

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: P196859

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196859
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24127)
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-T4W-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 23219.8 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B3 - U0 - G4

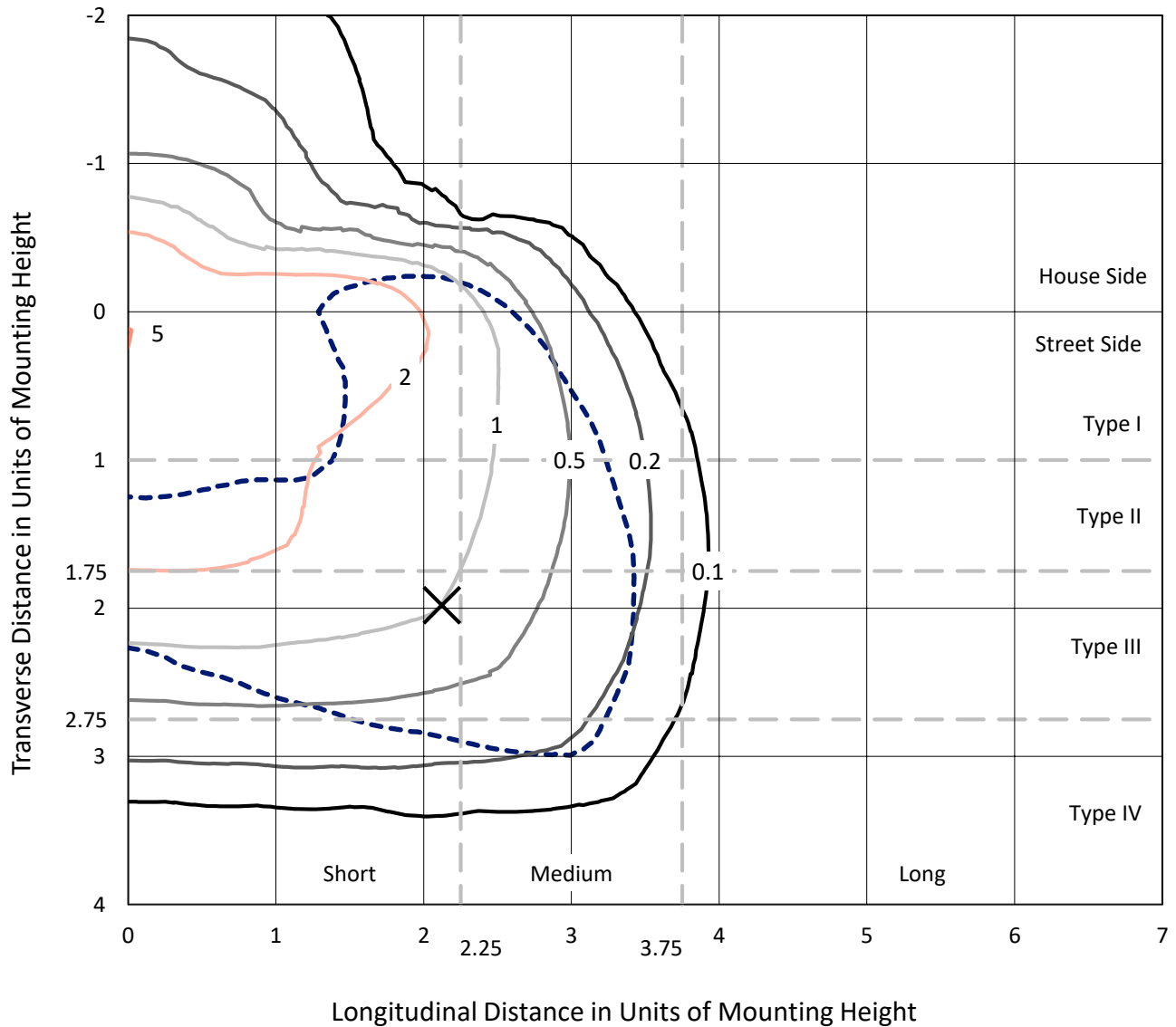
Input Watts (W): 210
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

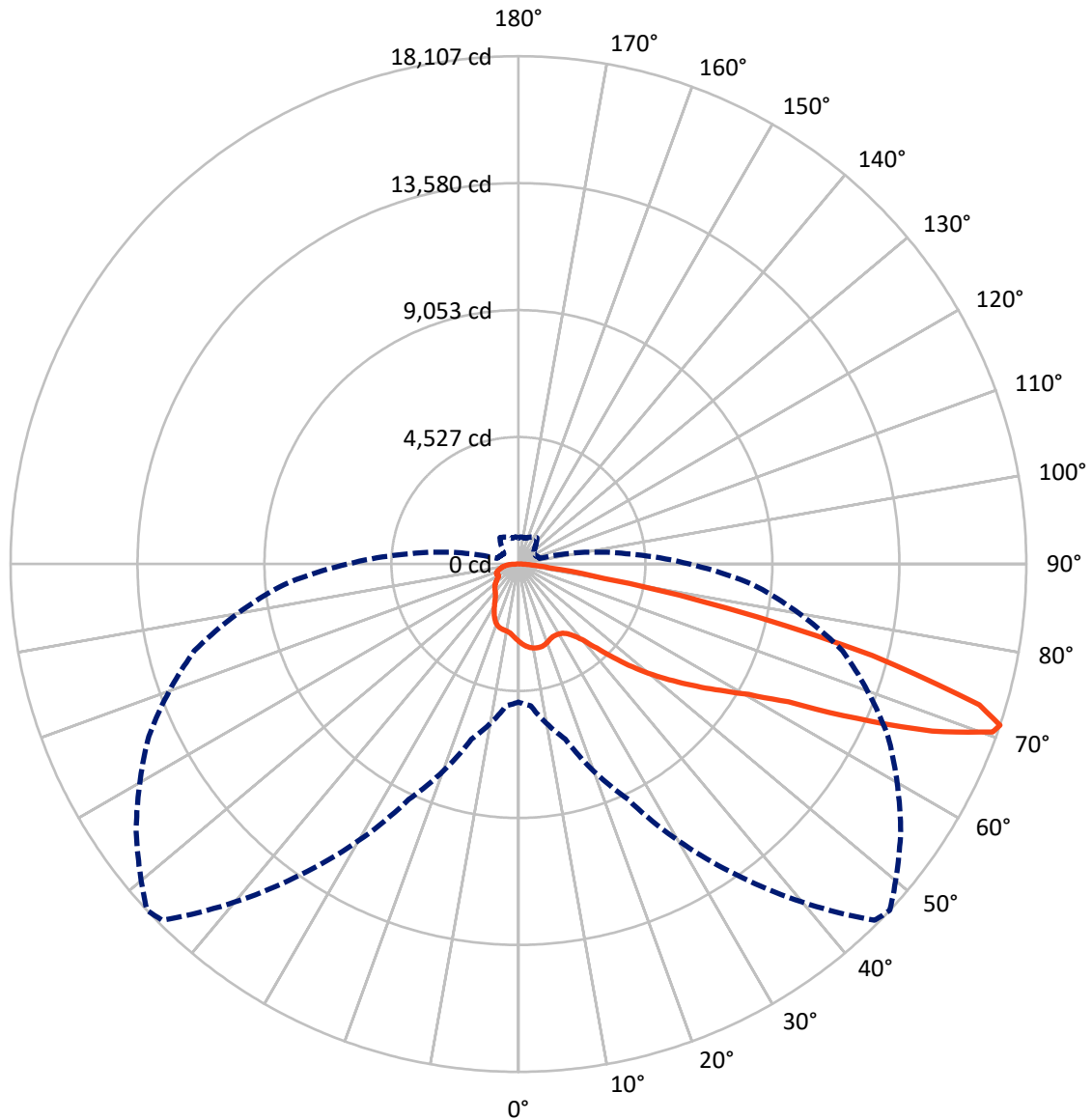
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.1 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4976.3	0.0	4976.3
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	18243.4	0.0	18243.4
	% Fixture	78.6	0.0	78.6
Total	Lumens	23219.8	0.0	23219.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	263.6	1.1
10°-20°	771.3	3.3
20°-30°	1146.1	4.9
30°-40°	1645.7	7.1
40°-50°	2917.8	12.6
50°-60°	4992.8	21.5
60°-70°	7088.0	30.5
70°-80°	3882.0	16.7
80°-90°	512.4	2.2
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°	23219.8	100.0
0°-180°	23219.8	100.0



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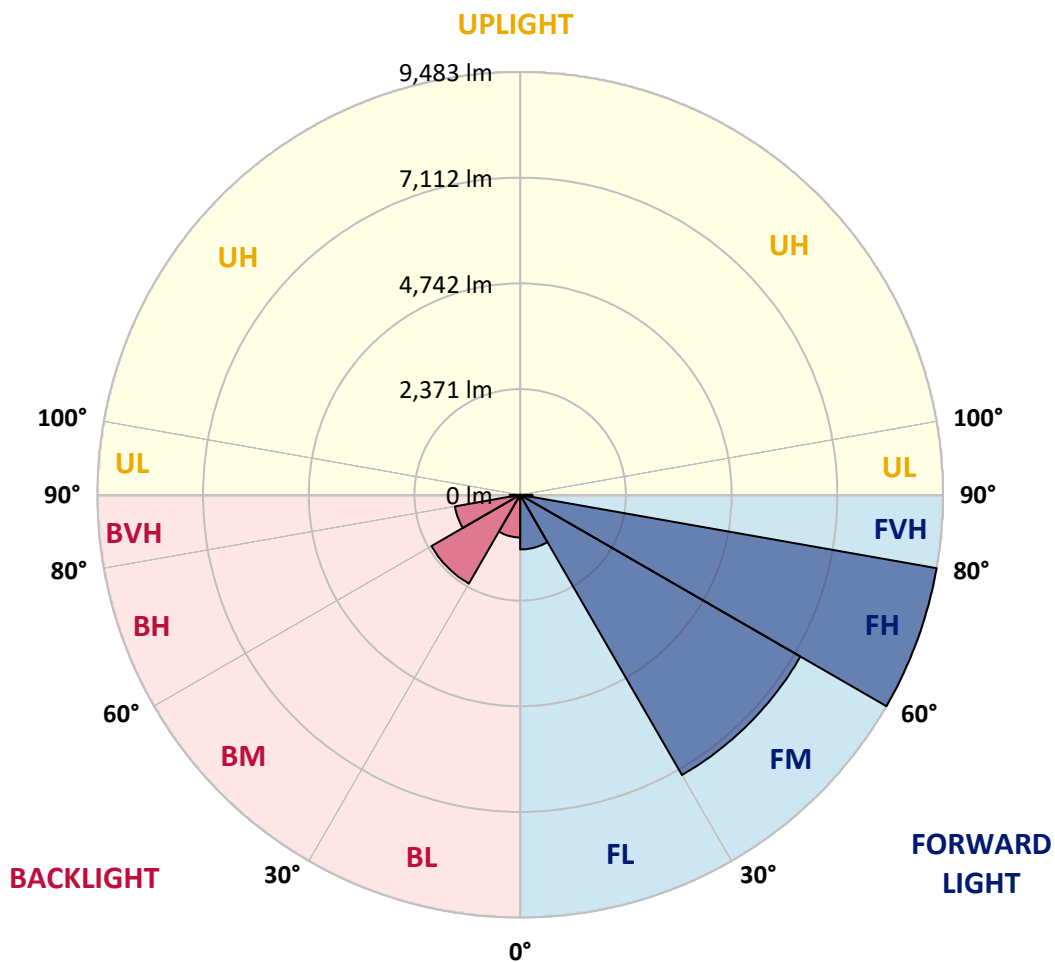
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1225.4	5.3			
FM	(30°-60°)	7256.9	31.3			
FH	(60°-80°)	9483.2	40.8			G4/12000
FVH	(80°-90°)	277.9	1.2			G3/500
BL	(0°-30°)	955.6	4.1	B2/1000		
BM	(30°-60°)	2299.3	9.9	B2/2500		
BH	(60°-80°)	1486.9	6.4	B3/2500		G3/2500
BVH	(80°-90°)	234.5	1.0			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	47°	55°	65°	75°	85°
0°	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2
2.5°	2929.8	2923.8	2926.7	2916.2	2890.7	2863.5	2863.5	2835.0	2804.9	2774.7	2741.7
5°	3111.8	3102.9	3095.4	3062.2	3012.5	2956.9	2947.9	2890.7	2828.9	2767.2	2707.0
7.5°	3263.8	3254.9	3232.2	3172.1	3099.8	3016.9	3006.5	2931.2	2850.0	2764.3	2679.9
10°	3372.2	3366.2	3322.5	3245.8	3161.5	3063.6	3045.6	2968.9	2872.5	2765.8	2659.0
12.5°	3432.4	3423.3	3370.6	3280.4	3181.1	3081.7	3063.6	2990.0	2880.1	2762.7	2637.8
15°	3408.3	3403.8	3354.0	3262.3	3162.9	3077.2	3062.2	2986.9	2875.6	2752.2	2618.3
17.5°	3305.9	3316.4	3277.3	3187.1	3105.8	3045.6	3029.1	2958.3	2853.0	2726.6	2588.2
20°	3164.4	3176.5	3156.9	3065.2	3018.5	2979.4	2970.4	2913.2	2815.4	2689.0	2552.1
22.5°	3014.0	3024.6	3026.1	2940.2	2925.2	2910.2	2902.7	2862.0	2782.3	2666.5	2527.9
25°	2910.2	2922.2	2925.2	2850.0	2859.0	2863.5	2862.0	2833.4	2776.3	2666.5	2531.0
27.5°	2883.2	2889.2	2886.1	2816.9	2833.4	2859.0	2860.5	2854.5	2800.4	2696.5	2573.2
30°	2976.4	2979.4	2941.8	2838.0	2854.5	2887.6	2889.2	2886.1	2851.5	2774.7	2667.9
32.5°	3379.7	3376.6	3247.3	2979.4	2922.2	2934.2	2938.7	2965.9	2968.9	2904.2	2804.9
35°	3993.7	3992.2	3841.7	3384.2	3114.9	3051.6	3057.6	3099.8	3137.4	3093.7	3036.7
37.5°	4669.2	4673.8	4582.0	3962.0	3530.1	3266.9	3260.9	3292.4	3360.2	3375.1	3382.6
40°	5418.6	5441.2	5436.6	4625.6	4112.5	3634.0	3573.8	3537.7	3668.6	3751.3	3858.2
42.5°	6274.9	6268.7	6271.8	5353.9	4777.6	4211.8	4100.5	3931.9	4083.9	4226.8	4461.6
45°	7010.6	7034.7	7052.8	6128.9	5522.4	4872.4	4759.6	4452.6	4589.6	4803.1	5161.3
47.5°	7751.0	7708.9	7742.0	6991.1	6351.6	5626.3	5480.3	5066.5	5194.4	5495.3	6040.1
50°	8613.2	8593.7	8443.1	8116.7	7353.7	6390.7	6199.6	5707.4	5894.1	6295.8	7125.1
52.5°	9386.7	9281.3	9163.9	9001.5	8339.3	7164.1	6921.9	6374.1	6717.3	7215.3	8471.8
55°	9669.6	9598.9	9740.3	9950.9	9382.1	7952.7	7681.8	7152.1	7645.6	8267.1	10056.2
57.5°	9970.5	9994.6	10313.5	10739.4	10369.2	8793.7	8500.4	8072.9	8664.4	9443.9	11827.4
60°	10121.0	10217.3	10853.9	11652.8	11308.3	9716.2	9434.7	9130.8	9794.4	10743.9	13593.9
62.5°	10146.6	10276.0	11177.3	11973.2	12600.8	11129.1	10804.1	10474.5	11205.8	12181.0	14873.0
65°	9677.1	9875.7	11148.7	12367.6	13779.0	13490.1	13284.0	12709.1	13095.9	13446.4	15091.1
67.5°	8297.2	8513.9	10045.8	12205.1	14724.0	15939.9	15900.7	15052.0	14555.5	13935.5	13473.6
70°	6089.8	6264.3	7735.9	10433.9	14311.7	17862.9	17932.1	16570.4	14963.3	12897.2	10018.6
71°	4925.1	5075.5	6462.9	9263.2	13508.2	17962.2	18106.7	16638.0	14538.9	11959.7	8387.5
72.5°	3065.2	3149.4	4291.6	6991.1	11631.7	16939.0	17182.7	15771.3	13202.7	10108.8	5928.7
75°	1157.2	1190.3	1592.0	3083.2	6942.9	12725.7	13020.7	11919.1	9275.3	5770.7	2481.4
77.5°	621.4	638.0	790.0	1282.0	2782.3	7295.0	7674.3	6798.4	4449.6	2019.3	1014.3
80°	416.9	427.3	546.2	759.9	1279.0	2777.8	3093.7	2729.7	1665.7	1152.6	722.3
82.5°	269.4	275.4	371.7	499.6	826.1	976.6	1115.0	1164.7	1039.8	826.1	436.4
85°	177.5	182.0	245.3	319.0	511.7	481.5	493.6	645.5	708.8	544.7	222.7
87.5°	102.3	105.3	147.5	164.0	230.2	180.6	195.6	307.0	421.3	355.1	128.0
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2	2761.2
2.5°	2726.6	2714.5	2687.4	2671.0	2663.4	2660.4	2657.4	2663.4	2663.4	2660.4	2654.4
5°	2677.0	2654.4	2609.2	2577.7	2561.0	2556.5	2562.5	2570.1	2574.5	2574.5	2570.1
7.5°	2640.8	2607.7	2547.6	2503.9	2478.3	2470.8	2487.4	2514.5	2532.5	2541.5	2543.0
10°	2610.8	2565.6	2499.5	2454.3	2433.2	2430.2	2451.2	2485.8	2523.5	2540.1	2543.0
12.5°	2583.7	2532.5	2460.3	2418.1	2403.0	2410.6	2439.2	2470.8	2514.5	2538.5	2540.1
15°	2558.1	2505.5	2428.8	2385.0	2382.1	2394.1	2421.1	2446.8	2479.8	2509.9	2509.9
17.5°	2527.9	2470.8	2391.0	2350.3	2350.3	2361.0	2379.0	2392.6	2413.6	2442.2	2440.8
20°	2491.8	2433.2	2352.0	2309.7	2300.8	2294.8	2294.8	2297.7	2315.9	2341.4	2345.9
22.5°	2464.8	2404.6	2318.8	2267.6	2227.0	2187.9	2171.3	2165.3	2181.9	2206.0	2212.0
25°	2464.8	2404.6	2308.3	2222.6	2123.2	2047.9	2016.4	2007.3	2023.9	2046.4	2055.5
27.5°	2505.5	2445.2	2332.3	2181.9	1999.8	1879.5	1841.8	1834.3	1849.3	1867.4	1876.4
30°	2600.3	2541.5	2401.6	2135.3	1862.9	1704.9	1662.7	1655.3	1662.7	1670.2	1680.9
32.5°	2758.2	2708.5	2514.5	2093.1	1724.4	1546.9	1495.8	1483.6	1486.7	1488.2	1497.2
35°	3015.5	2992.9	2665.0	2043.4	1593.5	1417.5	1364.7	1340.7	1339.2	1346.7	1357.3
37.5°	3409.8	3423.3	2859.0	1971.2	1485.2	1325.7	1273.0	1249.0	1237.0	1252.0	1264.0
40°	3966.5	3998.2	3083.2	1873.5	1396.5	1271.6	1215.8	1193.2	1176.7	1172.3	1178.3
42.5°	4690.3	4681.3	3311.9	1748.4	1300.0	1235.4	1176.7	1152.6	1125.6	1091.0	1083.5
45°	5548.0	5418.6	3503.1	1595.0	1190.3	1200.8	1140.5	1107.5	1065.4	1014.3	1008.1
47.5°	6560.7	6204.1	3620.5	1431.0	1087.9	1155.6	1100.0	1048.8	987.1	954.1	949.5
50°	7781.1	7123.4	3703.3	1264.0	996.1	1098.5	1042.8	975.0	914.9	905.9	904.3
52.5°	9225.7	8208.4	3805.5	1113.6	923.9	1024.8	985.6	916.3	868.3	872.8	872.8
55°	10762.0	9331.0	3808.6	994.6	860.8	939.0	943.5	887.8	850.1	865.3	869.7
57.5°	12163.0	10312.1	3509.1	910.3	800.6	871.3	929.9	898.3	869.7	922.3	926.9
60°	13384.8	11067.4	2865.0	841.2	750.8	845.6	960.1	963.0	957.0	1100.0	1110.5
62.5°	13831.6	11074.9	2034.4	782.6	723.8	860.8	1023.2	1027.7	1027.7	1160.2	1179.7
65°	13205.7	10152.6	1354.3	747.9	705.7	893.8	1074.3	1054.8	1008.1	1100.0	1078.9
67.5°	10999.7	7902.9	990.1	725.3	680.1	895.4	1119.6	1069.8	990.1	1068.3	1032.3
70°	7559.8	5028.8	829.2	704.1	650.1	856.1	1143.6	1065.4	963.0	996.1	948.1
71°	6085.2	4013.2	787.0	696.7	638.0	833.6	1146.5	1059.4	949.5	970.6	926.9
72.5°	4008.6	2472.3	735.9	680.1	619.9	794.6	1139.1	1045.8	931.4	933.0	904.3
75°	1581.5	1024.8	662.1	642.6	568.8	731.3	1106.0	1017.2	896.8	866.8	854.7
77.5°	799.0	669.6	582.4	589.9	508.6	666.6	1059.4	970.6	848.7	808.1	799.0
80°	583.9	508.6	498.1	511.7	440.9	603.4	1000.7	907.4	787.0	829.2	811.0
82.5°	355.1	310.0	389.7	422.9	368.6	538.6	931.4	833.6	708.8	653.1	631.9
85°	168.5	182.0	281.4	311.5	272.4	430.4	851.6	752.4	618.4	534.2	543.2
87.5°	82.7	100.8	161.0	186.7	179.0	316.0	642.6	583.9	487.6	401.7	392.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)