1070-1080

Station	Main Studio	Freq	Power	Date
NEW	St. Albert, AB	1070	10 kW/DA-1	1/20/76
CBA	Moncton, NB	1070	50 kW	8/15/67
CFAX	Victoria, BC	1070	10 kW/DA-1	1/29/68
CFAX	Victoria, BC	1070	1 kW/DA-1	10/30/63
CHOK	Sarnia, ON	1070	10 kW/DA-2	3/28/68
CHOK	Sarnia, ON	1070	1/5 kW/DA-N	6/28/63
CKST	St. Albert, AB	1070	10 kW/DA-1	5/30/79
KERR	Polson, MT	1070	1/25 kW/DA-N	4/2/75
KENR	Houston, TX	1070	5 kW/DA-N	9/73
KENR	Houston, TX	1070	10 kW/DA-D	9/73
KENR	Houston, TX	1070	1 kW/ND	8/73
KENR	Houston, TX	1070	5 kW/DA-D	12/67
KERR	Polton, MT	1070	1/50 kW/DA-N	6/28/78
KFDI	Dallas, TX	1070	1/10 kW/DA-N	3/26/65
KHMO	Hannibal, MO	1070	5/1 kW/DA-N	4/6/46
KILR	Estherville, IA	1070	0.25 kW/DA-D	11/29/69
KNX	Los Angeles, CA	1070	50 kW/DA-D	7/28/69
KOPY	Alice, TX	1070	1 kW/DA-N	3/28/69
WAPI	Montclair, NJ	1070	5 kW/DA-N	1/43
WAPI	Montclair, NJ	1070	5/50 kW/DA-N	8/26/66
WDIA	Memphis, TN	1070	5/50 kW/DA-2	2/18/53
WDIA	Memphis, TN	1070	10/50 kW/DA-2	1/21/52
WFLI	Lookout Mountain, TN	1070	1/50 kW/DA-2	6/28/67
WFLI	Lookout Mountain, TN	1070	1/10 kW/DA-2	3/12/58
WHYZ	Greenville, SC	1070	50 kW/DA-D	6/28/66
WIBC	Indianapolis, IN	1070	10/50 kW/DA-2	8/26/66
WINA	Charlottesville, VA	1070	5 kW/DA-N	2/28/67

1070-1080

Station	Main Studio	Freq	Power	Date
WKOK	Sunbury, PA	1070	1/10 kW/DA-2	12/29/66
WNCT	Greenville, NC	1070	10 kW/DA-2	5/27/69
WTSO	Madison, WI	1070	5 kW/DA-2	2/18/47
WTSO	Madison, WI	1070	5/10 kW/DA-2	
CKSA	Lloydminster, AB	1080	10 kW/DA-N	4/28/65
KJEL	Lebanon, MO	1080	0.25 kW/DA-D	11/17/71
KRLD	Dallas, TX	1080	50 kW/DA-N	5/23/42
KSCO	Santa Cruz, CA	1080	5/10 kW/DA-N	6/29/70
KVNI	Coeur D’Alene, ID	1080	1/10 kW/DA-N	8/30/78
KWJJ	Portland, OR	1080	10/50 kW/DA-2	4/9/75
NEW	Huntingdon, PA	1080	0.5 kW/DA-D	8/30/78
WCOB	Marietta, GA	1080	10 kW/DA-D	8/23/63
WECP	Carthage, MS	1080	5 kW/DA-D	8/22/80
WEEP	Pittsburgh, PA	1080	50/25 kW/DA-D	8/26/66
WKLO	Louisville, KY	1080	1/10 kW/DA-2	5/27/69
WKLO	Louisville, KY	1080	1/5 kW/DA-2	8/28/68
WMVR	Sidney, OH	1080	0.25 kW/DA-D	8/28/67
WPOK	Pontiac, IL	1080	1 kW/DA-D	7/29/70
WQRO	Huntingdon, PA	1080	1 kW/DA-D	11/16/79
WTIC	Hartford, CT	1080	50 kW/DA-N	11/15/50
WVCG	Coral Gables, FL	1080	10/50 kW/DA-2	9/27/78
WZTQ	Hurricane, WV	1080	5 kW/DA-D	4/29/70
NEW	Jackson, MS	1080	10 kW/DA-D	7/26/67
NEW	Bagnell, MO	1080	1 kW/DA-D	7/28/66
NEW	Green Bay, WI	1080	1 kW/DA-D	10/26/70
NEW	Green Bay, WI	1080	5 kW/DA-D	11/28/67

DESCRIPTION SHEET

Station:	New	Main Studio:	St. Albert, Alberta
Frequency:	1070 kHz	Power:	10 kW
Time:	Unlimited	Class:	II
Notification List No.	350	Date:	January 20, 1976

Geographic Location: North Lat. 53° 25' 40"

West Long. 113° 35' 14"

Antenna System:

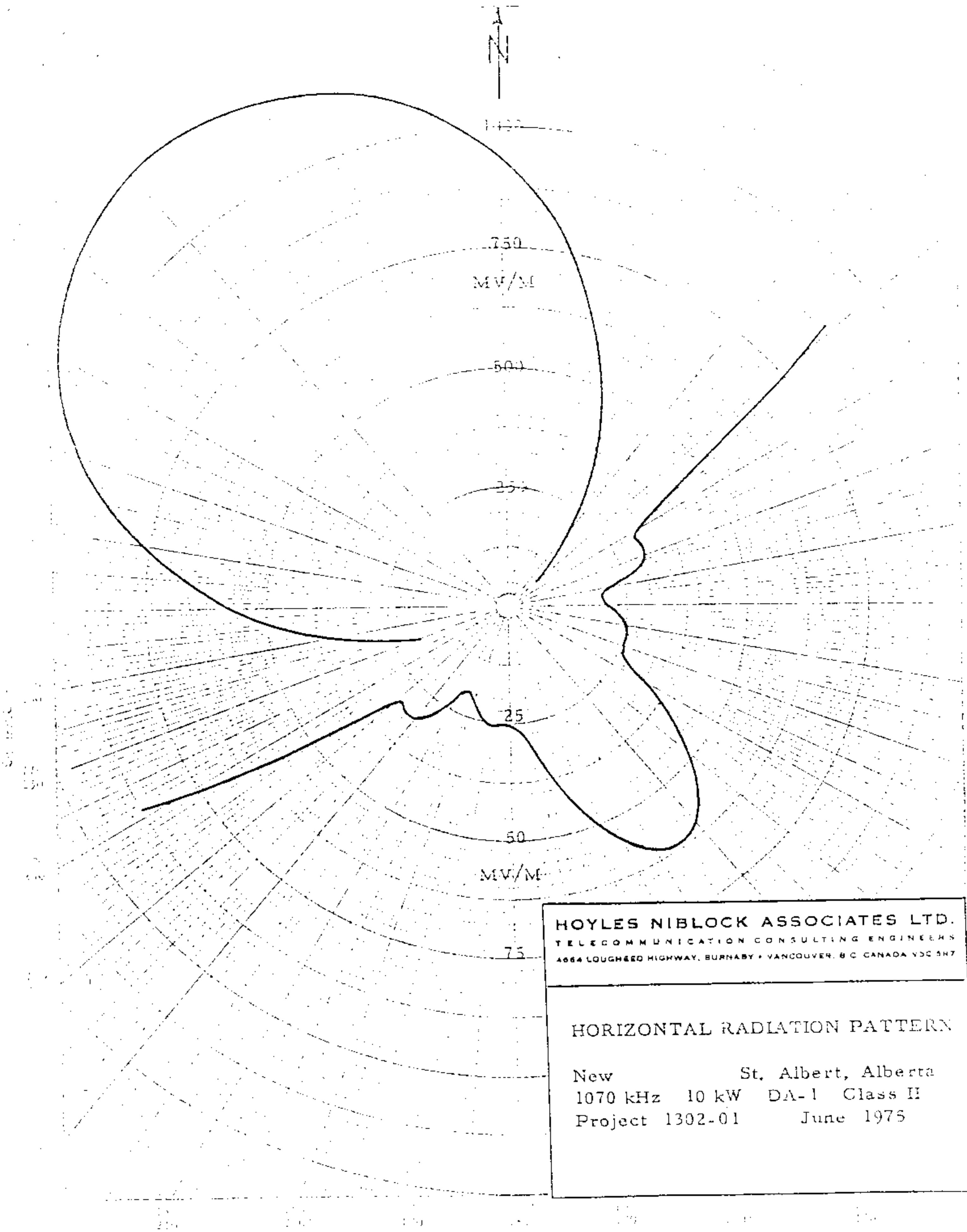
Mode of Operation DA-1

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

Towers	1	2	3	4
Height above insulators	90°	90°	90°	90°
Overall Height	235'	235'	235'	235'
Spacing	0°	90°	180°	270°
Phasing:	0°	-136.7°	86.1°	-50.8°
Current:	1.00	2.15	1.78	0.56
Orientation:	0°	325°	325°	325°

Ground System: The ground system shall consist of 120, No. 10 copper wire radials buried approximately 14 inches below grade. The system is equivalent to 0.4λ

Predicted Effective Field: 570 mV/m for 10 kW
180 mV/m for 1 kW



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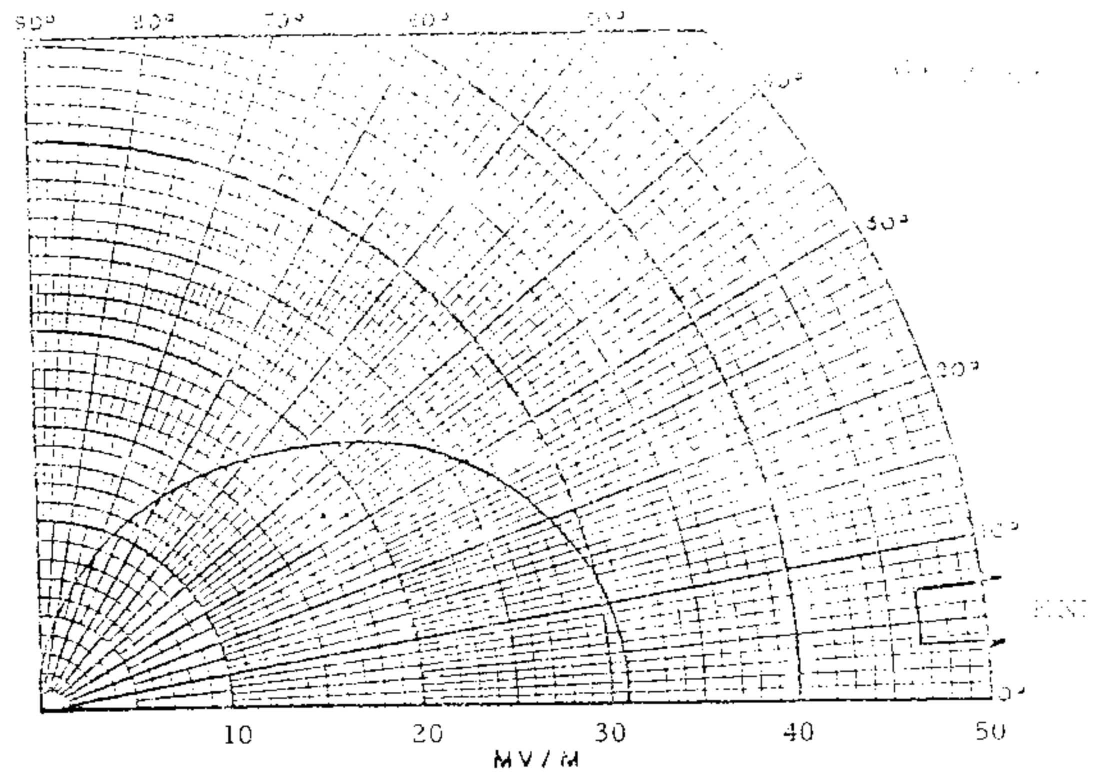
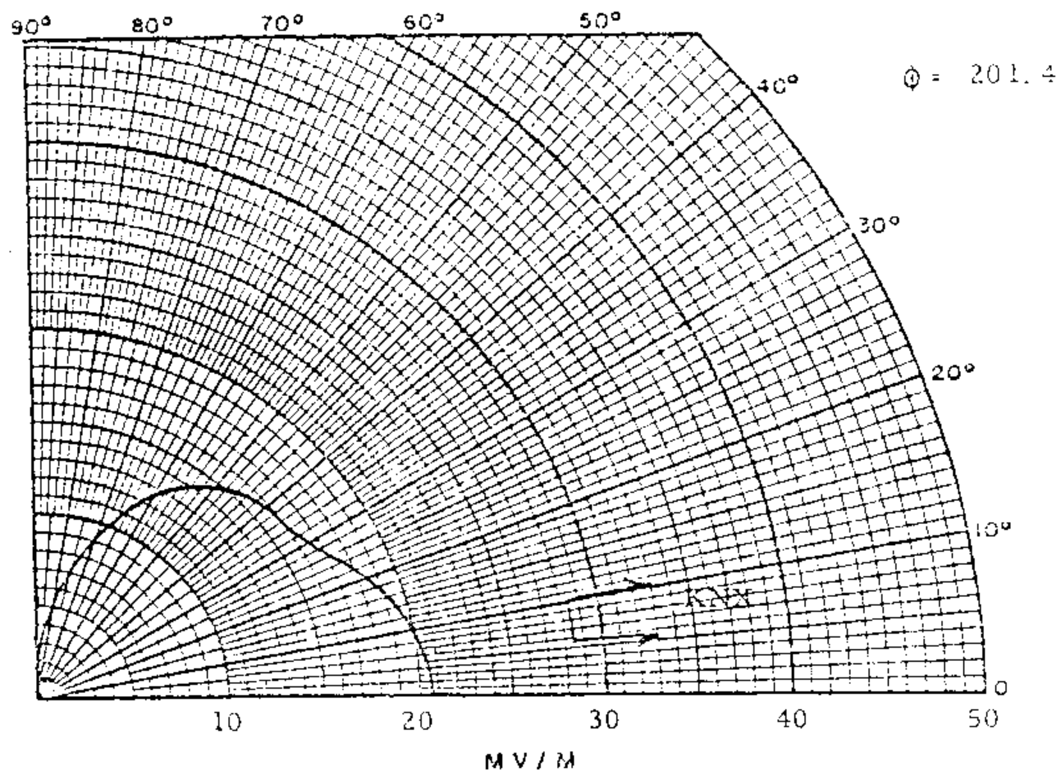
HORIZONTAL RADIATION PATTERN

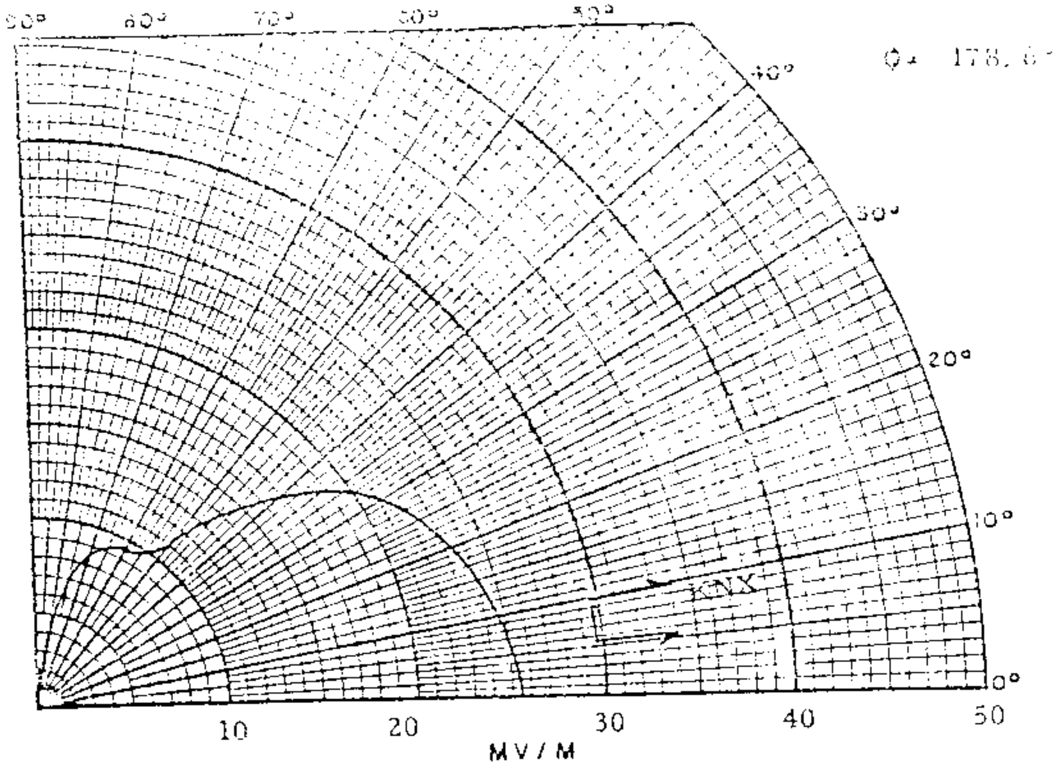
New St. Albert, Alberta
1070 kHz 10 kW DA-1 Class II
Project 1302-01 June 1976

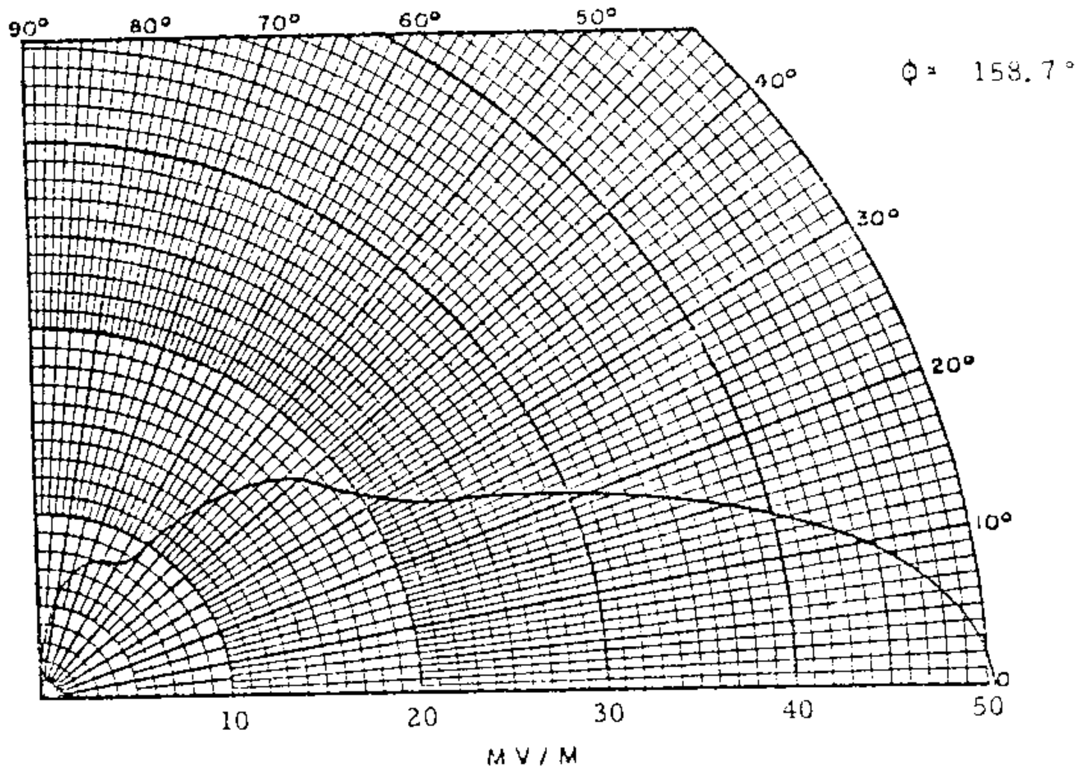




VERTICAL RADIATION PATTERNS

New St. Albert, Alberta
1070 kHz 10 kW DA-1 Class II
Project 1302-01 June 1975





VERTICAL RADIATION PATTERNS

New St. Albert, Alberta
1070 kHz 10 kW DA-1 Class II
Project 1302-01 June 1975

Description Sheet
(9-28-67ct)

Station CBA
Moncton, New Brunswick

50kw,U,Class I-B
1070 kc

CANADIAN BROADCASTING CORPORATION

ENGINEERING DIVISION MONTREAL

TITLE Change of Location of CBA

DWG. No.
DATE July 31/67 ISS. 3
ENG. J.L. APP. R.E.S.

DESCRIPTION OF ANTENNA SYSTEM

Description Sheet - Omnidirectional Antenna

Station Call:	CBA
Transmitter Location:	Moncton, N.B.
Frequency:	1070 KC/S
Power:	50 KW
Class:	I - B
Time:	Day and Night
Notification List No. 230	Date: August 15, 1967.

Geographical Location of the Antenna System:

Latitude - 46° 02' 02" North
Longitude - 64° 41' 10" West

Antenna Characteristics

Height:	460 feet, 180.0 degrees
Type of Element:	Guyed, base insulated, series fed, steel tower of constant cross-section. It shall meet the requirements of Broadcast Procedure 1, Rule 1.
Ground System:	120 radials, of length 375 feet (0.4λ), no. 10 B & S gauge, buried at least 8 inches deep.
Expected Efficiency:	1664 mv/m at 1 mile for 50 KW 235.4 mv/m at 1 mile for 1 KW

Transmission Department.

C.B.C.-252A

CBA
1070

Air Services
Telecommunications Division
(5-10-67)

CANADA

DEPARTMENT OF TRANSPORT
OTTAWA

DESCRIPTIVE SHEET - OMNIDIRECTIONAL ANTENNA

Station Call: CBA

Main Studio: Sackville, New Brunswick.

Frequency: 1070 Kc/s.

Power: 50 Kw.

Class: I-B

Time: U

Notification Reference: NARBA Annex 3

Geographical Location:

North Latitude: 45° 53' 34"

West Longitude: 64 19' 16"

Antenna Characteristics:

Height: 460 ft. 190 degrees

Expected Efficiency: 1732 mv/m at 1 mi. for 50 Kw.

or: 245 mv/m at 1 mi. for 1 Kw.

Ground System:

120 radials, 500 feet long.

Type of Element:

Series-fed, 1 element, uniform triangular cross-section, guyed.

November 22, 1952

DESCRIPTION SHEET

Station: CFAX

Main Studio: Victoria, B.C.

Frequency: 1070 kc/s

Power: 10 kw

Time: Unlimited

Class: II

Notification List No.: 236

Date: December 20, 1967

Geographic Location: - 48° 23' 50" North Latitude
123° 18' 20" West Longitude

ANTENNA SYSTEM: Mode of Operation: DA-1

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: (with top loading)	70.5°	70.5°	70.5°	70.5°
OVERALL HEIGHT:	190'	190'	190'	190'
PHASING:	0°	-142.195	75.295	-66.900
RATIO:	1.0	2.765	2.765	1.000
SPACING:	Ref.	70.0°	140.0°	210.0°
ORIENTATION:	Ref.	311°	311°	311°

GROUND SYSTEM: The ground system shall consist of 120 radial per tower No. 10 AWG, bare soft-drawn copper wire, uniformly spaced, extending to the salt water. The ground system is equivalent to a 0.4 wave-length system.

PREDICTED EFFECTIVE FIELD: 555 mv/m at one mile for 10 kw
(176 mv/m at one mile for 1 kw)

181

CFAX

HOYLES, NIBLOCK AND ASSOCIATES

DESCRIPTION SHEET

Station: CFAX

Main Studio Victoria, B. C.

Power: 1 kw

Frequency: 1070 kc/s Class II

Notification List No. 181

Date: September 30, 1963

Location: North Latitude 48° 23' 50"
West Longitude 123° 18' 20"

Antenna:
Mode of Operation - DA-1 (same antenna pattern day and night)

Elements: Three uniform cross section, guyed steel towers with base insulation fitted for series feed.

Towers	South	Centre	North
Height above insulators	180'	180'	180'
Overall height	190'	190'	190'
Spacing	179'(70°)	179'(70°)	
Phasing	+124.2	0	-124.2
Field Ratio	1.0	1.971	1.0
Orientation	Towers on a line bearing 311° True		

Ground system: The ground system shall consist of 120-0.4λ radials about each tower extending into salt water. Radials shall be bonded to a traverse strap at the common chord between the towers.

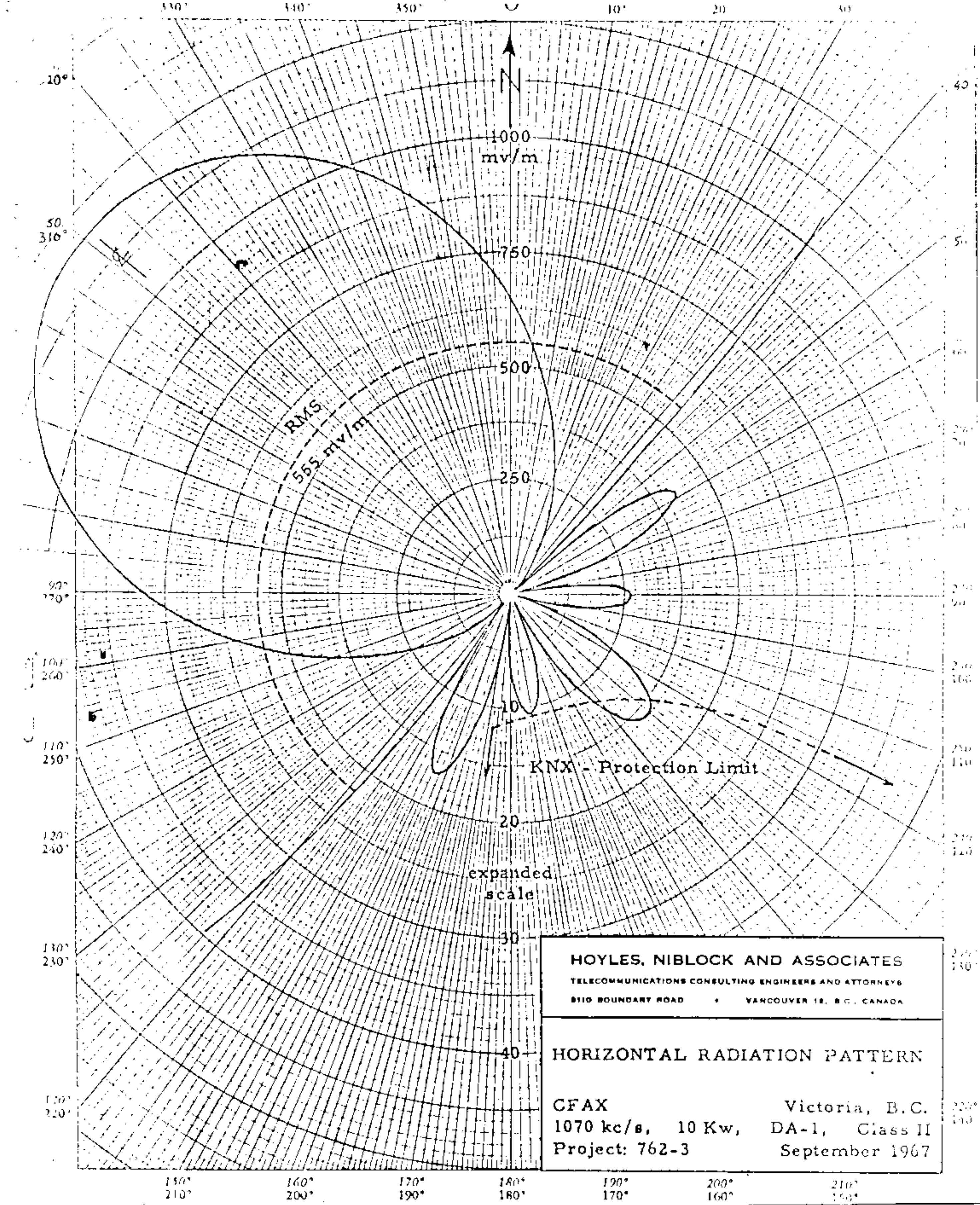
Predicted effective field: 176 mv/m at 1 mile for 1 kw.

CFAX

Proposed Day & Night
(1-29-68ct)

Station CFAX
Victoria, B.C.

10kw,DA-1,U,Class II
1070 kc



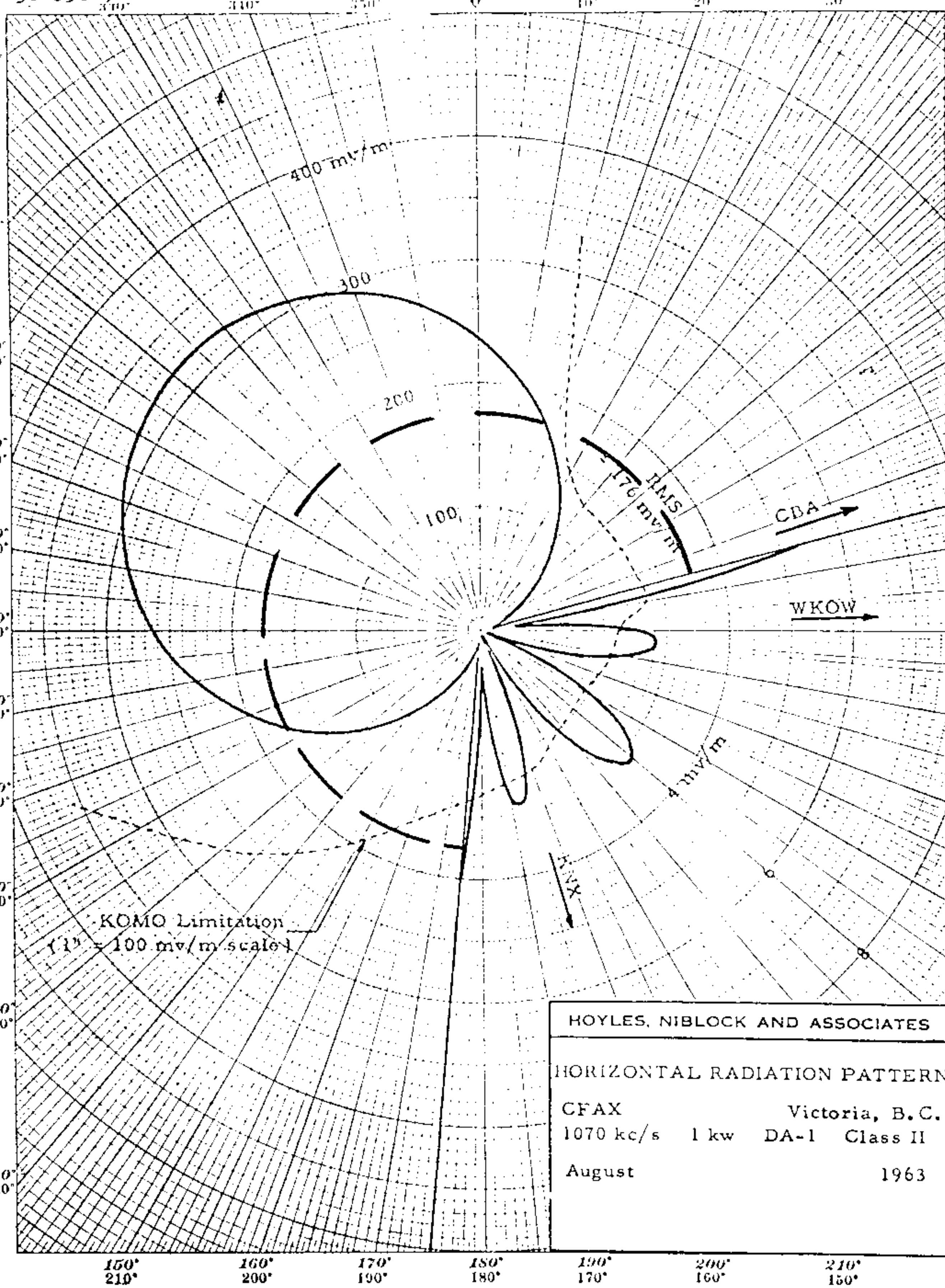
#181

CFAX

Proposed Day & Night
(10-30-63ct)

Station CFAX
Victoria, B. C.

1kw,DA-1,U,Class II e
1070 kc



HOYLES, NIBLOCK AND ASSOCIATES

HORIZONTAL RADIATION PATTERN

CFAX Victoria, B.C.

1070 kc/s 1 kw DA-1 Class II

August 1963

CHOK

Description Sheet (3-28-68ct)	Station CHOK Sarnia, Ontario	10kw,DA-2,U,Class II 1070 kc

TABLE 1

ANTENNA DESCRIPTION SHEET

STATION CALL: CHOK

MAIN STUDIO: SARNIA, ONTARIO

FREQUENCY: 1070 kc/s

POWER: 10 kW

CLASS: II

MODE: DA-2

TIME: UNLIMITED

NOTIFICATION LIST NO.: [illegible] DATE: Feb [illegible]

GEOGRAPHICAL LOCATION: Latitude: 42° 53' 30" North
Longitude: 82° 19' 20" West

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

TOWER #:	1 NW	2 NC	3 NE	4 SW	5 SC	6 SE	7 C
HEIGHT:	195'	195'	195'	195'	195'	195'	195'(76.4°)
DAY CURRENT:	-	-	-	-	0.045	1.00	0.39
DAY PHASE:	-	-	-	-	227°	0°	115°
NIGHT CURRENT:	1.00	1.70	0.72	0.56	0.95	0.405	-
NIGHT PHASE:	0°	8°	16°	100°	108°	116°	-
SPACING:	ref.	178°	356°	90°	170°	336°	259.5°
ORIENTATION:	ref.	070°	070°	180°	099.9°	084.6°	094.3°

Towers 1-2-3 and 4-5-6 are spaced 455'(178°) on 070° true.
Towers 1-4, 2-5 and 3-6 are spaced 230'(90°) on 180° true.
Towers 5-7 are spaced 235'(92°) on 084° true.

GROUND SYSTEM: (per tower) 120 equally spaced copper radial wires buried 6-8" deep, of average effective length 370'(0.4λ).

PREDICTED EFFICIENCY: 175 mV/m at one mile for 1 kW or 553 mV/m at one mile for 10 kW

CHOK

TABLE I

ANTENNA DESCRIPTION SHEET

STATION CALL: CHOK
MAIN STUDIO: SARNIA, ONTARIO
FREQUENCY: 1070 kc/s
POWER: 10 kW
CLASS: II
MODE: DA-2
TIME: UNLIMITED

NOTIFICATION LIST NO.: ..227... DATE: May 31 1967

GEOGRAPHICAL LOCATION: Latitude: 42° 53' 30" North
Longitude: 82° 19' 20" West

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

TOWER #:	1 NW	2 NC	3 NE	4 SW	5 SC	6 SE	7 C
HEIGHT:	195'	195'	195'	195'	195'	195'	195'(76.4°)
DAY CURRENT:	-	-	-	-	0.045	1.00	0.39
DAY PHASE:	-	-	-	-	227°	0°	115°
NIGHT CURRENT:	1.00	1.70	0.722	0.530	0.900	0.382	-
NIGHT PHASE:	0°	8°	16°	100°	108°	116°	-
SPACING:	ref.	178°	356°	90°	170°	336°	259.5°
ORIENTATION:	ref.	070°	070°	180°	099.9°	084.6°	094.3°

Towers 1-2-3 and 4-5-6 are spaced 455'(178°) on 070° true.
Towers 1-4, 2-5 and 3-6 are spaced 230'(90°) on 180° true.
Towers 5-7 are spaced 235'(92°) on 084° true.

GROUND SYSTEM: (per tower) 120 equally spaced copper radial wires buried 6-8" deep, of average effective length 370'(0.4λ).

PREDICTED EFFICIENCY: 175 mV/m at one mile for 1 kW or 553 mV/m at one mile for 10 kW.

#18

CHOK

Description Sheet
(6-28-63ct)

Station CHOK
Sarnia, Ontario

1kw,5kw-LS,DA-N,U,Class II
1070 kc

AMENDED
DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CHOK

Main Studio: Sarnia, Ontario

Frequency: 1070 kc.

Power: 1 kw Night 5 kw Day Class: II

Notification List No. 18

Date: December 20, 1944

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:

North Latitude: 42° 56' 00"

West Longitude: 82° 21' 00"

ANTENNA CHARACTERISTICS

Mode of Operation: DA-N
Number of elements: Two
Type of elements: Uniform cross-section, base insulated, series fed, no top loading.

Tower:	No. 1	No. 2
Height above insulators:	150'	150'
Spacing:	467' (183°)	
Phasing:	0	0
Field Ratio:	1	1

Orientation: Radiators on line 55° east of true north.

Ground System: 120 radials about each tower, equally spaced, length 360' except where bonded by common chord, buried to a depth of at least 6 inches.

Predicted effective nighttime field: 175 mv/m for 1 kw.

Predicted effective daytime field: 391 mv/m for 5 kw.

NOTE: Please retain the antenna radiation patterns previously supplied for CHOK and attach to this amended description sheet which is to show a correction in the orientation of the line of towers.

March 20, 1963.

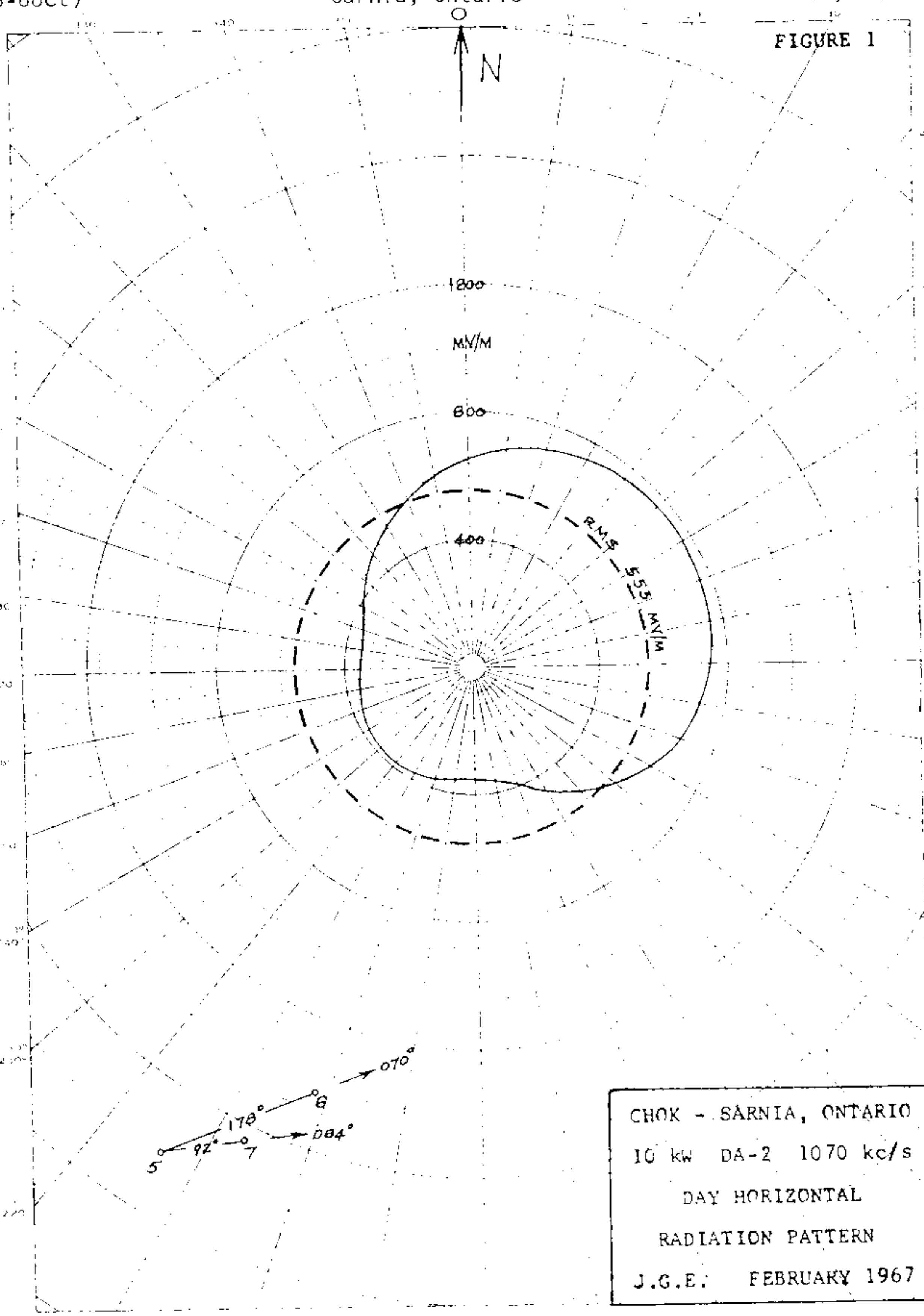
CHOK

Proposed Day
(3-28-68ct)

Station CHOK
Sarnia, Ontario

10kw, DA-2,U,Class II
1070 kc

FIGURE 1



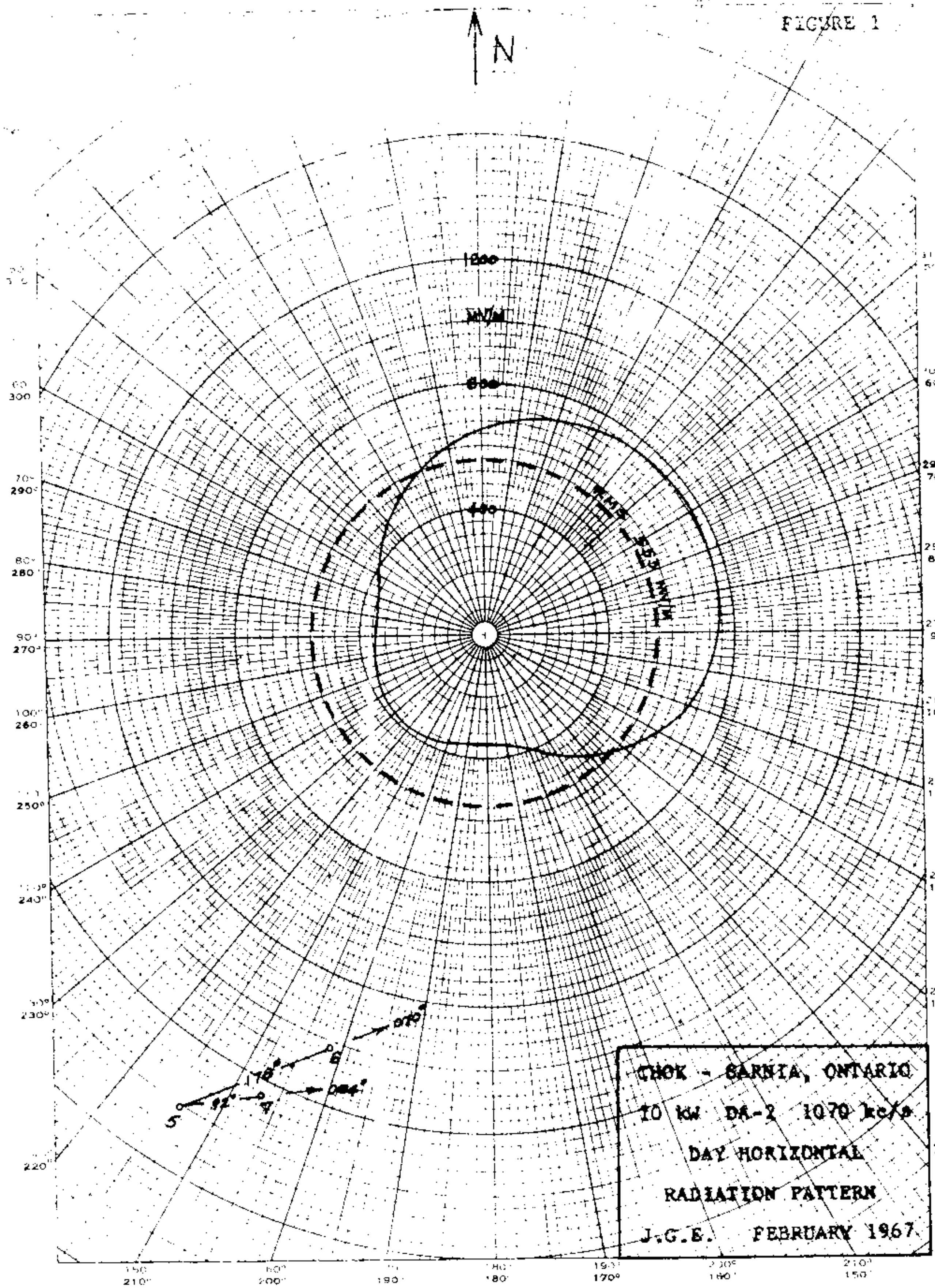
CHOK - SARNIA, ONTARIO
10 kW DA-2 1070 kc/s
DAY HORIZONTAL
RADIATION PATTERN
J.G.E. FEBRUARY 1967

Proposed Day
(7-26-67ct)

Station CHOK
Sarnia, Ontario

10kw,DA-2,U,Class II
1070 kc

FIGURE 1



1945

CHOK — 1070 KC

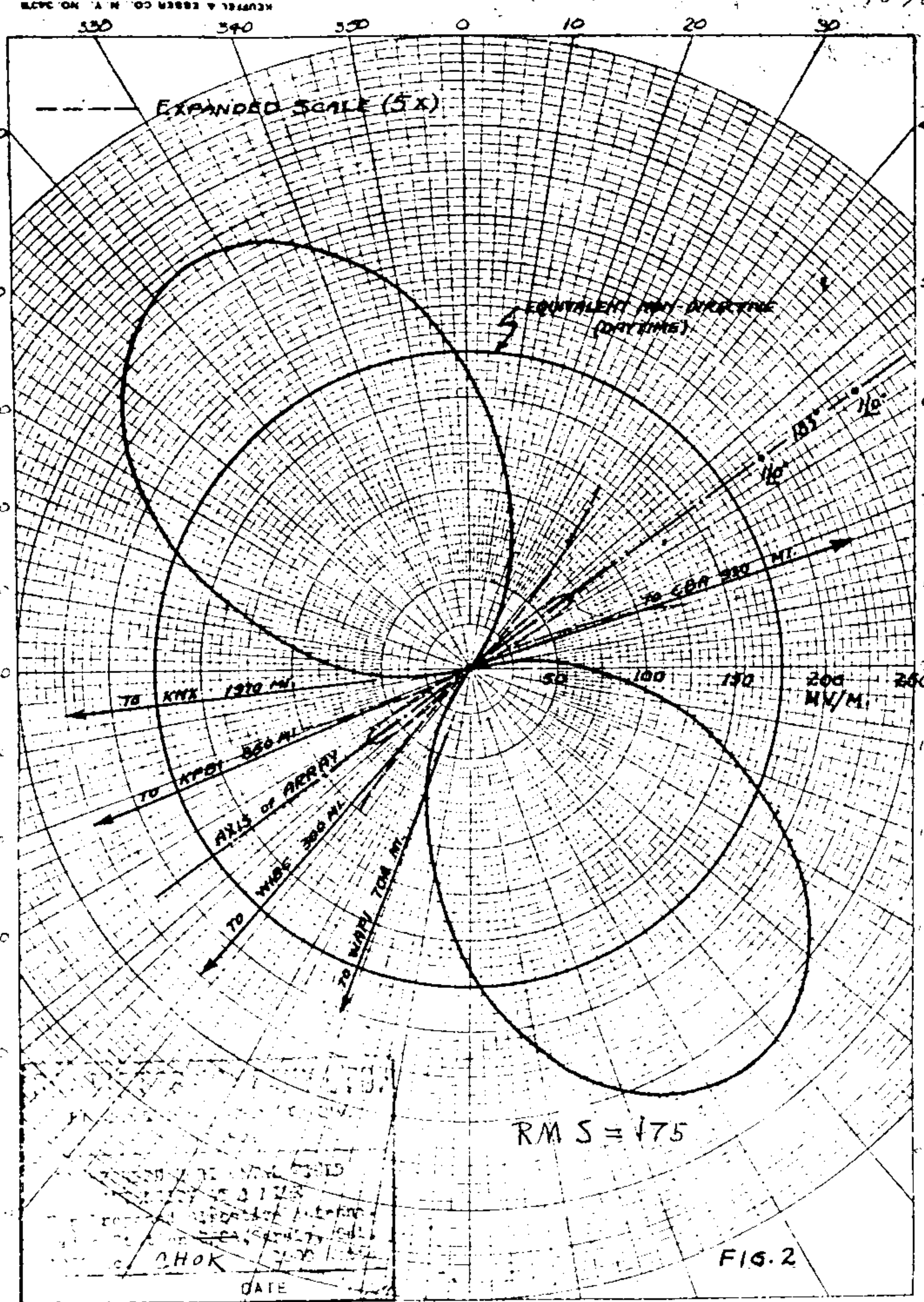


FIG. 2

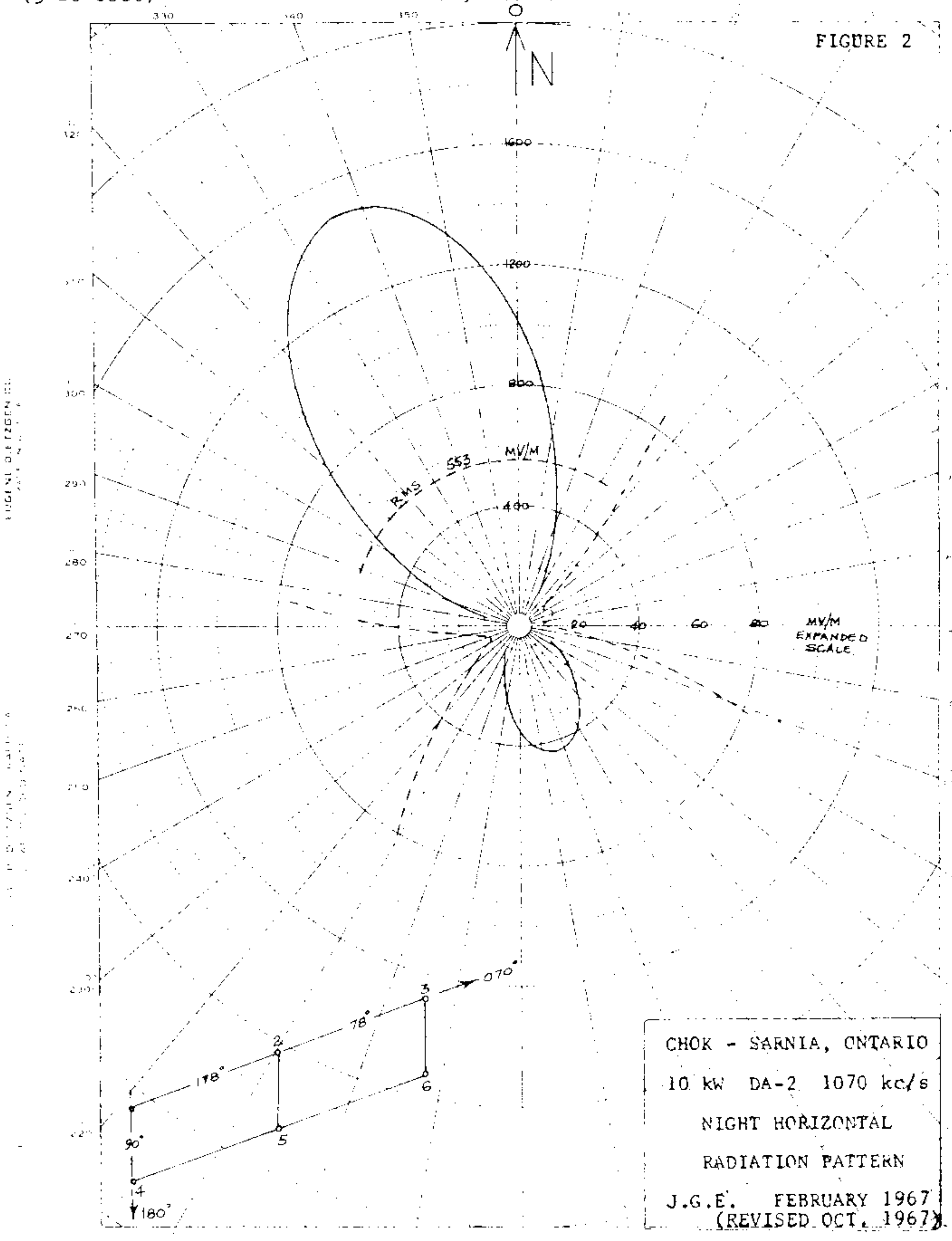
CHOK

Proposed Night
(3-28-68ct)

Station CHOK
Sarnia, Ontario

10kw,DA-2,U,Class II
1070 kc

FIGURE 2



CHOK - SARNIA, ONTARIO

10 kW DA-2 1070 kc/s

NIGHT HORIZONTAL

RADIATION PATTERN

J.G.E. FEBRUARY 1967
(REVISED OCT. 1967)

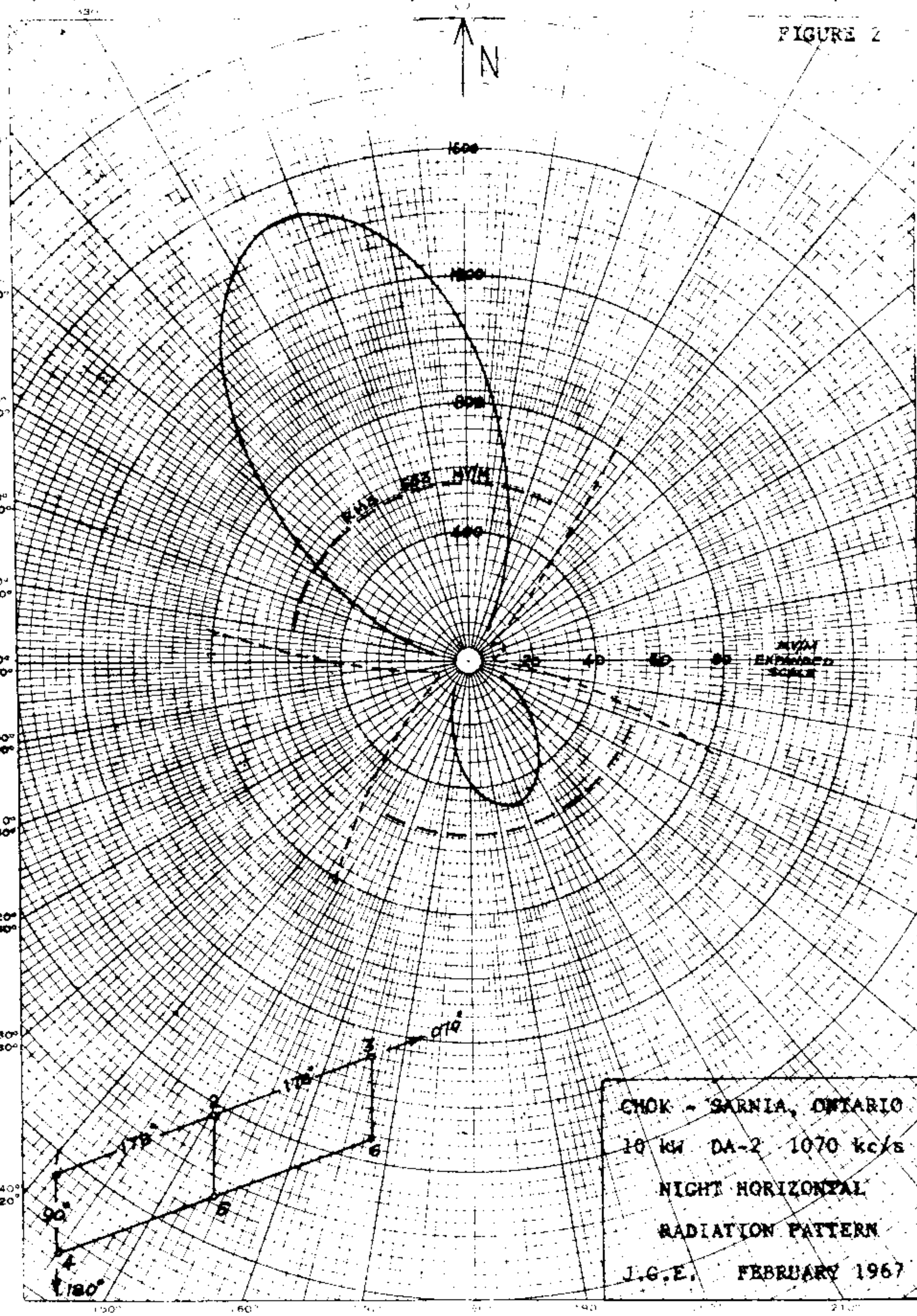
CHOK

Proposed Night (7-26-67ct)

Station CHOK
Sarnia, Ontario

10kw, DA-2, U, Class II
1070kc

FIGURE 2



CKST

DESCRIPTION SHEET

Station:	CKST	Main Studio:	St. Albert, Alberta
Frequency:	1070 kHz	Power:	10 kW
Time:	Unlimited	Class:	II

Notification List No.: 385 Date: May 30, 1979

Geographic Location: North Lat. 53° 26' 00"

West Long. 113° 37' 00"

Antenna System:

Mode of Operation: DA-1

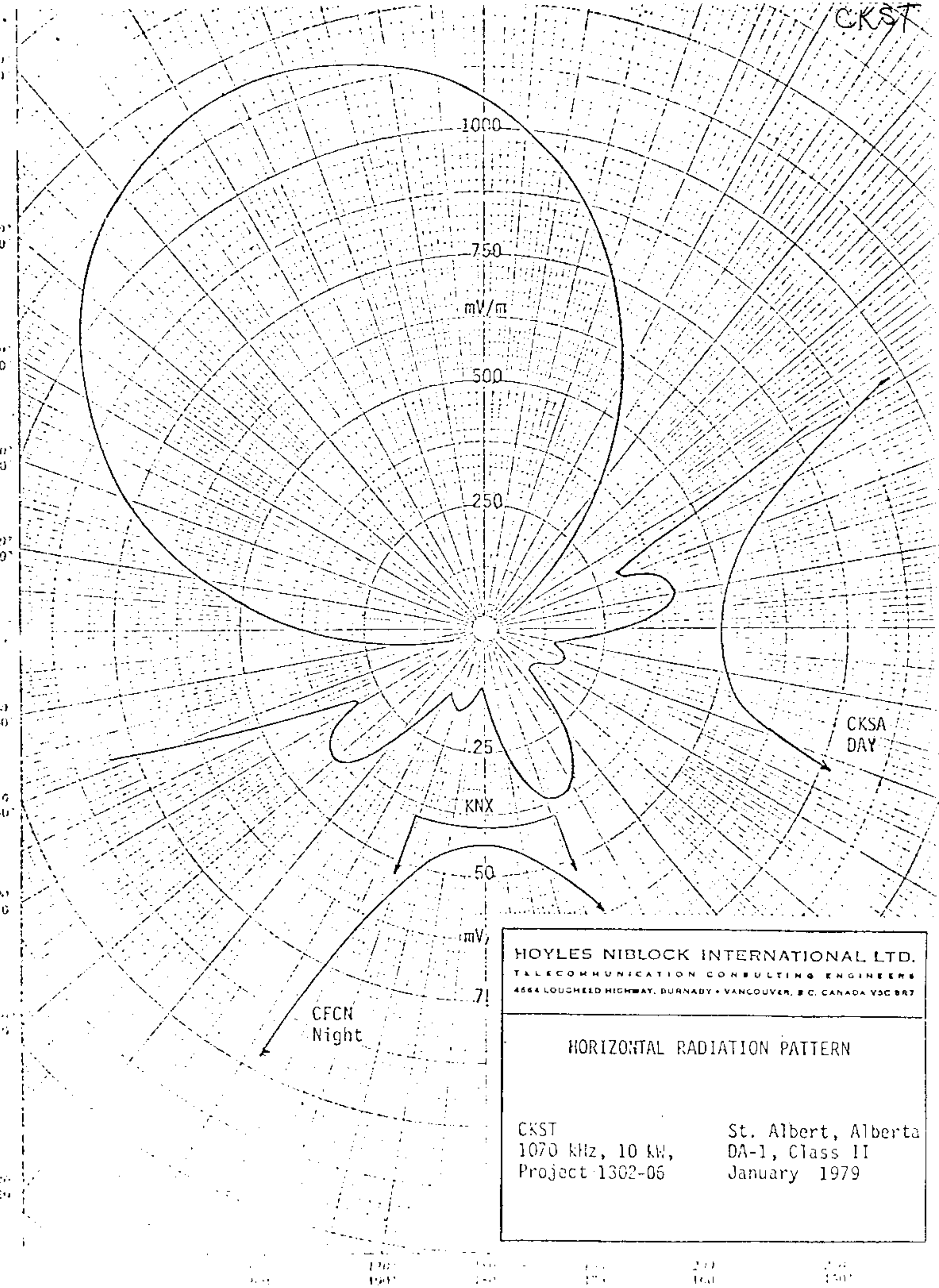
Elements: Four uniform cross-section, guyed steel towers, base insulated and series fed.

Towers	1	2	3	4
Height above insulators	90°	90°	90°	90°
Overall Height	235'	235'	235'	235'
Spacing	0°	90°	180°	270°
Phasing:	133.8°	0°	-136.2°	88.8°
Current:	0.446	1.0	0.884	0.304
Orientation:	0°	335°T	335°T	335°T

Ground System: The ground system shall consist of 120, No. 10 copper wire radials buried about each tower. The system is equivalent to a 0.4 λ system.

Predicted Effective Field: 570 mV/m for 10 kW

180 mV/m for 1 kW



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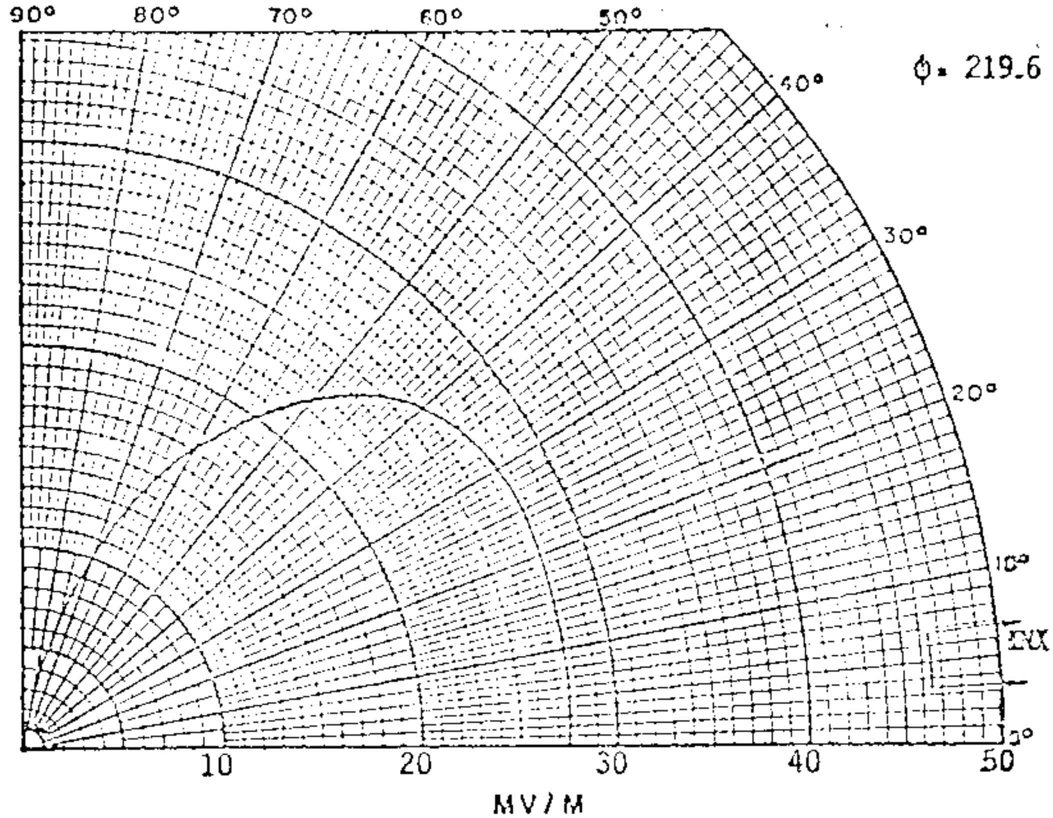
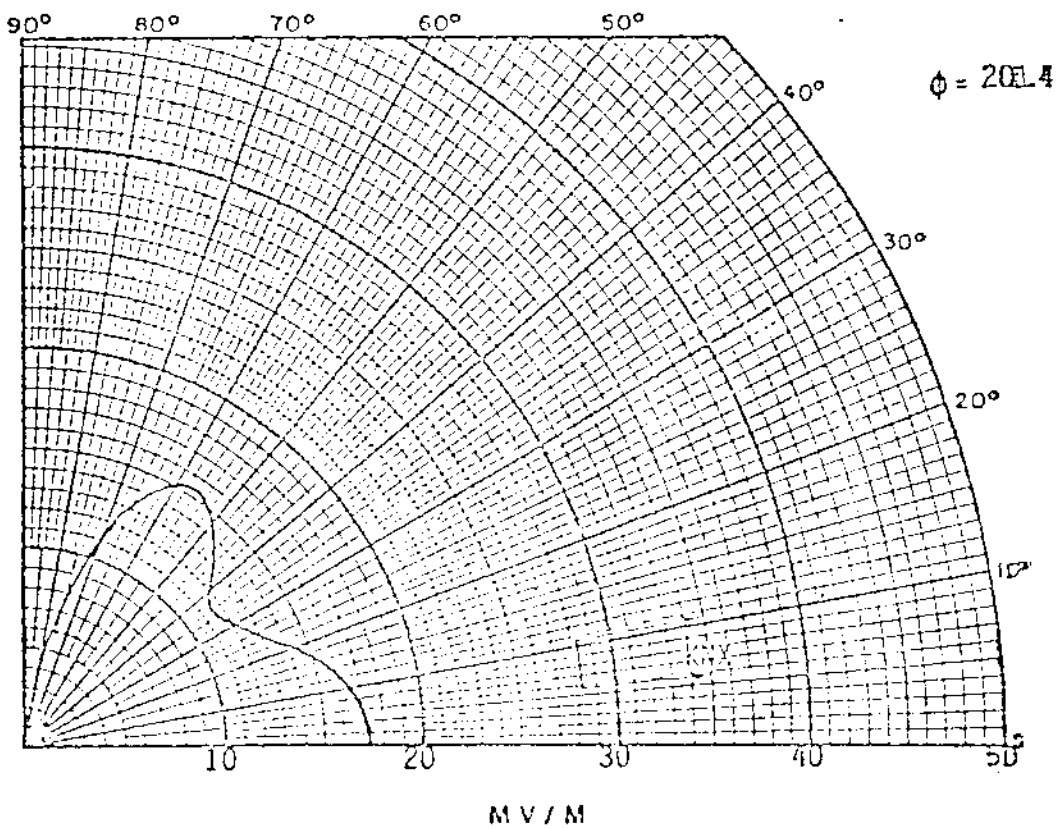
HORIZONTAL RADIATION PATTERN

CKST	St. Albert, Alberta
1070 kHz, 10 kW,	DA-1, Class II
Project 1302-06	January 1979

CKST

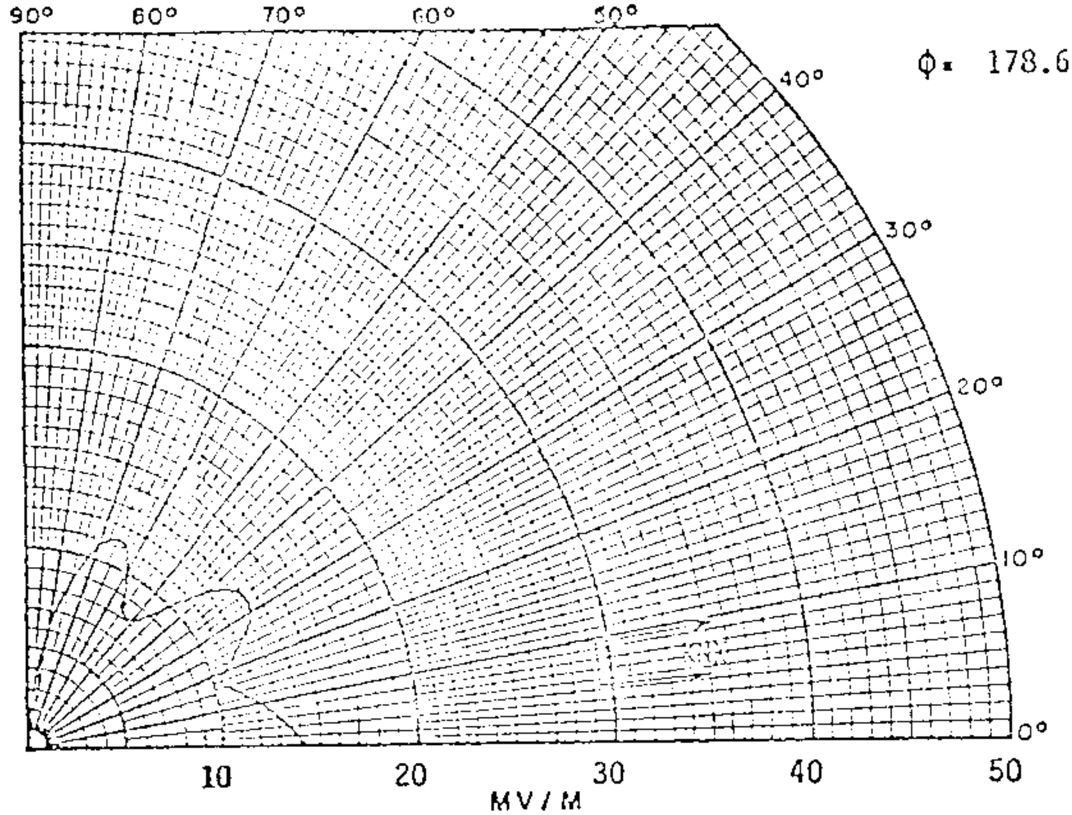


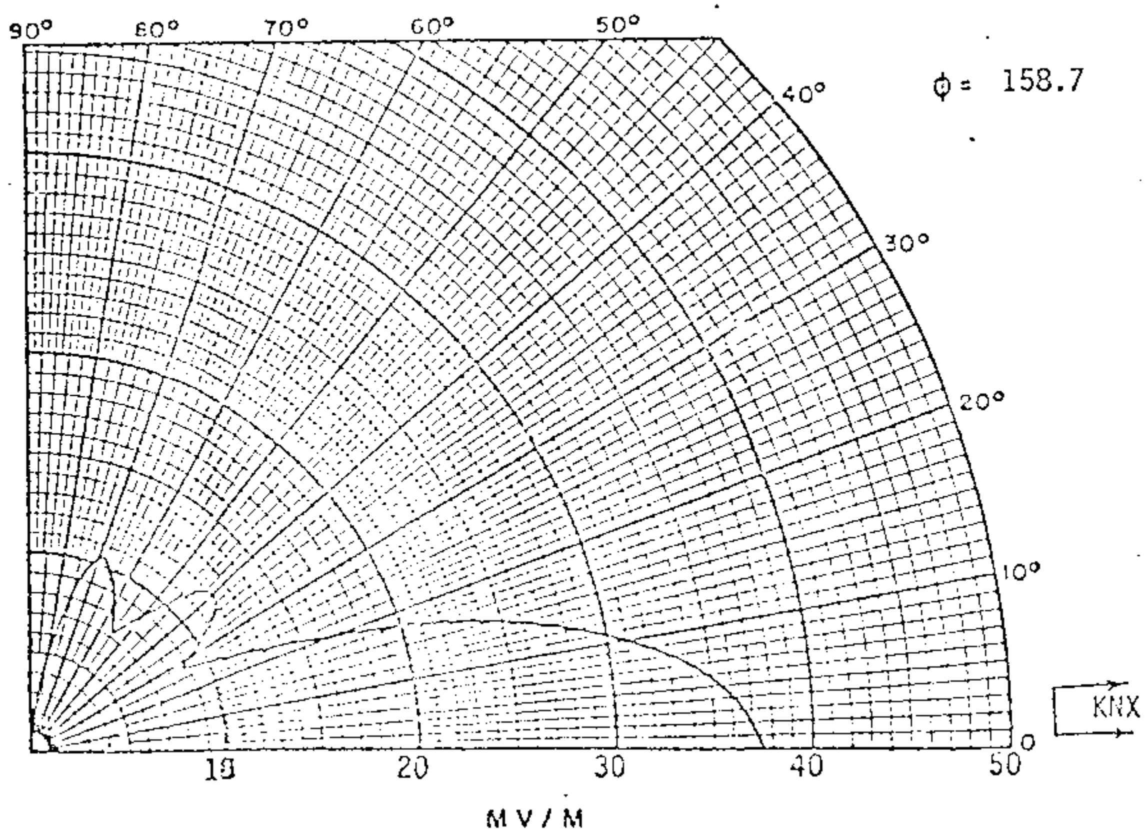


VERTICAL RADIATION PATTERNS

CKST	St. Albert, Alberta
1070 kHz, 10 kW	DA-1 Class II
Project 1302-05	January 1979

CKST

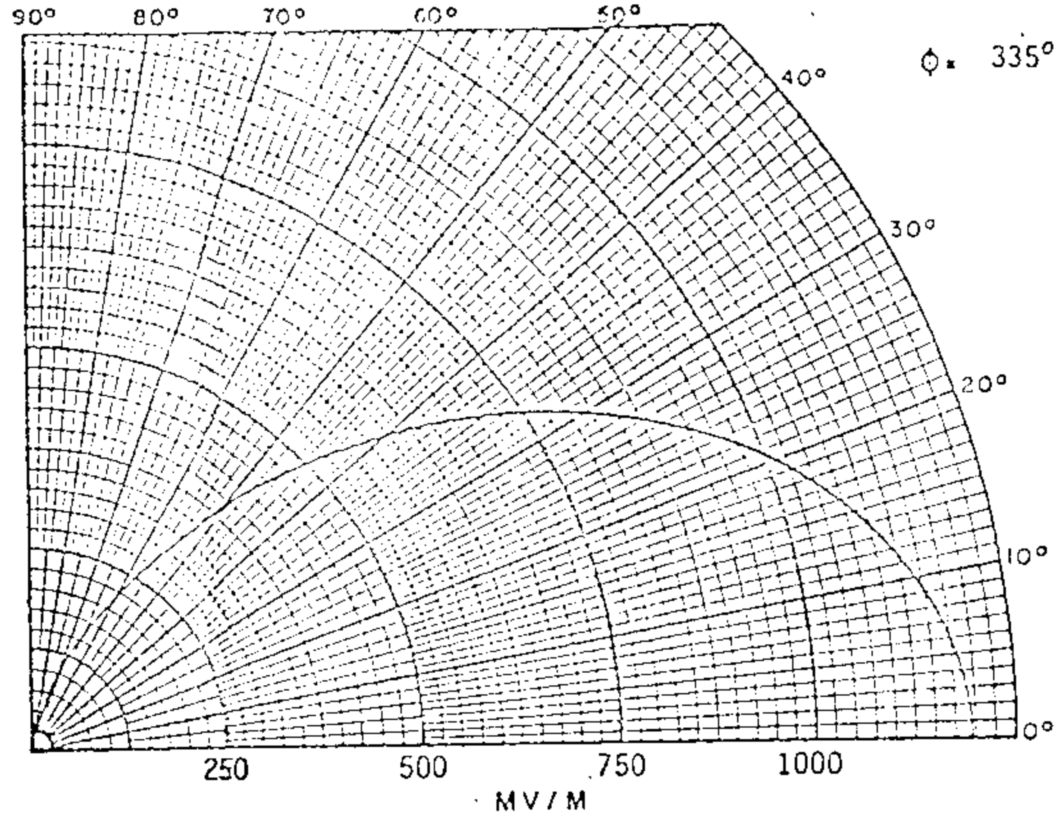


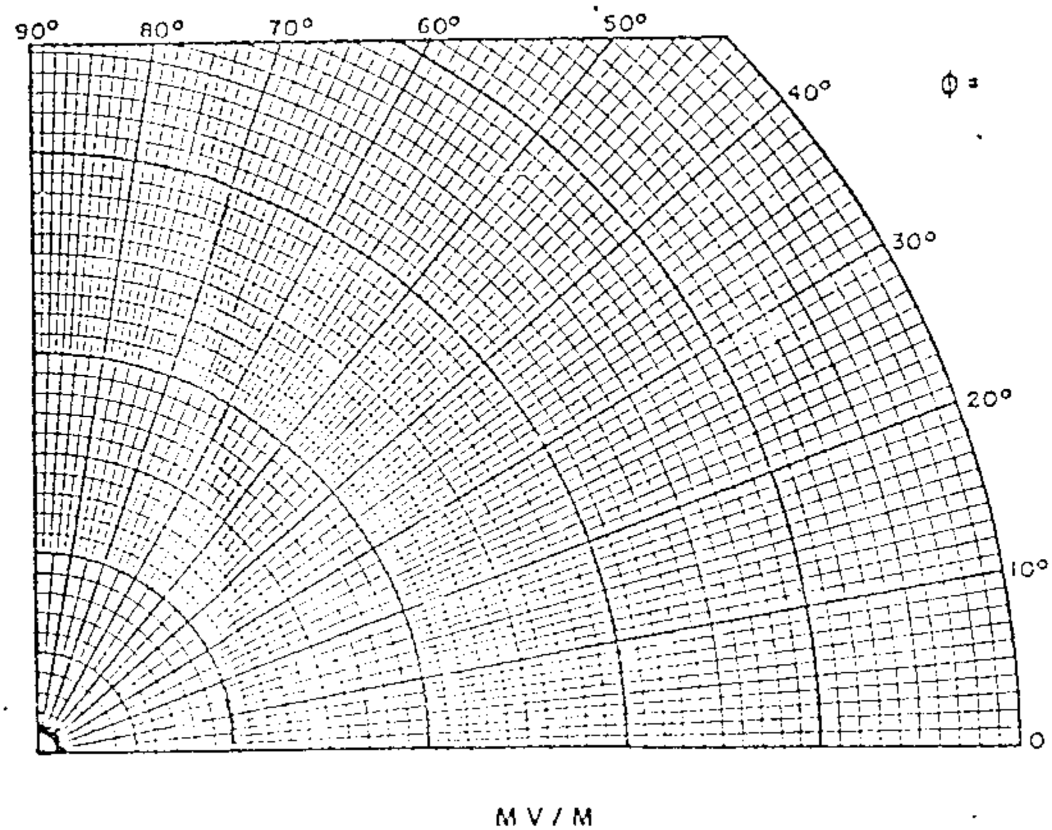


VERTICAL RADIATION PATTERNS

CKST	St. Albert, Alberta
1070 kHz, 10 kW	DA-1 Class II
Project 1302-06	January 1979

CKST





VERTICAL RADIATION PATTERNS

CKST	St. Albert, Alberta
1070 kHz, 10 kW	DA-1 Class II
Project 1302-06	January 1979

CKST

SUPPLEMENTAL DIRECTIONAL
ANTENNA DESCRIPTION SHEET

Station: CKST

Main Studio: St. Albert, Alberta

Frequency: 1070 kHz

Power: 10 kW, Class II DA-1

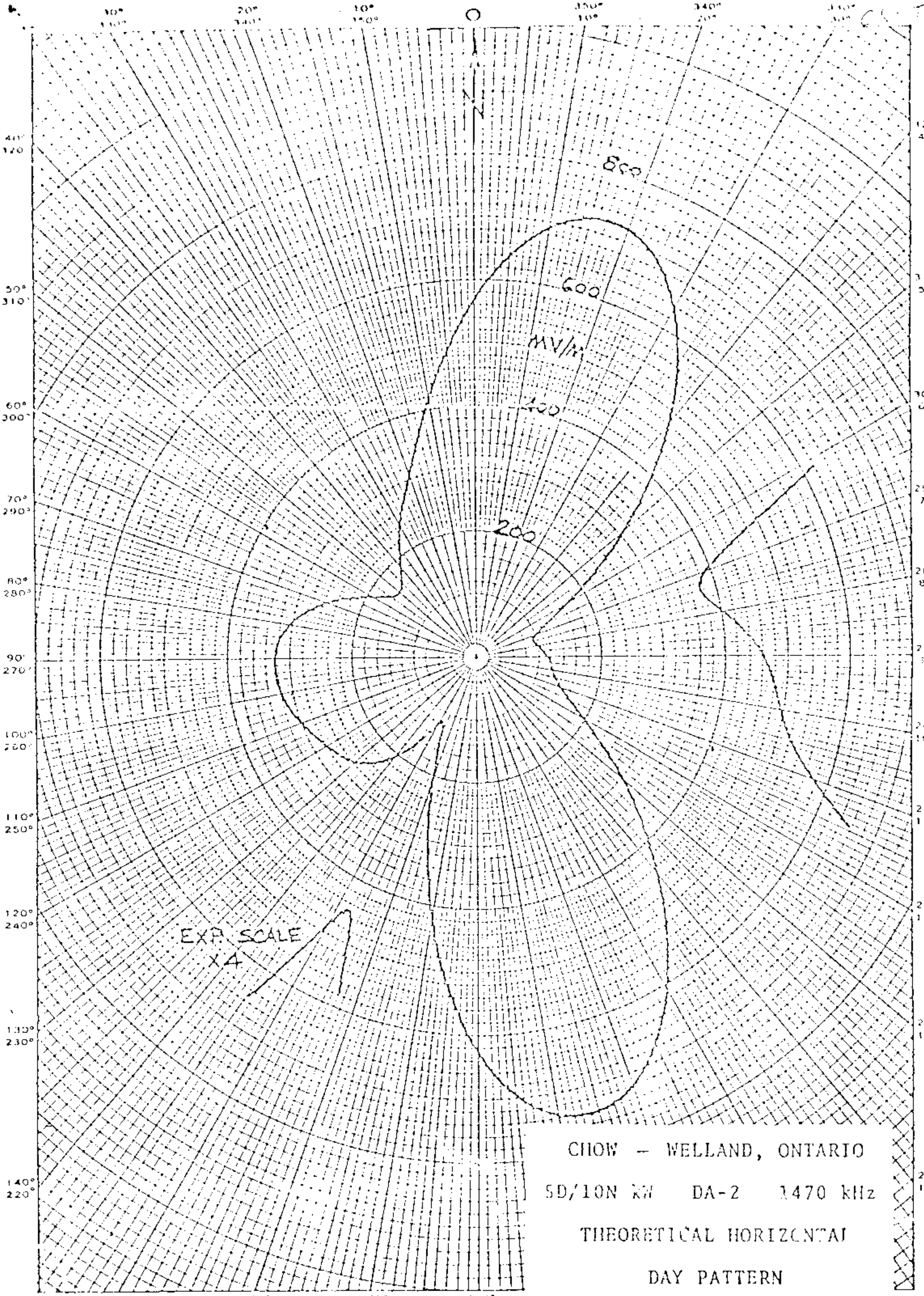
Notification List No.: 377

Date: October 18, 1978

Geographical Location of
the Center of the Antenna System:

North Latitude: 53° 26' 00"
West Longitude: 113° 37' 00"

Note: Please retain the description sheet and directional antenna radiation patterns notified for station CKST (as a new proposal) in Canadian Change List Number 350 dated January 20, 1976 and attach to this supplemental description sheet. This notification is for the purpose of indicating only a change in the geographical coordinates.



CHOW – WELLAND, ONTARIO

5D/10N KW DA-2 1470 kHz

THEORETICAL HORIZONTAL

DAY PATTERN

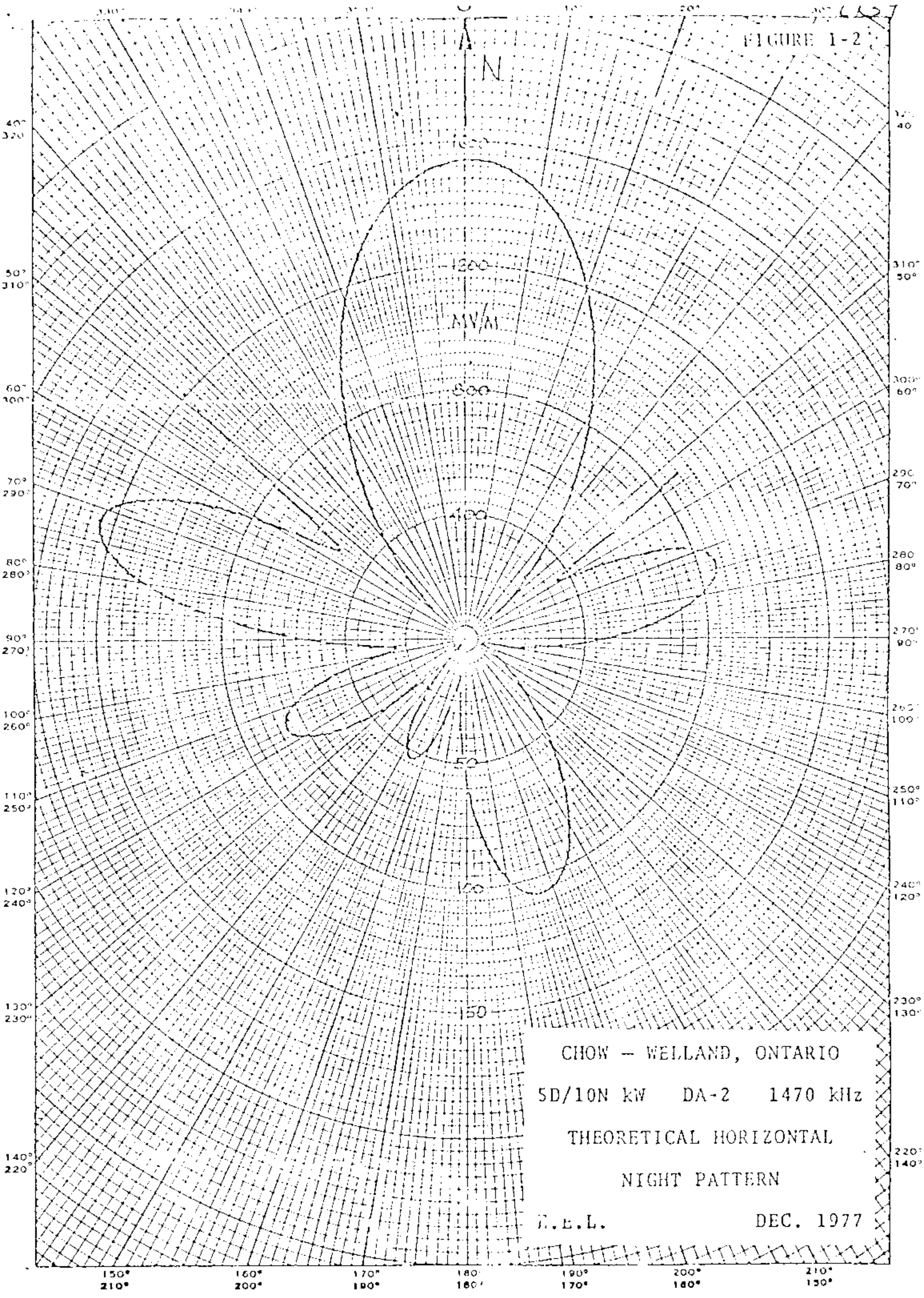
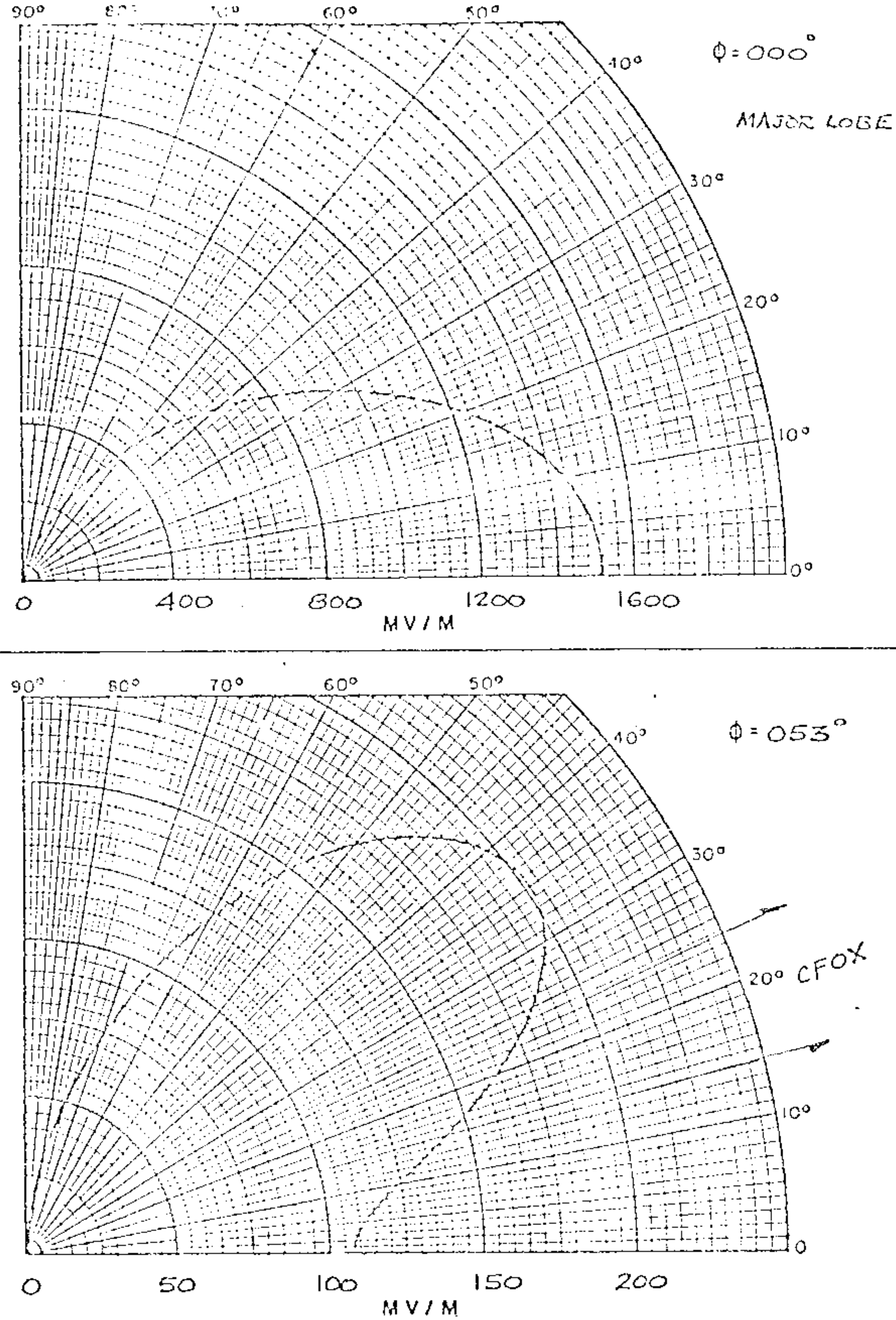


FIGURE 1-2
N
MV/M
1200
800
400
CHOW – WELLAND, ONTARIO
5D/10N kW DA-2 1470 kHz
THEORETICAL HORIZONTAL
NIGHT PATTERN
E.E.L. DEC. 1977

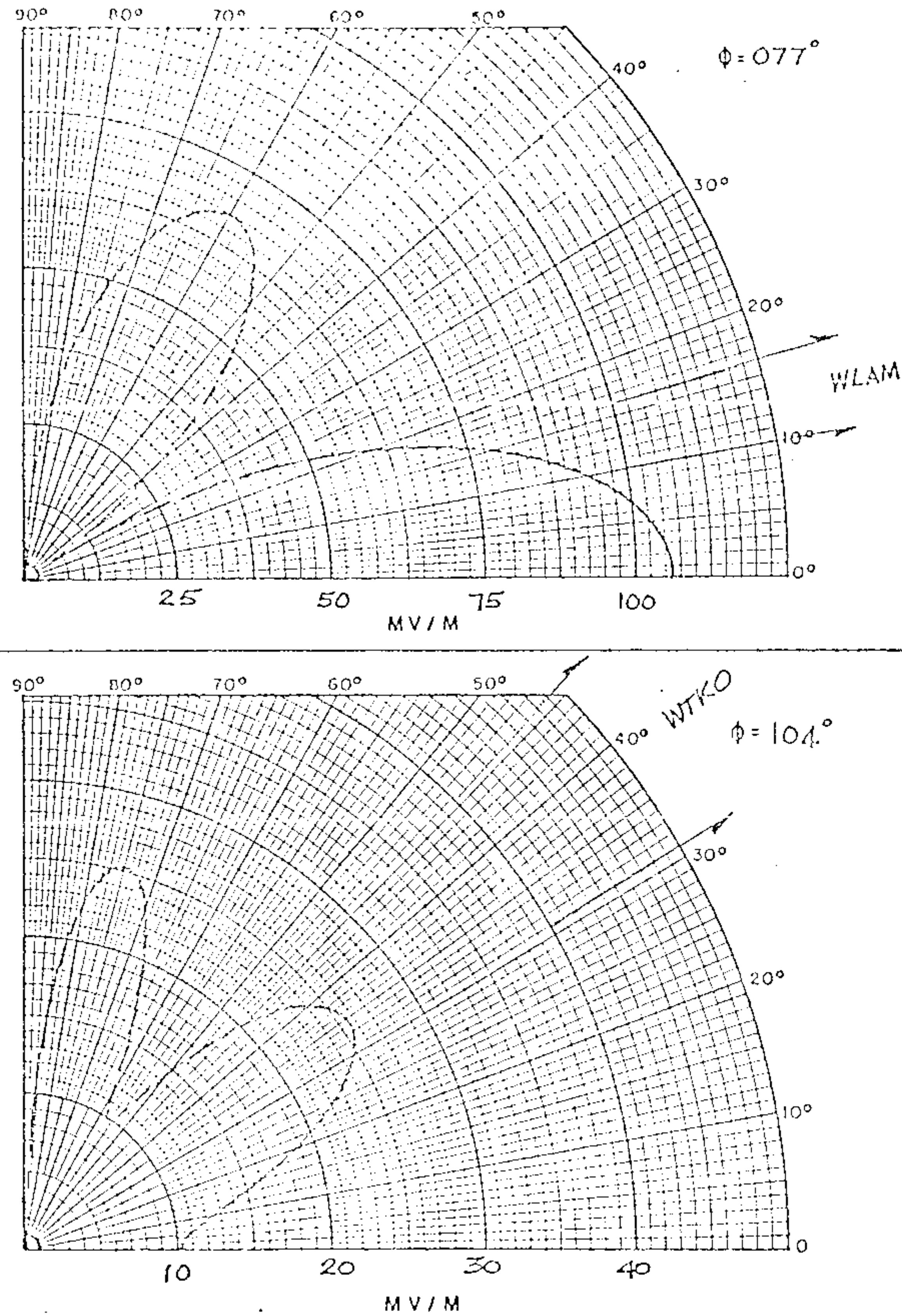


VERTICAL RADIATION PATTERNS

CHOW — WELLAND, ONTARIO

5D/10N kW DA-2 1470 KHz

E.E.L. DEC. 1977

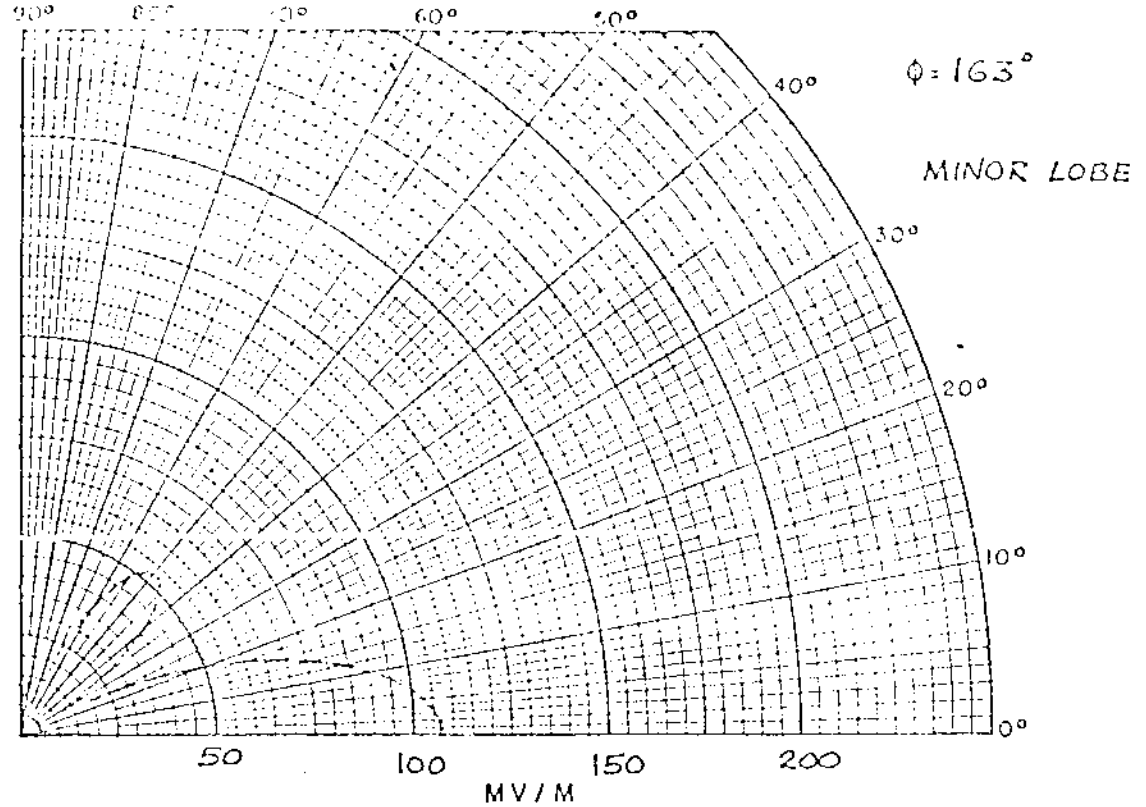


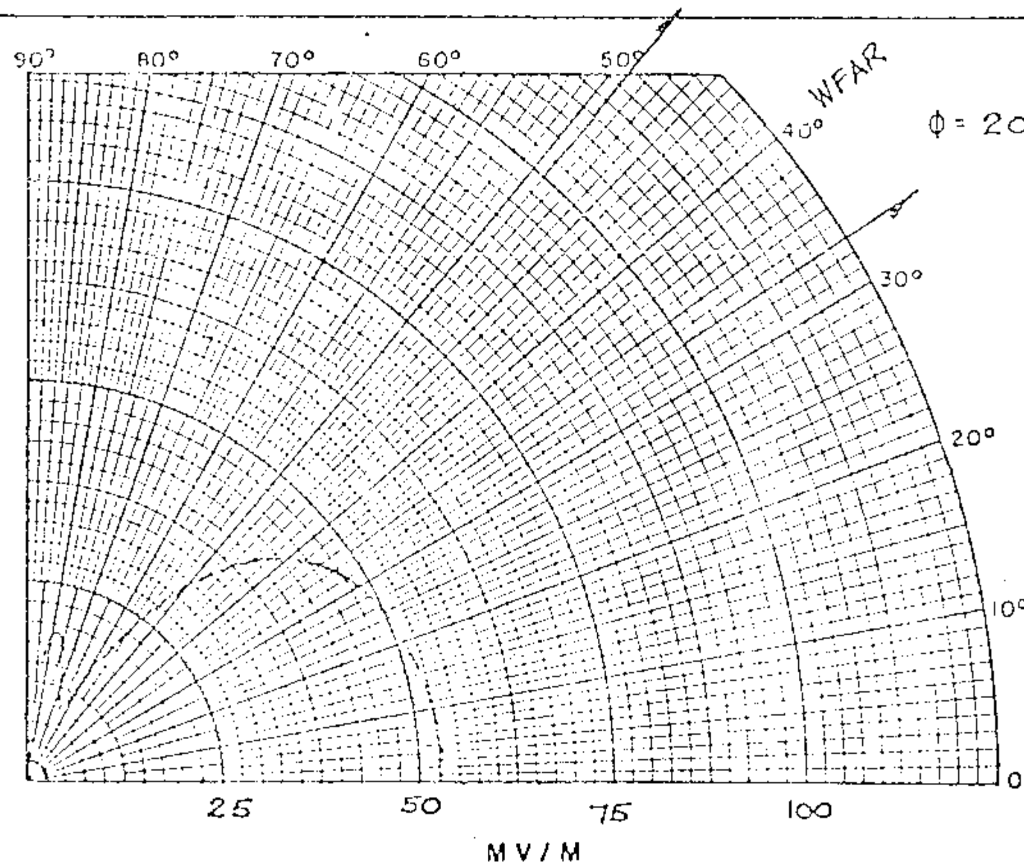
VERTICAL RADIATION PATTERNS

CHOW – WELLAND, ONTARIO

5D/10N kW DA-2 1470 kHz

E.E.L. DEC. 1977



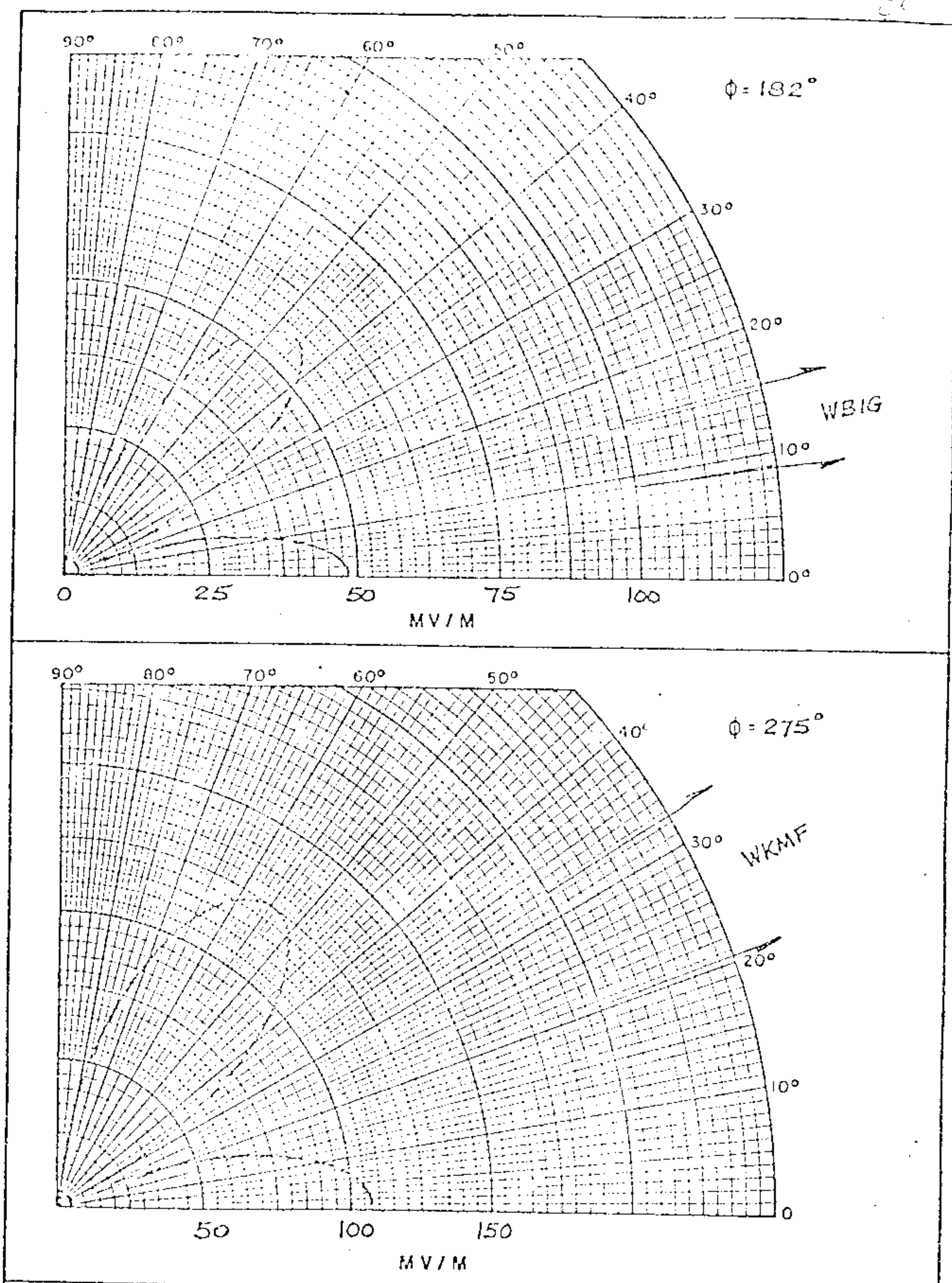


VERTICAL RADIATION PATTERNS

CHOW — WELLAND, ONTARIO

5D/10N kW DA-2 1470 kHz

E.E.L. DEC. 1977



VERTICAL RADIATION PATTERNS

CHOW – WELLAND, ONTARIO

5D/10N kW DA-2 1470 kHz

E.E.L. DEC. 1977

~~KBMR~~
KERR

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: (New) Main Studio: Polson, Montana

Frequency: 1070 kHz Power: 1 kW Night 25 kW Day

Notification List No. 1626 Date: April 2, 1975 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:
North Latitude: 47° 38' 38"
West Longitude: 114° 07' 30"

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(#3)	C(#2)	N(#1)	
HEIGHT ABOVE INSULATORS:	250'	250'	250'	(97.8°)
PHASING:	+110.5°	0°	-110.5°	
FIELD RATIO:	1	1.94	1	

SPACING AND ORIENTATION: Adjacent elements are spaced 230' (90°) on a line bearing 10° true.

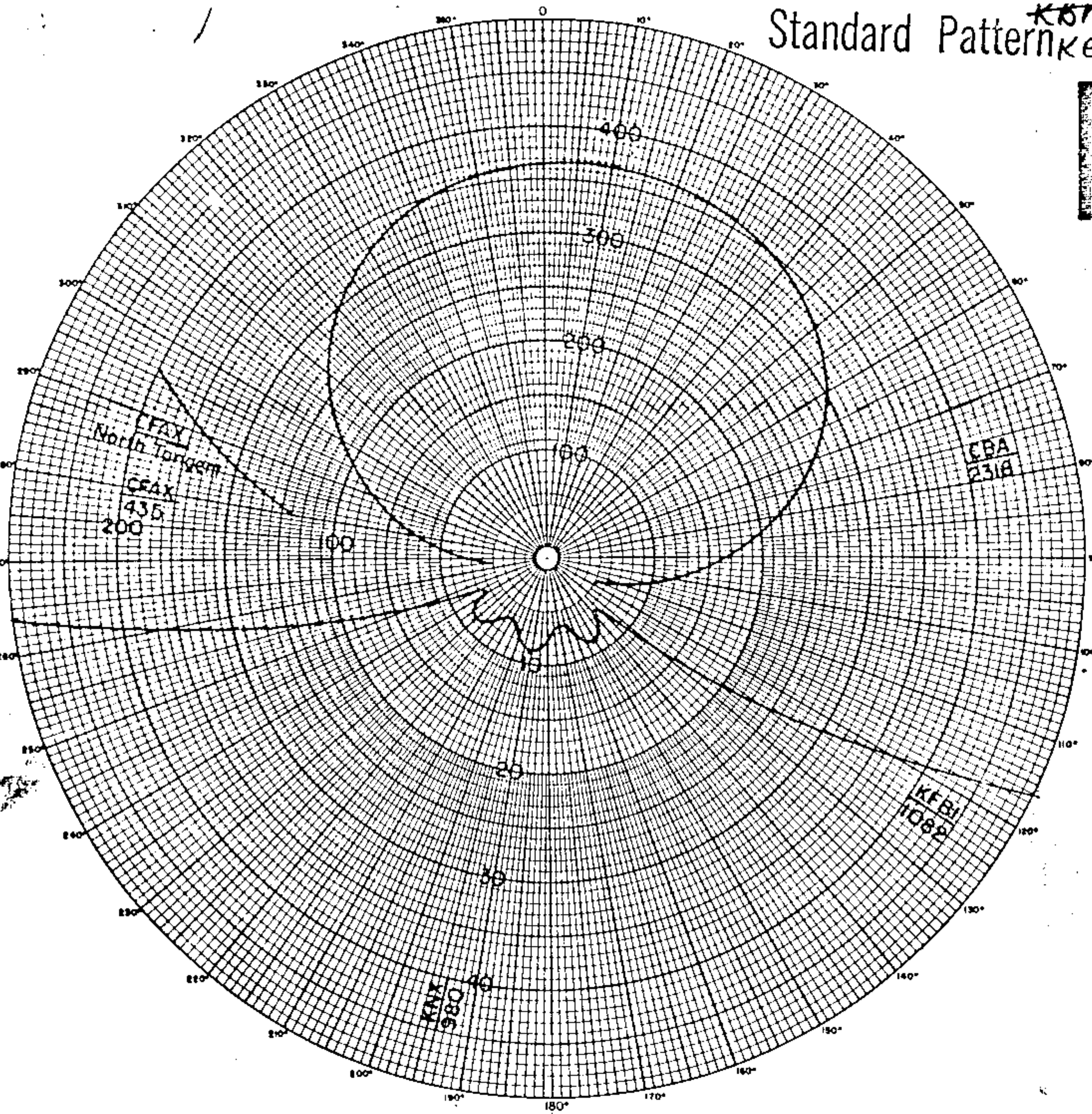
GROUND SYSTEM: 120-250' equally spaced copper radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	965 mv/m	(omnidirectional)	---
Night	202.89 mv/m	219.14 mv/m	213.12 mv/m

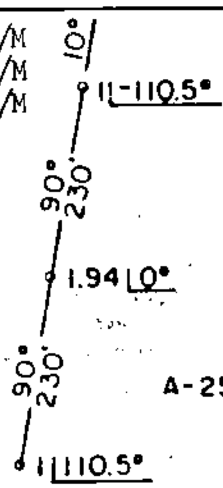
CTR NO 30281A3

Standard Pattern KBMR KEAU



HORIZONTAL RADIATION PATTERN	STANDARD PATTERN 0° LEVEL

Standard Pattern RMS-213.12 MV/M
Theoretical RMS-202.89 MV/M
RSS-219.14 MV/M



A-250/253 (97.8°)

APPLICANT	KBMR Radio, Inc.
LOCATION	Polson, Montana
FREQUENCY	1070 KC/S
POWER	1000 Watts
LATITUDE	47 DEG 38 MIN 38 SEC
LONGITUDE	114 DEG 07 MIN 30 SEC
WHEN USED	Nighttime
RMS FIELD	Tabulated
DATE	May 15th, 1974

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

KERR

SUPPLEMENTAL DIRECTIONAL
ANTENNA DESCRIPTION SHEET

Station: KERR

Main Studio: Polson, Montana

Frequency: 1070 kHz

Power: 1 kW Night 25 kW Day

Notification List No. 1648

Date: September 5, 1975 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude:	47°	38'	38"
West Longitude:	114°	07'	35"

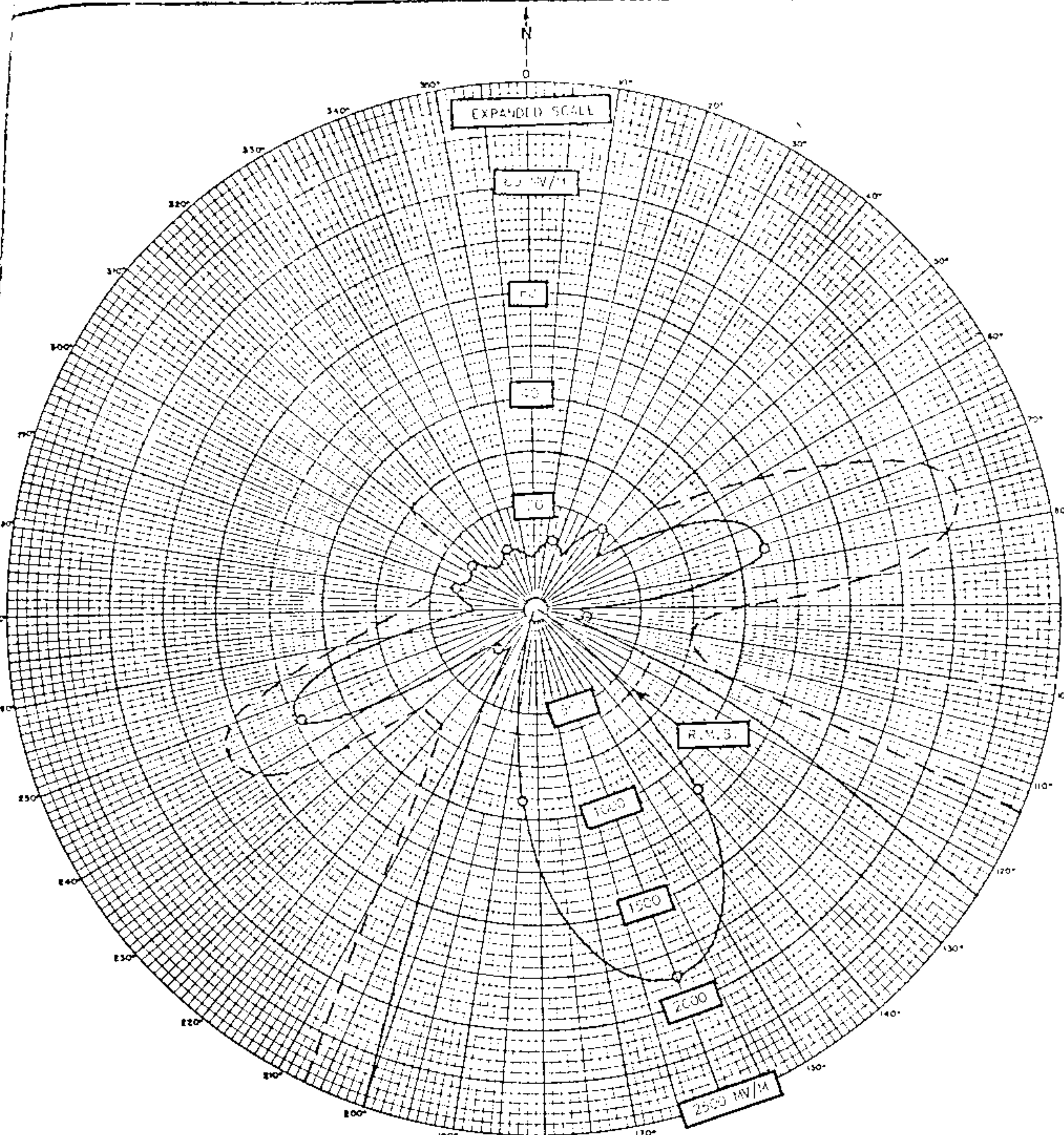
Authorized for Night operation (DA-N).

Predicted effective Day Field: (omnidirectional) 965 mv/m at rated power.

Note: Please retain the description sheet and directional antenna radiation patterns notified for a new station at Polson, Montana in United States Change List Number 1626, dated April 2, 1975 and attach to this supplemental Description Sheet. This notification is for the purpose of indicating only a correction in the geographical coordinates of the center of the antenna system.

CTR NO 30281A4

KENR

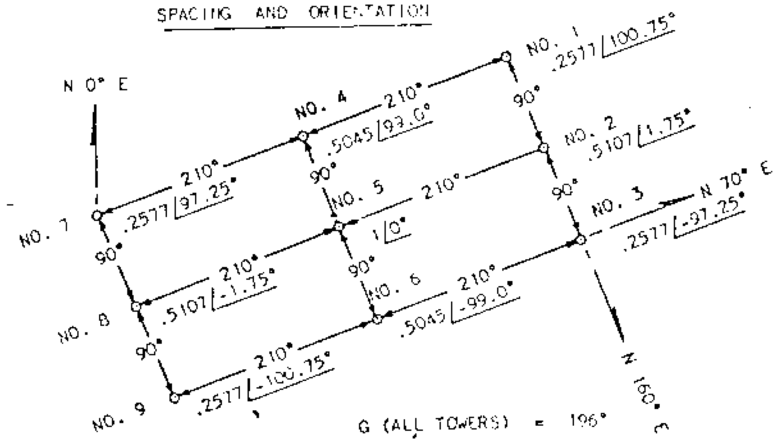


O MEASURED RADIAL VALUE
— — MAXIMUM EXPECTED OPERATING VALUES

FIGURE 1-A AMENDED

HORIZONTAL RADIATION PATTERN

SPACING AND ORIENTATION



G (ALL TOWERS) = 196°

APPLICANT	: Lake Huron B/cg Corp. (KENR)
LOCATION	: Houston, Texas
FREQUENCY	: 1070 KC/S
POWER	: 5 Kw DA-N
LATITUDE	: 29 DEG 59 MIN 33 SEC
LONGITUDE	: 95 DEG 28 MIN 23 SEC
WHEN USED	: Nighttime
R.M.S. FIELD	: 595 MV/M (Measured)
DATE	: September 1973

SILLIMAN, MOFFET & KOWALSKI

CONSULTING RADIO ENGINEERS

WASHINGTON, D.C.

KENR

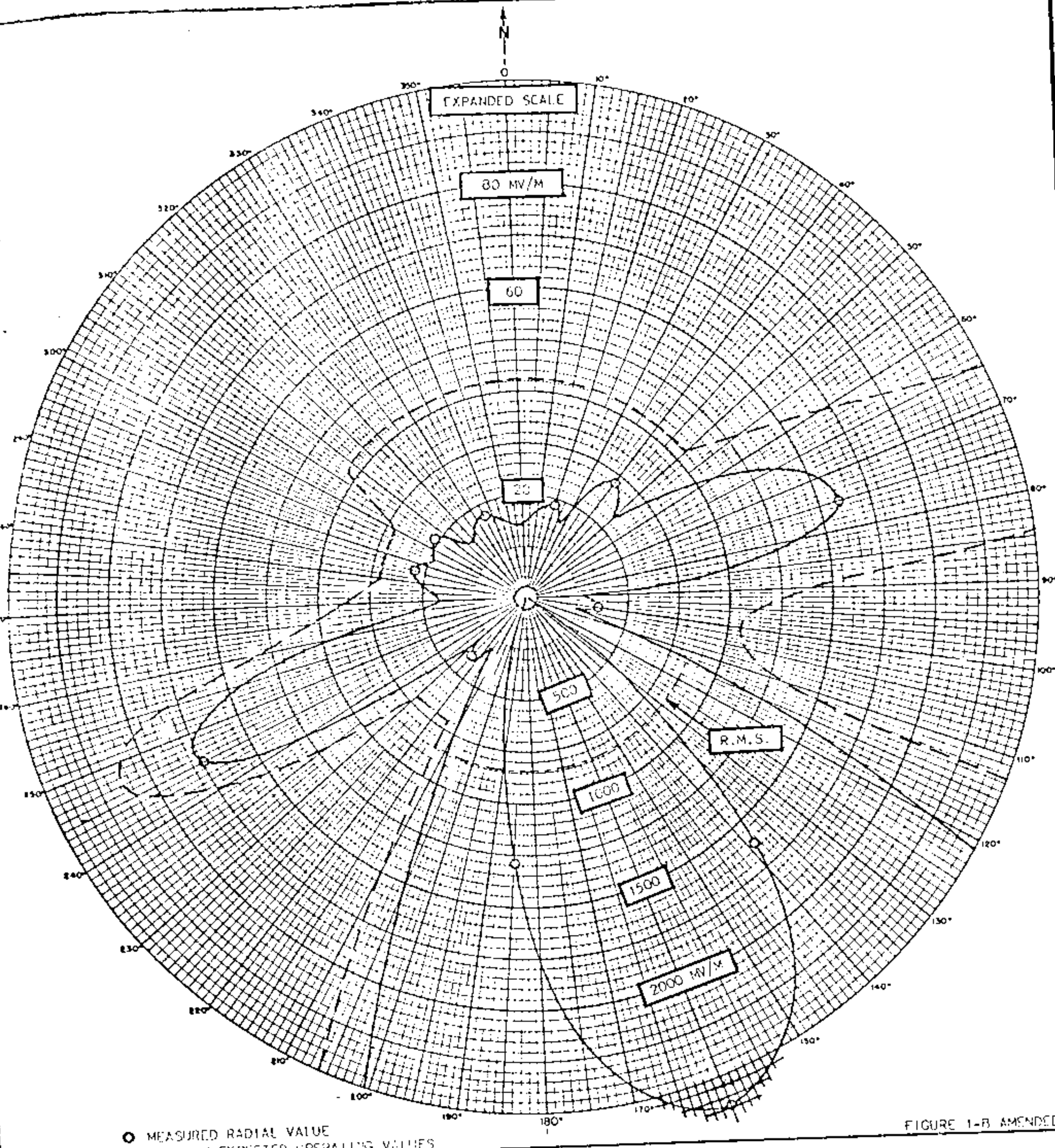
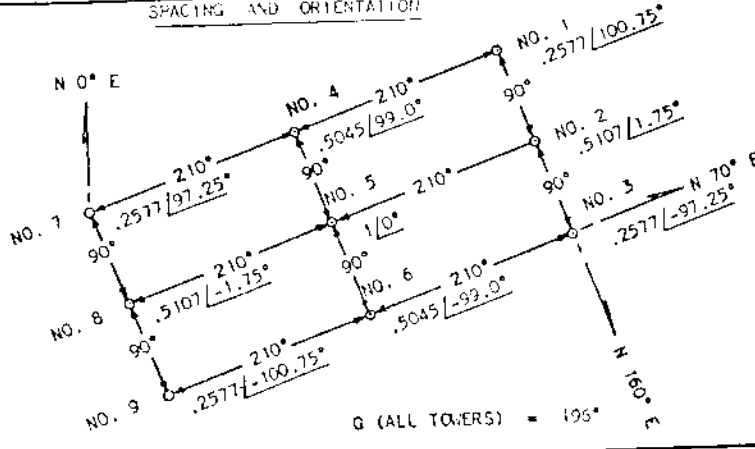


FIGURE 1-B AMENDED

O MEASURED RADIAL VALUE
— — — MAXIMUM EXPECTED OPERATING VALUES

HORIZONTAL RADIATION PATTERN

SPACING AND ORIENTATION

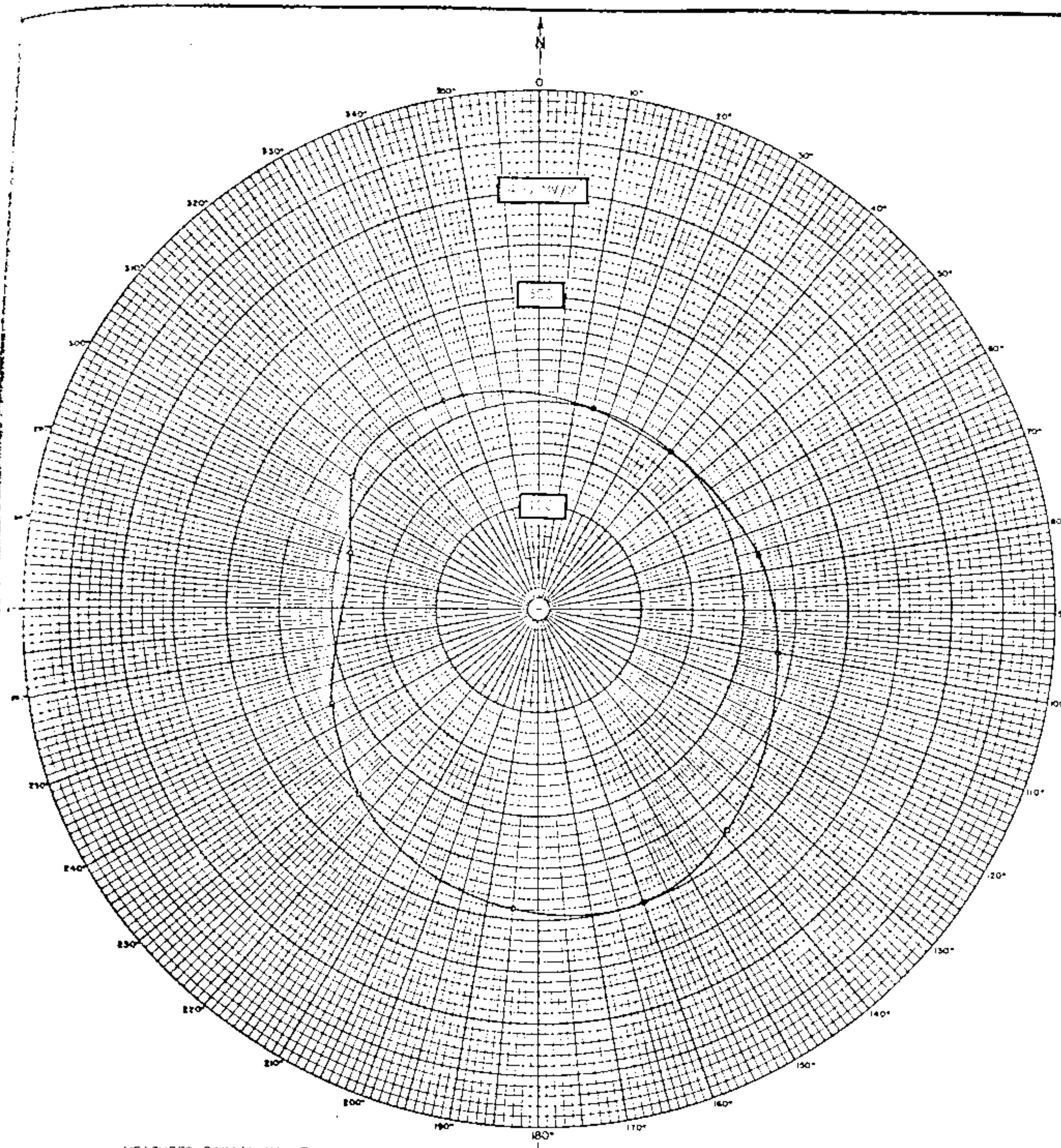


G (ALL TOWERS) = 195°

APPLICANT	: Lake Huron B/cg Corp. (KENR)
LOCATION	: Houston, Texas
FREQUENCY	: 1070 KC/S
POWER	: 10 KW DA-D
LATITUDE	: 29 DEG. 59 MIN. 33 SEC.
LONGITUDE	: 95 DEG. 28 MIN. 23 SEC.
WHEN USED	: Daytime
R.M.S. FIELD	: 846 MV/M (Measured)
DATE	: September 1973

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

KENR



○ MEASURED RADIAL VALUE

FIGURE 1-C

HORIZONTAL RADIATION PATTERN

NON-DIRECTIONAL SURVEY

APPLICANT	: Lake Huron B/cg Corp. (KENR)
LOCATION	: Houston, Texas
FREQUENCY	: 1070 kc/s
POWER	: 1000 Watts
LATITUDE	: 29 deg. 59 min. 33 sec.
LONGITUDE	: 95 deg. 28 min. 23 sec.
WHEN USED	: Non-directional survey only
R.M.S. FIELD	: 236 mv/m
DATE	: August 1973

SILLIMAN, MOFFET & KOWALSKI

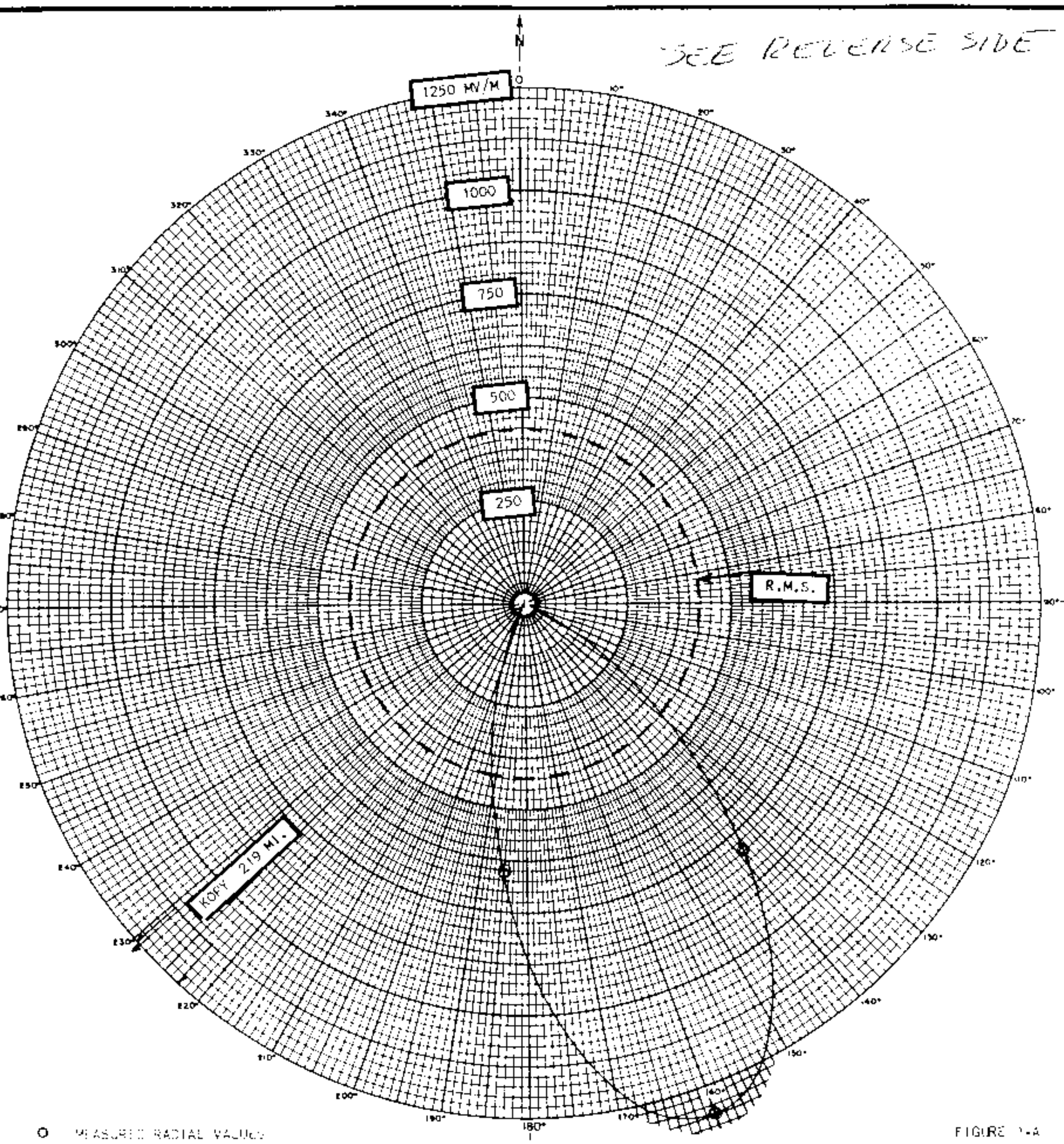
CONSULTING RADIO ENGINEERS

WASHINGTON, D.C.

Measured Day (3-28-68ct)	Station KENR Houston, Texas	5kw,DA-D,D 1070 kc

10

SEE REVERSE SIDE

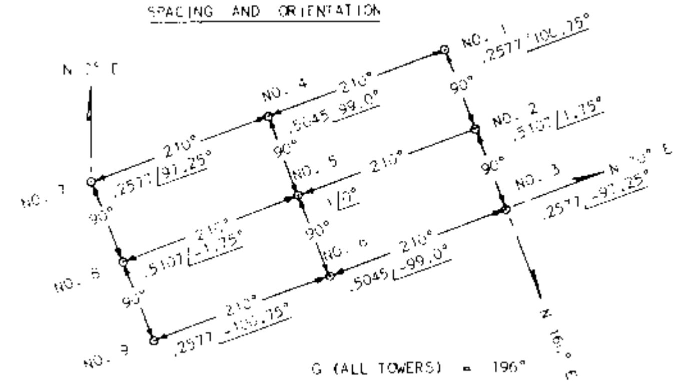


O MEASURED RADIAL VALUES

FIGURE ?-A

HORIZONTAL RADIATION PATTERN

SPACING AND ORIENTATION



APPLICANT LAKE HURON B/CG CORP. (KENR)
LOCATION HOUSTON, TEXAS
FREQUENCY 1070 KC/S
POWER 5 KW DA-D
LATITUDE 29 DEG 54 MIN 55 SEC
LONGITUDE 95 DEG 25 MIN 22 SEC
WHEN USED: DAYTIME
RMS FIELD: 425 MV/M (MEASURED)
DATE DECEMBER 1967

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

FCC File No.BL-11897 Accepted 3-12-68	Station KENR Houston, Texas	1070 kc

KENR

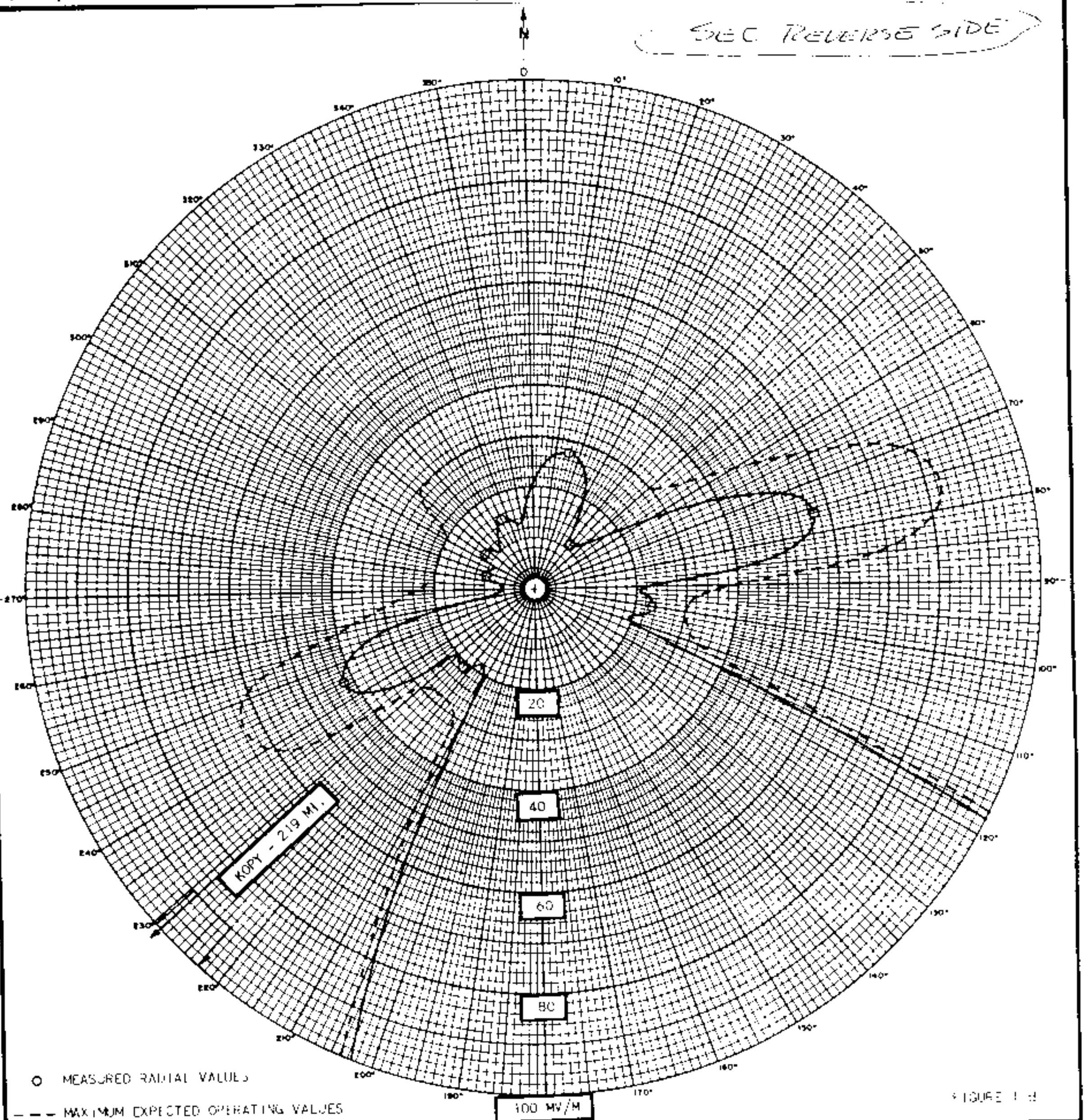
Measured Day Nulls
(3-28-68ct)

Station KENR
Houston, Texas

5kw, DA-D, D
1070 kc

11

(See Reverse side)



HORIZONTAL RADIATION PATTERN

EXPANDED VIEW

APPLICANT LAKE HURON B/CG CORP (KENR)
LOCATION HOUSTON, TEXAS
FREQUENCY 1070 KC/S
POWER 5 KW DA-D
LATITUDE 29 DEG 59 MIN [illegible] SEC.
LONGITUDE 95 DEG 28 MIN [illegible] SEC
WHEN USED DAYTIME
R M S FIELD 425 MV/M (MEASURED)
DATE DECEMBER [illegible]

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

FCC File No.BL-11897
Accepted 3-12-68

Station KENR
Houston, Texas

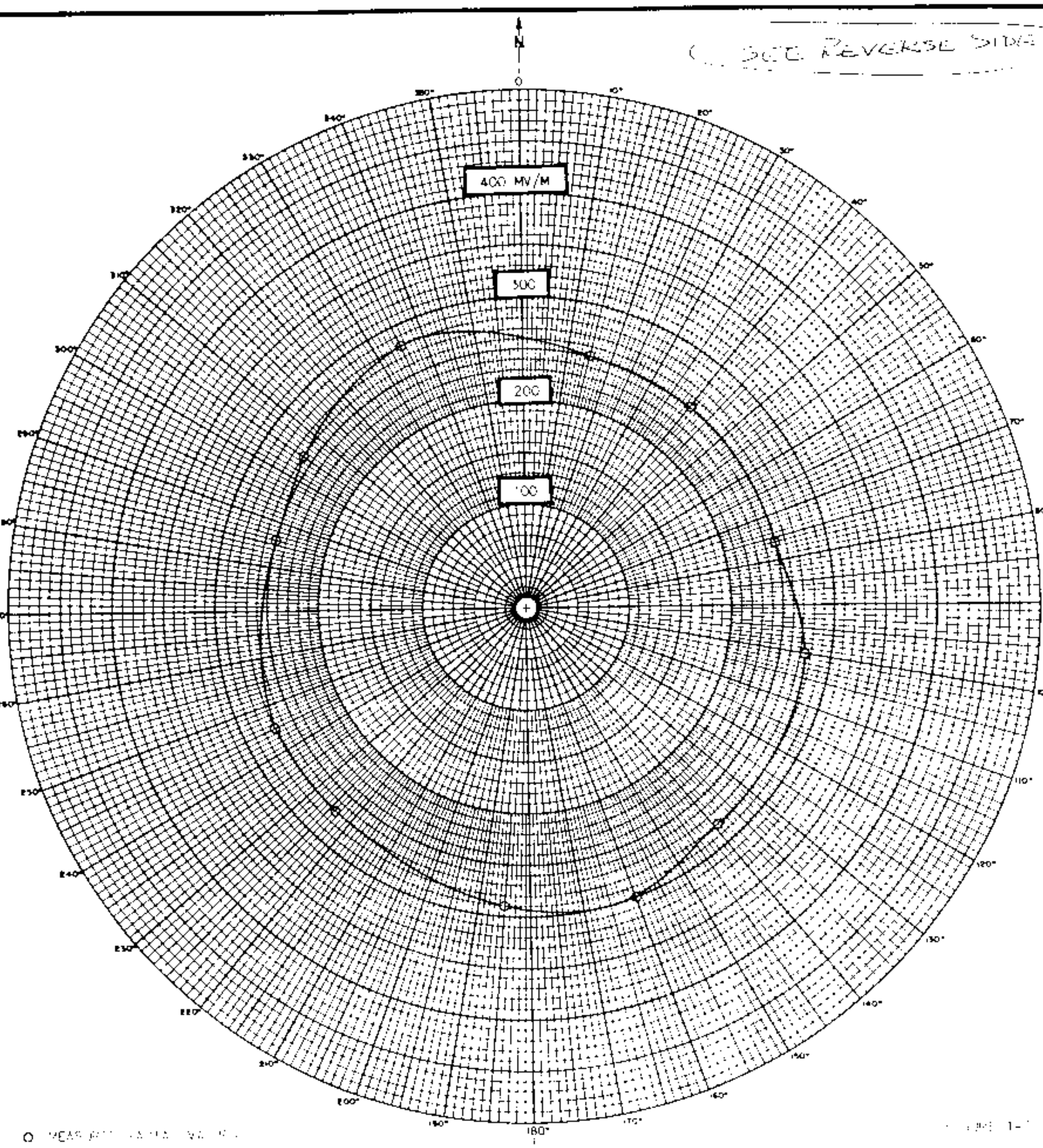
1070 kc

KENR

Measured Non-DA
(3-28-68ct)

Station KENR
Houston, Texas

5kw,DA-D,D
1070 kc



HORIZONTAL RADIATION PATTERN

NON-DIRECTIONAL SURVEY	APPLICANT
	LOCATION
	FREQUENCY KC/S
	POWER WATTS
	LATITUDE DEG MIN SEC
	LONGITUDE DEG MIN SEC
	WHEN USED
	R.M.S. FIELD
	DATE
	SILLIMAN, MOFFET & KOWALSKI CONSULTING RADIO ENGINEERS WASHINGTON, D.C.

FCC File No.BL-11897
Accepted 3-12-68

Station KENR
Houston, Texas

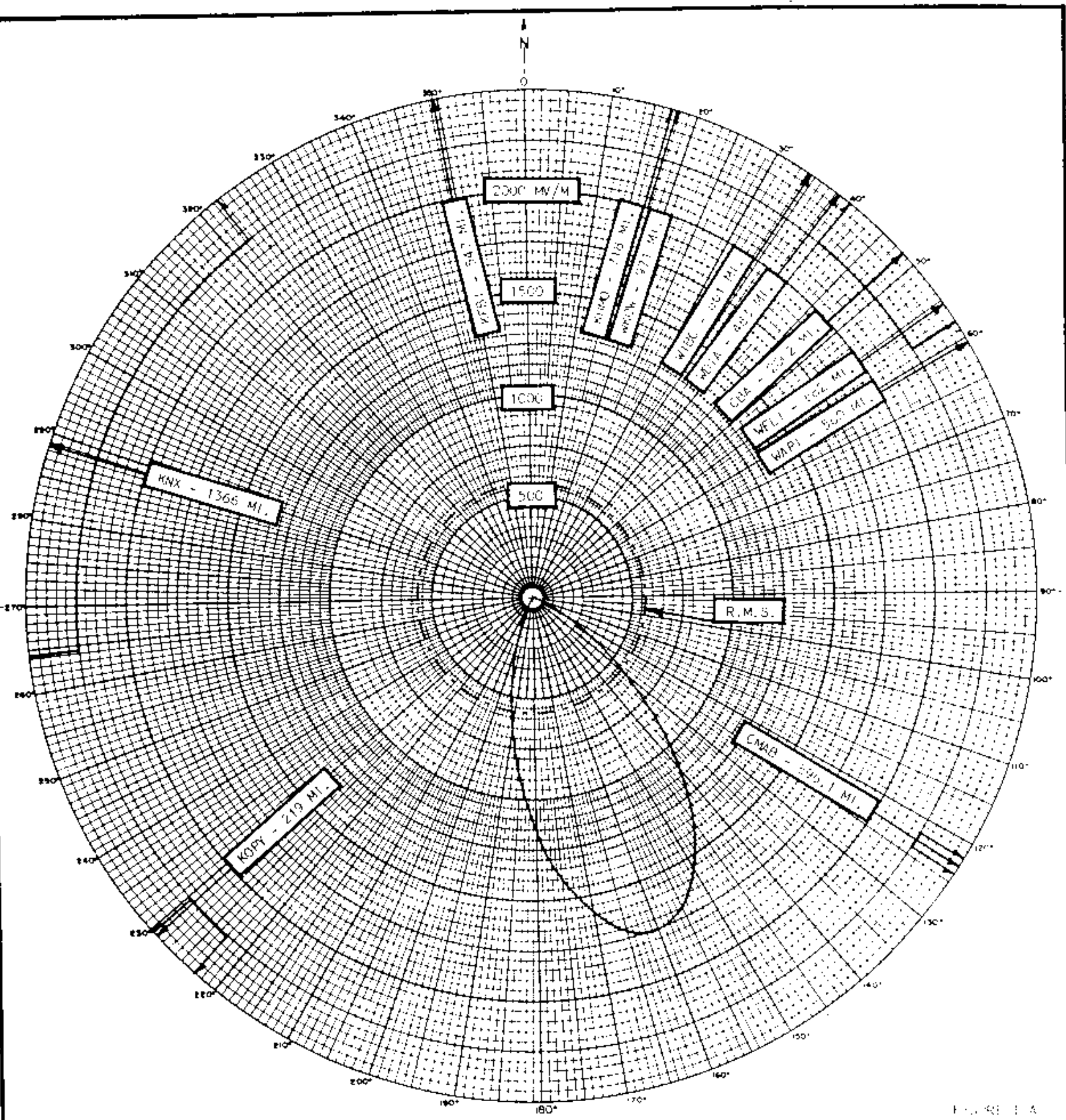
1070 kc

KENR

Proposed Night
(7-28-69ct)

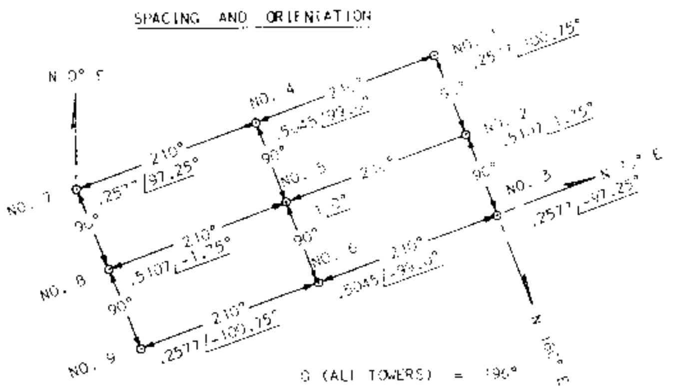
Station KENR
Houston, Texas

5kw,10kw-LS,DA-2,U
1070 kc



HORIZONTAL RADIATION PATTERN

SPACING AND ORIENTATION



APPLICANT
LOCATION
FREQUENCY
POWER
LATITUDE DEG MIN SEC
LONGITUDE DEG MIN SEC
WHEN USED
R M S FIELD
DATE

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

FCC File No.BP-13097
Accepted 7-8-69 Amended

Station KENR
Houston, Texas

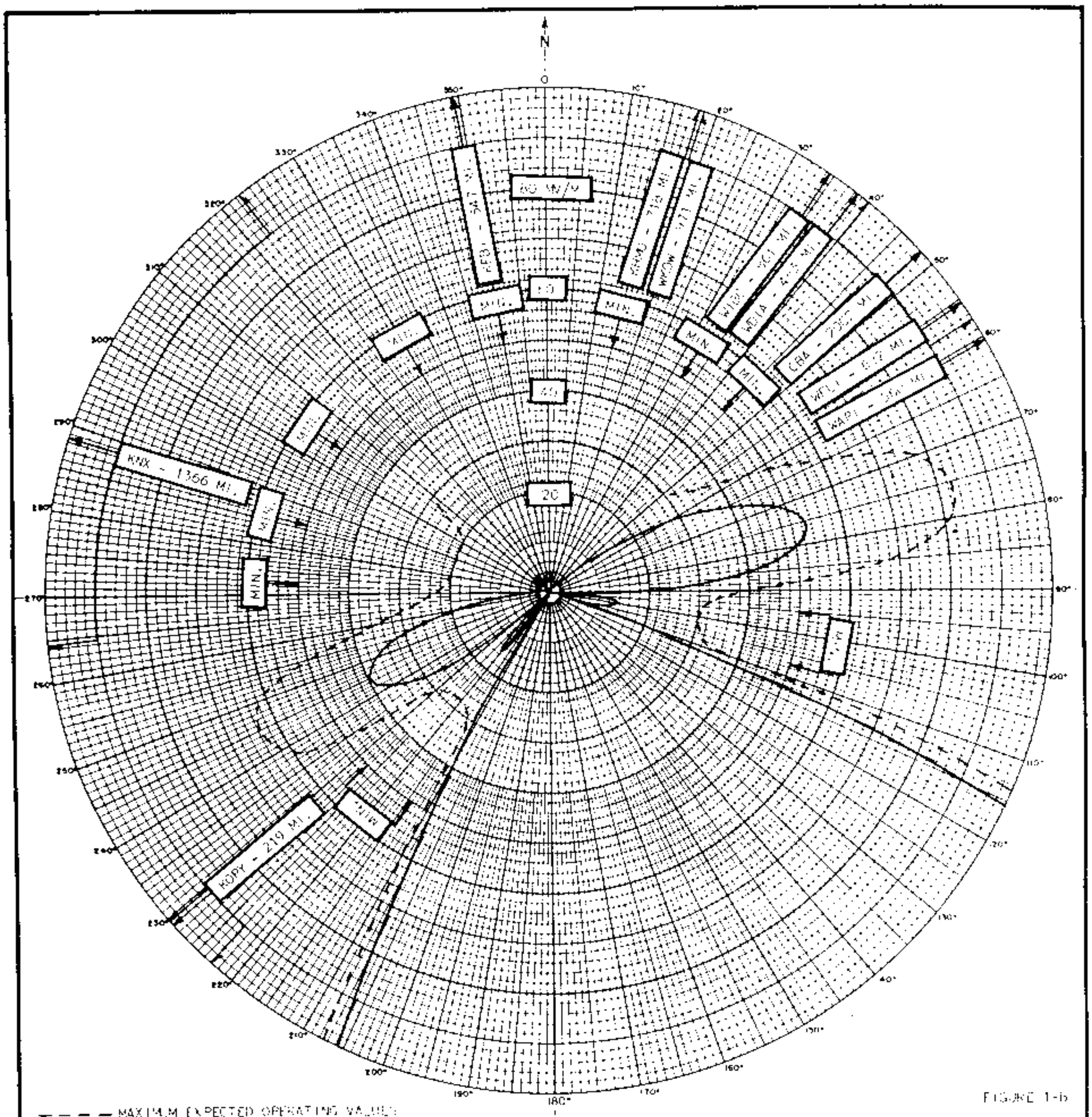
1070 kc

KENR

Proposed Night Nulls
(7-28-69ct)

Station KENR
Houston, Texas

5kw, 10kw-LS, DA-2, U
1070 kc



HORIZONTAL RADIATION PATTERN

EXPANDED VIEW

APPLICANT
LOCATION
FREQUENCY
POWER
LATITUDE DEG MIN SEC
LONGITUDE DEG MIN SEC
WHEN USED
R.M.S. FIELD
DATE

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

FCC File No. BP-13097
Accepted 7-8-69 Amended

Station KENR
Houston, Texas

1070 kc

KENR

Proposed Day & Night
(9-29-64ct)

New; Lake Huron B/cg Corp.
Houston, Texas

5kw,DA-1,U
1070 kc

=201- 9-2-64
granted CP for
5 KW DA-1-
U- no action on
request for 10 KW

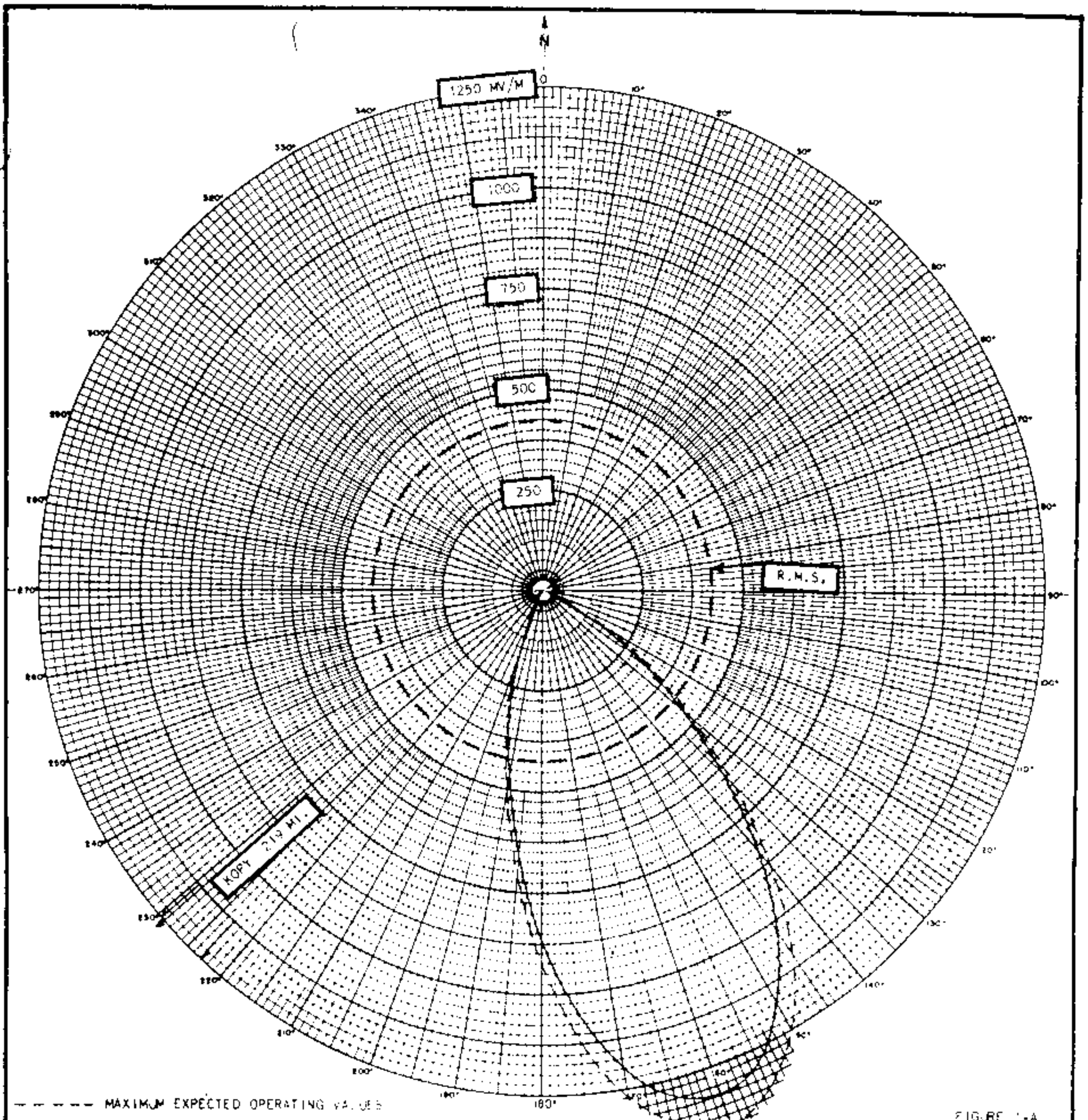
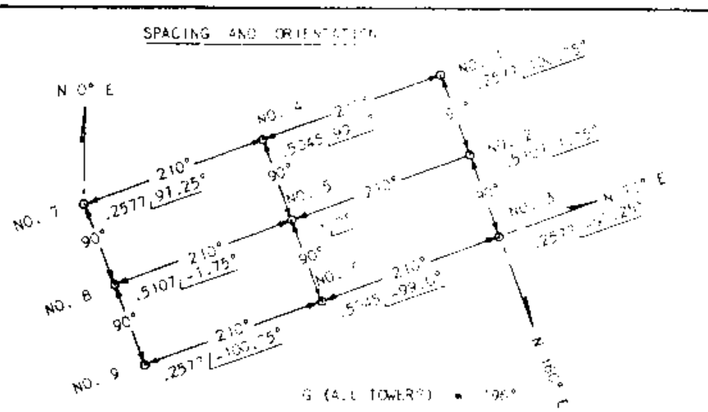


FIGURE 1-A

HORIZONTAL RADIATION PATTERN



APPLICANT	LAKE HURON B/CG. CORP.
LOCATION	HOUSTON, TEXAS.
FREQUENCY	1070 KC/S
POWER	5 KW DA-1
LATITUDE	29 DEG 59 MIN. 33 SEC
LONGITUDE	95 DEG 26 MIN 23 SEC.
WHEN USED	UNLIMITED
RMS FIELD	424.5 MV/M
DATE	JULY 1964

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

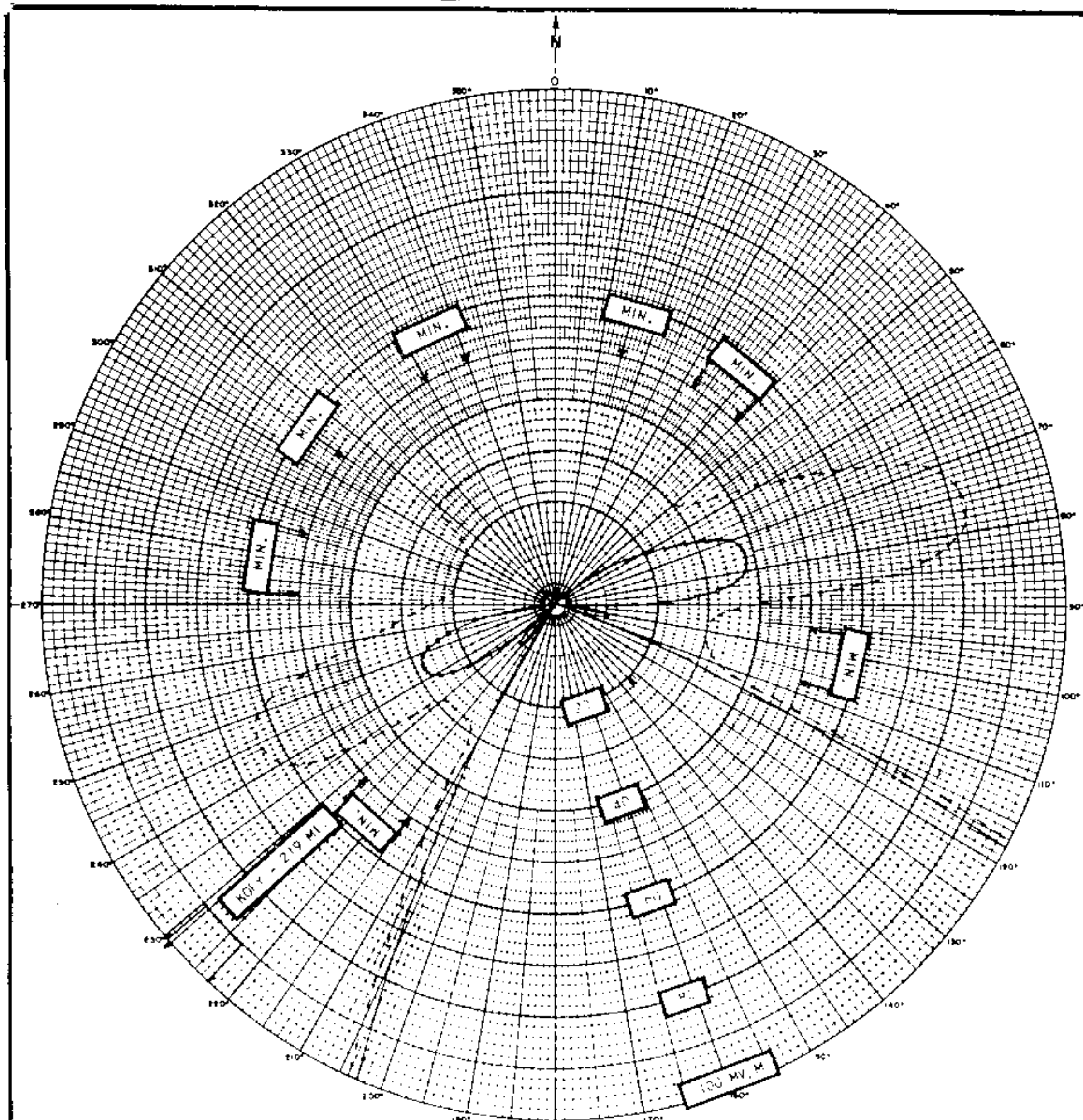
FCC File No.BP-13097
Accepted 7-28-64

New; Lake Huron B/cg Corp.
Houston, Texas

1070 kc

KENR

Proposed Day & Night Nulls New; Lake Huron B/cg Corp. 5kw,DA-1,U
(9-29-64ct) Houston, Texas 1070 kc



— — — — MAXIMUM EXPECTED OPERATING VALUE

FIGURE 1-B

HORIZONTAL RADIATION PATTERN

EXPANDED VIEW

APPLICANT	LAKE HURON B/CG. CORP.
LOCATION	HOUSTON, TEXAS
FREQUENCY	[illegible] KC/S
POWER	[illegible]
LATITUDE	[illegible] DEG 50 MIN 55 SEC
LONGITUDE	95 DEG 28 MIN 23 SEC
WHEN USED	UNLIMITED
RMS FIELD	424.6 MV/M
DATE	[illegible]

SILLIMAN, MOFFET & KOWALSKI

CONSULTING RADIO ENGINEERS

WASHINGTON, D.C.

FCC File No.BP-10397 New; Lake Huron B/cg Corp.
Accepted 7-28-64 Houston, Texas 1070 kc

KENR

Proposed Day & Night (6-29-64ct) | New; Lake Hurdn B/cg. Corp. Houston, Texas | 10kw,DA-1,U 1070 kc

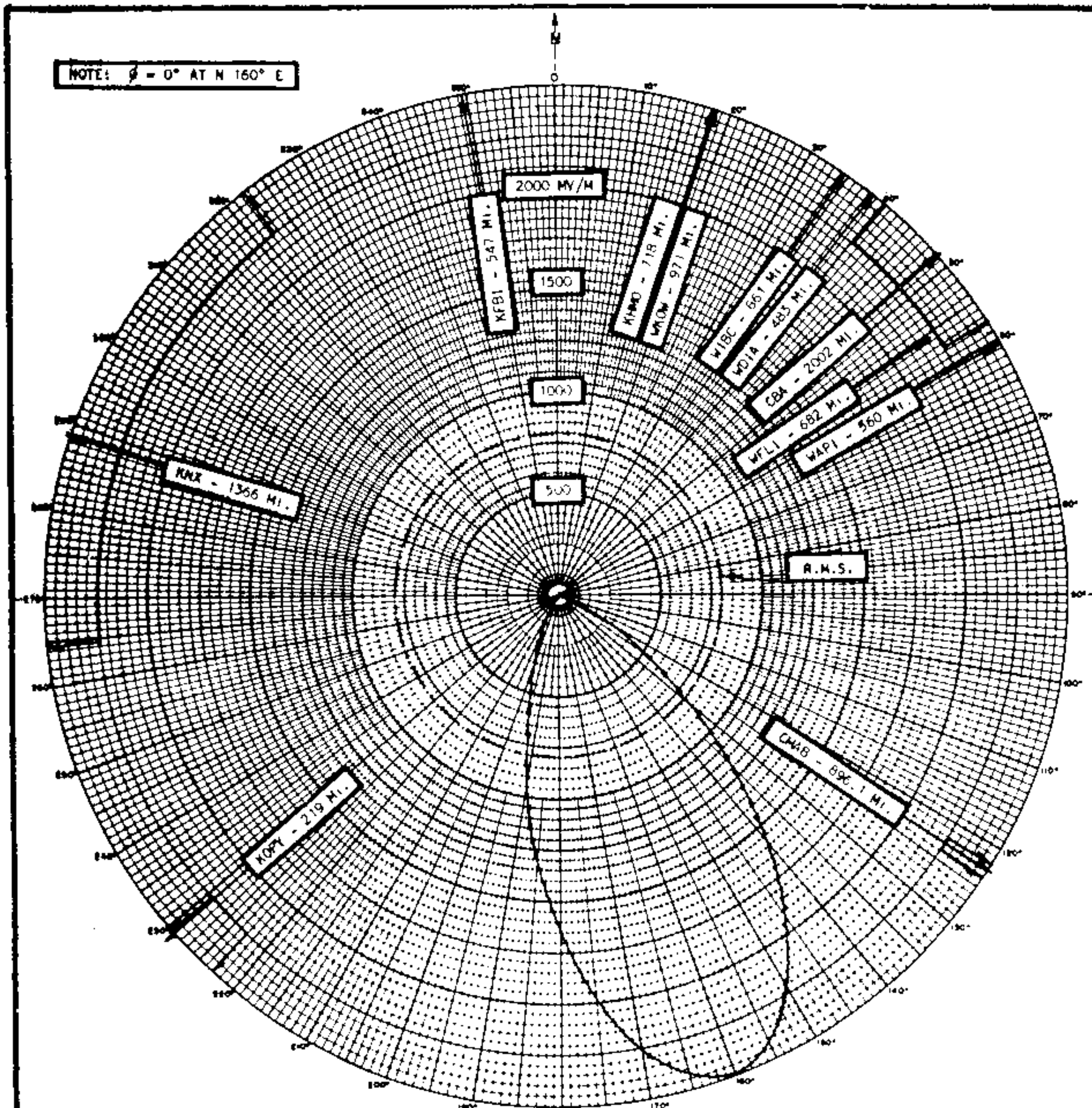
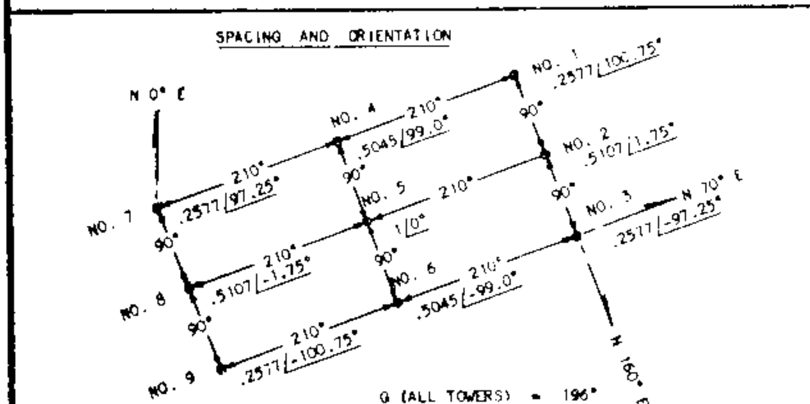


FIGURE 1-A

HORIZONTAL RADIATION PATTERN



APPLICANT	LAKE HURON B/CG. CORP.
LOCATION	HOUSTON, TEXAS.
FREQUENCY:	1070 KC/S
POWER	10 KW DA-1
LATITUDE	29 DEG 59 MIN. 33 SEC
LONGITUDE	95 DEG. 26 MIN. 23 SEC.
WHEN USED:	UNLIMITED
RMS FIELD:	799 MV/M
DATE	: MAY 1964

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

FCC File No.BP-13097 New; Lake Huron B/cg. Corp.
Accepted 6-11-64 Amended Houston, Texas 1070 kc

KENR

Proposed Day & Night Nulls (6-29-64ct) | New; Lake Huron B/cg. Corp. Houston, Texas | 10kw,DA-1,U 1070 kc

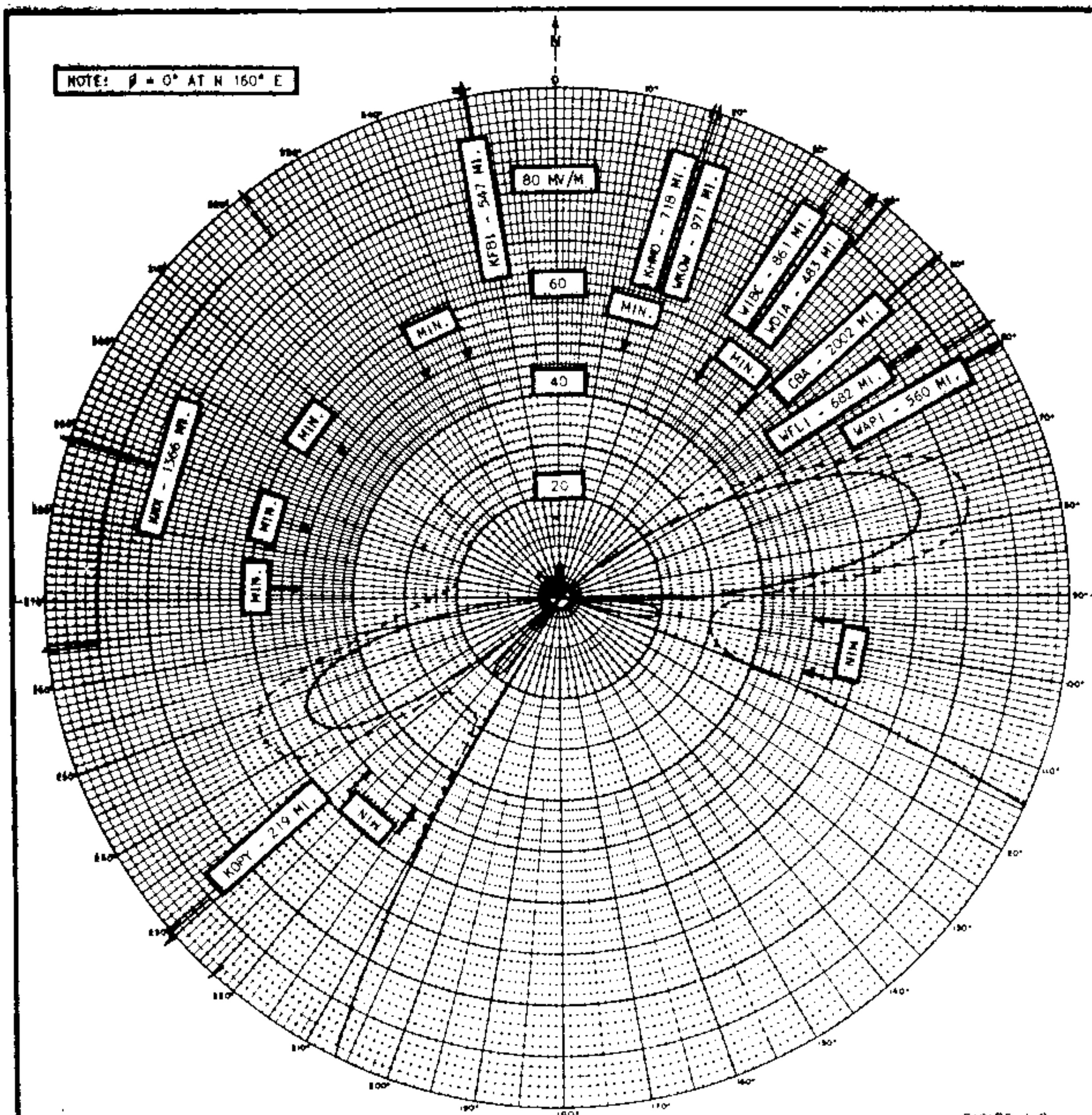


FIGURE 1-8

HORIZONTAL RADIATION PATTERN

EXPANDED VIEW

APPLICANT	Lake Huron B/cg. Corp.
LOCATION	Houston, Texas.
FREQUENCY	1070 KC/S
POWER	10 KW DA-1
LATITUDE	29 DEG 59 MIN 33 SEC
LONGITUDE	95 DEG 26 MIN 23 SEC
WHEN USED	Unlimited
R M S FIELD	799 MV/M
DATE	May 1964

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

FCC File No. BP-13097 Accepted 6-11-64 Amended | New; Lake Huron B/cg. Corp. Houston, Texas | 1070 kc

KERR
1070KHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: K E R R — Main Studio: Polson, Montana

Frequency: 1070 kHz — Power: 1 kW Night 50 kW Day

Notification List No. 1776 — Date: June 28, 1978 Class: II

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

	DAYTIME	NIGHTTIME
North Latitude:	47° 38' 38"	47° 38' 38"
West Longitude:	114° 07' 30"	114° 07' 35"

NIGHTTIME 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 (#3)	C (#2)	N (#1)
HEIGHT ABOVE INSULATORS:	250	250	250 (97.9)
NIGHT PHASING	+110.5°	0°	-110.5°
NIGHT FIELD RADIO:	1	1.94	1

SPACING AND ORIENTATION: Adjacent towers 230'(90°) on a line bearing 10° true.

GROUND SYSTEM: 120-250' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Night	202.89 mV/m	219.14 mV/m	213.12 mV/m

KERR

DAYTIME ANTENNA CHARACTERISTICS

Authorized for Daytime operation
Number of elements: 2
Type of elements: Series excited, uniform cross-section, guyed, vetical steel towers.

TOWER:	SE (#5)	SC (#4)
HEIGHT ABOVE INSULATORS:	250'(97.9°)	550'(215.4°)
DAY PHASING:	+230°	0°
DAY FIELD RATIO:	0.420	1.000

SPACING AND ORIENTATION: With the SC(#4) tower as reference the SE(#5) tower is spaced 306.5'(120°) on a line bearing 137.5° true.

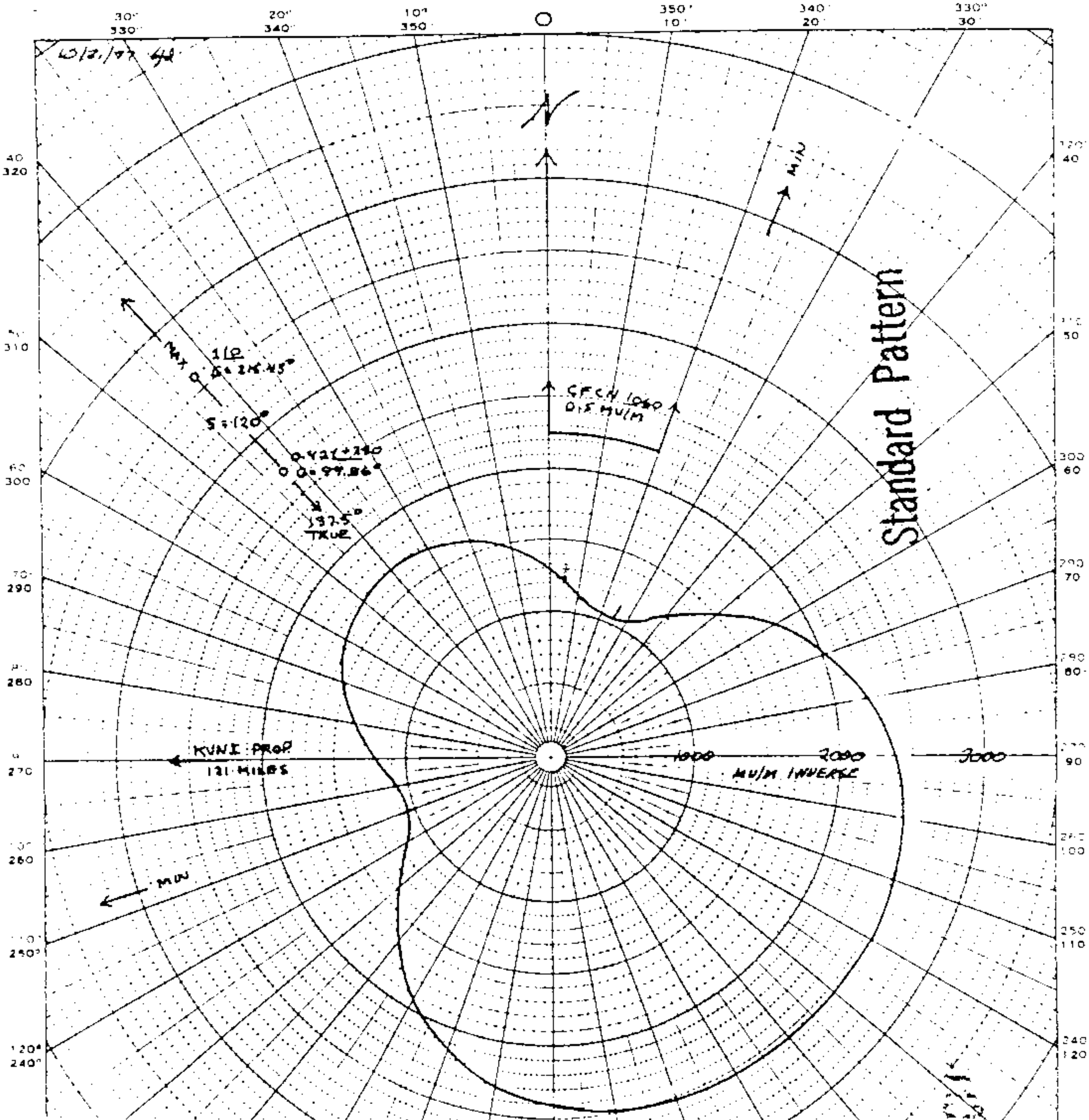
GROUND SYSTEM: 120-250' equally spaced copper radials about SE(#5) tower and 120-350' equally spaced copper radials about the SC(#4) tower. Radials are shortened and bonded to a transverse strap along intersections between towers. Centers of system are bonded together.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL		STANDARD
	RMS	RSS	RMS
Night	1785.80 mV/m	1859,74 mV/m	1875.73 mV/m

Note: Please retain the nighttime directional antenna radiation pattern notified for Station KERR in United States Change List Number 1648 dated September 5, 1975 and attached to this Revised Description Sheet and Daytime pattern. This notification concerns only a change in Daytime operation of the station with Nighttime operation continued as previously notified.

KERR



KERR Polson, MT 1070 kHz.

STANDARD PATTERN

Proposed 50 kw. DA-D pattern

RMS theo	=	1785.80 mv/m
RSS	=	1859.74 mv/m
RMS std	=	1875.73 mv/m
Ek	=	1714.65 mv/m

101877

BL-790410 AJ

HATFIELD & DAWSON
CONSULTING ENGINEERS

PROPOSED NIGHT

Station KFBI
Wichita, Kansas

1kw, 10kw-LS, DA-N,U
1070 KC

KFDI

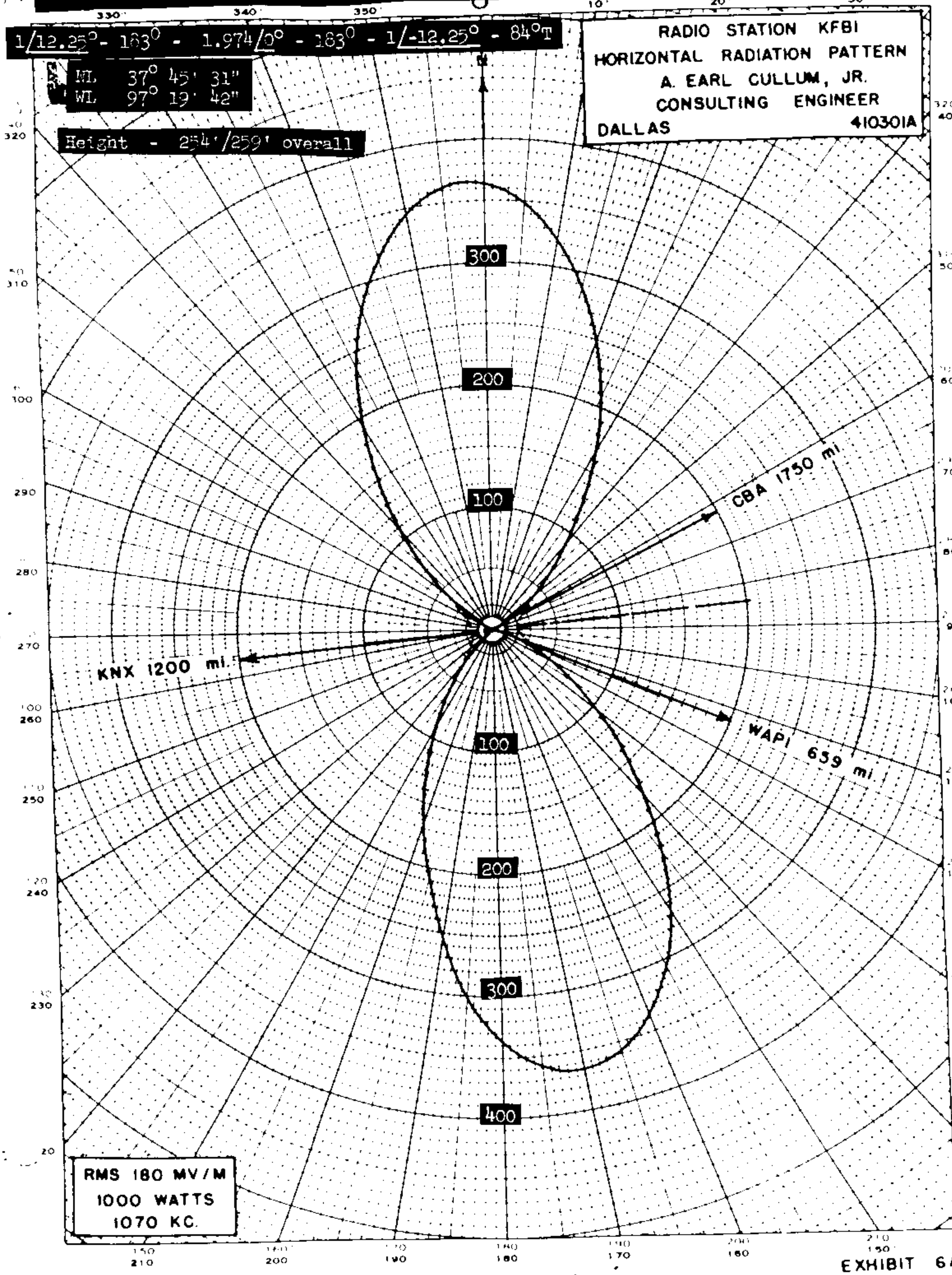


EXHIBIT 6A

Wichita, Kansas 1070 KC

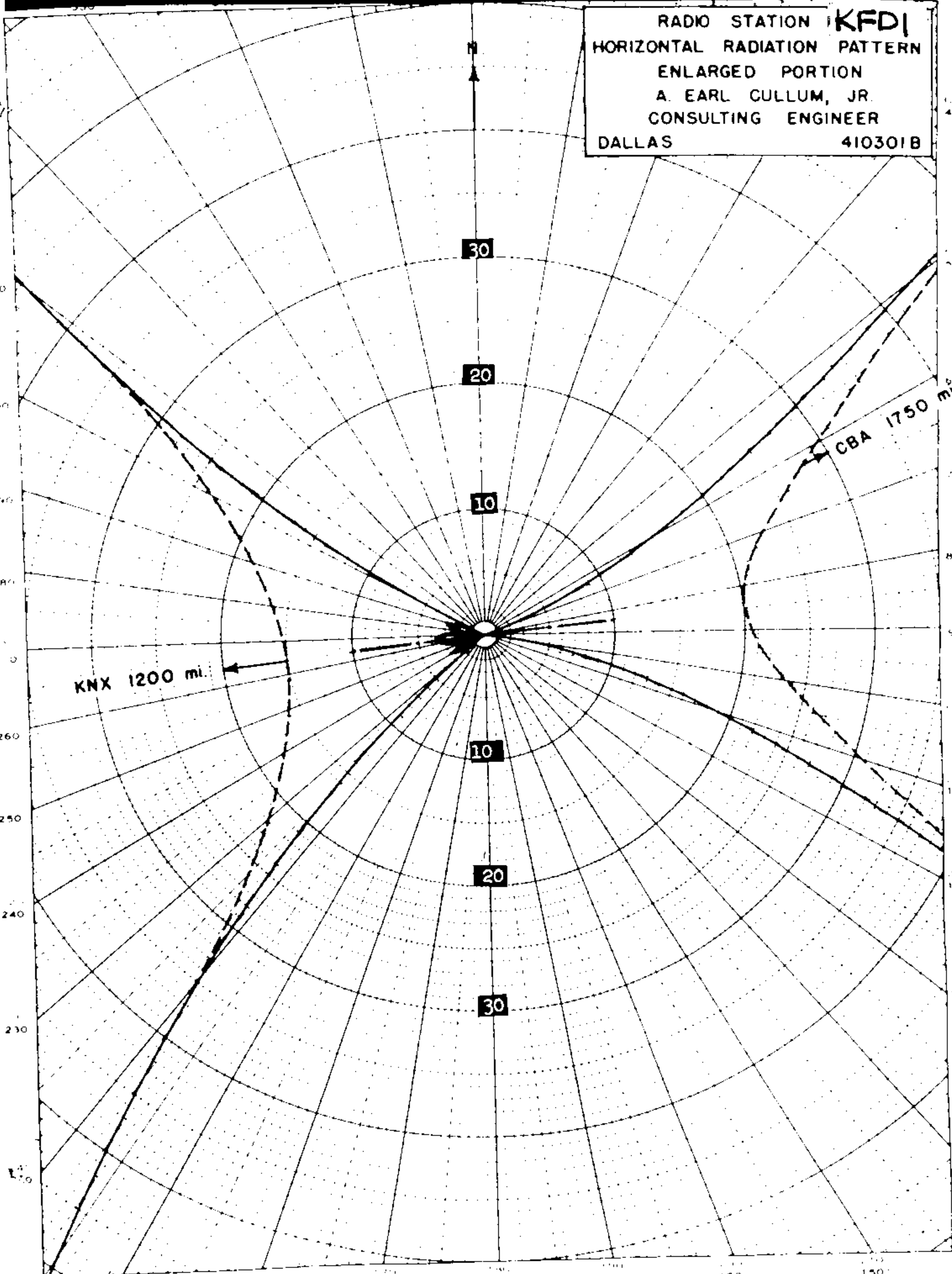


EXHIBIT 6B

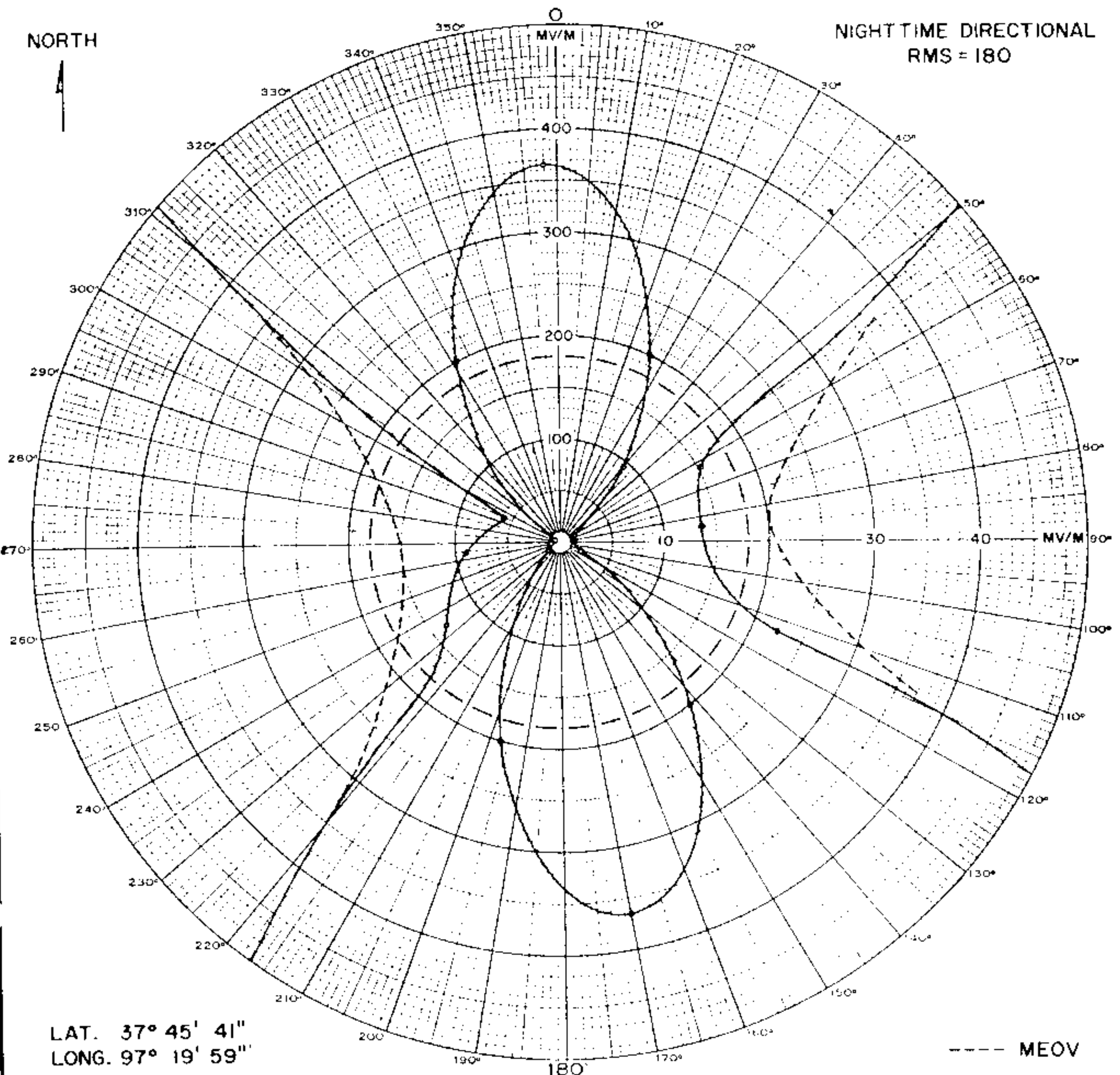
36

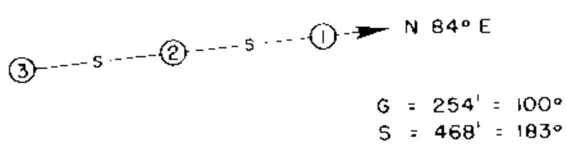
KFDI

Measured Night
(3-26-65ct)

Station KFDI
Wichita, Kansas

1kw,10kw-LS,DA-N,U
1070 kc





ANTENNA PARAMETERS

TOWER	THEORETICAL FIELD	THEORETICAL PHASE	INDICATED FIELD	INDICATED PHASE
1	1.000	−12.25°	0.526	−9.0°
2	1.974	0.00°	1.000	0.0°
3	1.000	+12.25°	0.526	+15.0°

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

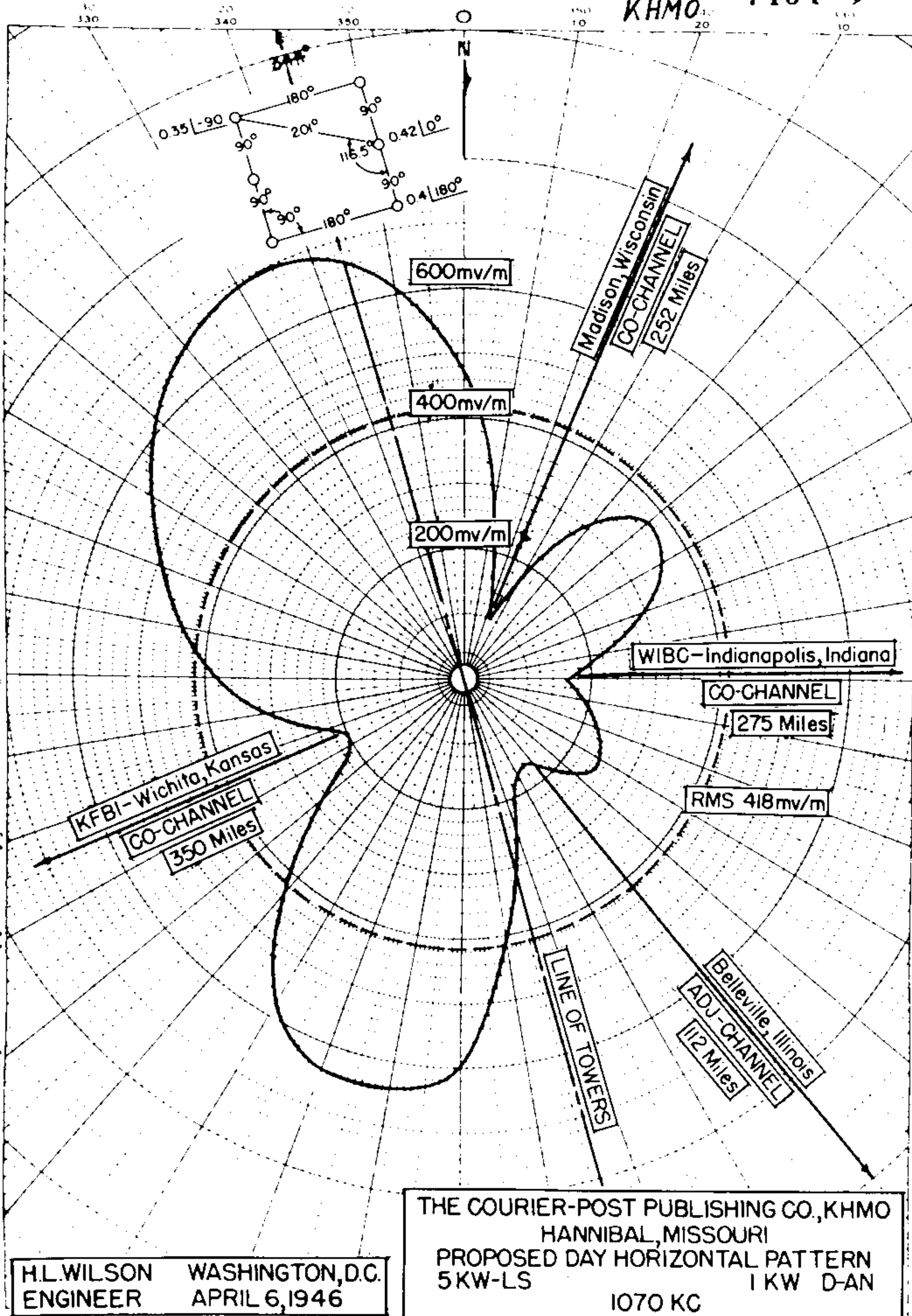
RADIO STATION KFDI
WICHITA, KANSAS
640915 FIGURE 2A

FCC File No. BZ-5412
Accepted 3-3-65

Station KFDI
Wichita, Kansas

1070 kc

HANNIBAL, MO. 1070 KC
KHMO 7454-1

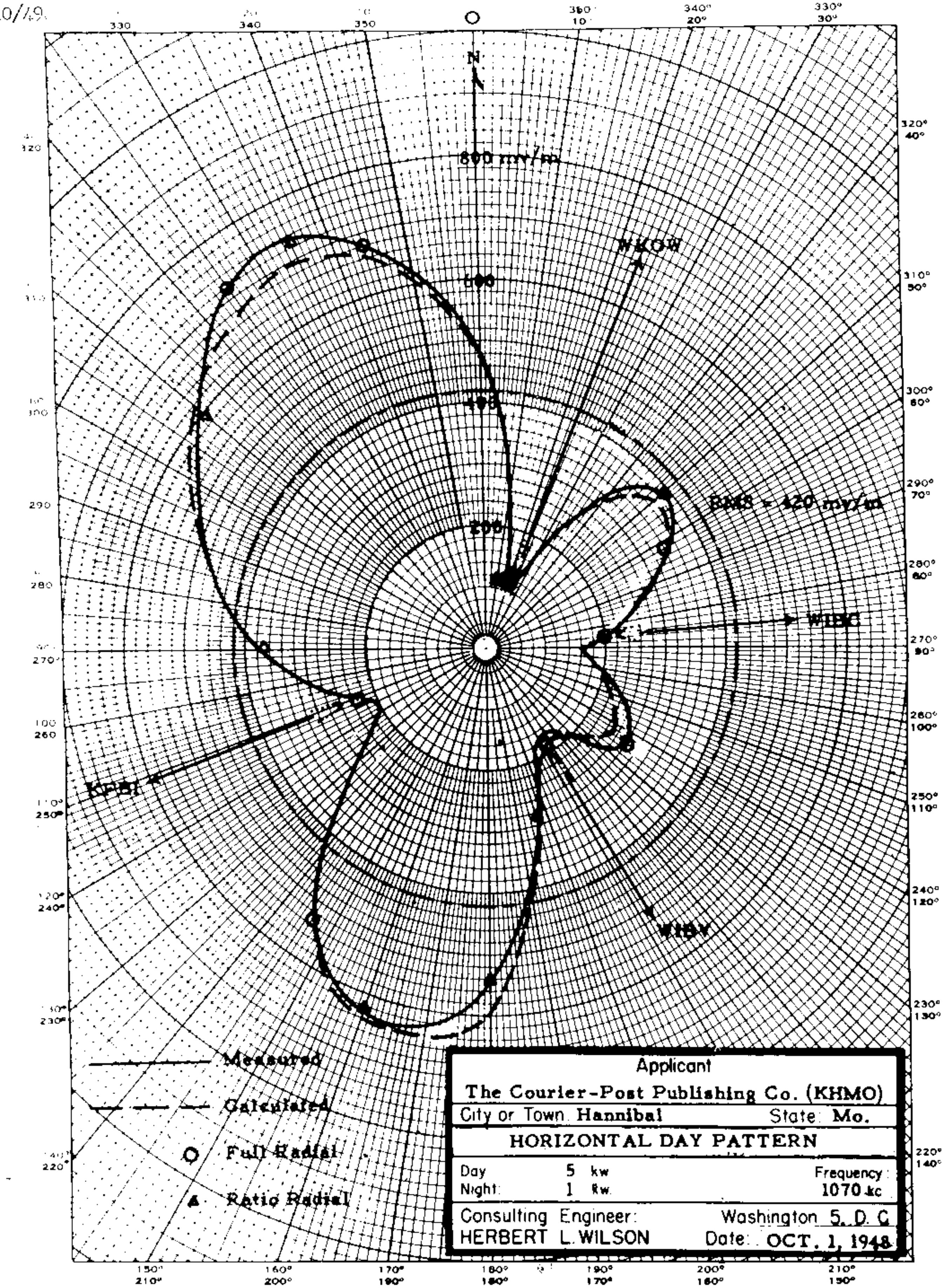


H.L.WILSON WASHINGTON, D.C.
ENGINEER APRIL 6, 1946

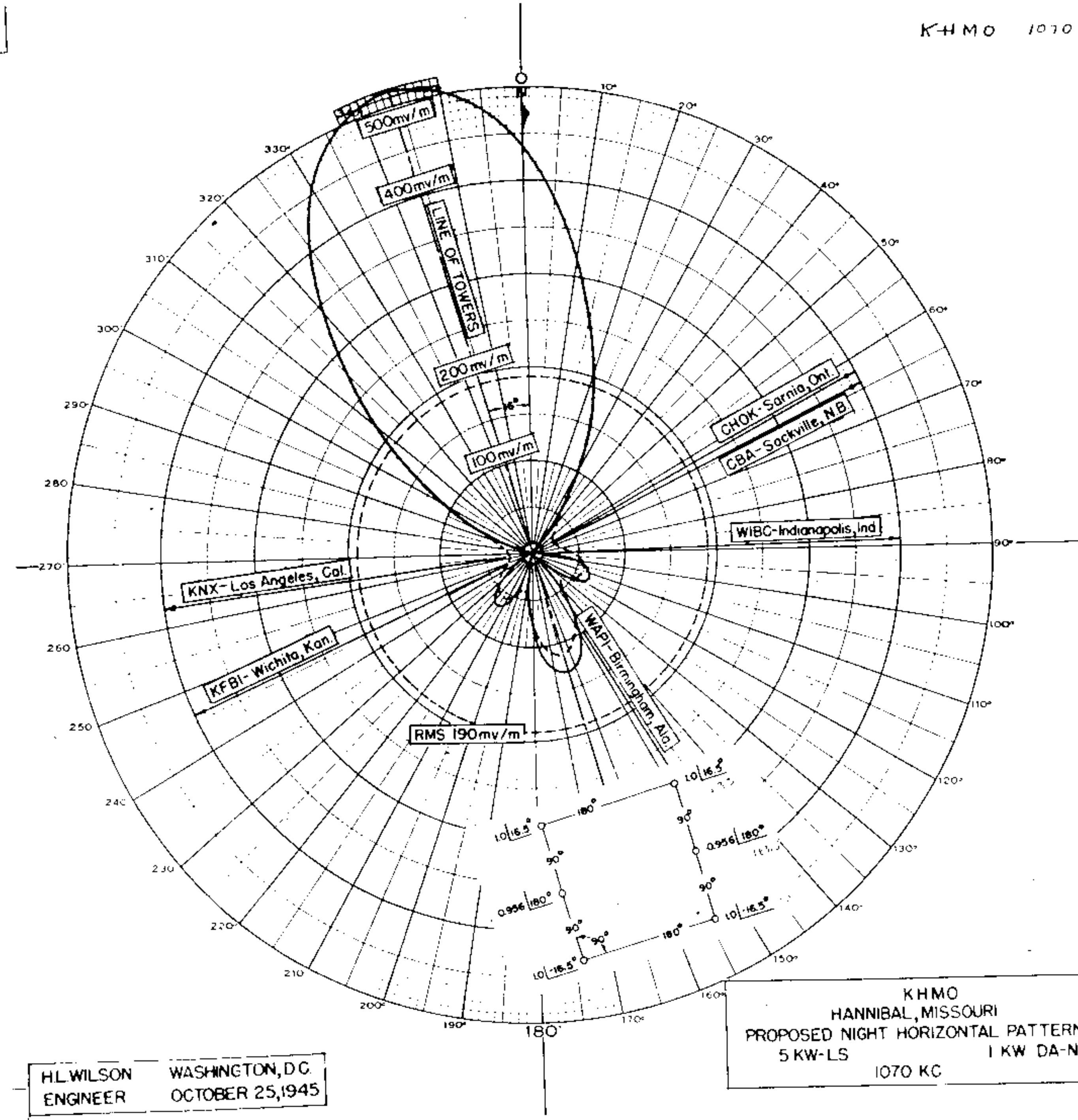
THE COURIER-POST PUBLISHING CO., KHMO
HANNIBAL, MISSOURI
PROPOSED DAY HORIZONTAL PATTERN
5KW-LS 1 KW D-AN
1070 KC

KHMO

MEASURED DAY 2/10/49 KHMO, HANNIBAL, MO. License 10-14-48 1kw,5kw-LS,DA2 1070 kc



KHMO 1070 KC

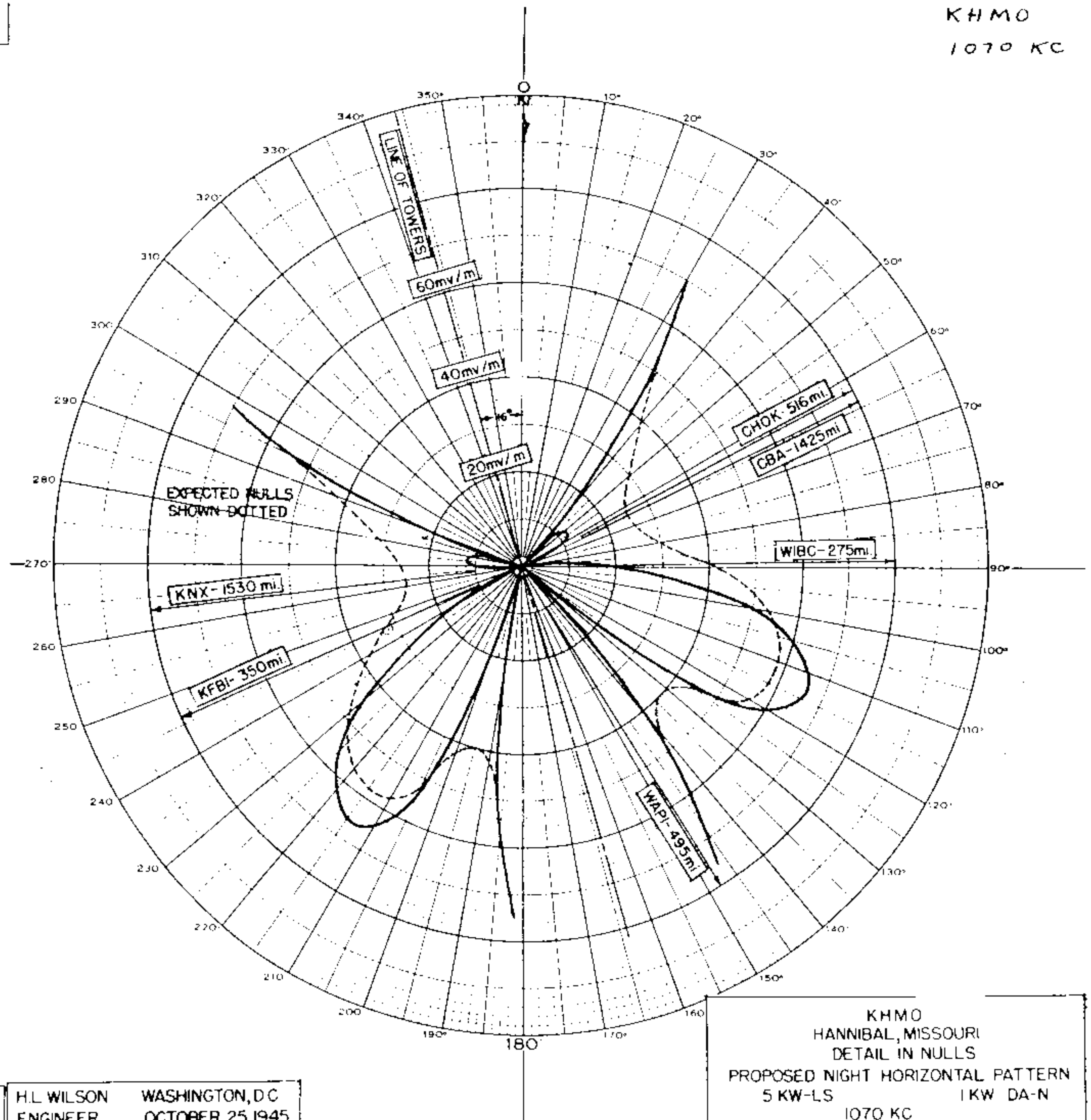


KHMO
HANNIBAL, MISSOURI
PROPOSED NIGHT HORIZONTAL PATTERN
5 KW-LS 1 KW DA-N
1070 KC

H.L.WILSON
ENGINEER

WASHINGTON, D.C.
OCTOBER 25, 1945

KHMO
1070 KC



KHMO
HANNIBAL, MISSOURI
DETAIL IN NULLS
PROPOSED NIGHT HORIZONTAL PATTERN
5 KW-LS 1 KW DA-N
1070 KC

H.L. WILSON WASHINGTON, D.C.
ENGINEER OCTOBER 25, 1945

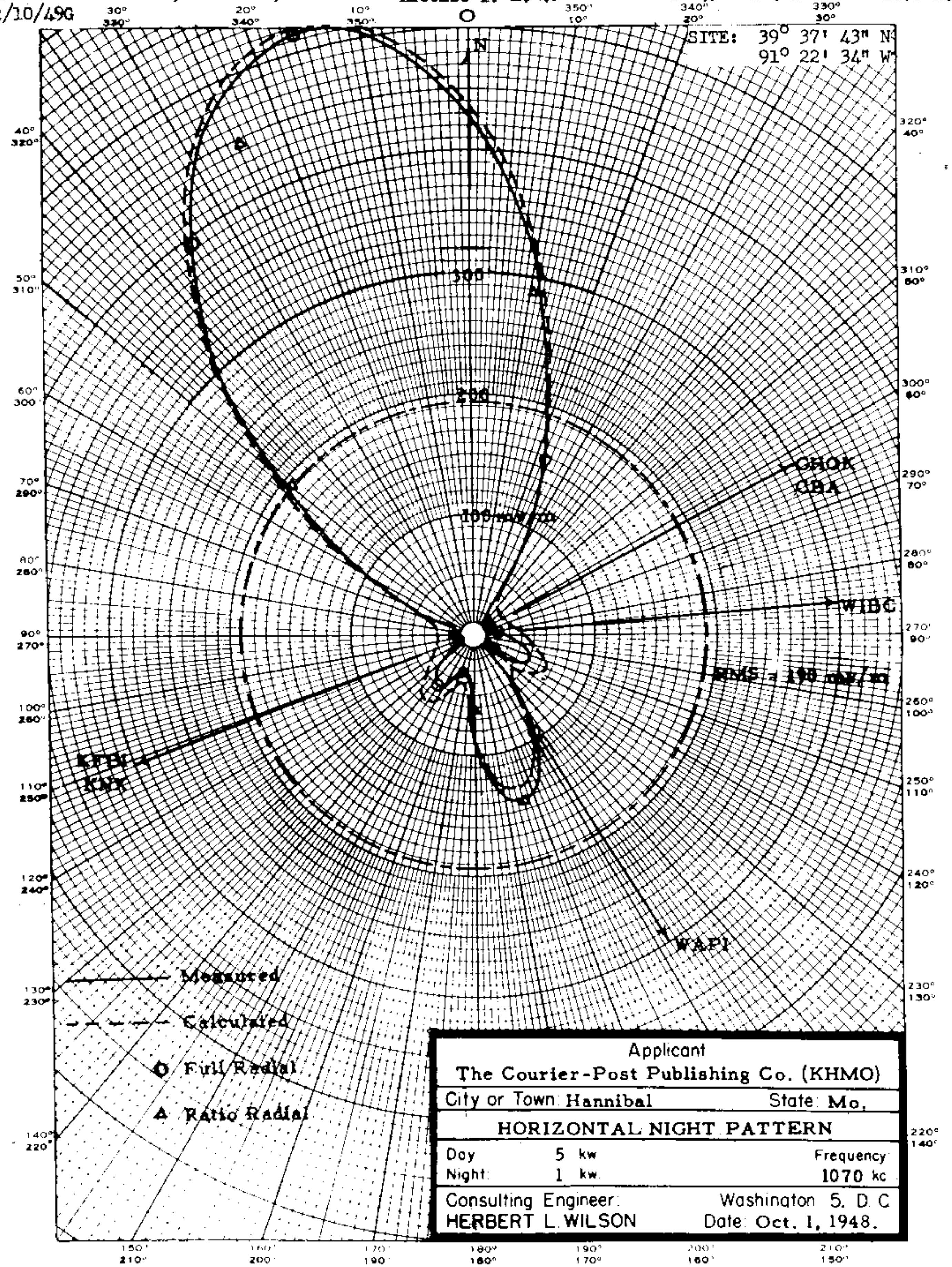
9

KHMO

MEASURED
NIGHT 2/10/49G

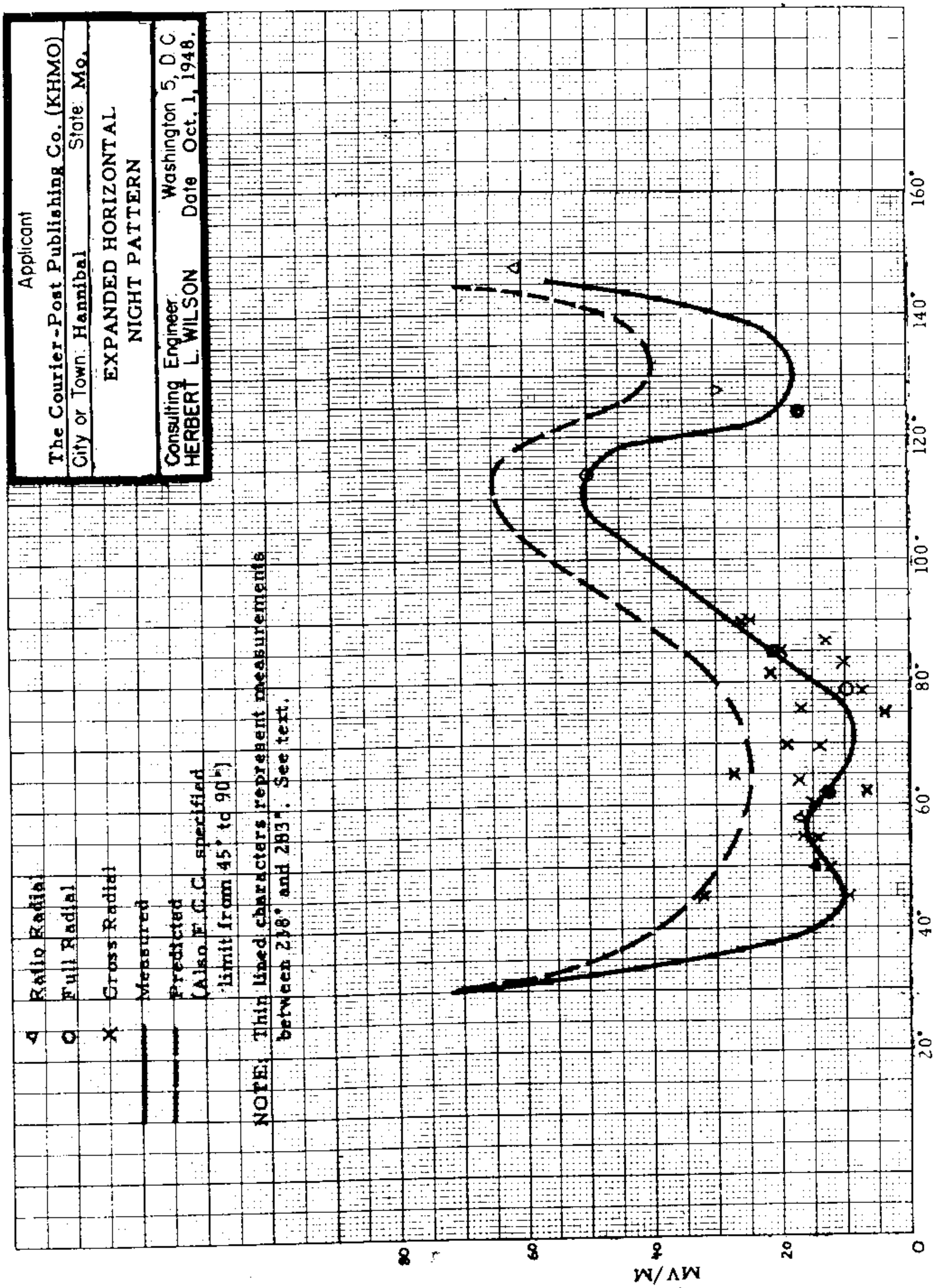
KHMO, HANNIBAL, MO. License 10-14-48 1kw,5kw-LS,DA2 1070 kc

2.



KHMO

MEASURED NIGHT NULLS 2/10/49G KHMO, HANNIBAL, MO. License 10-14-48 1kw,5kw-LS,DA2 1070 kc

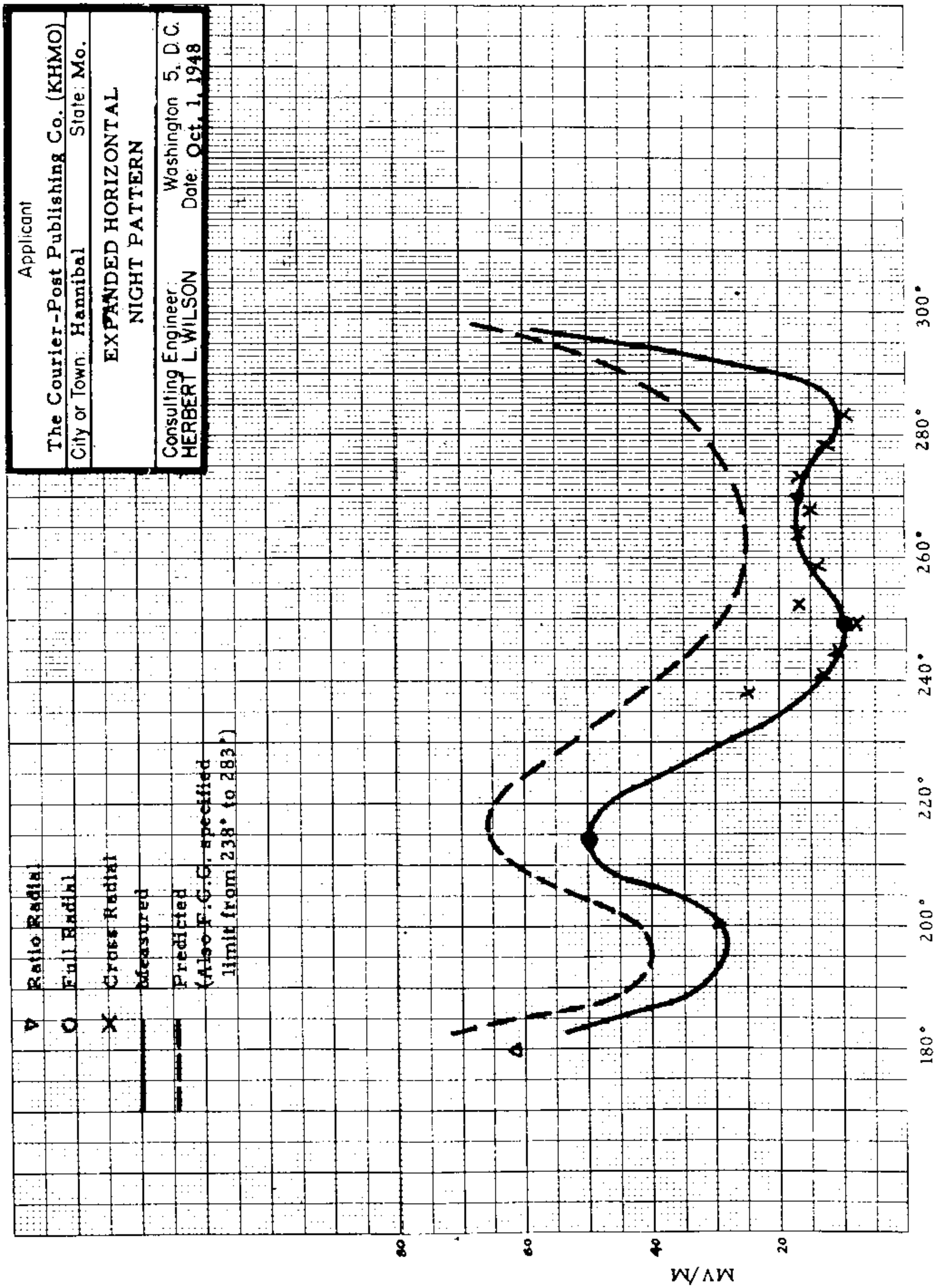


KHMO. HANNIBAL. MO. 1070 kc

KHMC

MEASURED NIGHT NULLS 2/10/49G

KHMO, HANNIBAL, MO. License 10-14-48 1kw,5kw-LS,DA2 1070 kc



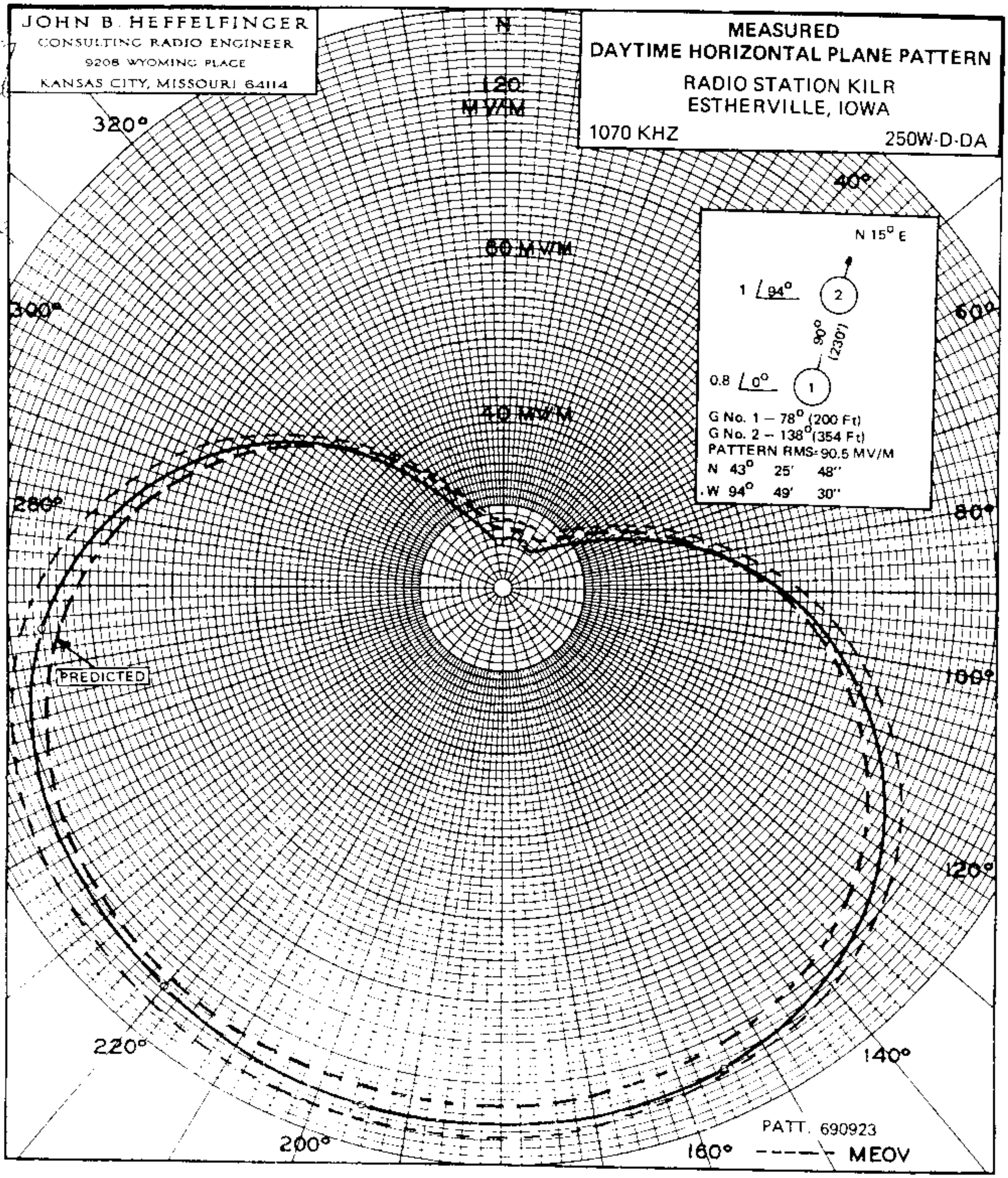
KHMO, HANNIBAL, MO. 1070 kc

Measured Day
(11-29-69ct)

Station KILR
Estherville, Iowa

KILR
250w,DA-D,D
1070 kc

BL-12457
Granted
12-15-69
License
Covering
Change



FCC File No.BL-12457
Accepted 10-30-69

Station KILR
Estherville, Iowa

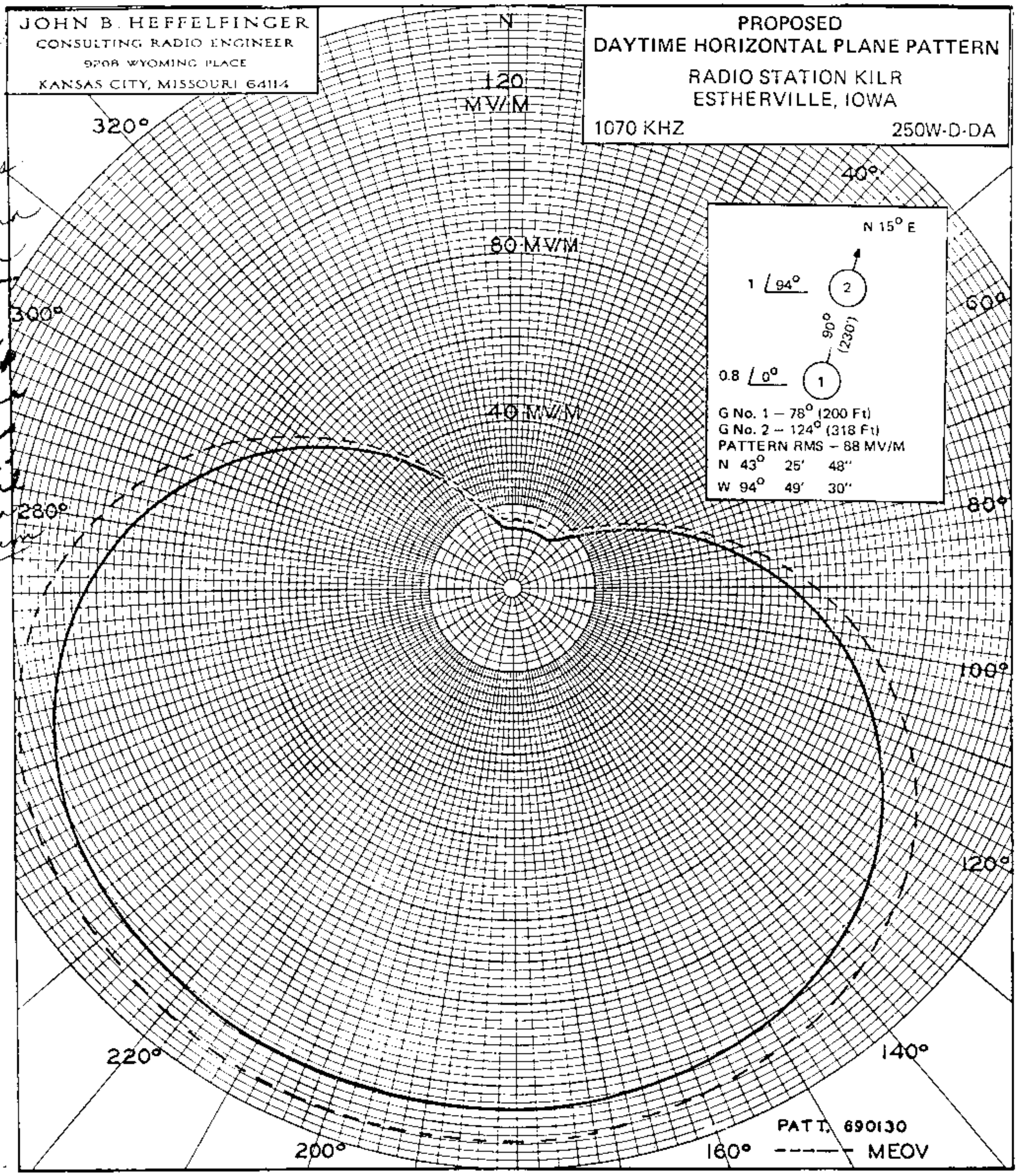
1070 kc

KILR

Proposed Day (4-29-69ct)	Station KILR Estherville, Iowa	250w,DA-D,D 1070 kc

BP 18533 Granted 8-5-69 CP to make changes in DA antenna system

BP-18533 Granted 8/5/69 CP to make changes in directional antenna system



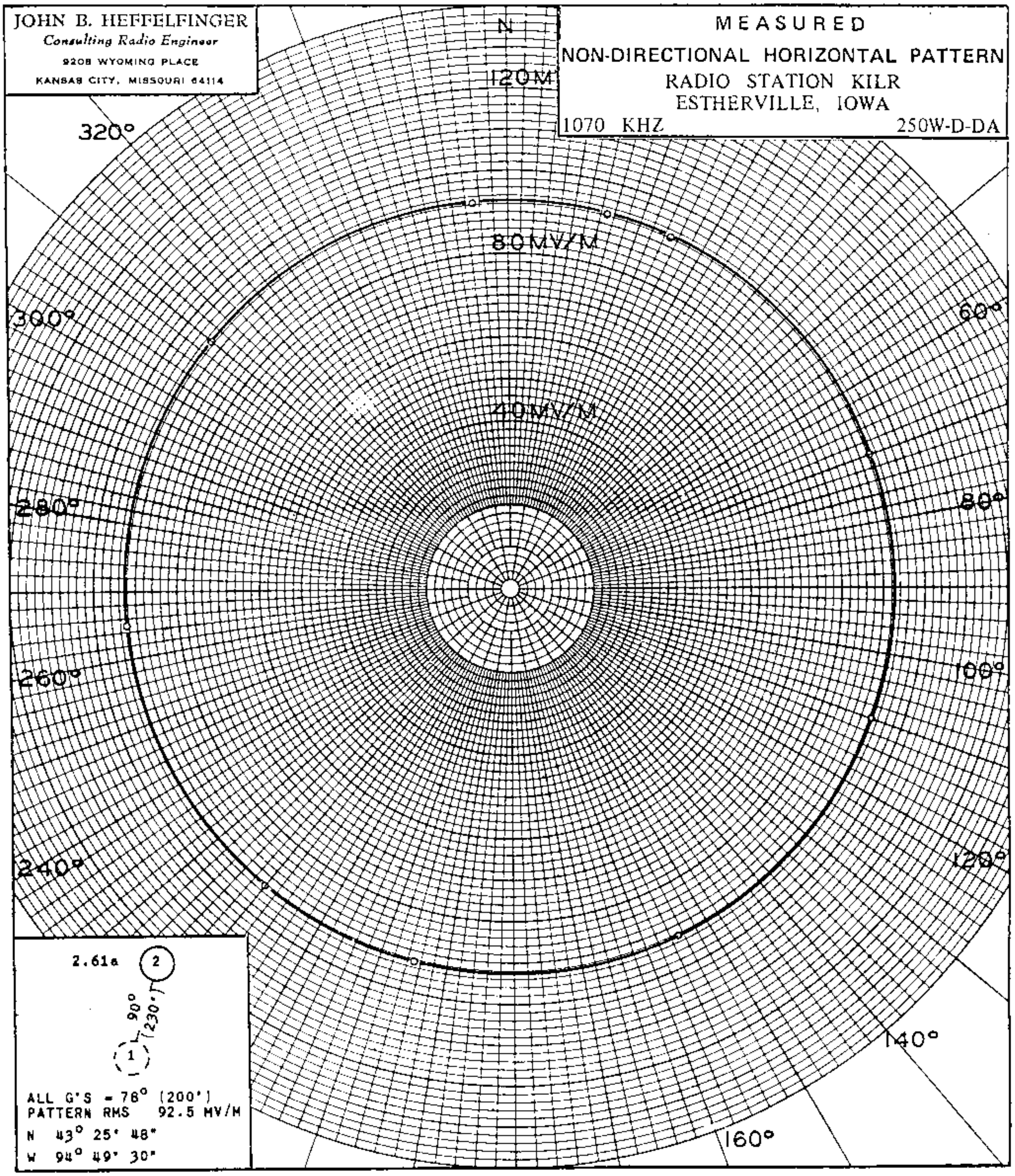
FCC File No.BP-18533 Accepted 4-18-69	Station KILR Estherville, Iowa	1070 kc

KILR

Measured Non-DA
(2-28-68ct)

Station KILR
Estherville, Iowa

250w,DA-D,D
1070 kc



FCC File No.BL-11882
Accepted 2-9-68

Station KILR
Estherville, Iowa

1070 kc

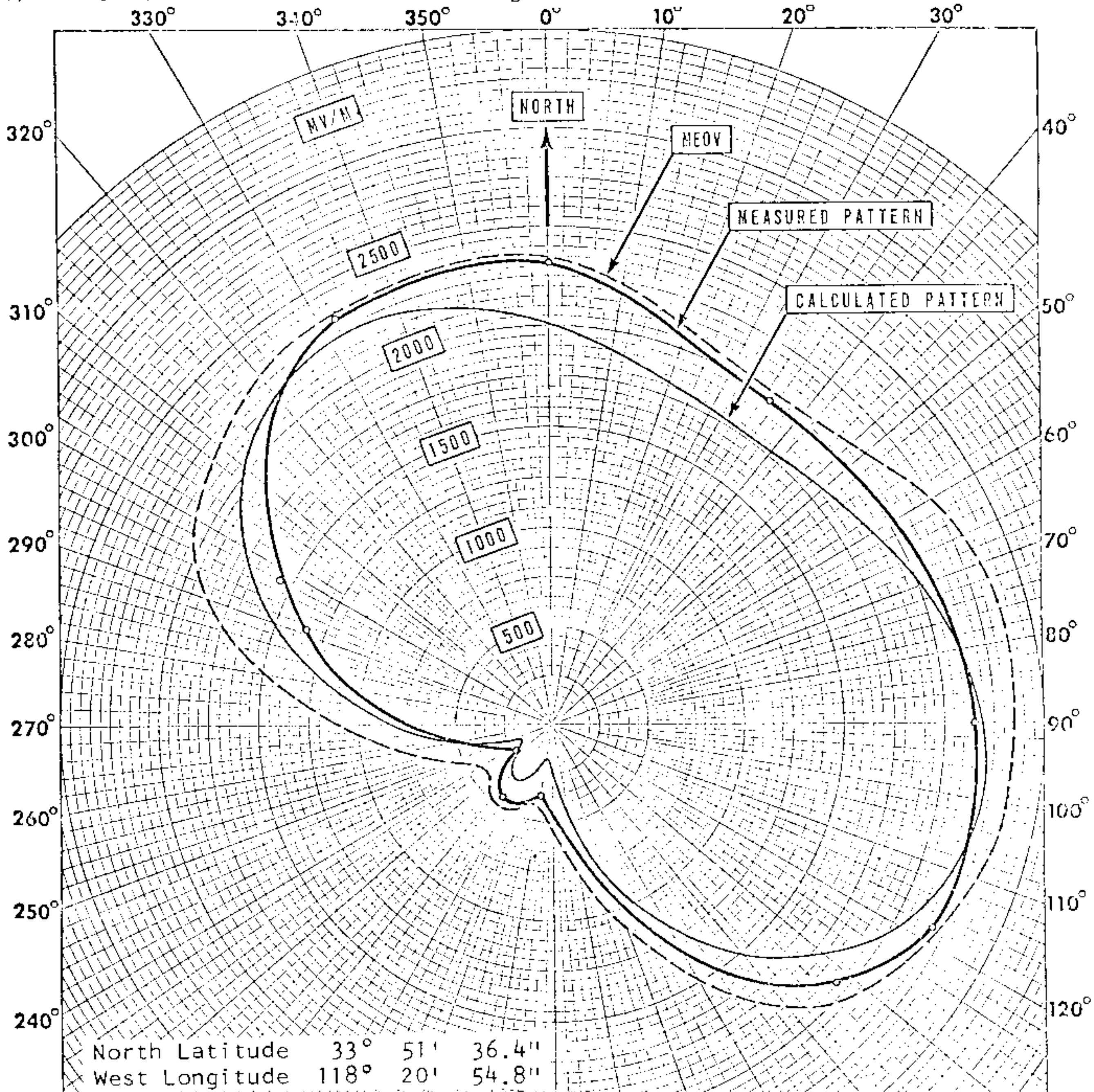
BL - 12400
GR. (2-10-70) Lic. covering install. of DA-D

KNX

Measured Day
(7-28-69ct)

Station KNX
Los Angeles, California

50kw,DA-D,U
1070 kc



PHASE MONITOR READINGS (1) 50.0 /0° (2) 51.5 /-192°
SAMPLING LINES UNEQUAL LENGTH

RMS 1654mv/m

TOWER HEIGHTS
(1) 193° = 494'
(2) 143° = 365'

S = 135° = 345'

35° TRUE

(2) 0.85 /-60°

S

(1) 1.0 /0°

CBS RADIO
A DIVISION OF COLUMBIA BROADCASTING SYSTEM INC

MEASURED DAYTIME DIRECTIONAL
HORIZONTAL RADIATION PATTERN

KNX 1070KHz 50Kw-U DA-D LOS ANGELES, CALIFORNIA

APP	DATE	PROJECT NO	DWG NO
MP	JUNE 1968	E8743	H2-265

210° 200° 190° 180° 170° 160° 150°

FCC File No. BL-12400
Accepted 7-11-69

Station KNX
Los Angeles, California

1070 kc

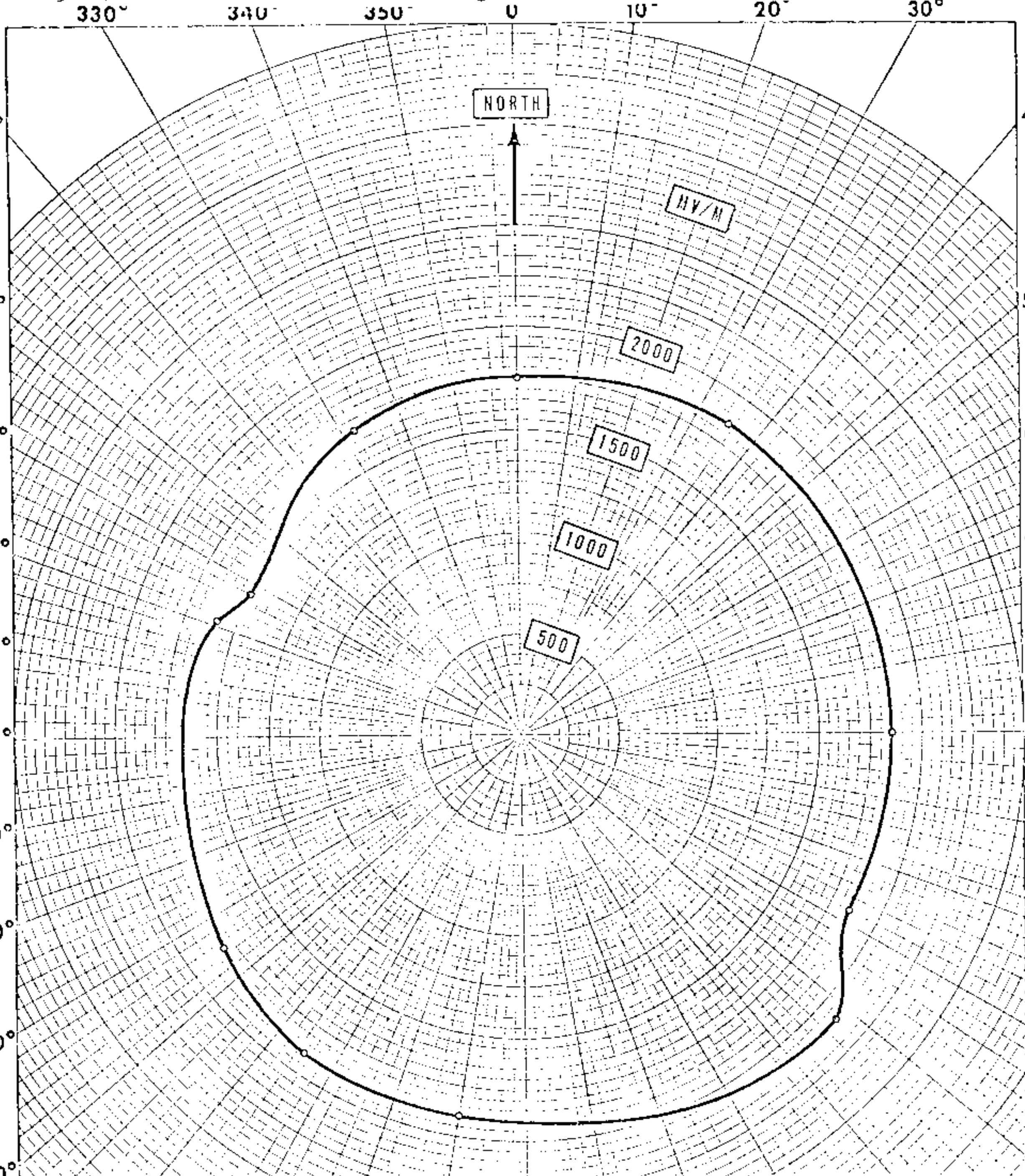
BL-12400
GR(2-10-70) Lic. Covering Instal. of DA-D

KNX

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

Station KNX
Los Angeles, California

50kw,DA-D,U
1070 kc



RMS 1612mv/m	CBS RADIO A DIVISION OF COLUMBIA BROADCASTING SYSTEM, INC.
ANTENNA #1 G = 193° = 494' ANTENNA #2 DETUNED G = 143 = 365	MEASURED NON-DIRECTIONAL HORIZONTAL RADIATION PATTERN KNX 1070KHz 50Kw-U DA-D LOS ANGELES, CALIFORNIA

APR	DATE	PROJECT NO	DWG NO
[illegible]	JUNE 1968	E8743	H2-264

FCC File No.BL-12400
Accepted 7-11-69

Station KNX
Los Angeles, California

1070 kc

KNX

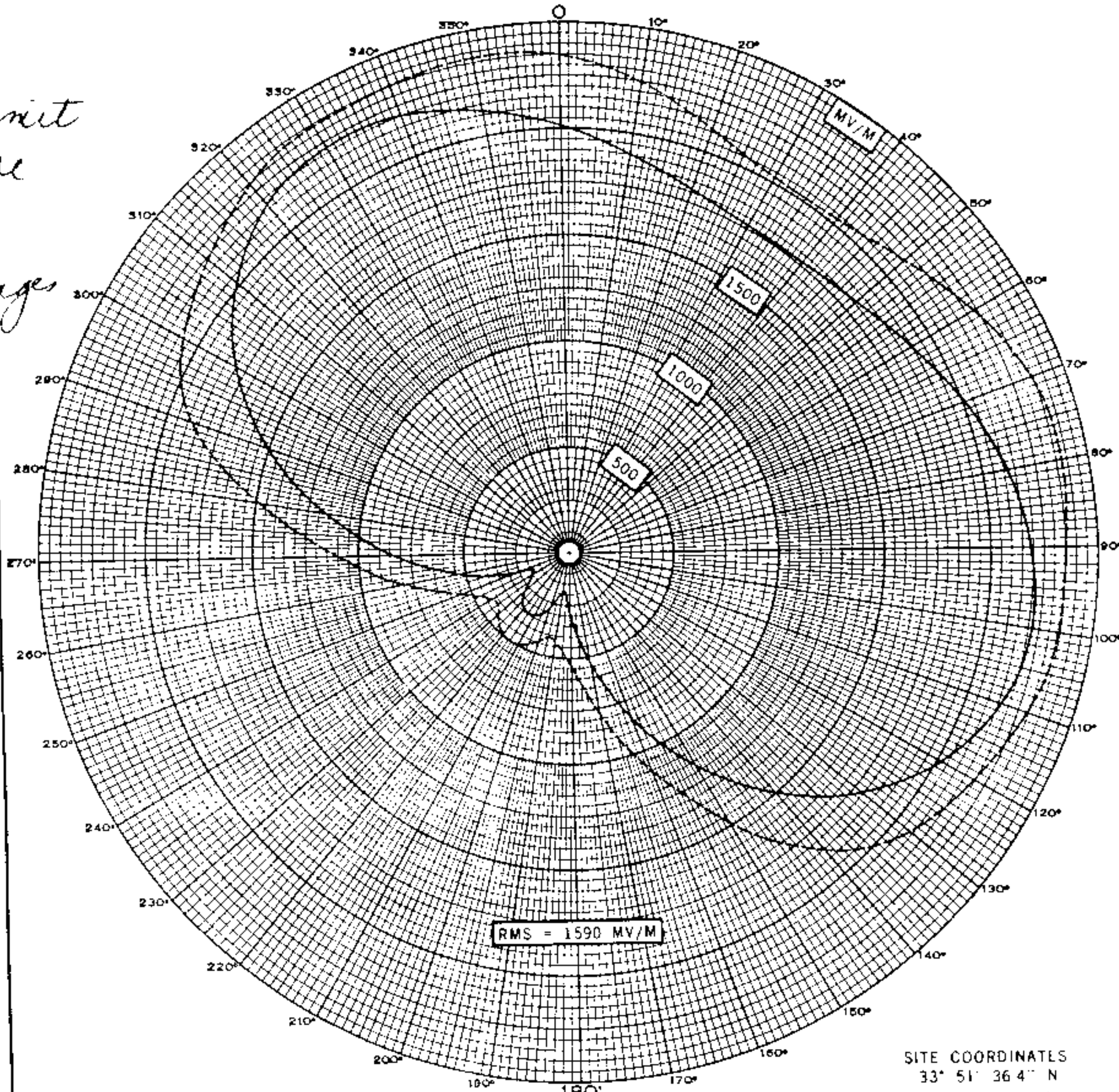
Proposed Day
(11-29-68ct)

Station KNX
Los Angeles, California

50kw,DA-D,U
1070 kc

Figure 1

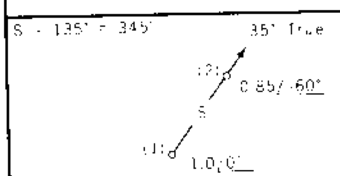
2-14-69
BMP-12525
Granted CP
to replace
expired permit
BP-18360 for
changes &
Mod. of CP
to make changes
in MEOV



MEOV---

SITE COORDINATES
33° 51' 36.4" N
118° 20' 54.8" W
(ARRAY CENTER)

CALCULATED DAYTIME HORIZONTAL PLANE RADIATION PATTERN



Tower Heights
(1) 193' - 494'
(2) 143' - 365'

COLUMBIA BROADCASTING SYSTEM, INC.
LOS ANGELES, CALIFORNIA

Jules Cohen & Associates
Consulting Electronics Engineers

RADIO STATION KNX
1070 KC/S
50 KW U DA D
AUGUST 1968

FCC File No.BMP-12525
Accepted 11-7-68

Station KNX
Los Angeles, California

1070 kc

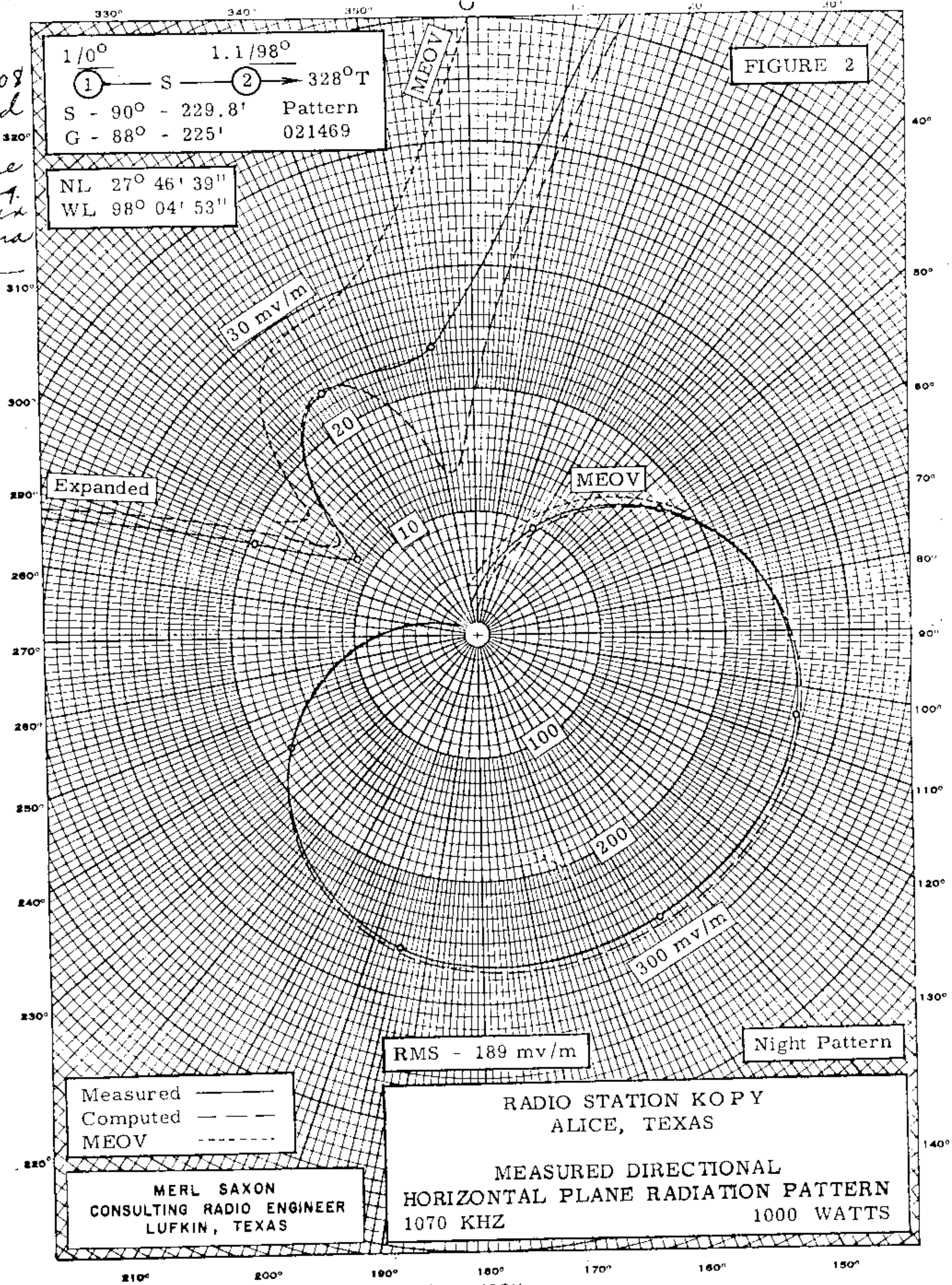
KOPY

Measured Night
(3-28-69ct)

Station KOPY
Alice, Texas

1kw,DA-N,U
1070 kc

BL-12308
Granted
1/20/69
license
covering
change in
antenna
system



FCC File No.BL-12308
Accepted 3-24-69

Station KOPY
Alice, Texas

1070 kc

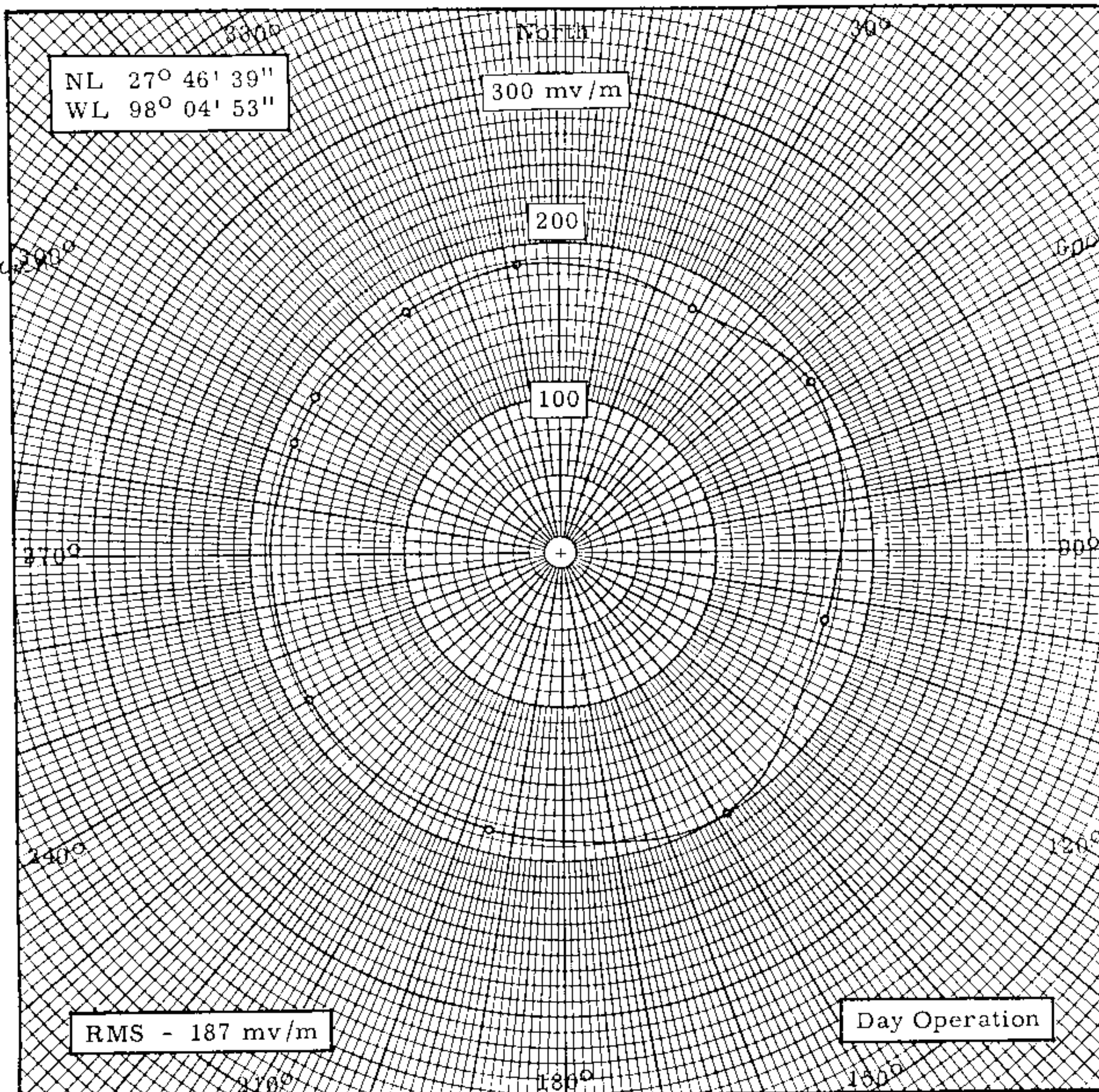
KOPY

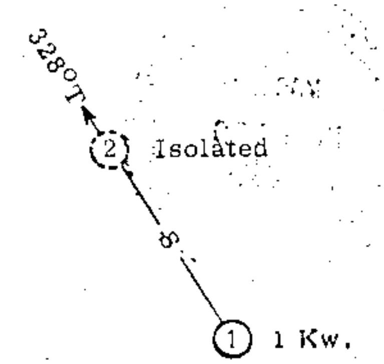
Measured Non-DA
(3-28-69ct)

Station KOPY
Alice, Texas

1kw,DA-N,U
1070 kc

BL-12308
Granted
5-20-69
license
covering
change
in antenna
system





S - 00° - 220.8'
G - 00° - 226'

RADIO STATION KOPY
ALICE, TEXAS

MEASURED NON-DIRECTIONAL
HORIZONTAL PLANE RADIATION PATTERN
1070 KHZ 1000 WATTS

021569

FIGURE 1

MERL SAXON
Consulting Radio Engineer
Lufkin, Texas

FCC File No.BL-12308
Accepted 3-24-69

Station KOPY
Alice, Texas

1070 kc

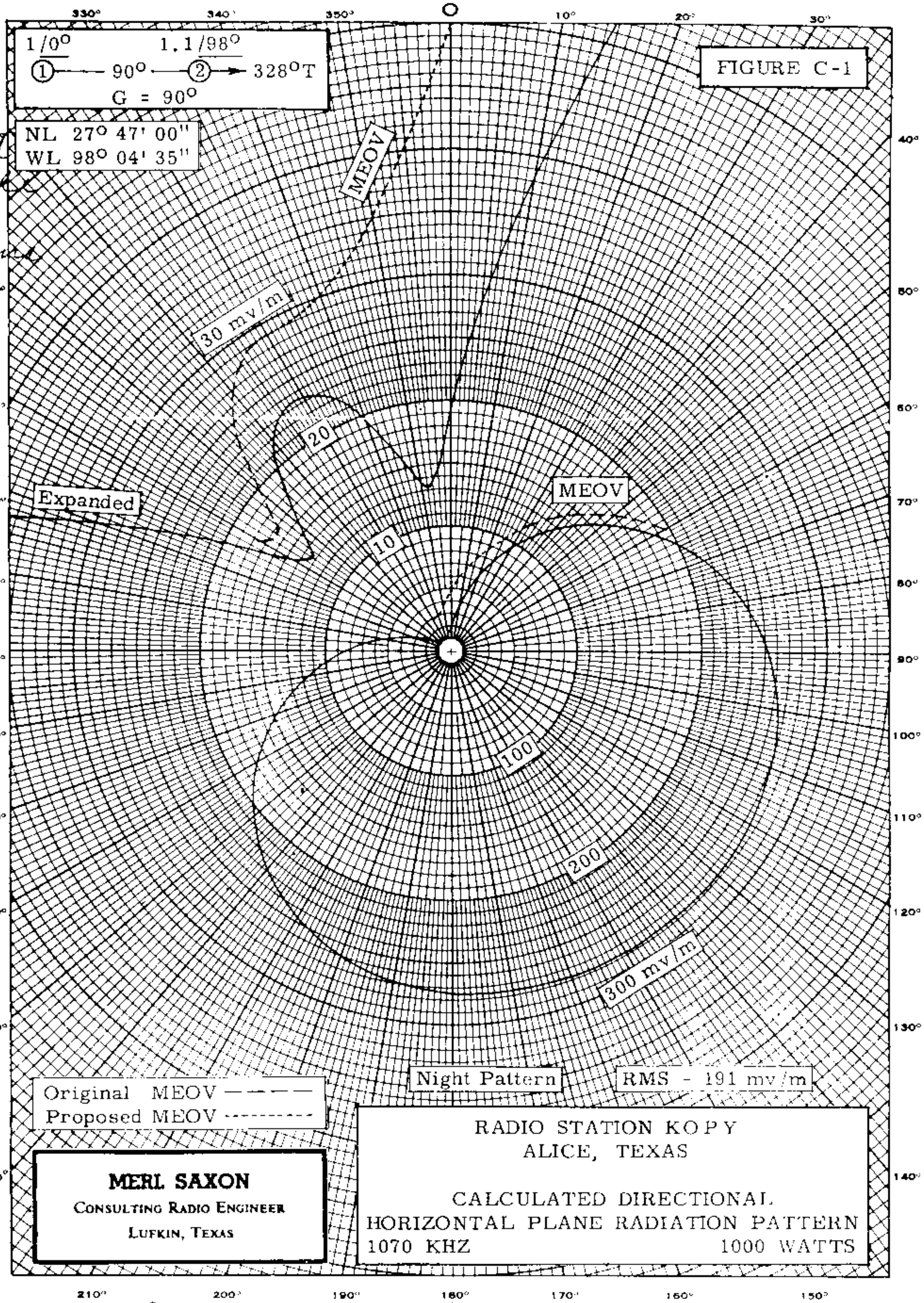
KOPY

Proposed Night
(12-27-68ct)

Station KOPY
Alice, Texas

1kw,DA-N,U
1070 kc

12-18-68
3P-18395
Granted
Cp to make
changes
in antenna
system



FCC File No.BP-18395
Accepted 12-12-68

Station KOPY
Alice, Texas

1070 kc

KOPY

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KOPY

Main Studio: Alice, Texas

Frequency: 1070 kHz

Power: 1 kw Night

Notification List No. 1621

Date: February 26, 1975 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 27° 46' ~~39"~~
West Longitude: 98° 04' 53"

ANTENNA CHARACTERISTICS

Authorized for Nighttime operation. (DA-N)
Number of elements: 2
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers. Tower #1 utilizes a 6-wire detuning skirt of length 113' dropped from the top of the tower to produce an equivalent electrical height of 88°. (*)

TOWER:	NW(#2)	SE(#1)
HEIGHT ABOVE INSULATORS:	225' (88°)	338' (*)
PHASING:	+98°	0°
FIELD RATIO:	1.0	1.0

SPACING AND ORIENTATION: Elements are spaced 229.8' (90°) on a line bearing 328° true.

GROUND SYSTEM: 120-225' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers. Centers of systems are bonded together.

Predicted effective Night Field: 191 mv/m at rated power.

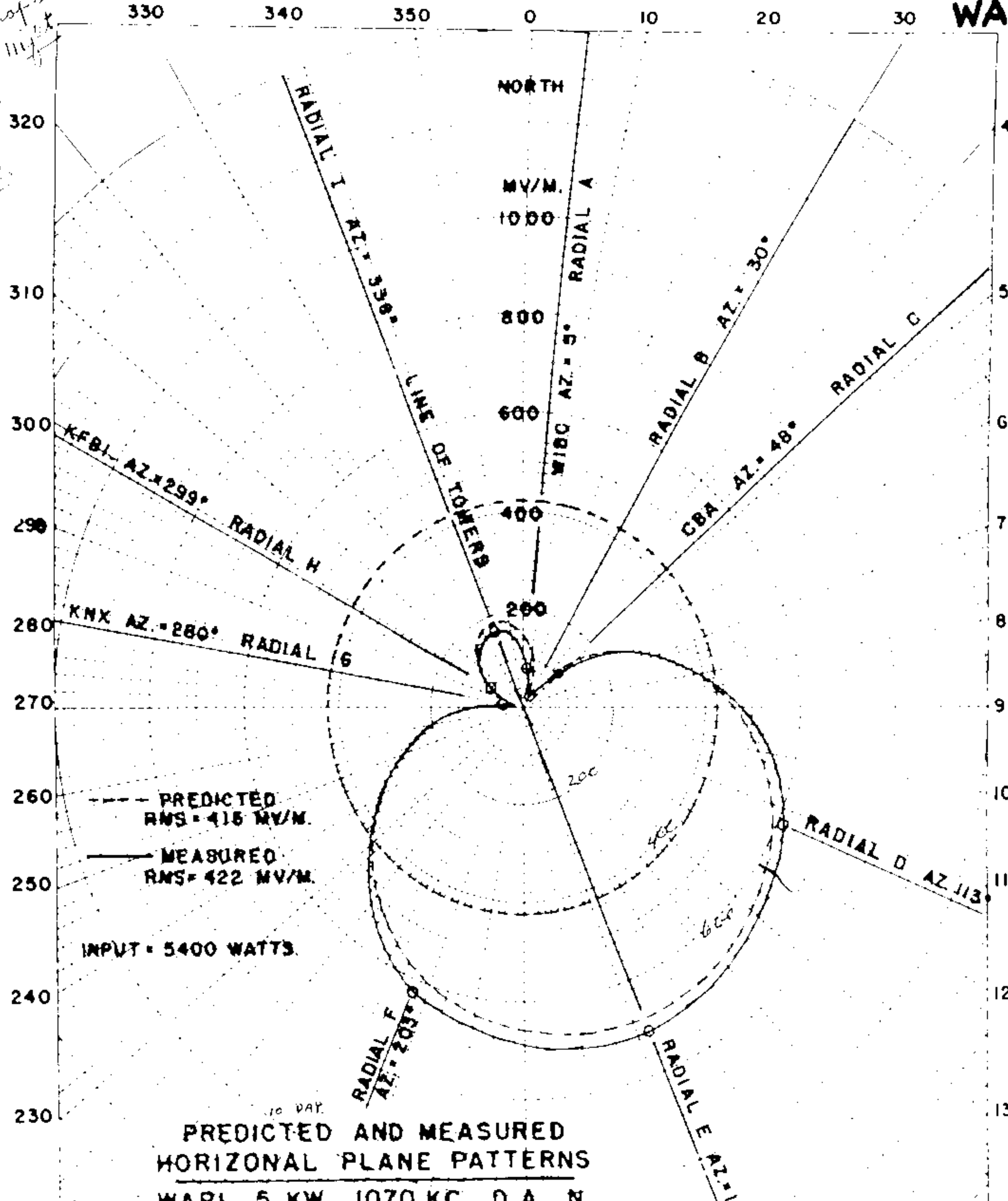
Predicted effective Day Field: (omnidirectional, tower #1) 190 mv/m at rated power by adjustment of input power.

NOTE: Please retain the directional antenna radiation patterns notified for Station KOPY in United States Change List Number 1299 dated December 18, 1968, and attach to this Revised Description Sheet. This notification concerns only minor changes in the antenna system.

CTR NO 30610A3

1070 KC 1070

WAPI



PREDICTED AND MEASURED HORIZONAL PLANE PATTERNS

WAPI 5 KW. 1070 KC. D.A., N.

BIRMINGHAM, ALA.

FIG.2

PAUL F GODLEY
MONTCLAIR, N. J.
JAN. 1943

1070 KC 1070
WAP

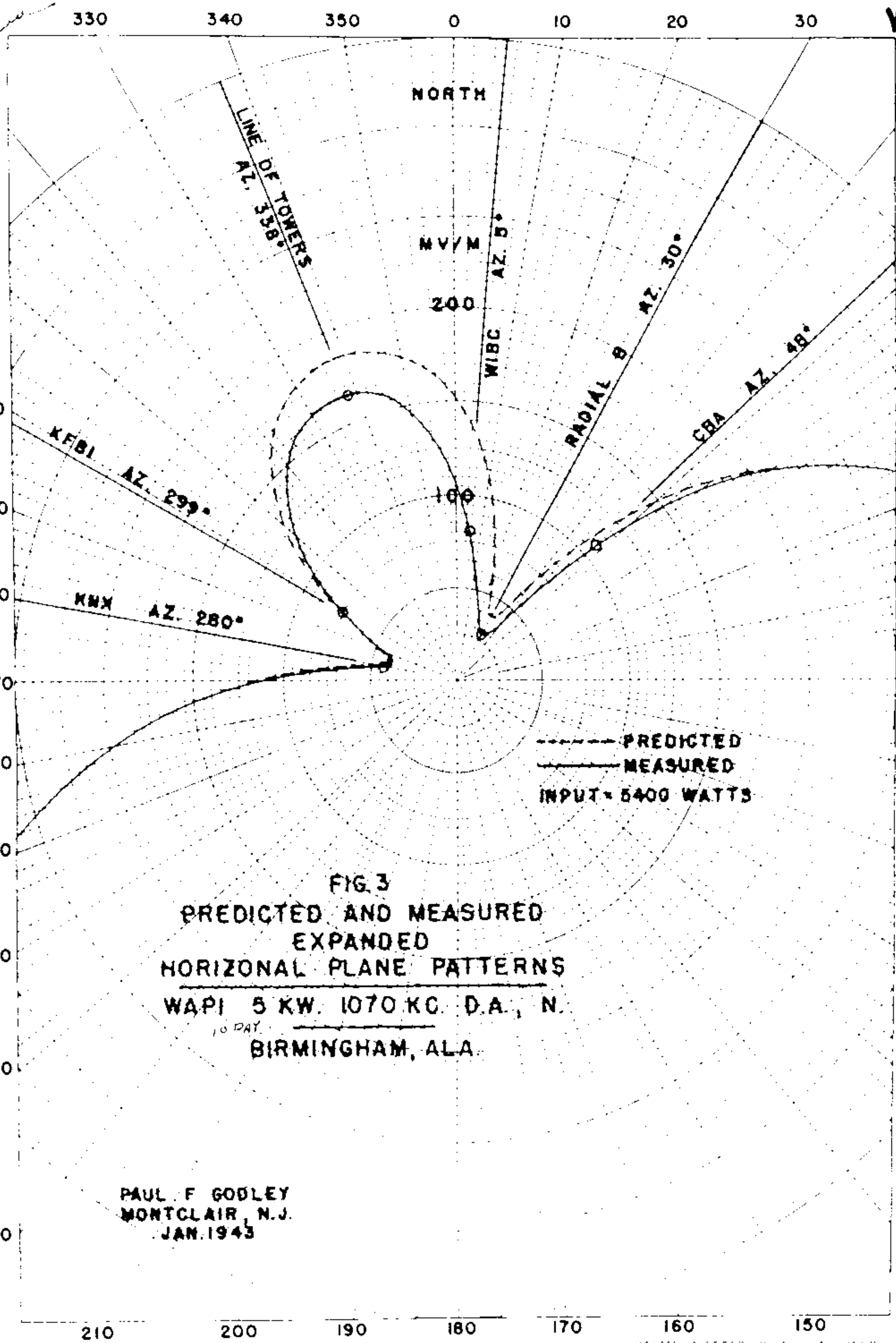


FIG. 3
PREDICTED AND MEASURED
EXPANDED
HORIZONAL PLANE PATTERNS
WAPI 5 KW. 1070 KC. D.A., N.
10 DAY
BIRMINGHAM, ALA.

PAUL F. GODLEY
MONTCLAIR, N.J.
JAN. 1943

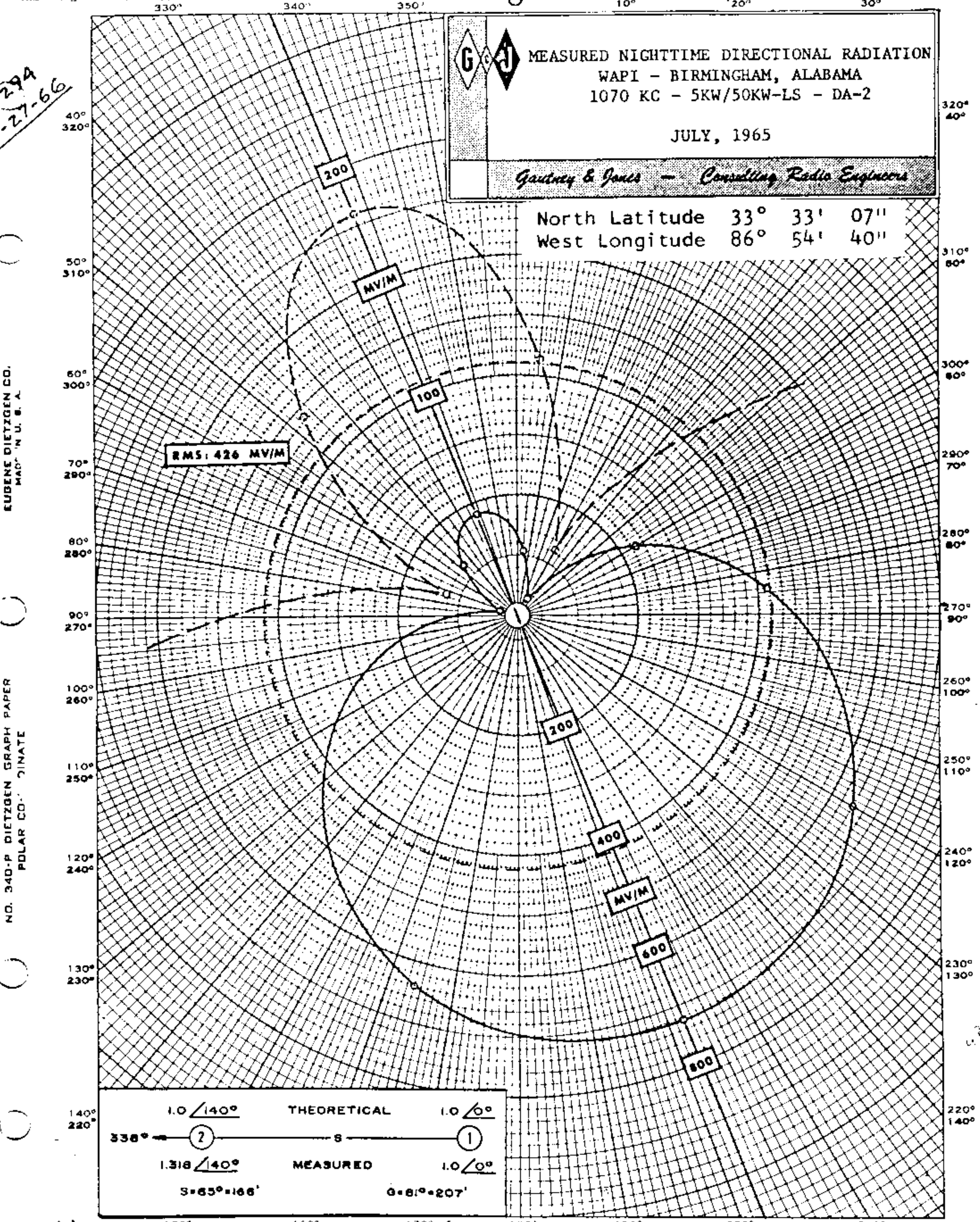
WAPI

Measured Night
(8-26-66ct)

Station WAPI
Birmingham, Alabama

5kw,50kw-LS,DA-N,U
1070 kc

BL 11294
LL 6-27-66



FCC File No.BL-11294
Accepted

Station WAPI
Birmingham, Alabama

1070 kc

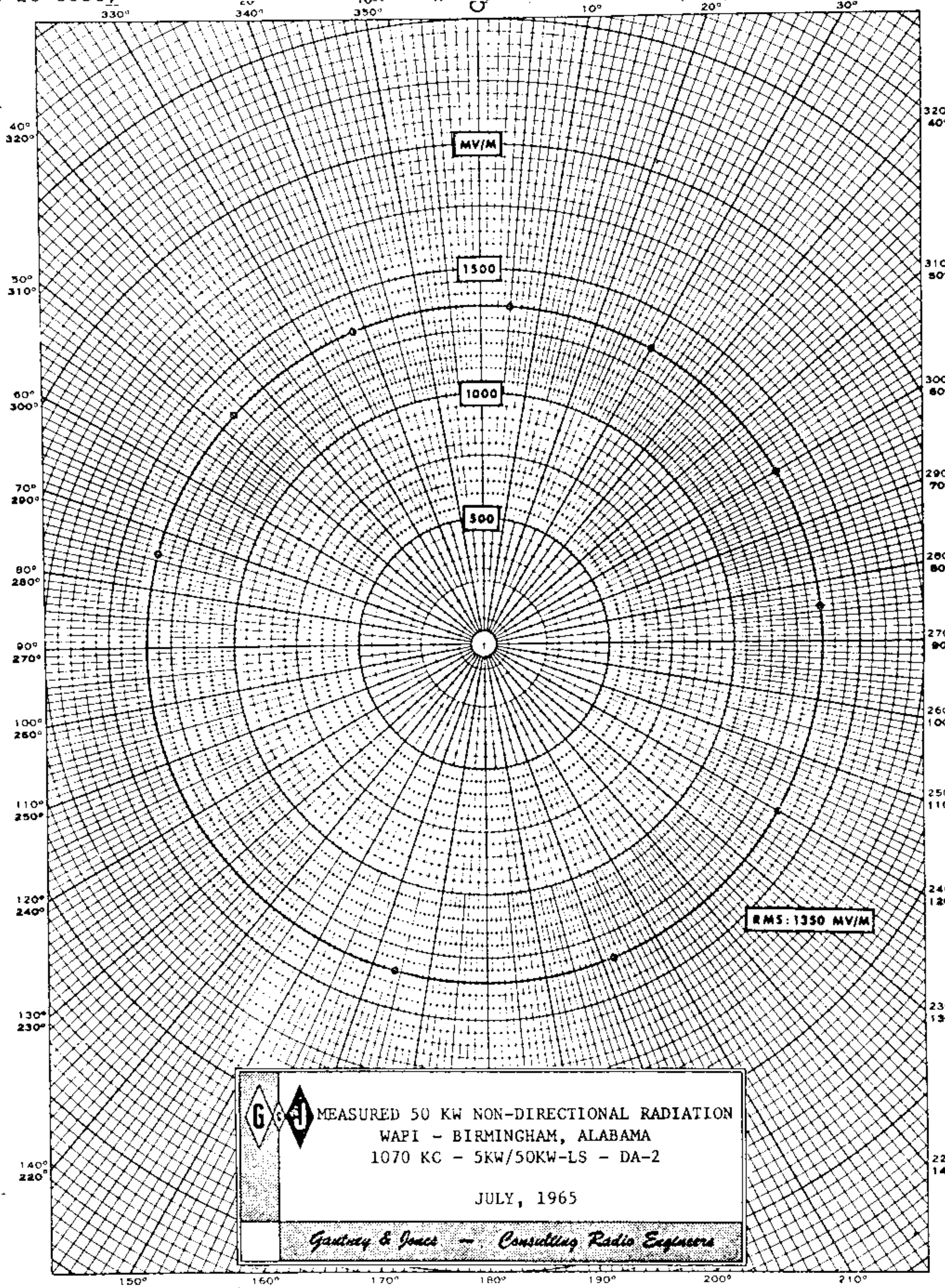
WAPI

Measured Non-DA
(8-26-66ct)

Station WAPI
Birmingham, Alabama

5kw,50kw-LS,DA-N,U
1070 kc

BL-11294
LIC 6-27-66



FCC File No. BL-11294
Accepted

Station WAPI
Birmingham, Alabama

1070 kc

WDIA

DIRECTIONAL ANTENNA DESCRIPTION SHEET

97300

Station: WDIA

Main Studio: Memphis, Tennessee

Frequency: 1070kc/s

Power: 5kw Night 50kw Day

Notification List No. 494

Date: February 18, 1953 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 35° 16' 05"
West Longitude: 90° 01' 03"

ANTENNA CHARACTERISTICS

Authorized for Day and Night operation. (DA-2)
Number of elements: Six (6)
Type of elements: Series-fed, uniform cross-section, guyed, vertical steel towers.

Tower:	1 NE	2 SE	3 South Center	4 SW	5 NW	6 North center
Height Above Insulators:	230'	230'	230'	230'	230'	230'
Night Phasing:	115°	15°	0°	-15°	85°	100°
Night Field Ratio:	1.0	1.0	1.932	1.0	1.0	1.932
Day Phasing:	70°	10°	0°	unused	unused	60°
Day Field Ratio	1.0	1.0	0.6	unused	unused	0.6

Orientation: Towers 1, 2, 4, and 5 are at the vertices of a parallelogram. Sides 1-2 and 5-4 are 230' (90°) in length, and bear 10.2° true. Sides 1-5 and 2-4 are 1073.2' (420°) long and bear 90.2° ture. Towers numbers 6 and 3 are located at midpoints of sides 1-5 and 2-4, respectively.

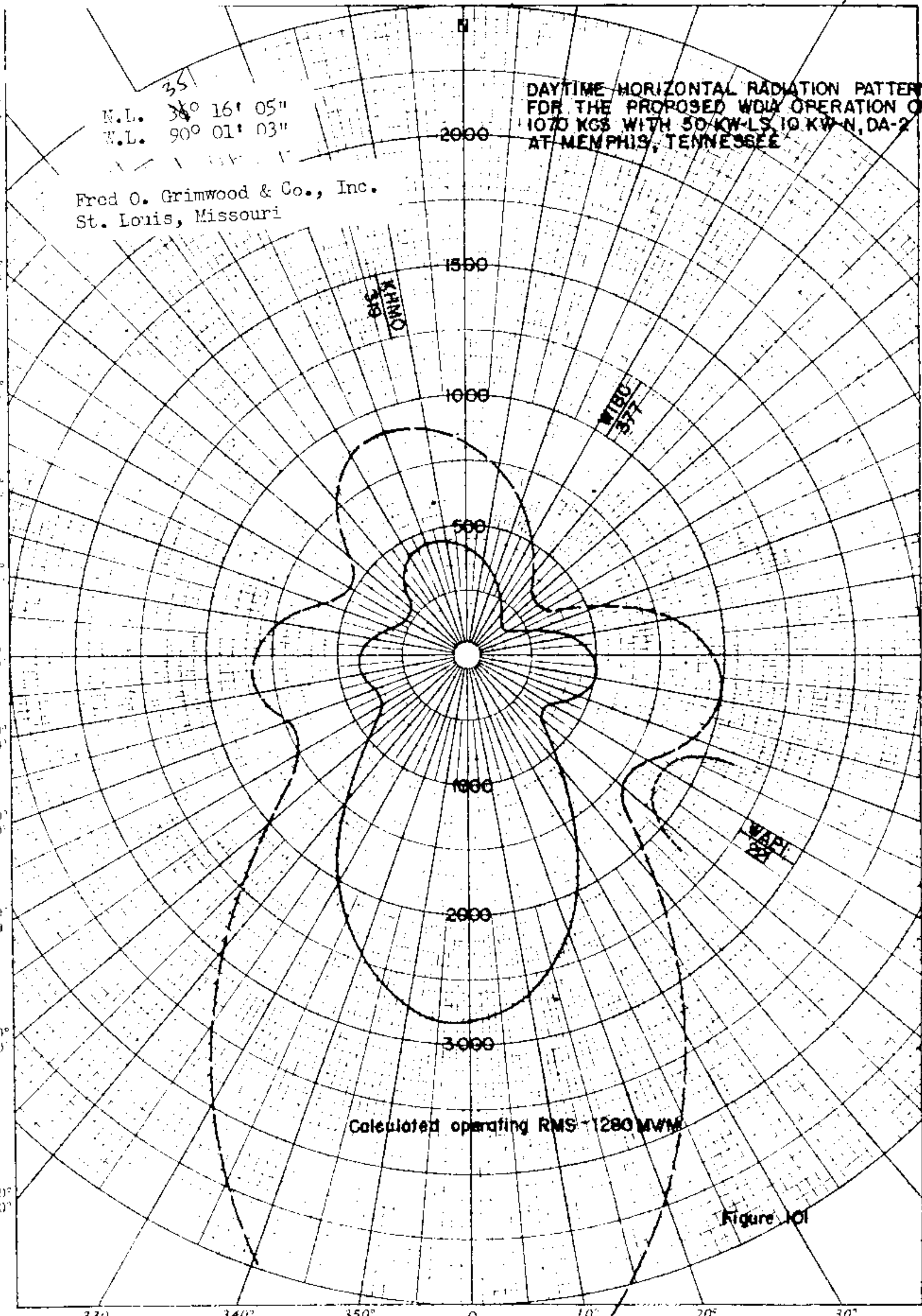
Ground System: 120-200' equally spaced radials about each tower base. Radials are shortened and bonded by transverse straps along intersections between towers.

Predicted effective Night Field: 397 mv/m at rated power.

Predicted effective Day Field: 1280 mv/m at rated power.

WDIA

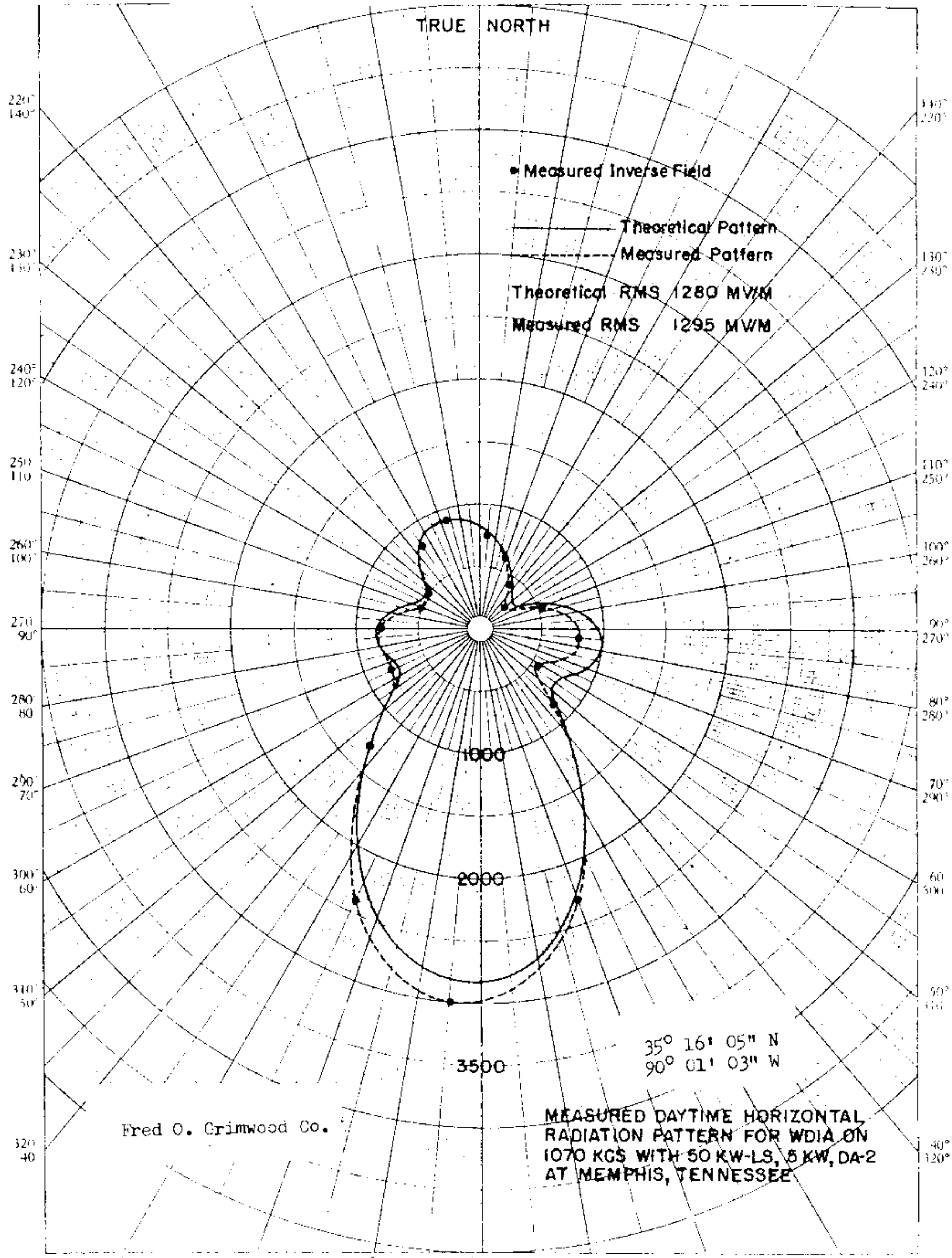
PROPOSED DAY | WDIA, MEMPHIS, TENN. 1/21/52G | 10 KW, 50 KW-LS, U, DA-2 | 1070 KC



APPL RECD 12/29/51 ACC 1/3/52 BP-8343 | WDIA, MEMPHIS, TENN. | 1070 KC

WDIA

MEASURED DAY (7/13/54G) WDIA, Memphis, Tenn. 5KW, 50KW-LS, U, DA-2 1070 kc

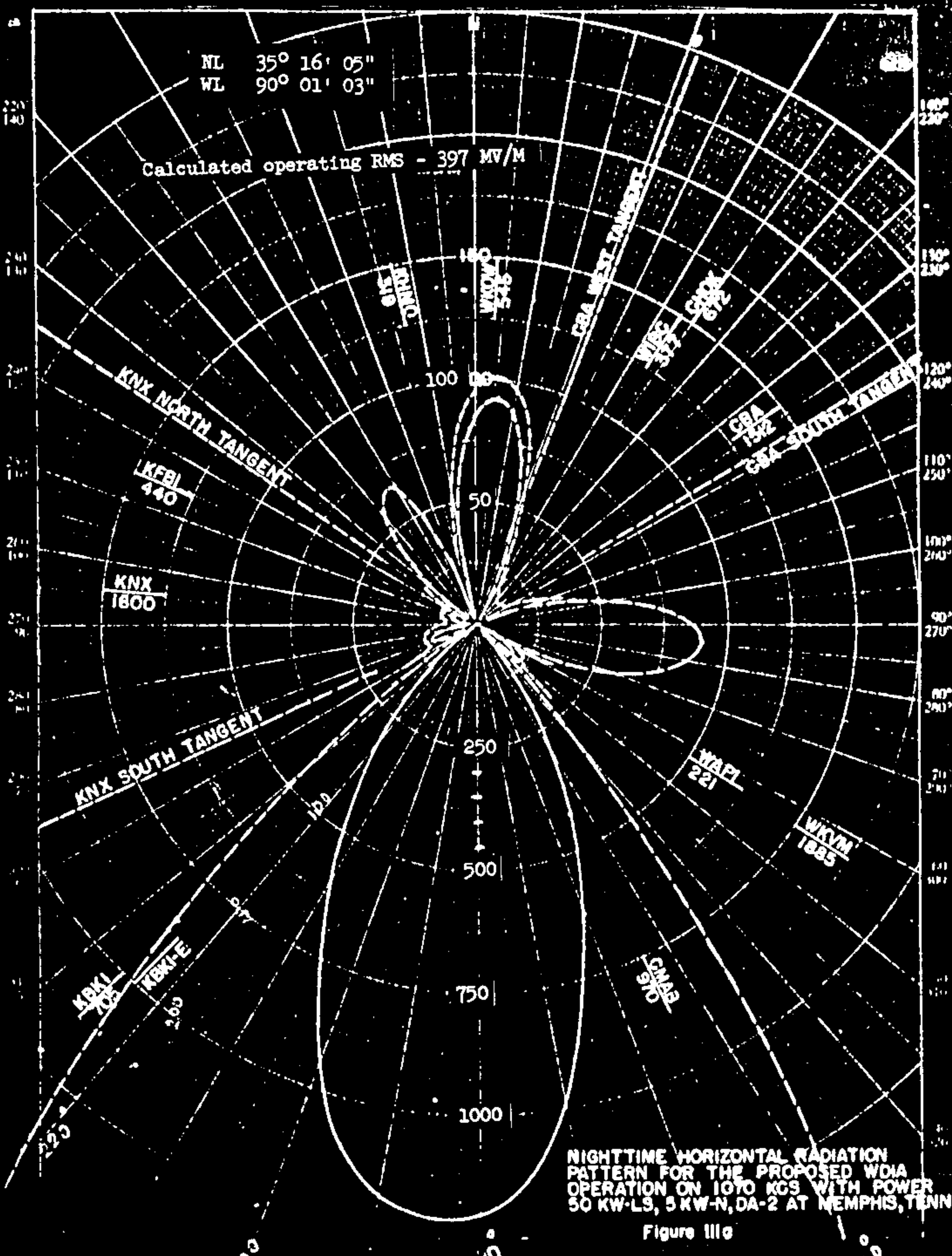


FCC File No. BL-5341 Accepted 6/24/54 WDIA, Memphis, Tenn. 1070 kc

PROPOSED NIGHT

Station WDIA
Memphis, Tennessee

5kw,50kw-LS, DA-2,U
1070 KC



NIGHTTIME HORIZONTAL RADIATION PATTERN FOR THE PROPOSED WDIA OPERATION ON 1070 KCS WITH POWER 50 KW-LS, 5 KW-N, DA-2 AT MEMPHIS, TENN.

Figure IIIa

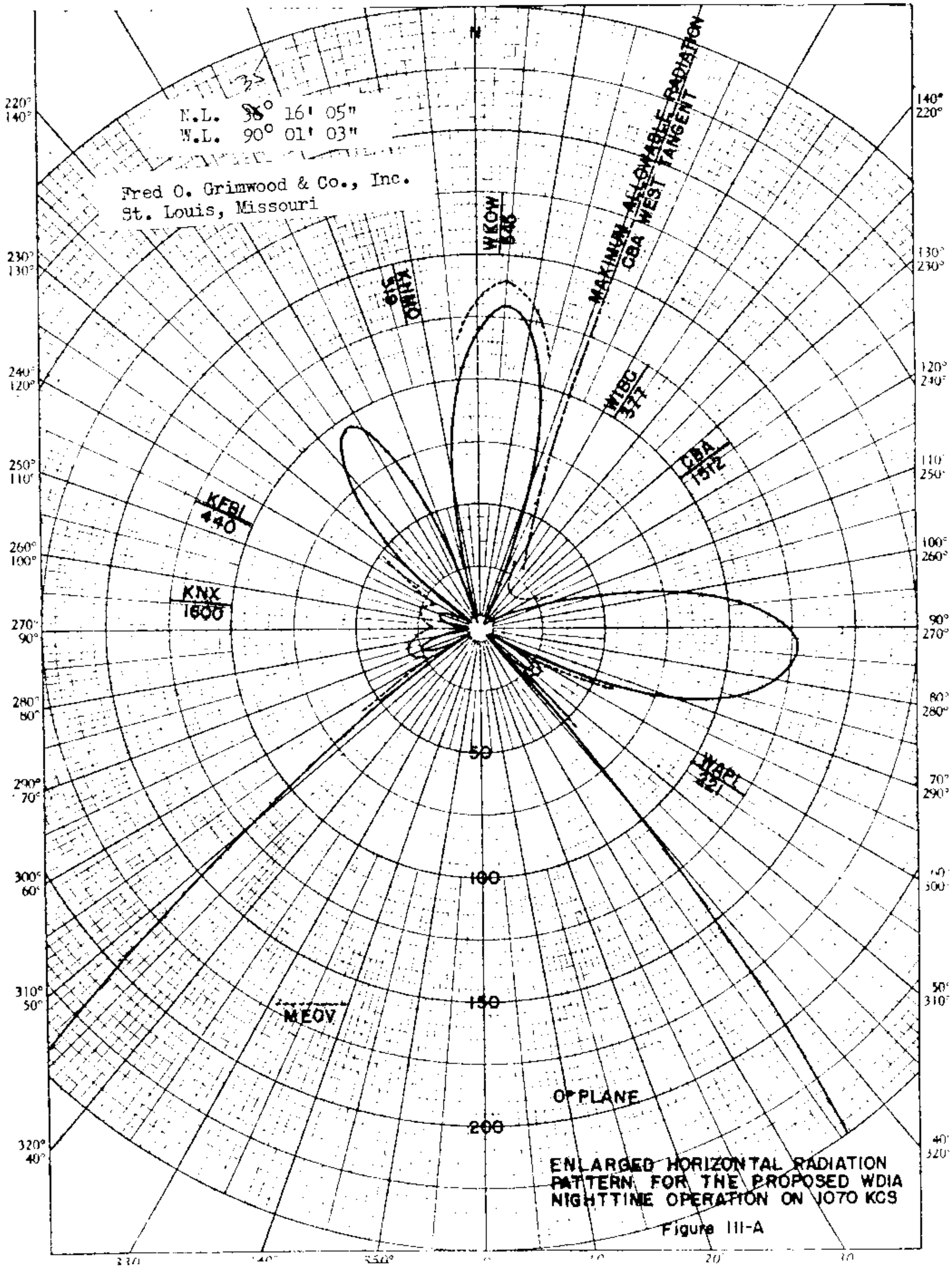
FCC File No.
BP-8343

WDIA
Memphis, Tennessee

1070KC

WDIA

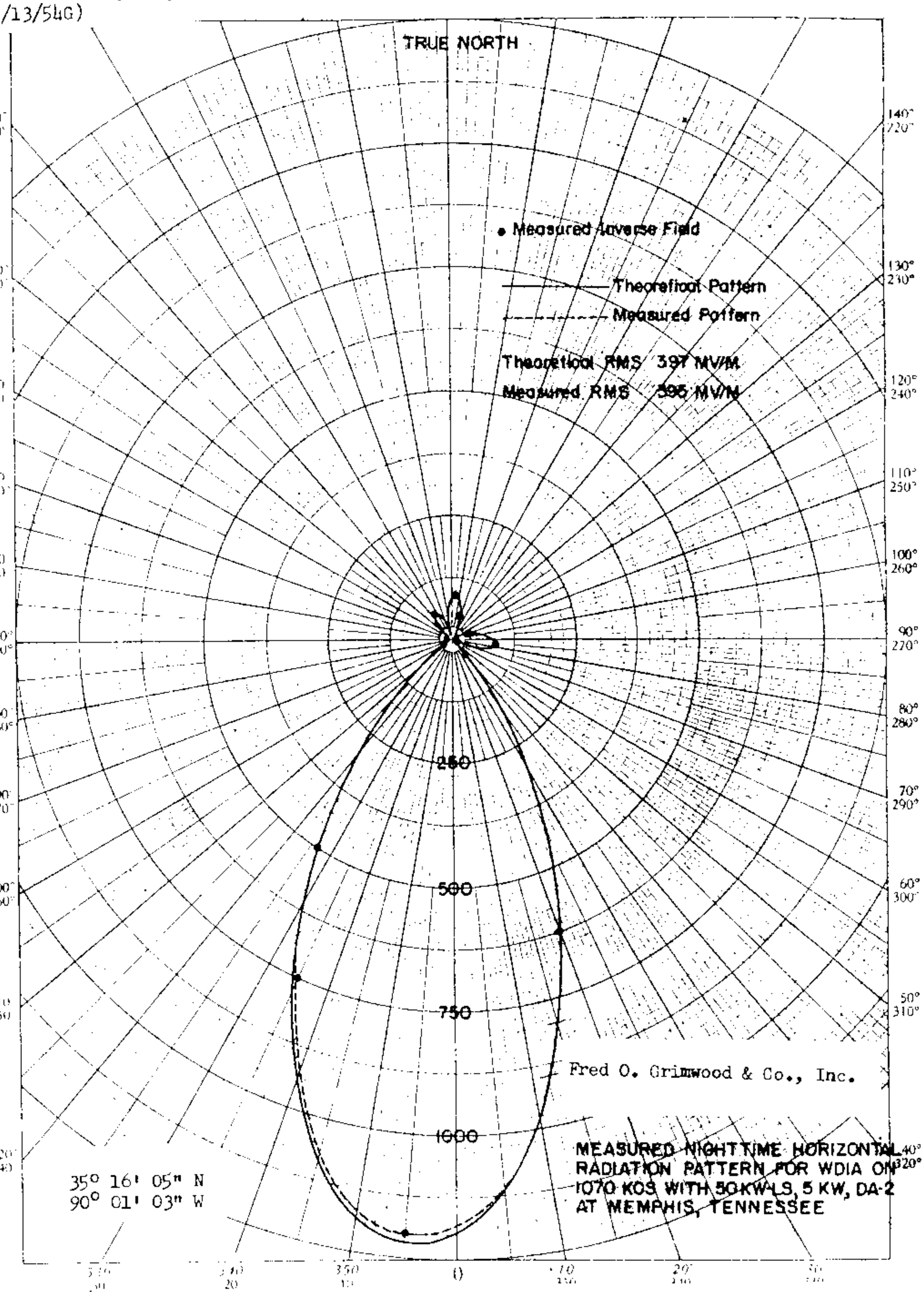
PROPOSED NIGHT NULLS WDIA, MEMPHIS, TENN. 1/21/52G 10 KW, 50 KW-LS, U, DA-2 1070 KC



APPL RECD 12/29/51 ACC 1/3/52 BP-8343 WDIA, MEMPHIS, TENN. 1070 KC

WDIA

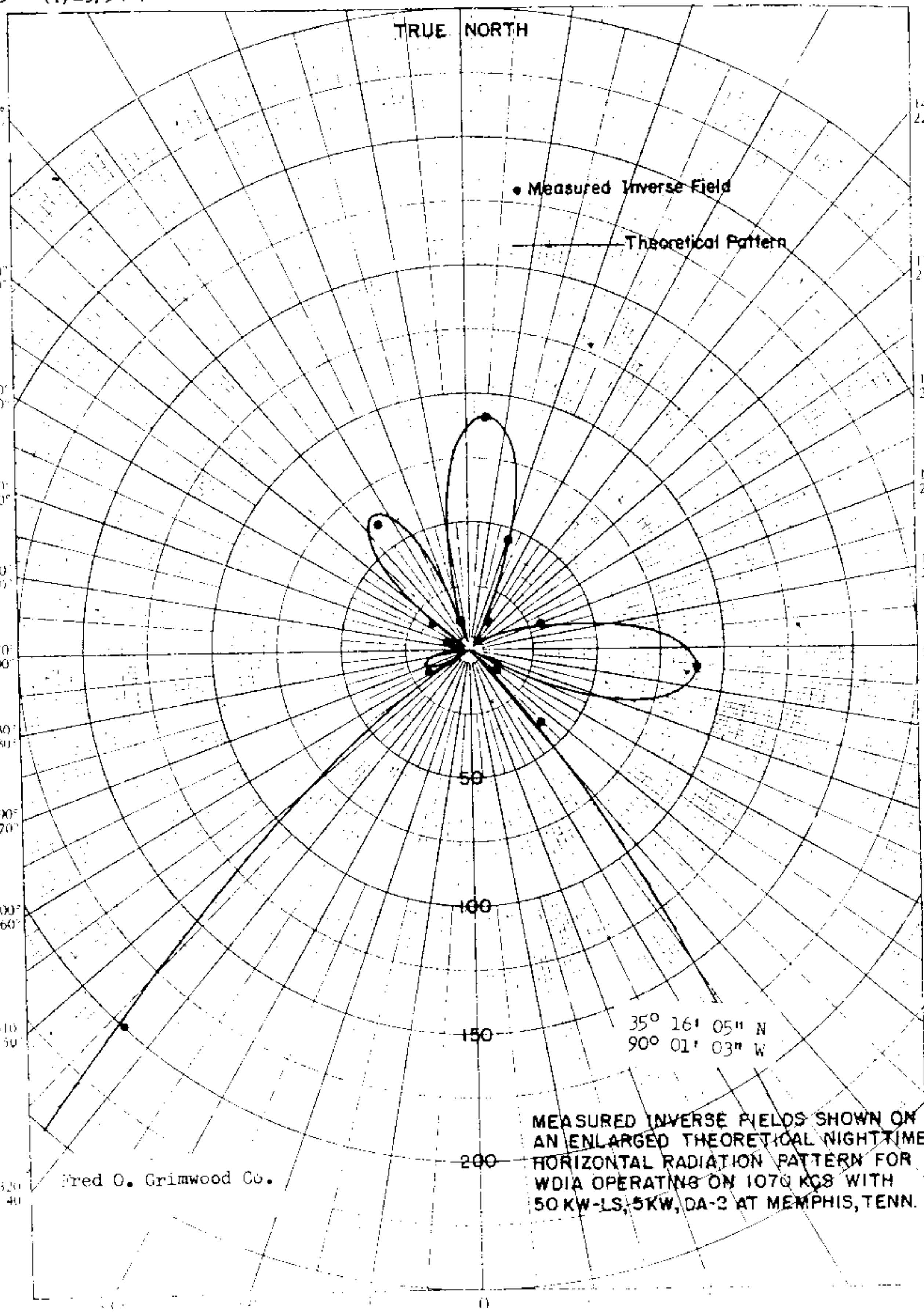
MEASURED WDIA, Memphis, Tenn. 5KW-50KW-LS, U, DA-2 1070 kc
NIGHT (7/13/54G)



FCC File No. BL-5341 Accepted 6/24/54 WDIA, Memphis, Tenn. 1070 kc

WDIA
1070 kc

MEASURED NIGHT NULLS WDIA, Memphis, Tenn.. 5KW, 50kw,LS, U, DA-2
(7/13/54G)



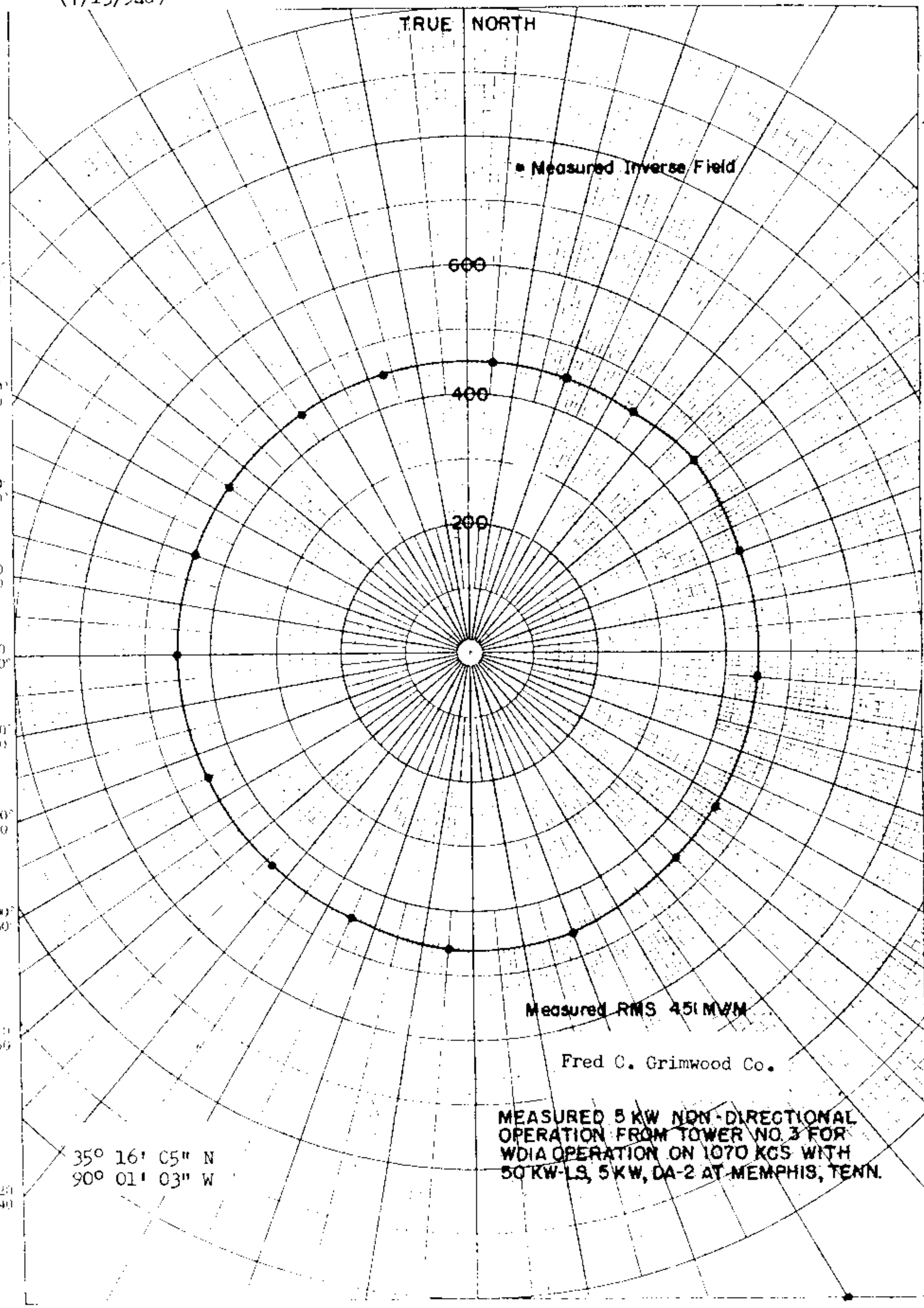
1070 kc

FCC File No. BL-5341 Accepted 6/24/54 WDIA, Memphis, Tenn.

WDIA

MEASURED NON-DA WDIA, MEMPHIS, TENN. 5KW, 50KW*LS, U, DA-2 1070 kc

(7/13/54G)



FCC File No. BL-5341 Accepted 6/24/54 WDIA, Memphis, Tenn. 1070 kc

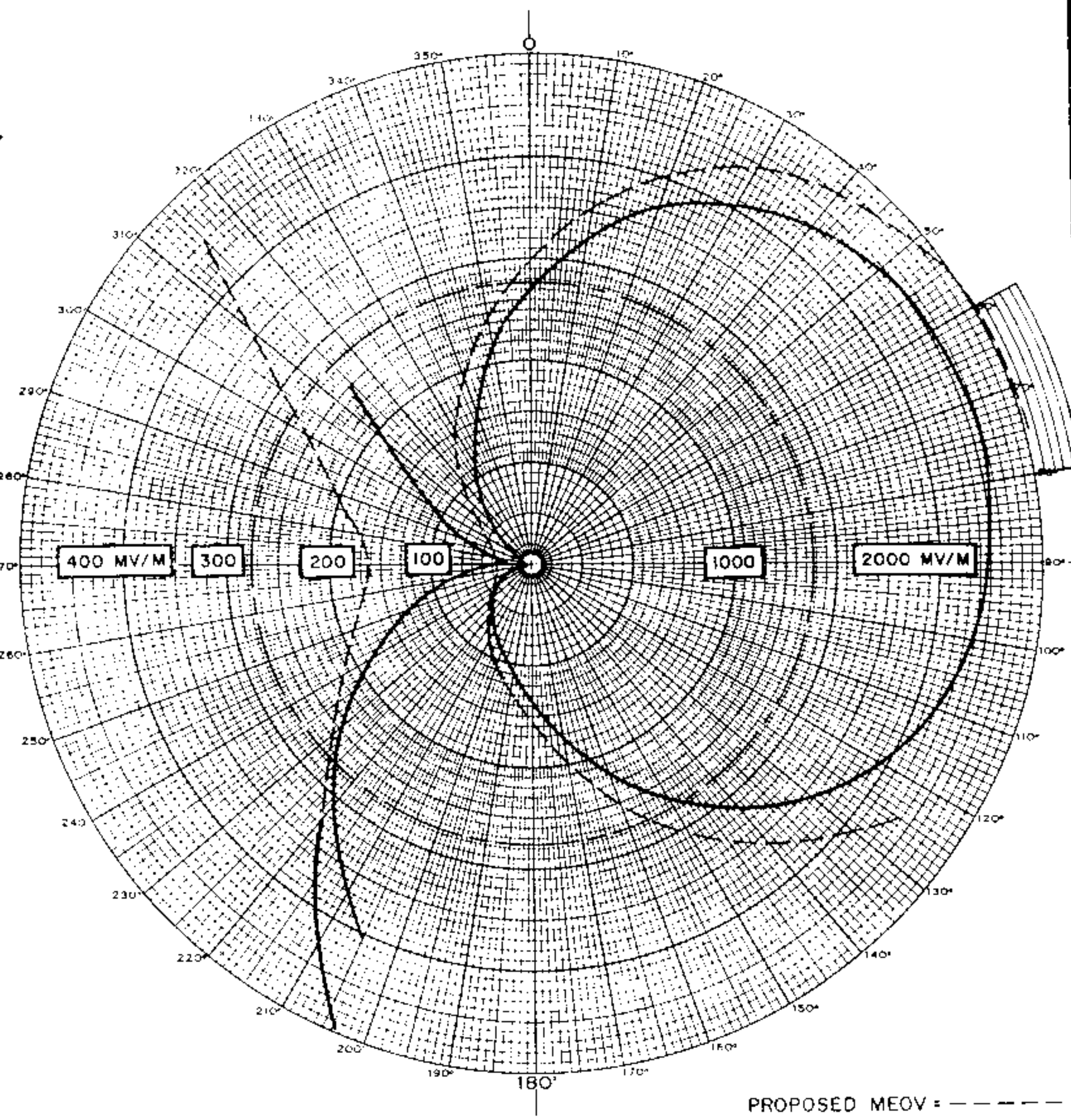
VVFLI

Proposed Day
(6-28-67ct)

Station WFLI
Lookout Mountain, Tennessee

1kw,50kw-LS,DA-2,U
1070 kc

6-22-67
GRANTED
CP in
change in
DA PATTERN



LATITUDE 35° 02' 41.5"
LONGITUDE 85° 21' 43.5"

JOHN H. MULLANEY
AND
ASSOCIATES

ANTENNA PARAMETERS

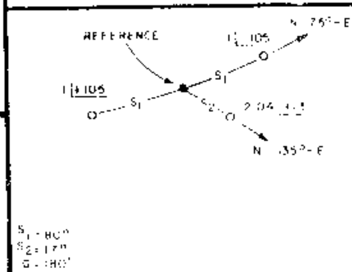


FIGURE 1
PRESENT DAYTIME PATTERN
WITH PROPOSED MEOV

RADIO STATION WFLI
LOOKOUT MOUNTAIN
TENNESSEE

1070 KHz 1/50KW-LS DA-2,U

FCC File No.BMP-12076
Accepted 6-12-67

Station WFLI
Lookout Mountain, Tennessee

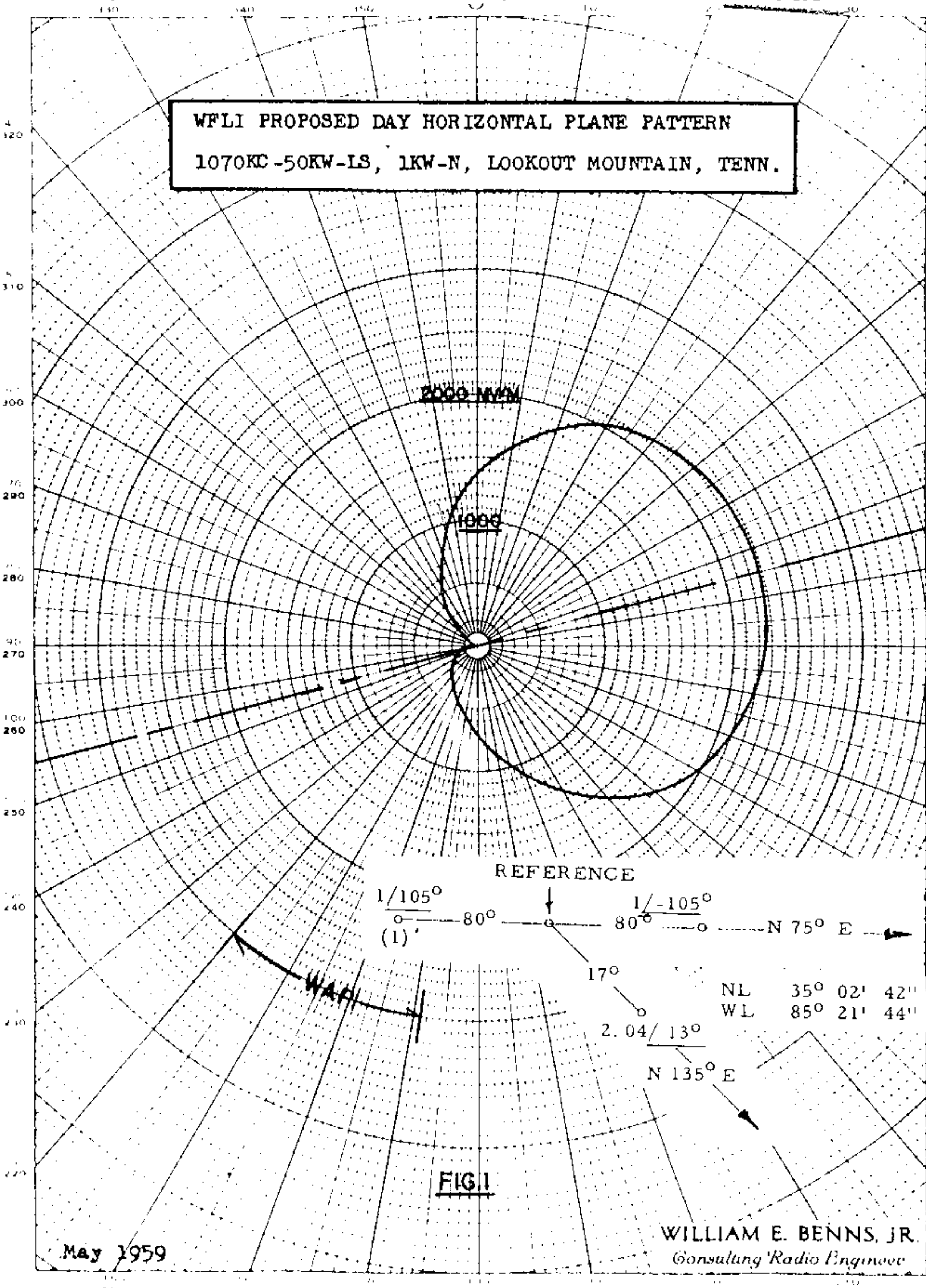
1070 kc

WFLI

PROPOSED DAY
(6-16-59g)

Station WFLI
Lookout Mountain, Tennessee

1kw, 50kw-LS, DA-2, U
1070 KC



FCC File No. BMP-8438
Accepted 5-18-59 (Amended)

WFLI
Lookout Mountain, Tennessee

1070 KC

WFLI

PROPOSED DAY NULLS
(6-16-59g)

Station WFLI 1kw, 50kw-LS, DA-2, U
Lookout Mountain, Tennessee 1070 KC

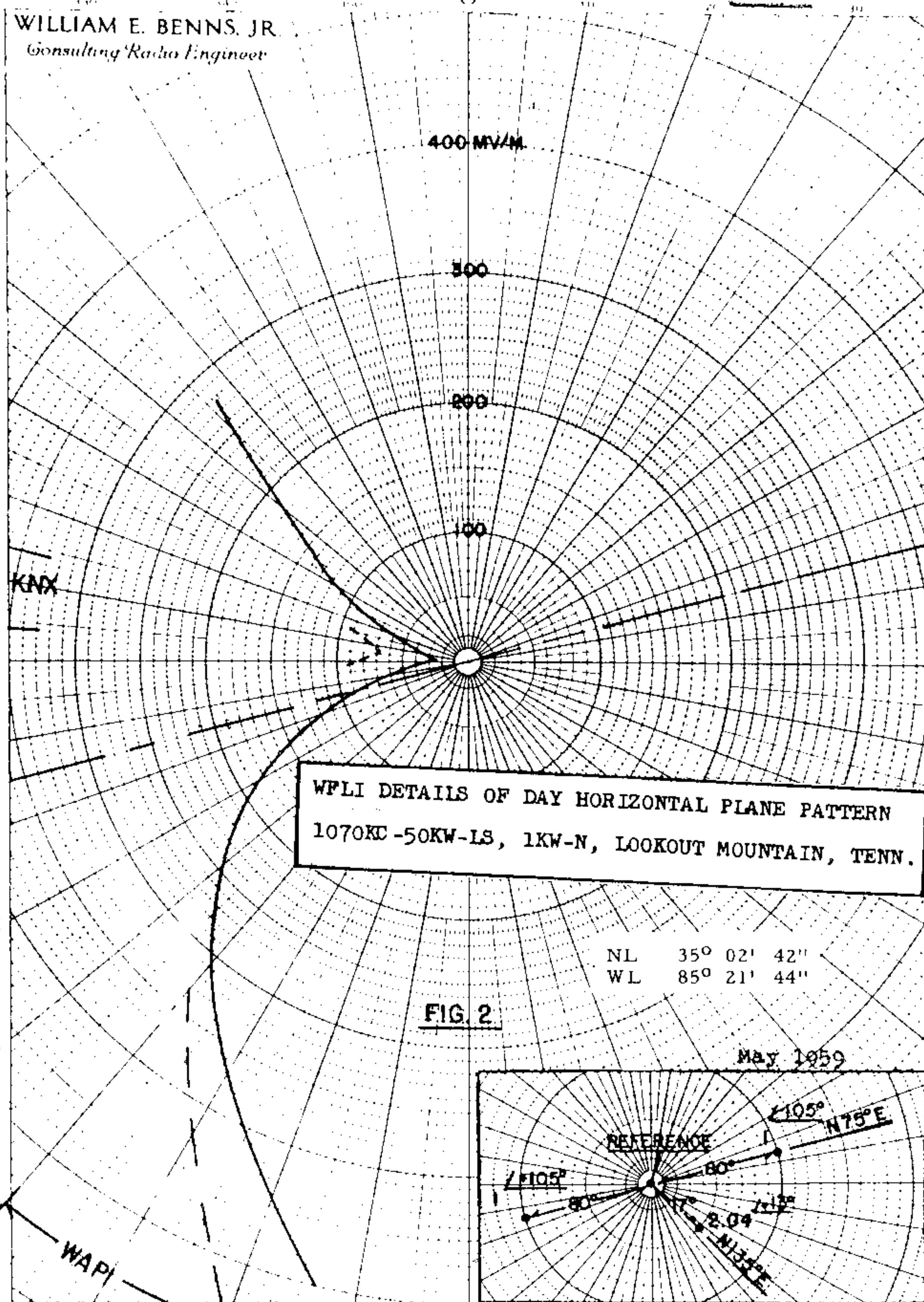


FIG. 2

FCC File No. BMP-8438
Accepted 5-18-59 (Amended)

WFLI
Lookout Mountain, Tennessee 1070 KC

LOOKOUT MT., ~~Mtn~~ TENN.

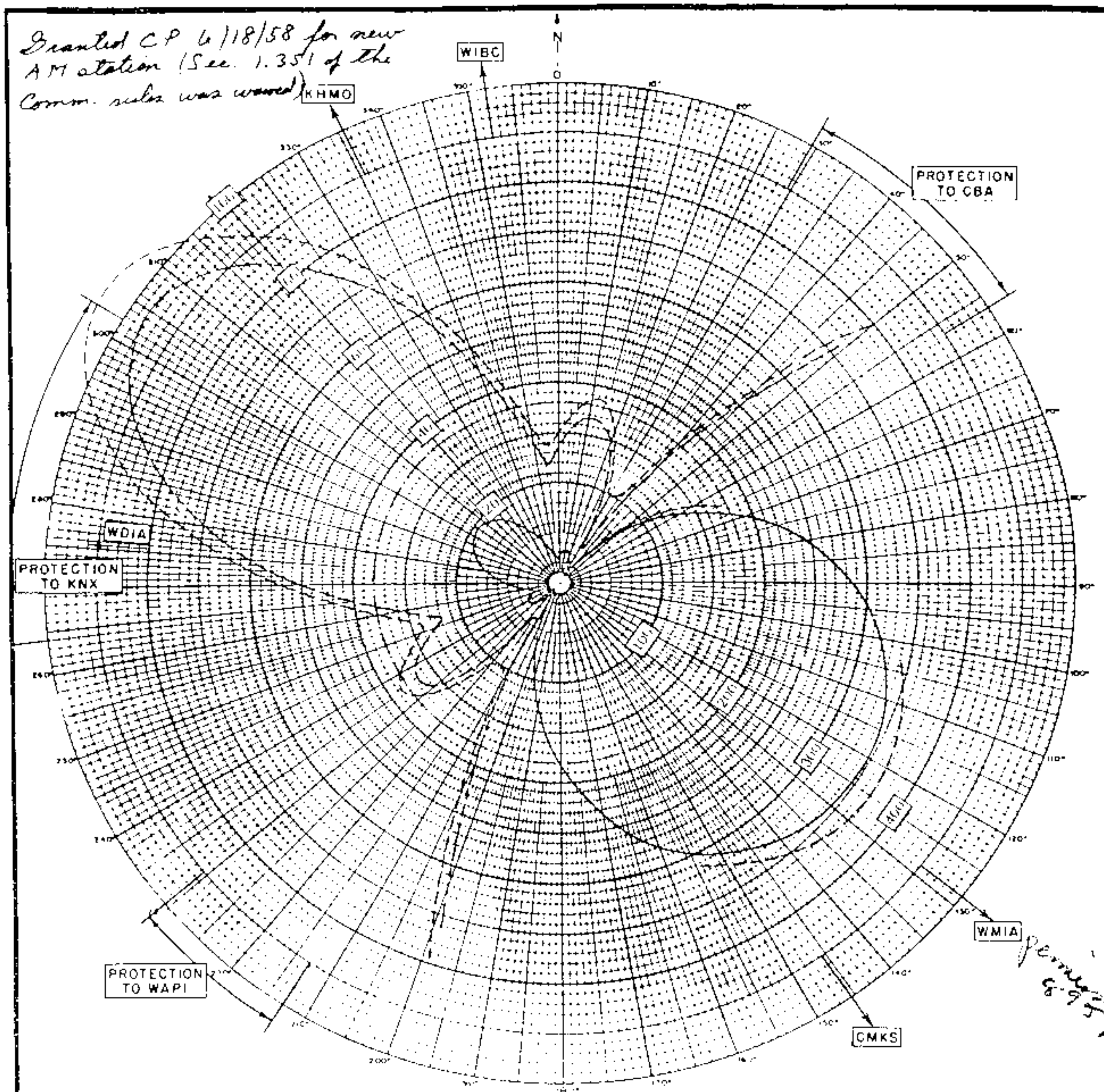
WFLI

PROPOSED NIGHT (3-12-58g)

New; Lookout B/Csters 1kw,10kw-LS, DA-2,U

Lookout Mountain, Tennessee 1070 KC

Granted CP 6/18/58 for new AM station (Sec. 1.351 of the Comm. rules was waived)



E_{RMS} =180 MV/M

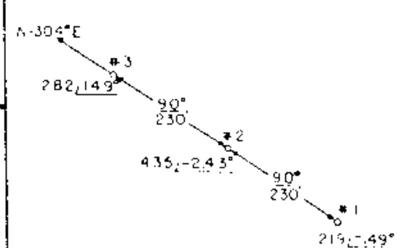
-------EXPANDED SCALE
------MEOV

LATITUDE 35° 02' 41.5"

LONGITUDE 85° 21' 43.5"

JOHN H. MULLANEY

ANTENNA PARAMETERS



G=70.5°

FIGURE 4A

NIGHTTIME HORIZONTAL POLAR PATTERN (GROUND)

LOOKOUT B/CASTERS

LOOKOUT MTN., TENN.

1070 KC 1 KW,10KW-LS,DA-2

Permit 8-9-59

FCC File No. BP-8816
Accepted 2-28-55

Lookout Broadcasters
Lookout Mountain, Tennessee 1070 KC

WFLI

Measured Day
(6-28-68ct)

Station WFLI
Lookout Mountain, Tennessee

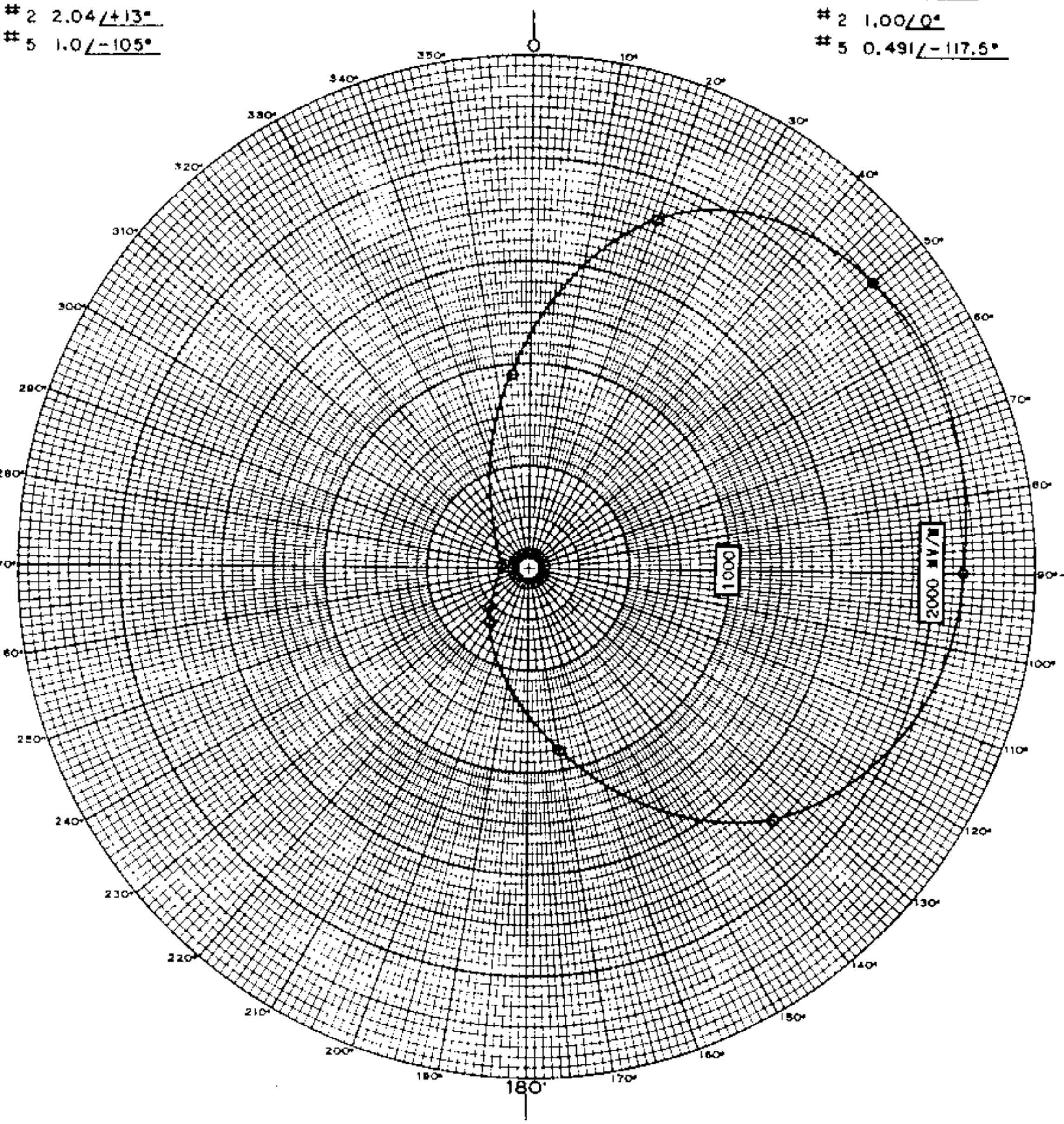
1kw,50kw-LS,DA-2,U
1070 kc

THEORETICAL PARAMETERS

#4 1.0/+105°
#2 2.04/+13°
#5 1.0/-105°

MEASURED PARAMETERS

#4 0.867/+75°
#2 1.00/0°
#5 0.491/-117.5°



E_{RMS} = 1340 MV/M

⊙ RADIAL VALUES

LATITUDE 35° 02' 42"

LONGITUDE 85° 21' 44"

JOHN H. MULLANEY
AND
ASSOCIATES

ANTENNA PARAMETERS

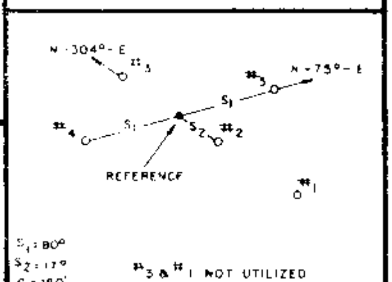


FIGURE 15

MEASURED DAYTIME
DIRECTIONAL PATTERN

RADIO STATION WFLI

LOOKOUT MOUNTAIN
TENNESSEE

1070 KHz

1/50 KW-LS DA-2

FCC File No.BL-11991
Accepted 6-14-68

Station WFLI
Lookout Mountain, Tennessee

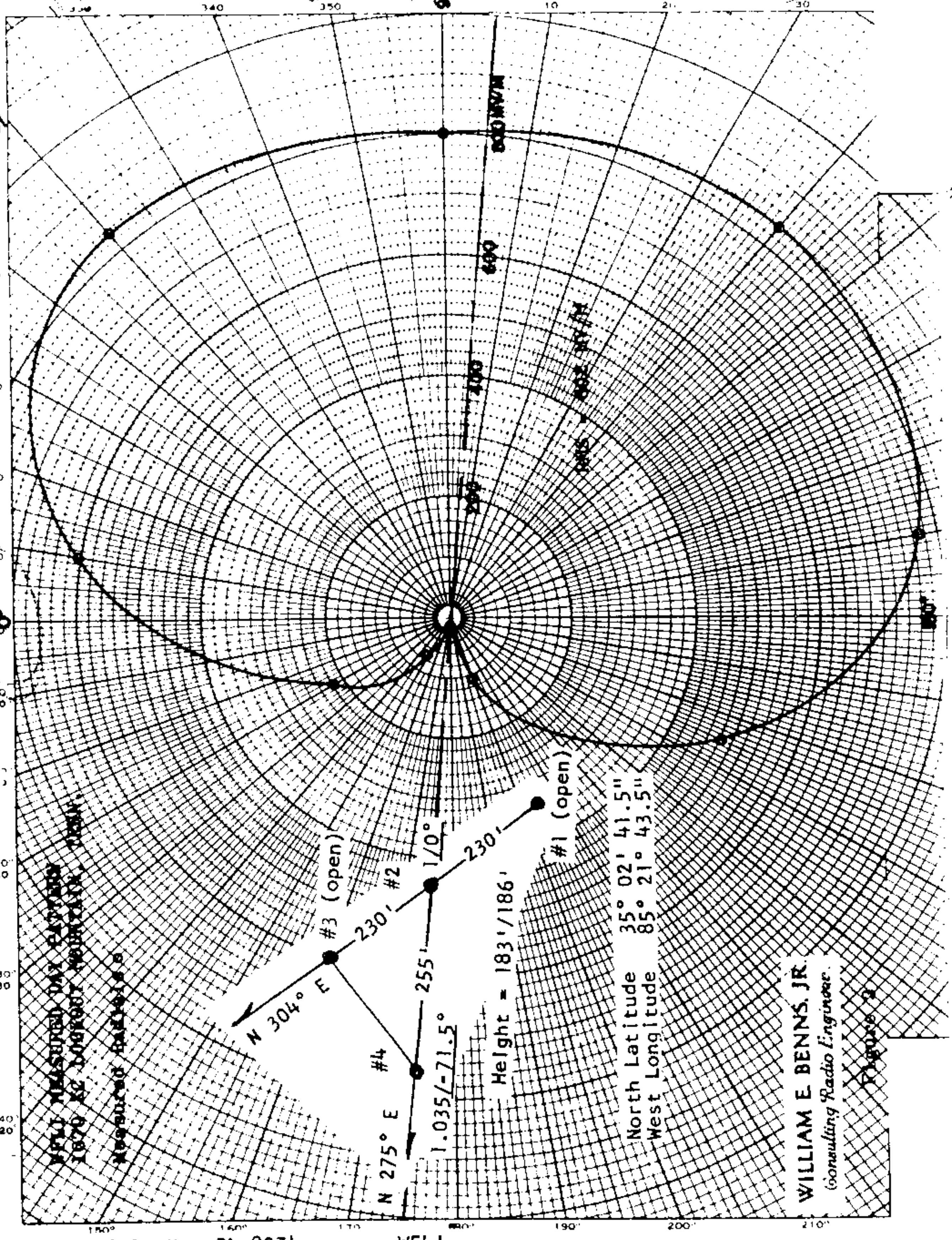
1070 kc

WFLI

MEASURED DAY (4-10-61g)

Station WFLI 1kw,10kw-LS, DA-2,U
Lookout Mountain, Tennessee 1070 KC

1-8-62 granted L for new station



FCC File No. BL-8274
Accepted 3-29-61

WFLI
Lookout Mountain, Tennessee 1070 KC

WFLI

Measured Night (6-28-68ct)

Station WFLI
Lookout Mountain, Tennessee

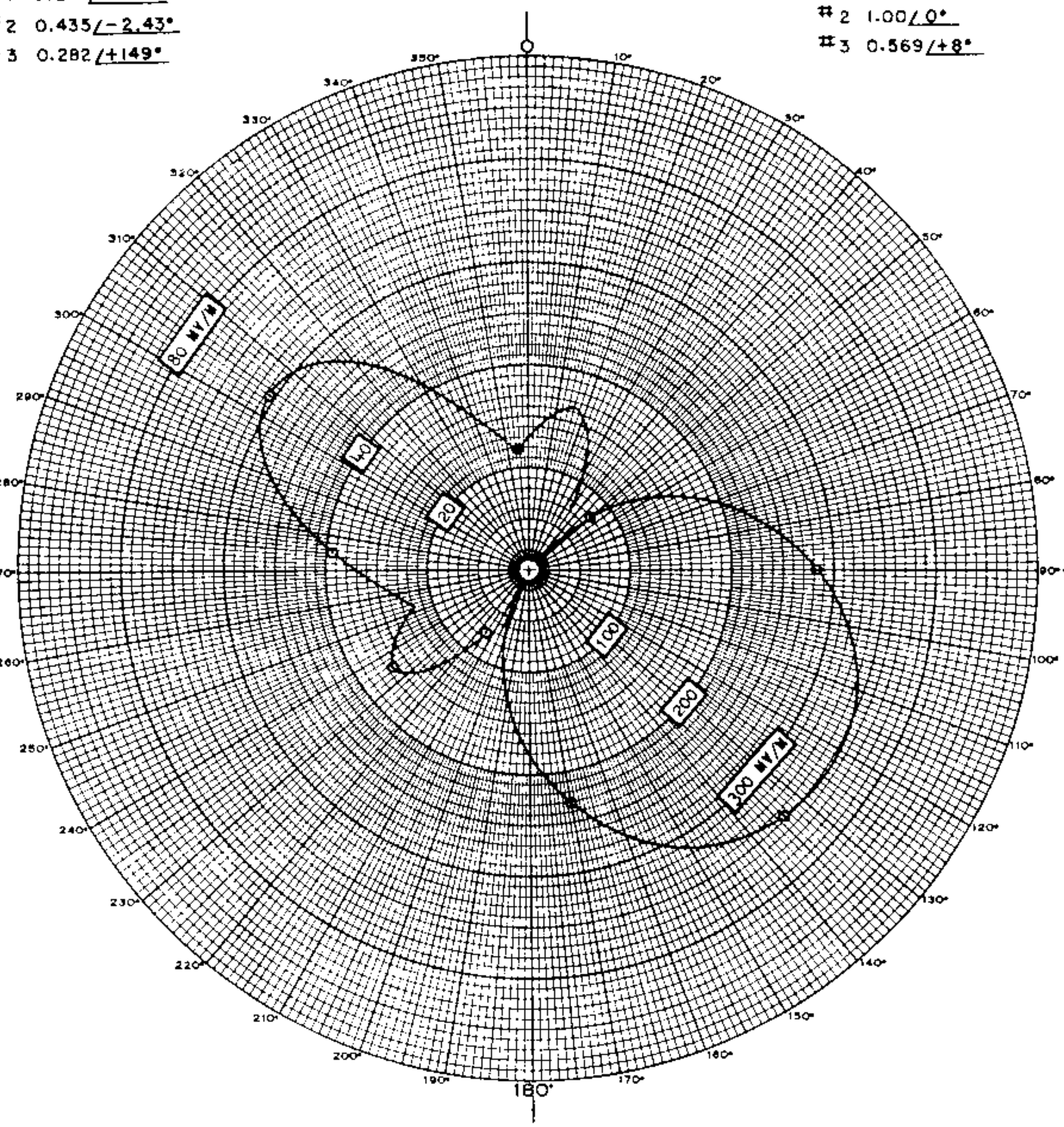
1kw,50kw-LS,DA-2,U
1070 kc

THEORETICAL PARAMETERS

#1 0.219 /-149°
#2 0.435 /-2.43°
#3 0.282 /+149°

MEASURED PARAMETERS

#1 0.608 /+16°
#2 1.00 /0°
#3 0.569 /+8°



E_{RMS} = 177 MV/M

⊙ RADIAL VALUES

LATITUDE: 35° 02' 42"
LONGITUDE: 85° 21' 44"

JOHN H. MULLANEY
AND
ASSOCIATES

ANTENNA PARAMETERS

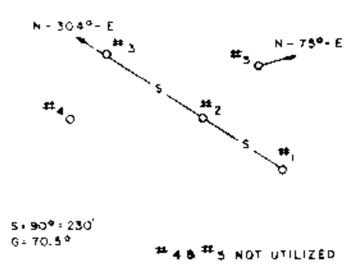


FIGURE 14

MEASURED NIGHTTIME DIRECTIONAL PATTERN

RADIO STATION WFLI

LOOKOUT MOUNTAIN
TENNESSEE

1070 KHz
1/50 KW-LS DA-2

FCC File No. BL-11991
Accepted 6-14-68

Station WFLI
Lookout Mountain, Tennessee

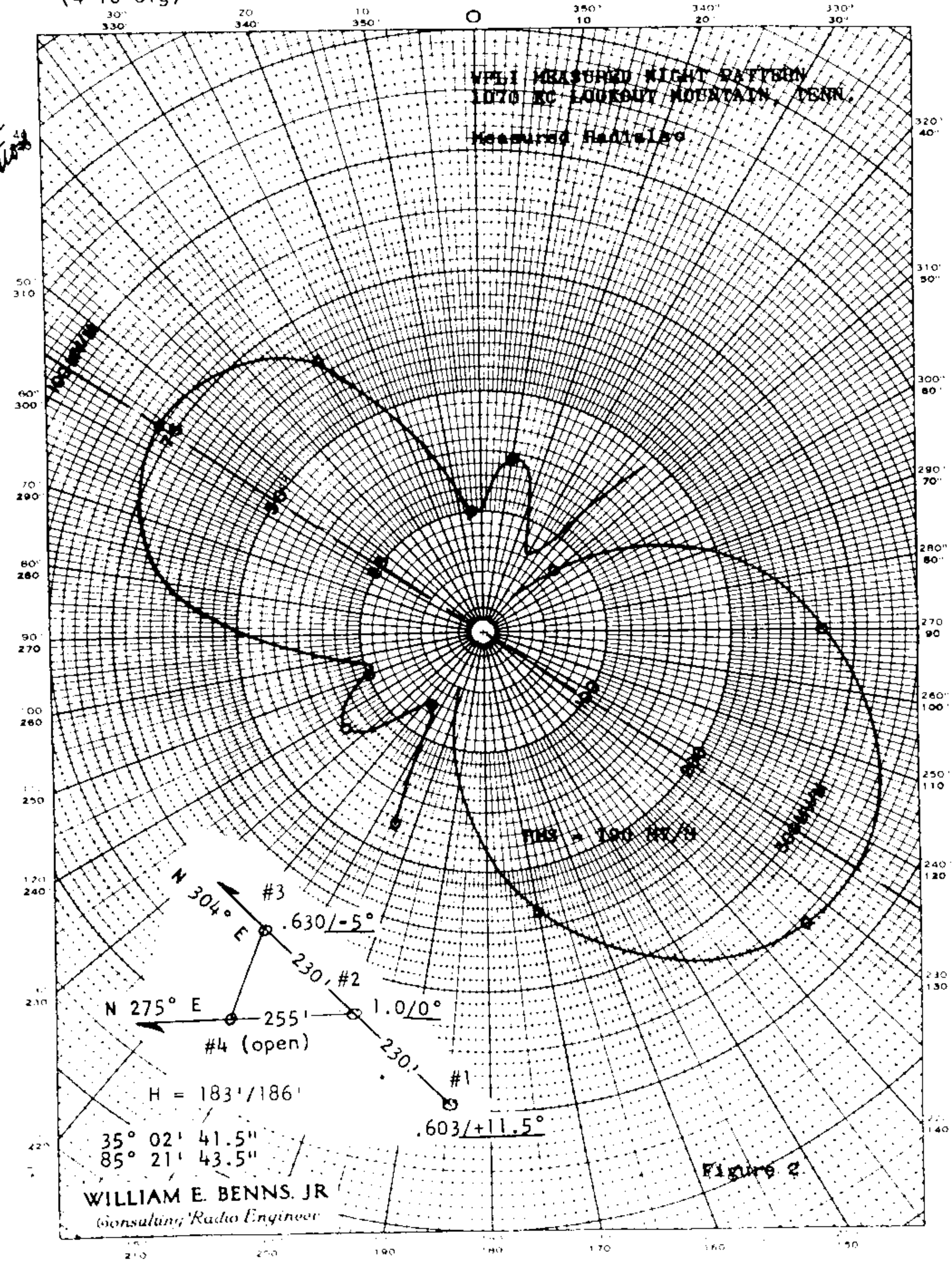
1070 kc

WFLI

MEASURED NIGHT
(4-10-61g)

Station WFLI   1kw, 10kw-LS, DA-2,U
Lookout, Mountain, Tennessee   1070 KC

1-8-62 granted L new station



FCC File No. BL-8274
Accepted 3-29-61

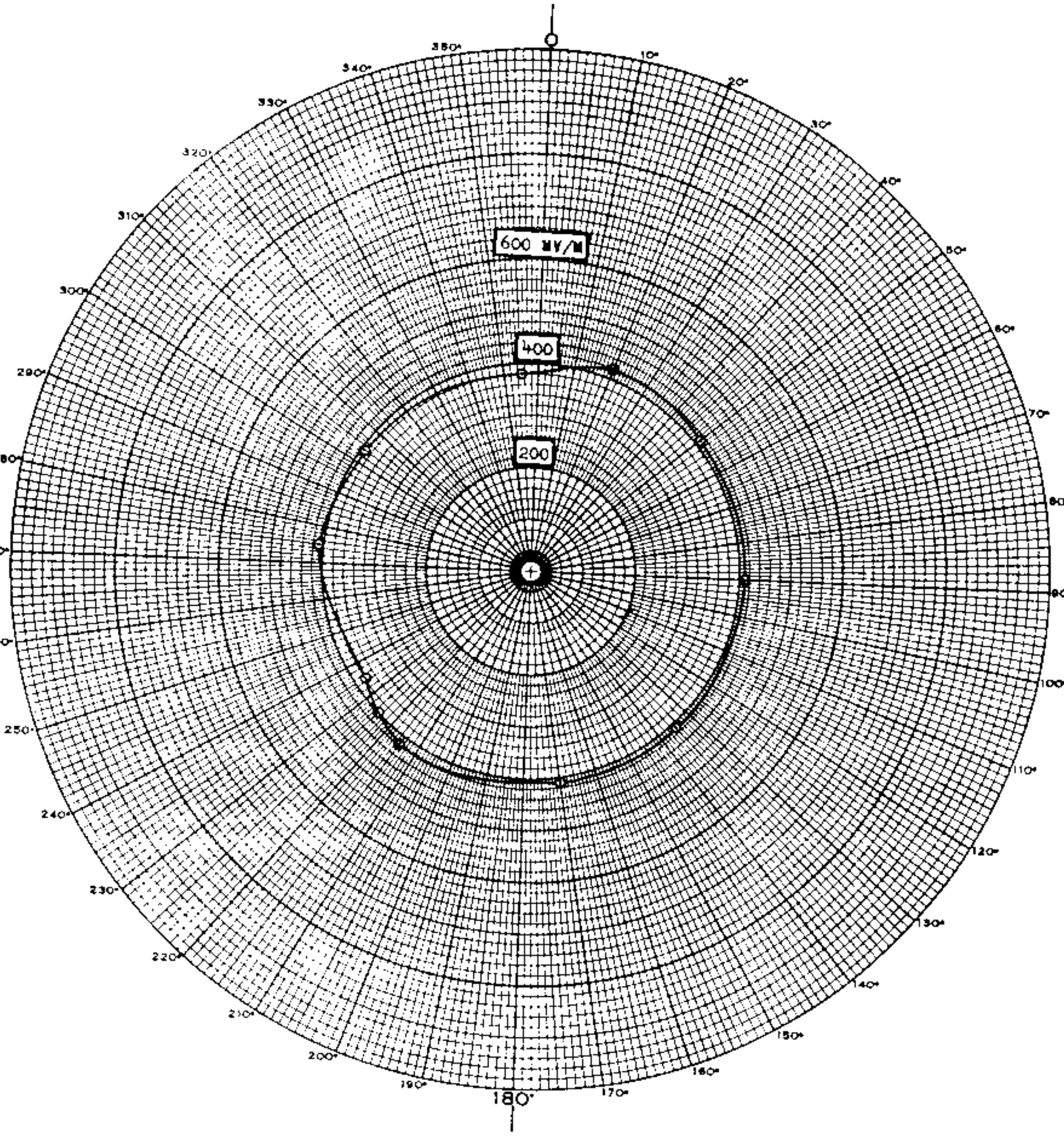
WFLI
Lookout Mountain, Tennessee   1070 KC

WFLI

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

Station WFLI
Lookout Mountain, Tennessee

1kw,50kw-LS,DA-2,U
1070 kc



E_{RMS} = 402 MV/M

⊖ RADIAL VALUES

LATITUDE: 35° 02' 42" LONGITUDE 85° 21' 44"	ANTENNA PARAMETERS	FIGURE 13 MEASURED 5 KW NONDIRECTIONAL
JOHN H. MULLANEY AND ASSOCIATES	TOWER NO. 2	RADIO STATION WFLI LOOKOUT MOUNTAIN TENNESSEE 1070 KHz 1/50 KW-LS DA-2

FCC File No.BL-11991
Accepted 6-14-68

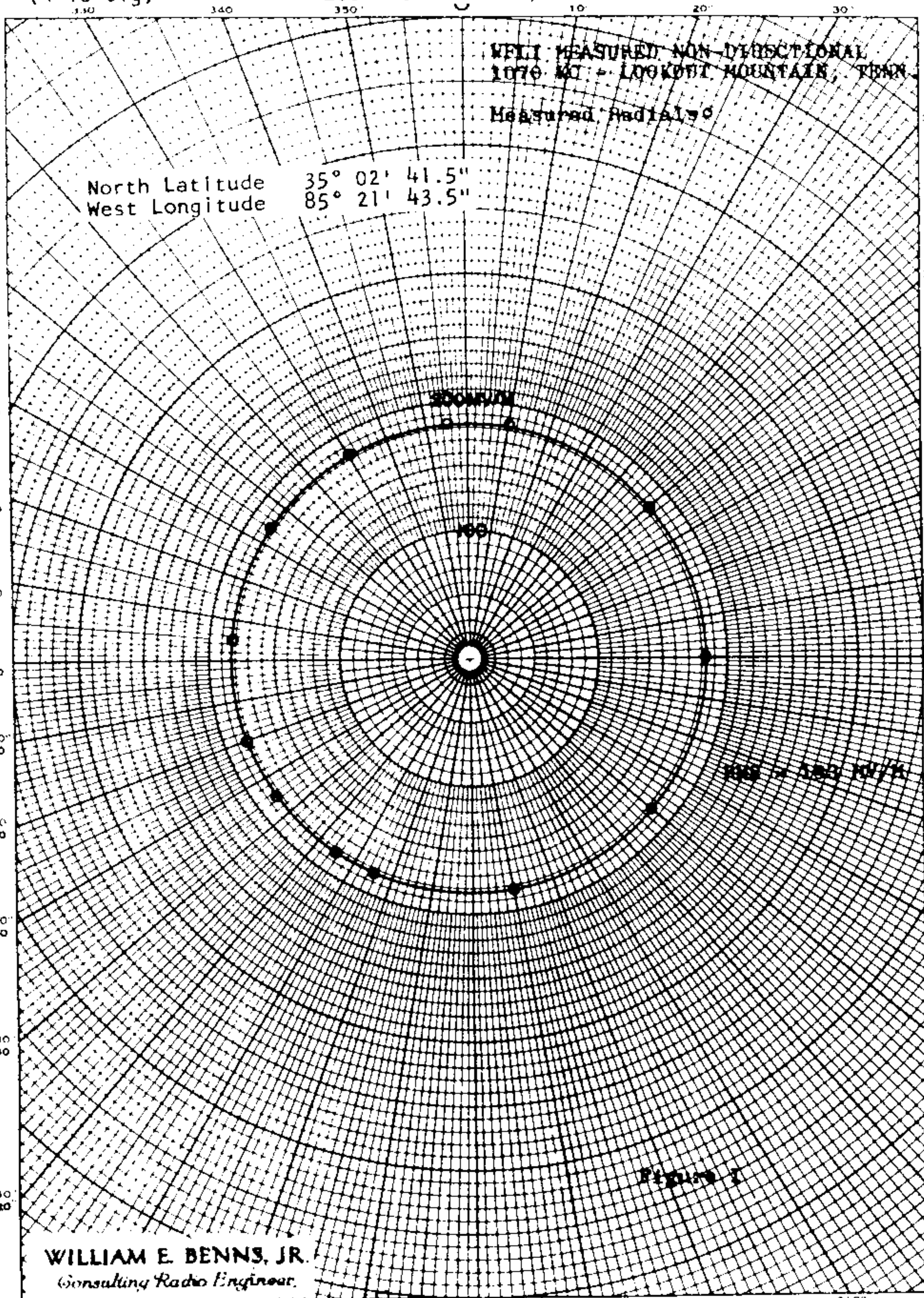
Station WFLI
Lookout Mountain, Tennessee

1070 kc

WFLI

MEASURED NON-DA
(4-10-61g)

Station WFLI 1kw, 10kw-LS, DA-2,U
Lookout Mountain, Tennessee 1070 KC



FCC File No. BL-8274
Accepted 3-29-61

WFLI
Lookout Mountain, Tennessee 1070 KC

WHYZ

Measured Day
(6-28-66ct)

Station WHYZ
Greenville, South Carolina

50kw,DA-D,D
1070 kc

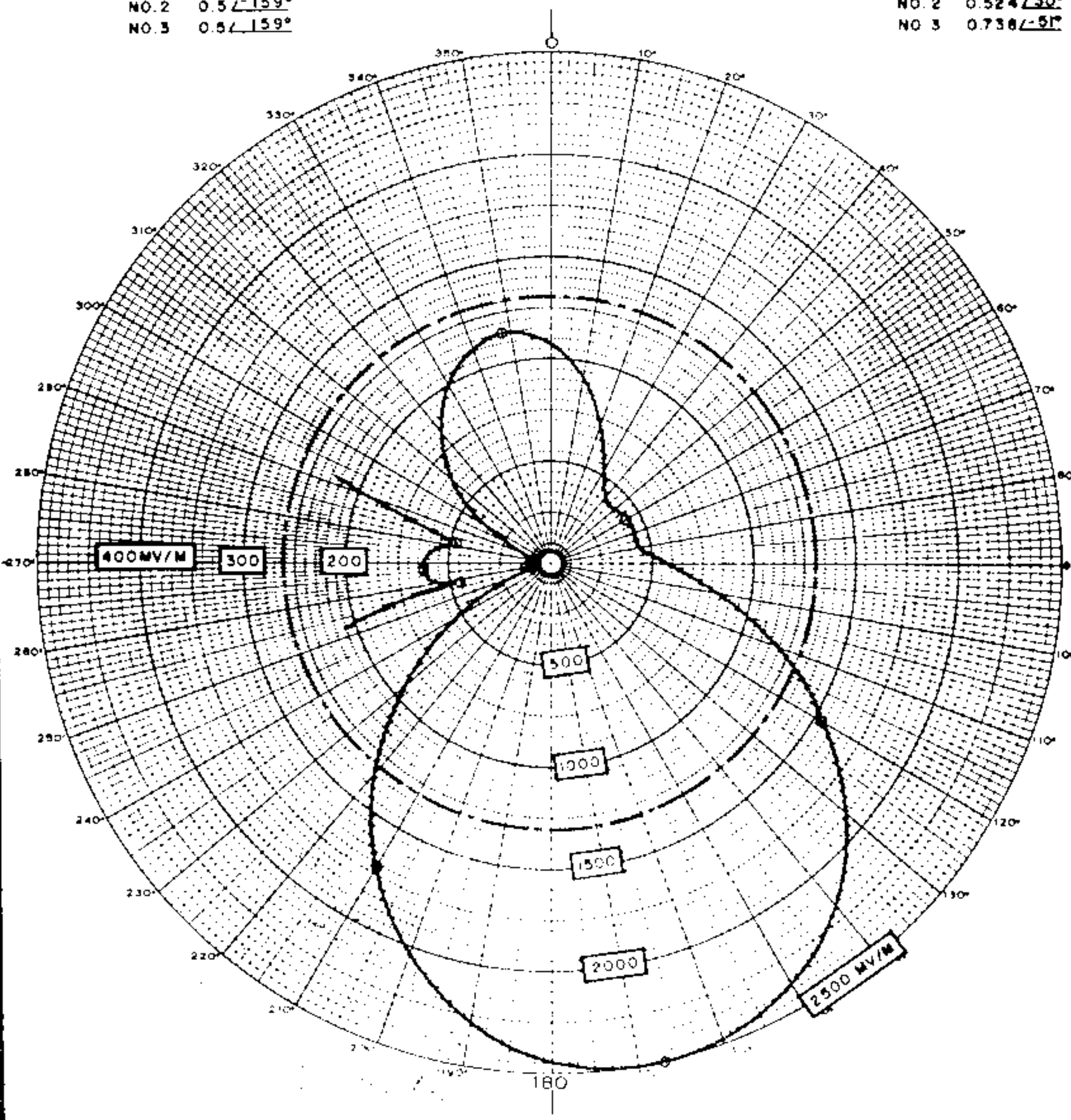
12-2-66
GRANTED
LICENSE
COVERING
A NEW
AM STATION.

THEORETICAL PARAMETERS

TOWER	NO. 1	0.96∠5.9°
	NO. 2	0.5∠-159°
	NO. 3	0.5∠-159°

INDICATED PARAMETERS

TOWER	NO. 1	1.0∠0
	NO. 2	0.524∠30°
	NO. 3	0.738∠-51°



E_{RMS} = 1310 MV/M (MEASURED) — —

LATITUDE 34° 55' 05"
LONGITUDE 82° 27' 21"

JOHN H. MULLANEY
AND
ASSOCIATES
A DIVISION OF MULTRONICS INC

ANTENNA PARAMETERS

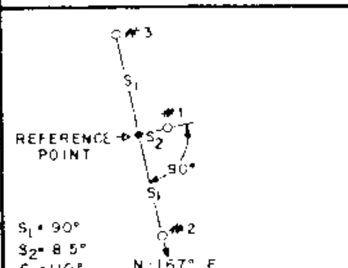


FIGURE 19

MEASURED
DIRECTIONAL
PATTERN

RADIO STATION WHYZ
GREENVILLE, SOUTH CAROLINA

1070 KC 50 KW. DA-D.D

FCC File No.BL-11322
Accepted 6-20-66 Amended

Station WHYZ
Greenville, South Carolina

1070 kc

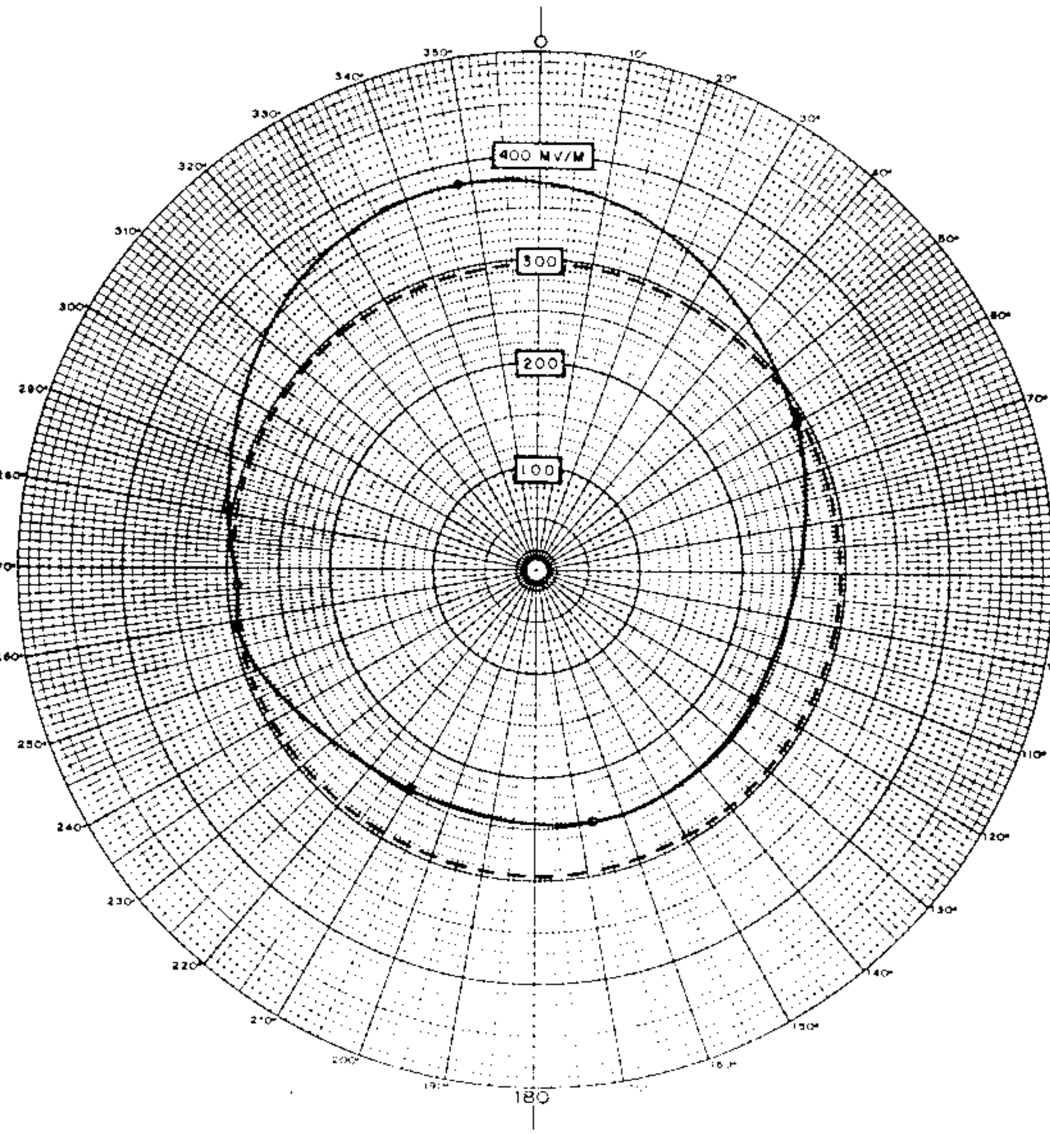
WHYZ

Measured Non-DA (6-28-66ct)

Station WHYZ
Greenville, South Carolina

50kw, DA-D, D
1070 kc

12-2-66
GRANTED LICENSE COVERING A NEW AM STATION.



E_{RMS} = 296 MV/M (MEASURED)-----

LATITUDE 34° 55' 05" LONGITUDE 82° 27' 21"	ANTENNA PARAMETERS	FIGURE 18 MEASURED NONDIRECTIONAL PATTERN
JOHN H. MULLANEY AND ASSOCIATES A DIVISION OF MULTRONICS INC	CENTER TOWER G = 110° P = 2.45 KW	RADIO STATION WHYZ GREENVILLE, SOUTH CAROLINA 1070 KC 50 KW, DA-D, D

FCC File No. BL-11322
Accepted 6-20-66 Amended

Station WHYZ
Greenville, South Carolina

1070 kc

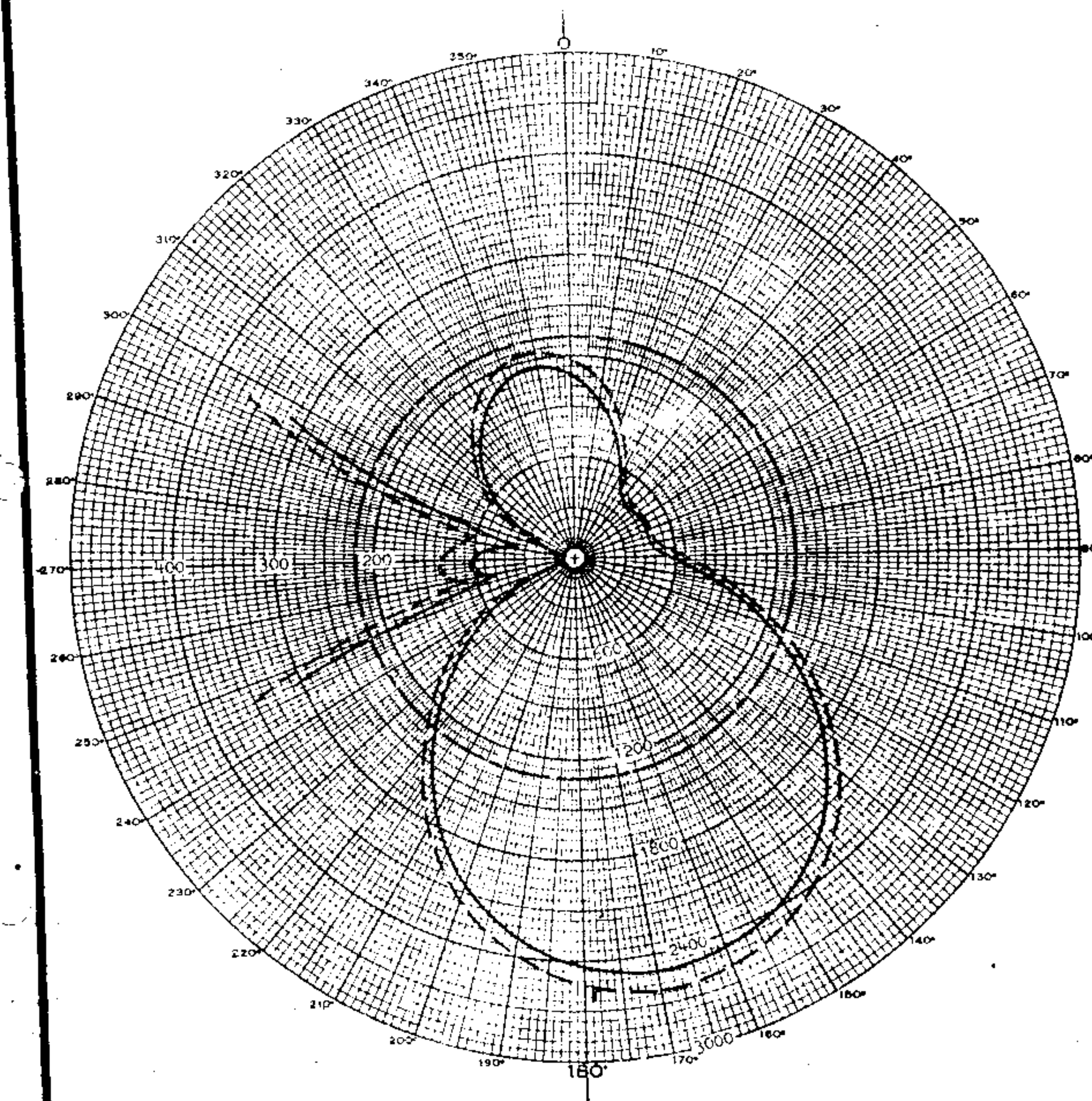
WHYZ

Proposed Day
(11-27-64ct)

New; Fleet Enterprises
Greenville, South Carolina

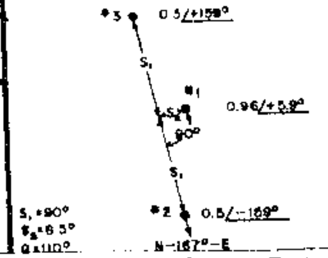
50kw,DA-D,D
1070 kc

BP-15548
3-10-65 APPL.



E_{RMS} = 1310 MVM

COMPUTED
MEOV

LATITUDE: 34° 55' 05" LONGITUDE: 82° 27' 21"	ANTENNA PARAMETERS	FIGURE 5 DAYTIME HORIZONTAL POLAR PATTERN FLEET ENTERPRISES GREENVILLE, S.C.
JOHN H. MULLANEY AND ASSOCIATES A DIVISION OF MULTRONICS, INC.		1070 KC 50 KW, DA-D

FCC File No. BP-15548
Accepted 11-4-64 Amended

New; Fleet Enterprises
Greenville, South Carolina

1070 kc

WIBC

Measured Day
(8-26-66ct)

Station WIBC
Indianapolis, Indiana

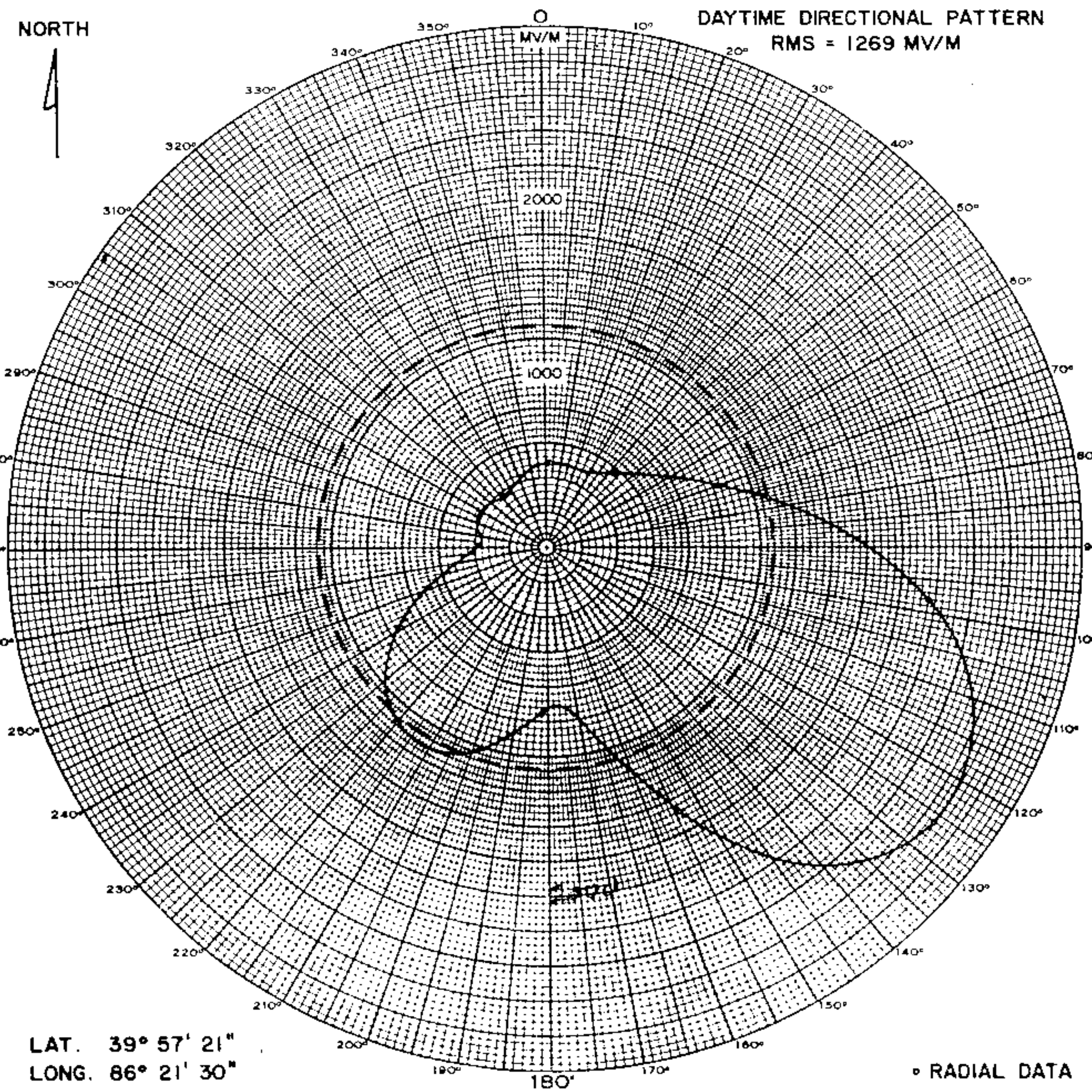
10kw,50kw-LS,DA-2,U
1070 kc

-IC
1-1-66
IC SET
ASIDE
9-23-66
P.T.A.

-6-67
GRANTED
LICENSE
COVERING
CHANGE
ANTENNA

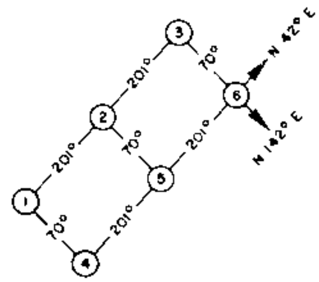
NORTH

DAYTIME DIRECTIONAL PATTERN
RMS = 1269 MV/M



LAT. 39° 57' 21"
LONG. 86° 21' 30"

∘ RADIAL DATA



G = 230' = 90°

DIRECTIONAL ANTENNA PARAMETERS

TOWER	THEORETICAL FIELD	THEORETICAL PHASE	OBSERVED FIELD	OBSERVED PHASE
1	—	—	—	—
2	1.000	0°	1.056	99.0°
3	.500	−38°	.502	60.0°
4	—	—	—	—
5	1.000	−94°	1.000	2.5°
6	.500	−132°	.504	332.5°

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

RADIO STATION WIBC
1070 KC 10 KW 50 KW-LS DA-2
660315 FIGURE 2B

FCC File No.BL-11386
Accepted 8-18-66

Station WIBC
Indianapolis, Indiana
1070 kc

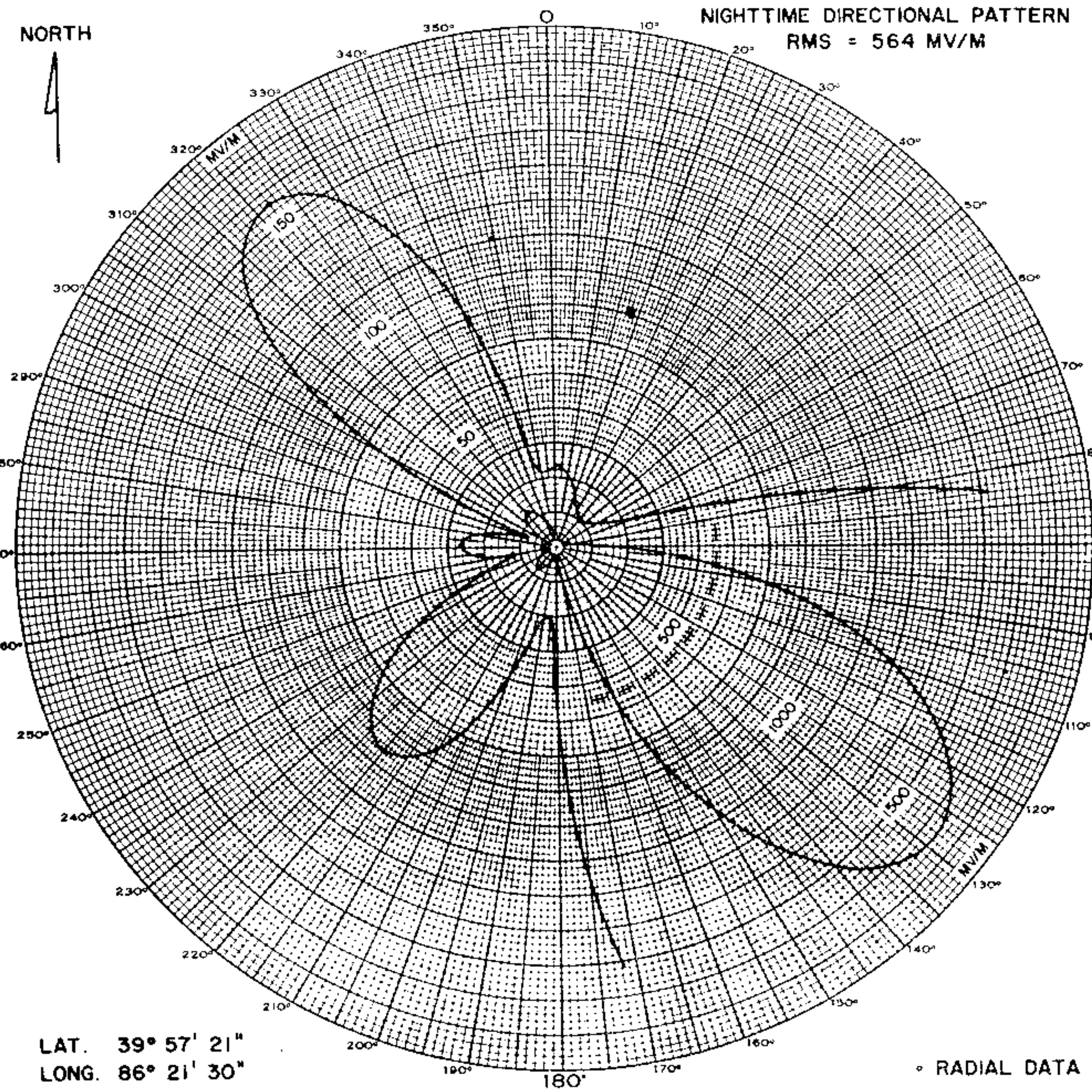
WIBC

Measured Night
(8-26-66ct)

Station WIBC
Indianapolis, Indiana

10kw,50kw-LS,DA-2,U
1070 kc

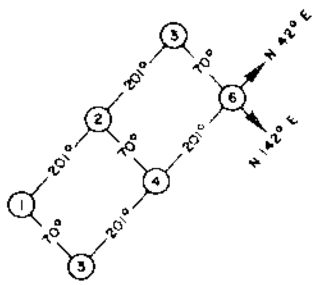
NIGHTTIME DIRECTIONAL PATTERN
RMS = 564 MV/M



LIC 1-1-66
LIC SET ASIDE 7-23-66 P.T.A.
2-6-67 GRANTED LICENSE COV CHANGE IN ANT. TRANSM LOCATION

LAT. 39° 57' 21"
LONG. 86° 21' 30"

◦ RADIAL DATA



DIRECTIONAL ANTENNA PARAMETERS

TOWER	THEORETICAL FIELD	THEORETICAL PHASE	OBSERVED FIELD	OBSERVED PHASE
1	.508	14°	.518	137.0°
2	1.000	0°	1.013	123.0°
3	.508	- 14°	.539	109.0°
4	.508	-106°	.544	17.0°
5	1.000	-120°	1.000	2.5°
6	.508	-134°	.535	349.0°

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

RADIO STATION WIBC
1070 KC 10 KW 50 KW-LS DA-2
660315 FIGURE 2C

FCC File No.BL-11386
Accepted 8-18-66

Station WIBC
Indianapolis, Indiana

1070 kc

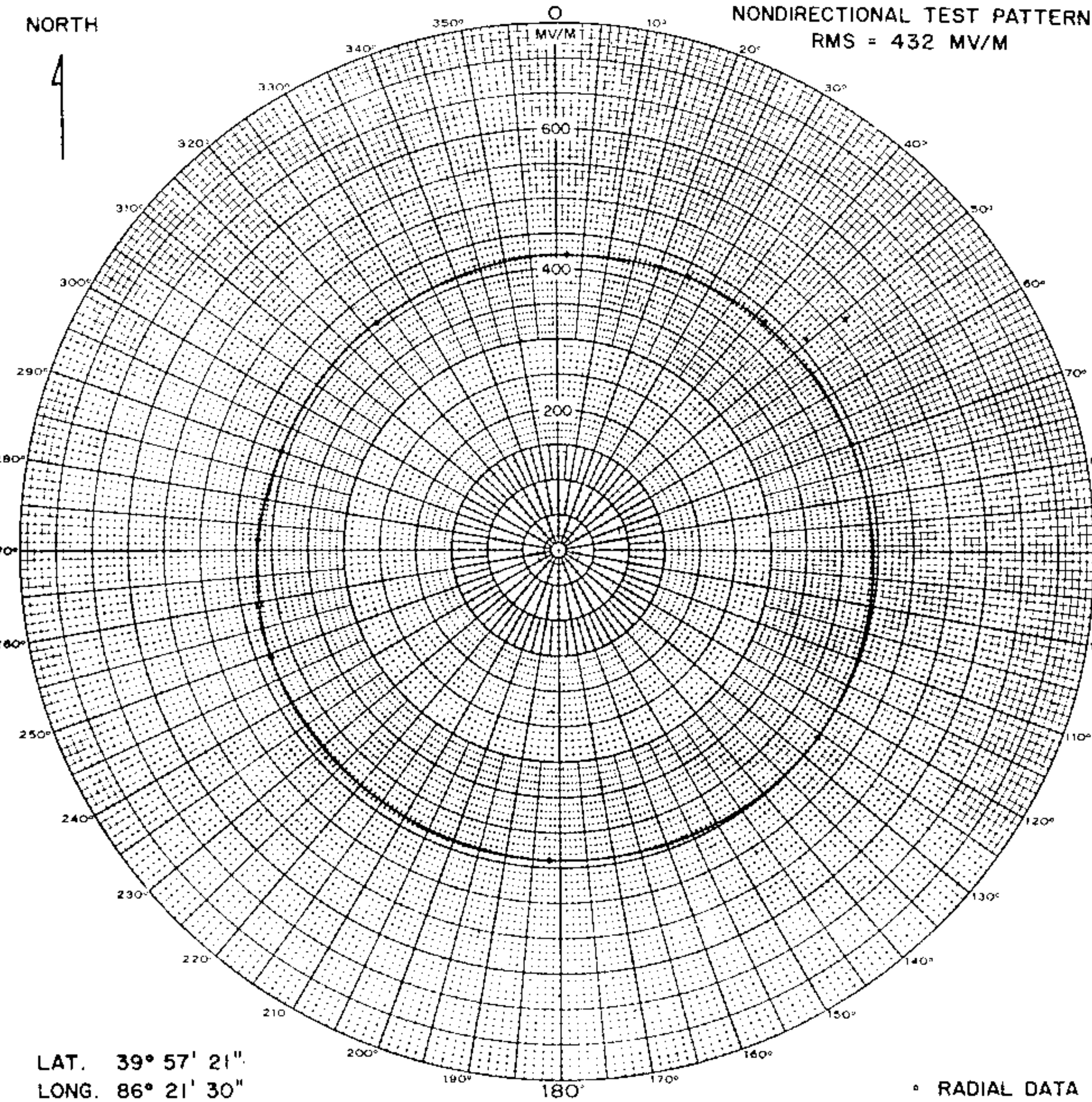
WIBC

Measured Non-DA (8-26-66ct) | Station WIBC Indianapolis, Indiana | 10kw,50kw-LS,DA-2,U 1070 kc

-IC 9-1-66,
LIC SET ASIDE 9-23-66 P.T.A.
2-6-67 GRANTED LICENSE COVERING CHANGE IN ANTENNA TRAN SIT LOCATION

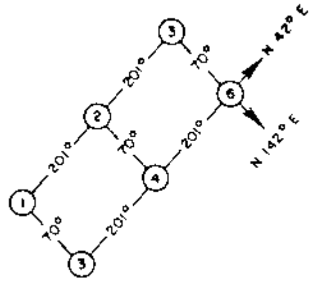
NORTH

NONDIRECTIONAL TEST PATTERN
RMS = 432 MV/M



LAT. 39° 57' 21"
LONG. 86° 21' 30"

∘ RADIAL DATA



G = 230' = 90°

RADIATING ELEMENTS

TOWER	OPERATION
1	DETUNED
2	SERIES FED
3	DETUNED
4	DETUNED
5	DETUNED
6	DETUNED

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

RADIO STATION WIBC
1070 KC 10 KW 50 KW-LS DA-2
660315 FIGURE 2A

FCC File No. BL-11386
Accepted 8-18-66

Station WIBC
Indianapolis, Indiana
1070 kc

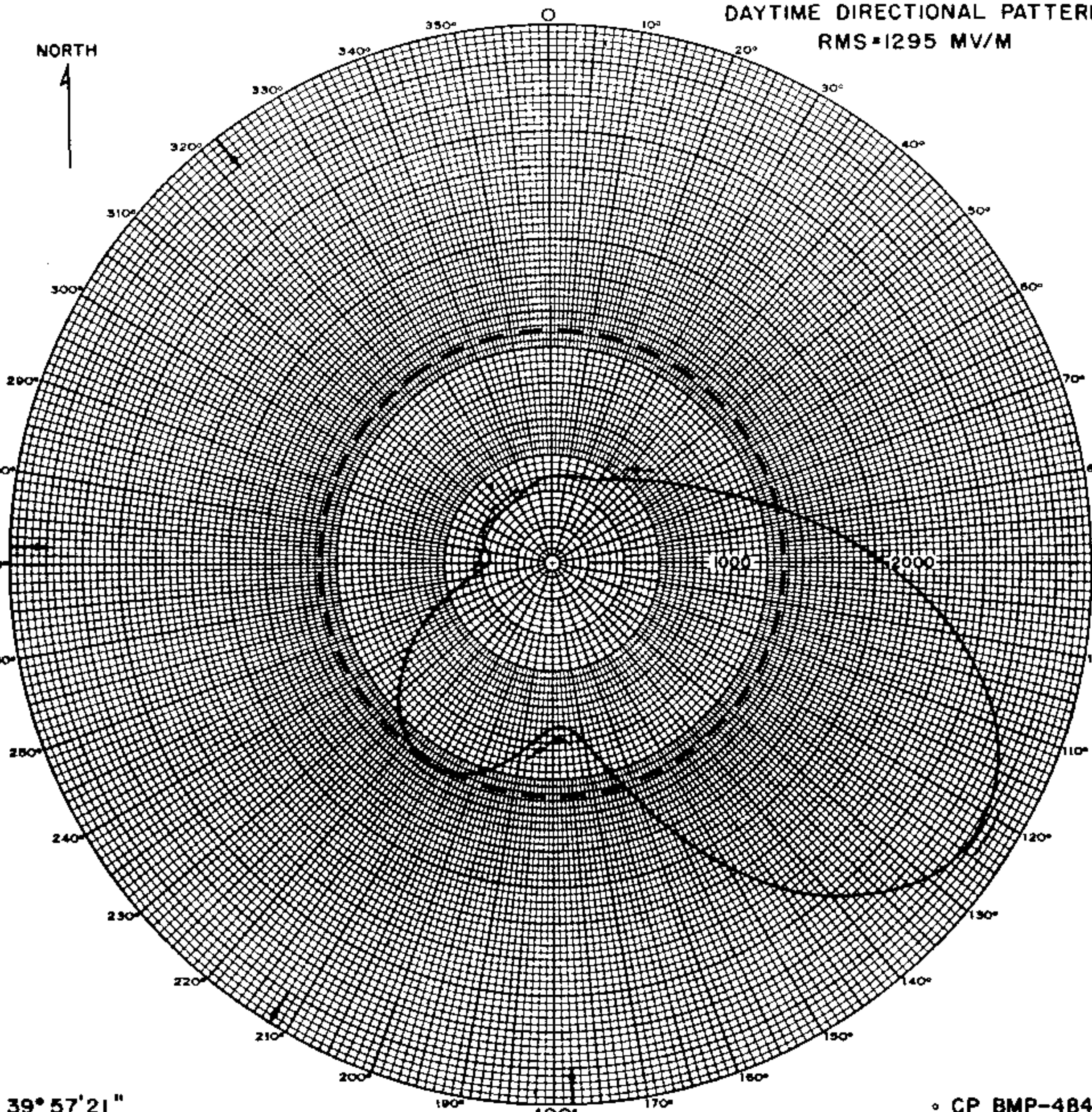
WIBC

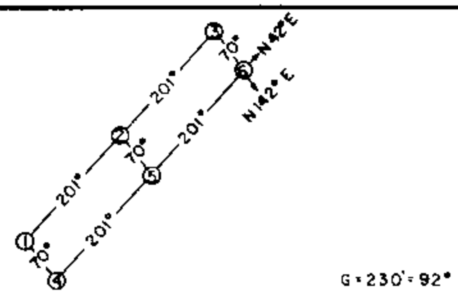
Proposed Day
(3-30-63ct)

Station WIBC
Indianapolis, Indiana

10kw,50kw-LS,DA-2,U
1070 kc

-20-63
anted CP to
ke change in
Xmtr site.





DAYTIME THEORETICAL ANTENNA PARAMETERS

TOWER	FIELD	PHASE
1	DETUNED	
2	1.00	0°
3	0.50	-38°
4	DETUNED	
5	1.00	-94°
6	0.50	-132°

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

RADIO STATION WIBC
1070 KC 10 KW,50 KW-LS DA-2
620920.2 FIGURE 6A

FCC File No. BP-15871
Accepted 3-8-63

Station WIBC
Indianapolis, Indiana

1070 kc

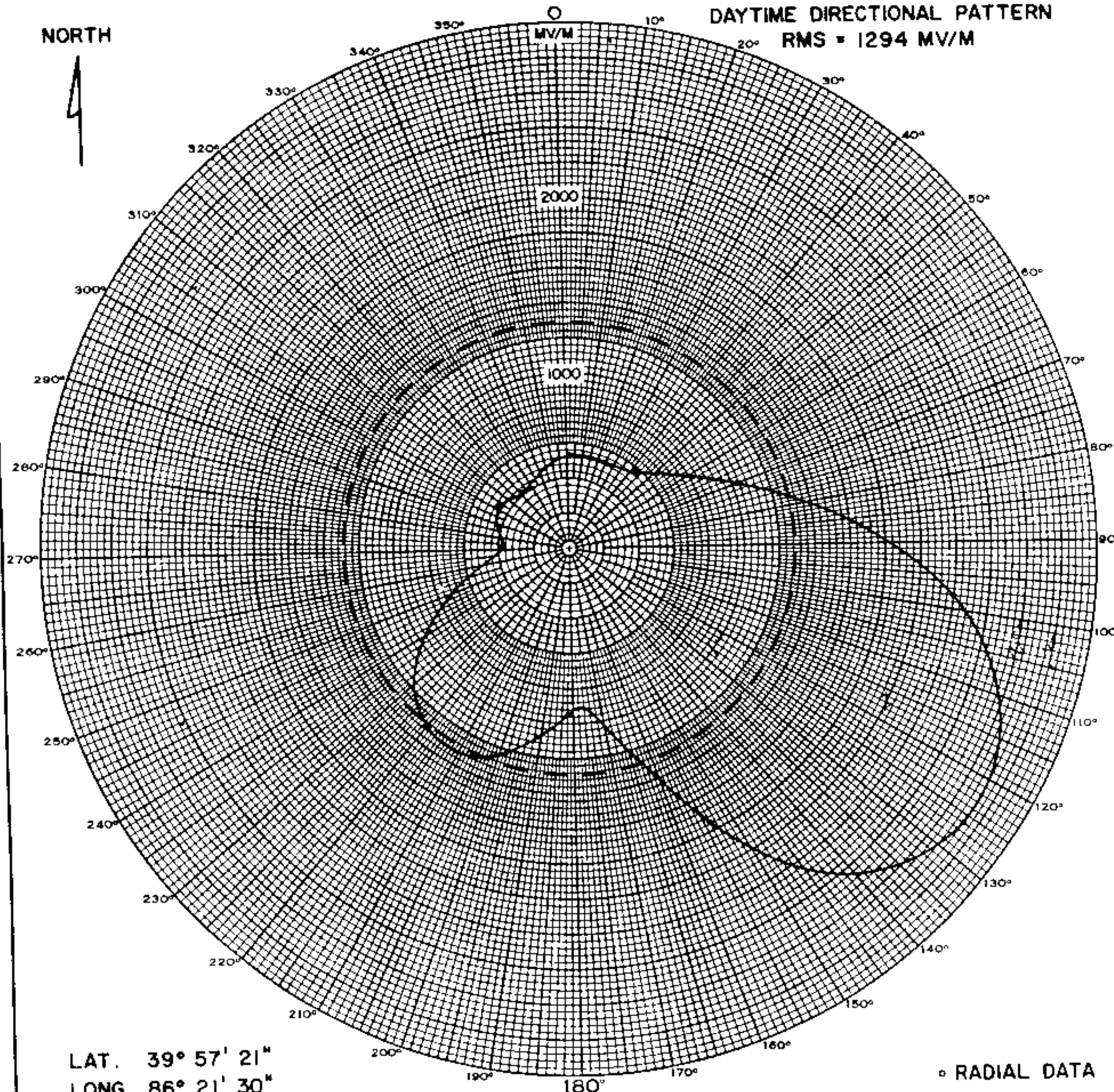
WIBC

Measured Day
(3-29-67ct)

Station WIBC
Indianapolis, Indiana

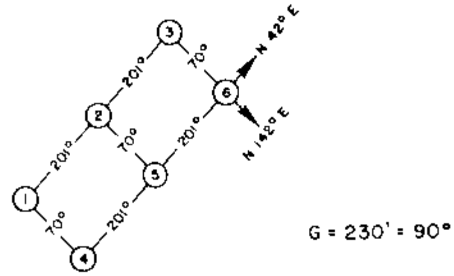
10kw,50kw-LS,DA-2,U
1070 kc

NORTH



LAT. 39° 57' 21"
LONG. 86° 21' 30"

∘ RADIAL DATA



DIRECTIONAL ANTENNA PARAMETERS

TOWER	THEORETICAL FIELD	THEORETICAL PHASE	OBSERVED FIELD	OBSERVED PHASE
1	—	—	—	—
2	1.000	0°	1.056	99.0°
3	.500	−38°	.502	60.0°
4	—	—	—	—
5	1.000	−94°	1.000	2.5°
6	.500	−132°	.504	332.5°

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

RADIO STATION WIBC
1070 KC 10 KW 50 KW-LS DA-2
660801 FIGURE 2B

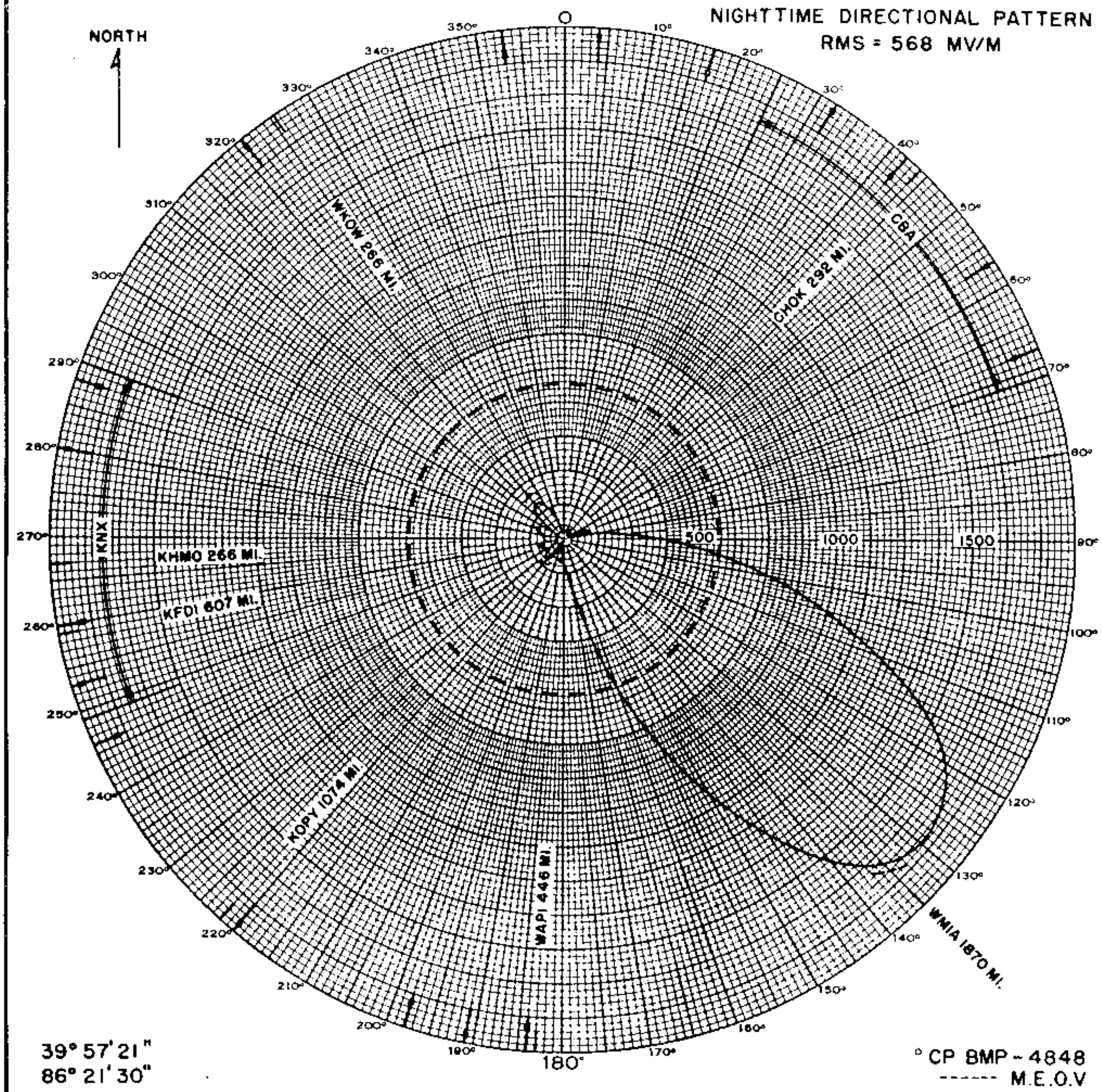
FCC File No.BL-11386
Amended

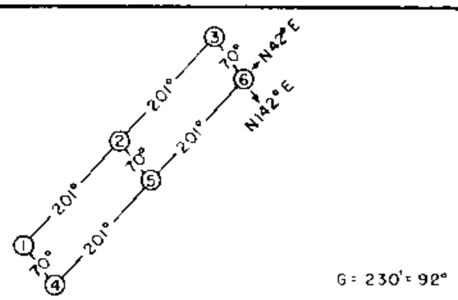
Station WIBC
Indianapolis, Indiana

1070 kc

WIBC

Proposed Night (3-30-63ct) | Station WIBC Indianapolis, Indiana | 10kw,50kw-LS,DA-2,U 1070 kc





NIGHTTIME THEORETICAL ANTENNA PARAMETERS

TOWER	FIELD	PHASE
1	.508	14°
2	1.00	0°
3	.508	-14°
4	.508	-106°
5	1.00	-120°
6	.508	-134°

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

RADIO STATION WIBC
1070 KC 10 KW, 50 KW-LS DA-2
620920.2 FIGURE 6B

FCC File No. BP-15871
Accepted 3-8-63

Station WIBC
Indianapolis, Indiana 1070 kc

WIBC

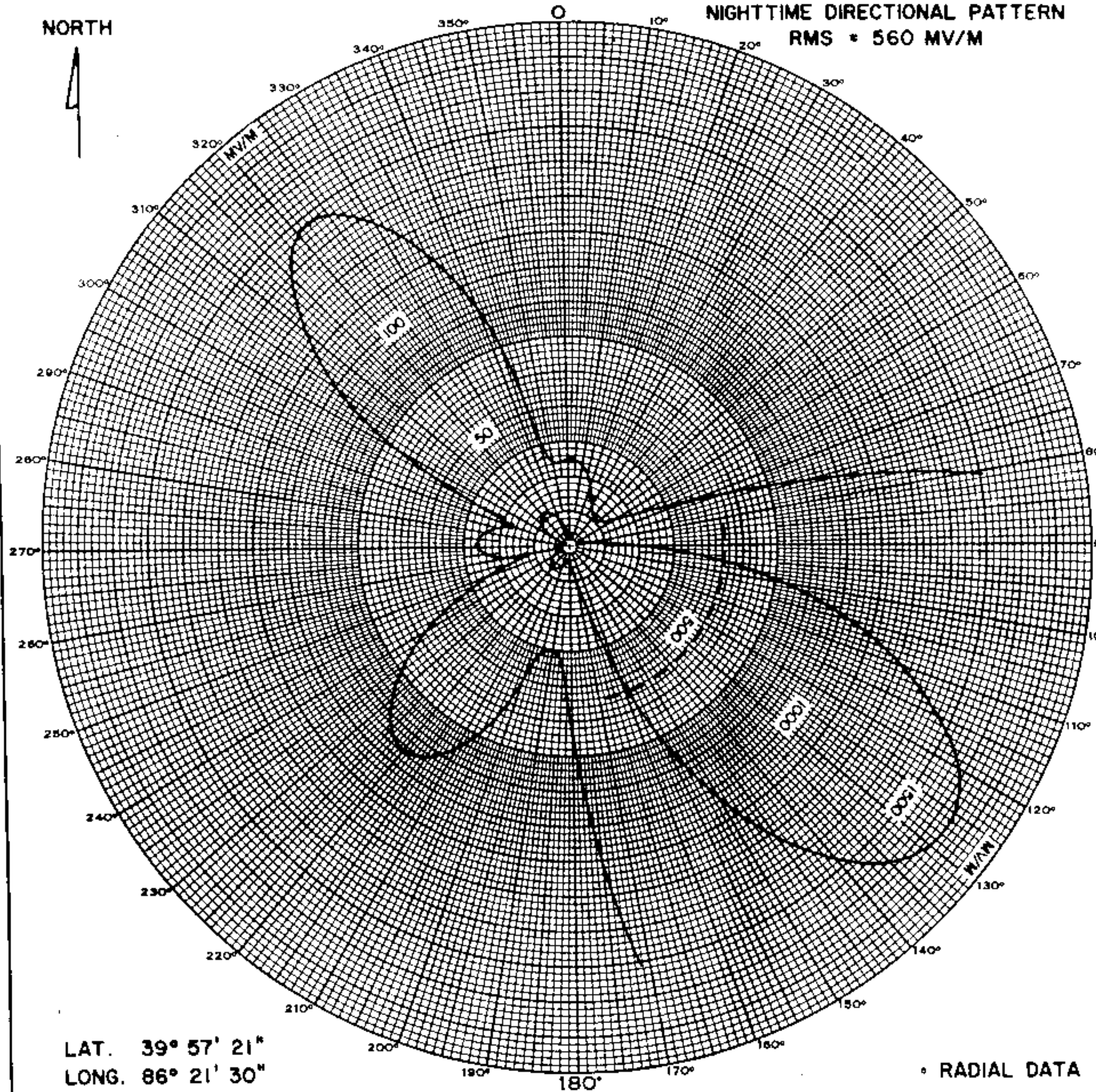
Measured Night
(3-29-67ct)

Station WIBC
Indianapolis, Indiana

10kw,50kw-LS,DA-2,U
1070 kc

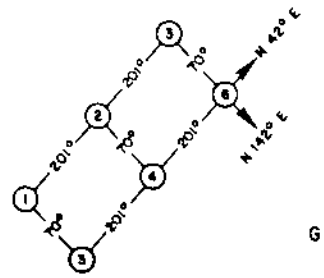
NORTH

NIGHTTIME DIRECTIONAL PATTERN
RMS = 560 MV/M



LAT. 39° 57' 21"
LONG. 86° 21' 30"

• RADIAL DATA



G = 230' = 90°

DIRECTIONAL ANTENNA PARAMETERS

TOWER	THEORETICAL FIELD	THEORETICAL PHASE	OBSERVED FIELD	OBSERVED PHASE
1	.506	14°	.518	137.0°
2	1.000	0°	1.013	123.0°
3	.506	− 14°	.539	109.0°
4	.506	−106°	.544	17.0°
5	1.000	−120°	1.000	2.5°
6	.506	−134°	.535	349.0°

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

RADIO STATION WIBC
1070 KC 10 KW 50 KW-LS DA-2
660801 FIGURE 2C

FCC File No. BL-11386
Amended

Station WIBC
Indianapolis, Indiana

1070 kc

WIBC

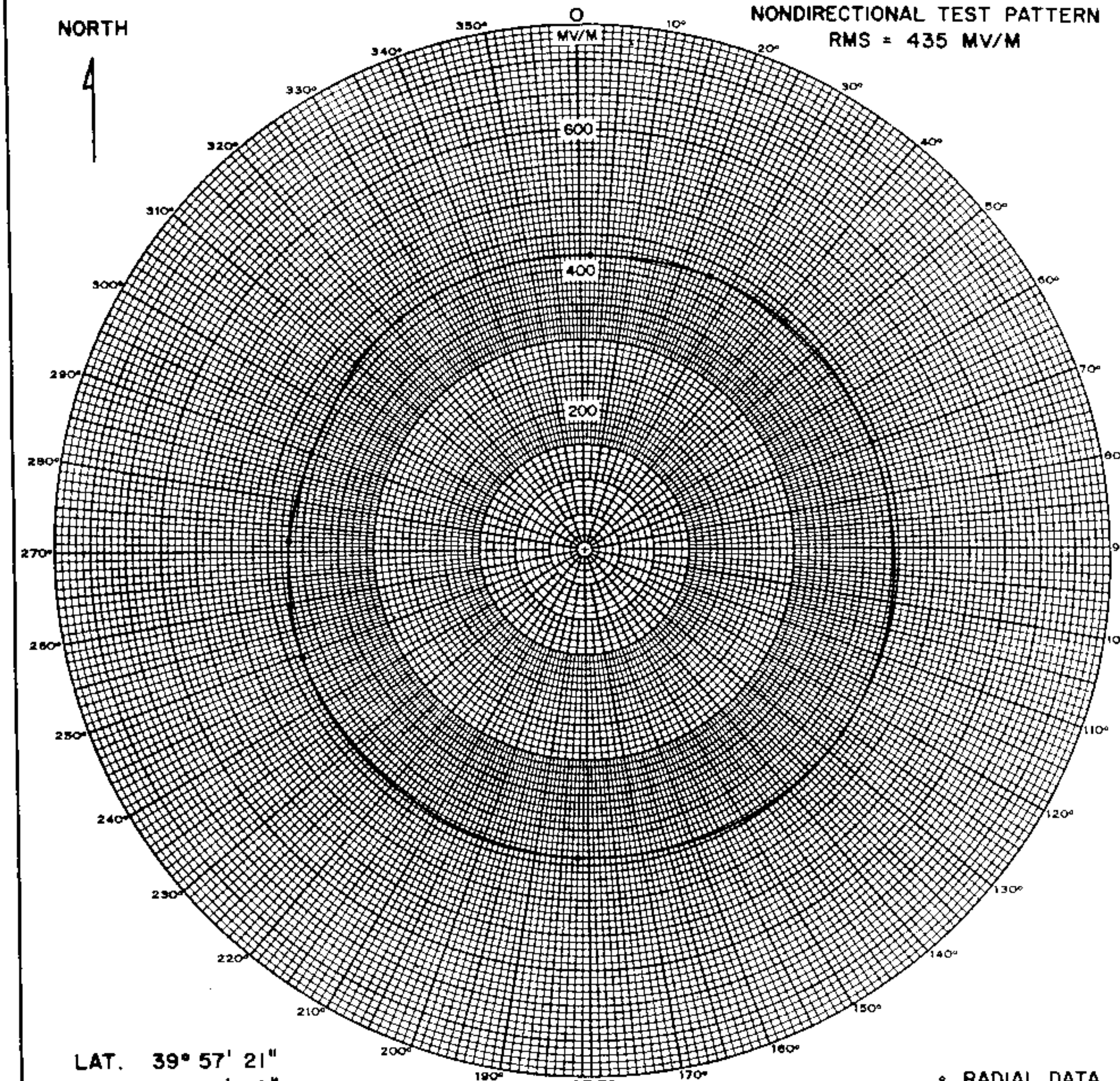
Measured Non-DA
(3-29-67ct)

Station WIBC
Indianapolis, Indiana

10kw,50kw-LS,DA-2,U
1070 kc

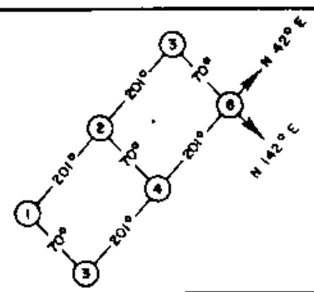
NORTH

NONDIRECTIONAL TEST PATTERN
RMS = 435 MV/M



LAT. 39° 57' 21"
LONG. 86° 21' 30"

• RADIAL DATA



G = 230' = 90°

RADIATING ELEMENTS

TOWER	OPERATION
1	DETUNED
2	SERIES FED
3	DETUNED
4	DETUNED
5	DETUNED
6	DETUNED

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

RADIO STATION WIBC
1070 KC 10 KW 50 KW-LS DA-2
660801 FIGURE 2A

FCC File No.BL-11386
Amended

Station WIBC
Indianapolis, Indiana

1070 kc

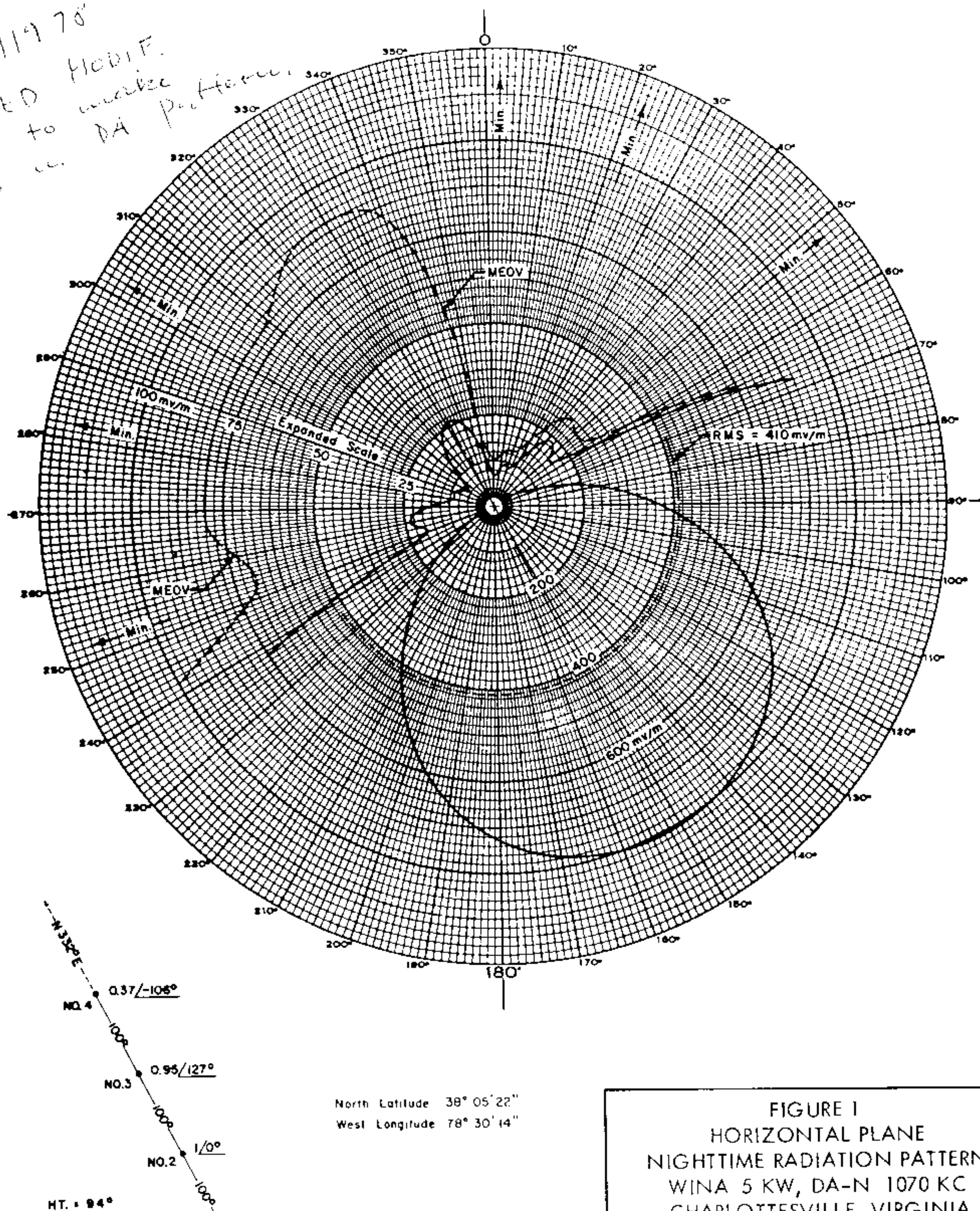
WINA

Proposed Night
(2-28-67ct)

Station WINA
Charlottesville, Virginia

5kw,DA-N,U
1070 kc

1-31-67
BMP-11978
GRANTED MODIF.
of CP to make
changes in DA pattern



North Latitude 38° 05' 22"
West Longitude 78° 30' 14"

FIGURE 1
HORIZONTAL PLANE
NIGHTTIME RADIATION PATTERN
WINA 5 KW, DA-N 1070 KC
CHARLOTTESVILLE, VIRGINIA

Prepared by
Lohnes and Culver Washington, D. C.
December, 1966

FCC File No. BMP-11978
Accepted 1-31-67

Station WINA
Charlottesville, Virginia

1070 kc

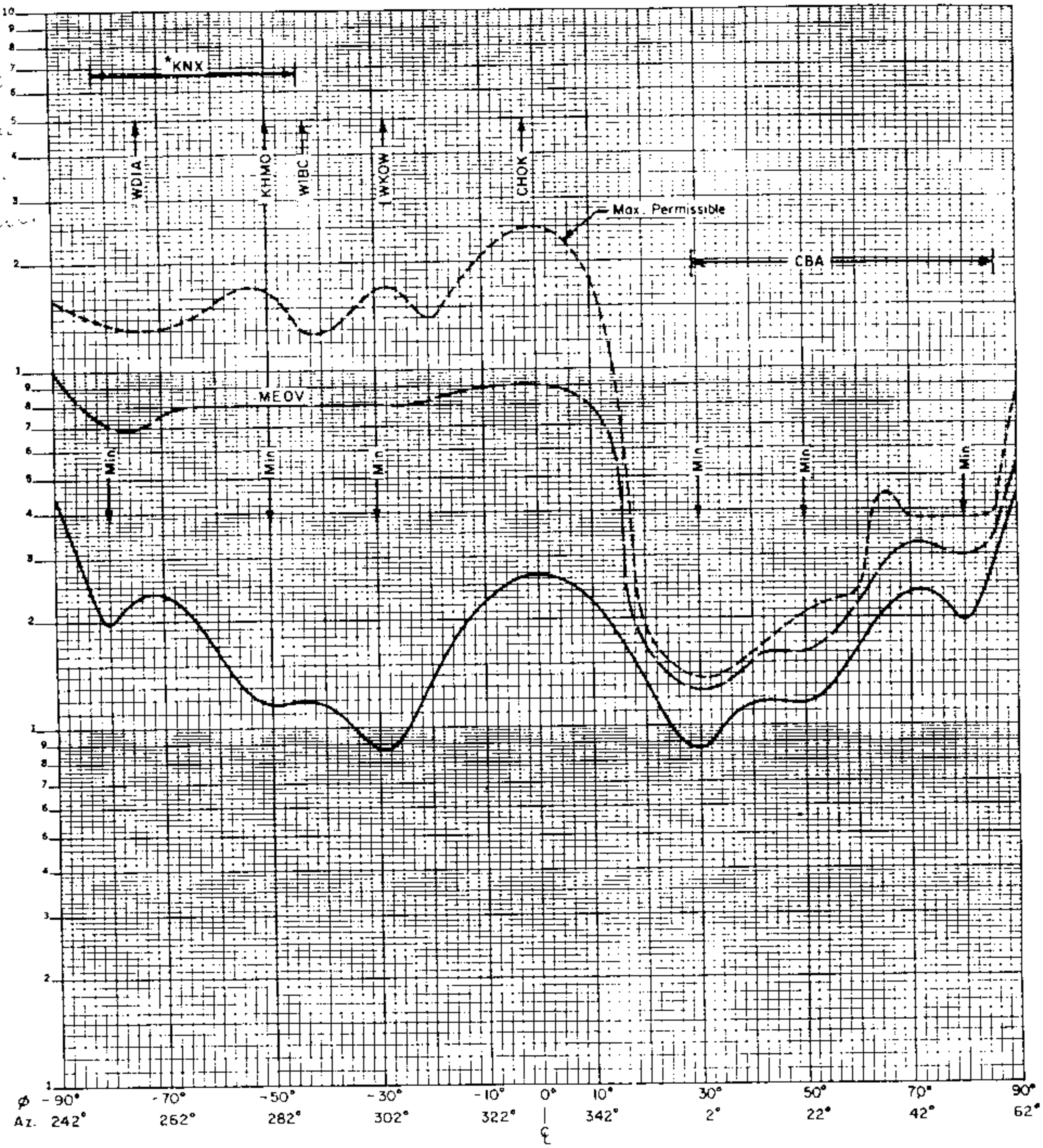
WINA

Proposed Night Nulls
(2-28-67ct)

Station WINA
Charlottesville, Virginia

5kw, DA-N, U
1070 kc

1-31-67
GRANTED
MODIF. OF
CP to make
change in
DA pattern



*closest point to KNX 0.5 (50%) S. W. contour = 1,475 miles, maximum permissable = 238 mv/m

FIGURE 2
NULL DETAIL
HORIZONTAL PLANE RADIATION PATTERN
WINA 5 KW, DA-N 1070 KC
CHARLOTTESVILLE, VIRGINIA

Prepared by
Lohnes and Culver Washington, D. C.
December, 1966 1070 kc

CC File No. BMP-11978
cepted 1-31-67

Station WINA
Charlottesville, Virginia

WINA

Proposed Night Nulls
(10-28-66ct)

Station WINA
Charlottesville, Virginia

5kw,DA-N,U
1070 kc

MCP
0-25-66

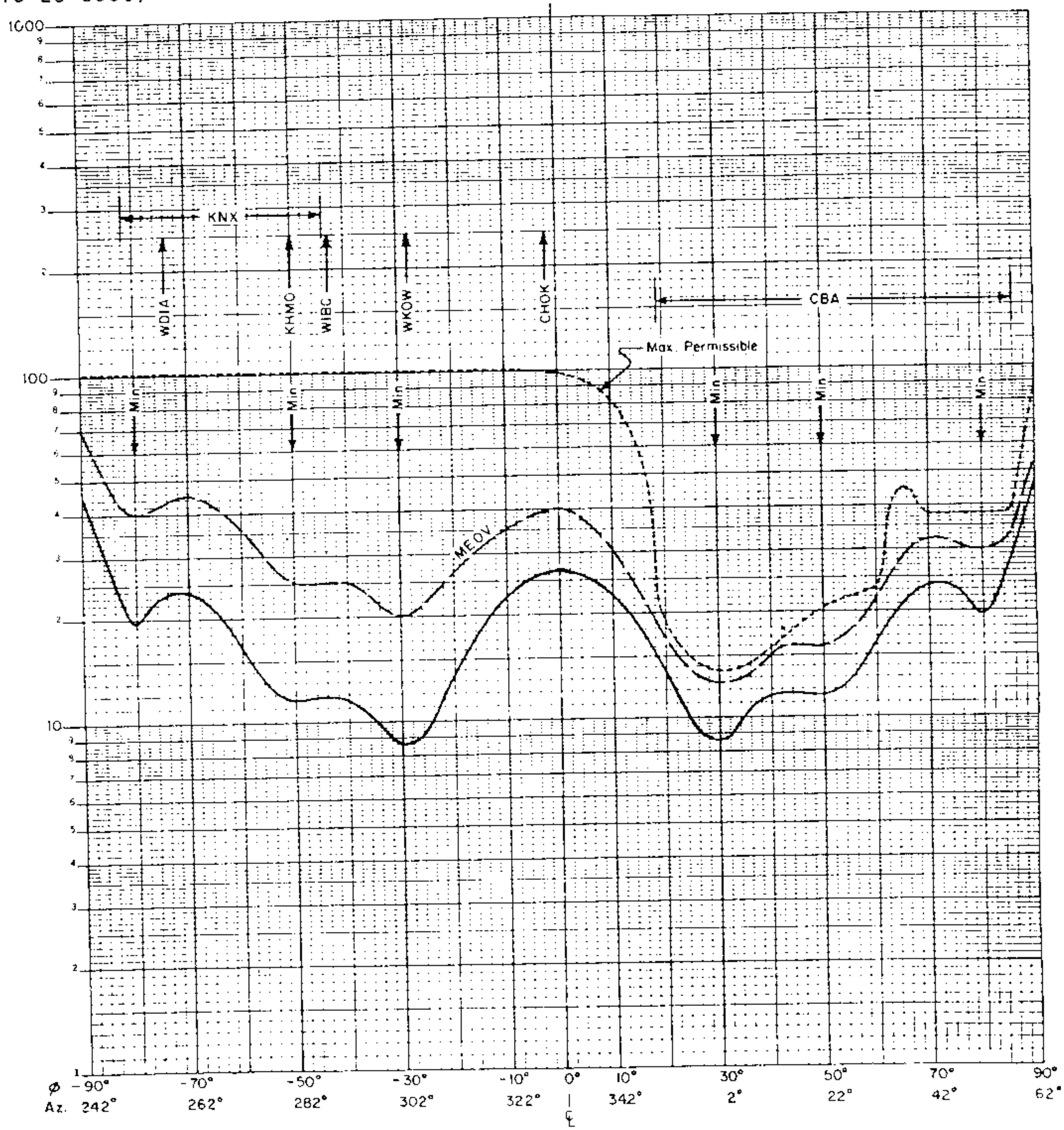


FIGURE 1A
NULL DETAIL
HORIZONTAL PLANE RADIATION PATTERN
WINA 5 KW, DA-N 1070 KC
CHARLOTTESVILLE, VIRGINIA

Prepared by
Lohnes and Culver Washington, D. C.
September, 1966

FCC File No.BMP-11907
Accepted 10-13-66

Station WINA
Charlottesville, Virginia

1070 kc

WINA

Measured Night Nulls
(4-28-67ct)

Station WINA
Charlottesville, Virginia

5kw,DA-N,U
1070 kc

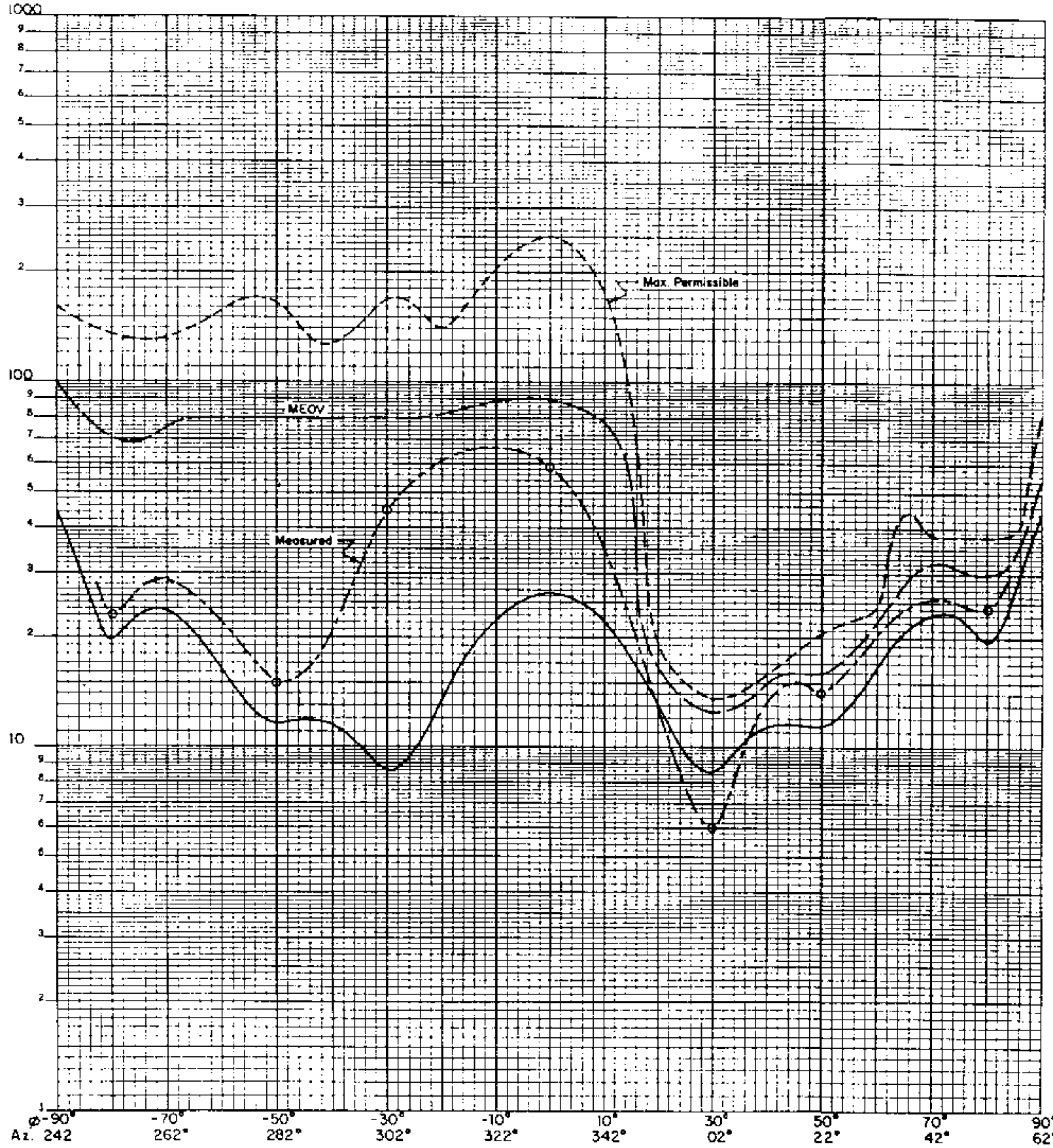


FIGURE 20A
MEASURED NIGHTTIME DIRECTIONAL
RADIATION PATTERN
CHARLOTTESVILLE BROADCASTING CORPORATION
WINA 5 KW-U, DA-N 1070 KC
CHARLOTTESVILLE, VIRGINIA

Prepared by
Lohnes and Culver Washington, D.C.
December, 1966

FCC File No.BL-11575
Accepted 4-7-67

Station WINA
Charlottesville, Virginia

1070 kc

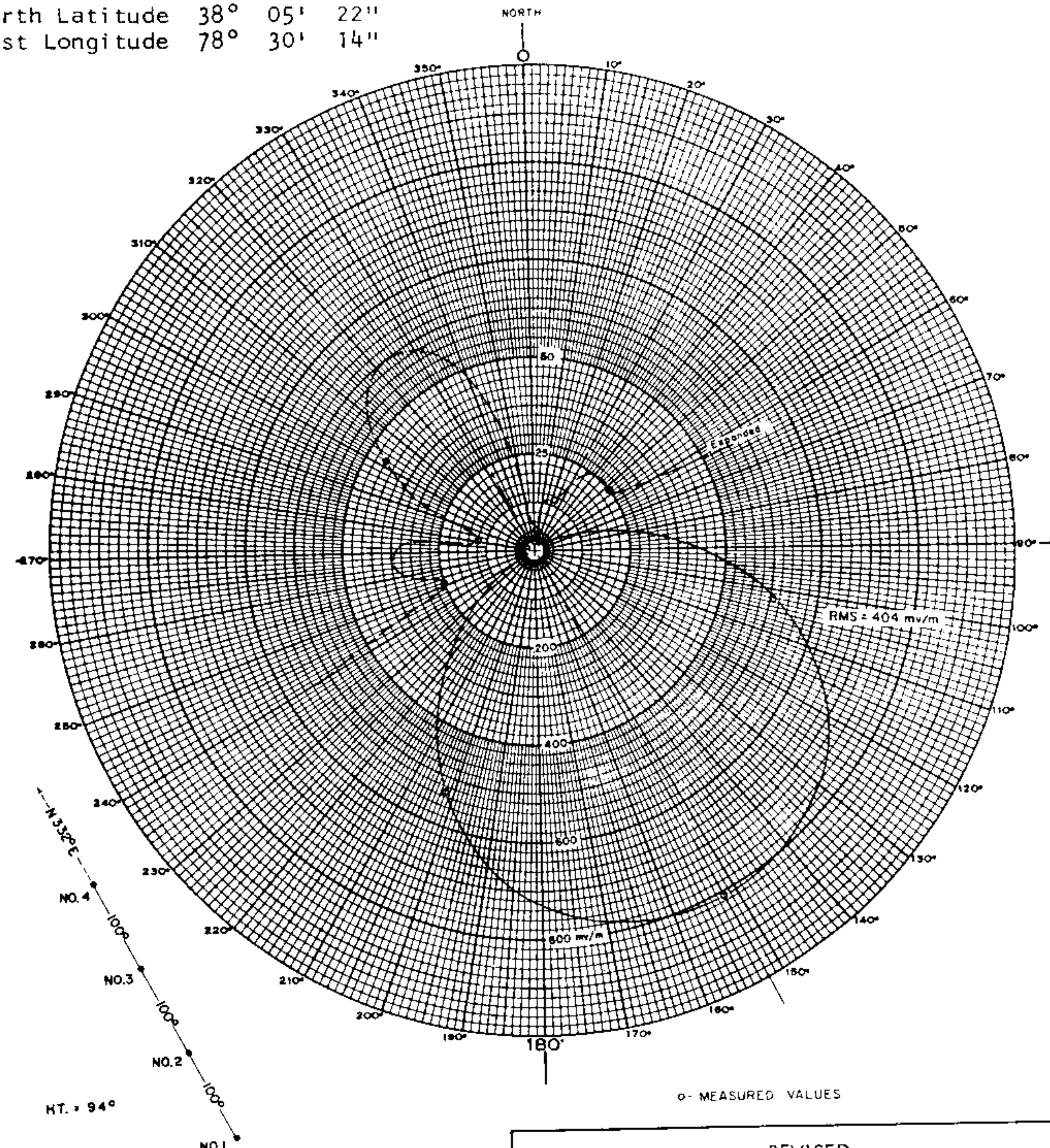
WINA

Measured Night
(4-28-67ct)

Station WINA
Charlottesville, Virginia

5kw, DA-N, U
1070 kc

North Latitude 38° 05' 22"
West Longitude 78° 30' 14"



o- MEASURED VALUES

Tower	Theoretical Ratio	Theoretical Phase	Operating* Ratio	Operating* Phase
No. 1	0.38	-124°	0.27	+7.5°
No. 2	1.00	0°	1.00	0°
No. 3	0.95	127°	0.91	-17°
No. 4	0.37	-106°	0.37	-45°

*Phase Monitor Readings

REVISED
FIGURE 20
MEASURED NIGHTTIME DIRECTIONAL
RADIATION PATTERN
CHARLOTTESVILLE BROADCASTING CORPORATION
WINA 5 KW-U, DA-N 1070 KC
CHARLOTTESVILLE, VIRGINIA

Prepared by
Lohnes and Culver Washington, D. C.
December, 1966

FCC File No. BL-11575
Accepted 4-7-67

Station WINA
Charlottesville, Virginia

1070 kc

WINA

Measured Non-DA
(4-28-67ct)

Station WINA
Charlottesville, Virginia

5kw,DA-N,U
1070 kc

North Latitude 38° 05' 22"
West Longitude 78° 30' 14"

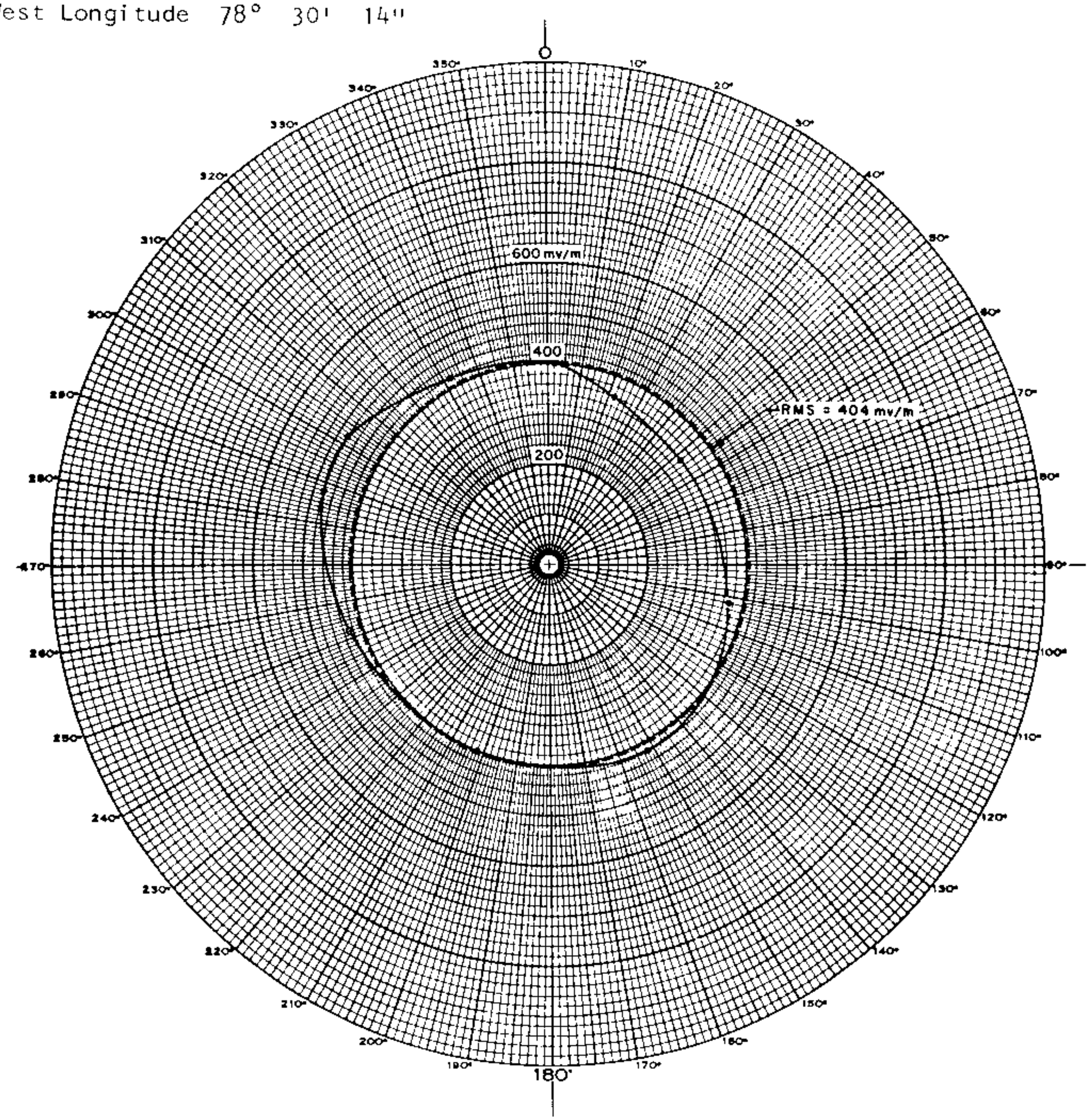


FIGURE 18
MEASURED DAYTIME NON-DIRECTIONAL
RADIATION PATTERN
CHARLOTTESVILLE BROADCASTING CORPORATION
WINA 5 KW-U, DA-N 1070 KC
CHARLOTTESVILLE, VIRGINIA

Prepared by
Lohnes and Culver Washington, D. C.
December, 1966

FCC File No.BL-11575
Accepted 4-7-67

Station WINA
Charlottesville, Virginia

1070 kc

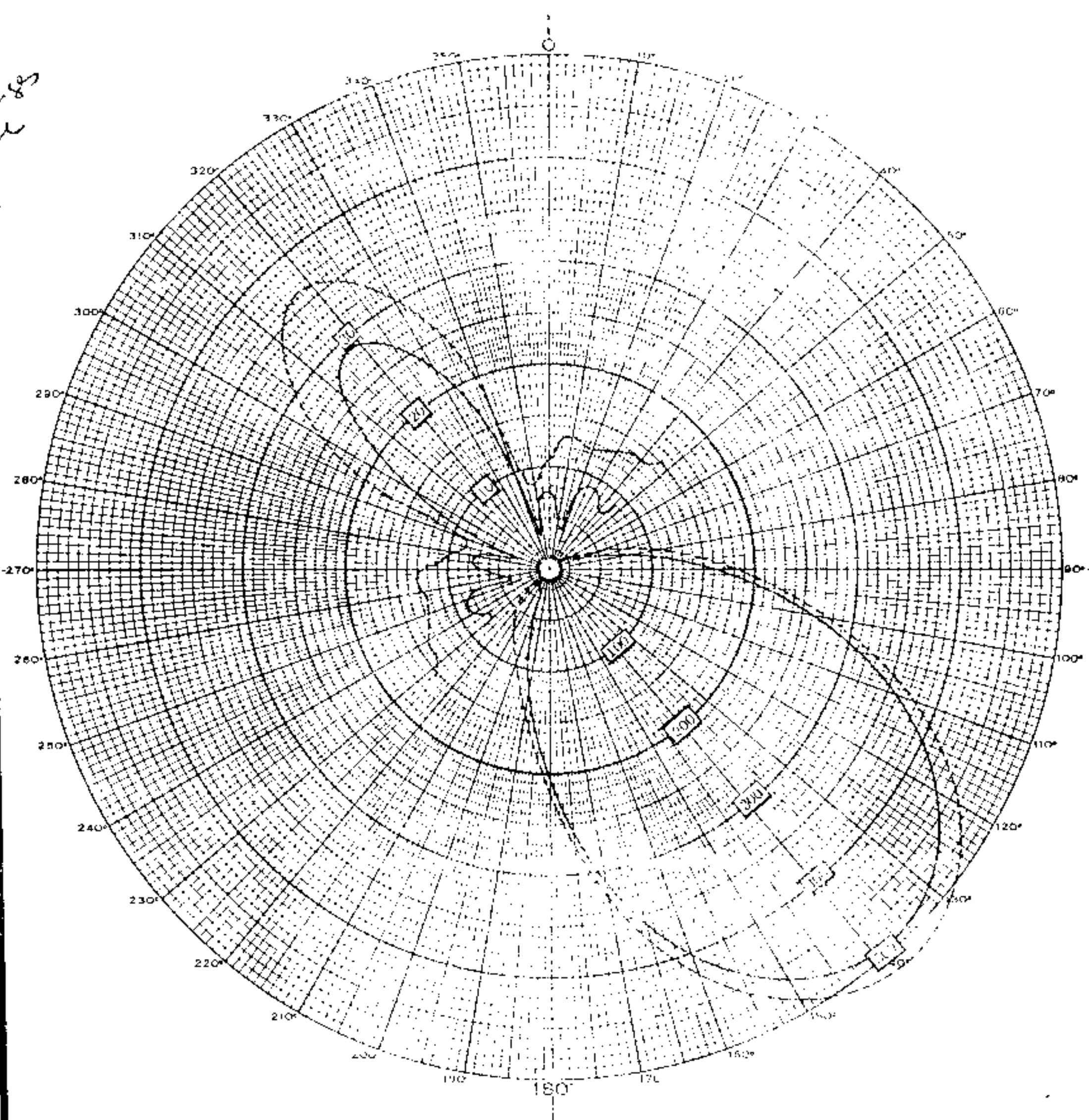
WKOK

Proposed Night
(12-29-66ct)

Station WKOK
Sunbury, Pennsylvania

1kw,10kw-LS,DA-2,U
1070 kc

12-12-66
GRANTED CP
make changes
in nighttime
operation



E_{RMS} = 200 MV/M

CALCULATED
MEOV

LATITUDE 40° 52' 46"
LONGITUDE 76° 49' 18"

JOHN H. MULLANEY
AND
ASSOCIATES
A DIVISION OF MULTRONICS INC

ANTENNA PARAMETERS

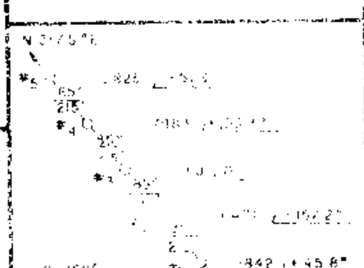


FIGURE 2

HORIZONTAL POLAR PATTERN
(NIGHTTIME)

RADIO STATION WKOK
SUNBURY, PA.

1070KC 1 KW, 10 KW, LS, DA-2, U

FCC File No.BP-17500
Accepted 12-8-66

Station WKOK
Sunbury, Pennsylvania

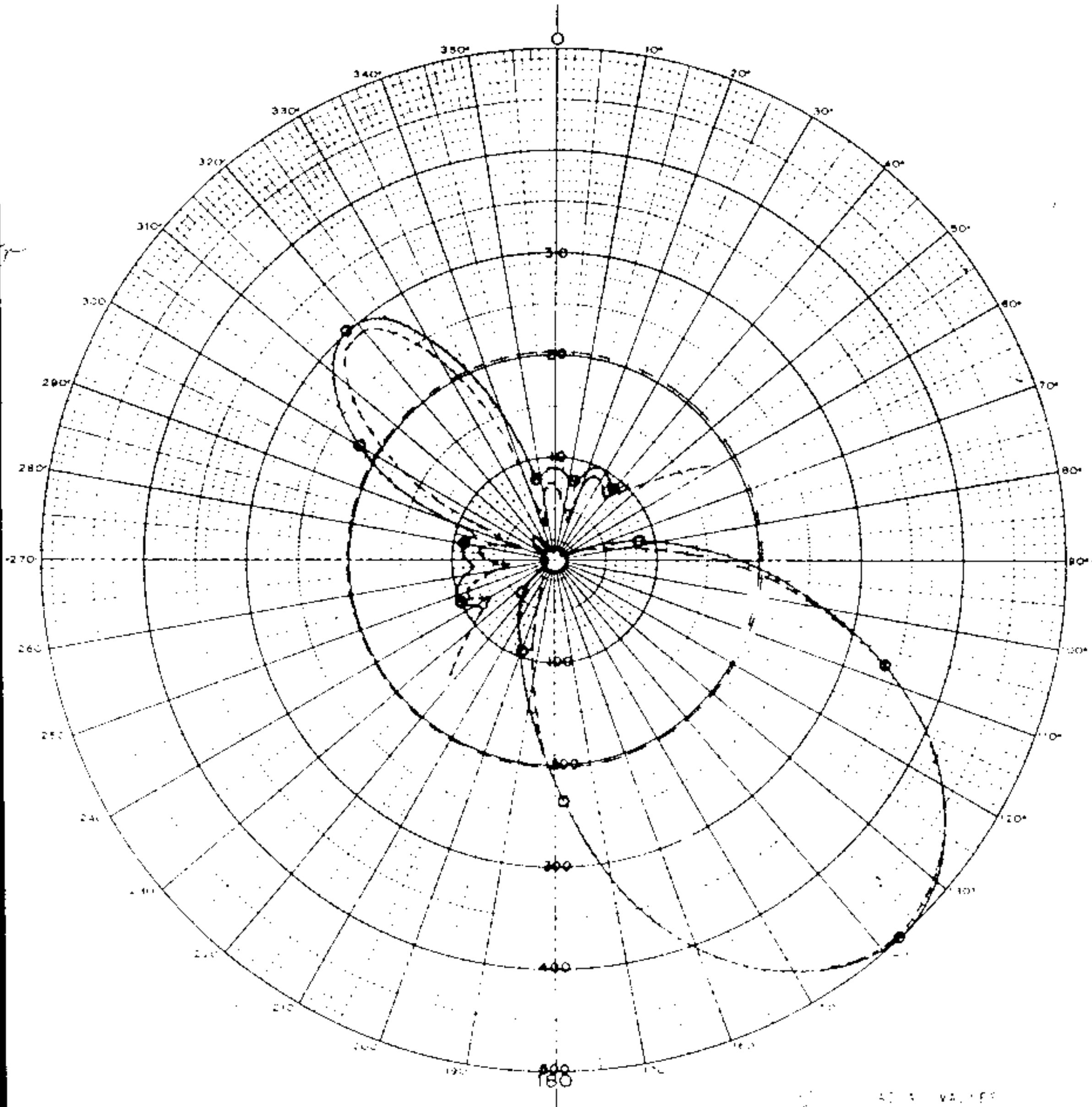
1070 kc

WKOK

Measured Night
(7-24-63ct)

Station WKOK
Sunbury, Pennsylvania

1kw,10kw-LS,DA-2,U
1070 kc



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

LATITUDE

LONGITUDE

ANTENNA PARAMETERS

THEORETICAL	Tower	MEASURED
0.282 ∠-51.9°	5	0.445 ∠-67°
0.798 ∠155.3°	4	0.785 ∠166.5°
1.0 ∠0°	3	1.0 ∠0°
0.647 ∠-157.2°	2	0.801 ∠-141.3
0.184 ∠45.8°	1	1.226 ∠44.5

G=150° S=85° N-137.5°-E

JOHN H. MULLANEY
AND
ASSOCIATES
A DIVISION OF MULTRONICS, INC.

FIGURE 2

MEASURED HORIZONTAL
NIGHTTIME DIRECTIONAL PATTERN

RADIO STATION WKOK
SUNBURY, PENNSYLVANIA

FCC File No.BL-10111
Accepted 7-2-63

Station WKOK
Sunbury, Pennsylvania

1070 kc

WKOK

Measured Night Nulls
(4-29-68ct)

Station WKOK
Sunbury, Pennsylvania

1kw,10kw-LS,DA-2,U
1070 kc

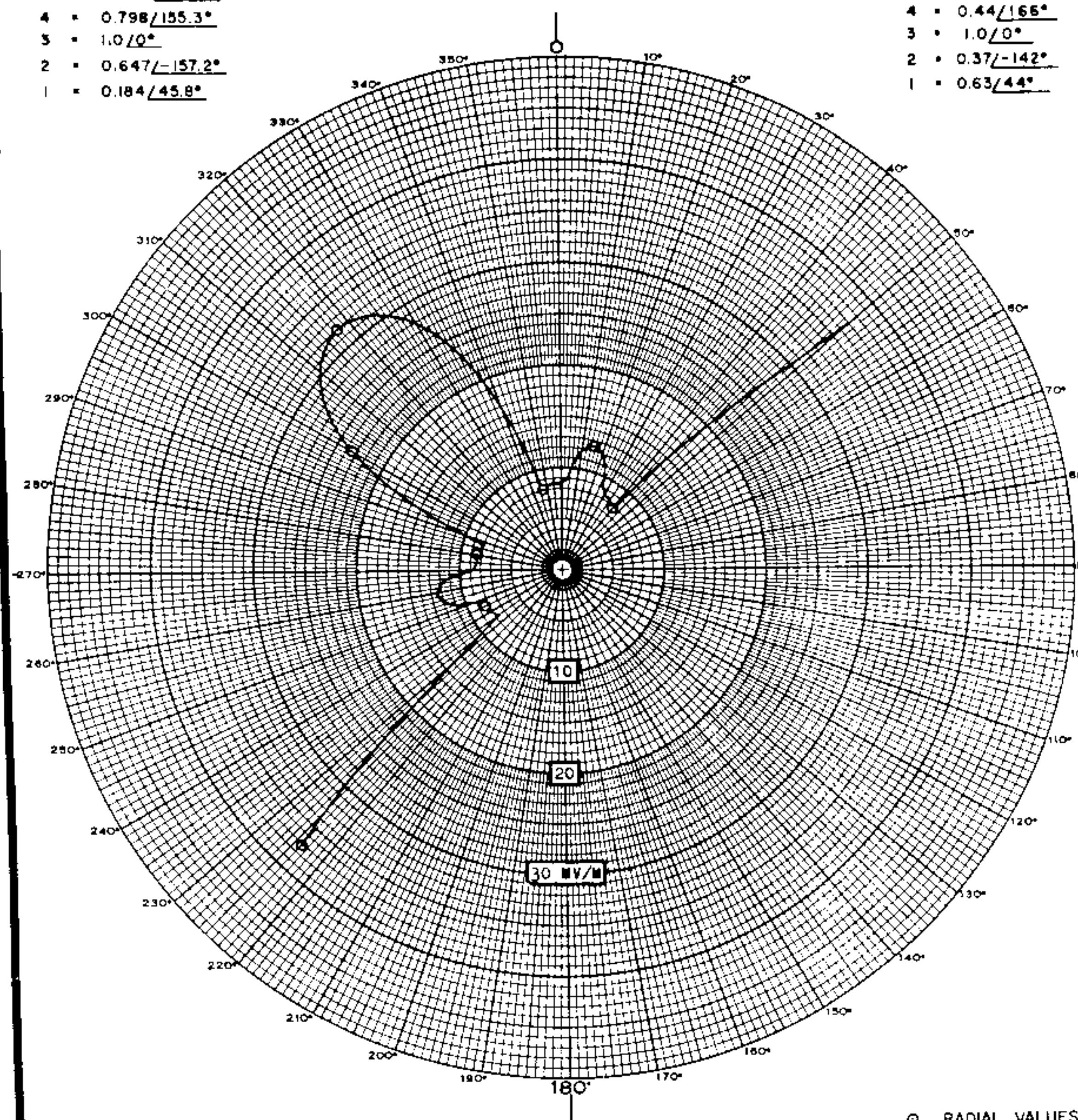
5-15-68
GRANTED
LICENSE.

THEORETICAL PARAMETERS

5 = 0.282 /-51.9°
4 = 0.798 /155.3°
3 = 1.0 /0°
2 = 0.647 /-157.2°
1 = 0.184 /45.8°

MEASURED PARAMETERS

5 = 0.20 /-66°
4 = 0.44 /166°
3 = 1.0 /0°
2 = 0.37 /-142°
1 = 0.63 /44°



○ RADIAL VALUES
——— MEASURED

LATITUDE: 40° 52' 46"
LONGITUDE: 76° 49' 18"

JOHN H. MULLANEY
AND
ASSOCIATES

ANTENNA PARAMETERS

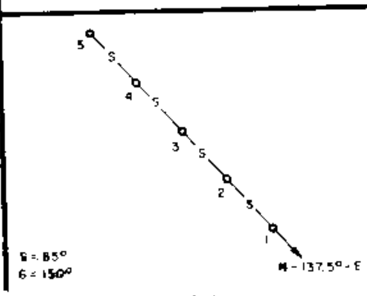


FIGURE 1

MEASURED NULL DETAIL
NIGHTTIME DIRECTIONAL PATTERN

RADIO STATION WKOK
SUNBURY, PENNSYLVANIA

1070 KHz

1 KW, 10 KW-LS, DA-2

FCC File No.BL-11928
Accepted 4-10-68

Station WKOK
Sunbury, Pennsylvania

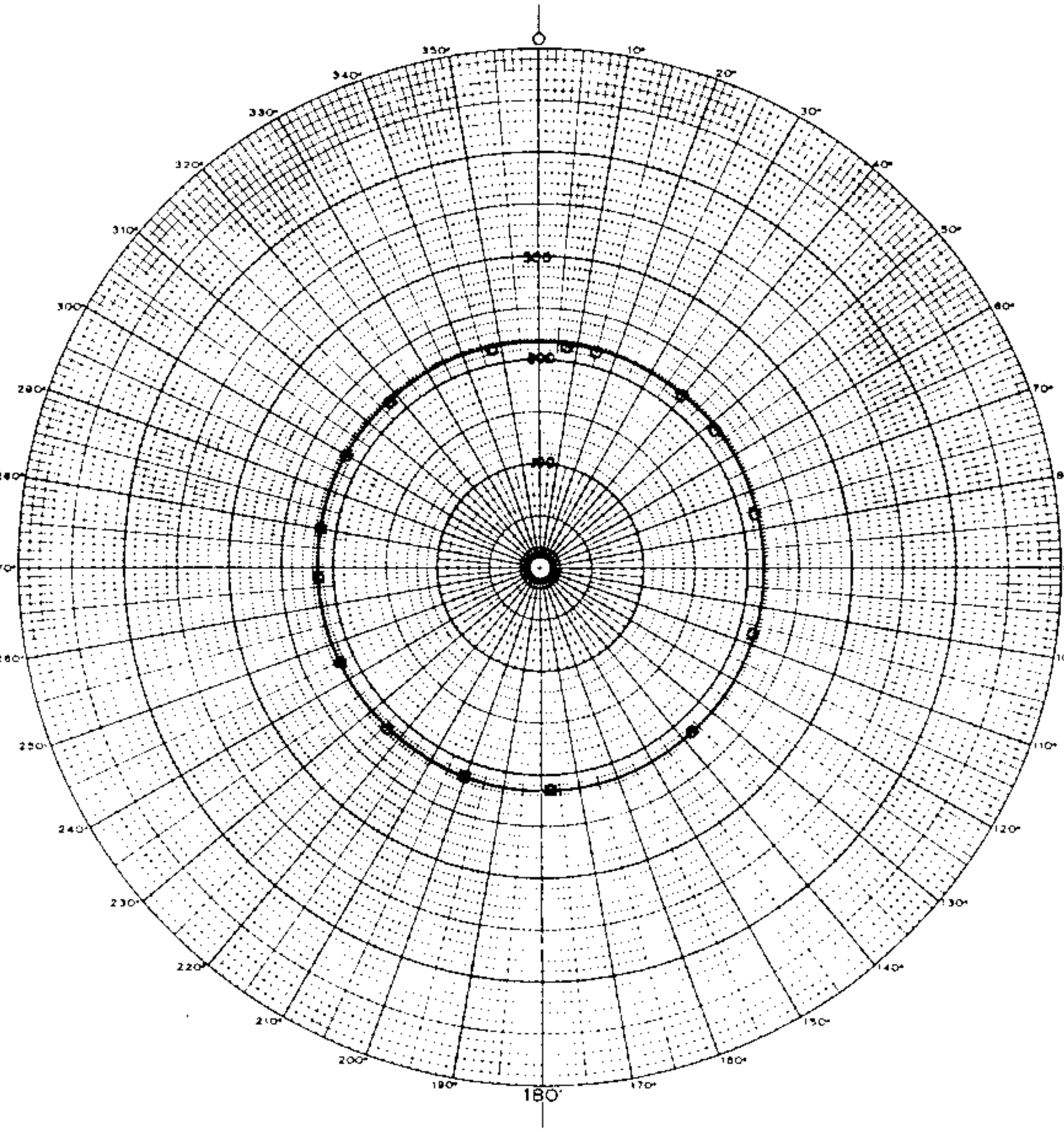
1070 kc

WKOK

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

Station WKOK
Sunbury, Pennsylvania

1kw,10kw-LS,DA-2,U
1070 kc



E_{RMS} = 215 MV/M (MEASURED)

⊙ RADIAL VALUES

LATITUDE 40° 52' 46" LONGITUDE 76° 49' 18"	ANTENNA PARAMETERS # 3 TOWER G = 150° P = 1 KW	FIGURE 18 MEASURED HORIZONTAL NON-DIRECTIONAL PATTERN RADIO STATION WKOK SUNBURY, PENNSYLVANIA 1070KC 1KW, 10KW-LS, DA-2
JOHN H. MULLANEY AND ASSOCIATES A DIVISION OF MULTRONICS INC		

FCC File No.BL-10111
Accepted 7-2-63

Station WKOK
Sunbury, Pennsylvania

1070 kc

WNCT

Measured Day
(5-27-69ct)

Station WNCT
Greenville, North Carolina

10kw,DA-2,U
1070 kc

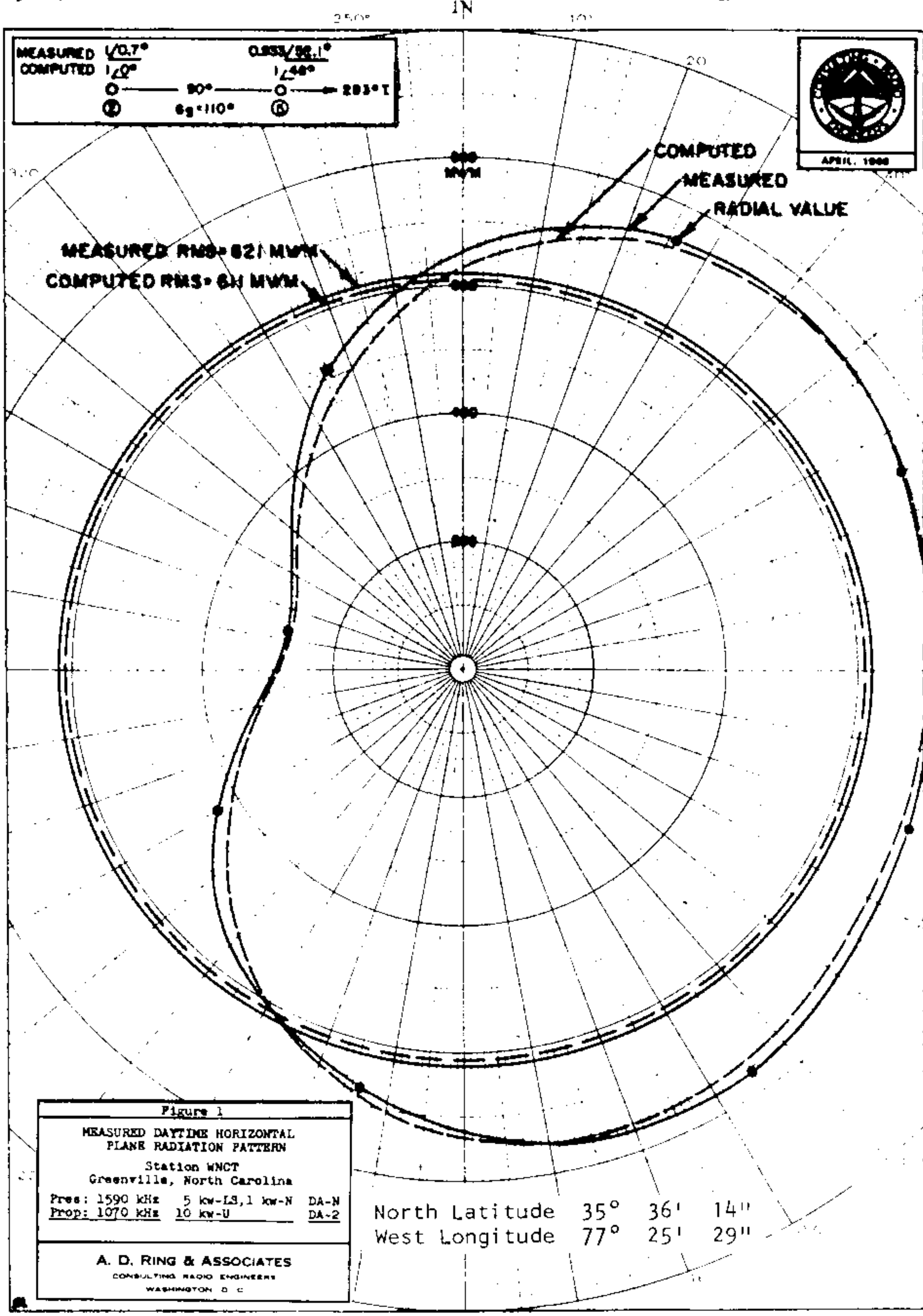


Figure 1

MEASURED DAYTIME HORIZONTAL PLANE RADIATION PATTERN

Station WNCT
Greenville, North Carolina

Pres: 1590 kHz 5 kw-LS,1 kw-N DA-N
Prop: 1070 kHz 10 kw-U DA-2

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

A. D. RING & ASSOCIATES 4/64

FCC File No. BL-12344
Accepted 5-9-69

Station WNCT
Greenville, North Carolina

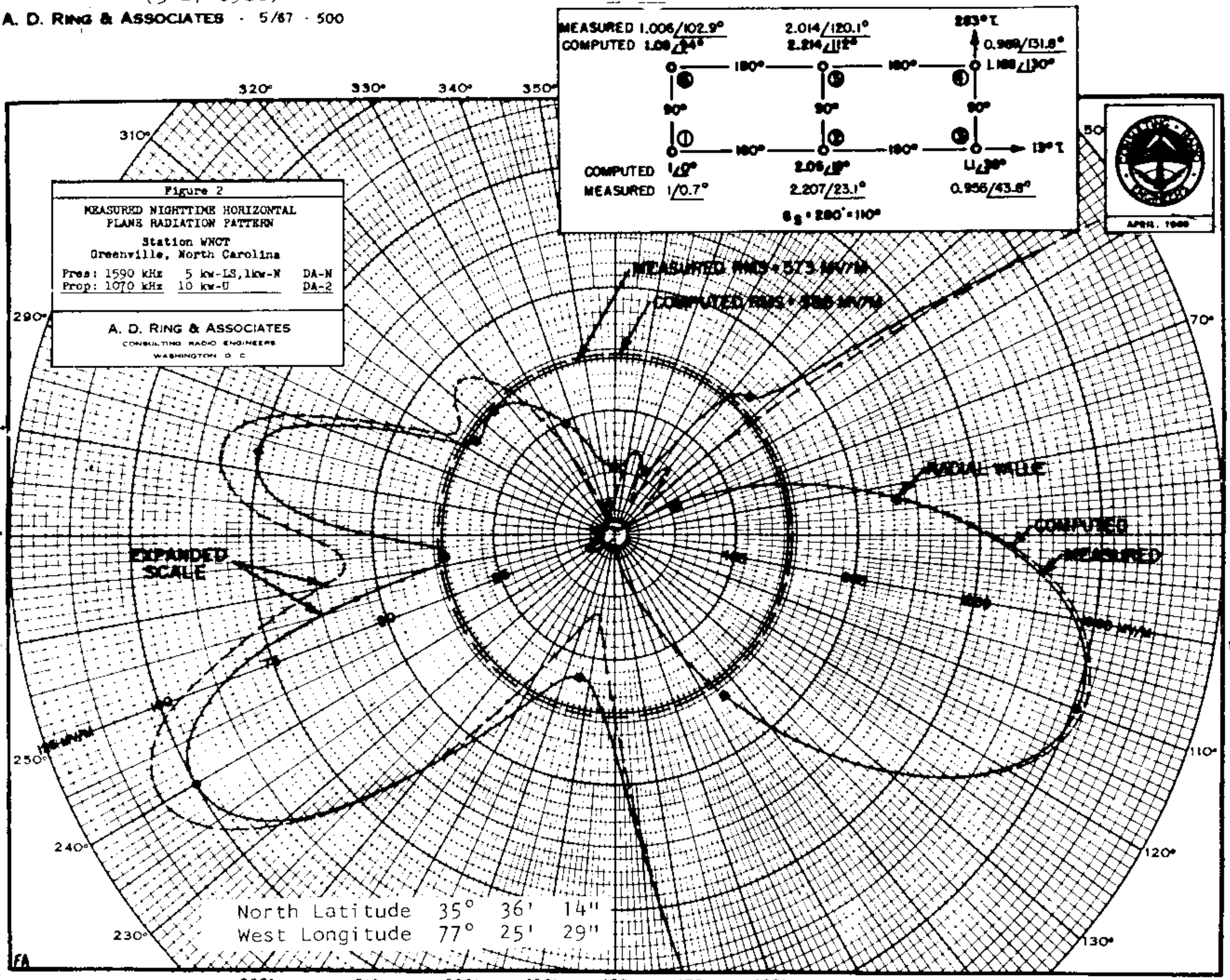
1070 kc

Measured Night
(5-27-69ct)

A. D. RING & ASSOCIATES · 5/67 · 500

Station \ .T
Greenville, North Carolina

10kw,DA-2,U
1070 kc



FCC File No.BL-12344
Accepted 5-9-69

Station WNCT
Greenville, North Carolina

1070 kc

WNCT-1070 kHz-NIGHT

WNCT

WNCT

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

Station WNCT
Greenville, North Carolina

10kw,DA-2,U
1070 kc

WNCT - 1070 KHZ

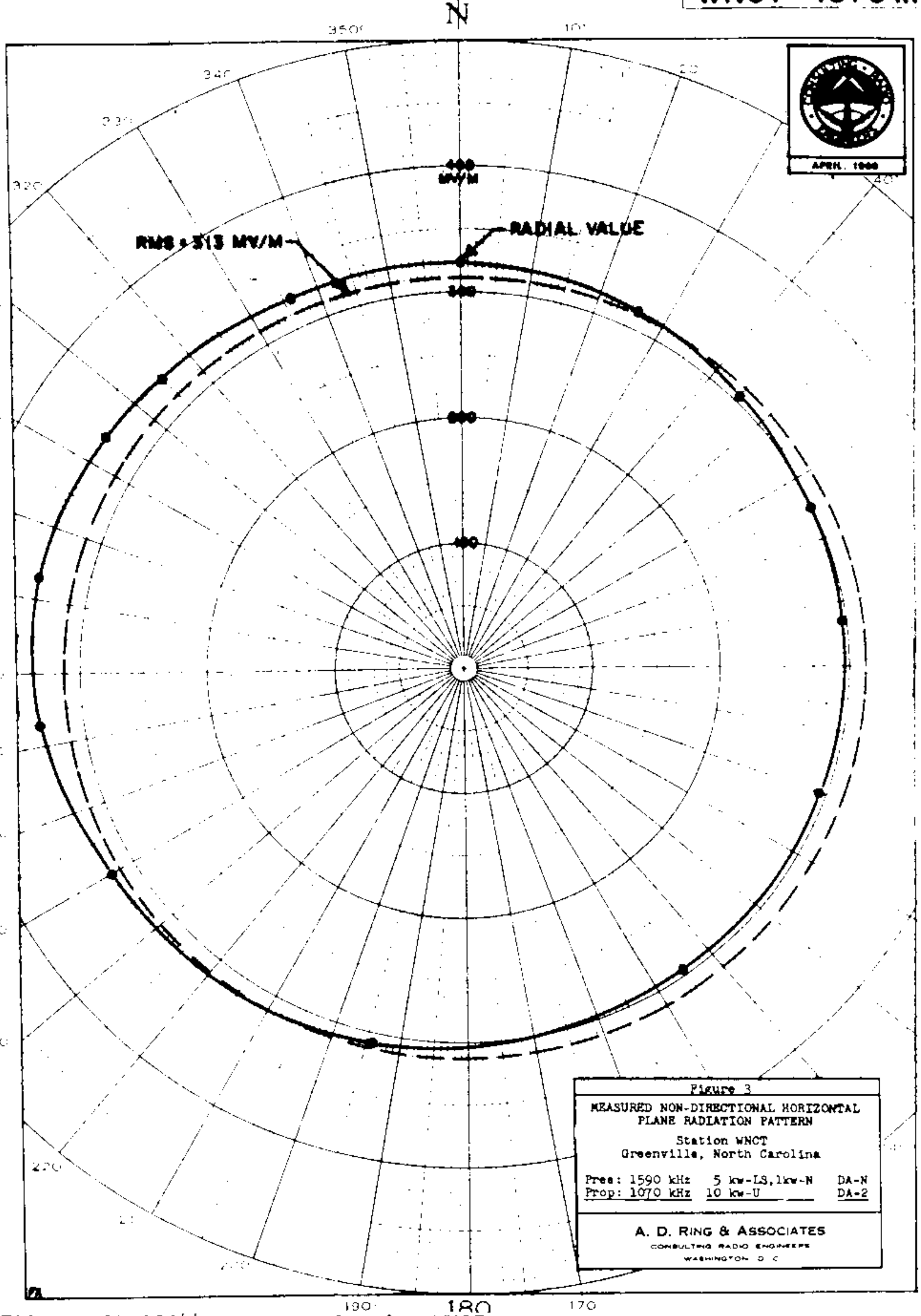


Figure 3

MEASURED NON-DIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN

Station WNCT
Greenville, North Carolina

Pres:	1590 kHz	5 kw-LS, 1kw-N	DA-N
Prop:	1070 kHz	10 kw-U	DA-2

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

FCC File No. BL-12344
Accepted 5-9-69

Station WNCT
Greenville, North Carolina

1070 kc

WNCT

Proposed Day
(10-28-67ct)

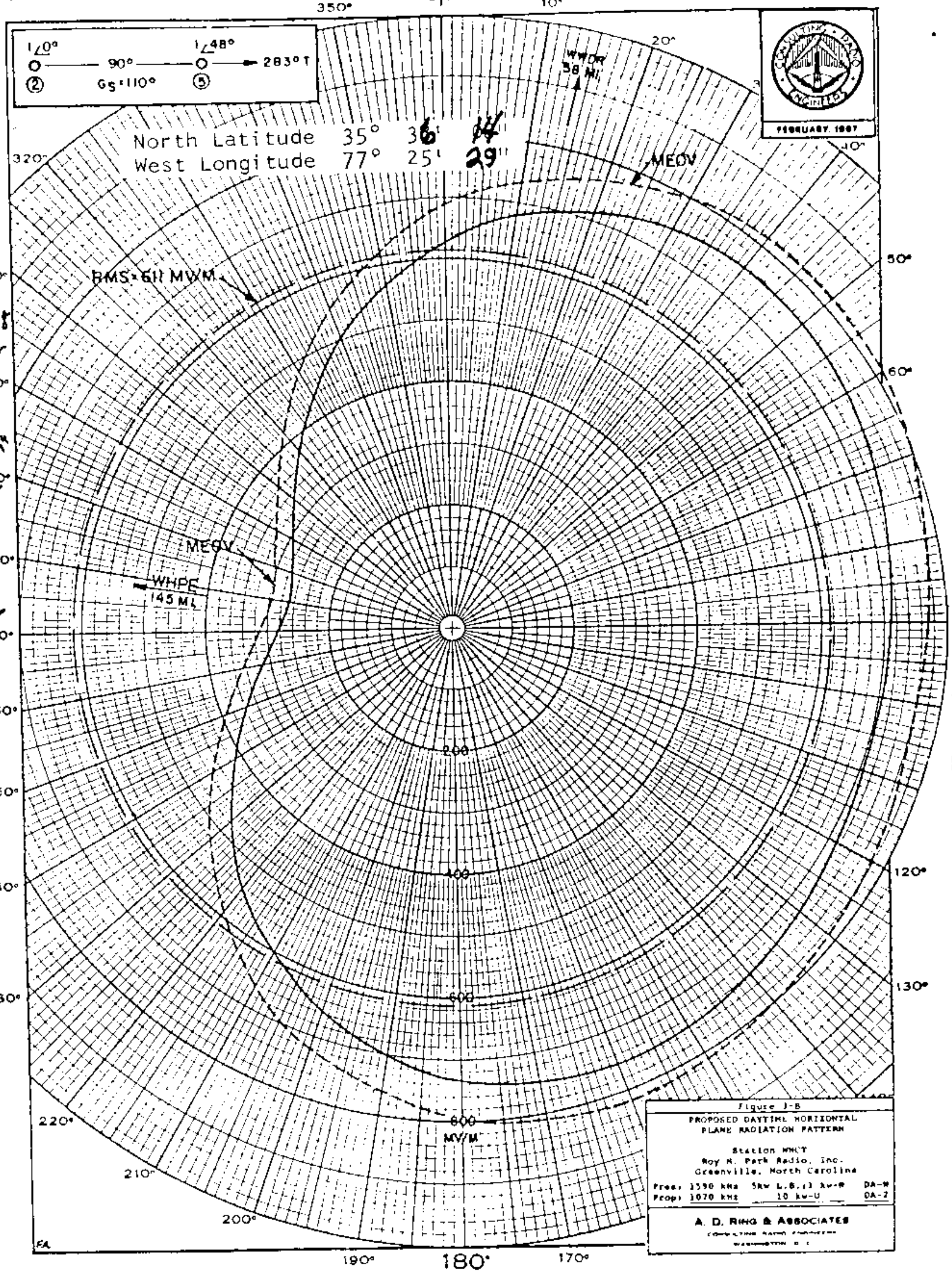
Station WNCT
Greenville, North Carolina

10kw,DA-2,U
1070 kc

10-12-67
GRANTED CP
to change
frequency.
Y C

BMP-12283
Modification of
CP accepted
2-5-68 to change
aut. transmitter
location to
N.L. 35° 36' 14"
W.L. 77° 25' 29"

OVER



A. D. RING & ASSOCIATES · 4/64 · N

FCC File No. BP-16563
Accepted 9-25-67 Amended

Station WNCT
Greenville, North Carolina

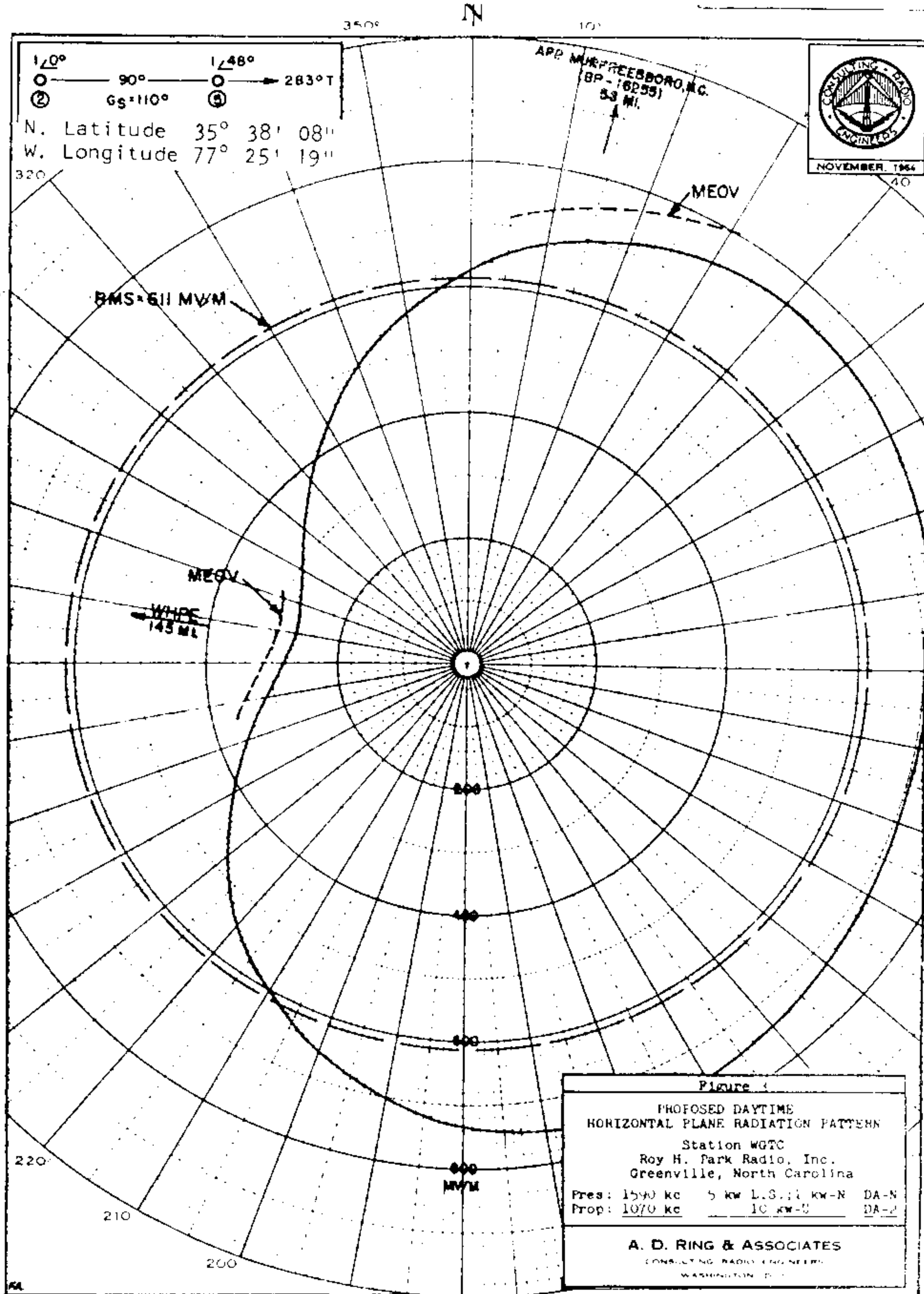
1070 kc

WNCT

Proposed Day
(6-28-65ct)

Station WNCT
Greenville, North Carolina

10kw,DA-2,U
1070 kc



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

FCC File No. BP-16563
Accepted 6-18-65

Station WNCT
Greenville, North Carolina

1070 kc

10-12-67
GRANTED CP
To change frequency. OVER

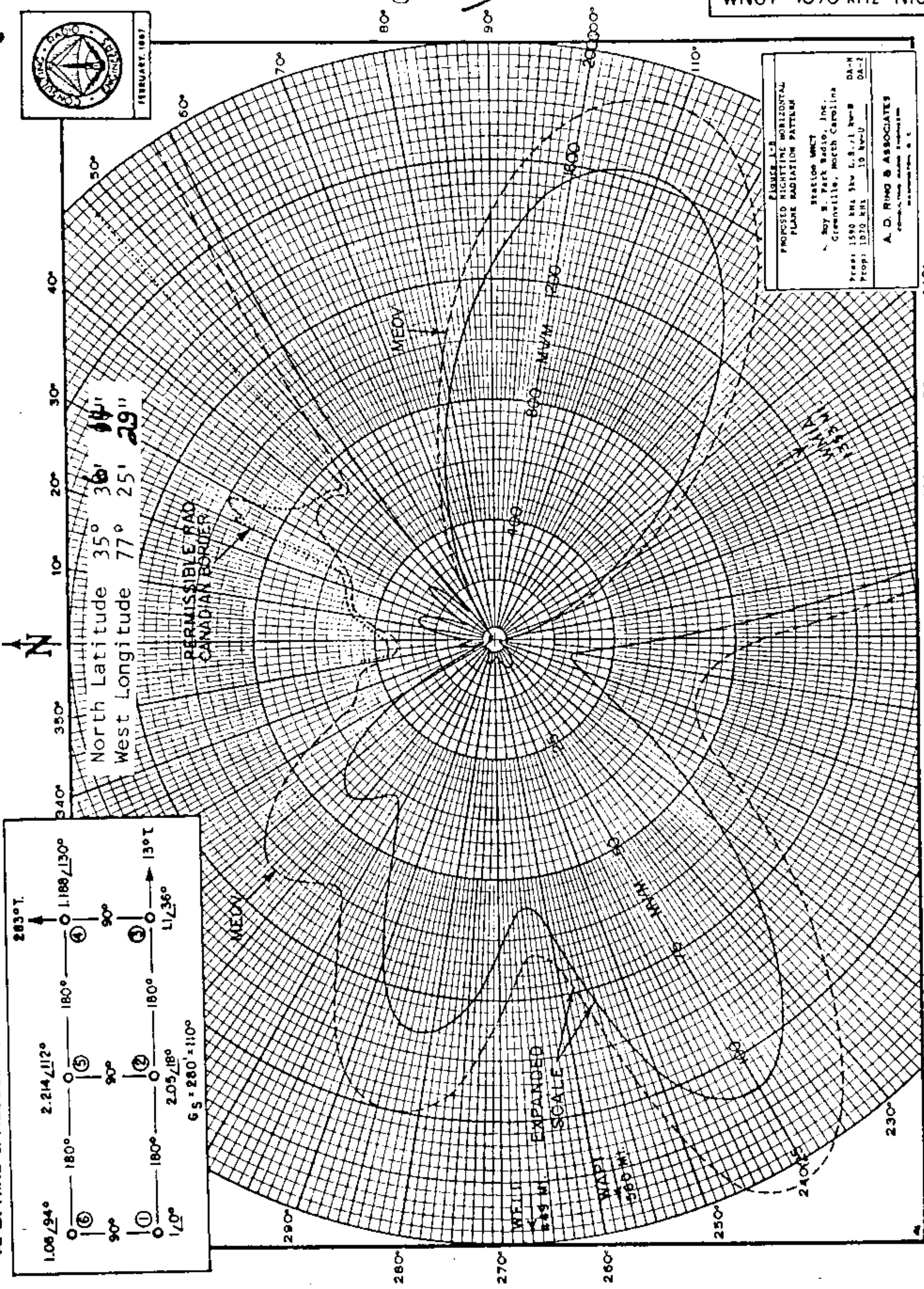
WNCT

WNCT - 1070 kHz - NIGHT

10kw,DA-2,U
1070 kc

Station WNCT
Greenvi e, North Carolina

Proposed Night
(10-28-67ct)



1070 kc

Station WNCT
Greenville, North Carolina

FCC File No. BP-16563
Accepted 9-25-67 Amended

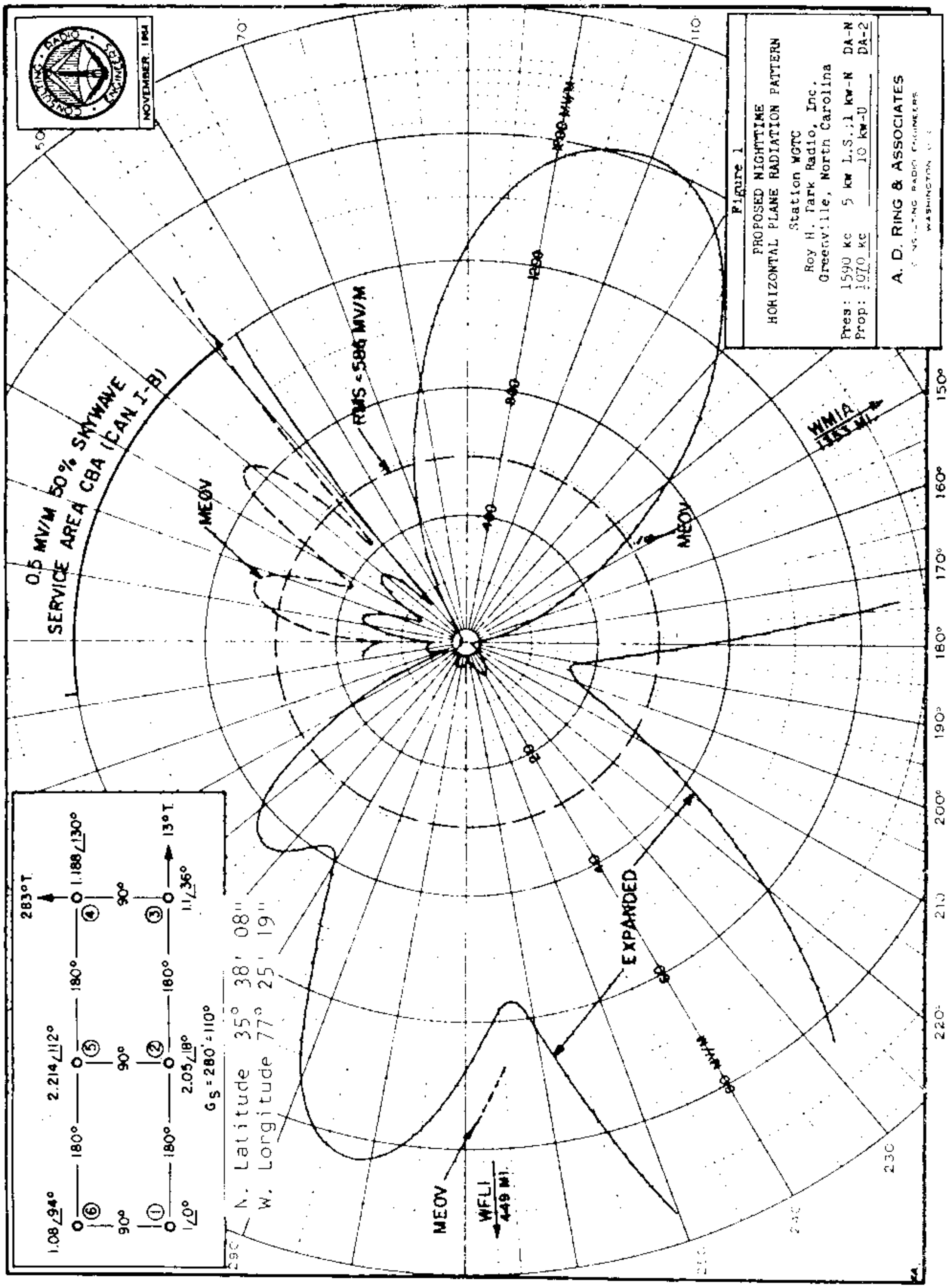
17149-2

WNCT

Proposed Night
(6-28-65ct)

Station WNCT
Greenville, North Carolina

10kw,DA-2,U
1070 kc



A. D. RING & ASSOCIATES 10/60 M

FCC File No. BP-16563
Accepted 6-18-65

Station WNCT
Greenville, North Carolina

1070 kc

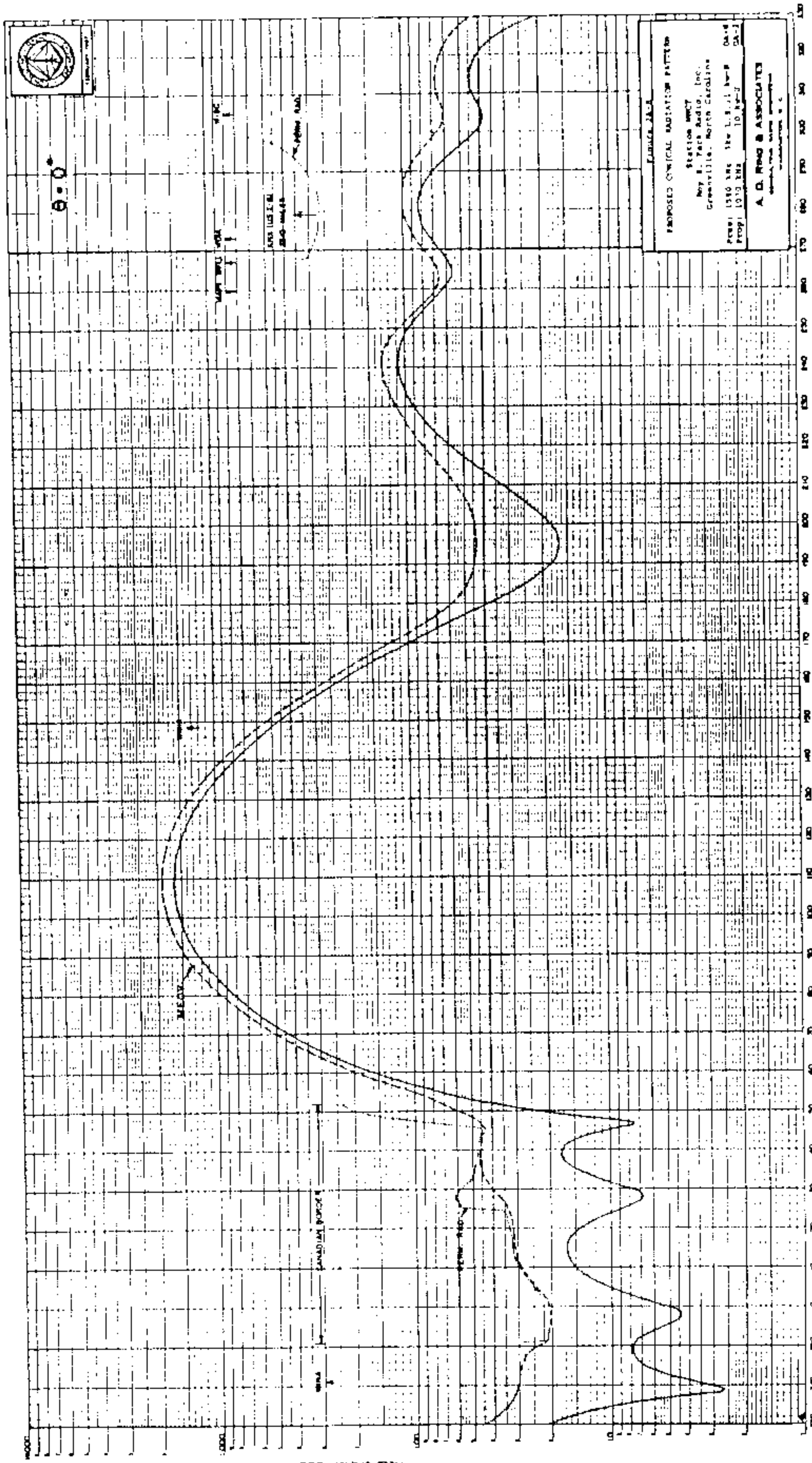
10-12-67
GRANTED CP
-to change frequency.

WNCT

10Kw,DA-2,U
1070 kc

Station WNCT
Greenville, North Carolina

Proposed Night Nulls
(10-28-67ct)



1070 kc

Station WNCT
Greenville, North Carolina

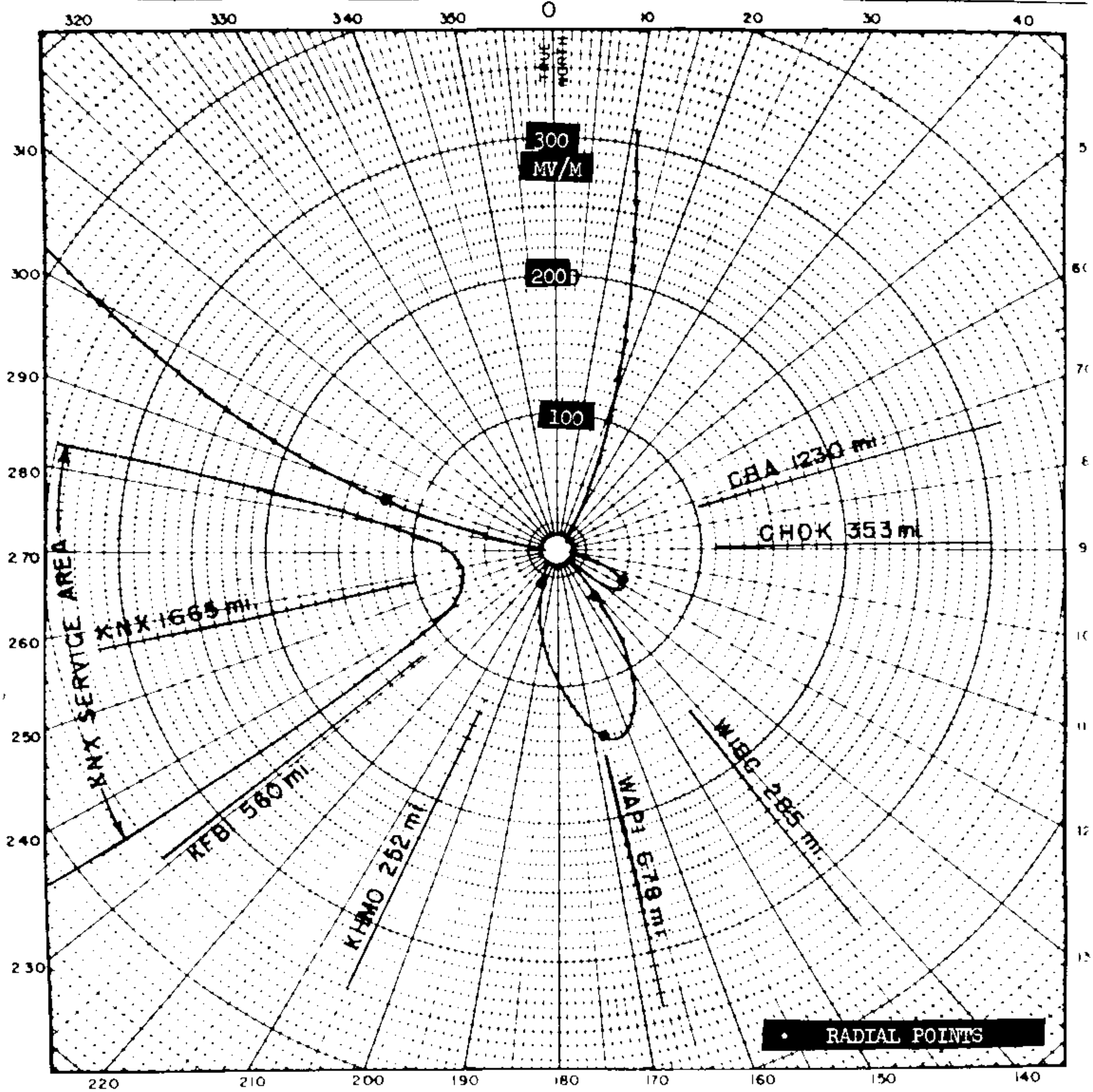
FCC File No.BP-16563
Accepted 9-25-67 Amended

15149-3

MEASURED NIGHT NULLS Station WKOW 5kw, 10kw-LS, DA-

Madison, Wisconsin

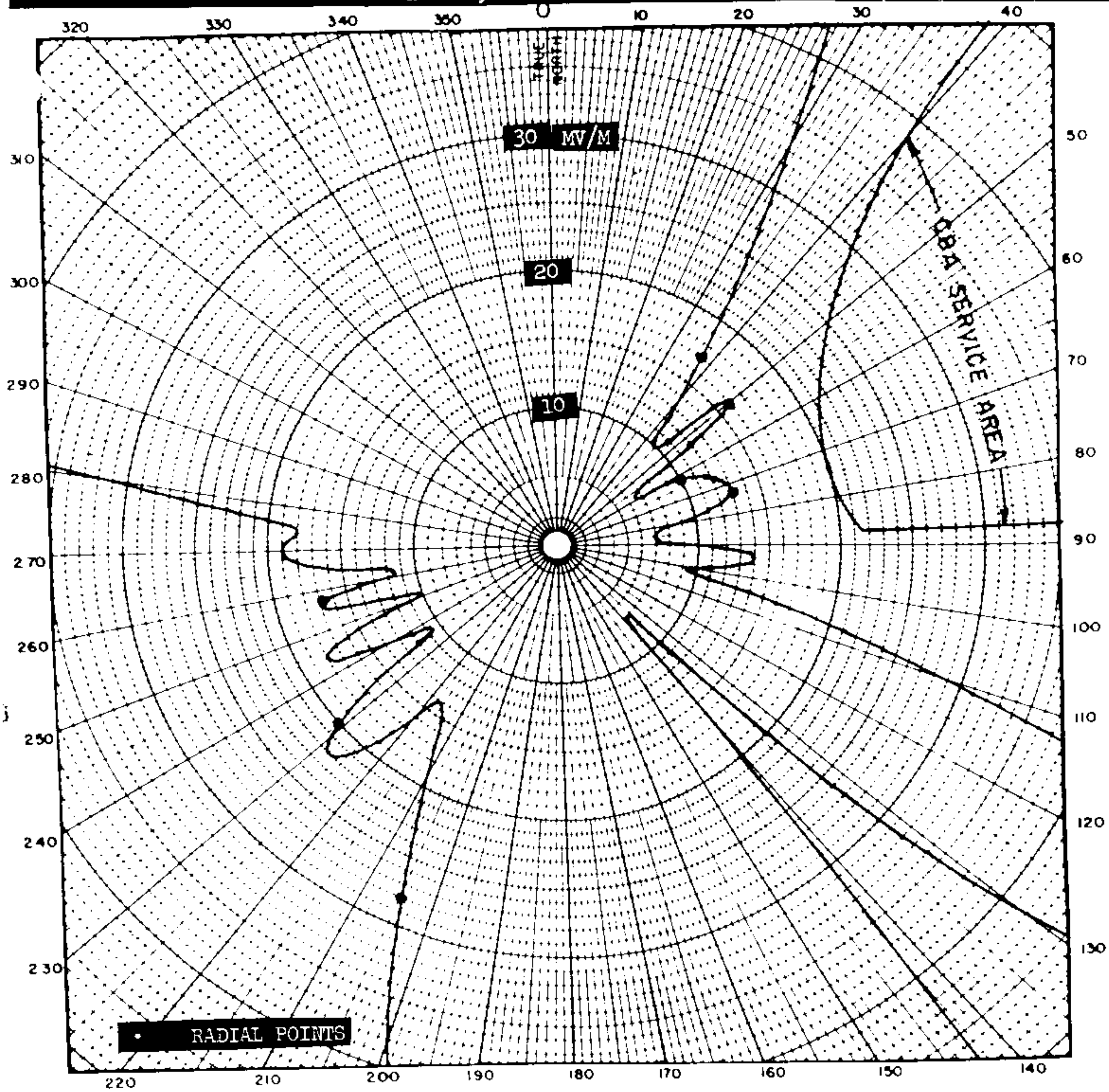
WTSO



HORIZONTAL RADIATION PATTERN MEASURED NIGHTTIME MONONA BROADCASTING CO. MADISON, WISCONSIN	WKOW 1070 KC 5-10 KW DA-2
ANDREW CONSULTING RADIO ENGINEERS	480119

WTSO

MEASURED NIGHT NULLS | Station WKOW Madison, Wisconsin | 5kw, 10kw-LS, 1070 Kc



	HORIZONTAL RADIATION PATTERN MEASURED NIGHTTIME MONONA BROADCASTING CO. MADISON, WISCONSIN	WKOW 1070 KC 5-10 KW DA-2
	CONSULTING RADIO ENGINEERS	480119

#190

CKSA

ANTENNA DESCRIPTION SHEET

DIRECTIONAL DA-N

STATION CALL:	C K S A
MAIN STUDIO:	Lloydminster, Alberta.
FREQUENCY:	1080 kc/s
POWER:	10,000 watts
CLASS:	II
TIME:	Unlimited
NOTIFICATION REFERENCE:	190...... DATE: October 2, 1964
GEOGRAPHICAL LOCATION:	Lat 53°13'17", Lon 110°00'23"
ARRAY CHARACTERISTICS:	Three elements, guyed, uniform cross section, base insulated, series feed, height 190 feet (75°). No top loading.

ELEMENT	ONE	TWO	THREE
spacing	ref	213.9' (84.5°)	570.9' (225.5°)
bearing	ref	356.5°	356.5°
ratio	1.0	1.7	1.0
phase	00°	-124.5°	+156.0°

Ground system: 120 radials per tower, #10 AWG bare, soft, copper wire, spaced uniformly, depth approximately 6 inches. Radials bonded on a line between towers and bonded to soft copper strap at tower base. Average radial length 343 feet.

R. M. S. 585 mv/m at 1 mile for 10 kw

185 mv/m at 1 mile for 1 kw

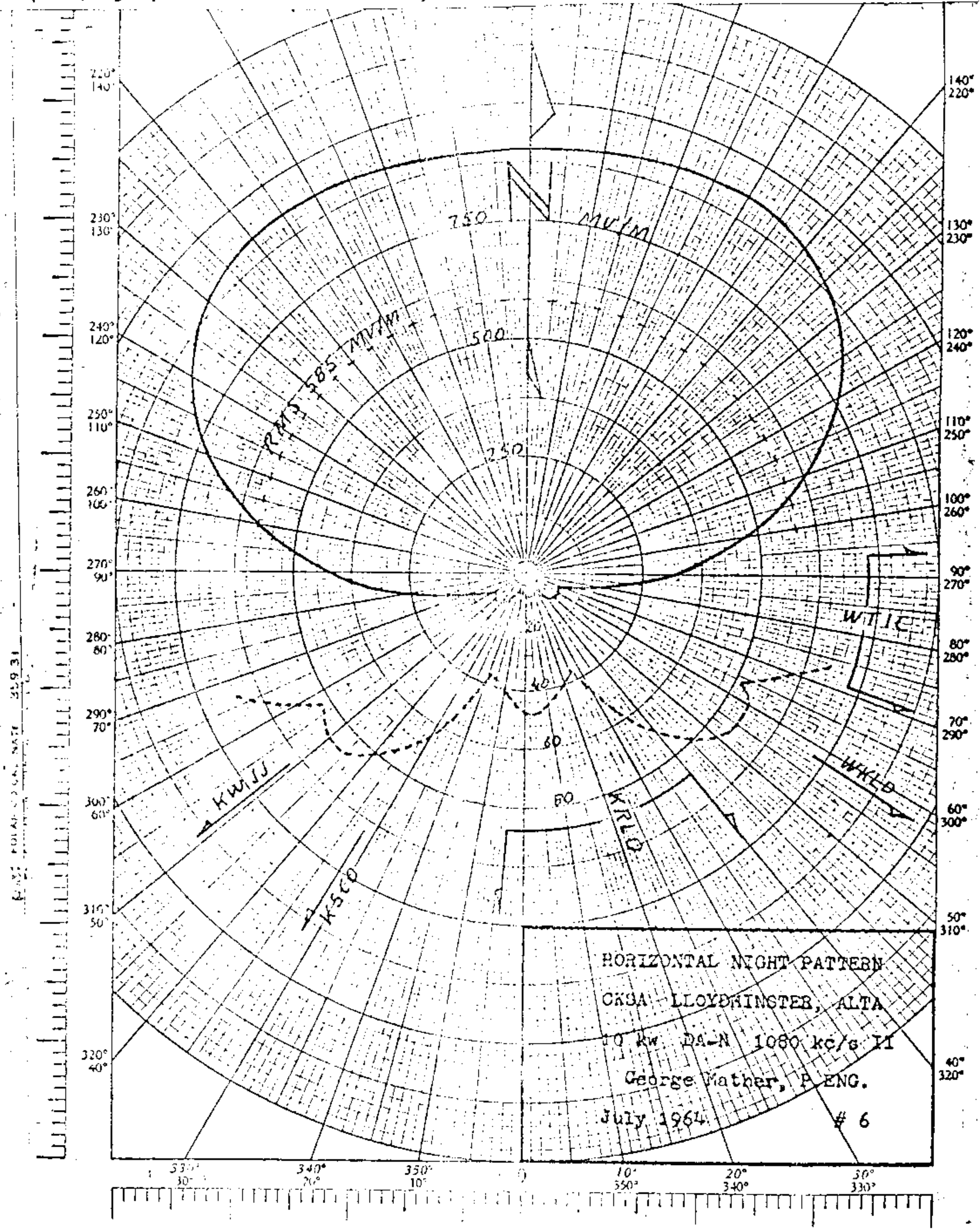
#19U

CKSA

Proposed Night
(4-28-65ct)

Station CKSA
Lloydminster, Alberta

10kw,DA-N,U,Class II
1080 kc



LEBANON, MISSOURI   KJEL

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: (new)   Main Studio: Lebanon, Missouri

Frequency: 1080 kHz   Power: 0.25 kw

Notification List No. 1451   Date: November 17, 1971   Class: II

GEOGRAPHICAL LOCATION OF THE
CENTER OF THE ANTENNA SYSTEM: North Latitude: 37° 41' 10"
                                     West Longitude: 92° 41' 39"

ANTENNA CHARACTERISTICS

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

TOWER:	SW(#1)	NE(#2)	
HEIGHT ABOVE INSULATORS:	220'	220'	(87°)
PHASING:	0°	+8°	
FIELD RATIO:	0.8	1	

SPACING AND ORIENTATION: Elements are spaced 486' (192°) on a line bearing 25° true.

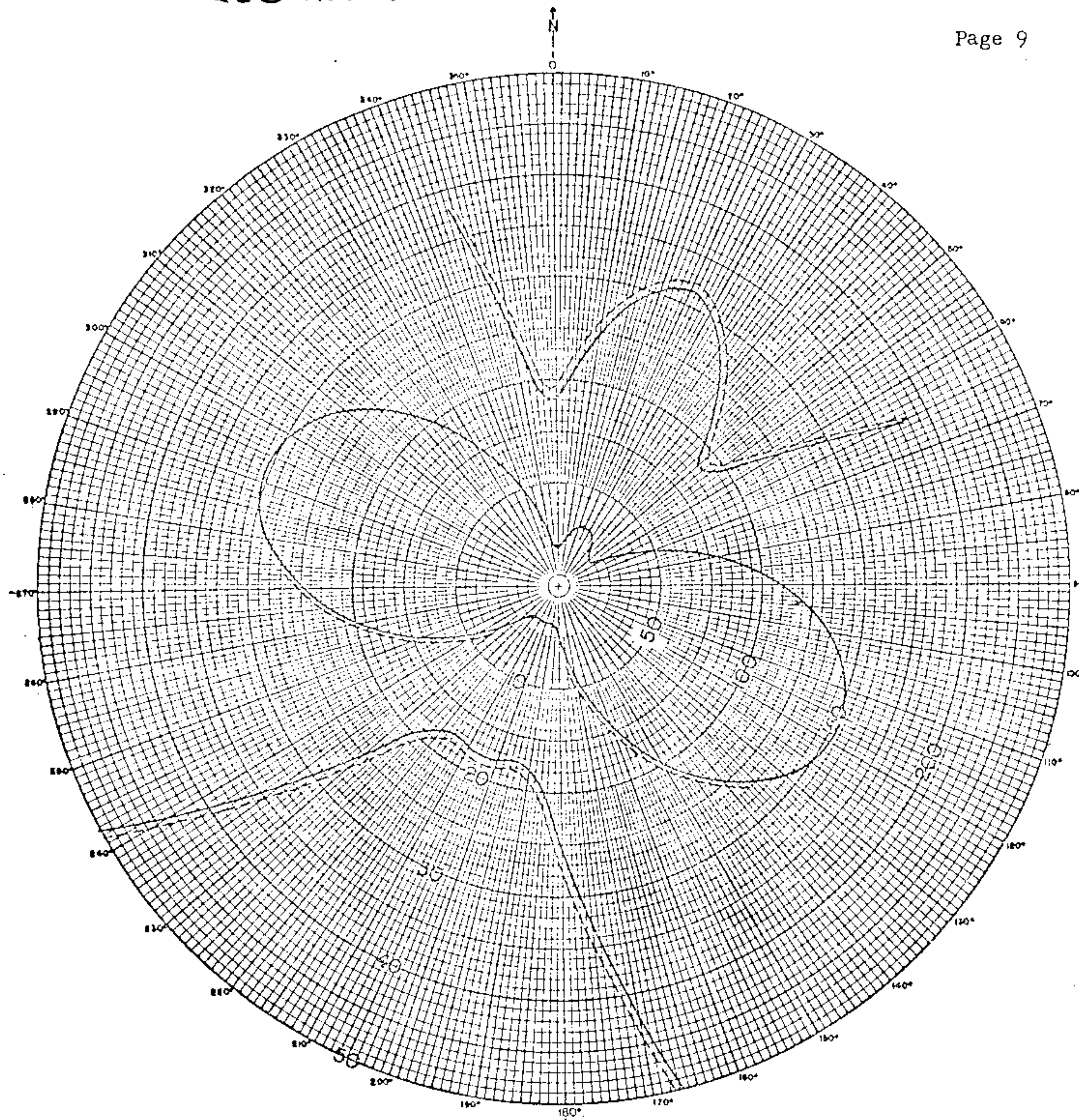
GROUND SYSTEM: 120 - 200' equally spaced copper radials about each tower. Centers of systems are bonded together.

Predicted effective Field: 88 mv/m at rated power.

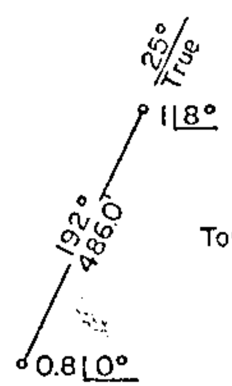
- -

LEBANON, MISSOURI

KJEL



HORIZONTAL RADIATION PATTERN



Tower Height: 220' (87°)

APPLICANT	: Risner Broadcasting,I
LOCATION	: Lebanon, Missouri
FREQUENCY	: 1080 KC/S
POWER	: 0.25 KW
LATITUDE	: 37 DEG. 41 MIN. 10 SEC.
LONGITUDE	: 92 DEG. 41 MIN. 39 SEC.
WHEN USED	: Daytime
R.M.S. FIELD	: 88 MV/M
DATE	: 11/12/65

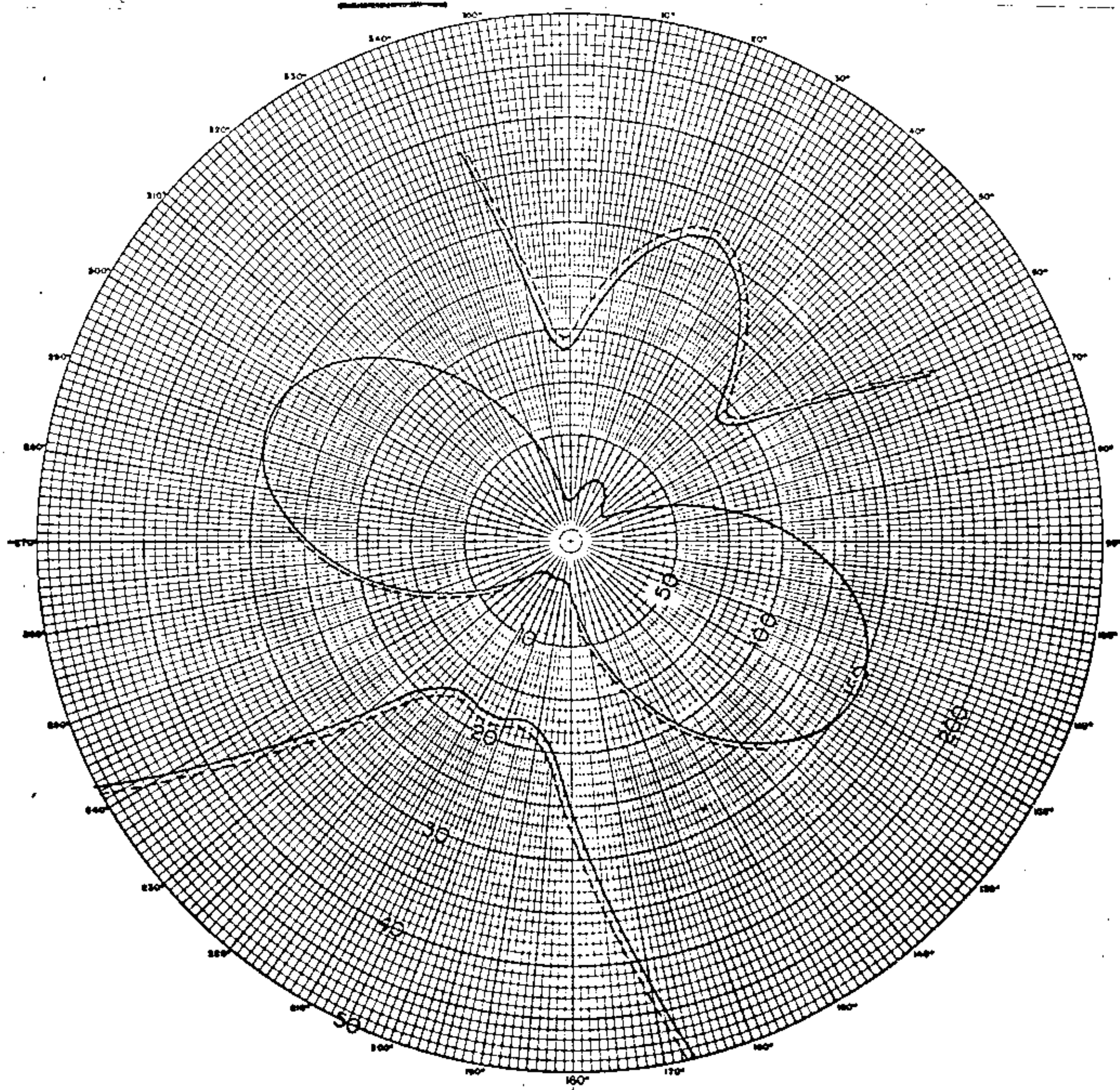
RALPH J. BITZER
CONSULTING RADIO ENGINEERS
ST. LOUIS, MISSOURI

KJEL

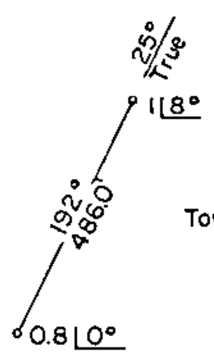
Proposed Day
(7-28-66ct)

New; Risner Broadcasting, Inc.
Lebanon, Missouri

250w,DA-D,D
1080 kc



HORIZONTAL RADIATION PATTERN



Tower Height: 220' (87°)

APPLICANT	Risner Broadcasting, Inc
LOCATION	Lebanon, Missouri
FREQUENCY	1080 KC/S
POWER	0.25 KW
LATITUDE	37 DEG. 41 MIN. 10 SEC.
LONGITUDE	92 DEG. 41 MIN. 39 SEC.
WHEN USED	Daytime
R.M.S. FIELD	88 MV/M
DATE	11/12/65

RALPH J. BITZER
CONSULTING RADIO ENGINEERS

FCC File No.BP-17031
Accepted 7-27-66

New; Risner Broadcasting, Inc.
Lebanon, Missouri

1080 kc

PATTERN NO.: 420401
SUPERSEDES: 410228

KRLD - 1080

KRLD

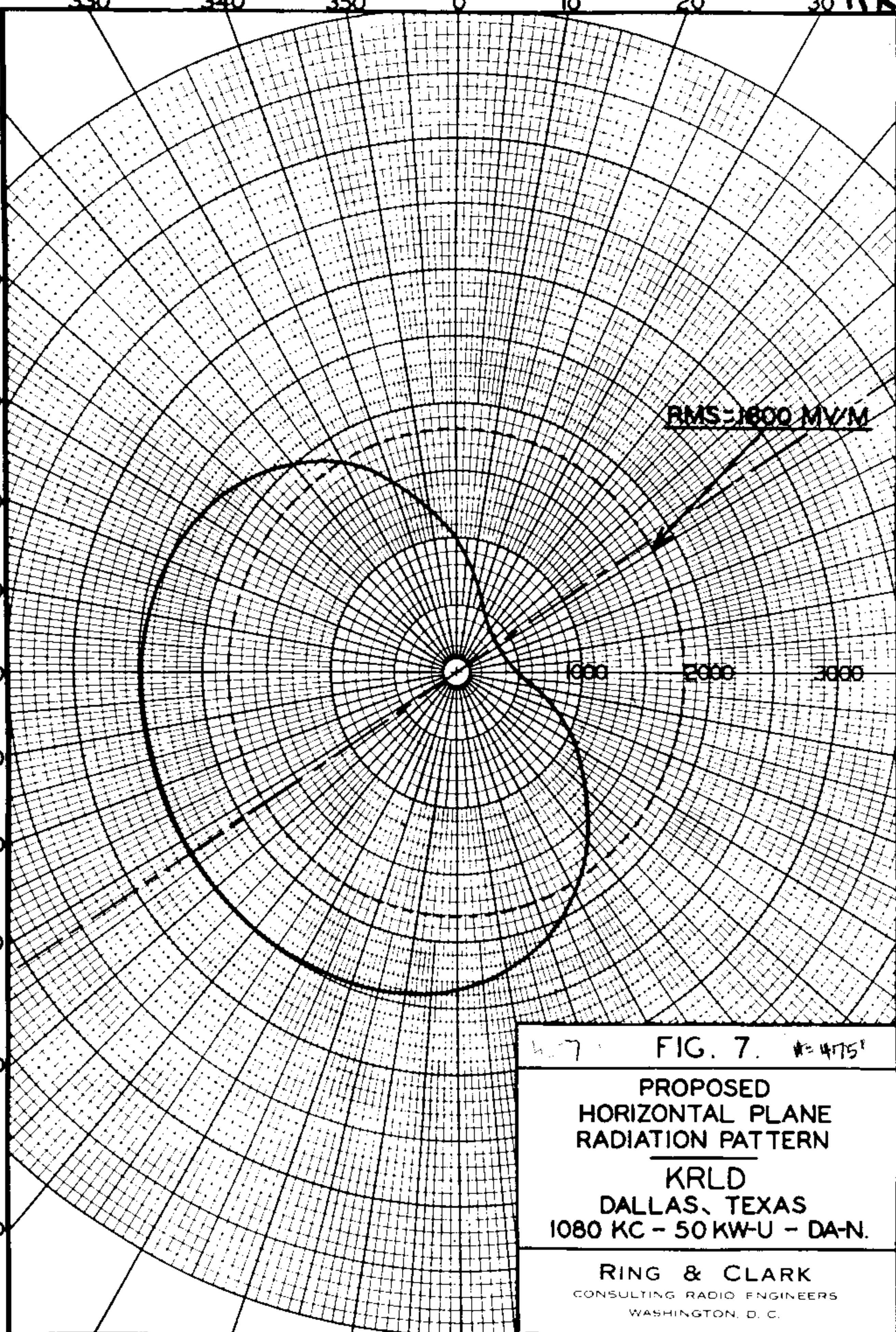


FIG. 7.

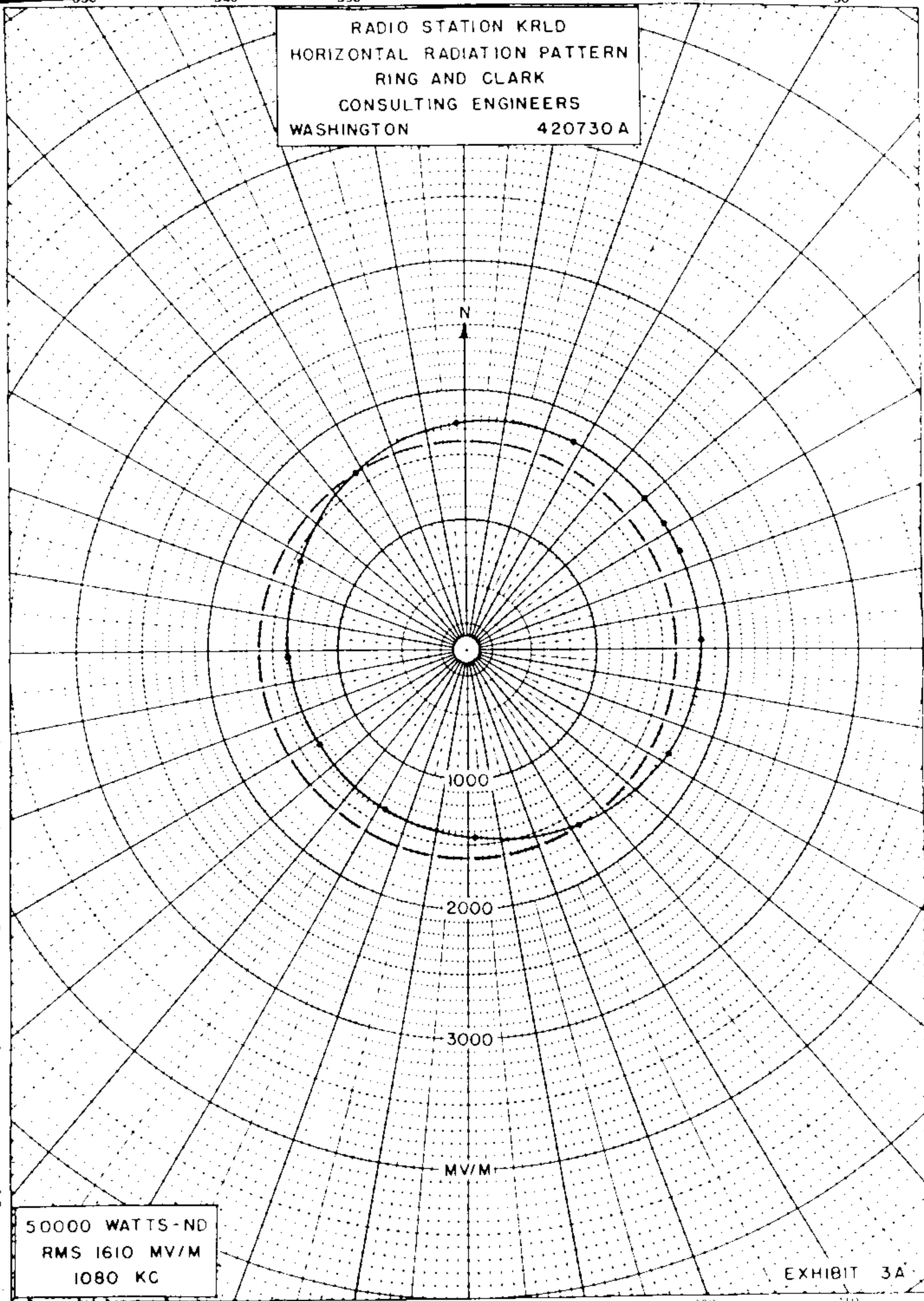
PROPOSED
HORIZONTAL PLANE
RADIATION PATTERN

KRLD
DALLAS, TEXAS
1080 KC - 50 KW-U - DA-N.

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

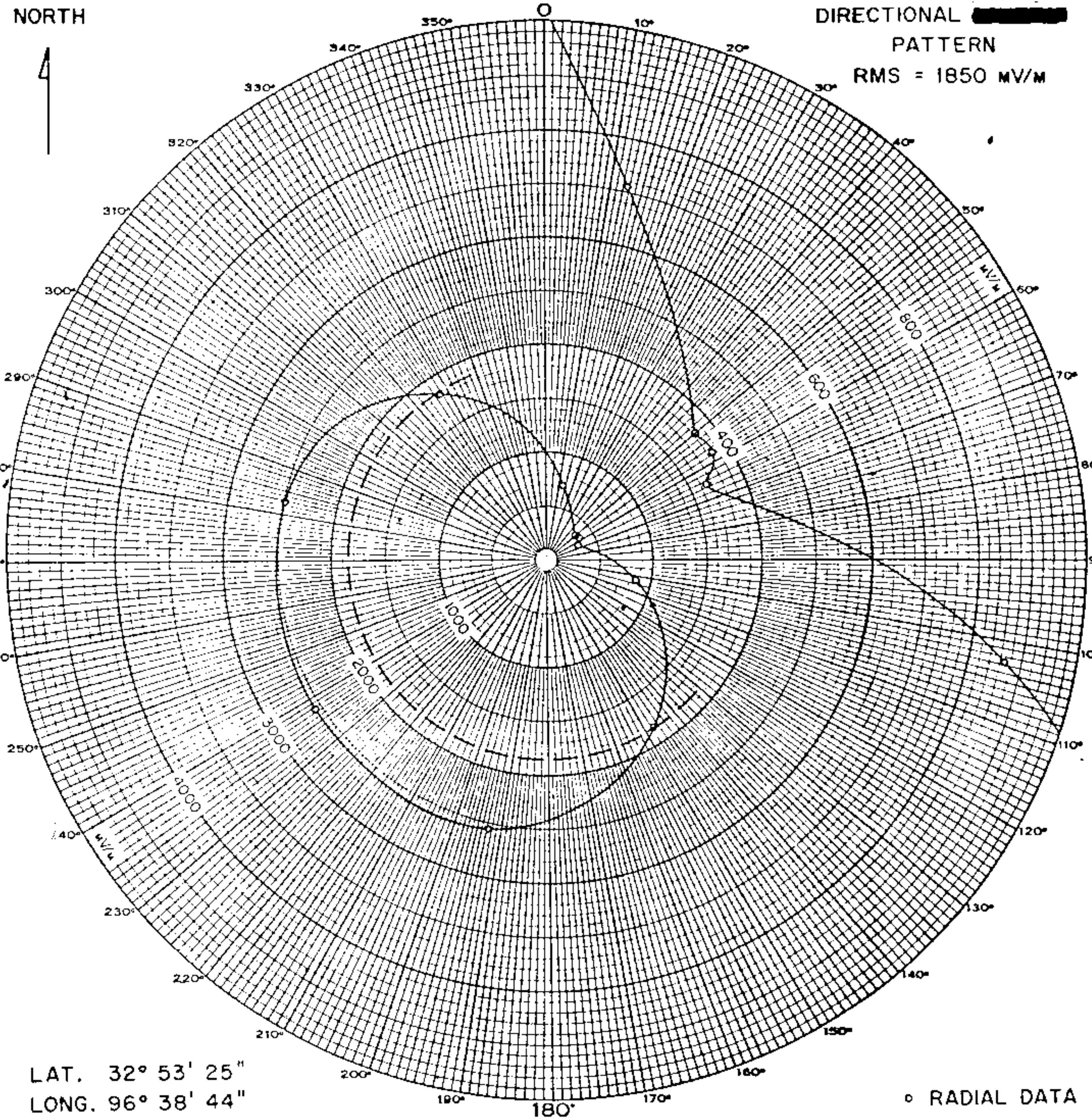
Dallas, Texas 1060 KC

KRLD



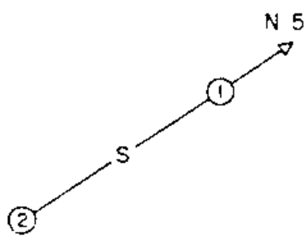
NORTH

DIRECTIONAL [redacted]
PATTERN
RMS = 1850 MV/M



LAT. 32° 53' 25"
LONG. 96° 38' 44"

○ RADIAL DATA



S = 237' = 93.5°
G = 475' = 188°

ANTENNA SYSTEM PARAMETERS

	THEORETICAL		INDICATED	
TOWER	FIELD	PHASE	FIELD	PHASE
1(NE)	0.73	0.0°	1.00	0.0°
2(SW)	1.00	-86.5°	0.92	-86.0°

Dallas. Tex.

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

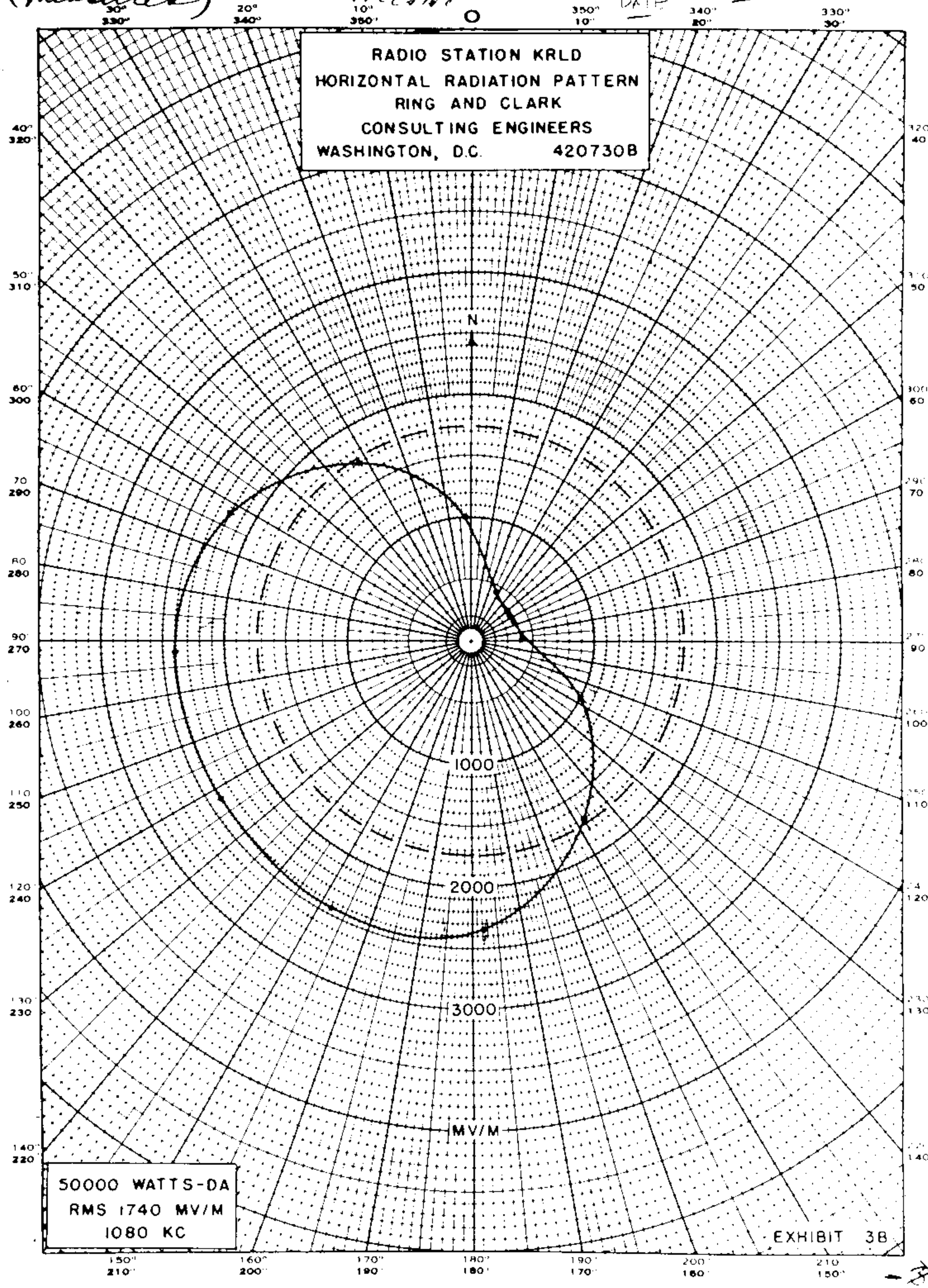
RADIO STATION KRLD
1080 kHz 50 kW DA-N
720229 FIGURE 2B

BZ8075

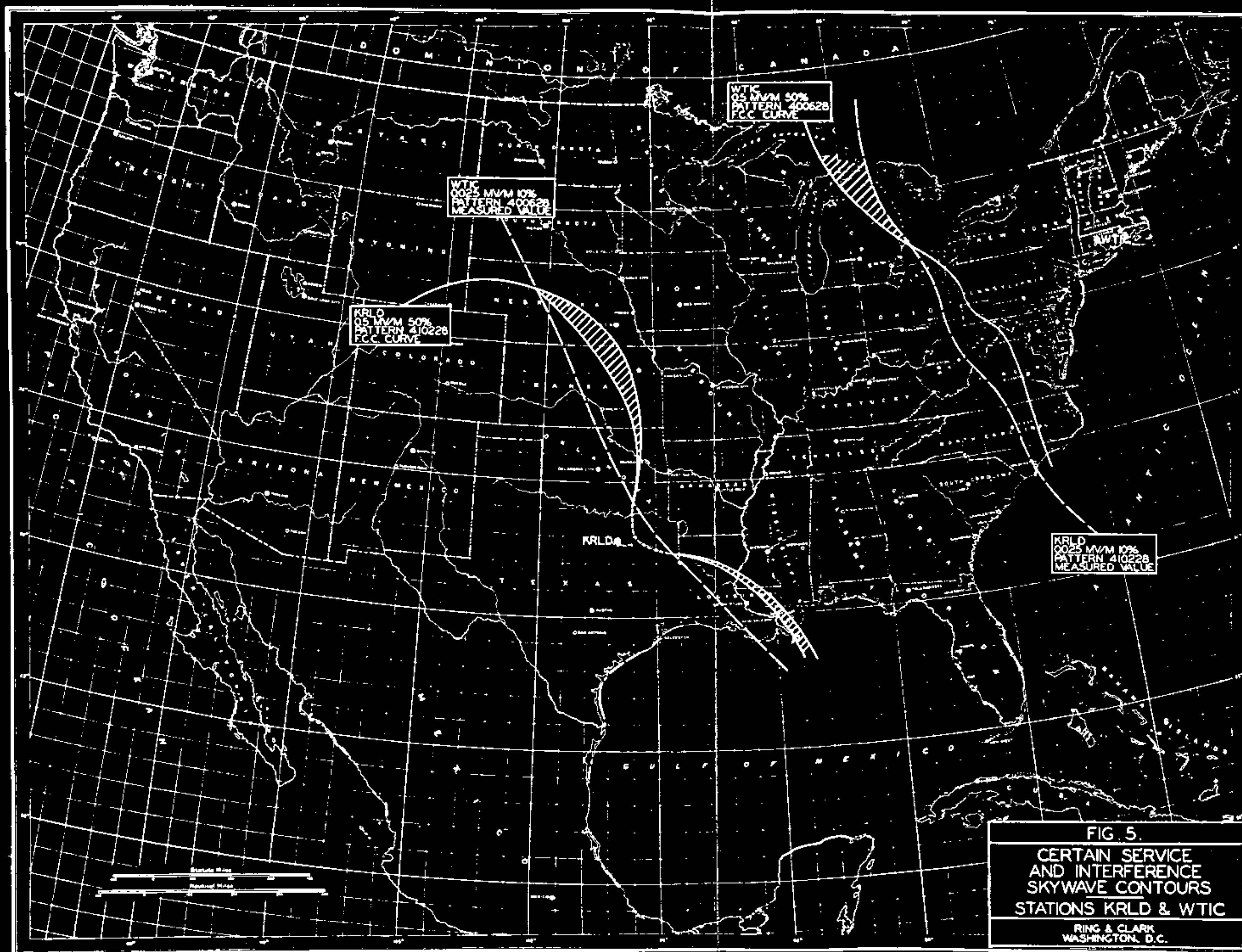
B3 8075

(measured) Directive OUT OF DATE 11 SEPT 75 KRLD

KRLD 2



-39


DOMINION OF CANADA
WTIC
0.5 MV/M 50%
PATTERN 400628
F.C.C. CURVE
WTIC
0.025 MV/M 10%
PATTERN 400628
MEASURED VALUE
KRLD
0.5 MV/M 50%
PATTERN 410228
F.C.C. CURVE
KRLD
0.025 MV/M 10%
PATTERN 410228
MEASURED VALUE
KRLD
TEXAS
GULF OF MEXICO
WTIC
NORTH DAKOTA
SOUTH DAKOTA
WYOMING
NEVADA
UTAH
COLORADO
KANSAS
ARIZONA
NEW MEXICO
FIG. 5.
CERTAIN SERVICE
AND INTERFERENCE
SKYWAVE CONTOURS
STATIONS KRLD & WTIC
RING & CLARK
WASHINGTON, D.C.

KSCO
5kw,10kw-LS,DA-N,U
1080 kc

Proposed Night
(6-29-70ct)

Station KSCO
Santa Cruz, California

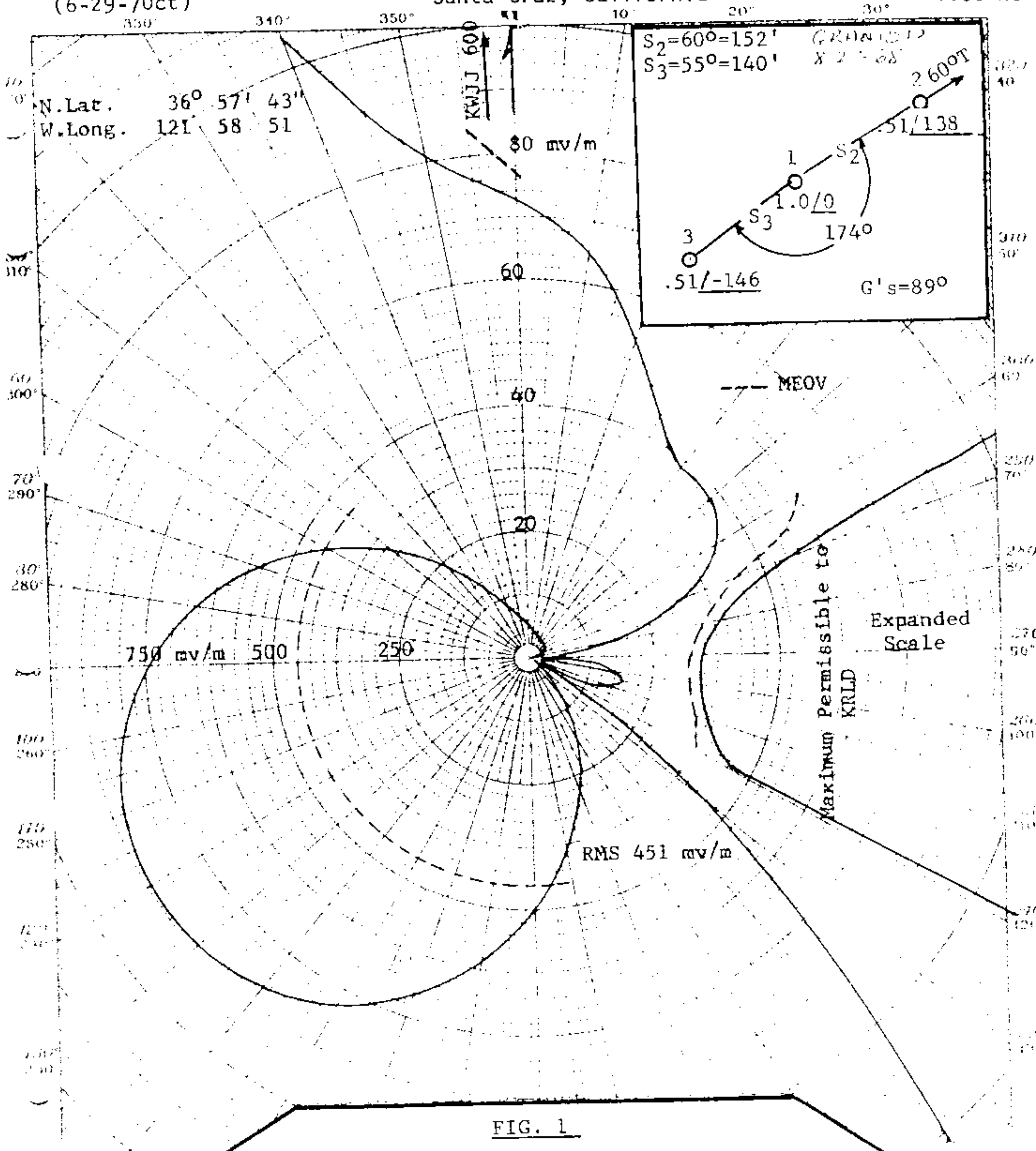


FIG. 1

PROPOSED NIGHTTIME HORIZONTAL RADIATION
KSCO 1080 KC 10 KW-LS, 5.0 N DA
SANTA CRUZ, CALIFORNIA

A.E.Towne Associates Inc.,Radio Engineering Consultants, San Carlos, Calif.

FCC File No.BP-17966
Accepted 3-12-68

Station KSCO
Santa Cruz, California

1080 kc

SEE REVERSE

KSCO
5kw,10kw-LS,DA-N,U
1080 kc

Measured Night
(6-29-70ct)

Station KSCO
Santa Cruz, California

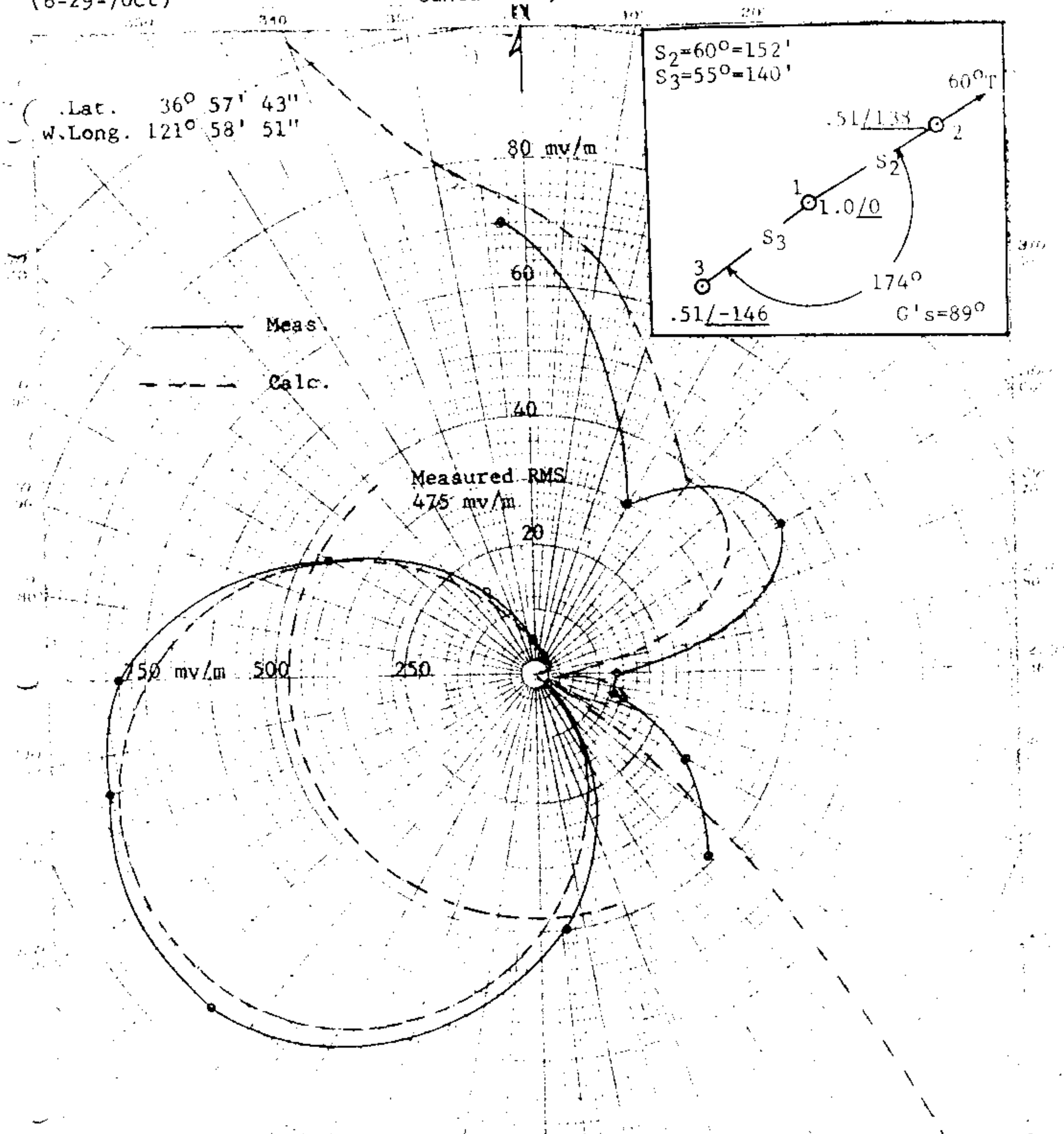


FIG. 2

MEASURED HORIZONTAL RADIATION
KSCO 5N/10D DA-N 1080 KC
SANTA CRUZ, CALIFORNIA

A.E.Towne Associates Inc., Radio Engineering Consultants, San Carlos, Calif.

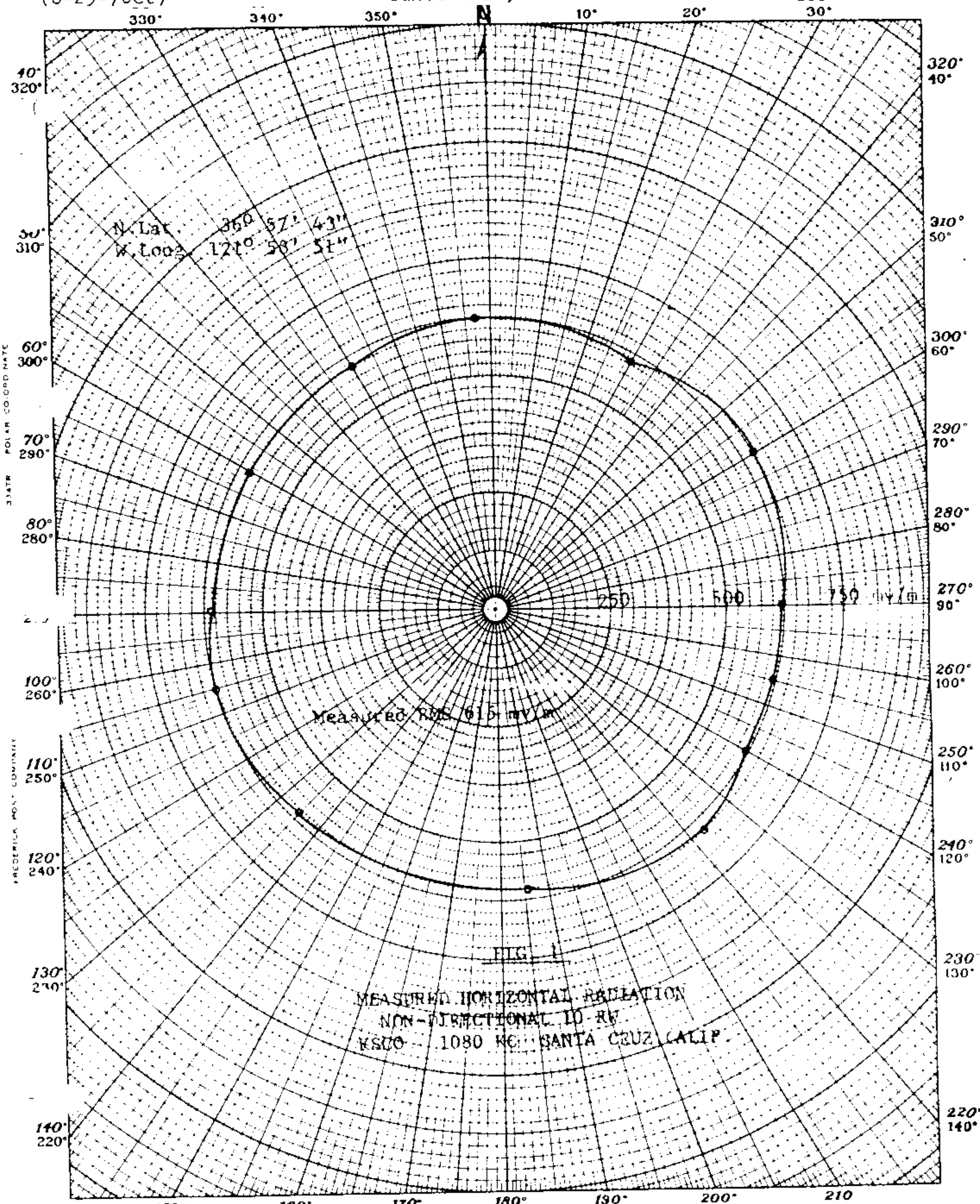
SEE REVERSE

KSCO

Measured Non-DA
(6-29-70ct)

Station KSCO
Santa Cruz, California

5kw,10kw-LS,DA-N,U
1080 kc



FCC File No.BL-12621
Accepted 6-1-70

Station KSCO
Santa Cruz, California

1080 kc

KVNI

Station: KVNI

Main Studio: Coeur D'Alene, Idaho

Frequency: 1080 KHz

Power: 1 Kw Night 10 Kw Day

Notification: 1778

Date: August 30, 1978 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 47° 36' 57"
West Longitude: 116° 43' 07"

Predicted effective Daytime Field (omnidirection) 598 at rated power.

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 (#3)	NW (#1)	NE (#2)	SE (#4)		
HEIGHT ABOVE INSULATORS :	220'	220'	220'	220'	(87.0°)	
NIGHT PHASING :	+103°	0°	+12.5°	+115.5°		
NIGHT FIELD RATIO:	1.10	1.0	0.95	1.05		

SPACING AND ORIENTATION : The towers are located at the vertices of a parallelogram the long sides of which are 507' (200.4°) in length on a line bearing 62° true. The short sides are 202.4' (80.0°) in length on a line bearing 150° true.

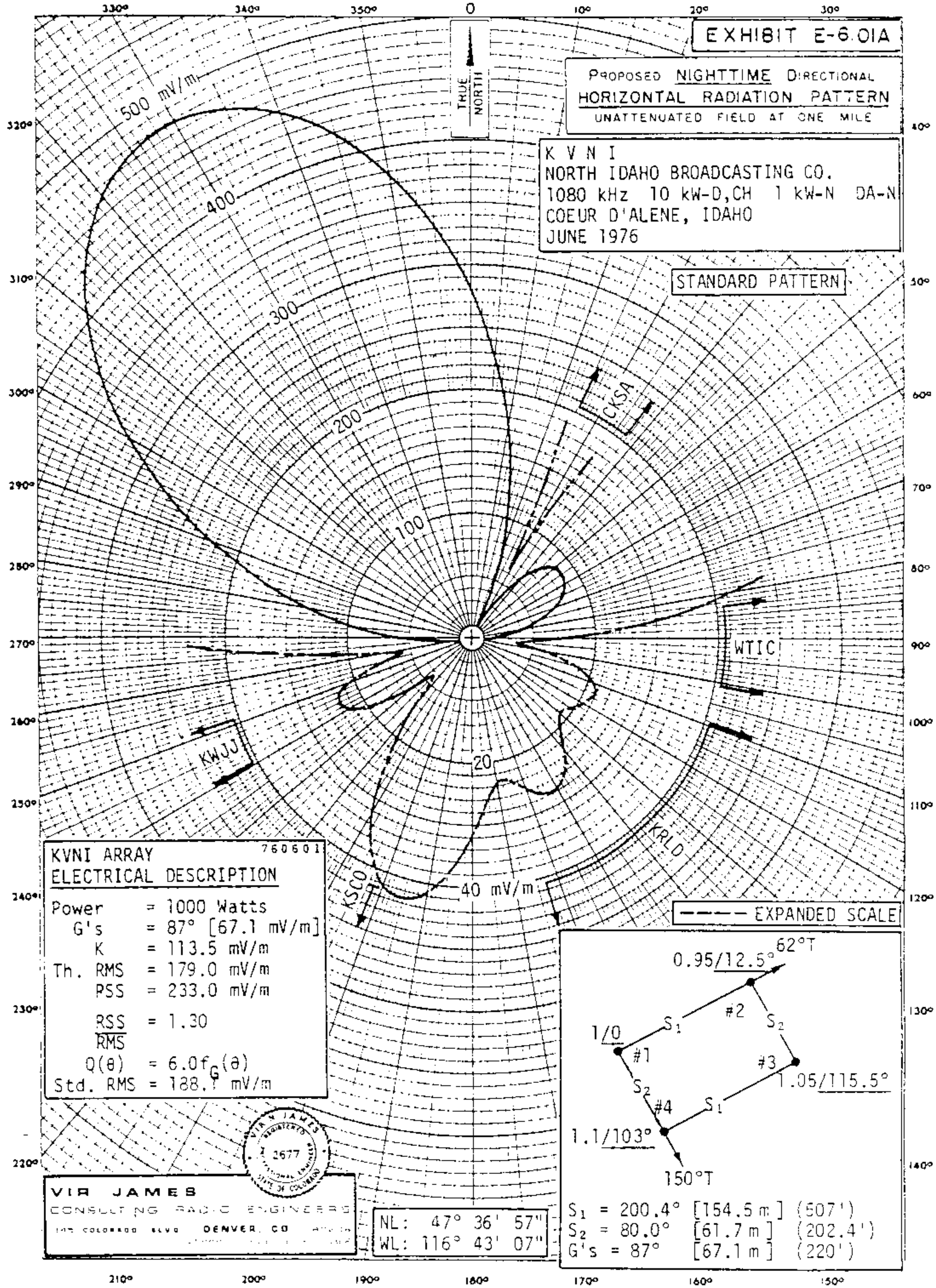
GROUND SYSTEM: 120 - 226.4' equally spaced copper radials plus 120 - 49.9' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL		STANDARD
	RMS	RSS	RMS
Night	179 mv/m	________ mv/m	188.1 mv/m

Note: This notification concerns a change in frequency, power, and transmitter location.

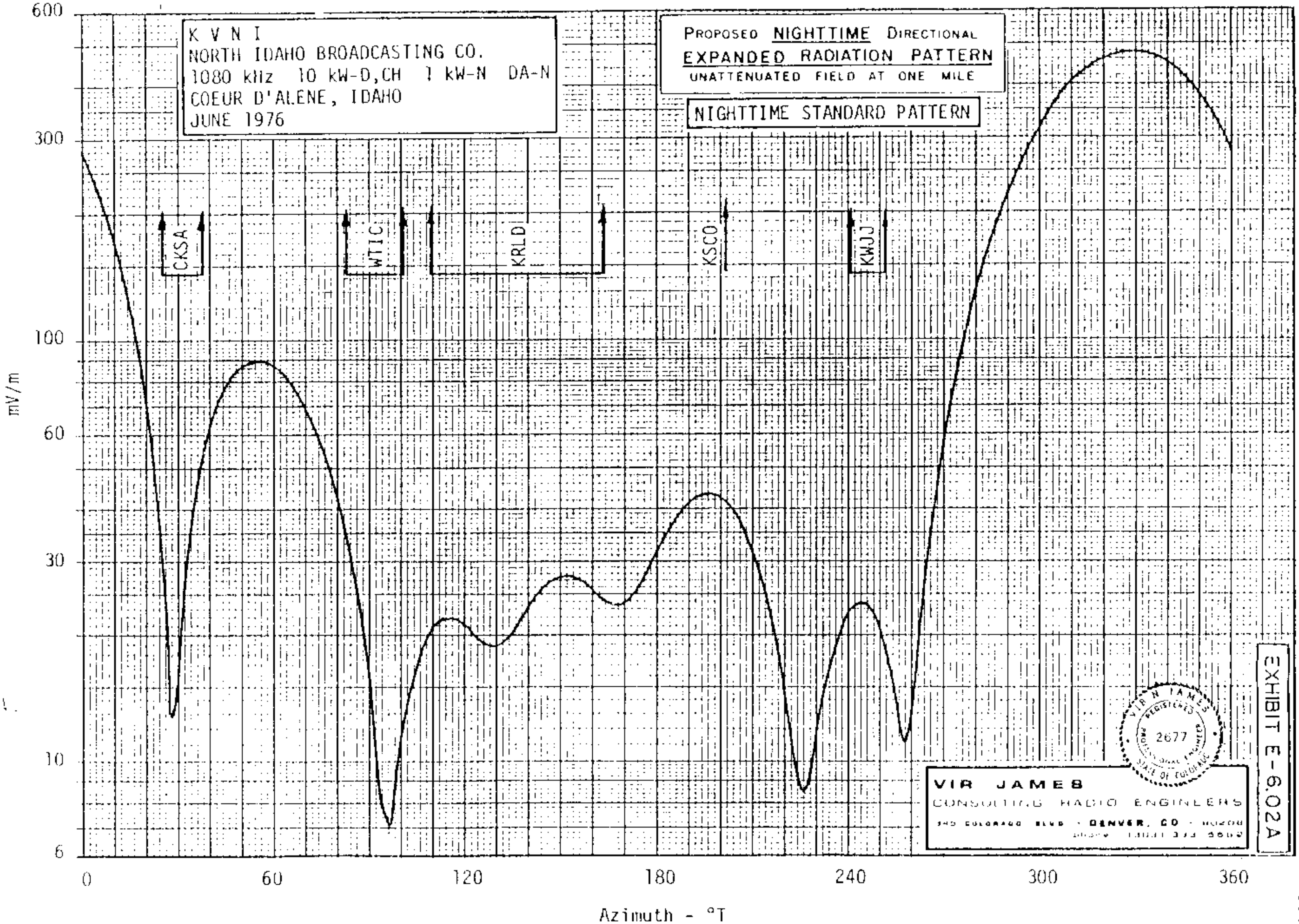
KVNI
Standard Pattern



KVNI

Standard Pattern

EXHIBIT E-6.02A



KWJJ

Station: KWJJ

Main Studio: Portland, Oregon

Frequency: 1080 kHz

Power: 10 kW Night 50 kW Day

Notification List No. 1627

Date: April 9, 1975

Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 45° 33' 26"
West Longitude: 122° 29' 08"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 3
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers, top loaded by upper sections of guy wires to an effective electrical height of 90°.(*)

TOWER:	W(#3)	C(#1)	E(#2)
HEIGHT ABOVE INSULATORS:	200'	200'	200' (*)
NIGHT PHASING:	-86.0°	0°	+103.66°
NIGHT FIELD RATIO:	0.451	1.0	0.572
DAY PHASING:	---	0°	+149.2°
DAY FIELD RATIO:	---	1.0	2.0

CO... DIPPELL

OCT 31 1975

WASHINGTON, D.C.

SPACING AND ORIENTATION: From reference tower #1, tower #2 is spaced 235.03' (92.91°) on a line bearing 80.61° true, and tower #3 is spaced 237.46' (93.87°) on a line bearing 277.34° true.

GROUND SYSTEM: 120-230' equally spaced copper radials plus a 40' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of systems are bonded together.

Predicted effective Night Field: 624 mv/m at rated power.

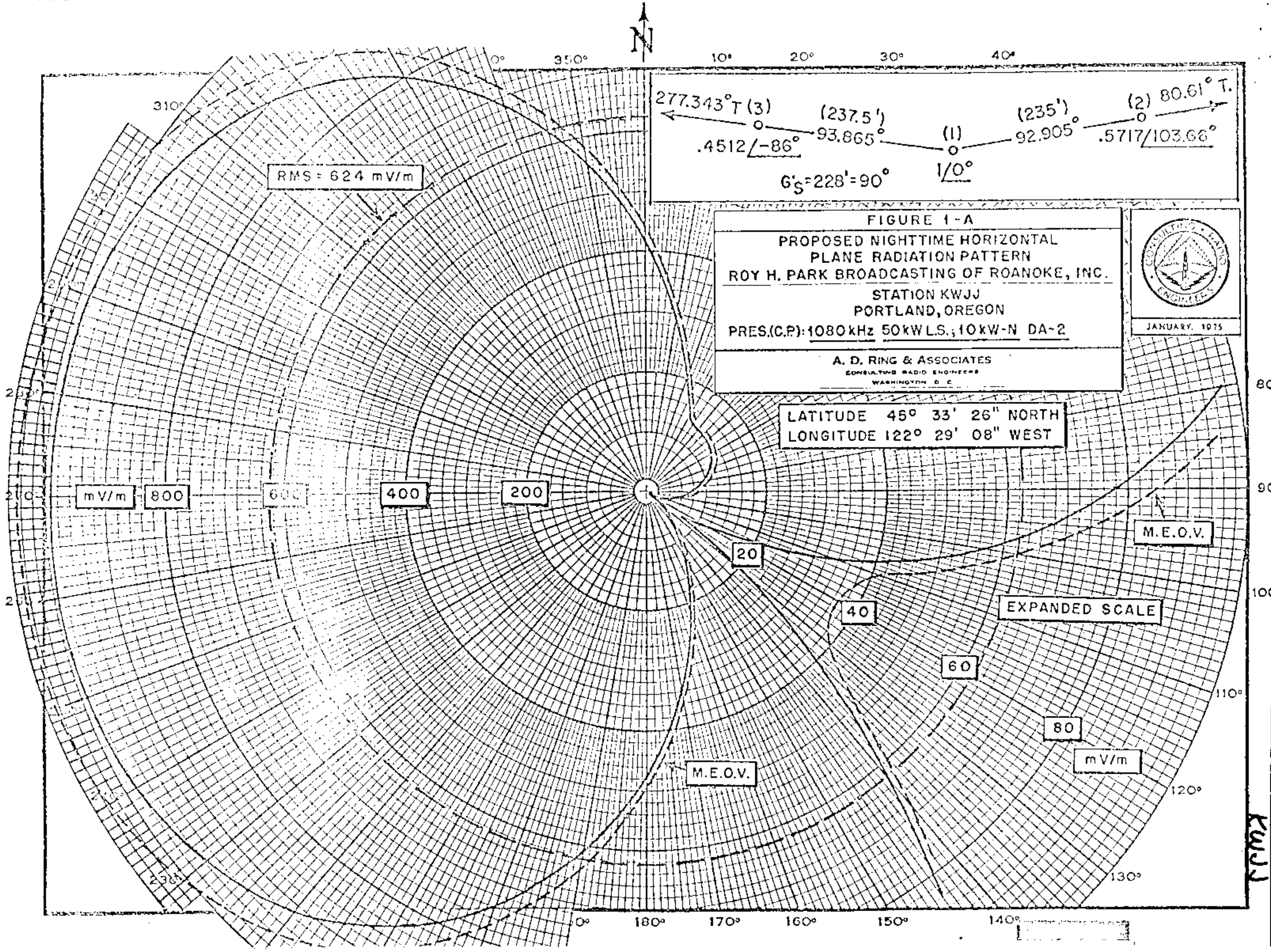
Predicted effective Day Field: 1413 mv/m at rated power.

Please retain the Daytime horizontal directional antenna radiation pattern and the nighttime vertical angle radiation patterns at 20° through 60° inclusive notified for Station KWJJ in United States Change List Number 1587, dated July 2, 1974, and attach to this Revised Description Sheet and Nighttime horizontal and vertical patterns. This notification concerns only a change in the Nighttime operation of the station with Daytime operation continued as previously notified.

KWJJ

Note: Antenna height of 228' shown on the attached radiation patterns is in error.

A. D. RING & ASSOCIATES - 5/67 - 500



KWJJ

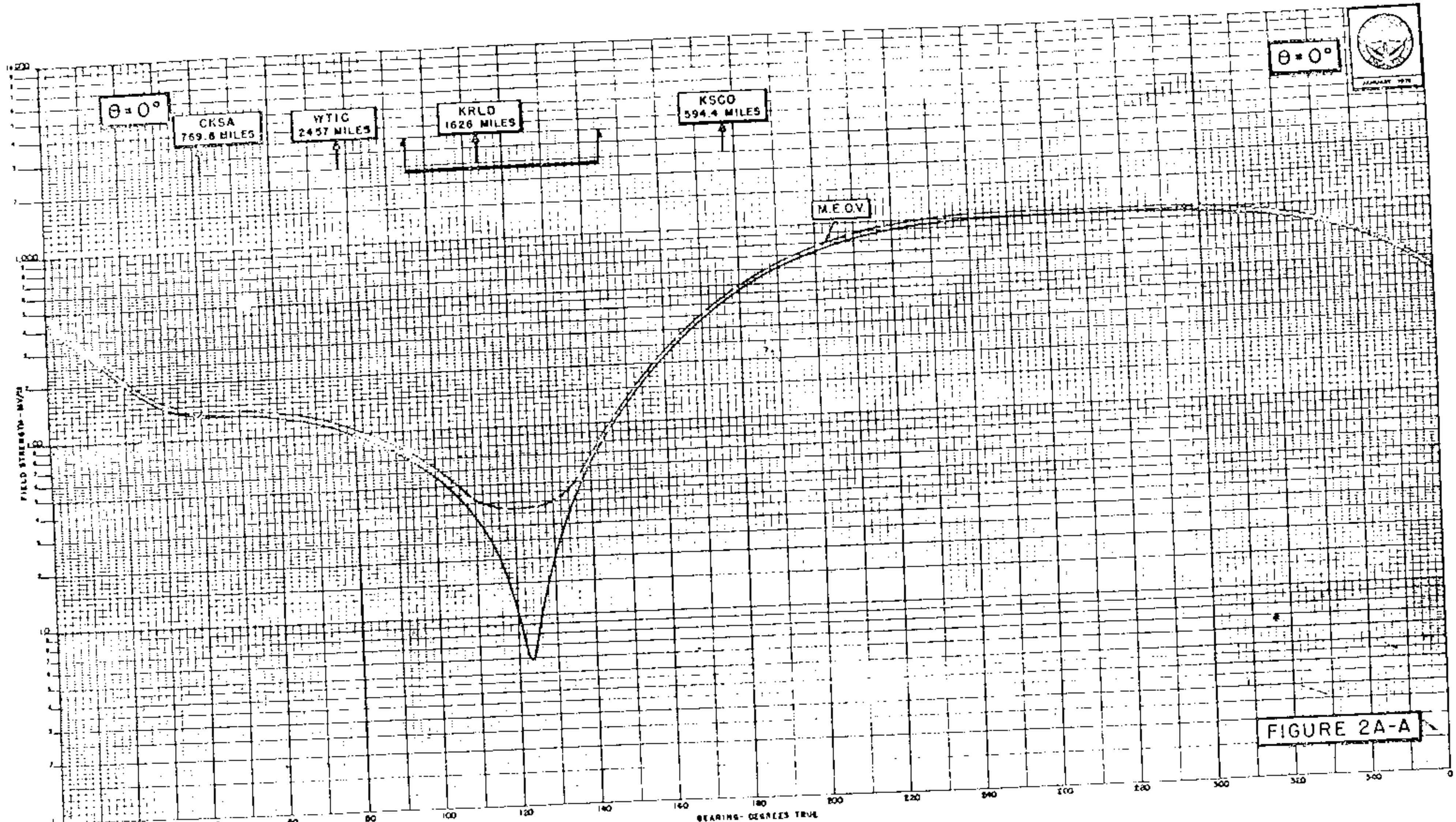


FIGURE 2A-A

KWJJ

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KWJJ Main Studio: Portland, Oregon

Frequency: 1080 kHz Power: 10 kW Night 50 kW Day

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

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 45° 33' 26"
West Longitude: 122° 29' 08"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements:
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers, top loaded by upper sections of guy wires to an effective electrical height of 90°.(*)

TOWER:	W(#3)	C(#1)	E(#2)	
HEIGHT ABOVE INSULATORS:	200'	200'	200'	(*)
NIGHT PHASING:	-86.0°	0°	+103.66°	
NIGHT FIELD RATIO:	0.451	1.0	0.572	
DAY PHASING:	-	0°	+149.2°	
DAY FIELD RATIO:	-	1.0	2.0	

SPACING AND ORIENTATION: From reference tower #1; tower #2 is spaced 235.03' (92.91°) on a line bearing 80.61° true, and tower #3 is spaced 237.46' (93.87°) on a line bearing 277.34° true.

GROUND SYSTEM: 120-230' equally spaced copper radials plus a 40' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of systems are bonded together.

Predicted effective Night Field: 624 mv/m at rated power.

Predicted effective Day Field: 1413 mv/m at rated power.

Note: Antenna height of 228' shown on the attached radiation patterns is in error.

CTR NO 30233A3

A. D. RI~~ & ASSOCIATES - 5/87 - 500

KWJJ

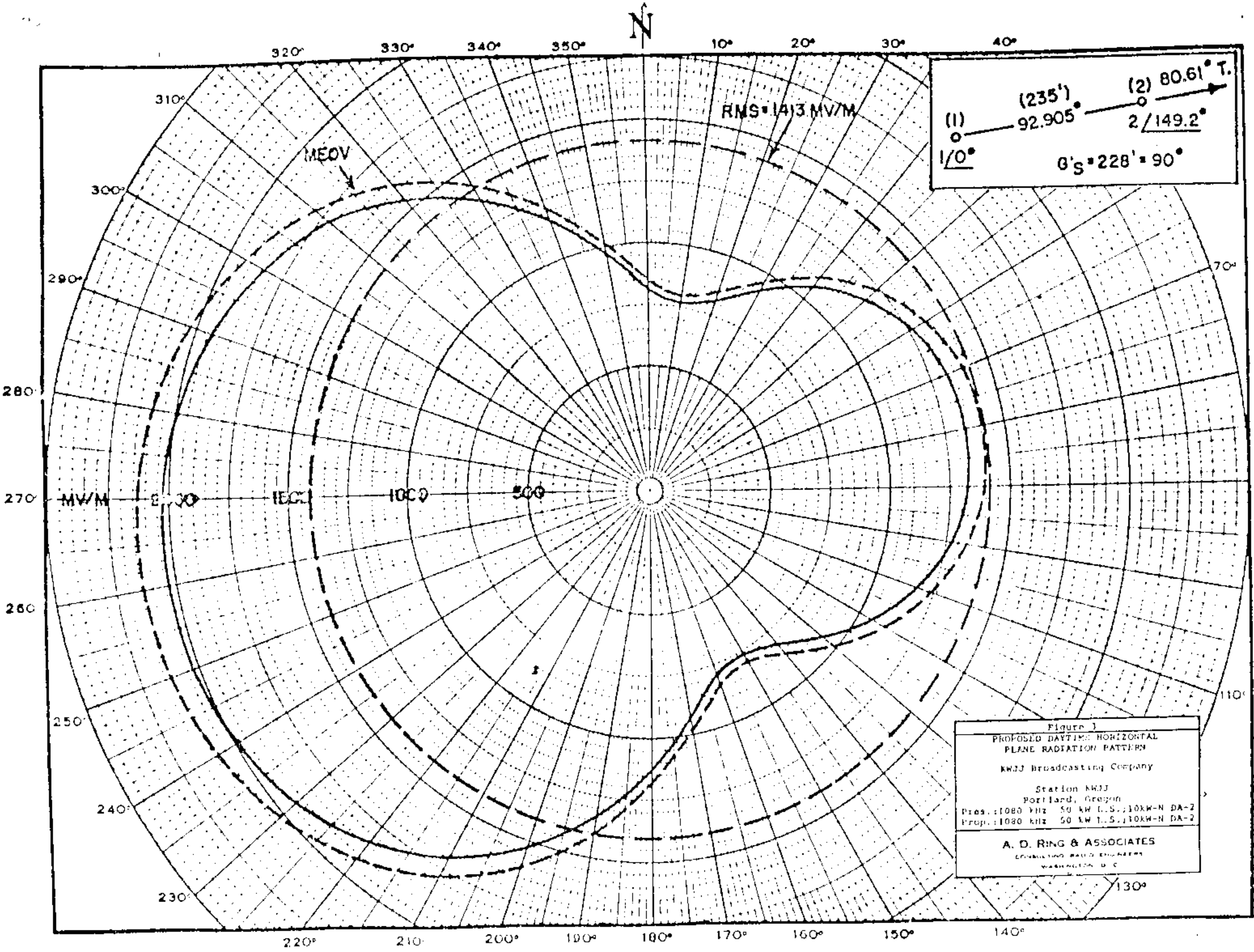


Figure 1
PROPOSED DAYTIME HORIZONTAL
PLANE RADIATION PATTERN

KWJJ Broadcasting Company

Station KWJJ
Portland, Oregon
Pres.:1080 kHz 50 kW U.S.;10kW-N DA-2
Prop.:1080 kHz 50 kW U.S.;10kW-N DA-2

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

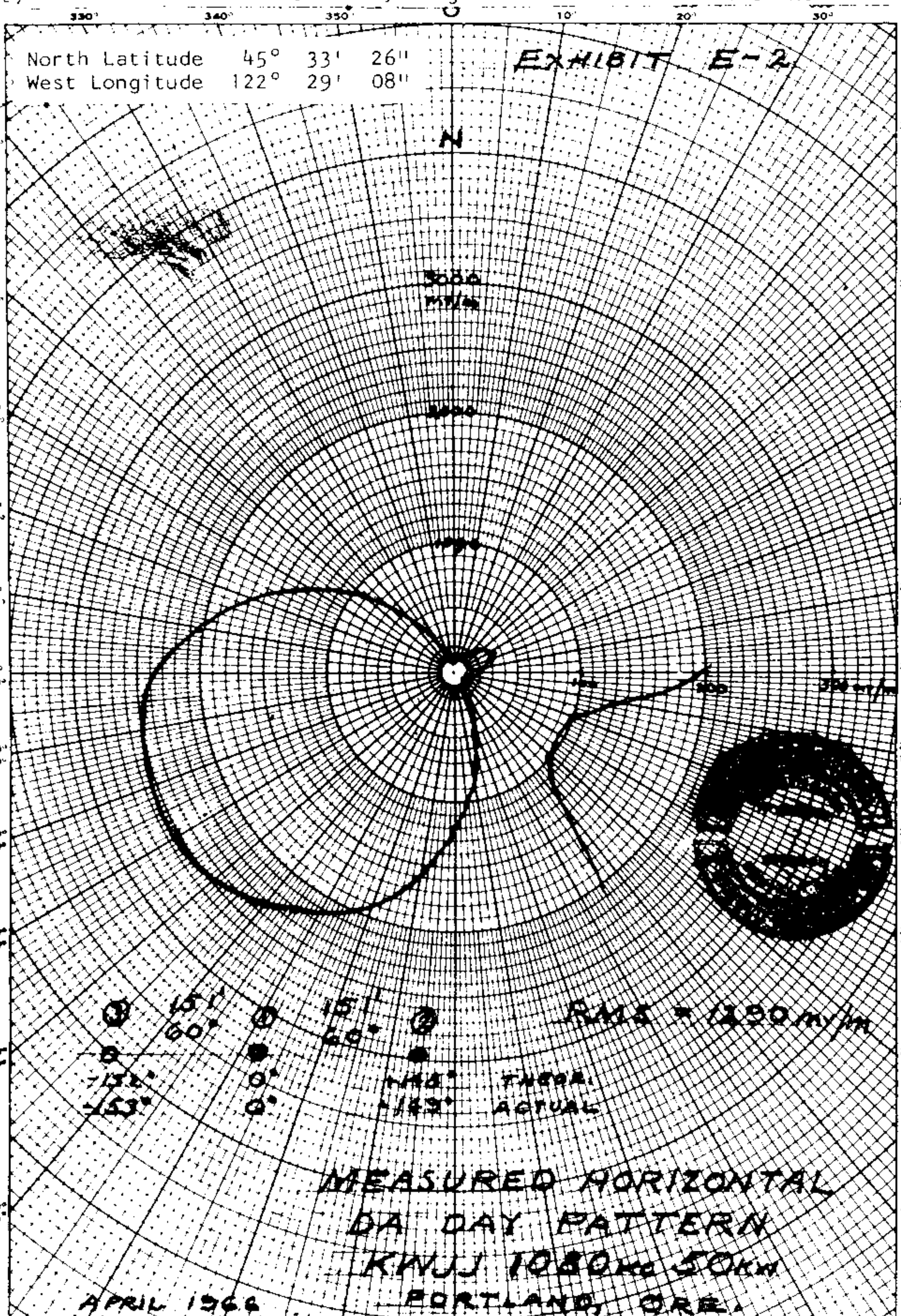
KWJJ

Measured Day
(6-28-66ct)

Station KWJJ
Portland, Oregon

10kw,50kw-LS,DA-2,U
1080 kc

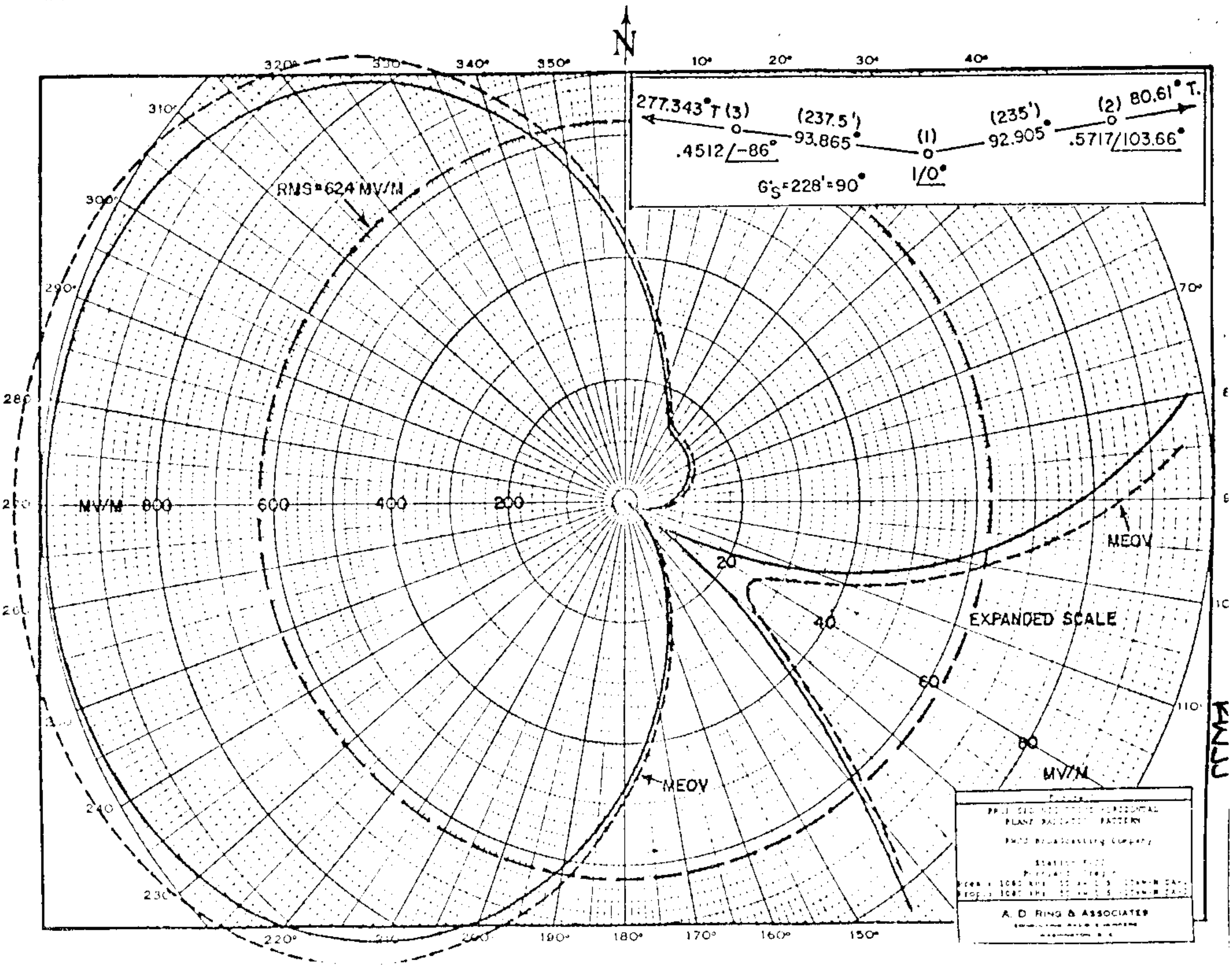
-11317
C 11-22-66



FCC File No.BL-11317
Accepted 6-13-66

Station KWJJ
Portland, Oregon

1080 kc

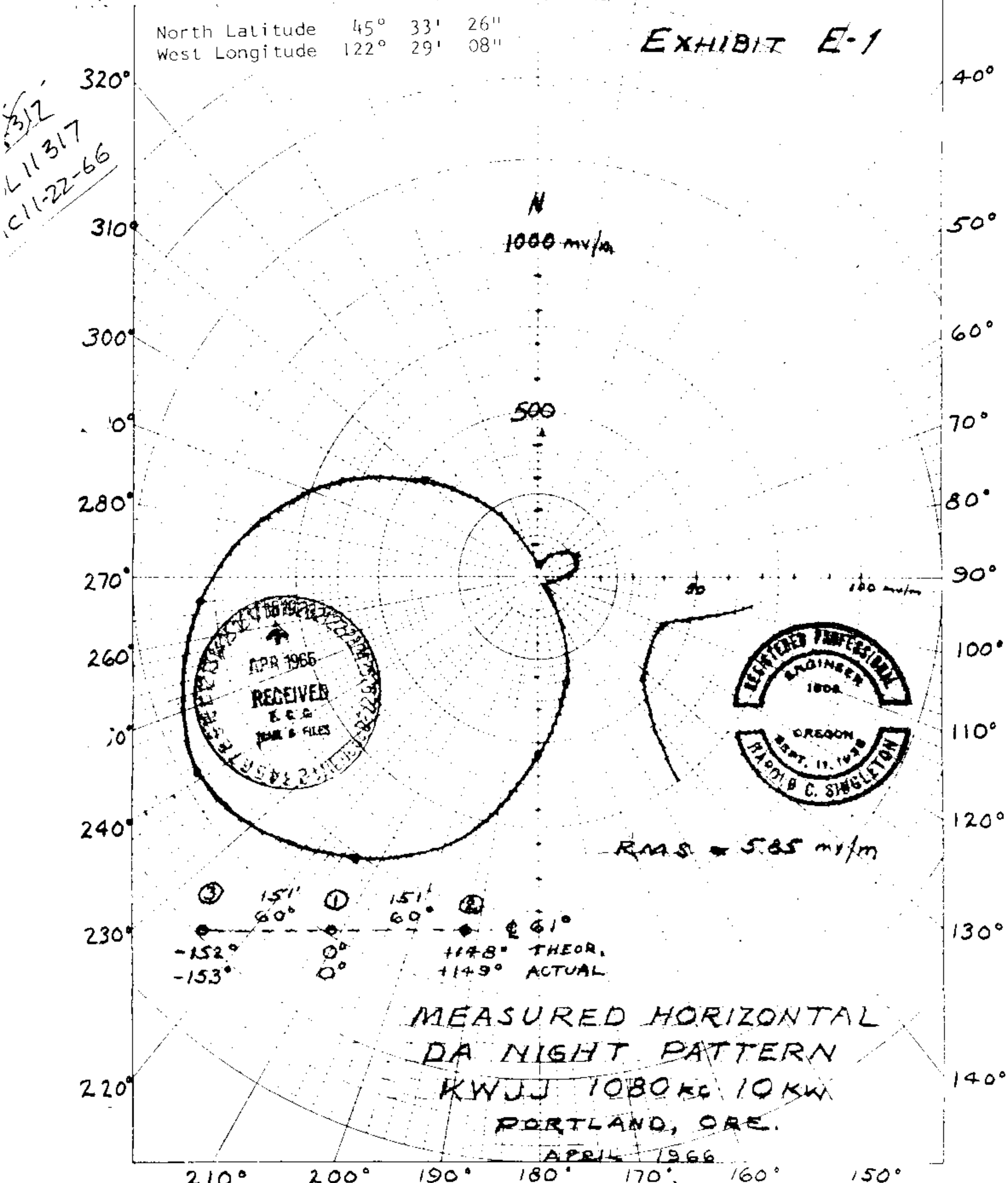

KWJJ
N
277.343° T (3)
.4512 /-86°
(237.5')
93.865°
(1)
1/0°
(235')
92.905°
(2) 80.61° T.
.5717/103.66°
G'S=228'=90°
RMS=624 MV/M
MV/M 800 600 400 200
20 40 60 80
MV/M
EXPANDED SCALE
MEOV
MEOV
A. D. RING & ASSOCIATES

KWJJ

Measured Night
(6-28-66ct)

Station KWJJ
Portland, Oregon

10kw,50kw-LS,DA-N,U
1080 kc



FCC File No.BL-11317
Accepted 6-13-66

Station KWJJ
Portland, Oregon

1080 kc

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: (New) | Main Studio: Huntingdon Pennsylvania

Frequency: 1080 KHz | Power: Night 0.5 Day

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

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 40° 27' 53" West Longitude: 78° 02' 46"

ANTENNA CHARACTERISTICS

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

TOWER	:	SW (#2)	NE (#1)					
HEIGHT ABOVE INSULATORS	:	220'	220'	(86.96°)				
PHASING	:	+47°	0°					
FIELD RATIO	:	1.25	1.0					

SPACING AND ORIENTATION : Towers in a row are spaced 360.6' (142.5°) on a line bearing 67° true.

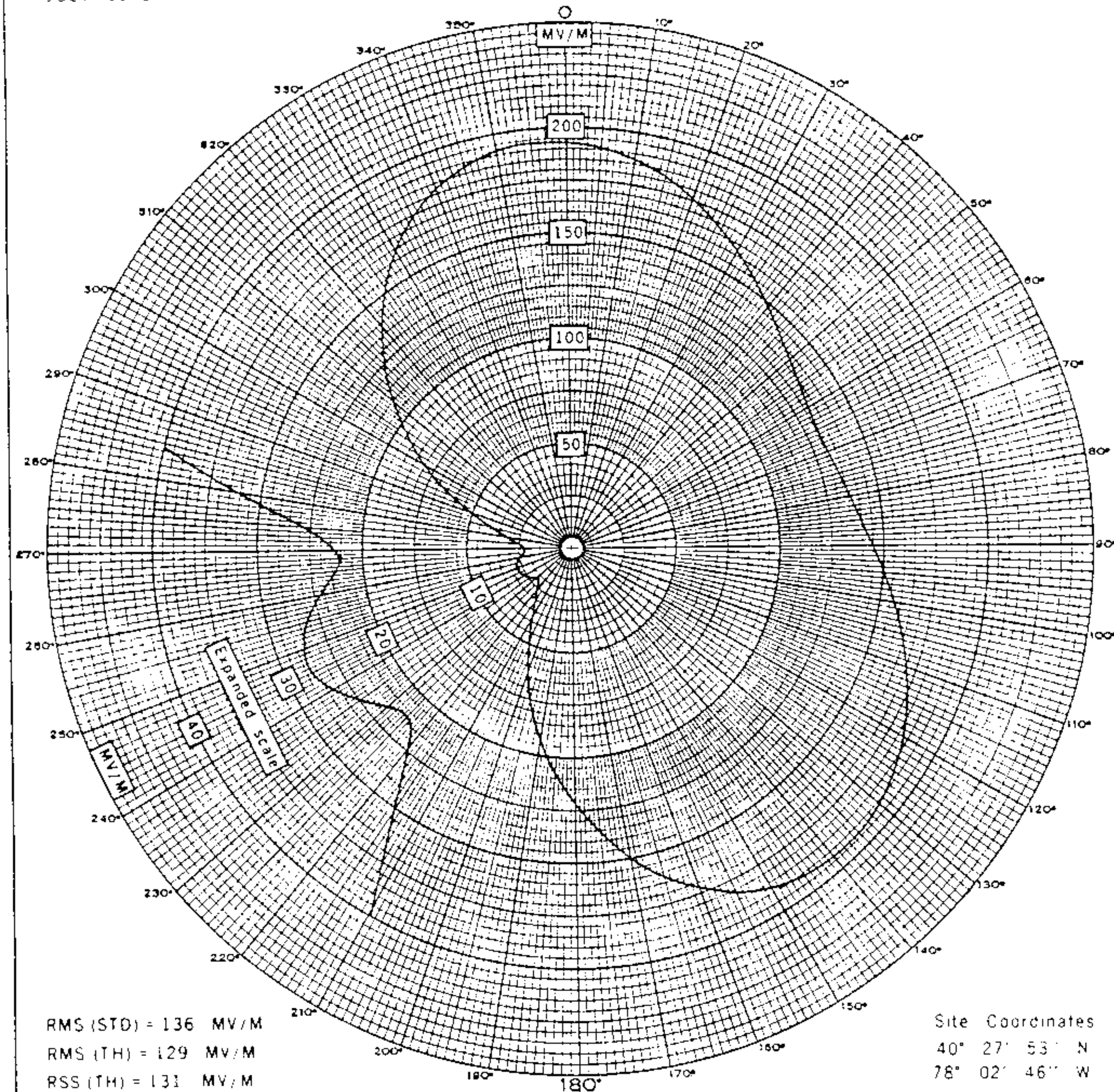
GROUND SYSTEM: 120 - 230' equally spaced copper radials plus a 24' square ground screen about each tower. Radials are shortened and bonded to transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL		STANDARD
<u>RMS</u>	<u>RSS</u>	<u>RMS</u>
129 mv/m	131 mv/m	136 mv/m

Note:

JULY 1978

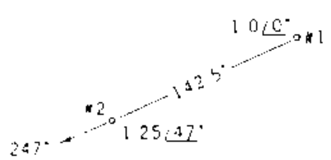


RMS (STD) = 136 MV/M
RMS (TH) = 129 MV/M
RSS (TH) = 131 MV/M

Site Coordinates
40° 27' 53" N
78° 02' 46" W

PROPOSED STANDARD RADIATION PATTERN
HORIZONTAL PLANE

G = 86.9°



RAYSTOWN RADIO, INC.
HUNTINGDON, PENNSYLVANIA

1080 KHZ
0.5 KW D DA

Jules Cohen & Associates
Consulting Electronics Engineers

Pattern No. 780713

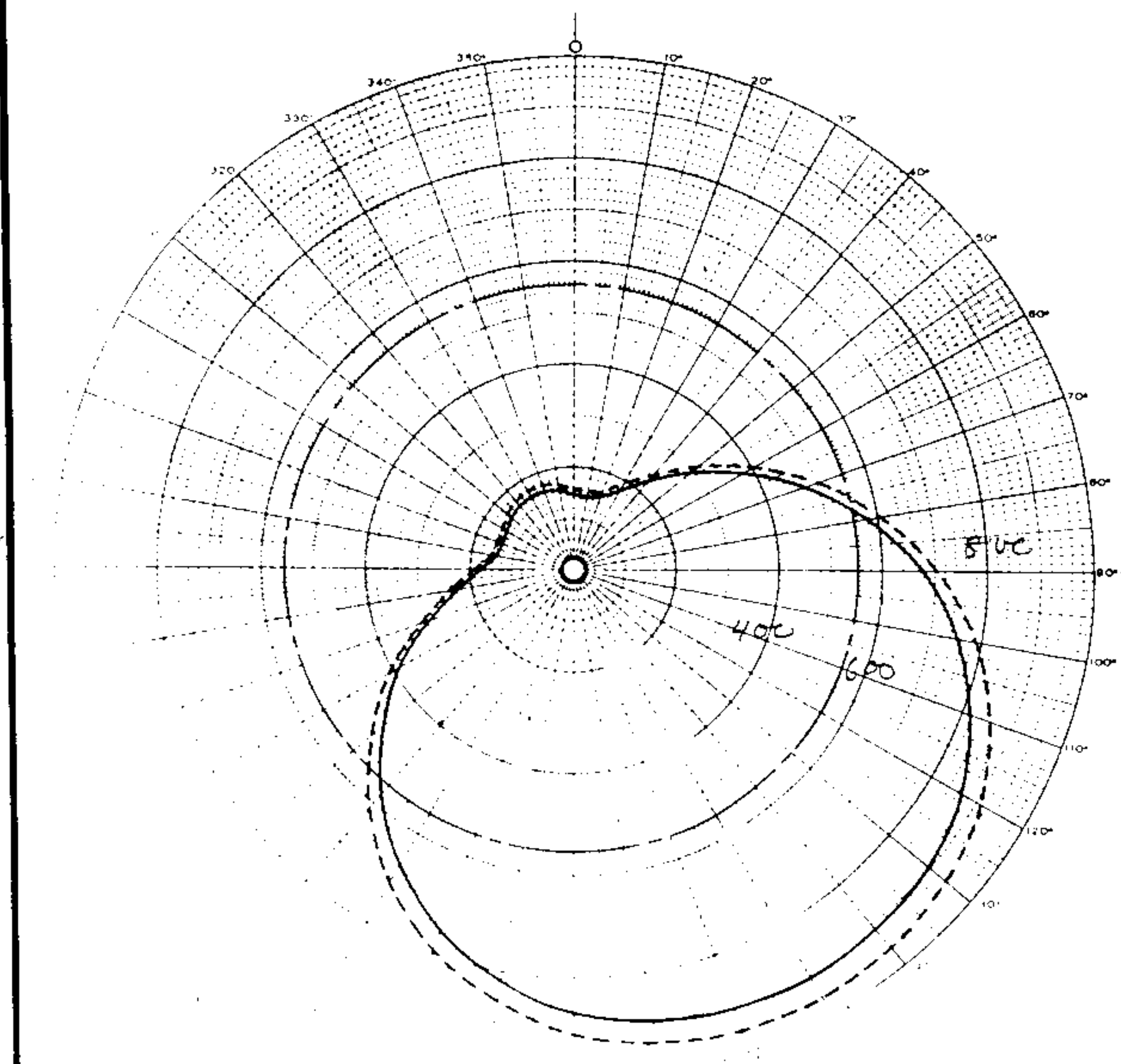
Proposed Day
(8-23-63ct)

Station WBIE
Marietta, Georgia

10kw,DA-D,D
1080 kc

7/17/64

DA-D, D
BMP-11361
APP. CHG. LOC. 11-23-64
33° 59' 03" N
84 31 48 W
MCP
12-7-64
CHG LOC.



555 MV/M (BY ADJUSTMENT) —— - ——

- - - - MEOV

33° 59' ~~02"~~ 03
84° 31' 48"

ANTENNA PARAMETERS

N-330°-E

#3 0.2272 ∠+116°

S

#2 1.0 ∠0°

S

#1 1.122 ∠-116°

$G_{1,3}$ = 79.0°
G_2 = 106.5°
S = 80° - 202.6°

JOHN H MULLANEY
AND
ASSOCIATES

FIGURE 5

HORIZONTAL POLAR PATTERN

RADIO STATION WBIE
MARIETTA, GEORGIA

1080 KC — 10 KW, DA-D

FCC File No.BP-15405
Accepted 8-13-63 Amended

Station WBIE
Marietta, Georgia

1080 kc

W COB

Measured Day
(5-27-65ct)

Station WBIE
Marietta, Georgia

10kw,DA-D,D
1080 kc

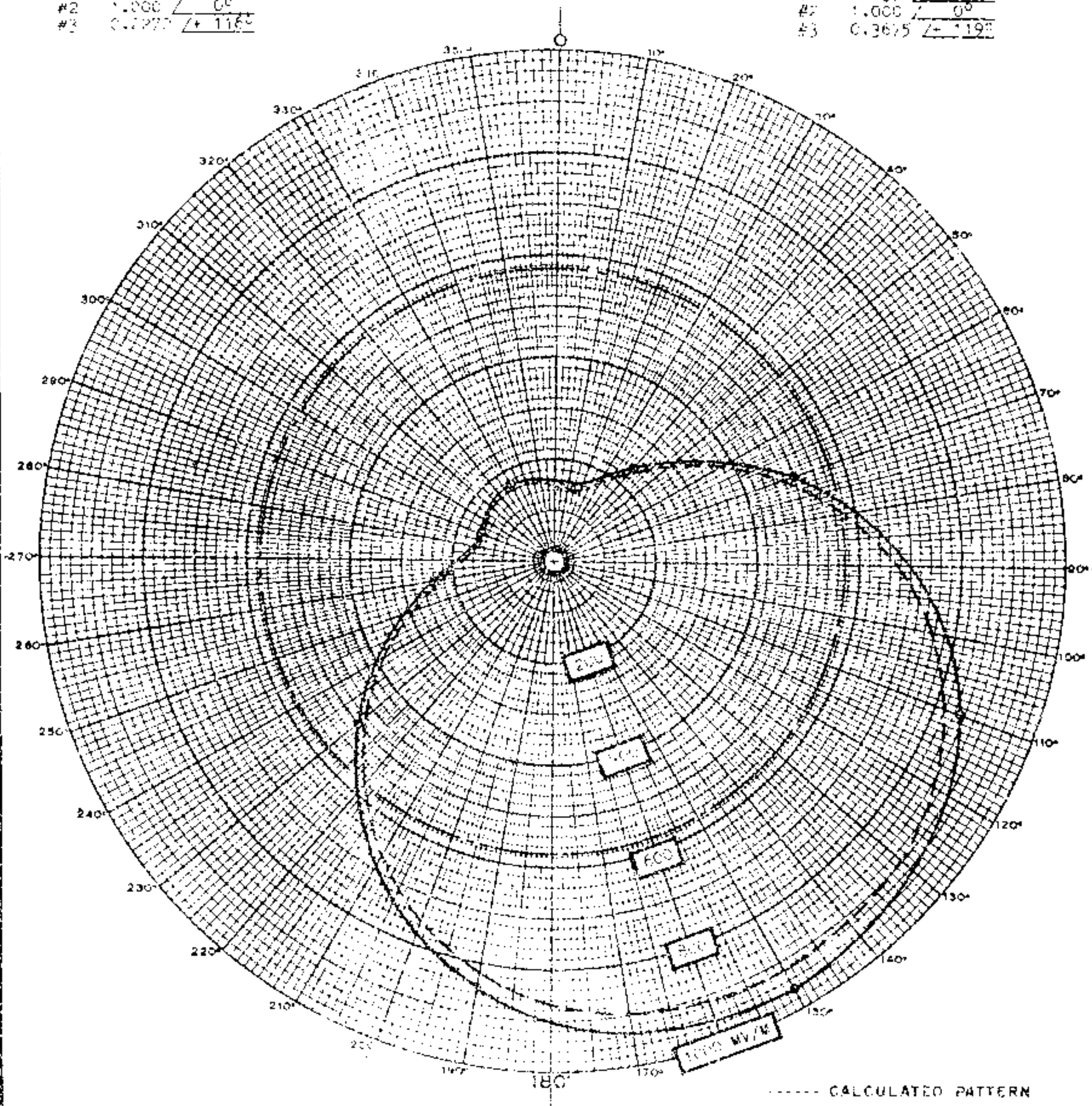
lic. 5-18-65
CHG F, LOC
INCR. PWR
DA

THEORETICAL PARAMETERS

#1	1.122	∠ - 116°
#2	1.000	∠ 0°
#3	0.2272	∠+ 116°

INDICATED OPERATING PARAMETERS

#1	1.837	∠ - 112°
#2	1.000	∠ 0°
#3	0.3675	∠+ 119°



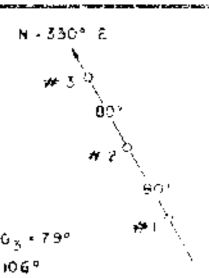
------ CALCULATED PATTERN
——— MEASURED PATTERN
o MEASURED RADIAL

E_{RMS} = 576 MV/M

LATITUDE: 33° 59' 03"
LONGITUDE: 84° 31' 40"

JOHN H. MULLANEY
AND
ASSOCIATES
A DIVISION OF MULTRONICS INC

ANTENNA PARAMETERS



$G_1 = G_3 = 79°$
$G_2 = 106°$

FIGURE 13

MEASURED DAYTIME
DIRECTIONAL
HORIZONTAL POLAR PATTERN

RADIO STATION WBIE
MARIETTA, GEORGIA

1080 KC 10 KW, DA-D

FCC File No. BL-10876
Accepted 4-29-65

Station WBIE
Marietta, Georgia

1080 kc

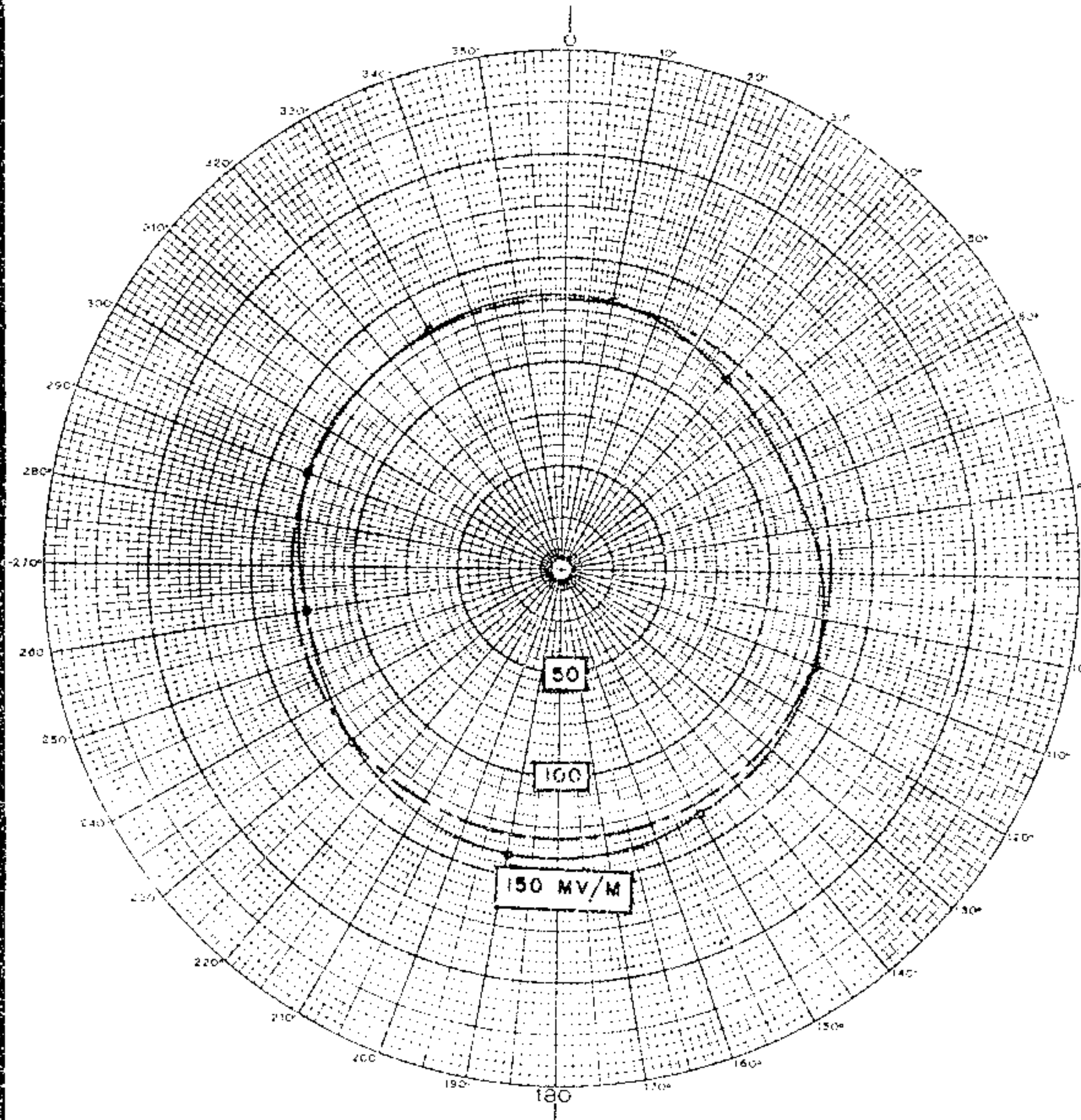
WCOB

Measured Non-DA
(5-27-65ct)

Station WBIE
Marietta, Georgia

10kw,DA-D,D
1080 kc

AC. 5-18-65
CHG F, LOC.
INCR. PWR.
DA



E_{RMS} = 131 MV/M

• MEASURED RADIALS

LATITUDE 33° 59' 03" LONGITUDE 84° 31' 48"	ANTENNA PARAMETERS TOWER # 2 G = 105°	FIGURE 12 MEASURED NONDIRECTIONAL HORIZONTAL POLAR PATTERN RADIO STATION WBIE MARIETTA, GEORGIA 1080 KC, 5KW, DA-D
JOHN H. MULLANEY AND ASSOCIATES A DIVISION OF MULTRONICS INC.		

FCC File No. BL-10876
Accepted 4-29-65

Station WBIE
Marietta, Georgia

1080 kc

WECP
1080 kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WECP

Main Studio: Carthage, Mississippi

Frequency: 1080 kHz

Power 5kw Day

Notification List No. 1788

Date: August 22, 1980 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 32° 43' 13"
West Longitude: 89° 32' 48"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers. *Top loading of 9.88°

TOWER:	SE(#1)	C(#2)	NW(#3)
HEIGHT ABOVE INSULATORS:	360' (142.2°)	160'	160' (93.13°) *
DAY PHASING:	-114.9°	0°	+119.9°
DAY FIELD RATIO:	0.852	1	0.316

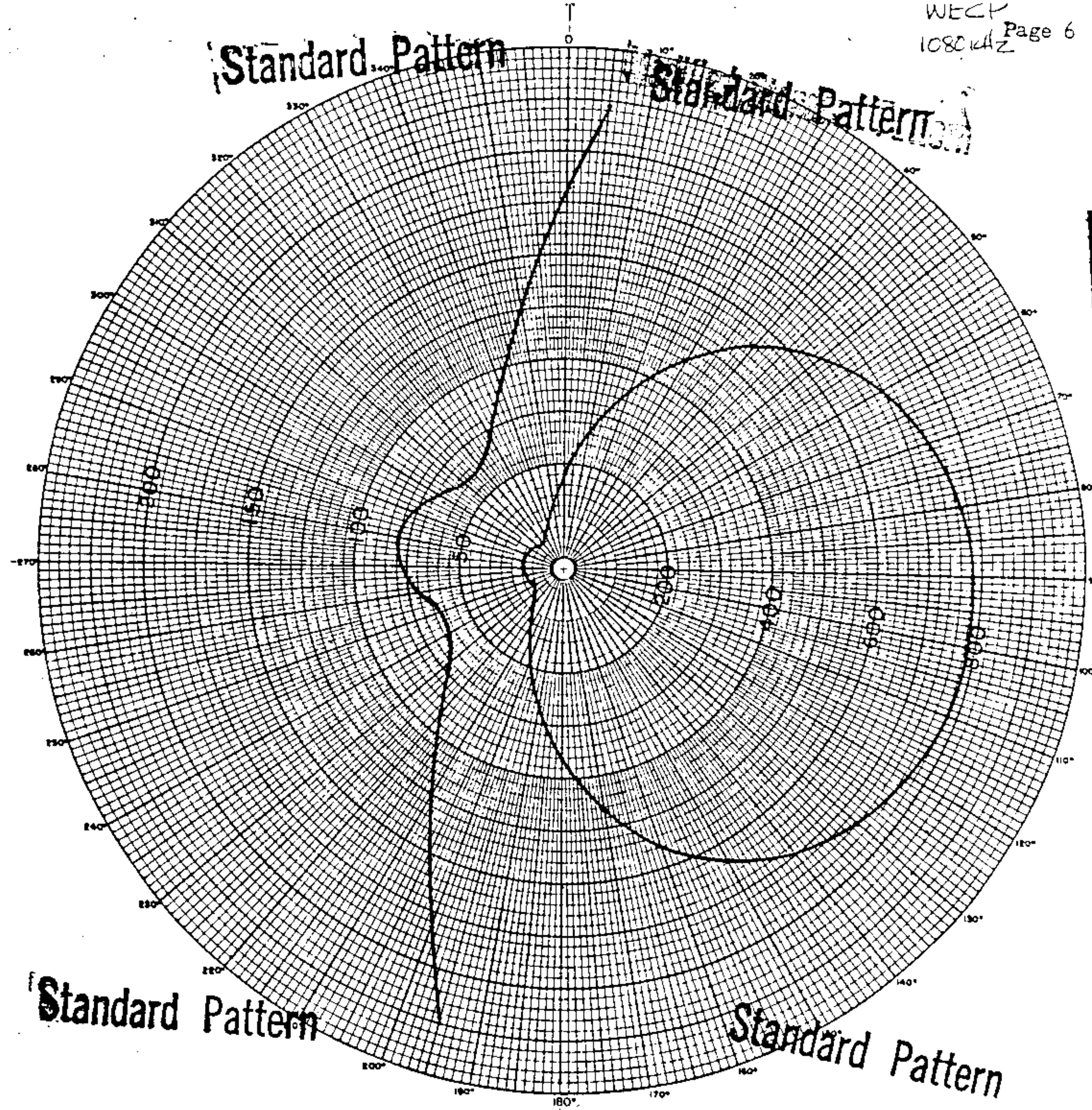
SPACING AND ORIENTATION: Adjacent towers in a row are spaced 228' (90°) on a line bearing 280° true.

GROUND SYSTEM: 120 - 228' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

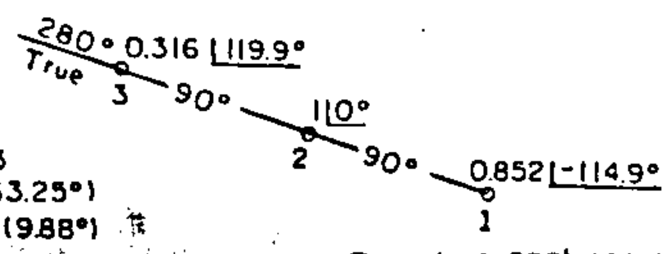
	THEORETICAL		STANDARD
	RMS	RSS	RMS
Day	434.8 mv/m	490.8 mv/m	456.8 mv/m

WECP
1080 kHz



HORIZONTAL RADIATION PATTERN	0° Level

Standard Pattern RMS - 456.8 MV/M
Theoretical RMS - 434.8 MV/M
Theoretical RSS - 490.8 MV/M



Tower 2 & 3
A - 160' (63.25°)
Top Loading - 25' (9.88°)

Tower 1, A-360' (142.2°)

APPLICANT	: WECP
LOCATION	: Carthage, Miss.
FREQUENCY	: 1080 KC/S
POWER	: 5000 Watts
LATITUDE	: 32 DEG. 43 MIN. 13 SEC.
LONGITUDE	: 89 DEG. 32 MIN. 48 SEC.
WHEN USED	: Daytime
R.M.S. FIELD	: 456.8 MV/M
DATE	: August 25th, 1978

BP-20,489

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

WECP
1080kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WECP

Main Studio: Carthage, Mississippi

Frequency: 1080

Power: 5kw Day

Notirication List No. 1785

Date: November 16, 1979 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 32° 42' 40"
West Longitude: 89° 35' 46"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.
25' (9.88°) top loading

TOWER:	SE(#1)	C(#2)	NW(#3)
HEIGHT ABOVE INSULATORS:	160'	160'	160' (63.25°)
PHASING:	-114.9°	0°	+119.9°
FIELD RATIO:	0.852	1.0	0.316

SPACING AND ORIENTATION: Towers in a row are spaced 228' (90°) on a line bearing 280° true.

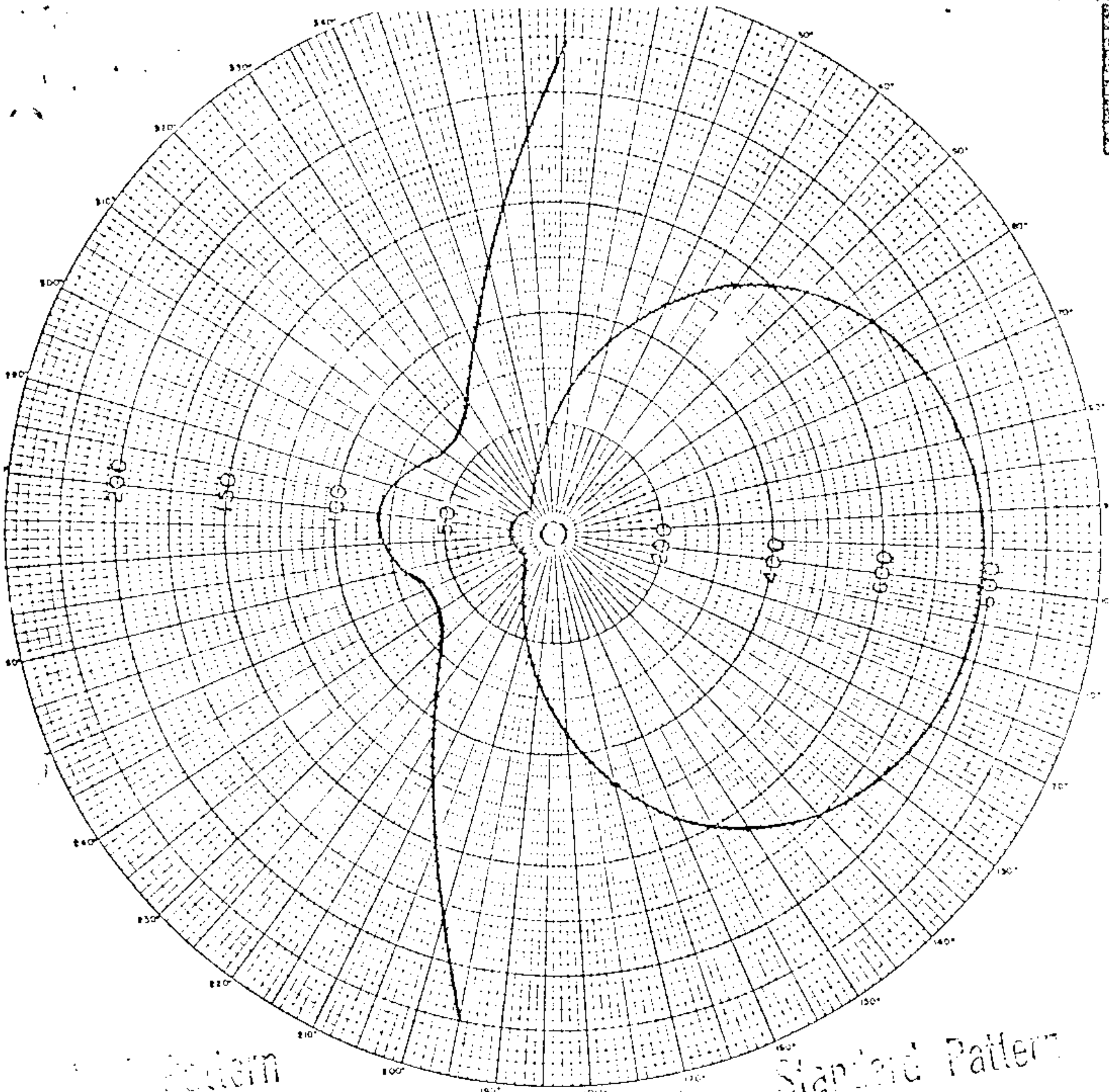
GROUND SYSTEM: 120 - 228' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL		STANDARDS
	RMS	RSS	RMS
Day 1/	434.8 mv/m	490.8 mv/m	456.8 mv/m

1/ By adjustment of input power.

WECP
1080KHz



Pattern

Standard Pattern

0° Level

HORIZONTAL RADIATION PATTERN

Standard Pattern RMS - 456.8 MV/M
Theoretical RMS - 434.8 MV/M
Theoretical RSS - 490.8 MV/M

280° 0.316 |119.9°
True
90°
110°
90°
0.852 |-114.9°

A - 160' (63.25°)
Top Loading - 25' (9.88°)

APPLICANT	WECP
LOCATION	Carthage, Miss.
FREQUENCY	1080 KC/S
POWER	5000 Watts
LATITUDE	32 DEG 42 MIN 40 SEC
LONGITUDE	89 DEG 35 MIN 46 SEC
WHEN USED	Daytime
RMS FIELD	456.8 MV/M
DATE	August 29th, 1978

H = 0.489

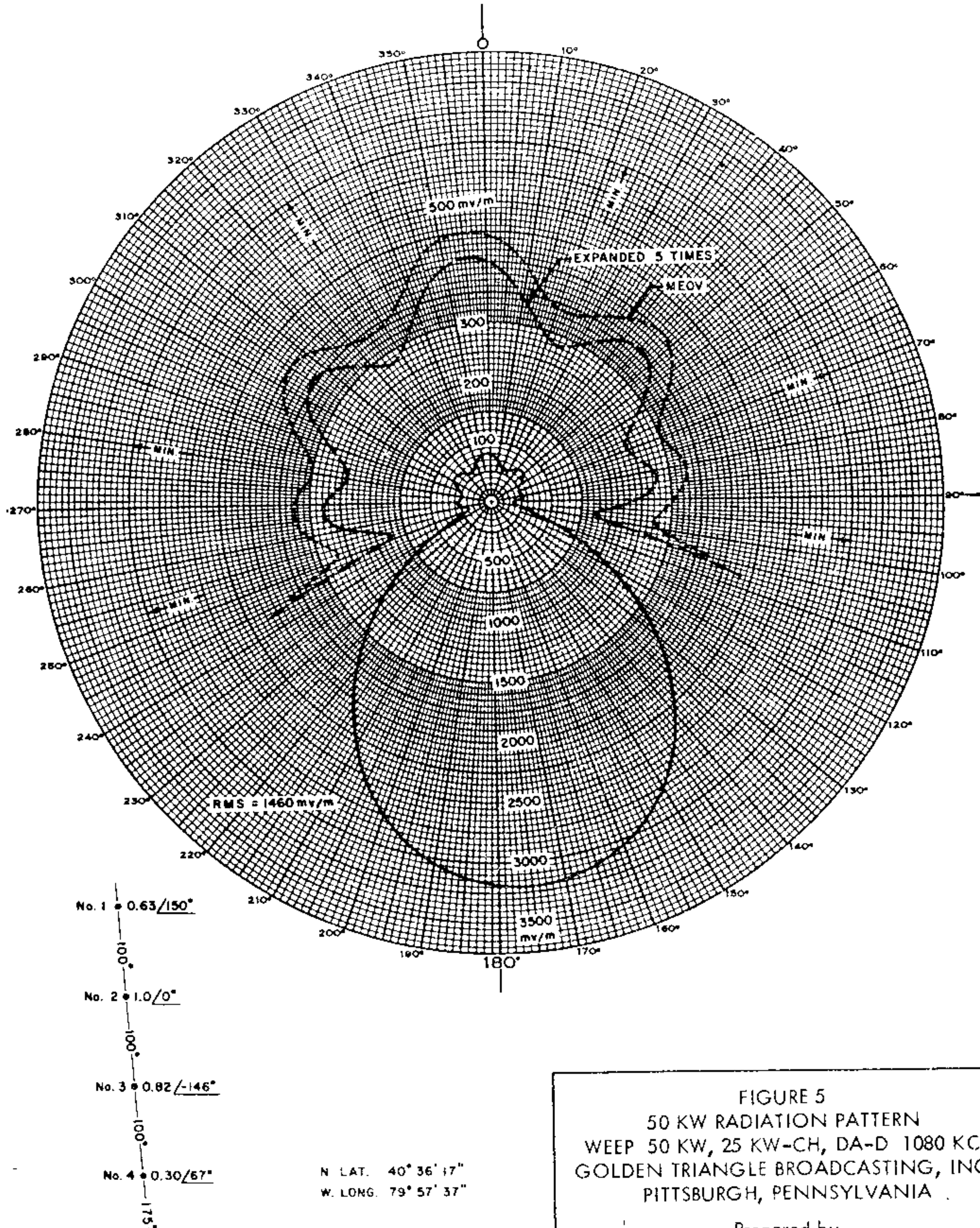
RALPH J. BITZER
CONSULTING RADIO ENGINEERS
ST. LOUIS, MISSOURI

WEEP

Proposed Day
(8-26-66ct)

Station WEEP
Pittsburgh, Pennsylvania

50kw,25kw-CH,DA-D,D
1080 kc



N. LAT. 40° 36' 17"
W. LONG. 79° 57' 37"

FIGURE 5
50 KW RADIATION PATTERN
WEEP 50 KW, 25 KW-CH, DA-D 1080 KC
GOLDEN TRIANGLE BROADCASTING, INC.
PITTSBURGH, PENNSYLVANIA

Prepared by
Lohnes and Culver Washington, D. C.
June, 1966

FCC File No.BP-16715
Accepted 8-17-66 Amended

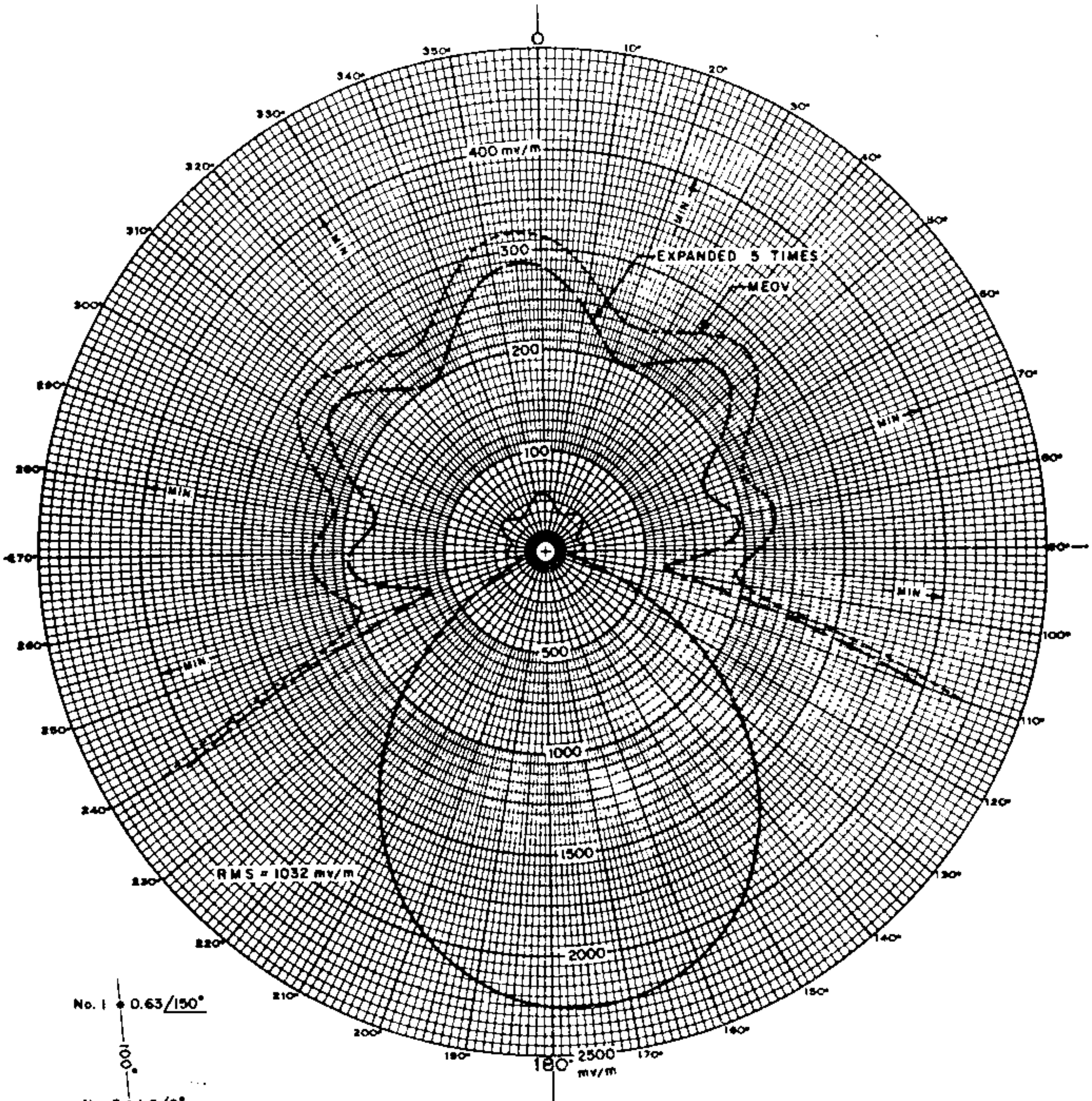
Station WEEP
Pittsburgh, Pennsylvania
1080 kc

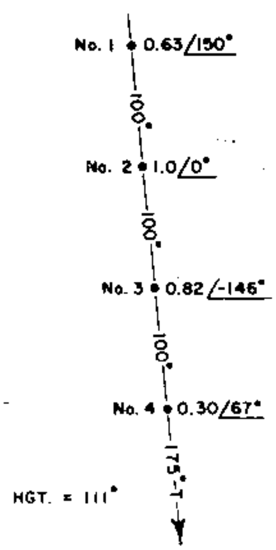
WEEP

Proposed Day (CH)
(8-26-66ct)

Station WEEP
Pittsburgh, Pennsylvania

50kw,25kw-CH,DA-D,D
1080 kc





N. LAT. 40° 36' 17"
W. LONG. 79° 57' 37"

FIGURE 6
25 KW RADIATION PATTERN
WEEP 50 KW, 25 KW-CH, DA-D 1080 KC
GOLDEN TRIANGLE BROADCASTING, INC.
PITTSBURGH, PENNSYLVANIA.

Prepared by
Lohnes and Culver Washington, D. C.
June, 1966

FCC File No. BP-16715
Accepted 8-17-66 Amended

Station WEEP
Pittsburgh, Pennsylvania

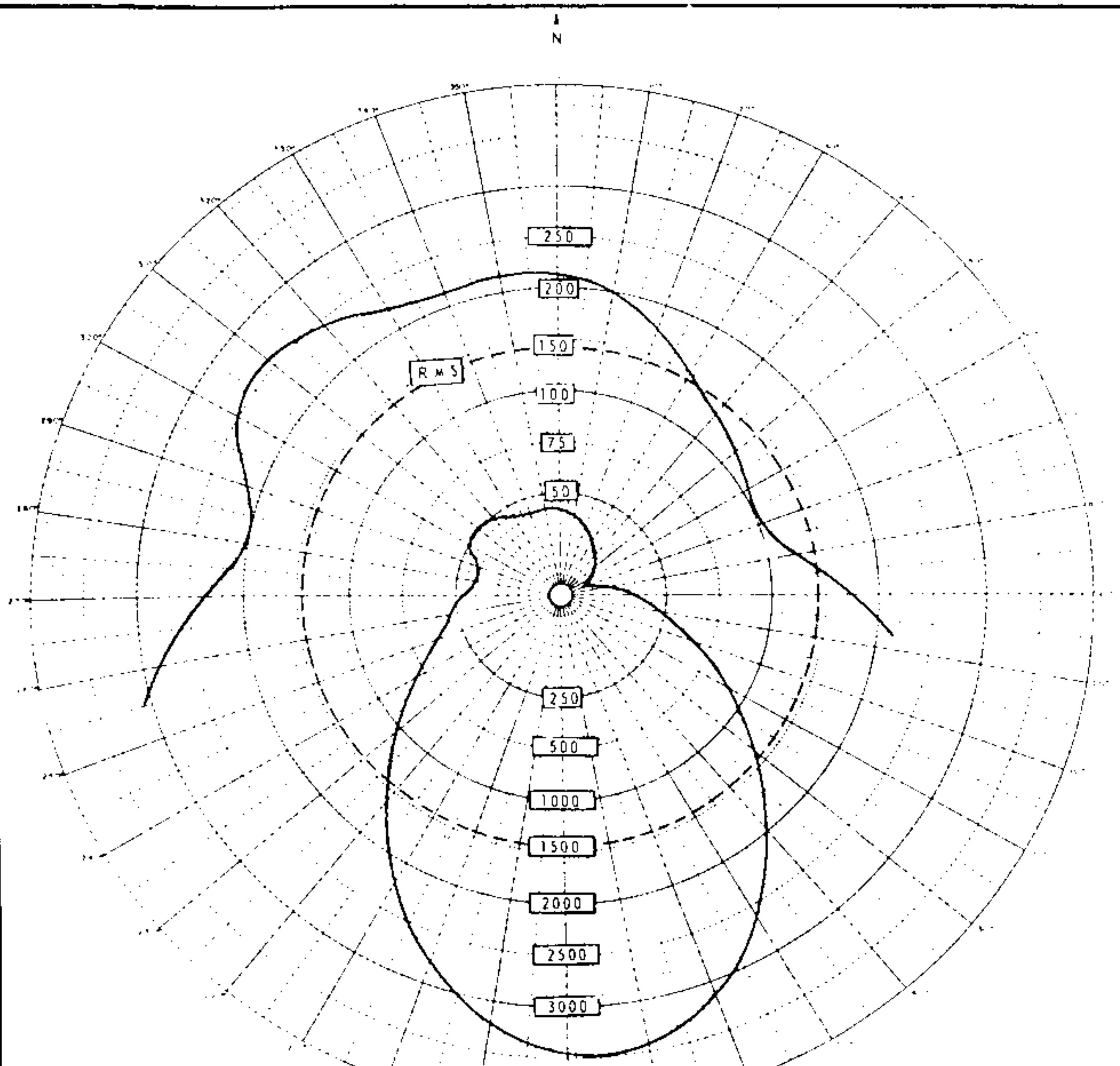
1080 kc

WEEP

Proposed Day
(1-28-66ct)

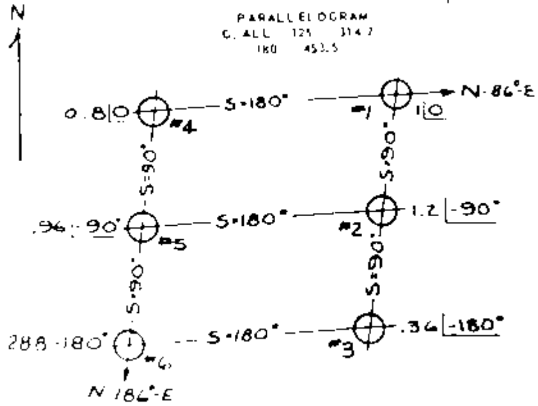
Station WEEP
Pittsburgh, Pennsylvania

50kw,25kw-CH,DA-2,D
1080 kc



ERMS = 1442

ANTENNA PARAMETERS



LATITUDE	40	28	19
LONGITUDE	79	59	39

FIGURE 5 – Amended Nov. 1965
PROPOSED HORIZONTAL
PLANE POLAR PATTERN
(50 KW OPERATION)

RADIO STATION WEEP
PITTSBURGH, PENNSYLVANIA

1080 KC S — 50 KW D-DA
25 KW-CH

FCC File No.BP-16715
Accepted 1-5-66 Amended

Station WEEP
Pittsburgh, Pennsylvania

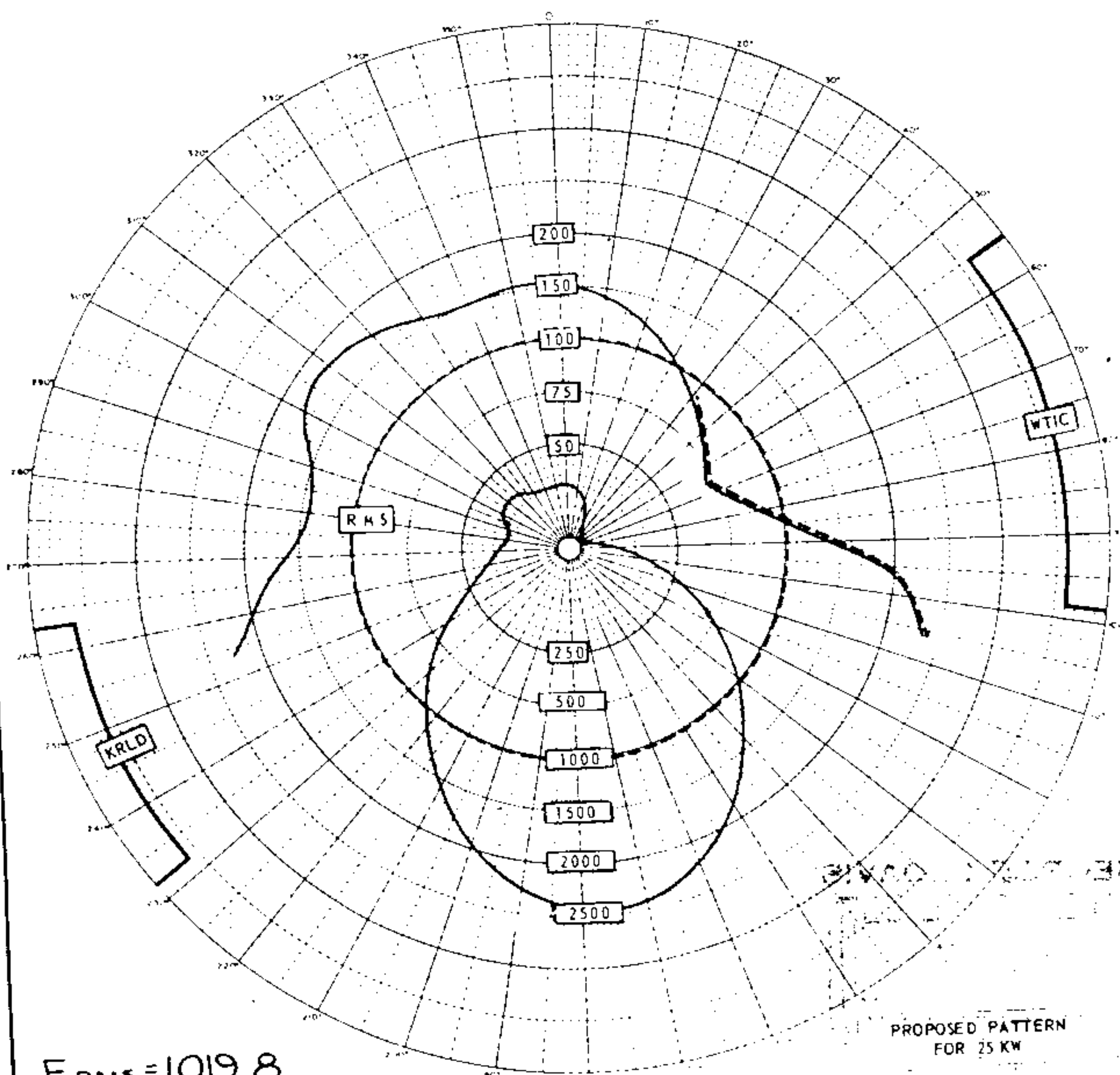
1080 kc

WEEP

Proposed Day (CH)
(1-28-66ct)

Station WEEP
Pittsburgh, Pennsylvania

50kw,25kw-CH,DA-2,D
1080 kc



PROPOSED PATTERN
FOR 25 KW

ERMS=1019.8

ANTENNA PARAMETERS

LATITUDE	40	28	19
LONGITUDE	79	59	39

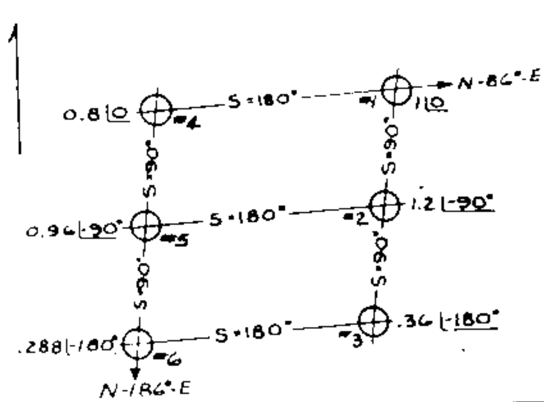


FIGURE 5A Amended
Nov. 1965
PROPOSED HORIZONTAL PLANE PATTERN
(25 KW OPERATION)
RADIO STATION WEEP
PITTSBURGH, PENNSYLVANIA
1080 KC S 50 KW DA-D
25 KW-CH

FCC File No.BP-16715
Accepted 1-5-66 Amended

Station WEEP
Pittsburgh, Pennsylvania

1080 kc

WKLO

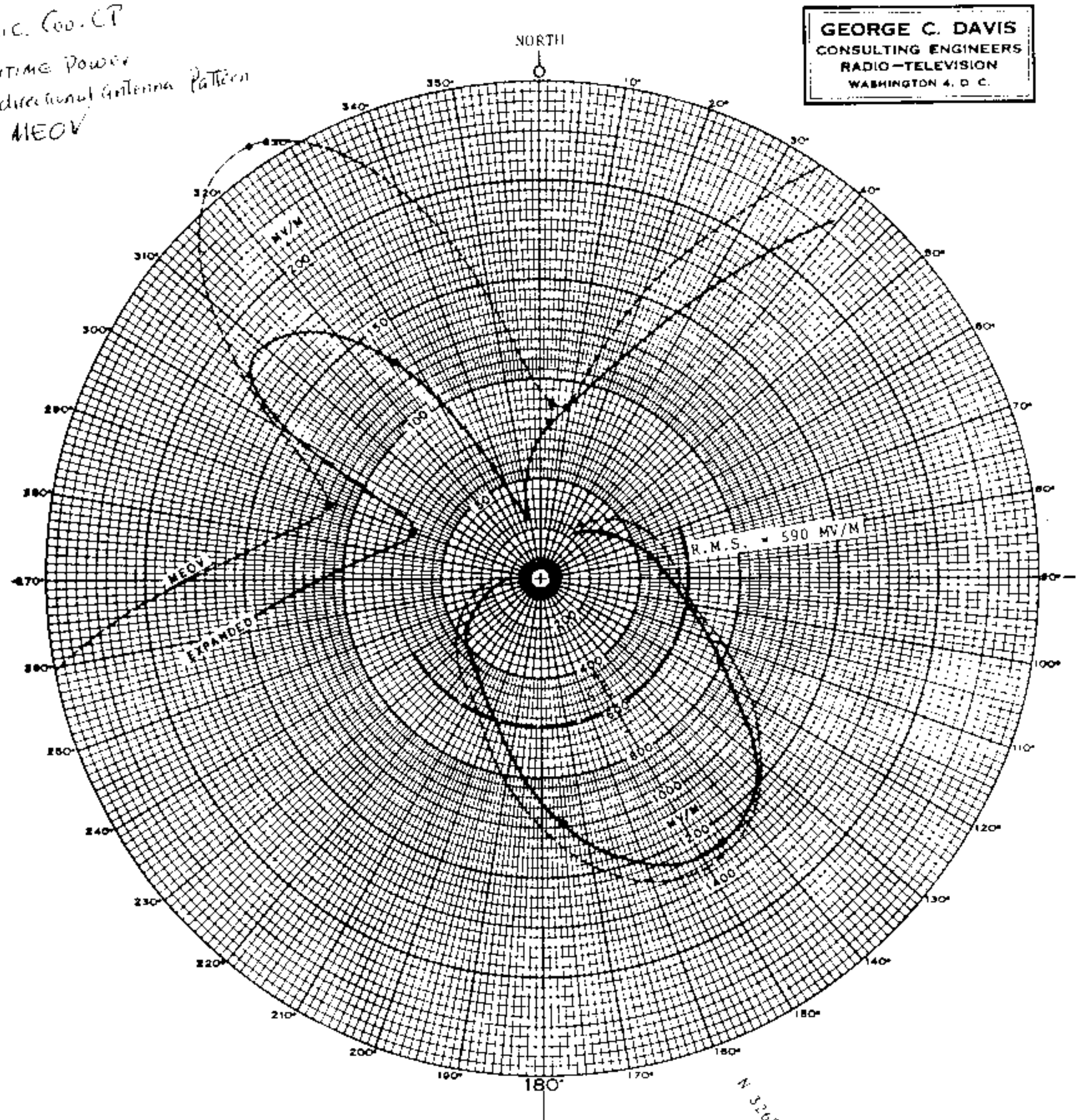
Measured Day
(5-27-69ct)

Station WKLO
Louisville, Kentucky

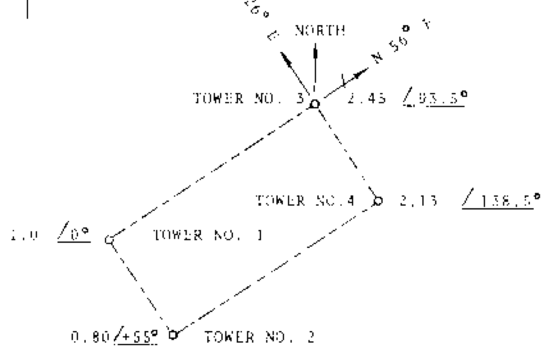
1kw,10kw-LS,DA-2,U
1080 kc

BL-12342
(4-20-70) Lic. Cov. CP
To increase Daytime Power
Change Daytime directional antenna Pattern
Add Nighttime MEOV

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



• C.P. VALUE
◦ MEASURED VALUE



S_1 = 90° = 227.7'
S_2 = 191° = 484.9'
H = 90.5° = 230'

NORTH LATITUDE 38° 18' 28.9"
WEST LONGITUDE 85° 43' 45.3"

MEASURED HORIZONTAL
PLANE RADIATION PATTERN
FOR PRESENT DAYTIME OPERATION OF
WKLO, LOUISVILLE, KENTUCKY
1080 KHz - 1/10 KW - DA-2
MARCH 1969

FCC File No.BL-12342
Accepted 5-8-69

Station WKLO
Louisville, Kentucky

1080 kc

WKLO

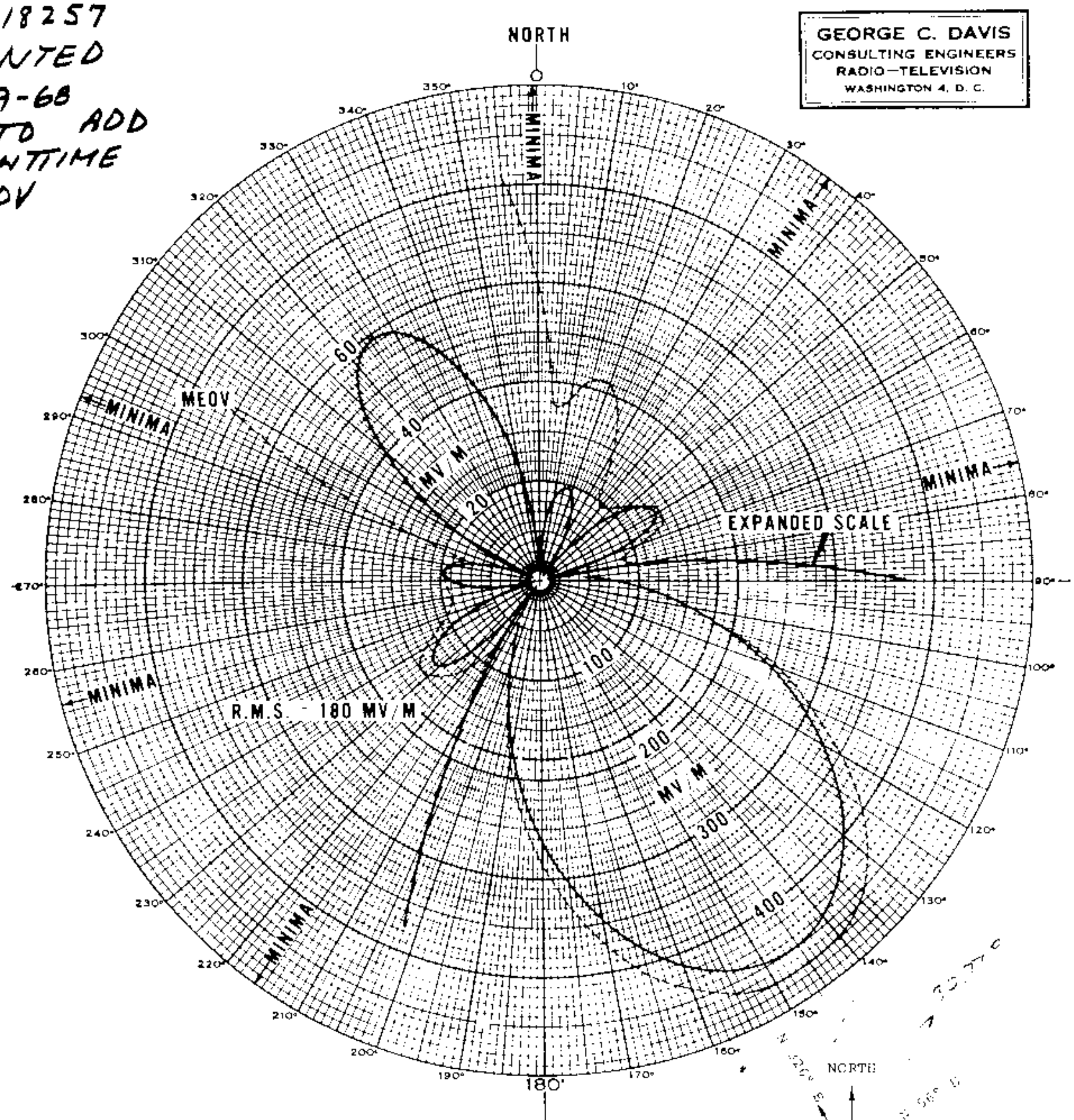
Proposed Night
(8-28-68ct)

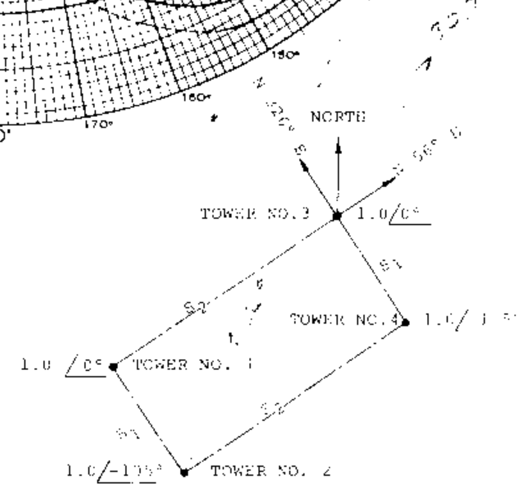
Station WKLO
Louisville, Kentucky

1kw,5kw-LS,DA-2,U
1080 kc

BP-18257
GRANTED
8-29-68
CP TO ADD
NIGHTTIME
MEOV

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





COMPUTED HORIZONTAL
PLANE RADIATION PATTERN
FOR PRESENT NIGHTTIME OPERATION OF
WKLO, LOUISVILLE, KENTUCKY
1080 KHz - 1/5 KW - DA-2
APRIL 1958

NORTH LATITUDE
WEST LONGITUDE

FCC File No.BP-18257
Accepted 8-21-68

Station WKLO
Louisville, Kentucky

1080 kc

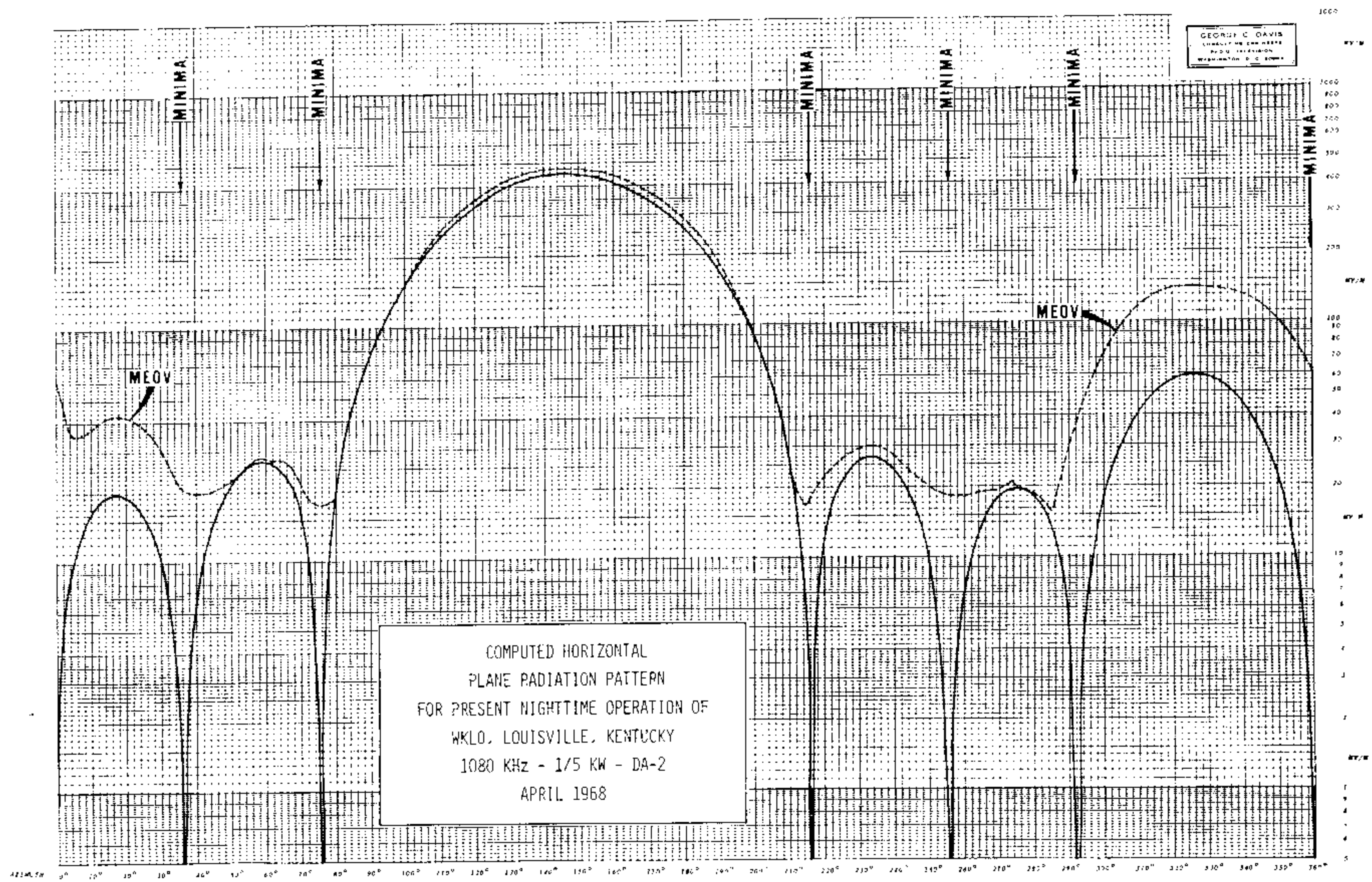
BP-18257
GRANTED 8-29-68
CP TO ADD
NIGHTTIME MEOV

WKLO

Proposed Night Nulls
(8-28-68ct)

Statio, /KLO
Louisville, Kentucky

1kw,5kw-LS,DA-2,U
1080 kc



COMPUTED HORIZONTAL
PLANE RADIATION PATTERN
FOR PRESENT NIGHTTIME OPERATION OF
WKLO, LOUISVILLE, KENTUCKY
1080 KHz - 1/5 KW - DA-2
APRIL 1968

FCC File No.BP-18257
Accepted 8-21-68

Station WKLO
Louisville, Kentucky

1080 kc

WKLO

Measured Night
(5-27-69ct)

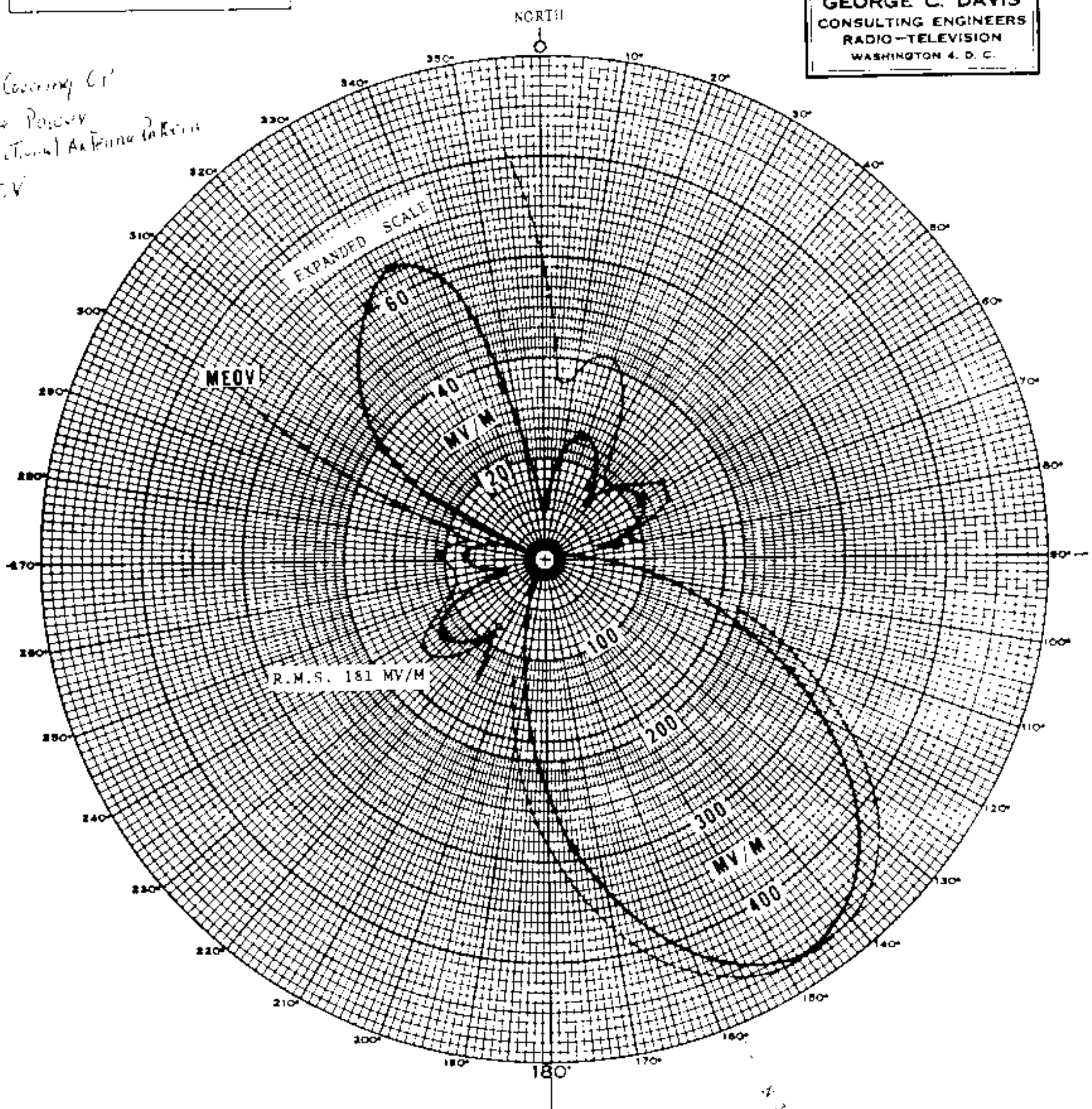
Station WKLO
Louisville, Kentucky

1kw,10kw-LS,DA-2,U
1080 kc

SEE DETAIL HORIZONTAL
PLANE RADIATION PATTERN
FOR MEOV FROM N 300° E
TO N 355° E

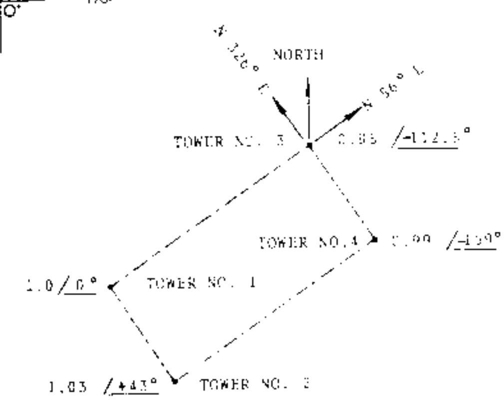
GEORGE C. DAVIS
CONSULTING ENGINEERS
RADIO—TELEVISION
WASHINGTON 4, D. C.

BL-12342
CP (4-20-70) Lic Covering CP
To increase Daytime Power
Change Daytime directional Antenna pattern
AND Nighttime MEOV



• C.P. VALUE
o MEASURED VALUE

MEASURED HORIZONTAL
PLANE RADIATION PATTERN
FOR PRESENT NIGHTTIME OPERATION OF
WKLO, LOUISVILLE, KENTUCKY
1080 KHz - 1/10 KW - DA-2
MARCH 1969



NORTH LATITUDE 38° 18' 25.9"
WEST LONGITUDE 85° 44' 45.3"

FCC File No.BL-12342
Accepted 5-8-69

Station WKLO
Louisville, Kentucky

1080 kc

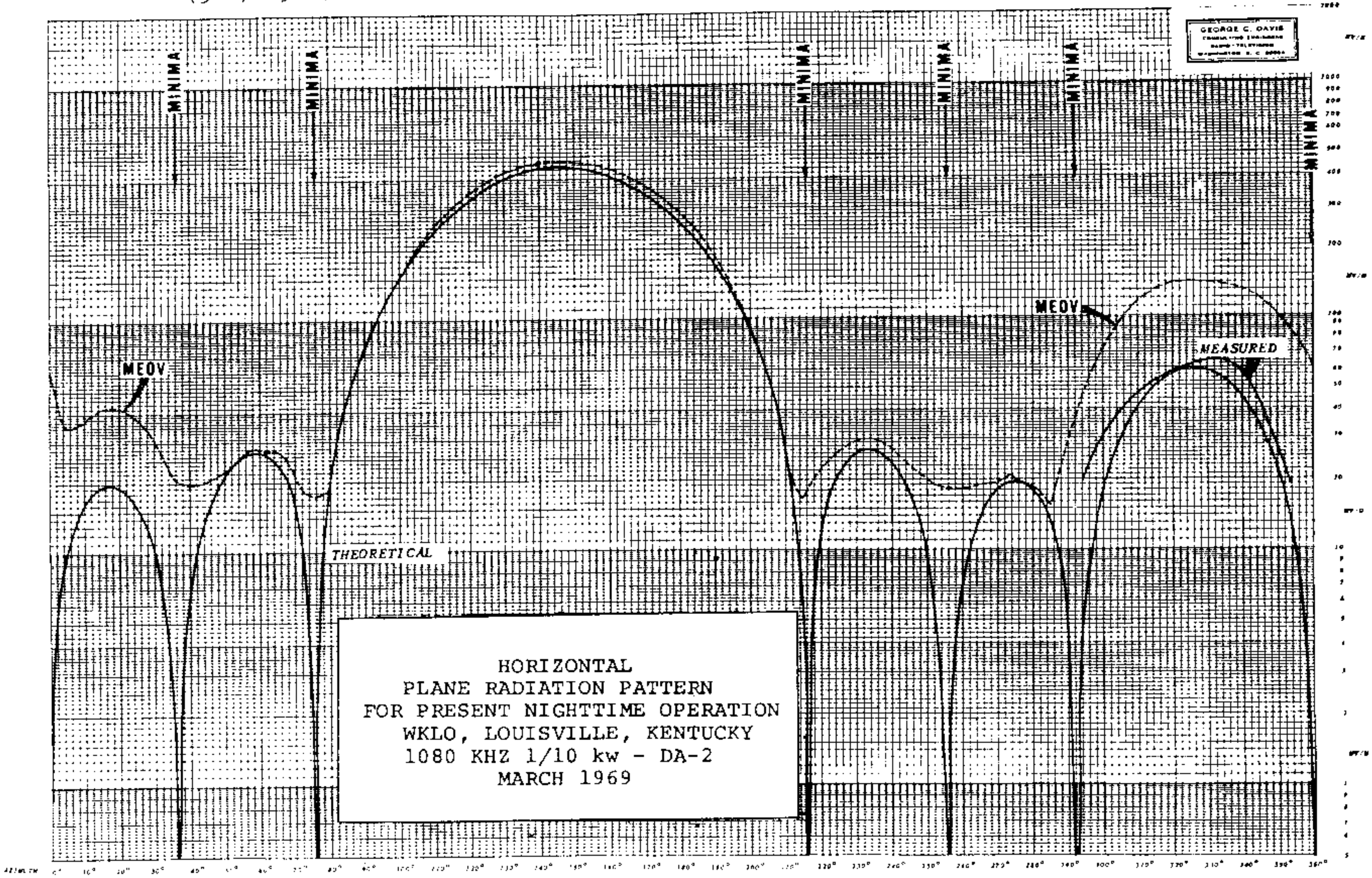
BL-12342
Gr. (4-20-70) Lic. Covering CP To increase Daytime Power
Change Daytime directional Antenna Pattern
ADD Nighttime MEOV

WKLO

Measured Night Nulls
(5-27-69ct)

Station WKLO
Louisville, Kentucky

1kw,10kw-LS,DA-2,U
1080 kc



HORIZONTAL
PLANE RADIATION PATTERN
FOR PRESENT NIGHTTIME OPERATION
WKLO, LOUISVILLE, KENTUCKY
1080 KHZ 1/10 kw - DA-2
MARCH 1969

FCC File No.BL-12342
Accepted 5-8-69

Station WKLO
Louisville, Kentucky

1080 kc

WKLO

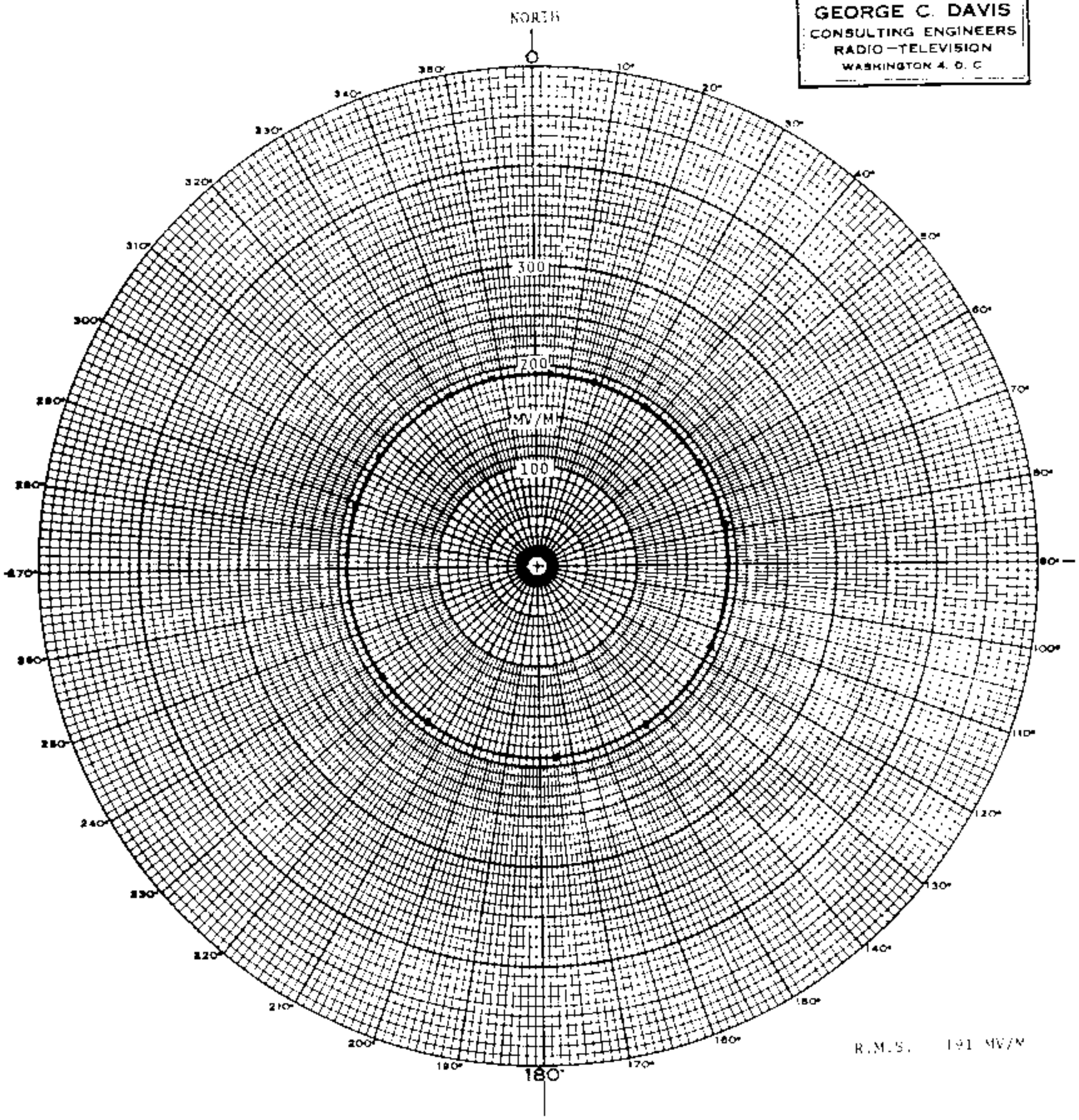
Measured Non-DA
(5-27-69ct)

Station WKLO
Louisville, Kentucky

1kw,10kw-LS,DA-2,U
1080 kc

BL-12342
Gr (4-20-70) Lic. Cov. CP to increase Daytime Power
change Daytime directional Antenna pattern
ADD nighttime MEOV

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



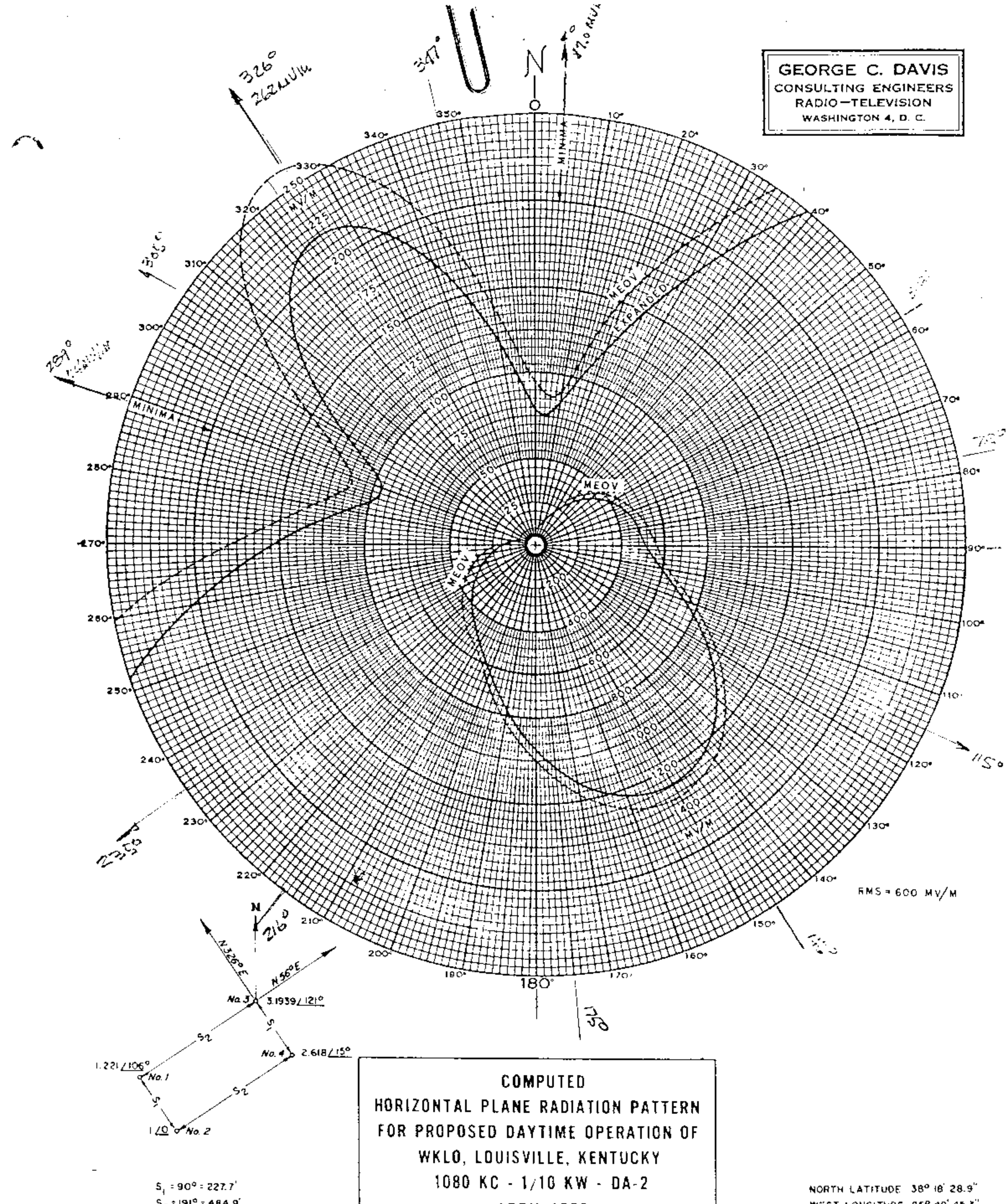
R.M.S. 191 MV/M

MEASURED NON DIRECTIONAL
HORIZONTAL PLANE PATTERN
WKLO, LOUISVILLE, KENTUCKY
1080 KHZ 1/10 KW DA 2
MARCH, 1969

FCC File No.BL-12342
Accepted 5-8-69

Station WKLO
Louisville, Kentucky

1080 kc



COMPUTED
HORIZONTAL PLANE RADIATION PATTERN
FOR PROPOSED DAYTIME OPERATION OF
WKLO, LOUISVILLE, KENTUCKY
1080 KC - 1/10 KW - DA-2
APRIL 1968

$S_1 = 90° = 227.7'$
$S_2 = 191° = 484.9'$
$H = 90.5° = 230'$

NORTH LATITUDE 38° 18' 28.9"
WEST LONGITUDE 85° 49' 45.3"

WKLO

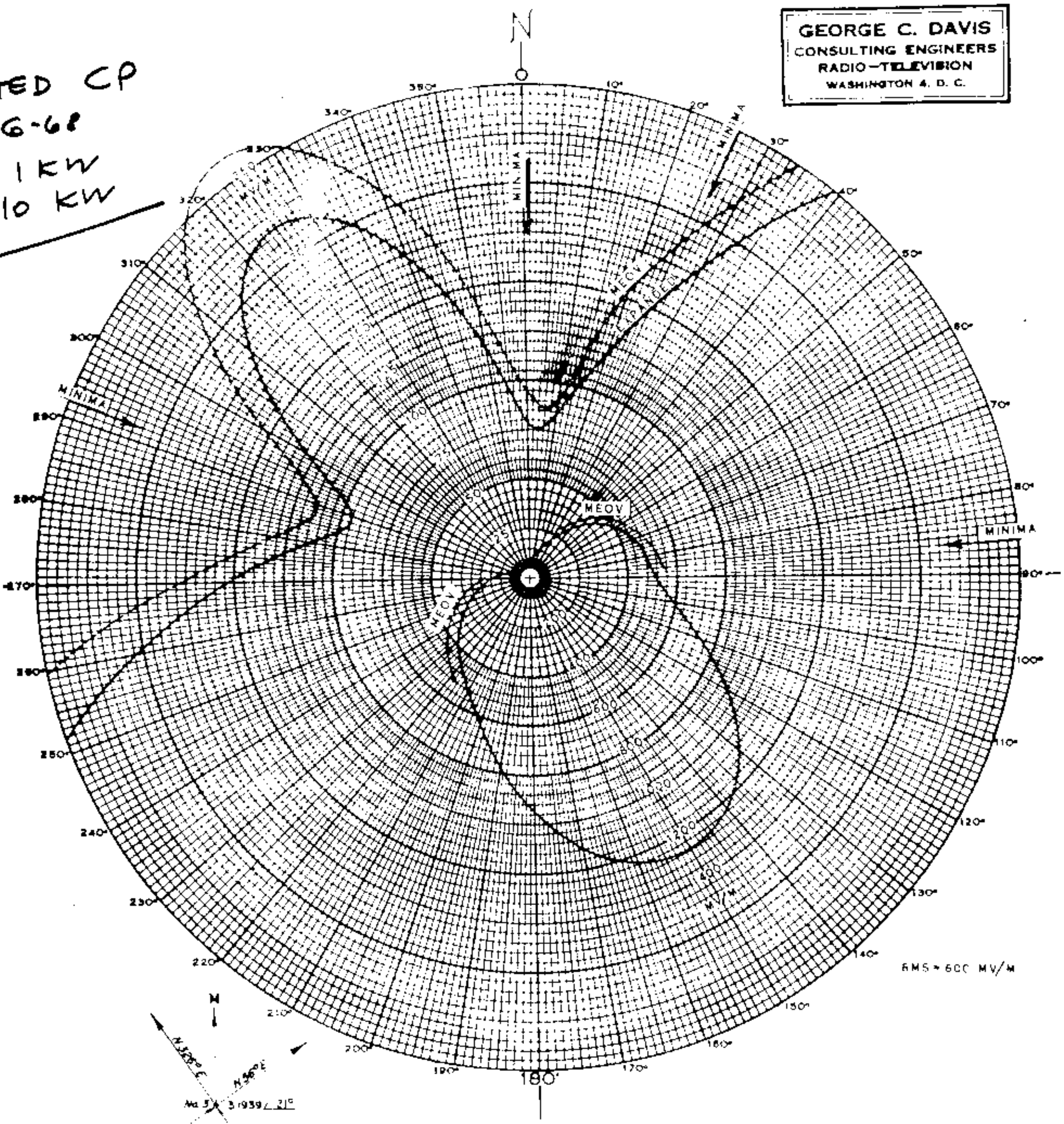
Proposed Day
(6-28-68ct)

Station WKLO
Louisville, Kentucky

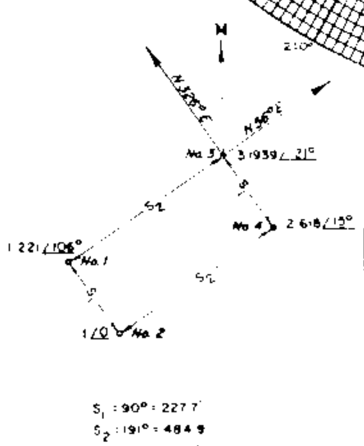
1kw,10kw-LS,DA-2,U
1080 kc

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

GRANTED CP
6-6-68
FROM 1KW
TO 10 KW



RMS = 600 MV/M



COMPUTED
HORIZONTAL PLANE RADIATION PATTERN
FOR PROPOSED DAYTIME OPERATION OF
WKLO, LOUISVILLE, KENTUCKY
1080 KC - 1-10 KW - DA-2
APRIL 1968

NORTH LATITUDE 38° 18' 28.9"
WEST LONGITUDE 85° 49' 45.3"

FCC File No.BP-17905
Accepted 6-4-68 Amended

Station WKLO
Louisville, Kentucky

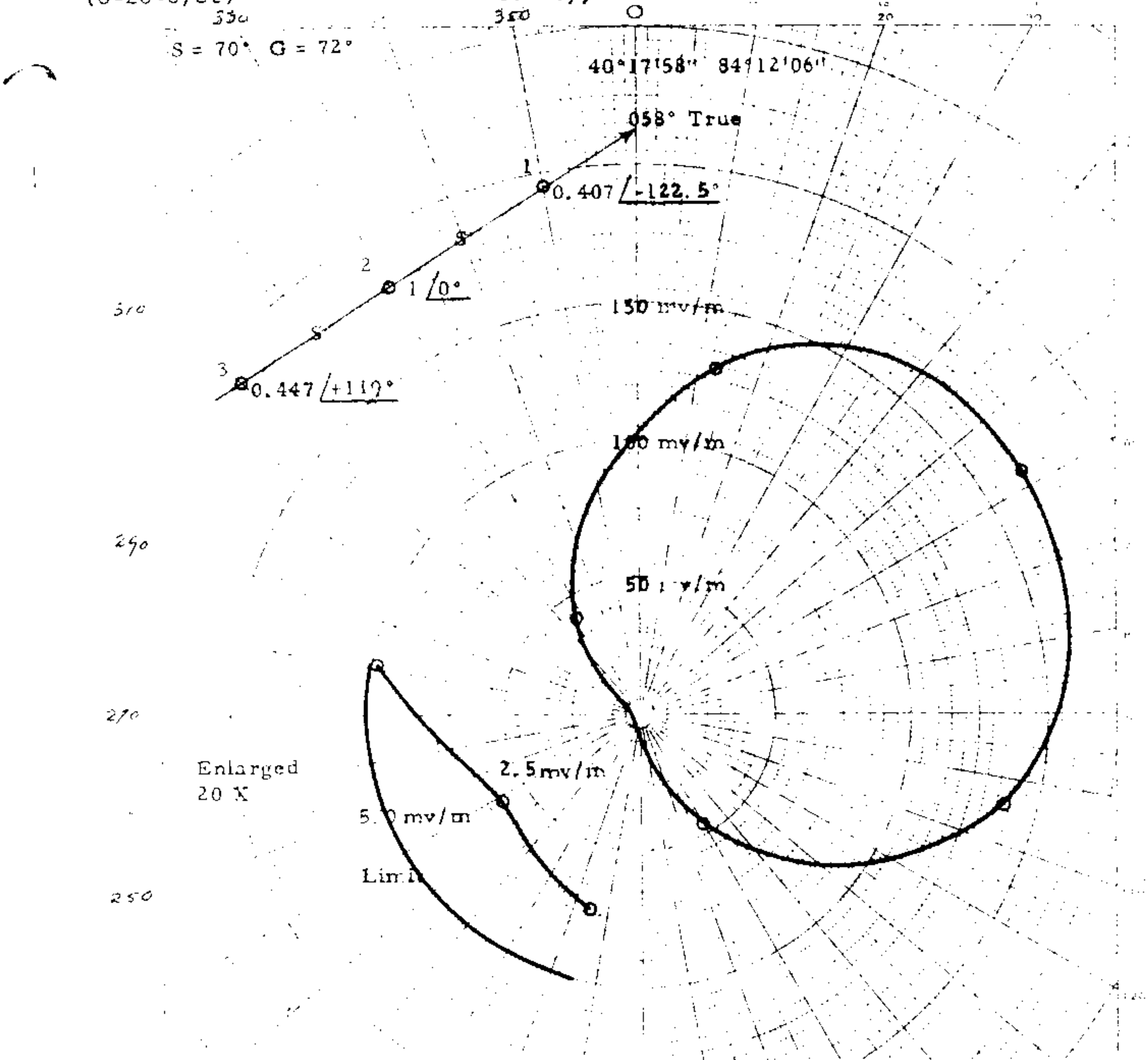
1080 kc

WMV

Measured Day
(8-28-67ct)

Station WMVR
Sidney, Ohio

250w, DA-D, D
1080 kc



Pattern RMS by Planimeter = 92.1 mv/m. Measured Daytime Radiation Pattern Following Erection of New No. 1 Tower, with FM Antenna and Transmission Line, after loss of tower in ice storm. WMVR, Sidney, Ohio. 1080 kc. 250W-D, DA-D. Skeleton Proof of Performance of Directional Antenna March, 1967. This Exhibit Prepared by Paul Dean Ford, Engineer, April 11, 1967. Horizontal Measured WMVR Pattern.

North Latitude 40° 17' 58"
West Longitude 84° 12' 06"

FCC File No. BZ-6485
Accepted 7-31-67

Station WMVR
Sidney, Ohio

1080 kc

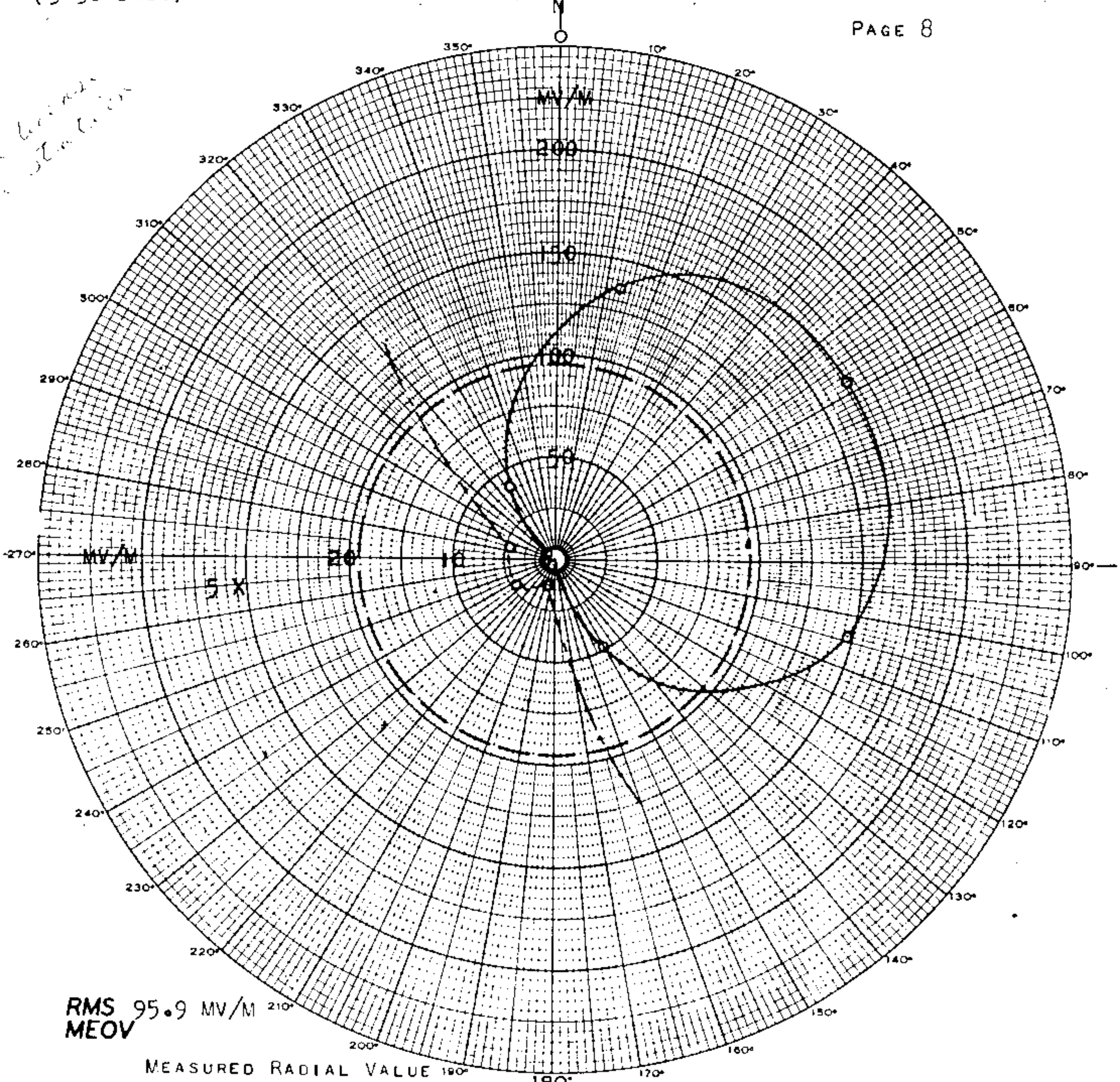
WMVK

Measured Day
(3-30-64ct)

Station WMVR
Sidney, Ohio

250w,DA-D,D
1080kc

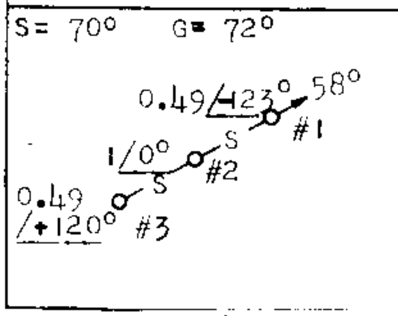
PAGE 8



RMS 95.9 MV/M
MEOV

MEASURED RADIAL VALUE

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 5	STATION DATA



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

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

MEASURED DAYTIME DIRECTIONAL RADIATION

NOVEMBER - 1963

θ° 0°

CALL WMVR
FREQ 1080 KC/S
POWER 0.25 Kw
TYPE DA-D
TIME DAY
LAT. 40-17-58
LONG. 84-12-06

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

FCC File No. BL-10420
Accepted 3-5-64

Station WMVR
Sidney, Ohio

1080kc

WMV

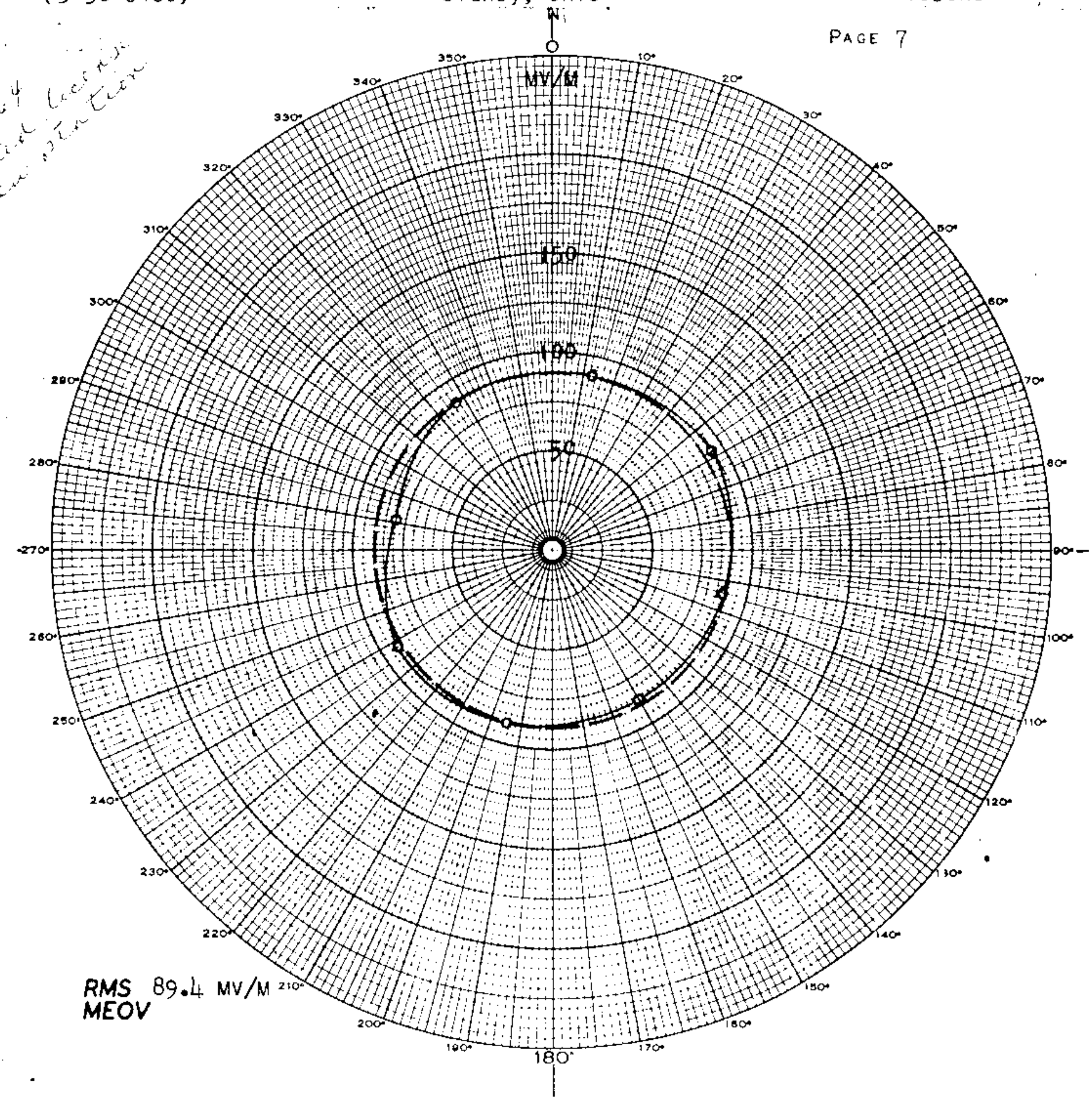
Measured Non-DA
(3-30-64ct)

Station WMVR
Sidney, Ohio

250w,DA-D,D
1080kc

PAGE 7

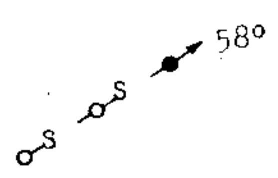
4/8/64 location ... station



RMS 89.4 MV/M
MEOV

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 4	STATION DATA

S= 70° G= 72°



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

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

MEASURED NON-DIRECTIONAL RADIATION FROM NORTHEAST TOWER

NOVEMBER - 1963

θ° 0

CALL WMVR
FREQ 1080 KC/S
POWER 0.25 KW
TYPE TEST
TIME DAY
LAT. 40-17-58
LONG. 84-12-06

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

FCC File No. BL-10420
Accepted 3-5-64

Station WMVR
Sidney, Ohio

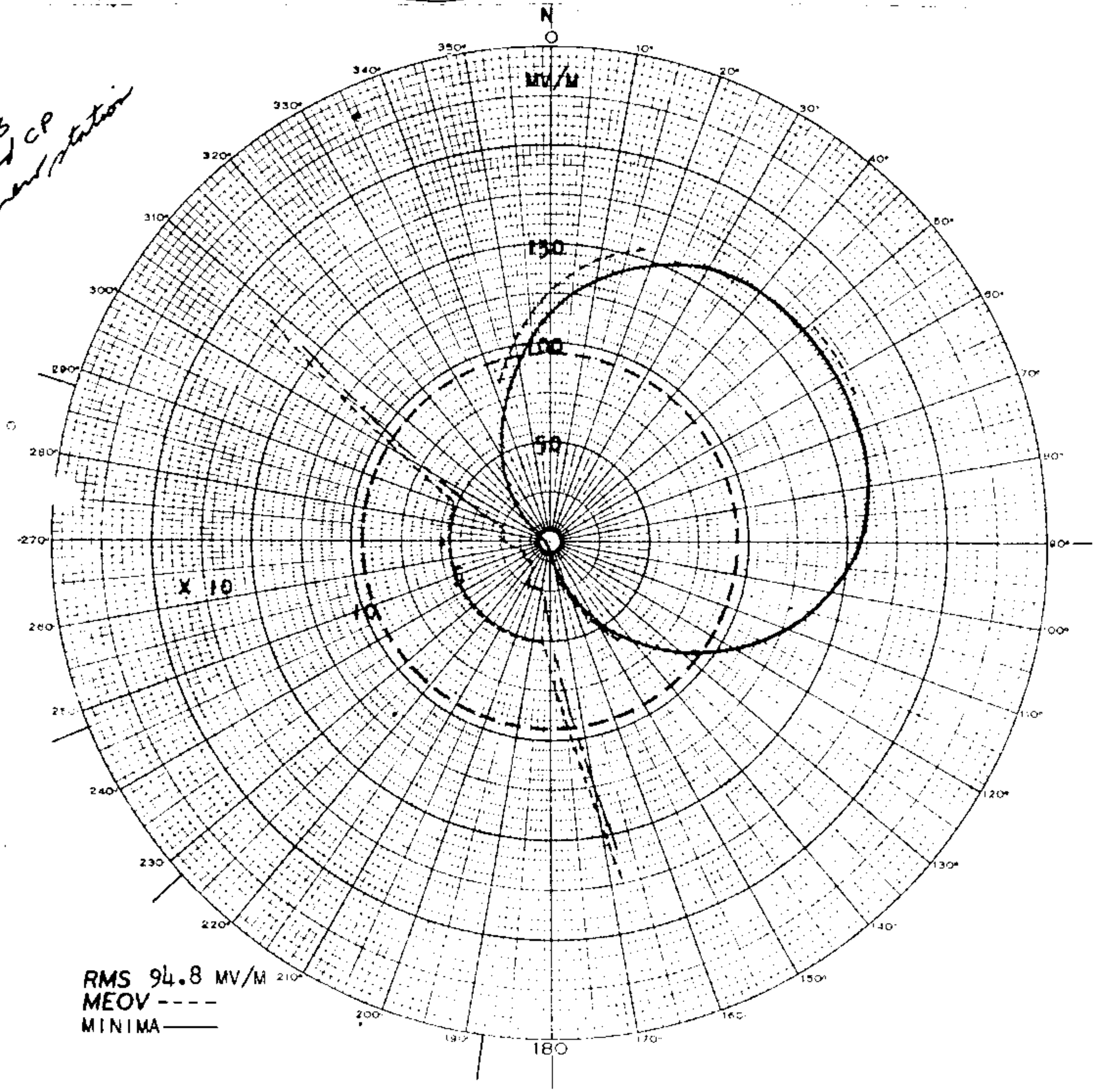
1080kc

WMVR

Proposed Day
(6-22-62ct)

New;Van Wert Broadcasting Company 250w,DA-D,D
Sidney, Ohio
1080 kc

8-1-63
granted CP
for a new station



TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 3	STATION DATA
S = 70° G = 72° 58°T No. 1 S .481/-123° No.2 1/0° S No.3 .545/+123°	TOWER No. / ELECTRICAL HEIGHT G° / SPACING S° / PHASING ψ° / FIELD RATIO 1 2 3 4 5 6 7 8 9 10	PROPOSED DAY DIRECTIONAL FOR SIDNEY, OHIO θ°	CALL NEW FREQ 1080 KC POWER 0.25 KW TYPE DA-D TIME DAY ONLY LAT. 40-17-58 LONG. 84-12-06 E.H.MUNN,JR. RADIO ENGINEER COLDWATER, MICH.

FCC File No.BP-15465
Accepted 5-21-62

New;Van Wert Broadcasting Company
Sidney, Ohio

1080 kc

SUPPLEMENTAL DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station. WMVR

Main Studio: Sidney, Ohio

Frequency: 1080 kHz

Power 0.25kw

Notification List No. 1770

Date: February 15, [illegible] Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 40° 18' 04"
West Longitude: 84° 12' 21"

Authorized for Daytime operation (DA-D)/

Note: Please retain the description sheet notified for station WMVR in United States Change List Number 1056, dated April 15, 1964 and the directional antenna radiation pattern notified in Change List No. 1019 dated July 17, 1963 and attach to this supplemental Description Sheet. This notification is for the purpose of indicating only a correction in the geographical coordinates of the center of the antenna system.

- 0 -

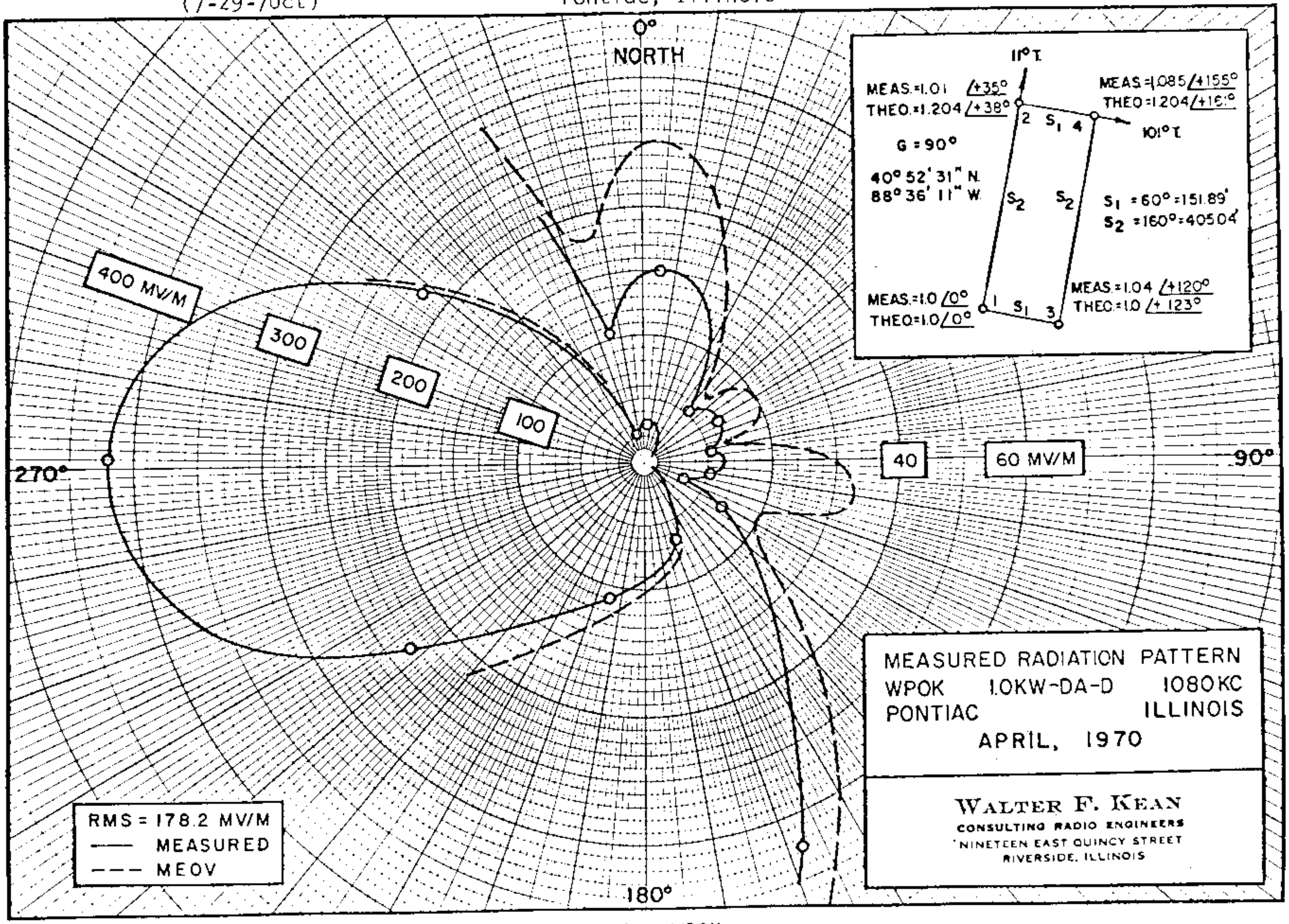
SEE REVERSE SIDE
7/29/70

WPOK

WPOK
1kw,DA-D,D
1080 kc

Measured Day
(7-29-70ct)

Station WPOK
Pontiac, Illinois



FCC File No.BL-12658
Accepted 7-15-70

Station WPOK
Pontiac, Illinois

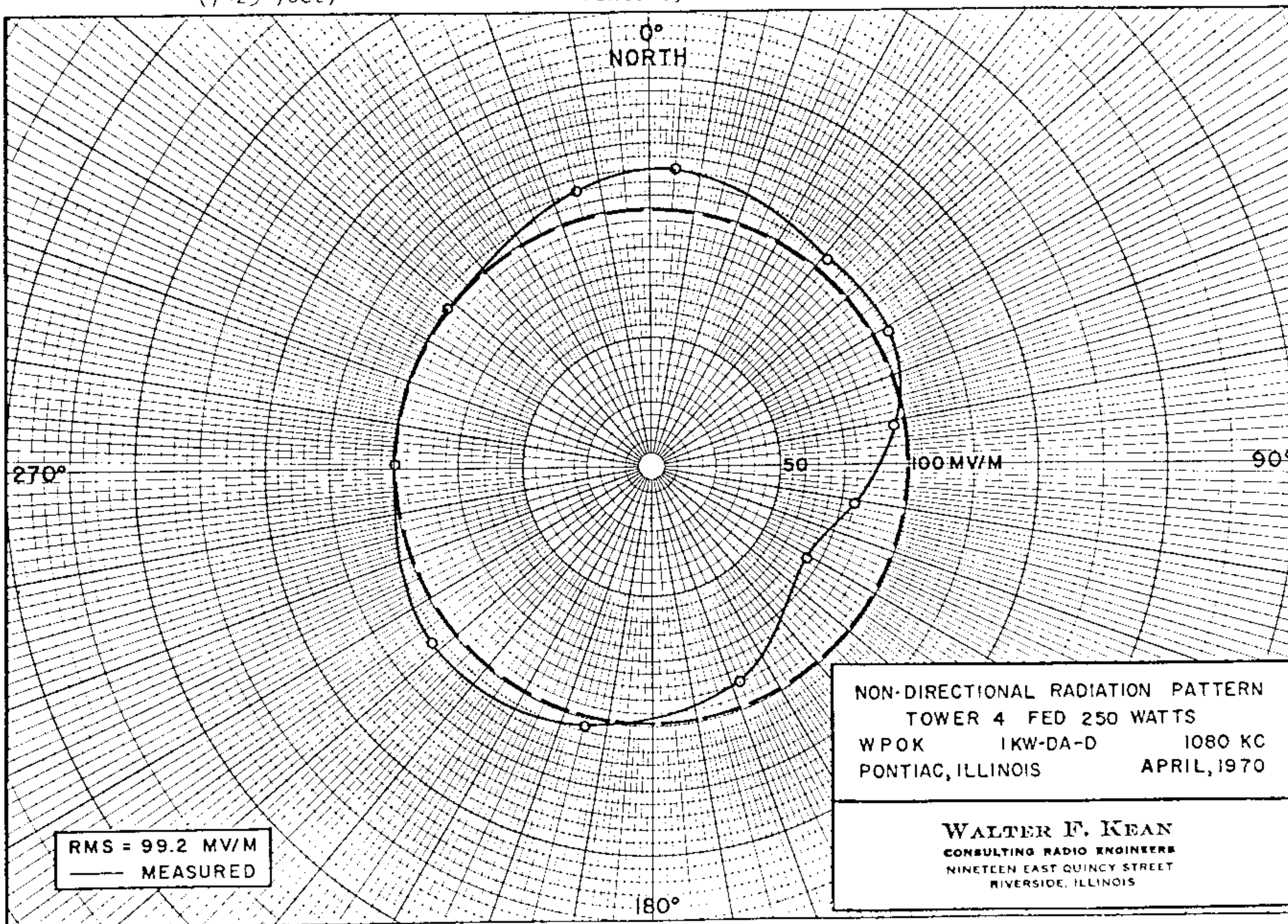
1080 kc

WPOK

Measured Non-DA
(7-29-70ct)

Station WPOK
Pontiac, Illinois

1kw,DA-D,D
1080 kc



FCC File No.BL-12658
Accepted 7-15-70

Station WPOK
Pontiac, Illinois

1080 kc

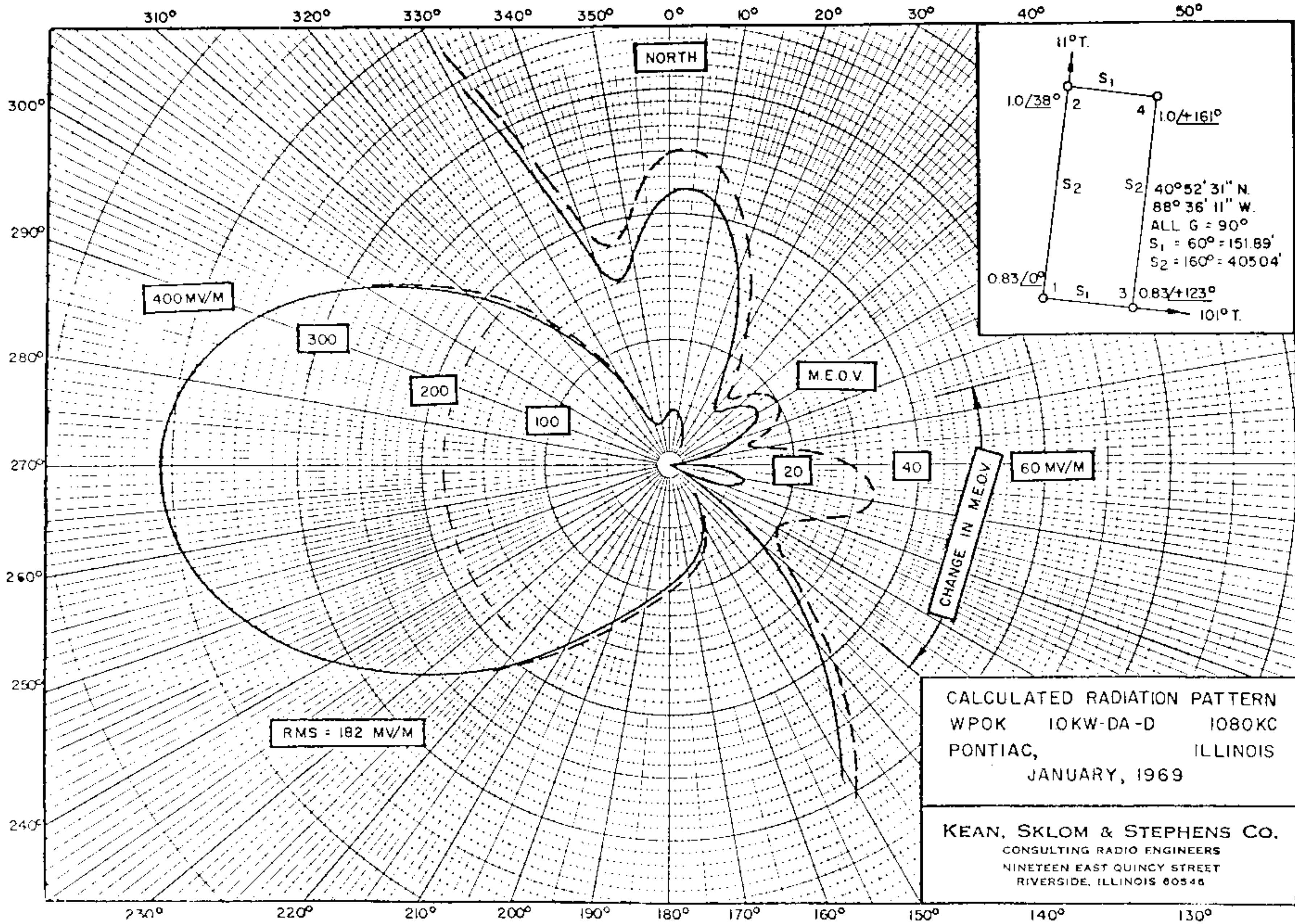
SEE REVERSE SIDE
7/29/70

WPOK

Proposed Day
(4-29-69ct)

Station WPOK
Pontiac, Illinois

1kw, DA-D, D
1080 kc



CALCULATED RADIATION PATTERN
WPOK 1.0 KW-DA-D 1080 KC
PONTIAC, ILLINOIS
JANUARY, 1969

KEAN, SKLOM & STEPHENS CO.
CONSULTING RADIO ENGINEERS
NINETEEN EAST QUINCY STREET
RIVERSIDE, ILLINOIS 60546

FCC File No. BP-18528
Accepted 4-14-69

Station WPOK
Pontiac, Illinois

1080 kc

BP-18528 Granted 4-17-69 CP to increase MEOV

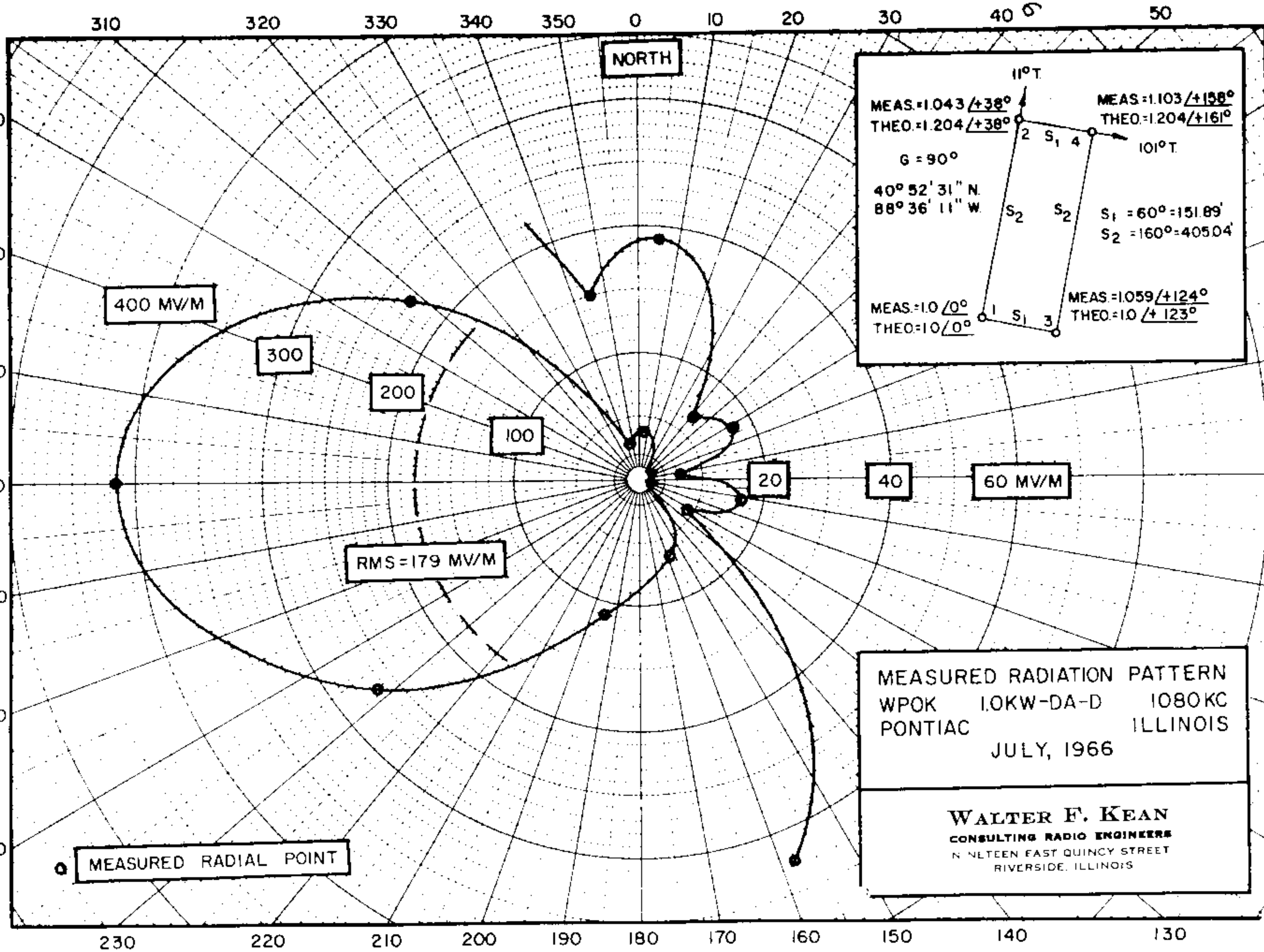
WPOK

Measured Day
(11-29-66ct)

Stati WPOK
Pontiac, Illinois

BL11431
LIC11-14-66

1kw, DA-D, D
1080 kc



FCC File No. BL-11431
Accepted 11-8-66

Station WPOK
Pontiac, Illinois

1080 kc

WPOK

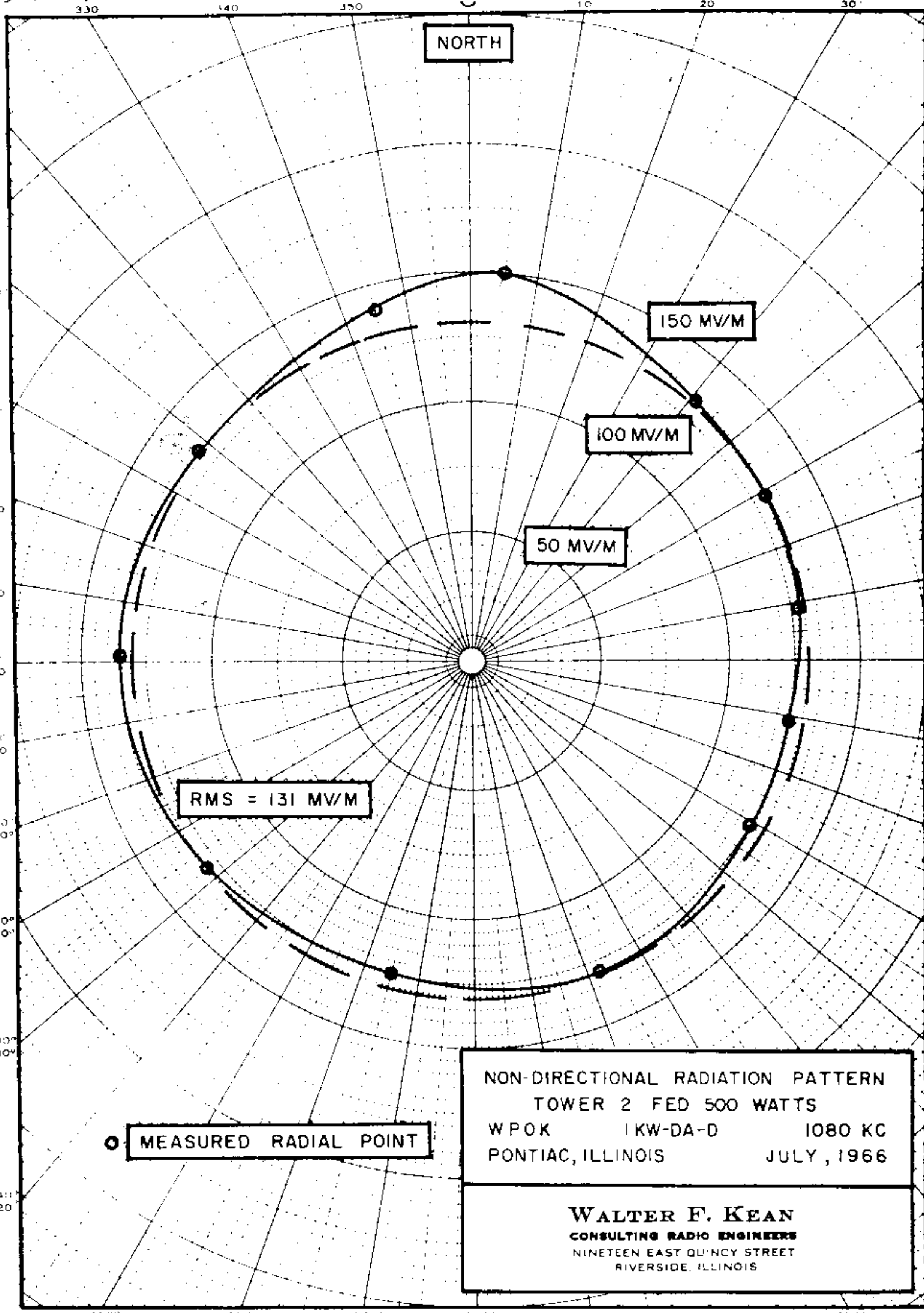
WPOK

Measured Non-DA
(11-29-66ct)

Station WPOK
Pontiac, Illinois

1kw,DA-D,D
1080 kc

3L11431
-1C11-14-66



FCC File No.BL-11431
Accepted11-8-66

Station WPOK
Pontiac, Illinois

1080 kc

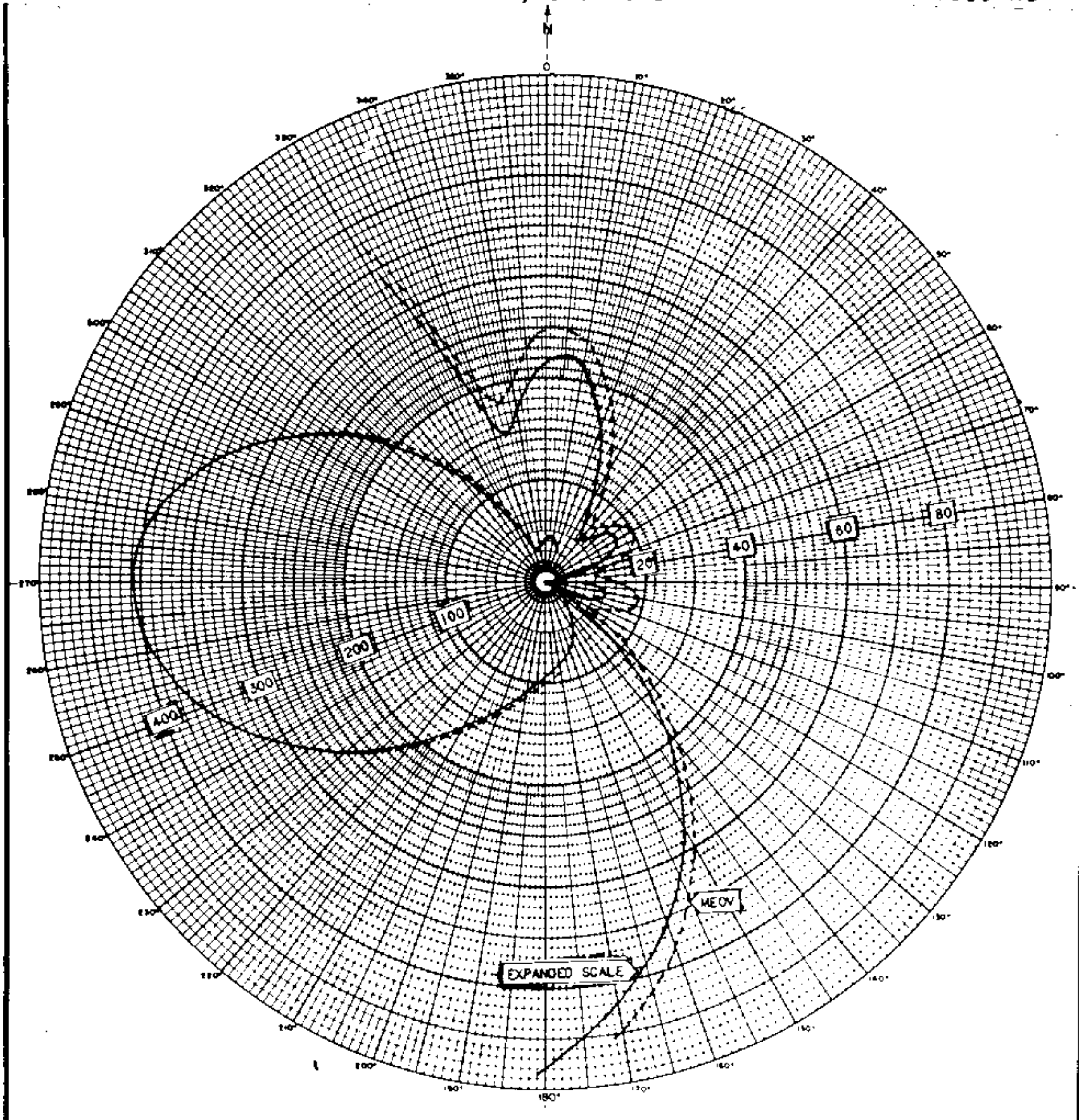
WPOK

Proposed Day
(7-27-65ct)

ICP 8-18-65
INCR. HT.

Station WPOK
Pontiac, Illinois

1kw,DA-D,D
1080 kc



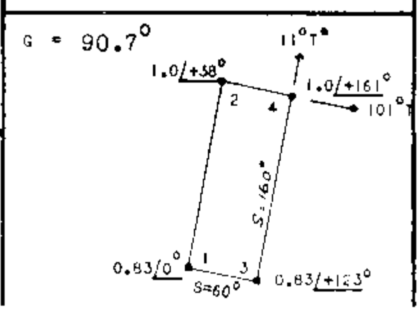
E_{RMS} = 182 MV/M

SUPERSEDES 630529

LATITUDE: 40° 52' 31"
LONGITUDE: 88° 36' 11"

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

ANTENNA PARAMETERS



650603

FIGURE 3

LIVINGSTON COUNTY BROADCASTING COMPANY
PONTIAC, ILLINOIS

1080 KC

1000 DA-D

FCC File No. BMP-11546
Accepted 7-16-65

Station WPOK
Pontiac, Illinois

1080 kc

WQRO
1080KHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WQRO

Main Studio: Huntingdon, Pennsylvania

Frequency: 1080 KHz

Power: 1kw Day

Notification List No. 1785

Date: November 16, 1979 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 40° 27' 53"
West Longitude: 78° 02' 46"

ANTENNA

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

TOWER:	#1 (NE)	#2 (SW)
HEIGHT ABOVE INSULATORS:	220'	220' (86.9°)
DAY PHASING:	0.0°	47.0°
DAY FIELD RATIO:	1.0	1.25

SPACING AND ORIENTATION: Adjacent towers in a row are spaced 360.76' (142.5°) on a line bearing 247° true.

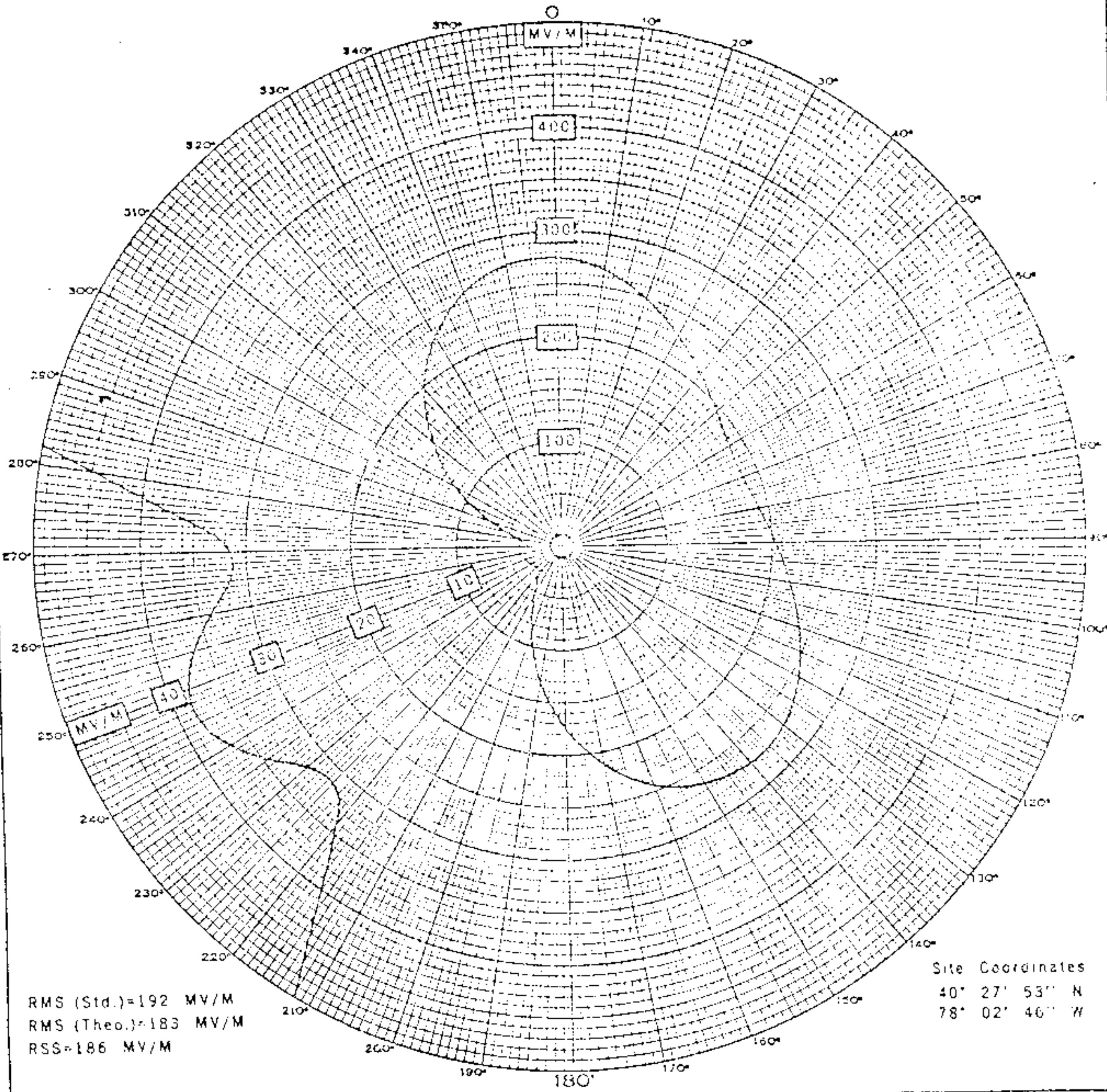
GROUND SYSTEM: 120 - 230' equally spaced copper radials plus a 24' x 24' square ground screen about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	183 mv/m		192 mv/m

WQRC
1080 kHz

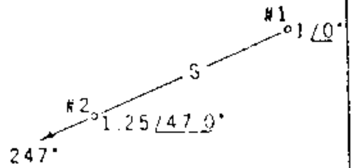
Figure 1



RMS (Std.)=192 MV/M
RMS (Theo.)=183 MV/M
RSS=186 MV/M

Site Coordinates
40° 27' 53" N
78° 02' 46" W

PROPOSED DAYTIME STANDARD RADIATION PATTERN



S=142.5°
G=86.9°

RAYSTOWN RADIO, INC.

HUNTINGDON, PENNSYLVANIA

Jules Cohen & Associates
Consulting Electronics Engineers

1080 KHZ

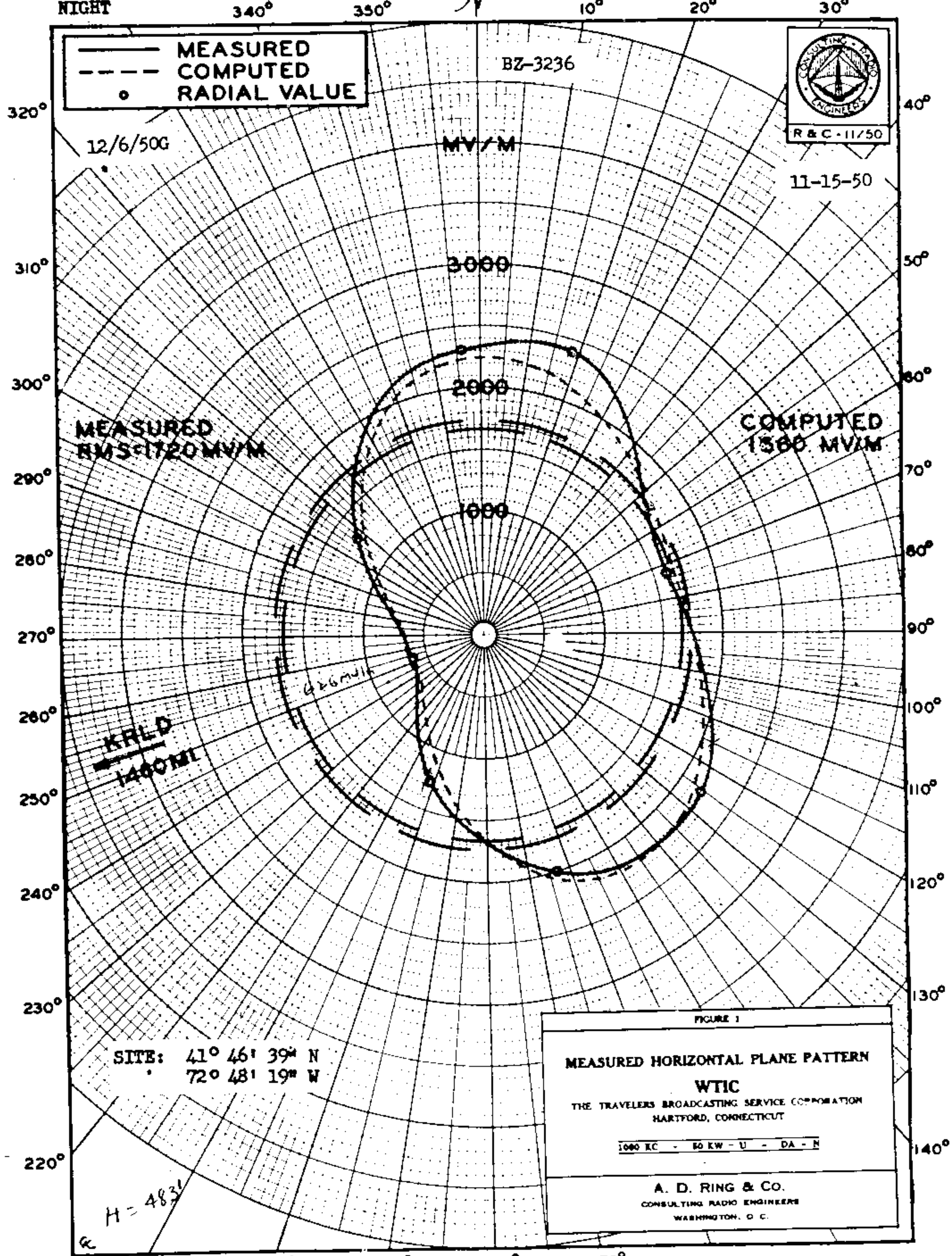
1 KW D DA

Pattern No. 760406G

WTIC

WTIC-1080KC

MEASURED NIGHT   WTIC, HARTFORD, CONN.   50kw, DA-N

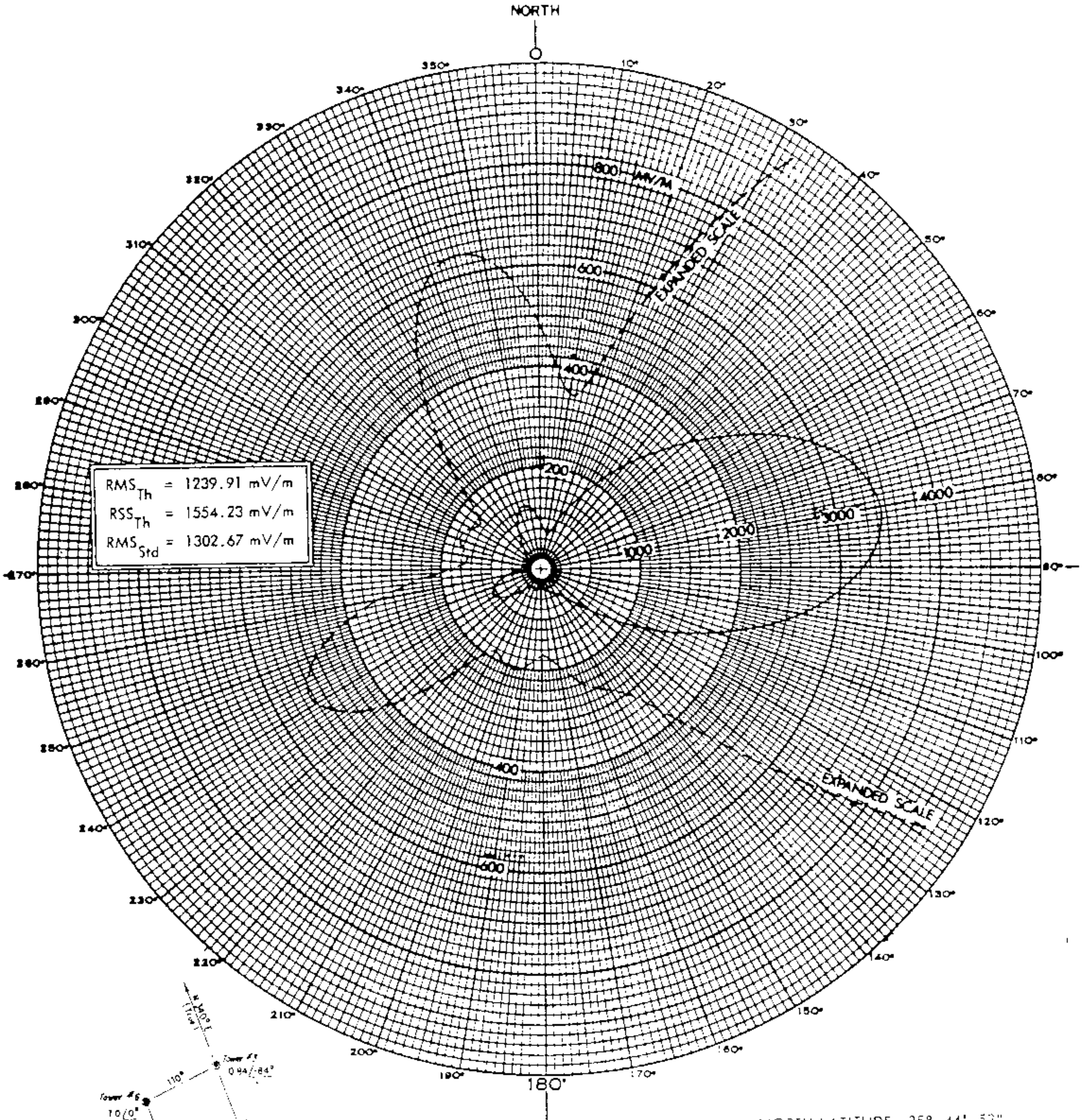


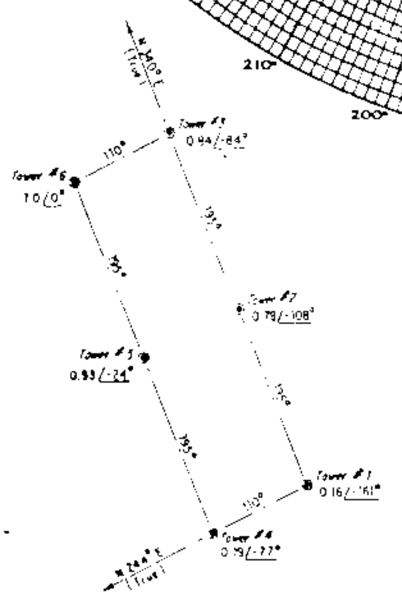
WTIC, Hartford, Conn. 1080 kc

WVCG

NOTE: Please retain the Nighttime directional antenna radiation pattern notified for Station WVCG in United States Change List Number 1605 dated November 6, 1974 and attach to this Revised Description Sheet and Daytime pattern. This notification concerns only a change and a correction of the Nighttime antenna site coordinates with Nighttime operation continued as previously notified.

WVCG





NORTH LATITUDE 25° 44' 53"
WEST LONGITUDE 80° 32' 47"

FIGURE 1
PROPOSED DAYTIME
STANDARD RADIATION PATTERN
WVCG 10 kW, 50 kW-LS DA-2 1080 kHz
CORAL GABLES, FLORIDA

Prepared by
Lohnes and Culver Washington, D. C.
January, 1979

WVCG

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WVCG | Main Studio: Coral Gables, Florida

Frequency: 1080 kHz | Power: 10 kW

Notification List No. 1605 | Date: November 6, 1974 | Class: II

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

Nighttime	North Latitude:	25°	44'	49"
	West Longitude:	80°	32'	47"
Daytime	North Latitude:	25°	43'	42"
	West Longitude:	80°	18'	20"

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

NIGHT ANTENNA CHARACTERISTICS

Number of elements: 6 STANDARD PATTERN
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	SW(#4)	WC(#5)	NE(#6)	SE(#1)	EC(#2)	NE(#3)
HEIGHT ABOVE INSULATORS:	All towers 228' (90°)					
NIGHT PHASING:	+99°	+125.5°	+152°	0°	+26.5°	+53°
NIGHT FIELD RATIO:	1.221	2.602	1.426	1	2.131	1.168

SPACING AND ORIENTATION: Towers are located in two rows with three towers per row. Adjacent elements in a row are spaced 493' (195°) on a line bearing 340° true.

End towers in each row forming a side of the parallelogram are spaced 278' (110°) on a line bearing 244° true.

GROUND SYSTEM: 120-228' equally spaced copper radials plus a 24' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE NIGHT FIELDS AT RATED POWER:

THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
571 mv/m	709.9 mv/m	600 mv/m

(Cont'd.)

WVCG

DAY ANTENNA CHARACTERISTICS

Number of elements: 2
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	N(#3)	S(#5)
HEIGHT ABOVE INSULATORS:	228'	228' (90°)
DAY PHASING:	-118°	0°
DAY FIELD RATIO:	0.750	1

SPACING AND ORIENTATION: Elements are spaced 202.5' (80°) on a line bearing 199° true.

GROUND SYSTEM: 120-230' equally spaced copper radials plus a 24' square ground screen about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

Predicted effective Day Field: 606.2 mv/m at rated power.

Note: Please retain the Daytime directional antenna radiation pattern notified for Station WVCG in United States Change List Number 1045, dated January 29, 1964, and attach to this Revised Description Sheet and Nighttime patterns. This notification concerns only a change in the Nighttime operation of the station with Daytime operation continued as previously notified.

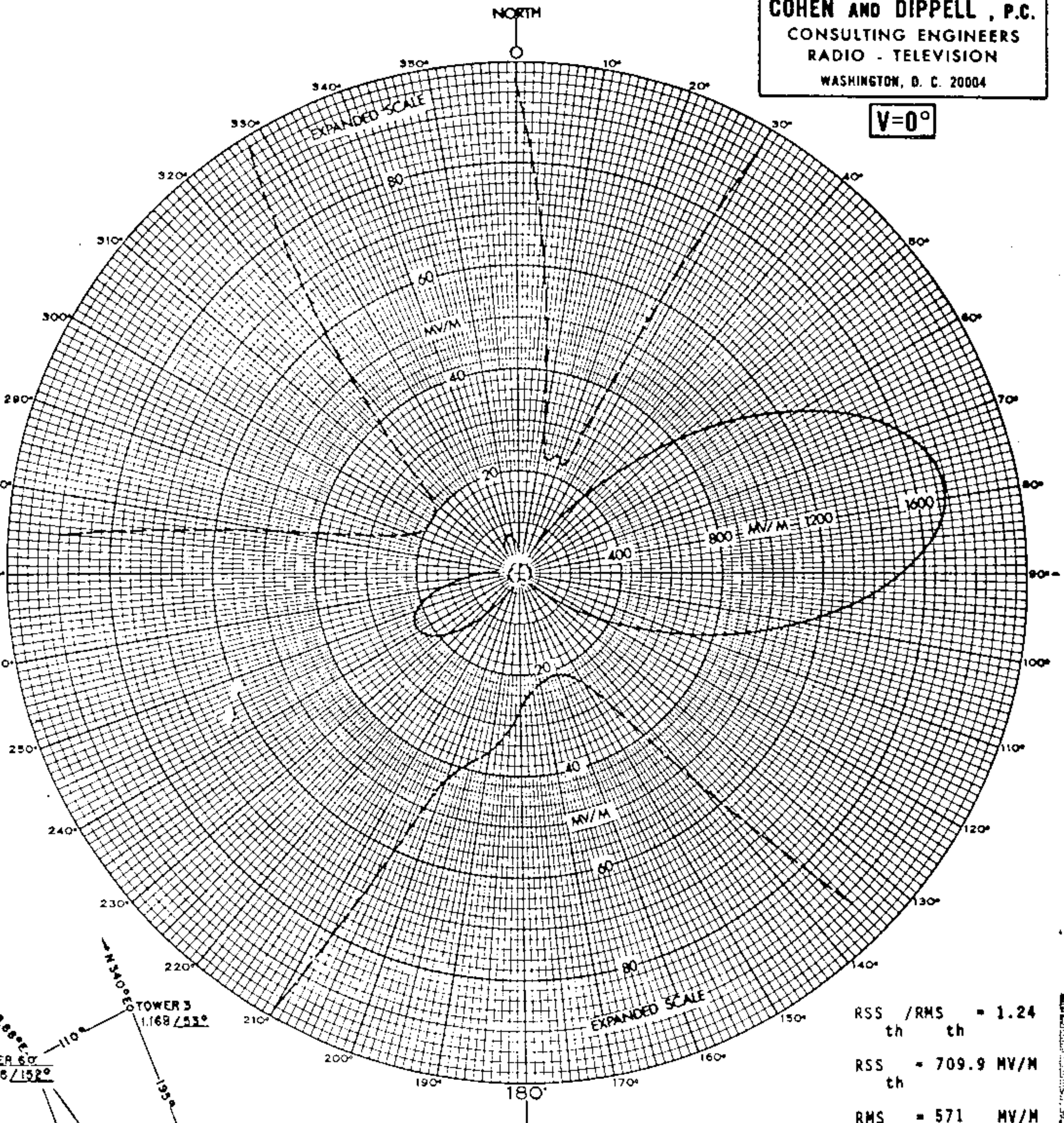
CTR NO 30859A5

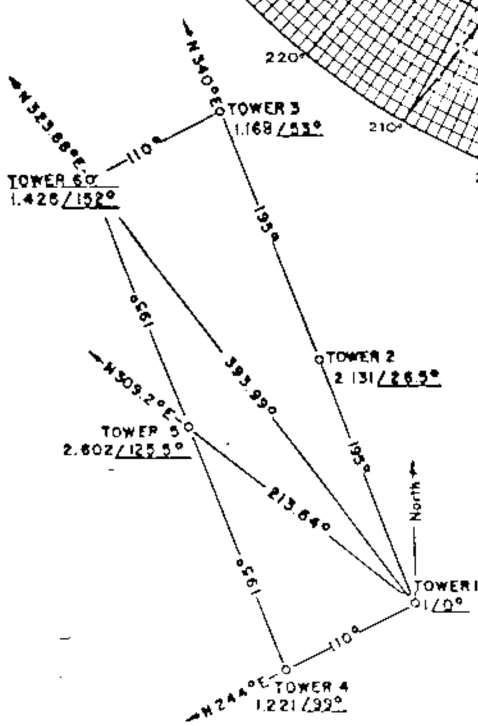
WVCG

Standard Pattern

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

V=0°





STANDARD RADIATION PATTERN
HORIZONTAL PLANE
FOR THE PROPOSED NIGHTTIME OPERATION
WVCG, CORAL GABLES, FLORIDA
1080 KHz 10 KW DA-2 U
AUGUST 1974

RSS_{th}/RMS_{th} = 1.24

RSS_{th} = 709.9 MV/M

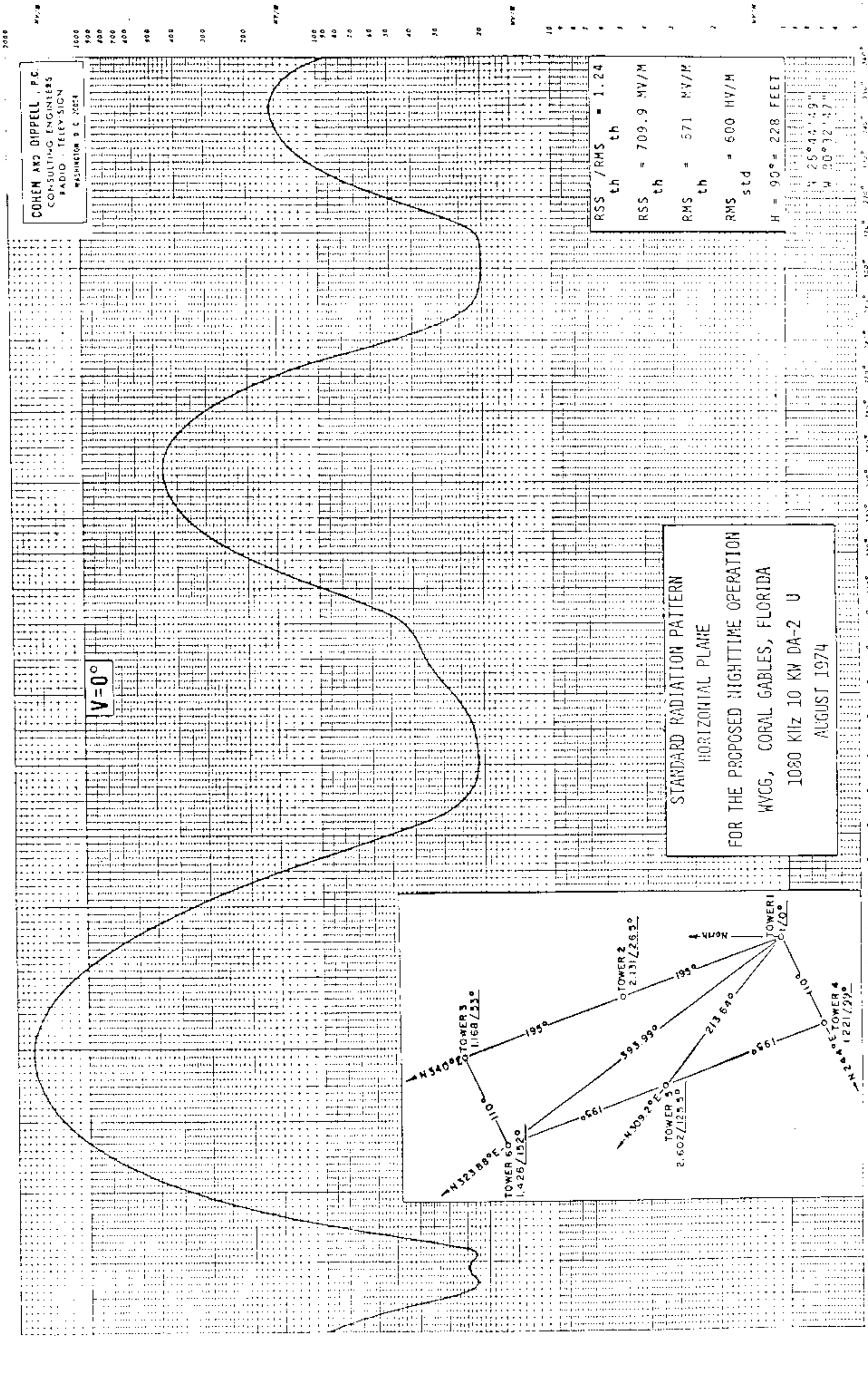
RMS_{th} = 571 MV/M

RMS_{std} = 600 MV/M

H = 90° = 228 FEET

N 25°44'49"
W 80°32'47"

WVCG Standard Pattern

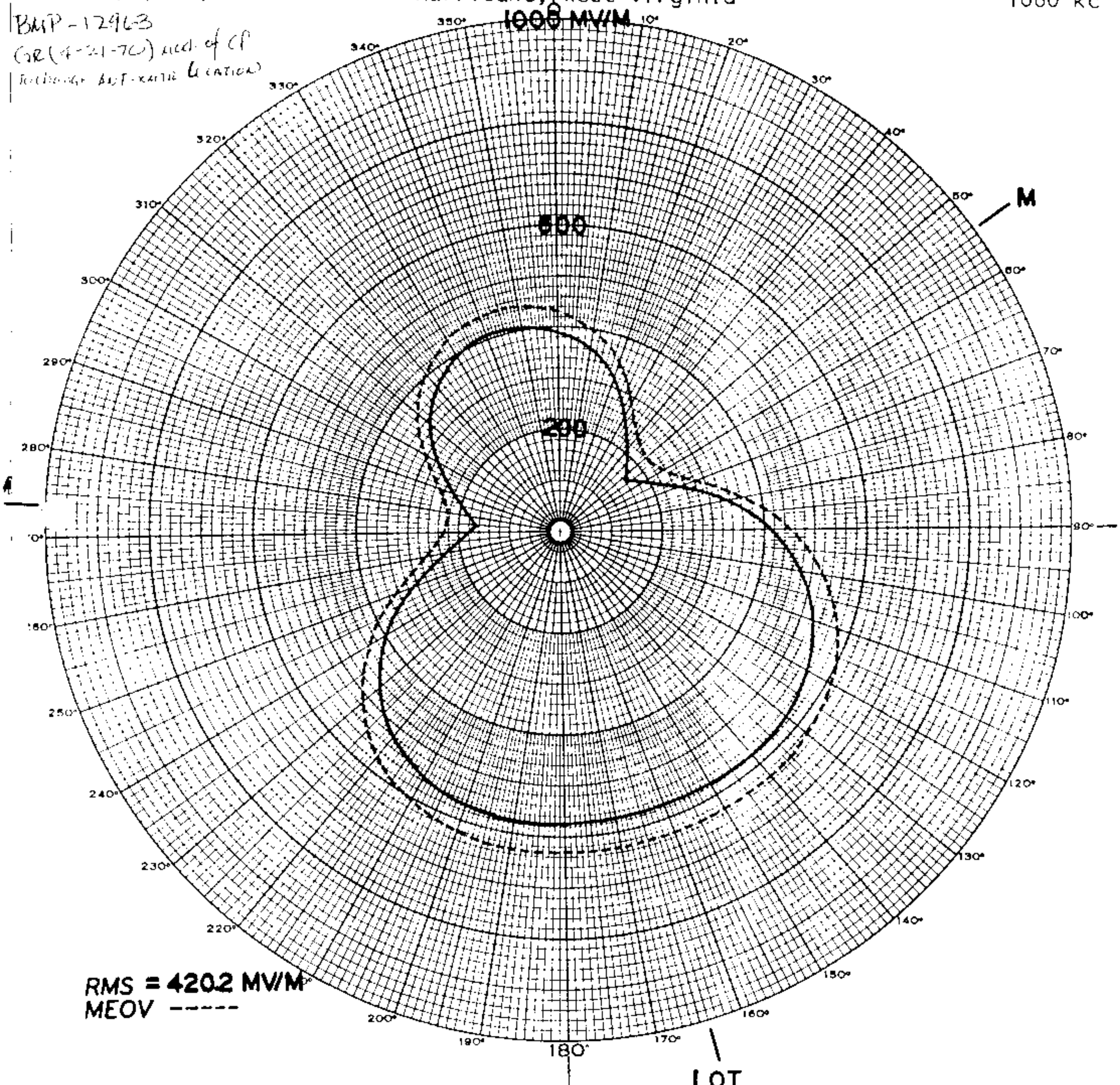


Proposed Day
(4-29-70ct)

BMP-12963
GR(4-21-70) acc. of CP
to change ant-radio location

New; Putnam Broadcasting Co., Inc.
Hurricane, West Virginia

WZTQ
5kw,DA-D,D
1080 kc



TOWER PLACEMENT SKETCH

G = 114.5°
NO.1 1.000/0°
135°
NO.2 0.55/-130°
164° T.

PATTERN PARAMETERS

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

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

FIGURE 3

PROPOSED DAYTIME
DIRECTIONAL FOR
HURRICANE, W. VA.

θ° = 0°

STATION DATA

CALL NEW
FREQ 1080 kHz
POWER 5 Kw
TYPE DA-D
TIME DAYTIME
LAT. NL-38-26-41
LONG. WL-82-00-54

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

FCC File No. BMP-12963
Accepted 4-10-70

New; Putnam Broadcasting Co., Inc.
Hurricane, West Virginia

1080 kc

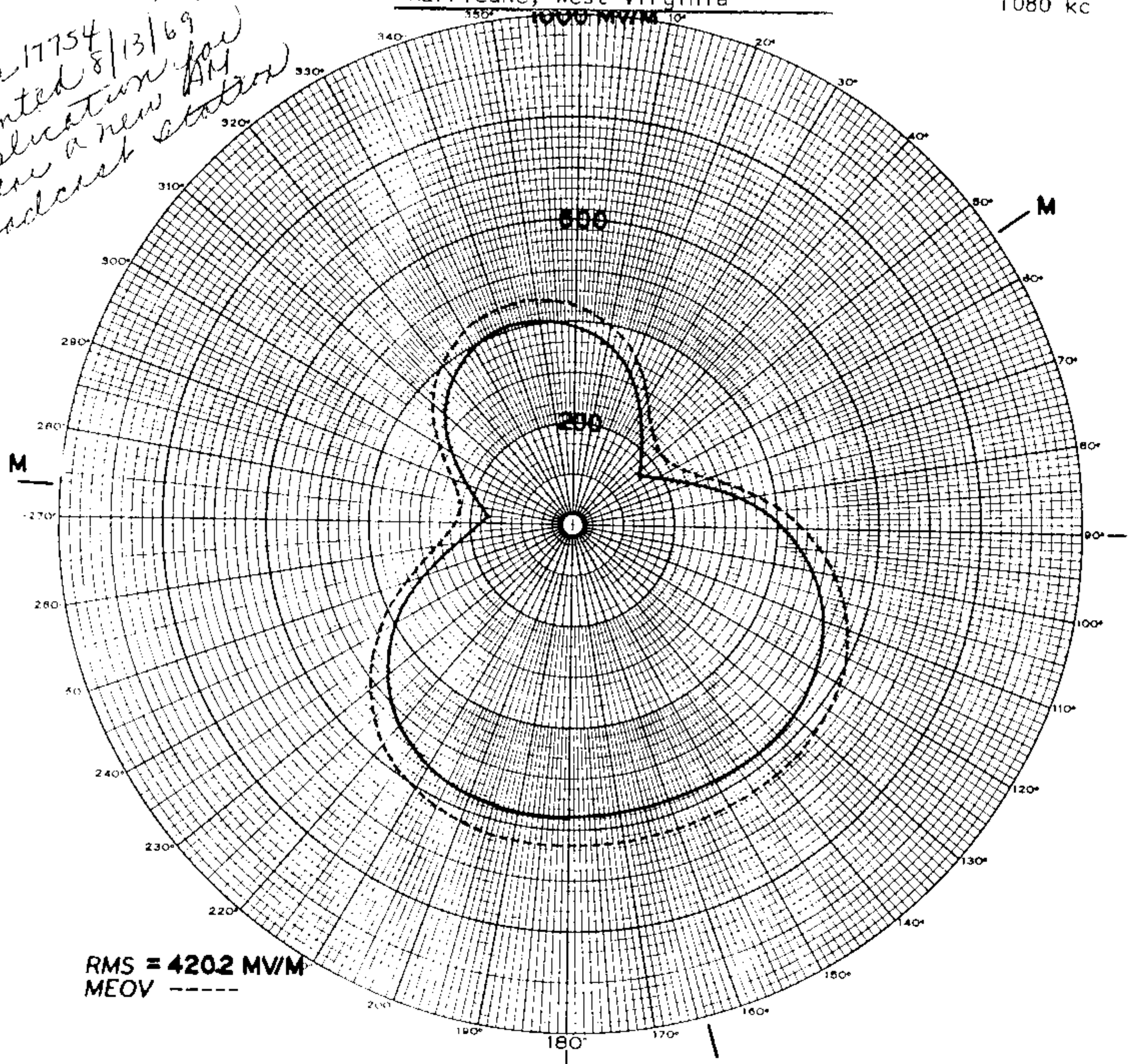
WZTQ

Proposed Day
(6-28-67ct)

New; Putnam Bcstg Co., Inc.
Hurricane, West Virginia

5kw,DA-D,D
1080 kc

BP-17754
Granted 8/13/69
application for
CP for a new AM
broadcast station



TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 3	STATION DATA
G = 114.5° NO.1 1.000/0° 135° NO.2 0.55/-130° 164° T.	Tower No. / Electrical Height G° / Spacing S° / Phasing ψ° / Field Ratio F DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐	PROPOSED DAYTIME DIRECTIONAL FOR HURRICANE, W. VA. θ° 0°	CALL NEW FREQ 1080 kHz POWER 5 Kw TYPE DA-D TIME DAYTIME LAT. N38-25-33 LONG. W82-01-23 E.H.MUNN,JR. RADIO ENGINEER COLDWATER, MICH.

FCC File No.BP-17754
Accepted 6-21-67 Amended

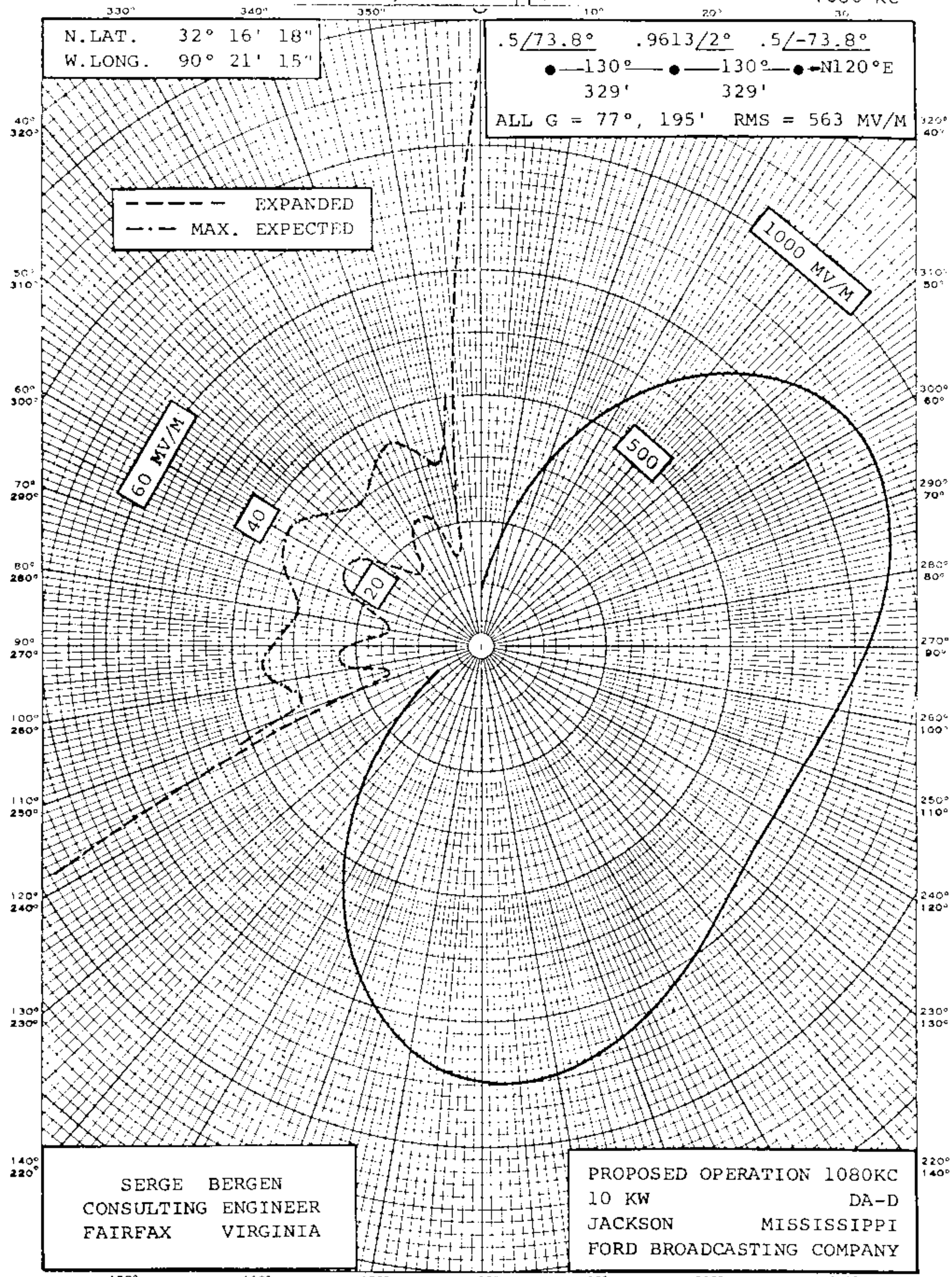
New; Putnam Bcstg Co., Inc.
Hurricane, West Virginia

1080 kc

Proposed Day
(7-26-67ct)

New; Ford Broadcasting Co.
Jackson, Mississippi

10kw,DA-D,D
1080 kc



FCC File No.BP-17752
Accepted 6-27-67

New; Ford Broadcasting Co.
Jackson, Mississippi

1080 kc

Proposed Day Nulls
(7-26-67ct)

New; Ford Broadcasting Co.
Jackson, Mississippi

10kw,DA-D,D
1080 kc

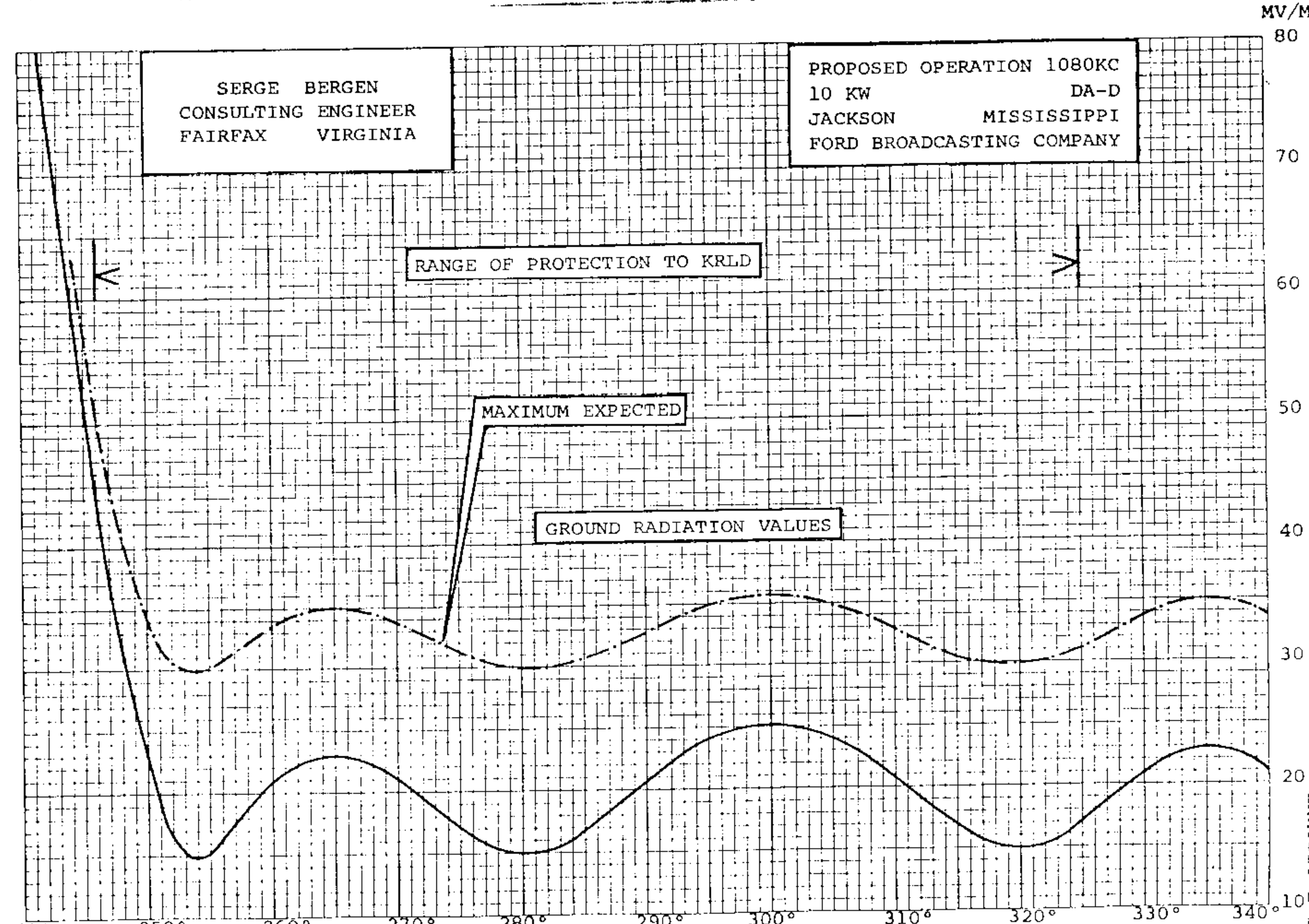


EXHIBIT E-1D

FCC File No.BP-17752
Accepted 6-27-67

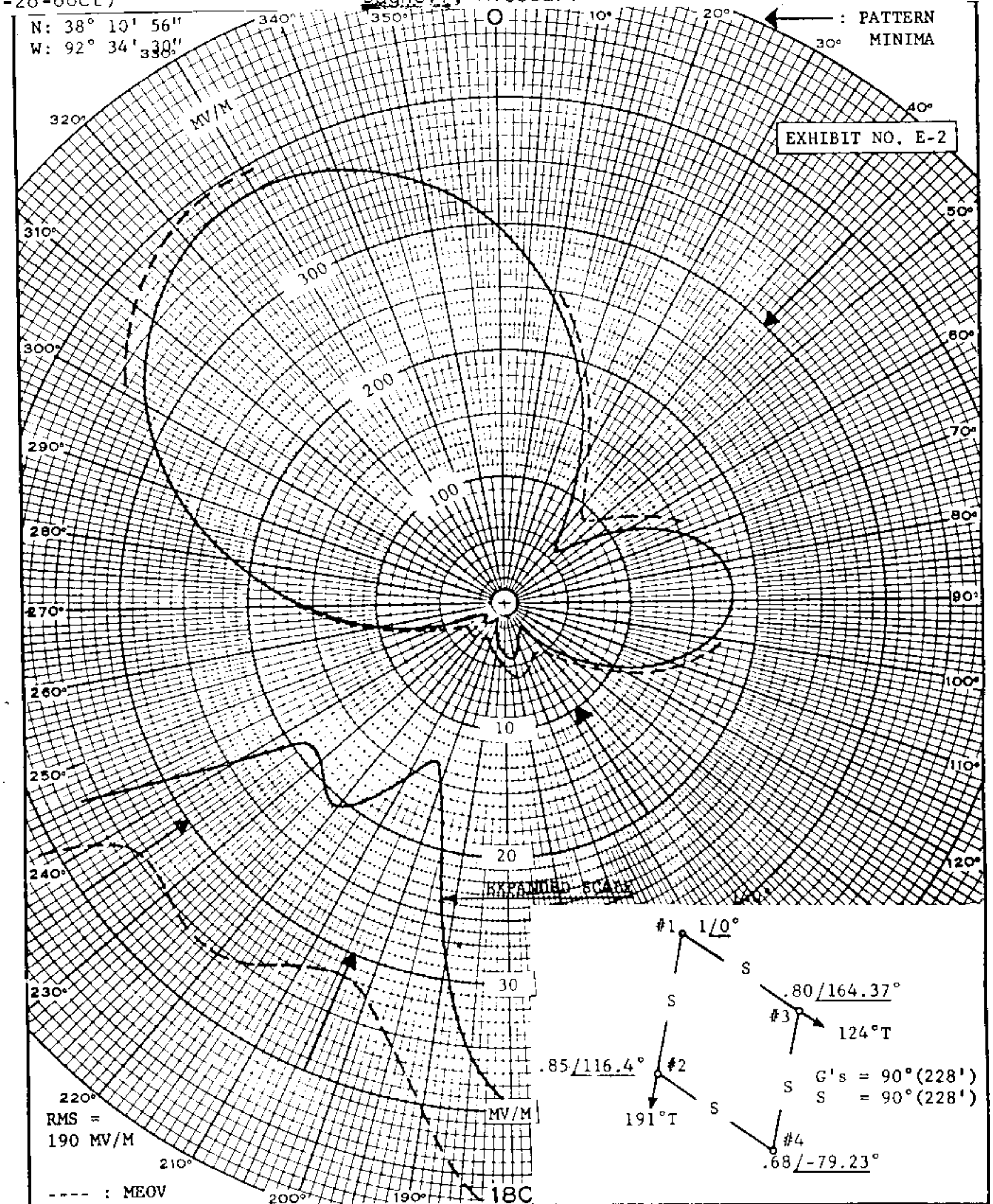
New; Ford Broadcasting Co.
Jackson, Mississippi

1080 kc

Proposed Day
(7-28-66ct)

New; Lee Mace
Bagnell, Missouri

1kw,DA-D,D
1080 kc



COMMERCIAL RADIO EQUIPMENT CO.
Radio Engineering Consultants
WASHINGTON, D. C.

HORIZONTAL RADIATION PATTERN
PROPOSED NEW STATION
BAGNELL, MISSOURI
1080 KC 1 KW, DA-D
Lee Mace

FCC File No. BP-17122
Accepted 7-27-66

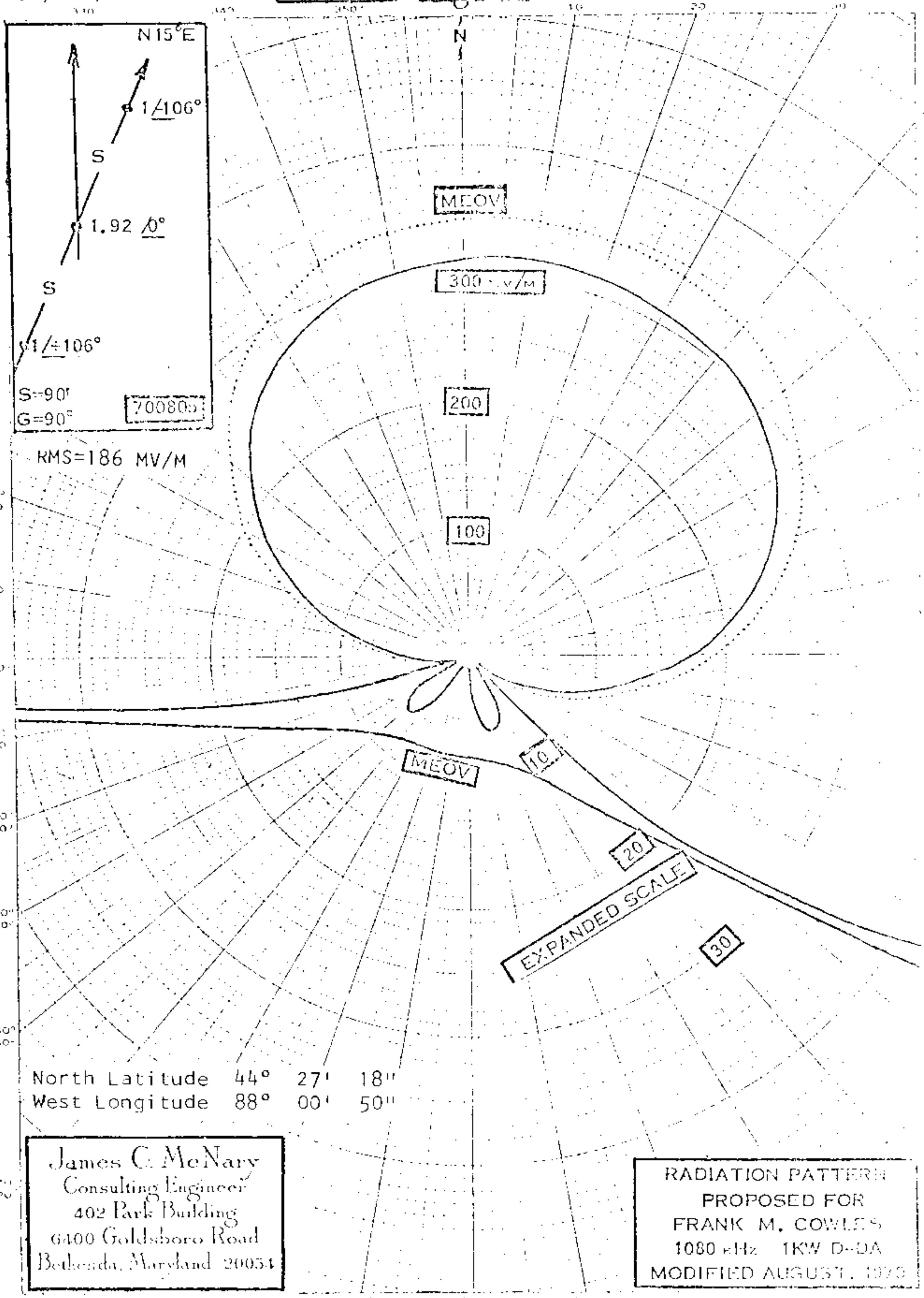
New; Lee Mace
Bagnell, Missouri

1080 kc

Proposed Day
(10-26-70ct)

New; Frank M. Cowles
Green Bay, Wisconsin

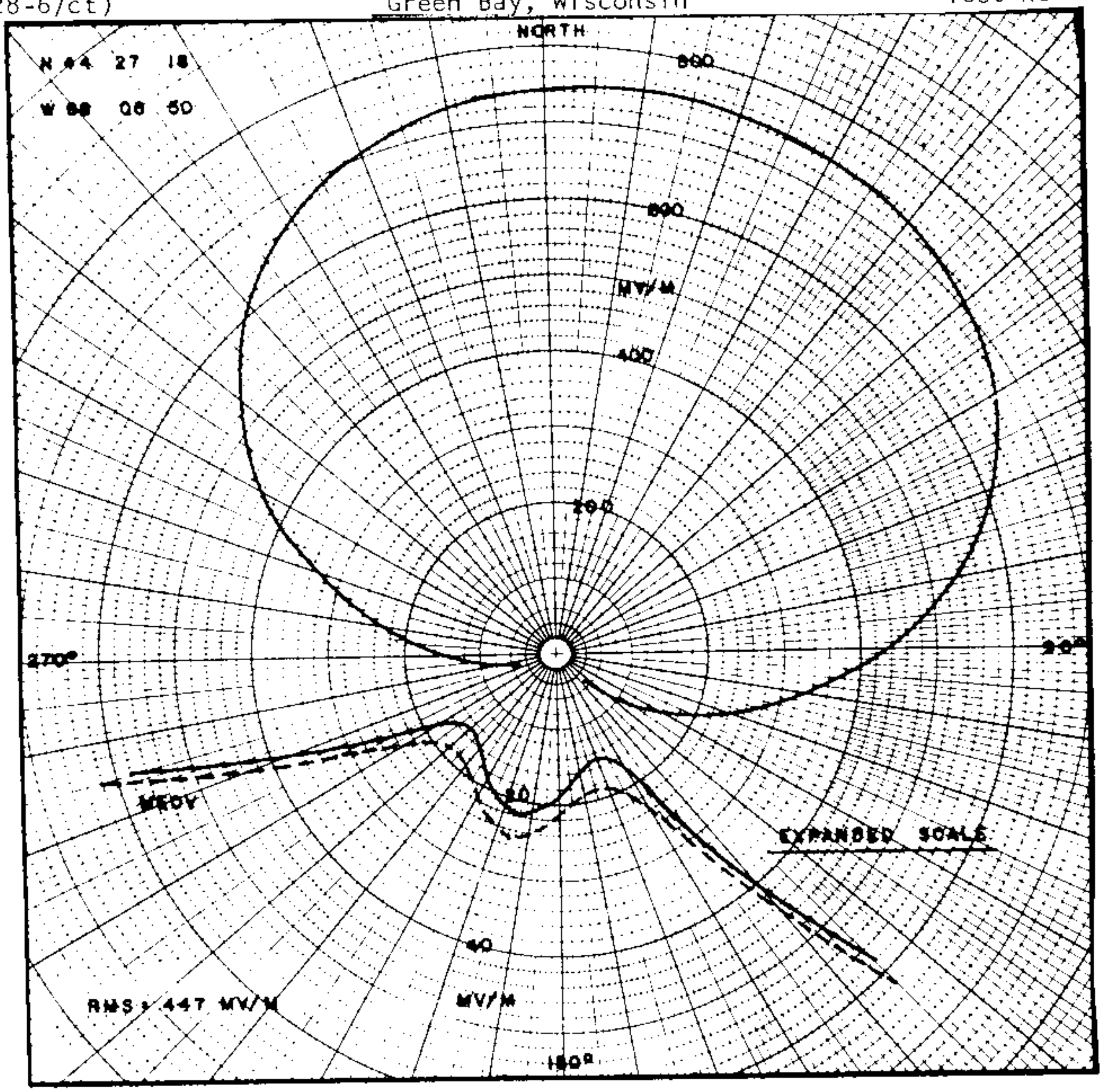
1kw, DA-D, D
1080 kc

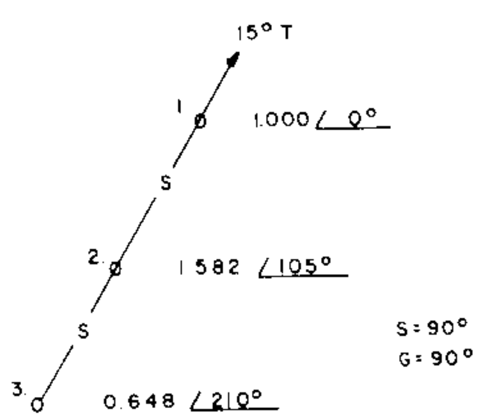


FCC File No.BP-17595
Accepted 10-19-70 Amended

New; Frank M. Cowles
Green Bay, Wisconsin

1080 kc





PROPOSED RADIATION PATTERN

FRANK M. COWLES

1080 KHZ 5 KW DA-D

GREEN BAY, WISCONSIN

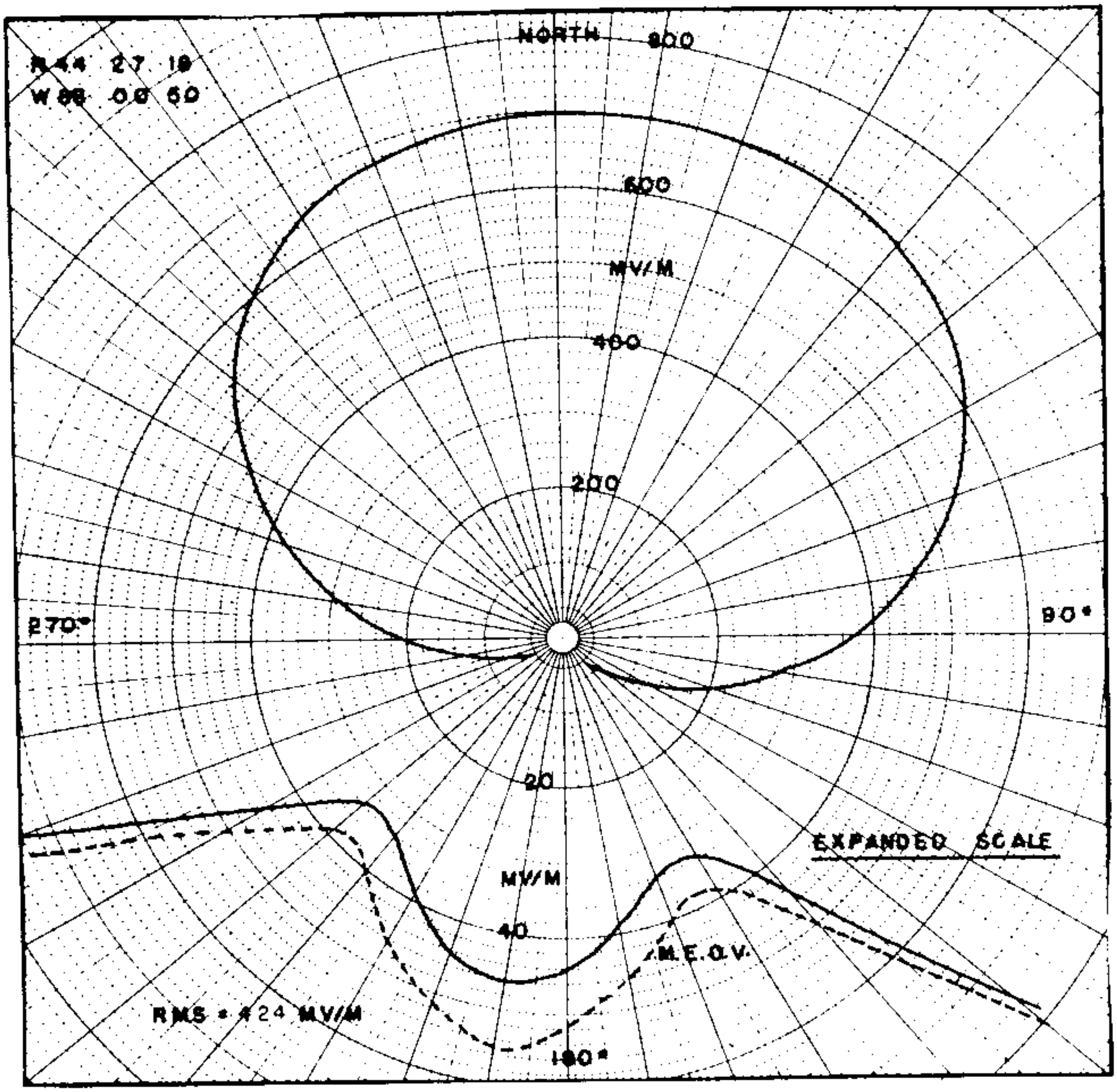
JULY, 1967

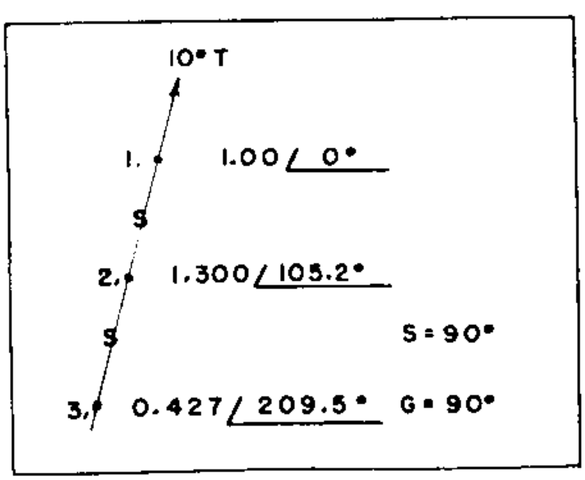
ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

Proposed Day
(5-25-67ct)

New; Frank M. Cowles
Green Bay, Wisconsin

5kw,DA-D,D
1080 kc





PROPOSED RADIATION PATTERN

FRANK M. COWLES

1080 KC 5 KW DA - D

GREEN BAY, WISCONSIN

MARCH, 1966

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No.BP-17595
Accepted 5-15-67

New; Frank M. Cowles
Green Bay, Wisconsin

1080 kc