

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: P197152

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197152
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-04-D-UNV-SL4-8030
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1050mA 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: 18992 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

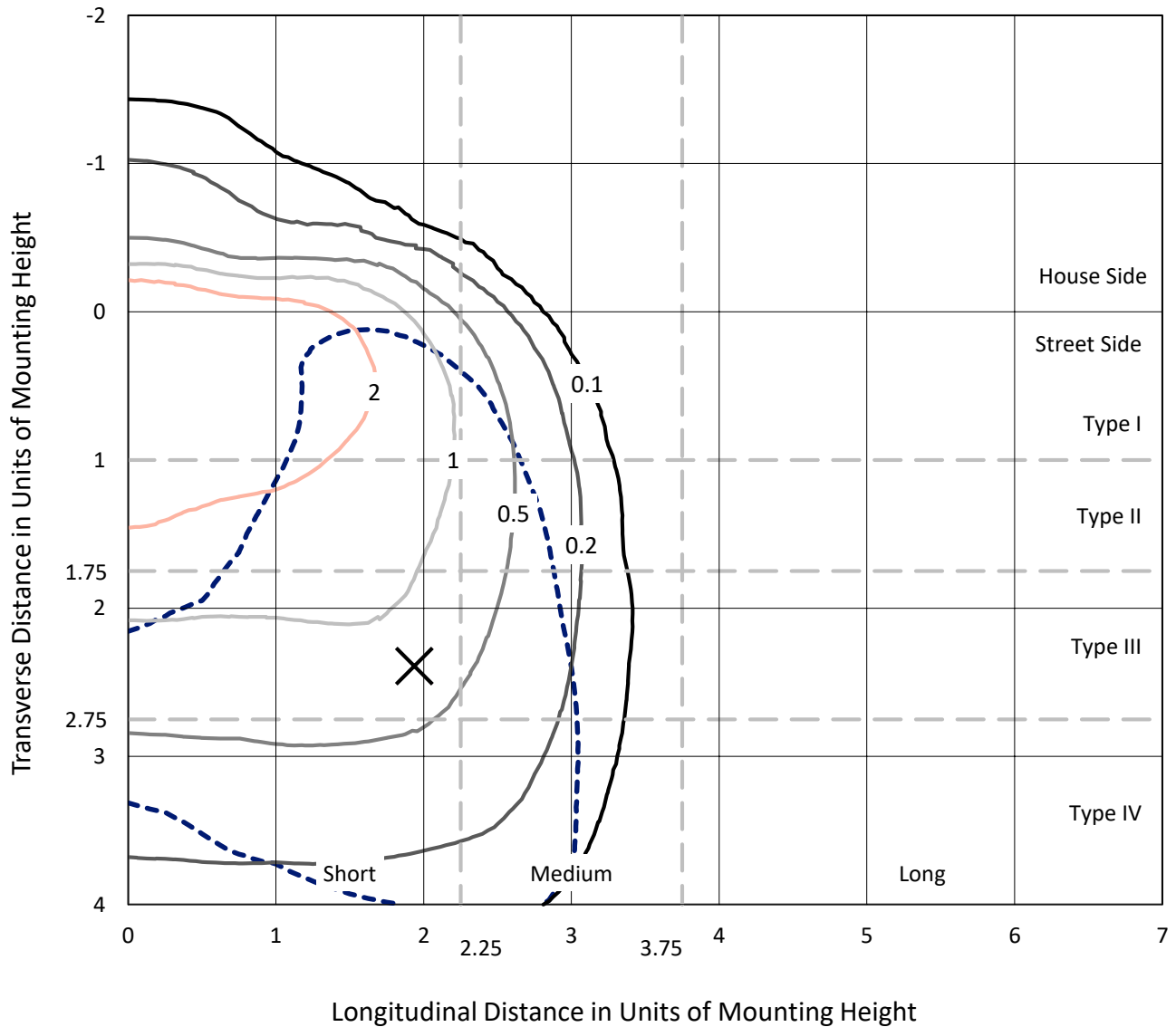
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



REPORT NUMBER: P197152
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030

Iso-Footcandle Lines of Horizontal Illumination

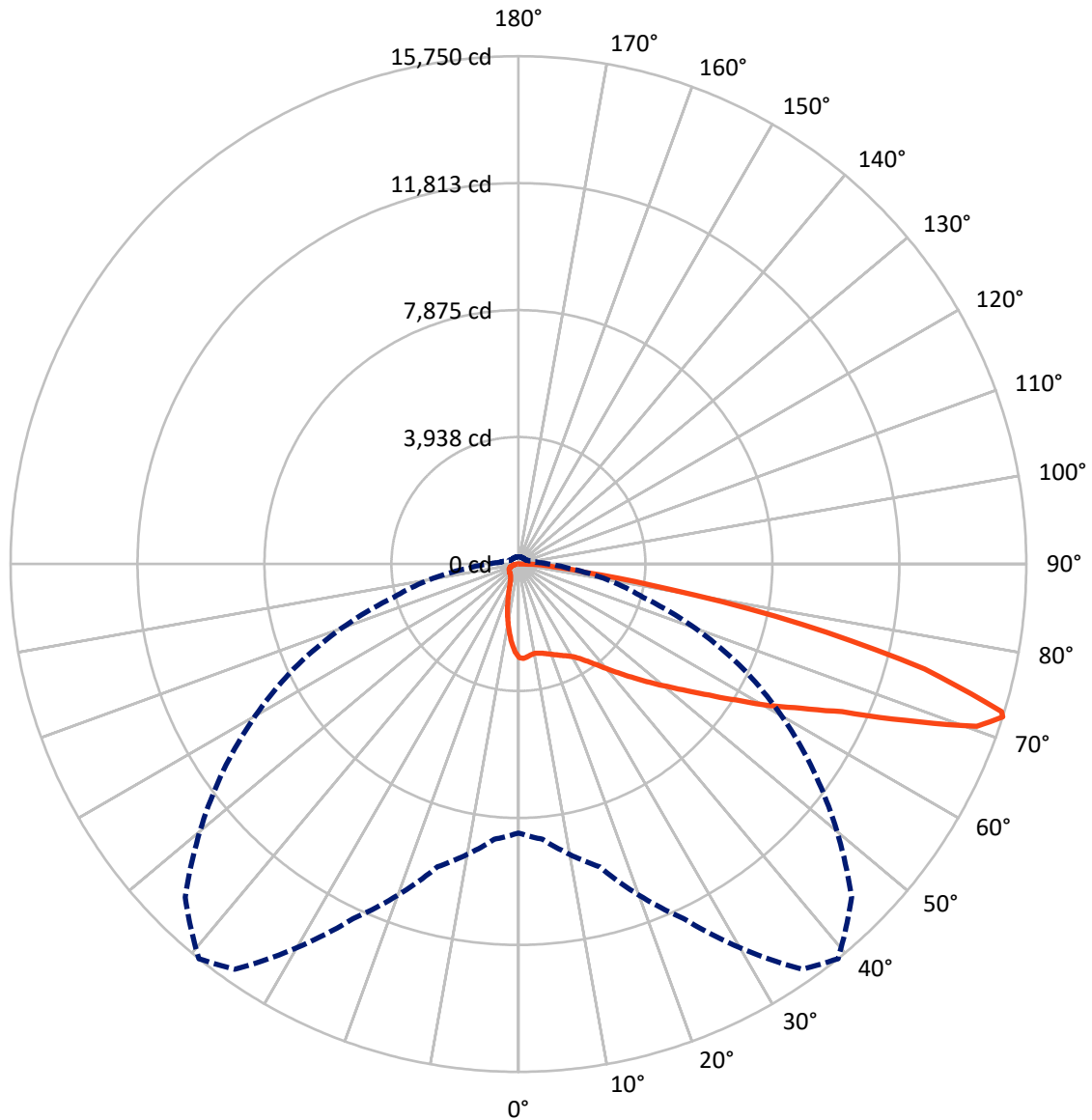
× Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P197152
CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030

Luminous Intensity Polar Plot



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

REPORT NUMBER: P197152

CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2177.7	0.0	2177.7
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	16814.3	0.0	16814.3
	% Fixture	88.5	0.0	88.5
Total	Lumens	18992.0	0.0	18992.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	249.3	1.3
10°-20°	626.3	3.3
20°-30°	976.0	5.1
30°-40°	1502.8	7.9
40°-50°	2449.9	12.9
50°-60°	3806.9	20.0
60°-70°	5095.4	26.8
70°-80°	3664.3	19.3
80°-90°	621.2	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°	18992.0	100.0
0°-180°	18992.0	100.0

Coefficient of Utilization



REPORT NUMBER: P197152

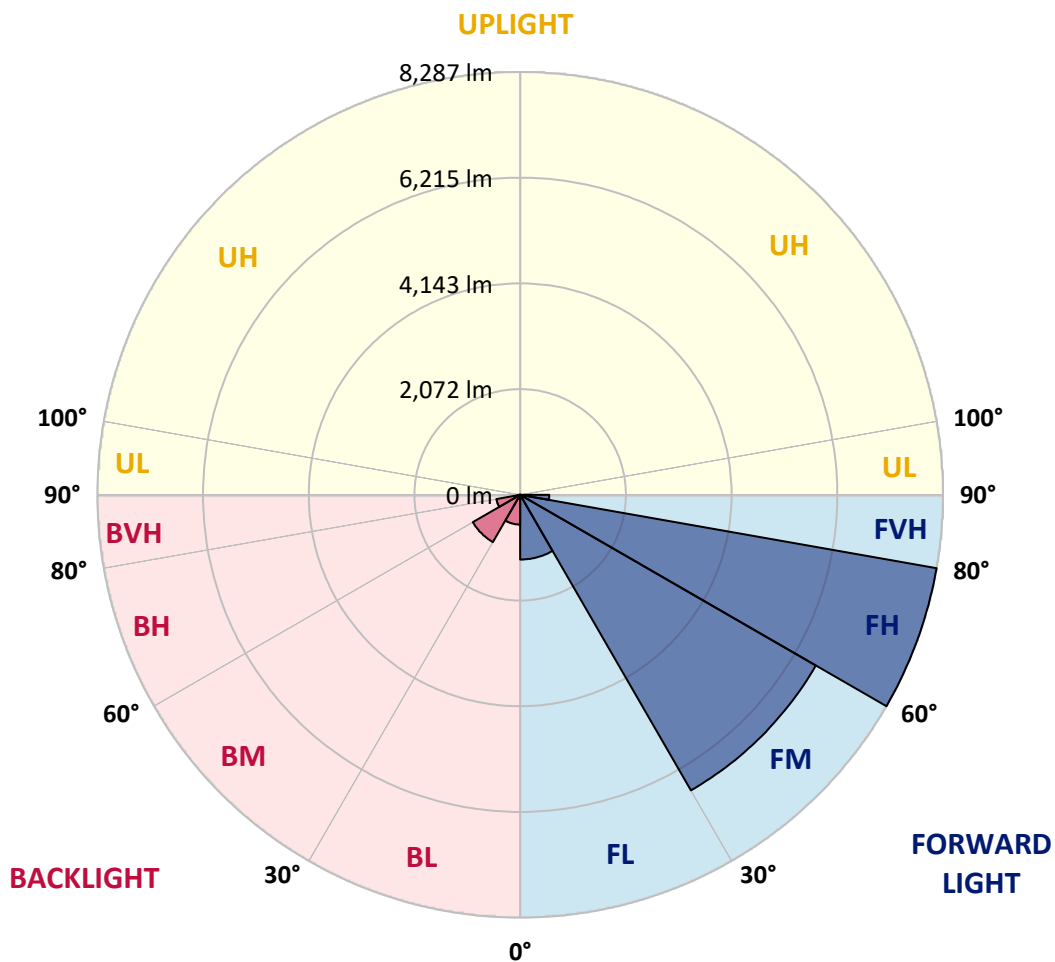
CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1268.6	6.7			
FM	(30°-60°)	6689.3	35.2			
FH	(60°-80°)	8286.5	43.6			G4/12000
FVH	(80°-90°)	569.8	3.0			G4/750
BL	(0°-30°)	583.0	3.1	B2/1000		
BM	(30°-60°)	1070.2	5.6	B2/2500		
BH	(60°-80°)	473.1	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





REPORT NUMBER: P197152
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4
2.5°	2962.9	2964.2	2960.3	2948.9	2938.7	2933.6	2924.6	2909.3	2888.9	2874.9	2863.4
5°	2934.8	2938.7	2936.1	2917.0	2899.1	2888.9	2874.9	2853.2	2826.5	2815.0	2788.2
7.5°	2913.2	2915.7	2908.1	2886.4	2852.0	2839.2	2813.7	2785.7	2761.5	2744.9	2713.0
10°	2897.9	2900.4	2894.0	2872.4	2834.1	2818.8	2788.2	2757.6	2725.8	2705.4	2669.7
12.5°	2876.2	2881.3	2881.3	2871.1	2845.6	2835.4	2804.8	2771.7	2742.3	2720.7	2676.0
15°	2872.4	2878.7	2890.2	2888.9	2881.3	2873.6	2849.4	2816.3	2790.8	2765.3	2710.5
17.5°	2904.2	2918.3	2941.2	2948.9	2943.8	2927.2	2899.1	2868.5	2840.5	2816.3	2748.7
20°	2984.6	2992.2	3026.6	3041.9	3016.4	2992.2	2955.2	2915.7	2890.2	2871.1	2784.4
22.5°	3105.7	3115.9	3143.9	3145.2	3091.7	3062.3	3015.2	2966.7	2942.5	2934.8	2832.8
25°	3299.5	3296.9	3304.6	3272.7	3175.8	3141.4	3084.0	3027.9	3011.3	3026.6	2904.2
27.5°	3531.5	3525.1	3500.9	3418.0	3271.4	3226.8	3158.0	3108.2	3108.2	3143.9	3001.1
30°	3799.2	3792.9	3713.8	3574.8	3384.9	3333.9	3261.2	3208.9	3235.7	3304.6	3132.5
32.5°	4082.3	4059.3	3948.4	3762.3	3546.8	3490.7	3420.6	3367.0	3418.0	3535.3	3321.1
35°	4348.7	4336.0	4199.6	3979.0	3755.9	3708.7	3660.3	3594.0	3675.6	3857.9	3587.6
37.5°	4624.1	4613.9	4446.9	4212.3	4010.9	3979.0	3938.2	3892.3	4023.6	4263.3	3948.4
40°	4931.4	4911.0	4700.6	4466.0	4307.9	4292.6	4270.9	4258.2	4469.8	4826.8	4404.8
42.5°	5279.4	5239.9	4968.3	4745.2	4631.7	4644.5	4633.0	4684.0	5007.8	5477.0	4947.9
45°	5677.2	5598.1	5234.8	5042.3	4990.0	5041.0	5065.2	5195.3	5644.0	6227.9	5554.8
47.5°	6049.4	5947.5	5526.7	5364.8	5394.1	5482.1	5551.0	5780.4	6341.4	6969.9	6174.4
50°	6392.4	6277.7	5839.1	5698.8	5841.6	5966.6	6109.4	6433.2	7083.4	7733.6	6743.0
52.5°	6646.1	6563.2	6151.4	6063.5	6355.4	6521.2	6749.4	7158.6	7833.0	8461.6	7250.4
55°	6842.4	6797.8	6456.1	6481.6	6936.8	7173.9	7450.6	7921.0	8626.0	9114.3	7658.4
57.5°	7069.4	7036.2	6804.2	6986.5	7658.4	7956.7	8283.1	8805.8	9380.8	9689.3	7978.4
60°	7309.1	7309.1	7191.8	7594.6	8561.0	8902.7	9227.8	9634.5	10133.0	10206.9	8108.4
62.5°	7490.1	7537.3	7579.3	8242.3	9417.8	9842.3	10199.3	10589.4	10912.0	10461.9	7802.4
65°	7752.7	7853.4	8090.6	8990.7	10478.5	11034.3	11516.3	11843.9	11543.0	10259.2	6804.2
67.5°	8204.0	8353.2	8858.1	10104.9	12102.7	12935.2	13403.1	12837.1	11419.4	8983.0	5211.8
70°	8610.7	8821.1	9684.2	11518.8	14214.0	15078.4	14862.9	12606.3	9945.6	6584.9	3206.4
72°	8340.5	8569.9	9722.5	12134.6	15342.3	15750.2	14614.3	11172.0	7685.2	4018.5	1580.9
72.5°	8163.2	8401.7	9598.8	12119.3	15372.9	15664.8	14268.8	10602.1	6976.3	3516.2	1278.7
75°	6819.5	7023.5	8253.8	10741.1	13547.2	13011.7	11135.1	6861.6	3206.4	1135.9	657.9
77.5°	4453.3	4608.8	5691.2	7441.6	9489.2	8974.1	6777.4	3212.8	1202.2	689.7	494.7
80°	2237.5	2348.4	3045.8	3912.7	5121.3	4712.1	3128.6	1554.1	804.5	498.5	388.8
82.5°	1556.7	1658.7	2097.2	1997.8	2140.6	2071.7	1471.2	1296.6	601.8	314.9	204.0
85°	1305.5	1411.3	1735.2	1424.1	1165.3	1062.0	1054.4	1225.2	397.8	155.5	172.1
87.5°	1138.5	1299.1	1431.7	1040.3	799.4	705.0	776.4	1123.2	126.2	85.4	52.3
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: P197152
 CATALOG NUMBER: NAV-AF-04-D-UNV-SL4-8030

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4	2900.4
2.5°	2844.3	2840.5	2821.4	2792.1	2770.4	2756.4	2729.6	2728.3	2730.9	2707.9	2716.8
5°	2764.0	2748.7	2699.0	2631.4	2576.6	2524.3	2467.0	2447.8	2431.3	2396.8	2400.7
7.5°	2679.9	2653.1	2566.4	2455.5	2349.7	2252.8	2157.1	2110.0	2074.3	2029.7	2029.7
10°	2630.1	2588.1	2455.5	2293.6	2125.3	1983.8	1841.0	1755.6	1693.1	1635.7	1631.9
12.5°	2627.6	2563.8	2379.0	2155.9	1925.1	1726.2	1531.2	1399.9	1306.8	1239.2	1232.8
15°	2648.0	2558.7	2315.2	2027.1	1736.4	1477.6	1236.7	1069.6	951.1	875.9	868.2
17.5°	2665.8	2552.4	2246.4	1892.0	1552.8	1237.9	970.2	796.8	684.6	623.4	617.1
20°	2682.4	2538.3	2158.4	1749.2	1350.1	1013.6	758.6	618.3	544.4	510.0	506.1
22.5°	2706.6	2525.6	2066.6	1588.5	1151.2	824.9	626.0	525.3	485.7	469.2	466.6
25°	2746.2	2526.9	1977.4	1424.1	968.9	687.2	541.8	479.4	457.7	446.2	446.2
27.5°	2803.5	2542.2	1889.4	1257.1	814.7	592.8	492.1	455.1	441.1	432.2	429.6
30°	2887.7	2570.2	1796.3	1099.0	692.3	527.8	462.8	439.8	428.4	420.7	419.4
32.5°	3010.1	2619.9	1698.2	954.9	599.2	481.9	441.1	427.1	418.2	411.8	410.5
35°	3192.4	2707.9	1602.6	832.5	532.9	448.8	423.3	411.8	406.7	404.1	402.9
37.5°	3460.1	2849.4	1512.0	736.9	489.6	427.1	405.4	399.0	396.5	396.5	396.5
40°	3796.7	3035.6	1430.4	669.3	465.3	410.5	392.7	387.6	387.6	388.8	388.8
42.5°	4205.9	3268.9	1360.3	623.4	451.3	399.0	383.7	381.2	379.9	379.9	381.2
45°	4681.5	3544.2	1317.0	587.7	441.1	392.7	377.4	376.1	371.0	368.4	368.4
47.5°	5159.6	3838.8	1314.4	567.3	428.4	385.0	371.0	371.0	360.8	355.7	357.0
50°	5605.8	4102.7	1342.5	562.2	420.7	373.5	364.6	365.9	351.9	345.5	344.2
52.5°	5965.3	4304.1	1376.9	568.6	420.7	363.3	353.1	359.5	344.2	336.6	335.3
55°	6243.2	4444.3	1389.7	582.6	425.8	354.4	343.0	353.1	341.7	331.5	331.5
57.5°	6442.1	4489.0	1334.8	589.0	433.5	353.1	332.8	351.9	345.5	332.8	332.8
60°	6369.4	4230.2	1130.8	564.8	432.2	350.6	325.1	354.4	358.2	344.2	344.2
62.5°	5802.1	3539.1	907.7	510.0	410.5	341.7	316.2	351.9	367.2	362.1	359.5
65°	4723.5	2595.7	703.8	444.9	373.5	322.6	297.1	328.9	346.8	351.9	353.1
67.5°	3328.8	1643.4	546.9	378.6	327.7	294.5	275.4	290.7	297.1	299.6	304.7
70°	1820.6	889.9	434.7	318.7	280.5	266.5	252.4	253.7	251.2	248.6	251.2
72°	914.1	581.4	367.2	276.7	248.6	239.7	233.3	229.5	229.5	225.7	226.9
72.5°	786.6	540.6	354.4	266.5	241.0	233.3	228.2	224.4	223.1	220.6	221.8
75°	524.0	428.4	295.8	223.1	205.3	200.2	202.7	198.9	200.2	197.6	198.9
77.5°	423.3	368.4	251.2	188.7	175.9	168.3	173.4	174.7	177.2	174.7	173.4
80°	354.4	313.6	210.4	155.5	146.6	140.2	142.8	151.7	153.0	145.3	144.1
82.5°	229.5	252.4	165.7	121.1	112.2	109.6	116.0	124.9	127.5	117.3	114.7
85°	192.5	202.7	119.8	82.9	73.9	71.4	84.1	93.1	99.4	89.2	86.7
87.5°	53.5	99.4	58.6	39.5	33.1	33.1	40.8	48.4	57.4	58.6	58.6
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)