

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: P195461

Luminaire Tested: **NAV-AF-05-D-UNV-5NQ-7050-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195461
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24130)
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-5NQ-7050-600
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20367 lumens
Efficiency: N/A
Efficacy: 125.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

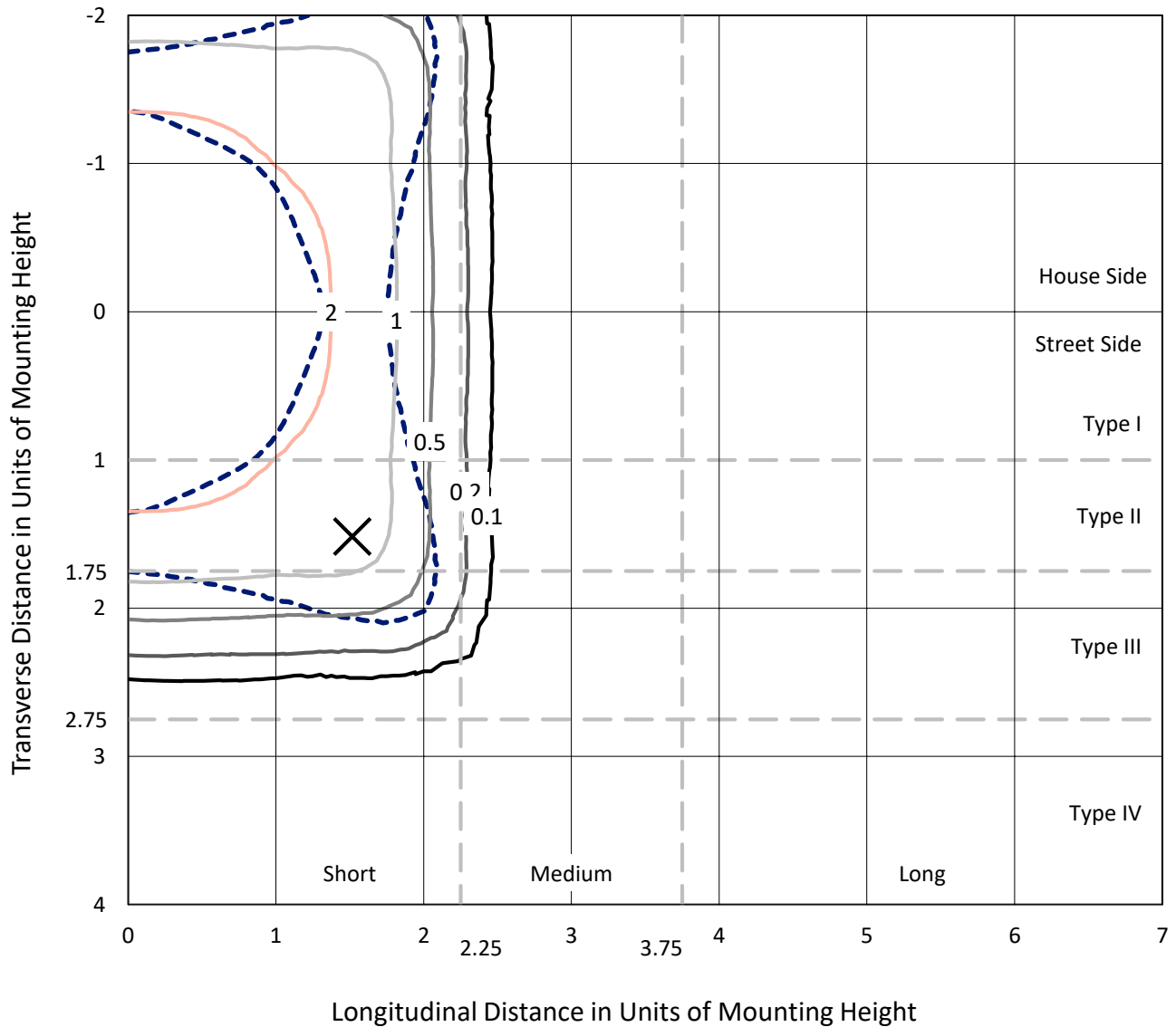
Input Watts (W): 162
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

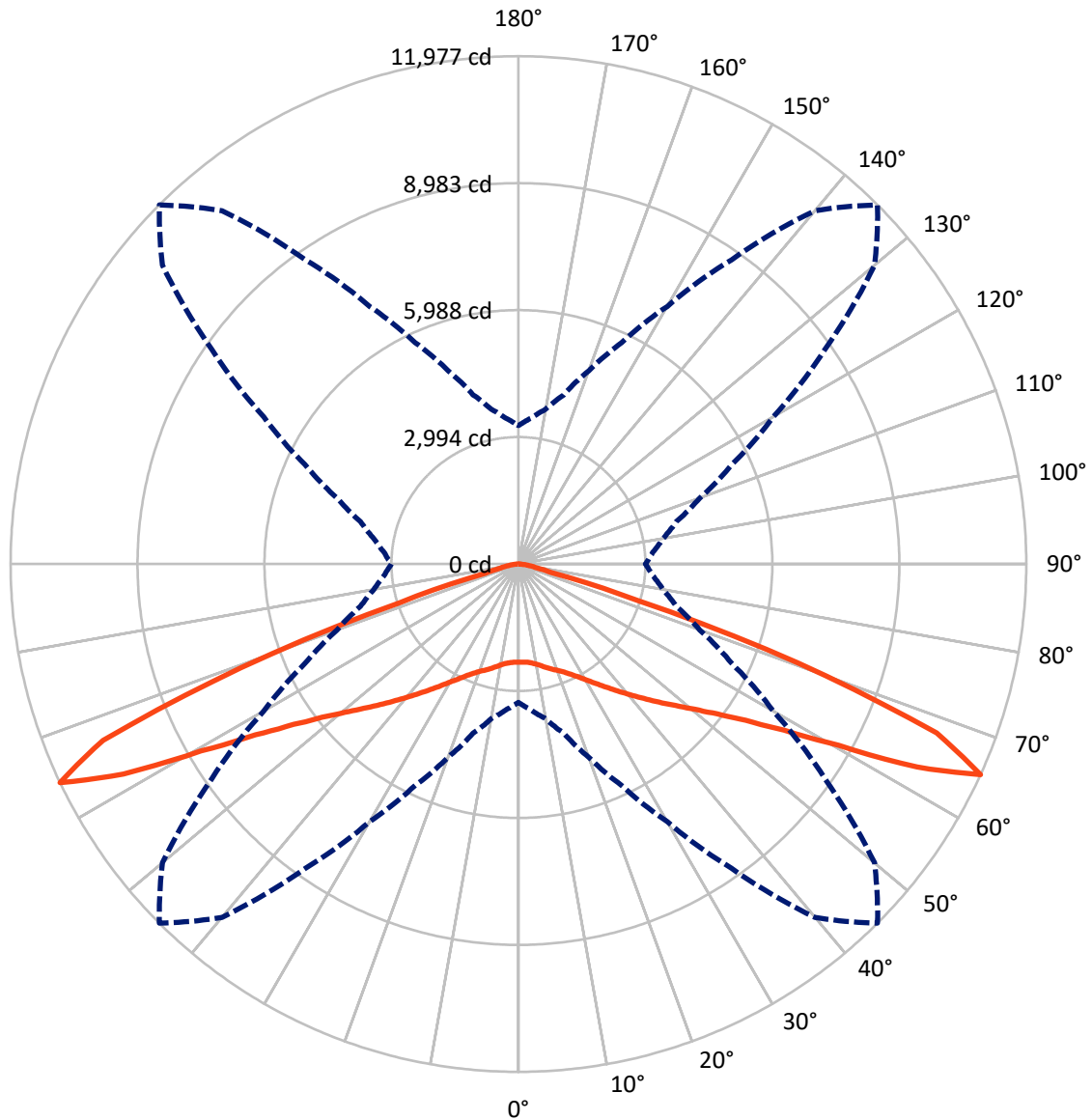
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type V - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10183.5	0.0	10183.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10183.5	0.0	10183.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	20367.0	0.0	20367.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.6	1.1
10°-20°	723.1	3.6
20°-30°	1348.9	6.6
30°-40°	2274.4	11.2
40°-50°	3694.3	18.1
50°-60°	5788.3	28.4
60°-70°	5463.9	26.8
70°-80°	736.4	3.6
80°-90°	112.2	0.6
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°	20367.0	100.0
0°-180°	20367.0	100.0



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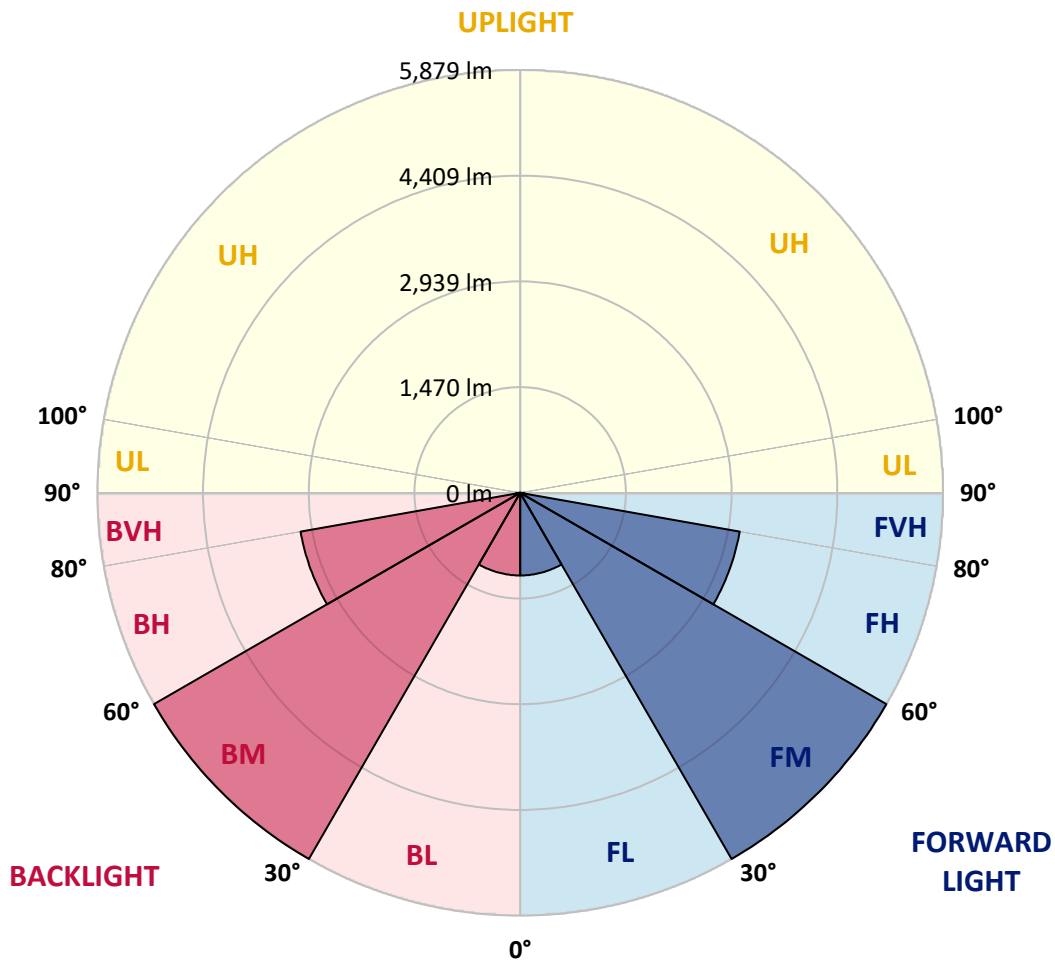
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1148.8	5.6			
FM	(30°-60°)	5878.5	28.9			
FH	(60°-80°)	3100.1	15.2			G2/5000
FVH	(80°-90°)	56.1	0.3			G1/100
BL	(0°-30°)	1148.8	5.6	B3/2500		
BM	(30°-60°)	5878.5	28.9	B4/8500		
BH	(60°-80°)	3100.1	15.2	B4/5000		G2/5000
BVH	(80°-90°)	56.1	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G2

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2316.7	2316.7	2316.7	2316.7	2316.7	2316.7	2316.7	2316.7	2316.7	2316.7	2316.7
2.5°	2335.8	2335.8	2339.6	2338.3	2333.2	2329.4	2325.6	2320.5	2318.0	2315.5	2314.2
5°	2348.4	2348.4	2352.2	2351.0	2347.2	2342.1	2339.6	2335.8	2331.9	2329.4	2330.7
7.5°	2380.2	2381.4	2382.7	2381.4	2377.6	2373.8	2368.7	2367.5	2362.4	2358.6	2361.1
10°	2428.4	2428.4	2429.6	2430.9	2428.4	2419.5	2419.5	2417.0	2411.9	2406.8	2408.1
12.5°	2481.7	2481.7	2482.9	2482.9	2482.9	2477.9	2479.1	2477.9	2471.5	2469.0	2471.5
15°	2533.7	2534.9	2534.9	2537.5	2537.5	2538.8	2543.8	2543.8	2541.3	2540.0	2540.0
17.5°	2594.6	2597.1	2598.4	2602.2	2603.5	2606.0	2611.1	2612.3	2613.6	2609.8	2611.1
20°	2675.8	2677.0	2680.9	2682.1	2687.2	2687.2	2689.7	2688.5	2685.9	2680.9	2680.9
22.5°	2767.1	2769.7	2777.3	2777.3	2783.6	2779.8	2781.1	2777.3	2770.9	2768.4	2765.9
25°	2886.4	2890.2	2896.5	2894.0	2896.5	2890.2	2890.2	2890.2	2886.4	2882.6	2881.3
27.5°	3037.4	3031.0	3037.4	3032.3	3031.0	3025.9	3027.2	3024.7	3020.9	3019.6	3014.5
30°	3194.7	3187.1	3190.9	3192.2	3189.6	3188.3	3183.3	3179.5	3173.1	3174.4	3170.6
32.5°	3374.9	3367.2	3371.0	3372.3	3369.8	3372.3	3371.0	3362.2	3354.6	3359.6	3359.6
35°	3589.3	3584.2	3594.3	3598.2	3590.5	3586.7	3581.7	3571.5	3560.1	3567.7	3569.0
37.5°	3846.8	3840.5	3848.1	3858.2	3844.3	3836.7	3816.4	3801.1	3793.5	3797.3	3802.4
40°	4114.5	4115.8	4137.4	4139.9	4124.7	4115.8	4095.5	4072.7	4051.1	4051.1	4057.4
42.5°	4396.2	4400.0	4425.4	4434.3	4429.2	4412.7	4384.8	4356.9	4328.9	4334.0	4341.6
45°	4714.6	4709.6	4736.2	4757.8	4754.0	4748.9	4722.3	4671.5	4646.1	4644.9	4657.5
47.5°	5049.6	5059.7	5087.7	5124.4	5123.2	5110.5	5076.2	5029.3	4982.3	4986.2	5001.4
50°	5440.4	5454.3	5501.3	5538.1	5543.1	5539.3	5498.7	5444.2	5378.2	5382.0	5402.3
52.5°	5790.5	5810.8	5865.4	5941.5	5988.5	6010.0	5983.4	5932.6	5865.4	5869.2	5890.8
55°	6107.7	6139.4	6220.6	6324.7	6418.6	6506.1	6545.4	6544.2	6494.7	6506.1	6534.0
57.5°	6306.9	6351.3	6474.4	6641.9	6828.4	7004.7	7157.0	7300.3	7332.1	7391.7	7391.7
60°	6039.2	6143.2	6306.9	6593.6	6960.3	7356.2	7785.0	8202.4	8471.4	8683.3	8569.1
62.5°	5043.2	5196.8	5426.4	5804.5	6375.4	7082.1	7943.6	8914.2	9926.6	10545.8	10091.6
65°	3263.2	3456.1	3706.0	4131.0	4850.4	5760.1	7014.9	8759.4	10878.2	11976.9	10961.9
67.5°	1292.8	1423.5	1575.8	1877.7	2502.0	3395.2	4803.5	6955.2	9605.6	10642.2	9504.1
70°	617.9	639.4	668.6	733.3	889.4	1200.2	1929.8	3426.9	5890.8	6983.2	5749.9
72.5°	446.6	450.4	464.4	485.9	531.6	595.0	723.2	1048.0	2031.3	2953.6	2033.8
75°	338.8	343.8	351.4	362.9	387.0	417.4	465.6	558.2	695.3	801.8	694.0
77.5°	257.6	262.6	269.0	280.4	293.1	314.6	332.4	369.2	427.6	450.4	447.9
80°	187.8	196.7	206.8	217.0	225.8	236.0	237.3	255.0	288.0	309.6	303.2
82.5°	119.3	126.9	153.5	164.9	166.2	168.7	167.5	168.7	186.5	201.7	196.7
85°	76.1	81.2	95.2	107.8	105.3	110.4	110.4	107.8	100.2	86.3	102.8
87.5°	38.1	39.3	45.7	57.1	54.6	48.2	46.9	46.9	34.3	29.2	31.7
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°	2316.7	2316.7	2316.7	2316.7	2316.7	2316.7	2316.7	2316.7
2.5°	2310.4	2312.9	2309.1	2309.1	2307.8	2310.4	2306.6	2306.6
5°	2328.1	2331.9	2330.7	2330.7	2333.2	2335.8	2334.5	2333.2
7.5°	2359.9	2362.4	2364.9	2366.2	2368.7	2367.5	2370.0	2368.7
10°	2408.1	2405.5	2409.3	2405.5	2406.8	2404.3	2405.5	2405.5
12.5°	2469.0	2465.2	2462.6	2460.1	2460.1	2455.0	2455.0	2456.3
15°	2538.8	2532.4	2527.3	2524.8	2522.3	2522.3	2518.5	2521.0
17.5°	2607.3	2600.9	2592.0	2592.0	2588.2	2585.7	2583.2	2589.5
20°	2679.6	2673.2	2668.2	2666.9	2659.3	2656.7	2658.0	2665.6
22.5°	2763.3	2759.5	2759.5	2757.0	2751.9	2748.1	2748.1	2757.0
25°	2876.2	2868.6	2869.9	2871.2	2868.6	2868.6	2866.1	2872.4
27.5°	3014.5	3008.2	3012.0	3014.5	3012.0	3015.8	3012.0	3017.1
30°	3176.9	3173.1	3176.9	3180.7	3174.4	3174.4	3171.9	3175.7
32.5°	3371.0	3366.0	3368.5	3368.5	3359.6	3352.0	3341.9	3349.5
35°	3584.2	3577.9	3582.9	3586.7	3576.6	3569.0	3553.7	3560.1
37.5°	3818.9	3821.4	3827.8	3844.3	3841.7	3829.1	3817.6	3822.7
40°	4081.5	4094.2	4122.1	4133.6	4131.0	4118.3	4103.1	4105.6
42.5°	4378.4	4394.9	4424.1	4443.1	4434.3	4416.5	4397.5	4405.1
45°	4702.0	4727.3	4765.4	4784.4	4773.0	4754.0	4727.3	4741.3
47.5°	5044.5	5095.3	5146.0	5171.4	5167.6	5140.9	5106.7	5110.5
50°	5454.3	5521.6	5586.3	5611.6	5592.6	5552.0	5503.8	5502.5
52.5°	5964.4	6036.7	6090.0	6083.6	6036.7	5973.2	5918.7	5916.1
55°	6601.3	6625.4	6617.8	6563.2	6480.7	6381.8	6312.0	6300.6
57.5°	7371.4	7290.2	7170.9	7006.0	6820.8	6633.0	6506.1	6459.2
60°	8312.8	7946.1	7519.8	7070.7	6660.9	6353.9	6159.7	6041.7
62.5°	9090.5	8028.6	7075.8	6295.5	5657.3	5278.0	5012.8	4849.1
65°	8824.1	6936.2	5555.8	4549.7	3853.2	3461.1	3180.7	2994.2
67.5°	6816.9	4634.7	3225.1	2235.5	1695.0	1434.9	1253.5	1135.5
70°	3437.0	1777.5	1077.2	760.0	649.6	603.9	573.5	555.7
72.5°	1008.6	673.7	559.5	494.8	455.5	427.6	409.8	400.9
75°	558.2	455.5	402.2	365.4	340.0	321.0	309.6	302.0
77.5°	384.4	331.1	304.5	280.4	260.1	246.1	237.3	229.6
80°	269.0	242.3	230.9	218.2	203.0	191.6	178.9	173.8
82.5°	178.9	167.5	164.9	154.8	145.9	133.2	110.4	102.8
85°	105.3	104.0	104.0	100.2	93.9	82.5	66.0	66.0
87.5°	36.8	38.1	39.3	41.9	40.6	34.3	27.9	26.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)