

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: P367676

Luminaire Tested: **MSA-SA3A-727-U-T4W**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367676
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3A-727-U-T4W
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9947 lumens
Efficiency: N/A
Efficacy: 103.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G2

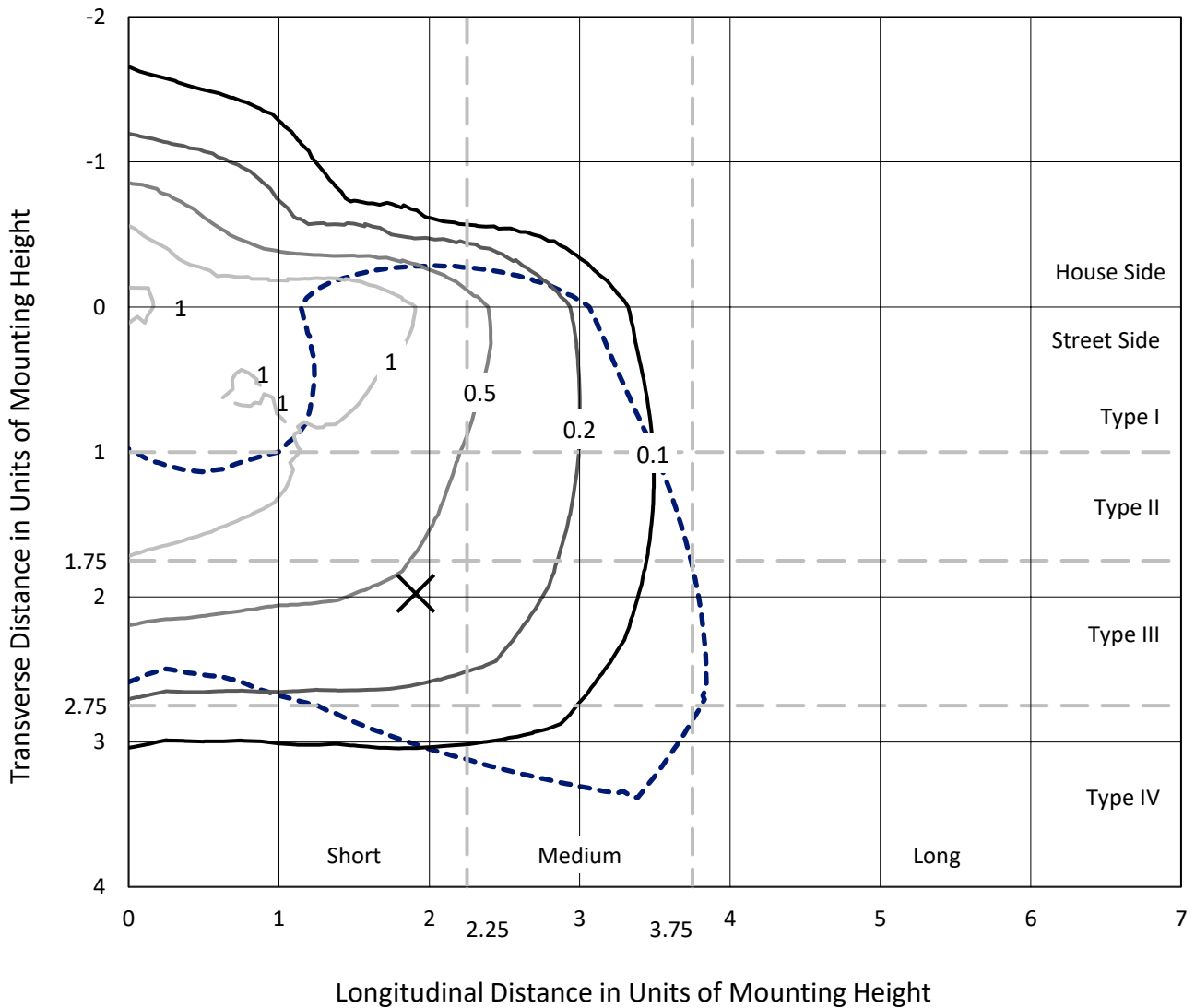
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

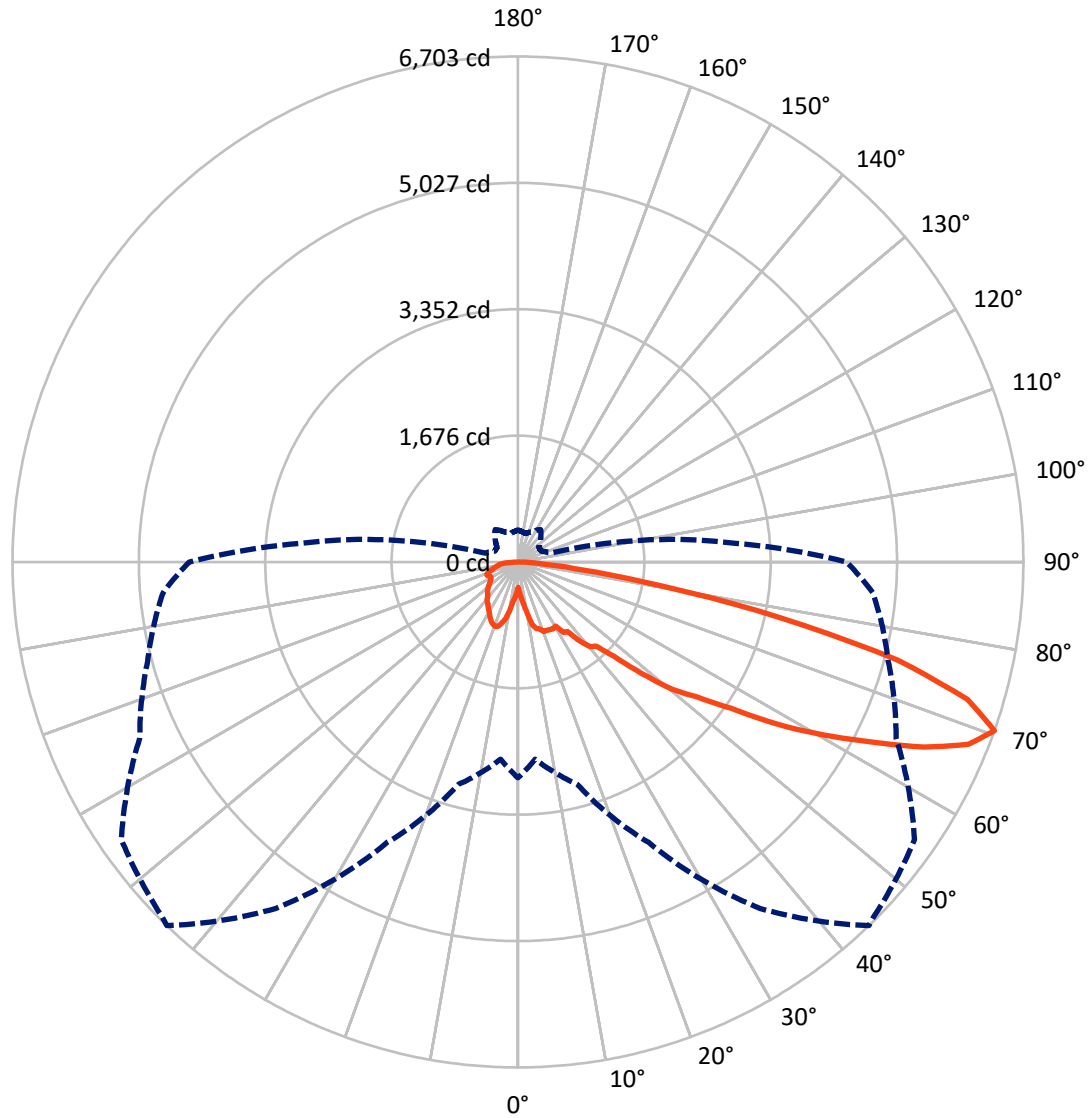
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.9 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2194.7	0.0	2194.7
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	7752.3	0.0	7752.3
	% Fixture	77.9	0.0	77.9
Total	Lumens	9947.0	0.0	9947.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.0	0.5
10°-20°	244.1	2.5
20°-30°	456.2	4.6
30°-40°	732.3	7.4
40°-50°	1236.0	12.4
50°-60°	2202.5	22.1
60°-70°	3012.7	30.3
70°-80°	1771.7	17.8
80°-90°	238.5	2.4
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°	9947.0	100.0
0°-180°	9947.0	100.0

Coefficient of Utilization



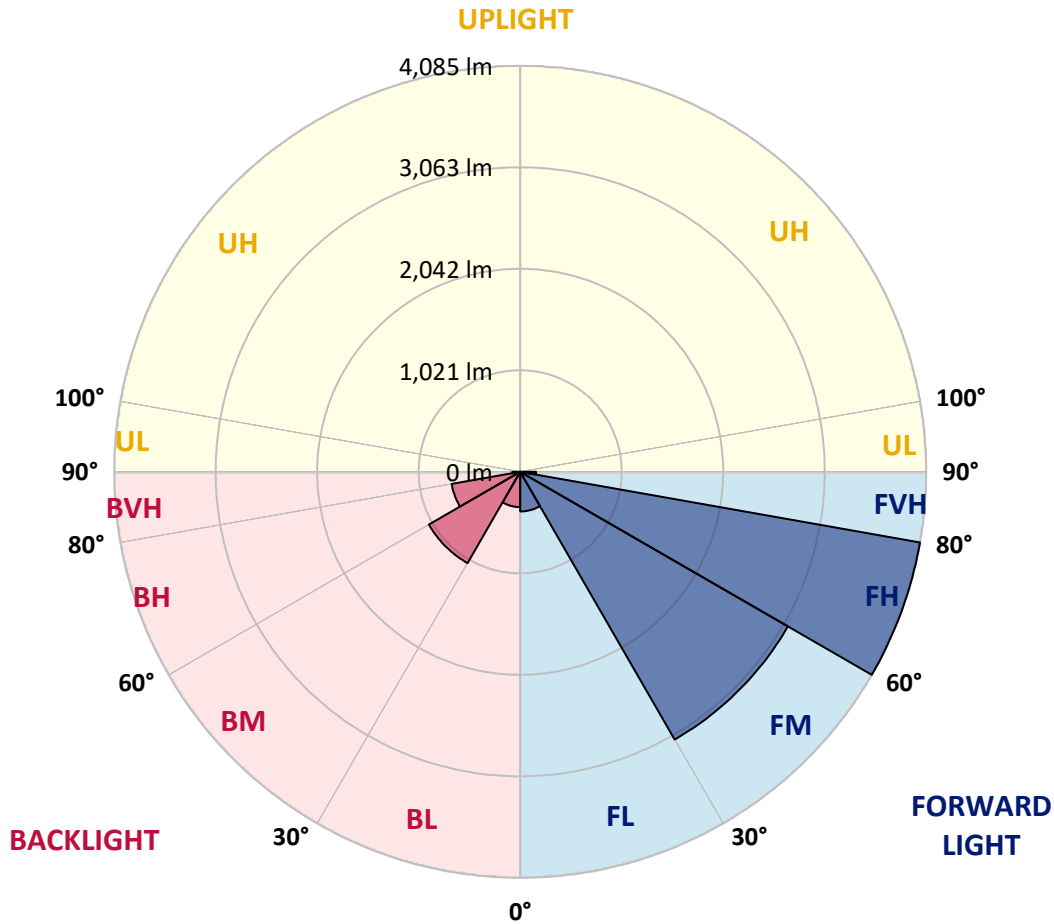
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	398.6	4.0			
FM (30°-60°)	3110.2	31.3			
FH (60°-80°)	4084.5	41.1			G2/5000
FVH (80°-90°)	159.0	1.6			G2/225
BL (0°-30°)	354.7	3.6	B1/500		
BM (30°-60°)	1060.6	10.7	B2/2500		
BH (60°-80°)	699.8	7.0	B2/1000		G2/1000
BVH (80°-90°)	79.6	0.8			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	338.1	338.1	338.1	338.1	338.1	338.1	338.1	338.1	338.1	338.1	338.1
2.5°	410.3	402.1	382.6	389.1	397.3	400.5	399.7	398.9	386.2	381.8	404.2
5°	557.5	539.6	525.3	519.6	500.8	486.2	477.2	500.8	497.2	503.3	518.8
7.5°	696.2	684.8	652.6	641.1	602.8	577.5	574.7	593.4	598.3	588.5	615.0
10°	785.5	766.0	759.4	732.1	705.6	701.5	699.1	690.5	678.7	677.9	654.2
12.5°	854.9	865.1	870.4	839.0	839.8	854.5	846.7	812.0	792.1	757.0	759.8
15°	979.3	993.9	951.9	931.9	893.6	915.6	912.8	883.8	881.0	858.1	831.6
17.5°	1087.7	1094.3	1024.1	978.4	965.4	933.6	942.1	943.0	905.4	946.2	922.6
20°	1096.7	1120.0	1039.2	948.3	987.4	983.3	984.6	976.4	927.1	994.4	985.4
22.5°	1140.8	1105.3	1032.7	966.2	976.4	982.5	988.2	978.4	975.6	1013.1	1040.4
25°	1132.6	1121.2	1047.8	991.5	992.7	993.9	996.8	1026.2	1022.9	1073.9	1088.2
27.5°	1208.9	1191.3	1052.3	1038.4	1006.6	999.7	980.1	1041.3	1089.0	1087.7	1166.5
30°	1354.1	1336.1	1156.7	1116.3	1058.8	987.8	1025.3	1106.9	1144.4	1157.1	1257.0
32.5°	1580.8	1610.2	1362.2	1199.5	1128.1	1112.6	1108.5	1100.4	1193.4	1255.8	1346.7
35°	1906.3	1883.1	1604.5	1377.7	1201.1	1134.7	1143.6	1193.4	1303.9	1344.3	1428.3
37.5°	2279.1	2231.0	1914.9	1579.6	1411.6	1328.4	1298.6	1346.7	1371.2	1403.0	1574.7
40°	2658.0	2540.5	2219.5	1845.1	1538.0	1475.2	1449.1	1390.0	1447.5	1511.9	1730.1
42.5°	3023.8	2932.9	2551.1	2162.0	1750.9	1527.0	1512.7	1454.8	1633.1	1701.2	1954.4
45°	3407.2	3196.4	2890.9	2519.7	2062.1	1781.1	1759.9	1655.9	1884.3	2026.2	2270.9
47.5°	3665.0	3469.6	3202.1	2810.1	2322.7	2206.1	2165.7	1987.9	2195.1	2379.4	2760.0
50°	3908.9	3707.8	3426.8	3127.8	2794.6	2660.4	2574.4	2278.3	2582.1	2882.3	3386.8
52.5°	4258.0	4078.1	3687.8	3448.0	3301.6	2971.6	2907.6	2744.9	3034.8	3439.8	4072.0
55°	4631.2	4386.1	4032.5	3899.5	3840.4	3417.8	3365.6	3262.0	3637.7	4010.4	4738.0
57.5°	4796.0	4540.2	4345.3	4265.8	4260.9	4066.3	4006.4	3934.2	4253.9	4499.9	5364.9
60°	4926.9	4652.4	4574.5	4619.0	4780.5	4652.4	4574.5	4510.9	4755.6	4983.6	5876.4
62.5°	4902.8	4627.5	4667.5	4802.9	5215.2	5252.8	5192.8	5038.6	5252.8	5380.0	6169.6
65°	4514.5	4260.0	4492.9	4814.3	5619.4	5919.2	5915.9	5512.6	5586.8	5586.8	6138.6
67.5°	3834.2	3570.8	3952.1	4713.6	5898.8	6447.4	6448.2	6015.0	5617.4	5566.0	5659.0
70°	2863.1	2624.5	3053.2	4105.1	5610.5	6703.1	6666.0	6420.5	5533.4	5084.3	4727.0
72.5°	1710.1	1556.0	1950.4	2988.4	4785.8	6232.8	6331.5	5953.5	5065.6	4228.2	3379.1
75°	776.6	709.7	916.4	1716.7	3416.6	5198.9	5306.2	5024.4	4023.5	3041.0	1952.8
77.5°	332.4	314.5	400.1	761.5	1883.9	3555.3	3775.1	3590.8	2726.1	1767.2	863.8
80°	213.7	202.3	245.9	366.3	874.8	1921.0	2110.2	2041.3	1388.7	687.2	304.3
82.5°	127.7	124.0	164.4	230.0	477.2	845.5	952.7	978.0	576.7	308.3	174.2
85°	69.7	70.6	90.1	139.5	286.3	329.1	352.4	383.4	271.6	178.6	84.4
87.5°	23.2	26.9	36.3	56.7	102.0	93.0	93.4	108.5	114.6	74.2	26.9
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°	338.1	338.1	338.1	338.1	338.1	338.1	338.1	338.1	338.1	338.1	338.1
2.5°	407.9	400.5	381.8	383.0	389.9	391.5	393.6	381.8	379.3	401.7	403.8
5°	521.2	497.2	486.2	482.5	471.9	468.2	487.8	496.8	505.7	523.3	531.8
7.5°	612.2	585.3	565.3	546.9	531.4	522.5	555.5	580.8	596.3	632.2	648.5
10°	653.8	630.5	623.2	608.5	620.3	647.3	653.4	654.2	688.5	687.6	694.6
12.5°	736.6	721.5	697.4	702.7	733.7	761.5	753.7	765.5	777.8	807.1	793.7
15°	812.0	808.0	785.5	789.2	795.3	830.0	834.5	846.3	865.1	888.3	872.4
17.5°	905.0	903.4	848.7	843.9	858.1	892.0	881.4	860.6	922.6	947.4	940.9
20°	968.2	956.0	885.9	865.1	901.4	905.8	893.6	860.6	914.4	968.7	983.3
22.5°	1020.9	1006.6	934.4	893.6	886.3	888.3	888.3	882.2	908.7	953.2	952.7
25°	1063.3	1076.7	985.0	945.8	906.7	857.7	851.6	856.9	872.0	957.6	954.8
27.5°	1169.7	1132.6	1002.1	972.7	892.4	815.3	832.0	840.2	845.1	938.9	954.4
30°	1239.1	1250.5	1063.3	988.6	871.6	768.0	773.7	797.4	825.9	936.8	941.3
32.5°	1332.5	1308.0	1158.7	962.1	816.1	739.4	728.8	760.6	803.1	903.8	916.0
35°	1419.3	1448.3	1199.1	957.2	777.4	696.6	708.0	719.0	763.1	867.1	881.4
37.5°	1623.3	1557.2	1312.5	933.6	745.2	675.0	662.8	679.5	717.0	797.4	830.4
40°	1778.2	1782.3	1336.9	903.8	683.6	644.0	617.9	634.6	650.5	714.6	728.8
42.5°	2069.0	1980.1	1396.9	838.5	644.8	597.5	582.8	590.2	592.6	619.5	643.2
45°	2439.0	2230.6	1420.6	750.9	593.8	578.3	548.6	544.9	531.4	535.1	555.9
47.5°	2950.8	2621.3	1403.4	657.5	548.6	553.5	510.6	493.9	475.2	479.6	499.2
50°	3612.8	3120.5	1402.2	578.3	517.6	520.8	485.8	455.6	436.8	446.2	463.3
52.5°	4355.5	3621.3	1407.9	524.1	483.7	482.1	469.4	432.7	417.6	427.4	447.0
55°	5066.0	4052.0	1450.3	489.8	448.6	451.5	456.4	425.4	408.7	417.6	438.0
57.5°	5684.3	4392.2	1434.4	453.5	416.0	429.1	442.1	415.2	402.6	415.6	436.0
60°	6116.6	4550.0	1308.8	418.9	391.9	409.9	435.2	414.0	412.3	440.5	465.0
62.5°	6274.4	4491.7	1064.1	391.5	377.7	407.4	451.1	440.9	442.5	477.2	511.0
65°	6044.0	4185.0	793.7	374.0	366.7	419.3	487.8	456.8	434.4	462.9	493.9
67.5°	5388.6	3639.7	580.0	358.9	354.0	438.0	521.6	455.2	413.6	442.5	467.8
70°	4359.6	2872.9	449.0	339.7	337.3	425.4	524.9	442.9	391.1	409.9	424.2
72.5°	2987.1	1967.1	372.0	321.4	308.3	376.9	498.4	415.6	364.2	375.2	387.1
75°	1669.3	1104.1	312.8	298.5	270.0	335.7	467.4	399.3	344.2	347.5	363.8
77.5°	749.2	477.6	265.5	268.4	235.3	296.9	427.0	373.2	313.6	306.3	322.6
80°	283.5	232.9	215.3	226.8	197.8	257.4	385.0	349.5	281.4	272.0	281.4
82.5°	164.4	141.1	159.9	174.6	157.0	236.6	367.5	327.9	248.0	224.3	232.5
85°	76.3	73.0	95.8	113.4	109.7	184.4	314.5	246.8	176.6	149.3	165.2
87.5°	20.0	22.4	33.9	40.0	40.8	63.2	121.1	91.8	68.9	52.2	50.2
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)