

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: P368323

Luminaire Tested: **MSA-SA4B-727-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368323  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4B-727-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13438 lumens  
Efficiency: N/A  
Efficacy: 78.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

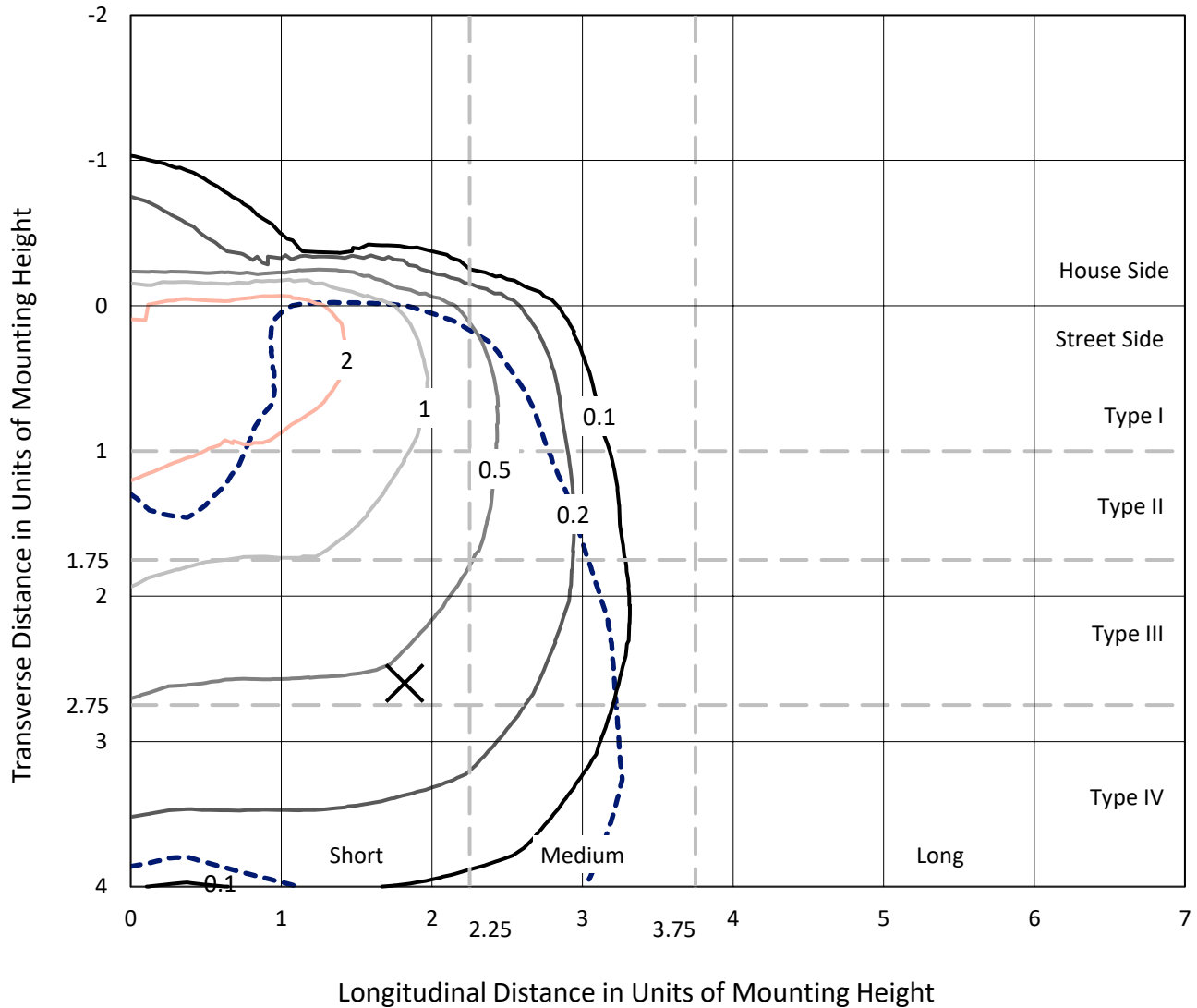
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

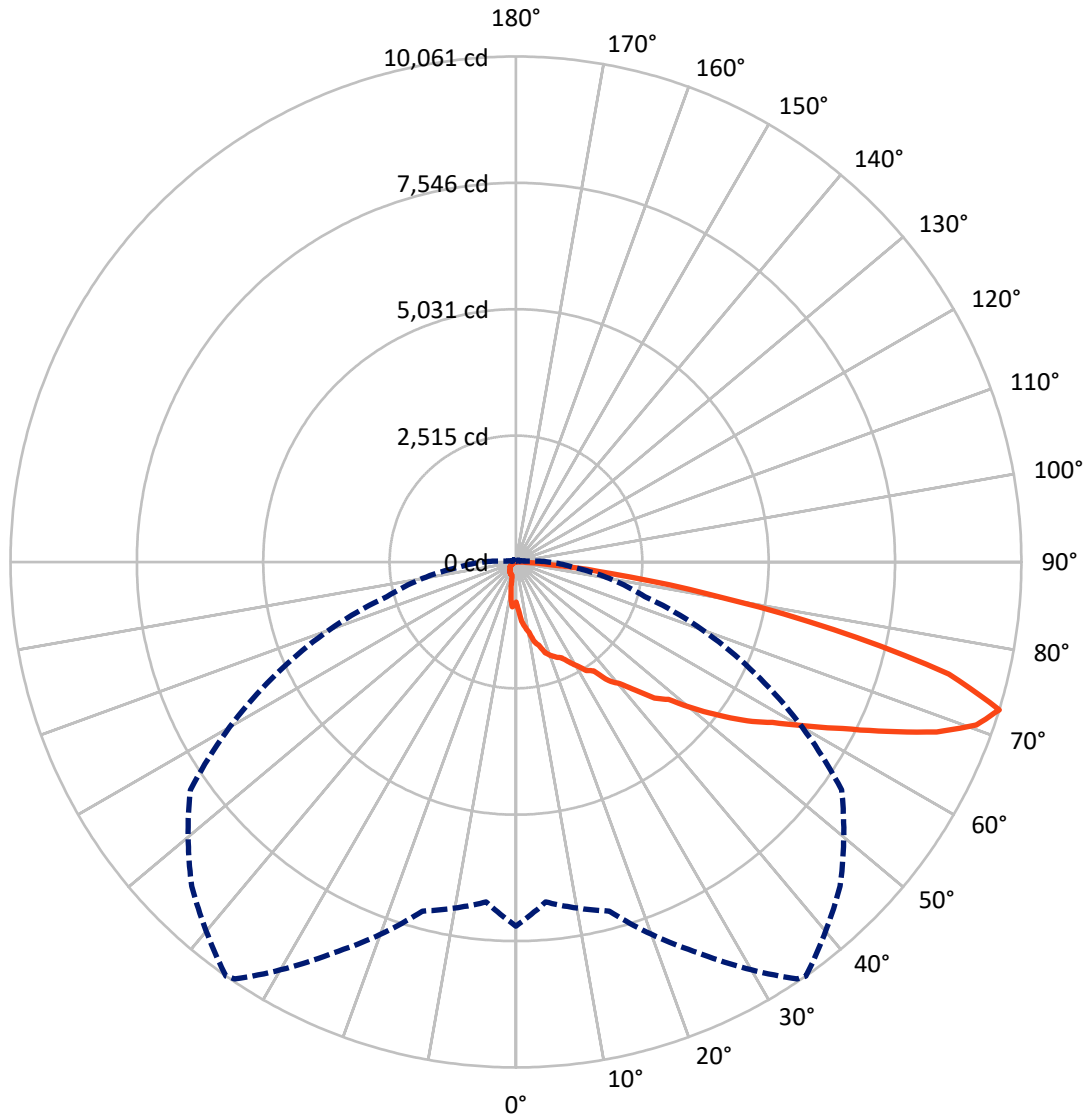
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 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	1048.1	0.0	1048.1
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	12389.9	0.0	12389.9
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	13438.0	0.0	13438.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	102.1	0.8
10°-20°	343.9	2.6
20°-30°	626.3	4.7
30°-40°	1080.3	8.0
40°-50°	1920.3	14.3
50°-60°	2865.6	21.3
60°-70°	3661.1	27.2
70°-80°	2547.1	19.0
80°-90°	291.4	2.2
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°	13438.0	100.0
0°-180°	13438.0	100.0

**Coefficient of Utilization**

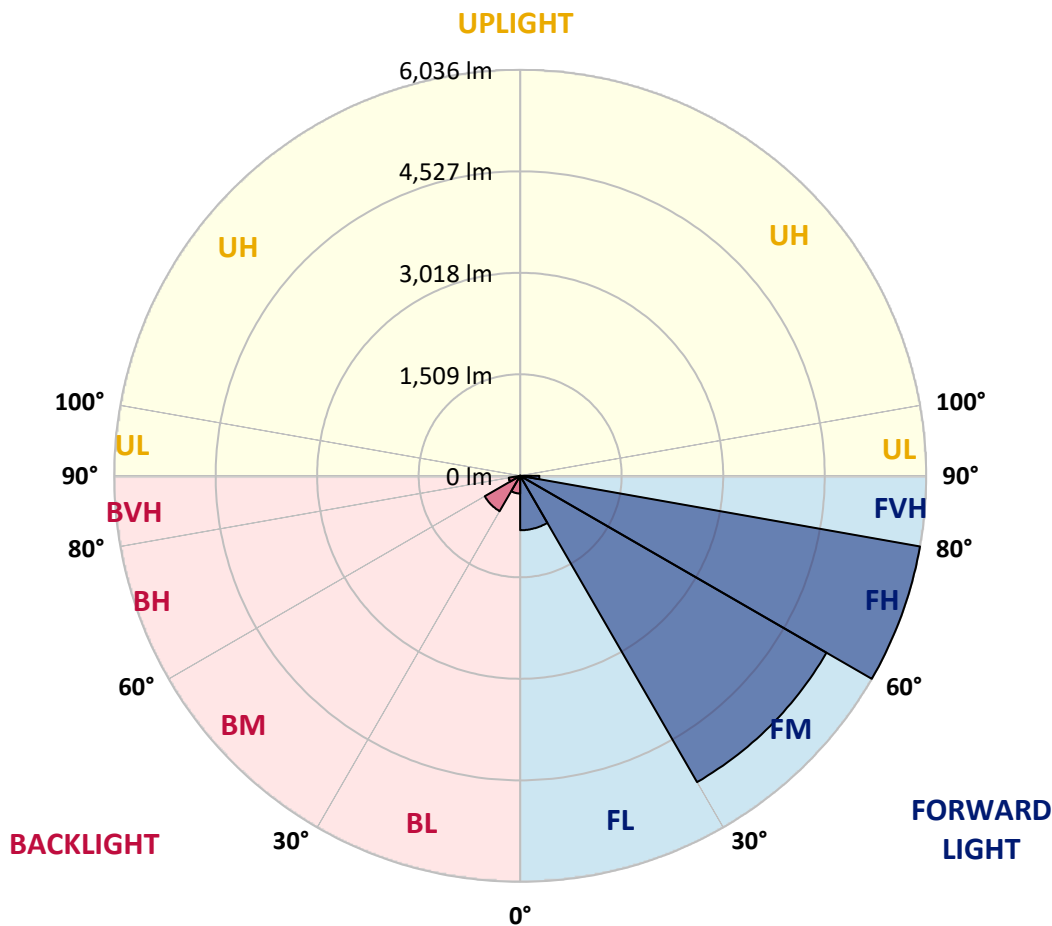


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	808.7	6.0			
FM (30°-60°)	5258.3	39.1			
FH (60°-80°)	6036.4	44.9			G3/7500
FVH (80°-90°)	286.5	2.1			G3/500
BL (0°-30°)	263.6	2.0	B1/500		
BM (30°-60°)	607.8	4.5	B1/1000		
BH (60°-80°)	171.8	1.3	B1/500		G1/500
BVH (80°-90°)	4.9	0.0			G0/10
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°	34°	35°	45°	55°	65°	75°	85°
0°	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5
2.5°	1018.7	978.8	914.0	918.7	947.8	953.8	962.6	939.7	919.4	883.6	953.2
5°	1305.1	1247.7	1211.2	1199.7	1182.8	1184.2	1143.0	1157.9	1153.8	1180.1	1211.9
7.5°	1466.6	1434.8	1388.9	1376.0	1313.9	1307.1	1256.5	1324.7	1331.5	1322.0	1374.0
10°	1530.7	1488.9	1494.3	1446.3	1415.2	1423.3	1431.4	1436.8	1445.6	1454.4	1390.9
12.5°	1568.6	1576.0	1649.6	1599.6	1630.7	1630.7	1685.4	1627.3	1629.4	1565.9	1576.7
15°	1738.8	1780.0	1746.9	1746.2	1712.5	1721.2	1784.7	1738.8	1762.5	1743.5	1670.6
17.5°	1952.3	1960.4	1897.6	1869.9	1900.3	1900.9	1873.9	1871.9	1789.5	1928.6	1840.1
20°	2020.5	2066.4	1977.3	1869.2	1995.5	1989.4	1987.4	1955.7	1818.5	2011.7	1938.8
22.5°	2206.3	2140.7	2079.9	2009.0	2058.3	2058.3	2050.9	1981.3	1928.0	2004.3	2035.4
25°	2264.4	2272.5	2193.4	2170.5	2171.8	2111.0	2105.6	2075.9	2024.6	2154.9	2092.8
27.5°	2464.3	2460.9	2271.1	2335.3	2253.6	2254.2	2104.9	2171.8	2180.6	2162.4	2231.9
30°	2660.9	2715.6	2429.2	2510.3	2424.5	2398.8	2252.9	2312.3	2327.9	2306.9	2394.7
32.5°	2911.5	2991.9	2713.6	2633.9	2502.8	2575.8	2475.1	2334.6	2411.6	2598.8	2648.1
35°	3177.0	3216.2	2919.6	2808.2	2660.2	2659.6	2656.2	2667.7	2752.8	2963.5	3005.4
37.5°	3653.9	3561.4	3293.2	3037.8	3070.9	2997.3	2946.0	3000.0	3088.5	3435.7	3614.7
40°	3920.1	3853.2	3475.6	3324.3	3160.1	3187.1	3326.3	3320.2	3556.0	3919.4	4187.6
42.5°	4178.8	4115.3	3743.8	3621.5	3410.7	3484.4	3545.2	3622.2	4105.2	4691.5	4838.8
45°	4409.2	4222.7	3960.6	3965.3	3855.9	3864.7	3972.1	4043.0	4741.5	5342.7	5446.1
47.5°	4548.3	4395.0	4143.7	4139.0	4132.2	4091.0	4597.0	4661.8	5248.8	5962.9	5972.3
50°	4744.2	4552.4	4332.2	4336.2	4492.3	4579.4	5183.3	5176.6	5738.6	6480.3	6262.1
52.5°	4988.1	4753.7	4511.2	4691.5	4932.7	5074.6	5565.0	5764.9	6264.8	6805.3	6375.6
55°	5300.2	5007.0	4773.3	5004.3	5530.5	5585.3	5938.6	6360.8	6838.4	7136.9	6412.1
57.5°	5666.3	5316.4	5127.3	5499.5	6024.4	6025.7	6482.4	6995.8	7190.3	7272.1	6370.9
60°	6060.8	5652.8	5462.3	5797.4	6568.8	6624.2	7087.0	7346.4	7547.7	7340.3	6297.3
62.5°	6408.1	5957.5	5809.5	6203.4	7166.0	7297.0	7613.9	7576.7	7805.7	7426.1	6110.1
65°	6821.5	6352.0	6254.7	6836.3	7945.6	8125.9	8205.6	7985.4	7892.2	7359.9	5623.1
67.5°	7230.8	6791.8	6789.0	7538.2	8967.6	9029.8	8946.0	8561.6	7791.5	6776.2	4730.7
70°	7519.3	7047.8	7225.4	8307.0	9896.5	9722.2	9369.6	8833.9	7064.7	5193.5	3090.5
72.5°	7248.4	6793.8	7194.4	8580.5	10011.3	10061.3	9124.3	7913.1	5248.8	2656.2	1118.7
75°	5508.2	5229.9	6246.6	7612.5	8888.6	8900.1	7615.9	5581.2	2584.6	721.5	309.4
77.5°	2774.4	2685.9	3953.9	5404.2	6485.1	6466.1	5232.6	2989.9	831.6	239.8	156.0
80°	1404.4	1333.5	1682.7	2915.6	3851.2	3879.6	2987.9	1338.9	419.5	130.4	108.1
82.5°	862.6	818.7	920.7	1319.3	1869.2	1914.4	1133.5	847.8	260.1	77.0	98.6
85°	166.9	175.6	528.9	660.7	746.5	728.9	335.7	697.8	78.4	45.9	71.6
87.5°	0.0	2.7	122.3	215.5	216.2	191.8	76.3	154.7	10.8	12.8	8.8
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°	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5	800.5
2.5°	964.7	954.5	870.1	860.6	862.6	848.5	843.7	814.0	806.6	852.5	860.6
5°	1198.4	1130.8	1052.5	1024.1	980.2	905.9	895.1	876.2	855.2	863.3	857.2
7.5°	1341.6	1251.8	1168.0	1018.7	895.1	787.0	769.4	737.0	704.6	705.3	726.2
10°	1364.6	1288.9	1173.4	991.7	850.5	715.4	597.8	512.7	474.2	439.8	449.9
12.5°	1497.6	1427.4	1214.6	983.6	785.6	574.9	420.9	337.8	301.3	289.1	287.8
15°	1604.4	1549.0	1284.9	958.6	641.8	404.6	301.3	277.0	270.2	281.7	278.3
17.5°	1763.1	1663.1	1277.4	855.2	489.1	307.4	277.6	274.3	282.4	289.1	291.2
20°	1832.7	1688.8	1226.8	693.1	366.1	281.7	270.9	264.1	279.0	299.3	295.2
22.5°	1903.0	1732.7	1167.3	567.4	294.5	269.5	263.5	258.1	269.5	289.1	293.9
25°	1934.7	1803.0	1101.1	443.1	273.6	255.3	251.3	253.3	262.8	280.3	278.3
27.5°	2094.8	1811.1	974.8	349.9	264.8	245.2	245.2	249.9	249.9	273.6	271.6
30°	2194.8	1948.2	872.1	294.5	254.7	231.0	239.1	241.2	237.8	263.5	265.5
32.5°	2370.4	1986.1	772.1	270.2	238.5	229.0	227.7	229.0	231.7	256.7	257.4
35°	2640.6	2172.5	635.7	260.8	230.4	218.9	209.4	216.8	223.6	241.8	245.2
37.5°	3168.9	2363.7	518.1	253.3	226.3	209.4	206.0	204.7	216.8	237.8	244.5
40°	3596.5	2702.1	421.5	247.2	218.2	204.0	195.2	195.9	206.7	222.2	232.4
42.5°	4201.8	2946.6	357.4	237.8	206.7	192.5	182.4	188.5	193.2	209.4	216.2
45°	4707.1	3136.5	314.8	231.7	195.2	181.7	173.6	180.4	175.6	183.7	193.2
47.5°	5109.0	3302.0	283.0	216.8	187.8	175.6	165.5	163.5	155.4	157.4	166.2
50°	5329.9	3274.3	256.7	202.0	178.3	169.6	155.4	141.2	130.4	129.7	135.1
52.5°	5408.3	3126.3	235.1	189.1	166.9	156.0	139.8	120.2	109.4	106.1	110.8
55°	5429.9	2913.5	215.5	175.0	156.0	139.2	122.3	101.3	89.8	84.4	89.2
57.5°	5359.6	2585.9	196.6	161.5	143.2	122.9	104.7	83.1	72.3	65.5	69.6
60°	5186.0	2169.8	179.7	144.6	129.7	108.8	88.5	66.9	55.4	49.3	51.3
62.5°	4801.6	1701.0	161.5	129.0	115.5	95.2	74.3	52.7	41.9	36.5	37.2
65°	4216.6	1268.0	140.5	114.2	102.7	82.4	59.4	40.5	31.7	27.0	26.3
67.5°	3359.4	859.3	119.6	98.6	91.2	69.6	47.3	31.7	25.0	21.6	20.3
70°	1974.6	433.0	99.3	85.1	78.4	58.1	37.2	25.7	23.0	20.3	18.9
72.5°	651.2	187.1	77.7	70.3	64.9	46.6	29.0	23.6	22.3	19.6	18.2
75°	227.0	108.1	57.4	54.0	51.3	35.1	24.3	21.6	21.6	18.9	16.9
77.5°	148.6	83.8	42.6	39.2	38.5	25.7	20.9	20.3	18.9	15.5	12.8
80°	123.6	47.3	29.7	27.7	27.0	16.2	16.9	14.9	11.5	6.8	2.7
82.5°	114.2	28.4	15.5	16.9	15.5	6.1	9.5	8.1	6.1	2.7	0.0
85°	66.9	12.8	8.8	8.8	6.8	1.4	4.7	4.7	2.7	0.7	0.0
87.5°	7.4	6.1	4.7	4.7	3.4	0.0	2.0	1.4	0.0	0.0	0.0
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)