

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: P368609

Luminaire Tested: **MSA-SA4D-730-U-SL4-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368609
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-730-U-SL4-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19815 lumens
Efficiency: N/A
Efficacy: 76.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G4

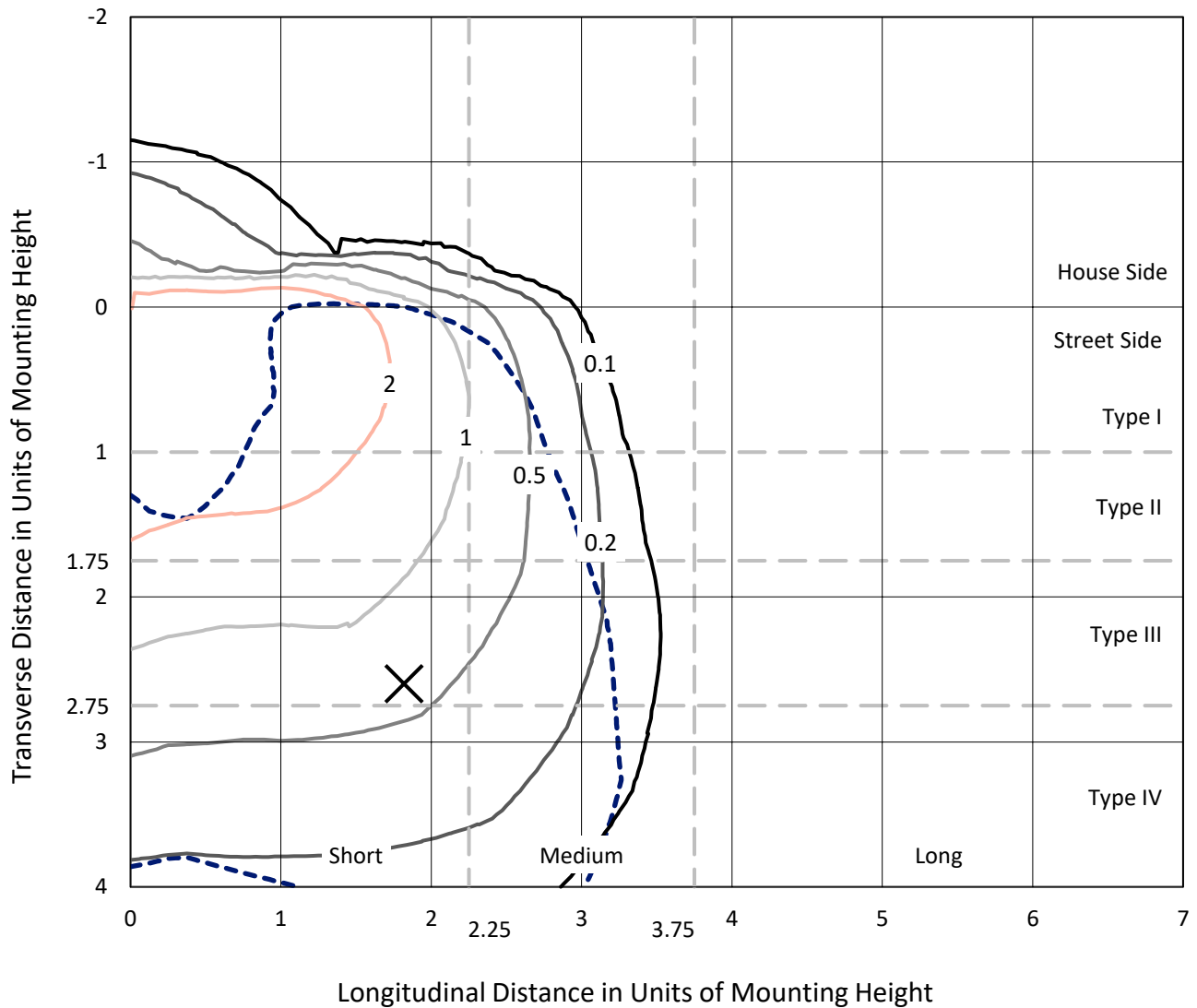
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

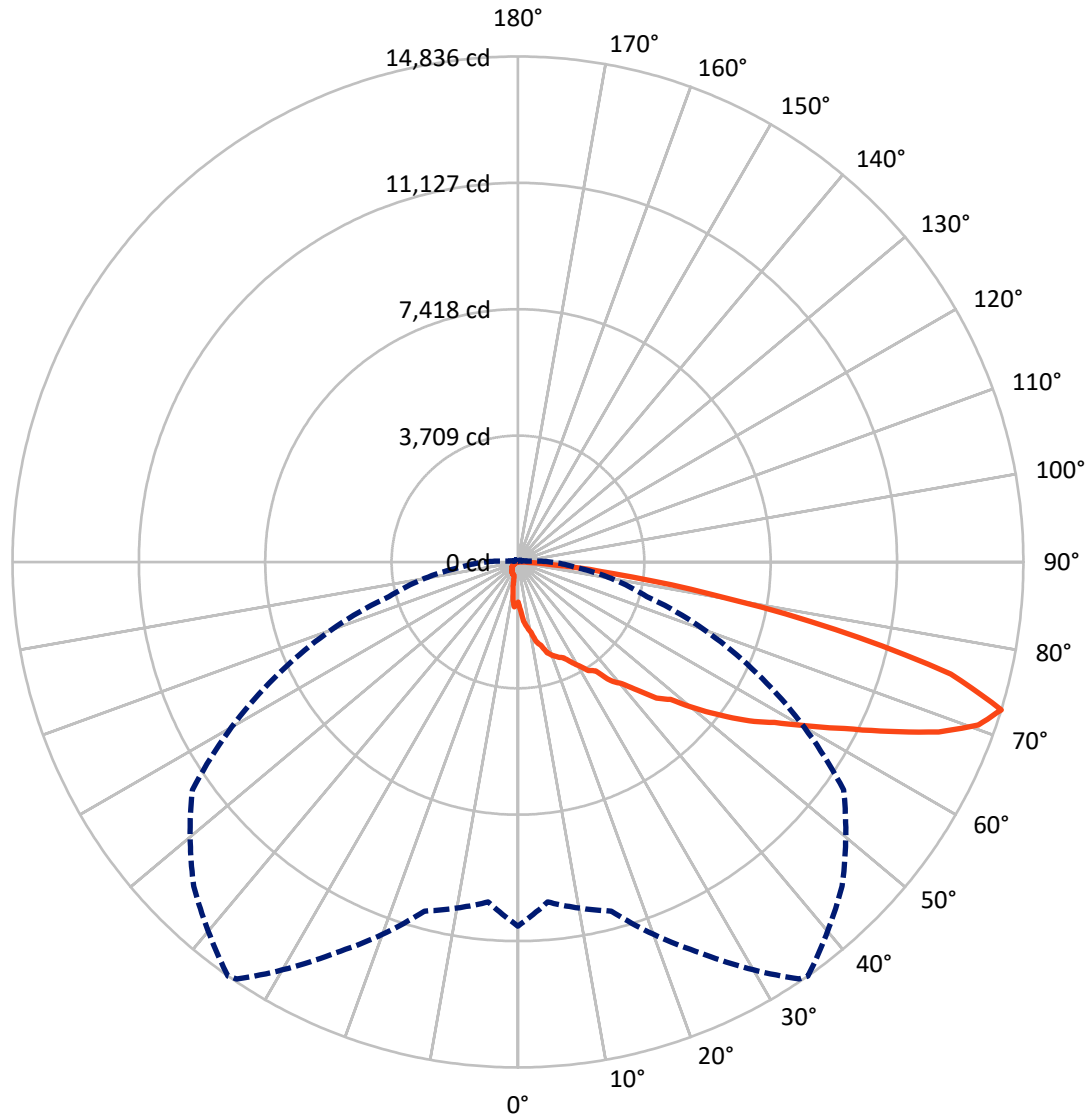
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.5 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1545.6	0.0	1545.6
	% Fixture	7.8	0.0	7.8
Street Side	Lumens	18269.5	0.0	18269.5
	% Fixture	92.2	0.0	92.2
Total	Lumens	19815.0	0.0	19815.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.5	0.8
10°-20°	507.1	2.6
20°-30°	923.5	4.7
30°-40°	1592.9	8.0
40°-50°	2831.6	14.3
50°-60°	4225.4	21.3
60°-70°	5398.4	27.2
70°-80°	3755.9	19.0
80°-90°	429.7	2.2
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°	19815.0	100.0
0°-180°	19815.0	100.0

Coefficient of Utilization



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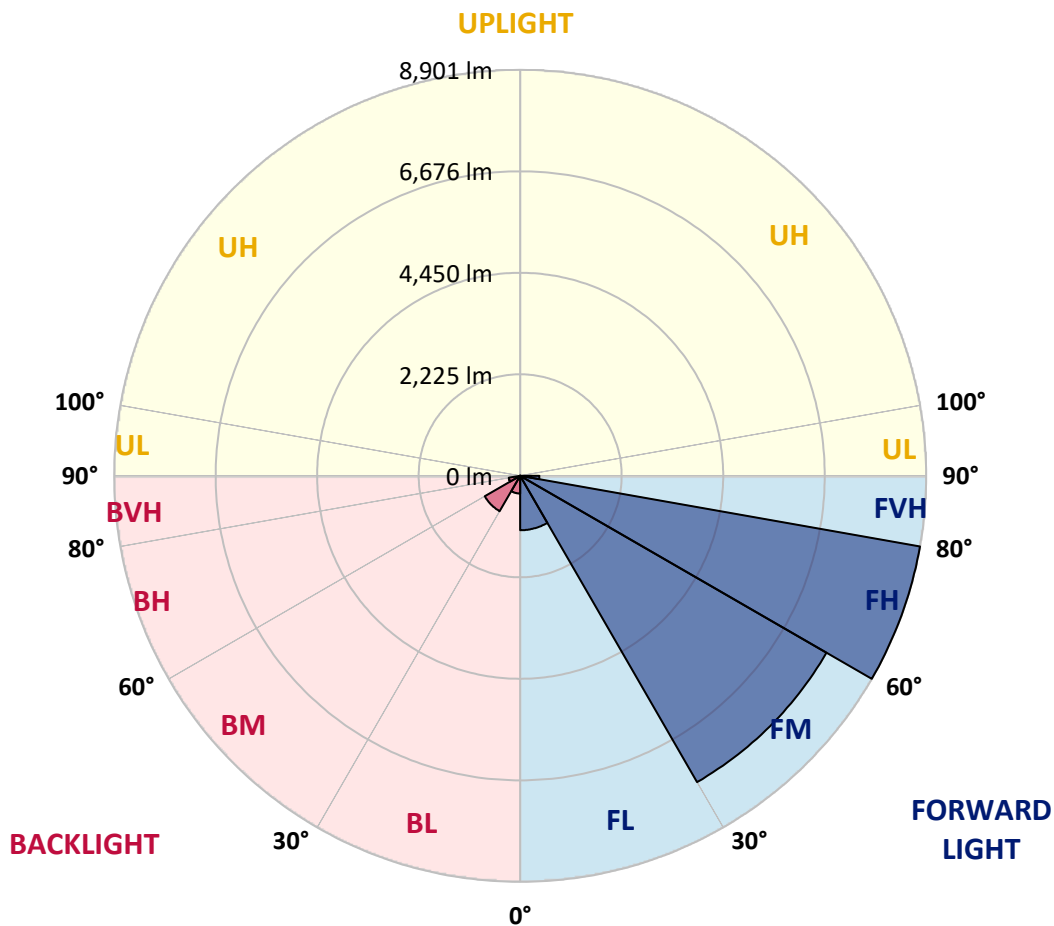
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1192.4	6.0			
FM (30°-60°)	7753.7	39.1			
FH (60°-80°)	8900.9	44.9			G4/12000
FVH (80°-90°)	422.4	2.1			G3/500
BL (0°-30°)	388.7	2.0	B1/500		
BM (30°-60°)	896.2	4.5	B1/1000		
BH (60°-80°)	253.4	1.3	B1/500		G1/500
BVH (80°-90°)	7.2	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-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4
2.5°	1502.1	1443.3	1347.7	1354.7	1397.5	1406.5	1419.4	1385.6	1355.7	1302.9	1405.5
5°	1924.5	1839.8	1786.0	1769.1	1744.2	1746.2	1685.4	1707.3	1701.3	1740.2	1787.0
7.5°	2162.5	2115.7	2048.0	2029.1	1937.4	1927.5	1852.7	1953.3	1963.3	1949.4	2026.1
10°	2257.2	2195.4	2203.4	2132.6	2086.8	2098.8	2110.7	2118.7	2131.7	2144.6	2051.0
12.5°	2312.9	2323.9	2432.5	2358.8	2404.6	2404.6	2485.3	2399.6	2402.6	2309.0	2324.9
15°	2564.0	2624.7	2575.9	2574.9	2525.1	2538.1	2631.7	2564.0	2598.8	2570.9	2463.4
17.5°	2878.7	2890.7	2798.0	2757.2	2802.0	2803.0	2763.2	2760.2	2638.7	2843.9	2713.4
20°	2979.3	3047.1	2915.6	2756.2	2942.5	2933.5	2930.5	2883.7	2681.5	2966.4	2858.8
22.5°	3253.3	3156.6	3067.0	2962.4	3035.1	3035.1	3024.2	2921.6	2842.9	2955.4	3001.2
25°	3338.9	3350.9	3234.3	3200.5	3202.5	3112.8	3104.8	3061.0	2985.3	3177.6	3085.9
27.5°	3633.8	3628.8	3348.9	3443.5	3323.0	3324.0	3103.8	3202.5	3215.4	3188.5	3291.1
30°	3923.6	4004.3	3582.0	3701.5	3575.0	3537.1	3322.0	3409.6	3432.6	3401.7	3531.2
32.5°	4293.2	4411.7	4001.3	3883.8	3690.5	3798.1	3649.7	3442.5	3556.1	3832.0	3904.7
35°	4684.7	4742.4	4305.1	4140.8	3922.6	3921.6	3916.7	3933.6	4059.1	4369.9	4431.6
37.5°	5387.9	5251.4	4856.0	4479.5	4528.3	4419.7	4344.0	4423.7	4554.2	5066.2	5330.1
40°	5780.4	5681.7	5124.9	4901.8	4659.7	4699.6	4904.8	4895.8	5243.5	5779.4	6174.8
42.5°	6161.9	6068.2	5520.4	5340.1	5029.3	5137.9	5227.5	5341.1	6053.3	6917.9	7135.1
45°	6501.5	6226.6	5840.1	5847.1	5685.7	5698.7	5857.1	5961.7	6991.6	7878.1	8030.5
47.5°	6706.7	6480.6	6110.1	6103.1	6093.1	6032.4	6778.5	6874.1	7739.7	8792.6	8806.5
50°	6995.6	6712.7	6388.0	6394.0	6624.1	6752.6	7643.1	7633.1	8461.9	9555.6	9233.8
52.5°	7355.2	7009.5	6651.9	6917.9	7273.5	7482.7	8205.9	8500.7	9237.8	10034.7	9401.2
55°	7815.4	7383.1	7038.4	7379.1	8155.1	8235.7	8756.7	9379.3	10083.5	10523.8	9455.0
57.5°	8355.3	7839.3	7560.4	8109.2	8883.2	8885.2	9558.6	10315.6	10602.5	10723.0	9394.2
60°	8937.0	8335.4	8054.5	8548.5	9686.1	9767.7	10450.1	10832.6	11129.4	10823.6	9285.6
62.5°	9449.0	8784.6	8566.4	9147.2	10566.6	10759.9	11227.0	11172.2	11509.9	10950.1	9009.7
65°	10058.6	9366.3	9222.9	10080.5	11716.1	11982.1	12099.6	11774.9	11637.4	10852.5	8291.5
67.5°	10662.2	10014.8	10010.8	11115.5	13223.2	13314.9	13191.3	12624.6	11489.0	9991.9	6975.7
70°	11087.6	10392.3	10654.3	12249.0	14592.8	14335.9	13815.9	13026.0	10417.2	7658.0	4557.2
72.5°	10688.1	10017.8	10608.5	12652.4	14762.2	14835.9	13454.3	11668.3	7739.7	3916.7	1649.5
75°	8122.2	7711.8	9210.9	11225.0	13106.7	13123.6	11230.0	8229.8	3811.1	1063.8	456.2
77.5°	4091.0	3960.5	5830.2	7968.8	9562.5	9534.7	7715.8	4408.7	1226.2	353.6	230.1
80°	2070.9	1966.3	2481.3	4299.2	5678.8	5720.6	4405.7	1974.3	618.6	192.2	159.4
82.5°	1272.0	1207.3	1357.7	1945.4	2756.2	2822.9	1671.5	1250.1	383.5	113.6	145.4
85°	246.0	259.0	779.9	974.2	1100.7	1074.8	495.1	1029.0	115.5	67.7	105.6
87.5°	0.0	4.0	180.3	317.8	318.8	282.9	112.6	228.1	15.9	18.9	12.9
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°	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4	1180.4
2.5°	1422.4	1407.5	1283.0	1269.0	1272.0	1251.1	1244.1	1200.3	1189.3	1257.1	1269.0
5°	1767.1	1667.5	1551.9	1510.1	1445.3	1335.8	1319.8	1291.9	1261.1	1273.0	1264.0
7.5°	1978.3	1845.8	1722.3	1502.1	1319.8	1160.5	1134.6	1086.7	1038.9	1039.9	1070.8
10°	2012.1	1900.6	1730.2	1462.3	1254.1	1054.9	881.5	756.0	699.3	648.5	663.4
12.5°	2208.4	2104.8	1791.0	1450.3	1158.5	847.7	620.6	498.0	444.3	426.3	424.3
15°	2365.7	2284.1	1894.6	1413.5	946.3	596.7	444.3	408.4	398.4	415.4	410.4
17.5°	2599.8	2452.4	1883.6	1261.1	721.2	453.2	409.4	404.4	416.4	426.3	429.3
20°	2702.4	2490.2	1808.9	1022.0	539.9	415.4	399.4	389.5	411.4	441.3	435.3
22.5°	2806.0	2555.0	1721.3	836.7	434.3	397.4	388.5	380.5	397.4	426.3	433.3
25°	2852.8	2658.6	1623.6	653.4	403.4	376.5	370.5	373.5	387.5	413.4	410.4
27.5°	3088.9	2670.5	1437.4	516.0	390.5	361.6	361.6	368.6	368.6	403.4	400.4
30°	3236.3	2872.7	1286.0	434.3	375.5	340.7	352.6	355.6	350.6	388.5	391.5
32.5°	3495.3	2928.5	1138.5	398.4	351.6	337.7	335.7	337.7	341.7	378.5	379.5
35°	3893.7	3203.5	937.3	384.5	339.7	322.7	308.8	319.7	329.7	356.6	361.6
37.5°	4672.7	3485.3	764.0	373.5	333.7	308.8	303.8	301.8	319.7	350.6	360.6
40°	5303.2	3984.4	621.6	364.6	321.7	300.8	287.9	288.9	304.8	327.7	342.7
42.5°	6195.7	4345.0	526.9	350.6	304.8	283.9	268.9	277.9	284.9	308.8	318.8
45°	6940.8	4624.9	464.2	341.7	287.9	268.0	256.0	266.0	259.0	270.9	284.9
47.5°	7533.5	4868.9	417.4	319.7	276.9	259.0	244.0	241.1	229.1	232.1	245.0
50°	7859.2	4828.1	378.5	297.8	263.0	250.0	229.1	208.2	192.2	191.3	199.2
52.5°	7974.8	4609.9	346.6	278.9	246.0	230.1	206.2	177.3	161.4	156.4	163.4
55°	8006.6	4296.2	317.8	258.0	230.1	205.2	180.3	149.4	132.5	124.5	131.5
57.5°	7903.0	3813.1	289.9	238.1	211.2	181.3	154.4	122.5	106.6	96.6	102.6
60°	7647.0	3199.5	265.0	213.2	191.3	160.4	130.5	98.6	81.7	72.7	75.7
62.5°	7080.3	2508.2	238.1	190.3	170.3	140.4	109.6	77.7	61.8	53.8	54.8
65°	6217.6	1869.7	207.2	168.3	151.4	121.5	87.7	59.8	46.8	39.8	38.8
67.5°	4953.6	1267.0	176.3	145.4	134.5	102.6	69.7	46.8	36.9	31.9	29.9
70°	2911.6	638.5	146.4	125.5	115.5	85.7	54.8	37.9	33.9	29.9	27.9
72.5°	960.2	275.9	114.6	103.6	95.6	68.7	42.8	34.9	32.9	28.9	26.9
75°	334.7	159.4	84.7	79.7	75.7	51.8	35.9	31.9	31.9	27.9	24.9
77.5°	219.1	123.5	62.8	57.8	56.8	37.9	30.9	29.9	27.9	22.9	18.9
80°	182.3	69.7	43.8	40.8	39.8	23.9	24.9	21.9	16.9	10.0	4.0
82.5°	168.3	41.8	22.9	24.9	22.9	9.0	13.9	12.0	9.0	4.0	0.0
85°	98.6	18.9	12.9	12.9	10.0	2.0	7.0	7.0	4.0	1.0	0.0
87.5°	11.0	9.0	7.0	7.0	5.0	0.0	3.0	2.0	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)