

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: P270587

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-7027-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270587
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-05-D-UNV-SL2-7027-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 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: 14041.1 lumens
Efficiency: N/A
Efficacy: 86.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 162
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

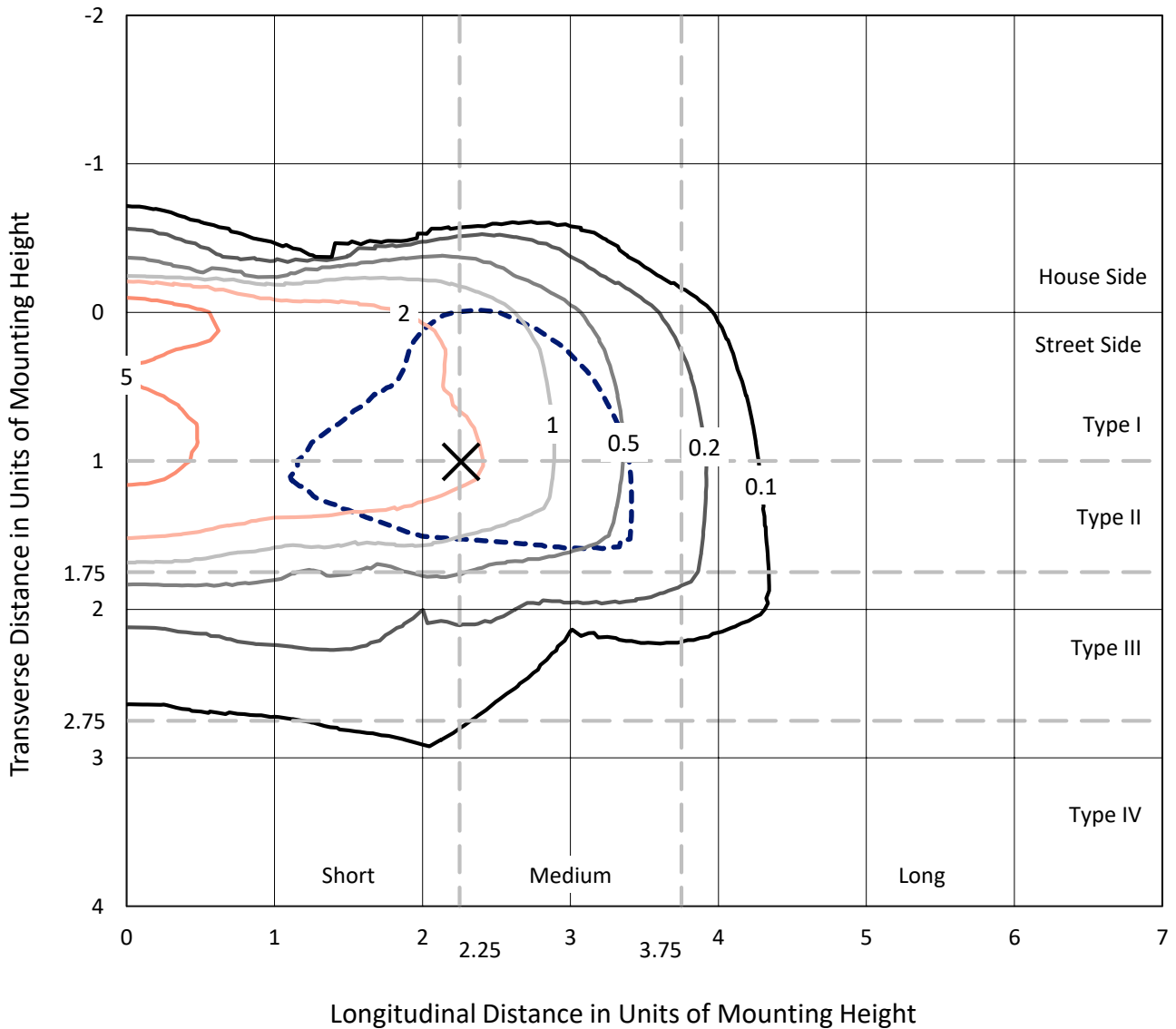


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

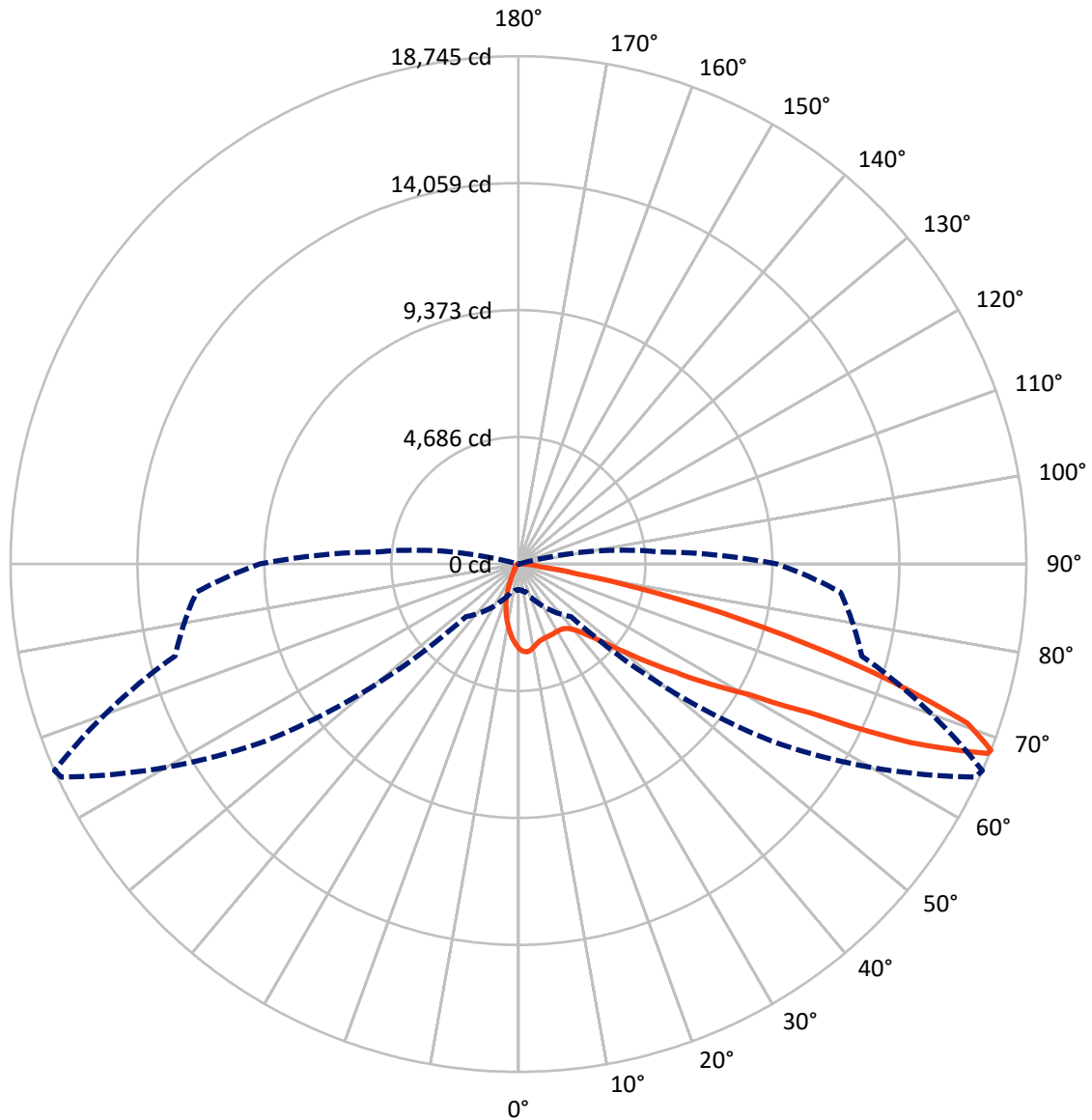


Based on 20 foot mounting height. Maximum calculated value = 7.8 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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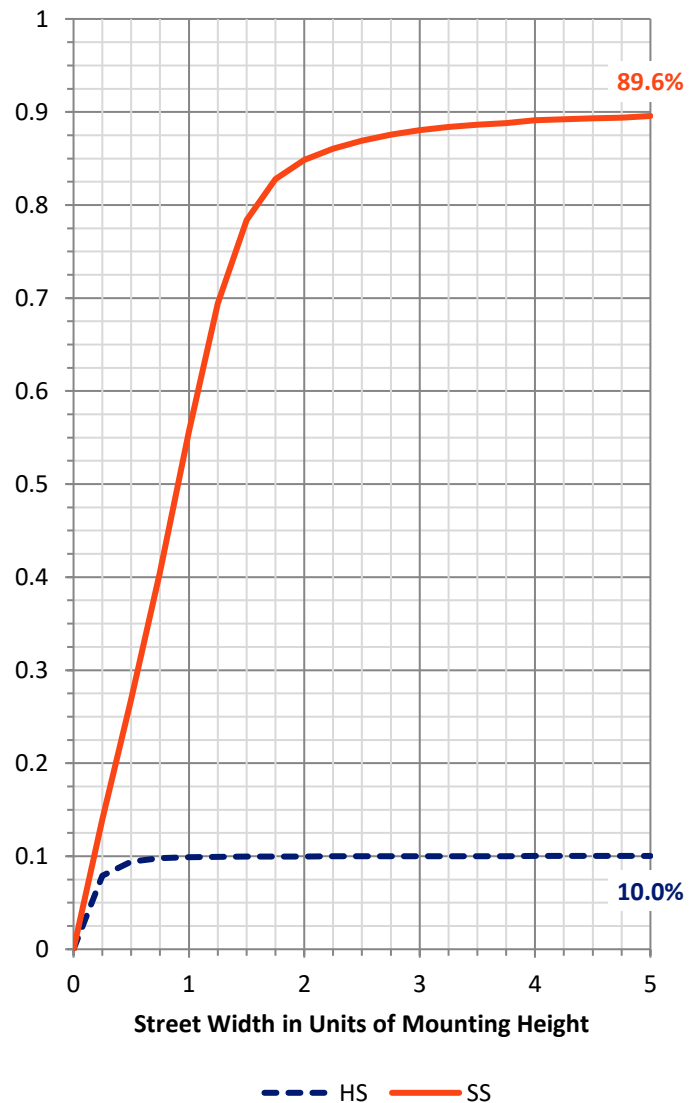
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1422.2	0.0	1422.2
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	12618.9	0.0	12618.9
	% Fixture	89.9	0.0	89.9
Total	Lumens	14041.1	0.0	14041.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.4	1.8
10°-20°	551.8	3.9
20°-30°	799.6	5.7
30°-40°	1224.0	8.7
40°-50°	2093.6	14.9
50°-60°	3274.9	23.3
60°-70°	3771.0	26.9
70°-80°	1887.1	13.4
80°-90°	182.8	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°	14041.1	100.0
0°-180°	14041.1	100.0



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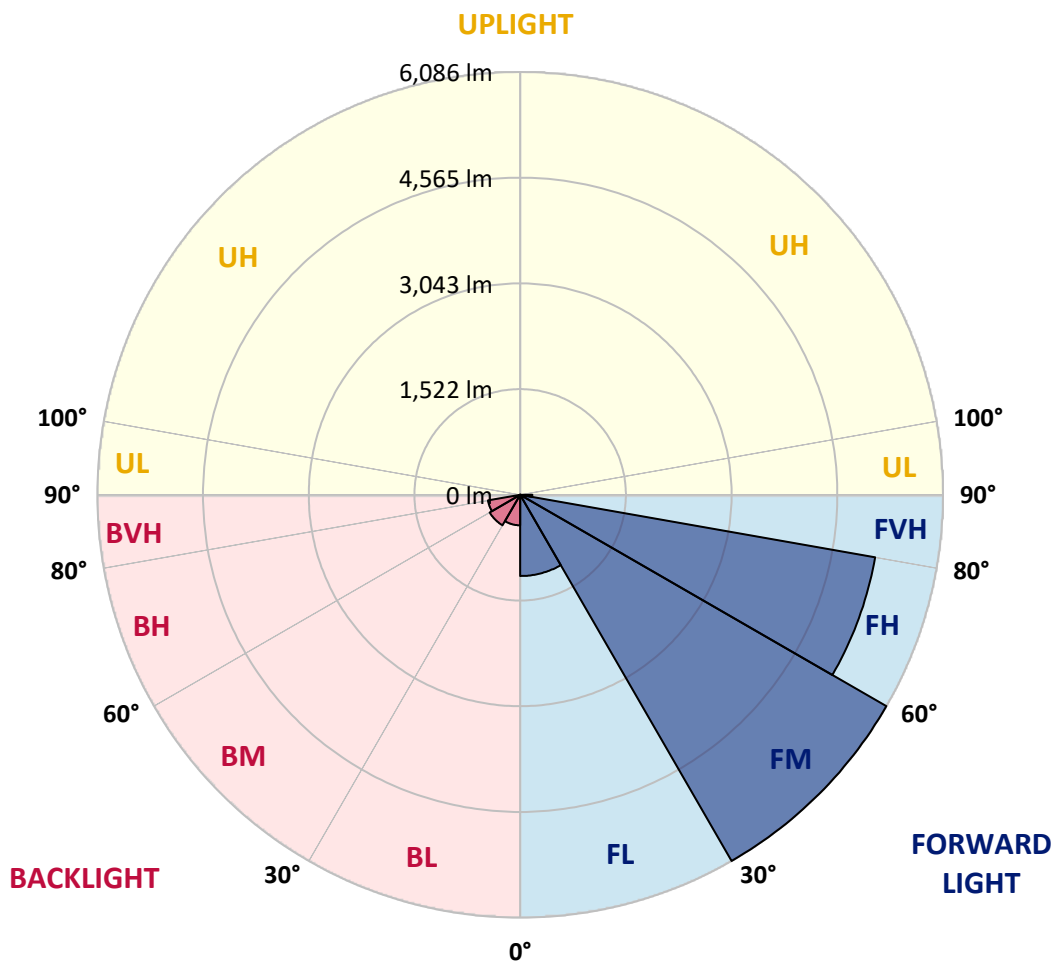
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1168.8	8.3			
FM (30°-60°)	6086.0	43.3			
FH (60°-80°)	5188.1	36.9			G3/7500
FVH (80°-90°)	175.8	1.3			G2/225
BL (0°-30°)	439.0	3.1	B1/500		
BM (30°-60°)	506.4	3.6	B1/1000		
BH (60°-80°)	469.9	3.3	B1/500		G1/500
BVH (80°-90°)	6.9	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°	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2
2.5°	3290.2	3292.5	3291.4	3294.7	3292.5	3275.8	3258.3	3220.9	3224.0	3175.6	3121.6
5°	3058.8	3077.6	3096.3	3115.1	3160.1	3199.9	3247.3	3258.3	3258.3	3216.4	3137.1
7.5°	2823.0	2824.0	2844.9	2870.3	2930.9	3003.7	3113.9	3213.1	3215.4	3226.4	3139.2
10°	2645.4	2651.0	2665.4	2692.8	2753.5	2825.1	2948.5	3104.0	3116.1	3197.6	3117.2
12.5°	2507.7	2514.3	2529.6	2561.6	2616.8	2690.7	2820.7	2998.2	3014.7	3170.1	3110.7
15°	2401.8	2410.6	2422.8	2454.8	2514.3	2592.5	2734.7	2927.5	2947.5	3159.1	3131.5
17.5°	2357.7	2357.7	2356.7	2378.7	2438.2	2517.6	2666.3	2890.1	2915.4	3168.0	3166.7
20°	2376.5	2373.1	2350.1	2344.4	2380.9	2460.3	2612.4	2866.0	2894.6	3184.4	3209.7
22.5°	2475.6	2469.1	2417.2	2374.3	2363.3	2416.1	2576.0	2849.3	2883.5	3218.5	3267.0
25°	2686.2	2666.3	2594.8	2497.7	2410.6	2405.1	2550.6	2840.5	2876.9	3258.3	3329.9
27.5°	2959.6	2954.0	2839.5	2709.4	2541.8	2441.6	2542.9	2834.0	2870.3	3287.0	3380.6
30°	3299.0	3301.4	3169.0	2999.3	2745.7	2544.0	2567.1	2830.6	2868.1	3289.1	3402.7
32.5°	3649.5	3651.8	3541.6	3359.8	3024.7	2720.3	2635.4	2846.0	2880.2	3280.3	3401.6
35°	3986.9	3990.2	3924.1	3777.5	3397.2	2965.0	2764.4	2898.9	2923.3	3285.8	3399.4
37.5°	4413.5	4426.7	4345.1	4208.4	3864.5	3324.4	2974.9	3005.9	3025.8	3331.1	3416.0
40°	5140.9	5123.4	4889.7	4658.2	4371.6	3762.0	3279.3	3189.9	3196.6	3447.9	3478.7
42.5°	5988.6	5966.5	5566.3	5167.4	4893.0	4289.9	3668.3	3472.0	3471.1	3644.1	3615.4
45°	6718.2	6705.0	6284.1	5751.6	5470.5	4873.0	4147.8	3878.8	3865.6	3983.5	3864.5
47.5°	7236.3	7225.3	6906.8	6373.2	6138.5	5514.6	4746.4	4433.2	4405.7	4427.7	4269.0
50°	7287.1	7275.0	7163.7	6820.8	6918.8	6455.9	5485.9	5159.7	5124.4	5090.2	4880.9
52.5°	6813.0	6811.9	6870.3	6848.4	7465.6	7667.4	6393.1	6058.0	6016.2	5929.1	5720.8
55°	5844.3	5838.7	6060.2	6382.1	7453.4	8917.3	7776.4	7127.2	7072.0	6897.9	6624.6
57.5°	4270.2	4241.4	4704.5	5386.7	6930.0	9464.1	9973.3	8455.4	8363.9	7811.8	7390.6
60°	2357.7	2368.8	2964.0	3772.0	5689.9	9355.9	11994.8	10004.2	9763.9	8599.8	8175.5
62.5°	1321.5	1349.2	1792.3	2451.5	3627.5	8479.7	13079.4	12669.3	12090.6	9519.1	9167.6
65°	999.8	1016.3	1238.9	1891.6	2287.2	5925.8	13252.4	16396.1	15896.9	10912.4	10747.1
67.5°	941.3	954.5	1063.8	1568.5	2083.3	3073.1	11949.7	18600.7	18663.5	12812.6	11970.5
68°	947.9	964.5	1073.7	1509.1	2079.9	2749.1	11394.1	18611.8	18745.0	13119.0	11928.7
70°	870.7	875.2	1135.4	1480.3	2016.1	2166.0	8242.7	17336.4	17575.6	13484.0	10828.6
72.5°	332.9	334.0	509.2	1281.9	2111.9	2178.1	4152.2	13702.1	13714.3	11734.6	8442.2
75°	173.1	145.4	159.8	401.3	2017.1	2123.0	2083.3	9355.9	9297.5	7936.3	5172.9
77.5°	119.0	101.4	106.9	138.9	838.7	2121.8	1504.7	5380.2	5368.0	3376.2	1475.9
80°	67.3	58.4	63.9	116.8	294.4	1991.8	1402.1	2312.5	2179.2	593.1	239.2
82.5°	34.1	28.7	34.1	98.2	183.0	1253.2	1363.4	907.2	807.9	141.2	155.4
85°	8.9	8.9	16.4	68.4	113.5	411.2	1222.5	654.8	588.6	61.8	110.2
87.5°	2.2	1.1	6.6	25.3	40.9	89.3	678.0	364.8	314.1	32.0	63.9
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°	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2	3128.2
2.5°	3099.5	3068.7	3008.1	2939.8	2891.3	2838.4	2807.5	2770.0	2741.3	2715.9	2734.7
5°	3088.6	3029.1	2894.6	2743.6	2616.8	2495.5	2405.1	2319.2	2254.1	2213.3	2229.9
7.5°	3059.8	2971.8	2753.5	2517.6	2310.4	2115.2	1956.5	1814.3	1704.1	1644.5	1663.3
10°	3011.4	2886.9	2593.6	2266.2	1976.4	1700.9	1464.9	1253.2	1093.4	1018.5	1036.1
12.5°	2976.2	2811.9	2428.3	2023.7	1642.5	1251.1	938.0	695.6	571.0	496.0	502.6
15°	2960.6	2753.5	2274.0	1768.0	1277.5	803.5	507.1	367.0	324.1	308.7	309.7
17.5°	2962.9	2707.1	2127.4	1502.3	909.4	461.9	310.9	280.0	273.4	270.0	270.0
20°	2968.4	2660.9	1975.3	1225.6	582.0	297.6	259.0	249.1	245.7	241.4	242.5
22.5°	2984.9	2625.6	1822.0	947.9	358.2	242.5	229.2	220.4	215.0	208.3	209.5
25°	3010.3	2599.2	1671.0	682.4	252.5	211.6	199.6	187.3	177.4	169.8	170.9
27.5°	3025.8	2561.6	1510.1	465.1	209.5	185.2	168.6	152.2	141.2	134.4	133.4
30°	3014.7	2501.1	1327.2	305.3	185.2	159.8	140.0	121.2	110.2	104.7	104.7
32.5°	2984.9	2422.8	1125.3	222.7	164.2	137.8	113.5	96.9	89.3	86.0	87.0
35°	2950.8	2341.3	910.4	188.5	147.7	116.8	92.5	79.4	76.0	75.0	75.0
37.5°	2932.0	2270.6	704.4	170.9	132.3	96.9	76.0	68.4	65.0	65.0	65.0
40°	2953.0	2216.7	521.3	157.7	116.8	80.5	63.9	58.4	57.3	57.3	57.3
42.5°	3042.2	2198.0	381.4	146.7	101.4	67.3	55.2	50.8	49.5	50.8	50.8
45°	3216.4	2238.7	288.7	135.6	87.0	55.2	47.4	44.0	44.0	45.2	45.2
47.5°	3511.8	2343.4	237.1	124.5	72.8	46.4	40.9	38.5	38.5	39.6	39.6
50°	3970.4	2537.4	212.8	112.5	60.6	39.6	34.1	33.1	33.1	34.1	35.3
52.5°	4667.0	2906.6	200.6	100.3	49.5	33.1	28.7	27.6	28.7	29.7	29.7
55°	5441.8	3379.6	186.3	88.2	42.0	27.6	23.1	23.1	24.3	26.5	26.5
57.5°	6163.8	3835.9	173.1	72.8	36.4	22.1	18.8	18.8	20.9	23.1	23.1
60°	6926.7	4283.4	155.4	58.4	30.8	17.6	15.5	15.5	18.8	20.9	22.1
62.5°	7869.1	4803.6	132.3	46.4	24.3	13.2	11.0	14.4	17.6	20.9	20.9
65°	9231.4	5450.6	103.7	36.4	18.8	9.9	8.9	13.2	16.4	19.9	20.9
67.5°	9726.4	5368.0	78.2	29.7	14.4	7.7	7.7	12.1	16.4	19.9	19.9
68°	9545.6	5187.3	75.0	28.7	13.2	7.7	7.7	12.1	16.4	19.9	19.9
70°	8317.6	4240.4	61.8	22.1	11.0	6.6	6.6	11.0	16.4	18.8	19.9
72.5°	6227.8	2817.4	52.9	14.4	9.9	6.6	5.5	11.0	15.5	18.8	18.8
75°	3572.4	1169.6	45.2	11.0	8.9	5.5	5.5	9.9	15.5	18.8	18.8
77.5°	1009.7	273.4	36.4	8.9	7.7	5.5	4.4	9.9	14.4	17.6	17.6
80°	185.2	81.6	28.7	7.7	6.6	5.5	4.4	9.9	14.4	17.6	17.6
82.5°	122.3	38.5	20.9	7.7	6.6	5.5	4.4	8.9	13.2	16.4	16.4
85°	91.4	27.6	13.2	7.7	6.6	5.5	4.4	8.9	13.2	16.4	16.4
87.5°	50.8	12.1	9.9	8.9	7.7	5.5	4.4	7.7	12.1	15.5	15.5
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)