

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: P196894

Luminaire Tested: **NAV-AF-04-D-UNV-5MQ-8030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196894  
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-8030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 80 CRI, 3000K, 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: 23258 lumens  
Efficiency: N/A  
Efficacy: 90.1 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

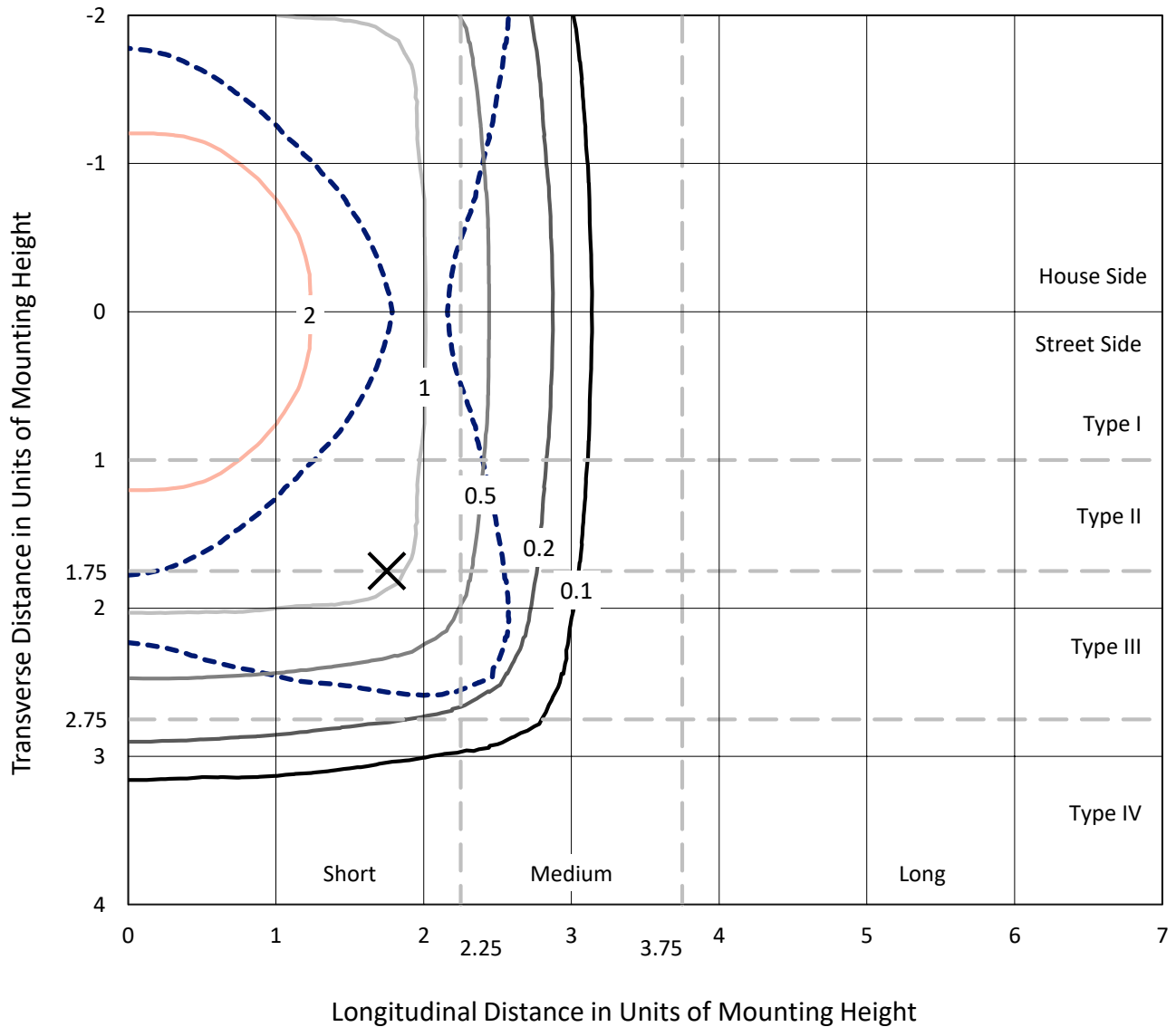
Input Watts (W): 258  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

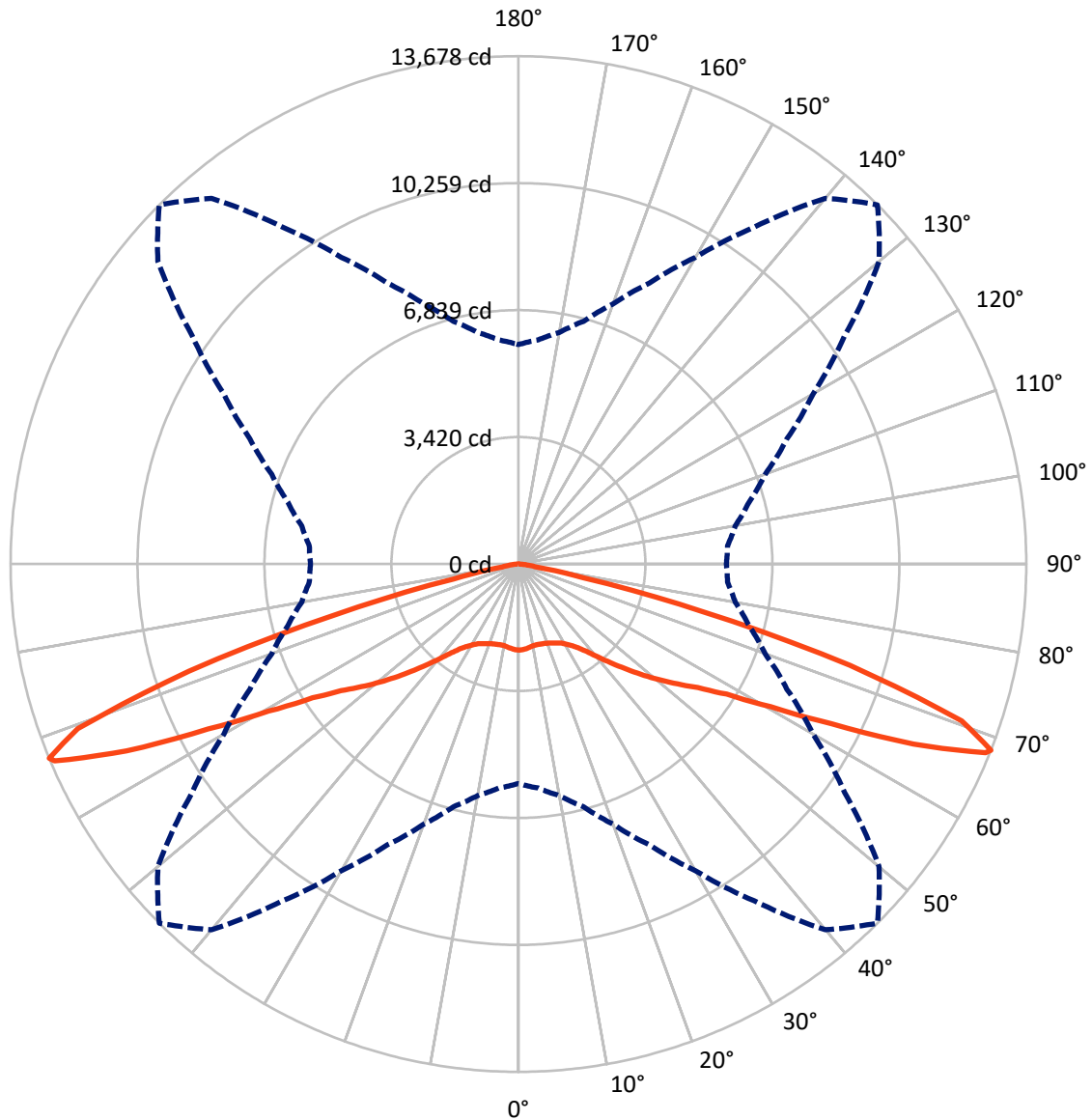
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 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 68-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	11629.0	0.0	11629.0
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	11629.0	0.0	11629.0
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	23258.0	0.0	23258.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.1	0.9
10°-20°	629.6	2.7
20°-30°	1070.4	4.6
30°-40°	1751.7	7.5
40°-50°	3130.5	13.5
50°-60°	5287.0	22.7
60°-70°	8198.1	35.2
70°-80°	2818.7	12.1
80°-90°	154.9	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°	23258.0	100.0
0°-180°	23258.0	100.0



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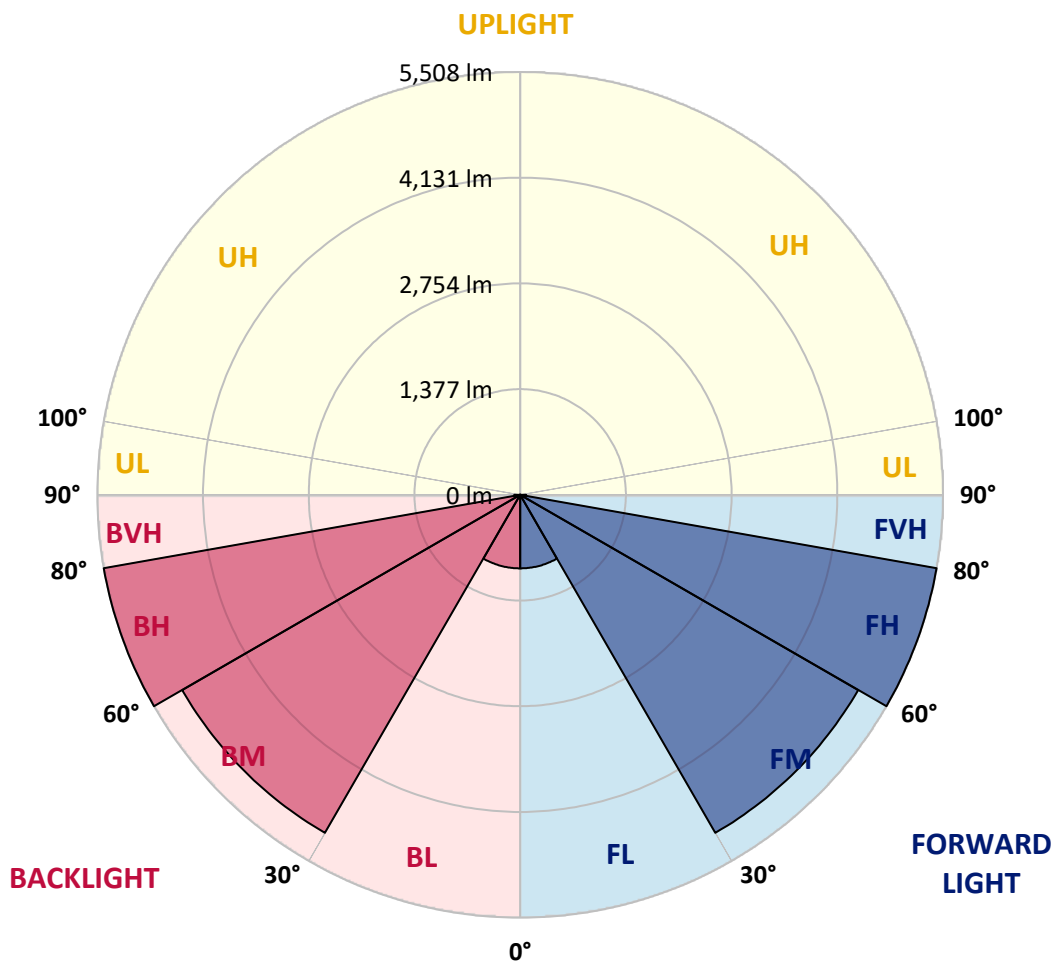
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	958.6	4.1			
FM	(30°-60°)	5084.6	21.9			
FH	(60°-80°)	5508.4	23.7			G3/7500
FVH	(80°-90°)	77.4	0.3			G1/100
BL	(0°-30°)	958.6	4.1	B2/1000		
BM	(30°-60°)	5084.6	21.9	B4/8500		
BH	(60°-80°)	5508.4	23.7	B5		G3/7500
BVH	(80°-90°)	77.4	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°	2320.1	2320.1	2320.1	2320.1	2320.1	2320.1	2320.1	2320.1	2320.1	2320.1	2320.1
2.5°	2330.0	2330.0	2332.9	2331.4	2327.2	2322.9	2318.6	2314.4	2311.5	2308.7	2305.8
5°	2305.8	2305.8	2310.1	2307.2	2304.4	2300.1	2297.3	2293.0	2290.1	2287.3	2288.7
7.5°	2274.5	2277.3	2280.2	2278.8	2273.1	2271.6	2267.4	2265.9	2263.1	2258.8	2260.2
10°	2247.4	2248.8	2251.7	2250.3	2248.8	2244.6	2243.1	2241.7	2240.3	2234.6	2233.2
12.5°	2220.4	2223.2	2226.1	2227.5	2226.1	2227.5	2228.9	2230.3	2228.9	2226.1	2226.1
15°	2199.0	2201.8	2206.1	2210.4	2211.8	2220.4	2226.1	2231.8	2236.0	2237.4	2233.2
17.5°	2187.6	2191.9	2197.6	2206.1	2213.2	2223.2	2233.2	2241.7	2248.8	2250.3	2246.0
20°	2186.2	2190.5	2199.0	2209.0	2221.8	2234.6	2250.3	2263.1	2270.2	2274.5	2270.2
22.5°	2196.1	2201.8	2213.2	2226.1	2241.7	2258.8	2278.8	2293.0	2307.2	2312.9	2308.7
25°	2224.6	2230.3	2243.1	2258.8	2275.9	2297.3	2317.2	2335.7	2350.0	2357.1	2351.4
27.5°	2284.4	2285.9	2300.1	2317.2	2337.1	2355.7	2381.3	2389.8	2401.2	2408.4	2401.2
30°	2368.5	2371.3	2384.1	2411.2	2429.7	2453.9	2468.2	2476.7	2489.5	2496.7	2488.1
32.5°	2496.7	2499.5	2510.9	2536.5	2553.6	2572.1	2589.2	2594.9	2607.7	2616.3	2606.3
35°	2677.5	2683.2	2693.2	2710.3	2724.5	2738.8	2751.6	2747.3	2755.9	2767.3	2757.3
37.5°	2925.3	2923.9	2926.8	2939.6	2953.8	2962.4	2982.3	2972.3	2980.9	2990.9	2985.2
40°	3214.5	3214.5	3213.0	3235.8	3241.5	3250.1	3271.4	3258.6	3270.0	3281.4	3271.4
42.5°	3543.5	3549.2	3556.3	3574.8	3590.5	3593.3	3603.3	3597.6	3611.8	3621.8	3611.8
45°	3922.3	3930.8	3939.4	3982.1	3989.2	3994.9	4002.1	3983.5	3999.2	4007.8	4004.9
47.5°	4315.4	4331.1	4349.6	4393.7	4422.2	4435.0	4440.7	4419.4	4420.8	4433.6	4435.0
50°	4759.7	4776.8	4795.3	4845.2	4872.3	4895.0	4902.2	4878.0	4880.8	4890.8	4893.6
52.5°	5169.9	5189.9	5229.7	5296.7	5335.1	5375.0	5377.9	5347.9	5360.8	5367.9	5362.2
55°	5555.9	5581.5	5634.2	5723.9	5793.7	5872.1	5907.7	5874.9	5874.9	5869.2	5866.4
57.5°	6005.9	6034.4	6088.5	6192.5	6289.4	6401.9	6498.7	6531.5	6591.3	6611.2	6579.9
60°	6683.9	6713.8	6769.3	6906.0	7028.5	7192.3	7351.8	7481.4	7692.2	7806.2	7703.6
62.5°	7303.4	7349.0	7480.0	7719.3	7984.2	8287.5	8639.3	8890.0	9273.1	9463.9	9206.2
65°	7162.4	7255.0	7511.3	7887.3	8434.2	9092.2	9808.6	10496.5	11288.4	11694.3	11170.2
67.5°	6256.6	6334.9	6611.2	7048.5	7730.7	8637.9	9751.6	11175.9	12809.4	13570.0	12642.8
68°	5910.5	6057.2	6332.1	6766.5	7454.4	8345.9	9535.2	11073.3	12856.4	13678.2	12677.0
70°	4531.9	4584.6	4848.0	5238.3	5980.3	6854.8	8055.4	9808.6	11823.9	12669.9	11640.2
72.5°	2153.4	2184.8	2355.7	2740.2	3211.6	3923.7	4983.3	6636.9	8452.7	9332.9	8306.1
75°	789.0	796.1	836.0	927.2	1103.8	1371.5	1880.0	2908.3	4305.4	5134.3	4322.5
77.5°	425.8	427.3	442.9	465.7	497.1	532.7	609.6	817.5	1318.8	1794.5	1392.9
80°	267.8	266.3	282.0	300.5	321.9	339.0	346.1	370.3	417.3	488.5	448.6
82.5°	136.7	149.5	185.1	205.1	236.4	242.1	235.0	233.6	247.8	267.8	276.3
85°	75.5	66.9	98.3	131.0	142.4	146.7	148.1	139.6	136.7	133.9	141.0
87.5°	38.5	35.6	42.7	65.5	69.8	57.0	58.4	49.8	34.2	34.2	35.6
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°	2320.1	2320.1	2320.1	2320.1	2320.1	2320.1	2320.1	2320.1
2.5°	2303.0	2304.4	2301.5	2301.5	2301.5	2303.0	2301.5	2300.1
5°	2284.4	2287.3	2287.3	2288.7	2290.1	2290.1	2290.1	2290.1
7.5°	2257.4	2258.8	2261.7	2261.7	2261.7	2261.7	2261.7	2261.7
10°	2231.8	2228.9	2227.5	2224.6	2224.6	2220.4	2221.8	2223.2
12.5°	2218.9	2213.2	2210.4	2206.1	2203.3	2199.0	2199.0	2200.4
15°	2224.6	2216.1	2207.5	2204.7	2201.8	2199.0	2196.1	2197.6
17.5°	2236.0	2226.1	2216.1	2210.4	2204.7	2200.4	2199.0	2200.4
20°	2260.2	2246.0	2230.3	2220.4	2209.0	2206.1	2201.8	2206.1
22.5°	2293.0	2275.9	2256.0	2237.4	2224.6	2218.9	2213.2	2217.5
25°	2332.9	2314.4	2294.4	2273.1	2258.8	2254.5	2247.4	2247.4
27.5°	2388.4	2372.8	2355.7	2335.7	2321.5	2317.2	2305.8	2305.8
30°	2476.7	2461.1	2445.4	2428.3	2414.1	2409.8	2395.5	2395.5
32.5°	2593.5	2576.4	2566.4	2552.2	2540.8	2533.7	2516.6	2515.2
35°	2750.2	2734.5	2733.1	2723.1	2711.7	2713.1	2696.0	2693.2
37.5°	2975.2	2962.4	2966.7	2958.1	2948.1	2956.7	2946.7	2946.7
40°	3262.9	3258.6	3262.9	3257.2	3258.6	3260.0	3251.5	3254.3
42.5°	3610.4	3599.0	3624.6	3621.8	3617.5	3628.9	3609.0	3594.7
45°	4010.6	4006.3	4032.0	4036.2	4027.7	4034.8	3999.2	3997.8
47.5°	4445.0	4445.0	4467.8	4464.9	4456.4	4457.8	4415.1	4388.0
50°	4897.9	4895.0	4917.8	4912.1	4900.7	4899.3	4855.2	4828.1
52.5°	5369.3	5369.3	5402.1	5386.4	5359.3	5346.5	5292.4	5256.8
55°	5890.6	5883.5	5893.4	5842.2	5789.5	5751.0	5684.1	5657.0
57.5°	6550.0	6467.4	6396.2	6330.7	6256.6	6211.0	6132.7	6104.2
60°	7485.7	7264.9	7169.5	7038.5	6916.0	6854.8	6750.8	6695.3
62.5°	8781.7	8415.7	8156.5	7867.4	7588.2	7391.7	7233.6	7163.8
65°	10280.0	9482.5	8823.0	8203.5	7678.0	7260.7	7028.5	6955.9
67.5°	10849.7	9385.6	8247.7	7358.9	6720.9	6223.8	5946.1	5887.7
68°	10728.7	9163.4	7981.3	7071.3	6430.4	5929.0	5652.7	5600.0
70°	9463.9	7730.7	6483.1	5577.2	4979.1	4502.0	4306.8	4222.8
72.5°	6451.7	4964.8	3808.4	3046.4	2599.2	2297.3	2117.8	2056.6
75°	2969.5	2006.7	1340.2	1001.2	850.3	777.6	722.1	707.8
77.5°	865.9	629.5	541.2	501.3	471.4	445.8	427.3	425.8
80°	411.6	386.0	374.6	348.9	321.9	297.7	280.6	283.4
82.5°	276.3	269.2	269.2	243.5	200.8	172.3	142.4	128.2
85°	146.7	152.4	160.9	152.4	132.5	98.3	64.1	69.8
87.5°	49.8	57.0	59.8	58.4	52.7	39.9	29.9	29.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)