

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: P196834

Luminaire Tested: **NAV-AF-04-D-UNV-T4FT-7030-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196834
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-7030-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 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: 19214.3 lumens
Efficiency: N/A
Efficacy: 112.4 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

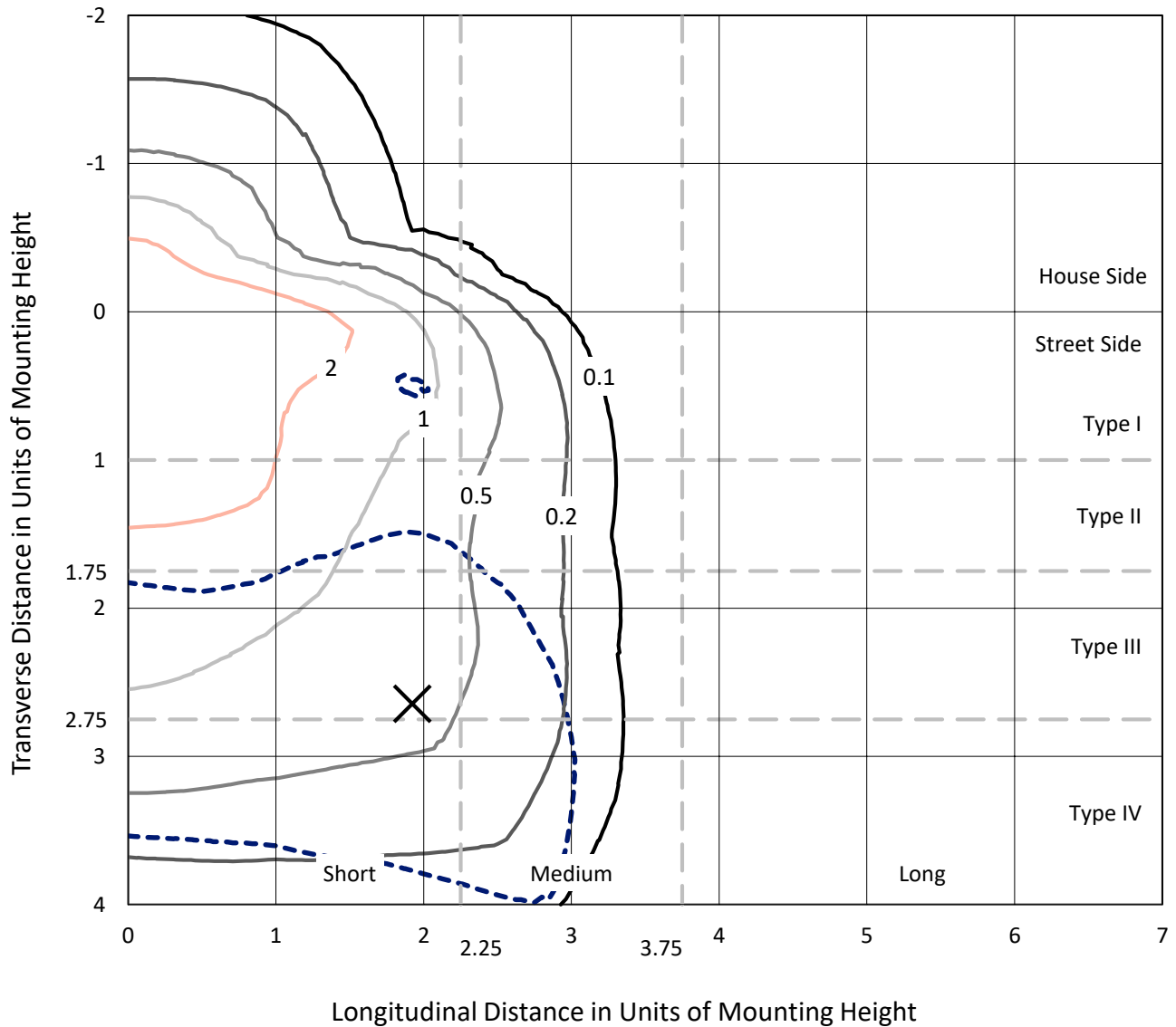
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

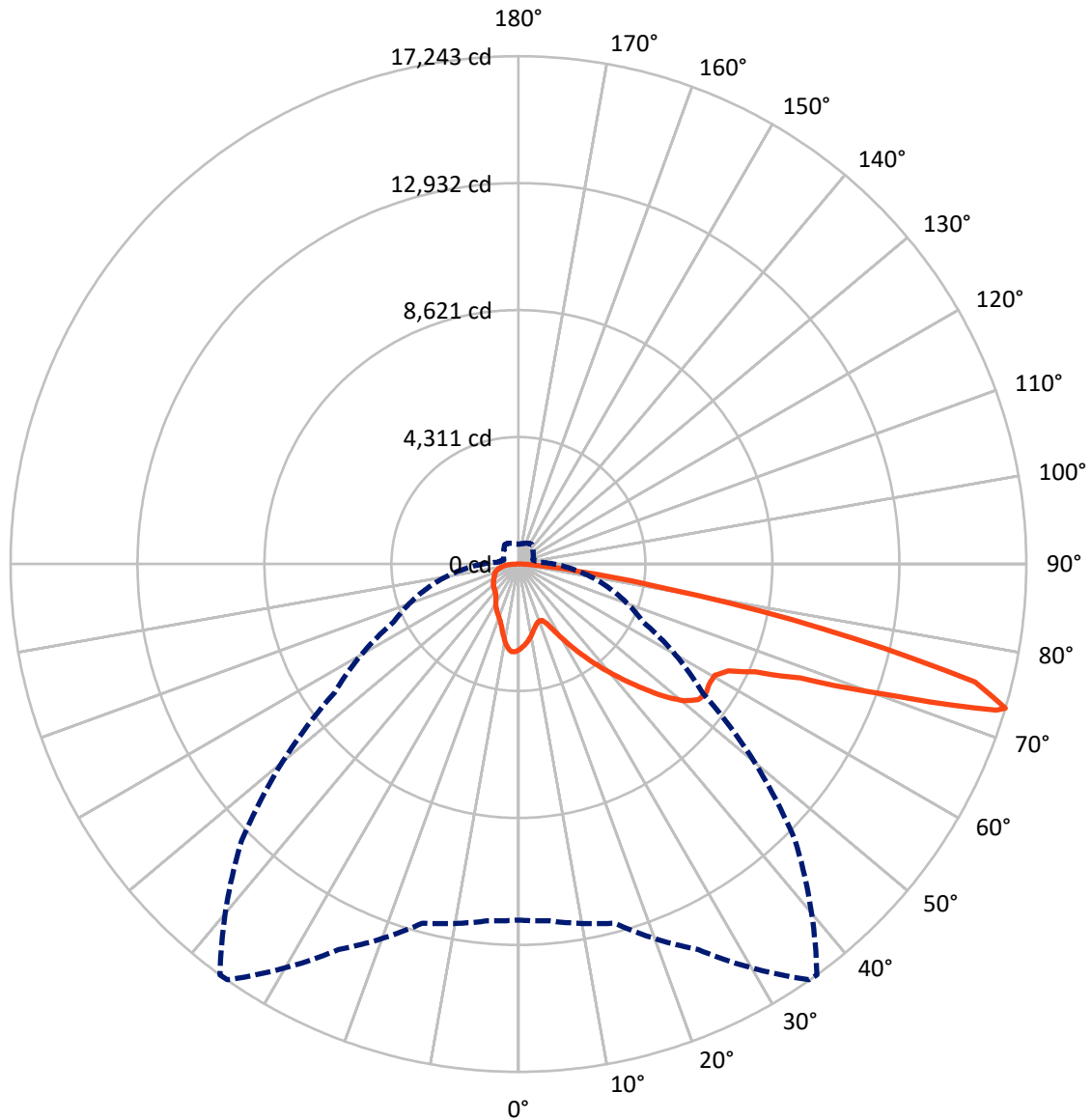
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 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	3705.1	0.0	3705.1
	% Fixture	19.3	0.0	19.3
Street Side	Lumens	15509.2	0.0	15509.2
	% Fixture	80.7	0.0	80.7
Total	Lumens	19214.3	0.0	19214.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	264.4	1.4
10°-20°	663.9	3.5
20°-30°	1064.4	5.5
30°-40°	1760.7	9.2
40°-50°	2724.4	14.2
50°-60°	3647.2	19.0
60°-70°	4764.4	24.8
70°-80°	3891.7	20.3
80°-90°	433.2	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°	19214.3	100.0
0°-180°	19214.3	100.0

Coefficient of Utilization



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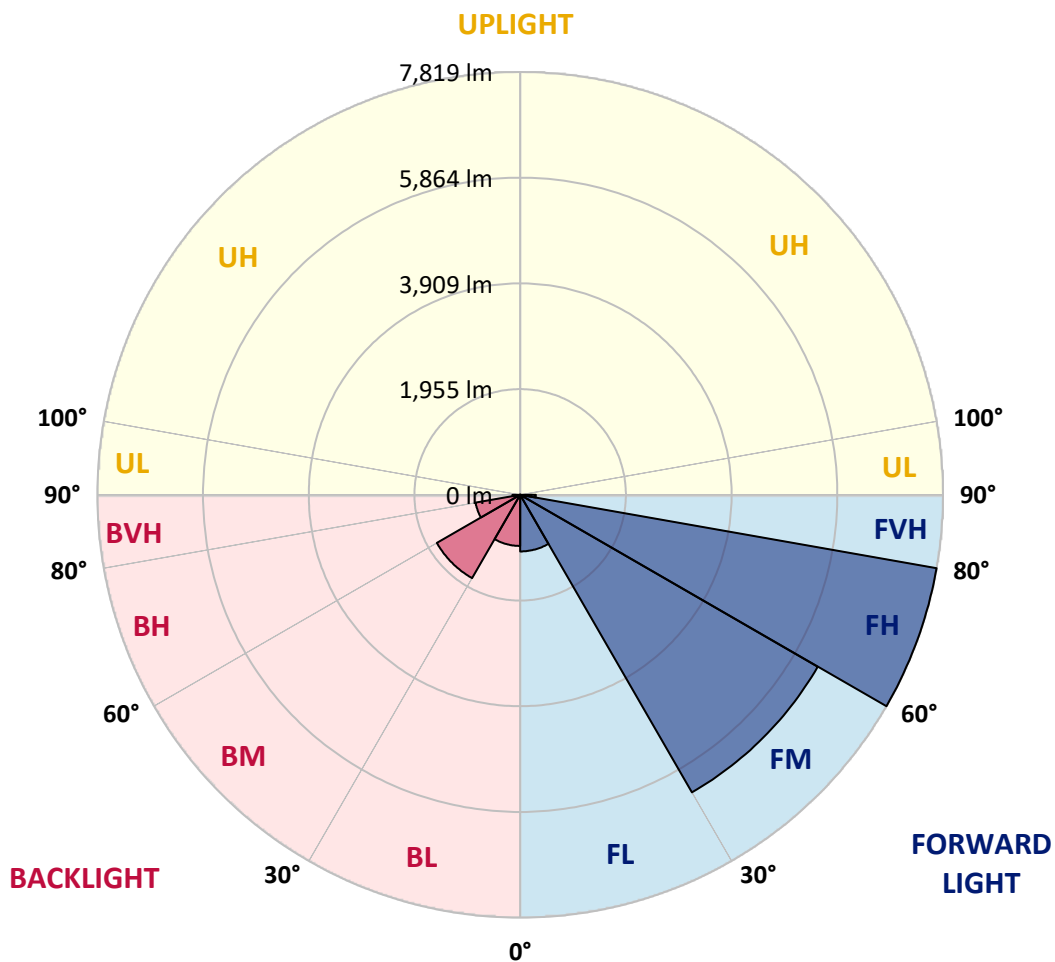
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1047.0	5.4			
FM	(30°-60°)	6352.9	33.1			
FH	(60°-80°)	7818.8	40.7			G4/12000
FVH	(80°-90°)	290.5	1.5			G3/500
BL	(0°-30°)	945.8	4.9	B2/1000		
BM	(30°-60°)	1779.4	9.3	B2/2500		
BH	(60°-80°)	837.3	4.4	B2/1000		G2/1000
BVH	(80°-90°)	142.7	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°	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4
2.5°	2799.3	2806.7	2807.9	2816.3	2816.3	2815.2	2818.9	2833.5	2840.8	2857.9	2872.5
5°	2661.3	2669.9	2673.6	2688.3	2706.6	2707.8	2721.2	2749.3	2776.2	2814.0	2845.6
7.5°	2506.3	2516.1	2525.8	2556.3	2583.2	2585.7	2611.3	2656.5	2691.9	2738.2	2795.6
10°	2356.1	2358.6	2368.4	2407.4	2442.8	2446.6	2483.1	2534.4	2582.1	2646.7	2711.4
12.5°	2232.8	2240.2	2237.7	2267.0	2297.6	2300.0	2348.8	2413.5	2483.1	2556.3	2633.2
15°	2190.1	2188.9	2163.3	2162.0	2175.5	2178.0	2225.5	2301.2	2379.3	2469.7	2568.5
17.5°	2219.4	2209.7	2142.6	2101.0	2092.5	2094.9	2130.3	2213.4	2296.3	2400.1	2518.5
20°	2380.5	2342.7	2185.3	2085.1	2057.1	2057.1	2077.8	2145.0	2236.5	2357.4	2506.3
22.5°	2762.7	2704.0	2368.4	2190.1	2091.2	2081.5	2065.6	2116.9	2218.2	2363.5	2556.3
25°	3243.7	3215.6	2704.0	2469.7	2265.8	2234.2	2129.1	2147.4	2256.1	2429.4	2693.1
27.5°	3689.2	3640.4	3144.8	2876.2	2588.2	2539.3	2317.1	2242.6	2346.5	2551.5	2890.9
30°	3949.2	3916.4	3597.7	3341.3	2998.3	2936.1	2617.5	2430.6	2507.5	2752.9	3171.7
32.5°	4232.6	4213.0	4051.9	3818.7	3442.6	3370.6	3005.6	2737.1	2754.1	3020.3	3509.9
35°	4507.3	4532.8	4441.3	4270.4	3921.2	3854.1	3526.9	3137.5	3058.1	3320.6	3871.2
37.5°	4836.8	4842.9	4785.5	4674.4	4424.2	4369.3	4099.5	3564.8	3389.0	3640.4	4220.3
40°	5494.8	5398.4	5173.8	5085.9	4937.0	4902.8	4595.1	3956.6	3696.6	3968.9	4550.0
42.5°	6206.6	6056.5	5704.9	5560.8	5500.9	5469.2	5007.8	4218.0	3984.6	4297.2	4873.5
45°	6780.4	6658.3	6314.0	6135.8	6143.1	6091.9	5367.9	4451.1	4297.2	4626.9	5234.8
47.5°	7345.6	7141.7	6755.9	6730.4	6815.8	6740.1	5712.2	4684.3	4623.2	4985.8	5596.2
50°	7382.2	7196.7	7040.4	7245.5	7392.1	7298.0	6024.7	4989.5	4961.4	5420.4	6062.6
52.5°	6936.7	6909.8	7147.8	7493.3	7736.3	7652.1	6279.9	5303.2	5306.8	5963.7	6630.2
55°	6774.3	6740.1	7025.8	7450.6	7779.0	7729.0	6470.4	5657.2	5690.2	6622.9	7239.4
57.5°	7047.8	6962.3	7018.5	7370.1	7678.8	7649.6	6668.1	6050.3	6110.1	7382.2	7802.2
60°	7896.1	7721.7	7423.7	7489.7	7682.6	7665.5	6951.3	6488.6	6588.7	8173.3	8158.7
62.5°	9167.1	8969.3	8362.6	8069.6	8026.8	7993.9	7418.8	7027.0	7077.0	8744.7	7951.2
65°	10561.2	10348.8	9627.3	9147.5	8896.0	8825.2	8173.3	7676.4	7362.8	8743.5	7143.0
67.5°	12126.3	11901.7	11182.5	10724.8	10452.7	10331.8	9397.8	8201.4	7269.9	8003.7	5715.8
70°	13729.2	13515.6	13186.0	13345.9	13465.5	13281.2	11326.7	8376.1	6603.4	6275.0	3838.3
72.5°	12878.3	12861.2	13111.5	14627.7	16933.9	16970.4	13253.1	7882.7	5101.8	3729.6	2046.1
73°	12088.5	12160.4	12624.4	14438.5	17230.5	17242.8	13291.0	7627.6	4684.3	3213.2	1797.0
75°	6262.7	6751.1	8472.4	11707.5	15954.8	16012.2	11716.1	5774.5	2792.0	1784.9	1211.0
77.5°	1677.3	1655.4	2729.8	5703.7	10636.9	10561.2	7403.0	2795.6	1338.0	1119.5	849.7
80°	575.0	582.4	929.0	2086.5	4965.1	5142.1	3213.2	1219.6	880.2	780.1	601.9
82.5°	293.1	302.7	485.8	887.5	2076.6	2032.7	1034.0	717.9	589.7	473.6	336.9
85°	156.2	161.1	267.3	460.2	761.7	770.3	363.9	383.3	374.8	268.6	166.1
87.5°	76.9	79.3	128.2	202.6	282.0	272.3	127.0	166.1	184.3	151.5	91.6
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°	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4	2910.4
2.5°	2890.9	2890.9	2906.8	2933.6	2953.2	2971.5	2983.7	3003.2	3014.1	3013.0	3011.7
5°	2871.4	2883.6	2915.2	2948.3	2970.2	2984.9	2984.9	2993.3	2993.3	2989.8	2984.9
7.5°	2826.2	2847.0	2893.3	2922.5	2928.7	2912.9	2881.1	2856.7	2826.2	2810.2	2804.2
10°	2754.1	2780.9	2839.6	2853.1	2821.3	2765.2	2688.3	2622.3	2563.7	2536.9	2528.3
12.5°	2683.3	2718.7	2773.6	2752.9	2677.3	2567.4	2448.9	2358.6	2292.7	2267.0	2258.5
15°	2624.7	2667.4	2710.1	2645.5	2513.6	2361.1	2230.4	2146.2	2096.1	2076.6	2071.7
17.5°	2585.7	2635.8	2650.4	2529.6	2346.5	2175.5	2059.5	2004.6	1982.6	1974.1	1971.6
20°	2588.2	2644.3	2608.9	2417.3	2185.3	2013.1	1936.2	1920.3	1920.3	1920.3	1919.1
22.5°	2655.2	2704.0	2591.7	2312.3	2030.2	1876.4	1843.4	1856.9	1866.5	1866.5	1865.4
25°	2794.5	2821.3	2603.9	2210.9	1884.9	1758.0	1759.2	1784.9	1793.4	1793.4	1791.0
27.5°	3006.9	2984.9	2625.9	2098.6	1742.1	1650.6	1667.7	1690.8	1696.9	1693.3	1692.1
30°	3273.0	3185.1	2644.3	1966.7	1607.9	1550.4	1565.0	1578.5	1573.7	1565.0	1563.8
32.5°	3570.9	3389.0	2633.2	1819.0	1489.4	1446.7	1455.3	1462.6	1455.3	1434.5	1434.5
35°	3866.3	3573.4	2573.5	1657.9	1395.4	1346.5	1345.3	1368.6	1367.3	1342.9	1344.1
37.5°	4125.1	3718.6	2457.5	1510.2	1314.8	1273.3	1278.3	1292.9	1300.1	1267.2	1263.6
40°	4350.9	3818.7	2293.9	1384.5	1250.2	1252.5	1239.1	1215.9	1207.5	1192.8	1190.3
42.5°	4563.4	3888.3	2120.5	1279.4	1217.1	1245.2	1200.1	1145.1	1121.9	1135.3	1144.0
45°	4772.1	3966.4	1953.3	1192.8	1175.6	1223.2	1161.0	1099.9	1073.2	1079.2	1087.7
47.5°	5027.3	4075.1	1751.9	1099.9	1112.1	1183.0	1136.7	1070.6	1030.4	1006.0	998.6
50°	5363.0	4232.6	1490.7	999.8	1045.1	1139.0	1115.9	1027.9	984.0	935.1	922.9
52.5°	5783.0	4381.6	1226.9	919.3	990.1	1101.3	1081.6	991.3	937.6	879.0	869.2
55°	6201.7	4402.3	999.8	849.7	927.8	1049.9	1040.1	962.0	886.3	838.7	829.0
57.5°	6494.7	4205.7	847.2	791.0	867.9	986.4	1002.2	926.6	843.6	807.0	800.9
60°	6499.7	3735.7	754.4	752.0	822.8	931.4	963.2	885.1	816.7	792.3	787.4
62.5°	5983.1	3010.5	694.7	722.8	789.8	886.3	933.9	861.9	810.6	800.9	796.0
65°	5015.1	2224.3	647.1	695.9	759.4	848.5	909.5	854.5	808.2	804.4	800.9
67.5°	3702.7	1524.8	606.7	661.7	725.2	809.4	886.3	843.6	793.6	808.2	803.3
70°	2329.3	1018.2	568.9	622.6	680.0	764.3	855.8	824.1	775.2	766.7	750.8
72.5°	1314.8	736.2	523.7	572.5	621.3	704.4	814.3	791.0	733.6	699.5	683.6
73°	1187.8	697.1	512.8	560.4	607.9	692.1	804.4	781.3	721.5	683.6	669.0
75°	869.2	570.2	462.7	510.4	551.8	636.0	758.1	732.5	667.8	622.6	612.8
77.5°	630.0	439.4	398.0	440.8	477.4	557.9	688.6	659.3	595.8	571.3	561.6
80°	454.2	333.2	329.6	371.2	402.8	484.7	614.0	583.6	522.5	594.6	578.6
82.5°	271.1	213.6	241.7	288.1	321.1	406.6	533.5	498.1	439.4	444.3	378.5
85°	129.4	120.8	150.1	189.2	212.4	278.4	444.3	416.3	351.6	288.1	282.0
87.5°	57.4	54.9	72.0	84.2	113.5	167.2	304.0	269.8	255.1	152.6	119.6
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)