

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: P196408

Luminaire Tested: **NAV-AF-04-D-UNV-5MQ-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196408
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-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
MEDIUM OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 25128.6 lumens
Efficiency: N/A
Efficacy: 111.7 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

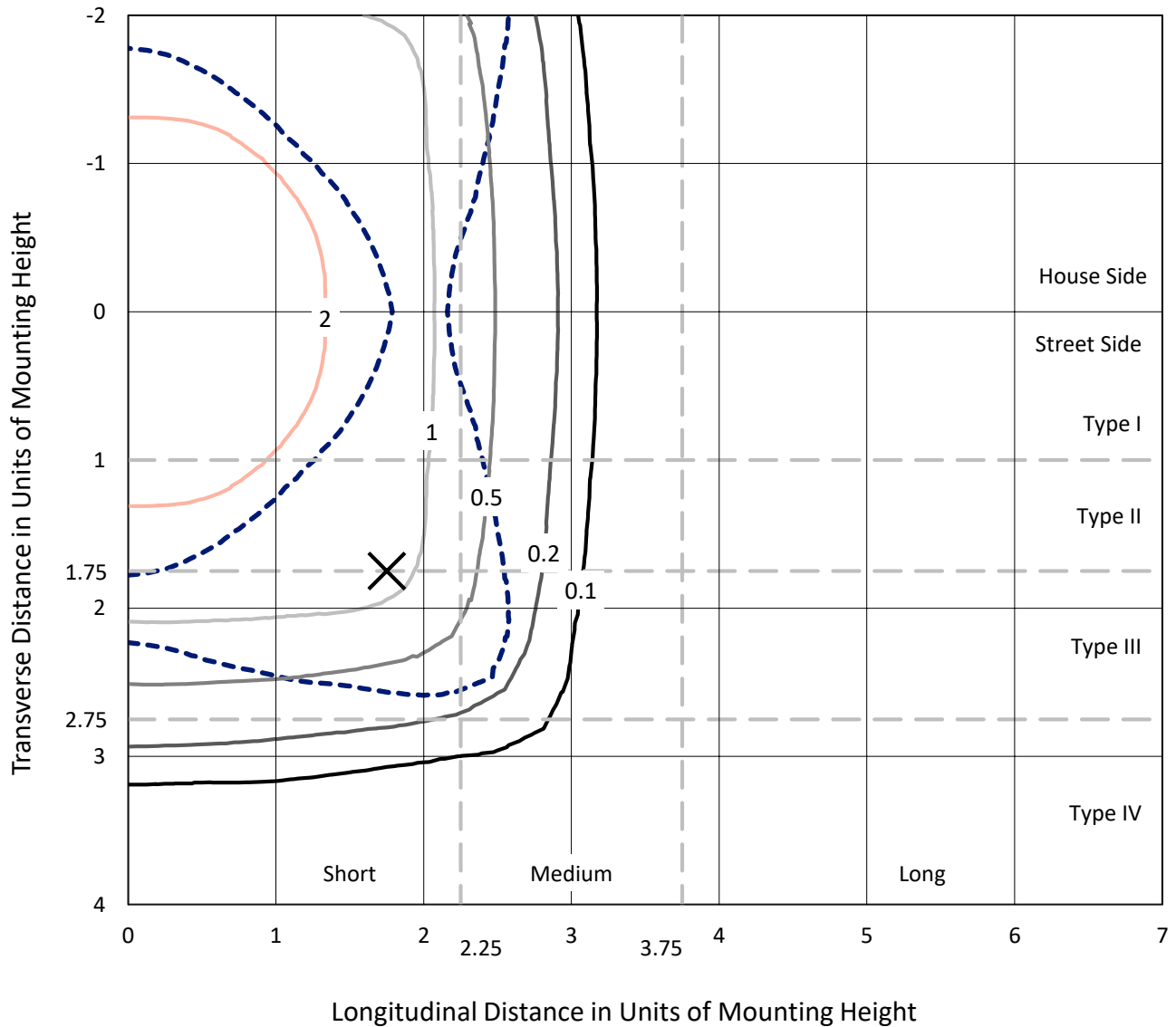
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

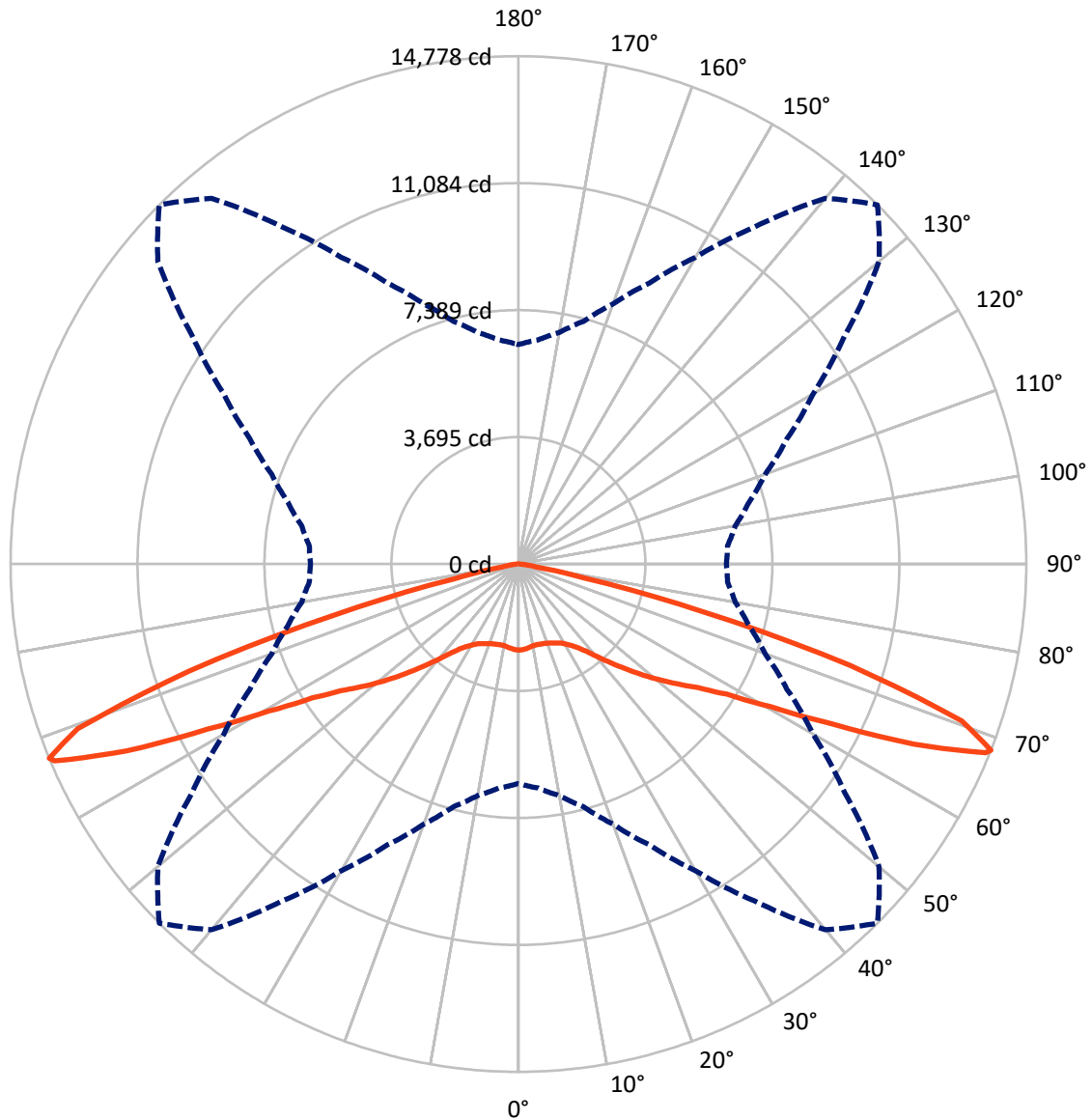
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 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	12564.3	0.0	12564.3
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	12564.3	0.0	12564.3
	% Fixture	50.0	0.0	50.0
Total	Lumens	25128.6	0.0	25128.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.5	0.9
10°-20°	680.3	2.7
20°-30°	1156.5	4.6
30°-40°	1892.6	7.5
40°-50°	3382.3	13.5
50°-60°	5712.2	22.7
60°-70°	8857.5	35.2
70°-80°	3045.4	12.1
80°-90°	167.4	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°	25128.6	100.0
0°-180°	25128.6	100.0



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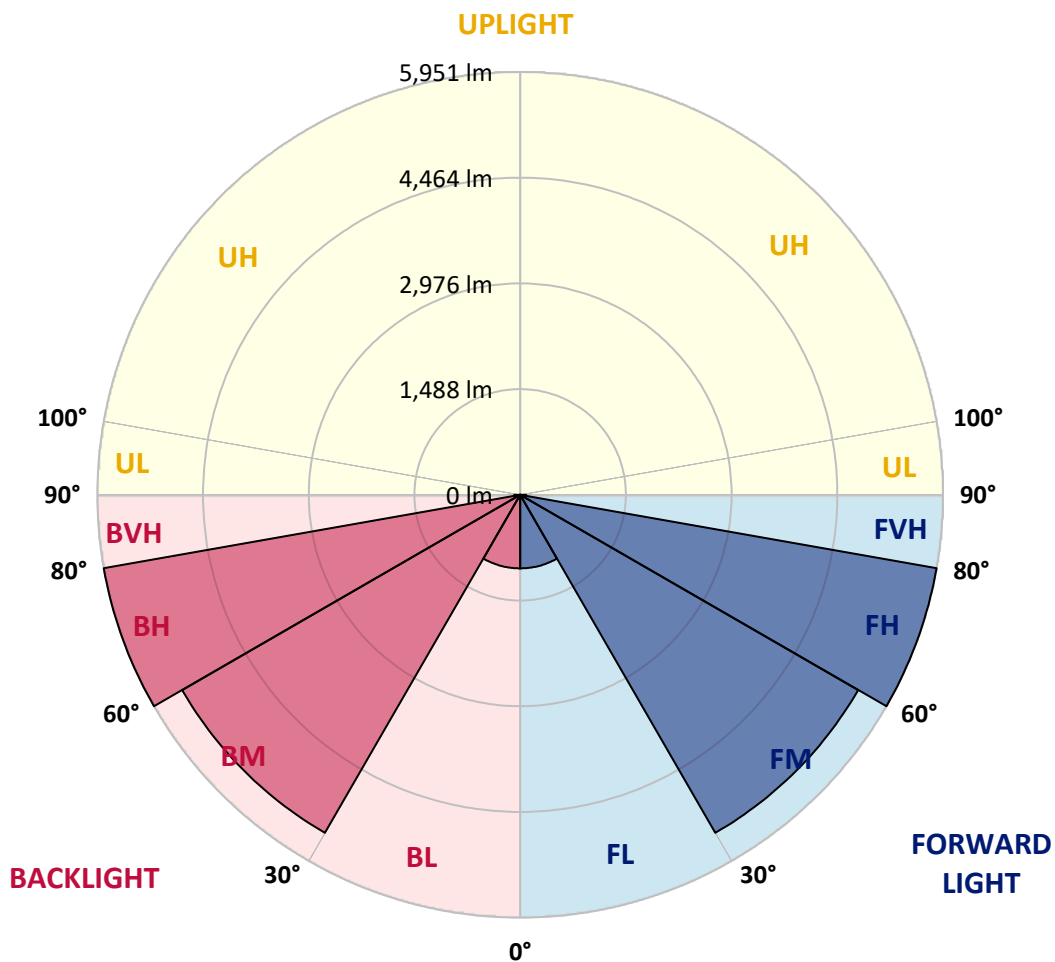
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1035.7	4.1			
FM	(30°-60°)	5493.5	21.9			
FH	(60°-80°)	5951.4	23.7			G3/7500
FVH	(80°-90°)	83.7	0.3			G1/100
BL	(0°-30°)	1035.7	4.1	B3/2500		
BM	(30°-60°)	5493.5	21.9	B4/8500		
BH	(60°-80°)	5951.4	23.7	B5		G3/7500
BVH	(80°-90°)	83.7	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°	2506.6	2506.6	2506.6	2506.6	2506.6	2506.6	2506.6	2506.6	2506.6	2506.6	2506.6
2.5°	2517.5	2517.5	2520.5	2519.0	2514.4	2509.6	2505.1	2500.5	2497.4	2494.4	2491.2
5°	2491.2	2491.2	2495.9	2492.8	2489.7	2485.1	2482.1	2477.5	2474.2	2471.2	2472.7
7.5°	2457.5	2460.5	2463.6	2462.0	2455.8	2454.3	2449.7	2448.2	2445.1	2440.6	2442.1
10°	2428.2	2429.7	2432.7	2431.2	2429.7	2425.1	2423.6	2422.1	2420.5	2414.3	2412.8
12.5°	2398.9	2402.1	2405.2	2406.7	2405.2	2406.7	2408.2	2409.7	2408.2	2405.2	2405.2
15°	2375.9	2378.9	2383.5	2388.2	2389.7	2398.9	2405.2	2411.3	2415.8	2417.4	2412.8
17.5°	2363.5	2368.2	2374.3	2383.5	2391.2	2402.1	2412.8	2422.1	2429.7	2431.2	2426.6
20°	2361.9	2366.7	2375.9	2386.7	2400.4	2414.3	2431.2	2445.1	2452.8	2457.5	2452.8
22.5°	2372.8	2378.9	2391.2	2405.2	2422.1	2440.6	2462.0	2477.5	2492.8	2499.0	2494.4
25°	2403.6	2409.7	2423.6	2440.6	2459.0	2482.1	2503.5	2523.6	2538.9	2546.7	2540.5
27.5°	2468.1	2469.7	2485.1	2503.5	2525.1	2545.0	2572.8	2582.1	2594.4	2602.0	2594.4
30°	2559.0	2562.0	2575.9	2605.2	2625.2	2651.2	2666.7	2675.9	2689.8	2697.5	2688.3
32.5°	2697.5	2700.6	2712.8	2740.5	2759.1	2779.0	2797.5	2803.6	2817.5	2826.7	2815.9
35°	2892.8	2899.0	2909.8	2928.2	2943.7	2959.1	2973.0	2968.2	2977.6	2989.8	2979.1
37.5°	3160.7	3159.1	3162.2	3176.0	3191.4	3200.6	3222.2	3211.3	3220.6	3231.5	3225.3
40°	3473.1	3473.1	3471.5	3496.1	3502.2	3511.5	3534.5	3520.7	3533.0	3545.4	3534.5
42.5°	3828.5	3834.6	3842.3	3862.4	3879.2	3882.3	3893.1	3886.9	3902.3	3913.1	3902.3
45°	4237.7	4247.0	4256.2	4302.4	4310.1	4316.3	4323.9	4303.9	4320.8	4330.1	4327.0
47.5°	4662.4	4679.3	4699.3	4747.1	4777.9	4791.7	4797.9	4774.7	4776.3	4790.2	4791.7
50°	5142.5	5161.0	5181.0	5234.8	5264.1	5288.7	5296.5	5270.2	5273.4	5284.1	5287.2
52.5°	5585.7	5607.3	5650.4	5722.7	5764.2	5807.3	5810.4	5778.0	5792.0	5799.6	5793.5
55°	6002.7	6030.4	6087.4	6184.3	6259.7	6344.3	6382.8	6347.4	6347.4	6341.3	6338.1
57.5°	6489.0	6519.7	6578.2	6690.6	6795.2	6916.7	7021.3	7056.7	7121.4	7143.0	7109.1
60°	7221.4	7253.7	7313.7	7461.5	7593.8	7770.7	7943.1	8083.1	8311.0	8433.9	8323.2
62.5°	7890.8	7940.0	8081.6	8340.1	8626.3	8954.1	9334.1	9605.0	10018.8	10225.1	9946.5
65°	7738.4	7838.5	8115.4	8521.6	9112.6	9823.5	10597.5	11340.7	12196.3	12634.7	12068.6
67.5°	6759.8	6844.4	7143.0	7615.4	8352.5	9332.6	10535.9	12074.7	13839.7	14661.4	13659.6
68°	6385.8	6544.4	6841.4	7310.6	8053.9	9017.1	10302.0	11963.9	13890.4	14778.3	13696.5
70°	4896.4	4953.3	5238.0	5659.5	6461.3	7406.0	8703.3	10597.5	12774.8	13688.9	12576.3
72.5°	2326.5	2360.4	2545.0	2960.6	3470.0	4239.3	5384.2	7170.6	9132.6	10083.5	8974.1
75°	852.4	860.2	903.2	1001.7	1192.6	1481.9	2031.1	3142.2	4651.7	5547.2	4670.2
77.5°	460.1	461.6	478.5	503.1	537.0	575.5	658.7	883.3	1424.8	1938.8	1504.9
80°	289.3	287.8	304.8	324.7	347.8	366.2	373.8	400.1	450.8	527.8	484.7
82.5°	147.7	161.6	200.1	221.6	255.4	261.5	253.9	252.4	267.8	289.3	298.5
85°	81.5	72.3	106.2	141.6	153.8	158.5	160.1	150.8	147.7	144.7	152.3
87.5°	41.5	38.5	46.2	70.8	75.4	61.5	63.1	53.9	36.9	36.9	38.5
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°	2506.6	2506.6	2506.6	2506.6	2506.6	2506.6	2506.6	2506.6
2.5°	2488.2	2489.7	2486.6	2486.6	2486.6	2488.2	2486.6	2485.1
5°	2468.1	2471.2	2471.2	2472.7	2474.2	2474.2	2474.2	2474.2
7.5°	2439.0	2440.6	2443.6	2443.6	2443.6	2443.6	2443.6	2443.6
10°	2411.3	2408.2	2406.7	2403.6	2403.6	2398.9	2400.4	2402.1
12.5°	2397.3	2391.2	2388.2	2383.5	2380.4	2375.9	2375.9	2377.4
15°	2403.6	2394.3	2385.1	2382.0	2378.9	2375.9	2372.8	2374.3
17.5°	2415.8	2405.2	2394.3	2388.2	2382.0	2377.4	2375.9	2377.4
20°	2442.1	2426.6	2409.7	2398.9	2386.7	2383.5	2378.9	2383.5
22.5°	2477.5	2459.0	2437.3	2417.4	2403.6	2397.3	2391.2	2395.8
25°	2520.5	2500.5	2479.0	2455.8	2440.6	2435.8	2428.2	2428.2
27.5°	2580.4	2563.5	2545.0	2523.6	2508.1	2503.5	2491.2	2491.2
30°	2675.9	2659.0	2642.1	2623.7	2608.2	2603.5	2588.3	2588.3
32.5°	2802.1	2783.6	2772.9	2757.4	2745.1	2737.5	2719.0	2717.5
35°	2971.3	2954.5	2952.8	2942.2	2929.8	2931.3	2912.9	2909.8
37.5°	3214.5	3200.6	3205.2	3196.1	3185.2	3194.5	3183.7	3183.7
40°	3525.4	3520.7	3525.4	3519.1	3520.7	3522.2	3513.0	3516.1
42.5°	3900.8	3888.4	3916.2	3913.1	3908.4	3920.8	3899.3	3883.8
45°	4333.1	4328.6	4356.2	4360.9	4351.6	4359.3	4320.8	4319.3
47.5°	4802.5	4802.5	4827.1	4824.1	4814.8	4816.3	4770.2	4741.0
50°	5291.9	5288.7	5313.4	5307.2	5294.9	5293.4	5245.6	5216.4
52.5°	5801.1	5801.1	5836.5	5819.5	5790.4	5776.5	5718.1	5679.7
55°	6364.4	6356.6	6367.4	6312.0	6255.1	6213.6	6141.3	6112.0
57.5°	7076.7	6987.5	6910.5	6839.8	6759.8	6710.6	6625.9	6595.1
60°	8087.7	7849.1	7746.2	7604.6	7472.2	7406.0	7293.7	7233.7
62.5°	9488.0	9092.5	8812.6	8500.2	8198.5	7986.2	7815.5	7740.0
65°	11106.8	10245.1	9532.7	8863.3	8295.5	7844.6	7593.8	7515.3
67.5°	11722.3	10140.5	8910.9	7950.8	7261.5	6724.4	6424.3	6361.3
68°	11591.6	9900.4	8623.3	7640.0	6947.5	6405.9	6107.4	6050.4
70°	10225.1	8352.5	7004.5	6025.7	5379.5	4864.0	4653.3	4562.4
72.5°	6970.6	5364.1	4114.7	3291.4	2808.3	2482.1	2288.1	2222.0
75°	3208.3	2168.1	1448.0	1081.7	918.7	840.2	780.1	764.9
77.5°	935.6	680.1	584.7	541.6	509.3	481.7	461.6	460.1
80°	444.6	417.1	404.7	377.0	347.8	321.6	303.0	306.3
82.5°	298.5	290.8	290.8	263.1	217.0	186.2	153.8	138.5
85°	158.5	164.7	173.8	164.7	143.1	106.2	69.3	75.4
87.5°	53.9	61.5	64.7	63.1	57.0	43.0	32.3	32.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)