

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: INVUE

Report Number: P368432

Luminaire Tested: **MSA-SA4B-830-U-SL3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368432
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-830-U-SL3
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15149 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

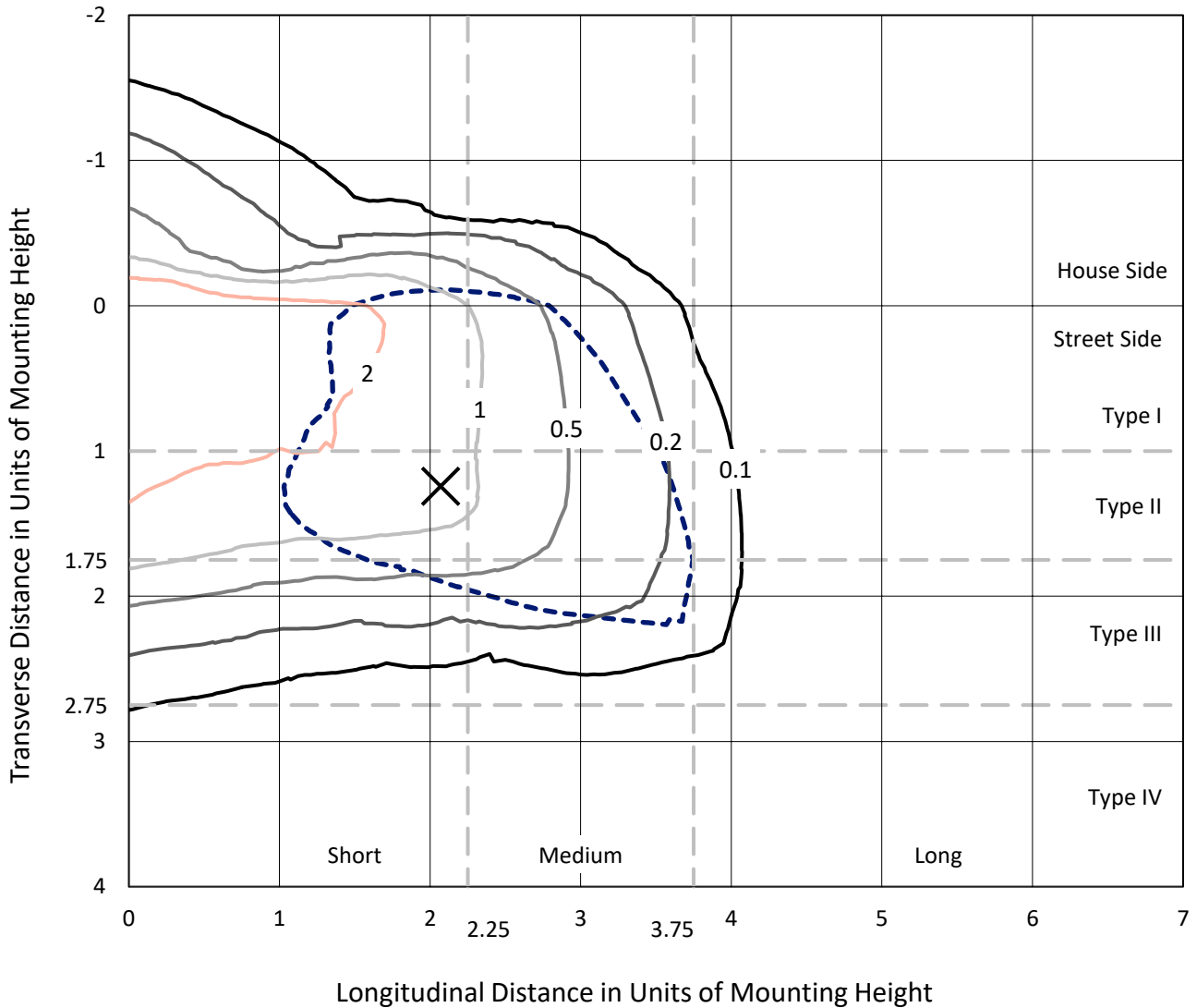
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

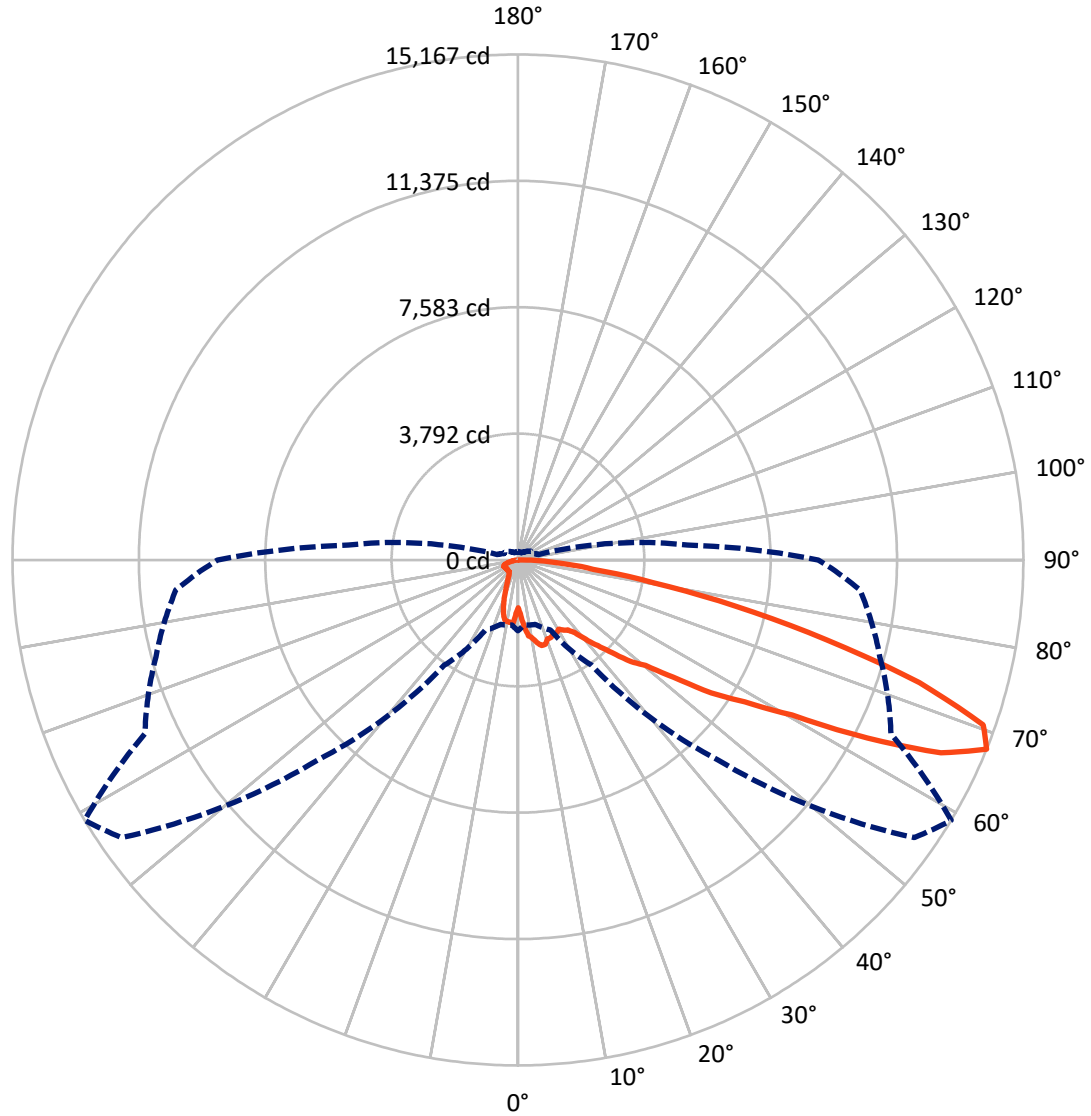
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2280.2	0.0	2280.2
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	12868.8	0.0	12868.8
	% Fixture	84.9	0.0	84.9
Total	Lumens	15149.0	0.0	15149.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.2	1.2
10°-20°	554.0	3.7
20°-30°	791.2	5.2
30°-40°	1165.9	7.7
40°-50°	1969.8	13.0
50°-60°	3427.8	22.6
60°-70°	4368.1	28.8
70°-80°	2312.9	15.3
80°-90°	372.1	2.5
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°	15149.0	100.0
0°-180°	15149.0	100.0

Coefficient of Utilization



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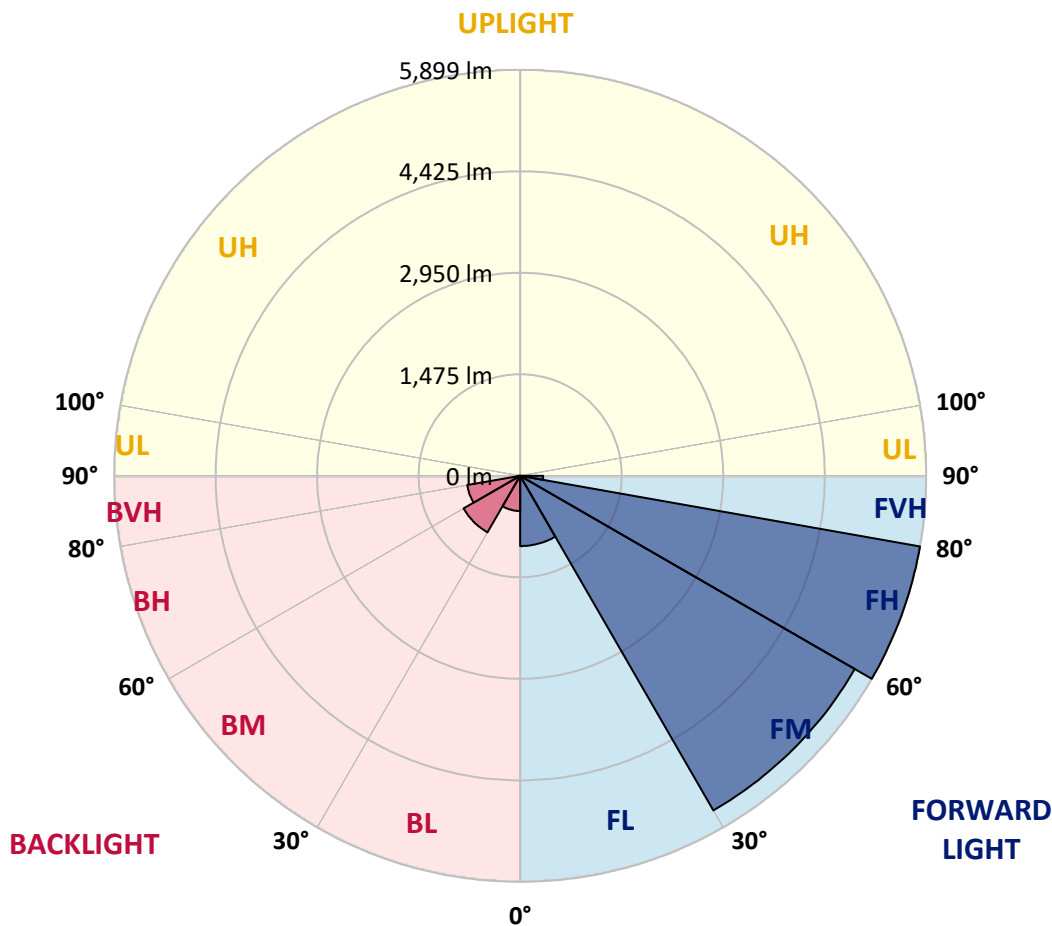
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1021.1	6.7			
FM (30°-60°)	5614.0	37.1			
FH (60°-80°)	5899.5	38.9			G3/7500
FVH (80°-90°)	334.2	2.2			G3/500
BL (0°-30°)	511.4	3.4	B2/1000		
BM (30°-60°)	949.5	6.3	B1/1000		
BH (60°-80°)	781.5	5.2	B2/1000		G2/1000
BVH (80°-90°)	37.9	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-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5
2.5°	1789.8	1706.3	1617.7	1642.8	1693.5	1716.6	1691.6	1667.2	1635.7	1598.5	1725.6
5°	2170.5	2046.6	2028.6	2027.9	2010.0	1938.1	2030.5	2024.1	2061.3	2099.8	2198.7
7.5°	2279.0	2232.7	2182.7	2206.4	2115.9	2112.0	2255.8	2296.9	2368.8	2345.1	2478.0
10°	2223.1	2171.1	2197.4	2187.8	2196.1	2291.2	2379.1	2381.7	2458.7	2534.5	2449.1
12.5°	2124.9	2128.7	2233.4	2229.5	2364.3	2540.9	2567.2	2546.7	2672.5	2621.1	2694.3
15°	2194.9	2241.7	2215.4	2237.9	2291.2	2515.8	2589.0	2663.5	2782.9	2829.1	2755.9
17.5°	2306.6	2331.6	2213.5	2201.3	2311.1	2417.6	2599.3	2662.8	2681.5	3010.8	2907.4
20°	2259.1	2309.8	2194.2	2045.9	2228.2	2369.5	2548.6	2529.3	2619.8	3024.9	2938.9
22.5°	2393.9	2309.8	2162.8	2057.5	2121.7	2251.4	2403.5	2530.0	2637.2	2942.1	2984.5
25°	2419.5	2379.7	2242.4	2137.7	2115.9	2162.1	2379.1	2461.9	2642.9	3055.1	2960.1
27.5°	2576.2	2516.5	2236.6	2239.8	2131.3	2049.8	2302.1	2476.0	2708.4	2985.1	3019.8
30°	2770.7	2725.1	2374.0	2386.8	2236.6	2086.4	2354.7	2407.3	2746.3	3094.2	3094.9
32.5°	2916.4	2996.7	2644.2	2469.6	2416.3	2304.0	2273.8	2510.7	2702.0	3292.0	3223.3
35°	3179.0	3241.3	2852.2	2712.3	2531.9	2405.4	2493.4	2578.7	2886.2	3552.0	3413.9
37.5°	3664.9	3593.0	3238.7	3018.5	2951.1	2768.8	2817.6	2757.9	3086.5	3844.1	3787.6
40°	3946.1	3883.9	3510.9	3388.9	3121.8	3145.0	3084.0	3127.6	3354.2	4154.8	4136.8
42.5°	4223.4	4140.0	3824.8	3740.1	3473.6	3360.7	3371.6	3512.8	3767.0	4656.8	4597.1
45°	4497.6	4283.8	4145.8	4168.2	4039.8	3808.1	3824.2	3957.0	4217.7	5230.7	5093.3
47.5°	4707.5	4530.9	4423.1	4395.5	4331.9	4642.0	4503.3	4557.3	4672.2	5741.7	5689.7
50°	5104.9	4898.8	4758.2	4718.4	4934.1	5365.5	5083.0	4966.8	5211.4	6402.3	6375.3
52.5°	5741.0	5484.3	5249.9	5247.4	5559.4	5839.3	6038.3	5838.0	5927.9	7078.9	7155.9
55°	6296.3	5999.1	5788.5	5904.7	6349.0	6520.4	7196.4	7039.7	6964.0	7761.9	7982.1
57.5°	6503.7	6156.4	6019.0	6190.4	6845.2	7726.0	8440.5	8028.3	7954.5	8534.8	8996.4
60°	6048.5	5681.3	5689.7	6012.6	7146.9	8611.2	9800.8	9450.9	9018.2	9497.1	9947.8
62.5°	4751.8	4419.9	4636.2	5127.3	6894.0	9471.5	11624.0	11771.6	10233.5	10295.1	10475.5
65°	3229.7	2999.9	3195.0	3675.9	5591.5	9940.7	13360.5	13952.3	11340.2	10817.7	10703.4
67.5°	2125.5	1963.1	2001.0	2320.7	3849.2	8474.5	14521.8	15166.9	12351.9	11246.5	10301.5
70°	1646.0	1515.0	1498.3	1665.9	2282.8	5887.4	13833.6	14814.5	12968.2	10844.6	8979.1
72.5°	1291.6	1192.1	1201.1	1362.2	1768.0	3266.3	10704.7	12597.8	12039.9	9352.7	6898.5
75°	1007.2	925.7	971.3	1155.5	1635.1	2029.9	7385.7	9561.3	9308.4	6925.5	3934.6
77.5°	731.2	678.6	743.4	984.1	1536.9	1741.6	4597.7	6670.6	5963.2	3555.8	1350.0
80°	479.5	450.0	503.3	802.4	1393.7	1676.2	2841.3	4087.4	2946.6	998.9	511.0
82.5°	282.5	269.6	313.9	543.1	1120.2	1570.9	1895.1	2271.3	1205.6	422.4	271.5
85°	148.3	138.7	186.2	312.0	772.3	1434.1	1491.9	1359.7	582.3	183.6	129.7
87.5°	49.4	48.1	79.0	120.7	292.1	761.4	796.0	645.8	240.1	53.3	28.2
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°	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5	1433.5
2.5°	1742.9	1717.2	1569.6	1590.1	1609.4	1599.8	1594.0	1527.2	1520.8	1615.8	1608.1
5°	2196.1	2089.6	1963.8	1958.0	1875.2	1790.4	1807.1	1780.2	1787.9	1827.0	1830.9
7.5°	2435.6	2302.7	2182.7	1987.5	1821.9	1687.7	1708.9	1702.5	1685.1	1773.7	1797.5
10°	2431.1	2313.0	2177.5	1941.3	1829.6	1720.5	1589.5	1465.6	1429.0	1385.3	1389.2
12.5°	2591.6	2486.9	2191.6	1950.9	1799.4	1611.3	1366.1	1230.6	1101.0	1098.4	1065.7
15°	2641.7	2564.6	2221.8	1895.7	1588.2	1318.6	1065.0	918.0	824.3	805.7	778.1
17.5°	2768.1	2647.4	2130.0	1717.2	1343.0	1031.0	800.5	697.8	690.1	702.9	688.8
20°	2776.5	2580.7	1964.4	1453.4	1079.1	781.3	652.9	601.5	629.1	660.6	659.3
22.5°	2769.4	2496.6	1821.2	1228.7	810.8	627.8	572.0	560.4	586.1	633.0	638.7
25°	2697.5	2469.0	1642.1	1009.2	658.0	538.0	522.6	529.6	561.7	616.9	616.9
27.5°	2772.6	2356.6	1417.4	821.1	553.4	478.9	489.8	507.8	531.5	594.5	606.0
30°	2748.2	2393.9	1236.4	661.2	487.9	437.8	462.2	480.2	507.1	572.6	578.4
32.5°	2813.7	2294.4	1084.3	555.9	444.9	421.8	427.5	451.9	487.2	538.6	548.9
35°	2913.9	2331.0	909.7	500.1	423.7	403.2	414.1	433.3	468.6	518.7	527.0
37.5°	3233.5	2329.0	789.0	469.3	419.8	399.3	404.4	417.9	459.0	504.6	523.8
40°	3439.0	2462.6	679.2	462.2	415.3	397.4	392.9	407.6	440.4	494.3	507.8
42.5°	3824.8	2544.1	631.7	459.6	414.7	386.5	382.0	399.3	431.4	481.5	502.0
45°	4232.4	2660.3	593.8	458.4	412.8	384.5	371.1	392.9	419.8	468.0	491.7
47.5°	4712.0	2906.1	572.6	453.9	408.9	387.1	367.2	378.1	408.3	456.4	480.2
50°	5339.8	3231.6	577.1	447.4	414.7	387.7	361.4	366.6	394.2	441.0	465.4
52.5°	6103.1	3735.6	606.0	450.0	418.6	384.5	358.9	356.3	380.0	421.1	445.5
55°	7023.0	4450.7	692.7	462.2	418.6	383.9	355.0	343.4	361.4	394.8	418.6
57.5°	8133.0	5278.8	862.2	468.0	415.3	380.0	346.7	326.1	337.0	364.6	387.1
60°	9086.3	5947.1	1036.8	471.8	421.8	371.1	330.0	304.3	311.4	332.5	352.4
62.5°	9572.3	6134.6	1089.4	468.6	439.1	365.3	310.1	281.2	281.8	299.8	317.8
65°	9663.4	5884.8	878.2	465.4	461.6	364.6	295.9	261.3	256.8	269.6	285.0
67.5°	9013.7	5108.1	633.6	458.4	464.1	360.8	286.3	245.2	233.7	242.7	255.5
70°	7653.4	4113.7	532.2	444.2	433.3	341.5	269.6	228.5	213.1	219.6	229.2
72.5°	5705.7	3043.5	464.1	414.1	377.5	292.1	243.9	209.9	193.9	198.4	205.4
75°	3170.0	1623.5	388.4	360.1	308.1	236.2	208.0	186.2	172.0	174.0	181.7
77.5°	1052.8	598.9	285.0	285.7	233.0	182.3	171.4	159.2	148.3	148.9	155.4
80°	477.0	331.3	204.1	205.4	162.4	132.2	131.6	127.7	120.7	118.8	123.3
82.5°	276.7	200.9	139.9	133.5	104.6	86.0	95.7	93.7	91.8	84.7	86.0
85°	136.1	107.8	73.2	69.3	57.8	43.0	51.4	53.3	51.4	43.7	43.0
87.5°	33.4	35.3	18.0	16.7	9.6	4.5	7.7	7.7	9.6	6.4	3.2
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)