

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: P195783

Luminaire Tested: **NAV-AF-03-D-UNV-T2-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195783
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-03-D-UNV-T2-7050
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17731 lumens
Efficiency: N/A
Efficacy: 106.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Full Cutoff
BUG Rating: B3 - U0 - G3

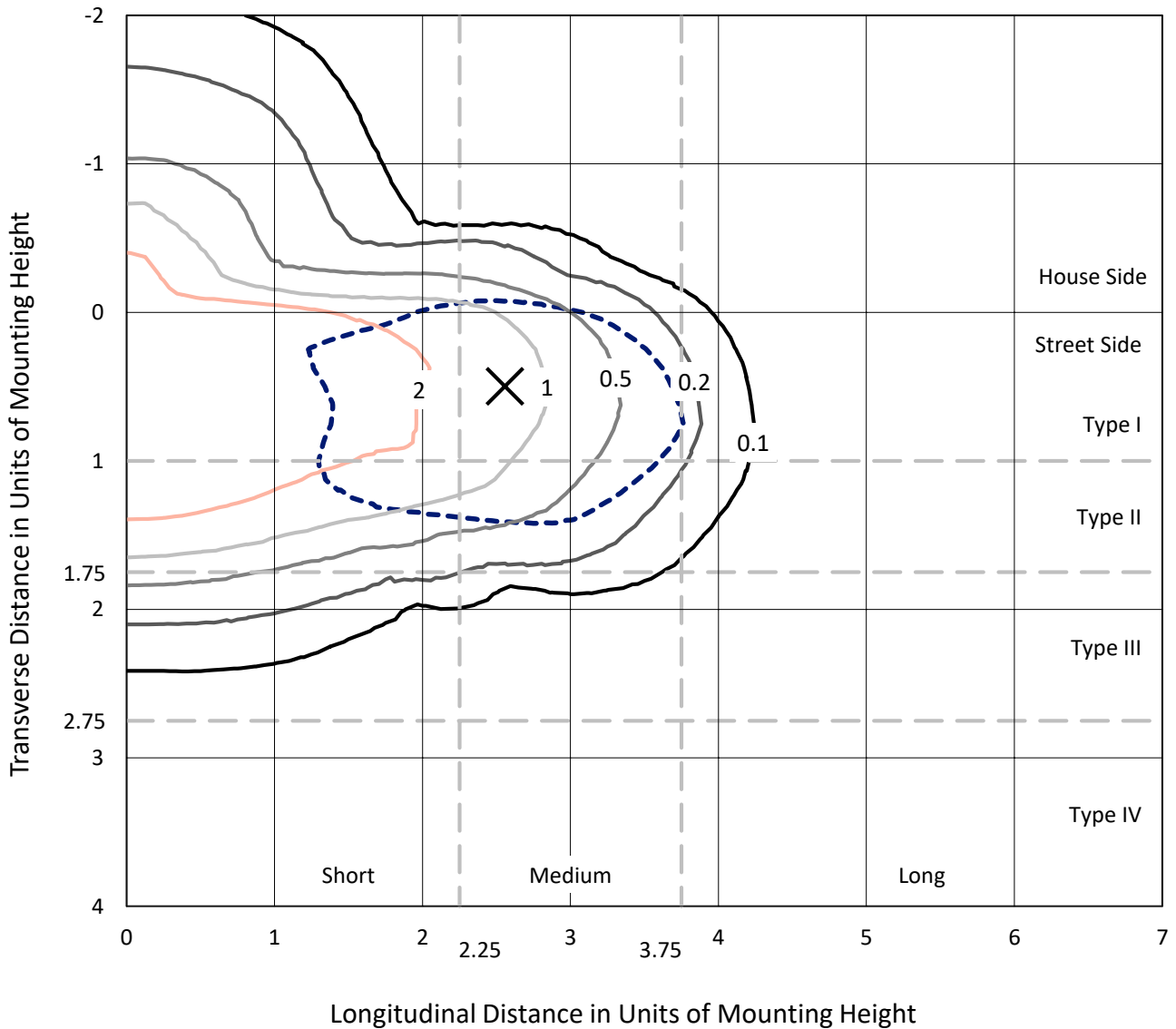
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

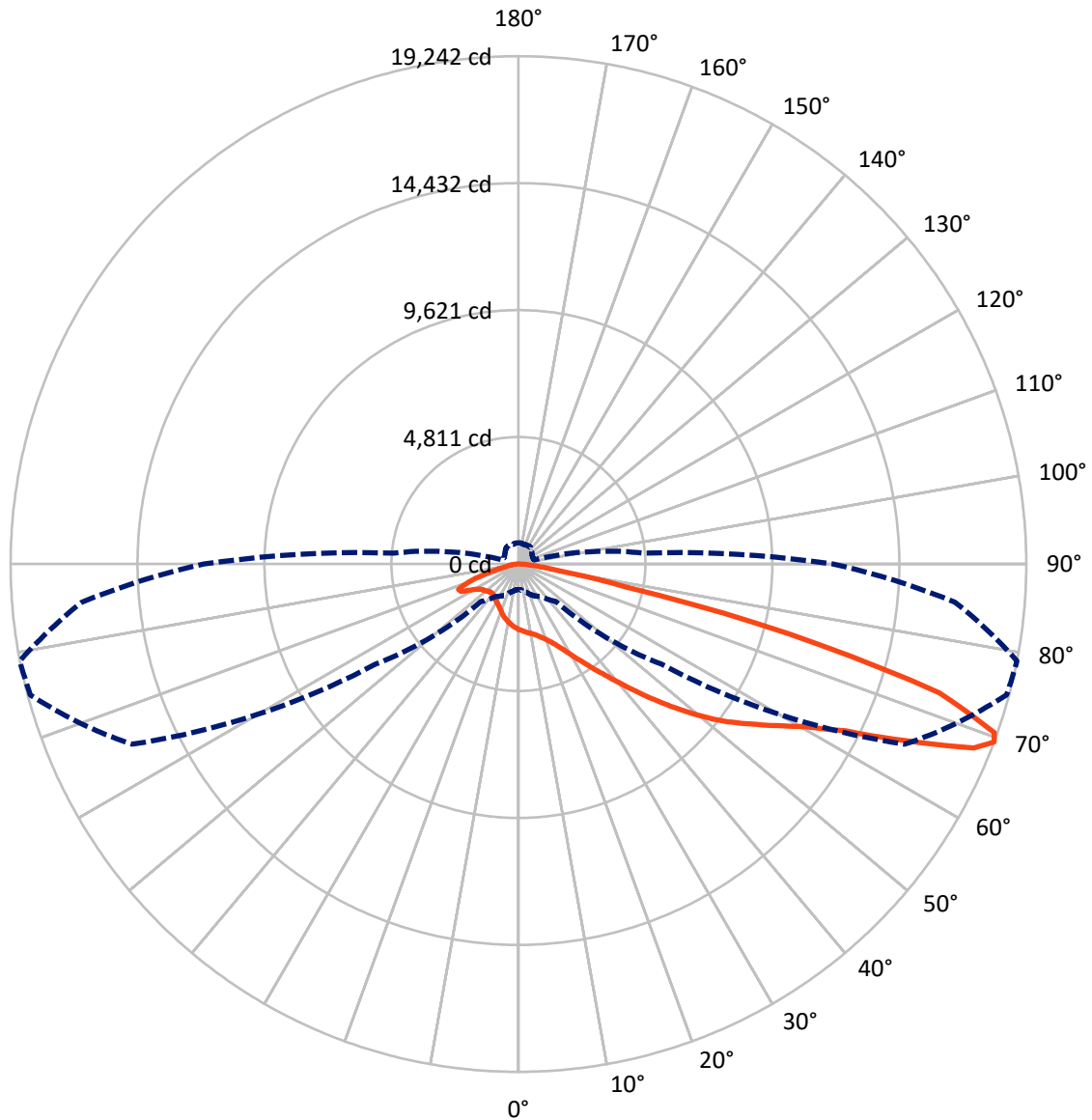
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.8 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
House Side	Lumens	3335.5	0.0	3335.5
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	14395.5	0.0	14395.5
	% Fixture	81.2	0.0	81.2
Total	Lumens	17731.0	0.0	17731.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	230.7	1.3
10°-20°	661.3	3.7
20°-30°	1092.8	6.2
30°-40°	1769.5	10.0
40°-50°	2826.8	15.9
50°-60°	4048.2	22.8
60°-70°	4510.3	25.4
70°-80°	2256.5	12.7
80°-90°	334.9	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°	17731.0	100.0
0°-180°	17731.0	100.0



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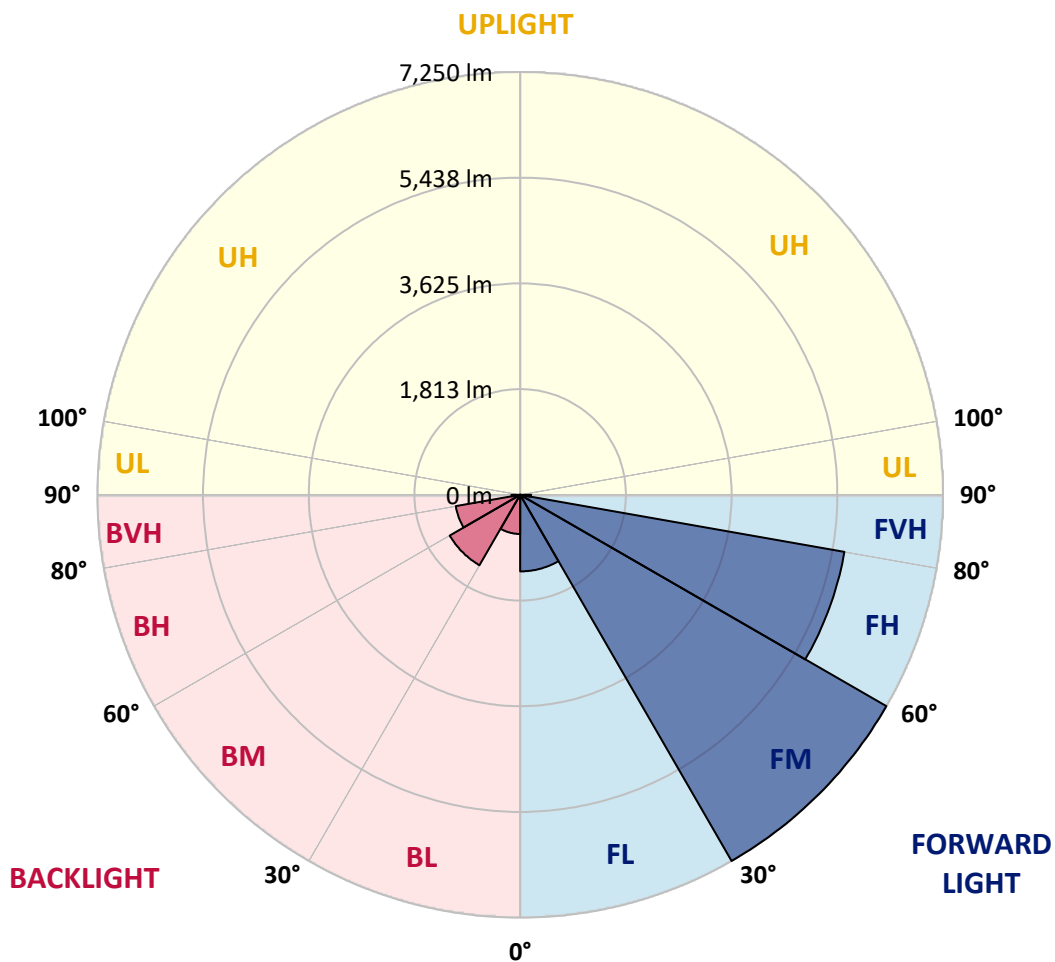
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1312.8	7.4			
FM (30°-60°)	7250.2	40.9			
FH (60°-80°)	5645.3	31.8			G3/7500
FVH (80°-90°)	187.1	1.1			G2/225
BL (0°-30°)	671.9	3.8	B2/1000		
BM (30°-60°)	1394.3	7.9	B2/2500		
BH (60°-80°)	1121.5	6.3	B3/2500		G3/2500
BVH (80°-90°)	147.8	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°	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2
2.5°	2731.8	2726.0	2724.9	2707.5	2698.2	2678.5	2632.1	2584.5	2540.4	2517.2	2492.9
5°	2960.3	2948.7	2942.9	2913.9	2888.4	2844.3	2771.3	2695.9	2617.0	2576.4	2527.7
7.5°	3098.4	3099.5	3099.5	3076.3	3050.8	2997.5	2904.7	2801.4	2684.3	2630.9	2554.3
10°	3110.0	3111.1	3128.5	3134.3	3140.1	3112.3	3026.5	2896.5	2745.7	2676.1	2576.4
12.5°	2995.1	3003.3	3032.3	3074.0	3133.2	3163.3	3126.2	2998.6	2824.6	2739.9	2618.1
15°	2840.9	2849.0	2886.1	2949.9	3045.0	3145.9	3198.1	3115.8	2927.9	2828.1	2679.6
17.5°	2765.5	2774.7	2800.3	2851.3	2944.1	3079.8	3236.4	3241.1	3049.7	2934.8	2752.7
20°	2729.5	2736.5	2768.9	2810.7	2881.5	3011.4	3239.9	3373.3	3194.7	3061.3	2842.0
22.5°	2811.9	2814.2	2830.4	2853.6	2901.2	3000.9	3237.6	3510.2	3375.6	3220.2	2956.9
25°	3053.1	3038.1	3026.5	2997.5	3009.1	3079.8	3274.7	3656.3	3607.6	3429.0	3110.0
27.5°	3338.5	3336.2	3306.0	3238.7	3195.8	3241.1	3380.3	3819.9	3891.8	3694.6	3310.7
30°	3656.3	3657.5	3626.2	3543.8	3456.8	3461.5	3548.5	4009.0	4231.7	4014.8	3557.7
32.5°	3989.3	4010.2	3952.2	3869.8	3764.2	3730.6	3789.7	4237.5	4625.0	4393.0	3844.3
35°	4387.2	4390.6	4326.8	4206.2	4100.6	4047.3	4101.8	4522.9	5078.5	4837.2	4193.4
37.5°	4800.1	4802.4	4736.3	4582.0	4448.6	4413.8	4474.2	4869.7	5558.8	5343.0	4604.1
40°	5137.7	5162.0	5109.8	4964.8	4830.3	4809.4	4896.4	5285.0	6172.4	5941.6	5092.4
42.5°	5520.5	5548.3	5485.7	5334.9	5228.2	5221.2	5356.9	5758.3	6782.6	6634.1	5645.8
45°	5952.0	5991.4	5904.4	5735.1	5644.6	5797.7	5805.8	6282.6	7485.5	7409.0	6268.7
47.5°	6423.0	6455.5	6384.7	6202.6	6104.0	6325.5	6245.5	6849.9	8245.3	8239.5	6942.7
50°	6786.1	6822.0	6829.0	6748.9	6645.7	6673.5	6728.1	7446.1	9002.8	9093.3	7639.8
52.5°	6719.9	6754.7	6911.3	7121.3	7287.2	7215.3	7281.4	8079.5	9734.8	9926.2	8302.2
55°	6186.3	6204.9	6498.4	6997.2	7703.6	8047.0	8051.6	8768.5	10430.8	10698.8	8930.9
57.5°	5224.7	5227.0	5608.6	6344.1	7461.2	8586.4	9267.3	9633.9	11157.0	11552.5	9710.4
60°	3696.9	3706.2	4150.5	5112.2	6592.3	8521.4	10574.6	11182.5	11998.0	12511.9	10715.0
62.5°	2194.7	2215.6	2550.9	3322.3	4896.4	7686.2	11347.2	13937.5	13236.9	13918.9	12322.8
65°	1428.0	1445.4	1646.1	2033.5	2893.1	5592.4	11093.2	16605.5	15581.2	16132.2	14633.5
67.5°	1099.7	1113.6	1271.4	1505.7	1774.8	3023.0	8869.4	17164.7	18434.9	18606.5	16583.5
69°	966.3	977.9	1093.9	1318.9	1494.1	2001.0	6609.7	16149.6	19148.3	19242.2	16607.9
70°	895.5	904.8	1013.8	1208.7	1372.3	1597.3	5058.8	14971.1	18887.3	19127.4	16128.8
72.5°	737.8	745.9	823.6	973.2	1121.7	1138.0	2241.1	10931.9	15903.7	16671.7	13648.7
75°	616.0	620.6	671.6	780.7	908.3	906.0	1144.9	6192.1	9704.6	10619.9	8427.5
77.5°	513.9	517.4	551.0	618.3	716.9	713.4	806.2	2672.7	4285.1	4134.3	2901.2
80°	453.6	455.9	473.3	490.7	553.3	549.8	597.4	1227.3	1743.5	1611.3	1097.4
82.5°	344.5	349.2	437.3	445.4	429.2	414.1	416.4	714.6	893.2	813.2	589.3
85°	194.9	196.0	280.7	328.3	373.5	280.7	270.3	368.9	440.8	386.3	257.5
87.5°	87.0	90.5	134.6	155.4	201.8	164.7	154.3	156.6	190.2	157.8	102.1
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°	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2	2488.2
2.5°	2469.7	2449.9	2403.5	2356.0	2308.4	2278.3	2246.9	2217.9	2206.3	2205.2	2183.1
5°	2480.1	2433.7	2328.1	2212.1	2101.9	2016.1	1944.2	1897.8	1852.5	1844.4	1824.7
7.5°	2483.6	2408.2	2236.5	2050.9	1882.7	1764.4	1692.5	1661.1	1639.1	1633.3	1626.3
10°	2482.4	2375.7	2134.4	1880.4	1689.0	1599.7	1573.0	1579.9	1589.2	1593.9	1593.9
12.5°	2501.0	2360.6	2032.3	1720.3	1563.7	1520.8	1541.7	1577.6	1605.5	1617.1	1619.4
15°	2534.6	2351.3	1919.8	1581.1	1475.5	1486.0	1537.0	1589.2	1628.7	1646.1	1650.7
17.5°	2576.4	2338.6	1789.9	1466.3	1424.5	1460.5	1526.6	1592.7	1640.3	1662.3	1665.8
20°	2622.8	2320.0	1655.3	1380.4	1379.3	1424.5	1490.6	1564.9	1615.9	1640.3	1639.1
22.5°	2685.4	2302.6	1530.1	1317.8	1329.4	1371.1	1425.7	1492.9	1540.5	1562.5	1557.9
25°	2768.9	2286.4	1417.5	1262.1	1272.5	1300.4	1338.7	1389.7	1423.3	1434.9	1426.8
27.5°	2881.5	2273.6	1329.4	1211.0	1209.9	1222.6	1245.8	1273.7	1289.9	1286.5	1273.7
30°	3019.5	2260.9	1264.4	1165.8	1149.6	1148.4	1158.8	1175.1	1185.5	1164.6	1154.2
32.5°	3173.8	2238.8	1206.4	1126.4	1097.4	1086.9	1091.6	1113.6	1156.5	1135.6	1127.5
35°	3355.9	2213.3	1148.4	1083.4	1061.4	1041.7	1045.2	1092.7	1222.6	1207.6	1199.4
37.5°	3575.1	2190.1	1095.0	1037.0	1035.9	1011.5	1009.2	1066.0	1240.0	1207.6	1200.6
40°	3838.5	2185.5	1047.5	986.0	1004.6	995.3	987.2	1022.0	1143.8	1077.6	1064.9
42.5°	4156.3	2206.3	1012.7	937.3	968.6	990.6	975.6	983.7	1033.6	974.4	964.0
45°	4527.5	2263.2	987.2	894.4	930.3	987.2	969.8	962.8	970.9	938.4	931.5
47.5°	4960.2	2364.1	969.8	858.4	894.4	977.9	967.4	953.5	950.0	931.5	926.8
50°	5423.0	2499.8	958.2	825.9	861.9	961.6	966.3	946.6	940.8	932.6	930.3
52.5°	5882.4	2647.1	944.2	798.1	835.2	941.9	967.4	939.6	931.5	926.8	924.5
55°	6339.5	2800.3	918.7	773.7	815.5	918.7	966.3	930.3	921.0	921.0	921.0
57.5°	6932.2	3033.4	885.1	754.0	790.0	888.6	951.2	919.9	907.1	908.3	909.4
60°	7788.3	3424.3	848.0	732.0	756.3	853.8	928.0	901.3	886.2	890.9	892.0
62.5°	9218.6	4107.6	796.9	700.6	721.5	816.6	897.8	875.8	861.9	870.0	871.2
65°	11125.6	4934.7	729.6	661.2	685.6	774.9	859.6	845.6	830.6	850.3	849.1
67.5°	12289.1	5177.1	658.9	619.4	650.8	730.8	812.0	806.2	795.8	830.6	828.2
69°	11907.5	4738.6	618.3	592.8	626.4	700.6	781.8	779.5	771.4	805.0	802.7
70°	11314.7	4329.2	592.8	575.4	613.6	682.1	762.1	762.1	754.0	783.0	777.2
72.5°	9088.7	3210.9	533.6	531.3	569.6	631.0	708.8	714.6	709.9	720.4	714.6
75°	5336.0	1934.9	475.6	482.6	516.2	576.5	649.6	654.2	649.6	648.4	649.6
77.5°	1850.2	867.7	419.9	430.4	459.4	520.8	584.6	593.9	587.0	578.8	581.2
80°	723.8	504.6	359.6	374.7	399.0	458.2	519.7	525.5	515.0	513.9	504.6
82.5°	435.0	307.4	279.6	303.9	334.1	397.9	448.9	446.6	438.5	486.0	425.7
85°	189.1	170.5	204.2	228.5	243.6	298.1	379.3	368.9	349.2	307.4	300.4
87.5°	76.6	88.2	112.5	135.7	146.2	192.6	259.8	250.6	254.0	208.8	207.6
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)