

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: P366988

Luminaire Tested: **MSA-SA1C-830-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366988  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1C-830-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: 4971 lumens  
Efficiency: N/A  
Efficacy: 84.3 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

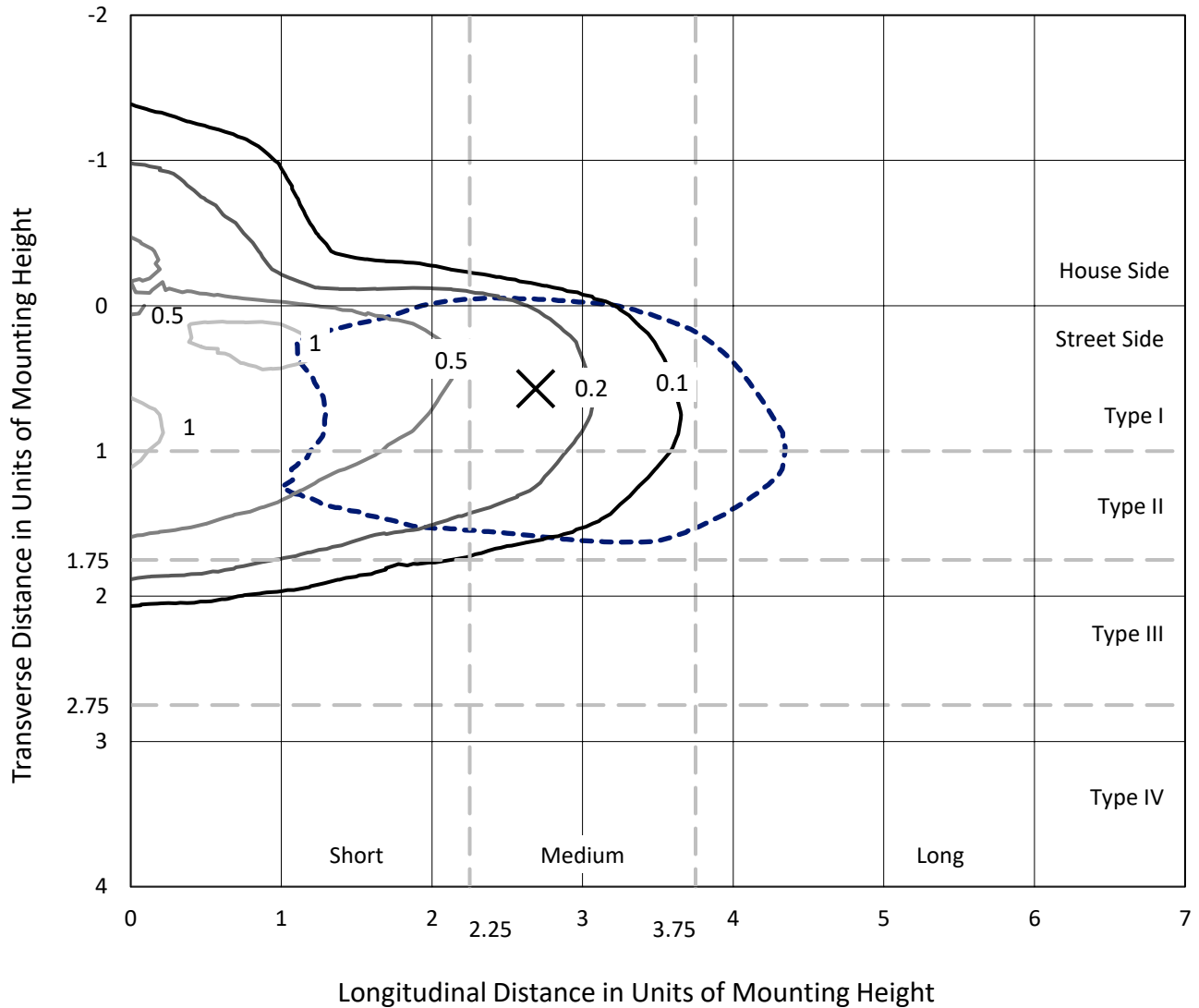
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

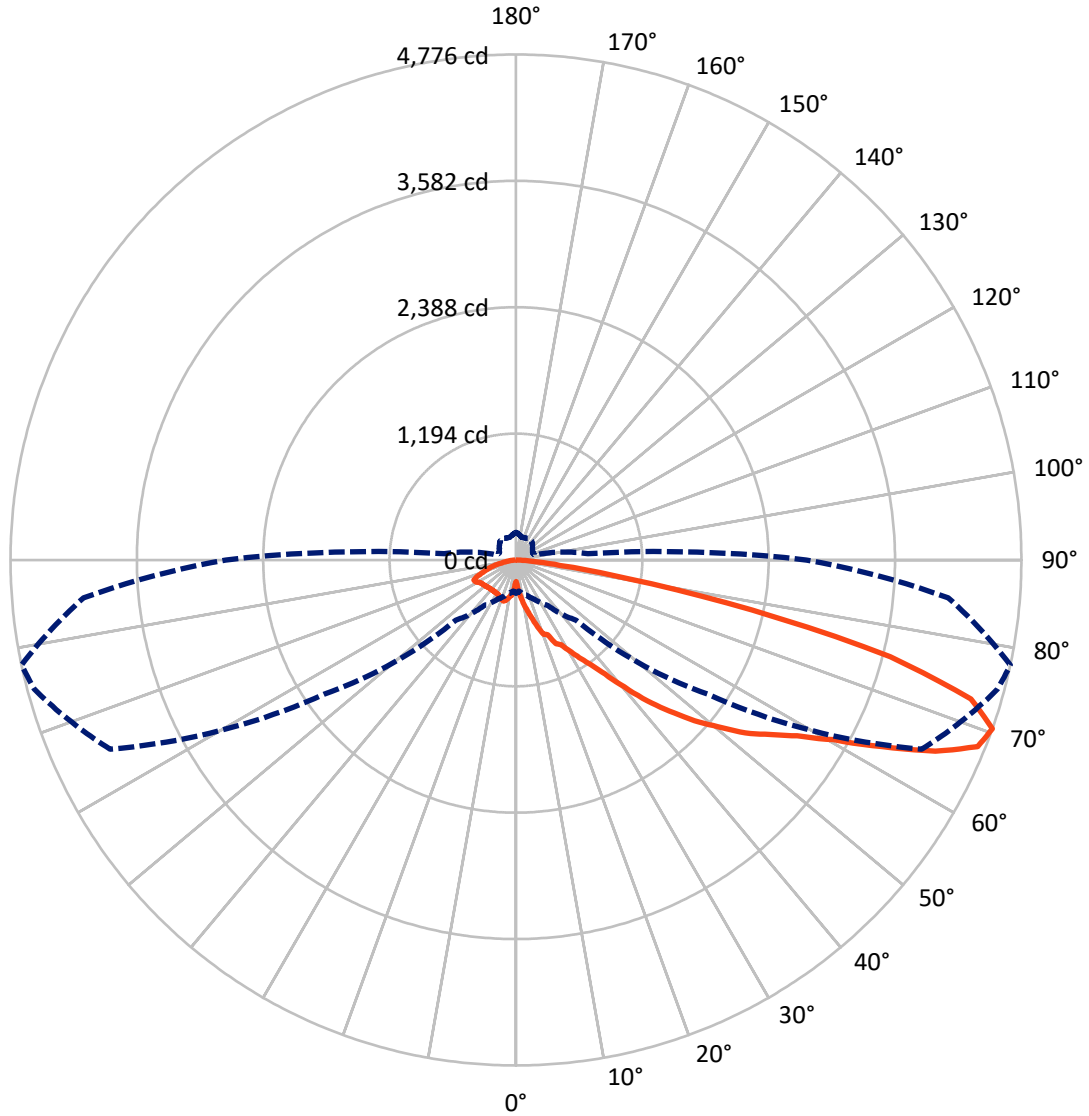
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 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	887.3	0.0	887.3
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	4083.7	0.0	4083.7
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	4971.0	0.0	4971.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.3	0.6
10°-20°	138.0	2.8
20°-30°	265.6	5.3
30°-40°	447.4	9.0
40°-50°	774.1	15.6
50°-60°	1168.8	23.5
60°-70°	1294.6	26.0
70°-80°	746.4	15.0
80°-90°	104.7	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°	4971.0	100.0
0°-180°	4971.0	100.0

**Coefficient of Utilization**



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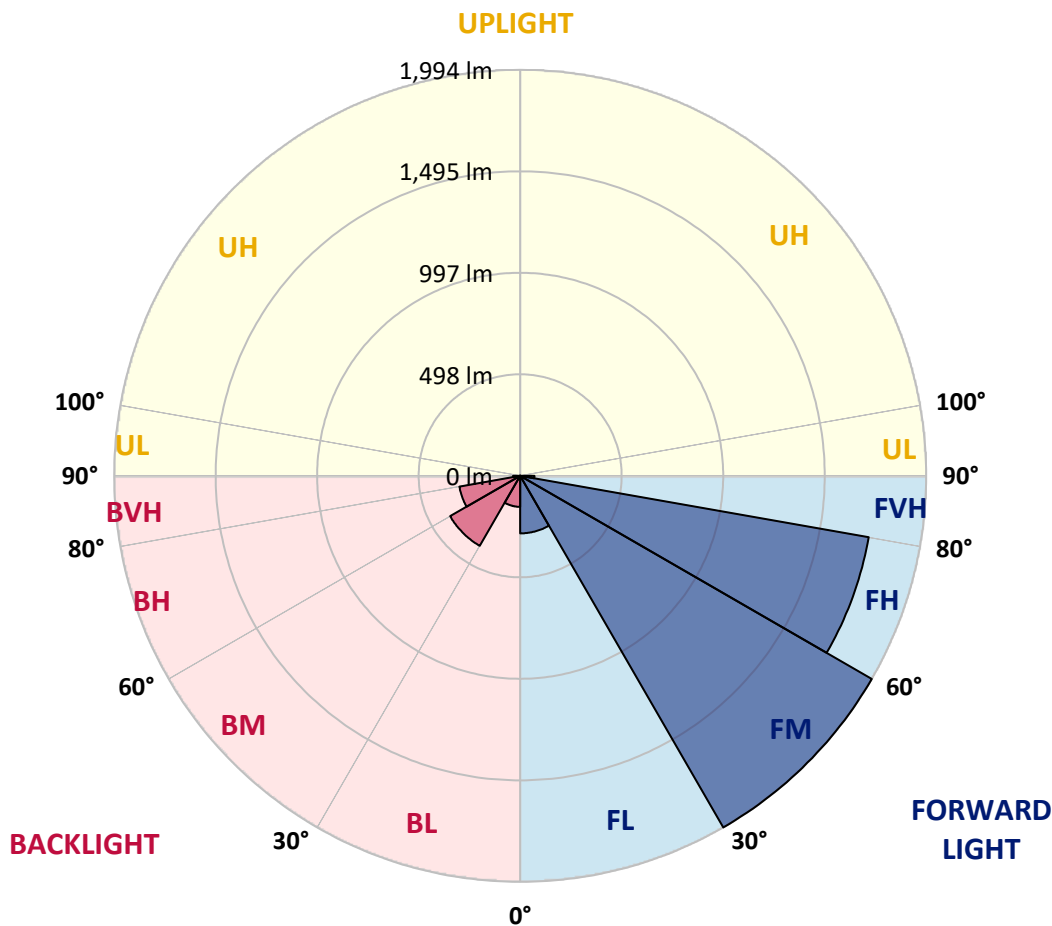
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	282.6	5.7			
FM (30°-60°)	1993.5	40.1			
FH (60°-80°)	1737.8	35.0			G1/1800
FVH (80°-90°)	69.8	1.4			G1/100
BL (0°-30°)	152.3	3.1	B1/500		
BM (30°-60°)	396.8	8.0	B1/1000		
BH (60°-80°)	303.2	6.1	B1/500		G1/500
BVH (80°-90°)	34.8	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°	202.7	202.7	202.7	202.7	202.7	202.7	202.7	202.7	202.7	202.7	202.7
2.5°	260.9	251.6	237.5	243.3	250.3	251.2	248.9	236.0	231.7	241.4	244.3
5°	365.6	349.8	340.3	337.2	326.6	304.6	320.4	312.3	314.0	309.2	318.5
7.5°	453.6	443.1	429.0	425.0	400.8	383.6	394.4	390.8	373.8	367.2	377.8
10°	498.4	486.8	487.4	478.9	472.5	474.1	468.8	453.2	440.6	431.7	406.2
12.5°	525.3	528.2	543.8	539.4	563.7	583.6	568.4	545.4	505.4	497.3	472.1
15°	589.4	600.1	585.6	592.3	602.6	640.8	634.5	629.6	587.3	571.5	524.9
17.5°	655.3	657.3	635.4	631.8	656.7	676.0	700.2	672.3	677.4	666.4	591.0
20°	669.3	683.6	652.1	630.4	681.6	719.7	749.8	720.1	747.5	750.4	645.5
22.5°	720.9	703.7	662.3	641.0	685.7	732.6	781.5	798.0	789.3	764.9	698.2
25°	756.8	747.7	705.4	681.8	698.8	741.9	827.7	871.0	878.7	875.3	748.3
27.5°	823.3	827.9	740.8	747.5	723.9	727.8	855.4	967.8	919.9	906.6	810.5
30°	928.4	908.1	810.5	815.9	776.7	770.1	914.1	1051.3	1008.4	992.4	861.7
32.5°	1038.0	1039.9	921.3	875.3	854.4	847.8	902.5	1095.0	1120.3	1099.6	939.0
35°	1192.6	1181.8	1041.5	981.0	905.4	893.8	985.2	1221.8	1268.2	1210.2	1030.8
37.5°	1428.0	1395.5	1232.2	1092.3	1036.4	1023.1	1103.3	1335.6	1440.0	1367.9	1180.8
40°	1617.0	1550.9	1402.5	1232.2	1137.5	1153.9	1187.2	1473.6	1618.3	1577.6	1319.6
42.5°	1767.7	1709.0	1523.1	1403.4	1274.7	1254.4	1290.8	1644.6	1860.7	1820.9	1492.9
45°	1912.1	1792.7	1658.7	1550.9	1427.2	1451.8	1446.5	1819.1	2158.1	2035.6	1646.0
47.5°	2054.7	1942.6	1802.3	1657.4	1532.9	1686.4	1629.0	1948.8	2358.7	2267.9	1807.2
50°	2237.9	2114.6	1954.8	1809.1	1734.5	1846.8	1750.5	2058.6	2583.3	2476.8	1959.3
52.5°	2359.5	2239.5	2099.4	1995.4	1988.6	1945.3	1920.6	2197.7	2780.2	2715.5	2120.6
55°	2345.2	2229.6	2166.2	2177.6	2262.1	2116.0	2095.9	2403.4	2985.5	2910.7	2294.6
57.5°	2166.0	2039.8	2053.2	2120.8	2347.9	2415.9	2381.7	2623.3	3168.7	3134.8	2510.0
60°	1687.3	1622.4	1732.0	1855.5	2233.1	2503.7	2744.1	2891.5	3394.2	3448.5	2848.2
62.5°	1096.0	1009.4	1182.7	1392.4	1890.5	2445.7	3113.2	3400.0	3763.5	3886.8	3362.1
65°	567.8	553.9	675.2	867.9	1316.1	2085.3	3243.3	3933.4	4212.3	4356.0	3853.0
67.5°	412.8	387.1	443.3	556.6	803.4	1422.0	2996.7	4341.4	4572.7	4704.3	4138.4
70°	314.4	295.3	338.2	408.4	524.7	803.2	2212.2	4230.2	4711.8	4775.6	4100.4
72.5°	235.4	219.0	256.5	322.0	404.3	452.2	1307.6	3478.1	4474.5	4496.2	3680.2
75°	188.0	175.3	191.5	254.3	329.5	307.7	694.6	2519.9	3635.4	3654.1	2811.1
77.5°	154.2	143.4	150.0	190.7	256.3	231.5	344.6	1602.9	2308.1	2279.5	1581.6
80°	125.8	116.5	119.6	137.8	195.2	172.8	193.6	836.2	1101.0	1056.7	657.7
82.5°	96.8	88.9	95.1	101.3	141.3	124.1	112.9	380.5	450.9	420.1	241.2
85°	64.9	57.6	82.7	76.1	92.4	76.3	61.8	151.5	168.1	156.7	84.8
87.5°	17.8	16.8	27.8	37.9	37.9	28.8	22.6	36.7	46.8	41.0	19.9
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°	202.7	202.7	202.7	202.7	202.7	202.7	202.7	202.7	202.7	202.7	202.7
2.5°	245.6	241.0	229.0	228.0	230.9	231.3	229.4	225.1	222.8	235.2	233.3
5°	316.2	300.1	290.3	281.4	269.0	260.1	262.4	268.6	270.6	280.0	281.0
7.5°	371.1	349.8	328.5	299.9	281.0	269.0	278.1	284.7	289.9	303.2	308.6
10°	395.0	371.8	341.5	311.5	306.3	308.4	303.2	304.8	312.9	313.5	316.2
12.5°	439.3	413.0	358.5	331.4	329.9	334.3	332.4	340.1	345.7	360.8	354.4
15°	481.8	448.2	371.4	343.6	337.6	346.3	356.4	369.3	381.3	395.6	388.3
17.5°	533.4	482.8	372.0	338.0	339.0	357.7	368.2	375.3	411.1	430.8	420.9
20°	565.9	486.4	358.1	324.1	339.0	355.8	370.5	378.2	418.4	448.0	454.9
22.5°	595.4	487.6	347.3	316.6	326.2	348.4	370.5	387.5	413.2	441.6	442.6
25°	611.5	486.6	333.4	317.3	326.0	337.0	356.6	372.2	391.2	430.8	431.9
27.5°	653.0	473.1	319.8	319.8	324.3	324.7	349.8	358.9	361.6	397.7	404.1
30°	665.0	476.0	318.1	319.3	321.6	317.5	328.5	334.5	338.4	369.5	370.5
32.5°	684.3	452.8	323.1	315.6	312.7	312.1	314.8	320.2	321.8	340.9	344.4
35°	707.7	443.5	324.7	314.6	308.8	305.7	313.7	307.1	312.3	334.7	337.2
37.5°	783.9	430.6	333.2	314.6	307.1	303.6	299.7	302.8	321.2	342.8	356.0
40°	832.6	434.6	331.2	317.7	301.5	298.2	291.6	303.0	331.6	369.7	379.6
42.5°	918.0	436.8	333.6	316.2	303.4	290.5	294.9	307.3	337.4	359.1	374.5
45°	1006.3	443.9	332.0	311.9	299.2	305.2	299.2	310.4	324.7	325.3	337.0
47.5°	1092.9	472.3	328.5	303.0	298.2	314.0	298.6	300.5	301.5	305.2	318.9
50°	1194.7	502.5	323.5	290.5	299.7	314.4	300.9	291.8	290.7	303.0	318.3
52.5°	1310.3	536.7	317.1	278.5	291.2	310.4	308.8	292.4	283.5	295.3	310.6
55°	1446.5	575.7	309.6	266.5	281.8	310.8	313.1	288.0	283.7	296.5	312.9
57.5°	1627.4	632.0	295.1	249.1	270.4	304.4	301.9	283.1	278.9	292.6	309.6
60°	1936.1	740.4	274.4	231.9	258.2	288.7	292.8	274.2	270.0	285.1	303.0
62.5°	2349.6	870.8	249.3	215.1	243.3	271.7	281.4	261.3	260.9	280.2	298.8
65°	2734.4	944.8	223.4	199.8	228.0	255.9	268.6	249.3	250.1	274.4	293.0
67.5°	2894.4	857.7	200.2	186.1	210.3	237.9	258.0	240.0	237.3	266.5	283.7
70°	2744.1	681.4	180.1	171.6	190.4	218.4	243.3	227.5	221.3	247.8	261.3
72.5°	2428.1	568.0	161.2	154.6	173.0	197.9	223.4	210.8	202.7	223.0	235.0
75°	1898.0	466.1	139.7	137.8	153.1	179.3	202.7	194.0	183.6	196.5	208.5
77.5°	1080.7	294.9	117.3	118.5	129.5	157.1	177.8	171.0	160.4	165.8	179.7
80°	432.5	148.8	94.3	95.1	104.4	129.1	147.3	144.9	133.9	138.2	147.8
82.5°	161.6	81.6	69.6	70.0	79.4	102.2	125.8	124.5	114.2	111.1	116.5
85°	64.2	40.4	42.7	44.6	53.5	73.6	100.9	89.5	77.3	67.8	71.1
87.5°	15.3	12.8	14.9	15.7	17.4	23.0	36.9	29.6	30.5	24.5	18.2
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)