

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: P367092

Luminaire Tested: **MSA-SA1D-760-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367092
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1D-760-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6680 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

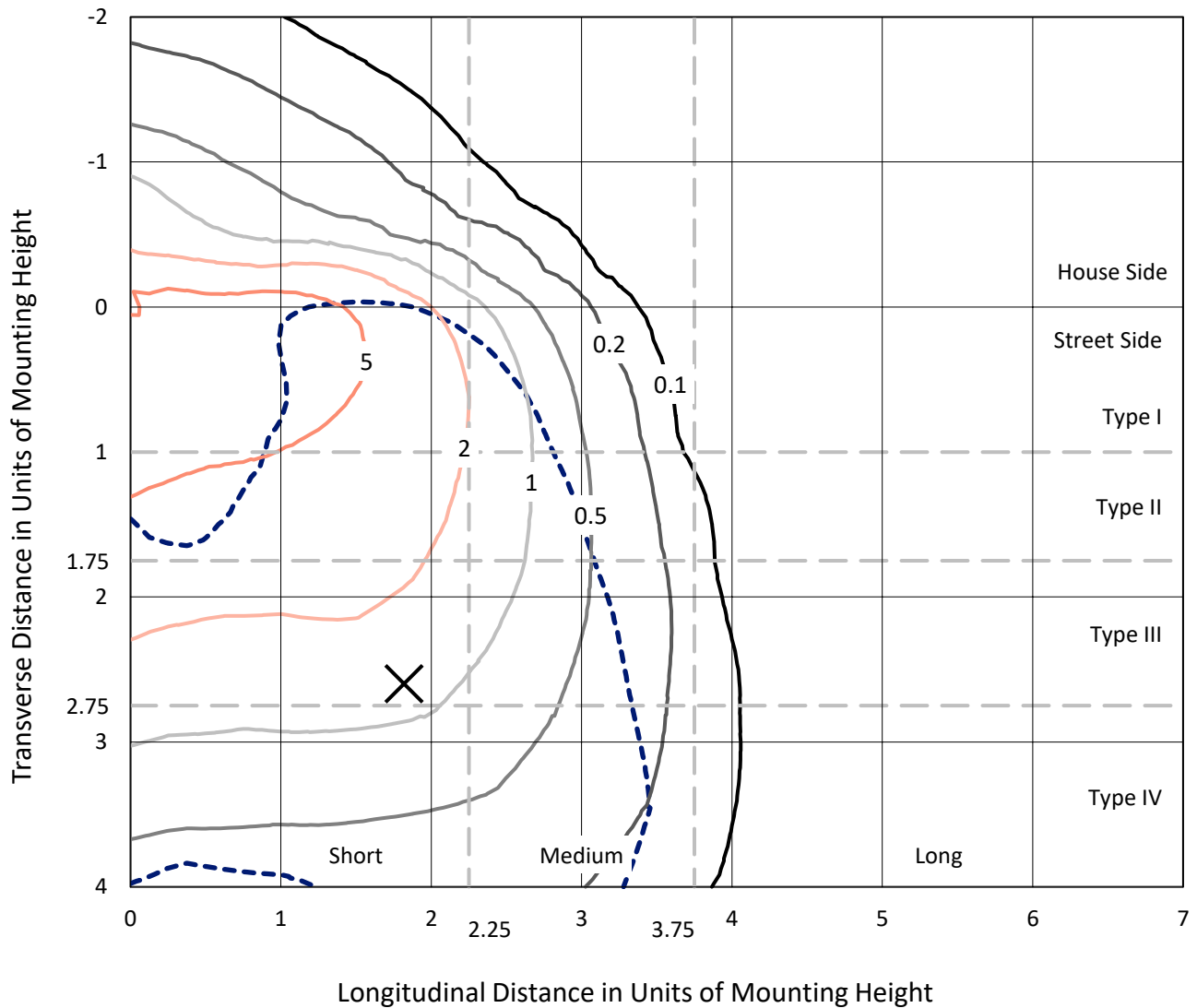
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

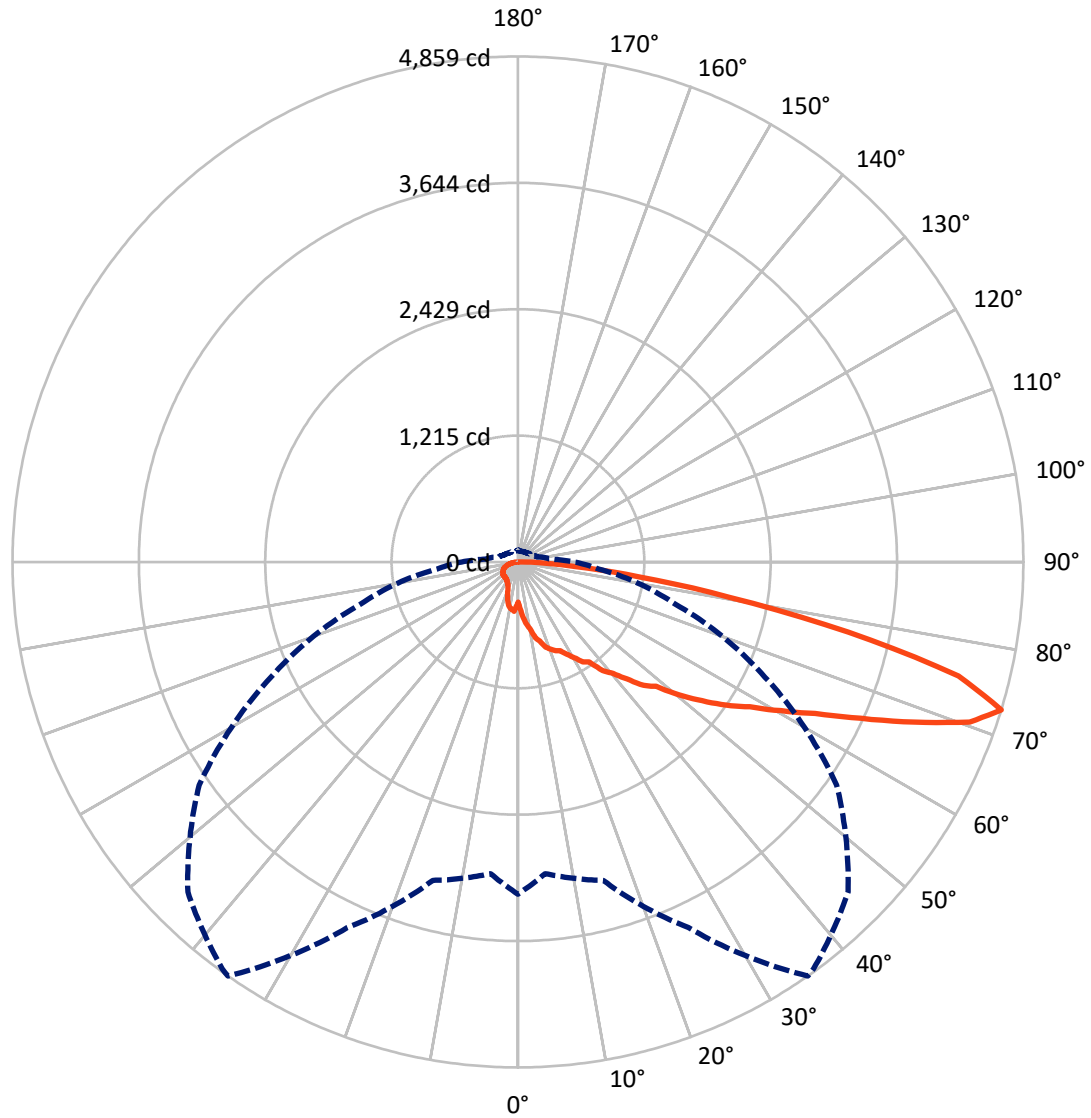
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.4 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	896.4	0.0	896.4
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	5783.6	0.0	5783.6
	% Fixture	86.6	0.0	86.6
Total	Lumens	6680.0	0.0	6680.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.3	0.8
10°-20°	180.7	2.7
20°-30°	314.0	4.7
30°-40°	524.8	7.9
40°-50°	910.9	13.6
50°-60°	1377.1	20.6
60°-70°	1784.0	26.7
70°-80°	1316.4	19.7
80°-90°	220.6	3.3
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°	6680.0	100.0
0°-180°	6680.0	100.0

Coefficient of Utilization



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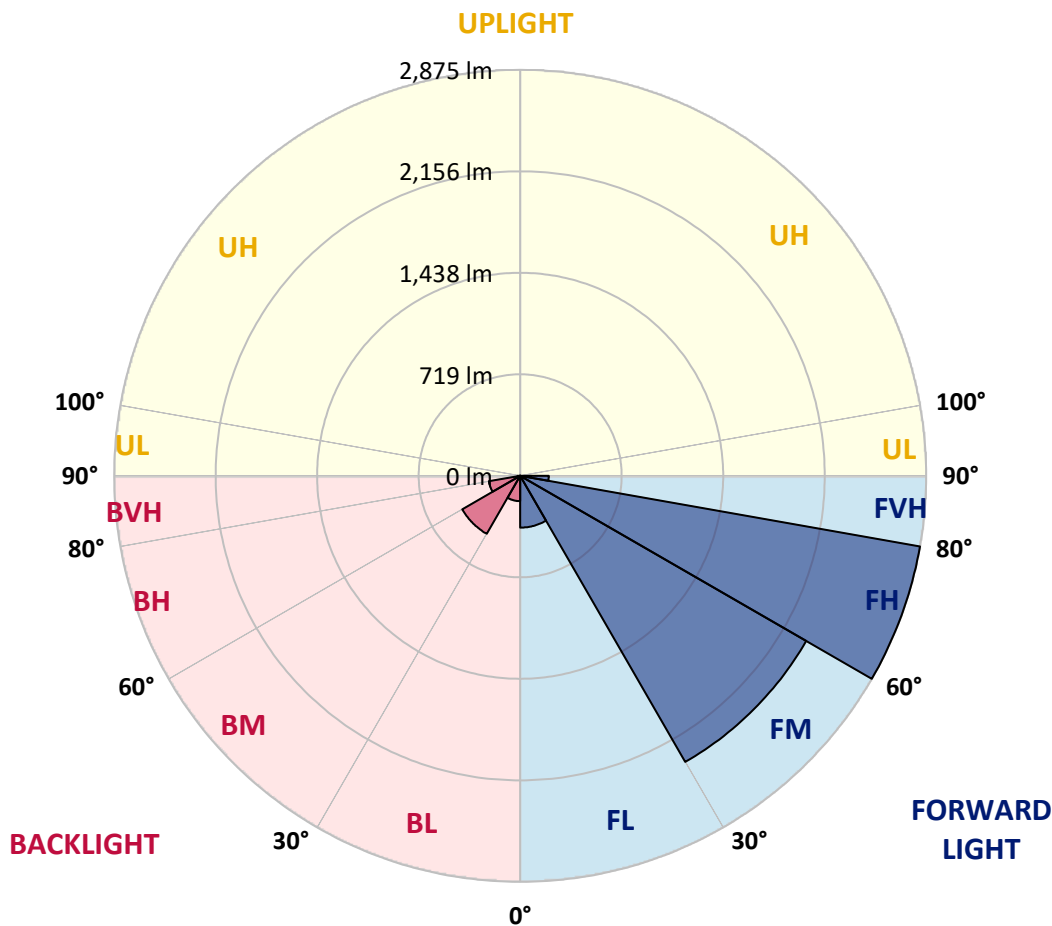
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	366.9	5.5			
FM (30°-60°)	2339.1	35.0			
FH (60°-80°)	2875.0	43.0			G2/5000
FVH (80°-90°)	202.6	3.0			G2/225
BL (0°-30°)	179.2	2.7	B1/500		
BM (30°-60°)	473.8	7.1	B1/1000		
BH (60°-80°)	225.4	3.4	B1/500		G1/500
BVH (80°-90°)	18.1	0.3			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	386.0	386.0	386.0	386.0	386.0	386.0	386.0	386.0	386.0	386.0	386.0
2.5°	481.6	458.5	438.5	437.6	456.2	463.3	460.5	454.2	446.8	431.1	465.3
5°	603.3	570.2	563.9	556.5	539.7	544.3	516.9	537.7	544.3	559.4	582.2
7.5°	675.1	655.8	640.6	634.4	605.3	601.9	581.6	611.3	623.8	621.8	655.8
10°	703.4	685.7	686.8	666.3	656.9	660.9	663.2	663.7	671.4	677.7	660.6
12.5°	717.9	724.8	749.8	735.9	747.8	752.7	776.6	752.1	753.0	720.8	738.4
15°	791.2	808.3	793.7	793.2	789.5	797.5	818.0	801.4	814.3	804.0	781.2
17.5°	879.6	884.7	856.8	845.4	860.2	857.6	852.5	855.0	823.1	882.4	854.5
20°	906.7	926.9	890.1	845.4	894.4	901.0	899.8	888.7	833.9	919.5	892.4
22.5°	985.3	958.0	928.9	900.4	925.5	929.2	922.9	896.4	878.1	910.6	932.0
25°	1021.0	1014.4	977.4	973.9	946.3	933.2	944.0	936.3	918.3	976.2	952.6
27.5°	1102.5	1094.8	1009.6	1044.6	1004.4	1001.0	943.7	969.4	987.3	983.1	1018.4
30°	1194.9	1203.7	1079.1	1114.2	1067.7	1061.5	1003.9	1036.4	1048.6	1052.6	1096.8
32.5°	1297.5	1321.8	1198.0	1169.2	1144.4	1148.7	1100.0	1040.7	1088.3	1181.5	1200.6
35°	1408.7	1418.7	1289.0	1245.6	1180.9	1176.4	1177.2	1184.6	1232.8	1339.2	1354.0
37.5°	1614.3	1568.1	1454.4	1344.6	1322.9	1280.4	1309.2	1332.0	1380.2	1543.3	1605.5
40°	1740.9	1706.7	1533.3	1469.7	1409.9	1413.9	1467.8	1467.5	1581.2	1749.4	1844.4
42.5°	1858.1	1820.7	1657.3	1593.5	1536.7	1550.7	1566.1	1593.2	1811.3	2082.4	2125.8
45°	1952.4	1870.6	1753.1	1738.9	1692.1	1673.6	1738.9	1782.2	2086.4	2351.9	2377.0
47.5°	2016.6	1949.3	1834.4	1821.9	1787.4	1832.7	2010.9	2038.8	2299.7	2622.4	2620.5
50°	2114.1	2022.0	1918.2	1911.7	2008.9	2033.1	2250.4	2247.5	2507.3	2847.1	2800.1
52.5°	2226.4	2110.4	1997.8	2068.2	2216.5	2228.4	2416.9	2493.6	2733.9	3063.8	2940.9
55°	2355.6	2225.9	2116.9	2211.0	2431.7	2396.4	2587.1	2774.4	3017.6	3292.2	3042.7
57.5°	2515.5	2358.2	2270.1	2413.2	2628.2	2659.5	2830.9	3066.7	3246.0	3434.2	3116.8
60°	2684.3	2499.6	2418.9	2555.2	2903.3	2939.2	3106.9	3309.6	3502.0	3567.9	3102.9
62.5°	2845.4	2645.5	2572.6	2740.8	3208.4	3297.3	3421.0	3550.2	3715.0	3600.4	2933.8
65°	3024.7	2824.6	2778.7	3031.0	3622.0	3710.4	3872.1	3833.3	3788.0	3485.2	2654.1
67.5°	3214.6	3011.3	3019.9	3367.7	4109.9	4125.0	4373.3	4115.6	3702.2	3180.1	2184.5
70°	3316.7	3108.6	3196.7	3726.7	4606.3	4584.6	4635.3	4191.4	3352.3	2513.8	1505.7
72.5°	3193.0	3007.3	3168.7	3877.8	4858.9	4835.5	4488.2	3741.2	2621.0	1563.3	780.6
75°	2703.4	2524.4	2771.3	3456.7	4374.2	4395.8	3819.6	2782.1	1500.5	628.7	324.2
77.5°	1837.0	1744.6	1956.1	2576.5	3249.1	3324.1	2834.0	1626.8	630.1	260.3	196.2
80°	970.8	926.9	1083.1	1484.3	2057.4	2113.2	1666.5	810.3	322.7	168.5	140.0
82.5°	527.5	508.9	592.7	763.2	1169.0	1217.7	864.2	538.3	217.5	105.5	85.5
85°	354.4	347.3	402.9	410.0	552.8	568.8	452.8	414.6	130.6	51.6	56.5
87.5°	177.3	170.2	212.1	187.3	211.0	211.3	207.6	264.6	33.1	17.1	10.3
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°	386.0	386.0	386.0	386.0	386.0	386.0	386.0	386.0	386.0	386.0	386.0
2.5°	465.9	455.9	421.4	421.1	426.2	422.8	425.4	411.4	405.4	432.8	431.4
5°	579.1	549.1	520.3	510.3	498.7	473.3	474.7	475.0	470.7	487.0	488.1
7.5°	645.5	609.6	583.1	530.0	488.4	455.9	460.2	465.0	460.2	481.8	489.8
10°	655.2	626.7	595.0	536.0	508.4	479.0	449.3	423.1	420.0	410.0	413.1
12.5°	712.8	689.1	623.0	558.2	526.0	481.0	426.8	396.9	371.8	376.1	368.1
15°	760.1	743.3	664.0	579.3	502.4	446.5	388.9	347.8	325.3	322.7	314.8
17.5°	824.3	800.3	667.7	564.8	471.9	404.9	339.9	293.4	283.7	279.7	275.7
20°	855.0	812.0	654.3	519.2	436.2	355.2	291.4	251.5	248.6	255.7	254.3
22.5°	881.8	821.7	642.4	491.5	380.6	305.1	258.3	232.1	228.9	238.1	239.8
25°	897.5	849.3	629.2	463.3	346.1	267.7	233.5	218.7	219.3	231.2	229.8
27.5°	968.2	859.0	596.2	429.9	306.5	240.1	221.5	213.8	210.7	227.2	228.7
30°	1012.7	922.3	588.8	394.6	277.1	219.8	210.7	207.6	207.0	226.9	228.4
32.5°	1095.4	943.4	592.2	356.1	250.6	213.5	202.7	202.4	208.1	227.2	229.5
35°	1210.0	1032.4	575.6	334.1	236.1	203.9	196.4	198.7	208.4	229.2	232.4
37.5°	1433.5	1116.2	580.8	313.6	231.2	200.7	194.7	196.2	211.8	234.4	242.9
40°	1610.6	1268.2	572.8	303.4	224.7	200.1	191.0	196.7	211.6	237.2	244.9
42.5°	1867.2	1389.3	573.6	293.1	224.4	197.9	190.5	197.3	211.0	234.6	245.2
45°	2087.3	1498.0	585.9	287.1	221.5	201.6	189.6	198.2	207.3	225.5	237.2
47.5°	2267.8	1619.1	598.4	281.4	220.4	205.0	188.7	192.2	201.0	215.3	225.8
50°	2414.9	1704.4	614.4	280.3	220.4	203.3	186.5	186.2	193.6	205.0	215.0
52.5°	2529.5	1764.6	625.2	281.7	220.4	196.7	183.6	181.3	185.9	194.2	204.1
55°	2612.5	1783.1	616.4	285.4	220.1	190.7	178.5	176.5	178.8	184.5	193.9
57.5°	2645.8	1734.3	563.7	278.8	220.1	186.5	172.2	169.9	172.2	176.5	185.9
60°	2562.3	1577.5	487.5	262.0	215.8	180.8	165.1	163.7	167.1	170.8	179.9
62.5°	2352.7	1369.1	406.3	242.1	207.0	175.9	158.2	158.5	163.9	169.1	178.2
65°	2027.1	1117.1	338.7	221.8	195.9	168.2	151.1	153.1	160.8	167.6	176.8
67.5°	1595.2	827.7	285.1	202.1	180.2	155.7	143.1	143.7	149.1	155.7	164.5
70°	1066.3	526.6	234.4	179.0	159.7	139.4	130.9	128.9	127.4	133.1	140.8
72.5°	540.9	311.1	192.4	153.1	137.4	121.7	115.2	110.1	106.1	109.5	115.5
75°	283.4	217.5	155.4	127.2	113.5	103.5	98.6	91.8	89.0	91.0	95.2
77.5°	200.4	170.2	125.7	100.6	92.4	82.1	83.0	75.8	73.6	74.7	79.3
80°	154.0	134.9	96.7	76.1	71.3	61.3	64.1	59.9	57.0	56.5	59.9
82.5°	104.9	101.5	68.7	53.3	49.9	42.8	46.8	45.0	41.3	39.1	40.8
85°	70.7	67.3	41.9	30.8	29.4	22.2	28.5	27.4	24.2	20.8	21.1
87.5°	12.3	22.5	12.0	7.7	7.1	2.6	6.6	6.3	5.7	2.9	2.3
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)