

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: P596490

Luminaire Tested: **MSA-SA1A-827-U-T2**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596490  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-827-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2963 lumens  
Efficiency: N/A  
Efficacy: 87.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B1 - U0 - G1

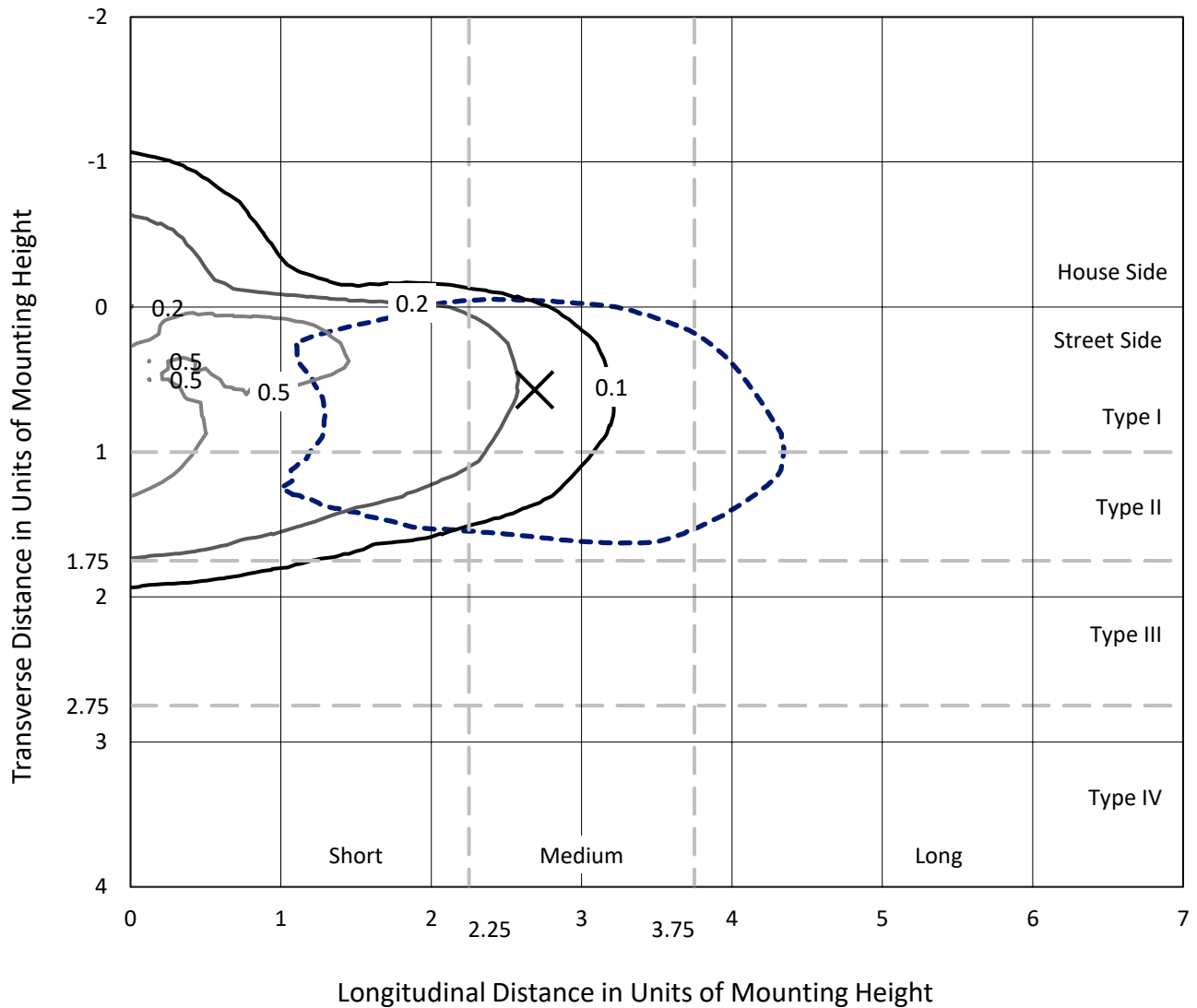
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

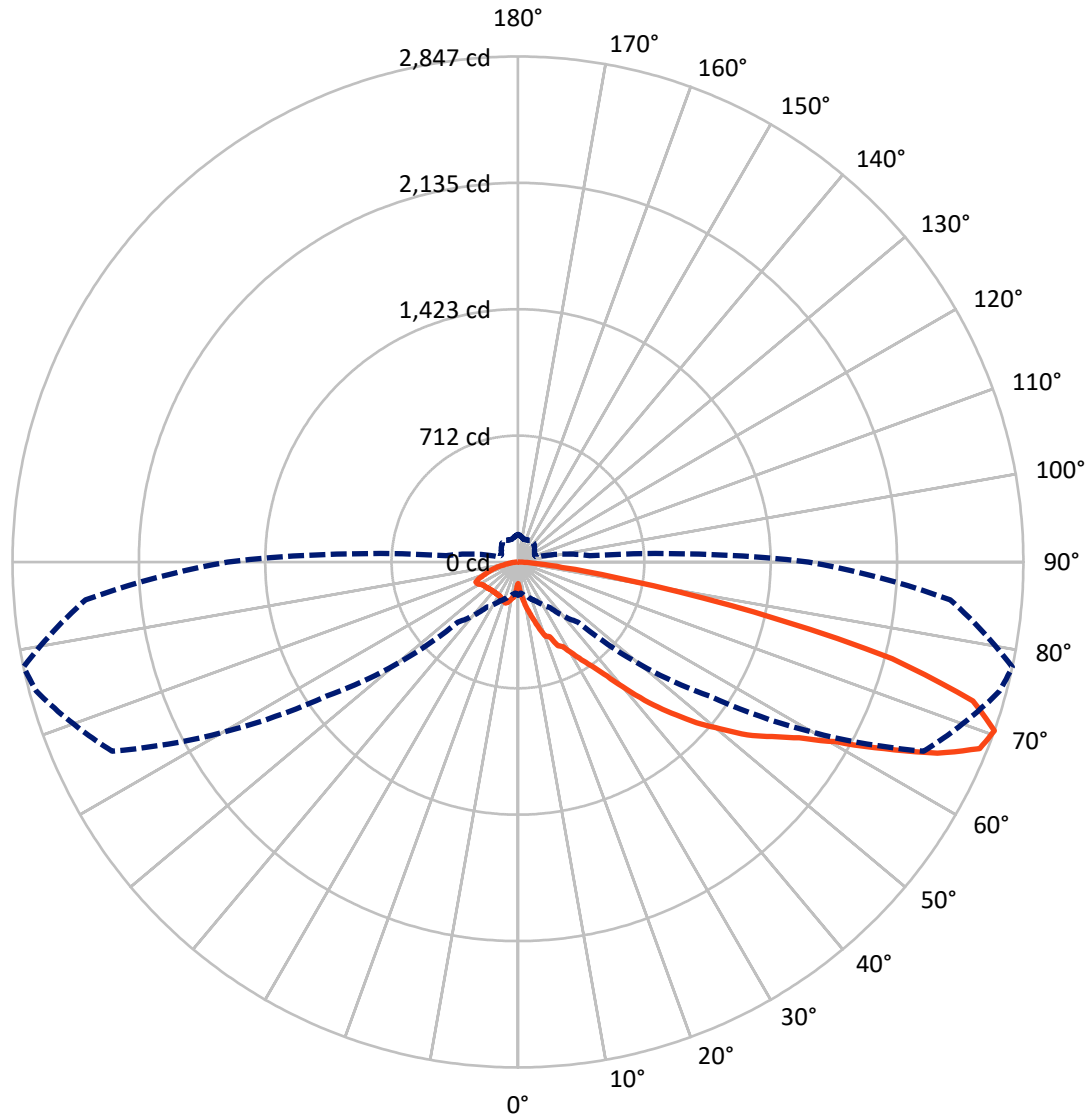
✕ Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	528.9	0.0	528.9
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	2434.2	0.0	2434.2
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	2963.0	0.0	2963.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	18.7	0.6
10°-20°	82.3	2.8
20°-30°	158.3	5.3
30°-40°	266.7	9.0
40°-50°	461.4	15.6
50°-60°	696.7	23.5
60°-70°	771.7	26.0
70°-80°	444.9	15.0
80°-90°	62.4	2.1
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°	2963.0	100.0
0°-180°	2963.0	100.0

**Coefficient of Utilization**



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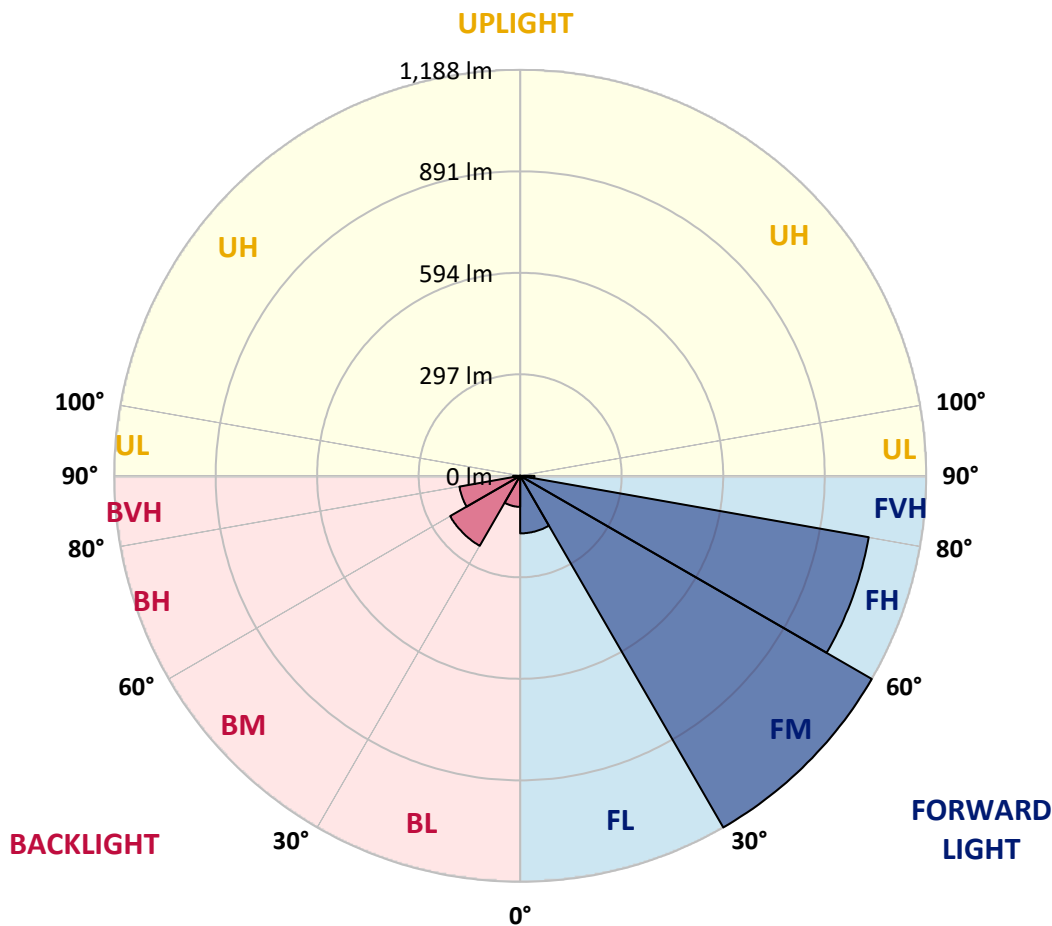
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	168.4	5.7			
FM (30°-60°)	1188.3	40.1			
FH (60°-80°)	1035.8	35.0			G1/1800
FVH (80°-90°)	41.6	1.4			G1/100
BL (0°-30°)	90.8	3.1	B0/110		
BM (30°-60°)	236.5	8.0	B1/1000		
BH (60°-80°)	180.7	6.1	B1/500		G1/500
BVH (80°-90°)	20.8	0.7			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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	120.8	120.8	120.8	120.8	120.8	120.8	120.8	120.8	120.8	120.8	120.8
2.5°	155.5	150.0	141.6	145.0	149.2	149.7	148.3	140.7	138.1	143.9	145.6
5°	217.9	208.5	202.8	201.0	194.7	181.6	191.0	186.1	187.1	184.3	189.9
7.5°	270.4	264.1	255.7	253.3	238.9	228.6	235.1	233.0	222.8	218.9	225.2
10°	297.1	290.1	290.5	285.5	281.6	282.6	279.4	270.1	262.6	257.3	242.1
12.5°	313.1	314.9	324.1	321.5	336.0	347.8	338.8	325.1	301.3	296.4	281.4
15°	351.3	357.7	349.1	353.0	359.2	381.9	378.2	375.3	350.1	340.7	312.9
17.5°	390.6	391.8	378.7	376.6	391.4	402.9	417.4	400.7	403.8	397.2	352.3
20°	399.0	407.5	388.7	375.7	406.3	429.0	446.9	429.2	445.5	447.3	384.8
22.5°	429.7	419.5	394.8	382.0	408.7	436.6	465.8	475.7	470.5	455.9	416.1
25°	451.1	445.7	420.5	406.4	416.5	442.2	493.3	519.2	523.7	521.7	446.0
27.5°	490.7	493.5	441.6	445.5	431.5	433.8	509.9	576.8	548.3	540.4	483.1
30°	553.4	541.3	483.1	486.3	463.0	459.0	544.8	626.6	601.0	591.5	513.6
32.5°	618.7	619.8	549.2	521.7	509.3	505.3	537.9	652.7	667.8	655.4	559.7
35°	710.9	704.4	620.8	584.7	539.7	532.7	587.2	728.3	755.9	721.4	614.4
37.5°	851.2	831.8	734.5	651.1	617.7	609.8	657.6	796.1	858.3	815.4	703.8
40°	963.8	924.4	836.0	734.5	678.0	687.8	707.6	878.4	964.6	940.4	786.6
42.5°	1053.6	1018.7	907.9	836.5	759.8	747.7	769.4	980.3	1109.1	1085.4	889.8
45°	1139.7	1068.6	988.7	924.4	850.7	865.4	862.2	1084.3	1286.3	1213.3	981.1
47.5°	1224.7	1157.9	1074.3	987.9	913.7	1005.2	971.0	1161.6	1405.9	1351.8	1077.2
50°	1333.9	1260.4	1165.2	1078.3	1033.9	1100.8	1043.4	1227.1	1539.8	1476.3	1167.9
52.5°	1406.4	1334.9	1251.4	1189.4	1185.3	1159.5	1144.8	1309.9	1657.1	1618.6	1264.0
55°	1397.9	1329.0	1291.2	1298.0	1348.3	1261.3	1249.3	1432.6	1779.6	1735.0	1367.7
57.5°	1291.0	1215.8	1223.8	1264.1	1399.5	1440.0	1419.6	1563.6	1888.7	1868.5	1496.1
60°	1005.7	967.0	1032.4	1106.0	1331.1	1492.4	1635.7	1723.5	2023.1	2055.5	1697.7
62.5°	653.3	601.7	704.9	829.9	1126.9	1457.8	1855.6	2026.6	2243.3	2316.7	2004.0
65°	338.4	330.2	402.4	517.3	784.5	1243.0	1933.2	2344.5	2510.8	2596.4	2296.6
67.5°	246.1	230.7	264.2	331.8	478.9	847.6	1786.2	2587.8	2725.6	2804.0	2466.7
70°	187.4	176.0	201.6	243.5	312.8	478.8	1318.6	2521.4	2808.5	2846.5	2444.1
72.5°	140.3	130.6	152.9	192.0	241.0	269.5	779.4	2073.2	2667.1	2680.0	2193.6
75°	112.0	104.5	114.1	151.6	196.4	183.4	414.0	1502.0	2166.9	2178.0	1675.6
77.5°	91.9	85.5	89.4	113.6	152.8	138.0	205.4	955.4	1375.8	1358.7	942.7
80°	75.0	69.4	71.3	82.1	116.4	103.0	115.4	498.4	656.3	629.8	392.1
82.5°	57.7	53.0	56.7	60.4	84.2	74.0	67.3	226.8	268.8	250.4	143.8
85°	38.7	34.3	49.3	45.3	55.1	45.5	36.8	90.3	100.2	93.4	50.5
87.5°	10.6	10.0	16.6	22.6	22.6	17.2	13.5	21.9	27.9	24.5	11.9
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°	120.8	120.8	120.8	120.8	120.8	120.8	120.8	120.8	120.8	120.8	120.8
2.5°	146.4	143.7	136.5	135.9	137.6	137.8	136.7	134.1	132.8	140.2	139.1
5°	188.5	178.9	173.1	167.7	160.3	155.0	156.4	160.1	161.3	166.9	167.5
7.5°	221.2	208.5	195.8	178.7	167.5	160.3	165.8	169.7	172.8	180.7	183.9
10°	235.4	221.6	203.6	185.7	182.6	183.8	180.7	181.7	186.5	186.9	188.5
12.5°	261.9	246.2	213.7	197.5	196.6	199.2	198.1	202.7	206.0	215.0	211.2
15°	287.2	267.2	221.3	204.8	201.2	206.4	212.5	220.1	227.3	235.8	231.5
17.5°	317.9	287.8	221.7	201.5	202.1	213.2	219.5	223.7	245.1	256.8	250.9
20°	337.3	289.9	213.4	193.2	202.1	212.1	220.9	225.4	249.4	267.1	271.1
22.5°	354.9	290.6	207.0	188.7	194.4	207.6	220.9	231.0	246.3	263.2	263.8
25°	364.5	290.0	198.7	189.1	194.3	200.8	212.6	221.8	233.2	256.8	257.4
27.5°	389.2	282.0	190.6	190.6	193.3	193.6	208.5	213.9	215.5	237.0	240.9
30°	396.4	283.7	189.6	190.3	191.7	189.2	195.8	199.4	201.7	220.2	220.9
32.5°	407.9	269.9	192.6	188.1	186.4	186.0	187.6	190.8	191.8	203.2	205.3
35°	421.8	264.3	193.6	187.5	184.0	182.2	187.0	183.1	186.1	199.5	201.0
37.5°	467.3	256.7	198.6	187.5	183.1	181.0	178.6	180.5	191.5	204.3	212.2
40°	496.3	259.0	197.4	189.4	179.7	177.7	173.8	180.6	197.6	220.4	226.3
42.5°	547.2	260.4	198.9	188.5	180.8	173.2	175.8	183.2	201.1	214.1	223.2
45°	599.8	264.6	197.9	185.9	178.4	181.9	178.4	185.0	193.6	193.9	200.8
47.5°	651.4	281.5	195.8	180.6	177.7	187.1	178.0	179.1	179.7	181.9	190.1
50°	712.1	299.5	192.8	173.2	178.6	187.4	179.4	173.9	173.3	180.6	189.7
52.5°	781.0	319.9	189.0	166.0	173.5	185.0	184.0	174.3	169.0	176.0	185.2
55°	862.2	343.1	184.5	158.8	168.0	185.3	186.6	171.7	169.1	176.8	186.5
57.5°	970.0	376.7	175.9	148.5	161.2	181.5	180.0	168.7	166.3	174.4	184.5
60°	1154.1	441.3	163.5	138.2	153.9	172.1	174.5	163.4	160.9	170.0	180.6
62.5°	1400.5	519.0	148.6	128.2	145.0	161.9	167.7	155.8	155.5	167.0	178.1
65°	1629.9	563.1	133.2	119.1	135.9	152.5	160.1	148.6	149.1	163.5	174.7
67.5°	1725.2	511.3	119.3	110.9	125.4	141.8	153.8	143.0	141.4	158.8	169.1
70°	1635.7	406.1	107.3	102.3	113.5	130.2	145.0	135.6	131.9	147.7	155.8
72.5°	1447.3	338.6	96.1	92.1	103.1	118.0	133.2	125.6	120.8	132.9	140.1
75°	1131.3	277.8	83.3	82.1	91.3	106.8	120.8	115.6	109.4	117.1	124.3
77.5°	644.2	175.8	69.9	70.7	77.2	93.6	106.0	101.9	95.6	98.8	107.1
80°	257.8	88.7	56.2	56.7	62.3	77.0	87.8	86.3	79.8	82.4	88.1
82.5°	96.3	48.7	41.5	41.7	47.3	60.9	75.0	74.2	68.1	66.2	69.4
85°	38.3	24.1	25.4	26.6	31.9	43.8	60.2	53.4	46.1	40.4	42.4
87.5°	9.1	7.7	8.9	9.4	10.4	13.7	22.0	17.7	18.2	14.6	10.9
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)