

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: P366989

Luminaire Tested: **MSA-SA1C-830-U-T3-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366989  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1C-830-U-T3-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3681 lumens  
Efficiency: N/A  
Efficacy: 62.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B0 - U0 - G1

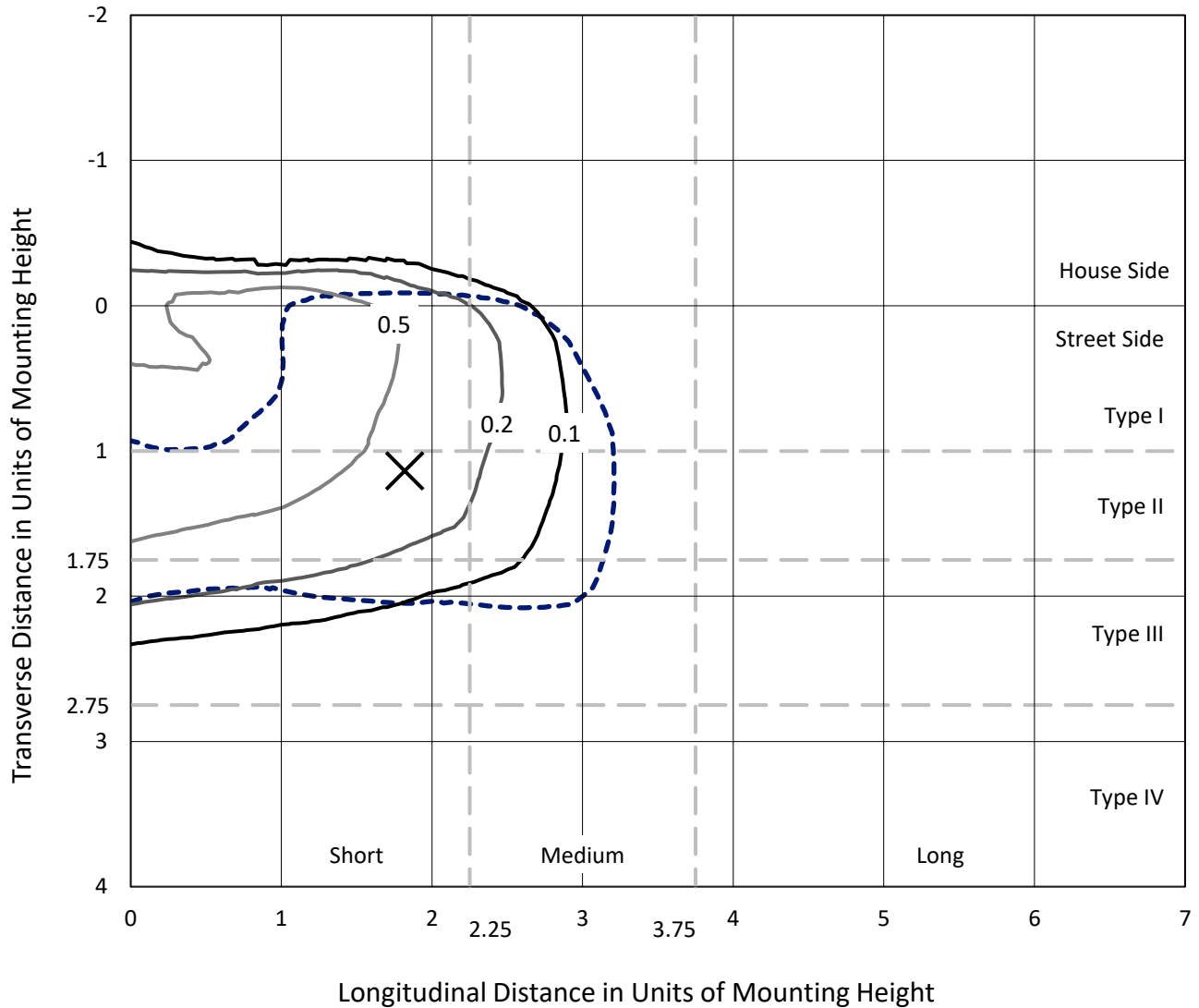
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



REPORT NUMBER: P366989  
 CATALOG NUMBER: MSA-SA1C-830-U-T3-HSS

### Iso-Footcandle Lines of Horizontal Illumination

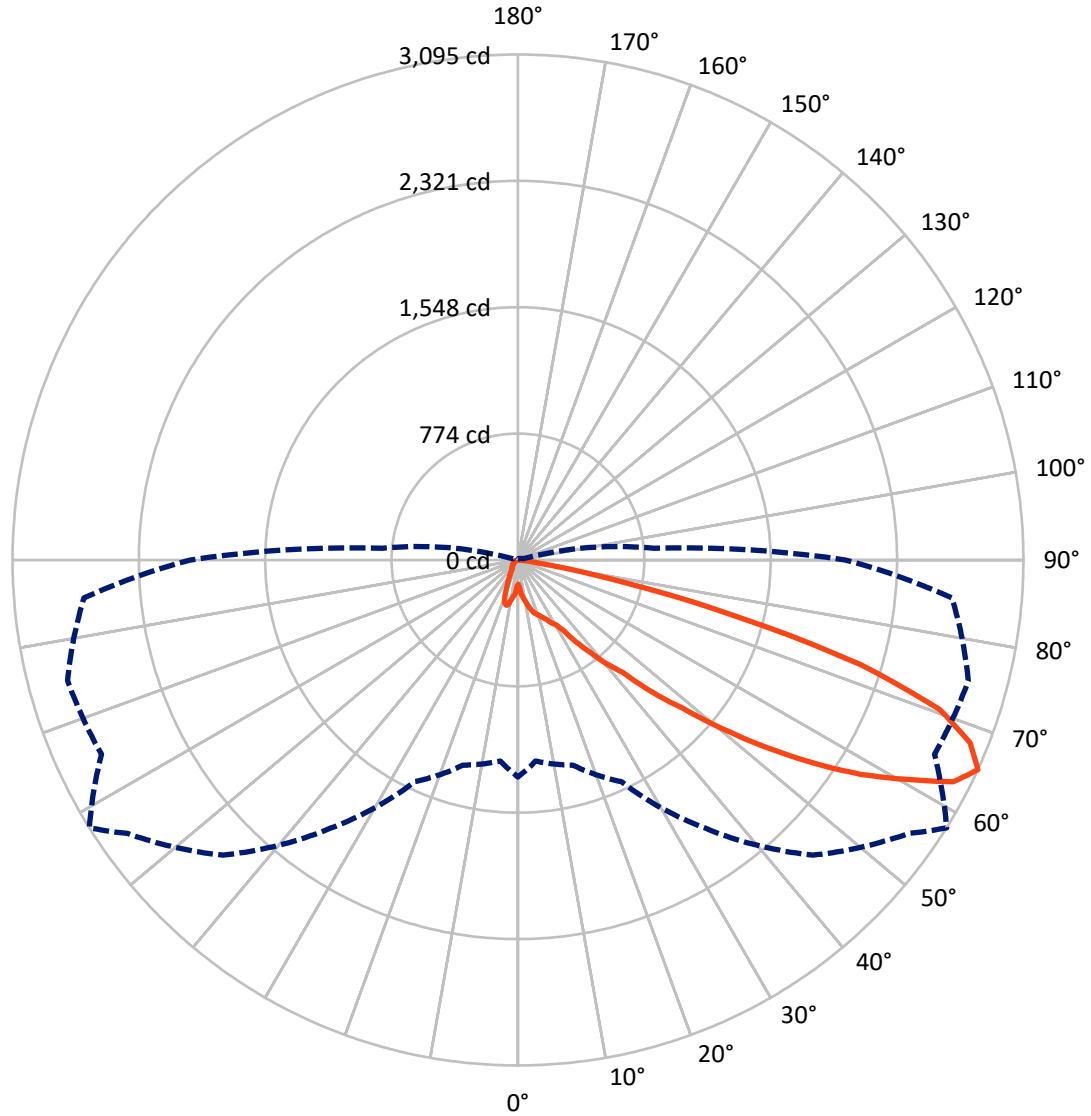
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 fc  
 Type III - Short - N/A

REPORT NUMBER: P366989  
CATALOG NUMBER: MSA-SA1C-830-U-T3-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

REPORT NUMBER: P366989

CATALOG NUMBER: MSA-SA1C-830-U-T3-HSS

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	363.2	0.0	363.2
	% Fixture	9.9	0.0	9.9
<b>Street Side</b>	Lumens	3317.8	0.0	3317.8
	% Fixture	90.1	0.0	90.1
<b>Total</b>	Lumens	3681.0	0.0	3681.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	20.7	0.6
10°-20°	75.6	2.1
20°-30°	146.3	4.0
30°-40°	291.8	7.9
40°-50°	596.6	16.2
50°-60°	1058.1	28.7
60°-70°	1115.5	30.3
70°-80°	361.7	9.8
80°-90°	14.8	0.4
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°	3681.0	100.0
0°-180°	3681.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P366989

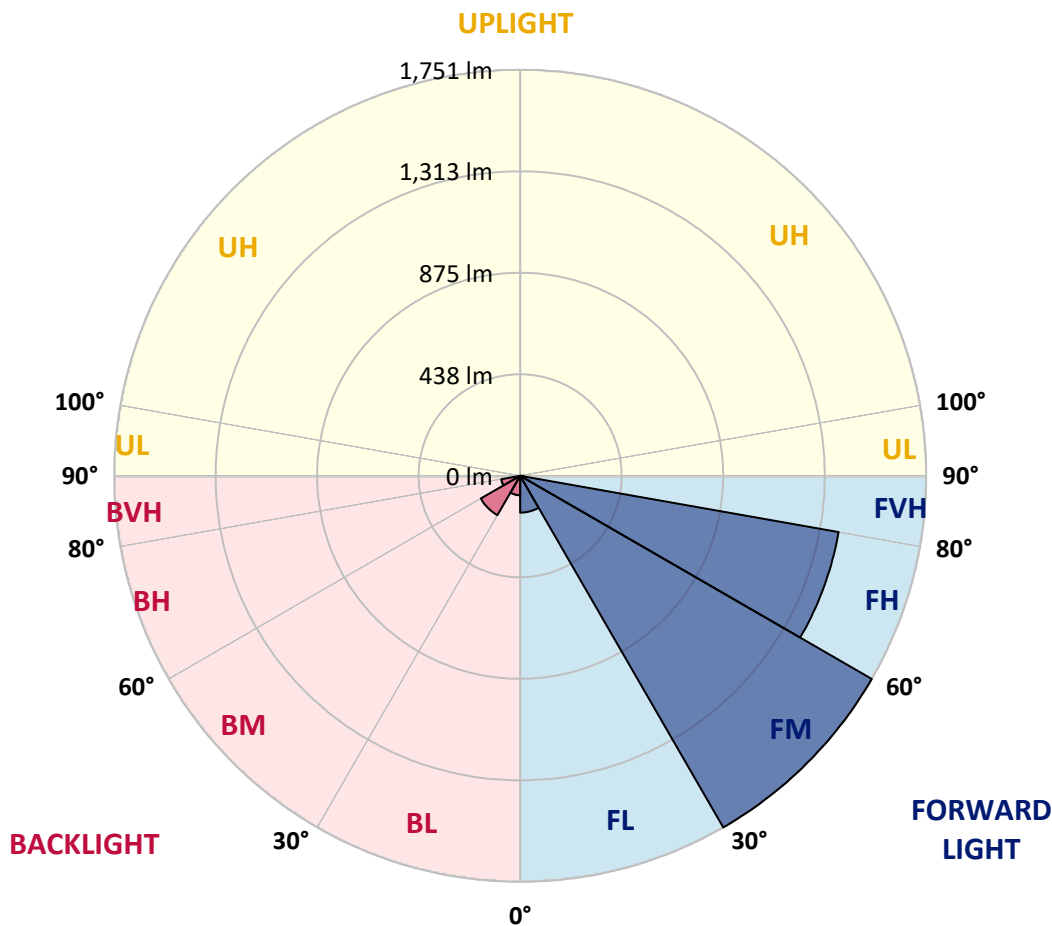
CATALOG NUMBER: MSA-SA1C-830-U-T3-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	158.8	4.3			
FM (30°-60°)	1750.5	47.6			
FH (60°-80°)	1394.3	37.9			G1/1800
FVH (80°-90°)	14.2	0.4			G1/100
BL (0°-30°)	83.7	2.3	B0/110		
BM (30°-60°)	196.0	5.3	B0/220		
BH (60°-80°)	82.9	2.3	B0/110		G0/110
BVH (80°-90°)	0.6	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type III Short





REPORT NUMBER: P366989  
 CATALOG NUMBER: MSA-SA1C-830-U-T3-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4
2.5°	179.9	174.5	166.0	167.5	169.1	172.4	169.7	167.3	164.6	161.0	174.5
5°	217.2	208.3	207.5	205.6	204.1	203.9	207.3	206.2	207.7	214.3	221.1
7.5°	230.9	227.1	220.1	223.0	218.4	214.9	229.6	234.4	243.5	246.6	264.5
10°	229.4	224.0	226.9	228.4	231.5	244.4	253.7	258.9	266.7	283.7	280.2
12.5°	236.1	240.8	243.9	244.1	260.1	283.7	290.4	294.7	308.8	315.4	332.8
15°	258.2	266.1	261.1	263.2	268.4	297.2	312.7	322.3	342.2	363.7	368.1
17.5°	289.9	294.9	284.6	277.1	291.4	307.1	335.3	345.3	357.9	408.3	417.6
20°	329.9	338.4	316.1	286.4	305.3	323.9	354.6	359.4	372.8	438.5	453.3
22.5°	423.4	410.8	376.6	330.4	324.8	333.1	362.3	380.9	403.7	455.5	489.7
25°	515.6	511.3	460.9	409.3	372.0	353.4	392.1	402.5	439.8	496.0	514.8
27.5°	618.2	626.9	542.8	511.5	438.3	377.4	410.8	436.7	480.8	510.7	556.1
30°	753.6	739.7	641.0	609.7	526.2	443.5	459.1	460.7	525.6	559.2	602.3
32.5°	859.7	868.6	744.7	696.6	629.8	545.3	495.3	516.9	563.3	638.1	679.0
35°	974.5	973.7	852.8	788.2	700.9	628.4	602.9	618.6	676.9	761.7	772.4
37.5°	1146.1	1131.4	988.8	894.1	819.9	757.9	738.4	717.5	777.6	858.4	898.9
40°	1308.0	1257.2	1125.4	1013.0	918.1	892.8	822.4	835.2	853.0	959.8	1071.5
42.5°	1471.5	1440.0	1263.8	1169.7	1053.0	992.9	946.9	940.9	1025.7	1152.1	1267.6
45°	1687.2	1590.9	1449.9	1367.2	1232.1	1171.8	1134.7	1156.9	1233.1	1417.8	1494.7
47.5°	1868.4	1779.7	1658.6	1533.0	1391.3	1459.1	1389.4	1354.4	1459.1	1649.9	1752.1
50°	2024.0	1925.2	1802.7	1709.6	1686.6	1751.7	1610.8	1623.6	1691.6	1915.8	1973.5
52.5°	2137.2	2033.1	1926.2	1881.2	1975.5	2008.3	1937.6	1909.2	1971.0	2142.6	2170.5
55°	2222.4	2115.8	2032.3	2094.3	2276.7	2265.9	2290.8	2193.8	2252.8	2379.0	2365.8
57.5°	2227.5	2101.3	2052.4	2152.1	2402.5	2569.3	2642.0	2477.1	2510.7	2563.9	2534.1
60°	2064.6	1939.0	1935.1	2076.7	2438.9	2647.9	2807.0	2726.6	2681.6	2721.2	2664.6
62.5°	1740.1	1652.2	1693.2	1849.7	2303.2	2604.5	2894.9	2991.7	2816.6	2825.5	2745.1
65°	1328.7	1236.5	1300.7	1497.8	2006.4	2556.0	2919.8	3095.3	2814.1	2855.1	2668.0
67.5°	880.0	826.5	899.3	1116.5	1595.2	2256.4	2906.9	2986.5	2724.7	2739.2	2381.7
70°	454.3	441.2	500.1	671.5	1072.5	1733.5	2780.7	2737.2	2543.4	2359.8	1837.1
72.5°	145.5	146.1	202.7	306.7	578.2	1055.3	2137.4	2197.1	2035.2	1726.2	1121.6
75°	64.5	63.4	84.8	128.7	241.0	473.2	1327.9	1392.3	1267.1	949.6	471.5
77.5°	46.4	45.0	54.3	75.2	119.4	160.4	622.6	671.9	574.5	329.1	108.0
80°	32.7	32.5	39.4	52.8	74.6	71.3	196.7	220.5	176.6	79.8	31.7
82.5°	18.4	19.1	27.4	37.3	45.4	35.6	55.3	60.9	59.5	42.5	13.9
85°	8.9	9.9	17.8	26.9	23.8	13.9	19.7	21.3	24.9	24.7	7.0
87.5°	0.0	0.0	7.3	12.2	6.4	2.1	6.0	6.8	6.6	7.9	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



REPORT NUMBER: P366989  
 CATALOG NUMBER: MSA-SA1C-830-U-T3-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4	147.4
2.5°	177.2	176.0	160.2	161.4	165.0	163.5	164.8	161.9	158.5	172.0	171.8
5°	224.0	214.7	209.7	205.2	206.0	196.7	202.1	204.6	204.1	211.8	213.9
7.5°	265.1	252.6	242.7	233.2	218.7	205.6	213.7	218.9	222.4	235.6	240.8
10°	284.3	274.2	270.3	251.6	241.2	233.2	223.4	216.4	219.3	215.7	219.3
12.5°	326.6	319.8	304.7	285.8	273.4	256.8	220.5	190.3	171.6	171.8	170.6
15°	365.2	364.8	342.2	310.9	274.8	227.6	171.0	132.8	115.2	110.3	108.6
17.5°	415.5	409.3	368.1	321.9	257.0	176.2	116.5	91.0	89.3	92.2	91.0
20°	447.7	438.5	380.9	305.9	211.8	119.2	87.9	80.6	85.6	89.7	88.7
22.5°	479.8	466.1	390.7	286.4	150.7	87.3	79.4	78.1	81.2	86.4	87.3
25°	497.4	494.7	409.7	249.9	103.2	76.5	76.5	76.1	77.1	80.8	80.2
27.5°	548.6	512.1	395.4	195.0	79.8	70.3	71.3	70.9	67.1	70.9	71.1
30°	580.5	563.7	396.5	138.9	70.3	62.2	64.9	61.6	56.0	59.1	58.4
32.5°	644.8	602.9	393.4	93.7	64.0	59.3	55.1	50.4	46.2	47.5	46.4
35°	719.6	687.7	351.3	75.2	59.7	52.4	45.8	41.0	36.7	37.7	37.5
37.5°	868.4	767.0	316.5	67.8	56.8	48.1	40.4	33.8	31.5	32.1	32.7
40°	1006.2	899.5	251.6	64.5	51.8	42.9	33.4	28.6	27.2	27.6	28.2
42.5°	1212.2	1004.8	190.1	61.1	46.8	36.3	27.8	24.7	23.2	24.0	24.5
45°	1411.6	1094.3	142.0	58.2	42.7	31.3	23.4	21.3	19.7	20.3	21.1
47.5°	1610.8	1193.8	105.9	53.7	38.1	26.9	20.1	18.7	17.6	17.8	18.9
50°	1789.0	1240.2	83.3	48.1	34.4	23.4	18.2	16.8	16.4	16.6	17.4
52.5°	1920.0	1240.6	70.3	43.1	30.9	20.7	17.2	15.5	15.3	15.8	16.6
55°	2038.3	1207.4	60.9	38.8	27.8	18.9	16.4	14.9	14.9	15.3	16.2
57.5°	2116.9	1146.5	52.8	34.2	25.1	17.8	15.8	14.3	14.1	13.9	14.5
60°	2155.2	1063.4	44.8	30.1	22.6	17.2	15.3	12.6	12.4	12.0	12.4
62.5°	2131.0	959.4	37.5	25.9	20.1	16.4	13.5	11.0	10.6	9.7	10.4
65°	2007.0	832.9	31.7	22.2	17.4	13.9	11.4	9.3	8.3	7.3	7.0
67.5°	1753.6	676.7	26.5	19.1	14.9	11.4	9.3	8.3	6.4	5.6	5.4
70°	1314.2	462.0	22.0	16.4	12.4	9.7	7.9	7.5	6.0	5.4	5.0
72.5°	771.0	249.3	18.4	14.3	10.6	8.1	6.4	6.8	6.0	5.0	4.6
75°	308.0	82.9	14.7	11.4	8.5	5.8	5.4	5.6	5.4	4.6	3.7
77.5°	70.3	26.1	11.4	8.9	6.6	3.7	4.4	4.8	4.8	3.7	2.7
80°	22.0	10.4	6.6	5.6	4.8	2.1	3.1	3.3	2.3	1.0	0.0
82.5°	7.0	2.9	2.3	2.3	2.1	0.4	0.6	0.4	0.0	0.0	0.0
85°	2.7	1.9	1.5	1.5	0.8	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	1.0	0.8	0.6	0.8	0.4	0.0	0.0	0.0	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)