

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: P367268

Luminaire Tested: **MSA-SA2B-727-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367268  
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-SA2B-727-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 8114 lumens  
Efficiency: N/A  
Efficacy: 95.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

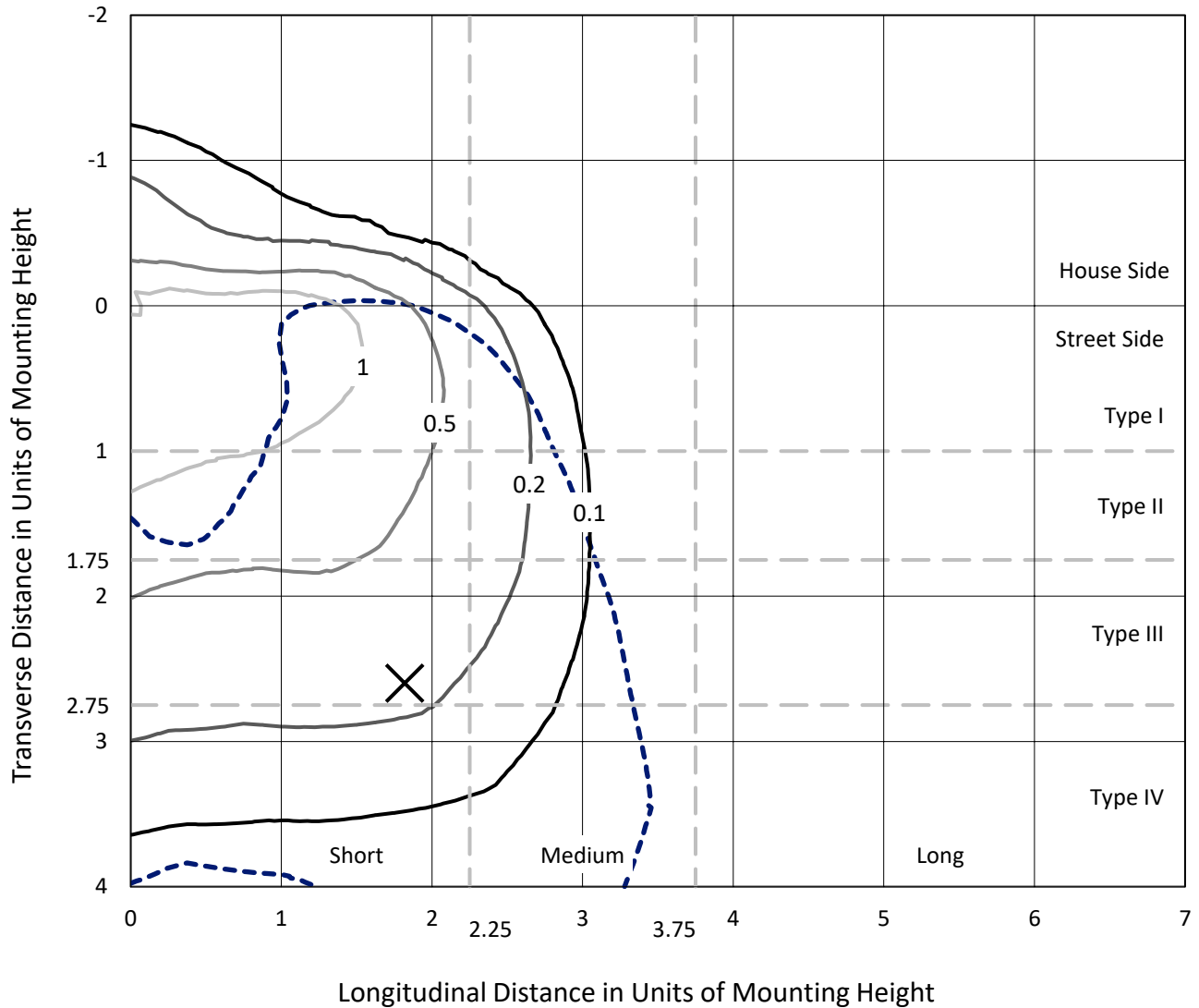
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

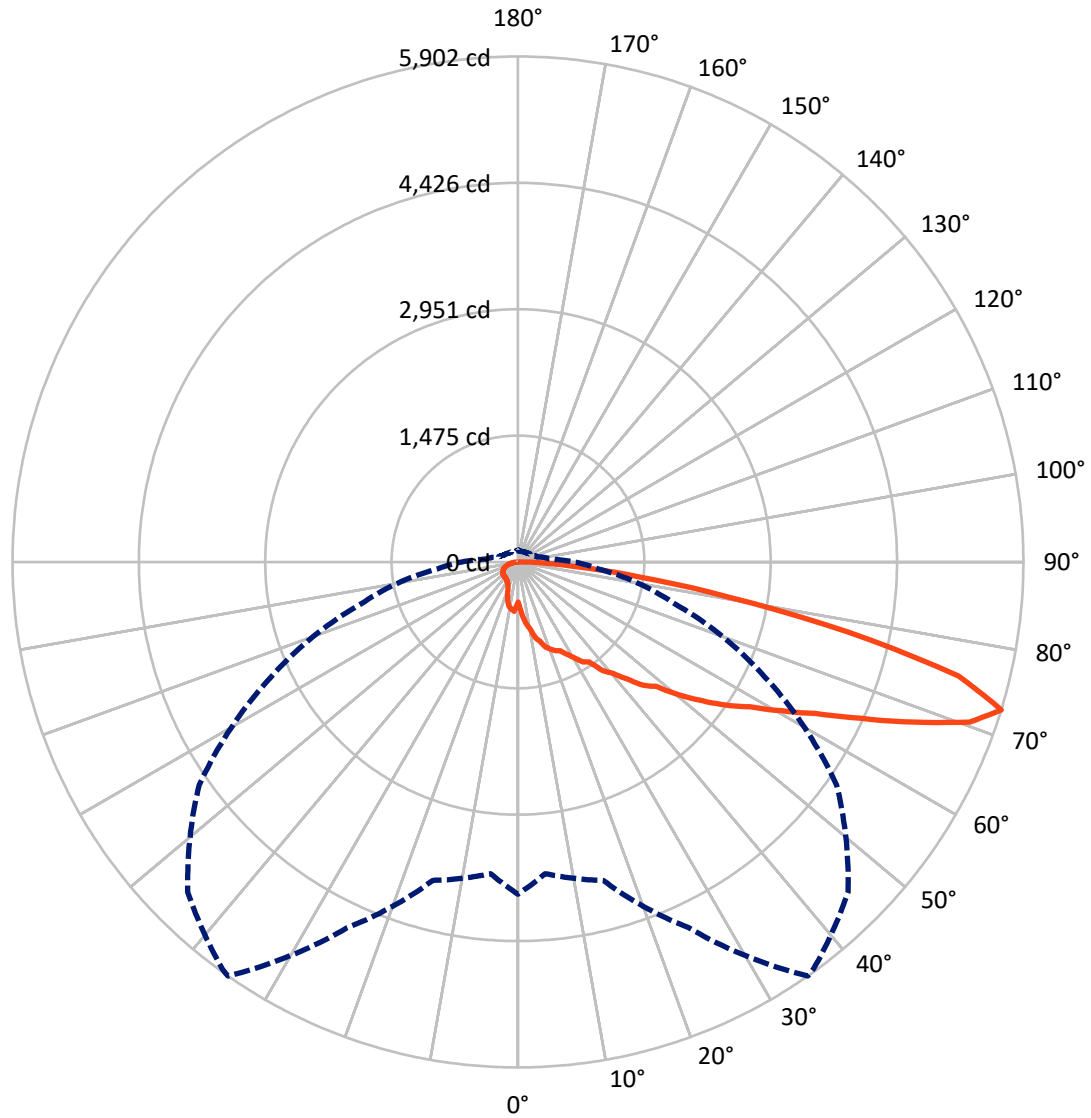
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.6 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	1088.9	0.0	1088.9
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	7025.1	0.0	7025.1
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	8114.0	0.0	8114.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.3	0.8
10°-20°	219.5	2.7
20°-30°	381.4	4.7
30°-40°	637.5	7.9
40°-50°	1106.5	13.6
50°-60°	1672.7	20.6
60°-70°	2167.0	26.7
70°-80°	1599.0	19.7
80°-90°	268.0	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°	8114.0	100.0
0°-180°	8114.0	100.0

**Coefficient of Utilization**



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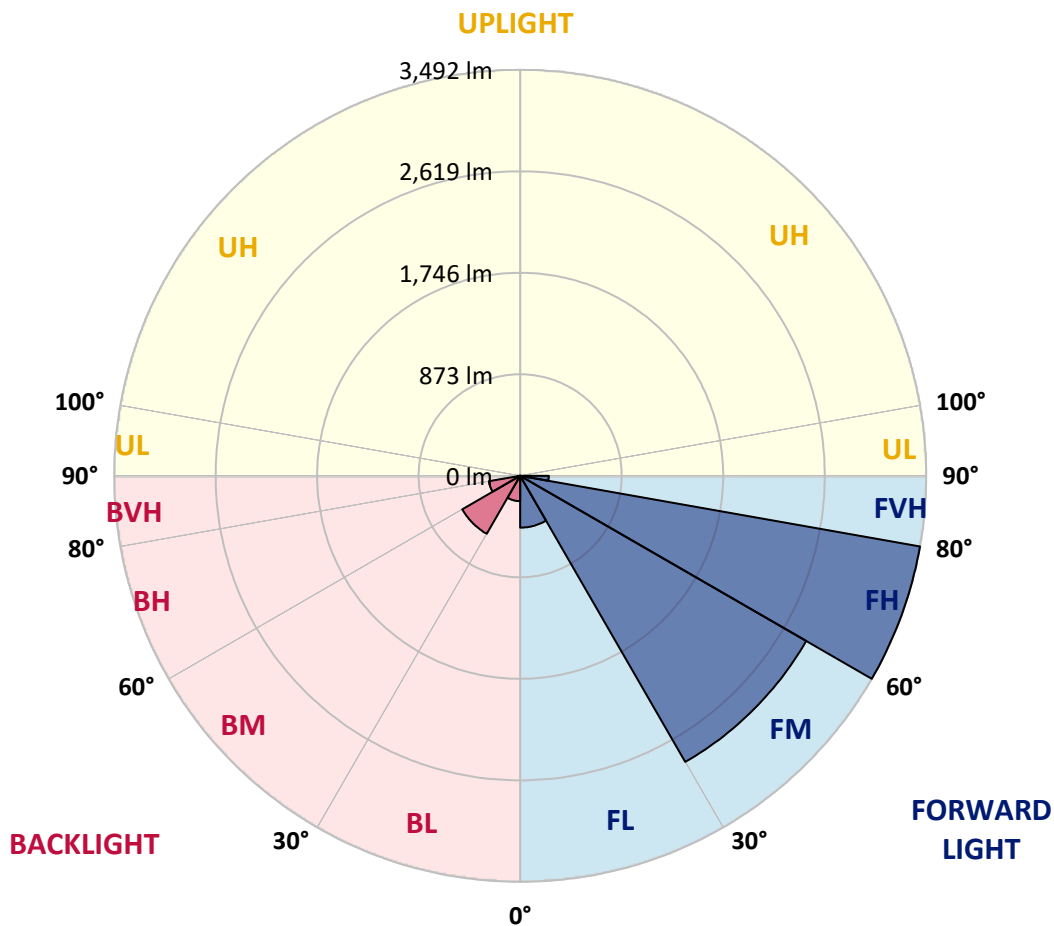
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	445.6	5.5			
FM (30°-60°)	2841.2	35.0			
FH (60°-80°)	3492.2	43.0			G2/5000
FVH (80°-90°)	246.1	3.0			G3/500
BL (0°-30°)	217.6	2.7	B1/500		
BM (30°-60°)	575.5	7.1	B1/1000		
BH (60°-80°)	273.8	3.4	B1/500		G1/500
BVH (80°-90°)	21.9	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°	468.9	468.9	468.9	468.9	468.9	468.9	468.9	468.9	468.9	468.9	468.9
2.5°	584.9	556.9	532.6	531.6	554.1	562.8	559.3	551.7	542.7	523.6	565.2
5°	732.8	692.6	685.0	676.0	655.6	661.1	627.9	653.2	661.1	679.5	707.2
7.5°	820.1	796.5	778.2	770.6	735.2	731.1	706.5	742.5	757.7	755.3	796.5
10°	854.4	832.9	834.3	809.3	797.9	802.8	805.5	806.2	815.6	823.2	802.4
12.5°	872.0	880.3	910.8	893.8	908.4	914.3	943.4	913.6	914.6	875.5	897.0
15°	961.0	981.8	964.1	963.5	958.9	968.6	993.6	973.5	989.1	976.6	948.9
17.5°	1068.4	1074.6	1040.7	1026.8	1044.8	1041.7	1035.5	1038.6	999.8	1071.8	1037.9
20°	1101.3	1125.9	1081.2	1026.8	1086.4	1094.4	1093.0	1079.5	1013.0	1116.9	1084.0
22.5°	1196.9	1163.6	1128.3	1093.7	1124.1	1128.6	1121.0	1088.8	1066.7	1106.1	1132.1
25°	1240.2	1232.2	1187.2	1183.0	1149.4	1133.5	1146.7	1137.3	1115.5	1185.8	1157.0
27.5°	1339.2	1329.9	1226.3	1268.9	1220.1	1215.9	1146.3	1177.5	1199.3	1194.1	1237.0
30°	1451.4	1462.1	1310.8	1353.4	1297.0	1289.3	1219.4	1258.9	1273.7	1278.6	1332.3
32.5°	1576.1	1605.5	1455.2	1420.2	1390.1	1395.3	1336.1	1264.1	1321.9	1435.1	1458.3
35°	1711.1	1723.3	1565.7	1513.1	1434.4	1428.9	1429.9	1438.9	1497.5	1626.6	1644.7
37.5°	1960.8	1904.7	1766.6	1633.2	1606.9	1555.3	1590.3	1618.0	1676.5	1874.6	1950.1
40°	2114.6	2073.0	1862.5	1785.3	1712.5	1717.4	1782.8	1782.5	1920.7	2125.0	2240.3
42.5°	2256.9	2211.6	2013.1	1935.6	1866.6	1883.6	1902.3	1935.2	2200.1	2529.5	2582.1
45°	2371.6	2272.2	2129.5	2112.2	2055.4	2032.9	2112.2	2164.8	2534.3	2856.8	2887.2
47.5°	2449.5	2367.8	2228.2	2213.0	2171.1	2226.1	2442.6	2476.5	2793.4	3185.4	3183.0
50°	2567.9	2456.1	2330.0	2322.0	2440.1	2469.6	2733.5	2730.0	3045.5	3458.3	3401.2
52.5°	2704.4	2563.4	2426.6	2512.2	2692.3	2706.8	2935.7	3028.9	3320.8	3721.5	3572.2
55°	2861.3	2703.7	2571.4	2685.7	2953.7	2910.8	3142.5	3370.0	3665.4	3998.9	3695.9
57.5°	3055.5	2864.4	2757.4	2931.2	3192.3	3230.4	3438.6	3725.0	3942.8	4171.4	3785.9
60°	3260.6	3036.2	2938.1	3103.7	3526.5	3570.2	3773.8	4020.0	4253.8	4333.8	3769.0
62.5°	3456.2	3213.5	3124.8	3329.1	3897.1	4005.1	4155.4	4312.3	4512.5	4373.3	3563.6
65°	3674.1	3431.0	3375.2	3681.7	4399.6	4507.0	4703.3	4656.2	4601.2	4233.4	3223.9
67.5°	3904.7	3657.8	3668.2	4090.7	4992.1	5010.5	5312.1	4999.1	4496.9	3862.8	2653.5
70°	4028.7	3775.9	3882.9	4526.7	5595.1	5568.8	5630.4	5091.2	4072.0	3053.5	1828.9
72.5°	3878.4	3652.9	3849.0	4710.2	5901.9	5873.5	5451.7	4544.4	3183.7	1898.8	948.2
75°	3283.8	3066.3	3366.2	4198.7	5313.2	5339.5	4639.6	3379.3	1822.7	763.6	393.8
77.5°	2231.3	2119.1	2376.1	3129.7	3946.6	4037.7	3442.4	1976.1	765.4	316.2	238.3
80°	1179.2	1125.9	1315.7	1802.9	2499.0	2566.9	2024.2	984.2	392.0	204.7	170.0
82.5°	640.7	618.2	720.0	927.1	1419.9	1479.1	1049.7	653.8	264.2	128.1	103.9
85°	430.5	421.8	489.3	498.0	671.5	690.9	549.9	503.5	158.6	62.7	68.6
87.5°	215.4	206.8	257.7	227.5	256.3	256.6	252.1	321.4	40.2	20.8	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°	468.9	468.9	468.9	468.9	468.9	468.9	468.9	468.9	468.9	468.9	468.9
2.5°	565.9	553.8	511.9	511.5	517.7	513.6	516.7	499.7	492.5	525.7	524.0
5°	703.4	667.0	632.0	619.9	605.7	574.9	576.6	577.0	571.8	591.5	592.9
7.5°	784.1	740.4	708.2	643.8	593.2	553.8	559.0	564.8	559.0	585.3	595.0
10°	795.8	761.2	722.8	651.1	617.5	581.8	545.8	513.9	510.1	498.0	501.8
12.5°	865.8	837.0	756.7	678.1	639.0	584.2	518.4	482.1	451.6	456.8	447.1
15°	923.3	902.8	806.6	703.7	610.2	542.3	472.4	422.5	395.1	392.0	382.3
17.5°	1001.2	972.1	811.1	686.1	573.2	491.8	412.8	356.4	344.6	339.7	334.9
20°	1038.6	986.3	794.8	630.6	529.9	431.5	353.9	305.5	302.0	310.6	308.9
22.5°	1071.2	998.1	780.2	597.0	462.3	370.6	313.8	281.9	278.1	289.2	291.3
25°	1090.2	1031.7	764.3	562.8	420.4	325.2	283.6	265.6	266.3	280.9	279.1
27.5°	1176.1	1043.4	724.1	522.2	372.3	291.6	269.1	259.7	255.9	276.0	277.7
30°	1230.1	1120.3	715.1	479.3	336.6	267.0	255.9	252.1	251.4	275.7	277.4
32.5°	1330.5	1146.0	719.3	432.5	304.4	259.4	246.2	245.9	252.8	276.0	278.8
35°	1469.8	1254.0	699.2	405.9	286.7	247.6	238.6	241.4	253.2	278.4	282.2
37.5°	1741.3	1355.8	705.4	380.9	280.9	243.8	236.5	238.3	257.3	284.7	295.1
40°	1956.3	1540.4	695.7	368.5	272.9	243.1	232.0	239.0	257.0	288.1	297.5
42.5°	2268.0	1687.6	696.8	356.0	272.6	240.3	231.3	239.7	256.3	285.0	297.8
45°	2535.4	1819.5	711.7	348.7	269.1	244.8	230.3	240.7	251.8	273.9	288.1
47.5°	2754.6	1966.7	726.9	341.8	267.7	249.0	229.3	233.4	244.2	261.5	274.3
50°	2933.3	2070.3	746.3	340.4	267.7	246.9	226.5	226.1	235.1	249.0	261.1
52.5°	3072.5	2143.3	759.5	342.2	267.7	239.0	223.0	220.3	225.8	235.8	248.0
55°	3173.3	2165.9	748.7	346.7	267.4	231.7	216.8	214.4	217.1	224.1	235.5
57.5°	3213.8	2106.6	684.7	338.7	267.4	226.5	209.2	206.4	209.2	214.4	225.8
60°	3112.3	1916.2	592.2	318.3	262.2	219.6	200.5	198.8	202.9	207.4	218.5
62.5°	2857.8	1663.0	493.5	294.0	251.4	213.7	192.2	192.6	199.1	205.4	216.4
65°	2462.3	1356.9	411.4	269.4	237.9	204.3	183.5	186.0	195.3	203.6	214.7
67.5°	1937.6	1005.4	346.3	245.5	218.9	189.1	173.9	174.5	181.1	189.1	199.8
70°	1295.2	639.6	284.7	217.5	193.9	169.3	159.0	156.5	154.8	161.7	171.1
72.5°	657.0	377.8	233.8	186.0	166.9	147.9	139.9	133.7	128.8	133.0	140.3
75°	344.2	264.2	188.7	154.5	137.8	125.7	119.8	111.5	108.1	110.5	115.7
77.5°	243.5	206.8	152.7	122.2	112.2	99.7	100.8	92.1	89.3	90.7	96.3
80°	187.0	163.8	117.4	92.5	86.6	74.5	77.9	72.7	69.3	68.6	72.7
82.5°	127.4	123.3	83.5	64.8	60.6	51.9	56.8	54.7	50.2	47.4	49.5
85°	85.9	81.7	50.9	37.4	35.7	27.0	34.6	33.2	29.4	25.3	25.6
87.5°	14.9	27.4	14.5	9.4	8.7	3.1	8.0	7.6	6.9	3.5	2.8
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)