

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: P270539

Luminaire Tested: **NAV-AF-04-D-UNV-T2-7027-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270539
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-T2-7027-800
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16762.7 lumens
Efficiency: N/A
Efficacy: 98.0 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

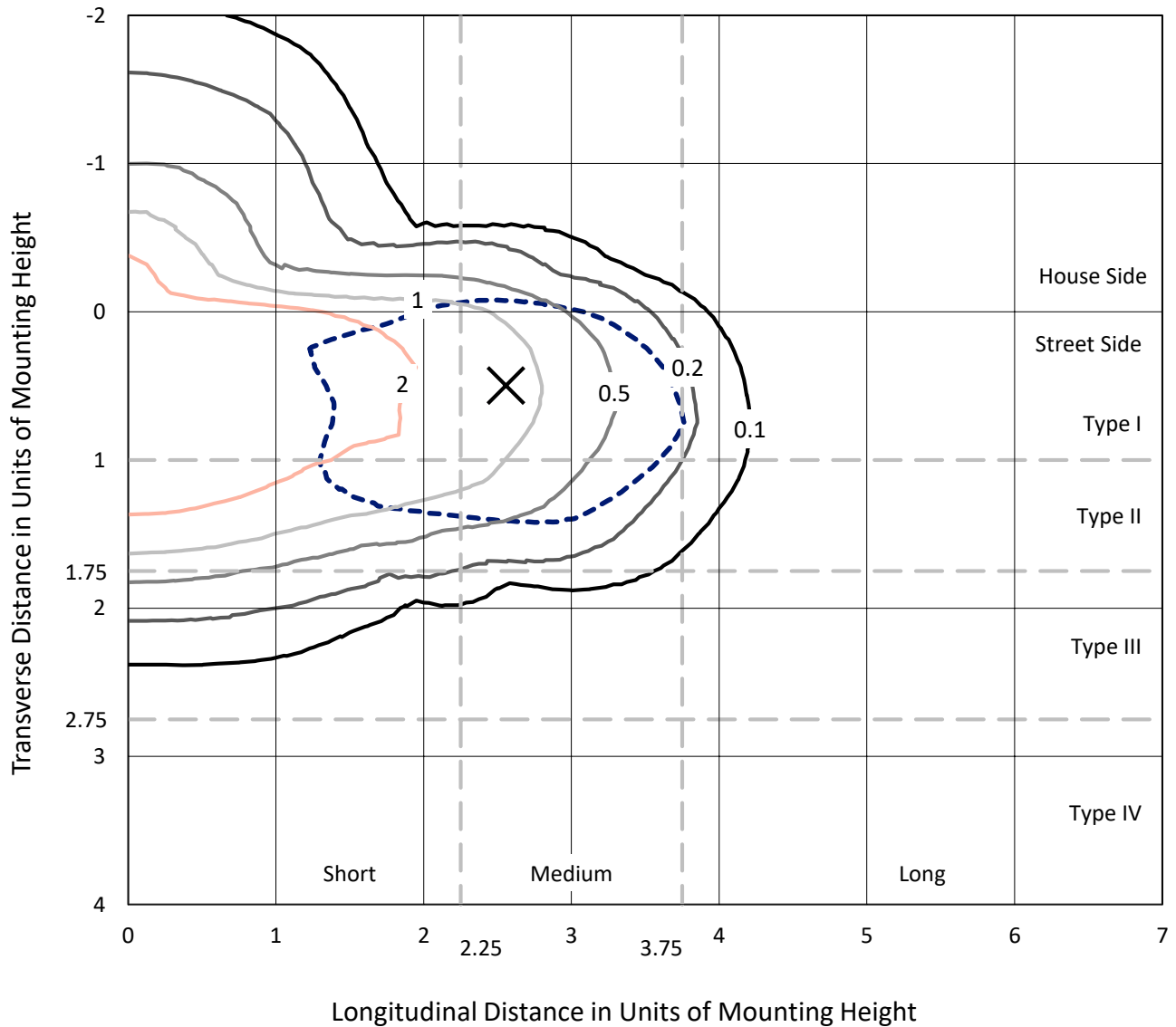
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

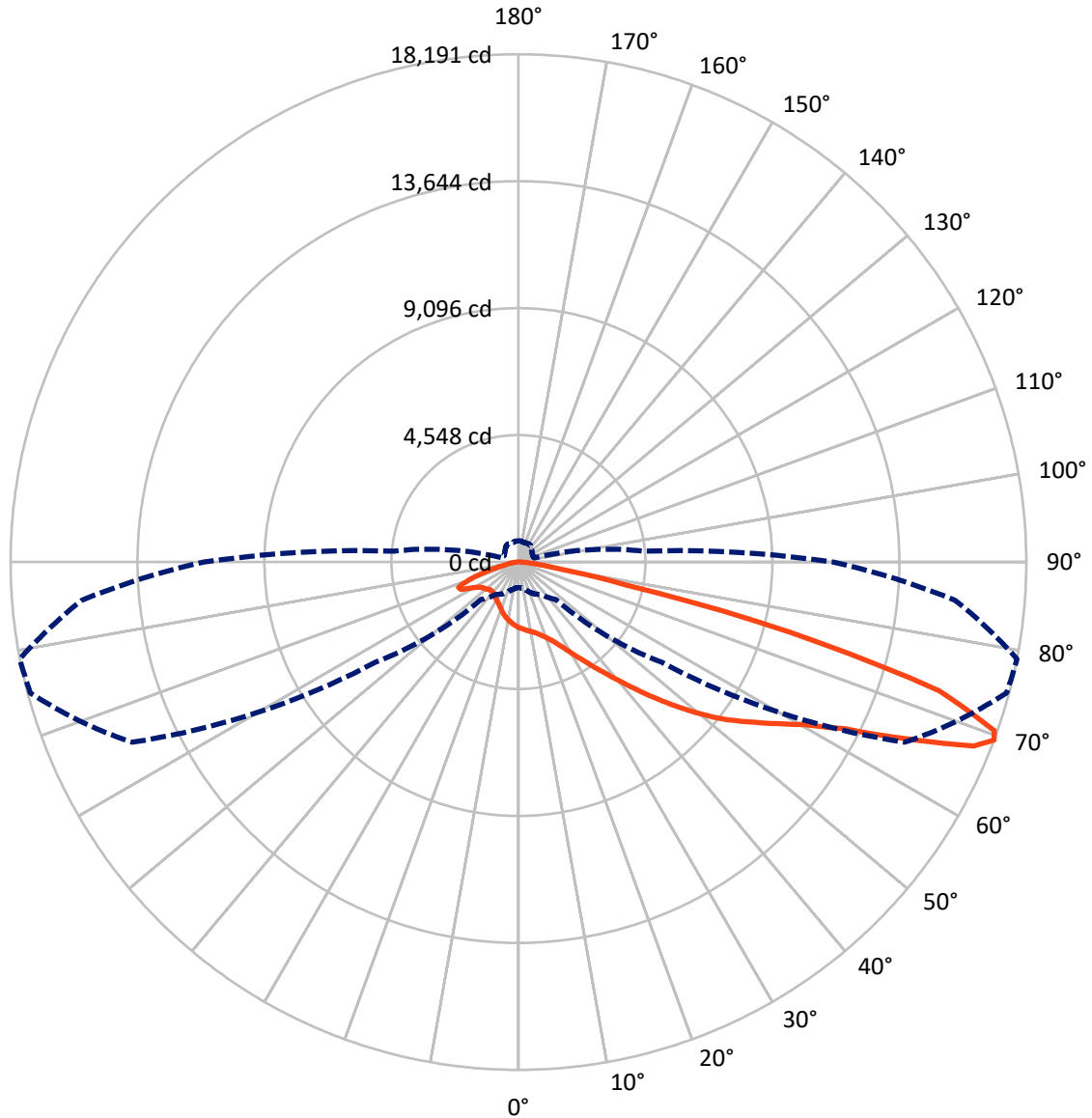
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 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	3153.4	0.0	3153.4
	% Fixture	18.8	0.0	18.8
Street Side	Lumens	13609.3	0.0	13609.3
	% Fixture	81.2	0.0	81.2
Total	Lumens	16762.7	0.0	16762.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.1	1.3
10°-20°	625.2	3.7
20°-30°	1033.1	6.2
30°-40°	1672.9	10.0
40°-50°	2672.4	15.9
50°-60°	3827.2	22.8
60°-70°	4264.0	25.4
70°-80°	2133.2	12.7
80°-90°	316.6	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°	16762.7	100.0
0°-180°	16762.7	100.0



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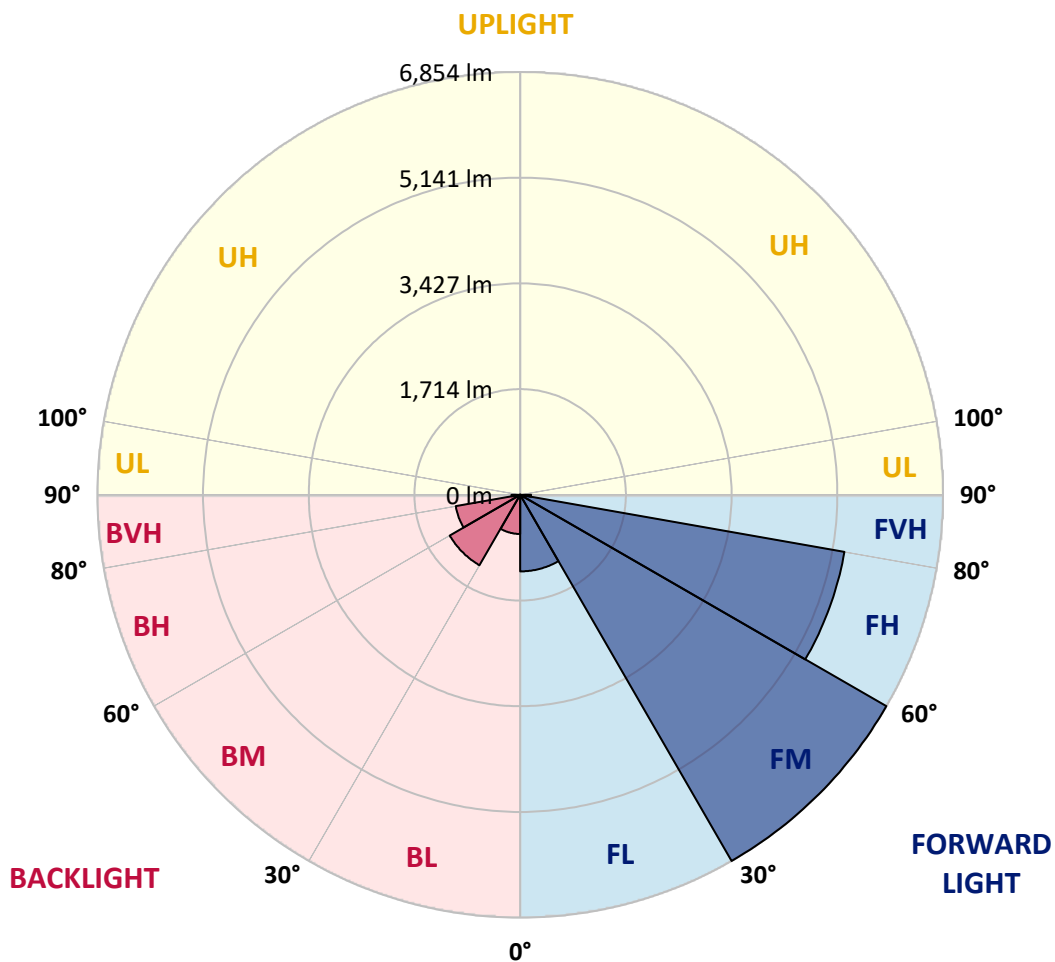
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1241.1	7.4			
FM (30°-60°)	6854.3	40.9			
FH (60°-80°)	5337.0	31.8			G3/7500
FVH (80°-90°)	176.9	1.1			G2/225
BL (0°-30°)	635.2	3.8	B2/1000		
BM (30°-60°)	1318.2	7.9	B2/2500		
BH (60°-80°)	1060.3	6.3	B3/2500		G3/2500
BVH (80°-90°)	139.7	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°	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3
2.5°	2582.6	2577.1	2576.1	2559.6	2550.8	2532.2	2488.3	2443.4	2401.7	2379.8	2356.8
5°	2798.7	2787.7	2782.2	2754.8	2730.7	2689.0	2619.9	2548.6	2474.0	2435.7	2389.6
7.5°	2929.3	2930.4	2930.4	2908.4	2884.2	2833.8	2746.1	2648.5	2537.7	2487.2	2414.9
10°	2940.2	2941.2	2957.7	2963.1	2968.7	2942.4	2861.2	2738.4	2595.8	2529.9	2435.7
12.5°	2831.5	2839.3	2866.8	2906.1	2962.2	2990.5	2955.6	2835.0	2670.4	2590.4	2475.2
15°	2685.8	2693.4	2728.5	2788.8	2878.8	2974.2	3023.4	2945.6	2767.9	2673.6	2533.3
17.5°	2614.4	2623.2	2647.3	2695.6	2783.3	2911.6	3059.6	3064.1	2883.1	2774.5	2602.4
20°	2580.4	2586.9	2617.8	2657.1	2724.1	2846.9	3063.0	3189.2	3020.2	2894.1	2686.8
22.5°	2658.4	2660.5	2675.8	2697.8	2742.7	2837.0	3060.7	3318.5	3191.3	3044.4	2795.3
25°	2886.4	2872.2	2861.2	2833.8	2844.8	2911.6	3095.9	3456.7	3410.7	3241.8	2940.2
27.5°	3156.1	3153.9	3125.6	3062.0	3021.3	3064.1	3195.7	3611.2	3679.3	3492.9	3129.9
30°	3456.7	3457.8	3428.1	3350.3	3268.0	3272.4	3354.7	3790.0	4000.6	3795.6	3363.4
32.5°	3771.4	3791.1	3736.3	3658.4	3558.6	3526.8	3582.8	4006.1	4372.4	4153.0	3634.4
35°	4147.6	4150.9	4090.5	3976.4	3876.6	3826.2	3877.9	4275.9	4801.3	4573.1	3964.4
37.5°	4538.0	4540.2	4477.7	4331.7	4205.8	4172.7	4229.8	4603.9	5255.3	5051.2	4352.6
40°	4857.1	4880.1	4830.7	4693.7	4566.5	4546.7	4629.0	4996.5	5835.3	5617.1	4814.3
42.5°	5219.1	5245.4	5186.2	5043.5	4942.7	4936.0	5064.4	5443.8	6412.2	6271.7	5337.5
45°	5627.0	5664.3	5582.0	5421.9	5336.3	5481.1	5488.9	5939.6	7076.8	7004.4	5926.4
47.5°	6072.3	6102.9	6036.0	5863.9	5770.6	5980.0	5904.4	6475.8	7795.0	7789.7	6563.6
50°	6415.4	6449.6	6456.1	6380.4	6282.7	6309.1	6360.7	7039.5	8511.3	8596.7	7222.6
52.5°	6353.0	6385.8	6533.9	6732.3	6889.2	6821.2	6883.7	7638.3	9203.1	9384.1	7848.9
55°	5848.4	5866.0	6143.5	6615.1	7282.9	7607.6	7612.0	8289.6	9861.1	10114.6	8443.2
57.5°	4939.4	4941.5	5302.3	5997.7	7053.8	8117.5	8761.2	9107.7	10547.7	10921.7	9180.1
60°	3495.0	3503.7	3923.8	4833.1	6232.4	8056.1	9997.1	10571.9	11342.8	11828.6	10129.8
62.5°	2074.8	2094.6	2411.6	3140.8	4629.0	7266.5	10727.6	13176.3	12514.0	13158.8	11649.8
65°	1350.1	1366.4	1556.1	1922.5	2735.1	5287.1	10487.4	15698.7	14730.3	15251.2	13834.3
67.5°	1039.7	1052.9	1201.9	1423.5	1677.9	2857.9	8385.0	16227.3	17428.1	17590.5	15677.8
69°	913.5	924.4	1034.2	1246.8	1412.6	1891.7	6248.8	15267.8	18102.6	18191.4	15700.9
70°	846.7	855.4	958.5	1142.7	1297.3	1510.1	4782.5	14153.5	17855.9	18082.8	15248.0
72.5°	697.4	705.2	778.7	920.1	1060.4	1075.8	2118.7	10334.9	15035.2	15761.2	12903.3
75°	582.3	586.8	634.9	738.0	858.7	856.5	1082.4	5854.0	9174.7	10039.9	7967.2
77.5°	485.9	489.0	520.8	584.4	677.7	674.4	762.2	2526.8	4051.0	3908.4	2742.7
80°	428.9	430.9	447.4	463.9	523.2	519.8	564.8	1160.3	1648.3	1523.3	1037.5
82.5°	325.7	330.0	413.4	421.1	405.8	391.5	393.6	675.5	844.4	768.8	557.0
85°	184.2	185.3	265.4	310.4	353.2	265.4	255.5	348.7	416.8	365.3	243.5
87.5°	82.3	85.6	127.2	147.0	190.8	155.8	145.9	148.0	179.8	149.2	96.5
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°	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3	2352.3
2.5°	2334.8	2316.2	2272.4	2227.3	2182.3	2153.9	2124.2	2096.9	2085.9	2084.7	2063.9
5°	2344.7	2300.7	2200.9	2091.3	1987.1	1906.1	1838.0	1794.2	1751.3	1743.7	1725.0
7.5°	2348.0	2276.7	2114.4	1938.9	1779.9	1668.1	1600.1	1570.4	1549.5	1544.0	1537.4
10°	2346.8	2245.9	2017.9	1777.7	1596.7	1512.2	1487.1	1493.6	1502.4	1506.7	1506.7
12.5°	2364.3	2231.7	1921.4	1626.3	1478.3	1437.7	1457.5	1491.5	1517.7	1528.7	1530.9
15°	2396.1	2222.9	1814.9	1494.8	1395.0	1404.8	1453.1	1502.4	1539.8	1556.1	1560.5
17.5°	2435.7	2210.9	1692.1	1386.2	1346.6	1380.7	1443.1	1505.6	1550.7	1571.6	1574.8
20°	2479.5	2193.3	1564.9	1305.1	1303.9	1346.6	1409.3	1479.4	1527.7	1550.7	1549.5
22.5°	2538.8	2176.9	1446.5	1245.8	1256.8	1296.3	1347.7	1411.3	1456.3	1477.3	1472.9
25°	2617.8	2161.5	1340.1	1193.2	1203.0	1229.4	1265.5	1313.9	1345.7	1356.6	1348.8
27.5°	2724.1	2149.5	1256.8	1144.9	1143.8	1155.8	1177.8	1204.2	1219.4	1216.1	1204.2
30°	2854.6	2137.3	1195.4	1102.1	1086.8	1085.7	1095.6	1110.9	1120.7	1101.1	1091.3
32.5°	3000.5	2116.5	1140.5	1064.9	1037.5	1027.7	1032.0	1052.9	1093.3	1073.7	1066.0
35°	3172.6	2092.4	1085.7	1024.2	1003.4	984.8	988.0	1033.1	1155.8	1141.7	1133.9
37.5°	3380.0	2070.6	1035.2	980.4	979.3	956.2	954.1	1007.8	1172.4	1141.7	1135.1
40°	3628.9	2066.1	990.3	932.3	949.7	941.0	933.2	966.1	1081.3	1018.8	1006.7
42.5°	3929.4	2085.9	957.4	886.1	915.7	936.6	922.3	929.9	977.1	921.2	911.3
45°	4280.2	2139.7	933.2	845.6	879.5	933.2	916.8	910.3	917.9	887.2	880.6
47.5°	4689.3	2235.1	916.8	811.4	845.6	924.4	914.7	901.4	898.1	880.6	876.2
50°	5126.8	2363.4	905.9	780.8	814.9	909.2	913.5	894.9	889.4	881.7	879.5
52.5°	5561.1	2502.6	892.6	754.4	789.6	890.5	914.7	888.3	880.6	876.2	874.1
55°	5993.2	2647.3	868.5	731.5	770.9	868.5	913.5	879.5	870.7	870.7	870.7
57.5°	6553.7	2867.7	836.7	712.9	746.9	840.0	899.3	869.6	857.6	858.7	859.8
60°	7363.0	3237.3	801.6	692.1	715.1	807.1	877.4	852.1	837.8	842.3	843.2
62.5°	8715.1	3883.3	753.4	662.4	682.2	772.1	848.8	828.0	814.9	822.5	823.6
65°	10518.1	4665.2	689.8	625.1	648.1	732.6	812.6	799.5	785.2	803.9	802.7
67.5°	11618.0	4894.3	623.0	585.6	615.2	690.8	767.6	762.2	752.3	785.2	783.1
69°	11257.2	4479.8	584.4	560.5	592.3	662.4	739.1	737.0	729.2	761.0	758.9
70°	10696.8	4092.8	560.5	544.0	580.1	644.9	720.5	720.5	712.9	740.3	734.8
72.5°	8592.4	3035.6	504.5	502.2	538.4	596.6	670.0	675.5	671.2	681.0	675.5
75°	5044.6	1829.2	449.6	456.2	488.0	545.0	614.1	618.6	614.1	613.1	614.1
77.5°	1749.2	820.3	397.1	406.8	434.3	492.5	552.6	561.5	555.0	547.2	549.5
80°	684.2	477.0	340.0	354.2	377.3	433.3	491.4	496.9	486.9	485.9	477.0
82.5°	411.2	290.6	264.3	287.3	315.8	376.2	424.4	422.3	414.6	459.6	402.5
85°	178.8	161.2	193.0	216.0	230.2	281.9	358.7	348.7	330.0	290.6	284.0
87.5°	72.4	83.4	106.4	128.3	138.2	182.0	245.6	236.9	240.1	197.4	196.3
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)