

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: P196505

Luminaire Tested: **NAV-AF-05-D-UNV-AFL-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196505
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-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29798.3 lumens
Efficiency: N/A
Efficacy: 106.8 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 - G3

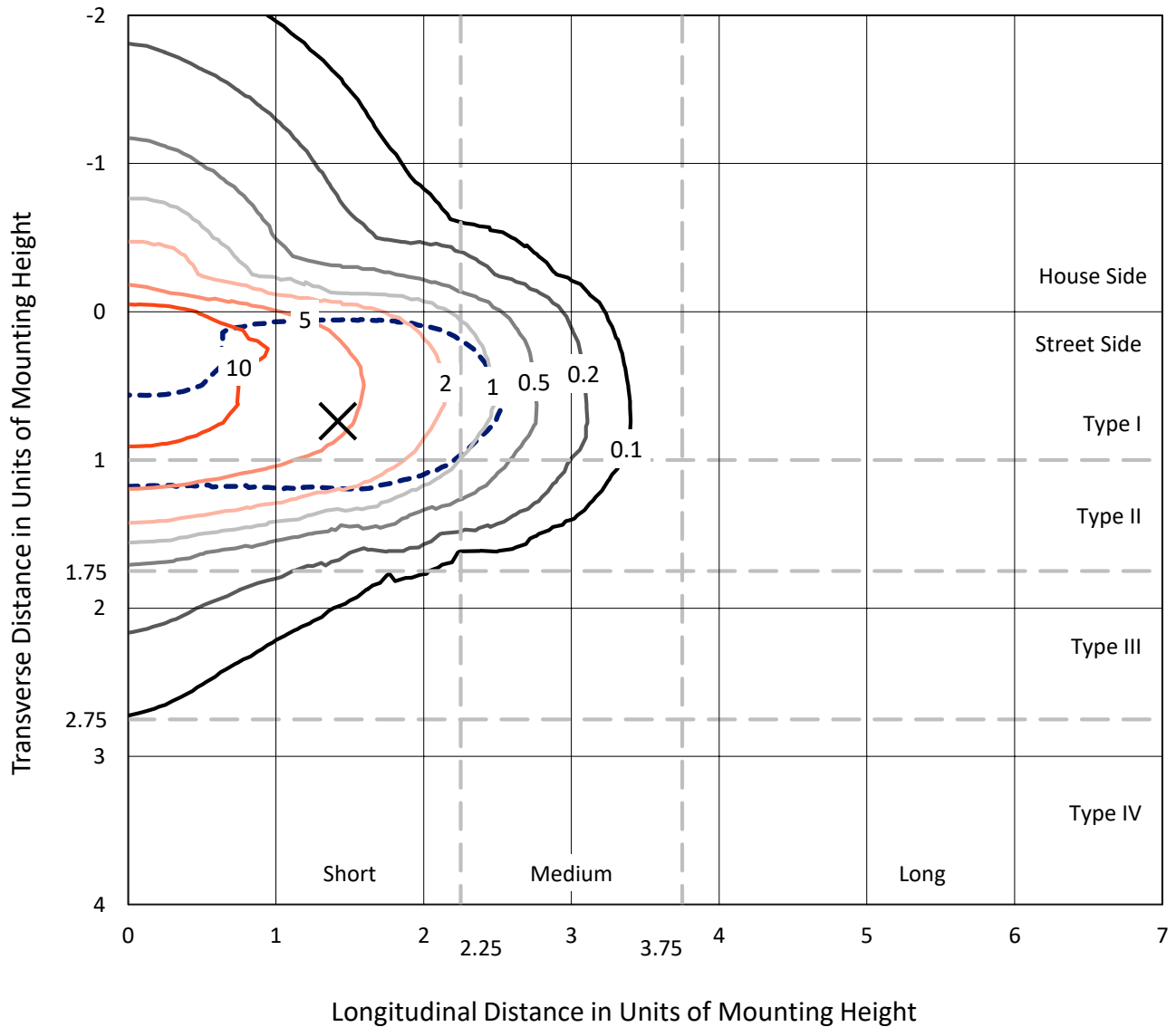
Input Watts (W): 279
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

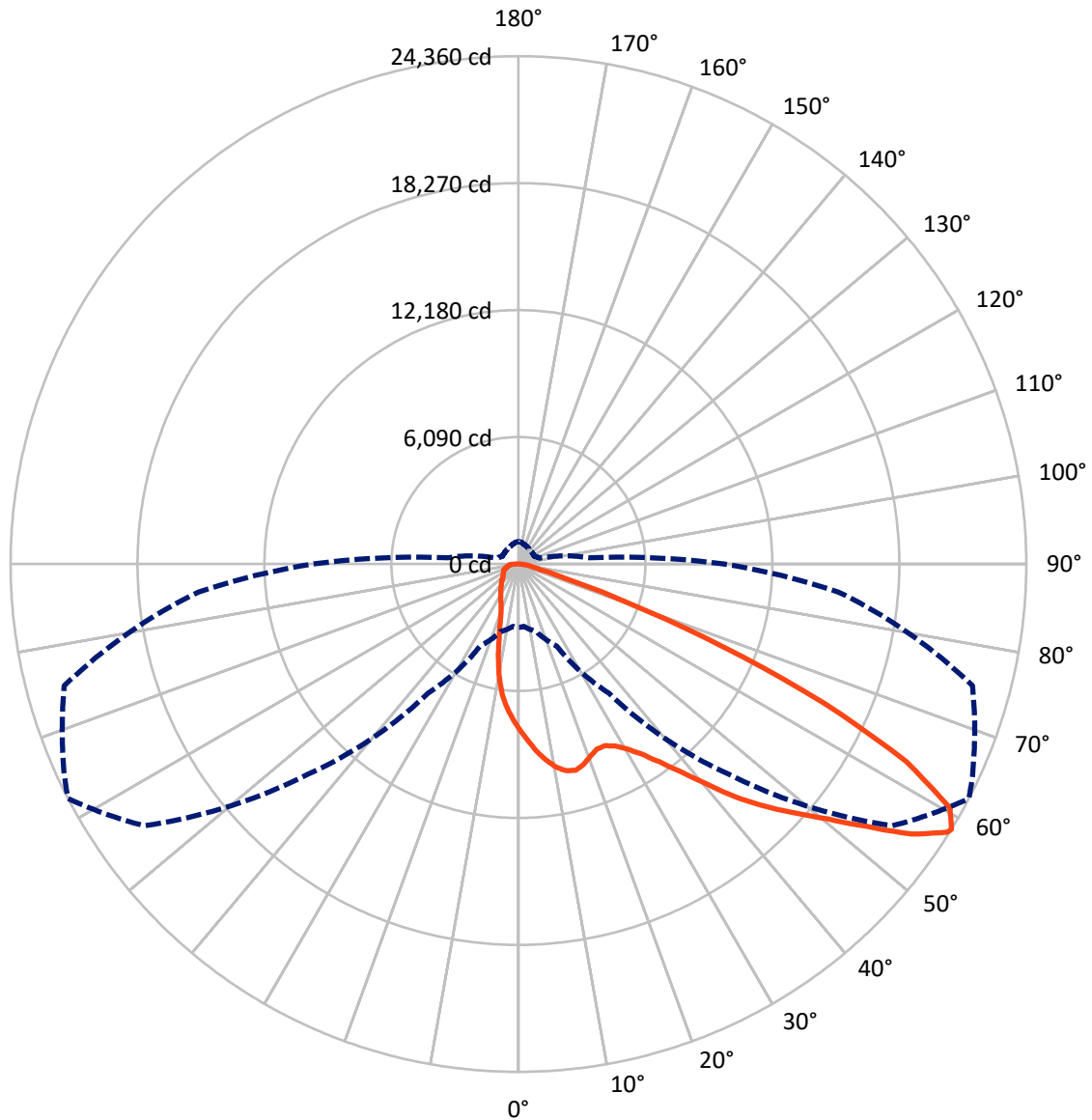
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 14.9 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
House Side	Lumens	4575.2	0.0	4575.2
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	25223.1	0.0	25223.1
	% Fixture	84.6	0.0	84.6
Total	Lumens	29798.3	0.0	29798.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	711.1	2.4
10°-20°	1794.7	6.0
20°-30°	2908.5	9.8
30°-40°	4643.7	15.6
40°-50°	6754.5	22.7
50°-60°	7067.9	23.7
60°-70°	4308.9	14.5
70°-80°	1205.0	4.0
80°-90°	403.9	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°	29798.3	100.0
0°-180°	29798.3	100.0



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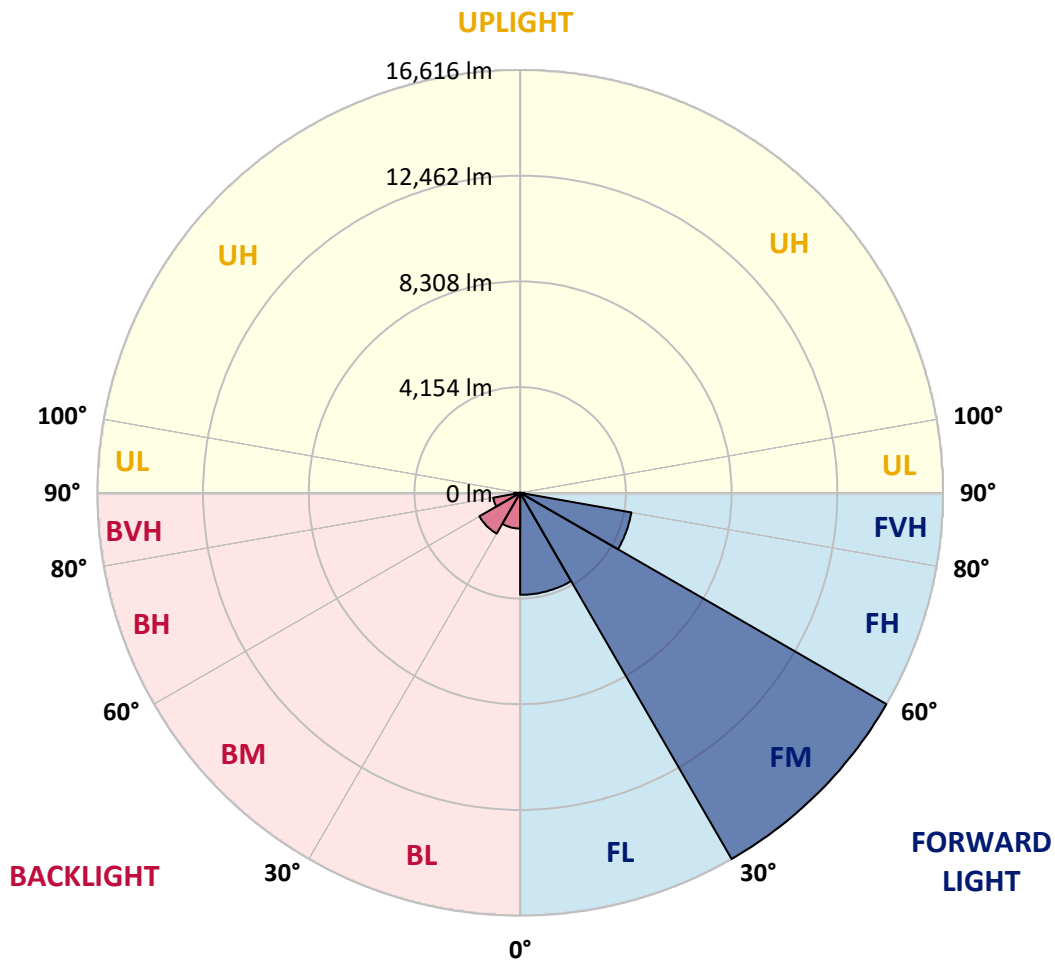
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	4008.0	13.5			
FM	(30°-60°)	16615.9	55.8			
FH	(60°-80°)	4436.8	14.9			G2/5000
FVH	(80°-90°)	162.5	0.5			G2/225
BL	(0°-30°)	1406.4	4.7	B3/2500		
BM	(30°-60°)	1850.3	6.2	B2/2500		
BH	(60°-80°)	1077.1	3.6	B3/2500		G3/2500
BVH	(80°-90°)	241.4	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°	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9
2.5°	9030.5	9025.0	8948.6	8898.3	8838.7	8700.9	8563.0	8460.6	8408.5	8209.2	8015.6
5°	9777.3	9755.0	9712.2	9658.1	9580.0	9406.6	9188.8	9000.7	8926.3	8572.4	8216.7
7.5°	9382.5	9417.9	9550.2	9699.1	9855.5	9866.7	9712.2	9488.6	9406.6	8933.7	8412.2
10°	8289.3	8274.4	8440.2	8730.7	9246.5	9756.9	10012.0	9902.0	9816.4	9276.3	8607.8
12.5°	7957.8	7954.1	7982.1	8056.6	8380.5	9080.7	9935.6	10174.0	10144.1	9639.5	8816.3
15°	8058.4	8062.1	8060.3	8069.6	8158.9	8492.2	9509.2	10265.2	10358.4	9999.0	9028.6
17.5°	8380.5	8367.5	8326.5	8281.9	8294.9	8414.0	9049.2	10108.7	10388.2	10319.2	9207.4
20°	8877.8	8877.8	8767.9	8643.2	8561.2	8587.2	8857.3	9840.7	10250.3	10591.1	9341.5
22.5°	9501.7	9511.0	9349.0	9121.7	8935.6	8864.8	8967.2	9641.4	10082.8	10842.6	9460.8
25°	10276.4	10274.5	10038.0	9712.2	9417.9	9248.4	9246.5	9650.7	10030.5	11136.8	9585.6
27.5°	11235.5	11148.0	10872.4	10408.7	9993.4	9734.5	9617.1	9885.3	10140.5	11498.1	9753.1
30°	12317.6	12228.2	11866.8	11270.9	10708.5	10330.5	10136.7	10291.3	10475.7	11958.1	10006.4
32.5°	13388.4	13408.9	12984.3	12312.0	11589.3	11056.7	10769.9	10865.0	10993.4	12520.6	10349.0
35°	14956.5	14954.7	14399.8	13559.7	12701.2	11963.7	11600.6	11650.9	11768.2	13313.9	10829.6
37.5°	16126.0	16107.4	15749.8	15006.8	14040.3	13155.6	12630.5	12637.9	12738.4	14310.2	11462.7
40°	16245.2	16241.5	16239.6	16133.6	15472.4	14638.0	13980.6	13844.7	13885.6	15368.1	12135.1
42.5°	15334.5	15470.6	15861.6	16461.3	16645.6	16207.9	15586.0	15282.4	15193.0	16582.4	12846.4
45°	14036.5	14105.4	14790.8	16139.1	17235.9	17682.9	17215.6	16574.8	16422.2	17763.1	13425.7
47.5°	13433.1	13403.3	13800.0	15269.4	17178.3	18856.3	18889.9	17839.5	17580.6	18781.7	13919.2
50°	12138.8	12099.7	12600.7	13990.0	16548.9	19439.2	20608.7	19217.5	18738.9	19750.1	14366.2
52.5°	9559.4	9522.2	10194.4	11984.2	15140.9	19221.3	22057.6	20908.6	20092.9	20683.3	14783.4
55°	6220.2	6224.0	6864.6	8710.1	12252.4	17951.2	22737.4	22862.2	21947.8	21616.3	15120.4
57.5°	3424.8	3393.1	3849.4	4983.7	8429.1	15066.5	22171.2	24270.1	23793.4	22417.0	15364.4
58°	3044.9	3007.7	3359.7	4337.4	7557.4	14252.6	21886.3	24359.5	24029.8	22549.3	15399.8
60°	2169.7	2106.3	2052.3	2445.2	4354.2	10276.4	19986.7	23780.3	24098.8	22813.8	15366.2
62.5°	1828.8	1756.3	1562.5	1547.6	2050.5	5026.5	15805.8	20884.4	21776.5	22204.8	14826.2
65°	1698.4	1625.8	1370.6	1279.4	1391.2	2169.7	9773.6	16126.0	17317.9	20087.4	13466.6
67.5°	1605.3	1519.7	1245.9	1126.7	1149.1	1298.1	4147.5	10546.5	11928.4	15664.2	10803.4
70°	1521.6	1426.6	1147.2	1009.4	990.8	987.0	1620.2	5507.0	6838.5	10250.3	7237.2
72.5°	1426.6	1333.4	1059.7	912.6	871.6	800.8	974.0	2275.8	3119.5	5024.7	3316.9
75°	1288.7	1212.3	962.8	832.4	761.6	650.0	718.8	1091.3	1344.7	1923.8	1540.1
77.5°	1134.2	1072.7	864.1	765.5	670.5	530.8	549.3	739.3	830.6	1083.9	892.1
80°	802.6	825.0	754.2	674.1	590.3	428.3	422.8	541.9	595.9	728.2	599.8
82.5°	553.1	569.9	614.6	532.6	476.8	333.3	311.1	376.2	404.2	439.6	290.5
85°	394.9	383.6	426.4	381.8	350.0	212.3	199.3	238.4	255.1	268.2	139.7
87.5°	240.3	238.4	245.9	197.4	182.5	108.0	98.7	113.6	121.1	117.4	67.0
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°	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9	7955.9
2.5°	7942.9	7851.7	7652.4	7492.2	7319.1	7186.7	7054.6	6980.0	6898.1	6851.5	6845.9
5°	8030.4	7844.2	7419.6	7024.9	6618.8	6253.8	5896.1	5631.8	5415.7	5292.7	5285.3
7.5°	8127.2	7834.9	7179.3	6495.9	5773.3	5054.5	4419.3	3970.5	3681.8	3547.7	3538.5
10°	8201.8	7795.7	6886.9	5823.5	4678.3	3728.5	3151.0	2886.6	2799.1	2776.8	2773.0
12.5°	8291.1	7767.9	6518.2	4961.3	3575.7	2838.2	2663.2	2646.4	2665.1	2676.2	2678.1
15°	8374.9	7713.8	6020.9	4005.9	2799.1	2536.6	2540.3	2575.7	2612.8	2629.7	2631.5
17.5°	8414.0	7581.6	5367.3	3156.7	2448.9	2400.5	2443.4	2489.9	2523.5	2536.6	2536.6
20°	8414.0	7369.3	4609.3	2557.0	2266.5	2275.8	2328.0	2363.3	2370.8	2359.6	2354.0
22.5°	8378.6	7106.8	3871.8	2231.1	2117.5	2152.9	2193.8	2169.7	2082.2	2015.1	2002.0
25°	8347.1	6795.7	3162.3	2031.7	1987.1	2033.7	2016.9	1851.2	1717.1	1648.1	1637.0
27.5°	8294.9	6419.5	2570.0	1867.9	1860.4	1897.8	1732.0	1571.8	1504.8	1467.6	1460.0
30°	8281.9	6011.7	2151.0	1722.7	1735.7	1683.5	1493.6	1441.4	1426.6	1406.0	1396.8
32.5°	8324.7	5603.8	1888.4	1603.5	1616.5	1445.2	1372.6	1380.0	1378.1	1352.1	1342.8
35°	8442.0	5207.1	1720.9	1495.4	1458.2	1294.2	1303.7	1326.0	1326.0	1294.2	1283.1
37.5°	8646.9	4838.3	1614.7	1404.2	1275.7	1216.2	1240.3	1270.1	1270.1	1247.7	1238.5
40°	8864.8	4479.0	1534.5	1331.6	1160.3	1162.1	1186.3	1208.6	1218.0	1221.7	1214.2
42.5°	9062.2	4106.5	1448.9	1253.3	1108.1	1121.1	1132.3	1149.1	1188.2	1214.2	1210.5
45°	9177.7	3732.2	1355.8	1156.5	1072.7	1078.3	1074.6	1104.4	1150.9	1190.1	1190.1
47.5°	9283.8	3424.8	1279.4	1059.7	1037.3	1037.3	1026.2	1056.0	1098.8	1145.4	1149.1
50°	9384.4	3225.6	1225.5	985.2	992.6	987.0	983.4	1011.3	1069.0	1124.9	1134.2
52.5°	9486.8	3158.5	1177.0	931.2	946.0	938.6	942.4	981.4	1046.6	1104.4	1113.7
55°	9630.2	3201.4	1126.7	894.0	901.4	899.5	914.4	959.1	1016.8	1074.6	1078.3
57.5°	9807.1	3357.9	1083.9	866.0	858.6	869.7	894.0	936.8	992.6	1061.6	1067.1
58°	9842.5	3395.0	1076.4	858.6	849.3	866.0	890.3	931.2	988.9	1061.6	1067.1
60°	9896.4	3527.3	1057.8	843.6	817.6	847.5	877.2	918.1	981.4	1070.8	1082.0
62.5°	9635.8	3553.3	1052.2	826.9	784.1	821.3	856.7	903.2	974.0	1102.5	1126.7
65°	8732.5	3285.2	1013.2	798.9	756.1	800.8	838.0	892.1	996.3	1197.5	1208.6
67.5°	7009.8	2728.3	918.1	756.1	724.5	776.7	823.2	892.1	1005.6	1212.3	1219.9
70°	4819.8	2050.5	798.9	709.5	687.2	746.8	817.6	912.6	974.0	1147.2	1124.9
72.5°	2517.9	1426.6	700.3	655.5	642.6	720.7	871.6	892.1	936.8	1070.8	1048.5
75°	1268.3	970.3	616.4	594.1	592.1	711.4	975.9	858.6	897.7	1007.5	1056.0
77.5°	748.7	759.8	549.3	536.4	545.6	694.7	977.8	825.0	853.0	927.5	979.6
80°	512.1	627.5	497.2	493.6	501.0	638.8	901.4	784.1	800.8	877.2	933.1
82.5°	288.7	346.4	435.8	460.0	456.2	523.4	778.5	713.3	733.7	1037.3	1097.0
85°	139.7	208.5	365.0	430.2	389.2	348.2	633.1	633.1	638.8	743.1	752.4
87.5°	52.1	93.1	245.9	340.8	271.9	208.5	430.2	448.8	499.1	513.9	525.2
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)