

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: P196437

Luminaire Tested: **NAV-AF-03-D-UNV-5NQ-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196437
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-03-D-UNV-5NQ-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V
NARROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19757.4 lumens
Efficiency: N/A
Efficacy: 103.4 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Full Cutoff
BUG Rating: B4 - U0 - G2

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

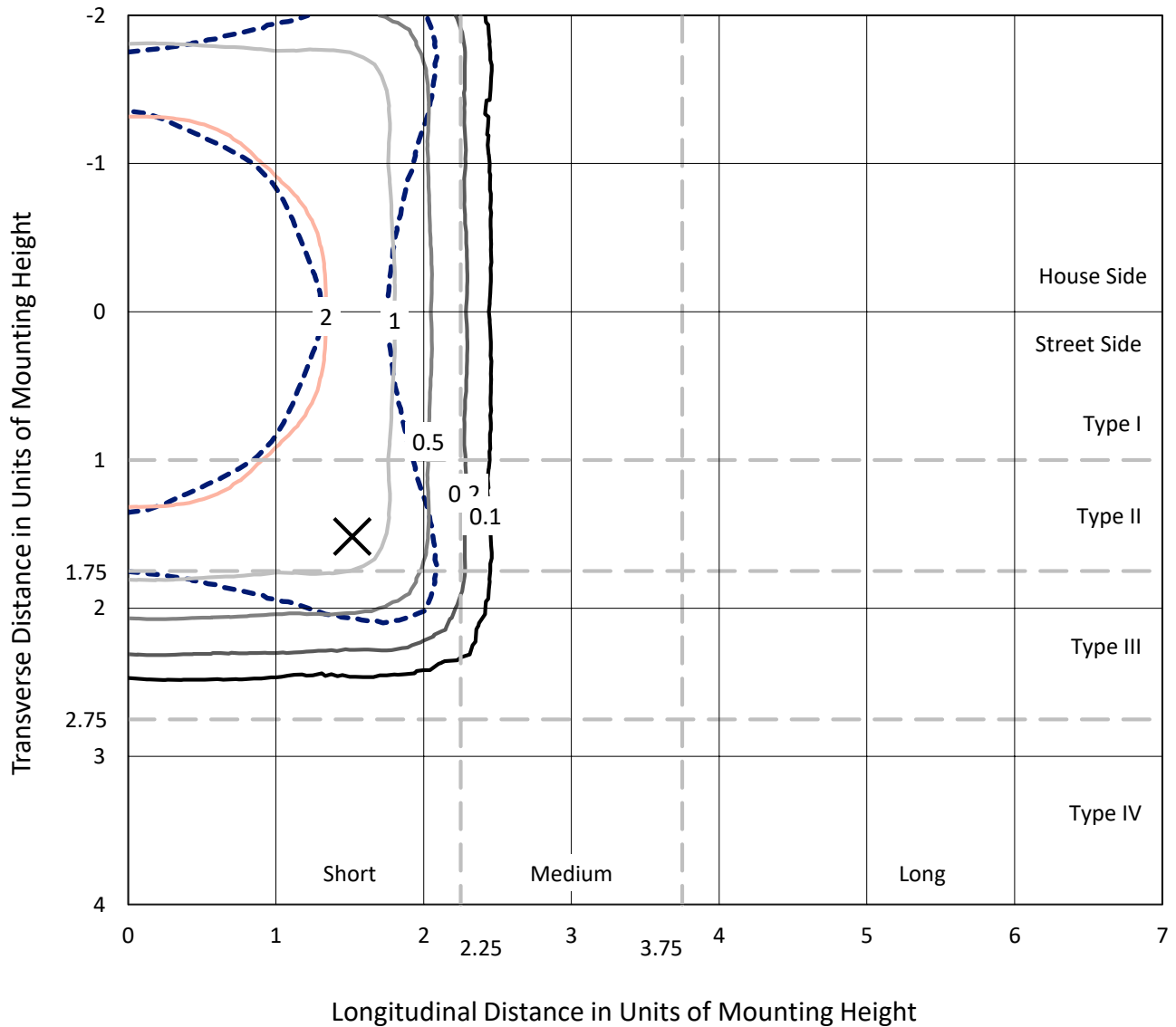


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Iso-Footcandle Lines of Horizontal Illumination

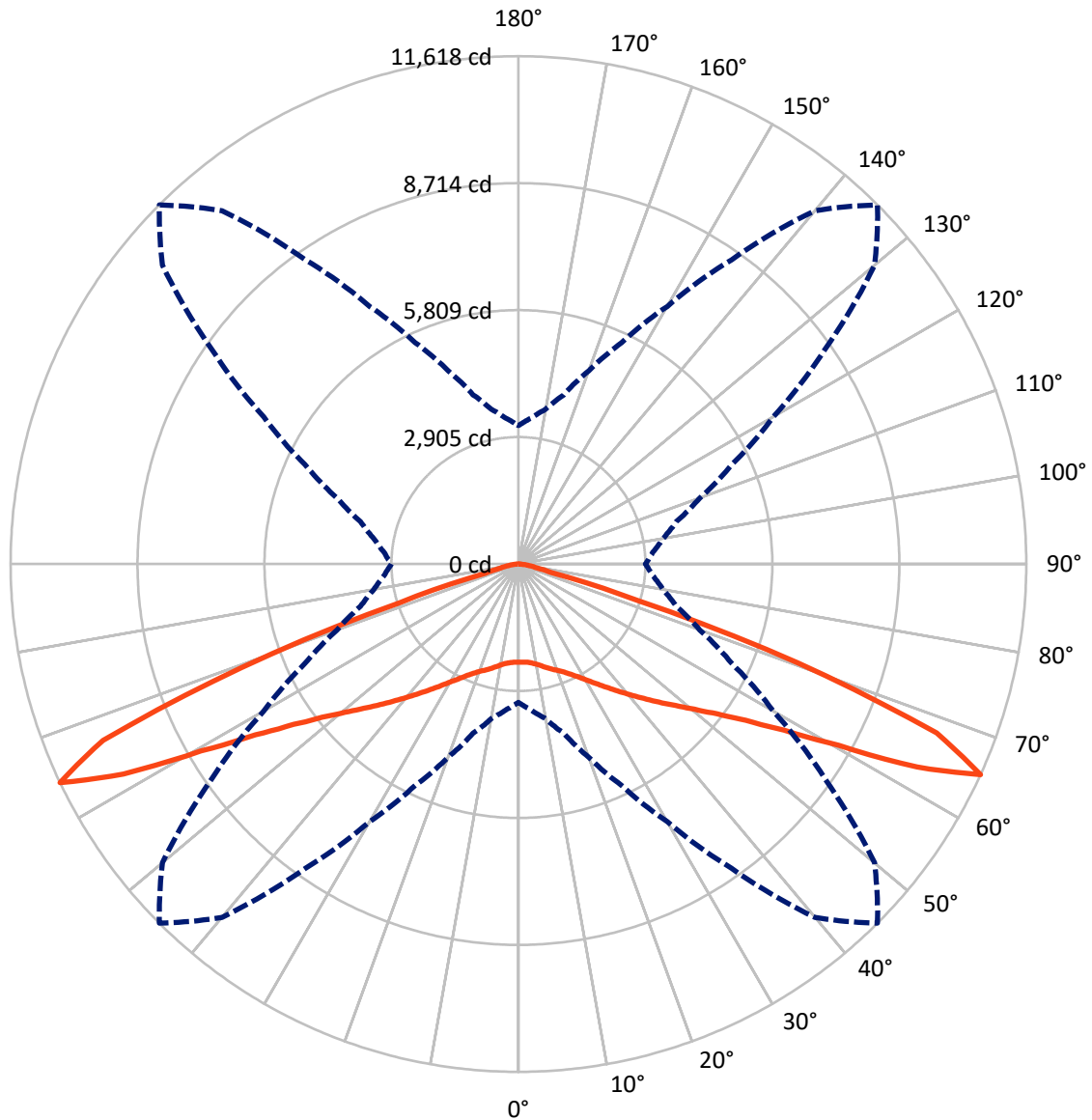
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 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	9878.7	0.0	9878.7
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	9878.7	0.0	9878.7
	% Fixture	50.0	0.0	50.0
Total	Lumens	19757.4	0.0	19757.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.8	1.1
10°-20°	701.4	3.6
20°-30°	1308.5	6.6
30°-40°	2206.3	11.2
40°-50°	3583.7	18.1
50°-60°	5615.1	28.4
60°-70°	5300.3	26.8
70°-80°	714.3	3.6
80°-90°	108.8	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°	19757.4	100.0
0°-180°	19757.4	100.0



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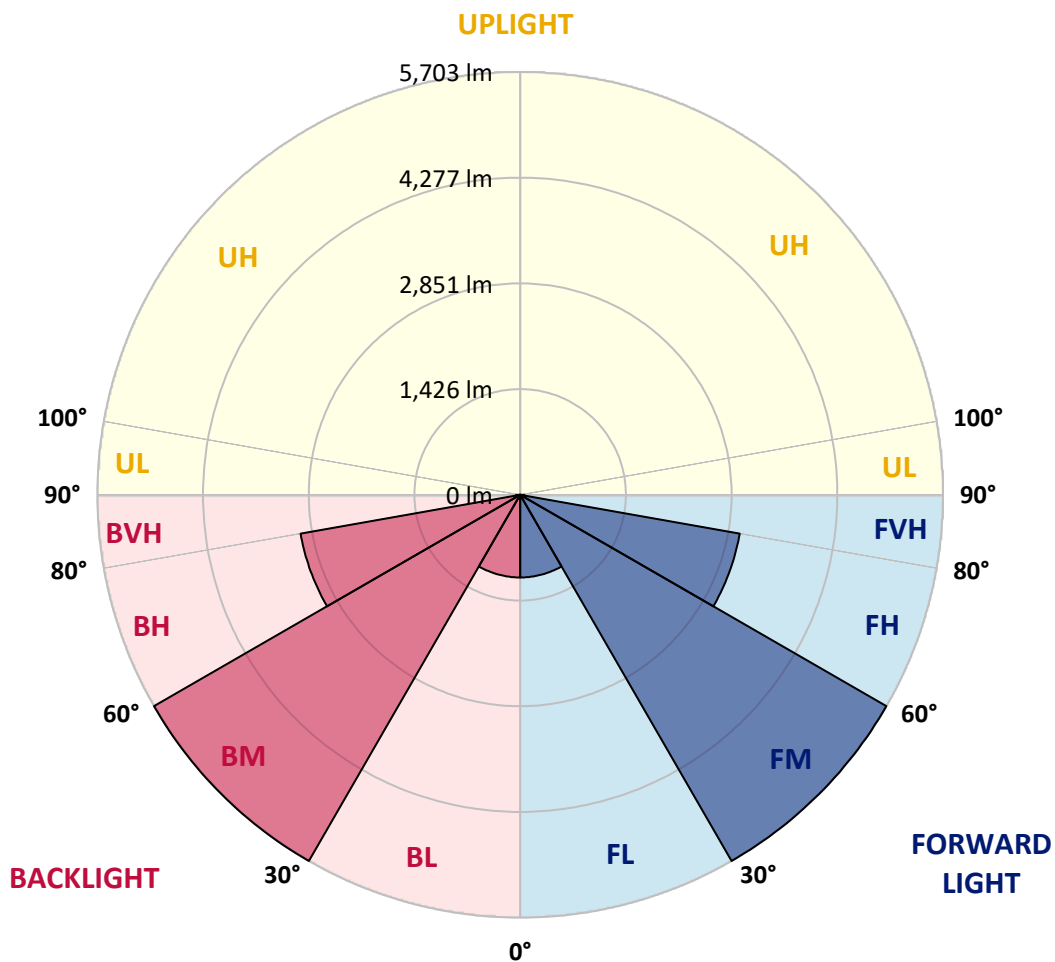
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1114.4	5.6			
FM	(30°-60°)	5702.6	28.9			
FH	(60°-80°)	3007.3	15.2			G2/5000
FVH	(80°-90°)	54.4	0.3			G1/100
BL	(0°-30°)	1114.4	5.6	B3/2500		
BM	(30°-60°)	5702.6	28.9	B4/8500		
BH	(60°-80°)	3007.3	15.2	B4/5000		G2/5000
BVH	(80°-90°)	54.4	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	2247.4	2247.4	2247.4	2247.4	2247.4	2247.4	2247.4	2247.4	2247.4	2247.4	2247.4
2.5°	2265.8	2265.8	2269.6	2268.3	2263.5	2259.7	2255.9	2251.1	2248.5	2246.2	2245.0
5°	2278.2	2278.2	2281.9	2280.6	2277.0	2271.9	2269.6	2265.8	2262.1	2259.7	2260.9
7.5°	2308.8	2310.2	2311.4	2310.2	2306.5	2302.7	2297.8	2296.6	2291.7	2288.0	2290.4
10°	2355.6	2355.6	2356.9	2358.2	2355.6	2347.1	2347.1	2344.6	2339.7	2334.8	2336.0
12.5°	2407.4	2407.4	2408.6	2408.6	2408.6	2403.7	2404.9	2403.7	2397.4	2395.1	2397.4
15°	2457.8	2459.1	2459.1	2461.5	2461.5	2462.8	2467.7	2467.7	2465.2	2464.1	2464.1
17.5°	2516.9	2519.4	2520.6	2524.3	2525.5	2528.0	2532.9	2534.2	2535.4	2531.6	2532.9
20°	2595.7	2596.9	2600.6	2601.8	2606.7	2606.7	2609.2	2608.0	2605.5	2600.6	2600.6
22.5°	2684.3	2686.8	2694.2	2694.2	2700.4	2696.6	2697.8	2694.2	2688.0	2685.5	2683.1
25°	2800.0	2803.7	2809.8	2807.4	2809.8	2803.7	2803.7	2803.7	2800.0	2796.3	2795.1
27.5°	2946.5	2940.2	2946.5	2941.5	2940.2	2935.4	2936.6	2934.1	2930.5	2929.2	2924.4
30°	3099.0	3091.7	3095.5	3096.6	3094.1	3092.9	3088.0	3084.3	3078.2	3079.4	3075.6
32.5°	3273.9	3266.5	3270.1	3271.3	3268.9	3271.3	3270.1	3261.5	3254.2	3259.1	3259.1
35°	3481.9	3476.9	3486.8	3490.4	3483.0	3479.4	3474.5	3464.6	3453.5	3460.9	3462.1
37.5°	3731.6	3725.5	3733.0	3742.7	3729.2	3721.8	3702.1	3687.4	3680.0	3683.6	3688.6
40°	3991.3	3992.6	4013.5	4016.0	4001.2	3992.6	3972.8	3950.7	3929.8	3929.8	3935.9
42.5°	4264.6	4268.3	4292.9	4301.5	4296.6	4280.6	4253.6	4226.4	4199.4	4204.3	4211.7
45°	4573.5	4568.5	4594.5	4615.3	4611.8	4606.7	4580.9	4531.6	4507.1	4505.9	4518.1
47.5°	4898.4	4908.3	4935.3	4971.1	4969.8	4957.5	4924.4	4878.8	4833.2	4836.9	4851.6
50°	5277.6	5291.1	5336.6	5372.3	5377.2	5373.5	5334.1	5281.1	5217.2	5221.0	5240.6
52.5°	5617.2	5636.9	5689.7	5763.7	5809.2	5830.2	5804.3	5755.0	5689.7	5693.5	5714.5
55°	5924.9	5955.6	6034.4	6135.4	6226.4	6311.4	6349.5	6348.3	6300.3	6311.4	6338.4
57.5°	6118.1	6161.2	6280.6	6443.0	6624.0	6795.1	6942.8	7081.8	7112.6	7170.4	7170.4
60°	5858.5	5959.3	6118.1	6396.2	6752.0	7135.9	7552.0	7957.0	8217.8	8423.4	8312.6
62.5°	4892.3	5041.2	5264.0	5630.7	6184.6	6870.1	7705.8	8647.4	9629.4	10230.2	9789.5
65°	3165.6	3352.6	3595.0	4007.4	4705.2	5587.6	6804.8	8497.2	10552.6	11618.4	10633.7
67.5°	1254.2	1380.9	1528.6	1821.6	2427.0	3293.5	4659.7	6747.1	9318.0	10323.7	9219.7
70°	599.4	620.3	648.6	711.4	862.7	1164.2	1871.9	3324.3	5714.5	6774.1	5577.8
72.5°	433.2	436.9	450.4	471.4	515.7	577.2	701.6	1016.6	1970.5	2865.3	1972.9
75°	328.7	333.6	340.9	352.1	375.5	405.0	451.7	541.5	674.4	777.8	673.2
77.5°	249.8	254.8	260.9	271.9	284.3	305.3	322.5	358.2	414.7	436.9	434.5
80°	182.1	190.7	200.6	210.5	219.1	228.9	230.1	247.4	279.3	300.4	294.1
82.5°	115.7	123.0	148.9	159.9	161.2	163.7	162.5	163.7	181.0	195.7	190.7
85°	73.9	78.7	92.4	104.6	102.1	107.1	107.1	104.6	97.2	83.7	99.7
87.5°	36.9	38.1	44.4	55.4	52.9	46.8	45.6	45.6	33.3	28.3	30.8
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°	2247.4	2247.4	2247.4	2247.4	2247.4	2247.4	2247.4	2247.4
2.5°	2241.2	2243.6	2240.1	2240.1	2238.7	2241.2	2237.5	2237.5
5°	2258.5	2262.1	2260.9	2260.9	2263.5	2265.8	2264.6	2263.5
7.5°	2289.2	2291.7	2294.1	2295.4	2297.8	2296.6	2299.1	2297.8
10°	2336.0	2333.6	2337.3	2333.6	2334.8	2332.2	2333.6	2333.6
12.5°	2395.1	2391.3	2389.0	2386.4	2386.4	2381.6	2381.6	2382.7
15°	2462.8	2456.5	2451.7	2449.3	2446.8	2446.8	2443.0	2445.5
17.5°	2529.3	2523.1	2514.5	2514.5	2510.8	2508.3	2505.9	2512.0
20°	2599.4	2593.3	2588.3	2587.0	2579.7	2577.2	2578.4	2585.8
22.5°	2680.5	2677.0	2677.0	2674.4	2669.5	2665.8	2665.8	2674.4
25°	2790.2	2782.8	2784.0	2785.2	2782.8	2782.8	2780.3	2786.4
27.5°	2924.4	2918.1	2921.8	2924.4	2921.8	2925.5	2921.8	2926.7
30°	3081.8	3078.2	3081.8	3085.5	3079.4	3079.4	3077.0	3080.6
32.5°	3270.1	3265.2	3267.7	3267.7	3259.1	3251.7	3241.8	3249.3
35°	3476.9	3470.7	3475.6	3479.4	3469.5	3462.1	3447.3	3453.5
37.5°	3704.7	3707.0	3713.1	3729.2	3726.8	3714.5	3703.4	3708.3
40°	3959.3	3971.7	3998.8	4009.9	4007.4	3995.1	3980.4	3982.7
42.5°	4247.4	4263.4	4291.7	4310.2	4301.5	4284.3	4265.8	4273.2
45°	4561.2	4585.8	4622.8	4641.3	4630.2	4611.8	4585.8	4599.4
47.5°	4893.5	4942.8	4991.9	5016.6	5013.0	4987.0	4953.9	4957.5
50°	5291.1	5356.3	5419.0	5443.7	5425.2	5385.8	5339.1	5337.9
52.5°	5785.9	5856.0	5907.6	5901.5	5856.0	5794.4	5741.5	5739.1
55°	6403.6	6427.0	6419.6	6366.7	6286.8	6190.7	6123.0	6112.0
57.5°	7150.7	7072.1	6956.3	6796.3	6616.6	6434.4	6311.4	6265.8
60°	8064.0	7708.2	7294.7	6859.1	6461.5	6163.7	5975.4	5860.8
62.5°	8818.5	7788.3	6864.0	6107.0	5488.0	5120.0	4862.8	4703.9
65°	8559.9	6728.6	5389.5	4413.5	3737.9	3357.5	3085.5	2904.6
67.5°	6612.9	4496.0	3128.6	2168.6	1644.4	1392.0	1215.9	1101.6
70°	3334.1	1724.3	1044.9	737.3	630.1	585.8	556.3	539.0
72.5°	978.4	653.6	542.8	479.9	441.9	414.7	397.4	389.0
75°	541.5	441.9	390.2	354.4	329.9	311.4	300.4	293.0
77.5°	372.9	321.2	295.4	271.9	252.3	238.7	230.1	222.8
80°	260.9	235.1	224.0	211.8	196.8	185.8	173.5	168.6
82.5°	173.5	162.5	159.9	150.1	141.5	129.3	107.1	99.7
85°	102.1	100.9	100.9	97.2	91.1	80.0	64.0	64.0
87.5°	35.7	36.9	38.1	40.7	39.4	33.3	27.1	25.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)