

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: P367516

Luminaire Tested: **MSA-SA2C-830-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367516  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2C-830-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9777 lumens  
Efficiency: N/A  
Efficacy: 86.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B2 - U0 - G2

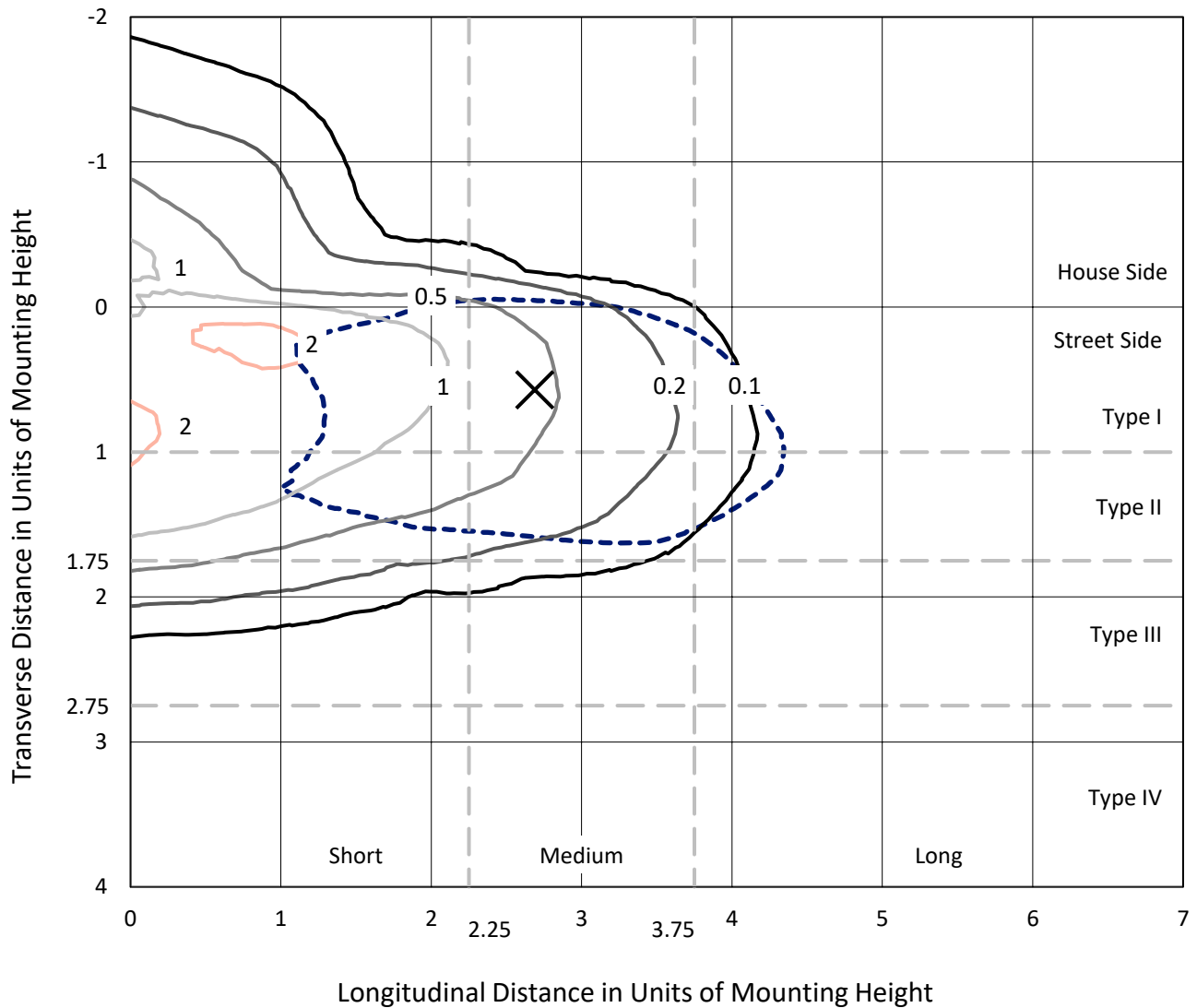
Input Watts (W): 113  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

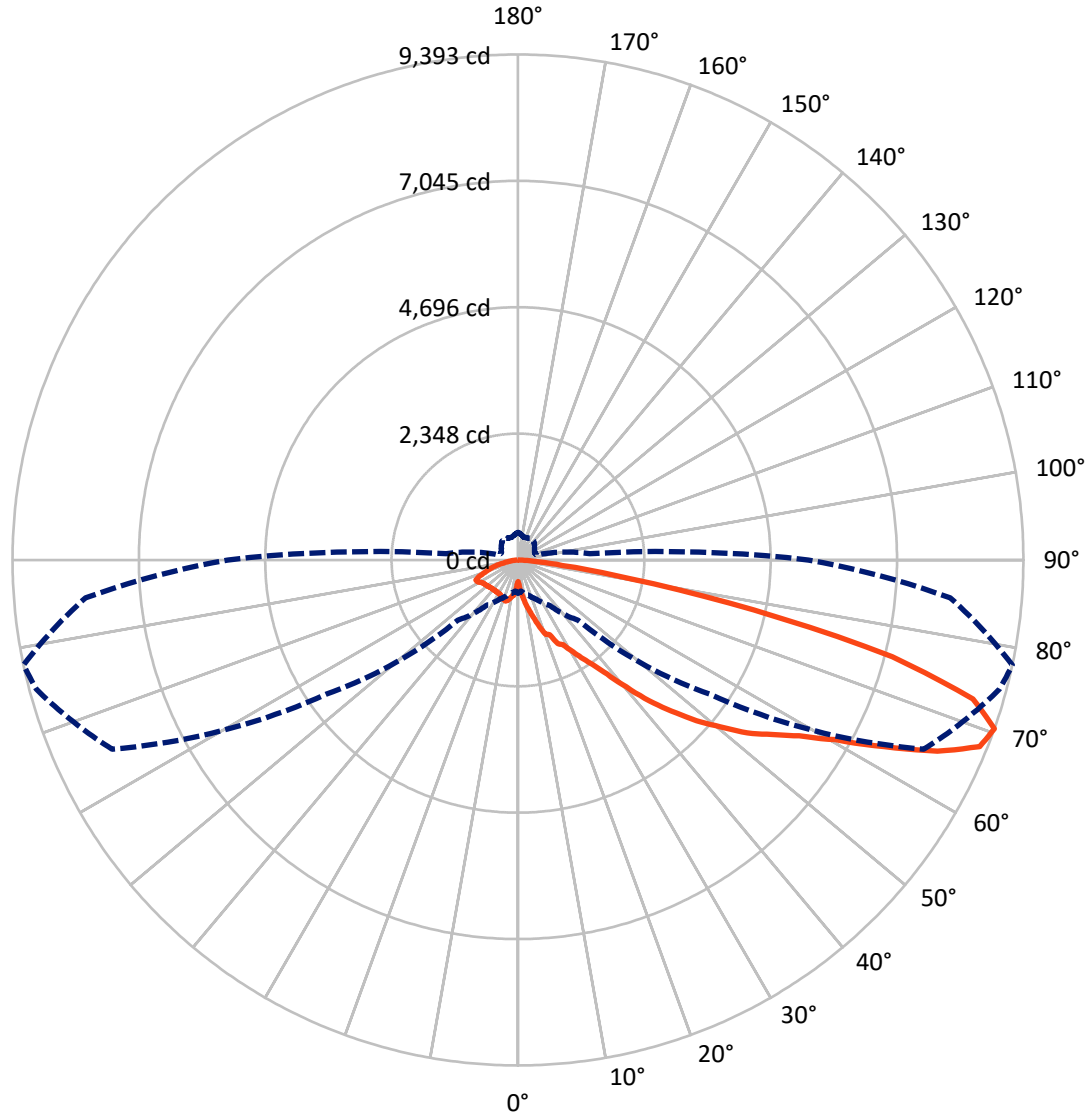
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1745.1	0.0	1745.1
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	8031.9	0.0	8031.9
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	9777.0	0.0	9777.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.6	0.6
10°-20°	271.4	2.8
20°-30°	522.4	5.3
30°-40°	880.0	9.0
40°-50°	1522.6	15.6
50°-60°	2298.9	23.5
60°-70°	2546.3	26.0
70°-80°	1468.0	15.0
80°-90°	205.9	2.1
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°	9777.0	100.0
0°-180°	9777.0	100.0

**Coefficient of Utilization**



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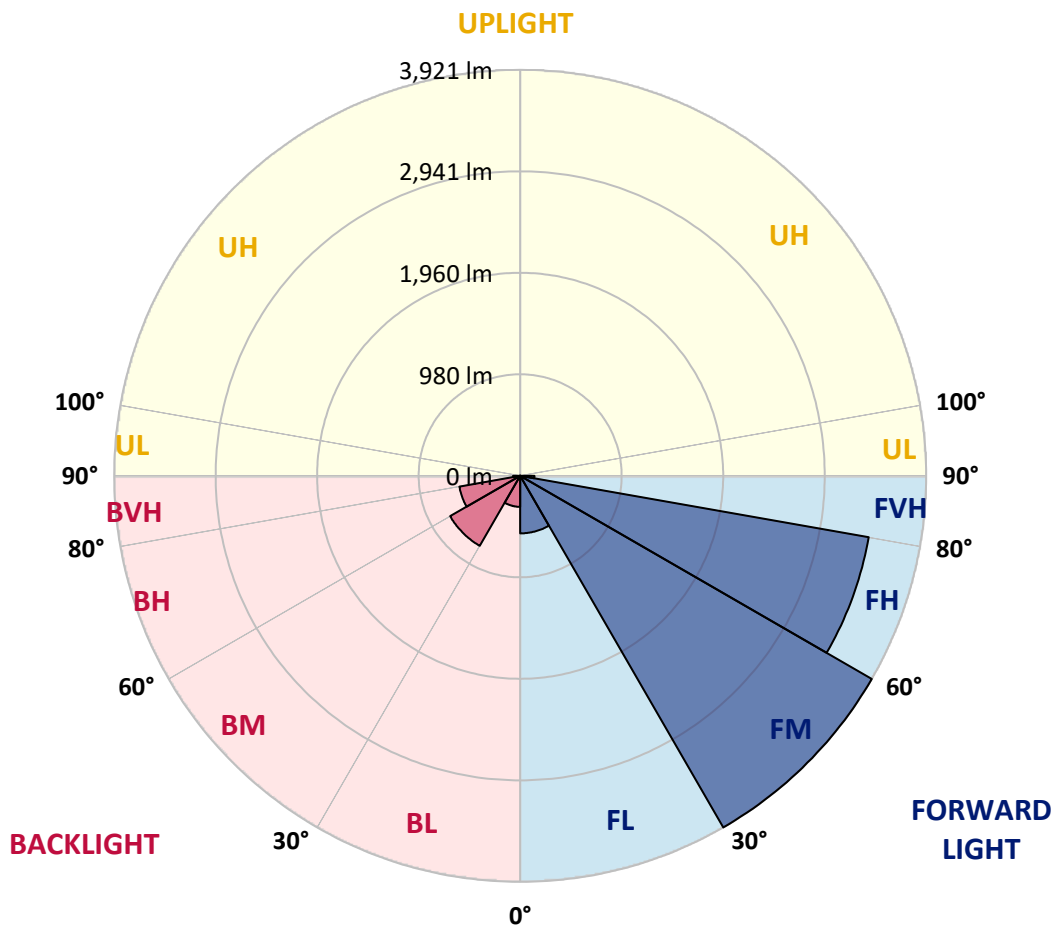
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	555.8	5.7			
FM (30°-60°)	3920.9	40.1			
FH (60°-80°)	3417.9	35.0			G2/5000
FVH (80°-90°)	137.3	1.4			G2/225
BL (0°-30°)	299.6	3.1	B1/500		
BM (30°-60°)	780.5	8.0	B1/1000		
BH (60°-80°)	596.4	6.1	B2/1000		G2/1000
BVH (80°-90°)	68.5	0.7			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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	398.6	398.6	398.6	398.6	398.6	398.6	398.6	398.6	398.6	398.6	398.6
2.5°	513.1	494.8	467.1	478.5	492.4	494.0	489.5	464.2	455.7	474.8	480.5
5°	719.0	688.0	669.2	663.1	642.3	599.1	630.1	614.2	617.5	608.1	626.4
7.5°	892.2	871.4	843.7	835.9	788.3	754.4	775.6	768.7	735.3	722.2	743.0
10°	980.2	957.4	958.6	941.9	929.3	932.5	921.9	891.4	866.5	849.0	798.9
12.5°	1033.2	1038.9	1069.5	1060.9	1108.6	1147.7	1118.0	1072.7	994.1	978.2	928.5
15°	1159.2	1180.4	1151.8	1164.9	1185.2	1260.2	1248.0	1238.2	1155.1	1124.1	1032.4
17.5°	1288.8	1292.8	1249.6	1242.7	1291.6	1329.5	1377.2	1322.2	1332.4	1310.8	1162.4
20°	1316.5	1344.6	1282.7	1239.9	1340.5	1415.5	1474.6	1416.3	1470.1	1475.8	1269.6
22.5°	1418.0	1384.1	1302.6	1260.6	1348.7	1440.8	1537.0	1569.6	1552.5	1504.4	1373.1
25°	1488.5	1470.5	1387.4	1340.9	1374.4	1459.1	1627.9	1713.1	1728.1	1721.6	1471.8
27.5°	1619.3	1628.3	1457.1	1470.1	1423.7	1431.4	1682.5	1903.4	1809.2	1783.2	1594.0
30°	1826.0	1786.0	1594.0	1604.6	1527.6	1514.6	1797.8	2067.7	1983.3	1951.9	1694.7
32.5°	2041.6	2045.2	1812.1	1721.6	1680.5	1667.4	1775.0	2153.7	2203.4	2162.6	1846.7
35°	2345.6	2324.4	2048.5	1929.5	1780.7	1757.9	1937.6	2403.1	2494.4	2380.3	2027.3
37.5°	2808.6	2744.6	2423.5	2148.4	2038.3	2012.2	2170.0	2626.8	2832.3	2690.4	2322.4
40°	3180.3	3050.3	2758.5	2423.5	2237.2	2269.4	2335.0	2898.3	3182.8	3102.9	2595.5
42.5°	3476.7	3361.3	2995.7	2760.1	2507.0	2467.1	2538.8	3234.6	3659.7	3581.4	2936.2
45°	3760.7	3526.0	3262.3	3050.3	2807.0	2855.5	2844.9	3577.7	4244.5	4003.7	3237.4
47.5°	4041.2	3820.7	3544.7	3259.8	3014.9	3316.9	3204.0	3832.9	4639.1	4460.6	3554.5
50°	4401.5	4158.9	3844.7	3558.2	3411.4	3632.3	3442.8	4048.9	5080.9	4871.4	3853.7
52.5°	4640.7	4404.7	4129.2	3924.6	3911.1	3825.9	3777.4	4322.4	5468.1	5340.9	4170.8
55°	4612.6	4385.1	4260.4	4282.8	4449.1	4161.8	4122.3	4727.1	5872.0	5724.9	4513.1
57.5°	4260.0	4011.8	4038.3	4171.2	4617.9	4751.6	4684.3	5159.5	6232.3	6165.5	4936.6
60°	3318.5	3190.9	3406.5	3649.5	4392.1	4924.4	5397.2	5687.0	6675.7	6782.5	5601.8
62.5°	2155.7	1985.3	2326.1	2738.5	3718.3	4810.3	6123.1	6687.2	7402.1	7644.6	6612.6
65°	1116.8	1089.5	1327.9	1706.9	2588.5	4101.5	6379.0	7736.3	8284.9	8567.3	7578.1
67.5°	811.9	761.4	871.8	1094.8	1580.2	2796.8	5894.0	8538.8	8993.6	9252.5	8139.4
70°	618.3	580.8	665.2	803.3	1032.0	1579.8	4350.9	8319.9	9267.1	9392.7	8064.8
72.5°	463.0	430.8	504.6	633.4	795.2	889.3	2571.8	6840.8	8800.5	8843.3	7238.2
75°	369.7	344.8	376.6	500.1	648.1	605.3	1366.2	4956.2	7150.2	7186.8	5528.8
77.5°	303.2	282.0	295.1	375.0	504.2	455.3	677.8	3152.6	4539.6	4483.4	3110.6
80°	247.4	229.1	235.2	271.0	383.9	339.9	380.7	1644.6	2165.5	2078.2	1293.7
82.5°	190.3	174.9	187.1	199.3	278.0	244.1	222.1	748.3	886.9	826.2	474.4
85°	127.6	113.3	162.6	149.6	181.8	150.0	121.5	297.9	330.5	308.1	166.7
87.5°	35.1	33.0	54.6	74.6	74.6	56.7	44.4	72.1	92.1	80.7	39.1
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°	398.6	398.6	398.6	398.6	398.6	398.6	398.6	398.6	398.6	398.6	398.6
2.5°	483.0	474.0	450.4	448.3	454.0	454.9	451.2	442.6	438.1	462.6	458.9
5°	622.0	590.2	571.0	553.5	529.0	511.5	516.0	528.2	532.3	550.6	552.7
7.5°	730.0	688.0	646.0	589.8	552.7	529.0	547.0	560.0	570.2	596.3	606.9
10°	776.8	731.2	671.7	612.6	602.4	606.5	596.3	599.5	615.4	616.7	622.0
12.5°	864.1	812.3	705.1	651.7	648.9	657.4	653.8	668.8	679.8	709.6	697.0
15°	947.6	881.6	730.4	675.8	663.9	681.1	701.0	726.3	749.9	778.1	763.8
17.5°	1049.1	949.7	731.6	664.8	666.8	703.5	724.3	738.1	808.6	847.4	827.8
20°	1113.1	956.6	704.3	637.5	666.8	699.8	728.8	743.8	822.9	881.2	894.6
22.5°	1171.0	959.0	683.1	622.8	641.5	685.1	728.8	762.2	812.7	868.6	870.6
25°	1202.8	957.0	655.8	624.0	641.1	662.7	701.4	732.0	769.5	847.4	849.4
27.5°	1284.3	930.5	628.9	628.9	637.9	638.7	688.0	705.9	711.2	782.1	794.8
30°	1307.9	936.2	625.6	628.1	632.6	624.4	646.0	657.8	665.6	726.7	728.8
32.5°	1345.8	890.6	635.4	620.7	615.0	613.8	619.1	629.7	633.0	670.5	677.4
35°	1391.9	872.2	638.7	618.7	607.3	601.2	617.1	604.0	614.2	658.2	663.1
37.5°	1541.9	847.0	655.4	618.7	604.0	597.1	589.4	595.5	631.7	674.1	700.2
40°	1637.7	854.7	651.3	624.8	593.0	586.5	573.5	595.9	652.1	727.1	746.7
42.5°	1805.6	859.2	656.2	622.0	596.7	571.4	580.0	604.4	663.5	706.3	736.5
45°	1979.2	873.0	652.9	613.4	588.5	600.4	588.5	610.6	638.7	639.9	662.7
47.5°	2149.6	928.9	646.0	595.9	586.5	617.5	587.3	591.0	593.0	600.4	627.3
50°	2349.7	988.4	636.2	571.4	589.4	618.3	591.8	573.9	571.8	595.9	626.0
52.5°	2577.1	1055.6	623.6	547.8	572.6	610.6	607.3	575.1	557.6	580.8	611.0
55°	2844.9	1132.3	608.9	524.1	554.3	611.4	615.9	566.5	558.0	583.2	615.4
57.5°	3200.7	1243.1	580.4	489.9	531.9	598.7	593.8	556.8	548.6	575.5	608.9
60°	3808.0	1456.3	539.6	456.1	507.8	567.8	575.9	539.2	531.1	560.8	595.9
62.5°	4621.1	1712.6	490.3	423.1	478.5	534.3	553.5	514.0	513.1	551.0	587.7
65°	5378.0	1858.2	439.4	392.9	448.3	503.4	528.2	490.3	491.9	539.6	576.3
67.5°	5692.7	1687.0	393.7	366.0	413.7	467.9	507.4	472.0	466.7	524.1	558.0
70°	5397.2	1340.1	354.2	337.5	374.6	429.6	478.5	447.5	435.3	487.5	514.0
72.5°	4775.6	1117.2	317.1	304.1	340.3	389.2	439.4	414.5	398.6	438.6	462.2
75°	3733.0	916.6	274.7	271.0	301.2	352.6	398.6	381.5	361.1	386.4	410.0
77.5°	2125.5	580.0	230.7	233.1	254.7	308.9	349.7	336.3	315.5	326.1	353.4
80°	850.6	292.6	185.4	187.1	205.4	253.9	289.8	284.9	263.3	271.9	290.6
82.5°	317.9	160.6	136.9	137.8	156.1	200.9	247.4	245.0	224.6	218.5	229.1
85°	126.3	79.5	84.0	87.6	105.2	144.7	198.5	176.1	152.0	133.3	139.8
87.5°	30.2	25.3	29.3	31.0	34.2	45.2	72.5	58.3	59.9	48.1	35.9
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)