

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: P366652

Luminaire Tested: **MSA-SA1A-740-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366652
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-740-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: 3936 lumens
Efficiency: N/A
Efficacy: 115.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

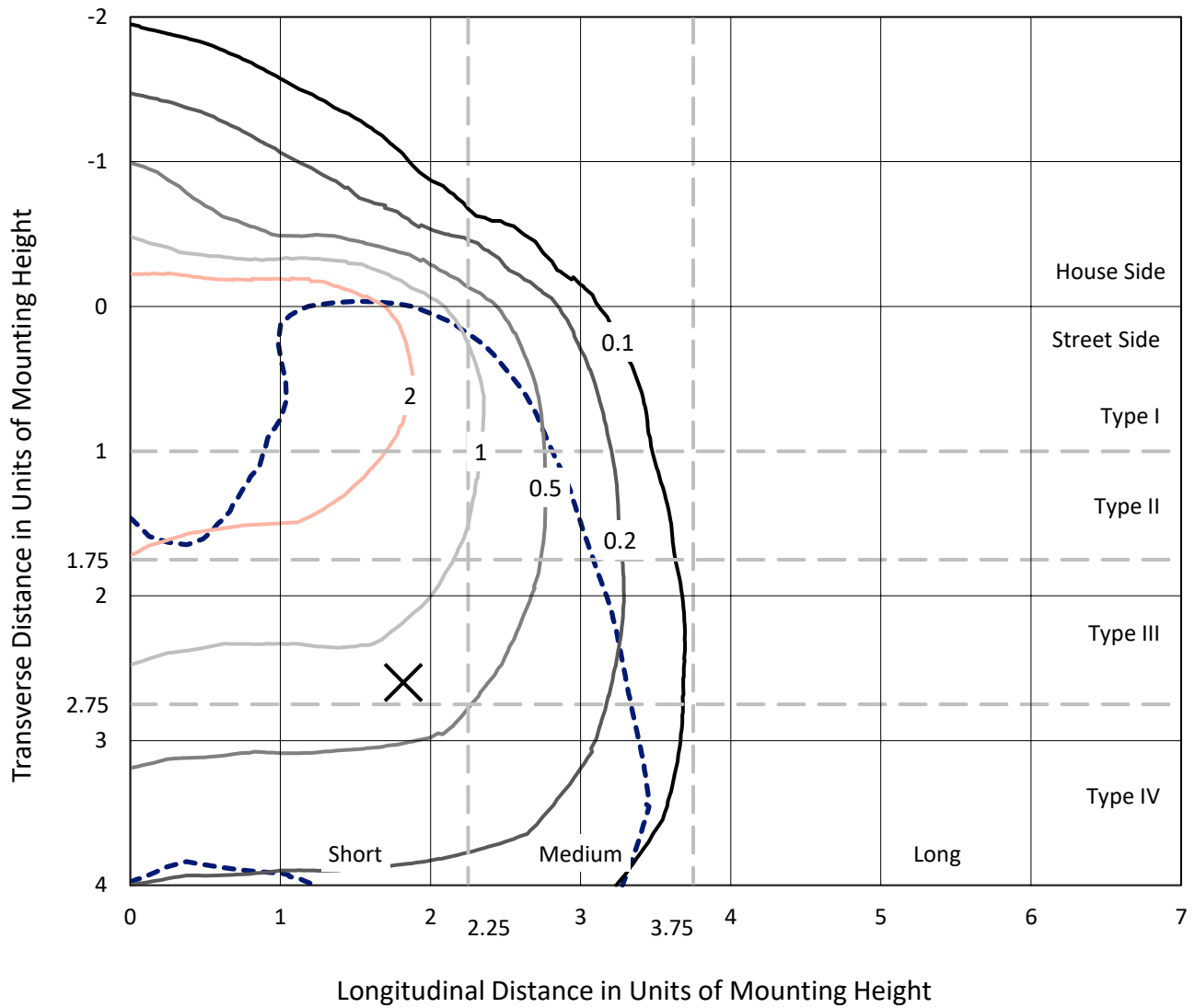
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

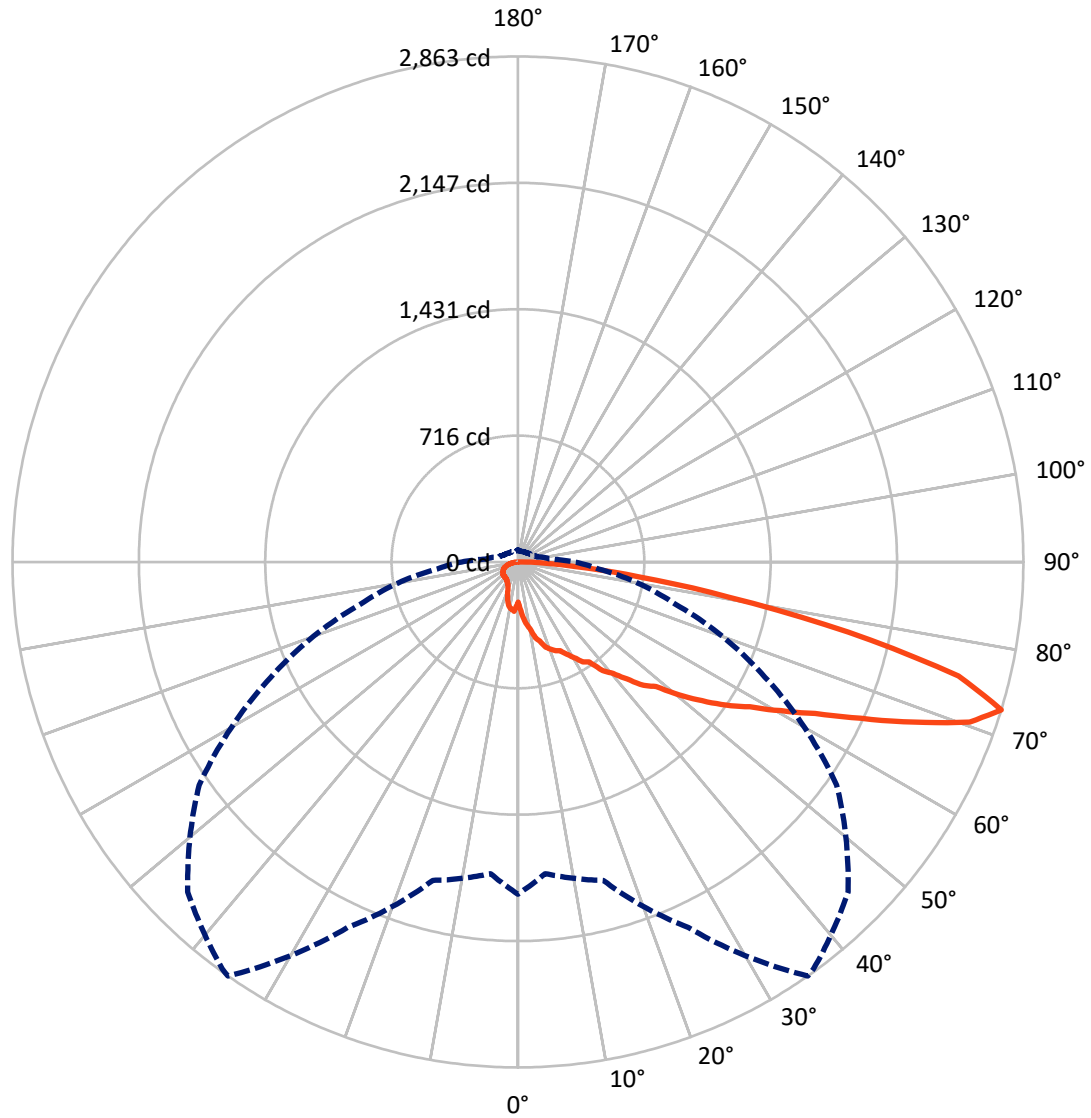
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.9 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
House Side	Lumens	528.2	0.0	528.2
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	3407.8	0.0	3407.8
	% Fixture	86.6	0.0	86.6
Total	Lumens	3936.0	0.0	3936.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.2	0.8
10°-20°	106.5	2.7
20°-30°	185.0	4.7
30°-40°	309.2	7.9
40°-50°	536.7	13.6
50°-60°	811.4	20.6
60°-70°	1051.2	26.7
70°-80°	775.7	19.7
80°-90°	130.0	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°	3936.0	100.0
0°-180°	3936.0	100.0

Coefficient of Utilization



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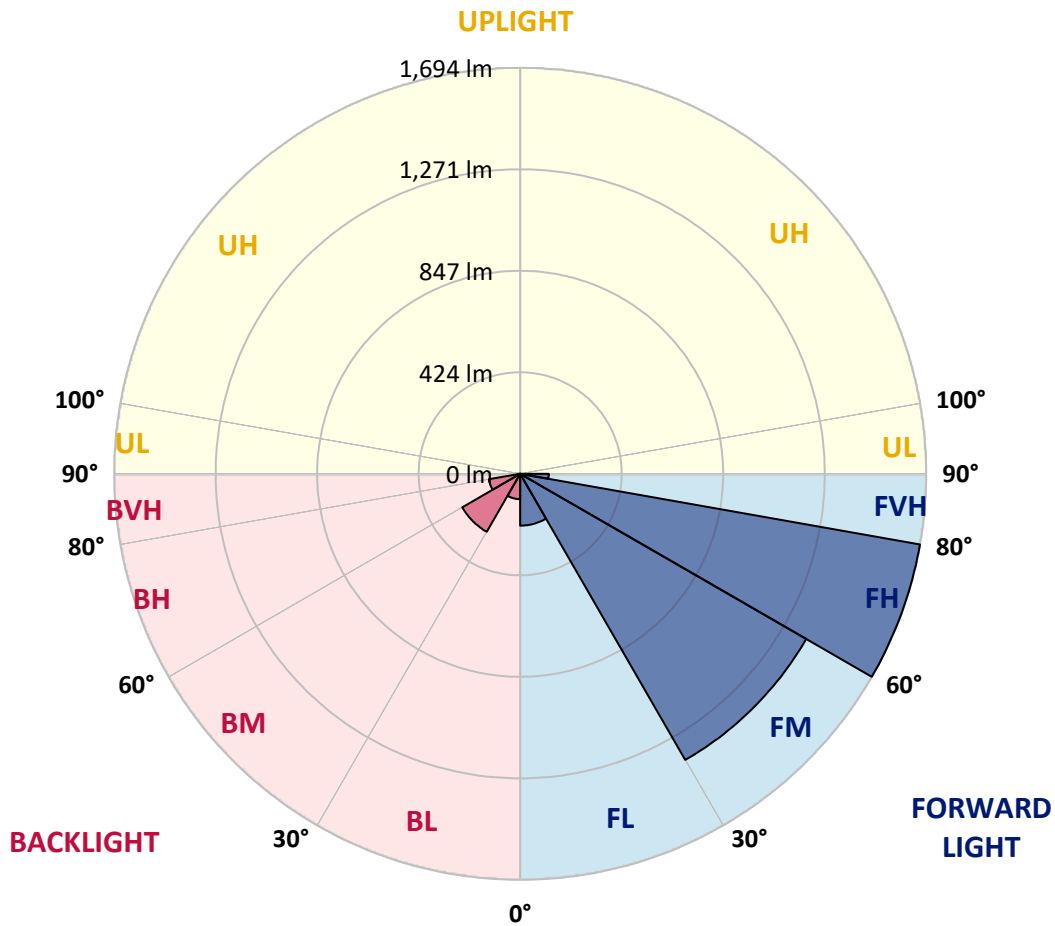
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	216.2	5.5			
FM (30°-60°)	1378.3	35.0			
FH (60°-80°)	1694.0	43.0			G1/1800
FVH (80°-90°)	119.4	3.0			G2/225
BL (0°-30°)	105.6	2.7	B0/110		
BM (30°-60°)	279.2	7.1	B1/1000		
BH (60°-80°)	132.8	3.4	B1/500		G1/500
BVH (80°-90°)	10.6	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	227.5	227.5	227.5	227.5	227.5	227.5	227.5	227.5	227.5	227.5	227.5
2.5°	283.7	270.1	258.4	257.9	268.8	273.0	271.3	267.6	263.2	254.0	274.2
5°	355.5	336.0	332.3	327.9	318.0	320.7	304.6	316.8	320.7	329.6	343.0
7.5°	397.8	386.4	377.5	373.8	356.7	354.6	342.7	360.2	367.6	366.4	386.4
10°	414.4	404.0	404.7	392.6	387.1	389.4	390.8	391.1	395.6	399.3	389.2
12.5°	423.0	427.0	441.8	433.6	440.6	443.5	457.6	443.2	443.7	424.7	435.1
15°	466.2	476.3	467.7	467.4	465.2	469.9	482.0	472.2	479.8	473.7	460.3
17.5°	518.3	521.3	504.8	498.1	506.8	505.3	502.3	503.8	485.0	519.9	503.5
20°	534.2	546.1	524.5	498.1	527.0	530.9	530.2	523.6	491.4	541.8	525.8
22.5°	580.6	564.5	547.3	530.5	545.3	547.5	543.8	528.2	517.4	536.6	549.2
25°	601.6	597.7	575.9	573.9	557.6	549.8	556.2	551.7	541.1	575.2	561.3
27.5°	649.6	645.1	594.9	615.5	591.8	589.8	556.1	571.2	581.8	579.2	600.1
30°	704.1	709.3	635.9	656.5	629.1	625.4	591.5	610.7	617.9	620.2	646.3
32.5°	764.5	778.8	705.9	688.9	674.3	676.8	648.1	613.2	641.2	696.2	707.4
35°	830.1	835.9	759.5	734.0	695.8	693.1	693.6	698.0	726.4	789.1	797.8
37.5°	951.2	924.0	856.9	792.3	779.5	754.5	771.4	784.9	813.3	909.3	946.0
40°	1025.8	1005.6	903.5	866.0	830.7	833.1	864.8	864.7	931.7	1030.8	1086.7
42.5°	1094.8	1072.8	976.5	938.9	905.5	913.7	922.8	938.7	1067.3	1227.0	1252.6
45°	1150.4	1102.2	1033.0	1024.6	997.0	986.1	1024.6	1050.1	1229.4	1385.8	1400.6
47.5°	1188.2	1148.6	1080.9	1073.5	1053.2	1079.9	1184.9	1201.3	1355.0	1545.2	1544.0
50°	1245.7	1191.4	1130.3	1126.4	1183.7	1198.0	1326.0	1324.3	1477.3	1677.6	1649.9
52.5°	1311.9	1243.5	1177.1	1218.6	1306.0	1313.0	1424.1	1469.3	1610.9	1805.3	1732.9
55°	1388.0	1311.5	1247.4	1302.8	1432.8	1412.0	1524.4	1634.7	1778.0	1939.8	1792.8
57.5°	1482.2	1389.5	1337.6	1421.9	1548.6	1567.0	1668.0	1806.9	1912.6	2023.5	1836.5
60°	1581.7	1472.8	1425.3	1505.6	1710.7	1731.8	1830.6	1950.1	2063.5	2102.3	1828.3
62.5°	1676.6	1558.8	1515.8	1614.9	1890.4	1942.8	2015.8	2091.9	2189.0	2121.4	1728.7
65°	1782.2	1664.3	1637.3	1785.9	2134.2	2186.3	2281.5	2258.7	2232.0	2053.6	1563.9
67.5°	1894.1	1774.3	1779.4	1984.3	2421.6	2430.5	2576.9	2425.0	2181.4	1873.8	1287.2
70°	1954.3	1831.6	1883.5	2195.8	2714.1	2701.3	2731.2	2469.7	1975.3	1481.2	887.2
72.5°	1881.4	1772.0	1867.1	2284.9	2862.9	2849.2	2644.6	2204.4	1544.4	921.1	460.0
75°	1592.9	1487.4	1632.9	2036.8	2577.4	2590.1	2250.6	1639.3	884.1	370.4	191.0
77.5°	1082.4	1028.0	1152.6	1518.2	1914.5	1958.6	1669.9	958.6	371.3	153.4	115.6
80°	572.0	546.1	638.2	874.6	1212.2	1245.2	981.9	477.4	190.2	99.3	82.5
82.5°	310.8	299.9	349.3	449.7	688.8	717.5	509.2	317.2	128.2	62.2	50.4
85°	208.8	204.6	237.4	241.6	325.7	335.1	266.8	244.3	76.9	30.4	33.3
87.5°	104.5	100.3	125.0	110.4	124.3	124.5	122.3	155.9	19.5	10.1	6.0
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°	227.5	227.5	227.5	227.5	227.5	227.5	227.5	227.5	227.5	227.5	227.5
2.5°	274.5	268.6	248.3	248.1	251.2	249.1	250.6	242.4	238.9	255.0	254.2
5°	341.2	323.6	306.6	300.7	293.8	278.9	279.7	279.9	277.4	286.9	287.6
7.5°	380.3	359.2	343.5	312.3	287.8	268.6	271.1	274.0	271.1	283.9	288.6
10°	386.0	369.2	350.6	315.8	299.5	282.2	264.8	249.3	247.5	241.6	243.4
12.5°	420.0	406.0	367.1	328.9	309.9	283.4	251.5	233.8	219.1	221.6	216.9
15°	447.9	438.0	391.3	341.4	296.0	263.1	229.1	205.0	191.7	190.2	185.5
17.5°	485.7	471.6	393.4	332.8	278.0	238.6	200.2	172.9	167.2	164.8	162.4
20°	503.8	478.4	385.5	305.9	257.0	209.3	171.7	148.2	146.5	150.7	149.9
22.5°	519.6	484.2	378.5	289.6	224.3	179.8	152.2	136.7	134.9	140.3	141.3
25°	528.8	500.5	370.8	273.0	203.9	157.7	137.6	128.9	129.2	136.2	135.4
27.5°	570.5	506.2	351.3	253.3	180.6	141.5	130.5	126.0	124.1	133.9	134.7
30°	596.7	543.5	346.9	232.5	163.3	129.5	124.1	122.3	122.0	133.7	134.6
32.5°	645.4	555.9	348.9	209.8	147.7	125.8	119.4	119.3	122.6	133.9	135.2
35°	713.0	608.3	339.2	196.9	139.1	120.1	115.7	117.1	122.8	135.1	136.9
37.5°	844.7	657.7	342.2	184.8	136.2	118.3	114.7	115.6	124.8	138.1	143.1
40°	949.0	747.2	337.5	178.7	132.4	117.9	112.6	115.9	124.7	139.8	144.3
42.5°	1100.2	818.6	338.0	172.7	132.2	116.6	112.2	116.3	124.3	138.3	144.5
45°	1229.9	882.6	345.2	169.2	130.5	118.8	111.7	116.8	122.1	132.9	139.8
47.5°	1336.2	954.0	352.6	165.8	129.9	120.8	111.2	113.2	118.4	126.8	133.1
50°	1422.9	1004.3	362.0	165.1	129.9	119.8	109.9	109.7	114.1	120.8	126.7
52.5°	1490.4	1039.7	368.4	166.0	129.9	115.9	108.2	106.8	109.5	114.4	120.3
55°	1539.3	1050.6	363.2	168.2	129.7	112.4	105.2	104.0	105.3	108.7	114.2
57.5°	1559.0	1021.9	332.1	164.3	129.7	109.9	101.5	100.1	101.5	104.0	109.5
60°	1509.8	929.5	287.3	154.4	127.2	106.5	97.3	96.4	98.4	100.6	106.0
62.5°	1386.3	806.7	239.4	142.6	122.0	103.7	93.2	93.4	96.6	99.6	105.0
65°	1194.4	658.2	199.6	130.7	115.4	99.1	89.0	90.2	94.7	98.8	104.2
67.5°	939.9	487.7	168.0	119.1	106.2	91.7	84.3	84.7	87.9	91.7	96.9
70°	628.3	310.3	138.1	105.5	94.1	82.1	77.1	75.9	75.1	78.5	83.0
72.5°	318.7	183.3	113.4	90.2	81.0	71.7	67.9	64.8	62.5	64.5	68.0
75°	167.0	128.2	91.6	74.9	66.9	61.0	58.1	54.1	52.4	53.6	56.1
77.5°	118.1	100.3	74.1	59.3	54.4	48.4	48.9	44.7	43.3	44.0	46.7
80°	90.7	79.5	56.9	44.9	42.0	36.1	37.8	35.3	33.6	33.3	35.3
82.5°	61.8	59.8	40.5	31.4	29.4	25.2	27.6	26.5	24.4	23.0	24.0
85°	41.7	39.6	24.7	18.1	17.3	13.1	16.8	16.1	14.3	12.3	12.4
87.5°	7.2	13.3	7.1	4.5	4.2	1.5	3.9	3.7	3.4	1.7	1.3
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)