

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: P367046

Luminaire Tested: **MSA-SA1D-740-U-SL3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367046  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-740-U-SL3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6729 lumens  
Efficiency: N/A  
Efficacy: 100.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

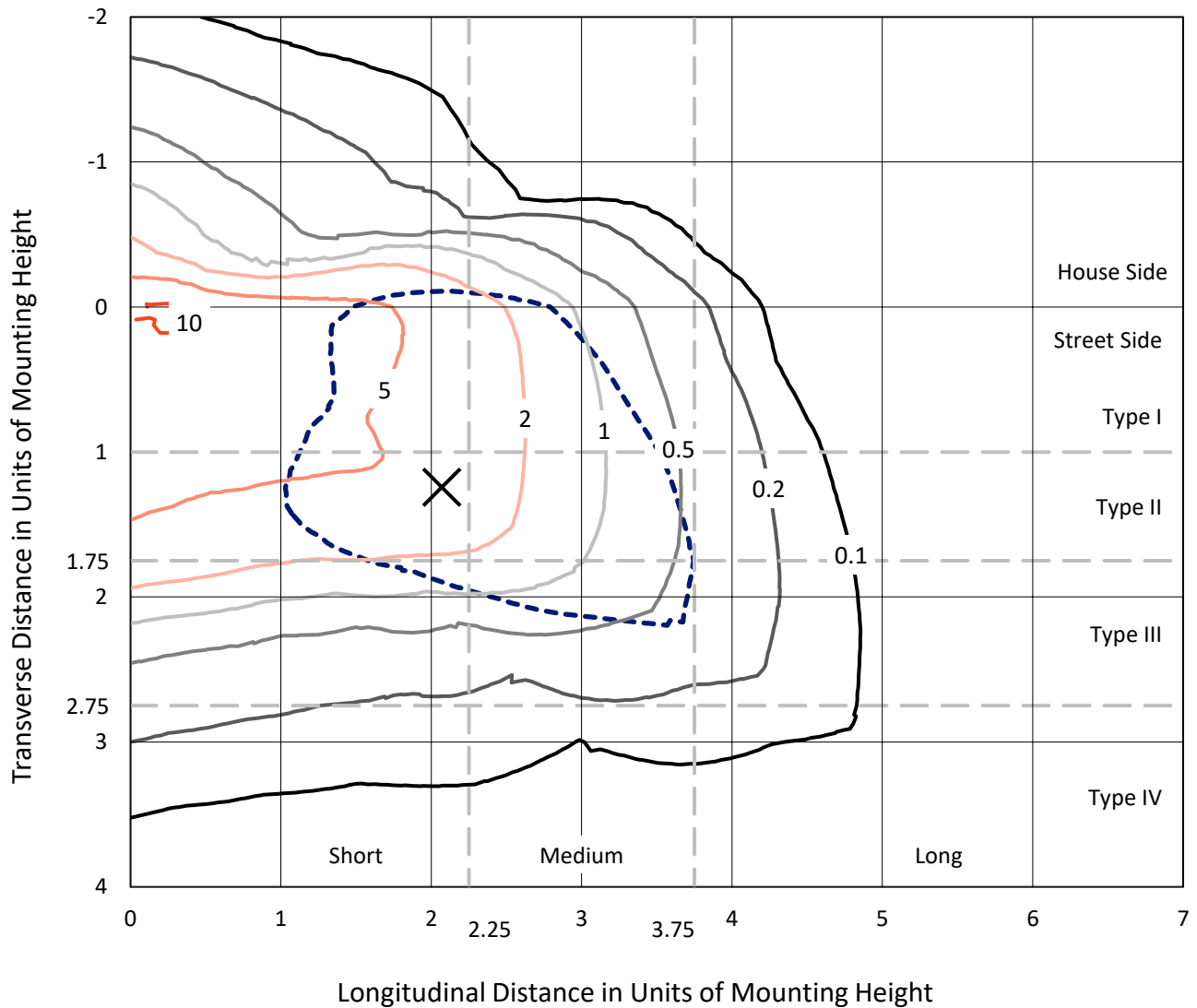
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

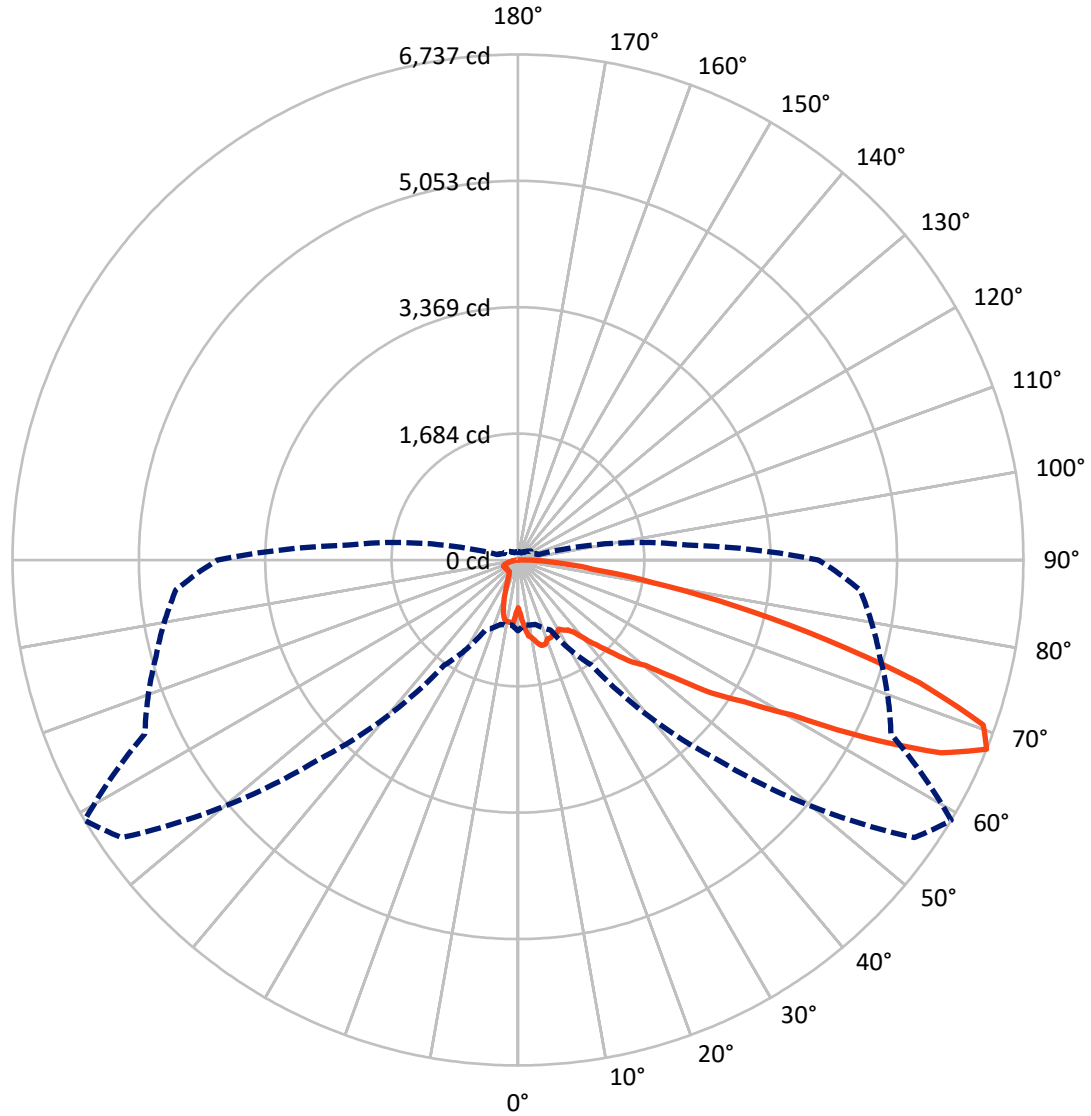
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10.8 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1012.9	0.0	1012.9
	% Fixture	15.1	0.0	15.1
<b>Street Side</b>	Lumens	5716.2	0.0	5716.2
	% Fixture	84.9	0.0	84.9
<b>Total</b>	Lumens	6729.0	0.0	6729.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.2	1.2
10°-20°	246.1	3.7
20°-30°	351.4	5.2
30°-40°	517.9	7.7
40°-50°	875.0	13.0
50°-60°	1522.6	22.6
60°-70°	1940.2	28.8
70°-80°	1027.4	15.3
80°-90°	165.3	2.5
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°	6729.0	100.0
0°-180°	6729.0	100.0

**Coefficient of Utilization**



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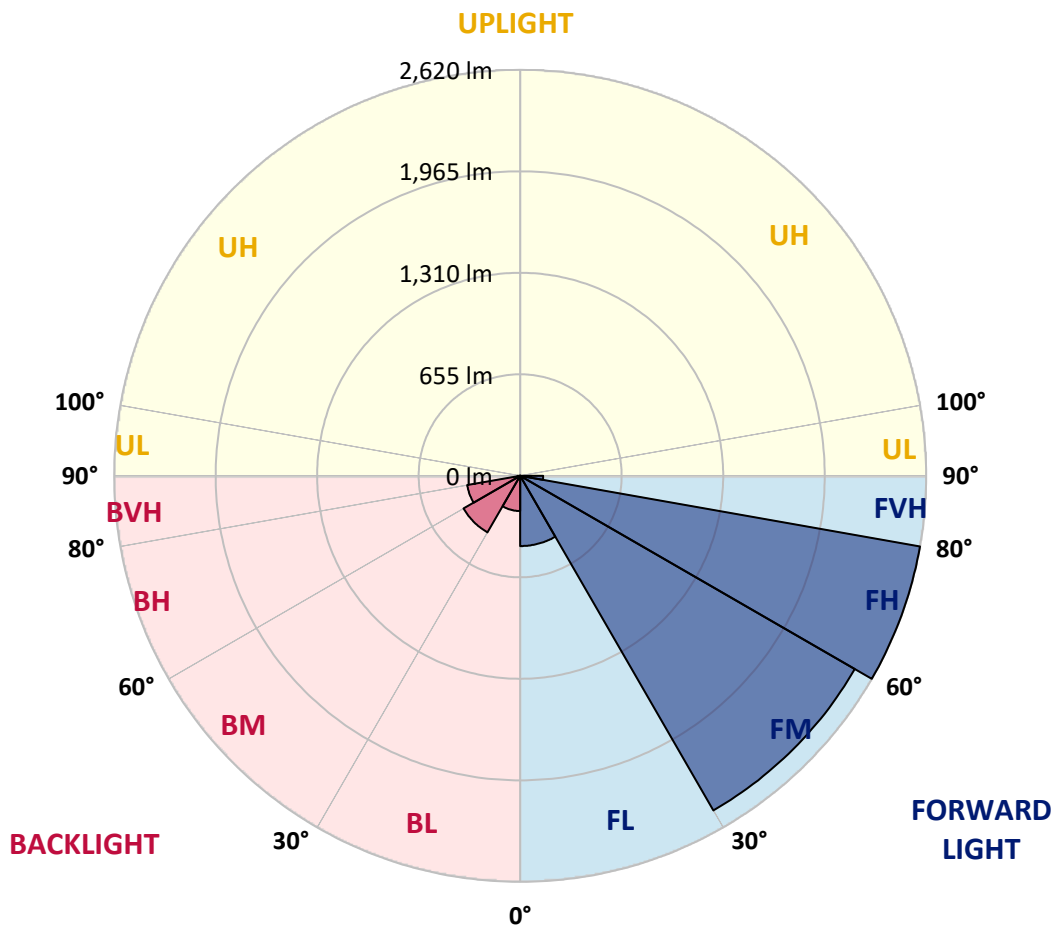
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	453.6	6.7			
FM (30°-60°)	2493.7	37.1			
FH (60°-80°)	2620.5	38.9			G2/5000
FVH (80°-90°)	148.4	2.2			G2/225
BL (0°-30°)	227.1	3.4	B1/500		
BM (30°-60°)	421.7	6.3	B1/1000		
BH (60°-80°)	347.1	5.2	B1/500		G1/500
BVH (80°-90°)	16.8	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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	636.7	636.7	636.7	636.7	636.7	636.7	636.7	636.7	636.7	636.7	636.7
2.5°	795.0	757.9	718.6	729.7	752.2	762.5	751.4	740.5	726.6	710.0	766.5
5°	964.1	909.1	901.1	900.8	892.8	860.9	901.9	899.1	915.6	932.7	976.6
7.5°	1012.3	991.8	969.5	980.1	939.9	938.1	1002.0	1020.3	1052.2	1041.7	1100.7
10°	987.5	964.4	976.1	971.8	975.5	1017.7	1056.8	1057.9	1092.1	1125.8	1087.8
12.5°	943.8	945.6	992.0	990.3	1050.2	1128.6	1140.3	1131.2	1187.1	1164.3	1196.8
15°	974.9	995.7	984.1	994.0	1017.7	1117.5	1150.0	1183.1	1236.1	1256.7	1224.2
17.5°	1024.5	1035.7	983.2	977.8	1026.5	1073.9	1154.6	1182.8	1191.1	1337.4	1291.4
20°	1003.4	1026.0	974.6	908.8	989.8	1052.5	1132.0	1123.5	1163.7	1343.6	1305.4
22.5°	1063.3	1026.0	960.7	913.9	942.4	1000.0	1067.6	1123.8	1171.4	1306.8	1325.7
25°	1074.7	1057.1	996.0	949.6	939.9	960.4	1056.8	1093.6	1174.0	1357.0	1314.8
27.5°	1144.3	1117.8	993.5	994.9	946.7	910.5	1022.5	1099.8	1203.0	1325.9	1341.3
30°	1230.7	1210.5	1054.5	1060.2	993.5	926.7	1045.9	1069.3	1219.9	1374.4	1374.7
32.5°	1295.4	1331.1	1174.5	1097.0	1073.3	1023.4	1010.0	1115.2	1200.2	1462.3	1431.7
35°	1412.1	1439.7	1266.9	1204.8	1124.6	1068.5	1107.5	1145.4	1282.0	1577.7	1516.4
37.5°	1627.9	1596.0	1438.6	1340.8	1310.8	1229.9	1251.5	1225.0	1371.0	1707.5	1682.4
40°	1752.8	1725.2	1559.5	1505.3	1386.7	1397.0	1369.9	1389.3	1489.9	1845.5	1837.5
42.5°	1876.0	1838.9	1698.9	1661.3	1542.9	1492.8	1497.6	1560.3	1673.3	2068.5	2042.0
45°	1997.8	1902.8	1841.5	1851.5	1794.5	1691.5	1698.6	1757.7	1873.4	2323.4	2262.4
47.5°	2091.0	2012.6	1964.7	1952.4	1924.2	2061.9	2000.3	2024.3	2075.3	2550.4	2527.3
50°	2267.5	2176.0	2113.5	2095.9	2191.7	2383.3	2257.8	2206.2	2314.9	2843.8	2831.8
52.5°	2550.1	2436.0	2332.0	2330.8	2469.4	2593.7	2682.1	2593.2	2633.1	3144.4	3178.6
55°	2796.8	2664.7	2571.2	2622.8	2820.1	2896.3	3196.5	3127.0	3093.3	3447.8	3545.6
57.5°	2888.9	2734.6	2673.6	2749.7	3040.6	3431.8	3749.2	3566.1	3533.3	3791.1	3996.1
60°	2686.7	2523.6	2527.3	2670.7	3174.6	3825.0	4353.4	4198.0	4005.8	4218.5	4418.7
62.5°	2110.7	1963.3	2059.4	2277.5	3062.2	4207.1	5163.2	5228.8	4545.6	4573.0	4653.1
65°	1434.6	1332.5	1419.2	1632.8	2483.7	4415.6	5934.5	6197.5	5037.2	4805.1	4754.3
67.5°	944.1	872.0	888.8	1030.8	1709.8	3764.3	6450.4	6737.0	5486.6	4995.5	4575.8
70°	731.1	673.0	665.5	740.0	1014.0	2615.1	6144.7	6580.4	5760.3	4817.0	3988.4
72.5°	573.7	529.5	533.5	605.1	785.3	1450.8	4754.9	5595.8	5348.0	4154.4	3064.2
75°	447.4	411.2	431.4	513.3	726.3	901.6	3280.7	4247.0	4134.7	3076.2	1747.7
77.5°	324.8	301.4	330.2	437.1	682.7	773.6	2042.2	2963.0	2648.8	1579.4	599.7
80°	213.0	199.9	223.6	356.4	619.1	744.5	1262.1	1815.6	1308.8	443.7	227.0
82.5°	125.5	119.8	139.4	241.2	497.6	697.8	841.8	1008.9	535.5	187.6	120.6
85°	65.9	61.6	82.7	138.6	343.0	637.0	662.7	603.9	258.6	81.6	57.6
87.5°	22.0	21.4	35.1	53.6	129.7	338.2	353.6	286.9	106.6	23.7	12.5
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°	636.7	636.7	636.7	636.7	636.7	636.7	636.7	636.7	636.7	636.7	636.7
2.5°	774.2	762.8	697.2	706.3	714.9	710.6	708.0	678.4	675.5	717.7	714.3
5°	975.5	928.2	872.3	869.7	832.9	795.3	802.7	790.7	794.1	811.5	813.2
7.5°	1081.9	1022.8	969.5	882.8	809.3	749.7	759.1	756.2	748.5	787.9	798.4
10°	1079.9	1027.4	967.2	862.3	812.7	764.2	706.0	651.0	634.7	615.4	617.1
12.5°	1151.2	1104.7	973.5	866.6	799.3	715.7	606.8	546.6	489.0	487.9	473.3
15°	1173.4	1139.2	986.9	842.0	705.5	585.7	473.1	407.8	366.1	357.9	345.6
17.5°	1229.6	1176.0	946.1	762.8	596.5	458.0	355.6	310.0	306.5	312.2	306.0
20°	1233.3	1146.3	872.6	645.6	479.3	347.0	290.0	267.2	279.4	293.4	292.8
22.5°	1230.1	1108.9	809.0	545.8	360.1	278.9	254.1	248.9	260.3	281.2	283.7
25°	1198.2	1096.7	729.4	448.3	292.3	239.0	232.1	235.2	249.5	274.0	274.0
27.5°	1231.6	1046.8	629.6	364.7	245.8	212.7	217.6	225.6	236.1	264.0	269.2
30°	1220.7	1063.3	549.2	293.7	216.7	194.5	205.3	213.3	225.3	254.4	256.9
32.5°	1249.8	1019.1	481.6	246.9	197.6	187.3	189.9	200.7	216.4	239.2	243.8
35°	1294.3	1035.4	404.1	222.1	188.2	179.1	183.9	192.5	208.2	230.4	234.1
37.5°	1436.3	1034.5	350.4	208.4	186.5	177.4	179.6	185.6	203.9	224.1	232.7
40°	1527.6	1093.8	301.7	205.3	184.5	176.5	174.5	181.1	195.6	219.6	225.6
42.5°	1698.9	1130.1	280.6	204.2	184.2	171.7	169.7	177.4	191.6	213.9	223.0
45°	1880.0	1181.7	263.8	203.6	183.4	170.8	164.8	174.5	186.5	207.9	218.4
47.5°	2093.0	1290.9	254.4	201.6	181.6	171.9	163.1	168.0	181.4	202.7	213.3
50°	2371.9	1435.4	256.4	198.7	184.2	172.2	160.5	162.8	175.1	195.9	206.7
52.5°	2710.9	1659.3	269.2	199.9	185.9	170.8	159.4	158.3	168.8	187.1	197.9
55°	3119.5	1976.9	307.7	205.3	185.9	170.5	157.7	152.6	160.5	175.4	185.9
57.5°	3612.6	2344.8	383.0	207.9	184.5	168.8	154.0	144.9	149.7	162.0	171.9
60°	4036.0	2641.6	460.5	209.6	187.3	164.8	146.6	135.2	138.3	147.7	156.5
62.5°	4251.9	2724.9	483.9	208.2	195.0	162.3	137.7	124.9	125.2	133.2	141.1
65°	4292.4	2614.0	390.1	206.7	205.0	162.0	131.5	116.1	114.1	119.8	126.6
67.5°	4003.8	2268.9	281.4	203.6	206.2	160.3	127.2	108.9	103.8	107.8	113.5
70°	3399.6	1827.2	236.4	197.3	192.5	151.7	119.8	101.5	94.7	97.5	101.8
72.5°	2534.4	1351.9	206.2	183.9	167.7	129.7	108.4	93.2	86.1	88.1	91.2
75°	1408.1	721.1	172.5	160.0	136.9	104.9	92.4	82.7	76.4	77.3	80.7
77.5°	467.6	266.0	126.6	126.9	103.5	81.0	76.1	70.7	65.9	66.2	69.0
80°	211.9	147.1	90.7	91.2	72.1	58.7	58.5	56.7	53.6	52.8	54.7
82.5°	122.9	89.3	62.2	59.3	46.5	38.2	42.5	41.6	40.8	37.6	38.2
85°	60.5	47.9	32.5	30.8	25.7	19.1	22.8	23.7	22.8	19.4	19.1
87.5°	14.8	15.7	8.0	7.4	4.3	2.0	3.4	3.4	4.3	2.9	1.4
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)