

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: P197074

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-8030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197074
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)
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-SL3-8030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13654 lumens
Efficiency: N/A
Efficacy: 79.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 171
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

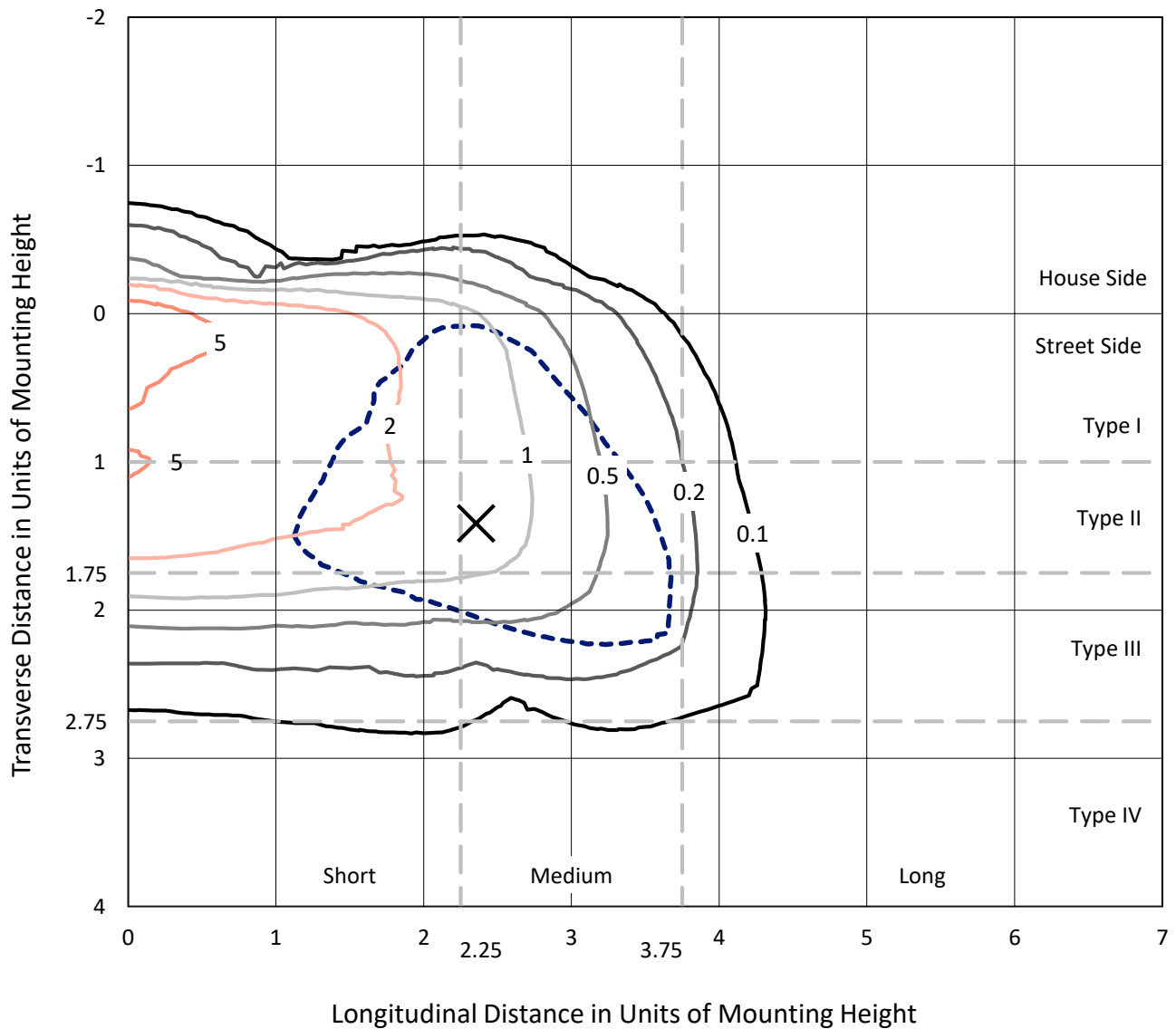


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

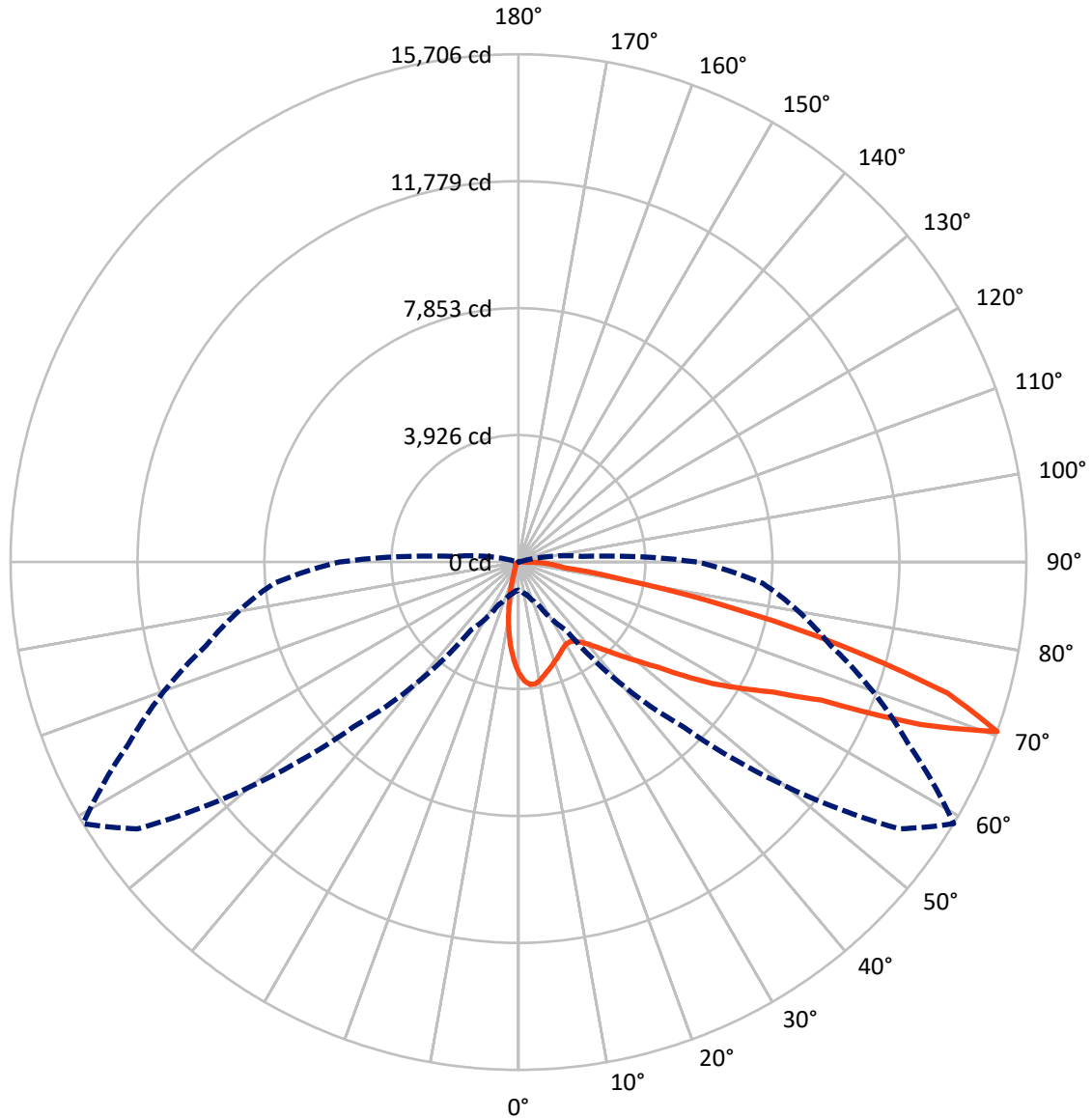


Based on 20 foot mounting height. Maximum calculated value = 9.2 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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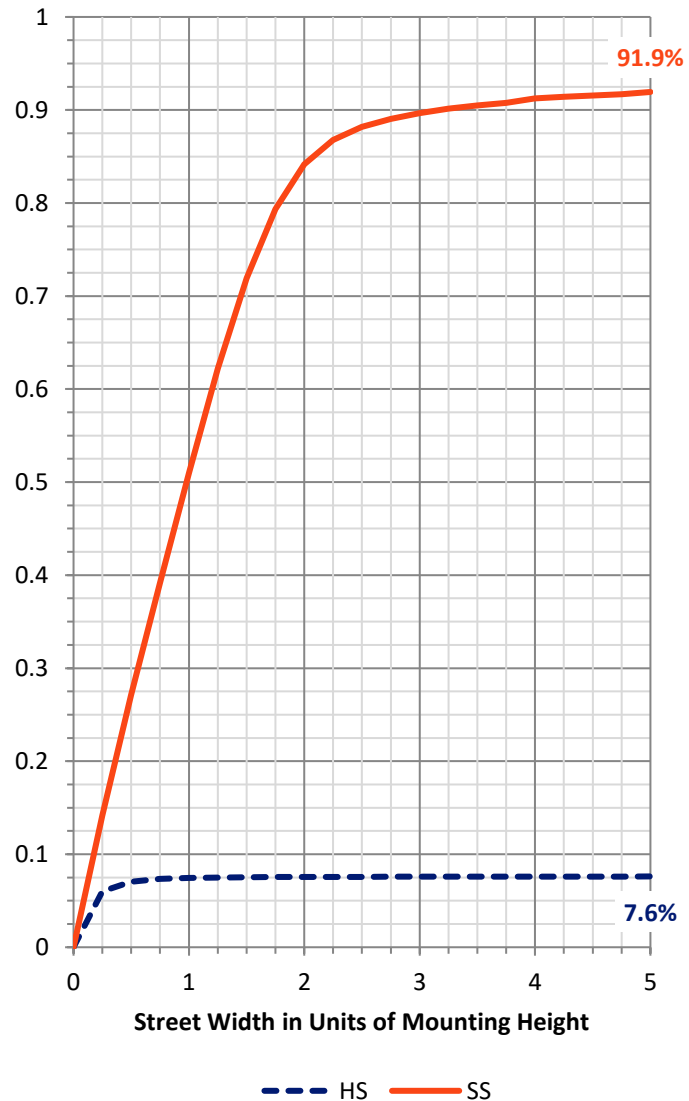
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1049.6	0.0	1049.6
	% Fixture	7.7	0.0	7.7
Street Side	Lumens	12604.4	0.0	12604.4
	% Fixture	92.3	0.0	92.3
Total	Lumens	13654.0	0.0	13654.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	283.9	2.1
10°-20°	595.5	4.4
20°-30°	806.1	5.9
30°-40°	1163.3	8.5
40°-50°	1932.0	14.1
50°-60°	2955.2	21.6
60°-70°	3675.6	26.9
70°-80°	2031.8	14.9
80°-90°	210.7	1.5
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°	13654.0	100.0
0°-180°	13654.0	100.0



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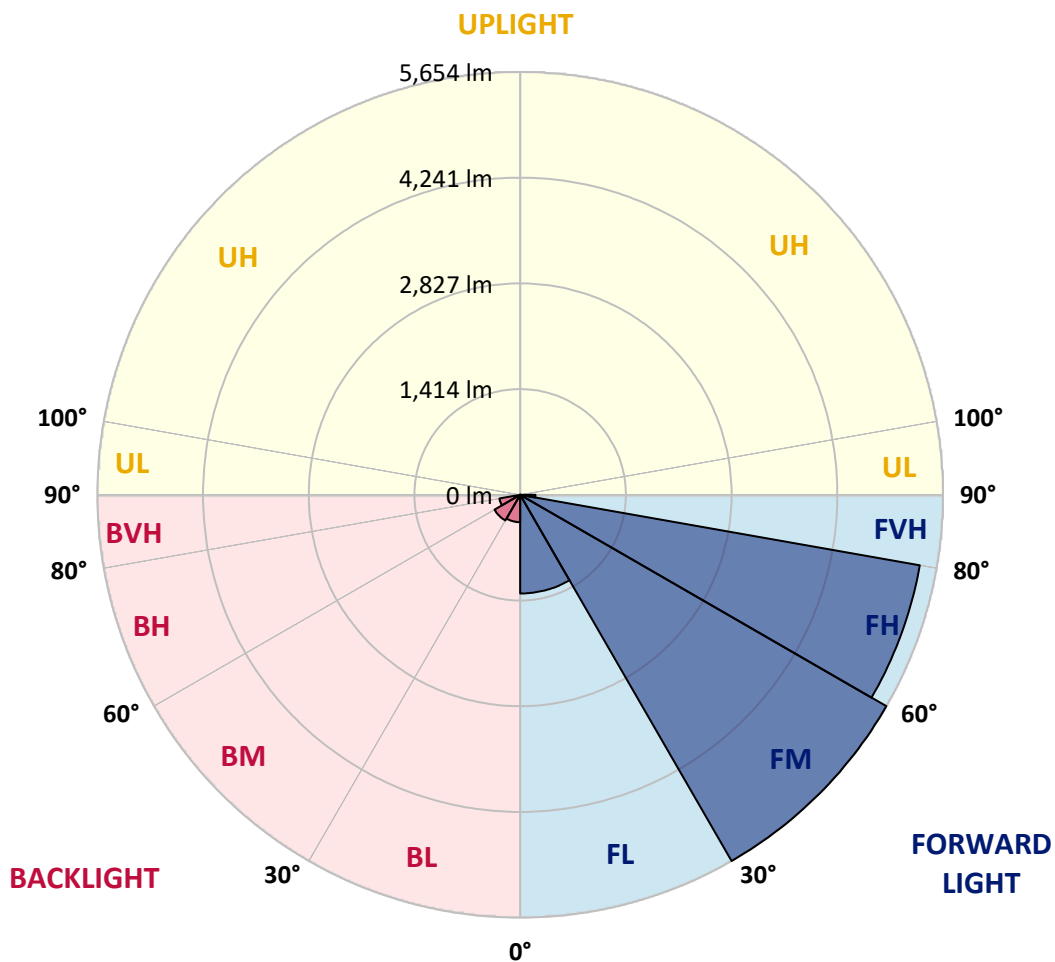
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1319.7	9.7			
FM	(30°-60°)	5654.3	41.4			
FH	(60°-80°)	5425.8	39.7			G3/7500
FVH	(80°-90°)	204.6	1.5			G2/225
BL	(0°-30°)	365.8	2.7	B1/500		
BM	(30°-60°)	396.2	2.9	B1/1000		
BH	(60°-80°)	281.6	2.1	B1/500		G1/500
BVH	(80°-90°)	6.1	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 III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6
2.5°	3902.7	3896.5	3870.8	3865.6	3836.8	3779.1	3712.2	3685.4	3630.8	3544.3	3448.5
5°	3967.6	3970.7	3972.8	3961.4	3957.3	3909.9	3835.8	3803.8	3730.7	3588.6	3413.5
7.5°	3724.5	3732.8	3758.5	3769.8	3819.3	3837.8	3822.4	3801.8	3744.1	3576.2	3330.0
10°	3468.1	3483.5	3511.3	3529.9	3590.6	3640.1	3702.9	3708.0	3695.7	3535.0	3236.3
12.5°	3247.6	3262.1	3293.0	3330.0	3391.8	3455.7	3549.4	3582.4	3623.6	3508.2	3169.4
15°	3058.1	3062.2	3092.1	3138.5	3219.8	3307.4	3418.6	3467.0	3547.4	3497.9	3117.9
17.5°	2892.3	2893.3	2912.9	2955.1	3054.0	3169.4	3299.1	3363.0	3465.0	3483.5	3072.5
20°	2783.1	2782.1	2783.1	2805.8	2893.3	3030.3	3187.9	3254.8	3385.7	3466.0	3026.2
22.5°	2746.0	2740.9	2717.2	2708.9	2764.6	2885.1	3073.6	3161.1	3314.6	3460.8	2992.2
25°	2791.3	2788.2	2737.8	2690.4	2695.5	2770.7	2957.2	3064.3	3259.0	3479.4	2983.9
27.5°	2937.6	2931.4	2854.2	2761.5	2702.8	2716.1	2870.6	2982.9	3214.7	3524.7	2995.3
30°	3129.2	3130.2	3047.8	2935.5	2797.5	2721.3	2824.3	2930.4	3184.8	3592.7	3020.0
32.5°	3342.4	3341.4	3282.7	3152.9	2976.7	2816.1	2844.9	2934.5	3188.9	3692.6	3067.4
35°	3562.8	3551.5	3531.9	3417.6	3211.6	2981.9	2938.6	3004.5	3232.2	3824.4	3147.7
37.5°	3817.2	3813.1	3832.7	3712.2	3502.0	3226.0	3103.4	3147.7	3341.4	4019.1	3277.5
40°	4222.0	4199.4	4208.6	4044.9	3829.6	3554.6	3334.2	3345.5	3515.4	4276.6	3482.5
42.5°	4993.5	4901.8	4729.8	4422.9	4190.1	3919.2	3635.9	3616.4	3761.6	4588.7	3752.3
45°	5915.4	5810.3	5376.7	4840.0	4550.6	4310.6	4008.8	3956.3	4064.4	4960.5	4100.5
47.5°	6684.8	6571.5	5996.7	5275.7	4917.3	4714.4	4421.8	4360.0	4427.0	5392.1	4518.7
50°	6947.4	6884.6	6379.9	5638.3	5287.1	5167.6	4939.9	4836.9	4853.4	5857.7	5006.9
52.5°	6826.9	6805.3	6467.5	5886.5	5629.0	5668.2	5507.5	5399.3	5380.8	6366.5	5546.6
55°	6572.5	6562.2	6397.4	6024.5	5930.8	6126.5	6303.7	6210.0	6034.8	6907.3	5992.6
57.5°	6208.9	6248.1	6366.5	6290.3	6301.6	6610.6	7043.2	7091.6	6830.0	7337.8	6323.3
60°	5237.6	5342.7	5885.5	6575.6	7104.0	7416.1	7835.3	7926.0	7503.6	7632.4	6705.4
62.5°	3871.8	4022.2	4795.7	6063.7	7545.9	8947.7	8889.0	8848.8	8146.4	8026.9	7400.6
65°	2274.3	2450.4	3104.5	4738.1	6879.5	9932.4	10856.3	10300.1	9125.9	8846.8	8507.9
67.5°	1133.0	1134.0	1429.7	2500.9	5084.1	9245.4	13728.0	13406.7	11208.6	10055.0	8944.6
70°	871.4	895.1	1057.8	1453.3	2570.9	7200.8	14386.2	15705.6	13301.6	10001.4	7589.1
72.5°	738.5	754.0	941.4	1264.9	1922.0	3953.2	12453.9	13882.5	12692.9	8450.2	5594.0
75°	531.5	543.8	833.3	1147.4	1769.6	1961.1	8542.9	10296.0	9523.5	5944.2	3078.7
77.5°	131.8	130.8	290.5	931.1	1583.1	1633.6	4901.8	6602.4	5464.2	2433.9	791.1
80°	58.7	56.7	65.9	195.7	1472.9	1541.9	2155.8	3334.2	2096.1	394.5	242.1
82.5°	41.2	39.1	41.2	72.1	492.3	1430.7	1303.0	1445.1	767.4	134.9	103.0
85°	13.4	12.4	22.7	60.8	138.0	825.0	1271.0	1079.5	570.6	57.7	69.0
87.5°	2.1	2.1	8.2	33.0	40.2	275.0	745.7	747.8	256.5	34.0	30.9
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°	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6	3452.6
2.5°	3400.1	3339.3	3253.8	3168.3	3091.1	3011.8	2947.9	2918.0	2904.6	2886.1	2845.9
5°	3321.8	3211.6	3024.1	2839.7	2667.7	2502.9	2361.8	2281.5	2195.0	2190.8	2148.6
7.5°	3196.1	3039.6	2744.0	2457.6	2195.0	1943.6	1727.3	1587.3	1491.5	1431.7	1390.5
10°	3056.1	2855.2	2463.8	2061.1	1703.6	1367.9	1089.8	908.5	798.3	742.6	710.7
12.5°	2944.8	2692.5	2187.7	1681.0	1232.9	847.7	589.2	457.3	398.6	376.0	365.7
15°	2849.0	2543.1	1929.2	1341.1	823.0	487.2	340.9	297.7	288.4	288.4	287.4
17.5°	2752.2	2398.9	1677.9	1007.4	518.1	319.3	268.8	262.7	263.7	266.8	266.8
20°	2660.5	2261.9	1435.8	717.9	339.9	255.4	244.1	242.1	245.1	249.3	248.2
22.5°	2586.4	2141.4	1209.2	493.4	261.6	231.8	224.5	221.5	223.5	226.6	225.6
25°	2533.8	2038.4	1001.2	344.0	227.6	211.2	202.9	198.8	196.7	198.8	197.8
27.5°	2501.9	1951.9	805.5	258.5	203.9	190.6	180.3	172.0	166.9	166.9	164.8
30°	2481.3	1870.5	631.4	214.2	184.4	170.0	155.5	144.2	136.0	133.9	132.9
32.5°	2480.3	1800.5	471.7	189.5	165.8	149.4	131.8	117.4	108.2	106.1	105.1
35°	2506.0	1743.8	347.1	171.0	149.4	129.8	110.2	94.8	86.5	86.5	85.5
37.5°	2573.0	1710.9	262.7	156.6	136.0	113.3	92.7	78.3	71.1	73.1	73.1
40°	2697.6	1704.7	214.2	145.2	124.6	98.9	75.2	63.9	60.8	63.9	63.9
42.5°	2888.2	1737.6	190.6	137.0	114.3	84.5	62.8	54.6	53.6	56.7	56.7
45°	3136.4	1802.5	177.2	129.8	103.0	70.0	52.5	47.4	46.4	50.5	50.5
47.5°	3437.2	1890.1	164.8	121.5	91.7	57.7	44.3	40.2	40.2	44.3	45.3
50°	3793.5	2008.5	152.4	113.3	82.4	48.4	37.1	34.0	35.0	39.1	40.2
52.5°	4203.5	2153.8	141.1	106.1	72.1	39.1	30.9	28.8	29.9	34.0	35.0
55°	4556.8	2280.4	127.7	98.9	58.7	31.9	25.8	24.7	25.8	30.9	30.9
57.5°	4864.8	2402.0	115.4	87.6	46.4	25.8	20.6	20.6	22.7	27.8	28.8
60°	5273.7	2593.6	105.1	74.2	35.0	19.6	16.5	17.5	20.6	24.7	25.8
62.5°	5997.8	2919.1	91.7	61.8	25.8	15.5	13.4	14.4	18.5	23.7	24.7
65°	6904.2	3227.0	76.2	51.5	19.6	11.3	10.3	13.4	18.5	23.7	24.7
67.5°	6811.5	2806.8	59.7	41.2	14.4	9.3	8.2	12.4	17.5	23.7	24.7
70°	5524.0	1967.3	44.3	27.8	11.3	8.2	8.2	12.4	17.5	22.7	23.7
72.5°	3831.7	1094.9	34.0	18.5	10.3	8.2	7.2	11.3	16.5	22.7	23.7
75°	1823.1	335.8	26.8	13.4	9.3	7.2	6.2	11.3	16.5	22.7	23.7
77.5°	350.2	85.5	21.6	11.3	8.2	7.2	6.2	10.3	16.5	21.6	22.7
80°	118.5	38.1	17.5	10.3	8.2	7.2	6.2	10.3	15.5	20.6	21.6
82.5°	64.9	21.6	15.5	9.3	8.2	6.2	5.2	9.3	14.4	20.6	21.6
85°	50.5	15.5	12.4	9.3	8.2	6.2	5.2	9.3	14.4	19.6	20.6
87.5°	25.8	11.3	10.3	9.3	8.2	6.2	5.2	8.2	13.4	18.5	20.6
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)