

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: P196037

Luminaire Tested: **NAV-AF-05-D-UNV-RW-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196037  
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-05-D-UNV-RW-600  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 20709.7 lumens  
Efficiency: N/A  
Efficacy: 127.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type II - Medium - Full Cutoff  
BUG Rating: B4 - U0 - G4

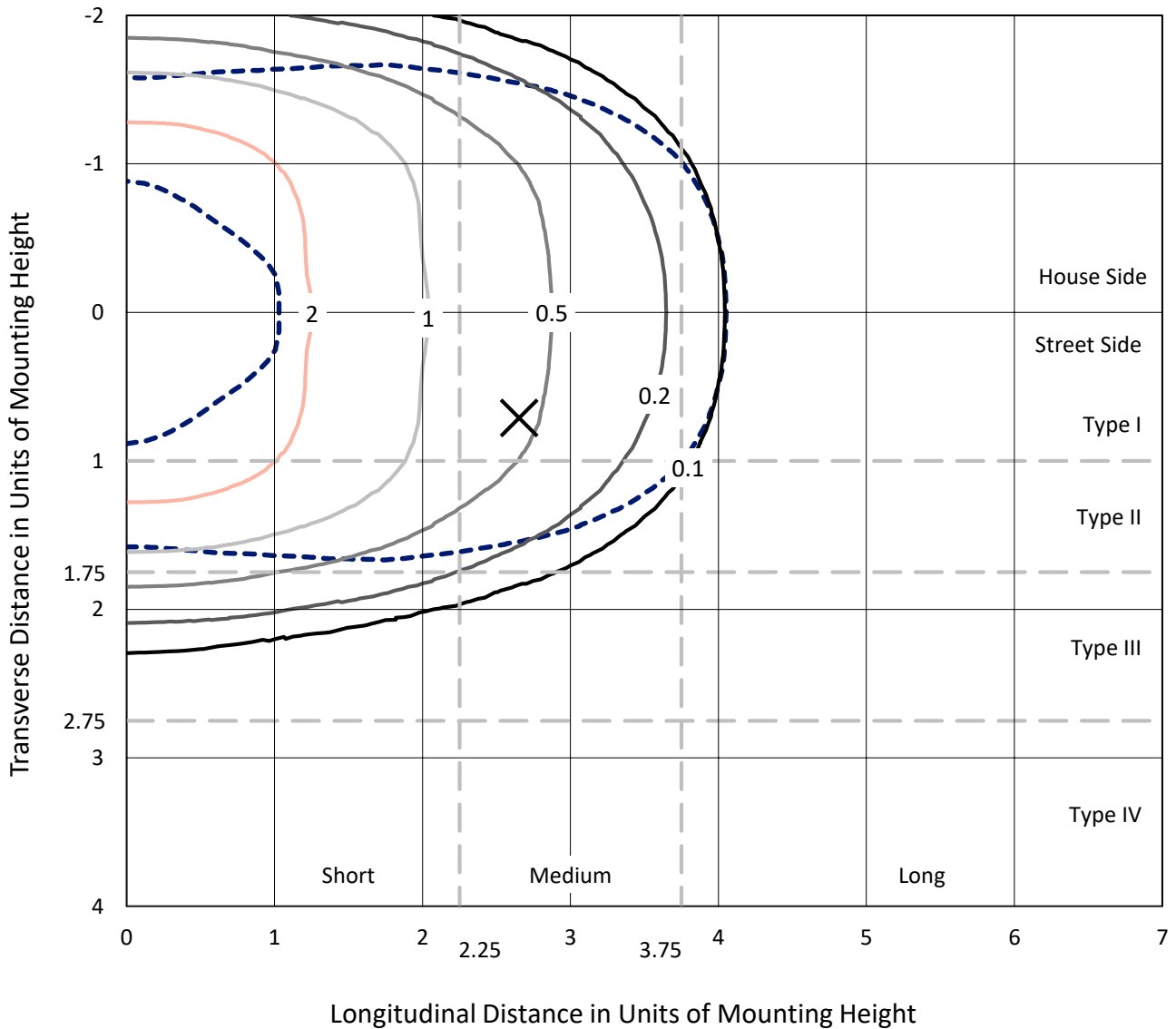
Input Watts (W): 162  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

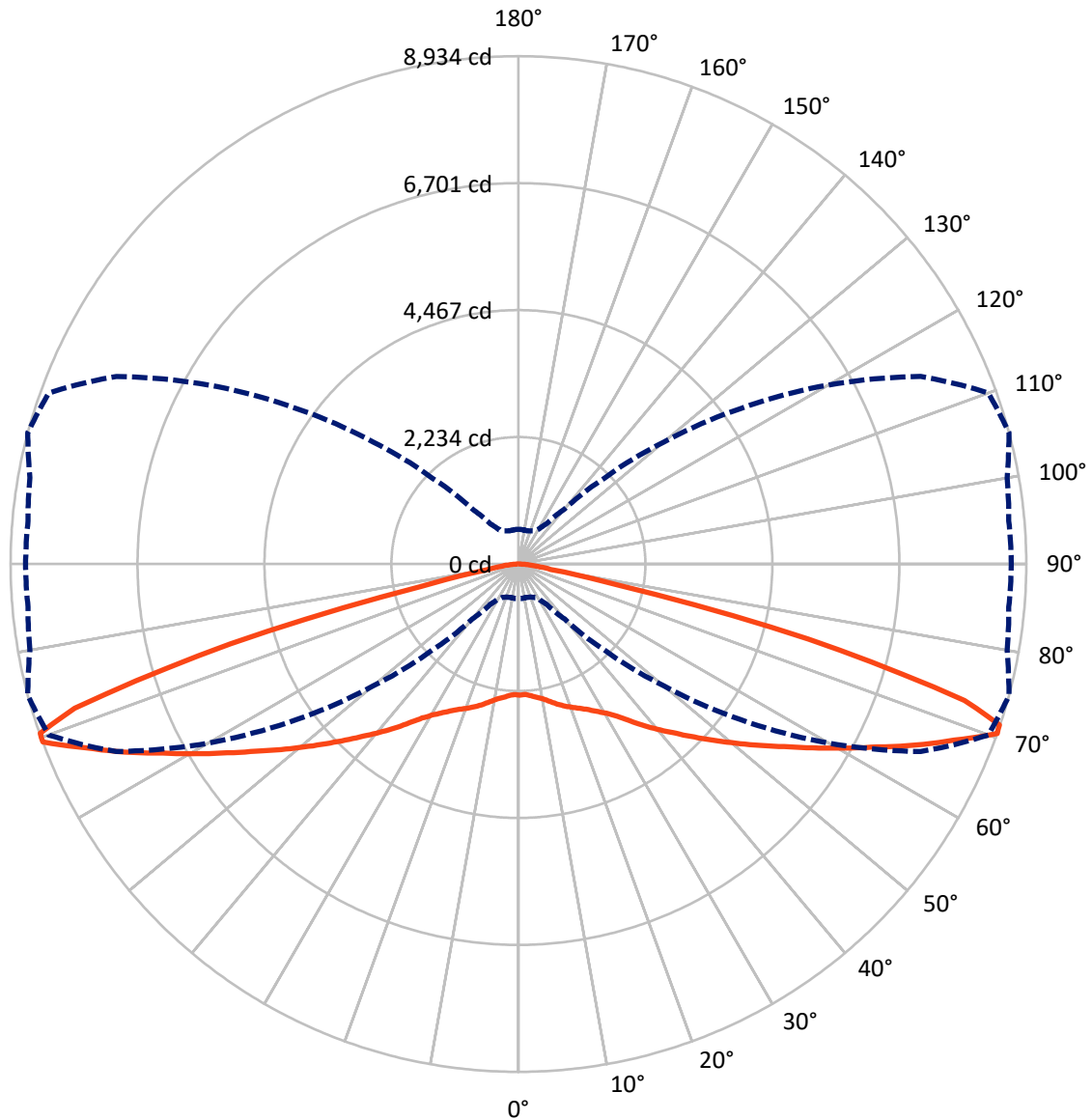
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc  
 Type 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
<b>House Side</b>	Lumens	10354.8	0.0	10354.8
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	10354.8	0.0	10354.8
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	20709.7	0.0	20709.7
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	221.2	1.1
10°-20°	686.0	3.3
20°-30°	1288.5	6.2
30°-40°	2269.7	11.0
40°-50°	3761.7	18.2
50°-60°	5233.0	25.3
60°-70°	4940.1	23.9
70°-80°	2110.0	10.2
80°-90°	199.4	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°	20709.7	100.0
0°-180°	20709.7	100.0

**Coefficient of Utilization**



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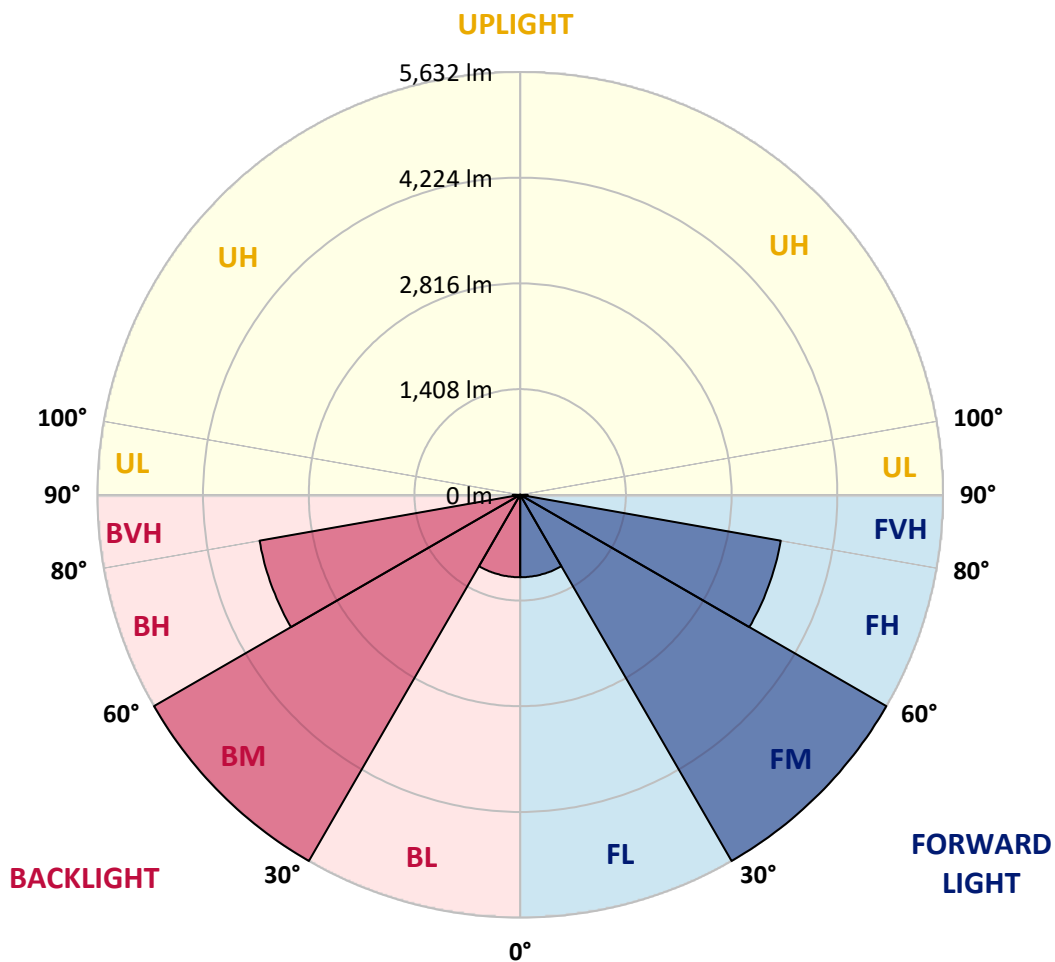
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1097.9	5.3			
FM	(30°-60°)	5632.2	27.2			
FH	(60°-80°)	3525.0	17.0			G2/5000
FVH	(80°-90°)	99.7	0.5			G1/100
BL	(0°-30°)	1097.9	5.3	B3/2500		
BM	(30°-60°)	5632.2	27.2	B4/8500		
BH	(60°-80°)	3525.0	17.0	B4/5000		G4/5000
BVH	(80°-90°)	99.7	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°	2306.2	2306.2	2306.2	2306.2	2306.2	2306.2	2306.2	2306.2	2306.2	2306.2	2306.2
2.5°	2320.5	2319.2	2320.5	2316.6	2317.9	2316.6	2316.6	2311.5	2311.5	2308.8	2304.9
5°	2294.6	2297.1	2297.1	2297.1	2301.0	2301.0	2306.2	2307.5	2311.5	2315.3	2317.9
7.5°	2251.7	2253.0	2256.9	2259.5	2267.3	2277.7	2288.0	2299.7	2310.1	2323.1	2337.3
10°	2215.4	2218.0	2224.5	2231.0	2245.2	2258.2	2276.4	2294.6	2312.7	2334.8	2356.9
12.5°	2195.9	2199.8	2210.2	2220.5	2242.6	2259.5	2284.1	2312.7	2337.3	2358.1	2382.8
15°	2198.5	2199.8	2214.1	2228.4	2259.5	2282.8	2317.9	2351.7	2381.5	2404.9	2433.4
17.5°	2236.2	2238.7	2253.0	2273.8	2303.6	2333.5	2371.1	2406.2	2446.4	2473.6	2507.4
20°	2310.1	2314.0	2329.6	2351.7	2384.1	2415.2	2454.2	2490.5	2532.0	2564.4	2598.2
22.5°	2406.2	2412.6	2429.5	2456.7	2489.2	2526.9	2567.1	2604.7	2643.6	2676.1	2704.7
25°	2534.7	2542.4	2560.5	2587.9	2620.3	2660.5	2702.0	2741.0	2781.2	2805.9	2829.3
27.5°	2707.2	2720.2	2739.7	2761.8	2790.3	2833.2	2872.0	2904.5	2943.4	2970.8	2986.3
30°	2939.6	2957.8	2973.3	2996.6	3017.4	3062.8	3094.0	3120.0	3149.8	3165.4	3169.3
32.5°	3223.7	3240.6	3256.3	3273.1	3301.7	3343.2	3373.0	3387.3	3402.8	3400.3	3386.0
35°	3544.3	3557.3	3566.4	3596.3	3642.9	3670.2	3692.2	3697.5	3700.1	3672.8	3645.6
37.5°	3881.8	3897.3	3905.1	3951.9	3996.0	4027.2	4037.5	4049.1	4041.4	3996.0	3946.6
40°	4246.5	4263.4	4286.7	4326.9	4378.8	4408.7	4421.7	4420.4	4413.8	4360.6	4280.2
42.5°	4604.6	4625.4	4644.9	4715.0	4757.8	4808.4	4814.9	4813.6	4799.3	4738.3	4644.9
45°	4908.3	4933.0	4973.3	5051.1	5119.9	5180.8	5205.6	5214.6	5200.4	5135.4	5029.0
47.5°	5158.8	5175.7	5226.4	5321.1	5409.3	5498.9	5548.2	5583.2	5581.9	5535.2	5422.3
50°	5330.1	5349.6	5411.9	5518.3	5628.6	5733.7	5831.1	5910.3	5947.8	5914.2	5809.0
52.5°	5379.5	5404.1	5485.9	5613.0	5741.5	5883.0	6028.4	6168.5	6252.9	6273.7	6191.9
55°	5171.8	5199.0	5318.4	5495.0	5706.5	5915.4	6136.1	6336.0	6509.9	6590.4	6557.8
57.5°	4567.1	4586.5	4738.3	4966.7	5269.1	5636.5	6007.6	6373.6	6672.1	6881.0	6917.4
60°	3611.8	3636.5	3802.6	4044.0	4387.9	4852.6	5371.6	5971.3	6556.6	7035.4	7273.0
62.5°	2437.3	2454.2	2613.8	2834.4	3210.8	3658.6	4237.4	4996.6	5831.1	6686.3	7356.0
65°	1279.6	1279.6	1387.3	1541.8	1841.6	2242.6	2835.7	3614.4	4607.3	5675.3	6795.4
67.5°	742.4	741.0	765.7	800.8	895.5	1057.7	1384.8	1957.1	2896.7	4140.0	5414.5
70°	612.5	608.7	604.8	604.8	619.1	643.7	706.0	863.1	1262.7	2134.9	3331.5
71°	585.3	582.7	572.3	568.5	574.9	587.9	615.2	687.8	896.8	1456.2	2487.9
72.5°	552.9	546.4	530.8	524.4	525.6	530.8	538.6	567.1	630.8	828.0	1418.5
75°	503.6	487.9	468.5	459.4	455.5	454.2	454.2	462.1	476.3	499.6	581.4
77.5°	446.4	424.4	403.7	394.6	388.0	384.1	381.6	376.3	373.8	384.1	414.0
80°	377.7	354.4	337.5	332.3	328.4	320.6	310.2	299.8	293.3	298.5	316.7
82.5°	292.1	268.6	271.3	272.5	266.1	253.1	242.6	231.0	219.3	216.8	225.9
85°	232.3	220.7	212.9	229.8	215.4	199.9	185.6	166.1	138.9	114.2	124.6
87.5°	99.9	101.3	145.4	219.3	192.1	154.5	128.5	103.8	66.2	49.3	50.6
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°	2306.2	2306.2	2306.2	2306.2	2306.2	2306.2	2306.2	2306.2
2.5°	2303.6	2303.6	2299.7	2297.1	2297.1	2297.1	2294.6	2295.8
5°	2319.2	2321.8	2324.3	2323.1	2327.0	2330.9	2329.6	2328.2
7.5°	2345.1	2353.0	2360.8	2364.7	2369.8	2375.0	2376.3	2372.4
10°	2371.1	2386.6	2398.4	2408.7	2415.2	2420.4	2424.3	2423.1
12.5°	2403.5	2425.6	2446.4	2467.2	2481.5	2489.2	2497.0	2494.4
15°	2456.7	2481.5	2507.4	2534.7	2556.7	2568.4	2580.1	2577.4
17.5°	2529.5	2551.5	2572.3	2599.5	2626.7	2639.7	2652.7	2651.5
20°	2620.3	2637.2	2648.8	2664.4	2690.4	2704.7	2716.3	2712.5
22.5°	2724.1	2729.3	2730.6	2735.8	2756.5	2773.4	2789.0	2792.9
25°	2837.1	2833.2	2825.4	2821.5	2835.7	2853.9	2873.4	2878.6
27.5°	2977.2	2964.2	2944.8	2929.2	2933.1	2956.4	2978.5	2983.6
30°	3153.7	3123.9	3082.4	3052.5	3047.3	3071.9	3095.2	3103.1
32.5°	3354.9	3314.7	3257.5	3212.1	3192.6	3214.7	3235.5	3247.2
35°	3593.6	3549.5	3480.8	3422.4	3391.2	3405.5	3441.8	3454.8
37.5°	3876.6	3815.6	3739.0	3665.0	3613.2	3615.7	3654.7	3670.2
40°	4189.4	4101.1	4003.7	3911.7	3836.4	3831.2	3866.2	3877.9
42.5°	4515.1	4402.2	4288.0	4167.3	4073.8	4057.0	4102.4	4103.7
45°	4865.6	4720.2	4578.7	4438.6	4341.2	4311.3	4355.5	4360.6
47.5°	5239.2	5057.6	4890.2	4738.3	4633.3	4586.5	4629.3	4637.1
50°	5628.6	5440.5	5245.8	5077.1	4953.7	4896.7	4947.3	4952.5
52.5°	6014.1	5836.2	5642.9	5449.6	5300.3	5235.4	5295.1	5313.3
55°	6402.1	6230.8	6049.1	5855.8	5667.6	5610.5	5675.3	5694.9
57.5°	6805.8	6640.9	6476.1	6281.4	6098.4	6011.5	6081.5	6108.9
60°	7250.9	7105.5	6949.8	6753.8	6573.5	6472.2	6532.0	6563.0
62.5°	7688.3	7658.4	7516.9	7313.2	7084.8	6983.6	7034.1	7056.2
65°	7724.6	8208.7	8202.2	7999.8	7680.5	7510.5	7524.7	7535.2
67.5°	6742.2	7853.1	8563.0	8626.5	8271.0	8004.9	7973.8	7980.2
70°	4773.4	6298.3	7805.1	8794.0	8934.1	8727.8	8660.3	8670.7
71°	3824.7	5404.1	7062.8	8393.0	8923.8	8864.1	8826.4	8853.7
72.5°	2441.2	3981.7	5596.2	7187.4	8206.1	8498.1	8540.9	8557.8
75°	886.4	1713.1	2899.3	4154.3	5265.2	6029.7	6450.1	6483.9
77.5°	476.3	613.9	948.7	1417.2	1780.7	1975.3	1998.6	2007.7
80°	350.4	406.2	464.6	530.8	572.3	580.1	565.9	536.0
82.5°	247.9	280.3	303.7	327.0	343.9	329.6	273.8	209.0
85°	144.0	158.4	171.3	183.0	185.6	175.2	115.5	94.7
87.5°	57.1	62.3	61.0	68.7	66.2	61.0	45.4	39.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)