

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: P366603

Luminaire Tested: **MSA-SA1A-727-U-SL2-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366603  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-17)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-727-U-SL2-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2770 lumens  
Efficiency: N/A  
Efficacy: 81.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B1 - U0 - G1

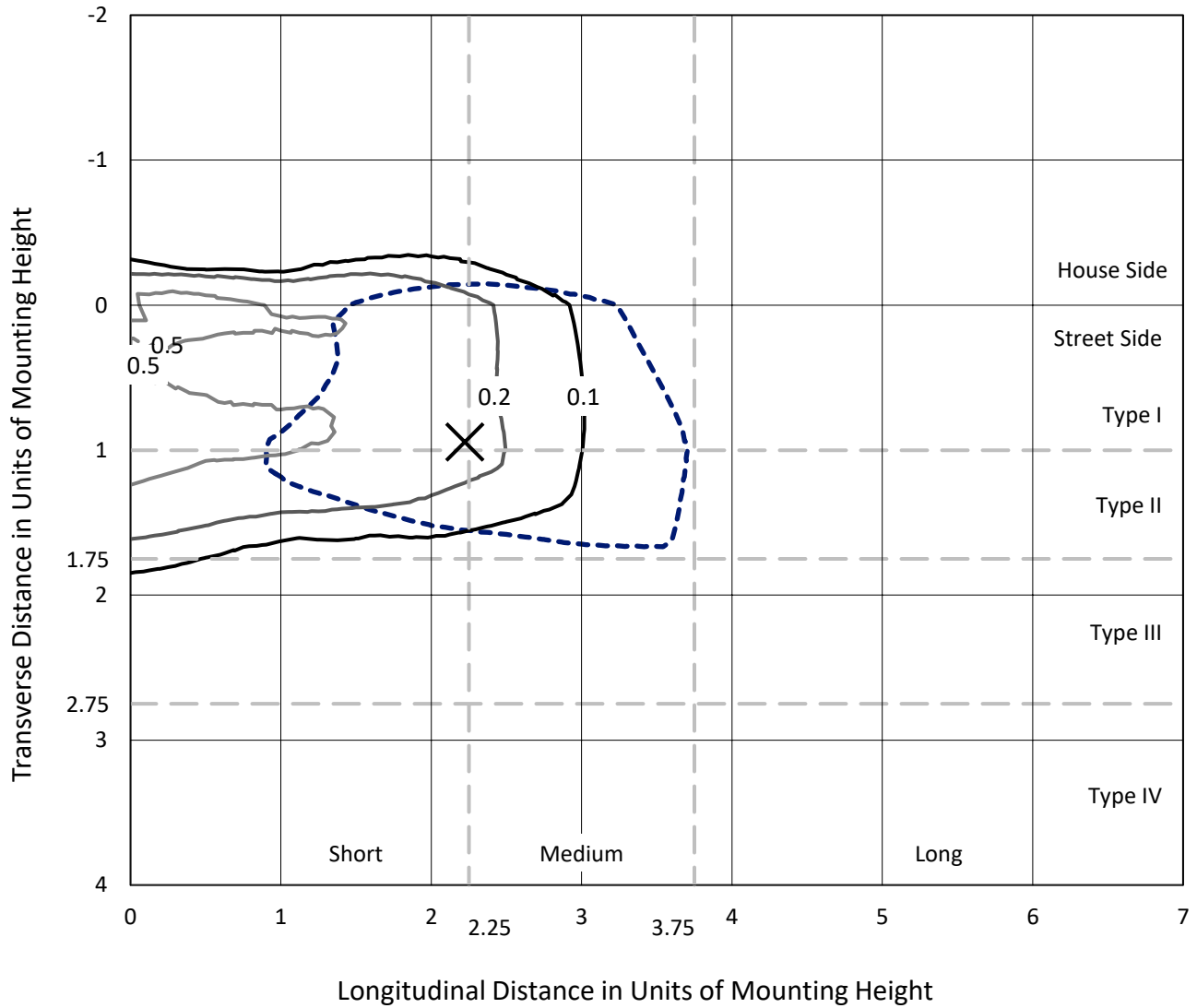
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

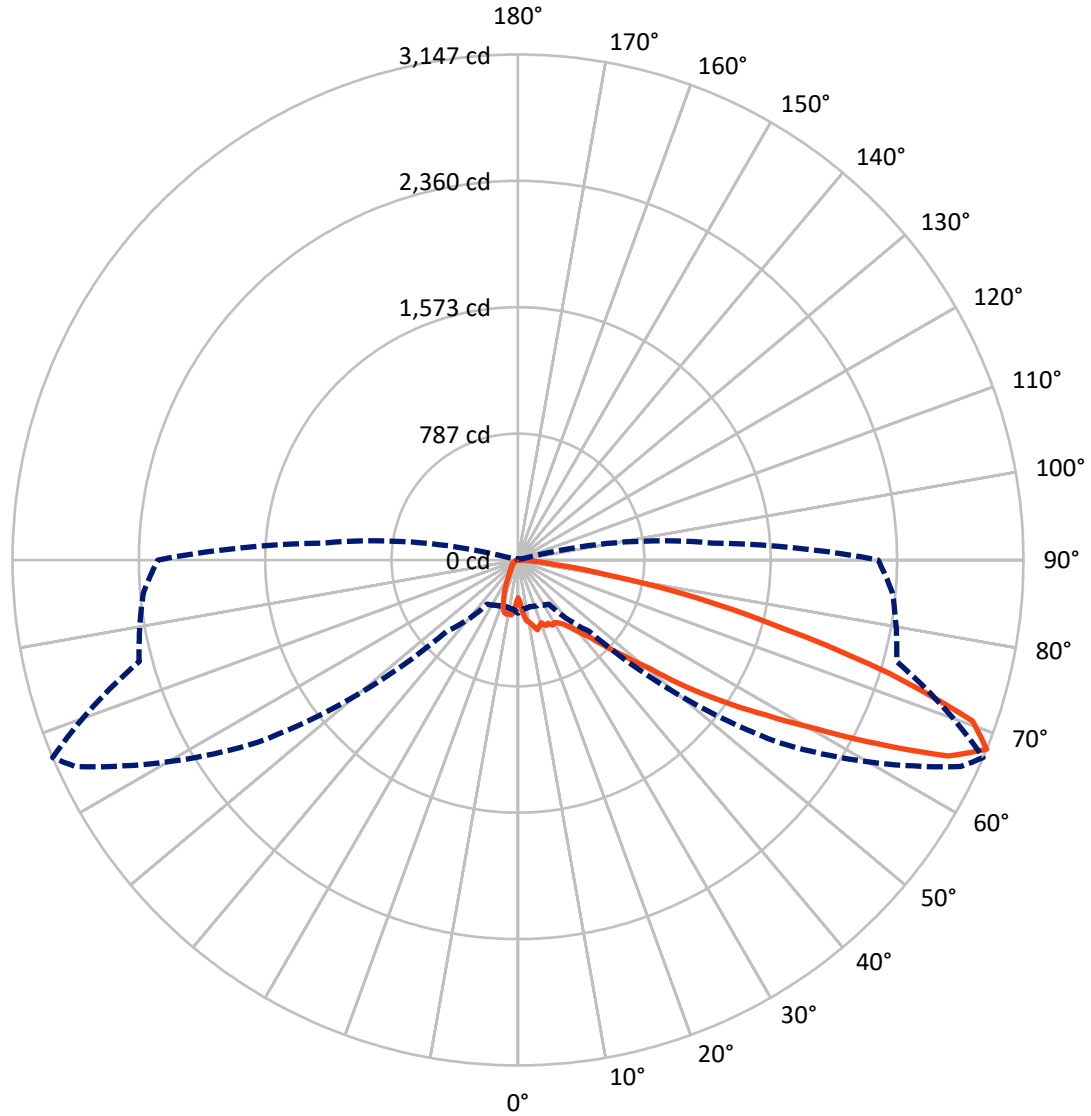
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.7 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	342.6	0.0	342.6
	% Fixture	12.4	0.0	12.4
<b>Street Side</b>	Lumens	2427.4	0.0	2427.4
	% Fixture	87.6	0.0	87.6
<b>Total</b>	Lumens	2770.0	0.0	2770.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	29.6	1.1
10°-20°	87.6	3.2
20°-30°	137.3	5.0
30°-40°	221.4	8.0
40°-50°	406.9	14.7
50°-60°	687.2	24.8
60°-70°	759.7	27.4
70°-80°	397.6	14.4
80°-90°	42.7	1.5
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°	2770.0	100.0
0°-180°	2770.0	100.0

**Coefficient of Utilization**

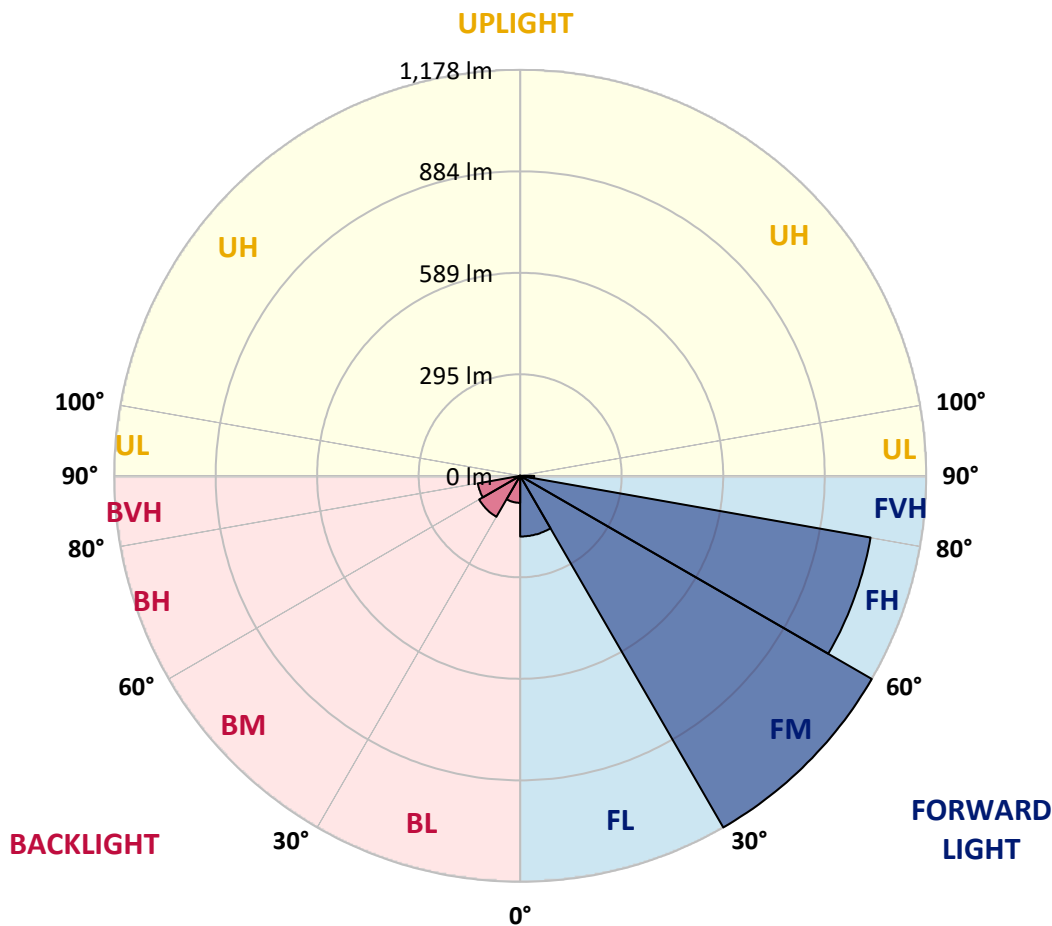


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	176.1	6.4			
FM (30°-60°)	1178.1	42.5			
FH (60°-80°)	1032.3	37.3			G1/1800
FVH (80°-90°)	40.9	1.5			G1/100
BL (0°-30°)	78.4	2.8	B0/110		
BM (30°-60°)	137.4	5.0	B0/220		
BH (60°-80°)	125.0	4.5	B1/500		G1/500
BVH (80°-90°)	1.8	0.1			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 II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	67°	75°	85°
0°	235.9	235.9	235.9	235.9	235.9	235.9	235.9	235.9	235.9	235.9	235.9
2.5°	278.5	269.1	253.1	257.7	267.0	274.7	271.1	263.9	264.0	256.7	283.0
5°	324.0	311.4	302.1	305.3	304.9	304.6	321.9	328.5	331.3	343.4	361.3
7.5°	337.1	332.6	322.9	325.9	316.2	316.9	347.2	375.9	380.4	387.8	419.6
10°	332.0	323.3	326.8	326.8	327.0	342.7	363.1	390.5	396.0	424.6	428.0
12.5°	326.6	327.0	340.9	338.4	357.5	385.7	392.6	423.4	420.7	445.6	482.5
15°	346.9	357.6	348.6	352.1	354.0	387.1	398.2	439.1	450.9	482.4	506.4
17.5°	381.9	383.3	364.6	359.6	372.8	382.2	404.5	424.2	432.1	514.7	548.7
20°	388.2	397.2	378.3	349.0	377.0	389.9	405.5	414.9	418.3	524.7	572.6
22.5°	426.3	416.3	386.0	363.8	371.8	385.9	395.6	423.9	444.2	505.9	595.5
25°	445.9	443.2	414.2	395.3	387.1	386.0	408.2	429.7	436.2	525.4	601.1
27.5°	492.6	486.6	430.5	428.2	401.3	377.7	408.6	447.3	459.3	507.0	622.2
30°	556.3	554.1	479.4	477.9	435.2	392.7	431.4	458.1	450.8	516.4	636.3
32.5°	620.4	638.6	562.3	518.8	486.7	448.0	424.9	454.7	467.8	539.3	662.1
35°	697.8	711.0	633.3	601.7	530.4	473.8	467.8	486.9	492.5	566.6	691.5
37.5°	833.3	813.3	747.1	693.3	655.9	566.1	536.3	521.2	534.2	603.5	751.5
40°	933.3	920.7	839.2	807.0	721.0	668.4	590.6	576.4	591.0	641.5	793.2
42.5°	1054.0	1027.7	951.0	929.2	840.7	739.4	660.4	665.3	656.2	716.4	866.4
45°	1163.2	1103.9	1061.2	1066.1	1018.9	882.0	776.9	774.5	766.9	824.8	943.4
47.5°	1236.7	1184.8	1143.2	1129.6	1124.0	1132.8	945.3	902.8	897.2	938.8	1064.7
50°	1276.2	1219.4	1168.0	1170.8	1284.9	1370.7	1118.9	1058.6	1060.8	1104.2	1230.5
52.5°	1249.6	1185.4	1131.2	1183.8	1409.7	1529.4	1406.4	1262.3	1311.2	1300.1	1452.9
55°	1126.9	1071.2	1032.7	1126.9	1423.3	1700.1	1760.4	1568.7	1557.8	1532.5	1679.7
57.5°	920.5	872.5	848.7	948.2	1274.2	1837.7	2115.9	1915.1	1821.6	1715.7	1868.0
60°	685.9	650.4	625.7	678.3	1004.0	1704.0	2348.7	2241.5	2133.3	1892.3	2037.2
62.5°	508.0	479.2	452.9	457.7	691.3	1465.6	2438.1	2587.3	2525.2	2078.8	2196.8
65°	405.4	379.1	360.7	350.2	428.2	1102.6	2313.7	2870.7	2942.4	2254.4	2312.0
67.5°	331.1	308.9	299.7	311.8	335.8	628.5	1981.6	3042.7	3146.7	2440.8	2340.4
70°	269.4	251.1	250.1	282.7	309.3	383.2	1457.6	2924.0	3002.3	2472.5	2170.3
72.5°	187.7	179.7	192.5	238.7	306.5	319.1	837.1	2419.7	2422.5	2183.8	1785.1
75°	106.2	105.0	125.2	190.4	298.5	315.9	466.7	1709.9	1711.2	1651.6	1236.7
77.5°	58.5	54.7	72.9	128.7	256.3	308.6	301.0	1167.5	1137.6	919.1	564.9
80°	27.0	25.4	39.5	82.5	187.4	291.9	241.3	641.7	578.6	299.4	137.8
82.5°	11.1	10.5	18.1	53.0	118.5	235.1	203.3	284.7	228.5	56.9	42.6
85°	2.0	2.1	7.4	32.0	66.3	108.3	164.8	135.2	99.3	15.7	23.3
87.5°	0.0	0.0	1.5	7.7	16.0	29.6	66.9	37.8	26.0	4.6	6.9
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°	235.9	235.9	235.9	235.9	235.9	235.9	235.9	235.9	235.9	235.9	235.9
2.5°	288.2	285.8	261.6	262.8	264.5	262.9	262.6	255.9	249.7	270.1	269.8
5°	364.5	347.5	330.8	324.3	310.4	292.1	292.3	286.5	280.6	288.9	288.9
7.5°	418.9	395.4	374.2	336.4	299.6	266.3	263.3	255.5	246.5	257.3	259.4
10°	431.5	411.1	383.7	328.2	293.4	260.9	225.2	195.9	182.2	175.9	174.8
12.5°	470.4	455.3	394.0	332.6	282.4	227.5	169.0	134.2	110.4	108.6	106.1
15°	496.4	485.8	404.1	321.8	236.1	163.6	106.2	81.5	71.9	71.1	69.8
17.5°	536.8	518.2	394.4	287.4	184.6	107.9	71.4	64.4	65.5	68.0	66.0
20°	553.2	517.0	373.4	237.5	129.7	72.4	62.0	58.2	61.1	63.5	62.4
22.5°	570.1	520.6	354.7	195.7	84.7	59.9	55.2	53.3	53.5	55.9	56.1
25°	569.9	530.7	333.0	152.5	63.1	53.3	49.9	47.4	46.4	48.1	47.6
27.5°	597.6	519.1	293.5	113.1	55.5	47.6	44.4	41.3	37.8	39.5	39.5
30°	597.8	538.0	266.0	81.2	50.9	42.4	39.6	34.8	30.8	32.2	32.3
32.5°	613.6	521.6	240.6	62.1	47.2	39.3	33.2	28.8	26.4	27.3	27.3
35°	631.8	535.6	201.5	54.8	43.6	35.0	28.4	24.9	23.0	23.7	23.7
37.5°	691.6	532.7	174.4	51.0	41.2	31.6	25.9	21.9	21.1	21.5	22.1
40°	713.3	553.6	137.6	48.8	37.2	28.5	22.8	19.8	18.7	19.0	19.1
42.5°	768.3	558.3	109.9	46.9	33.7	24.7	20.2	18.1	16.7	16.7	17.1
45°	829.2	569.9	87.4	45.4	30.8	22.2	18.3	16.6	14.5	14.2	14.8
47.5°	917.3	614.6	71.2	42.3	27.3	20.7	16.9	14.3	12.6	12.1	12.6
50°	1064.7	690.5	63.0	38.5	24.7	19.4	14.9	12.2	11.0	10.3	10.7
52.5°	1272.7	821.6	58.6	35.0	22.5	17.4	13.3	10.7	9.4	8.9	9.1
55°	1503.7	971.9	56.5	31.5	20.5	15.3	11.7	9.4	8.3	7.6	7.7
57.5°	1717.2	1113.3	54.4	28.1	18.5	13.6	10.3	8.3	7.2	6.5	6.6
60°	1927.7	1226.1	49.3	24.2	16.7	12.2	9.0	7.2	6.5	5.6	5.6
62.5°	2113.9	1293.6	42.0	20.9	15.0	10.8	8.0	6.5	5.9	5.1	5.1
65°	2240.7	1296.7	33.9	18.0	13.2	9.3	7.0	6.0	5.5	4.5	4.4
67.5°	2242.5	1212.4	27.1	16.0	11.7	8.1	6.3	5.8	5.1	4.2	3.9
70°	2007.1	1001.6	22.6	14.1	10.1	7.2	5.5	5.5	4.9	4.1	3.7
72.5°	1605.5	765.4	19.0	12.2	9.0	6.2	5.1	5.2	4.8	4.1	3.7
75°	1079.2	439.0	15.7	10.4	7.9	5.2	4.9	5.1	4.9	4.1	3.5
77.5°	497.0	139.8	12.2	8.6	6.7	4.4	4.8	4.8	4.5	3.7	3.1
80°	112.0	34.4	8.9	6.3	5.5	3.2	4.4	3.9	3.5	2.5	1.8
82.5°	40.7	10.5	5.3	3.9	3.4	1.3	2.8	2.8	2.5	1.8	1.1
85°	23.3	5.5	3.0	2.5	1.8	0.6	1.5	1.7	1.4	1.3	0.6
87.5°	7.6	1.3	1.4	1.5	1.4	0.3	0.6	0.6	0.4	0.3	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)