

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: P195454

Luminaire Tested: **NAV-AF-04-D-UNV-5MQ-7050-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195454
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24129)
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-5MQ-7050-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28502 lumens
Efficiency: N/A
Efficacy: 110.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B5 - U0 - G3

Input Watts (W): 258
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

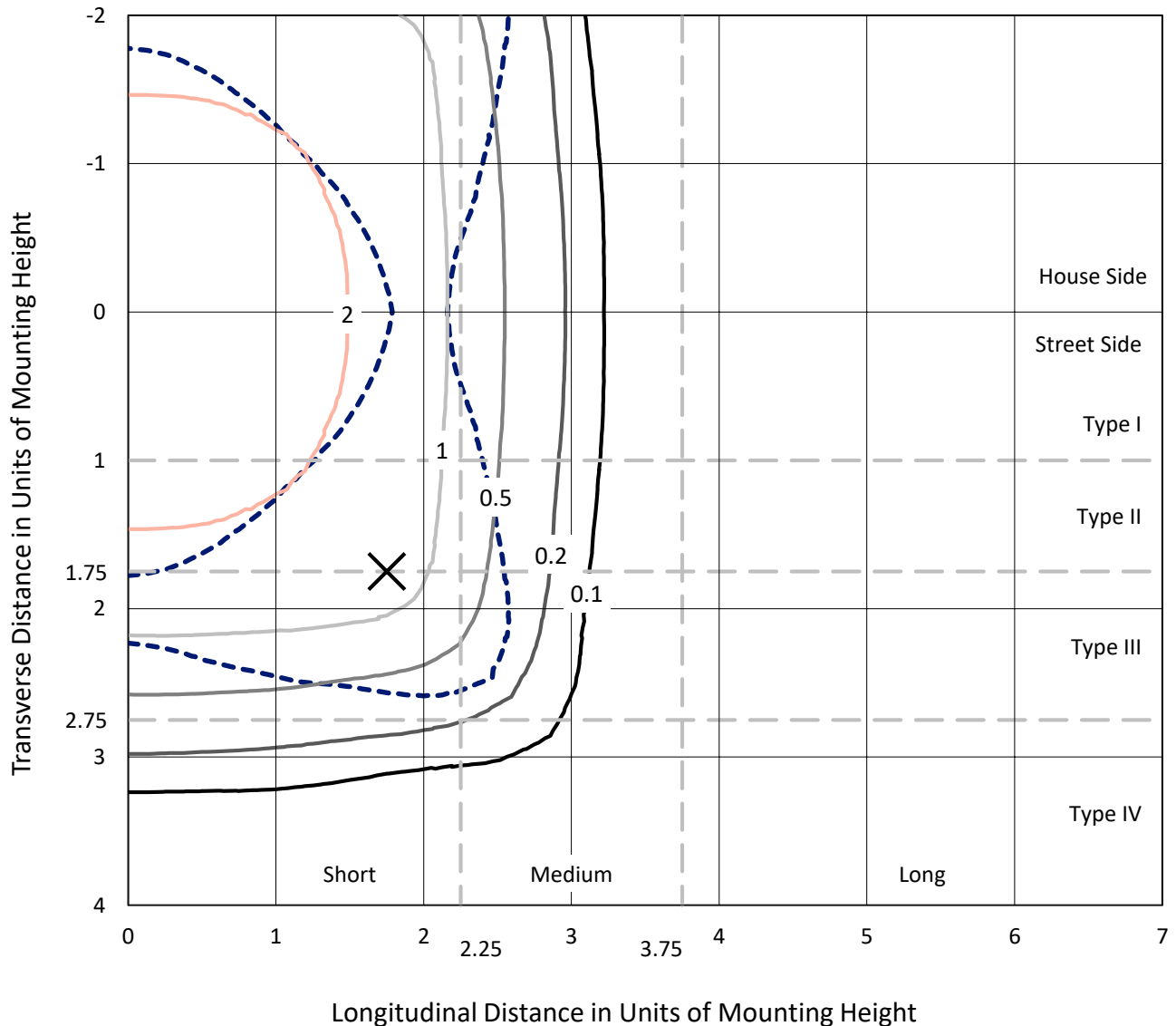


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Iso-Footcandle Lines of Horizontal Illumination

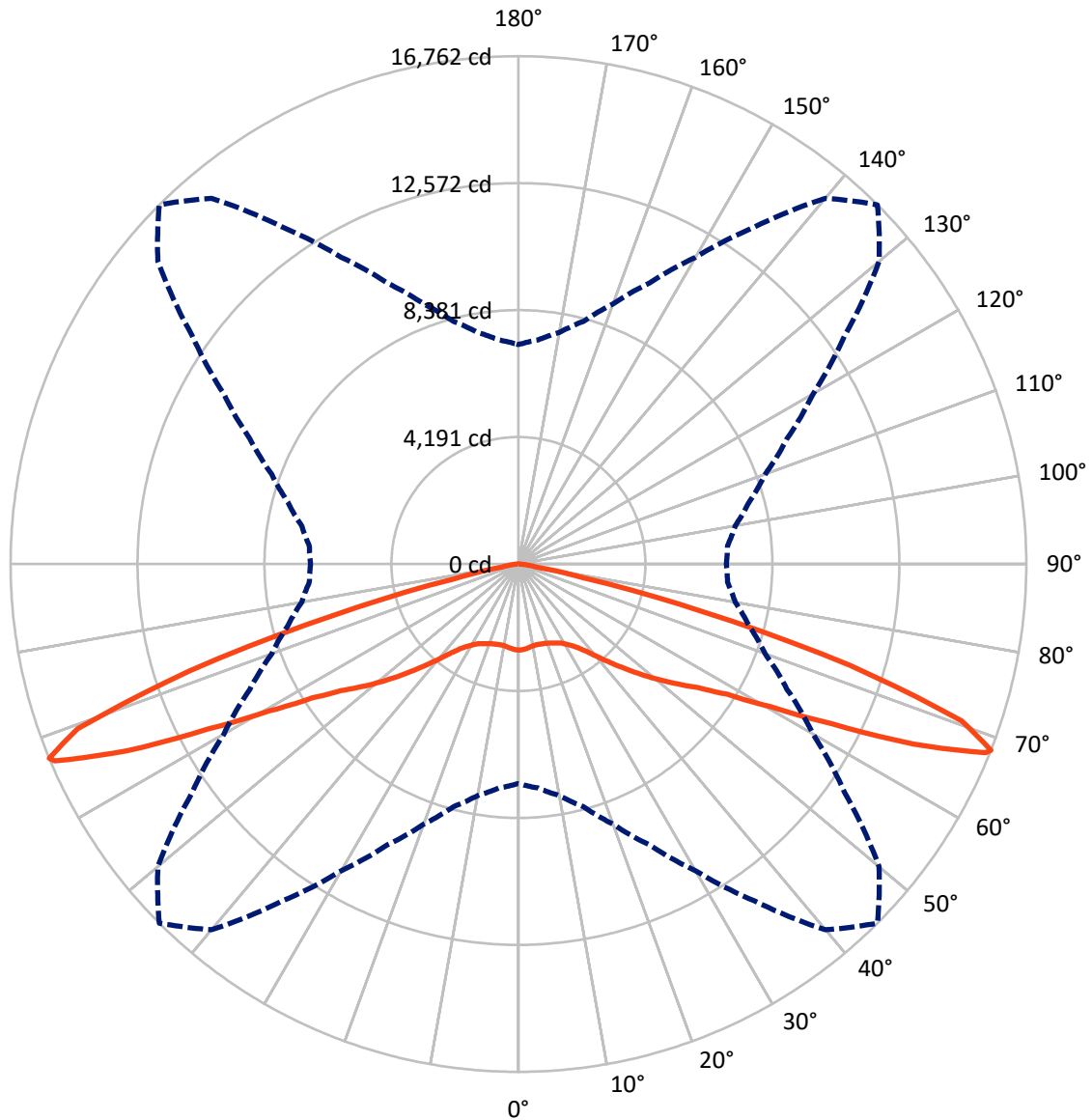
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	14251.0	0.0	14251.0
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	14251.0	0.0	14251.0
	% Fixture	50.0	0.0	50.0
Total	Lumens	28502.0	0.0	28502.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	266.0	0.9
10°-20°	771.6	2.7
20°-30°	1311.8	4.6
30°-40°	2146.7	7.5
40°-50°	3836.4	13.5
50°-60°	6479.0	22.7
60°-70°	10046.6	35.2
70°-80°	3454.2	12.1
80°-90°	189.8	0.7
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°	28502.0	100.0
0°-180°	28502.0	100.0



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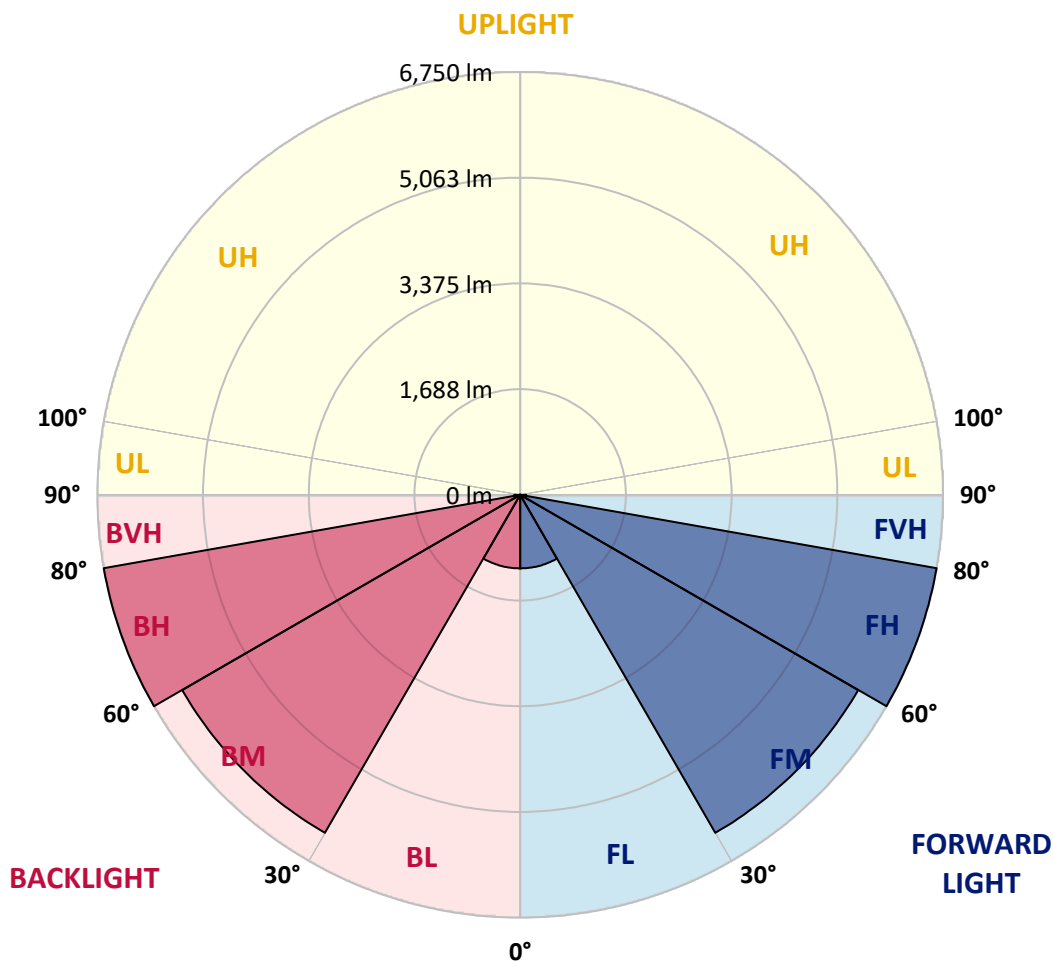
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1174.7	4.1			
FM	(30°-60°)	6231.0	21.9			
FH	(60°-80°)	6750.4	23.7			G3/7500
FVH	(80°-90°)	94.9	0.3			G1/100
BL	(0°-30°)	1174.7	4.1	B3/2500		
BM	(30°-60°)	6231.0	21.9	B4/8500		
BH	(60°-80°)	6750.4	23.7	B5		G3/7500
BVH	(80°-90°)	94.9	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G3

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2843.2	2843.2	2843.2	2843.2	2843.2	2843.2	2843.2	2843.2	2843.2	2843.2	2843.2
2.5°	2855.4	2855.4	2858.9	2857.1	2851.9	2846.7	2841.4	2836.2	2832.7	2829.2	2825.7
5°	2825.7	2825.7	2830.9	2827.5	2824.0	2818.7	2815.2	2810.0	2806.5	2803.0	2804.8
7.5°	2787.3	2790.8	2794.3	2792.5	2785.6	2783.8	2778.6	2776.8	2773.3	2768.1	2769.9
10°	2754.1	2755.9	2759.4	2757.6	2755.9	2750.7	2748.9	2747.2	2745.4	2738.4	2736.7
12.5°	2721.0	2724.5	2728.0	2729.7	2728.0	2729.7	2731.5	2733.2	2731.5	2728.0	2728.0
15°	2694.8	2698.3	2703.5	2708.8	2710.5	2721.0	2728.0	2734.9	2740.2	2741.9	2736.7
17.5°	2680.8	2686.1	2693.1	2703.5	2712.3	2724.5	2736.7	2747.2	2755.9	2757.6	2752.4
20°	2679.1	2684.3	2694.8	2707.0	2722.7	2738.4	2757.6	2773.3	2782.1	2787.3	2782.1
22.5°	2691.3	2698.3	2712.3	2728.0	2747.2	2768.1	2792.5	2810.0	2827.5	2834.4	2829.2
25°	2726.2	2733.2	2748.9	2768.1	2789.1	2815.2	2839.7	2862.4	2879.8	2888.5	2881.6
27.5°	2799.5	2801.3	2818.7	2839.7	2864.1	2886.8	2918.2	2928.7	2942.6	2951.4	2942.6
30°	2902.5	2906.0	2921.7	2954.9	2977.6	3007.2	3024.7	3035.1	3050.9	3059.6	3049.1
32.5°	3059.6	3063.1	3077.0	3108.5	3129.4	3152.1	3173.0	3180.0	3195.7	3206.2	3194.0
35°	3281.2	3288.2	3300.4	3321.4	3338.8	3356.3	3372.0	3366.8	3377.2	3391.2	3379.0
37.5°	3584.9	3583.2	3586.7	3602.4	3619.8	3630.3	3654.7	3642.5	3653.0	3665.2	3658.2
40°	3939.2	3939.2	3937.5	3965.4	3972.4	3982.9	4009.0	3993.3	4007.3	4021.3	4009.0
42.5°	4342.4	4349.4	4358.1	4380.8	4400.0	4403.5	4415.7	4408.7	4426.2	4438.4	4426.2
45°	4806.7	4817.1	4827.6	4880.0	4888.7	4895.7	4904.4	4881.7	4900.9	4911.4	4907.9
47.5°	5288.4	5307.6	5330.3	5384.4	5419.3	5435.0	5442.0	5415.8	5417.5	5433.2	5435.0
50°	5832.9	5853.9	5876.6	5937.6	5970.8	5998.7	6007.5	5977.8	5981.3	5993.5	5997.0
52.5°	6335.6	6360.0	6408.9	6490.9	6538.0	6586.9	6590.4	6553.8	6569.5	6578.2	6571.2
55°	6808.6	6840.0	6904.6	7014.5	7100.0	7196.0	7239.7	7199.5	7199.5	7192.5	7189.1
57.5°	7360.1	7395.0	7461.3	7588.7	7707.4	7845.3	7964.0	8004.1	8077.4	8101.9	8063.5
60°	8190.9	8227.5	8295.6	8463.2	8613.3	8814.0	9009.4	9168.3	9426.6	9566.2	9440.5
62.5°	8950.1	9006.0	9166.5	9459.7	9784.4	10156.1	10587.2	10894.4	11363.9	11597.8	11281.9
65°	8777.3	8890.8	9204.9	9665.7	10335.9	11142.3	12020.2	12863.2	13833.6	14331.0	13688.7
67.5°	7667.3	7763.3	8101.9	8637.7	9473.7	10585.5	11950.3	13695.7	15697.6	16629.6	15493.4
68°	7243.2	7422.9	7759.8	8292.1	9135.1	10227.7	11685.1	13570.0	15755.2	16762.2	15535.3
70°	5553.7	5618.3	5941.1	6419.4	7328.7	8400.3	9871.6	12020.2	14489.8	15526.5	14264.7
72.5°	2639.0	2677.4	2886.8	3358.0	3935.7	4808.4	6106.9	8133.3	10358.6	11437.2	10178.8
75°	966.9	975.6	1024.5	1136.2	1352.6	1680.8	2303.8	3564.0	5276.2	6292.0	5297.1
77.5°	521.9	523.6	542.8	570.7	609.1	652.8	747.0	1001.8	1616.2	2199.1	1706.9
80°	328.1	326.4	345.6	368.3	394.4	415.4	424.1	453.8	511.4	598.7	549.8
82.5°	167.6	183.3	226.9	251.3	289.7	296.7	288.0	286.2	303.7	328.1	338.6
85°	92.5	82.0	120.4	160.6	174.5	179.8	181.5	171.0	167.6	164.1	172.8
87.5°	47.1	43.6	52.4	80.3	85.5	69.8	71.6	61.1	41.9	41.9	43.6
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2843.2	2843.2	2843.2	2843.2	2843.2	2843.2	2843.2	2843.2
2.5°	2822.2	2824.0	2820.5	2820.5	2820.5	2822.2	2820.5	2818.7
5°	2799.5	2803.0	2803.0	2804.8	2806.5	2806.5	2806.5	2806.5
7.5°	2766.4	2768.1	2771.6	2771.6	2771.6	2771.6	2771.6	2771.6
10°	2734.9	2731.5	2729.7	2726.2	2726.2	2721.0	2722.7	2724.5
12.5°	2719.2	2712.3	2708.8	2703.5	2700.0	2694.8	2694.8	2696.6
15°	2726.2	2715.7	2705.3	2701.8	2698.3	2694.8	2691.3	2693.1
17.5°	2740.2	2728.0	2715.7	2708.8	2701.8	2696.6	2694.8	2696.6
20°	2769.9	2752.4	2733.2	2721.0	2707.0	2703.5	2698.3	2703.5
22.5°	2810.0	2789.1	2764.6	2741.9	2726.2	2719.2	2712.3	2717.5
25°	2858.9	2836.2	2811.7	2785.6	2768.1	2762.9	2754.1	2754.1
27.5°	2926.9	2907.7	2886.8	2862.4	2844.9	2839.7	2825.7	2825.7
30°	3035.1	3015.9	2996.7	2975.8	2958.4	2953.1	2935.7	2935.7
32.5°	3178.3	3157.3	3145.1	3127.6	3113.7	3105.0	3084.0	3082.3
35°	3370.3	3351.1	3349.3	3337.1	3323.1	3324.9	3303.9	3300.4
37.5°	3646.0	3630.3	3635.5	3625.1	3612.9	3623.3	3611.1	3611.1
40°	3998.6	3993.3	3998.6	3991.6	3993.3	3995.1	3984.6	3988.1
42.5°	4424.4	4410.5	4441.9	4438.4	4433.2	4447.1	4422.7	4405.2
45°	4914.9	4909.6	4941.1	4946.3	4935.8	4944.5	4900.9	4899.2
47.5°	5447.2	5447.2	5475.1	5471.6	5461.2	5462.9	5410.6	5377.4
50°	6002.2	5998.7	6026.7	6019.7	6005.7	6004.0	5949.9	5916.7
52.5°	6579.9	6579.9	6620.1	6600.9	6567.7	6552.0	6485.7	6442.1
55°	7218.7	7210.0	7222.2	7159.4	7094.8	7047.7	6965.7	6932.5
57.5°	8026.8	7925.6	7838.3	7758.0	7667.3	7611.4	7515.4	7480.5
60°	9173.5	8903.0	8786.0	8625.5	8475.4	8400.3	8272.9	8204.8
62.5°	10761.8	10313.2	9995.6	9641.3	9299.2	9058.3	8864.6	8779.1
65°	12597.9	11620.5	10812.4	10053.2	9409.1	8897.7	8613.3	8524.2
67.5°	13296.0	11501.8	10107.3	9018.2	8236.3	7627.1	7286.8	7215.2
68°	13147.6	11229.5	9780.9	8665.6	7880.2	7265.9	6927.3	6862.7
70°	11597.8	9473.7	7944.8	6834.8	6101.7	5517.0	5277.9	5174.9
72.5°	7906.4	6084.3	4667.0	3733.3	3185.2	2815.2	2595.3	2520.3
75°	3639.0	2459.2	1642.4	1227.0	1042.0	953.0	884.9	867.4
77.5°	1061.2	771.4	663.2	614.4	577.7	546.3	523.6	521.9
80°	504.4	473.0	459.0	427.6	394.4	364.8	343.8	347.3
82.5°	338.6	329.9	329.9	298.5	246.1	211.2	174.5	157.1
85°	179.8	186.8	197.2	186.8	162.3	120.4	78.5	85.5
87.5°	61.1	69.8	73.3	71.6	64.6	48.9	36.7	36.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)