

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: P366740

Luminaire Tested: **MSA-SA1B-727-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366740  
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-SA1B-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**

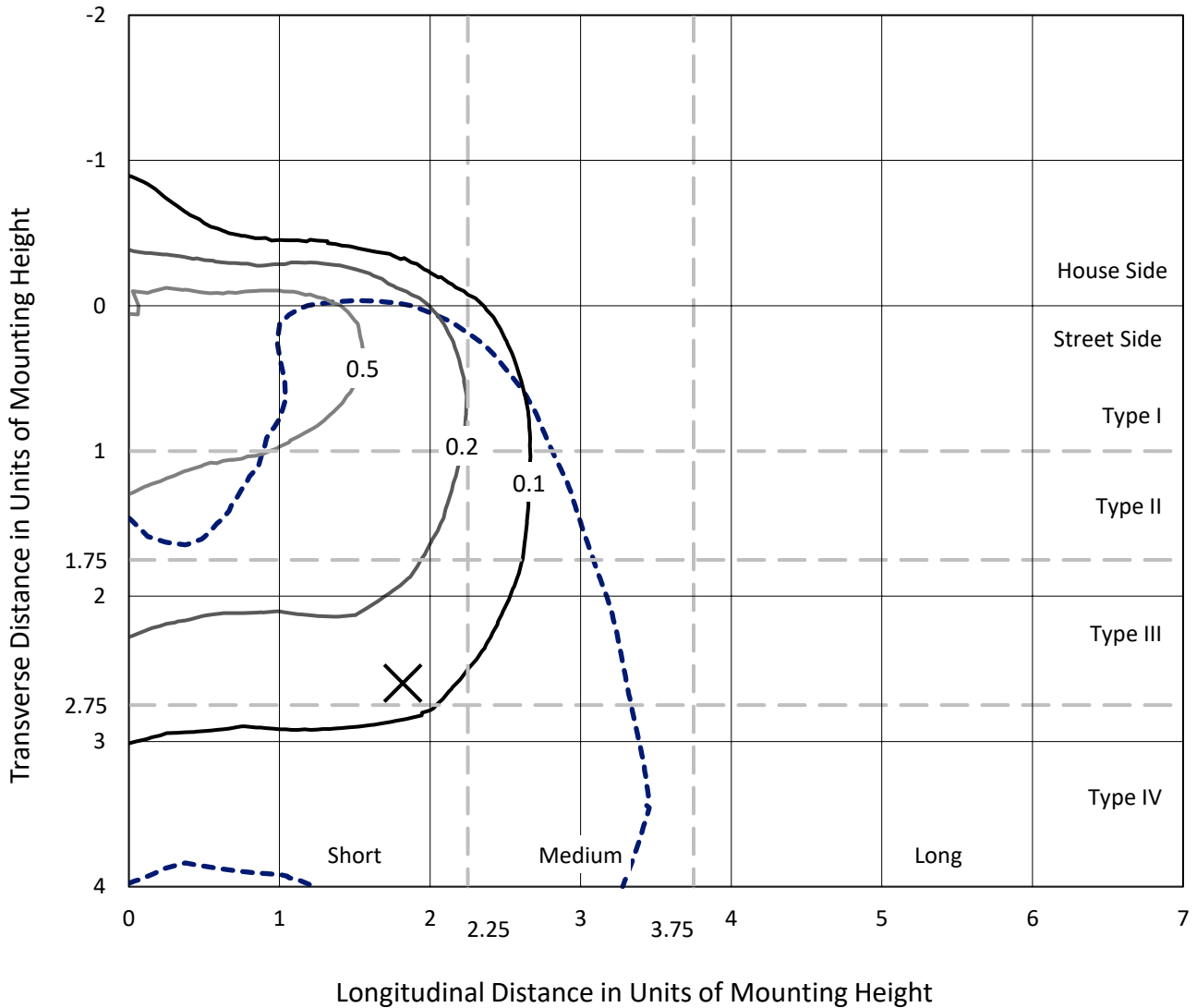
Lumens per Lamp: N/A  
Luminaire Lumens: 4126 lumens  
Efficiency: N/A  
Efficacy: 93.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

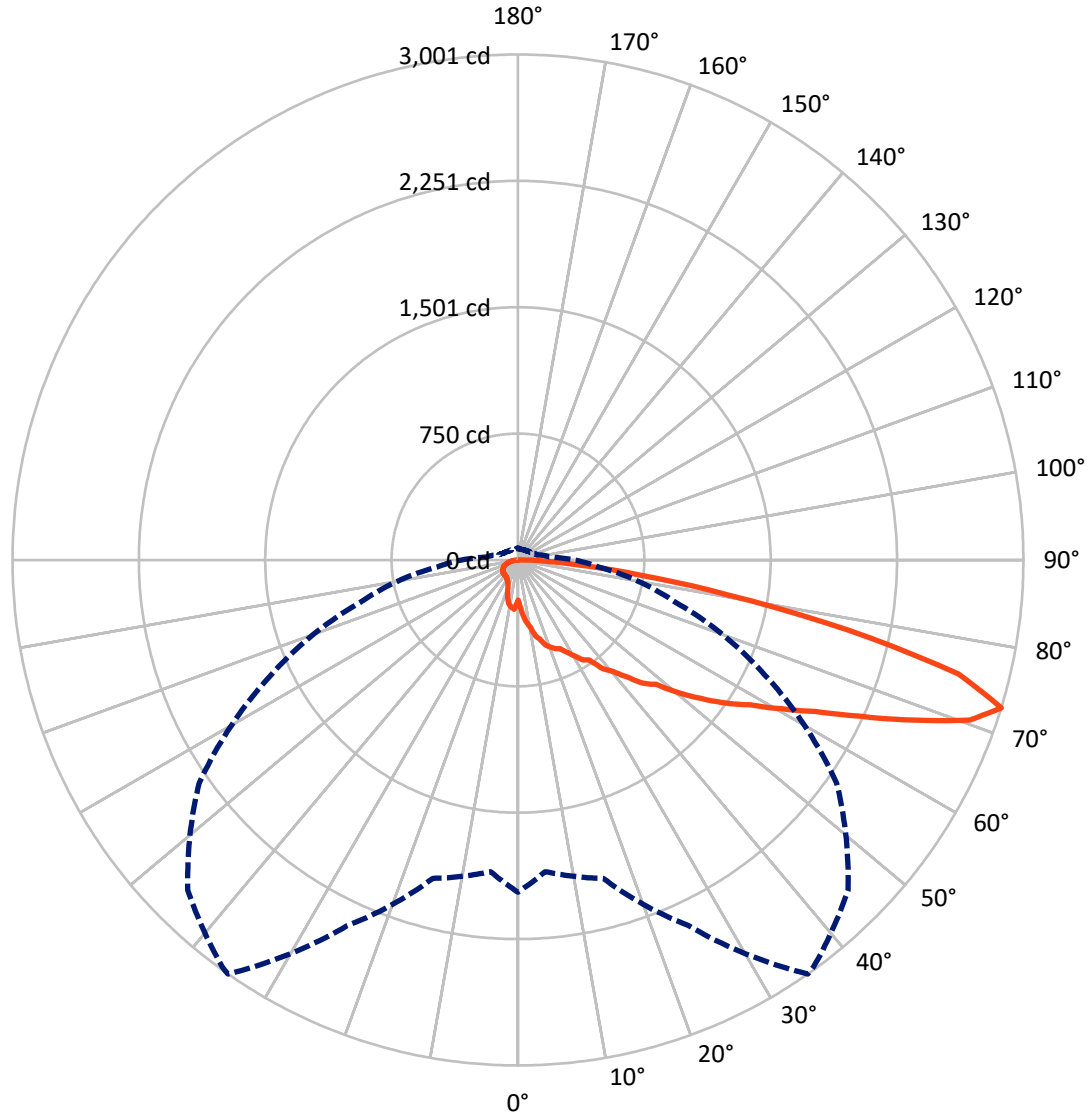
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.8 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
<b>House Side</b>	Lumens	553.7	0.0	553.7
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	3572.3	0.0	3572.3
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	4126.0	0.0	4126.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.7	0.8
10°-20°	111.6	2.7
20°-30°	194.0	4.7
30°-40°	324.2	7.9
40°-50°	562.7	13.6
50°-60°	850.6	20.6
60°-70°	1101.9	26.7
70°-80°	813.1	19.7
80°-90°	136.3	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°	4126.0	100.0
0°-180°	4126.0	100.0

**Coefficient of Utilization**

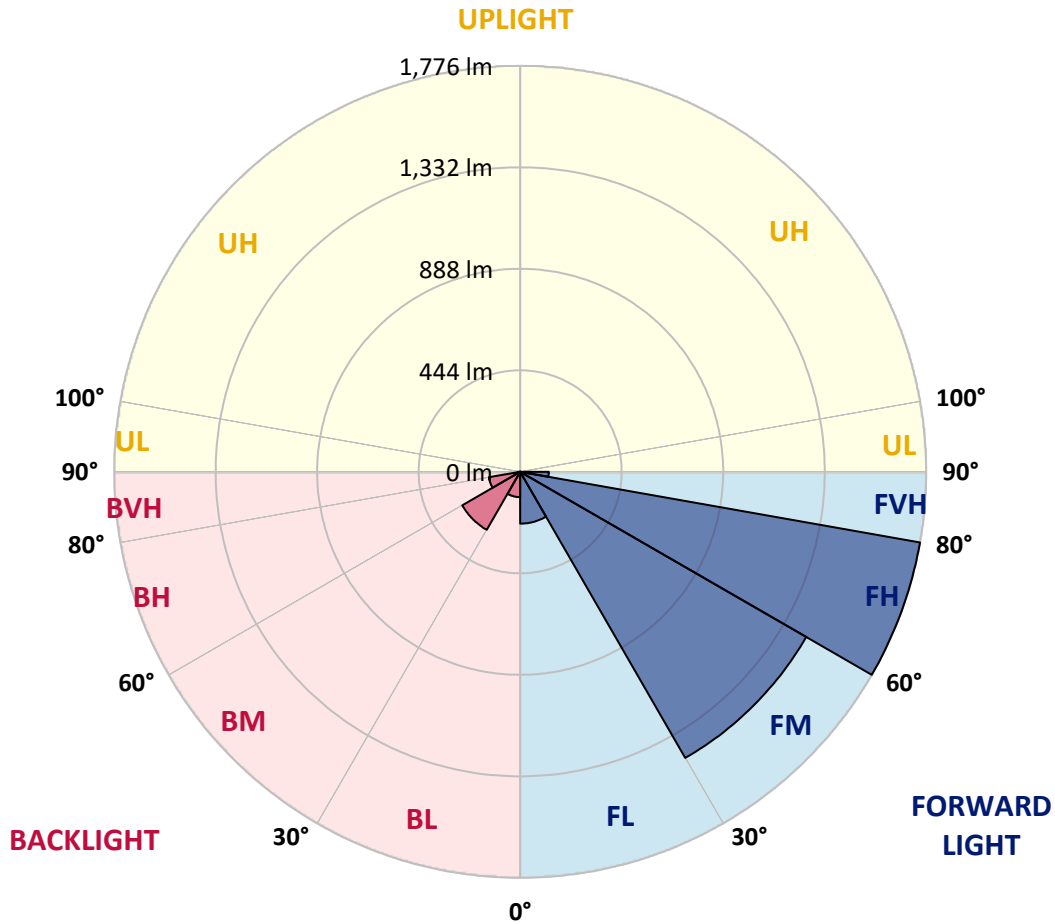


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	226.6	5.5			
FM (30°-60°)	1444.8	35.0			
FH (60°-80°)	1775.8	43.0			G1/1800
FVH (80°-90°)	125.1	3.0			G2/225
BL (0°-30°)	110.7	2.7	B1/500		
BM (30°-60°)	292.6	7.1	B1/1000		
BH (60°-80°)	139.2	3.4	B1/500		G1/500
BVH (80°-90°)	11.2	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°	238.4	238.4	238.4	238.4	238.4	238.4	238.4	238.4	238.4	238.4	238.4
2.5°	297.4	283.2	270.8	270.3	281.8	286.2	284.4	280.5	276.0	266.3	287.4
5°	372.6	352.2	348.3	343.8	333.4	336.2	319.3	332.1	336.2	345.5	359.6
7.5°	417.0	405.0	395.7	391.8	373.9	371.8	359.2	377.6	385.3	384.1	405.0
10°	434.4	423.5	424.2	411.6	405.7	408.2	409.6	410.0	414.7	418.6	408.0
12.5°	443.4	447.7	463.2	454.5	461.9	464.9	479.7	464.6	465.1	445.2	456.1
15°	488.7	499.3	490.3	489.9	487.6	492.6	505.2	495.0	502.9	496.6	482.5
17.5°	543.3	546.4	529.2	522.1	531.3	529.7	526.5	528.1	508.4	545.0	527.8
20°	560.0	572.5	549.8	522.1	552.4	556.5	555.8	548.9	515.1	567.9	551.2
22.5°	608.6	591.7	573.7	556.1	571.6	573.9	570.0	553.7	542.4	562.5	575.7
25°	630.6	626.6	603.7	601.6	584.5	576.4	583.1	578.3	567.2	603.0	588.4
27.5°	681.0	676.2	623.6	645.2	620.4	618.3	582.9	598.7	609.8	607.2	629.0
30°	738.0	743.5	666.5	688.2	659.5	655.6	620.1	640.1	647.7	650.2	677.5
32.5°	801.4	816.4	740.0	722.2	706.9	709.5	679.4	642.8	672.2	729.8	741.6
35°	870.1	876.3	796.2	769.4	729.4	726.6	727.1	731.7	761.5	827.2	836.3
37.5°	997.1	968.6	898.3	830.5	817.1	790.9	808.7	822.8	852.5	953.2	991.6
40°	1075.3	1054.2	947.1	907.8	870.8	873.3	906.6	906.4	976.7	1080.6	1139.2
42.5°	1147.7	1124.6	1023.7	984.2	949.2	957.8	967.3	984.1	1118.8	1286.3	1313.0
45°	1206.0	1155.4	1082.9	1074.1	1045.2	1033.7	1074.1	1100.8	1288.7	1452.7	1468.2
47.5°	1245.6	1204.0	1133.0	1125.3	1104.0	1132.0	1242.1	1259.3	1420.4	1619.8	1618.6
50°	1305.8	1248.9	1184.8	1180.8	1240.8	1255.8	1390.0	1388.2	1548.6	1758.6	1729.5
52.5°	1375.2	1303.5	1234.0	1277.5	1369.0	1376.4	1492.8	1540.2	1688.7	1892.4	1816.5
55°	1455.0	1374.8	1307.6	1365.7	1502.0	1480.1	1598.0	1713.7	1863.9	2033.5	1879.4
57.5°	1553.8	1456.5	1402.1	1490.5	1623.3	1642.7	1748.5	1894.2	2004.9	2121.2	1925.2
60°	1658.0	1543.9	1494.1	1578.2	1793.3	1815.4	1919.0	2044.2	2163.1	2203.8	1916.5
62.5°	1757.5	1634.1	1589.0	1692.9	1981.7	2036.6	2113.1	2192.8	2294.6	2223.8	1812.1
65°	1868.3	1744.7	1716.3	1872.1	2237.2	2291.8	2391.7	2367.7	2339.7	2152.7	1639.3
67.5°	1985.6	1860.0	1865.3	2080.1	2538.5	2547.9	2701.2	2542.0	2286.7	1964.3	1349.3
70°	2048.6	1920.0	1974.5	2301.8	2845.1	2831.7	2863.1	2588.9	2070.6	1552.7	930.0
72.5°	1972.2	1857.5	1957.2	2395.2	3001.1	2986.7	2772.2	2310.8	1618.9	965.6	482.2
75°	1669.8	1559.2	1711.7	2135.1	2701.8	2715.2	2359.3	1718.4	926.8	388.3	200.2
77.5°	1134.6	1077.6	1208.2	1591.4	2006.9	2053.2	1750.5	1004.8	389.2	160.8	121.2
80°	599.6	572.5	669.0	916.8	1270.8	1305.3	1029.3	500.5	199.3	104.1	86.5
82.5°	325.8	314.3	366.1	471.4	722.0	752.1	533.8	332.5	134.4	65.2	52.8
85°	218.9	214.5	248.8	253.2	341.5	351.3	279.7	256.1	80.7	31.9	34.9
87.5°	109.5	105.1	131.0	115.7	130.3	130.5	128.2	163.4	20.4	10.6	6.3
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°	238.4	238.4	238.4	238.4	238.4	238.4	238.4	238.4	238.4	238.4	238.4
2.5°	287.8	281.6	260.3	260.1	263.3	261.2	262.7	254.1	250.4	267.3	266.4
5°	357.7	339.2	321.4	315.2	308.0	292.3	293.2	293.4	290.7	300.8	301.5
7.5°	398.7	376.5	360.1	327.4	301.7	281.6	284.2	287.2	284.2	297.6	302.5
10°	404.7	387.1	367.5	331.1	314.0	295.9	277.5	261.3	259.4	253.2	255.2
12.5°	440.3	425.6	384.8	344.8	324.9	297.1	263.6	245.1	229.6	232.3	227.3
15°	469.5	459.1	410.1	357.8	310.3	275.8	240.2	214.8	200.9	199.3	194.4
17.5°	509.1	494.3	412.4	348.9	291.5	250.1	209.9	181.2	175.2	172.8	170.3
20°	528.1	501.5	404.2	320.7	269.4	219.4	180.0	155.3	153.6	158.0	157.1
22.5°	544.7	507.5	396.8	303.6	235.1	188.4	159.5	143.3	141.4	147.0	148.1
25°	554.4	524.6	388.7	286.2	213.8	165.4	144.2	135.1	135.4	142.8	141.9
27.5°	598.0	530.6	368.2	265.6	189.3	148.3	136.8	132.1	130.1	140.4	141.2
30°	625.5	569.7	363.7	243.7	171.2	135.8	130.1	128.2	127.9	140.2	141.1
32.5°	676.6	582.7	365.8	220.0	154.8	131.9	125.2	125.0	128.6	140.4	141.8
35°	747.4	637.7	355.6	206.4	145.8	125.9	121.3	122.7	128.7	141.6	143.5
37.5°	885.4	689.4	358.7	193.7	142.8	124.0	120.3	121.2	130.8	144.8	150.0
40°	994.8	783.3	353.8	187.4	138.8	123.6	118.0	121.5	130.7	146.5	151.3
42.5°	1153.3	858.1	354.3	181.0	138.6	122.2	117.6	121.9	130.3	144.9	151.4
45°	1289.2	925.2	361.9	177.3	136.8	124.5	117.1	122.4	128.0	139.3	146.5
47.5°	1400.7	1000.1	369.6	173.8	136.1	126.6	116.6	118.7	124.2	133.0	139.5
50°	1491.6	1052.7	379.5	173.1	136.1	125.6	115.2	115.0	119.6	126.6	132.8
52.5°	1562.4	1089.9	386.2	174.0	136.1	121.5	113.4	112.0	114.8	119.9	126.1
55°	1613.6	1101.3	380.7	176.3	136.0	117.8	110.2	109.0	110.4	113.9	119.7
57.5°	1634.2	1071.2	348.2	172.2	136.0	115.2	106.4	105.0	106.4	109.0	114.8
60°	1582.6	974.4	301.1	161.8	133.3	111.6	102.0	101.1	103.2	105.5	111.1
62.5°	1453.2	845.6	250.9	149.5	127.9	108.7	97.7	97.9	101.3	104.4	110.1
65°	1252.1	690.0	209.2	137.0	121.0	103.9	93.3	94.6	99.3	103.5	109.2
67.5°	985.3	511.2	176.1	124.9	111.3	96.2	88.4	88.8	92.1	96.2	101.6
70°	658.6	325.3	144.8	110.6	98.6	86.1	80.8	79.6	78.7	82.2	87.0
72.5°	334.1	192.1	118.9	94.6	84.9	75.2	71.1	68.0	65.5	67.6	71.3
75°	175.0	134.4	96.0	78.5	70.1	63.9	60.9	56.7	54.9	56.2	58.8
77.5°	123.8	105.1	77.7	62.2	57.1	50.7	51.2	46.8	45.4	46.1	49.0
80°	95.1	83.3	59.7	47.0	44.0	37.9	39.6	37.0	35.2	34.9	37.0
82.5°	64.8	62.7	42.4	32.9	30.8	26.4	28.9	27.8	25.5	24.1	25.2
85°	43.7	41.6	25.9	19.0	18.1	13.7	17.6	16.9	15.0	12.9	13.0
87.5°	7.6	13.9	7.4	4.8	4.4	1.6	4.1	3.9	3.5	1.8	1.4
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)