

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: P195874

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7050-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195874
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24256)
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-T4FT-7050-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19867 lumens
Efficiency: N/A
Efficacy: 116.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

Input Watts (W): 171
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

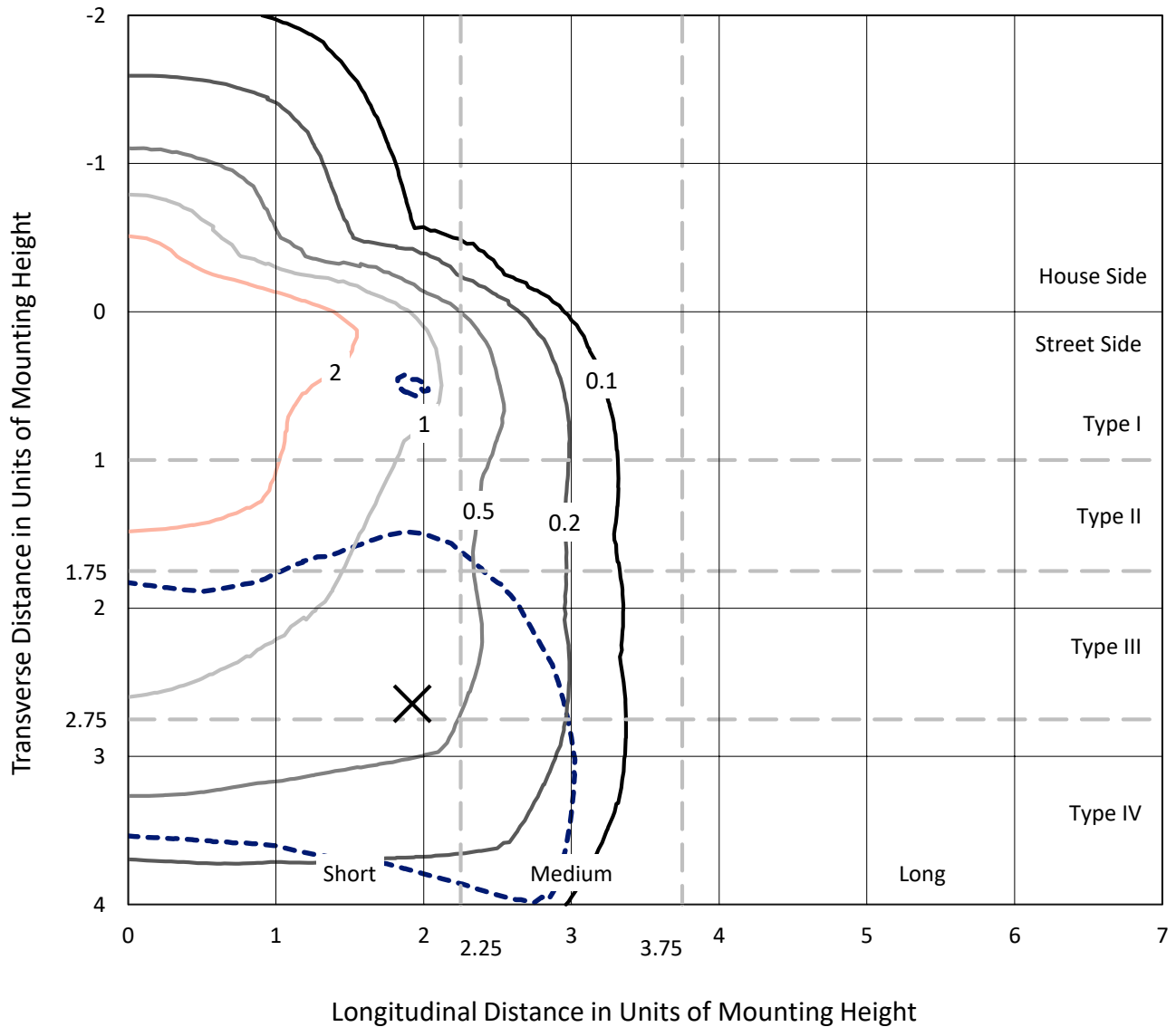


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Iso-Footcandle Lines of Horizontal Illumination

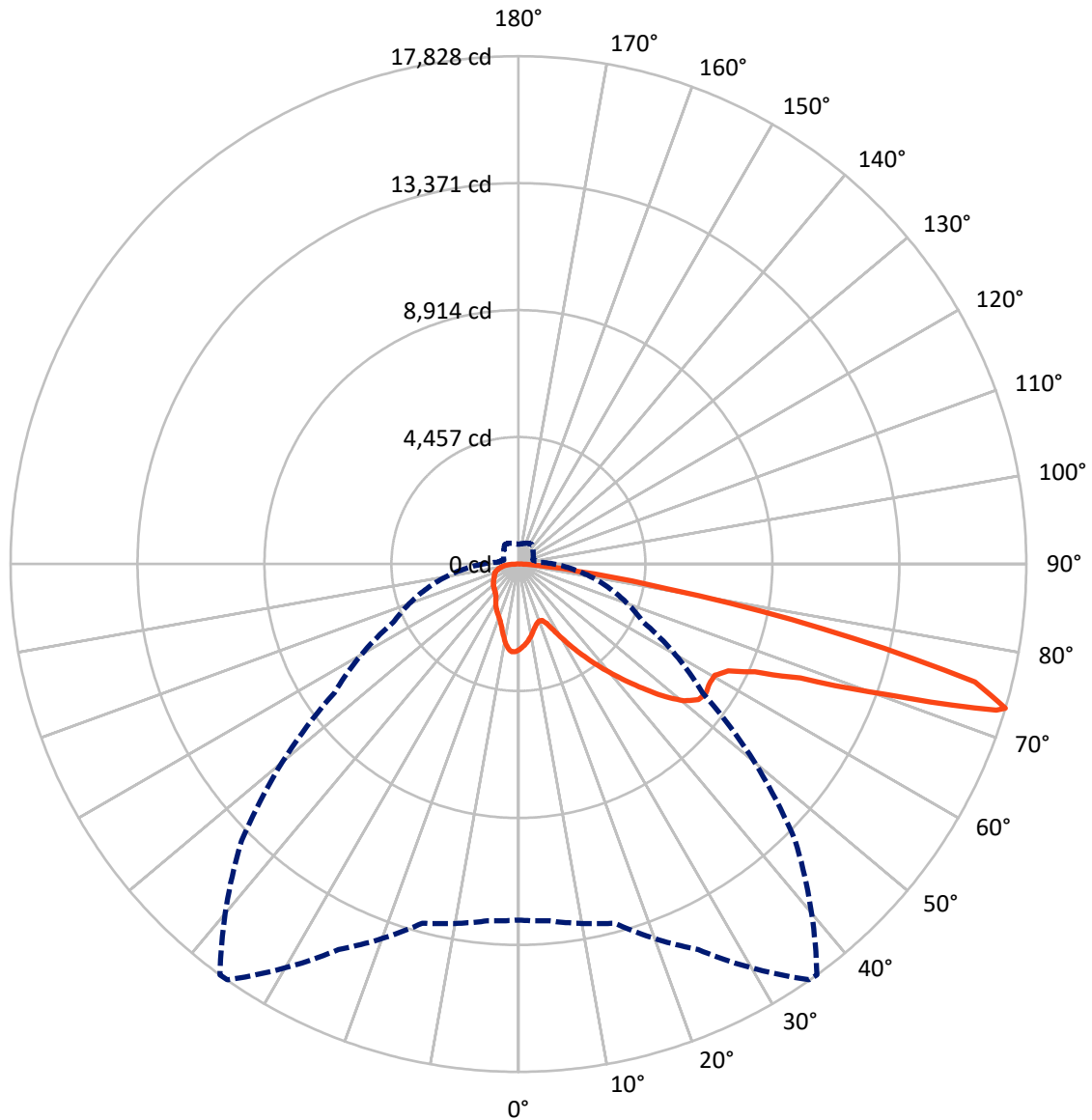
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3831.0	0.0	3831.0
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	16036.0	0.0	16036.0
	% Fixture	80.7	0.0	80.7
Total	Lumens	19867.0	0.0	19867.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	273.3	1.4
10°-20°	686.5	3.5
20°-30°	1100.6	5.5
30°-40°	1820.5	9.2
40°-50°	2817.0	14.2
50°-60°	3771.1	19.0
60°-70°	4926.3	24.8
70°-80°	4023.9	20.3
80°-90°	447.9	2.3
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°	19867.0	100.0
0°-180°	19867.0	100.0



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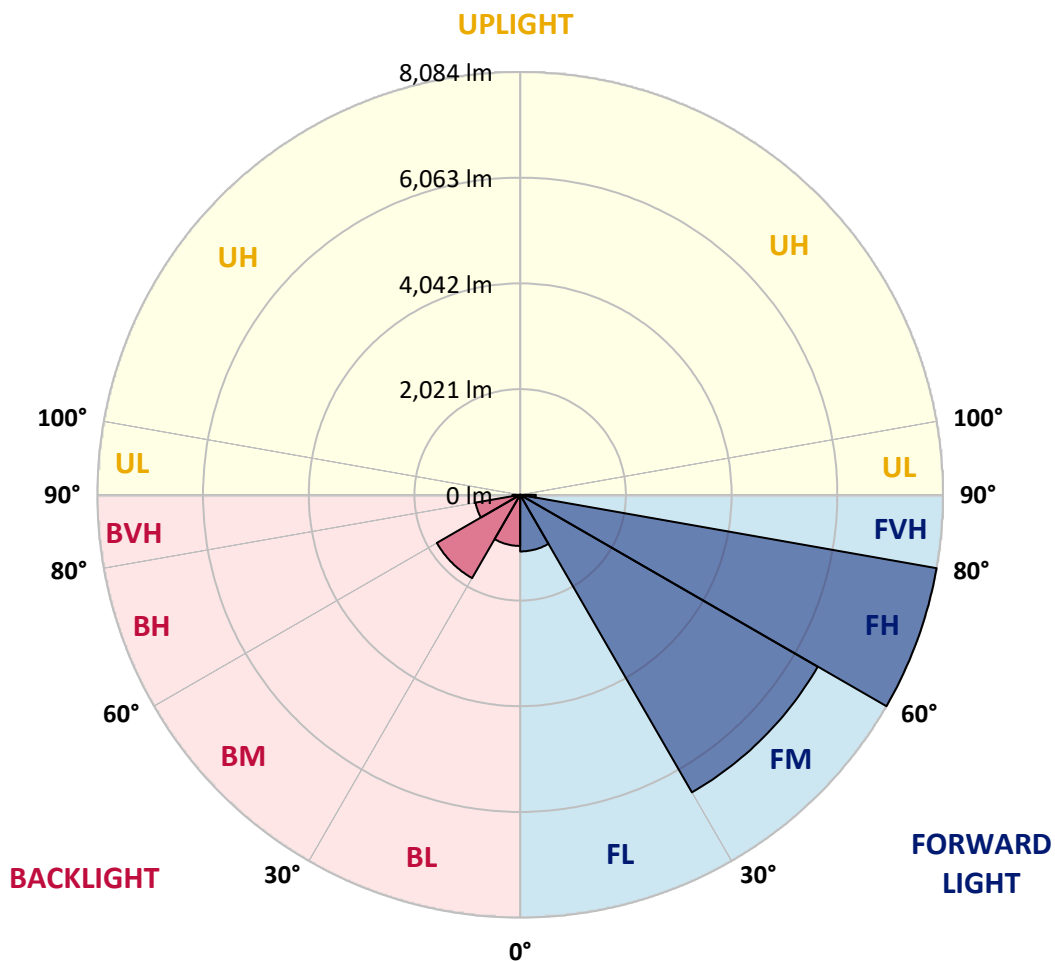
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1082.5	5.4			
FM	(30°-60°)	6568.7	33.1			
FH	(60°-80°)	8084.4	40.7			G4/12000
FVH	(80°-90°)	300.4	1.5			G3/500
BL	(0°-30°)	977.9	4.9	B2/1000		
BM	(30°-60°)	1839.8	9.3	B2/2500		
BH	(60°-80°)	865.7	4.4	B2/1000		G2/1000
BVH	(80°-90°)	147.5	0.7			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3
2.5°	2894.4	2902.0	2903.2	2912.1	2912.1	2910.8	2914.6	2929.7	2937.3	2955.0	2970.1
5°	2751.8	2760.6	2764.4	2779.5	2798.5	2799.7	2813.6	2842.7	2870.4	2909.6	2942.4
7.5°	2591.5	2601.6	2611.7	2643.2	2671.0	2673.5	2700.0	2746.7	2783.3	2831.3	2890.6
10°	2436.2	2438.7	2448.8	2489.2	2525.8	2529.6	2567.5	2620.5	2669.7	2736.6	2803.5
12.5°	2308.7	2316.3	2313.8	2344.1	2375.6	2378.1	2428.6	2495.5	2567.5	2643.2	2722.7
15°	2264.5	2263.3	2236.8	2235.5	2249.4	2251.9	2301.1	2379.4	2460.2	2553.6	2655.8
17.5°	2294.8	2284.7	2215.3	2172.4	2163.5	2166.1	2202.7	2288.5	2374.3	2481.6	2604.1
20°	2461.4	2422.3	2259.5	2156.0	2126.9	2126.9	2148.4	2217.8	2312.5	2437.5	2591.5
22.5°	2856.5	2795.9	2448.8	2264.5	2162.3	2152.2	2135.8	2188.8	2293.6	2443.8	2643.2
25°	3353.9	3324.8	2795.9	2553.6	2342.8	2310.0	2201.4	2220.3	2332.7	2511.9	2784.6
27.5°	3814.6	3764.1	3251.6	2973.9	2676.0	2625.5	2395.8	2318.8	2426.1	2638.2	2989.1
30°	4083.5	4049.4	3719.9	3454.9	3100.2	3035.8	2706.3	2513.2	2592.7	2846.4	3279.4
32.5°	4376.3	4356.1	4189.5	3948.4	3559.6	3485.2	3107.7	2830.0	2847.7	3122.9	3629.1
35°	4660.3	4686.8	4592.2	4415.5	4054.4	3985.0	3646.7	3244.1	3162.0	3433.4	4002.7
37.5°	5001.1	5007.5	4948.1	4833.3	4574.5	4517.7	4238.7	3685.9	3504.1	3764.1	4363.7
40°	5681.5	5581.8	5349.5	5258.7	5104.7	5069.3	4751.2	4091.0	3822.2	4103.7	4704.5
42.5°	6417.4	6262.2	5898.6	5749.7	5687.8	5655.0	5177.9	4361.2	4120.1	4443.2	5039.0
45°	7010.7	6884.5	6528.5	6344.2	6351.8	6298.8	5550.2	4602.3	4443.2	4784.0	5412.7
47.5°	7595.1	7384.3	6985.5	6958.9	7047.3	6969.0	5906.2	4843.4	4780.2	5155.1	5786.3
50°	7633.0	7441.1	7279.6	7491.6	7643.1	7545.9	6229.3	5158.9	5129.9	5604.5	6268.5
52.5°	7172.3	7144.5	7390.6	7747.9	7999.1	7912.0	6493.2	5483.3	5487.1	6166.2	6855.4
55°	7004.4	6969.0	7264.4	7703.7	8043.2	7991.5	6690.1	5849.4	5883.5	6847.9	7485.3
57.5°	7287.1	7198.8	7256.8	7620.4	7939.7	7909.4	6894.6	6255.9	6317.7	7633.0	8067.2
60°	8164.4	7983.9	7675.9	7744.1	7943.5	7925.8	7187.4	6709.0	6812.5	8451.0	8435.8
62.5°	9478.5	9274.0	8646.6	8343.7	8299.5	8265.4	7670.9	7265.7	7317.4	9041.7	8221.2
65°	10920.0	10700.3	9954.3	9458.3	9198.2	9125.0	8451.0	7937.2	7612.8	9040.4	7385.6
67.5°	12538.2	12306.0	11562.5	11089.1	10807.6	10682.7	9717.0	8480.0	7516.9	8275.5	5910.0
70°	14195.6	13974.7	13633.9	13799.2	13922.9	13732.3	11711.4	8660.5	6827.7	6488.1	3968.6
72.5°	13315.8	13298.1	13556.9	15124.6	17509.1	17546.9	13703.3	8150.5	5275.1	3856.3	2115.6
73°	12499.1	12573.6	13053.2	14929.0	17815.8	17828.4	13742.4	7886.7	4843.4	3322.3	1858.1
75°	6475.5	6980.4	8760.2	12105.3	16496.7	16556.0	12114.1	5970.6	2886.8	1845.5	1252.2
77.5°	1734.4	1711.7	2822.5	5897.4	10998.2	10920.0	7654.5	2890.6	1383.5	1157.5	878.5
80°	594.5	602.1	960.6	2157.2	5133.7	5316.7	3322.3	1261.0	910.1	806.6	622.3
82.5°	302.9	313.0	502.4	917.7	2147.1	2101.7	1069.2	742.2	609.7	489.8	348.4
85°	161.6	166.6	276.4	475.9	787.7	796.5	376.2	396.4	387.5	277.7	171.7
87.5°	79.5	82.0	132.5	209.5	291.6	281.5	131.3	171.7	190.6	156.5	94.7
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°	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3	3009.3
2.5°	2989.1	2989.1	3005.5	3033.3	3053.5	3072.4	3085.0	3105.2	3116.6	3115.3	3114.0
5°	2968.9	2981.5	3014.3	3048.4	3071.1	3086.3	3086.3	3095.1	3095.1	3091.3	3086.3
7.5°	2922.2	2943.6	2991.6	3021.9	3028.2	3011.8	2979.0	2953.7	2922.2	2905.8	2899.5
10°	2847.7	2875.5	2936.1	2949.9	2917.1	2859.1	2779.5	2711.4	2650.8	2623.0	2614.2
12.5°	2774.5	2811.1	2867.9	2846.4	2768.2	2654.6	2532.1	2438.7	2370.6	2344.1	2335.2
15°	2713.9	2758.1	2802.3	2735.4	2599.0	2441.2	2306.2	2219.1	2167.3	2147.1	2142.1
17.5°	2673.5	2725.3	2740.4	2615.4	2426.1	2249.4	2129.5	2072.7	2049.9	2041.1	2038.6
20°	2676.0	2734.1	2697.5	2499.3	2259.5	2081.5	2002.0	1985.6	1985.6	1985.6	1984.3
22.5°	2745.5	2795.9	2679.8	2390.8	2099.2	1940.1	1906.0	1919.9	1930.0	1930.0	1928.8
25°	2889.4	2917.1	2692.4	2286.0	1949.0	1817.7	1818.9	1845.5	1854.3	1854.3	1851.8
27.5°	3109.0	3086.3	2715.2	2169.9	1801.3	1706.6	1724.3	1748.3	1754.6	1750.8	1749.5
30°	3384.2	3293.3	2734.1	2033.5	1662.4	1603.1	1618.2	1632.1	1627.1	1618.2	1617.0
32.5°	3692.2	3504.1	2722.7	1880.8	1540.0	1495.8	1504.6	1512.2	1504.6	1483.2	1483.2
35°	3997.6	3694.7	2660.9	1714.2	1442.8	1392.3	1391.0	1415.0	1413.8	1388.5	1389.8
37.5°	4265.2	3844.9	2541.0	1561.4	1359.5	1316.6	1321.6	1336.8	1344.3	1310.2	1306.5
40°	4498.8	3948.4	2371.8	1431.4	1292.6	1295.1	1281.2	1257.2	1248.4	1233.2	1230.7
42.5°	4718.4	4020.4	2192.6	1322.9	1258.5	1287.5	1240.8	1184.0	1160.0	1173.9	1182.8
45°	4934.2	4101.1	2019.6	1233.2	1215.6	1264.8	1200.4	1137.3	1109.5	1115.9	1124.7
47.5°	5198.1	4213.5	1811.4	1137.3	1149.9	1223.1	1175.2	1107.0	1065.4	1040.1	1032.5
50°	5545.2	4376.3	1541.2	1033.8	1080.5	1177.7	1153.7	1062.8	1017.4	966.9	954.3
52.5°	5979.4	4530.3	1268.6	950.5	1023.7	1138.6	1118.4	1025.0	969.4	908.8	898.7
55°	6412.4	4551.8	1033.8	878.5	959.3	1085.6	1075.5	994.7	916.4	867.2	857.1
57.5°	6715.3	4348.6	876.0	818.0	897.5	1019.9	1036.3	958.1	872.2	834.4	828.1
60°	6720.4	3862.6	780.1	777.6	850.8	963.1	995.9	915.2	844.5	819.2	814.2
62.5°	6186.4	3112.8	718.2	747.3	816.7	916.4	965.6	891.2	838.2	828.1	823.0
65°	5185.4	2299.9	669.0	719.5	785.1	877.3	940.4	883.6	835.6	831.8	828.1
67.5°	3828.5	1576.6	627.4	684.2	749.8	836.9	916.4	872.2	820.5	835.6	830.6
70°	2408.4	1052.7	588.2	643.8	703.1	790.2	884.9	852.0	801.5	792.7	776.3
72.5°	1359.5	761.2	541.5	592.0	642.5	728.3	841.9	818.0	758.6	723.3	706.9
73°	1228.2	720.8	530.2	579.4	628.6	715.7	831.8	807.9	746.0	706.9	691.7
75°	898.7	589.5	478.4	527.6	570.6	657.6	783.9	757.4	690.5	643.8	633.7
77.5°	651.3	454.4	411.5	455.7	493.6	576.9	711.9	681.6	616.0	590.7	580.6
80°	469.6	344.6	340.8	383.7	416.6	501.1	634.9	603.4	540.3	614.7	598.3
82.5°	280.2	220.9	249.9	297.9	332.0	420.3	551.6	515.0	454.4	459.5	391.3
85°	133.8	125.0	155.3	195.7	219.6	287.8	459.5	430.4	363.5	297.9	291.6
87.5°	59.3	56.8	74.5	87.1	117.4	172.9	314.3	279.0	263.8	157.8	123.7
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)