

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: P366620

Luminaire Tested: **MSA-SA1A-727-U-T4W**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366620
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1A-727-U-T4W
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3427 lumens
Efficiency: N/A
Efficacy: 100.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G1

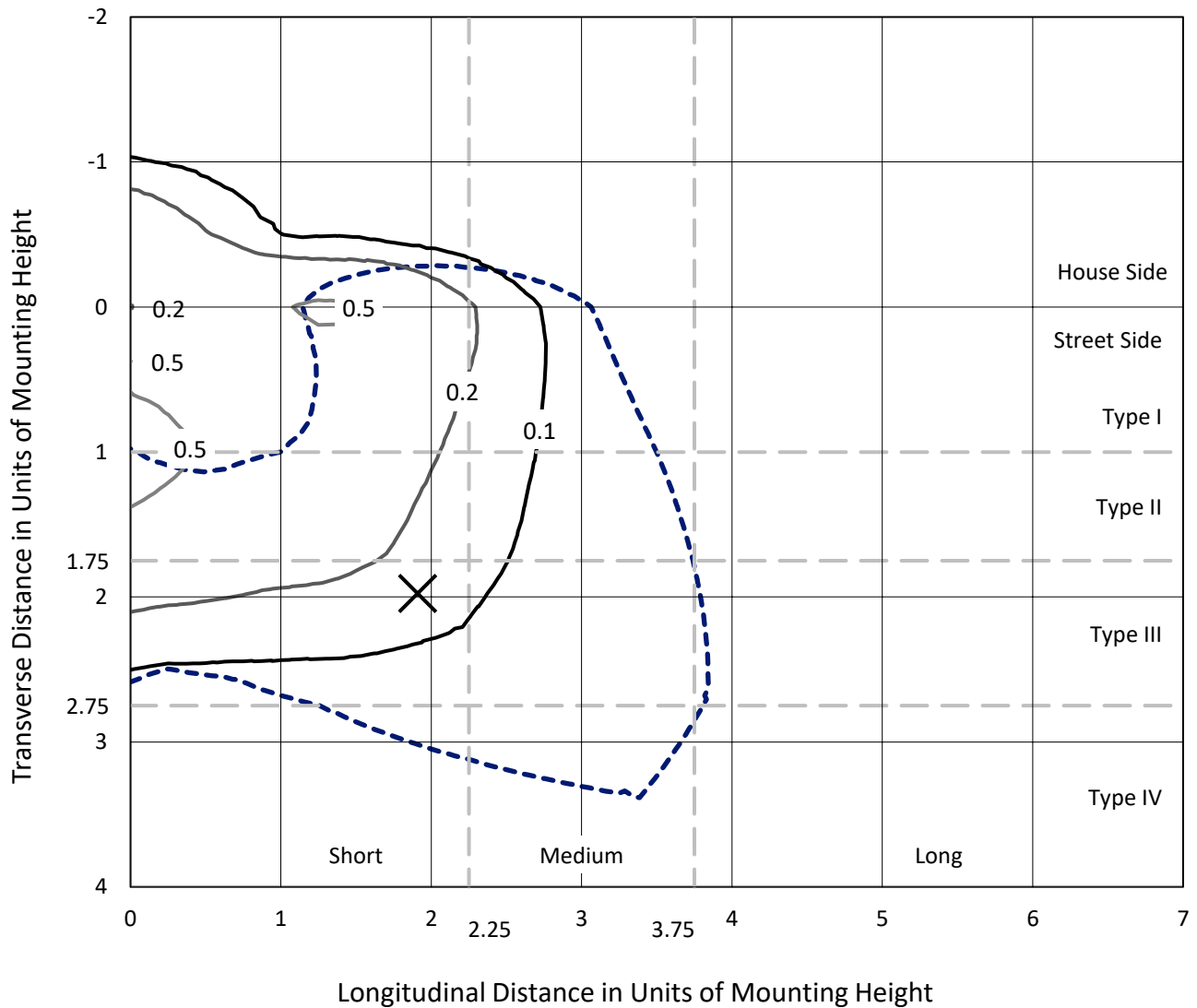
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

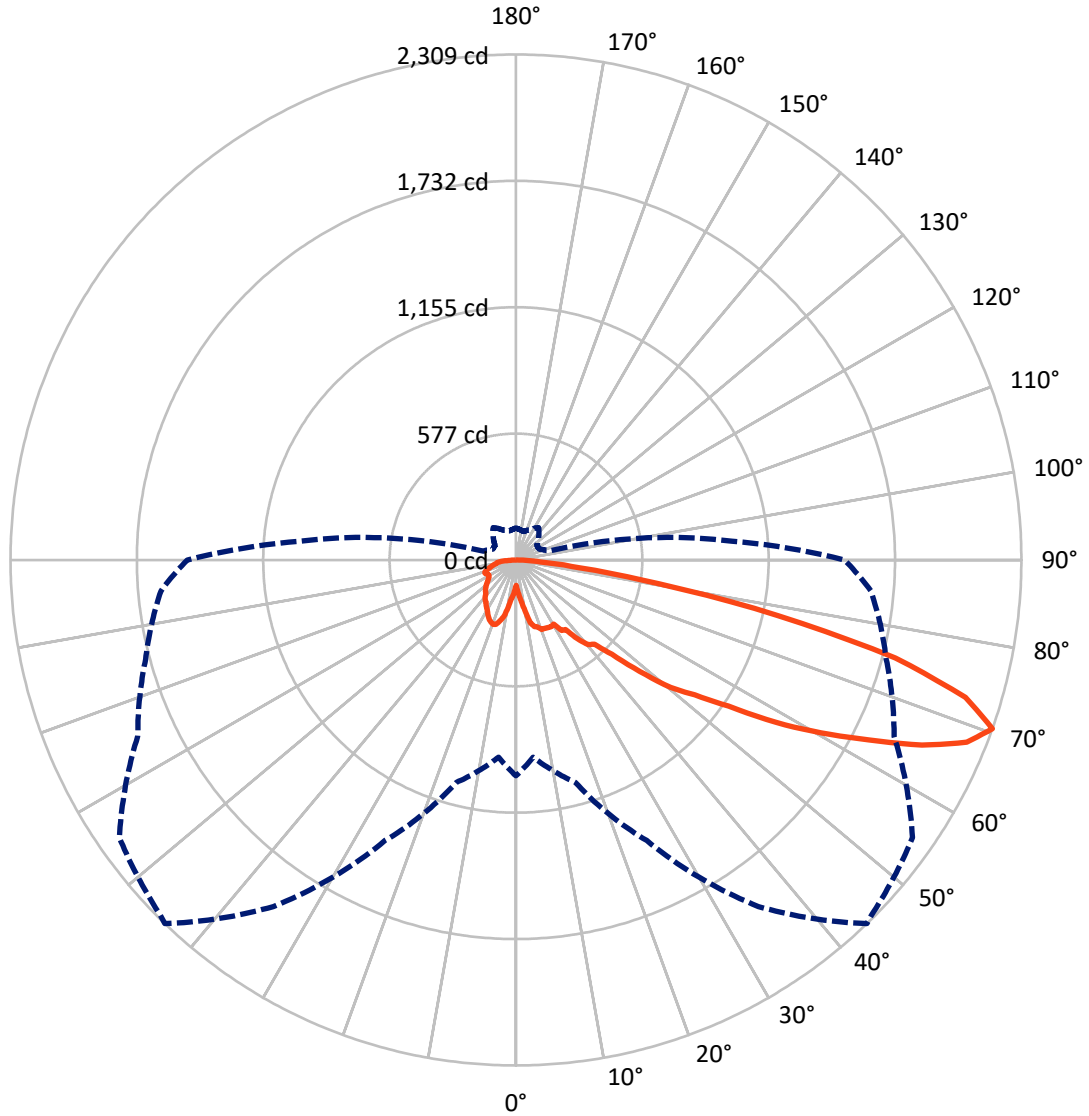
✕ Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	756.1	0.0	756.1
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	2670.9	0.0	2670.9
	% Fixture	77.9	0.0	77.9
Total	Lumens	3427.0	0.0	3427.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	18.3	0.5
10°-20°	84.1	2.5
20°-30°	157.2	4.6
30°-40°	252.3	7.4
40°-50°	425.8	12.4
50°-60°	758.8	22.1
60°-70°	1038.0	30.3
70°-80°	610.4	17.8
80°-90°	82.2	2.4
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°	3427.0	100.0
0°-180°	3427.0	100.0

Coefficient of Utilization



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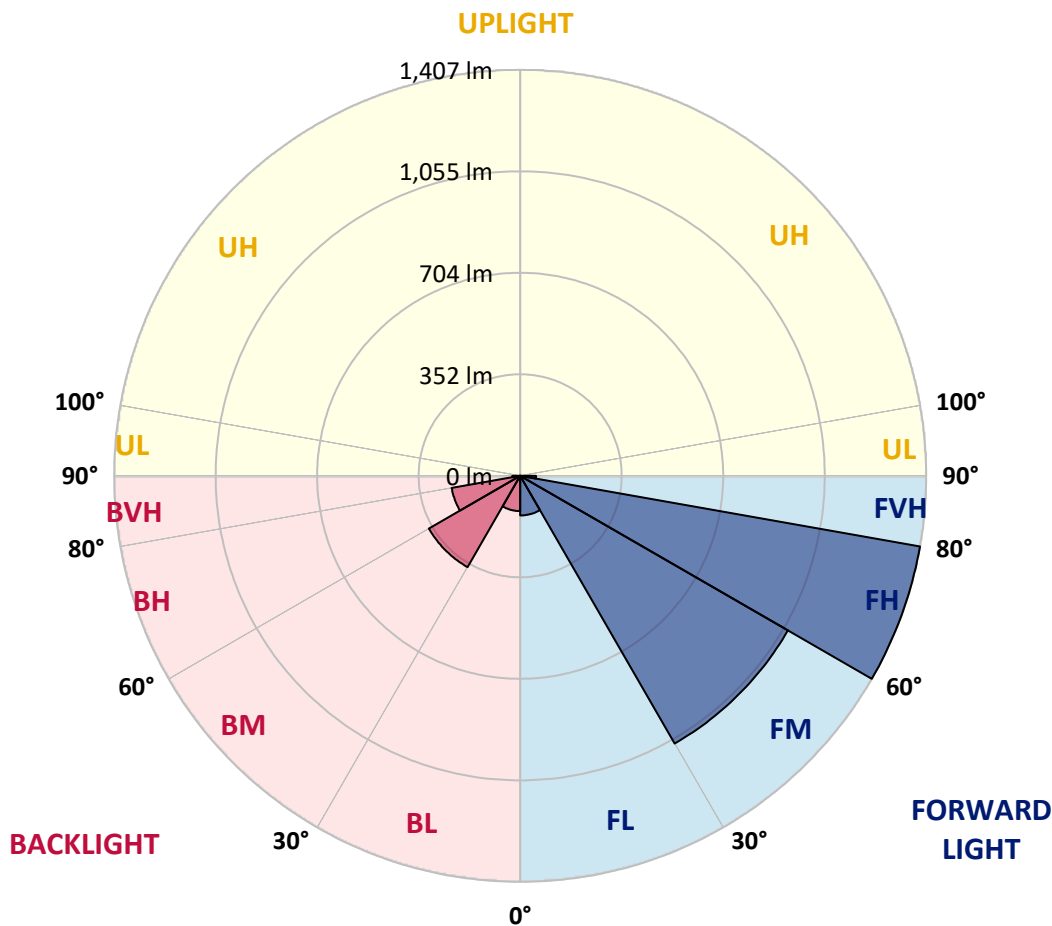
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	137.3	4.0			
FM (30°-60°)	1071.5	31.3			
FH (60°-80°)	1407.2	41.1			G1/1800
FVH (80°-90°)	54.8	1.6			G1/100
BL (0°-30°)	122.2	3.6	B1/500		
BM (30°-60°)	365.4	10.7	B1/1000		
BH (60°-80°)	241.1	7.0	B1/500		G1/500
BVH (80°-90°)	27.4	0.8			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	116.5	116.5	116.5	116.5	116.5	116.5	116.5	116.5	116.5	116.5	116.5
2.5°	141.4	138.5	131.8	134.1	136.9	138.0	137.7	137.4	133.1	131.5	139.3
5°	192.1	185.9	181.0	179.0	172.6	167.5	164.4	172.6	171.3	173.4	178.7
7.5°	239.9	235.9	224.8	220.9	207.7	199.0	198.0	204.5	206.1	202.8	211.9
10°	270.6	263.9	261.6	252.2	243.1	241.7	240.8	237.9	233.8	233.5	225.4
12.5°	294.5	298.0	299.9	289.0	289.3	294.4	291.7	279.8	272.9	260.8	261.8
15°	337.4	342.4	328.0	321.1	307.9	315.5	314.5	304.5	303.5	295.6	286.5
17.5°	374.8	377.0	352.8	337.1	332.6	321.6	324.6	324.9	311.9	326.0	317.8
20°	377.8	385.9	358.0	326.7	340.2	338.8	339.2	336.4	319.4	342.6	339.5
22.5°	393.0	380.8	355.8	332.9	336.4	338.5	340.5	337.1	336.1	349.0	358.5
25°	390.2	386.3	361.0	341.6	342.0	342.4	343.4	353.5	352.4	370.0	374.9
27.5°	416.5	410.4	362.5	357.8	346.8	344.4	337.7	358.7	375.2	374.8	401.9
30°	466.5	460.3	398.5	384.6	364.8	340.3	353.3	381.4	394.3	398.6	433.1
32.5°	544.6	554.8	469.3	413.3	388.7	383.3	381.9	379.1	411.2	432.7	464.0
35°	656.8	648.8	552.8	474.7	413.8	390.9	394.0	411.2	449.2	463.1	492.1
37.5°	785.2	768.6	659.7	544.2	486.3	457.7	447.4	464.0	472.4	483.4	542.5
40°	915.7	875.3	764.7	635.7	529.9	508.2	499.3	478.9	498.7	520.9	596.1
42.5°	1041.8	1010.5	878.9	744.9	603.2	526.1	521.2	501.2	562.6	586.1	673.4
45°	1173.9	1101.2	996.0	868.1	710.5	613.6	606.3	570.5	649.2	698.1	782.4
47.5°	1262.7	1195.4	1103.2	968.2	800.2	760.1	746.1	684.9	756.3	819.8	950.9
50°	1346.7	1277.4	1180.6	1077.6	962.8	916.6	886.9	784.9	889.6	993.0	1166.8
52.5°	1467.0	1405.0	1270.6	1187.9	1137.5	1023.8	1001.7	945.7	1045.6	1185.1	1402.9
55°	1595.6	1511.1	1389.3	1343.5	1323.1	1177.5	1159.5	1123.9	1253.3	1381.7	1632.4
57.5°	1652.3	1564.2	1497.1	1469.7	1468.0	1401.0	1380.3	1355.4	1465.6	1550.3	1848.4
60°	1697.4	1602.9	1576.0	1591.4	1647.0	1602.9	1576.0	1554.1	1638.4	1717.0	2024.6
62.5°	1689.1	1594.3	1608.1	1654.7	1796.8	1809.7	1789.1	1735.9	1809.7	1853.6	2125.6
65°	1555.4	1467.7	1547.9	1658.7	1936.0	2039.3	2038.2	1899.2	1924.8	1924.8	2114.9
67.5°	1321.0	1230.2	1361.6	1624.0	2032.3	2221.3	2221.6	2072.3	1935.3	1917.6	1949.7
70°	986.4	904.2	1051.9	1414.3	1932.9	2309.4	2296.6	2212.0	1906.4	1751.7	1628.6
72.5°	589.2	536.1	672.0	1029.6	1648.8	2147.4	2181.4	2051.1	1745.2	1456.7	1164.2
75°	267.5	244.5	315.7	591.4	1177.1	1791.2	1828.1	1731.0	1386.2	1047.7	672.8
77.5°	114.5	108.3	137.8	262.3	649.0	1224.9	1300.6	1237.1	939.2	608.9	297.6
80°	73.6	69.7	84.7	126.2	301.4	661.8	727.0	703.3	478.5	236.8	104.8
82.5°	44.0	42.7	56.6	79.3	164.4	291.3	328.2	337.0	198.7	106.2	60.0
85°	24.0	24.3	31.1	48.1	98.6	113.4	121.4	132.1	93.6	61.5	29.1
87.5°	8.0	9.3	12.5	19.5	35.1	32.0	32.2	37.4	39.5	25.6	9.3
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°	116.5	116.5	116.5	116.5	116.5	116.5	116.5	116.5	116.5	116.5	116.5
2.5°	140.5	138.0	131.5	131.9	134.3	134.9	135.6	131.5	130.7	138.4	139.1
5°	179.6	171.3	167.5	166.2	162.6	161.3	168.1	171.1	174.2	180.3	183.2
7.5°	210.9	201.6	194.8	188.4	183.1	180.0	191.4	200.1	205.4	217.8	223.4
10°	225.2	217.2	214.7	209.7	213.7	223.0	225.1	225.4	237.2	236.9	239.3
12.5°	253.8	248.6	240.3	242.1	252.8	262.3	259.7	263.7	268.0	278.1	273.4
15°	279.8	278.4	270.6	271.9	274.0	286.0	287.5	291.6	298.0	306.0	300.6
17.5°	311.8	311.2	292.4	290.7	295.6	307.3	303.7	296.5	317.8	326.4	324.2
20°	333.6	329.4	305.2	298.0	310.5	312.1	307.9	296.5	315.0	333.7	338.8
22.5°	351.7	346.8	321.9	307.9	305.3	306.0	306.0	303.9	313.1	328.4	328.2
25°	366.3	371.0	339.3	325.9	312.4	295.5	293.4	295.2	300.4	329.9	328.9
27.5°	403.0	390.2	345.2	335.1	307.5	280.9	286.7	289.5	291.2	323.5	328.8
30°	426.9	430.8	366.3	340.6	300.3	264.6	266.6	274.7	284.5	322.8	324.3
32.5°	459.1	450.6	399.2	331.5	281.2	254.8	251.1	262.1	276.7	311.4	315.6
35°	489.0	499.0	413.1	329.8	267.8	240.0	243.9	247.7	262.9	298.7	303.7
37.5°	559.3	536.5	452.2	321.6	256.7	232.6	228.3	234.1	247.0	274.7	286.1
40°	612.7	614.1	460.6	311.4	235.5	221.9	212.9	218.6	224.1	246.2	251.1
42.5°	712.8	682.2	481.3	288.9	222.2	205.9	200.8	203.3	204.2	213.4	221.6
45°	840.3	768.5	489.4	258.7	204.6	199.3	189.0	187.7	183.1	184.4	191.5
47.5°	1016.6	903.1	483.5	226.5	189.0	190.7	175.9	170.2	163.7	165.2	172.0
50°	1244.7	1075.1	483.1	199.3	178.3	179.4	167.4	157.0	150.5	153.7	159.6
52.5°	1500.6	1247.6	485.1	180.6	166.7	166.1	161.7	149.1	143.9	147.3	154.0
55°	1745.4	1396.0	499.7	168.8	154.6	155.6	157.2	146.6	140.8	143.9	150.9
57.5°	1958.4	1513.2	494.2	156.3	143.3	147.8	152.3	143.0	138.7	143.2	150.2
60°	2107.3	1567.6	450.9	144.3	135.0	141.2	149.9	142.6	142.1	151.8	160.2
62.5°	2161.7	1547.5	366.6	134.9	130.1	140.4	155.4	151.9	152.5	164.4	176.1
65°	2082.3	1441.8	273.4	128.9	126.3	144.5	168.1	157.4	149.7	159.5	170.2
67.5°	1856.5	1254.0	199.8	123.7	122.0	150.9	179.7	156.8	142.5	152.5	161.2
70°	1502.0	989.8	154.7	117.1	116.2	146.6	180.8	152.6	134.8	141.2	146.1
72.5°	1029.1	677.7	128.2	110.7	106.2	129.8	171.7	143.2	125.5	129.3	133.4
75°	575.1	380.4	107.8	102.9	93.0	115.6	161.0	137.6	118.6	119.7	125.3
77.5°	258.1	164.5	91.5	92.5	81.1	102.3	147.1	128.6	108.1	105.5	111.1
80°	97.7	80.2	74.2	78.1	68.2	88.7	132.6	120.4	97.0	93.7	97.0
82.5°	56.6	48.6	55.1	60.1	54.1	81.5	126.6	113.0	85.4	77.3	80.1
85°	26.3	25.2	33.0	39.1	37.8	63.5	108.3	85.0	60.8	51.4	56.9
87.5°	6.9	7.7	11.7	13.8	14.1	21.8	41.7	31.6	23.7	18.0	17.3
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)