

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: P366872

Luminaire Tested: **MSA-SA1C-727-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366872
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1C-727-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) 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: 5109 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

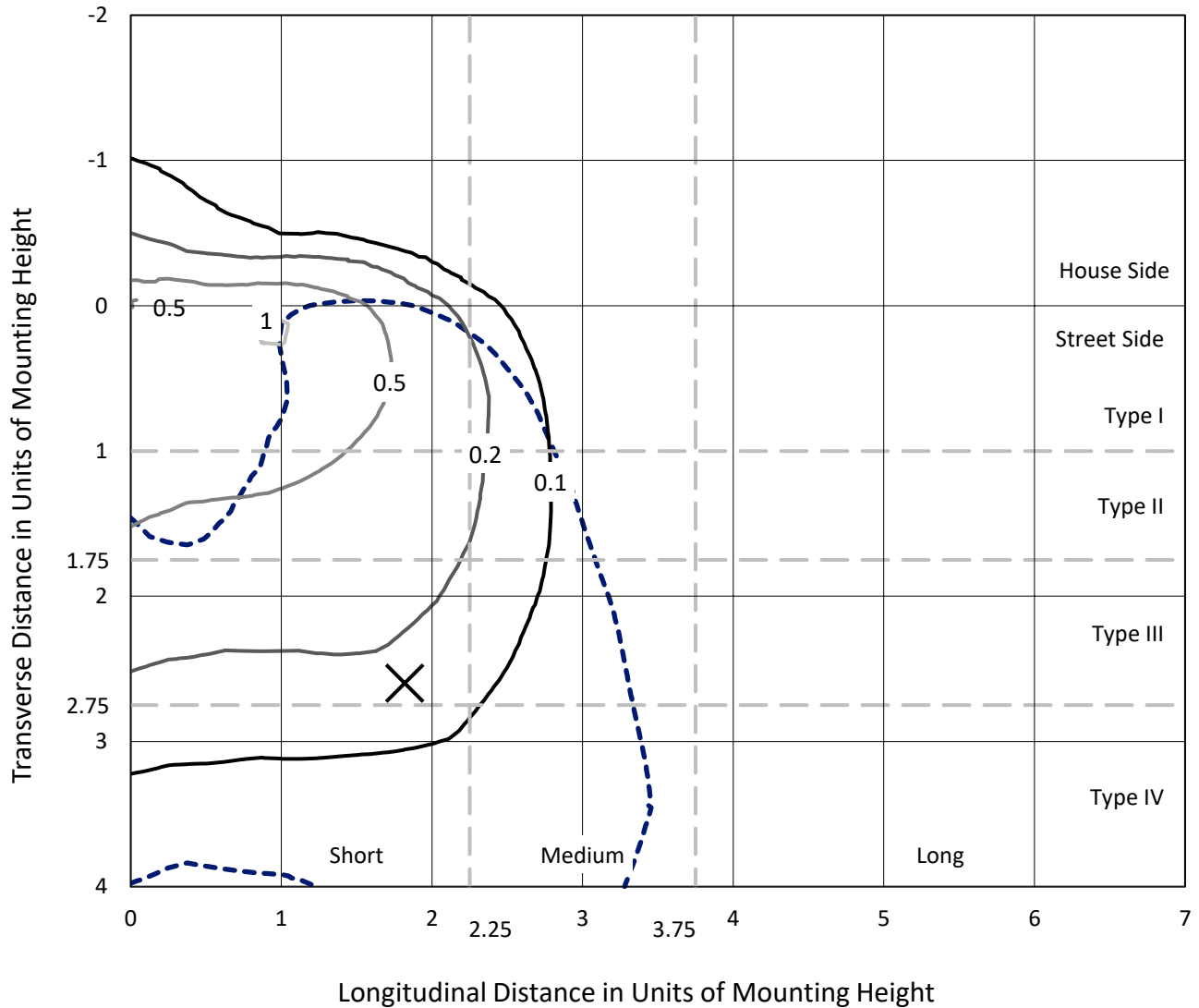
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

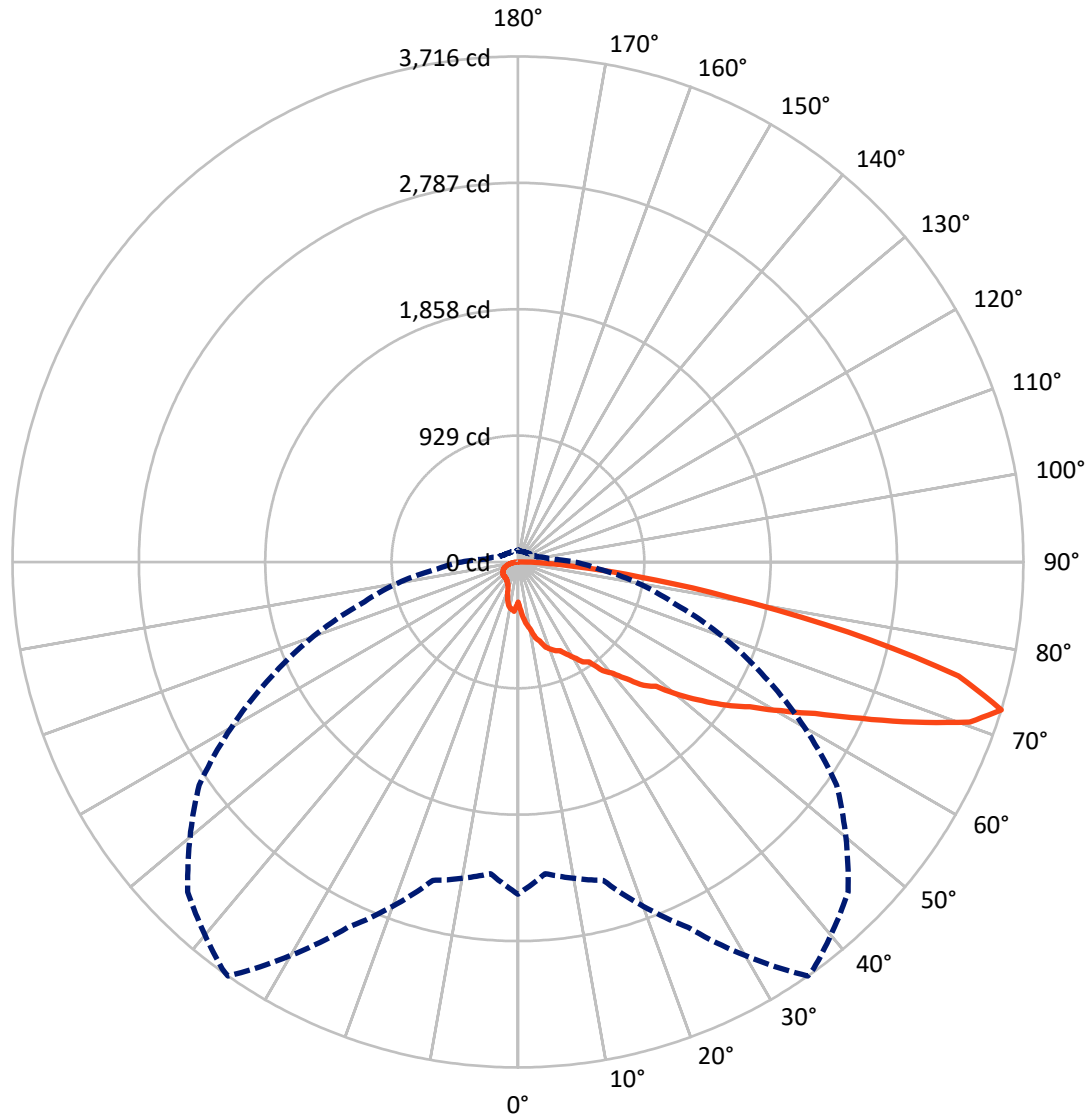
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 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	685.6	0.0	685.6
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	4423.4	0.0	4423.4
	% Fixture	86.6	0.0	86.6
Total	Lumens	5109.0	0.0	5109.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.2	0.8
10°-20°	138.2	2.7
20°-30°	240.2	4.7
30°-40°	401.4	7.9
40°-50°	696.7	13.6
50°-60°	1053.2	20.6
60°-70°	1364.5	26.7
70°-80°	1006.8	19.7
80°-90°	168.7	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°	5109.0	100.0
0°-180°	5109.0	100.0

Coefficient of Utilization



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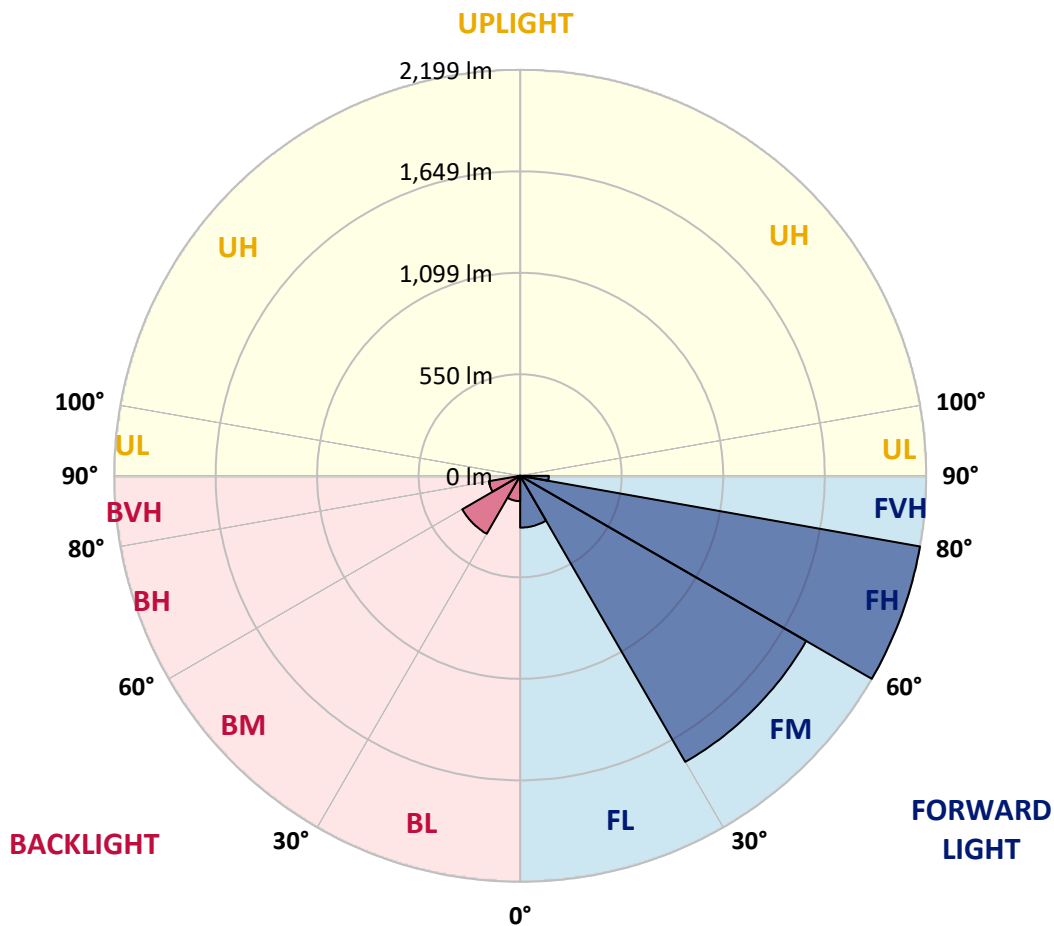
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	280.6	5.5			
FM (30°-60°)	1789.0	35.0			
FH (60°-80°)	2198.9	43.0			G2/5000
FVH (80°-90°)	154.9	3.0			G2/225
BL (0°-30°)	137.0	2.7	B1/500		
BM (30°-60°)	362.4	7.1	B1/1000		
BH (60°-80°)	172.4	3.4	B1/500		G1/500
BVH (80°-90°)	13.8	0.3			G1/100
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°	35°	36°	45°	55°	65°	75°	85°
0°	295.3	295.3	295.3	295.3	295.3	295.3	295.3	295.3	295.3	295.3	295.3
2.5°	368.3	350.6	335.4	334.7	348.9	354.3	352.2	347.4	341.7	329.7	355.9
5°	461.4	436.1	431.3	425.7	412.8	416.3	395.3	411.3	416.3	427.8	445.3
7.5°	516.4	501.5	490.0	485.2	462.9	460.3	444.8	467.5	477.1	475.6	501.5
10°	538.0	524.4	525.3	509.6	502.4	505.5	507.2	507.6	513.5	518.3	505.2
12.5°	549.1	554.3	573.5	562.8	572.0	575.7	594.0	575.2	575.9	551.3	564.8
15°	605.1	618.2	607.1	606.6	603.8	609.9	625.6	613.0	622.8	614.9	597.5
17.5°	672.7	676.6	655.3	646.5	657.9	655.9	652.0	654.0	629.5	674.9	653.5
20°	693.4	708.9	680.8	646.5	684.0	689.1	688.2	679.7	637.8	703.2	682.5
22.5°	753.6	732.7	710.4	688.6	707.8	710.7	705.9	685.6	671.6	696.5	712.8
25°	780.9	775.9	747.5	744.9	723.7	713.7	722.0	716.1	702.4	746.6	728.5
27.5°	843.2	837.3	772.1	799.0	768.2	765.6	721.8	741.4	755.1	751.9	778.9
30°	913.9	920.6	825.4	852.2	816.6	811.8	767.8	792.6	802.0	805.1	838.9
32.5°	992.4	1010.9	916.3	894.3	875.3	878.6	841.3	795.9	832.3	903.6	918.2
35°	1077.4	1085.1	985.8	952.7	903.2	899.7	900.4	906.0	942.9	1024.2	1035.6
37.5°	1234.6	1199.3	1112.3	1028.4	1011.8	979.3	1001.3	1018.8	1055.6	1180.4	1227.9
40°	1331.5	1305.3	1172.7	1124.1	1078.3	1081.4	1122.6	1122.3	1209.4	1338.0	1410.6
42.5°	1421.1	1392.5	1267.6	1218.7	1175.3	1186.0	1197.8	1218.5	1385.3	1592.7	1625.8
45°	1493.3	1430.7	1340.8	1329.9	1294.2	1280.0	1329.9	1363.1	1595.8	1798.8	1818.0
47.5°	1542.3	1490.9	1403.0	1393.4	1367.0	1401.7	1538.0	1559.3	1758.9	2005.7	2004.2
50°	1616.9	1546.5	1467.1	1462.1	1536.4	1555.0	1721.1	1719.0	1917.6	2177.5	2141.6
52.5°	1702.8	1614.1	1527.9	1581.8	1695.2	1704.3	1848.5	1907.1	2091.0	2343.3	2249.3
55°	1801.6	1702.4	1619.1	1691.0	1859.8	1832.8	1978.7	2121.9	2307.9	2517.9	2327.1
57.5°	1923.9	1803.6	1736.2	1845.6	2010.1	2034.1	2165.1	2345.4	2482.6	2626.5	2383.8
60°	2053.0	1911.7	1850.0	1954.2	2220.5	2248.0	2376.2	2531.2	2678.4	2728.8	2373.1
62.5°	2176.2	2023.4	1967.5	2096.2	2453.8	2521.8	2616.5	2715.3	2841.3	2753.6	2243.8
65°	2313.4	2160.3	2125.2	2318.2	2770.2	2837.8	2961.5	2931.8	2897.1	2665.5	2029.9
67.5°	2458.6	2303.1	2309.7	2575.7	3143.3	3154.9	3344.8	3147.7	2831.5	2432.2	1670.8
70°	2536.7	2377.5	2444.9	2850.2	3523.0	3506.4	3545.2	3205.7	2563.9	1922.6	1151.6
72.5°	2442.0	2300.1	2423.5	2965.8	3716.2	3698.3	3432.7	2861.4	2004.6	1195.6	597.0
75°	2067.6	1930.7	2119.5	2643.7	3345.5	3362.0	2921.3	2127.8	1147.6	480.8	247.9
77.5°	1405.0	1334.3	1496.1	1970.6	2485.0	2542.3	2167.5	1244.2	481.9	199.1	150.0
80°	742.5	708.9	828.4	1135.2	1573.5	1616.3	1274.6	619.7	246.8	128.9	107.1
82.5°	403.4	389.2	453.3	583.7	894.0	931.3	660.9	411.7	166.4	80.7	65.4
85°	271.0	265.6	308.1	313.6	422.8	435.0	346.3	317.1	99.9	39.5	43.2
87.5°	135.6	130.2	162.2	143.3	161.4	161.6	158.7	202.4	25.3	13.1	7.9
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°	295.3	295.3	295.3	295.3	295.3	295.3	295.3	295.3	295.3	295.3	295.3
2.5°	356.3	348.7	322.3	322.1	326.0	323.4	325.3	314.7	310.1	331.0	329.9
5°	442.9	420.0	398.0	390.3	381.4	362.0	363.1	363.3	360.0	372.4	373.3
7.5°	493.7	466.2	445.9	405.4	373.5	348.7	351.9	355.7	351.9	368.5	374.6
10°	501.1	479.3	455.1	410.0	388.8	366.3	343.7	323.6	321.2	313.6	316.0
12.5°	545.1	527.0	476.5	427.0	402.3	367.9	326.4	303.5	284.3	287.6	281.5
15°	581.3	568.5	507.9	443.1	384.2	341.5	297.4	266.0	248.8	246.8	240.7
17.5°	630.4	612.1	510.7	432.0	360.9	309.6	259.9	224.4	217.0	213.9	210.9
20°	654.0	621.0	500.4	397.1	333.6	271.7	222.9	192.3	190.1	195.6	194.5
22.5°	674.5	628.4	491.3	375.9	291.1	233.3	197.6	177.5	175.1	182.1	183.4
25°	686.4	649.6	481.3	354.3	264.7	204.8	178.6	167.3	167.7	176.8	175.8
27.5°	740.5	657.0	456.0	328.8	234.4	183.6	169.4	163.5	161.1	173.8	174.9
30°	774.5	705.4	450.3	301.8	212.0	168.1	161.1	158.7	158.3	173.6	174.7
32.5°	837.8	721.6	452.9	272.4	191.7	163.3	155.0	154.8	159.2	173.8	175.5
35°	925.4	789.6	440.3	255.6	180.6	155.9	150.2	152.0	159.4	175.3	177.7
37.5°	1096.4	853.7	444.2	239.9	176.8	153.5	148.9	150.0	162.0	179.2	185.8
40°	1231.8	969.9	438.1	232.0	171.8	153.1	146.1	150.5	161.8	181.4	187.3
42.5°	1428.1	1062.6	438.7	224.2	171.6	151.3	145.7	150.9	161.4	179.5	187.5
45°	1596.4	1145.7	448.1	219.6	169.4	154.2	145.0	151.6	158.5	172.5	181.4
47.5°	1734.4	1238.4	457.7	215.2	168.6	156.8	144.4	147.0	153.7	164.6	172.7
50°	1847.0	1303.6	469.9	214.4	168.6	155.5	142.6	142.4	148.1	156.8	164.4
52.5°	1934.6	1349.6	478.2	215.4	168.6	150.5	140.4	138.7	142.2	148.5	156.1
55°	1998.1	1363.7	471.4	218.3	168.3	145.9	136.5	135.0	136.7	141.1	148.3
57.5°	2023.6	1326.5	431.1	213.3	168.3	142.6	131.7	130.0	131.7	135.0	142.2
60°	1959.7	1206.5	372.9	200.4	165.1	138.2	126.3	125.2	127.8	130.6	137.6
62.5°	1799.4	1047.1	310.7	185.1	158.3	134.5	121.0	121.2	125.4	129.3	136.3
65°	1550.4	854.4	259.1	169.6	149.8	128.7	115.6	117.1	123.0	128.2	135.2
67.5°	1220.0	633.0	218.1	154.6	137.8	119.1	109.5	109.9	114.0	119.1	125.8
70°	815.5	402.8	179.2	136.9	122.1	106.6	100.1	98.6	97.5	101.8	107.7
72.5°	413.7	237.9	147.2	117.1	105.1	93.1	88.1	84.2	81.1	83.7	88.3
75°	216.8	166.4	118.8	97.3	86.8	79.2	75.4	70.2	68.0	69.6	72.8
77.5°	153.3	130.2	96.2	77.0	70.7	62.8	63.5	58.0	56.3	57.1	60.6
80°	117.8	103.1	73.9	58.2	54.5	46.9	49.1	45.8	43.6	43.2	45.8
82.5°	80.2	77.6	52.6	40.8	38.2	32.7	35.8	34.5	31.6	29.9	31.2
85°	54.1	51.5	32.1	23.6	22.5	17.0	21.8	20.9	18.5	15.9	16.1
87.5°	9.4	17.2	9.2	5.9	5.5	2.0	5.0	4.8	4.4	2.2	1.7
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)