

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: P196815

Luminaire Tested: **NAV-AF-03-D-UNV-T3R-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196815
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24250)
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-T3R-7030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
ROADWAY OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17819.1 lumens
Efficiency: N/A
Efficacy: 107.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Full Cutoff
BUG Rating: B2 - U0 - G3

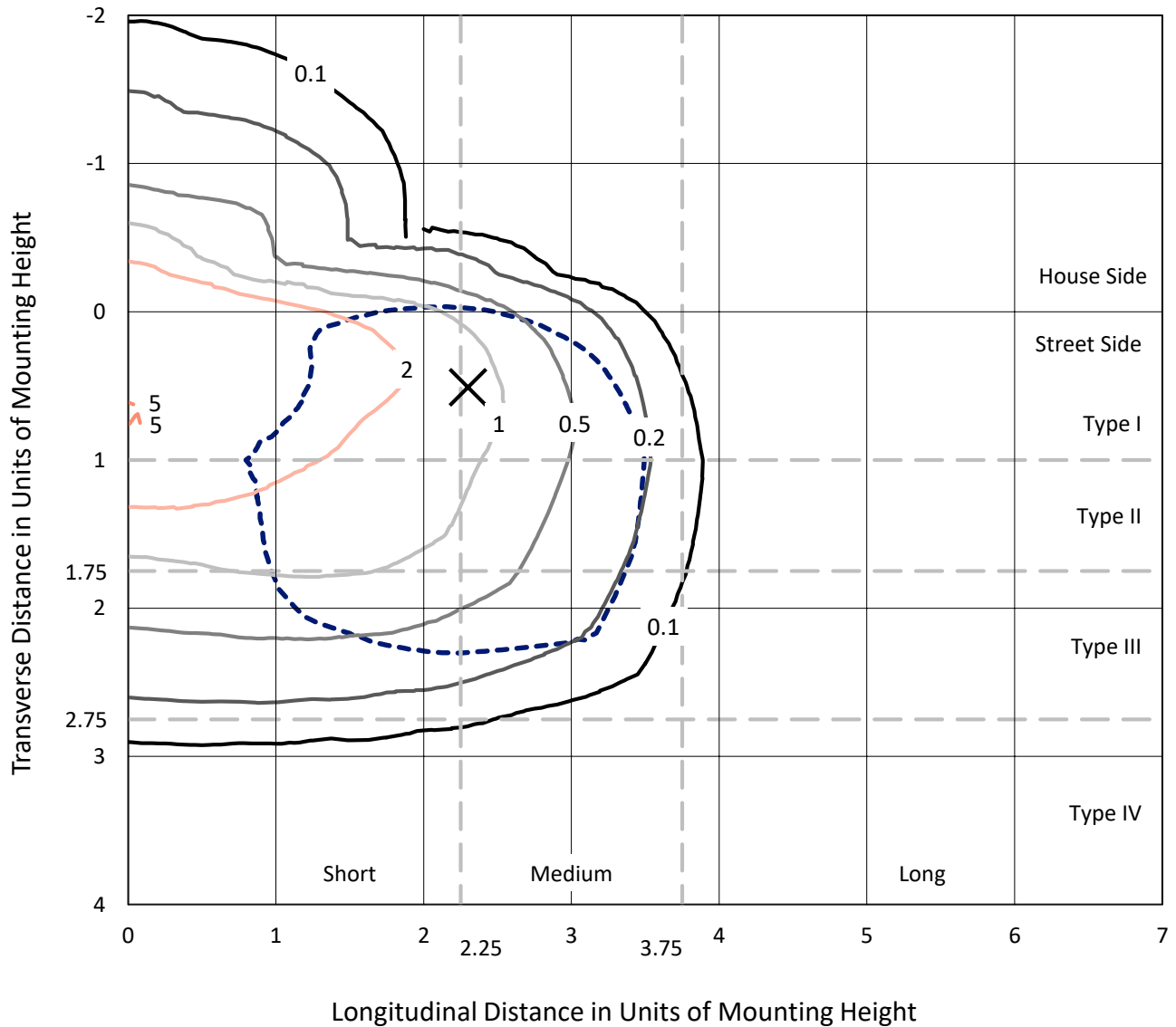
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

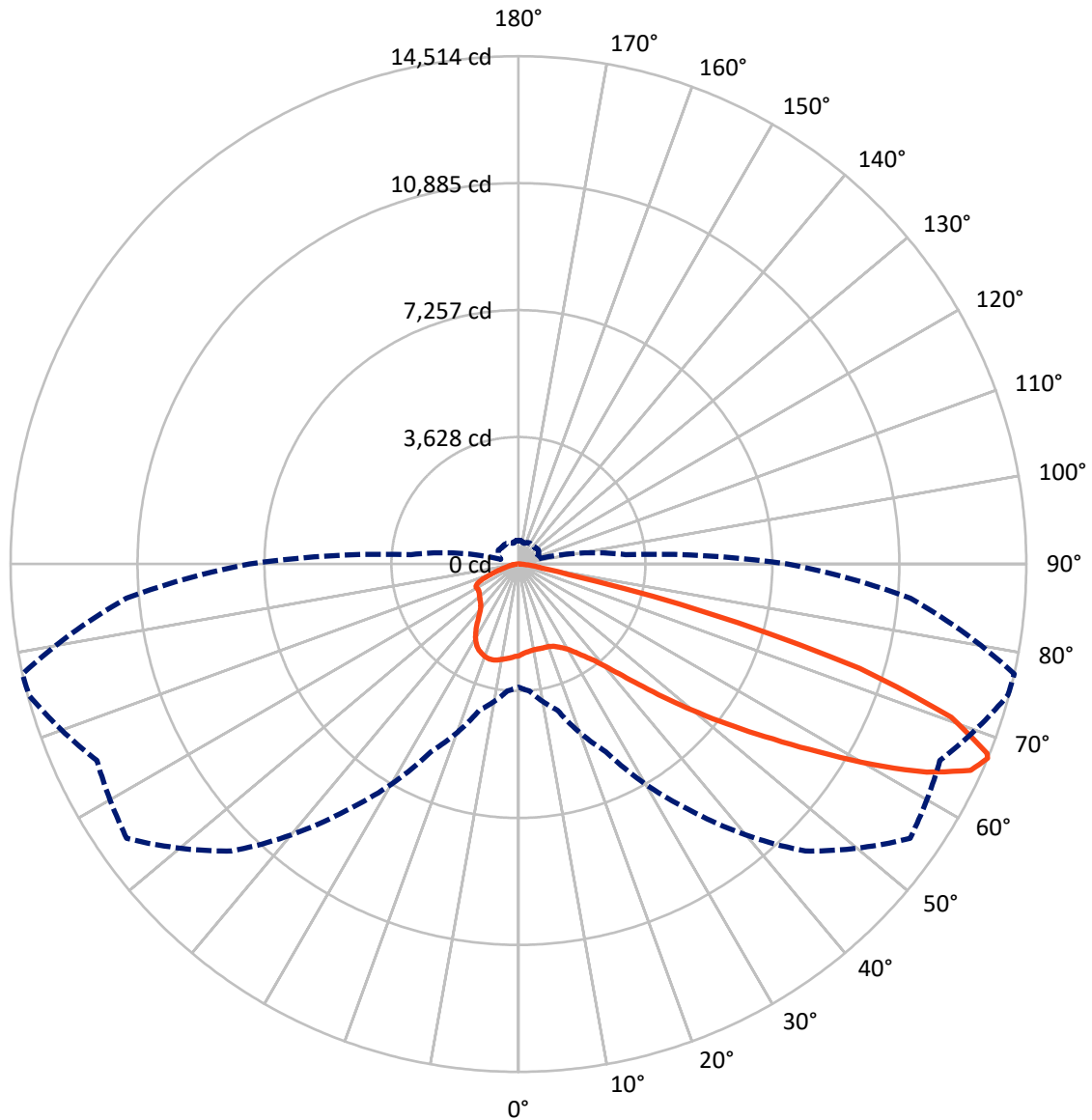
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 fc
 Type III - Medium - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 77.5-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3062.2	0.0	3062.2
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	14756.9	0.0	14756.9
	% Fixture	82.8	0.0	82.8
Total	Lumens	17819.1	0.0	17819.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.6	1.3
10°-20°	646.8	3.6
20°-30°	1099.0	6.2
30°-40°	1758.2	9.9
40°-50°	2706.8	15.2
50°-60°	3755.4	21.1
60°-70°	5009.5	28.1
70°-80°	2384.0	13.4
80°-90°	225.7	1.3
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°	17819.1	100.0
0°-180°	17819.1	100.0



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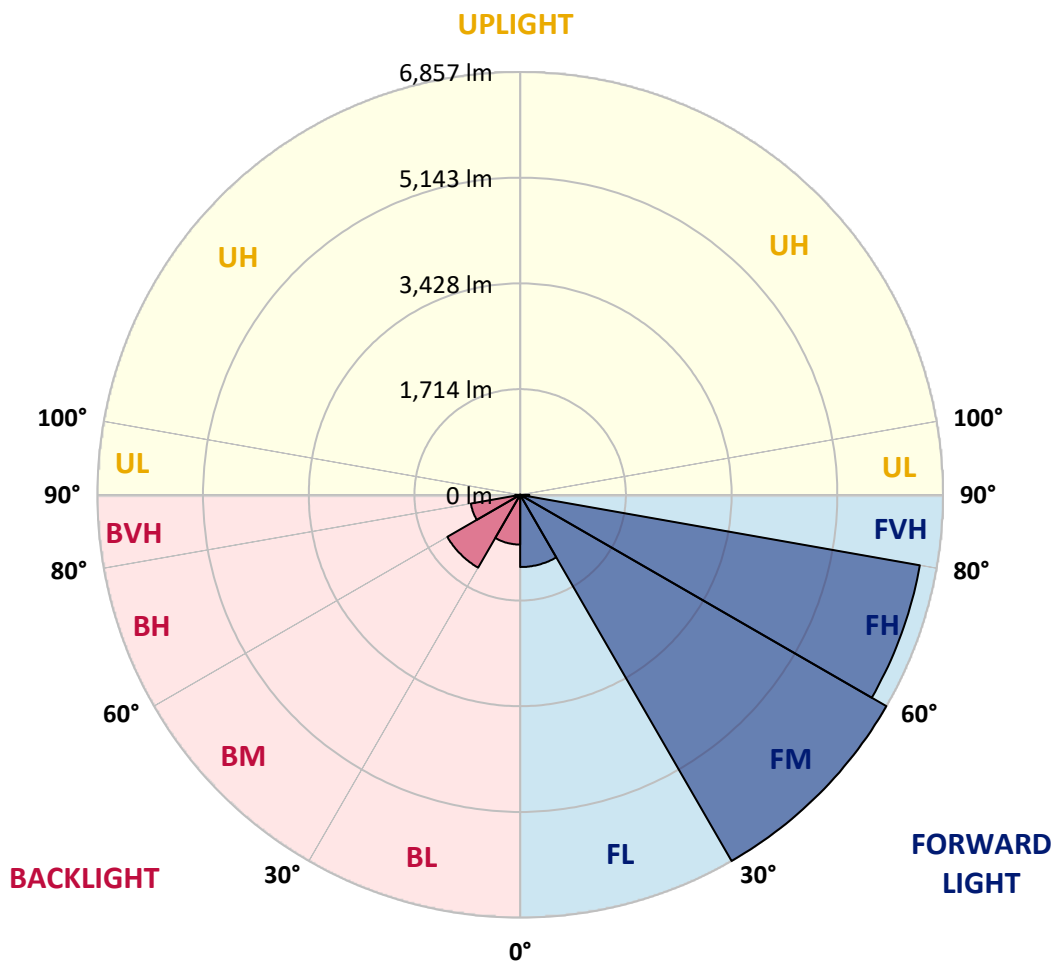
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1171.8	6.6			
FM	(30°-60°)	6857.0	38.5			
FH	(60°-80°)	6581.5	36.9			G3/7500
FVH	(80°-90°)	146.6	0.8			G2/225
BL	(0°-30°)	807.7	4.5	B2/1000		
BM	(30°-60°)	1363.5	7.7	B2/2500		
BH	(60°-80°)	811.9	4.6	B2/1000		G2/1000
BVH	(80°-90°)	79.1	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	77.5°	85°
0°	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5
2.5°	2351.6	2362.5	2363.8	2395.6	2409.9	2446.4	2485.9	2521.1	2552.0	2563.0	2582.9
5°	2115.8	2115.8	2119.2	2140.1	2180.9	2239.2	2321.8	2412.1	2506.9	2530.0	2588.4
7.5°	1992.5	1994.6	1996.9	2017.8	2049.8	2101.5	2184.1	2307.4	2465.0	2503.5	2606.0
10°	2003.5	2000.2	1989.2	1984.8	1998.1	2031.0	2102.5	2229.3	2429.7	2489.3	2637.9
12.5°	2176.5	2169.8	2133.5	2080.7	2032.1	2019.9	2069.6	2189.7	2413.2	2489.3	2691.9
15°	2472.7	2477.1	2405.6	2295.4	2168.7	2082.8	2076.2	2175.4	2407.7	2495.8	2754.7
17.5°	2858.2	2860.4	2761.3	2601.6	2391.2	2213.9	2121.4	2175.4	2407.7	2502.5	2815.3
20°	3268.0	3252.5	3140.2	2939.7	2666.6	2395.6	2204.0	2188.6	2414.3	2512.3	2872.5
22.5°	3619.3	3605.0	3487.1	3276.8	2963.9	2610.4	2315.2	2232.6	2450.6	2553.1	2953.0
25°	3926.6	3935.4	3820.9	3584.0	3260.2	2852.6	2481.5	2333.9	2526.7	2626.9	3052.0
27.5°	4300.0	4283.5	4151.3	3925.4	3565.3	3103.8	2689.6	2461.7	2617.0	2716.0	3173.2
30°	4731.7	4724.1	4545.6	4313.2	3901.2	3384.8	2895.7	2599.4	2734.9	2838.3	3325.2
32.5°	5256.0	5255.0	5063.3	4778.0	4279.0	3701.9	3139.0	2787.8	2906.7	3011.3	3526.8
35°	5849.7	5848.5	5650.4	5273.6	4714.1	4053.3	3425.5	3016.8	3119.3	3229.3	3766.9
37.5°	6261.6	6255.0	6151.6	5785.9	5195.4	4461.9	3783.4	3325.2	3360.5	3483.8	4056.6
40°	6341.0	6380.6	6469.8	6253.9	5720.9	4915.7	4142.4	3656.8	3689.8	3848.4	4421.1
42.5°	6255.0	6306.8	6603.1	6663.6	6246.3	5465.2	4591.8	4116.1	4157.9	4355.1	4849.6
45°	6180.1	6225.3	6596.4	6890.6	6765.0	6064.4	5152.4	4676.7	4755.9	5000.5	5338.6
47.5°	6052.3	6094.2	6466.5	6931.3	7061.2	6641.7	5827.7	5350.8	5487.3	5783.6	5895.9
50°	6045.8	6064.4	6289.2	6794.8	7163.7	7080.0	6575.6	6139.4	6348.6	6690.1	6512.7
52.5°	5878.3	6009.4	6213.1	6576.7	7165.9	7335.5	7312.4	7003.9	7326.7	7704.5	7189.0
55°	4854.0	5004.8	5959.9	6469.8	7152.6	7554.7	7985.3	7923.7	8428.1	8825.8	7946.9
57.5°	4532.4	4596.2	5228.5	6501.7	7262.8	7917.0	8658.4	8911.6	9688.1	10122.1	8855.5
60°	4444.2	4511.5	5081.9	6517.2	7561.3	8576.9	9571.4	10027.4	11169.6	11630.0	9887.5
62.5°	4346.3	4433.3	5093.0	6531.5	8085.6	9552.6	10783.1	11237.9	12690.7	13101.5	10854.6
65°	4059.8	4175.6	4889.3	6441.2	8659.5	10777.5	12384.4	12500.2	13947.4	14208.4	11438.4
67°	3516.8	3643.6	4329.7	5919.1	8606.6	11602.5	13665.4	13289.9	14481.6	14513.6	11248.9
67.5°	3345.1	3476.1	4140.3	5702.1	8455.7	11710.4	13892.4	13398.9	14477.2	14441.9	11072.7
70°	2252.4	2400.0	2932.0	4186.5	6782.6	10898.6	13837.2	13062.9	13527.7	13123.5	9513.1
72.5°	1117.9	1122.3	1462.7	2293.2	4109.5	7816.9	11543.0	11175.1	10965.8	10202.5	6980.9
75°	538.6	548.5	690.6	1013.3	1732.6	4035.6	7871.9	7540.4	6420.2	5558.9	3493.8
77.5°	410.9	420.7	536.4	659.7	722.5	1316.2	3899.0	3151.1	1860.3	1485.8	984.7
80°	317.2	336.0	452.7	506.6	478.0	527.6	1225.9	964.9	723.7	664.2	488.0
82.5°	247.8	258.8	384.4	384.4	330.4	353.6	570.6	557.3	449.4	405.4	262.1
85°	175.2	197.1	309.5	286.4	217.0	219.2	341.4	327.1	231.3	186.2	102.4
87.5°	78.2	100.2	220.2	187.3	115.6	89.3	139.9	120.0	91.4	70.5	47.3
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°	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5	2622.5
2.5°	2604.8	2622.5	2650.1	2666.6	2688.6	2697.4	2706.3	2721.6	2733.7	2730.4	2724.9
5°	2629.1	2658.9	2693.0	2704.0	2704.0	2693.0	2686.3	2687.4	2684.2	2682.0	2675.3
7.5°	2664.4	2705.2	2729.3	2718.4	2684.2	2641.3	2600.5	2576.3	2553.1	2538.7	2543.2
10°	2713.9	2759.2	2760.2	2711.7	2630.2	2536.6	2456.1	2404.5	2354.9	2332.8	2339.5
12.5°	2785.6	2830.7	2792.1	2687.4	2544.3	2397.8	2250.2	2143.3	2047.5	2024.5	2017.8
15°	2862.6	2897.9	2811.9	2635.8	2420.9	2179.7	1931.9	1772.1	1665.3	1646.6	1640.0
17.5°	2929.8	2949.7	2802.1	2543.2	2225.9	1846.1	1557.4	1449.5	1427.5	1438.5	1438.5
20°	2989.3	2982.7	2759.2	2400.0	1918.7	1475.9	1308.5	1307.4	1337.2	1364.6	1366.9
22.5°	3064.1	3012.4	2690.8	2187.5	1551.9	1231.4	1202.7	1231.4	1264.4	1295.3	1298.5
25°	3153.4	3045.5	2599.4	1884.5	1248.0	1117.9	1130.1	1154.4	1175.2	1199.4	1200.5
27.5°	3242.6	3070.7	2470.5	1528.7	1082.6	1045.3	1058.5	1068.3	1073.9	1089.4	1089.4
30°	3346.2	3090.6	2284.4	1224.8	1006.8	981.3	973.6	969.2	973.6	994.6	995.7
32.5°	3476.1	3125.9	2029.9	1050.7	971.5	936.3	896.6	874.5	889.9	927.4	934.0
35°	3623.7	3167.8	1724.8	981.3	959.3	914.2	841.6	807.3	812.9	847.0	852.6
37.5°	3808.8	3221.7	1424.2	964.9	971.5	912.0	816.1	767.6	743.5	744.6	743.5
40°	4045.6	3275.7	1186.2	969.2	997.9	917.4	804.0	728.0	677.4	679.6	684.0
42.5°	4293.4	3310.9	1035.3	982.5	1029.9	925.2	799.7	689.5	645.4	682.9	717.1
45°	4583.1	3300.9	957.1	994.6	1054.1	928.4	783.2	685.0	648.8	761.1	825.0
47.5°	4915.7	3258.0	913.1	1000.0	1060.7	927.4	771.1	699.4	676.4	871.3	943.9
50°	5276.9	3190.8	877.8	991.3	1057.4	923.0	784.3	717.1	687.2	895.5	951.6
52.5°	5672.4	3129.1	841.6	971.5	1040.8	909.8	800.8	709.3	656.4	825.0	867.9
55°	6140.5	3114.9	800.8	937.3	1013.3	895.5	791.9	685.0	622.3	731.4	757.8
57.5°	6675.7	3204.0	747.9	895.5	975.9	866.9	771.1	671.8	610.2	665.3	679.6
60°	7355.4	3401.2	691.7	851.4	929.6	823.9	752.2	675.2	613.5	655.3	658.7
62.5°	7886.3	3578.6	641.1	797.5	867.9	772.1	732.5	678.5	623.5	668.5	663.1
65°	8078.9	3491.5	578.2	717.1	780.8	714.8	704.9	680.6	623.5	676.4	664.2
67°	7683.5	3076.3	518.8	636.7	698.2	664.2	678.5	671.8	612.4	675.2	654.3
67.5°	7495.1	2929.8	503.3	623.5	676.4	648.8	671.8	667.5	609.1	672.9	648.8
70°	6181.3	2101.5	425.1	523.2	566.2	571.7	631.1	638.8	582.7	632.2	588.2
72.5°	4398.0	1315.2	366.8	405.4	457.1	489.1	576.1	600.3	547.4	549.6	513.3
75°	2176.5	706.1	327.1	312.8	355.7	407.5	502.3	547.4	495.6	458.3	446.1
77.5°	734.7	399.8	276.4	252.3	276.4	327.1	416.4	478.0	437.2	387.7	380.0
80°	380.0	290.7	215.9	202.6	218.1	253.4	326.0	397.6	373.3	375.7	309.5
82.5°	236.8	177.3	155.2	154.2	165.2	193.8	240.2	322.8	320.5	274.2	199.4
85°	110.2	102.4	99.1	102.4	105.8	110.2	156.3	230.2	243.4	147.6	131.1
87.5°	46.2	45.2	39.7	42.9	47.3	46.2	62.9	98.0	136.6	92.6	84.7
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)