

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: P366848

Luminaire Tested: **MSA-SA1B-830-U-SL3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366848  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1B-830-U-SL3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3949 lumens  
Efficiency: N/A  
Efficacy: 89.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G1

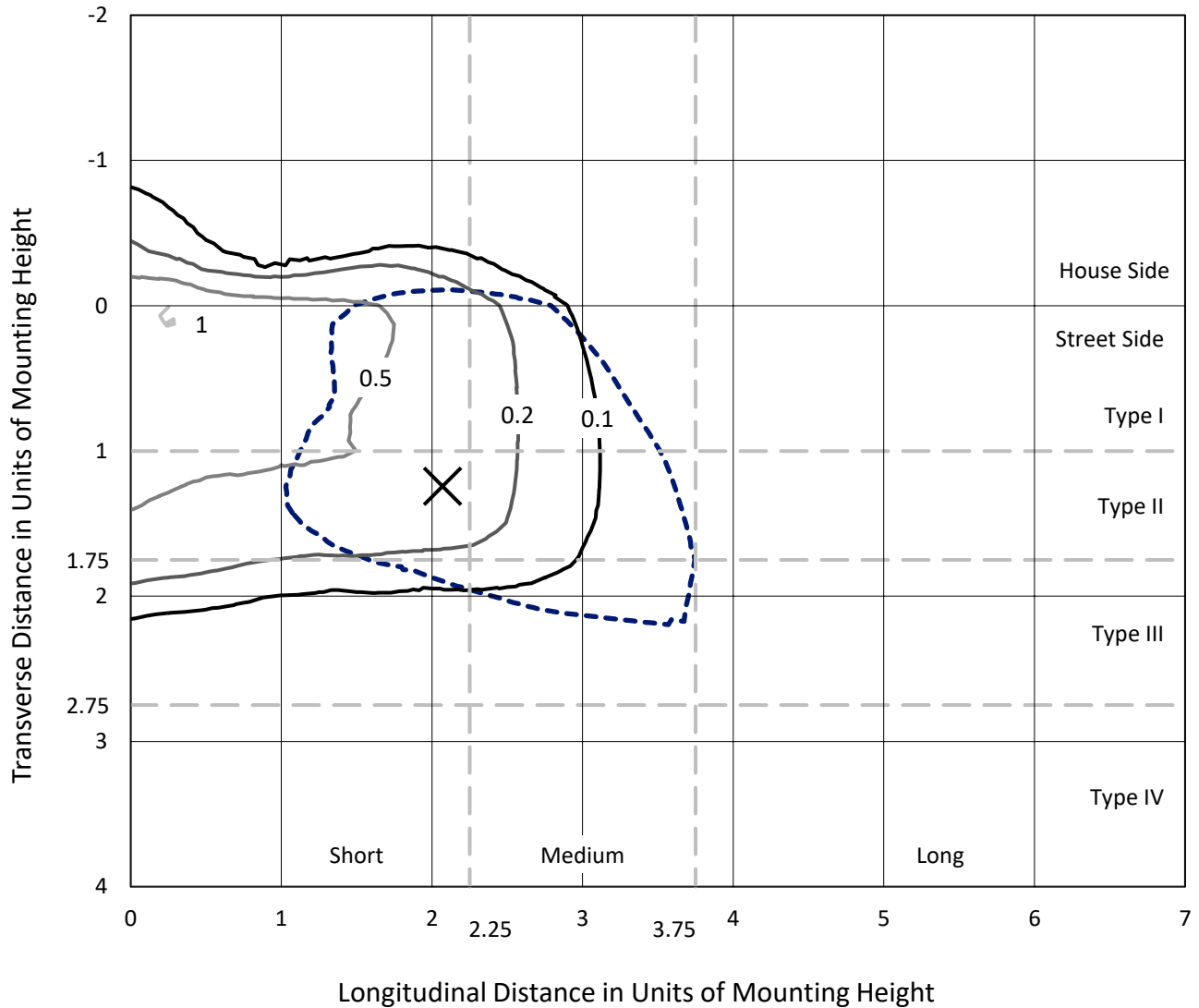
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

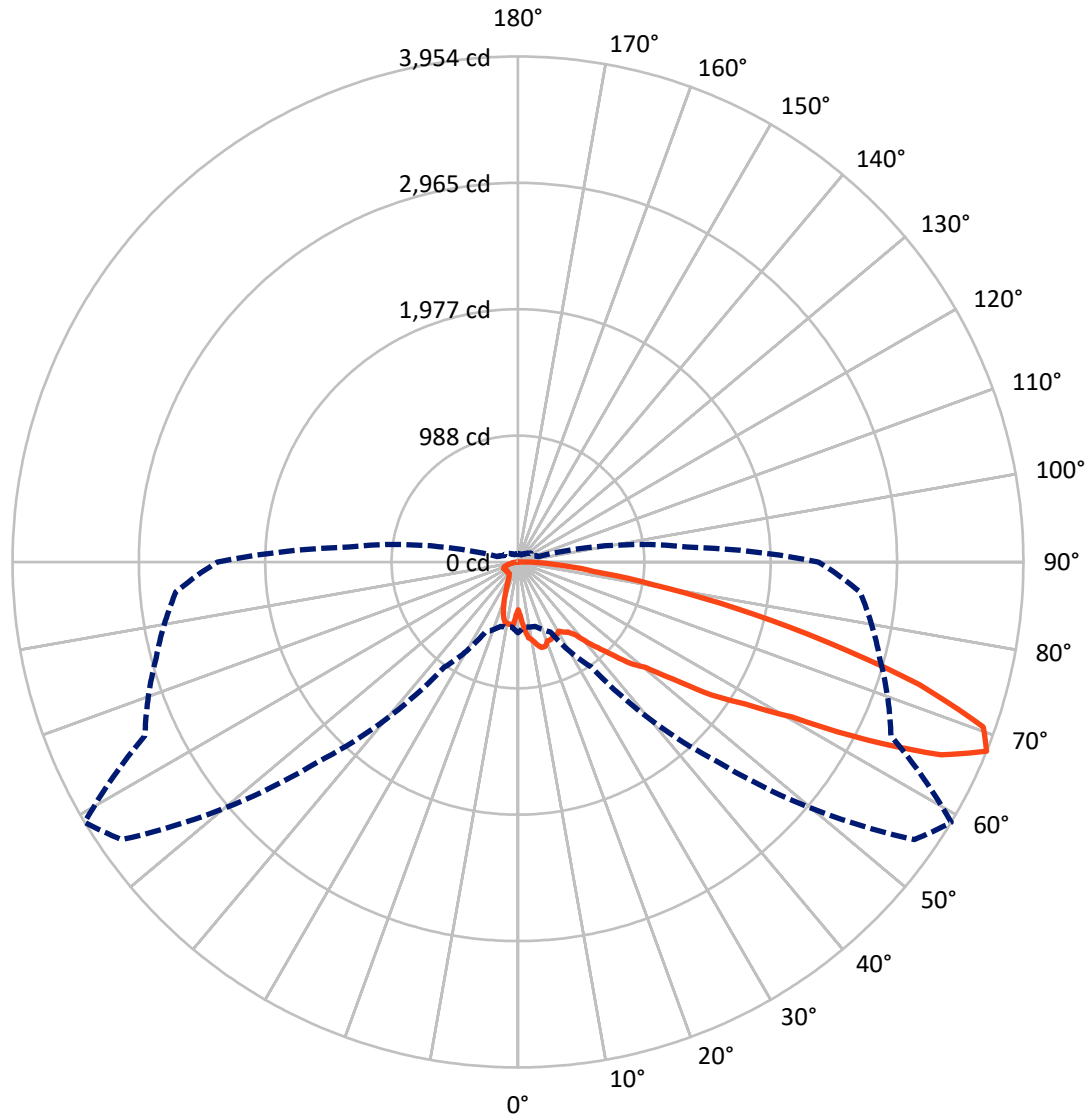
× Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	594.4	0.0	594.4
	% Fixture	15.1	0.0	15.1
<b>Street Side</b>	Lumens	3354.6	0.0	3354.6
	% Fixture	84.9	0.0	84.9
<b>Total</b>	Lumens	3949.0	0.0	3949.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	48.8	1.2
10°-20°	144.4	3.7
20°-30°	206.2	5.2
30°-40°	303.9	7.7
40°-50°	513.5	13.0
50°-60°	893.6	22.6
60°-70°	1138.7	28.8
70°-80°	602.9	15.3
80°-90°	97.0	2.5
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°	3949.0	100.0
0°-180°	3949.0	100.0

**Coefficient of Utilization**



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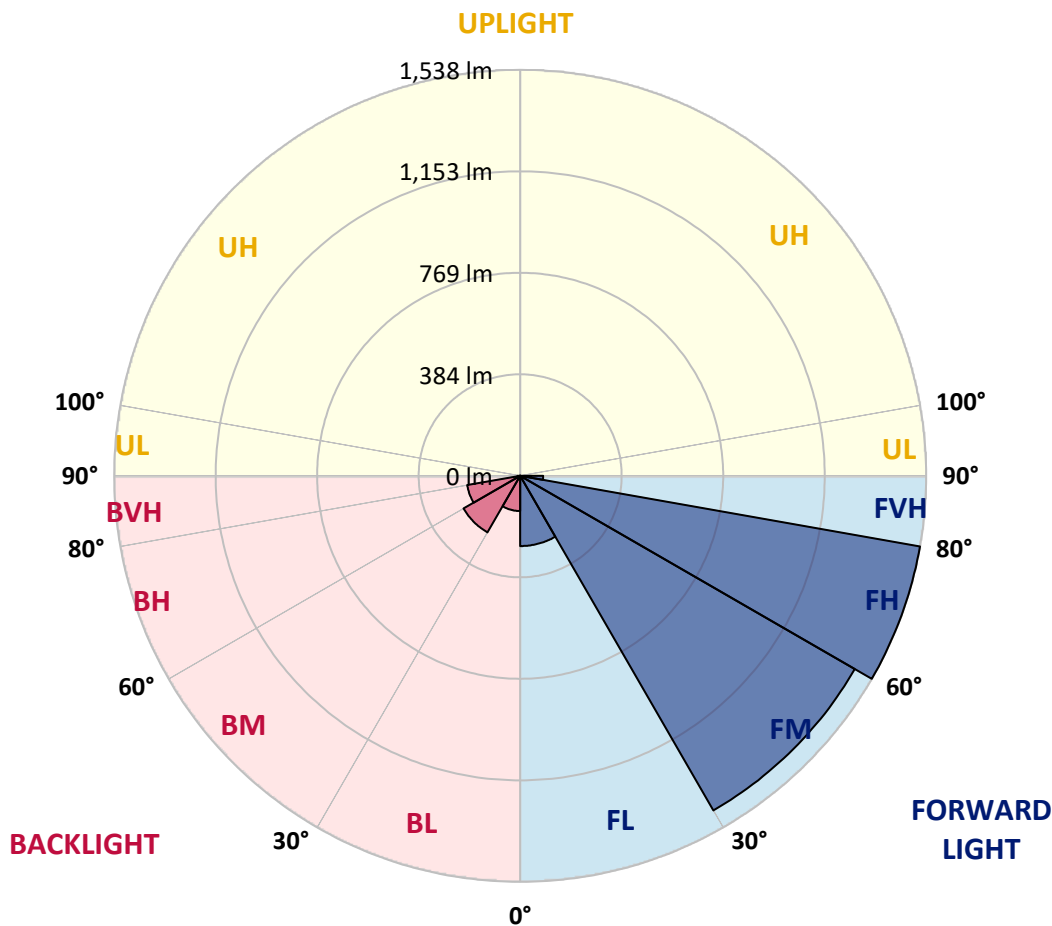
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	266.2	6.7			
FM	(30°-60°)	1463.4	37.1			
FH	(60°-80°)	1537.9	38.9			G1/1800
FVH	(80°-90°)	87.1	2.2			G1/100
BL	(0°-30°)	133.3	3.4	B1/500		
BM	(30°-60°)	247.5	6.3	B1/1000		
BH	(60°-80°)	203.7	5.2	B1/500		G1/500
BVH	(80°-90°)	9.9	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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7
2.5°	466.6	444.8	421.7	428.2	441.5	447.5	441.0	434.6	426.4	416.7	449.8
5°	565.8	533.5	528.8	528.6	524.0	505.2	529.3	527.6	537.3	547.4	573.2
7.5°	594.1	582.0	569.0	575.2	551.6	550.6	588.0	598.8	617.5	611.3	645.9
10°	579.5	566.0	572.8	570.3	572.5	597.3	620.2	620.8	640.9	660.7	638.4
12.5°	553.9	554.9	582.2	581.2	616.3	662.3	669.2	663.9	696.7	683.3	702.3
15°	572.1	584.4	577.5	583.4	597.3	655.8	674.9	694.3	725.4	737.5	718.4
17.5°	601.3	607.8	577.0	573.8	602.4	630.2	677.6	694.1	699.0	784.8	757.9
20°	588.9	602.1	572.0	533.3	580.9	617.7	664.4	659.3	682.9	788.5	766.1
22.5°	624.0	602.1	563.8	536.3	553.1	586.9	626.5	659.5	687.4	766.9	778.0
25°	630.7	620.3	584.5	557.3	551.6	563.6	620.2	641.8	689.0	796.4	771.6
27.5°	671.6	656.0	583.0	583.9	555.6	534.3	600.1	645.4	706.0	778.2	787.2
30°	722.3	710.4	618.8	622.2	583.0	543.9	613.8	627.5	715.9	806.6	806.8
32.5°	760.2	781.2	689.3	643.8	629.9	600.6	592.7	654.5	704.4	858.1	840.2
35°	828.7	844.9	743.5	707.0	660.0	627.0	650.0	672.2	752.4	925.9	889.9
37.5°	955.4	936.6	844.3	786.9	769.3	721.8	734.5	718.9	804.6	1002.1	987.3
40°	1028.7	1012.4	915.2	883.4	813.8	819.8	803.9	815.3	874.4	1083.1	1078.4
42.5°	1101.0	1079.2	997.0	974.9	905.5	876.0	878.9	915.7	982.0	1213.9	1198.4
45°	1172.4	1116.7	1080.7	1086.6	1053.1	992.7	996.9	1031.5	1099.5	1363.5	1327.7
47.5°	1227.1	1181.1	1153.0	1145.8	1129.2	1210.1	1173.9	1188.0	1217.9	1496.7	1483.2
50°	1330.7	1277.0	1240.4	1230.0	1286.2	1398.7	1325.0	1294.7	1358.5	1668.9	1661.9
52.5°	1496.6	1429.6	1368.5	1367.9	1449.2	1522.2	1574.0	1521.8	1545.3	1845.3	1865.4
55°	1641.3	1563.8	1508.9	1539.2	1655.0	1699.7	1875.9	1835.1	1815.3	2023.4	2080.8
57.5°	1695.4	1604.8	1569.0	1613.7	1784.4	2014.0	2200.2	2092.8	2073.6	2224.8	2345.2
60°	1576.7	1481.0	1483.2	1567.3	1863.0	2244.8	2554.8	2463.6	2350.9	2475.7	2593.2
62.5°	1238.7	1152.2	1208.6	1336.6	1797.1	2469.0	3030.1	3068.6	2667.6	2683.7	2730.7
65°	841.9	782.0	832.9	958.2	1457.6	2591.3	3482.8	3637.1	2956.1	2819.9	2790.1
67.5°	554.1	511.7	521.6	604.9	1003.4	2209.1	3785.5	3953.7	3219.9	2931.7	2685.4
70°	429.1	394.9	390.6	434.3	595.1	1534.7	3606.1	3861.8	3380.5	2826.9	2340.6
72.5°	336.7	310.8	313.1	355.1	460.9	851.4	2790.5	3284.0	3138.5	2438.0	1798.3
75°	262.6	241.3	253.2	301.2	426.2	529.1	1925.3	2492.4	2426.5	1805.3	1025.7
77.5°	190.6	176.9	193.8	256.5	400.6	454.0	1198.5	1738.9	1554.5	926.9	351.9
80°	125.0	117.3	131.2	209.2	363.3	436.9	740.7	1065.5	768.1	260.4	133.2
82.5°	73.6	70.3	81.8	141.6	292.0	409.5	494.0	592.1	314.3	110.1	70.8
85°	38.7	36.1	48.5	81.3	201.3	373.8	388.9	354.4	151.8	47.9	33.8
87.5°	12.9	12.6	20.6	31.5	76.1	198.5	207.5	168.3	62.6	13.9	7.4
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°	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7	373.7
2.5°	454.3	447.6	409.2	414.5	419.5	417.0	415.5	398.1	396.4	421.2	419.2
5°	572.5	544.7	511.9	510.4	488.8	466.7	471.1	464.0	466.1	476.3	477.3
7.5°	634.9	600.3	569.0	518.1	474.9	439.9	445.5	443.8	439.3	462.4	468.6
10°	633.7	602.9	567.6	506.0	476.9	448.5	414.3	382.0	372.5	361.1	362.1
12.5°	675.6	648.3	571.3	508.6	469.1	420.0	356.1	320.8	287.0	286.3	277.8
15°	688.6	668.5	579.2	494.2	414.0	343.7	277.6	239.3	214.9	210.0	202.8
17.5°	721.6	690.1	555.2	447.6	350.1	268.8	208.7	181.9	179.9	183.2	179.6
20°	723.8	672.7	512.1	378.9	281.3	203.7	170.2	156.8	164.0	172.2	171.9
22.5°	721.9	650.8	474.8	320.3	211.4	163.7	149.1	146.1	152.8	165.0	166.5
25°	703.2	643.6	428.1	263.1	171.5	140.2	136.2	138.1	146.4	160.8	160.8
27.5°	722.8	614.3	369.5	214.0	144.3	124.8	127.7	132.4	138.6	155.0	158.0
30°	716.4	624.0	322.3	172.4	127.2	114.1	120.5	125.2	132.2	149.3	150.8
32.5°	733.5	598.1	282.6	144.9	116.0	109.9	111.5	117.8	127.0	140.4	143.1
35°	759.6	607.6	237.1	130.4	110.4	105.1	107.9	113.0	122.2	135.2	137.4
37.5°	842.9	607.1	205.7	122.3	109.4	104.1	105.4	108.9	119.7	131.5	136.6
40°	896.5	641.9	177.1	120.5	108.3	103.6	102.4	106.3	114.8	128.9	132.4
42.5°	997.0	663.2	164.7	119.8	108.1	100.7	99.6	104.1	112.5	125.5	130.9
45°	1103.3	693.5	154.8	119.5	107.6	100.2	96.7	102.4	109.4	122.0	128.2
47.5°	1228.3	757.6	149.3	118.3	106.6	100.9	95.7	98.6	106.4	119.0	125.2
50°	1392.0	842.4	150.4	116.6	108.1	101.1	94.2	95.6	102.7	115.0	121.3
52.5°	1590.9	973.8	158.0	117.3	109.1	100.2	93.5	92.9	99.1	109.8	116.1
55°	1830.7	1160.2	180.6	120.5	109.1	100.1	92.5	89.5	94.2	102.9	109.1
57.5°	2120.1	1376.1	224.7	122.0	108.3	99.1	90.4	85.0	87.9	95.1	100.9
60°	2368.6	1550.3	270.3	123.0	109.9	96.7	86.0	79.3	81.2	86.7	91.9
62.5°	2495.3	1599.1	284.0	122.2	114.5	95.2	80.8	73.3	73.5	78.1	82.8
65°	2519.0	1534.0	228.9	121.3	120.3	95.1	77.1	68.1	66.9	70.3	74.3
67.5°	2349.7	1331.6	165.2	119.5	121.0	94.0	74.6	63.9	60.9	63.3	66.6
70°	1995.1	1072.3	138.7	115.8	113.0	89.0	70.3	59.6	55.6	57.2	59.7
72.5°	1487.4	793.4	121.0	107.9	98.4	76.1	63.6	54.7	50.5	51.7	53.6
75°	826.3	423.2	101.2	93.9	80.3	61.6	54.2	48.5	44.8	45.4	47.4
77.5°	274.4	156.1	74.3	74.5	60.7	47.5	44.7	41.5	38.7	38.8	40.5
80°	124.3	86.3	53.2	53.6	42.3	34.5	34.3	33.3	31.5	31.0	32.1
82.5°	72.1	52.4	36.5	34.8	27.3	22.4	24.9	24.4	23.9	22.1	22.4
85°	35.5	28.1	19.1	18.1	15.1	11.2	13.4	13.9	13.4	11.4	11.2
87.5°	8.7	9.2	4.7	4.4	2.5	1.2	2.0	2.0	2.5	1.7	0.8
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)