

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: P367233

Luminaire Tested: **MSA-SA2A-760-U-T4FT-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367233
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-SA2A-760-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: 5952 lumens
Efficiency: N/A
Efficacy: 90.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

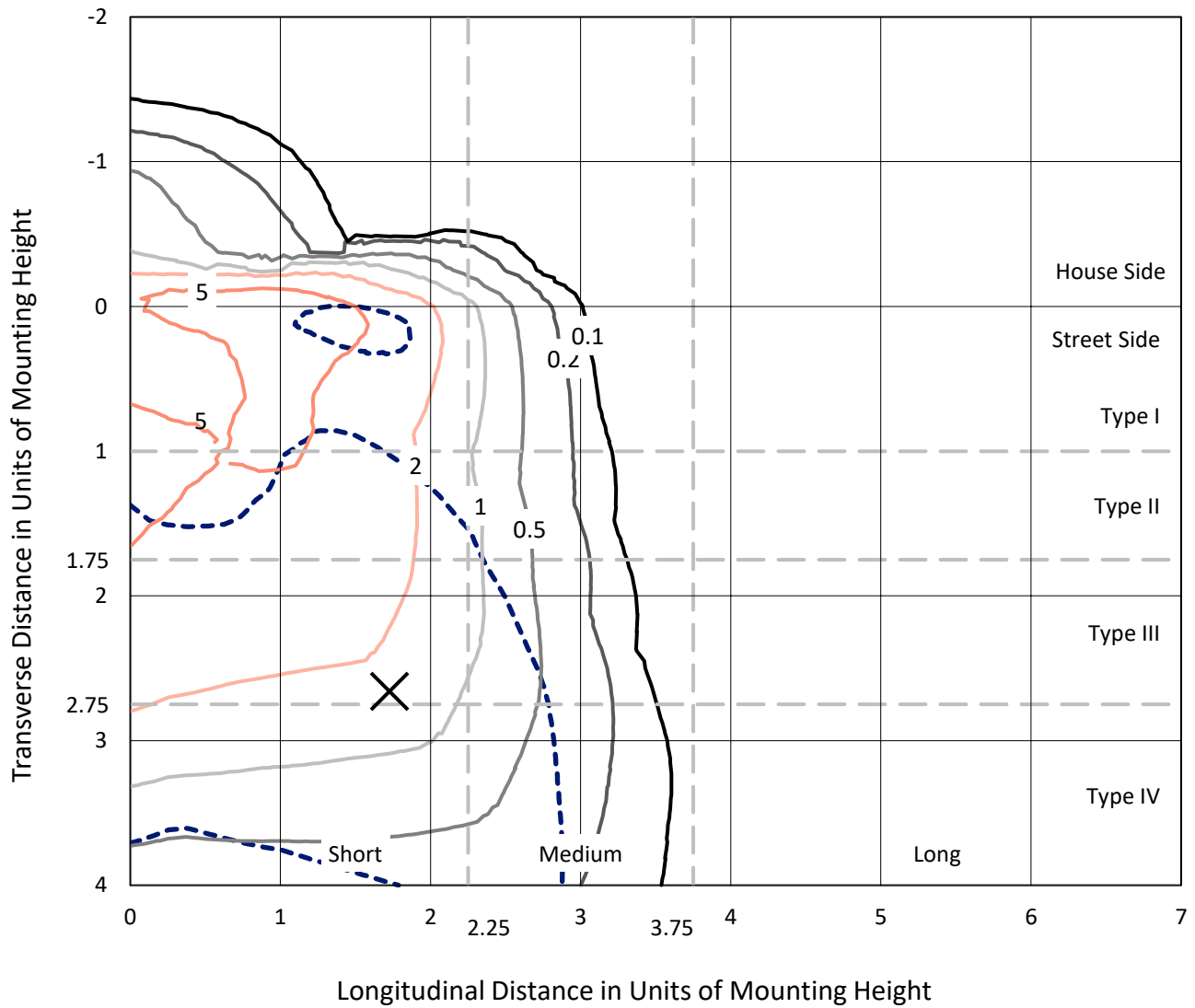
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

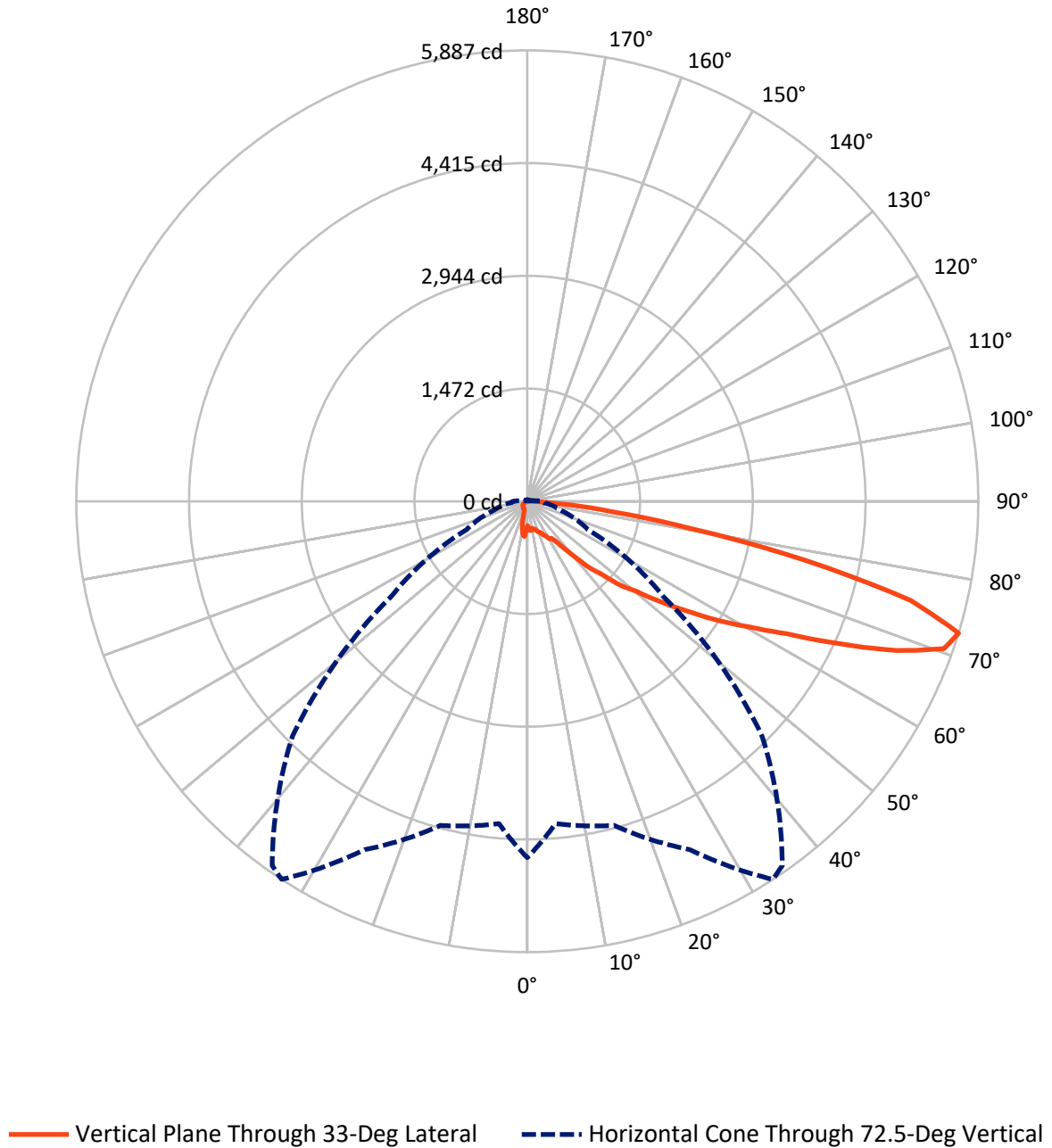
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.3 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	550.3	0.0	550.3
	% Fixture	9.2	0.0	9.2
Street Side	Lumens	5401.7	0.0	5401.7
	% Fixture	90.8	0.0	90.8
Total	Lumens	5952.0	0.0	5952.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.0	0.7
10°-20°	122.1	2.1
20°-30°	207.1	3.5
30°-40°	379.0	6.4
40°-50°	799.8	13.4
50°-60°	1338.2	22.5
60°-70°	1791.2	30.1
70°-80°	1170.0	19.7
80°-90°	103.7	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°	5952.0	100.0
0°-180°	5952.0	100.0

Coefficient of Utilization

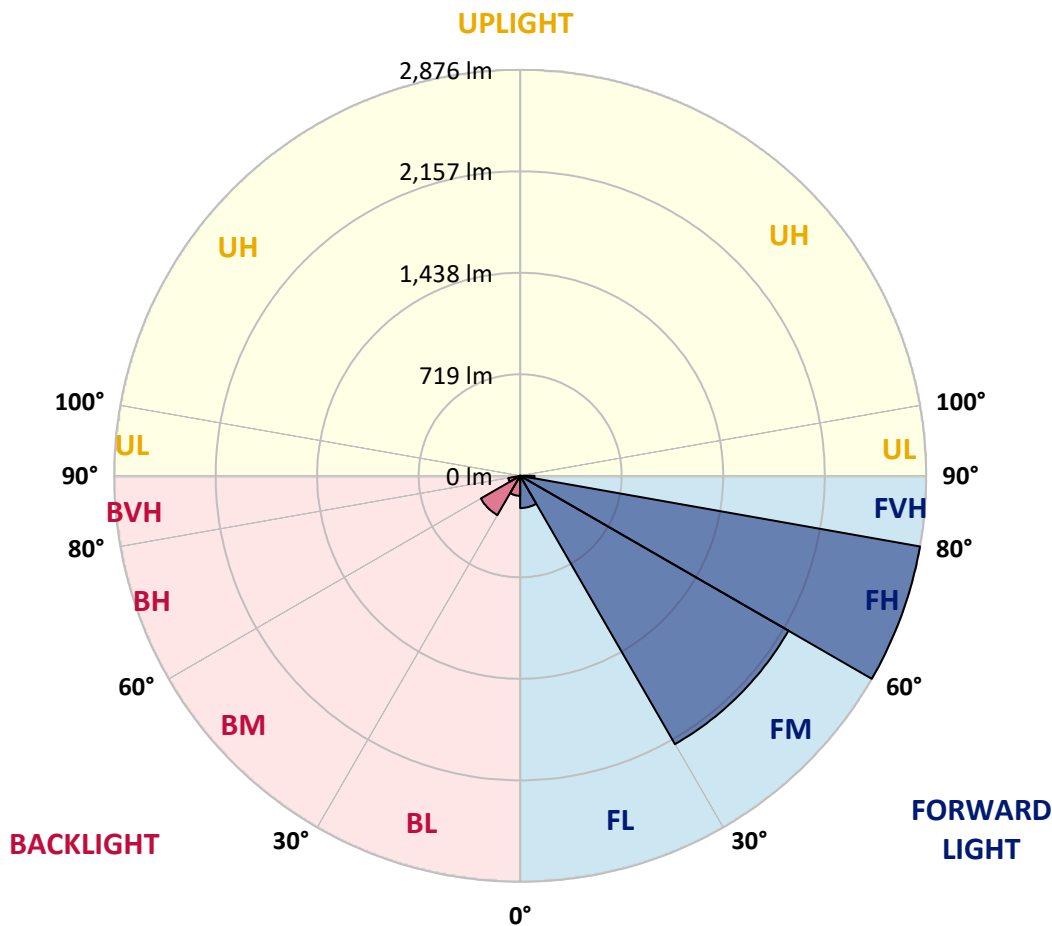


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	228.5	3.8			
FM (30°-60°)	2195.2	36.9			
FH (60°-80°)	2876.3	48.3			G2/5000
FVH (80°-90°)	101.7	1.7			G2/225
BL (0°-30°)	141.7	2.4	B1/500		
BM (30°-60°)	321.7	5.4	B1/1000		
BH (60°-80°)	84.9	1.4	B0/110		G0/110
BVH (80°-90°)	2.0	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°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	377.4	362.8	341.7	343.0	346.6	349.6	357.6	354.2	348.0	347.6	377.4
5°	399.9	383.7	382.3	384.3	383.3	388.6	382.0	403.5	421.7	443.5	478.5
7.5°	388.9	381.3	371.8	381.7	381.3	378.7	383.0	426.6	470.6	498.3	556.2
10°	357.6	349.0	356.2	359.5	357.2	368.8	397.5	433.2	485.8	543.9	572.0
12.5°	348.6	353.9	356.6	356.6	378.7	384.7	428.6	462.3	524.8	570.7	652.3
15°	383.3	393.6	375.4	371.4	378.4	381.7	430.6	471.2	551.2	635.1	703.5
17.5°	438.5	437.9	409.8	394.2	405.1	413.1	440.2	487.8	534.7	685.7	784.8
20°	476.5	477.2	426.6	394.2	430.3	434.9	465.0	503.0	540.0	711.1	838.0
22.5°	525.4	507.9	452.1	420.7	445.1	449.4	482.5	512.5	567.1	708.2	906.1
25°	565.4	554.2	483.8	462.0	483.8	477.8	507.9	553.2	596.1	755.4	946.1
27.5°	627.5	608.4	506.3	510.2	508.9	513.2	520.1	589.5	647.4	757.7	1038.6
30°	685.4	674.1	556.5	556.5	569.4	561.1	566.1	650.0	696.9	811.3	1142.7
32.5°	745.2	745.8	615.6	584.2	574.0	608.0	641.4	679.4	756.7	903.1	1302.0
35°	903.5	890.2	729.0	650.7	642.4	640.4	694.0	796.7	862.8	1022.8	1516.5
37.5°	1222.4	1176.4	972.9	801.4	770.3	759.7	820.5	925.9	991.7	1198.6	1871.0
40°	1549.5	1465.2	1239.2	1045.9	945.1	899.5	970.2	1059.8	1176.8	1392.9	2199.2
42.5°	1836.7	1732.6	1439.8	1309.6	1178.4	1158.6	1092.2	1237.9	1441.1	1675.7	2520.7
45°	2116.6	1911.7	1618.2	1515.1	1355.9	1367.1	1344.6	1470.9	1715.7	1985.7	2805.9
47.5°	2309.2	2125.2	1837.0	1703.2	1639.4	1573.6	1752.1	1883.3	1960.3	2182.7	3052.4
50°	2516.8	2330.4	2025.0	1931.5	1847.6	1914.0	2145.7	2163.2	2156.9	2366.4	3220.3
52.5°	2784.8	2565.0	2240.8	2135.1	2182.7	2248.8	2516.1	2519.4	2331.7	2521.1	3341.2
55°	3032.6	2789.1	2528.3	2428.5	2528.0	2583.8	2880.3	2771.5	2433.5	2626.1	3400.7
57.5°	3381.9	3100.0	2910.7	2734.9	2936.4	2882.9	3200.5	3038.9	2547.8	2695.9	3378.9
60°	3823.4	3491.6	3301.9	3115.9	3332.0	3368.3	3513.1	3172.4	2592.1	2718.7	3247.7
62.5°	4272.5	3938.7	3689.2	3563.0	3808.2	3927.8	3802.6	3238.8	2538.9	2674.1	2950.6
65°	4829.6	4402.3	4110.9	4036.9	4491.2	4667.0	4144.9	3255.0	2436.1	2428.5	2372.3
67.5°	5211.3	4795.3	4527.9	4651.8	5200.7	5214.9	4452.2	3260.0	2090.1	1901.4	1557.1
70°	5301.8	4856.4	4736.8	5101.6	5766.8	5588.0	4551.4	3008.8	1550.2	1128.5	711.8
72.5°	4654.1	4225.2	4380.9	5016.7	5887.1	5805.1	4332.3	2170.8	872.7	451.4	218.4
75°	2854.8	2595.4	3286.4	4253.3	5167.7	5114.8	3379.9	1121.6	351.6	180.4	81.6
77.5°	1241.5	1153.0	1715.1	2822.1	3713.3	3666.1	1980.4	413.1	181.8	126.9	41.3
80°	410.8	398.5	649.7	1336.4	2175.1	2133.4	834.4	171.8	129.5	101.8	23.1
82.5°	97.5	96.8	226.7	615.0	1108.0	1073.3	256.1	94.8	93.8	80.3	12.2
85°	24.5	25.1	62.8	251.5	450.1	396.9	66.8	47.3	66.1	54.5	6.3
87.5°	0.0	0.0	16.2	36.0	68.1	42.6	7.3	12.6	18.5	19.5	3.3
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°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	384.0	380.4	350.6	357.9	369.1	368.1	375.4	369.8	364.8	389.3	387.0
5°	488.4	468.6	459.3	472.2	465.3	449.1	462.6	460.3	456.4	464.6	470.9
7.5°	566.7	548.6	540.3	513.2	473.9	442.8	447.8	436.2	425.3	438.2	451.4
10°	592.5	582.6	581.6	528.7	491.7	446.8	393.6	347.6	335.4	319.2	326.5
12.5°	662.6	668.5	631.2	569.4	498.0	411.7	317.2	252.1	225.7	208.5	209.5
15°	720.1	740.9	686.7	575.7	438.2	313.9	211.2	152.7	136.1	131.9	130.5
17.5°	805.7	825.8	703.9	531.0	353.3	212.8	135.8	119.0	120.0	122.9	122.3
20°	869.1	866.1	689.0	452.1	260.4	139.5	113.7	111.4	116.7	125.2	123.3
22.5°	930.2	909.7	679.7	379.0	168.5	112.0	109.7	109.4	114.3	122.6	124.9
25°	973.9	977.2	664.2	296.7	122.6	104.1	106.1	109.1	114.0	122.9	121.6
27.5°	1098.8	1006.2	599.4	215.5	103.4	99.8	104.8	110.7	112.4	123.6	123.9
30°	1179.7	1116.0	557.1	145.1	95.5	92.2	102.1	110.0	112.0	126.6	127.6
32.5°	1320.8	1163.2	508.2	107.7	88.9	89.9	96.2	106.7	116.0	131.5	132.2
35°	1496.3	1314.9	419.7	96.8	86.6	84.9	87.9	100.1	115.3	132.2	135.5
37.5°	1830.4	1405.8	332.8	93.8	86.6	83.6	86.6	93.8	113.3	138.8	145.7
40°	2054.1	1590.8	239.9	93.2	84.9	82.3	83.3	90.5	107.7	134.8	145.1
42.5°	2329.7	1668.8	176.8	91.5	83.3	79.3	80.0	89.2	102.1	126.6	134.2
45°	2555.4	1725.6	139.1	90.9	79.3	78.0	79.3	88.2	96.8	108.7	115.7
47.5°	2726.9	1791.7	111.7	86.6	78.3	78.0	76.3	82.6	87.9	90.9	95.5
50°	2852.5	1776.9	92.5	80.0	75.0	77.0	74.0	75.0	76.3	74.7	80.0
52.5°	2929.5	1723.3	77.0	72.0	71.0	72.7	69.1	66.1	63.8	62.5	65.8
55°	2957.6	1615.9	65.4	61.8	64.1	64.8	61.8	56.5	52.5	50.6	53.2
57.5°	2904.4	1452.4	56.8	51.2	56.5	56.5	52.5	46.9	42.3	39.0	41.6
60°	2769.6	1271.6	50.6	42.6	48.2	48.6	44.0	38.0	34.4	31.1	32.7
62.5°	2518.4	1074.6	44.3	37.0	41.6	42.0	36.4	30.7	28.1	24.5	25.8
65°	2016.1	821.8	37.7	32.7	36.0	35.0	30.1	26.1	22.8	19.5	20.2
67.5°	1308.6	507.3	32.7	29.7	30.4	29.4	25.4	22.8	19.2	16.5	16.9
70°	585.9	218.4	28.7	26.8	26.4	24.8	21.5	21.1	18.8	16.5	16.5
72.5°	180.8	82.3	24.8	24.1	22.8	20.8	18.8	20.2	18.5	15.9	15.5
75°	71.4	37.7	20.5	20.5	19.8	17.2	16.9	18.2	17.2	14.5	13.9
77.5°	37.3	23.8	16.9	17.5	17.2	13.2	15.2	16.5	15.9	12.2	10.2
80°	22.1	14.5	12.6	14.2	13.9	9.3	11.6	10.6	7.6	3.6	1.0
82.5°	12.2	6.6	5.6	8.3	8.3	3.3	5.9	5.3	3.0	0.0	0.0
85°	5.9	4.6	4.3	4.6	3.3	1.0	3.0	3.0	1.7	0.0	0.0
87.5°	3.0	2.6	2.0	1.7	1.3	0.0	1.0	1.3	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)