1320

Station	Main Studio	Freq	Power	Date
CFGM	Richmond Hill, ON	1320	50 kW/DA-2	2/11/76
CFTJ	Galt, ON	1320	1 kW/DA-2	4/21/72
NEW	Trenton, ON	1320	1/0.5 kW/DA-2	9/28/67
CHQM	Vancouver, BC	1320	50 kW/DA-2	10/7/66
CHQM	Vancouver, BC	1320	10 kW/DA-1	2/27/59
CJSO	Sorel, QU	1320	5/10 kW/DA-2	2/28/69
CKEC	New Glasgow, NS	1320	5 kW/DA-N	6/5/78
CKKW	Kitchener, ON	1320	1 kW/DA-2	4/12/57
KADI	Clayton, MO	1320	5 kW/DA-D	1/30/67
KCPX	Salt Lake City, UT	1320	5 kW/DA	12/39
KCRA	Sacramento, CA	1320	5 kW/DA-N	8/30/78
KCRA	Sacramento, CA	1320	5 kW/DA-2	6/76
KCRA	Sacramento, CA	1320	1/5 kW/DA-2	3/4/57
KELO	Sioux Falls, SD	1320	5 kW/DA-N	4/19/48
KHSJ	Hemet, CA	1320	0.5 kW/DA-D	4/22/59
KLAN	Lemoore, CA	1320	1 kW/DA-D	6/16/59
KNIA	Knoxville, IA	1320	0.5 kW/DA-D	2/28/62
KOLT	Scottsbluff, NE	1320	5 kW/DA-N	7/20/48
KOLT	Scottsbluff, NE	1320	1/5 kW/DA-2	4/20/49
KOZY	Grand Rapids, MN	1320	5 kW/DA-N	12/16/75
KUDE	Oceanside, CA	1320	0.5 kW/DA-1	7/12/55
KWHN	Ft. Smith, AR	1320	5 kW/DA-N	2/10/48
KXRO	Aberdeen, WA	1320	1 kW/DA-N	1/25/49
KXRO	Aberdeen, WA	1320	1/5 kW/DA-N	6/13/62
KXYZ	Houston, TX	1320	5 kW/DA-N	6/29/70
WAGF	Dothan, AL	1320	1 kW	10/26/79

1320

Station	Main Studio	Freq	Power	Date
WARA	Attleboro, MA	1320	1 kW/DA-2	6/17/49
WATR	Waterbury, CT	1320	1/5 kW/DA-2	9/11/58
WATR	Waterbury, CT	1320	1 kW/DA-1	11/15/40
WCLU	Covington, KY	1320	0.5 kW/DA-D	3/8/61
WCOG	Greensboro, NC	1320	1/5 kW/DA-N	10/6/55
WCOG	Greensboro, NC	1320	1/5 kW/DA-2	1/29/57
WDMJ	Marquette, MI	1320	1/5 kW/DA-N	11/9/79
WEET	Richmond, VA	1320	5 kW/DA-D	8/18/76
WFHR	Wisconsin Rapids, WI	1320	0.5/5 kW/DA-N	3/28/69
WGET	Gettysburg, PA	1320	1/0.5 kW/DA-2	8/22/61
WGMA	Hollywood, FL	1320	5 kW/DA-2	8/30/78
WILS	Lansing, MI	1320	1/5 kW/DA-2	7/26/67
WILS	Lansing, MI	1320	1 kW/DA-N	12/15/47
WKAN	Kankakee, IL	1320	0.5/1 kW/DA-N	6/4/57
WKAP	Allentown, PA	1320	1/5 kW/DA-2	10/1/75
WKAP	Allentown, PA	1320	1 kW/DA-N	1/2/51
WKIN	Kingsport, TN	1320	0.5/5 kW/ND-D	7/10/80
WKTQ	Pittsburgh, PA	1320	5 kW/DA-N	8/14/74
WJAS	Pittsburgh, PA	1320	5 kW/DA-N	12/30/49
WOBL	Oberlin, OH	1320	1 kW/DA-2	7/28/76
WOIC	Columbus, SC	1320	1 kW/DA-N	12/6/50
WSCR	Scranton, PA	1320	0.5/1 kW/DA-N	7/31/51
WVOJ	Jacksonville, FL	1320	5 kW/DA-N	
NEW	Gettysburg, PA	1320	0.5/1 kW/DA-2	8/22/69

CFGM

TABLE 1-1

ANTENNA DESCRIPTION SHEET

STATION CALL:	CFGM
MAIN STUDIO:	RICHMOND HILL, ONTARIO
FREQUENCY:	1320 kHz
POWER:	50 kW
CLASS:	III
MODE:	DA-2
TIME:	UNLIMITED
NOTIFICATION LIST NO.:	351 DATE: Feb. 11/76
GEOGRAPHICAL LOCATION:	Latitude: 43° 34' 30" North Longitude: 79° 41' 05" West
ARRAY CHARACTERISTICS:	Thirteen guyed steel towers of uniform cross section; base insulated, series fed. Day towers 400'(193°) high; Night towers 250'(120.8°) high; no top loading.
GROUND SYSTEM:	120 equally spaced #10 AWG bare copper radial wires per tower of average length 0.4λ(298') minimum length 0.25λ(186').
PREDICTED EFFICIENCY: (UNATTENUATED HORIZONTAL FIELD INTENSITY AT 1 MILE)	DAY 1600 mV/m or 226 mV/m per kW NIGHT 1317 mV/m or 186 mV/m per kW

CFGM

ANTENNA DESCRIPTION SHEET

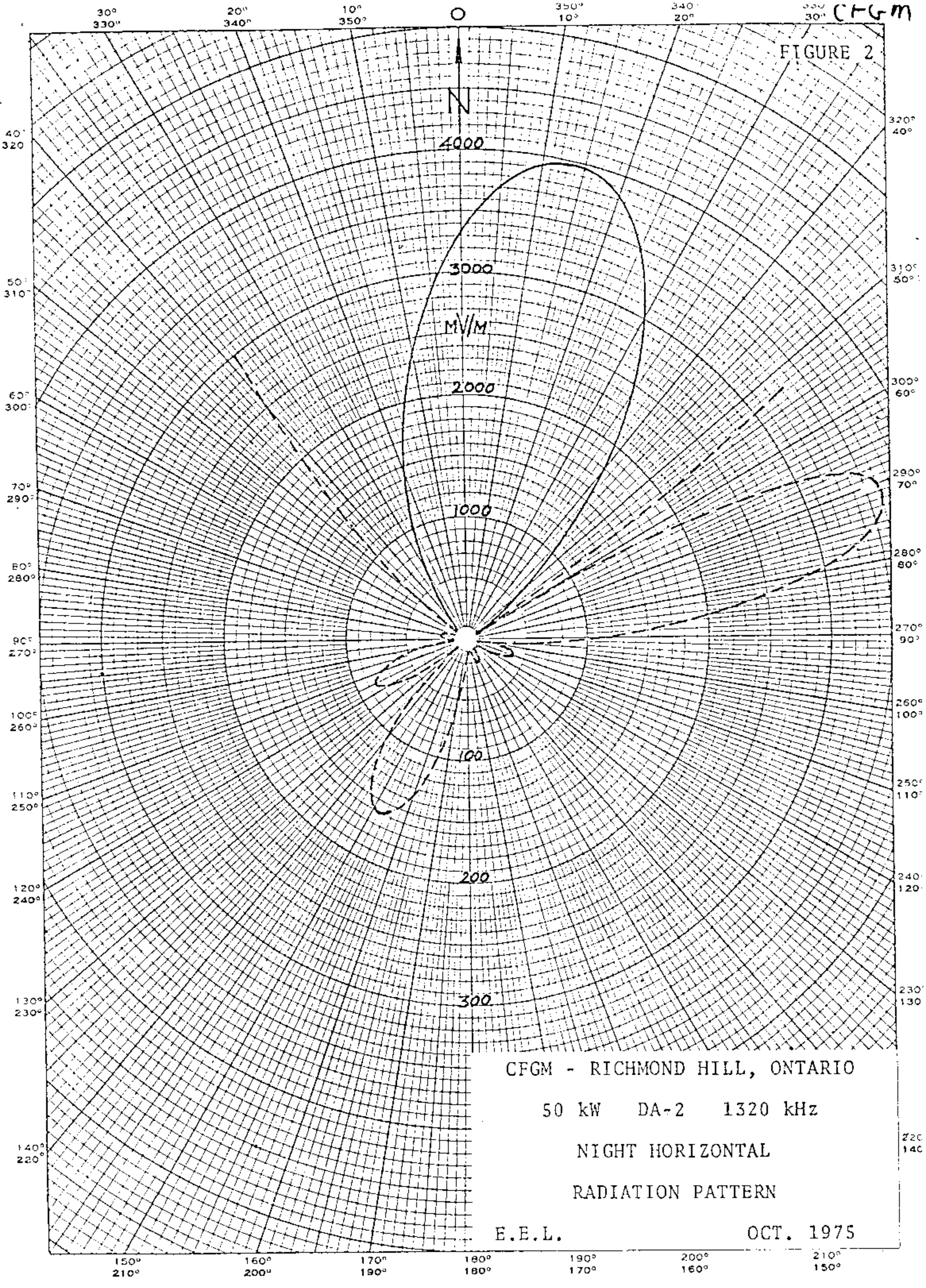
STATION CALL: CFGM

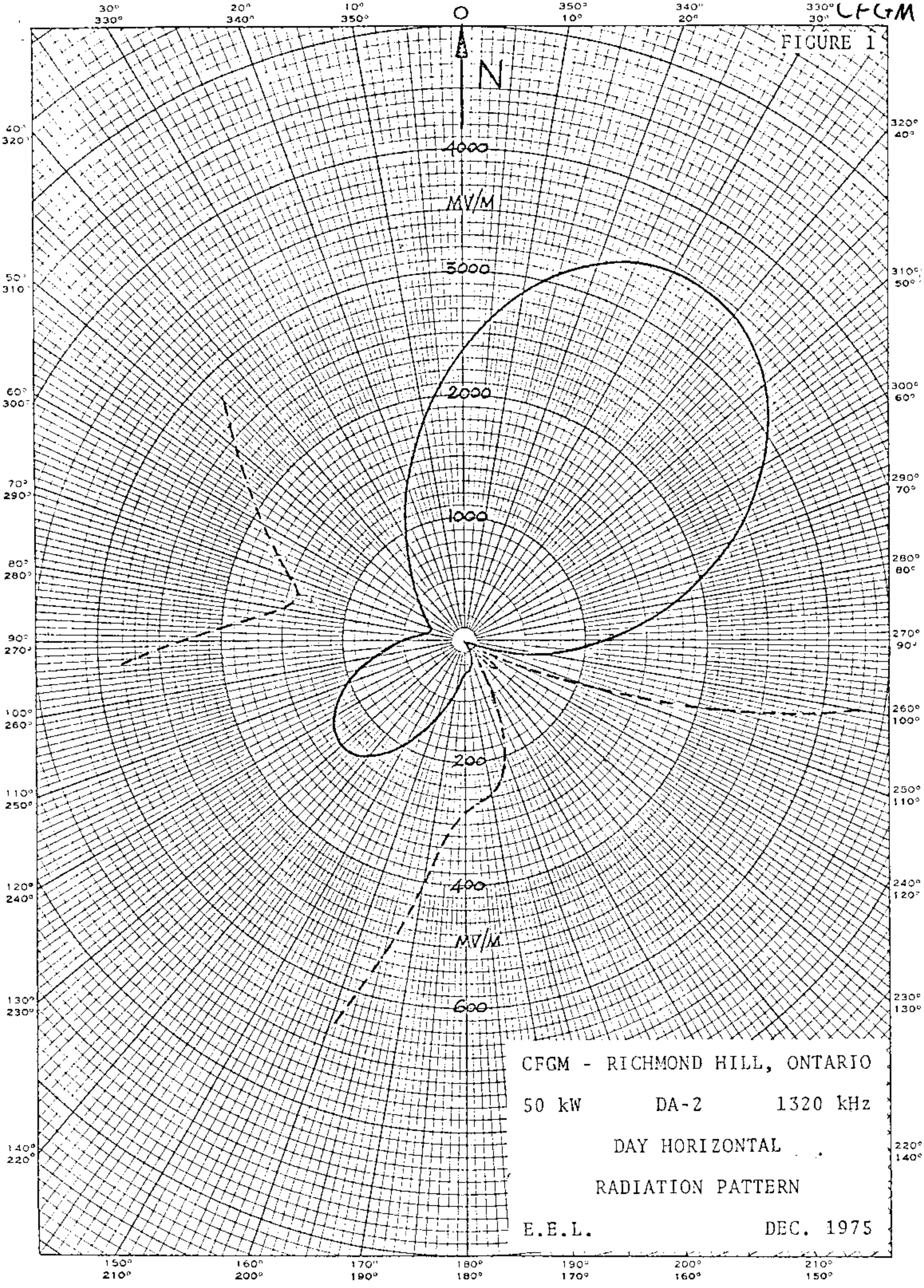
DAY TOWER	10 N	11 E	12 S	13 W
FIELD RATIO	1.00	1.00	1.428	1.428
PHASE ANGLE	342°	000°	100°	082°
SPACING	000°	165°	186.41°	120°
	0'	342'	386'	248.6'
BEARING	000°	132°	171.343°	232°

NIGHT TOWER	1 NW	2 NC	3 NE	4 CE	5 SE	6 SC	7 SW	8 CW	9 C
FIELD RATIO	1.00	1.52	1.00	1.87	1.00	1.53	1.00	1.88	2.87
PHASE ANGLE	000°	044.6°	089.2°	219.45°	349.7°	305.1°	260.5°	130.25°	174.85°
SPACING	000°	184.5°	369°	387.18°	420.3°	259.39°	161.22°	080.61°	210.15°
	0'	382'	764.1'	801.7'	870.3'	537.1'	333.8'	166.9'	435.2'
BEARING	000°	117°	117°	128.93°	139.38°	155.09°	200°	200°	139.38°

TABLE 1-2

14/10/75


CFGM
FIGURE 2
N
4000
3000
MV/M
2000
1000
100
200
300
CFGM - RICHMOND HILL, ONTARIO
50 kW DA-2 1320 kHz
NIGHT HORIZONTAL
RADIATION PATTERN
E.E.L.
OCT. 1975
POLAR CO-ORDINATE
MADE IN U. S. A.



CFGM - RICHMOND HILL, ONTARIO

50 kW DA-2 1320 kHz

DAY HORIZONTAL

RADIATION PATTERN

E.E.L. DEC. 1975

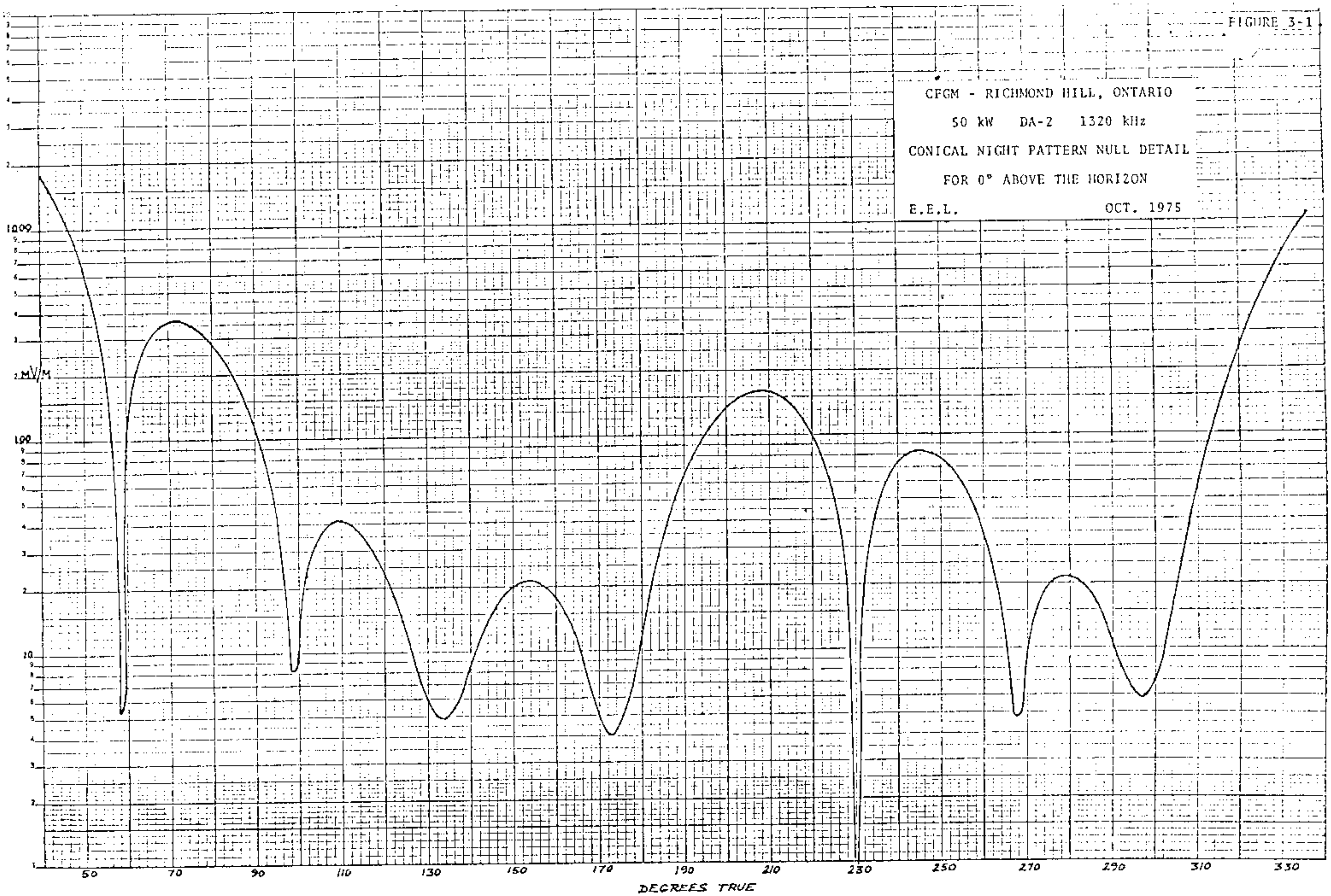


FIGURE 3-1
CFGM - RICHMOND HILL, ONTARIO
50 kW DA-2 1320 kHz
CONICAL NIGHT PATTERN NULL DETAIL
FOR 0° ABOVE THE HORIZON
E.E.L.
OCT. 1975
1000
mV/M
100
10
1
50
70
90
110
130
150
170
190
210
230
250
270
290
310
330
DEGREES TRUE

CFGM

ANTENNA DESCRIPTION SHEET

STATION CALL:	CFTJ			
MAIN STUDIO:	GALT, ONTARIO			
FREQUENCY:	1320 kHz			
POWER:	1 kW			
CLASS:	III			
MODE:	DA-2			
TIME:	UNLIMITED			
NOTIFICATION LIST NO.:	289.....		DATE: April 21, 1972	
GEOGRAPHICAL LOCATION:	Latitude 43° 19' 42" North Longitude 80° 20' 15" West			
ARRAY CHARACTERISTICS:	Four guyed steel towers of uniform cross section; base insulated, series fed; no top loading.			
TOWER NUMBER:	1 North	2 NC	3 SC	4 South
HEIGHT ABOVE INSULATOR:	190'	190'	190'	190'(91.8°)
OVERALL HEIGHT ABOVE GRADE:	195'	195'	195'	195'
DAY { FIELD RATIO:	1.000	2.70	2.70	1.00
DAY { PHASE:	0°	142.2°	284.8°	43
NIGHT { FIELD RATIO:	1.000	2.216	2.216	1.000
NIGHT { PHASE:	0°	148.27°	302.73°	91.0°
SPACING:	ref.	186.2' 90°	372.5' 180°	558.8' 270°
ORIENTATION:	ref.	187°	187°	183°
GROUND SYSTEM:	120 equally spaced radial wires per tower of #10 AWG bare copper, buried approximately 12" below grade of average length 300'(0.4λ), excluding those along common chords.			
PREDICTED EFFECTIVE FIELD: (UNATTENUATED AT ONE MILE)	200 mV/m for 1 kW, day 195 mV/m for 1 kW, night			

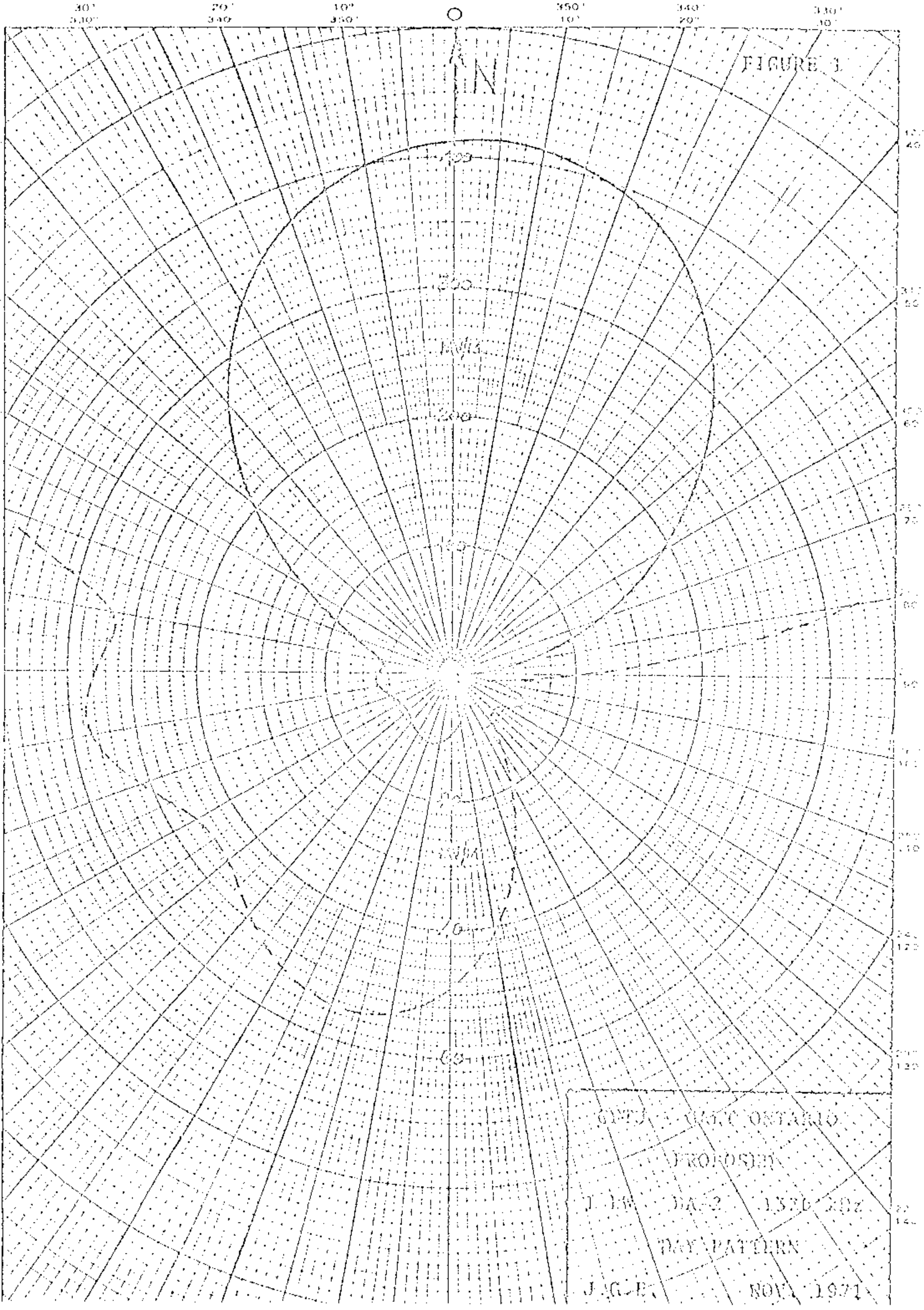
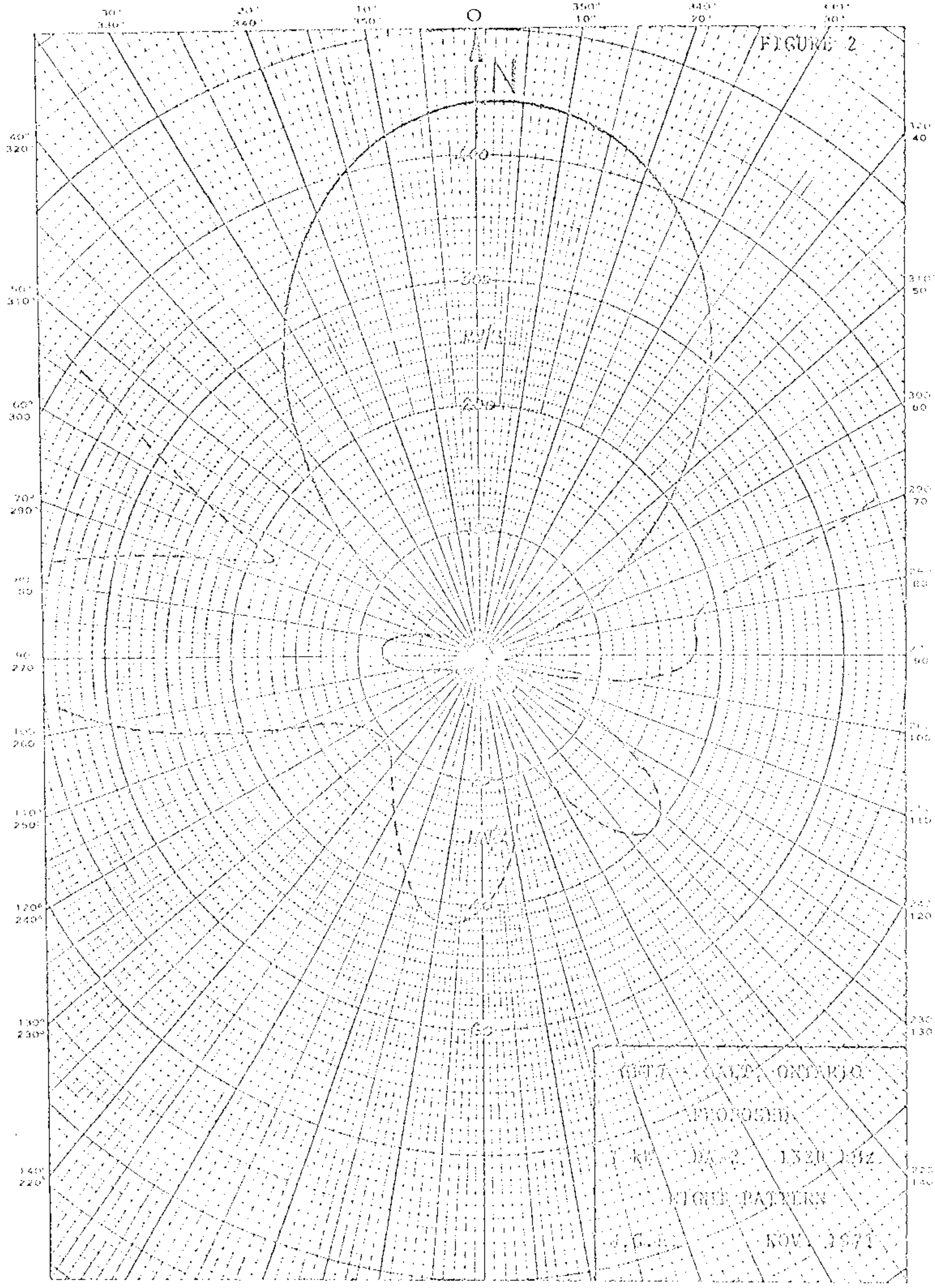


FIGURE 1
N
ONTARIO
DA-2
DAY PATTERN
NOV. 1971

FIGURE 2



N
400
300
200
100
60
GALT, ONTARIO
PROPOSED
DA-2
1320 KHZ
PATTERN
NOV. 1971

DIRECTIONAL ANTENNA DESCRIPTION SHEET

STATION : New

MAIN STUDIO : Trenton, Ontario.

FREQUENCY : 1320 Kc/s

POWER : 1 KW-D / .5 KW-N

NOTIFICATION LIST NO. : 232

DATE : Septe[illegible] 2[illegible], 1967.

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM :

North Latitude 44° 03' 42"

West Longitude 77° 33' 22"

ANTENNA CHARACTERISTICS

MODE OF OPERATION : DA-2 (Directional, Full Time, Different Patterns and Powers Day and Night)

NUMBER OF ELEMENTS : Three (3)

TYPE OF ELEMENTS : Square, uniform cross-section guyed steel towers, base insulated for series feed, no top loading

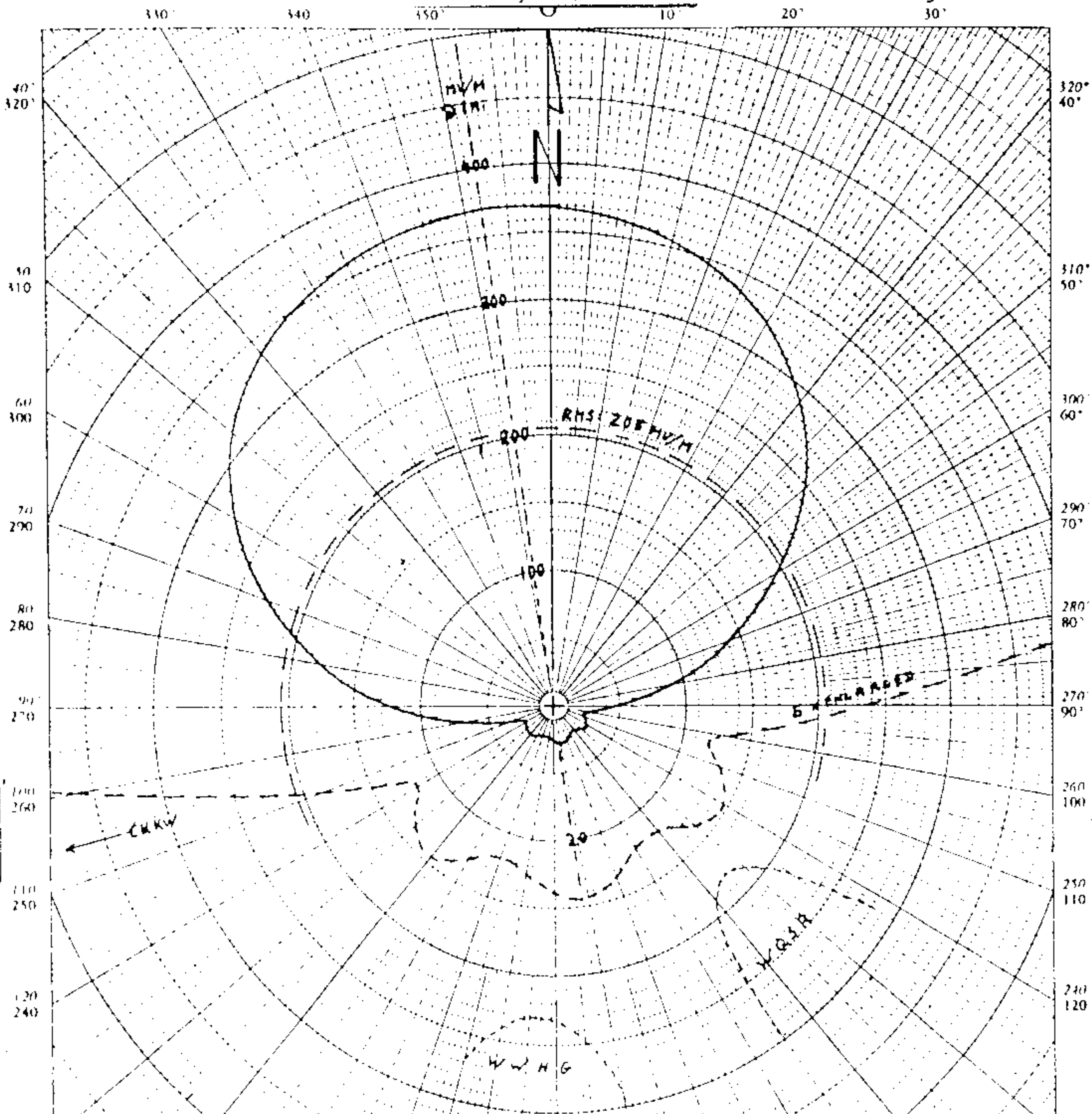
TOWER :	1 (S)	2 (C)	3 (N)
HEIGHT ABOVE INSULATORS :	180' (86.8°)	180' (86.8°)	180' (86.8°)
OVERALL HEIGHT :	183'	183'	183'
SPACING :	186.4' (90°) between adjacent towers		
PHASING - DAY :	0°	-116°	+114°
NIGHT :	0°	-148°	+46°
FIELD RATIO - DAY :	1.00	1.85	1.00
NIGHT :	1.00	1.34	0.88

ORIENTATION : All Towers on Line Bearing 352° East of True North

GROUND SYSTEM : 120 equally spaced radials of B & S No.10 bare copper wire per tower, extending to a distance of 298' (.4 wave-length) except where bonded on the common chord equi-distant between towers and buried approximately 8 inches.

PREDICTED EFFECTIVE FIELD : DAY : 205 MV/M at 1 mile for 1 KW
NIGHT : 152 MV/M at 1 mile (215 MV/M for 1 KW)

Proposed Day (10-28-67ct) | New Station Trenton, Ontario | 500w,1kw-LS,DA-2,U,Class III 1320 kc



INGÉNIEUR - ENGINEER
P. L. GRANT
PROVINCE DE QUÉBEC

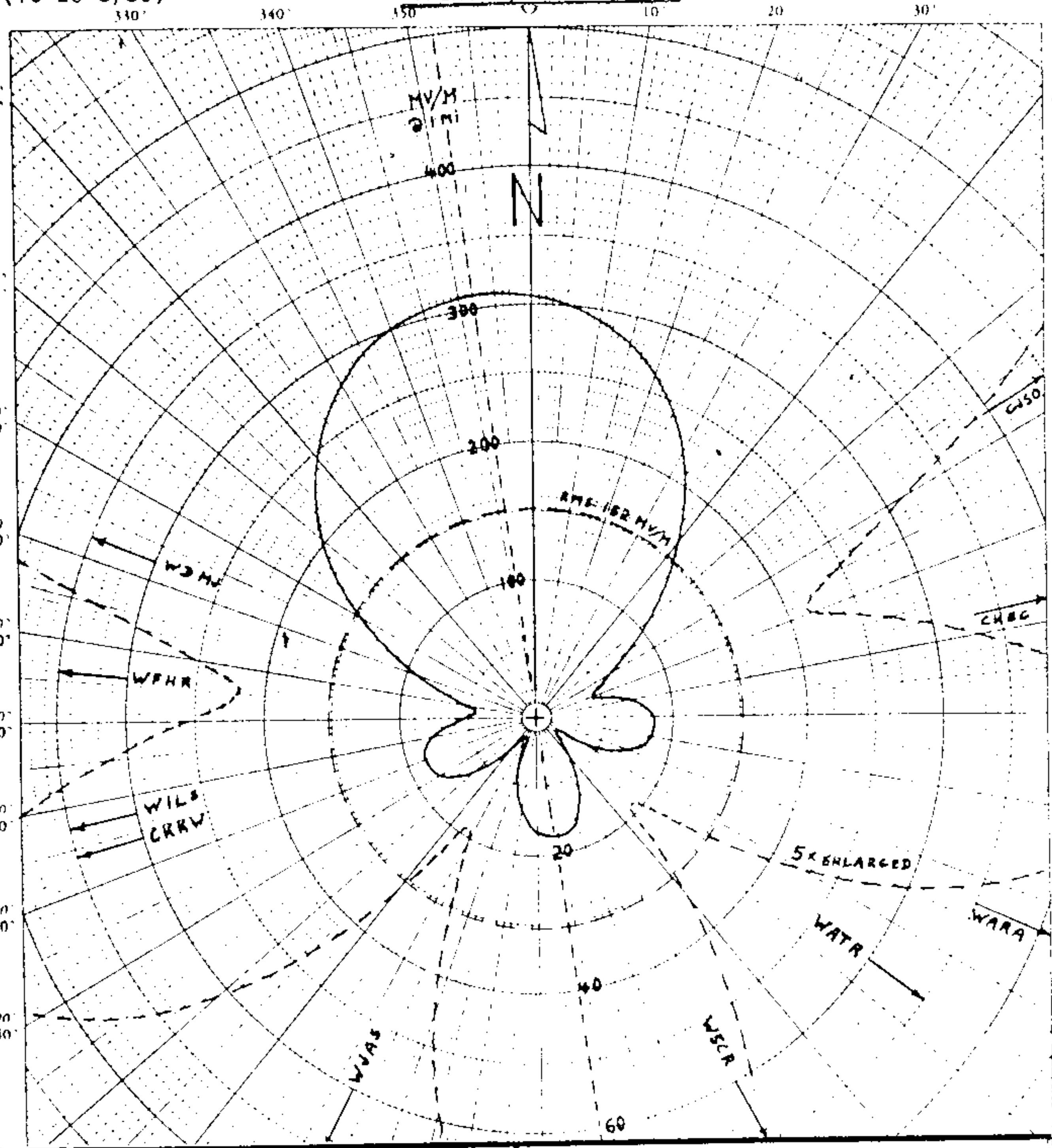
N. J. PAPPAS AND ASSOCIATES

New	Trenton, Ontario
1320 Kc 1 KW-D/.5 KW-N	DA-2
Horizontal Daytime Radiation Pattern	
15 May 1967	Project 333A

Proposed Night (10-28-67ct)

New Station
Trenton, Ontario

500w, 1kw-LS, DA-2, U, Class III
1320 kc



P. L. GRANT
INGÉNIEUR - ENGINEER
PROVINCE DE QUÉBEC

N. J. PAPPAS AND ASSOCIATES

New	Trenton, Ontario
1320 Kc 1 KW-D/.5 KW-N	DA-2
Horizontal Night-time Radiation Pattern	
15 May 1967	Project 333A

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217

CHQM

DESCRIPTION SHEET

Station: CHQM

Main Studio: Vancouver, B.C.

Frequency: 1320 kc/s

Power: 50 kw

Time: Unlimited

Class: III

Notification List No.: **217**

Date: **October 7, 1966**

Geographic Location - 49° 09' 55" North Latitude
123° 02' 28" West Longitude

ANTENNA SYSTEM: Mode of Operation - DA-2

Elements - Four guyed elements, uniform cross-section, base insulated and series fed.

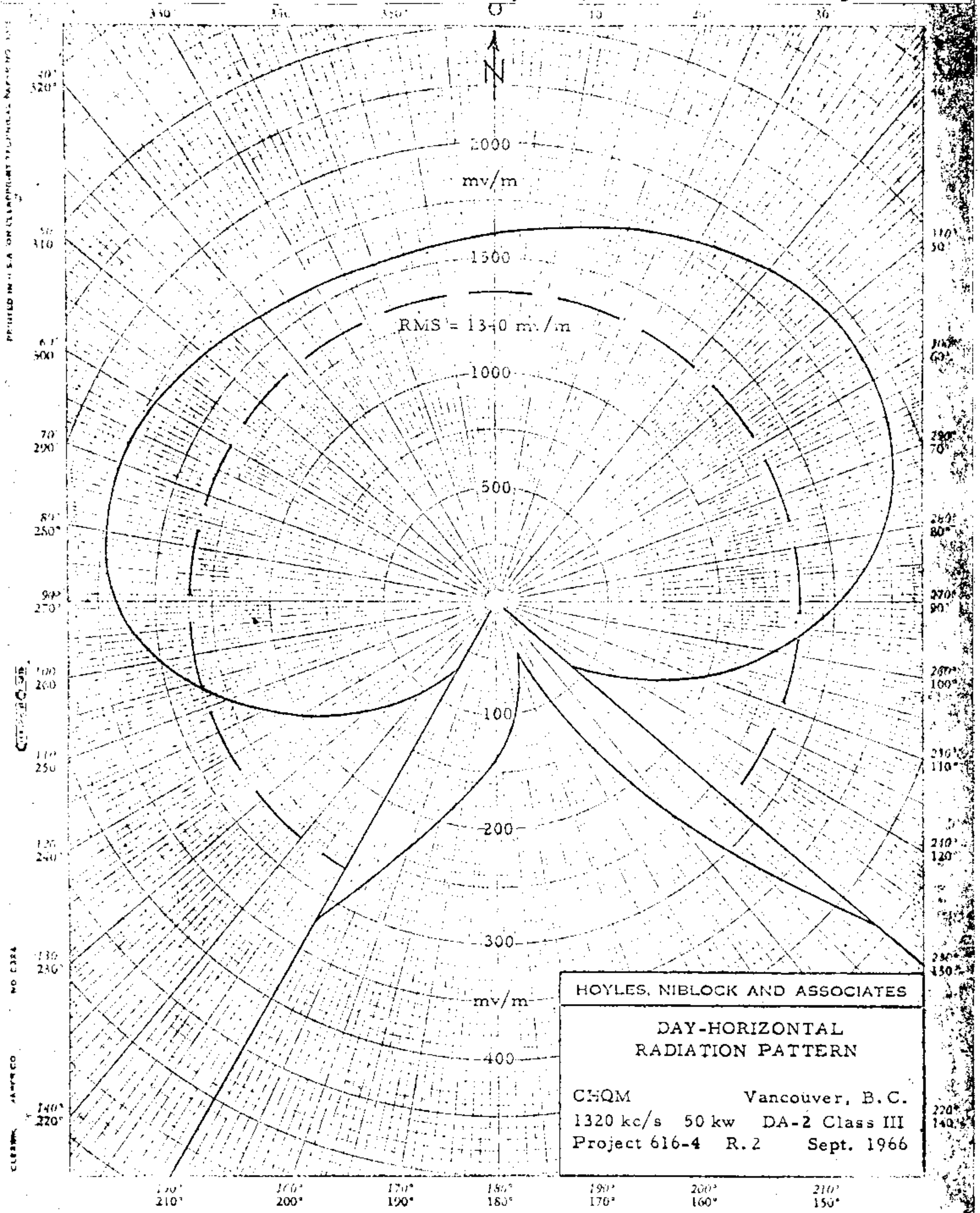
TOWERS:		No. 1	No. 2	No. 3	No. 4
HEIGHT OVER INSULATORS:		180'	180'	180'	180'
ELECTRICAL HEIGHT:		87°	87°	87°	87°
OVERALL HEIGHT:		184'	184'	184'	184'
PHASING:	Day -	2.84°	-60°	-	-182°
	Night -	0°	-73.5°	-147°	-
RATIO:	Day -	1.0	0.80	-	0.174
	Night -	1.0	1.96	1.0	-
SPACING:		Ref.	130°	260°	100°
ORIENTATION:		Ref.	0°	0°	230°

GROUND SYSTEM: The ground system shall consist of 120 radial per tower No. 10 AWG, bare soft-drawn copper wire, uniformly spaced, depth 8 inches approximately. The ground area covered is equivalent to a 0.4 wave-length system.

PREDICTED EFFECTIVE FIELD: 1340 Mv/m at one mile for 50 kw
(189 Mv/m at one mile for 1 kw)

CHQM

Proposed Day (11-29-66ct) | Station CHQM Vancouver, B. C. | 50kw, DA-2, U, Class III 1320 kc

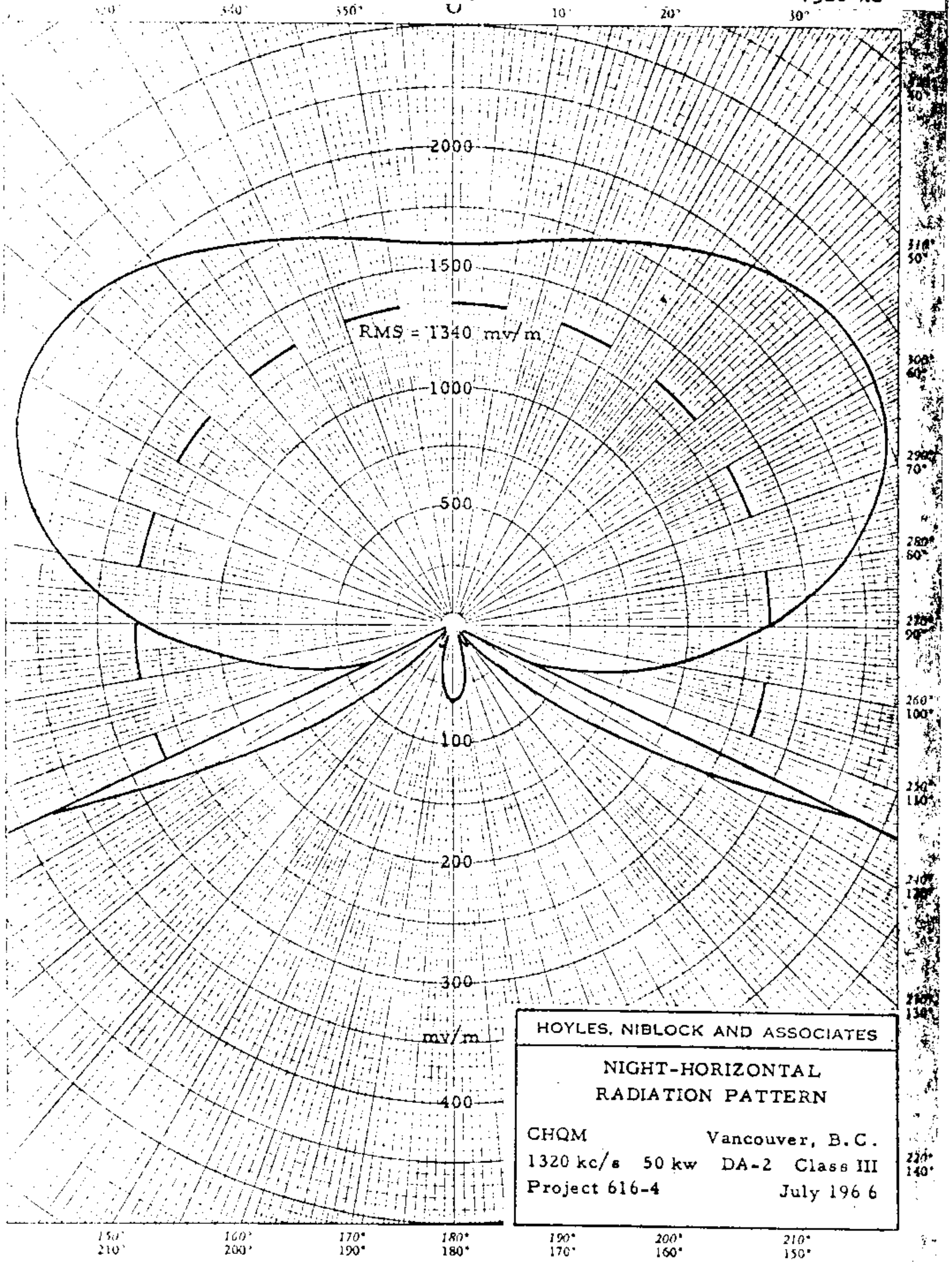


CHQM

Proposed Night
(11-29-66ct)

Station CHQM
Vancouver, B. C.

50kw, DA-2, U, Class III
1320 kc



HOYLES, NIBLOCK AND ASSOCIATES

NIGHT-HORIZONTAL
RADIATION PATTERN

CHQM Vancouver, B.C.
1320 kc/s 50 kw DA-2 Class III
Project 616-4 July 1966

#131 Vancouver, B.C., Can. CHQM

DESCRIPTION SHEET
(5-28-59g)

New Station 10kw, DA-1, U, Class III
Vancouver, British Columbia, Canada 1320 KC

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: New

Main Studio: Vancouver, B.C.

Frequency: 1320 kc.

Power: 10 kw. Class III.

Notification List No. 131

Date: February 27, 1959

GEOGRAPHICAL LOCATION:

North Latitude: 49° 10' 47"
West Longitude: 123° 4' 12"

Antenna: Mode of Operation - DA-1,
3 guyed elements, uniform cross-section, base insulated for series feed.

Tower	North		Center		South
Height above Insulators	180'(87°)		180'		180'
Overall Height	184'		184'		184'
Spacing		130°		130°	
Phasing	-158°		-79°		0°
Field Ratio	1.0		1.975		1.0

Ground System: 120 radials per tower # 10 AWG, bare soft-drawn copper wire, uniformly spaced, depth 8 inches approximately. The radials vary in length from 247.5 feet to 463 feet, (excluding shortened radials between towers). The ground area covered is equivalent to a .4λ system.

Predicted Effective Field: 598mv/m (189 mv/m for 1Kw).

Orientation of Towers: Towers are on a line bearing true north.

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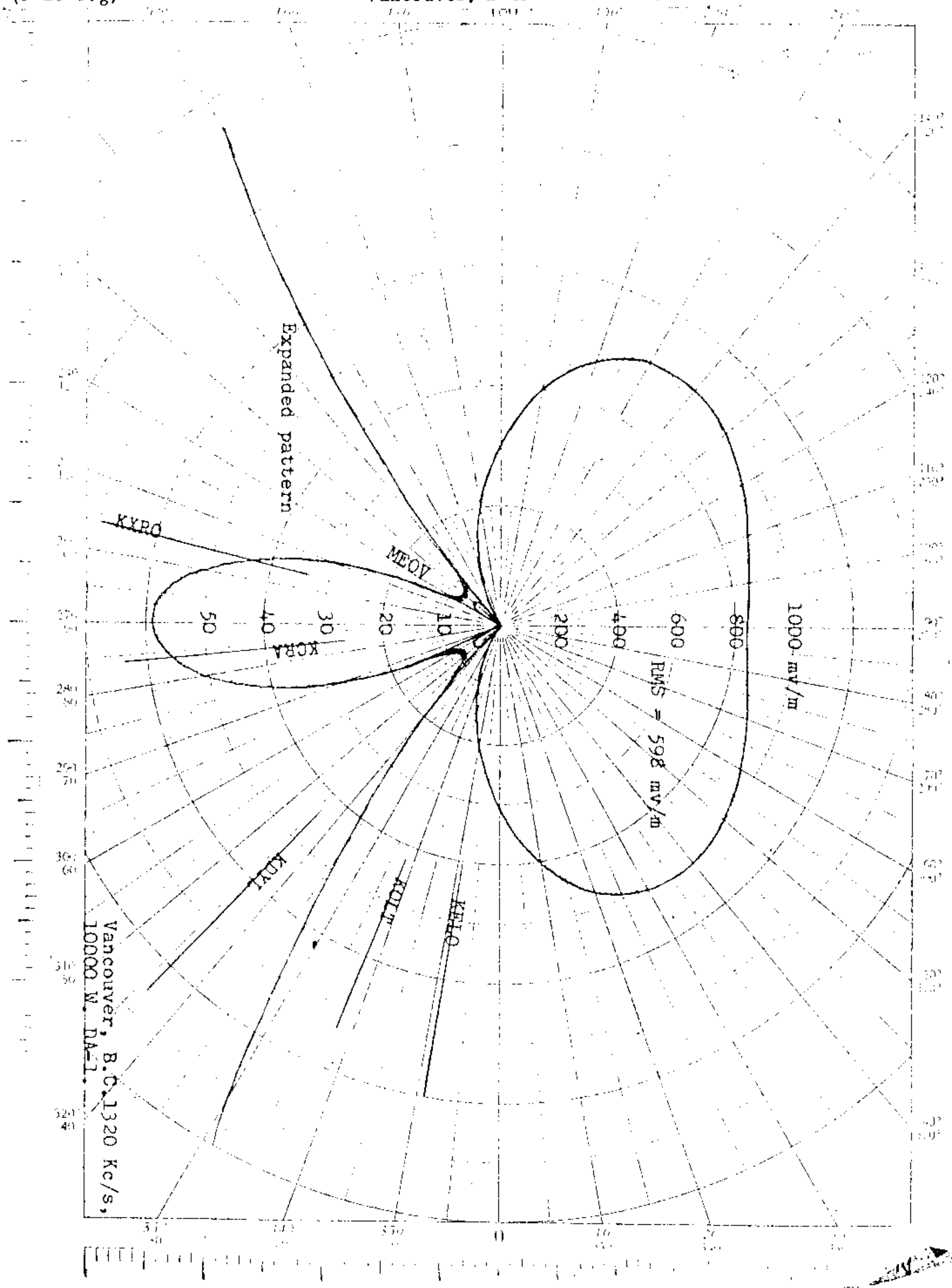
Vancouver, B.C., Can

CHQM

PROPOSED DAY & NIGHT (5-28-59g)

New Station — 10kw, DA-1, U, Class III
Vancouver, British Columbia, Canada — 1320 KC



CJSO

Description Sheet (2-22-71ct) | Station CJSO Sorel, Quebec | 5kw,10kw-LS,DA-2,U,Class III 1320 kc

CORRECTED DESCRIPTION SHEET

STATION: CJSO

MAIN STUDIO: Sorel, Quebec

POWER: 10 D/5N

FREQUENCY: 1320 KHz CLASS: III

NOTIFICATION LIST NO. 254

DATE: February 28, 1969.

GEOGRAPHICAL LOCATION: North Latitude 45° 59' 46"
West Longitude 73° 10' 15"

Antenna Characteristics

MODE OF OPERATION: DA-2

NUMBER OF ELEMENTS: 4

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

TOWER:		#1N	#2W	#3S	#4E
HEIGHT ABOVE INSULATORS:		200'(96.5°)	200'	200'	200'
OVERALL HEIGHT ABOVE GROUND:		203'(98°)	203'	203'	203'
FIELD RATIO:	DAY	1.000	0.25	-	-
	NIGHT	1.000	0.800	1.100	1.000
PHASING:	DAY	-124.6°	0°	-	-
	NIGHT	-95°	0°	0°	-103.5°
SPACING:		90.0°	Ref.	190.0°	210.2°
ORIENTATION:		28.0°	Ref.	118.0°	92.7°

GROUND SYSTEM: 120 equally spaced radials of #10B and S bare copper wires per tower, buried approximately 8" length no less than 186' (.25 wavelength). The sytem is extended beyond the .4 wavelength recommended length so that the ground system is equivalent in area to one where all radials, except those joined along a common chord, would be 0.4 wavelength long.

PREDICTED EFFECTIVE FIELD:
DAY: 614 mV/m (10 kW)
NIGHT: 434 mV/m (5 kW) or 194 mV/m (1 kW)

NOTE: To this description sheet attach the night-time patterns previously notified on List No. 177, dated May 7, 1963 and the day-time pattern notified on List No. 254 dated February 28, 1969.

CJSO

Description Sheet
(5-27-69ct)

Station CJSO
Sorel, Quebec
CORRECTED

5kw,10kw-LS,DA-2,U,Class III
1320 kc

SUMMARY SHEET

STATION: CJSO

MAIN STUDIO: Sorel, Quebec

POWER: 10 D/5N

FREQUENCY: 1320 kHz CLASS: 111

NOTIFICATION LIST NO. 254

DATE: FEBRUARY 28, 1969

GEOGRAPHICAL LOCATION:

North Latitude 45° 59' 46"
West Longitude 73° 10' 15"

Antenna Characteristics

MODE OF OPERATION:		DA-2			
NUMBER OF ELEMENTS:		4			
TYPE OF ELEMENTS:		Uniform Cross-Section, guyed, steel towers, base insulated, for series feed.			
TOWER:		#1N	#2W	#3S	#4E
HEIGHT ABOVE INSULATORS:		200'(96.5°)	200'	200'	200'
OVERALL HEIGHT ABOVE GROUND:		203'(98°)	203'	203'	203'
FIELD RATIO:	DAY	0.250	1.000	-	-
	NIGHT	1.000	0.800	1.100	1.000
PHASING:	DAY	-124.6°	0°	-	-
		-95°	0°	0°	-103.5°
SPACING:		90.0°	Ref.	190.0°	210.2°
ORIENTATION:		28.0°	Ref.	118.0°	92.7°

GROUND SYSTEM:

120 equally spaced radials of #10B and S bare copper wires per tower, buried approximately 8" length no less than 186' (.25 wavelength). The system is extended beyond the .4 wavelength recommended length so that the ground system is equivalent in area to one where all radials, except those joined along a common chord, would be 0.4 wavelength long.

PREDICTED EFFECTIVE FIELD:

DAY: 614 mv/m (10 Kw)
NIGHT: 434 mv/m (5 Kw) or 194 mv/m (1 Kw)

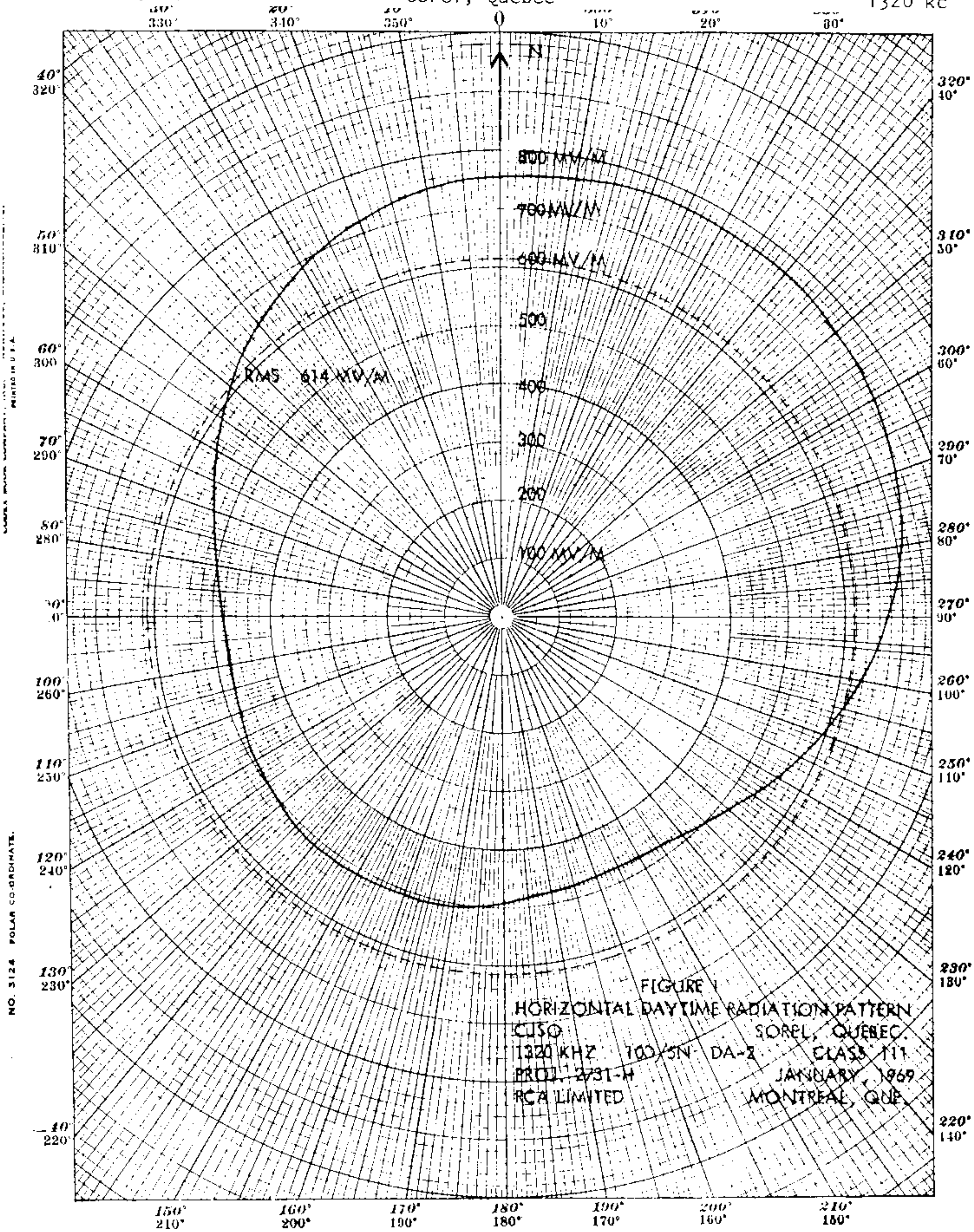
NOTE: To this description sheet and day-time radiation pattern, attach the night-time patterns previously notified on List No. 177, dated May 7, 1963.

CJSO

Proposed Day
(3-28-69ct)

Station CJSO
Sorel, Quebec

5kw,10kw-LS,DA-2,U,Class III
1320 kc



#177

DIRECTIONAL ANTENNA DESCRIPTION SHEET

STATION: CJSO

MAIN STUDIO: Sorel, Qué.

FREQUENCY: 1320 Kc

POWER: 10D/5N CLASS: III

NOTIFICATION LIST NO: 177

DATE: May 7, 1963

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:

North Latitude: 45° 59' 46"

West Longitude: 73° 10' 15"

ANTENNA SYSTEM CHARACTERISTICS

Mode of operation: Different patterns day and night (DA-2)

Number of elements: Four (4)

Type of elements: Uniform cross-section, guyed steel towers, base insulated for series feed.

TOWER		N	W	S	E
HEIGHT ABOVE INSULATORS:		96.5°	96.5°	96.5°	96.5°(200')
OVERALL HEIGHT		98°	98°	98°	98° (203')
SPACING		N-W and S-E:	90°	N-E and S-W:	190°
PHASING:	DAY	225°	0°	315°	
	NIGHT	-95°	0°	0°	-103.5°
FIELD RATIO:	DAY	.77	1.0	.48	
	NIGHT	1	.8	1.1	1

ORIENTATION

Rectangular parallelogram with the North tower at an azimuth of 28° with respect to the West tower and the East and South towers at an azimuth of 118° respectively from the North and West towers.

GROUND SYSTEM

120 equiangularly spaced radials extend from the base of each tower to a distance of no less than 186' (.25 wavelength). The systems is extended beyond the .4 wavelength recommended length so that the ground system is equivalent in area to one where all radials, except those joined along a common chord, would be 0.4 wavelength long.

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CJSO

Description Sheet (p.2of2)
(6-28-63ct)

Station CJSO
Sorel, Quebec

5kw,10kw-LS,DA-2,U,Class III
1320 kc

CJSO Sorel, Que. 1320 kc 10D/5N DA-2 (cont'd)

GROUND SYSTEM — The ground wires consist of solid copper wire No. 10 B & S gauge and are buried to a depth of approximately 8 inches.

PREDICTED EFFECTIVE FIELD:

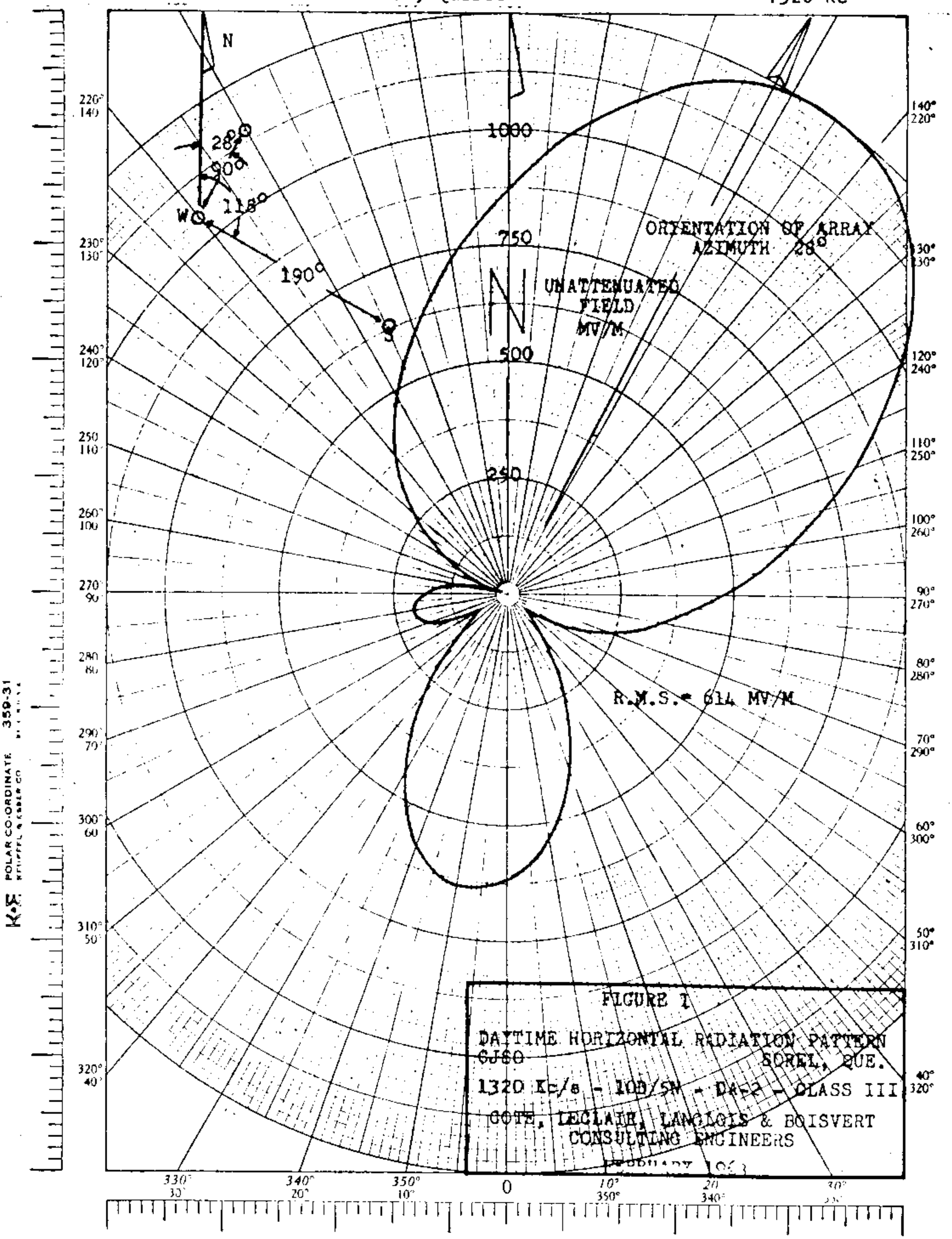
Day: [illegible]14 MV/M FOR 10 KW
Night: [illegible] MV/M FOR 5 KW
194 MV/M FOR 1 KW

CJSO

Proposed Day
(6-28-63ct)

Station CJSO
Sorel, Quebec

5kw,10kw-LS,DA-2,U,Class III
1320 kc



CJSO

Proposed Night
(6-28-63ct)

Station CJSO
Sorel, Quebec

5kw,10kw-LS,DA-2,U,Class III
1320 kc

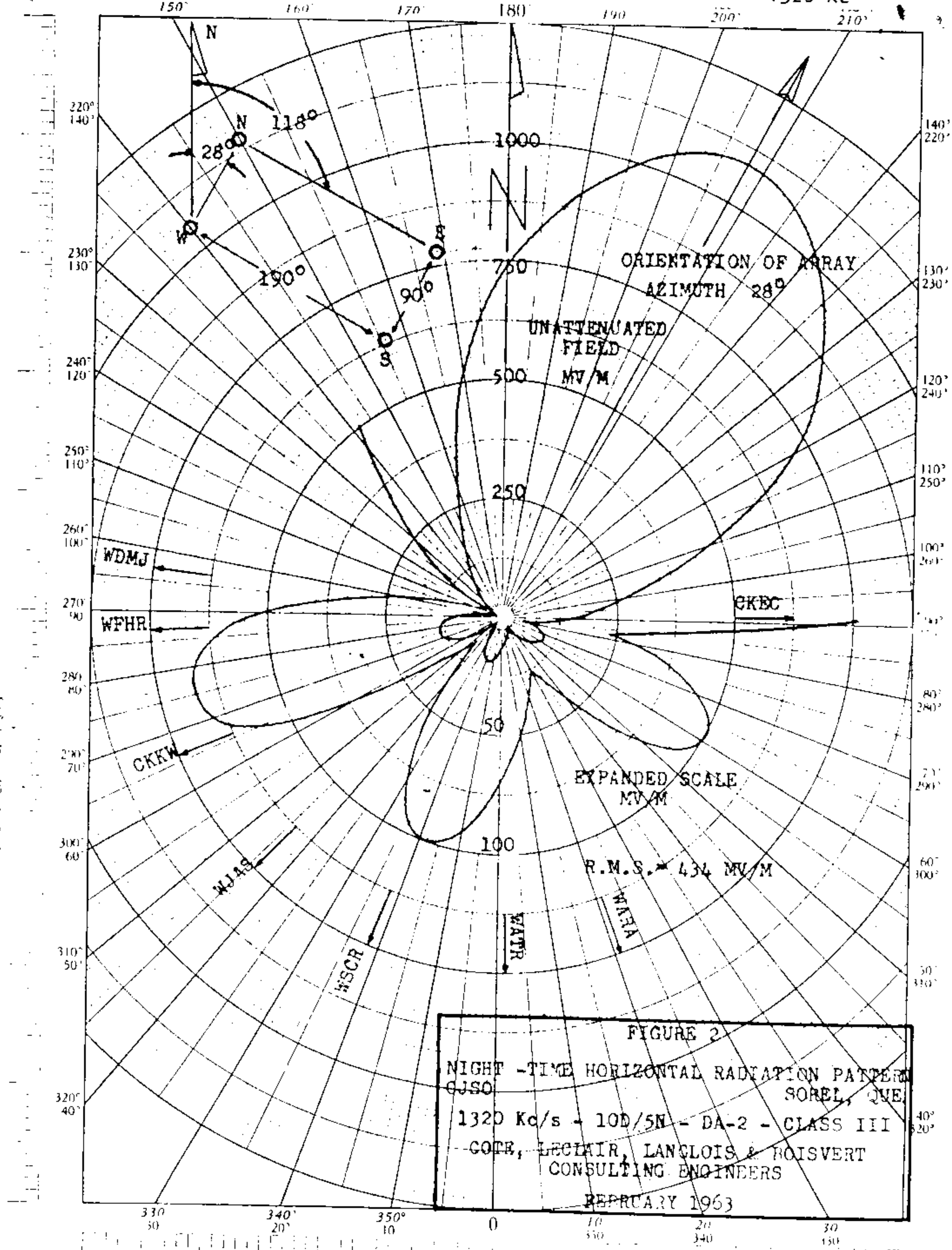


FIGURE 2

NIGHT -TIME HORIZONTAL RADIATION PATTERN
CJSO SOREL, QUE.

1320 Kc/s - 10D/5N - DA-2 - CLASS III

COTE, LECLAIR, LANGLOIS & BOISVERT
CONSULTING ENGINEERS

FEBRUARY 1963

CKEC

SUPPLEMENTAL DIRECTIONAL

ANTENNA DESCRIPTION SHEET

Station: CKEC

Main Studio: New Glasgow, Nova Scotia

Frequency: 1320 kHz

Power: 5 kW Class: III

Notification List No.: 374

Date: June 5, 1978

Geographical Location of the Center of the Antenna System:

North Latitude: 45° 36' 03"
West Longitude: 62° 36' 38"

Mode of Operation: DA-N

Note: Please retain the description sheet and directional antenna radiation patterns notified for station CKEC in Canadian Change List Number 149 dated August 4, 1960 and attach to this supplemental description sheet. This notification is for the purpose of indicating only a correction in the geographical coordinates.

#149

CKEC

DESCRIPTION SHEET
(9-13-60g)

Station CKEC 5kw, DA-N,U, Class III
New Glascow, Nova Scotia, Canada 1320 KC

DIRECTIONAL ARRAY - DESCRIPTION SHEET

STATION: CKEC MAIN STUDIO: New Glasgow, N.S.

FREQUENCY: 1320 KC POWER: 5 KW CLASS: III

Notification List No.: 149 Date: August 4, 1960.

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:

NORTH LATITUDE: 45° 36' 09"

WEST LONGITUDE: 62° 36' 38"

ANTENNA CHARACTERISTICS:

MODE OF OPERATION: Directional Night, omnidirectional day (DA-N)

NUMBER OF ELEMENTS: Two (2)

TYPE OF ELEMENTS: Square uniform cross-section, guyed, insulated from ground, top loaded.

TOWER:	#1 (SW)	#2 (NE)
HEIGHT ABOVE INSULATOR:	120'	120' top loaded to an effective height of 74°
OVERALL HEIGHT:	125'	125'
SPACING:	186.5 Ft. between towers (90°)	
PHASING:	0	-90
FIELD RATIO:	1	0.7

ORIENTATION: On a line bearing 70° East of true North.

GROUND SYSTEM: 120 equally spaced radials per mast extending to a maximum distance of 320' (0.4 of a wavelength) and bonded together at points equidistant between towers.

PREDICTED EFFECTIVE FIELD:

Night: 416 mv/m at 1 mile for 5 Kw. radiated

Day : 416 mv/m at 1 mile for 5 Kw. radiated or
186 mv/m at 1 mile per Kw.

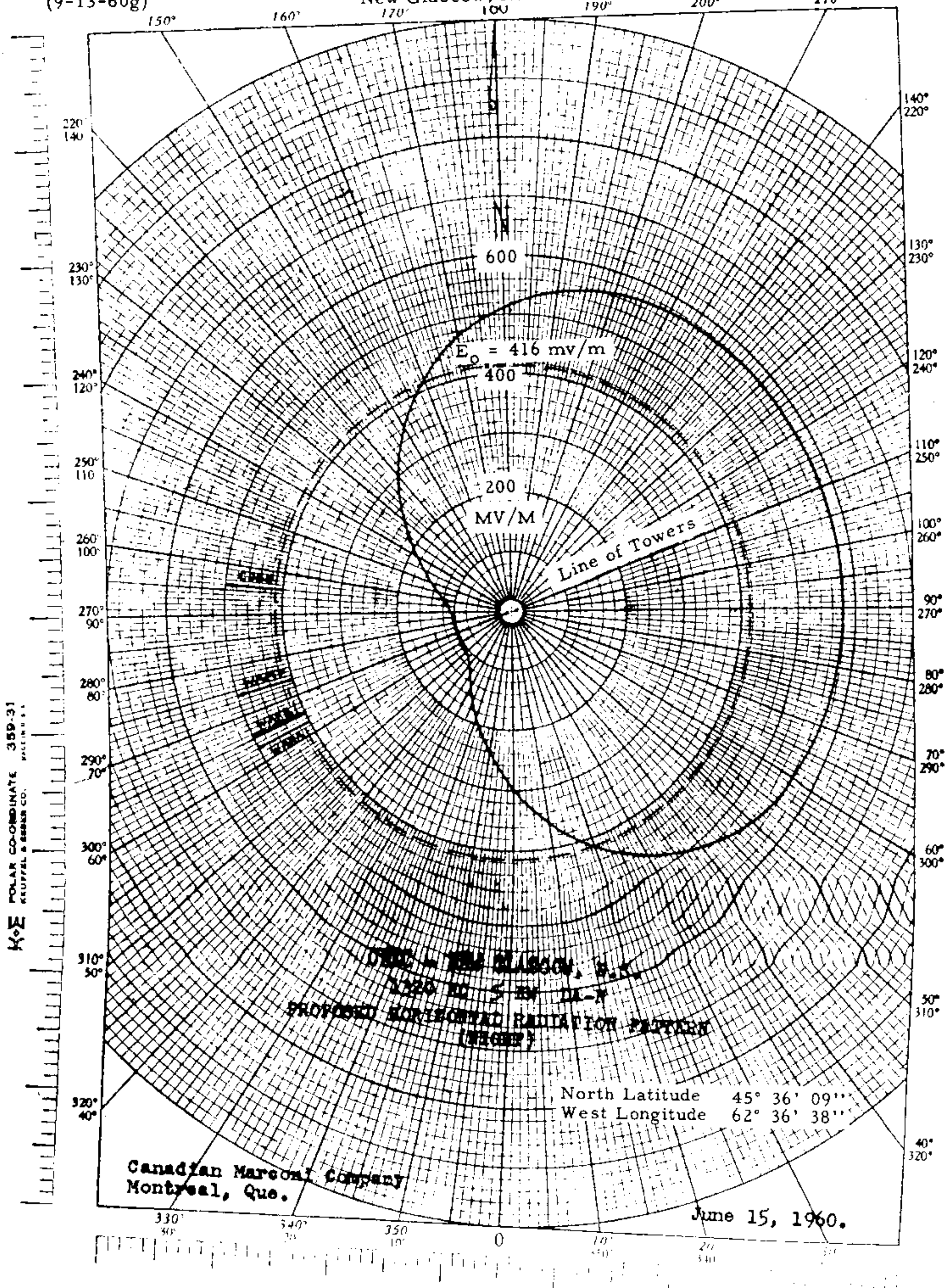
F149

CKEC

PROPOSED NIGHT
(9-13-60g)

Station CKEC
New Glascow, Nova Scotia, Canada

5kw, DA-N,U, Class III
1320 KC



#111 SEE #154 LIST

CKKW (A)

DESCRIPTION SHEET
(3-28-60g)

Station CKKW 1kw, DA-2,U, Class III
Kitchener, Ontario, Canada 1320 KC

REVISED
DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CKKW

Main Studio: Kitchener, Ontario

Frequency: 1320 kcs

Power: 1 kw

Notification List: No. 111

Date: April 12, 1957 Class: 111

GEOGRAPHICAL LOCATION
OF THE ANTENNA SYSTEM:

Kitchener-Waterloo, Ontario

North Latitude: 43° 24' 36"
West Longitude: 80° 30' 06"

ANTENNA CHARACTERISTICS

Mode of operation: DA-2
4 elements, series fed, no top loading.

Tower:	South	South Center	North Center	North
Ht above Insulators	186'	186'	186'	186' (90°)
Overall Ht.	189'	189'	189'	189'
Spacing:	186' or 90° between towers			
Field ratio (Night)	1	2.2	2.2	1
Phasing (Night)	0	206.9°	53.1°	257°
Field Ratio (Day)	1.	0.5	(Not used)	
Phasing (Day)	0	-99°		

Ground System: 120 radials per tower, 301' long spaced 3° and bonded to strap at intervals. Radials buried 8".

Effective Field: Night: 200 mv/m for 1 kw
Day : 190 mv/m for 1 kw

Orientation of Towers: On a line bearing 6° east of True North.

NOTE - Please retain antenna patterns previously supplied for this station in accordance with Notification List No. 111 dated April 12, 1957. This revised description sheet only concerns a correction in the position of the antenna site.

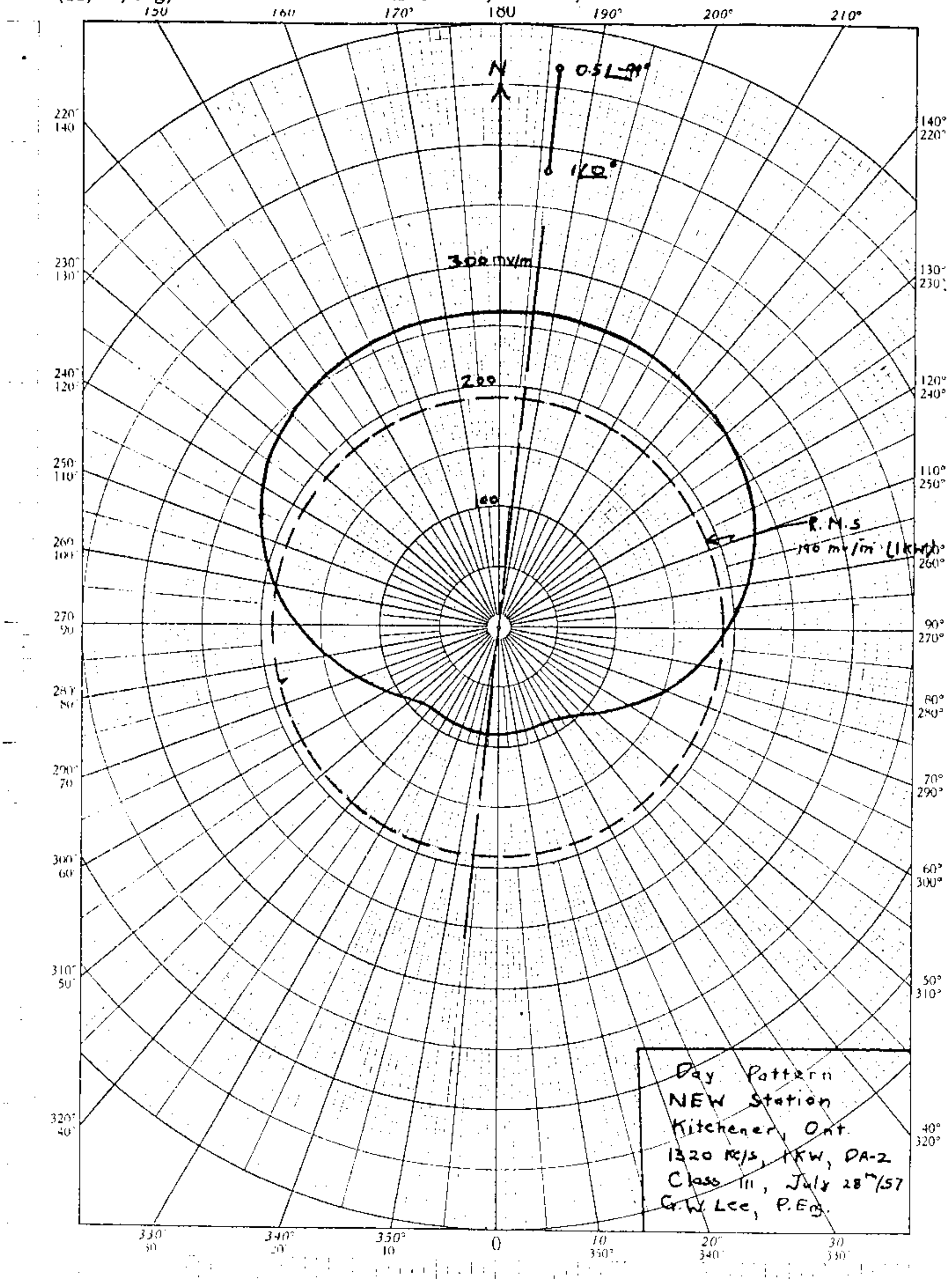
30.12.59

Kitchener, Ont. CKKW

PROPOSED DAY (11/22/57g)

New Station — 1kw, DA-2,U

Kitchener, Ontario, Canada — 1320 KC



Kitchener, Ont.

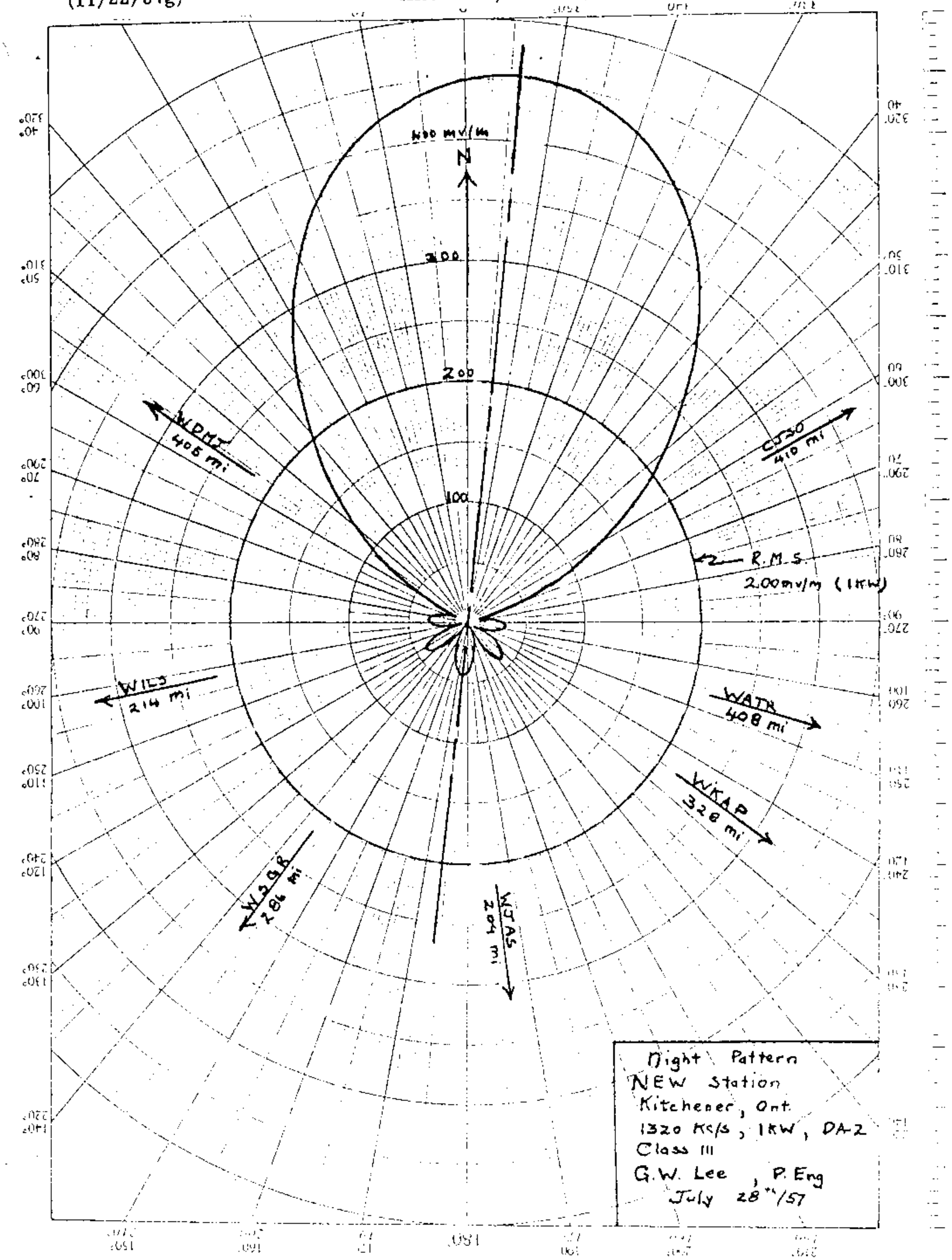
WITH # 111

PROPOSED NIGHT
(11/22/57g)

New Station
Kitchener, Ontario, Canada

1kw, DA-2,U

1320 KC



Night Pattern
NEW Station
Kitchener, Ont.
1320 Kc/s, 1KW, DA-2
Class III
G.W. Lee, P. Eng
July 28th/57

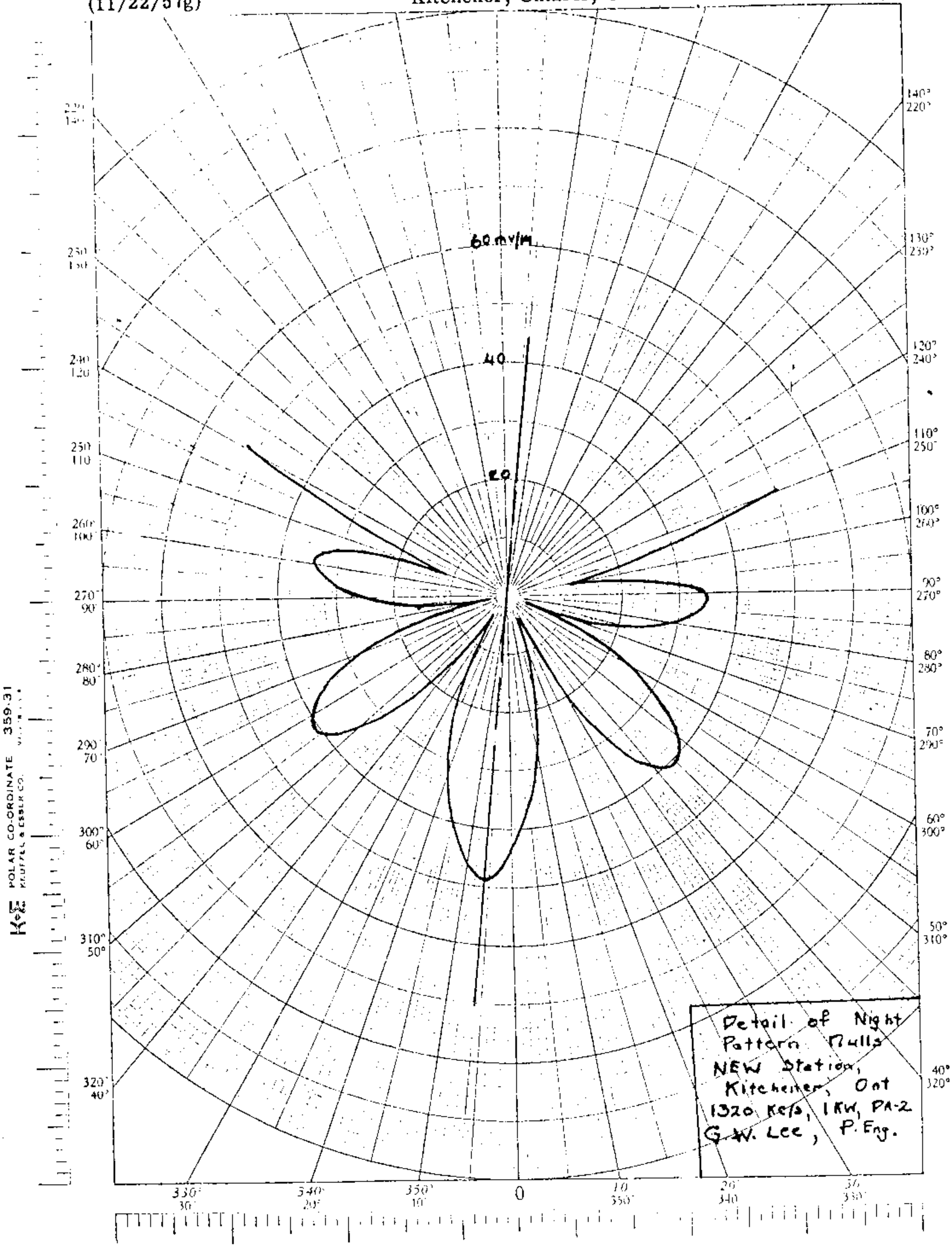
Kitchener, Ont.

PROPOSED NIGHT NULLS
(11/22/57g)

New Station
Kitchener, Ontario, Canada

1kw, DA-2,U

1320 KC



Detail of Night Pattern Nulls
NEW Station,
Kitchener, Ont
1320 Kc/s, 1KW, DA-2
G.W. Lee, P. Eng.

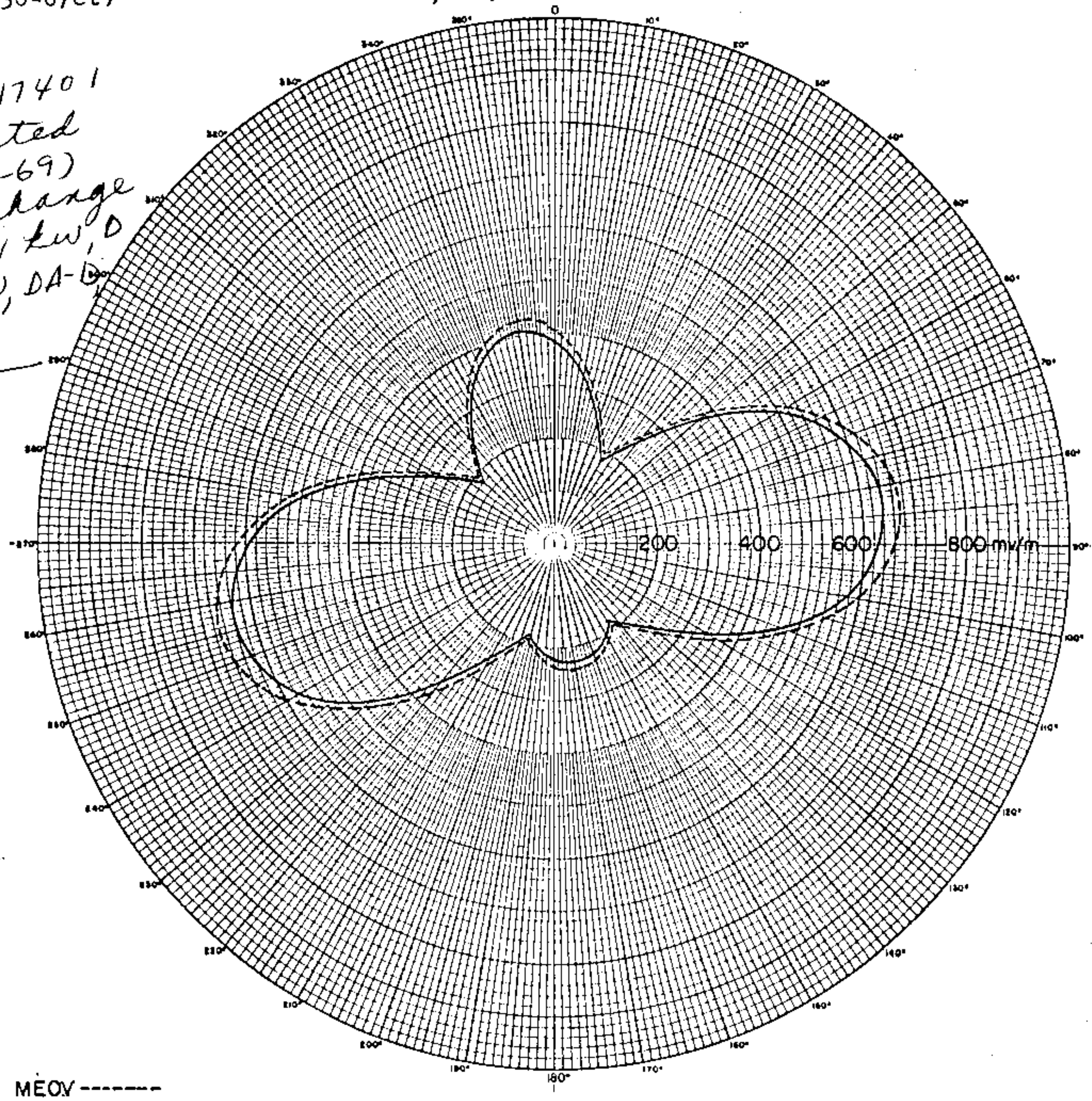
KADI

Proposed Day
(1-30-67ct)

Station KXLW
Clayton, Missouri

1320 kc

BP-17401
Granted
(5-8-69)
CP to change
from 1 kw, D
to 5 kw, DA-D,
D



HORIZONTAL RADIATION PATTERN

#3 0.765/-176° (120')(58°)

S=60°-124.2'

#2 1.124/0° (200')(97°)

S=60°-124.2'

#1 1.0/176° (320' existing tower)(155°)

170° True North

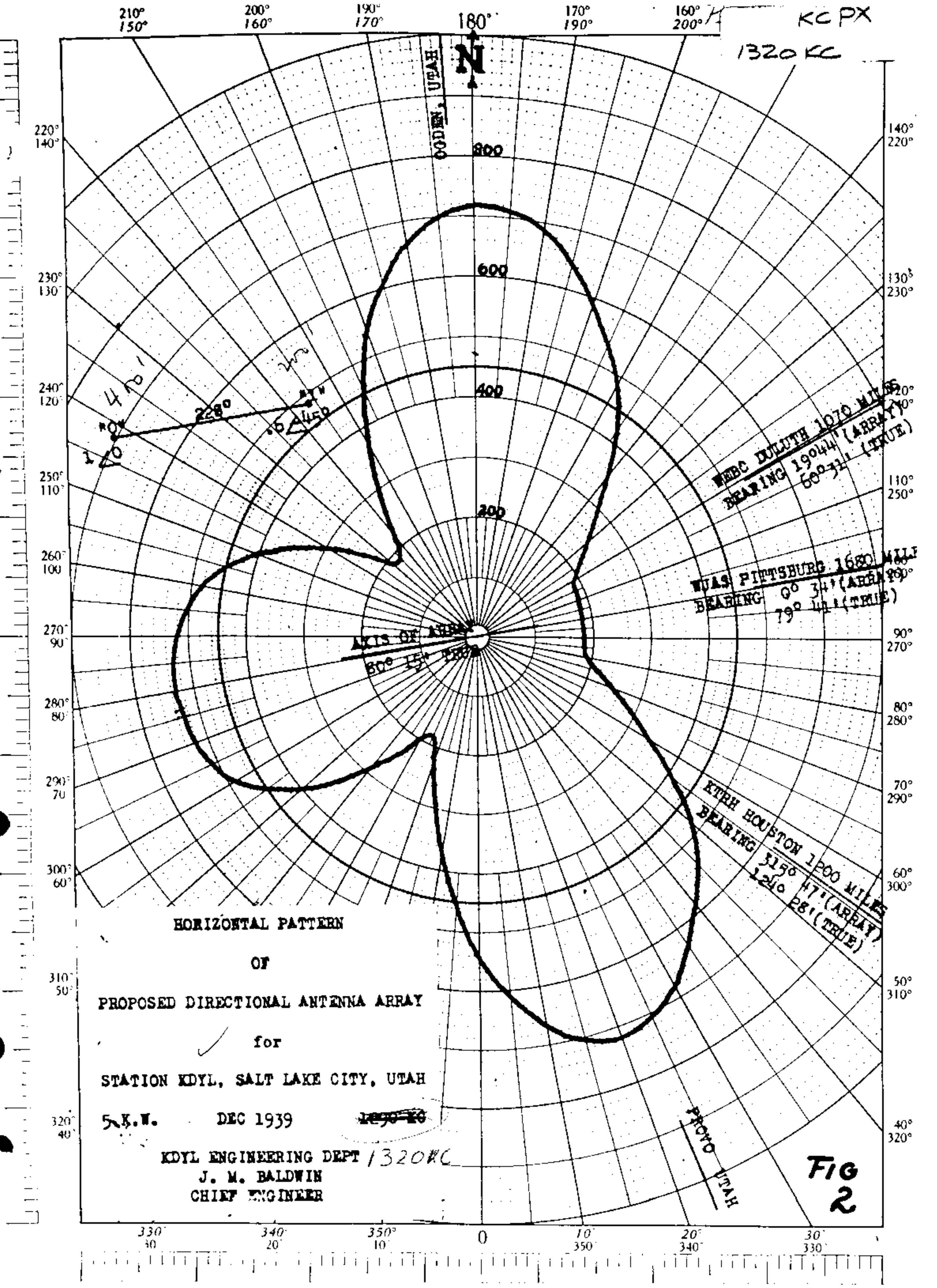
APPLICANT:	KXLW
LOCATION:	Clayton, Missouri
FREQUENCY:	1320 KC/S
POWER:	5 KW DA-D
LATITUDE:	38 DEG. 36 MIN. 41 SEC.
LONGITUDE:	90 DEG. 20 MIN. 43 SEC.
WHEN USED:	Daytime
R.M.S. FIELD:	400 mv/m
DATE:	6-02-66

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

FCC File No.BP-17401
Accepted 1-16-67 Amended

Station KXLW
Clayton, Missouri

1320 kc



HORIZONTAL PATTERN

OF

PROPOSED DIRECTIONAL ANTENNA ARRAY

for

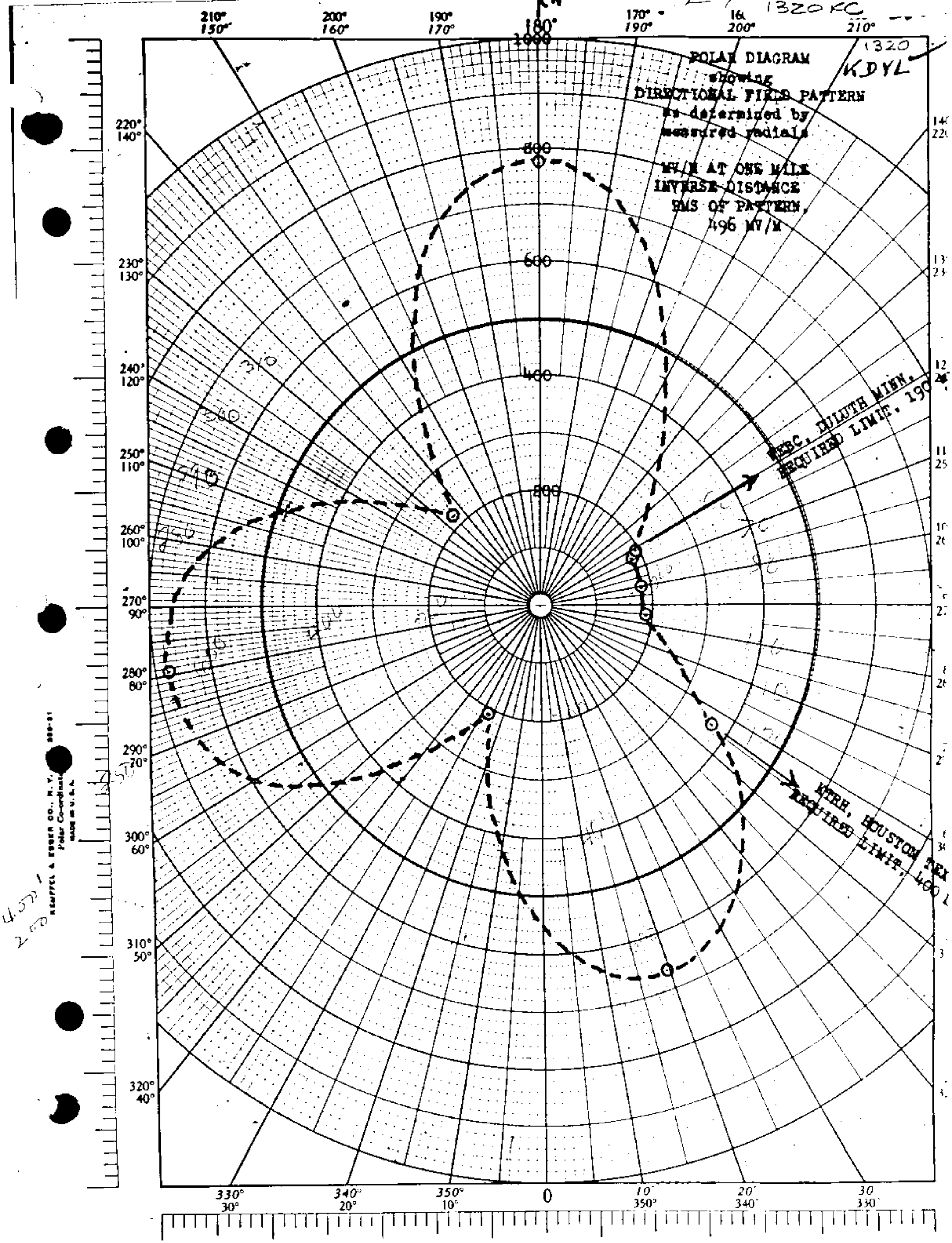
STATION KDYL, SALT LAKE CITY, UTAH

5 K.W. DEC 1939 ~~1290 KC~~

KDYL ENGINEERING DEPT 1320 KC
J. M. BALDWIN
CHIEF ENGINEER

KCPK

1320 KC



POLAR DIAGRAM
showing
DIRECTIONAL FIELD PATTERN
as determined by
measured radials
MV/M AT ONE MILE
INVERSE DISTANCE
RMS OF PATTERN,
496 MV/M
1320
KDYL
WEBC, DULUTH MINN.
REQUIRED LIMIT, 190
KTRH, HOUSTON TEX
REQUIRED LIMIT, 400
N
180°
1000
800
600
400
200
KEUFFEL & ESSER CO., N.Y.
Polar Co-ordinate
MADE IN U.S.A.

KCRA

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KCRA

Main Studio: Sacramento, California

Frequency: 1320 KHz

Power: 5 Kw Night 5 Kw Day

Notification: 1778

Date: August 30, 1978 Class: III

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

Nighttime:	North Latitude:	38°	42'	48"
	West Longitude:	121°	19'	48"
Daytime:	North Latitude:	38°	38'	09"
	West Longitude:	121°	33'	11"

ANTENNA CHARACTERISTICS

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

TOWER :	SW (#1)	SC (#2)	NC (#3)	NE (#4)		
HEIGHT ABOVE INSULATORS :	248.38'	248.38'	248.38'	248.38'	(120°)	
NIGHT PHASING :	0°	+95.29°	-66.75°	+29.5°		
NIGHT FIELD RATIO:	1.0	1.0	1.0	0.8		

SPACING AND ORIENTATION : Towers in a row are spaced 238.03' (115°) except the SC (#2) and NC (#3) towers are spaced 455.36' (220') between them. All towers are on a line bearing 30.5° true.

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	:	NE (#2)	SW (#1)	C (#3)			
HEIGHT ABOVE INSULATORS	:	407'	407'	196°)	188'	(91°)	
DAY PHASING	:	+14	0°	-32°			
DAY FIELD RATIO	:	0.33	1.0	0.5			

SPACING AND ORIENTATION : With the SW (#1) tower as reference the NE (#2) tower is spaced 444' (214°) on a line bearing 27.5° true, and the C (#3) tower is spaced 344' (166°) on a line bearing 57.97° true.

GROUND SYSTEM : 120 - 186' to 400' equally spaced copper radials a 75' square ground screen about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

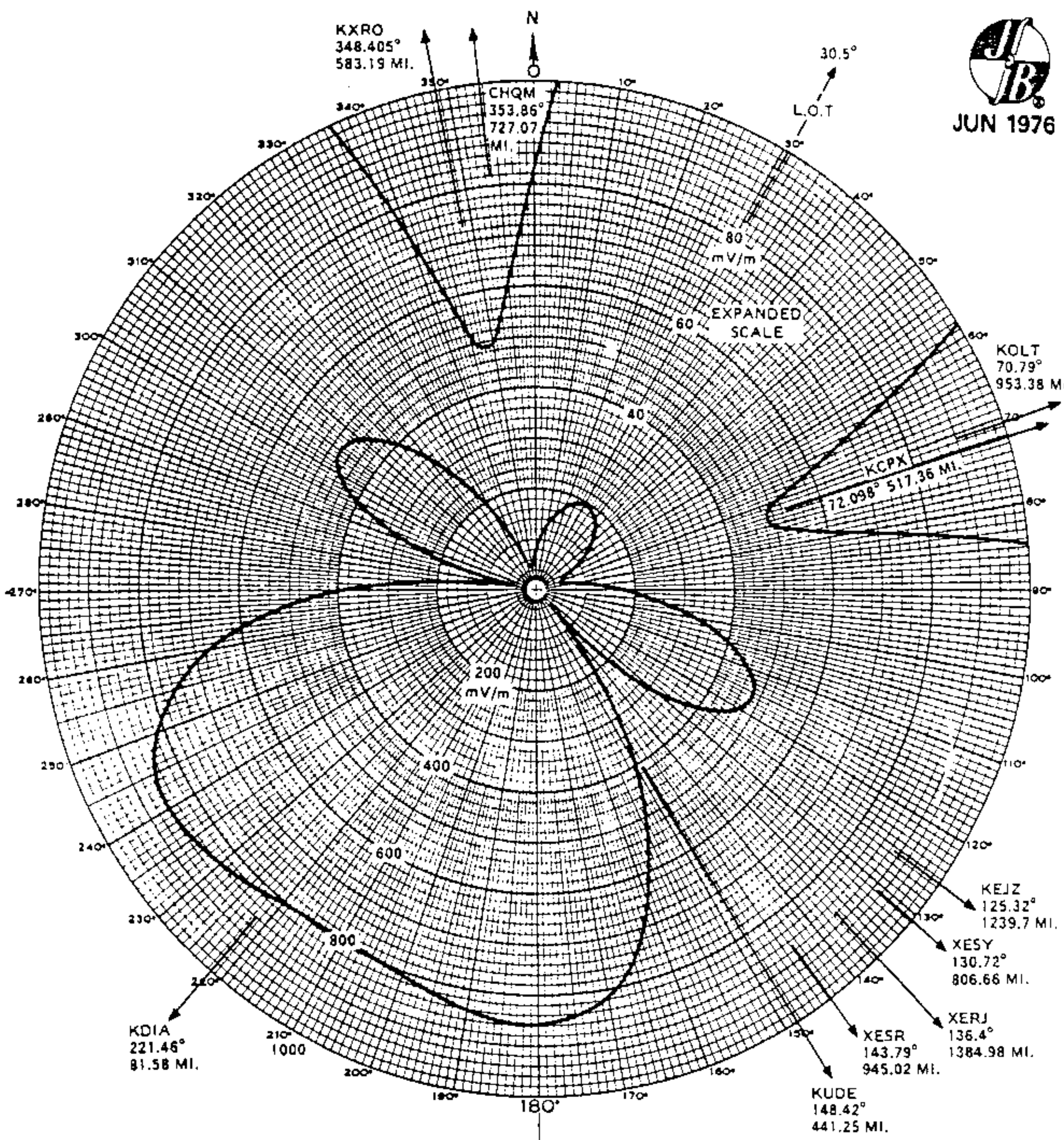
GROUND SYSTEM: 120 - 186.28' to __________' equally spaced copper radials plus a 24' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of system are bonded together.

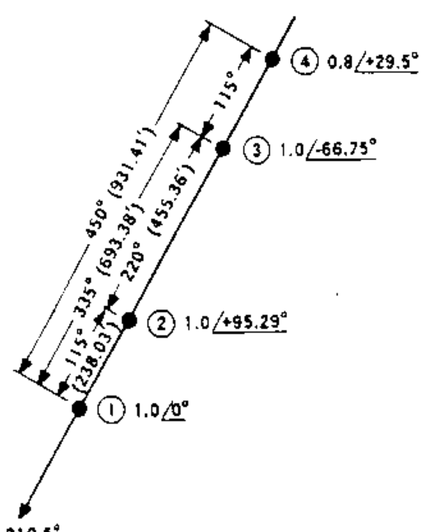
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	548 mv/m		
Night	469.68 mv/m	410.49 mv/m	493.19 mv/m

Note: Please retain the Daytime directional antenna radiation pattern notified for Station KCRA in United States Change List Number 740 dated January 15, 1958 and attach to this Revised Description Sheet and Nighttime pattern. This notification concerns only a change in the Nighttime operation of the station with Daytime operation continued as previously notified.

KCRA





E. RMS (Standard) = 493.19 mV/m
E. RMS (Theoretical) = 469.68 mV/m
E. RSS (Theoretical) = 410.49 mV/m
ALL G's = 120° = 248.38'

N. LAT: 38° 42' 46"
W. LONG: 121° 19' 47"
(C.O.A., Night)

PAT: 760528

FIG. 5A
PROPOSED NIGHTTIME STANDARD PATTERN IN THE HORIZONTAL PLANE

KCRA 5-N/5-D DA-2 1320 kHz

KELLY BROADCASTING COMPANY
SACRAMENTO, CALIFORNIA

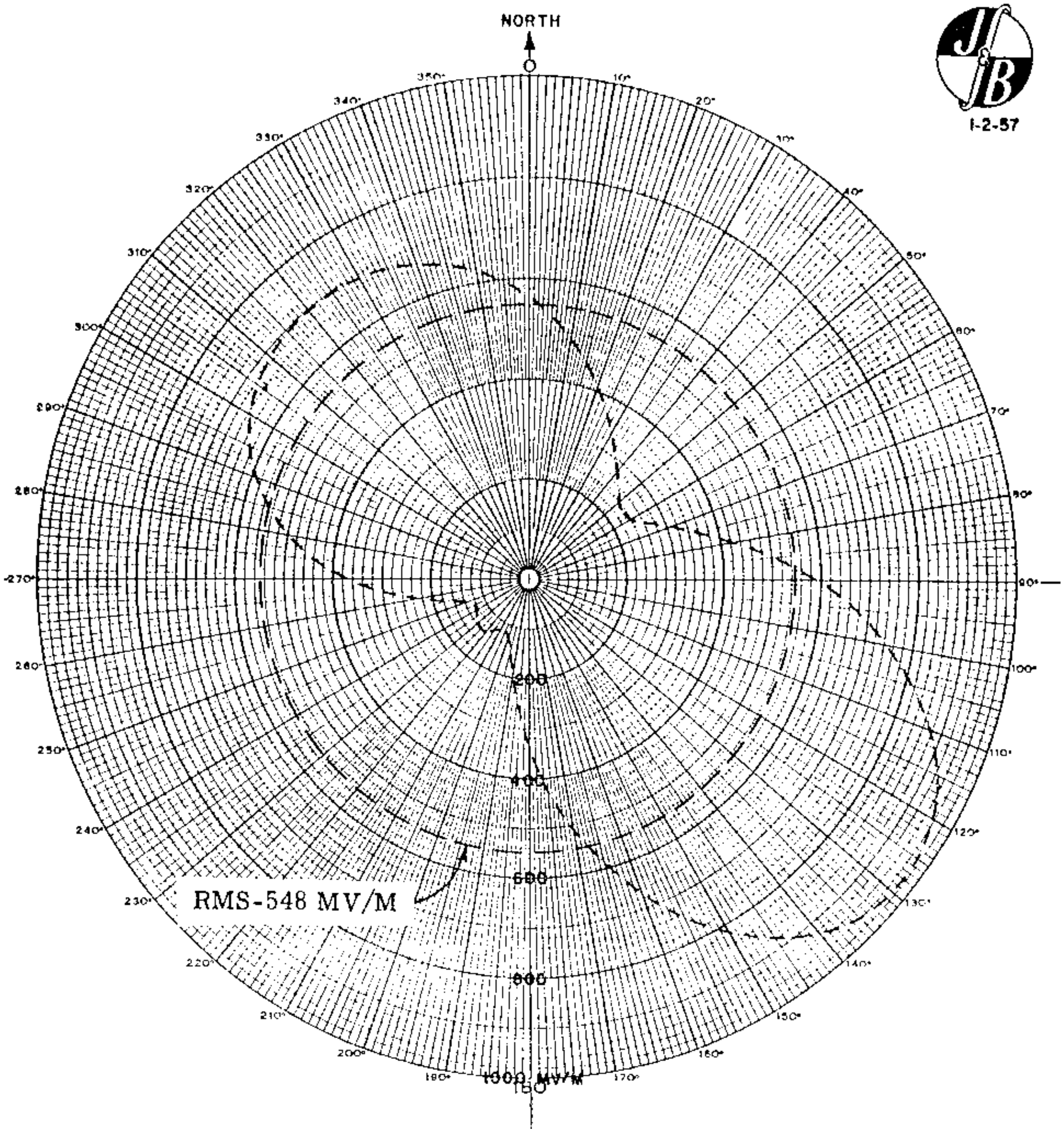
KCRA

PROPOSED DAY
(3/4/57g)

Station KCRA
Sacramento, California

1kw,5KW-LS,DA-2,U
1320 KC

1-2-57



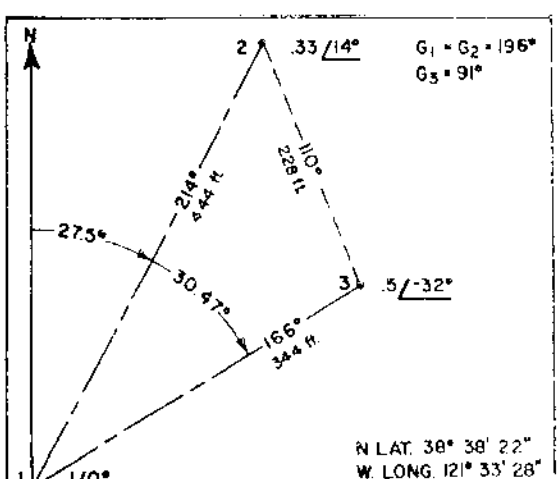


FIG. I
PROPOSED DAYTIME HORIZONTAL
RADIATION PATTERN

KCRA 1320 KC 5 KW-D 1 KW-N DA-2
SACRAMENTO, CALIFORNIA

FCC File No. BP-11,069
Accepted 2/19/57

KCRA
Sacramento, California

1320 KC

KCRA

PROPOSED DAY NULLS (3/4/57g) | Station KCRA Sacramento, California | 1KW,5KW-LS,DA-2,U 1320 KC

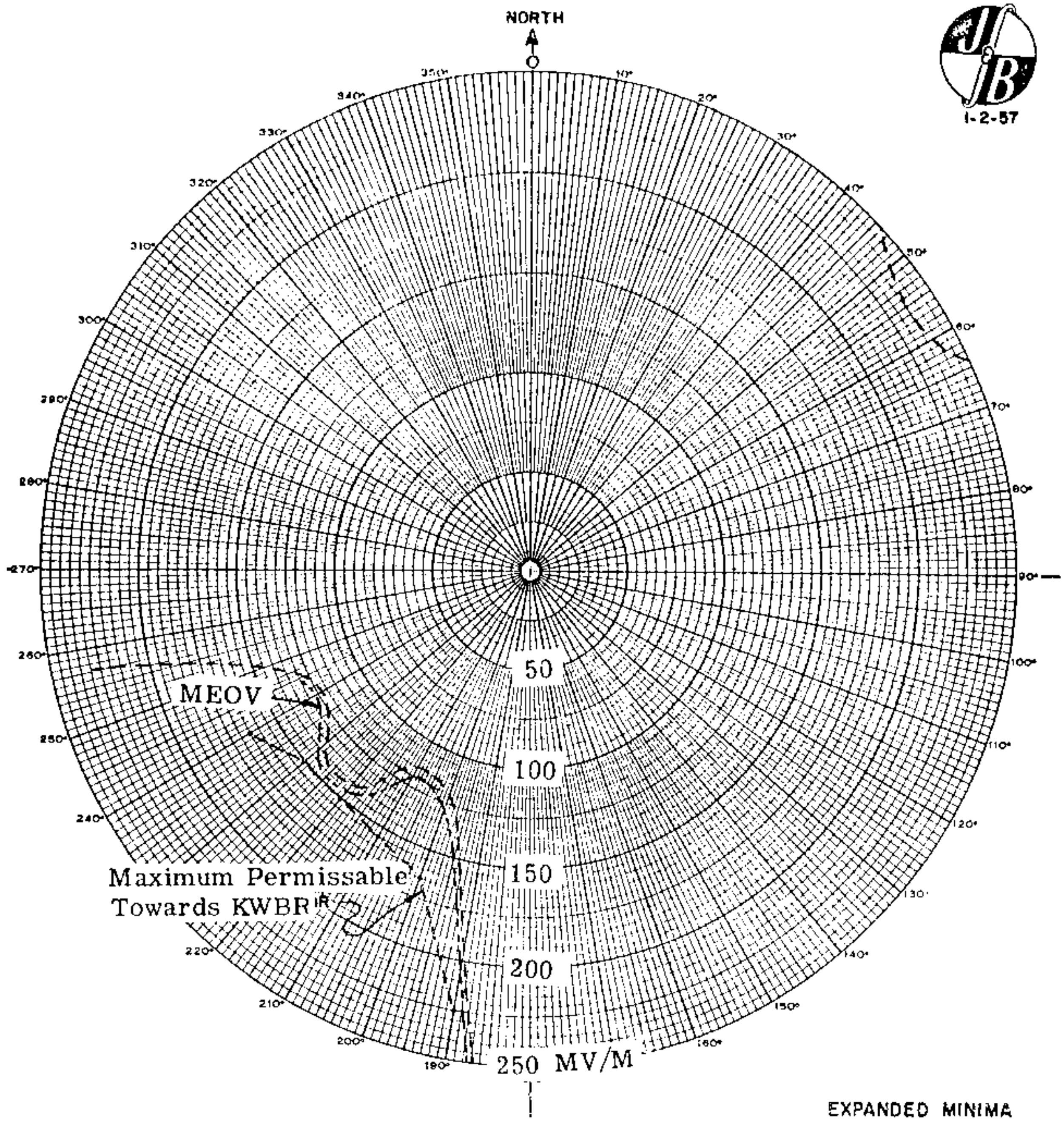


FIG. 2
PROPOSED DAYTIME HORIZONTAL RADIATION PATTERN
KCRA 1320 KC 5 KW-D 1 KW-N DA-2
SACRAMENTO, CALIFORNIA

FCC File No. BP - 11,069
Accepted 2/19/57

KCRA
Sacramento, California

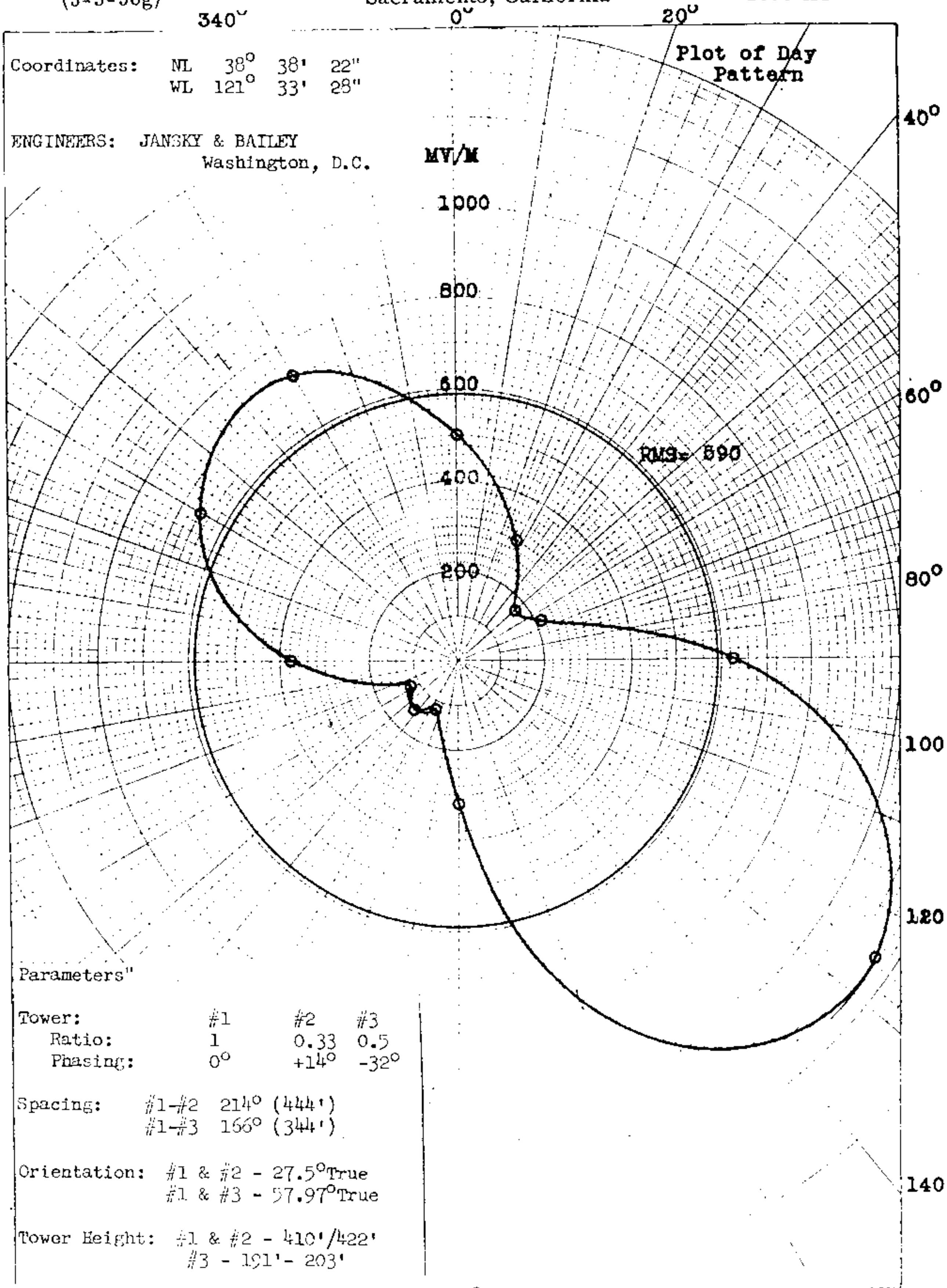
1320 KC

KCRA

MEASURED DAY
(3-3-58g)

Station KCRA   1kw,5kw-LS, DA-2,U
Sacramento, California   1320 KC

asked 8/27/58 [illegible] to make [illegible] in DA [illegible]



Coordinates: NL 38° 38' 22"
WL 121° 33' 28"

ENGINEERS: JANSKY & BAILEY
Washington, D.C.

Parameters"

Tower:	#1	#2	#3
Ratio:	1	0.33	0.5
Phasing:	0°	+14°	-32°

Spacing: #1-#2 214° (444')
#1-#3 166° (344')

Orientation: #1 & #2 - 27.5° True
#1 & #3 - 57.97° True

Tower Height: #1 & #2 - 410'/422'
#3 - 191'- 203'

FCC File No. BL - 7000   KCRA
Accepted 2-17-57   Sacramento, California   1320 KC

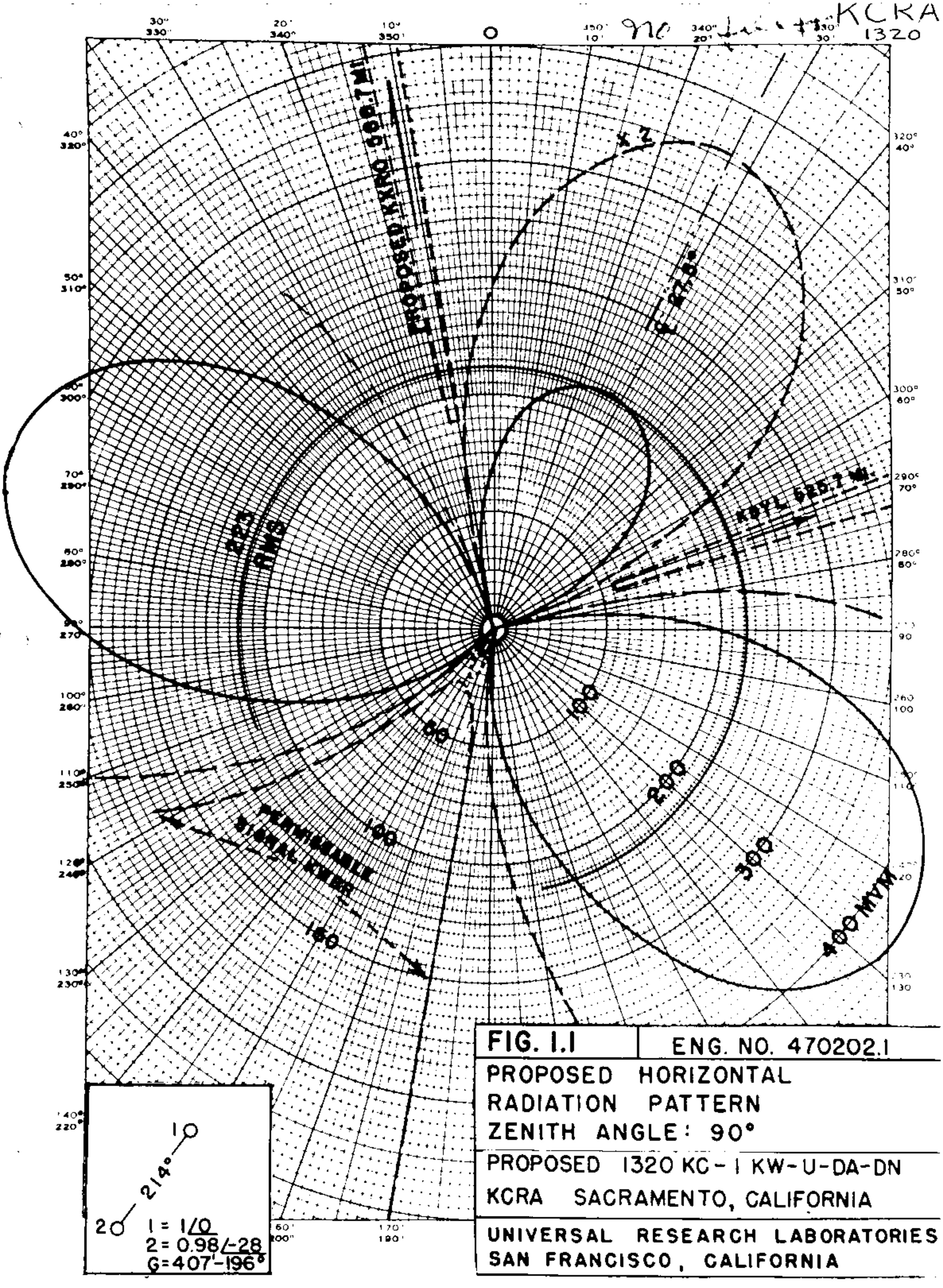


FIG. 1.1 | ENG. NO. 470202.1

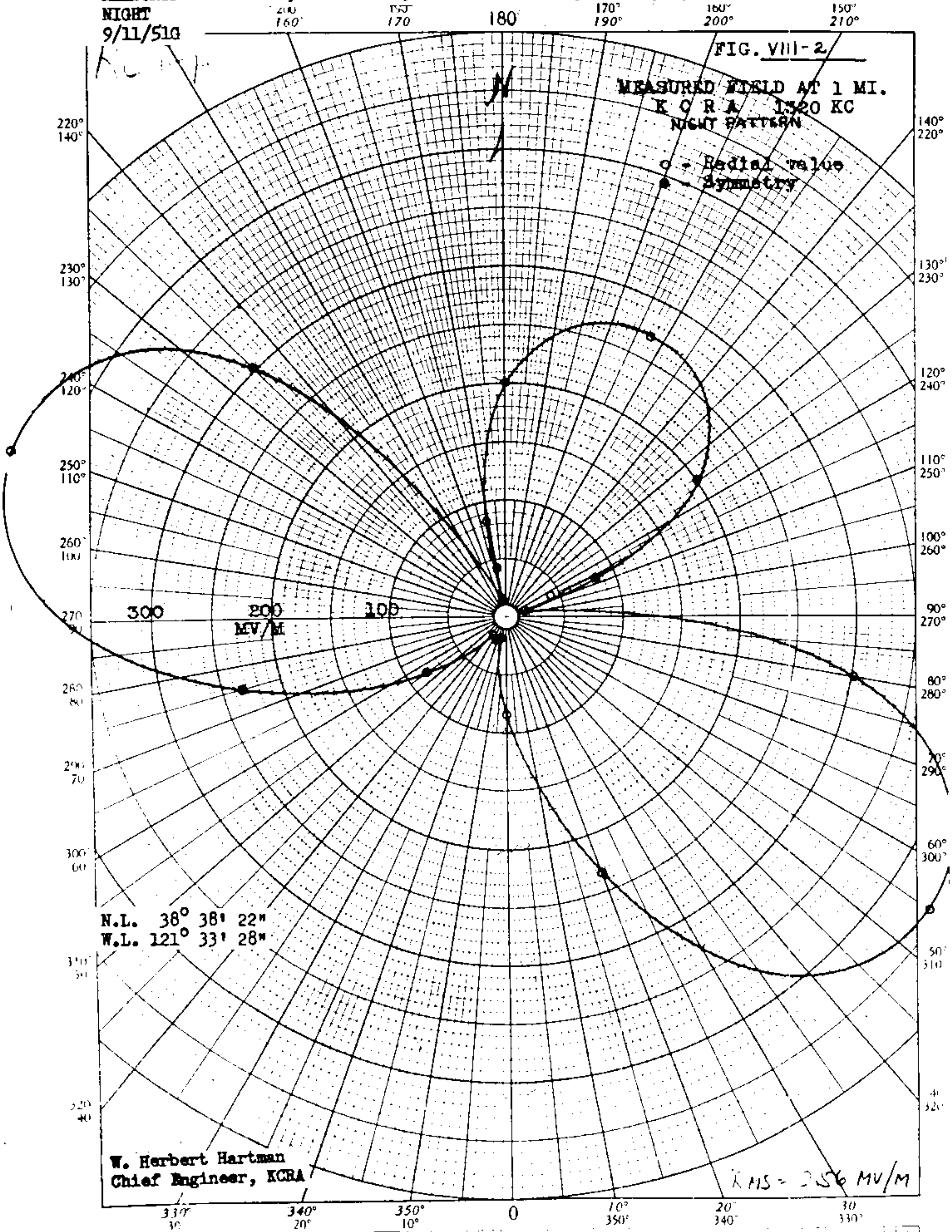
PROPOSED HORIZONTAL RADIATION PATTERN
ZENITH ANGLE: 90°

PROPOSED 1320 KC - 1 KW-U-DA-DN
KCRA SACRAMENTO, CALIFORNIA

UNIVERSAL RESEARCH LABORATORIES
SAN FRANCISCO, CALIFORNIA

KCRA

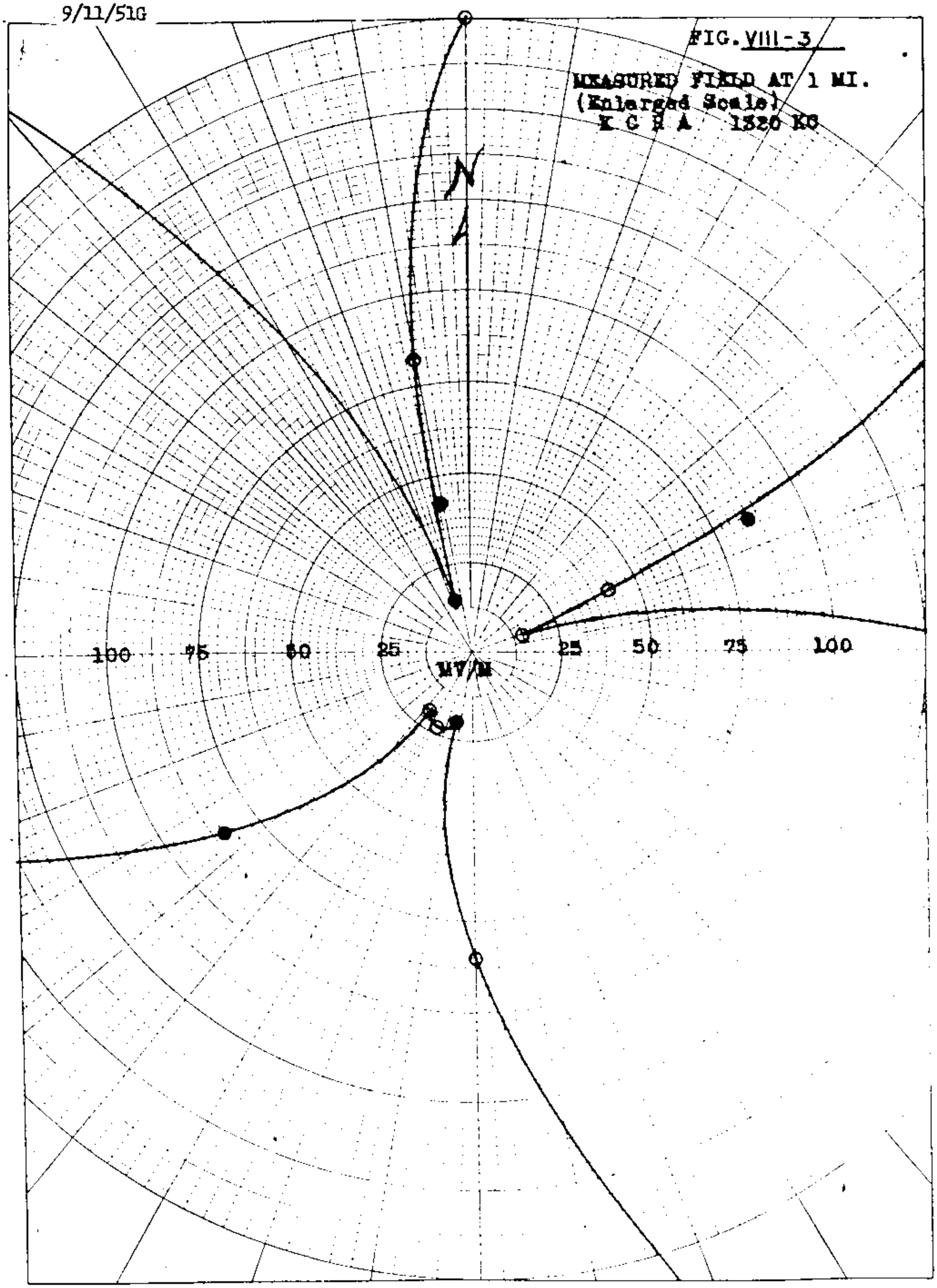
MEASURED NIGHT 9/11/51G — KCRA, SACRAMENTO, CALIF. — 1 kw, 5kw-LS, U, DA-2 — 1320 KC



APPL RECD 8/1/51 BL-4515 KCRA, SACRAMENTO, CALIF. 1320 KC

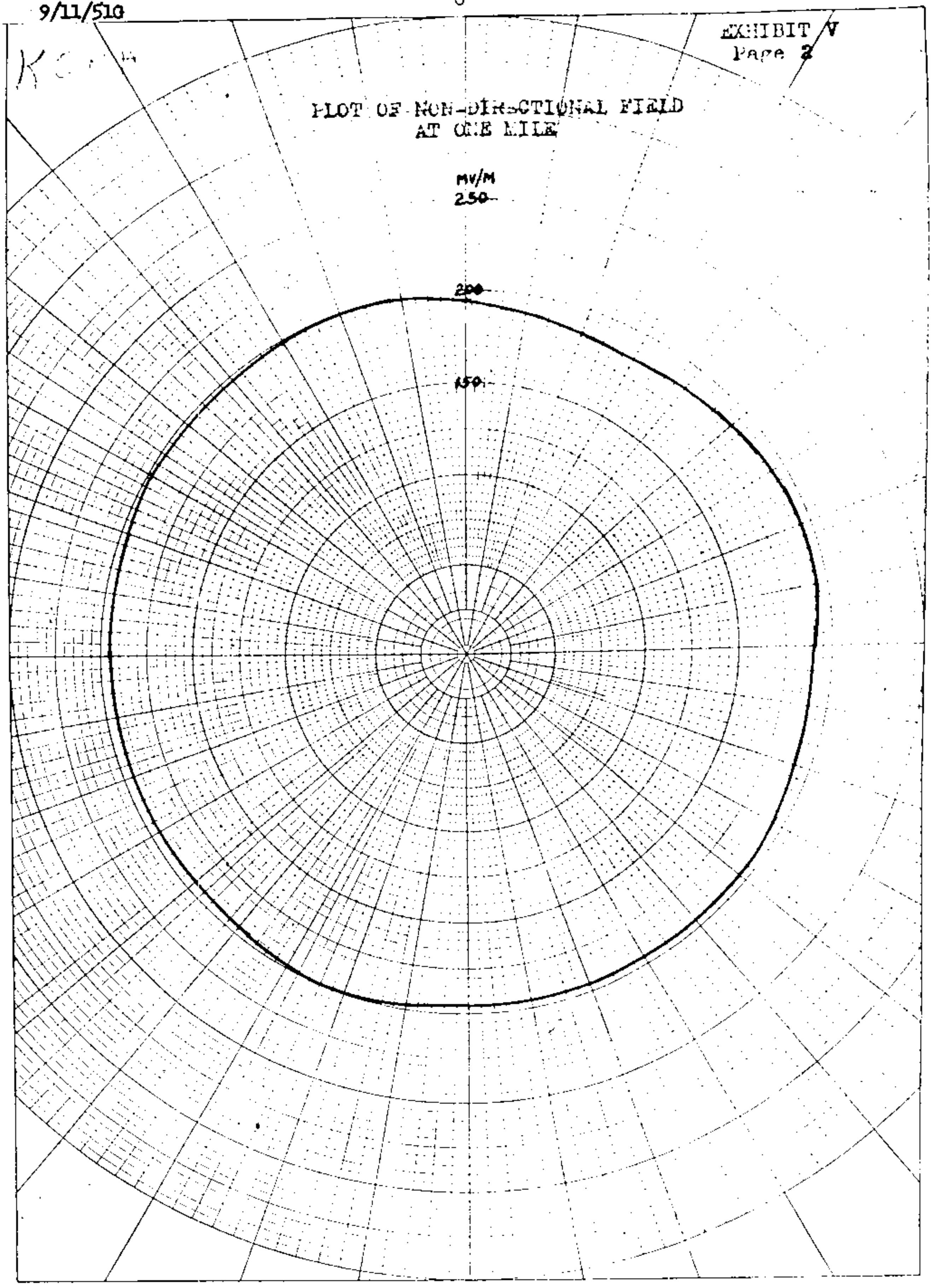
MEASURED NIGHT NULLS 9/11/51G KCRA, SACRAMENTO, CALIF. 1 KW, 5kw-LS, U, DA-2 1320 kc

FIG. VIII-3



KEUFFEL & ESSER CO. N.Y.
POLAR COORDINATES
MADE IN U.S.A.

MEASURED KCRA, SACRAMENTO, CALIF. 1 kw, 5kw-LS, U, DA-2 1320 kc
NON-DA
9/11/510



KELO

APR 21 1948 G

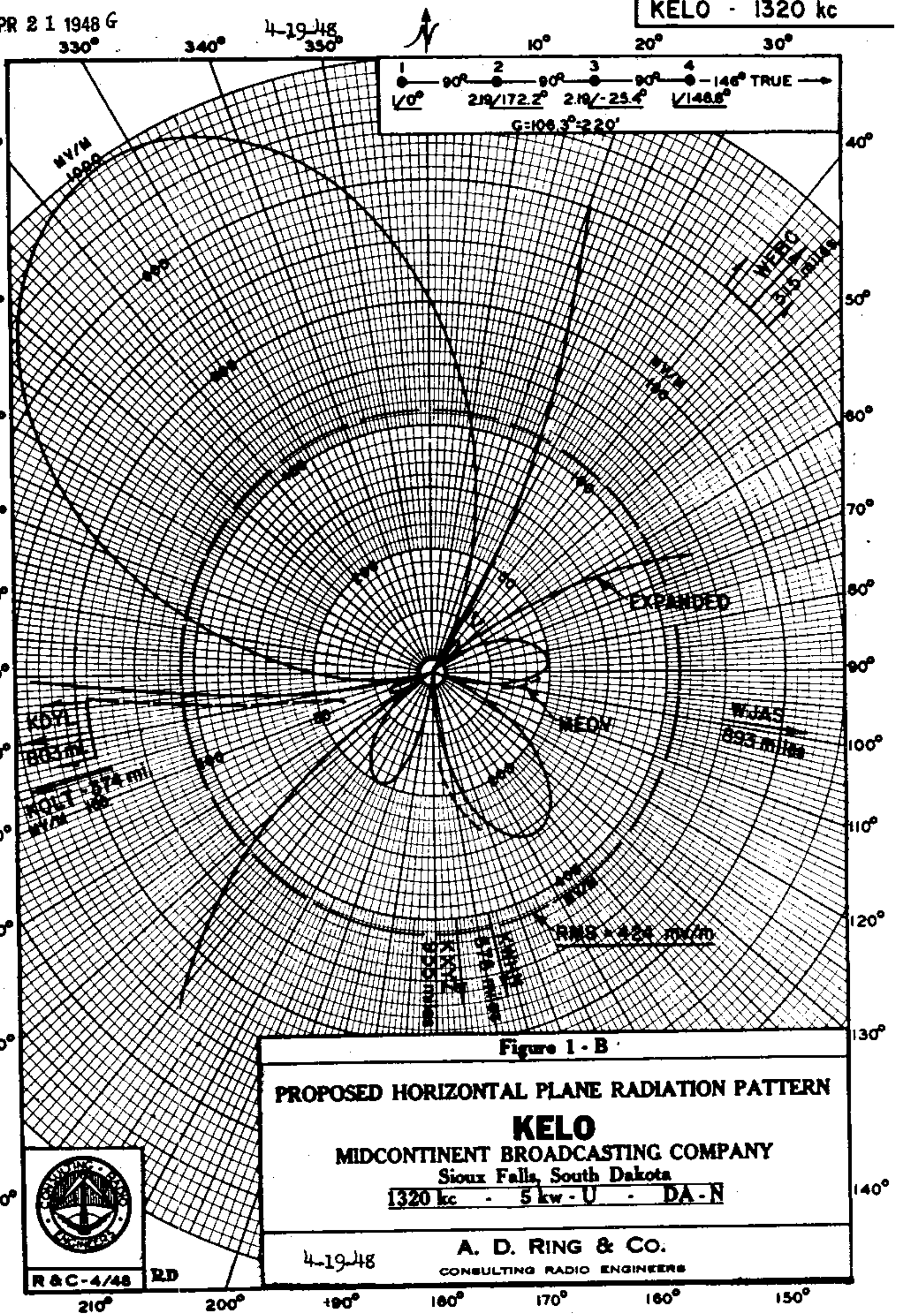


Figure 1 - B

PROPOSED HORIZONTAL PLANE RADIATION PATTERN

KELO

MIDCONTINENT BROADCASTING COMPANY

Sioux Falls, South Dakota

1320 kc - 5 kw - U - DA - N

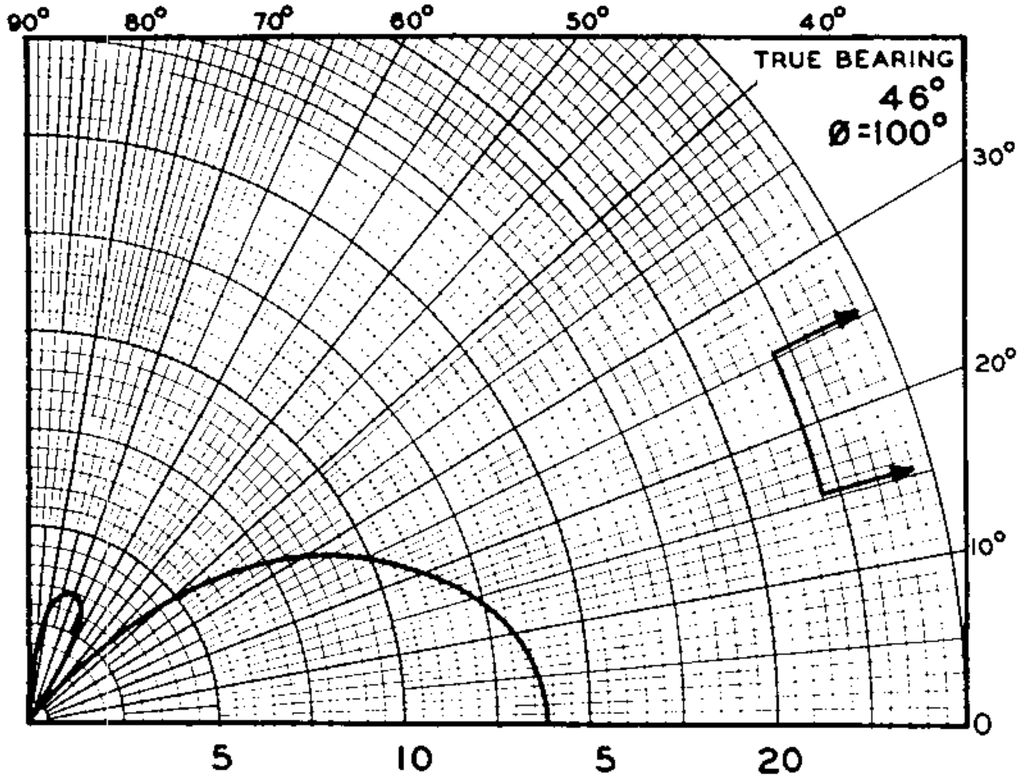
4-19-48

A. D. RING & CO.

CONSULTING RADIO ENGINEERS

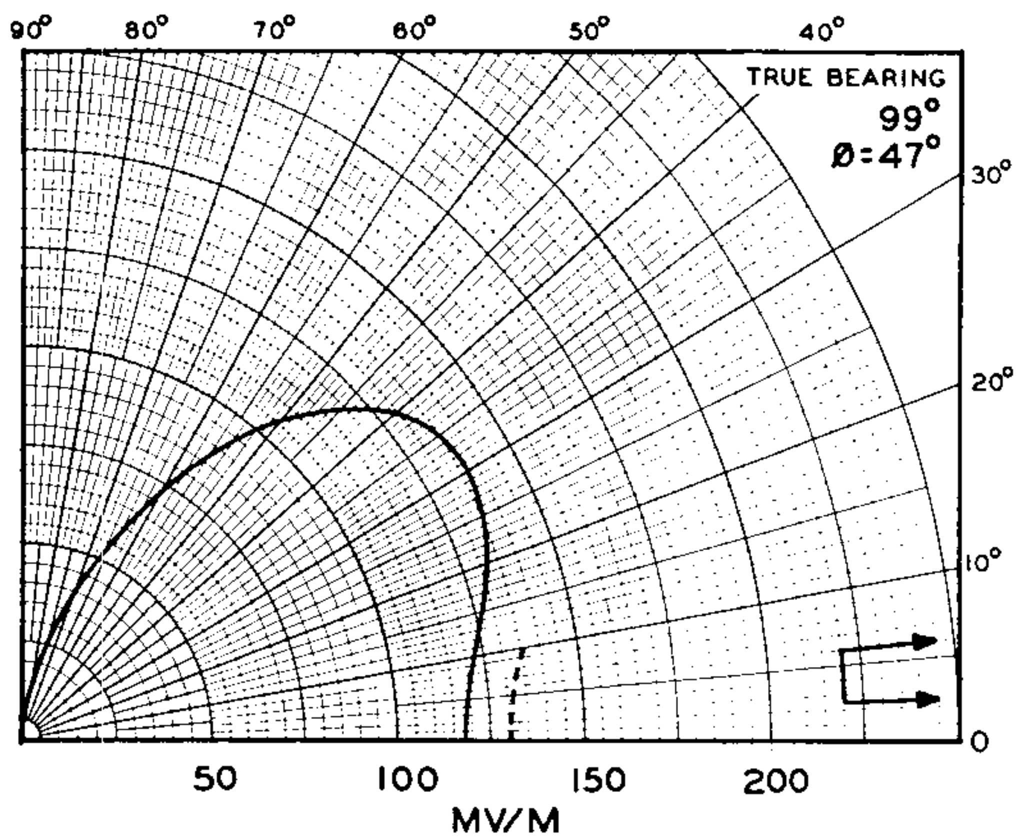
KELO

PROPOSED VERTICAL PLANE PATTERNS



S.E. TANGENT
WEBC SERVICE AREA

FIG. 2C-A



WJAS

FIG. 2D-A

KELO

MAY 17 1948 G

KELO - 1320 kc

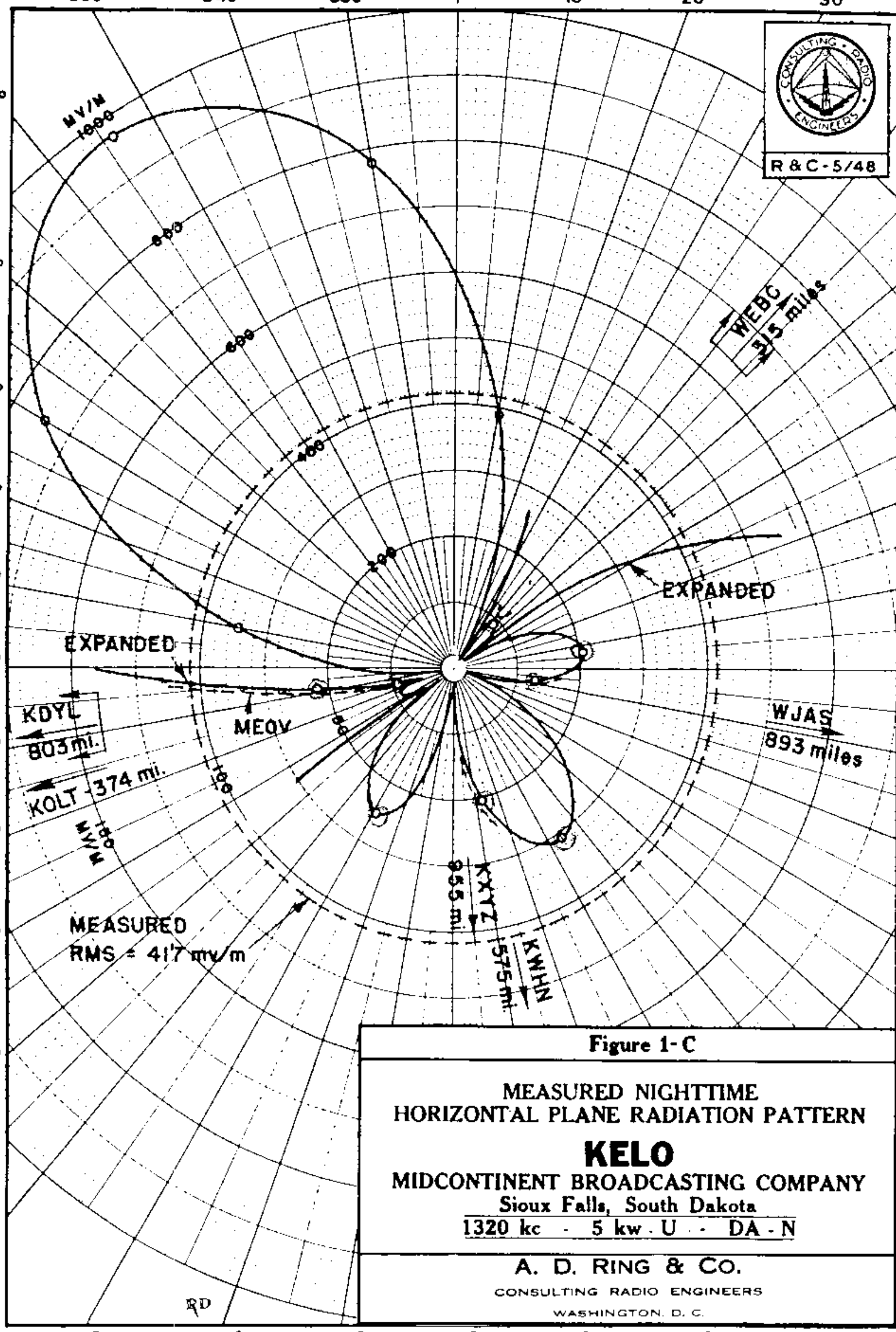


Figure 1- C

MEASURED NIGHTTIME
HORIZONTAL PLANE RADIATION PATTERN

KELO

MIDCONTINENT BROADCASTING COMPANY
Sioux Falls, South Dakota
1320 kc - 5 kw U - DA - N

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

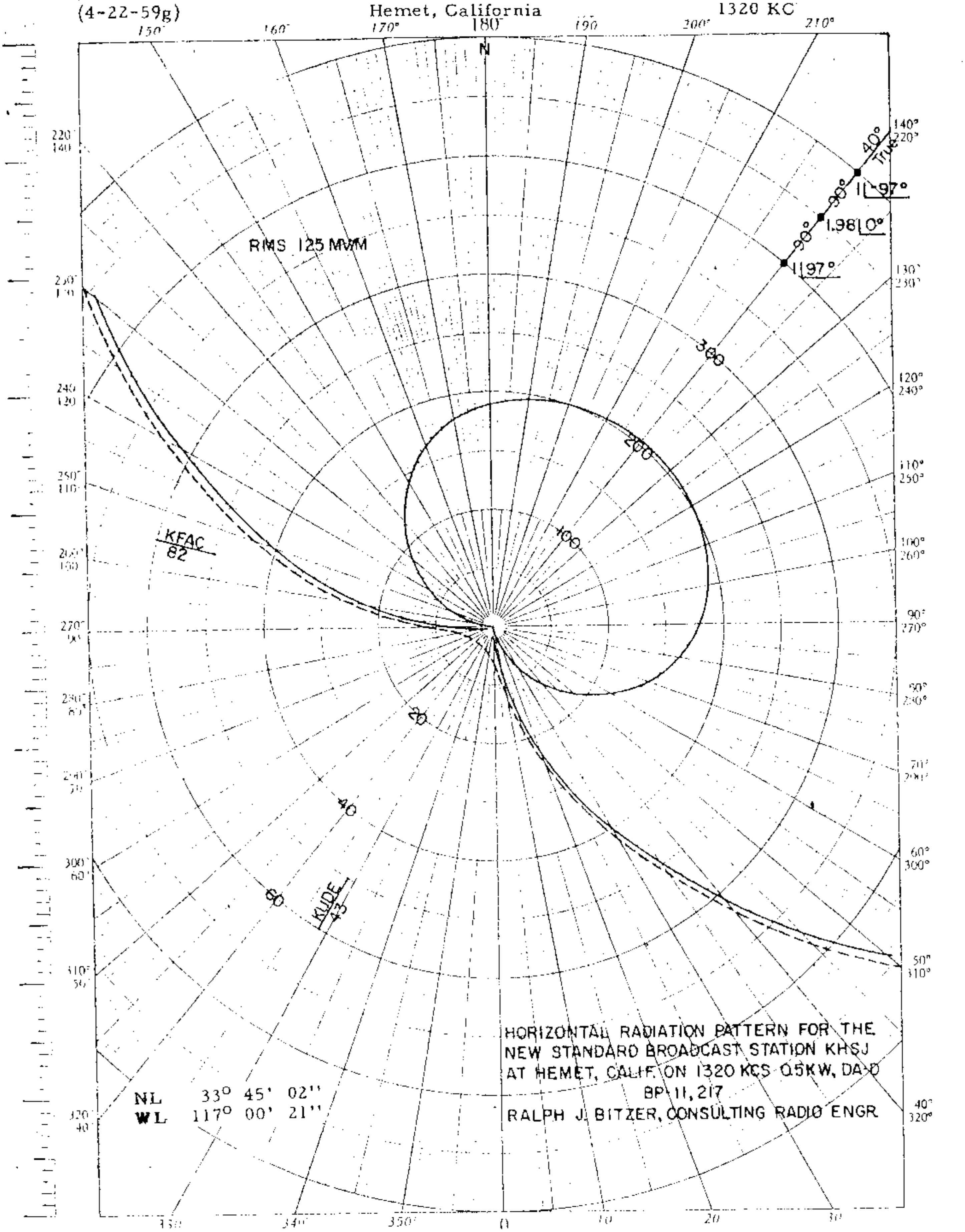
BMP-3829 KELO Rec'd. 5-13-48

KHSJ

PROPOSED DAY
(4-22-59g)

Station KHSJ
Hemet, California

500w, DA-D,D
1320 KC



FCC File No. BMP-8456
Accepted 4-3-59

Station KHSJ
Hemet, California

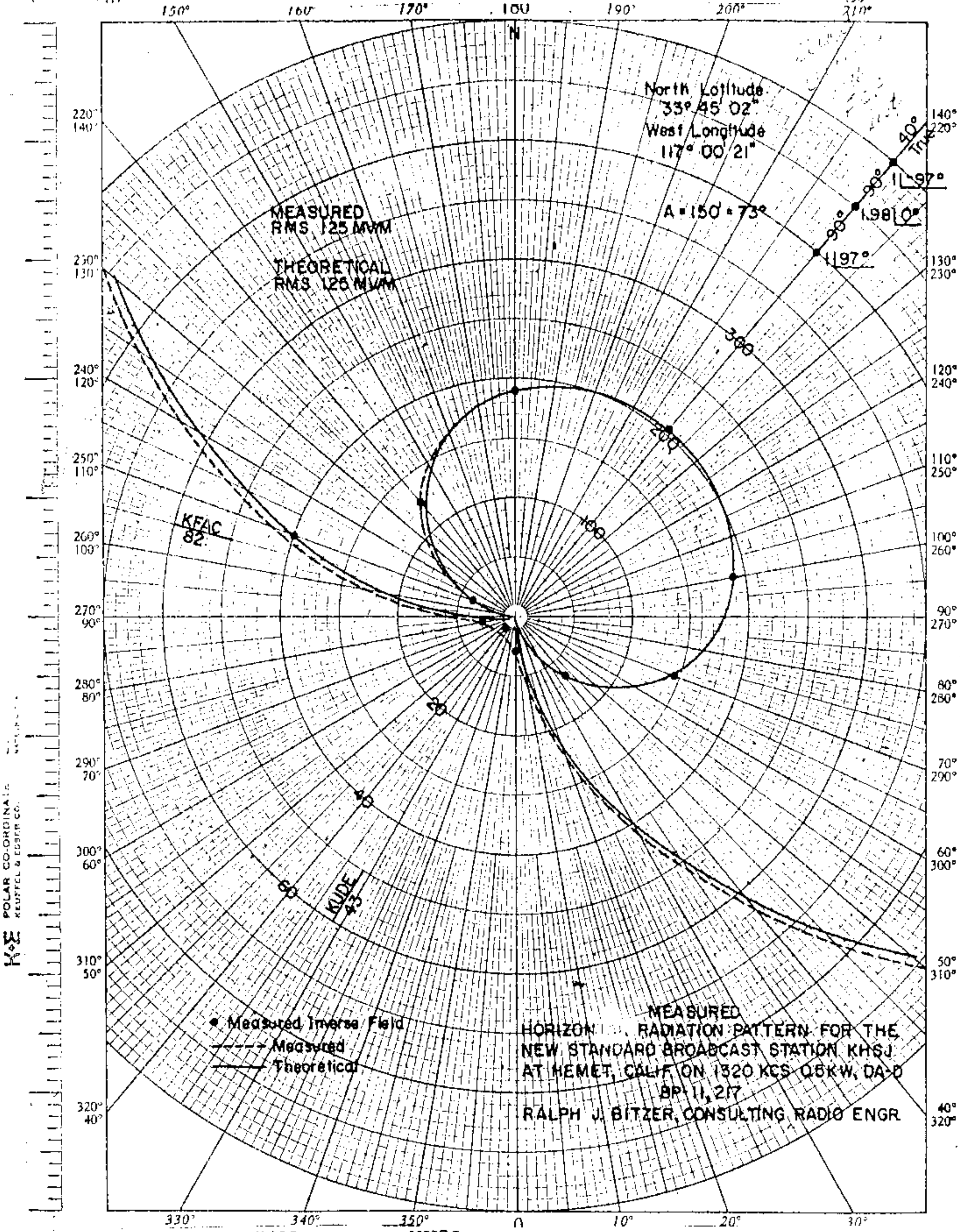
1320 KC

MEASURED DAY
(7-8-59)

Station KHSJ
Hemet, California

500w, DA-D, D
1320 KC

granted license - 7-15-59



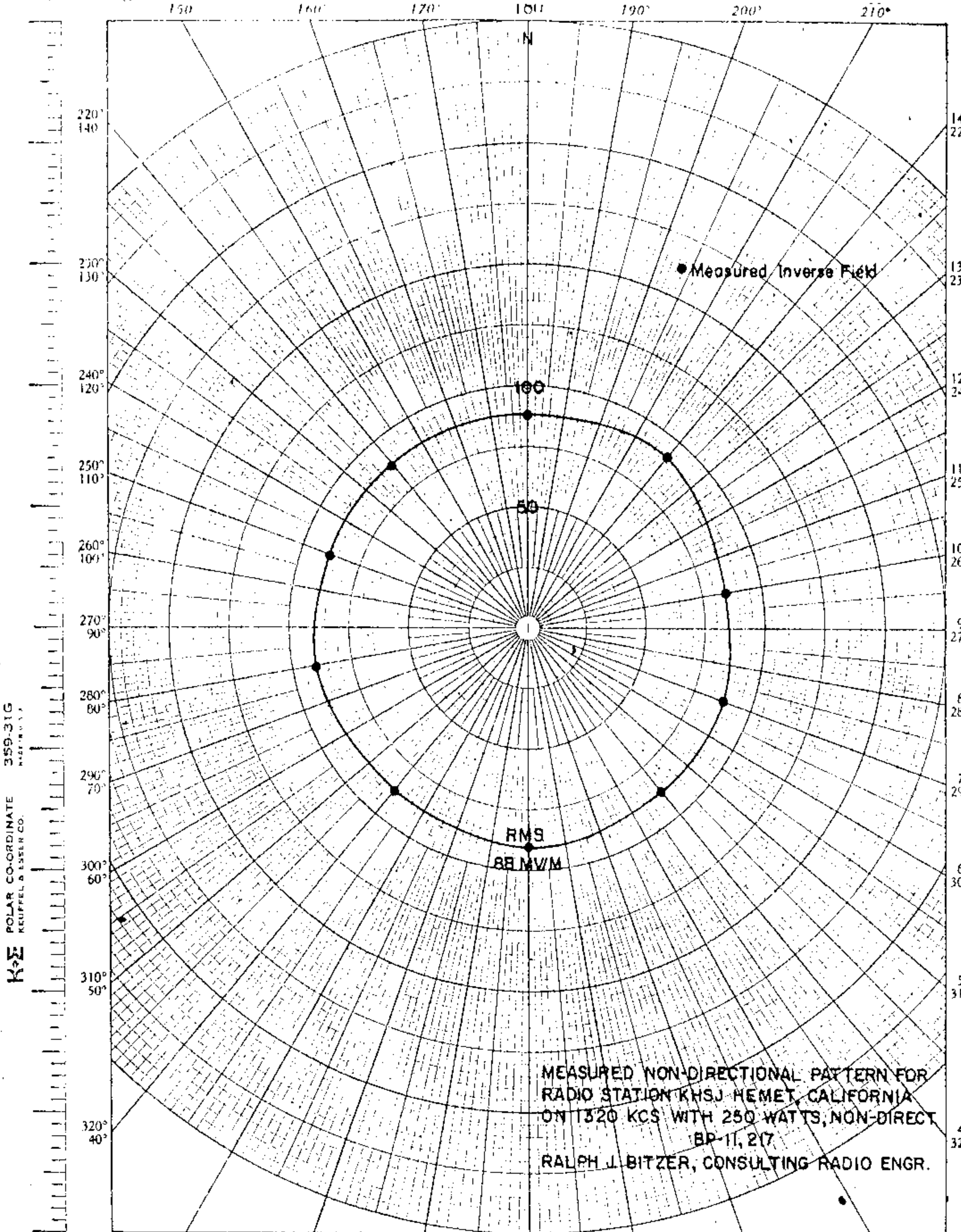
FCC File No. BL-7488
Accepted 6-16-59

KHSJ
Hemet, California

1320 KC

KHSJ

MEASURED NON-DA (7-8-59g) | Station KHSJ Hemet, California | 500w, DA-D, D 1320 KC



FCC File No. BL-7488
Accepted 6-16-59

KHSJ
Hemet, California

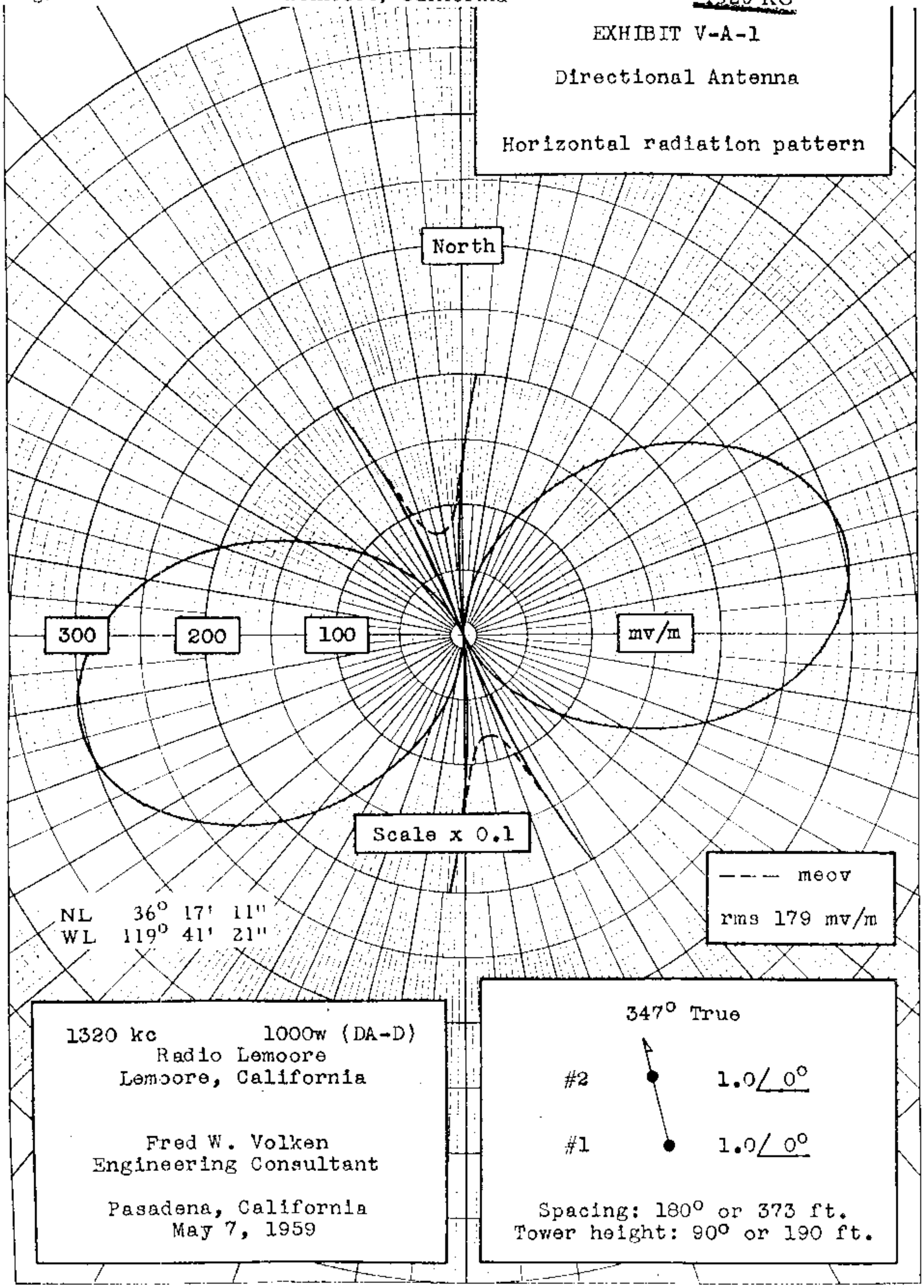
1320 KC

Lemoore, Cal KLAN

PROPOSED DAY
(6-16-59g)

New; Radio Lemoore
Lemoore, California

1kw, DA-D, D
1320 KC



FCC File No. BP-12267
Accepted 5-18-59 (Amended)

Radio Lemoore
Lemoore, California

1320 KC

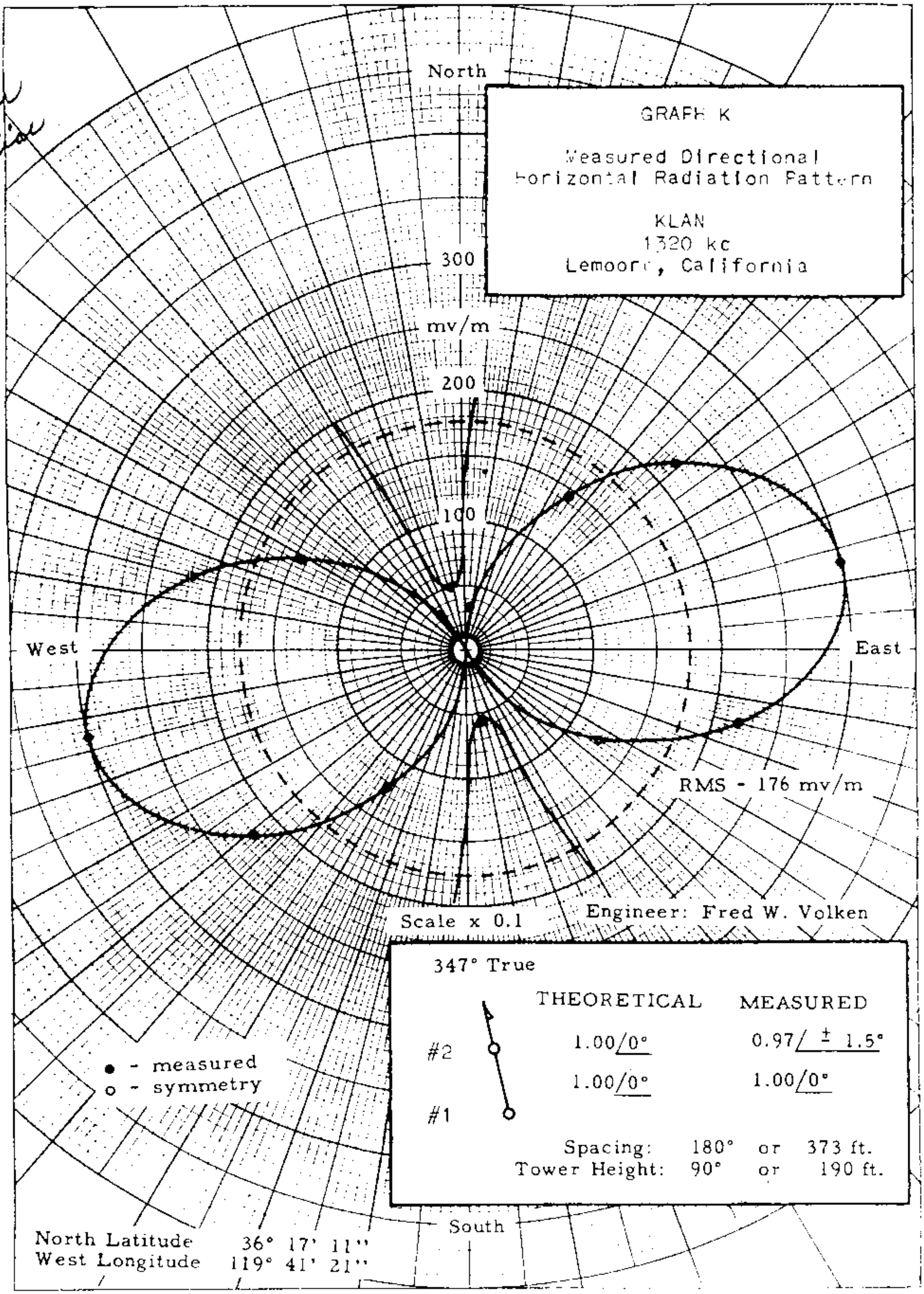
KLAN

MEASURED DAY
(9-13-60g)

Station KLAN
Lemoore, California

1kw, DA-D,D
1320 KC

11-4-60
painted & for
new license



FCC File No. BL-8067
Accepted 8-31-60

KLAN
Lemoore, California

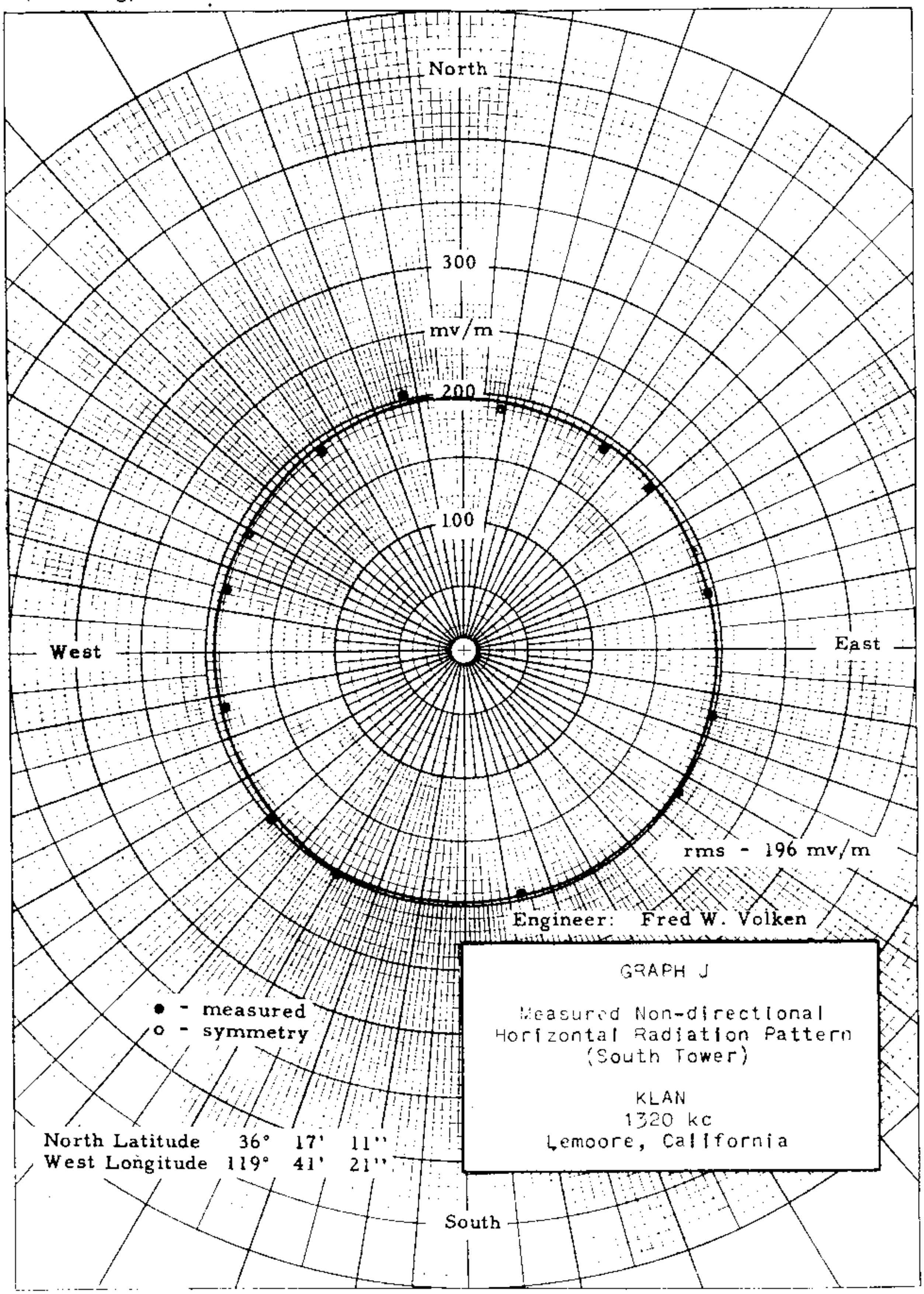
1320 KC

KLAN

MEASURED NON-DA
(9-13-60g)

Station KLAN
Lemoore, California

1kw, DA-D,D
1320 KC



GRAPH J

Measured Non-directional
Horizontal Radiation Pattern
(South Tower)

KLAN
1320 kc
Lemoore, California

FCC File No. BL-8067
Accepted 8-31-60

KLAN
Lemoore, California

1320 KC

KNIA

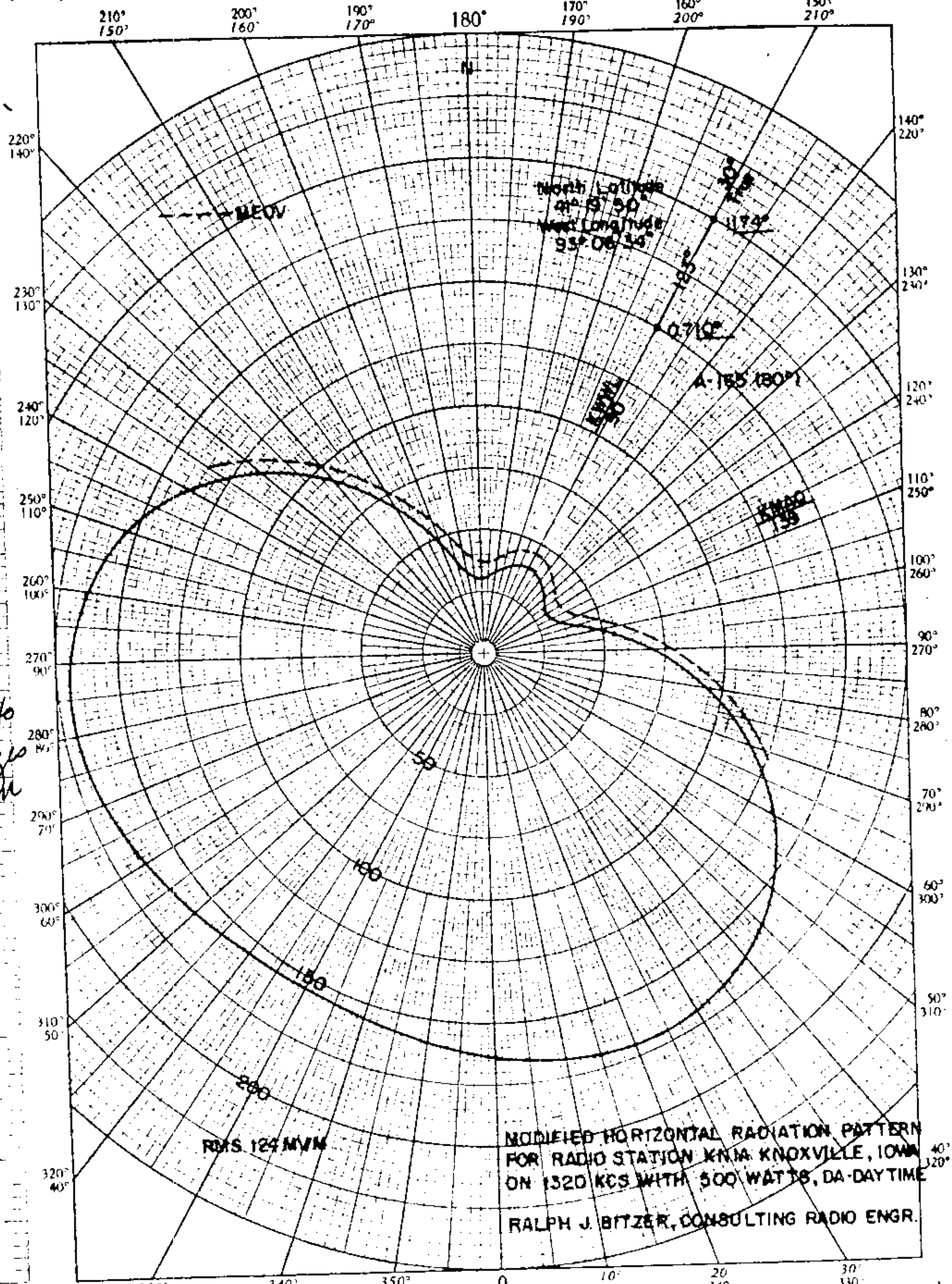
Proposed Day
(2-28-62ct)

Station KNIA
Knoxville, Iowa

500w,DA-D,D
1320 kc

Broadcast actions #4127 (March 21, 1962) Granted CP to make changes in DA pattern.

3-20-62 Granted CP to make changes in DA pattern



FCC File No.BP-15331
Accepted 2-21-62

Station KNIA
Knoxville, Iowa

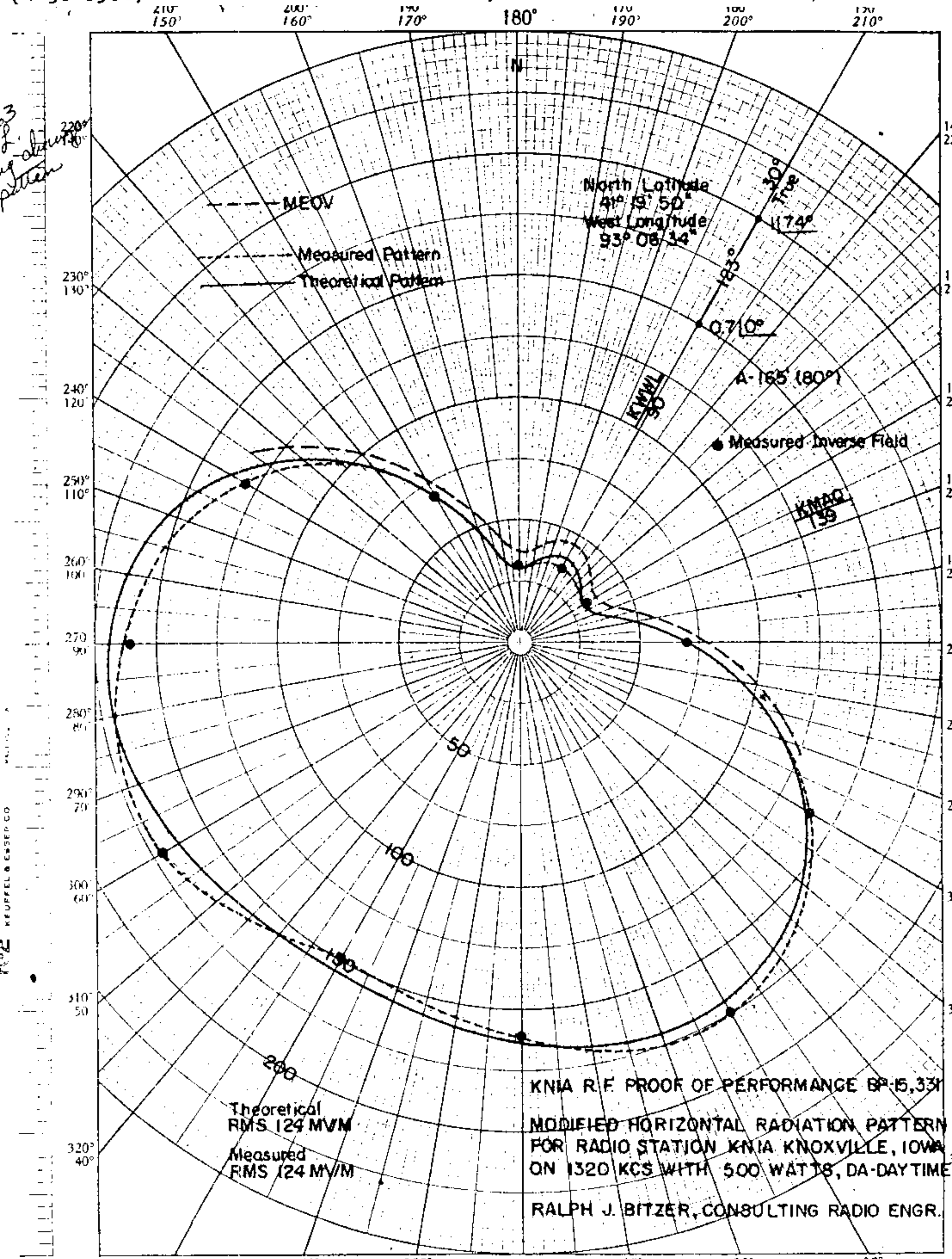
1320 kc

KNIA

Measured Day
(4-30-63ct)

Station KNIA
Knoxville, Iowa

500w,DA-D,D
1320 kc



4-29-63 ... covering ... DA pattern

FCC File No.BL-9888
Accepted 4-10-63

Station KNIA
Knoxville, Iowa

1320 kc

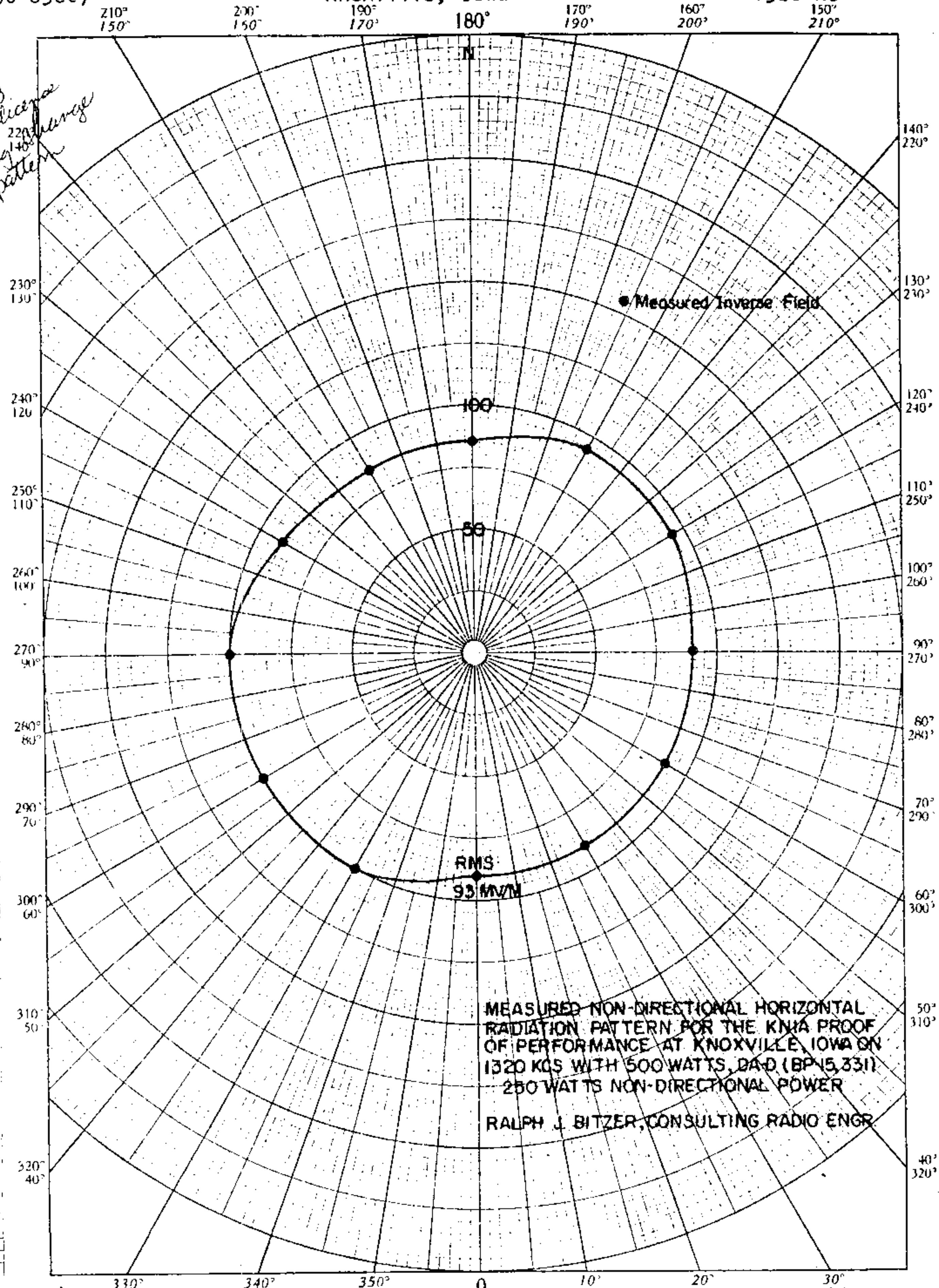
KNIA

Measured Non-DA
(4-30-63ct)

Station KNIA
Knoxville, Iowa

500w,DA-D,D
1320 kc

-29-63
ranted license
covering change
n DA pattern



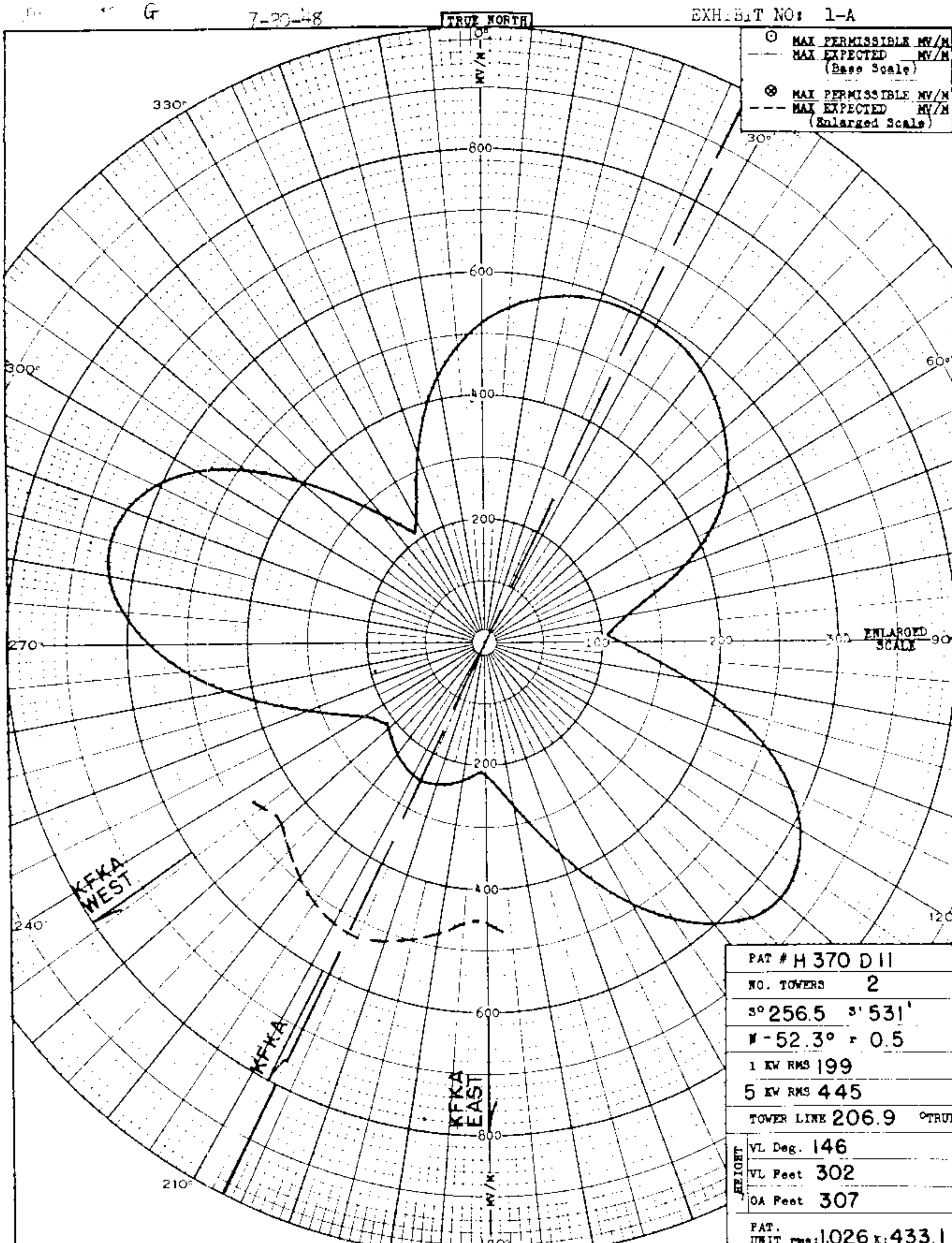
FCC File No.BL-9888
Accepted 4-10-63

Station KNIA
Knoxville, Iowa

1320 kc

KOLT
1320

G 7-20-48 EXHIBIT NO: 1-A



⊙	MAX PERMISSIBLE MV/M
——	MAX EXPECTED MV/M (Base Scale)
⊗	MAX PERMISSIBLE MV/M
- - -	MAX EXPECTED MV/M (Enlarged Scale)

PAT # H 370 D 11	
NO. TOWERS 2	
S° 256.5	S' 531'
Ψ -52.3°	r 0.5
1 KW RMS 199	
5 KW RMS 445	
TOWER LINE 206.9 °TRUE	
HEIGHT VL Deg. 146	
HEIGHT VL Feet 302	
HEIGHT OA Feet 307	
PAT. UNIT rms: 1.026 x: 433.1	

COMMERCIAL RADIO EQUIPMENT CO.

RADIO ENGINEERING CONSULTANTS

KANSAS CITY WASHINGTON, D. C. HOLLYWOOD

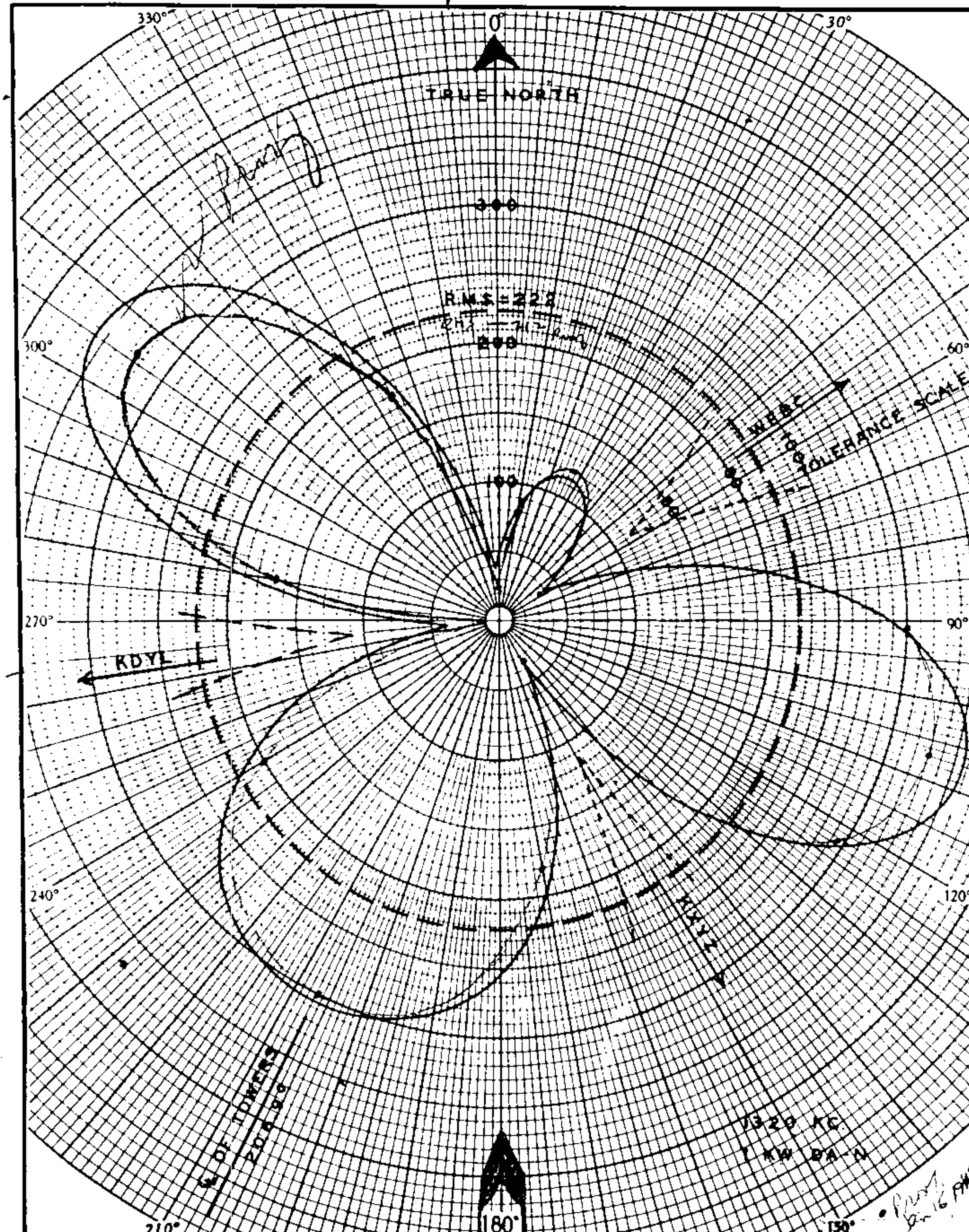
ACCURACY

PATTERN: PROPOSED DAYTIME
FOR: KOLT, SCOTTSBLUFF, NEBR.
POWER: 5 KW FREQ: 1320 KC
DATE: MAY 10, 1948 BY: ITN

7-20-48

— 1320 KC

KOLT
EXHIBIT NO. I - B



COMMERCIAL RADIO EQUIPMENT CO.	FOR: KGKY	
Consulting Radio Engineers	DATE: 2-1-45	BY: E.L.D.G.L.C
KANSAS CITY WASHINGTON, D. C. HOLLYWOOD	TOLERANCE: —— 10% ----- 15%	

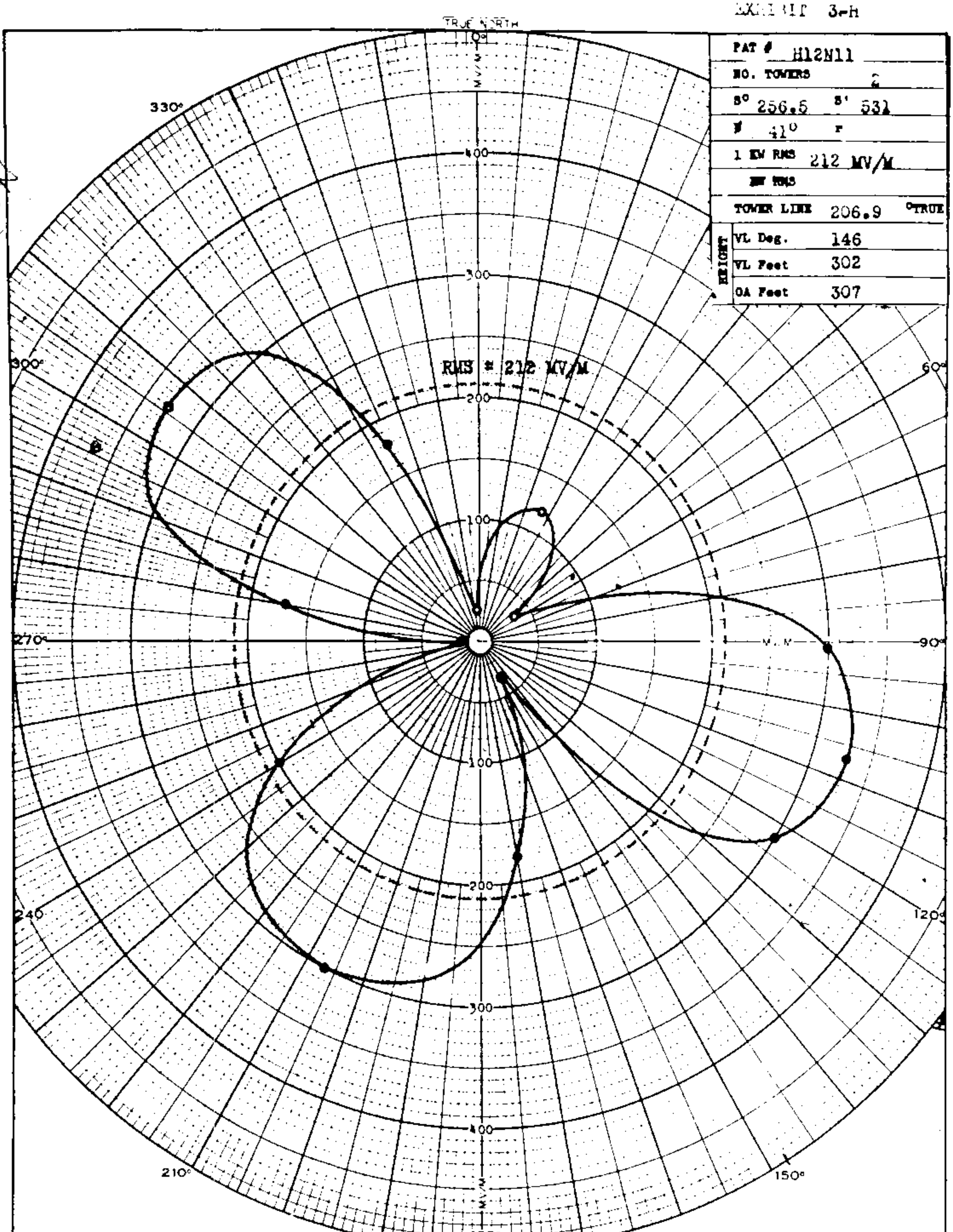
ACCURACY

KOLT

EXHIBIT 3-H

11-65
APP.
DA-2 to DA-N

P 8-13-65
NC to DA-N



PAT #	H12N11
NO. TOWERS	2
S° 256.5	S' 531
ψ 41°	r
1 KW RMS	212 MV/M
KW RMS	
TOWER LINE	206.9 °TRUE
HEIGHT VL Deg.	146
HEIGHT VL Feet	302
HEIGHT OA Feet	307

COMMERCIAL RADIO EQUIPMENT CO.

RADIO ENGINEERING CONSULTANTS

KANSAS CITY WASHINGTON, D.C. HOLLYWOOD

PATTERN PROOF OF PERFORMANCE

FOR KOLT, SCOTTSBLUFF NEBR.

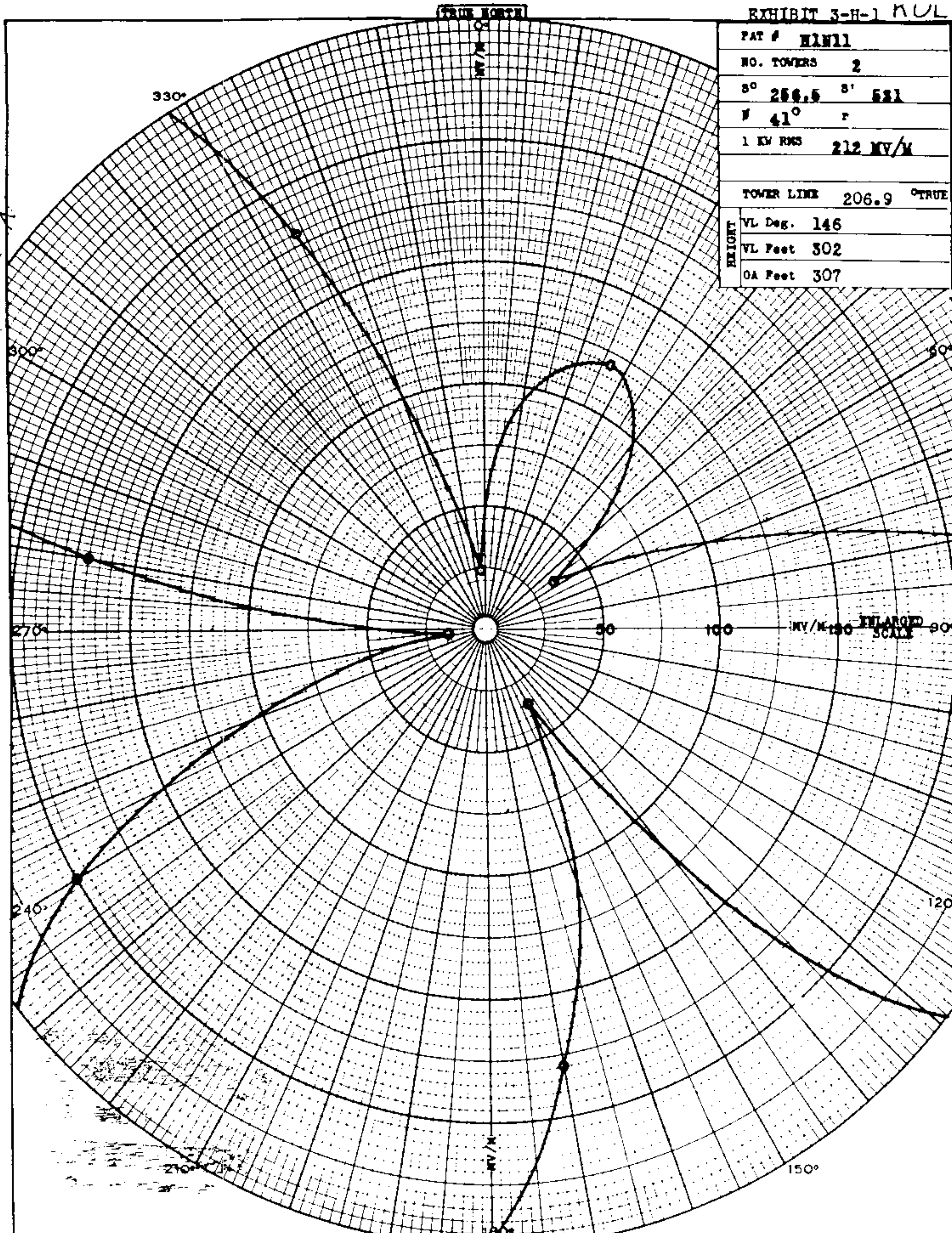
POWER 1 KW DA-N FREQ 1320 KC

DATE JAN. 16, 1947 BY [illegible]

10

EXHIBIT 3-H-1 KOL

PAT #	N1N11
NO. TOWERS	2
S° 256.5	S' 521
∅ 41°	F
1 KW RMS	212 MV/M
TOWER LINE	206.9 °TRUE
HEIGHT VL Deg.	146
HEIGHT VL Feet	302
HEIGHT OA Feet	307



COMMERCIAL RADIO EQUIPMENT CO.

RADIO ENGINEERING CONSULTANTS

KANSAS CITY · WASHINGTON, D.C. HOLLYWOOD

PATTERN: PROOF OF PERFORMANCE

FOR: KOLT, SCOTTSBLUFF, NEBRASKA

POWER: 1 KW. DA-N FREQ: 1320 KC.

DATE: 1-24-47 BY: TFP

KOLT

MEASURED DAYTIME

KOLT, SCOTTSBLUFF, NEB.

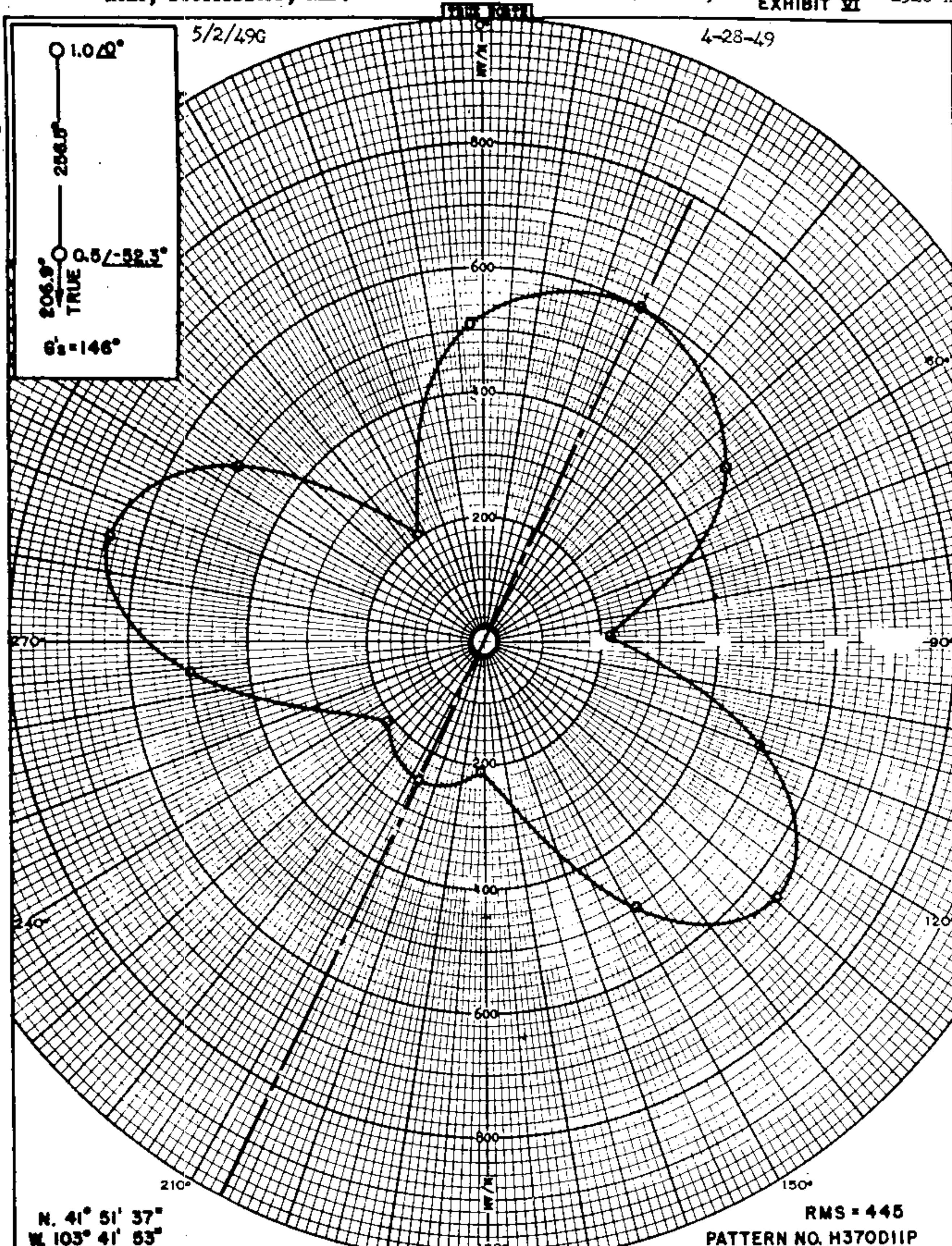
1kw, 5kw-LS, DA2

EXHIBIT VI

1320 kc

1-11-65 APP DA-2 TO DA-N

CP 8-13-65 CHG TO DA-N



COMMERCIAL RADIO EQUIPMENT CO.

RADIO ENGINEERING CONSULTANTS

KANSAS CITY WASHINGTON, D. C.

PATTERN: MEASURED DAYTIME

FOR: KOLT, SCOTTSBLUFF, NEBRASKA

POWER: 5000 WATTS FREQ: 1320 KC.

DATE: APRIL 20, 1949 BY: KMH

KOZY

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KOZY | Main Studio: Grand Rapids, Minnesota

Frequency: 1320 kHz | Power: 5 kW

Notification List No. 1663 | Date: December 16, 1975 | Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:
North Latitude: 47° 10' 22"
West Longitude: 93° 27' 11"

ANTENNA CHARACTERISTICS

Authorized for Nighttime operation. (DA-N) STANDARD PATTERN
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:	207'	207'	207' (100°)
PHASING:	0°	+259°	+159°
FIELD RATIO:	1.00	1.26	0.49

SPACING AND ORIENTATION: Adjacent elements are spaced 310.47' (150°) on a line bearing 346° true.

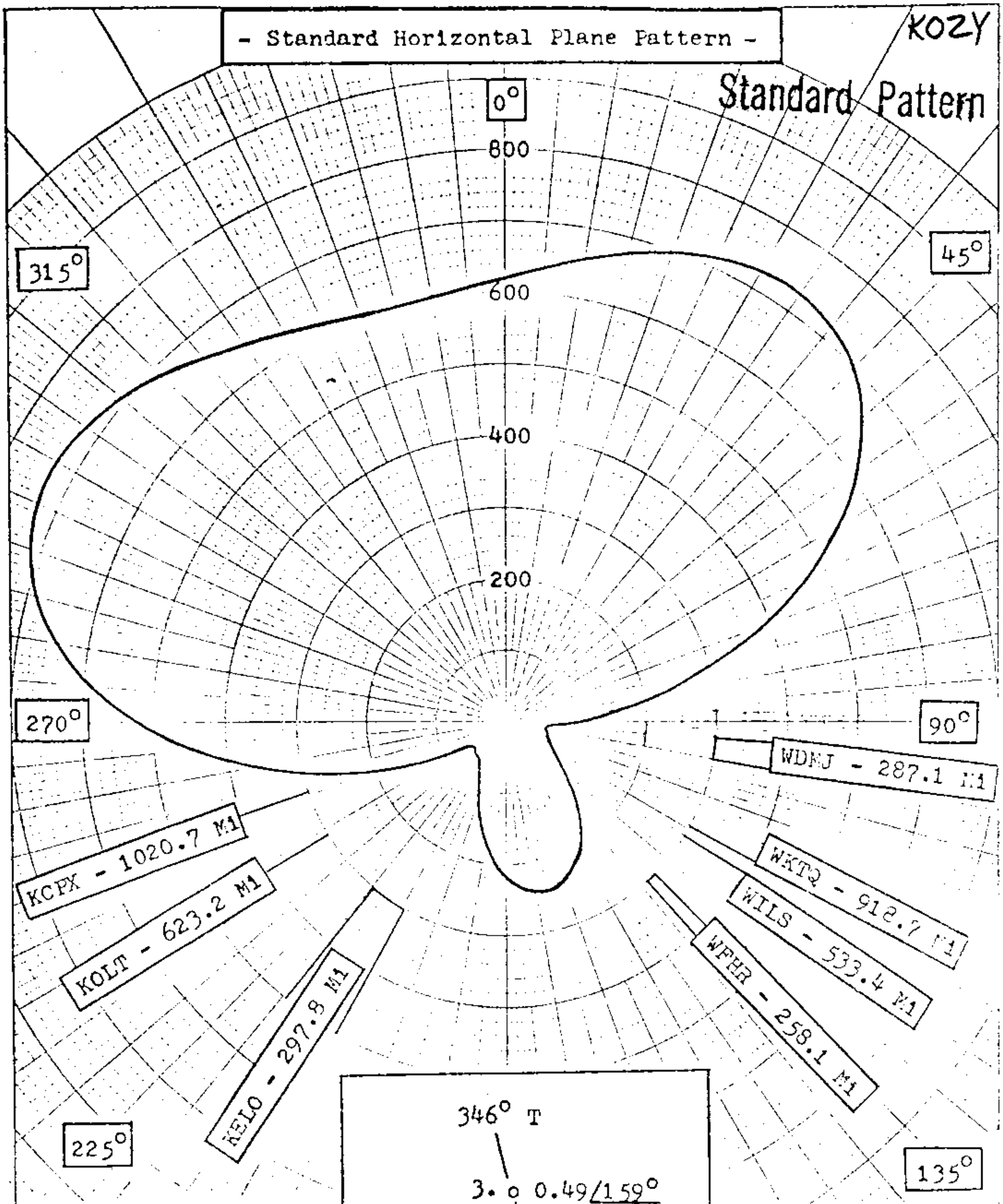
GROUND SYSTEM: 120-190' equally spaced copper radials plus 120-50' inter-spaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	434 mv/m	–	–
Night	436.9 mv/m	424.3 mv/m	458.3 mv/m

Note: This notification concerns a change in frequency of the station from 1490 kHz.

CTR No 30514A3



346° T

3. 0.49 ∠159°
S
S = 150° 2. 1.26 ∠259°
S
G = 100° 1. 1.00 ∠0°

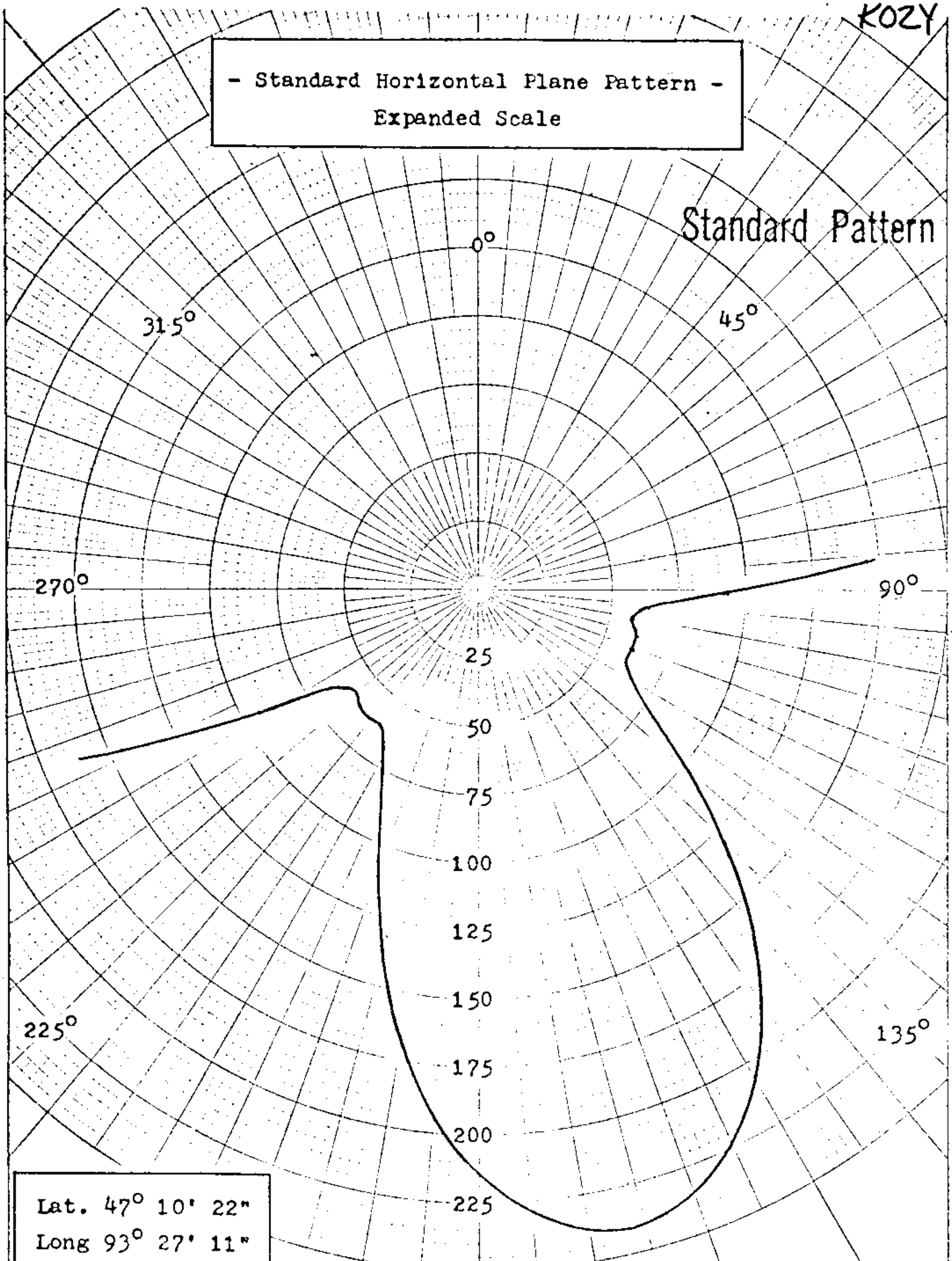
RMS_{th} = 436.9 mv/m
RMS_{sdt} = 458.3 mv/m
RSS = 424.3 mv/m

Lat. 47° 10' 22"
Long 93° 27' 11"

C. J. Thomforde
Consulting Engineer
Grand Forks, N.D.

Appendix DAD-C Page 10
KOZY, 1320 KHz.
Grand Rapids, MN.

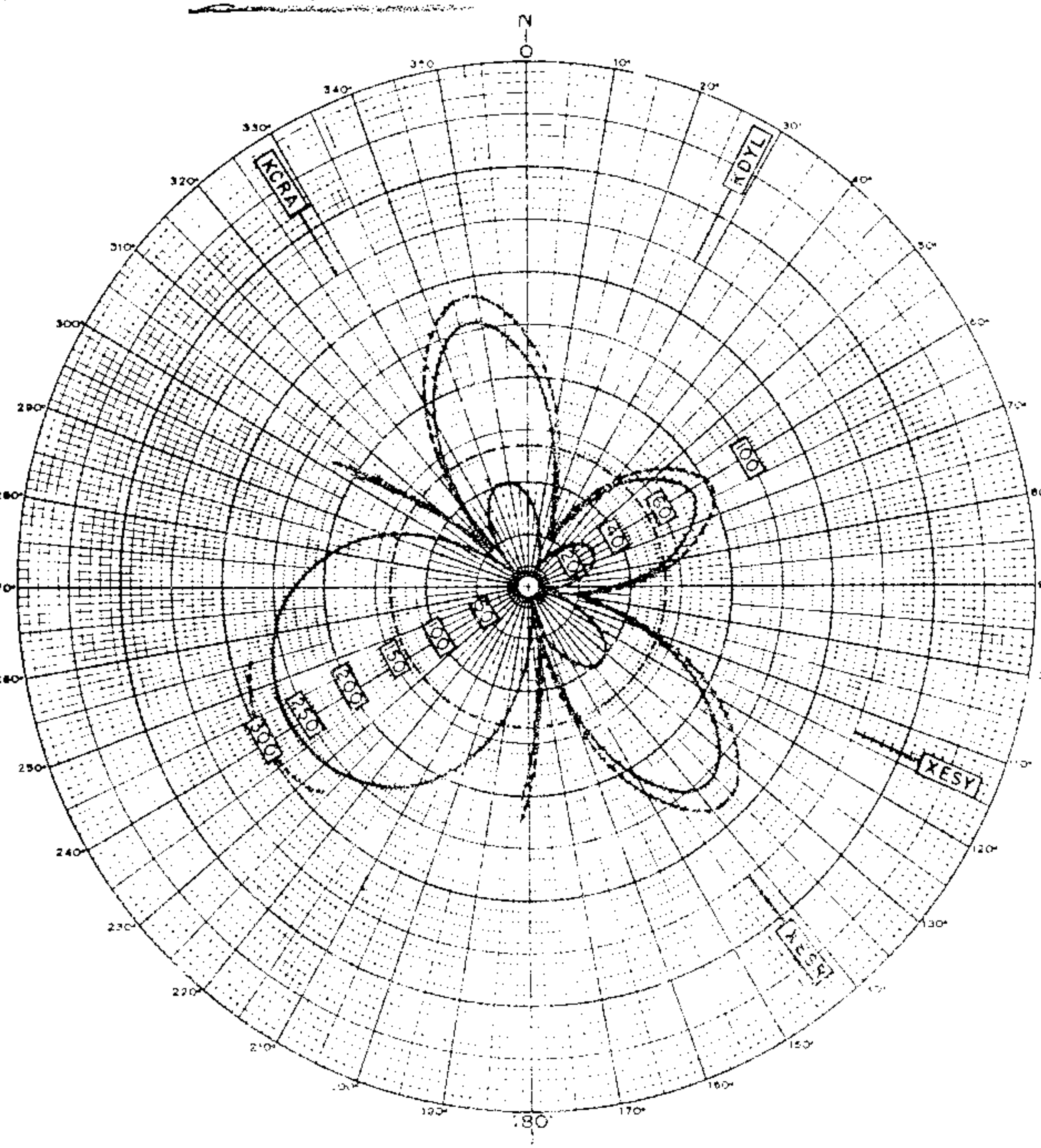
- Standard Horizontal Plane Pattern -
Expanded Scale



C. J. Thomforde Consulting Engineer Grand Forks, N.D.	Appendix DAD-C Page 11 KOZY, 1,320 KHz Grand Rapids, Minn.

PROPOSED DAY & NIGHT (7/12/55G)   SAN LUIS REY BROADCASTING CO. OCEANSIDE, CALIFORNIA   500 W DA-1, U

KUDE

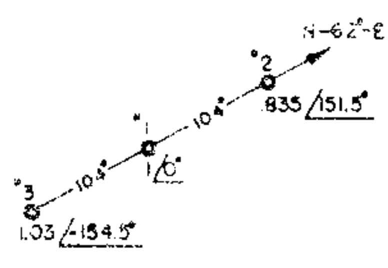


ERMS=135 MV/M

----- MEOV VALUE

LATITUDE: 33° 12' 01.4"
LONGITUDE: 117° 20' 00"

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



G = 77°

FIGURE 3

DAY AND NIGHT HORIZONTAL PATTERN

SAN LUIS REY B/C'ING CO. INC.

OCEANSIDE, CALIFORNIA

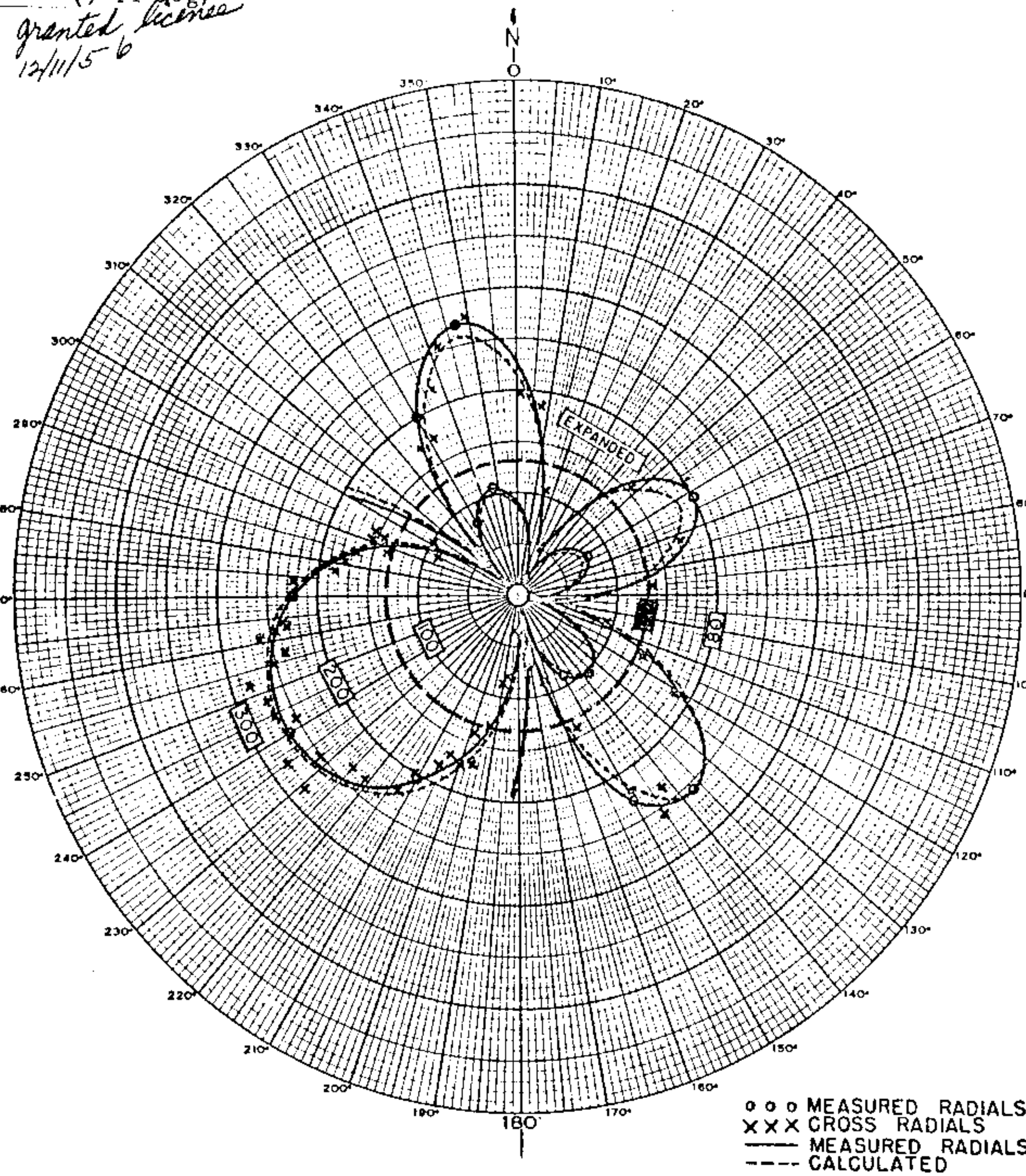
1320 KC   0.5 KW DA-1,U

FILE NO. BP-9682 (Amended) ACCEPTED 6/14/55   SAN LUIS REY BCG. CO.
Oceanside, Calif.   1320 KC

KUDE

MEASURED STATION K S L R 500W, DA-1, L
NIGHT & DAY (DA-1) Oceanside, California
(9-14-56g)

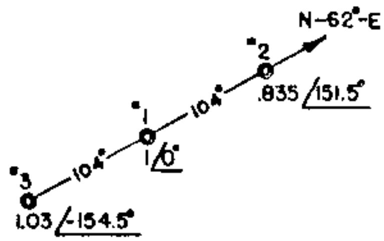
granted license
12/11/56



ERMS = 132.5 MV/M

LATITUDE: 33° 12' 08"
LONGITUDE: 117° 20' 17"

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



G = 77°

FIGURE 19

MEASURED
DAY AND NIGHT
HORIZONTAL PATTERN

RADIO STATION KSLR

OCEANSIDE, CALIFORNIA

1320 KC 0.5 KW,DA-1,U

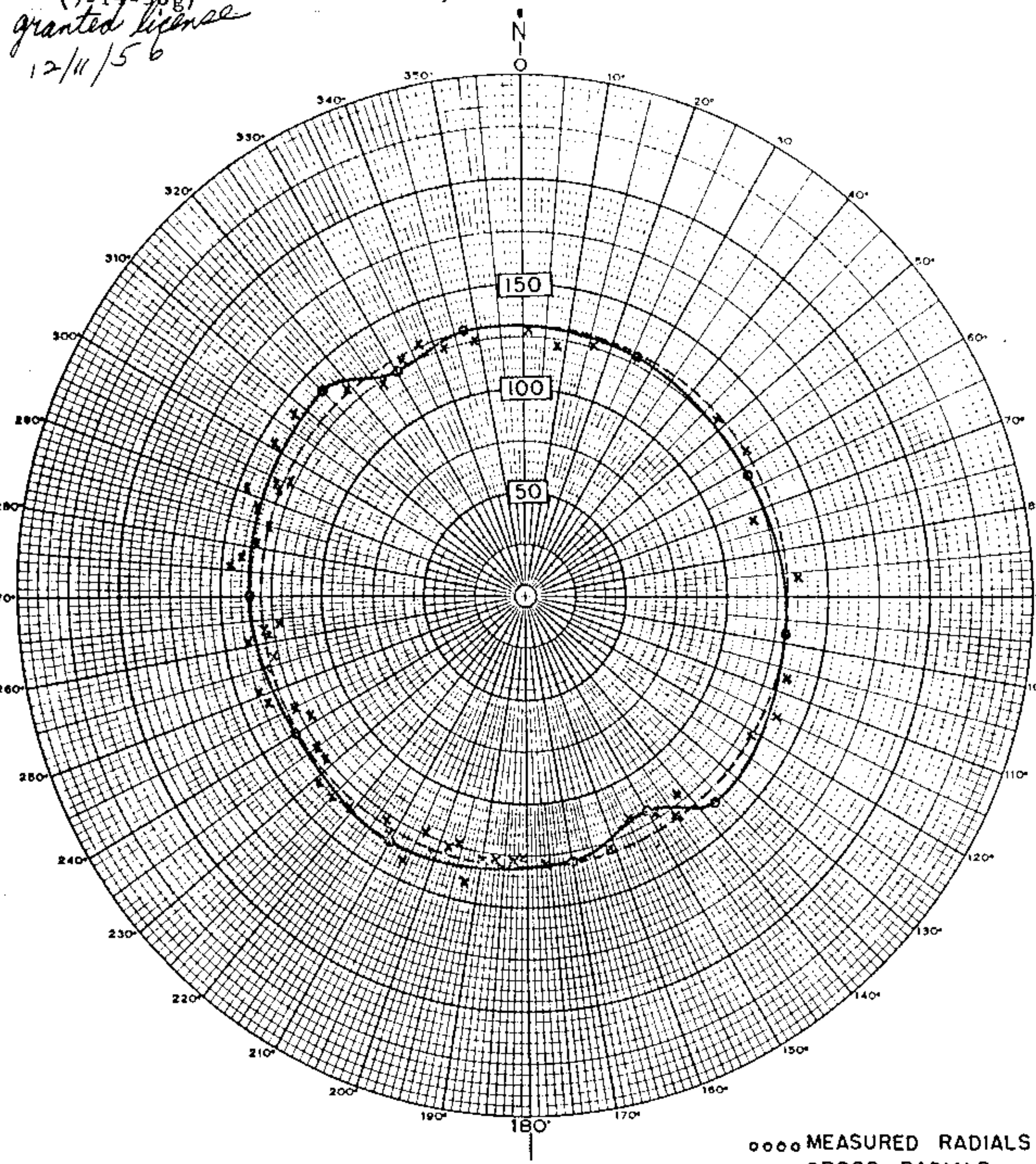
FCC File BL-6287 | Accepted 9-6-56 | Station KSLR Oceanside, Calif. | 1320 KC

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

STATION K S L R 500 W, DA-
Oceanside, California

KUDE

granted license
12/11/56



ERMS = 131.2 MV/M

LATITUDE: 33° 12' 08"
LONGITUDE: 117° 20' 17"

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

G = 77°

FIGURE 17

MEASURED
NON-DA HORIZONTAL PATTERN

RADIO STATION KSLR
OCEANSIDE, CAL.

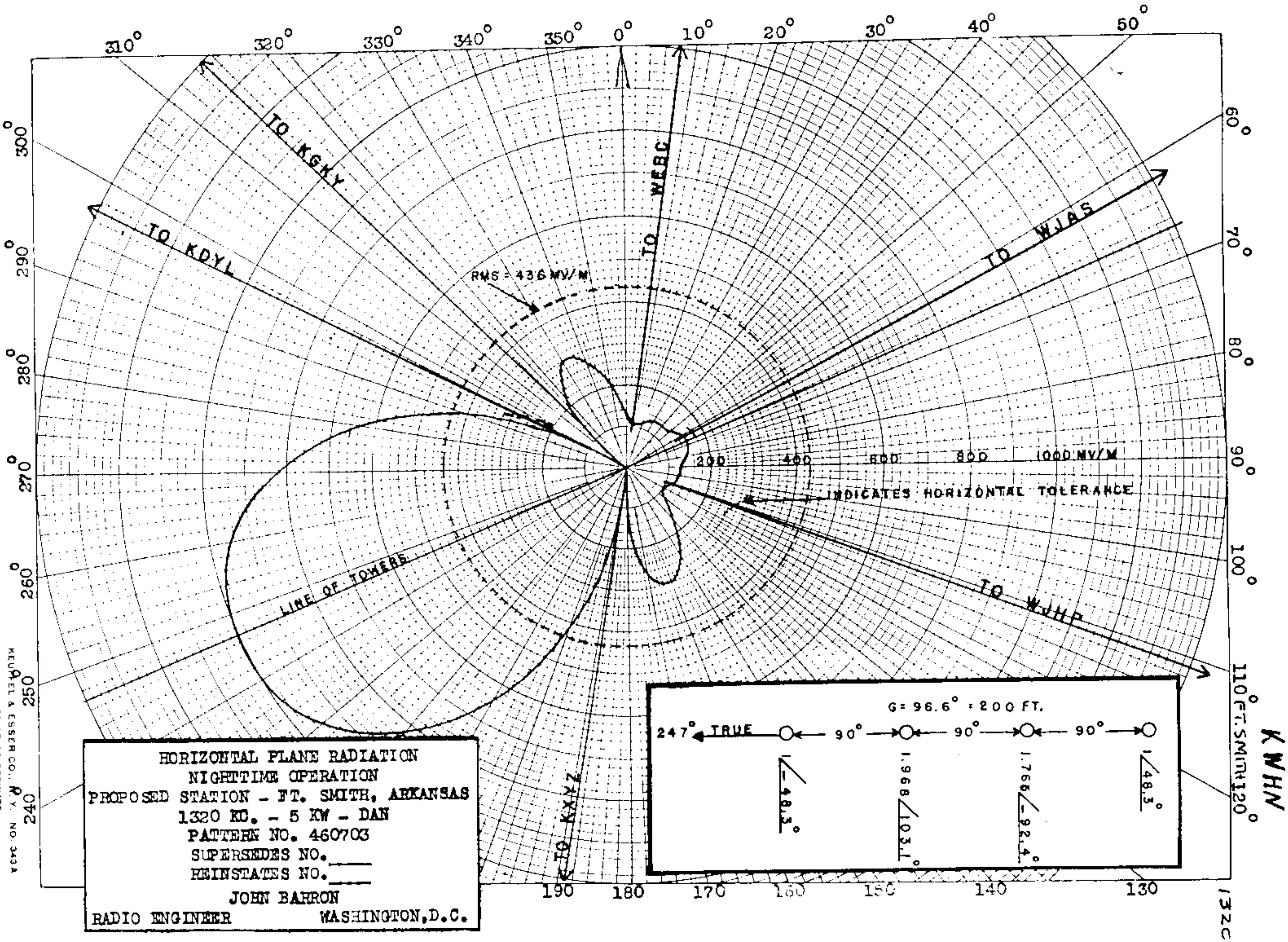
1320 KC 0.5KW,DA-1,U

FCC File
BL-6287

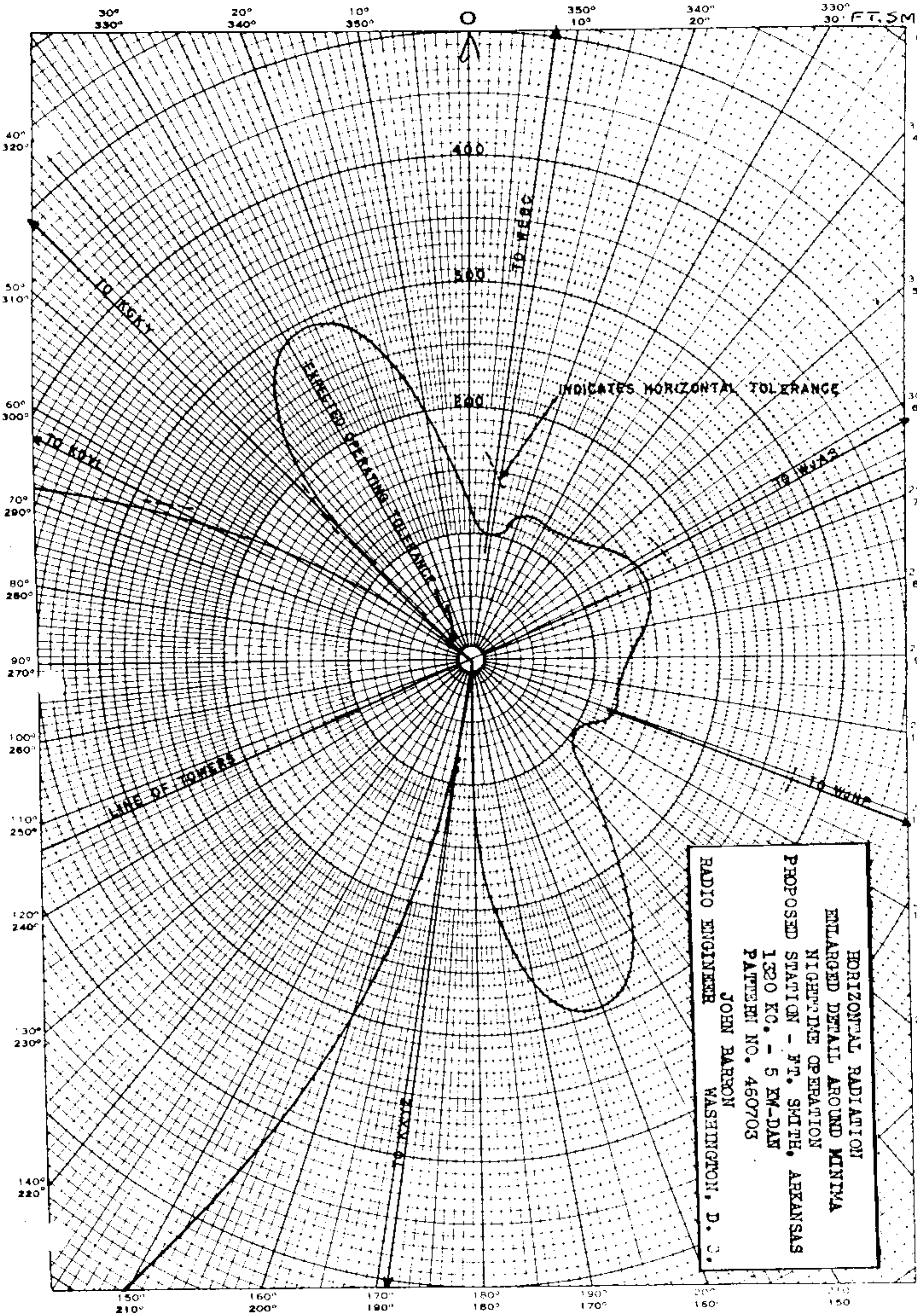
Accepted 9-6-56

Station KSLR
Oceanside, Calif.

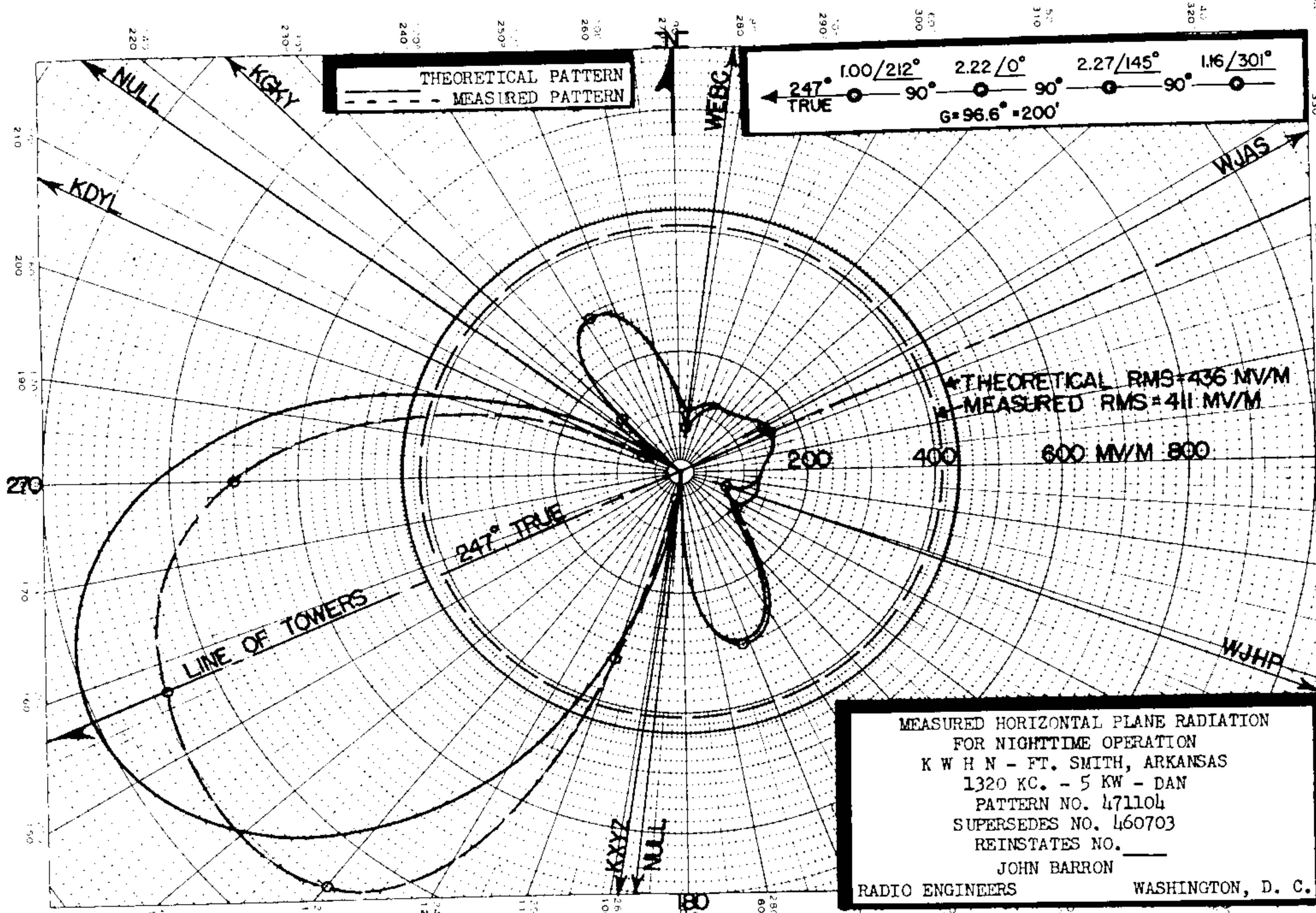
1320 KC


KWHN
110 FT. SMITH 120°
1320
TO KGKY
TO KDYL
TO WEBC
TO WJAS
TO WJHP
TO KXYZ
RMS = 436 MV/M
200
400
600
800
1000 MV/M
INDICATES HORIZONTAL TOLERANCE
LINE OF TOWERS
G = 96.6° = 200 FT.
247° TRUE
90°
1∠48.3°
1.766∠-92.4°
1.968∠103.1°
1∠-48.3°
HORIZONTAL PLANE RADIATION
NIGHTTIME OPERATION
PROPOSED STATION - FT. SMITH, ARKANSAS
1320 KC. - 5 KW - DAN
PATTERN NO. 460703
SUPERSEDES NO.____
REINSTATES NO.____
JOHN BARRON
RADIO ENGINEER WASHINGTON, D.C.
KEUFFEL & ESSER CO., N.Y. NO. 343A
POLAR CO-ORDINATE
MADE IN U.S.A.

FT. SMITH
1320



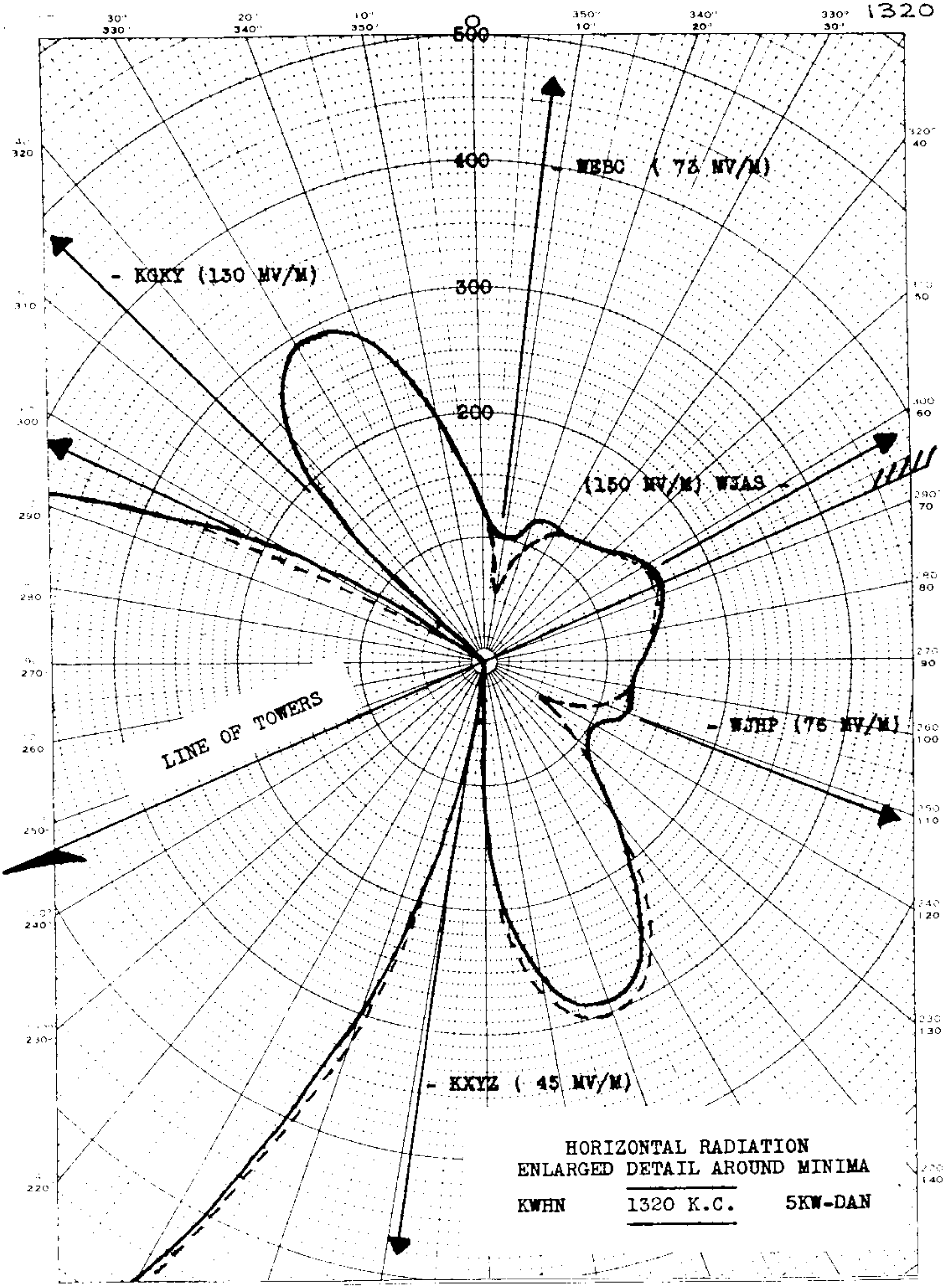
KWHN



MEASURED HORIZONTAL PLANE RADIATION
FOR NIGHTTIME OPERATION
K W H N - FT. SMITH, ARKANSAS
1320 KC. - 5 KW - DAN
PATTERN NO. 471104
SUPERSEDES NO. 460703
REINSTATES NO.____
JOHN BARRON
RADIO ENGINEERS WASHINGTON, D. C.

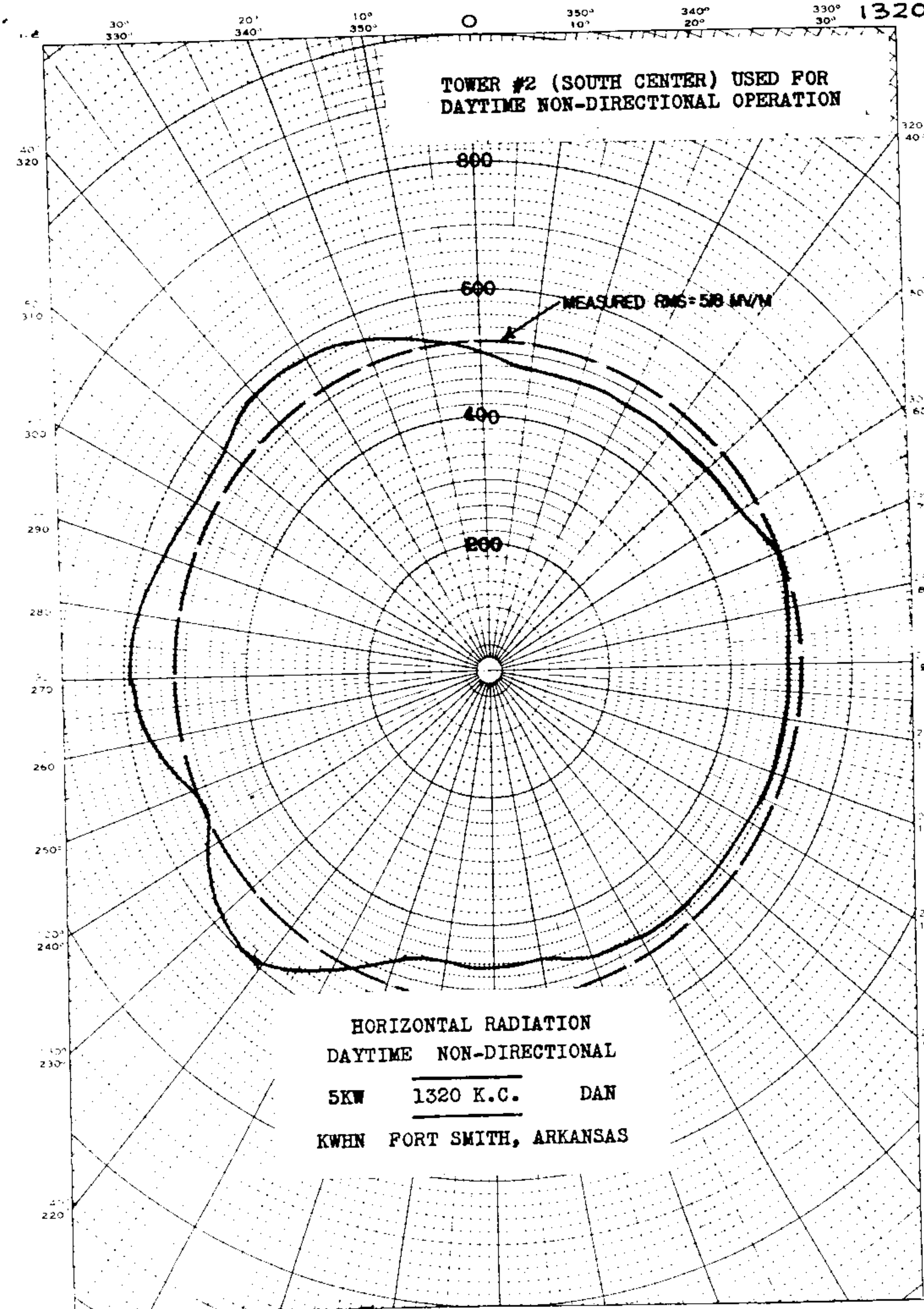
KWHN
1320

KWHN
1320



JOHN BARRON - CONSULTING RADIO ENGINEERS - WASHINGTON, D. C.

1320



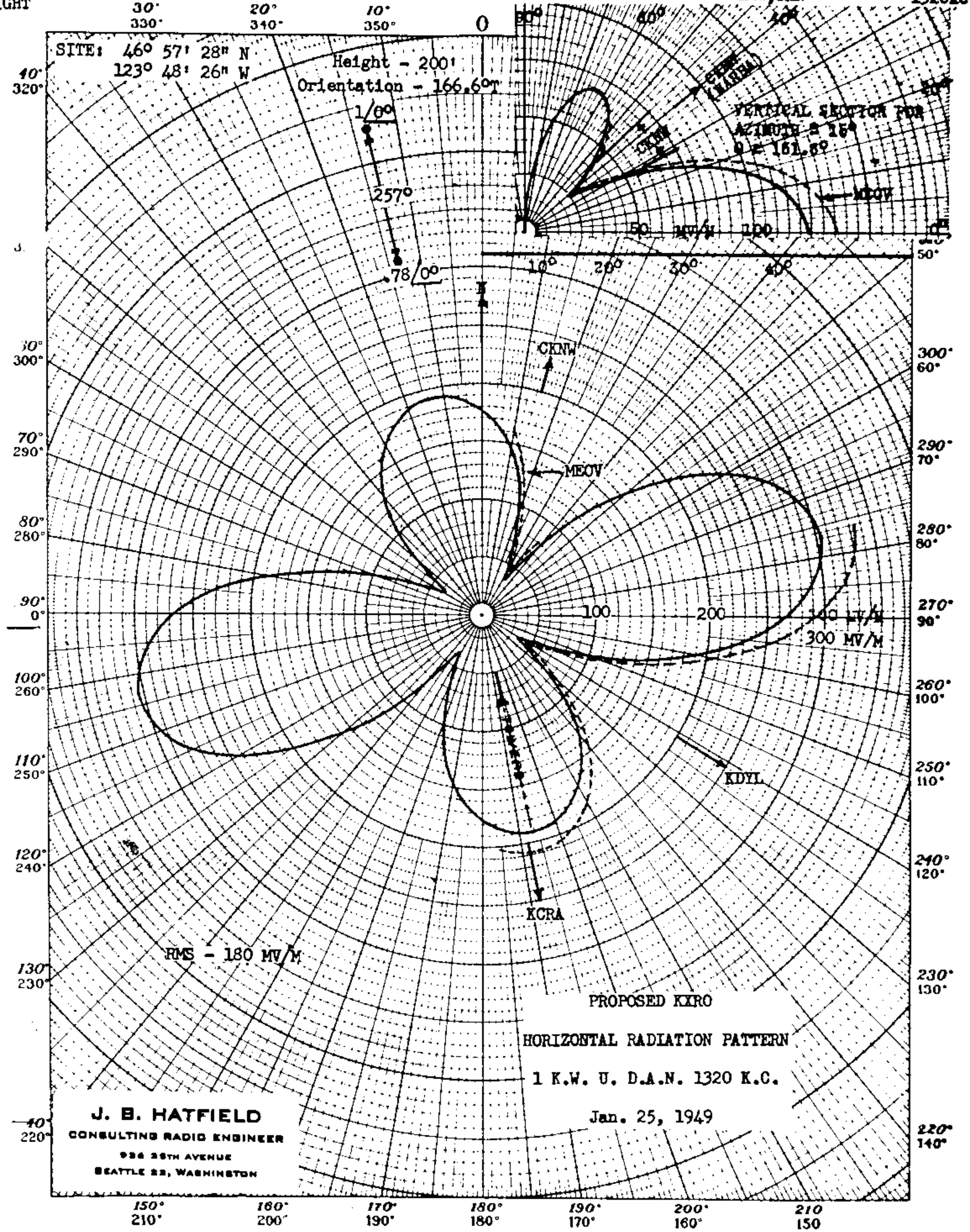
JOHN BARRON - CONSULTING RADIO ENGINEERS - WASHINGTON, D. C.

KXRO

PROPOSED
NIGHT

KXRO, ABERDEEN, WASH.

1kw, DAN 1320kc



PRINTED IN U.S.A.

AMENDMENT TO BP-5568 RECD 4/5/49

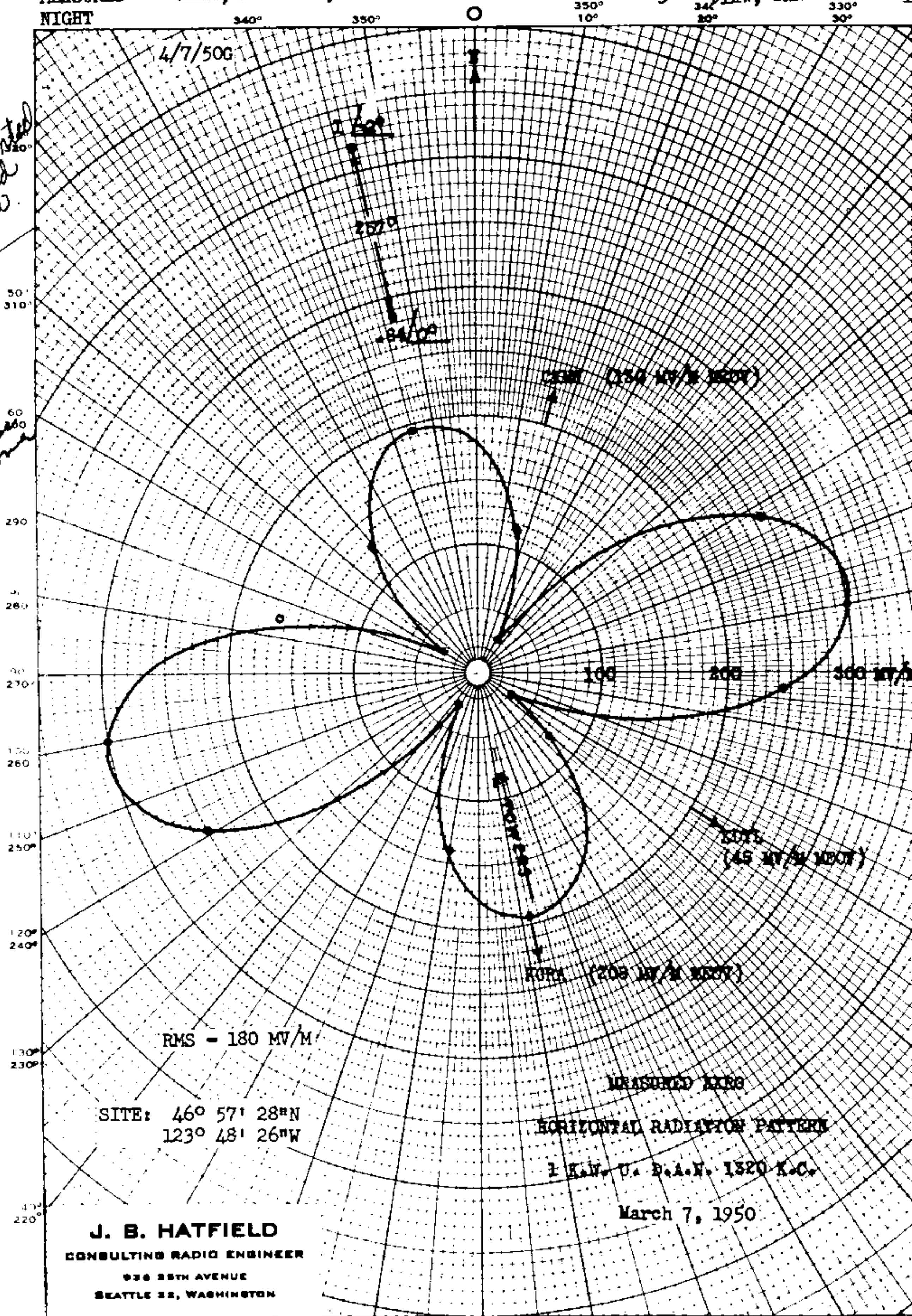
KXRO, Aberdeen, Wash. 1320 kc

KXRO

MEASURED KXRO, ABERDEEN, WASH. 5KW Day 1kw, DAN 1320 kc
NIGHT

BP13808 1-13-62 granted increase in nd power to 5 KW.

8-1-63 granted license covering increase in day power



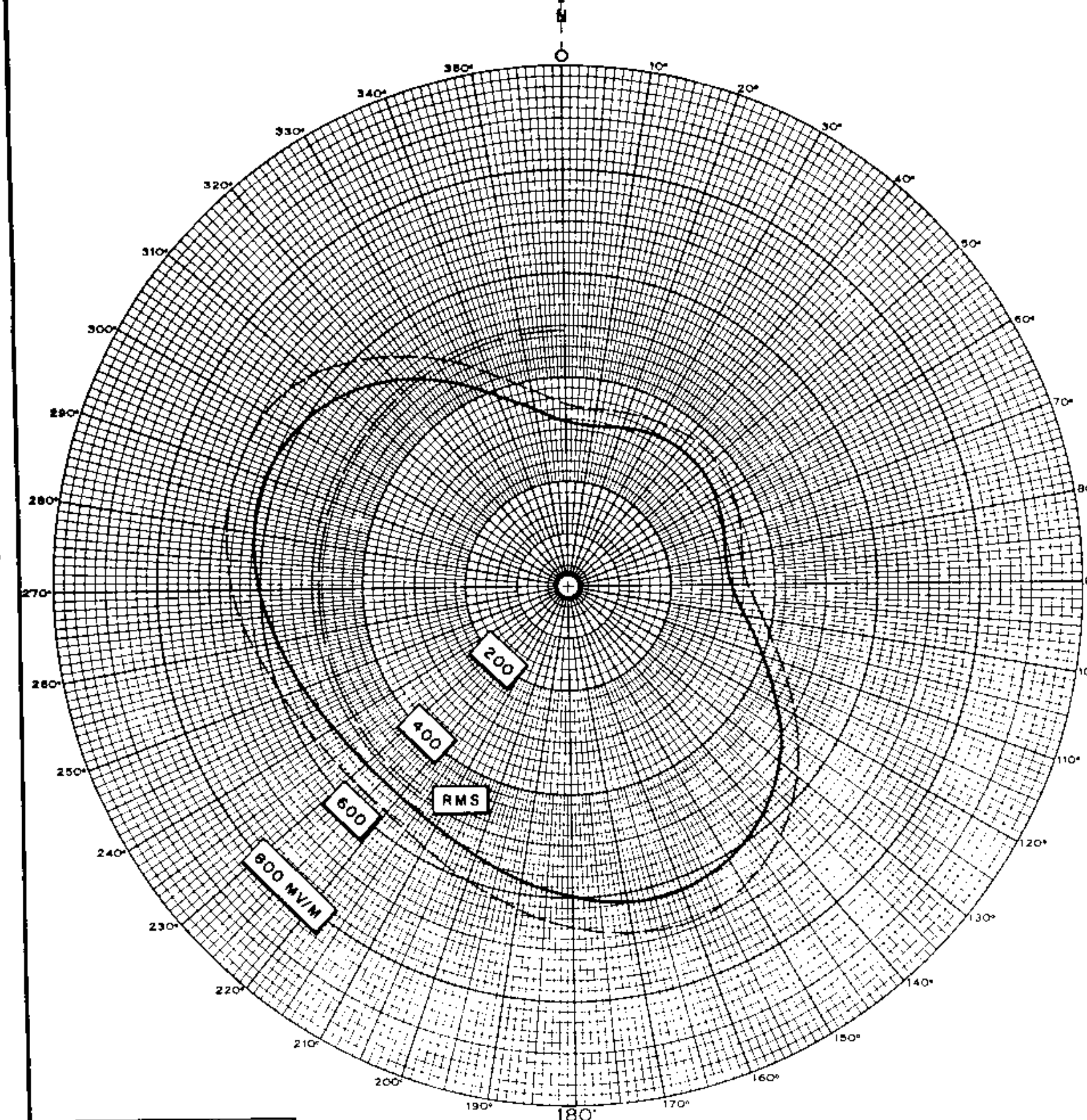
AMENDMENT RECD 3-10-50 BL-3995 KXRO, Aberdeen, Wash. 1320 kc

SEE REVERSE SIDE 6/29/70

KXYZ
5kw,DA-N,U
1320 kc

Proposed Night
(6-29-70ct)

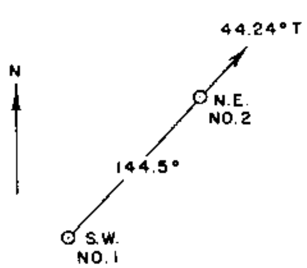
Station KXYZ
Houston, Texas



— — — M.E.O.V.

E_{RMS} = 489.5 MV/M

EXHIBIT 6



LATITUDE 29° 42' 37" North
LONGITUDE 95° 10' 29" West

ANTENNA NUMBER	AZIMUTH DEG	SPACING DEG	PHASING DEG	FIELD RATIO	MV/M FOR 1 KW	HEIGHT DEG
1	—	—	0	1.0	—	167.9
2	44.24	144.5	66	.333	—	94.5

HORIZONTAL PLANE
RADIATION PATTERN
FOR
PROPOSED OPERATION
KXYZ, HOUSTON, TEXAS
1320 Khz 5KW U, DA - N

691121

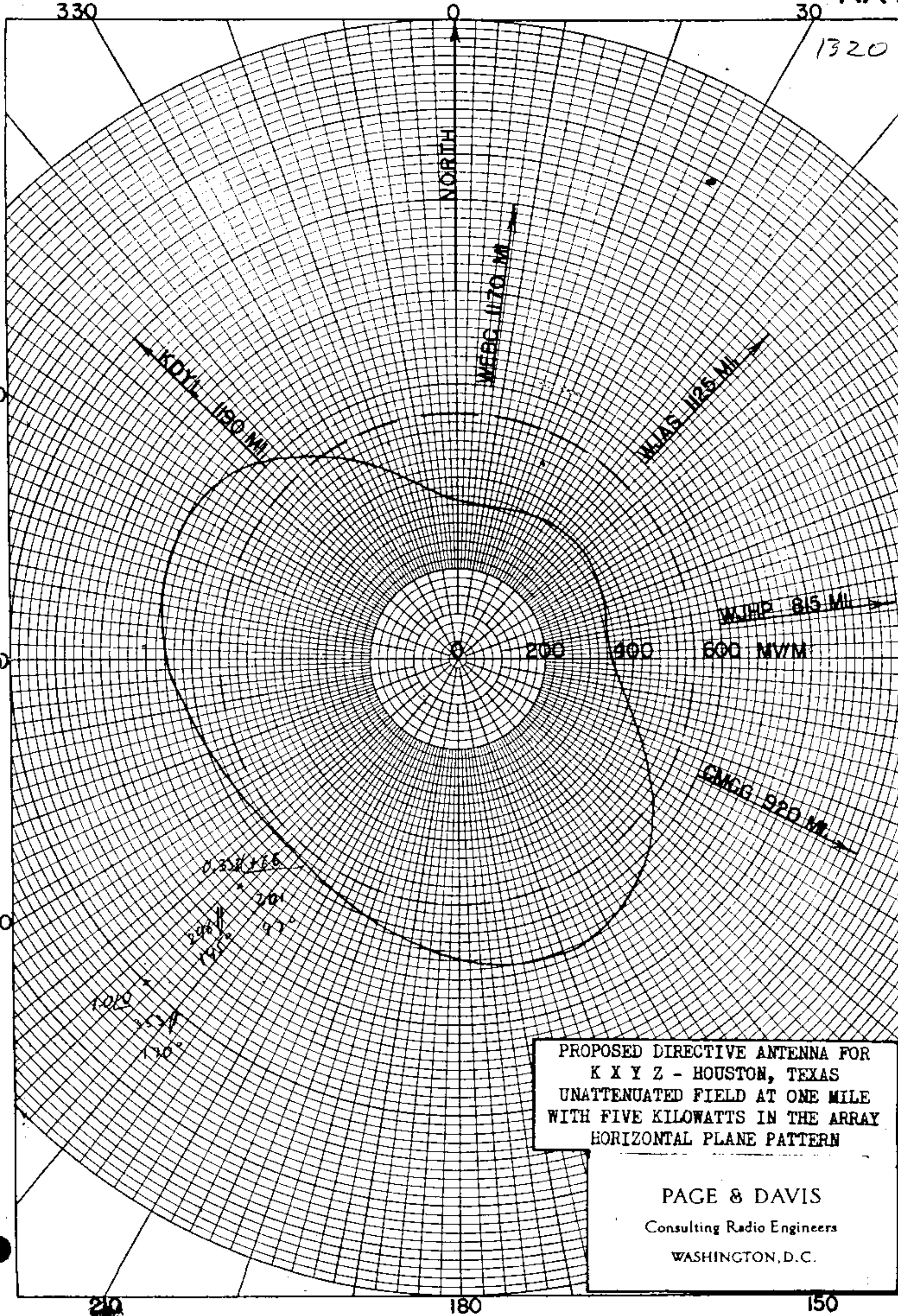
AMERICAN BROADCASTING COMPANY
ENGINEERING DEPARTMENT

FCC File No.BP-18792
Accepted 6-17-70

Station KXYZ
Houston, TEXAS

1320 kc

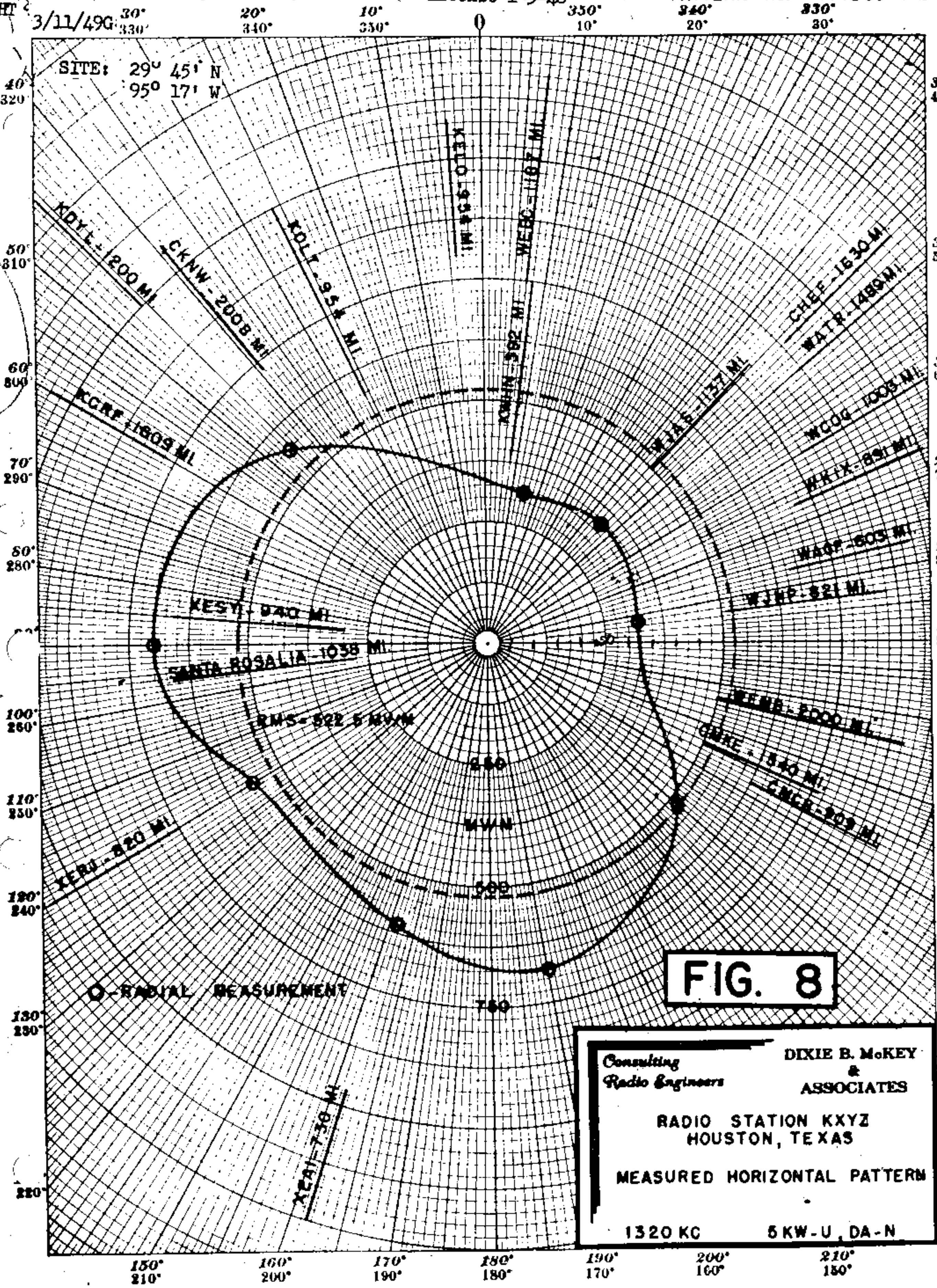
KXYZ



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

MEASURED NIGHT KXYZ, HOUSTON, TEXAS License 1-3-48 5kw,DAN PATTERN NO. 471230 1320 kc

3/11/49G



WAGF

SUPPLEMENTAL AND CORRECTED
DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WAGF

Main Studio: Dothan Alabama

Frequency: 1320 kHz

Power: 1kw Night 1kw Day

Notification List No. 1782

Date: October 26, 1979 Class: III

GEOGRAPHICAL LOCATION OF THE
CENTER OF THE ANTENNA SYSTEM:

North Latitude: 31° 14' 56"
West Longitude: 85° 23' 20"

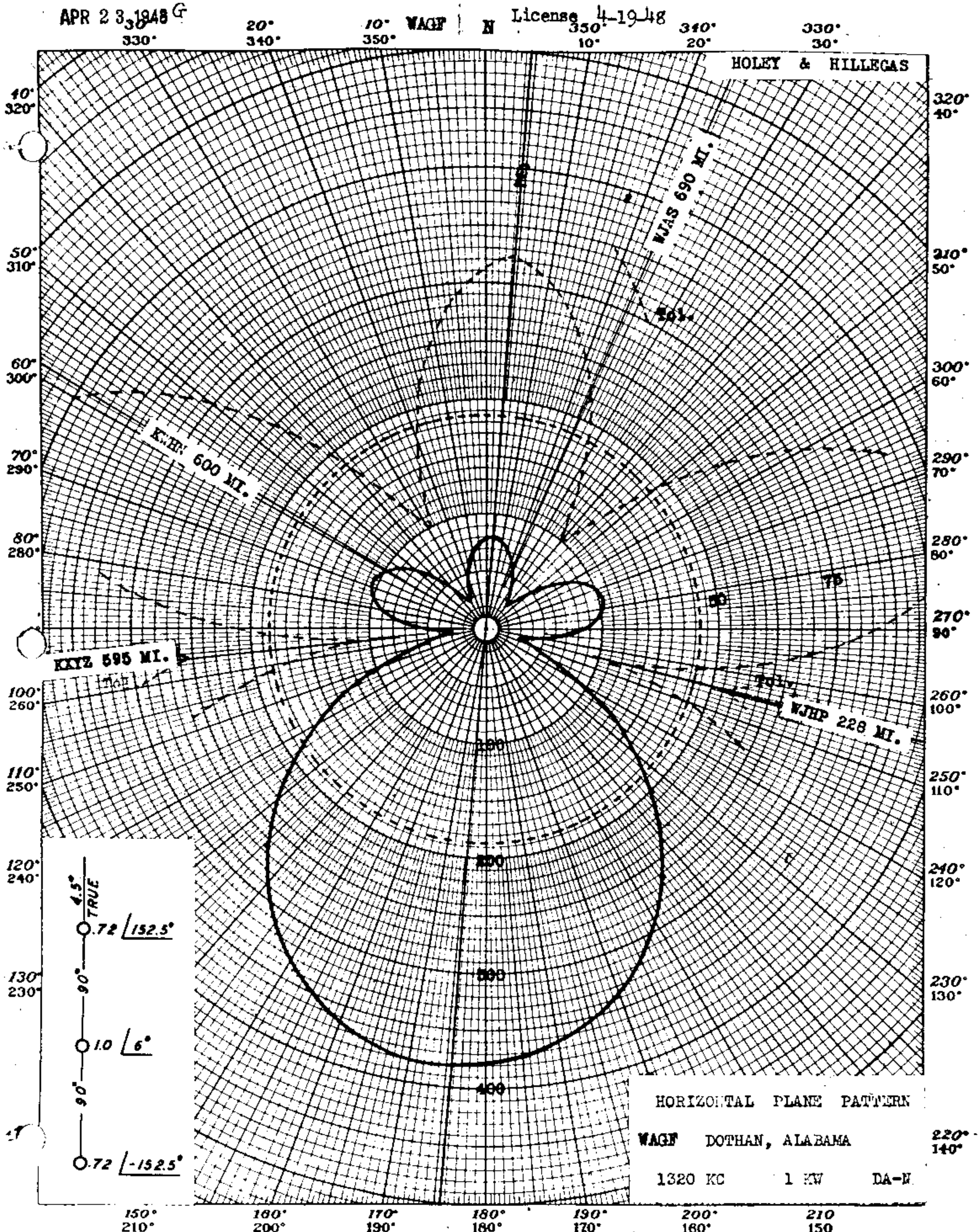
Predicated effecitve Day Field: (omnidirectional) 192 mv/m at rated power.

Note: Please retain the description sheet and directional antenna radiation patterns notified for station WAGF in United States Change List Number 225, dated May 2, 1947 and attach to this supplemental Description Sheet. This notification is for the purpose of indicating only 9 corrections in the geographical coordinates of the center of the antenna system.

WAGF
1320

APR 2 3 1948 G

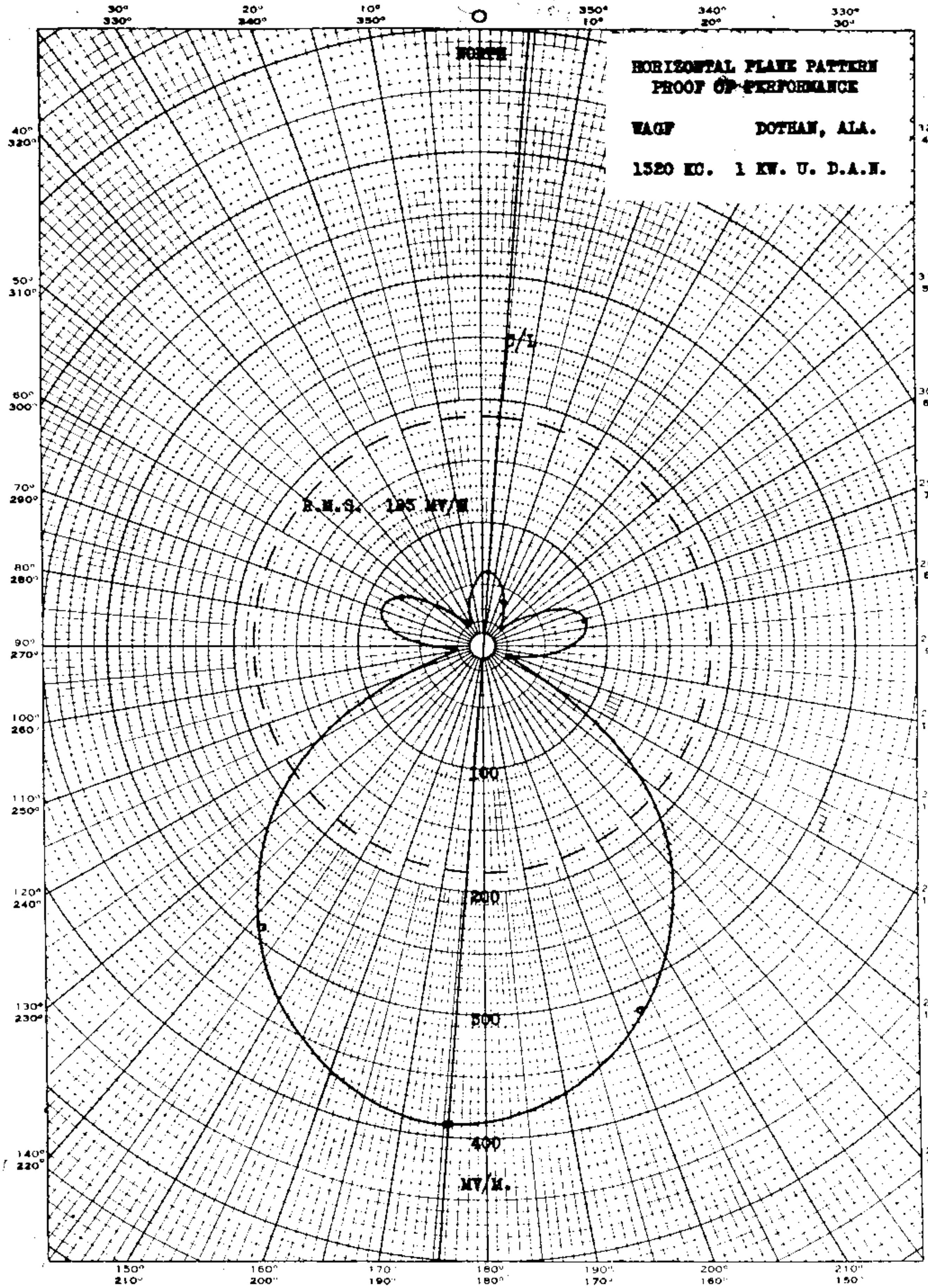
License 4-19-48



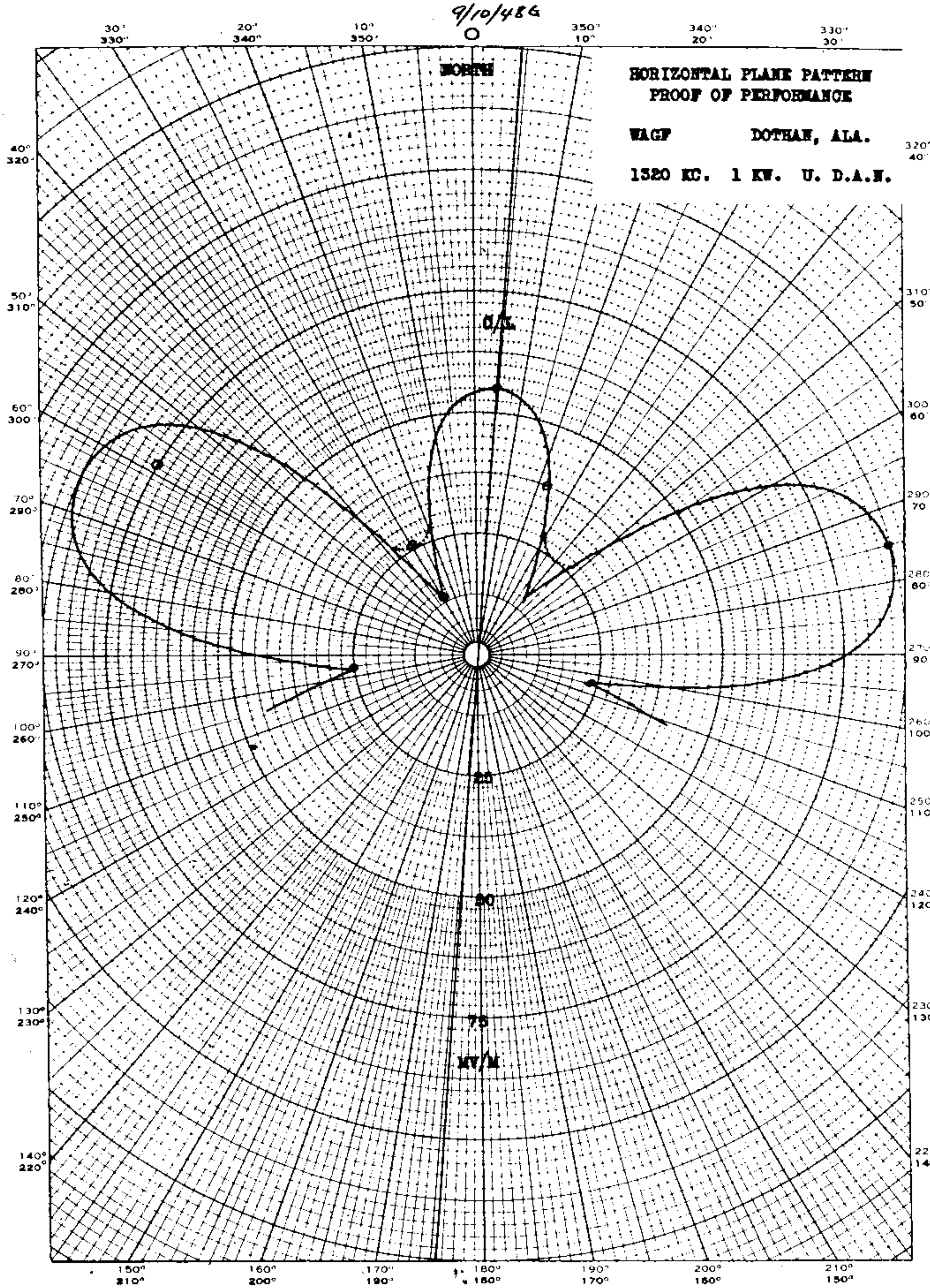
License 4-19-48

WAGF
1320

9/10/48C



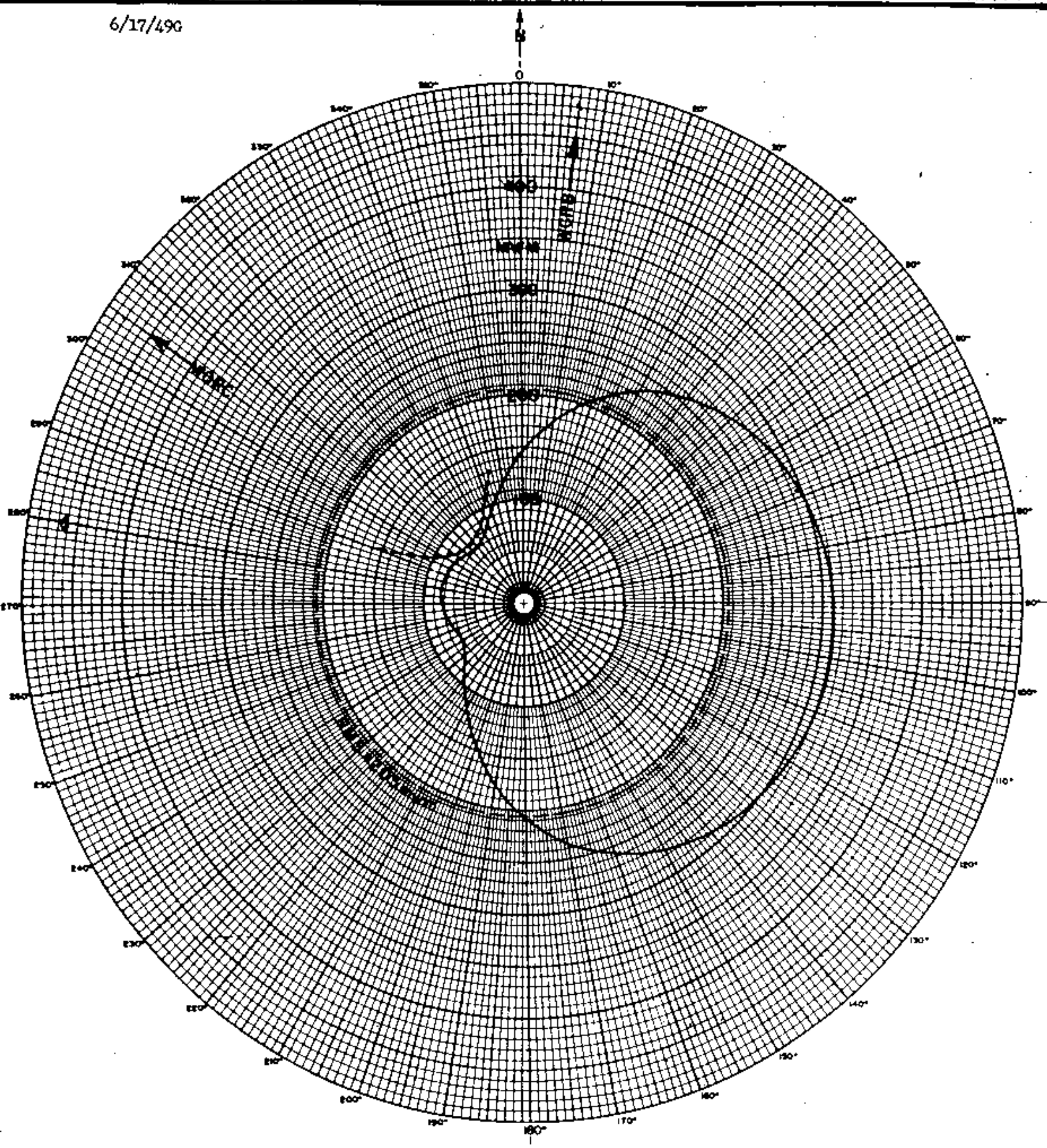
WAGF
1320


9/10/486
HORIZONTAL PLANE PATTERN
PROOF OF PERFORMANCE
WAGF DOTHAN, ALA.
1320 KC. 1 KW. U. D.A.N.
NORTH
C/L
25
50
75
MV/M

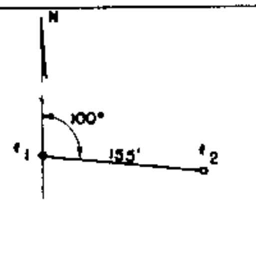
WARA
ATTLEBORO,MA

PROPOSED DAY — NEW, ATTLEBORO, MASS. (Jackson Associates,Inc.) — 1kw, DA2 — APP. 3 1320 kc

6/17/49G



ANTENNA PARAMETERS



Tower	Electrical Height	True Tower Orientation	Spacing	Phasing	Horizontal Field mv/m	Field Ratio	Elev. Angle	Elevation RMS Field mv/m
No.	G°	φ°	S°	ψ°	E	F	θ°	E_θ
0							0	2.05
1	140					1.0	10	
2	110	100	75	-120.5		.65	20	
3							30	
4							40	
5							50	
6							60	
7							70	
8							80	
9							RMS/max = 1.2	
							Ant Gain	

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

JACKSON ASSOCIATES, INC.
ATTLEBORO, MASS.

1320 KC — DA-2 — 1 KW

DAYTIME
HORIZONTAL RADIATION PATTERN

Latitude 41° 57' 53" — Longitude 71° 19' 37"

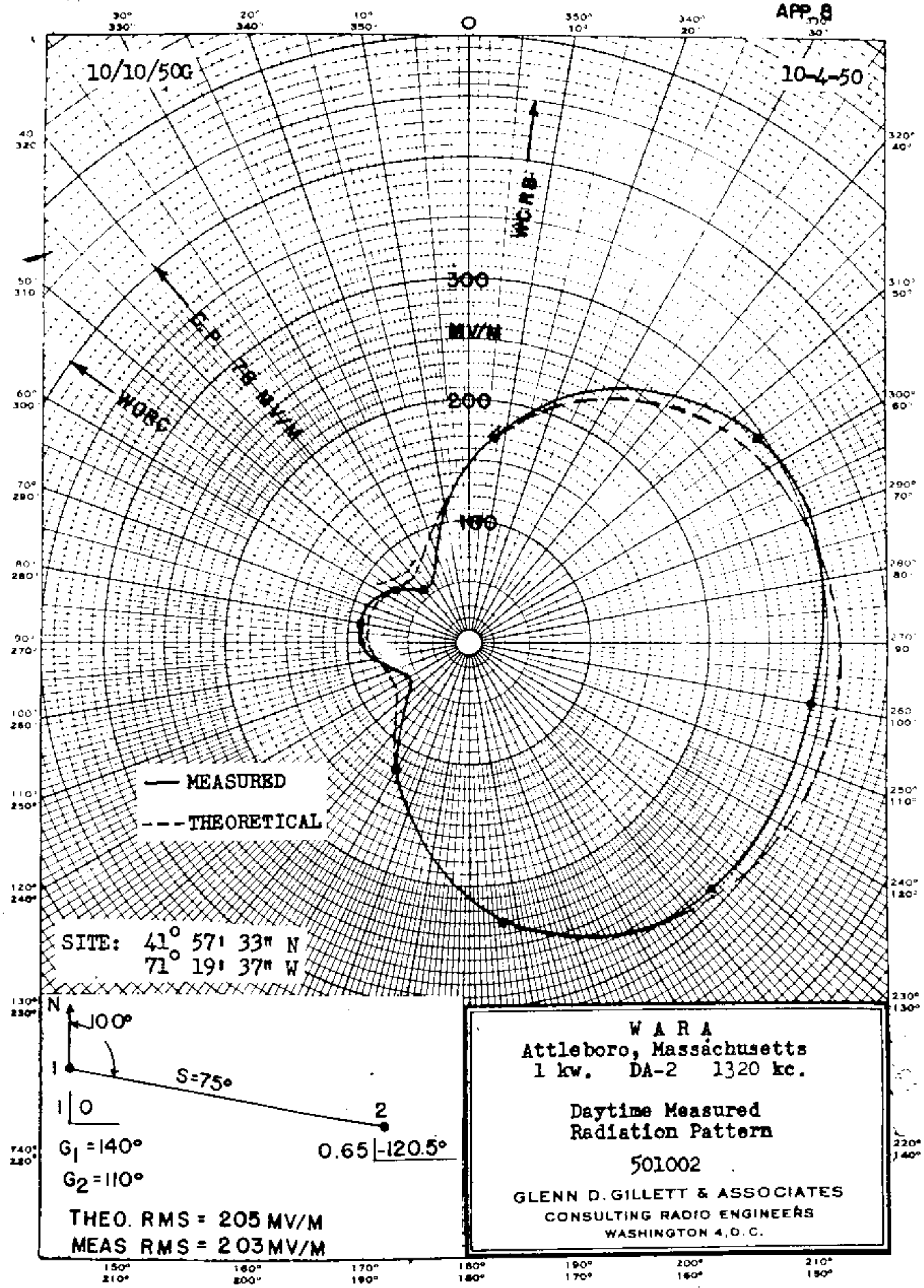
Pattern No. 490517

AMENDMENT RECD 6-3-49 BP-6917

New, Attleboro, Mass. 1320 kc

WARA

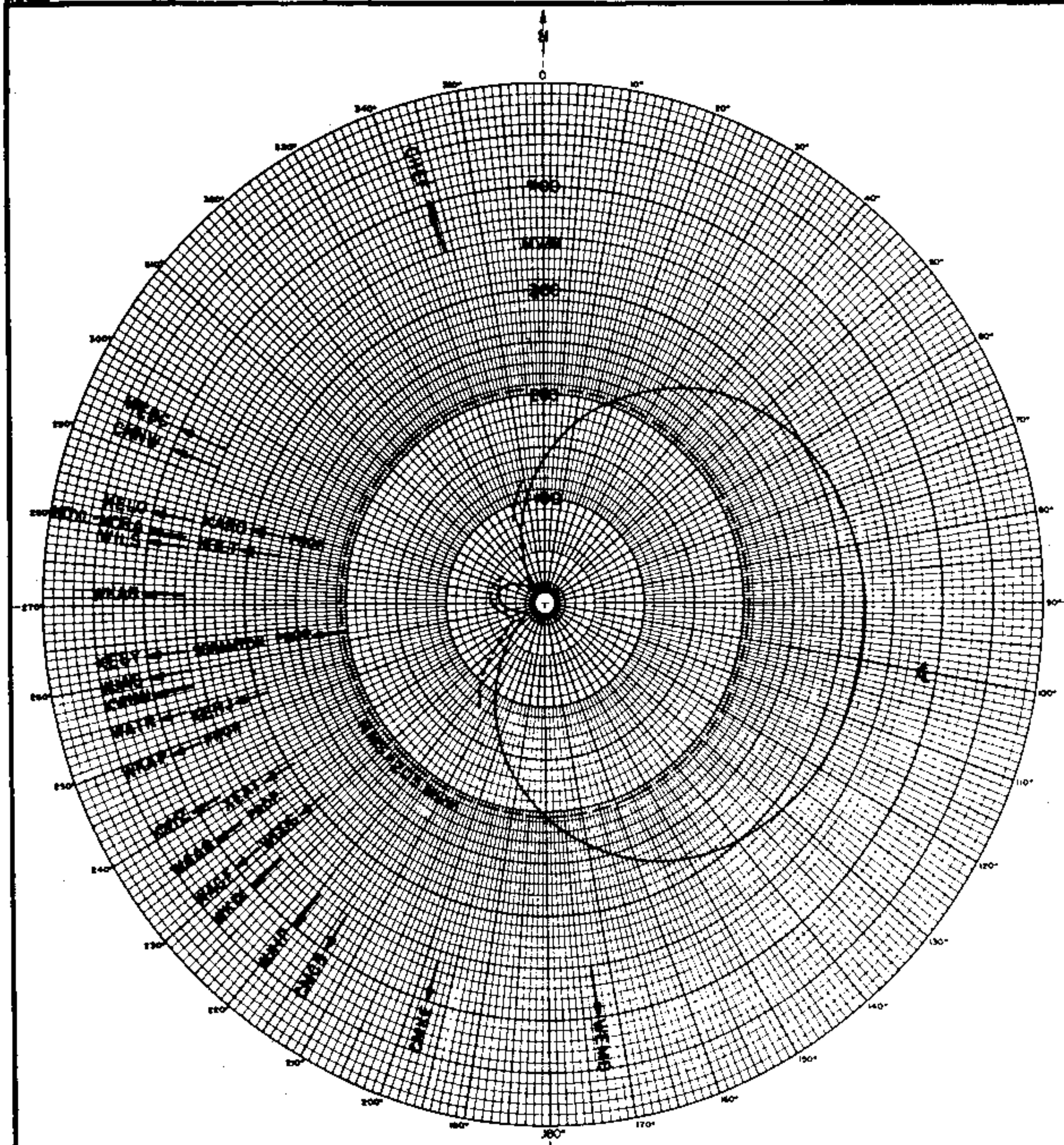
MEASURED DAY WARA, ATTLEBORO, MASS. 1kw, DA-2 1320 kc



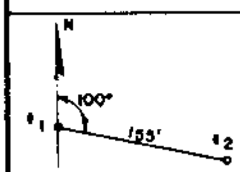
WARA, Attleboro, Mass. 1320 kc

WARA
ATTLEBORO, MAS

PROPOSED NIGHT — NEW, ATTLEBORO, MASS. (Jackson Associates, Inc.) — 1kw, DA2 — APP. 4 — 1320 kc



ANTENNA PARAMETERS



Tower	Electrical Height	True Tower Orientation	Spacing	Phasing	Horizontal Field mv/m	Field Ratio	Elev. Angle	Elevation RMS Field
No.	G°	θ°	S°	Ψ°	E	F		$E_θ$
0							0	205
1	140					1.0	10	
2	110	100	75	-120.5		.9	20	
3							30	
4							40	
5							50	
6							60	
7							70	
8							80	
9							RMS	1.2
							Ant. Gain	

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

JACKSON ASSOCIATES, INC.
ATTLEBORO, MASS.

1320 KC — DA-2 — 1 KW

NIGHTIME

HORIZONTAL RADIATION PATTERN

Latitude 41° 57' 33"
Longitude 71° 19' 37"

Pattern No. 490517

AMENDMENT RECD 6-3-49 BP-6917 6/17/49G — New, Attleboro, Mass. 1320 kc

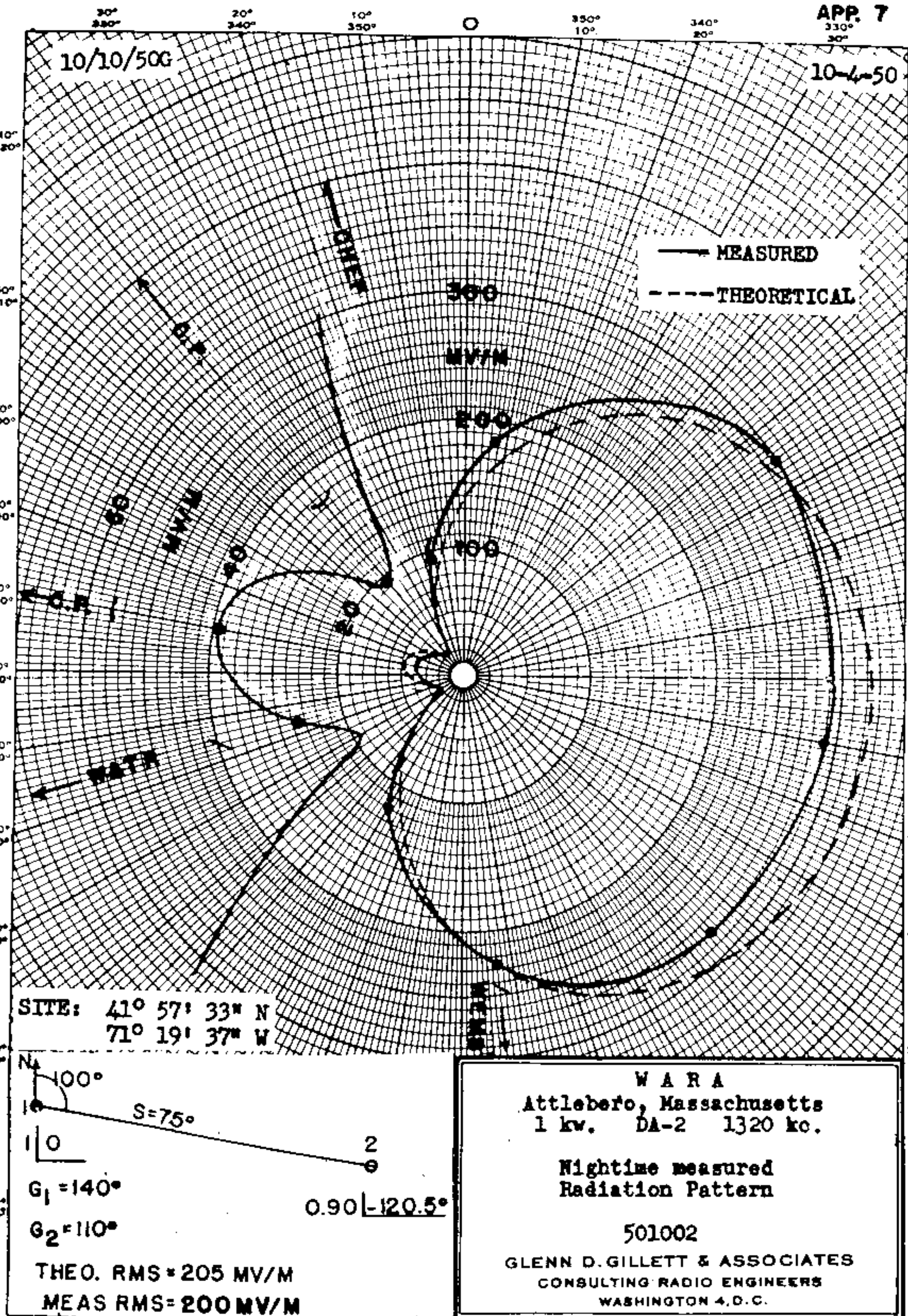
WARA

MEASURED
NIGHT

WARA, ATTLEBORO, MASS.

1kw, DA-2

1320 kc



WARA, Attleboro, Mass. 1320 kc

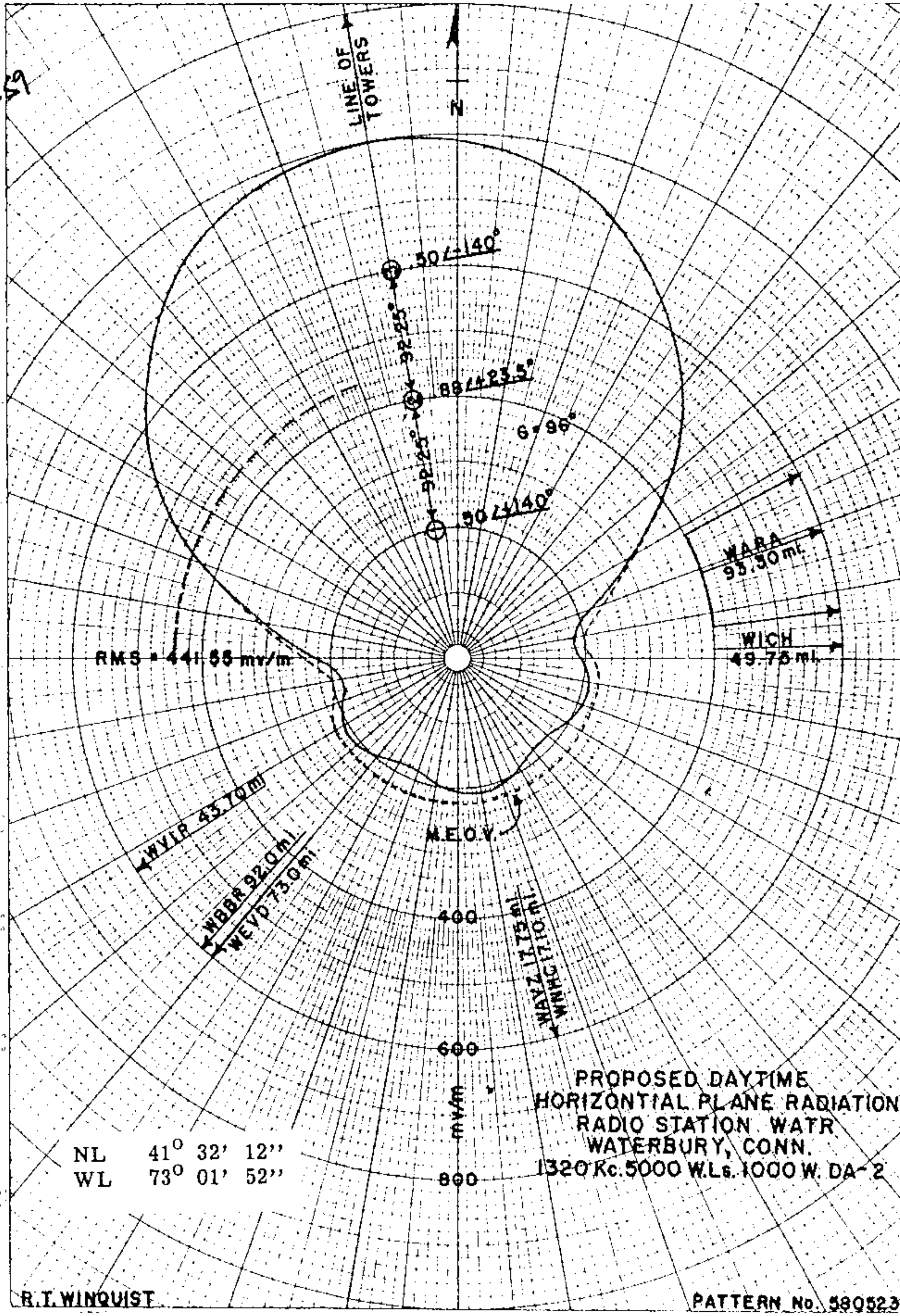
WALR

PROPOSED DAY
(9-11-58g)

Station WATR
Waterbury, Connecticut

1kw,5kw-LS, DA-2,U
1320 KC

Granted cp-6-10-59
or 1Kw n, 5-LS
DA-2 U



FCC File No. BP-12,182
Accepted 8-29-58

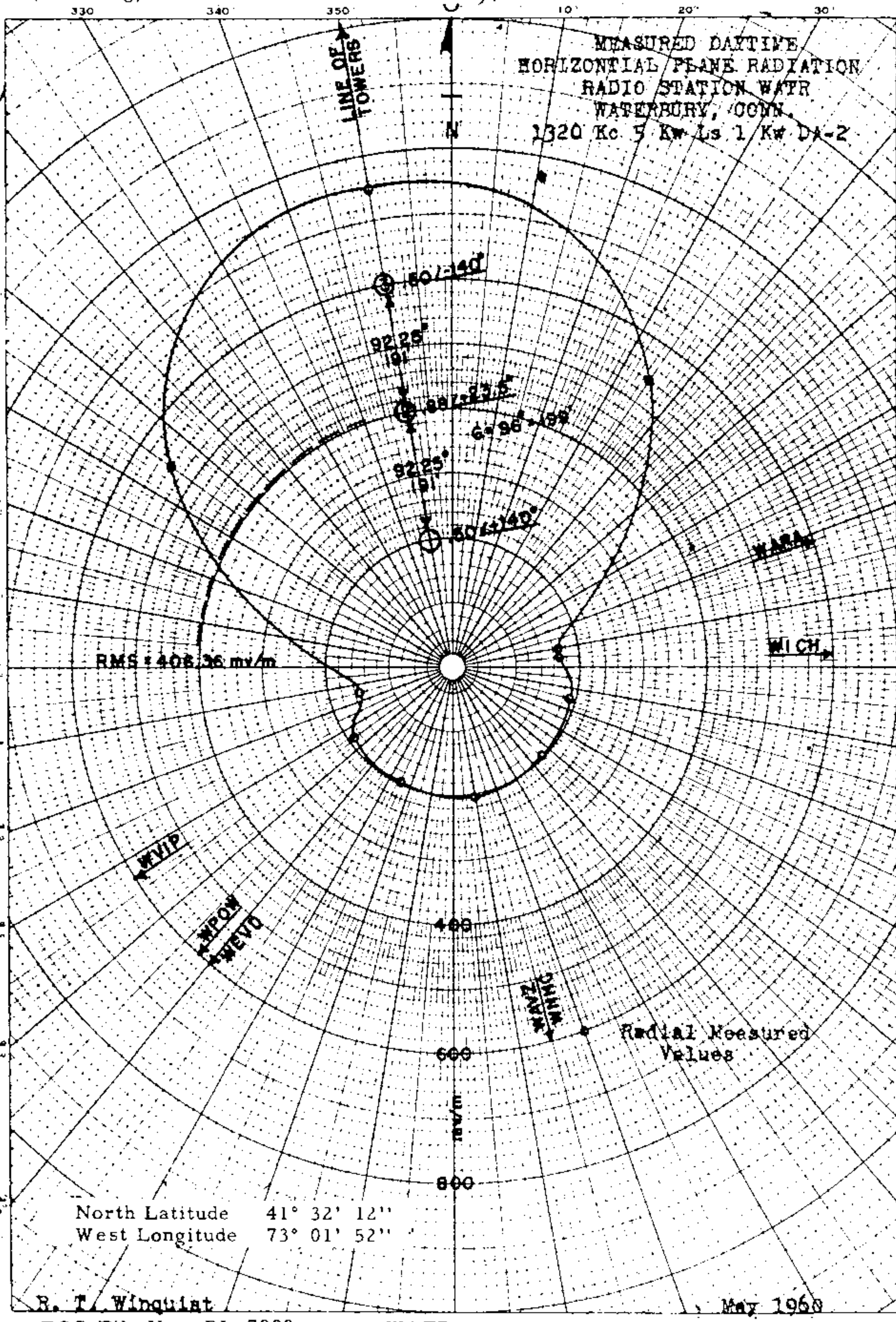
WATR
Waterbury, Connecticut

1320 KC

WATR

11-16-60 wanted L for increase in day power use DA-2

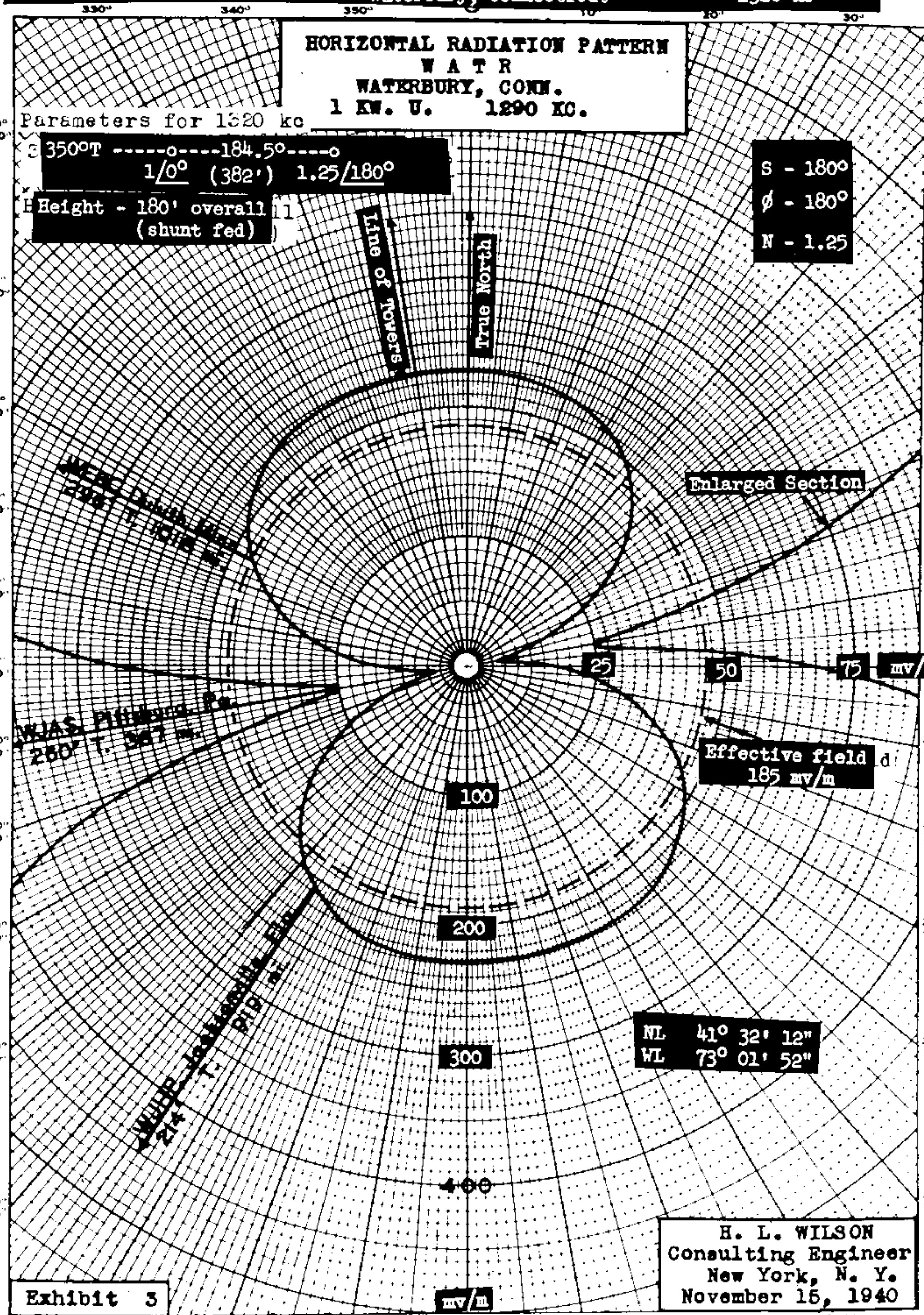
MEASURED DAY Station WATR lkw,5kw-LS, DA-2,U
(7-29-60g) Waterbury, Connecticut 1320 kc



FCC File No. BL-7998 WATR
Accepted 7-15-60 Waterbury, Connecticut 1320 kc

WATR
1320 k

PROPOSED NIGHT
Station WATR
Waterbury, Connecticut
1kw,DA-1,U
1320 KC

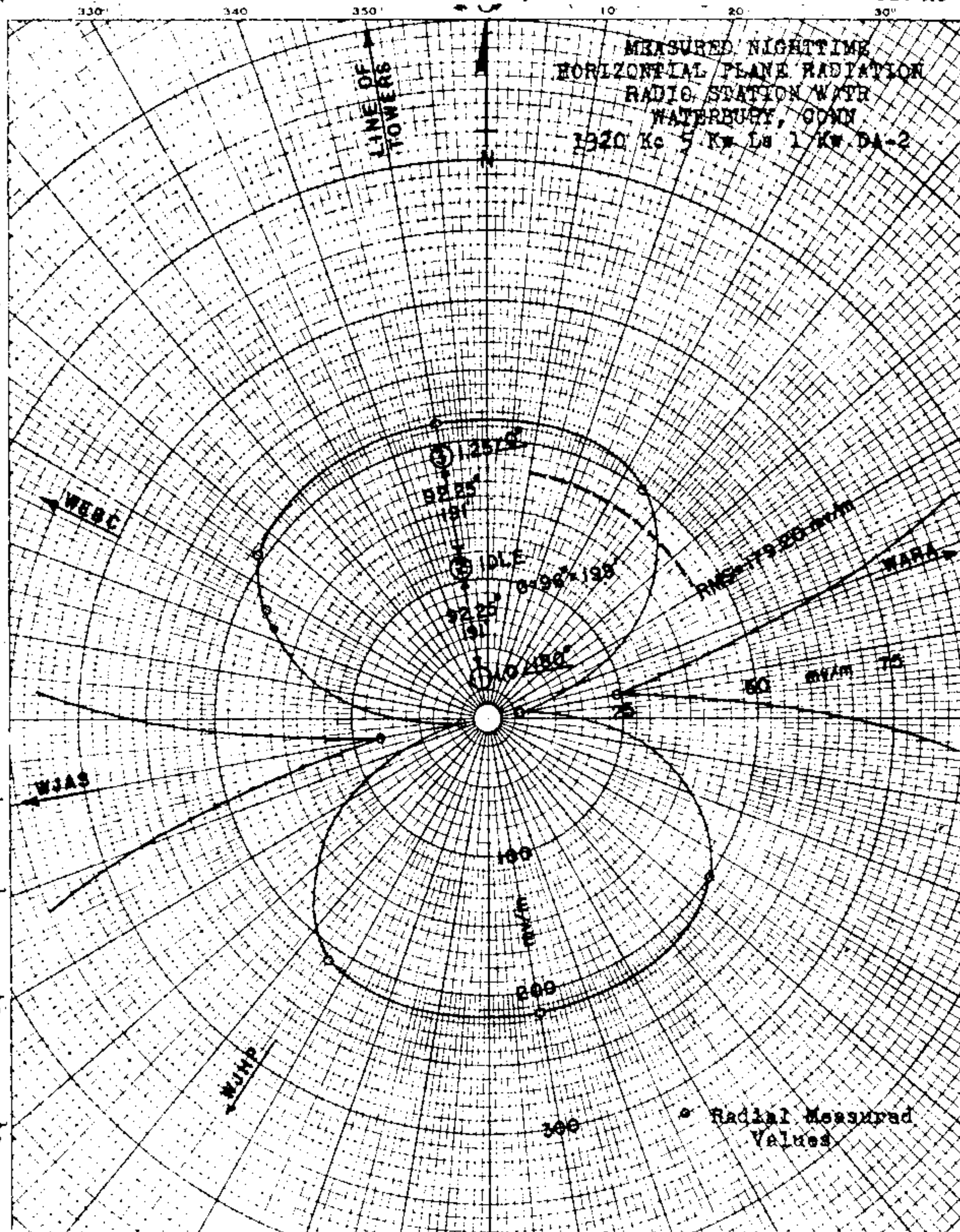


-9

WATR, Waterbury, Conn. 1kw, DA-1, 1320 kc

WATR

MEASURED NIGHT (7-29-60g) | Station WATR, Waterbury, Connecticut | 1kw, 5kw-LS, DA-2, U | 1320 kc



North Latitude 41° 32' 12"
West Longitude 73° 01' 52"

R. T. Winqvist | April 1960

FCC File No. BL-7998
Accepted 7-15-60

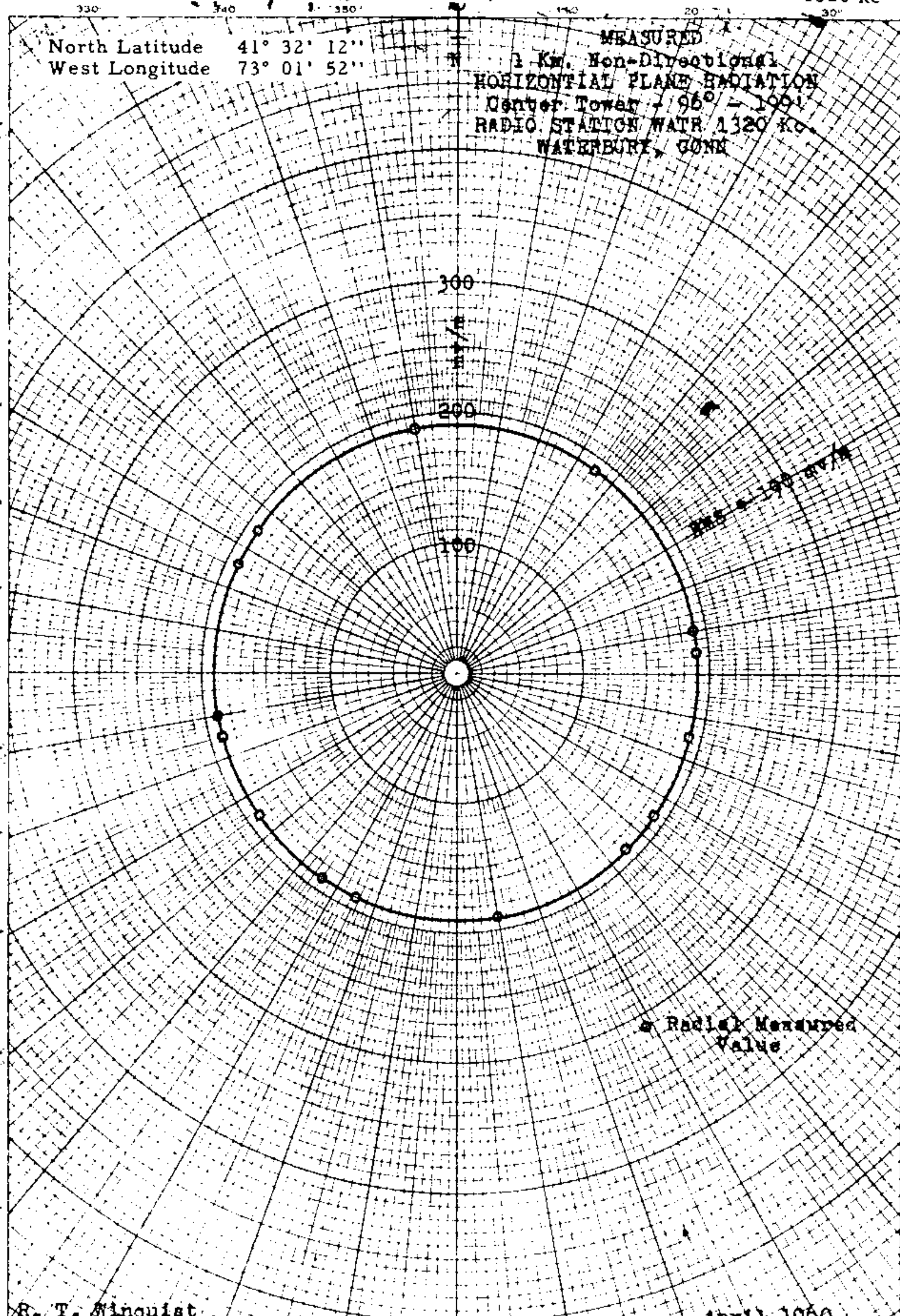
WATR
Waterbury, Connecticut 1320 kc

WATR

MEASURED NON-DA
(7-29-60g)

Station WATR
Waterbury, Connecticut

1kw,5kw-LS, DA-2,U
1320 kc



FCC File No. BL-7998
Accepted 7-15-60

WATR
Waterbury, Connecticut

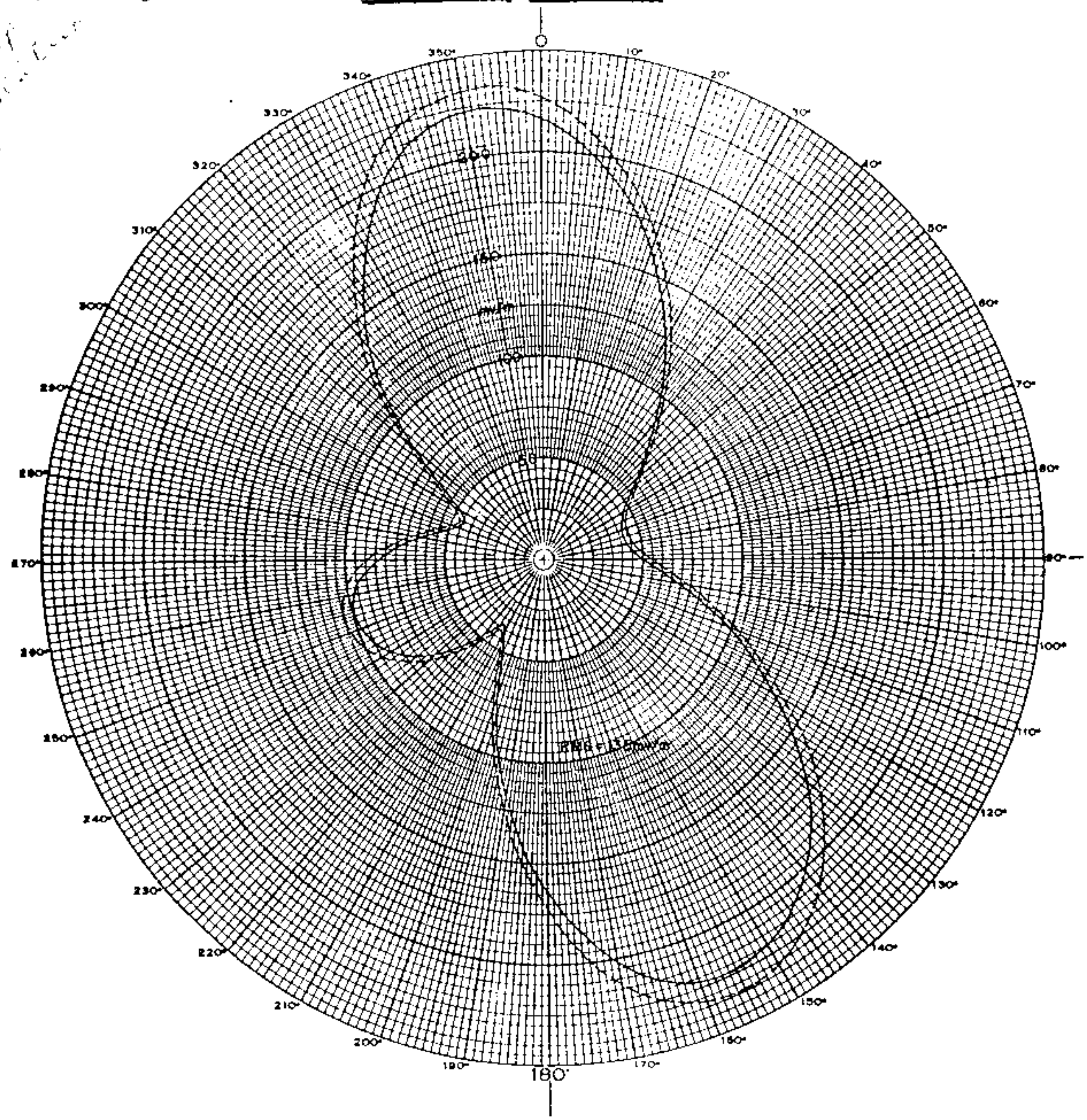
1320 kc

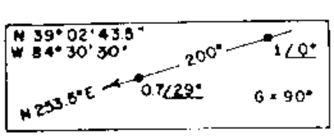
WCLU

PROPOSED DAY
(3-8-61g)

New; Kenton County Bcstrs.
Covington, Kentucky

500w, DA-D,D
1320 KC





CREUTZ, STEEL & SNOWBERGER

Figure 3
Calculated Horizontal Plane Pattern
Kenton County Broadcasters
Covington, Kentucky
1320Kc, 0.5Kw, DA-D
January 1961

FCC File No. BP-14613
Accepted 2-20-61

Kenton County Broadcasters
Covington, Kentucky
1320 KC

WCLU

Measured Day
(11-29-65ct)

Station WCLU
Covington, Kentucky

500w, DA-D, D
1320 kc

10 7-7-66

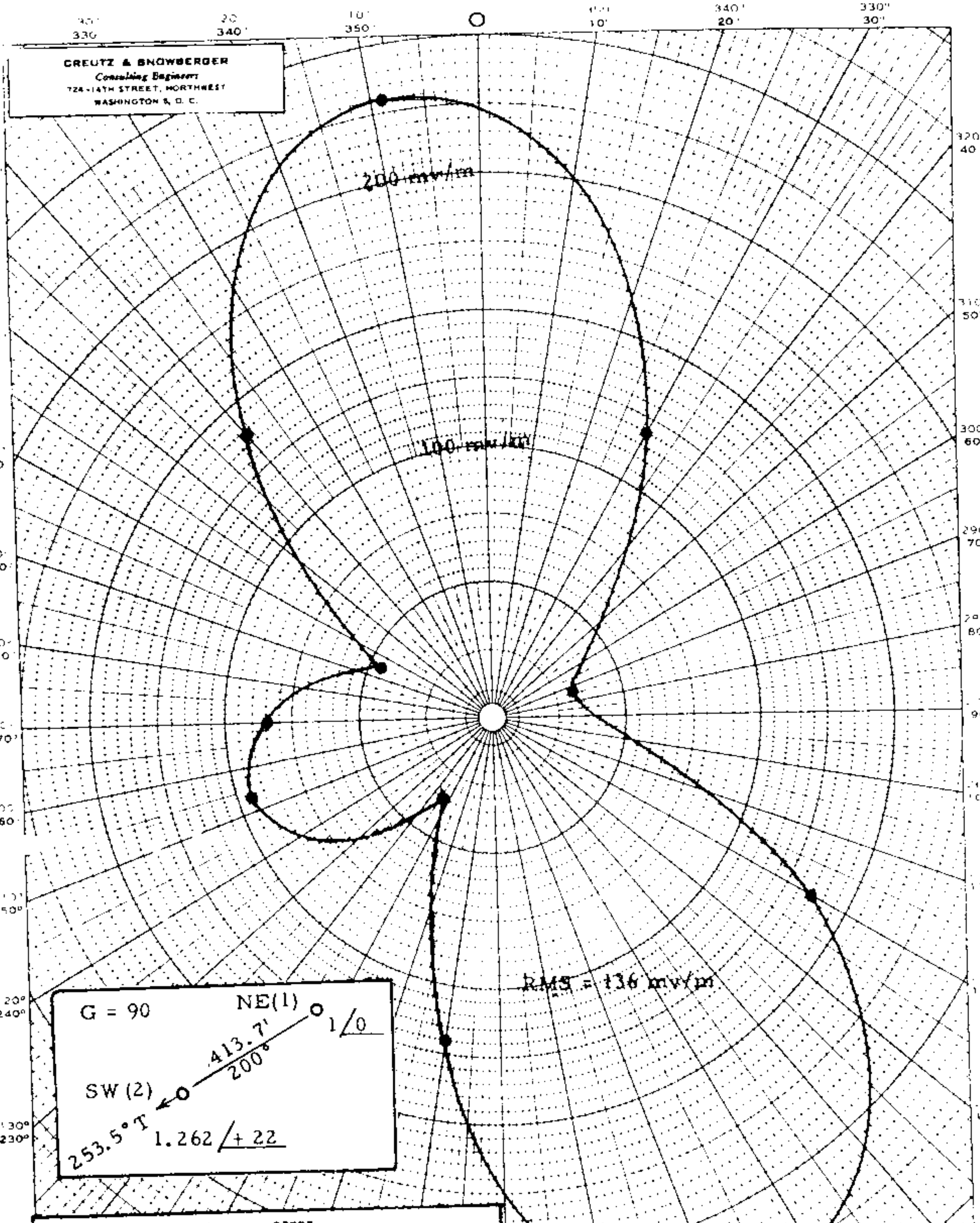


Figure XIII
Measured Directional Daytime Pattern
Kenton County Broadcasters
Radio Station WCLU
Covington, Kentucky
1320Kc 500 Watts DA-D
October 1965

North Latitude 39° 02' 43.5"
West Longitude 84° 30' 30"

FCC File No. BL-11124
Accepted 11-23-65

Station WCLU
Covington, Kentucky

1320 kc

WCLU

Measured Non-DA
(11-29-65ct)

Station WCLU
Covington, Kentucky

500w,DA-D,D
1320 kc

IC 7-7-66

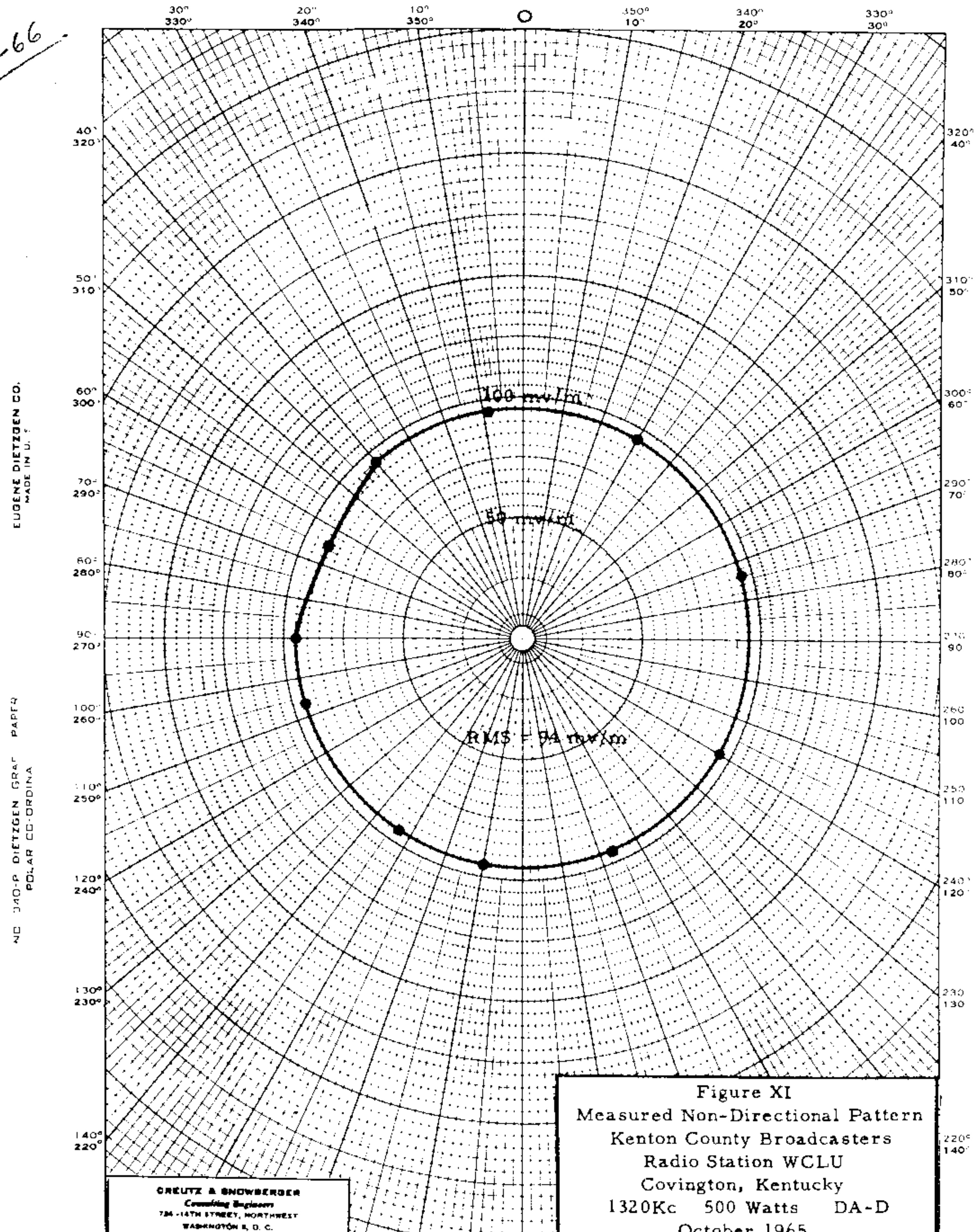


Figure XI
Measured Non-Directional Pattern
Kenton County Broadcasters
Radio Station WCLU
Covington, Kentucky
1320Kc 500 Watts DA-D
October 1965

FCC File No. BL-11124
Accepted 11-23-65

Station WCLU
Covington, Kentucky

1320 kc

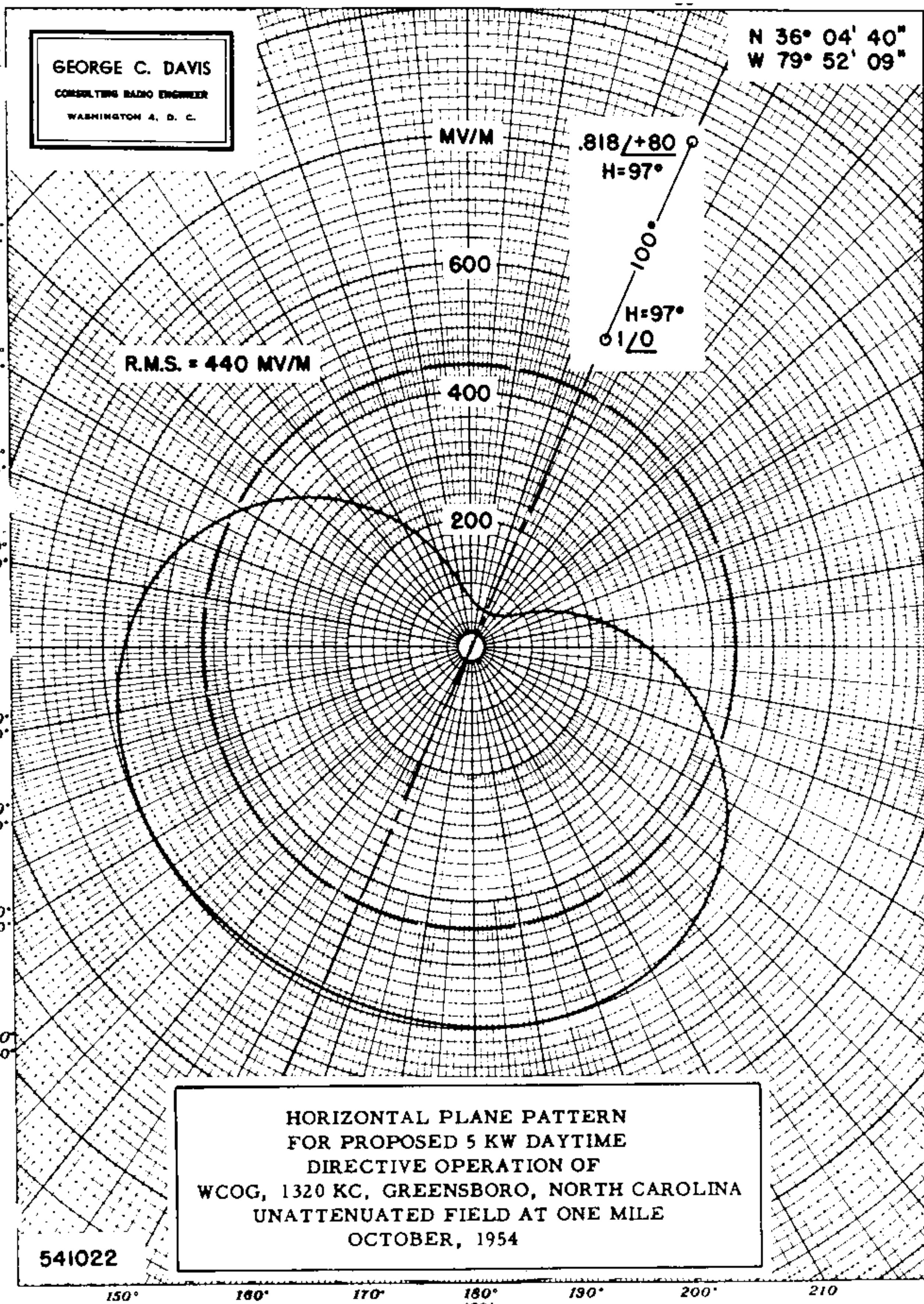
WCOG

PROPOSED DAY
10/6/55G

STATION WCOG
GREENSBORO, N.C.

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

1320 KC

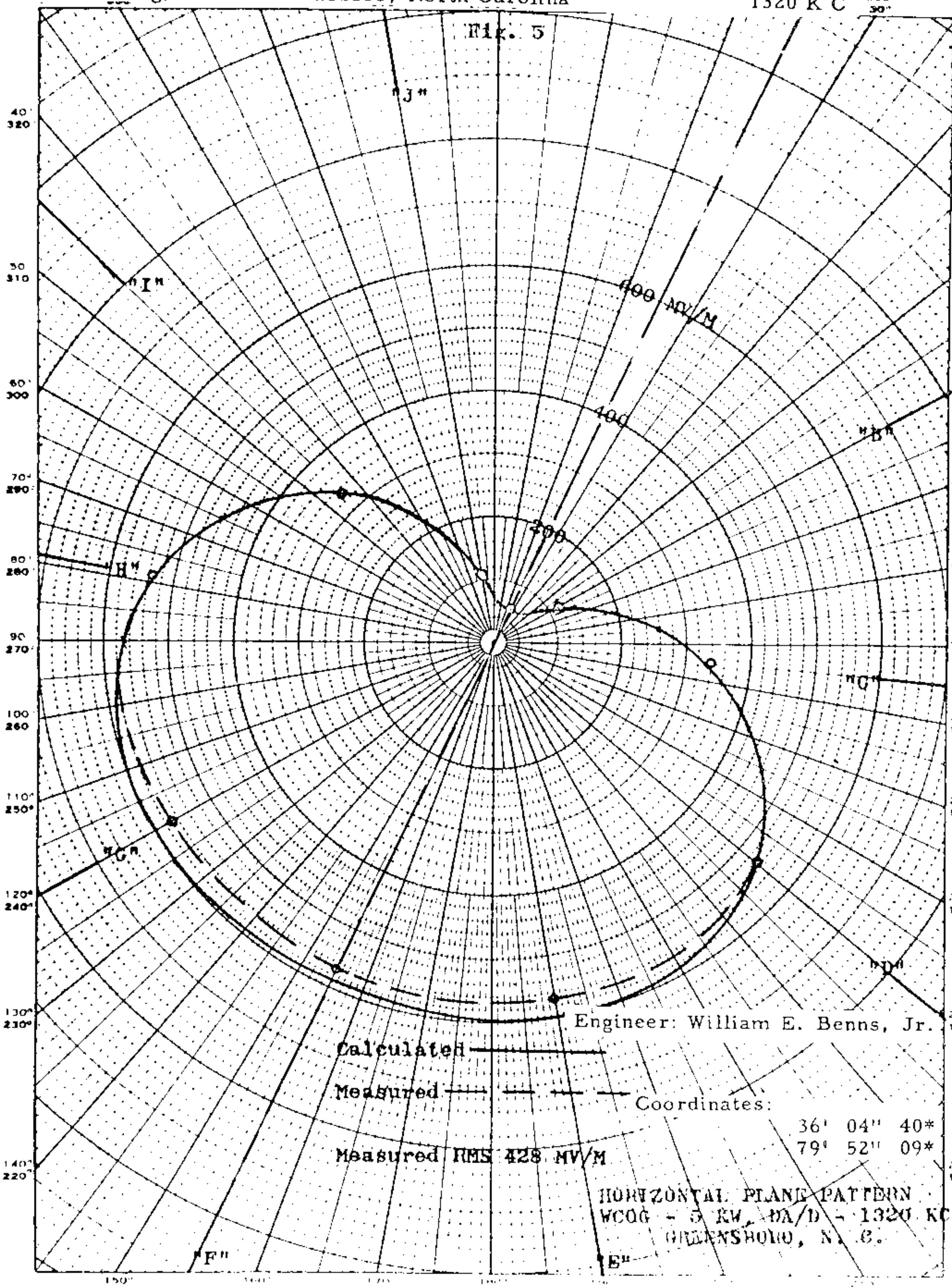


HORIZONTAL PLANE PATTERN
FOR PROPOSED 5 KW DAYTIME
DIRECTIVE OPERATION OF
WCOG, 1320 KC, GREENSBORO, NORTH CAROLINA
UNATTENUATED FIELD AT ONE MILE
OCTOBER, 1954

granted license 3/20/57

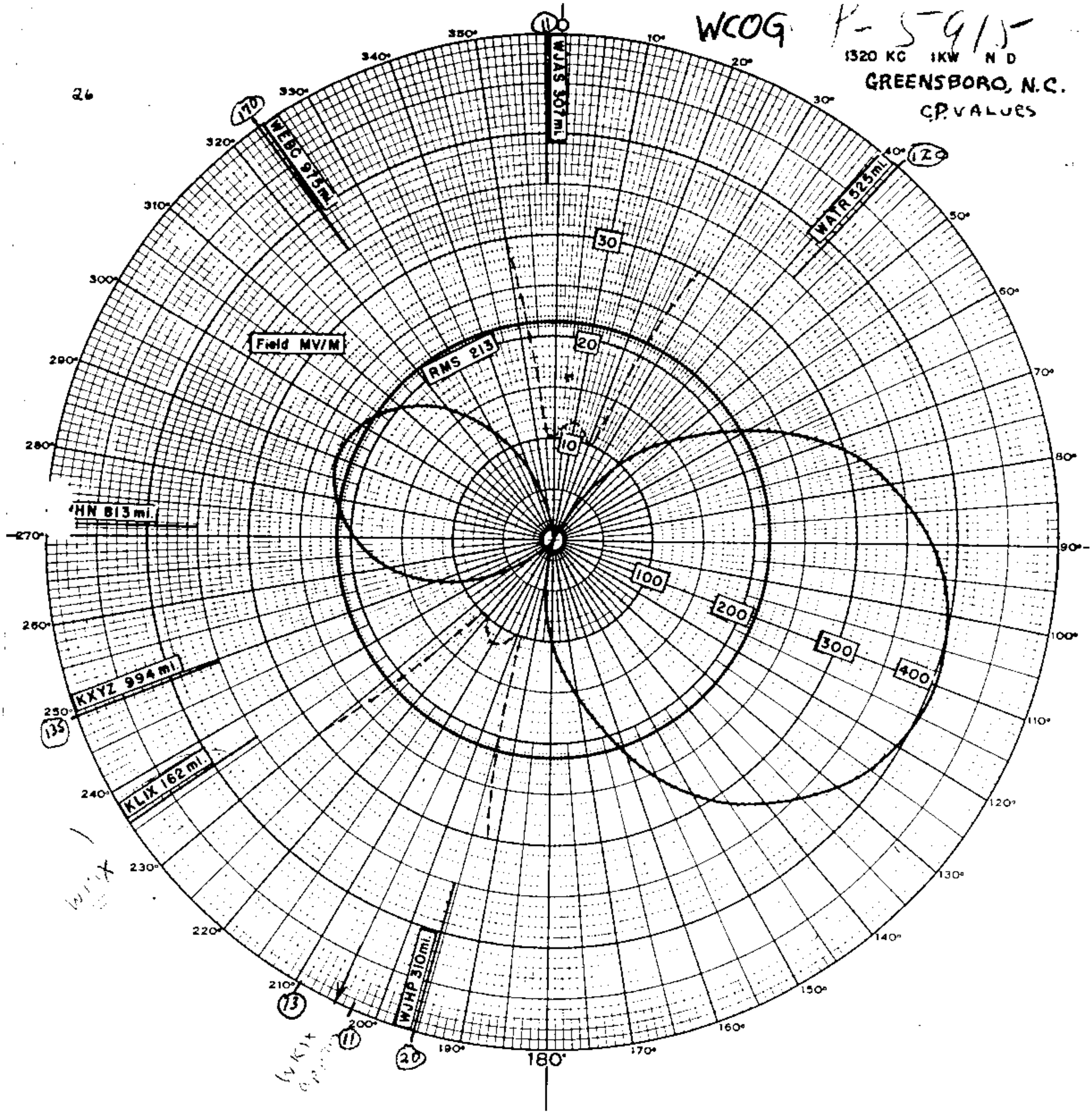
WCOG

MEASURED DAY (1-29-57g) Station W C O G 1 KW-N, 5KW-D, DA-2
Greensboro, North Carolina 1320 K C



FCC File No. BL-6454 Accepted 1-14-57 WCOG
Greensboro, N. C. 1320 K C

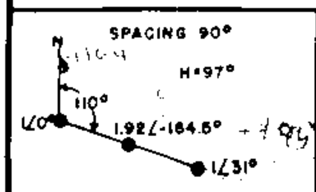
26



INTER-CITY ADVERTISING CO.
GREENSBORO, N. C.

Figure 1
Series 470201C

1320 KC
1000 WATTS
DAY-NIGHT



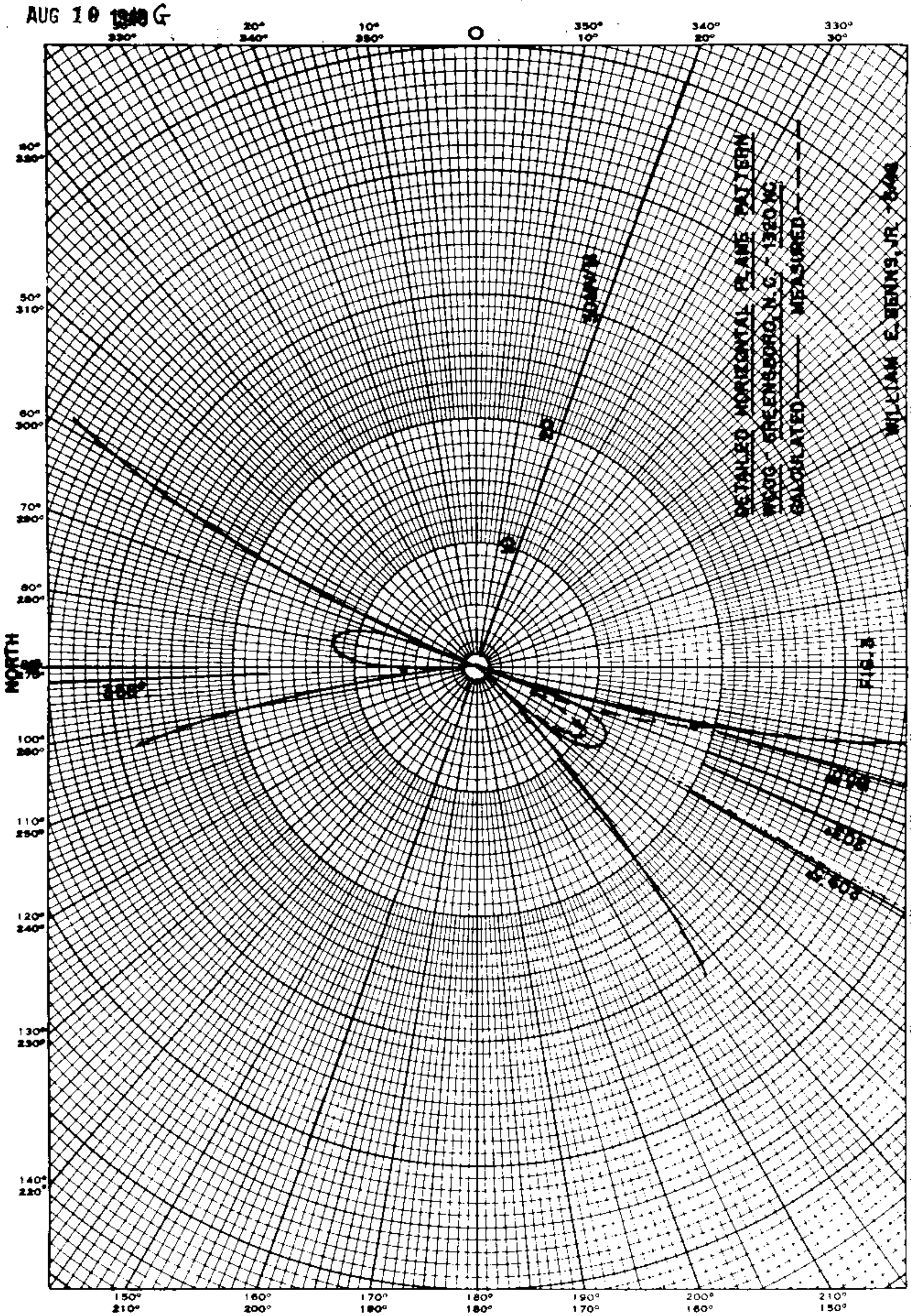
PROPOSED

DIRECTIONAL ANTENNA PATTERN

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

WCOG
1320

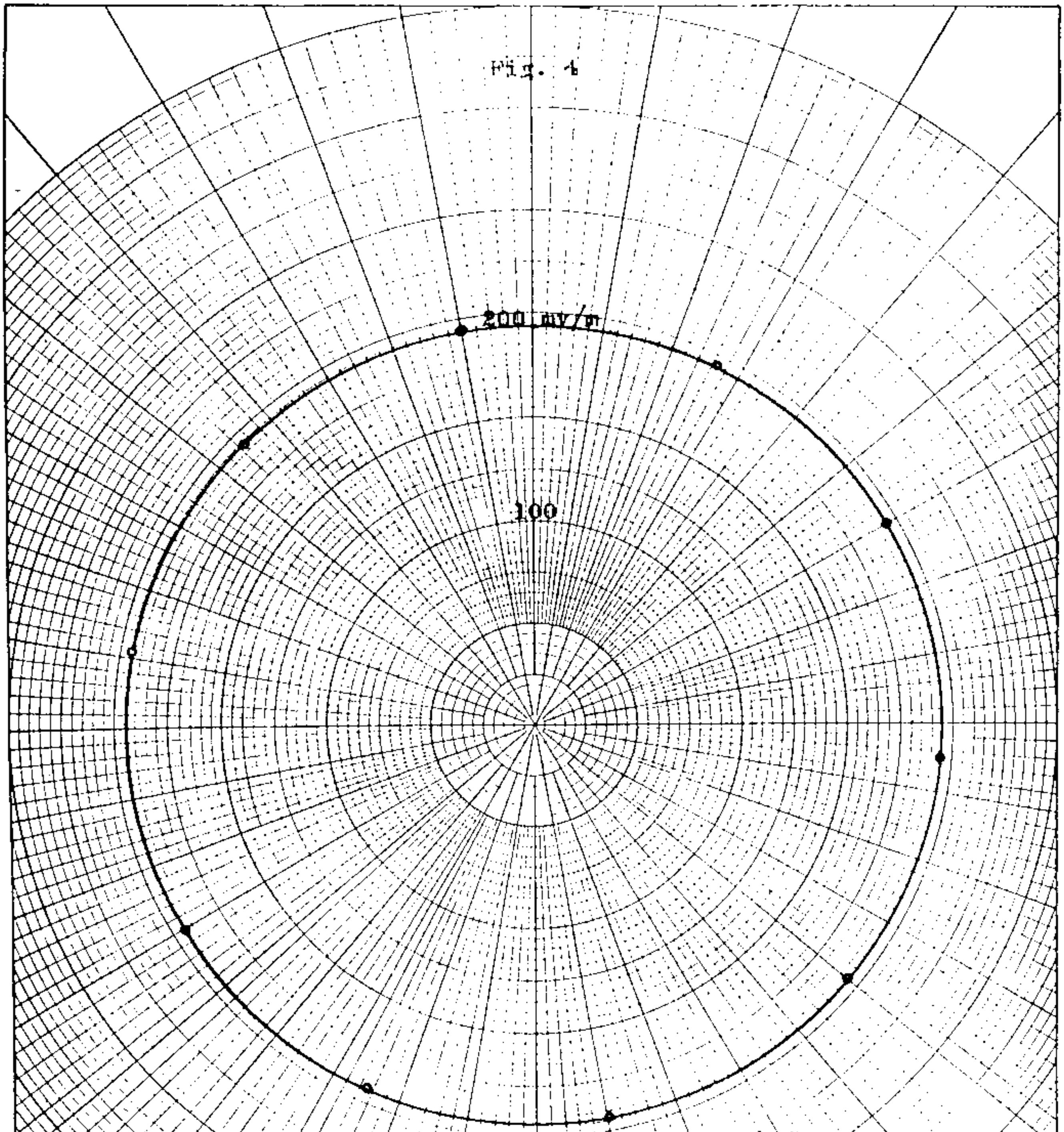
AUG 10 1948 G



granted license 2/20/57 WCOG

NON-DA (per report #46)

MEASURED ~~DAY NULL~~ Station W C O G 1 KW-N, 5KW-D, DA-2
(1-29-57g) Greensboro, N.C. 1320 K C



Engineer: William E. Benns, Jr.

Coordinates:
36' 04" 40*
79' 52" 09*

HORIZONTAL PLANE PATTERN
1 KW, Non DA - WCOG
1320 KC, Greensboro, N. C.

FCC File No. BL-6454

Accepted 1-14-57

WCOG
Greensboro, N.C. 1320 K C

WDMJ
1320KHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: W D M J

Main Studio: Marquette, Michigan

Frequency: 1320 kHz

Power 1 kW Night 5 kW Day

Notification List No. 1784

Date: November 9, 1979 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 46° 32' 45"
West Longitude: 87° 26' 38"

ANTENNA CHARACTERISTICS

Authorized for Nighttime operation. (DA-N)
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:	260'	260'	260' (126.0°)
NIGHT PHASING:	0°	-130°	100°
NIGHT FIELD RATIO:	1.0	1.4	0.49

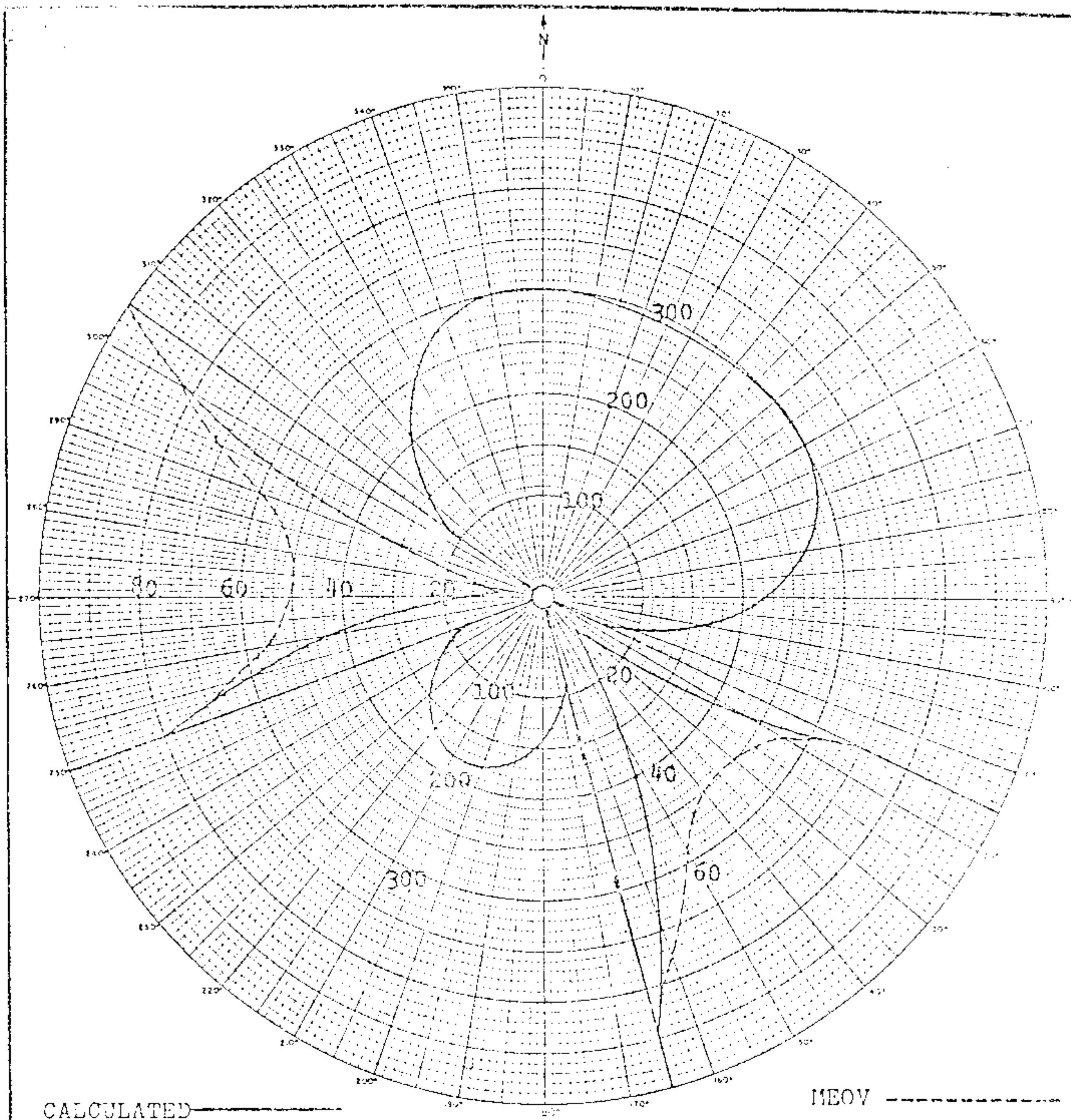
SPACING AND ORIENTATION: Adjacent towers in a row are spaced 310'(150°) on a line bearing 26.5° true.

GROUND SYSTEM: 180-260' 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.

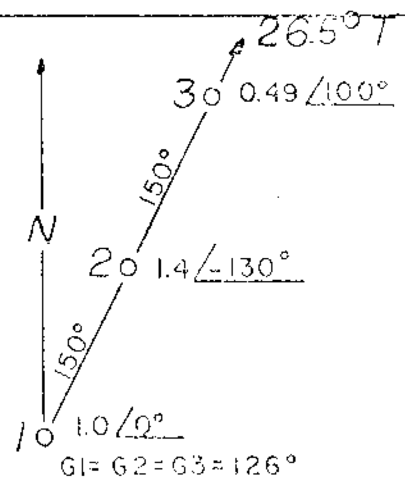
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	458.4 mV/m		
Night	196 mV/m		205.8 mV/m

WDMJ
1320KC



HORIZONTAL RADIATION PATTERN



APPLICANT	WDMJ
LOCATION	MARQUETTE, MICHIGAN
FREQUENCY	1320 KC/S
POWER	1.0 KW
LATITUDE	46 DEG 32 MIN 45 SEC
LONGITUDE	87 DEG 26 MIN 38 SEC
WHEN USED	DA-N
RMS FIELD	196 mV/m
DATE	JUNE 16, 197[illegible]

D. L. MARKLEY & ASSOC., INC.
Consulting Engineers

WDMJ

SUPPLEMENTAL AND CORRECTED
DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WDMJ

Main Studio: Marquette, Michigan

Frequency: 1320 KHz

Power: 1 Kw Night 5 Kw Day

Notification: 1778

Date: August 30, 1978 Class: III

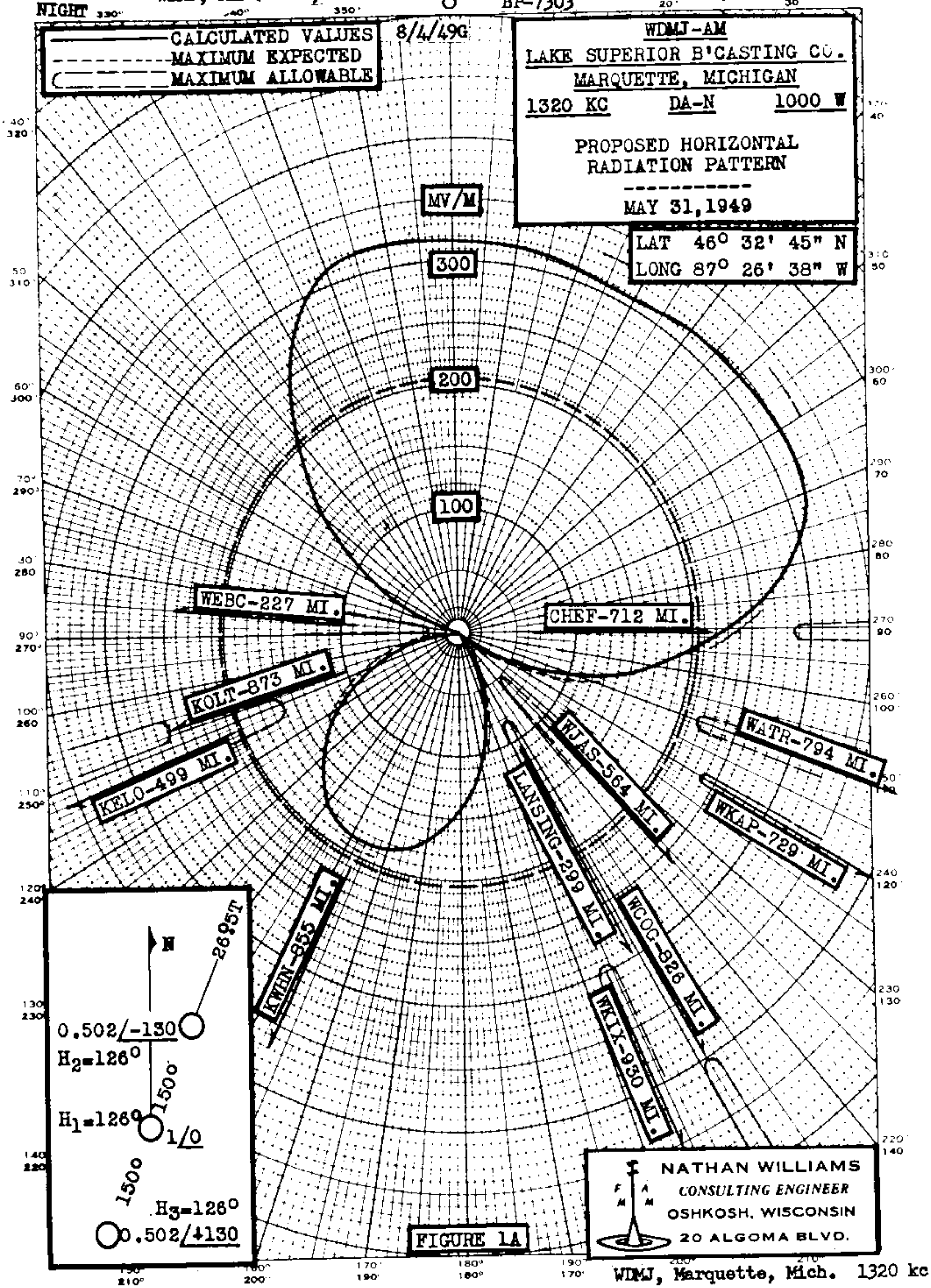
GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:				
	North Latitude:	46°	32'	45"
	West Longitude:	87°	26'	38"

---

* Note: Please retain the description sheet and directional antenna radiation patterns notified for station WDMJ in United States Change List Number 364, dated June 22, 1950 and attach to this supplemental Description Sheet. This notification is for the purpose of indicating only an increase in the daytime power from 1 Kw to 5 Kw..

WDMJ

PROPOSED NIGHT WDMJ, MARQUETTE, MICH. 7-28-49 BP-7303 1kw, DAN 1320 kc



WDMJ, Marquette, Mich. 1320 kc

WDMJ

PROPOSED NIGHT NULLS WDMJ, MARQUETTE, MICH. BP-7303 7-28-49 1kw, DAN 1320 kc

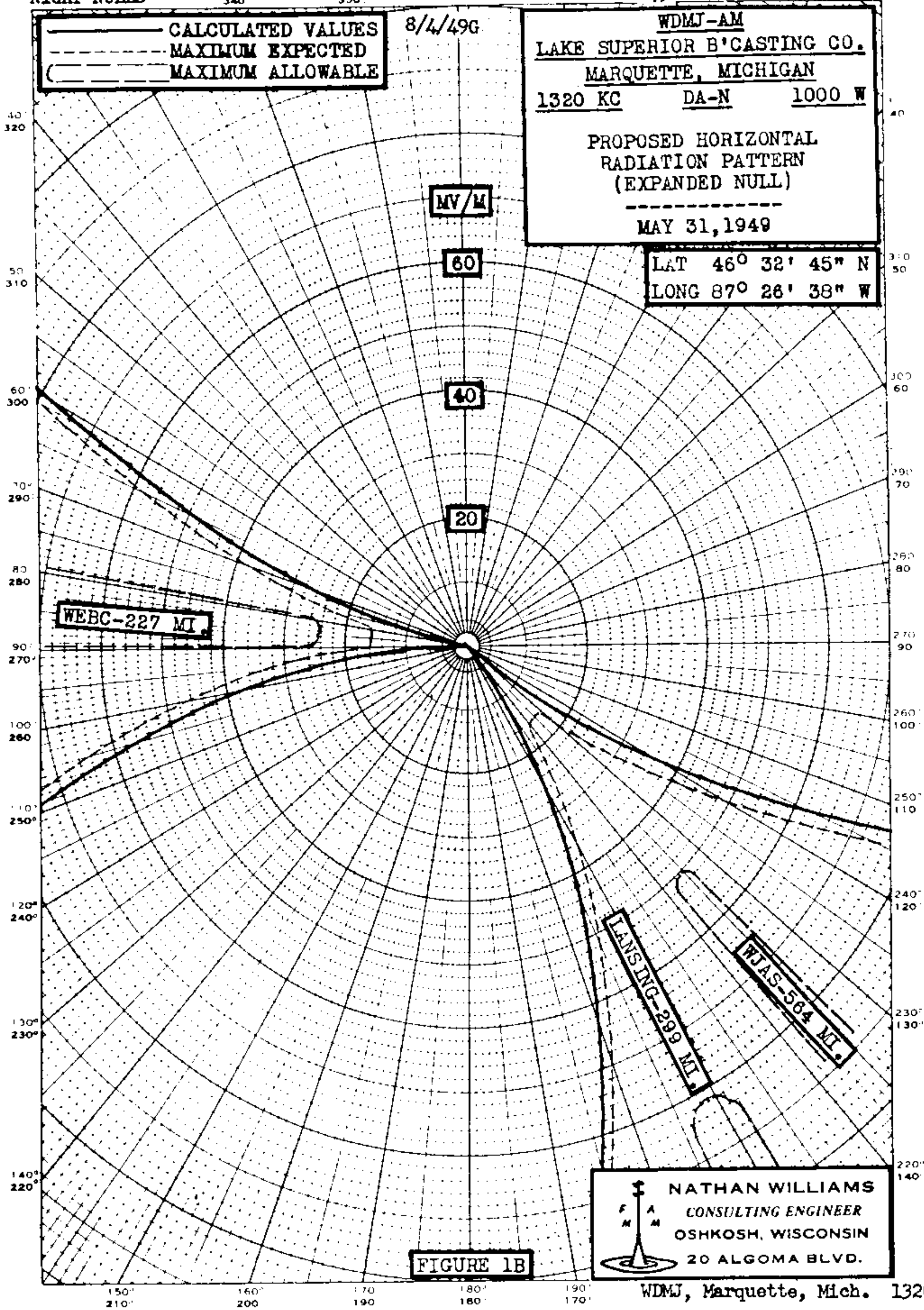
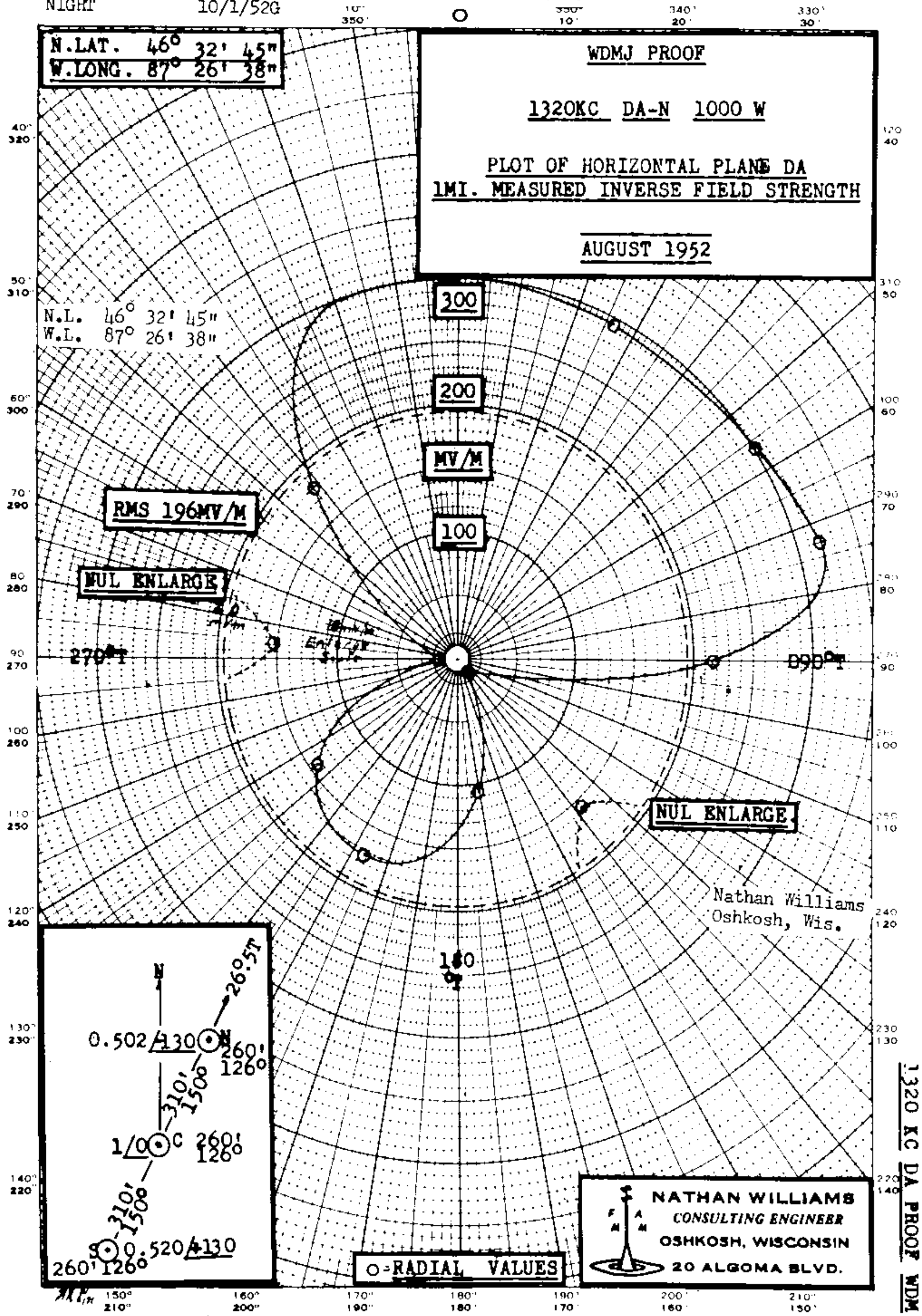


FIGURE 1B

WDMJ, Marquette, Mich. 1320 kc

WDMJ

MEASURED NIGHT | WDMJ, MARQUETTE, MICH. 10/1/52G | 1 KW, U, DA-N | 1320 KC



APPL RECD FCC 9/4/52 ACC 9/24/52 BL-4776 WDMJ, MARQUETTE, MICH. 1320 KC

WEET

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WEET

Main Studio: Richmond, Virginia

Frequency: 1320 kHz

Power: 5 kW

Notification List No. 1698

Date: August 18, 1976

Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 37° 23' 00"
West Longitude: 77° 27' 08"

ANTENNA CHARACTERISTICS

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

TOWER:	NW(#4)	SW(#3)	NE(#2)	SE(#1)	
HEIGHT ABOVE INSULATORS:	175'	175'	175'	175'	(84.51°)
PHASING:	-161.7°	-38.80	-147.20°	0°	
FIELD RATIO:	0.8757	1.065	0.9698	1	

SPACING AND ORIENTATION: The towers are located at the vertices of a parallelogram the long sides of which are 372.565' (180°) in length on a line bearing 277° true. The short sides are 206.98' (100°) in length on a line bearing 317° true.

GROUND SYSTEM: 120-180' equally spaced copper radials plus 120-50' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of systems are bonded together.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL		STANDARD
RMS	RSS	RMS
405.95 mv/m	547.37 mv/m	426.25 mv/m

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WEET

Main Studio: Richmond, Virginia

Frequency: 1320 kHz

Power: 5 kW

Notification List No. 1566

Date: February 6, 1974

Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 37° 28' 00"
West Longitude: 77° 27' 08"

ANTENNA CHARACTERISTICS

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

TOWER:	NW(#4)	SW(#3)	NE(#2)	SE(#1)	
HEIGHT ABOVE INSULATORS:	175'	175'	175'	175'	(84.51°)
PHASING:	-161.7°	-38.80	-147.20°	0°	
FIELD RATIO:	0.8757	1.065	0.9698	1	

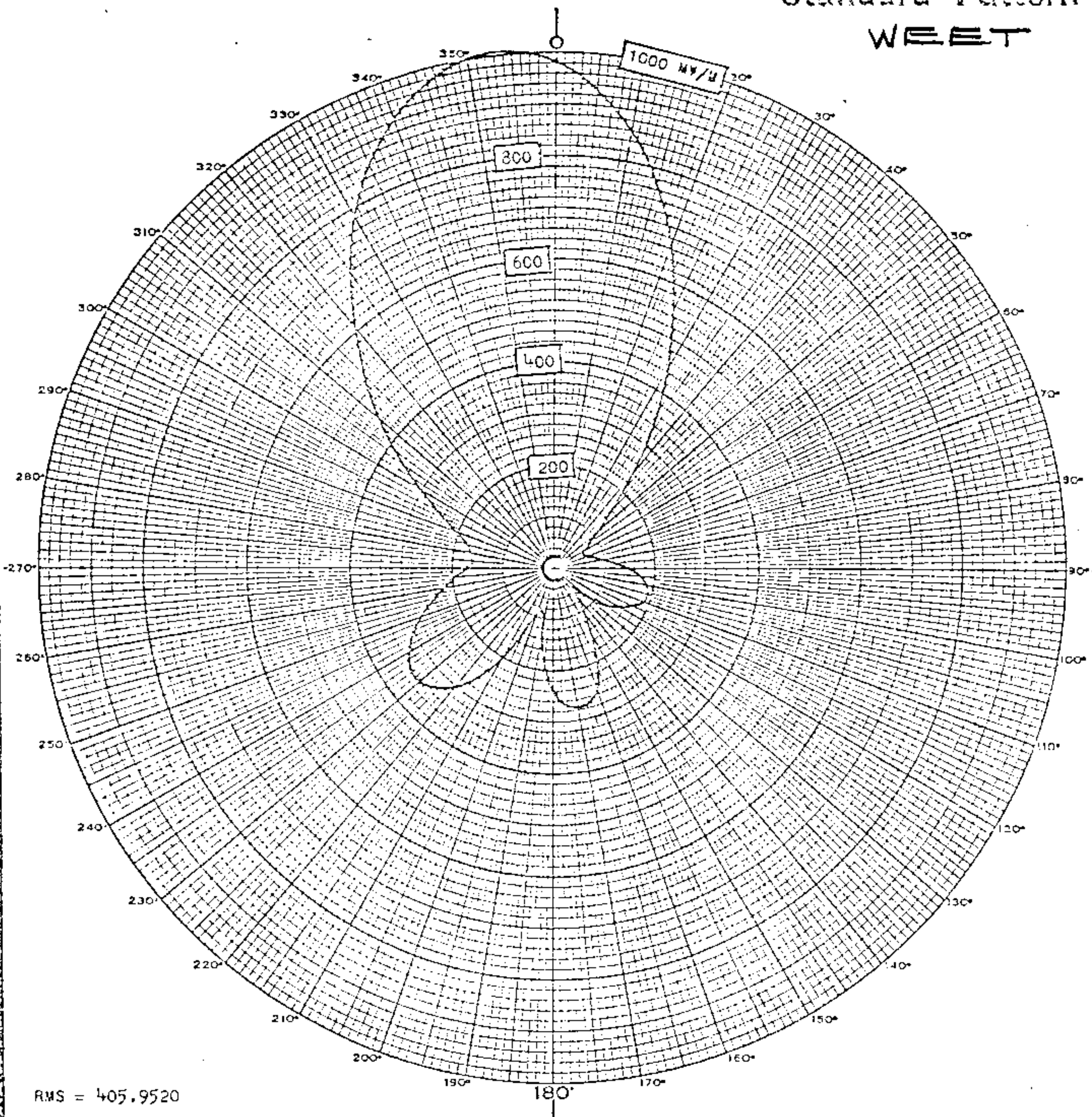
SPACING AND ORIENTATION: The towers are located at the vertices of a parallelogram the long sides of which are 372.565' (180°) in length on a line bearing 277° true. The short sides are 206.98' (100°) in length on a line bearing 317° true.

GROUND SYSTEM: 120-180' equally spaced copper radials plus 120-50' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of systems are bonded together.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL		STANDARD
RMS	RSS	RMS
405.95 mv/m	547.37 mv/m	426.25 mv/m

Standard Pattern
WEET



RMS = 405.9520

RSS = 547.3713

RSS/RMS = 1.3484

RMS STANDARD RADIATION PATTERN = 426.2496

NOVEMBER 30, 1973

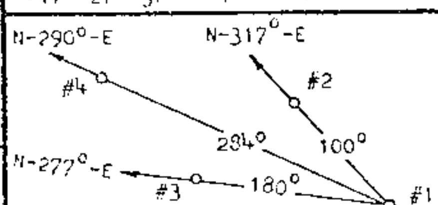
LATITUDE: 37° 28' 00"

LONGITUDE: 77° 27' 08"

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

ANTENNA PARAMETERS

G_1, G_2, G_3, & G_4 = 84.51°



TOWERS

#1= 1∠0°

#2= 0.9698∠-147.20°

#3= 1.0 5∠-38.80°

[illegible]

FIGURE 4

PROPOSED DIRECTIONAL ANTENNA PATTERN

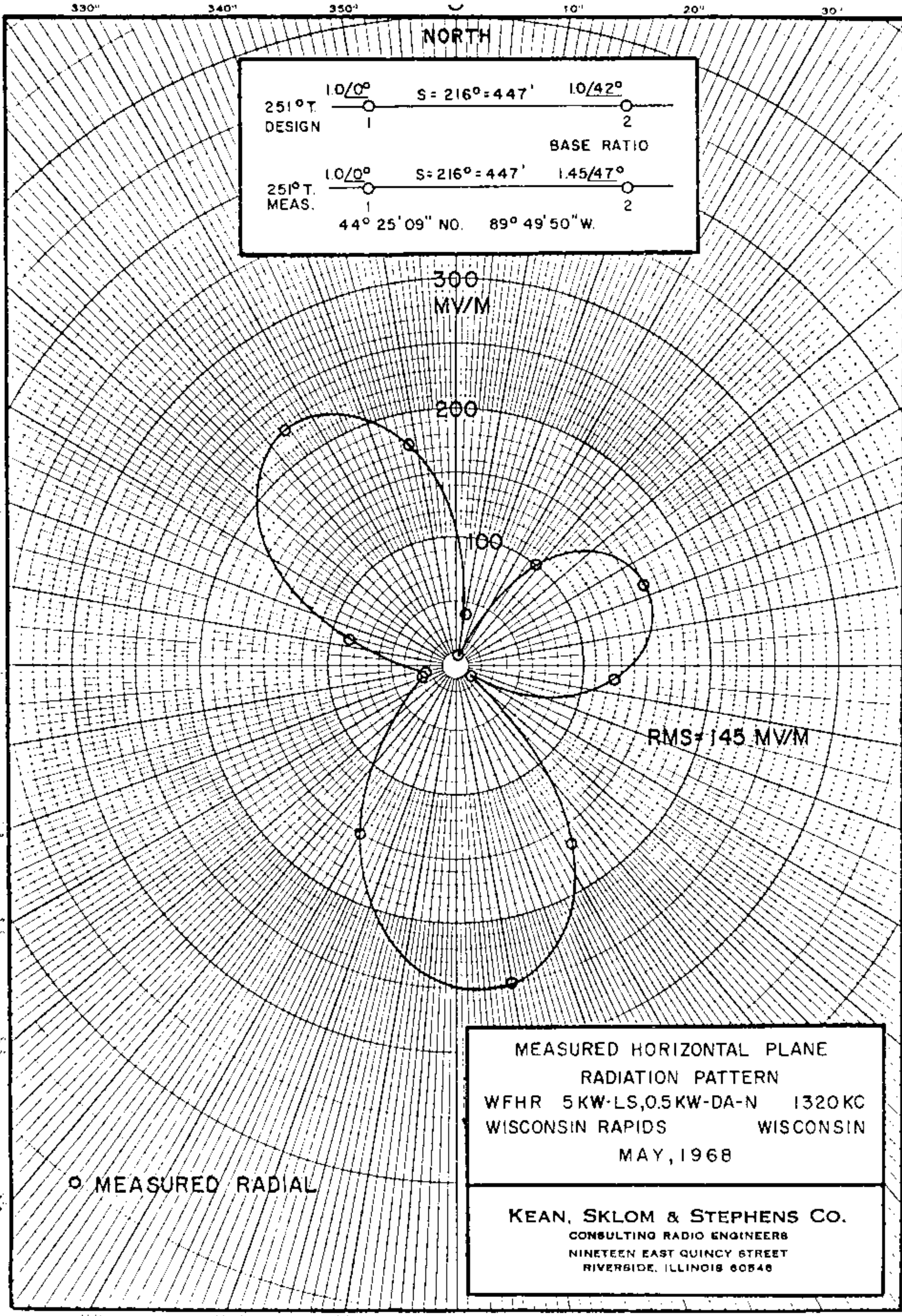
RADIO STATION WEET
RICHMOND, VIRGINIA
1320 KHz 5 KW, DA-DAY

WFHR

Measured Night
(3-28-69ct)

Station WFHR
Wisconsin Rapids, Wisconsin

500w,5kw-LS,DA-N,U
1320 kc



FCC File No.BZ-7136
Accepted 3-18-69

Station WFHR
Wisconsin Rapids, Wisconsin

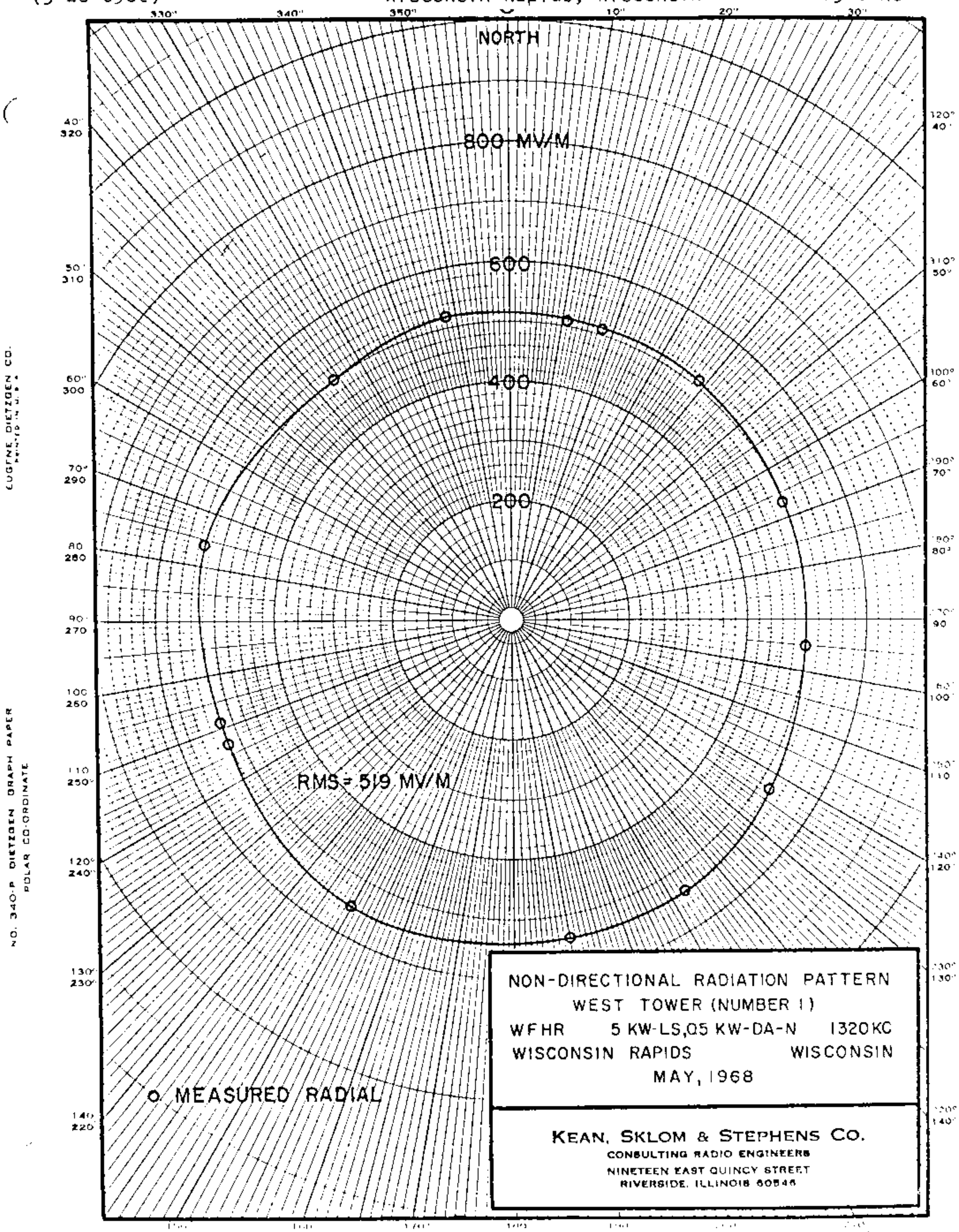
1320 kc

WFHR

Measured Non-DA
(3-28-69ct)

Station WFHR
Wisconsin Rapids, Wisconsin

500w,5kw-LS,DA-N,U
1320 kc



FCC File No.BZ-7136
Accepted 3-18-69

Station WFHR
Wisconsin Rapids, Wisconsin

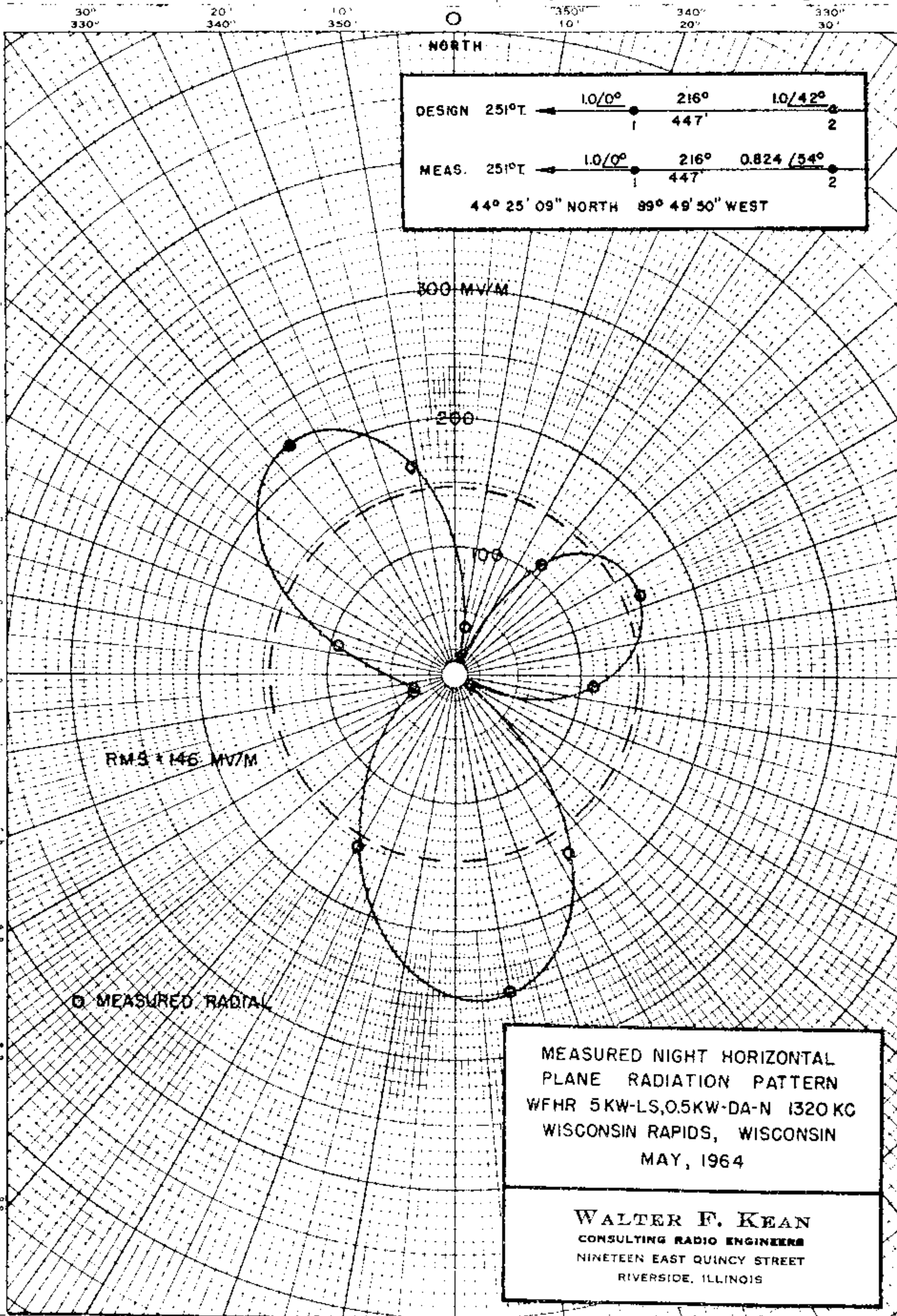
1320 kc

WFHR

Measured Night
(11-27-64ct)

Station WFHR
Wisconsin Rapids, Wisconsin

500w,5kw-LS,DA-N,U
1320 kc



MEASURED NIGHT HORIZONTAL PLANE RADIATION PATTERN
WFHR 5KW-LS,0.5KW-DA-N 1320 KC
WISCONSIN RAPIDS, WISCONSIN
MAY, 1964

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

FCC File No. BZ-5288
Accepted 10-27-64

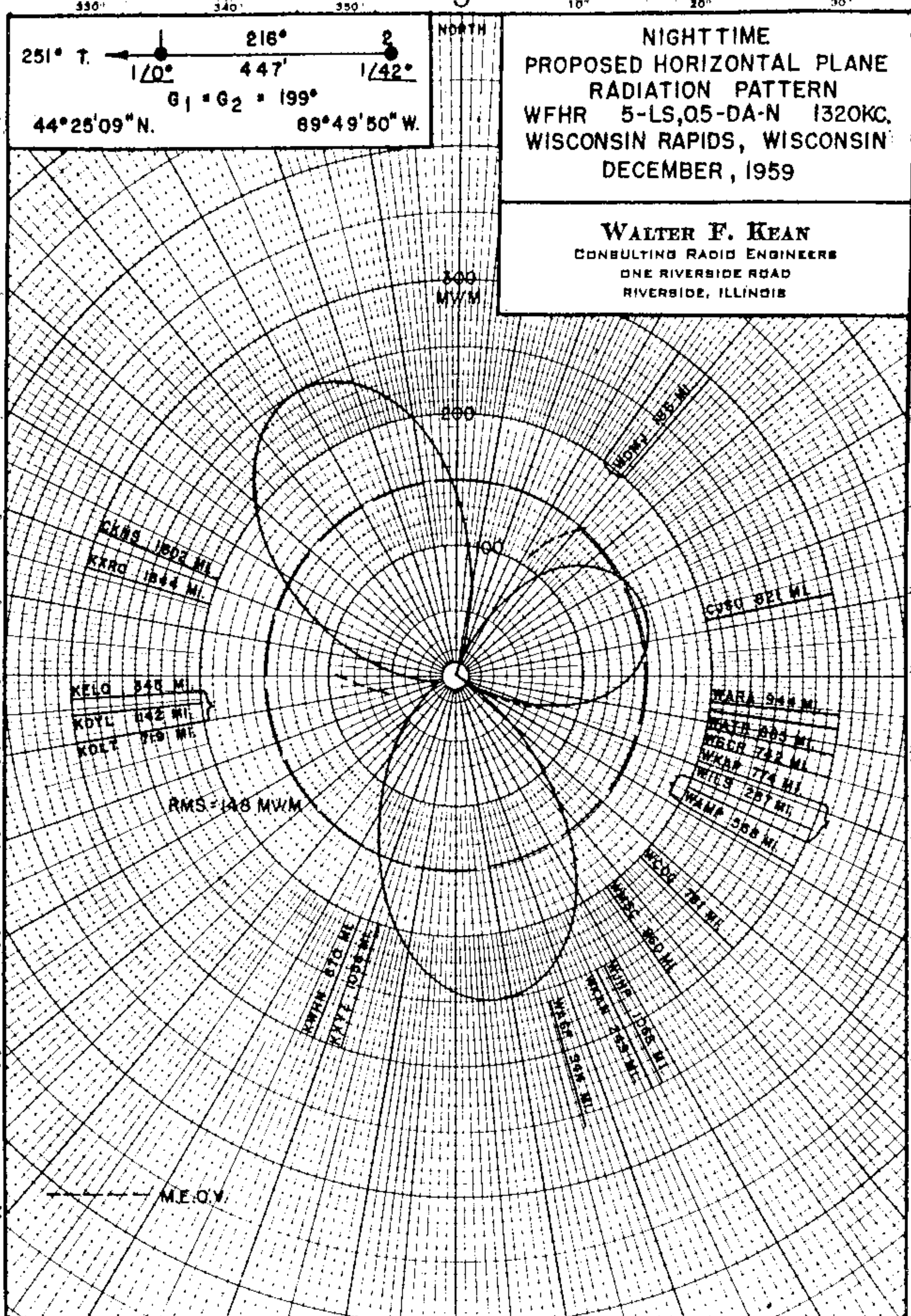
Station WFHR
Wisconsin Rapids, Wisconsin

1320 kc

WFHR

PROPOSED NIGHT
(1-29-60g)

Station WFHR 500w, 5kw-LS, DA-N,U
Wisconsin Rapids, Wisconsin 1320 KC



FCC File No. BMP-8860
Accepted 1-14-60

WFHR
Wisconsin Rapids, Wisconsin 1320 KC

38

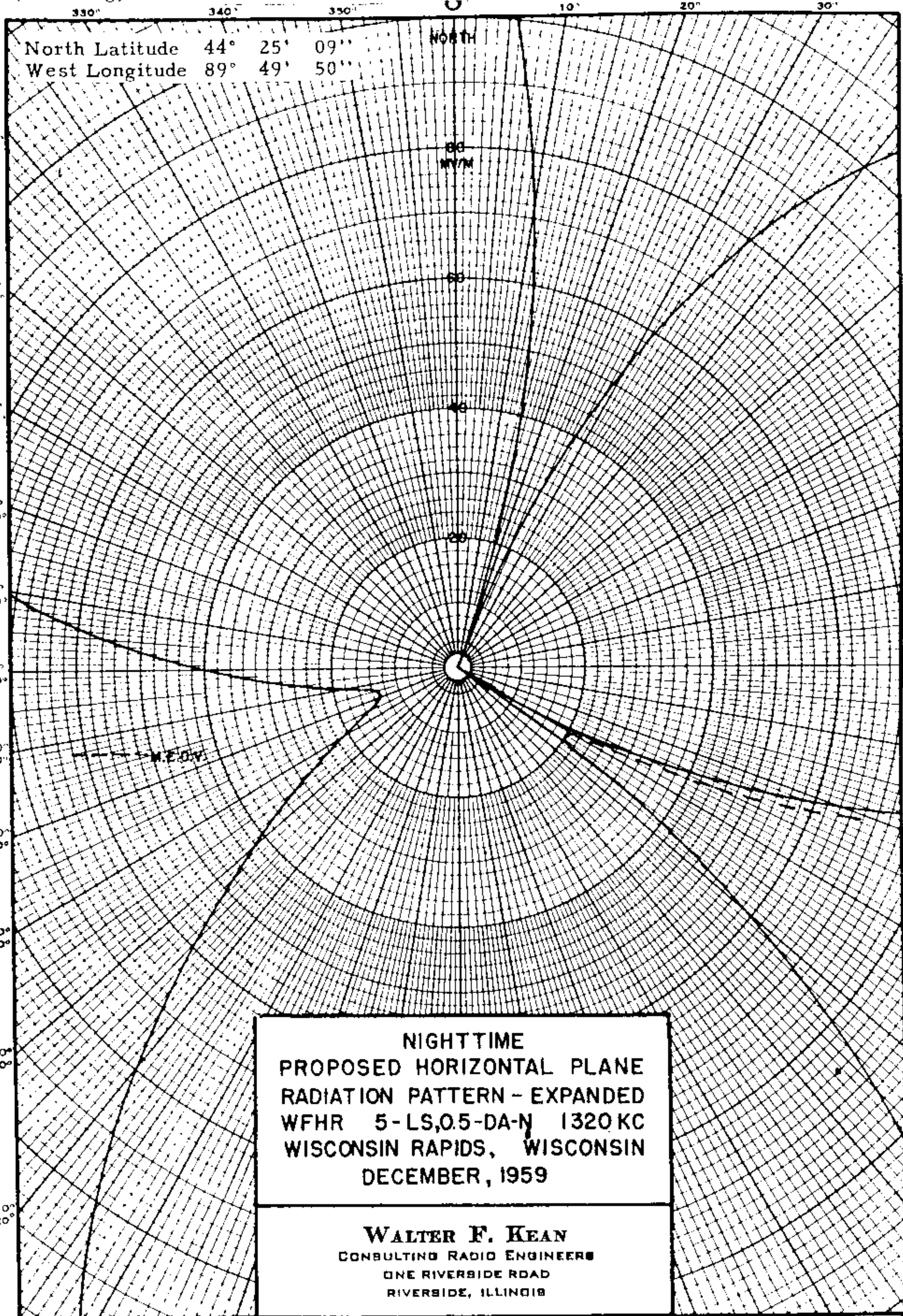
WFHK

PROPOSED NIGHT NULLS
(1-29-60g)

Station WFHR
Wisconsin Rapids, Wisconsin

500w, 5kw-LS,DA-N,U
1320 KC

C



39

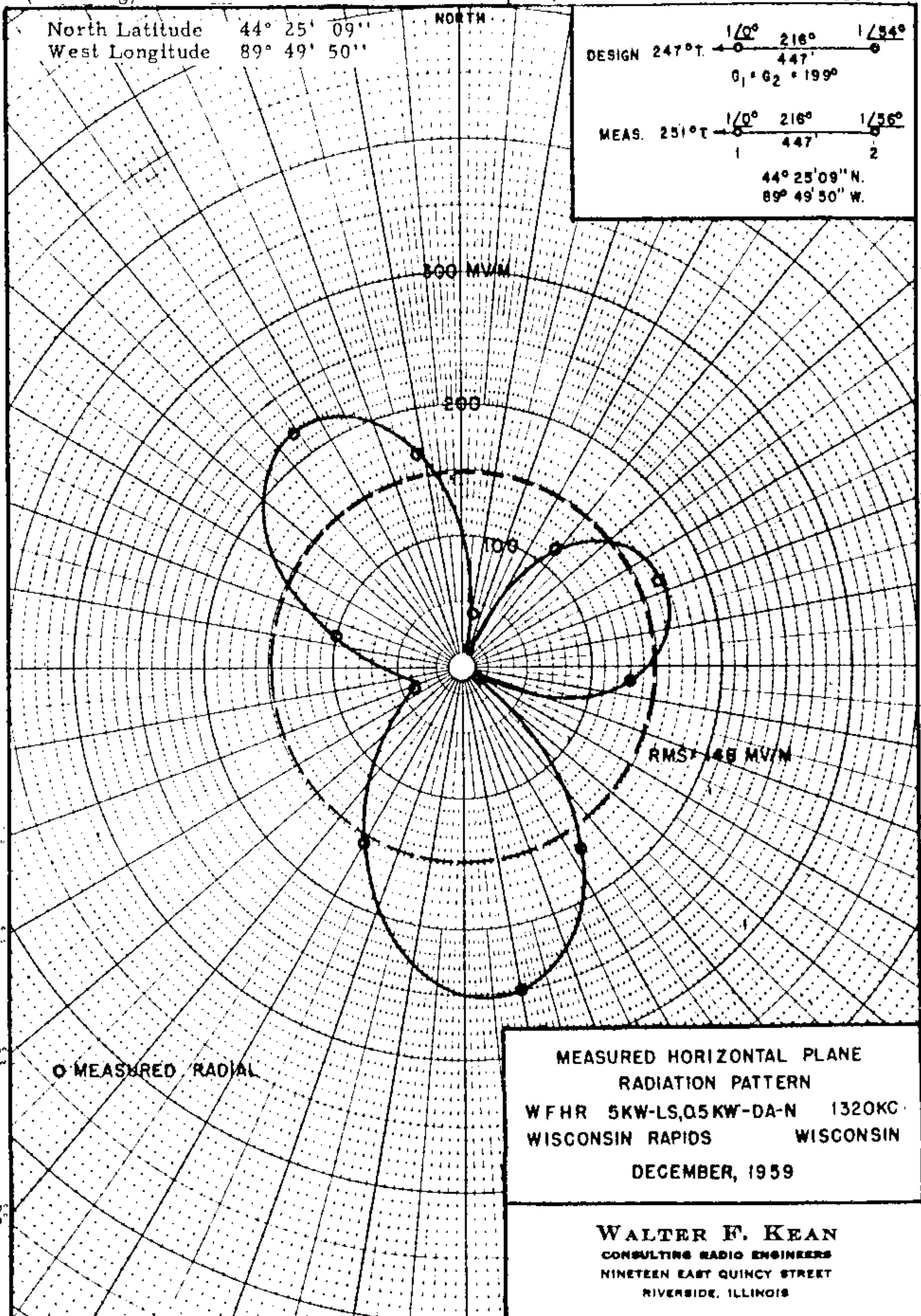
FCC File No. BMP-8860
Accepted 1-14-60

WFHR
Wisconsin Rapids, Wisconsin

1320 KC

WFHR

MEASURED NIGHT Station WFHR 500w, 5kw-LS, DA-N,U
(3-28-60g) Wisconsin Rapids, Wisconsin 1320 KC

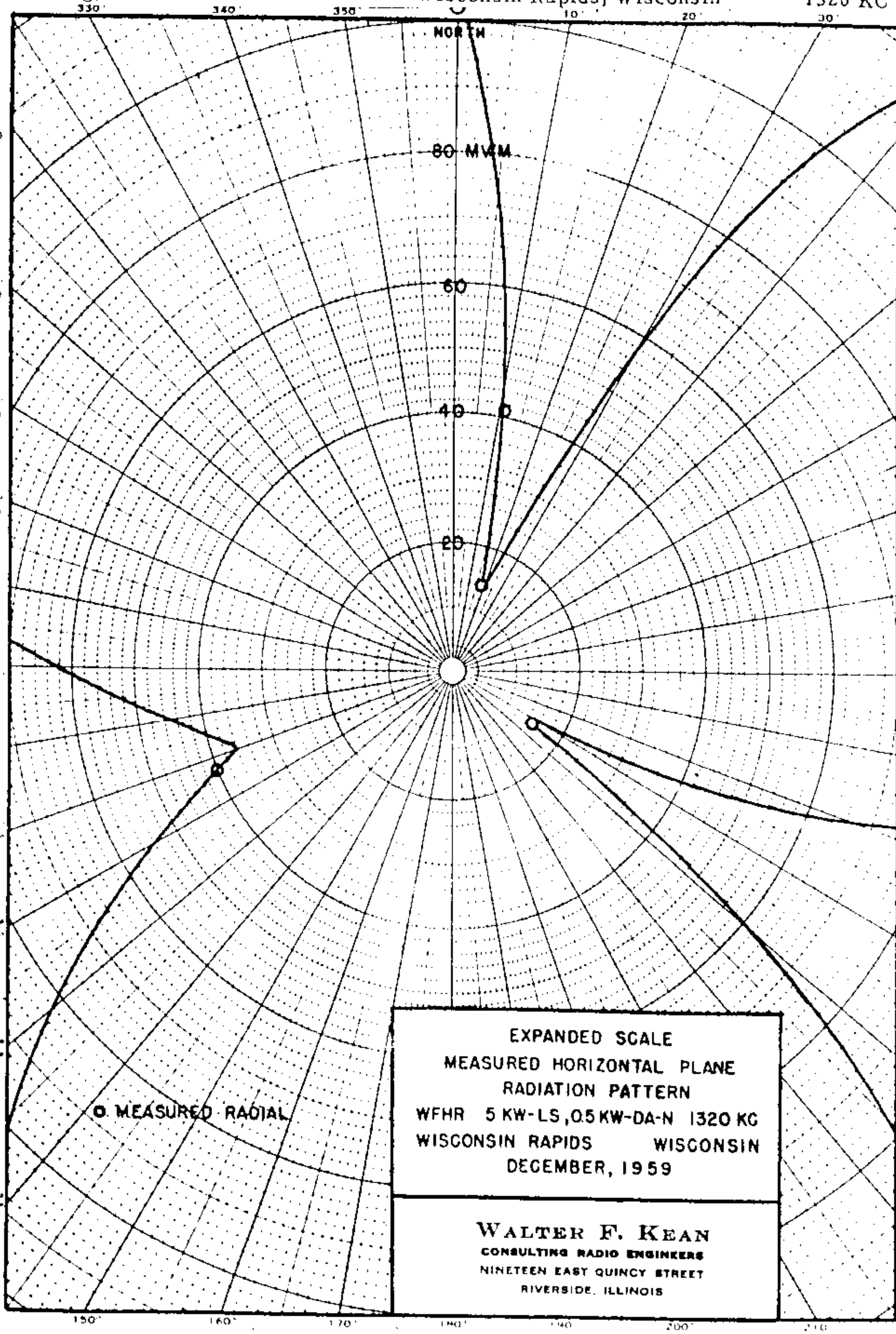


FCC File No. BL-7844 WFHR
Accepted 2-26-60 Wisconsin Rapids, Wisconsin 1320 KC

WFHR

MEASURED NIGHT NULLS
(3-28-60g)

Station WFHR 500w,5kw-LS, DA-N,U
Wisconsin Rapids, Wisconsin 1320 KC



granted for DA N 6 27 60

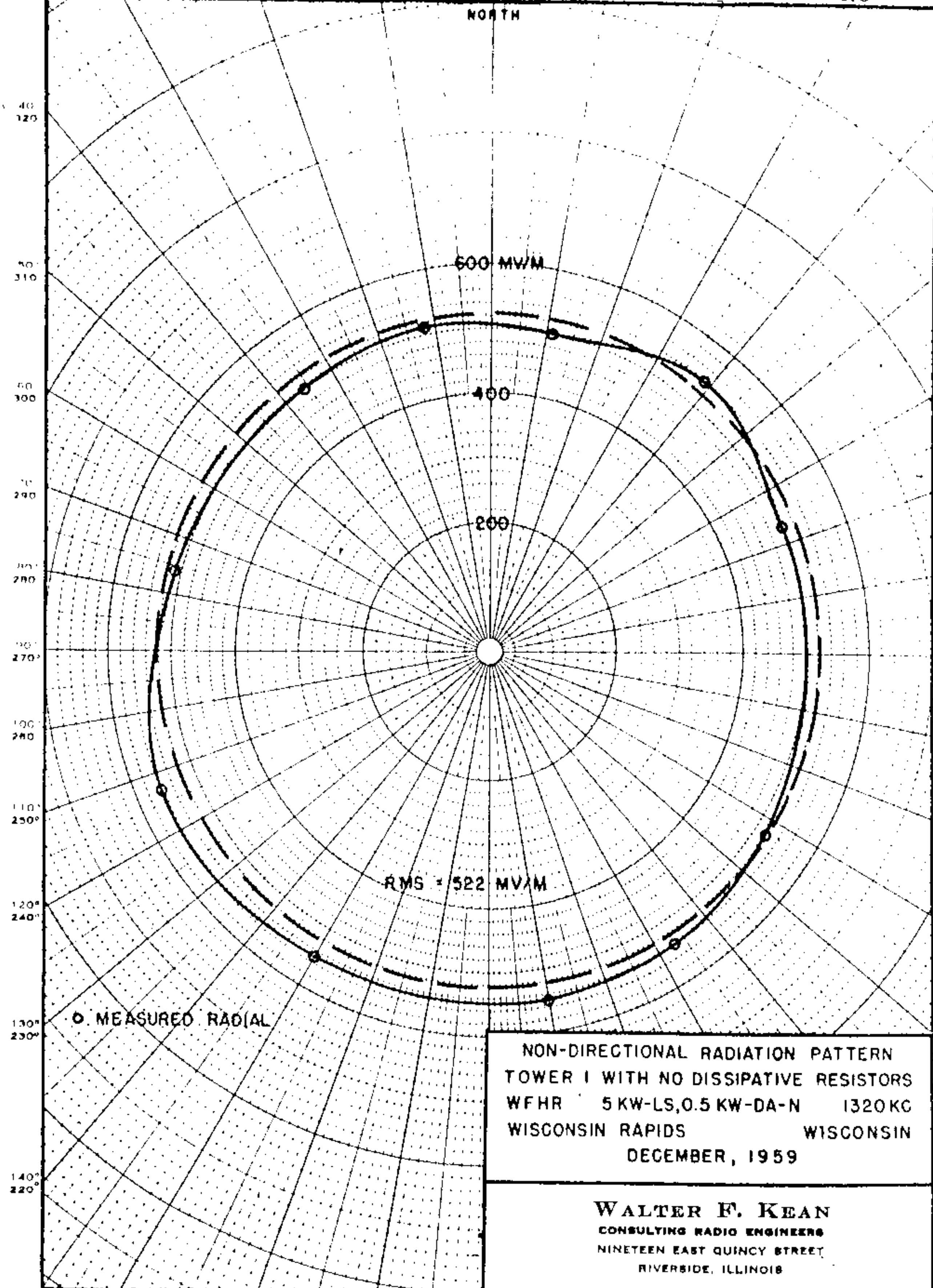
FCC File No. BL-7844
Accepted 2-26-60

WFHR
Wisconsin Rapids, Wisconsin 1320 KC

WFHR

MEASURED NON-DA
(3-28-60g)

Station WFHR 500w, 5kw-LS, DA-N,U
Wisconsin Rapids, Wisconsin 1320 KC



NON-DIRECTIONAL RADIATION PATTERN
TOWER I WITH NO DISSIPATIVE RESISTORS
WFHR 5 KW-LS, 0.5 KW-DA-N 1320 KC
WISCONSIN RAPIDS WISCONSIN
DECEMBER, 1959

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

FCC File No. BL-7844
Accepted 2-26-60

WFHR
Wisconsin Rapids, Wisconsin 1320 KC

pattern for DA-N 6-27-60

WGET

MEASURED DAY
(8-22-61ct)

Station WGET
Gettysburg, Pennsylvania

500w, 1kw-LS, DA-2, U
1320 KC

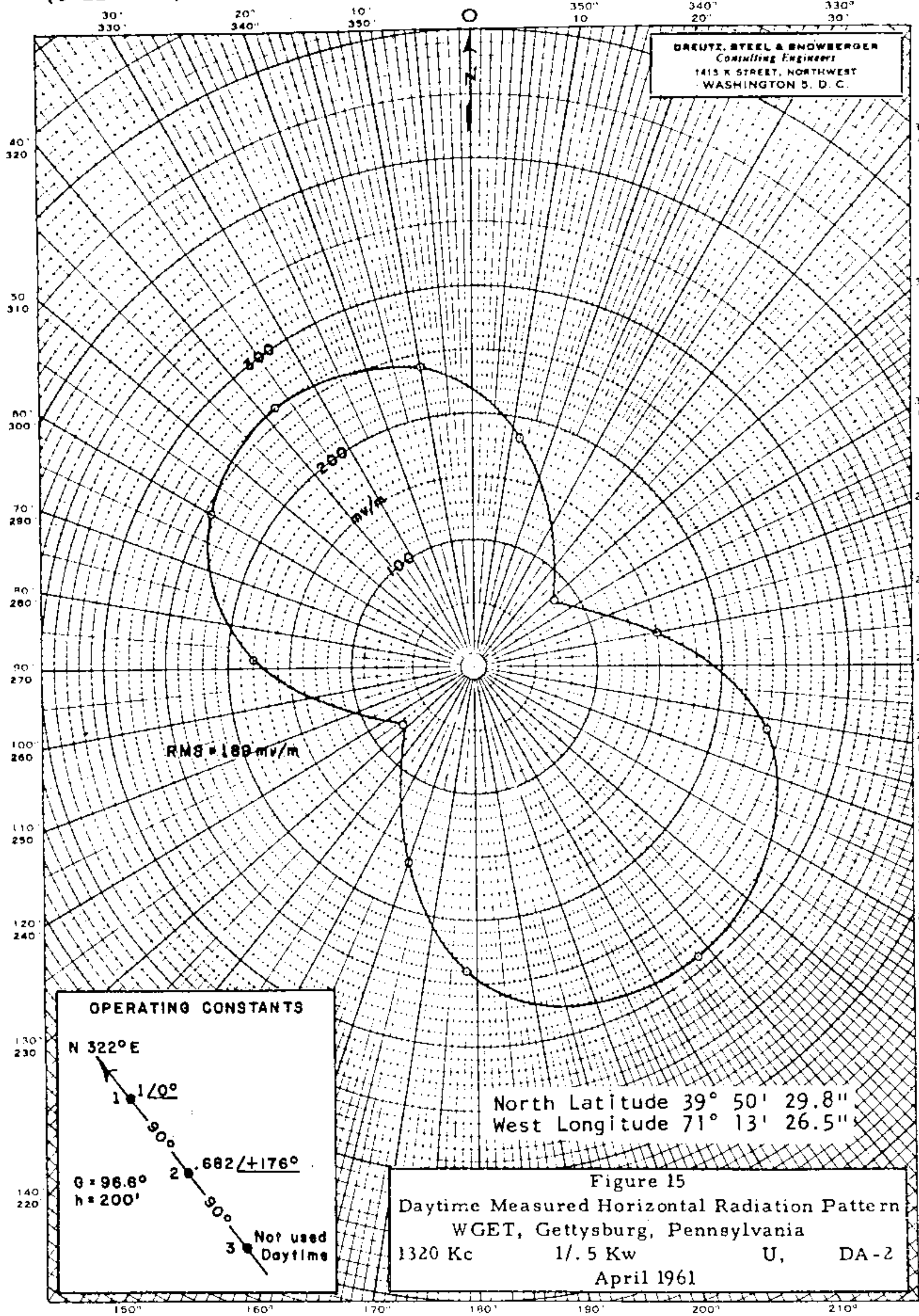


Figure 15
Daytime Measured Horizontal Radiation Pattern
WGET, Gettysburg, Pennsylvania
1320 Kc 1/.5 Kw U, DA-2
April 1961

FCC File No. BL-8476
Accepted 7-25-61

Station WGET
Gettysburg, Pennsylvania

1320 KC

WGE 1

PROPOSED DAY
(12-20-57g)

Station WGET
Gettysburg, Pennsylvania

0.5/1 Kw
~~1kw,5kw~~ LS, DA-2,U
1320 KC

DA-2 3-25-60

12-14-61
DA-2

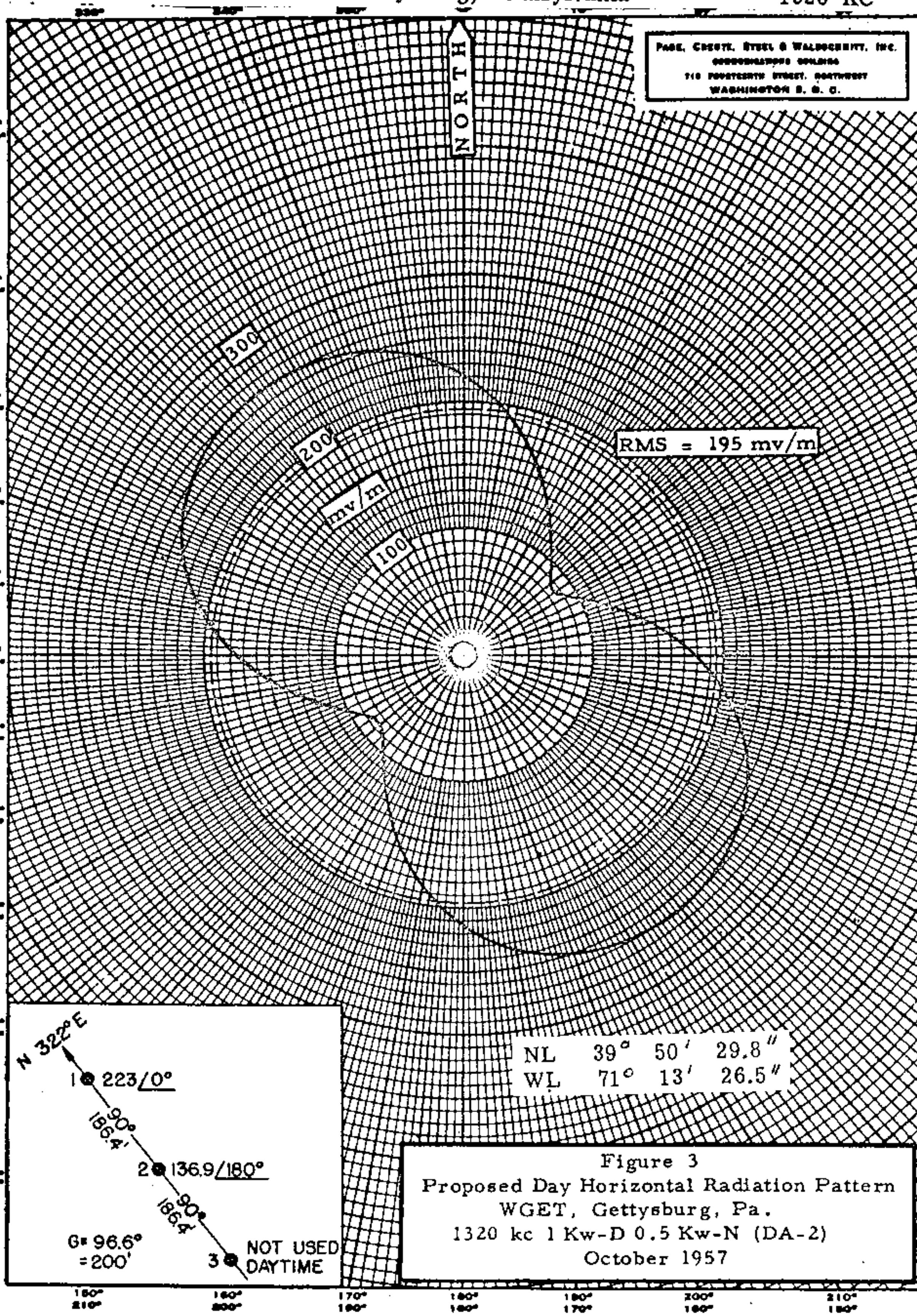


Figure 3
Proposed Day Horizontal Radiation Pattern
WGET, Gettysburg, Pa.
1320 kc 1 Kw-D 0.5 Kw-N (DA-2)
October 1957

FCC File No. BP-11,683
Accepted 12-3-57

WGET
Gettysburg, Pennsylvania

1320 KC

WGET 1

PROPOSED NIGHT (5-29-58g) | Station WGET Gettysburg, Pennsylvania | 500w, 1kw-LS, DA-2, U 1320 KC

Granted Cp to change freq. and install DA-2 3-25-60

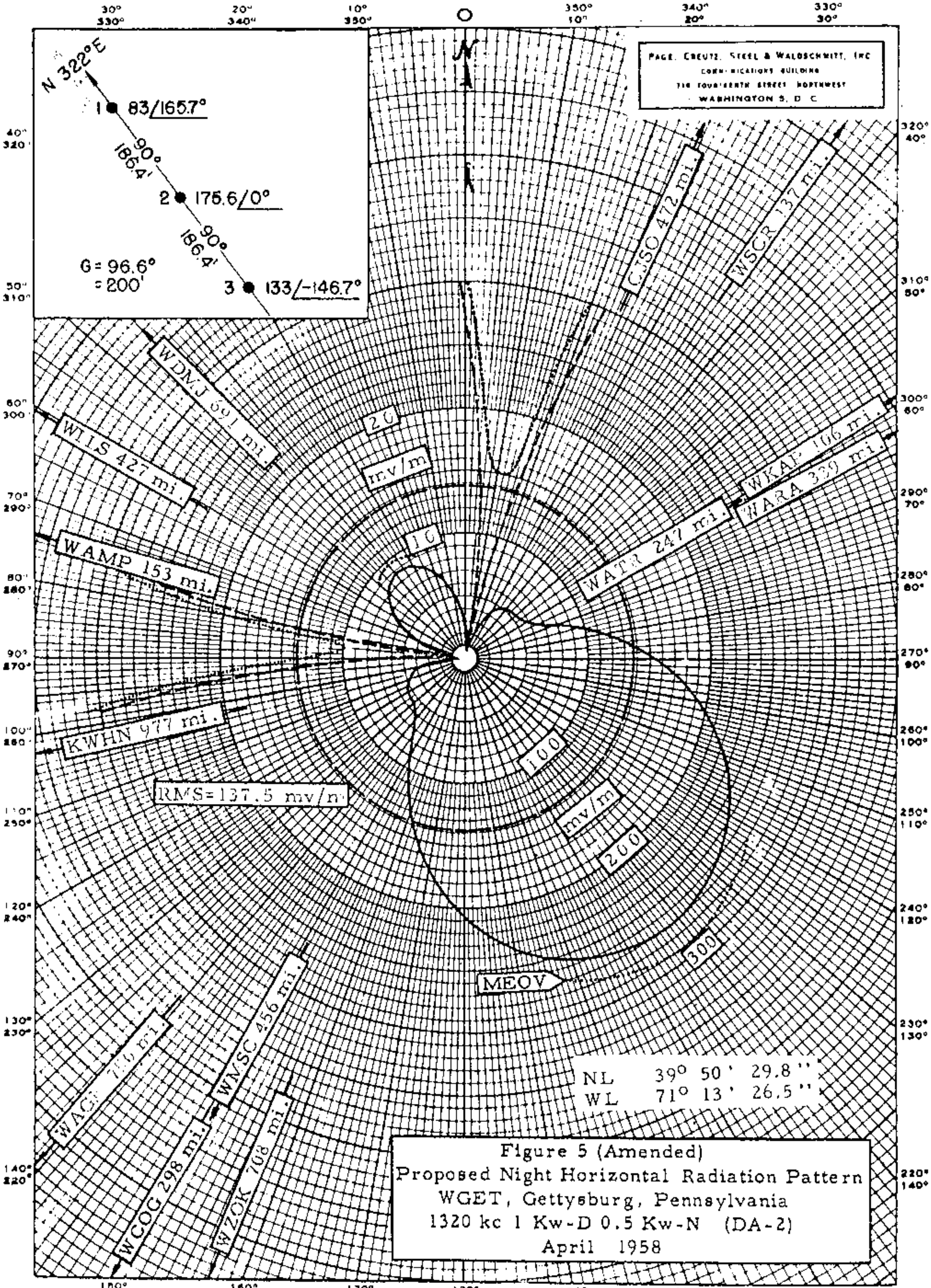


Figure 5 (Amended)
Proposed Night Horizontal Radiation Pattern
WGET, Gettysburg, Pennsylvania
1320 kc 1 Kw-D 0.5 Kw-N (DA-2)
April 1958

FCC File No. BP-11,683
Accepted 5-16-58 (Amended)

WGET
Gettysburg, Pennsylvania
1320 KC

WGET

MEASURED NIGHT
(8-22-61ct)

Station WGET
Gettysburg, Pennsylvania

500w, 1kw-LS, DA-2, U
1320 KC

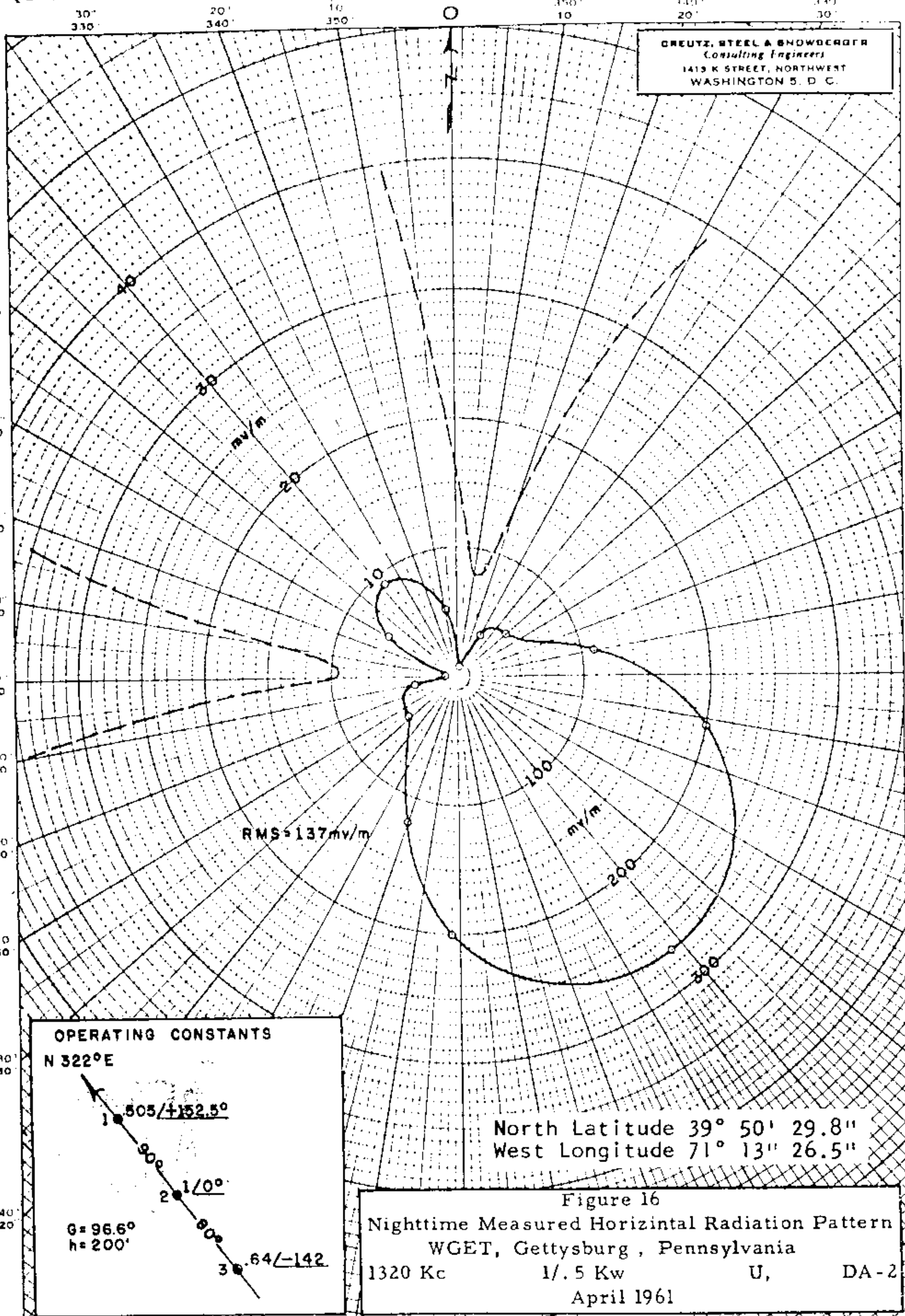


Figure 16
Nighttime Measured Horizintal Radiation Pattern
WGET, Gettysburg , Pennsylvania
1320 Kc 1/.5 Kw U, DA-2
April 1961

FCC File No. BL-8476
Accepted 7-25-61

Station WGET
Gettysburg, Pennsylvania

1320 KC

WGET

MEASURED NON-DA (8-22-61ct) | Station WGET Gettysburg, Pennsylvania | 500w, 1kw-LS, DA-2, U 1320 KC

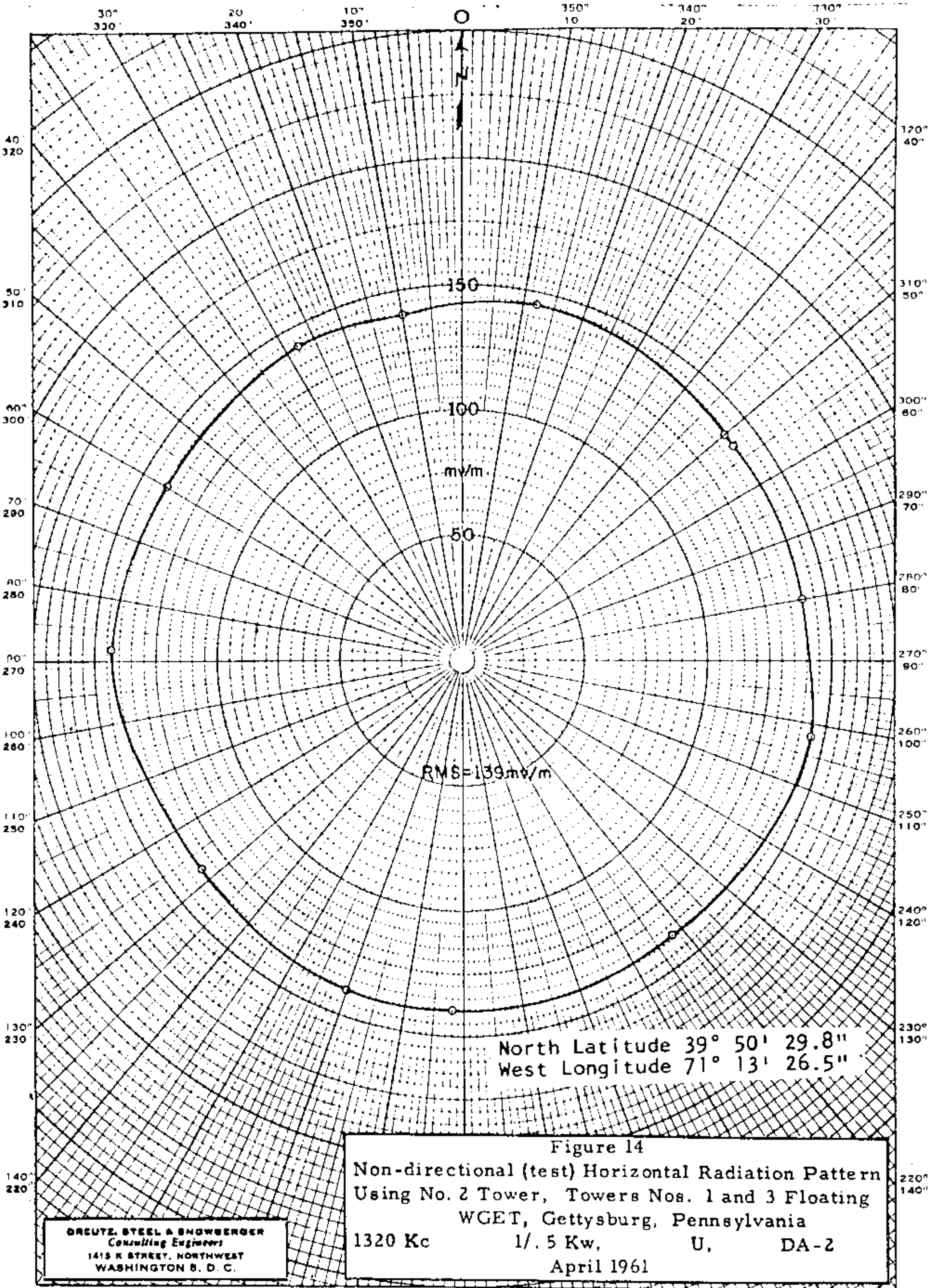


Figure 14
Non-directional (test) Horizontal Radiation Pattern
Using No. 2 Tower, Towers Nos. 1 and 3 Floating
WGET, Gettysburg, Pennsylvania
1320 Kc 1/.5 Kw, U, DA-2
April 1961

FCC File No. BL-8476
Accepted 7-25-61

Station WGET, Gettysburg, Pennsylvania 1320 KC

WGMA

SUPPLEMENTAL AND CORRECTED
DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WGMA | Main Studio: Hollywood, Florida

Frequency: 1320 KHz | Power: 5 Kw Night 5 Kw Day

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

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

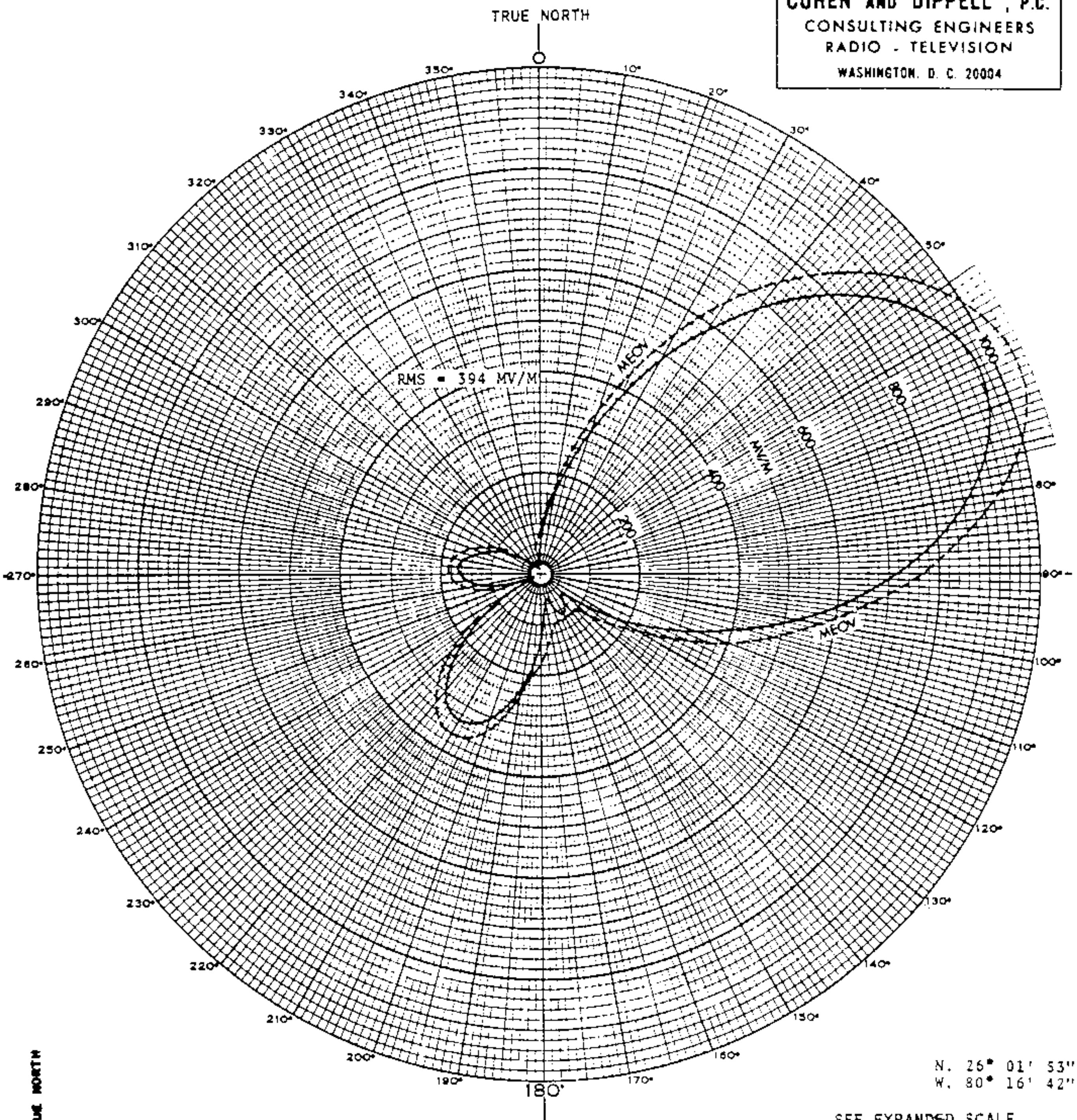
North Latitude: 26° 01' 53"
West Longitude: 80° 16' 42"

---

* Note: Please retain the description sheet notified for station WGMA in United States Change List Number 1315, dated April 9, 1969 and attach to this supplemental Description Sheet. This notification is for the purpose of indicating only a change in the nighttime directional radiation pattern MEOVS and to supply new nighttime directional antenna patterns with the changed MEOVS.

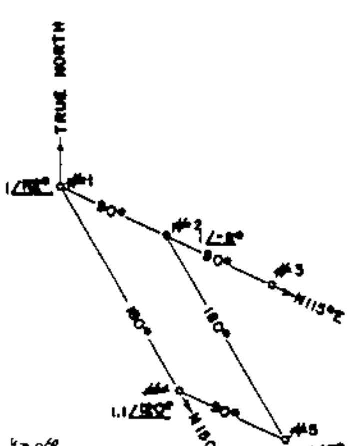
WGMA

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



N. 26° 01' 53"
W. 80° 16' 42"

SEE EXPANDED SCALE
HORIZONTAL PLANE PATTERN
FOR DETAIL OF NULL AREAS

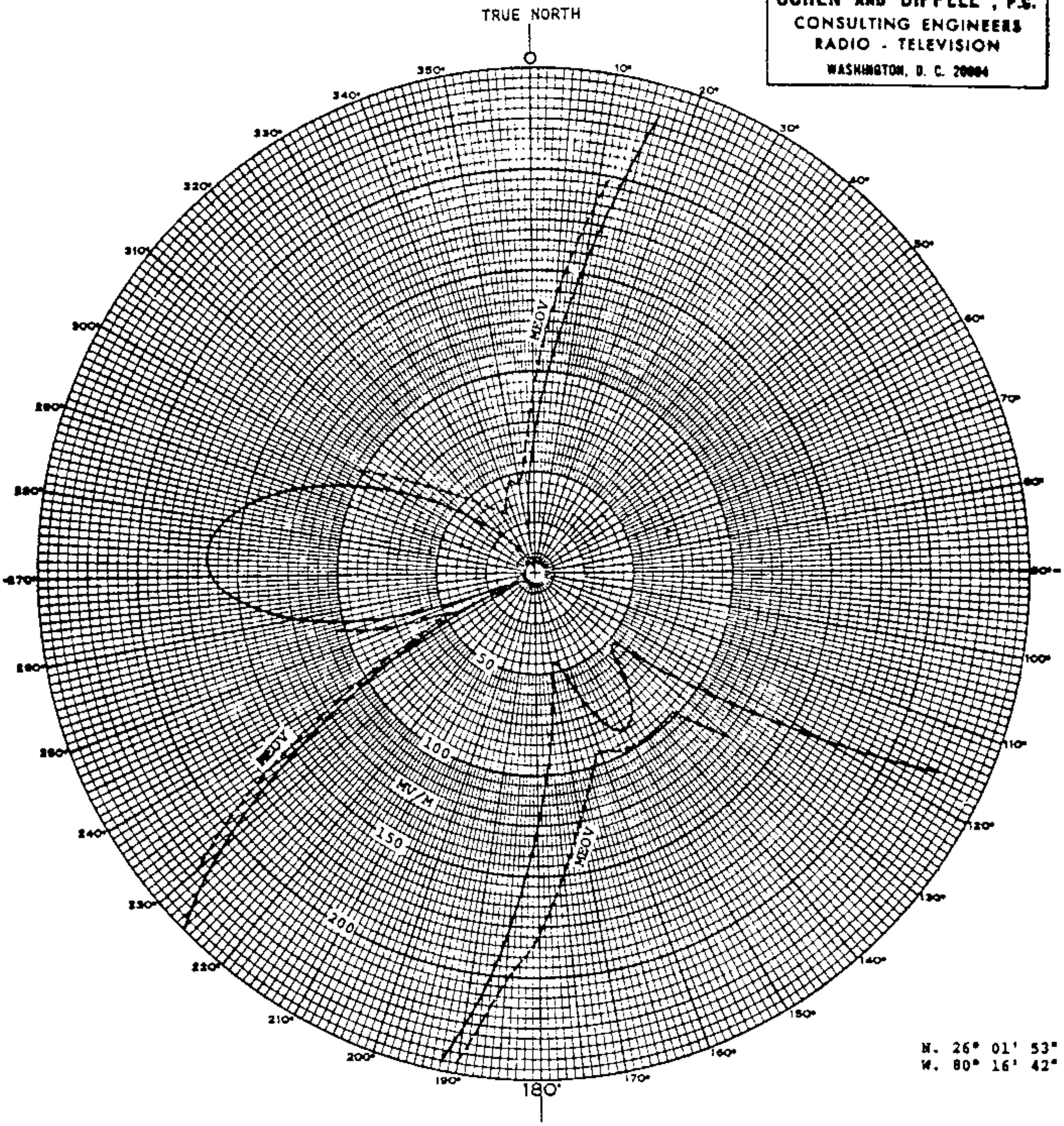


TOWER #3 NOT USED

HORIZONTAL PLANE RADIATION PATTERN
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 KHz - 5 KW - DA-2
JULY 1978

WGMA

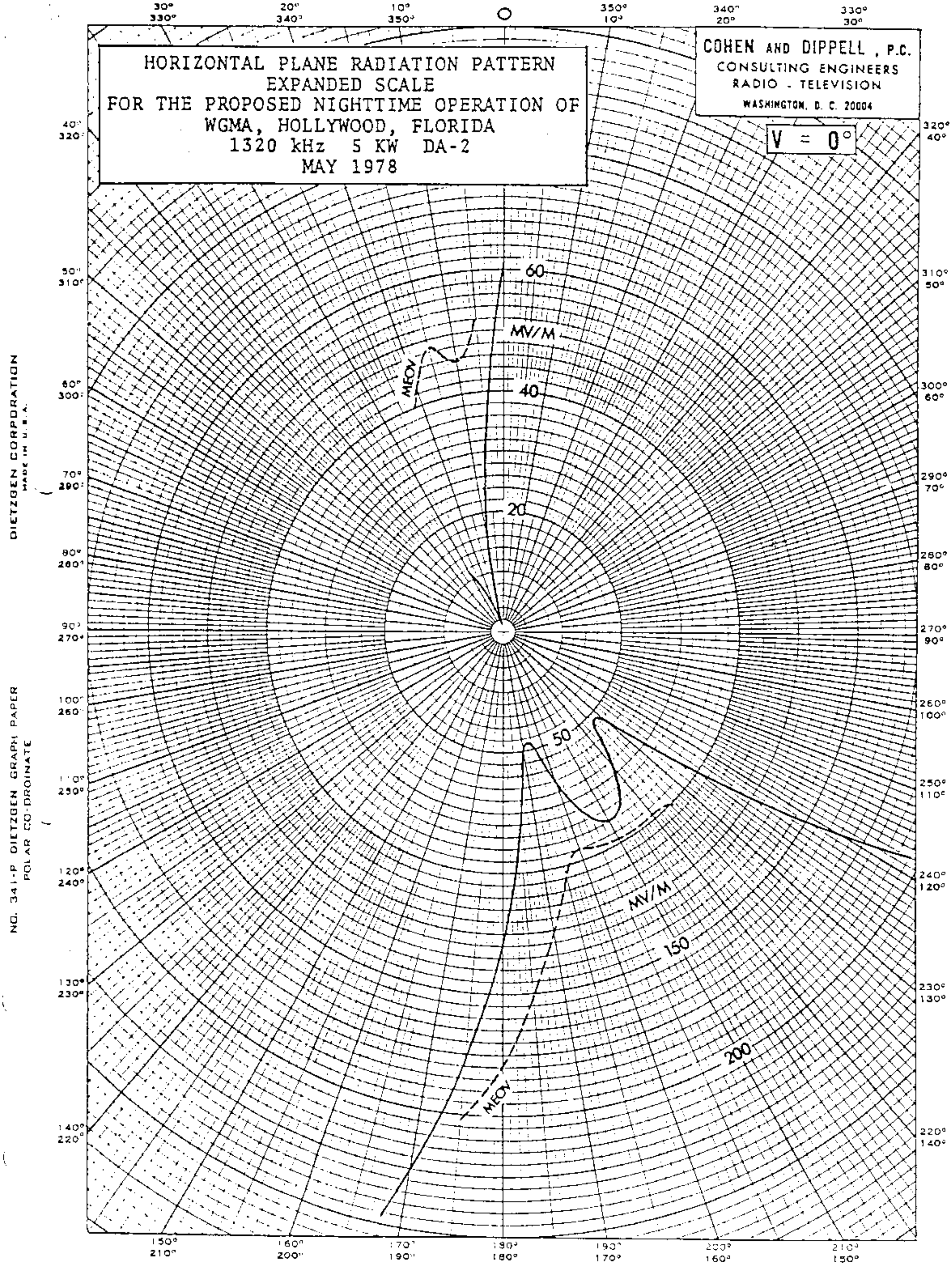
COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

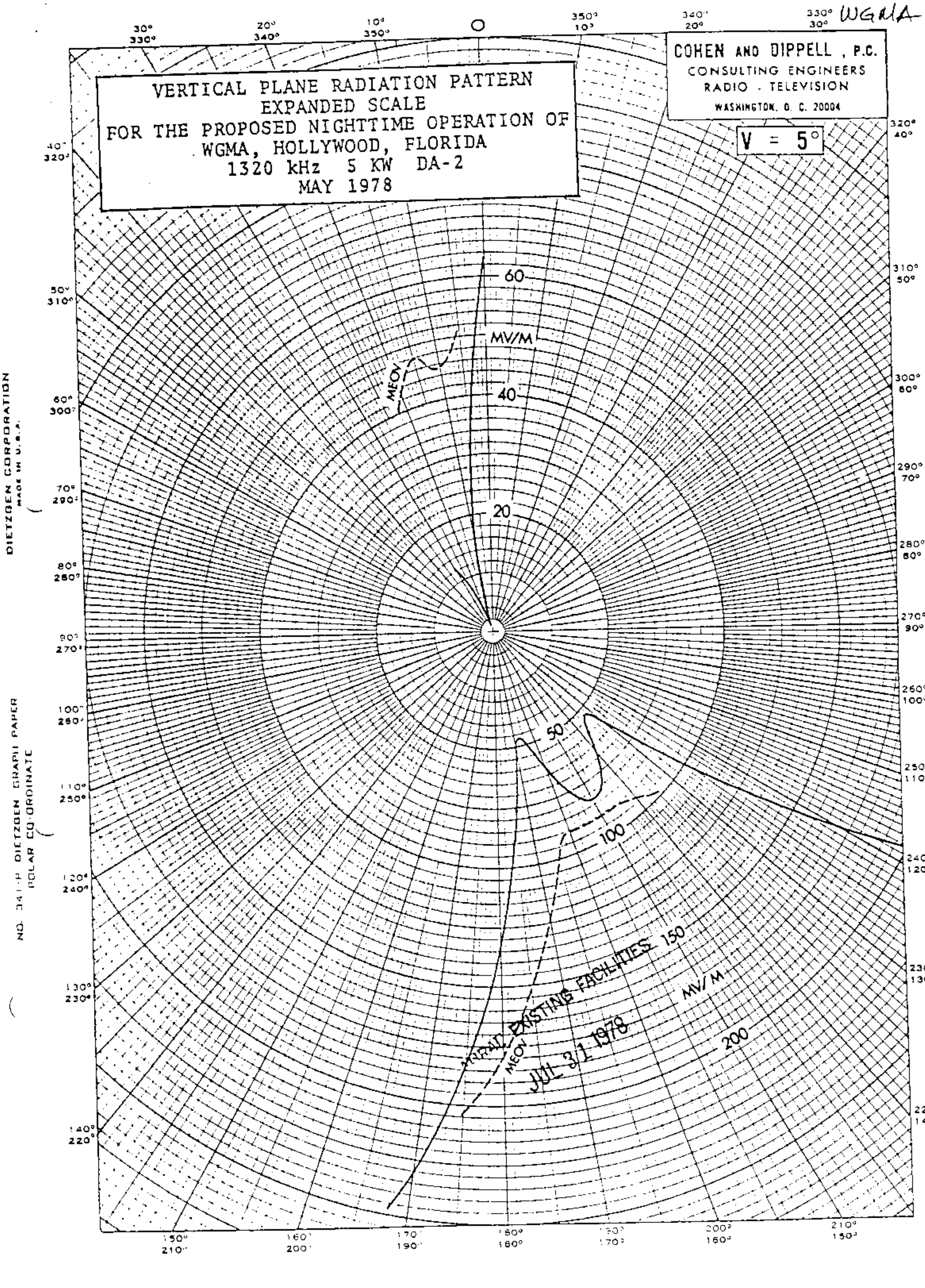


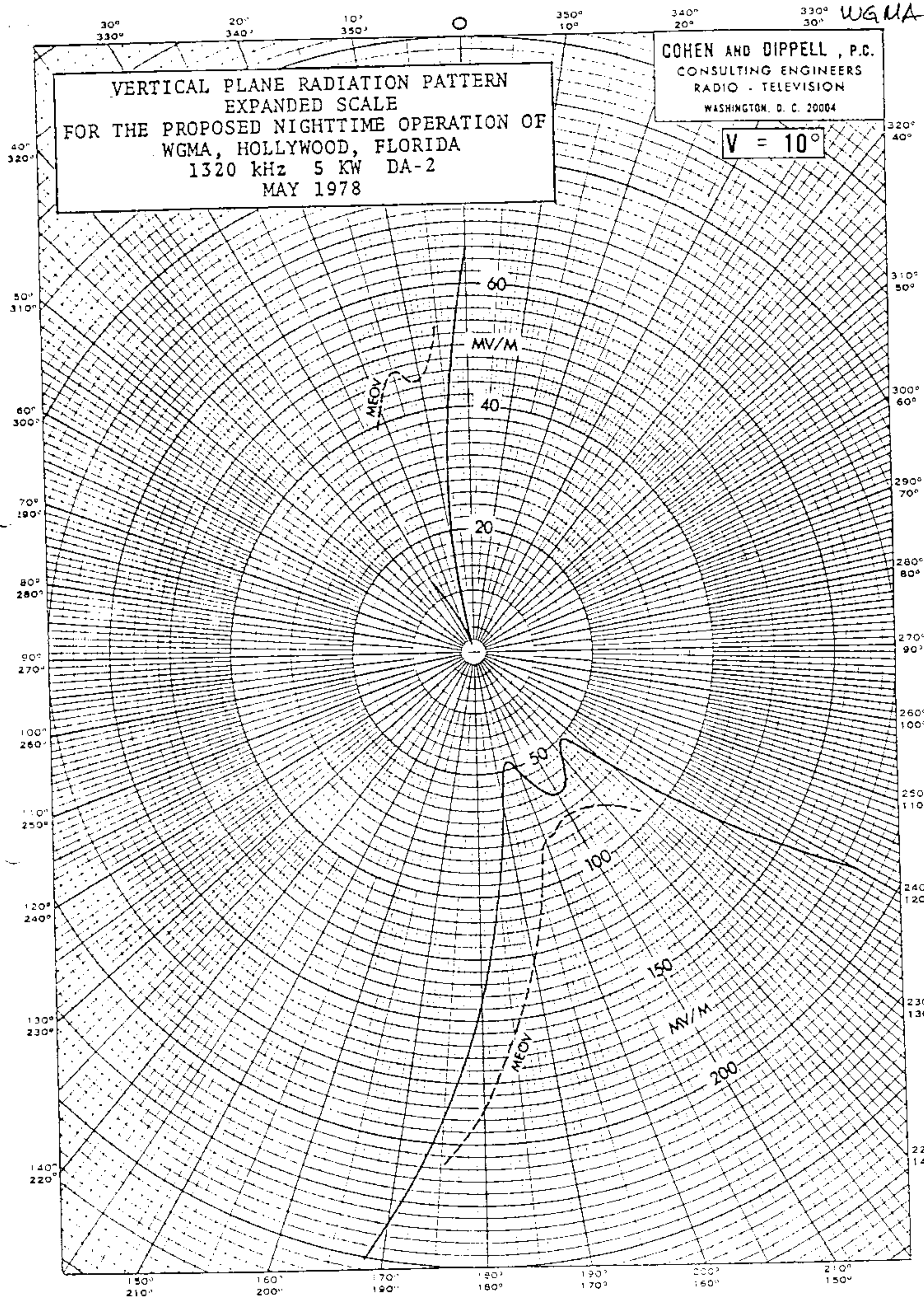
N. 26° 01' 53"
W. 80° 16' 42"

HORIZONTAL PLANE
RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 KHz - 5 KW - DA-2
MAY 1978

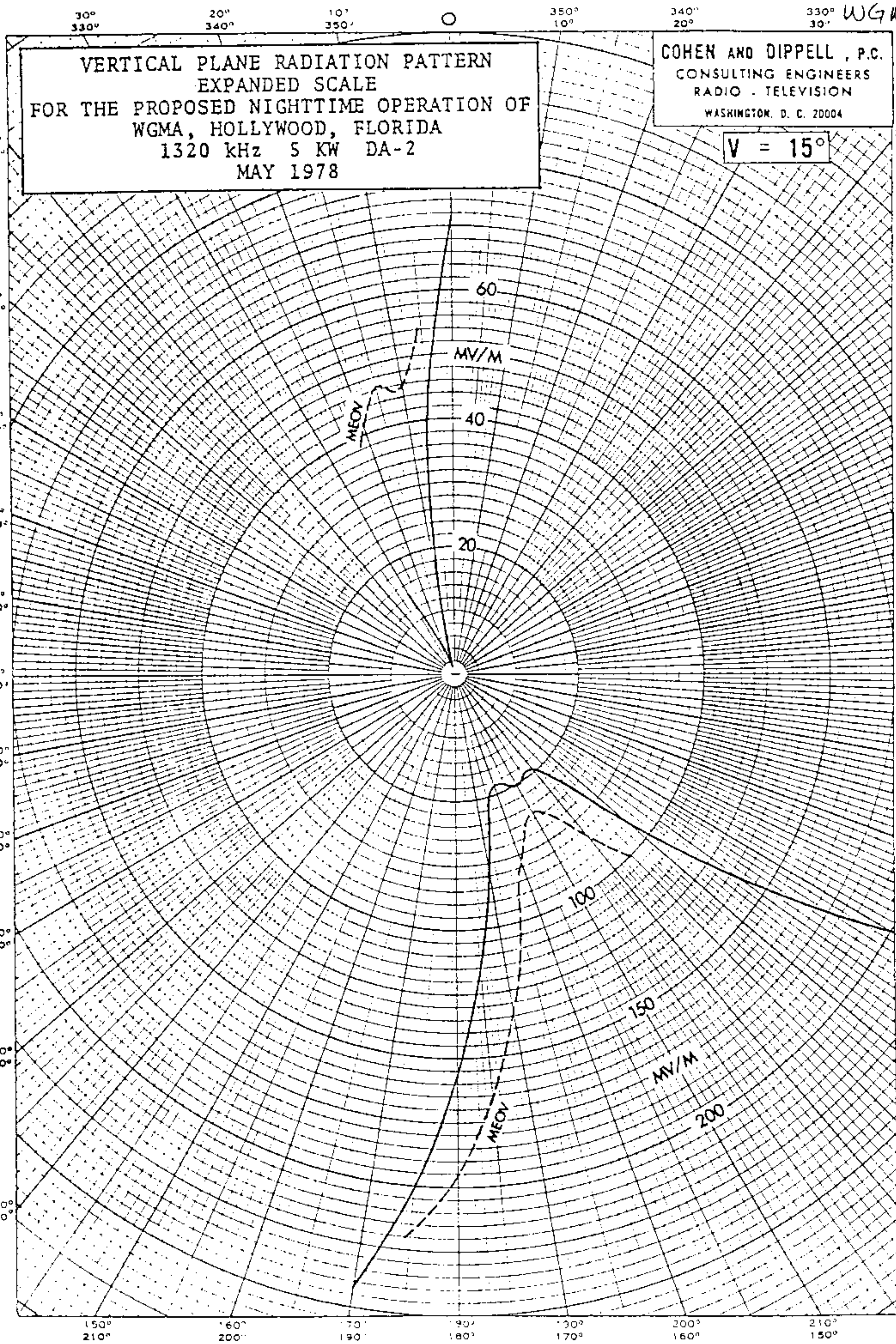
WGMA


HORIZONTAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978
COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004
V = 0°
60
MV/M
40
20
MEOV
50
MV/M
150
200
MEOV
DIETZGEN CORPORATION
MADE IN U.S.A.
NO. 341-P DIETZGEN GRAPH PAPER
POLAR CO-ORDINATE


WGMA
VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978
COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004
V = 5°
60
MV/M
MEOV
40
20
50
100
150
MV/M
200
EXISTING FACILITIES
MEOV
JUL 31 1978
DIETZGEN CORPORATION
MADE IN U.S.A.
NO. 341-P DIETZGEN GRAPH PAPER
POLAR CO-ORDINATE

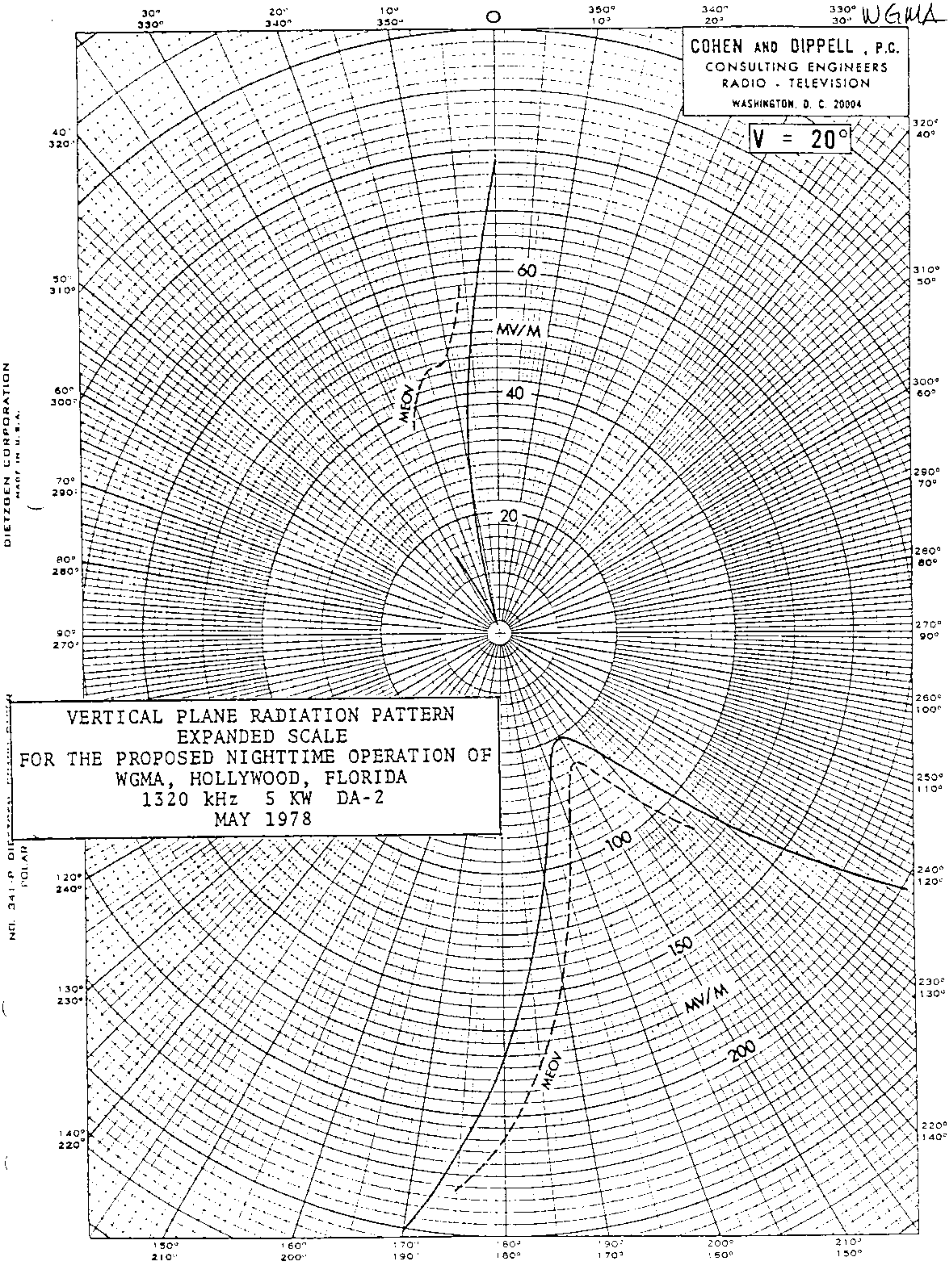

WGMA
VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978
COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004
V = 10°
60
MV/M
MEOV
40
20
50
100
150
MV/M
MEOV
200
DIETZGEN CORPORATION
MADE IN U.S.A.
NO. 341-P DIETZGEN GRAPH PAPER
POLAR CO-ORDINATE

WGMA



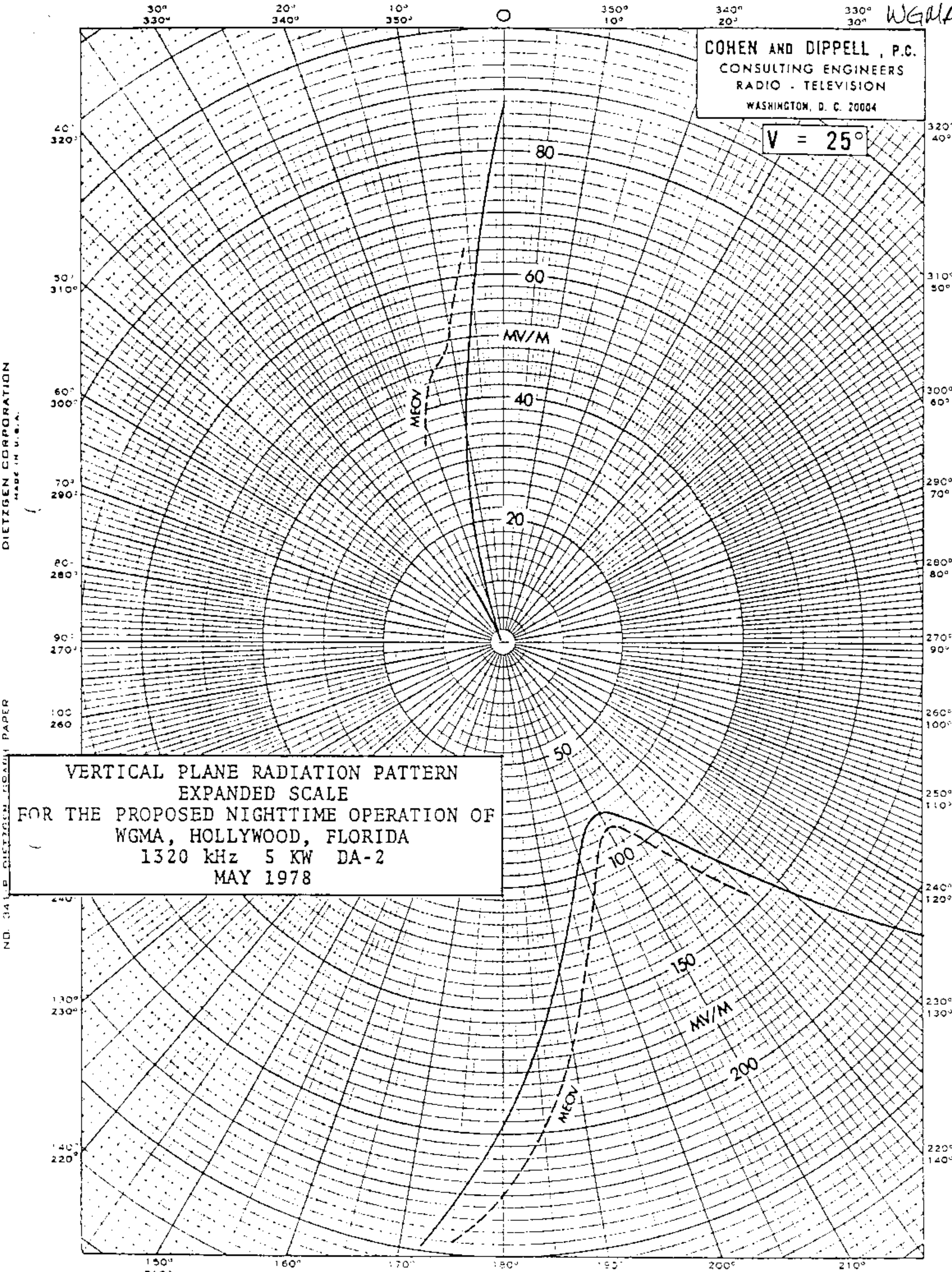
DIETZGEN CORPORATION
MADE IN U.S.A.

NO. 341-P DIETZGEN GRAPH PAPER
POLAR CO-ORDINATE



VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978

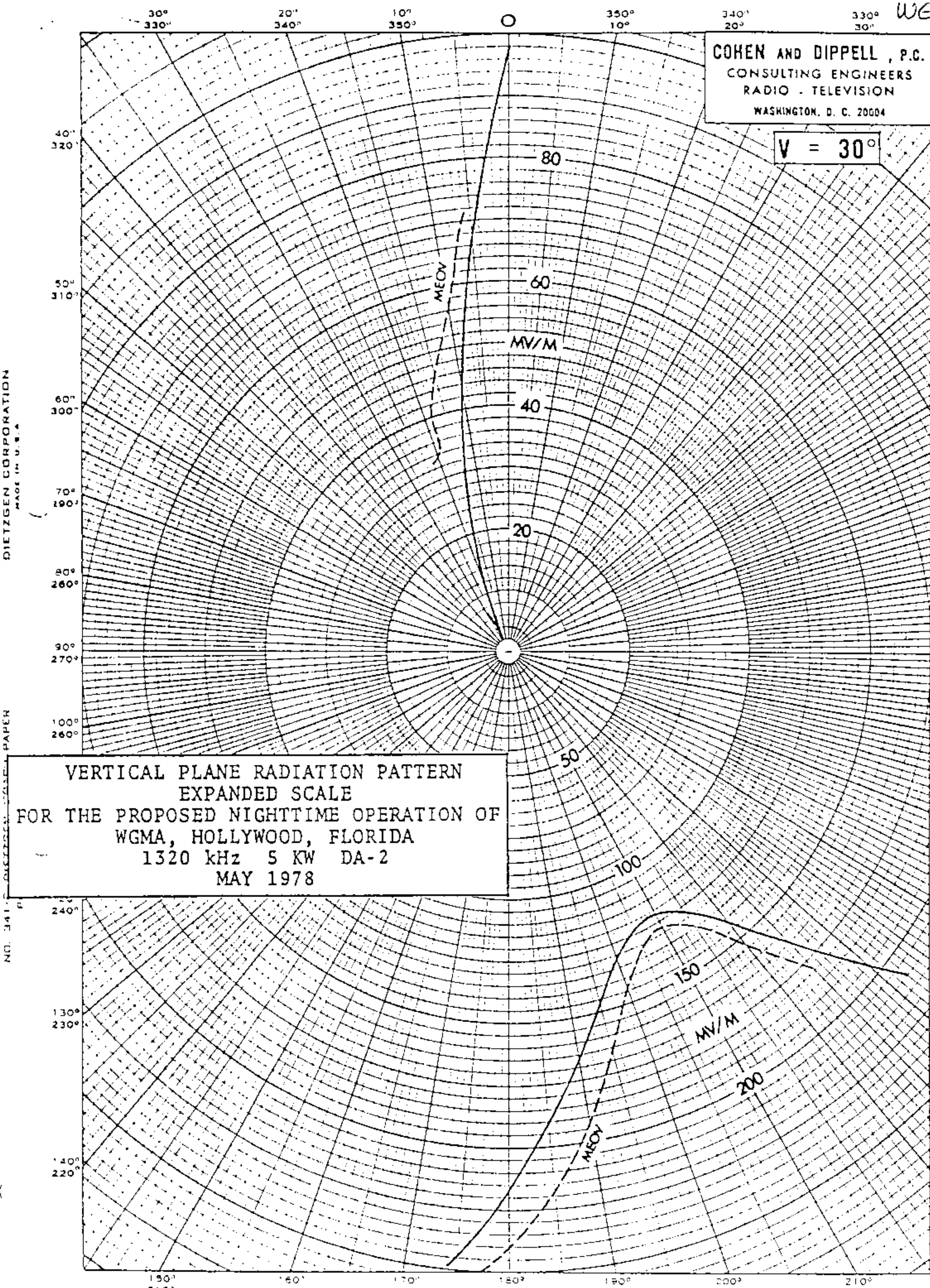
WGMA



VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978

WGMA

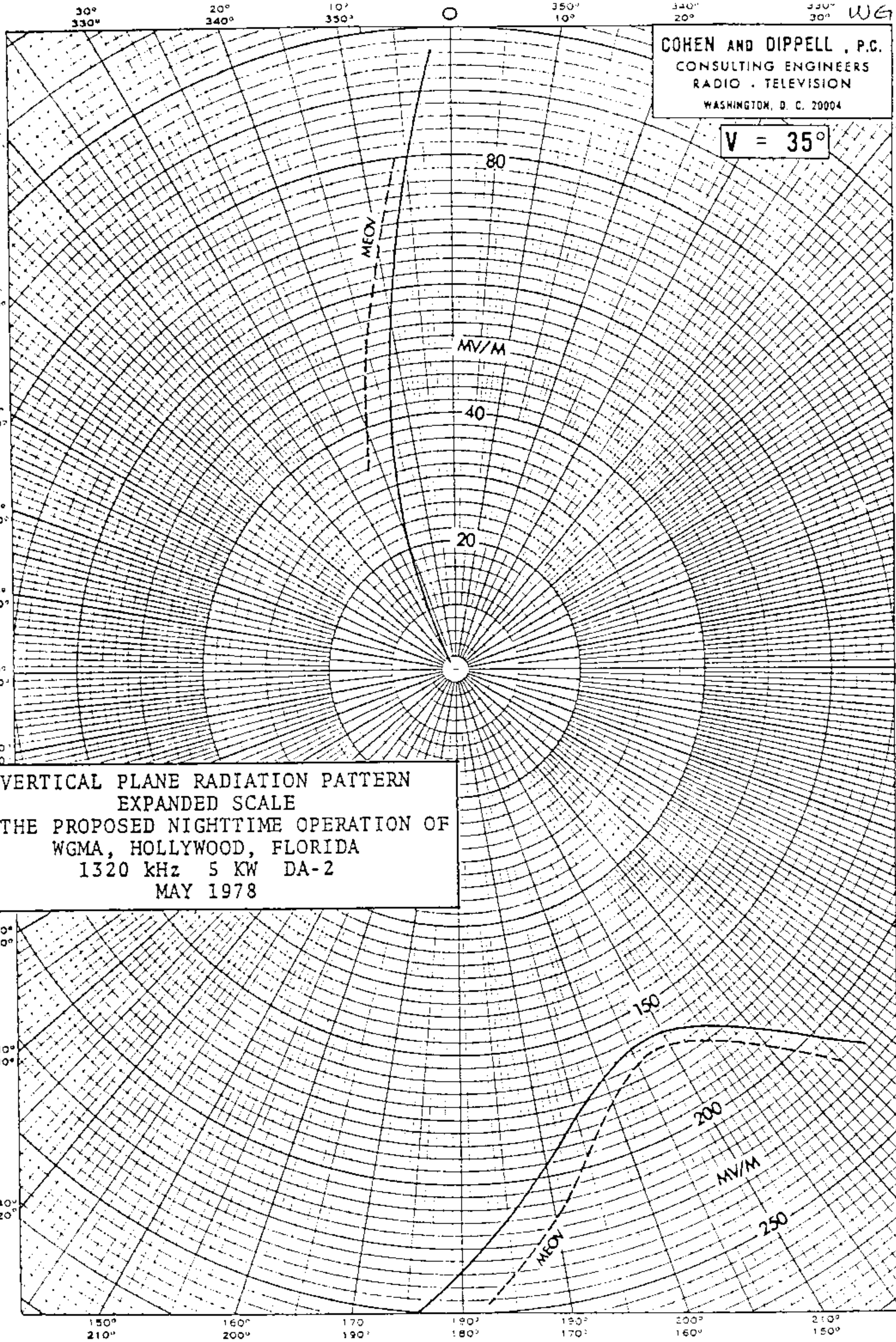
COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004



VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978

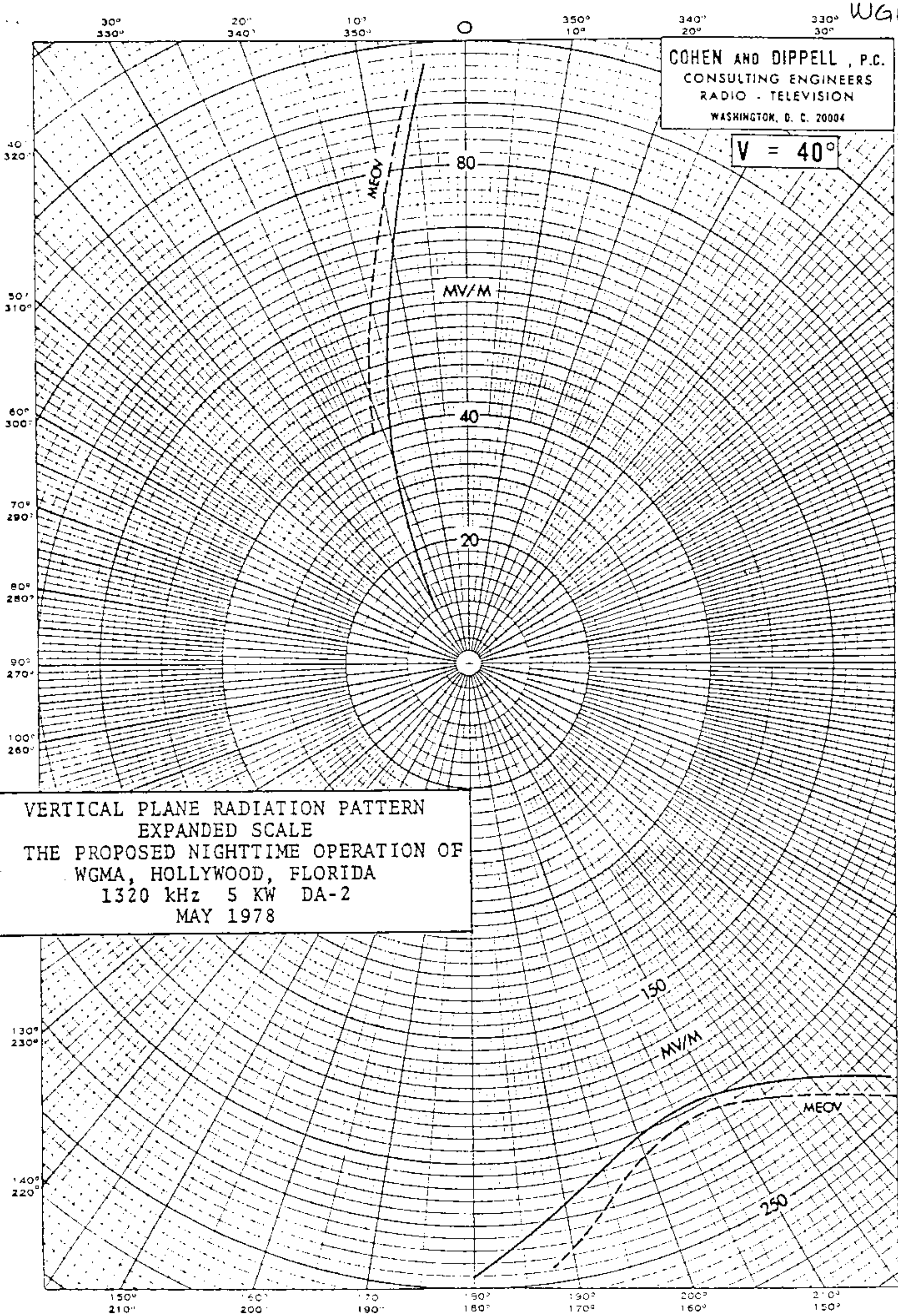
WGMA

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



VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978

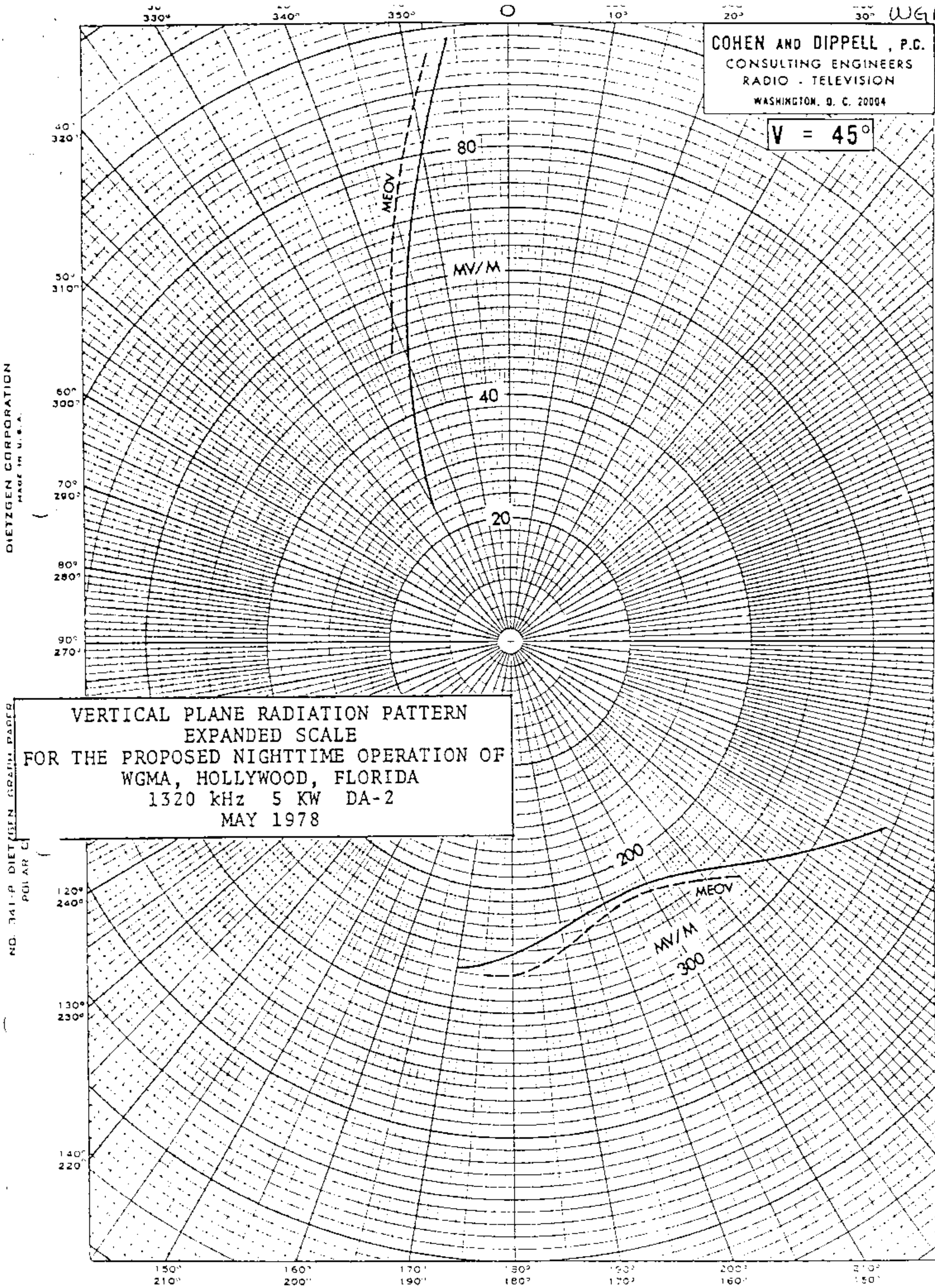
WGMA



VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
F THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978

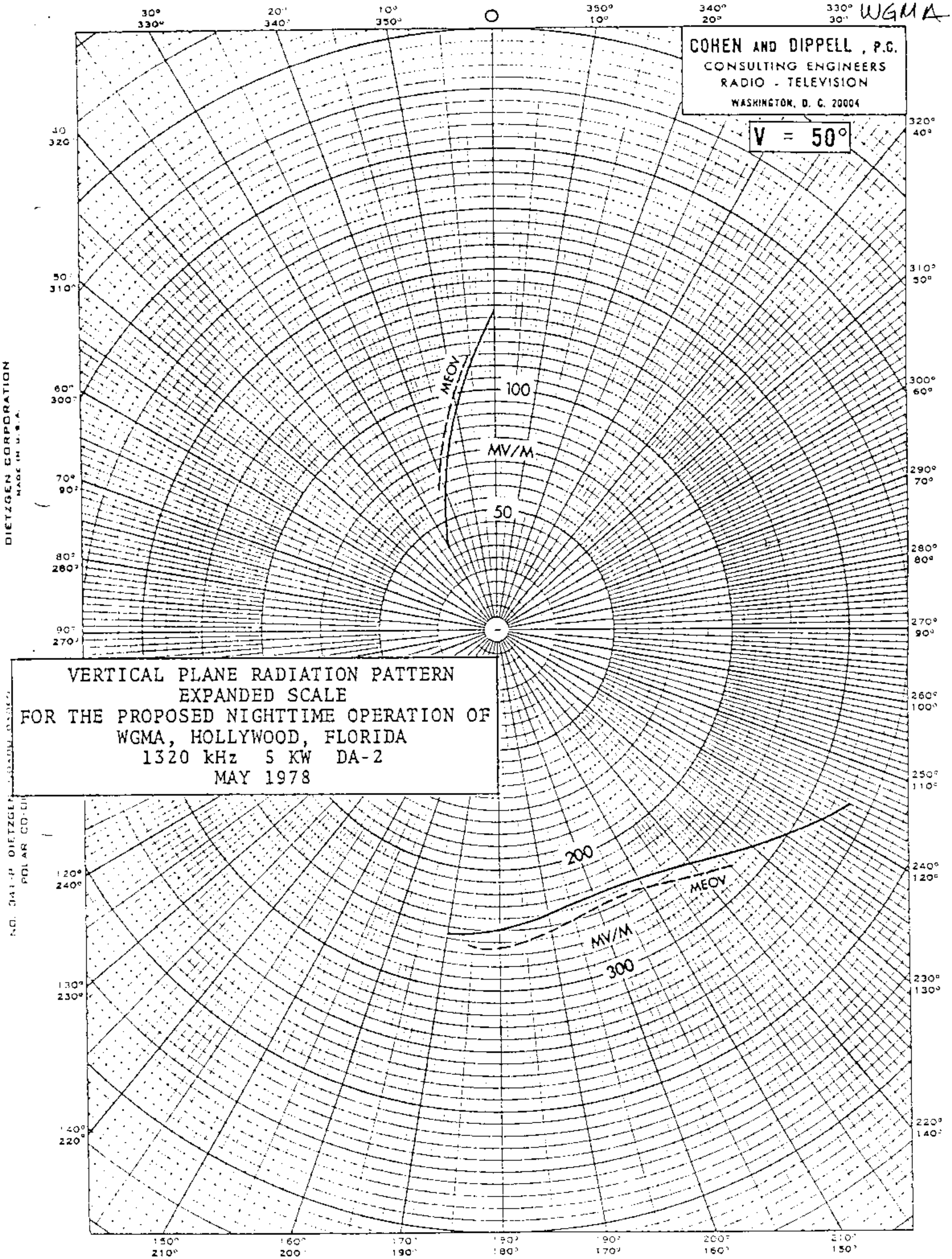
COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

WGMA



VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978

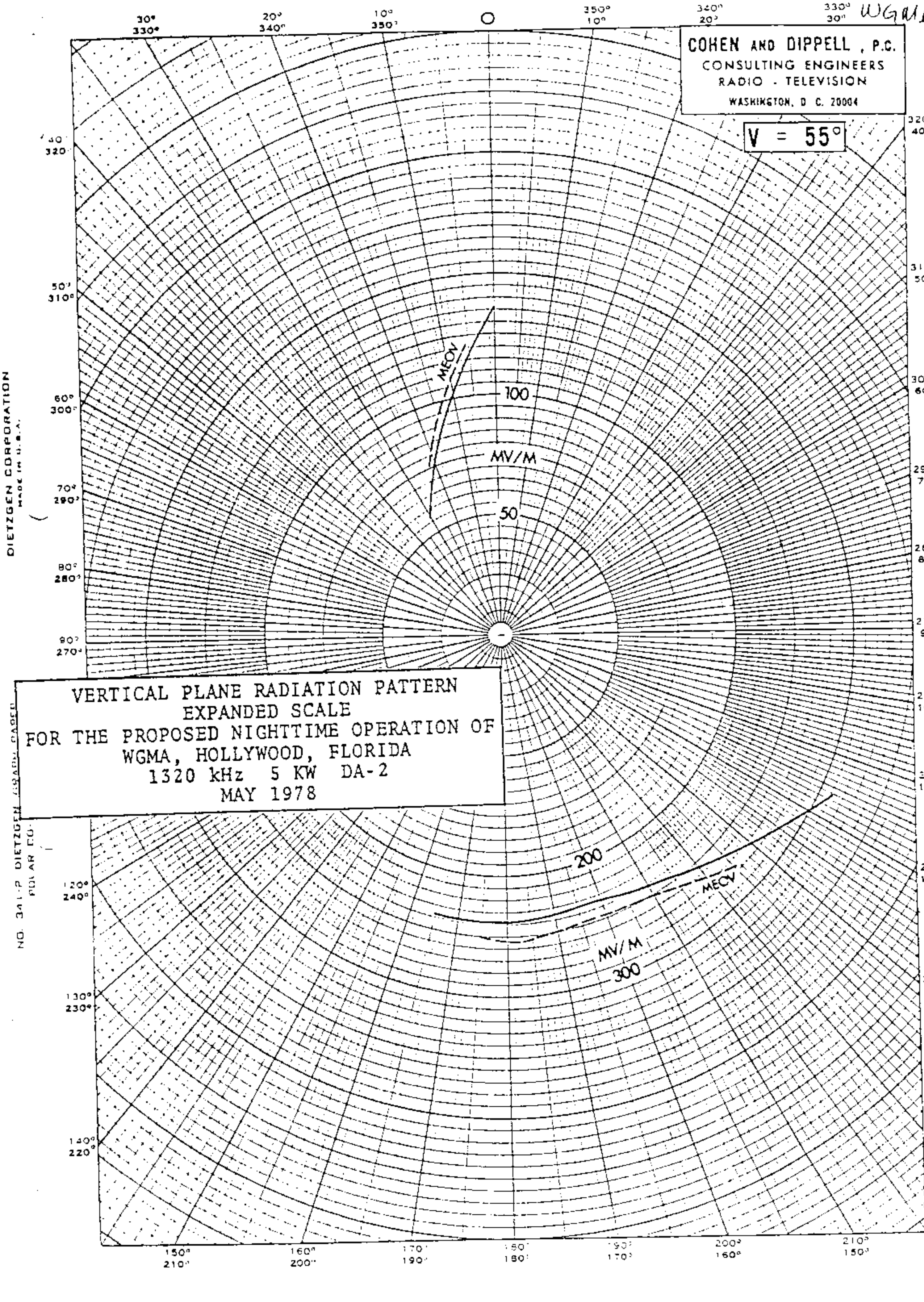
WGMA



VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978

WGMA

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



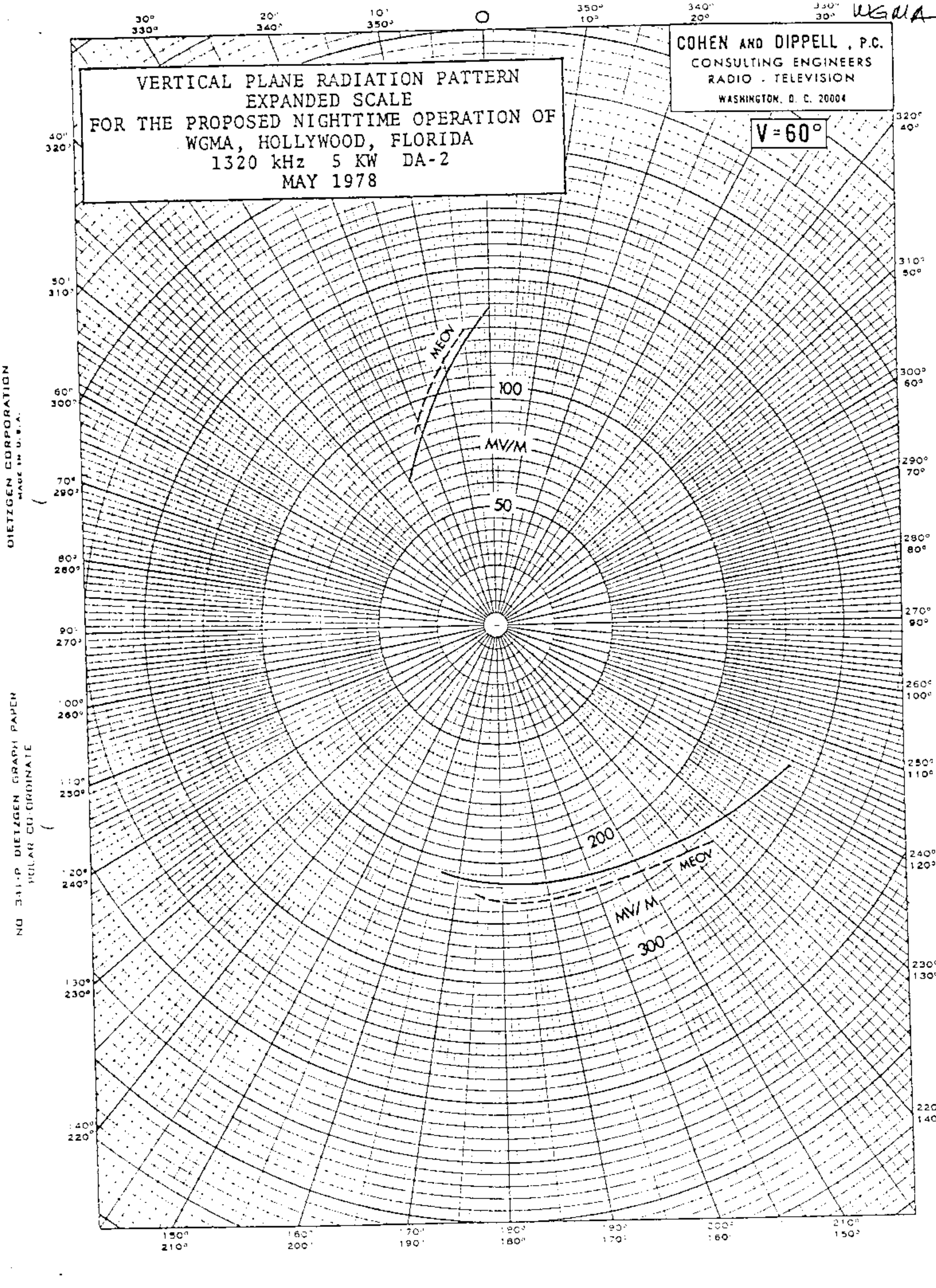
VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978

WGMA

VERTICAL PLANE RADIATION PATTERN
EXPANDED SCALE
FOR THE PROPOSED NIGHTTIME OPERATION OF
WGMA, HOLLYWOOD, FLORIDA
1320 kHz 5 KW DA-2
MAY 1978

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

V = 60°

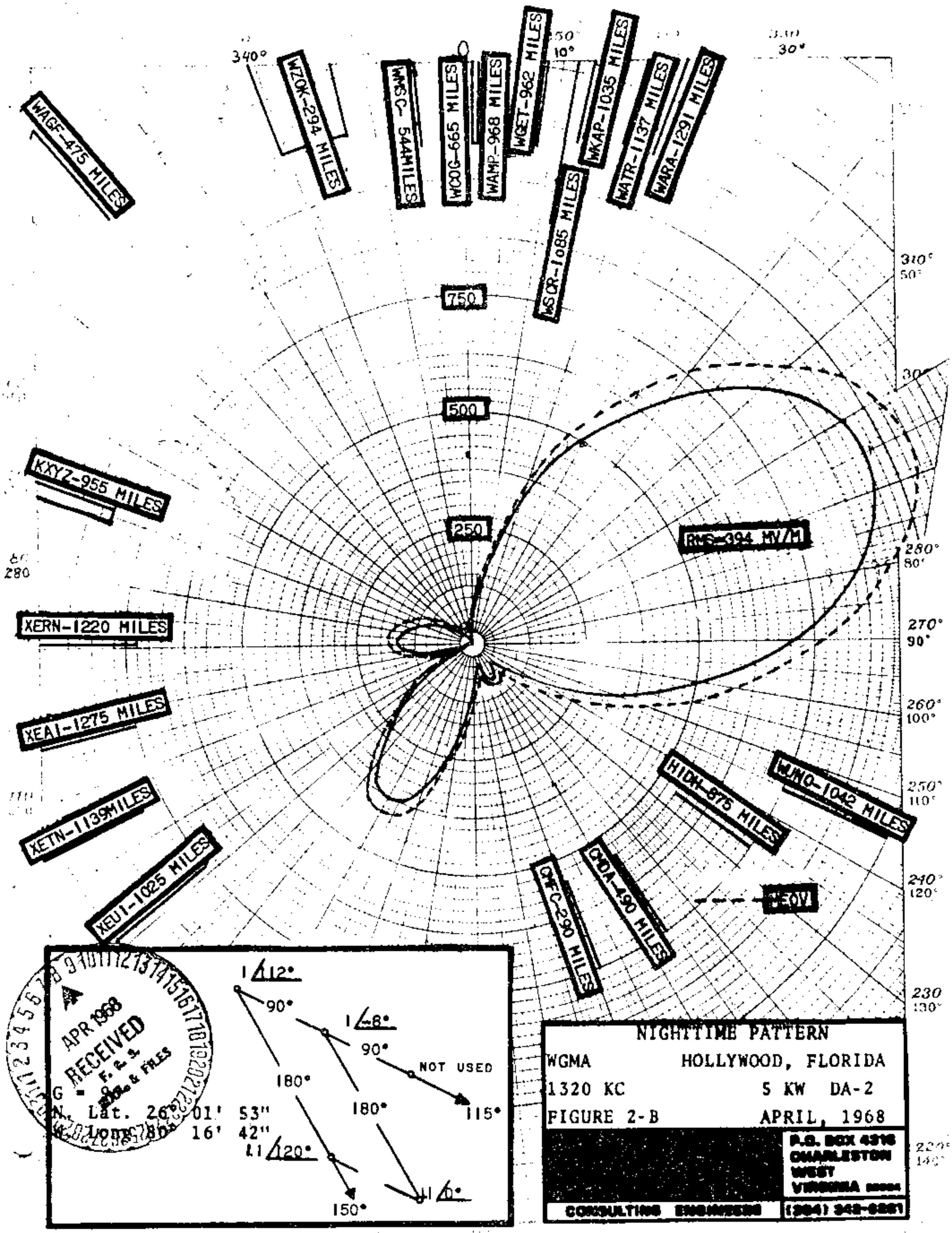


WGMA

Proposed Night
(6-28-68ct)

Station WGMA
Hollywood, Florida

5kw,DA-2,U
1320 kc



FCC File No.BMP-12383
Accepted

Station WGMA
Hollywood, Florida

1320 kc

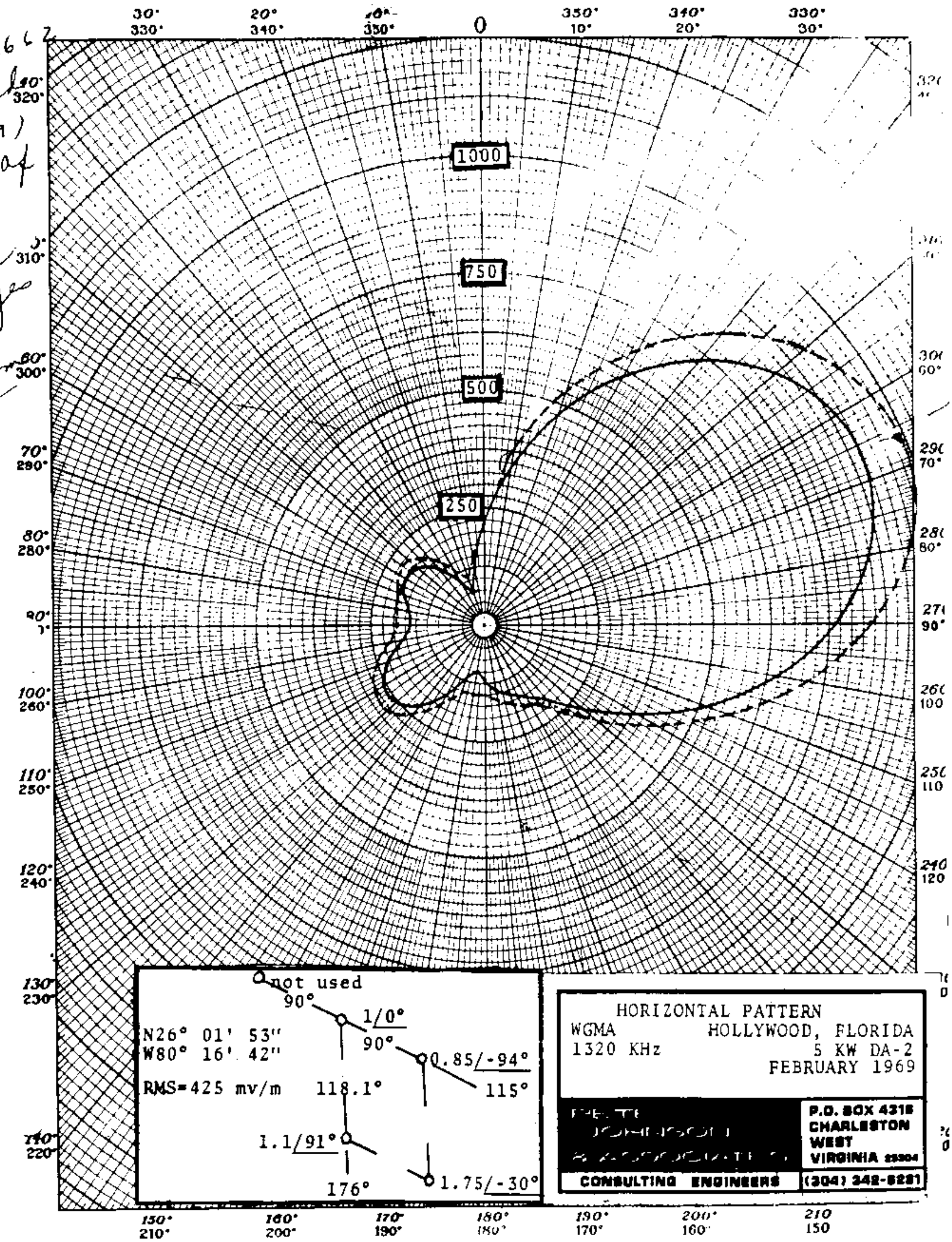
WGMA

Proposed Day
(4-29-69ct)

Station WGMA
Hollywood, Florida

5kw,DA-2,U
1320 kc

BMP-12662 Granted (4-9-69) Mod. of CP to make changes in DA system

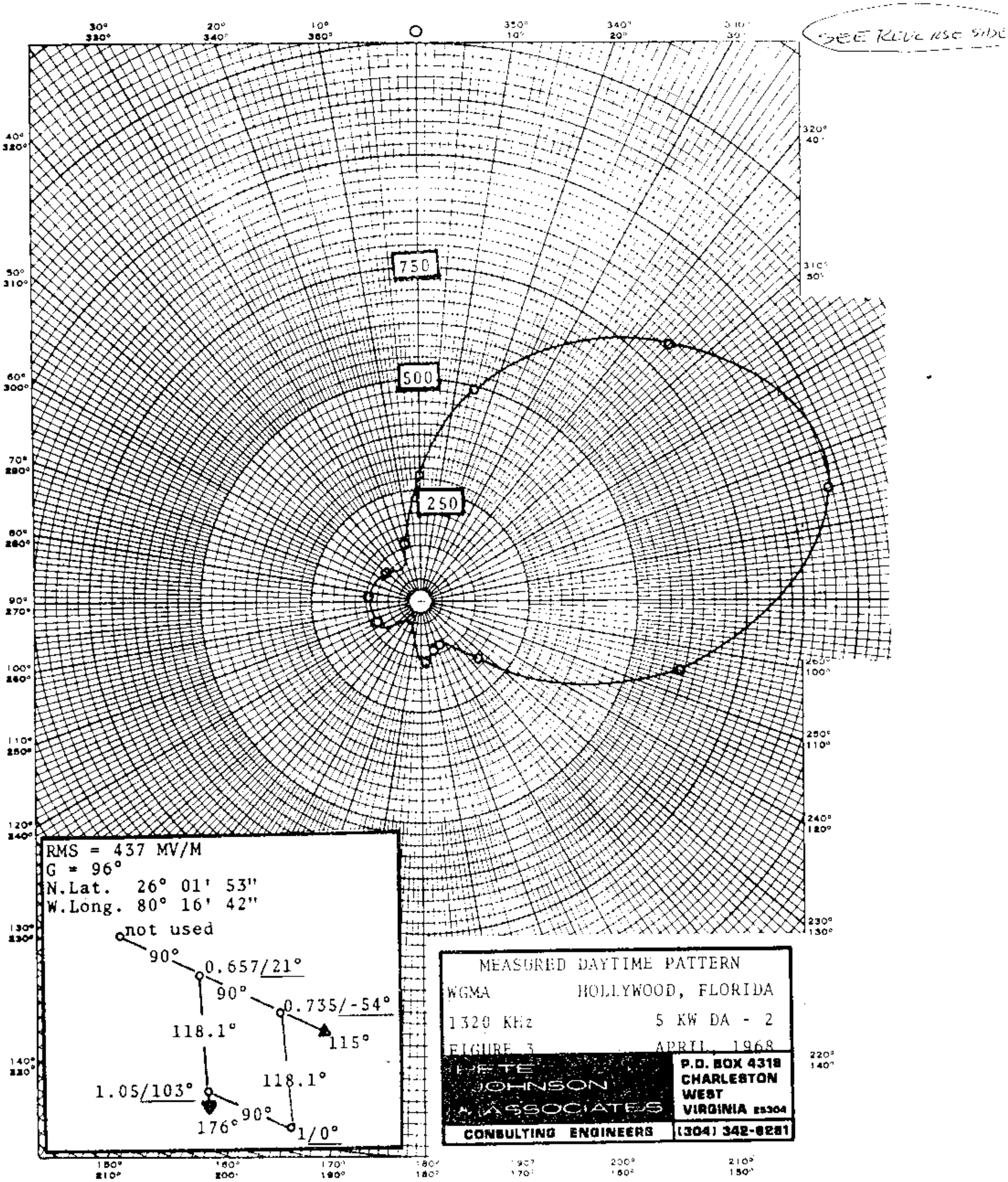


FCC File No.BMP-12662
Accepted 4-4-69

Station WGMA
Hollywood, Florida

1320 kc

Measured Day (6-28-68ct) | Station WGMA Hollywood, Florida | 5kw,DA-2,U 1320 kc



FCC File No.BL-11987
Accepted 6-14-68

Station WGMA
Hollywood, Florida

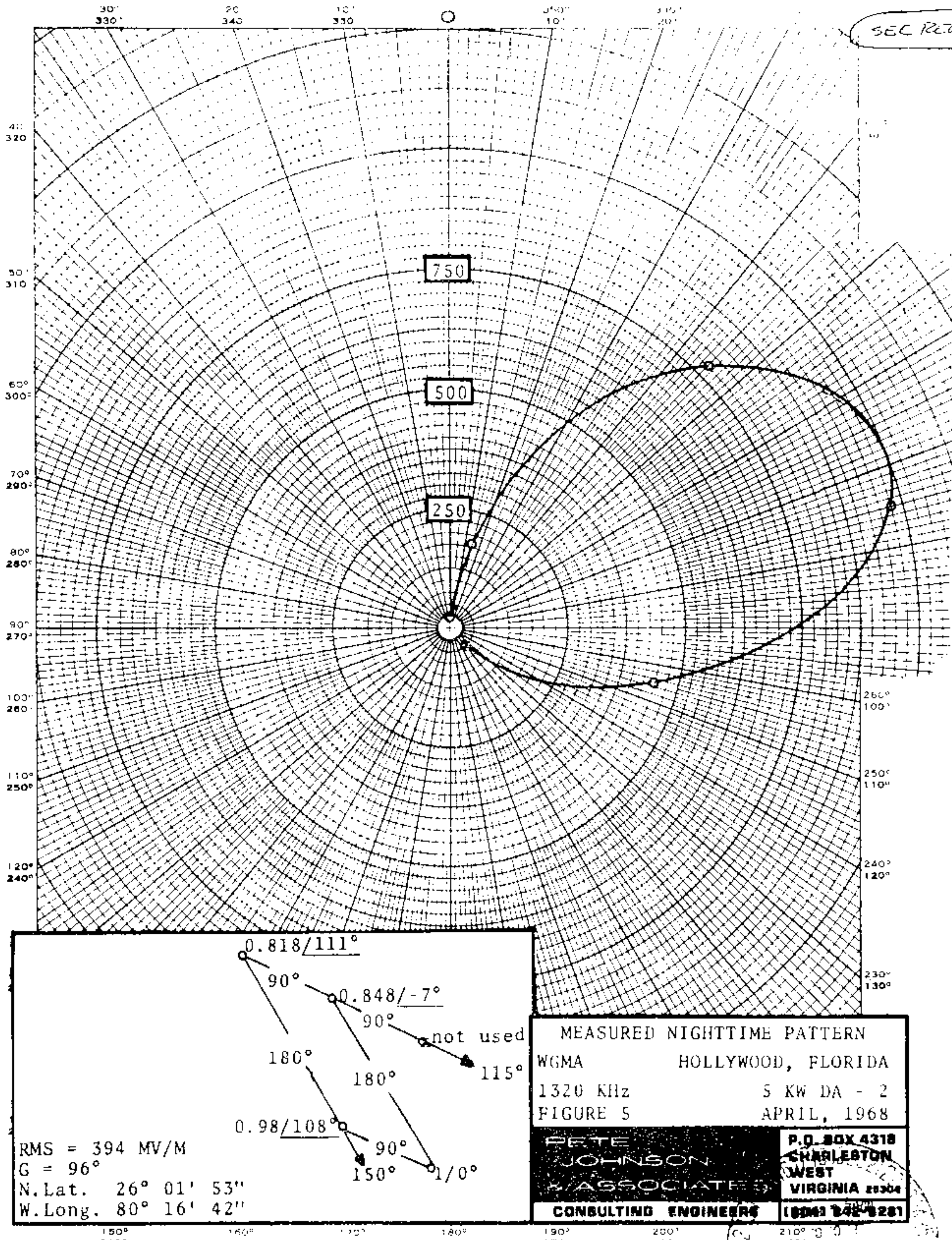
1320 kc

WGMA

Measured Night
(6-28-68ct)

Station WGMA
Hollywood, Florida

5kw,DA-2,U
1320 kc



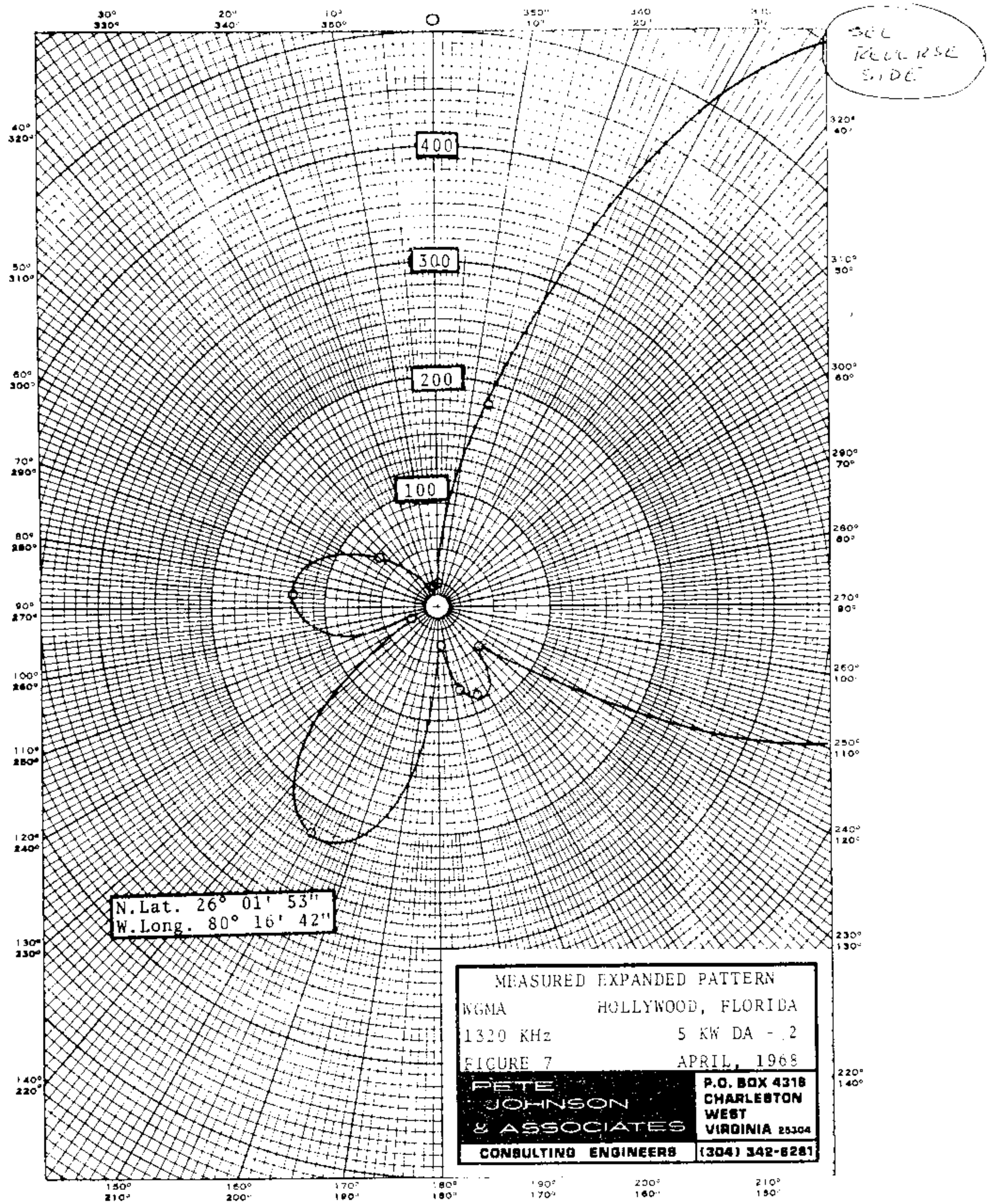
FCC File No.BL-11987
Accepted 6-14-68

Station WGMA
Hollywood, Florida

1320 kc

WGMA

Measured Night Nulls (6-28-68ct) | Station WGMA Hollywood, Florida | 5kw,DA-2,U 1320 kc



FCC File No.BL-11987
Accepted 6-14-68

Station WGMA
Hollywood, Florida

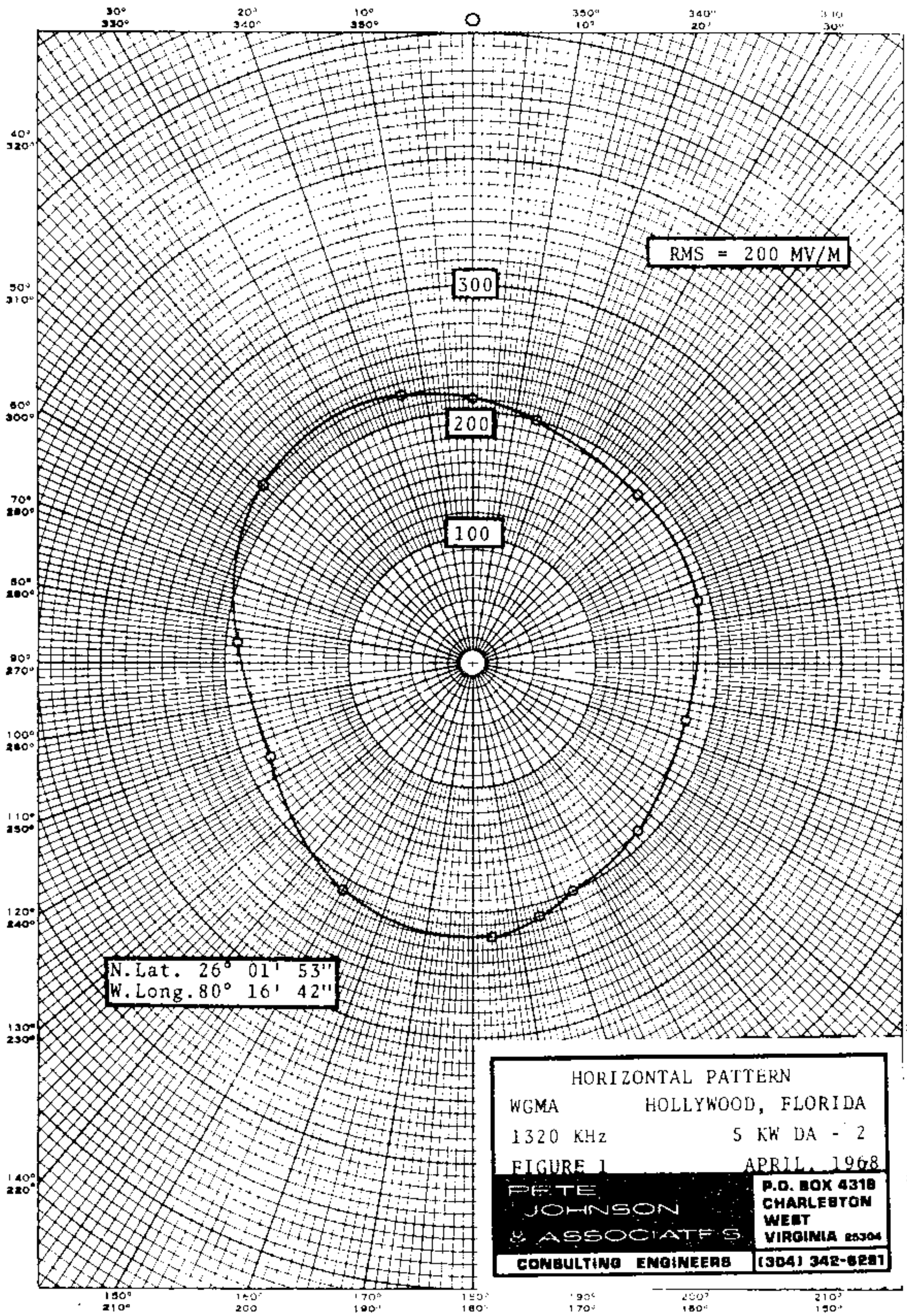
1320 kc

Measured Non-DA
(6-28-68ct)

Station WGMA
Hollywood, Florida

5kw,DA-2,U
1320 kc

SEE REVERSE SIDE



FCC File No.BL-11987
Accepted 6-14-68

Station WGMA
Hollywood, Florida

1320 kc

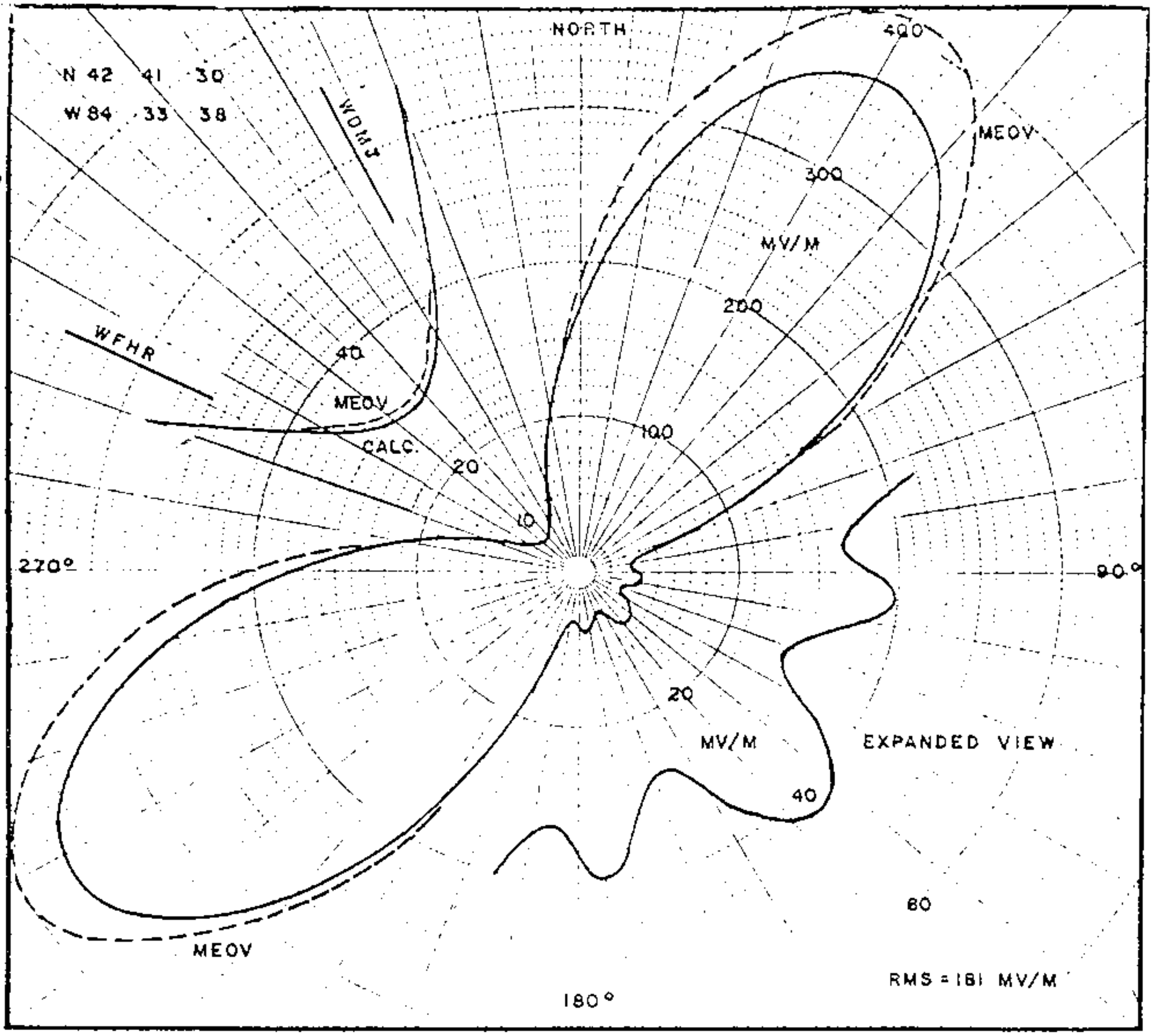
WILS

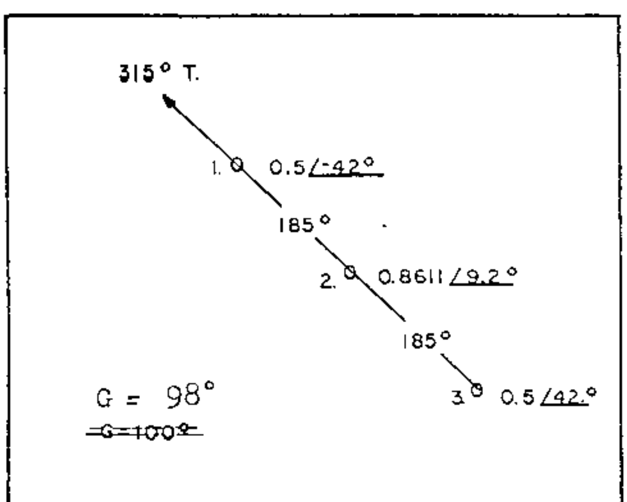
Proposed Night
(7-26-67ct)

Station WILS
Lansing, Michigan

1kw,5kw-LS,DA-2,U
1320 kc

-27-67
GRANTED
CP
to change
MEOV!





WILS
AMENDED NIGHTTIME PATTERN
1320 KHZ 1/5 KW-LS, DA-2, U
LANSING, MICHIGAN
~~APRIL, 1967~~
Corrected May 25, 1967

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No.BMP-12088
Accepted 6-22-67

Station WILS
Lansing, Michigan

1320 kc

WILS
1320KHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WILS

Main Studio: Lansing, Michigan

Frequency: 1320 kHz

Power: 1kw Night 5kw Day

Notification List No. 1790

Date: December 4, 1980 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 42° 41' 30"
West Longitude: 84° 33' 38"

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:	NW(#1)	C(#2)	SE(#3)	W(#4)
HEIGHT ABOVE INSULATORS:	203'	203'	203'	203' (98°)
NIGHT PHASING:	-42°	+9.2°	+42°	—
NIGHT FIELD RATIO:	0.5	0.8611	0.5	—
DAY PHASING:	—	0°	—	0°
DAY FIELD RATIO:	—	1.0	—	1.0

SPACING AND ORIENTATION: Towers #1, #2 and #3 spaced 382.91' (185°) on a line bearing 135° true. Tower #4 is spaced 285.5' (136.5°) on a line bearing 286.31° true from Tower #2.

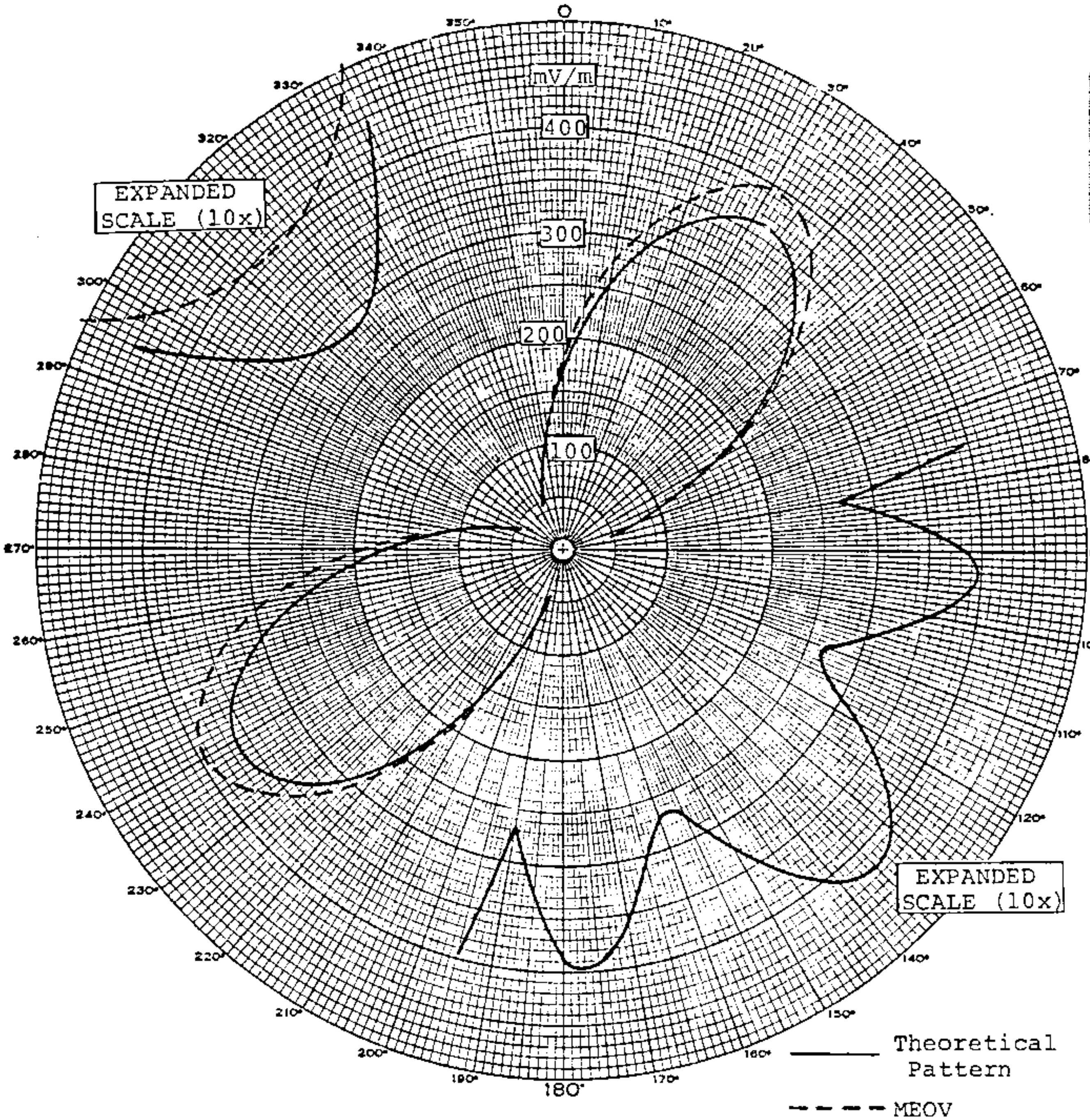
GROUND SYSTEM: 120 - 225' equally spaced copper radials plus a 24' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of system are bonded together.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Night	181 mv/m		
Day	415.4 mv/m		

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

WILS
1320kHz



RMS = 181 mV/m

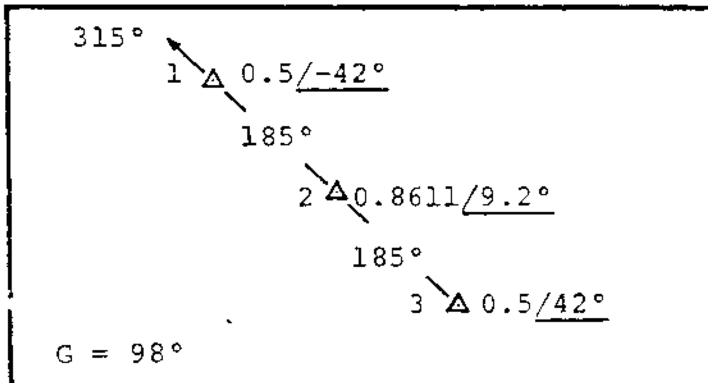


FIG. 2.0

WILS THEORETICAL 1kw
NIGHTTIME DIRECTIONAL PATTERN

WILS		Lansing, MI
1320 kHz	1/5kw	DA-2 U

Carl E. Smith
CONSULTING RADIO ENGINEERS
8200 SNOWVILLE ROAD
CLEVELAND, OHIO • 44141

790418

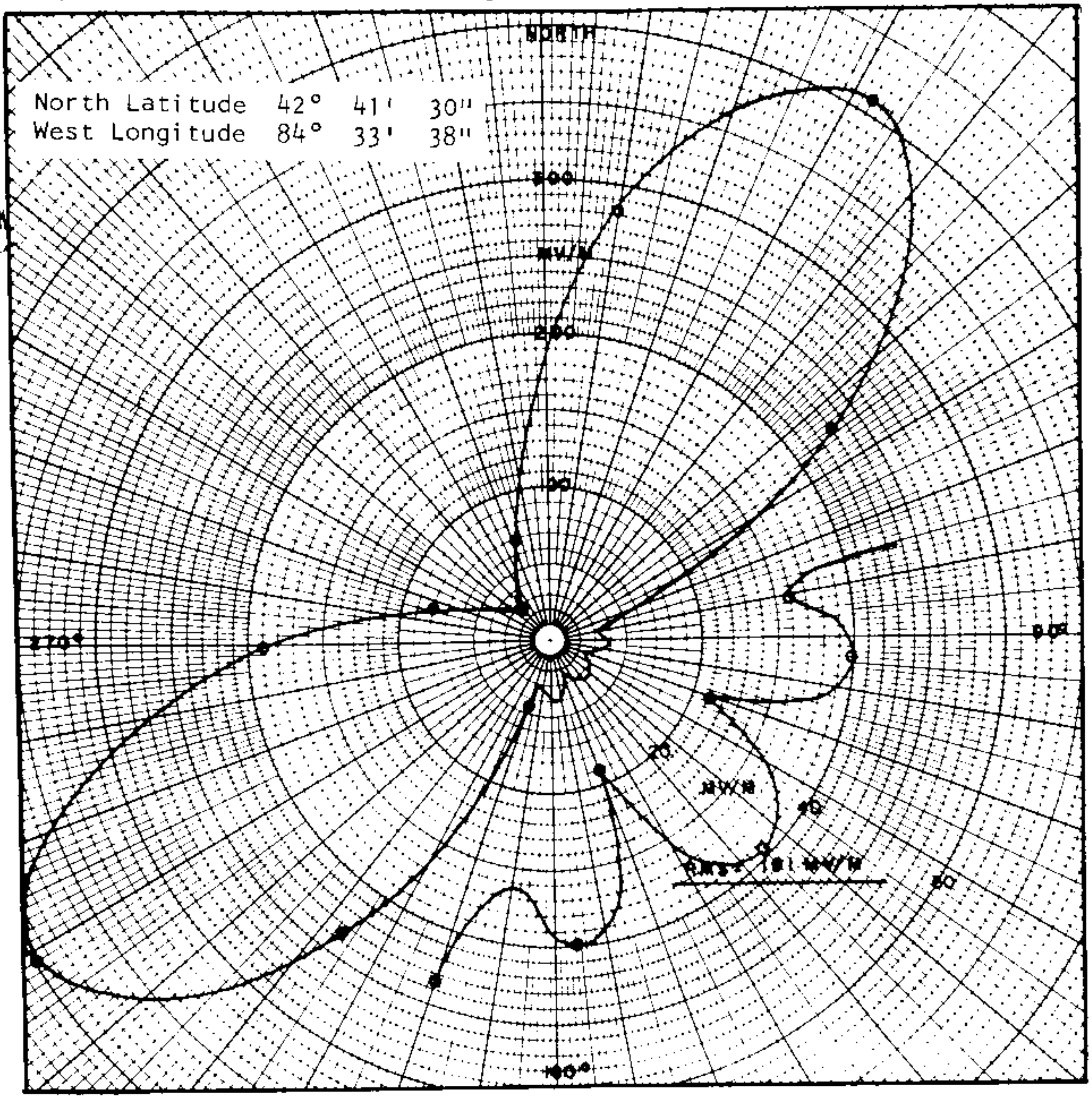
WILS

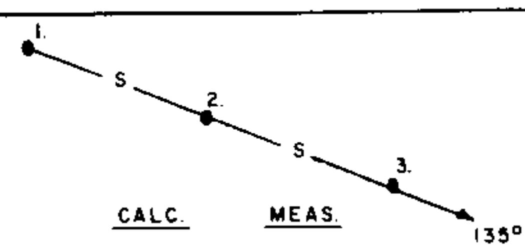
Measured Night
(11-28-67ct)

Station WILS
Lansing, Michigan

1kw,5kw-LS,DA-2,U
1320 kc

2-13-68
GRANTED
LICENSE
COV. CHANGE
IN DA PATTERN





	CALC.	MEAS.
1-	.58/-51.2°	.629 /-48.0°
2-	1.0/ 0°	1.0/ 0°
3-	.58/32.8°	.692 / 51.0°

S = 185° G = 98°

WILS NIGHTTIME PROOF

1KW 1320 KHZ

LANSING, MICH.

SEPTEMBER, 1967

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

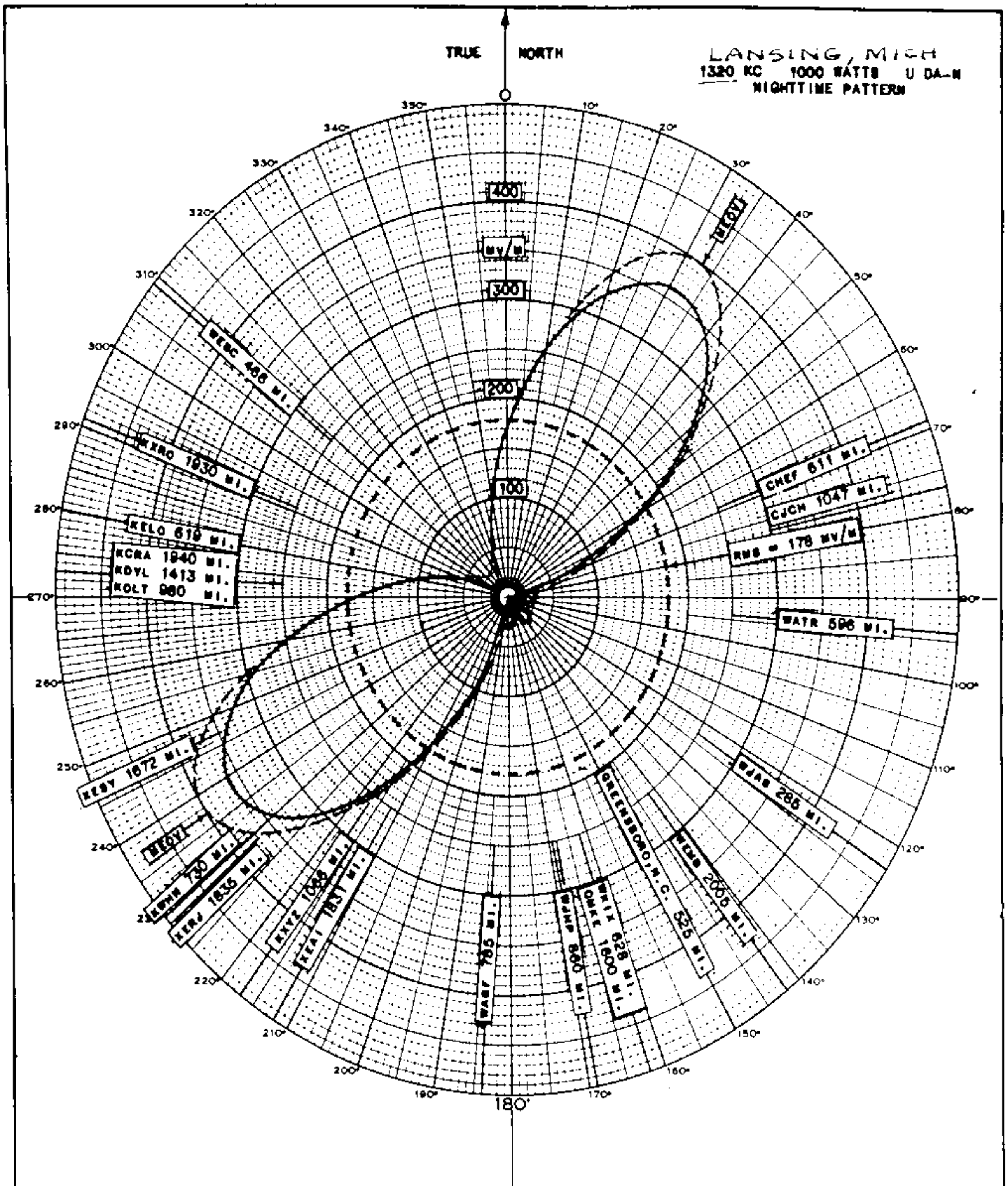
FCC File No.BL-11814
Accepted 11-9-67

Station WILS
Lansing, Michigan

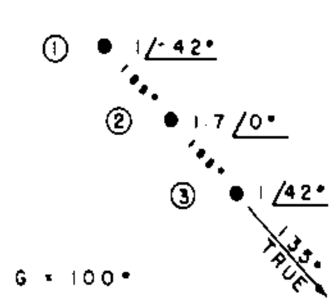
1320 kc

FCC INFORMATION ONLY

FIGURE 8.0



CALCULATED HORIZONTAL PLANE RADIATION PATTERN FOR NIGHTTIME OPERATION



LANSING BROADCASTING COMPANY

LANSING MICHIGAN

WELDON & CARR

CONSULTING RADIO ENGINEERS

WASHINGTON DC

PROPOSED OPERATION

LANSING MICHIGAN

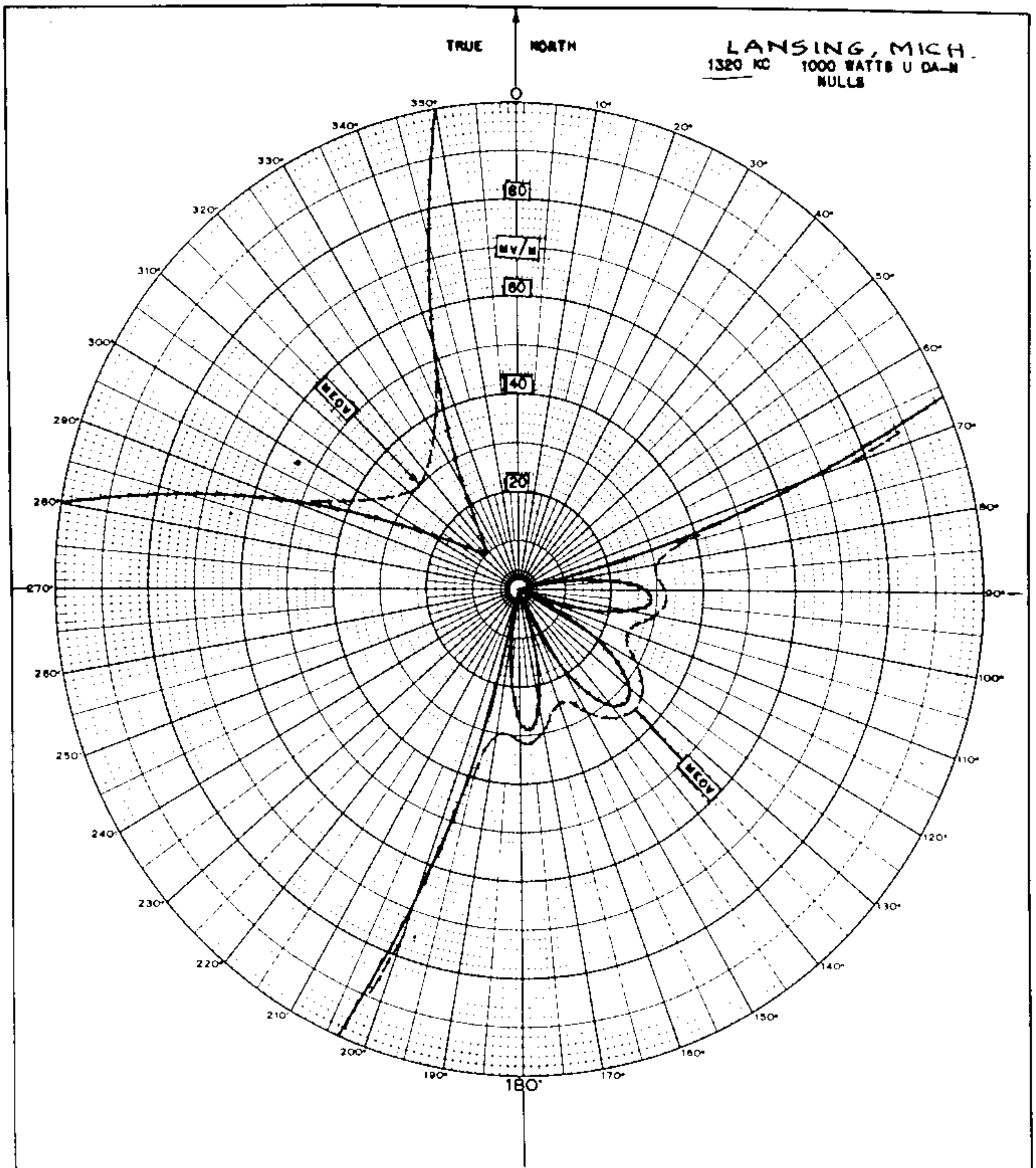
1320 KC 1000 W U DA-N

471010N

FOR INFORMATION ONLY

WILS

FIGURE 8.1



NULL DETAILS OF CALCULATED HORIZONTAL PLANE RADIATION PATTERN FOR NIGHTTIME OPERATION

DETAIL IN NULLS	LANSING BROADCASTING COMPANY LANSING MICHIGAN WELDON & CARR CONSULTING RADIO ENGINEERS WASHINGTON DC	PROPOSED OPERATION LANSING MICHIGAN 1320 KC 1000 W U DA-N 471010P

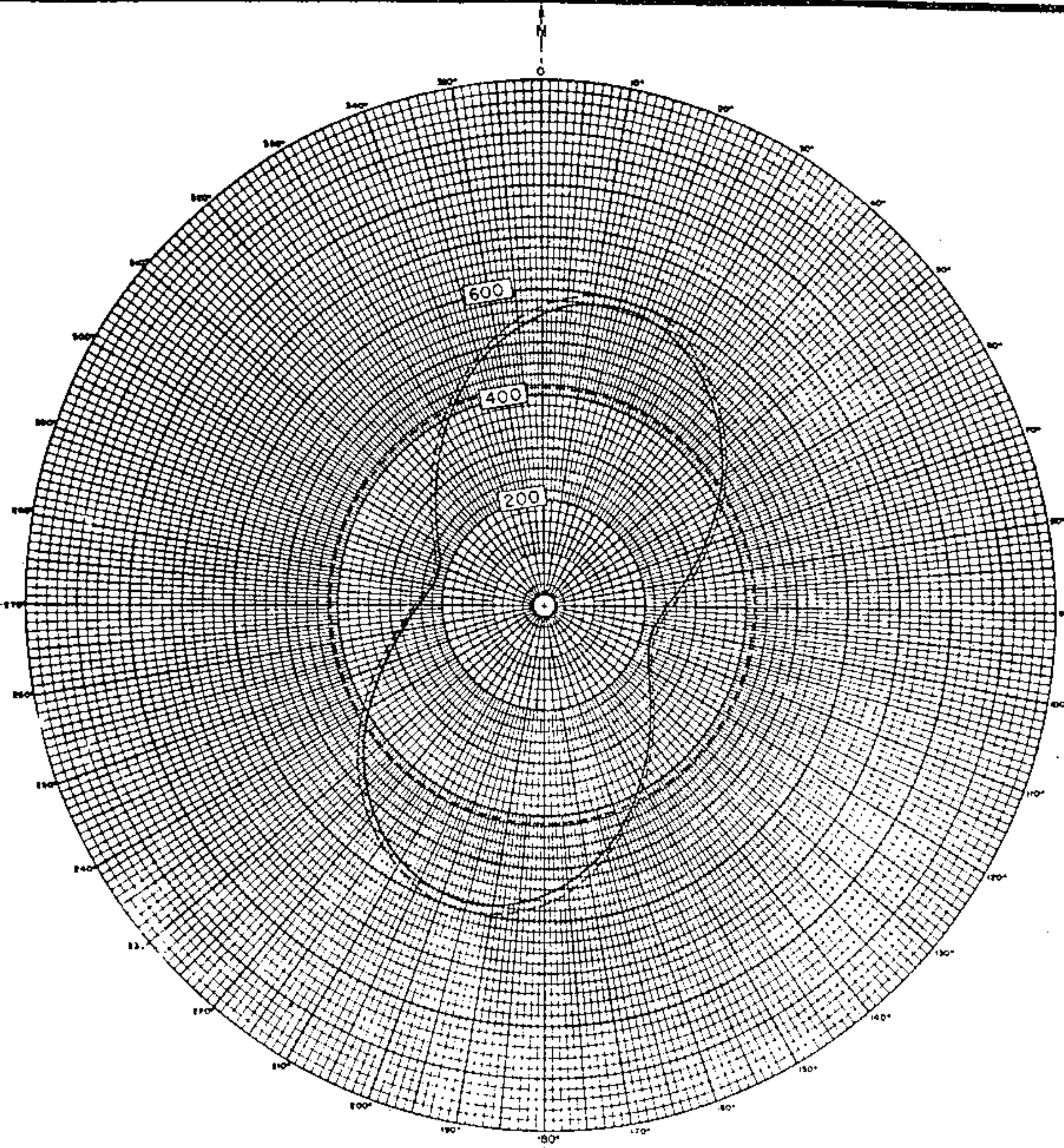
WILS

PROPOSED DAY
(1-20-58g)

Station WILS
Lansing, Michigan

1kw,5kw-LS, DA-2,U
1320 KC

Granted CP
1/31/58 to
change DA-D
pattern



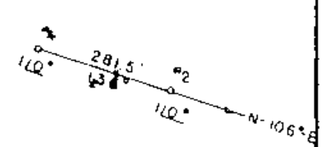
--- MEOV

E_{RMS} = 415.4 MV/M

LATITUDE: 42° 41' 30"
LONGITUDE: 84° 33' 38"

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

ANTENNA PARAMETERS



G=98°

FIGURE 3

DAYTIME HORIZONTAL
POLAR PATTERN

RADIO STATION WILS
LANSING, MICHIGAN

1320 KC
1-5 KW-LS, DA-2, U

FCC File No. BP-11,764
Accepted 1-16-58

WILS
Lansing, Michigan

1320 KC

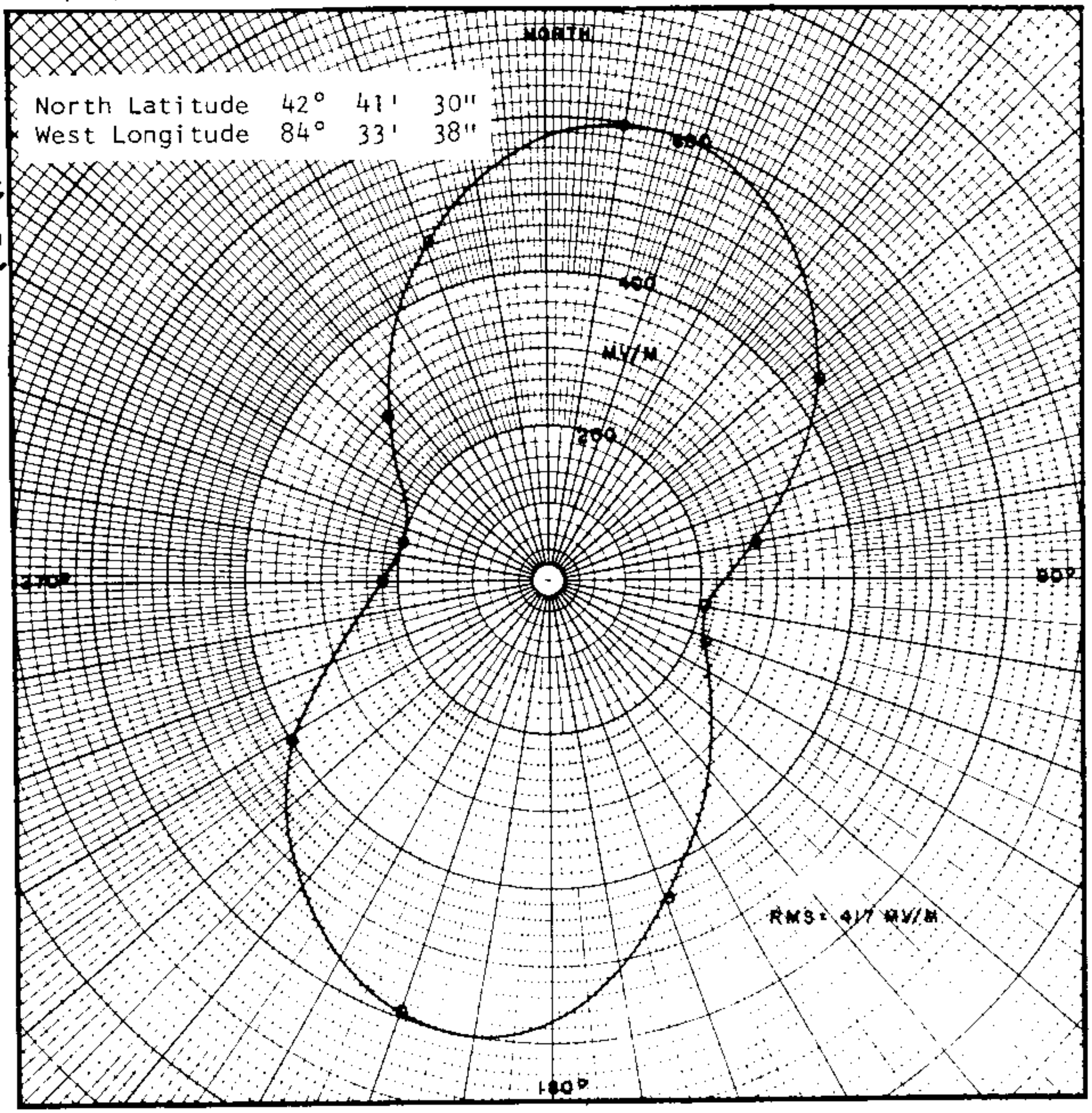
WILS

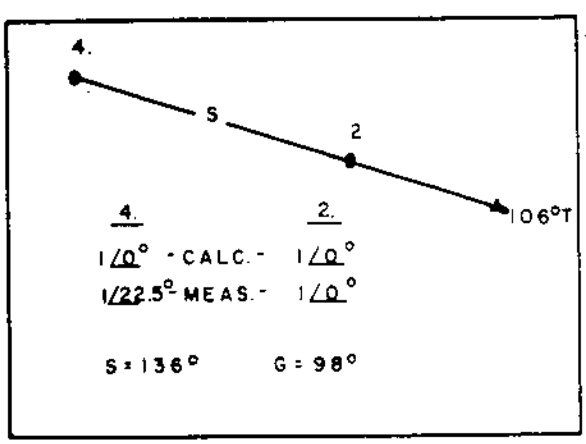
Measured Day
(11-28-67ct)

Station WILS
Lansing Michigan

1kw,5kw-LS,DA-2,U
1320 kc

2-13-68
GRANTED
LICENSE
COV. CHANGE
IN DA PATT.





WILS DAYTIME PROOF
5KW 1320 KHZ
LANSING, MICHIGAN
JAN., 1967

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No.BL-11814
Accepted 11-9-67

Station WILS
Lansing, Michigan

1320 kc

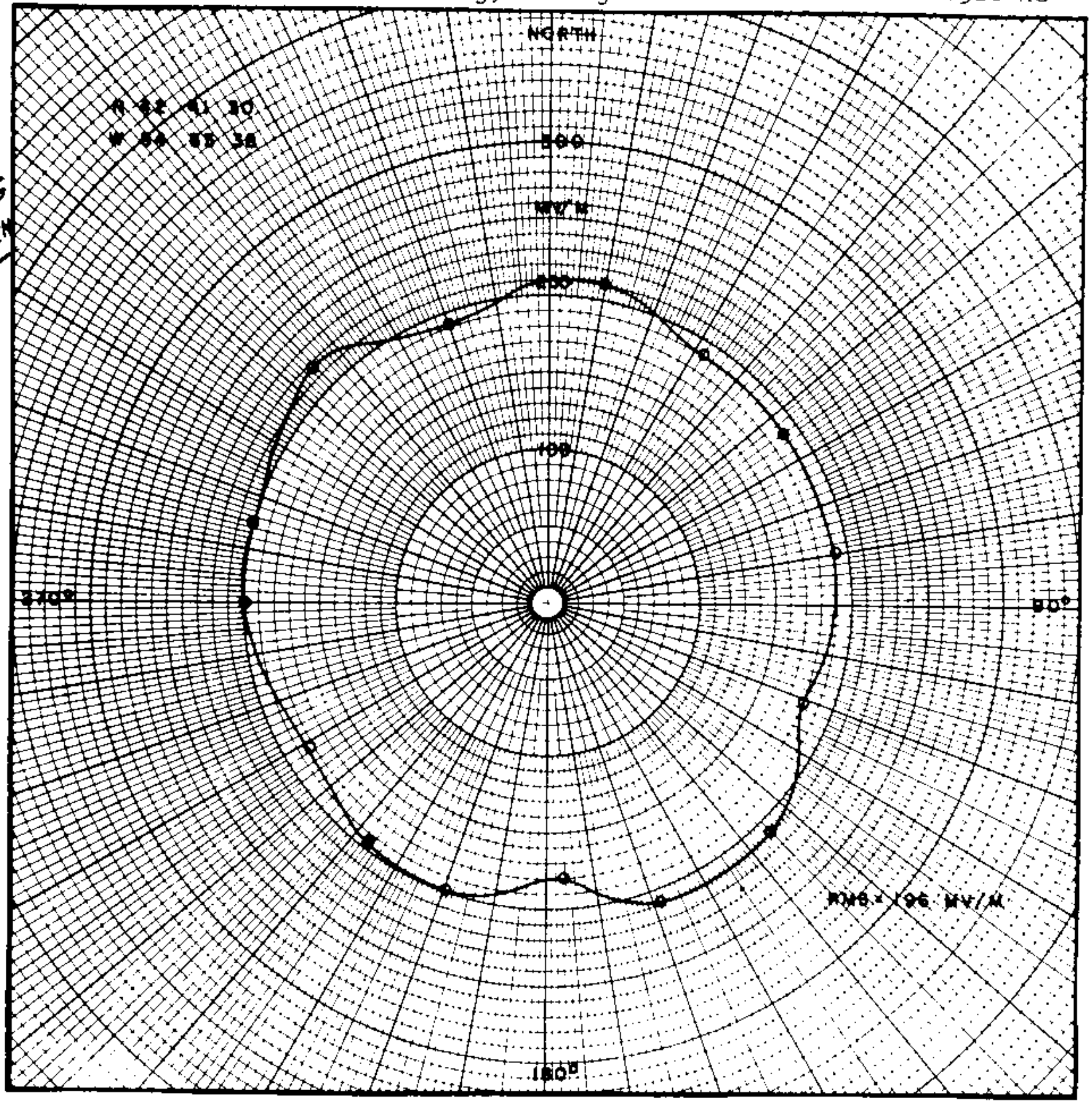
WILS

Measured Non-DA
(11-28-67ct)

Station WILS
Lansing, Michigan

1kw,5kw-LS,DA-2,U
1320 kc

2-13-68
GRANTED
LICENSE
COV. CHANGE
IN DA PATTERN



NO. 2 TOWER USED, ALL OTHERS FLOATING.

WILS ND PROOF
1 KW 1320 KHZ
LANSING, MICHIGAN
JAN.,1967

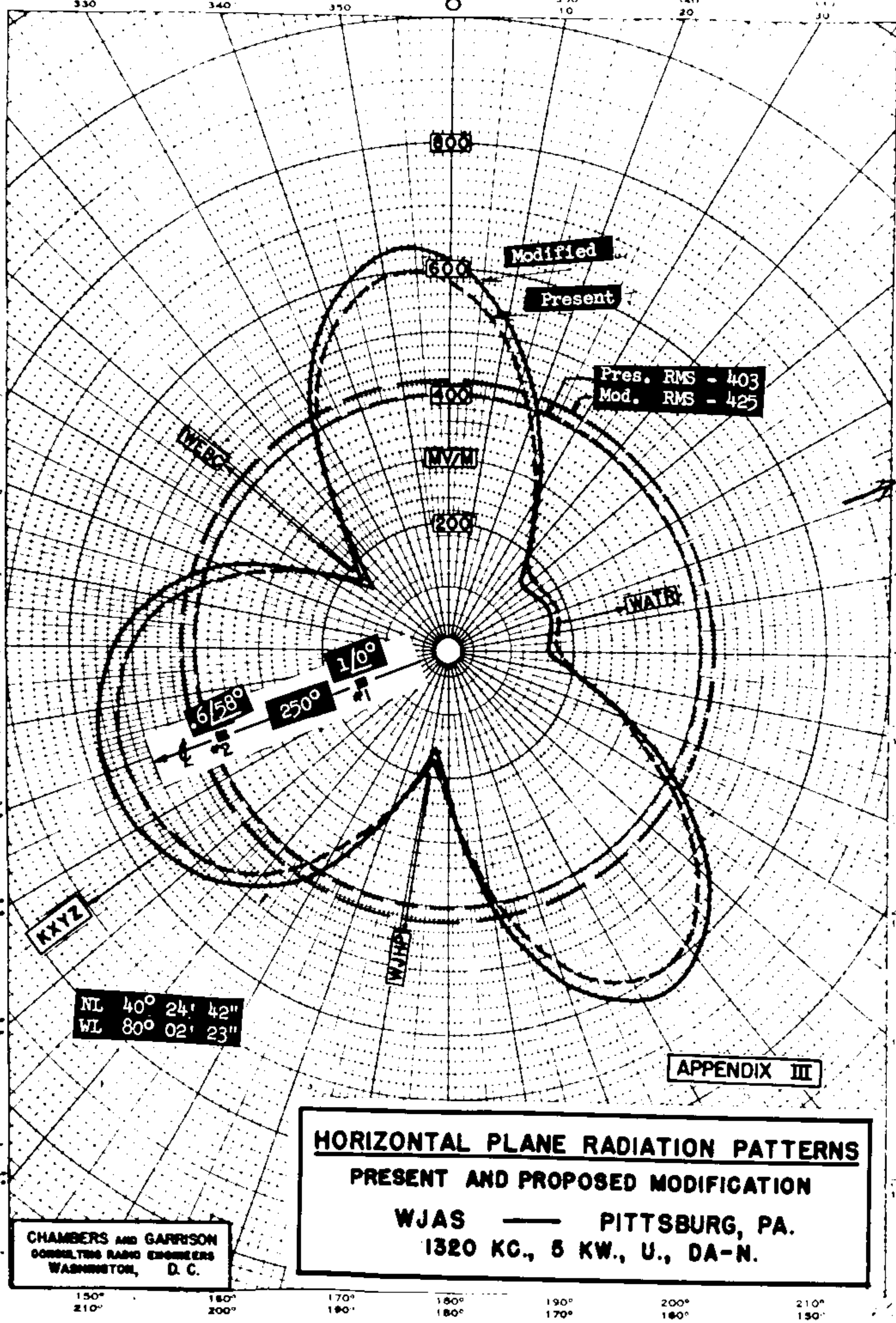
ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No.BL-11814
Accepted 11-9-67

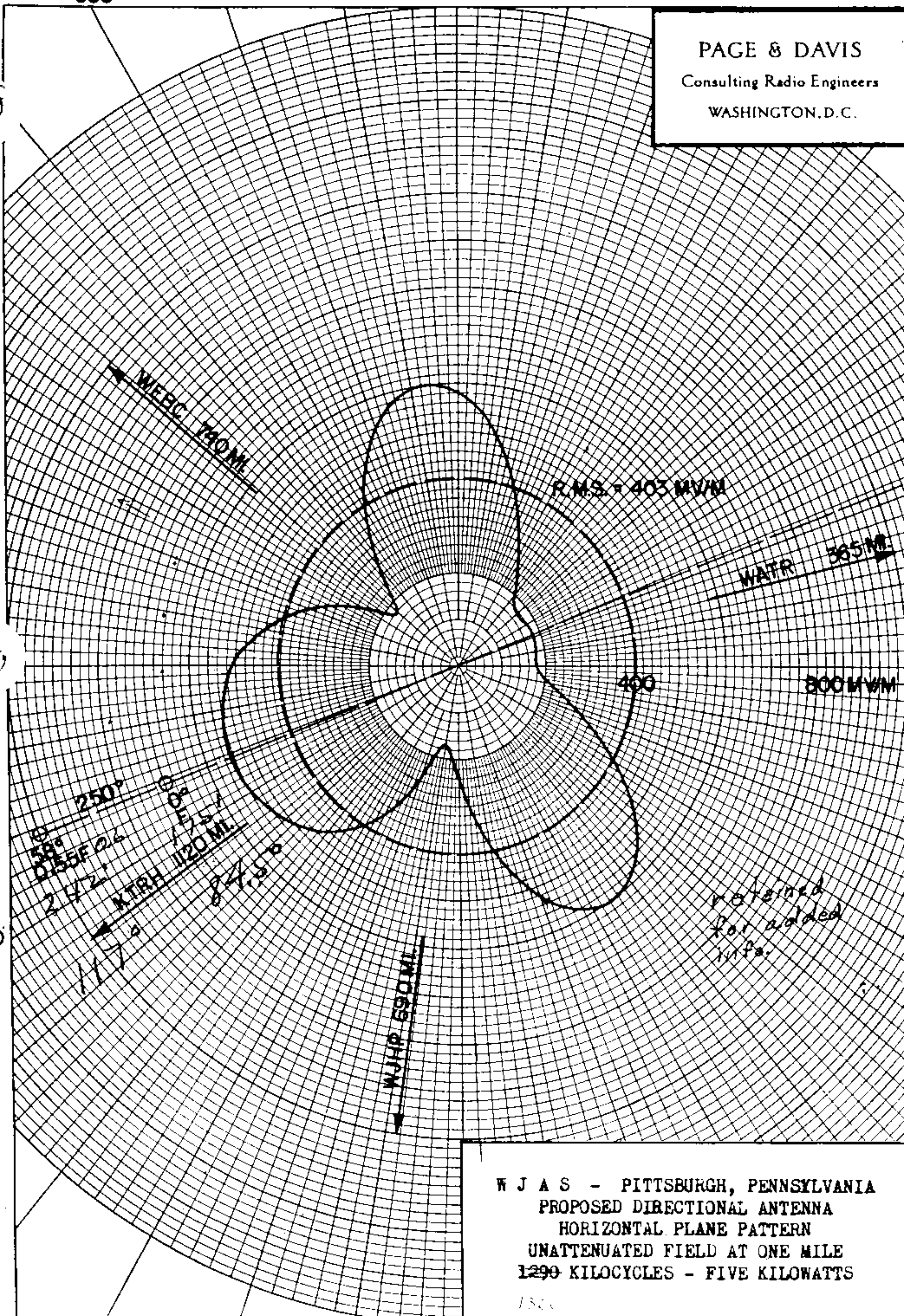
Station WILS
Lansing, Michigan

1320 kc

PROPOSED NIGHT | Station WAMP Pittsburgh, Pennsylvania | 5kw, DA-N,U 1320 KC



WJAS
1320

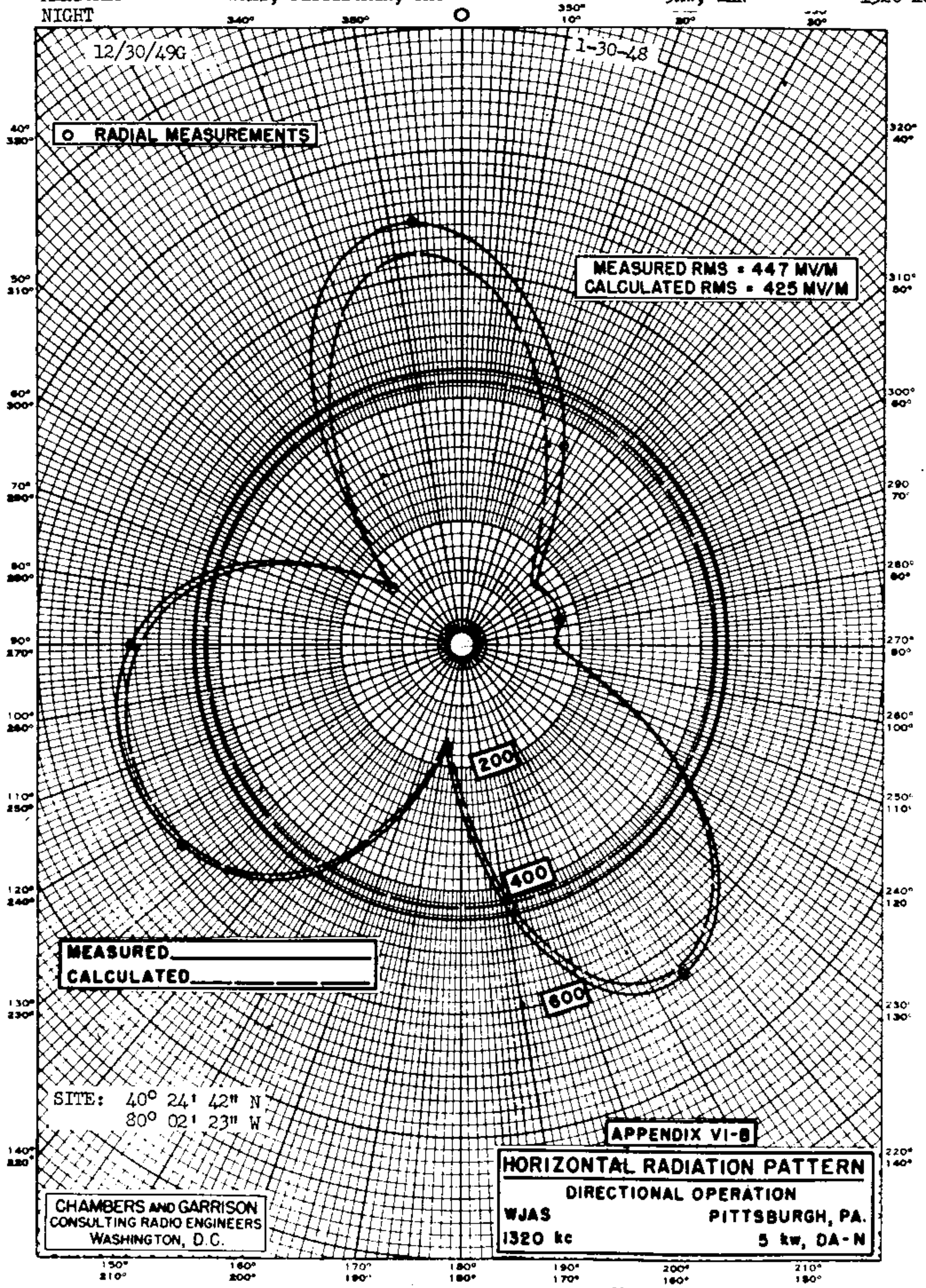


W J A S - PITTSBURGH, PENNSYLVANIA
PROPOSED DIRECTIONAL ANTENNA
HORIZONTAL PLANE PATTERN
UNATTENUATED FIELD AT ONE MILE
~~1290~~ KILOCYCLES - FIVE KILOWATTS

KEUFFEL & ESSER CO., N. Y. NO. 343A

WJAS

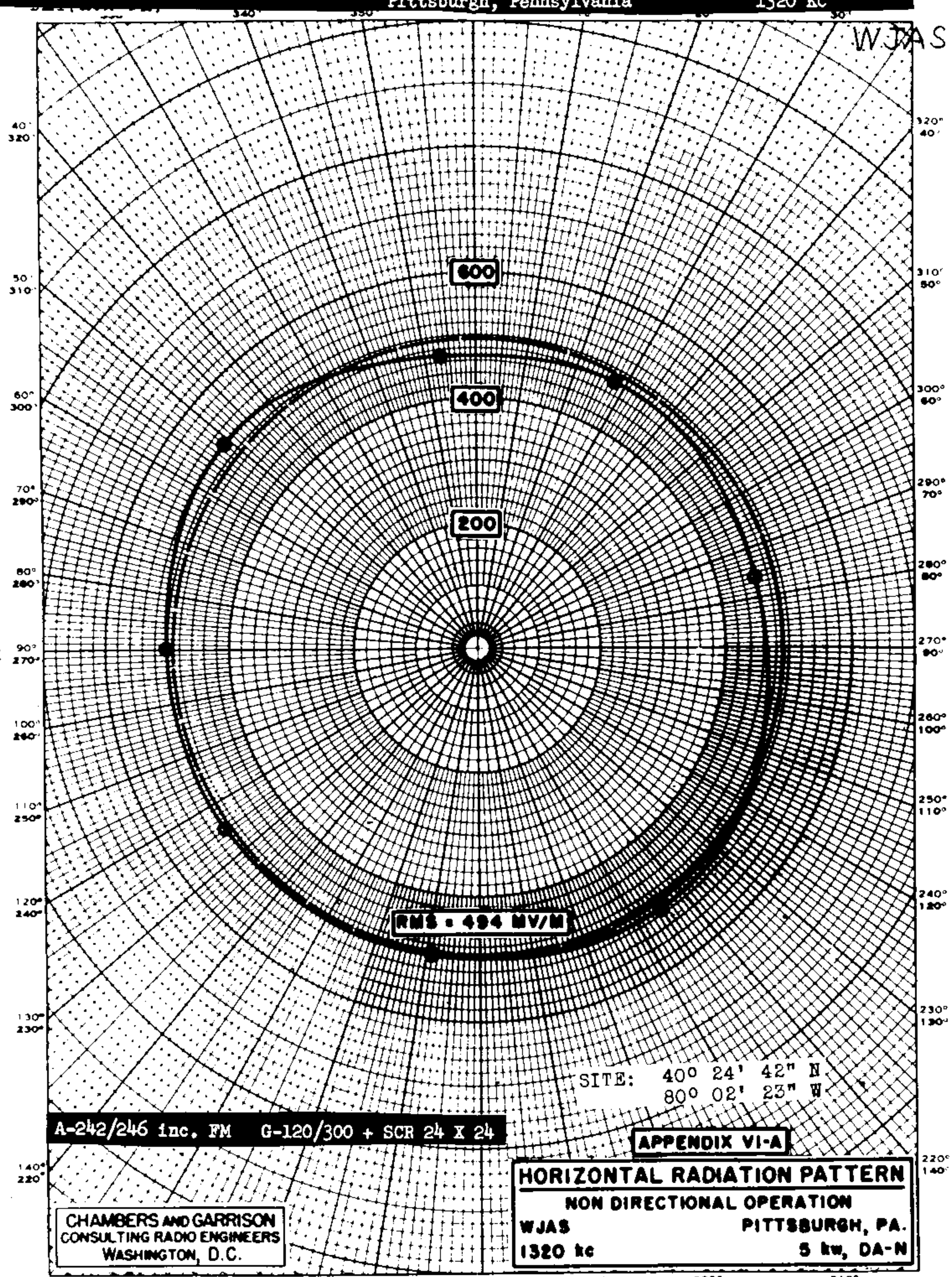
MEASURED WJAS, PITTSBURGH, PA. 5kw, DAN 1320 kc
NIGHT



WJAS, Pittsburgh, Pa. 1320 kc

MEASURED NON - DA Station WJAS 5kw, DA-N,U
Pittsburgh, Pennsylvania 1320 KC

WJAS



WJAS, Pittsburgh, Pa. 1320 kc

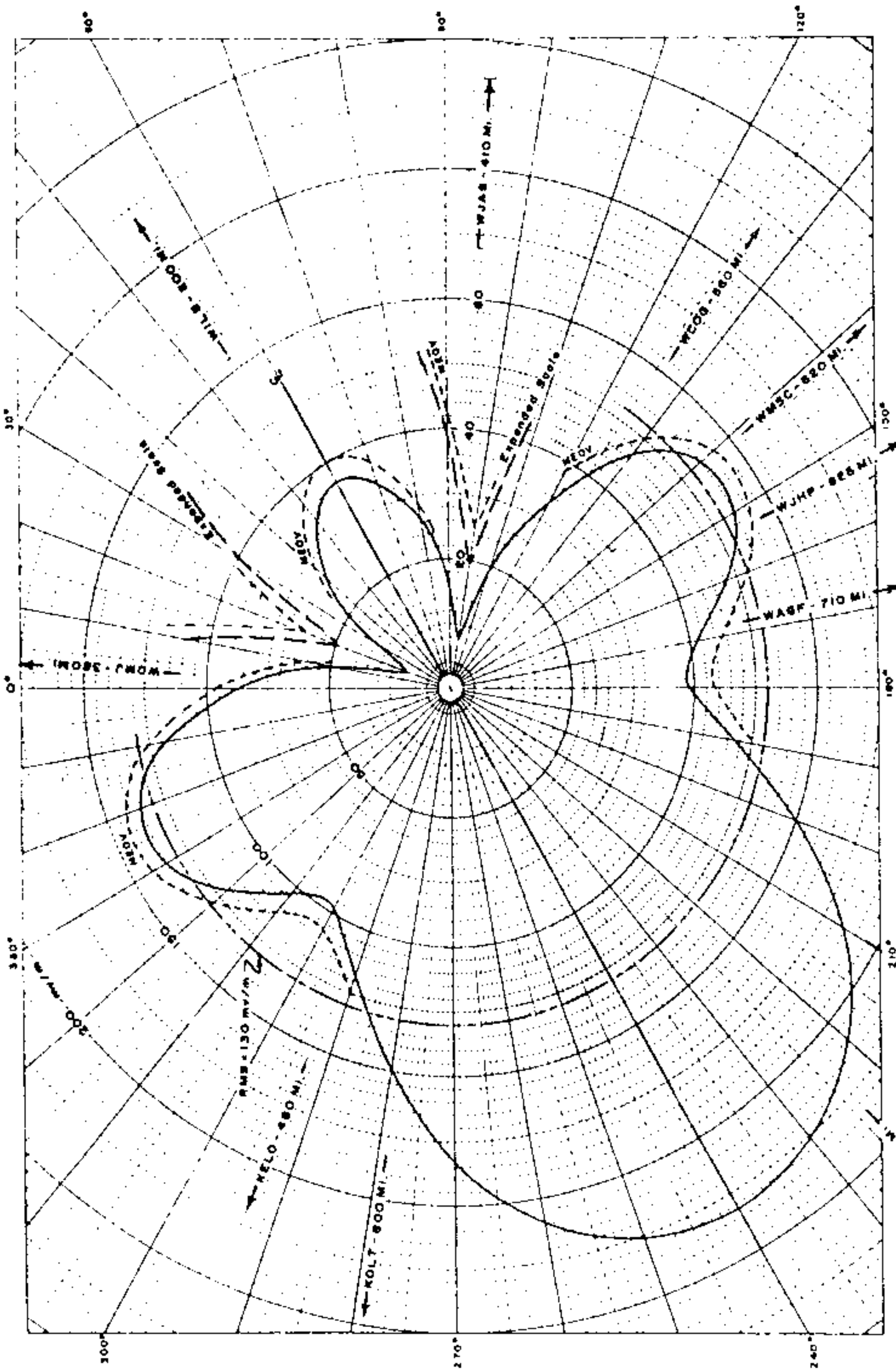
WKAN

Granted CP 12/23/58 for DA-N operation

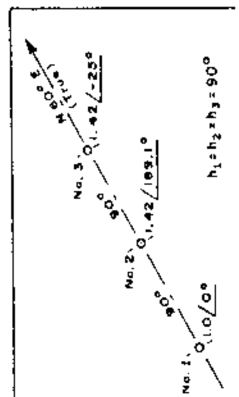
PROPOSED NIGHT
(6/4/57g)

Station WKAN 500w,1kw-LS, DA-N,U
Kankakee, Illinois 1320 KC

FIGURE 5
HORIZONTAL PLANE RADIATION PATTERN
KANKAKEE DAILY JOURNAL COMPANY
WKAN 1 KW-LS, 500 W, DA-N 1320 KC
KANKAKEE, ILLINOIS
Prepared by
Lohnes and Culver Washington 6, D.C.
April 1957



41° 08′ 08″
87° 49′ 10″



FCC File No. BP-11,287
Accepted 5/21/57

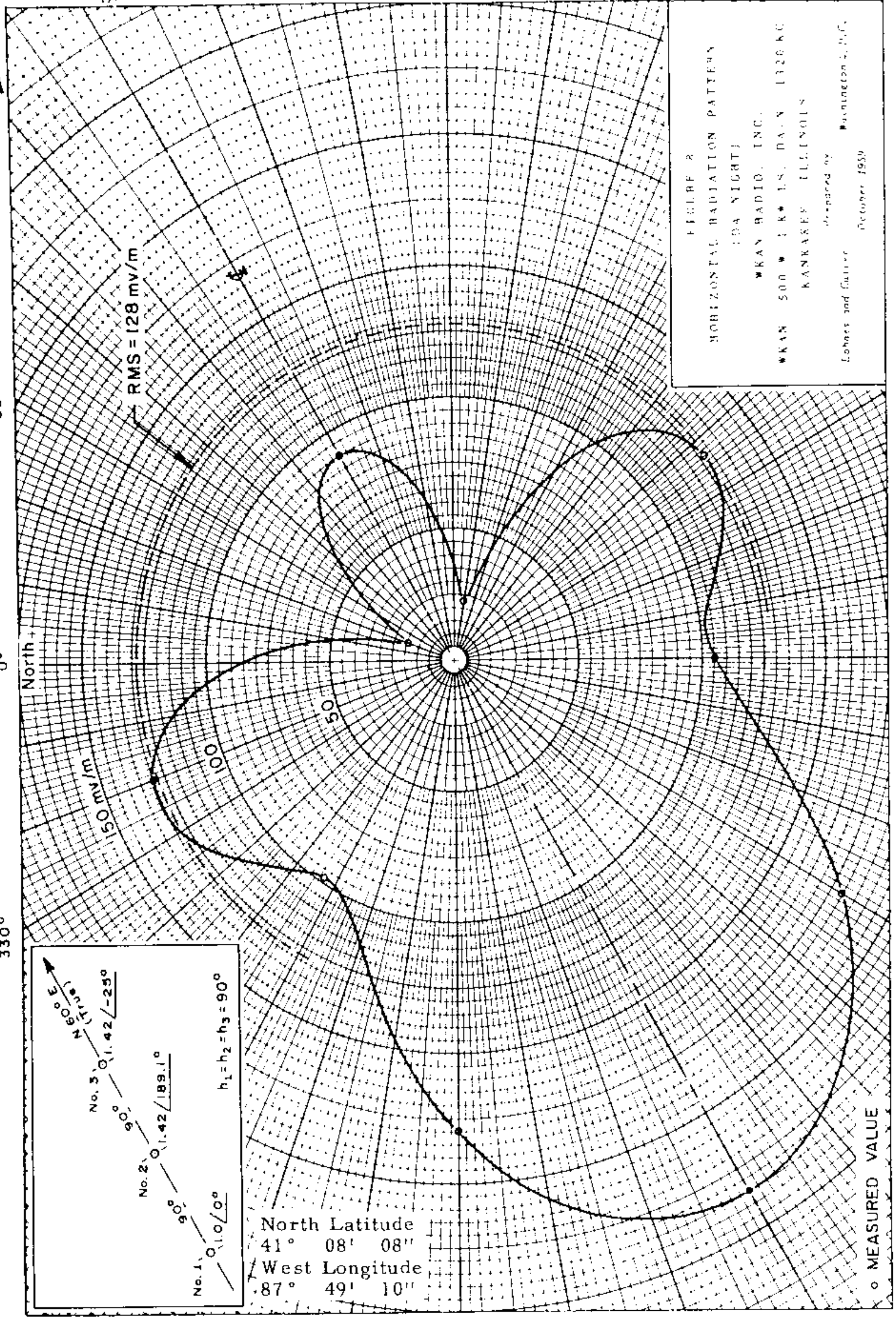
WKAN
Kankakee, Illinois 1320 KC

11-14-60

MEASURED NIGHT
(12-21-59g)

Station WKAN
Kankakee, Illinois

500w, 1kw-LS, DA-N, U
1320 KC



FCC File No. BL-7717
Accepted 11-18-59

WKAN
Kankakee, Illinois

1320 KC

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

Station WKAN
Kankakee, Illinois

500w, 1kw-LS, DA-N, U
1320 KC

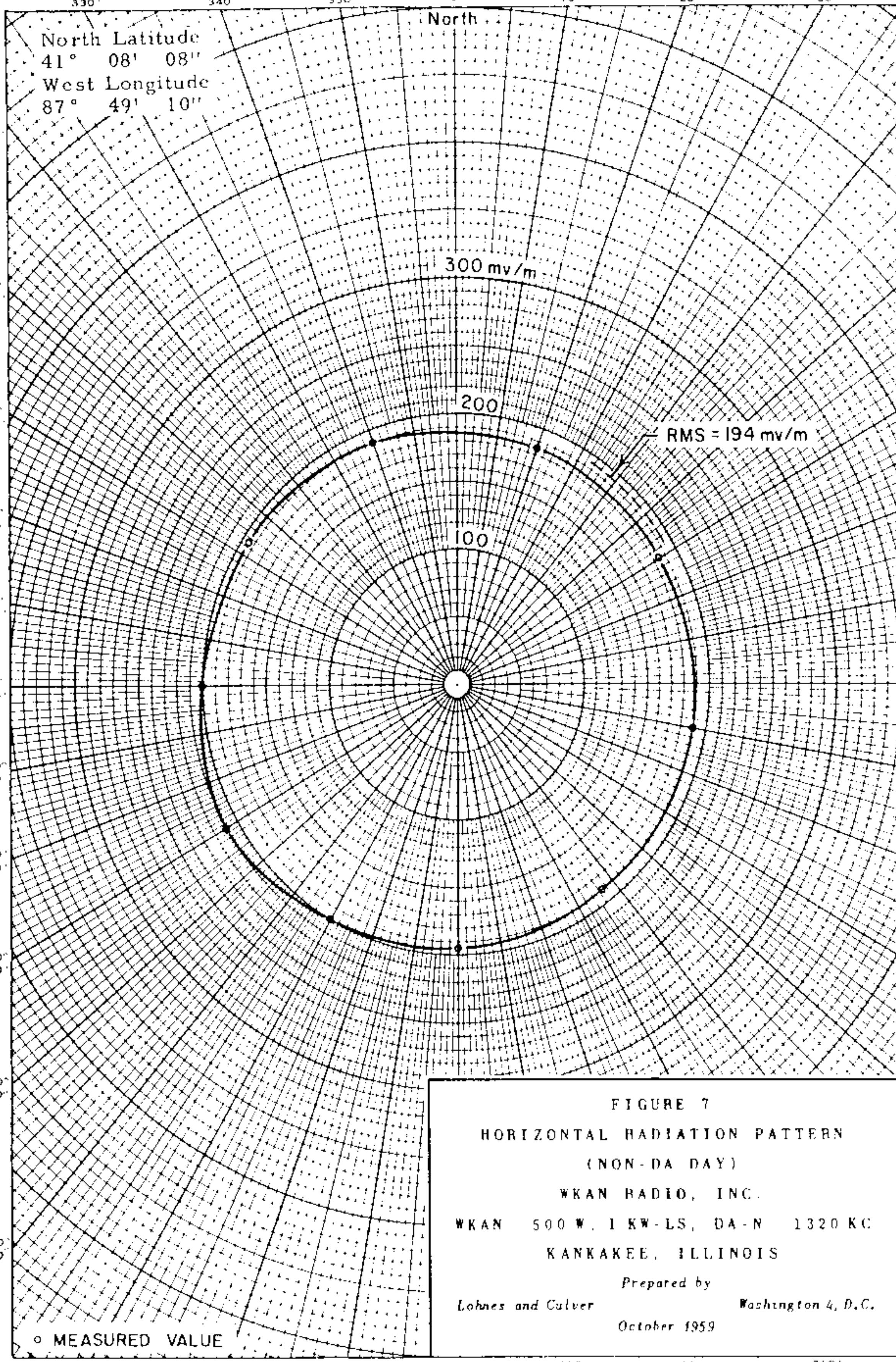


FIGURE 7
HORIZONTAL RADIATION PATTERN
(NON-DA DAY)
WKAN RADIO, INC.
WKAN 500 W, 1 KW-LS, DA-N 1320 KC
KANKAKEE, ILLINOIS
Prepared by
Lohnes and Culver *Washington 4, D.C.*
October 1959

FCC File No. BL-7717
Accepted 11-18-59

WKAN
Kankakee, Illinois

1320 KC

WKAP

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WKAP | Main Studio: Allentown, Pennsylvania

Frequency: 1320 kHz | Power: 1 kW Night 5 kW Day

Notification List No. 1652 | Date: October 1, 1975 | Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 40° 37' 40" West Longitude: 75° 29' 09"

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:	NW(#5)	S(#4)	N(#3)	E(#2)	SE(#1)
HEIGHT ABOVE INSULATORS:	202'	202'	202'	160'(77.3°)	202'(97.
NIGHT PHASING:	-	-	+164°	0°	-164°
NIGHT FIELD RATIO:	-	-	0.6	0.86	0.4
DAY PHASING:	-70.32°	+164.48°	+125.2°	-	0°
DAY FIELD RATIO:	2.21	1.3	1.7	-	1

SPACING AND ORIENTATION: Towers #1, #3, #4 and #5 are located at the vertices of a parallelogram the long sides of which are 331.5'(160°) in length on a line bearing 141° true. The short sides are 124.2' (60°) in length on a line bearing 91° true. From the midpoint between towers #1 and #3, tower #2 is spaced 13.5'(6.5°) on a line bearing 255° true.

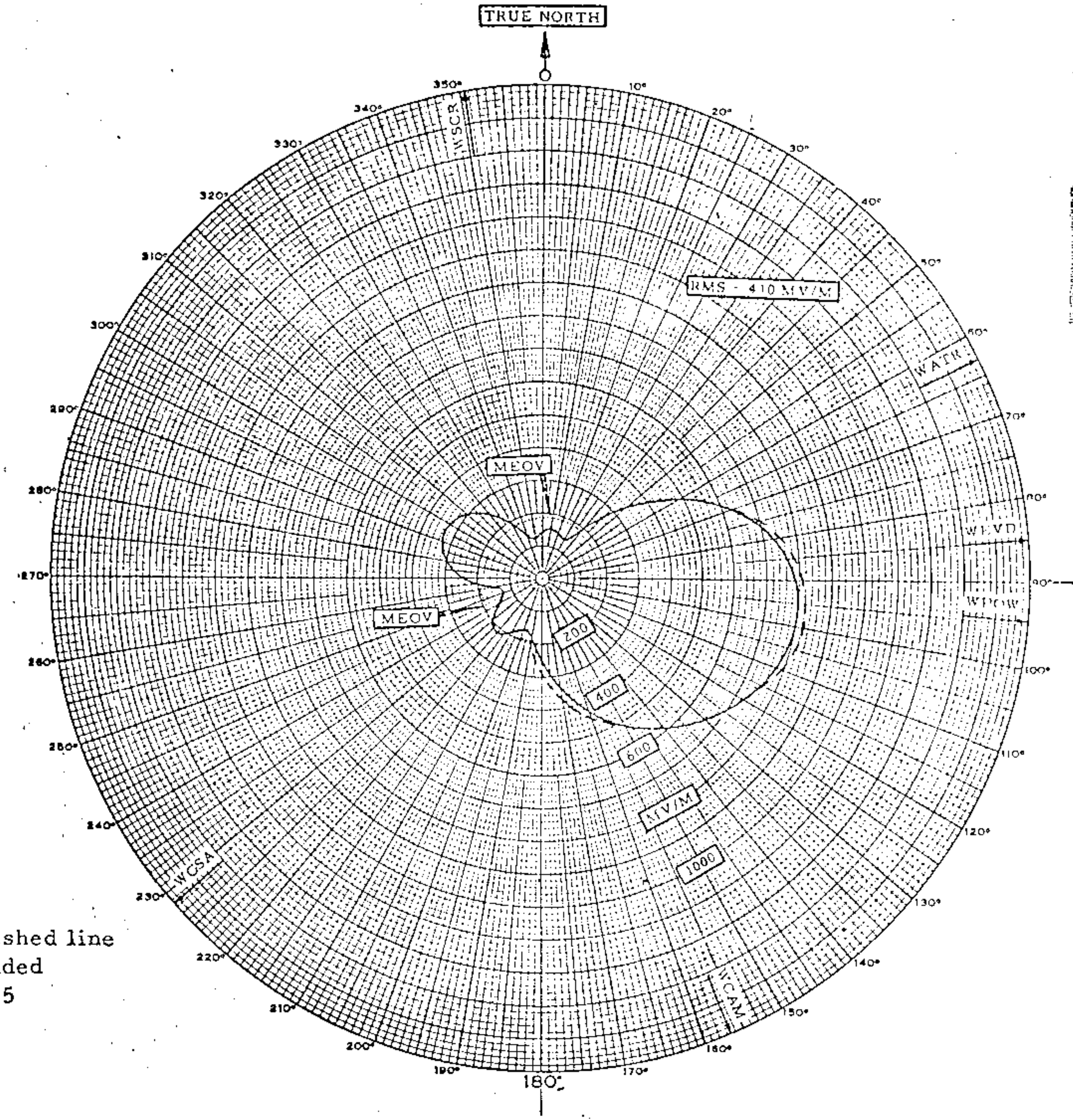
GROUND SYSTEM: 120-186.36' equally spaced copper radials plus a 24' square ground screen about each tower. Radials are shortened and bonded along intersections between towers.

Predicted effective Night Field: 196 mv/m at rated power.

Predicted effective Day Field: 410 mv/m at rated power.

Note: Please retain the Nighttime directional antenna radiation pattern notified for Station WKAP in United States Change List Number 367 dated July 21, 1950, and attach to this Revised Description Sheet and Daytime pattern. This notification concerns a change to add meovs of radiation to the Daytime pattern with Nighttime operation continued as previously notified.

WKAP



H vy dashed line
M OV added
May, 1975

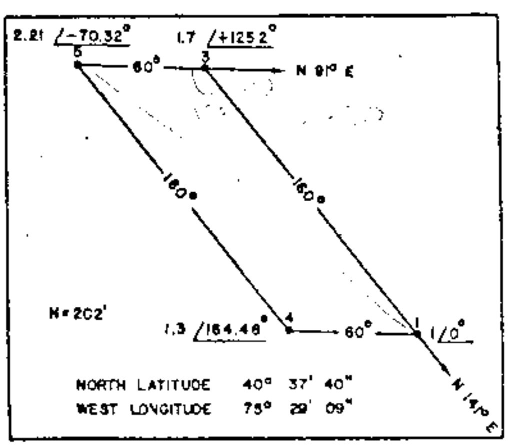


Figure I
Calculated Daytime
Horizontal Plane Pattern
WKAP, Inc.
Allentown, Pennsylvania
(Revised) May 1975
1320 KHz 5D/1N U, DA-2

CHARLES SMITH
WASHINGTON, D. C.

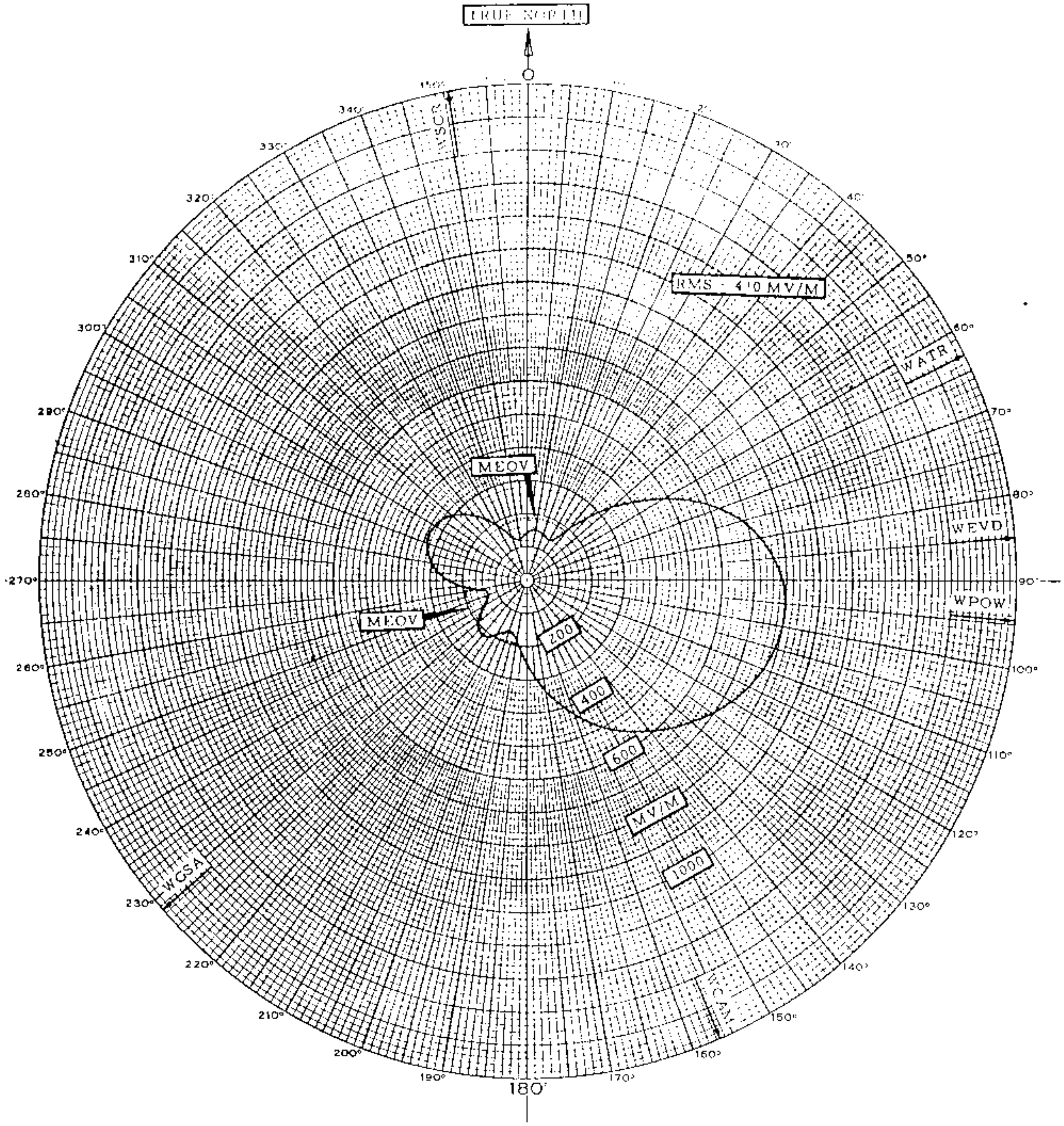
WKAP

PROPOSED DAY
(11-16-59g)

Station WKAP
Allentown, Pennsylvania

1kw,5kw-LS,DA-2,U
1320 KC

5-7-61
granted CP
DA-2



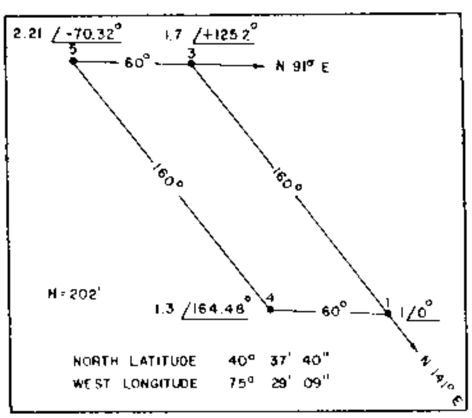


FIGURE 7
CALCULATED DAYTIME
HORIZONTAL PLANE PATTERN
WKAP, INC.
ALLENTOWN, PENNSYLVANIA
PROPOSED: 1320 KC 1 KW 5 KW-LS, U DA-2
JULY 1959

PAGE, CREUTZ, STEEL & WALDSCHMITT
Consulting Engineers
1411 K STREET, NORTHWEST
WASHINGTON 5, D. C.

FCC File No. BP-13473
Accepted 10-1-59

WKAP
Allentown, Pennsylvania

1320 KC

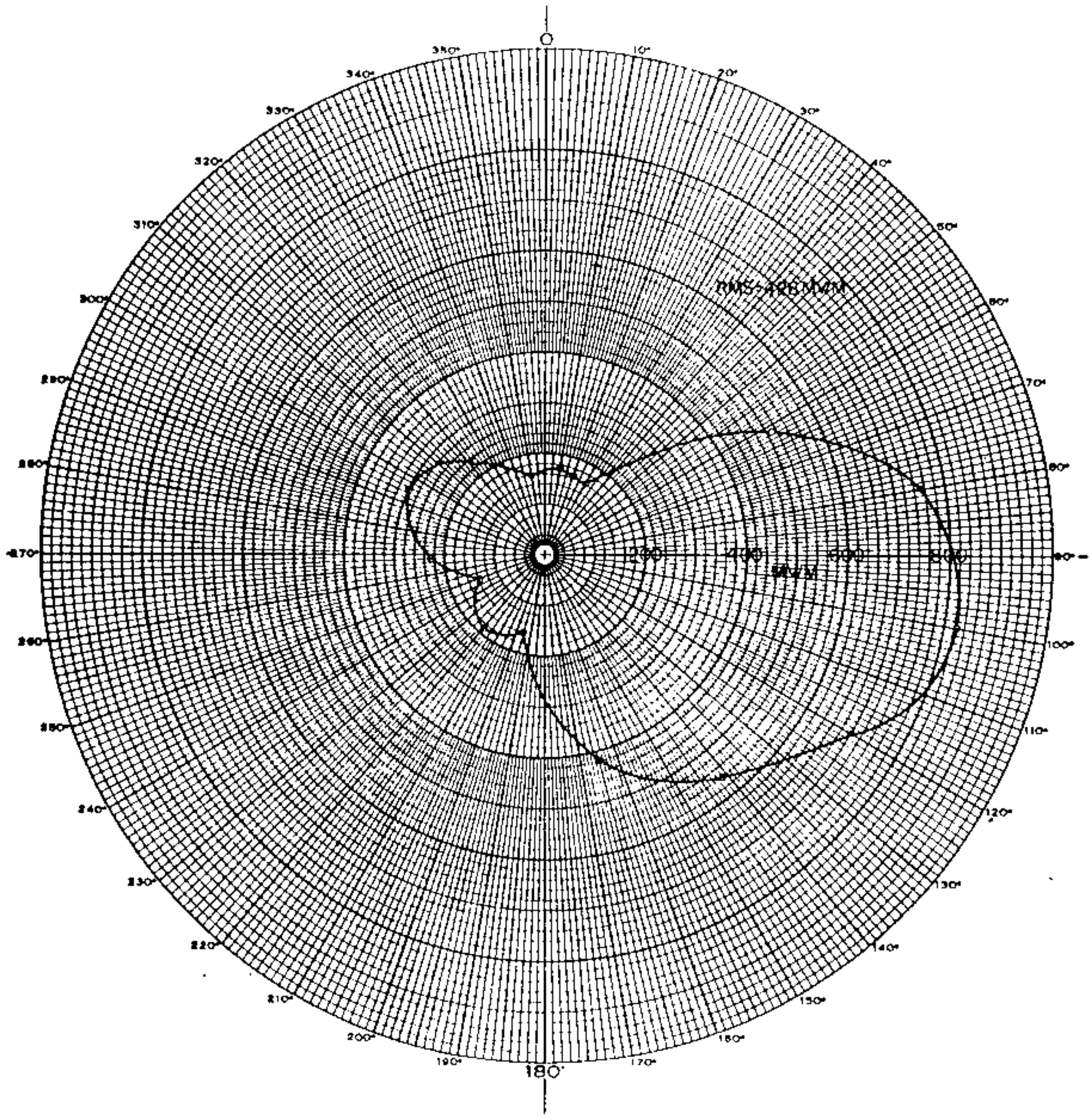
WKAP

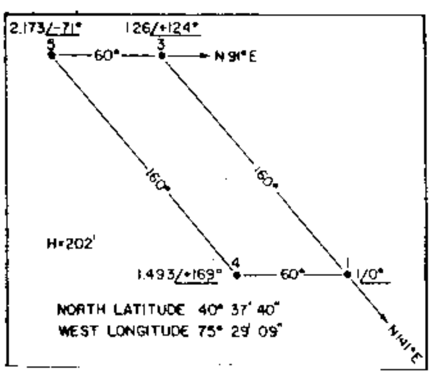
Measured Day
(4-27-62ct)

Station WKAP
Allentown, Pennsylvania

1kw,5kw-LS,DA-2,U
1320 kc

-17-62
ranted L for
crease in day power
nd change to DA-2





CREUTZ & SNOWBERGER
Consulting Engineers
WASHINGTON 5, D. C.

Figure 13
Polar Plot of Day Directional Inverse Field
WKAP, Inc.
Radio Station WKAP
Allentown, Pennsylvania
1320Kc 5Kw-1Kw-N DA-2
December 1961

FCC File No.BL-9046
Accepted 4-6-62

Station WKAP
Allentown, Pennsylvania

1320 kc

PROPOSED
NIGHT

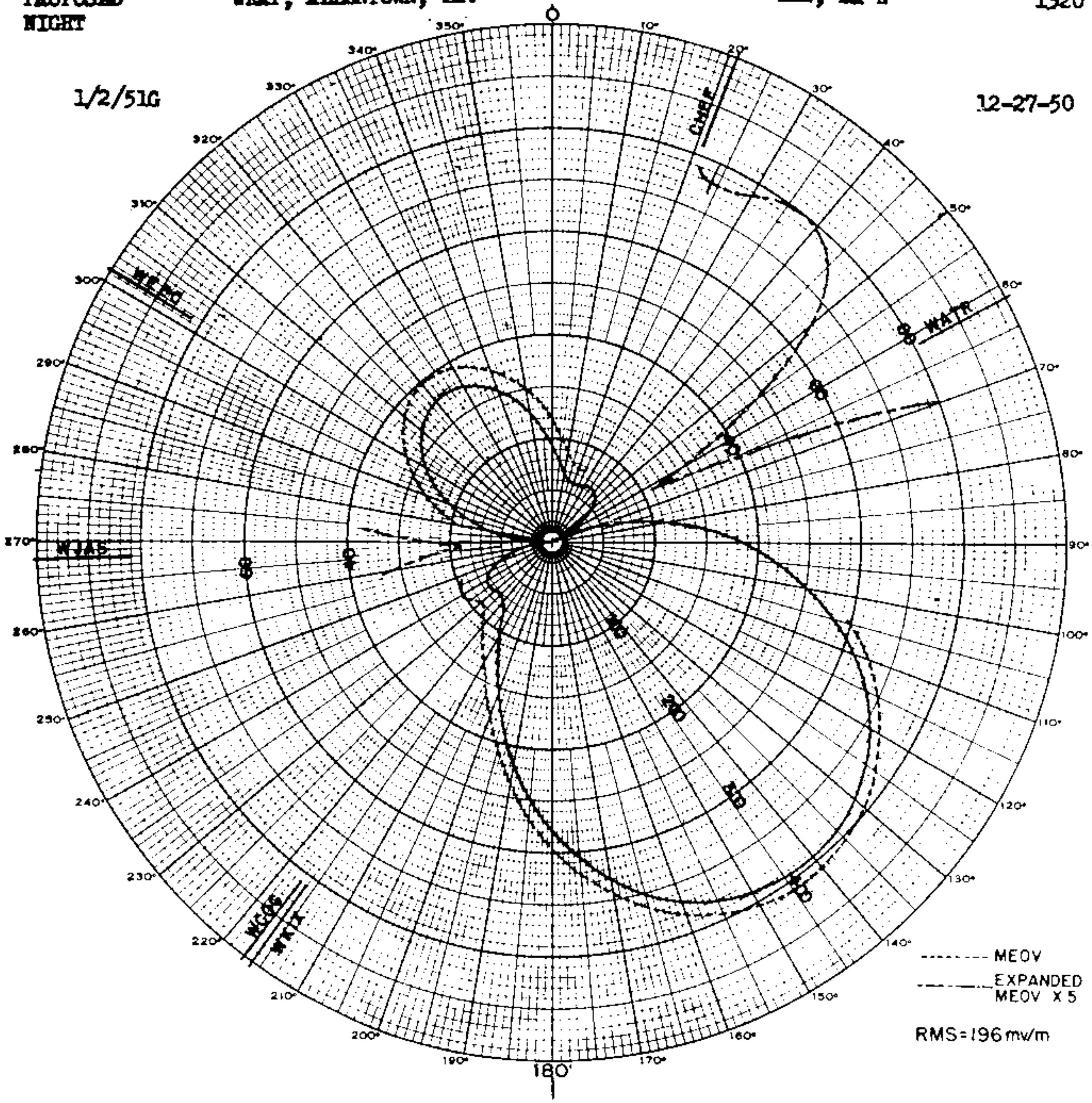
WKAP, ALLENTOWN, PA.

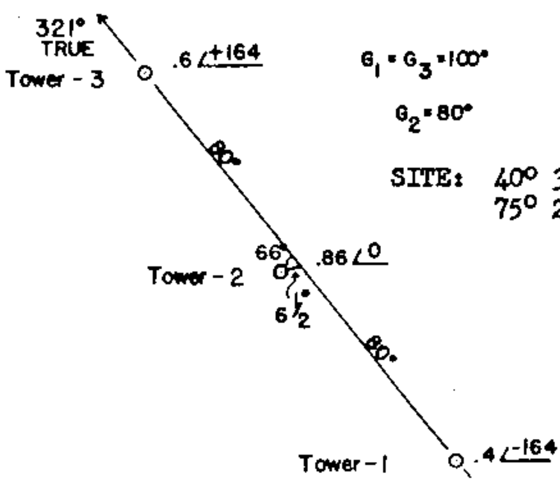
1kw, DA-N

1320 kc

1/2/51G

12-27-50





SITE: 40° 37' 40" N
75° 29' 09" W

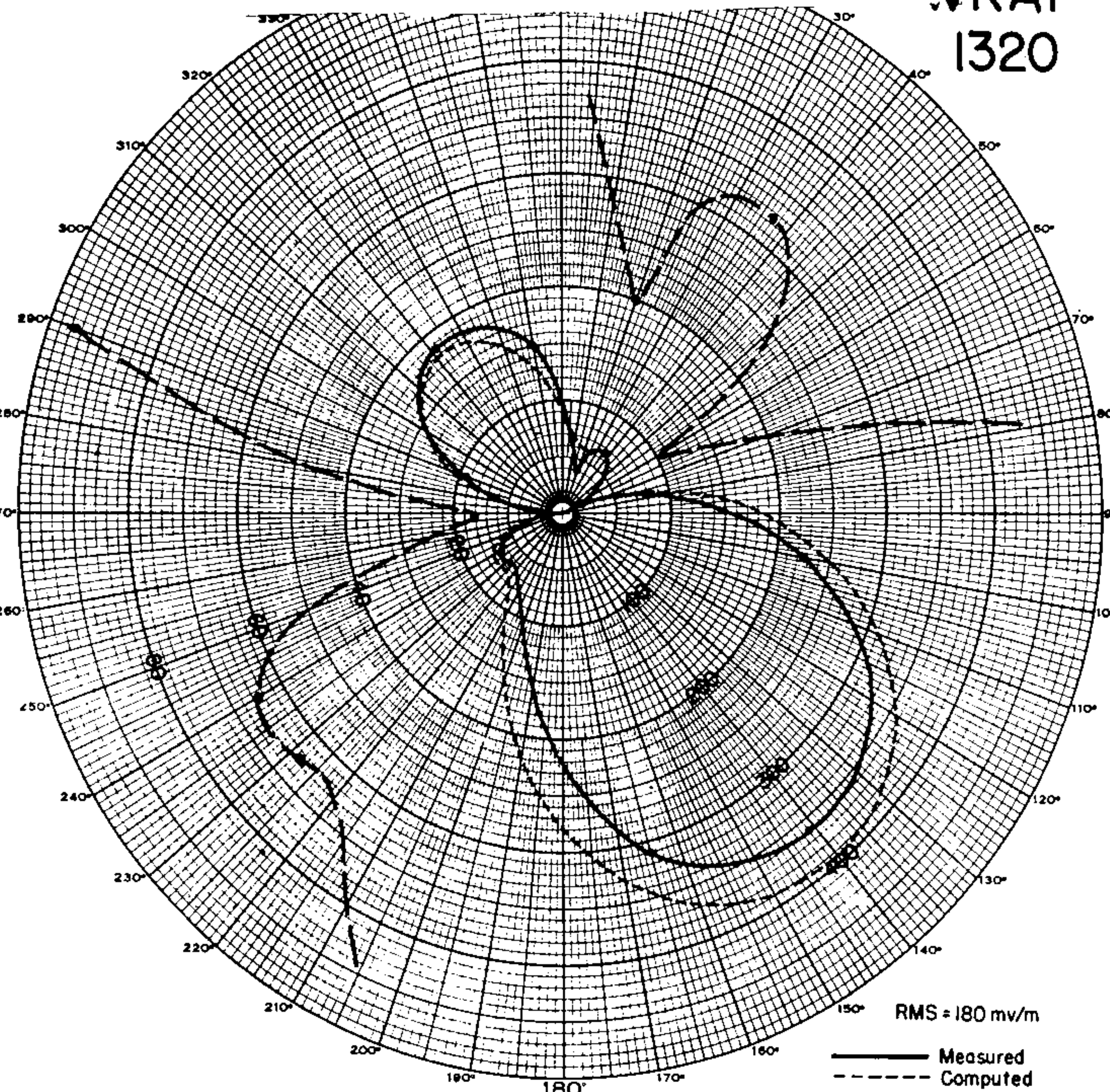
FIGURE 6
NIGHTTIME
Calculated Horizontal Plane Radiation
Proposed WKAP, Allentown, Pa.
1320 Kc 1 Kw U DA-N
WFD:FL

E. C. PAGE
CONSULTING RADIO ENGINEERS
600 Bond Building
WASHINGTON 5, D. C.

WKAP

MEASURED NIGHT WKAP, ALLENTOWN, PA. 1 KW, DA-N 1320 KC

WKAP 1320



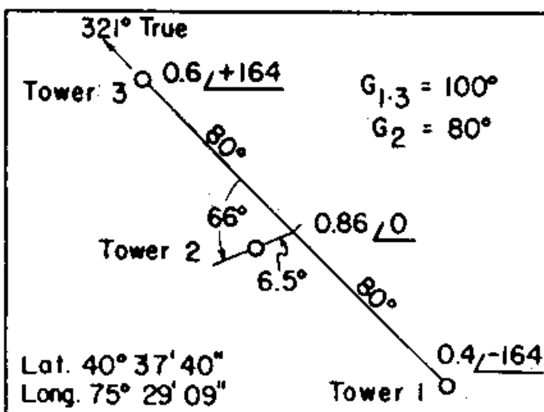


FIGURE 1

MEASURED HORIZONTAL PLANE RADIATION PATTERN

WKAP Allentown, Pennsylvania

1320 kc 1 kw U DA-N

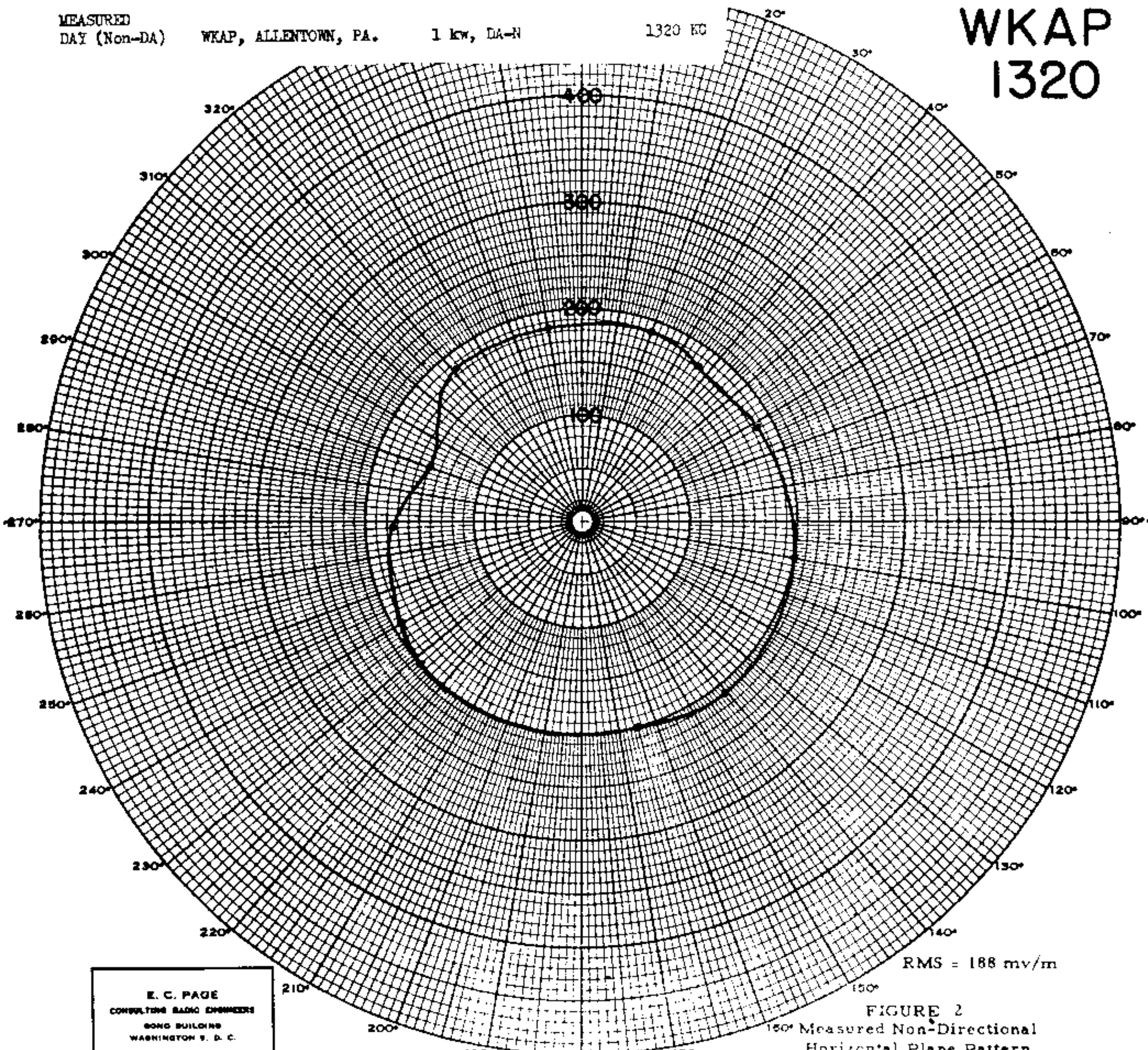
E. C. PAGE
Consulting Radio Engineers
Washington, D.C.

VE-JJ May 25, 1951

WKAP

MEASURED
DAY (Non-DA) WKAP, ALLENTOWN, PA. 1 kw, DA-N 1320 KC

WKAP
1320



E. C. PAGE
CONSULTING RADIO ENGINEERS
BOND BUILDING
WASHINGTON 5, D. C.

RMS = 188 mv/m

FIGURE 2
Measured Non-Directional
Horizontal Plane Pattern
WKAP Allentown, Penna.
1320 kc 1 kw U DA-N
May 25, 1951

WKAP

Measured Non-DA
(4-27-62ct)

Station WKAP
Allentown, Pennsylvania

1kw,5kw-LS,DA-2,U
1320 kc

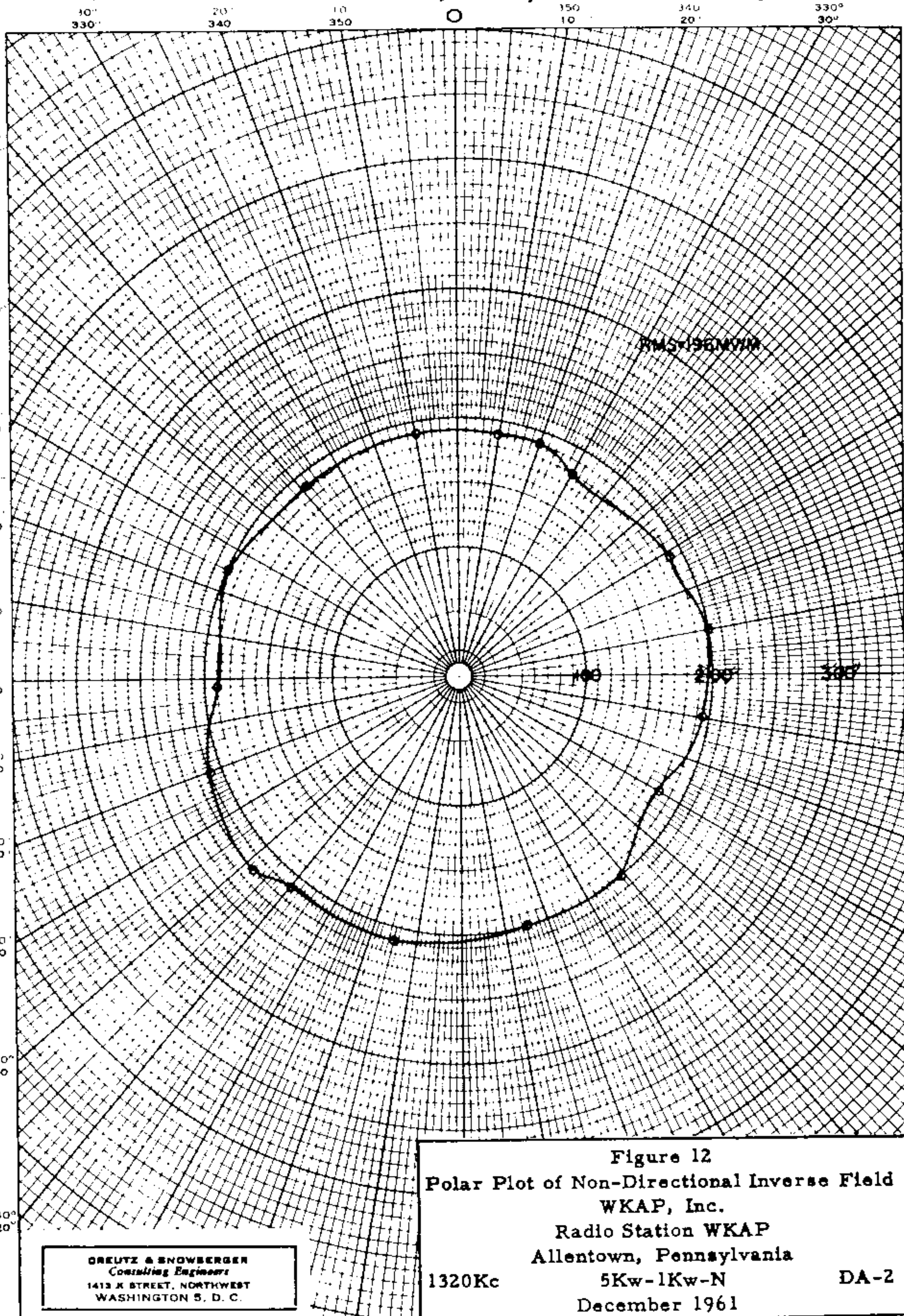


Figure 12
Polar Plot of Non-Directional Inverse Field
WKAP, Inc.
Radio Station WKAP
Allentown, Pennsylvania
1320Kc **5Kw-1Kw-N** **DA-2**
December 1961

GREUTZ & SNOWBERGER
Consulting Engineers
1413 K STREET, NORTHWEST
WASHINGTON 5, D. C.

FCC File No.BL-9046
Accepted 4-6-62

Station WKAP
Allentown, Pennsylvania

1320 kc

WKIN
1320 kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WKIN

Main Studio: Kingsport, Tennessee

Frequency: 1320 kHz

Power: 0.5kw Night 5kw Day

Notification List No. 1787

Date: July 10, 1980 Class: III

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

DAYTIME		NIGHTTIME	
North Latitude:	36° 33' 59"	North Latitude:	36° 33' 12"
West Longitude:	82° 33' 22"	West Longitude:	82° 28' 58"

DAYTIME ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (ND-D)
Number of elements: 1
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER: #1

HEIGHT ABOVE INSULATORS: 280' (135.28°)

GROUND SYSTEM: 120 - 185' to 200' equally spaced copper radials about the tower.

NIGHTTIME 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	SE(#1)	SW(#2)	NW(#3)	NE(#4)
HEIGHT ABOVE INSULATORS:	259'	259'	259'	259' (125°)
NIGHT PHASING:	0°	-90°	-90°	0°
NIGHT FIELD RATIO:	0.8	1	0.85	0.68

SPACING AND ORIENTATION: The towers are located at the vertices of a rectangle the long sides of which are 393.3' (190°) in length on a line bearing 16° true. The short sides are 186.3' (90°) in length on a line bearing 286° true.

WKIN
1320 kHz

GROUND SYSTEM: 120 - 186.3' to equally spaced copper radials plus a 24' square ground screen at the base of each tower.

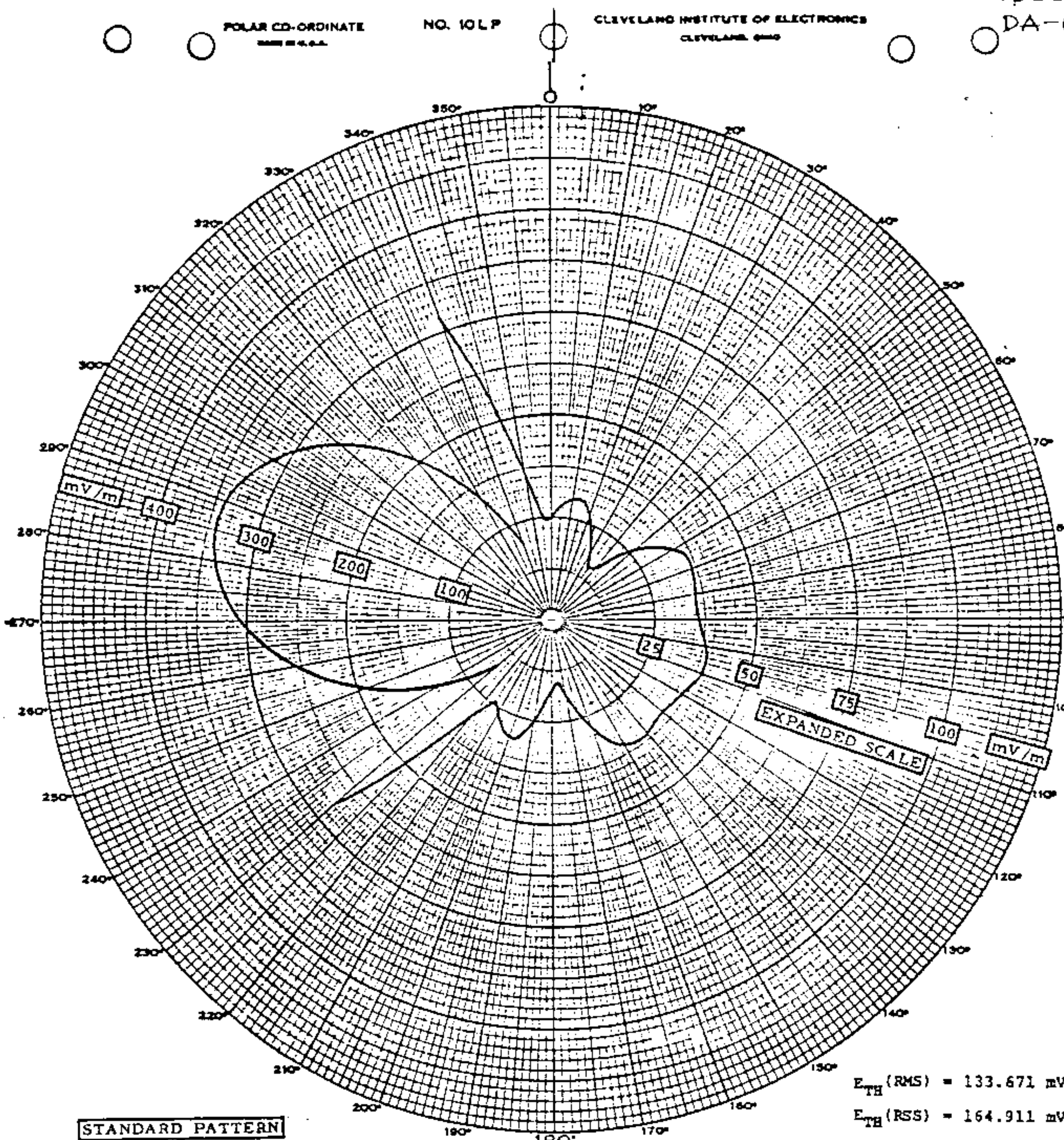
PREDICTED DAYTIME EFFECTIVE FIELD (omnidirectional) AT RATED POWER: 467 $\frac{mv}{m}$

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	RSS	STANDARD RMS
Night	133.671 mv/m	164.911 mv/m	140.496 mv/m

Note: This notification concerns only the addition of nighttime operation to the station with Daytime operation continued as previously notified.

WKIN
1320KHZ
DA-N



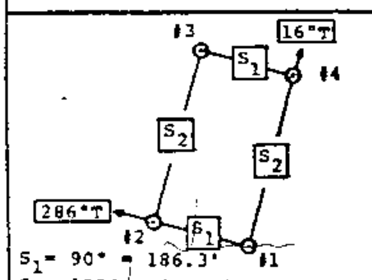
STANDARD PATTERN

E_{TH}(RMS) = 133.671 mV/m

E_{TH}(RSS) = 164.911 mV/m

E_{STD}(RMS) = 140.496 mV/m

TOWER PLACEMENT SKETCH



S_1 = 90° = 186.3'

S_2 = 198° = 393.3'

PATTERN PARAMETERS

TOWER No	ELECTRICAL HEIGHT G°	TRUE TOWER ORIENTATION φ°	SPACING S°	PHASING ψ°	HORIZONTAL FIELD mV/m E	FIELD RATIO F	ELEV. ANGLE θ°	ELEVATION RMS FIELD mV/m E_θ
1	125.0	0	0	0		0.8	0	
2	125.0	286.0	90.0	-90.0		1.0	10	
3	125.0	350.6	210.2	-90.0		0.85	20	
4	125.0	16.0	190.0	0		0.68	30	
5							40	
6							50	
7							60	
8							70	
9							80	
10							E_s°	mV/m
DAYTIME OPERATION ☐			NIGHTTIME OPERATION ☒				Q_s°	kw

STATION DATA

CALL	WKIN
FREQUENCY	1320 kHz
POWER	0.5 kw
TIME OF OPERATION	Night
TYPE OF OPERATION	DA-N
DAYTIME TOWERS	1
NIGHTTIME TOWERS	4
No. RADIALS PER TOWER	120
LENGTH OF RADIALS	186.3 ft
GROUND SCREEN DIMENSION	24x24
LAT.	36° 33' 12"
LONG	82° 28' 58"
SUPERSEDES	
PATTERN No.	770321

Carl E. Smith
CONSULTING RADIO ENGINEERS
8200 SNOWVILLE ROAD
CLEVELAND, OHIO • 44141

FIG. 3.4
PROPOSED WKIN NIGHTTIME
HORIZONTAL RADIATION
WKIN Kingsport, TN
1320 kHz 5 kw D

WKTQ

SUPPLEMENTAL DIRECTIONAL
ANTENNA DESCRIPTION SHEET

Station: WKTQ

Main Studio: Pittsburgh, Pennsylvania

Frequency: 1320 kHz

Power: 5 kW

Notification List No. 1593

Date: August 14, 1974 Class: III

GEOGRAPHICAL LOCATION OF THE
CENTER OF THE ANTENNA SYSTEM:

North Latitude: 40° 25' 11"
West Longitude: 79° 54' 38"

Authorized for Nighttime operation. (DA-N)

Predicted effective Day Field: (omnidirectional) 470 mv/m at rated power.

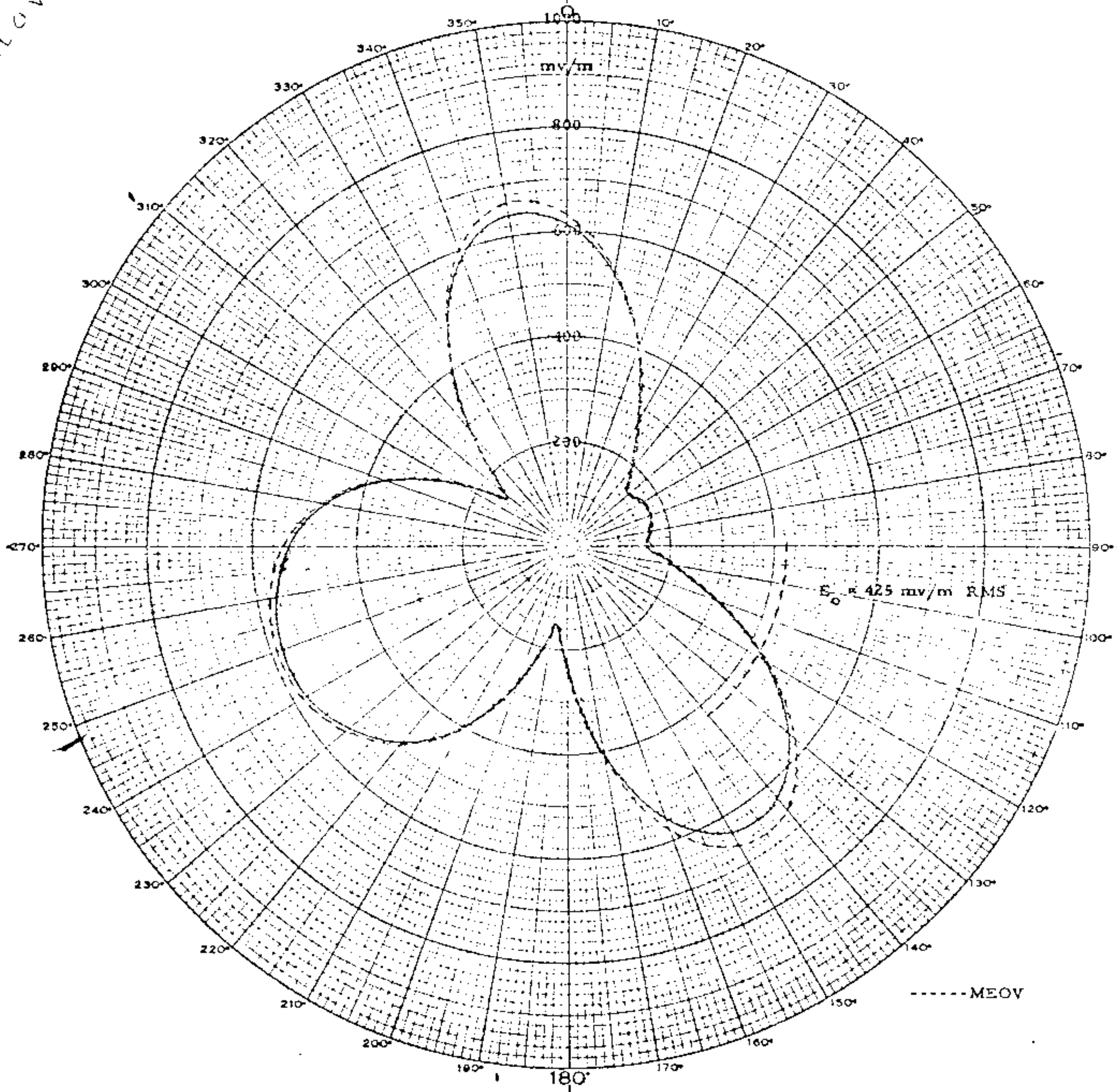
Note: Please retain the description sheet and directional antenna radiation patterns notified for station WJAS (now WKTQ) in United States Change List Number 1505, dated December 20, 1972, and attach to this supplemental Description Sheet. This notification is for the purpose of indicating only a change in the predicted effective field of the omnidirectional antenna employed daytime.

CTR NO 301425

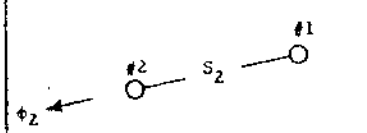
C) TO ADD MEOVS DA-N

POLAR CO-ORDINATE NO. 10LP CLEVELAND INSTITUTE OF ELECTRON CLEVELAND OHIO

WKTQ



TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No	ELECTRICAL HEIGHT $G°$	TRUE TOWER ORIENTATION $\phi°$	SPACING $S°$	PHASING $\psi°$	HORIZONTAL FIELD mv/m E	FIELD RATIO F	ELEV ANGLE $\theta°$	ELEVATION RMS FIELD mv/m E_θ
1	165	0	0	0		1.0	0	425
2	165	248.62	249.2	57.07		0.608	10	
3							20	
4							30	
5							40	
6							50	
7							60	
8							70	
9							80	
10								
DAYTIME OPERATION ☐			NIGHTTIME OPERATION ☒					5.0 kw

STATION DATA

CALL	WJAS
FREQUENCY	1320 kc
POWER	5.0 kw
TIME OF OPERATION	Unlimited
TYPE OF OPERATION	DA-N
DAYTIME TOWERS	1
NIGHTTIME TOWERS	1, 2
No RADIALS PER TOWER	120
LENGTH OF RADIALS	90° 187'
GROUND SCREEN DIMENSIONS	24x24
LAT	40° 25' 11"
LONG	79° 54' 38"
	19
PATTERN No	720522

Carl E. Smith
CONSULTING RADIO ENGINEERS

FIG. 4.5

NIGHTTIME HORIZONTAL PATTERN

Radio Station WJAS
Pittsburgh, Pa.
1320 kHz 5 kw DA-N, U

WOBL

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WOBL

Main Studio: Oberlin, Ohio

Frequency: 1320 kHz

Power: 1 kW

Notification List No. 1695

Date: July 28, 1976

Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 41° 16' 05"

West Longitude: 82° 12' 40"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 7
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	NW(#1)	CW(#3)	SW(#6)	NE(#2)	NC(#4)	SC(#5)	SE(#7)
HEIGHT ABOVE INSULATORS:	157.4'	128.4'(62°)	113.9'	157.4'	157.4'(76°)	113.9'	113.9'(55°)
N[illegible]T PHASING:	-	0°	+184.7°	-	-	+81.96°	+266.66°
NIGHT FIELD RATIO:	-	1.000	0.950	-	-	0.720	0.684
DAY PHASING:	0°	+124.5°	-	+2°	+126.5°	-	-
DAY FIELD RATIO:	1.000	0.900	-	1.111	1.000	-	-

SPACING AND ORIENTATION: Nighttime, towers are located at the vertices of a parallelogram the long sides of which are 372.6' (180°) in length on a line bearing 125° true. The short sides are 124.2' (60°) in length on a line bearing 210.5° true. Daytime, the towers are located at the vertices of a parallelogram the long sides of which are 426.5'(206°) in length on a line bearing 95.2° true. The short sides are 124.2' (60°) in length on a line bearing 167.7° true.

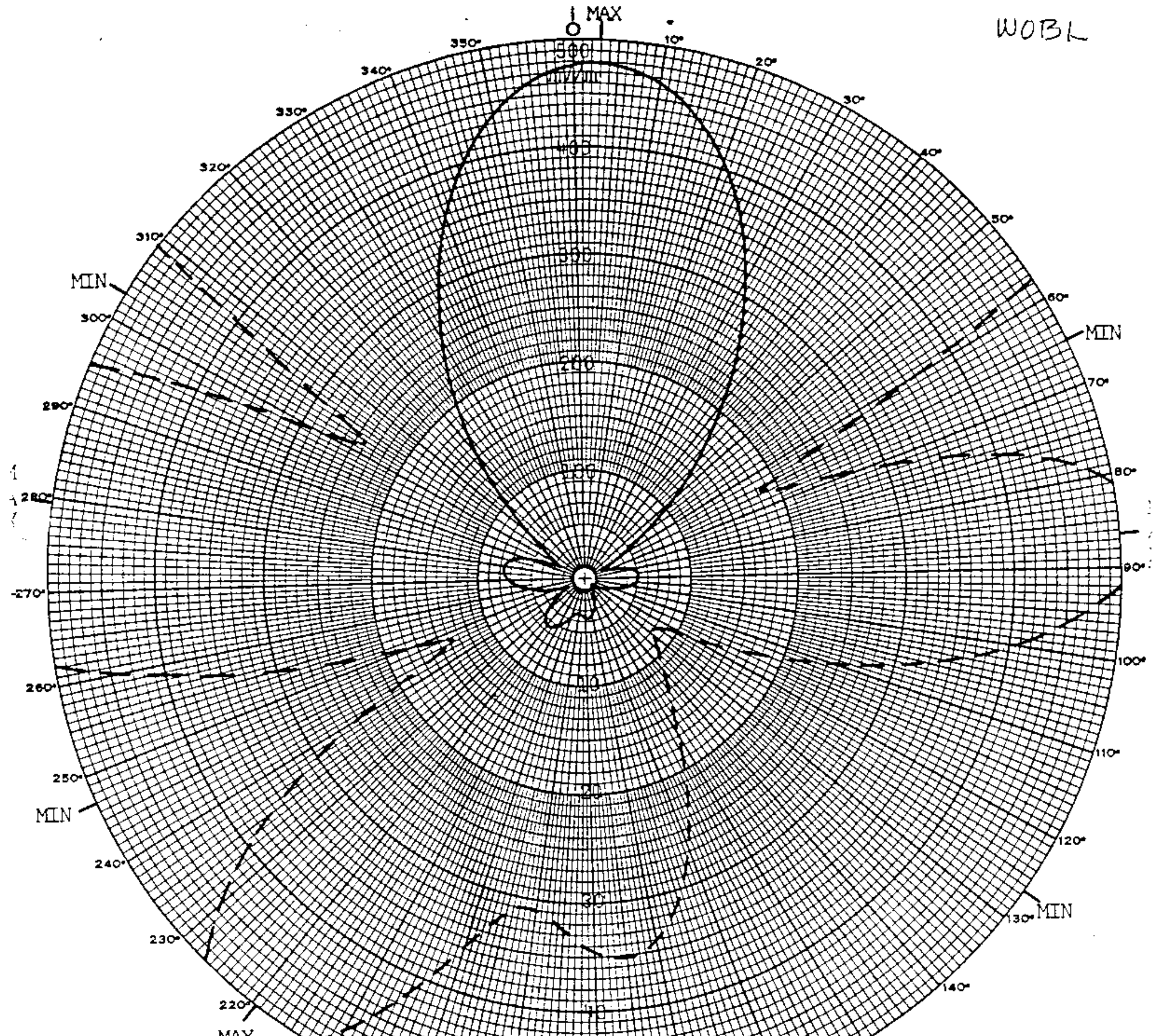
GROUND SYSTEM: 120-215' equally spaced copper radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	175.217 mv/m	274.945 mv/m	184.118 mv/m
Night	176.298 mv/m	343.567 mv/m	185.331 mv/m

CTR NO 30635A3

WOBL

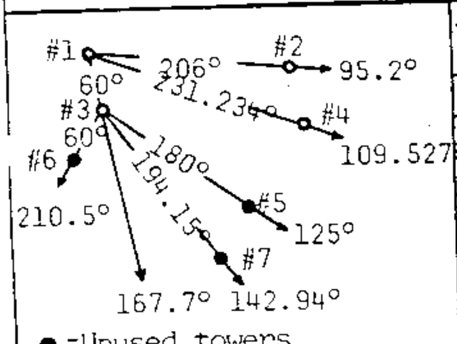


RMS_{theo}=175.217 mV/m

RMS_{std} =184.118 mV/m

RSS_{theo}=274.945 mV/m

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No.	ELECTRICAL HEIGHT G°	SPACING S°	PHASING ψ°	FIELD RATIO F
1	76°	Ref.	0°	1.000
2	76°	206	2°	1.111
3	62°	60°	124.5	0.9
4	76°	231.2	126.5	1.0

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

FIGURE 2

WOBL
PROPOSED
DAYTIME
PATTERN

OBERLIN, OHIO

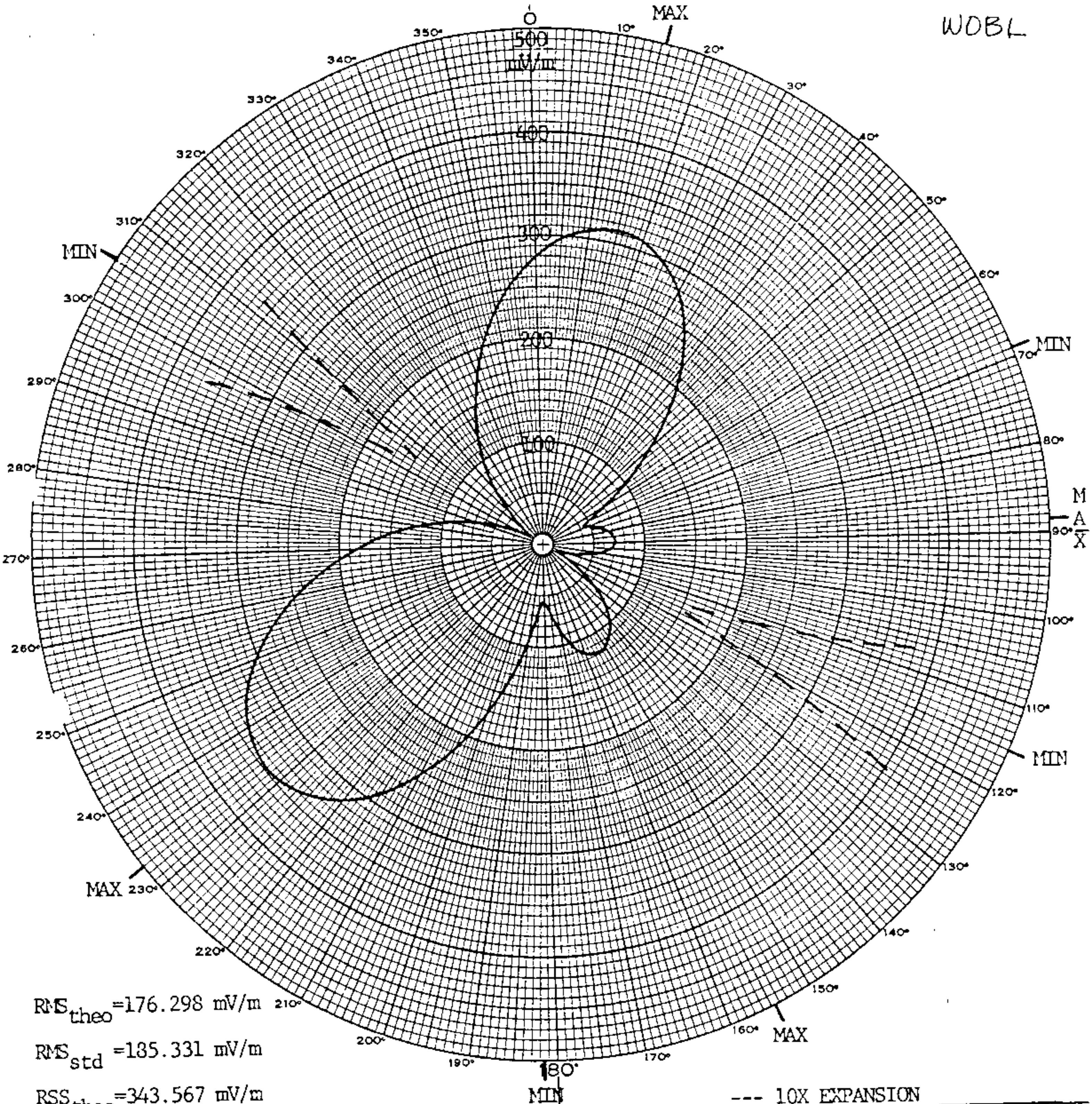
θ° = 0°

STATION DATA

CALL	WOBL
FREQ	1320 kHz
POWER	1.0 kW
TYPE	DA-2
TIME	DAYTIME
LAT.	N 41°16'05"
LONG.	W 82°12'40"

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

WOBL



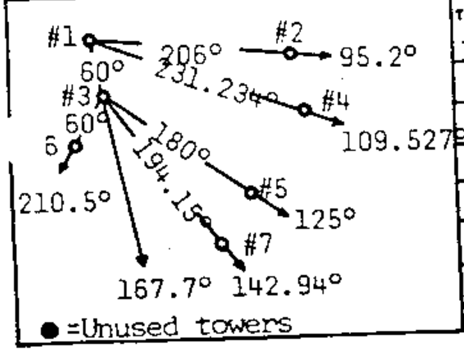
RMS$_{theo}$=176.298 mV/m

RMS$_{std}$ =185.331 mV/m

RSS$_{theo}$=343.567 mV/m

--- 10X EXPANSION

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No.	ELECTRICAL HEIGHT $G°$	SPACING $S°$	PHASING $\psi°$	FIELD RATIO F
3	62°		0°	1.0
5	55°		81.96	0.72
6	55°		184.7	0.95
7	55°		266.66	0.684

DAYTIME OPERATION ☐ NIGHTTIME OPERATION ☒

FIGURE 16A

PROPOSED NIGHTTIME STANDARD PATTERN

OBERLIN, OHIO

$\theta° = 0$

STATION DATA

CALL	WOBL
FREQ	1320 kHz
POWER	1.0 kW
TYPE	DA-2
TIME	UNLIMITED
LAT.	41°16'05"
LONG.	82°12'40"

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

WOBL

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WOBL Main Studio: Oberlin, Ohio

Frequency: 1320 kHz Power: 1 kW Night

Notification List No. 1704 Date: October 5, 1976 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 41 ° 16 ' 05 " West Longitude: 82 ° 12 ' 40 "

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 7
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	NW(#1)	CW(#3)	SW(#6)	NE(#2)	CC(#4)	SC(#5)	SE(#7)
HEIGHT ABOVE INSULATORS:	All towers 157.4' (76°)						
NIGHT PHASING:	-	0°	+184.7°	-	-	+81.96°	+266.66°
NIGHT FIELD RATIO:	-	1.0	1.052	-	-	1.388	1.462
DAY PHASING:	0°	+124.5°	-	+2°	+126.5°	-	-
DAY FIELD RATIO:	1.000	1.111	-	0.90	1.0	-	-

SPACING AND ORIENTATION: Nighttime the towers are located at the vertices of a parallelogram the long sides of which are 372.6' (180°) in length on a line bearing 125° true. The short sides are 124.2' (60°) in length on a line bearing 210.5° true. Daytime the towers are located at the vertices of a parallelogram the long sides of which are 426.5' (206°) in length on a line bearing 95.2° true. The short sides are 124.2' (60°) in length on a line bearing 167.7° true.

(Cont'd)

GROUND SYSTEM: 120-215' 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:

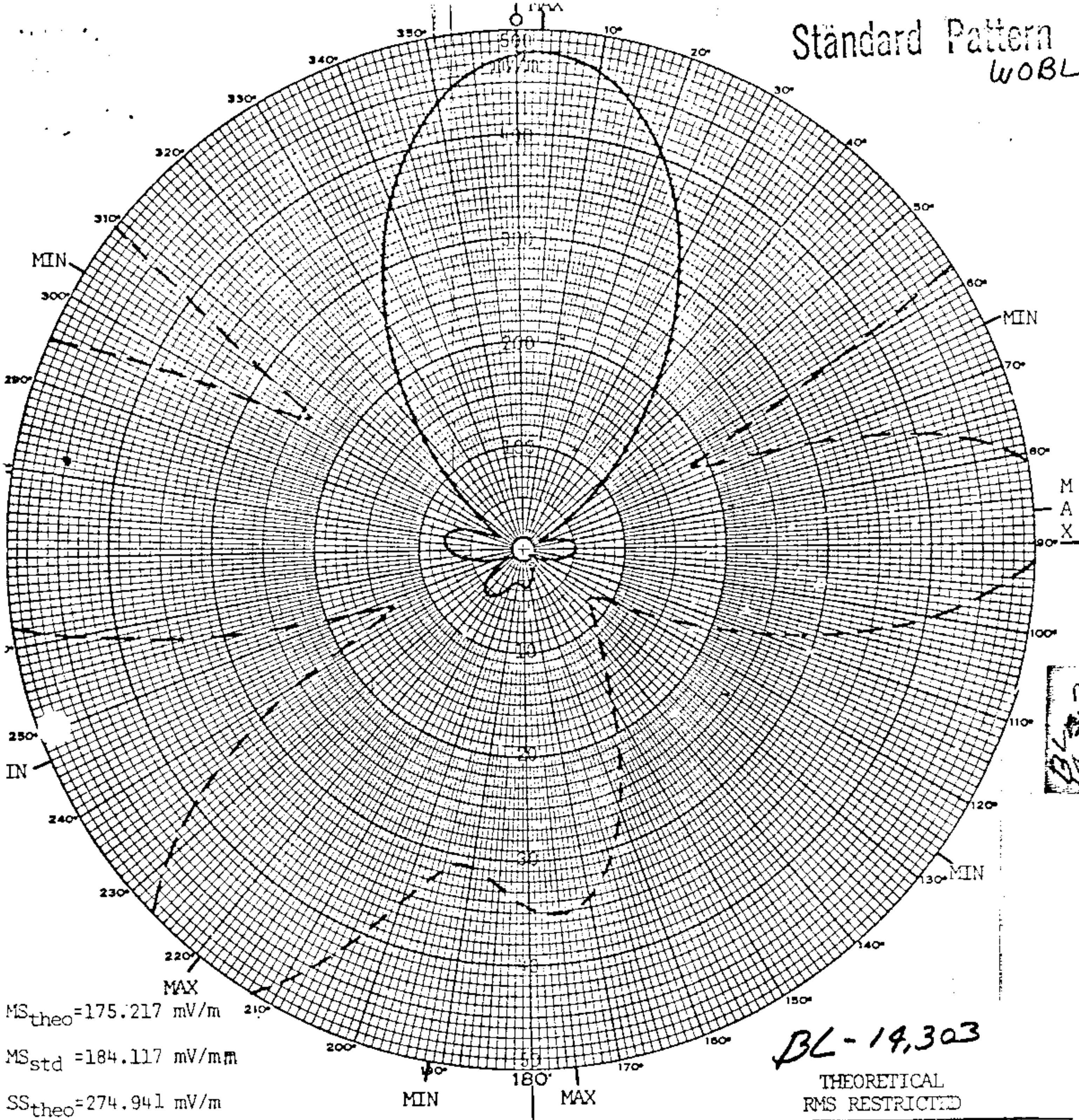
	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day 1/	175.217 mv/m	274.941 mv/m	184.117 mv/m
Night 1/	176.298 mv/m	343.591 mv/m	185.331 mv/m

1/ By adjustment of input power.

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

CTR NO: 30635A4

Standard Pattern
WOBL



MS_{theo}=175.217 mV/m

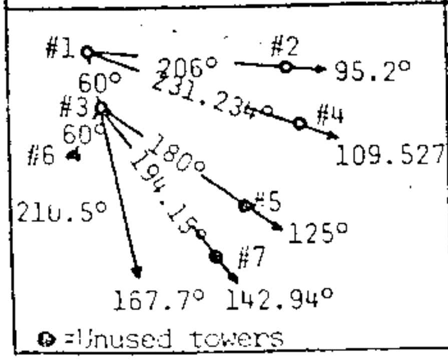
MS_{std} =184.117 mV/m

SS_{theo}=274.941 mV/m

BL-14,303

THEORETICAL
RMS RESTRICTED

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No.	ELECTRICAL HEIGHT G°	SPACING S°	PHASING ψ°	FIELD RATIO F
1	76°	Ref.	0°	1.000
2	76°	206	2°	0.90
3	76°	60°	124.5	1.111
4	76°	231.2	126.5	1.0

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

FIGURE 2

WOBL
PROPOSED
DAYTIME
PATTERN

OBERLIN, OHIO

STANDARD PATTERN

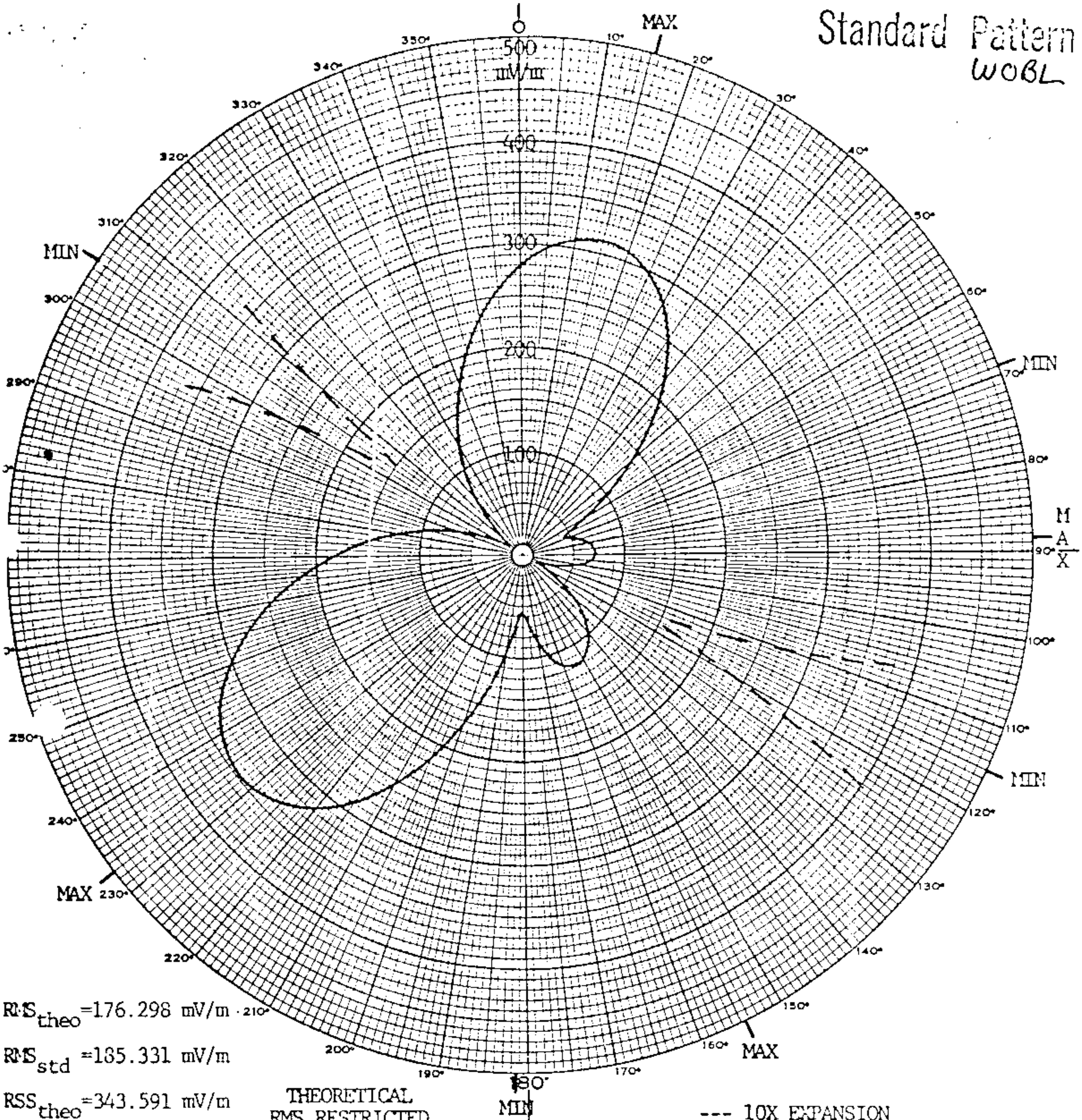
θ° = 0°

STATION DATA

CALL	WOBL
FREQ	1320 kHz
POWER	1.0 kW
TYPE	DA-2
TIME	DAYTIME
LAT.	N 41°16'05"
LONG.	W 82°12'30"

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

Standard Pattern
WOBL



RMS$_{theo}$=176.298 mV/m

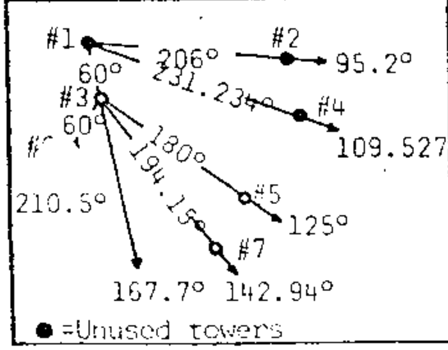
RMS$_{std}$ =185.331 mV/m

RSS$_{theo}$=343.591 mV/m

THEORETICAL
RMS RESTRICTED

--- 10X EXPANSION

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No	ELECTRICAL HEIGHT G°	SPACING S°	PHASING ψ°	FIELD RATIO F
3	76°		0°	1.0
5	76°		81.96	1.388
6	76°		184.7	1.052
7	76°		266.66	1.462

DAYTIME OPERATION ☐ NIGHTTIME OPERATION ☒

FIGURE 16A

PROPOSED
NIGHTTIME
STANDARD
PATTERN

OBERLIN, OHIO

$\theta°$ = 0

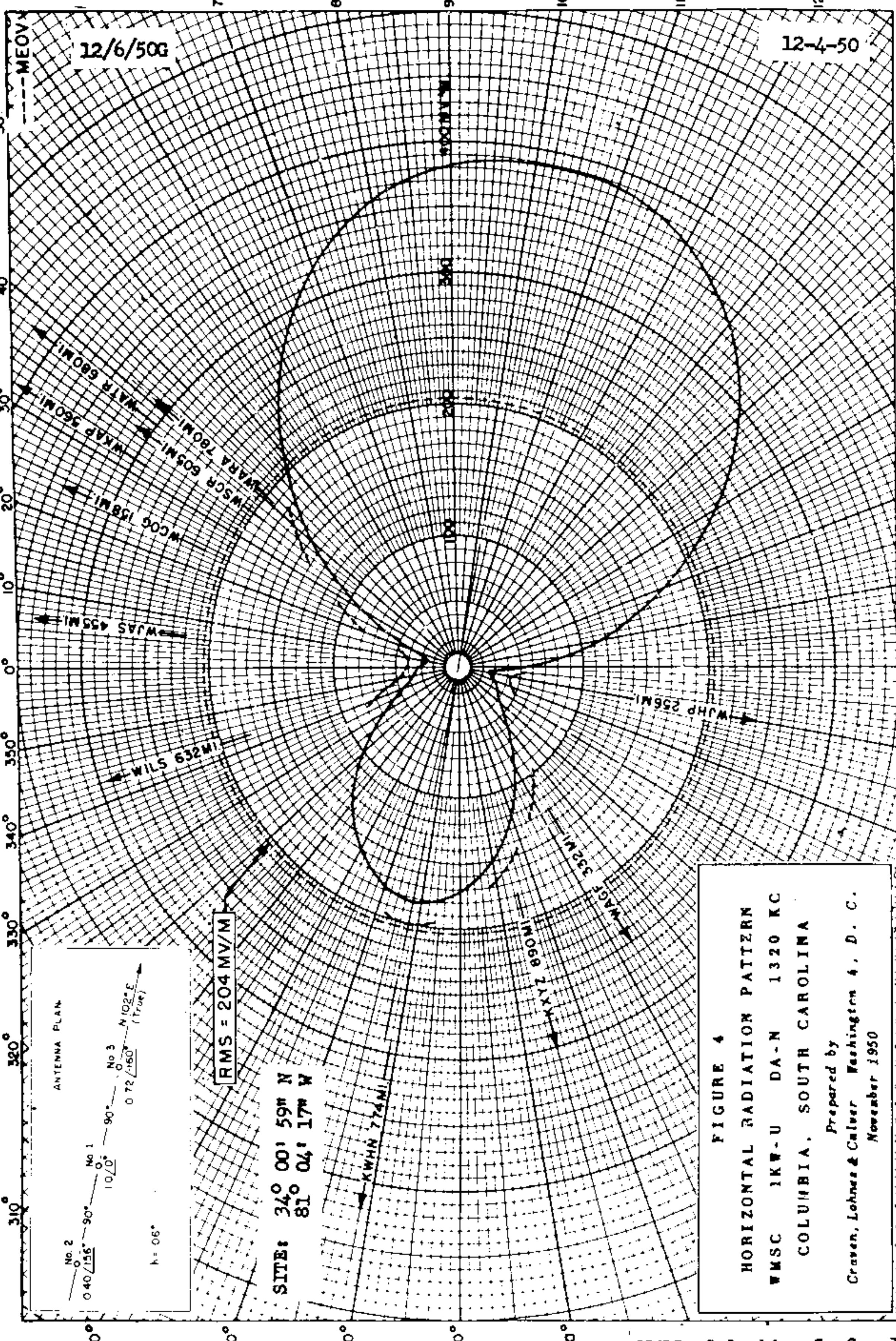
STATION DATA

CALL WOBL
FREQ 1320 kHz
POWER 1.0 kW
TYPE DA-2
TIME UNLIMITED
LAT. 41°16'05"
LONG. 82°12'40"

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

WOIC

PROPOSED NIGHT WMSC, COLUMBIA, S. C. 1kw, DA-N 1320 kc



WMSC, Columbia, S. C. 1320 kc

11-28-66 granted CP for increase in Day ND power to 5KW.

8-1-63 granted license covering increase in Day power

WOIC
1320

MEASURED NIGHT — WMSC, COLUMBIA, S. C. 1/31/52G — 1 KW, U, DA-N — 1320 KC

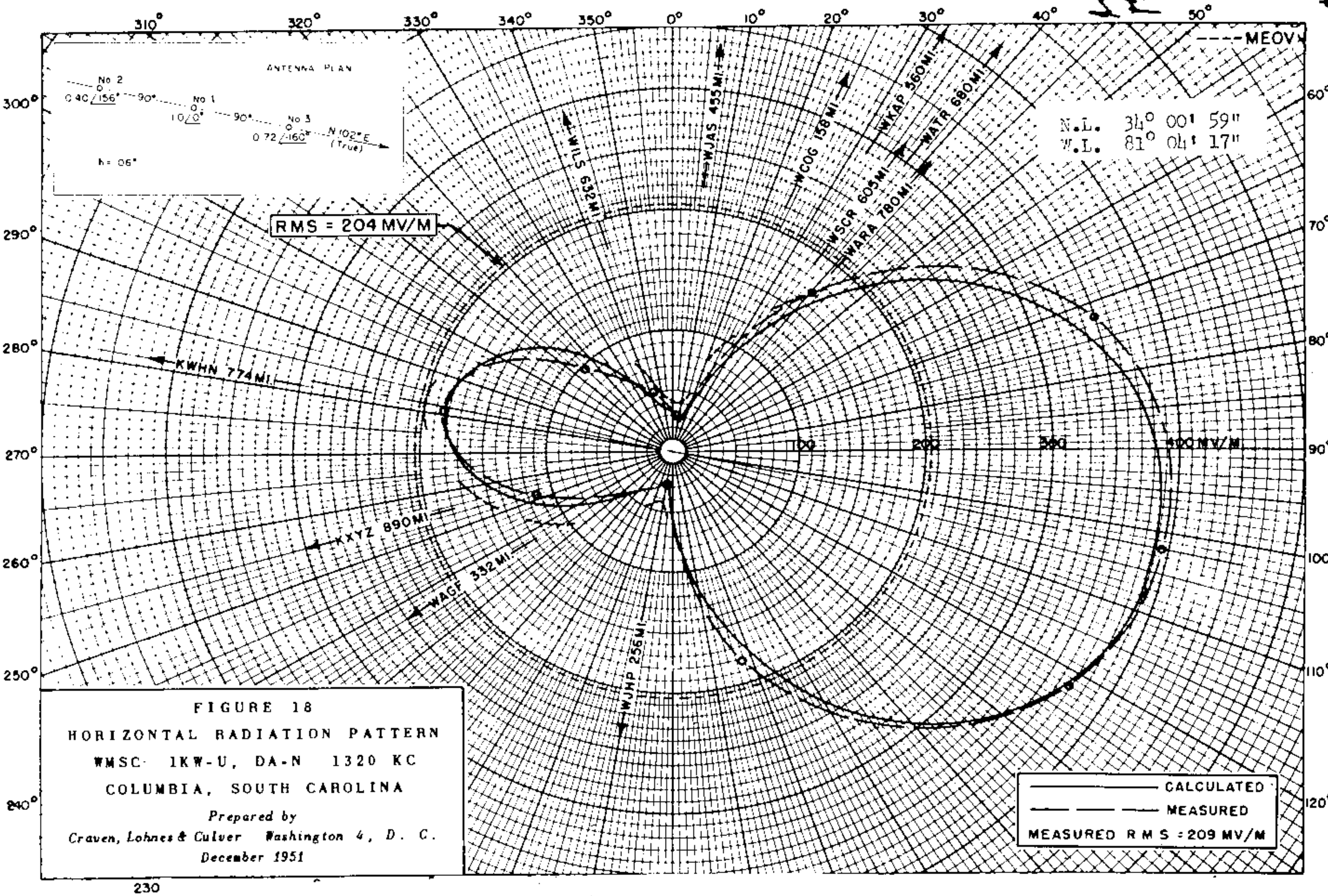


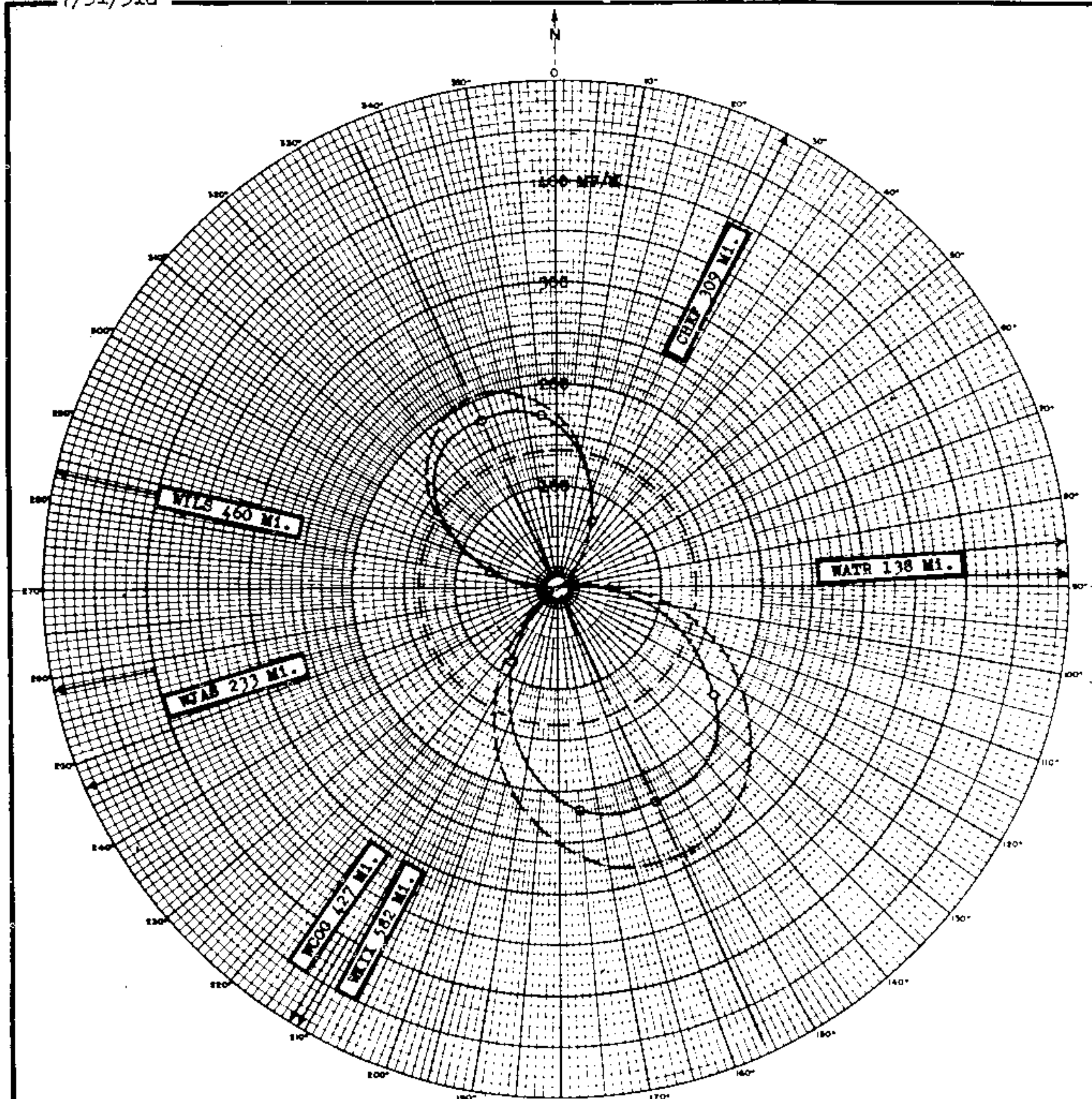
FIGURE 18
HORIZONTAL RADIATION PATTERN
WMSC 1KW-U, DA-N 1320 KC
COLUMBIA, SOUTH CAROLINA
Prepared by
Craven, Lohnes & Culver Washington 4, D. C.
December 1951

RECD FCC 12/13/51 ACC 1/21/52 BL-4651 — WMSC, COLUMBIA, S. C. — 1320 KC

WSCR

Proposed + MEASURED NIGHT 7/31/51G

WSCR, SCRANTON, PENNSYLVANIA 500W,1KW-LS, U, DA-N 1320 KC



o MEASURED VALUES

WSCR

HORIZONTAL RADIATION PATTERN

MEASURED ——— (SOUTH) CALCULATED - - - - (NORTH)

ANTENNA	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
PHASE DEG	189.1°	0°	-189.1°			
HEIGHT DEG	96.6°	116°	96.6°			
FIELD RATIO	.538	1.00	.538			
NON-DA ANT.		*				
	ORIENTATION		156° True	SPACING 90°		

FREQUENCY: 1320 KC

ASSIGNMENT: 1 Kw-LS, 0.5 Kw-N(DA)

LONGITUDE: 75 DEG. 40 MIN. 30 SEC.

LATITUDE: 41 DEG. 26 MIN. 25 SEC.

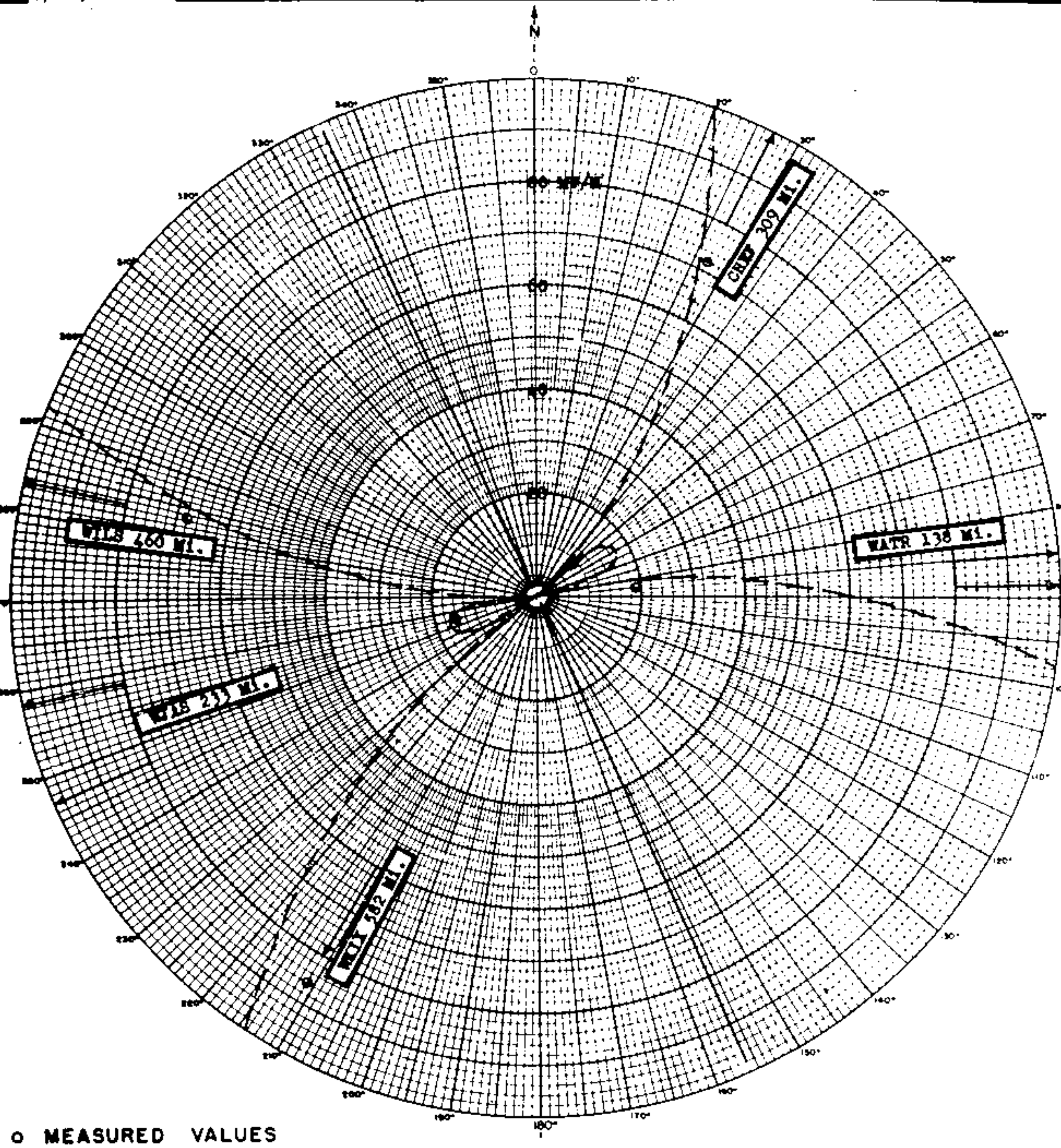
WHEN USED: Nighttime

RMS FIELD: 134 MV/M (Measured)

DATE: June 1951

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

MEASURED NIGHT NULLS 7/31/51G　　WSCR, SCRANTON, PENNSYLVANIA　500W,1KW-LS, U, DA-N　　1320 KC



o MEASURED VALUES

WSCR

HORIZONTAL RADIATION PATTERN

ENLARGED VIEW

ANTENNA	NO. 1 (SOUTH)	NO. 2	NO. 3 (NORTH)	NO. 4	NO. 5	NO. 6
PHASE DEG.	189.1°	0°	-189.1°			
HEIGHT DEG.	96.6°	116°	96.6°			
FIELD RATIO	.538	1.00	.538			
NON-DA ANT.		*				
	ORIENTATION	156° True		SPACING 90°		

FREQUENCY 1320 KC.

ASSIGNMENT: 1 Kw-LS, 0.5 Kw-N(DA)

LONGITUDE 75 DEG. 40 MIN. 30 SEC.

LATITUDE: 41 DEG. 26 MIN. 25 SEC.

WHEN USED: Nighttime

R.M.S. FIELD 134 MV/M (Measured)

DATE: June 1951

ROBERT M. SILLIMAN

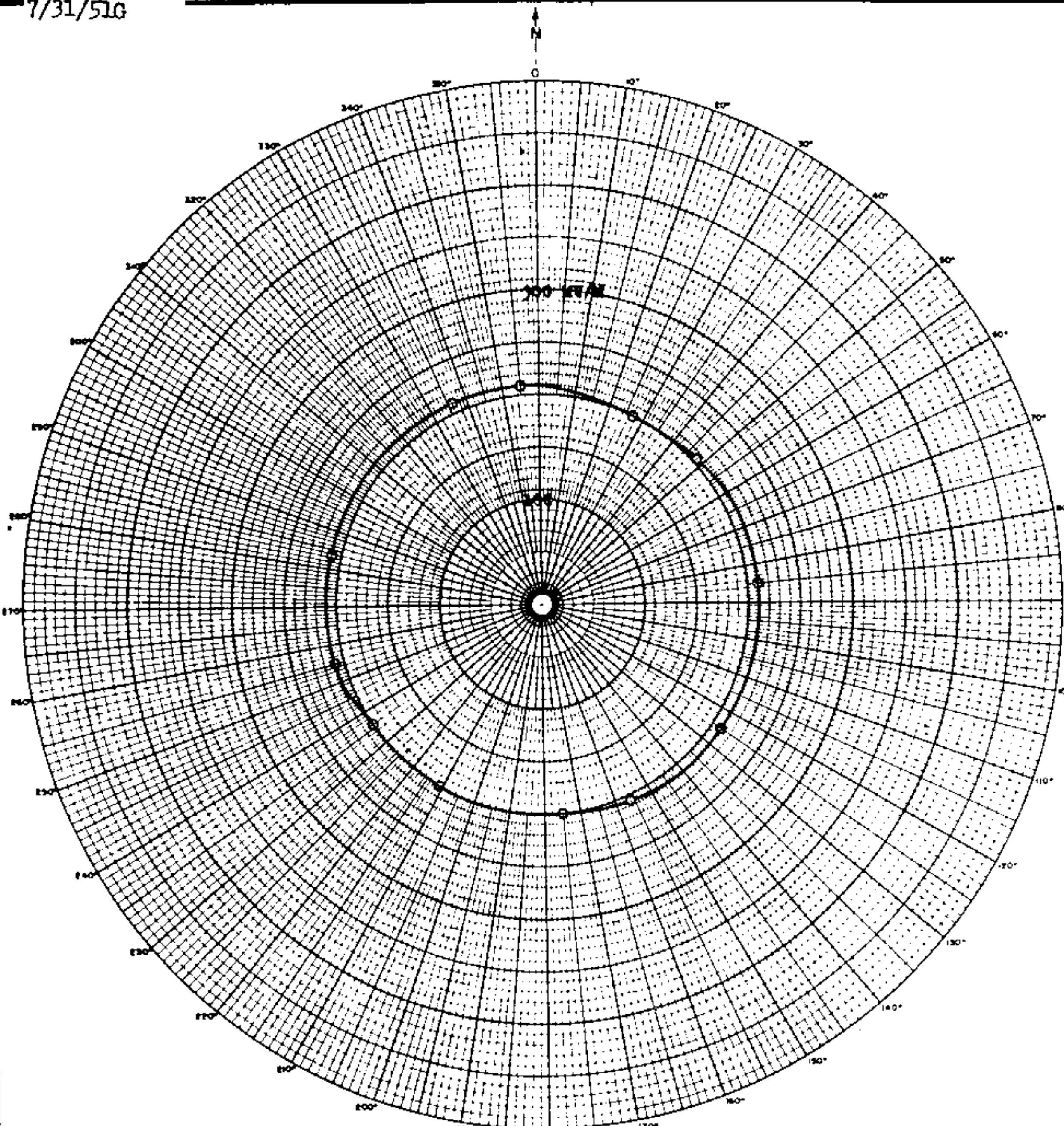
CONSULTING RADIO ENGINEERS

WASHINGTON, D. C.

WSCR

MEASURED DAY (NON-DA) 7/31/51G

WSCR, SCRANTON, PENNSYLVANIA 500W, 1KW-LS, U, DA-N 1320 KC



o MEASURED VALUES

WSCR

HORIZONTAL RADIATION PATTERN

NON-DIRECTIONAL OPERATION

FREQUENCY	1320 KC
ASSIGNMENT	1 Kw-LS, 0.5 Kw-N(DA)
LONGITUDE	75 DEG. 40 MIN. 30 SEC.
LATITUDE	41 DEG. 26 MIN. 25 SEC.
WHEN USED	Daytime
R.M.S. FIELD	207 MV/M
DATE	June 1951

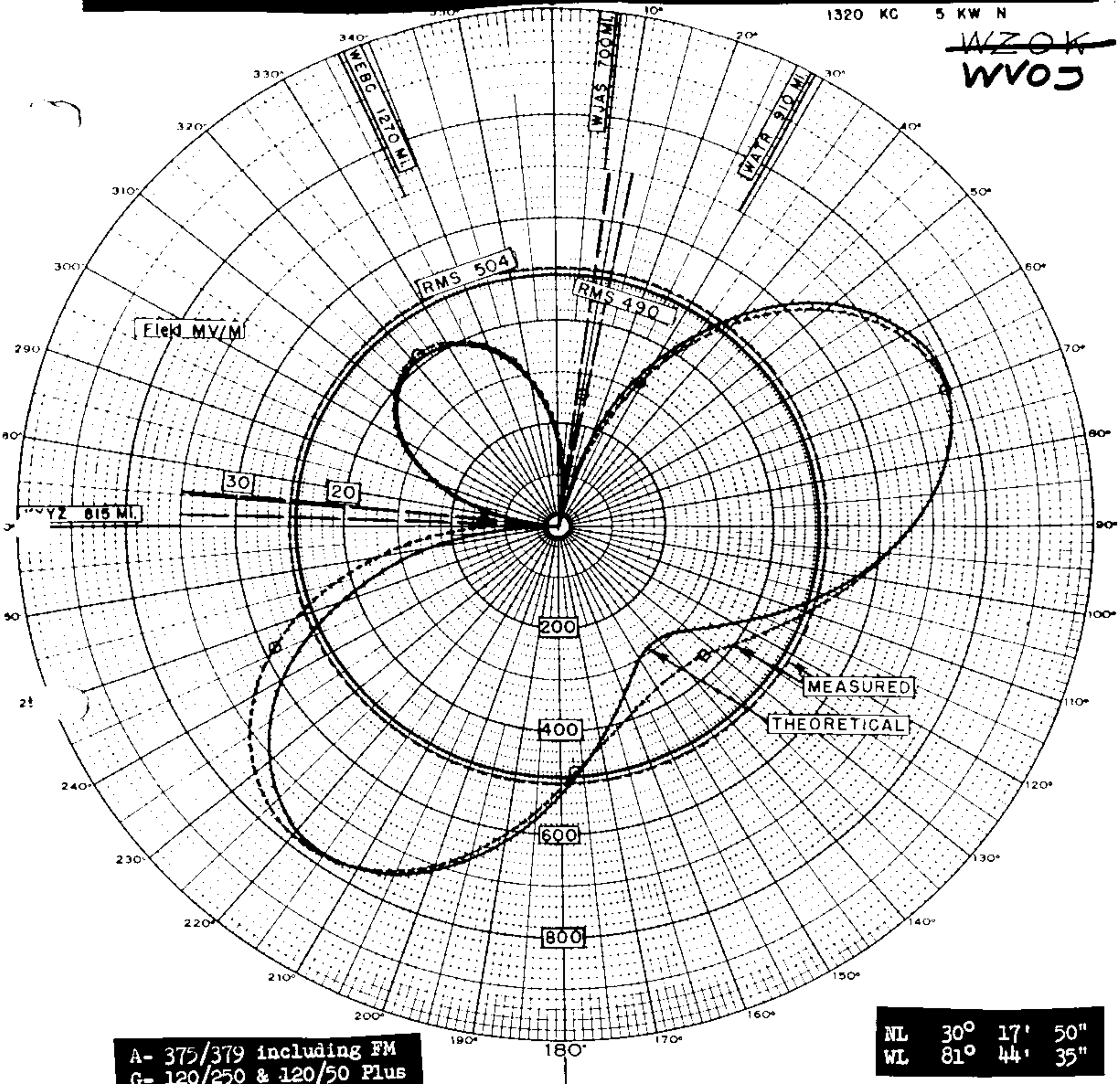
ANTENNA	NO. 1	NO. 2	NO. 3	NO. 4	NO. 5	NO. 6
PHASE DEG.						
HEIGHT DEG.						
FIELD RATIO						
NON-DA ANT.						

ROBERT M. SILLIMAN

CONSULTING RADIO ENGINEERS

WASHINGTON, D. C.

PROPOSED & MEASURED NIGHT Station WZOK 5kw, DA-N,U
Jacksonville, Florida 1320 KC



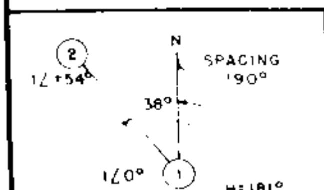
A- 375/379 including FM
G- 120/250 & 120/50 Plus

NL 30° 17' 50"
WL 81° 44' 35"

METROPOLIS COMPANY
JACKSONVILLE, FLORIDA

Figure 12
Series 470221P

1320 KC
5000 WATTS
NIGHT .



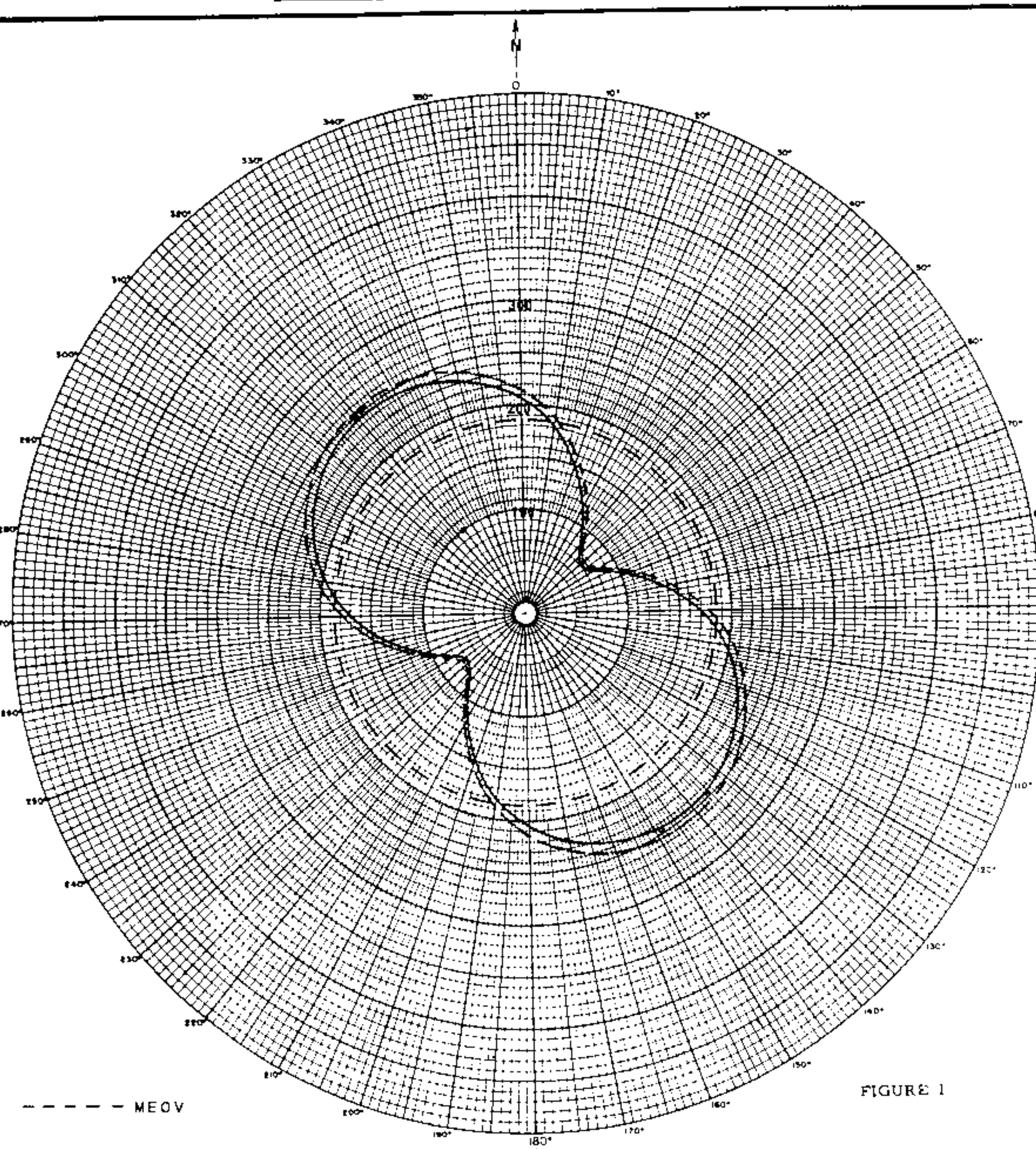
DIRECTIONAL ANTENNA PATTERN

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

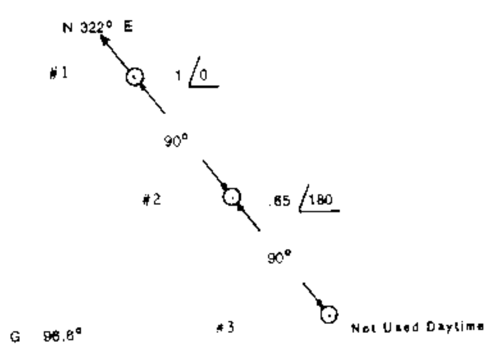
Proposed Day
(8-22-69ct)

New; Raystay Co.
Gettysburg, Pennsylvania

500w,1kw-LS,DA-2,U
1320 kc



HORIZONTAL RADIATION PATTERN



APPLICANT :	Raystay Co.
LOCATION	Gettysburg, Pennsylvania
FREQUENCY :	1320 KC/S
POWER	1 KW
LATITUDE :	39 DEG 51 MIN 18 SEC
LONGITUDE :	77 DEG. 13 MIN. 32 SEC.
WHEN USED :	Daytime
R.M.S FIELD :	185.3 Mv/m
DATE	June 1969

ROBERT L. PURCELL

WASHINGTON, D. C.

FCC File No.BP-18599
Accepted 8-14-69

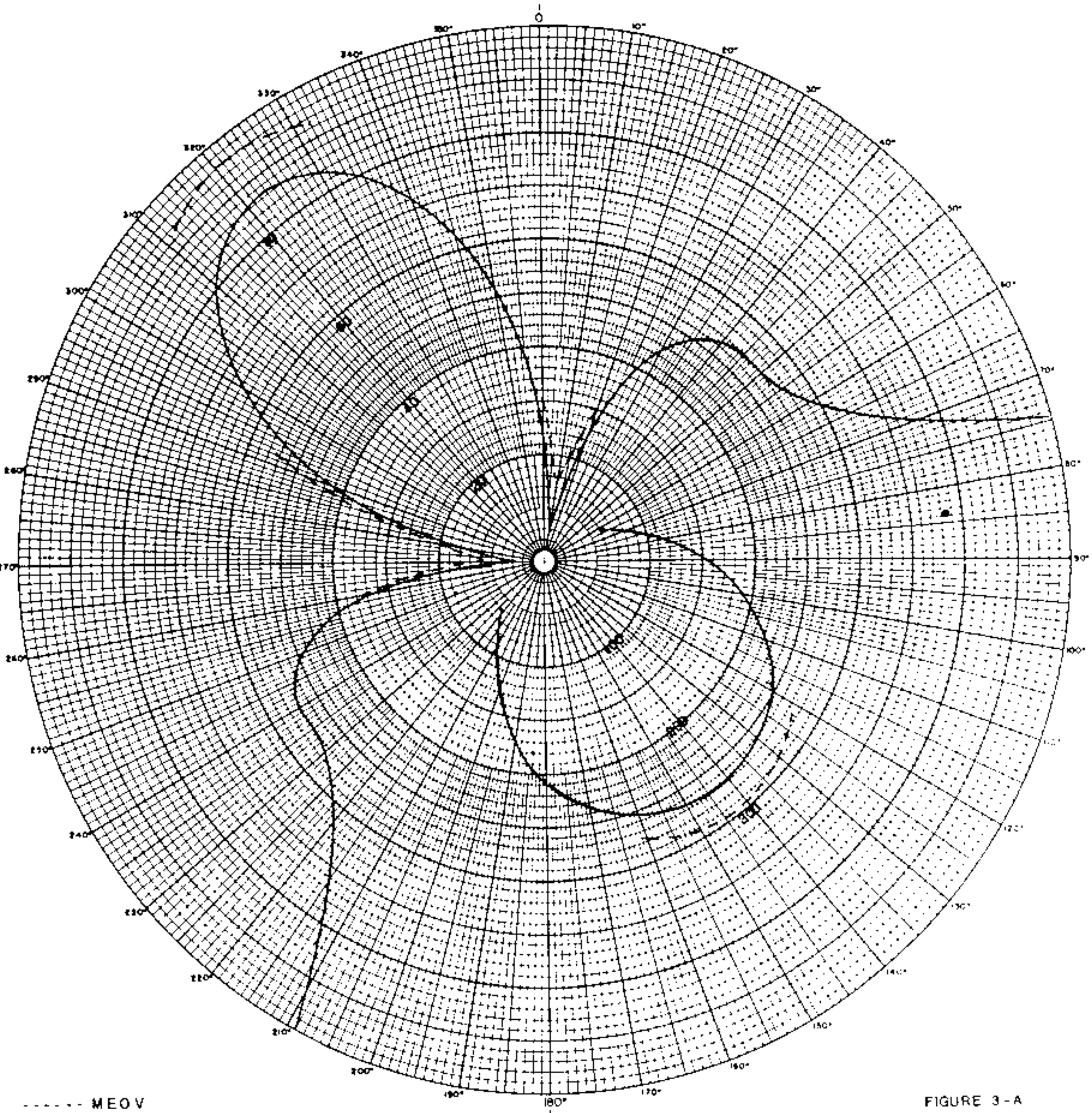
New; Raystay Co.
Gettysburg, Pennsylvania

1320 kc

Proposed Night
(8-22-69ct)

New; Raystay Co.
Gettysburg, Pennsylvania

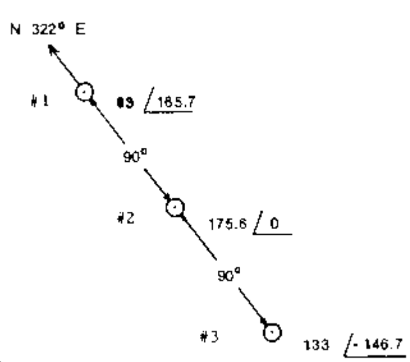
500w,1kw-LS,DA-2,U
1320 kc



------ MEOV

FIGURE 3-A

HORIZONTAL RADIATION PATTERN



G = 98°

APPLICANT	Raystay Company
LOCATION	Gettysburg, Pennsylvania
FREQUENCY	1320 KC/S
POWER	0.5 KW
LATITUDE	39 DEG 5? MIN 18 SEC
LONGITUDE	77 DEG 13 MIN 32 SEC
WHEN USED	Nighttime
R.M.S. FIELD	137 Mv/m
DATE	June 1969

ROBERT L. PURCELL

WASHINGTON, D. C.

FCC File No.BP-18599
Accepted 8-14-69

New; Raystay Co.
Gettysburg, Pennsylvania

1320 kc