

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: LUMARK

Report Number: P195998

Luminaire Tested: **NAV-AF-02-D-UNV-AFL-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195998  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-AFL-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10458.6 lumens  
Efficiency: N/A  
Efficacy: 92.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B1 - U0 - G1

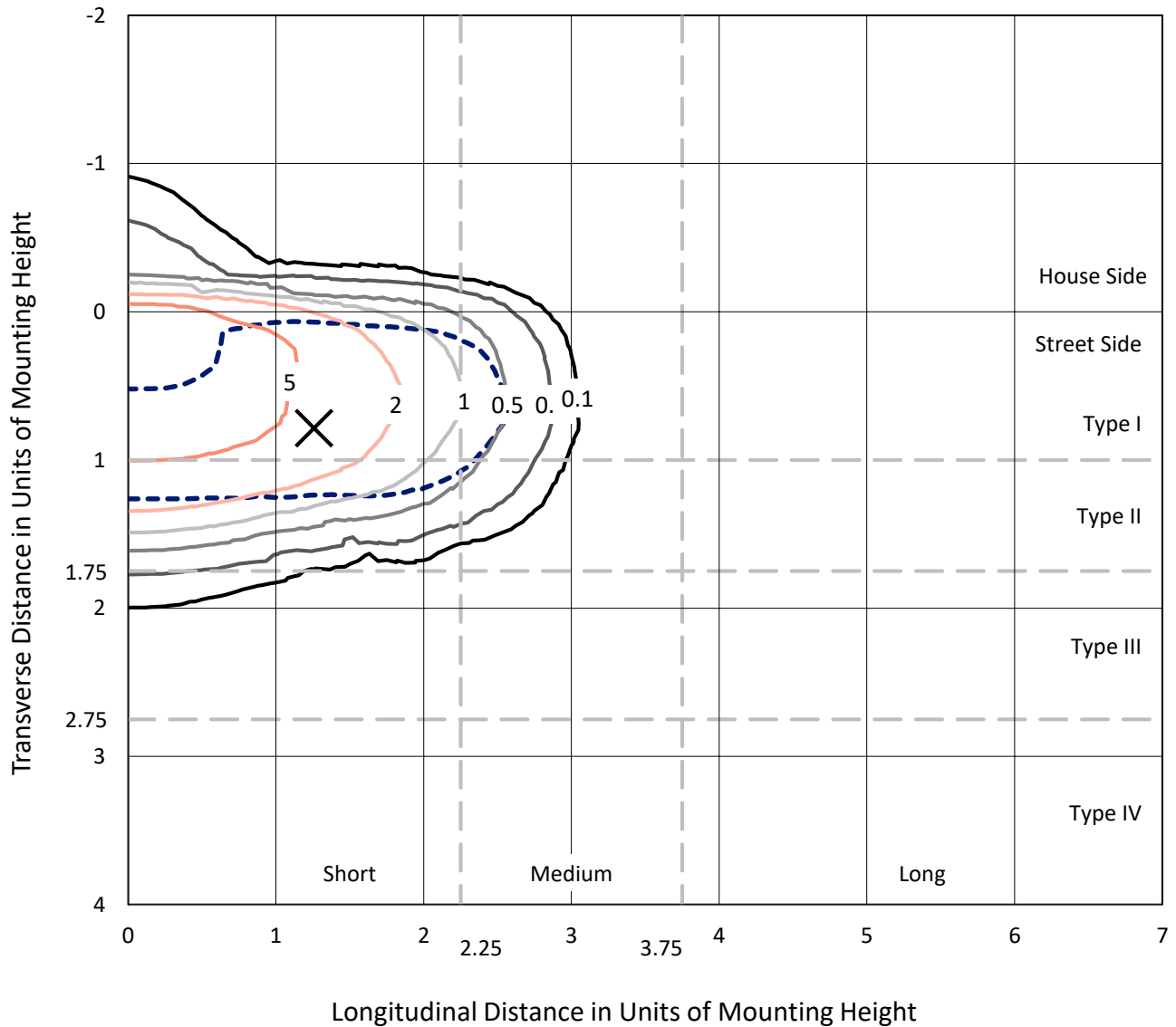
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

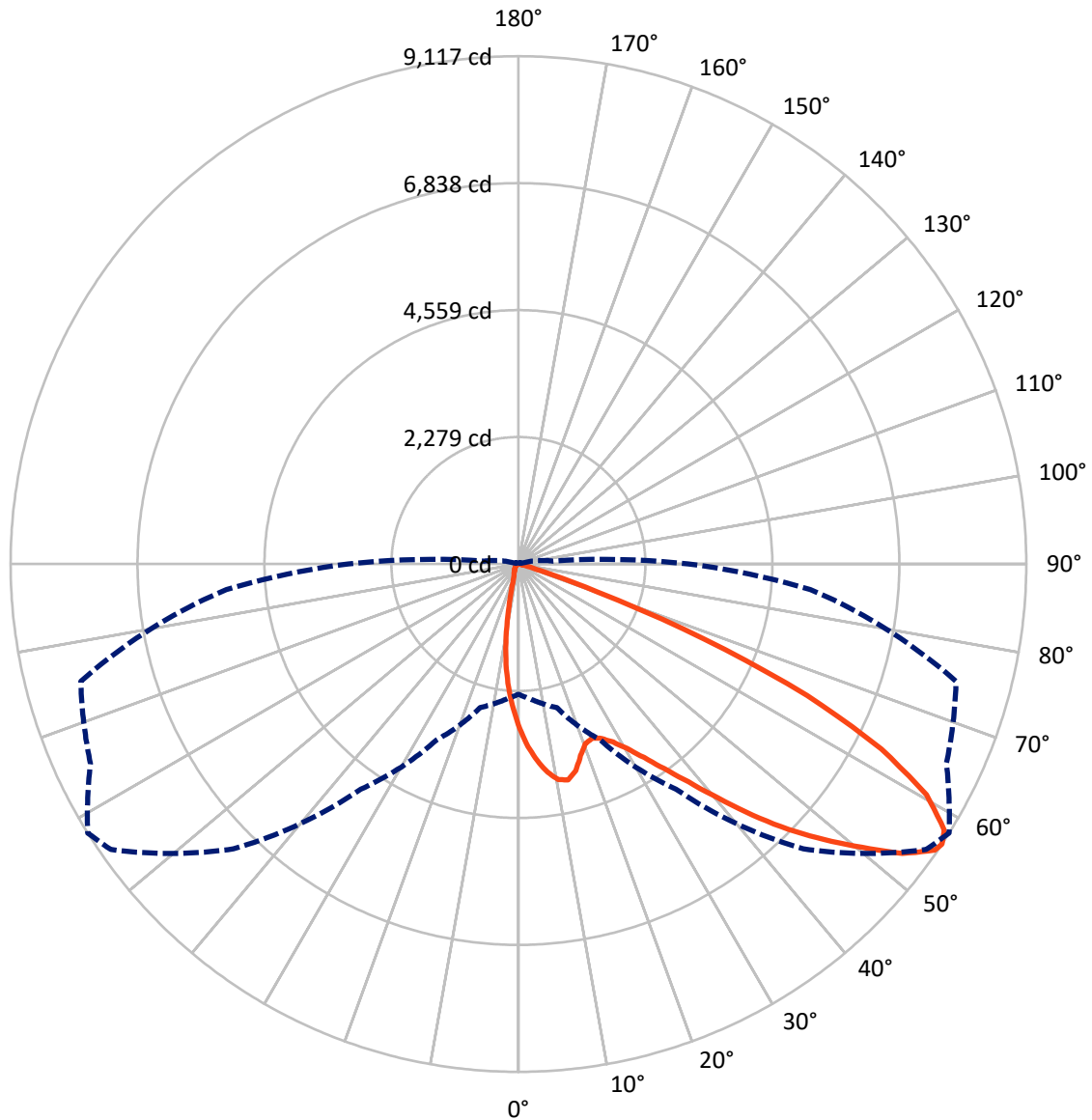
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.2 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral      - - - Horizontal Cone Through 56-Deg Vertical

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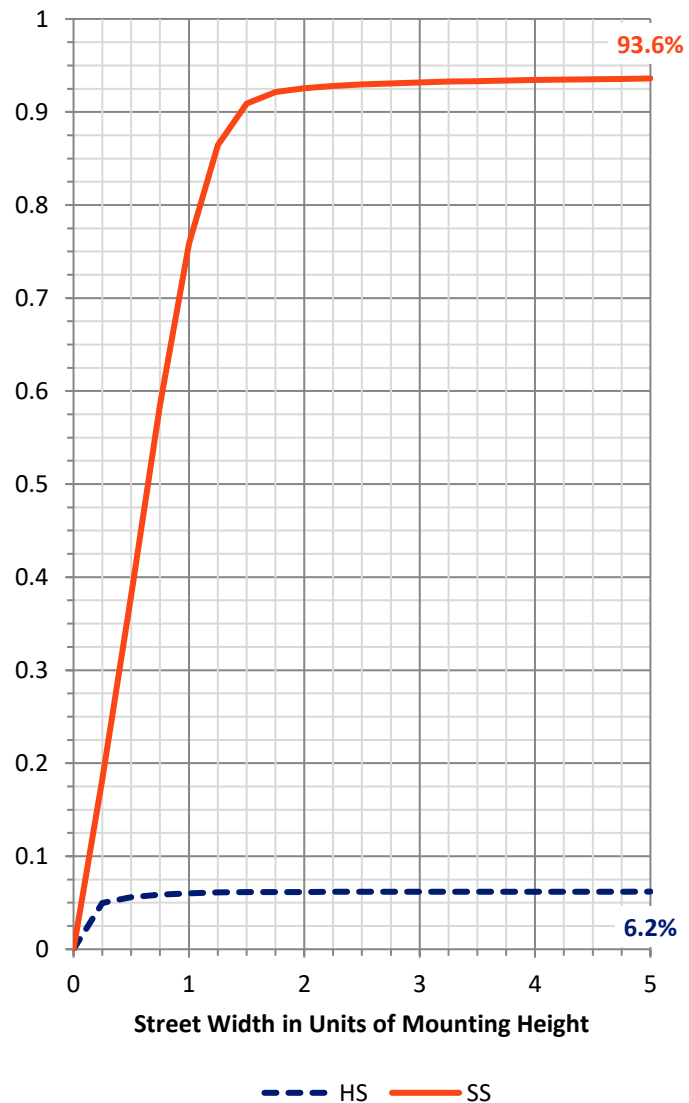
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	652.8	0.0	652.8
	% Fixture	6.2	0.0	6.2
<b>Street Side</b>	Lumens	9805.8	0.0	9805.8
	% Fixture	93.8	0.0	93.8
<b>Total</b>	Lumens	10458.6	0.0	10458.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	252.6	2.4
10°-20°	587.8	5.6
20°-30°	989.0	9.5
30°-40°	1693.6	16.2
40°-50°	2555.7	24.4
50°-60°	2656.5	25.4
60°-70°	1491.3	14.3
70°-80°	204.4	2.0
80°-90°	27.7	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	10458.6	100.0
0°-180°	10458.6	100.0



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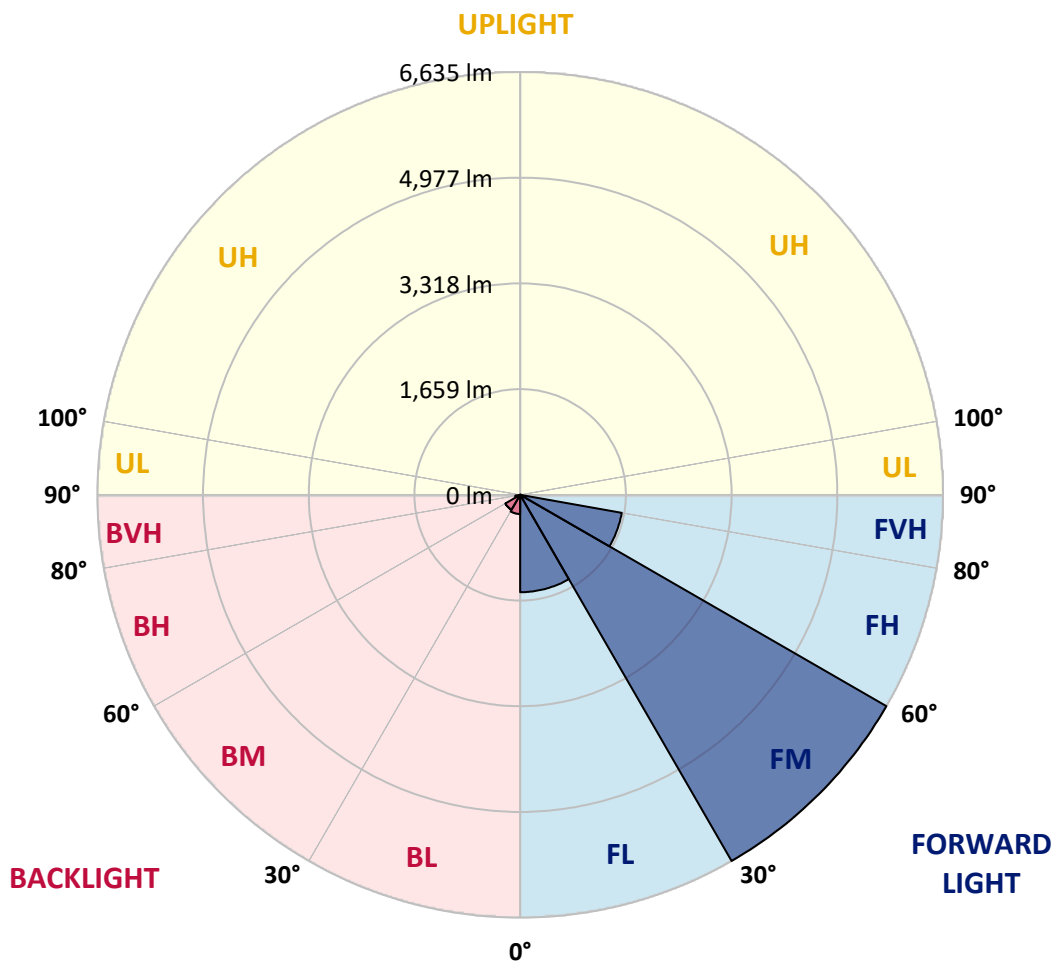
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1528.2	14.6			
FM	(30°-60°)	6635.4	63.4			
FH	(60°-80°)	1618.3	15.5			G1/1800
FVH	(80°-90°)	23.9	0.2			G1/100
BL	(0°-30°)	301.2	2.9	B1/500		
BM	(30°-60°)	270.4	2.6	B1/1000		
BH	(60°-80°)	77.4	0.7	B0/110		G0/110
BVH	(80°-90°)	3.8	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1
2.5°	3562.8	3541.3	3519.0	3477.4	3439.2	3380.0	3298.7	3278.8	3214.9	3109.6	3011.5
5°	3870.0	3866.0	3850.9	3817.3	3775.8	3704.0	3612.2	3550.9	3451.8	3285.9	3096.8
7.5°	3688.0	3721.6	3776.6	3854.9	3907.5	3900.3	3830.1	3776.6	3678.5	3451.8	3180.6
10°	3108.7	3115.2	3191.0	3355.4	3615.5	3858.1	3949.8	3935.5	3845.3	3597.1	3254.0
12.5°	2904.5	2908.5	2926.0	2978.7	3147.9	3486.2	3901.9	3976.9	3969.8	3735.9	3332.2
15°	2920.4	2922.9	2927.7	2944.4	2992.2	3162.2	3659.4	3850.1	4049.6	3867.6	3408.8
17.5°	3046.6	3044.9	3029.8	3013.8	3029.0	3084.8	3412.0	3613.1	4032.8	3978.6	3471.8
20°	3292.3	3300.2	3249.2	3178.2	3141.5	3143.9	3289.9	3440.7	3938.7	4064.7	3519.0
22.5°	3637.8	3643.4	3559.7	3436.7	3329.0	3274.8	3315.5	3395.3	3830.1	4144.5	3557.2
25°	4050.4	4050.4	3933.0	3758.3	3591.6	3472.6	3437.5	3467.8	3788.6	4234.7	3595.6
27.5°	4495.6	4511.5	4358.4	4129.3	3909.1	3735.2	3625.0	3619.5	3820.5	4348.0	3638.6
30°	4979.9	4994.4	4812.4	4532.3	4271.3	4048.7	3879.5	3842.9	3942.7	4500.4	3701.6
32.5°	5461.9	5473.9	5272.8	4987.1	4683.1	4421.4	4198.8	4140.5	4162.1	4723.0	3794.2
35°	6074.7	6077.1	5822.5	5482.6	5157.9	4850.7	4569.0	4511.5	4487.6	5003.9	3927.5
37.5°	6562.2	6543.1	6381.9	6060.4	5687.7	5366.9	5035.8	4960.8	4903.3	5398.8	4134.2
40°	6677.2	6677.2	6653.3	6556.7	6260.7	5951.8	5631.0	5519.3	5392.5	5864.1	4411.8
42.5°	6377.9	6397.1	6555.1	6765.0	6767.3	6569.5	6255.9	6161.7	5938.2	6394.0	4715.0
45°	5708.5	5714.1	6093.1	6659.6	7044.2	7157.5	6926.1	6796.1	6486.4	6944.5	4992.7
47.5°	5467.5	5485.1	5646.3	6338.8	7065.0	7633.9	7569.2	7390.5	6993.9	7447.2	5252.0
50°	5097.3	5118.7	5315.9	5866.4	6878.2	7939.5	8184.5	7992.9	7456.0	7866.1	5380.5
52.5°	4211.5	4245.0	4523.5	5241.7	6411.4	7952.3	8747.9	8632.9	7929.1	8090.3	5365.4
55°	2898.1	2922.9	3247.7	4091.8	5469.9	7562.1	8990.4	9069.4	8351.3	8140.6	5291.9
56°	2338.0	2430.5	2668.3	3486.2	4933.7	7230.1	8934.6	9117.3	8476.6	8132.7	5260.0
57.5°	1545.6	1563.2	1822.5	2526.3	3961.8	6509.6	8682.4	9015.2	8637.7	8092.0	5236.9
60°	726.9	734.9	828.3	1165.8	2144.1	4743.7	7862.9	8415.1	8696.7	8006.5	5236.1
62.5°	473.9	475.6	486.7	556.2	877.0	2583.8	6518.3	7313.2	8207.6	7996.9	5220.9
65°	390.2	394.1	380.6	389.4	458.8	974.3	4597.8	5701.3	7059.4	7772.0	5050.2
67.5°	343.9	344.7	326.3	316.0	335.9	427.7	2316.5	3596.3	5280.0	6603.8	4159.6
70°	313.6	312.8	292.1	268.1	268.9	284.1	754.8	1493.7	2921.2	3921.1	2388.3
72.5°	278.4	280.1	268.1	234.6	223.4	201.1	284.1	402.9	994.2	1259.2	629.6
75°	244.2	241.0	229.0	207.5	186.7	134.8	142.8	171.5	259.3	257.0	135.6
77.5°	185.2	181.9	187.5	177.2	146.0	94.1	78.2	89.4	117.3	109.4	55.0
80°	141.3	139.6	127.7	151.6	133.3	71.0	53.5	55.0	63.8	58.2	27.1
82.5°	102.1	101.4	96.6	93.4	84.6	51.9	40.7	43.1	47.9	40.7	19.9
85°	39.1	39.1	75.8	63.8	58.2	35.1	28.7	31.1	36.7	29.6	13.6
87.5°	6.3	6.3	51.0	42.2	26.3	17.6	18.3	19.9	21.6	17.6	10.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1	2961.1
2.5°	2953.2	2899.8	2782.4	2669.1	2570.2	2461.6	2406.6	2342.8	2318.8	2271.0	2275.8
5°	2983.5	2871.8	2636.3	2388.3	2160.8	1929.4	1765.0	1610.2	1524.1	1438.7	1438.7
7.5°	3014.6	2843.9	2480.0	2083.4	1700.5	1303.9	1023.0	797.9	672.7	588.9	586.5
10°	3036.1	2808.0	2302.0	1729.9	1165.0	671.9	405.4	319.2	288.1	274.5	273.7
12.5°	3064.0	2772.1	2099.4	1313.4	647.1	319.2	253.0	239.4	233.8	230.6	230.6
15°	3088.0	2720.9	1853.6	883.3	339.9	239.4	217.9	213.1	212.3	211.4	212.3
17.5°	3093.6	2648.3	1559.2	517.1	246.5	209.1	199.5	195.5	195.5	194.7	194.7
20°	3080.8	2552.6	1233.6	319.2	213.1	192.3	181.9	177.2	176.4	176.4	176.4
22.5°	3054.5	2430.5	912.1	241.8	193.8	177.2	163.6	158.8	158.8	159.6	160.4
25°	3021.8	2286.1	626.4	208.3	179.5	161.2	147.6	142.8	144.4	146.0	146.8
27.5°	2980.3	2113.7	410.1	180.3	160.4	145.3	133.3	130.0	133.3	136.5	138.0
30°	2938.8	1924.7	277.7	156.4	138.8	127.7	120.5	119.7	124.5	131.7	132.5
32.5°	2911.7	1730.7	209.9	140.5	122.0	112.5	109.4	110.9	118.0	126.0	127.7
35°	2909.3	1541.6	178.7	127.7	110.9	102.1	100.6	105.4	113.3	119.7	121.3
37.5°	2946.8	1364.5	161.9	118.0	102.1	93.4	90.9	99.7	106.9	113.3	114.9
40°	3022.6	1205.6	150.8	109.4	94.9	84.6	83.0	90.1	97.4	104.5	106.9
42.5°	3117.5	1057.3	138.0	100.6	87.0	75.0	73.4	79.0	86.1	96.6	98.1
45°	3199.8	919.2	124.5	90.9	78.2	64.7	63.8	70.2	75.8	85.4	87.0
47.5°	3269.1	804.3	111.7	80.6	67.0	57.5	56.7	59.8	63.0	71.8	73.4
50°	3232.4	707.0	98.9	66.2	54.2	49.5	48.7	48.7	52.7	61.5	63.0
52.5°	3142.3	646.3	87.0	55.0	44.7	42.2	39.9	40.7	44.7	48.7	49.5
55°	3069.7	617.6	76.6	48.7	37.5	35.1	32.7	31.9	32.7	31.1	29.6
56°	3052.1	614.4	74.2	47.1	35.9	32.7	29.6	27.9	27.1	23.9	23.1
57.5°	3044.1	614.4	70.2	43.9	33.6	29.6	25.6	22.3	19.1	16.8	16.8
60°	3037.8	618.4	65.5	38.3	28.7	23.9	18.3	13.6	11.2	11.2	11.2
62.5°	3024.1	616.8	59.8	31.9	24.8	18.3	11.2	8.8	8.0	8.8	9.6
65°	2871.8	573.0	52.7	25.6	19.1	12.8	6.3	6.3	7.2	8.8	9.6
67.5°	2314.0	434.0	43.1	19.9	13.6	9.6	5.6	5.6	7.2	8.8	9.6
70°	1271.1	229.0	36.7	14.3	10.3	8.0	5.6	4.8	7.2	8.8	9.6
72.5°	310.4	95.7	33.6	11.2	9.6	7.2	4.8	4.8	7.2	8.8	9.6
75°	76.6	71.8	27.1	8.8	8.0	6.3	4.8	4.8	7.2	8.8	9.6
77.5°	35.9	94.9	18.3	8.0	7.2	5.6	4.8	4.8	7.2	8.8	8.8
80°	21.6	71.8	11.2	7.2	6.3	5.6	4.8	4.8	7.2	8.8	9.6
82.5°	12.8	20.8	8.0	7.2	6.3	4.8	4.8	4.8	7.2	8.8	9.6
85°	11.2	10.3	8.0	7.2	6.3	5.6	4.8	4.8	8.0	9.6	9.6
87.5°	8.8	8.0	7.2	6.3	6.3	5.6	4.8	4.8	7.2	8.8	9.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)