

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: P366778

Luminaire Tested: **MSA-SA1B-740-U-RW**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366778  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1B-740-U-RW  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5201 lumens  
Efficiency: N/A  
Efficacy: 118.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G2

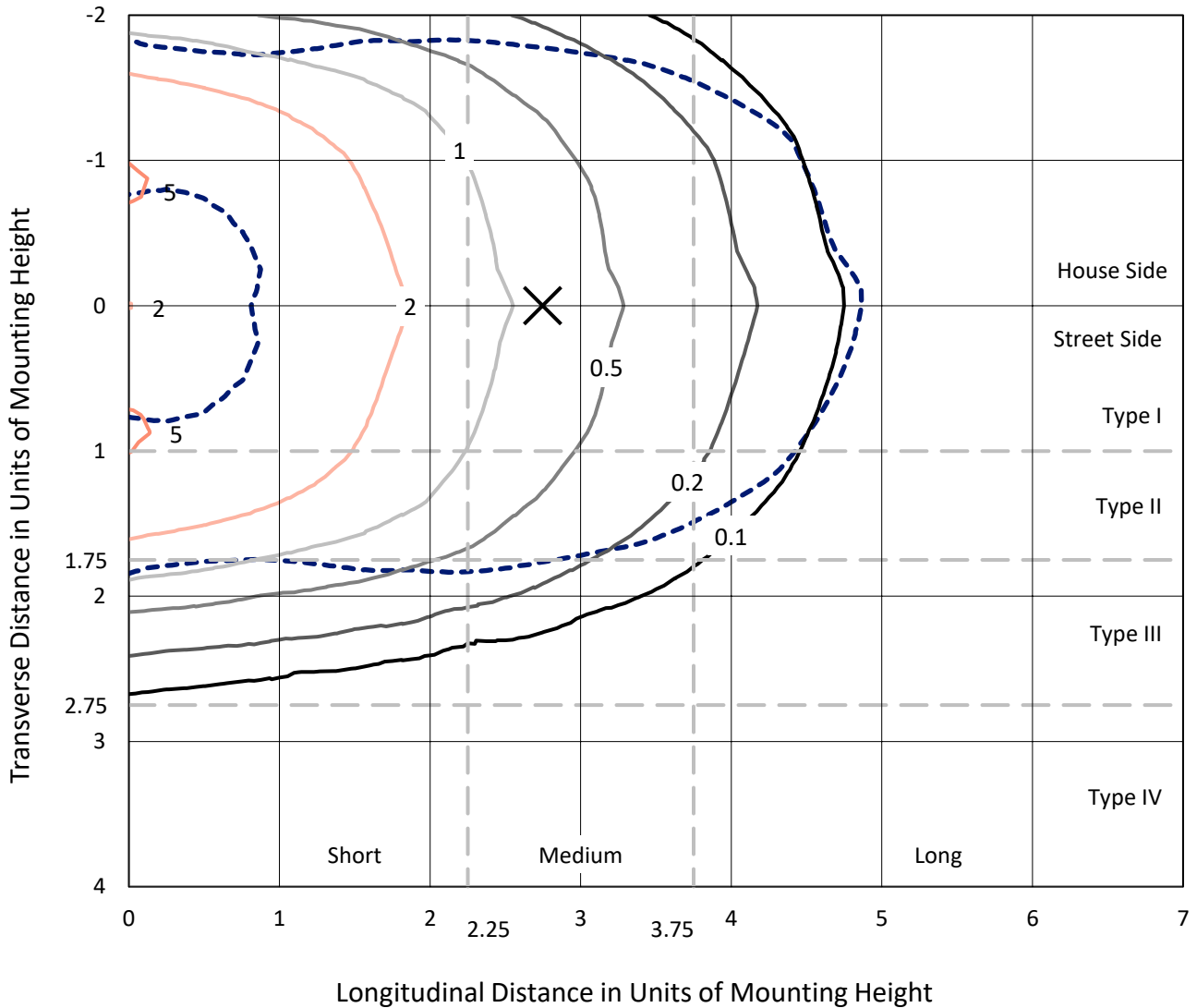
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

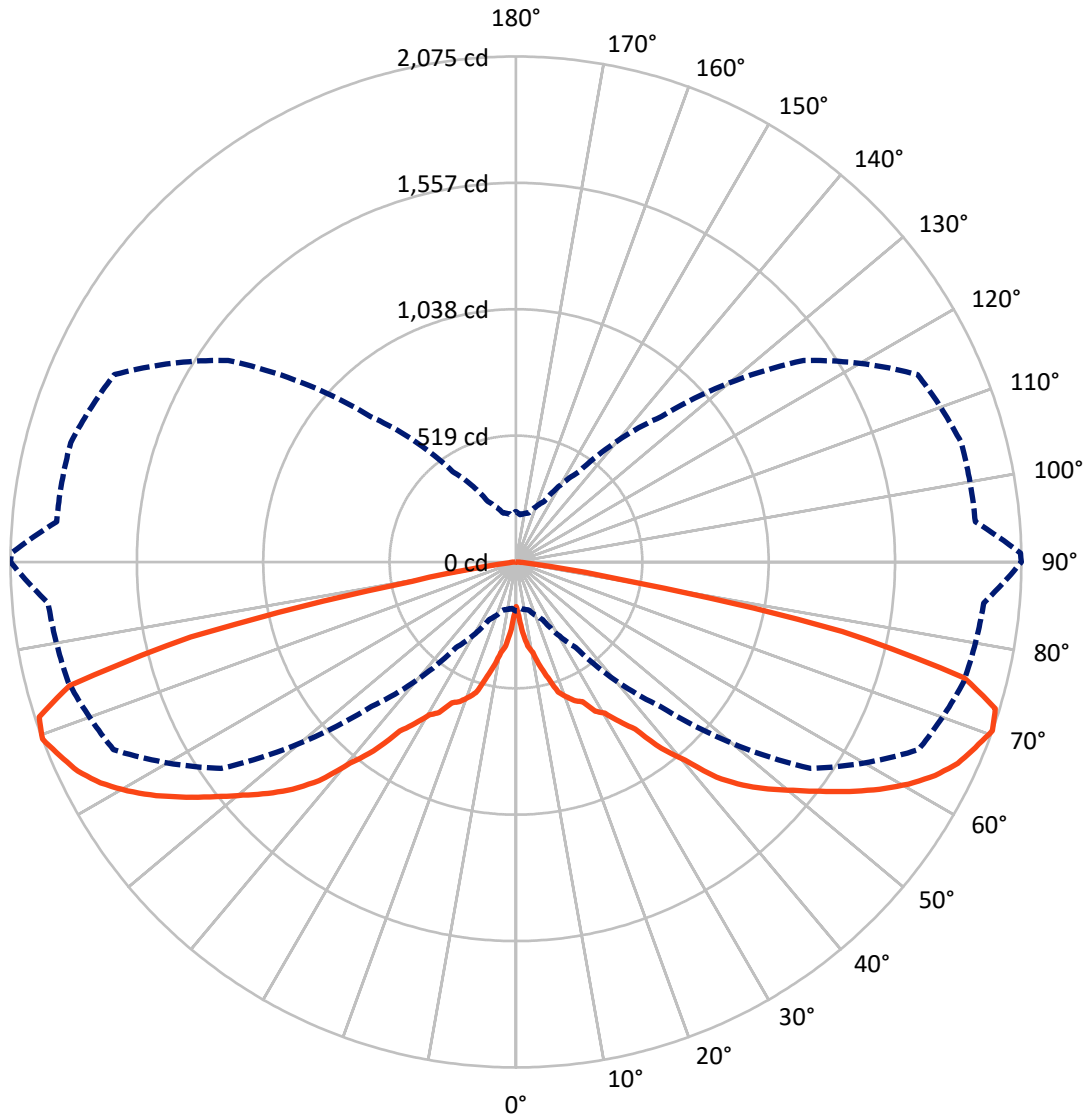
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.3 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2590.9	0.0	2590.9
	% Fixture	49.8	0.0	49.8
<b>Street Side</b>	Lumens	2610.1	0.0	2610.1
	% Fixture	50.2	0.0	50.2
<b>Total</b>	Lumens	5201.0	0.0	5201.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	27.5	0.5
10°-20°	126.2	2.4
20°-30°	272.9	5.2
30°-40°	520.6	10.0
40°-50°	945.8	18.2
50°-60°	1328.6	25.5
60°-70°	1268.6	24.4
70°-80°	651.0	12.5
80°-90°	59.7	1.1
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°	5201.0	100.0
0°-180°	5201.0	100.0

**Coefficient of Utilization**



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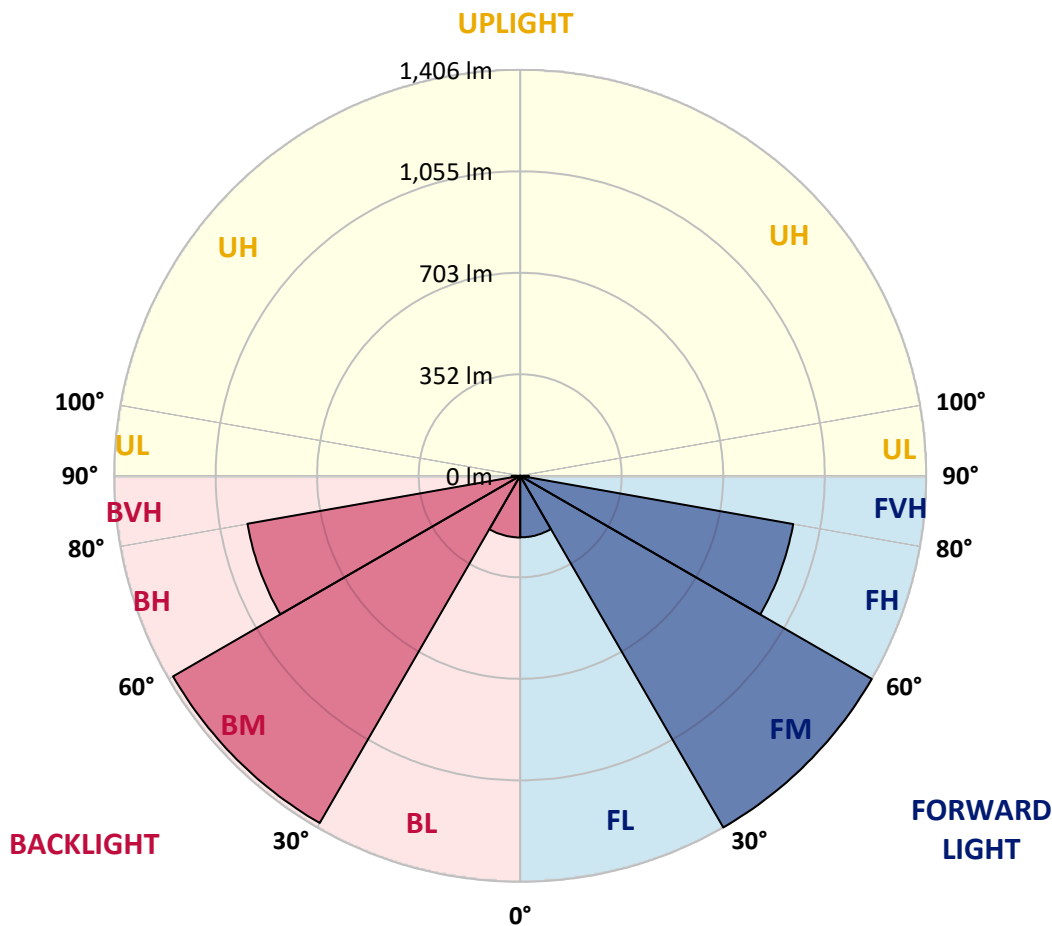
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	213.1	4.1			
FM (30°-60°)	1406.4	27.0			
FH (60°-80°)	960.3	18.5			G1/1800
FVH (80°-90°)	30.3	0.6			G1/100
BL (0°-30°)	213.5	4.1	B1/500		
BM (30°-60°)	1388.7	26.7	B2/2500		
BH (60°-80°)	959.3	18.4	B2/1000		G2/1000
BVH (80°-90°)	29.4	0.6			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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5
2.5°	221.1	212.9	202.6	208.7	211.2	215.6	215.0	212.9	203.8	219.0	220.7
5°	276.8	263.7	258.8	258.0	259.3	255.1	268.8	264.8	272.1	285.8	289.0
7.5°	315.1	305.4	295.1	298.3	285.2	283.3	301.0	316.8	320.8	345.9	347.6
10°	333.3	323.8	326.5	324.6	323.1	335.4	343.6	355.2	371.8	374.2	377.7
12.5°	348.6	352.4	364.5	364.0	383.8	405.6	402.4	414.4	417.2	446.2	437.4
15°	387.6	395.4	394.6	402.0	410.6	446.2	446.5	466.9	485.7	497.0	494.1
17.5°	444.8	447.5	436.1	436.5	461.6	476.2	492.4	488.8	537.7	560.1	561.5
20°	478.9	485.9	472.8	455.5	500.0	520.0	529.1	508.2	560.5	590.6	590.6
22.5°	538.6	520.6	500.8	489.2	528.4	549.7	548.7	542.8	570.6	623.9	618.9
25°	571.4	561.3	551.4	554.4	574.2	585.2	599.7	586.0	612.1	651.8	635.1
27.5°	633.8	615.1	566.4	605.2	605.2	597.0	627.7	634.3	617.2	681.7	694.1
30°	704.5	697.9	629.0	670.1	657.5	634.3	693.3	689.1	660.4	726.2	720.5
32.5°	771.3	792.8	727.4	704.9	723.8	732.7	701.7	714.4	719.8	783.3	780.6
35°	873.7	891.8	805.2	799.5	767.9	759.7	783.3	787.5	787.9	854.7	842.5
37.5°	1051.0	1024.9	939.3	899.0	902.6	892.7	897.3	864.0	868.7	965.6	971.7
40°	1180.6	1151.1	1055.8	1027.0	956.1	998.5	961.0	957.6	948.3	1074.0	1070.6
42.5°	1323.8	1283.3	1177.9	1139.3	1064.1	1046.8	1029.5	1068.5	1066.0	1182.3	1208.0
45°	1431.9	1350.1	1295.1	1271.1	1225.9	1183.6	1167.1	1184.6	1176.6	1263.0	1307.9
47.5°	1500.2	1429.1	1365.9	1315.3	1272.1	1376.0	1292.8	1269.4	1253.1	1349.9	1393.1
50°	1554.6	1472.6	1398.0	1381.1	1415.2	1507.1	1375.8	1324.2	1344.0	1415.2	1474.0
52.5°	1569.3	1482.5	1415.4	1404.7	1497.0	1513.7	1492.4	1405.5	1400.3	1493.7	1564.7
55°	1524.2	1441.0	1409.1	1467.9	1570.0	1556.0	1588.5	1533.1	1495.8	1573.8	1663.1
57.5°	1408.1	1325.4	1317.9	1402.6	1531.2	1649.6	1665.7	1621.8	1572.9	1655.5	1760.9
60°	1217.3	1141.8	1161.0	1254.6	1448.5	1617.2	1702.3	1662.3	1647.1	1729.3	1851.6
62.5°	920.3	861.5	912.7	1043.2	1297.6	1575.2	1752.9	1746.6	1724.7	1807.7	1931.7
65°	586.8	555.9	608.1	740.7	1063.4	1498.9	1777.2	1785.6	1805.8	1868.2	1993.6
67.5°	341.1	324.6	356.4	465.0	757.4	1230.8	1732.1	1853.0	1863.6	1899.4	2034.3
70°	201.7	191.0	204.0	261.2	428.7	838.5	1477.4	1823.5	1903.2	1928.1	2075.4
72.5°	153.9	143.8	138.1	154.5	223.9	433.2	998.9	1545.7	1871.4	1909.1	2058.1
75°	133.0	123.3	116.6	118.0	133.2	205.7	541.5	1105.6	1594.6	1738.4	1901.1
77.5°	114.2	105.6	100.8	100.3	102.2	113.0	226.4	599.5	998.7	1249.6	1370.6
80°	91.5	84.7	83.7	83.7	80.9	80.1	112.6	228.1	380.1	450.7	432.1
82.5°	66.8	60.1	66.8	66.0	61.8	58.4	71.7	98.6	117.2	92.5	73.1
85°	45.1	39.0	44.1	44.9	40.9	30.4	43.0	49.3	50.6	31.6	26.1
87.5°	15.8	15.4	24.9	21.7	17.7	10.3	15.8	17.1	17.9	11.2	7.6
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):**

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5	182.5
2.5°	221.3	218.8	206.2	208.0	212.9	215.2	217.5	208.0	203.4	218.2	216.7
5°	289.8	280.6	270.2	268.8	269.4	260.3	265.6	263.3	264.3	273.8	275.7
7.5°	347.2	336.0	322.3	311.5	293.0	278.2	290.7	297.0	298.9	315.8	322.1
10°	378.2	368.7	364.7	344.4	338.3	336.4	333.5	323.4	334.5	330.5	333.7
12.5°	438.9	437.0	416.1	402.8	404.1	407.7	389.1	379.0	364.5	387.2	379.0
15°	490.5	498.7	477.9	453.6	441.6	447.7	433.6	418.8	405.8	412.7	403.9
17.5°	556.5	556.3	515.6	489.7	488.6	488.2	467.3	434.9	450.5	445.6	446.0
20°	591.5	585.8	535.2	505.3	530.8	521.7	502.9	461.2	479.3	485.2	489.0
22.5°	620.8	617.6	556.3	534.4	550.8	551.0	532.2	510.3	508.0	526.3	516.4
25°	641.2	653.9	596.1	590.8	598.0	590.8	572.5	558.2	548.9	576.3	548.9
27.5°	689.7	671.8	602.2	632.2	636.6	600.5	623.5	606.7	580.9	614.9	626.0
30°	724.3	734.8	645.2	690.3	685.1	651.8	661.2	660.6	629.8	696.0	688.2
32.5°	783.7	771.1	715.4	711.8	724.5	723.0	707.0	714.8	722.4	770.4	782.0
35°	844.6	858.1	760.3	784.6	781.0	758.2	800.2	795.3	817.9	916.5	883.8
37.5°	982.1	917.8	861.1	857.9	881.9	885.5	872.0	893.3	942.0	1017.9	1052.9
40°	1072.1	1042.8	946.4	950.2	916.9	974.3	936.3	1004.8	1041.9	1169.9	1157.4
42.5°	1208.2	1136.8	1044.2	1056.9	1050.2	1022.5	1072.5	1107.7	1160.8	1258.4	1321.4
45°	1309.6	1211.6	1167.8	1160.0	1159.1	1207.2	1200.9	1257.1	1276.1	1349.5	1401.7
47.5°	1386.6	1303.3	1238.4	1247.2	1221.5	1358.7	1285.6	1303.1	1341.5	1410.6	1471.5
50°	1477.8	1385.1	1311.3	1333.2	1395.8	1448.5	1382.4	1352.4	1371.2	1452.8	1520.6
52.5°	1562.4	1464.8	1383.6	1402.0	1504.2	1480.2	1473.0	1397.3	1395.0	1460.6	1537.7
55°	1661.2	1551.2	1479.5	1537.7	1574.0	1544.2	1532.9	1440.7	1383.8	1420.3	1493.0
57.5°	1758.2	1636.8	1565.5	1577.5	1623.5	1594.0	1508.6	1366.8	1295.7	1302.9	1376.5
60°	1849.0	1715.4	1656.6	1645.0	1681.7	1566.0	1416.5	1231.2	1137.0	1119.7	1183.4
62.5°	1926.8	1781.2	1725.5	1693.9	1728.9	1567.0	1273.0	1013.7	910.2	851.6	901.1
65°	1988.6	1835.8	1796.1	1779.7	1792.3	1471.7	1049.3	744.3	617.4	552.5	581.4
67.5°	2029.7	1866.3	1848.2	1869.7	1701.1	1225.7	777.4	476.4	359.0	323.6	341.7
70°	2072.3	1893.3	1892.7	1819.5	1442.4	845.1	454.0	274.7	208.9	195.2	206.6
72.5°	2057.9	1861.3	1870.8	1591.2	999.6	451.7	239.7	155.4	141.4	146.3	156.4
75°	1905.7	1692.2	1646.5	1144.0	567.0	209.9	138.1	117.6	116.8	124.2	134.1
77.5°	1382.4	1178.5	1057.5	648.4	243.0	113.6	101.6	98.2	98.2	104.1	113.0
80°	455.7	394.4	411.0	250.8	114.9	78.4	79.3	80.7	80.3	81.8	89.2
82.5°	74.8	77.6	119.9	102.4	69.3	53.5	59.9	62.8	63.7	56.9	64.7
85°	26.6	29.9	51.0	47.4	40.0	27.0	39.4	44.1	43.4	37.9	41.9
87.5°	8.2	10.5	18.5	14.3	12.0	7.4	14.8	17.3	21.7	8.9	8.0
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)