

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: P196030

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196030  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24160)  
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-AFL-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 28052.4 lumens  
Efficiency: N/A  
Efficacy: 108.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B3 - U0 - G3

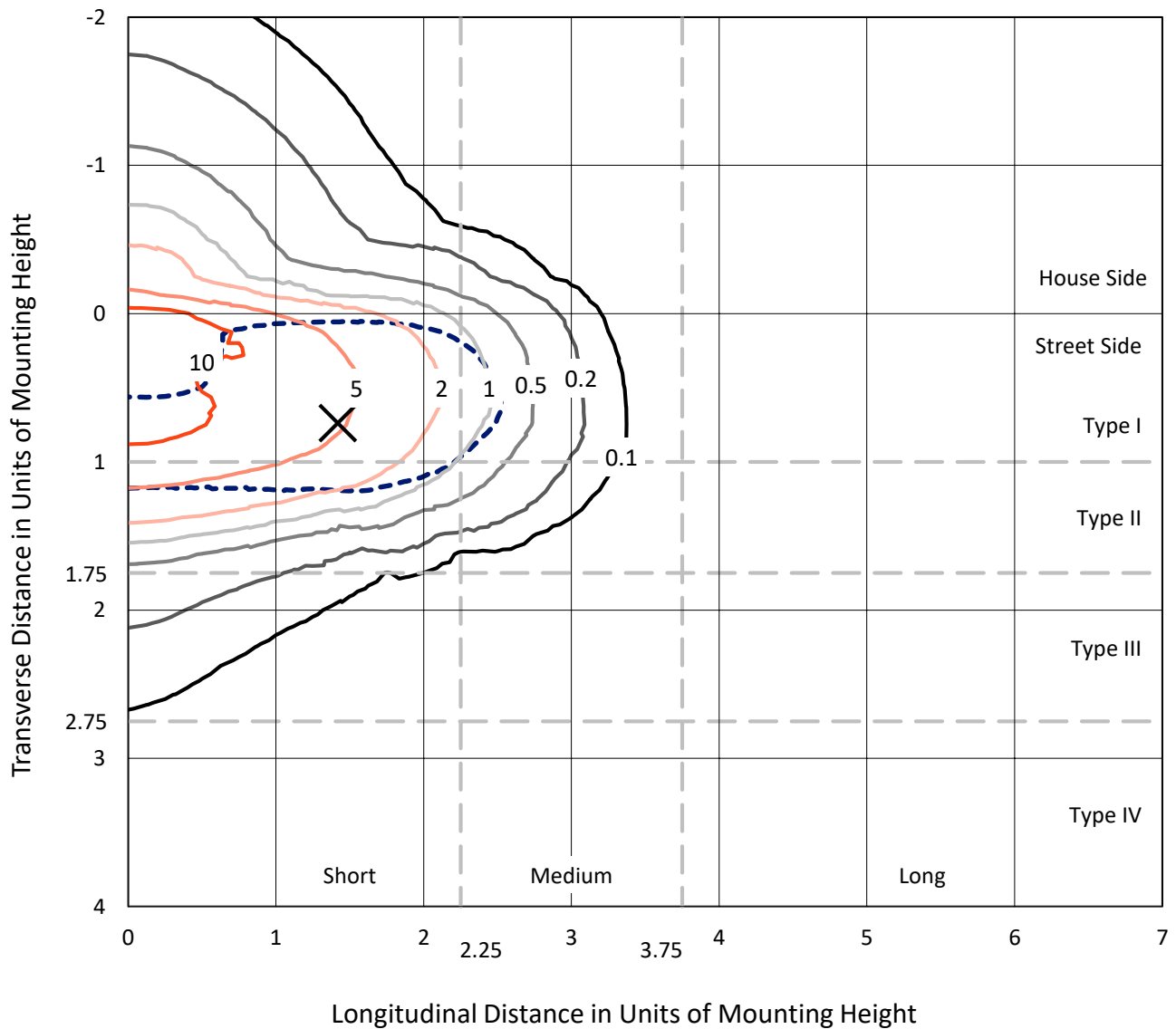
Input Watts (W): 258  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

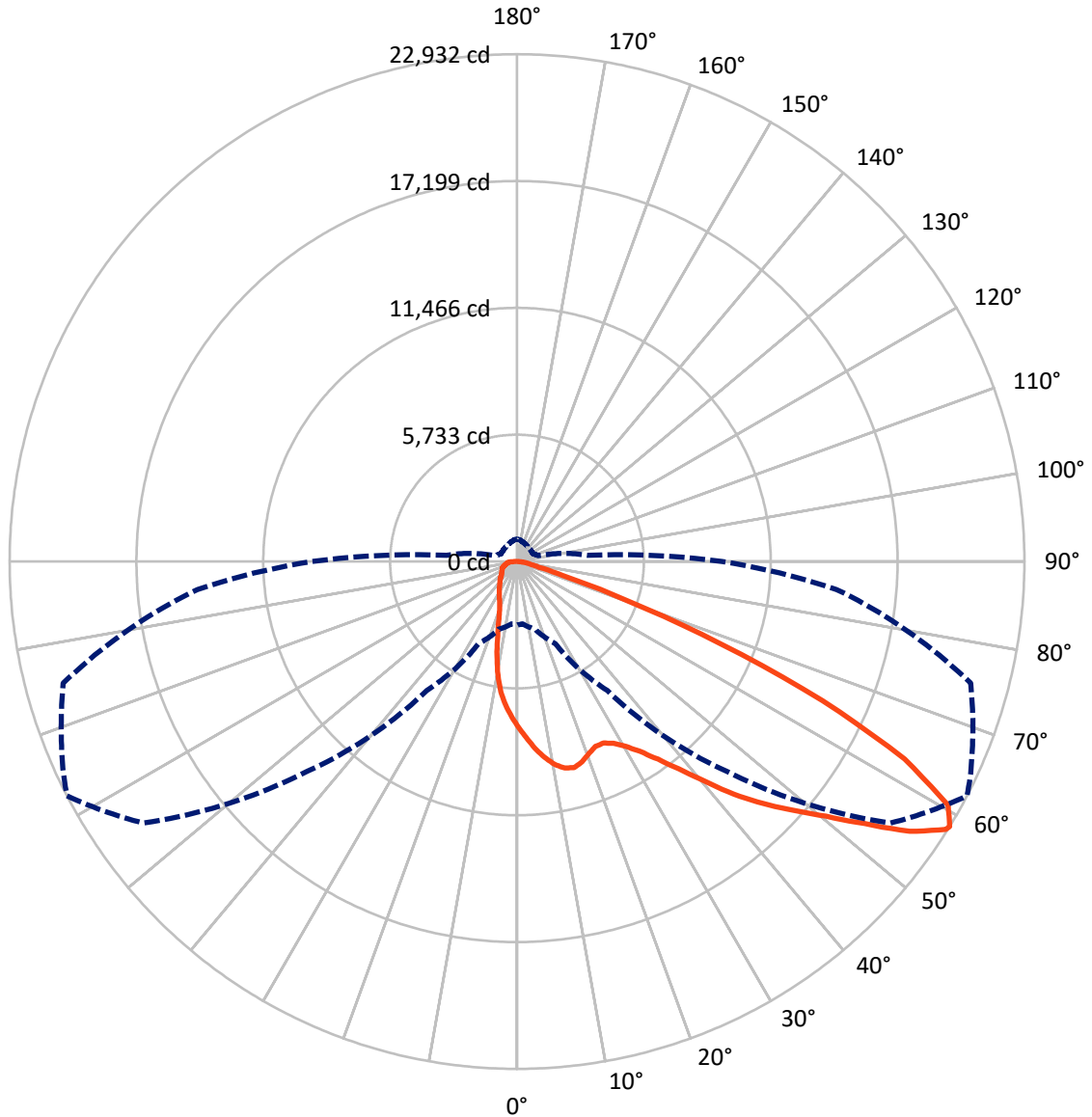
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 14 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 62.5-Deg Lateral    - - - Horizontal Cone Through 58-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4307.1	0.0	4307.1
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	23745.3	0.0	23745.3
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	28052.4	0.0	28052.4
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	669.5	2.4
10°-20°	1689.6	6.0
20°-30°	2738.1	9.8
30°-40°	4371.7	15.6
40°-50°	6358.7	22.7
50°-60°	6653.8	23.7
60°-70°	4056.4	14.5
70°-80°	1134.4	4.0
80°-90°	380.3	1.4
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°	28052.4	100.0
0°-180°	28052.4	100.0



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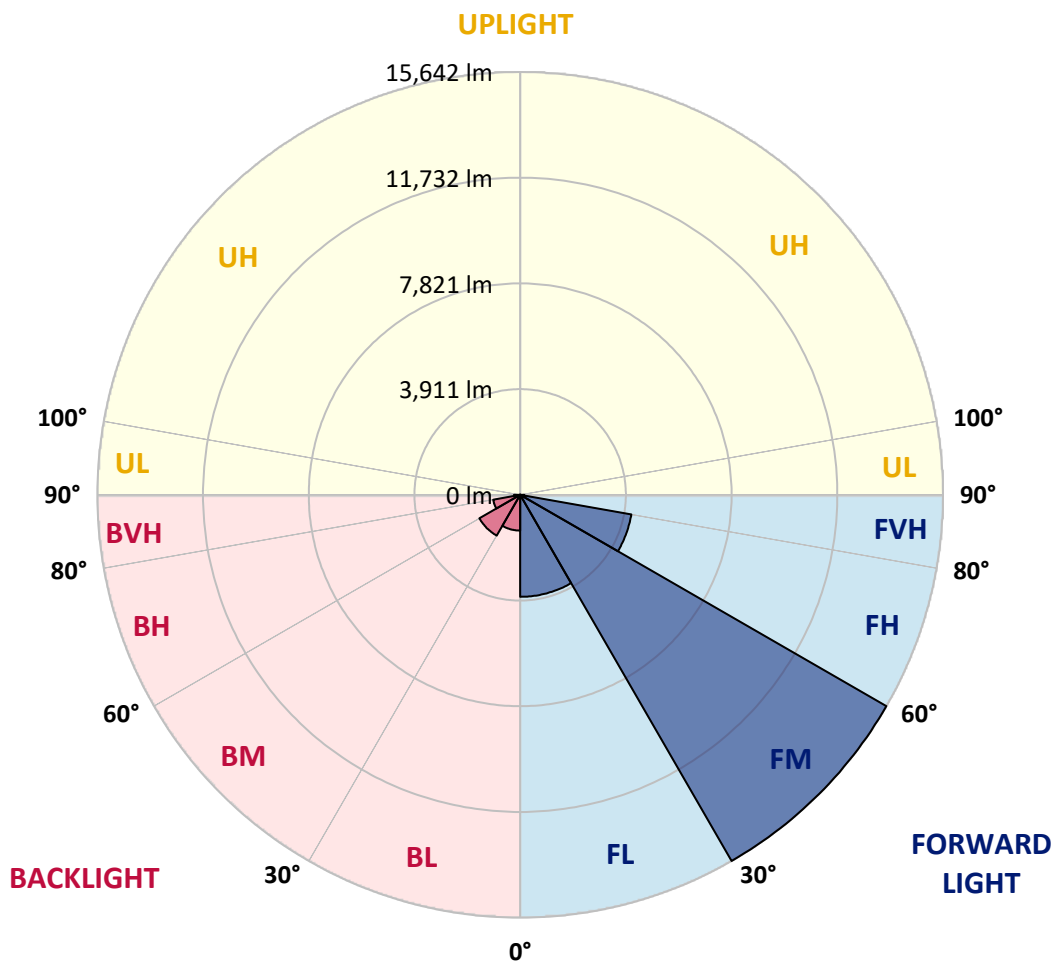
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3773.1	13.5			
FM	(30°-60°)	15642.4	55.8			
FH	(60°-80°)	4176.8	14.9			G2/5000
FVH	(80°-90°)	153.0	0.5			G2/225
BL	(0°-30°)	1324.0	4.7	B3/2500		
BM	(30°-60°)	1741.8	6.2	B2/2500		
BH	(60°-80°)	1014.0	3.6	B3/2500		G3/2500
BVH	(80°-90°)	227.3	0.8			G3/500
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 Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8
2.5°	8501.4	8496.1	8424.3	8376.9	8320.8	8191.1	8061.4	7964.9	7915.8	7728.3	7545.9
5°	9204.5	9183.4	9143.1	9092.3	9018.6	8855.6	8650.5	8473.4	8403.2	8070.2	7735.2
7.5°	8832.8	8866.1	8990.6	9130.9	9278.1	9288.6	9143.1	8932.7	8855.6	8410.3	7919.4
10°	7803.6	7789.6	7945.7	8219.1	8704.8	9185.2	9425.4	9321.9	9241.2	8732.8	8103.4
12.5°	7491.6	7488.0	7514.4	7584.5	7889.5	8548.8	9353.5	9577.9	9549.9	9074.7	8299.8
15°	7586.2	7589.8	7587.9	7596.7	7680.9	7994.8	8951.9	9663.8	9751.5	9413.1	8499.7
17.5°	7889.5	7877.2	7838.7	7796.6	7808.9	7921.1	8518.9	9516.5	9779.5	9714.7	8668.0
20°	8357.6	8357.6	8254.2	8136.8	8059.6	8084.2	8338.4	9264.0	9649.8	9970.6	8794.2
22.5°	8945.0	8953.8	8801.3	8587.4	8412.0	8345.3	8441.8	9076.4	9492.0	10207.3	8906.4
25°	9674.4	9672.6	9449.9	9143.1	8866.1	8706.5	8704.8	9085.2	9442.9	10484.3	9023.9
27.5°	10577.2	10494.9	10235.3	9798.8	9407.9	9164.1	9053.7	9306.2	9546.4	10824.5	9181.7
30°	11595.9	11511.7	11171.5	10610.6	10081.1	9725.2	9542.8	9688.4	9862.0	11257.5	9420.1
32.5°	12604.0	12623.2	12223.5	11590.6	10910.4	10408.9	10139.0	10228.4	10349.3	11787.0	9742.7
35°	14080.2	14078.5	13555.9	12765.3	11957.1	11262.8	10920.9	10968.2	11078.7	12533.8	10195.0
37.5°	15181.2	15163.7	14827.1	14127.6	13217.6	12384.9	11890.4	11897.4	11992.1	13471.9	10791.1
40°	15293.4	15289.9	15288.2	15188.3	14565.8	13780.4	13161.5	13033.5	13072.1	14467.7	11424.0
42.5°	14436.1	14564.1	14932.2	15496.8	15670.4	15258.3	14672.8	14387.0	14302.9	15610.7	12093.8
45°	13214.1	13278.9	13924.2	15193.5	16226.1	16646.9	16206.8	15603.8	15460.0	16722.3	12639.1
47.5°	12646.0	12618.0	12991.5	14374.7	16171.8	17751.5	17783.0	16794.2	16550.5	17681.3	13103.7
50°	11427.6	11390.8	11862.3	13170.3	15579.2	18300.2	19401.3	18091.6	17641.0	18593.1	13524.4
52.5°	8999.3	8964.2	9597.2	11282.0	14253.8	18095.1	20765.3	19683.5	18915.6	19471.4	13917.1
55°	5855.8	5859.3	6462.4	8199.9	11534.5	16899.4	21405.1	21522.7	20661.9	20349.8	14234.5
57.5°	3224.2	3194.4	3623.9	4691.7	7935.1	14183.6	20872.2	22848.1	22399.2	21103.7	14464.1
58°	2866.5	2831.4	3162.9	4083.3	7114.6	13417.4	20604.0	22932.3	22621.9	21228.1	14497.5
60°	2042.5	1982.9	1932.0	2301.9	4099.1	9674.4	18815.6	22387.0	22686.8	21477.1	14466.0
62.5°	1721.6	1653.3	1471.0	1456.9	1930.3	4732.0	14879.6	19660.7	20500.5	20903.8	13957.4
65°	1599.0	1530.5	1290.4	1204.4	1309.7	2042.5	9200.9	15181.2	16303.3	18910.4	12677.6
67.5°	1511.3	1430.6	1172.9	1060.7	1081.8	1222.0	3904.4	9928.6	11229.4	14746.4	10170.5
70°	1432.4	1342.9	1080.0	950.2	932.7	929.2	1525.3	5184.3	6437.8	9649.8	6813.1
72.5°	1342.9	1255.3	997.6	859.1	820.5	753.9	917.0	2142.5	2936.7	4730.2	3122.5
75°	1213.2	1141.3	906.4	783.7	717.1	611.8	676.8	1027.3	1265.8	1811.1	1449.9
77.5°	1067.8	1009.9	813.5	720.6	631.2	499.7	517.2	696.0	781.9	1020.4	839.8
80°	755.7	776.7	710.0	634.6	555.8	403.2	398.0	510.1	561.0	685.5	564.6
82.5°	520.7	536.5	578.6	501.5	448.9	313.8	292.8	354.1	380.4	413.8	273.5
85°	371.6	361.2	401.5	359.4	329.6	199.9	187.6	224.4	240.2	252.5	131.4
87.5°	226.2	224.4	231.4	185.9	171.9	101.7	92.9	106.9	114.0	110.5	63.1
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°	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8	7489.8
2.5°	7477.6	7391.6	7204.0	7053.2	6890.2	6765.7	6641.2	6571.1	6494.0	6450.1	6444.9
5°	7559.9	7384.6	6984.9	6613.2	6231.0	5887.4	5550.7	5301.7	5098.4	4982.7	4975.6
7.5°	7651.1	7375.9	6758.7	6115.3	5435.0	4758.3	4160.4	3737.9	3466.2	3339.9	3331.1
10°	7721.2	7339.1	6483.5	5482.4	4404.1	3509.9	2966.5	2717.5	2635.1	2614.0	2610.6
12.5°	7805.4	7312.8	6136.3	4670.6	3366.2	2671.9	2507.2	2491.3	2508.9	2519.4	2521.2
15°	7884.3	7261.9	5668.2	3771.2	2635.1	2387.9	2391.5	2424.7	2459.8	2475.5	2477.3
17.5°	7921.1	7137.4	5052.8	2971.8	2305.5	2259.9	2300.2	2344.1	2375.6	2387.9	2387.9
20°	7921.1	6937.6	4339.3	2407.2	2133.7	2142.5	2191.6	2224.8	2231.9	2221.3	2216.1
22.5°	7887.8	6690.3	3645.0	2100.3	1993.4	2026.8	2065.3	2042.5	1960.1	1897.0	1884.7
25°	7858.0	6397.5	2977.0	1912.8	1870.7	1914.6	1898.7	1742.7	1616.5	1551.6	1541.1
27.5°	7808.9	6043.4	2419.5	1758.5	1751.5	1786.6	1630.5	1479.7	1416.6	1381.5	1374.5
30°	7796.6	5659.5	2024.9	1621.8	1634.1	1585.0	1406.0	1357.0	1342.9	1323.7	1314.9
32.5°	7836.9	5275.5	1777.8	1509.6	1521.8	1360.5	1292.1	1299.1	1297.4	1272.9	1264.1
35°	7947.4	4902.1	1619.9	1407.9	1372.8	1218.5	1227.2	1248.3	1248.3	1218.5	1208.0
37.5°	8140.2	4554.9	1520.0	1322.0	1200.9	1144.9	1167.7	1195.7	1195.7	1174.7	1165.9
40°	8345.3	4216.5	1444.6	1253.5	1092.3	1094.0	1116.9	1137.8	1146.6	1150.1	1143.1
42.5°	8531.2	3865.8	1364.0	1180.0	1043.2	1055.5	1065.9	1081.8	1118.6	1143.1	1139.6
45°	8639.9	3513.4	1276.3	1088.7	1009.9	1015.1	1011.6	1039.6	1083.5	1120.3	1120.3
47.5°	8739.9	3224.2	1204.4	997.6	976.5	976.5	966.1	994.1	1034.4	1078.2	1081.8
50°	8834.5	3036.6	1153.6	927.5	934.5	929.2	925.7	952.0	1006.4	1059.0	1067.8
52.5°	8931.0	2973.5	1108.1	876.6	890.7	883.6	887.1	923.9	985.3	1039.6	1048.4
55°	9066.0	3013.8	1060.7	841.6	848.5	846.8	860.8	903.0	957.3	1011.6	1015.1
57.5°	9232.5	3161.1	1020.4	815.3	808.2	818.8	841.6	881.9	934.5	999.3	1004.6
58°	9265.8	3196.1	1013.3	808.2	799.4	815.3	838.0	876.6	931.0	999.3	1004.6
60°	9316.6	3320.6	995.8	794.2	769.7	797.7	825.7	864.4	923.9	1008.1	1018.7
62.5°	9071.2	3345.2	990.6	778.5	738.1	773.1	806.5	850.3	917.0	1037.9	1060.7
65°	8220.9	3092.7	953.8	752.2	711.8	753.9	789.0	839.8	937.9	1127.3	1137.8
67.5°	6599.2	2568.5	864.4	711.8	682.0	731.1	774.9	839.8	946.7	1141.3	1148.4
70°	4537.4	1930.3	752.2	668.0	646.9	703.1	769.7	859.1	917.0	1080.0	1059.0
72.5°	2370.4	1342.9	659.2	617.1	604.9	678.5	820.5	839.8	881.9	1008.1	987.0
75°	1194.0	913.4	580.3	559.2	557.5	669.7	918.7	808.2	845.1	948.5	994.1
77.5°	704.8	715.3	517.2	504.9	513.7	654.0	920.5	776.7	803.0	873.1	922.2
80°	482.1	590.9	468.1	464.6	471.6	601.4	848.5	738.1	753.9	825.7	878.4
82.5°	271.8	326.1	410.3	433.0	429.5	492.7	732.8	671.5	690.8	976.5	1032.7
85°	131.4	196.4	343.6	405.0	366.4	327.9	596.1	596.1	601.4	699.5	708.3
87.5°	49.1	87.7	231.4	320.8	255.9	196.4	405.0	422.5	469.8	483.9	494.4
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)