

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: P195100

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7060-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195100
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-04-D-UNV-SL2-7060-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13112 lumens
Efficiency: N/A
Efficacy: 101.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G2

Input Watts (W): 129
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

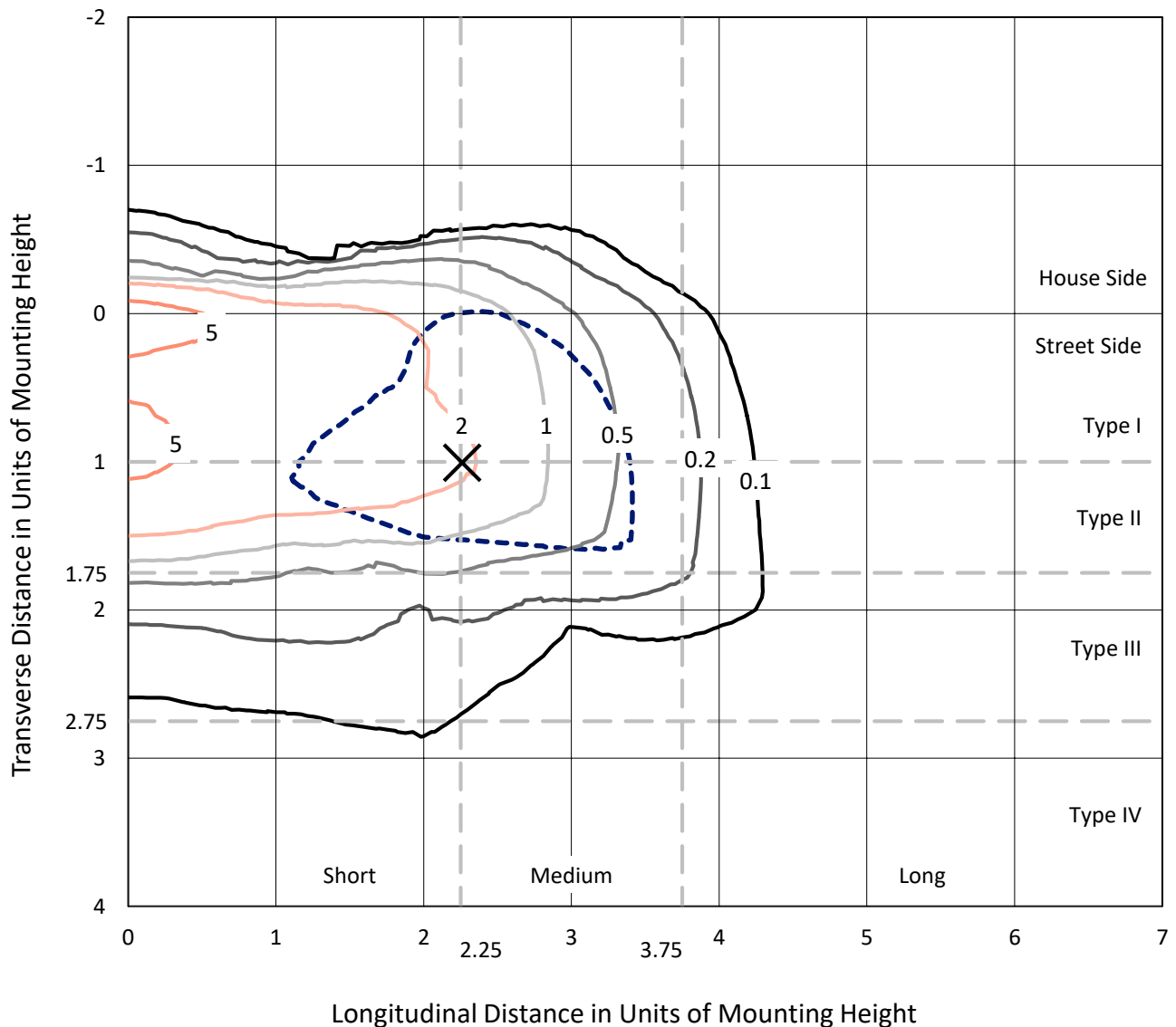


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Iso-Footcandle Lines of Horizontal Illumination

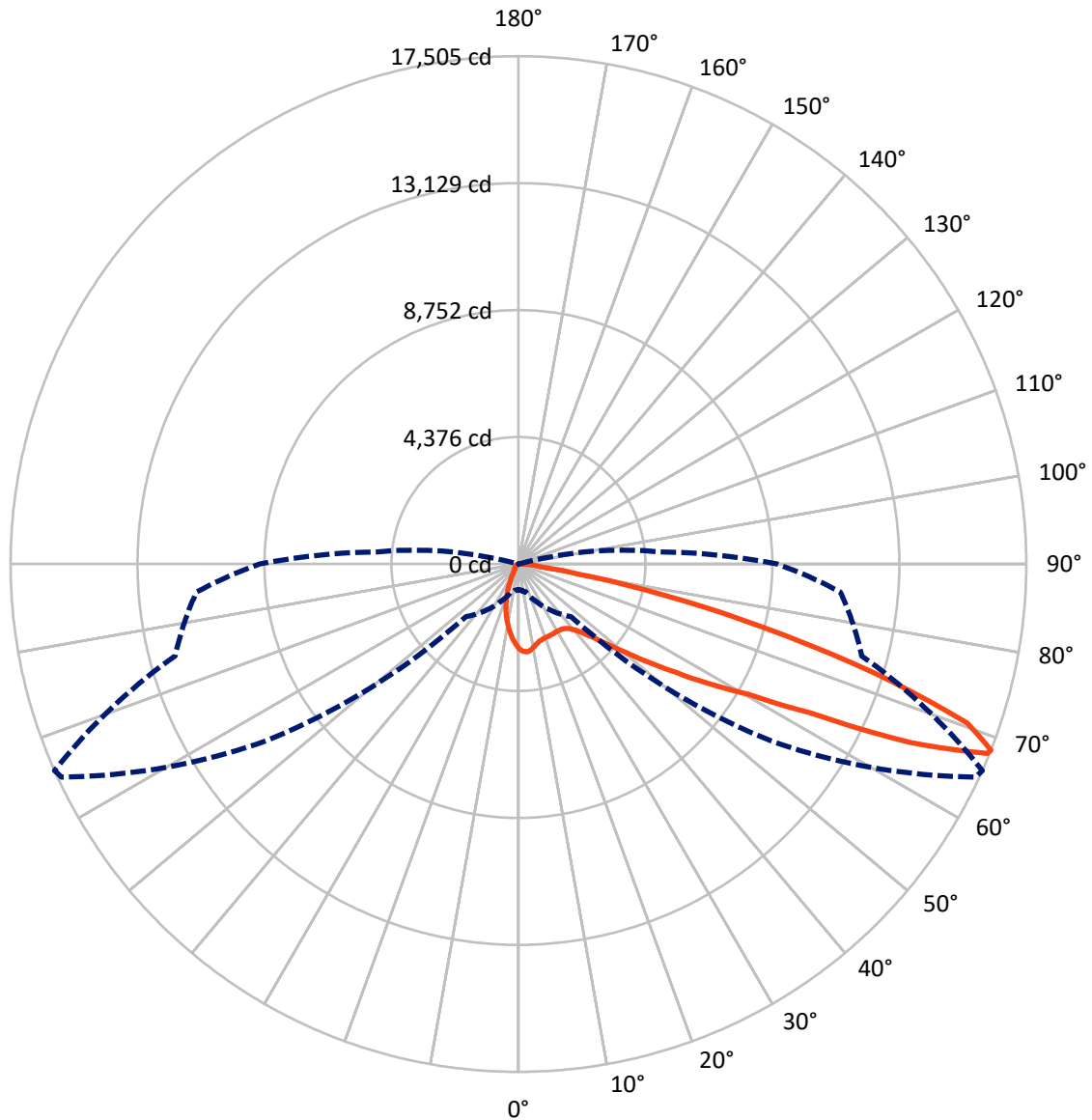
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.3 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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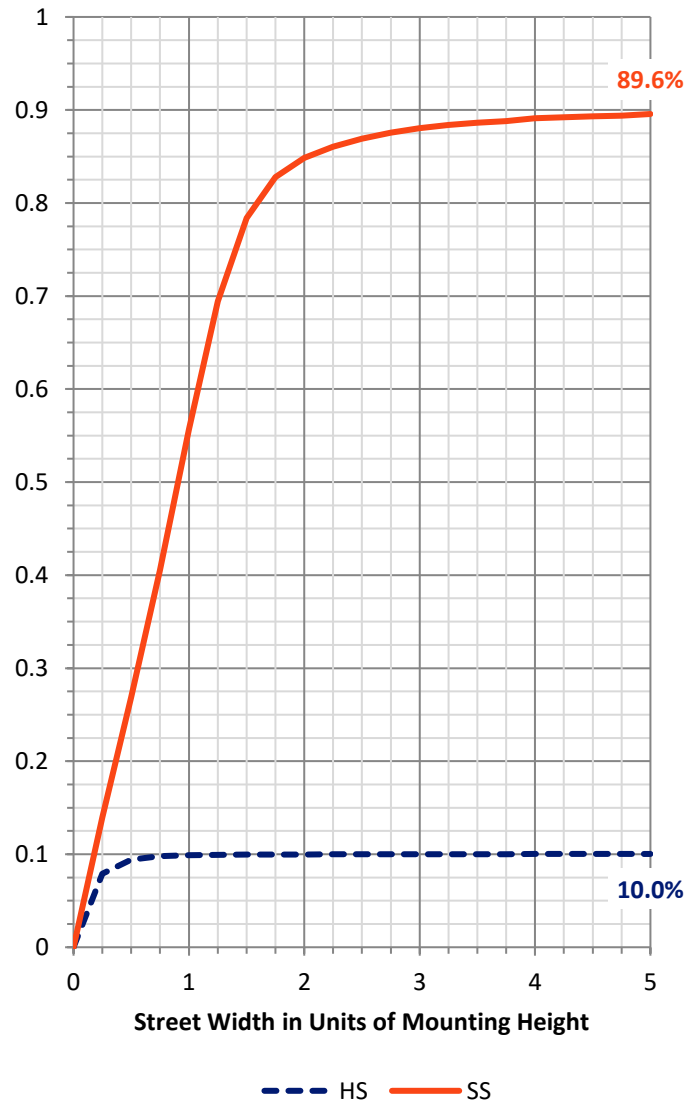
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1328.1	0.0	1328.1
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	11783.9	0.0	11783.9
	% Fixture	89.9	0.0	89.9
Total	Lumens	13112.0	0.0	13112.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	239.5	1.8
10°-20°	515.3	3.9
20°-30°	746.7	5.7
30°-40°	1143.0	8.7
40°-50°	1955.0	14.9
50°-60°	3058.2	23.3
60°-70°	3521.5	26.9
70°-80°	1762.2	13.4
80°-90°	170.7	1.3
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°	13112.0	100.0
0°-180°	13112.0	100.0



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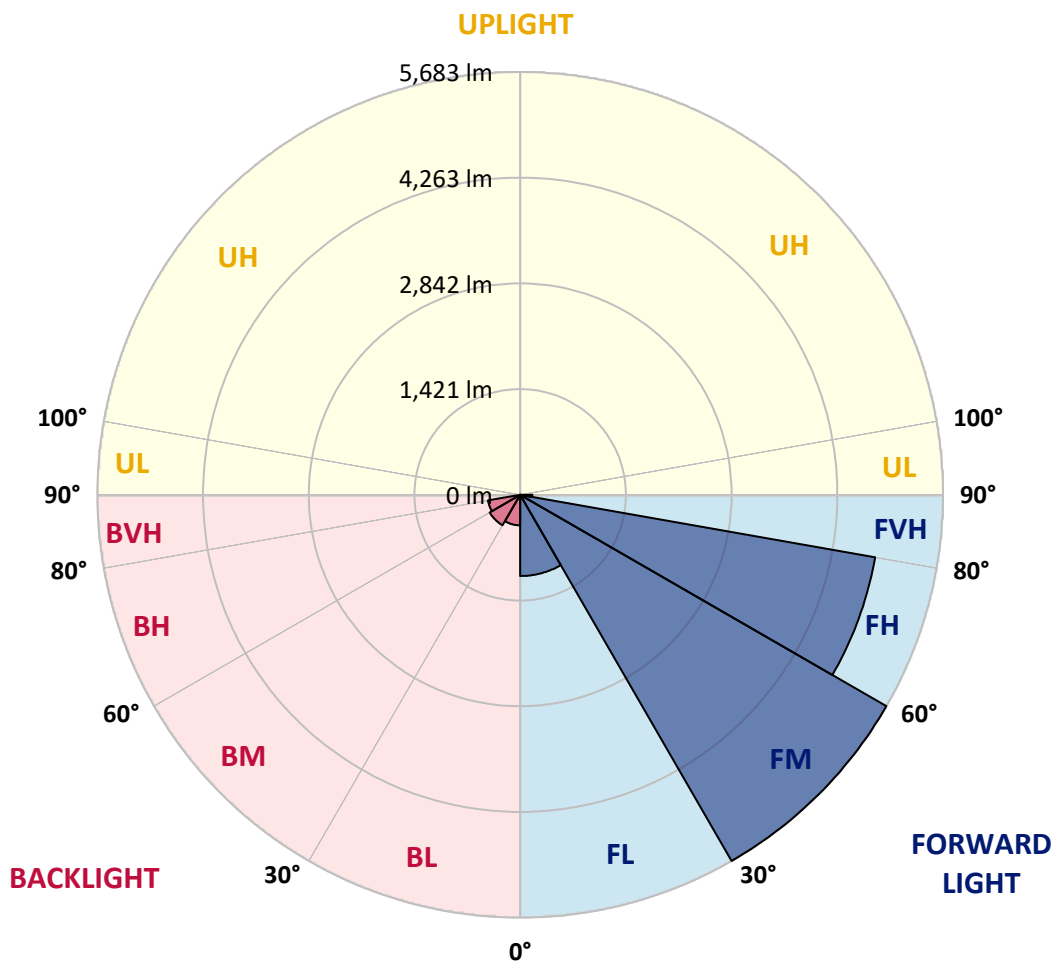
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1091.5	8.3			
FM	(30°-60°)	5683.3	43.3			
FH	(60°-80°)	4844.8	36.9			G2/5000
FVH	(80°-90°)	164.2	1.3			G2/225
BL	(0°-30°)	409.9	3.1	B1/500		
BM	(30°-60°)	472.9	3.6	B1/1000		
BH	(60°-80°)	438.8	3.3	B1/500		G1/500
BVH	(80°-90°)	6.5	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-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2
2.5°	3072.5	3074.6	3073.6	3076.7	3074.6	3059.2	3042.7	3007.7	3010.8	2965.5	2915.1
5°	2856.4	2873.9	2891.4	2908.9	2951.1	2988.1	3032.4	3042.7	3042.7	3003.6	2929.5
7.5°	2636.1	2637.1	2656.7	2680.4	2737.0	2804.9	2907.8	3000.5	3002.5	3012.8	2931.5
10°	2470.4	2475.5	2488.9	2514.6	2571.3	2638.2	2753.4	2898.6	2909.9	2986.1	2910.9
12.5°	2341.7	2347.9	2362.3	2392.2	2443.6	2512.6	2634.0	2799.8	2815.2	2960.3	2904.8
15°	2242.9	2251.1	2262.5	2292.3	2347.9	2421.0	2553.8	2733.9	2752.4	2950.1	2924.3
17.5°	2201.7	2201.7	2200.7	2221.3	2276.9	2351.0	2489.9	2698.9	2722.6	2958.3	2957.3
20°	2219.2	2216.1	2194.5	2189.4	2223.3	2297.5	2439.5	2676.2	2703.0	2973.7	2997.4
22.5°	2311.9	2305.7	2257.3	2217.2	2206.9	2256.3	2405.5	2660.8	2692.7	3005.6	3050.9
25°	2508.5	2489.9	2423.0	2332.5	2251.1	2246.0	2381.9	2652.6	2686.5	3042.7	3109.6
27.5°	2763.7	2758.6	2651.5	2530.1	2373.6	2280.0	2374.7	2646.4	2680.4	3069.5	3156.9
30°	3080.8	3082.8	2959.3	2800.8	2564.1	2375.7	2397.3	2643.3	2678.3	3071.5	3177.5
32.5°	3408.1	3410.2	3307.2	3137.4	2824.5	2540.4	2461.1	2657.7	2689.6	3063.3	3176.5
35°	3723.1	3726.2	3664.4	3527.5	3172.4	2768.9	2581.6	2707.1	2729.8	3068.4	3174.4
37.5°	4121.4	4133.8	4057.6	3930.0	3608.8	3104.4	2778.2	2807.0	2825.5	3110.6	3189.9
40°	4800.8	4784.3	4566.1	4349.9	4082.3	3513.1	3062.2	2978.9	2985.0	3219.7	3248.6
42.5°	5592.3	5571.7	5198.1	4825.5	4569.2	4006.1	3425.6	3242.4	3241.4	3403.0	3376.2
45°	6273.7	6261.4	5868.2	5371.0	5108.5	4550.7	3873.4	3622.2	3609.8	3720.0	3608.8
47.5°	6757.5	6747.2	6449.8	5951.6	5732.3	5149.7	4432.3	4140.0	4114.2	4134.8	3986.6
50°	6804.9	6793.6	6689.6	6369.5	6461.1	6028.8	5123.0	4818.3	4785.3	4753.4	4557.9
52.5°	6362.3	6361.2	6415.8	6395.2	6971.6	7160.0	5970.1	5657.2	5618.1	5536.7	5342.2
55°	5457.5	5452.3	5659.2	5959.8	6960.3	8327.3	7261.9	6655.6	6604.2	6441.5	6186.3
57.5°	3987.6	3960.8	4393.2	5030.3	6471.4	8837.8	9313.3	7896.0	7810.5	7294.8	6901.6
60°	2201.7	2212.0	2767.9	3522.4	5313.4	8736.9	11201.1	9342.2	9117.8	8030.8	7634.5
62.5°	1234.2	1259.9	1673.7	2289.2	3387.5	7918.6	12214.0	11831.1	11290.7	8889.3	8560.9
65°	933.6	949.0	1157.0	1766.3	2135.9	5533.7	12375.6	15311.2	14845.0	10190.3	10035.9
67.5°	879.0	891.4	993.3	1464.7	1945.4	2869.8	11158.9	17369.9	17428.6	11964.9	11178.5
68°	885.2	900.7	1002.6	1409.1	1942.3	2567.1	10640.2	17380.2	17504.7	12251.0	11139.4
70°	813.2	817.3	1060.2	1382.4	1882.6	2022.6	7697.3	16189.3	16412.6	12591.8	10112.1
72.5°	310.9	311.9	475.5	1197.1	1972.2	2033.9	3877.5	12795.6	12806.9	10958.2	7883.6
75°	161.6	135.9	149.3	374.7	1883.7	1982.5	1945.4	8736.9	8682.4	7411.2	4830.6
77.5°	111.2	94.7	99.8	129.7	783.3	1981.5	1405.0	5024.1	5012.8	3152.8	1378.3
80°	62.8	54.6	59.7	109.1	274.8	1860.0	1309.3	2159.5	2035.0	553.8	223.4
82.5°	31.9	26.8	31.9	91.6	170.9	1170.3	1273.3	847.1	754.5	131.8	145.1
85°	8.2	8.2	15.4	63.8	106.0	383.9	1141.5	611.4	549.7	57.6	102.9
87.5°	2.1	1.0	6.2	23.7	38.1	83.4	633.0	340.7	293.4	29.9	59.7
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°	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2	2921.2
2.5°	2894.5	2865.6	2809.0	2745.2	2699.9	2650.5	2621.7	2586.7	2559.9	2536.3	2553.8
5°	2884.2	2828.6	2703.0	2562.0	2443.6	2330.4	2246.0	2165.7	2105.0	2066.9	2082.3
7.5°	2857.4	2775.1	2571.3	2351.0	2157.5	1975.3	1827.1	1694.3	1591.3	1535.8	1553.3
10°	2812.1	2695.8	2422.0	2116.3	1845.6	1588.3	1368.0	1170.3	1021.1	951.1	967.6
12.5°	2779.2	2625.8	2267.6	1889.8	1533.7	1168.3	876.0	649.5	533.2	463.2	469.4
15°	2764.8	2571.3	2123.5	1651.0	1193.0	750.4	473.5	342.8	302.6	288.2	289.2
17.5°	2766.8	2528.0	1986.6	1403.0	849.2	431.3	290.3	261.4	255.3	252.2	252.2
20°	2772.0	2484.8	1844.6	1144.6	543.5	277.9	241.9	232.6	229.5	225.4	226.5
22.5°	2787.4	2451.9	1701.5	885.2	334.5	226.5	214.1	205.9	200.7	194.5	195.6
25°	2811.1	2427.2	1560.5	637.2	235.7	197.6	186.3	175.0	165.7	158.5	159.5
27.5°	2825.5	2392.2	1410.2	434.4	195.6	172.9	157.5	142.0	131.8	125.6	124.5
30°	2815.2	2335.5	1239.3	285.1	172.9	149.3	130.7	113.2	102.9	97.8	97.8
32.5°	2787.4	2262.5	1050.9	207.9	153.4	128.7	106.0	90.6	83.4	80.3	81.3
35°	2755.5	2186.3	850.2	176.0	137.9	109.1	86.5	74.1	71.0	70.0	70.0
37.5°	2738.0	2120.4	657.7	159.5	123.5	90.6	71.0	63.8	60.7	60.7	60.7
40°	2757.6	2070.0	486.9	147.2	109.1	75.1	59.7	54.6	53.5	53.5	53.5
42.5°	2840.9	2052.5	356.1	136.9	94.7	62.8	51.5	47.3	46.3	47.3	47.3
45°	3003.6	2090.6	269.7	126.6	81.3	51.5	44.3	41.2	41.2	42.2	42.2
47.5°	3279.4	2188.3	221.3	116.3	67.9	43.2	38.1	36.0	36.0	37.1	37.1
50°	3707.6	2369.5	198.7	105.0	56.6	37.1	31.9	30.9	30.9	31.9	32.9
52.5°	4358.2	2714.3	187.3	93.7	46.3	30.9	26.8	25.7	26.8	27.8	27.8
55°	5081.8	3155.9	174.0	82.3	39.1	25.7	21.6	21.6	22.6	24.7	24.7
57.5°	5756.0	3582.1	161.6	67.9	34.0	20.6	17.5	17.5	19.6	21.6	21.6
60°	6468.3	4000.0	145.1	54.6	28.8	16.5	14.4	14.4	17.5	19.6	20.6
62.5°	7348.4	4485.8	123.5	43.2	22.6	12.4	10.3	13.4	16.5	19.6	19.6
65°	8620.6	5090.0	96.8	34.0	17.5	9.3	8.2	12.4	15.4	18.5	19.6
67.5°	9082.8	5012.8	73.1	27.8	13.4	7.2	7.2	11.3	15.4	18.5	18.5
68°	8914.0	4844.0	70.0	26.8	12.4	7.2	7.2	11.3	15.4	18.5	18.5
70°	7767.3	3959.8	57.6	20.6	10.3	6.2	6.2	10.3	15.4	17.5	18.5
72.5°	5815.7	2631.0	49.4	13.4	9.3	6.2	5.1	10.3	14.4	17.5	17.5
75°	3336.0	1092.1	42.2	10.3	8.2	5.1	5.1	9.3	14.4	17.5	17.5
77.5°	942.9	255.3	34.0	8.2	7.2	5.1	4.1	9.3	13.4	16.5	16.5
80°	172.9	76.2	26.8	7.2	6.2	5.1	4.1	9.3	13.4	16.5	16.5
82.5°	114.3	36.0	19.6	7.2	6.2	5.1	4.1	8.2	12.4	15.4	15.4
85°	85.4	25.7	12.4	7.2	6.2	5.1	4.1	8.2	12.4	15.4	15.4
87.5°	47.3	11.3	9.3	8.2	7.2	5.1	4.1	7.2	11.3	14.4	14.4
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)