

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: P367120

Luminaire Tested: **MSA-SA1D-830-U-T2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367120
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-SA1D-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: 5435 lumens
Efficiency: N/A
Efficacy: 81.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G2

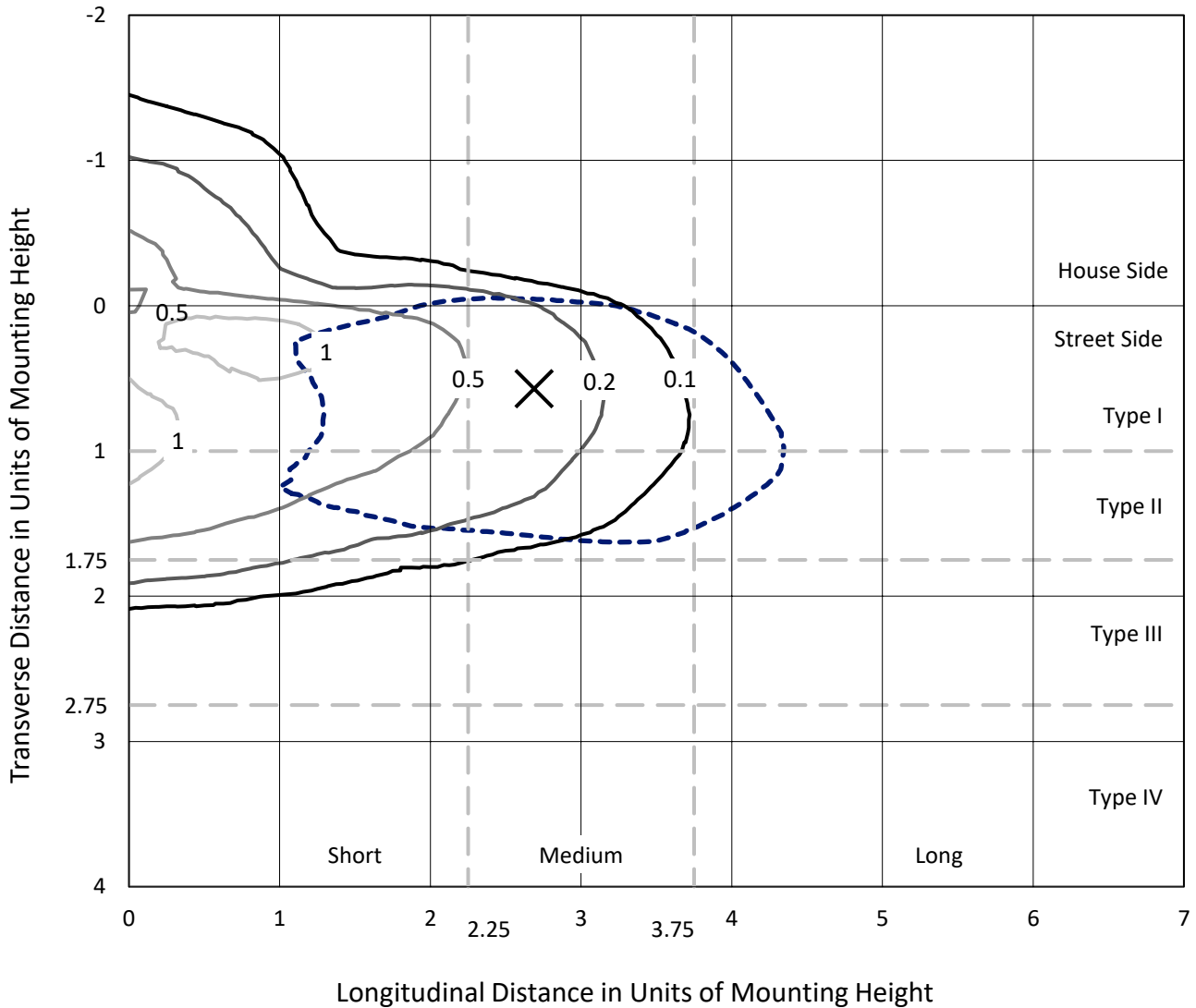
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

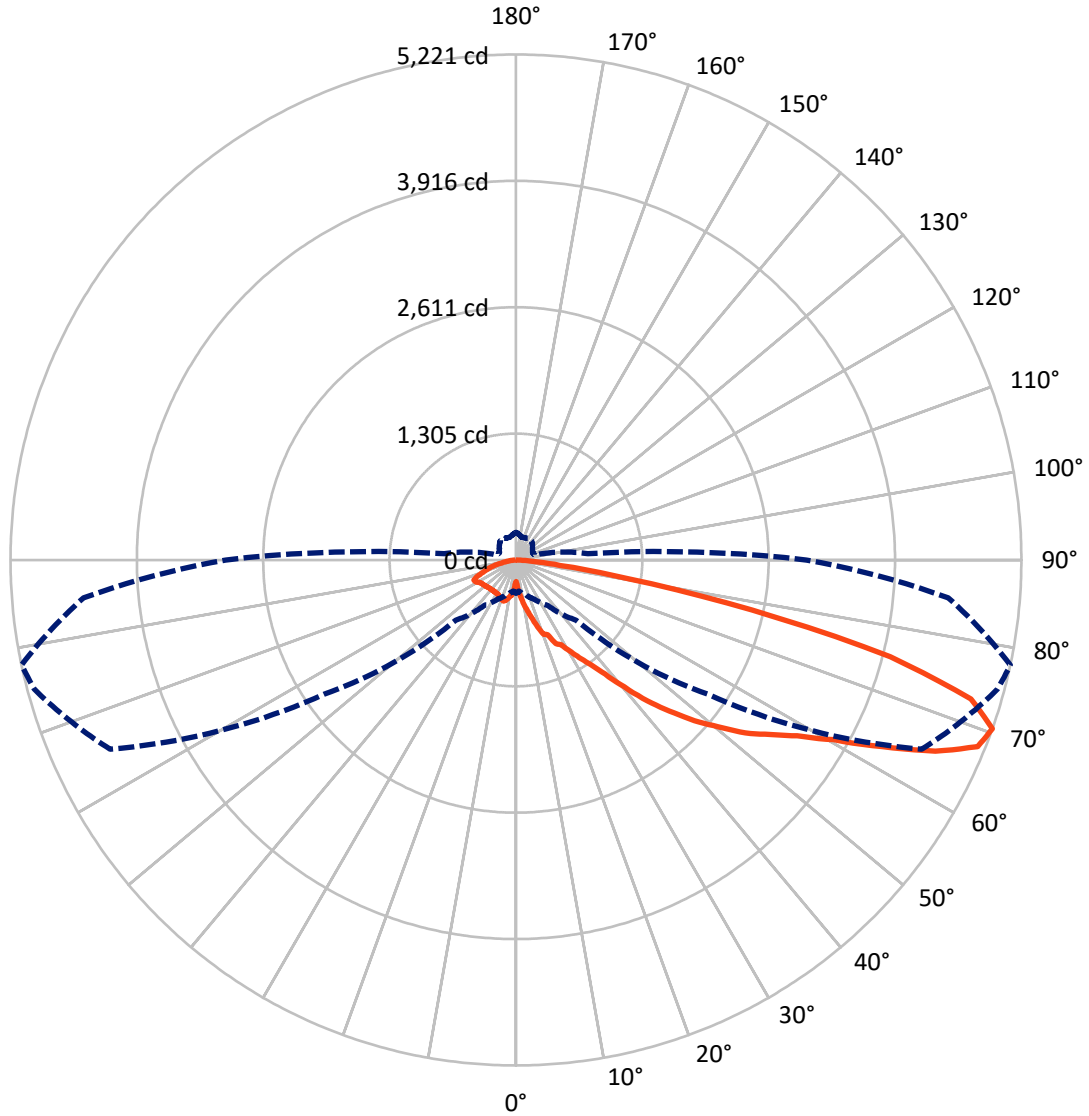
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.3 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
House Side	Lumens	970.1	0.0	970.1
	% Fixture	17.8	0.0	17.8
Street Side	Lumens	4464.9	0.0	4464.9
	% Fixture	82.2	0.0	82.2
Total	Lumens	5435.0	0.0	5435.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.2	0.6
10°-20°	150.9	2.8
20°-30°	290.4	5.3
30°-40°	489.2	9.0
40°-50°	846.4	15.6
50°-60°	1277.9	23.5
60°-70°	1415.5	26.0
70°-80°	816.1	15.0
80°-90°	114.5	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°	5435.0	100.0
0°-180°	5435.0	100.0

Coefficient of Utilization



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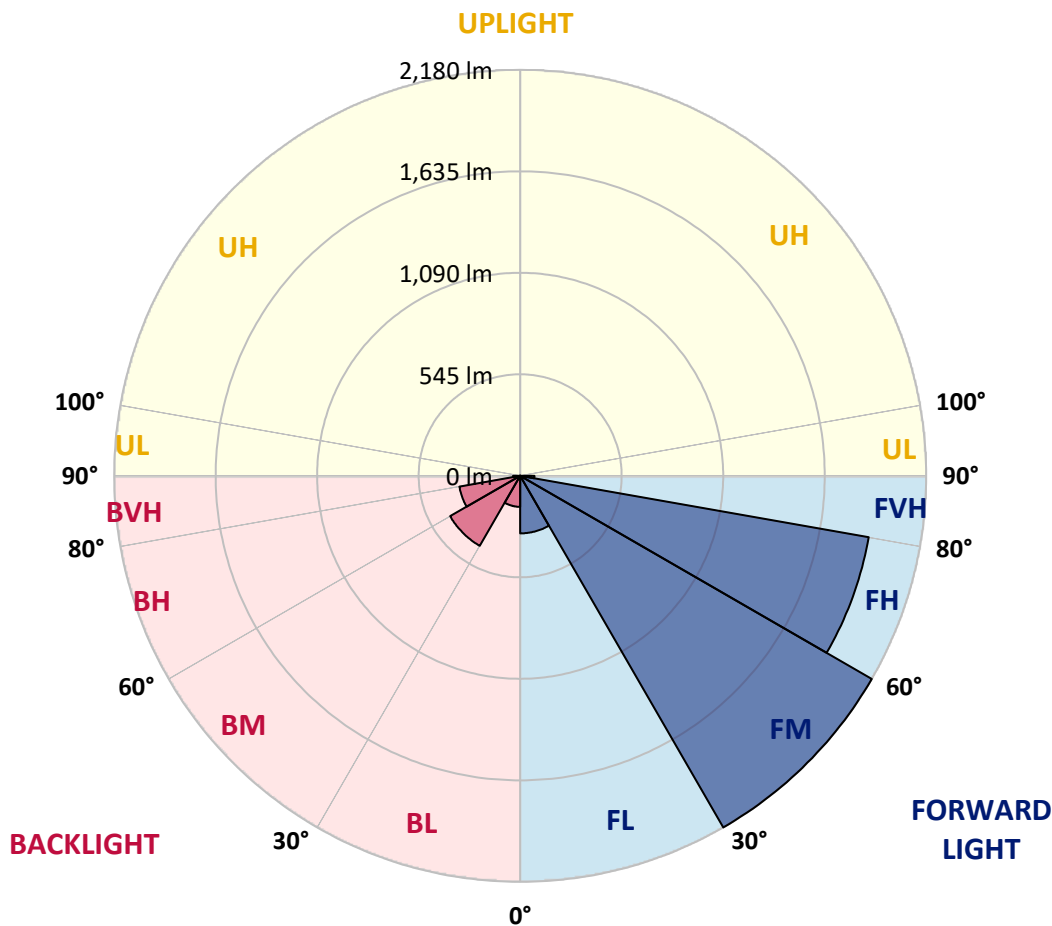
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	309.0	5.7			
FM (30°-60°)	2179.6	40.1			
FH (60°-80°)	1900.0	35.0			G2/5000
FVH (80°-90°)	76.4	1.4			G1/100
BL (0°-30°)	166.6	3.1	B1/500		
BM (30°-60°)	433.9	8.0	B1/1000		
BH (60°-80°)	331.5	6.1	B1/500		G1/500
BVH (80°-90°)	38.1	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-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6
2.5°	285.3	275.1	259.7	266.0	273.7	274.6	272.1	258.1	253.3	264.0	267.1
5°	399.7	382.5	372.0	368.6	357.1	333.1	350.3	341.4	343.3	338.0	348.2
7.5°	496.0	484.4	469.0	464.7	438.2	419.4	431.2	427.3	408.7	401.5	413.0
10°	544.9	532.2	532.9	523.6	516.6	518.4	512.5	495.5	481.7	471.9	444.1
12.5°	574.4	577.5	594.5	589.8	616.3	638.0	621.5	596.3	552.6	543.8	516.1
15°	644.4	656.2	640.3	647.5	658.9	700.6	693.8	688.3	642.1	624.9	573.9
17.5°	716.4	718.7	694.7	690.8	718.0	739.1	765.6	735.0	740.7	728.7	646.2
20°	731.8	747.5	713.0	689.2	745.2	786.9	819.7	787.3	817.2	820.4	705.8
22.5°	788.2	769.4	724.1	700.8	749.7	800.9	854.4	872.5	863.0	836.3	763.3
25°	827.4	817.5	771.3	745.4	764.0	811.1	904.9	952.3	960.7	957.0	818.2
27.5°	900.2	905.2	810.0	817.2	791.4	795.7	935.3	1058.1	1005.8	991.3	886.1
30°	1015.0	992.8	886.1	892.0	849.2	841.9	999.4	1149.4	1102.5	1085.1	942.1
32.5°	1134.9	1136.9	1007.3	957.0	934.2	926.9	986.7	1197.2	1224.8	1202.2	1026.6
35°	1303.9	1292.1	1138.8	1072.6	989.9	977.2	1077.1	1335.9	1386.6	1323.2	1127.0
37.5°	1561.3	1525.7	1347.2	1194.3	1133.1	1118.6	1206.3	1460.3	1574.4	1495.6	1291.0
40°	1767.9	1695.7	1533.4	1347.2	1243.7	1261.6	1298.0	1611.2	1769.3	1724.9	1442.8
42.5°	1932.7	1868.5	1665.3	1534.3	1393.6	1371.4	1411.3	1798.1	2034.4	1990.9	1632.2
45°	2090.6	1960.1	1813.5	1695.7	1560.4	1587.4	1581.5	1988.8	2359.5	2225.6	1799.7
47.5°	2246.5	2123.9	1970.5	1812.1	1676.0	1843.8	1781.1	2130.7	2578.8	2479.6	1975.9
50°	2446.8	2311.9	2137.3	1978.0	1896.4	2019.2	1913.9	2250.8	2824.4	2708.0	2142.2
52.5°	2579.7	2448.6	2295.4	2181.7	2174.2	2126.8	2099.9	2402.8	3039.7	2969.0	2318.5
55°	2564.1	2437.7	2368.4	2380.8	2473.3	2313.5	2291.5	2627.8	3264.2	3182.4	2508.8
57.5°	2368.1	2230.1	2244.9	2318.7	2567.1	2641.4	2604.0	2868.2	3464.5	3427.4	2744.2
60°	1844.7	1773.8	1893.7	2028.7	2441.5	2737.4	3000.3	3161.4	3711.0	3770.4	3114.0
62.5°	1198.3	1103.6	1293.0	1522.3	2067.0	2674.0	3403.8	3717.4	4114.8	4249.6	3675.9
65°	620.8	605.6	738.2	948.9	1439.0	2280.0	3546.1	4300.6	4605.5	4762.5	4212.7
67.5°	451.3	423.2	484.6	608.6	878.4	1554.7	3276.5	4746.7	4999.5	5143.4	4524.6
70°	343.7	322.9	369.8	446.6	573.7	878.2	2418.7	4625.0	5151.6	5221.4	4483.2
72.5°	257.4	239.5	280.5	352.1	442.0	494.4	1429.7	3802.8	4892.1	4915.9	4023.7
75°	205.5	191.7	209.4	278.0	360.2	336.5	759.5	2755.1	3974.8	3995.1	3073.4
77.5°	168.6	156.8	164.0	208.4	280.3	253.1	376.8	1752.5	2523.6	2492.3	1729.2
80°	137.5	127.3	130.7	150.7	213.4	189.0	211.6	914.2	1203.8	1155.3	719.1
82.5°	105.8	97.2	104.0	110.8	154.5	135.7	123.5	416.0	493.0	459.3	263.7
85°	70.9	63.0	90.4	83.2	101.1	83.4	67.5	165.6	183.7	171.3	92.7
87.5°	19.5	18.4	30.4	41.5	41.5	31.5	24.7	40.1	51.2	44.9	21.8
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6	221.6
2.5°	268.5	263.5	250.4	249.2	252.4	252.9	250.8	246.1	243.6	257.2	255.1
5°	345.7	328.1	317.4	307.7	294.1	284.3	286.8	293.6	295.9	306.1	307.2
7.5°	405.8	382.5	359.1	327.8	307.2	294.1	304.1	311.3	317.0	331.5	337.4
10°	431.8	406.5	373.4	340.5	334.9	337.1	331.5	333.3	342.1	342.8	345.7
12.5°	480.3	451.6	392.0	362.3	360.7	365.5	363.4	371.8	377.9	394.5	387.4
15°	526.8	490.1	406.0	375.7	369.1	378.6	389.7	403.8	416.9	432.5	424.6
17.5°	583.2	527.9	406.7	369.5	370.7	391.1	402.6	410.3	449.5	471.0	460.2
20°	618.8	531.8	391.5	354.4	370.7	389.0	405.1	413.5	457.4	489.8	497.3
22.5°	650.9	533.1	379.7	346.2	356.6	380.9	405.1	423.7	451.8	482.8	484.0
25°	668.6	532.0	364.6	346.9	356.4	368.4	389.9	406.9	427.8	471.0	472.2
27.5°	713.9	517.3	349.6	349.6	354.6	355.0	382.5	392.4	395.4	434.8	441.8
30°	727.1	520.4	347.8	349.1	351.6	347.1	359.1	365.7	370.0	404.0	405.1
32.5°	748.1	495.1	353.2	345.1	341.9	341.2	344.2	350.1	351.9	372.7	376.6
35°	773.7	484.9	355.0	343.9	337.6	334.2	343.0	335.8	341.4	365.9	368.6
37.5°	857.1	470.8	364.3	343.9	335.8	331.9	327.6	331.0	351.2	374.8	389.3
40°	910.4	475.1	362.1	347.3	329.7	326.0	318.8	331.2	362.5	404.2	415.1
42.5°	1003.7	477.6	364.8	345.7	331.7	317.7	322.4	336.0	368.9	392.6	409.4
45°	1100.2	485.3	363.0	341.0	327.2	333.7	327.2	339.4	355.0	355.7	368.4
47.5°	1194.9	516.4	359.1	331.2	326.0	343.3	326.5	328.5	329.7	333.7	348.7
50°	1306.2	549.4	353.7	317.7	327.6	343.7	329.0	319.0	317.9	331.2	348.0
52.5°	1432.6	586.8	346.7	304.5	318.3	339.4	337.6	319.7	310.0	322.9	339.6
55°	1581.5	629.4	338.5	291.4	308.1	339.9	342.4	314.9	310.2	324.2	342.1
57.5°	1779.3	691.0	322.6	272.3	295.7	332.8	330.1	309.5	305.0	319.9	338.5
60°	2116.9	809.5	300.0	253.5	282.3	315.6	320.1	299.8	295.2	311.8	331.2
62.5°	2568.9	952.1	272.6	235.2	266.0	297.0	307.7	285.7	285.3	306.3	326.7
65°	2989.6	1032.9	244.2	218.4	249.2	279.8	293.6	272.6	273.5	300.0	320.4
67.5°	3164.5	937.8	218.9	203.5	230.0	260.1	282.1	262.4	259.4	291.4	310.2
70°	3000.3	745.0	196.9	187.6	208.2	238.8	266.0	248.8	242.0	271.0	285.7
72.5°	2654.7	621.0	176.3	169.0	189.2	216.4	244.2	230.4	221.6	243.8	256.9
75°	2075.2	509.6	152.7	150.7	167.4	196.0	221.6	212.1	200.7	214.8	227.9
77.5°	1181.6	322.4	128.2	129.6	141.6	171.7	194.4	186.9	175.4	181.3	196.4
80°	472.9	162.7	103.1	104.0	114.2	141.2	161.1	158.4	146.4	151.1	161.5
82.5°	176.7	89.3	76.1	76.6	86.8	111.7	137.5	136.2	124.8	121.4	127.3
85°	70.2	44.2	46.7	48.7	58.5	80.4	110.3	97.9	84.5	74.1	77.7
87.5°	16.8	14.0	16.3	17.2	19.0	25.1	40.3	32.4	33.3	26.7	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

(END OF REPORT)