

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: P367651

Luminaire Tested: **MSA-SA2D-830-U-T4FT-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367651
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-13)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2D-830-U-T4FT-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8026 lumens
Efficiency: N/A
Efficacy: 62.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

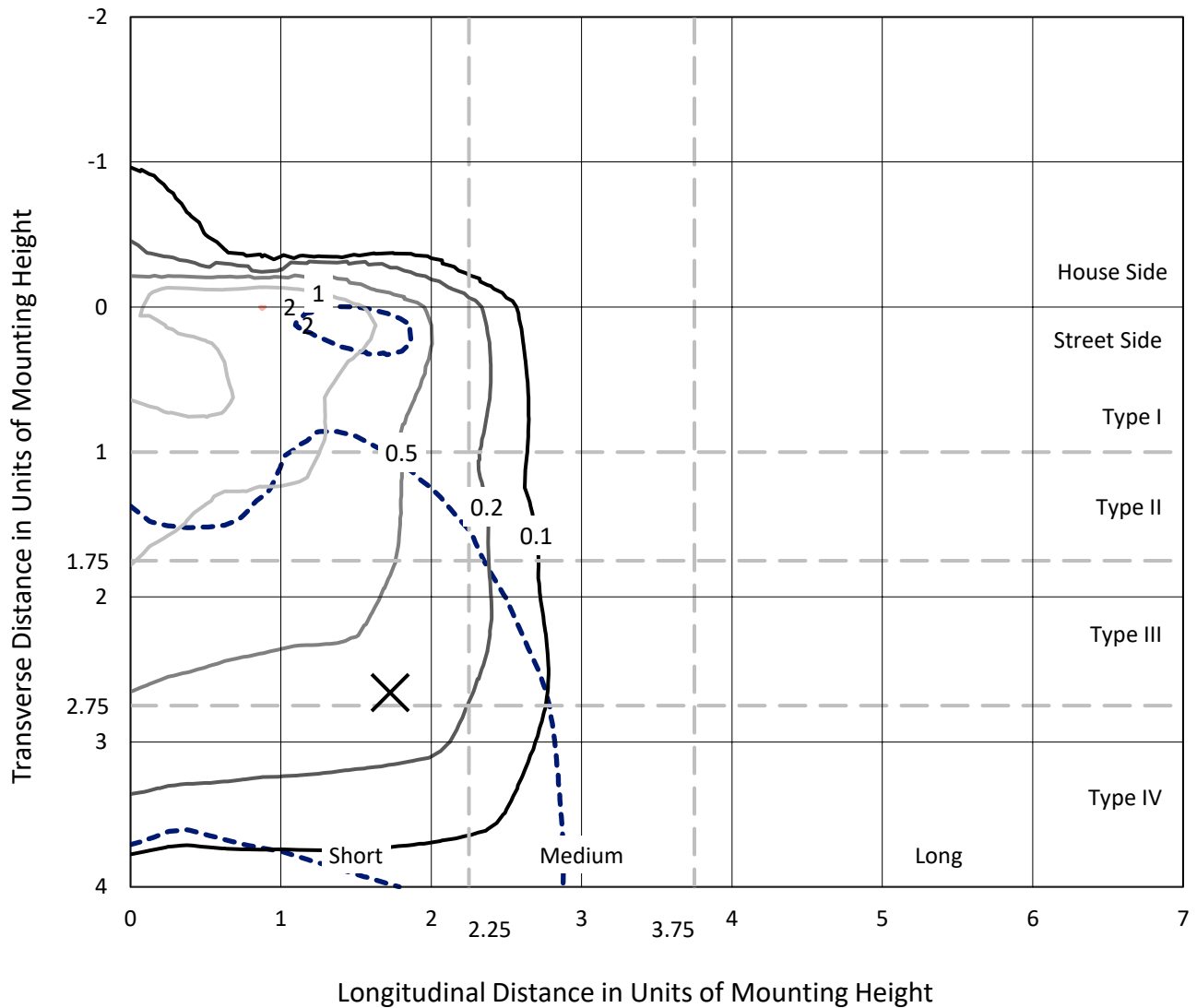
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

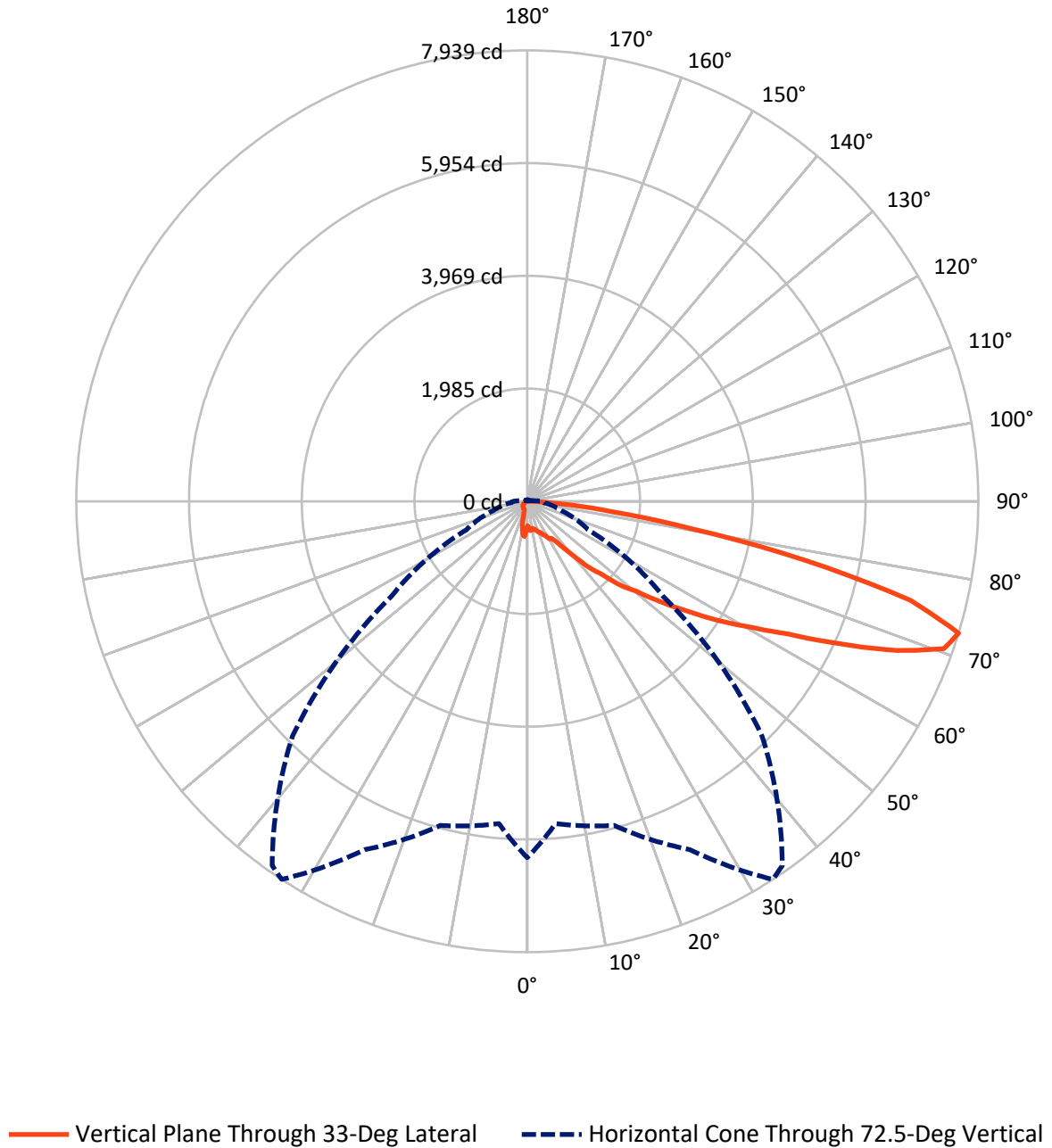
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	742.1	0.0	742.1
	% Fixture	9.2	0.0	9.2
Street Side	Lumens	7283.9	0.0	7283.9
	% Fixture	90.8	0.0	90.8
Total	Lumens	8026.0	0.0	8026.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.3	0.7
10°-20°	164.6	2.1
20°-30°	279.2	3.5
30°-40°	511.0	6.4
40°-50°	1078.5	13.4
50°-60°	1804.4	22.5
60°-70°	2415.3	30.1
70°-80°	1577.7	19.7
80°-90°	139.9	1.7
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°	8026.0	100.0
0°-180°	8026.0	100.0

Coefficient of Utilization



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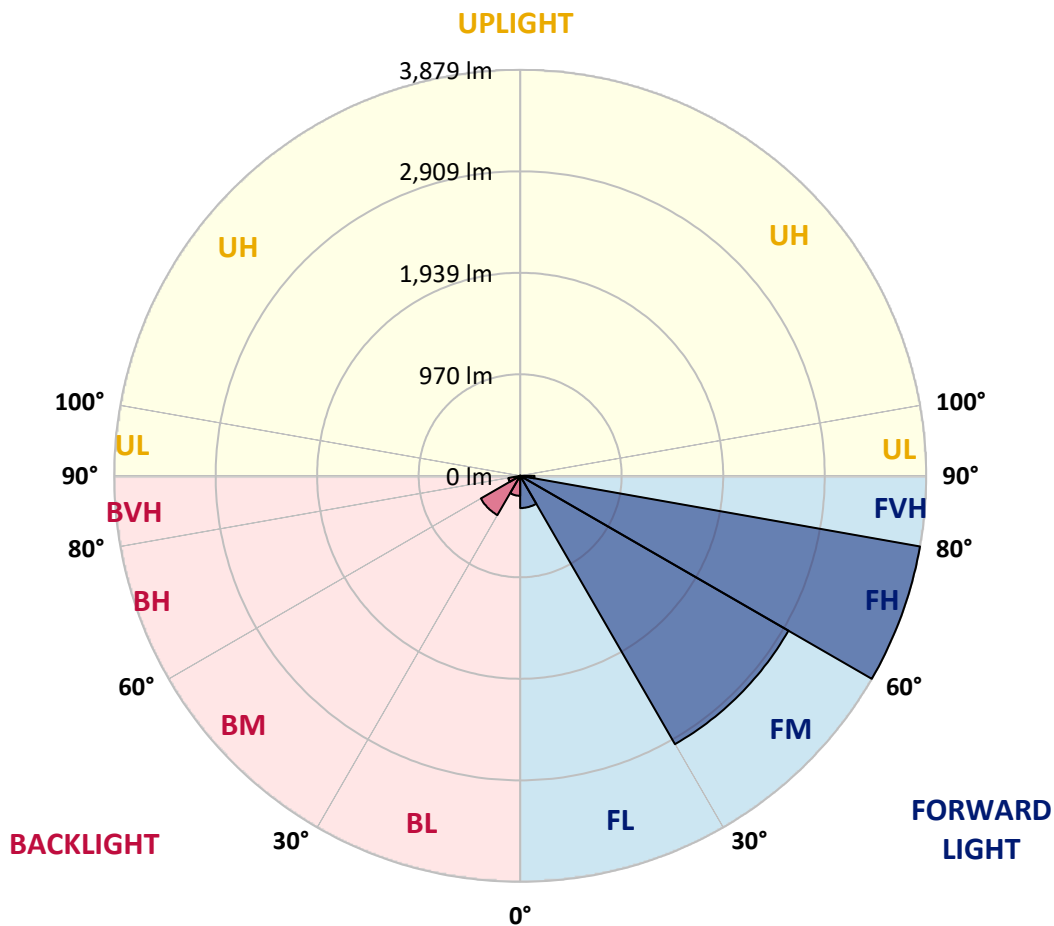
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	308.1	3.8			
FM (30°-60°)	2960.1	36.9			
FH (60°-80°)	3878.5	48.3			G2/5000
FVH (80°-90°)	137.2	1.7			G2/225
BL (0°-30°)	191.0	2.4	B1/500		
BM (30°-60°)	433.8	5.4	B1/1000		
BH (60°-80°)	114.5	1.4	B1/500		G1/500
BVH (80°-90°)	2.7	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	508.9	489.3	460.8	462.5	467.4	471.5	482.1	477.7	469.2	468.8	508.9
5°	539.2	517.3	515.6	518.2	516.9	524.0	515.1	544.1	568.6	598.0	645.2
7.5°	524.5	514.2	501.3	514.7	514.2	510.7	516.5	575.3	634.5	672.0	750.0
10°	482.1	470.6	480.4	484.8	481.7	497.3	536.1	584.2	655.0	733.5	771.3
12.5°	470.1	477.2	480.8	480.8	510.7	518.7	578.0	623.4	707.6	769.6	879.6
15°	516.9	530.7	506.2	500.9	510.2	514.7	580.6	635.4	743.3	856.5	948.7
17.5°	591.3	590.4	552.6	531.6	546.3	557.0	593.5	657.7	721.0	924.6	1058.3
20°	642.6	643.5	575.3	531.6	580.2	586.4	627.0	678.2	728.1	958.9	1130.1
22.5°	708.5	684.9	609.6	567.3	600.2	606.0	650.6	691.1	764.7	954.9	1221.9
25°	762.4	747.3	652.4	623.0	652.4	644.3	684.9	745.9	803.9	1018.7	1275.8
27.5°	846.2	820.4	682.7	688.0	686.2	692.0	701.4	795.0	872.9	1021.8	1400.5
30°	924.2	909.0	750.4	750.4	767.8	756.6	763.3	876.5	939.8	1094.0	1540.9
32.5°	1004.8	1005.7	830.2	787.8	774.0	819.9	864.9	916.2	1020.4	1217.8	1755.7
35°	1218.3	1200.5	983.0	877.4	866.3	863.6	935.8	1074.4	1163.5	1379.1	2044.9
37.5°	1648.3	1586.4	1311.9	1080.6	1038.7	1024.4	1106.4	1248.6	1337.3	1616.2	2523.0
40°	2089.4	1975.8	1671.0	1410.3	1274.4	1212.9	1308.3	1429.1	1586.8	1878.2	2965.5
42.5°	2476.7	2336.3	1941.5	1765.9	1589.0	1562.3	1472.7	1669.2	1943.3	2259.7	3399.1
45°	2854.1	2577.8	2182.1	2043.1	1828.3	1843.5	1813.2	1983.4	2313.6	2677.6	3783.6
47.5°	3113.9	2865.7	2477.1	2296.7	2210.6	2122.0	2362.6	2539.5	2643.3	2943.2	4116.1
50°	3393.7	3142.4	2730.7	2604.6	2491.4	2580.9	2893.3	2916.9	2908.5	3191.0	4342.4
52.5°	3755.1	3458.8	3021.7	2879.1	2943.2	3032.3	3392.8	3397.3	3144.2	3399.5	4505.5
55°	4089.3	3760.9	3409.3	3274.8	3408.9	3484.2	3883.9	3737.3	3281.4	3541.2	4585.7
57.5°	4560.3	4180.2	3924.9	3687.8	3959.6	3887.5	4315.7	4097.8	3435.6	3635.2	4556.3
60°	5155.7	4708.3	4452.5	4201.6	4493.0	4542.1	4737.2	4277.8	3495.3	3666.0	4379.4
62.5°	5761.2	5311.2	4974.7	4804.5	5135.2	5296.5	5127.6	4367.4	3423.6	3605.8	3978.8
65°	6512.5	5936.4	5543.3	5443.5	6056.2	6293.3	5589.2	4389.2	3285.0	3274.8	3199.0
67.5°	7027.2	6466.2	6105.7	6272.8	7012.9	7032.1	6003.6	4395.9	2818.5	2564.0	2099.7
70°	7149.3	6548.6	6387.3	6879.3	7776.3	7535.2	6137.3	4057.2	2090.3	1521.7	959.8
72.5°	6275.9	5697.5	5907.4	6764.7	7938.5	7828.0	5841.9	2927.2	1176.8	608.7	294.5
75°	3849.6	3499.8	4431.5	5735.4	6968.4	6897.1	4557.7	1512.4	474.1	243.3	110.1
77.5°	1674.1	1554.7	2312.7	3805.5	5007.3	4943.5	2670.5	557.0	245.1	171.1	55.7
80°	553.9	537.4	876.1	1802.0	2933.0	2876.8	1125.2	231.7	174.7	137.2	31.2
82.5°	131.5	130.6	305.7	829.3	1494.1	1447.3	345.3	127.9	126.6	108.3	16.5
85°	33.0	33.9	84.7	339.1	606.9	535.2	90.0	63.7	89.1	73.5	8.5
87.5°	0.0	0.0	21.8	48.6	91.8	57.5	9.8	16.9	25.0	26.3	4.5
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°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	517.8	512.9	472.8	482.6	497.7	496.4	506.2	498.6	491.9	524.9	521.8
5°	658.6	631.9	619.4	636.8	627.4	605.6	623.8	620.7	615.4	626.5	635.0
7.5°	764.2	739.7	728.6	692.0	639.0	597.1	603.8	588.2	573.5	590.9	608.7
10°	799.0	785.6	784.3	713.0	663.1	602.5	530.7	468.8	452.3	430.5	440.3
12.5°	893.4	901.5	851.1	767.8	671.5	555.2	427.8	340.0	304.3	281.2	282.5
15°	971.0	999.0	926.0	776.2	590.9	423.3	284.7	205.9	183.6	177.8	176.0
17.5°	1086.4	1113.6	949.1	716.1	476.4	287.0	183.1	160.4	161.8	165.8	164.9
20°	1171.9	1167.9	929.1	609.6	351.1	188.0	153.3	150.2	157.3	168.9	166.2
22.5°	1254.4	1226.8	916.6	511.1	227.3	151.1	147.9	147.5	154.2	165.3	168.4
25°	1313.2	1317.7	895.7	400.2	165.3	140.4	143.0	147.0	153.7	165.8	164.0
27.5°	1481.6	1356.9	808.3	290.5	139.5	134.6	141.3	149.3	151.5	166.7	167.1
30°	1590.8	1504.8	751.3	195.6	128.8	124.3	137.7	148.4	151.1	170.7	172.0
32.5°	1781.1	1568.5	685.3	145.3	119.9	121.2	129.7	143.9	156.4	177.4	178.2
35°	2017.7	1773.1	565.9	130.6	116.7	114.5	118.5	135.0	155.5	178.2	182.7
37.5°	2468.2	1895.6	448.7	126.6	116.7	112.7	116.7	126.6	152.8	187.2	196.5
40°	2769.9	2145.1	323.5	125.7	114.5	111.0	112.3	122.1	145.3	181.8	195.6
42.5°	3141.5	2250.3	238.4	123.4	112.3	106.9	107.8	120.3	137.7	170.7	180.9
45°	3445.9	2327.0	187.6	122.5	106.9	105.2	106.9	119.0	130.6	146.6	156.0
47.5°	3677.1	2416.1	150.6	116.7	105.6	105.2	102.9	111.4	118.5	122.5	128.8
50°	3846.5	2396.0	124.8	107.8	101.2	103.8	99.8	101.2	102.9	100.7	107.8
52.5°	3950.3	2323.8	103.8	97.1	95.8	98.0	93.1	89.1	86.0	84.2	88.7
55°	3988.2	2179.0	88.2	83.3	86.4	87.3	83.3	76.2	70.9	68.2	71.7
57.5°	3916.4	1958.4	76.6	69.1	76.2	76.2	70.9	63.3	57.0	52.6	56.1
60°	3734.6	1714.7	68.2	57.5	65.1	65.5	59.3	51.2	46.3	41.9	44.1
62.5°	3396.0	1449.1	59.7	49.9	56.1	56.6	49.0	41.4	37.9	33.0	34.8
65°	2718.6	1108.2	50.8	44.1	48.6	47.2	40.6	35.2	30.7	26.3	27.2
67.5°	1764.6	684.0	44.1	40.1	41.0	39.7	34.3	30.7	25.8	22.3	22.7
70°	790.1	294.5	38.8	36.1	35.6	33.4	29.0	28.5	25.4	22.3	22.3
72.5°	243.7	111.0	33.4	32.5	30.7	28.1	25.4	27.2	25.0	21.4	20.9
75°	96.3	50.8	27.6	27.6	26.7	23.2	22.7	24.5	23.2	19.6	18.7
77.5°	50.4	32.1	22.7	23.6	23.2	17.8	20.5	22.3	21.4	16.5	13.8
80°	29.9	19.6	16.9	19.2	18.7	12.5	15.6	14.3	10.2	4.9	1.3
82.5°	16.5	8.9	7.6	11.1	11.1	4.5	8.0	7.1	4.0	0.0	0.0
85°	8.0	6.2	5.8	6.2	4.5	1.3	4.0	4.0	2.2	0.0	0.0
87.5°	4.0	3.6	2.7	2.2	1.8	0.0	1.3	1.8	0.0	0.0	0.0
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)