

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: P197230

Luminaire Tested: **NAV-AF-04-D-UNV-T2-8030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197230  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24136)  
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-T2-8030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 21377 lumens  
Efficiency: N/A  
Efficacy: 82.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium - Full Cutoff  
BUG Rating: B3 - U0 - G3

Input Watts (W): 258  
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

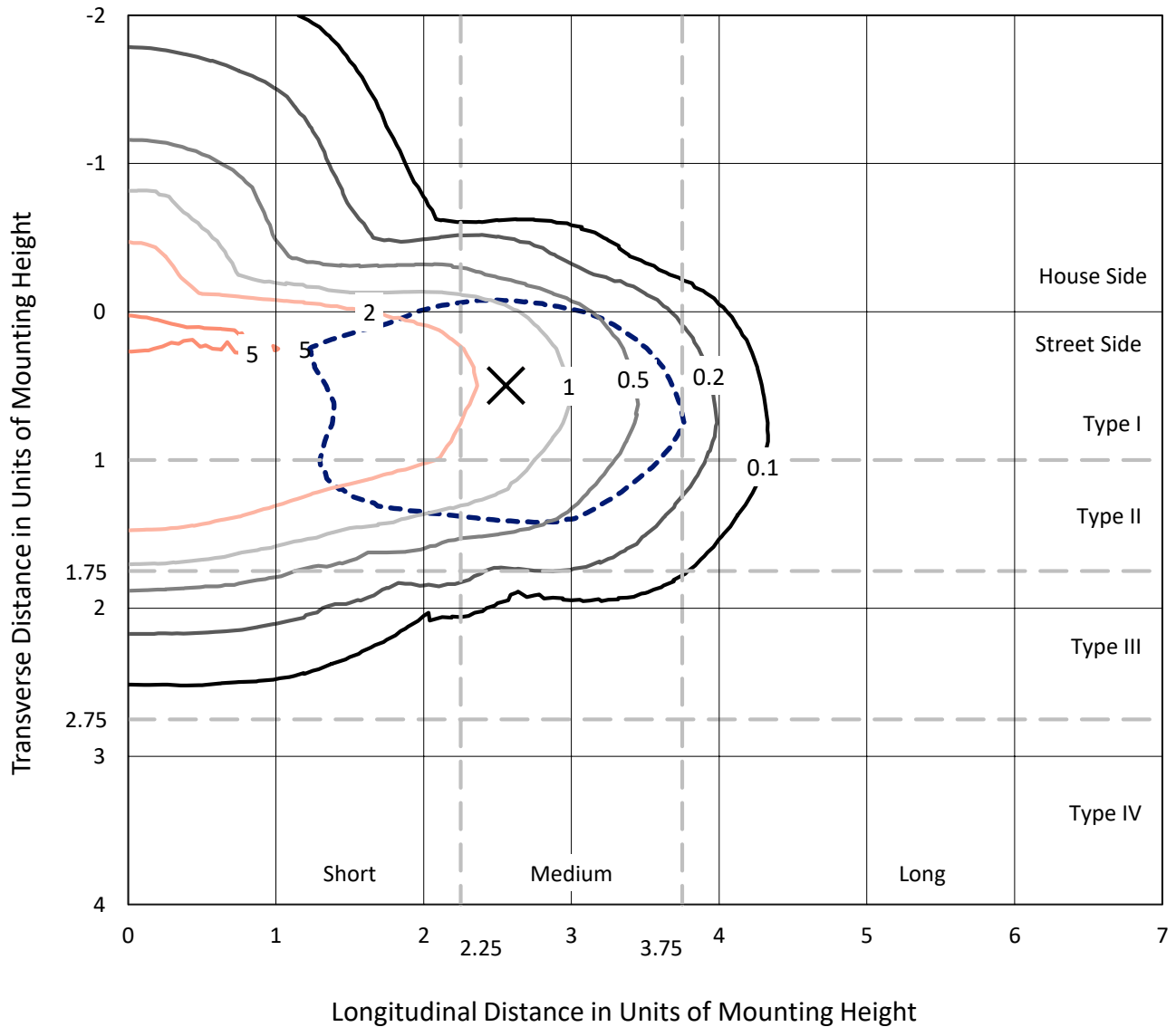


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### Iso-Footcandle Lines of Horizontal Illumination

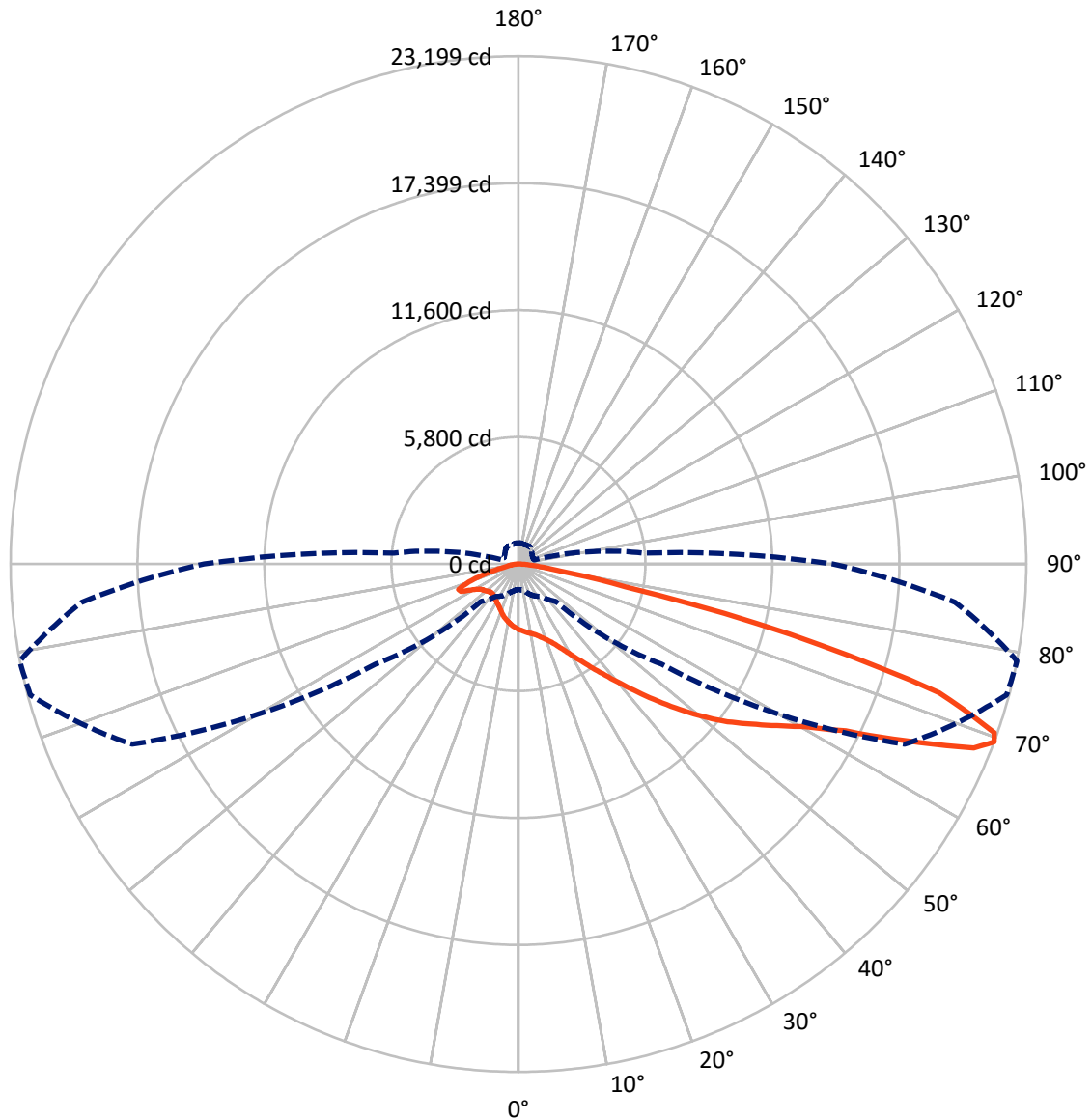
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.8 fc  
 Type II - Medium - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral      - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4021.4	0.0	4021.4
	% Fixture	18.8	0.0	18.8
<b>Street Side</b>	Lumens	17355.6	0.0	17355.6
	% Fixture	81.2	0.0	81.2
<b>Total</b>	Lumens	21377.0	0.0	21377.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	278.1	1.3
10°-20°	797.3	3.7
20°-30°	1317.5	6.2
30°-40°	2133.4	10.0
40°-50°	3408.0	15.9
50°-60°	4880.7	22.8
60°-70°	5437.8	25.4
70°-80°	2720.5	12.7
80°-90°	403.7	1.9
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°	21377.0	100.0
0°-180°	21377.0	100.0

**Coefficient of Utilization**



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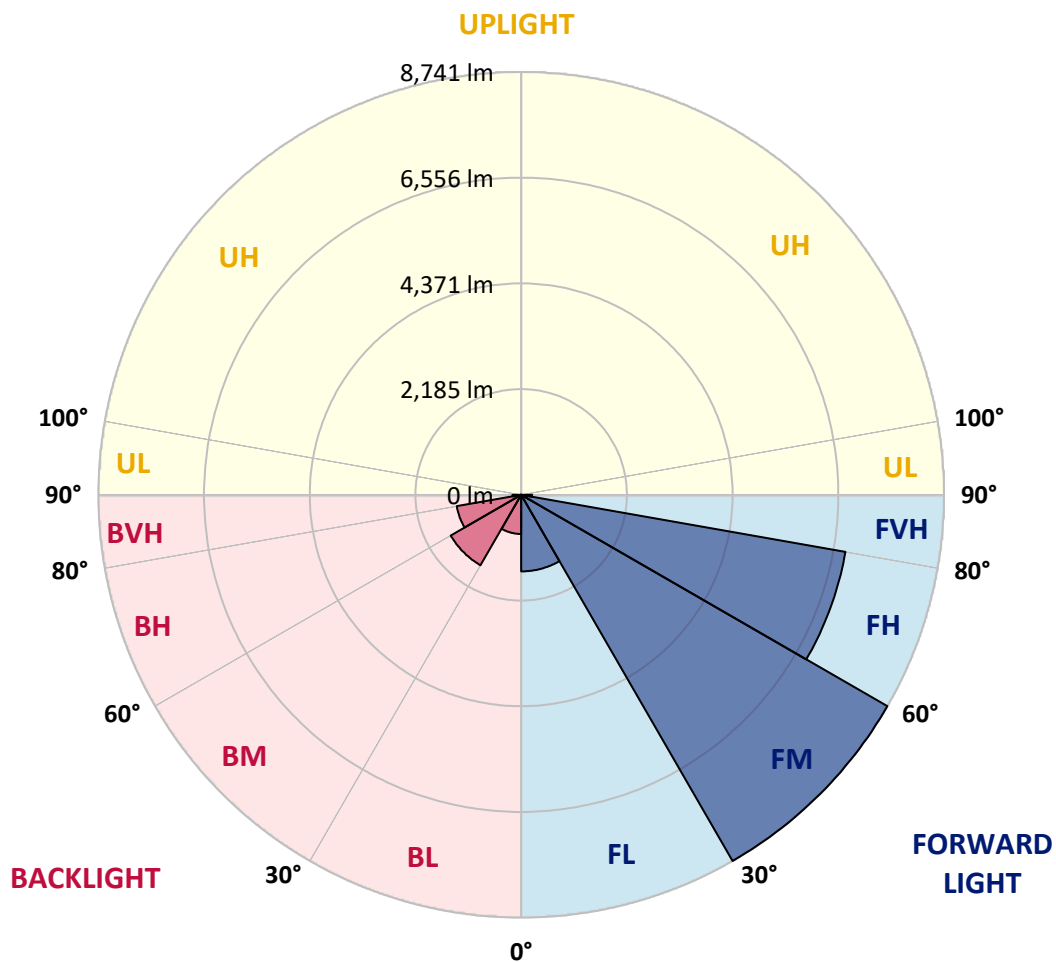
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1582.8	7.4			
FM (30°-60°)	8741.1	40.9			
FH (60°-80°)	6806.1	31.8			G3/7500
FVH (80°-90°)	225.6	1.1			G3/500
BL (0°-30°)	810.1	3.8	B2/1000		
BM (30°-60°)	1681.0	7.9	B2/2500		
BH (60°-80°)	1352.1	6.3	B3/2500		G3/2500
BVH (80°-90°)	178.1	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	79°	85°
0°	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9
2.5°	3293.6	3286.6	3285.2	3264.2	3253.0	3229.2	3173.3	3115.9	3062.8	3034.8	3005.5
5°	3569.1	3555.1	3548.1	3513.1	3482.4	3429.2	3341.1	3250.2	3155.1	3106.2	3047.4
7.5°	3735.5	3736.9	3736.9	3708.9	3678.2	3613.8	3501.9	3377.5	3236.2	3171.9	3079.6
10°	3749.5	3750.9	3771.9	3778.9	3785.8	3752.3	3648.8	3492.2	3310.3	3226.4	3106.2
12.5°	3611.0	3620.8	3655.8	3706.1	3777.5	3813.8	3769.1	3615.2	3405.4	3303.4	3156.5
15°	3425.0	3434.8	3479.6	3556.5	3671.2	3792.8	3855.8	3756.5	3529.9	3409.6	3230.6
17.5°	3334.1	3345.3	3376.1	3437.6	3549.5	3713.1	3901.9	3907.5	3676.8	3538.3	3318.7
20°	3290.8	3299.2	3338.3	3388.7	3474.0	3630.6	3906.1	4067.0	3851.6	3690.7	3426.4
22.5°	3390.1	3392.9	3412.4	3440.4	3497.7	3618.0	3903.3	4232.0	4069.8	3882.3	3564.9
25°	3681.0	3662.8	3648.8	3613.8	3627.8	3713.1	3948.1	4408.2	4349.5	4134.1	3749.5
27.5°	4025.0	4022.2	3985.8	3904.7	3853.0	3907.5	4075.3	4605.4	4692.1	4454.4	3991.4
30°	4408.2	4409.6	4371.8	4272.5	4167.6	4173.2	4278.1	4833.4	5101.9	4840.3	4289.3
32.5°	4809.6	4834.8	4764.8	4665.5	4538.3	4497.7	4569.0	5108.9	5576.0	5296.3	4634.8
35°	5289.3	5293.5	5216.6	5071.1	4943.8	4879.5	4945.2	5452.9	6122.8	5831.9	5055.7
37.5°	5787.2	5790.0	5710.2	5524.2	5363.4	5321.4	5394.2	5871.1	6701.8	6441.7	5550.8
40°	6194.1	6223.5	6160.6	5985.8	5823.5	5798.3	5903.2	6371.7	7441.6	7163.3	6139.6
42.5°	6655.7	6689.2	6613.7	6431.9	6303.2	6294.8	6458.5	6942.4	8177.3	7998.3	6806.7
45°	7175.9	7223.5	7118.6	6914.4	6805.3	6989.9	6999.7	7574.5	9024.8	8932.5	7557.7
47.5°	7743.7	7782.9	7697.6	7478.0	7359.1	7626.2	7529.7	8258.4	9940.8	9933.8	8370.3
50°	8181.5	8224.8	8233.2	8136.7	8012.2	8045.8	8111.5	8977.2	10854.1	10963.2	9210.8
52.5°	8101.7	8143.7	8332.5	8585.6	8785.6	8698.9	8778.6	9740.8	11736.5	11967.3	10009.4
55°	7458.4	7480.8	7834.6	8436.0	9287.7	9701.7	9707.3	10571.6	12575.7	12898.7	10767.4
57.5°	6299.0	6301.8	6761.9	7648.6	8995.4	10352.0	11172.9	11614.9	13451.2	13928.1	11707.2
60°	4457.1	4468.3	5004.0	6163.4	7947.9	10273.7	12749.1	13481.9	14465.1	15084.7	12918.3
62.5°	2646.0	2671.2	3075.4	4005.4	5903.2	9266.7	13680.5	16803.5	15958.7	16781.1	14856.7
65°	1721.6	1742.6	1984.5	2451.6	3488.0	6742.4	13374.2	20020.1	18785.2	19449.5	17642.6
67.5°	1325.8	1342.6	1532.8	1815.3	2139.8	3644.6	10693.2	20694.2	22225.6	22432.6	19993.5
69°	1165.0	1179.0	1318.8	1590.1	1801.3	2412.5	7968.9	19470.5	23085.7	23199.0	20022.9
70°	1079.7	1090.9	1222.3	1457.3	1654.5	1925.8	6099.0	18049.6	22771.0	23060.5	19445.3
72.5°	889.5	899.3	993.0	1173.4	1352.4	1372.0	2702.0	13179.8	19174.0	20099.8	16455.2
75°	742.6	748.2	809.8	941.2	1095.1	1092.3	1380.4	7465.4	11700.2	12803.6	10160.4
77.5°	619.6	623.7	664.3	745.4	864.3	860.1	972.0	3222.2	5166.2	4984.4	3497.7
80°	546.8	549.6	570.6	591.6	667.1	662.9	720.2	1479.7	2102.0	1942.6	1323.0
82.5°	415.4	421.0	527.2	537.0	517.5	499.3	502.1	861.5	1076.9	980.4	710.5
85°	235.0	236.4	338.4	395.8	450.3	338.4	325.9	444.7	531.4	465.7	310.5
87.5°	104.9	109.1	162.2	187.4	243.3	198.6	186.0	188.8	229.4	190.2	123.1
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°	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9	2999.9
2.5°	2977.5	2953.7	2897.8	2840.4	2783.1	2746.7	2709.0	2674.0	2660.0	2658.6	2632.1
5°	2990.1	2934.1	2806.9	2667.0	2534.2	2430.7	2344.0	2288.0	2233.5	2223.7	2199.9
7.5°	2994.3	2903.4	2696.4	2472.6	2269.8	2127.2	2040.5	2002.7	1976.1	1969.1	1960.8
10°	2992.9	2864.2	2573.3	2267.0	2036.3	1928.6	1896.4	1904.8	1916.0	1921.6	1921.6
12.5°	3015.3	2846.0	2450.2	2074.0	1885.2	1833.5	1858.7	1902.0	1935.6	1949.6	1952.4
15°	3055.8	2834.8	2314.6	1906.2	1778.9	1791.5	1853.1	1916.0	1963.6	1984.5	1990.1
17.5°	3106.2	2819.5	2157.9	1767.8	1717.4	1760.8	1840.5	1920.2	1977.5	2004.1	2008.3
20°	3162.1	2797.1	1995.7	1664.3	1662.9	1717.4	1797.1	1886.6	1948.2	1977.5	1976.1
22.5°	3237.6	2776.1	1844.7	1588.7	1602.7	1653.1	1718.8	1799.9	1857.3	1883.8	1878.2
25°	3338.3	2756.5	1709.0	1521.6	1534.2	1567.8	1613.9	1675.5	1716.0	1730.0	1720.2
27.5°	3474.0	2741.1	1602.7	1460.1	1458.7	1474.1	1502.0	1535.6	1555.2	1551.0	1535.6
30°	3640.4	2725.8	1524.4	1405.5	1386.0	1384.6	1397.1	1416.7	1429.3	1404.1	1391.5
32.5°	3826.4	2699.2	1454.5	1358.0	1323.0	1310.4	1316.0	1342.6	1394.3	1369.2	1359.4
35°	4046.0	2668.4	1384.6	1306.2	1279.7	1255.9	1260.1	1317.4	1474.1	1455.9	1446.1
37.5°	4310.3	2640.4	1320.2	1250.3	1248.9	1219.5	1216.7	1285.3	1495.0	1455.9	1447.5
40°	4627.8	2634.8	1262.9	1188.8	1211.1	1199.9	1190.2	1232.1	1379.0	1299.2	1283.9
42.5°	5011.0	2660.0	1220.9	1130.0	1167.8	1194.4	1176.2	1186.0	1246.1	1174.8	1162.2
45°	5458.5	2728.6	1190.2	1078.3	1121.6	1190.2	1169.2	1160.8	1170.6	1131.4	1123.0
47.5°	5980.2	2850.2	1169.2	1034.9	1078.3	1179.0	1166.4	1149.6	1145.4	1123.0	1117.4
50°	6538.2	3013.9	1155.2	995.8	1039.1	1159.4	1165.0	1141.2	1134.2	1124.4	1121.6
52.5°	7092.0	3191.5	1138.4	962.2	1006.9	1135.6	1166.4	1132.8	1123.0	1117.4	1114.6
55°	7643.0	3376.1	1107.6	932.8	983.2	1107.6	1165.0	1121.6	1110.4	1110.4	1110.4
57.5°	8357.7	3657.2	1067.1	909.1	952.4	1071.3	1146.8	1109.0	1093.7	1095.1	1096.5
60°	9389.8	4128.5	1022.3	882.5	911.8	1029.3	1118.8	1086.7	1068.5	1074.1	1075.5
62.5°	11114.2	4952.2	960.8	844.7	869.9	984.6	1082.5	1055.9	1039.1	1048.9	1050.3
65°	13413.4	5949.4	879.7	797.2	826.5	934.2	1036.3	1019.5	1001.4	1025.1	1023.7
67.5°	14816.1	6241.7	794.4	746.8	784.6	881.1	979.0	972.0	959.4	1001.4	998.6
69°	14356.0	5713.0	745.4	714.7	755.2	844.7	942.6	939.8	930.0	970.6	967.8
70°	13641.4	5219.4	714.7	693.7	739.8	822.3	918.8	918.8	909.1	944.0	937.0
72.5°	10957.6	3871.2	643.3	640.5	686.7	760.8	854.5	861.5	855.9	868.5	861.5
75°	6433.3	2332.8	573.4	581.8	622.4	695.1	783.2	788.8	783.2	781.8	783.2
77.5°	2230.7	1046.1	506.3	518.9	553.8	627.9	704.9	716.1	707.7	697.9	700.7
80°	872.7	608.4	433.5	451.7	481.1	552.4	626.5	633.5	621.0	619.6	608.4
82.5°	524.5	370.6	337.0	366.4	402.8	479.7	541.2	538.4	528.6	586.0	513.3
85°	228.0	205.6	246.1	275.5	293.7	359.4	457.3	444.7	421.0	370.6	362.2
87.5°	92.3	106.3	135.7	163.6	176.2	232.2	313.3	302.1	306.3	251.7	250.3
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)