

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: P195934

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195934
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-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 4000K, 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: 29156.2 lumens
Efficiency: N/A
Efficacy: 113.0 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

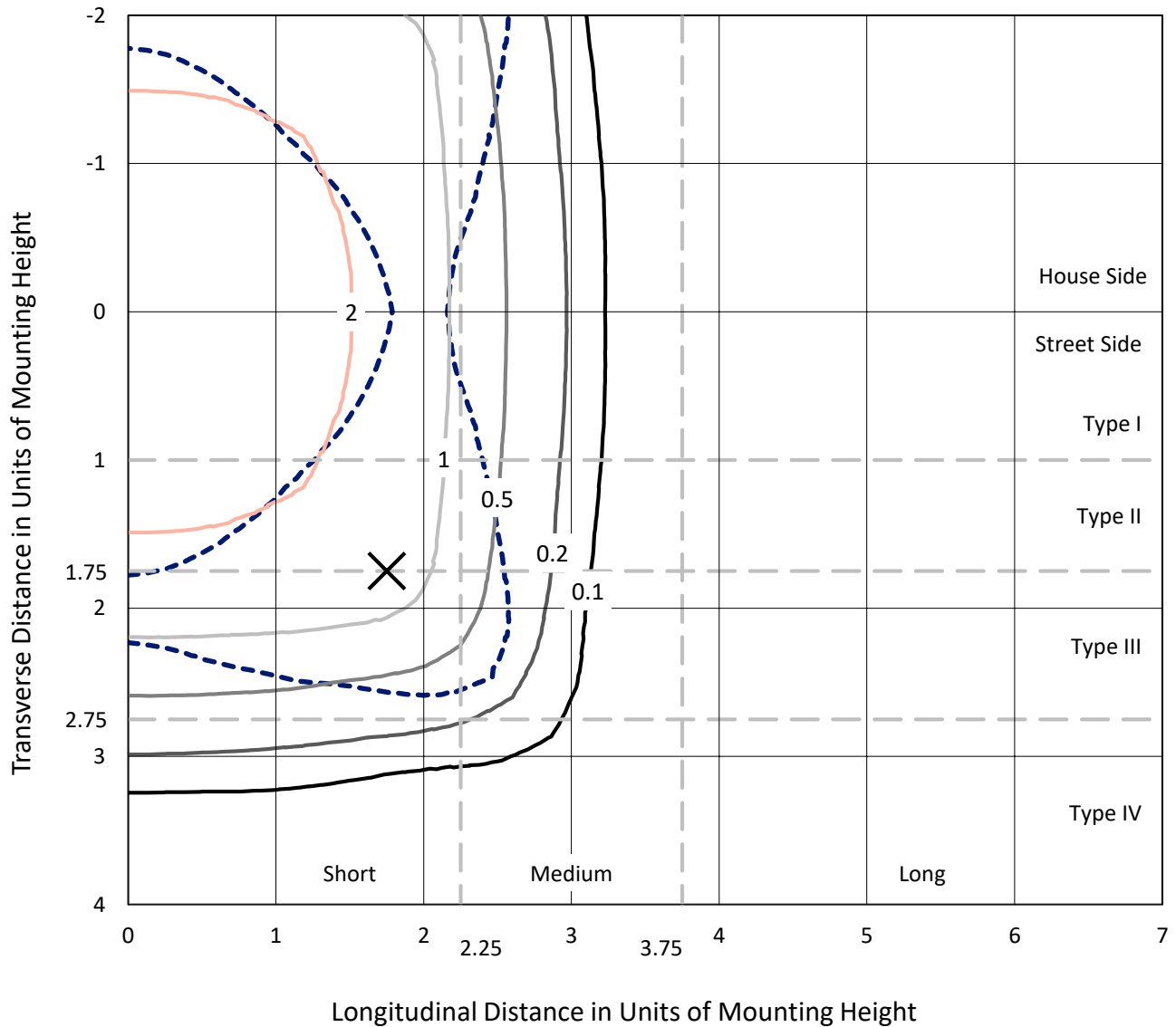


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Iso-Footcandle Lines of Horizontal Illumination

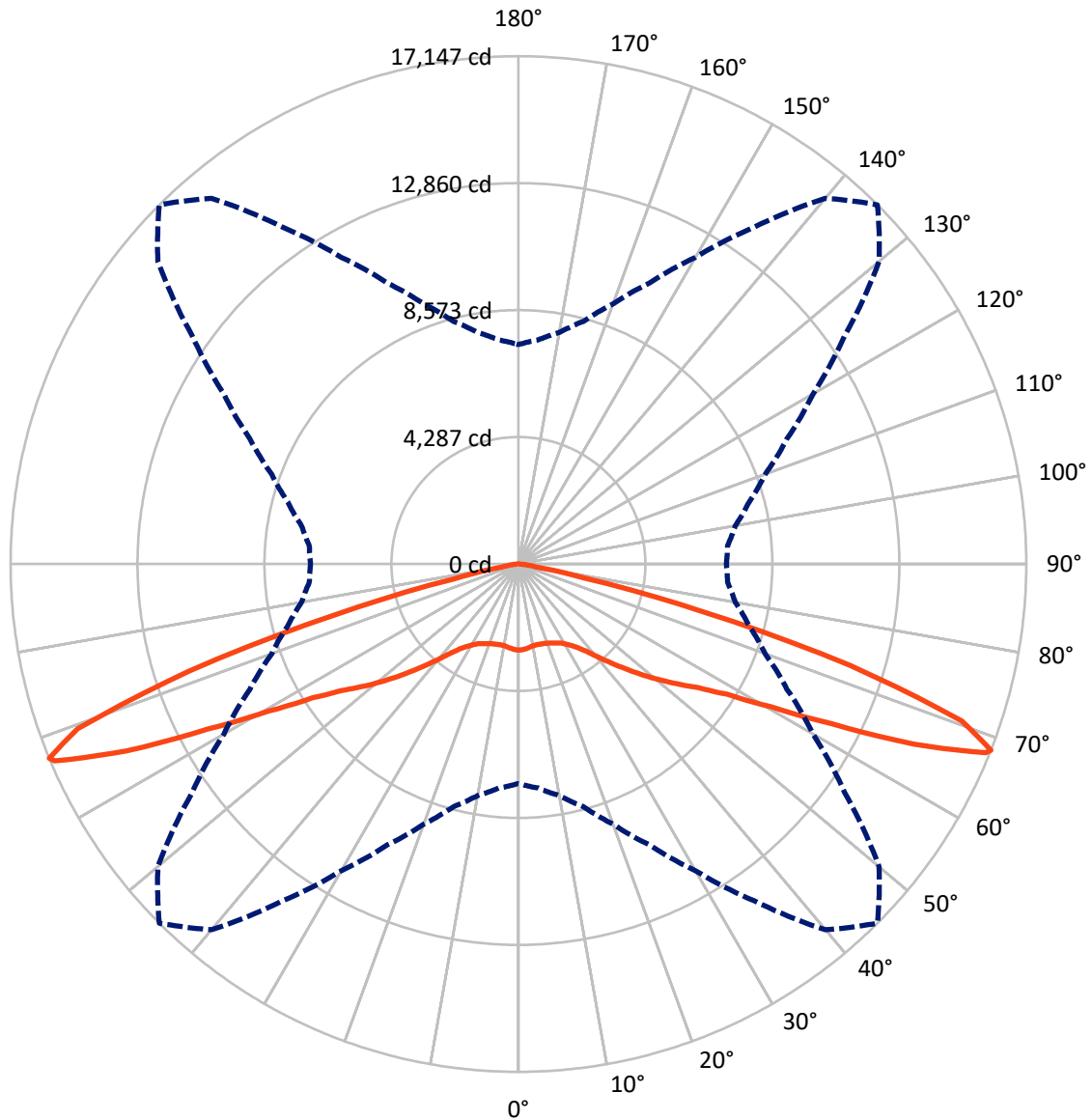
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 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	14578.1	0.0	14578.1
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	14578.1	0.0	14578.1
	% Fixture	50.0	0.0	50.0
Total	Lumens	29156.2	0.0	29156.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	272.1	0.9
10°-20°	789.3	2.7
20°-30°	1341.9	4.6
30°-40°	2195.9	7.5
40°-50°	3924.4	13.5
50°-60°	6627.7	22.7
60°-70°	10277.1	35.2
70°-80°	3533.5	12.1
80°-90°	194.2	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°	29156.2	100.0
0°-180°	29156.2	100.0



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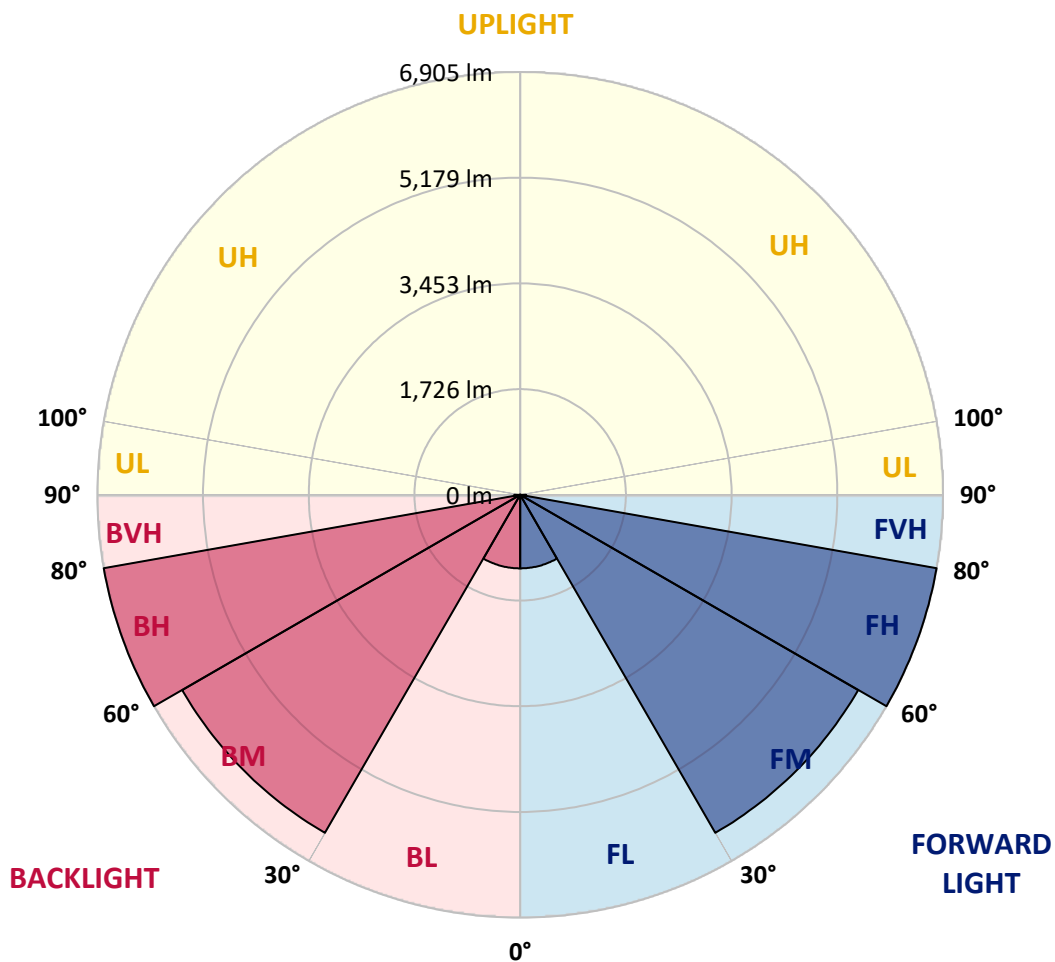
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1201.6	4.1			
FM	(30°-60°)	6374.0	21.9			
FH	(60°-80°)	6905.3	23.7			G3/7500
FVH	(80°-90°)	97.1	0.3			G1/100
BL	(0°-30°)	1201.6	4.1	B3/2500		
BM	(30°-60°)	6374.0	21.9	B4/8500		
BH	(60°-80°)	6905.3	23.7	B5		G3/7500
BVH	(80°-90°)	97.1	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°	2908.5	2908.5	2908.5	2908.5	2908.5	2908.5	2908.5	2908.5	2908.5	2908.5	2908.5
2.5°	2920.9	2920.9	2924.5	2922.7	2917.4	2912.0	2906.6	2901.3	2897.7	2894.1	2890.6
5°	2890.6	2890.6	2895.9	2892.4	2888.8	2883.4	2879.8	2874.5	2870.9	2867.3	2869.2
7.5°	2851.3	2854.9	2858.4	2856.6	2849.5	2847.7	2842.4	2840.5	2836.9	2831.6	2833.5
10°	2817.3	2819.2	2822.7	2820.9	2819.2	2813.8	2812.0	2810.3	2808.4	2801.2	2799.5
12.5°	2783.4	2787.0	2790.6	2792.3	2790.6	2792.3	2794.2	2795.9	2794.2	2790.6	2790.6
15°	2756.6	2760.2	2765.5	2771.0	2772.7	2783.4	2790.6	2797.7	2803.1	2804.8	2799.5
17.5°	2742.3	2747.7	2754.9	2765.5	2774.5	2787.0	2799.5	2810.3	2819.2	2820.9	2815.6
20°	2740.6	2745.9	2756.6	2769.1	2785.2	2801.2	2820.9	2836.9	2846.0	2851.3	2846.0
22.5°	2753.1	2760.2	2774.5	2790.6	2810.3	2831.6	2856.6	2874.5	2892.4	2899.5	2894.1
25°	2788.8	2795.9	2812.0	2831.6	2853.1	2879.8	2904.9	2928.1	2945.9	2954.8	2947.7
27.5°	2863.8	2865.6	2883.4	2904.9	2929.8	2953.1	2985.2	2995.9	3010.1	3019.1	3010.1
30°	2969.1	2972.7	2988.8	3022.7	3045.9	3076.2	3094.1	3104.8	3120.9	3129.8	3119.1
32.5°	3129.8	3133.4	3147.6	3179.8	3201.2	3224.4	3245.8	3253.0	3269.0	3279.8	3267.3
35°	3356.5	3363.7	3376.1	3397.6	3415.4	3433.3	3449.4	3444.1	3454.7	3469.0	3456.6
37.5°	3667.2	3665.4	3669.0	3685.1	3702.9	3713.6	3738.6	3726.1	3736.8	3749.3	3742.2
40°	4029.6	4029.6	4027.9	4056.4	4063.6	4074.3	4101.0	4084.9	4099.3	4113.6	4101.0
42.5°	4442.1	4449.2	4458.1	4481.3	4501.0	4504.6	4517.0	4509.9	4527.8	4540.3	4527.8
45°	4917.0	4927.7	4938.4	4992.0	5000.9	5008.1	5017.0	4993.7	5013.4	5024.1	5020.5
47.5°	5409.8	5429.4	5452.6	5508.0	5543.7	5559.7	5566.9	5540.1	5541.8	5557.9	5559.7
50°	5966.8	5988.3	6011.5	6073.9	6107.8	6136.4	6145.4	6115.0	6118.6	6131.1	6134.6
52.5°	6481.0	6506.0	6556.0	6639.9	6688.1	6738.1	6741.7	6704.2	6720.3	6729.2	6722.0
55°	6964.9	6997.0	7063.1	7175.5	7263.0	7361.2	7405.9	7364.7	7364.7	7357.6	7354.1
57.5°	7529.0	7564.7	7632.5	7762.9	7884.3	8025.4	8146.8	8187.8	8262.8	8287.8	8248.6
60°	8378.9	8416.3	8486.0	8657.4	8811.0	9016.3	9216.2	9378.7	9642.9	9785.8	9657.2
62.5°	9155.5	9212.7	9376.9	9676.8	10009.0	10389.2	10830.2	11144.4	11624.7	11864.0	11540.8
65°	8978.7	9094.9	9416.2	9887.5	10573.1	11398.0	12296.1	13158.4	14151.1	14659.9	14002.9
67.5°	7843.3	7941.5	8287.8	8835.9	9691.1	10828.4	12224.6	14010.0	16057.9	17011.3	15849.0
68°	7409.4	7593.3	7937.9	8482.4	9344.8	10462.4	11953.3	13881.4	16116.8	17146.9	15891.8
70°	5681.2	5747.2	6077.5	6566.7	7496.9	8593.1	10098.2	12296.1	14822.4	15882.8	14592.1
72.5°	2699.6	2738.8	2953.1	3435.1	4026.0	4918.8	6247.1	8320.0	10596.3	11699.7	10412.4
75°	989.1	998.0	1048.0	1162.3	1383.6	1719.4	2356.7	3645.8	5397.3	6436.4	5418.7
77.5°	533.9	535.6	555.3	583.8	623.1	667.8	764.1	1024.8	1653.3	2249.6	1746.1
80°	335.6	333.9	353.5	376.8	403.5	424.9	433.8	464.2	523.1	612.4	562.4
82.5°	171.4	187.5	232.1	257.1	296.3	303.5	294.6	292.8	310.7	335.6	346.4
85°	94.6	83.9	123.2	164.3	178.5	183.9	185.7	174.9	171.4	167.9	176.8
87.5°	48.2	44.6	53.6	82.1	87.5	71.4	73.2	62.5	42.9	42.9	44.6
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°	2908.5	2908.5	2908.5	2908.5	2908.5	2908.5	2908.5	2908.5
2.5°	2887.0	2888.8	2885.2	2885.2	2885.2	2887.0	2885.2	2883.4
5°	2863.8	2867.3	2867.3	2869.2	2870.9	2870.9	2870.9	2870.9
7.5°	2829.9	2831.6	2835.2	2835.2	2835.2	2835.2	2835.2	2835.2
10°	2797.7	2794.2	2792.3	2788.8	2788.8	2783.4	2785.2	2787.0
12.5°	2781.6	2774.5	2771.0	2765.5	2762.0	2756.6	2756.6	2758.5
15°	2788.8	2778.0	2767.4	2763.8	2760.2	2756.6	2753.1	2754.9
17.5°	2803.1	2790.6	2778.0	2771.0	2763.8	2758.5	2756.6	2758.5
20°	2833.5	2815.6	2795.9	2783.4	2769.1	2765.5	2760.2	2765.5
22.5°	2874.5	2853.1	2828.0	2804.8	2788.8	2781.6	2774.5	2779.9
25°	2924.5	2901.3	2876.2	2849.5	2831.6	2826.3	2817.3	2817.3
27.5°	2994.1	2974.4	2953.1	2928.1	2910.2	2904.9	2890.6	2890.6
30°	3104.8	3085.1	3065.5	3044.1	3026.3	3020.9	3003.1	3003.1
32.5°	3251.2	3229.8	3217.3	3199.4	3185.2	3176.3	3154.8	3153.0
35°	3447.7	3428.0	3426.2	3413.7	3399.4	3401.2	3379.7	3376.1
37.5°	3729.7	3713.6	3718.9	3708.3	3695.8	3706.5	3694.0	3694.0
40°	4090.4	4084.9	4090.4	4083.2	4084.9	4086.8	4076.0	4079.6
42.5°	4525.9	4511.7	4543.8	4540.3	4534.9	4549.2	4524.2	4506.3
45°	5027.7	5022.3	5054.5	5059.8	5049.1	5058.0	5013.4	5011.6
47.5°	5572.2	5572.2	5600.8	5597.2	5586.5	5588.3	5534.8	5500.8
50°	6140.0	6136.4	6165.0	6157.9	6143.5	6141.8	6086.5	6052.5
52.5°	6730.9	6730.9	6772.0	6752.4	6718.4	6702.4	6634.6	6590.0
55°	7384.4	7375.5	7388.0	7323.7	7257.6	7209.5	7125.6	7091.6
57.5°	8211.0	8107.5	8018.2	7936.1	7843.3	7786.1	7687.9	7652.2
60°	9384.0	9107.3	8987.6	8823.5	8669.9	8593.1	8462.8	8393.1
62.5°	11008.8	10549.9	10225.0	9862.6	9512.6	9266.2	9068.0	8980.6
65°	12887.0	11887.2	11060.6	10283.9	9625.0	9101.9	8811.0	8719.8
67.5°	13601.2	11765.8	10339.3	9225.2	8425.3	7802.1	7454.0	7380.8
68°	13449.3	11487.2	10005.4	8864.5	8061.1	7432.7	7086.3	7020.2
70°	11864.0	9691.1	8127.1	6991.7	6241.7	5643.6	5399.0	5293.7
72.5°	8087.9	6223.9	4774.1	3819.0	3258.3	2879.8	2654.9	2578.1
75°	3722.5	2515.6	1680.1	1255.2	1065.9	974.9	905.2	887.3
77.5°	1085.6	789.1	678.4	628.5	591.0	558.8	535.6	533.9
80°	516.0	483.9	469.5	437.4	403.5	373.2	351.7	355.3
82.5°	346.4	337.5	337.5	305.4	251.7	216.0	178.5	160.7
85°	183.9	191.1	201.7	191.1	166.0	123.2	80.3	87.5
87.5°	62.5	71.4	75.0	73.2	66.1	50.0	37.5	37.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)