

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: P196991

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196991
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-05-D-UNV-AFL-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 27579 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B3 - U0 - G2

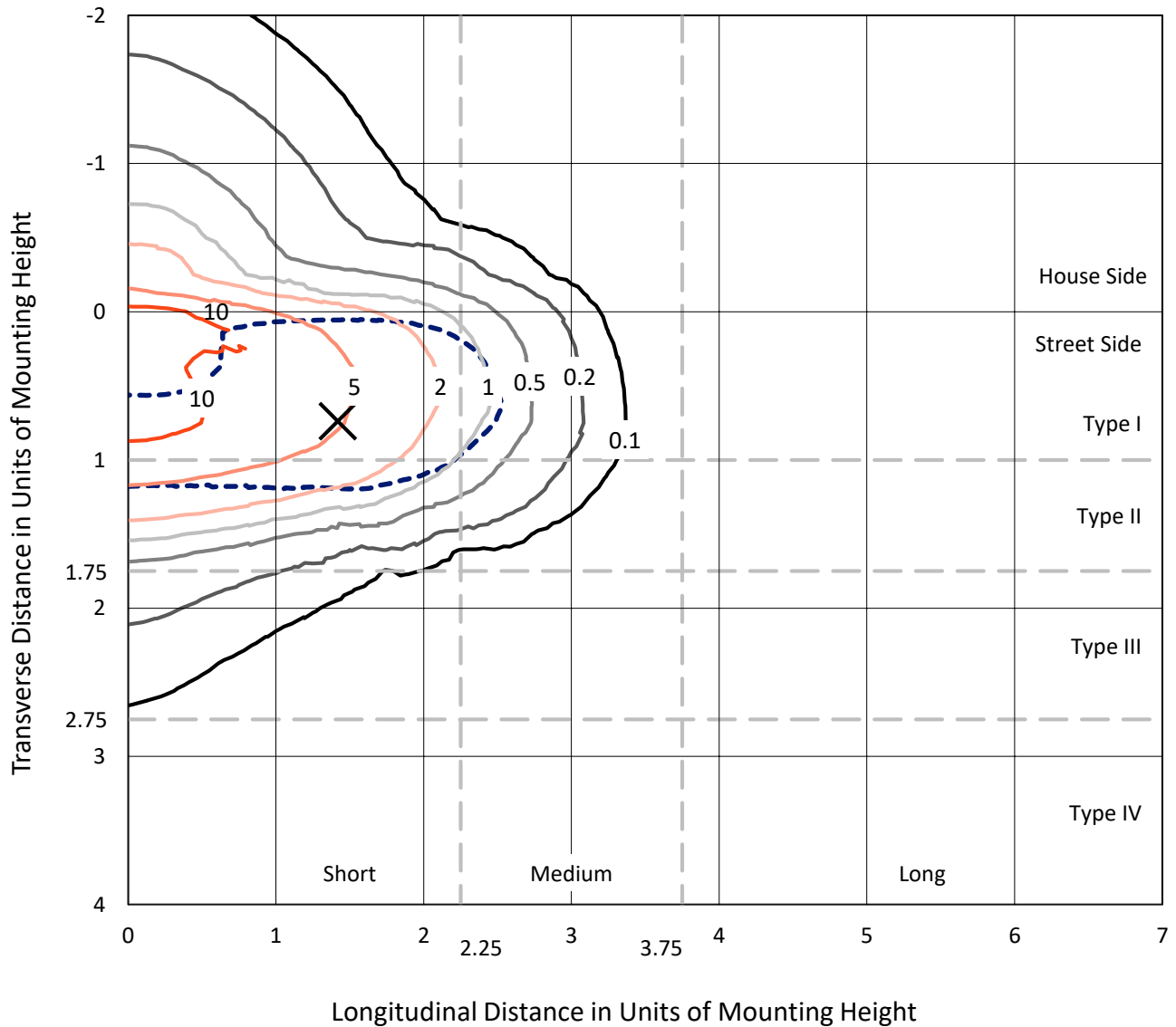
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196991
 CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-8030-1200

Iso-Footcandle Lines of Horizontal Illumination

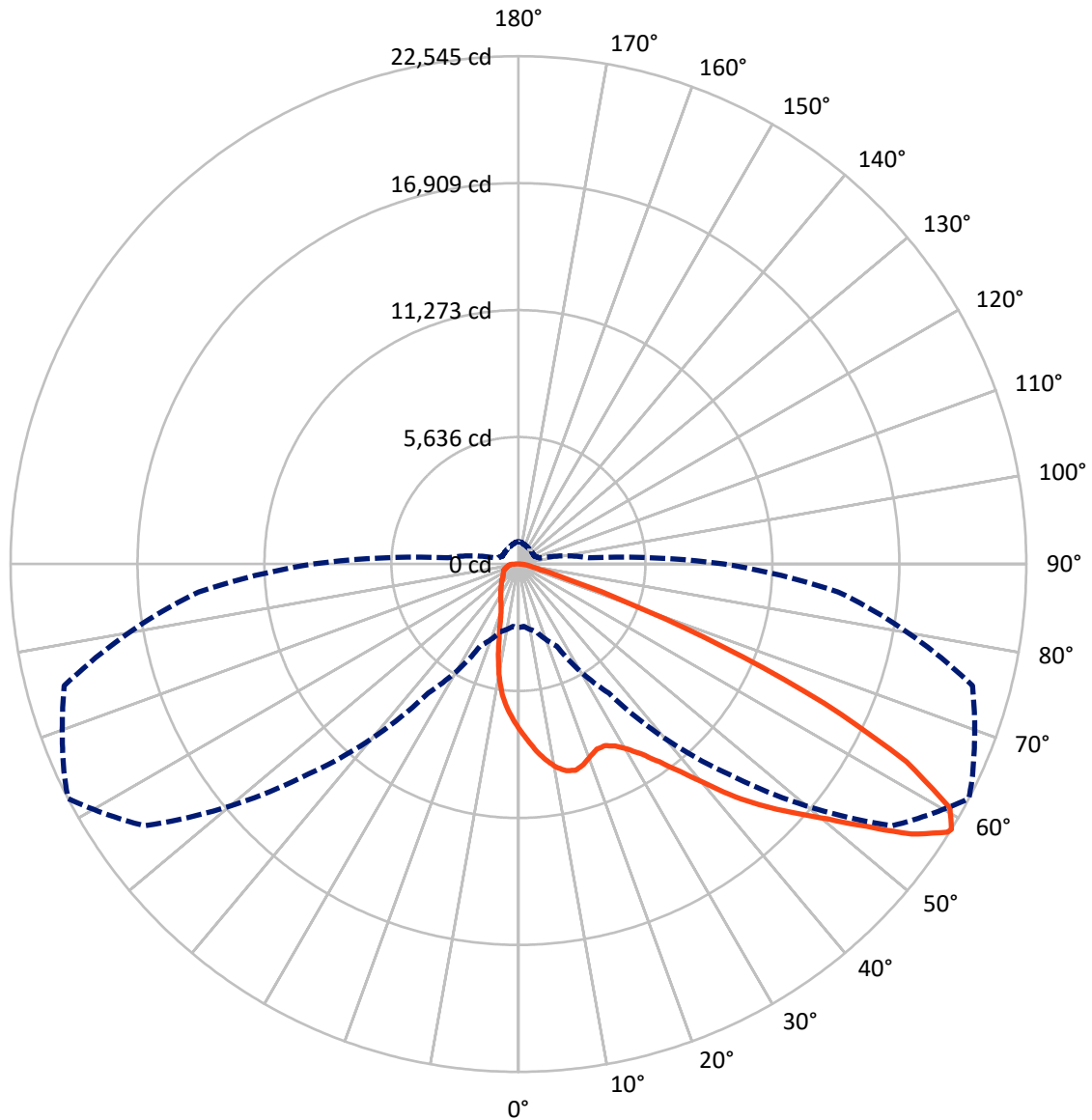
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13.8 fc
 Type II - Short - Full Cutoff

REPORT NUMBER: P196991
CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-8030-1200

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196991

CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-8030-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4234.4	0.0	4234.4
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	23344.6	0.0	23344.6
	% Fixture	84.6	0.0	84.6
Total	Lumens	27579.0	0.0	27579.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	658.2	2.4
10°-20°	1661.0	6.0
20°-30°	2691.9	9.8
30°-40°	4297.9	15.6
40°-50°	6251.4	22.7
50°-60°	6541.5	23.7
60°-70°	3988.0	14.5
70°-80°	1115.2	4.0
80°-90°	373.8	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°	27579.0	100.0
0°-180°	27579.0	100.0

Coefficient of Utilization



REPORT NUMBER: P196991

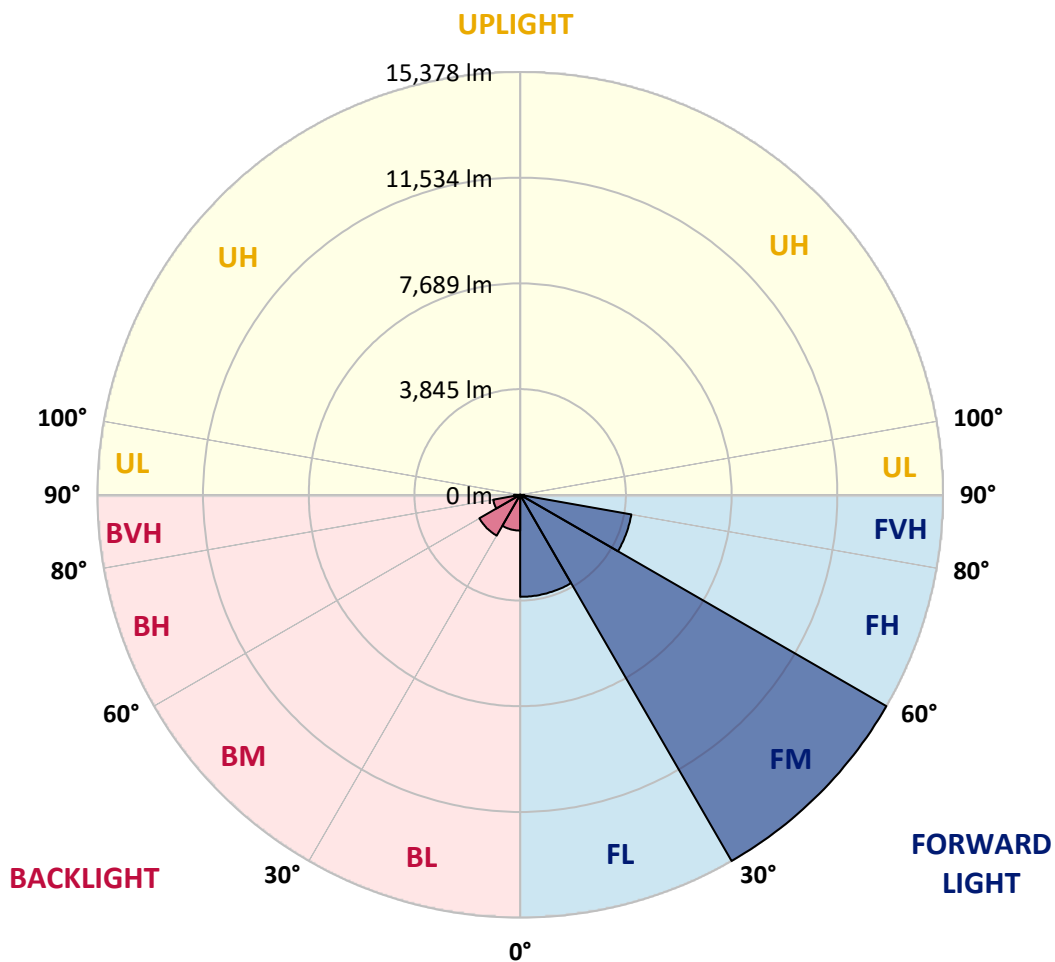
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3709.5	13.5			
FM (30°-60°)	15378.4	55.8			
FH (60°-80°)	4106.3	14.9			G2/5000
FVH (80°-90°)	150.4	0.5			G2/225
BL (0°-30°)	1301.7	4.7	B3/2500		
BM (30°-60°)	1712.4	6.2	B2/2500		
BH (60°-80°)	996.9	3.6	B2/1000		G2/1000
BVH (80°-90°)	223.4	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-G2

Type II Short





REPORT NUMBER: P196991

CATALOG NUMBER: NAV-AF-05-D-UNV-AFL-8030-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	62.5°	65°	75°	85°
0°	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4
2.5°	8358.0	8352.8	8282.1	8235.6	8180.4	8052.9	7925.3	7830.5	7782.3	7597.8	7418.6
5°	9049.1	9028.5	8988.8	8938.8	8866.4	8706.1	8504.5	8330.4	8261.4	7933.9	7604.7
7.5°	8683.7	8716.5	8838.9	8976.7	9121.5	9131.9	8988.8	8782.0	8706.1	8268.3	7785.7
10°	7671.9	7658.2	7811.6	8080.4	8557.9	9030.2	9266.3	9164.6	9085.3	8585.5	7966.7
12.5°	7365.1	7361.7	7387.5	7456.5	7756.4	8404.5	9195.6	9416.3	9388.7	8921.6	8159.7
15°	7458.2	7461.7	7459.9	7468.6	7551.3	7859.8	8800.9	9500.7	9586.9	9254.3	8356.2
17.5°	7756.4	7744.3	7706.4	7665.0	7677.1	7787.4	8375.2	9355.9	9614.5	9550.7	8521.7
20°	8216.6	8216.6	8114.9	7999.4	7923.6	7947.7	8197.7	9107.7	9486.9	9802.4	8645.8
22.5°	8794.0	8802.7	8652.7	8442.4	8270.0	8204.6	8299.4	8923.3	9331.8	10035.1	8756.1
25°	9511.1	9509.4	9290.4	8988.8	8716.5	8559.6	8557.9	8931.9	9283.6	10307.4	8871.6
27.5°	10398.8	10317.7	10062.6	9633.5	9249.1	9009.5	8900.9	9149.1	9385.2	10641.8	9026.7
30°	11400.2	11317.5	10983.1	10431.5	9911.0	9561.1	9381.8	9524.9	9695.5	11067.5	9261.1
32.5°	12391.3	12410.2	12017.3	11395.0	10726.2	10233.3	9967.8	10055.7	10174.7	11588.1	9578.3
35°	13842.6	13840.9	13327.2	12549.9	11755.3	11072.7	10736.6	10783.1	10891.7	12322.3	10023.0
37.5°	14925.0	14907.8	14576.9	13889.1	12994.6	12175.8	11689.8	11696.7	11789.7	13244.5	10609.0
40°	15035.4	15031.9	15030.2	14931.9	14320.0	13547.9	12939.4	12813.6	12851.5	14223.5	11231.3
42.5°	14192.5	14318.3	14680.3	15235.3	15405.9	15000.9	14425.2	14144.2	14061.5	15347.3	11889.7
45°	12991.1	13054.9	13689.2	14937.1	15952.3	16366.0	15933.4	15340.4	15199.1	16440.1	12425.8
47.5°	12432.7	12405.1	12772.2	14132.2	15898.9	17451.9	17482.9	16510.8	16271.2	17383.0	12882.5
50°	11234.7	11198.5	11662.2	12948.0	15316.3	17991.4	19073.9	17786.3	17343.3	18279.3	13296.2
52.5°	8847.5	8813.0	9435.2	11091.7	14013.2	17789.7	20414.9	19351.4	18596.4	19142.8	13682.3
55°	5757.0	5760.4	6353.4	8061.5	11339.9	16614.2	21044.0	21159.5	20313.2	20006.3	13994.3
57.5°	3169.8	3140.5	3562.8	4612.5	7801.2	13944.3	20520.0	22462.5	22021.3	20747.5	14220.1
58°	2818.2	2783.7	3109.5	4014.4	6994.6	13191.1	20256.3	22545.3	22240.2	20869.9	14252.8
60°	2008.0	1949.4	1899.5	2263.1	4029.9	9511.1	18498.2	22009.2	22304.0	21114.7	14221.8
62.5°	1692.6	1625.4	1446.1	1432.3	1897.7	4652.1	14628.6	19329.0	20154.6	20551.0	13721.9
65°	1572.0	1504.7	1268.6	1184.1	1287.6	2008.0	9045.7	14925.0	16028.2	18591.2	12463.7
67.5°	1485.8	1406.5	1153.1	1042.8	1063.5	1201.4	3838.6	9761.0	11039.9	14497.6	9998.9
70°	1408.2	1320.3	1061.8	934.2	917.0	913.5	1499.6	5096.8	6329.2	9486.9	6698.1
72.5°	1320.3	1234.1	980.8	844.6	806.7	741.2	901.5	2106.3	2887.1	4650.4	3069.8
75°	1192.8	1122.1	891.1	770.5	705.0	601.6	665.3	1010.1	1244.5	1780.5	1425.5
77.5°	1049.7	992.8	799.8	708.4	620.5	491.2	508.5	684.3	768.7	1003.2	825.6
80°	742.9	763.6	698.1	624.0	546.4	396.4	391.3	501.6	551.6	673.9	555.0
82.5°	511.9	527.4	568.8	493.0	441.3	308.5	287.8	348.2	374.0	406.8	268.9
85°	365.4	355.1	394.7	353.3	324.0	196.5	184.4	220.6	236.1	248.2	129.3
87.5°	222.4	220.6	227.5	182.7	168.9	100.0	91.4	105.1	112.0	108.6	62.1
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: P196991

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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4	7363.4
2.5°	7351.3	7266.9	7082.5	6934.2	6773.9	6651.5	6529.2	6460.2	6384.4	6341.3	6336.1
5°	7432.4	7260.0	6867.0	6501.6	6125.8	5788.0	5457.1	5212.3	5012.4	4898.6	4891.7
7.5°	7522.0	7251.4	6644.7	6012.1	5343.3	4678.0	4090.2	3674.8	3407.6	3283.5	3274.9
10°	7590.9	7215.2	6374.0	5389.8	4329.8	3450.7	2916.4	2671.6	2590.6	2570.0	2566.5
12.5°	7673.7	7189.3	6032.8	4591.8	3309.4	2626.8	2464.8	2449.3	2466.5	2476.9	2478.6
15°	7751.2	7139.3	5572.5	3707.6	2590.6	2347.6	2351.1	2383.8	2418.3	2433.8	2435.5
17.5°	7787.4	7017.0	4967.5	2921.6	2266.6	2221.8	2261.4	2304.5	2335.5	2347.6	2347.6
20°	7787.4	6820.5	4266.0	2366.6	2097.7	2106.3	2154.6	2187.3	2194.2	2183.9	2178.7
22.5°	7754.7	6577.4	3583.5	2064.9	1959.8	1992.5	2030.5	2008.0	1927.0	1865.0	1852.9
25°	7725.4	6289.6	2926.7	1880.5	1839.1	1882.2	1866.7	1713.3	1589.2	1525.4	1515.1
27.5°	7677.1	5941.4	2378.6	1728.8	1721.9	1756.4	1603.0	1454.8	1392.7	1358.2	1351.3
30°	7665.0	5563.9	1990.8	1594.4	1606.4	1558.2	1382.4	1334.1	1320.3	1301.4	1292.7
32.5°	7704.7	5186.4	1747.8	1484.1	1496.1	1337.5	1270.3	1277.2	1275.5	1251.4	1242.7
35°	7813.3	4819.3	1592.6	1384.1	1349.6	1197.9	1206.6	1227.2	1227.2	1197.9	1187.6
37.5°	8002.9	4478.0	1494.4	1299.6	1180.7	1125.5	1147.9	1175.5	1175.5	1154.8	1146.2
40°	8204.6	4145.4	1420.3	1232.4	1073.8	1075.6	1098.0	1118.6	1127.3	1130.7	1123.8
42.5°	8387.3	3800.6	1341.0	1160.0	1025.6	1037.6	1048.0	1063.5	1099.7	1123.8	1120.4
45°	8494.1	3454.2	1254.8	1070.4	992.8	998.0	994.5	1022.1	1065.2	1101.4	1101.4
47.5°	8592.4	3169.8	1184.1	980.8	960.1	960.1	949.7	977.3	1017.0	1060.0	1063.5
50°	8685.4	2985.4	1134.2	911.8	918.7	913.5	910.1	935.9	989.4	1041.1	1049.7
52.5°	8780.2	2923.3	1089.3	861.8	875.6	868.7	872.2	908.4	968.7	1022.1	1030.7
55°	8913.0	2962.9	1042.8	827.3	834.2	832.5	846.3	887.7	941.1	994.5	998.0
57.5°	9076.7	3107.7	1003.2	801.5	794.6	804.9	827.3	867.0	918.7	982.5	987.6
58°	9109.5	3142.2	996.3	794.6	786.0	801.5	823.9	861.8	915.3	982.5	987.6
60°	9159.5	3264.6	979.0	780.8	756.7	784.3	811.8	849.8	908.4	991.1	1001.4
62.5°	8918.1	3288.7	973.9	765.3	725.7	760.1	792.9	836.0	901.5	1020.4	1042.8
65°	8082.2	3040.5	937.7	739.4	699.8	741.2	775.6	825.6	922.2	1108.3	1118.6
67.5°	6487.8	2525.1	849.8	699.8	670.5	718.8	761.9	825.6	930.8	1122.1	1129.0
70°	4460.8	1897.7	739.4	656.7	636.0	691.2	756.7	844.6	901.5	1061.8	1041.1
72.5°	2330.4	1320.3	648.1	606.7	594.7	667.1	806.7	825.6	867.0	991.1	970.4
75°	1173.8	898.0	570.5	549.8	548.1	658.4	903.2	794.6	830.8	932.5	977.3
77.5°	692.9	703.2	508.5	496.4	505.0	642.9	904.9	763.6	789.4	858.4	906.6
80°	474.0	580.9	460.2	456.8	463.7	591.2	834.2	725.7	741.2	811.8	863.5
82.5°	267.2	320.6	403.3	425.7	422.3	484.3	720.5	660.2	679.1	960.1	1015.2
85°	129.3	193.0	337.8	398.2	360.2	322.3	586.0	586.0	591.2	687.7	696.4
87.5°	48.3	86.2	227.5	315.4	251.7	193.0	398.2	415.4	461.9	475.7	486.1
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)