

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: P366712

Luminaire Tested: **MSA-SA1A-830-U-RW**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366712  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-830-U-RW  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3298 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G2

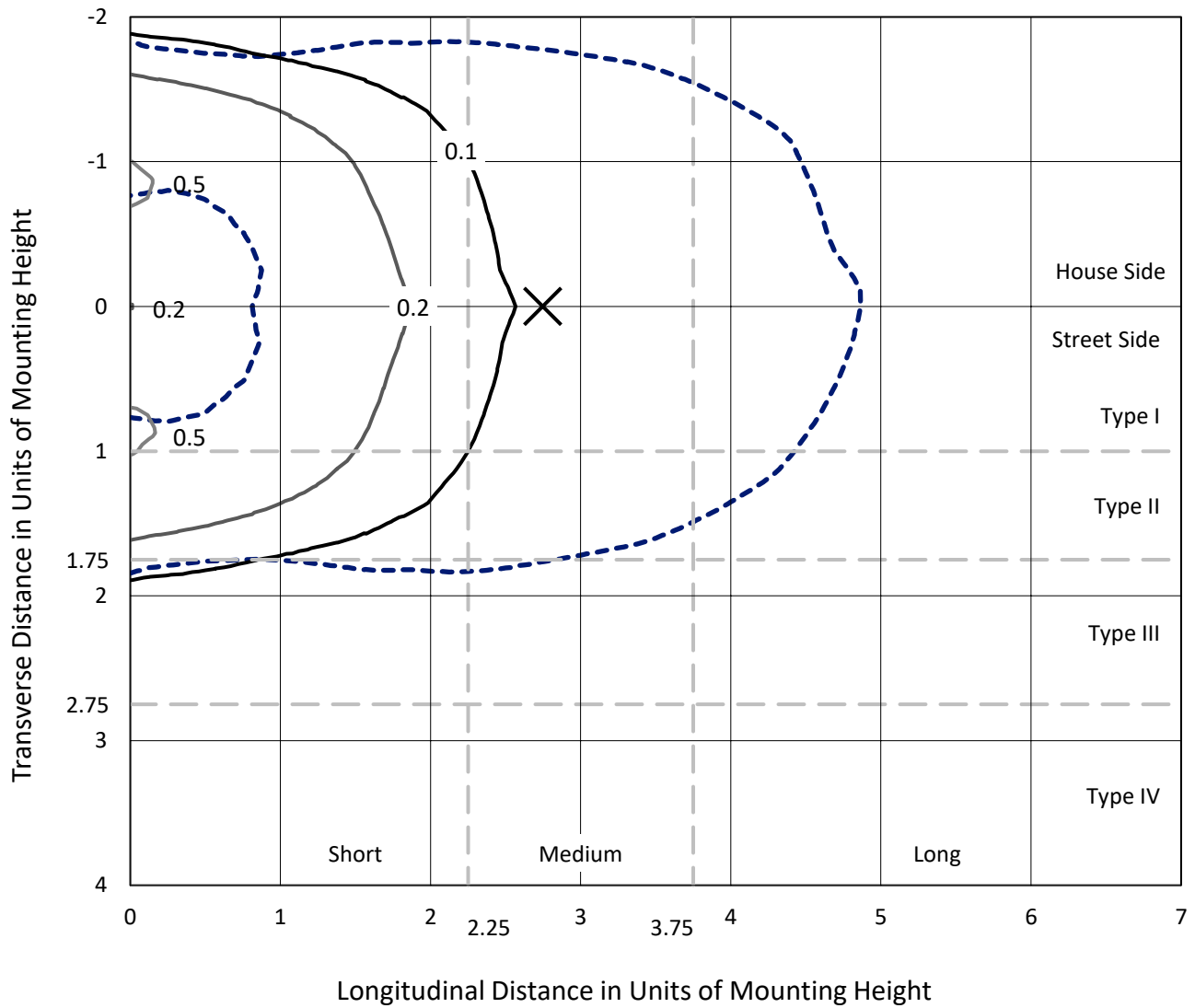
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

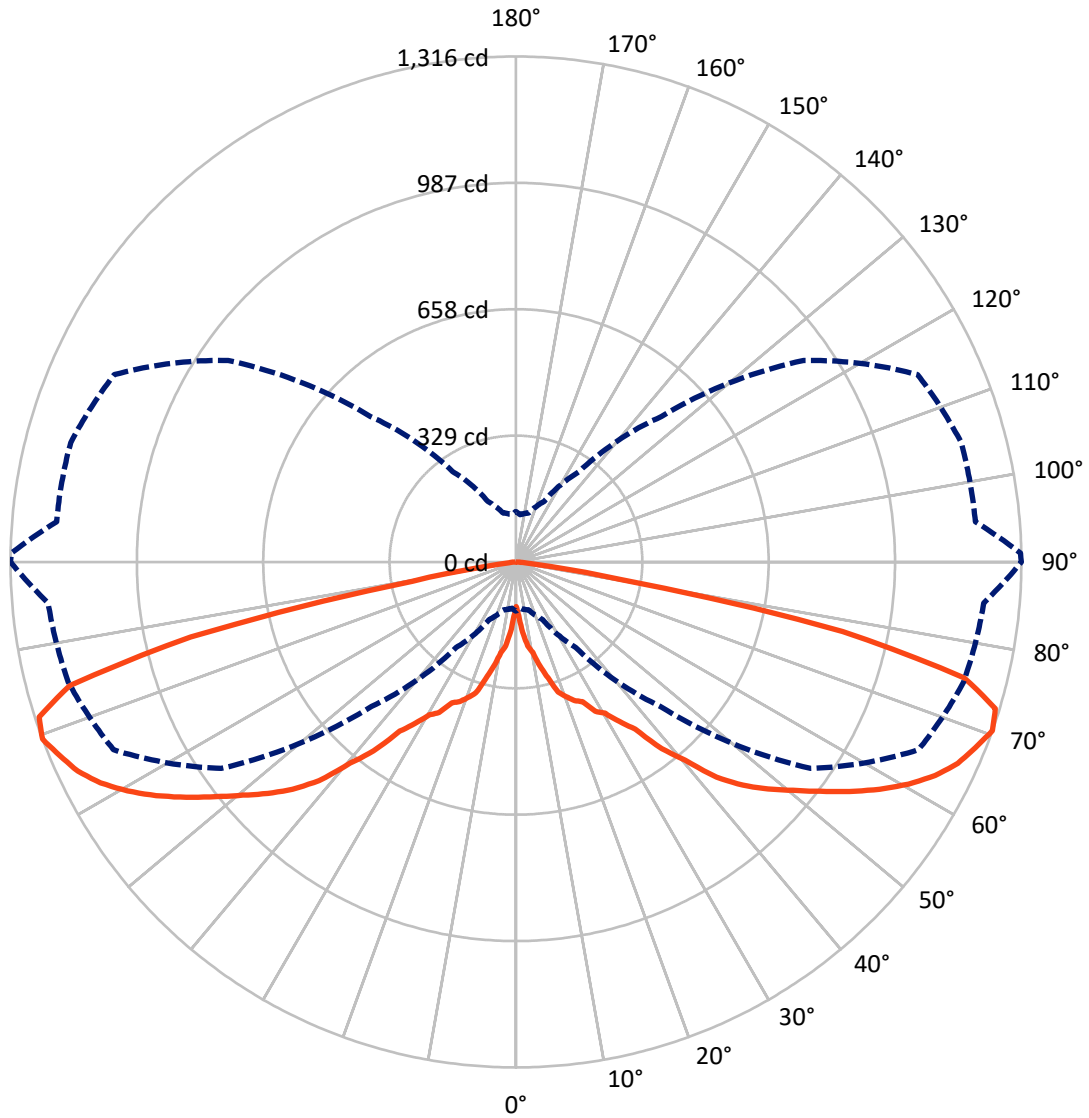
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.5 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1642.9	0.0	1642.9
	% Fixture	49.8	0.0	49.8
<b>Street Side</b>	Lumens	1655.1	0.0	1655.1
	% Fixture	50.2	0.0	50.2
<b>Total</b>	Lumens	3298.0	0.0	3298.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	17.5	0.5
10°-20°	80.0	2.4
20°-30°	173.0	5.2
30°-40°	330.1	10.0
40°-50°	599.7	18.2
50°-60°	842.5	25.5
60°-70°	804.4	24.4
70°-80°	412.8	12.5
80°-90°	37.9	1.1
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°	3298.0	100.0
0°-180°	3298.0	100.0

**Coefficient of Utilization**



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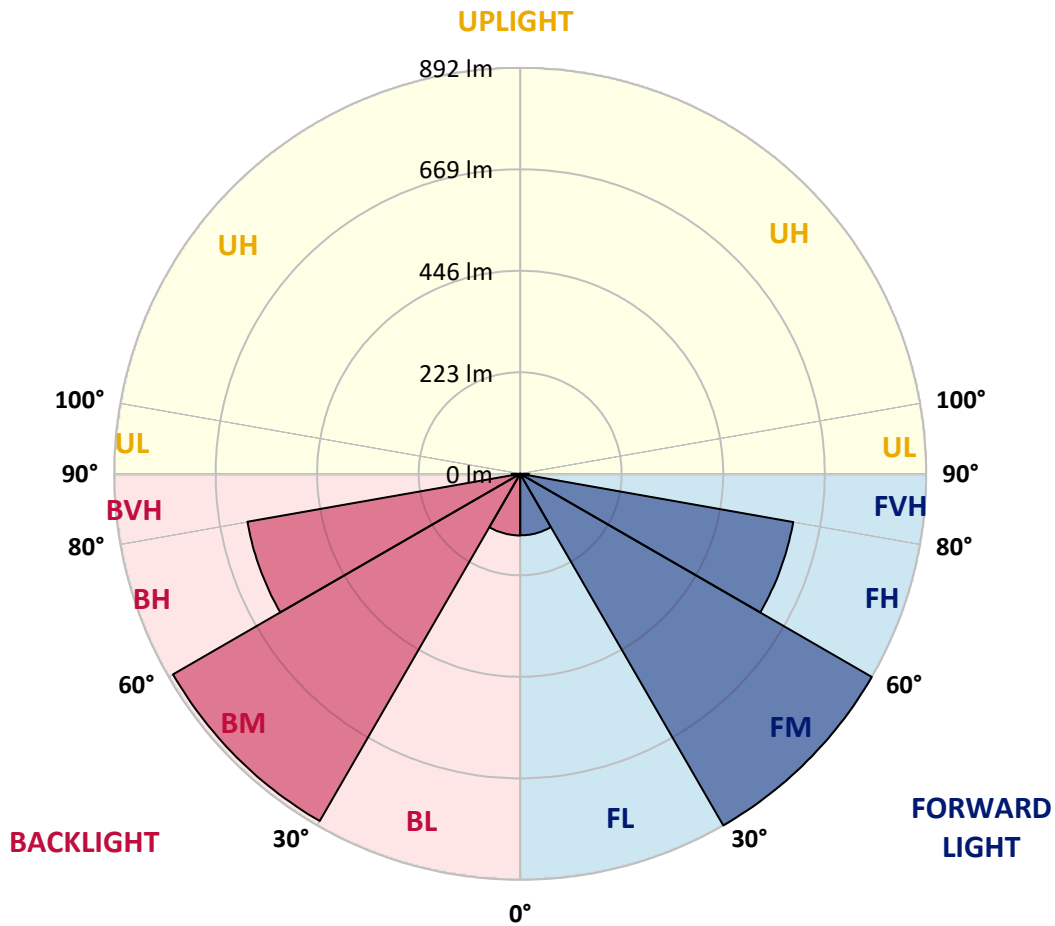
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	135.1	4.1			
FM (30°-60°)	891.8	27.0			
FH (60°-80°)	609.0	18.5			G0/660
FVH (80°-90°)	19.2	0.6			G1/100
BL (0°-30°)	135.4	4.1	B1/500		
BM (30°-60°)	880.6	26.7	B1/1000		
BH (60°-80°)	608.3	18.4	B2/1000		G2/1000
BVH (80°-90°)	18.6	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	115.8	115.8	115.8	115.8	115.8	115.8	115.8	115.8	115.8	115.8	115.8
2.5°	140.2	135.0	128.5	132.3	133.9	136.7	136.3	135.0	129.3	138.9	139.9
5°	175.5	167.2	164.1	163.6	164.4	161.7	170.4	167.9	172.6	181.2	183.3
7.5°	199.8	193.7	187.1	189.1	180.8	179.6	190.9	200.9	203.4	219.3	220.4
10°	211.3	205.3	207.0	205.8	204.9	212.7	217.9	225.2	235.8	237.3	239.5
12.5°	221.1	223.5	231.1	230.8	243.4	257.2	255.2	262.8	264.5	283.0	277.4
15°	245.8	250.8	250.2	254.9	260.4	283.0	283.1	296.1	308.0	315.2	313.3
17.5°	282.0	283.8	276.5	276.8	292.7	301.9	312.2	310.0	341.0	355.1	356.1
20°	303.7	308.1	299.8	288.8	317.0	329.7	335.5	322.3	355.4	374.5	374.5
22.5°	341.5	330.1	317.6	310.2	335.1	348.6	347.9	344.2	361.8	395.6	392.4
25°	362.4	355.9	349.7	351.5	364.1	371.0	380.3	371.6	388.2	413.3	402.7
27.5°	401.9	390.0	359.2	383.7	383.7	378.5	398.0	402.2	391.4	432.3	440.2
30°	446.7	442.6	398.9	424.9	416.9	402.2	439.6	436.9	418.8	460.5	456.9
32.5°	489.1	502.7	461.3	447.0	459.0	464.6	445.0	453.0	456.5	496.7	495.0
35°	554.0	565.5	510.6	507.0	486.9	481.7	496.7	499.4	499.6	542.0	534.3
37.5°	666.4	649.9	595.6	570.1	572.3	566.1	569.0	547.9	550.8	612.3	616.2
40°	748.6	729.9	669.5	651.2	606.3	633.2	609.4	607.2	601.4	681.0	678.9
42.5°	839.4	813.7	746.9	722.4	674.7	663.8	652.8	677.5	675.9	749.7	766.0
45°	908.0	856.1	821.2	806.0	777.4	750.5	740.1	751.2	746.1	800.9	829.4
47.5°	951.3	906.2	866.1	834.1	806.7	872.6	819.8	804.9	794.6	856.0	883.4
50°	985.8	933.8	886.5	875.8	897.4	955.7	872.4	839.7	852.2	897.4	934.7
52.5°	995.1	940.1	897.5	890.7	949.3	959.8	946.3	891.3	887.9	947.1	992.2
55°	966.5	913.7	893.5	930.8	995.5	986.7	1007.3	972.1	948.5	997.9	1054.6
57.5°	892.9	840.5	835.7	889.4	970.9	1046.0	1056.2	1028.4	997.4	1049.8	1116.6
60°	771.9	724.1	736.2	795.6	918.5	1025.5	1079.5	1054.1	1044.4	1096.6	1174.1
62.5°	583.6	546.3	578.8	661.5	822.8	998.9	1111.5	1107.5	1093.6	1146.3	1224.9
65°	372.1	352.5	385.6	469.7	674.3	950.5	1126.9	1132.3	1145.1	1184.7	1264.2
67.5°	216.3	205.8	226.0	294.9	480.3	780.5	1098.3	1175.0	1181.7	1204.4	1290.0
70°	127.9	121.1	129.4	165.6	271.9	531.7	936.8	1156.3	1206.8	1222.6	1316.0
72.5°	97.6	91.2	87.5	98.0	142.0	274.7	633.4	980.2	1186.7	1210.6	1305.1
75°	84.3	78.2	73.9	74.9	84.5	130.5	343.4	701.1	1011.2	1102.3	1205.5
77.5°	72.4	67.0	63.9	63.6	64.8	71.6	143.6	380.1	633.3	792.4	869.1
80°	58.0	53.7	53.1	53.1	51.3	50.8	71.4	144.6	241.0	285.8	274.0
82.5°	42.4	38.1	42.4	41.8	39.2	37.0	45.4	62.6	74.3	58.7	46.4
85°	28.6	24.7	27.9	28.5	25.9	19.2	27.3	31.3	32.1	20.0	16.6
87.5°	10.0	9.8	15.8	13.8	11.2	6.5	10.0	10.8	11.4	7.1	4.8
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):**

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	115.8	115.8	115.8	115.8	115.8	115.8	115.8	115.8	115.8	115.8	115.8
2.5°	140.3	138.7	130.7	131.9	135.0	136.5	137.9	131.9	129.0	138.3	137.4
5°	183.8	177.9	171.4	170.4	170.8	165.1	168.4	166.9	167.6	173.6	174.8
7.5°	220.1	213.1	204.4	197.6	185.8	176.4	184.3	188.3	189.5	200.2	204.2
10°	239.8	233.8	231.2	218.4	214.5	213.3	211.5	205.0	212.1	209.6	211.6
12.5°	278.3	277.1	263.9	255.4	256.2	258.5	246.7	240.3	231.1	245.5	240.3
15°	311.0	316.2	303.0	287.6	280.0	283.9	274.9	265.6	257.3	261.7	256.1
17.5°	352.9	352.7	326.9	310.5	309.8	309.6	296.3	275.7	285.6	282.6	282.8
20°	375.1	371.5	339.4	320.4	336.6	330.8	318.9	292.5	304.0	307.7	310.1
22.5°	393.6	391.6	352.7	338.8	349.3	349.4	337.5	323.6	322.1	333.8	327.5
25°	406.6	414.6	378.0	374.7	379.2	374.7	363.0	353.9	348.1	365.4	348.1
27.5°	437.3	426.0	381.9	400.9	403.7	380.8	395.4	384.7	368.4	389.9	397.0
30°	459.3	465.9	409.1	437.7	434.4	413.3	419.3	418.9	399.4	441.4	436.4
32.5°	497.0	488.9	453.7	451.4	459.4	458.5	448.3	453.3	458.1	488.5	495.9
35°	535.6	544.1	482.1	497.5	495.2	480.8	507.4	504.3	518.6	581.2	560.4
37.5°	622.7	582.0	546.0	544.0	559.2	561.5	553.0	566.5	597.3	645.5	667.6
40°	679.8	661.2	600.1	602.6	581.4	617.8	593.7	637.2	660.7	741.8	733.9
42.5°	766.2	720.8	662.2	670.2	665.9	648.4	680.1	702.4	736.1	798.0	837.9
45°	830.4	768.3	740.5	735.5	735.0	765.5	761.5	797.2	809.2	855.7	888.9
47.5°	879.2	826.4	785.3	790.9	774.6	861.6	815.2	826.3	850.6	894.5	933.1
50°	937.1	878.3	831.5	845.4	885.1	918.5	876.6	857.6	869.5	921.2	964.2
52.5°	990.7	928.8	877.4	889.0	953.8	938.6	934.0	886.1	884.6	926.2	975.1
55°	1053.4	983.6	938.2	975.1	998.1	979.2	972.0	913.6	877.5	900.6	946.7
57.5°	1114.9	1037.9	992.7	1000.3	1029.5	1010.8	956.6	866.7	821.6	826.2	872.8
60°	1172.5	1087.8	1050.5	1043.1	1066.4	993.0	898.2	780.7	721.0	710.0	750.4
62.5°	1221.8	1129.5	1094.2	1074.1	1096.3	993.7	807.2	642.8	577.2	540.0	571.4
65°	1261.0	1164.1	1138.9	1128.5	1136.5	933.2	665.4	472.0	391.5	350.3	368.6
67.5°	1287.0	1183.5	1172.0	1185.6	1078.7	777.3	492.9	302.1	227.6	205.2	216.7
70°	1314.0	1200.6	1200.2	1153.8	914.7	535.9	287.9	174.2	132.5	123.8	131.0
72.5°	1305.0	1180.2	1186.3	1009.0	633.8	286.4	152.0	98.5	89.7	92.8	99.2
75°	1208.4	1073.0	1044.0	725.4	359.6	133.1	87.5	74.6	74.0	78.7	85.0
77.5°	876.6	747.3	670.6	411.1	154.1	72.0	64.4	62.3	62.3	66.0	71.6
80°	289.0	250.1	260.6	159.1	72.8	49.7	50.3	51.2	50.9	51.9	56.5
82.5°	47.5	49.2	76.1	65.0	44.0	34.0	38.0	39.8	40.4	36.1	41.0
85°	16.8	19.0	32.3	30.1	25.4	17.1	25.0	27.9	27.5	24.1	26.6
87.5°	5.2	6.7	11.8	9.1	7.6	4.7	9.4	11.0	13.8	5.6	5.1
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)