

CHARLES A. HECHT & ASSOCIATES, INC.
BROADCAST ENGINEERING CONSULTANTS

TABLE 2
NIGHTTIME STANDARD RADIATION PATTERN DATA
WCGO 1590 KILOHERTZ 2 KW DA
KOVAS COMMUNICATIONS, INC.
EVANSTON, ILLINOIS

STANDARD RADIATION
(at One Kilometer)

Azimuth Angle (deg)	-----Elevation Angle in Degrees-----						
	0 (mV/m)	5 (mV/m)	10 (mV/m)	15 (mV/m)	20 (mV/m)	25 (mV/m)	30 (mV/m)
0	1054.	1043.	1008.	951.	876.	785.	684.
5	1088.	1076.	1041.	983.	906.	813.	709.
10	1110.	1098.	1062.	1003.	925.	831.	725.
15	1119.	1107.	1070.	1012.	933.	838.	731.
20	1116.	1103.	1067.	1008.	930.	835.	729.
25	1100.	1088.	1052.	993.	916.	822.	716.
30	1071.	1059.	1024.	967.	890.	798.	695.
35	1030.	1018.	984.	928.	853.	764.	664.
40	975.	964.	931.	877.	806.	720.	625.
45	908.	897.	866.	815.	747.	666.	577.
50	828.	818.	789.	741.	679.	604.	522.
55	738.	728.	702.	659.	602.	534.	460.
60	638.	630.	606.	568.	518.	459.	395.
65	533.	526.	506.	473.	431.	381.	327.
70	426.	420.	404.	378.	343.	303.	259.
75	322.	318.	305.	285.	259.	228.	195.
80	227.	224.	215.	201.	182.	161.	138.
85	145.	143.	138.	129.	118.	104.	90.5
90	83.7	82.8	80.1	75.8	70.3	64.0	57.4
95	51.5	51.2	50.4	49.1	47.3	45.3	43.0
100	48.5	48.3	47.8	46.9	45.7	44.1	42.2
105	51.0	50.7	50.0	48.8	47.1	45.1	42.7
110	47.4	47.2	46.6	45.5	44.0	42.2	40.0
115	42.8	42.6	42.0	41.1	39.8	38.3	36.5
120	48.6	48.3	47.3	45.7	43.6	41.1	38.3
125	66.0	65.4	63.7	61.0	57.3	52.9	48.1
130	85.8	85.1	82.9	79.3	74.5	68.6	61.9
135	101.	100.	98.0	94.3	89.1	82.7	75.2
140	108.	107.	105.	102.	98.0	92.2	85.1
145	104.	104.	103.	102.	99.5	95.6	90.1
150	91.4	91.7	92.4	93.1	93.4	92.5	89.9
155	70.5	71.3	73.6	77.0	80.6	83.4	84.6
160	45.8	47.0	50.4	56.0	62.9	69.8	75.3
165	30.5	30.4	31.1	35.1	43.2	53.5	63.2
170	45.3	42.6	35.7	28.2	27.6	37.1	50.1
175	72.7	69.0	58.4	43.1	27.9	24.9	37.5

TABLE 2
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NIGHTTIME STANDARD RADIATION PATTERN DATA
WCGO EVANSTON, ILLINOIS

STANDARD RADIATION
(at One Kilometer)

Azimuth Angle (deg)	-----Elevation Angle in Degrees-----					
	35 (mV/m)	40 (mV/m)	45 (mV/m)	50 (mV/m)	55 (mV/m)	60 (mV/m)
0	576.	468.	365.	271.	190.	125.
5	598.	487.	380.	282.	198.	129.
10	612.	498.	389.	289.	202.	132.
15	618.	503.	393.	292.	204.	133.
20	615.	501.	391.	290.	203.	133.
25	604.	492.	383.	284.	199.	130.
30	586.	476.	370.	274.	192.	125.
35	559.	453.	352.	260.	182.	118.
40	524.	424.	329.	243.	169.	110.
45	483.	390.	302.	222.	155.	101.
50	436.	351.	271.	199.	138.	90.3
55	383.	308.	237.	174.	121.	79.2
60	328.	263.	202.	148.	103.	68.1
65	271.	217.	166.	122.	85.6	57.3
70	215.	172.	132.	97.3	69.0	47.3
75	162.	129.	100.	74.8	54.4	38.9
80	115.	92.7	72.8	56.0	42.6	32.4
85	76.5	63.5	52.0	42.3	34.5	28.2
90	51.0	44.9	39.5	34.6	30.2	26.0
95	40.5	37.9	35.0	31.9	28.6	25.1
100	39.9	37.4	34.5	31.5	28.1	24.6
105	40.1	37.2	34.1	30.8	27.4	23.9
110	37.6	35.0	32.2	29.2	26.1	22.9
115	34.5	32.2	29.9	27.3	24.6	21.7
120	35.4	32.4	29.5	26.6	23.7	20.9
125	43.0	37.9	33.0	28.5	24.5	21.0
130	54.7	47.3	40.1	33.3	27.3	22.3
135	66.7	57.7	48.6	39.8	31.7	24.8
140	76.6	67.0	56.9	46.6	36.8	28.0
145	82.9	74.0	63.8	52.8	41.9	31.7
150	85.1	78.0	68.8	58.0	46.5	35.2
155	83.3	78.9	71.6	61.8	50.4	38.5
160	78.1	77.2	72.5	64.3	53.5	41.4
165	70.4	73.5	71.8	65.6	55.8	43.8
170	61.4	68.4	69.9	65.9	57.3	45.8
175	52.1	62.8	67.4	65.6	58.4	47.3

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NIGHTTIME STANDARD RADIATION PATTERN DATA
WCGO EVANSTON, ILLINOIS

Azimuth Angle (deg)	STANDARD RADIATION (at One Kilometer)						
	-----Elevation Angle in Degrees-----						
	0	5	10	15	20	25	30
	(mV/m)	(mV/m)	(mV/m)	(mV/m)	(mV/m)	(mV/m)	(mV/m)
180	99.2	94.8	82.2	63.1	40.8	23.0	27.3
185	120.	116.	102.	80.1	54.2	29.0	21.1
190	134.	129.	114.	91.4	63.5	34.9	18.8
195	140.	134.	119.	95.8	67.0	37.1	18.1
200	136.	131.	116.	92.6	64.1	34.8	17.8
205	124.	119.	104.	82.0	55.0	28.2	19.4
210	103.	98.3	85.0	64.8	40.8	20.4	25.7
215	75.7	71.7	60.1	43.0	25.0	21.3	36.9
220	45.0	41.9	33.5	23.6	23.0	35.6	51.4
225	24.1	23.9	25.2	31.3	42.2	55.2	67.3
230	43.8	45.4	50.2	57.6	66.6	75.5	82.8
235	75.7	76.9	80.1	84.7	89.7	94.0	96.2
240	105.	105.	106.	108.	109.	108.	106.
245	126.	126.	125.	124.	122.	117.	111.
250	138.	137.	135.	132.	127.	120.	111.
255	140.	139.	136.	131.	124.	116.	106.
260	131.	130.	127.	121.	114.	106.	95.4
265	115.	114.	111.	106.	99.6	91.6	82.7
270	96.6	95.8	93.3	89.4	84.1	77.8	70.7
275	82.8	82.1	80.3	77.4	73.4	68.7	63.4
280	79.8	79.3	77.8	75.3	72.0	67.9	63.3
285	86.9	86.3	84.6	81.9	78.3	73.8	68.6
290	98.4	97.7	95.6	92.3	87.9	82.5	76.3
295	113.	112.	110.	105.	99.8	93.1	85.5
300	136.	135.	132.	126.	118.	109.	99.0
305	176.	175.	169.	161.	149.	136.	121.
310	236.	234.	226.	213.	196.	176.	155.
315	314.	310.	299.	281.	258.	230.	200.
320	405.	400.	385.	362.	330.	294.	254.
325	504.	497.	479.	449.	410.	365.	315.
330	604.	597.	574.	539.	493.	438.	378.
335	702.	694.	668.	628.	574.	511.	441.
340	794.	784.	756.	711.	651.	580.	502.
345	877.	866.	836.	787.	721.	644.	558.
350	948.	937.	905.	852.	783.	700.	608.
355	1008.	996.	962.	908.	835.	747.	650.

TABLE 2
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NIGHTTIME STANDARD RADIATION PATTERN DATA
WCGO EVANSTON, ILLINOIS

STANDARD RADIATION
(at One Kilometer)

Azimuth Angle (deg)	-----Elevation Angle in Degrees-----					
	35 (mV/m)	40 (mV/m)	45 (mV/m)	50 (mV/m)	55 (mV/m)	60 (mV/m)
180	43.8	57.5	64.8	65.1	59.0	48.5
185	37.2	53.2	62.6	64.5	59.5	49.4
190	33.0	50.4	61.3	64.2	59.9	50.1
195	31.5	49.6	61.1	64.4	60.3	50.6
200	32.9	50.9	62.1	65.2	60.8	50.9
205	37.2	54.2	64.2	66.4	61.4	51.1
210	44.3	59.3	67.4	68.0	61.9	51.1
215	53.8	65.8	71.3	69.8	62.4	50.8
220	64.7	73.1	75.3	71.5	62.5	50.1
225	76.1	80.3	79.1	72.7	62.2	49.1
230	86.8	86.6	82.0	73.1	61.2	47.6
235	95.5	91.3	83.4	72.4	59.4	45.6
240	101.	93.4	82.9	70.4	56.7	43.1
245	103.	92.6	80.3	66.9	53.2	40.2
250	101.	88.6	75.5	62.1	49.0	37.1
255	94.1	81.7	68.9	56.3	44.5	34.0
260	84.3	72.8	61.2	50.2	40.1	31.3
265	73.1	63.3	53.8	44.7	36.6	29.4
270	63.2	55.6	48.1	41.1	34.6	28.6
275	57.7	51.8	45.9	40.0	34.4	28.9
280	58.1	52.7	47.1	41.4	35.7	30.1
285	62.9	56.9	50.6	44.3	38.0	31.9
290	69.5	62.4	55.1	47.8	40.7	33.8
295	77.3	68.8	60.2	51.7	43.5	35.8
300	88.3	77.4	66.7	56.5	46.8	38.0
305	106.	90.9	76.6	63.3	51.3	40.7
310	133.	112.	91.4	73.3	57.6	44.4
315	169.	140.	112.	87.3	66.4	49.4
320	214.	174.	137.	105.	77.7	55.9
325	263.	213.	167.	126.	91.2	63.7
330	316.	255.	199.	149.	106.	72.6
335	369.	298.	232.	172.	122.	82.2
340	420.	340.	264.	196.	138.	92.0
345	468.	379.	294.	218.	153.	102.
350	511.	414.	322.	239.	168.	110.
355	547.	444.	346.	256.	180.	118.