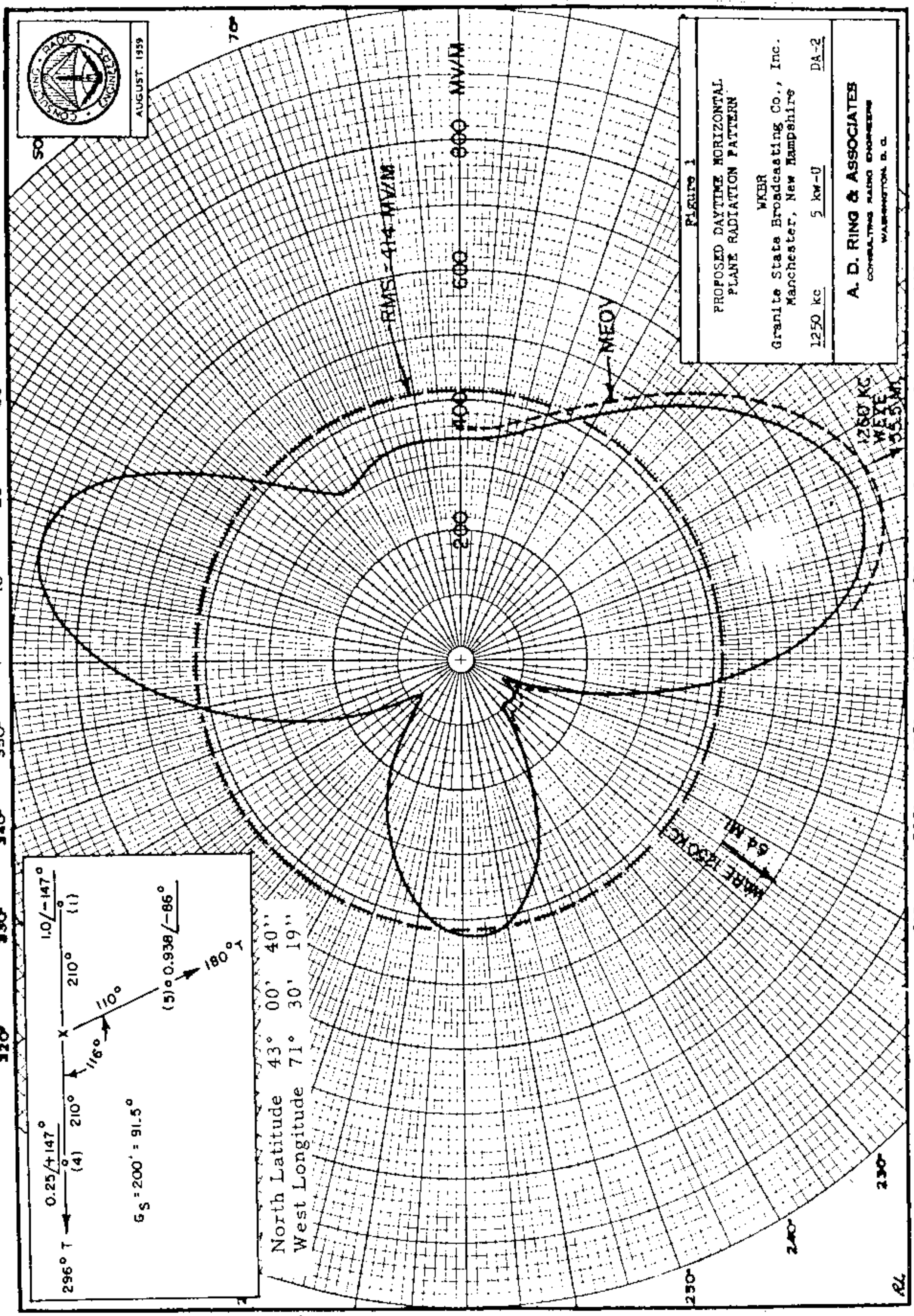
1250 KC

WKBR

PROPOSED DAY
(1-29-60g)

Station WKBR 5kw, DA-2,U
Manchester, New Hampshire 1250 KC

1-20-61 ...anted CP to ...ake changes in ...ay DA system



A. D. RING & CO - 1/52 - 1000

FCC File No. BMP-8836
Accepted 12-30-60

WKBR
Manchester, New Hampshire 1250 KC

26

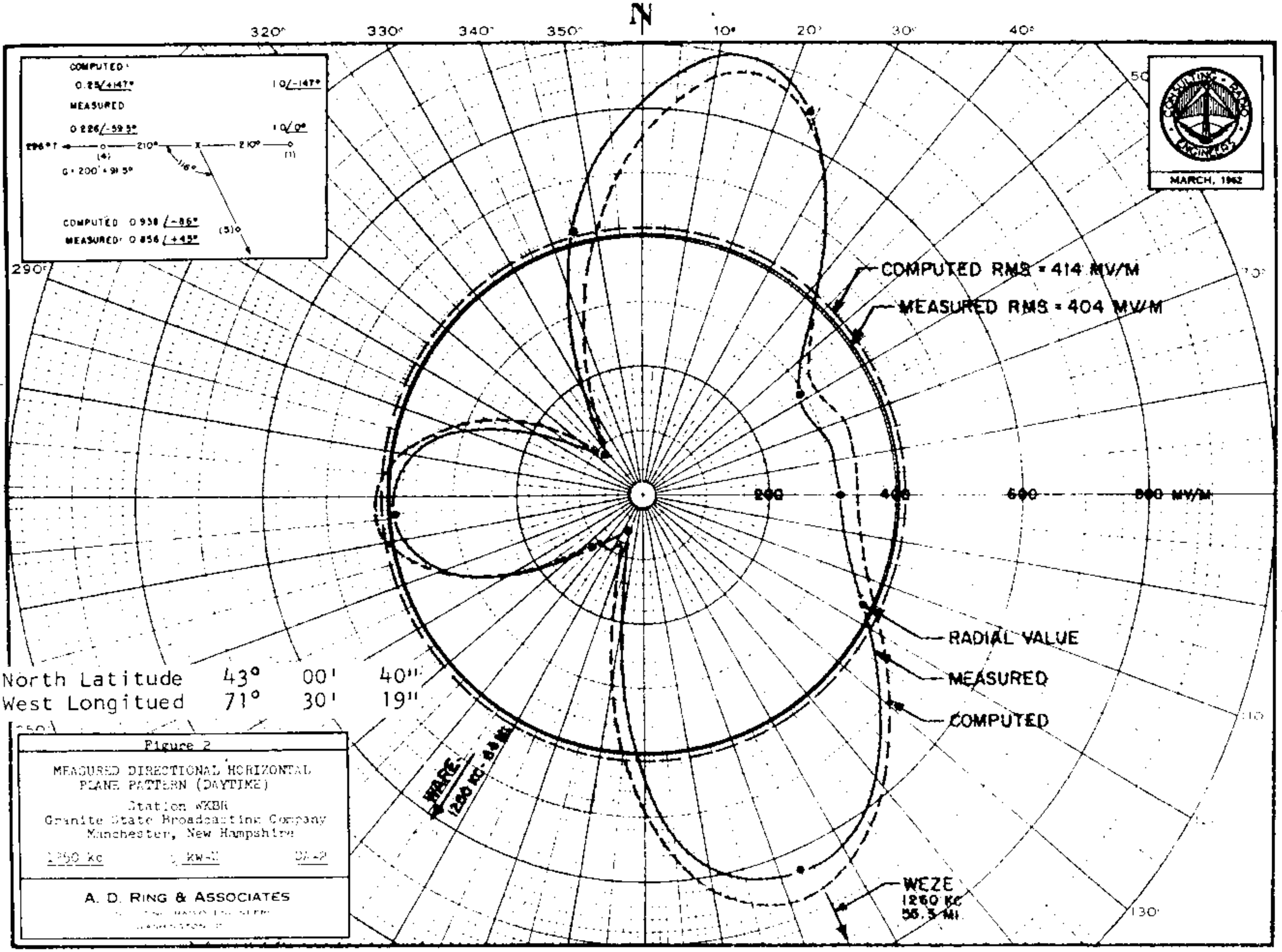
A. D. RI

Measured Day
(6-22-62ct)

Station WKBR
Manchester, New Hampshire

5kw,DA-2,U
1250 kc

8-13-62 granted L for changes in DA system.



North Latitude 43° 00' 40"
West Longitued 71° 30' 19"

FCC File No.BL-9340
Accepted 6-12-62

Station WKBR
Manchester, New Hampshire

1250 kc

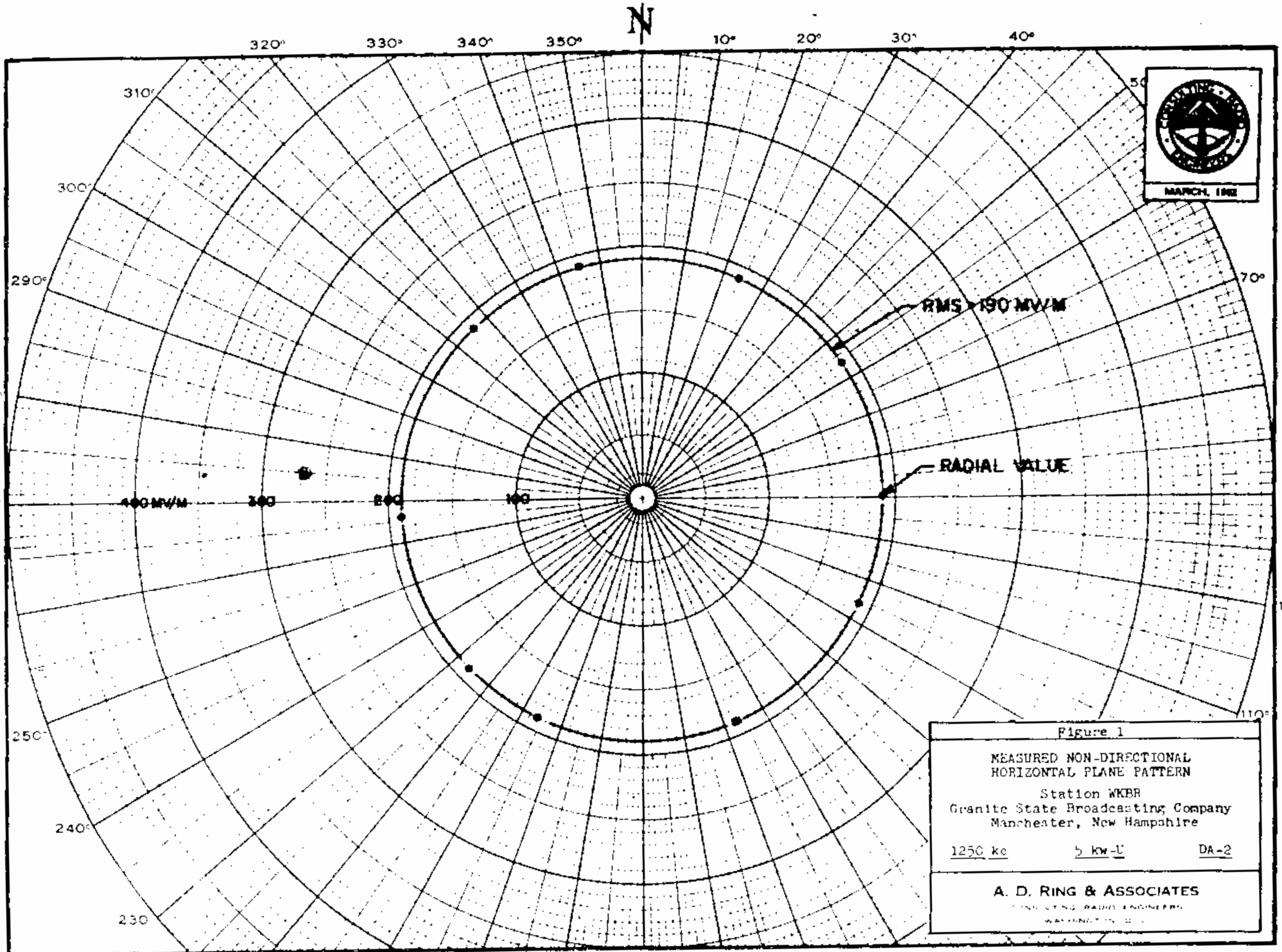
WKBR - 1250 KC

WKBR

Measured Non-DA
(6-22-62ct)

Station WKBR
Manchester, New Hampshire

5kw,DA-2,U
1250 kc



FCC File No.BL-9340
Accepted 6-12-62

Station WKBR
Manchester, New Hampshire,

1250 kc

WKBR - 1250 KC

WKBR

WKBR

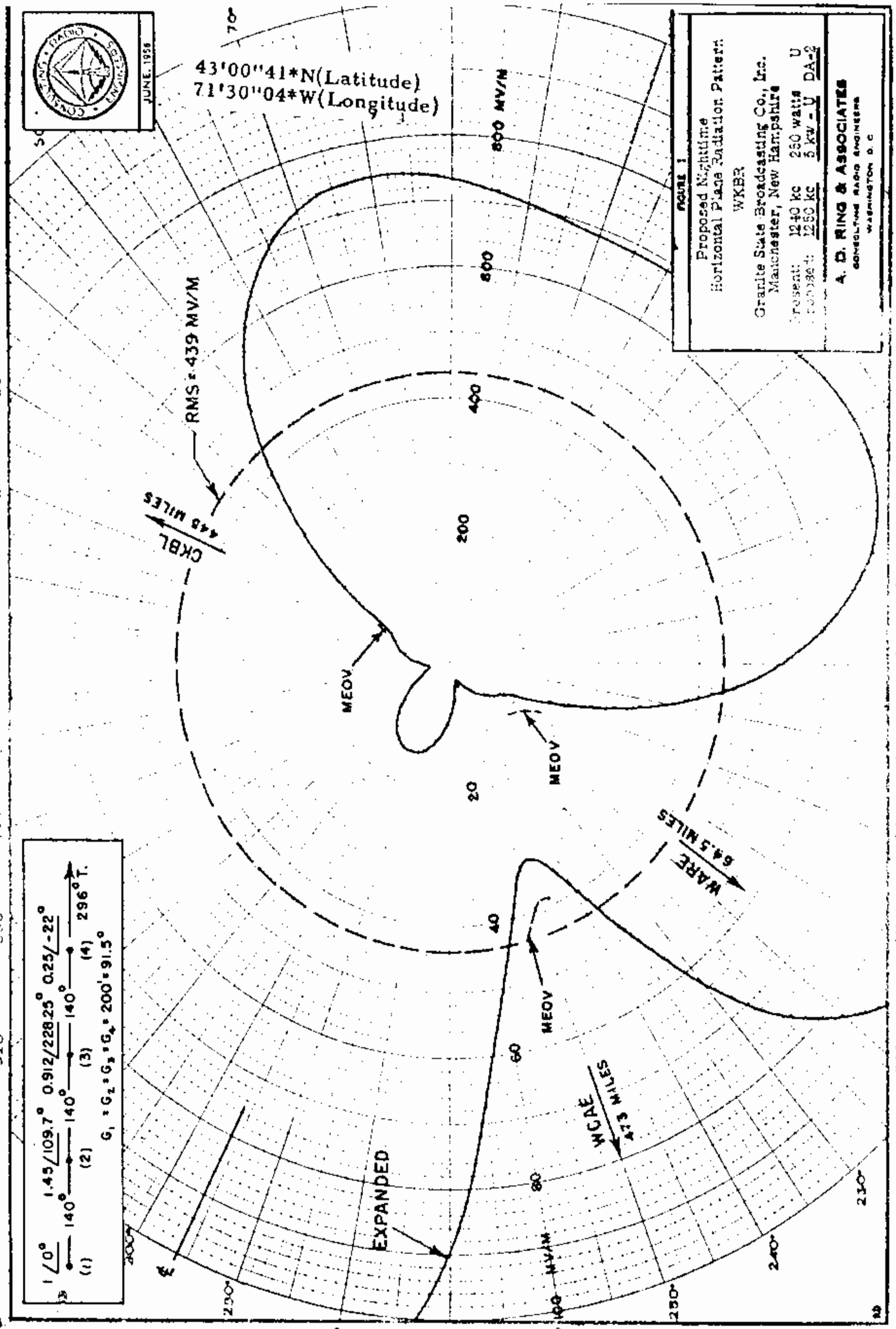
PROPOSED NIGHT (11-9-56g)

Station W K B R
Manchester, New Hampshire

5 KW, DA-2, U

1250 K C

Granted CP to change facil. and to inst DA-2
7-22-59



FCC File No.
BP-10,857

Accepted 10-29-56

WKBR
Manchester, New Hampshire

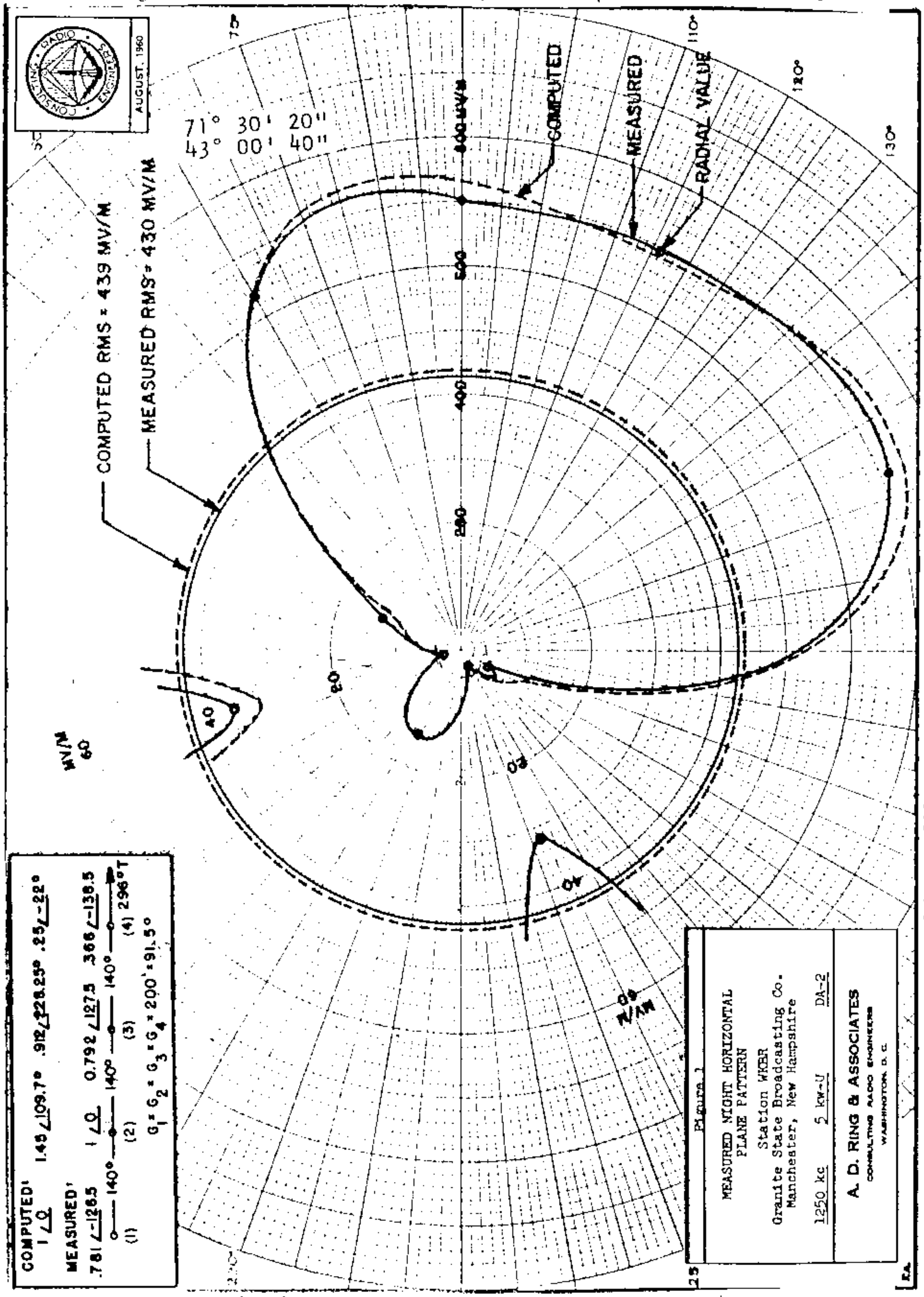
1250 K C

WKBR

MEASURED NIGHT
(11-11-60g)

Station WKBR 5kw, DA-2,U
Manchester, New Hampshire 1250 KC

11-29-60
granted for
DA-2



FCC File No. BL-8106
Accepted 10-21-60

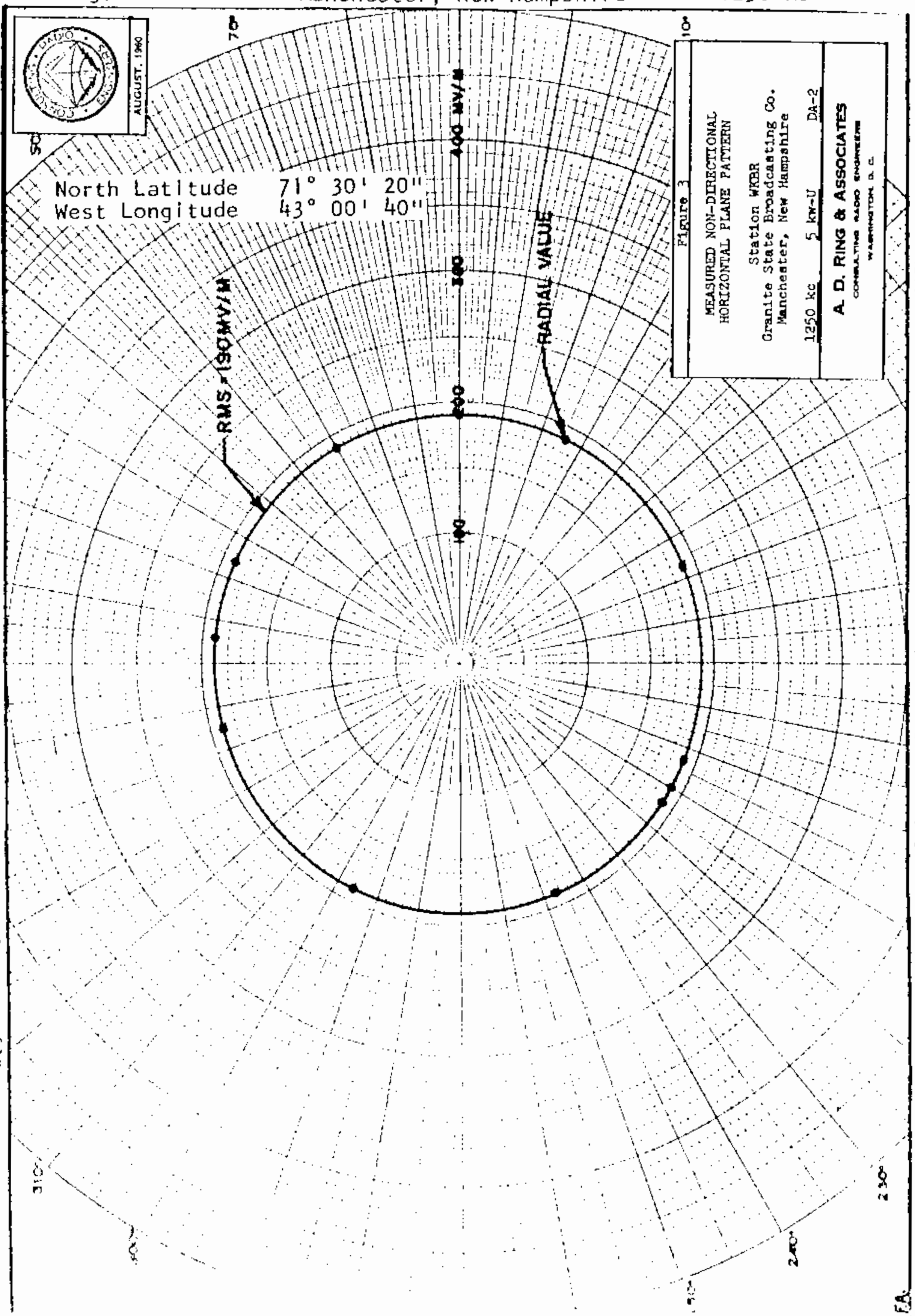
WKBR
Manchester, New Hampshire 1250 KC

WKBR

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

Station WKBR
Manchester, New Hampshire

5kw, DA-2,U
1250 KC



FCC File No. BL-8106
Accepted 10-21-60

WKBR
Manchester, New Hampshire

1250 KC

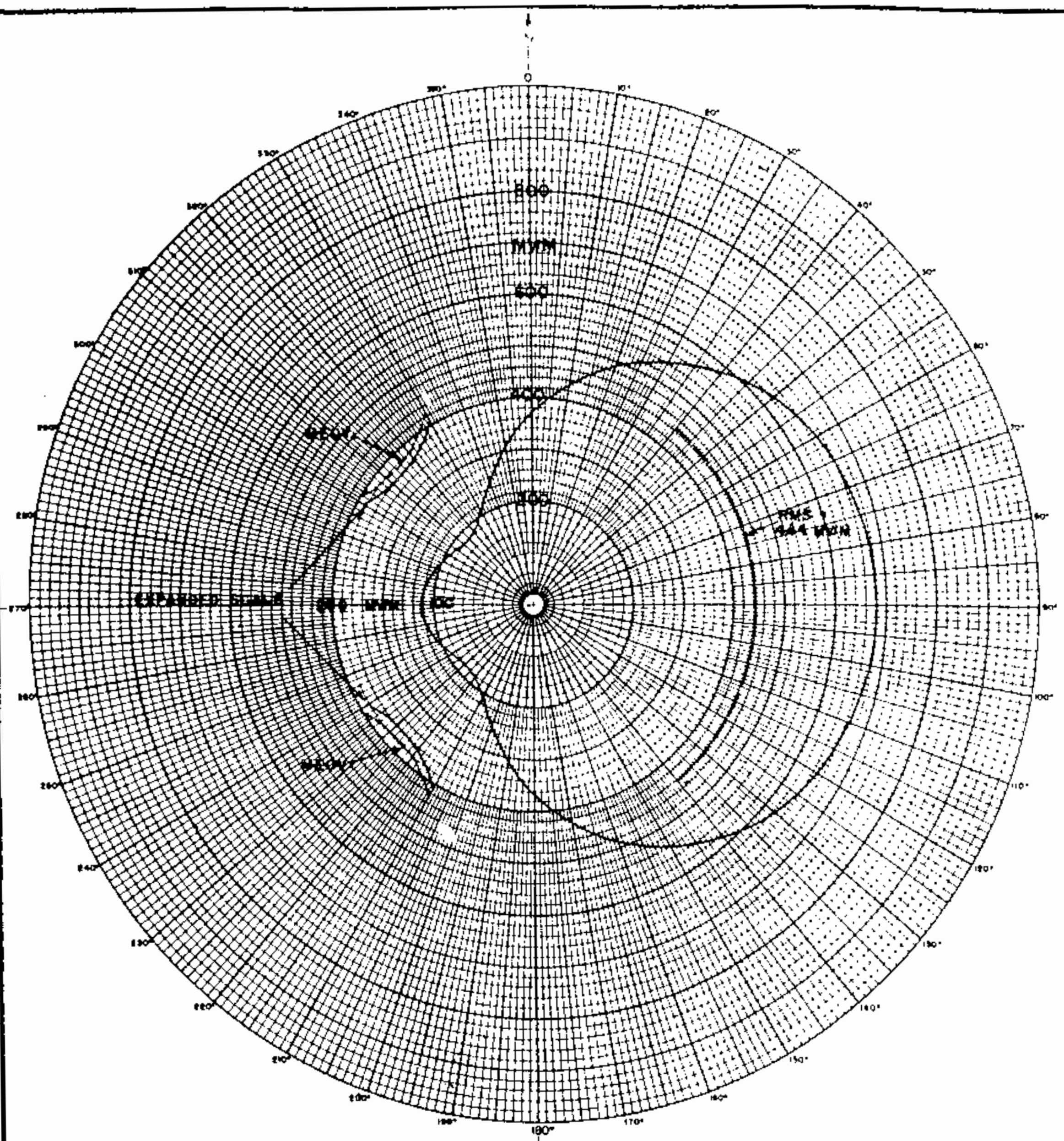
WMTR

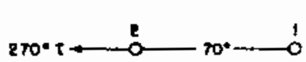
PROPOSED DAY
(7-8-59g)

Station WMTR
Morristown, New Jersey

5kw, DA-D, D
1250 KC

9-20-60
granted CP for
increase in power
... DA-D





LATITUDE	40° 48' 45"
LONGITUDE	74° 27' 36"

ANTENNA NUMBER	AZIMUTH DEG	SPACING DEG	PHASING DEG	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG
1	0	0	0	1.6	192	93
2	270	70	+130	1	192	91

HORIZONTAL PLANE PATTERN
WMTR
MORRISTOWN NEW JERSEY
1250 KC. 5 KW. DA-DAY
690113.

KEAR AND KENNEDY
CONSULTING ENGINEERS
WASHINGTON, D. C.

FCC File No. BP-13090
Accepted 6-19-59

WMTR
Morristown, New Jersey

1250 KC

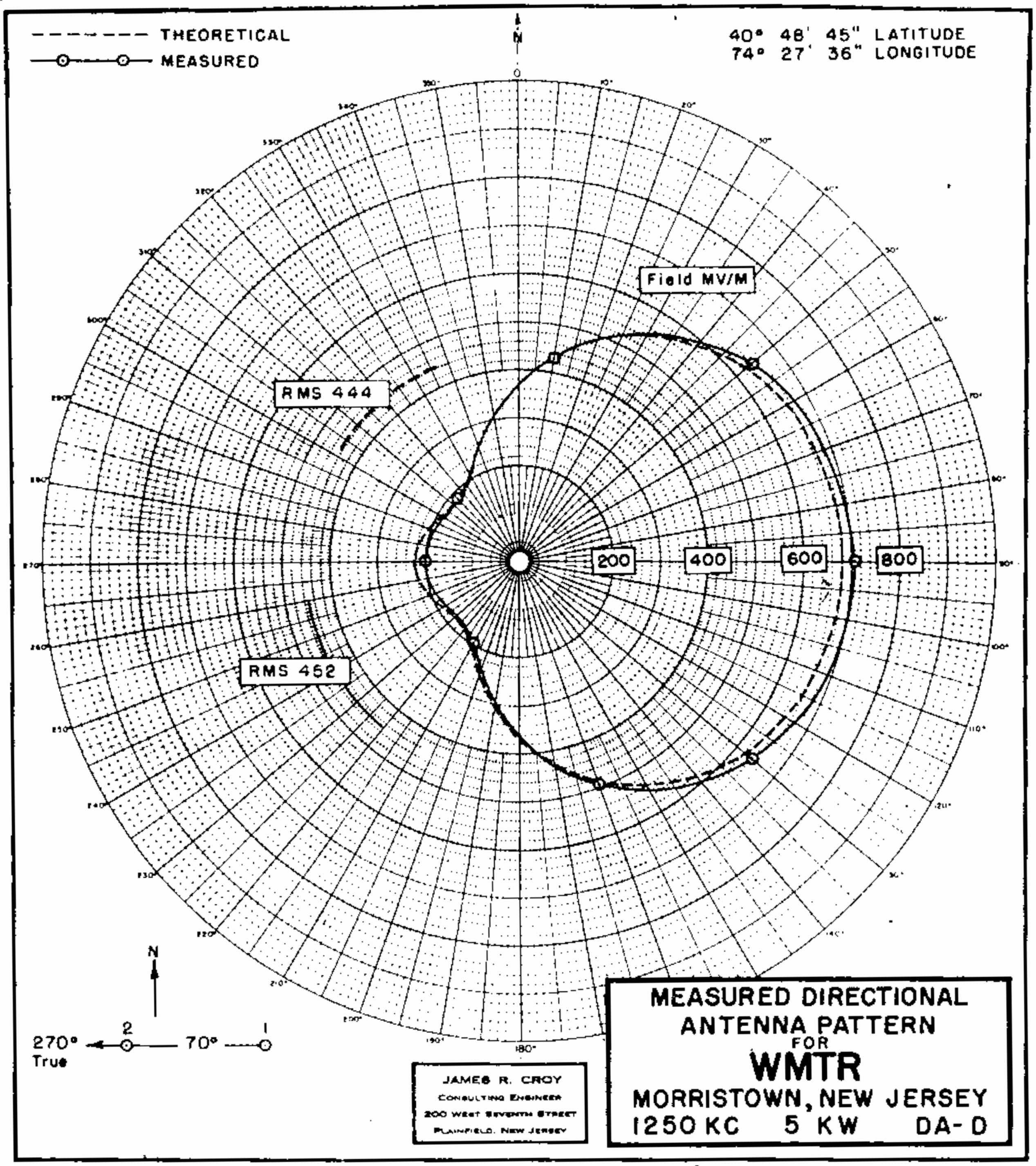
WMTR

-31-62
ranted L for
crease in power
& DA-D

Measured Day
(1-24-62ct)

Station WMTR
Morristown,New Jersey

5kw,DA-D,D
1250 kc



FCC File No.BL-8852
Accepted 1-12-62

Station WMTR
Morristown, New Jersey

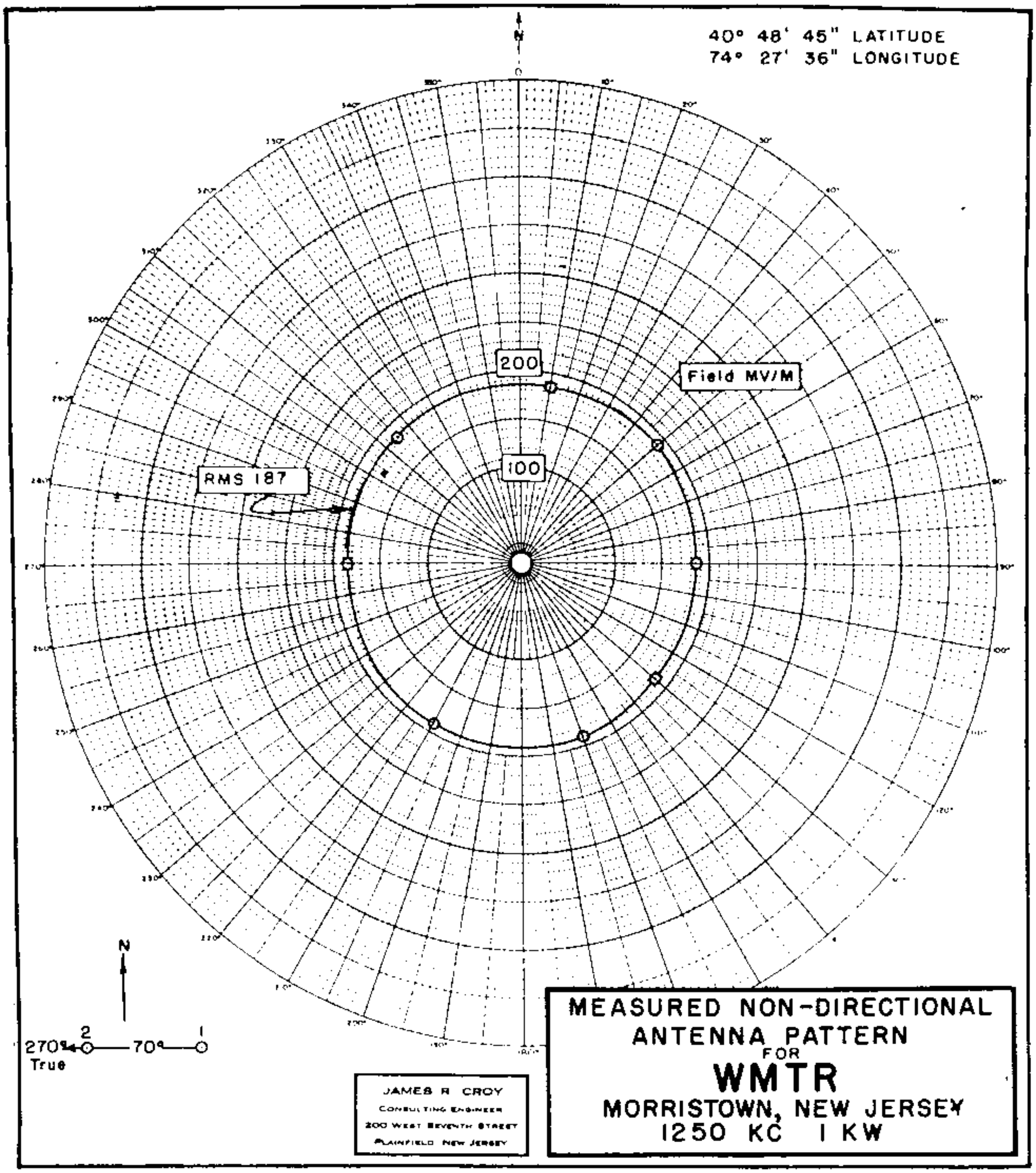
1250 kc

WMTR

Measured Non-DA
(1-24-62ct)

Station WMTR
Morristown, New Jersey

5kw,DA-D,D
1250 kc



FCC File No.BL-8852
Accepted 1-12-62

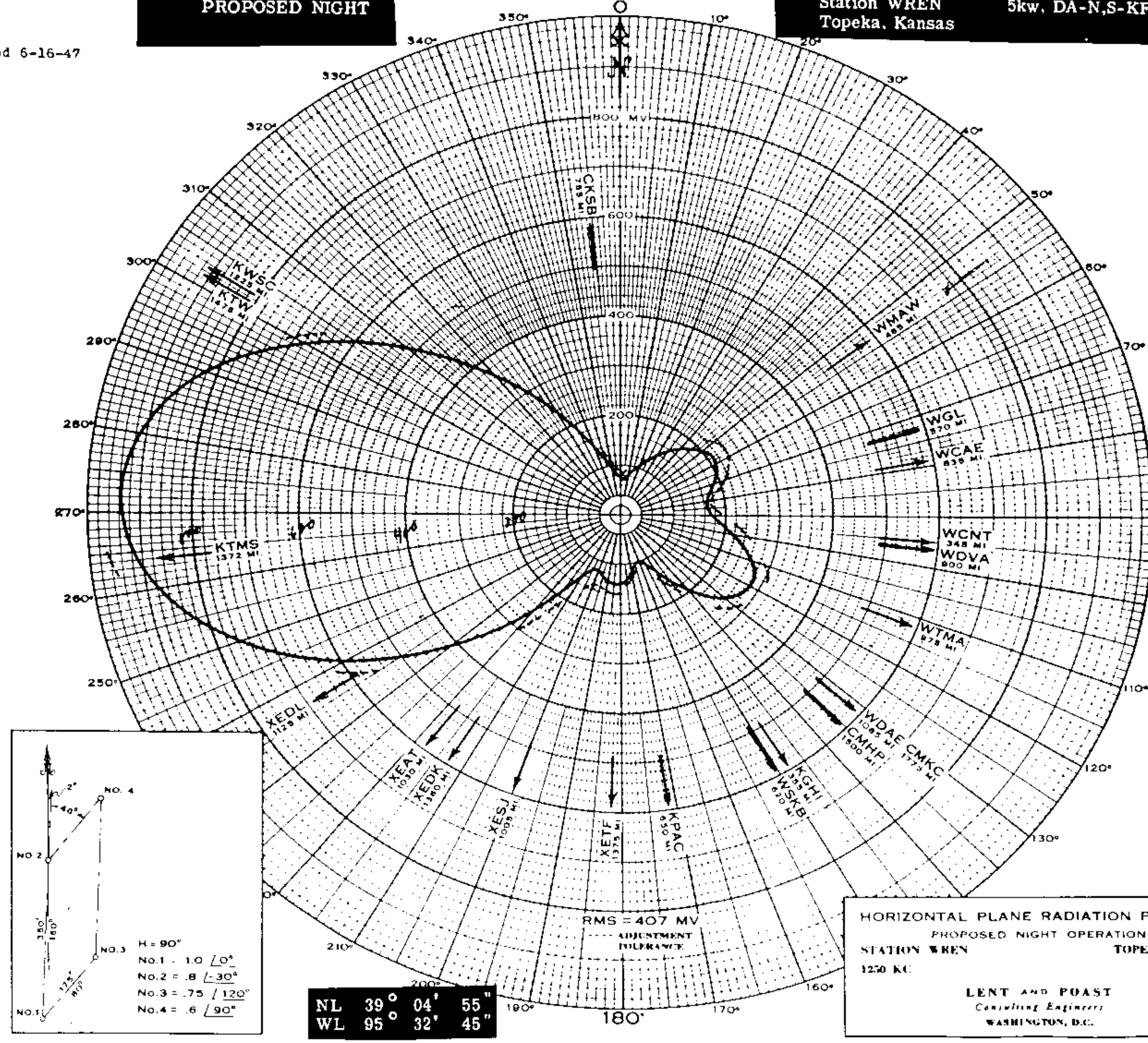
Station WMTR
Morristown, New Jersey

1250 kc

PROPOSED NIGHT

Filed 6-16-47

Station WREN 5kw, DA-N,S-KFKU
Topeka, Kansas 1250 KC



NL 39° 04' 55"
WL 95° 32' 45"

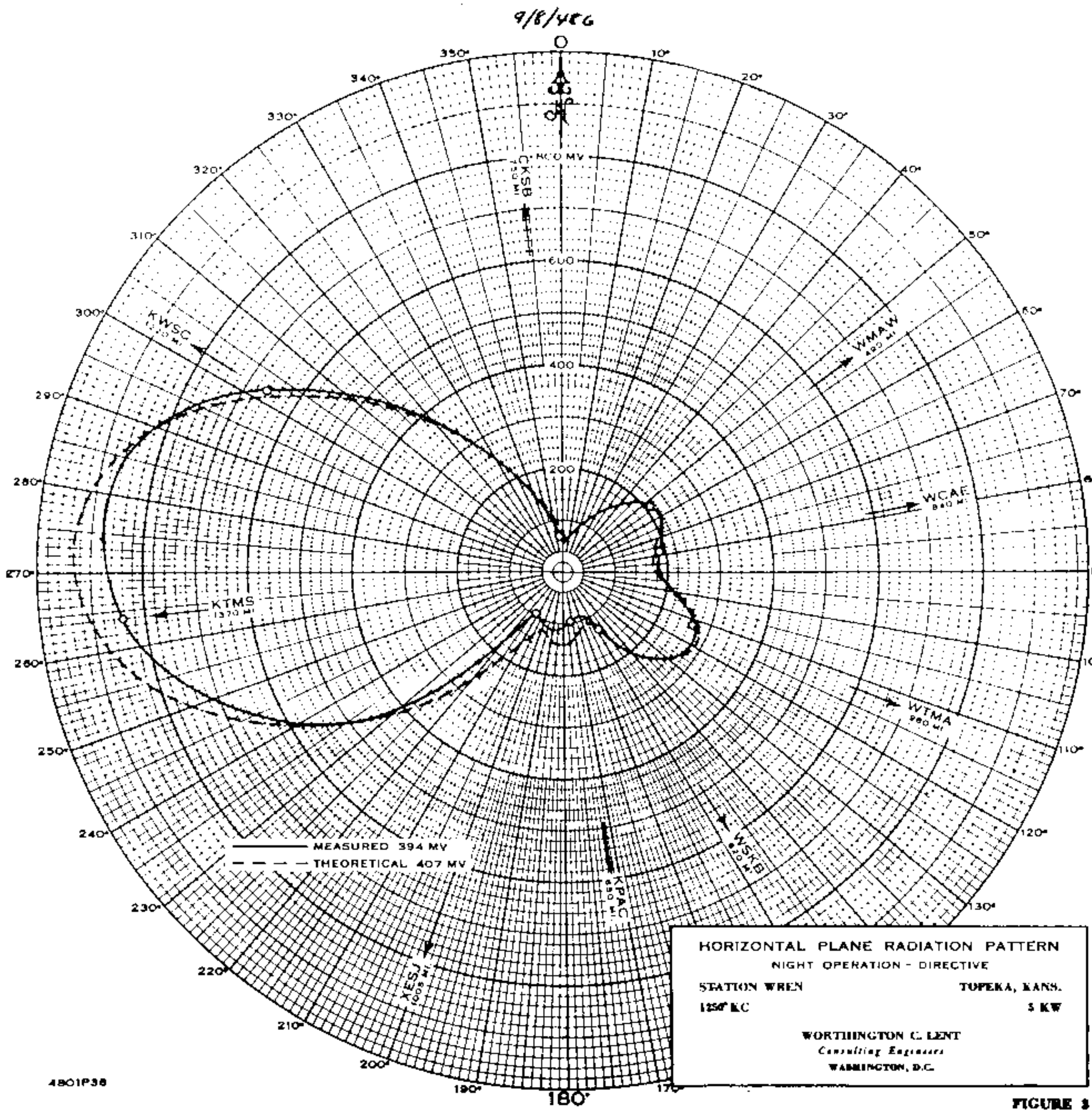
4801C87

HORIZONTAL PLANE RADIATION PATTERN
PROPOSED NIGHT OPERATION
STATION WREN TOPEKA, KANS.
1250 KC 5 KW

LENT AND POAST
Consulting Engineers
WASHINGTON, D.C.

FIGURE 2

WREN
1250



4801P38

HORIZONTAL PLANE RADIATION PATTERN
NIGHT OPERATION - DIRECTIVE

STATION WREN — TOPEKA, KANS.

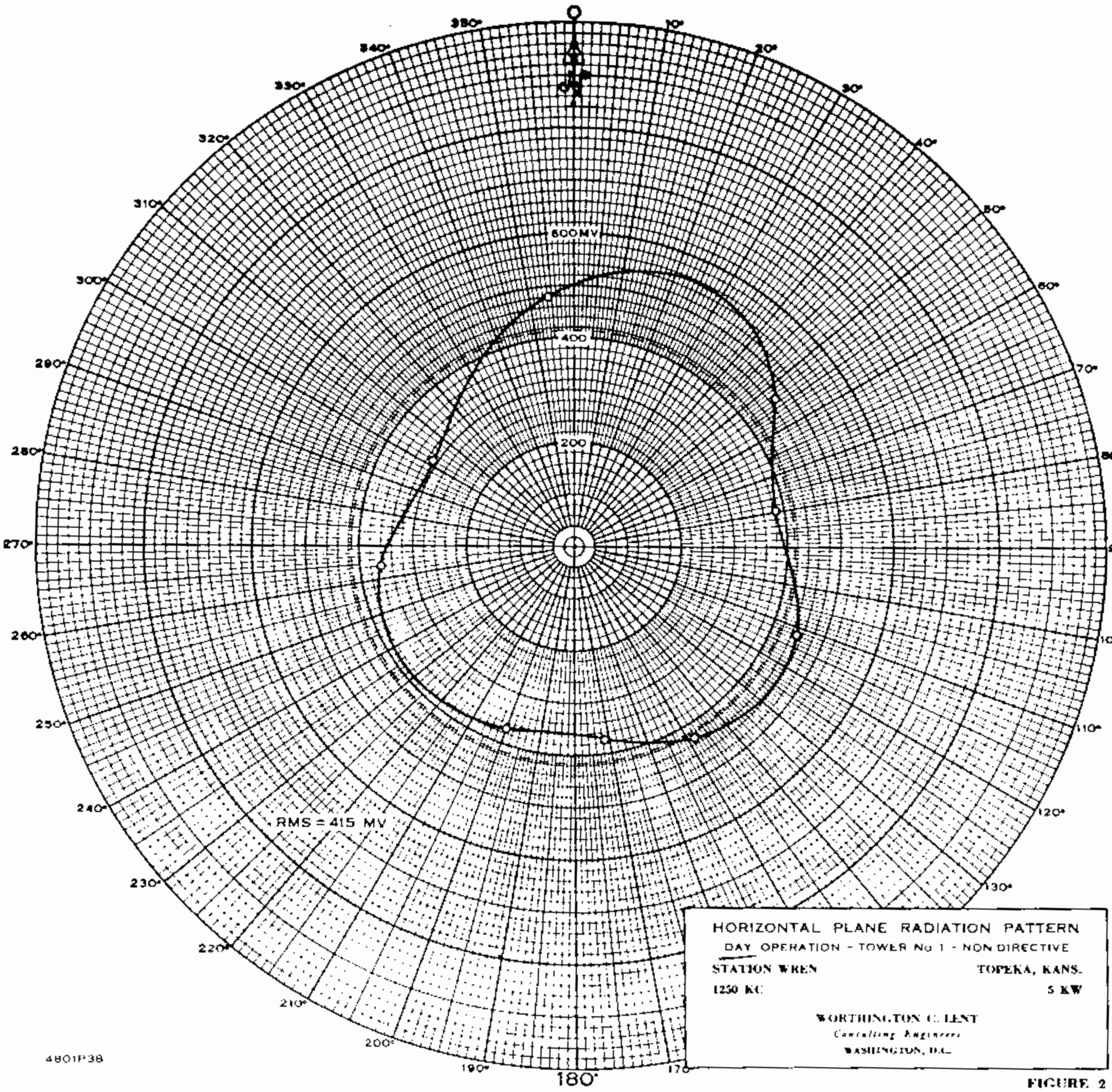
1250 KC — 5 KW

WORTHINGTON C. LENT
Consulting Engineers
WASHINGTON, D.C.

FIGURE 3

WREN
1250

9/8/486



HORIZONTAL PLANE RADIATION PATTERN

DAY OPERATION - TOWER No 1 - NON DIRECTIVE

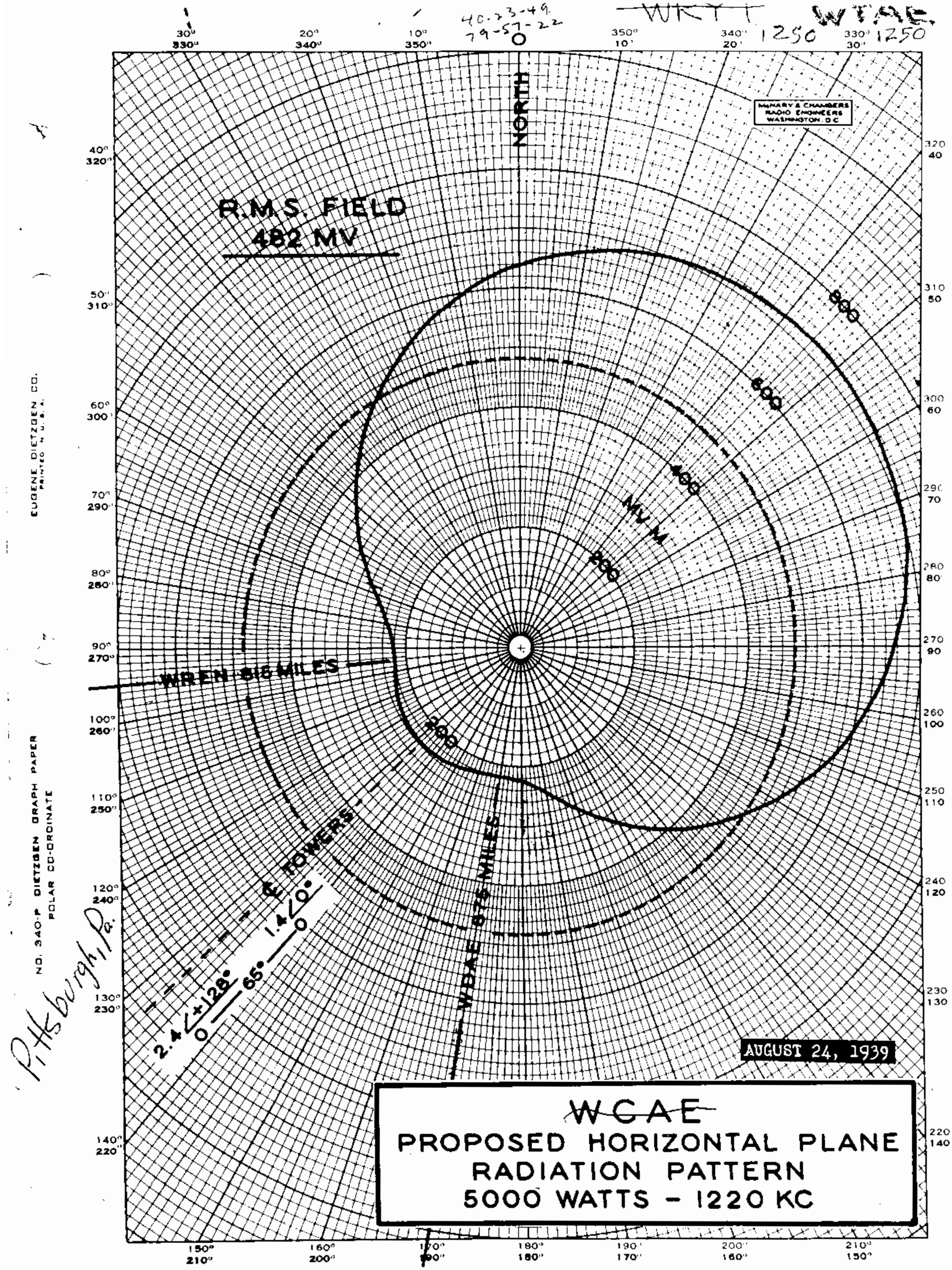
STATION WREN — TOPEKA, KANS.

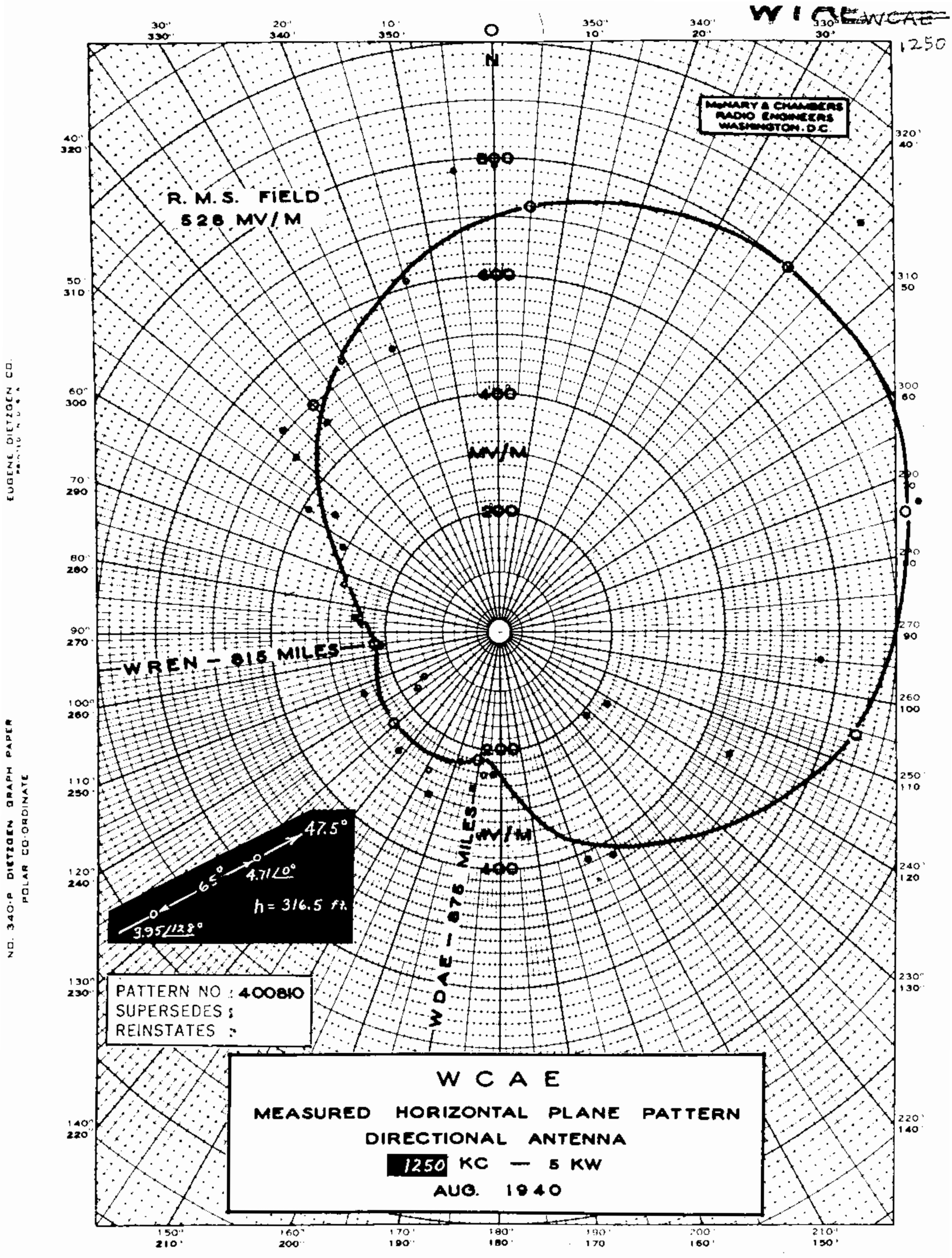
1250 KC — 5 KW

WORTHINGTON C. LENT
Consulting Engineers
WASHINGTON, D.C.

4801P38

FIGURE 2


40-23-49
79-57-22
~~WKTT~~
WTAE
1250
1250
NORTH
McNARY & CHAMBERS
RADIO ENGINEERS
WASHINGTON, D.C.
R.M.S. FIELD
482 MV
900
600
400
MV/M
200
200
WREN 816 MILES
WDAE 875 MILES
℄ TOWERS
2.4∠+128°
1.4∠0°
65°
Pittsburgh, Pa.
EUGENE DIETZGEN CO.
PRINTED IN U.S.A.
NO. 340-P DIETZGEN GRAPH PAPER
POLAR CO-ORDINATE
AUGUST 24, 1939
~~WCAE~~
PROPOSED HORIZONTAL PLANE
RADIATION PATTERN
5000 WATTS - 1220 KC

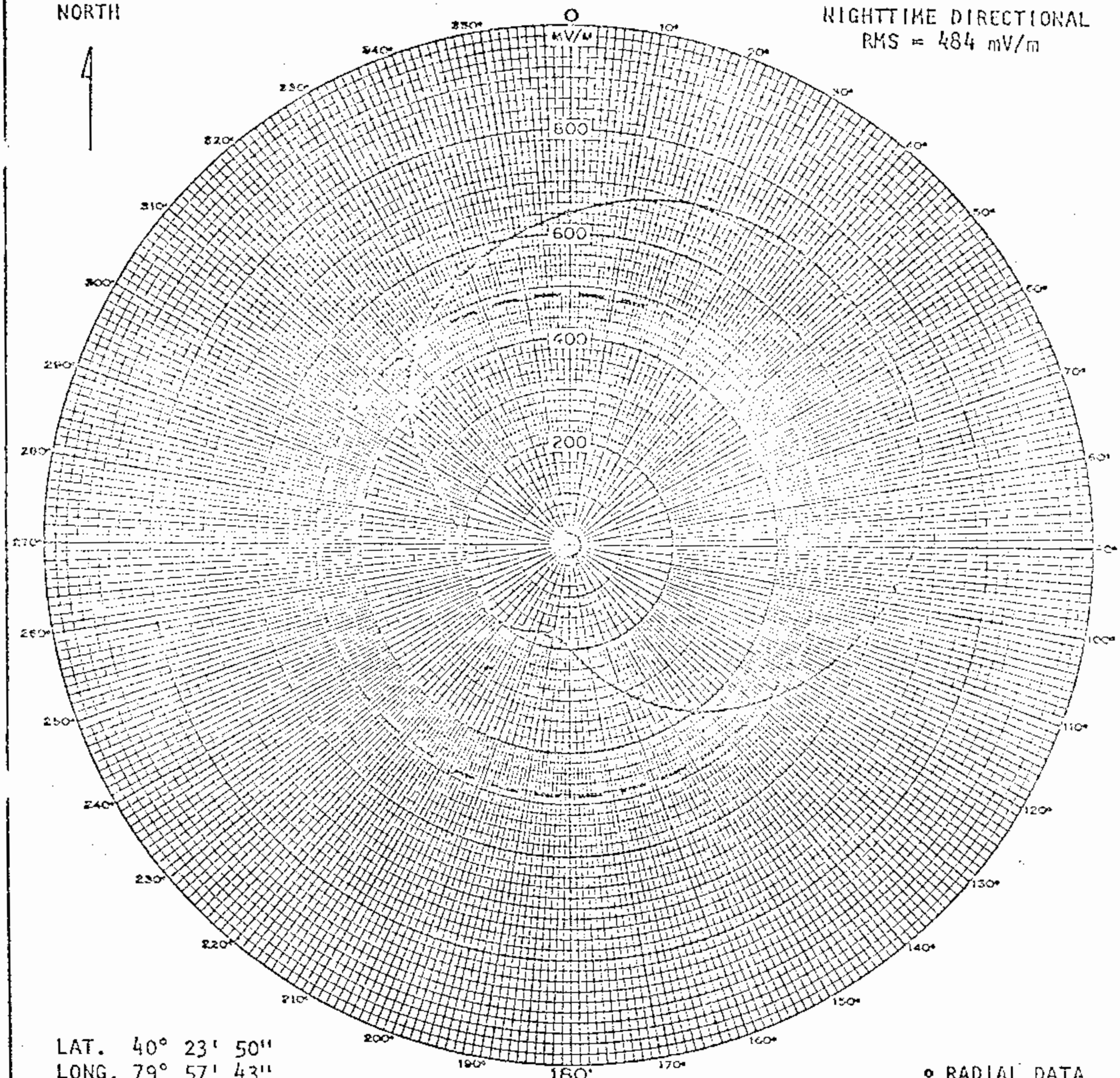


WICE ~~WCAE~~
1250
McNARY & CHAMBERS
RADIO ENGINEERS
WASHINGTON, D.C.
R. M. S. FIELD
528 MV/M
MV/M
WREN — 815 MILES
WDAE — 875 MILES
47.5°
65°
4.71∠0°
3.95∠128°
h = 316.5 ft.
PATTERN NO: 400810
SUPERSEDES:
REINSTATES:
WCAE
MEASURED HORIZONTAL PLANE PATTERN
DIRECTIONAL ANTENNA
1250 KC — 5 KW
AUG. 1940
EUGENE DIETZGEN CO.
NO. 340-P DIETZGEN GRAPH PAPER
POLAR CO-ORDINATE

WTAE

NIGHTTIME DIRECTIONAL
RMS = 484 mV/m

NORTH

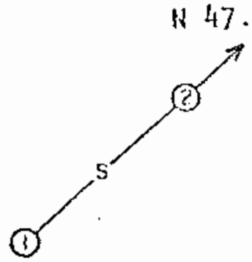


LAT. 40° 23' 50"
LONG. 79° 57' 43"

∘ RADIAL DATA

BL-13805

N 47.5° E



S = 145.5' = 66.5°
G = 316.5' = 145°

ANTENNA PARAMETERS

	THEORETICAL		OBSERVED	
TOWER	FIELD	PHASE	FIELD	PHASE
1(SW)	1.71	128°	1.00	0°
2(NE)	1.00	0°	0.75	-112°

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

RADIO STATION WTAE
1250 kHz 5 kW DA-N
740709 Pittsburgh, Penn FIGURE 2B

MEASURED NON-DA | Station WCAE Pittsburgh, Pennsylvania | 5kw, DA-N,U 1250 KC

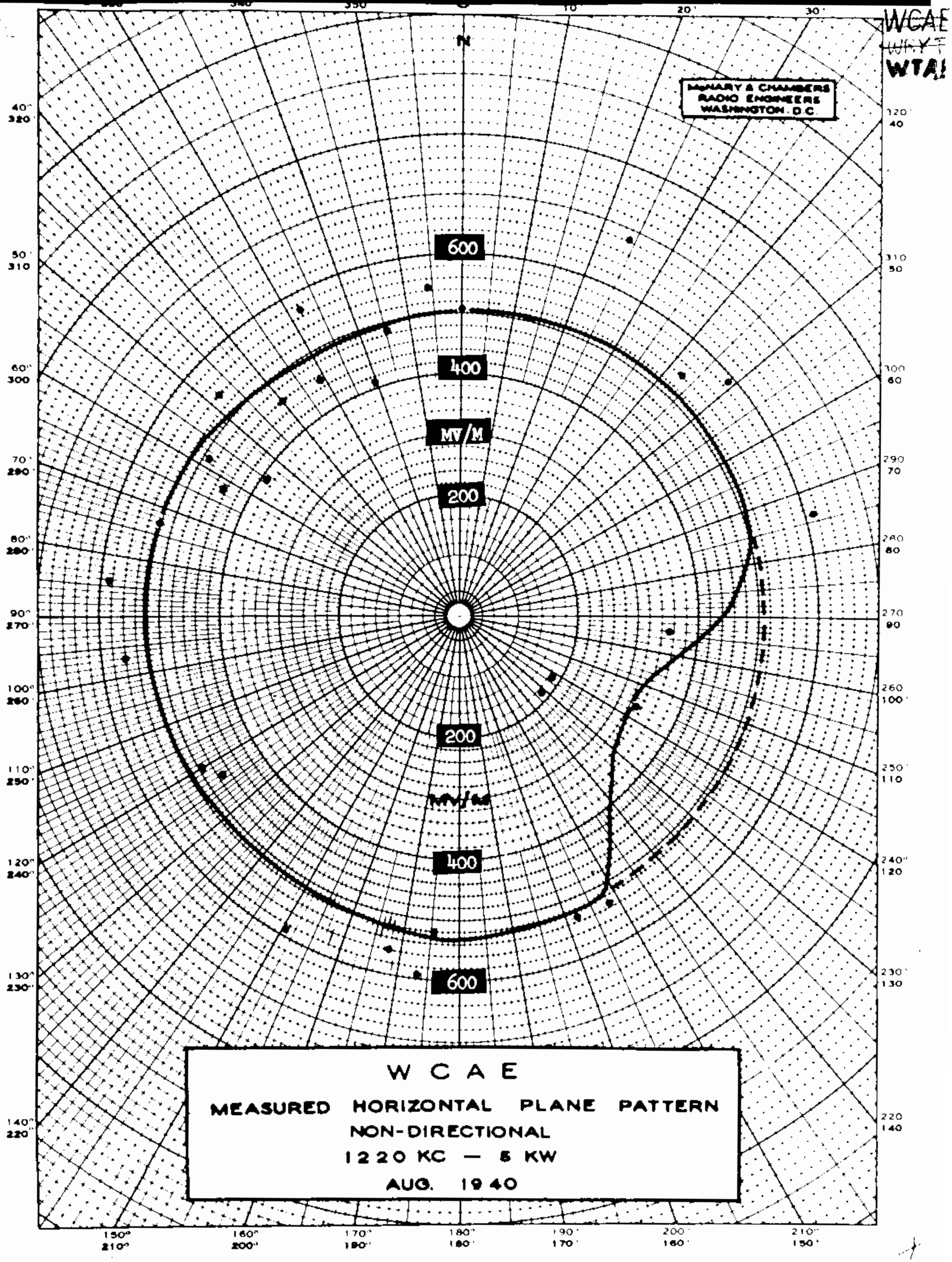
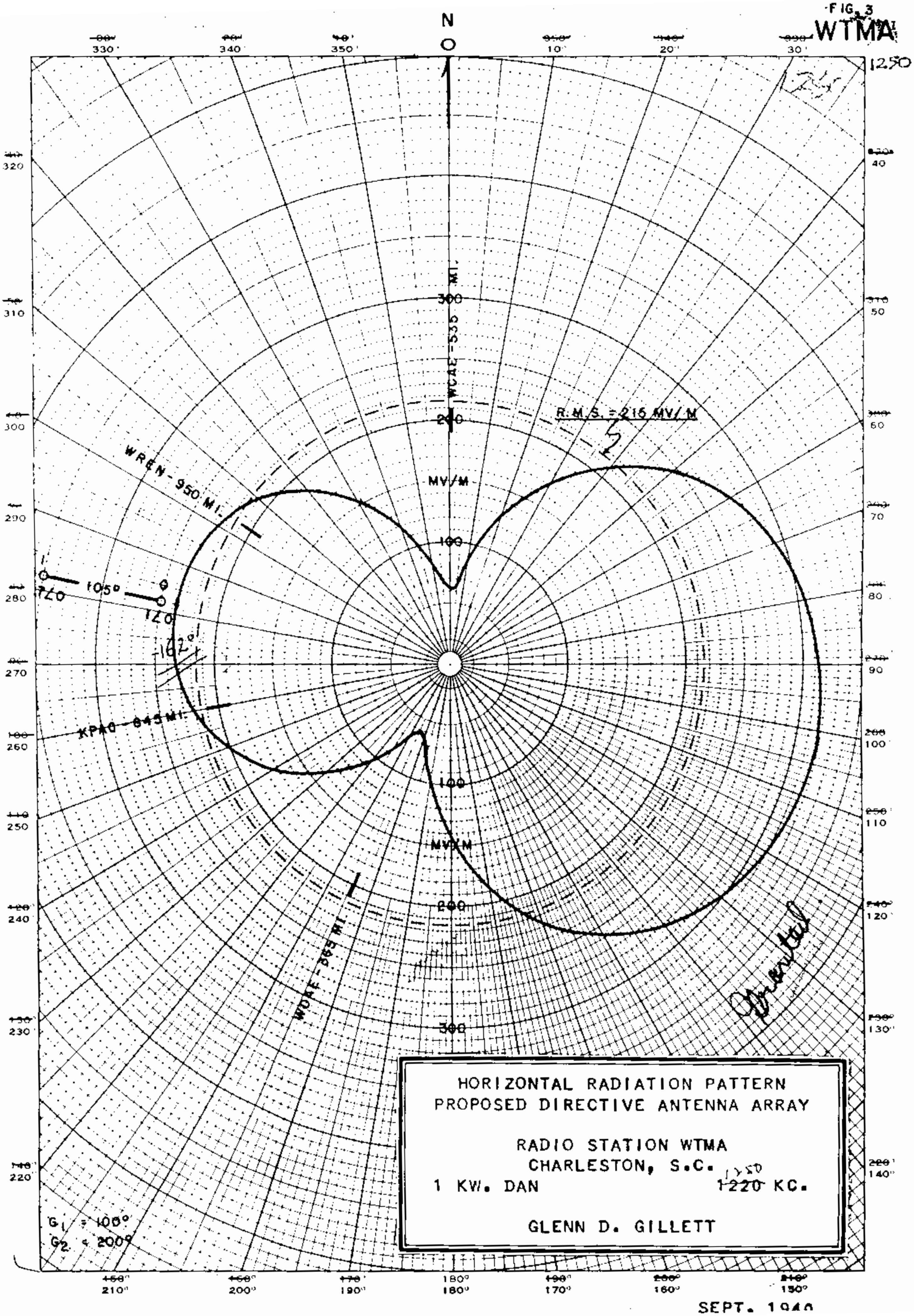


FIG. 3

WTMA



SEPT. 1940

WTMA

3/4/48G

PATTERN No 480229
SUPERSEDES 420504

WTMA - 1250

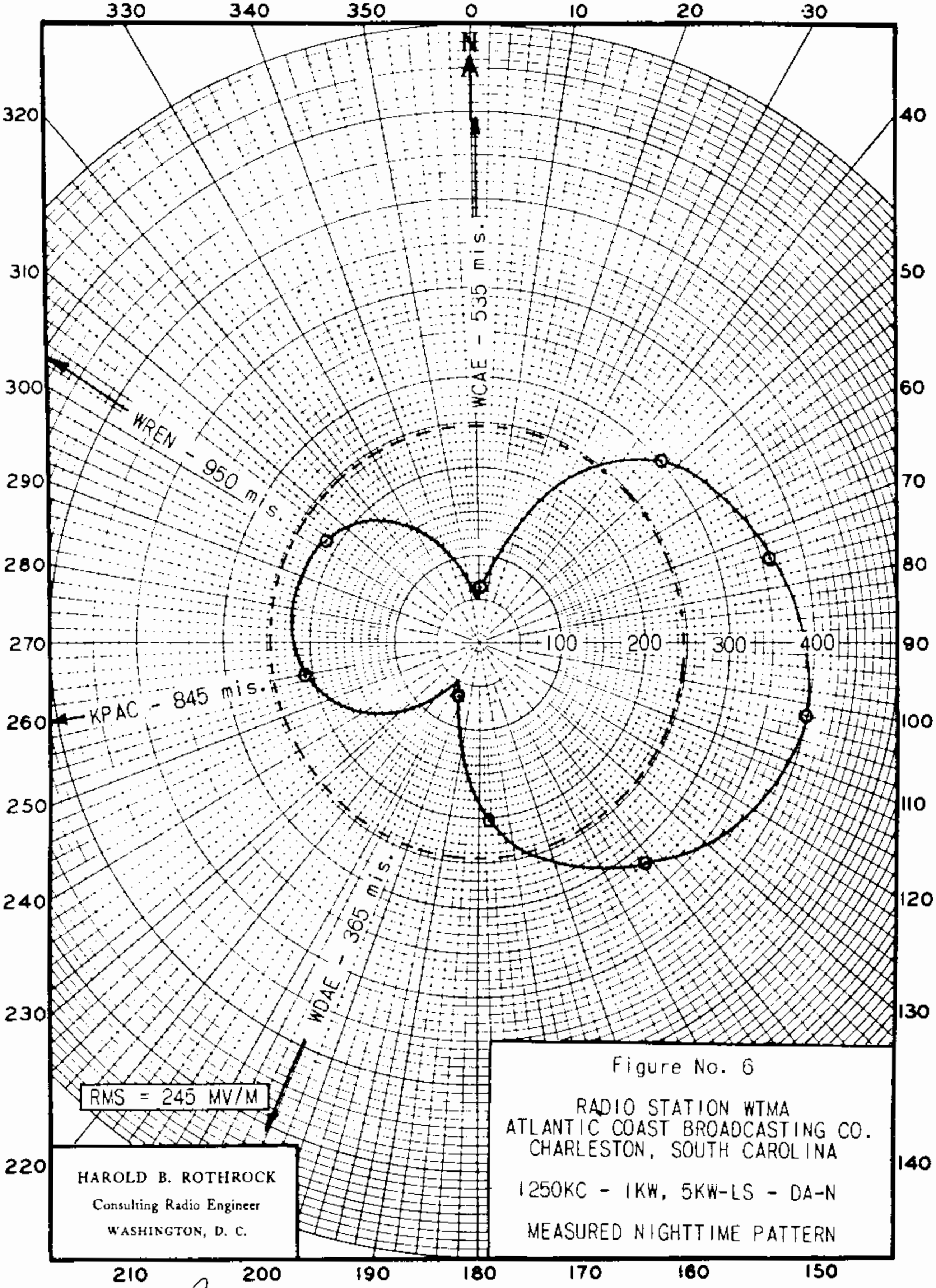


Figure No. 6

RADIO STATION WTMA
ATLANTIC COAST BROADCASTING CO.
CHARLESTON, SOUTH CAROLINA

1250KC - 1KW, 5KW-LS - DA-N

MEASURED NIGHTTIME PATTERN

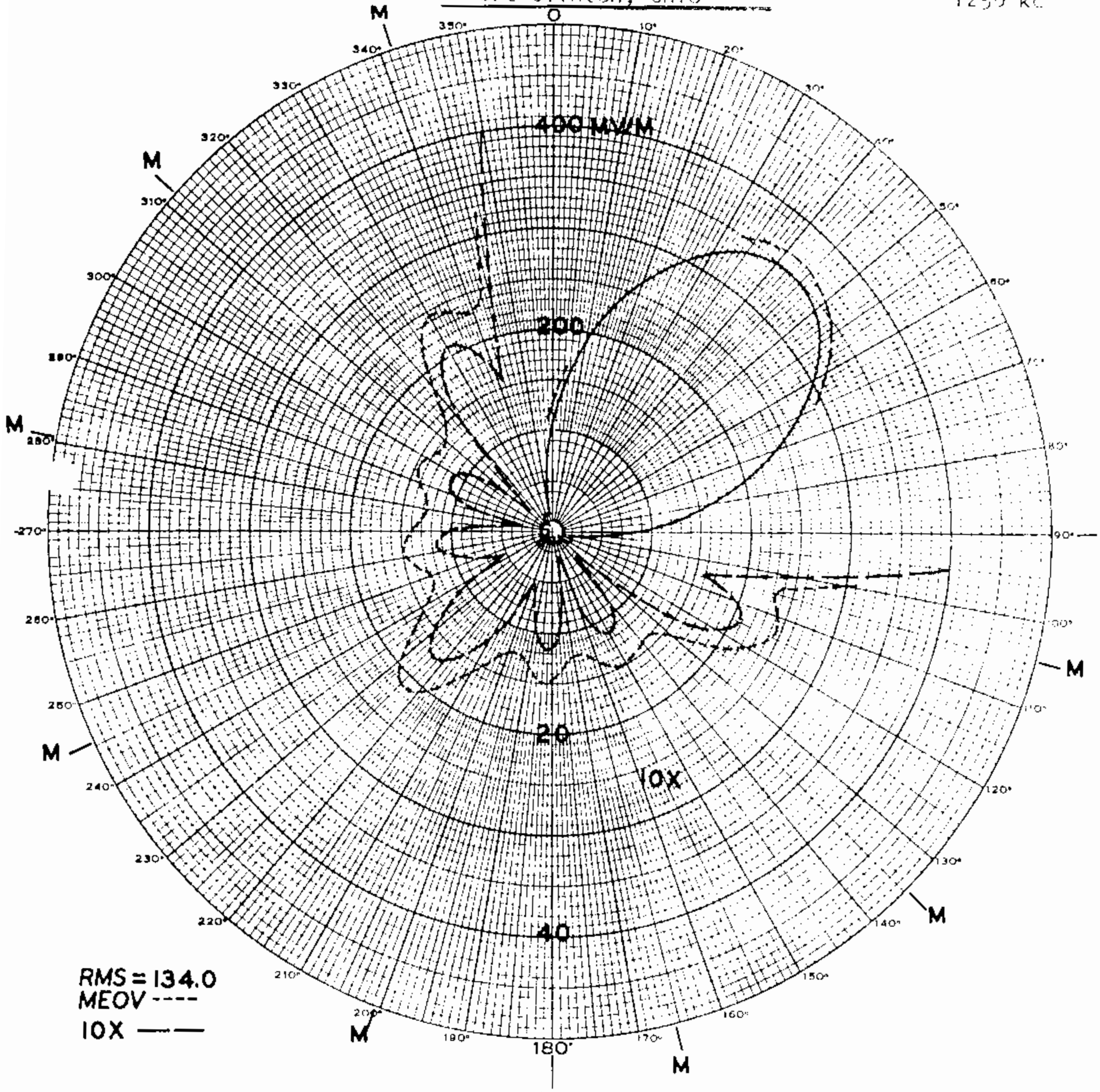
HAROLD B. ROTHROCK
Consulting Radio Engineer
WASHINGTON, D. C.

Lic. for WTMA

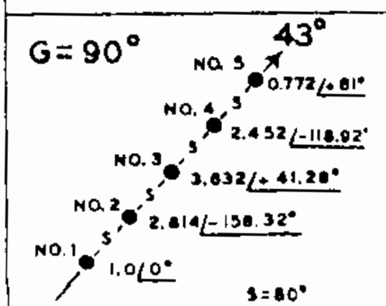
Proposed Day
(5-25-67ct)

New; Ohio Radio, Inc.
Port Clinton, Ohio

500w,DA-D,D
1250 kc



TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 3	STATION DATA



TOWER No.	ELECTRICAL HEIGHT G°	SPACING S°	PHASING Ψ°	FIELD RATIO F
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

PROPOSED DAYTIME
DIRECTIONAL PATTERN

****

PORT CLINTON
OHIO

$\theta^{\circ} = 0$

CALL NEW
FREQ 1250 Kc/S
POWER 0.5 Kw
TYPE DA-D
TIME Daytime
LAT. 41° 29' 45.1"
LONG. 82° 57' 19.6"

E.H.MUNN, JR.
RADIO ENGINEER
COLDWATER, MICH.

FCC File No.BP-17598
Accepted 5-5-67

New; Ohio Radio, Inc.
Port Clinton, Ohio

1250 kc

NEW-C
1260kHz

DESCRIPTION SHEET

Station:	New	Main Studio:	Nanaimo, B.C.
Frequency:	1260 kHz	Power: 10 kW	
Time:	Unlimited	Class:	III
Notification List No. 396		Date: MAY 29, 1980	
Geographic Location:		North Lat.	49° 9' 0"
		West Long.	123° 48' 39"

Antenna System:

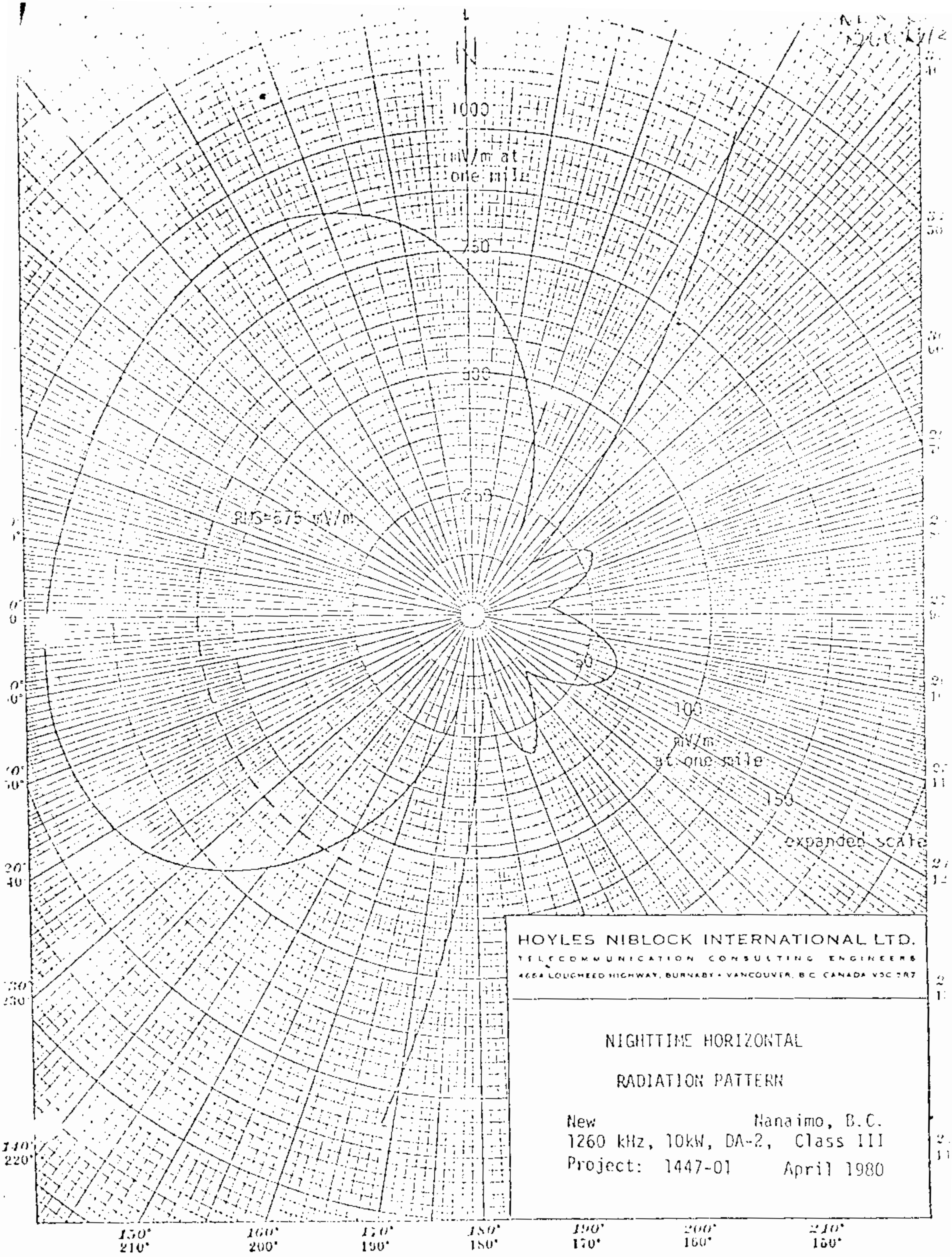
Mode of Operation: DA-2

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

Towers:	1	2	3
Height above insulators:	195'(90°)	195'(90°)	195'(90°)
Overall Height:	200'	200'	200'
Spacing:	ref	120°	240°
Phasing: Day	0	-70	NOT USED
Night	0	-93	165
Current Ratio: Day	1.0	0.94	NOT USED
Night	1.0	1.82	1.0
Orientation:	ref	291°	291°

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

Predicted Effective Field: 575 mV/m for 10 kW nighttime
570 mV/m for 10 kW daytime



HOYLES NIBLOCK INTERNATIONAL LTD.

TELECOMMUNICATION CONSULTING ENGINEERS

4664 LOUGHEED HIGHWAY, BURNABY • VANCOUVER, B.C. CANADA V5C 3R7

NIGHTTIME HORIZONTAL

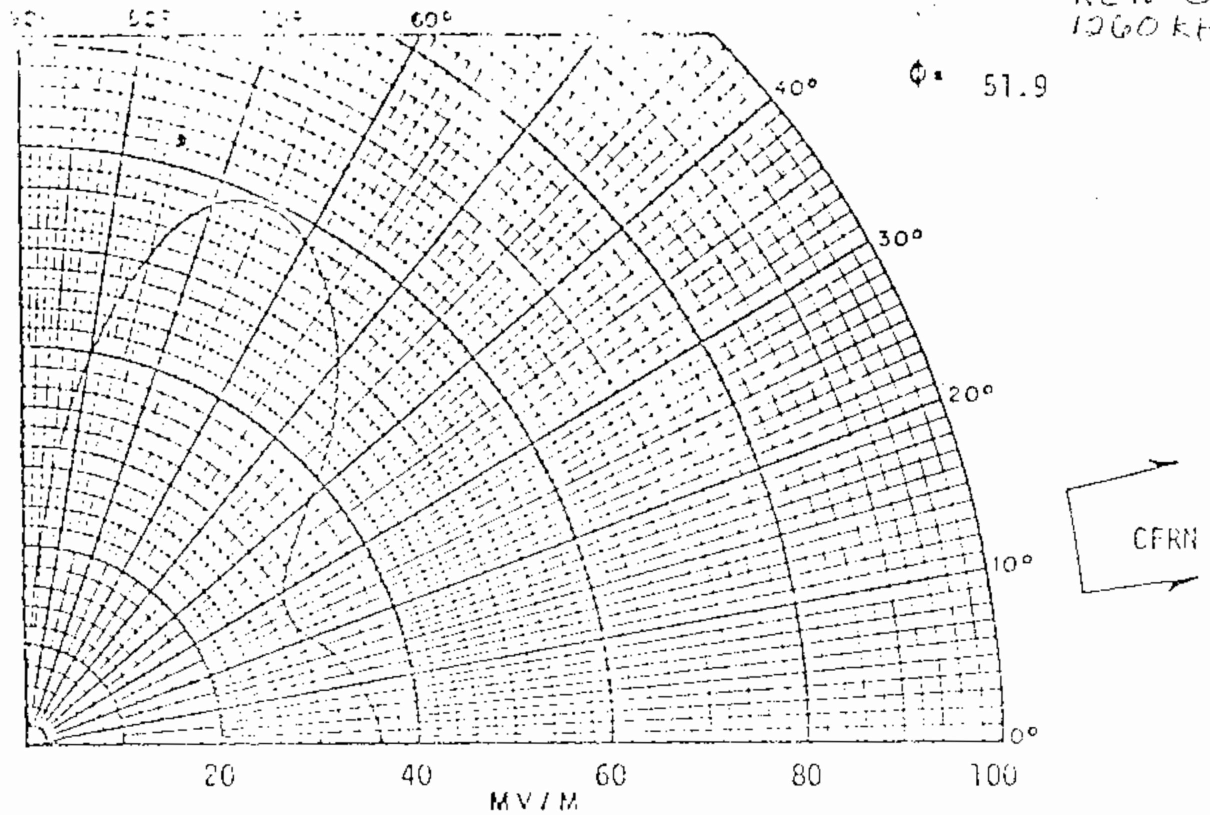
RADIATION PATTERN

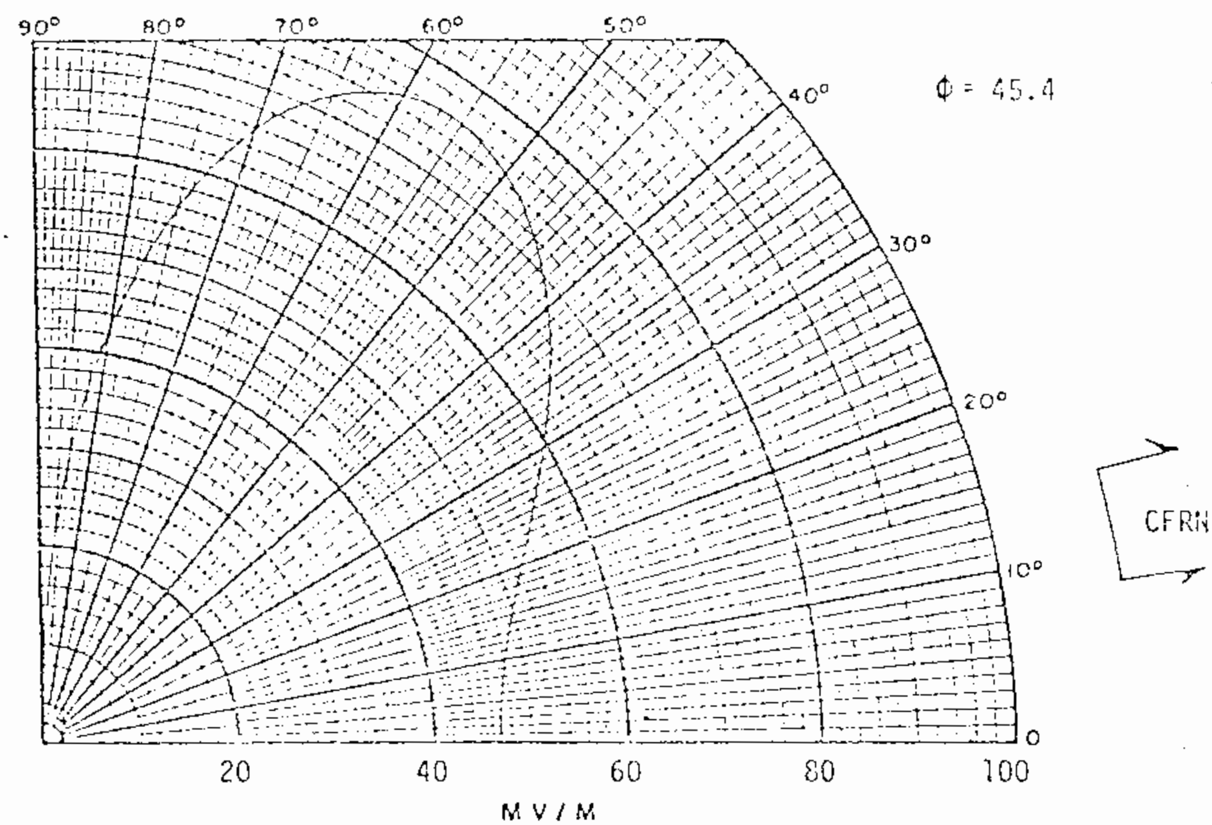
New Nanaimo, B.C.

1260 kHz, 10kW, DA-2, Class III

Project: 1447-01 April 1980

NEW-C 1260 kHz





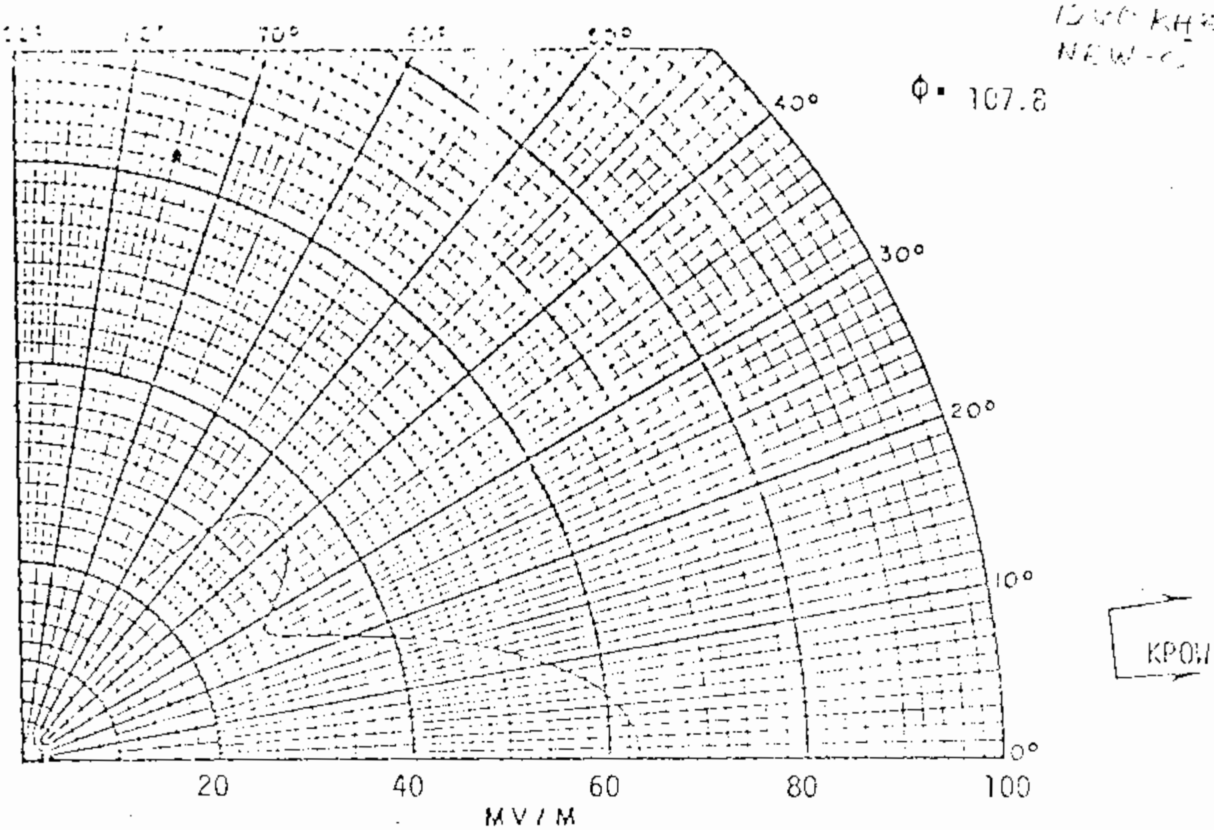
VERTICAL RADIATION PATTERNS

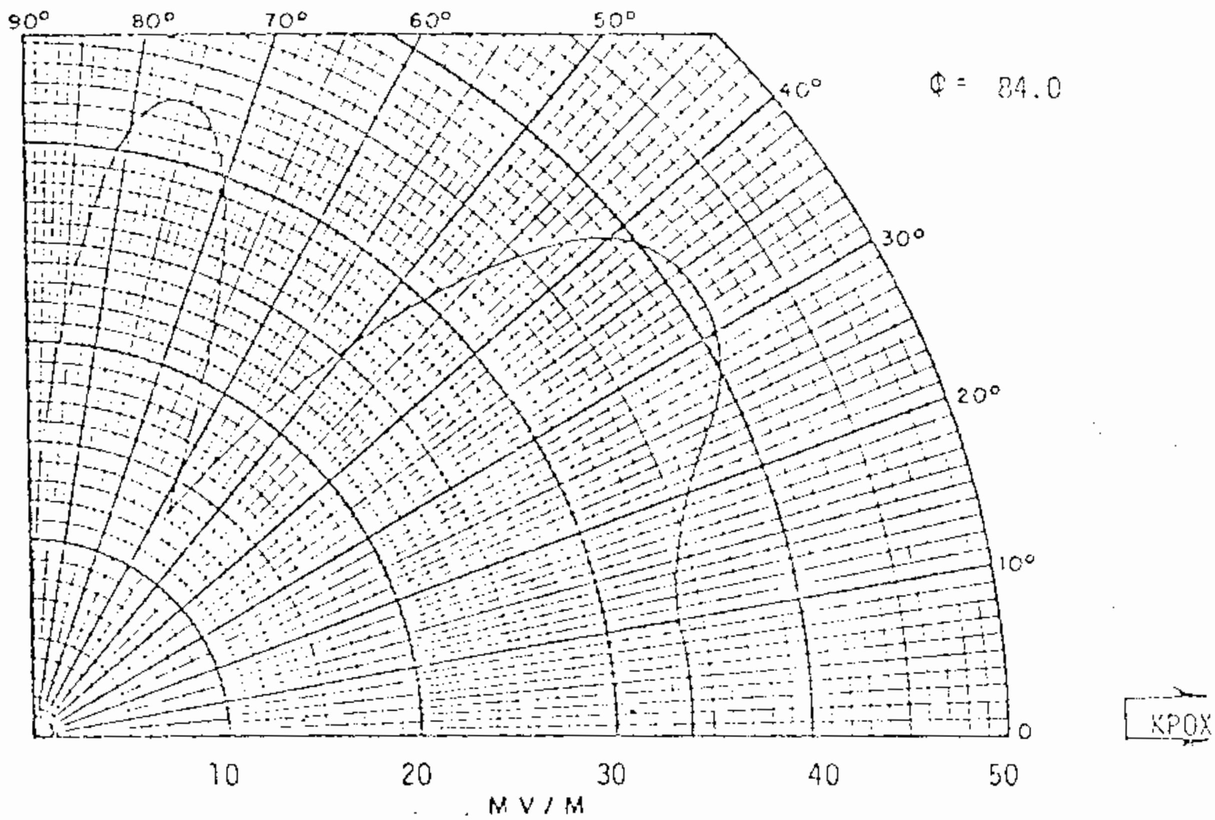
NEW — NANAIMO, B.C.

1260 kHz, 10kW, DA-2, Class III

PROJECT: 1447-01 — APRIL 1980

HOYLES NIBLOCK ASSOCIATES LTD. | CONSULTING ENGINEERS





VERTICAL RADIATION PATTERNS

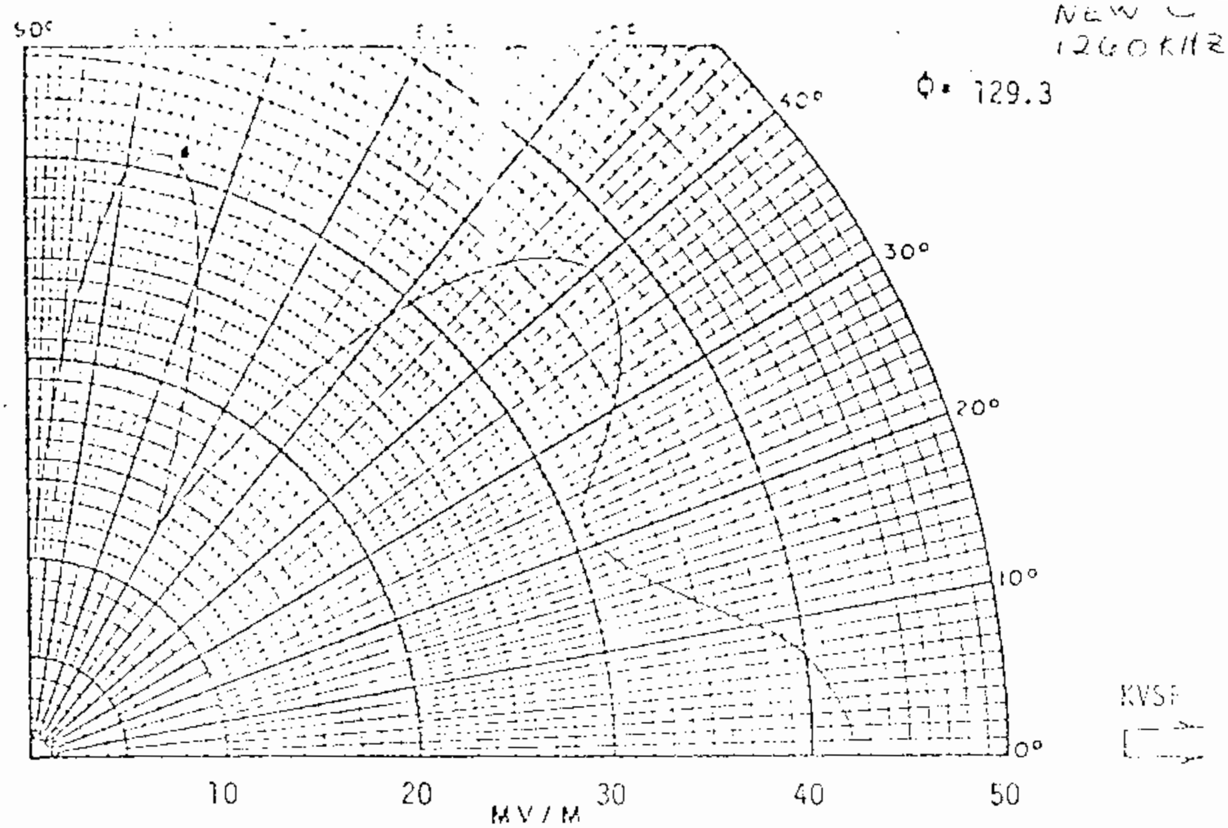
NEW NANAIMO, B.C.

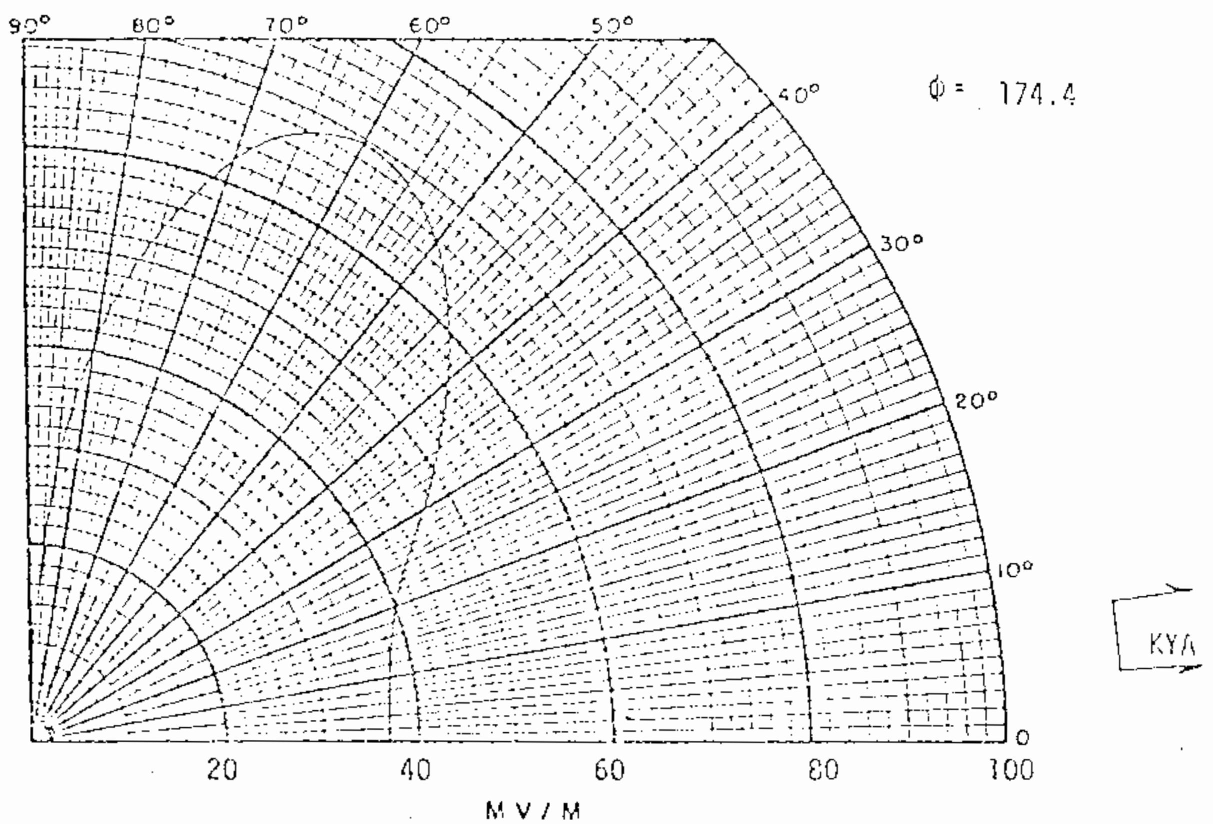
1260 kHz, 10kW, DA-2, Class III

PROJECT: 1447-01 APRIL 1980

HOYLES NIBLOCK ASSOCIATES LTD. CONSULTING ENGINEERS

NEW
1260 KHZ



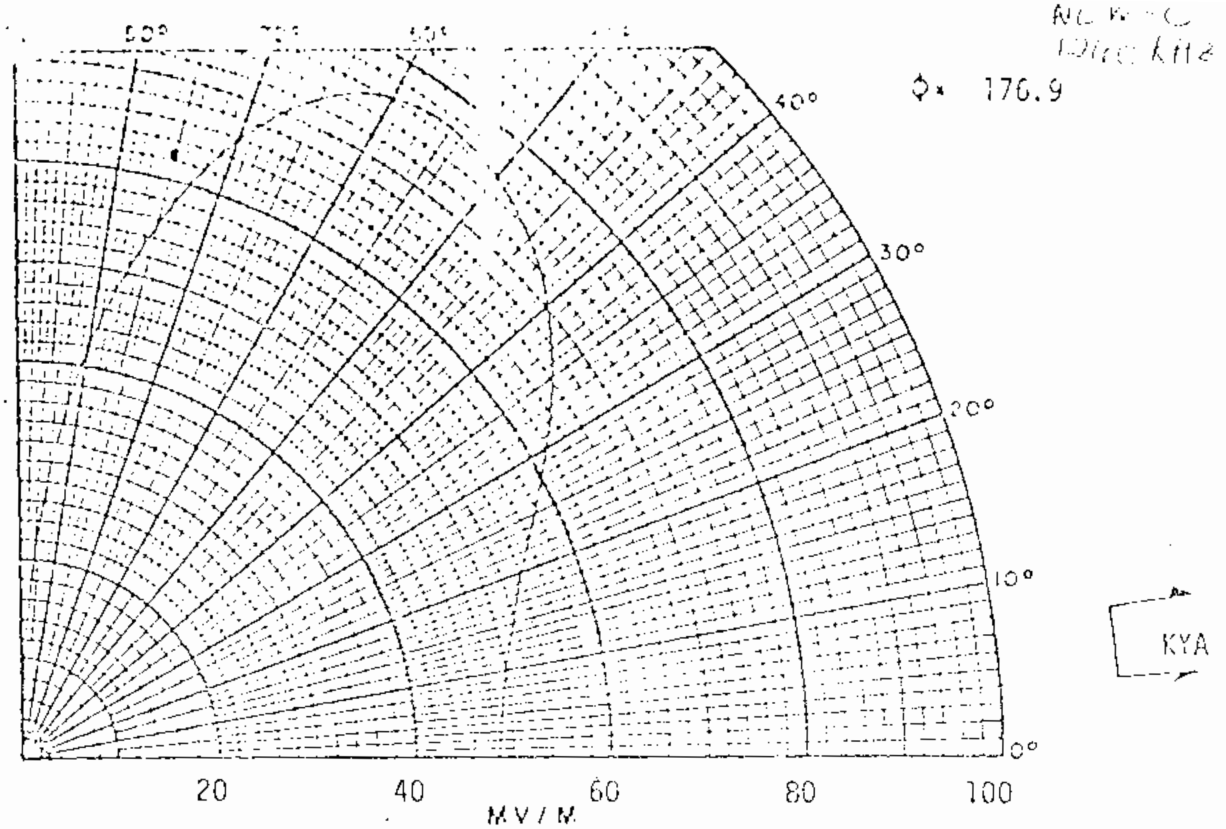


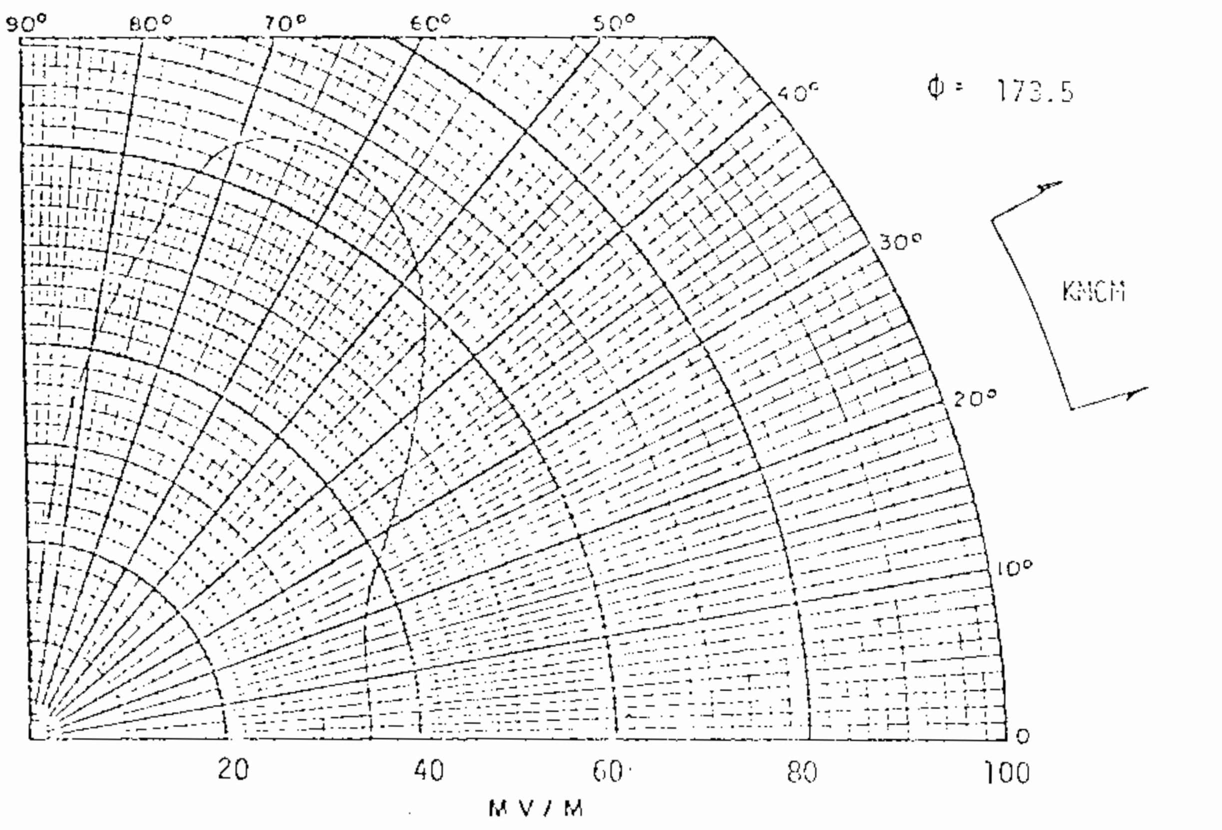
VERTICAL RADIATION PATTERNS

NEW NANAIMO, B.C.

1260 kHz, 10kW, DA-2, Class III

PROJECT: 1447-01 APRIL 1980





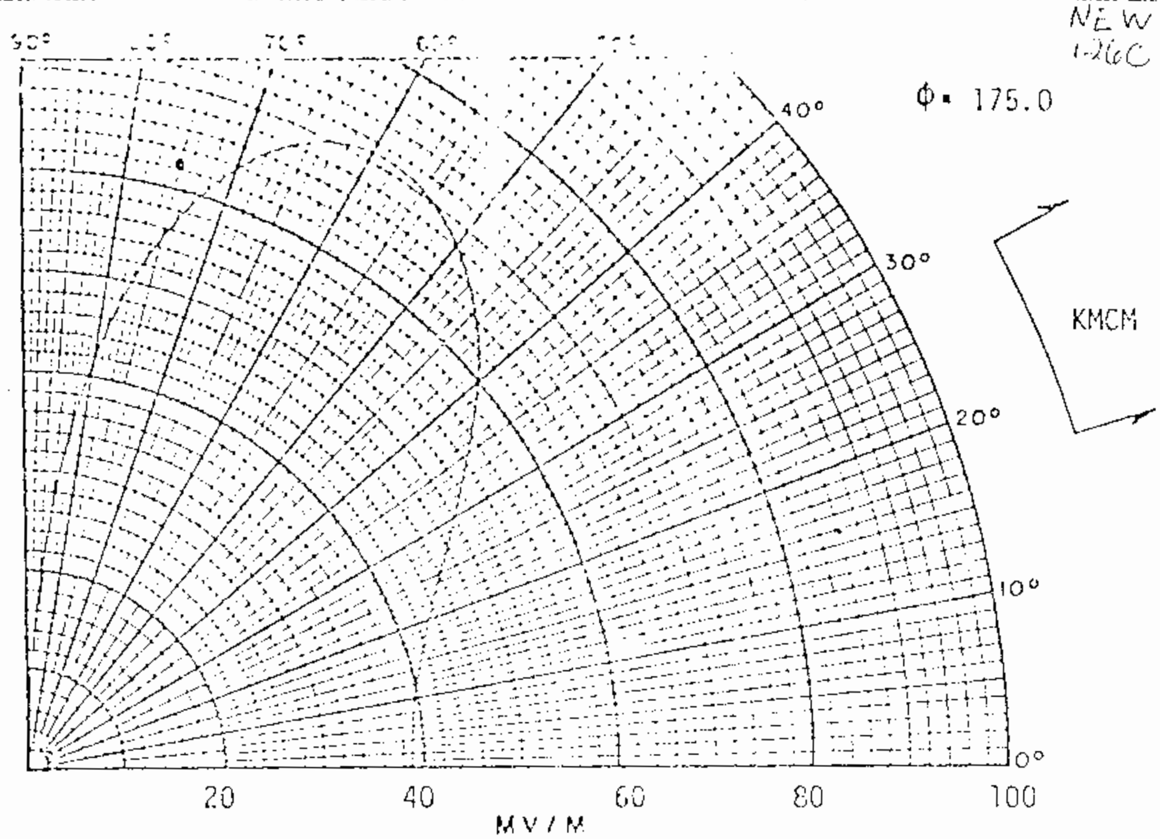
VERTICAL RADIATION PATTERNS

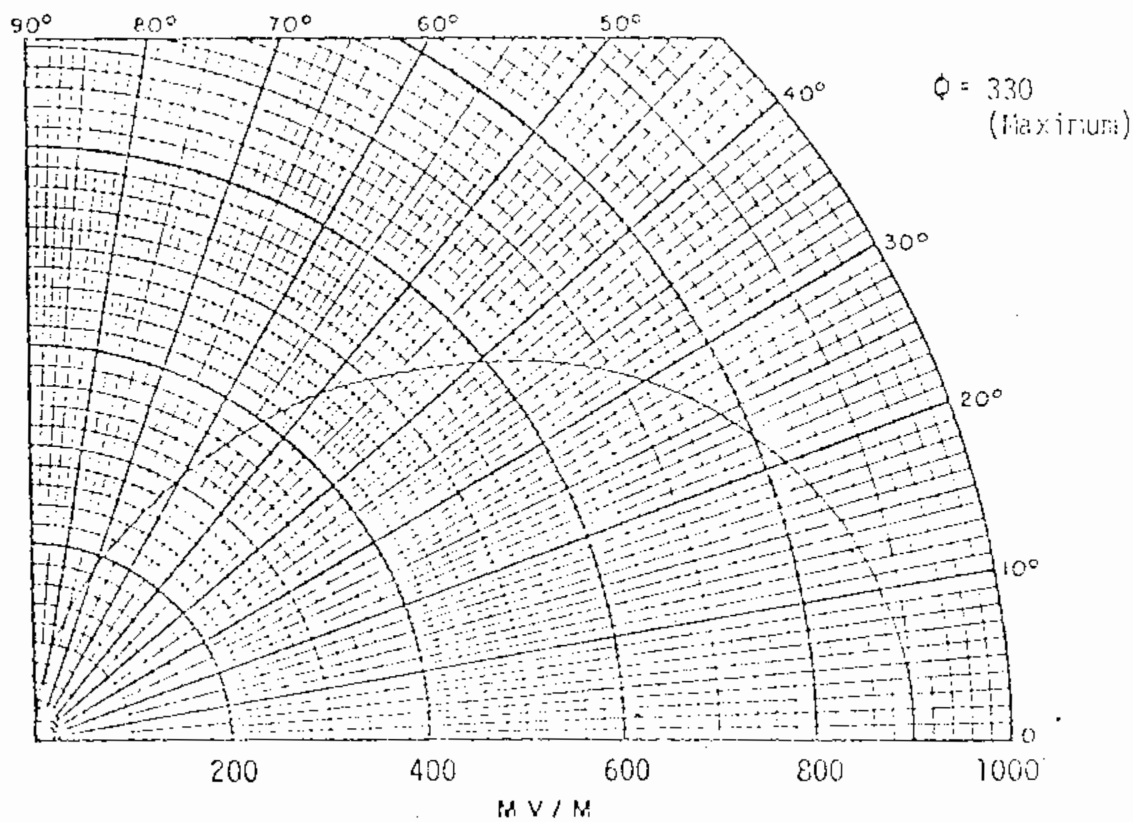
NEW NANAIMO, B.C.

1260 kHz, 10kW, DA-2, Class III

PROJECT: 1447-01 APRIL 1980

NEW - C
1260 KHz





VERTICAL RADIATION PATTERNS

NEW NANAIMO, B.C.

1260 kHz, 10kW, DA-2, Class III

PROJECT: 1447-01 APRIL 1980

NEW-C
1260KHz

SUPPLEMENTAL DIRECTIONAL

ANTENNA DESCRIPTION SHEET

Station: New

Frequency: 1260 kHz

Notification List No: 397

Location: Nanaimo, British Columbia

Power: 10 kW, Class III

Date: JUN JUIN 30 1980

Mode of operation:

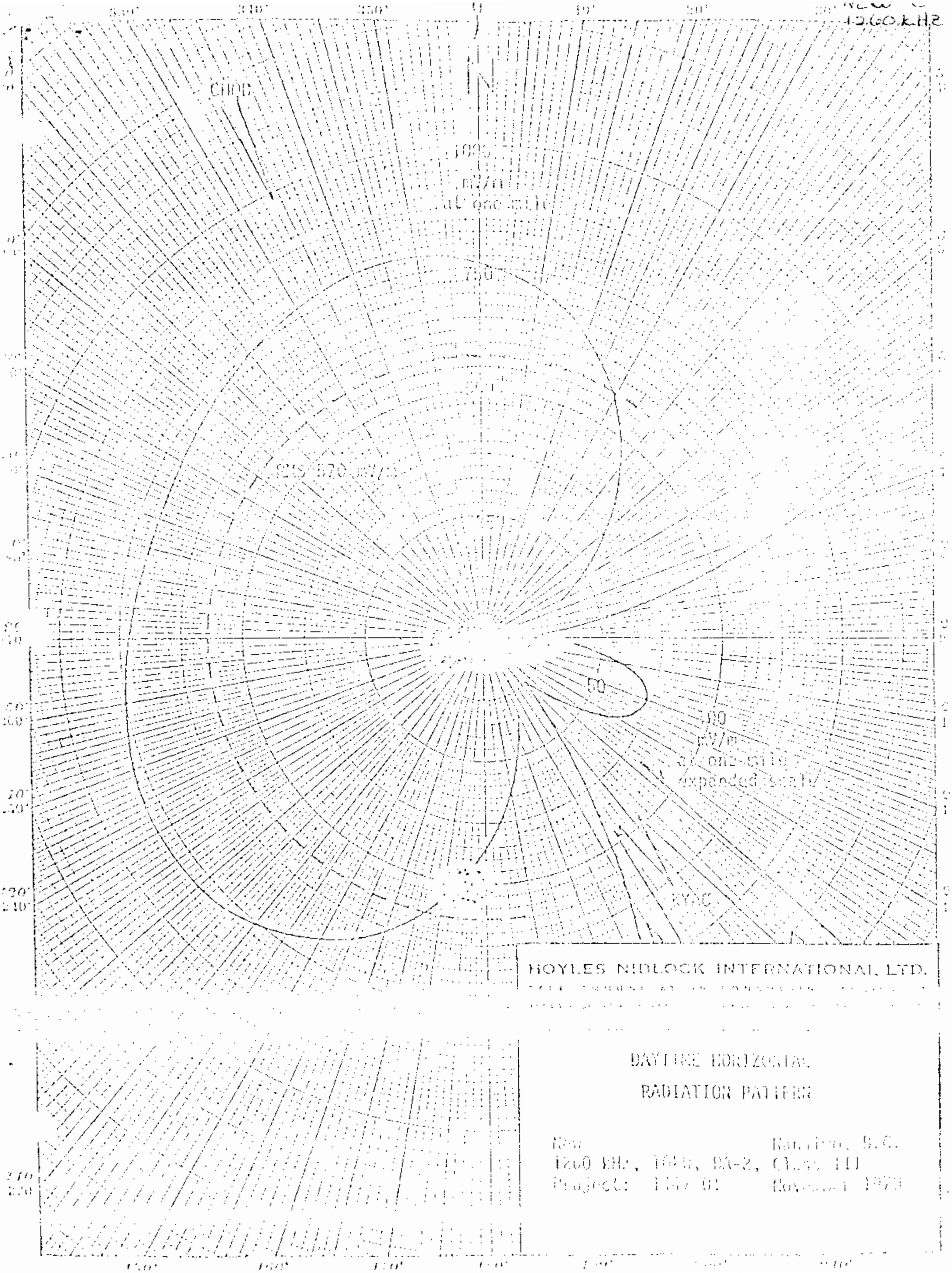
Geographical Location of
the Centre of the Antenna System:

North Latitude: 49° 09' 00"

West Longitude: 123° 48' 39"

NOTE: Please retain the description sheet and night-time directional antenna radiation patterns notified for this station in Canadian Change List Number 396 dated May 29, 1980 and attach the enclosed day-time directional antenna radiation pattern which was inadvertently omitted.

1260 kHz



HOYLES NIDLOCK INTERNATIONAL LTD.

DAYTIME HORIZONTAL

RADIATION PATTERN

[illegible] [illegible], S.C.
1260 kHz, [illegible], DA-2, Class III
Project: [illegible] [illegible] 197[illegible]

DESCRIPTION SHEET

Directional Antenna System

Station:	New AM	Main Studio:	Richmond, B.C.
Frequency:	1260 kHz	Power:	10 kW
Time:	Unlimited	Class:	III
Notification List No.:	378	Date:	November 24, 1978

Geographic Location - 49° 07' 30" N. Lat.
122° 55' 55" W. Long.

ANTENNA SYSTEM: Mode of Operation: DA-2

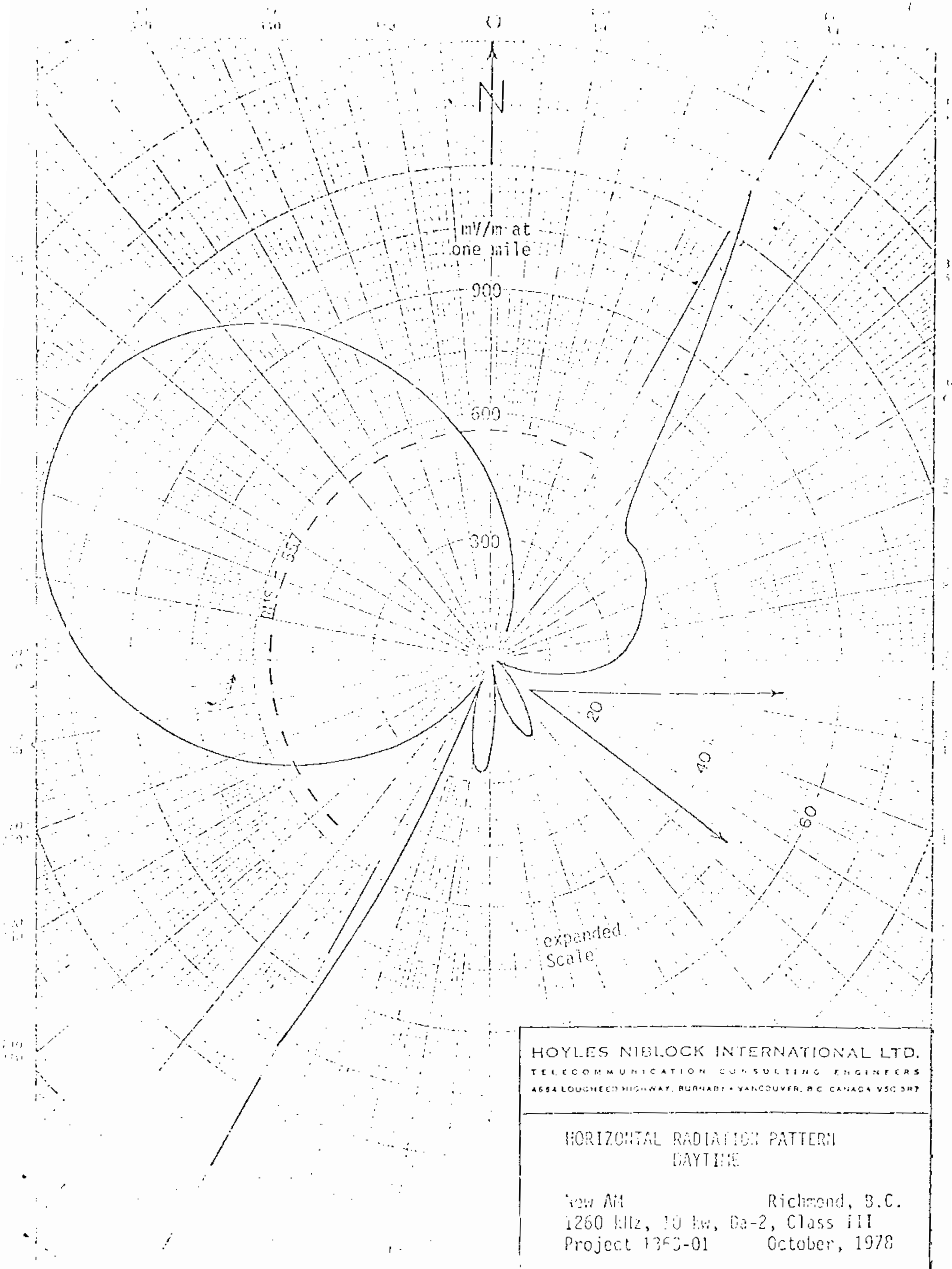
Height: The array consists of 6 towers, 141' (65° electrical) high above insulator with overall height of 146'. Towers are fitted for series feed.

TOWER PARAMETERS:

Tower	Bearings	Spacing	Day Ratio	Day Phase	Night Ratio	Night Phase
1	Ref	Ref	1.0	Ref	1.0	Ref
2	-88.1°	86.6°	1.99	-105.0	1.99	-119.1°
3	270.0°	180.0°	1.0	153.5°	1.0	137.4°
4	-55.1°	209.3°	1.0	89.9°	0.98	73.8°
5	-32.5	145.4°	1.99	-168.6	1.95	-182.7°
6	4.0	120.0°	1.0	-63.6°	0.98	-63.5°

GROUND SYSTEM: The ground system shall consist of 120-0.4λ copper conductors about each base shortened as necessary between towers.

PREDICTED EFFICIENCY: Day & Night - 557 mV/m unattenuated at 1 mile for 10 kW.



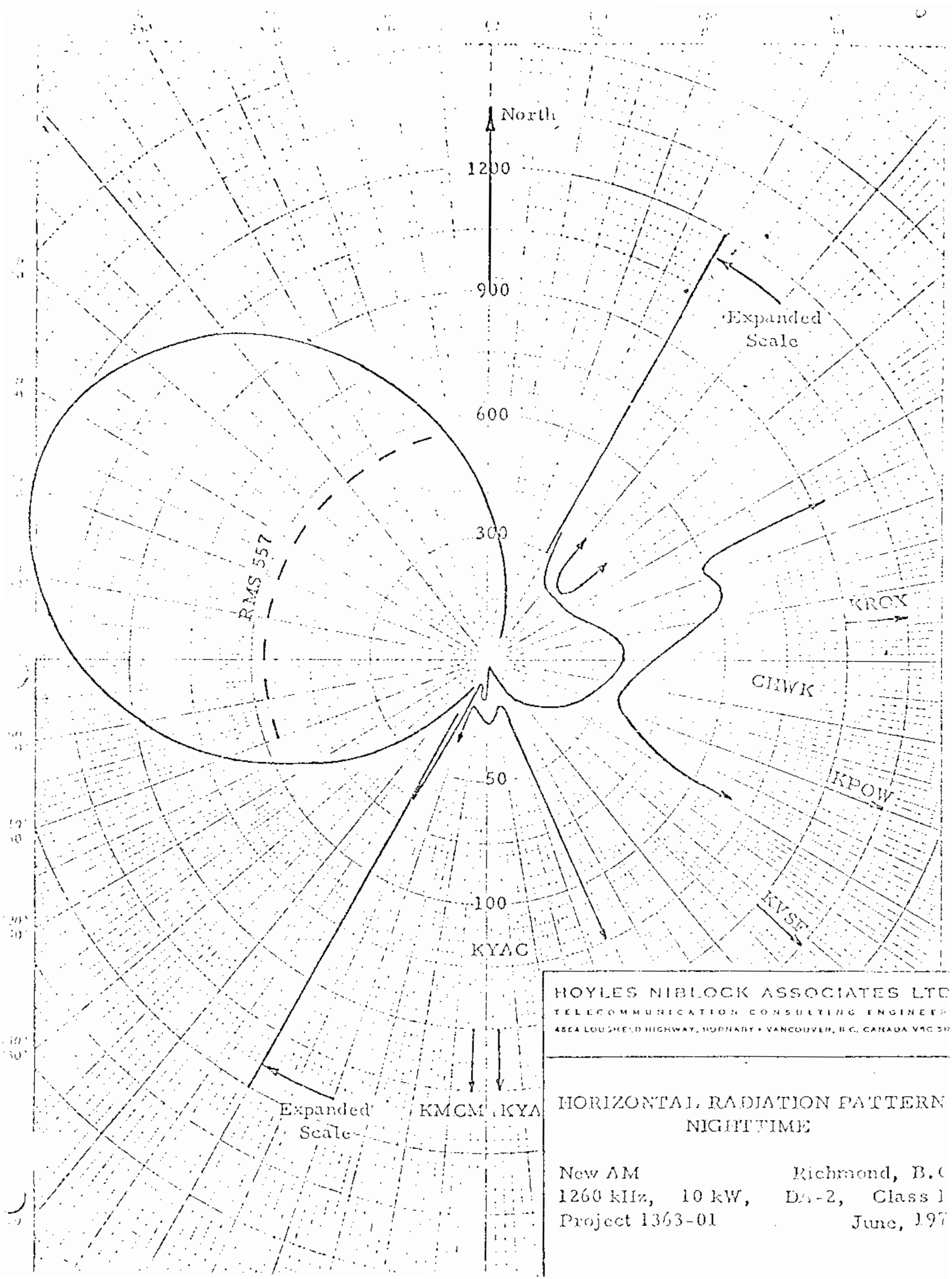
HOYLES NIBLOCK INTERNATIONAL LTD.

TELECOMMUNICATION CONSULTING ENGINEERS

4654 LOUGHEED HIGHWAY, BURNABY • VANCOUVER, B.C. CANADA V5C 5R7

HORIZONTAL RADIATION PATTERN
DAYTIME

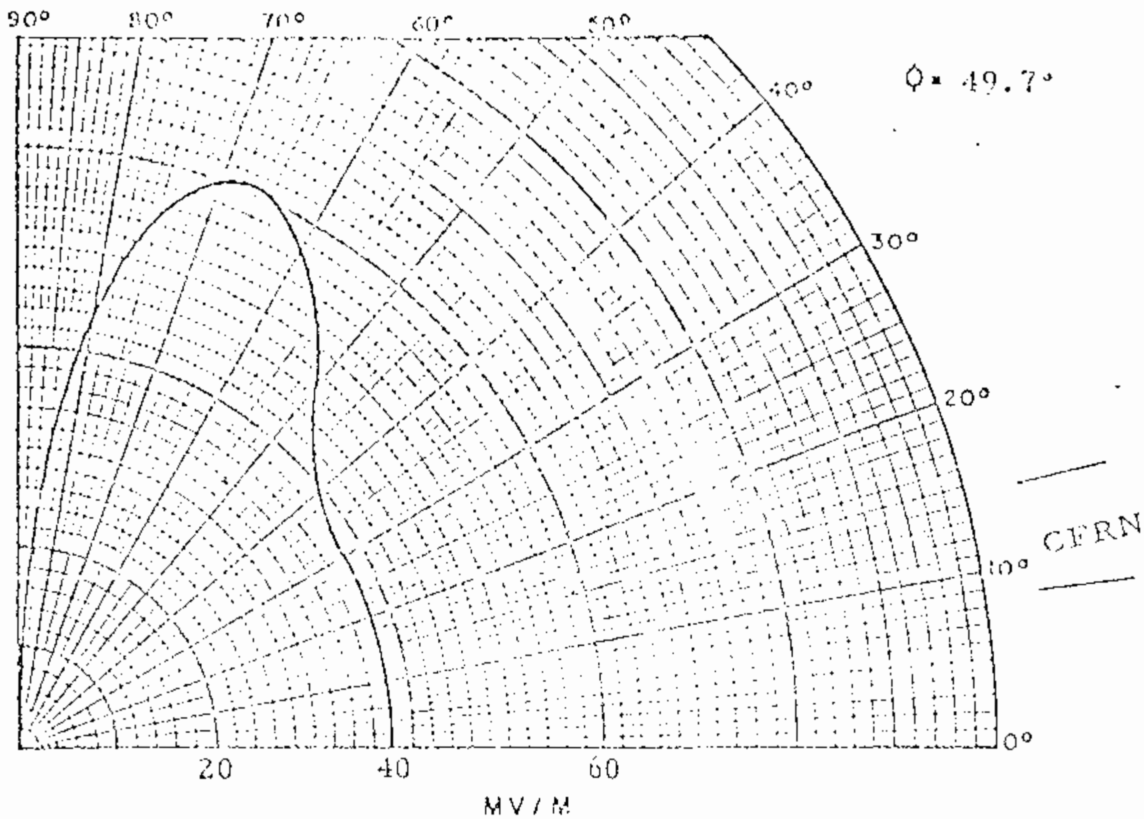
New AM Richmond, B.C.
1260 kHz, 10 kw, Da-2, Class III
Project 1360-01 October, 1978

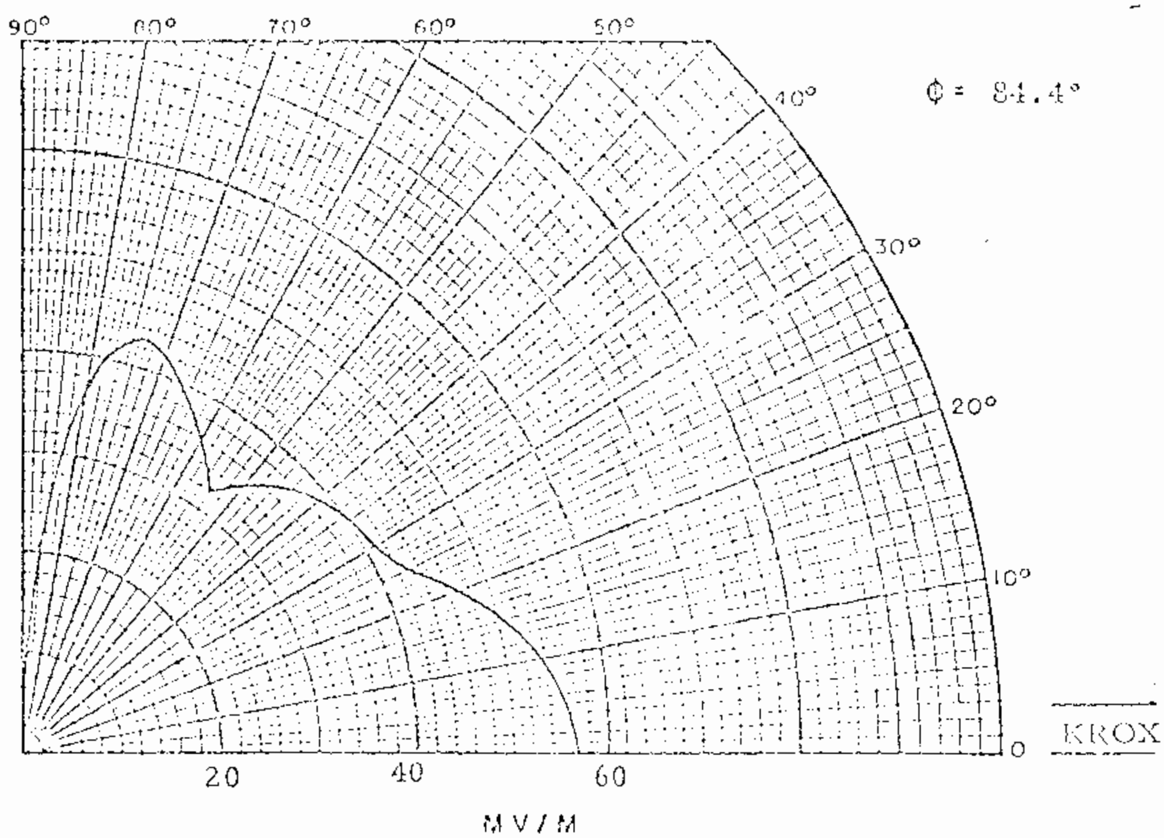


HOYLES NIBLOCK ASSOCIATES LTD
TELECOMMUNICATION CONSULTING ENGINEERS
4664 LOUGHEED HIGHWAY, BURNABY • VANCOUVER, B.C. CANADA

HORIZONTAL RADIATION PATTERN
NIGHTTIME

New AM Richmond, B.C.
1260 kHz, 10 kW, DA-2, Class I
Project 1363-01 June, 197

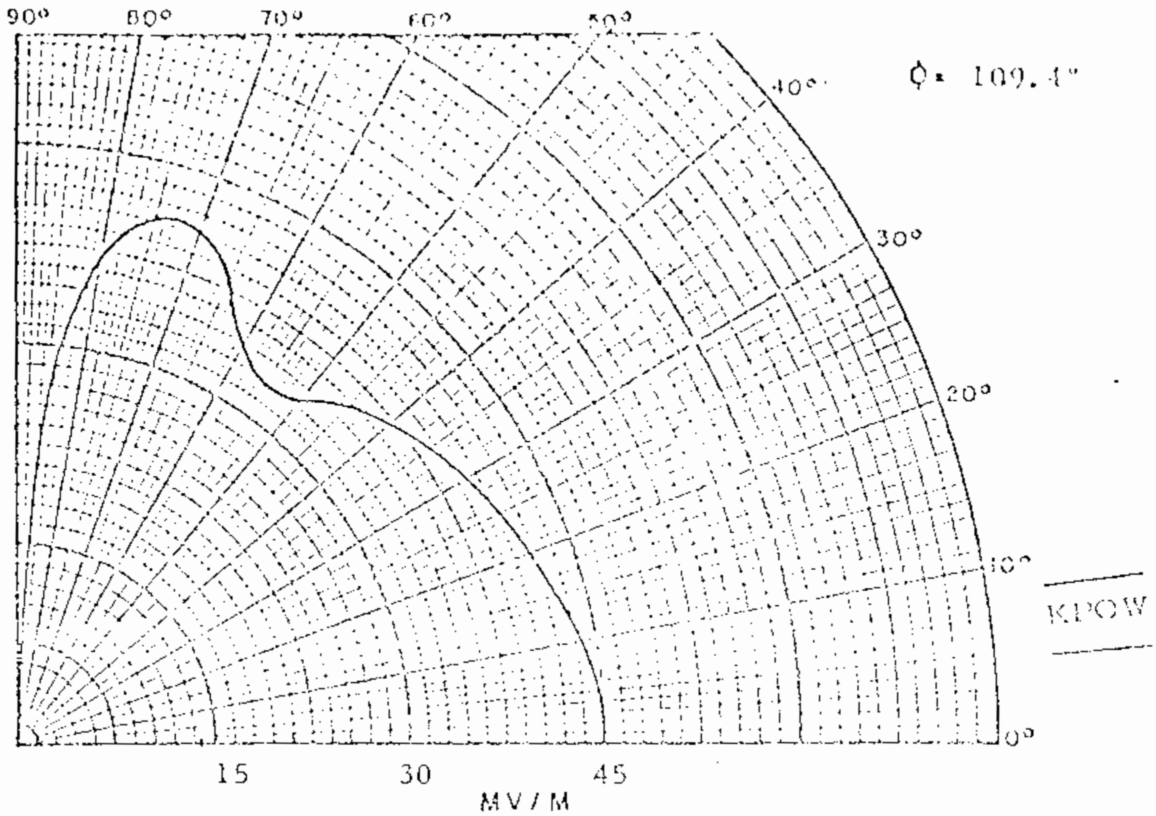


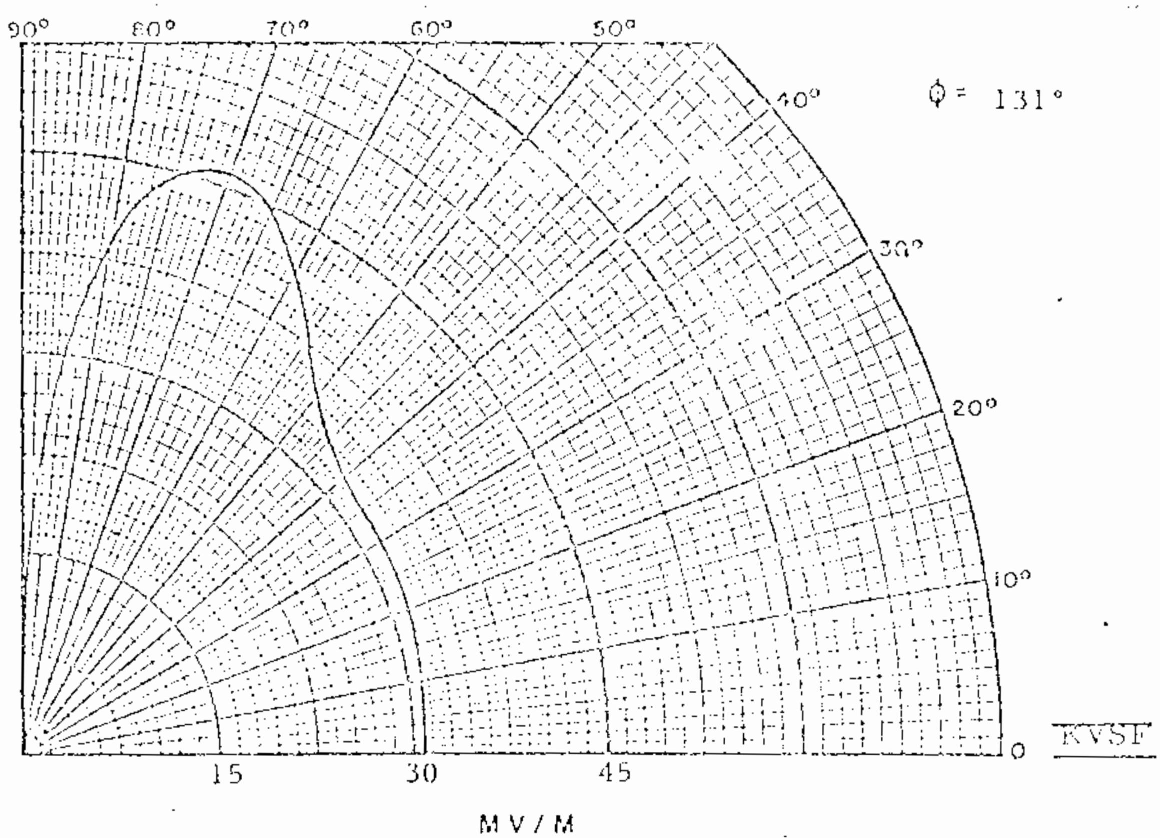


VERTICAL RADIATION PATTERNS

New AM 1260 kHz 10 kW DA-2 Class III

Project 1363-01 June, 1977

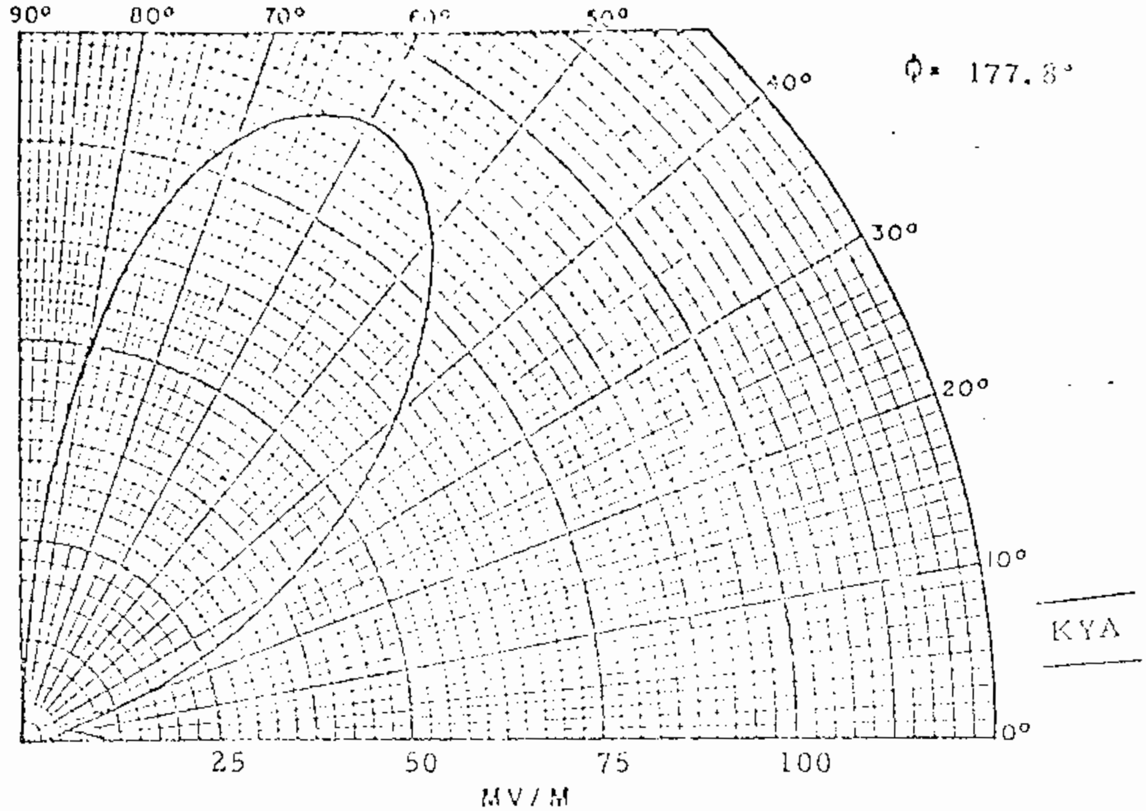


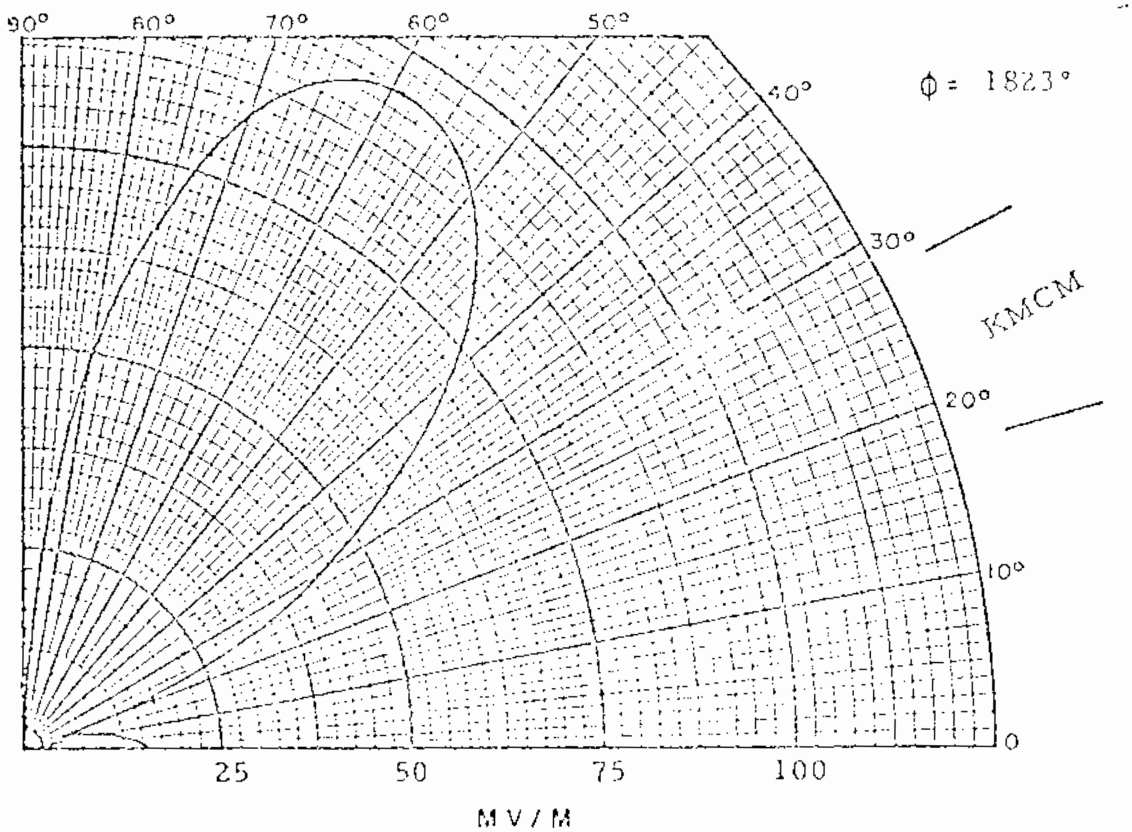


VERTICAL RADIATION PATTERNS

New AM   1260 kHz   10 kW   DA-2   Class III

Project 1363-01   June, 1977

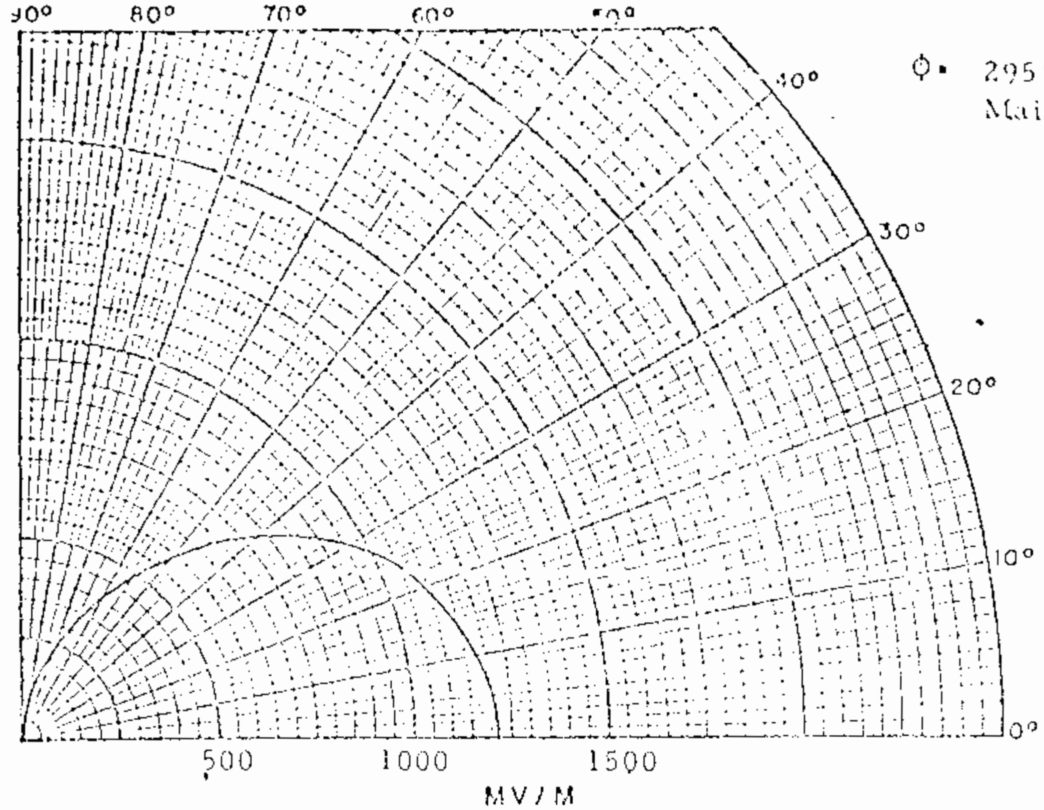


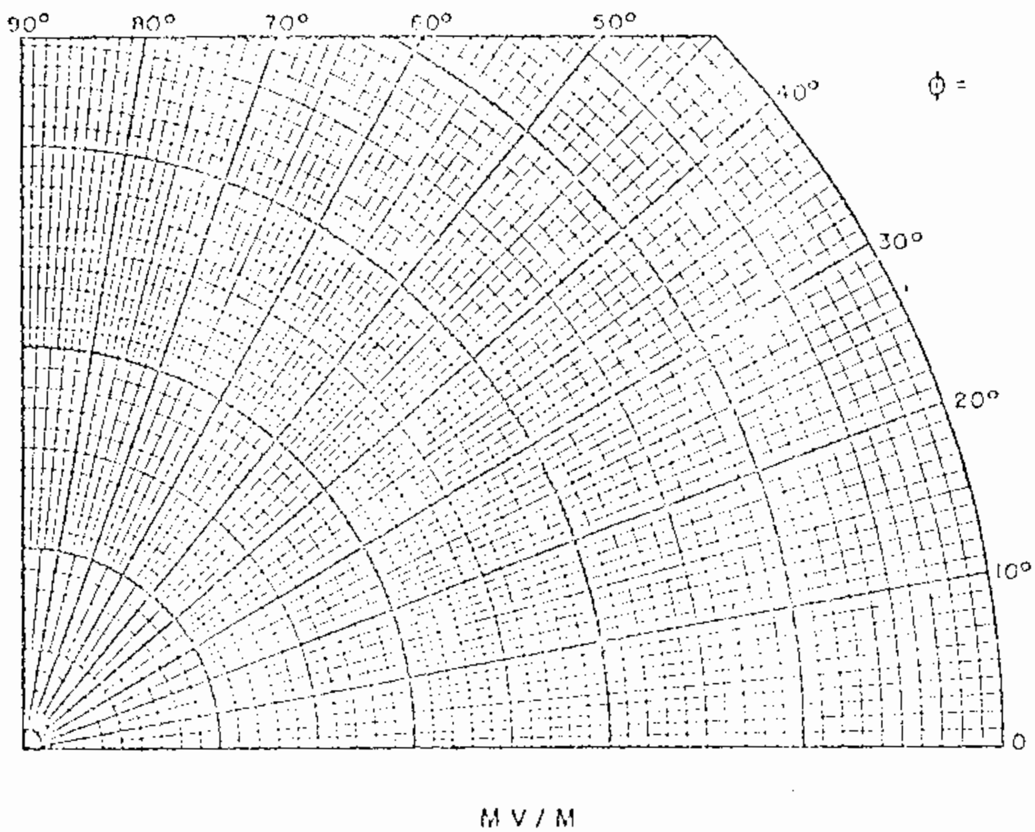


VERTICAL RADIATION PATTERNS

New AM 1260 kHz 10 kW DA-2 Class III

Project 1363-01 June, 1977





VERTICAL RADIATION PATTERNS

New AM   1260 kHz   10 kW   DA-2   Class III

Project 1363-01   June, 1977

CFRN

DESCRIPTION SHEET
(5-27-60g)

Station CFRN 50kw, DA-N,U, Class III
Edmonton, Alberta, Canada 1260 KC

ANTENNA DESCRIPTION SHEET

DIRECTIONAL DA-N

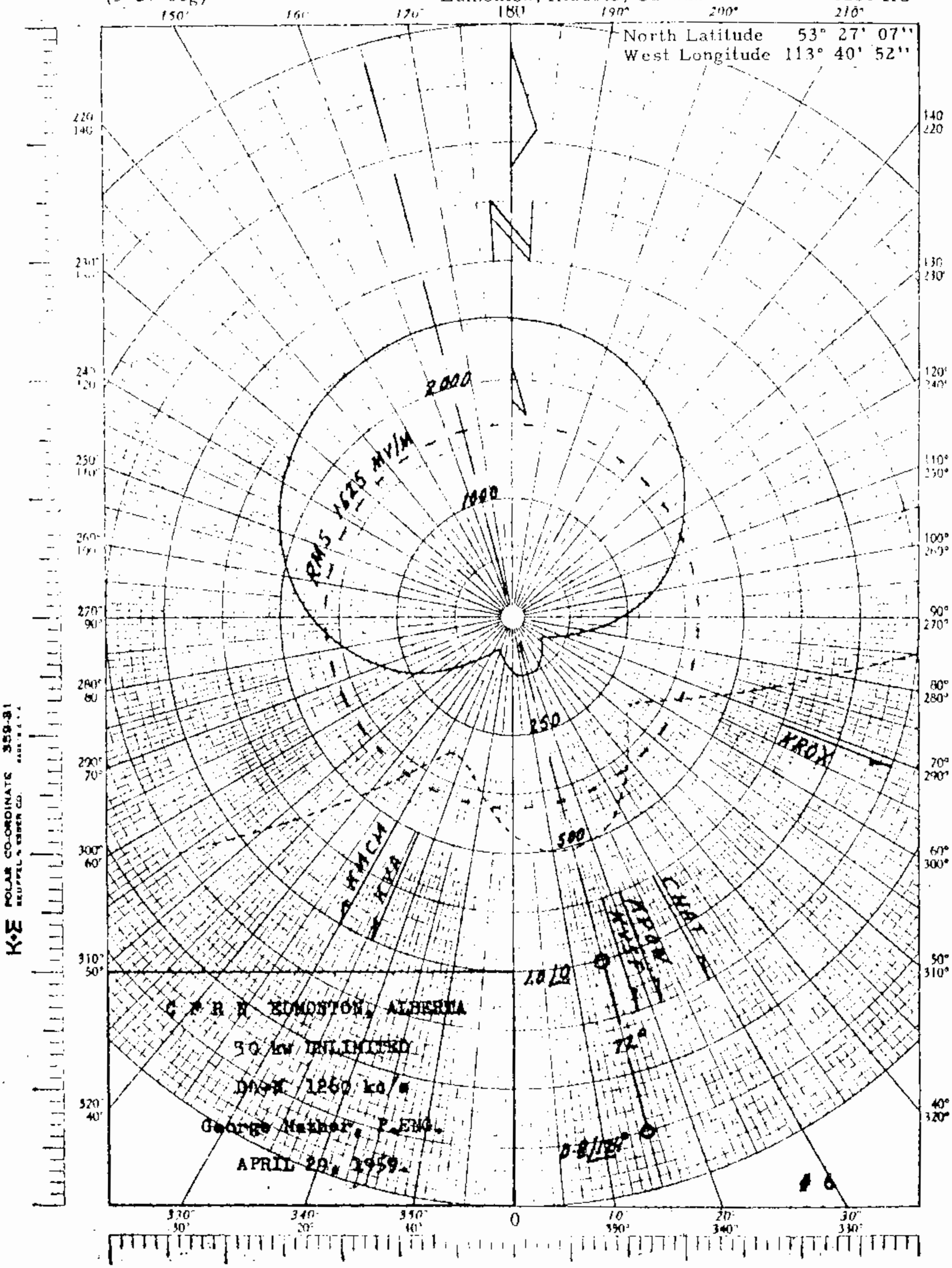
STATION CALL	C F R N	
MAIN STUDIO	Edmonton, Alberta.	
FREQUENCY	1260 kc/s	
POWER	50,000 watts	
CLASS	III	
TIME	Unlimited	
NOTIFICATION REFERENCE	No. 145...	Date April 8, 1960
GEOGRAPHICAL LOCATION	N. Lat. 53° 27' 07" W. Lon. 113° 40' 52"	
ANTENNA CHARACTERISTICS	Two elements, guyed, uniform cross section, base insulated, series feed.	
ELEMENT	NORTH	SOUTH
Height	472' 217°	196' 90°
Spacing	ref.	156.5' 72°
Bearing	ref.	165°
Field ratio	1.0	0.8
Field phase	00°	124°
Ground system	120 radials per tower, #10 AWG bare, soft copper wire, uniformly spaced, depth approximately 8 inches. Radials joined along line between towers and bonded to soft copper strap at tower bases. Maximum radial length 313 feet.	
Predicted R.M.S.	1840 mv/m at 1 mile for 50 kw (OMNI) 1625 mv/m at 1 mile for 50 kw (DA-N)	

GM 29/4/59 # 5

CFRN

PROPOSED NIGHT
(5-27-60g)

Station CFRN 50kw, DA-N,U, Class III
Edmonton, Alberta, Canada 1260 KC



CIHI - FREDERICTON, N.B.

Directional Antenna Description Sheet

Station: CIHI Main Studio: Fredericton, N.B.

Frequency: 1260 kHz Power: 10 kW Day and Night

Time: Unlimited Class: III

Notification List No: 363 Date: May 10, 1977

Geographical Location: Latitude 46° 01' 14" North
Longitude 66° 42' 02" West

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

Mode of Operation: DA-N /ND-D

Tower	No. 1(SW)	No. 2(C)	No. 3 (NE)
Height above insulators	195.2' (90°)	195.2'(90°)	195.2'(90°)
Overall Height	200.2'	200.2'	200.2'
Spacing	REF.	165°	330°
Orientation	REF.	52.5°	52.5°
Day Field Ratio	1.0	-	-
Day Phase	0°	-	-
Night Field Ratio	1.0	1.936	1.0
Night Phase	0°	-30°	-63°

Ground System: 120 radials, equiangularly spaced around each mast, 315 feet long (0.4 wavelength). The radials will be #10 AWG bare, soft-drawn copper wire, buried 8 inches below ground level, and joined at the common chords.

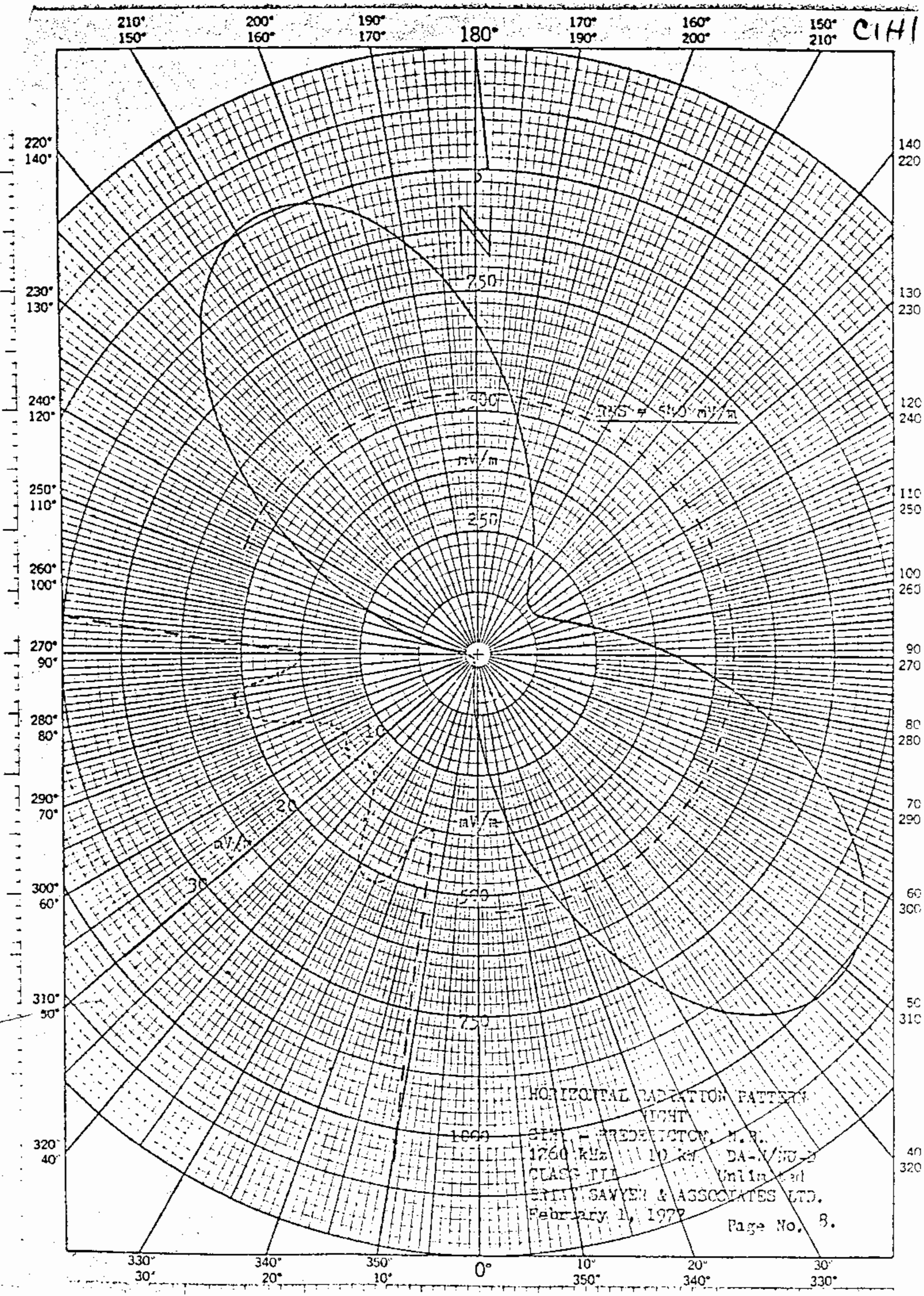
Predicted Effective Field

Day - 600.8 mV/m at 1 mile for 10 kW

190 mV/m at 1 mile for 1 kW

Night - 540 mV/m at 1 mile for 10 kW

170.8 mV/m at 1 mile for 1 kW



C1H1
180°
0°
RMS = 540 mV/m
mV/m
250
500
750
1000
HORIZONTAL RADIATION PATTERN
1760 kHz 10 kW
CLASS
SAWYER & ASSOCIATES LTD.
February 1, 1977
Page No. 8.

CIHI

CIHI - FREDERICTON, N.B.
DIRECTIONAL ANTENNA DESCRIPTION SHEET
Revised August 12, 1977.

Station:	CIHI	Main Studio:	Fredericton, N.B.
Frequency:	1260 kHz	Power:	10 kW Day & Nig.
Time:	Unlimited	Class:	111
Notification List No.	366	Date:	August 26, 1977

Geographical Location: Latitude 45° 59' 52" N
Longitude 66° 41' 39" W

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

Mode of Operation: DA-N/ND-D

Tower	No.1 (SW)	No.2 (C)	No. 3 (NE)
Height above insulators	195.2' (90°)	195.2' (90°)	195.2' (90°)
Overall Height	200.2'	202.2'	200.2'
Spacing	165°	REF	165°
Orientation	232.5°	REF	52.5°
Day Field Ratio	-	1.0	-
Day Phase	-	0°	-
Night Field Ratio	0.516	1.0°	0.516
Night Phase	+30°	0°	-33°

Ground System: 120 radials, equiangularly spaced around each mast, 315 feet long (0.4wavelength). The radials will be #10 AWG bare, soft drawn copper wire, buried 8 inches below ground level, and joined at the common chords.

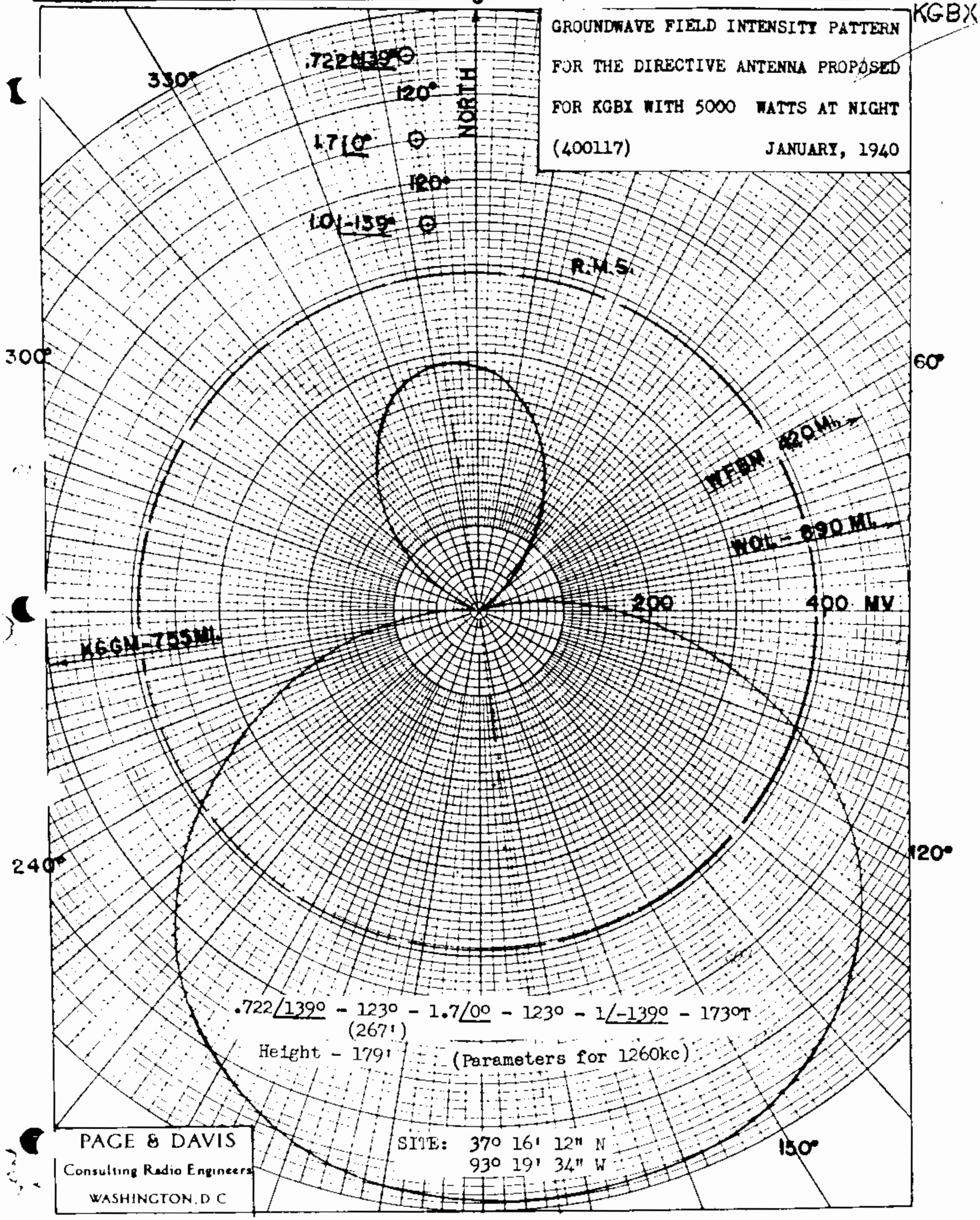
Predicted Effective Field

Day
600.8 mV/m at 1 mile for 10 kW
190 mV/m at 1 mile for 1 kW

Night
540 mV/m at 1 mile for 10 kW
170.8 mV/m at 1 mile for 1 kW

Note: Please retain the directional antenna radiation pattern notified for CIHI in Canadian Change List Number 363 dated May 10, 1977. This notification is for the purpose of notifying a correction in the geographical co-ordinates and a change of reference tower from # 1 to # 2 which does not affect the radiation pattern.

PROPOSED NIGHT | Station KGBX Springfield, Missouri | 5kw, DA-N,U 1260 KC



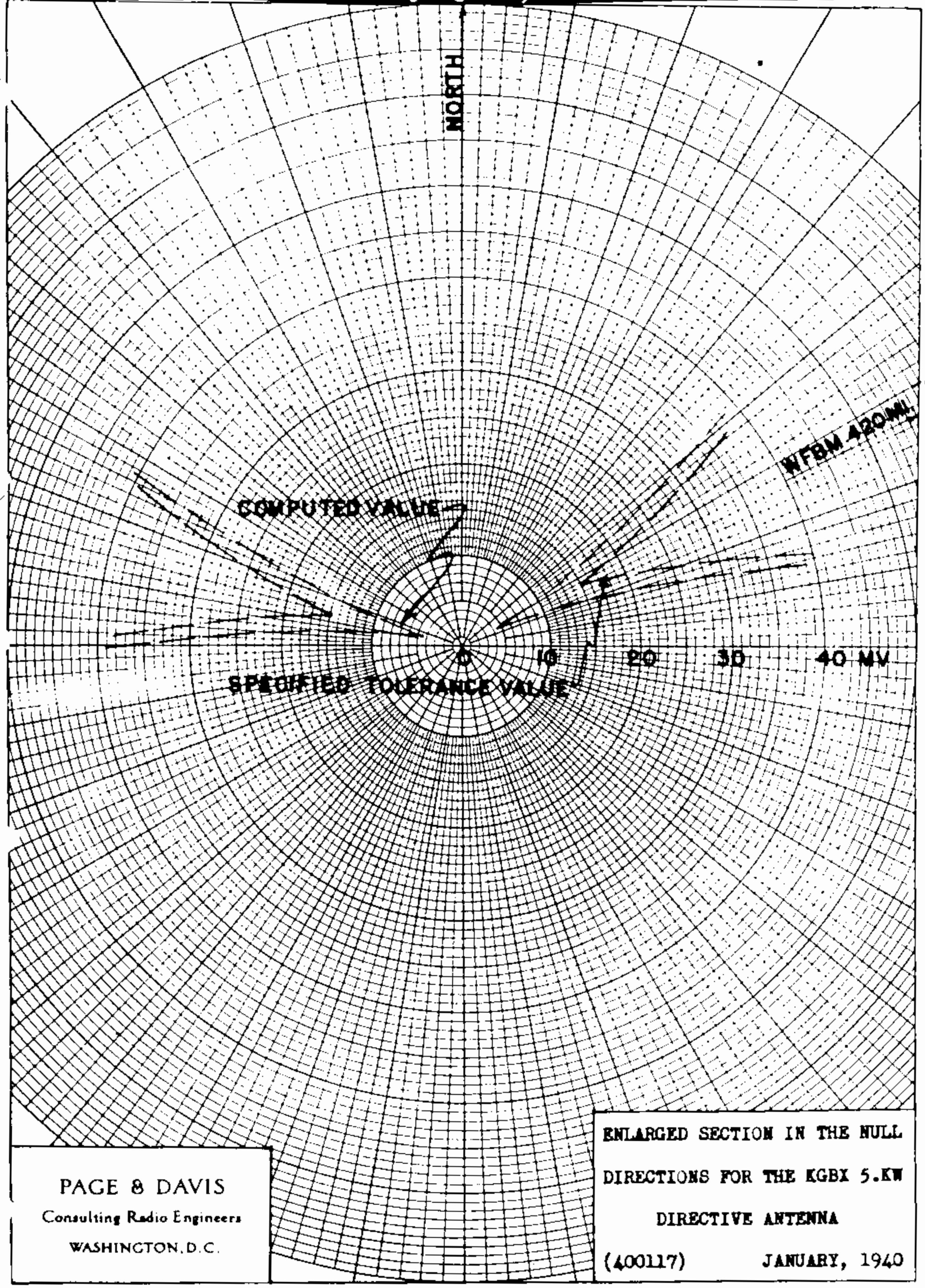
KGB , Springfield, Mo. 1260 k

63

KGBX

PROPOSED NIGHT NULLS　Station KGBX　5kw, DA-N,U
Springfield, Missouri　1260 KC

1260 kc



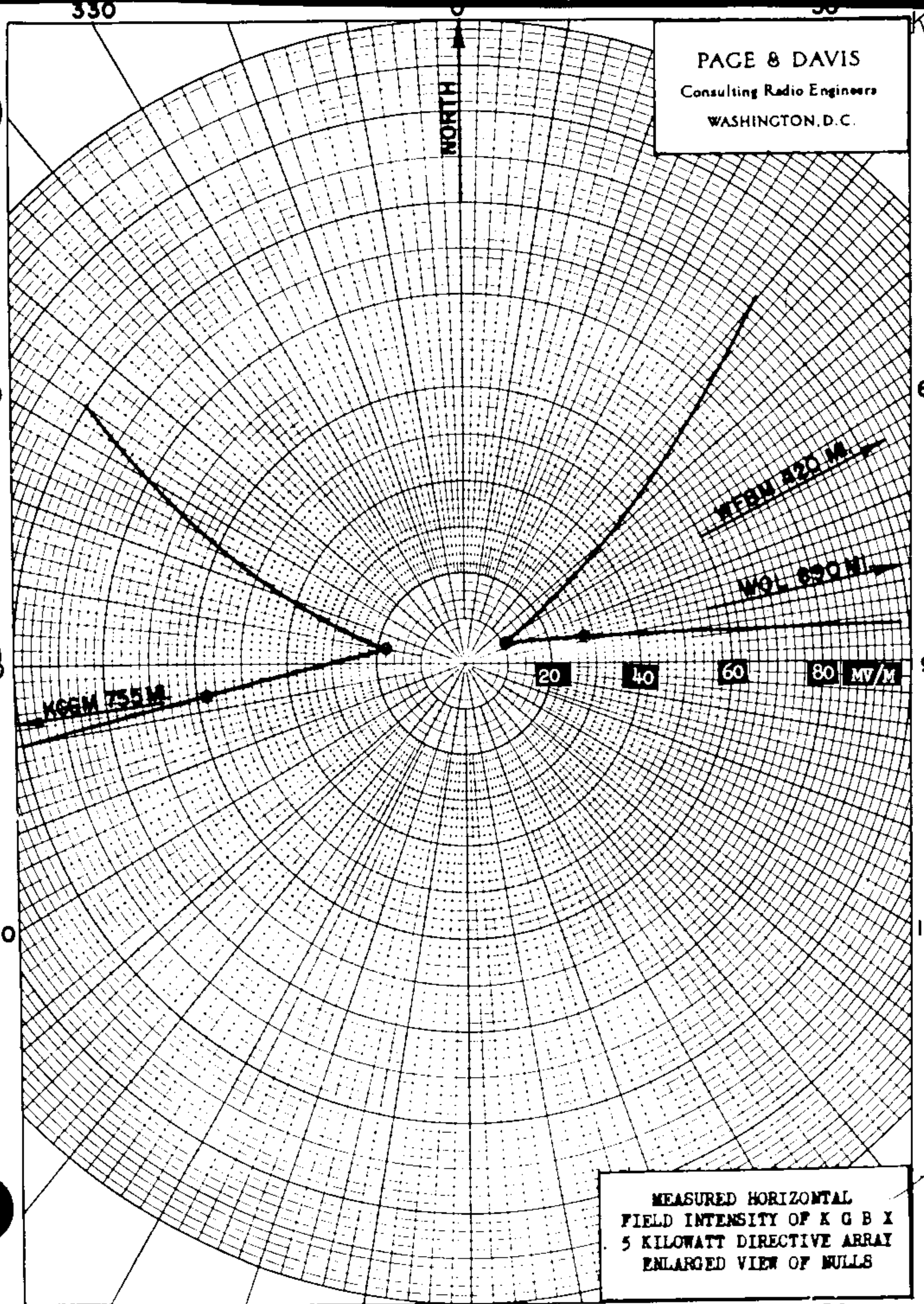
PAGE & DAVIS
Consulting Radio Engineers
WASHINGTON, D.C.

ENLARGED SECTION IN THE NULL DIRECTIONS FOR THE KGBX 5.KW DIRECTIVE ANTENNA

(400117)　JANUARY, 1940

MEASURED NIGHT NULLS Station KGBX 5kw, DA-N,U
Springfield, Missouri 1260 KC

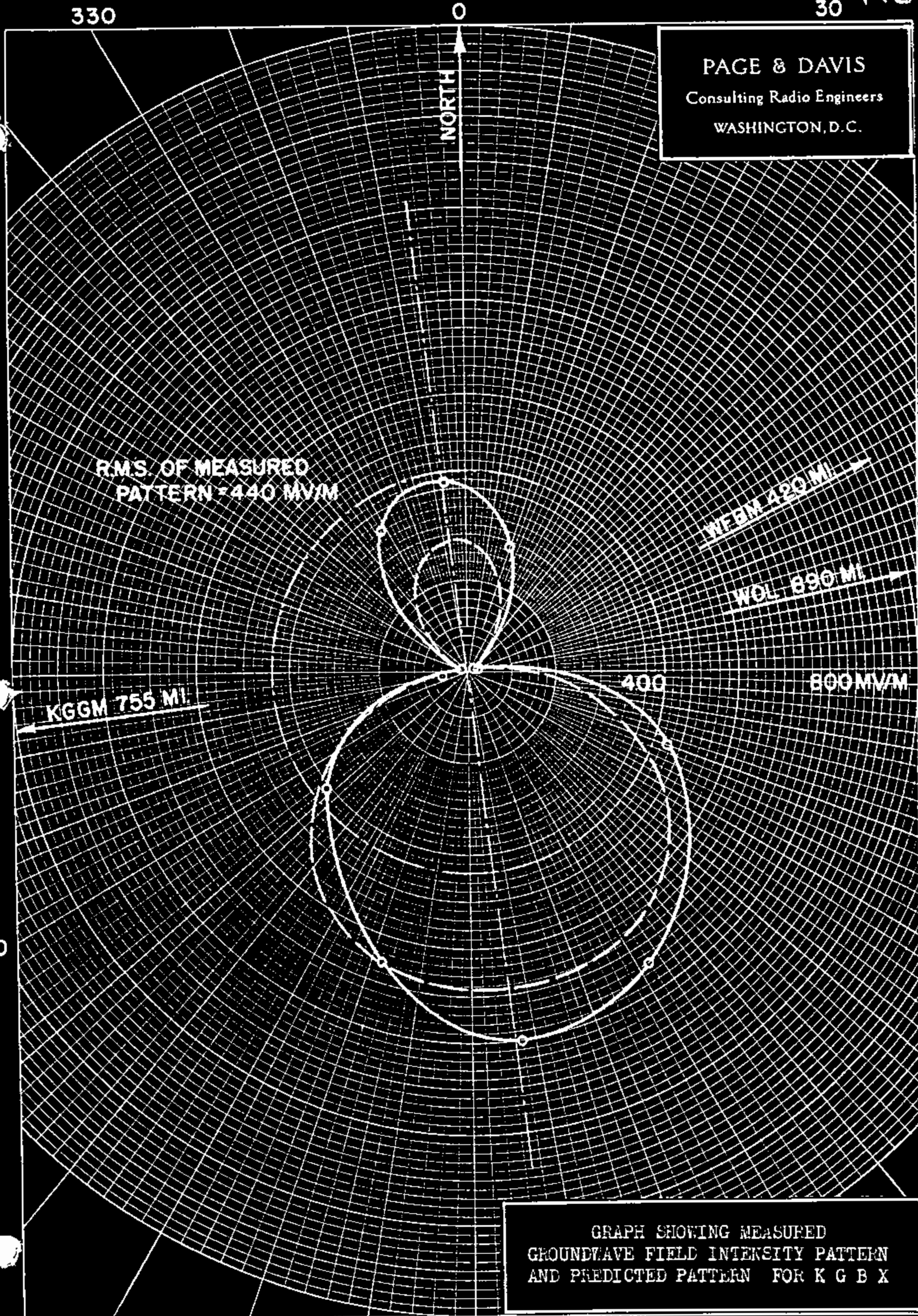
KGB)



10

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

KGBX
1260



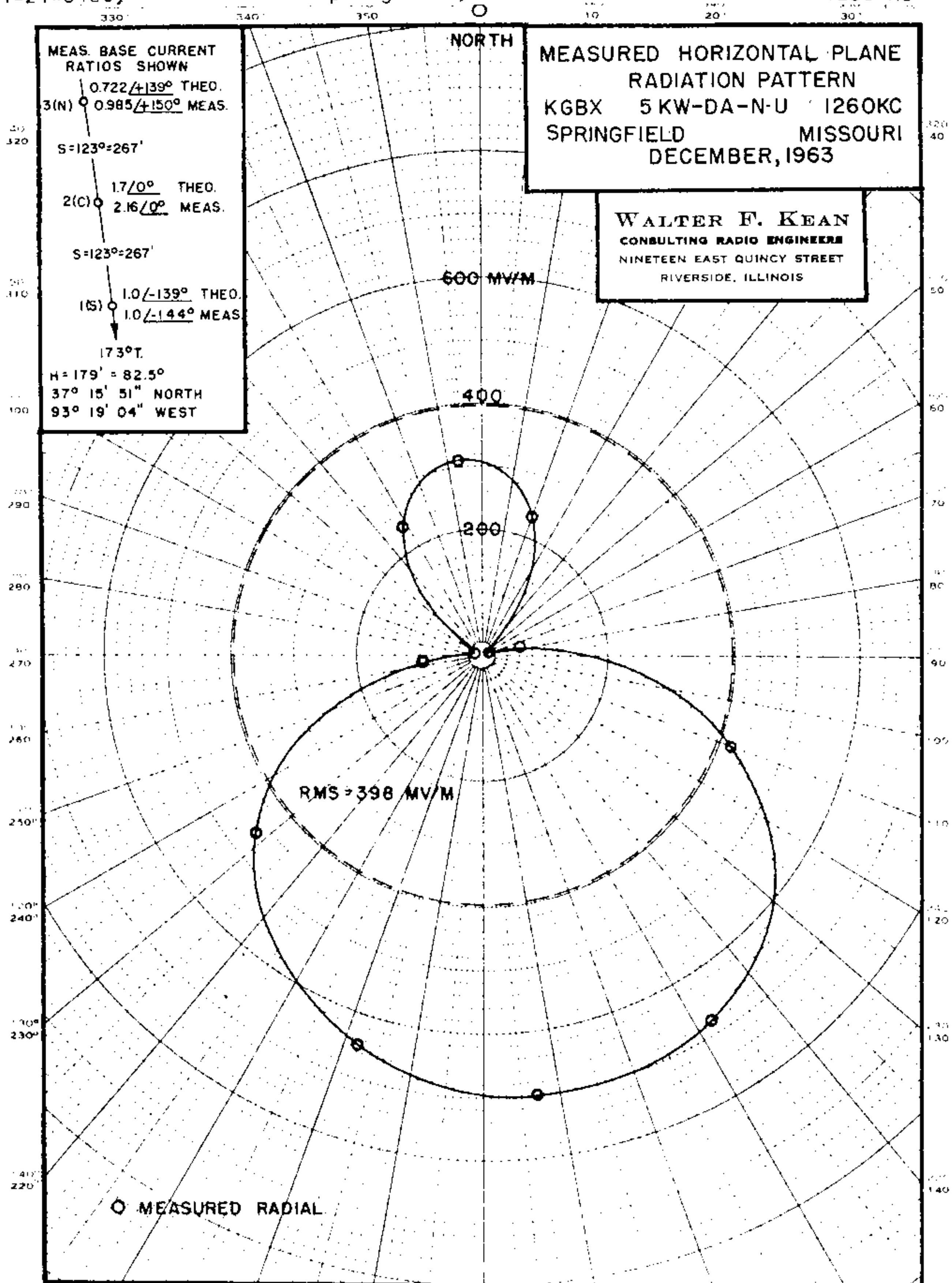
KEUFFEL & ESSER CO., N. Y. NO. 343A
POLAR CO-ORDINATE
MADE IN U. S. A.

KGBX

Measured Night
(4-24-64ct)

Station KGBX
Springfield, Missouri

5kw,DA-N,U
1260 kc



FCC File No. BZ-5188
Accepted 4-14-64

Station KGBX
Springfield, Missouri

1260 kc

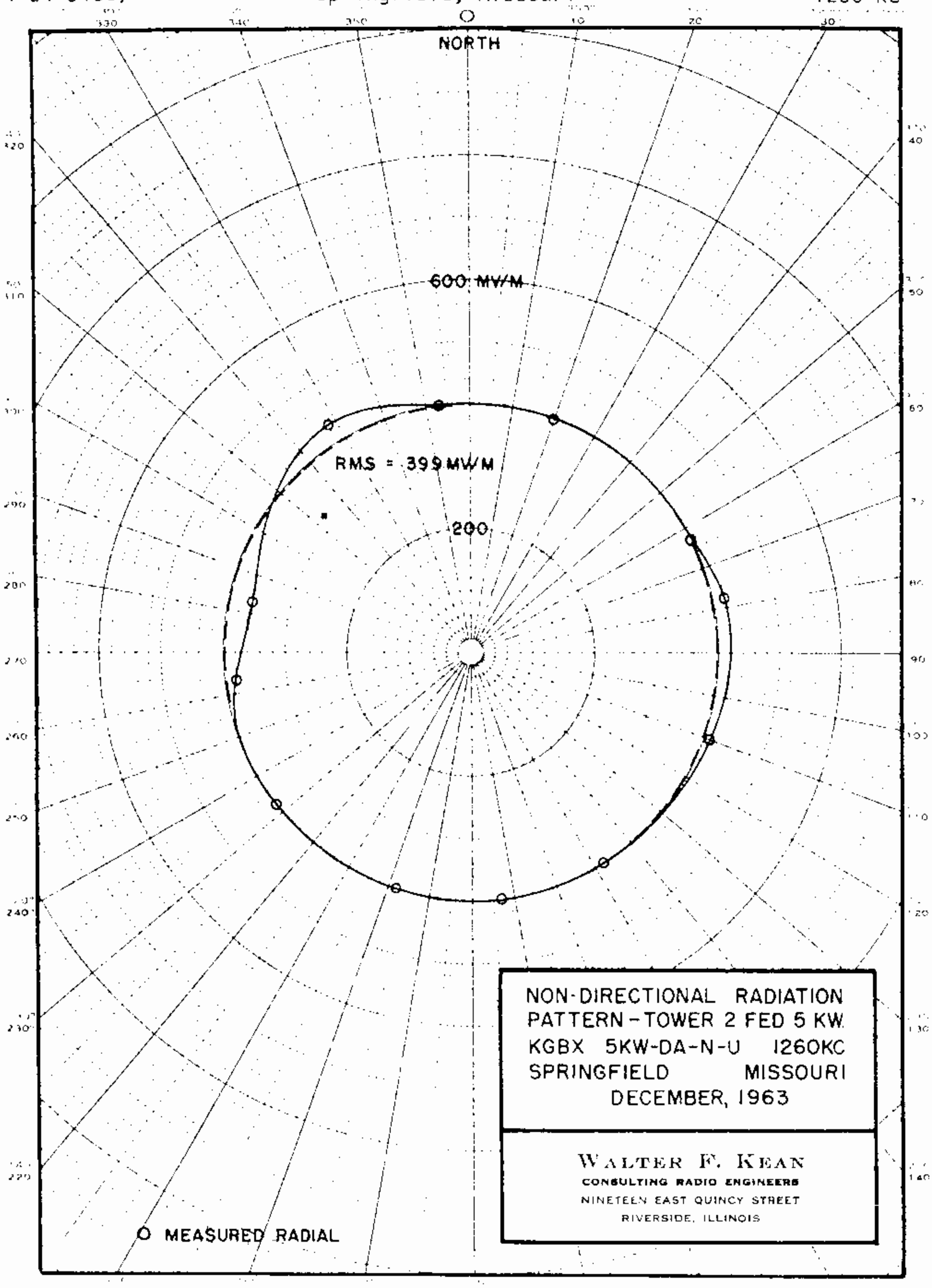
JUL 3 1 1975

KGBX

Measured Non-DA
(4-24-64ct)

Station KGBX
Springfield, Missouri

5kw,DA-N,U
1260 kc



NON-DIRECTIONAL RADIATION
PATTERN - TOWER 2 FED 5 KW.
KGBX 5KW-DA-N-U 1260KC
SPRINGFIELD MISSOURI
DECEMBER, 1963

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

FCC File No. BZ-5188
Accepted 4-14-64

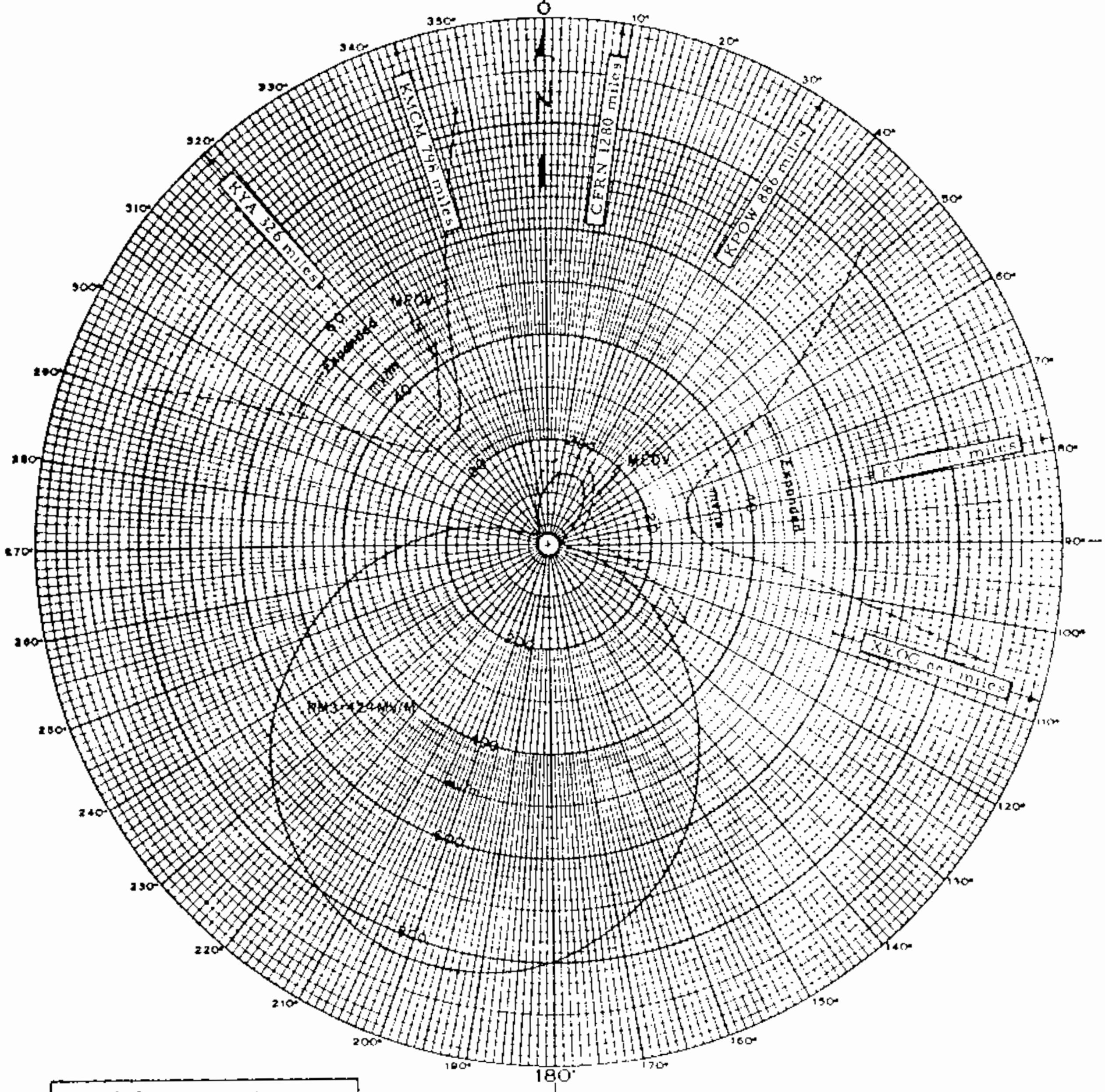
Station KGBX
Springfield, Missouri

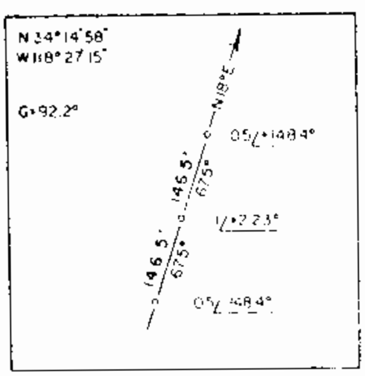
1260 kc

KGIL

PROPOSED NIGHT
(6-14-61g)

Station KGIL 5kw, DA-2,U
San Fernando, California 1260 KC





CREUTZ, STEEL & SNOWBERGER
Consulting Engineers
WASHINGTON D. C.

PROPOSED NIGHTTIME HORIZONTAL RADIATION PATTERN

KGIL SAN FERNANDO, CALIFORNIA

1260KC 5KW U DA-2

FCC File No. BP-14744
Accepted 5-8-61

KGIL
San Fernando, California 1260 KC

KGIL

8-1-63 granted mod. of CP to make change in DA pattern.

Proposed Day
(7-24-63ct)

Station KGIL
San Fernando, California

5kw,DA-2,U
1260 kc

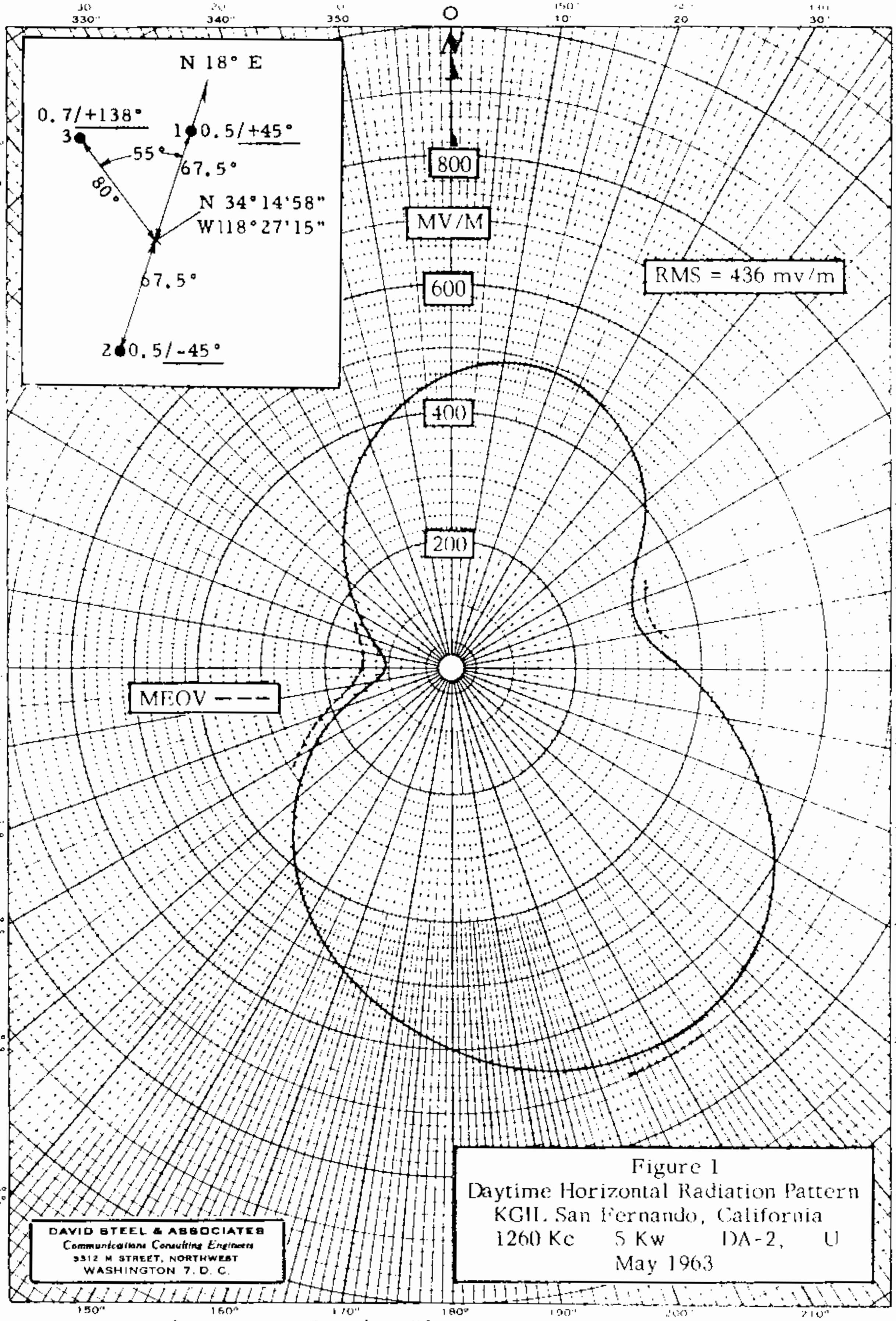


Figure 1
Daytime Horizontal Radiation Pattern
KGIL San Fernando, California
1260 Kc 5 Kw DA-2, U
May 1963

FCC File No.BMP-10891
Accepted 6-26-63 Amended

Station KGIL
San Fernando, California

1260 kc

KGIL

Measured Day
(7-24-63ct)

Station KGIL
San Fernando, California

5kw,DA-2,U
1260 kc

8-1-63 Granted license for revised nighttime power and change in DA pattern

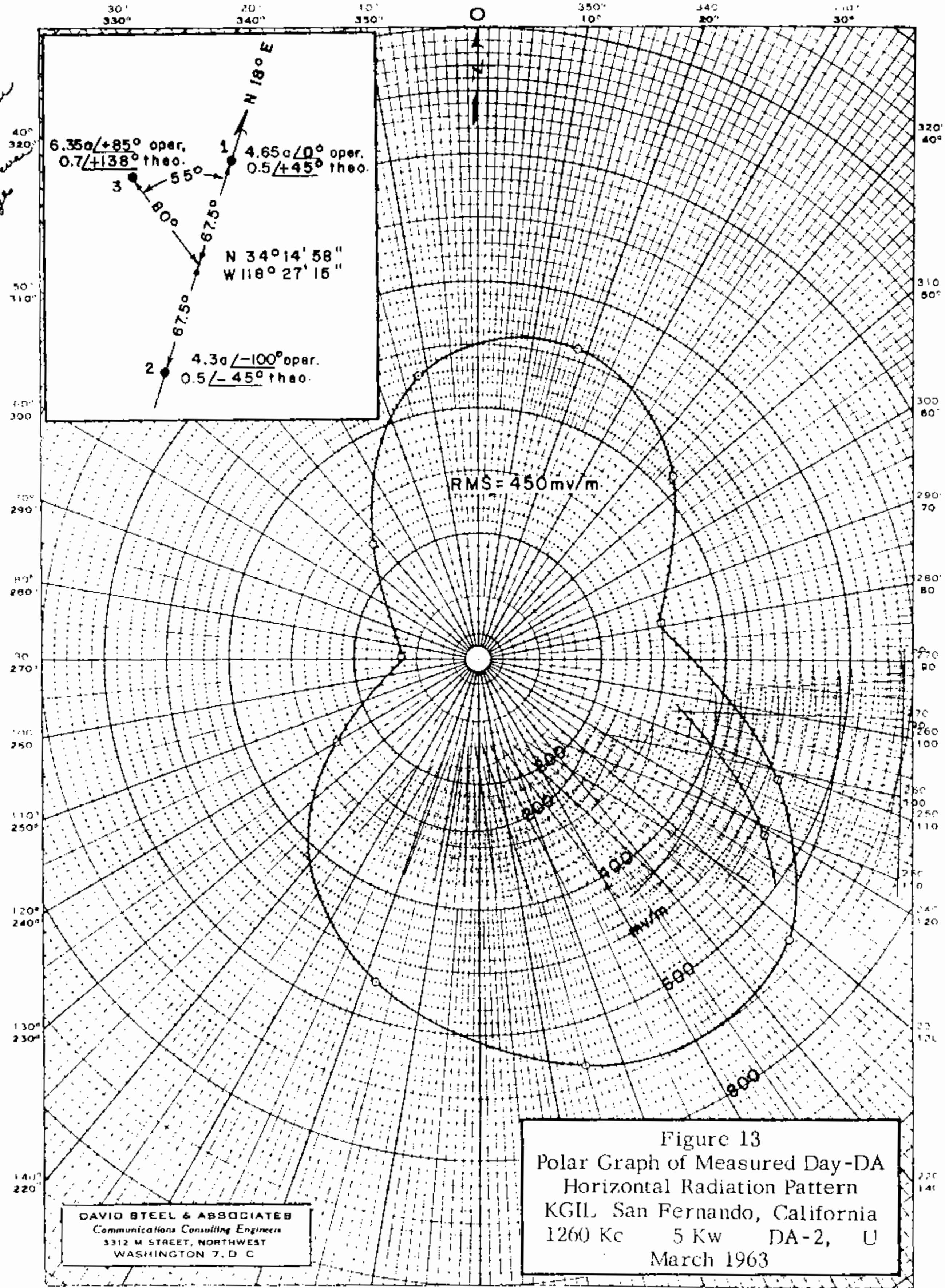


Figure 13
Polar Graph of Measured Day-DA
Horizontal Radiation Pattern
KGIL San Fernando, California
1260 Kc 5 Kw DA-2, U
March 1963

FCC File No.BL-10086
Accepted 7-2-63

Station KGIL
San Fernando, California

1260 kc

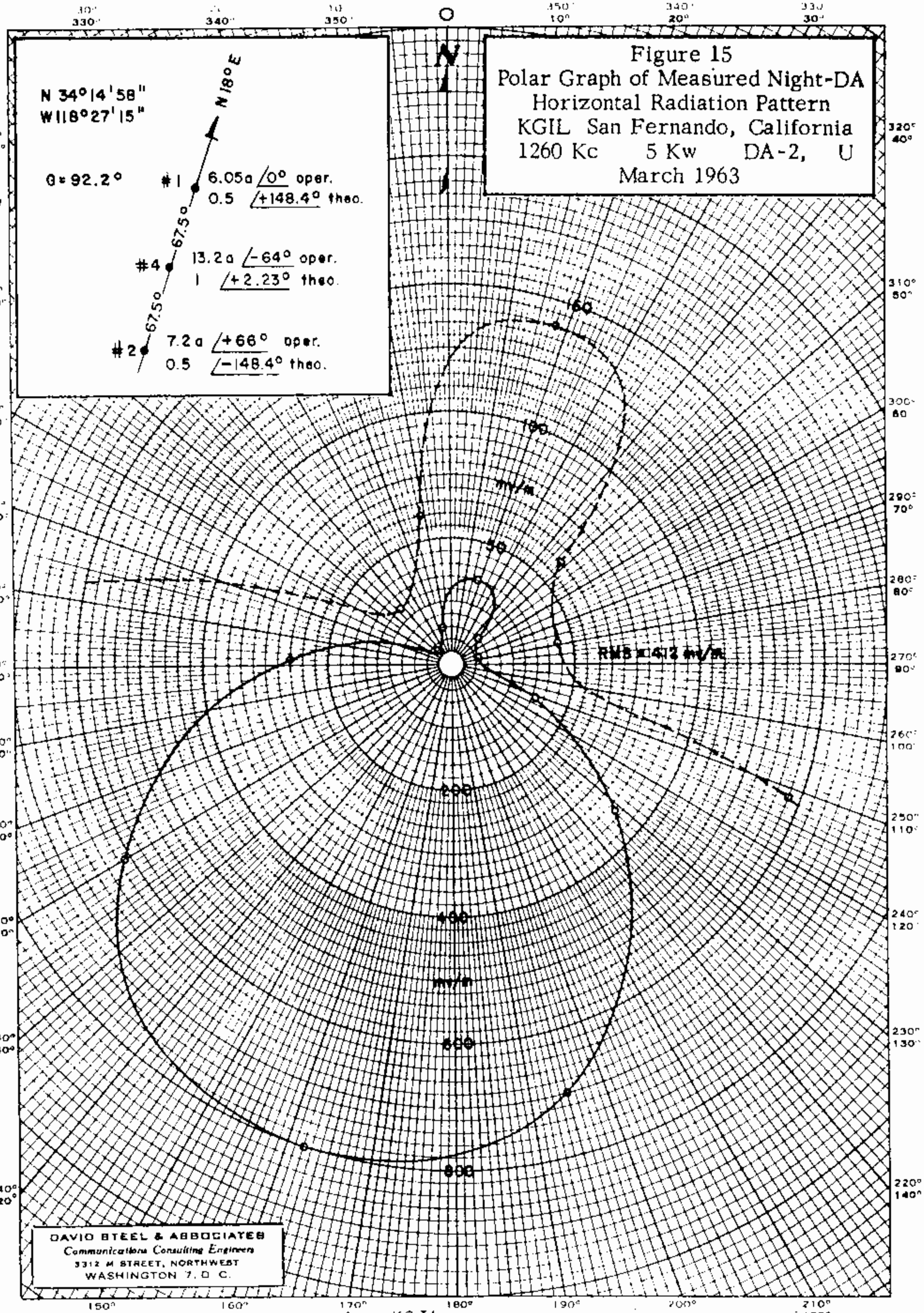
KGIL

Measured Night
(7-24-63ct)

Station KGIL
San Fernando, California

5kw,DA-2,U
1260 kc

8-7-63
wanted
waiver for
increase in
getting power
& changes
in DA pattern



FCC File No.BL-10086
Accepted 7-2-63
JUL 3 1 1975

Station KGIL
San Fernando, California

1260 kc

KGIL

Measured Non-DA
(7-24-63ct)

Station KGIL
San Fernando, California

5kw,DA-2,U
1260 kc

3-7-63 wanted increase for increase in nighttime power and change in DA pattern

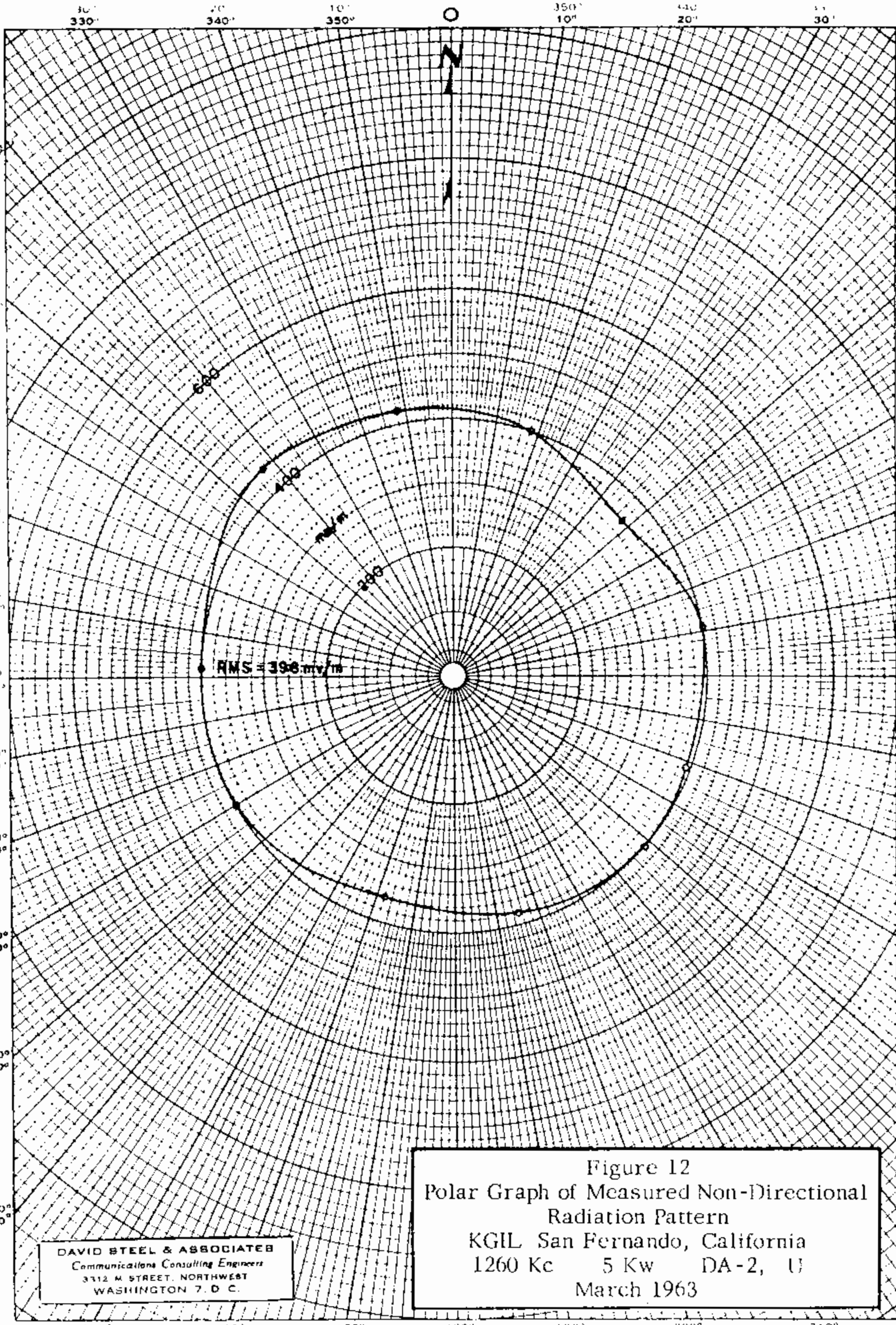


Figure 12
Polar Graph of Measured Non-Directional
Radiation Pattern
KGIL San Fernando, California
1260 Kc 5 Kw DA-2, U
March 1963

FCC File NO.BL-10086
Accepted 7-2-63

Station KGIL
San Fernando, California

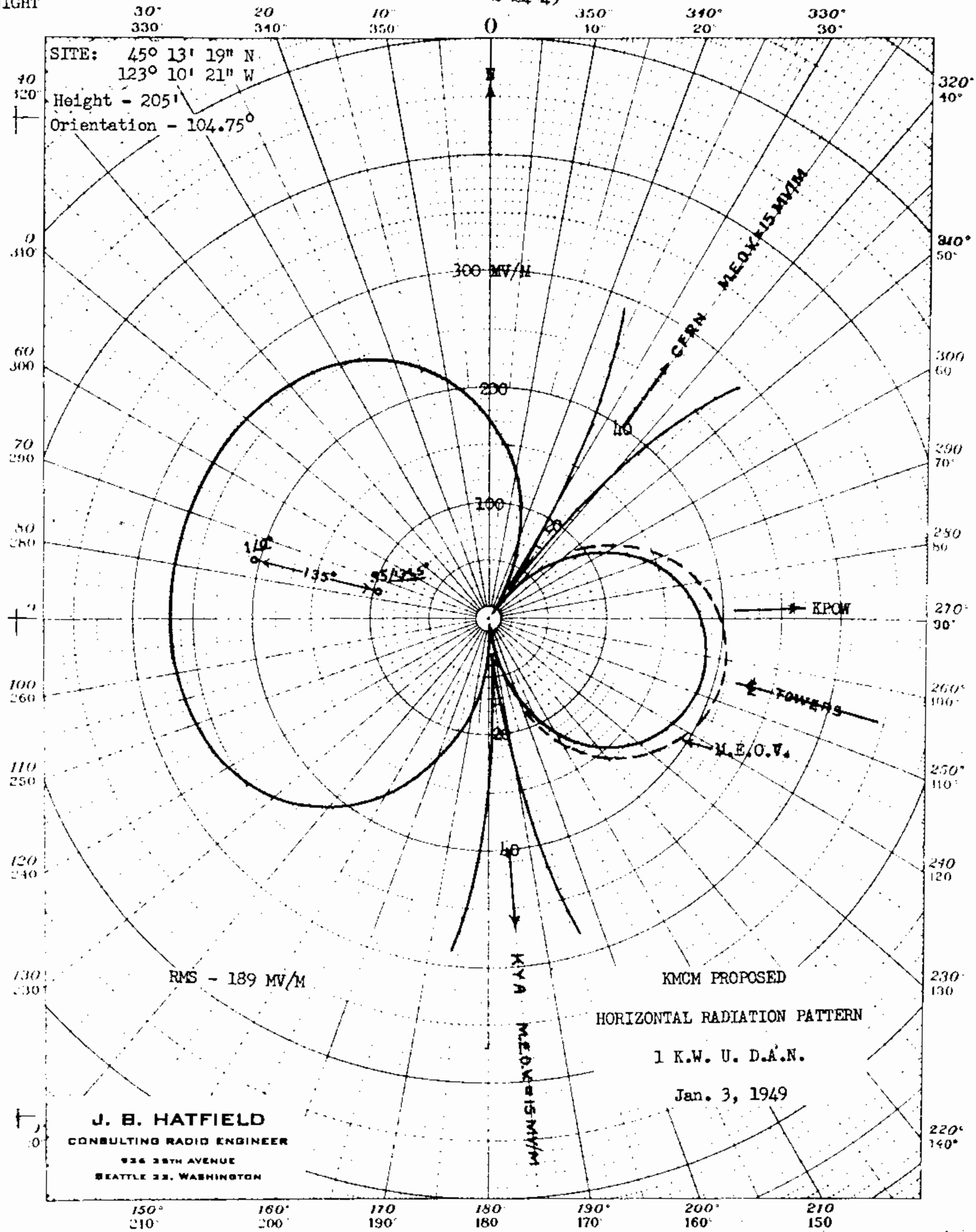
1260 kc

Granted 9/3/58 mod. of license ~ change from unlimited hrs. to S.H.

KMCM

PROPOSED NIGHT — KMCM, MC MINNVILLE, ORE. — 1kw, DAN S.H. — 1260 kc

2-24-49



KMCM, McMinnville, Ore. 1260kc

Exhibit 1B

KMCM

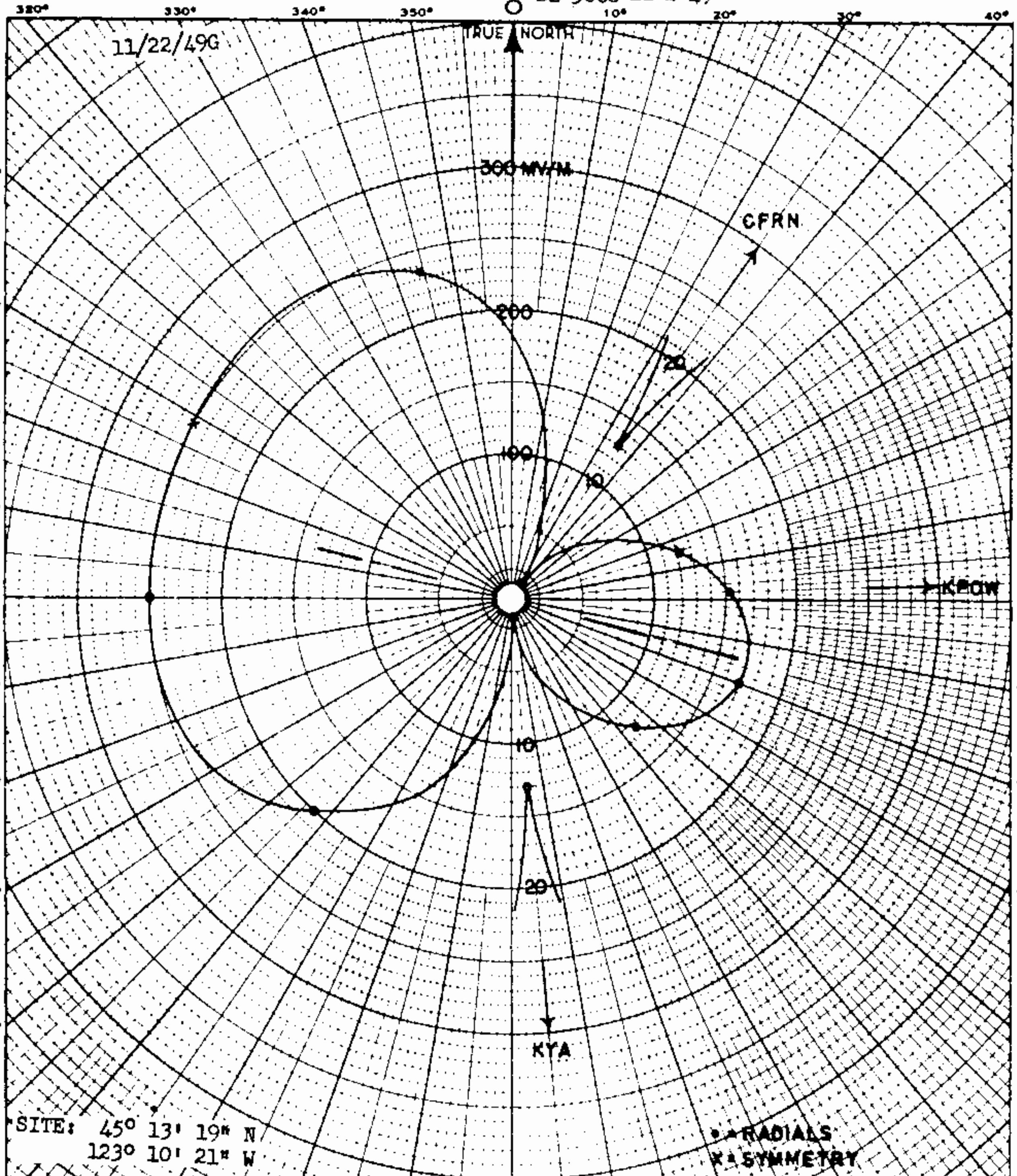
MEASURED
NIGHT

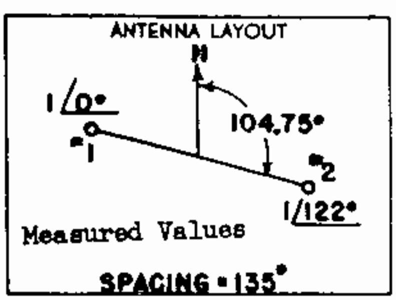
KMCM, MCMINNVILLE, ORE.

BL-3868 11-2-49

1kw, DAN S. H.

1260 kc





KMCM — Station

MC MINNVILLE, OREGON — Location

1260 K.C. — Frequency

1 K.W. D.A.N. — Power

177 MV/M — R-M-S Field

2 — No. of Elements

205' 94.5° — Height of Antenna

MEASURED ☒ CALCULATED ☐ — Pattern

OCTOBER 1949 — Remarks

J. B. HATFIELD
CONSULTING RADIO ENGINEER
636 36TH AVENUE
SEATTLE 22, WASHINGTON

KMCM, McMinnville, Ore. 1260 kc

JUL 1 1975

PROPOSED KPOW, POWELL, WYO.
NIGHT

PATTERN NO.:
SUPERSEDES:

1kw, DAN

KPOW-1260KC

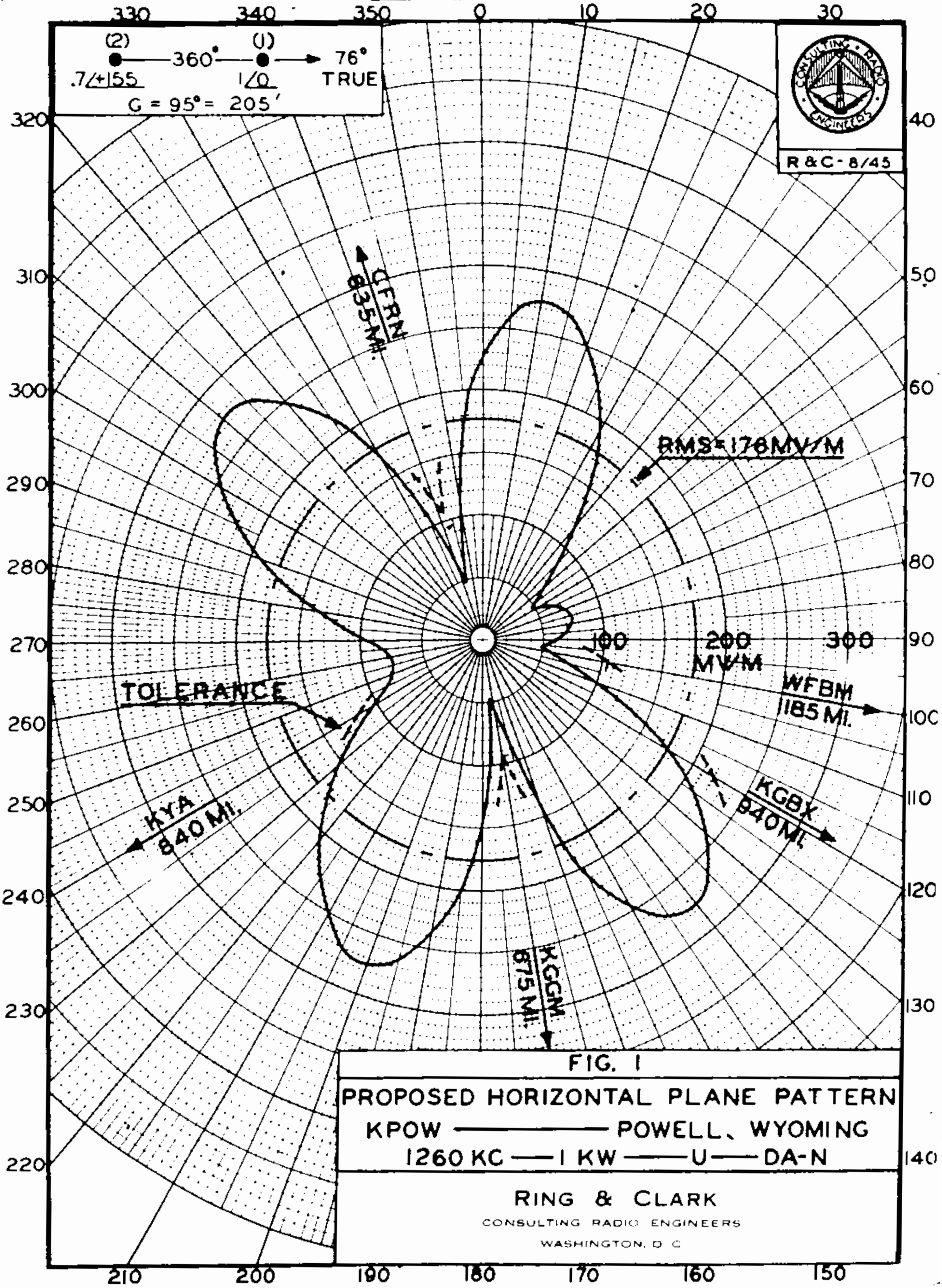


FIG. 1

PROPOSED HORIZONTAL PLANE PATTERN

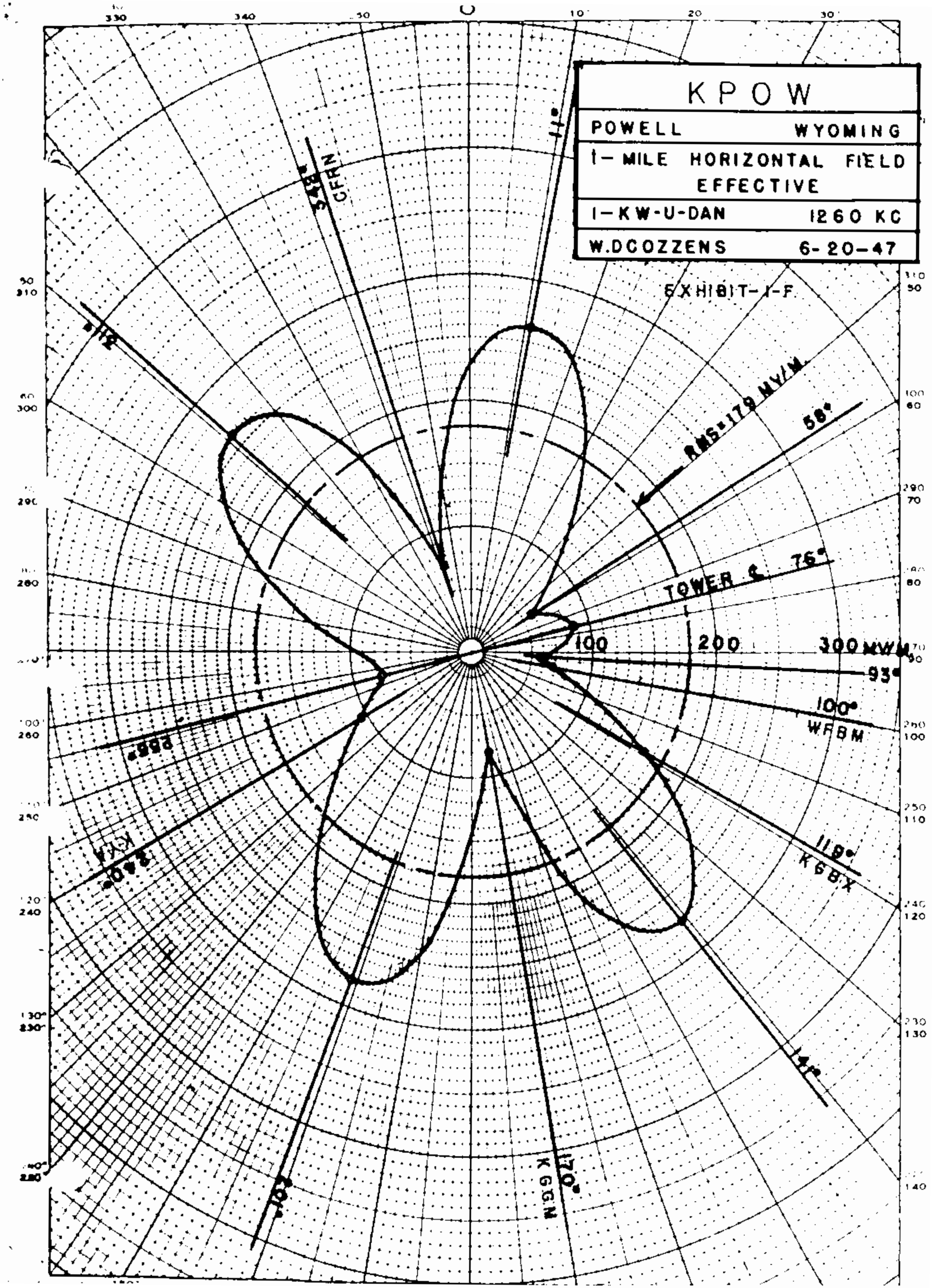
KPOW —— POWELL, WYOMING

1260 KC — 1 KW — U — DA-N

RING & CLARK

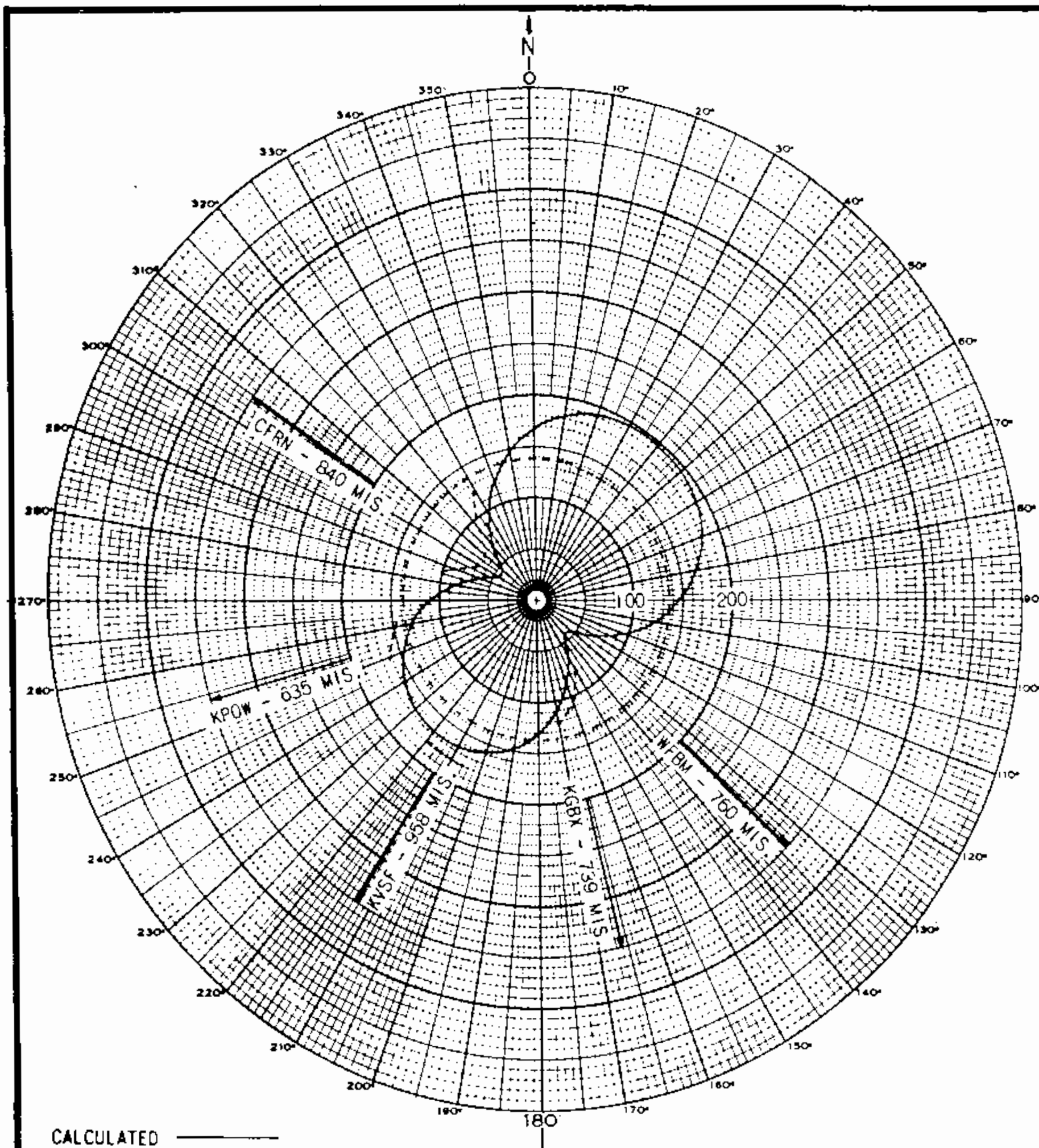
CONSULTING RADIO ENGINEERS

WASHINGTON, D. C.



KPOW
POWELL WYOMING
1- MILE HORIZONTAL FIELD
EFFECTIVE
1-KW-U-DAN 1260 KC
W.DCOZZENS 6-20-47
EXHIBIT-1-F
RMS=179 MV/M
58°
TOWER ℄ 76°
93°
100° WFBM
119° KGBX
141°
170° KGGM
193°
240° KVA
258°
311°
348° CFRN
11°
100
200
300 MV/M

5/2/49G



PATTERN NO. 490211
LATITUDE: 47° 47' 20"
LONGITUDE: 96° 35' 40"

S = 90° G = 232' = 107°

1 — S — 2

40° TRUE

TOWER	FIELD	PHASE
1	1	0°
2	0.71	-170°

Exhibit No. 2A

RADIO STATION KROX
CROOKSTON BROADCASTING COMPANY
CROOKSTON, MINNESOTA

Proposed 1260KC - 500W; 1KW - DA-N

HORIZONTAL PLANE RADIATION
NIGHTTIME

ROTHROCK & BAIREY
Consulting Radio Engineers
WASHINGTON, D. C.

KROX

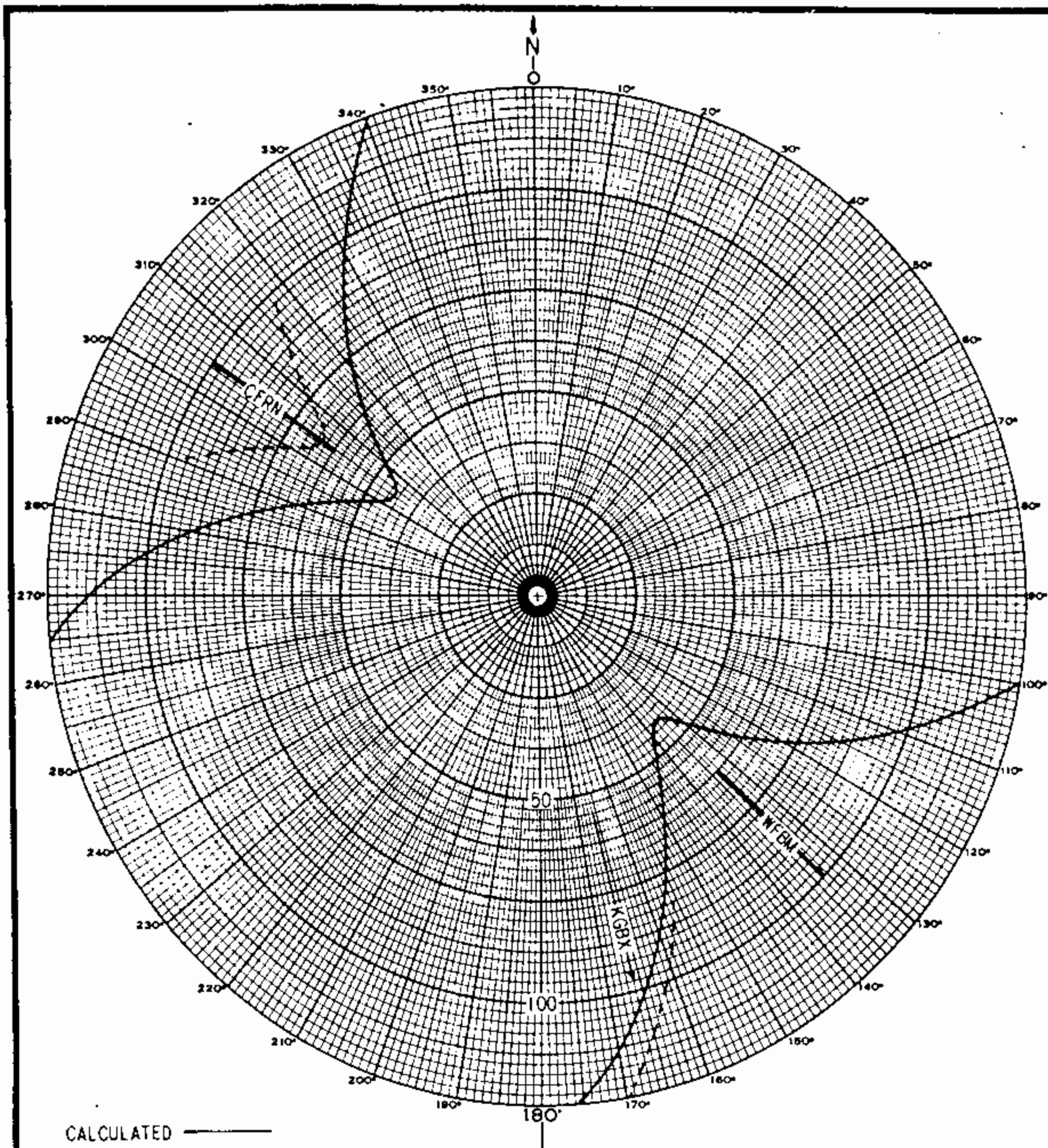
PROPOSED NIGHT NULLS

KROX, CROOKSTON, MINN.

500w, 1kw-LS, DAN

1260 kc

5/25/49G



PATTERN NO. 490211

LATITUDE: 47° 47' 20"

LONGITUDE: 96° 35' 40"

ROTHROCK & BAIREY
Consulting Radio Engineers
WASHINGTON, D. C.

S = 90° G = 232' = 107°

1 —— S —— 2

40° TRUE

TOWER	FIELD	PHASE
1	1	0°
2	0.71	-170°

Exhibit No. 28

RADIO STATION KROX
CROOKSTON BROADCASTING COMPANY
CROOKSTON, MINNESOTA

Proposed 1260KC - 500W; 1KW - DA-N

HORIZONTAL PLANE RADIATION
DETAIL IN MINIMA

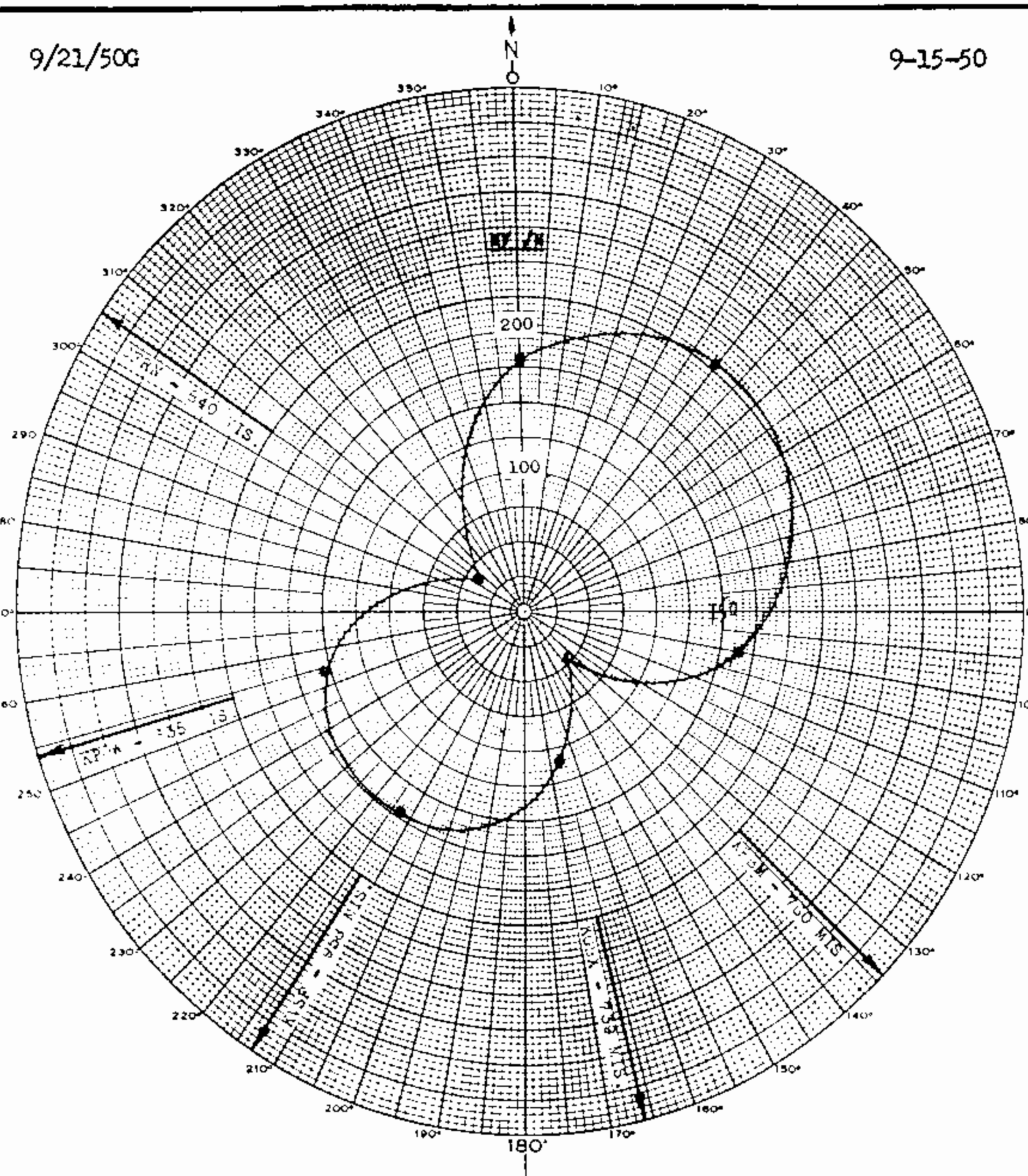
AMENDMENT RECD 4-26-49 P-6890

KROX

MEASURED NIGHT | KROX, CROOKSTON, MINN. | 500w, 1kw-LS, DA-N | 1260 kc

9/21/50G

9-15-50



RMS=154 MV/M

PATTERN NO. 500906
LATITUDE: 47° 47' 20"
LONGITUDE: 96° 35' 40"

GEORGE B. BAIREY
Consulting Radio Engineer
Washington, D. C.

S=90° G=220° = 101°

1 — S — 2 N 40°E

TOWER	FIELD	PHASE
1	1	0°
2	0.6	-170°

EXHIBIT No. 6

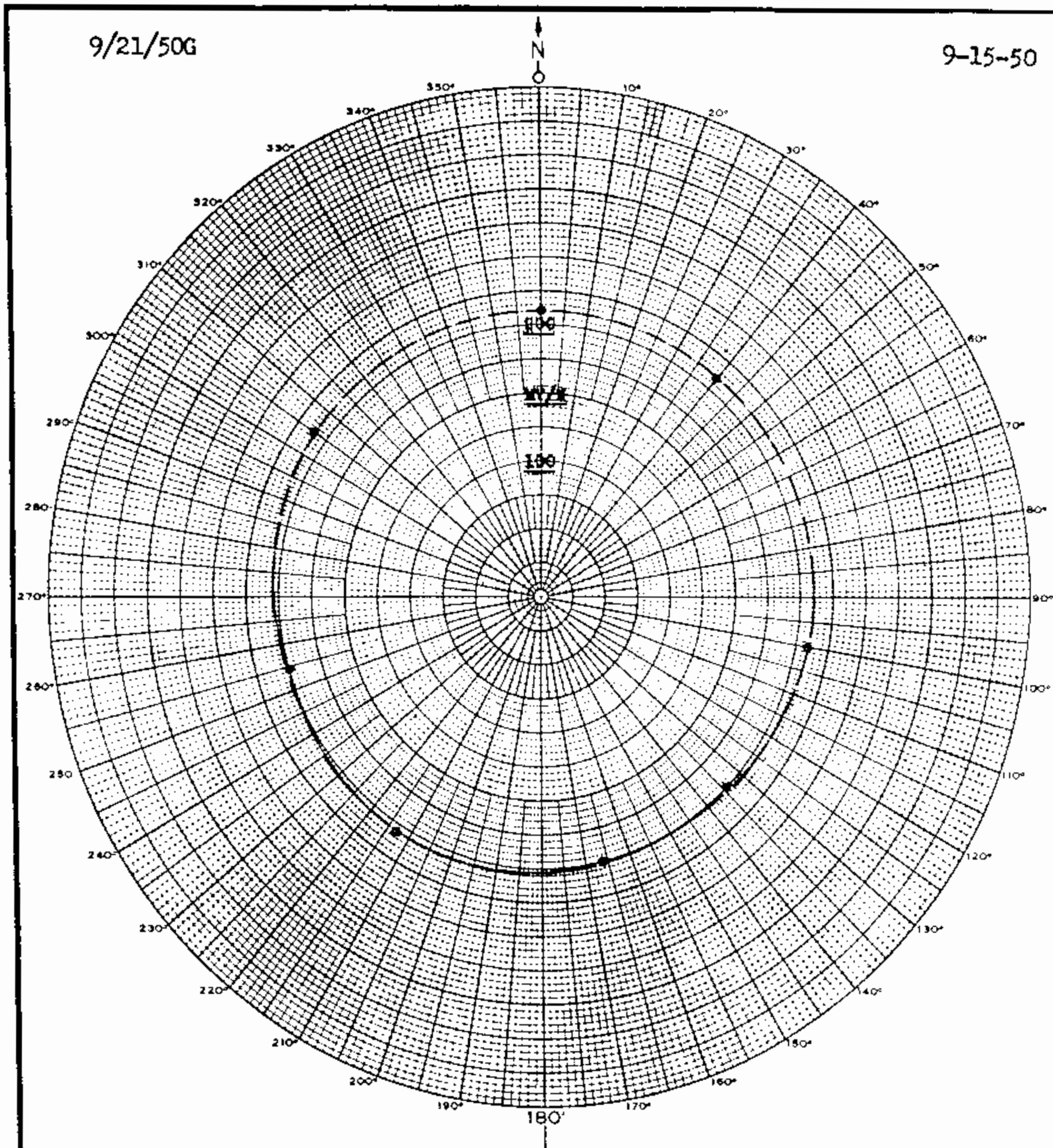
RADIO STATION KROX
CROOKSTON, MINNESOTA
1260 KC - 500 W; 1 KW - DA-N

MEASURED NIGHTTIME PATTERN

KROX, Crookston, Minn. 1260 kc

MEASURED DAY (NON-DA) KROX, CROOKSTON, MINN. 500w, 1kw-LS, DA-N 1260 kc

9/21/50G 9-15-50



RMS=206 MV/M

PATTERN NO. 500305
LATITUDE: 47° 47' 20"
LONGITUDE: 96° 35' 40"

GEORGE B. BAIREY
Consulting Radio Engineer
Washington, D. C.

No. 1 TOWER

(SOUTH)

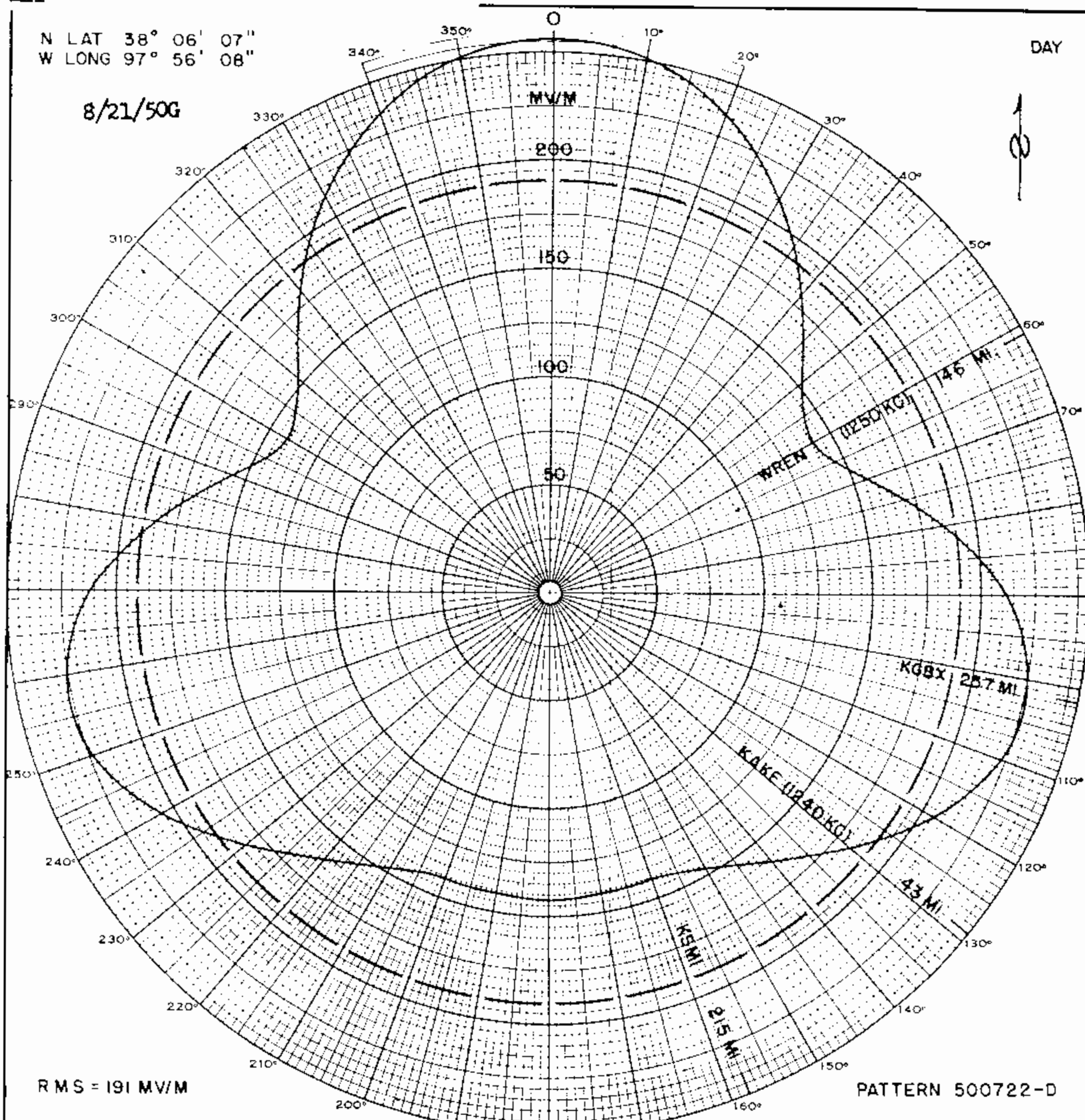
EXHIBIT No. 7

RADIO STATION KROX
CROOKSTON, MINNESOTA
1260 KC - 500 W; 1 KW - DA-N

MEASURED HORIZONTAL
PLANE DAYTIME
RADIATION

KWHK

PROPOSED DAY   KWHK, HUTCHINSON, KANS.   500w, 1kw-LS, DA-2   1260 kc



N 00° E

S = 92° = 200'
G = 97° = 210'

TOWER	I	Ψ
1	1.00	-105.2°
2	1.25	0.0°
3	1.00	-147.2°

RADIO STATION KWHK

HUTCHINSON, KANSAS

1260 KC 0.5 KW I KW - LS DA-2

A. EARL CULLUM, JR

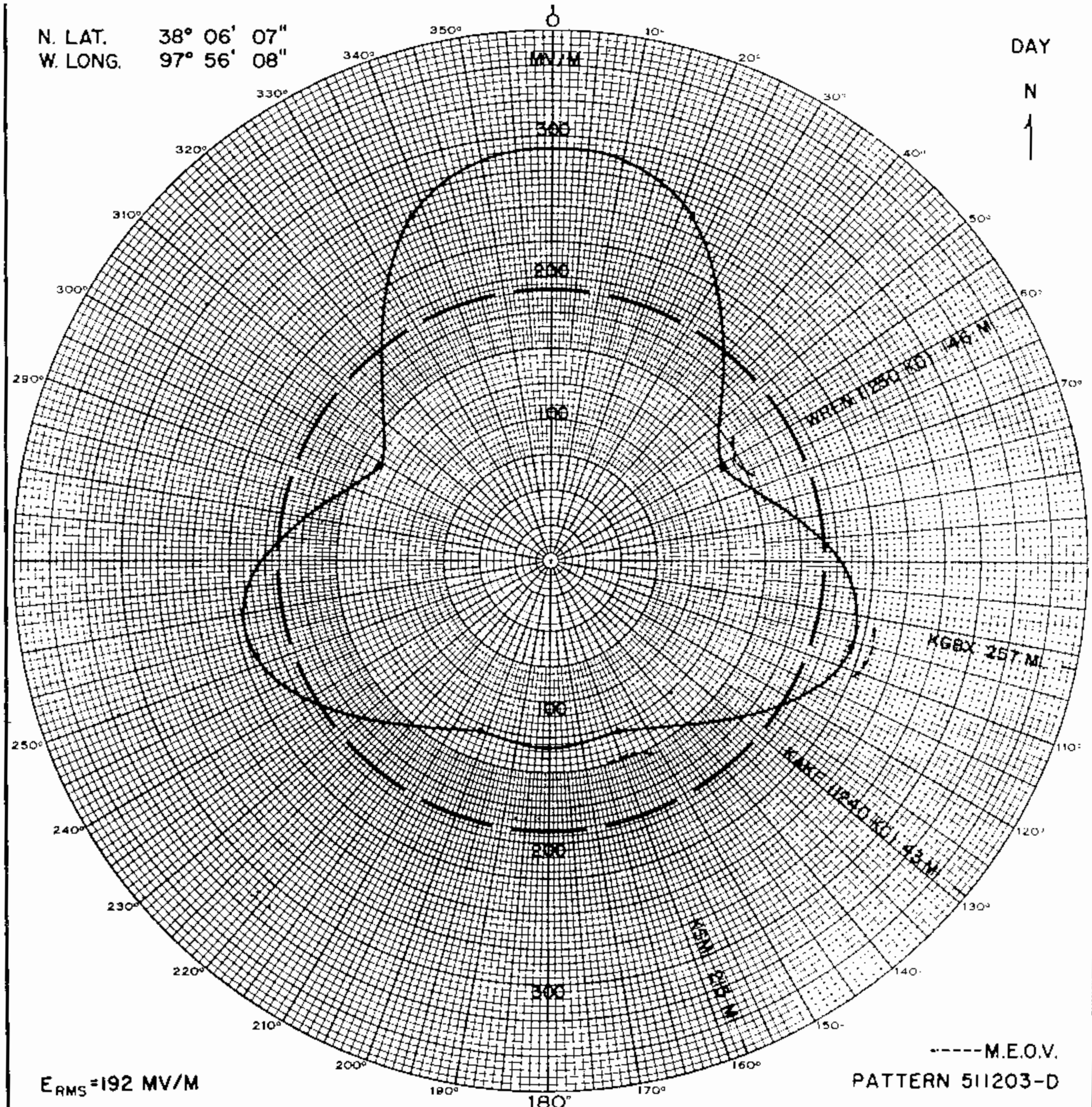
CONSULTING RADIO ENGINEERS

500722.0   FIGURE 9A

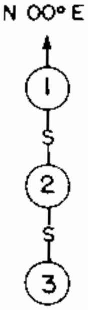
AMENDMENT RECD. 8/2/50 ACCD. 8/18/50 BP-6831   KWHK, Hutchinson, Kans. 1260 kc

KWHK

MEASURED DAY KWHK, HUTCHINSON, KANSAS 1/21/52G 500W, 1KW-LS, U, DA-2 1260 KC



N 00° E



S = 92° = 200'
G = 97° = 210'

PATTERN BASED ON FIELD INTENSITY MEASUREMENTS

RADIO STATION KWHK
HUTCHINSON, KANSAS
1260 KC 0.5 KW 1.0 KW-LS DA-2

A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEERS

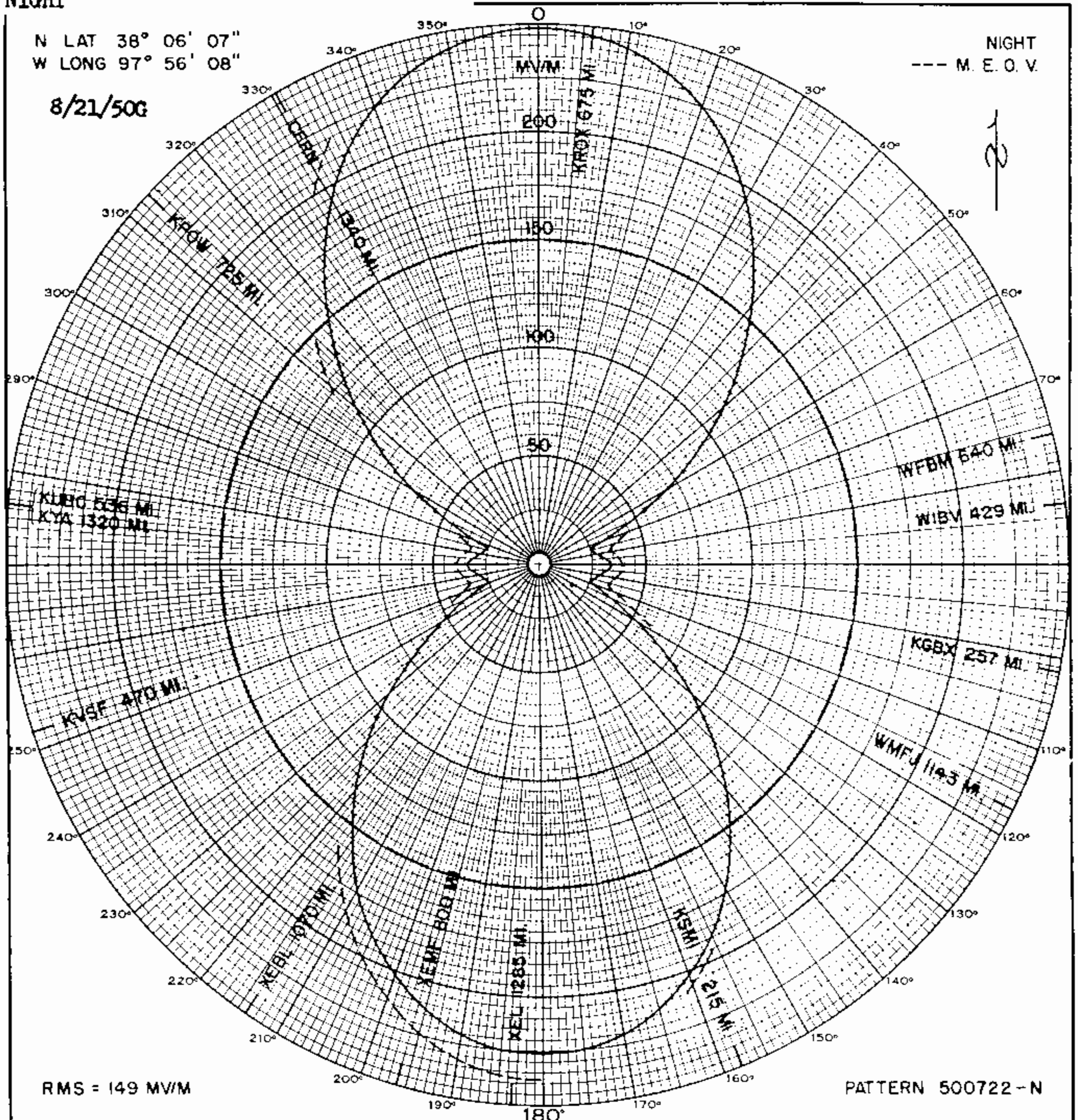
511203 FIGURE 2B

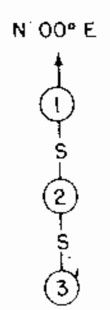
PROPOSED
NIGHT

KWHK, HUTCHINSON, KANS.

500w, 1kw-LS, DA-2 1260 kc

KWHK





S = 92° = 200'
G = 97° = 210'

TOWER	I	Ψ
1	1.00	+176°
2	1.83	.0°
3	1.00	+171°

RADIO STATION KWHK

HUTCHINSON, KANSAS

1260 KC 0.5 KW 1 KW-LS DA-2

A. EARL CULLUM, JR.

CONSULTING RADIO ENGINEERS

500722.0 FIGURE 10A

AMENDMENT RECD. 8/2/50 ACCD. 8/18/50 BP-6831

KWHK, Hutchinson, Kans. 1260 kc

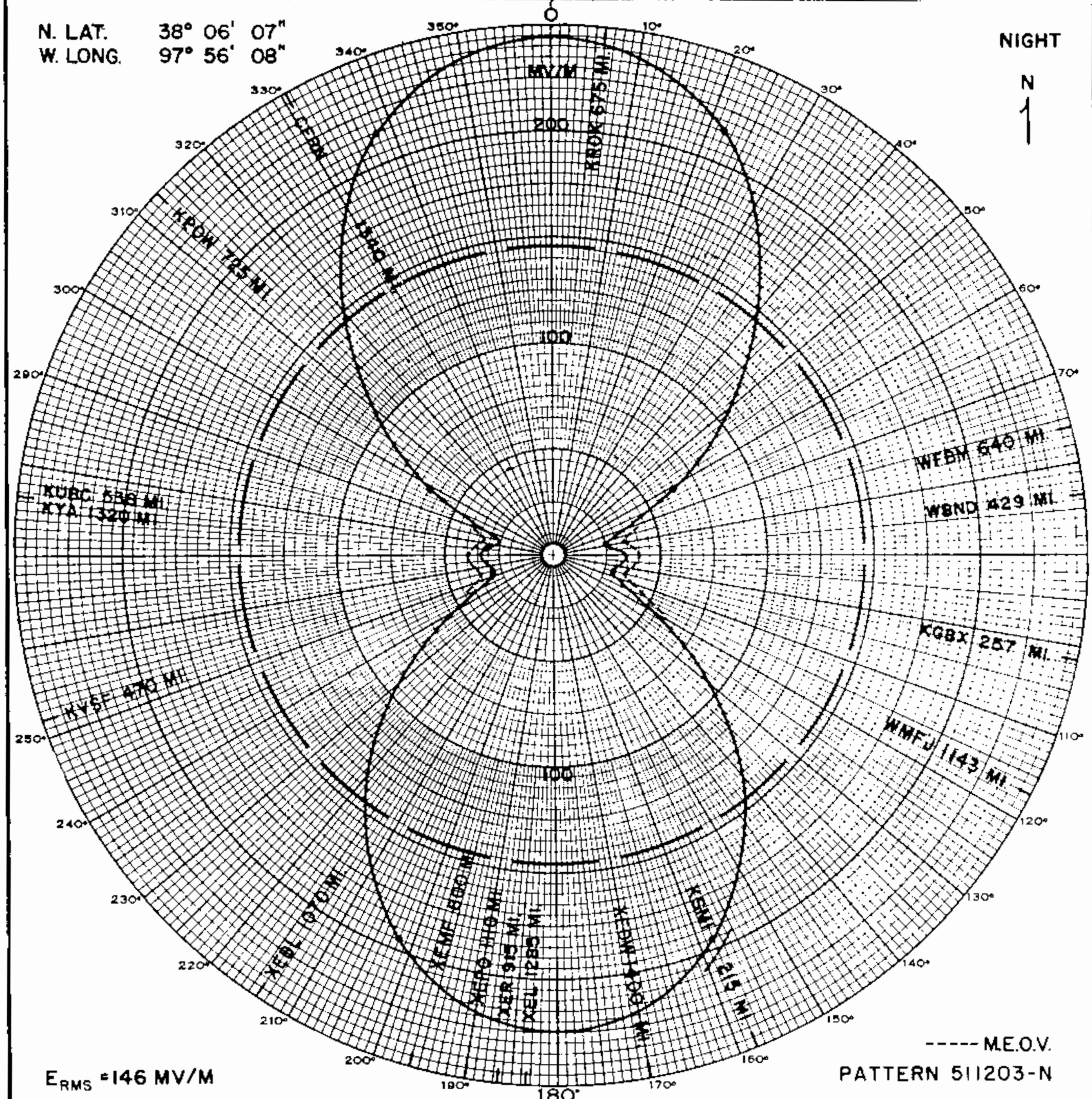
KWHK

MEASURED NIGHT | KWHK, HUTCHINSON, KANSAS 1/21/52G | 500W, 1KW-LS, U, DA-2 | 1260 KC

N. LAT. 38° 06' 07"
W. LONG. 97° 56' 08"

NIGHT

N

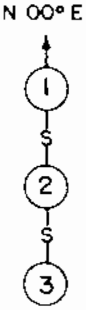


E_RMS = 146 MV/M

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

PATTERN 511203-N

N 00° E



S = 92° = 200'
G = 97° = 210'

PATTERN BASED ON FIELD INTENSITY MEASUREMENTS

RADIO STATION KWHK
HUTCHINSON, KANSAS
1260 KC 0.5 KW 1.0 KW-LS DA-2

A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEERS

511203 FIGURE 2C

APPL RECD 12/18/51 ACC 1/15/52 BL-4643 KWHK, HUTCHINSON, KANSAS 1260 KC

J... 1973

KWHK

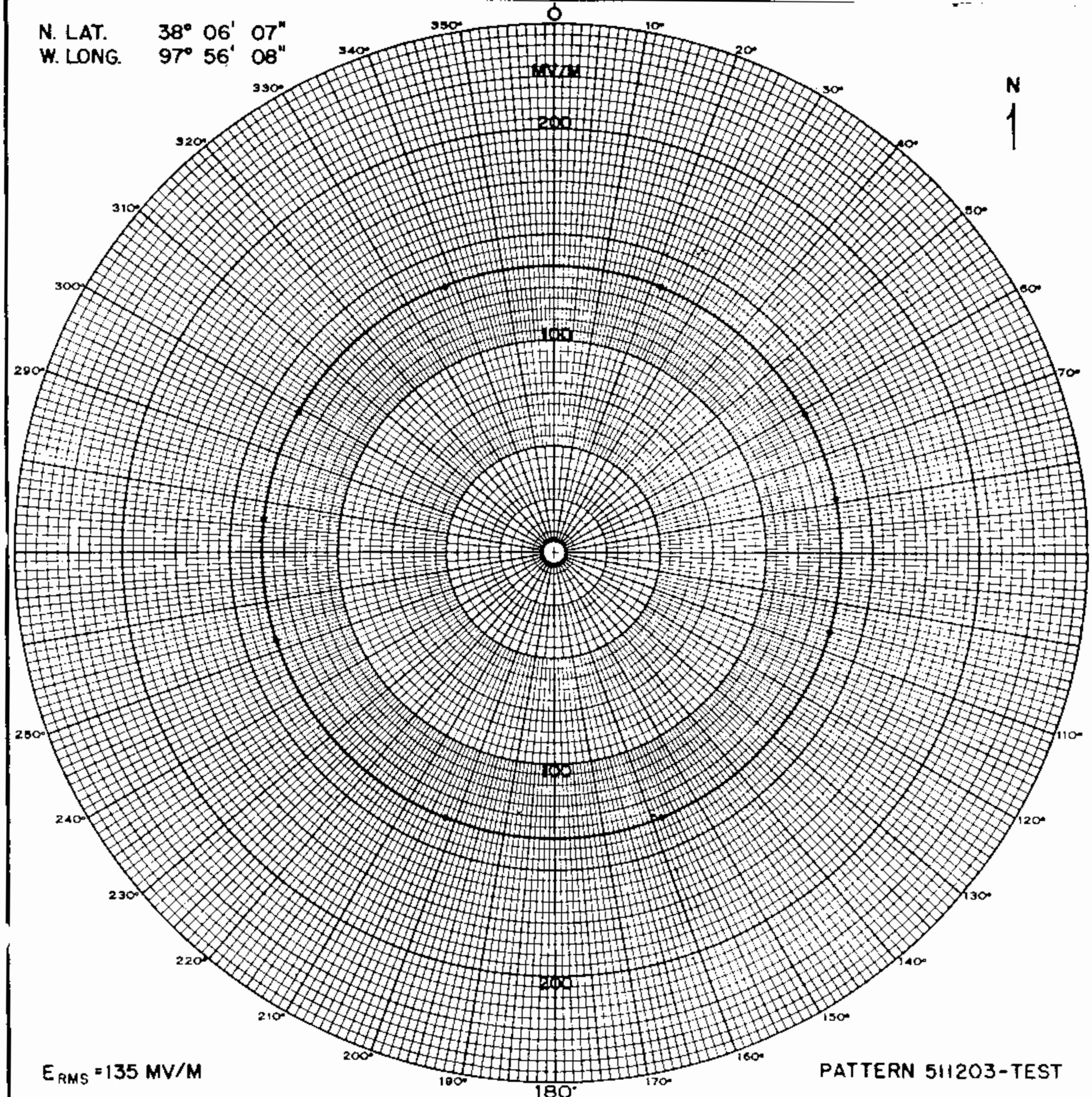
MEASURED
NON-DA

KWHK, HUTCHINSON, KANSAS
1/21/52G

500W, 1KW-LS, U, DA-2

1260 KC

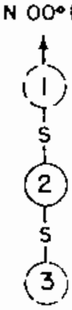
N. LAT. 38° 06' 07"
W. LONG. 97° 56' 08"



E$_{RMS}$ =135 MV/M

PATTERN 511203-TEST

N 00° E



S = 92° = 200'
G = 97° = 210'

PATTERN BASED ON FIELD INTENSITY MEASUREMENTS

RADIO STATION KWHK
HUTCHINSON, KANSAS
1260 KC 0.5 KW 1.0 KW-LS DA-2

A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEERS

511203

FIGURE 2A

APPL RECD 12/18/51 ACC 1/15/52 BL-4643

KWHK, HUTCHINSON, KANSAS

1260 KC

KWSH

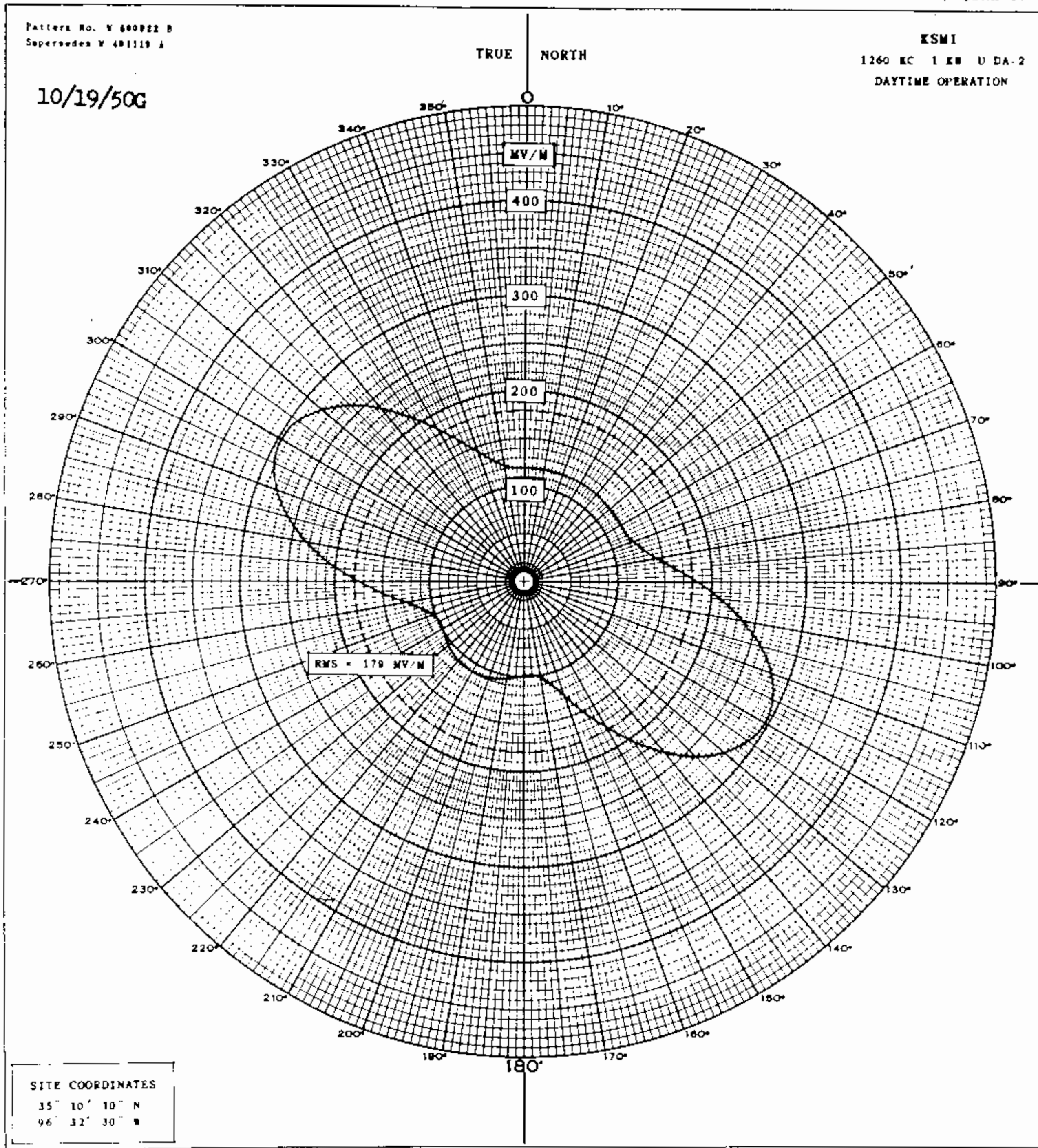
PROPOSED DAY | KSMI, WEWOKA, OKLA. | 1kw, DA-2 | 1260 kc

FIGURE 17

Pattern No. W 400922 B
Supersedes W 401119 A

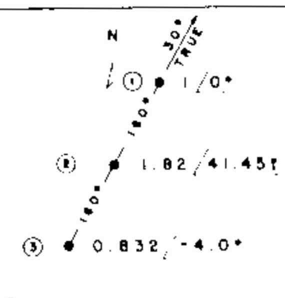
10/19/50G

KSMI
1260 KC 1 KW U DA-2
DAYTIME OPERATION



SITE COORDINATES
35° 10' 10" N
96° 32' 30" W

CALCULATED DAYTIME HORIZONTAL PLANE RADIATION PATTERN



KADA BROADCASTING, INCORPORATED

WELDON & CARR *Consulting Radio Engineers*
Dallas • Washington • Seattle

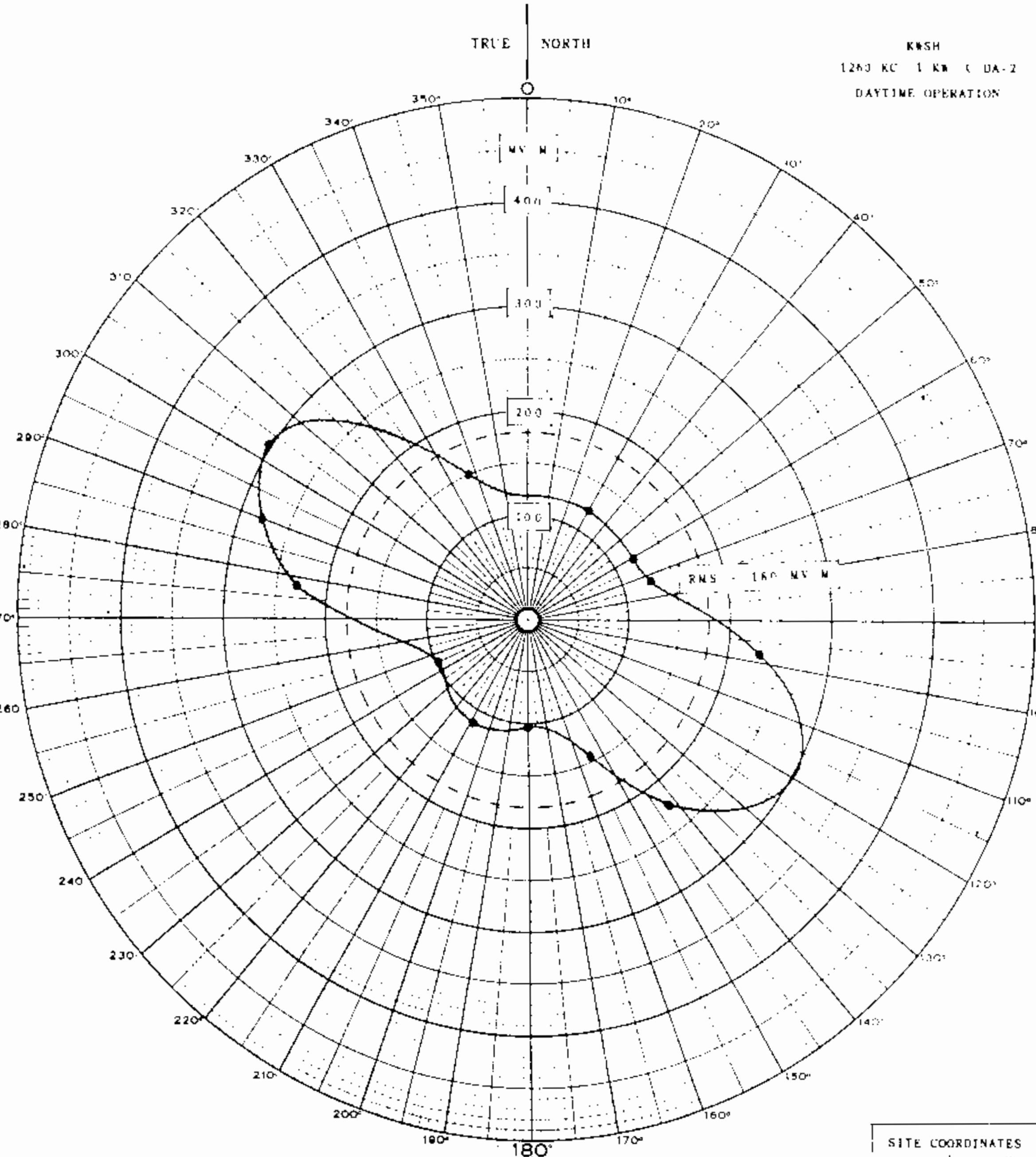
KSMI
WEWOKA OKLAHOMA
1260 KC 1 KW U DA-2

AMENDMENT RECD. 10-9-50 ACC. 10-13-50 BP-7502 KSMI, Wewoka, Okla. 1260 kc

KWSH

Granted CP 1/19/58 to change from DA-2 to DA-N

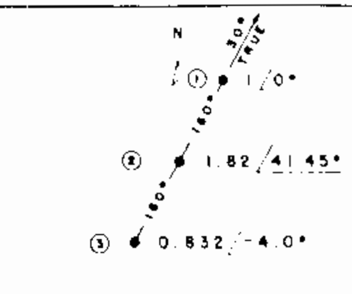
MEASURED DAY | KWSH, WEWOKA, OKLA. 8/9/51 | 1 KW, U, DA-2 | 1260 KC



Measured Points ...... ●

SITE COORDINATES
35° 16' 10" N
96° 32' 30" W

MEASURED DAYTIME HORIZONTAL PLANE RADIATION PATTERN



KADA BROADCASTING, INCORPORATED

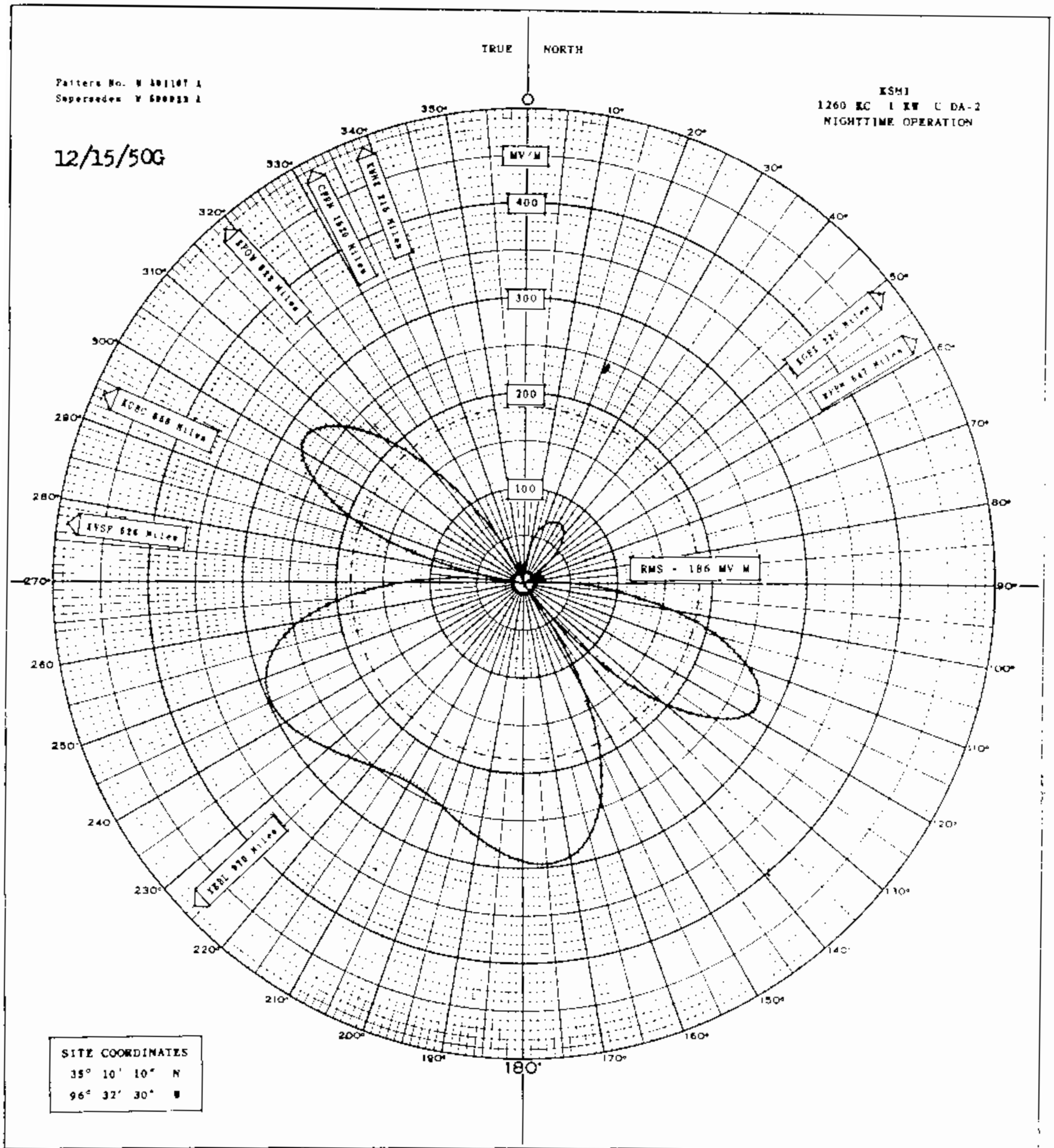
WELDON & CARR Consulting Radio Engineers
Dallas • Washington • Seattle

KWSH
WEWOKA OKLAHOMA
1260 KC 1 KW U DA-2

APPL RECD 7/19/51 BL-4497 KWSH, WEWOKA, OKLA. 1260 KC

KWSH

PROPOSED NIGHT KSMI, WEWOKA, OKLA. 1kw, DA-2 1260 kc



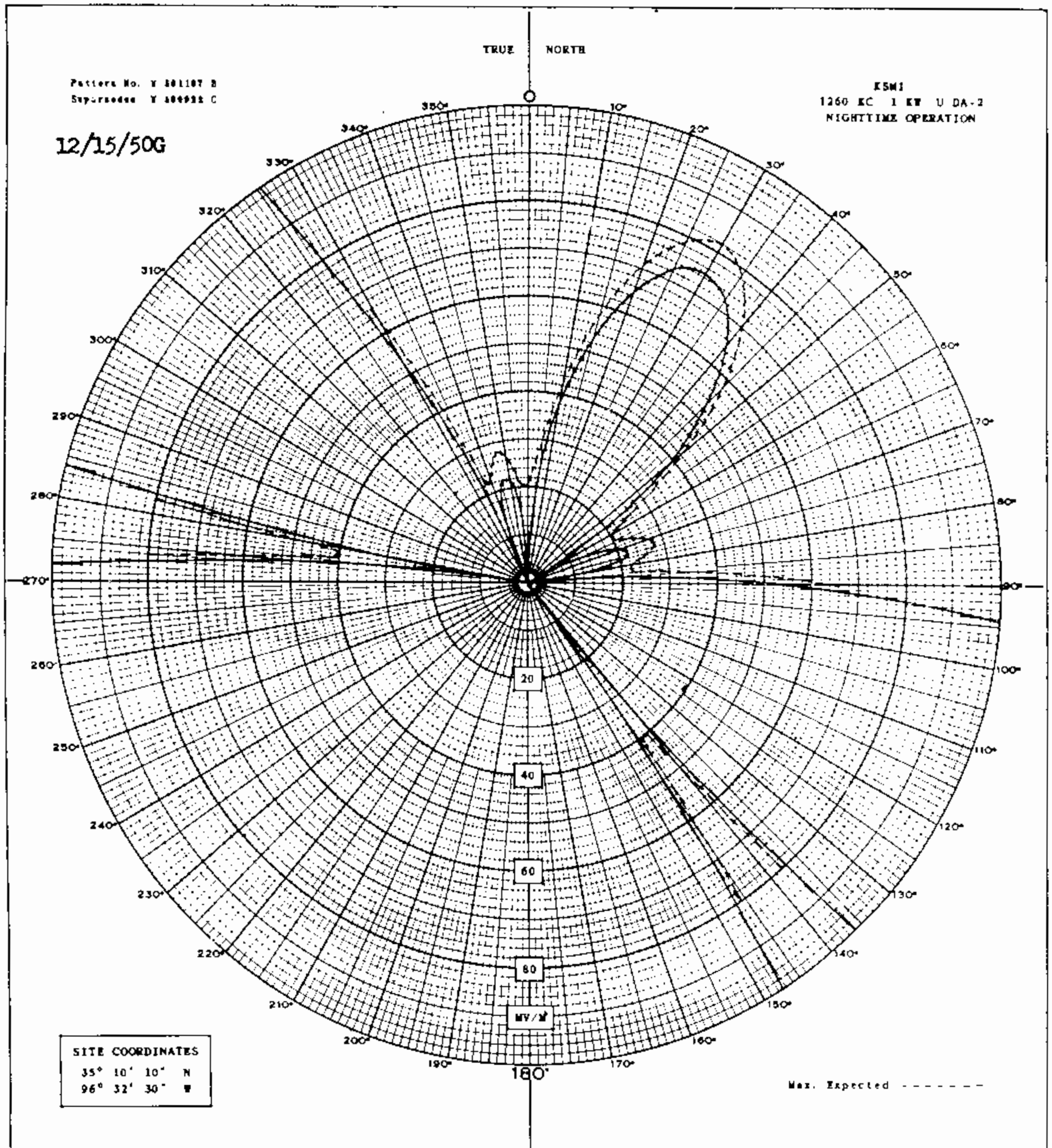
CALCULATED NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN

50° TRUE ① 1 /2.4° ② 0.886 /-62.7° ③ 0.886 /62.7° ④ 1 /-2.4° G = 75°	KADA BROADCASTING, INCORPORATED WELDON & CARR Consulting Radio Engineers Dallas • Washington • Seattle	Figure 10 A KSMI WEWOKA OKLAHOMA 1260 KC 1 KW U DA 2

AMENDMENT RECD 11/27/50 BP-7502 KSMI, Wewoka, Okla. 1260 kc

KWSH ~~KSMI~~

PROPOSED NIGHT NULLS　　KSMI, WEWOKA, OKLA.　　1kw, DA-2　　1260 kc



CALCULATED NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN

DETAIL IN MINIMA	KADA BROADCASTING, INCORPORATED WELDON & CARR *Consulting Radio Engineers* Dallas • Washington • Seattle	**Figure 11 A** KSMI WEWOKA OKLAHOMA 1260 KC 1 KW U DA-2

AMENDMENT RECD 11/27/50 BP-7502　　KSMI, Wewoka, Okla. 1260 kc

KWSH

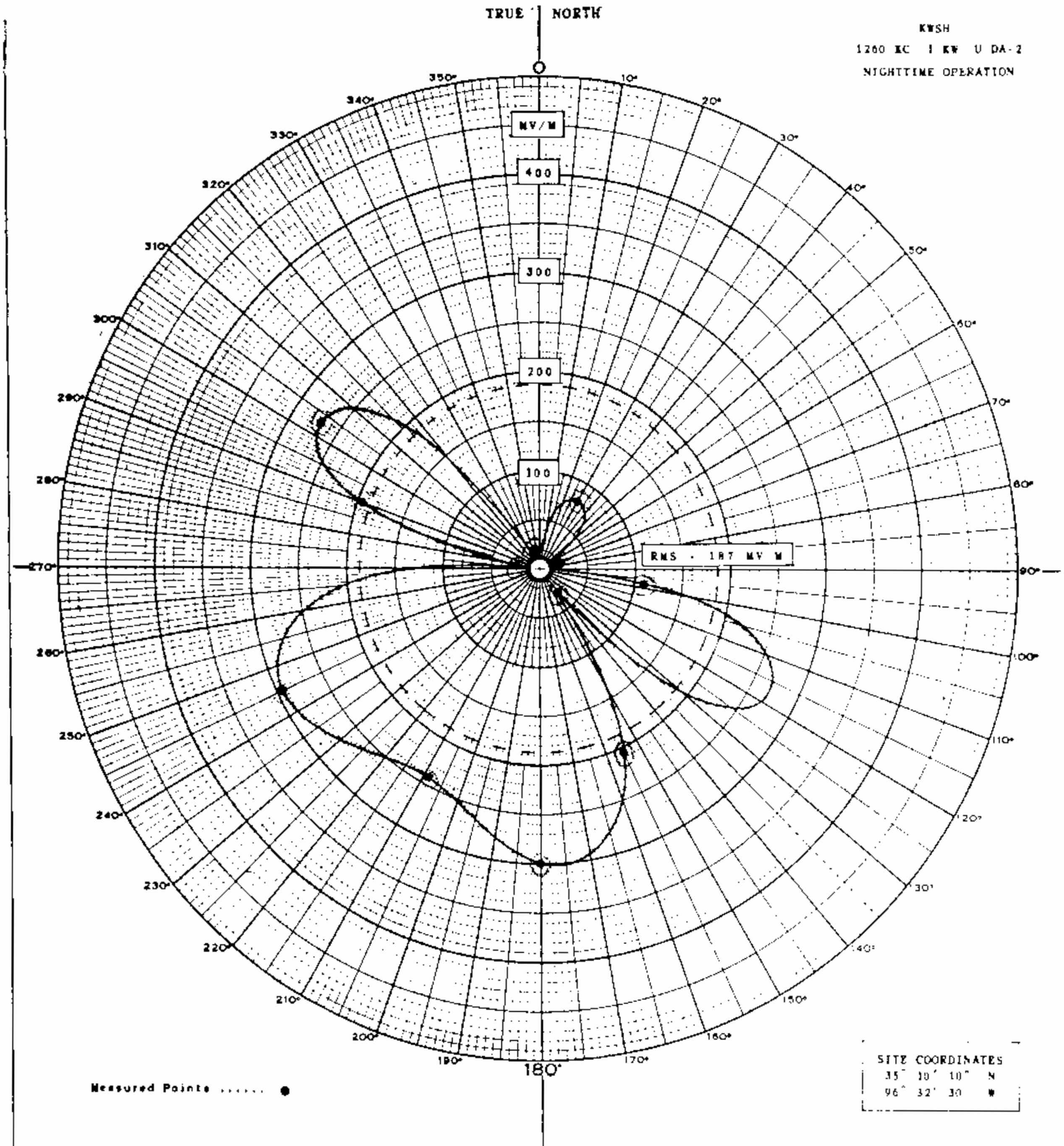
MEASURED NIGHT

KWSH, WEWOKA, OKLA. 8/9/51

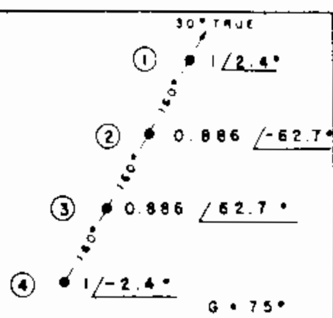
1 KW, U, DA-2

1260 KC

Granted CP 11/19/58 to change from DA-2 to DA-N



MEASURED NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN



KADA BROADCASTING, INCORPORATED

WELDON & CARR Consulting Radio Engineers

Dallas • Washington • Seattle

KWSH

WEWOKA OKLAHOMA

1260 KC 1 KW U DA-2

APPL RECD 7/19/51 BL-4497

KWSH, WEWOKA, OKLA.

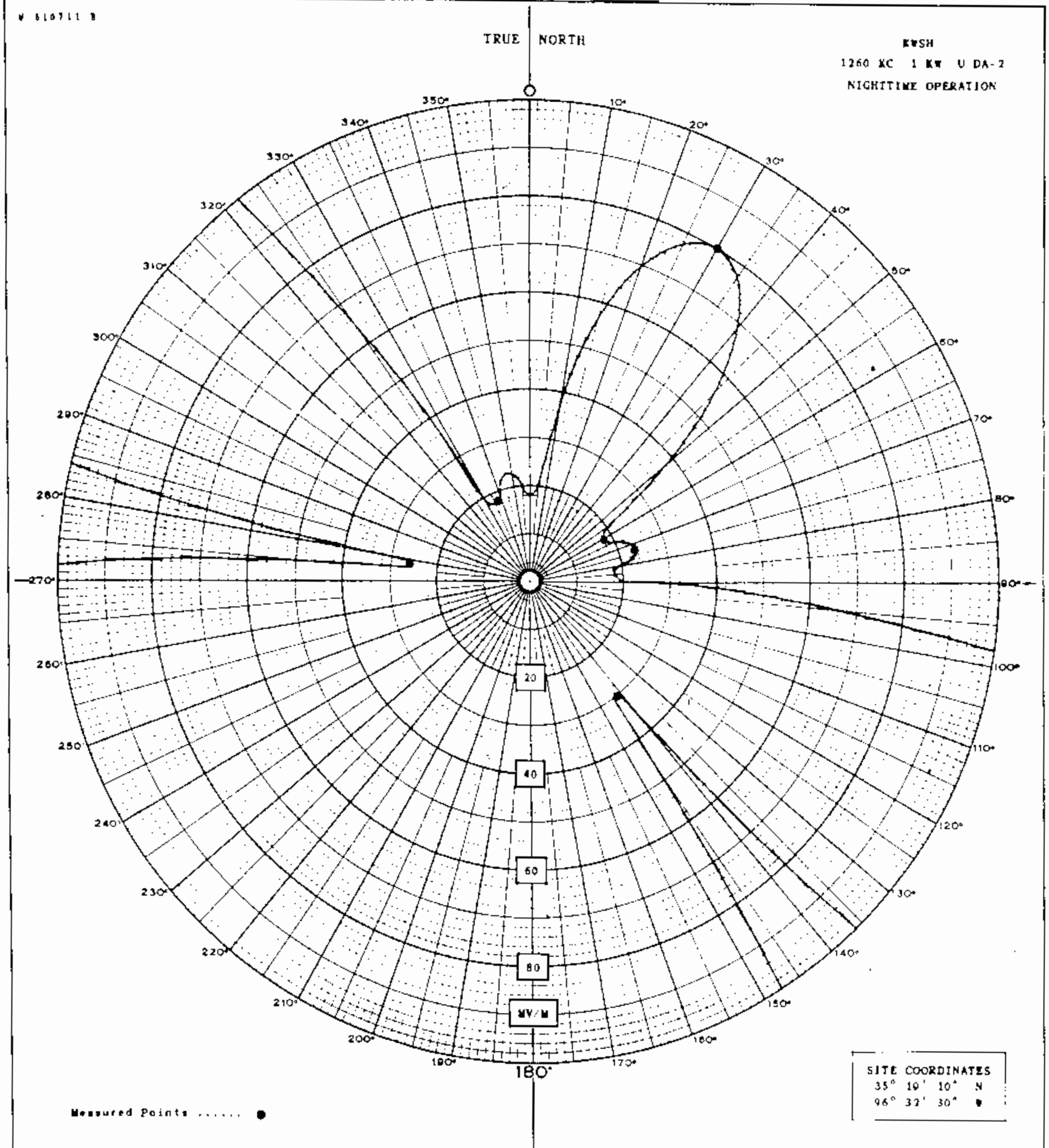
1260 KC

JUL 31 1975

KWSH

MEASURED NIGHT NULLS   KWSH, WEWOKA, OKLA. 8/9/51   1 KW, U, DA-2   1260 KC

Granted CP 1/19/58 to change from DA-2 to DA-N



MEASURED NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN

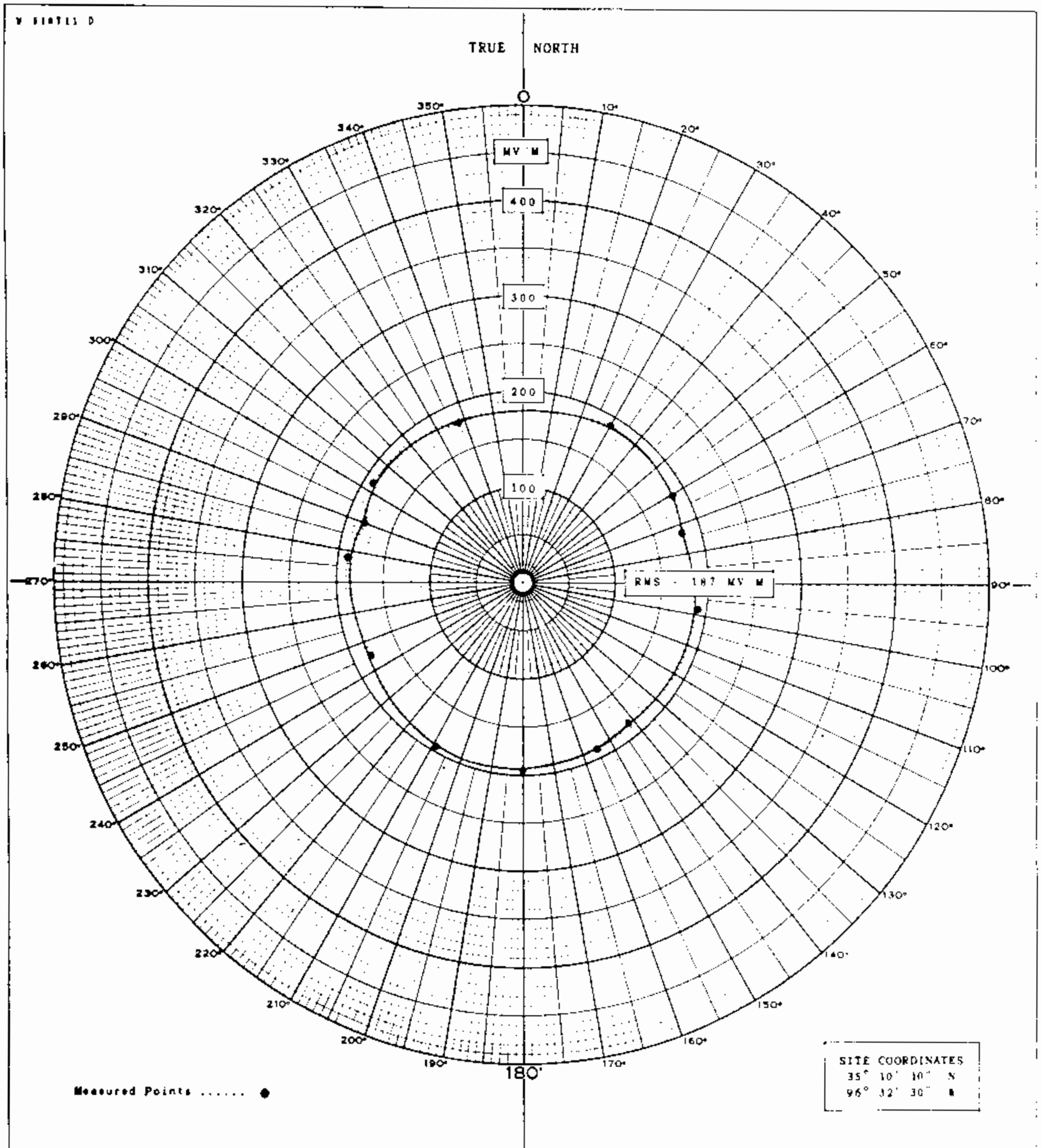
DETAIL IN MINIMA	KADA BROADCASTING, INCORPORATED WELDON & CARR Consulting Radio Engineers Dallas • Washington • Seattle	KWSH WEWOKA OKLAHOMA 1260 KC 1 KW U DA-2

1975

KWSH, WEWOKA, OKLA.   1260 KC

KWSH

MEASURED NON-DA | KWSH, WEWOKA, OKLA. 8/9/51 | 1 KW, U, DA-2 | 1260 KC



MEASURED NON-DIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN

OPERATION FROM TOWER NO. 2
(Other Towers Effectively Isolated)

KADA BROADCASTING, INCORPORATED

WELDON & CARR Consulting Radio Engineers
Dallas • Washington • Seattle

KWSH
WEWOKA OKLAHOMA
1260 KC 1 KW U DA-2

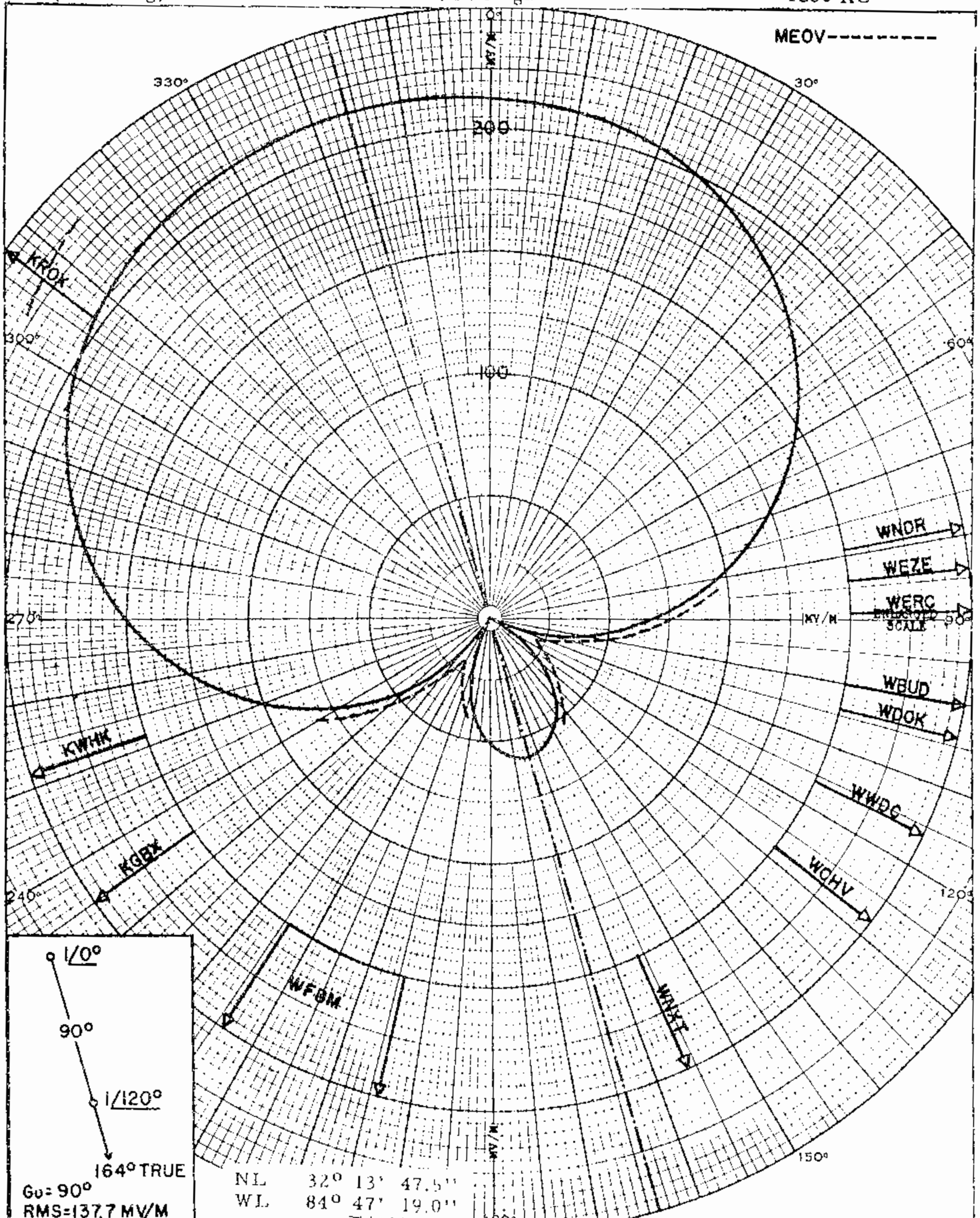
KWSH, WEWOKA, OKLA. 1260 KC

WALM

PROPOSED NIGHT
(4-22-59g)

Station WALM
Albion, Michigan

500w, 1kw-LS, DA-N,U
1260 KC



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

PATTERN: PROPOSED NIGHTTIME OPERATION
FOR: WALM, ALBION, MICHIGAN
POWER: 500 W FREQ: 1260 KC.
DATE: 3-11-59 BY:

FCC File No. BP-12019
Accepted 3-26-59 (Amended)

WALM
Albion, Michigan

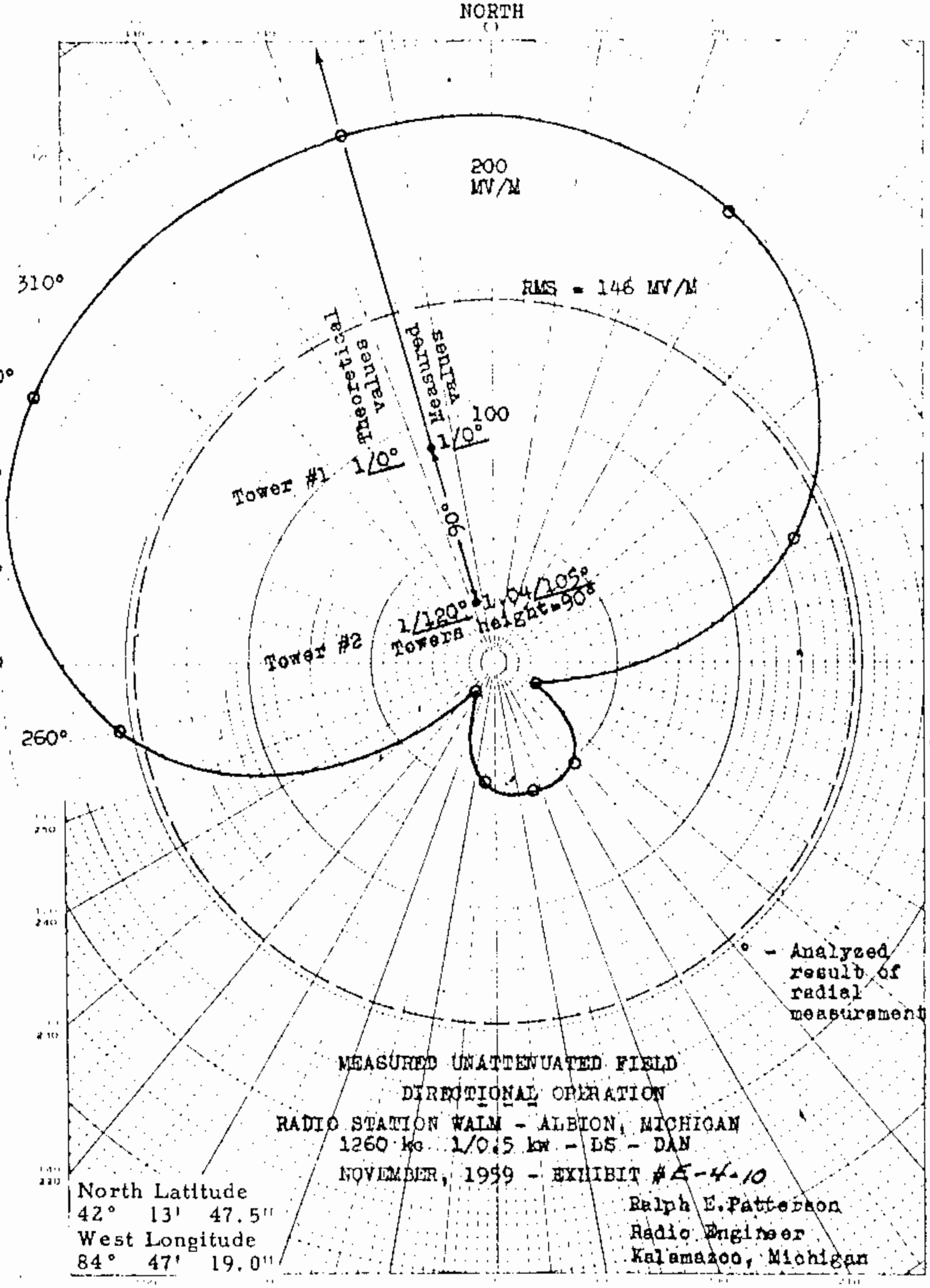
1260 KC

WALM

MEASURED NIGHT
(12-21-59g)

Station WALM
Albion, Michigan

500w, 1kw-LS, DA-N, U
1260 KC



Granted for DAN 8-21-60

FCC File No. BL-7733
Accepted 11-30-59

WALM
Albion, Michigan

1260 KC

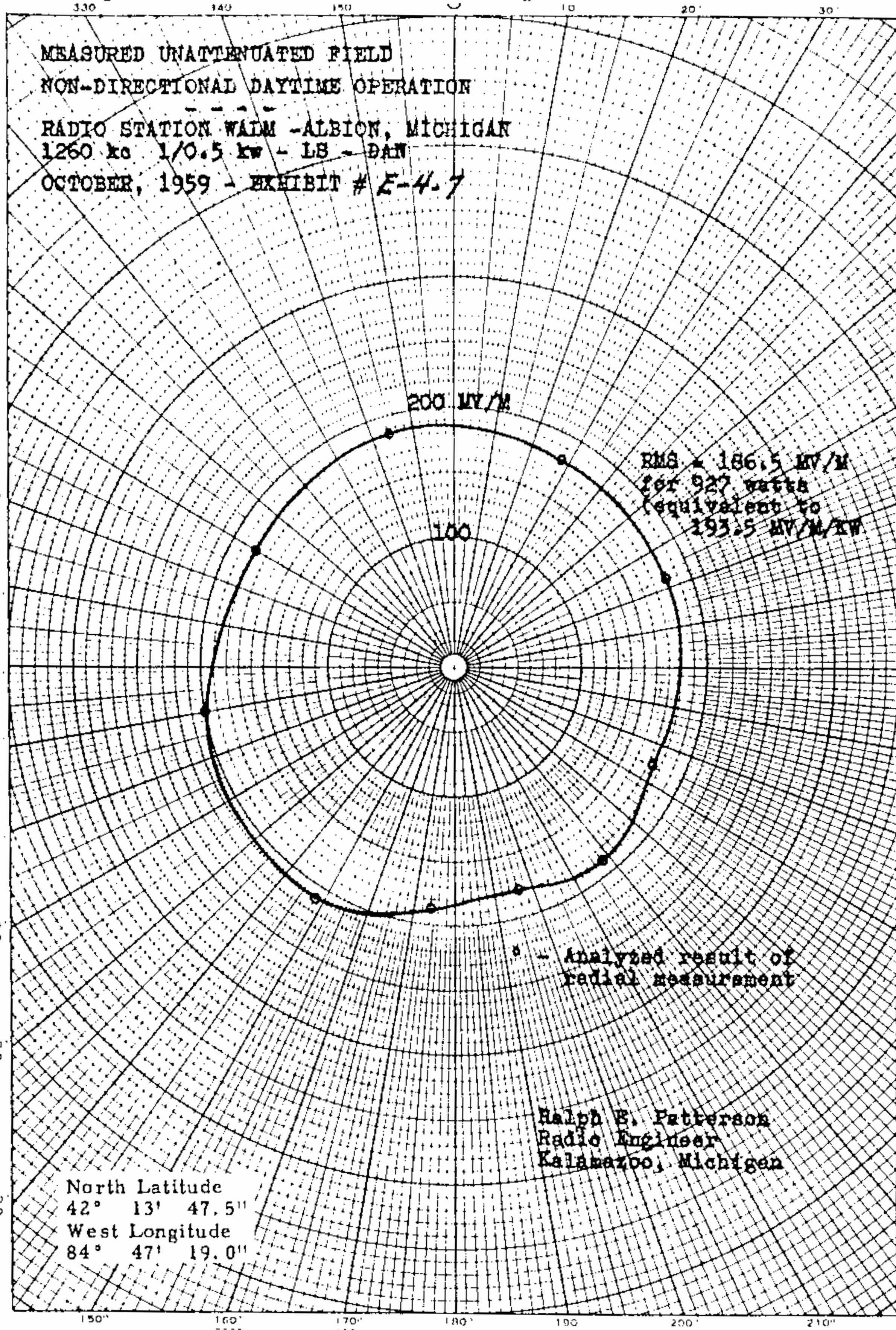
JUL 1975

WALM

MEASURED NON-DA
(12-21-59g)

Station WALM
Albion, Michigan

500w, 1kw-LS, DA-N, U
1260 KC



FCC File No. BL-7733
Accepted 11-30-59

WALM
Albion, Michigan

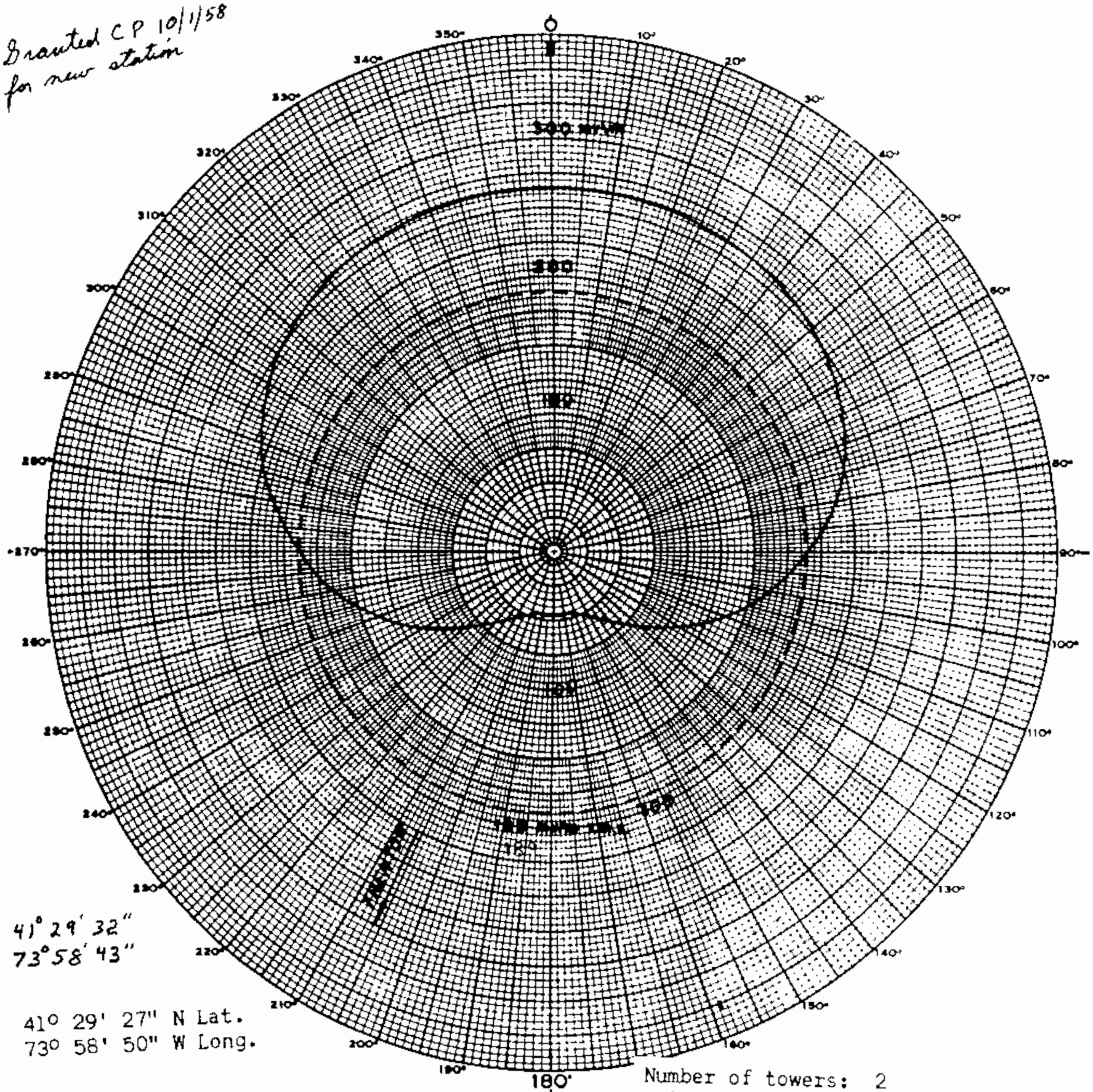
1260 KC

Beacon, N.Y. WBNK

PROPOSED DAY (3-5-56G) | WEST SHORE BCG. COMPANY BEACON, NEW YORK | 1 KW DA-D, D | 1260 KC

SEE PROOF

Granted CP 10/1/58 for new station



Granted CP 1-5-59 for new coor: antenna trans. + studio

41° 29' 32"
73° 58' 43"

41° 29' 27" N Lat.
73° 58' 50" W Long.

Number of towers: 2
Heights of towers: 195', 197' overall

ESTIMATED EFFECTIVE FIELD AT ONE MILE IN THE HORIZONTAL PLANE

1.0/0° 90° 0.7/90°	WEST SHORE BROADCASTING COMPANY BEACON, NEW YORK SEE PROOF PATTERN 560209 Figure 1	1260 kc 1000 w. FREDERIC D. SCHOTTLAND Consulting Radio Engineer 40 ROCK SPRING AVENUE WEST ORANGE, N. J.

FILE NO. BP-9821 ACCEPTED 2-28-56 FCC

WESTSHORE BCG. CO.
Beacon, New York 1260 KC

WBNR

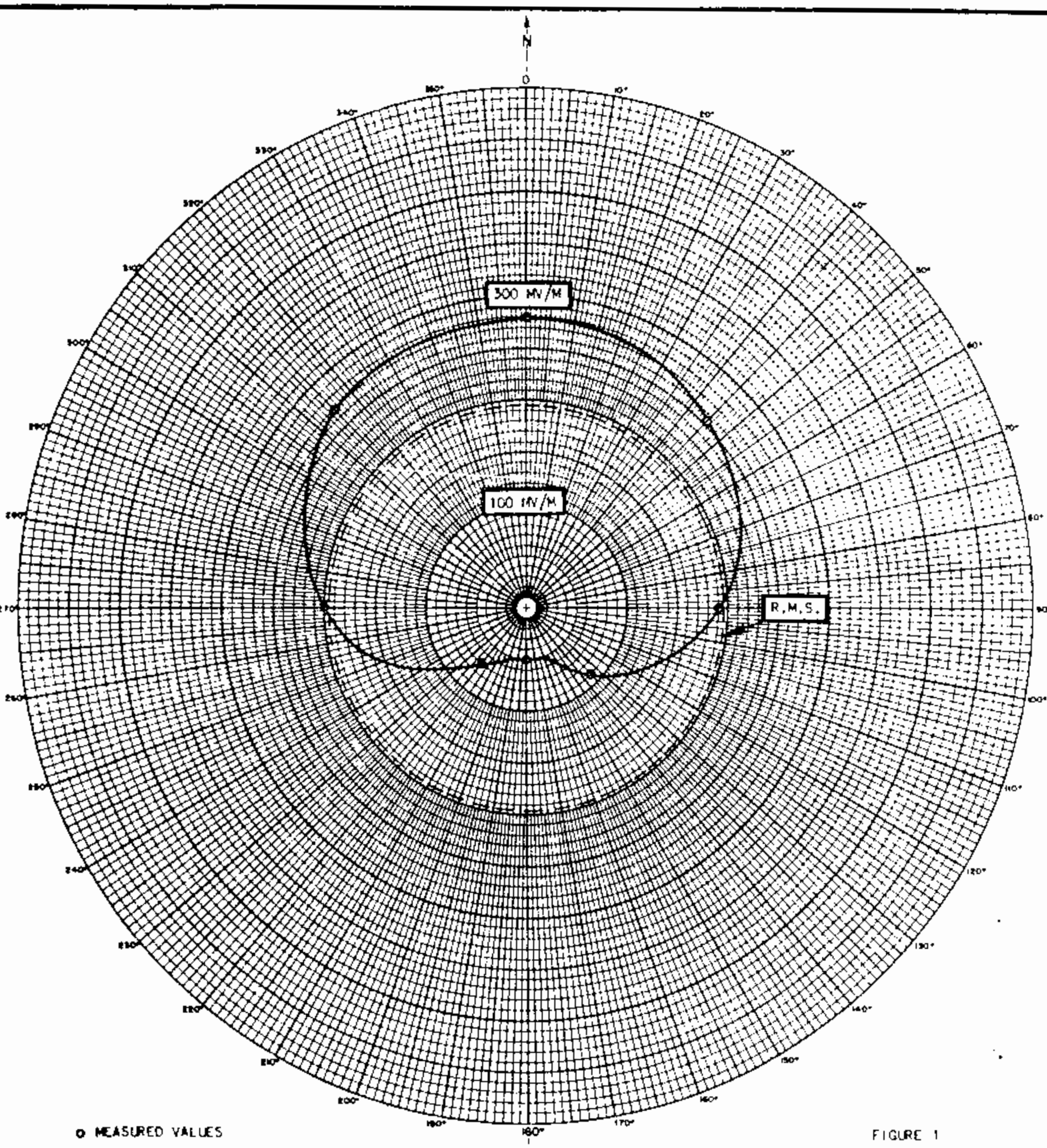
MEASURED DAY
(1-17-61g)

Station WBNR
Beacon, New York

1kw, DA-D,D
1260 KC

7

-12-61
ranted L
new station

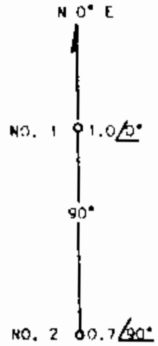


o MEASURED VALUES

FIGURE 1

HORIZONTAL RADIATION PATTERN

SPACING AND ORIENTATION OF ARRAY
N 0° E



APPLICANT	WBNR, INC.
LOCATION	BEACON, N.Y.
FREQUENCY	1260 KC/S
POWER	1 Kw, DA-D
LATITUDE	41 DEG 29 MIN 33 SEC
LONGITUDE	73 DEG 58 MIN 40 SEC
WHEN USED	DAYTIME
R.M.S. FIELD	196 MV/M
DATE	SEPTEMBER 1960

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

FCC File No. BL-7777
Accepted 10-17-60 (Amended)

WBNR
Beacon, New York

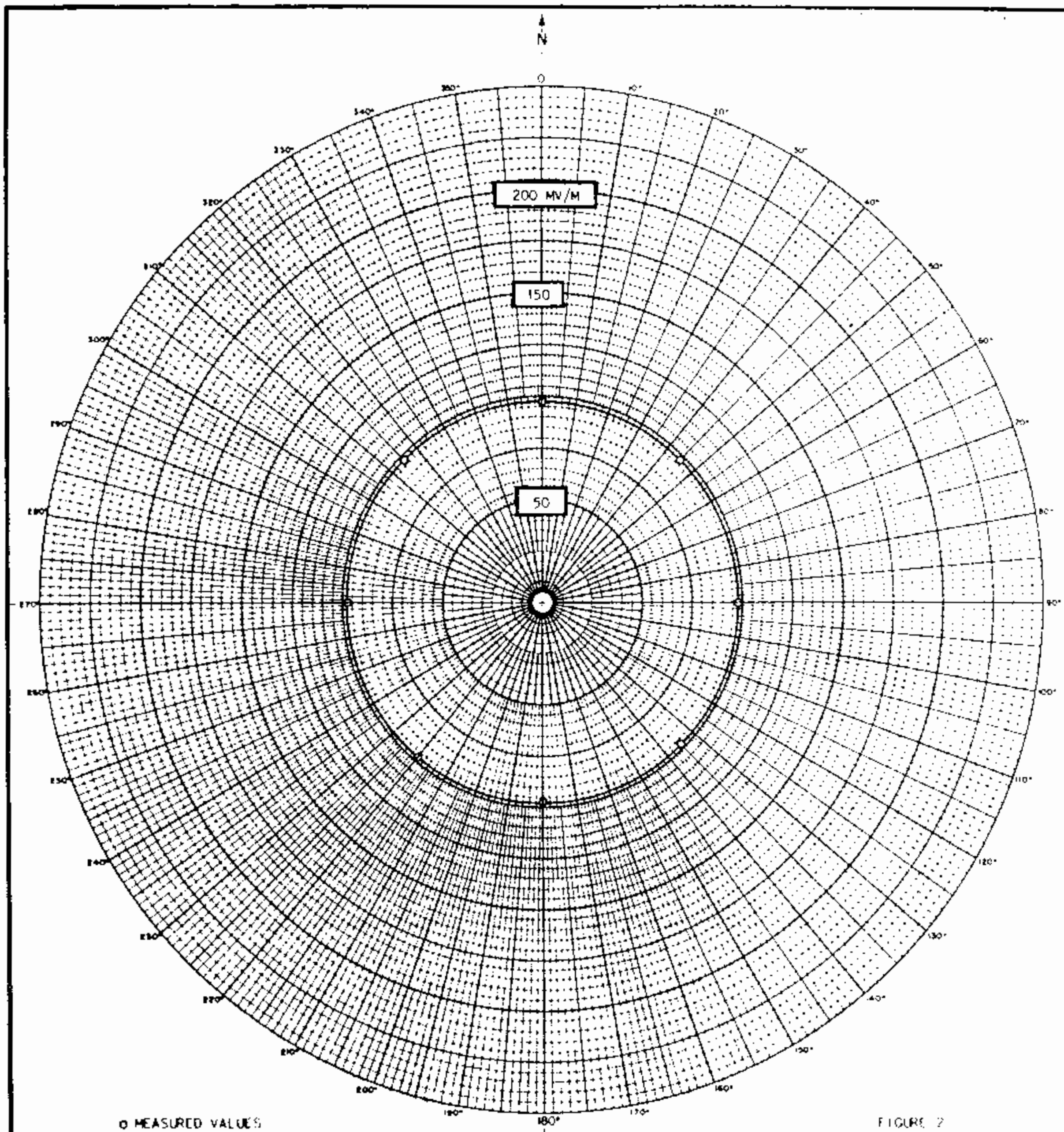
1260 KC

WBNR

MEASURED NON-DA
(1-17-61g)

Station WBNR
Beacon, New York

1kw, DA-D,D
1260 KC · 8



HORIZONTAL RADIATION PATTERN

APPLICANT	W.B.N.R., INC.
LOCATION	BEACON, N. Y.
FREQUENCY	1260 KC/S
POWER	250 WATTS
LATITUDE	41 DEG 29 MIN 33 SEC
LONGITUDE	73 DEG 58 MIN 40 SEC
WHEN USED	NON-DIRECTIONAL SURVEY
R M S FIELD	95 MV/M
DATE	SEPTEMBER 1960

NON-DIRECTIONAL SURVEY

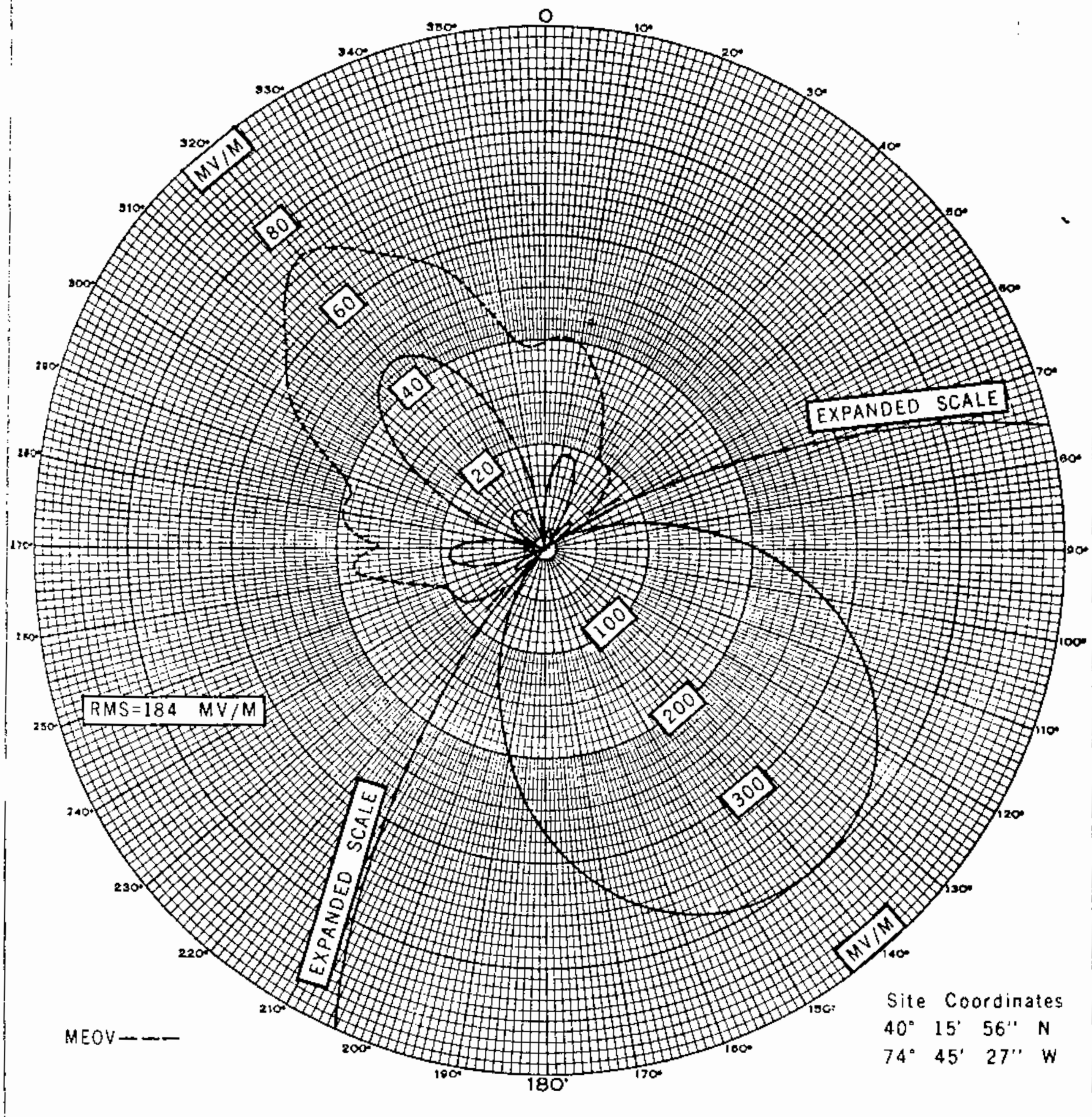
SILLIMAN, MOFFET & ROHRER
CONSULTING RADIO ENGINEERS
WASHINGTON, D.C.

FCC File No. BL-7777
Accepted 10-17-60 (Amended)

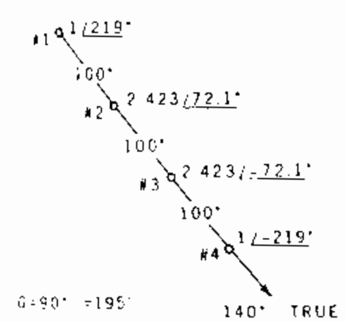
WBNR
Beacon, New York

1260 KC

Figure 7 WBUD



NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN



WBUD, INC.
RADIO STATION WBUD
TRENTON, NEW JERSEY

Jules Cohen & Associates
Consulting Electronics Engineers

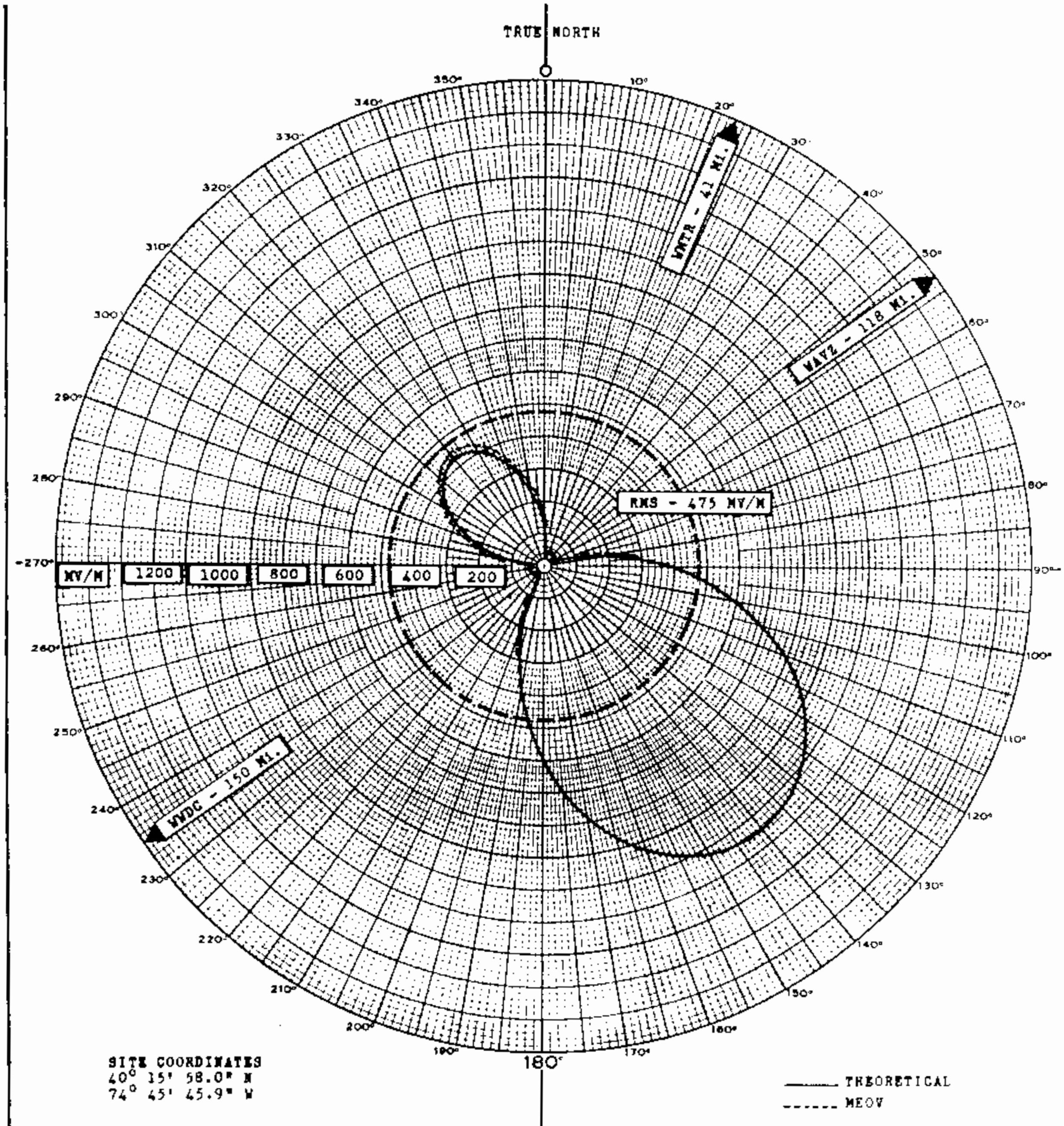
1260 KHZ
1 KW, 5 KW-LS DA-2 U

JANUARY 1972

AUG 1976

WBUD

PROPOSED DAY (8/14/53G) WBUD, TRENTON, NEW JERSEY 1 KW,5 KW-LS, DA-2 1260 kc



PROPOSED DAYTIME HORIZONTAL PLANE RADIATION PATTERN

#1 1/0°
100°
#2 2.04/-164°
100°
#3 1.77/33°
100°
#4 .60/-130°
G = 90° 140° TRUE
N

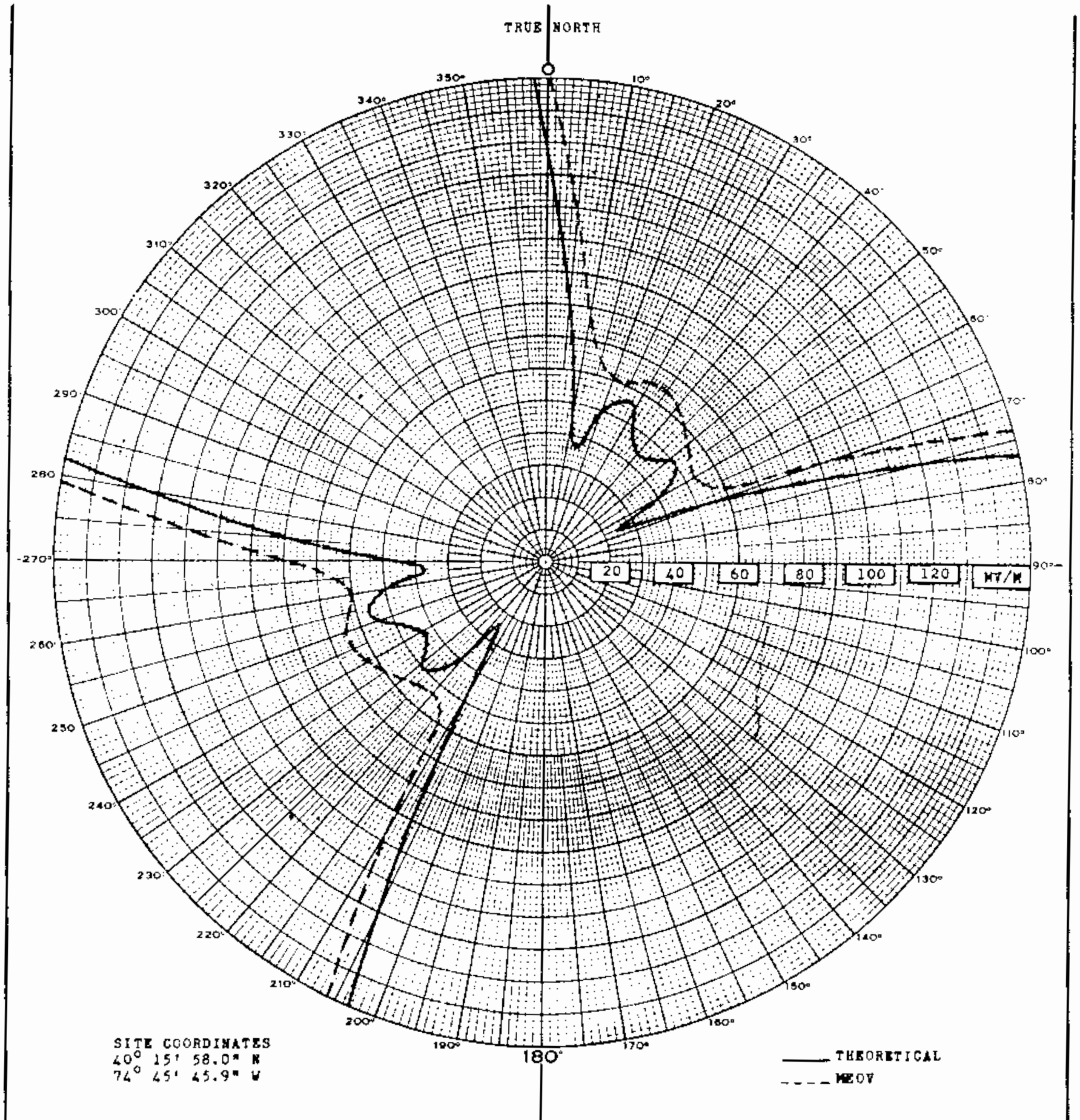
MORRISVILLE BROADCASTING COMPANY
TRENTON NEW JERSEY

Vandivere, Cohen and Wearn
Consulting Electronic Engineers

PROPOSED OPERATION
WBUD 1260 KC
1Kw,5Kw-LS DA-2

WBUD

PROPOSED WBUD, TRENTON, NEW JERSEY 1KW,5KW-LS, DA-2 1260 kc
DAY (8/14/53G)



PROPOSED DAYTIME HORIZONTAL PLANE RADIATION PATTERN

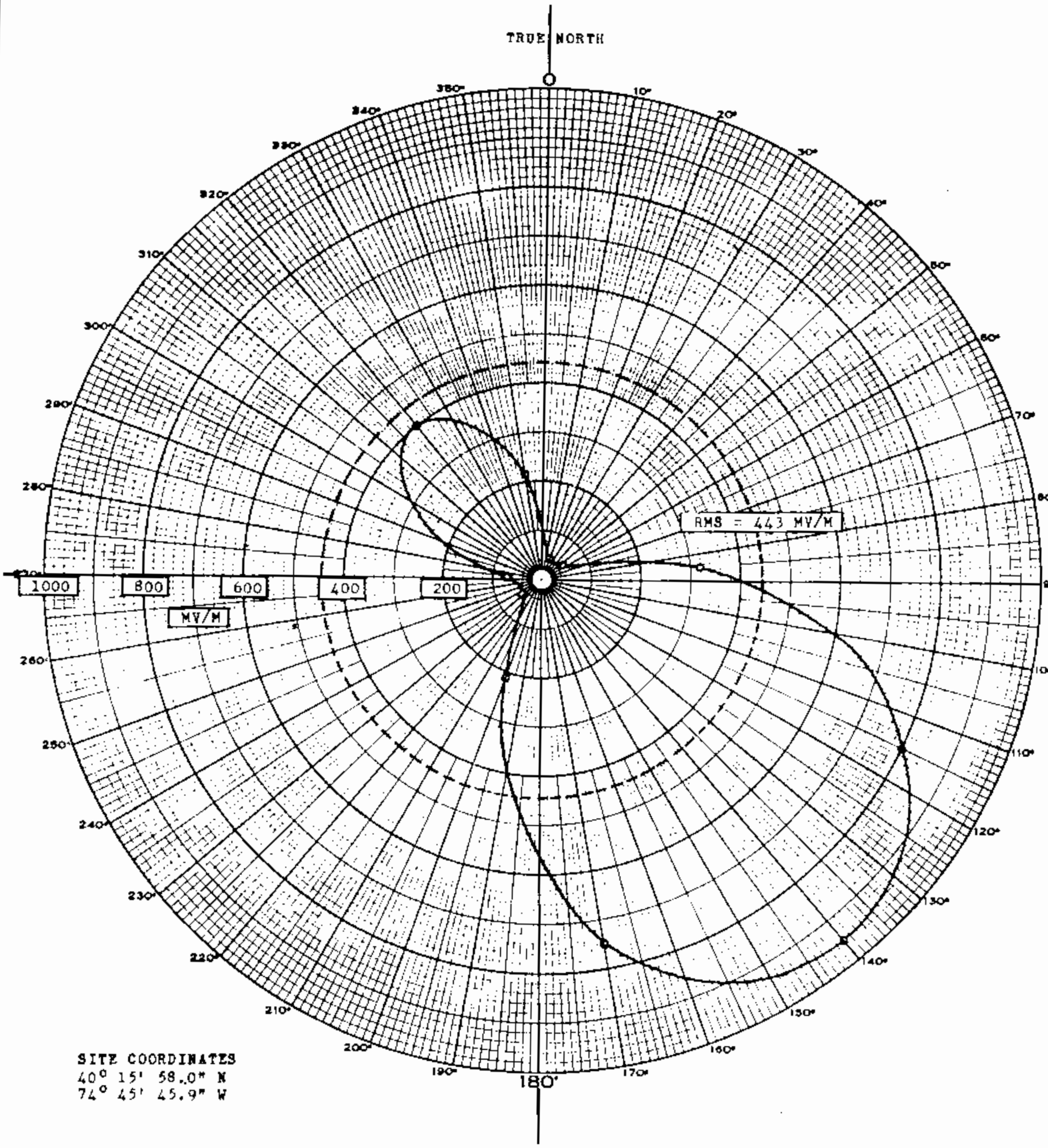
DETAILS IN MINIMA	MORRISVILLE BROADCASTING COMPANY TRENTON NEW JERSEY Vandivere, Cohen and Wearn Consulting Electronic Engineers	PROPOSED OPERATION WBUD 1260 KC 1KW,5KW-LS DA-2

MEASURED DAY
(4/11/55G)

STATION WBUD
TRENTON, NEW JERSEY

1KW, 5KW-LS
DA-2, U

1260 KC



MEASURED DAYTIME HORIZONTAL PLANE RADIATION PATTERN

#1 1/0°
100°
#2 2.04/-164°
100°
#3 1.77/33°
100°
#4 .60/-130°
G = 90°
140° TRUE
N

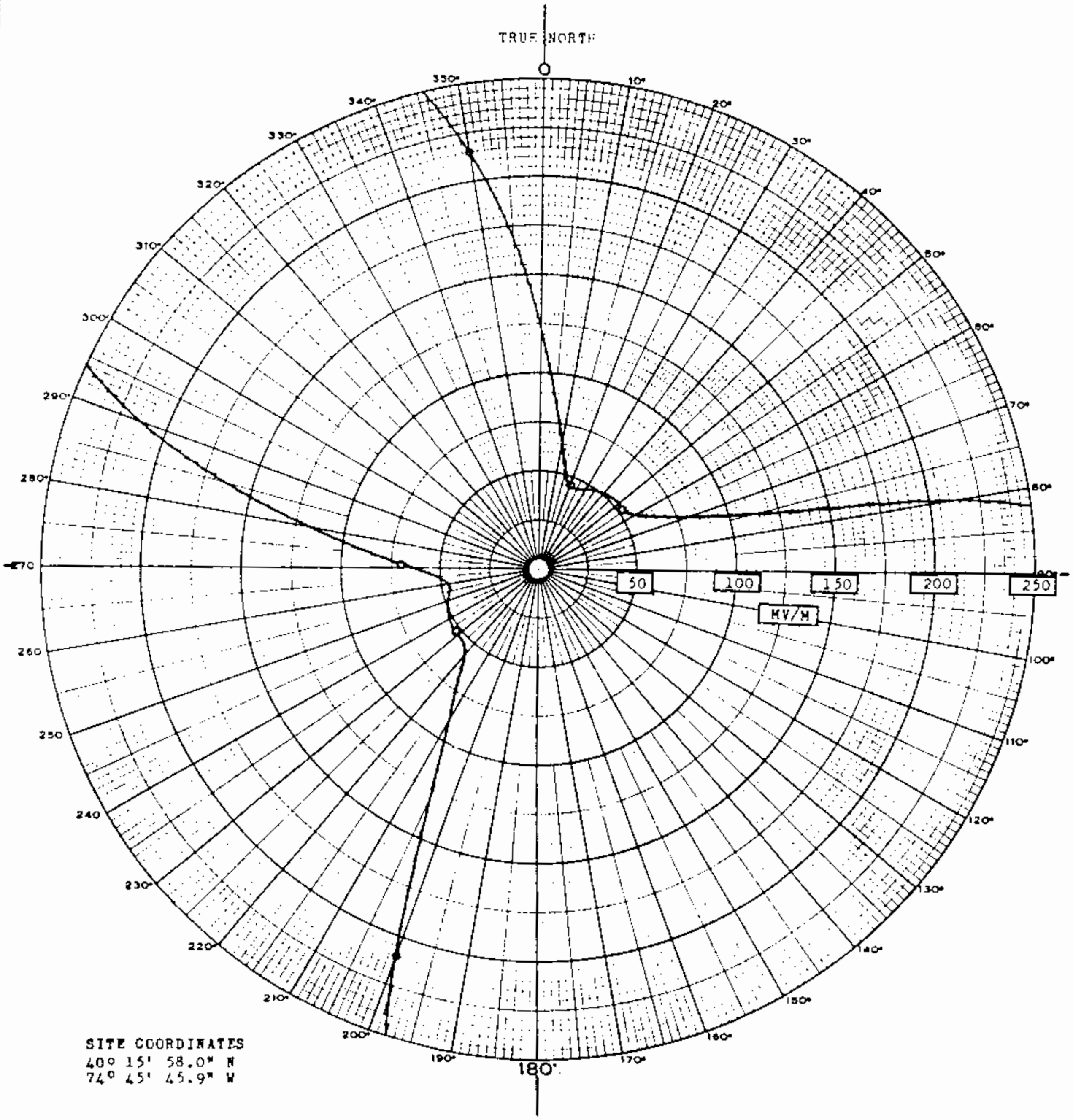
MORRISVILLE BROADCASTING COMPANY
TRENTON NEW JERSEY

Vandivere, Cohen and Wearn
Consulting Electronic Engineers

RADIO STATION WBUD
1260 KC
1 KW, 5 KW-LS
DA-2

FILE NO. BL-5658 Accepted 3/21/55 FCC WBUD, Trenton, N. J. 1260 KC

MEASURED DAY NULLS (4/11/55G) | STATION WBUD TRENTON, NEW JERSEY | 1KW, 5KW-LS DA-2, U | 1260 KC



SITE COORDINATES
40° 15' 58.0" N
74° 45' 45.9" W

MEASURED DAYTIME HORIZONTAL PLANE RADIATION PATTERN

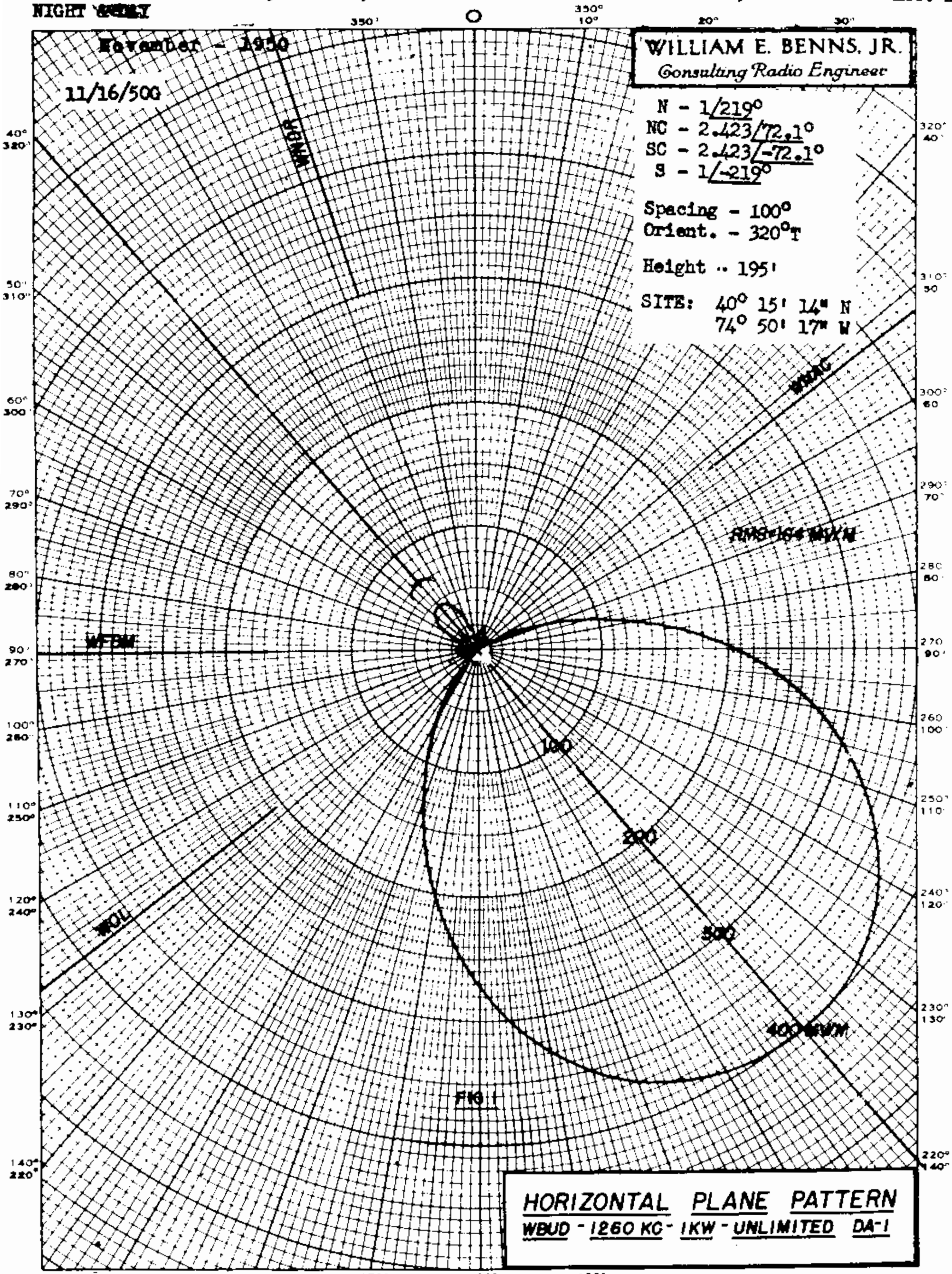
DETAILS IN MINIMA	MORRISVILLE BROADCASTING COMPANY TRENTON NEW JERSEY Vandivere, Cohen and Wearn Consulting Electronic Engineers	RADIO STATION WBUD 1260 KC 1 KW, 5 KW-LS DA-2

FILE NO. BL-5658 Accepted 3/21/55 FCC WBUD, Trenton, N. J. 1260 KC

JUL 3 1 1975

WBUD

PROPOSED WBUD, TRENTON, N. J. 1kw, ~~DA~~-1 1260 kc
NIGHT



AMENDMENT RECD 11-15-50 WBUD, Trenton, N. J. 1260 kc

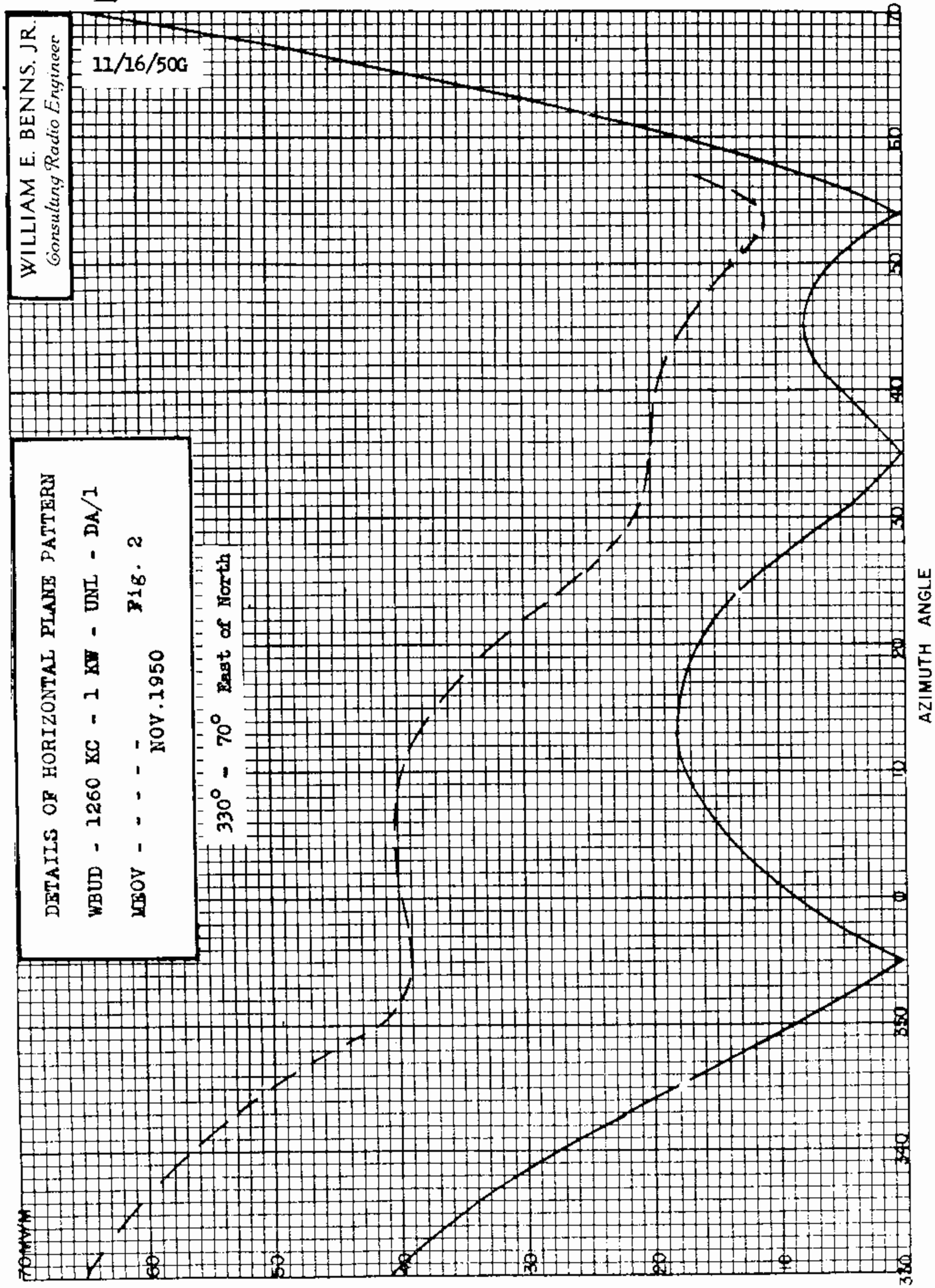
WBUD

PROPOSED
NIGHT & ~~DAY~~ NULLS

WBUD, TRENTON, N. J.

1kw, DA-1

1260 kc

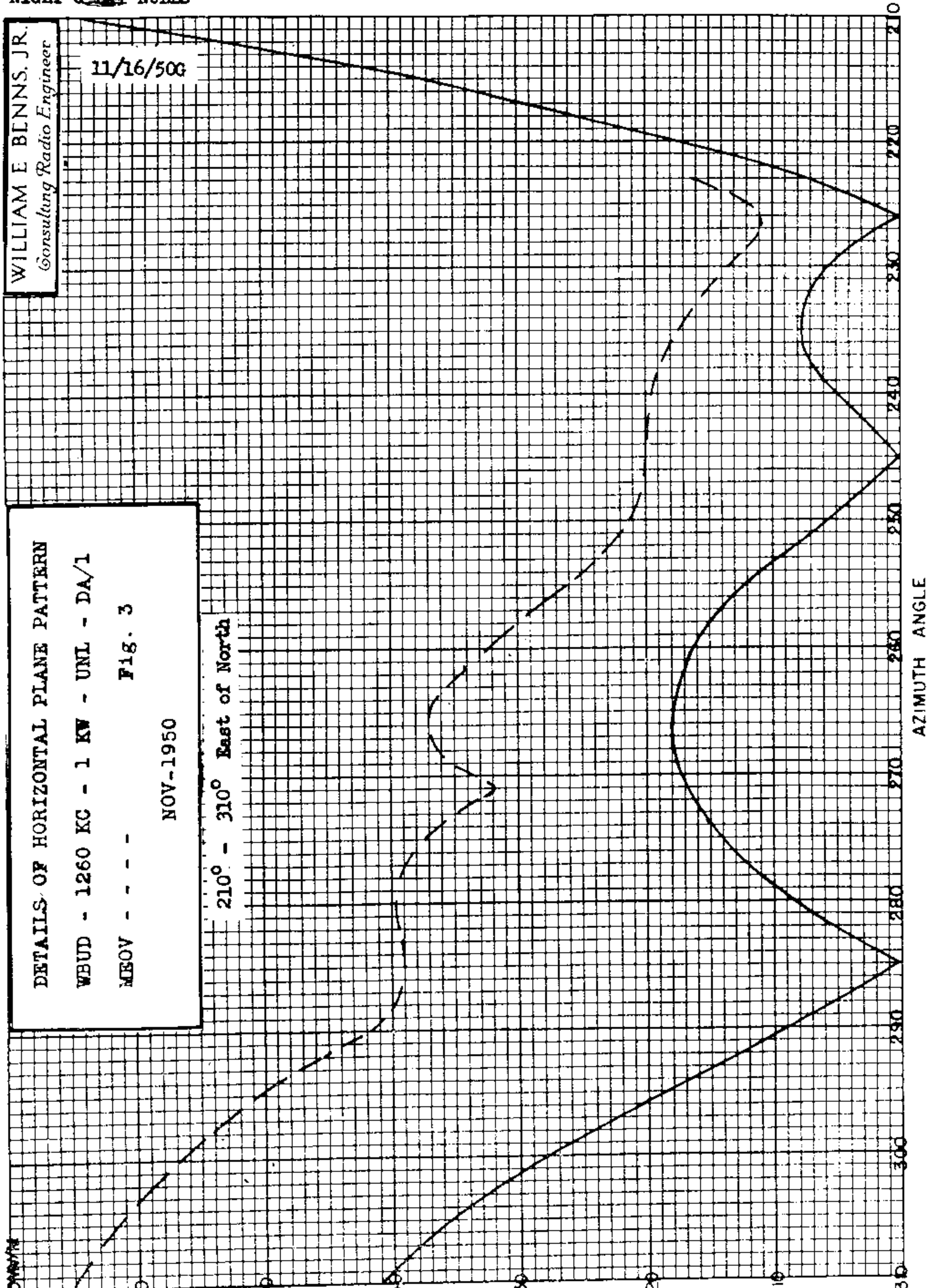


AMENDMENT RECD 11-15-50

WBUD, Trenton, N. J. 1260 kc

WBUD

PROPOSED   WBUD, TRENTON, N. J.   1kw, DA-1   1260 kc
NIGHT [redacted] NULLS



AMENDMENT RECD 11-15-50   WBUD, Trenton, N. J. 1260 kc

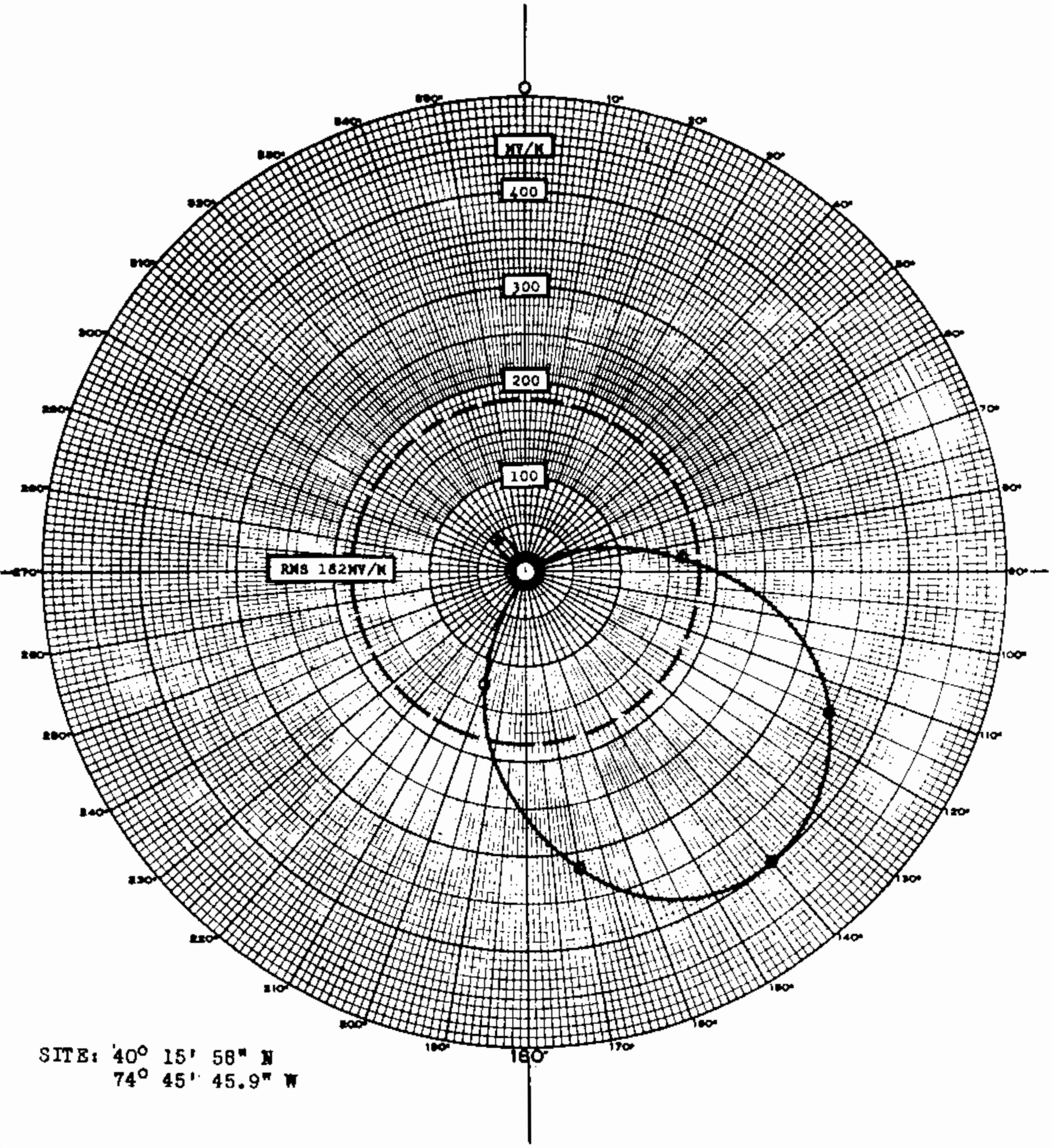
MEASURED WBUD, TRENTON, N. J. 1kw, ~~DA~~

~~DAY &~~ NIGHT (2/4/53G)

WBUD

1260 kc

Figure 6
Sheet 2 of 3

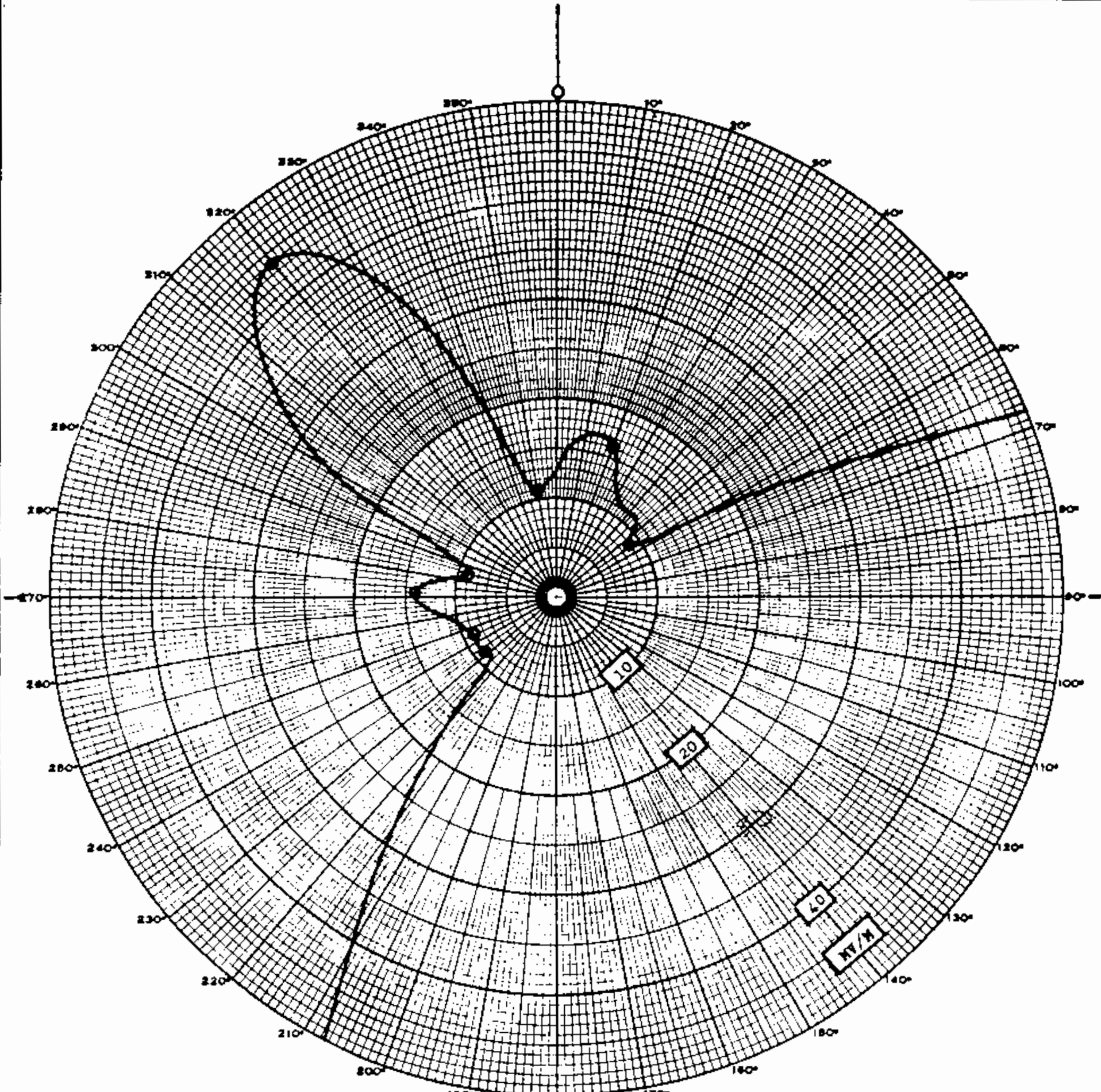


SITE: 40° 15' 58" N
74° 45' 45.9" W

MEASURED DIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN	
APPLICATION FOR STANDARD BROADCAST LICENSE 1260 KC 1 KW U DA-1	WBUD MORRISVILLE BROADCASTING COMPANY TRENTON, NEW JERSEY
Vandivere, Cohen and Wearn Consulting Electronic Engineers	

MEASURED WBUD, TRENTON, N. J. 1kw, ~~DA-2~~ 1260 kc
~~DAY &~~ NIGHT NULLS (2/4/53G)

Figure 6
Sheet 3 of 3



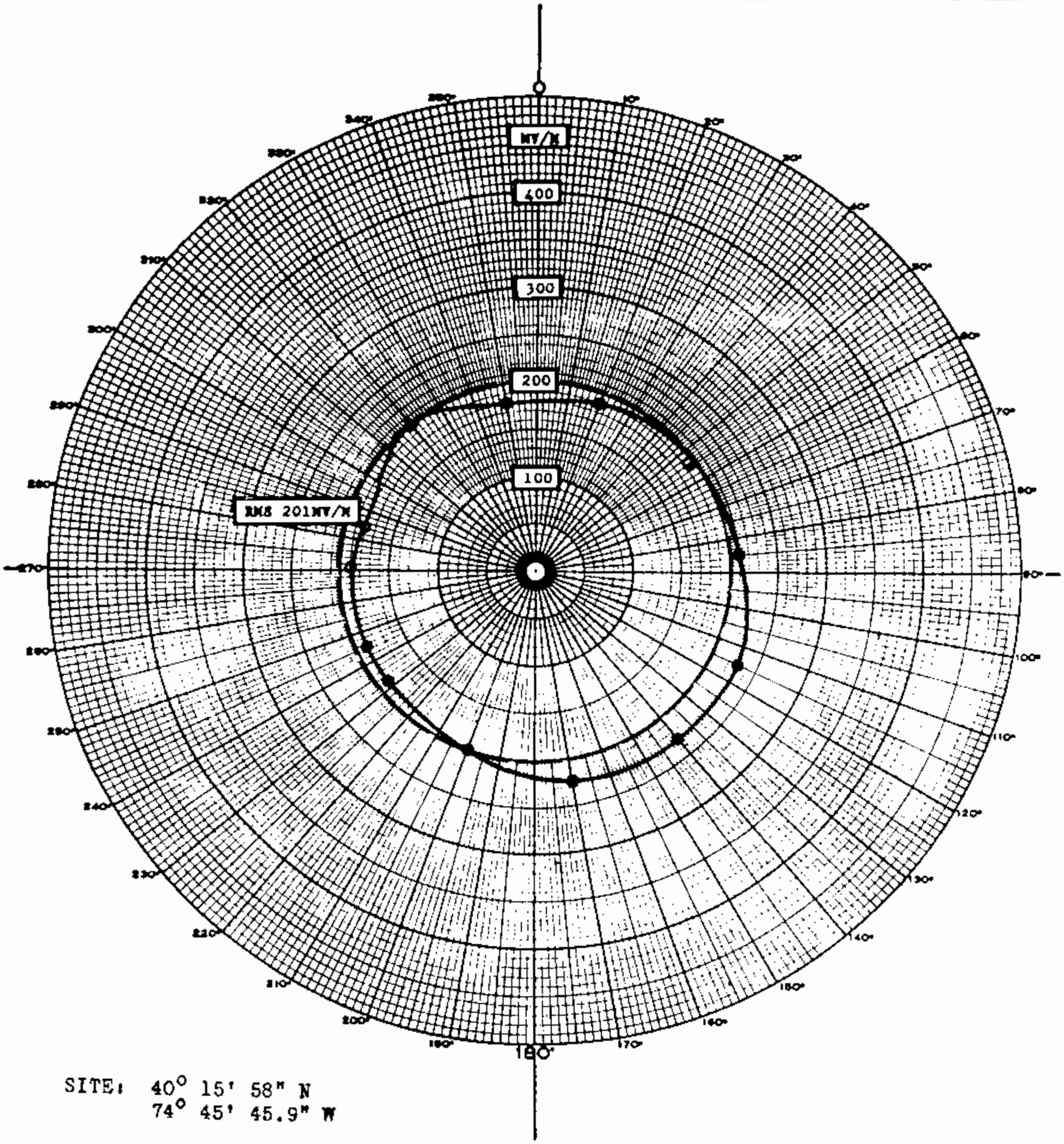
SITE: 40° 15' 58" N
74° 45' 45.9" W

MEASURED NULL DETAILS OF HORIZONTAL PLANE RADIATION PATTERN	
APPLICATION FOR STANDARD BROADCAST LICENSE 1260 KC 1 KW U DA-1	WBUD MORRISVILLE BROADCASTING COMPANY TRENTON, NEW JERSEY
Vandivere, Cohen and Wearn Consulting Electronic Engineers	

MEASURED
~~DAY & NIGHT~~ (Non-D.A.)
(2/4/53G)

WBUD, TRENTON, N. J. 1kw, ~~DA-1~~ 1260 kc

Figure 6
Sheet 1 of 3



SITE: 40° 15' 58" N
74° 45' 45.9" W

MEASURED NONDIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN	
APPLICATION FOR STANDARD BROADCAST LICENSE 1260 KC 1 KW U DA-1	WBUD MORRISVILLE BROADCASTING COMPANY TRENTON, NEW JERSEY
Vandivere, Cohen and Wearn Consulting Electronic Engineers	

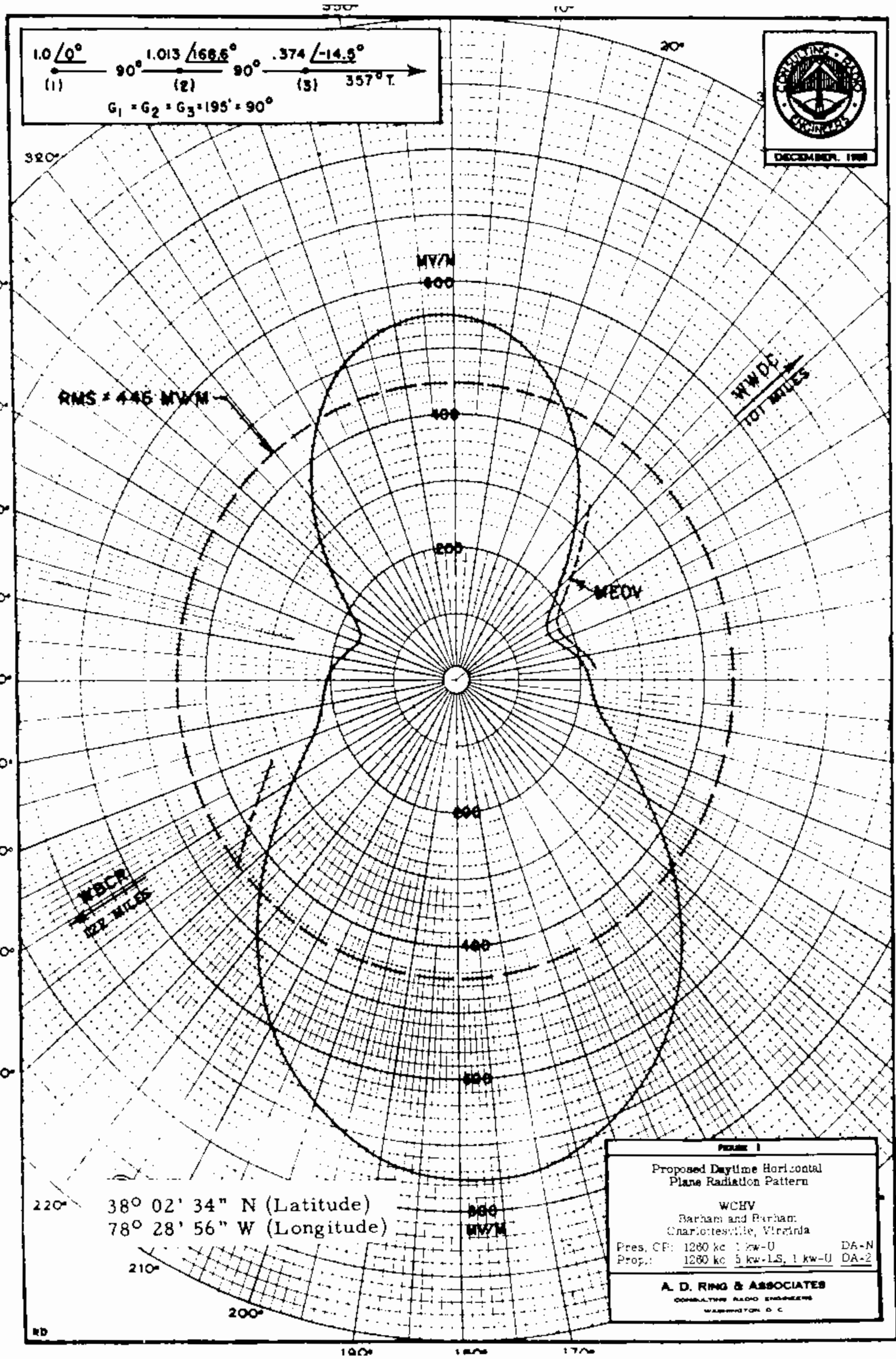
WCHV

PROPOSED
DAY (2/21/56G)

STATION WCHV
Charlottesville, Va.

1 KW-5 KW-LS
DA-2, U

1260 KC



FCC File No. BP-10,274 Accepted 1-18-56 WCHV, Charlottesville, Va. 1260 KC

WCHY

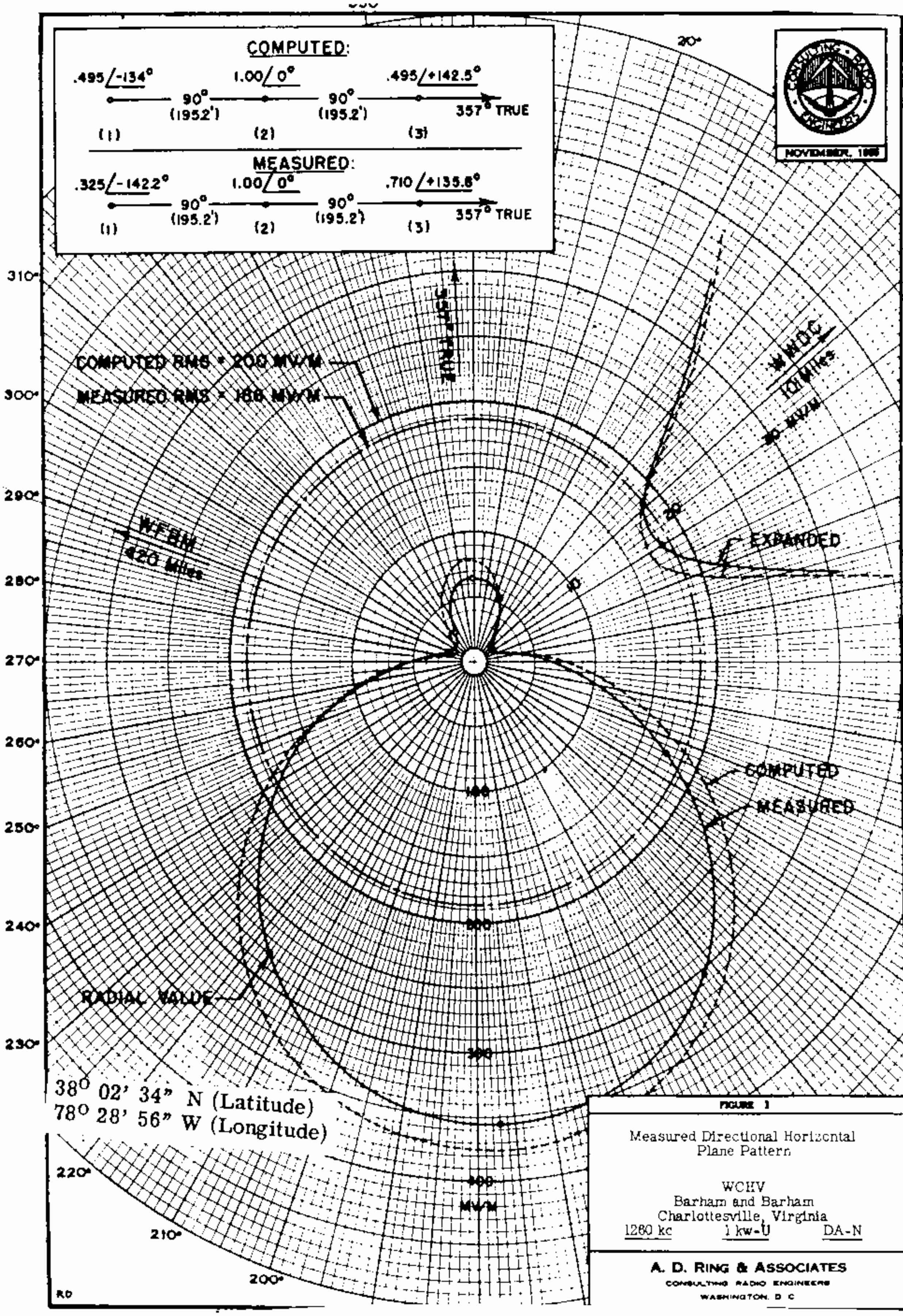
MEASURED
NIGHT 1/12/56G

STATION WCHV
CHARLOTTESVILLE, VA

1 KW
DA-N, U

1260 ~~1230~~ KC

granted license 3/6/57
for change from DA-N
to DA-2 directional
antenna operation



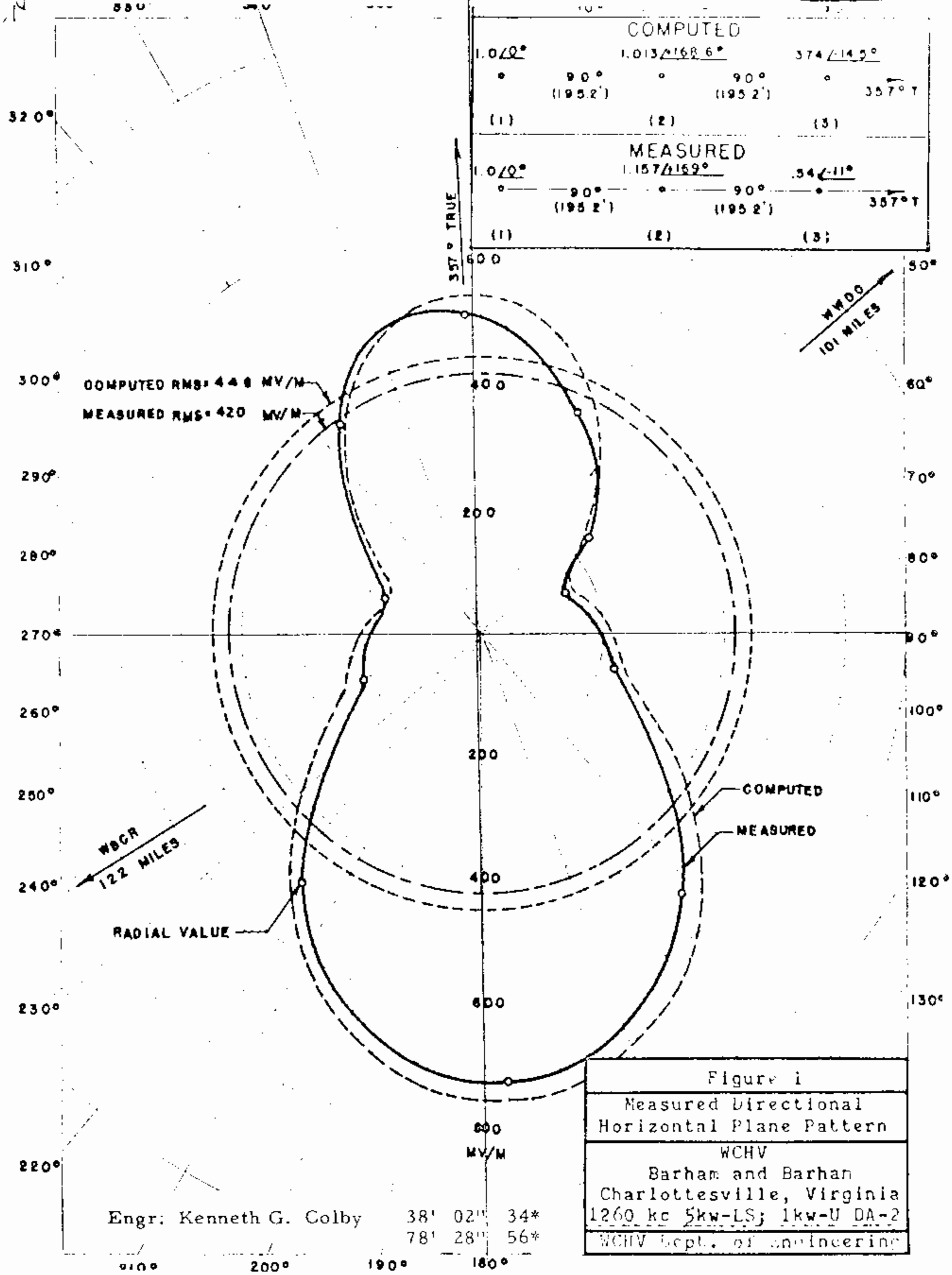
FCC File No. BL-5970 Accpeted 12/14/55 WCHV, Charlottesville, Va. ~~1230~~ KC

JUN 1975

WCHV

Granted license 3/6/57 for change from DA-N to DA-2

MEASURED DAY Station W C H V 5 KW-LS, 1 KW-U, DA-2
(12-18-56g) Charlottesville, Virginia 1260 KC



FCC File No. BL-6409 Accepted 11-29-56 Station WCHV Charlottesville, Va. 1260 K C

JUL 1 1975

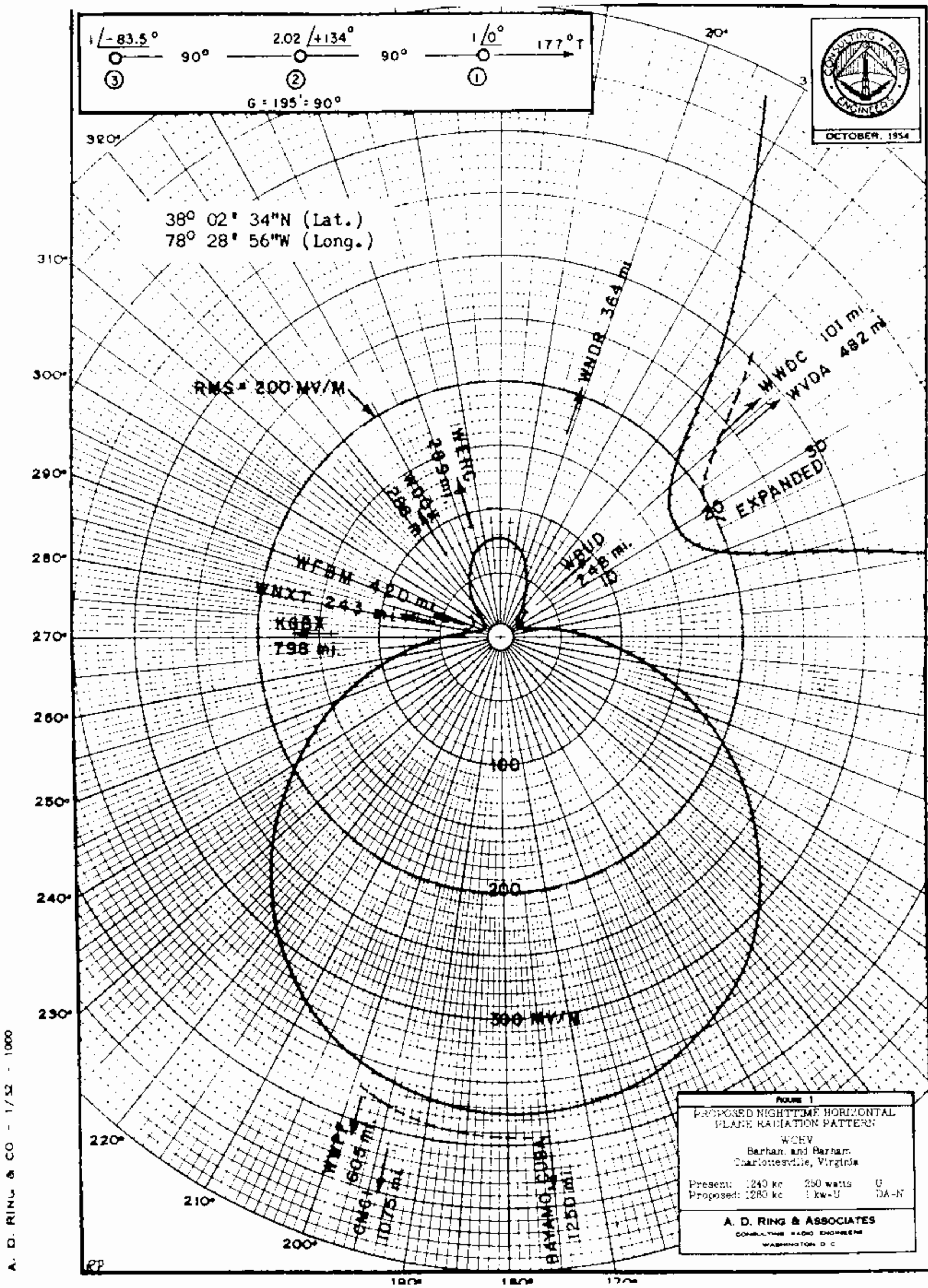
WCHV

PROPOSED NIGHT (12/10/54G)

STATION WCHV CHARLOTTESVILLE, VIRGINIA

1 KW DA-N, U

1260 KC



FILE NO. BP--9582 Accepted 11/30/54 WCHV, Charlottesville, Virginia 1260 KC

WCHV

MEASURED NON-DA (12-18-56)

Station WCHV
Charlottesville, Va.

5KW-ls, 1 KW-U
DA-2

1260 KC

granted license 3/6/57 for change from DA-N to DA-2 directional antenna operation

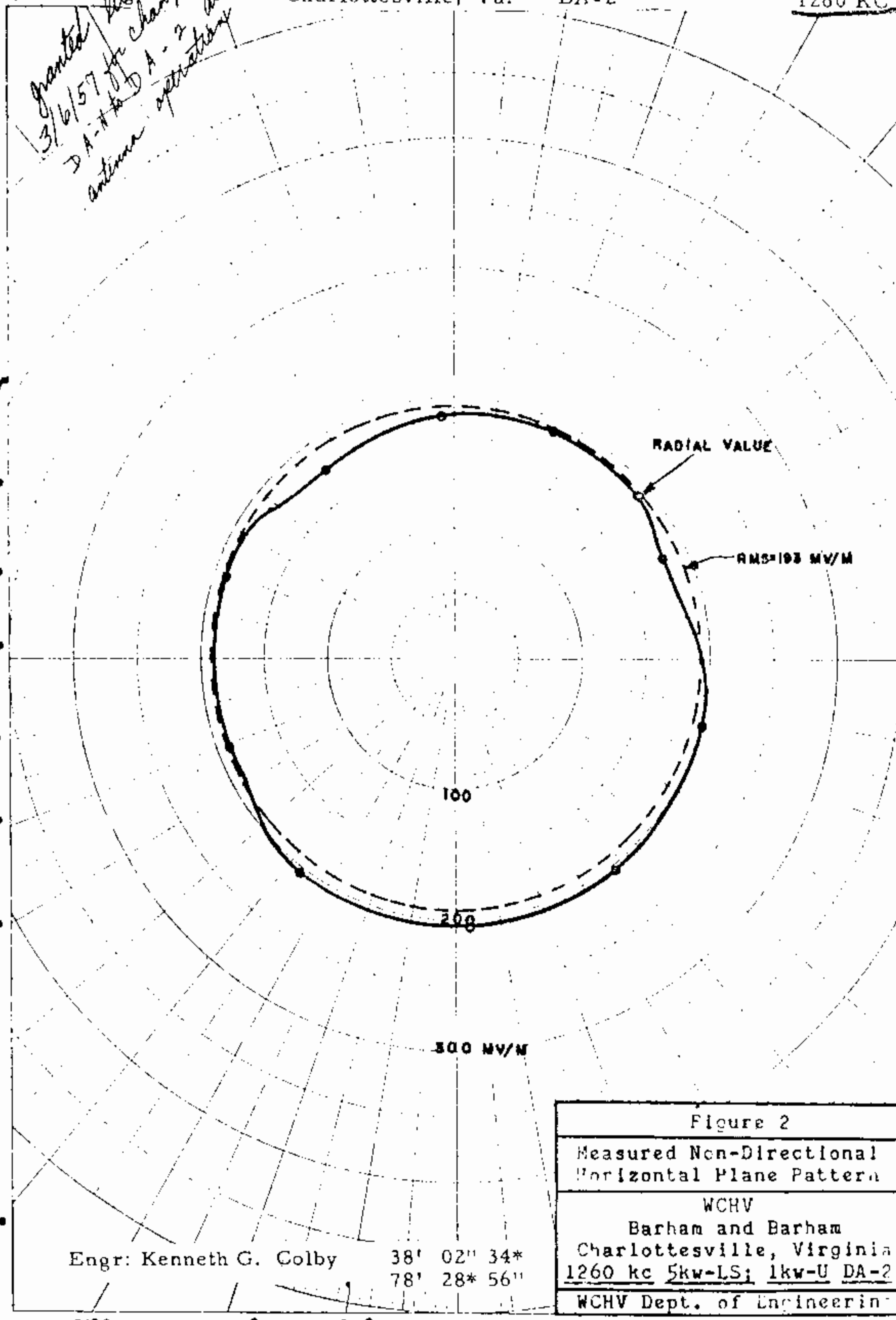


Figure 2

Measured Non-Directional Horizontal Plane Pattern

WCHV
Barham and Barham
Charlottesville, Virginia
1260 kc 5kw-LS; 1kw-U DA-2

WCHV Dept. of Engineering

Engr: Kenneth G. Colby

38' 02" 34*
78' 28* 56"

FCC File No.
BL-6409

Accepted 11-29-56

Station WCHV
Charlottesville, Va. 1260 KC

- 1260 KC.

WEZE

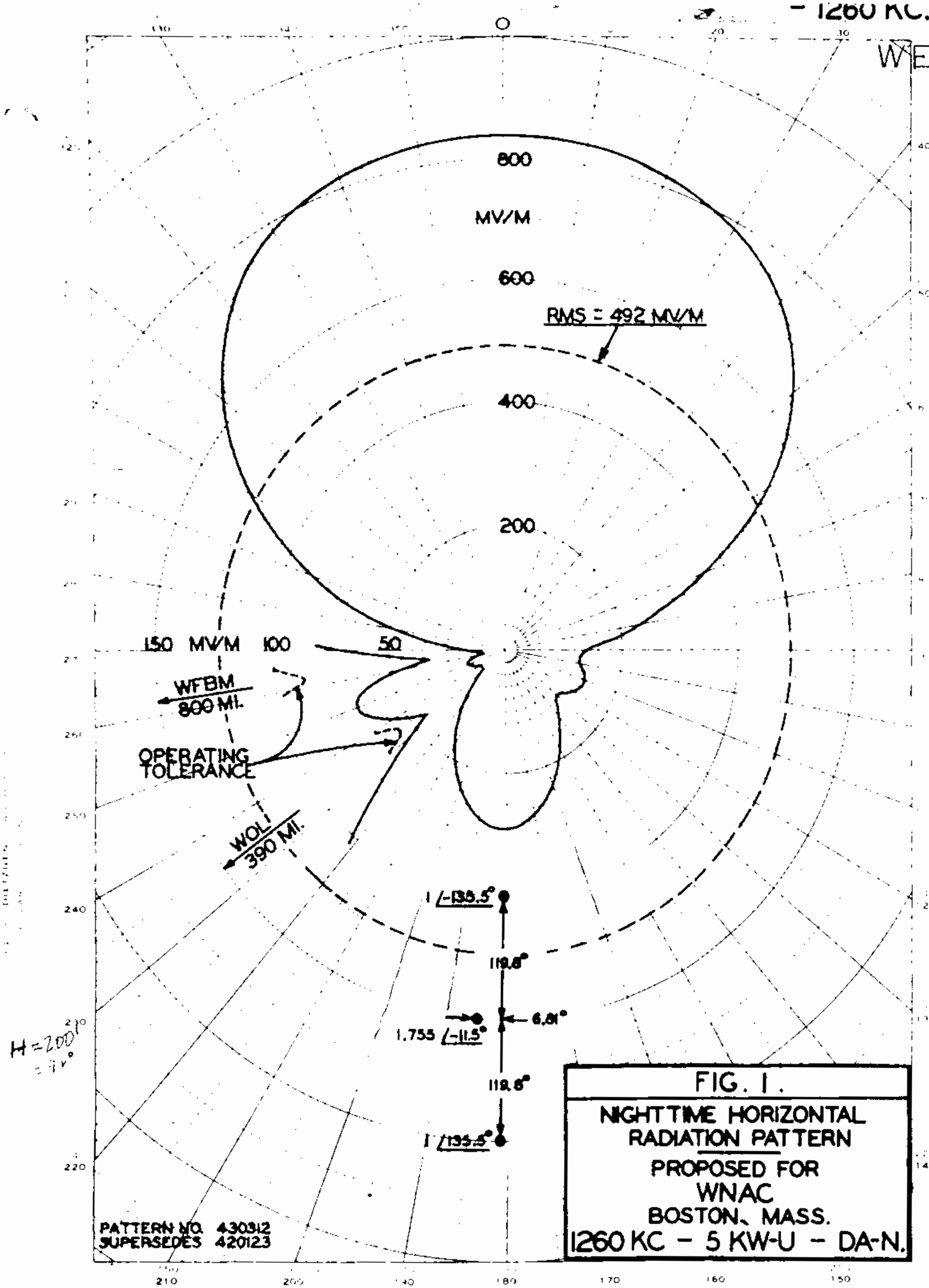


FIG. 1.

NIGHTTIME HORIZONTAL RADIATION PATTERN

PROPOSED FOR

WNAC

BOSTON, MASS.

1260 KC – 5 KW-U – DA-N.

MEASURED NON-DA   Station WEZE   5kw, DA-N,U
Boston, Massachusetts   1260 KC

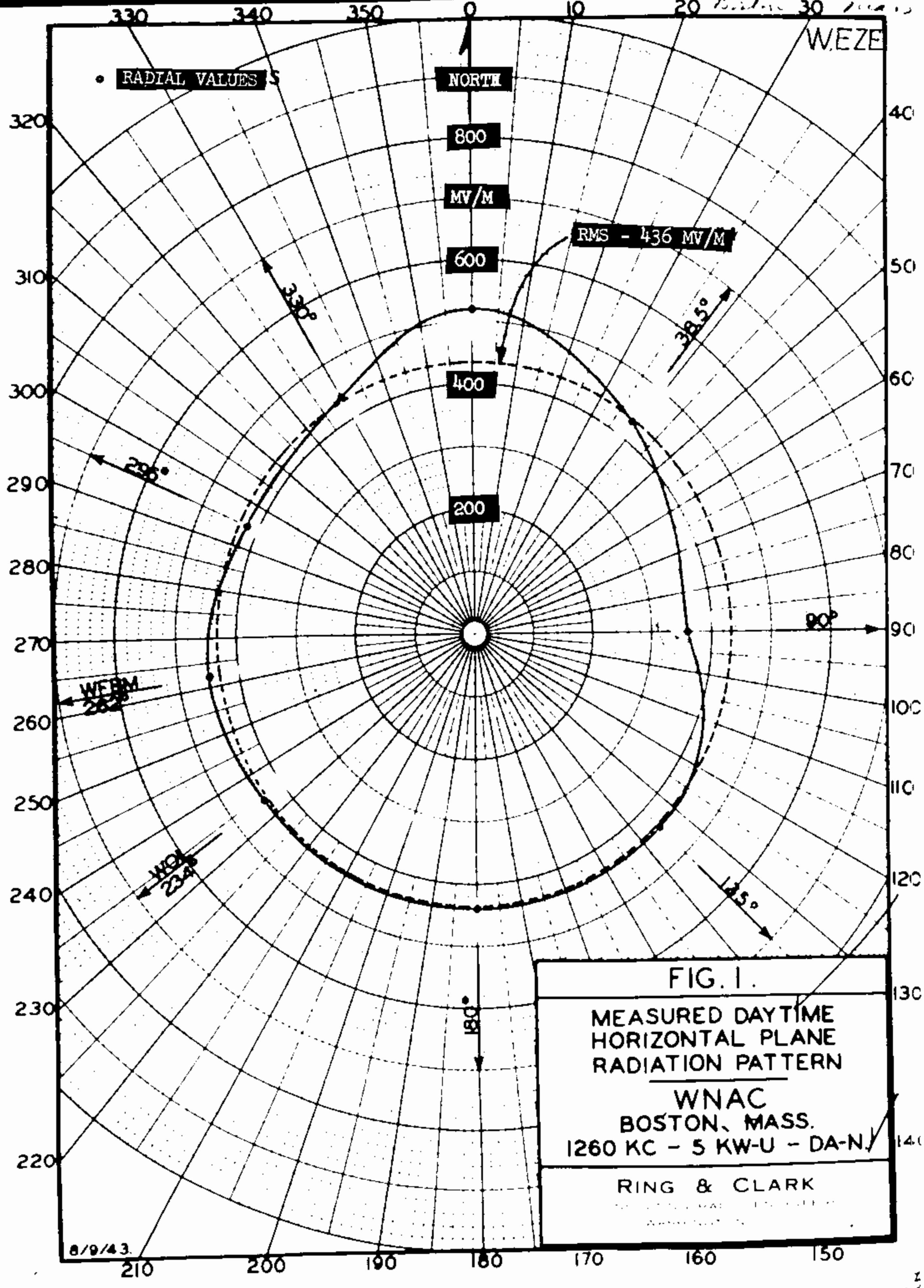


FIG. 1.
MEASURED DAYTIME
HORIZONTAL PLANE
RADIATION PATTERN
WNAC
BOSTON, MASS.
1260 KC – 5 KW-U – DA-N.
RING & CLARK

WGWR

Measured Day
(12-30-63ct)

Station WGWR
Asheboro, North Carolina

500w,5kw-LS,DA-2,U
1260 kc

LIC. 5-27-65
CHG HRS.,
DA-2

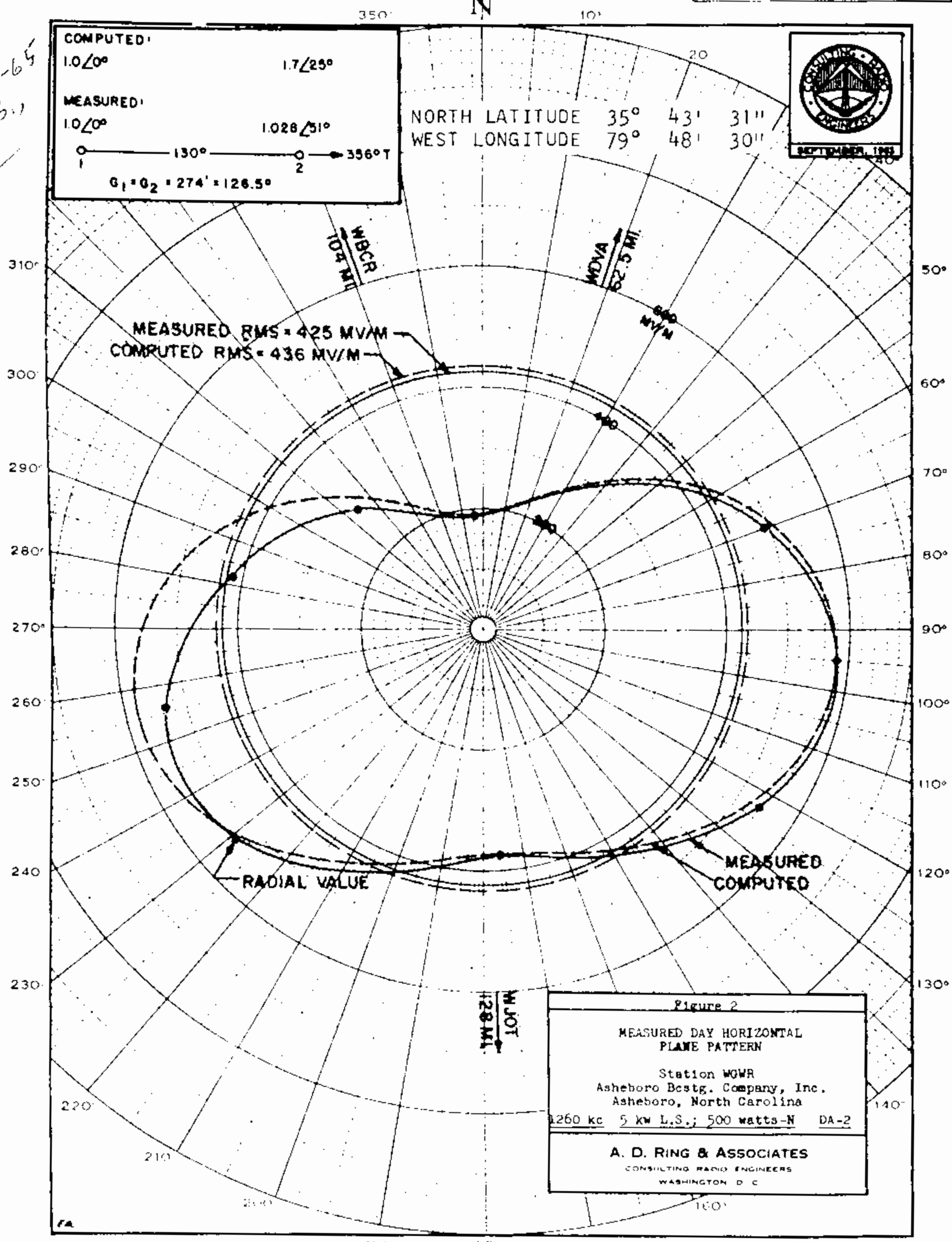


Figure 2

MEASURED DAY HORIZONTAL PLANE PATTERN

Station WGWR
Asheboro Bcstg. Company, Inc.
Asheboro, North Carolina

1260 kc 5 kw L.S.; 500 watts-N DA-2

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

A. D. RING & ASSOCIATES - 10/60 - N

FCC File No.BL-10324
Accepted 12-13-63

Station WGWR
Asheboro, North Carolina

1260 kc

JUN 1975

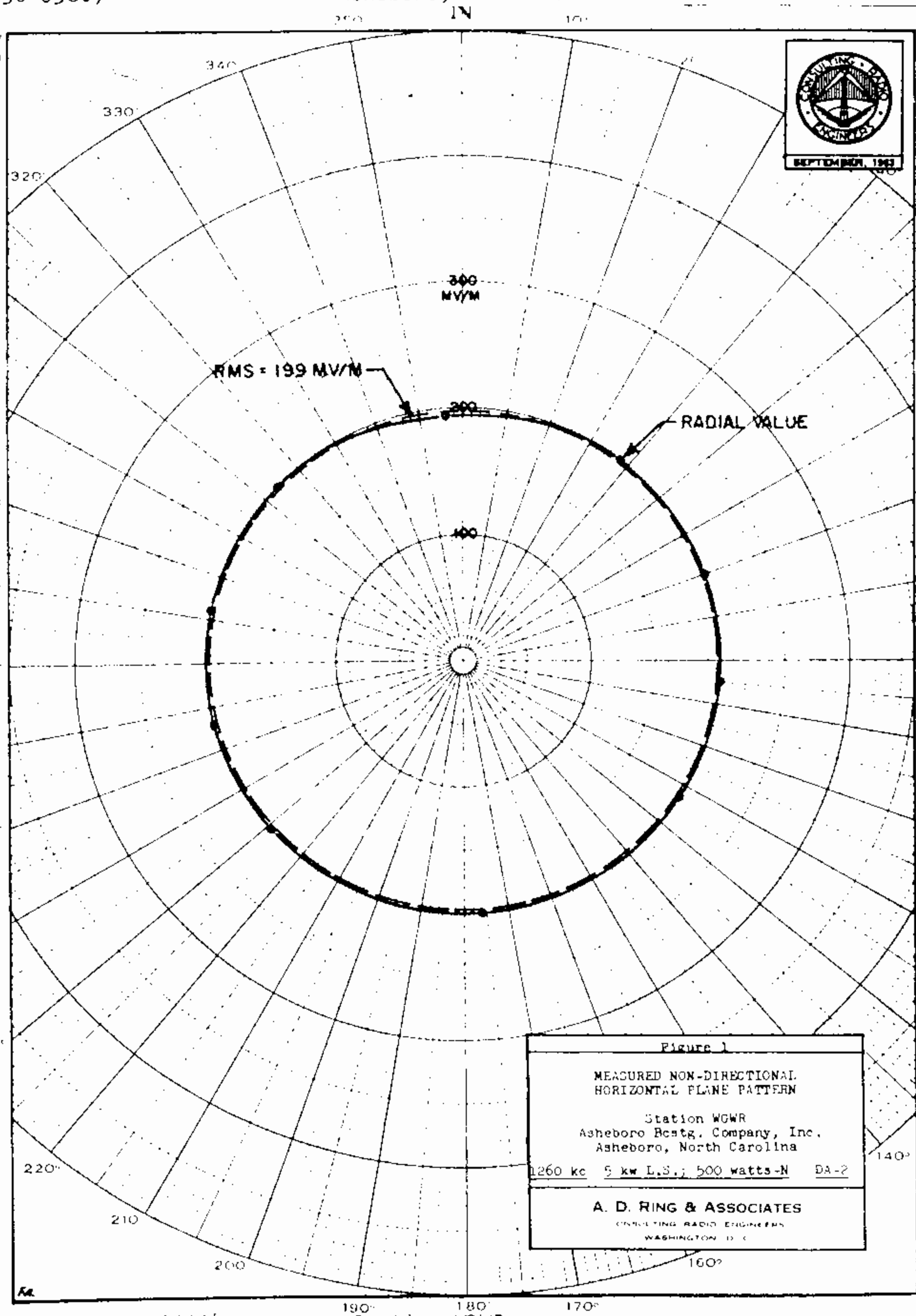
WGWR

LIC. 5-27-65
CHG. HRS.)
DA-2

Measured Non-DA
(12-30-63ct)

Station WGWR
Asheboro, North Carolina

500w,5kw-LS,DA-2,U
1260 kc



A. RING & ASSOCIATES - 10/60 - M

FCC File No.BL-10324
Accepted 12-13-63

Station WGWR
Asheboro, North Carolina

1260 kc

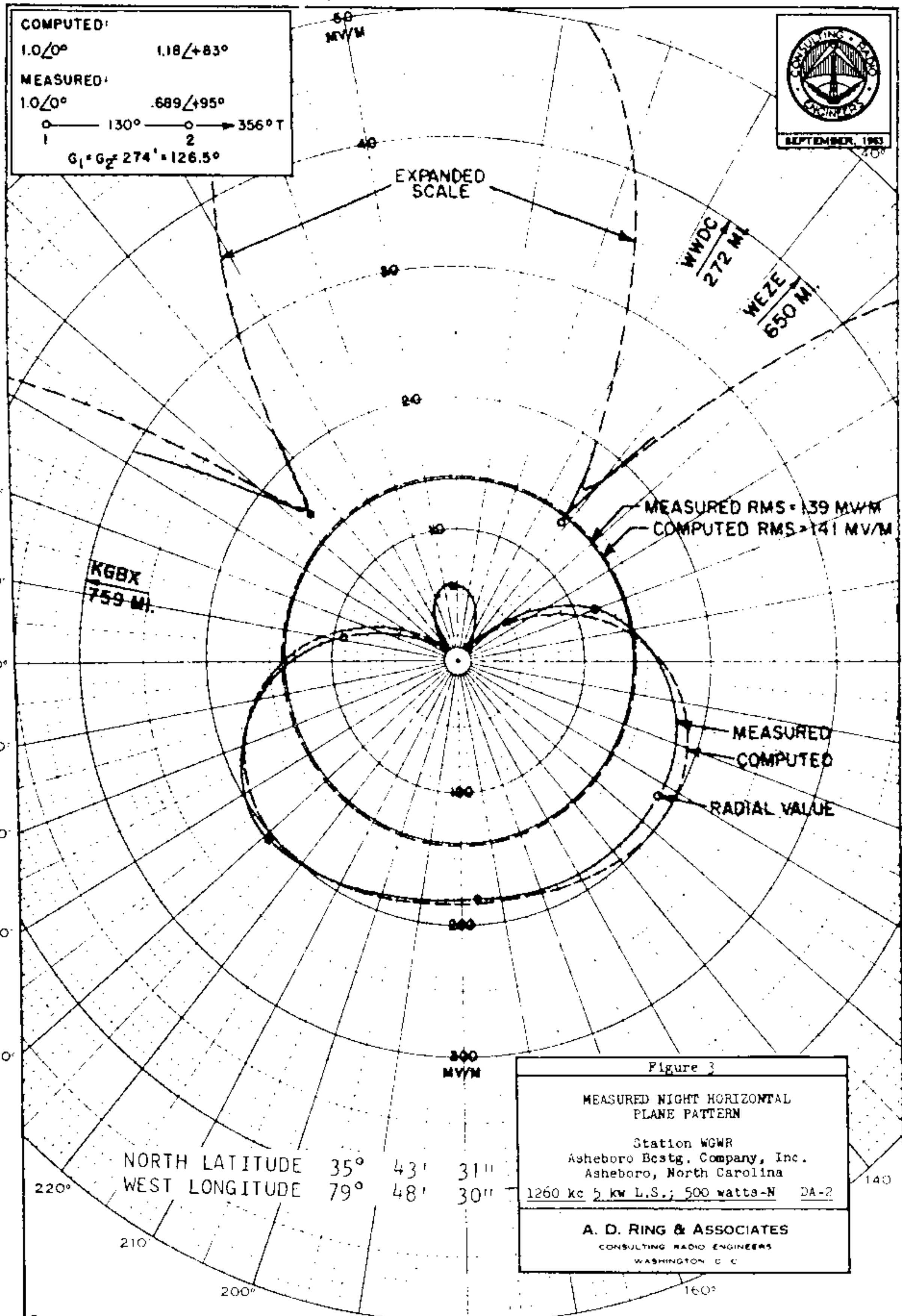
WGWR

Measured Night
(12-30-63ct)

Station WGWR
Asheboro, North Carolina

500w, 5kw-LS, DA-2, U
1260 kc

LIC. 5-27-65
CHG. HRS.)
DA-2



FCC File No.BL-10324
Accepted 12-13-63

Station WGWR
Asheboro, North Carolina

1260 kc

JUL 1976

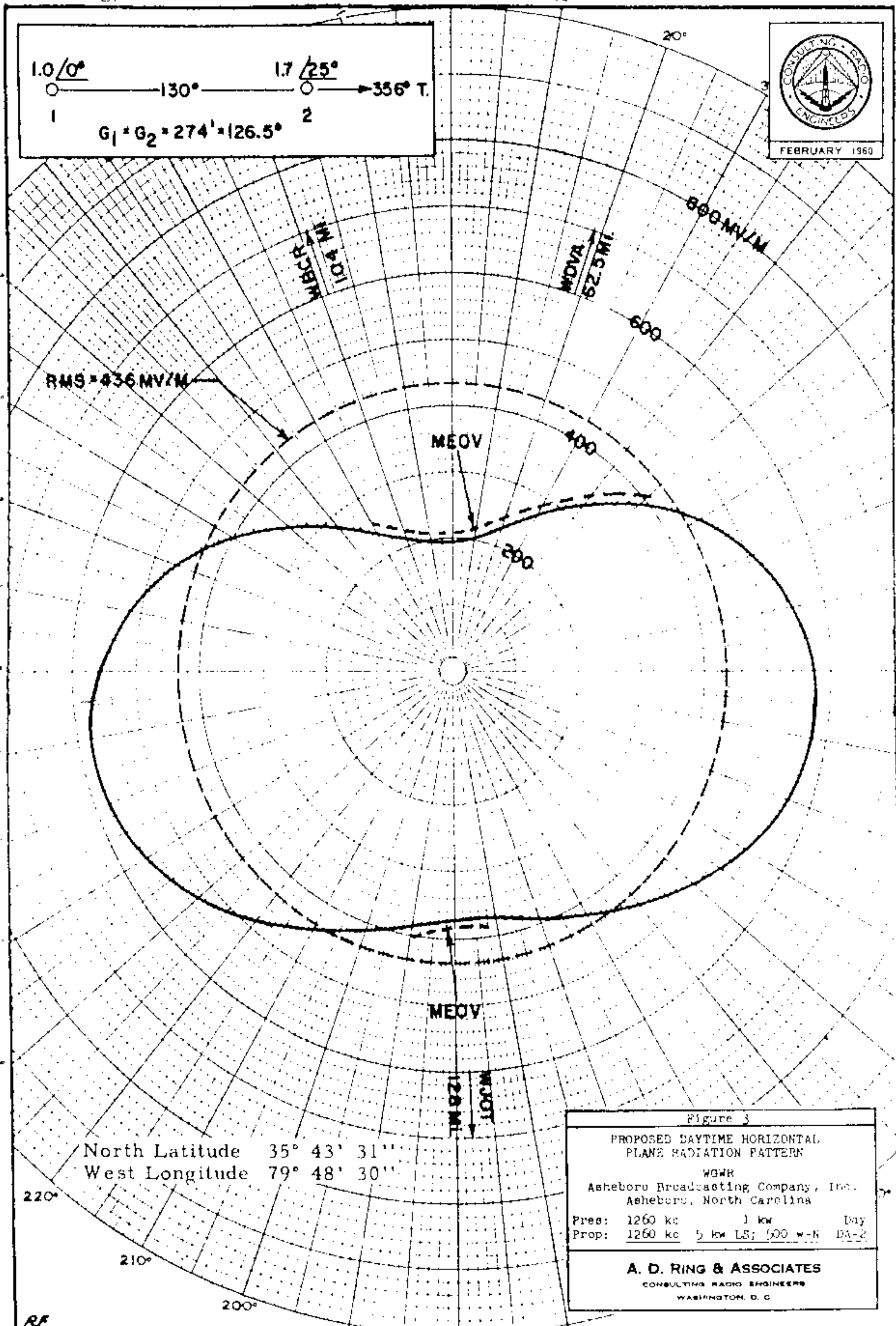
WGWR

PROPOSED DAY
(4-22-60g)

Station WGWR
Asheboro, North Carolina

500w,5kw-LS, DA-2,U
1260 KC

1/16/63 granted CP for DA-2 op



A. D. RING & CO - 1/52 - 1000

FCC File No. BP-14051
Accepted 4-18-60

WGWR
Asheboro, North Carolina

1260 KC

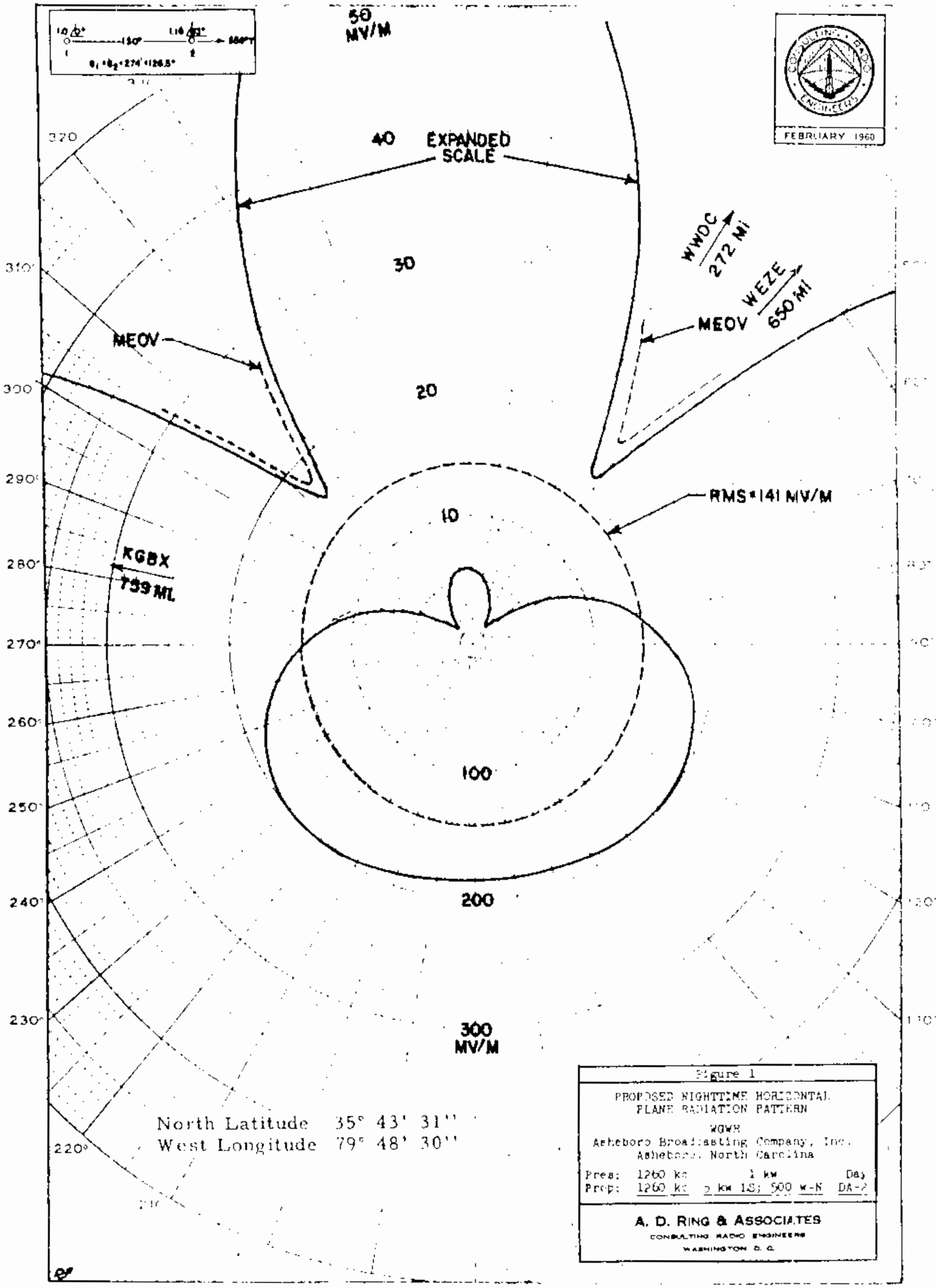
WGWR

1/16/63
wanted CP for
DA-2 op.

PROPOSED NIGHT
(4-22-60g)

Station WGWR
Asheboro, North Carolina

500w, 5kw-LS, DA-2,U
1260 KC



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

FCC File No. BP-14051
Accepted 4-18-60

WGWR
Asheboro, North Carolina

1260 KC

WIBV

Measured Day
(8-23-63ct)

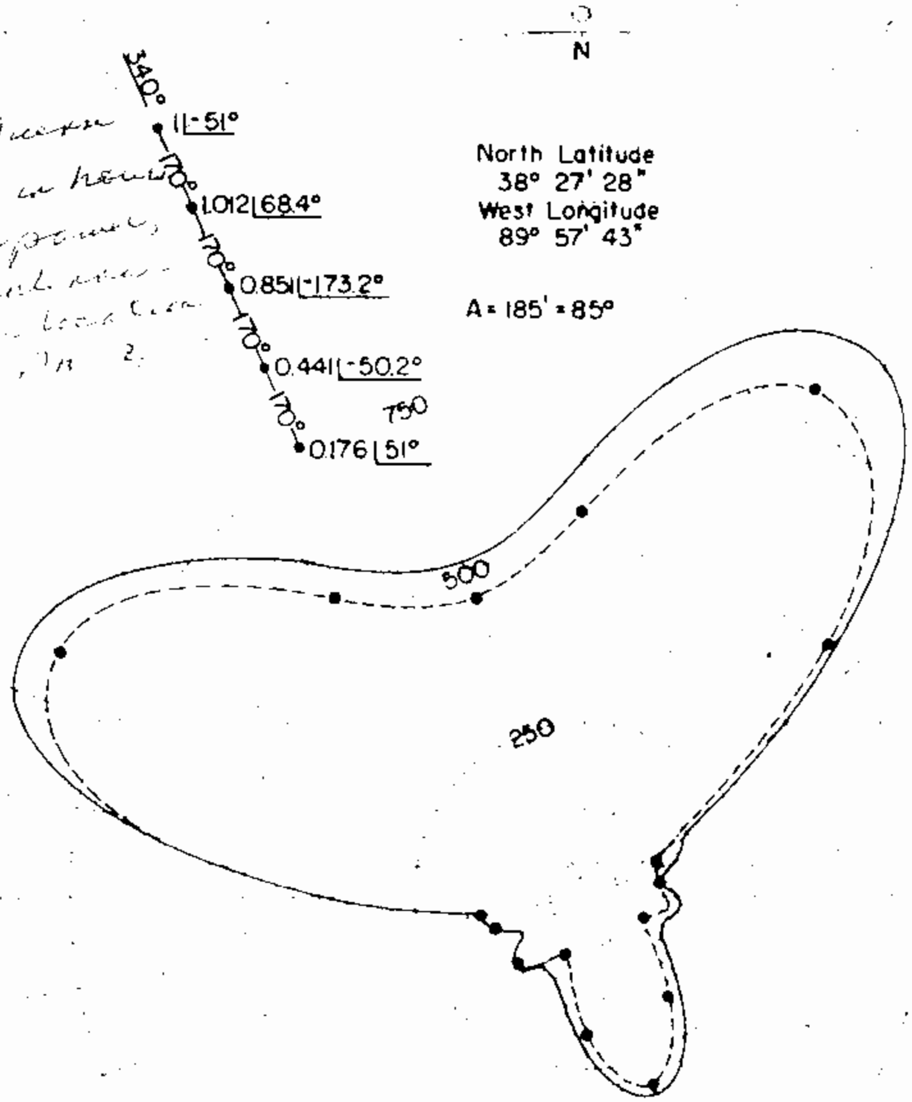
Station WIBV
Belleville, Illinois

5kw,DA-2,U
1260 kc

9-25-63

North Latitude
38° 27' 28"
West Longitude
89° 57' 43"

A = 185' = 85°



Measured
RMS 429 MV/M

Theoretical
RMS 465 MV/M

● Measured Inverse Field
——— Theoretical Pattern
– – – – Measured Pattern

MEASURED DAYTIME HORIZONTAL RADIATION PATTERN FOR RADIO STATION WIBV BELLEVILLE, ILLINOIS ON 1260 KCS WITH 5000 WATTS, DA-2
BP-13,787
RALPH J. BITZER, CONSULTING RADIO ENGR.

FCC File No.BL-10217
Accepted 8-16-63

Station WIBV
Belleville, Illinois

1260 kc

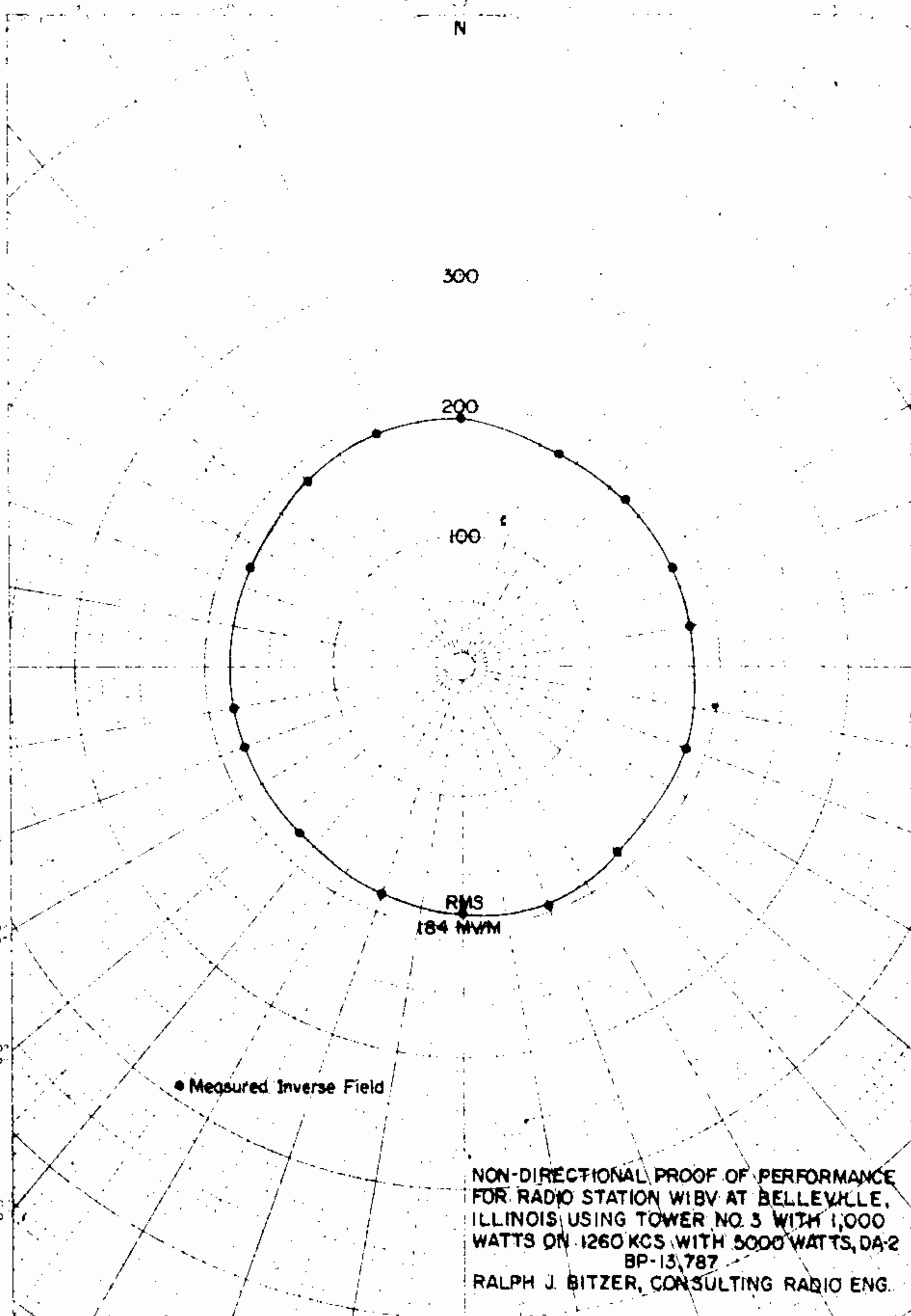
1-25 a [illegible]
increase in power, change in hours
and antenna transmitter location
and for DA-2

W1BV

Measured Non-DA
(8-23-63ct)

Station WIBV
Belleville, Illinois

5kw,DA-2,U
1260 kc



FCC File No.BL-10217
Accepted 8-16-63

Station WIBV
Belleville, Illinois

1260 kc

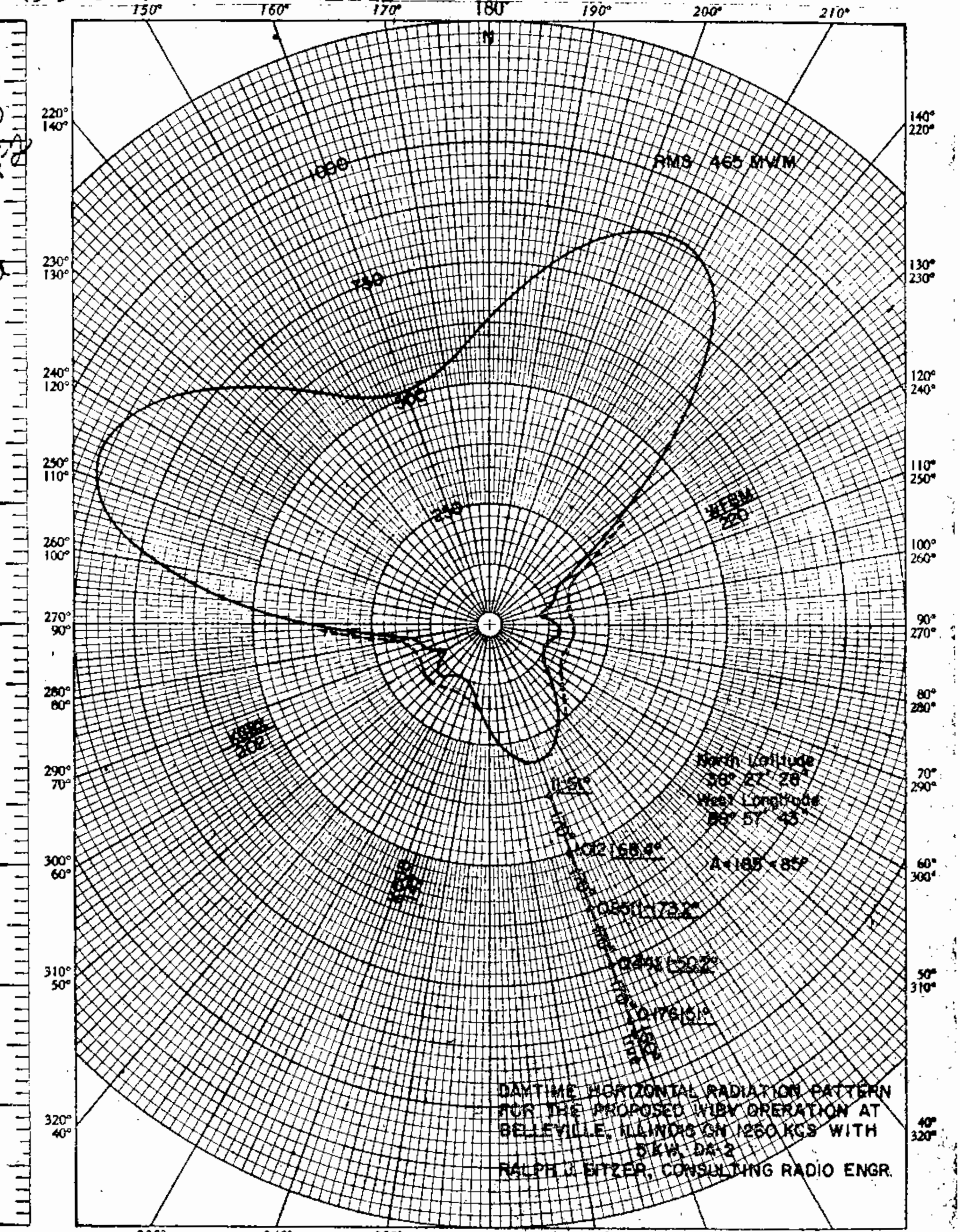
WIBV

Proposed Day
(3-30-62ct)

Station WIBV
Belleville, Illinois

5kw, DA-2, U
1260 kc

-23-62 granted CP 5kw DA-2 change xmtr site



FCC File No.BP-13787
Accepted 3-13-62 Amended

Station WIBV
Belleville, Illinois

1260 kc

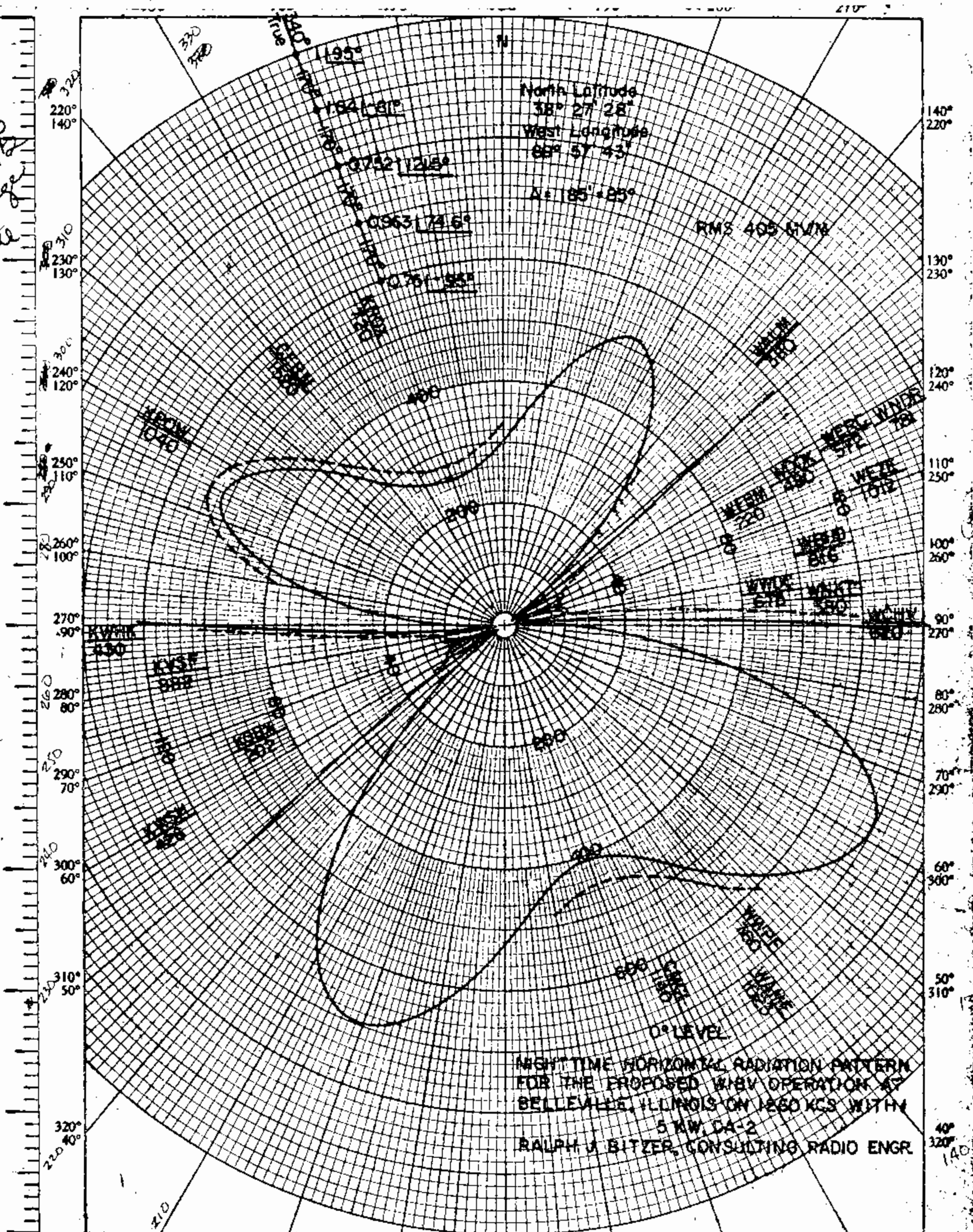
WIBV

Proposed Night
(3-30-62ct)

Station WIBV
Belleville, Illinois

5kw,DA-2,U
1260 kc

-23-62
nted CP
5kw DA-2
d change
mit site



FCC File No.BP-13787
Accepted 3-13-62 Amended

Station WIBV
Belleville, Illinois

1260 kc

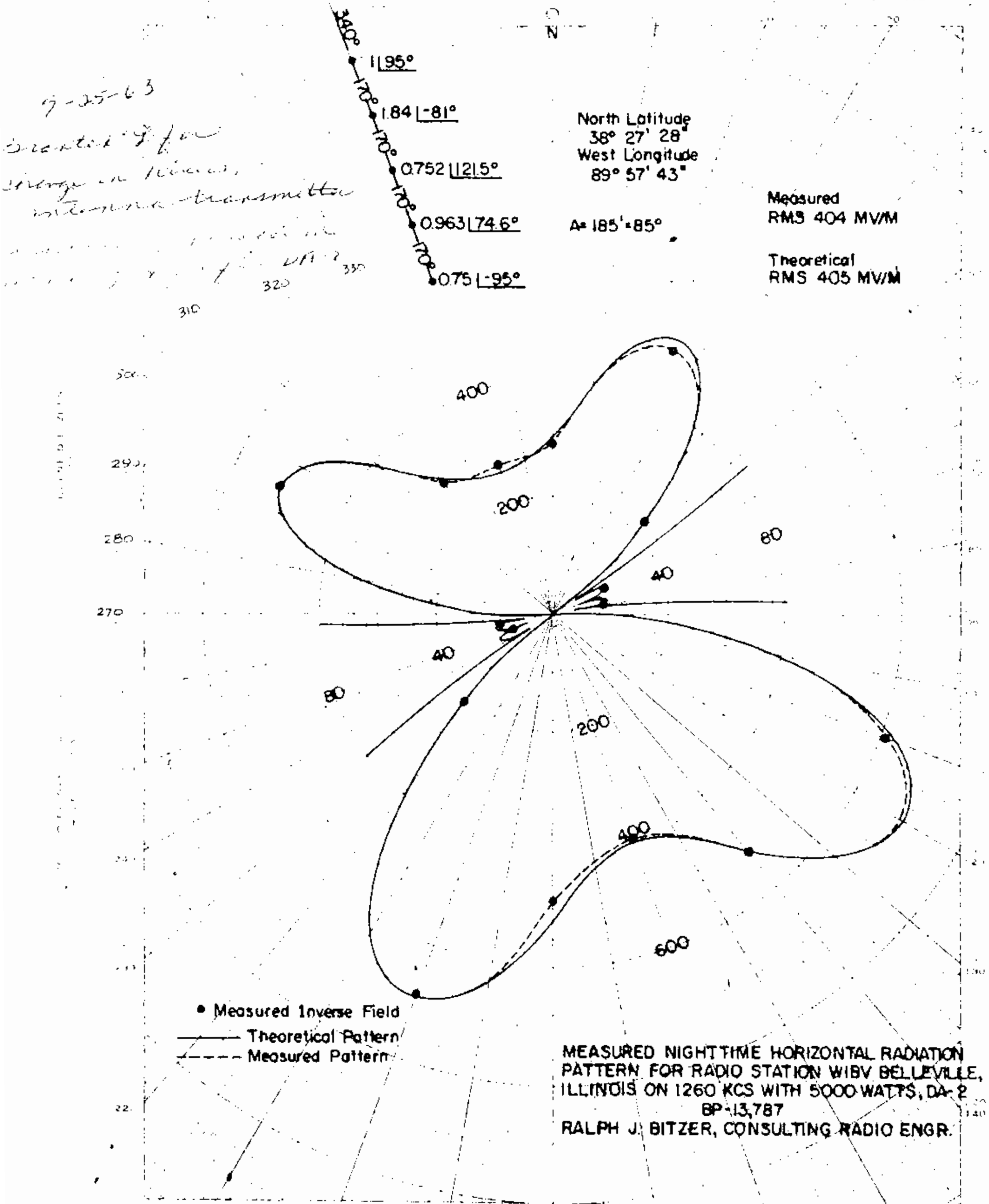
WIBV

Measured Night
(8-23-63ct)

Station WIBV
Belleville, Illinois

5kw,DA-2,U
1260 kc

9-25-63



MEASURED NIGHTTIME HORIZONTAL RADIATION PATTERN FOR RADIO STATION WIBV BELLEVILLE, ILLINOIS ON 1260 KCS WITH 5000 WATTS, DA-2
BP-13,787
RALPH J. BITZER, CONSULTING RADIO ENGR.

FCC File No.BL-10217
Accepted 8-16-63

Station WIBV
Belleville, Illinois

1260 kc

WIXY

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WIXY | Main Studio: Cleveland, Ohio

Frequency: 1260 kHz | Power: 5 kW

Notification List No. 1664 | Date: October 30, 1974 Class: III

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

GEOGRAPHICAL LOCATIONS OF THE CENTERS OF THE DAY AND NIGHT ANTENNA SYSTEMS:

	Daytime				Nighttime		
North Latitude:	41°	24'	26"	North Latitude:	41°	17'	10"
West Longitude:	81°	40'	26"	West Longitude:	81°	38'	34"

NIGHTTIME ANTENNA CHARACTERISTICS

Number of elements: 5
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	S(#1)	SC(#2)	C(#3)	NC(#4)	N(#5)
HEIGHT ABOVE INSULATORS:	195'	195'	195'	195'	195' ([illegible])
NIGHT PHASING:	-59.3511°	+152.690°	0°	-152.691°	+59.4513°
NIGHT FIELD RATIO:	0.300710	0.776214	1.0	0.776196	0.300833

SPACING AND ORIENTATION: Adjacent elements are spaced 260' (120°) on a line bearing 176° true.

GROUND SYSTEM: 120-195' 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. Centers of systems are bonded together.

Predicted effective Night Field: 505.519 mv/m at rated power.

(Cont'd)

WIXY

DAYTIME ANTENNA CHARACTERISTICS

Number of elements: 3
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers. Tower #6 is sectionalized at 198.5' above base insulator.

TOWER:	SE(#1)	NE(#2)	W(#3)
HEIGHT ABOVE INSULATORS:	195'	195'(90°)	480.5'(221°)
DAY PHASING:	+60°	0°	+30°
DAY FIELD RATIO:	1.44	1	2.5

SPACING AND ORIENTATION: Adjacent elements #1 and #2 are spaced 260.2' (120°) on a line bearing 356° true. Elements #2 and #3 are spaced 401' (185°) on a line bearing 247° true.

GROUND SYSTEM: 120-250' 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 Day Field: 447 mv/m at rated power.

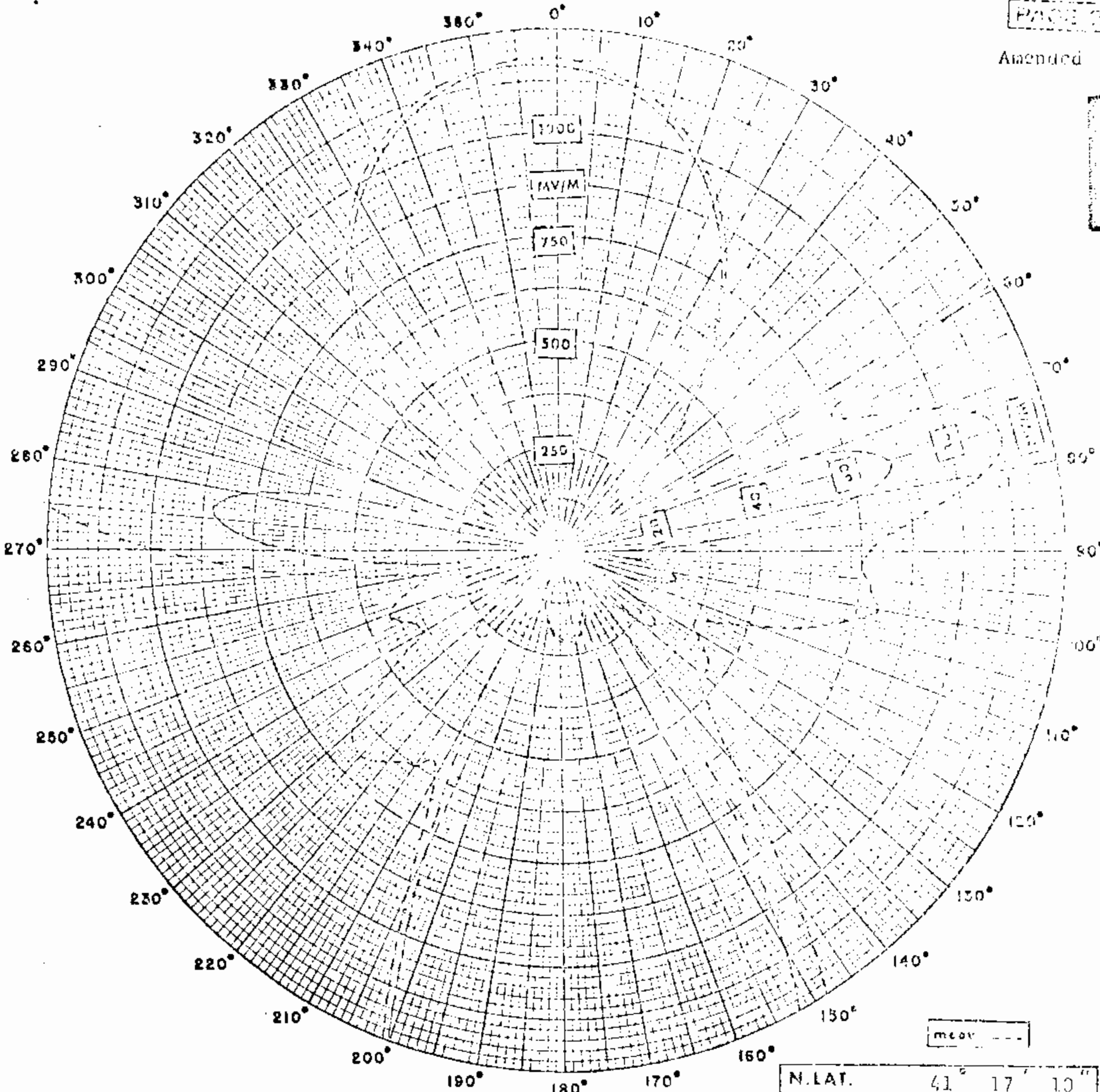
Note: Please retain the Daytime directional antenna radiation pattern notified for Station WIXY in United States Change List Number 1409 dated January 27, 1971 and attach to this Revised Description Sheet and Nighttime patterns. This notification concerns only a change in the Nighttime operation of the station with Daytime operation continued as previously notified.

CTR NO 30915A6

WIXY

PAGE 2

Amended



ANTENNA NO.	1	2	3	4	5
FIELD	.300710	.776214	1.0	.776196	.300833
PHASE	-59.3511	152.690	0.0	-152.691	59.4513
SPACING	240°	120°	0.0	120°	240°
ORIENTATION	176°	176°	0.0	356°	356°
HEIGHT	90.0	90.0	90.0	90.0	90.0

N. LAT.	41°	17'	10"	
W. LONG.	81°	38'	34"	
RMS Th.	505.519			mv/m
RSS Th	693.034			

HORIZONTAL RADIATION PATTERN
WIXY - CLEVELAND, OHIO
1260 kHz - 5 KW - DA-2

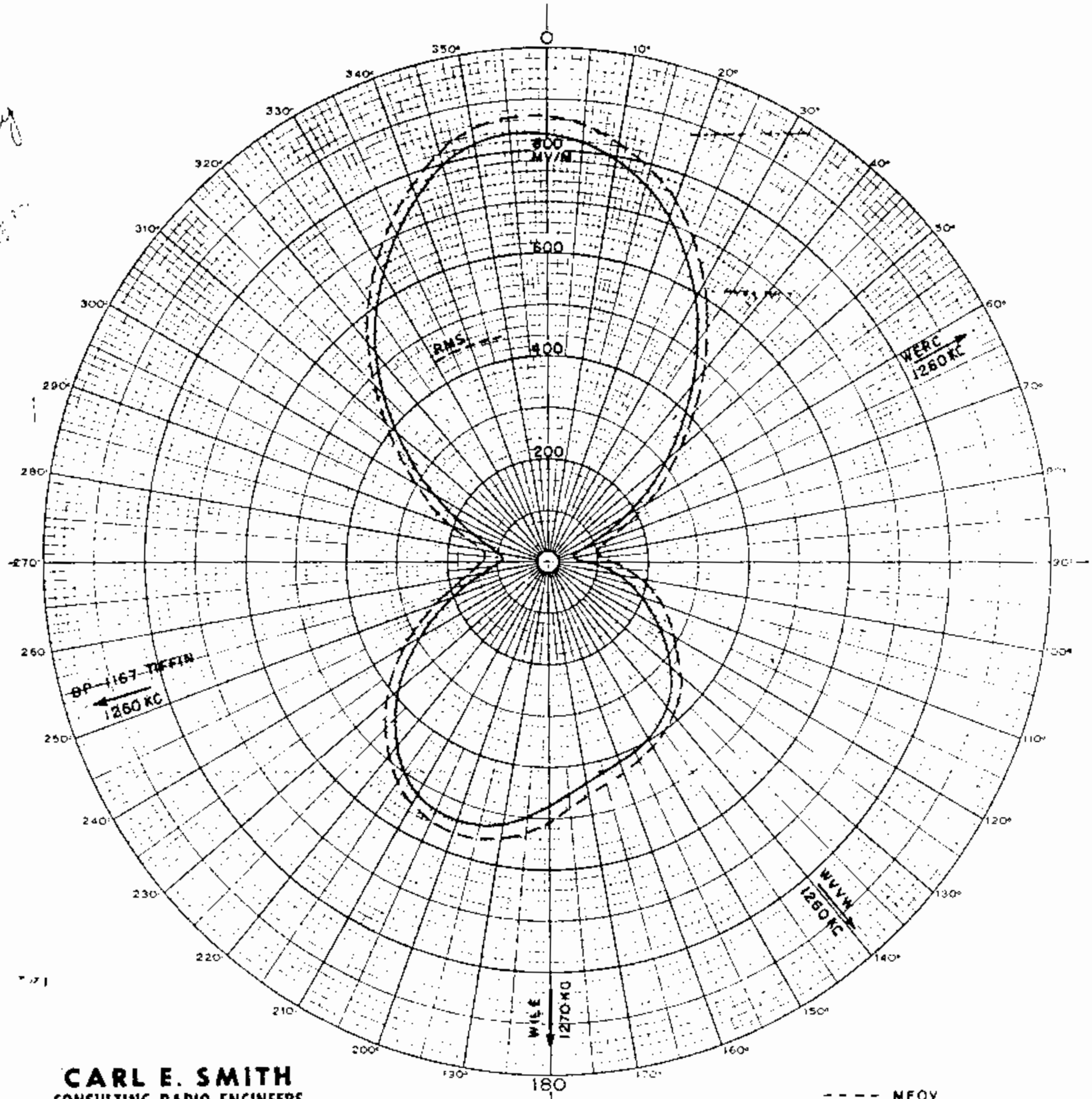
JUNE 1974

'WIXY <

PROPOSED DAY
(6-14-61g)

Station WDOK
Cleveland, Ohio

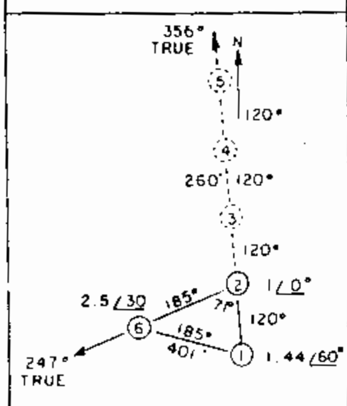
5kw, DA-2,U
1260 KC



CARL E. SMITH
CONSULTING RADIO ENGINEERS

---- MEOV

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No.	ELECTRICAL HEIGHT G°	TRUE TOWER ORIENTATION Φ°	SPACING S°	PHASING ψ°	HORIZONTAL mv/m E	FIELD RATIO F	ELEV ANGLE θ°	ELEVATION mv/m
1	90	176	120	60		1.44	0	447
2	90	0	0	0		1.0	0	
3	90	356	120			0	20	
4	90	356	240			0		
5	90	356	360			0		
	221	247	185	30		2.5		
7								
8								

STATION DATA

CALL	WDOK
FREQUENCY	1260 kc
POWER	5 kw
TIME OF OPERATION	U
TYPE OF OPERATION	DA-2
DAYTIME TOWERS	1, 2, 6
NIGHTTIME TOWERS	1, 2, 3, 4, 5
[illegible]	120
[illegible]	115' 250'
[illegible]	48'X48'
LAT	41 24 26
LONG	81 40 26
[illegible]	610202
[illegible]	6105IE

FIG. 3.2A
PROPOSED HORIZONTAL PATTERN
THE CIVIC ~~BROADCASTERS~~, INC.
CLEVELAND, OHIO

FCC File No. BP-14712
Accepted 6-7-61 (Amended)

WOOK
Cleveland, Ohio 1260 KC

WIXY

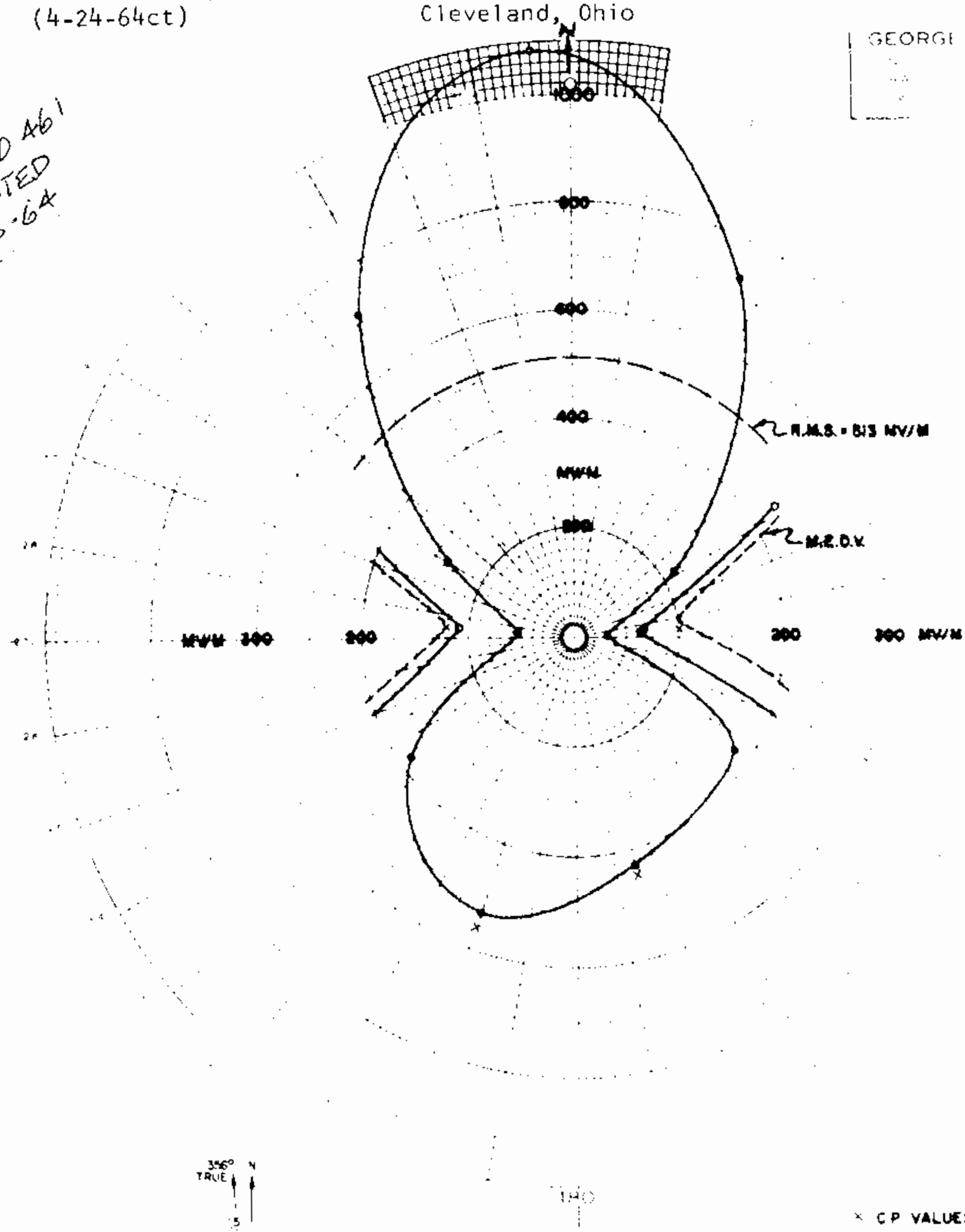
Measured Day
(4-24-64ct)

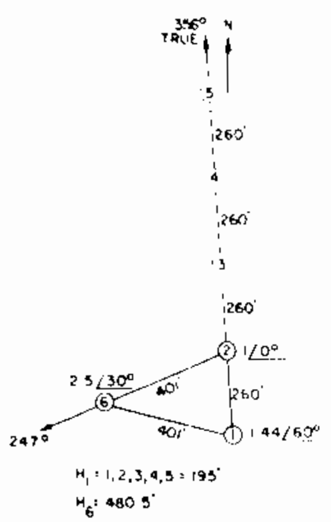
Station WDOK
Cleveland, Ohio

5kw,DA-2,U
1260 kc

GEORGE DAVIS

EL-10461
GRANTED
1-13-64





× C.P. VALUES
∘ MEASURED VALUES

LAT. 41° 24' 26"
LONG. 81° 40' 26"

MEASURED HORIZONTAL PLANE PATTERN
FOR DIRECTIONAL DAYTIME OPERATION
WDOK, CLEVELAND, OHIO
1260 KC - 5 KW - DA-2
OCTOBER 1963

FCC File No. BL-10461
Accepted 3-26-64

Station WDOK
Cleveland, Ohio

1260 kc

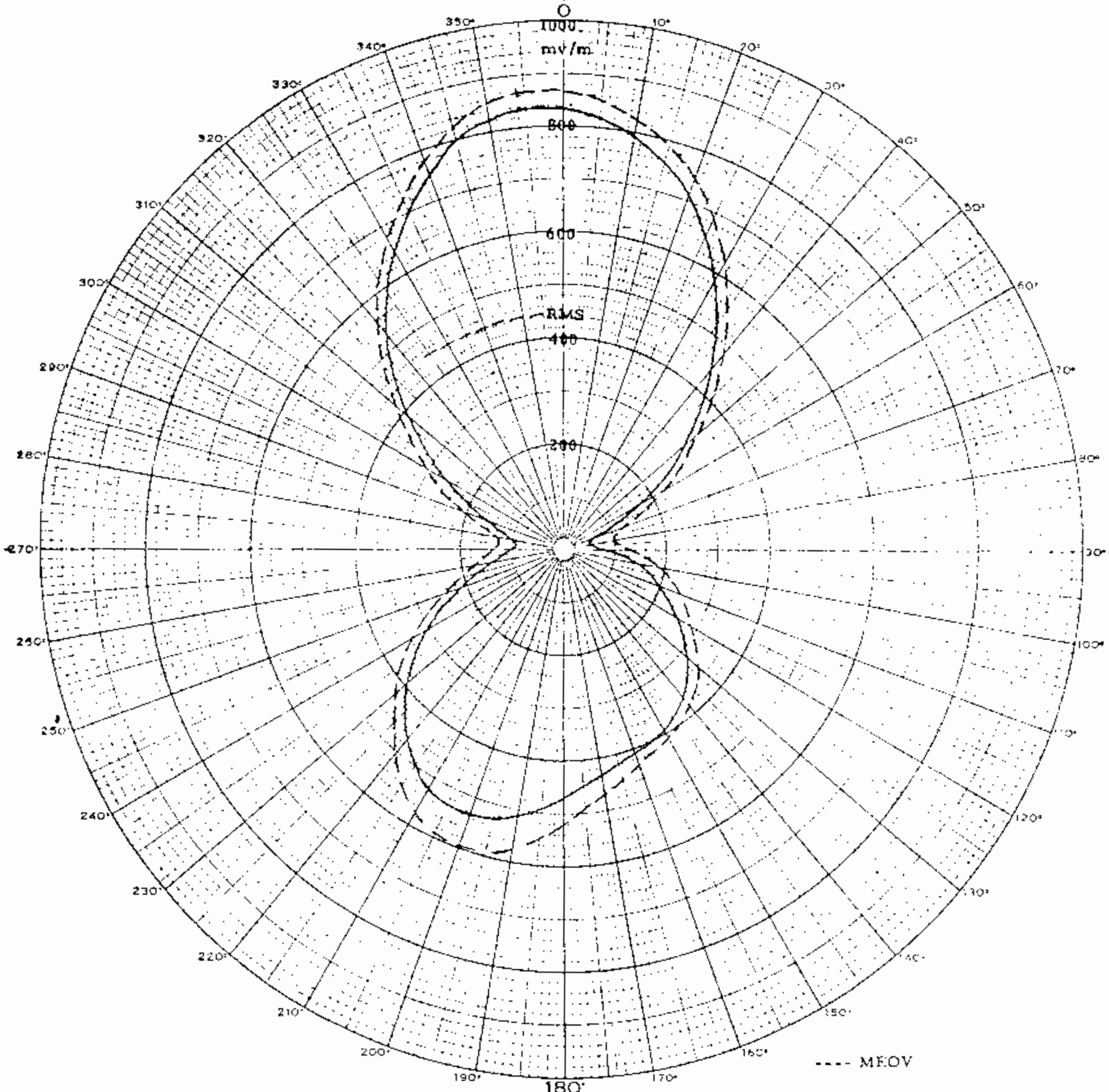
WIXY

C

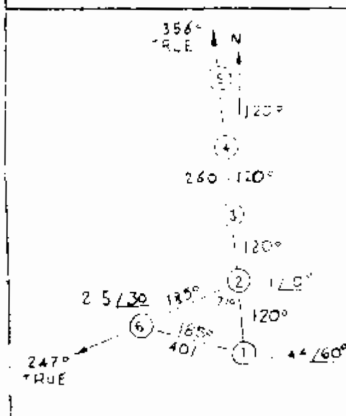
Proposed Day
(2-22-71ct)

Station WIXY
Cleveland, Ohio

5kw, DA-2, U
1260 kc



TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	STATION DATA



Electrical Height	True Tower Orientation	Spacing	Phasing	Horizontal Field	Field Ratio
90	176	120	60		1.44
90	0	0	0		1.0
90	356	120	--		--
90	356	240	--		--
90	356	360	--		--
221	247	185	30		2.5

Daytime operation ☒ Nighttime operation ☐

Elev. Angle	Elevation Pattern
0	447
30	
40	
50	
60	
70	
80	
	5 kw

Call	WIXY
Frequency	1260 kc
Power	5 kw
Time of operation	U
Type of operation	DA-2
Daytime towers	1, 2, 6
Nighttime towers	1, 2, 3, 4, 5
	120
	115° 250
	48x48
Lat.	41 24 26
Long.	81 40 26
Supersedes	700828
Pattern No.	700828A

Carl E. Smith
Consulting Radio Engineers
701222

FIG. 2.1

DAYTIME HORIZONTAL PATTERN

Radio Station WIXY
Cleveland, Ohio
1260 kHz 5 kw DA-2, U

FCC File No. BP-18955
Accepted 1-21-71

Station WIXY
Cleveland, Ohio

1260 kc

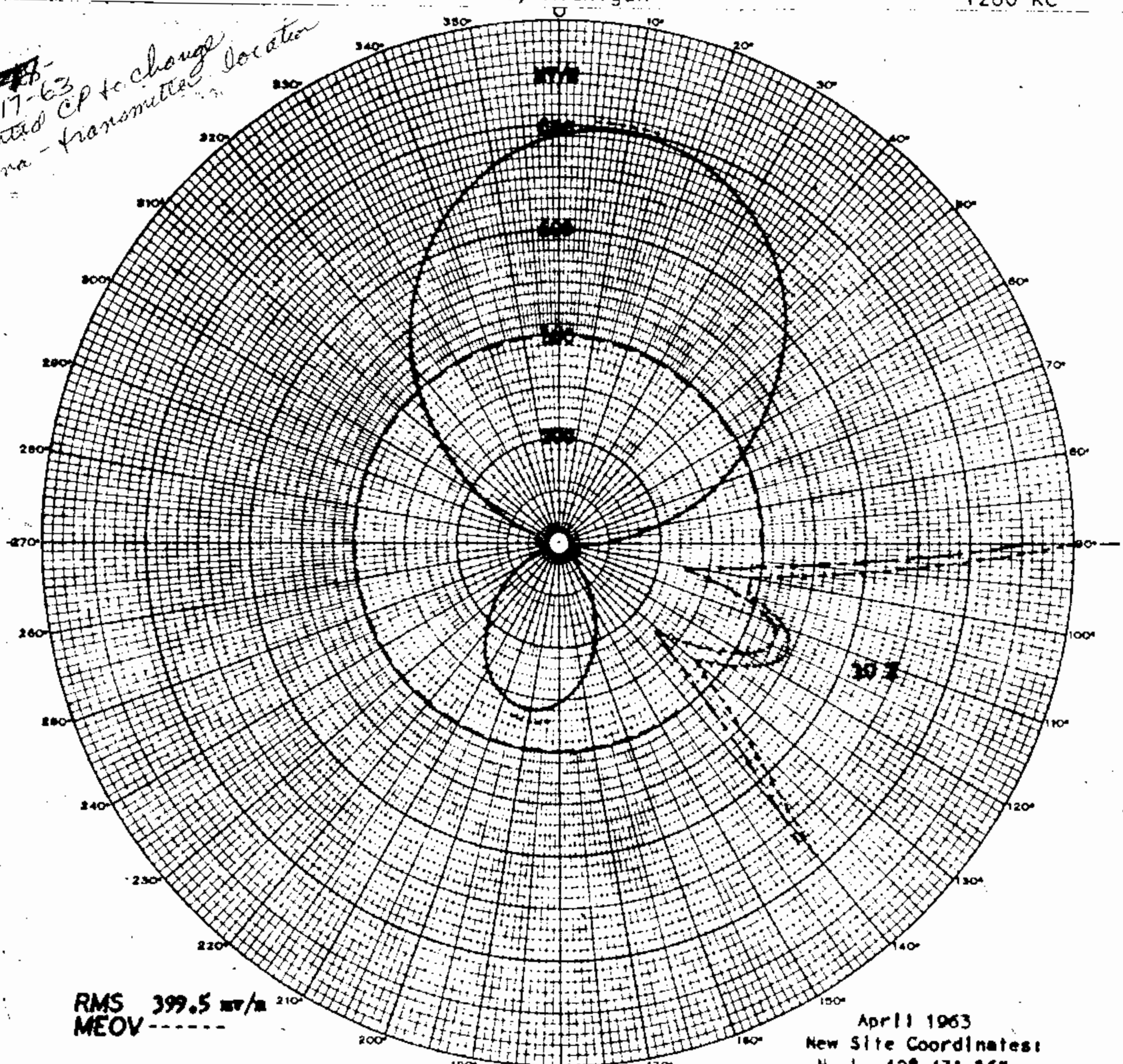
WJBL

Proposed Day
(5-28-63ct)

Station WJBL
Holland, Michigan

5kw,DA-D,D
1260 kc

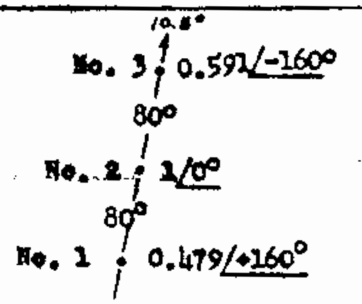
~~5-18~~ 5-17-63
Granted CP to change
antenna - transmitter location



RMS 399.5 mv/m
MEOV ------

April 1963
New Site Coordinates:
N. L. 42° 43' 56"
W. L. 86° 06' 06"

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 1	STATION DATA



TOWER No	ELECTRICAL HEIGHT G°	SPACING S°	PHASING ψ°	FIELD RATIO F
1	87.6	80	160	0.479
2	87.6	80	0	1.0
3	87.6	80	-160	0.591
4				
5				
6				
7				
8				
9				
10				

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

WJBL PROPOSED
DAYTIME PATTERN
-
Holland, Michigan

θ° 0°

CALL WJBL
FREQ 1260 kc
POWER 5 Kw
TYPE DA
TIME DAY
LAT. N 42-46-25
LONG. W 86-04-31

E.H.MUNN,JR.
RADIO ENGINEER
COLDWATER, MICH.

FCC File No.BP-15913
Accepted 5-9-63

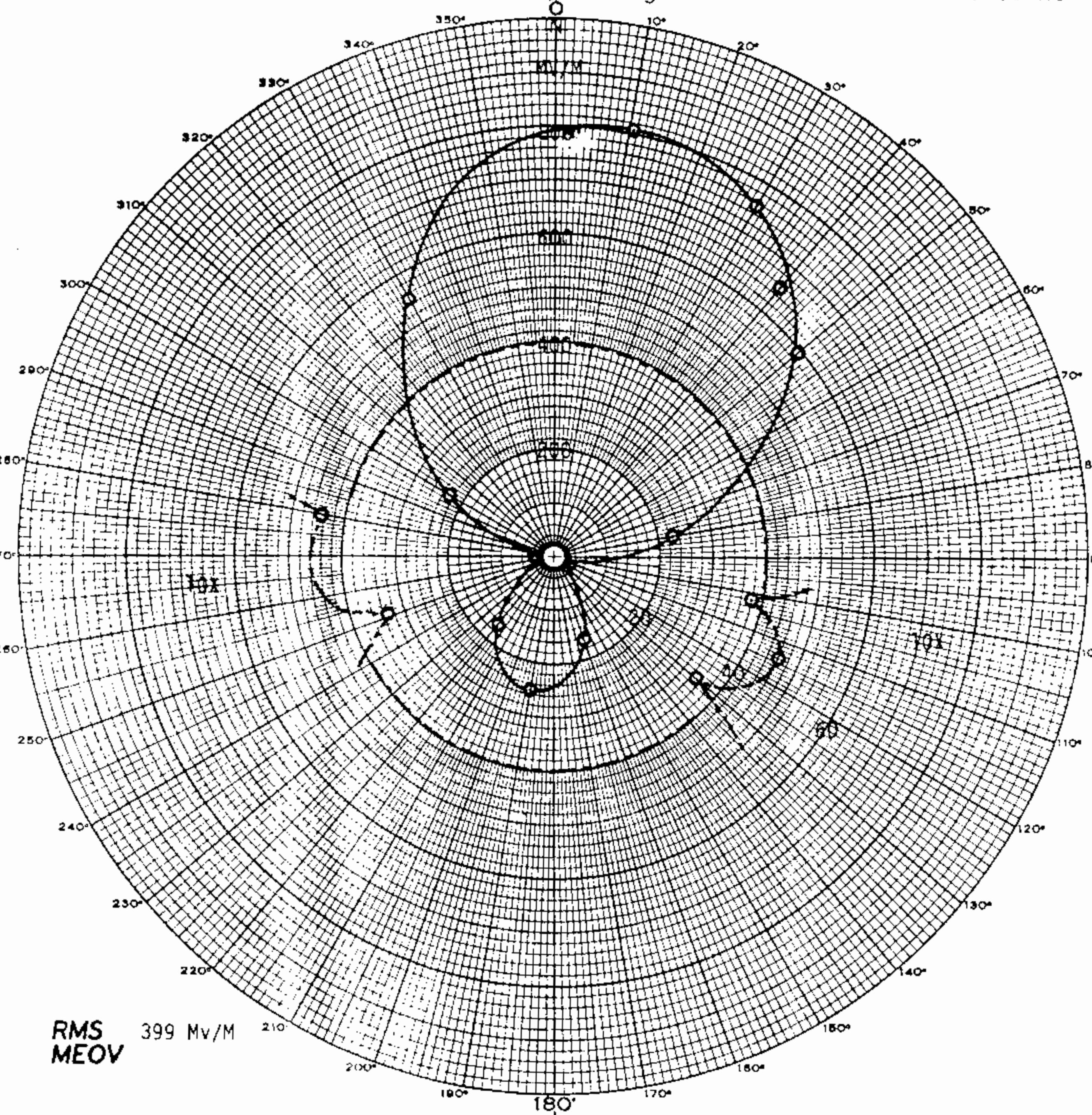
Station WJBL
Holland, Michigan

1260 kc

Measured Day
(4-29-68ct)

Station WJBL
Holland, Michigan

5kw,DA-D,D
1260 kc



RMS
MEOV 399 Mv/M

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 2	STATION DATA
S=80° G=87.6° 10.5° #3 0.606/-160° S #2 1.000/0° S #1 0.509/+152°		MEASURED DAYTIME DIRECTIONAL RADIATION PATTERN 1967 SKELETON PROOF-OF-PERFORMANCE θ° 0°	**CALL** WJBL **FREQ** 1260 kHz **POWER** 5 Kw **TYPE** DA **TIME** DAYTIME **LAT.** N-42-43-56 **LONG.** W-86-06-06
			E.H.MUNN,JR. **RADIO ENGINEER** **COLDWATER, MICH.**

TOWER No	ELECTRICAL HEIGHT G°	SPACING S°	PHASING Ψ°	FIELD RATIO F
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

FCC File No.BZ-6813
Accepted 4-17-68

Station WJBL
Holland, Michigan

1260 kc

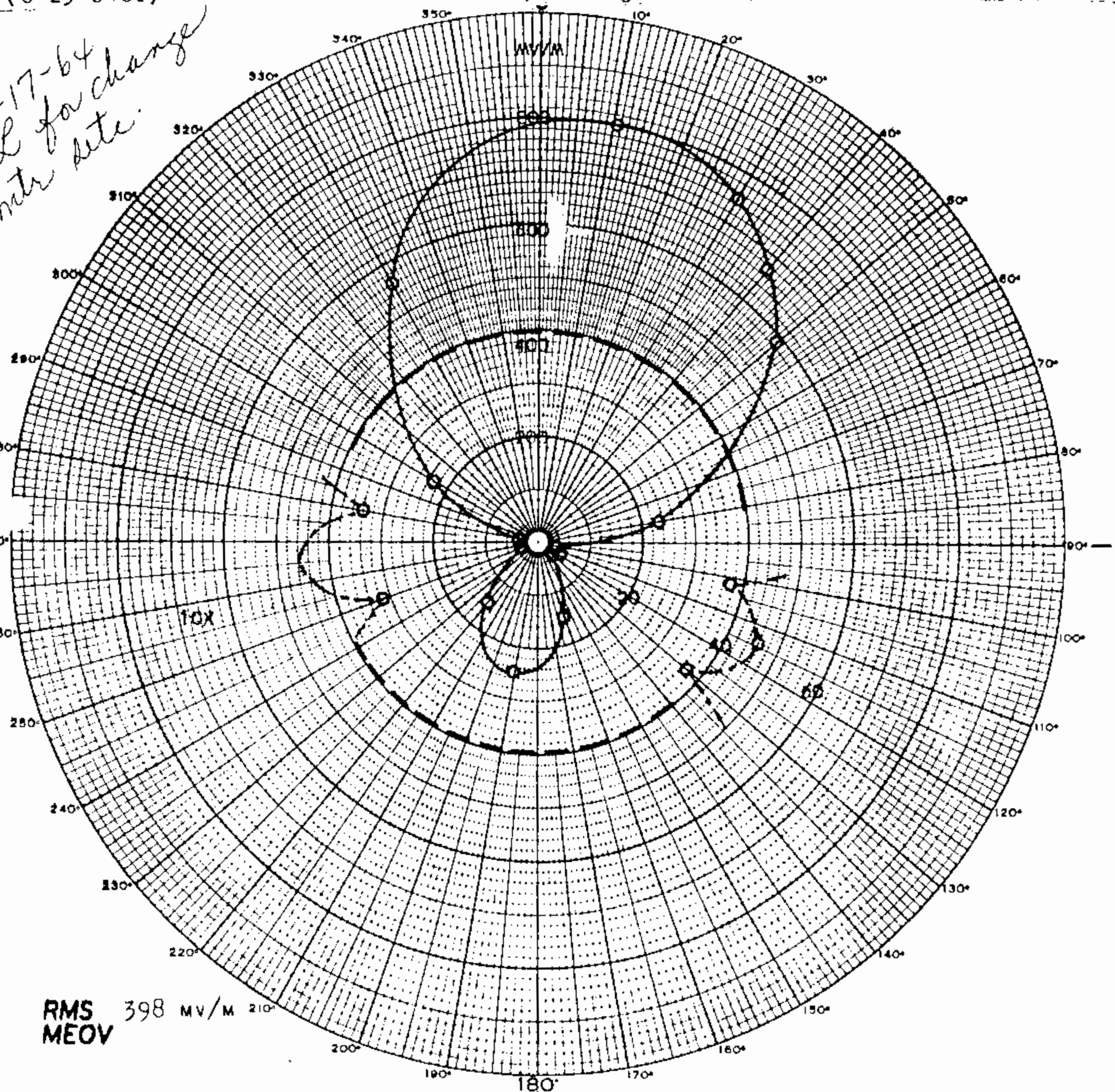
WJBL

Measured Day
(6-29-64ct)

Station WJBL
Holland, Michigan

5kw, DA-D, D
1260 kc

200-8-17-64
canted L for change
T-xmtr site.



RMS 398 MV/M
MEOV

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 4	STATION DATA
S= 80° G= 87.6° 10.5° T. No.3 0.601 /-160° No.2 1/0° No.1 0.493/147°	(blank: Tower No. 1–10; Electrical Height G°; Spacing S°; Phasing ψ°; Field Ratio F)	MEASURED DA PATTERN RADIO STATION WJBL April - 1964	**CALL** WJBL **FREQ** 1260 kc/s **POWER** 5 Kw **TYPE** DA **TIME** D **LAT.** N-42-43-56 **LONG.** W-86-06-00
	DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐	θ° 0°	**E.H.MUNN,JR.** **RADIO ENGINEER** **COLDWATER, MICH.**

FCC File No. BL-10591
Accepted 5-25-64

Station WJBL
Holland, Michigan

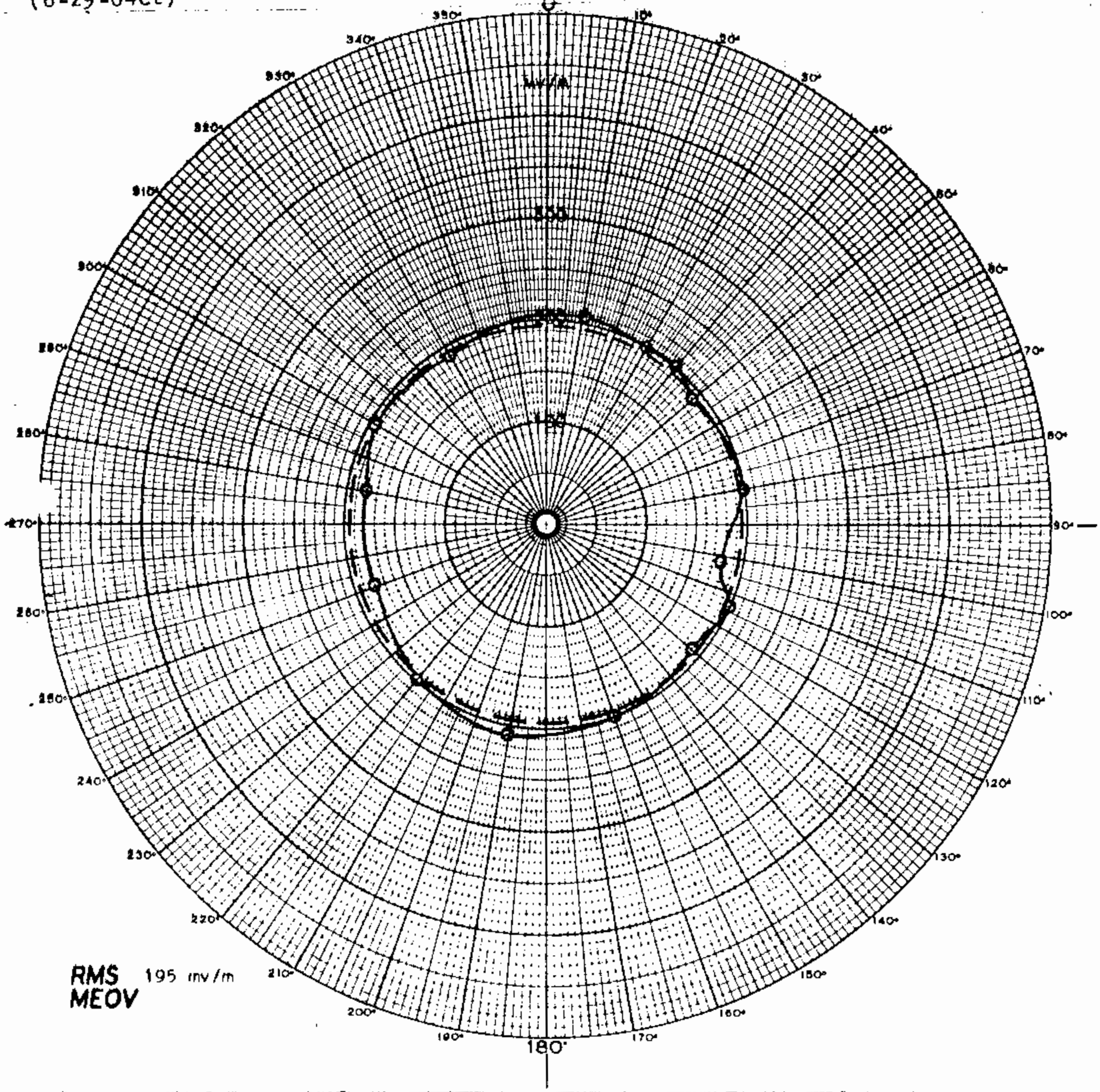
1260 kc

WJBL

Measured Non-DA
(6-29-64ct)

Station WJBL
Holland, Michigan

5kw, DA-D, D
1260 kc



RMS 195 mv/m
MEOV

TOWER PLACEMENT SKETCH

S= 80°
G= 87.6°
10.5° T.

PATTERN PARAMETERS

TOWER #	ELECTRICAL HEIGHT G°	SPACING S°	PHASING ψ°	FIELD RATIO F
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

DAYTIME OPERATION ☐ NIGHTTIME OPERATION ☐

FIGURE 2

MEASURED NON-DA
RADIATION USING
1 Kw IN NORTH
ELEMENT OF THREE
TOWER ARRAY

April, 1964

θ°

STATION DATA

CALL WJBL
FREQ 1260 kc/s
POWER 5 Kw
TYPE DA
TIME D
LAT. N-42-43-56
LONG. W-86-06-06

E.H.MUNN, JR.
RADIO ENGINEER
COLDWATER, MICH.

FCC File No. BL-10591
Accepted 5-25-64

Station WJBL
Holland, Michigan

1260 kc

WMMM

SUPPLEMENTAL DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WMMM | Main Studio: Westport, Connecticut

Frequency: 1260 kHz | Power: 1 kW

Notification List No. 1587 | Date: July 2, 1974 | Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 41° 07' 44"
West Longitude: 73° 23' 20"

Authorized for daytime operation (DA-D)..

Predicted effective Field: 177.6 mv/m at rated power.

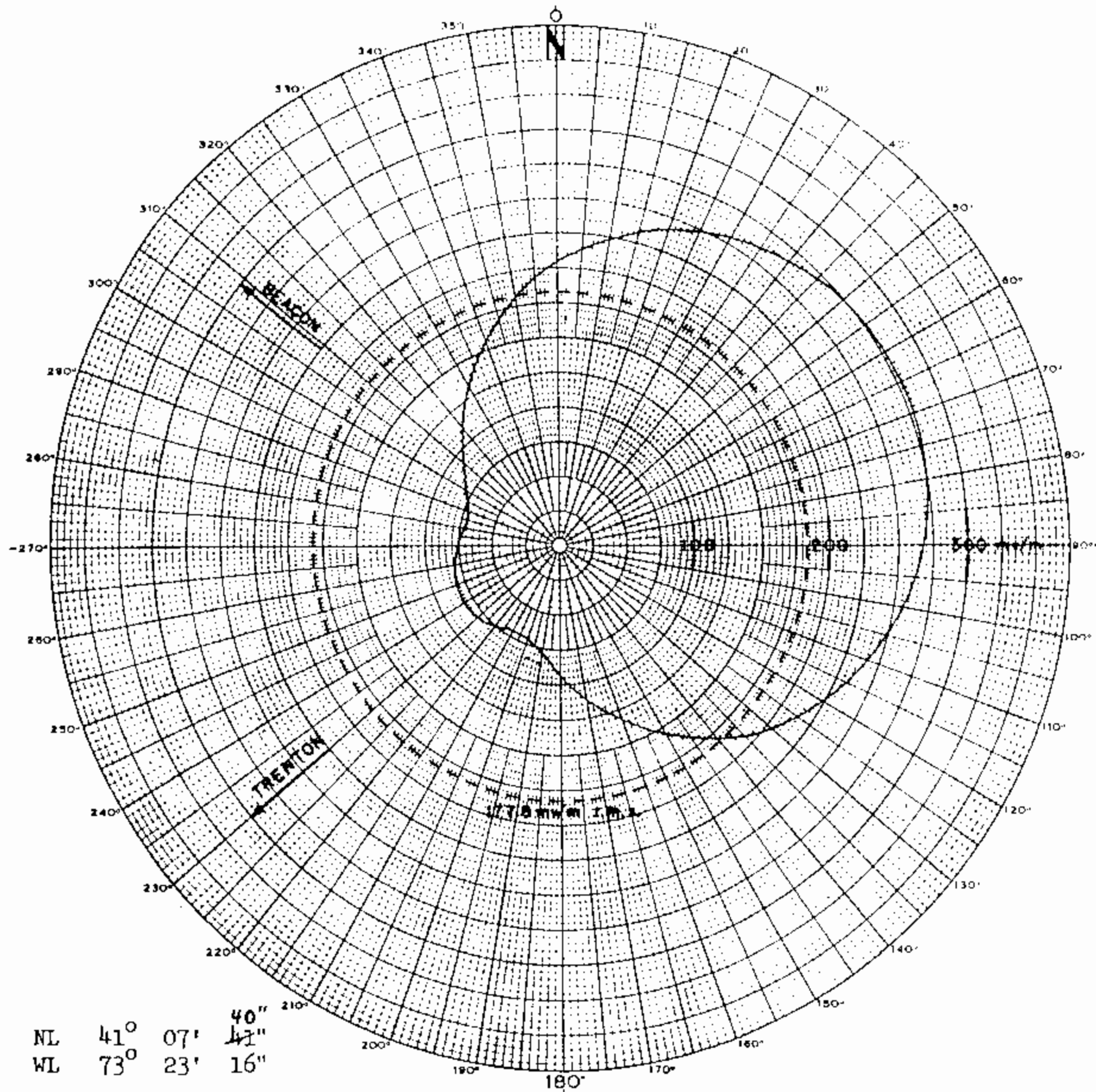
---

*Note: Please retain the description sheet and directional antenna radiation patterns notified for a new station at Westport, Connecticut, in United States Change List Number 774, dated September 3, 1958, and attach to this supplemental Description Sheet. This notification is for the purpose of indicating only a change in the geographical coordinates of the center of the antenna system.

Westport, Conn. W[illegible]

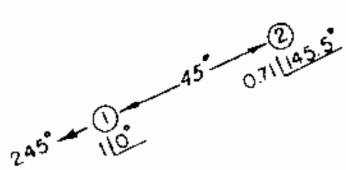
ranted CP 10/1/58 for new station

PROPOSED DAY (1-10-58g) — New; The Westport B/Cstng. Co., Westport, Connecticut — 1kw, DA-D,D, 1260 KC



NL 41° 07' ~~41"~~ 40"
WL 73° 23' 16"

ESTIMATED EFFECTIVE FIELD AT ONE MILE IN THE HORIZONTAL PLANE



G = 0.25λ

THE WESTPORT BROADCASTING COMPANY
WESTPORT, CONNECTICUT

1260 kc DA - D 1 kw

570912 Exhibit E-1(a)

FREDERIC D. SCHOTTLAND
Consulting Radio Engineer
WEST ORANGE, N. J.

FCC File No. BP-9972 The Westport Broadcasting Co.
Accepted 12-18-57 (Docket # 11787) Westport Connecticut 1260 KC

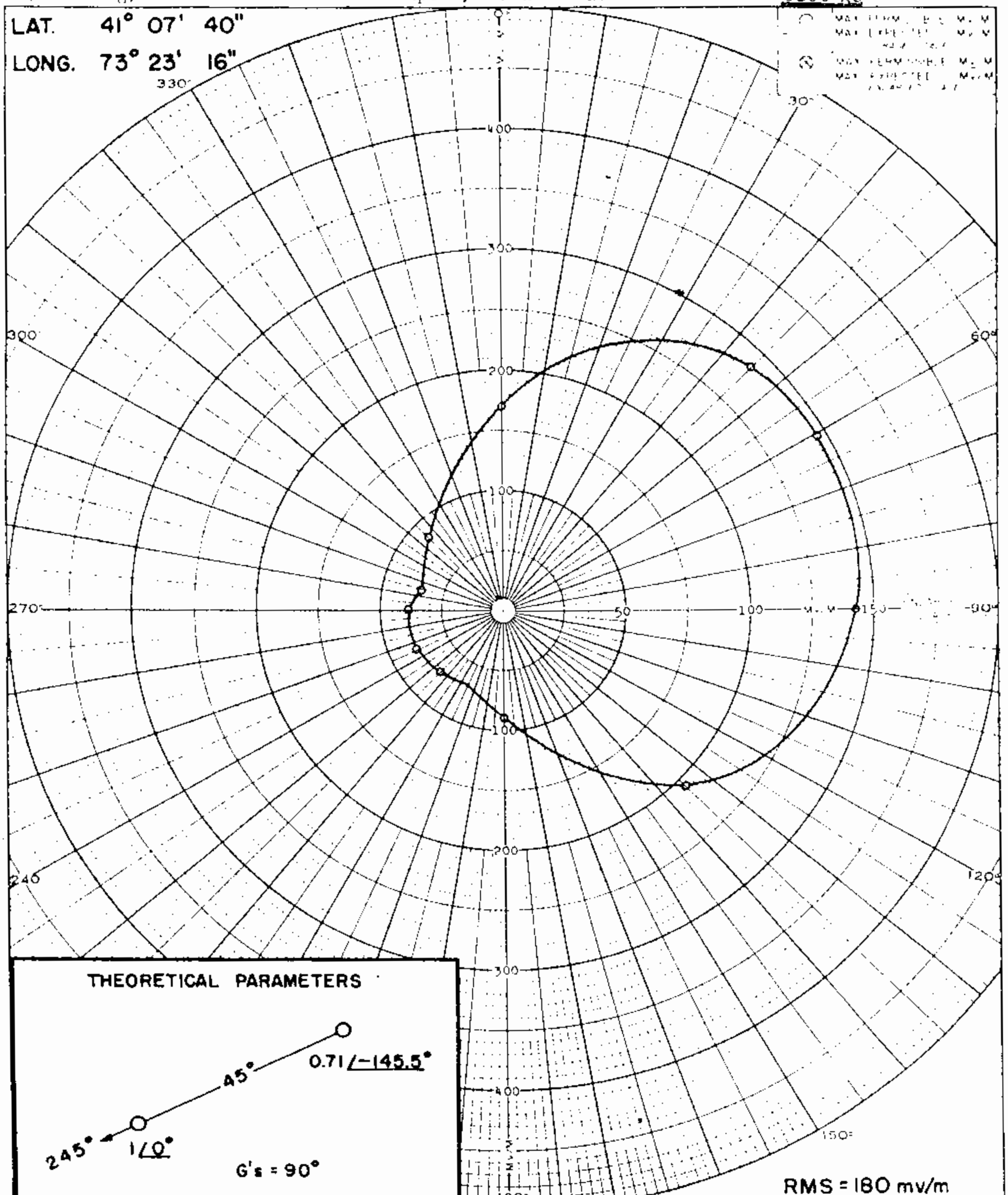
WMMM

granted [illegible] for new stn. 2-10-60

MEASURED DAY
(6-16-59g)

Station WMMM
Westport, Connecticut

1kw, DA-D, D
1260 kc



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

PATTERN: DA Proof-of-Performance
FOR: WMMM, Westport, Conn.
POWER: 1 kw-DA-D 1260 kc
DATE: 3/27/59 ELD

FCC File No. BL-7479
Accepted 6-2-59

Station WMMM
Westport, Connecticut

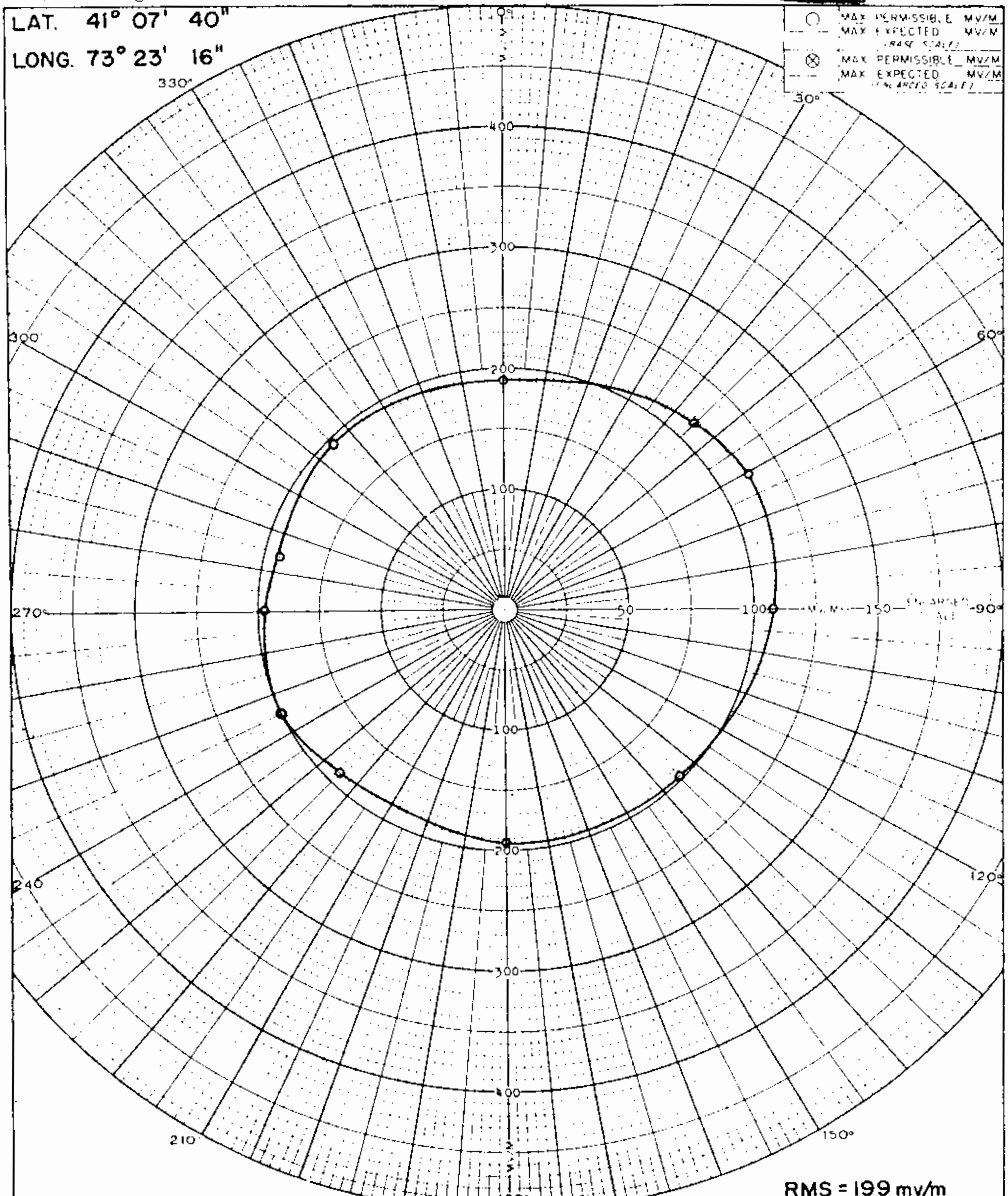
1260 KC

WMMM

MEASURED NON-DA
(6-16-59g)

Station WMMM
Westport, Connecticut

1kw, DA-D, D
1260 KC



Granted * per Recd Att. 2-10-60

COMMERCIAL RADIO EQUIPMENT CO.

RADIO ENGINEERING CONSULTANTS

KANSAS CITY WASHINGTON, D. C.

PATTERN	Non-Directional Proof
FOR	WMMM, Westport, Conn.
	1 kw-DA-D 1260 kc
DATE	3/27/59 BY ELD

FCC File No. BL-7479
Accepted 6-2-59

WMMM
Westport, Connecticut

1260 KC

PATTERN No 430312-P
SUPERSEDES 430312

WNAC -1260 KC.

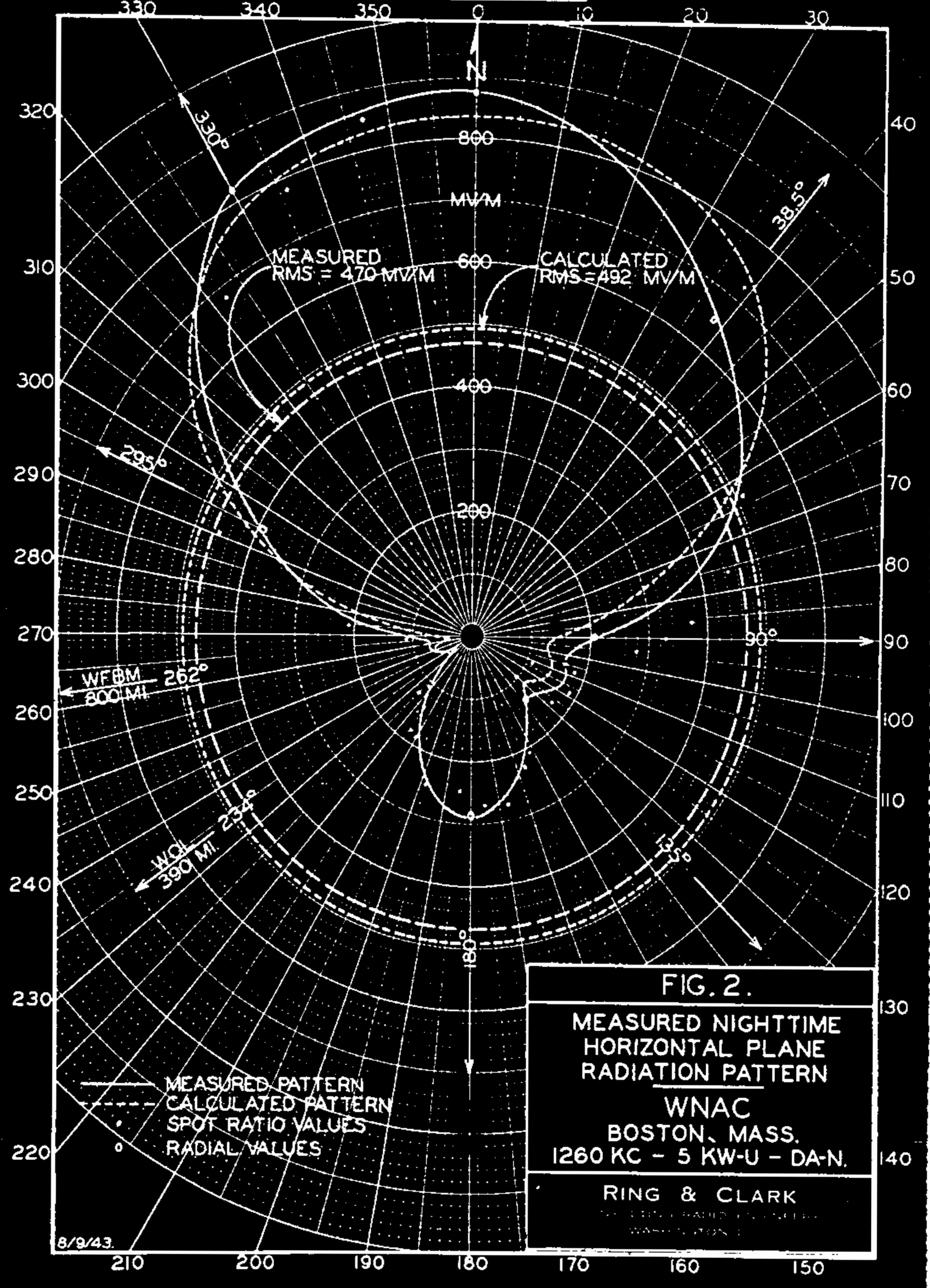


FIG. 2.

MEASURED NIGHTTIME
HORIZONTAL PLANE
RADIATION PATTERN

WNAC
BOSTON, MASS.
1260 KC - 5 KW-U - DA-N.

RING & CLARK

430312-P
430312

WNAC-1260 KC

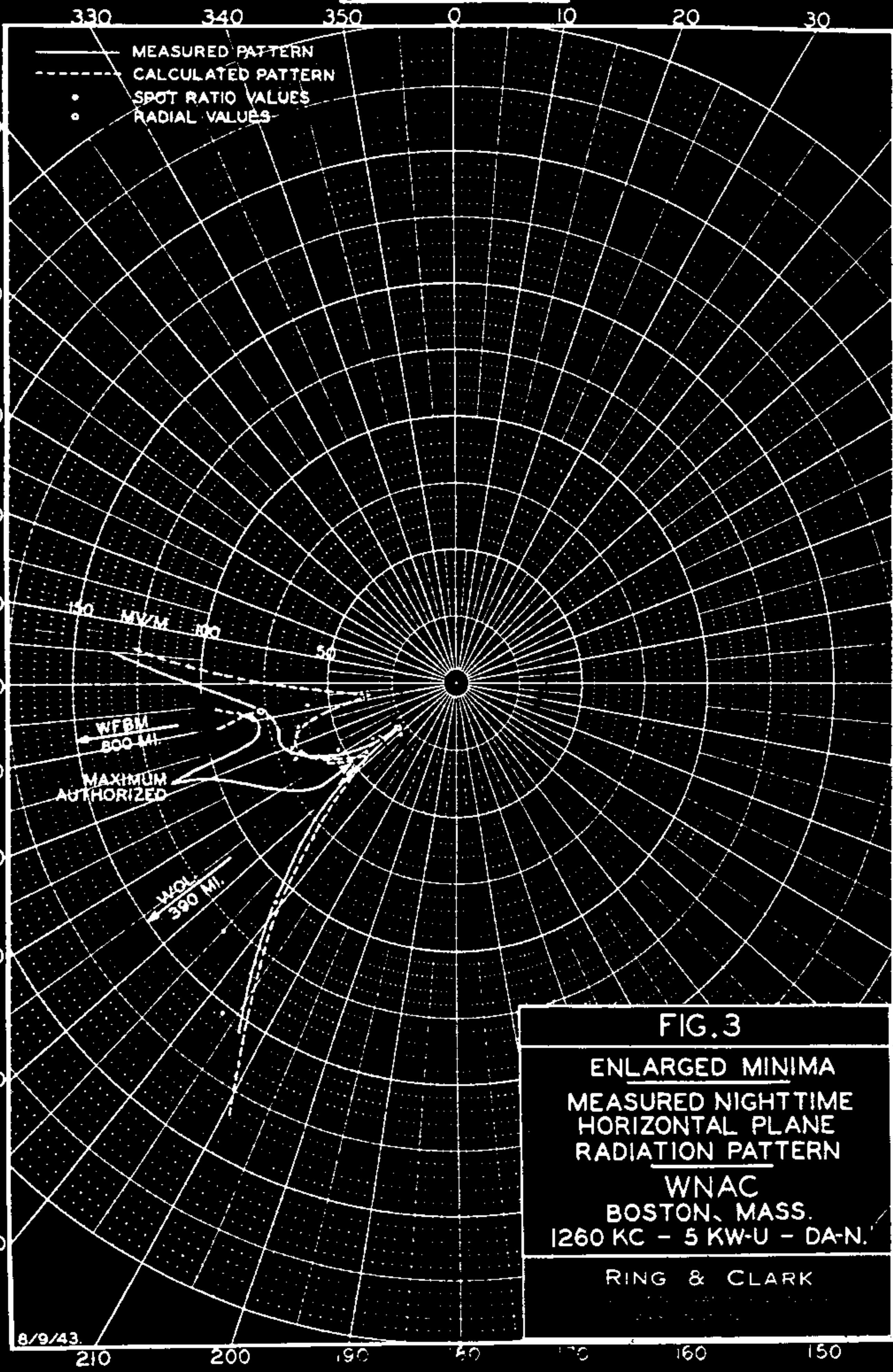


FIG. 3

ENLARGED MINIMA

MEASURED NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN

WNAC
BOSTON, MASS.
1260 KC – 5 KW-U – DA-N.

RING & CLARK

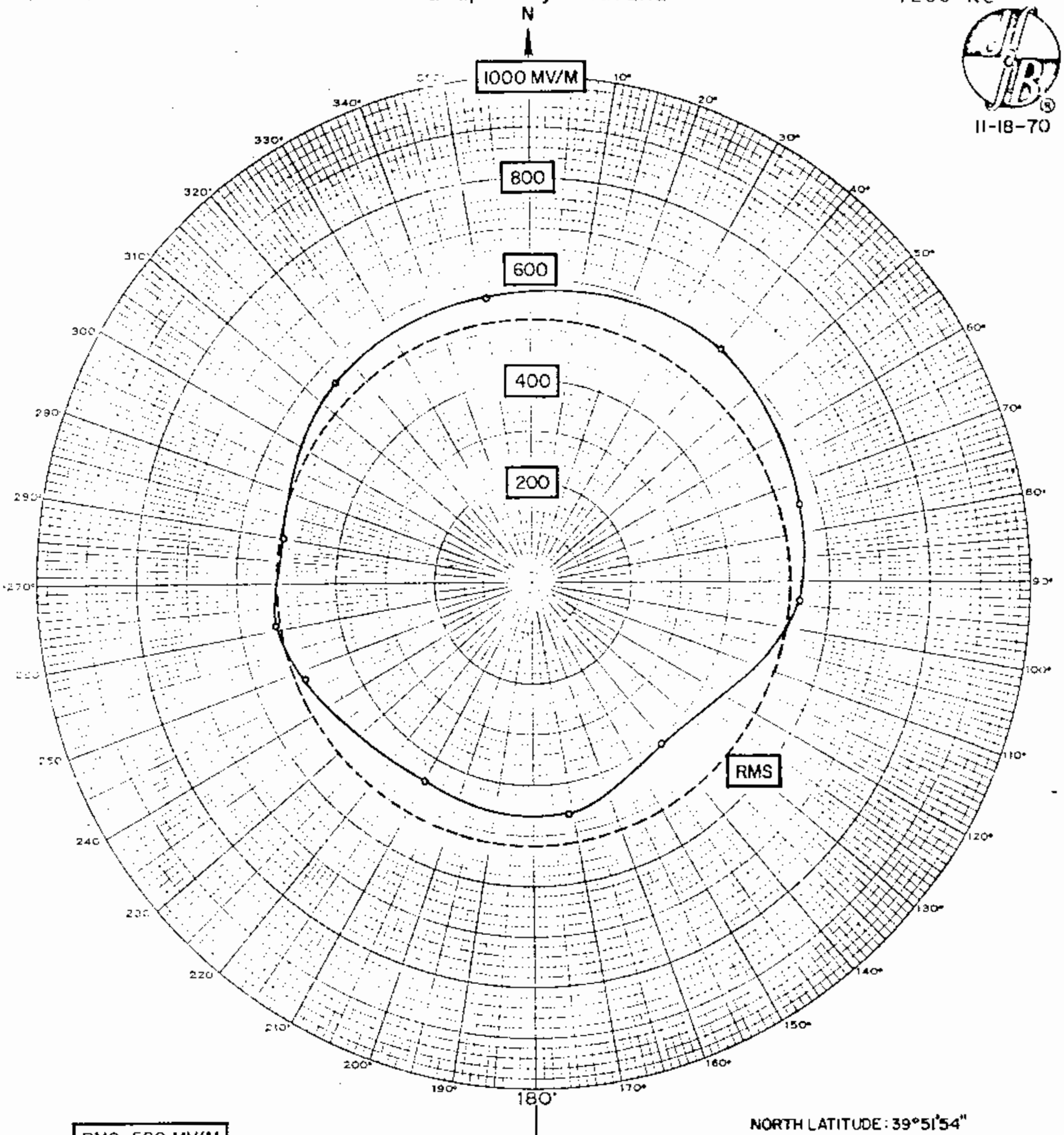
WNDE

Measured Non-DA
(3-22-71ct)

Station WFBM
Indianapolis, Indiana

5kw, DA-N, U
1260 kc

11-18-70



RMS=520 MV/M

NORTH LATITUDE: 39°51'54"
WEST LONGITUDE: 86°03'43"

FIG. 1

MEASURED HORIZONTAL RADIATION PATTERN FOR DAYTIME NONDIRECTIONAL OPERATION

WFBM *1260KHz* *5Kw* *DA-N*

TIME-LIFE BROADCAST, INC.
INDIANAPOLIS, INDIANA

FCC File No. BL-12807
Accepted

Station WFBM
Indianapolis, Indiana

1260 kc

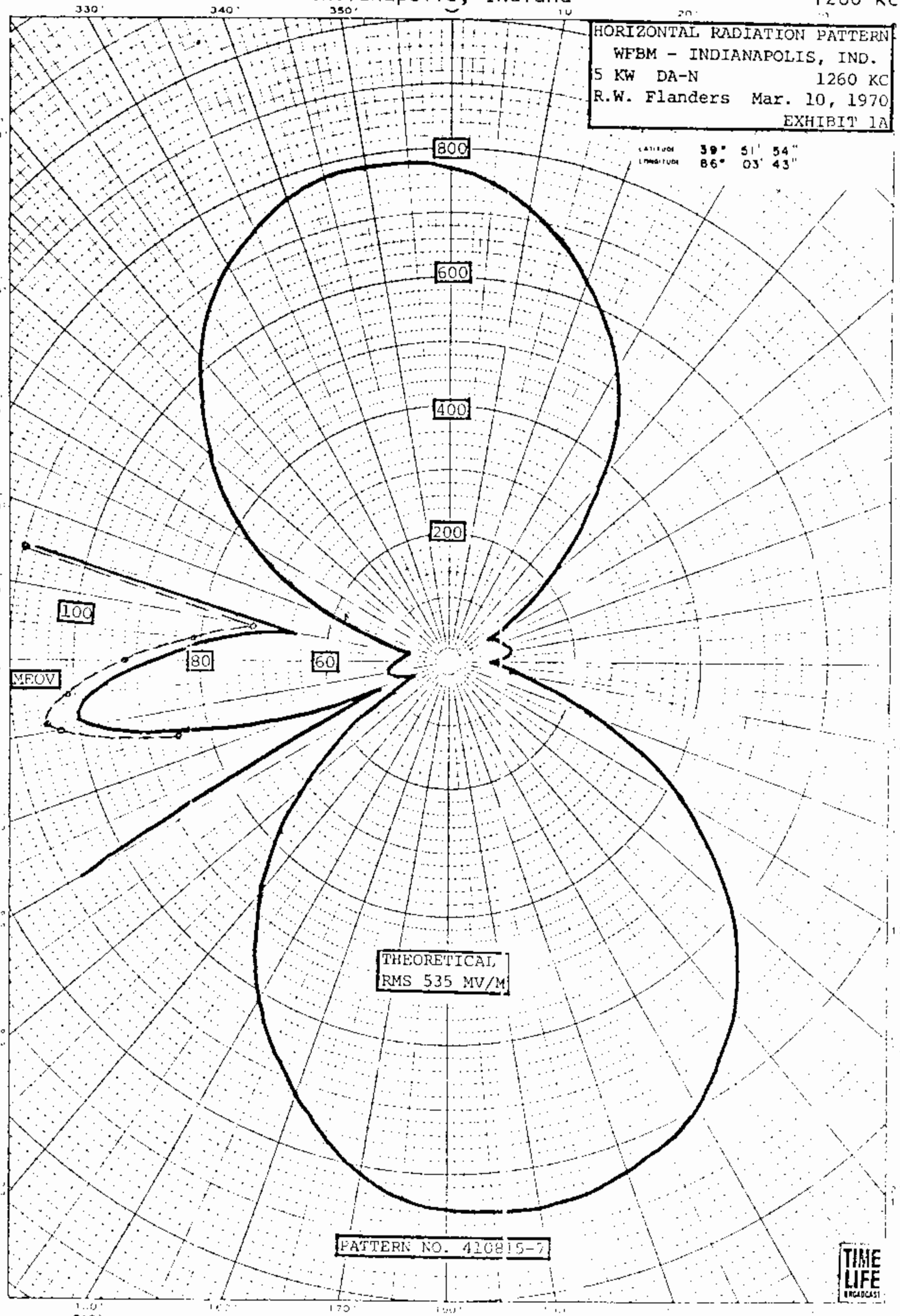
SEE REVERSE

WNDE

Proposed Night
(4-29-70ct)

Station WFBM
Indianapolis, Indiana

1260 kc



FCC File No. BP-18742
Accepted 3-27-70

Station WFBM
Indianapolis, Indiana

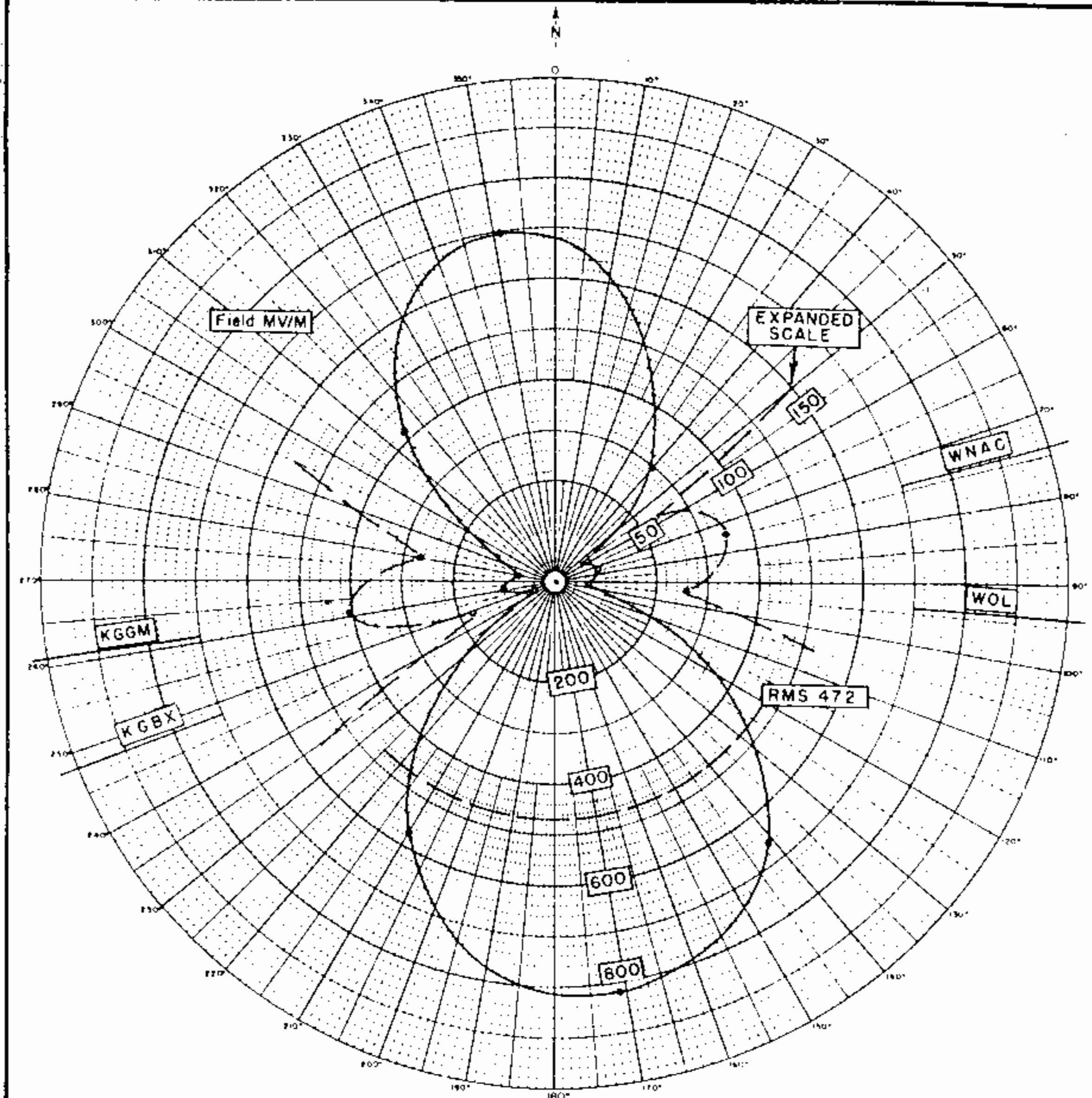
1260 kc

WNDE

MEASURED NIGHT
(2-11-58g)

Station WFBM
Indianapolis, Indiana

5kw, DA-N,U
1260 KC



NORTH G-1 93° 0.50 ∠+171′

128°

CENTER G-2 193° 1 ∠0

128°

SOUTH G-3 193° 0.75 ∠171′

171° TRUE

LATITUDE 39° 51′ 54″
LONGITUDE 86° 03′ 43″

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

MEASURED NIGHTTIME
HORIZONTAL RADIATION PATTERN

WFBM

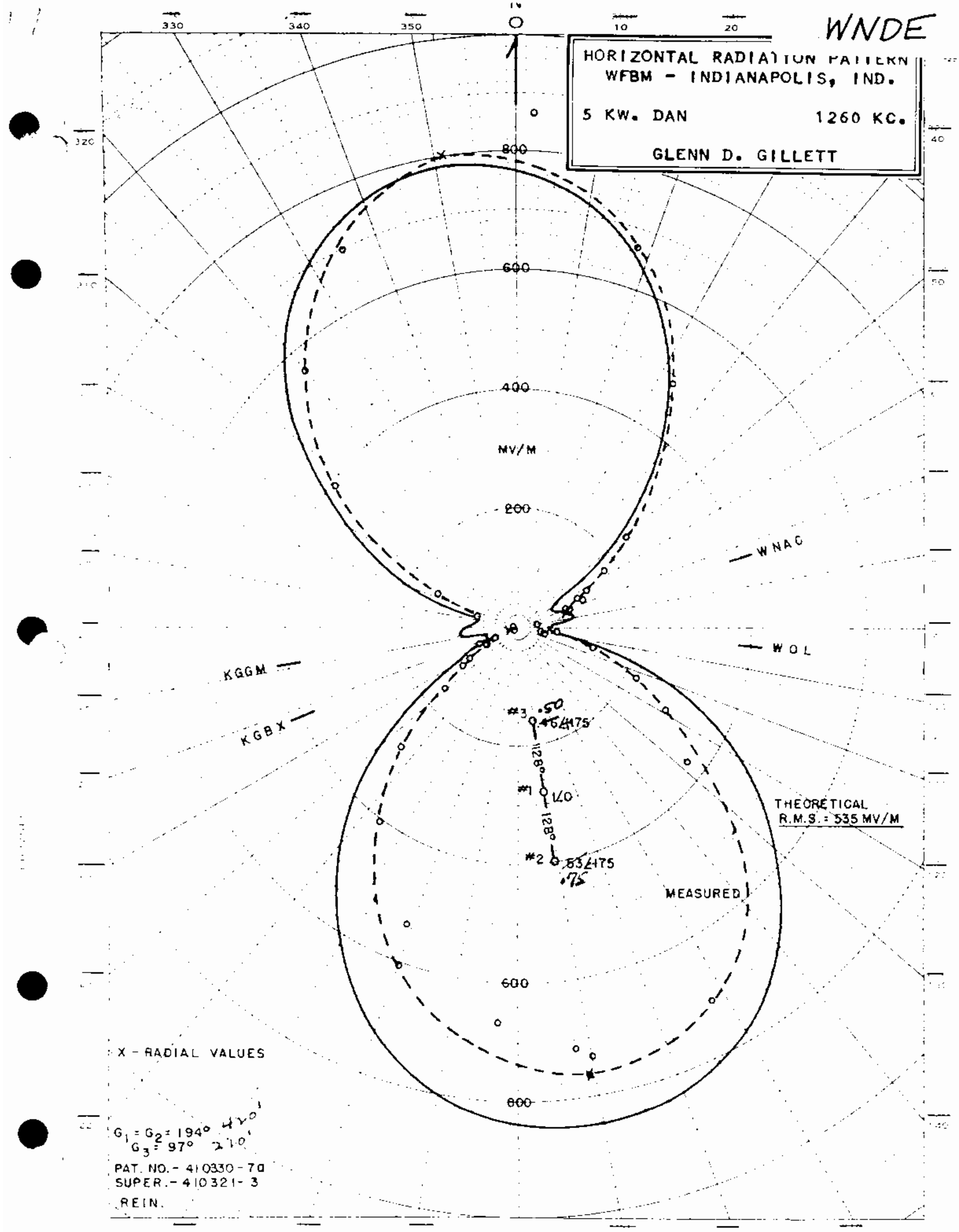
INDIANAPOLIS, INDIANA
1260 KC 5 KW DA-N
570912

KEAR AND KENNEDY
CONSULTING ENGINEERS
WASHINGTON, D.C.

FCC File No. BZ-3956
Accepted 1-22-58

WFBM
Indianapolis, Indiana

1260 KC



WNDE
HORIZONTAL RADIATION PATTERN
WFBM - INDIANAPOLIS, IND.
5 KW. DAN
1260 KC.
GLENN D. GILLETT
MV/M
WNAC
WOL
KGGM
KGBX
THEORETICAL
R.M.S. = 535 MV/M
MEASURED
#3 .50 .46/175
128°
#1 1/0
128°
#2 .53/175 .75
X - RADIAL VALUES
$G_1 = G_2 = 194°$ 420'
$G_3 = 97°$ 210'
PAT. NO. - 410330 - 70
SUPER. - 410321 - 3
REIN.

410330-70

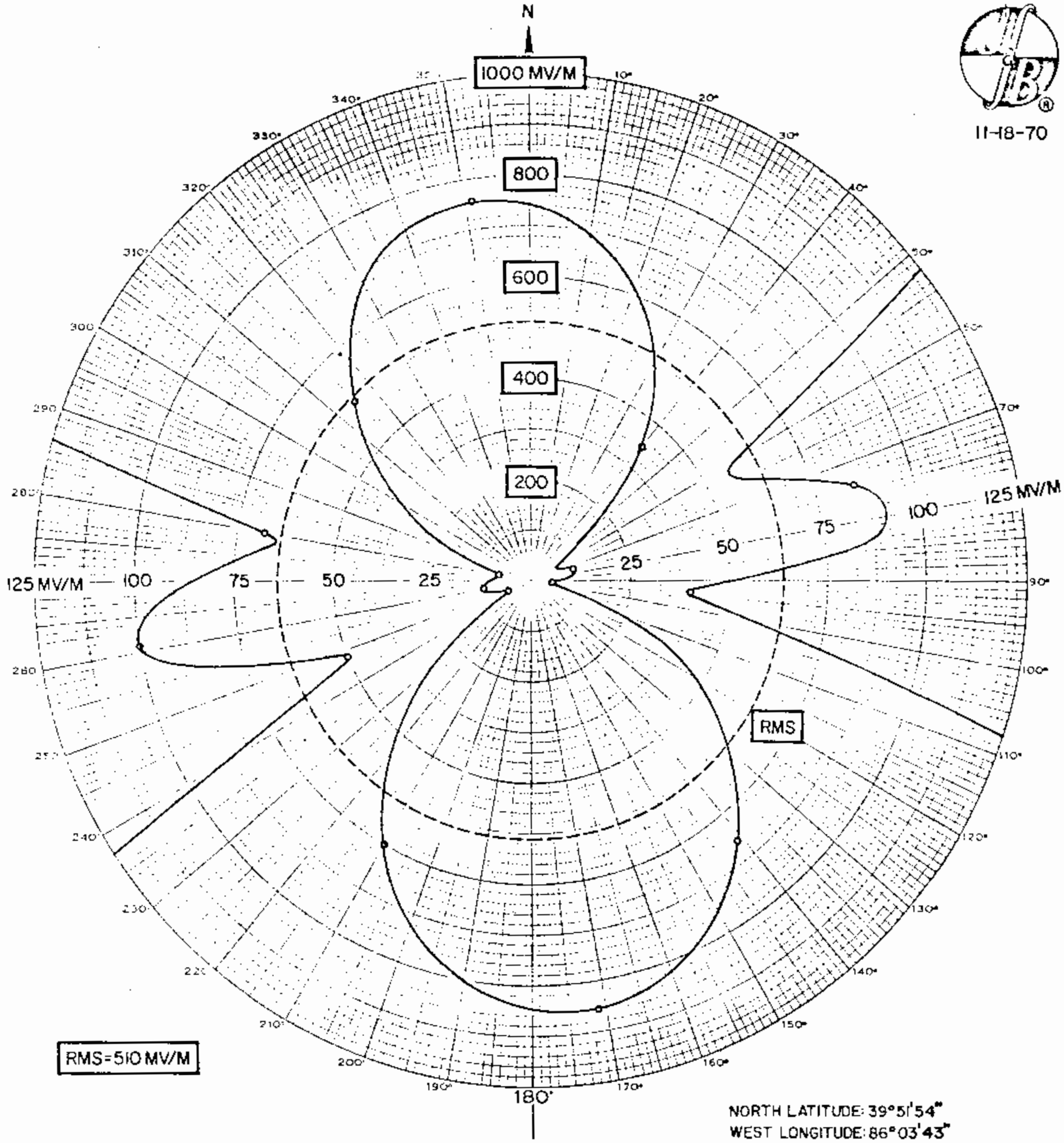
WNDE

Measured Night
(3-22-71ct)

Station WFBM
Indianapolis, Indiana

5kw,DA-N,U
1260 kc

11-18-70



RMS=510 MV/M

NORTH LATITUDE: 39°51'54"
WEST LONGITUDE: 86°03'43"

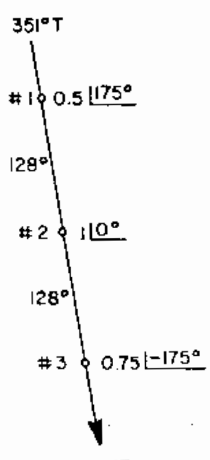


FIG. 2

MEASURED HORIZONTAL RADIATION PATTERN FOR NIGHTTIME OPERATION

WFBM *1260 KHz* *5Kw* *DA-N*

TIME-LIFE BROADCAST, INC.
INDIANAPOLIS, INDIANA

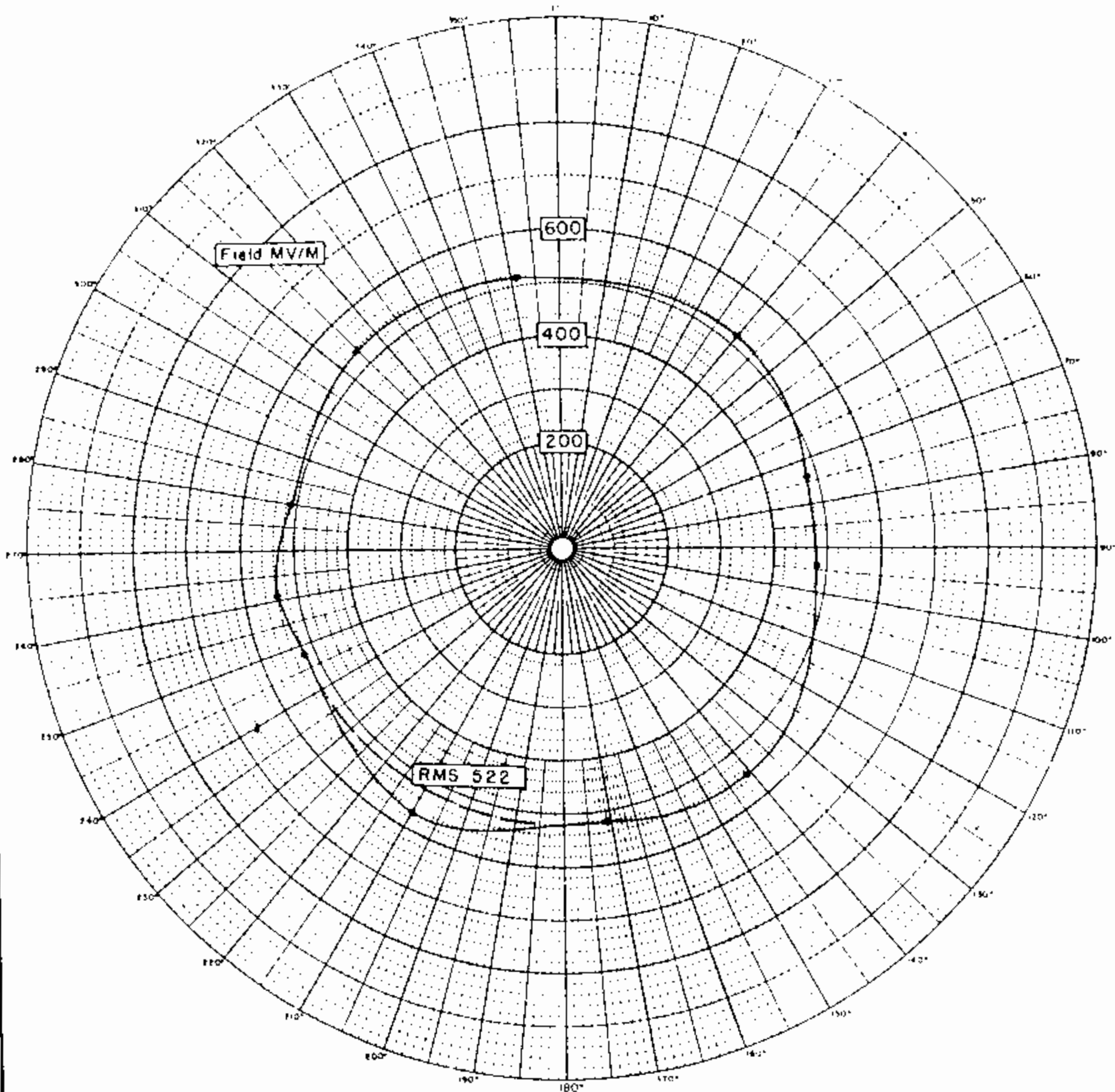
FCC File No. BL-12807
Accepted

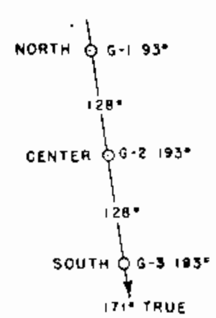
Station WFBM
Indianapolis, Indiana

1260 kc

WNDE

MEASURED NON-DA (2-11-58g) | Station WFBM Indianapolis, Indiana | 5kw, DA-N,U 1260 KC





LATITUDE 39° 51' 54"
LONGITUDE 86° 03' 43"

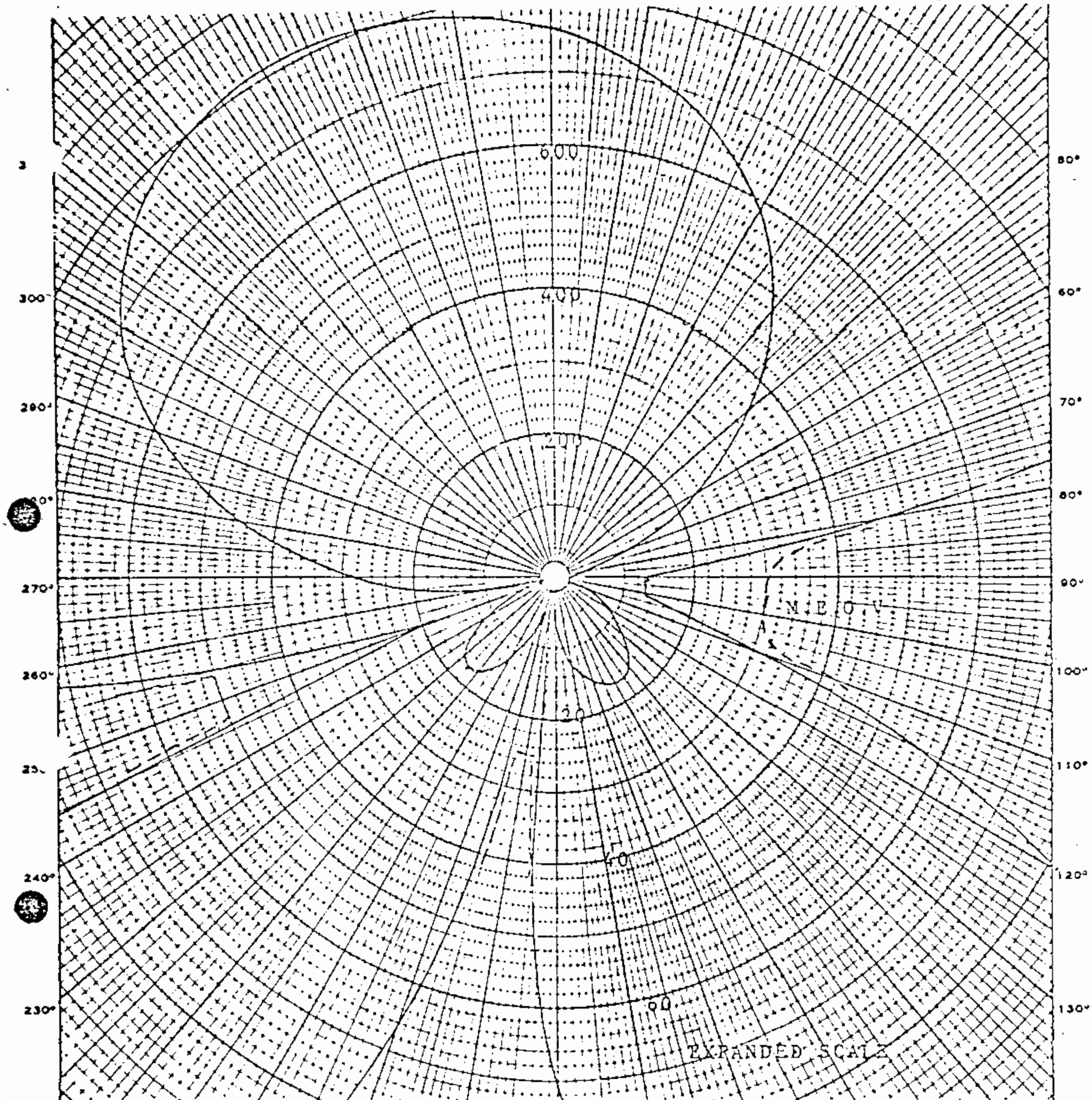
ANTENNA NUMBER	AZIMUTH DEG	SPACING DEG	PHASING DEG	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG

MEASURED DAYTIME
HORIZONTAL RADIATION PATTERN
WFBM
INDIANAPOLIS, INDIANA
1260 KC 5 KW DA-N
570912

KEAR AND KENNEDY
CONSULTING ENGINEERS
WASHINGTON, D.C.

FCC File No. BZ-3956
Accepted 1-22-58

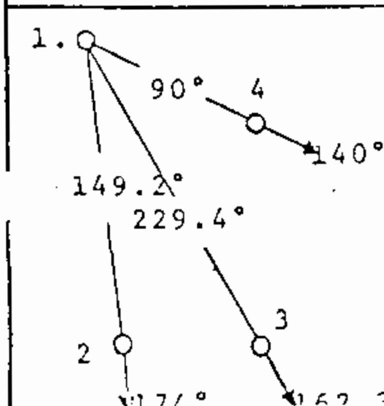
WFBM
Indianapolis, Indiana 1260 KC



R.M.S. (THEO) 436.0 MV/M   R.M.S. (STND) ______ MV/M   R.S.S. ______ MV/M

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

PATTERN PARAMETERS



1. = 1.0 / 0°
2. = 1.0 / +145.2°
3. = 1.0 / -92.8°
4. = 1.0 / +122.0°

RADIO STATION WNDR

☐ MEASURED   ☒ PROPOSED

FREQ: 1260 (KHZ) POWER 5.0 (KW) ☐ DA-D

N LAT 43° 01' 29" ☒ DA-N

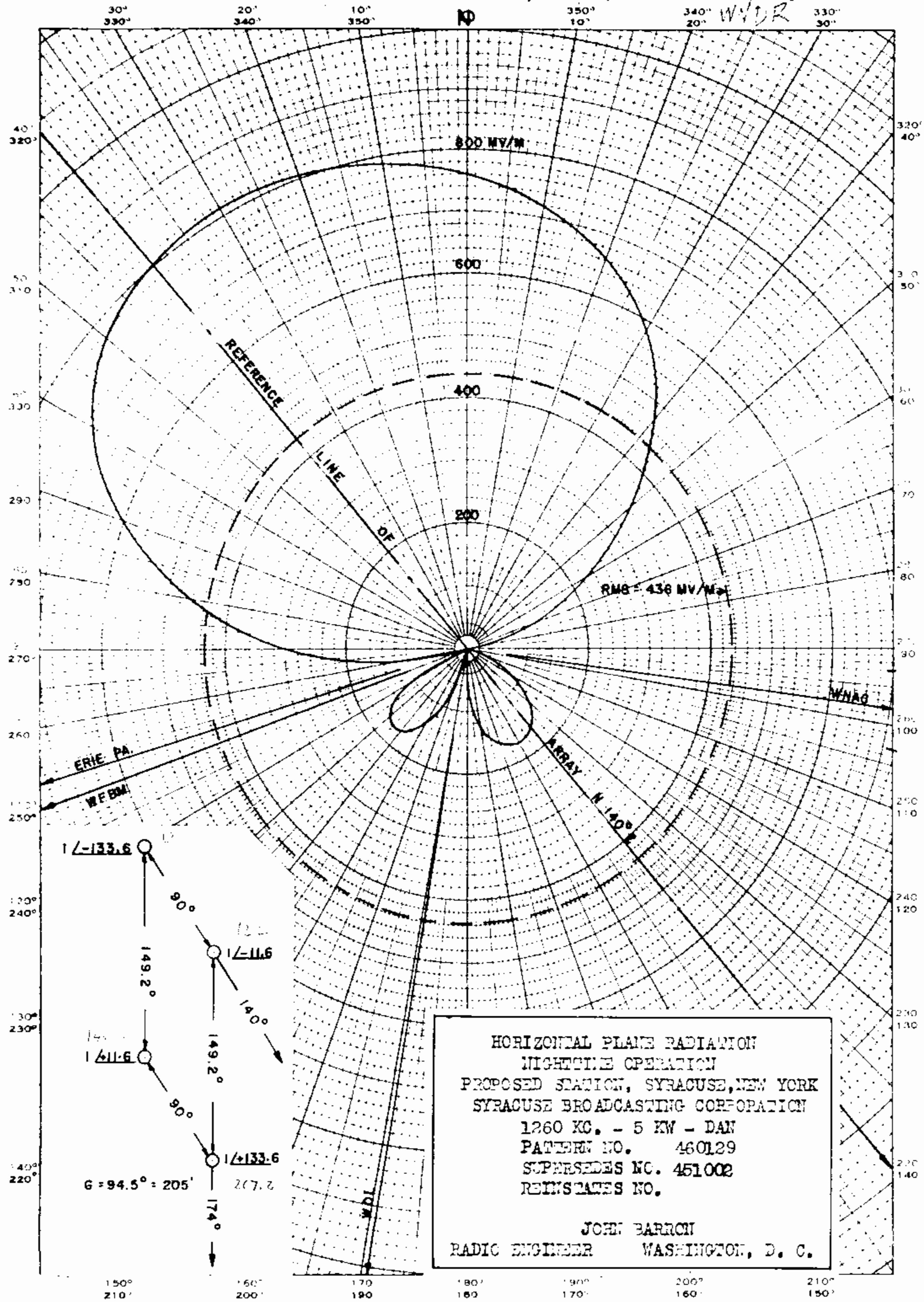
W LONG 76° 03' 53" ☐ N-D

LOCATION: Syracuse, New York

DATE: March 1977

FRANCIS A. CICCORICCO
BROADCAST ENGINEERING CONSULTANT
HOMER, N.Y.

W N[illegible]-SYRACUSE,N.Y. 1260KC



WNRK

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station : WNRK Main Studio: Newark, Delaware

Frequency : 1260 KHz Power : ______ Night 1 kW Day

Notification: 1782 Date : October 26, 1979 Class: III

GEOGRAPHICAL LOCATION OF THE
CENTER OF THE ANTENNA SYSTEM: North Latitude: 39 ° 38 ' 39 "
West Longitude: 75 ° 41 ' 22 "

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 :	S(#1)	C(#2)	N(#3)			
HEIGHT ABOVE INSULATORS :	195'	195'	195'(90°)			
DAY PHASING: :	0°	193°	23.5°			
DAY FIELD RATIO:	1.0	1.9	1.0			

SPACING AND ORIENTATION: With S(#1) tower as reference, tower C(#2) is spaced 195 feet on a bearing of 318.9° true and tower N(#3) is spaced 390 feet (180°) on a bearing of 317° true.

GROUND SYSTEM: 120 - 195 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.

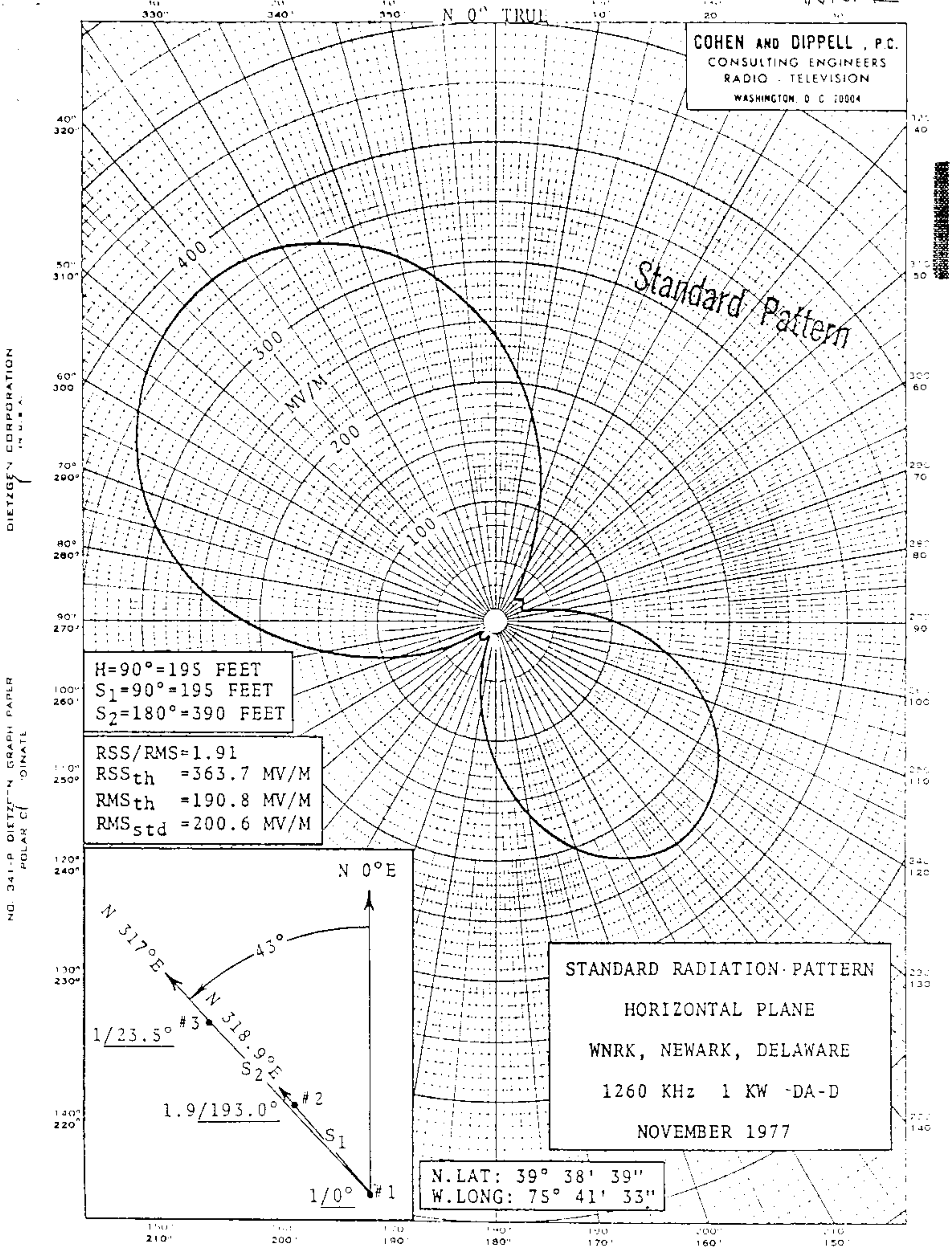
WNKK

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

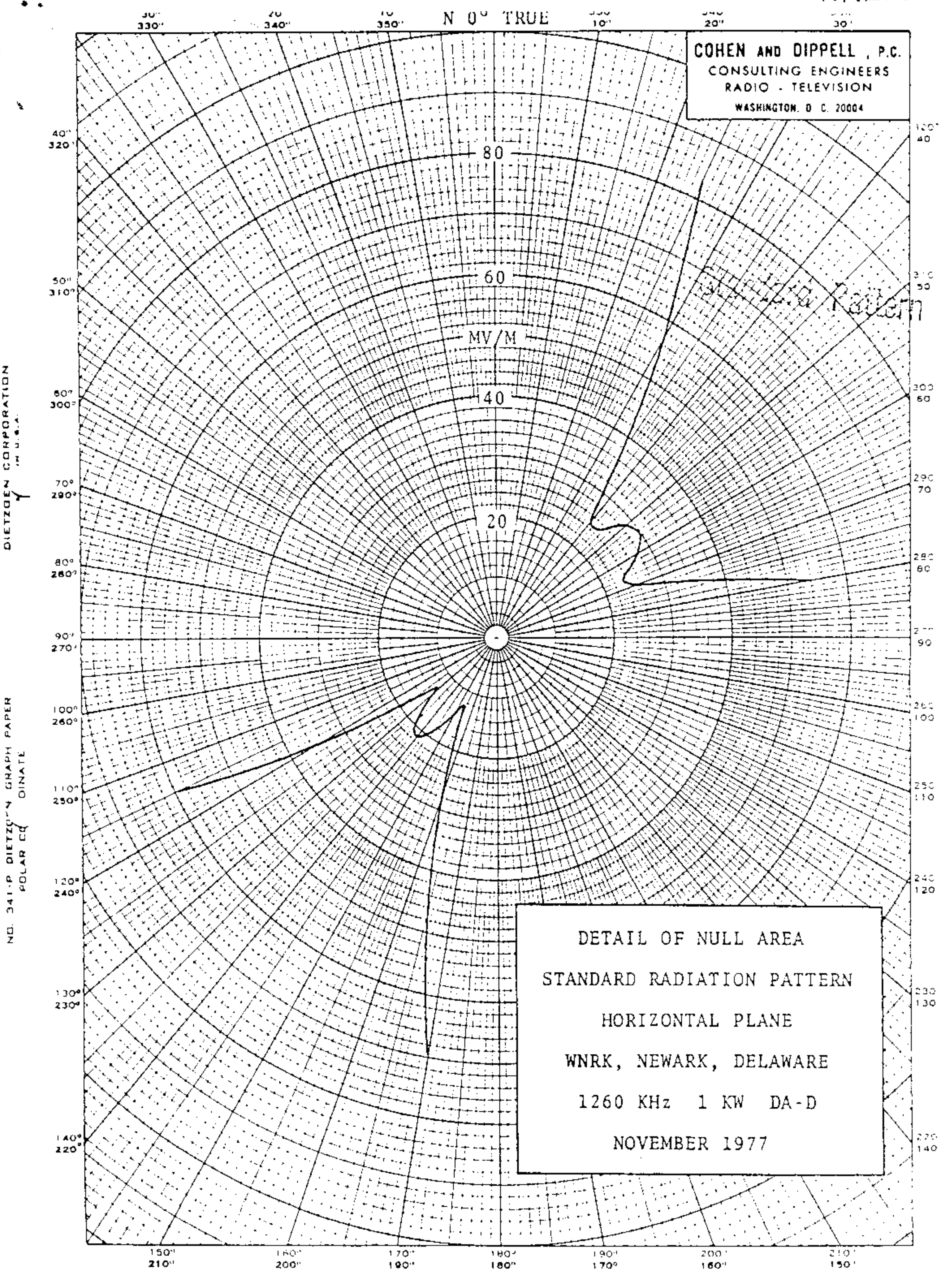
	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	190.8 mV/m	363.7 mV/m	200.6 mV/m

Note:

WNRK


N 0° TRUE
COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004
Standard Pattern
400
300
MV/M
200
100
H=90°=195 FEET
S_1=90°=195 FEET
S_2=180°=390 FEET
RSS/RMS=1.91
RSS_{th} =363.7 MV/M
RMS_{th} =190.8 MV/M
RMS_{std} =200.6 MV/M
N 0°E
N 317°E
43°
N 318.9°E
#3
1/23.5°
S_2
#2
1.9/193.0°
S_1
1/0°
#1
STANDARD RADIATION PATTERN
HORIZONTAL PLANE
WNRK, NEWARK, DELAWARE
1260 KHz 1 KW -DA-D
NOVEMBER 1977
N.LAT: 39° 38' 39"
W.LONG: 75° 41' 33"
DIETZGEN CORPORATION
NO. 341-P DIETZGEN GRAPH PAPER
POLAR COORDINATE

WNRK



DETAIL OF NULL AREA

STANDARD RADIATION PATTERN

HORIZONTAL PLANE

WNRK, NEWARK, DELAWARE

1260 KHz 1 KW DA-D

NOVEMBER 1977

NEWARK, DELAWARE WNRK

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WNRK

Main Studio: Newark, Delaware

Frequency: 1260 kHz

Power: 0.5kw

Notification List No. 1426

Date: May 26, 1971

Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 39° 38' 39"
West Longitude: 75° 41' 22"

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(#3)	C(#2)	SE(#1)	
HEIGHT ABOVE INSULATORS:	195'	195'	195'	(90°)
PHASING:	+23°	+194.5°	0°	
FIELD RATIO:	1.0	1.89	1.0	

SPACING AND ORIENTATION: From tower #1; tower #2 is spaced 195.2' (90°) on a line bearing 318.9° true, tower #3 is spaced 390.5' (180°) on a line bearing 317° true.

GROUND SYSTEM: 120 - 195' equally spaced copper radials plus 120 - 50' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

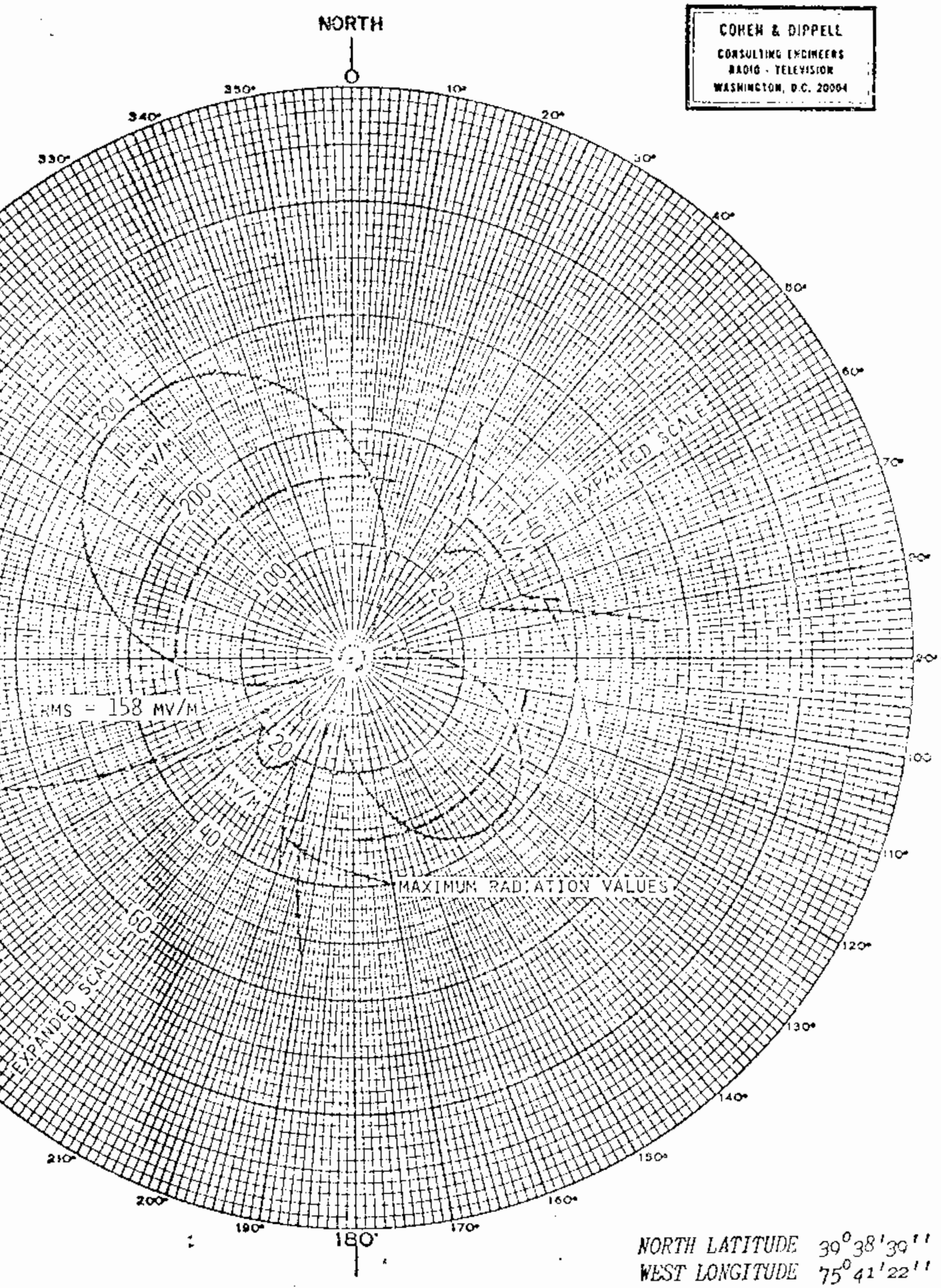
Predicted effective Field: 158 mv/m at rated power

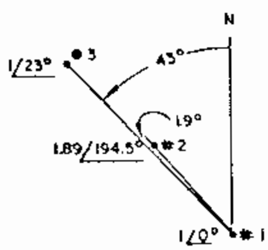
Note: This notification concerns only a change in meov's of radiation and a correction to geographical coordinates.

NEWARK, DELAWARE

WNRK

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





NORTH LATITUDE $39^{0}38'30''$
WEST LONGITUDE $75^{0}41'22''$

HORIZONTAL RADIATION PATTERN
FOR WNRK, NEWARK, DELAWARE
1260 KHZ - 500 WATTS - DA- D
FEBRUARY 1971

MAY 1 1971

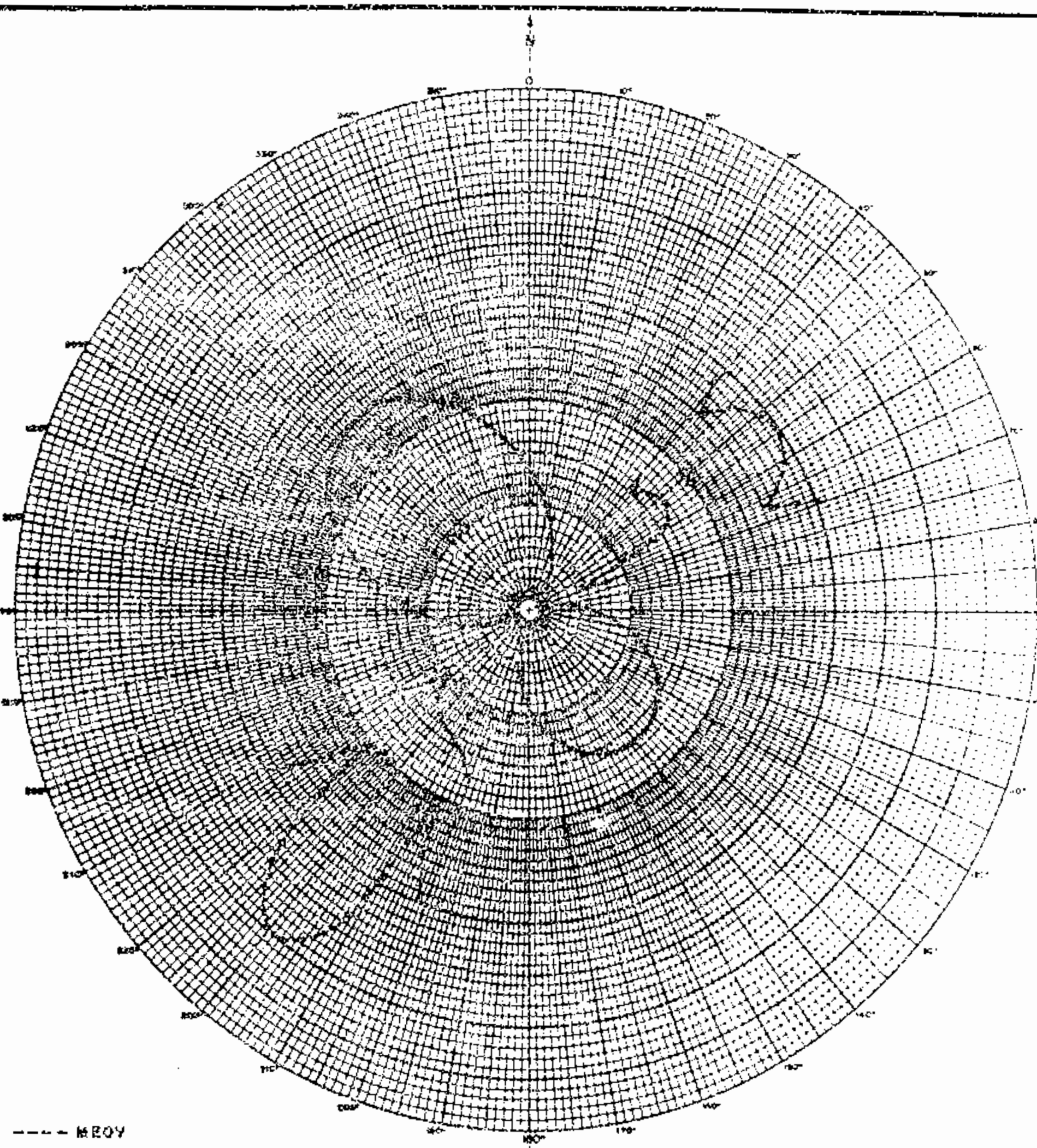
WNRK

Measured Day
(1-28-65ct)

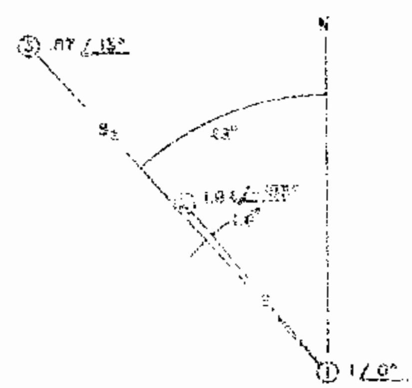
Station WNRK
Newark, Delaware

500w,DA-D,D
1260 kc

-10730
4-65 UC



---- MEOV



S_1 = 90° = 103'
S_2 = 120° = 320'
S = 90° = 192'

APPLICANT	RADIO NEWARK, INC.
LOCATION	Newark, Delaware
FREQUENCY	1260 KC
POWER	500 Watts DA-D
LATITUDE	39° 38' 39"
LONGITUDE	75° 41' 33"
WHEN USED	Daytime
RMS FIELD	130 MV/M
DATE	July 1964
	Figure 2

G. RUSSELL CHAMBERS
CONSULTING RADIO ENGINEERS
WILMINGTON, DELAWARE

FCC File No. BL-10730
Accepted 1-13-65

Station WNRK
Newark, Delaware

1260 kc

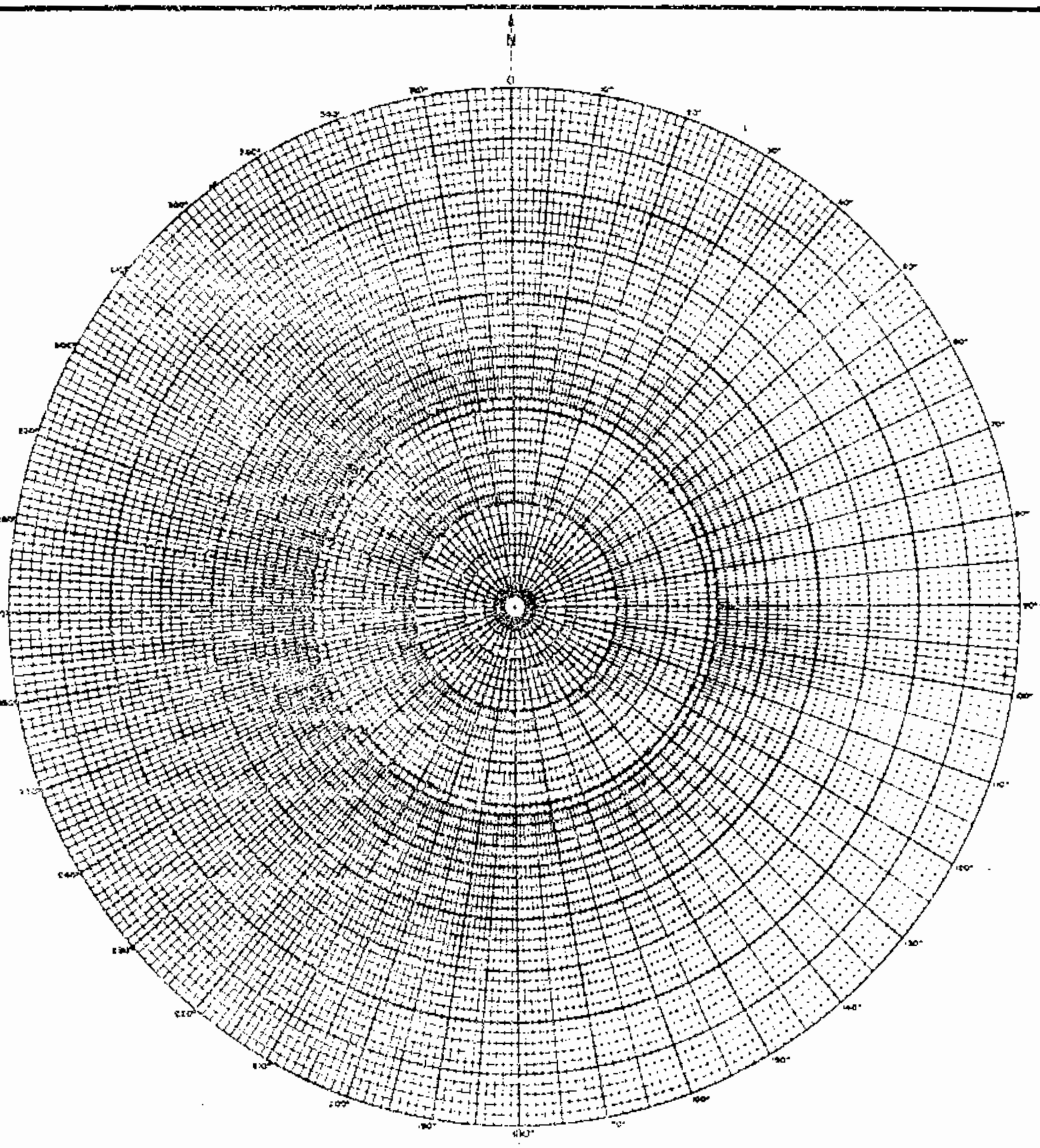
WNRK

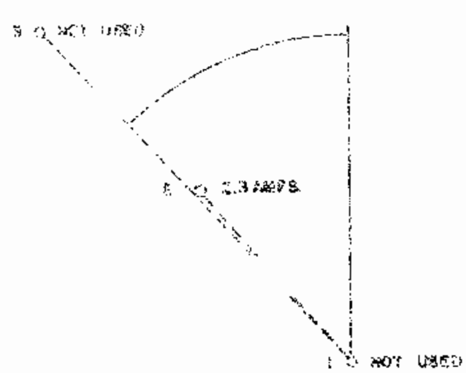
Measured Non-DA
(1-28-65ct)

Station WNRK
Newark, Delaware

500w,DA-D,D
1260 kc

BL-10730
-4-65 LIC.





APPLICANT	RADIO NEWARK, INC.
LOCATION	Newark, Delaware
FREQUENCY	1260 KC
POWER	250 Watts ND
LATITUDE	39° 33' 39"
LONGITUDE	75° 41' 33"
WHEN USED	Daytime
R.M.S. FIELD	95 MV/M
DATE	June 1964

Figure 1

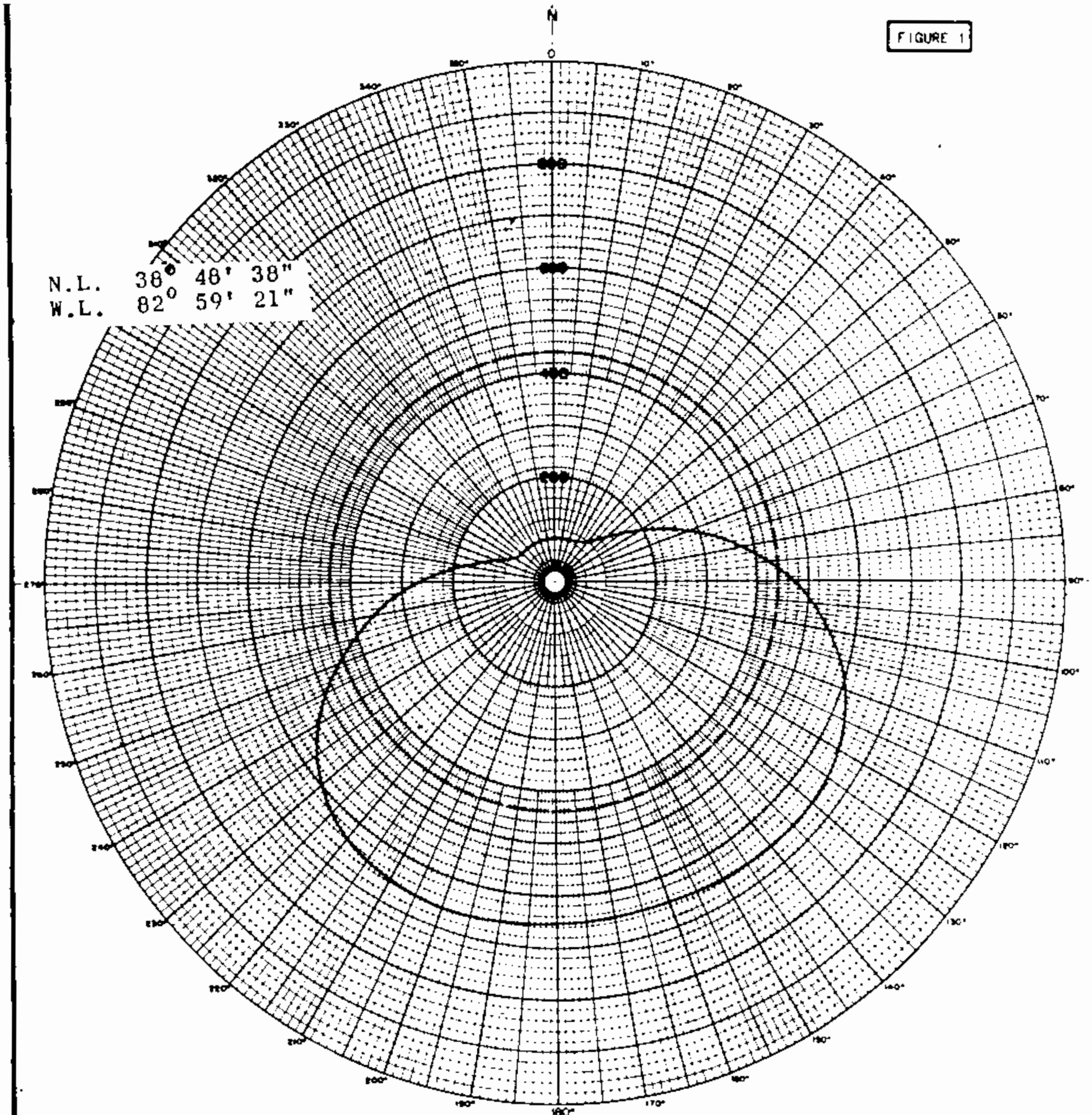
G. RUSSELL CHAMBERS
CONSULTING RADIO ENGINEERS
WILMINGTON, DELAWARE

FCC File No. BL-10730
Accepted 1-13-65

Station WNRK
Newark, Delaware

1260 kc

PROPOSED DAY — WNXT, PORTSMOUTH, OHIO — 1 KW, 5KW-LS, U, DA-2 — 1260 kc
12/9/52G



PATTERN NO. 1009521

WNXT

HORIZONTAL RADIATION PATTERN
CALCULATED

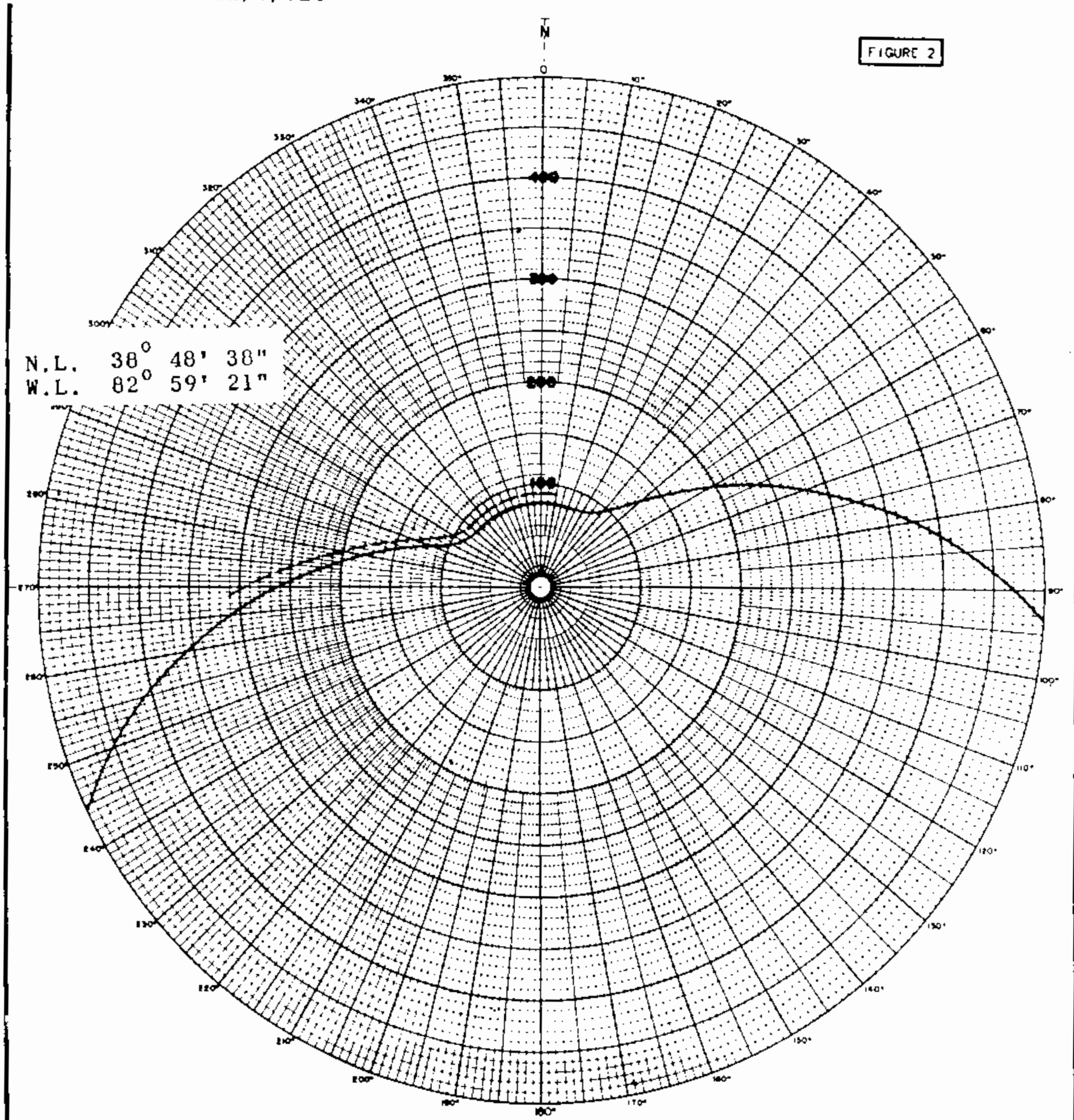
	NORTH	CENTER	SOUTH			
ANTENNA	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
PHASE DEG.	85°	14°	-85°			
HEIGHT DEG.	94.49	94.49	94.49			
FIELD RATIO	1.00	2.06	1.00			
NON-DA ANT.						
ORIENTATION N349°0 TRUE			SPACING 100°			

FREQUENCY	1260 KC
ASSIGNMENT	1 KW-N; 5 KW-D; DA2
LONGITUDE / LATITUDE	NO CHANGE FROM PRESENT SITE
WHEN USED	DAYTIME
R.M.S. FIELD	441.4 MV/M
DATE	OCTOBER 1952

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

APPL RECD 10/29/52 ACC 11/26/52 BP-8664 — WNXT, PORTSMOUTH, OHIO 1260 kc

PROPOSED DAY NULLS — WNXT, PORTSMOUTH, OHIO 12/9/52G — 1KW, 5KW-LS, U, DA-2 — 1260 KC



WNXT
HORIZONTAL RADIATION PATTERN ENLARGED VIEW CALCULATED

FREQUENCY	1260 KC	
ASSIGNMENT	1 KW-N; 5 KW-D; DA2	
LONGITUDE	NO CHANGE FROM PRESENT SITE	
LATITUDE		
WHEN USED	DAYTIME	
RMS FIELD	441.4 MV/M	
DATE	OCTOBER 1952	

	NORTH	CENTER	SOUTH			
ANTENNA	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
PHASE DEG	85°	14°	-85°			
HEIGHT DEG	94.49	94.49	94.49			
FIELD RATIO	1.00	2.06	1.00			
NON-DA ANT.						
ORIENTATION N349°E TRUE			SPACING 100°			

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

APPL RECD 10/29/52 ACC 11/26/52 BP-8664 — WNXT, PORTSMOUTH, OHIO 1260 KC

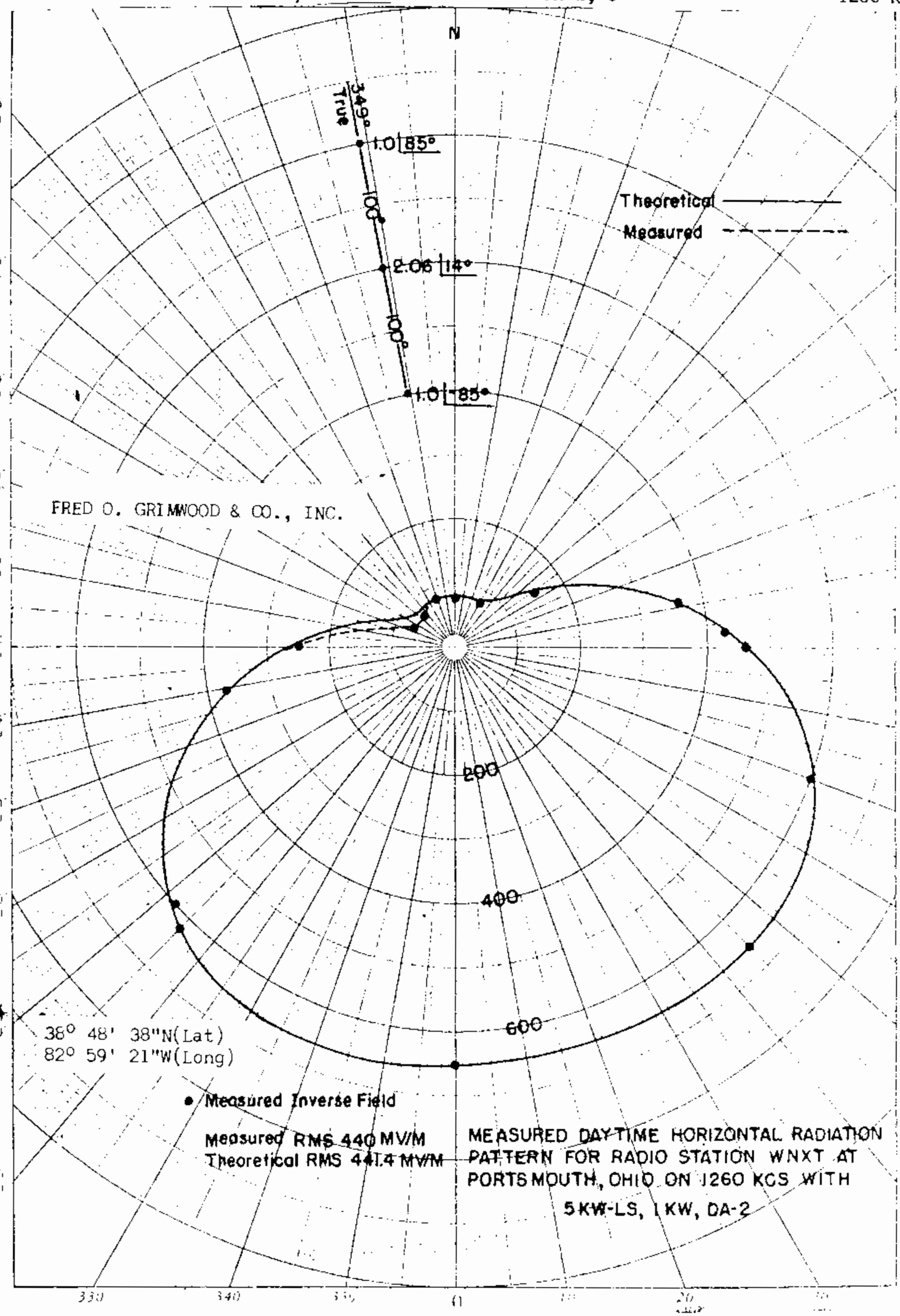
WNXT

MEASURED DAY
(2/25/55G)

STATION WNXT
PORTSMOUTH, OHIO

1 KW, 5 KW-LS
DA-2, U

1260 KC



FILE NO. BL-5619

Accepted 2/10/55 FCC

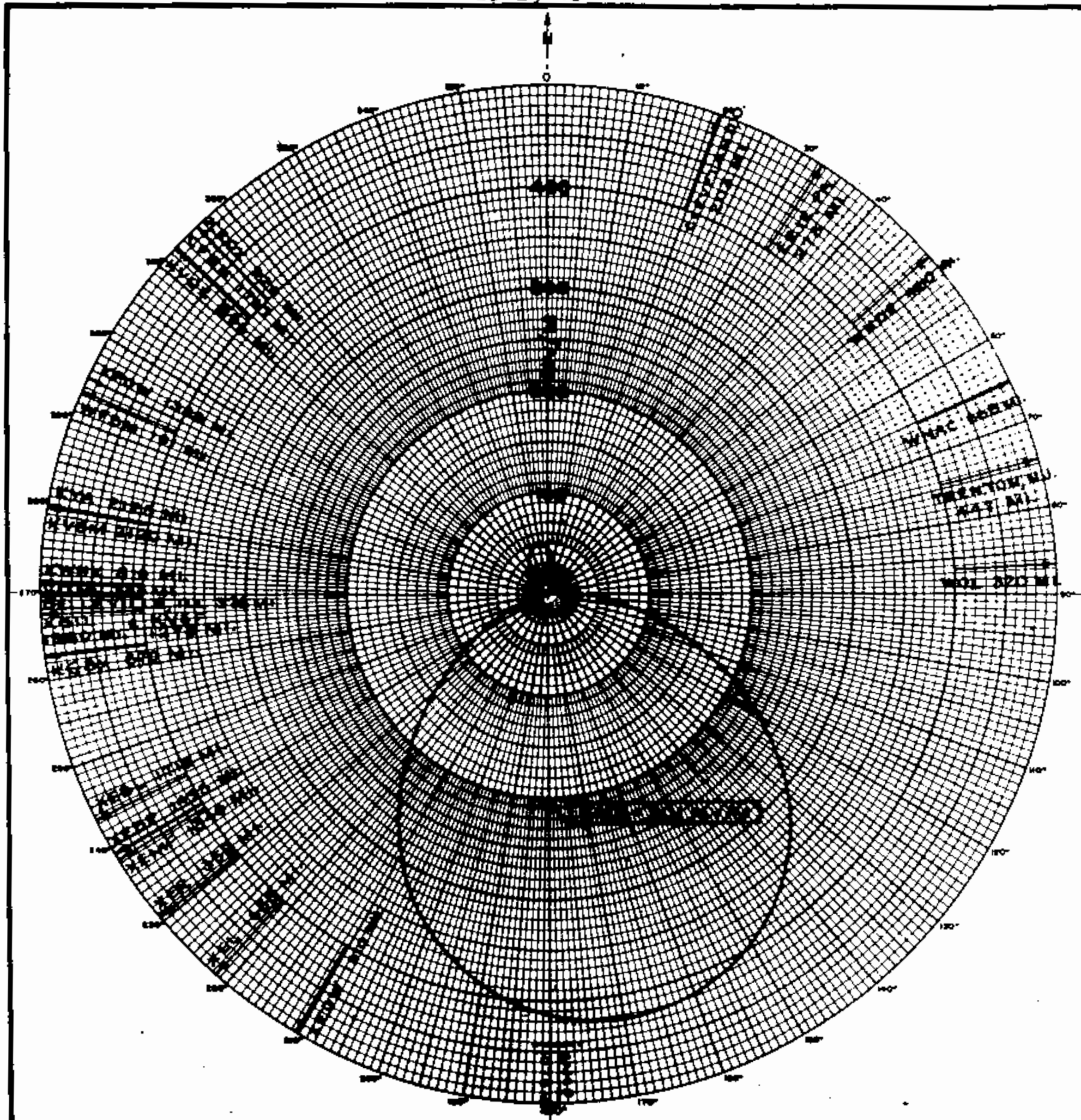
WNXT, Portsmouth, Ohio

1260KC

10/20/48G

WNXT
PORTSMOUTH, O.
1260

10-19-48



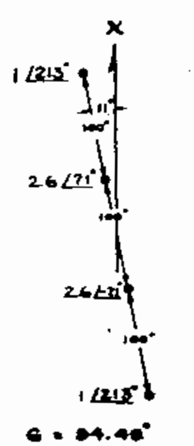


EXHIBIT IV

PROPOSED HORIZONTAL RADIATION PATTERN

PORTSMOUTH, OHIO

1260 KC/S   1KW-U-DA-1   OCT. 1948

– – – – INDICATES REQUESTED OPERATING TOLERANCE

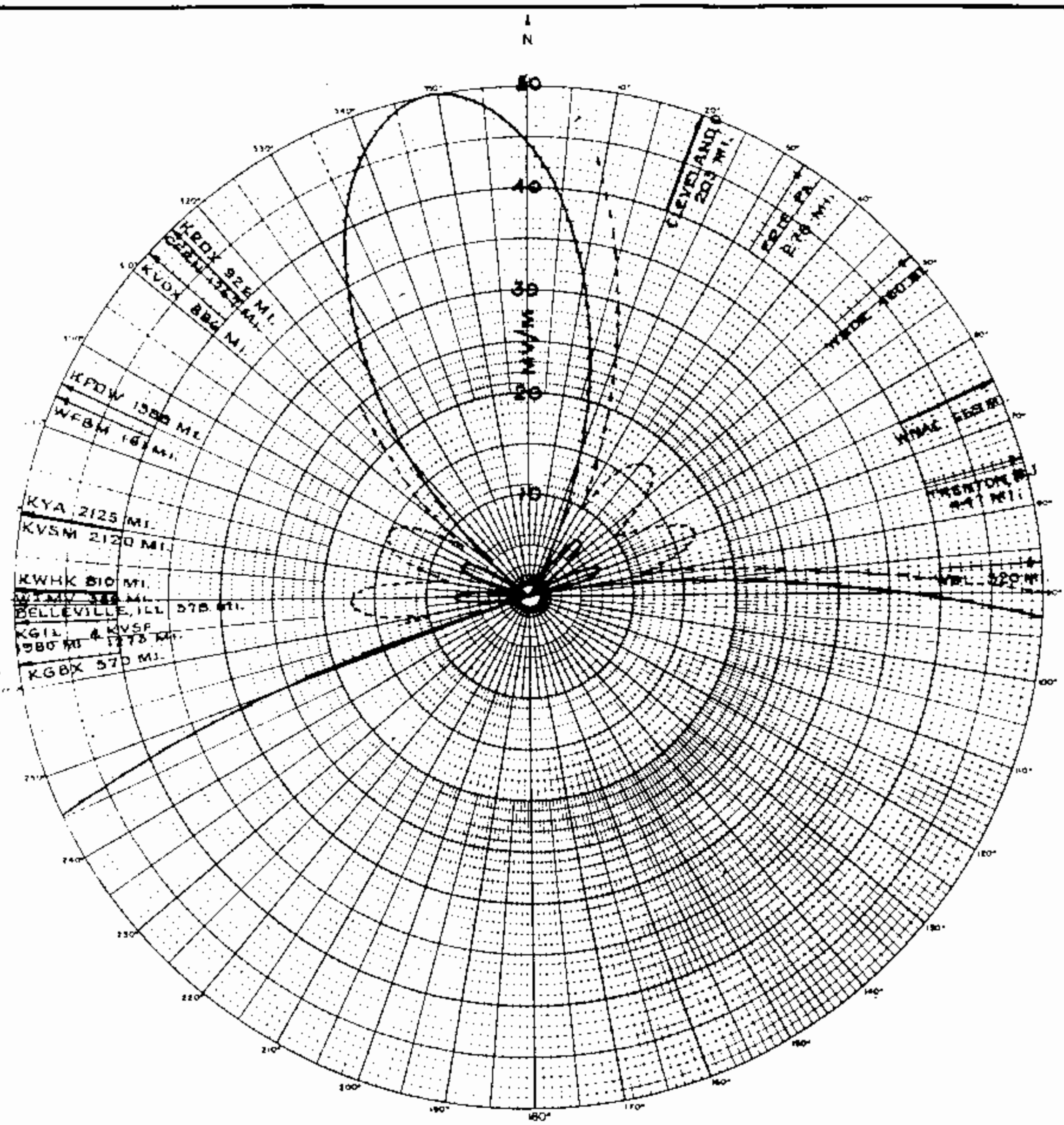
NOTE: SEE EXHIBITS V & VI FOR REQUESTED OPERATING TOLERANCES NOT SHOWN HERE.

WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON, D.C.

PATTERN NO. 481015
SUPERSEDES
APP. John A. Moffet

10/20/48 G

WNXT
PORTSMOUTH, O.
1260



---- INDICATES REQUESTED OPERATING TOLERANCE

EXHIBIT V

PROPOSED HORIZONTAL RADIATION PATTERN (EXPANDED NULLS)

PORTSMOUTH, OHIO

1260 KC/S 1 KW-U-DA-1 OCT. 1948

WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON, D. C.

PATTERN NO. 481015
SUPERSEDES
APP. John Ruoff

proposed Night Nulls

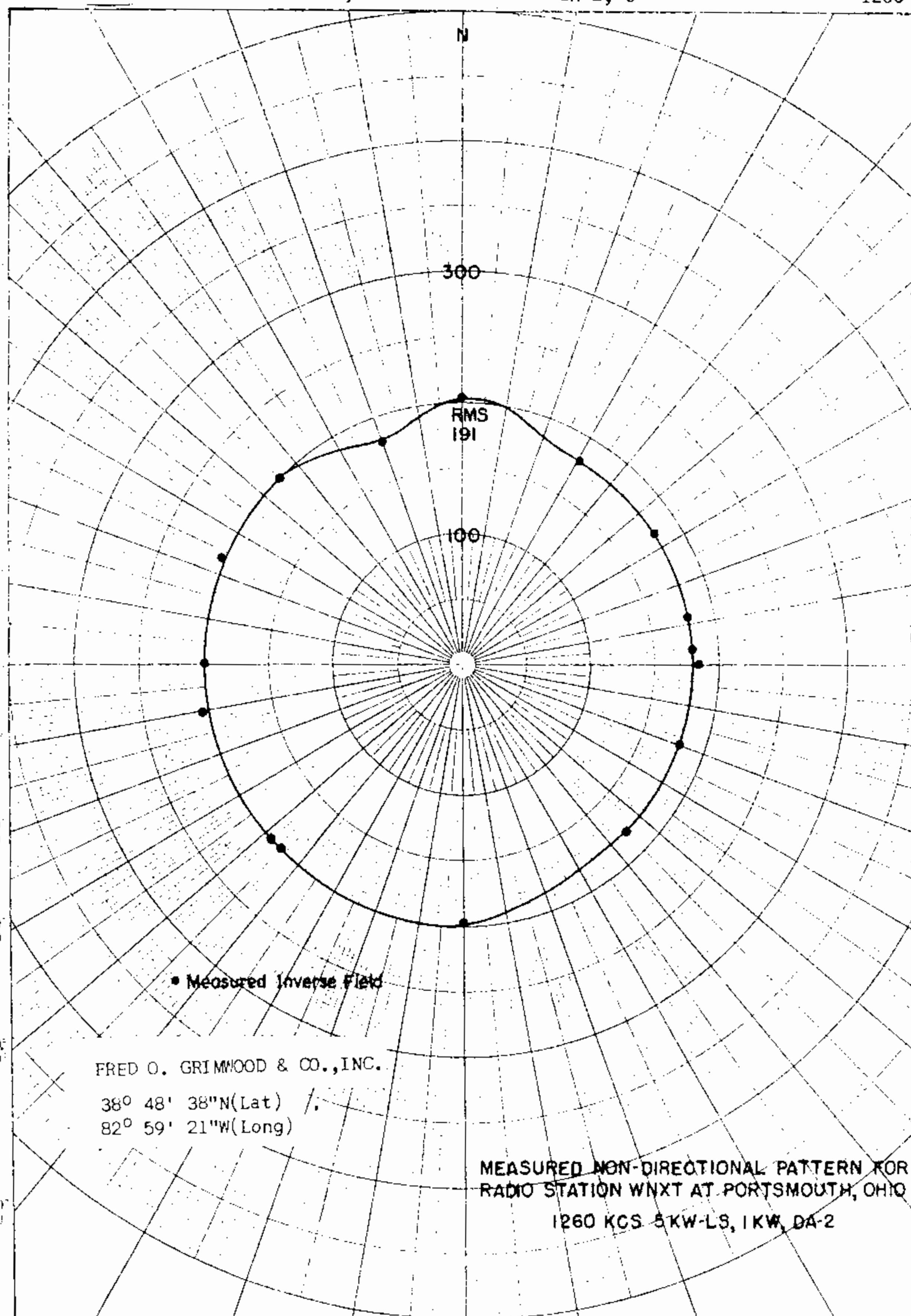
WNXT

MEASURED NON-DIRECTIONAL (2/25/55G)

STATION WNXT
PORSTMOUTH, OHIO

1 KW, 5 KW-LS
DA-2, U

1260 KC



FILE NO. BL-5619 Accepted 2/10/55 FCC WNXT, Portsmouth, Ohio 1260 KC

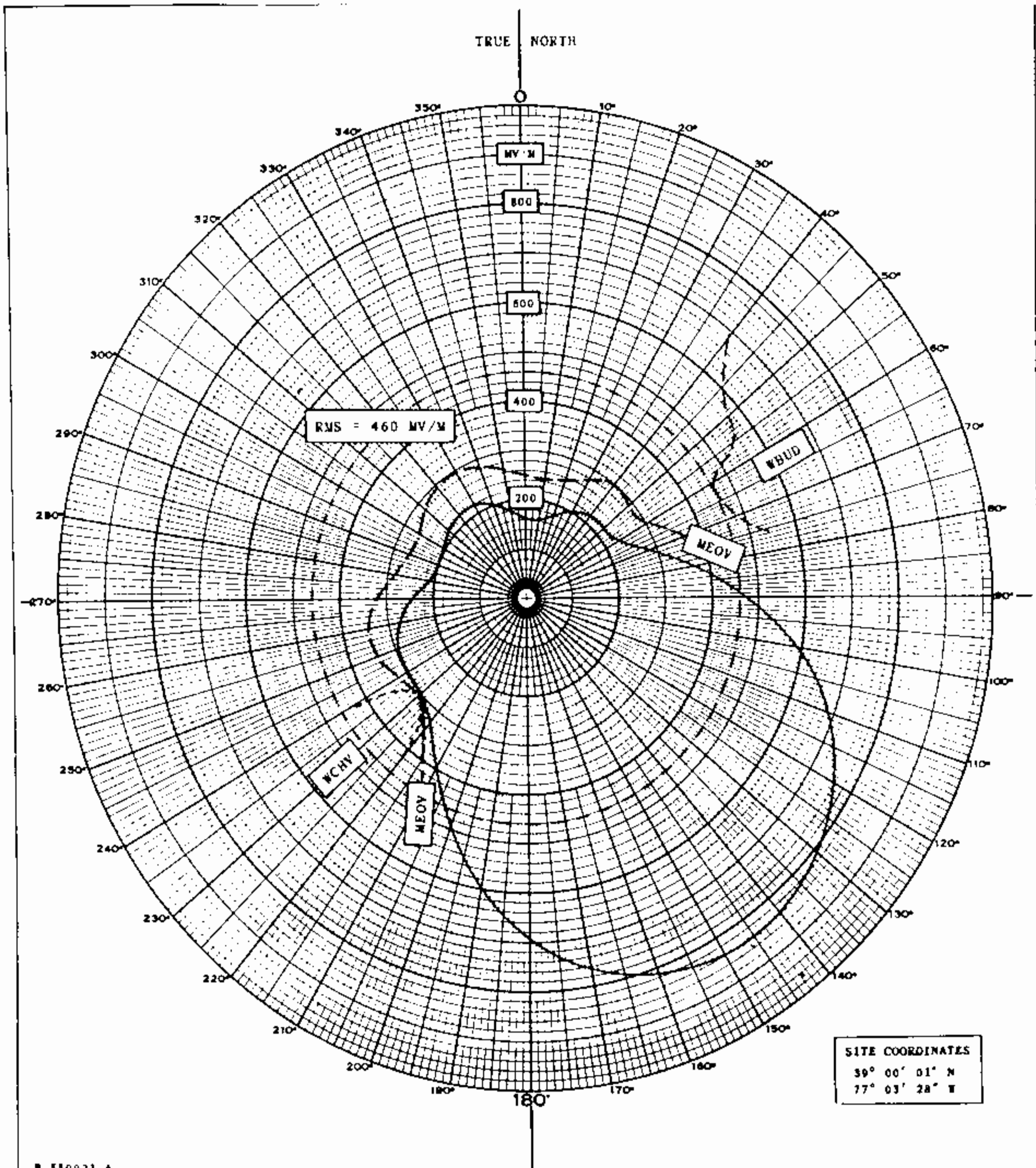
WWDC

PROPOSED
DAY (2/21/56G)

STATION WWDC
WASHINGTON, D.C.

5 KW
DA-2, U

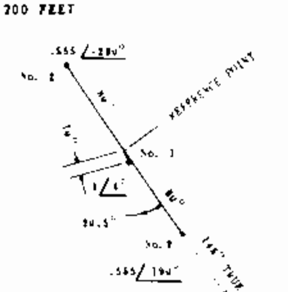
1260 KC



W 550923 A

PROPOSED MODIFICATION OF HORIZONTAL PLANE RADIATION PATTERN
FOR DAYTIME OPERATION

G = 200 FEET



WWDC INC.
WASHINGTON, D. C.

WELDON & CARR
Consulting Radio and Television Engineers
Washington, D. C. Dallas, Texas

WWDC
1260 KC - 5 KW - DA-2

FCC File No. BP-10,112 Accepted 11-29-55 WWDC, Washington, D.C. 1260 KC

WWDC

MEASURED
DAY (8-27-56g)

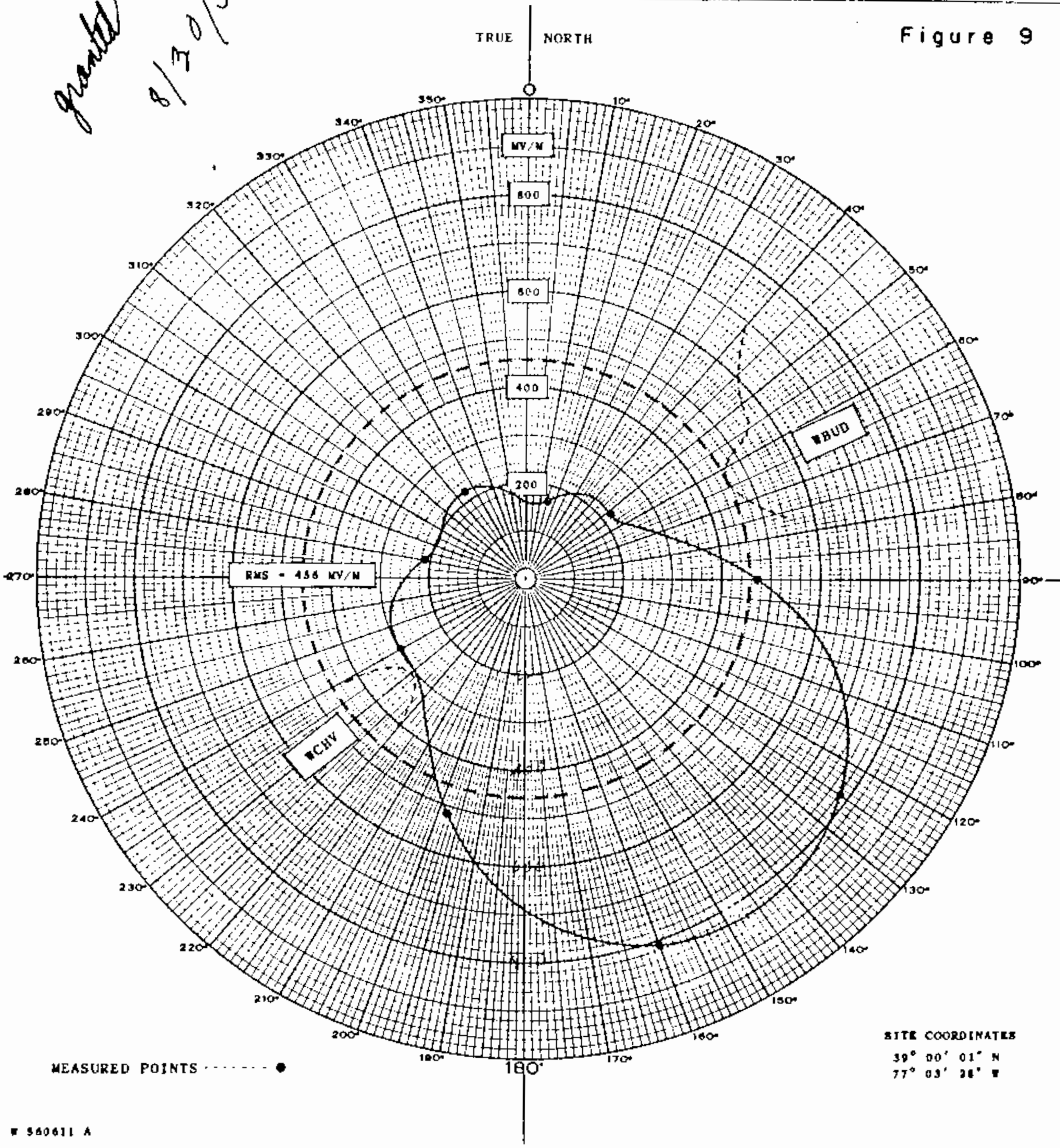
granted license
8/30/56

STATION WWDC
WASHINGTON, DC

5 KW
DA-2, U

1260 KC

Figure 9

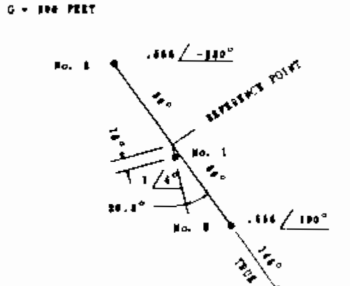


MEASURED POINTS -------- ●

SITE COORDINATES
39° 00' 01" N
77° 03' 26" W

W 560611 A

MEASURED HORIZONTAL PLANE RADIATION PATTERN FOR DAYTIME OPERATION



WWDC INC.
WASHINGTON D.C.

WELDON & CARR
Consulting Radio and Television Engineers
Washington D.C. Dallas Texas

WWDC
1260 kc - 5 kw - DA-2

WWDC

HORIZONTAL PLANE RADIATION PATTERNS
PROPOSED OPERATION

STATION ~~WOL~~ WASHINGTON, D.C.
1260 KC 5 KW

WORTHINGTON C. LENT
Consulting Engineers
WASHINGTON D.C.

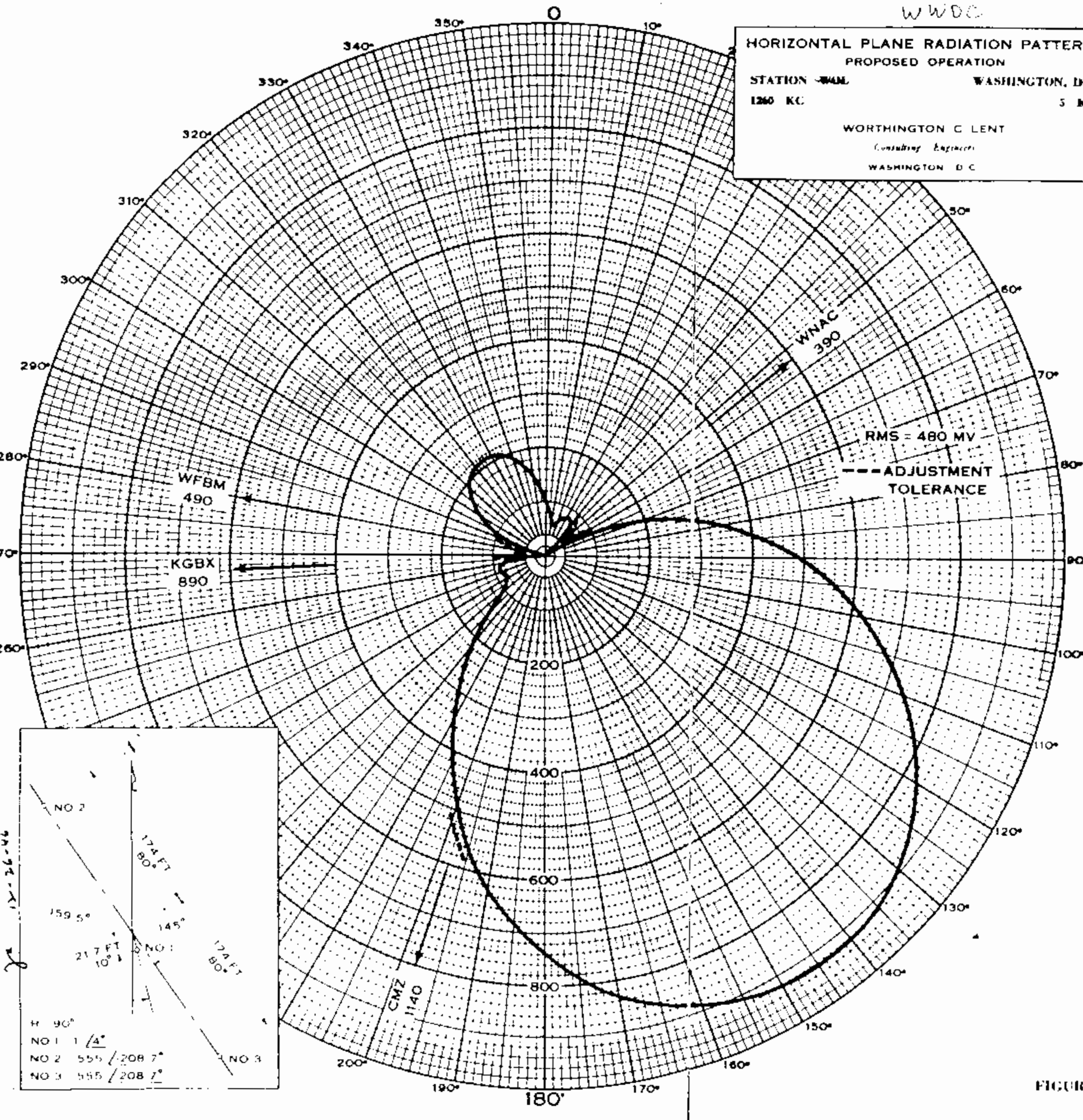
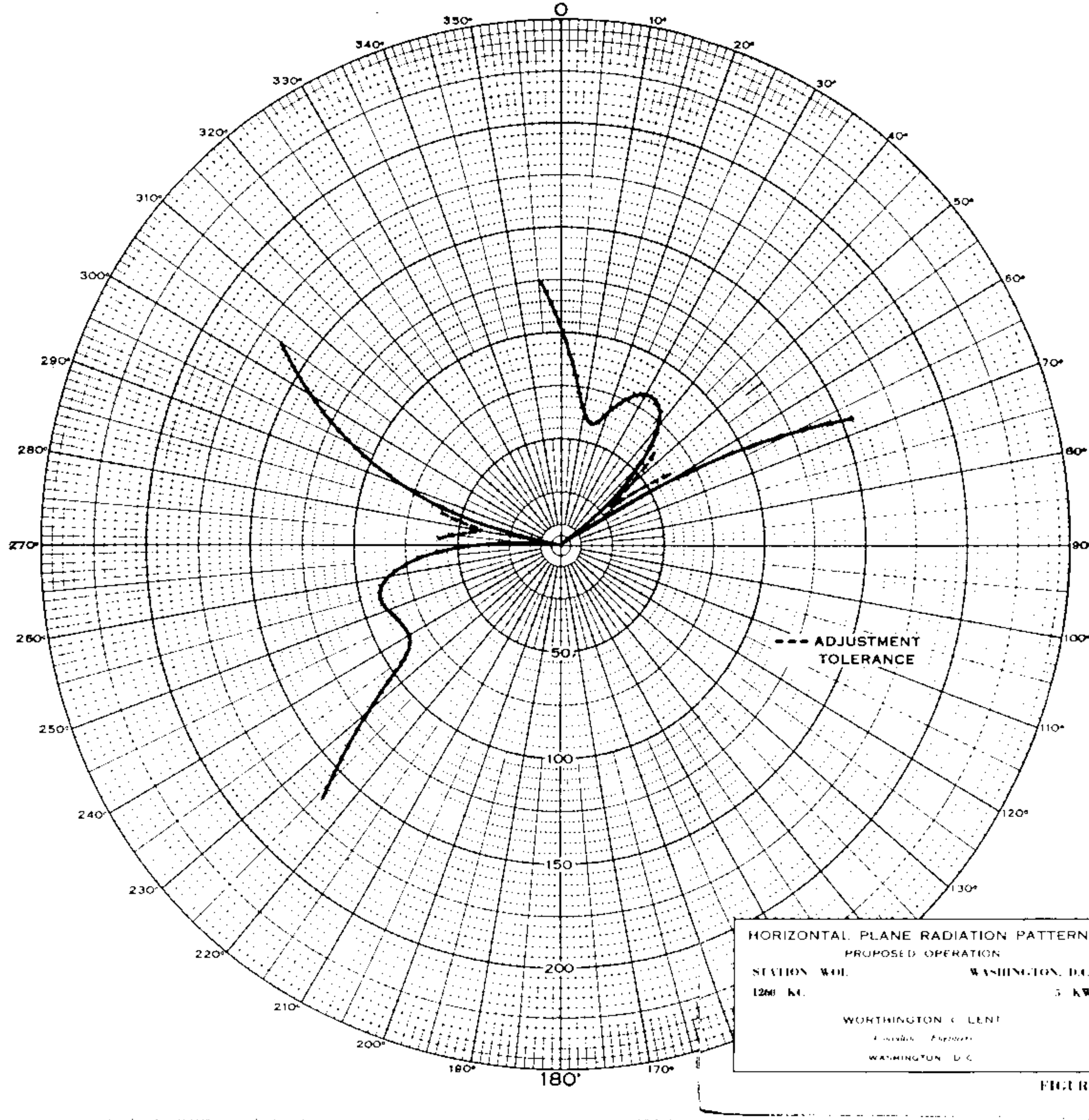


FIGURE 3

14



HORIZONTAL PLANE RADIATION PATTERNS
PROPOSED OPERATION

STATION WOL WASHINGTON, D.C.

1260 KC. 5 KW

WORTHINGTON C. LENT

Consulting Engineers

WASHINGTON D.C.

FIGURE 4

15

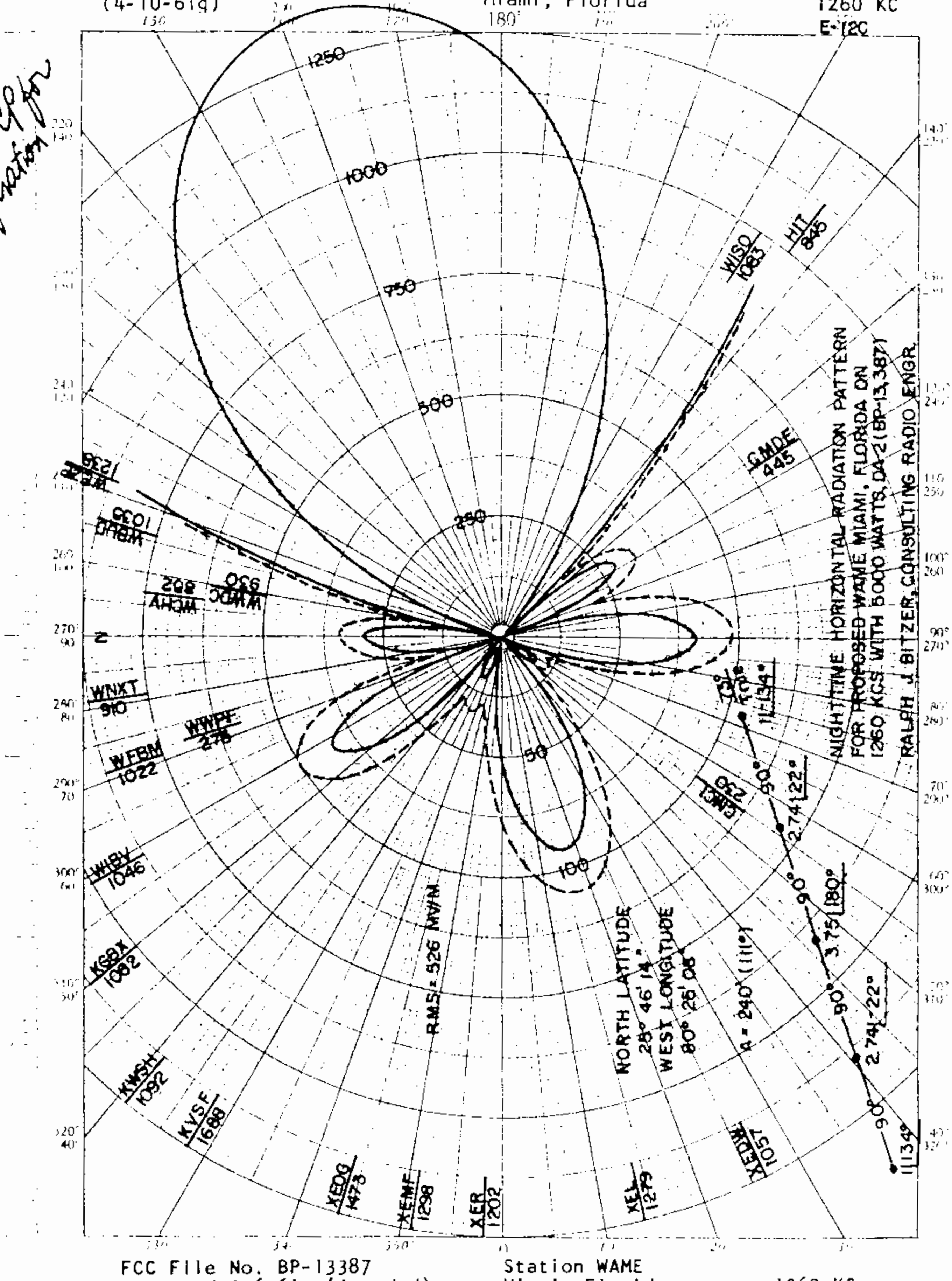
WWOK

8-8-61 granted CP for DA-2 operation

PROPOSED NIGHT
(4-10-61g)

Station WAME
Miami, Florida

5kw, DA-2,U
1260 KC
E-120

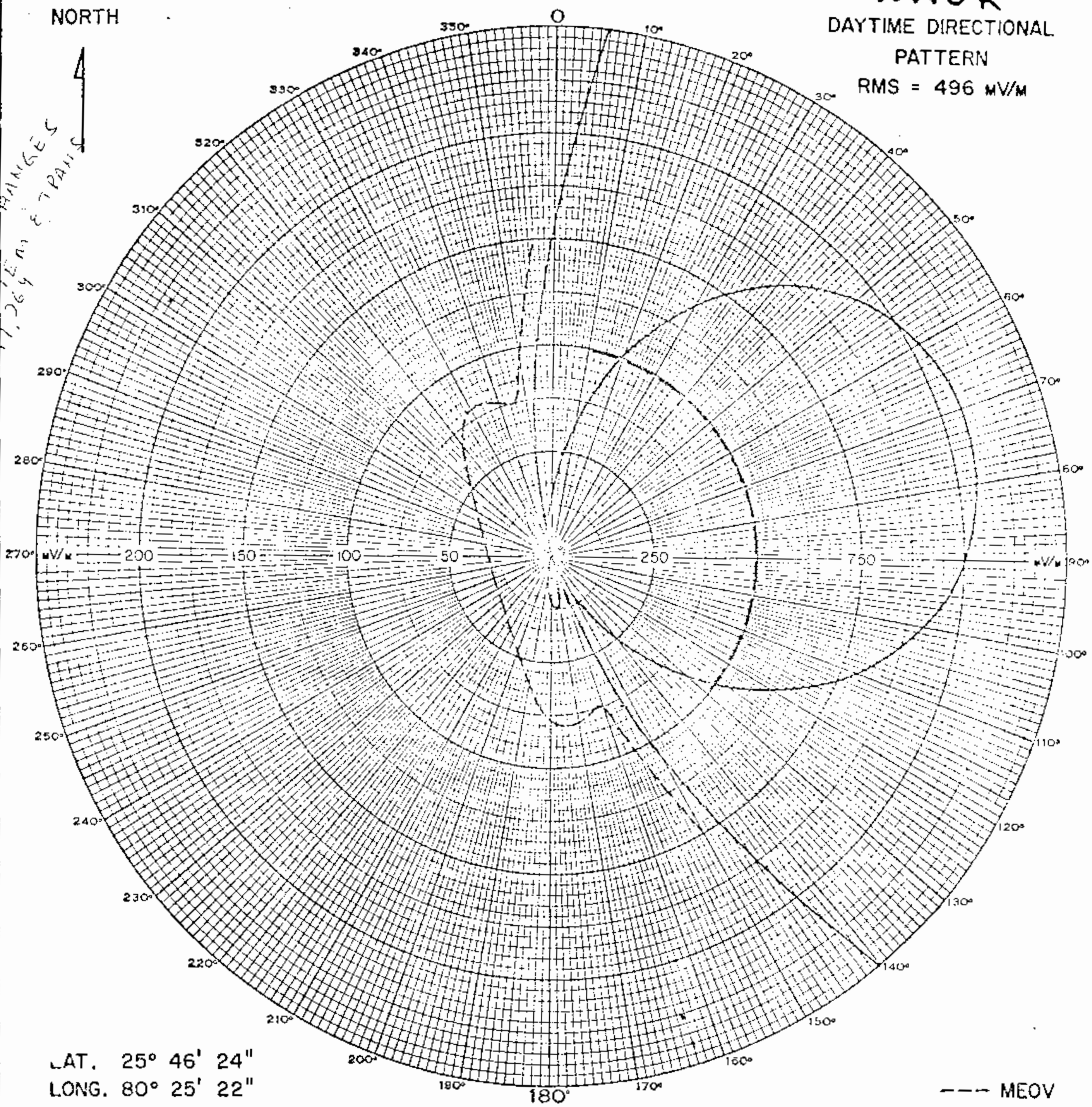


FCC File No. BP-13387
Accepted 3-6-61 (Amended)

Station WAME
Miami, Florida

1260 KC

NORTH



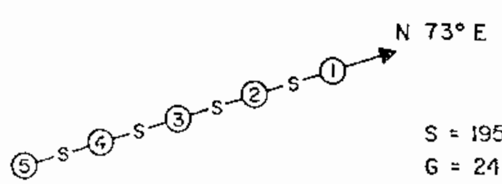
WWOK

DAYTIME DIRECTIONAL PATTERN

RMS = 496 mV/M

LAT. 25° 46' 24"
LONG. 80° 25' 22"

--- MEOV



S = 195.3' = 90°
G = 240.0' = 111°

THEORETICAL PARAMETERS

TOWER	FIELD	PHASE
1	1.00	112.0°
2	3.34	-125.9°
3	4.66	0.0°
4	3.34	125.9°
5	1.00	-112.0°

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

RADIO STATION WWOK
1260 kHz 5.0 kW DA-2
700420.1A FIGURE 2B

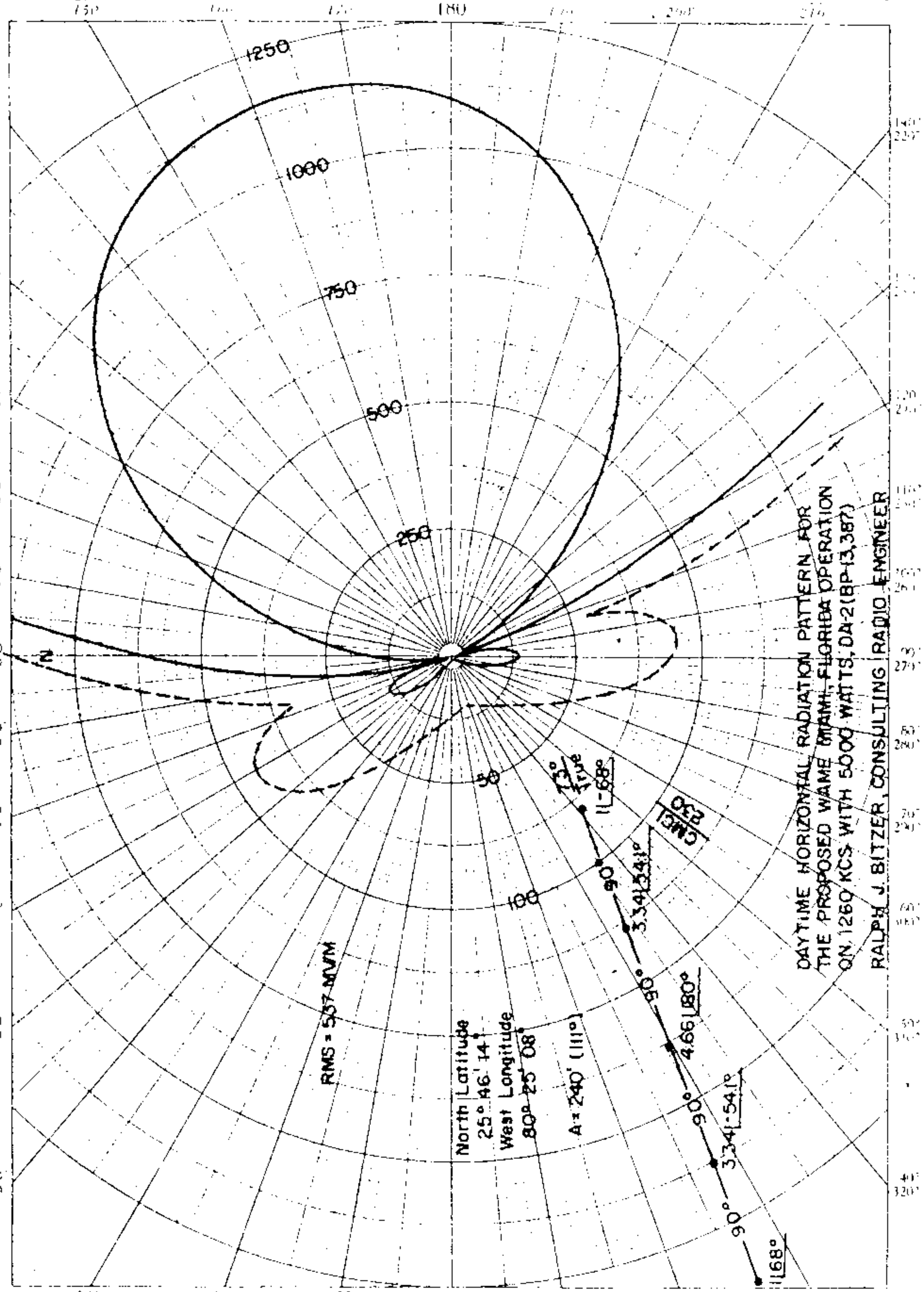
WWOK

PROPOSED DAY
(4-10-61g)

Station WAME
Miami, Florida

5kw, DA-2,U
1260 KC

8-8-61
Granted for
DA-2 operation



FCC File No. BP-13387
Accepted 3-6-61 (Amended)

Station WAME
Miami, Florida

1260 KC

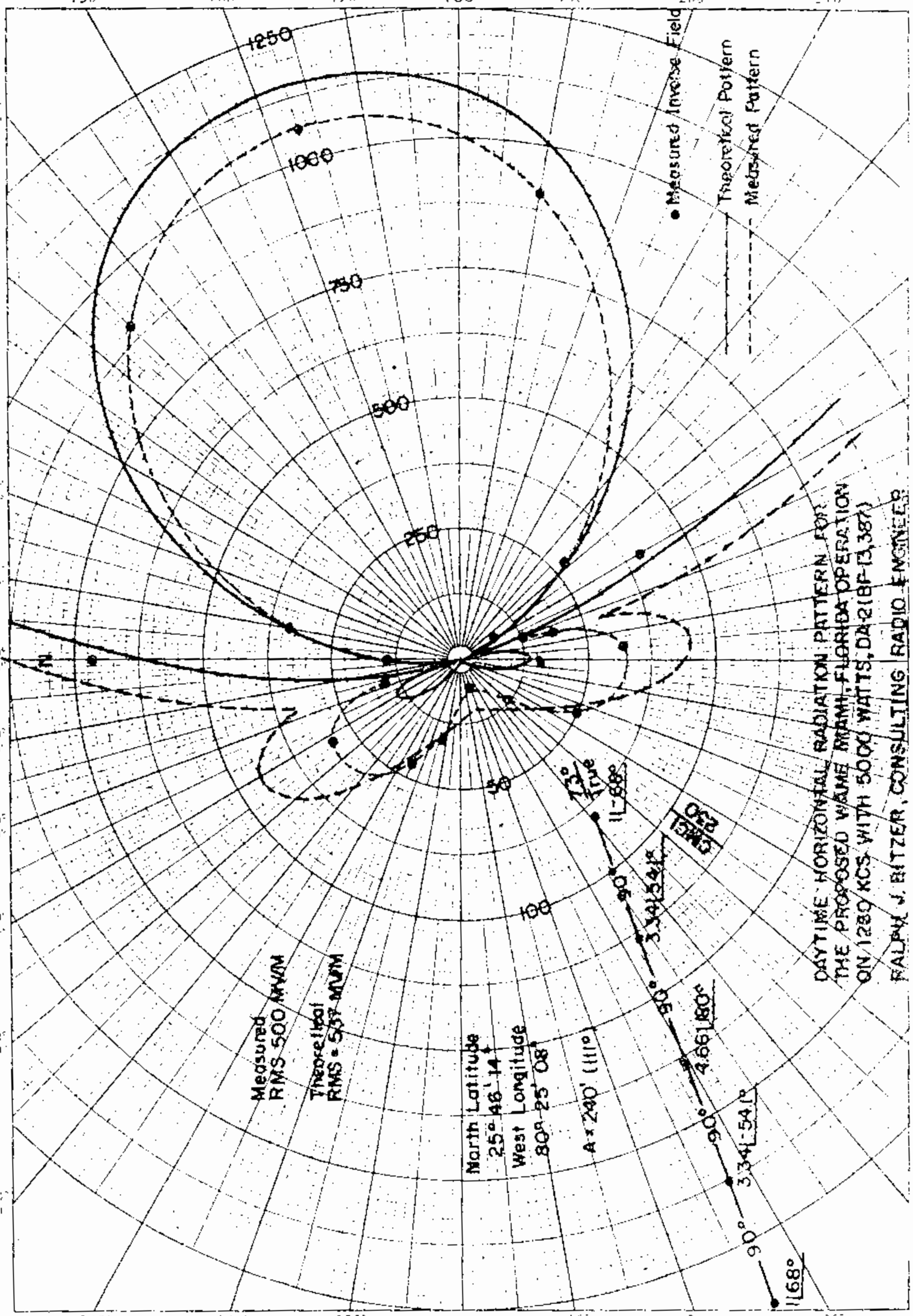
WWOK

BL-9305
1-18-67
GRANTED
LICENSE.

5kw, DA-2, U
1260 kc

Station WAME
Miami, Florida

Measured Day
(6-22-62ct)



1260 kc

Station WAME
Miami, Florida

FCC File No. BL-9305
Accepted 5-29-62

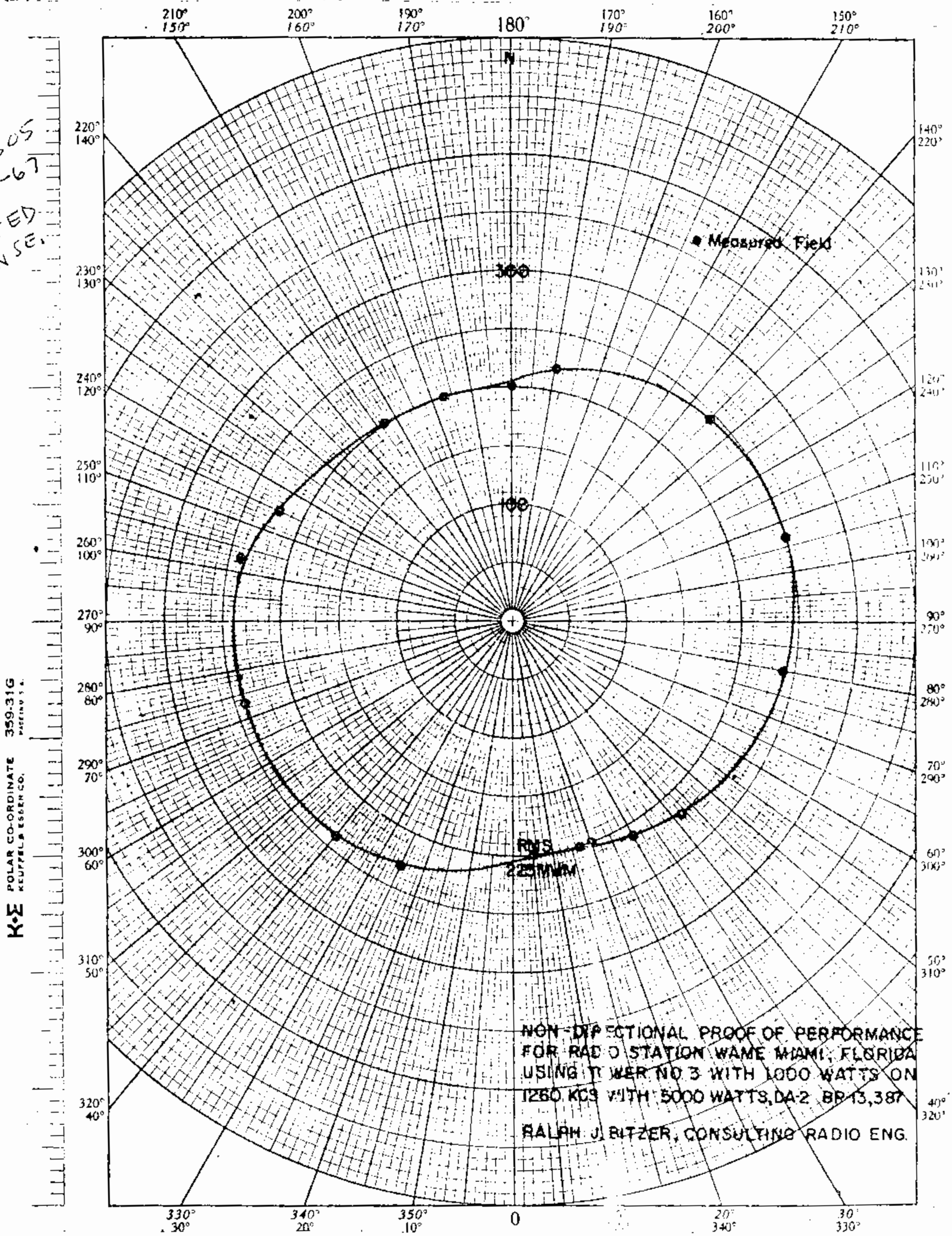
WWOK

Measured Non-DA
(6-22-62ct)

Station WAME
Miami, Florida

5kw,DA-2,U
1260 kc

BL-9305
1-18-67
GRANTED
LICENSE.



FCC File No.BL-9305
Accepted 5-29-62

Station WAME
Miami, Florida

1260 kc

WWOK

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WWOK

Main Studio: Miami, Florida

Frequency: 1260 kHz

Power: 5 kW

Notification List No. 1701

Date: September 8, 1976

Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 25 ° 46 ' 24 "
West Longitude: 80 ° 25 ' 22 "

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..

TOWER:	W(#5)	WC(#4)	C(#3)	EC(#2)	E(#1)	
HEIGHT ABOVE INSULATORS:	240'	240'	240'	240'	240'	(111°)
NIGHT PHASING:	-112.0°	+98.3°	-56.2°	+147.6°	0°	
NIGHT FIELD RATIO:	0.4	1.38	2.24	2.11	1.0	
DAY PHASING:	-112.0°	+125.9°	0°	-125.9°	+112.0°	
DAY FIELD RATIO:	1.0	3.34	4.66	3.34	1.00	

SPACING AND ORIENTATION: Adjacent towers are spaced 195.3' (90°) on a line bearing 73° true.

GROUND SYSTEM: 120-180' equally spaced copper radials plus 240-24' elevated radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of system are bonded together.

(Cont'd)

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL
RMS

Day 496 mv/m

Night 504 mv/m

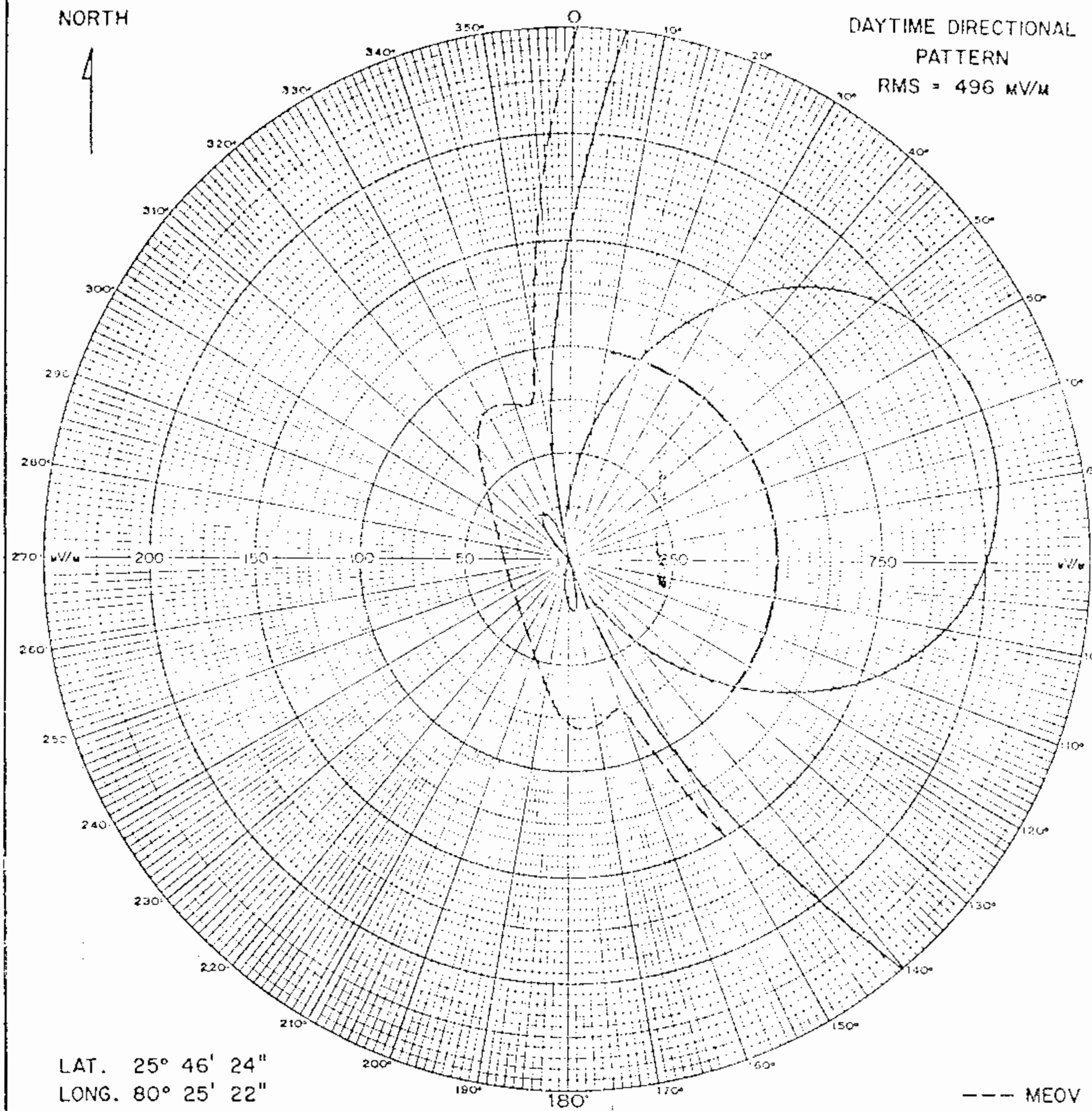
Note: Please retain the Nighttime directional antenna radiation pattern notified for Station WWOK in United States Change List Number 1489 dated August 9, 1972 and attach to this Revised Description Sheet and Daytime pattern. This notification concerns only a change in meovs of radiation in the daytime pattern with Nighttime operation continued as previously notified.

CTR NO: 30904A4

wwok

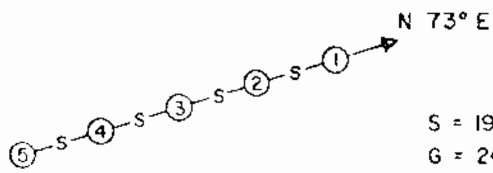
NORTH

DAYTIME DIRECTIONAL PATTERN
RMS = 496 mV/m



LAT. 25° 46' 24"
LONG. 80° 25' 22"

--- MEOV



S = 195.3' = 90°
G = 240.0' = 111°

THEORETICAL PARAMETERS

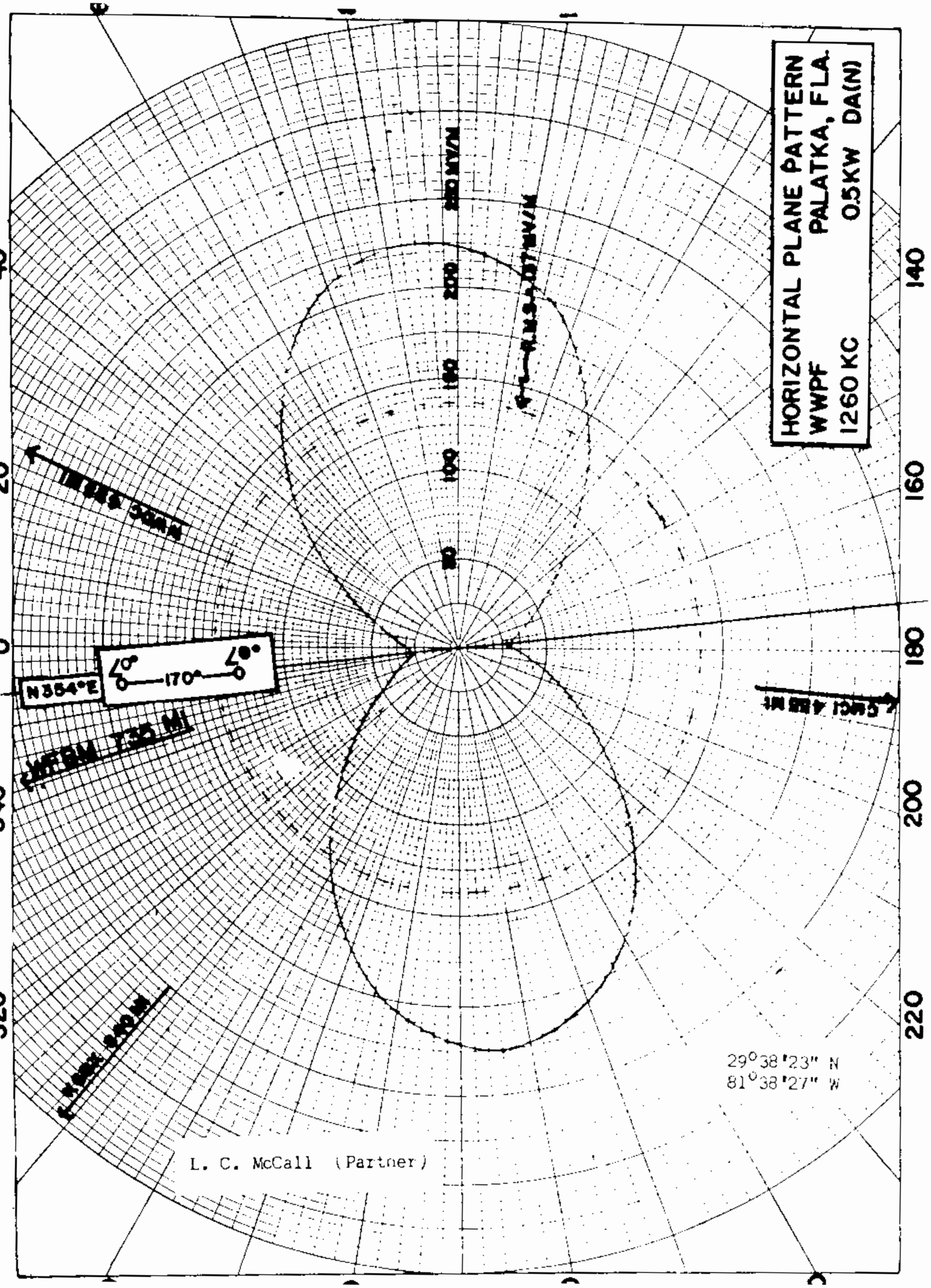
TOWER	FIELD	PHASE
1	1.00	112.0°
2	3.34	-125.9°
3	4.66	0.0°
4	3.34	125.9°
5	1.00	-112.0°

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

RADIO STATION WWOK
1260 kHz 5.0 kW DA-2
700420.1AX FIGURE 2B

W WPF

PROPOSED NIGHT (7/10/53G) WWPF, PALATKA, FLA. 500W, U, DA-N 1260 kc



6/53

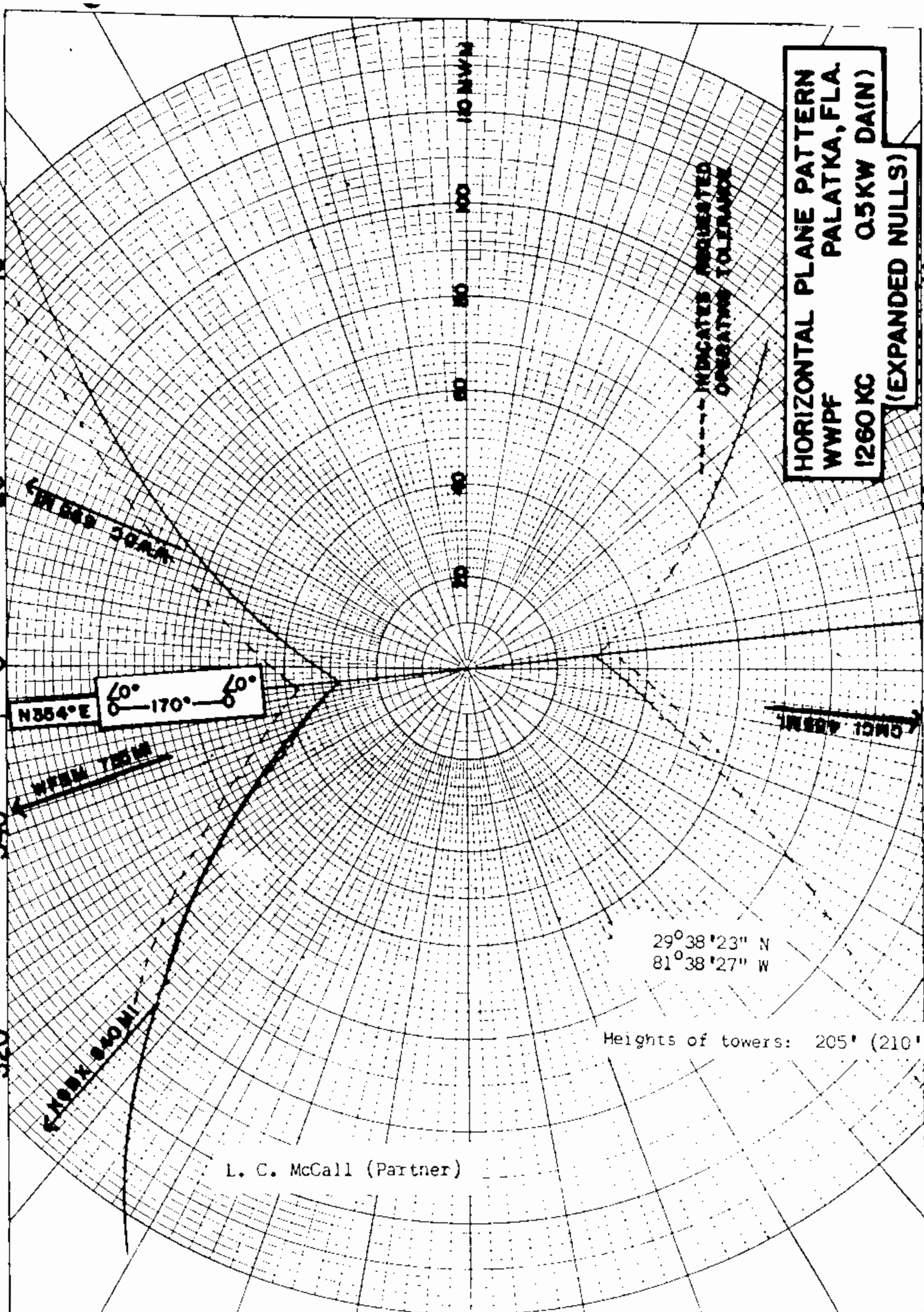
FCC File No. BP-9740 Amended WWPF, PALATKA, FLA. accepted 6/24/53 1260 kc

WWPF

PROPOSED
NIGHT NULLS (7/10/53G)

WWPF, PALATKA, FLA. 500W, U, DA-N

1260 kc

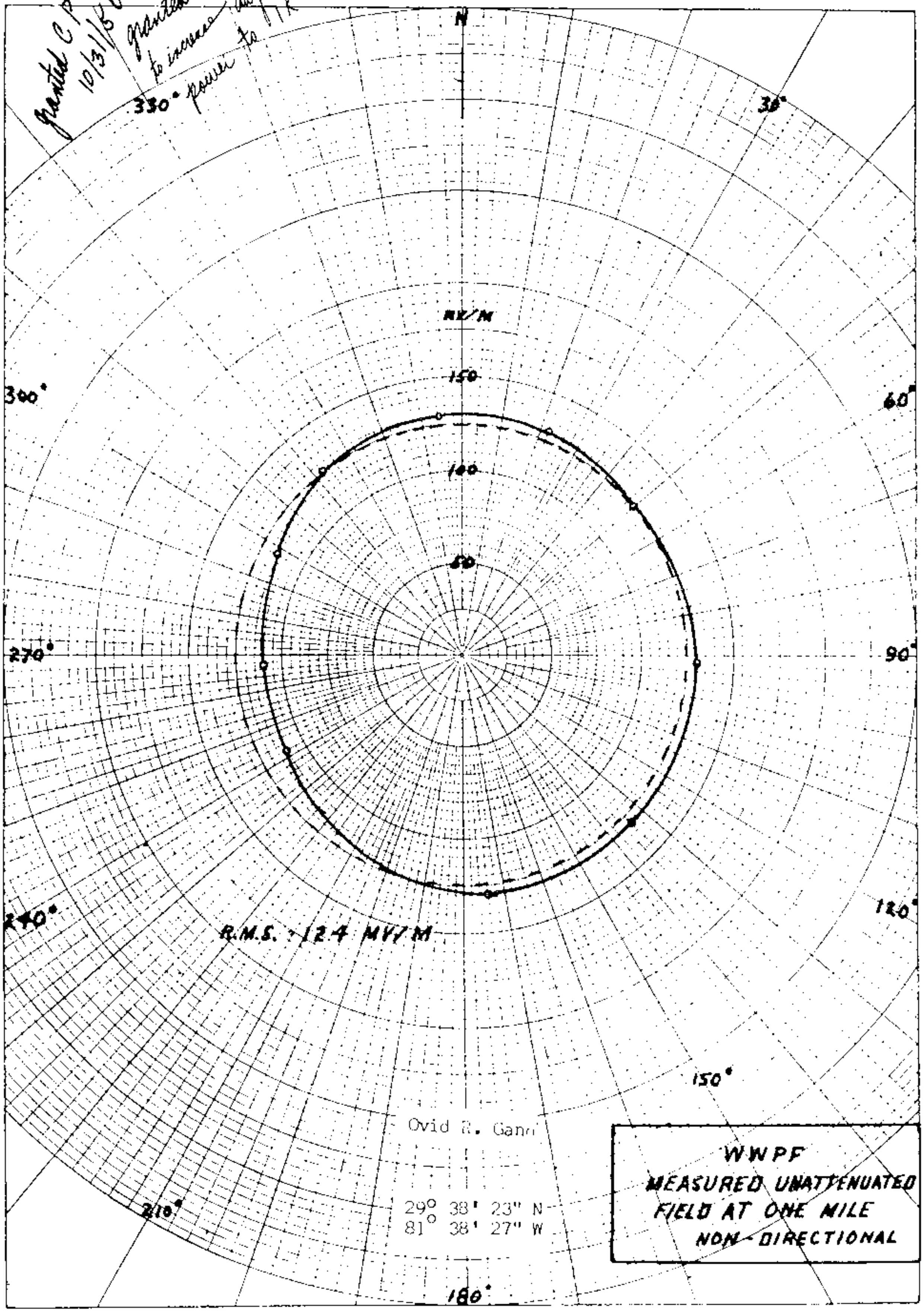


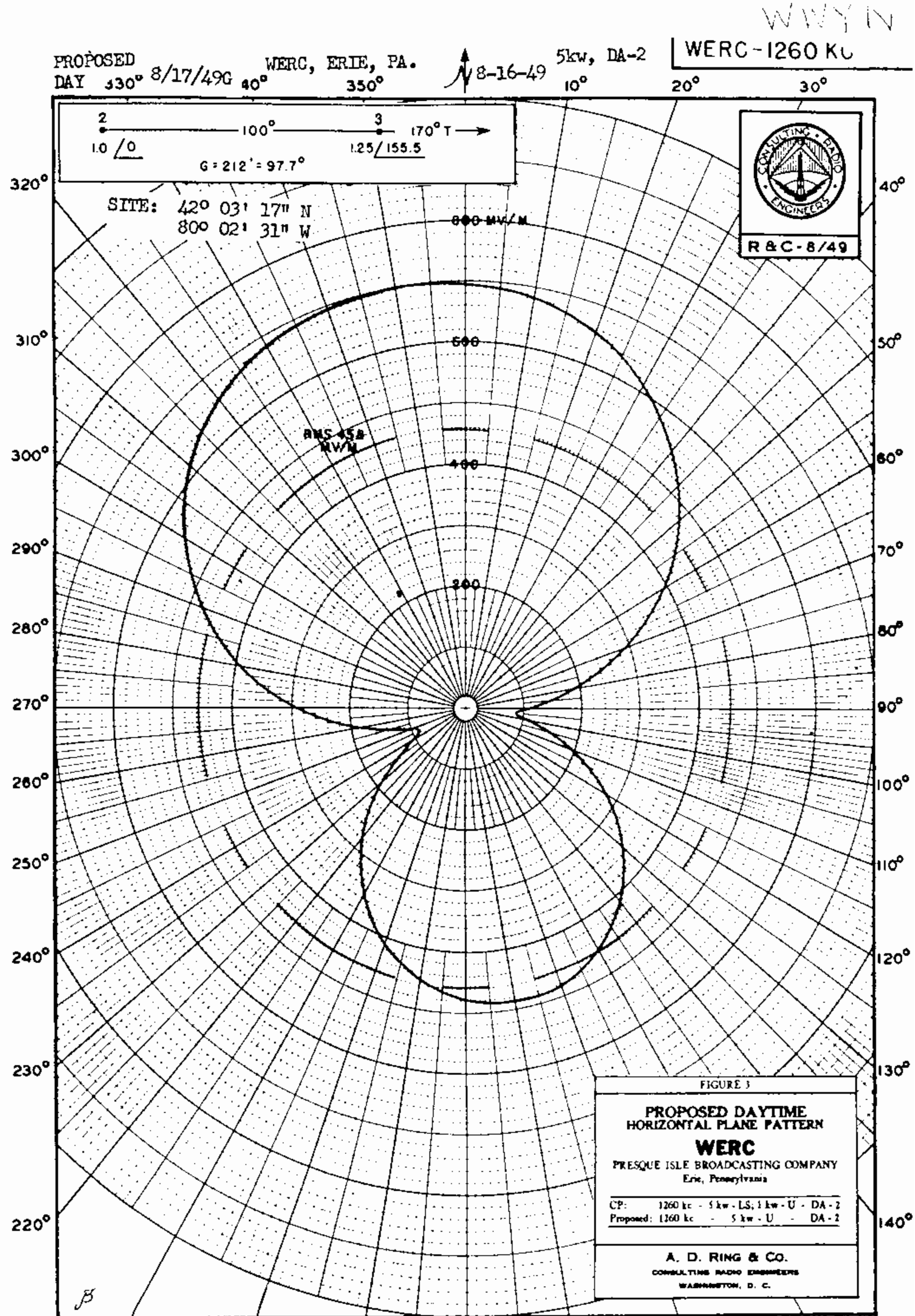
FCC File N. BP-9740 Amended WWPF, PALATKA, FLA. Accepted 6/24/53

1260 kc

MEASURED NON-DA (3/1/54G) WWPF, Palatka, Florida ~~500W, U, DA-N~~ .5-1 LS DA-N, U 1260 kc

granted C.P. 10/31/56
granted license 12/20/56 to increase daytime power to 1 KW





WERC, Erie, Pa. 1260 kc

WWYN

MEASURED
DAY

WERC, ERIE, PA.,

5kw, DA-2

WERC 1260 KC

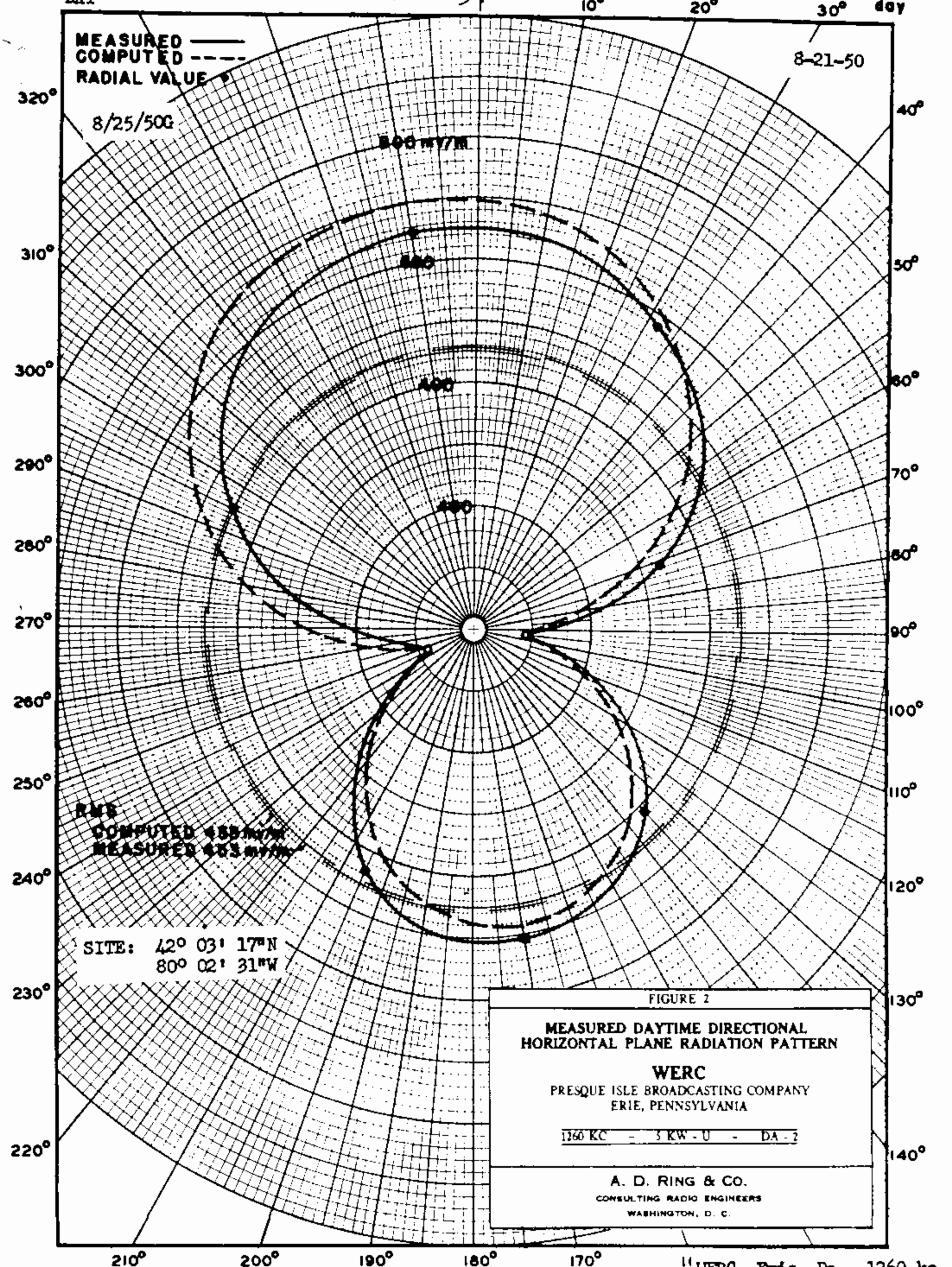


FIGURE 2

MEASURED DAYTIME DIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN

WERC

PRESQUE ISLE BROADCASTING COMPANY
ERIE, PENNSYLVANIA

1260 KC - 5 KW - U - DA - 2

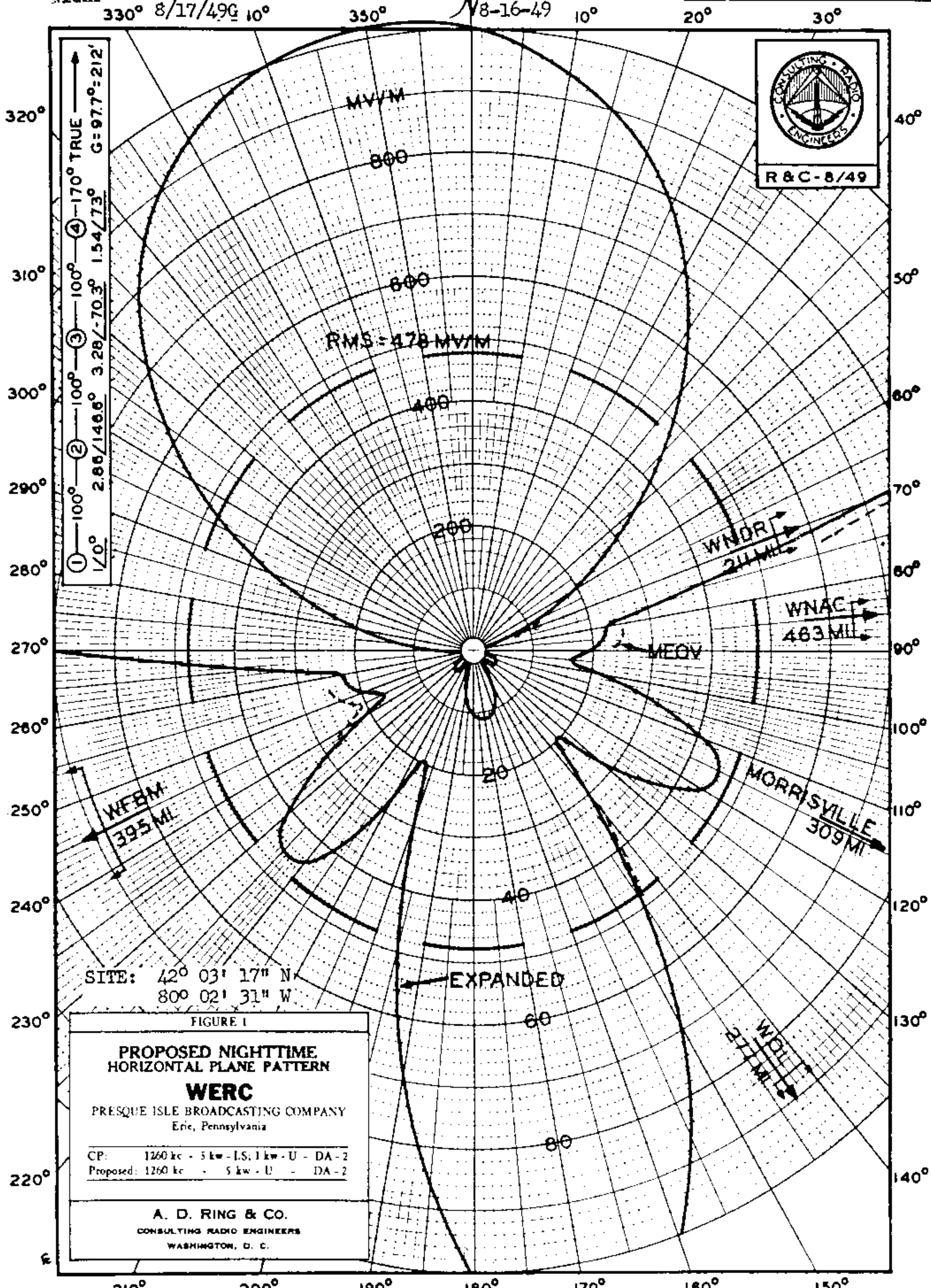
A. D. RING & CO.
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.

"WERC, Erie, Pa. 1260 kc

WWYN

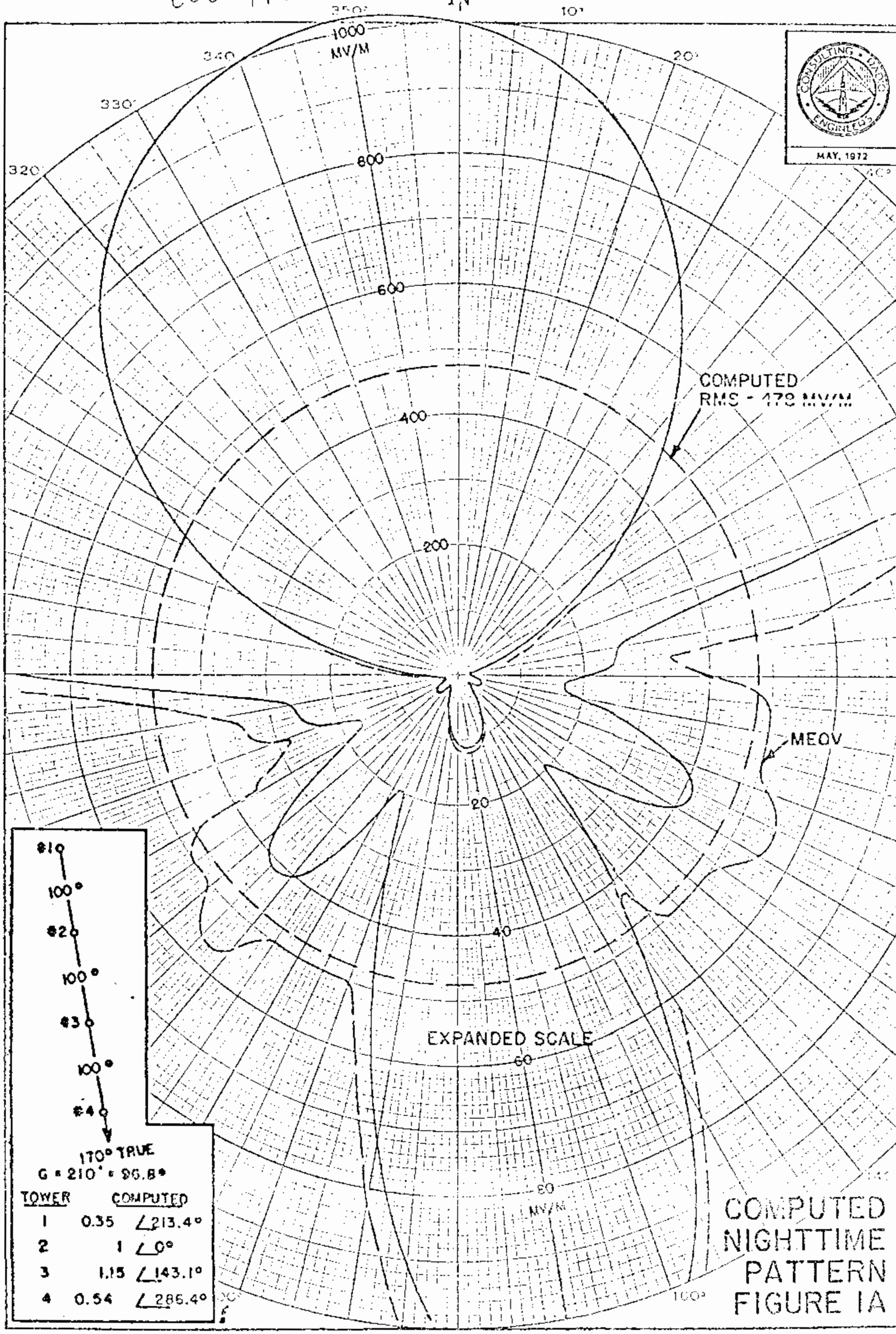
PROPOSED NIGHT WERC, ERIE, PA. 5kw, DA-2

WERC-1260 KC



WERC, Erie, Pa. 1260 kc

WWYN



COMPUTED
NIGHTTIME
PATTERN
FIGURE IA

WWYN 1260

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

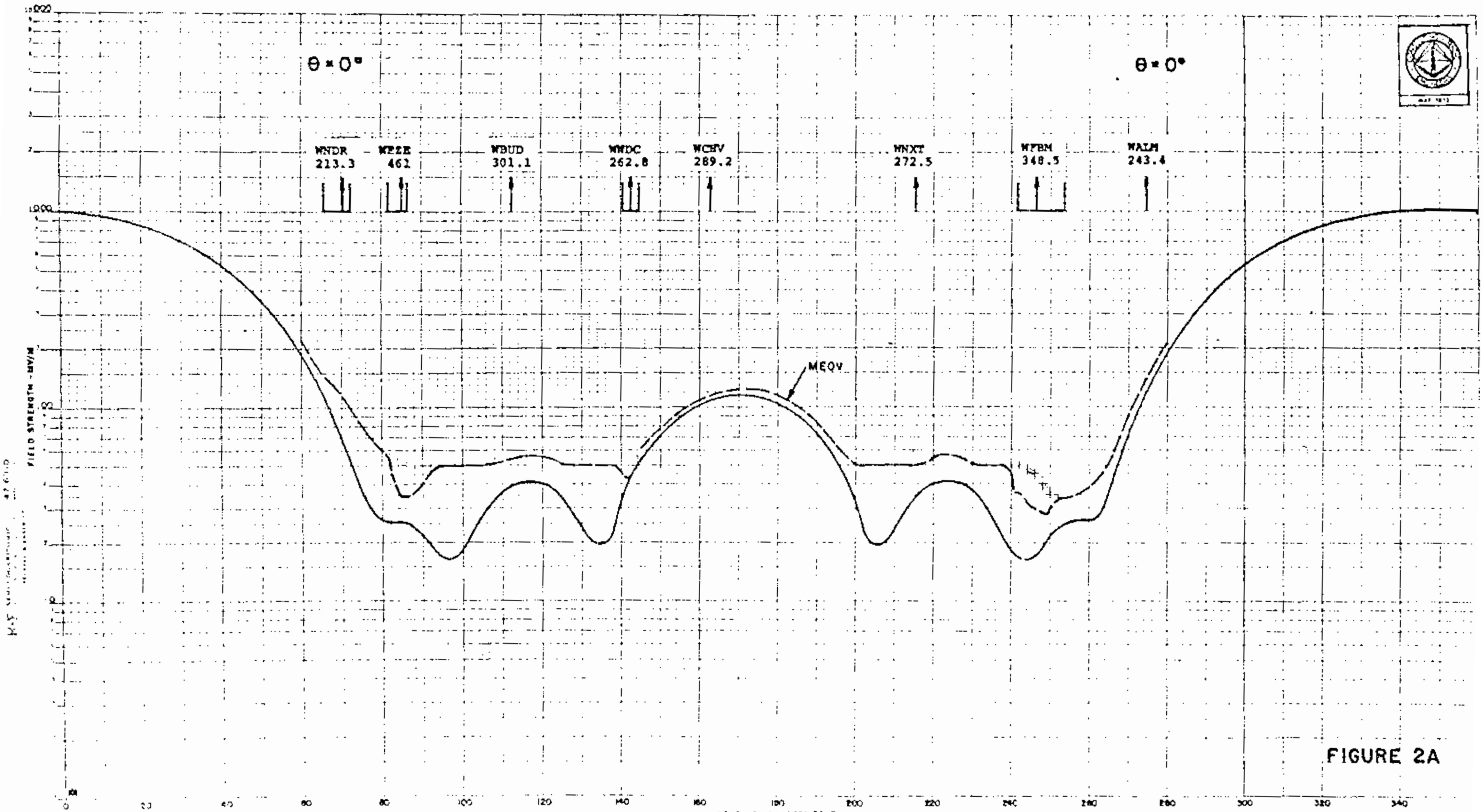


FIGURE 2A

WWYN 1260

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: (New)

Main Studio: Amery, Wisconsin

Frequency: 1260 kHz

Power: .5 kW

Notification List No. 1694

Date: July 20, 1976

Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 45° 15' 25"
West Longitude: 92° 22' 00"

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(#4)	CW(#3)	CE(#2)	NE(#1)
HEIGHT ABOVE INSULATORS:	137'	137'	137'	137' (63.1°)
NIGHT PHASING:	+96.8°	+304.9°	+151.5°	0°
NIGHT FIELD RATIO:	1.000	2.247	2.247	1.000
DAY PHASING:	-	+269°	+133.659°	0°
DAY FIELD RATIO:	-	2.369	2.78	1

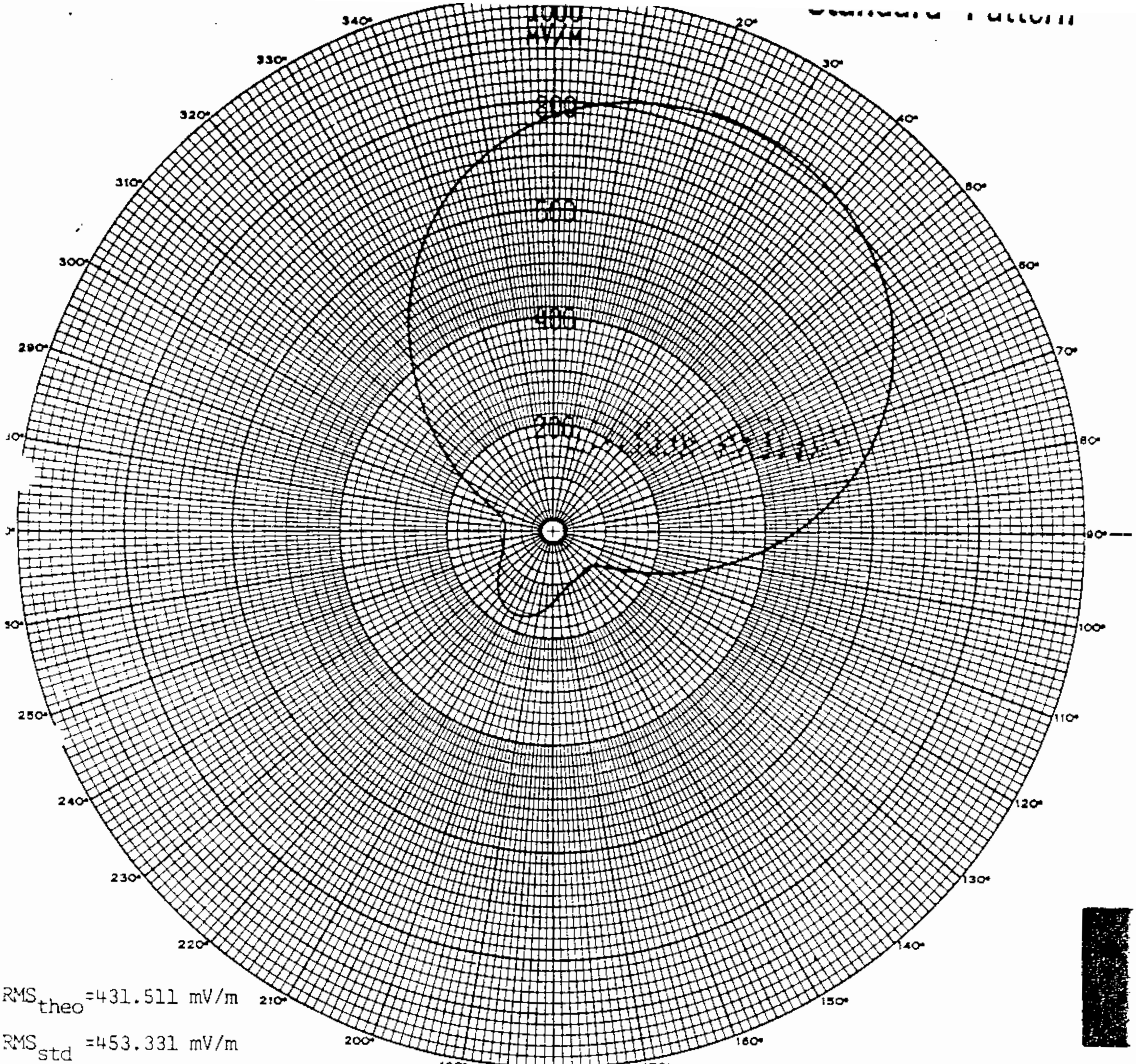
SPACING AND ORIENTATION: The towers are located in a row with adjacent towers spaced 195.2' (90°) on a line bearing 206.5° true.

GROUND SYSTEM: 120-195.23' equally spaced copper radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	431.5 mv/m	573.0 mv/m	453.3 mv/m
Night	422.1 mv/m	912.0 mv/m	443.8 mv/m

CTR NO 30606A3



RMS_{theo}=431.511 mV/m

RMS_{std} =453.331 mV/m

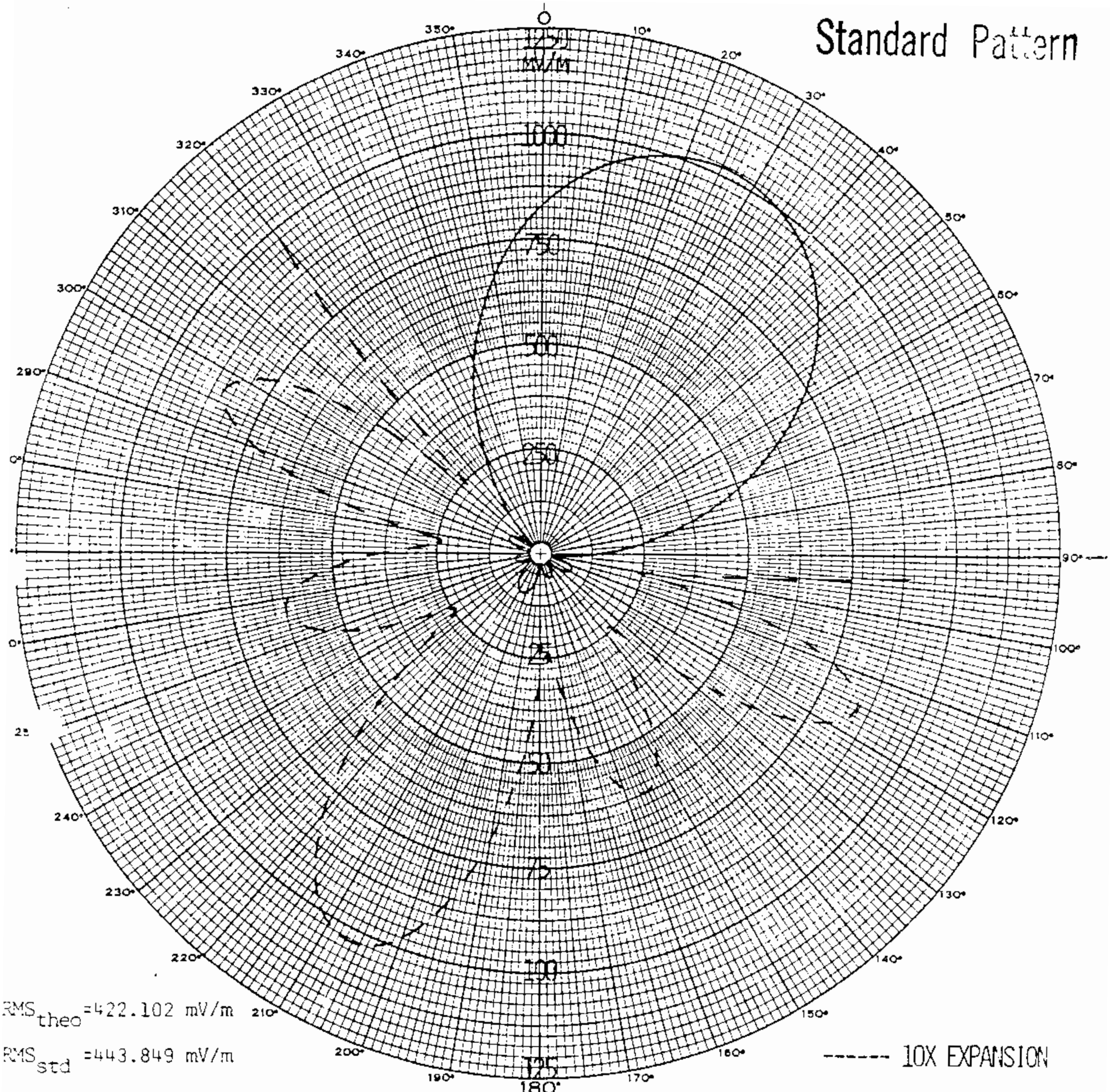
RSS_{theo}=573.034 mV/m

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 2	STATION DATA
G's = 63.1° s = 90° #1 1/0° s #2 2.78/133.659° s #3 2.369/269° s #4 Unused 206.5° T.	(see table below)	PROPOSED DAYTIME PATTERN AMERY, WISCONSIN $\theta°$ = 0	CALL NEW FREQ 1260 kHz POWER 5.0 kW TYPE DA-2 TIME DAYTIME LAT. N 45-15-25 LONG. W 92-22-00 E. HAROLD MUNN, JR. & ASSOCIATES, INC. COLDWATER, MICH.

TOWER No.	ELECTRICAL HEIGHT G°	SPACING S°	PHASING ψ°	FIELD RATIO F
1				
2				
3				
4				
5				
6				

DAYTIME OPERATION XX NIGHTTIME OPERATION ☐

Standard Pattern



RMS$_{theo}$=422.102 mV/m

RMS$_{std}$ =443.849 mV/m

RSS$_{theo}$=912.000 mV/m

------ 10X EXPANSION

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 14A	STATION DATA
G's = 63.1° s = 90° #1 s #2 s #3 s #4 206.5° T.	see below	PROPOSED NIGHTTIME PATTERN AMERY, WISCONSIN θ^o = 0	CALL NEW FREQ 1260 kHz POWER 5.0 kW TYPE DA-2 TIME Nighttime LAT. N45-15-25 LONG. W92-22-00 E. HAROLD MUNN, JR. & ASSOCIATES, INC. COLDWATER, MICH.

TOWER No.	ELECTRICAL HEIGHT G°	SPACING S°	PHASING ψ°	FIELD RATIO F
1			0°	1.000
2			151.5	2.247
3			304.9	2.247
4			96.8	1.000
5				
6				

DAYTIME OPERATION ☐ NIGHTTIME OPERATION ☒