

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: P196197

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196197
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-SL4-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 4000K, 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: 19392.1 lumens
Efficiency: N/A
Efficacy: 101.5 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

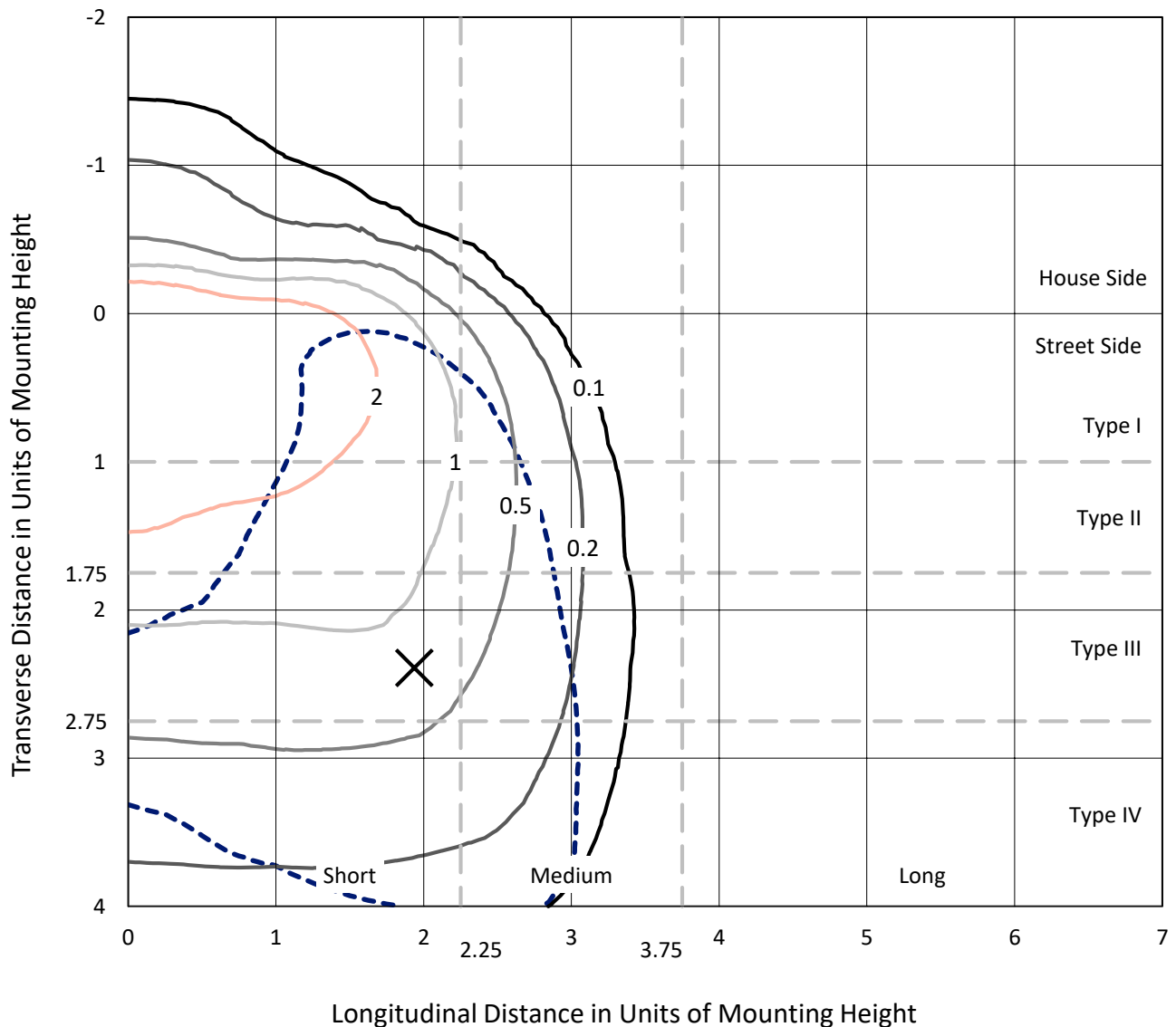
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P196197
 CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-1200

Iso-Footcandle Lines of Horizontal Illumination

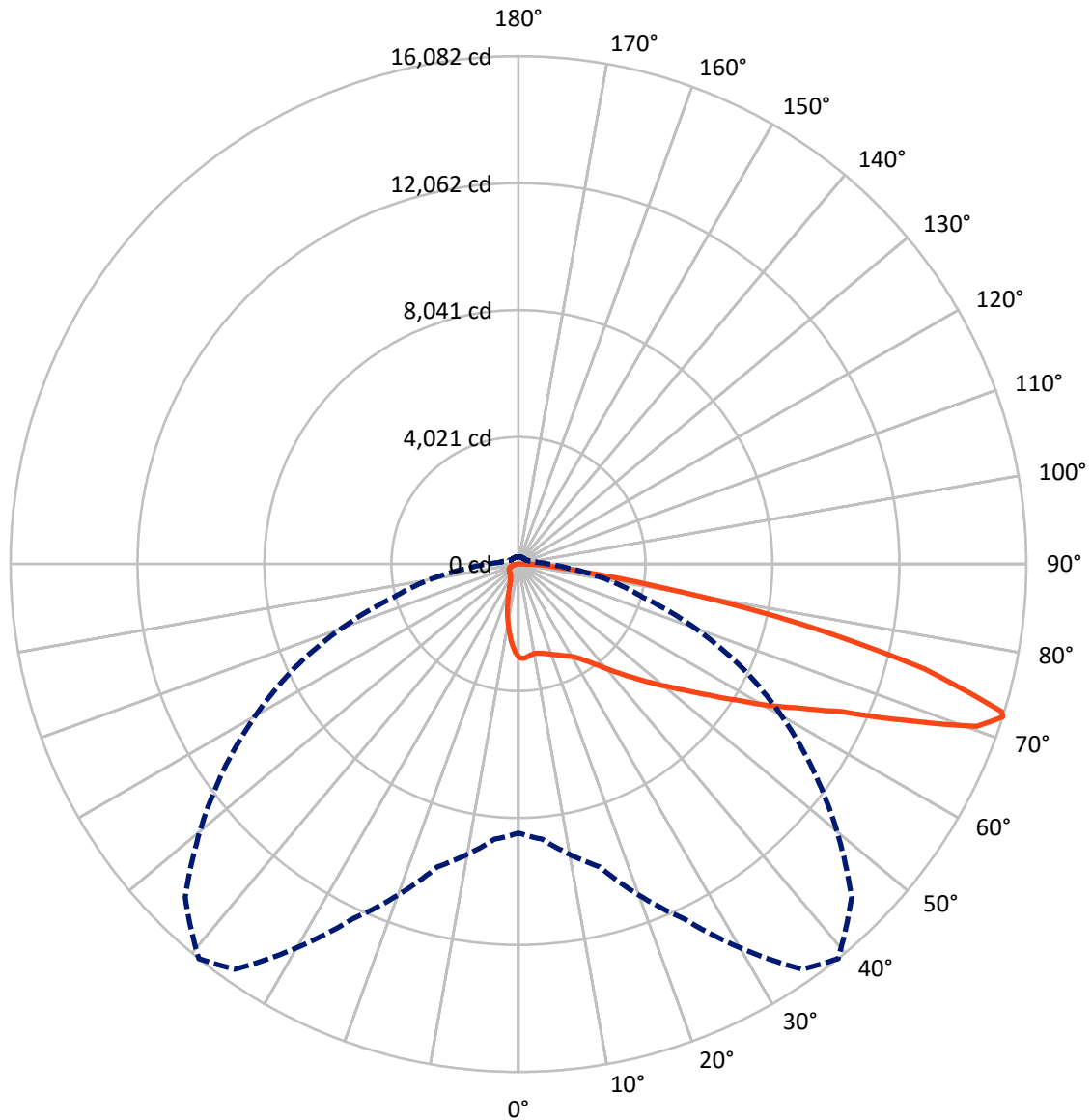
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 fc
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P196197
CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-1200

Luminous Intensity Polar Plot



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

REPORT NUMBER: P196197

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-1200

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2223.6	0.0	2223.6
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	17168.5	0.0	17168.5
	% Fixture	88.5	0.0	88.5
Total	Lumens	19392.1	0.0	19392.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.5	1.3
10°-20°	639.5	3.3
20°-30°	996.6	5.1
30°-40°	1534.5	7.9
40°-50°	2501.5	12.9
50°-60°	3887.1	20.0
60°-70°	5202.7	26.8
70°-80°	3741.5	19.3
80°-90°	634.3	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°	19392.1	100.0
0°-180°	19392.1	100.0

Coefficient of Utilization



REPORT NUMBER: P196197

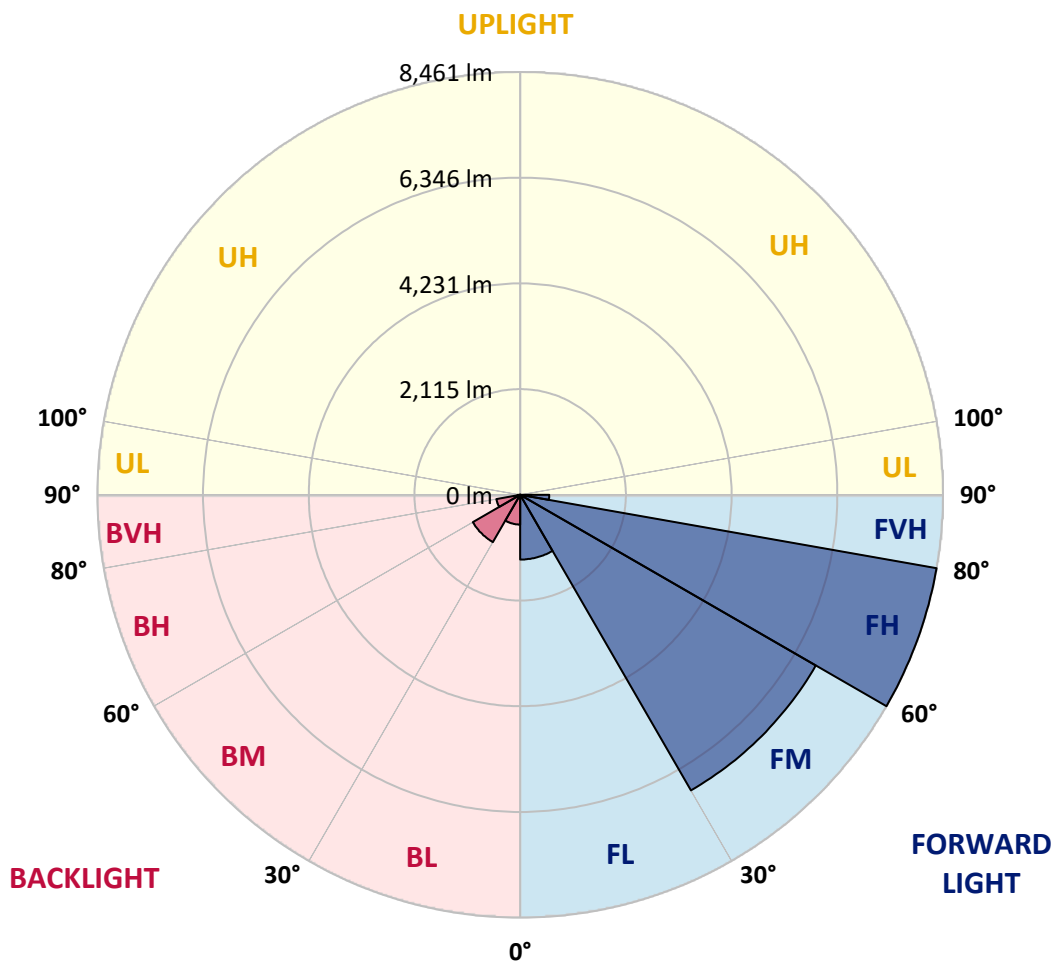
CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-1200

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1295.4	6.7			
FM	(30°-60°)	6830.3	35.2			
FH	(60°-80°)	8461.1	43.6			G4/12000
FVH	(80°-90°)	581.8	3.0			G4/750
BL	(0°-30°)	595.2	3.1	B2/1000		
BM	(30°-60°)	1092.8	5.6	B2/2500		
BH	(60°-80°)	483.1	2.5	B1/500		G1/500
BVH	(80°-90°)	52.4	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





REPORT NUMBER: P196197

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-1200

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5
2.5°	3025.3	3026.6	3022.7	3011.0	3000.6	2995.4	2986.3	2970.6	2949.8	2935.5	2923.8
5°	2996.6	3000.6	2998.0	2978.4	2960.2	2949.8	2935.5	2913.4	2886.1	2874.3	2847.0
7.5°	2974.5	2977.1	2969.3	2947.2	2912.0	2899.0	2873.0	2844.3	2819.7	2802.7	2770.2
10°	2958.9	2961.5	2955.0	2932.9	2893.8	2878.2	2847.0	2815.7	2783.1	2762.4	2725.9
12.5°	2936.8	2942.0	2942.0	2931.6	2905.6	2895.2	2863.9	2830.0	2800.1	2777.9	2732.4
15°	2932.9	2939.3	2951.1	2949.8	2942.0	2934.2	2909.5	2875.6	2849.5	2823.5	2767.6
17.5°	2965.4	2979.8	3003.2	3011.0	3005.7	2988.9	2960.2	2929.0	2900.4	2875.6	2806.6
20°	3047.5	3055.2	3090.4	3106.0	3080.0	3055.2	3017.5	2977.1	2951.1	2931.6	2843.1
22.5°	3171.1	3181.5	3210.1	3211.5	3156.8	3126.9	3078.7	3029.2	3004.5	2996.6	2892.5
25°	3369.0	3366.3	3374.2	3341.7	3242.7	3207.6	3148.9	3091.7	3074.8	3090.4	2965.4
27.5°	3605.9	3599.4	3574.7	3490.0	3340.3	3294.7	3224.4	3173.7	3173.7	3210.1	3064.4
30°	3879.2	3872.8	3792.1	3650.2	3456.1	3404.1	3329.9	3276.5	3303.9	3374.2	3198.5
32.5°	4168.2	4144.8	4031.6	3841.5	3621.6	3564.3	3492.7	3437.9	3490.0	3609.8	3391.1
35°	4440.3	4427.3	4288.0	4062.9	3835.0	3786.9	3737.4	3669.6	3753.0	3939.2	3663.2
37.5°	4721.5	4711.1	4540.6	4301.0	4095.4	4062.9	4021.1	3974.3	4108.4	4353.1	4031.6
40°	5035.3	5014.4	4799.6	4560.1	4398.7	4383.0	4360.9	4348.0	4564.0	4928.5	4497.6
42.5°	5390.6	5350.2	5073.0	4845.2	4729.3	4742.3	4730.6	4782.7	5113.3	5592.4	5052.1
45°	5796.8	5716.0	5345.0	5148.5	5095.1	5147.2	5171.9	5304.7	5762.9	6359.2	5671.8
47.5°	6176.9	6072.7	5643.1	5477.8	5507.8	5597.6	5667.9	5902.2	6475.0	7116.8	6304.4
50°	6527.0	6409.9	5962.1	5818.9	5964.7	6092.3	6238.1	6568.7	7232.6	7896.5	6885.1
52.5°	6786.2	6701.5	6281.0	6191.2	6489.3	6658.5	6891.5	7309.4	7998.0	8639.8	7403.1
55°	6986.5	6941.0	6592.1	6618.2	7082.9	7325.0	7607.5	8087.9	8807.7	9306.3	7819.7
57.5°	7218.2	7184.5	6947.6	7133.6	7819.7	8124.3	8457.6	8991.3	9578.4	9893.5	8146.5
60°	7463.0	7463.0	7343.3	7754.6	8741.3	9090.2	9422.2	9837.4	10346.4	10421.9	8279.3
62.5°	7647.9	7696.1	7739.0	8415.9	9616.1	10049.7	10414.2	10812.5	11141.8	10682.3	7966.8
65°	7916.0	8018.9	8261.0	9180.1	10699.2	11266.8	11758.8	12093.4	11786.2	10475.3	6947.6
67.5°	8376.8	8529.2	9044.6	10317.8	12357.7	13207.7	13685.4	13107.5	11659.9	9172.3	5321.6
70°	8792.2	9006.9	9888.3	11761.5	14513.4	15396.0	15176.0	12871.9	10155.0	6723.7	3274.0
72°	8516.2	8750.4	9927.2	12390.2	15665.5	16082.0	14922.2	11407.3	7847.1	4103.2	1614.2
72.5°	8335.2	8578.7	9801.0	12374.6	15696.7	15994.8	14569.4	10825.5	7123.2	3590.3	1305.7
75°	6963.1	7171.4	8427.7	10967.4	13832.5	13285.8	11369.6	7006.1	3274.0	1159.9	671.7
77.5°	4547.1	4705.9	5811.1	7598.4	9689.1	9163.2	6920.2	3280.5	1227.5	704.3	505.1
80°	2284.6	2397.9	3109.9	3995.1	5229.2	4811.3	3194.6	1586.9	821.4	509.0	397.0
82.5°	1589.5	1693.6	2141.4	2039.9	2185.6	2115.4	1502.2	1323.9	614.4	321.5	208.3
85°	1333.0	1441.0	1771.8	1454.0	1189.8	1084.3	1076.6	1251.0	406.1	158.9	175.7
87.5°	1162.5	1326.5	1461.9	1062.2	816.2	719.9	792.8	1146.8	128.9	87.3	53.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P196197

CATALOG NUMBER: NAV-AF-03-D-UNV-SL4-1200

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5	2961.5
2.5°	2904.3	2900.4	2880.8	2850.9	2828.8	2814.4	2787.1	2785.8	2788.4	2764.9	2774.0
5°	2822.2	2806.6	2755.8	2686.9	2630.8	2577.5	2518.9	2499.4	2482.5	2447.3	2451.2
7.5°	2736.3	2709.0	2620.5	2507.3	2399.1	2300.2	2202.6	2154.4	2118.0	2072.4	2072.4
10°	2685.6	2642.6	2507.3	2341.8	2170.1	2025.5	1879.8	1792.5	1728.8	1670.2	1666.3
12.5°	2682.9	2617.8	2429.1	2201.3	1965.7	1762.5	1563.4	1429.4	1334.3	1265.3	1258.8
15°	2703.8	2612.6	2364.0	2069.8	1773.0	1508.8	1262.7	1092.2	971.1	894.3	886.5
17.5°	2722.0	2606.2	2293.8	1931.8	1585.6	1264.1	990.6	813.7	699.1	636.6	630.0
20°	2739.0	2591.9	2203.8	1786.1	1378.5	1034.9	774.6	631.4	555.9	520.7	516.8
22.5°	2763.6	2578.8	2110.1	1622.0	1175.5	842.2	639.1	536.3	495.9	479.0	476.5
25°	2804.0	2580.1	2019.0	1454.0	989.3	701.6	553.2	489.5	467.3	455.6	455.6
27.5°	2862.6	2595.7	1929.2	1283.5	831.9	605.3	502.5	464.7	450.4	441.3	438.7
30°	2948.5	2624.4	1834.2	1122.1	706.9	538.9	472.5	449.1	437.4	429.5	428.3
32.5°	3073.5	2675.1	1734.0	975.0	611.8	492.0	450.4	436.1	427.0	420.4	419.2
35°	3259.6	2764.9	1636.3	850.1	544.1	458.2	432.2	420.4	415.2	412.7	411.3
37.5°	3533.0	2909.5	1543.9	752.4	499.9	436.1	414.0	407.4	404.9	404.9	404.9
40°	3876.7	3099.5	1460.6	683.4	475.2	419.2	400.9	395.8	395.8	397.0	397.0
42.5°	4294.6	3337.7	1389.0	636.6	460.8	407.4	391.8	389.2	387.9	387.9	389.2
45°	4780.0	3618.9	1344.8	600.2	450.4	400.9	385.3	384.0	378.8	376.2	376.2
47.5°	5268.3	3919.6	1342.1	579.3	437.4	393.1	378.8	378.8	368.4	363.1	364.5
50°	5723.8	4189.1	1370.8	574.1	429.5	381.5	372.4	373.6	359.3	352.8	351.5
52.5°	6091.0	4394.8	1405.9	580.6	429.5	371.0	360.6	367.1	351.5	343.7	342.4
55°	6374.7	4537.9	1418.9	594.9	434.8	361.9	350.2	360.6	348.8	338.5	338.5
57.5°	6577.8	4583.5	1363.0	601.4	442.6	360.6	339.7	359.3	352.8	339.7	339.7
60°	6503.6	4319.3	1154.7	576.6	441.3	358.0	331.9	361.9	365.8	351.5	351.5
62.5°	5924.3	3613.7	926.9	520.7	419.2	348.8	322.8	359.3	374.9	369.7	367.1
65°	4823.0	2650.4	718.6	454.3	381.5	329.4	303.3	335.8	354.0	359.3	360.6
67.5°	3399.0	1677.9	558.4	386.7	334.5	300.7	281.2	296.8	303.3	306.0	311.1
70°	1858.9	908.6	443.9	325.4	286.4	272.1	257.8	259.0	256.5	253.8	256.5
72°	933.3	593.6	374.9	282.4	253.8	244.7	238.2	234.4	234.4	230.4	231.7
72.5°	803.2	552.0	361.9	272.1	246.0	238.2	233.0	229.1	227.8	225.3	226.5
75°	535.0	437.4	302.0	227.8	209.6	204.4	206.9	203.1	204.4	201.7	203.1
77.5°	432.2	376.2	256.5	192.6	179.6	171.9	177.1	178.3	181.0	178.3	177.1
80°	361.9	320.2	214.8	158.9	149.7	143.2	145.8	154.9	156.2	148.4	147.1
82.5°	234.4	257.8	169.2	123.7	114.6	111.9	118.5	127.6	130.2	119.8	117.1
85°	196.6	206.9	122.3	84.6	75.5	72.9	85.9	95.0	101.6	91.1	88.5
87.5°	54.6	101.6	59.8	40.3	33.9	33.9	41.6	49.5	58.6	59.8	59.8
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)