

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: P196053

Luminaire Tested: **NAV-AF-03-D-UNV-RW-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196053
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24161)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: NAV-AF-03-D-UNV-RW-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 20771 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B4 - U0 - G4

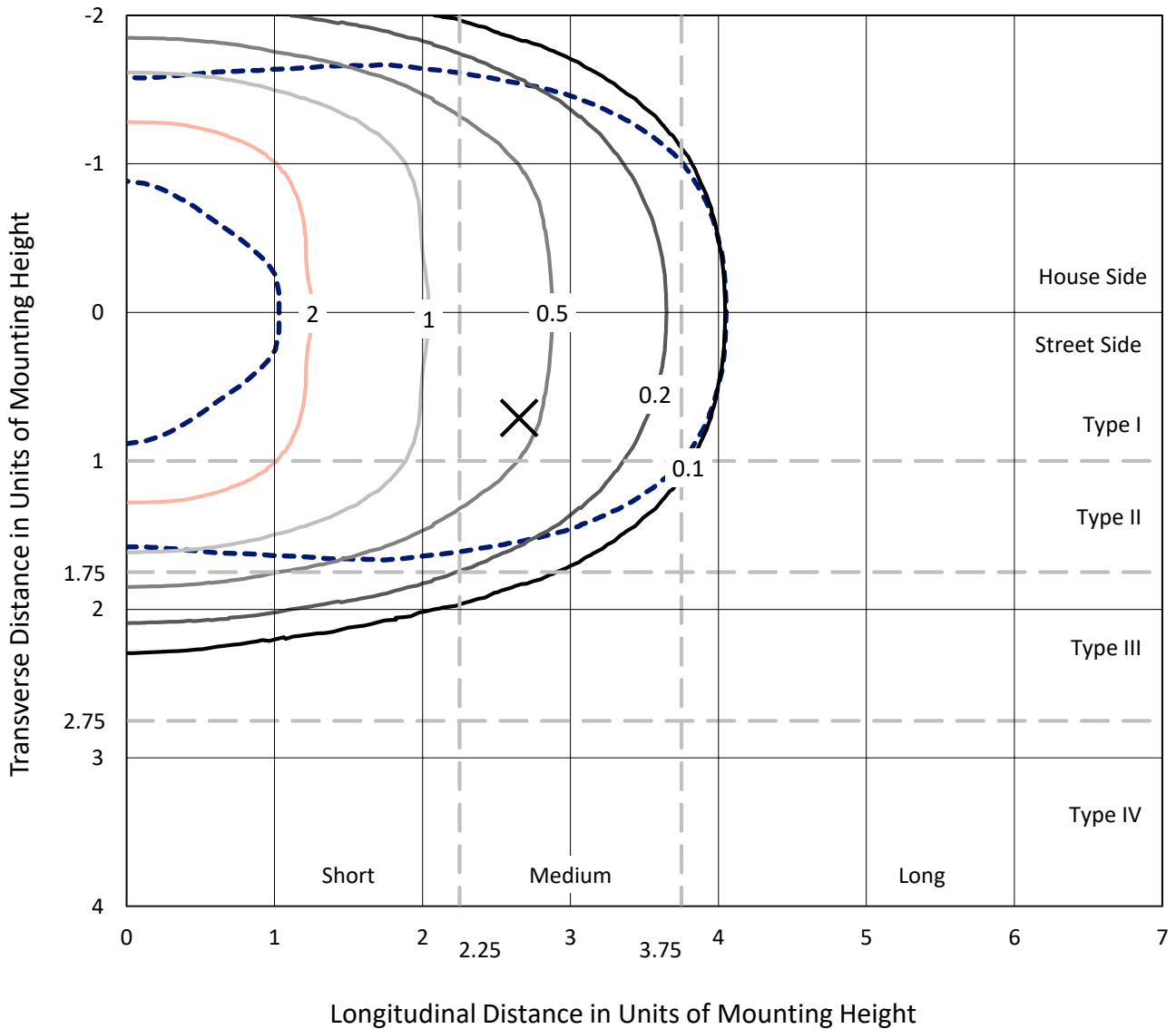
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

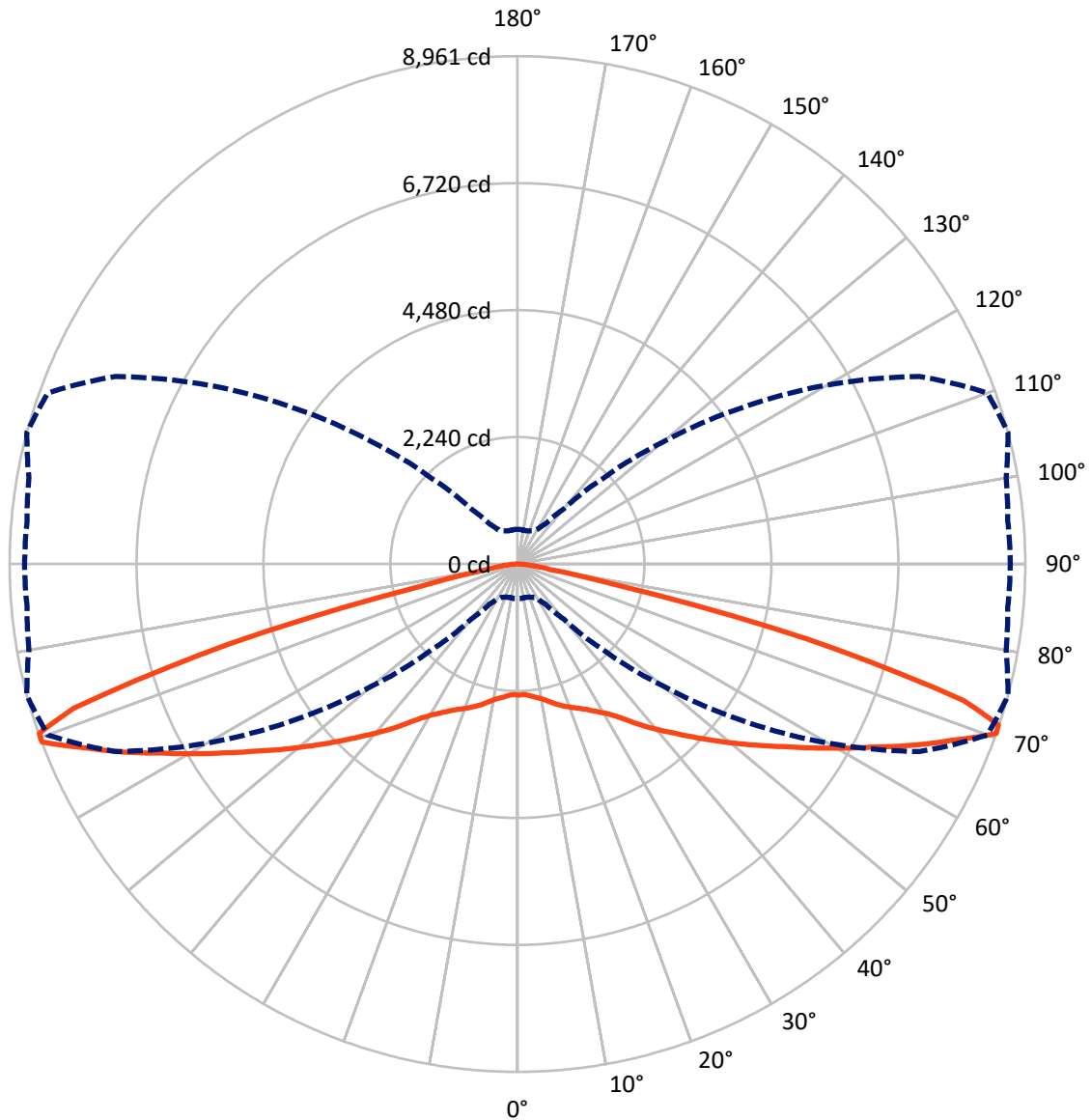
× Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	10385.5	0.0	10385.5
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	10385.5	0.0	10385.5
	% Fixture	50.0	0.0	50.0
Total	Lumens	20771.0	0.0	20771.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.9	1.1
10°-20°	688.1	3.3
20°-30°	1292.3	6.2
30°-40°	2276.5	11.0
40°-50°	3772.8	18.2
50°-60°	5248.5	25.3
60°-70°	4954.7	23.9
70°-80°	2116.2	10.2
80°-90°	200.0	1.0
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°	20771.0	100.0
0°-180°	20771.0	100.0

Coefficient of Utilization



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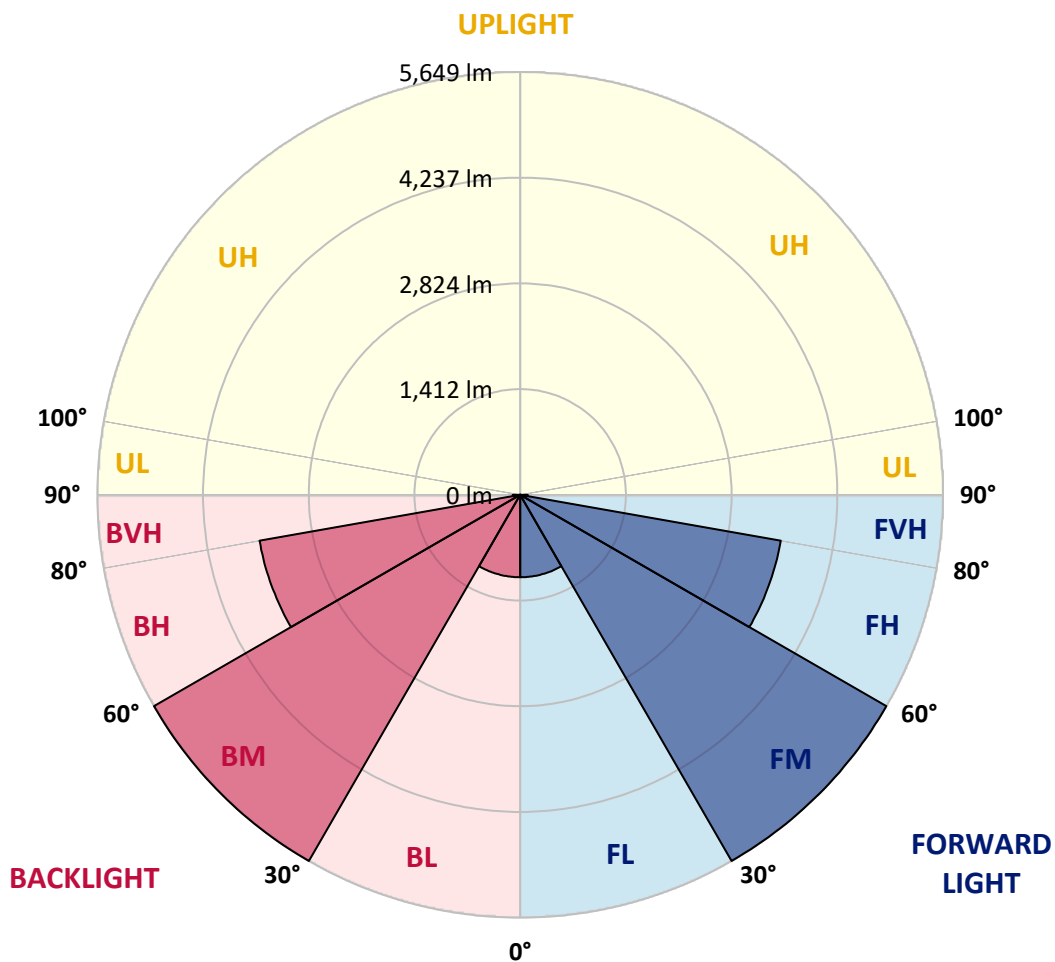
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1101.1	5.3			
FM	(30°-60°)	5648.9	27.2			
FH	(60°-80°)	3535.5	17.0			G2/5000
FVH	(80°-90°)	100.0	0.5			G1/100
BL	(0°-30°)	1101.1	5.3	B3/2500		
BM	(30°-60°)	5648.9	27.2	B4/8500		
BH	(60°-80°)	3535.5	17.0	B4/5000		G4/5000
BVH	(80°-90°)	100.0	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G4

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2313.1	2313.1	2313.1	2313.1	2313.1	2313.1	2313.1	2313.1	2313.1	2313.1	2313.1
2.5°	2327.4	2326.1	2327.4	2323.4	2324.8	2323.4	2323.4	2318.2	2318.2	2315.7	2311.8
5°	2301.3	2304.0	2304.0	2304.0	2307.9	2307.9	2313.1	2314.3	2318.2	2322.2	2324.8
7.5°	2258.4	2259.7	2263.6	2266.2	2274.0	2284.5	2294.8	2306.5	2317.0	2330.0	2344.3
10°	2222.0	2224.5	2231.1	2237.6	2251.9	2264.9	2283.1	2301.3	2319.5	2341.7	2363.8
12.5°	2202.4	2206.3	2216.7	2227.2	2249.3	2266.2	2290.9	2319.5	2344.3	2365.2	2389.8
15°	2205.0	2206.3	2220.6	2234.9	2266.2	2289.7	2324.8	2358.6	2388.6	2412.0	2440.7
17.5°	2242.7	2245.4	2259.7	2280.5	2310.4	2340.4	2378.2	2413.2	2453.6	2481.0	2514.8
20°	2317.0	2320.9	2336.5	2358.6	2391.1	2422.3	2461.4	2497.8	2539.6	2572.1	2606.0
22.5°	2413.2	2419.8	2436.7	2464.1	2496.6	2534.4	2574.7	2612.4	2651.5	2684.0	2712.7
25°	2542.1	2549.9	2568.2	2595.5	2628.1	2668.4	2710.1	2749.1	2789.5	2814.2	2837.7
27.5°	2715.2	2728.3	2747.9	2769.9	2798.6	2841.6	2880.6	2913.2	2952.1	2979.5	2995.1
30°	2948.2	2966.5	2982.1	3005.5	3026.4	3071.9	3103.1	3129.2	3159.2	3174.7	3178.6
32.5°	3233.3	3250.2	3265.9	3282.8	3311.4	3353.1	3383.0	3397.3	3413.0	3410.3	3396.0
35°	3554.9	3567.8	3577.0	3606.9	3653.8	3681.1	3703.2	3708.4	3711.1	3683.7	3656.3
37.5°	3893.2	3908.9	3916.7	3963.5	4007.8	4039.0	4049.5	4061.2	4053.3	4007.8	3958.3
40°	4259.1	4275.9	4299.4	4339.8	4391.8	4421.7	4434.8	4433.5	4426.9	4373.6	4292.9
42.5°	4618.3	4639.1	4658.6	4728.9	4771.9	4822.7	4829.1	4827.9	4813.6	4752.3	4658.6
45°	4922.8	4947.6	4988.0	5066.1	5135.1	5196.3	5220.9	5230.0	5215.7	5150.7	5044.0
47.5°	5174.1	5191.1	5241.8	5336.8	5425.3	5515.1	5564.6	5599.7	5598.4	5551.6	5438.3
50°	5345.9	5365.5	5428.0	5534.7	5645.4	5750.7	5848.4	5927.8	5965.5	5931.7	5826.2
52.5°	5395.3	5420.1	5502.1	5629.7	5758.6	5900.5	6046.3	6186.8	6271.4	6292.3	6210.2
55°	5187.1	5214.5	5334.2	5511.2	5723.4	5933.0	6154.3	6354.7	6529.2	6609.8	6577.3
57.5°	4580.6	4600.1	4752.3	4981.5	5284.8	5653.1	6025.4	6392.4	6691.8	6901.4	6937.9
60°	3622.6	3647.2	3813.9	4056.0	4400.9	4866.9	5387.6	5989.0	6576.0	7056.3	7294.6
62.5°	2444.5	2461.4	2621.5	2842.9	3220.4	3669.4	4250.0	5011.4	5848.4	6706.2	7377.8
65°	1283.4	1283.4	1391.5	1546.4	1847.0	2249.3	2844.1	3625.1	4620.9	5692.2	6815.5
67.5°	744.5	743.3	768.0	803.1	898.2	1060.9	1388.9	1962.9	2905.3	4152.3	5430.5
70°	614.4	610.5	606.6	606.6	620.9	645.6	708.1	865.6	1266.5	2141.2	3341.4
71°	587.1	584.4	574.1	570.1	576.6	589.6	616.9	689.9	899.5	1460.5	2495.3
72.5°	554.5	548.0	532.3	525.9	527.1	532.3	540.2	568.9	632.6	830.4	1422.7
75°	505.0	489.4	469.9	460.8	456.8	455.6	455.6	463.4	477.7	501.1	583.2
77.5°	447.7	425.6	404.8	395.7	389.2	385.2	382.7	377.5	374.9	385.2	415.2
80°	378.8	355.4	338.4	333.2	329.3	321.5	311.1	300.6	294.2	299.4	317.6
82.5°	292.9	269.4	272.0	273.3	266.9	253.8	243.4	231.7	219.9	217.4	226.5
85°	233.0	221.3	213.5	230.4	216.0	200.5	186.2	166.6	139.3	114.6	125.0
87.5°	100.2	101.6	145.8	219.9	192.6	154.9	128.9	104.1	66.4	49.5	50.7
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°	2313.1	2313.1	2313.1	2313.1	2313.1	2313.1	2313.1	2313.1
2.5°	2310.4	2310.4	2306.5	2304.0	2304.0	2304.0	2301.3	2302.7
5°	2326.1	2328.6	2331.3	2330.0	2333.9	2337.7	2336.5	2335.2
7.5°	2352.1	2359.9	2367.7	2371.6	2376.8	2382.0	2383.4	2379.5
10°	2378.2	2393.8	2405.5	2415.9	2422.3	2427.6	2431.6	2430.2
12.5°	2410.7	2432.8	2453.6	2474.4	2488.7	2496.6	2504.4	2501.8
15°	2464.1	2488.7	2514.8	2542.1	2564.2	2576.0	2587.7	2585.1
17.5°	2536.9	2559.1	2579.9	2607.2	2634.6	2647.6	2660.6	2659.3
20°	2628.1	2644.9	2656.7	2672.4	2698.3	2712.7	2724.4	2720.4
22.5°	2732.2	2737.4	2738.7	2743.9	2764.7	2781.6	2797.3	2801.1
25°	2845.4	2841.6	2833.7	2829.8	2844.1	2862.3	2881.9	2887.1
27.5°	2986.0	2973.0	2953.5	2937.8	2941.8	2965.2	2987.3	2992.5
30°	3163.1	3133.1	3091.5	3061.5	3056.3	3081.0	3104.5	3112.2
32.5°	3364.8	3324.5	3267.2	3221.6	3202.0	3224.2	3245.0	3256.8
35°	3604.3	3560.1	3491.0	3432.5	3401.2	3415.5	3452.0	3465.0
37.5°	3888.0	3826.9	3750.1	3675.9	3623.8	3626.5	3665.4	3681.1
40°	4201.8	4113.3	4015.6	3923.2	3847.7	3842.5	3877.7	3889.4
42.5°	4528.5	4415.3	4300.7	4179.7	4085.9	4069.0	4114.5	4115.8
45°	4879.9	4734.1	4592.2	4451.7	4354.1	4324.1	4368.4	4373.6
47.5°	5254.8	5072.6	4904.6	4752.3	4647.0	4600.1	4643.1	4650.8
50°	5645.4	5456.5	5261.3	5092.1	4968.5	4911.2	4961.9	4967.1
52.5°	6031.9	5853.5	5659.7	5465.7	5316.0	5250.9	5310.8	5329.0
55°	6421.1	6249.3	6067.0	5873.1	5684.3	5627.0	5692.2	5711.7
57.5°	6825.9	6660.6	6495.3	6300.0	6116.5	6029.3	6099.5	6127.0
60°	7272.4	7126.6	6970.4	6773.9	6592.9	6491.4	6551.3	6582.5
62.5°	7711.0	7681.1	7539.2	7334.9	7105.8	7004.2	7055.0	7077.2
65°	7747.5	8233.0	8226.5	8023.4	7703.2	7532.7	7547.0	7557.5
67.5°	6762.1	7876.3	8588.4	8652.1	8295.5	8028.6	7997.4	8004.0
70°	4787.5	6316.9	7828.2	8820.1	8960.6	8753.7	8686.0	8696.4
71°	3836.0	5420.1	7083.6	8417.9	8950.2	8890.4	8852.6	8879.9
72.5°	2448.4	3993.5	5612.7	7208.6	8230.5	8523.3	8566.3	8583.2
75°	889.0	1718.1	2907.9	4166.6	5280.9	6047.5	6469.2	6503.1
77.5°	477.7	615.7	951.5	1421.4	1785.9	1981.1	2004.6	2013.7
80°	351.5	407.4	466.0	532.3	574.1	581.9	567.5	537.6
82.5°	248.6	281.2	304.6	328.1	344.9	330.6	274.7	209.6
85°	144.4	158.8	171.9	183.5	186.2	175.7	115.8	95.0
87.5°	57.3	62.5	61.2	68.9	66.4	61.2	45.5	39.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)