

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: P366982

Luminaire Tested: **MSA-SA1C-830-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366982
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-SA1C-830-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: 4855 lumens
Efficiency: N/A
Efficacy: 82.3 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

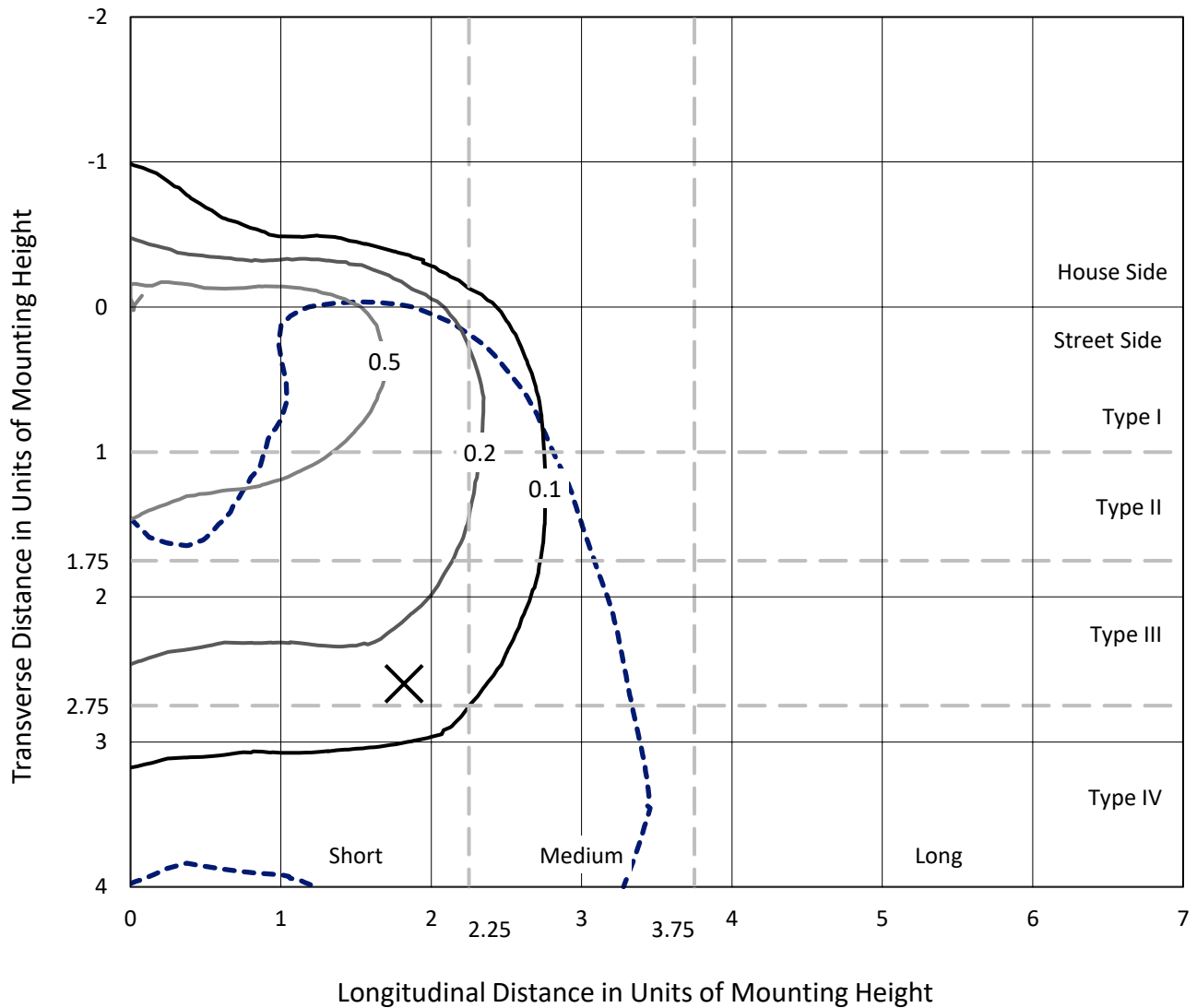
Input Watts (W): 59
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P366982
 CATALOG NUMBER: MSA-SA1C-830-U-SL4

Iso-Footcandle Lines of Horizontal Illumination

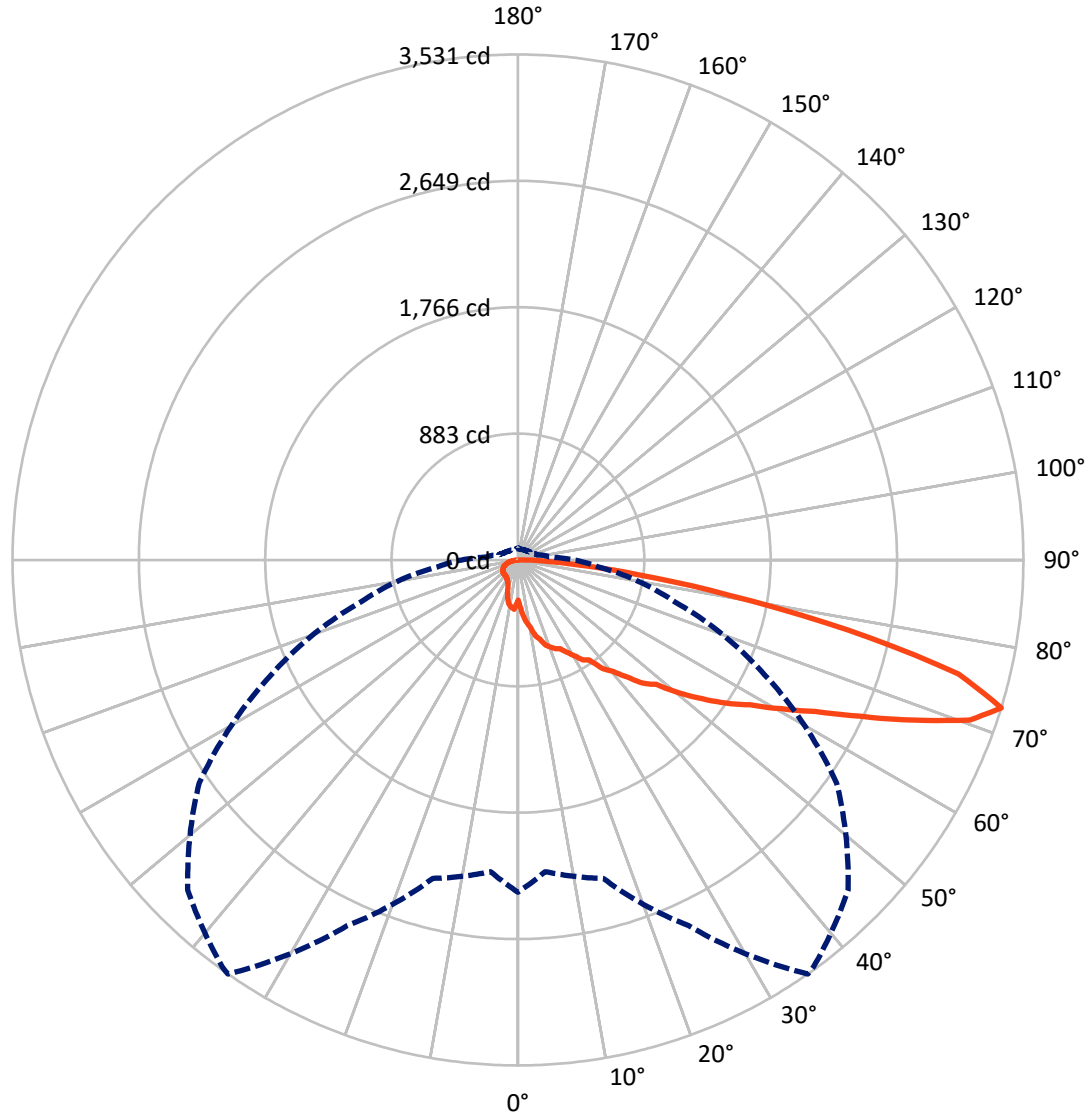
× Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P366982
CATALOG NUMBER: MSA-SA1C-830-U-SL4

Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

REPORT NUMBER: P366982

CATALOG NUMBER: MSA-SA1C-830-U-SL4

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	651.5	0.0	651.5
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	4203.5	0.0	4203.5
	% Fixture	86.6	0.0	86.6
Total	Lumens	4855.0	0.0	4855.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.3	0.8
10°-20°	131.4	2.7
20°-30°	228.2	4.7
30°-40°	381.5	7.9
40°-50°	662.1	13.6
50°-60°	1000.9	20.6
60°-70°	1296.6	26.7
70°-80°	956.8	19.7
80°-90°	160.4	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°	4855.0	100.0
0°-180°	4855.0	100.0

Coefficient of Utilization



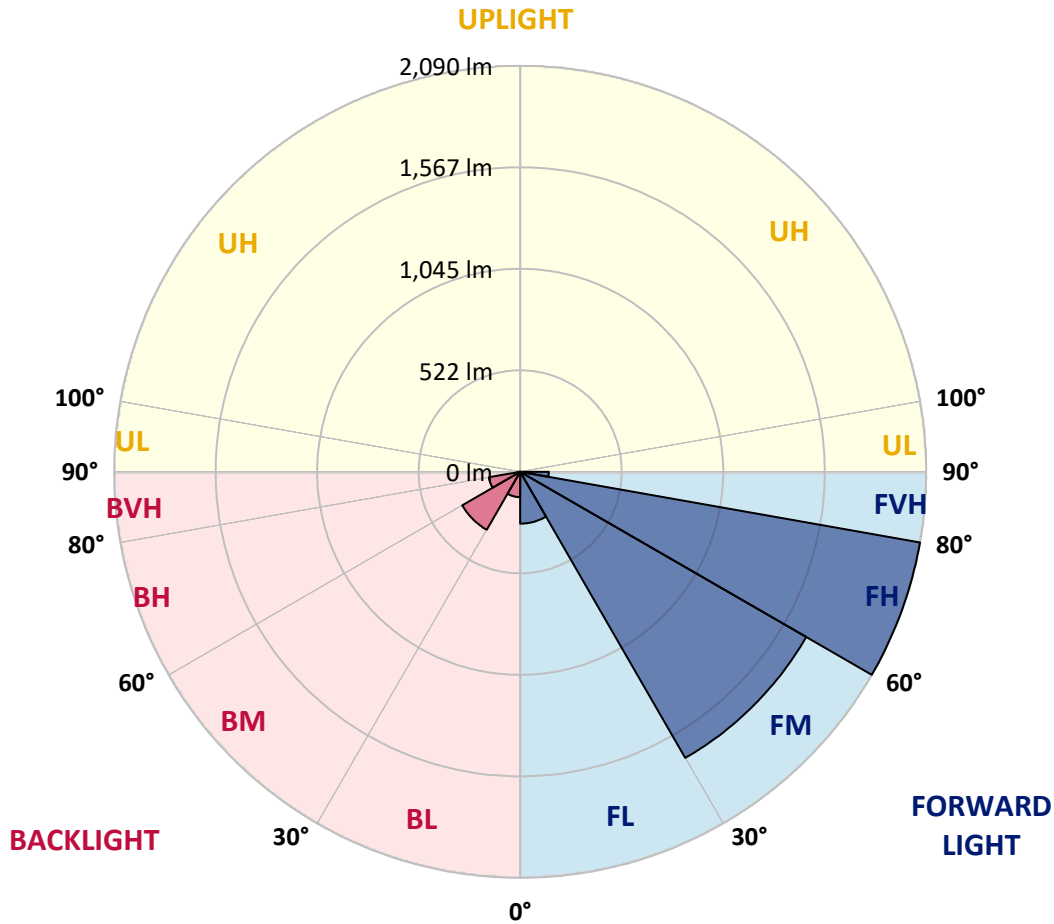
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 CATALOG NUMBER: MSA-SA1C-830-U-SL4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	266.6	5.5			
FM (30°-60°)	1700.0	35.0			
FH (60°-80°)	2089.6	43.0			G2/5000
FVH (80°-90°)	147.2	3.0			G2/225
BL (0°-30°)	130.2	2.7	B1/500		
BM (30°-60°)	344.3	7.1	B1/1000		
BH (60°-80°)	163.8	3.4	B1/500		G1/500
BVH (80°-90°)	13.1	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





REPORT NUMBER: P366982

CATALOG NUMBER: MSA-SA1C-830-U-SL4

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	280.6	280.6	280.6	280.6	280.6	280.6	280.6	280.6	280.6	280.6	280.6
2.5°	350.0	333.2	318.7	318.1	331.5	336.7	334.7	330.1	324.7	313.3	338.2
5°	438.5	414.4	409.9	404.5	392.3	395.6	375.7	390.8	395.6	406.6	423.1
7.5°	490.7	476.6	465.6	461.1	439.9	437.4	422.7	444.3	453.4	451.9	476.6
10°	511.2	498.4	499.2	484.3	477.4	480.3	482.0	482.4	488.0	492.6	480.1
12.5°	521.8	526.7	545.0	534.8	543.5	547.1	564.5	546.6	547.3	523.8	536.7
15°	575.0	587.5	576.9	576.5	573.8	579.6	594.5	582.5	591.8	584.4	567.8
17.5°	639.3	643.0	622.7	614.4	625.2	623.3	619.6	621.4	598.2	641.3	621.0
20°	659.0	673.7	646.9	614.4	650.0	654.8	654.0	645.9	606.1	668.3	648.6
22.5°	716.1	696.3	675.1	654.4	672.6	675.3	670.8	651.5	638.2	661.9	677.4
25°	742.0	737.3	710.3	707.9	687.8	678.2	686.1	680.5	667.4	709.5	692.3
27.5°	801.3	795.7	733.8	759.2	730.0	727.5	685.9	704.5	717.6	714.5	740.2
30°	868.4	874.9	784.3	809.8	776.0	771.5	729.6	753.2	762.1	765.0	797.2
32.5°	943.0	960.7	870.7	849.8	831.8	834.9	799.4	756.3	790.9	858.7	872.6
35°	1023.9	1031.1	936.8	905.3	858.3	855.0	855.6	861.0	896.0	973.3	984.1
37.5°	1173.3	1139.7	1057.0	977.2	961.5	930.6	951.5	968.1	1003.1	1121.7	1166.8
40°	1265.3	1240.4	1114.4	1068.2	1024.7	1027.6	1066.8	1066.5	1149.2	1271.5	1340.5
42.5°	1350.4	1323.3	1204.6	1158.1	1116.9	1127.1	1138.2	1157.9	1316.5	1513.5	1545.0
45°	1419.0	1359.6	1274.2	1263.8	1229.8	1216.4	1263.8	1295.3	1516.4	1709.3	1727.6
47.5°	1465.6	1416.7	1333.2	1324.1	1299.0	1332.0	1461.5	1481.8	1671.4	1906.0	1904.5
50°	1536.5	1469.6	1394.2	1389.4	1460.1	1477.7	1635.6	1633.5	1822.3	2069.3	2035.1
52.5°	1618.2	1533.8	1452.0	1503.2	1610.9	1619.6	1756.6	1812.3	1987.0	2226.8	2137.4
55°	1712.0	1617.7	1538.6	1607.0	1767.4	1741.7	1880.3	2016.4	2193.2	2392.7	2211.4
57.5°	1828.3	1713.9	1649.9	1753.9	1910.1	1932.9	2057.5	2228.8	2359.2	2495.9	2265.3
60°	1951.0	1816.7	1758.0	1857.1	2110.1	2136.2	2258.0	2405.4	2545.3	2593.1	2255.1
62.5°	2068.0	1922.8	1869.7	1992.0	2331.8	2396.5	2486.4	2580.3	2700.0	2616.7	2132.3
65°	2198.4	2052.9	2019.5	2202.9	2632.5	2696.7	2814.2	2786.0	2753.1	2533.0	1929.0
67.5°	2336.4	2188.6	2194.8	2447.7	2987.0	2998.0	3178.5	2991.2	2690.7	2311.3	1587.7
70°	2410.6	2259.3	2323.3	2708.5	3347.8	3332.1	3368.9	3046.3	2436.5	1827.0	1094.3
72.5°	2320.6	2185.7	2303.0	2818.4	3531.4	3514.4	3262.0	2719.1	1905.0	1136.2	567.4
75°	1964.8	1834.7	2014.2	2512.3	3179.1	3194.9	2776.1	2022.0	1090.6	456.9	235.6
77.5°	1335.1	1268.0	1421.7	1872.6	2361.5	2415.9	2059.7	1182.4	458.0	189.2	142.6
80°	705.6	673.7	787.2	1078.8	1495.3	1535.9	1211.2	588.9	234.6	122.5	101.7
82.5°	383.4	369.9	430.8	554.7	849.6	885.0	628.1	391.2	158.1	76.7	62.2
85°	257.6	252.4	292.8	298.0	401.8	413.4	329.1	301.3	94.9	37.5	41.0
87.5°	128.9	123.7	154.2	136.1	153.3	153.5	150.9	192.3	24.0	12.4	7.5
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: P366982
 CATALOG NUMBER: MSA-SA1C-830-U-SL4

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	280.6	280.6	280.6	280.6	280.6	280.6	280.6	280.6	280.6	280.6	280.6
2.5°	338.6	331.3	306.3	306.1	309.8	307.3	309.2	299.0	294.7	314.6	313.5
5°	420.9	399.1	378.2	370.9	362.4	344.0	345.0	345.2	342.1	353.9	354.8
7.5°	469.1	443.0	423.8	385.2	355.0	331.3	334.4	338.0	334.4	350.2	356.0
10°	476.2	455.5	432.5	389.6	369.5	348.1	326.6	307.5	305.2	298.0	300.3
12.5°	518.0	500.8	452.8	405.7	382.3	349.6	310.2	288.4	270.2	273.3	267.5
15°	552.4	540.2	482.6	421.1	365.1	324.5	282.6	252.8	236.4	234.6	228.8
17.5°	599.1	581.7	485.3	410.5	342.9	294.2	247.0	213.2	206.2	203.3	200.4
20°	621.4	590.2	475.6	377.3	317.0	258.2	211.8	182.8	180.7	185.9	184.8
22.5°	640.9	597.2	466.9	357.2	276.6	221.7	187.7	168.7	166.4	173.0	174.3
25°	652.3	617.3	457.3	336.7	251.6	194.6	169.7	158.9	159.4	168.1	167.0
27.5°	703.7	624.3	433.3	312.5	222.8	174.5	161.0	155.4	153.1	165.2	166.2
30°	736.0	670.3	427.9	286.8	201.4	159.8	153.1	150.9	150.4	164.9	166.0
32.5°	796.1	685.7	430.4	258.8	182.1	155.2	147.3	147.1	151.3	165.2	166.8
35°	879.4	750.3	418.4	242.9	171.6	148.2	142.8	144.4	151.5	166.6	168.9
37.5°	1041.9	811.3	422.1	227.9	168.1	145.9	141.5	142.6	154.0	170.3	176.5
40°	1170.6	921.7	416.3	220.5	163.3	145.5	138.8	143.0	153.8	172.4	178.0
42.5°	1357.1	1009.8	416.9	213.0	163.1	143.8	138.4	143.4	153.3	170.5	178.2
45°	1517.0	1088.7	425.8	208.7	161.0	146.5	137.8	144.0	150.6	163.9	172.4
47.5°	1648.2	1176.8	434.9	204.5	160.2	149.0	137.2	139.7	146.1	156.4	164.1
50°	1755.1	1238.7	446.6	203.7	160.2	147.7	135.5	135.3	140.7	149.0	156.2
52.5°	1838.4	1282.5	454.4	204.7	160.2	143.0	133.4	131.8	135.1	141.1	148.4
55°	1898.7	1295.9	448.0	207.4	160.0	138.6	129.7	128.3	129.9	134.1	140.9
57.5°	1923.0	1260.5	409.7	202.7	160.0	135.5	125.2	123.5	125.2	128.3	135.1
60°	1862.3	1146.5	354.3	190.4	156.9	131.4	120.0	118.9	121.4	124.1	130.8
62.5°	1710.0	995.1	295.3	175.9	150.4	127.9	115.0	115.2	119.2	122.9	129.5
65°	1473.3	811.9	246.2	161.2	142.4	122.3	109.8	111.3	116.9	121.8	128.5
67.5°	1159.4	601.6	207.2	146.9	131.0	113.1	104.0	104.4	108.4	113.1	119.6
70°	775.0	382.7	170.3	130.1	116.0	101.3	95.1	93.7	92.6	96.8	102.4
72.5°	393.1	226.1	139.9	111.3	99.9	88.5	83.7	80.0	77.1	79.6	83.9
75°	206.0	158.1	112.9	92.4	82.5	75.2	71.7	66.7	64.7	66.1	69.2
77.5°	145.7	123.7	91.4	73.1	67.1	59.7	60.3	55.1	53.5	54.3	57.6
80°	111.9	98.0	70.2	55.3	51.8	44.6	46.6	43.5	41.4	41.0	43.5
82.5°	76.3	73.8	49.9	38.7	36.3	31.1	34.0	32.7	30.0	28.4	29.6
85°	51.4	48.9	30.5	22.4	21.3	16.2	20.7	19.9	17.6	15.1	15.3
87.5°	8.9	16.4	8.7	5.6	5.2	1.9	4.8	4.6	4.1	2.1	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

(END OF REPORT)