

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: P270639

Luminaire Tested: **NAV-AF-05-D-UNV-T4W-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270639
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-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 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: 20858.5 lumens
Efficiency: N/A
Efficacy: 99.3 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

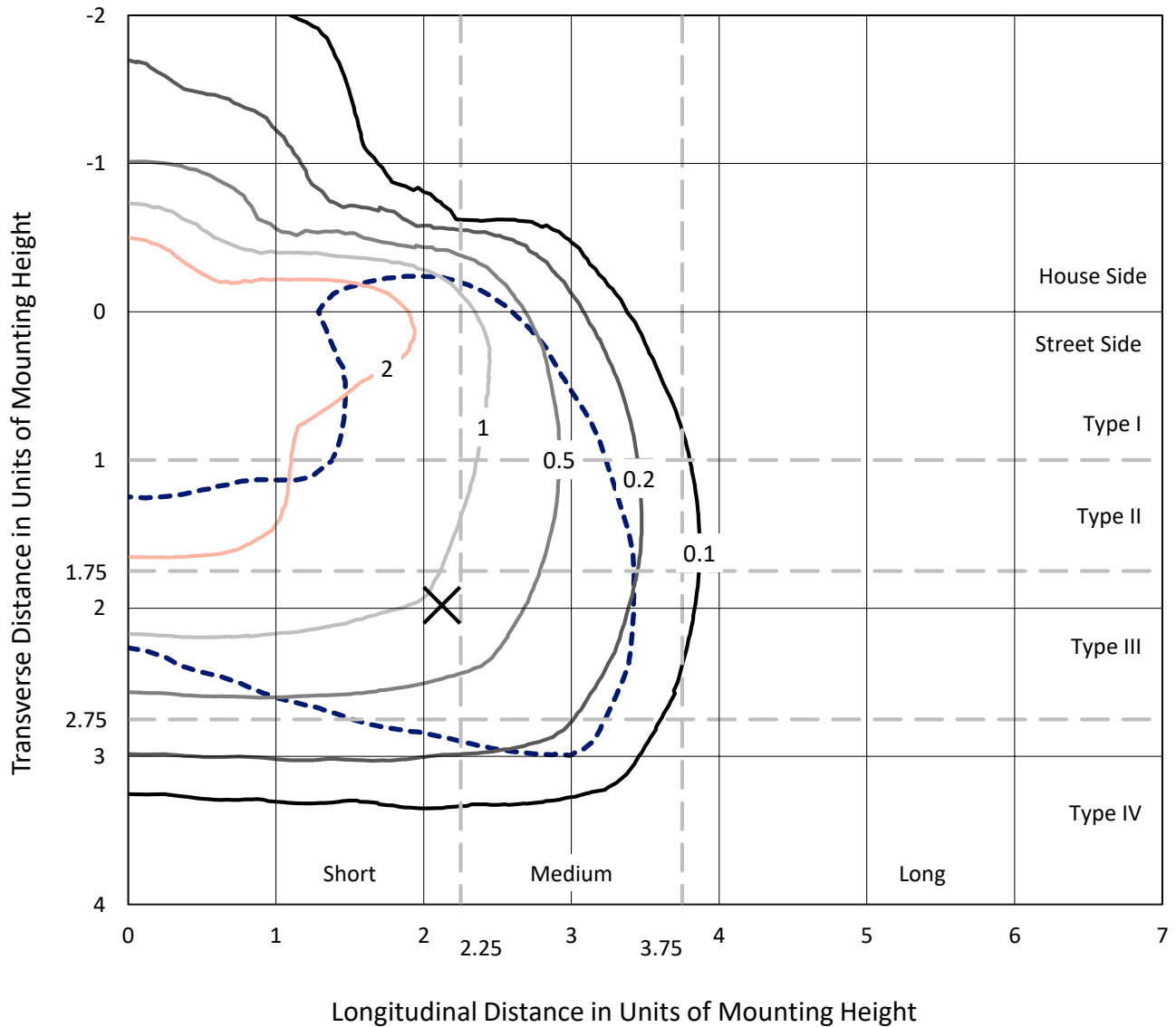


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Iso-Footcandle Lines of Horizontal Illumination

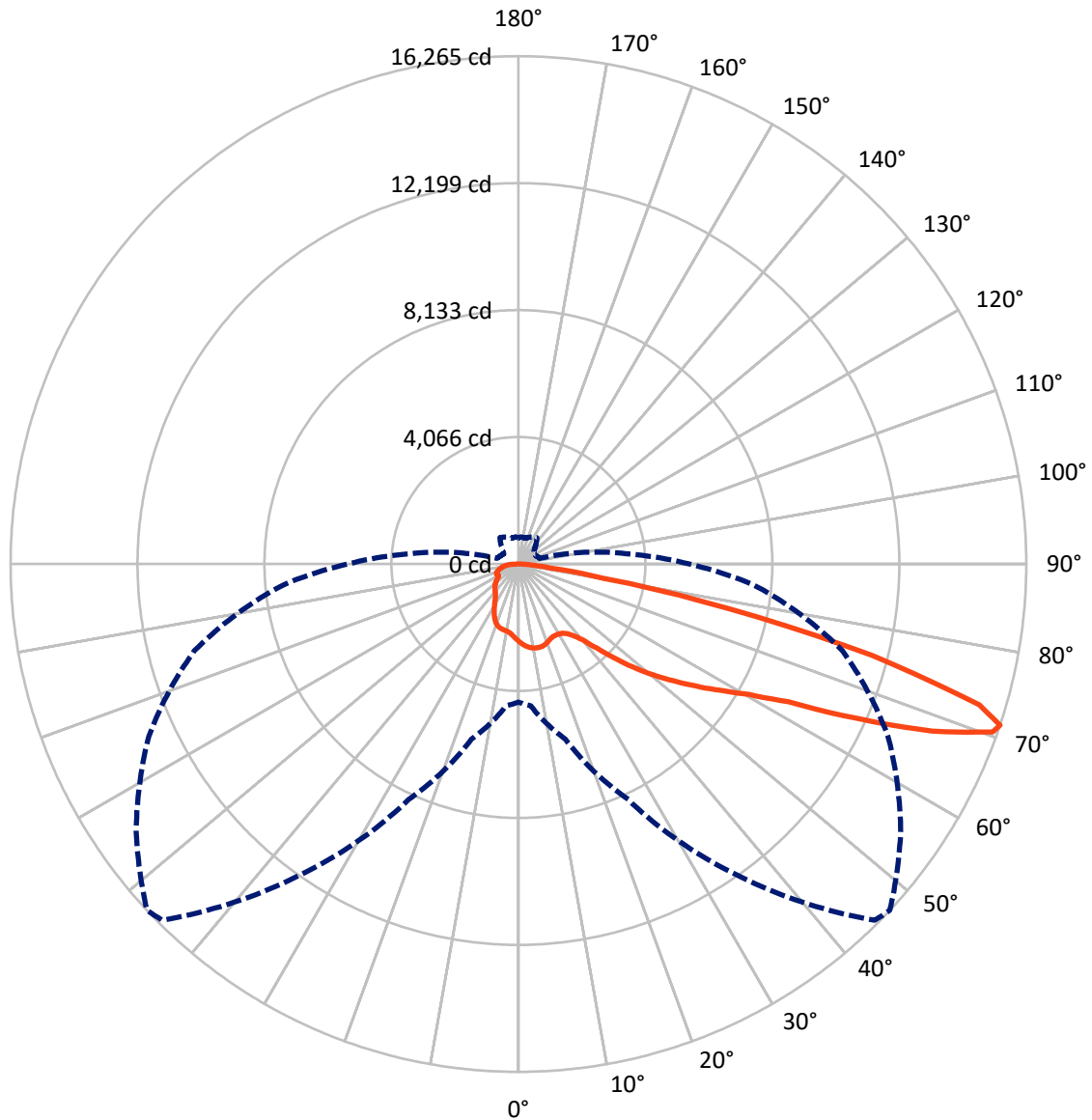
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 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	4470.3	0.0	4470.3
	% Fixture	21.4	0.0	21.4
Street Side	Lumens	16388.2	0.0	16388.2
	% Fixture	78.6	0.0	78.6
Total	Lumens	20858.5	0.0	20858.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	236.8	1.1
10°-20°	692.9	3.3
20°-30°	1029.6	4.9
30°-40°	1478.3	7.1
40°-50°	2621.1	12.6
50°-60°	4485.0	21.5
60°-70°	6367.2	30.5
70°-80°	3487.3	16.7
80°-90°	460.3	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°	20858.5	100.0
0°-180°	20858.5	100.0



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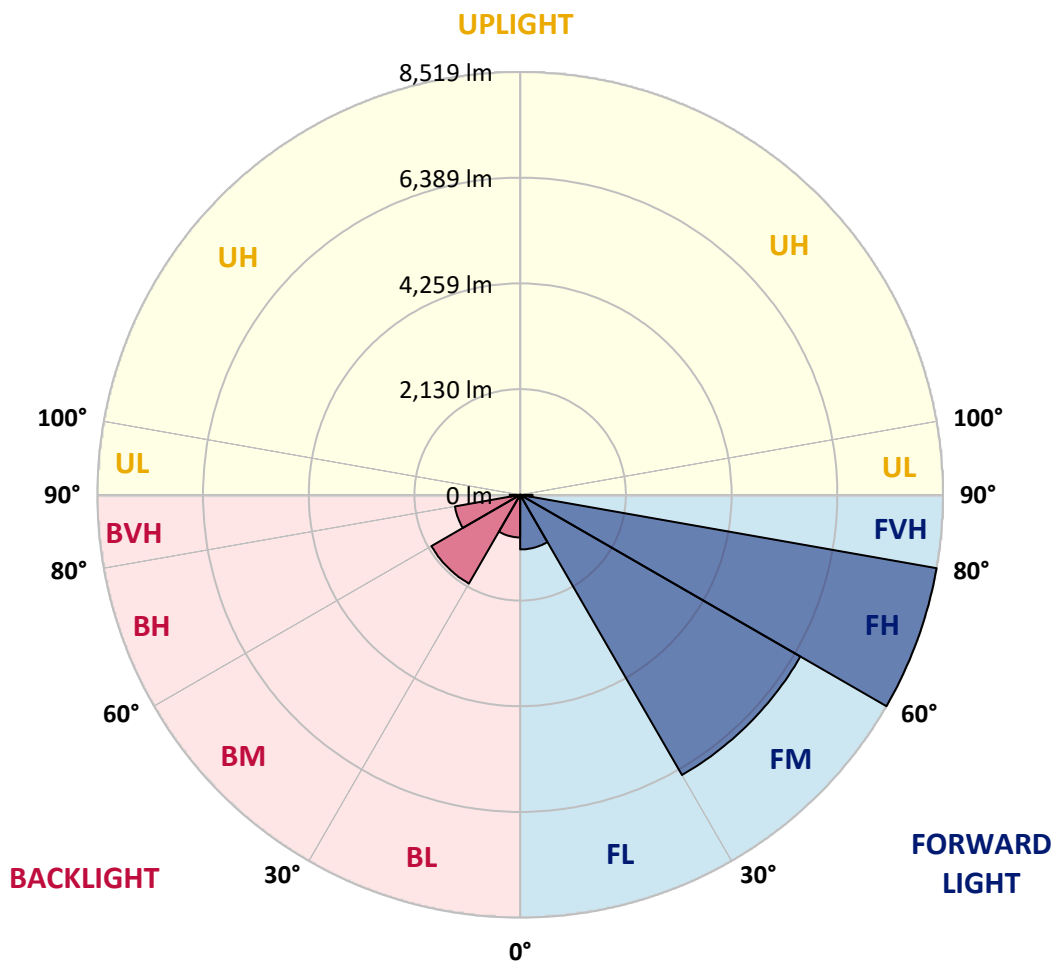
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1100.8	5.3			
FM	(30°-60°)	6518.9	31.3			
FH	(60°-80°)	8518.8	40.8			G4/12000
FVH	(80°-90°)	249.7	1.2			G3/500
BL	(0°-30°)	858.4	4.1	B2/1000		
BM	(30°-60°)	2065.5	9.9	B2/2500		
BH	(60°-80°)	1335.7	6.4	B3/2500		G3/2500
BVH	(80°-90°)	210.6	1.0			G2/225
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°	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4
2.5°	2631.9	2626.5	2629.1	2619.6	2596.7	2572.3	2572.3	2546.7	2519.7	2492.5	2462.9
5°	2795.3	2787.4	2780.6	2750.8	2706.1	2656.2	2648.1	2596.7	2541.2	2485.8	2431.7
7.5°	2931.9	2923.9	2903.5	2849.5	2784.6	2710.1	2700.8	2633.1	2560.2	2483.2	2407.4
10°	3029.3	3023.9	2984.6	2915.7	2840.0	2752.0	2735.9	2667.0	2580.4	2484.5	2388.6
12.5°	3083.3	3075.2	3027.8	2946.8	2857.6	2768.3	2752.0	2685.9	2587.2	2481.7	2369.5
15°	3061.7	3057.7	3012.9	2930.5	2841.2	2764.3	2750.8	2683.1	2583.2	2472.3	2352.0
17.5°	2969.7	2979.1	2944.0	2863.0	2790.0	2735.9	2721.1	2657.5	2562.9	2449.3	2325.0
20°	2842.6	2853.5	2835.9	2753.5	2711.5	2676.4	2668.3	2616.9	2529.1	2415.5	2292.6
22.5°	2707.5	2717.0	2718.4	2641.2	2627.7	2614.2	2607.5	2570.9	2499.4	2395.3	2270.8
25°	2614.2	2625.0	2627.7	2560.2	2568.3	2572.3	2570.9	2545.3	2494.0	2395.3	2273.6
27.5°	2590.0	2595.4	2592.6	2530.4	2545.3	2568.3	2569.6	2564.2	2515.6	2422.3	2311.5
30°	2673.7	2676.4	2642.6	2549.4	2564.2	2593.9	2595.4	2592.6	2561.5	2492.5	2396.6
32.5°	3036.0	3033.2	2917.1	2676.4	2625.0	2635.8	2639.8	2664.3	2667.0	2608.9	2519.7
35°	3587.6	3586.2	3451.0	3040.0	2798.1	2741.3	2746.7	2784.6	2818.3	2779.1	2727.9
37.5°	4194.4	4198.5	4116.0	3559.1	3171.1	2934.7	2929.3	2957.6	3018.5	3031.9	3038.6
40°	4867.6	4887.9	4883.7	4155.2	3694.3	3264.4	3210.4	3177.9	3295.5	3369.8	3465.8
42.5°	5636.8	5631.2	5634.0	4809.4	4291.7	3783.5	3683.5	3532.0	3668.6	3797.0	4007.9
45°	6297.7	6319.3	6335.6	5505.6	4960.8	4376.9	4275.6	3999.8	4122.9	4314.6	4636.4
47.5°	6962.8	6924.9	6954.7	6280.1	5705.7	5054.1	4923.0	4551.3	4666.2	4936.5	5425.9
50°	7737.3	7719.8	7584.5	7291.3	6605.9	5740.8	5569.1	5127.0	5294.7	5655.5	6400.5
52.5°	8432.1	8337.4	8232.0	8086.1	7491.2	6435.5	6218.0	5725.9	6034.2	6481.5	7610.3
55°	8686.3	8622.7	8749.8	8938.9	8428.0	7144.0	6900.6	6424.8	6868.1	7426.4	9033.5
57.5°	8956.6	8978.2	9264.7	9647.3	9314.7	7899.4	7636.0	7251.9	7783.3	8483.5	10624.6
60°	9091.7	9178.3	9750.1	10467.8	10158.3	8728.1	8475.2	8202.2	8798.4	9651.3	12211.5
62.5°	9114.7	9231.0	10040.6	10755.6	11319.4	9997.3	9705.4	9409.3	10066.2	10942.3	13360.5
65°	8693.0	8871.4	10014.9	11109.9	12377.7	12118.2	11933.1	11416.6	11764.1	12079.0	13556.4
67.5°	7453.4	7648.1	9024.2	10963.9	13226.6	14318.9	14283.7	13521.3	13075.3	12518.3	12103.4
70°	5470.5	5627.3	6949.2	9372.8	12856.3	16046.3	16108.5	14885.3	13441.6	11585.6	8999.8
71°	4424.2	4559.3	5805.7	8321.2	12134.5	16135.5	16265.3	14946.0	13060.4	10743.5	7534.5
72.5°	2753.5	2829.1	3855.2	6280.1	10448.8	15216.4	15435.3	14167.4	11860.1	9080.8	5325.8
75°	1039.5	1069.3	1430.1	2769.7	6236.8	11431.6	11696.6	10707.0	8332.0	5183.8	2229.1
77.5°	558.2	573.1	709.7	1151.6	2499.4	6553.1	6893.9	6107.0	3997.1	1813.9	911.2
80°	374.5	383.8	490.7	682.6	1148.9	2495.3	2779.1	2452.1	1496.3	1035.4	648.8
82.5°	242.0	247.4	333.9	448.8	742.1	877.3	1001.6	1046.3	934.1	742.1	392.0
85°	159.4	163.5	220.4	286.6	459.7	432.5	443.4	579.9	636.7	489.3	200.1
87.5°	91.9	94.6	132.5	147.3	206.8	162.2	175.7	275.8	378.5	319.0	115.0
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°	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4	2480.4
2.5°	2449.3	2438.4	2414.1	2399.4	2392.5	2389.9	2387.2	2392.5	2392.5	2389.9	2384.5
5°	2404.8	2384.5	2343.9	2315.6	2300.6	2296.5	2301.9	2308.7	2312.7	2312.7	2308.7
7.5°	2372.2	2342.5	2288.5	2249.3	2226.3	2219.5	2234.4	2258.8	2275.0	2283.0	2284.4
10°	2345.3	2304.7	2245.3	2204.7	2185.8	2183.1	2201.9	2233.0	2266.9	2281.8	2284.4
12.5°	2321.0	2275.0	2210.1	2172.2	2158.6	2165.5	2191.1	2219.5	2258.8	2280.3	2281.8
15°	2298.0	2250.7	2181.8	2142.5	2139.9	2150.6	2174.9	2198.0	2227.6	2254.7	2254.7
17.5°	2270.8	2219.5	2147.8	2111.3	2111.3	2120.9	2137.1	2149.3	2168.1	2193.8	2192.6
20°	2238.4	2185.8	2112.8	2074.8	2066.8	2061.4	2061.4	2064.0	2080.4	2103.3	2107.3
22.5°	2214.1	2160.1	2083.0	2037.0	2000.5	1965.4	1950.5	1945.1	1960.0	1981.7	1987.1
25°	2214.1	2160.1	2073.6	1996.6	1907.3	1839.6	1811.3	1803.2	1818.1	1838.3	1846.5
27.5°	2250.7	2196.5	2095.1	1960.0	1796.4	1688.4	1654.5	1647.8	1661.2	1677.5	1685.6
30°	2335.9	2283.0	2157.4	1918.2	1673.5	1531.5	1493.6	1487.0	1493.6	1500.3	1510.0
32.5°	2477.7	2433.1	2258.8	1880.2	1549.0	1389.6	1343.7	1332.7	1335.5	1336.9	1344.9
35°	2708.8	2688.5	2394.0	1835.6	1431.4	1273.3	1225.9	1204.4	1203.0	1209.7	1219.3
37.5°	3063.0	3075.2	2568.3	1770.7	1334.2	1190.9	1143.5	1122.0	1111.2	1124.7	1135.5
40°	3563.1	3591.6	2769.7	1683.0	1254.5	1142.3	1092.2	1071.9	1057.0	1053.1	1058.5
42.5°	4213.3	4205.2	2975.1	1570.6	1167.8	1109.8	1057.0	1035.4	1011.1	980.1	973.3
45°	4983.8	4867.6	3146.9	1432.8	1069.3	1078.7	1024.5	994.9	957.1	911.2	905.6
47.5°	5893.5	5573.2	3252.3	1285.5	977.3	1038.1	988.1	942.1	886.7	857.1	852.9
50°	6989.8	6399.0	3326.7	1135.5	894.8	986.8	936.8	875.8	821.9	813.8	812.3
52.5°	8287.5	7373.6	3418.5	1000.4	829.9	920.6	885.4	823.1	780.0	784.0	784.0
55°	9667.6	8382.1	3421.3	893.5	773.3	843.5	847.6	797.5	763.6	777.3	781.3
57.5°	10926.1	9263.4	3152.2	817.7	719.2	782.7	835.3	806.9	781.3	828.5	832.6
60°	12023.6	9941.9	2573.6	755.7	674.4	759.6	862.5	865.1	859.7	988.1	997.6
62.5°	12425.0	9948.6	1827.5	703.0	650.2	773.3	919.1	923.2	923.2	1042.2	1059.7
65°	11862.7	9120.1	1216.6	671.8	633.9	802.9	965.0	947.5	905.6	988.1	969.2
67.5°	9881.1	7099.2	889.4	651.5	610.9	804.3	1005.7	961.0	889.4	959.7	927.3
70°	6791.0	4517.4	744.9	632.5	584.0	769.0	1027.3	957.1	865.1	894.8	851.7
71°	5466.4	3605.1	707.0	625.8	573.1	748.8	1029.9	951.7	852.9	871.9	832.6
72.5°	3600.9	2220.9	661.1	610.9	556.9	713.8	1023.3	939.4	836.7	838.1	812.3
75°	1420.7	920.6	594.8	577.3	511.0	656.9	993.5	913.8	805.6	778.7	767.8
77.5°	717.7	601.5	523.2	529.9	456.9	598.8	951.7	871.9	762.4	725.9	717.7
80°	524.5	456.9	447.4	459.7	396.1	542.0	898.9	815.1	707.0	744.9	728.5
82.5°	319.0	278.5	350.1	379.9	331.1	483.8	836.7	748.8	636.7	586.7	567.6
85°	151.4	163.5	252.8	279.8	244.7	386.6	765.0	675.9	555.5	479.9	488.0
87.5°	74.3	90.5	144.6	167.7	160.8	283.9	577.3	524.5	438.0	360.8	352.9
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)