

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: P196677

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196677
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-SL4-7030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 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: 18334.8 lumens
Efficiency: N/A
Efficacy: 96.0 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

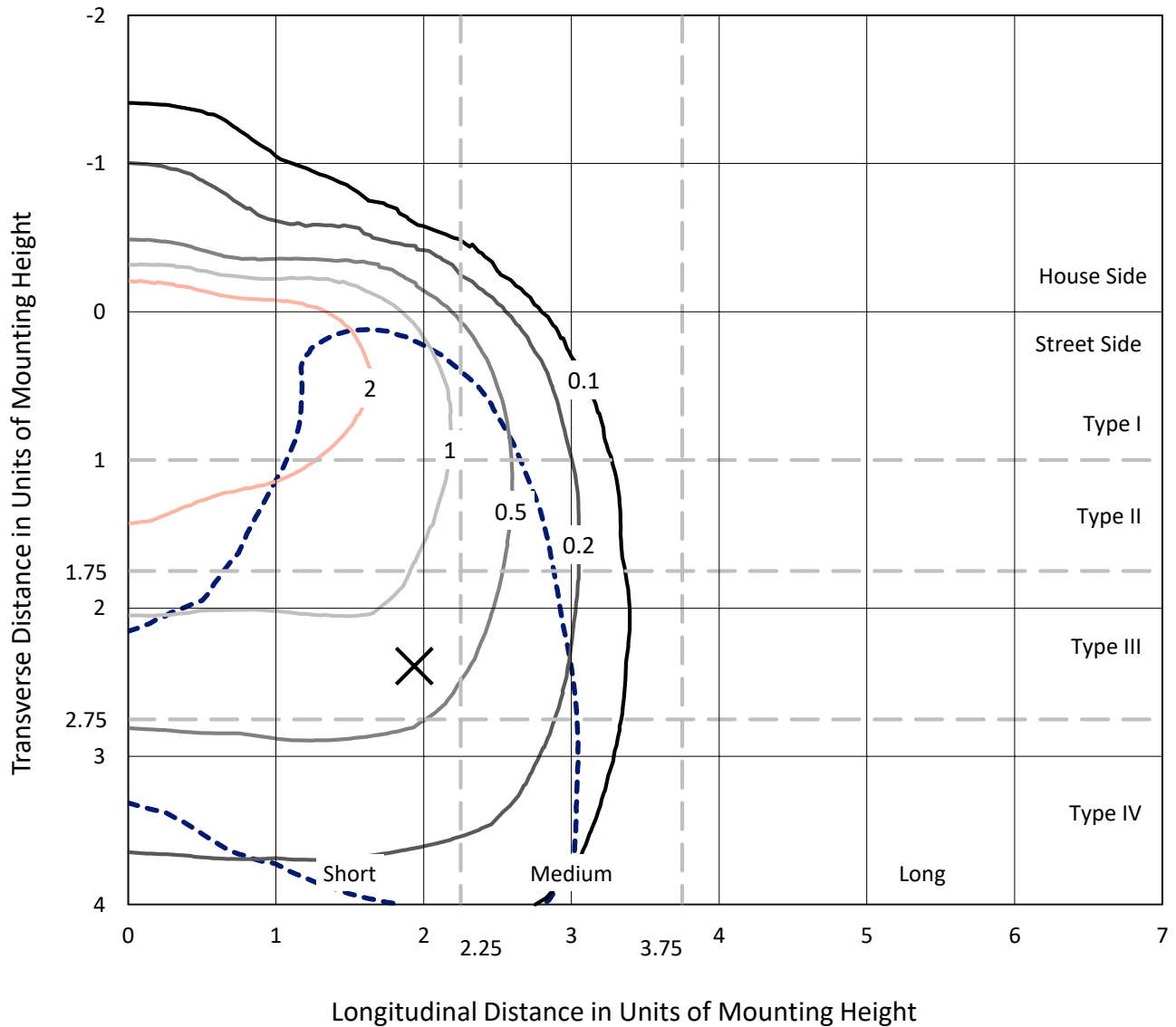
Input Watts (W): 191
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

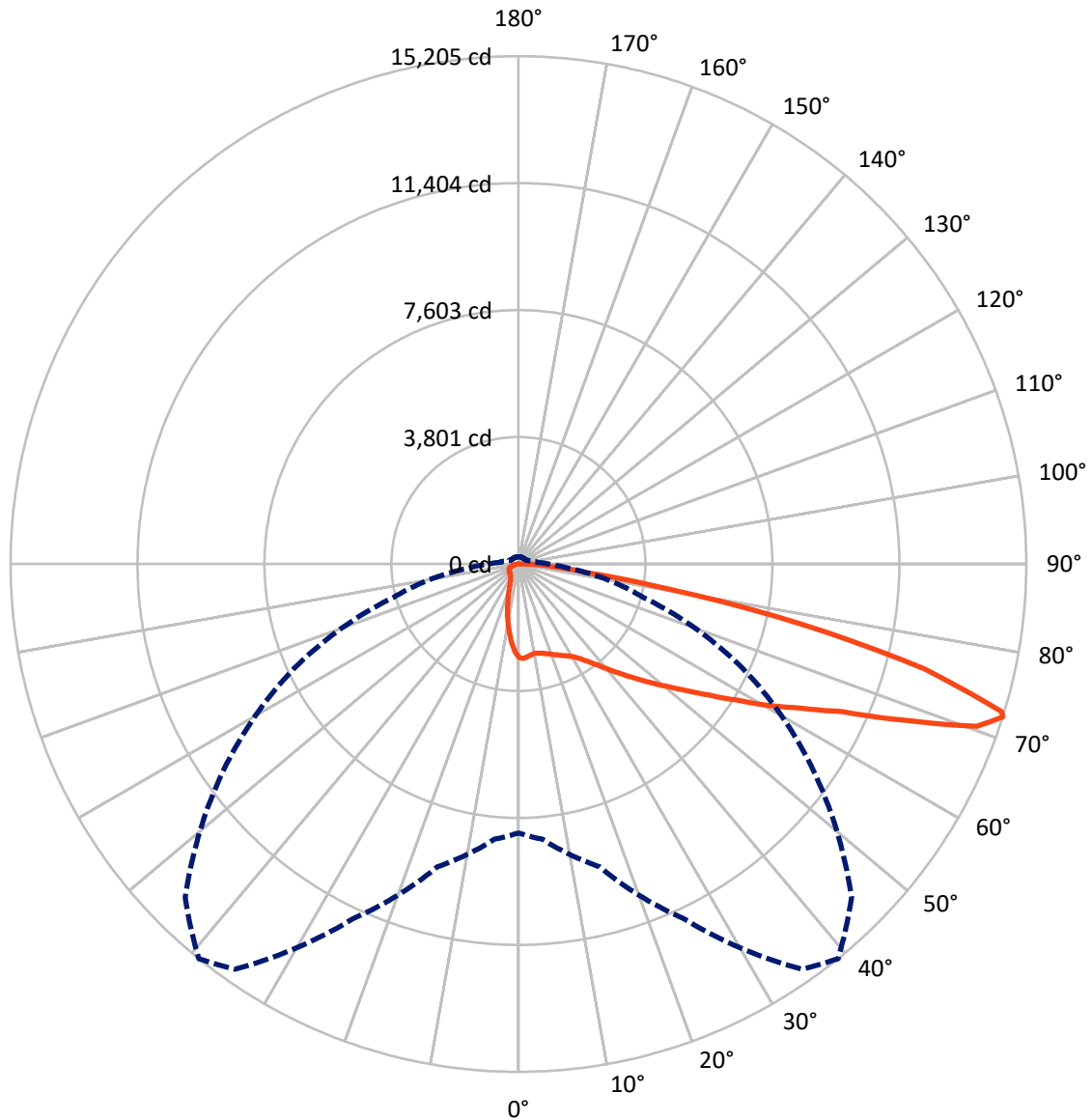
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 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	2102.3	0.0	2102.3
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	16232.5	0.0	16232.5
	% Fixture	88.5	0.0	88.5
Total	Lumens	18334.8	0.0	18334.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	240.6	1.3
10°-20°	604.6	3.3
20°-30°	942.3	5.1
30°-40°	1450.8	7.9
40°-50°	2365.1	12.9
50°-60°	3675.1	20.0
60°-70°	4919.0	26.8
70°-80°	3537.5	19.3
80°-90°	599.7	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°	18334.8	100.0
0°-180°	18334.8	100.0

Coefficient of Utilization



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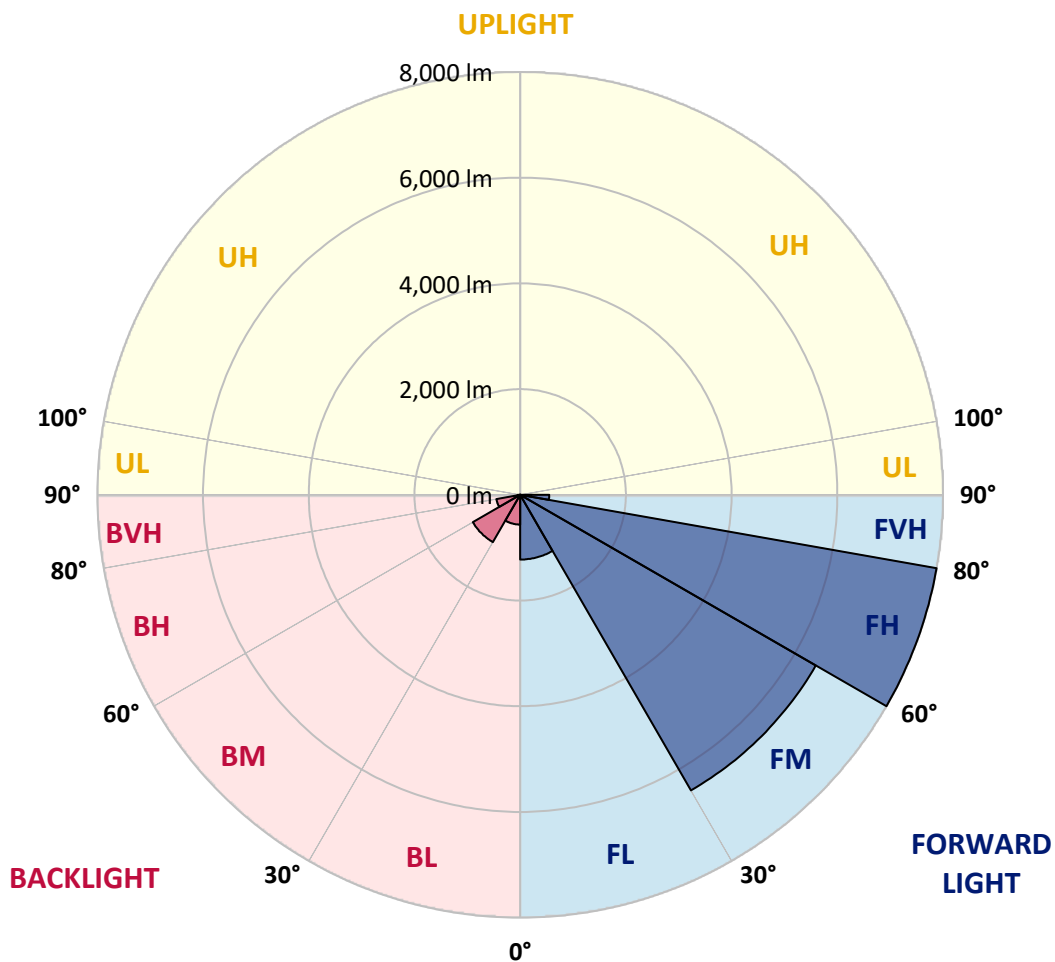
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1224.7	6.7			
FM	(30°-60°)	6457.9	35.2			
FH	(60°-80°)	7999.8	43.6			G4/12000
FVH	(80°-90°)	550.1	3.0			G4/750
BL	(0°-30°)	562.8	3.1	B2/1000		
BM	(30°-60°)	1033.2	5.6	B2/2500		
BH	(60°-80°)	456.8	2.5	B1/500		G1/500
BVH	(80°-90°)	49.6	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°	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1
2.5°	2860.4	2861.6	2857.9	2846.9	2837.0	2832.0	2823.5	2808.6	2789.0	2775.4	2764.4
5°	2833.3	2837.0	2834.5	2816.0	2798.7	2789.0	2775.4	2754.5	2728.6	2717.6	2691.7
7.5°	2812.4	2814.8	2807.4	2786.5	2753.4	2741.0	2716.4	2689.3	2665.9	2649.9	2619.2
10°	2797.6	2800.1	2793.9	2773.0	2736.1	2721.3	2691.7	2662.2	2631.4	2611.8	2577.3
12.5°	2776.8	2781.6	2781.6	2771.8	2747.1	2737.3	2707.8	2675.8	2647.5	2626.5	2583.4
15°	2773.0	2779.1	2790.2	2789.0	2781.6	2774.2	2750.8	2718.8	2694.3	2669.6	2616.6
17.5°	2803.7	2817.2	2839.4	2846.9	2842.0	2825.9	2798.7	2769.2	2742.2	2718.8	2653.6
20°	2881.2	2888.7	2921.9	2936.7	2912.1	2888.7	2853.0	2814.8	2790.2	2771.8	2688.0
22.5°	2998.2	3008.0	3035.1	3036.4	2984.6	2956.3	2910.7	2864.0	2840.6	2833.3	2734.9
25°	3185.4	3182.8	3190.3	3159.4	3066.0	3032.7	2977.4	2923.1	2907.2	2921.9	2803.7
27.5°	3409.3	3403.1	3379.7	3299.7	3158.2	3115.1	3048.7	3000.7	3000.7	3035.1	2897.3
30°	3667.8	3661.6	3585.4	3451.2	3267.7	3218.6	3148.5	3097.9	3123.7	3190.3	3024.1
32.5°	3941.0	3918.8	3811.7	3632.1	3424.0	3369.9	3302.3	3250.6	3299.7	3413.0	3206.2
35°	4198.3	4185.9	4054.3	3841.3	3625.9	3580.4	3533.6	3469.6	3548.4	3724.4	3463.4
37.5°	4464.2	4454.3	4293.1	4066.5	3872.0	3841.3	3801.9	3757.7	3884.3	4115.8	3811.7
40°	4760.8	4741.0	4538.0	4311.5	4158.9	4144.1	4123.1	4110.9	4315.2	4659.8	4252.4
42.5°	5096.7	5058.6	4796.4	4581.0	4471.4	4483.8	4472.7	4521.9	4834.5	5287.5	4776.7
45°	5480.8	5404.4	5053.7	4867.8	4817.3	4866.5	4889.9	5015.4	5448.8	6012.4	5362.6
47.5°	5840.1	5741.7	5335.4	5179.2	5207.6	5292.4	5358.8	5580.4	6122.1	6728.7	5960.7
50°	6171.2	6060.4	5637.0	5501.6	5639.5	5760.1	5898.0	6210.7	6838.3	7466.0	6509.6
52.5°	6416.1	6336.2	5938.6	5853.7	6135.5	6295.5	6515.7	6910.8	7562.0	8168.8	6999.4
55°	6605.7	6562.5	6232.7	6257.4	6696.7	6925.6	7192.7	7646.9	8327.5	8798.9	7393.3
57.5°	6824.8	6792.7	6568.7	6744.8	7393.3	7681.4	7996.4	8501.1	9056.2	9354.0	7702.3
60°	7056.2	7056.2	6942.9	7331.9	8264.8	8594.7	8908.5	9301.1	9782.3	9853.8	7827.9
62.5°	7230.9	7276.4	7317.1	7957.1	9091.9	9501.7	9846.3	10223.0	10534.3	10099.9	7532.5
65°	7484.5	7581.7	7810.6	8679.5	10115.9	10652.6	11117.7	11434.1	11143.6	9904.2	6568.7
67.5°	7920.1	8064.1	8551.5	9755.2	11683.8	12487.6	12939.3	12392.8	11024.3	8672.1	5031.5
70°	8312.8	8515.8	9349.1	11120.2	13722.1	14556.6	14348.6	12170.1	9601.3	6357.0	3095.5
72°	8051.9	8273.4	9386.0	11714.7	14811.4	15205.2	14108.5	10785.4	7419.2	3879.5	1526.2
72.5°	7880.8	8111.0	9266.6	11699.9	14840.9	15122.8	13775.1	10235.3	6734.8	3394.5	1234.5
75°	6583.5	6780.4	7968.2	10369.5	13078.5	12561.4	10749.7	6624.2	3095.5	1096.6	635.2
77.5°	4299.2	4449.4	5494.2	7184.2	9160.8	8663.5	6542.9	3101.6	1160.7	665.8	477.6
80°	2160.0	2267.1	2940.3	3777.3	4944.1	4549.0	3020.4	1500.3	776.7	481.3	375.5
82.5°	1502.8	1601.3	2024.7	1928.7	2066.5	2000.0	1420.4	1251.7	580.9	304.0	196.8
85°	1260.3	1362.5	1675.2	1374.8	1125.0	1025.3	1017.9	1182.8	384.0	150.1	166.2
87.5°	1099.1	1254.2	1382.1	1004.3	771.7	680.5	749.5	1084.3	121.9	82.5	50.5
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°	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1	2800.1
2.5°	2745.9	2742.2	2723.8	2695.4	2674.5	2661.0	2635.2	2633.9	2636.3	2614.2	2622.8
5°	2668.3	2653.6	2605.7	2540.4	2487.4	2436.9	2381.7	2363.2	2347.1	2313.9	2317.6
7.5°	2587.2	2561.2	2477.6	2370.5	2268.3	2174.8	2082.5	2036.9	2002.5	1959.4	1959.4
10°	2539.0	2498.5	2370.5	2214.2	2051.8	1915.1	1777.2	1694.8	1634.5	1579.2	1575.4
12.5°	2536.7	2475.2	2296.6	2081.3	1858.5	1666.5	1478.2	1351.4	1261.6	1196.3	1190.2
15°	2556.3	2470.3	2235.1	1957.0	1676.4	1426.5	1193.8	1032.6	918.3	845.5	838.1
17.5°	2573.6	2464.1	2168.7	1826.5	1499.1	1195.1	936.7	769.3	660.9	601.9	595.7
20°	2589.6	2450.4	2083.7	1688.6	1303.5	978.5	732.4	596.9	525.5	492.3	488.6
22.5°	2612.9	2438.2	1995.1	1533.6	1111.3	796.3	604.3	507.1	468.9	452.9	450.4
25°	2651.1	2439.4	1909.0	1374.8	935.4	663.4	523.2	462.8	441.9	430.8	430.8
27.5°	2706.5	2454.2	1824.1	1213.6	786.4	572.3	475.1	439.4	425.9	417.3	414.7
30°	2787.8	2481.3	1734.2	1060.9	668.3	509.5	446.8	424.6	413.5	406.1	405.0
32.5°	2905.9	2529.3	1639.4	921.8	578.4	465.2	425.9	412.4	403.7	397.6	396.3
35°	3081.8	2614.2	1547.1	803.7	514.5	433.2	408.6	397.6	392.6	390.2	389.0
37.5°	3340.4	2750.8	1459.7	711.4	472.6	412.4	391.3	385.2	382.7	382.7	382.7
40°	3665.3	2930.6	1380.9	646.2	449.3	396.3	379.1	374.2	374.2	375.5	375.5
42.5°	4060.4	3155.7	1313.3	601.9	435.7	385.2	370.5	367.9	366.8	366.8	367.9
45°	4519.5	3421.6	1271.4	567.4	425.9	379.1	364.3	363.1	358.2	355.7	355.7
47.5°	4981.0	3706.0	1268.9	547.7	413.5	371.7	358.2	358.2	348.3	343.4	344.6
50°	5411.8	3960.6	1296.1	542.8	406.1	360.7	352.1	353.2	339.7	333.6	332.3
52.5°	5758.8	4155.1	1329.2	548.9	406.1	350.7	340.9	347.1	332.3	324.9	323.7
55°	6027.2	4290.5	1341.6	562.4	411.1	342.2	331.0	340.9	329.9	320.0	320.0
57.5°	6219.1	4333.7	1288.6	568.5	418.5	340.9	321.2	339.7	333.6	321.2	321.2
60°	6149.0	4083.8	1091.7	545.2	417.3	338.4	313.9	342.2	345.8	332.3	332.3
62.5°	5601.2	3416.6	876.4	492.3	396.3	329.9	305.3	339.7	354.4	349.5	347.1
65°	4560.1	2505.9	679.4	429.5	360.7	311.4	286.8	317.5	334.8	339.7	340.9
67.5°	3213.7	1586.5	528.0	365.6	316.3	284.3	265.8	280.6	286.8	289.2	294.1
70°	1757.6	859.1	419.7	307.7	270.8	257.2	243.6	245.0	242.4	240.1	242.4
72°	882.5	561.3	354.4	267.0	240.1	231.4	225.2	221.6	221.6	217.9	219.1
72.5°	759.4	521.8	342.2	257.2	232.6	225.2	220.2	216.7	215.3	212.9	214.1
75°	505.9	413.5	285.5	215.3	198.2	193.3	195.7	192.0	193.3	190.7	192.0
77.5°	408.6	355.7	242.4	182.1	169.9	162.5	167.3	168.6	171.1	168.6	167.3
80°	342.2	302.7	203.1	150.1	141.5	135.4	137.8	146.5	147.7	140.3	139.1
82.5°	221.6	243.6	159.9	116.9	108.2	105.9	112.0	120.6	123.0	113.2	110.8
85°	185.8	195.7	115.7	80.0	71.3	69.0	81.2	89.8	96.0	86.2	83.7
87.5°	51.7	96.0	56.6	38.1	32.0	32.0	39.4	46.8	55.4	56.6	56.6
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)