

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: P366608

Luminaire Tested: **MSA-SA1A-727-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366608  
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-SA1A-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: 3292 lumens  
Efficiency: N/A  
Efficacy: 96.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1

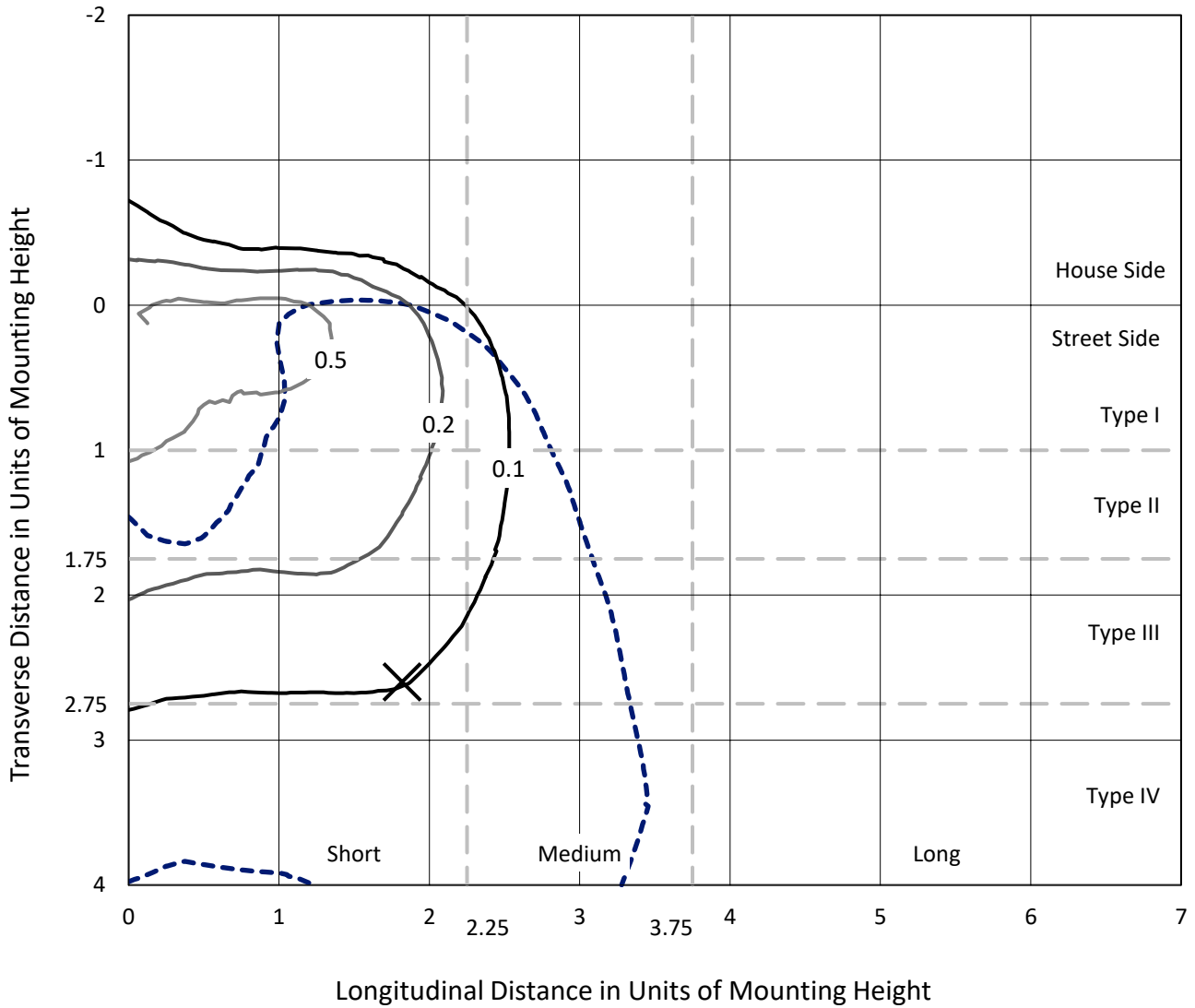
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

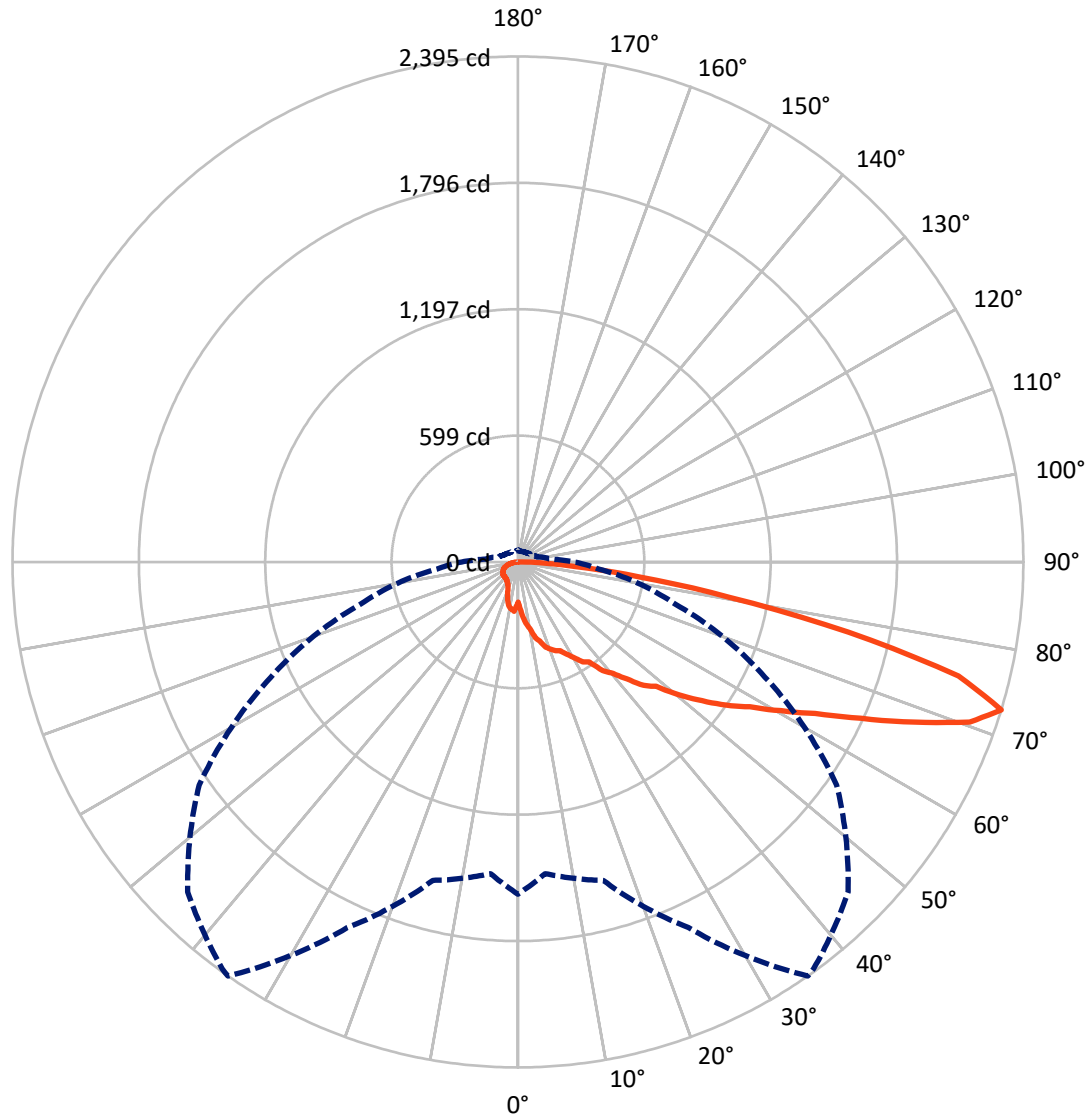
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.7 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	441.8	0.0	441.8
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	2850.2	0.0	2850.2
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	3292.0	0.0	3292.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	25.3	0.8
10°-20°	89.1	2.7
20°-30°	154.8	4.7
30°-40°	258.7	7.9
40°-50°	448.9	13.6
50°-60°	678.7	20.6
60°-70°	879.2	26.7
70°-80°	648.7	19.7
80°-90°	108.7	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°	3292.0	100.0
0°-180°	3292.0	100.0

**Coefficient of Utilization**



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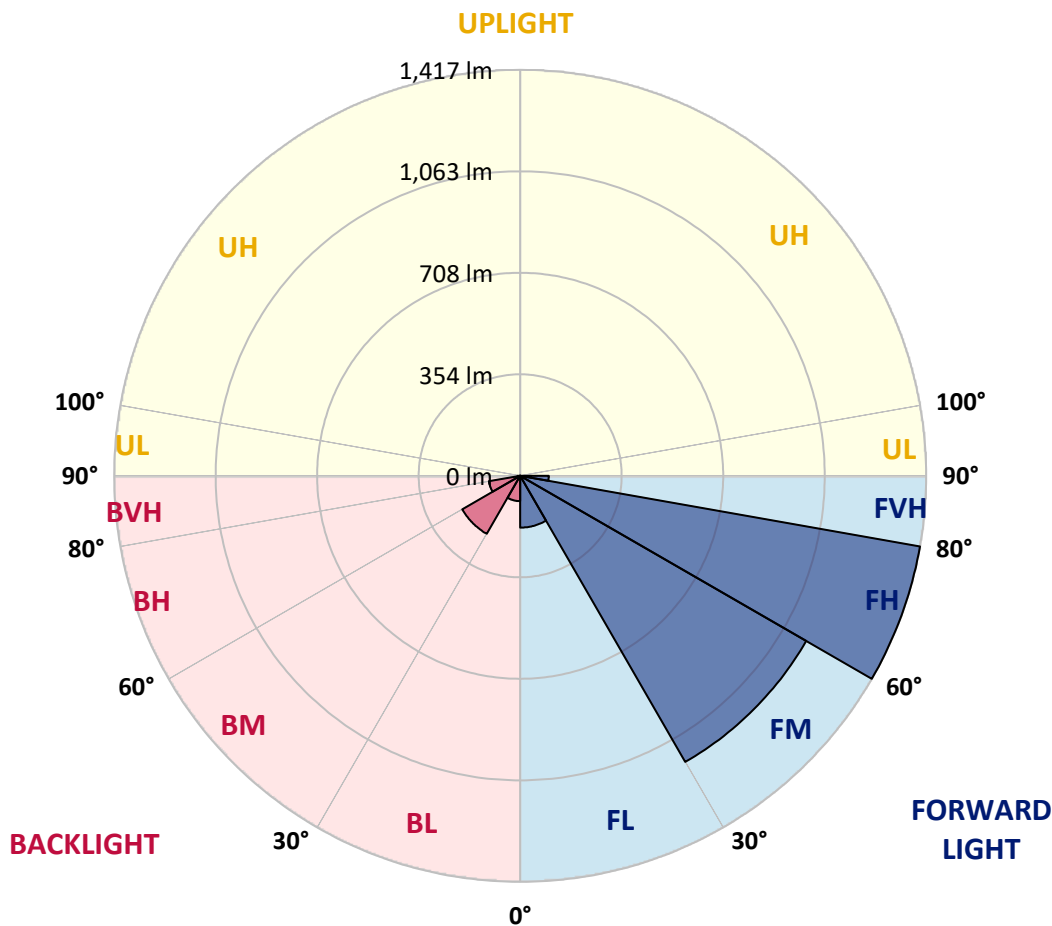
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	180.8	5.5			
FM (30°-60°)	1152.7	35.0			
FH (60°-80°)	1416.9	43.0			G1/1800
FVH (80°-90°)	99.8	3.0			G1/100
BL (0°-30°)	88.3	2.7	B0/110		
BM (30°-60°)	233.5	7.1	B1/1000		
BH (60°-80°)	111.1	3.4	B1/500		G1/500
BVH (80°-90°)	8.9	0.3			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	190.2	190.2	190.2	190.2	190.2	190.2	190.2	190.2	190.2	190.2	190.2
2.5°	237.3	225.9	216.1	215.7	224.8	228.3	226.9	223.8	220.2	212.4	229.3
5°	297.3	281.0	277.9	274.3	266.0	268.2	254.7	265.0	268.2	275.7	286.9
7.5°	332.7	323.2	315.7	312.6	298.3	296.6	286.6	301.2	307.4	306.4	323.2
10°	346.6	337.9	338.5	328.4	323.7	325.7	326.8	327.1	330.9	334.0	325.6
12.5°	353.8	357.2	369.5	362.6	368.5	370.9	382.7	370.7	371.1	355.2	363.9
15°	389.9	398.3	391.2	390.9	389.1	393.0	403.1	395.0	401.3	396.2	385.0
17.5°	433.5	436.0	422.2	416.6	423.9	422.6	420.1	421.4	405.6	434.9	421.1
20°	446.8	456.8	438.7	416.6	440.8	444.0	443.4	438.0	411.0	453.1	439.8
22.5°	485.6	472.1	457.8	443.7	456.1	457.9	454.8	441.8	432.8	448.8	459.3
25°	503.2	499.9	481.7	480.0	466.3	459.9	465.2	461.4	452.6	481.1	469.4
27.5°	543.3	539.5	497.5	514.8	495.0	493.3	465.1	477.7	486.6	484.5	501.9
30°	588.9	593.2	531.8	549.1	526.2	523.1	494.7	510.7	516.8	518.8	540.5
32.5°	639.4	651.4	590.4	576.2	564.0	566.1	542.1	512.8	536.3	582.3	591.7
35°	694.2	699.2	635.2	613.9	582.0	579.7	580.2	583.8	607.6	660.0	667.3
37.5°	795.5	772.8	716.7	662.6	652.0	631.0	645.2	656.4	680.2	760.6	791.2
40°	857.9	841.1	755.6	724.3	694.8	696.8	723.3	723.2	779.3	862.1	908.9
42.5°	915.7	897.3	816.8	785.3	757.3	764.2	771.8	785.2	892.6	1026.3	1047.6
45°	962.2	921.9	864.0	857.0	833.9	824.8	857.0	878.3	1028.2	1159.0	1171.4
47.5°	993.8	960.6	904.0	897.8	880.8	903.2	991.0	1004.8	1133.3	1292.4	1291.4
50°	1041.9	996.5	945.3	942.1	990.0	1002.0	1109.0	1107.6	1235.6	1403.1	1379.9
52.5°	1097.2	1040.0	984.5	1019.2	1092.3	1098.2	1191.1	1228.9	1347.3	1509.9	1449.3
55°	1160.9	1096.9	1043.3	1089.6	1198.4	1181.0	1275.0	1367.3	1487.1	1622.4	1499.5
57.5°	1239.7	1162.1	1118.7	1189.2	1295.2	1310.6	1395.1	1511.3	1599.7	1692.4	1536.0
60°	1322.9	1231.8	1192.1	1259.2	1430.8	1448.5	1531.1	1631.0	1725.8	1758.3	1529.1
62.5°	1402.3	1303.8	1267.8	1350.7	1581.1	1625.0	1685.9	1749.6	1830.8	1774.3	1445.8
65°	1490.6	1392.0	1369.4	1493.7	1785.0	1828.6	1908.2	1889.1	1866.8	1717.6	1308.0
67.5°	1584.2	1484.0	1488.2	1659.7	2025.4	2032.9	2155.2	2028.2	1824.5	1567.2	1076.6
70°	1634.5	1531.9	1575.4	1836.6	2270.0	2259.3	2284.4	2065.6	1652.1	1238.8	742.0
72.5°	1573.5	1482.1	1561.6	1911.0	2394.5	2383.0	2211.9	1843.7	1291.7	770.4	384.7
75°	1332.3	1244.0	1365.7	1703.5	2155.7	2166.3	1882.4	1371.1	739.5	309.8	159.8
77.5°	905.3	859.8	964.0	1269.8	1601.2	1638.2	1396.6	801.7	310.5	128.3	96.7
80°	478.4	456.8	533.8	731.5	1013.9	1041.4	821.3	399.3	159.1	83.0	69.0
82.5°	259.9	250.8	292.1	376.1	576.1	600.1	425.9	265.3	107.2	52.0	42.2
85°	174.6	171.1	198.5	202.0	272.4	280.3	223.1	204.3	64.4	25.4	27.8
87.5°	87.4	83.9	104.5	92.3	104.0	104.1	102.3	130.4	16.3	8.4	5.1
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°	190.2	190.2	190.2	190.2	190.2	190.2	190.2	190.2	190.2	190.2	190.2
2.5°	229.6	224.7	207.7	207.5	210.1	208.4	209.6	202.8	199.8	213.3	212.6
5°	285.4	270.6	256.4	251.5	245.7	233.2	233.9	234.1	232.0	240.0	240.5
7.5°	318.1	300.4	287.3	261.2	240.7	224.7	226.8	229.2	226.8	237.5	241.4
10°	322.9	308.8	293.2	264.2	250.5	236.1	221.4	208.5	207.0	202.0	203.6
12.5°	351.3	339.6	307.0	275.1	259.2	237.0	210.3	195.6	183.2	185.3	181.4
15°	374.6	366.3	327.2	285.5	247.6	220.0	191.7	171.4	160.3	159.1	155.1
17.5°	406.2	394.4	329.1	278.3	232.5	199.5	167.5	144.6	139.8	137.8	135.9
20°	421.4	400.2	322.5	255.9	215.0	175.1	143.6	123.9	122.5	126.0	125.3
22.5°	434.6	404.9	316.6	242.2	187.6	150.3	127.3	114.4	112.8	117.3	118.2
25°	442.3	418.6	310.1	228.3	170.6	131.9	115.1	107.8	108.0	114.0	113.2
27.5°	477.2	423.3	293.8	211.9	151.0	118.3	109.2	105.4	103.8	112.0	112.7
30°	499.1	454.5	290.1	194.5	136.6	108.3	103.8	102.3	102.0	111.8	112.5
32.5°	539.8	464.9	291.8	175.5	123.5	105.2	99.9	99.8	102.6	112.0	113.1
35°	596.3	508.8	283.7	164.7	116.3	100.5	96.8	97.9	102.7	113.0	114.5
37.5°	706.5	550.1	286.2	154.6	114.0	98.9	96.0	96.7	104.4	115.5	119.7
40°	793.7	625.0	282.3	149.5	110.7	98.6	94.1	96.9	104.3	116.9	120.7
42.5°	920.2	684.7	282.7	144.4	110.6	97.5	93.9	97.2	104.0	115.6	120.8
45°	1028.6	738.2	288.7	141.5	109.2	99.3	93.4	97.7	102.1	111.1	116.9
47.5°	1117.6	797.9	294.9	138.7	108.6	101.0	93.0	94.7	99.1	106.1	111.3
50°	1190.1	839.9	302.8	138.1	108.6	100.2	91.9	91.8	95.4	101.0	105.9
52.5°	1246.6	869.6	308.1	138.8	108.6	96.9	90.5	89.4	91.6	95.7	100.6
55°	1287.5	878.7	303.8	140.6	108.5	94.0	88.0	87.0	88.1	90.9	95.5
57.5°	1303.9	854.7	277.8	137.4	108.5	91.9	84.9	83.7	84.9	87.0	91.6
60°	1262.7	777.4	240.3	129.1	106.4	89.1	81.4	80.7	82.3	84.2	88.7
62.5°	1159.5	674.7	200.2	119.3	102.0	86.7	78.0	78.1	80.8	83.3	87.8
65°	999.0	550.5	166.9	109.3	96.5	82.9	74.5	75.5	79.2	82.6	87.1
67.5°	786.1	407.9	140.5	99.6	88.8	76.7	70.5	70.8	73.5	76.7	81.1
70°	525.5	259.5	115.5	88.2	78.7	68.7	64.5	63.5	62.8	65.6	69.4
72.5°	266.5	153.3	94.8	75.5	67.7	60.0	56.8	54.2	52.3	54.0	56.9
75°	139.7	107.2	76.6	62.7	55.9	51.0	48.6	45.2	43.8	44.8	46.9
77.5°	98.8	83.9	62.0	49.6	45.5	40.5	40.9	37.4	36.3	36.8	39.1
80°	75.9	66.5	47.6	37.5	35.1	30.2	31.6	29.5	28.1	27.8	29.5
82.5°	51.7	50.0	33.9	26.3	24.6	21.1	23.0	22.2	20.4	19.2	20.1
85°	34.8	33.2	20.7	15.2	14.5	11.0	14.1	13.5	11.9	10.3	10.4
87.5°	6.0	11.1	5.9	3.8	3.5	1.3	3.2	3.1	2.8	1.4	1.1
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)