

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: P367752

Luminaire Tested: **MSA-SA3A-760-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367752  
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-SA3A-760-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 11426 lumens  
Efficiency: N/A  
Efficacy: 119.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

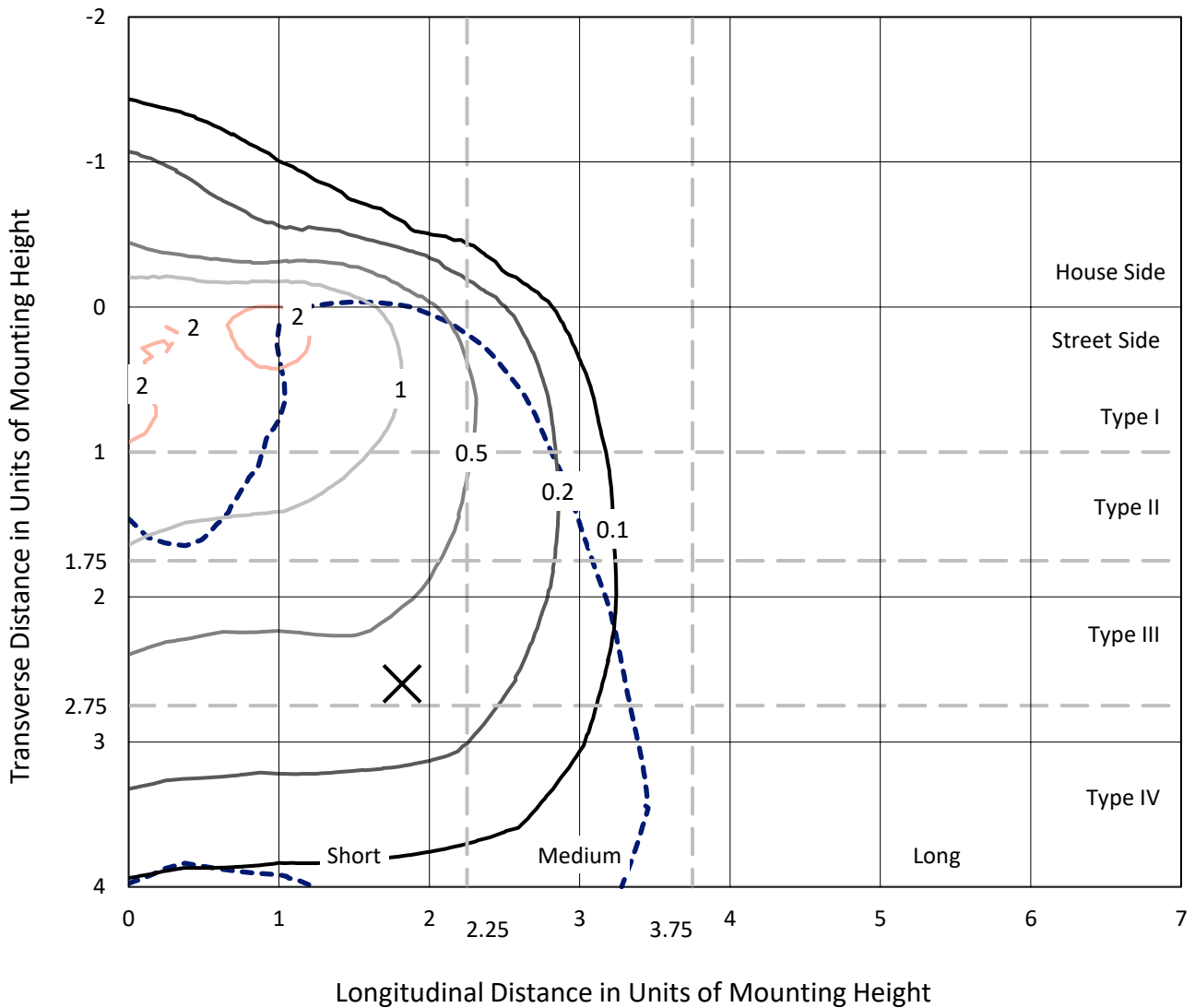
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

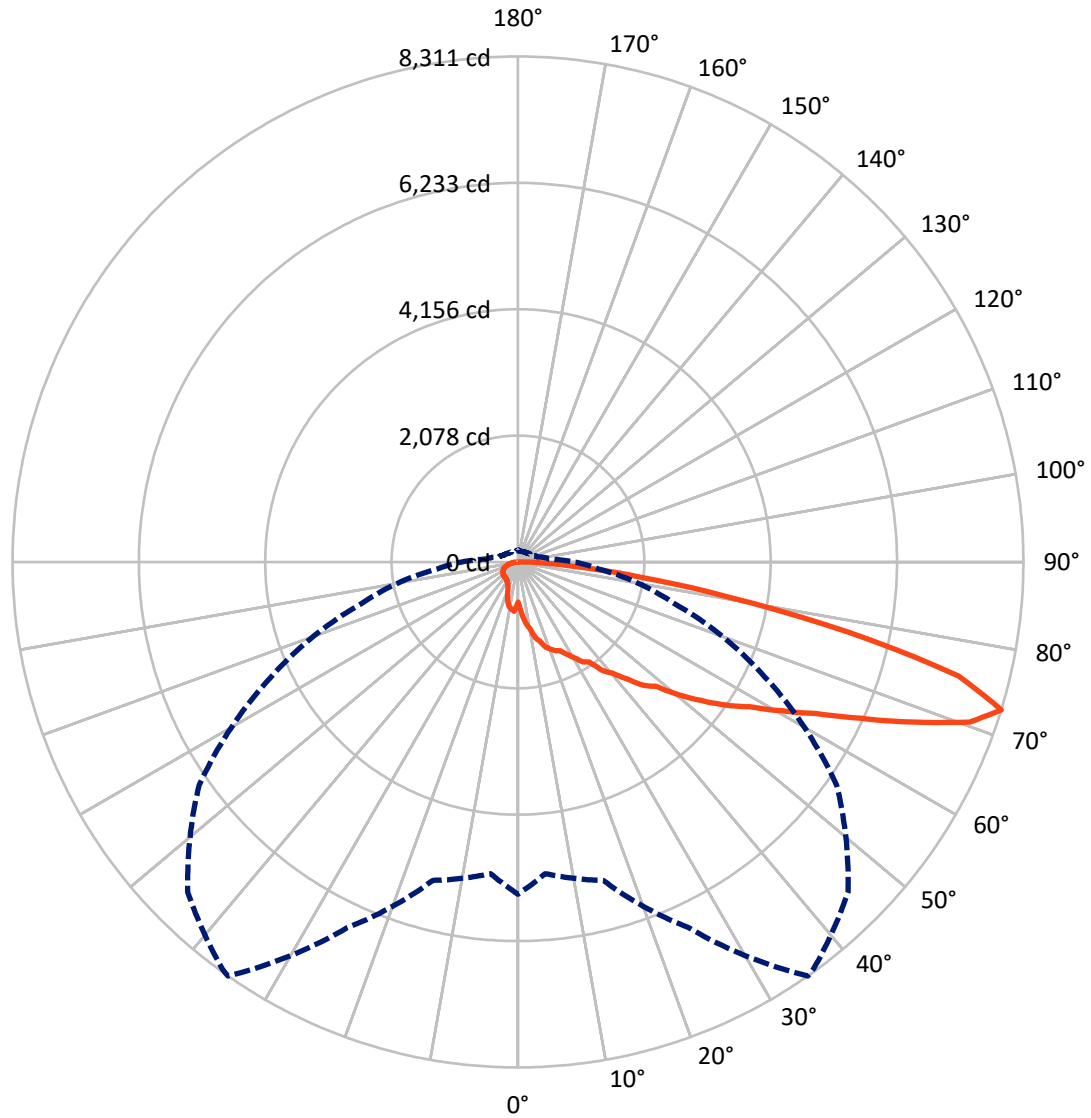
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 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
<b>House Side</b>	Lumens	1533.3	0.0	1533.3
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	9892.7	0.0	9892.7
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	11426.0	0.0	11426.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.8	0.8
10°-20°	309.1	2.7
20°-30°	537.1	4.7
30°-40°	897.7	7.9
40°-50°	1558.1	13.6
50°-60°	2355.5	20.6
60°-70°	3051.5	26.7
70°-80°	2251.7	19.7
80°-90°	377.4	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°	11426.0	100.0
0°-180°	11426.0	100.0

**Coefficient of Utilization**



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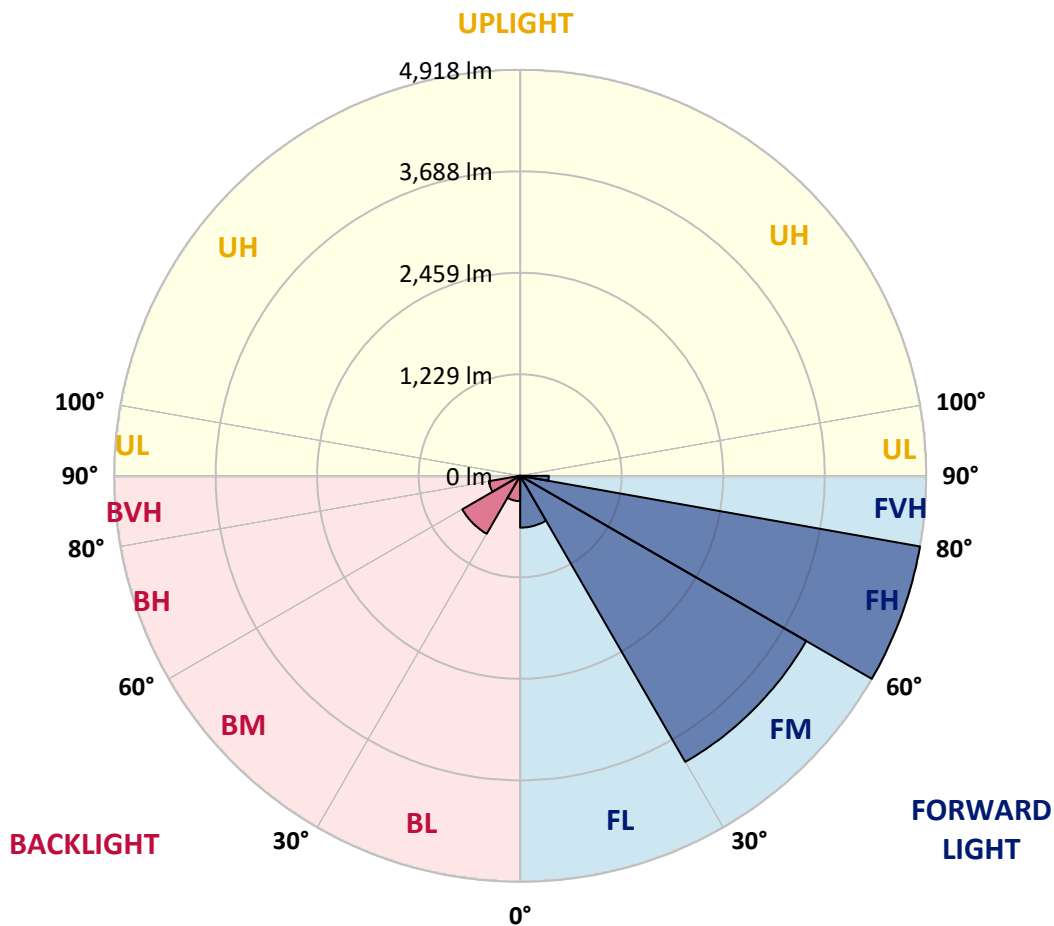
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	627.5	5.5			
FM (30°-60°)	4001.0	35.0			
FH (60°-80°)	4917.7	43.0			G2/5000
FVH (80°-90°)	346.5	3.0			G3/500
BL (0°-30°)	306.5	2.7	B1/500		
BM (30°-60°)	810.4	7.1	B1/1000		
BH (60°-80°)	385.6	3.4	B1/500		G1/500
BVH (80°-90°)	30.9	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-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	660.3	660.3	660.3	660.3	660.3	660.3	660.3	660.3	660.3	660.3	660.3
2.5°	823.7	784.2	750.0	748.6	780.3	792.5	787.6	776.9	764.2	737.4	795.9
5°	1031.9	975.4	964.6	951.9	923.2	931.0	884.2	919.8	931.0	956.8	995.8
7.5°	1154.8	1121.7	1095.8	1085.1	1035.3	1029.5	994.9	1045.6	1067.0	1063.6	1121.7
10°	1203.1	1172.9	1174.8	1139.7	1123.6	1130.4	1134.3	1135.3	1148.5	1159.2	1129.9
12.5°	1228.0	1239.7	1282.6	1258.7	1279.2	1287.5	1328.4	1286.5	1288.0	1232.8	1263.1
15°	1353.3	1382.6	1357.7	1356.7	1350.4	1364.0	1399.1	1370.9	1392.8	1375.2	1336.2
17.5°	1504.5	1513.3	1465.5	1446.0	1471.3	1466.9	1458.2	1462.5	1407.9	1509.4	1461.6
20°	1550.8	1585.4	1522.5	1446.0	1529.8	1541.1	1539.1	1520.1	1426.5	1572.8	1526.4
22.5°	1685.4	1638.6	1588.8	1540.1	1583.0	1589.3	1578.6	1533.3	1502.0	1557.6	1594.2
25°	1746.4	1735.2	1671.8	1665.9	1618.6	1596.2	1614.7	1601.5	1570.8	1669.8	1629.3
27.5°	1885.8	1872.7	1726.9	1786.8	1718.1	1712.2	1614.2	1658.1	1688.8	1681.5	1742.0
30°	2043.9	2059.0	1845.9	1905.8	1826.3	1815.6	1717.1	1772.7	1793.7	1800.5	1876.1
32.5°	2219.4	2260.9	2049.2	2000.0	1957.5	1964.8	1881.5	1780.0	1861.5	2020.9	2053.6
35°	2409.6	2426.7	2204.8	2130.7	2020.0	2012.2	2013.6	2026.3	2108.7	2290.6	2316.0
37.5°	2761.2	2682.2	2487.6	2299.9	2262.8	2190.2	2239.4	2278.4	2360.8	2639.8	2746.1
40°	2977.8	2919.2	2622.7	2514.0	2411.6	2418.4	2510.6	2510.1	2704.7	2992.4	3154.8
42.5°	3178.2	3114.3	2834.9	2725.6	2628.6	2652.5	2678.8	2725.1	3098.2	3562.0	3636.1
45°	3339.6	3199.6	2998.7	2974.3	2894.4	2862.7	2974.3	3048.5	3568.8	4022.8	4065.8
47.5°	3449.3	3334.2	3137.7	3116.3	3057.2	3134.8	3439.6	3487.4	3933.6	4485.6	4482.2
50°	3616.1	3458.6	3281.1	3269.9	3436.2	3477.6	3849.2	3844.4	4288.6	4869.9	4789.5
52.5°	3808.3	3609.8	3417.1	3537.6	3791.2	3811.7	4134.0	4265.2	4676.3	5240.6	5030.4
55°	4029.2	3807.3	3621.0	3781.9	4159.4	4098.9	4425.2	4745.6	5161.6	5631.2	5204.5
57.5°	4302.8	4033.6	3882.9	4127.7	4495.4	4549.0	4842.1	5245.4	5552.2	5874.1	5331.3
60°	4591.5	4275.5	4137.4	4370.6	4966.0	5027.5	5314.2	5660.9	5990.1	6102.8	5307.4
62.5°	4867.0	4525.1	4400.3	4688.0	5487.8	5640.0	5851.6	6072.5	6354.4	6158.4	5018.2
65°	5173.8	4831.4	4752.9	5184.5	6195.4	6346.6	6623.1	6556.8	6479.3	5961.4	4539.8
67.5°	5498.5	5150.8	5165.5	5760.4	7029.9	7055.7	7480.5	7039.6	6332.5	5439.5	3736.6
70°	5673.1	5317.1	5467.8	6374.4	7878.9	7841.8	7928.6	7169.3	5734.1	4299.8	2575.4
72.5°	5461.5	5144.0	5420.0	6632.9	8311.0	8271.0	7677.0	6399.3	4483.2	2673.9	1335.3
75°	4624.1	4317.9	4740.2	5912.6	7481.9	7519.0	6533.4	4758.7	2566.6	1075.3	554.5
77.5°	3142.1	2984.1	3345.9	4407.1	5557.6	5685.8	4847.5	2782.7	1077.8	445.2	335.5
80°	1660.5	1585.4	1852.7	2538.8	3519.1	3614.7	2850.5	1386.0	552.0	288.2	239.4
82.5°	902.2	870.5	1013.9	1305.5	1999.5	2082.9	1478.1	920.7	372.1	180.4	146.3
85°	606.2	594.0	689.1	701.3	945.6	972.9	774.4	709.1	223.4	88.3	96.6
87.5°	303.3	291.1	362.8	320.4	360.9	361.4	355.0	452.6	56.6	29.3	17.6
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°	660.3	660.3	660.3	660.3	660.3	660.3	660.3	660.3	660.3	660.3	660.3
2.5°	796.9	779.8	720.8	720.3	729.1	723.2	727.6	703.7	693.5	740.3	737.9
5°	990.5	939.3	890.0	872.9	852.9	809.5	812.0	812.5	805.2	833.0	834.9
7.5°	1104.1	1042.7	997.3	906.6	835.4	779.8	787.1	795.4	787.1	824.2	837.8
10°	1120.7	1071.9	1017.8	916.8	869.5	819.3	768.6	723.7	718.3	701.3	706.6
12.5°	1219.2	1178.7	1065.6	954.9	899.8	822.7	730.1	678.8	635.9	643.2	629.6
15°	1300.1	1271.4	1135.8	991.0	859.3	763.7	665.2	595.0	556.4	552.0	538.4
17.5°	1409.9	1368.9	1142.1	966.1	807.1	692.5	581.3	501.8	485.2	478.4	471.6
20°	1462.5	1388.9	1119.2	888.1	746.1	607.6	498.4	430.1	425.3	437.4	435.0
22.5°	1508.4	1405.5	1098.7	840.8	651.0	521.8	441.8	397.0	391.6	407.2	410.1
25°	1535.2	1452.8	1076.3	792.5	592.0	457.9	399.4	374.0	375.0	395.5	393.1
27.5°	1656.1	1469.4	1019.7	735.4	524.3	410.6	378.9	365.8	360.4	388.7	391.1
30°	1732.2	1577.6	1007.1	674.9	474.0	376.0	360.4	355.0	354.1	388.2	390.6
32.5°	1873.7	1613.7	1012.9	609.1	428.7	365.3	346.7	346.3	356.0	388.7	392.6
35°	2069.7	1765.9	984.6	571.6	403.8	348.7	336.0	339.9	356.5	392.1	397.5
37.5°	2452.0	1909.3	993.4	536.4	395.5	343.3	333.1	335.5	362.3	400.9	415.5
40°	2754.9	2169.2	979.7	518.9	384.3	342.3	326.7	336.5	361.9	405.7	418.9
42.5°	3193.8	2376.4	981.2	501.3	383.8	338.4	325.8	337.5	360.9	401.4	419.4
45°	3570.3	2562.3	1002.2	491.1	378.9	344.8	324.3	338.9	354.5	385.8	405.7
47.5°	3879.0	2769.5	1023.6	481.3	377.0	350.6	322.8	328.7	343.8	368.2	386.2
50°	4130.6	2915.3	1050.9	479.4	377.0	347.7	318.9	318.5	331.1	350.6	367.7
52.5°	4326.7	3018.2	1069.5	481.8	377.0	336.5	314.1	310.2	318.0	332.1	349.2
55°	4468.6	3049.9	1054.4	488.2	376.5	326.3	305.3	301.9	305.8	315.5	331.6
57.5°	4525.6	2966.5	964.1	476.9	376.5	318.9	294.6	290.7	294.6	301.9	318.0
60°	4382.7	2698.3	833.9	448.2	369.2	309.2	282.4	279.9	285.8	292.1	307.7
62.5°	4024.3	2341.8	694.9	414.0	354.1	300.9	270.7	271.1	280.4	289.2	304.8
65°	3467.4	1910.7	579.4	379.4	335.0	287.7	258.5	261.9	275.0	286.8	302.4
67.5°	2728.5	1415.7	487.7	345.8	308.2	266.3	244.8	245.8	255.1	266.3	281.4
70°	1823.9	900.7	400.9	306.3	273.1	238.5	223.8	220.4	218.0	227.7	240.9
72.5°	925.1	532.1	329.2	261.9	235.1	208.2	197.0	188.2	181.4	187.3	197.5
75°	484.8	372.1	265.8	217.5	194.1	177.0	168.7	157.0	152.2	155.6	162.9
77.5°	342.8	291.1	215.1	172.1	158.0	140.5	141.9	129.7	125.8	127.8	135.6
80°	263.3	230.7	165.3	130.2	121.9	104.9	109.7	102.4	97.5	96.6	102.4
82.5°	179.5	173.6	117.5	91.2	85.3	73.2	80.0	77.1	70.7	66.8	69.7
85°	120.9	115.1	71.7	52.7	50.2	38.0	48.8	46.8	41.5	35.6	36.1
87.5°	21.0	38.5	20.5	13.2	12.2	4.4	11.2	10.7	9.8	4.9	3.9
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)