

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: P196895

Luminaire Tested: **NAV-AF-05-D-UNV-5MQ-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196895
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-05-D-UNV-5MQ-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 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: 28665 lumens
Efficiency: N/A
Efficacy: 89.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B5 - U0 - G3

Input Watts (W): 320
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

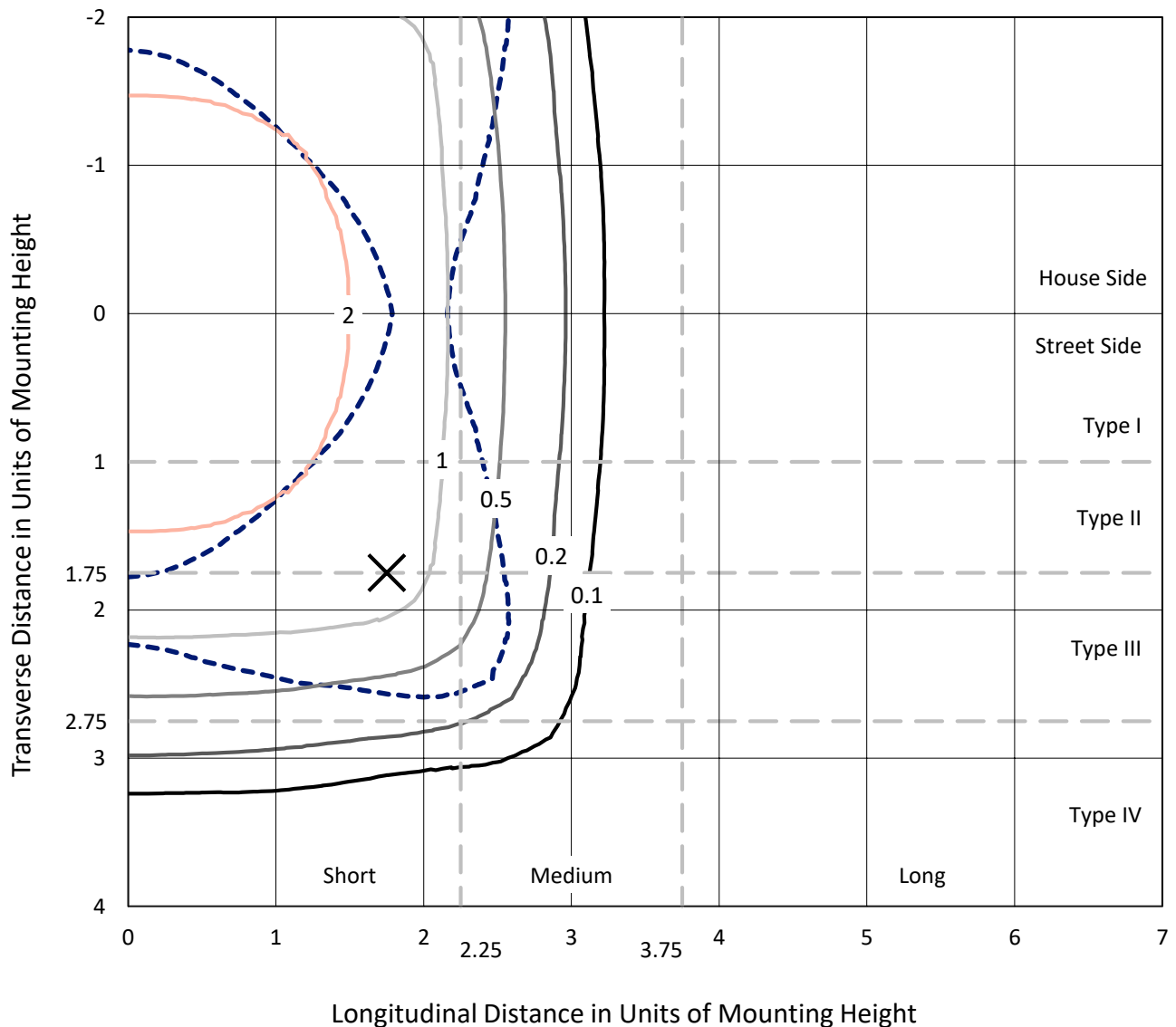


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Iso-Footcandle Lines of Horizontal Illumination

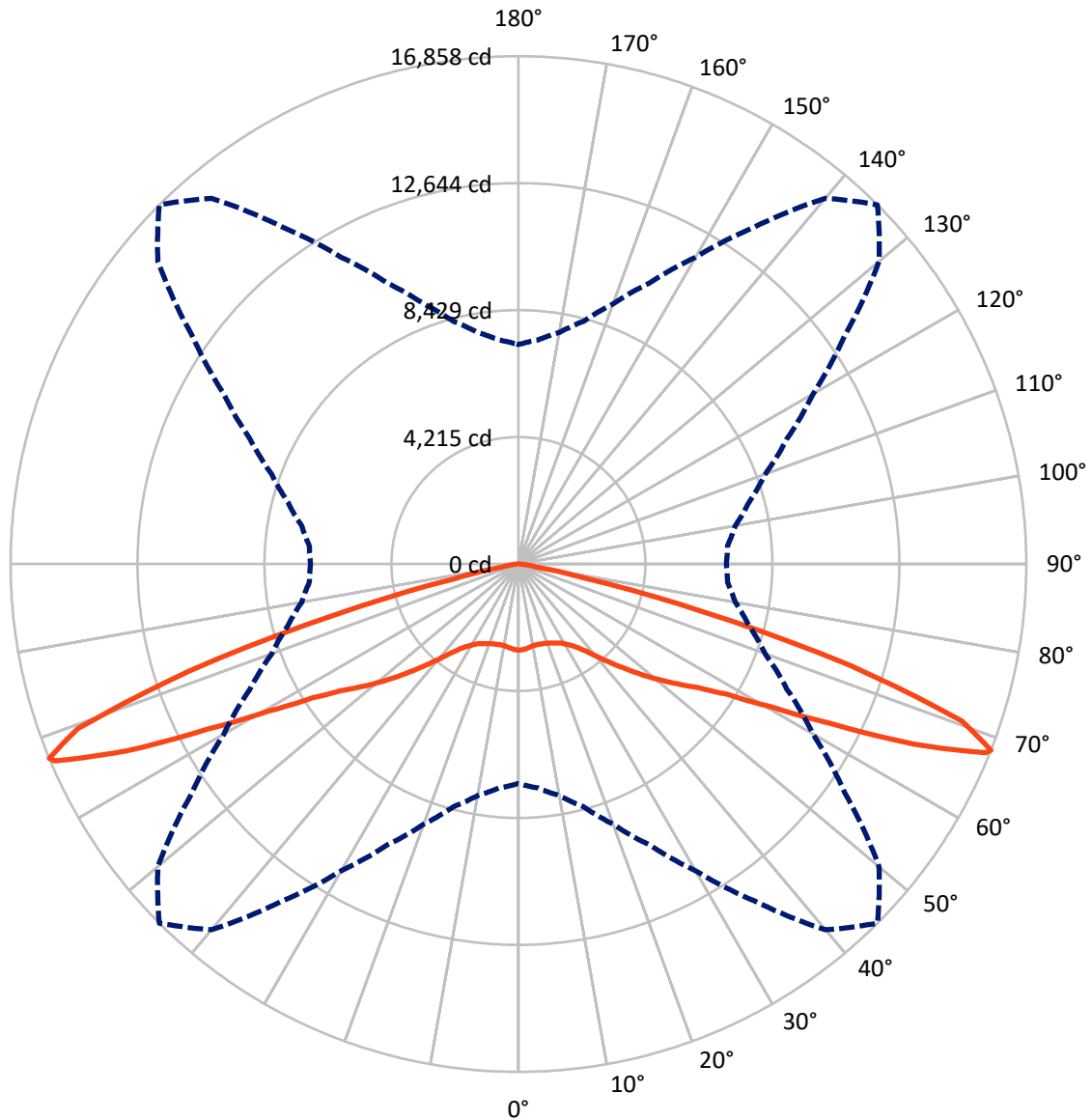
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 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	14332.5	0.0	14332.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	14332.5	0.0	14332.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	28665.0	0.0	28665.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	267.6	0.9
10°-20°	776.0	2.7
20°-30°	1319.3	4.6
30°-40°	2158.9	7.5
40°-50°	3858.3	13.5
50°-60°	6516.1	22.7
60°-70°	10104.0	35.2
70°-80°	3474.0	12.1
80°-90°	190.9	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°	28665.0	100.0
0°-180°	28665.0	100.0



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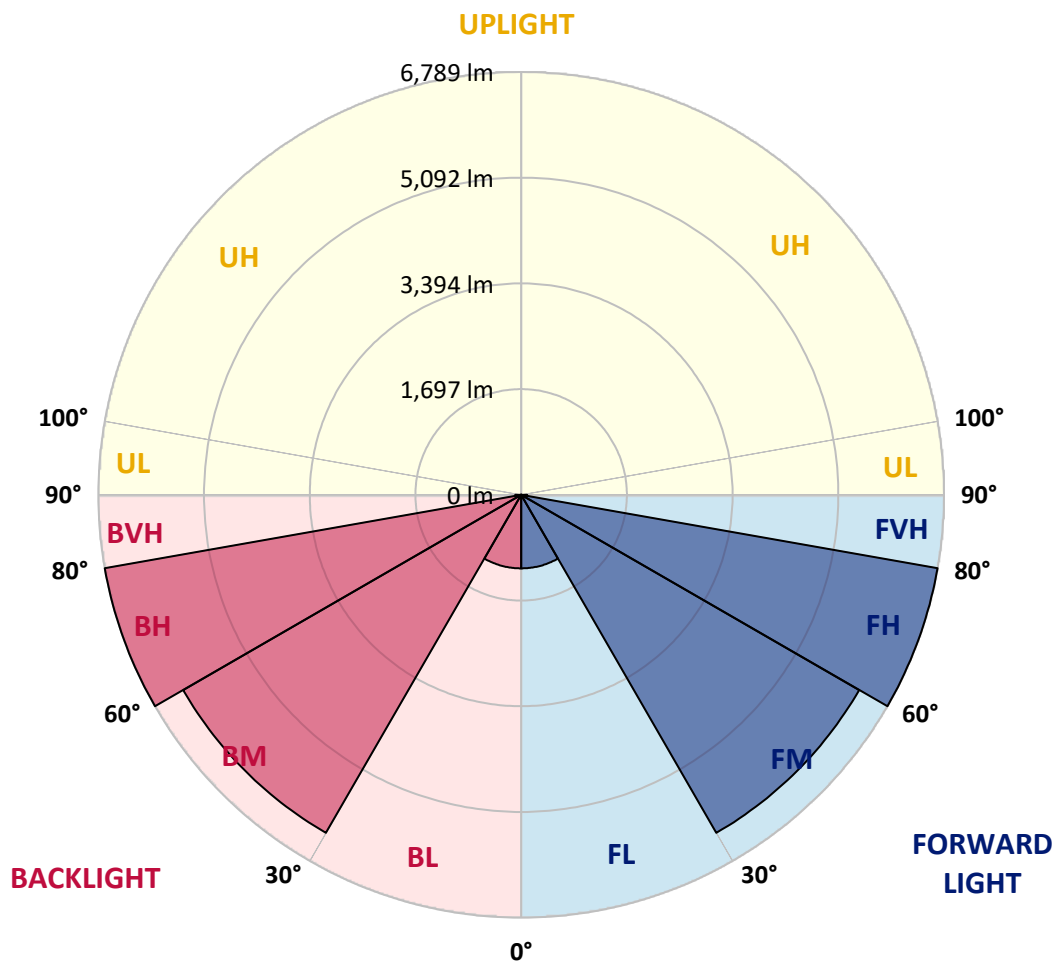
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1181.4	4.1			
FM	(30°-60°)	6266.6	21.9			
FH	(60°-80°)	6789.0	23.7			G3/7500
FVH	(80°-90°)	95.5	0.3			G1/100
BL	(0°-30°)	1181.4	4.1	B3/2500		
BM	(30°-60°)	6266.6	21.9	B4/8500		
BH	(60°-80°)	6789.0	23.7	B5		G3/7500
BVH	(80°-90°)	95.5	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°	2859.4	2859.4	2859.4	2859.4	2859.4	2859.4	2859.4	2859.4	2859.4	2859.4	2859.4
2.5°	2871.7	2871.7	2875.2	2873.5	2868.2	2862.9	2857.7	2852.4	2848.9	2845.4	2841.9
5°	2841.9	2841.9	2847.1	2843.6	2840.1	2834.8	2831.3	2826.1	2822.6	2819.0	2820.8
7.5°	2803.2	2806.8	2810.3	2808.5	2801.5	2799.7	2794.5	2792.7	2789.2	2783.9	2785.7
10°	2769.9	2771.7	2775.2	2773.4	2771.7	2766.4	2764.6	2762.9	2761.1	2754.1	2752.3
12.5°	2736.5	2740.1	2743.6	2745.3	2743.6	2745.3	2747.1	2748.8	2747.1	2743.6	2743.6
15°	2710.2	2713.7	2719.0	2724.3	2726.0	2736.5	2743.6	2750.6	2755.9	2757.6	2752.3
17.5°	2696.2	2701.4	2708.5	2719.0	2727.8	2740.1	2752.3	2762.9	2771.7	2773.4	2768.1
20°	2694.4	2699.7	2710.2	2722.5	2738.3	2754.1	2773.4	2789.2	2798.0	2803.2	2798.0
22.5°	2706.7	2713.7	2727.8	2743.6	2762.9	2783.9	2808.5	2826.1	2843.6	2850.6	2845.4
25°	2741.8	2748.8	2764.6	2783.9	2805.0	2831.3	2855.9	2878.7	2896.3	2905.1	2898.0
27.5°	2815.5	2817.3	2834.8	2855.9	2880.5	2903.3	2934.9	2945.4	2959.5	2968.2	2959.5
30°	2919.1	2922.6	2938.4	2971.8	2994.6	3024.4	3042.0	3052.5	3068.3	3077.1	3066.5
32.5°	3077.1	3080.6	3094.6	3126.2	3147.3	3170.1	3191.2	3198.2	3214.0	3224.5	3212.2
35°	3300.0	3307.0	3319.3	3340.4	3357.9	3375.5	3391.3	3386.0	3396.5	3410.6	3398.3
37.5°	3605.4	3603.7	3607.2	3623.0	3640.5	3651.1	3675.6	3663.4	3673.9	3686.2	3679.2
40°	3961.8	3961.8	3960.0	3988.1	3995.1	4005.6	4032.0	4016.2	4030.2	4044.3	4032.0
42.5°	4367.2	4374.3	4383.0	4405.9	4425.2	4428.7	4441.0	4433.9	4451.5	4463.8	4451.5
45°	4834.2	4844.7	4855.2	4907.9	4916.7	4923.7	4932.5	4909.6	4928.9	4939.5	4936.0
47.5°	5318.6	5337.9	5360.8	5415.2	5450.3	5466.1	5473.1	5446.8	5448.5	5464.3	5466.1
50°	5866.3	5887.3	5910.2	5971.6	6005.0	6033.0	6041.8	6012.0	6015.5	6027.8	6031.3
52.5°	6371.8	6396.4	6445.5	6528.0	6575.4	6624.6	6628.1	6591.2	6607.0	6615.8	6608.8
55°	6847.5	6879.1	6944.1	7054.6	7140.6	7237.2	7281.1	7240.7	7240.7	7233.7	7230.2
57.5°	7402.2	7437.3	7504.0	7632.1	7751.5	7890.2	8009.5	8049.9	8123.6	8148.2	8109.6
60°	8237.7	8274.6	8343.0	8511.6	8662.5	8864.4	9061.0	9220.7	9480.5	9620.9	9494.5
62.5°	9001.3	9057.5	9218.9	9513.8	9840.3	10214.2	10647.8	10956.7	11428.9	11664.1	11346.4
65°	8827.5	8941.6	9257.6	9721.0	10395.0	11206.0	12088.9	12936.7	13912.7	14412.9	13767.0
67.5°	7711.1	7807.7	8148.2	8687.1	9527.9	10646.0	12018.7	13774.0	15787.4	16724.7	15582.0
68°	7284.6	7465.4	7804.2	8339.5	9187.4	10286.2	11751.9	13647.6	15845.3	16858.1	15624.1
70°	5585.4	5650.4	5975.1	6456.1	7370.6	8448.4	9928.1	12088.9	14572.7	15615.3	14346.2
72.5°	2654.0	2692.7	2903.3	3377.2	3958.3	4835.9	6141.9	8179.8	10417.8	11502.6	10237.0
75°	972.4	981.2	1030.4	1142.7	1360.4	1690.4	2317.0	3584.4	5306.3	6327.9	5327.4
77.5°	524.8	526.6	545.9	574.0	612.6	656.5	751.3	1007.6	1625.4	2211.7	1716.7
80°	330.0	328.2	347.6	370.4	396.7	417.8	426.5	456.4	514.3	602.1	552.9
82.5°	168.5	184.3	228.2	252.8	291.4	298.4	289.6	287.9	305.4	330.0	340.5
85°	93.0	82.5	121.1	161.5	175.5	180.8	182.6	172.0	168.5	165.0	173.8
87.5°	47.4	43.9	52.7	80.7	86.0	70.2	72.0	61.4	42.1	42.1	43.9
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2859.4	2859.4	2859.4	2859.4	2859.4	2859.4	2859.4	2859.4
2.5°	2838.4	2840.1	2836.6	2836.6	2836.6	2838.4	2836.6	2834.8
5°	2815.5	2819.0	2819.0	2820.8	2822.6	2822.6	2822.6	2822.6
7.5°	2782.2	2783.9	2787.5	2787.5	2787.5	2787.5	2787.5	2787.5
10°	2750.6	2747.1	2745.3	2741.8	2741.8	2736.5	2738.3	2740.1
12.5°	2734.8	2727.8	2724.3	2719.0	2715.5	2710.2	2710.2	2712.0
15°	2741.8	2731.3	2720.7	2717.2	2713.7	2710.2	2706.7	2708.5
17.5°	2755.9	2743.6	2731.3	2724.3	2717.2	2712.0	2710.2	2712.0
20°	2785.7	2768.1	2748.8	2736.5	2722.5	2719.0	2713.7	2719.0
22.5°	2826.1	2805.0	2780.4	2757.6	2741.8	2734.8	2727.8	2733.0
25°	2875.2	2852.4	2827.8	2801.5	2783.9	2778.7	2769.9	2769.9
27.5°	2943.7	2924.4	2903.3	2878.7	2861.2	2855.9	2841.9	2841.9
30°	3052.5	3033.2	3013.9	2992.8	2975.3	2970.0	2952.5	2952.5
32.5°	3196.4	3175.4	3163.1	3145.5	3131.5	3122.7	3101.7	3099.9
35°	3389.5	3370.2	3368.5	3356.2	3342.1	3343.9	3322.8	3319.3
37.5°	3666.9	3651.1	3656.3	3645.8	3633.5	3644.0	3631.8	3631.8
40°	4021.4	4016.2	4021.4	4014.4	4016.2	4017.9	4007.4	4010.9
42.5°	4449.7	4435.7	4467.3	4463.8	4458.5	4472.6	4448.0	4430.4
45°	4943.0	4937.7	4969.3	4974.6	4964.0	4972.8	4928.9	4927.2
47.5°	5478.4	5478.4	5506.4	5502.9	5492.4	5494.2	5441.5	5408.1
50°	6036.6	6033.0	6061.1	6054.1	6040.1	6038.3	5983.9	5950.5
52.5°	6617.6	6617.6	6657.9	6638.6	6605.3	6589.5	6522.8	6478.9
55°	7260.0	7251.2	7263.5	7200.3	7135.4	7088.0	7005.5	6972.1
57.5°	8072.7	7970.9	7883.1	7802.4	7711.1	7655.0	7558.4	7523.3
60°	9226.0	8953.9	8836.3	8674.8	8523.8	8448.4	8320.2	8251.8
62.5°	10823.3	10372.2	10052.7	9696.4	9352.4	9110.1	8915.3	8829.3
65°	12669.9	11686.9	10874.2	10110.7	9462.9	8948.6	8662.5	8573.0
67.5°	13372.0	11567.6	10165.1	9069.7	8283.4	7670.8	7328.5	7256.5
68°	13222.8	11293.7	9836.8	8715.2	7925.3	7307.4	6966.9	6901.9
70°	11664.1	9527.9	7990.2	6873.8	6136.6	5548.6	5308.1	5204.5
72.5°	7951.6	6119.1	4693.7	3754.6	3203.5	2831.3	2610.2	2534.7
75°	3659.8	2473.2	1651.8	1234.0	1047.9	958.4	889.9	872.4
77.5°	1067.2	775.9	667.0	617.9	581.0	549.4	526.6	524.8
80°	507.3	475.7	461.6	430.1	396.7	366.9	345.8	349.3
82.5°	340.5	331.8	331.8	300.2	247.5	212.4	175.5	158.0
85°	180.8	187.8	198.4	187.8	163.2	121.1	79.0	86.0
87.5°	61.4	70.2	73.7	72.0	64.9	49.1	36.9	36.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)