

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: P196845

Luminaire Tested: **NAV-AF-03-D-UNV-T4FT-7030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196845  
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-03-D-UNV-T4FT-7030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 3000K, 1200mA 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: 19370.6 lumens  
Efficiency: N/A  
Efficacy: 101.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G4

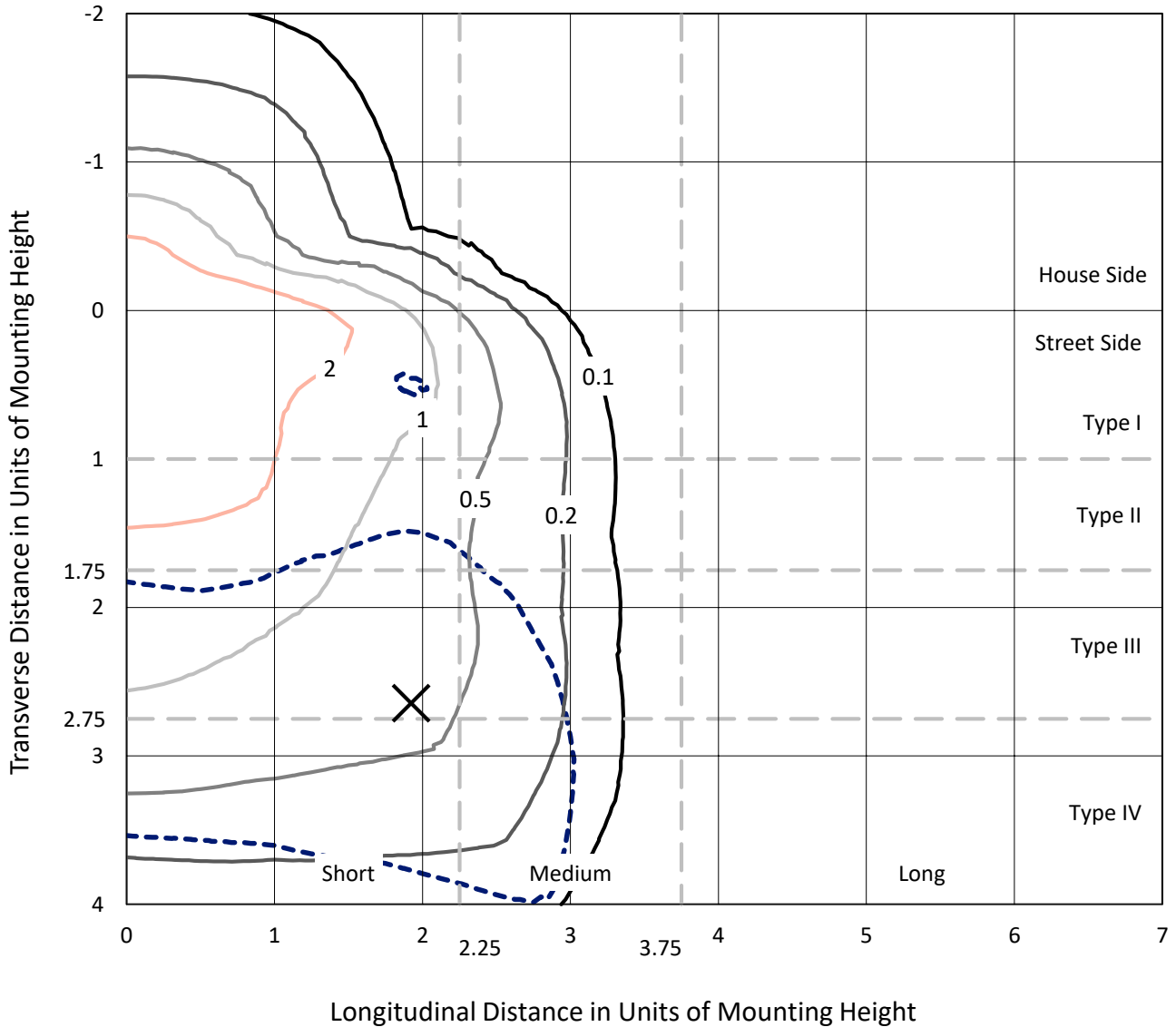
Input Watts (W): 191  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P196845  
 CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7030-1200

### Iso-Footcandle Lines of Horizontal Illumination

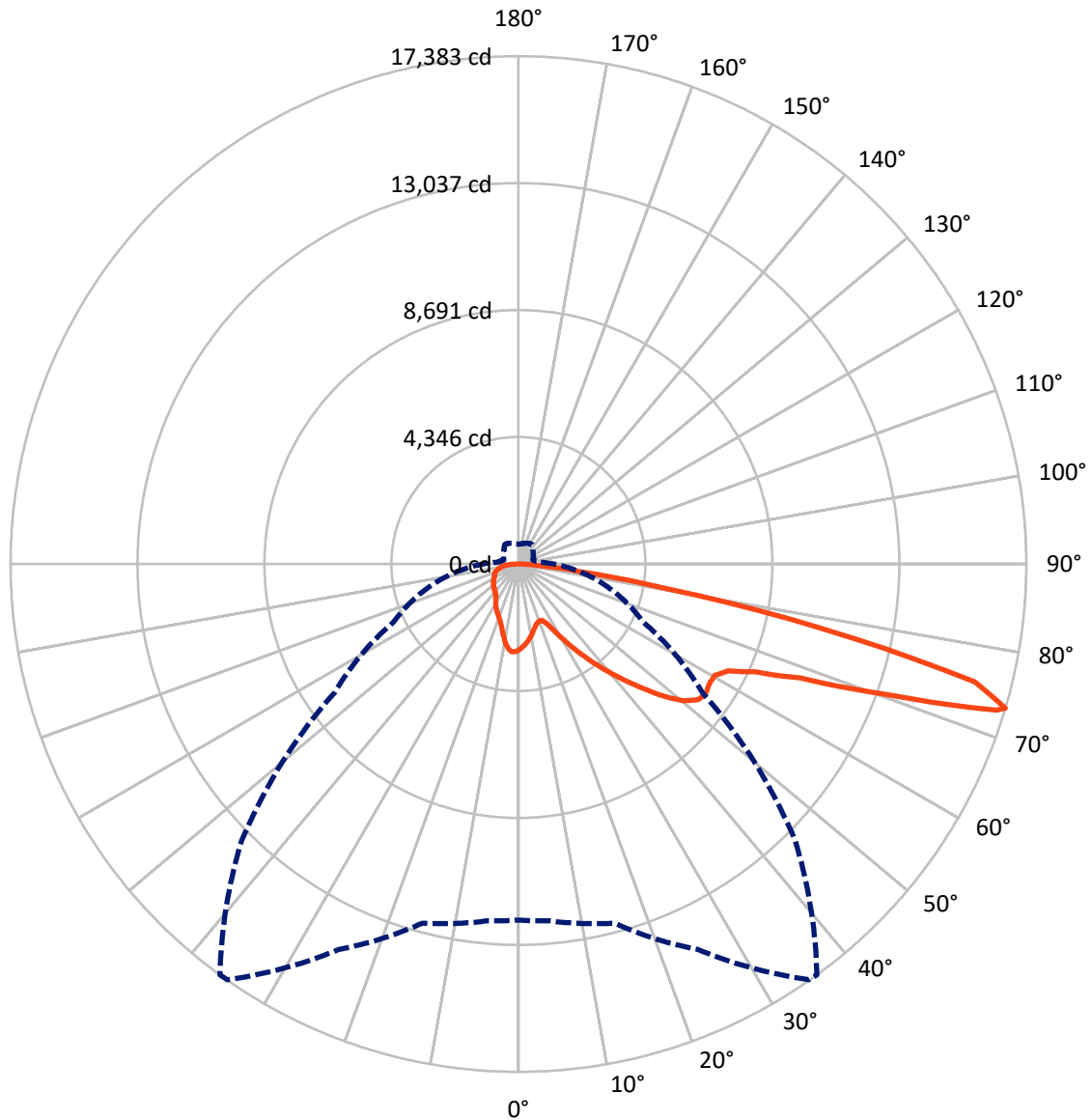
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 fc  
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196845  
CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7030-1200

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P196845

CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7030-1200

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3735.2	0.0	3735.2
	% Fixture	19.3	0.0	19.3
<b>Street Side</b>	Lumens	15635.4	0.0	15635.4
	% Fixture	80.7	0.0	80.7
<b>Total</b>	Lumens	19370.6	0.0	19370.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	266.5	1.4
10°-20°	669.3	3.5
20°-30°	1073.1	5.5
30°-40°	1775.0	9.2
40°-50°	2746.6	14.2
50°-60°	3676.9	19.0
60°-70°	4803.2	24.8
70°-80°	3923.3	20.3
80°-90°	436.7	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°	19370.6	100.0
0°-180°	19370.6	100.0



REPORT NUMBER: P196845

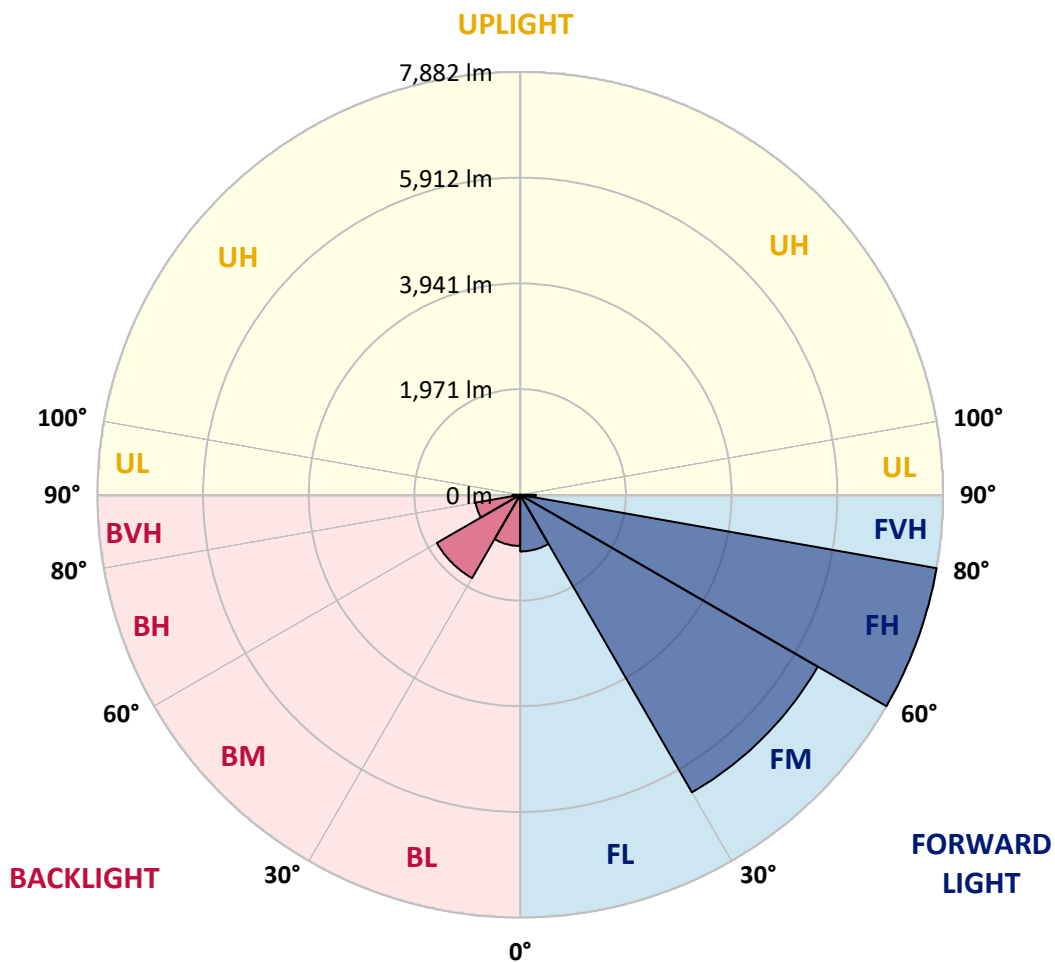
CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7030-1200

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1055.5	5.4			
FM	(30°-60°)	6404.6	33.1			
FH	(60°-80°)	7882.4	40.7			G4/12000
FVH	(80°-90°)	292.9	1.5			G3/500
BL	(0°-30°)	953.5	4.9	B2/1000		
BM	(30°-60°)	1793.9	9.3	B2/2500		
BH	(60°-80°)	844.1	4.4	B2/1000		G2/1000
BVH	(80°-90°)	143.8	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





REPORT NUMBER: P196845

CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7030-1200

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0
2.5°	2822.0	2829.5	2830.7	2839.3	2839.3	2838.1	2841.8	2856.6	2863.9	2881.1	2895.9
5°	2683.0	2691.6	2695.3	2710.0	2728.5	2729.8	2743.3	2771.6	2798.6	2836.8	2868.8
7.5°	2526.7	2536.6	2546.4	2577.2	2604.2	2606.7	2632.6	2678.1	2713.8	2760.6	2818.4
10°	2375.3	2377.8	2387.7	2426.9	2462.7	2466.4	2503.3	2555.0	2603.0	2668.2	2733.4
12.5°	2251.1	2258.4	2255.9	2285.4	2316.3	2318.7	2367.9	2433.2	2503.3	2577.2	2654.7
15°	2207.9	2206.7	2180.9	2179.6	2193.2	2195.7	2243.6	2319.9	2398.7	2489.8	2589.5
17.5°	2237.5	2227.7	2159.9	2118.1	2109.5	2112.0	2147.6	2231.3	2314.9	2419.6	2538.9
20°	2400.0	2361.7	2203.0	2102.1	2073.7	2073.7	2094.7	2162.5	2254.7	2376.6	2526.7
22.5°	2785.1	2726.1	2387.7	2207.9	2108.2	2098.5	2082.4	2134.1	2236.2	2382.7	2577.2
25°	3270.0	3241.7	2726.1	2489.8	2284.3	2252.3	2146.4	2164.9	2274.4	2449.1	2715.0
27.5°	3719.3	3670.0	3170.3	2899.6	2609.1	2560.0	2336.0	2260.9	2365.5	2572.3	2914.4
30°	3981.4	3948.2	3627.0	3368.6	3022.6	2960.0	2638.7	2450.3	2527.9	2775.3	3197.5
32.5°	4267.0	4247.2	4084.7	3849.7	3470.7	3398.1	3030.1	2759.4	2776.5	3044.8	3538.4
35°	4543.9	4569.8	4477.5	4305.2	3953.1	3885.5	3555.7	3162.9	3083.0	3347.6	3902.6
37.5°	4876.1	4882.4	4824.5	4712.5	4460.2	4404.8	4132.8	3593.7	3416.5	3670.0	4254.7
40°	5539.6	5442.3	5215.8	5127.2	4977.1	4942.7	4632.5	3988.8	3726.8	4001.1	4586.9
42.5°	6257.1	6105.7	5751.2	5606.0	5545.7	5513.7	5048.5	4252.2	4017.1	4332.2	4913.1
45°	6835.5	6712.5	6365.3	6185.7	6193.1	6141.4	5411.5	4487.3	4332.2	4664.5	5277.4
47.5°	7405.4	7199.8	6810.9	6785.1	6871.2	6795.0	5758.6	4722.3	4660.8	5026.4	5641.7
50°	7442.3	7255.3	7097.7	7304.4	7452.1	7357.3	6073.7	5030.1	5001.7	5464.5	6111.9
52.5°	6993.0	6966.0	7205.9	7554.3	7799.2	7714.2	6330.9	5346.3	5350.0	6012.1	6684.2
55°	6829.4	6795.0	7082.8	7511.2	7842.3	7791.9	6522.9	5703.3	5736.4	6676.8	7298.3
57.5°	7105.0	7019.0	7075.5	7429.9	7741.3	7711.8	6722.2	6099.5	6159.8	7442.3	7865.7
60°	7960.4	7784.4	7484.2	7550.6	7745.1	7727.8	7007.8	6541.4	6642.3	8239.8	8225.0
62.5°	9241.5	9042.2	8430.6	8135.2	8092.1	8058.9	7479.3	7084.2	7134.6	8815.8	8015.8
65°	10647.1	10432.9	9705.6	9221.9	8968.4	8897.0	8239.8	7738.9	7422.5	8814.5	7201.1
67.5°	12224.9	11998.5	11273.6	10812.1	10537.6	10415.6	9474.2	8268.0	7329.0	8068.7	5762.4
70°	13840.9	13625.5	13293.2	13454.4	13575.0	13389.1	11418.8	8444.1	6657.0	6326.0	3869.4
72.5°	12983.1	12965.8	13218.0	14746.7	17071.5	17108.5	13360.9	7946.9	5143.3	3759.9	2062.7
73°	12186.8	12259.3	12727.1	14555.9	17370.6	17382.9	13399.0	7689.6	4722.3	3239.3	1811.6
75°	6313.6	6806.0	8541.4	11802.7	16084.5	16142.4	11811.4	5821.5	2814.7	1799.4	1220.9
77.5°	1691.0	1668.8	2751.9	5750.0	10723.5	10647.1	7463.2	2818.4	1349.0	1128.5	856.6
80°	579.7	587.0	936.6	2103.3	5005.3	5184.0	3239.3	1229.5	887.4	786.4	606.7
82.5°	295.3	305.3	489.8	894.8	2093.5	2049.1	1042.5	723.7	594.5	477.6	339.7
85°	157.6	162.5	269.6	464.1	768.0	776.7	366.8	386.4	377.8	270.8	167.3
87.5°	77.6	80.0	129.3	204.4	284.3	274.5	128.0	167.3	185.8	152.6	92.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196845

CATALOG NUMBER: NAV-AF-03-D-UNV-T4FT-7030-1200

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0	2934.0
2.5°	2914.4	2914.4	2930.4	2957.4	2977.2	2995.6	3007.9	3027.6	3038.7	3037.4	3036.2
5°	2894.8	2907.0	2939.0	2972.2	2994.4	3009.1	3009.1	3017.7	3017.7	3014.0	3009.1
7.5°	2849.2	2870.1	2916.9	2946.4	2952.5	2936.6	2904.5	2880.0	2849.2	2833.2	2827.0
10°	2776.5	2803.6	2862.7	2876.2	2844.2	2787.6	2710.0	2643.6	2584.5	2557.4	2548.9
12.5°	2705.2	2740.9	2796.3	2775.3	2699.0	2588.3	2468.8	2377.8	2311.4	2285.4	2276.9
15°	2646.0	2689.2	2732.2	2667.0	2534.0	2380.2	2248.5	2163.7	2113.2	2093.5	2088.6
17.5°	2606.7	2657.1	2671.9	2550.1	2365.5	2193.2	2076.3	2020.9	1998.7	1990.1	1987.7
20°	2609.1	2665.8	2630.1	2436.8	2203.0	2029.5	1951.9	1936.0	1936.0	1936.0	1934.8
22.5°	2676.9	2726.1	2612.8	2331.0	2046.8	1891.6	1858.4	1871.9	1881.8	1881.8	1880.6
25°	2817.1	2844.2	2625.2	2228.9	1900.2	1772.3	1773.5	1799.4	1807.9	1807.9	1805.5
27.5°	3031.3	3009.1	2647.4	2115.6	1756.3	1663.9	1681.2	1704.6	1710.7	1707.0	1705.7
30°	3299.6	3211.0	2665.8	1982.7	1620.9	1563.1	1577.8	1591.4	1586.5	1577.8	1576.6
32.5°	3599.9	3416.5	2654.7	1833.8	1501.5	1458.4	1467.1	1474.5	1467.1	1446.1	1446.1
35°	3897.8	3602.4	2594.4	1671.3	1406.7	1357.5	1356.2	1379.6	1378.5	1353.8	1355.1
37.5°	4158.6	3748.8	2477.5	1522.4	1325.6	1283.7	1288.6	1303.4	1310.8	1277.5	1273.9
40°	4386.3	3849.7	2312.6	1395.7	1260.3	1262.7	1249.2	1225.8	1217.1	1202.4	1200.0
42.5°	4600.5	3919.9	2137.7	1289.8	1227.1	1255.4	1209.8	1154.5	1131.1	1144.6	1153.2
45°	4810.9	3998.7	1969.2	1202.4	1185.3	1233.2	1170.3	1108.9	1081.7	1088.0	1096.6
47.5°	5068.2	4108.1	1766.0	1108.9	1121.2	1192.6	1145.8	1079.4	1038.7	1014.2	1006.8
50°	5406.5	4267.0	1502.8	1008.0	1053.5	1148.4	1125.0	1036.4	992.0	942.8	930.5
52.5°	5830.0	4417.2	1237.0	926.7	998.1	1110.1	1090.4	999.4	945.2	886.1	876.3
55°	6252.2	4438.0	1008.0	856.6	935.4	1058.4	1048.6	969.7	893.5	845.5	835.8
57.5°	6547.5	4240.0	854.1	797.5	875.0	994.5	1010.4	934.1	850.5	813.6	807.3
60°	6552.5	3766.0	760.6	758.1	829.5	939.1	971.1	892.3	823.4	798.8	793.9
62.5°	6031.8	3035.0	700.3	728.6	796.3	893.5	941.5	868.9	817.3	807.3	802.4
65°	5055.9	2242.4	652.3	701.6	765.5	855.4	916.9	861.5	814.7	811.0	807.3
67.5°	3732.9	1537.2	611.7	667.0	731.1	815.9	893.5	850.5	800.0	814.7	809.8
70°	2348.2	1026.4	573.5	627.7	685.5	770.5	862.7	830.7	781.5	772.9	756.9
72.5°	1325.6	742.1	527.9	577.2	626.5	710.1	820.9	797.5	739.6	705.2	689.2
73°	1197.5	702.7	516.9	564.9	613.0	697.8	811.0	787.6	727.3	689.2	674.4
75°	876.3	574.7	466.4	514.5	556.2	641.3	764.3	738.5	673.2	627.7	617.9
77.5°	635.1	443.0	401.2	444.2	481.2	562.4	694.2	664.7	600.6	576.1	566.2
80°	457.8	336.0	332.2	374.1	406.1	488.6	619.1	588.3	526.7	599.4	583.3
82.5°	273.2	215.3	243.6	290.4	323.7	409.8	537.9	502.1	443.0	448.0	381.6
85°	130.4	121.9	151.5	190.7	214.1	280.6	448.0	419.7	354.4	290.4	284.3
87.5°	57.8	55.4	72.6	84.9	114.5	168.6	306.5	271.9	257.2	153.8	120.6
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)