

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: P195375

Luminaire Tested: **NAV-AF-03-D-UNV-T3R-7060**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195375
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-7060
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5700K, 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: 18424 lumens
Efficiency: N/A
Efficacy: 111.0 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

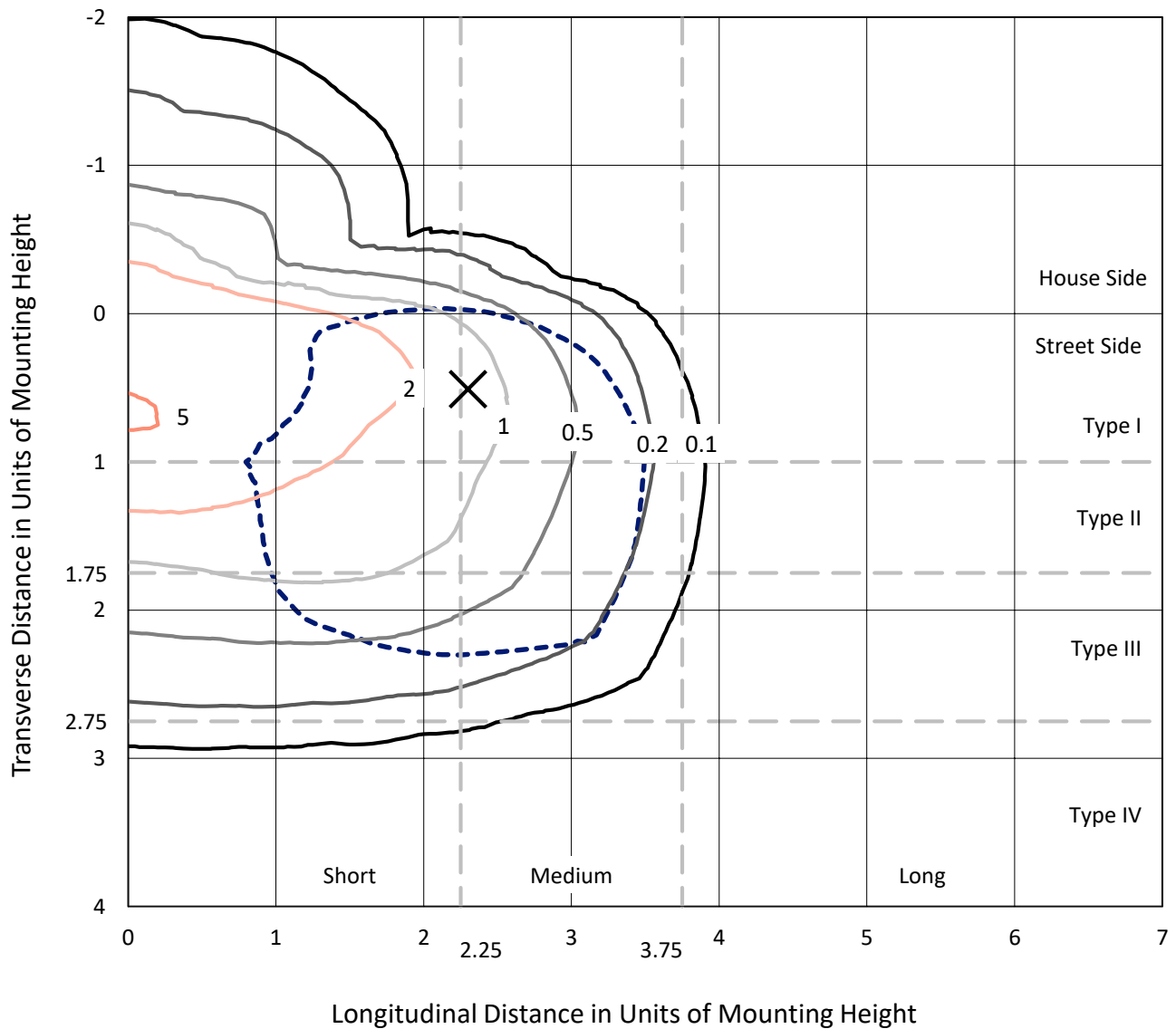
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

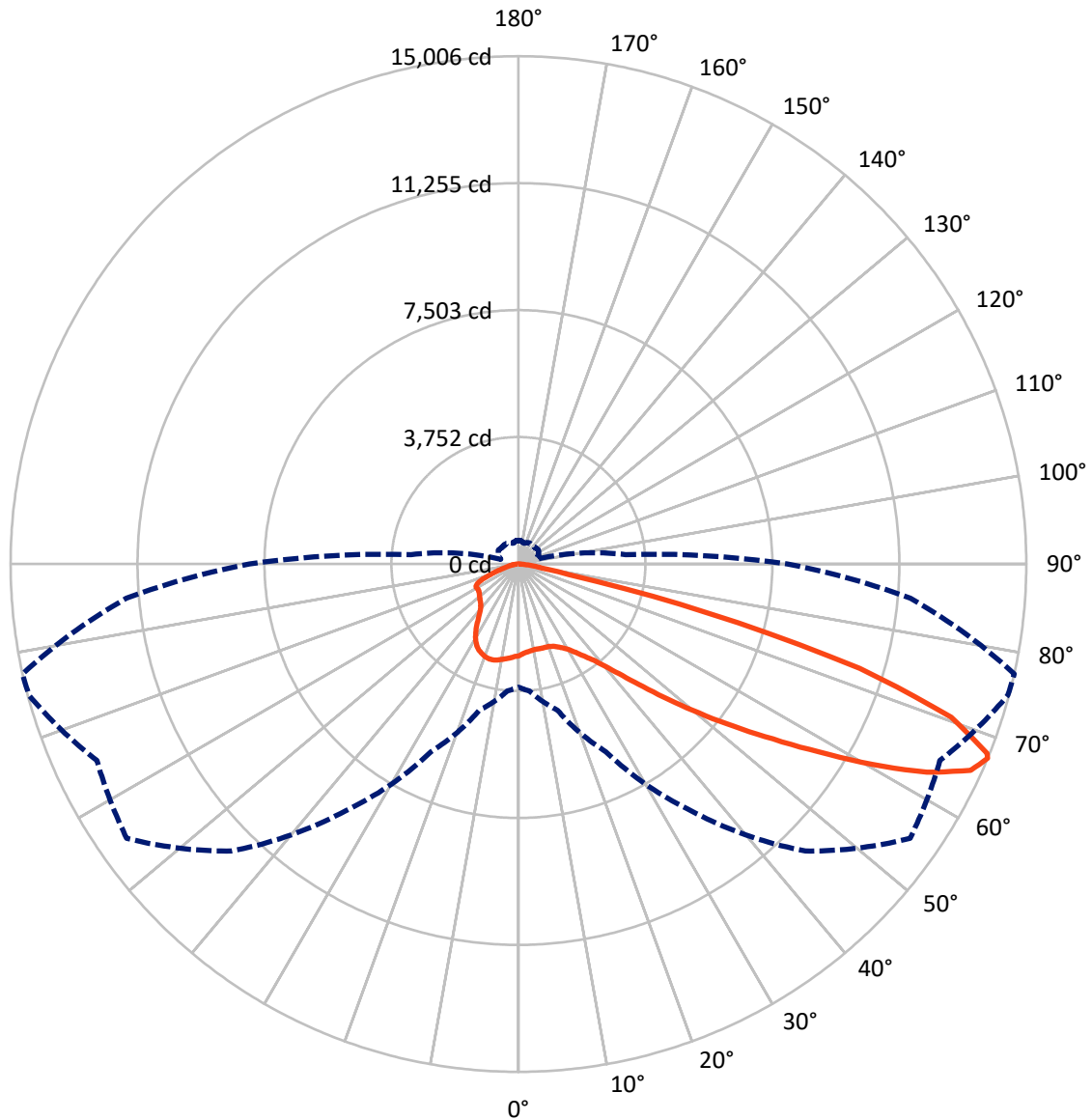
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 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	3166.2	0.0	3166.2
	% Fixture	17.2	0.0	17.2
Street Side	Lumens	15257.8	0.0	15257.8
	% Fixture	82.8	0.0	82.8
Total	Lumens	18424.0	0.0	18424.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.5	1.3
10°-20°	668.8	3.6
20°-30°	1136.4	6.2
30°-40°	1817.9	9.9
40°-50°	2798.7	15.2
50°-60°	3882.9	21.1
60°-70°	5179.5	28.1
70°-80°	2464.9	13.4
80°-90°	233.4	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°	18424.0	100.0
0°-180°	18424.0	100.0



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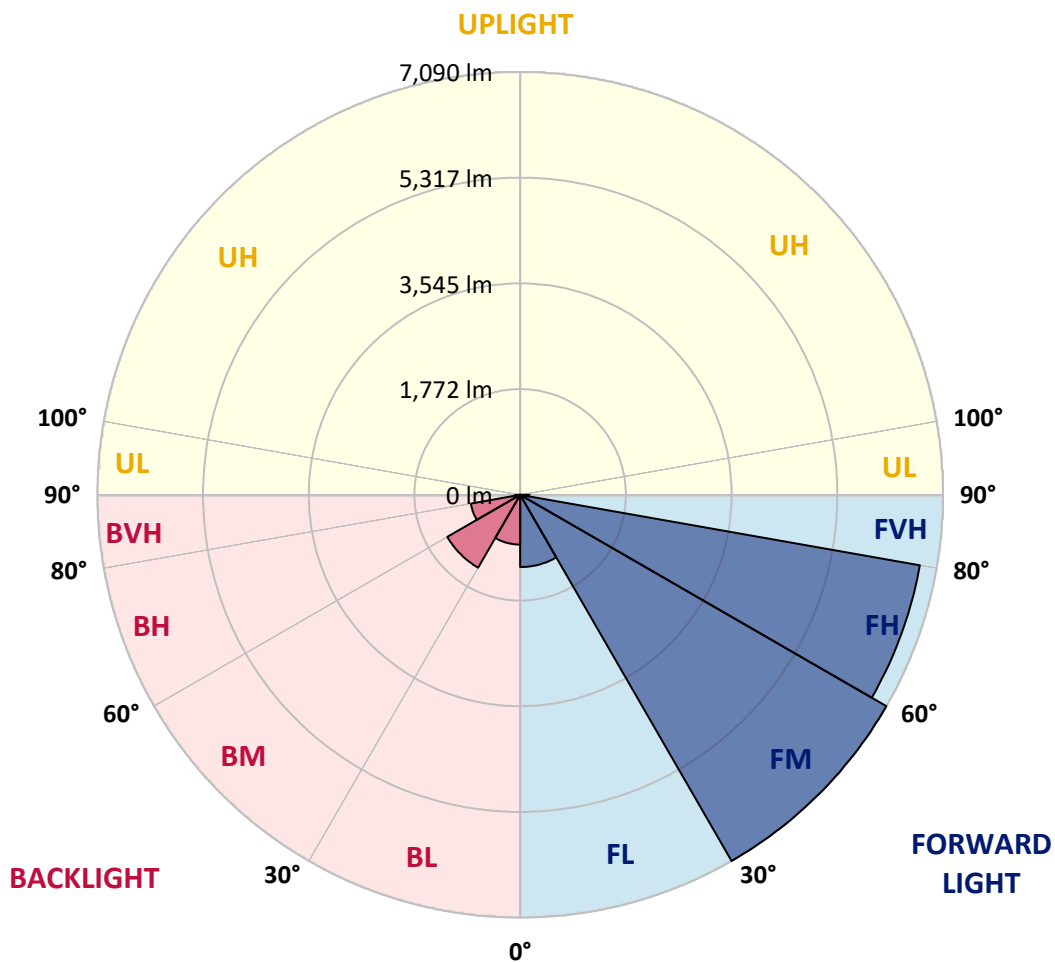
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1211.6	6.6			
FM	(30°-60°)	7089.7	38.5			
FH	(60°-80°)	6805.0	36.9			G3/7500
FVH	(80°-90°)	151.6	0.8			G2/225
BL	(0°-30°)	835.1	4.5	B2/1000		
BM	(30°-60°)	1409.8	7.7	B2/2500		
BH	(60°-80°)	839.5	4.6	B2/1000		G2/1000
BVH	(80°-90°)	81.8	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°	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5
2.5°	2431.4	2442.8	2443.9	2476.9	2491.7	2529.3	2570.3	2606.8	2638.6	2650.0	2670.5
5°	2187.7	2187.7	2191.1	2212.7	2254.9	2315.2	2400.6	2494.0	2592.0	2615.9	2676.2
7.5°	2060.1	2062.4	2064.7	2086.3	2119.3	2172.9	2258.3	2385.8	2548.7	2588.5	2694.4
10°	2071.5	2068.1	2056.7	2052.2	2065.8	2100.0	2174.0	2305.0	2512.2	2573.7	2727.5
12.5°	2250.3	2243.5	2205.9	2151.2	2101.1	2088.6	2139.8	2264.0	2495.2	2573.7	2783.3
15°	2556.6	2561.2	2487.2	2373.3	2242.3	2153.5	2146.7	2249.2	2489.5	2580.6	2848.2
17.5°	2955.2	2957.5	2855.0	2689.9	2472.4	2289.0	2193.4	2249.2	2489.5	2587.4	2910.8
20°	3378.9	3362.9	3246.8	3039.5	2757.1	2476.9	2278.8	2262.8	2496.3	2597.6	2970.0
22.5°	3742.2	3727.4	3605.5	3388.0	3064.6	2699.0	2393.8	2308.4	2533.9	2639.8	3053.2
25°	4059.9	4069.0	3950.6	3705.7	3370.9	2949.5	2565.8	2413.2	2612.5	2716.1	3155.7
27.5°	4446.0	4428.9	4292.2	4058.8	3686.4	3209.2	2781.0	2545.3	2705.8	2808.3	3280.9
30°	4892.4	4884.4	4699.9	4459.6	4033.7	3499.6	2994.0	2687.6	2827.7	2934.7	3438.1
32.5°	5434.4	5433.3	5235.2	4940.2	4424.3	3827.6	3245.6	2882.4	3005.3	3113.5	3646.5
35°	6048.3	6047.1	5842.1	5452.7	4874.1	4190.9	3541.7	3119.2	3225.1	3339.0	3894.8
37.5°	6474.2	6467.4	6360.3	5982.2	5371.8	4613.4	3911.8	3438.1	3474.5	3602.1	4194.3
40°	6556.2	6597.2	6689.4	6466.2	5915.0	5082.6	4283.1	3780.9	3815.0	3979.0	4571.2
42.5°	6467.4	6520.9	6827.2	6889.9	6458.2	5650.8	4747.7	4255.8	4299.0	4502.9	5014.2
45°	6389.9	6436.6	6820.4	7124.5	6994.6	6270.3	5327.4	4835.4	4917.4	5170.2	5519.9
47.5°	6257.8	6301.1	6686.0	7166.6	7301.0	6867.1	6025.5	5532.4	5673.6	5979.9	6096.1
50°	6251.0	6270.3	6502.7	7025.4	7406.9	7320.3	6798.8	6347.8	6564.2	6917.2	6733.8
52.5°	6077.9	6213.4	6424.1	6799.9	7409.2	7584.5	7560.6	7241.8	7575.4	7966.0	7433.1
55°	5018.8	5174.8	6162.2	6689.4	7395.5	7811.2	8256.4	8192.7	8714.2	9125.4	8216.6
57.5°	4686.2	4752.3	5406.0	6722.5	7509.4	8185.8	8952.3	9214.2	10017.1	10465.7	9156.1
60°	4595.1	4664.6	5254.5	6738.4	7818.0	8868.0	9896.3	10367.8	11548.8	12024.8	10223.2
62.5°	4493.8	4583.7	5265.9	6753.2	8360.1	9877.0	11149.0	11619.4	13121.5	13546.3	11223.1
65°	4197.7	4317.3	5055.2	6659.8	8953.4	11143.3	12804.9	12924.5	14420.9	14690.8	11826.6
67°	3636.2	3767.2	4476.7	6120.0	8898.7	11996.3	14129.3	13741.0	14973.2	15006.2	11630.8
67.5°	3458.6	3594.1	4280.8	5895.7	8742.7	12107.9	14363.9	13853.7	14968.6	14932.2	11448.6
70°	2328.9	2481.5	3031.5	4328.7	7012.8	11268.6	14307.0	13506.4	13987.0	13569.0	9836.0
72.5°	1155.9	1160.5	1512.4	2371.0	4248.9	8082.2	11934.8	11554.5	11338.1	10548.9	7217.8
75°	556.9	567.1	714.0	1047.7	1791.4	4172.6	8139.1	7796.4	6638.2	5747.6	3612.3
77.5°	424.8	435.0	554.6	682.2	747.1	1360.9	4031.4	3258.2	1923.5	1536.3	1018.1
80°	328.0	347.3	468.1	523.9	494.2	545.5	1267.5	997.6	748.2	686.7	504.5
82.5°	256.2	267.6	397.4	397.4	341.6	365.6	589.9	576.2	464.6	419.1	271.0
85°	181.1	203.8	320.0	296.1	224.3	226.6	353.0	338.2	239.2	192.5	105.9
87.5°	80.9	103.6	227.8	193.6	119.6	92.2	144.6	124.1	94.5	72.9	49.0
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°	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5	2711.5
2.5°	2693.3	2711.5	2740.0	2757.1	2779.9	2789.0	2798.1	2814.0	2826.5	2823.1	2817.4
5°	2718.4	2749.1	2784.4	2795.8	2795.8	2784.4	2777.6	2778.7	2775.3	2773.0	2766.2
7.5°	2754.8	2796.9	2822.0	2810.6	2775.3	2730.9	2688.8	2663.7	2639.8	2625.0	2629.5
10°	2806.1	2852.7	2853.9	2803.8	2719.5	2622.7	2539.6	2486.0	2434.8	2412.0	2418.9
12.5°	2880.1	2926.8	2886.9	2778.7	2630.7	2479.2	2326.6	2216.1	2117.1	2093.1	2086.3
15°	2959.8	2996.2	2907.4	2725.2	2503.1	2253.7	1997.5	1832.4	1721.9	1702.5	1695.7
17.5°	3029.3	3049.8	2897.2	2629.5	2301.6	1908.7	1610.3	1498.7	1475.9	1487.3	1487.3
20°	3090.8	3083.9	2852.7	2481.5	1983.8	1526.0	1352.9	1351.8	1382.5	1411.0	1413.3
22.5°	3168.2	3114.7	2782.1	2261.7	1604.6	1273.2	1243.6	1273.2	1307.4	1339.3	1342.7
25°	3260.4	3148.8	2687.6	1948.5	1290.3	1155.9	1168.4	1193.5	1215.1	1240.2	1241.3
27.5°	3352.7	3175.0	2554.4	1580.7	1119.5	1080.7	1094.4	1104.7	1110.3	1126.3	1126.3
30°	3459.7	3195.5	2361.9	1266.4	1040.9	1014.7	1006.7	1002.2	1006.7	1028.4	1029.5
32.5°	3594.1	3232.0	2098.8	1086.4	1004.4	968.0	927.0	904.2	920.2	958.9	965.7
35°	3746.7	3275.2	1783.4	1014.7	991.9	945.2	870.1	834.8	840.4	875.8	881.4
37.5°	3938.0	3331.0	1472.5	997.6	1004.4	942.9	843.9	793.8	768.7	769.8	768.7
40°	4182.9	3386.8	1226.5	1002.2	1031.8	948.6	831.3	752.8	700.4	702.7	707.2
42.5°	4439.1	3423.3	1070.5	1015.8	1064.8	956.6	826.8	712.9	667.3	706.1	741.4
45°	4738.6	3413.0	989.6	1028.4	1089.9	960.0	809.7	708.3	670.8	786.9	853.0
47.5°	5082.6	3368.6	944.1	1034.0	1096.7	958.9	797.2	723.2	699.2	900.8	976.0
50°	5456.1	3299.2	907.6	1024.9	1093.3	954.3	810.8	741.4	710.6	925.9	983.9
52.5°	5864.9	3235.4	870.1	1004.4	1076.2	940.7	827.9	733.4	678.7	853.0	897.4
55°	6348.9	3220.6	827.9	969.1	1047.7	925.9	818.8	708.3	643.4	756.2	783.5
57.5°	6902.4	3312.8	773.3	925.9	1009.0	896.3	797.2	694.7	630.9	687.8	702.7
60°	7605.0	3516.7	715.2	880.3	961.2	851.8	777.8	698.1	634.3	677.6	681.0
62.5°	8153.9	3700.0	662.8	824.5	897.4	798.3	757.3	701.5	644.6	691.3	685.6
65°	8353.2	3610.1	597.9	741.4	807.4	739.1	728.8	703.8	644.6	699.2	686.7
67°	7944.4	3180.7	536.4	658.2	722.0	686.7	701.5	694.7	633.2	698.1	676.5
67.5°	7749.7	3029.3	520.4	644.6	699.2	670.8	694.7	690.1	629.8	695.8	670.8
70°	6391.1	2172.9	439.6	540.9	585.4	591.0	652.5	660.5	602.4	653.7	608.1
72.5°	4547.3	1359.8	379.2	419.1	472.6	505.6	595.6	620.7	566.0	568.3	530.7
75°	2250.3	730.0	338.2	323.4	367.8	421.4	519.3	566.0	512.5	473.7	461.2
77.5°	759.6	413.4	285.8	260.8	285.8	338.2	430.5	494.2	452.1	400.9	392.9
80°	392.9	300.6	223.2	209.5	225.5	261.9	337.1	411.1	386.1	388.3	320.0
82.5°	244.8	183.3	160.6	159.4	170.8	200.4	248.3	333.7	331.4	283.6	206.1
85°	113.9	105.9	102.5	105.9	109.3	113.9	161.7	238.0	251.7	152.6	135.5
87.5°	47.8	46.7	41.0	44.4	49.0	47.8	64.9	101.4	141.2	95.7	87.7
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)