

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: P368336

Luminaire Tested: **MSA-SA4B-727-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368336  
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-SA4B-727-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16475 lumens  
Efficiency: N/A  
Efficacy: 96.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G3

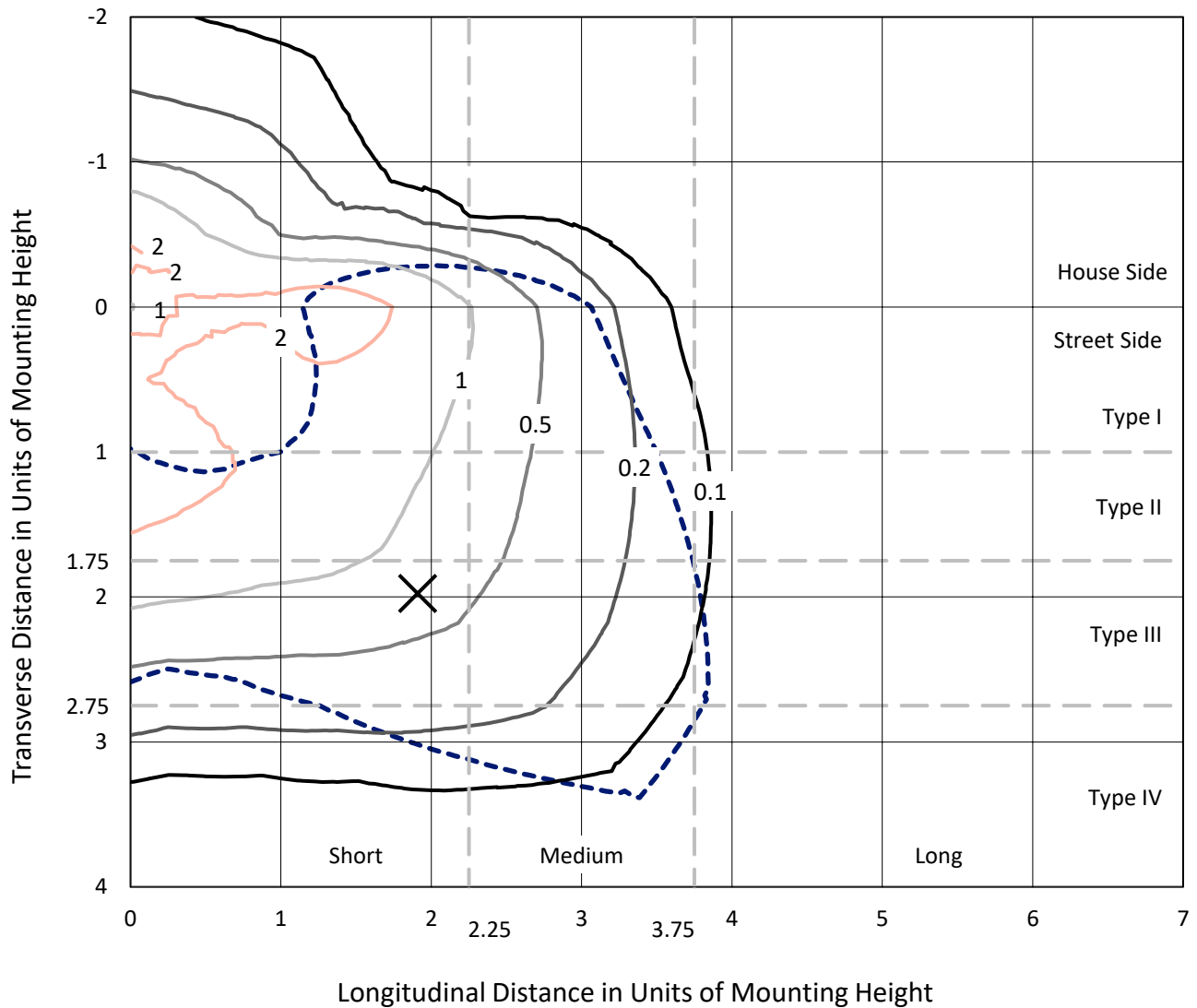
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

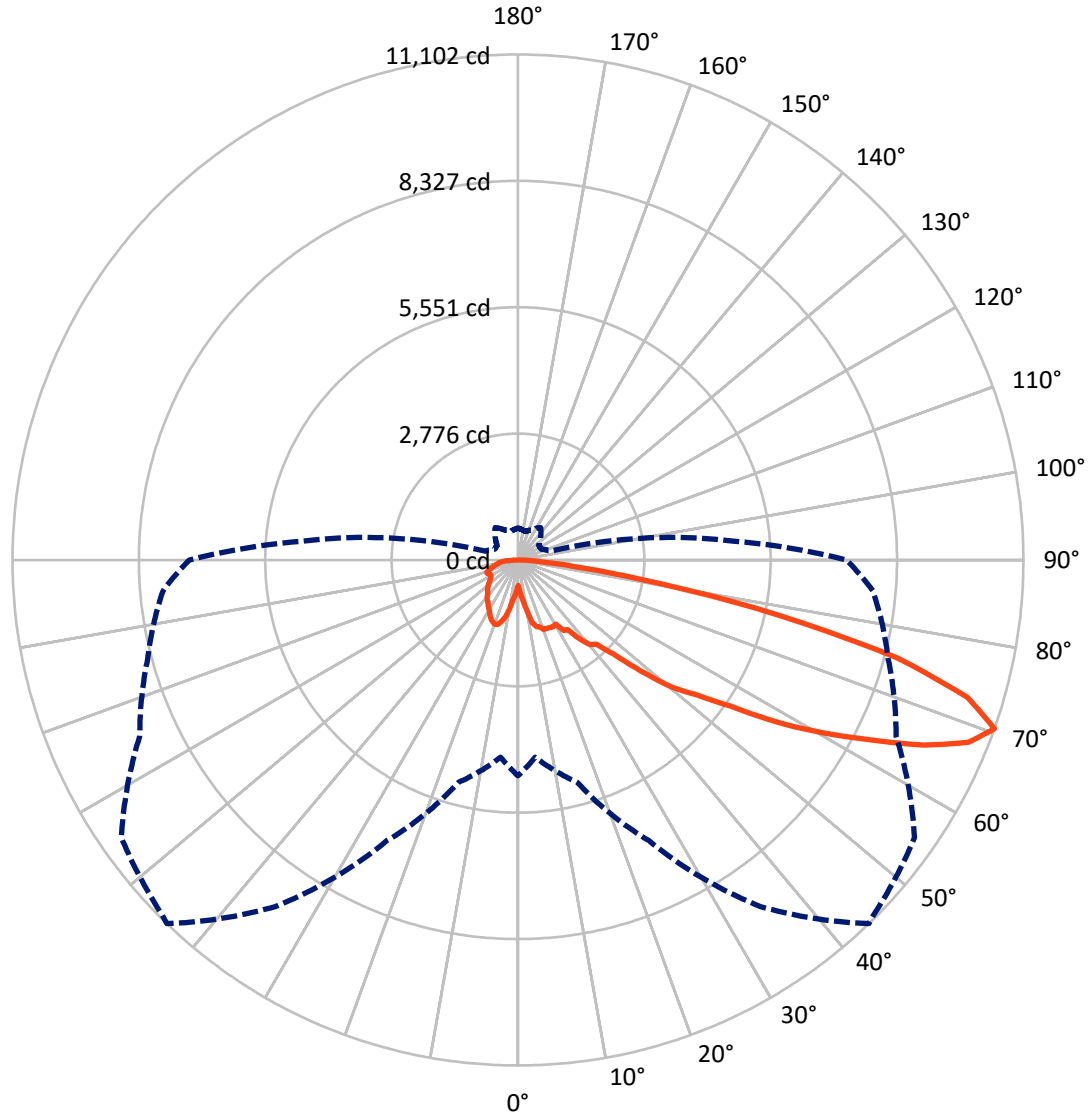
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.2 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
<b>House Side</b>	Lumens	3635.0	0.0	3635.0
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	12840.0	0.0	12840.0
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	16475.0	0.0	16475.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.8	0.5
10°-20°	404.3	2.5
20°-30°	755.6	4.6
30°-40°	1212.8	7.4
40°-50°	2047.1	12.4
50°-60°	3648.0	22.1
60°-70°	4989.9	30.3
70°-80°	2934.3	17.8
80°-90°	395.1	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°	16475.0	100.0
0°-180°	16475.0	100.0

**Coefficient of Utilization**



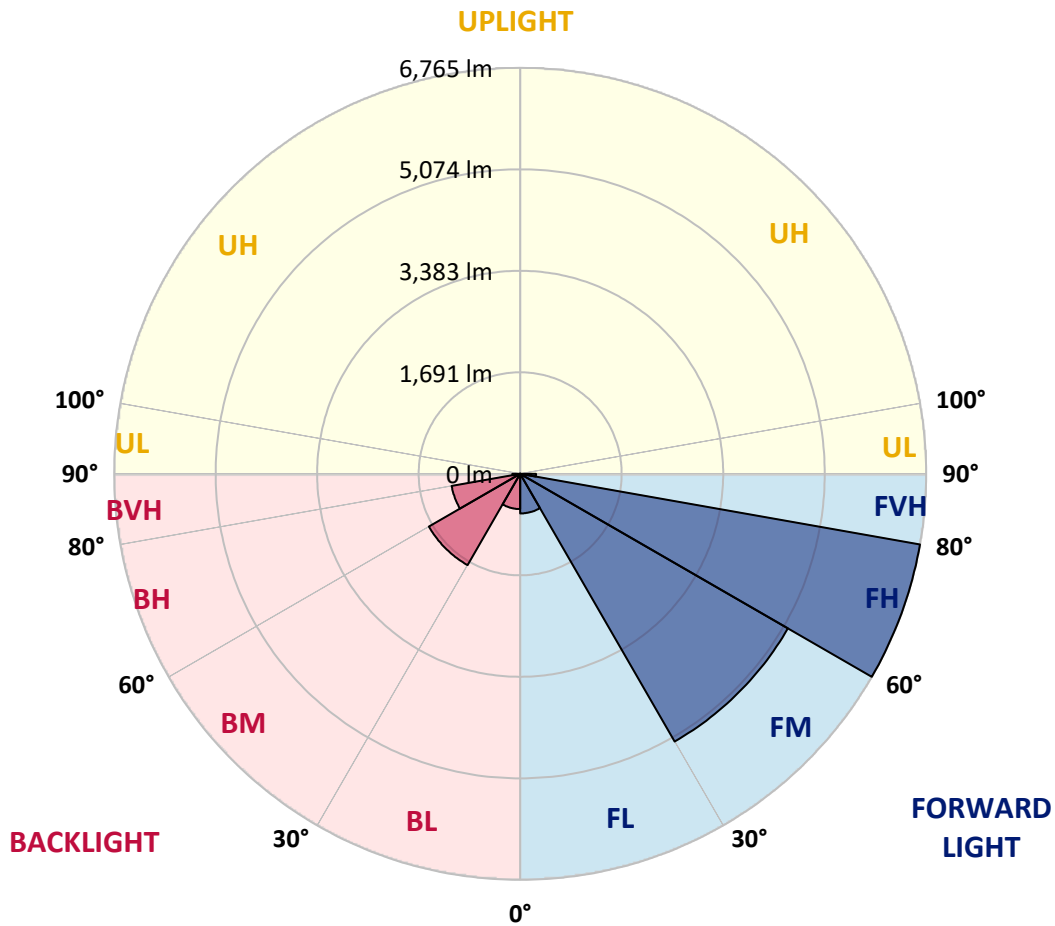
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	660.2	4.0			
FM (30°-60°)	5151.3	31.3			
FH (60°-80°)	6765.1	41.1			G3/7500
FVH (80°-90°)	263.3	1.6			G3/500
BL (0°-30°)	587.5	3.6	B2/1000		
BM (30°-60°)	1756.6	10.7	B2/2500		
BH (60°-80°)	1159.1	7.0	B3/2500		G3/2500
BVH (80°-90°)	131.8	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0
2.5°	679.6	666.1	633.6	644.4	658.0	663.4	662.0	660.7	639.7	632.3	669.4
5°	923.4	893.7	870.1	860.6	829.5	805.2	790.4	829.5	823.5	833.6	859.3
7.5°	1153.1	1134.2	1080.8	1061.9	998.4	956.5	951.8	982.9	991.0	974.8	1018.7
10°	1301.1	1268.6	1257.8	1212.6	1168.7	1161.9	1157.8	1143.7	1124.1	1122.7	1083.5
12.5°	1415.9	1432.8	1441.6	1389.5	1390.9	1415.2	1402.4	1345.0	1311.9	1253.8	1258.5
15°	1621.9	1646.2	1576.7	1543.6	1480.1	1516.5	1511.8	1463.9	1459.1	1421.3	1377.4
17.5°	1801.6	1812.4	1696.2	1620.6	1599.0	1546.3	1560.5	1561.8	1499.7	1567.2	1528.0
20°	1816.5	1855.0	1721.2	1570.6	1635.4	1628.7	1630.7	1617.2	1535.5	1646.9	1632.1
22.5°	1889.4	1830.7	1710.4	1600.3	1617.2	1627.3	1636.8	1620.6	1615.8	1678.0	1723.3
25°	1875.9	1857.0	1735.4	1642.2	1644.2	1646.2	1651.0	1699.6	1694.2	1778.6	1802.3
27.5°	2002.2	1973.2	1742.8	1719.9	1667.2	1655.7	1623.3	1724.6	1803.6	1801.6	1932.0
30°	2242.7	2213.0	1915.8	1848.9	1753.7	1636.1	1698.3	1833.4	1895.5	1916.5	2082.0
32.5°	2618.3	2667.0	2256.2	1986.7	1868.5	1842.8	1836.1	1822.6	1976.6	2079.9	2230.6
35°	3157.4	3118.9	2657.5	2281.9	1989.4	1879.3	1894.2	1976.6	2159.6	2226.5	2365.7
37.5°	3774.8	3695.1	3171.6	2616.3	2338.0	2200.2	2150.9	2230.6	2271.1	2323.8	2608.2
40°	4402.4	4207.8	3676.2	3056.1	2547.4	2443.4	2400.1	2302.2	2397.4	2504.2	2865.6
42.5°	5008.3	4857.7	4225.4	3580.9	2900.0	2529.2	2505.5	2409.6	2704.8	2817.6	3237.1
45°	5643.3	5294.1	4788.1	4173.4	3415.4	2950.0	2914.9	2742.6	3120.9	3356.0	3761.3
47.5°	6070.2	5746.7	5303.5	4654.3	3847.1	3653.9	3587.0	3292.5	3635.7	3941.0	4571.3
50°	6474.2	6141.2	5675.7	5180.6	4628.7	4406.4	4263.9	3773.5	4276.7	4773.9	5609.5
52.5°	7052.4	6754.5	6108.1	5710.9	5468.3	4921.8	4815.8	4546.3	5026.6	5697.3	6744.4
55°	7670.5	7264.6	6678.9	6458.7	6360.7	5660.9	5574.4	5402.8	6025.0	6642.4	7847.5
57.5°	7943.5	7519.9	7197.0	7065.3	7057.2	6734.9	6635.6	6516.1	7045.7	7453.0	8885.8
60°	8160.3	7705.7	7576.6	7650.3	7917.8	7705.7	7576.6	7471.3	7876.6	8254.2	9732.9
62.5°	8120.4	7664.5	7730.7	7954.9	8637.9	8700.0	8600.7	8345.4	8700.0	8910.8	10218.6
65°	7477.3	7055.8	7441.5	7973.9	9307.3	9803.8	9798.4	9130.3	9253.3	9253.3	10167.3
67.5°	6350.6	5914.2	6545.8	7807.0	9770.1	10678.6	10680.0	9962.6	9304.0	9218.8	9372.9
70°	4742.2	4347.0	5057.0	6799.1	9292.5	11102.2	11040.7	10634.1	9164.8	8421.0	7829.3
72.5°	2832.5	2577.1	3230.3	4949.5	7926.6	10323.3	10486.8	9860.6	8390.0	7003.1	5596.7
75°	1286.2	1175.4	1517.9	2843.3	5658.8	8610.9	8788.5	8321.7	6664.0	5036.7	3234.4
77.5°	550.5	520.8	662.7	1261.2	3120.2	5888.5	6252.6	5947.3	4515.2	2927.0	1430.8
80°	354.0	335.1	407.3	606.6	1449.0	3181.7	3495.1	3381.0	2300.1	1138.3	503.9
82.5°	211.4	205.4	272.2	381.0	790.4	1400.4	1578.0	1619.9	955.2	510.7	288.4
85°	115.5	116.9	149.3	231.0	474.2	545.1	583.7	635.0	449.9	295.9	139.8
87.5°	38.5	44.6	60.1	93.9	168.9	154.0	154.7	179.7	189.8	122.9	44.6
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0	560.0
2.5°	675.5	663.4	632.3	634.3	645.8	648.5	651.9	632.3	628.2	665.4	668.8
5°	863.3	823.5	805.2	799.1	781.6	775.5	807.9	822.8	837.6	866.7	880.9
7.5°	1014.0	969.4	936.3	905.9	880.2	865.3	920.1	961.9	987.6	1047.1	1074.1
10°	1082.9	1044.4	1032.2	1007.9	1027.5	1072.1	1082.2	1083.5	1140.3	1138.9	1150.4
12.5°	1220.0	1195.0	1155.1	1163.9	1215.3	1261.2	1248.4	1268.0	1288.2	1336.9	1314.6
15°	1345.0	1338.2	1301.1	1307.1	1317.3	1374.7	1382.1	1401.7	1432.8	1471.3	1444.9
17.5°	1499.0	1496.3	1405.8	1397.7	1421.3	1477.4	1459.8	1425.3	1528.0	1569.2	1558.4
20°	1603.7	1583.4	1467.2	1432.8	1492.9	1500.3	1480.1	1425.3	1514.5	1604.4	1628.7
22.5°	1690.8	1667.2	1547.6	1480.1	1467.9	1471.3	1471.3	1461.2	1505.1	1578.7	1578.0
25°	1761.1	1783.4	1631.4	1566.5	1501.7	1420.6	1410.5	1419.3	1444.3	1586.1	1581.4
27.5°	1937.4	1875.9	1659.8	1611.1	1478.0	1350.4	1378.1	1391.6	1399.7	1555.0	1580.7
30°	2052.2	2071.1	1761.1	1637.5	1443.6	1272.0	1281.5	1320.6	1367.9	1551.7	1559.1
32.5°	2206.9	2166.4	1919.2	1593.6	1351.7	1224.7	1207.2	1259.8	1330.1	1497.0	1517.2
35°	2350.8	2398.8	1986.0	1585.4	1287.5	1153.8	1172.7	1190.9	1263.9	1436.2	1459.8
37.5°	2688.6	2579.1	2173.8	1546.3	1234.2	1118.0	1097.7	1125.4	1187.6	1320.6	1375.4
40°	2945.3	2952.0	2214.4	1497.0	1132.2	1066.6	1023.4	1051.1	1077.5	1183.5	1207.2
42.5°	3426.9	3279.7	2313.7	1388.9	1068.0	989.6	965.3	977.5	981.5	1026.1	1065.3
45°	4039.6	3694.4	2352.8	1243.6	983.6	957.9	908.6	902.5	880.2	886.3	920.7
47.5°	4887.4	4341.6	2324.5	1088.9	908.6	916.7	845.8	818.1	787.0	794.4	826.8
50°	5983.8	5168.4	2322.4	957.9	857.2	862.6	804.5	754.6	723.5	739.0	767.4
52.5°	7213.9	5998.0	2331.9	868.0	801.2	798.5	777.5	716.7	691.7	707.9	740.4
55°	8390.6	6711.3	2402.2	811.3	743.1	747.8	755.9	704.6	676.9	691.7	725.5
57.5°	9414.7	7274.7	2375.8	751.2	689.0	710.6	732.3	687.7	666.7	688.4	722.1
60°	10130.8	7536.1	2167.7	693.8	649.2	678.9	720.8	685.7	683.0	729.6	770.1
62.5°	10392.2	7439.5	1762.4	648.5	625.5	674.8	747.1	730.2	732.9	790.4	846.4
65°	10010.5	6931.5	1314.6	619.5	607.3	694.4	807.9	756.6	719.4	766.7	818.1
67.5°	8925.0	6028.4	960.6	594.5	586.4	725.5	864.0	753.9	685.0	732.9	774.8
70°	7220.6	4758.4	743.7	562.7	558.7	704.6	869.4	733.6	647.8	678.9	702.5
72.5°	4947.5	3258.0	616.1	532.3	510.7	624.2	825.5	688.4	603.2	621.5	641.1
75°	2764.9	1828.6	518.1	494.5	447.2	556.0	774.1	661.3	570.1	575.5	602.6
77.5°	1240.9	791.0	439.8	444.5	389.8	491.8	707.3	618.1	519.5	507.3	534.3
80°	469.5	385.7	356.7	375.6	327.6	426.3	637.7	578.9	466.1	450.6	466.1
82.5°	272.2	233.7	264.8	289.1	260.1	391.8	608.6	543.1	410.7	371.5	385.0
85°	126.3	120.9	158.7	187.8	181.7	305.3	520.8	408.7	292.5	247.2	273.6
87.5°	33.1	37.2	56.1	66.2	67.6	104.7	200.6	152.0	114.2	86.5	83.1
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)