

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: P196463

Luminaire Tested: **NAV-AF-05-D-UNV-5WQ-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196463
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24131)
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-5WQ-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 33190.8 lumens
Efficiency: N/A
Efficacy: 103.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type V - Short - Semi-Cutoff
BUG Rating: B5 - U0 - G4

Input Watts (W): 320
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

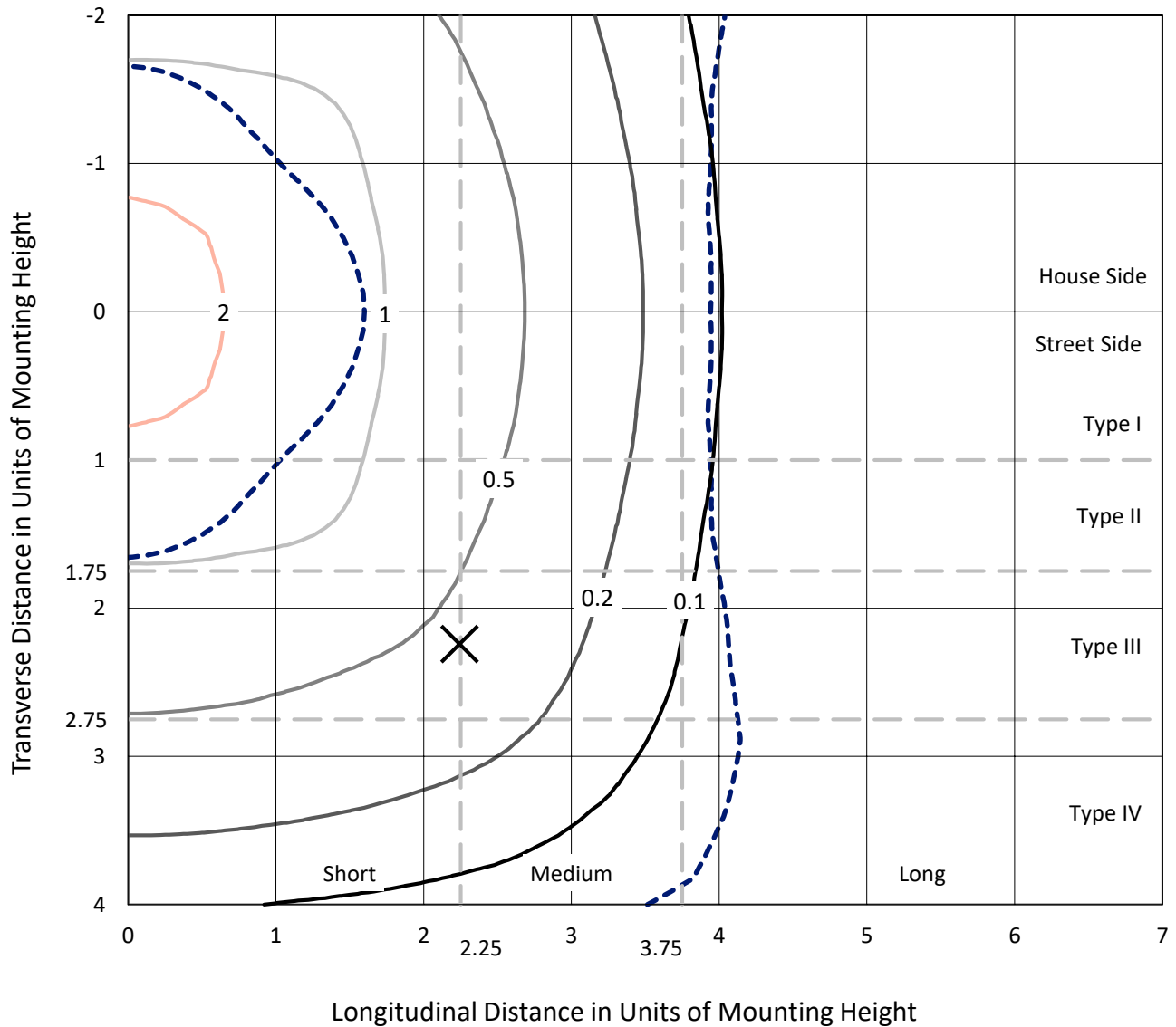


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Iso-Footcandle Lines of Horizontal Illumination

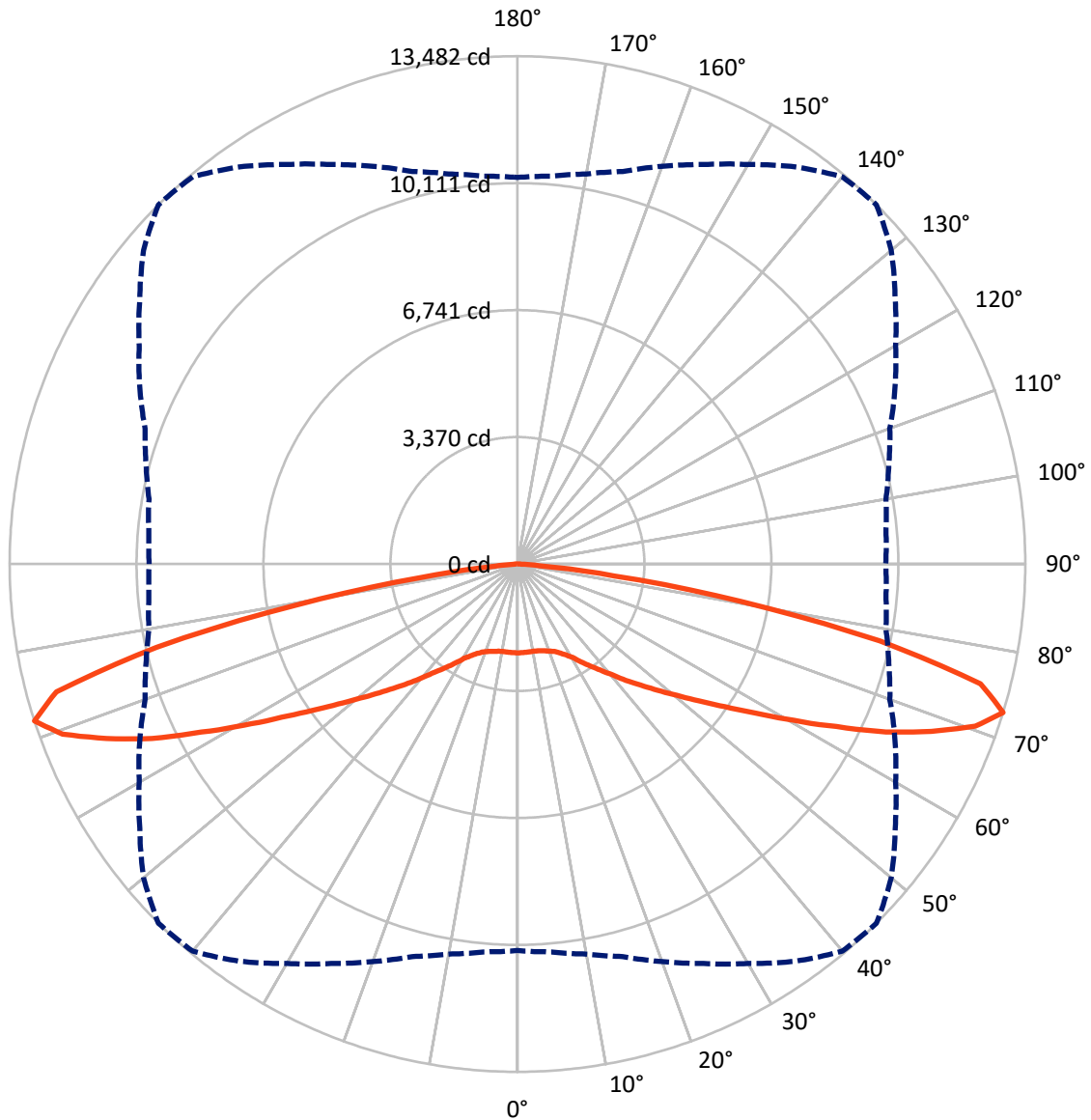
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 2.6 fc
 Type V - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	16595.4	0.0	16595.4
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	16595.4	0.0	16595.4
	% Fixture	50.0	0.0	50.0
Total	Lumens	33190.8	0.0	33190.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.2	0.7
10°-20°	681.6	2.1
20°-30°	1230.5	3.7
30°-40°	2098.9	6.3
40°-50°	3573.4	10.8
50°-60°	5750.9	17.3
60°-70°	9563.9	28.8
70°-80°	9252.0	27.9
80°-90°	814.3	2.5
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°	33190.8	100.0
0°-180°	33190.8	100.0



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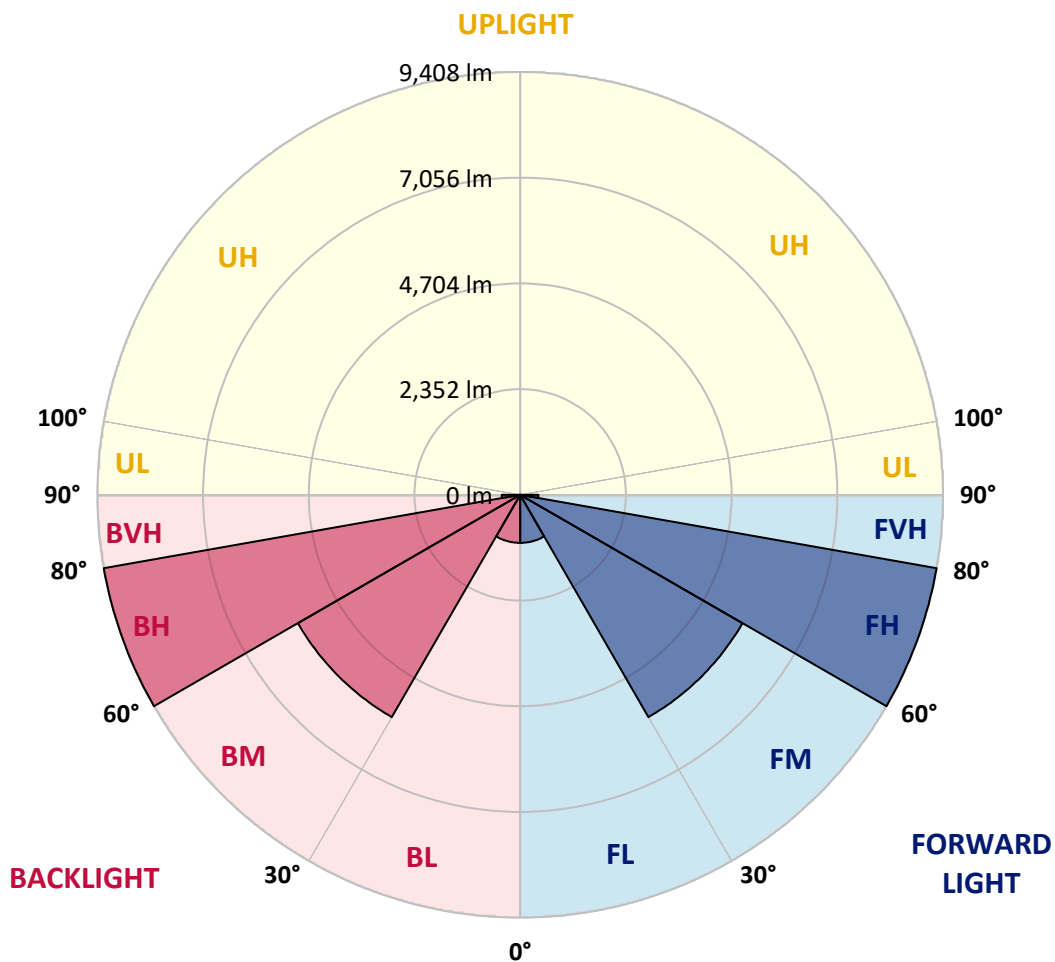
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1068.7	3.2			
FM	(30°-60°)	5711.6	17.2			
FH	(60°-80°)	9407.9	28.3			G4/12000
FVH	(80°-90°)	407.1	1.2			G3/500
BL	(0°-30°)	1068.7	3.2	B3/2500		
BM	(30°-60°)	5711.6	17.2	B4/8500		
BH	(60°-80°)	9407.9	28.3	B5		G4/12000
BVH	(80°-90°)	407.1	1.2			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B5-U0-G4

Type V Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2359.6	2359.6	2359.6	2359.6	2359.6	2359.6	2359.6	2359.6	2359.6	2359.6	2359.6
2.5°	2378.0	2378.0	2380.0	2378.0	2373.8	2371.9	2365.8	2361.6	2357.6	2355.5	2351.5
5°	2380.0	2380.0	2382.1	2380.0	2376.0	2371.9	2367.7	2361.6	2357.6	2353.5	2351.5
7.5°	2388.2	2390.3	2392.3	2390.3	2382.1	2378.0	2371.9	2365.8	2357.6	2353.5	2349.4
10°	2404.6	2404.6	2404.6	2402.5	2396.4	2388.2	2380.0	2373.8	2363.8	2353.5	2347.3
12.5°	2416.9	2418.9	2418.9	2414.7	2406.7	2396.4	2388.2	2382.1	2373.8	2365.8	2359.6
15°	2435.2	2435.2	2433.2	2425.0	2412.8	2404.6	2400.4	2398.5	2396.4	2392.3	2386.2
17.5°	2472.0	2470.0	2463.8	2451.6	2437.2	2431.1	2427.0	2427.0	2427.0	2425.0	2420.8
20°	2525.1	2525.1	2516.9	2496.5	2484.2	2478.1	2472.0	2472.0	2472.0	2465.9	2459.8
22.5°	2610.9	2612.9	2600.7	2576.2	2559.8	2547.6	2539.4	2533.2	2527.1	2523.1	2512.9
25°	2727.3	2725.3	2711.0	2680.3	2668.1	2655.9	2639.4	2629.4	2621.1	2615.0	2602.8
27.5°	2849.9	2847.9	2831.6	2805.0	2796.8	2778.5	2766.1	2751.9	2741.7	2731.5	2719.1
30°	3007.3	2997.0	2984.8	2964.3	2960.3	2945.9	2929.6	2909.1	2892.8	2876.5	2862.1
32.5°	3148.2	3148.2	3129.8	3119.6	3127.8	3121.6	3123.7	3111.3	3101.3	3095.1	3080.8
35°	3344.3	3344.3	3336.1	3323.8	3326.0	3311.6	3309.6	3311.6	3319.9	3319.9	3303.5
37.5°	3605.8	3609.9	3583.3	3579.3	3569.1	3548.6	3538.4	3542.5	3560.9	3571.1	3548.6
40°	3930.6	3938.8	3930.6	3904.1	3891.9	3857.1	3836.6	3836.6	3851.0	3861.2	3853.0
42.5°	4251.4	4265.7	4251.4	4230.9	4220.8	4194.3	4184.0	4192.2	4210.6	4222.8	4210.6
45°	4608.9	4619.2	4600.7	4576.3	4564.0	4549.7	4543.5	4549.7	4570.1	4582.4	4578.3
47.5°	4960.3	4974.6	4952.1	4941.9	4941.9	4927.6	4944.0	4960.3	4978.7	5007.3	4995.0
50°	5303.6	5321.9	5307.6	5309.7	5326.0	5352.5	5383.2	5415.9	5448.5	5479.3	5483.2
52.5°	5609.9	5638.6	5640.6	5677.3	5728.5	5769.3	5855.1	5926.7	6004.3	6030.8	6018.5
55°	5932.8	5971.6	6022.6	6079.8	6161.5	6245.4	6390.3	6519.1	6621.2	6684.6	6674.3
57.5°	6394.5	6433.3	6486.4	6580.3	6702.9	6817.3	7015.5	7215.7	7370.9	7467.0	7420.1
60°	6993.0	7033.9	7103.4	7203.5	7362.8	7518.1	7789.7	8077.9	8318.9	8429.3	8343.5
62.5°	7785.7	7824.5	7869.5	8002.2	8180.0	8380.1	8721.4	9091.1	9397.6	9503.8	9383.3
65°	8915.4	8962.4	8976.7	9085.0	9258.6	9444.6	9812.3	10229.1	10578.5	10752.1	10511.0
67.5°	10188.2	10206.6	10263.9	10390.4	10568.2	10735.7	11025.8	11420.1	11755.2	11851.3	11593.8
70°	10933.9	10970.7	11070.8	11246.5	11458.9	11722.5	12039.2	12464.1	12844.1	12889.0	12562.2
72.5°	10259.8	10335.3	10513.0	10786.8	11232.2	11700.0	12245.4	12872.7	13418.1	13481.5	12956.4
75°	8229.1	8314.8	8527.2	8827.6	9354.7	10049.3	10837.9	11779.7	12596.8	12701.1	12006.5
77.5°	4386.2	4492.4	4801.0	5205.4	5957.3	6876.6	7826.6	8901.2	9595.8	9830.7	9330.2
80°	1105.2	1162.4	1311.5	1548.5	2057.3	2798.9	3618.1	4774.4	5636.4	6002.1	5636.4
82.5°	429.1	471.9	512.8	541.4	590.4	692.6	956.1	1558.8	2100.2	2586.3	2239.0
85°	165.5	175.7	253.4	288.0	288.0	316.7	363.7	429.1	531.2	580.1	486.2
87.5°	65.3	71.4	87.9	134.8	138.9	122.6	130.8	147.1	112.3	94.0	106.2
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°	2359.6	2359.6	2359.6	2359.6	2359.6	2359.6	2359.6	2359.6
2.5°	2349.4	2347.3	2343.3	2345.4	2343.3	2343.3	2343.3	2343.3
5°	2347.3	2347.3	2343.3	2343.3	2343.3	2345.4	2343.3	2343.3
7.5°	2345.4	2343.3	2339.1	2337.2	2337.2	2335.1	2335.1	2335.1
10°	2341.2	2337.2	2333.0	2331.0	2331.0	2326.9	2326.9	2326.9
12.5°	2351.5	2345.4	2341.2	2339.1	2339.1	2339.1	2341.2	2341.2
15°	2380.0	2367.7	2361.6	2359.6	2361.6	2365.8	2367.7	2369.9
17.5°	2410.7	2398.5	2388.2	2384.1	2386.2	2392.3	2398.5	2402.5
20°	2449.5	2439.3	2427.0	2423.0	2423.0	2431.1	2435.2	2441.3
22.5°	2504.7	2496.5	2486.3	2480.1	2476.1	2486.3	2492.4	2496.5
25°	2592.5	2584.3	2576.2	2570.0	2568.0	2578.2	2582.4	2584.3
27.5°	2709.0	2700.8	2696.7	2694.7	2688.6	2692.5	2698.7	2696.7
30°	2860.2	2866.3	2860.2	2860.2	2849.9	2854.0	2849.9	2845.8
32.5°	3062.4	3056.3	3037.9	3025.6	3011.3	3011.3	3005.1	2999.0
35°	3264.6	3244.2	3234.0	3240.1	3234.0	3238.1	3227.8	3217.6
37.5°	3503.6	3491.4	3489.4	3507.8	3503.6	3507.8	3507.8	3493.4
40°	3820.4	3812.2	3826.5	3857.1	3869.3	3867.3	3871.4	3853.0
42.5°	4184.0	4169.7	4175.8	4202.3	4216.7	4220.8	4218.7	4202.3
45°	4547.6	4551.7	4551.7	4580.2	4594.6	4602.8	4588.5	4582.4
47.5°	4958.3	4964.4	4950.1	4968.4	4972.6	4986.8	4974.6	4964.4
50°	5432.3	5409.8	5377.0	5383.2	5383.2	5379.1	5364.8	5352.5
52.5°	5961.3	5910.3	5848.9	5828.6	5806.0	5783.6	5755.0	5732.5
55°	6564.0	6476.2	6365.9	6314.7	6271.9	6220.7	6155.4	6132.9
57.5°	7262.7	7111.5	6964.4	6872.5	6762.2	6694.8	6611.1	6606.9
60°	8092.2	7887.9	7628.4	7491.5	7381.2	7301.6	7238.2	7213.8
62.5°	9050.3	8698.9	8419.0	8271.9	8143.2	8094.2	8014.5	8024.8
65°	10032.9	9675.5	9403.7	9285.3	9164.6	9132.0	9058.4	9085.0
67.5°	11097.4	10803.1	10504.8	10394.6	10284.2	10251.6	10176.0	10198.5
70°	12051.4	11677.5	11338.4	11121.8	10933.9	10782.7	10686.7	10647.9
72.5°	12241.4	11593.8	11060.6	10519.2	10206.6	9932.9	9820.4	9777.6
75°	10999.2	9994.2	9234.1	8598.8	8247.4	7849.0	7806.1	7746.9
77.5°	8555.9	7411.8	6492.5	5675.4	5203.4	4717.2	4549.7	4423.1
80°	5103.3	3922.5	3039.9	2130.8	1738.6	1399.4	1315.7	1227.8
82.5°	1826.4	1170.6	788.7	614.9	549.6	506.6	473.9	431.0
85°	441.3	371.8	351.4	318.7	314.6	267.5	190.0	169.6
87.5°	141.0	128.7	130.8	124.7	130.8	98.2	79.6	71.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)