

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: P196551

Luminaire Tested: **NAV-AF-03-D-UNV-SL2-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196551
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-03-D-UNV-SL2-7030-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 1050mA 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: 14291.1 lumens
Efficiency: N/A
Efficacy: 86.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 166
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

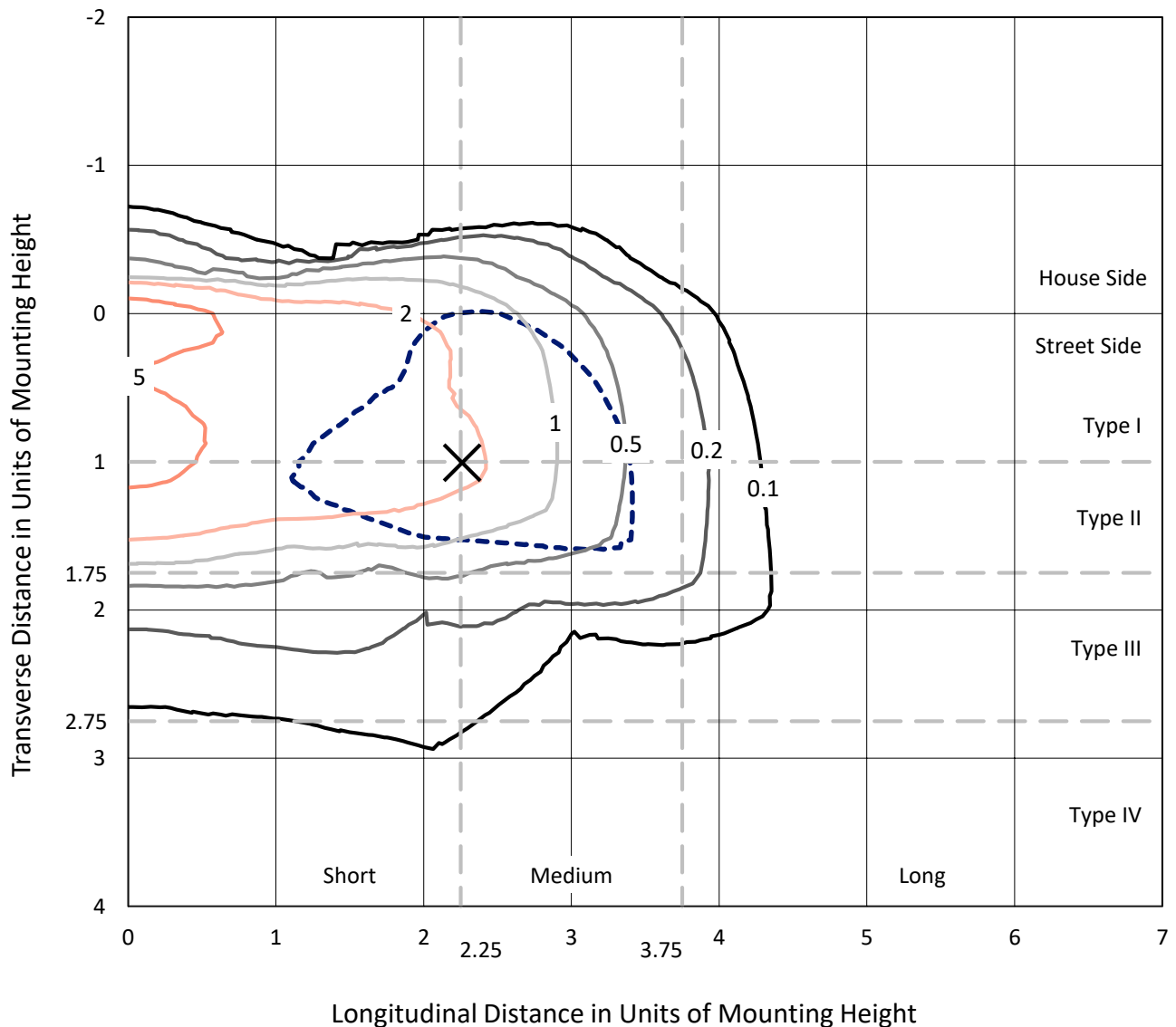


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Iso-Footcandle Lines of Horizontal Illumination

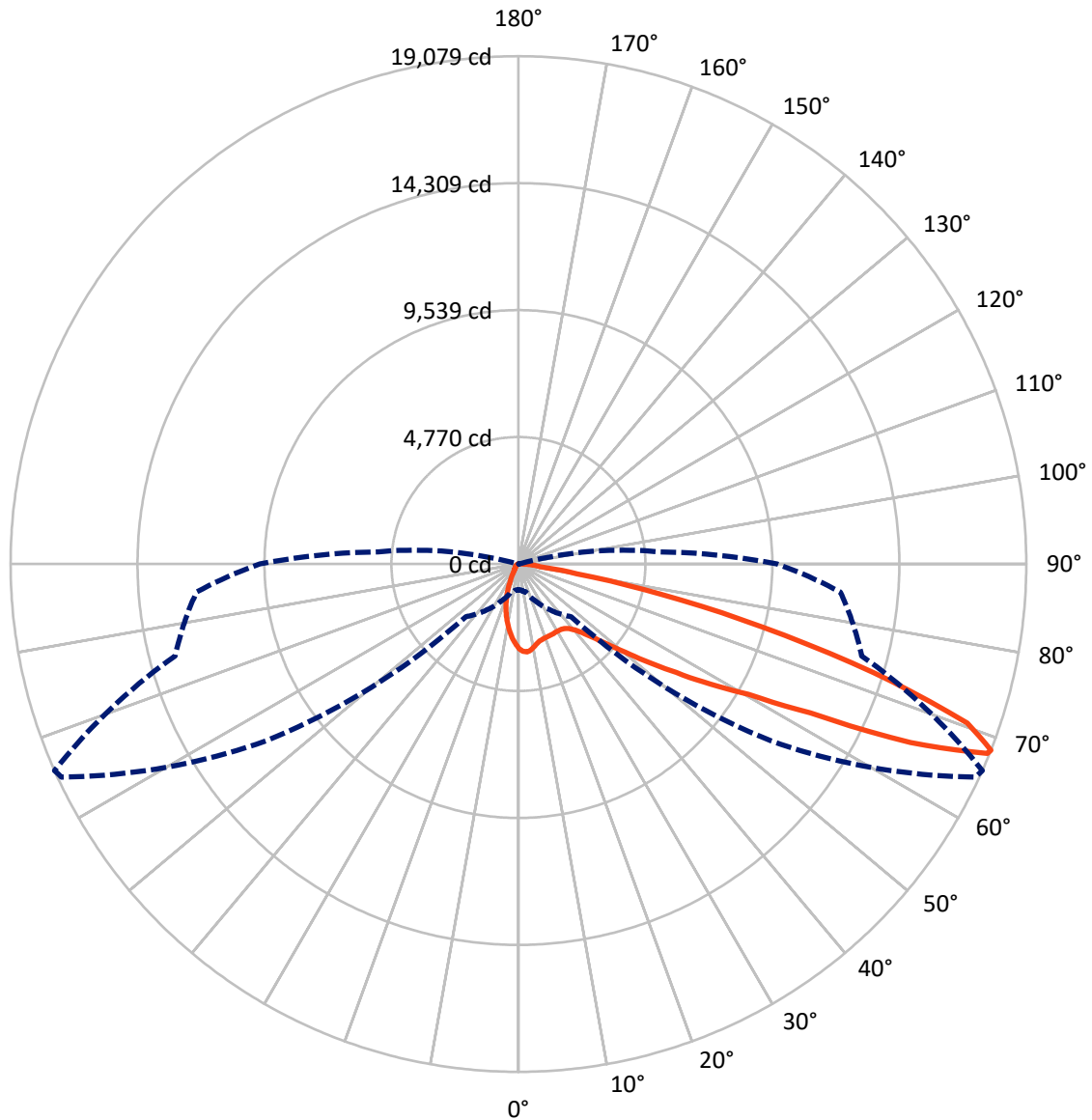
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8 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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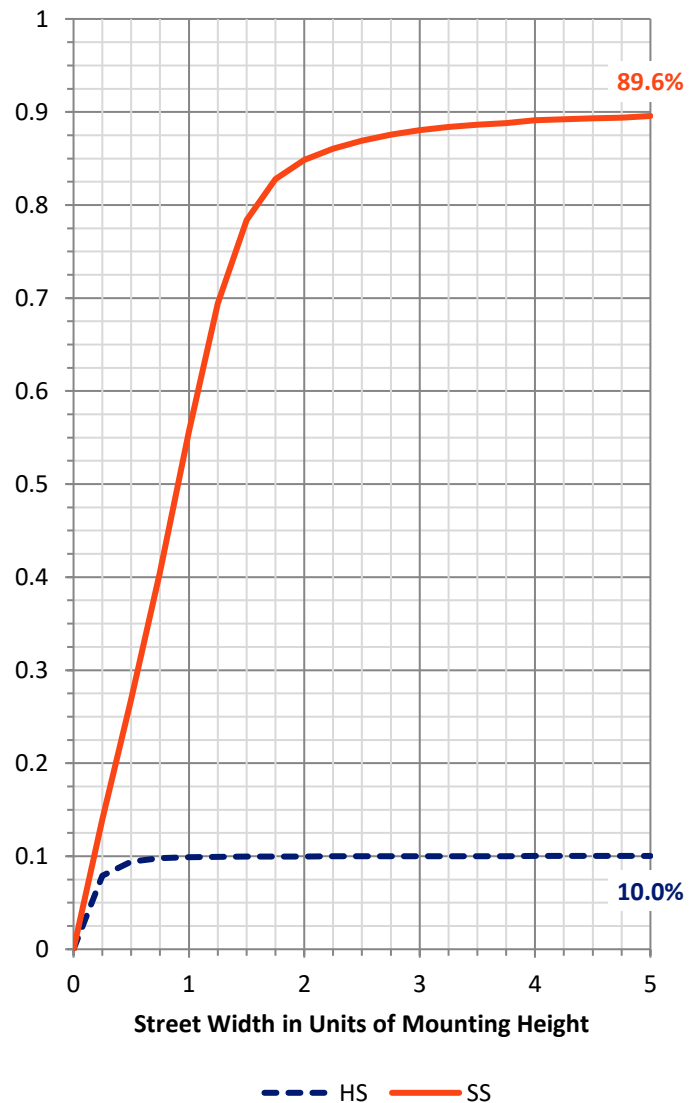
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1447.5	0.0	1447.5
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	12843.6	0.0	12843.6
	% Fixture	89.9	0.0	89.9
Total	Lumens	14291.1	0.0	14291.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	261.0	1.8
10°-20°	561.6	3.9
20°-30°	813.8	5.7
30°-40°	1245.8	8.7
40°-50°	2130.8	14.9
50°-60°	3333.3	23.3
60°-70°	3838.1	26.9
70°-80°	1920.7	13.4
80°-90°	186.0	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°	14291.1	100.0
0°-180°	14291.1	100.0



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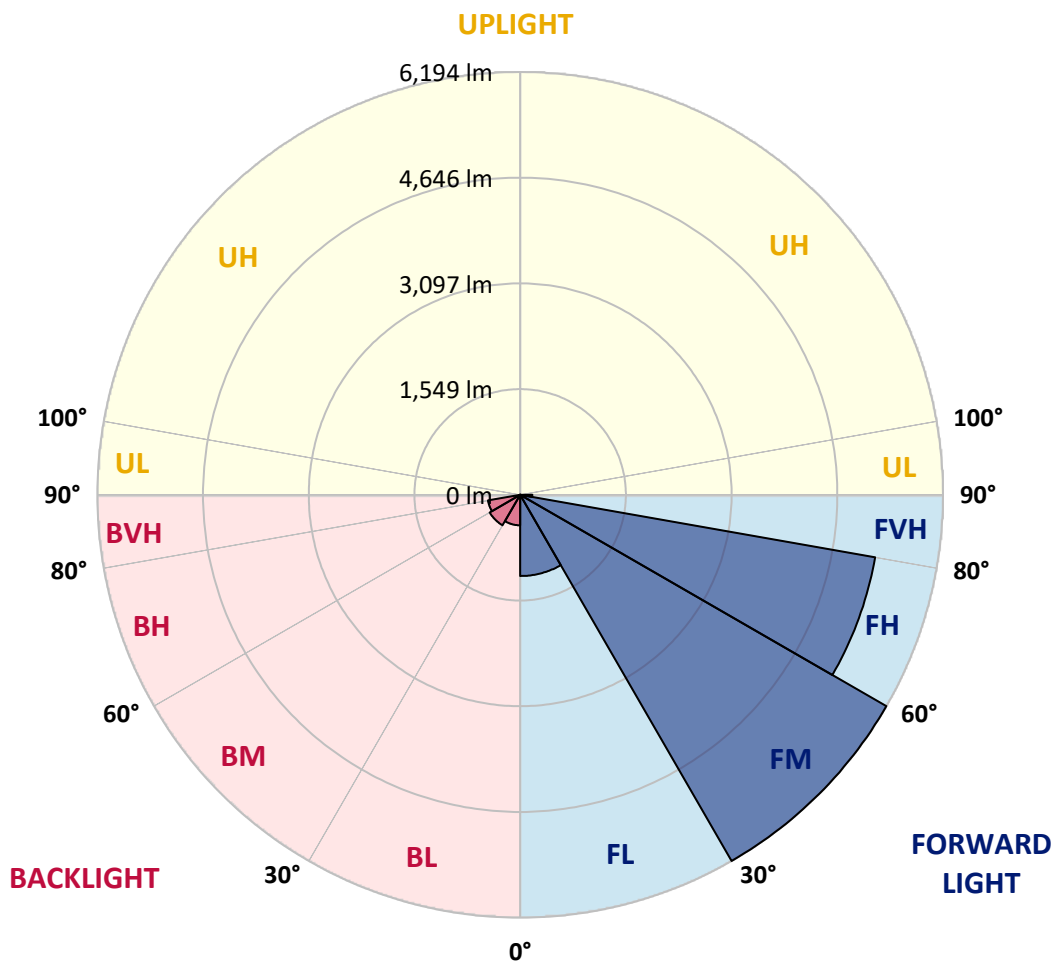
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1189.7	8.3			
FM	(30°-60°)	6194.4	43.3			
FH	(60°-80°)	5280.5	36.9			G3/7500
FVH	(80°-90°)	179.0	1.3			G2/225
BL	(0°-30°)	446.8	3.1	B1/500		
BM	(30°-60°)	515.5	3.6	B1/1000		
BH	(60°-80°)	478.3	3.3	B1/500		G1/500
BVH	(80°-90°)	7.0	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-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0
2.5°	3348.8	3351.1	3350.0	3353.2	3351.1	3334.3	3316.3	3278.3	3281.5	3232.2	3177.2
5°	3113.3	3132.4	3151.4	3170.4	3216.5	3256.8	3305.1	3316.3	3316.3	3273.6	3192.9
7.5°	2873.2	2874.3	2895.6	2921.4	2983.1	3057.2	3169.4	3270.3	3272.6	3283.8	3195.2
10°	2692.5	2698.1	2712.7	2740.8	2802.5	2875.3	3001.1	3159.2	3171.6	3254.7	3172.7
12.5°	2552.3	2559.1	2574.7	2607.3	2663.4	2738.6	2870.9	3051.5	3068.3	3226.5	3166.0
15°	2444.5	2453.5	2465.9	2498.4	2559.1	2638.7	2783.4	2979.7	2999.9	3215.4	3187.3
17.5°	2399.8	2399.8	2398.6	2421.0	2481.6	2562.3	2713.9	2941.6	2967.4	3224.3	3223.1
20°	2418.8	2415.4	2391.9	2386.2	2423.3	2504.1	2659.0	2916.9	2946.0	3241.1	3267.0
22.5°	2519.7	2513.1	2460.3	2416.6	2405.4	2459.2	2621.9	2900.1	2934.8	3275.9	3325.3
25°	2734.0	2713.9	2640.9	2542.3	2453.5	2448.0	2596.0	2891.1	2928.1	3316.3	3389.2
27.5°	3012.3	3006.7	2890.0	2757.6	2587.0	2485.0	2588.3	2884.3	2921.4	3345.5	3440.8
30°	3357.9	3360.0	3225.5	3052.7	2794.7	2589.3	2612.9	2881.0	2919.2	3347.7	3463.3
32.5°	3714.6	3716.8	3604.7	3419.5	3078.5	2768.8	2682.5	2896.7	2931.5	3338.8	3462.2
35°	4057.9	4061.2	3994.0	3844.8	3457.6	3017.8	2813.8	2950.5	2975.2	3344.3	3459.9
37.5°	4492.0	4505.6	4422.5	4283.4	3933.4	3383.6	3028.0	3059.4	3079.6	3390.4	3476.7
40°	5232.5	5214.5	4976.8	4741.1	4449.4	3829.0	3337.7	3246.7	3253.5	3509.3	3540.6
42.5°	6095.2	6072.7	5665.5	5259.4	4980.0	4366.4	3733.6	3534.0	3532.8	3709.0	3679.9
45°	6837.9	6824.5	6395.9	5854.0	5568.0	4959.9	4221.7	3948.0	3934.4	4054.5	3933.4
47.5°	7365.1	7354.0	7029.7	6486.7	6247.8	5612.8	4830.9	4512.2	4484.2	4506.6	4345.1
50°	7416.8	7404.5	7291.2	6942.3	7042.1	6571.0	5583.7	5251.5	5215.7	5180.8	4967.7
52.5°	6934.3	6933.3	6992.7	6970.3	7598.6	7803.9	6506.9	6165.9	6123.3	6034.6	5822.7
55°	5948.3	5942.6	6168.1	6495.8	7586.2	9076.0	7915.0	7254.2	7198.0	7020.8	6742.6
57.5°	4346.3	4317.1	4788.2	5482.6	7053.3	9632.6	10150.8	8606.1	8512.9	7950.8	7522.3
60°	2399.8	2411.0	3016.7	3839.2	5791.2	9522.6	12208.4	10182.3	9937.6	8753.0	8321.0
62.5°	1345.2	1373.2	1824.2	2495.1	3692.1	8630.7	13312.3	12895.0	12306.0	9688.7	9330.7
65°	1017.5	1034.3	1261.0	1925.1	2327.9	6031.3	13488.5	16688.1	16179.8	11106.8	10938.4
67.5°	958.1	971.6	1082.6	1596.5	2120.4	3127.9	12162.4	18931.9	18995.9	13040.8	12183.7
68°	964.9	981.7	1092.7	1535.8	2117.0	2798.0	11597.0	18943.2	19078.9	13352.7	12141.1
70°	886.3	890.8	1155.5	1506.6	2051.9	2204.6	8389.5	17645.1	17888.6	13724.0	11021.4
72.5°	338.8	339.9	518.3	1304.8	2149.5	2216.9	4226.1	13946.2	13958.5	11943.6	8592.5
75°	176.1	148.0	162.7	408.4	2053.1	2160.7	2120.4	9522.6	9463.2	8077.6	5264.9
77.5°	121.2	103.2	108.8	141.4	853.8	2159.6	1531.4	5476.0	5463.6	3436.3	1502.2
80°	68.4	59.4	65.1	118.9	299.6	2027.3	1427.0	2353.8	2218.0	603.5	243.4
82.5°	34.8	29.2	34.8	99.9	186.3	1275.6	1387.8	923.4	822.4	143.5	158.2
85°	9.0	9.0	16.8	69.6	115.6	418.5	1244.1	666.4	599.1	62.9	112.2
87.5°	2.3	1.1	6.8	25.7	41.5	90.9	690.0	371.4	319.7	32.6	65.1
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°	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0	3184.0
2.5°	3154.8	3123.4	3061.7	2992.1	2942.7	2888.9	2857.4	2819.3	2790.2	2764.4	2783.4
5°	3143.5	3083.0	2946.0	2792.3	2663.4	2540.0	2448.0	2360.4	2294.2	2252.7	2269.6
7.5°	3114.3	3024.7	2802.5	2562.3	2351.5	2153.0	1991.4	1846.6	1734.5	1673.9	1693.0
10°	3065.0	2938.2	2639.8	2306.6	2011.6	1731.1	1491.0	1275.6	1113.0	1036.7	1054.6
12.5°	3029.1	2861.9	2471.6	2059.7	1671.6	1273.3	954.7	707.9	581.1	504.9	511.6
15°	3013.4	2802.5	2314.4	1799.5	1300.3	817.8	516.0	373.5	329.9	314.1	315.2
17.5°	3015.7	2755.4	2165.3	1529.1	925.5	470.1	316.5	284.9	278.3	274.9	274.9
20°	3021.2	2708.2	2010.5	1247.5	592.4	302.8	263.7	253.6	250.2	245.8	246.8
22.5°	3038.1	2672.4	1854.4	964.9	364.6	246.8	233.4	224.4	218.7	212.1	213.2
25°	3063.8	2645.3	1700.8	694.5	256.9	215.3	203.1	190.7	180.6	172.7	173.9
27.5°	3079.6	2607.3	1537.0	473.4	213.2	188.5	171.6	154.8	143.5	136.9	135.7
30°	3068.3	2545.5	1350.8	310.8	188.5	162.7	142.5	123.4	112.2	106.5	106.5
32.5°	3038.1	2465.9	1145.5	226.6	167.1	140.3	115.6	98.8	90.9	87.5	88.6
35°	3003.3	2383.0	926.6	191.9	150.3	118.9	94.3	80.8	77.5	76.3	76.3
37.5°	2984.2	2311.1	716.8	173.9	134.6	98.8	77.5	69.6	66.2	66.2	66.2
40°	3005.5	2256.1	530.7	160.4	118.9	82.0	65.1	59.4	58.4	58.4	58.4
42.5°	3096.4	2237.1	388.2	149.2	103.2	68.4	56.0	51.6	50.5	51.6	51.6
45°	3273.6	2278.6	293.9	138.0	88.6	56.0	48.3	44.9	44.9	46.0	46.0
47.5°	3574.3	2385.1	241.3	126.7	74.1	47.1	41.5	39.3	39.3	40.4	40.4
50°	4041.1	2582.6	216.6	114.4	61.7	40.4	34.8	33.7	33.7	34.8	35.9
52.5°	4750.0	2958.4	204.2	102.0	50.5	33.7	29.2	28.1	29.2	30.3	30.3
55°	5538.8	3439.7	189.6	89.7	42.6	28.1	23.6	23.6	24.7	26.9	26.9
57.5°	6273.5	3904.2	176.1	74.1	37.0	22.4	19.1	19.1	21.3	23.6	23.6
60°	7050.0	4359.7	158.2	59.4	31.4	17.9	15.8	15.8	19.1	21.3	22.4
62.5°	8009.1	4889.3	134.6	47.1	24.7	13.4	11.3	14.5	17.9	21.3	21.3
65°	9395.9	5547.7	105.4	37.0	19.1	10.1	9.0	13.4	16.8	20.2	21.3
67.5°	9899.6	5463.6	79.6	30.3	14.5	7.8	7.8	12.3	16.8	20.2	20.2
68°	9715.6	5279.6	76.3	29.2	13.4	7.8	7.8	12.3	16.8	20.2	20.2
70°	8465.7	4316.0	62.9	22.4	11.3	6.8	6.8	11.3	16.8	19.1	20.2
72.5°	6338.6	2867.5	53.9	14.5	10.1	6.8	5.6	11.3	15.8	19.1	19.1
75°	3636.0	1190.4	46.0	11.3	9.0	5.6	5.6	10.1	15.8	19.1	19.1
77.5°	1027.7	278.3	37.0	9.0	7.8	5.6	4.5	10.1	14.5	17.9	17.9
80°	188.5	83.0	29.2	7.8	6.8	5.6	4.5	10.1	14.5	17.9	17.9
82.5°	124.5	39.3	21.3	7.8	6.8	5.6	4.5	9.0	13.4	16.8	16.8
85°	93.1	28.1	13.4	7.8	6.8	5.6	4.5	9.0	13.4	16.8	16.8
87.5°	51.6	12.3	10.1	9.0	7.8	5.6	4.5	7.8	12.3	15.8	15.8
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)