

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: P195237

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7060-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195237
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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-SL4-7060-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18957 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

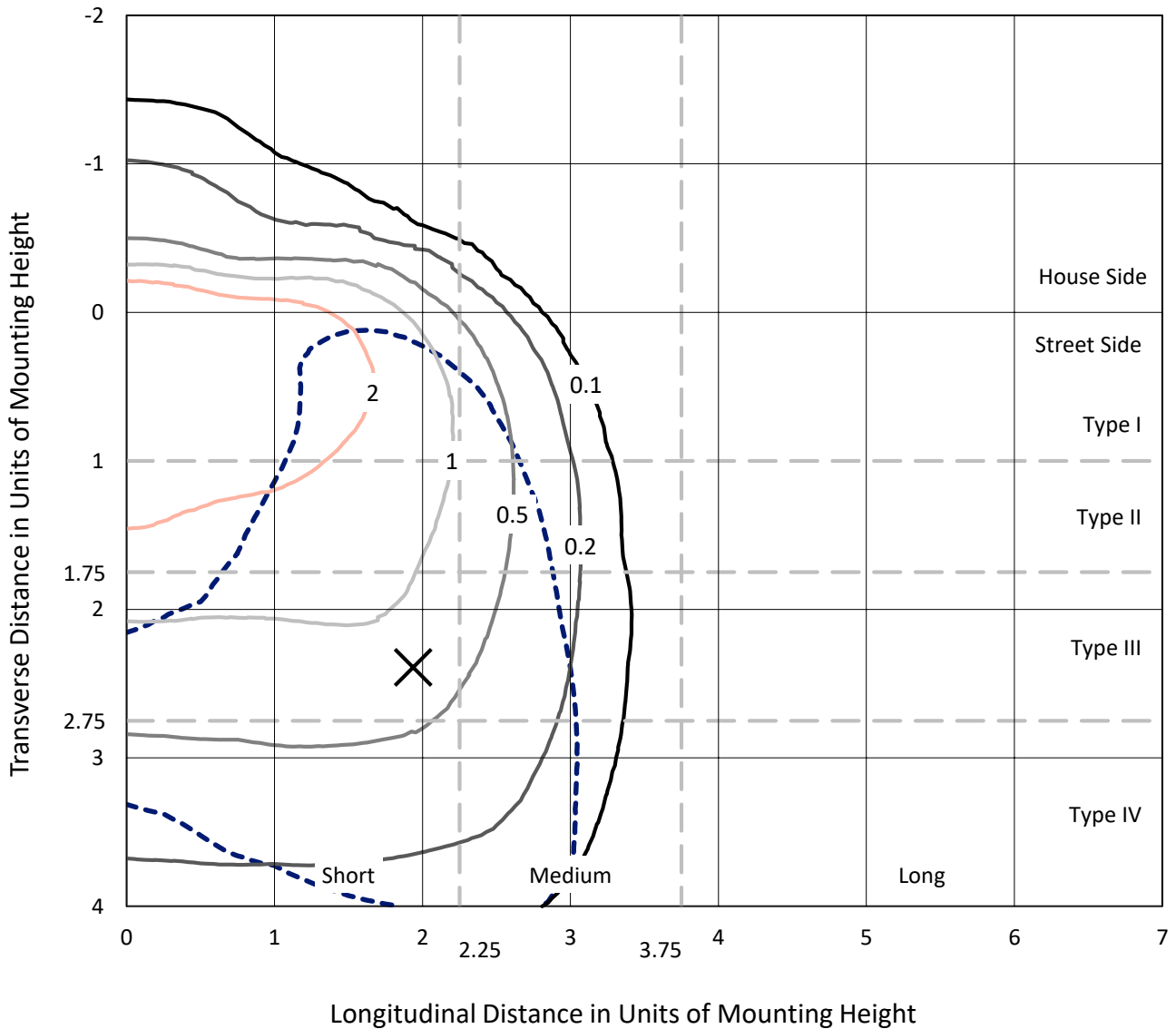
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

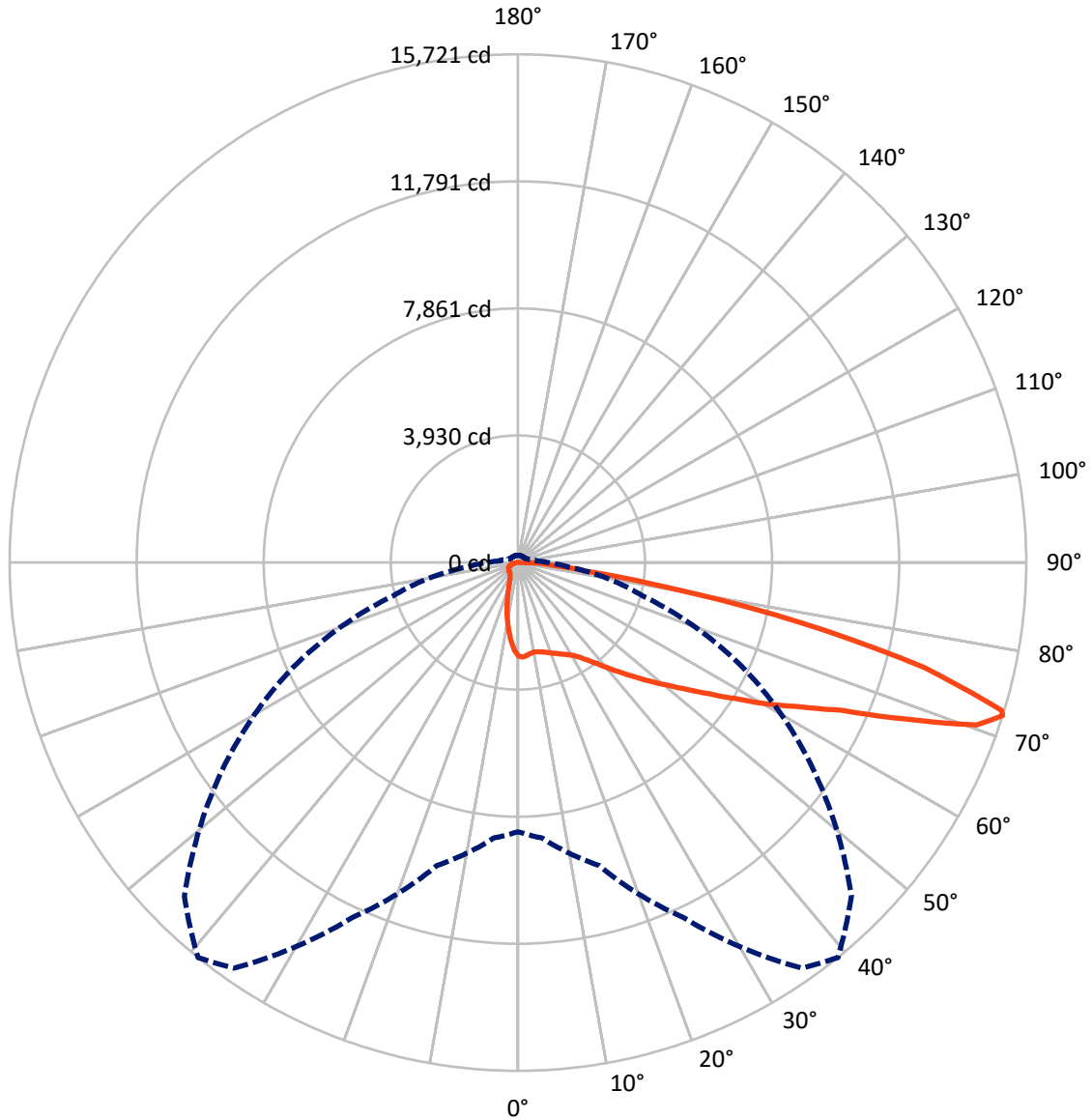
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2173.7	0.0	2173.7
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	16783.3	0.0	16783.3
	% Fixture	88.5	0.0	88.5
Total	Lumens	18957.0	0.0	18957.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.8	1.3
10°-20°	625.2	3.3
20°-30°	974.2	5.1
30°-40°	1500.0	7.9
40°-50°	2445.4	12.9
50°-60°	3799.9	20.0
60°-70°	5086.0	26.8
70°-80°	3657.6	19.3
80°-90°	620.0	3.3
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°	18957.0	100.0
0°-180°	18957.0	100.0

Coefficient of Utilization



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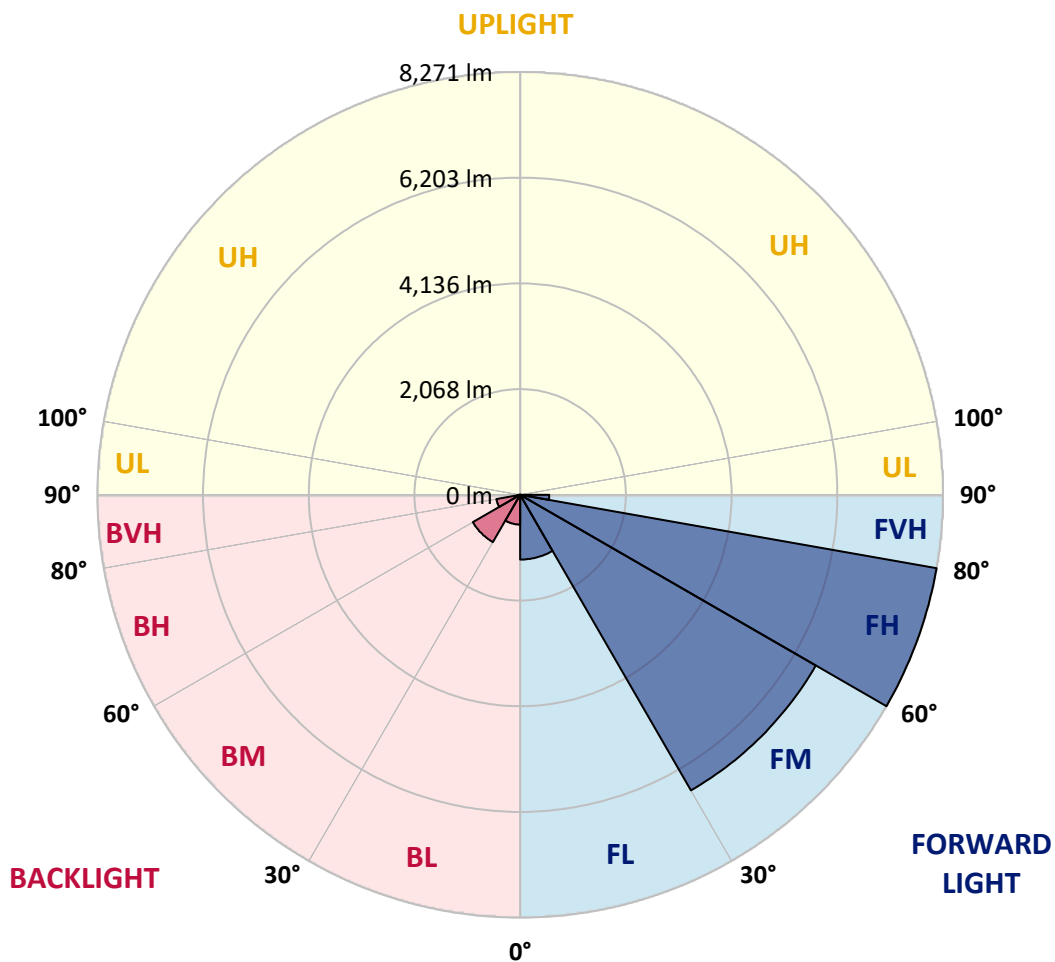
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1266.3	6.7			
FM	(30°-60°)	6677.0	35.2			
FH	(60°-80°)	8271.2	43.6			G4/12000
FVH	(80°-90°)	568.8	3.0			G4/750
BL	(0°-30°)	581.9	3.1	B2/1000		
BM	(30°-60°)	1068.3	5.6	B2/2500		
BH	(60°-80°)	472.3	2.5	B1/500		G1/500
BVH	(80°-90°)	51.3	0.3			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1
2.5°	2957.4	2958.7	2954.9	2943.4	2933.3	2928.2	2919.3	2904.0	2883.6	2869.6	2858.2
5°	2929.4	2933.3	2930.7	2911.6	2893.8	2883.6	2869.6	2848.0	2821.3	2809.8	2783.1
7.5°	2907.8	2910.3	2902.7	2881.1	2846.7	2834.0	2808.5	2780.5	2756.4	2739.8	2708.0
10°	2892.5	2895.1	2888.7	2867.1	2828.9	2813.6	2783.1	2752.5	2720.7	2700.4	2664.7
12.5°	2870.9	2876.0	2876.0	2865.8	2840.4	2830.2	2799.6	2766.5	2737.3	2715.6	2671.1
15°	2867.1	2873.4	2884.9	2883.6	2876.0	2868.4	2844.2	2811.1	2785.6	2760.2	2705.5
17.5°	2898.9	2912.9	2935.8	2943.4	2938.3	2921.8	2893.8	2863.3	2835.3	2811.1	2743.6
20°	2979.1	2986.7	3021.1	3036.3	3010.9	2986.7	2949.8	2910.3	2884.9	2865.8	2779.3
22.5°	3100.0	3110.1	3138.1	3139.4	3086.0	3056.7	3009.6	2961.2	2937.1	2929.4	2827.6
25°	3293.4	3290.8	3298.5	3266.7	3169.9	3135.6	3078.3	3022.3	3005.8	3021.1	2898.9
27.5°	3525.0	3518.6	3494.5	3411.7	3265.4	3220.8	3152.1	3102.5	3102.5	3138.1	2995.6
30°	3792.2	3785.9	3707.0	3568.3	3378.6	3327.7	3255.2	3203.0	3229.8	3298.5	3126.7
32.5°	4074.7	4051.8	3941.1	3755.3	3540.3	3484.3	3414.3	3360.8	3411.7	3528.8	3315.0
35°	4340.7	4328.0	4191.8	3971.7	3749.0	3701.9	3653.5	3587.3	3668.8	3850.8	3581.0
37.5°	4615.6	4605.4	4438.7	4204.5	4003.5	3971.7	3930.9	3885.1	4016.2	4255.4	3941.1
40°	4922.3	4901.9	4691.9	4457.8	4300.0	4284.7	4263.1	4250.4	4461.6	4817.9	4396.7
42.5°	5269.7	5230.2	4959.2	4736.5	4623.2	4635.9	4624.5	4675.4	4998.6	5466.9	4938.8
45°	5666.7	5587.8	5225.1	5033.0	4980.8	5031.7	5055.9	5185.7	5633.6	6216.5	5544.5
47.5°	6038.3	5936.5	5516.5	5354.9	5384.2	5472.0	5540.7	5769.8	6329.7	6957.1	6163.0
50°	6380.6	6266.1	5828.3	5688.3	5830.9	5955.6	6098.1	6421.3	7070.3	7719.3	6730.6
52.5°	6633.9	6551.1	6140.1	6052.3	6343.7	6509.1	6736.9	7145.4	7818.6	8446.0	7237.0
55°	6829.8	6785.3	6444.2	6469.7	6924.0	7160.7	7436.8	7906.4	8610.1	9097.5	7644.3
57.5°	7056.3	7023.3	6791.7	6973.6	7644.3	7942.0	8267.8	8789.6	9363.5	9671.5	7963.7
60°	7295.6	7295.6	7178.5	7580.6	8545.2	8886.3	9210.8	9616.7	10114.3	10188.1	8093.5
62.5°	7476.3	7523.4	7565.4	8227.1	9400.4	9824.2	10180.5	10569.9	10891.8	10442.6	7788.1
65°	7738.4	7839.0	8075.7	8974.1	10459.2	11014.0	11495.0	11822.1	11521.8	10240.3	6791.7
67.5°	8188.9	8337.8	8841.7	10086.3	12080.4	12911.4	13378.4	12813.4	11398.3	8966.5	5202.2
70°	8594.9	8804.8	9666.4	11497.6	14187.8	15050.6	14835.5	12583.1	9927.2	6572.8	3200.5
72°	8325.1	8554.1	9704.5	12112.2	15314.0	15721.2	14587.4	11151.4	7671.0	4011.1	1578.0
72.5°	8148.2	8386.2	9581.1	12097.0	15344.5	15635.9	14242.5	10582.6	6963.4	3509.7	1276.4
75°	6806.9	7010.5	8238.6	10721.3	13522.2	12987.7	11114.5	6848.9	3200.5	1133.9	656.6
77.5°	4445.1	4600.3	5680.7	7427.9	9471.7	8957.6	6764.9	3206.9	1200.0	688.5	493.8
80°	2233.3	2344.1	3040.1	3905.5	5111.9	4703.4	3122.9	1551.3	803.0	497.6	388.1
82.5°	1553.8	1655.6	2093.4	1994.1	2136.6	2067.9	1468.5	1294.2	600.6	314.3	203.6
85°	1303.1	1408.7	1732.0	1421.4	1163.1	1060.0	1052.4	1222.9	397.0	155.3	171.8
87.5°	1136.4	1296.7	1429.1	1038.4	797.9	703.7	775.0	1121.1	126.0	85.3	52.2
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°	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1	2895.1
2.5°	2839.1	2835.3	2816.2	2786.9	2765.3	2751.3	2724.6	2723.3	2725.8	2702.9	2711.8
5°	2758.9	2743.6	2694.0	2626.6	2571.8	2519.7	2462.4	2443.3	2426.8	2392.4	2396.2
7.5°	2674.9	2648.2	2561.7	2451.0	2345.3	2248.6	2153.2	2106.1	2070.5	2025.9	2025.9
10°	2625.3	2583.3	2451.0	2289.3	2121.4	1980.1	1837.6	1752.3	1690.0	1632.7	1628.9
12.5°	2622.7	2559.1	2374.6	2151.9	1921.6	1723.0	1528.3	1397.3	1304.4	1236.9	1230.6
15°	2643.1	2554.0	2311.0	2023.4	1733.2	1474.9	1234.4	1067.7	949.3	874.2	866.6
17.5°	2660.9	2547.7	2242.3	1888.5	1550.0	1235.7	968.4	795.4	683.4	622.3	615.9
20°	2677.5	2533.7	2154.4	1746.0	1347.6	1011.7	757.2	617.2	543.4	509.0	505.2
22.5°	2701.6	2520.9	2062.8	1585.6	1149.1	823.3	624.8	524.3	484.8	468.3	465.8
25°	2741.1	2522.2	1973.7	1421.4	967.1	685.9	540.8	478.5	456.8	445.4	445.4
27.5°	2798.4	2537.5	1885.9	1254.7	813.2	591.7	491.2	454.3	440.3	431.4	428.9
30°	2882.3	2565.5	1793.0	1096.9	691.0	526.8	461.9	439.0	427.6	419.9	418.7
32.5°	3004.5	2615.1	1695.1	953.1	598.1	481.0	440.3	426.3	417.4	411.0	409.8
35°	3186.5	2702.9	1599.6	831.0	531.9	447.9	422.5	411.0	405.9	403.4	402.1
37.5°	3453.7	2844.2	1509.3	735.5	488.7	426.3	404.7	398.3	395.8	395.8	395.8
40°	3789.7	3030.0	1427.8	668.1	464.5	409.8	391.9	386.9	386.9	388.1	388.1
42.5°	4198.2	3262.8	1357.8	622.3	450.5	398.3	383.0	380.5	379.2	379.2	380.5
45°	4672.8	3537.7	1314.6	586.7	440.3	391.9	376.7	375.4	370.3	367.8	367.8
47.5°	5150.1	3831.7	1312.0	566.3	427.6	384.3	370.3	370.3	360.1	355.0	356.3
50°	5595.4	4095.1	1340.0	561.2	419.9	372.9	364.0	365.2	351.2	344.9	343.6
52.5°	5954.3	4296.2	1374.4	567.6	419.9	362.7	352.5	358.9	343.6	336.0	334.7
55°	6231.7	4436.1	1387.1	581.6	425.0	353.8	342.3	352.5	341.0	330.9	330.9
57.5°	6430.2	4480.7	1332.4	587.9	432.7	352.5	332.1	351.2	344.9	332.1	332.1
60°	6357.7	4222.4	1128.8	563.7	431.4	350.0	324.5	353.8	357.6	343.6	343.6
62.5°	5791.4	3532.6	906.1	509.0	409.8	341.0	315.6	351.2	366.5	361.4	358.9
65°	4714.8	2590.9	702.5	444.1	372.9	322.0	296.5	328.3	346.1	351.2	352.5
67.5°	3322.7	1640.3	545.9	378.0	327.0	294.0	274.9	290.1	296.5	299.1	304.1
70°	1817.2	888.2	433.9	318.1	280.0	266.0	252.0	253.2	250.7	248.1	250.7
72°	912.4	580.3	366.5	276.1	248.1	239.2	232.9	229.1	229.1	225.2	226.5
72.5°	785.2	539.6	353.8	266.0	240.5	232.9	227.8	224.0	222.7	220.2	221.4
75°	523.0	427.6	295.2	222.7	204.9	199.8	202.3	198.5	199.8	197.2	198.5
77.5°	422.5	367.8	250.7	188.3	175.6	168.0	173.1	174.3	176.9	174.3	173.1
80°	353.8	313.0	210.0	155.3	146.3	140.0	142.5	151.4	152.7	145.1	143.8
82.5°	229.1	252.0	165.4	120.9	112.0	109.4	115.8	124.7	127.3	117.1	114.5
85°	192.2	202.3	119.6	82.7	73.8	71.3	84.0	92.9	99.3	89.1	86.5
87.5°	53.4	99.3	58.5	39.4	33.1	33.1	40.7	48.4	57.3	58.5	58.5
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)