

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: P368565

Luminaire Tested: **MSA-SA4C-830-U-SL4-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368565
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-SA4C-830-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: 15813 lumens
Efficiency: N/A
Efficacy: 70.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

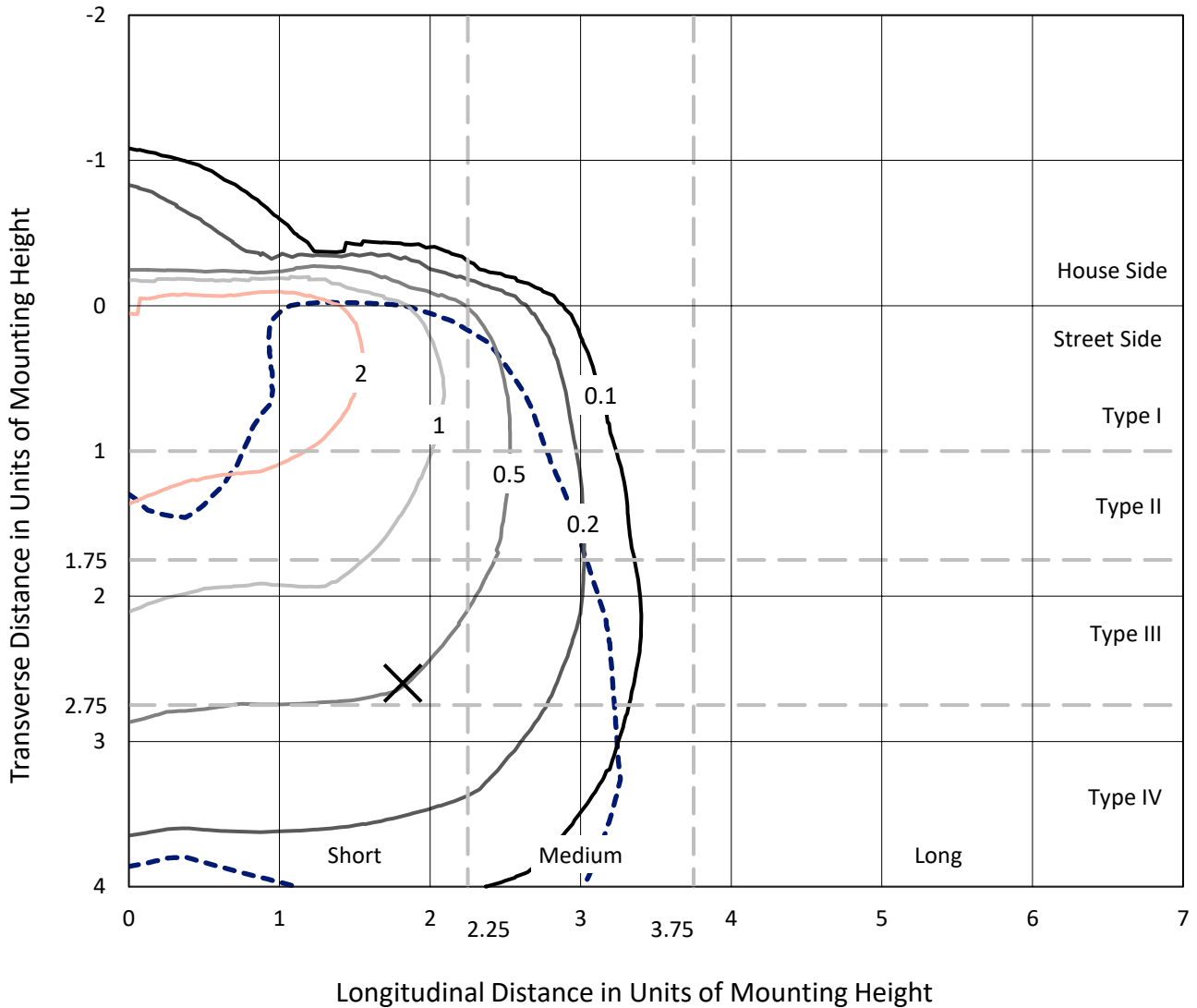
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

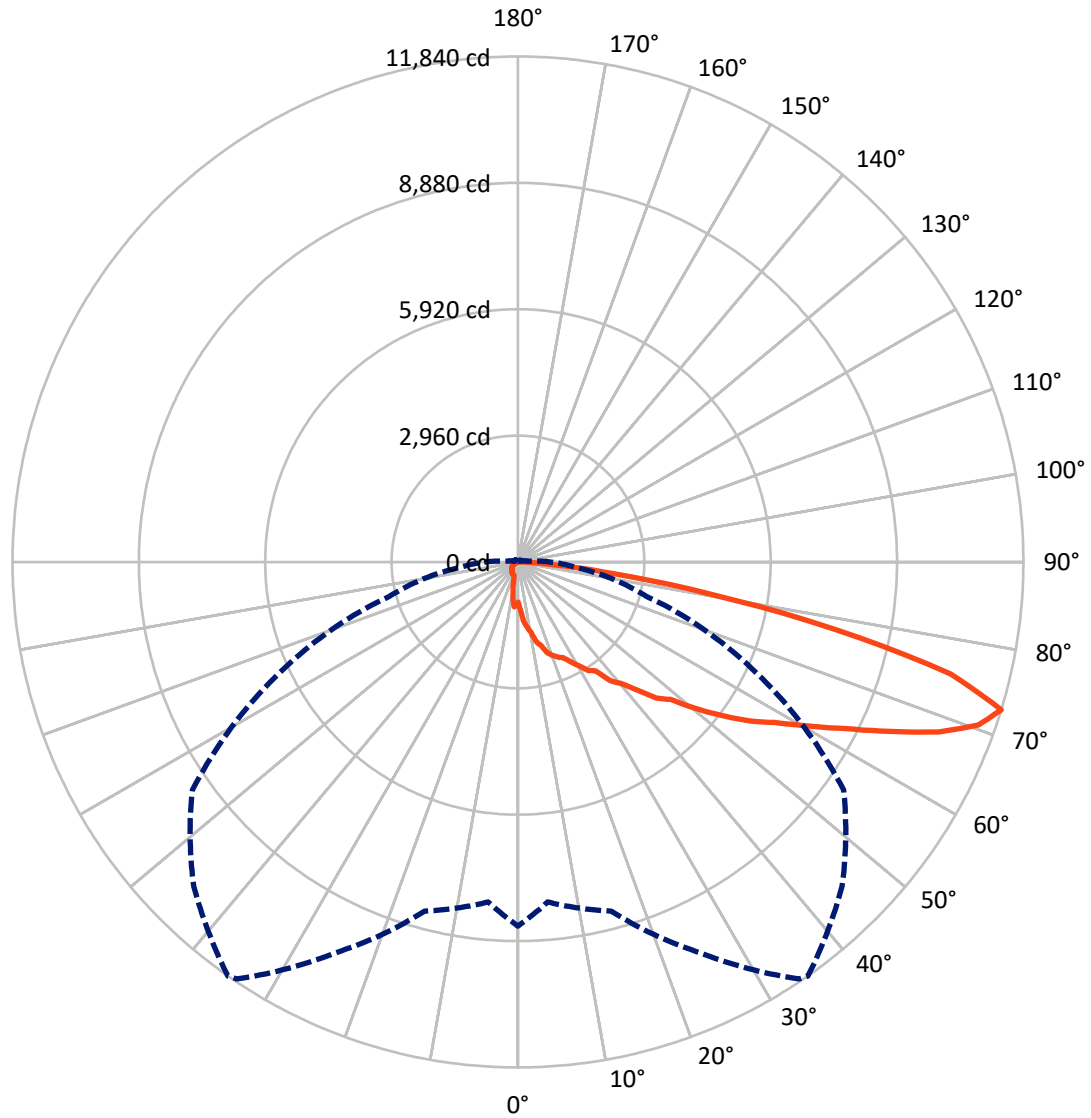
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 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
House Side	Lumens	1233.4	0.0	1233.4
	% Fixture	7.8	0.0	7.8
Street Side	Lumens	14579.6	0.0	14579.6
	% Fixture	92.2	0.0	92.2
Total	Lumens	15813.0	0.0	15813.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.1	0.8
10°-20°	404.7	2.6
20°-30°	737.0	4.7
30°-40°	1271.2	8.0
40°-50°	2259.7	14.3
50°-60°	3372.0	21.3
60°-70°	4308.1	27.2
70°-80°	2997.3	19.0
80°-90°	342.9	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°	15813.0	100.0
0°-180°	15813.0	100.0

Coefficient of Utilization



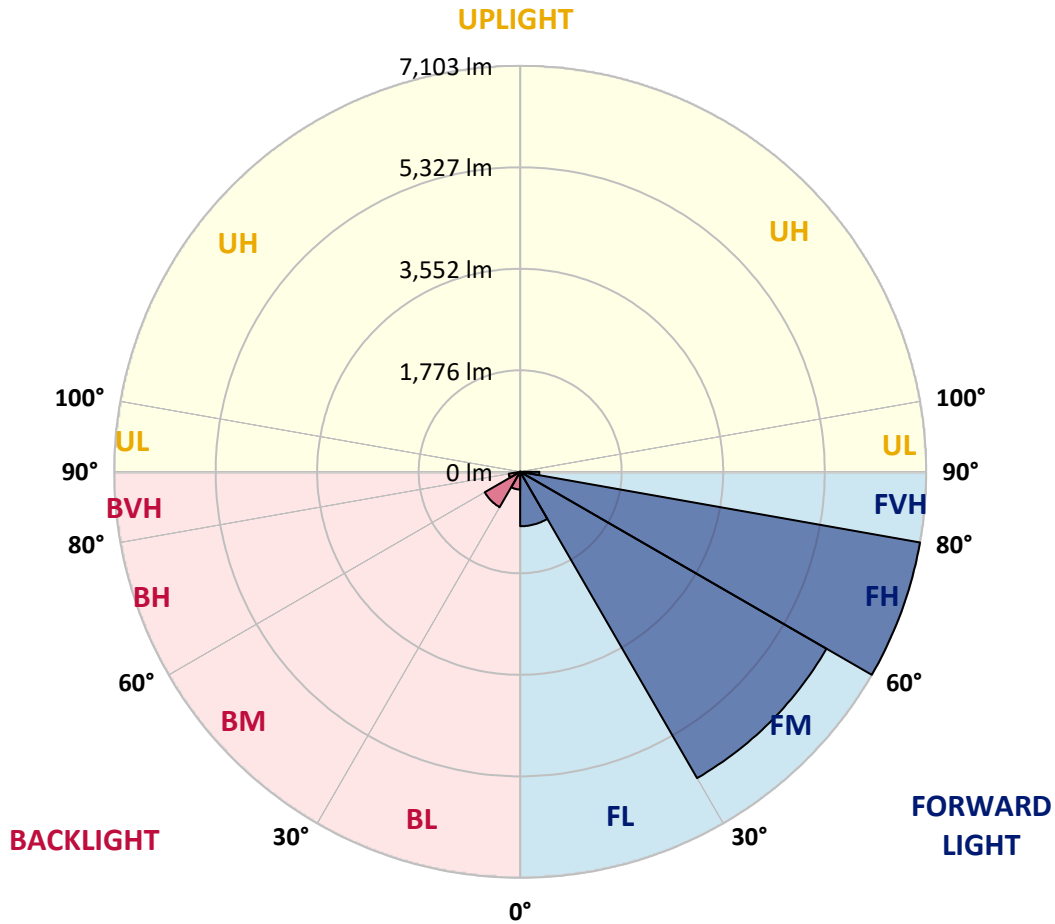
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	951.6	6.0			
FM (30°-60°)	6187.7	39.1			
FH (60°-80°)	7103.2	44.9			G3/7500
FVH (80°-90°)	337.1	2.1			G3/500
BL (0°-30°)	310.2	2.0	B1/500		
BM (30°-60°)	715.2	4.5	B1/1000		
BH (60°-80°)	202.2	1.3	B1/500		G1/500
BVH (80°-90°)	5.8	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°	942.0	942.0	942.0	942.0	942.0	942.0	942.0	942.0	942.0	942.0	942.0
2.5°	1198.7	1151.8	1075.5	1081.1	1115.3	1122.4	1132.8	1105.7	1081.9	1039.8	1121.6
5°	1535.8	1468.2	1425.3	1411.8	1391.9	1393.5	1345.0	1362.5	1357.7	1388.7	1426.1
7.5°	1725.8	1688.4	1634.4	1619.2	1546.1	1538.2	1478.5	1558.8	1566.8	1555.7	1616.9
10°	1801.3	1752.0	1758.4	1701.9	1665.4	1674.9	1684.4	1690.8	1701.1	1711.5	1636.7
12.5°	1845.8	1854.5	1941.2	1882.4	1918.9	1918.9	1983.3	1915.0	1917.3	1842.6	1855.3
15°	2046.1	2094.6	2055.7	2054.9	2015.1	2025.5	2100.2	2046.1	2073.9	2051.7	1965.8
17.5°	2297.3	2306.9	2232.9	2200.3	2236.1	2236.9	2205.1	2202.7	2105.7	2269.5	2165.4
20°	2377.6	2431.7	2326.7	2199.5	2348.2	2341.0	2338.6	2301.3	2139.9	2367.3	2281.4
22.5°	2596.2	2519.1	2447.6	2364.1	2422.1	2422.1	2413.4	2331.5	2268.7	2358.5	2395.1
25°	2664.6	2674.1	2581.1	2554.1	2555.7	2484.1	2477.8	2442.8	2382.4	2535.8	2462.7
27.5°	2899.9	2895.9	2672.5	2748.0	2651.8	2652.6	2477.0	2555.7	2566.0	2544.5	2626.4
30°	3131.2	3195.6	2858.5	2953.9	2853.0	2822.8	2651.1	2721.0	2739.3	2714.6	2818.0
32.5°	3426.1	3520.7	3193.2	3099.4	2945.2	3031.0	2912.6	2747.2	2837.9	3058.1	3116.1
35°	3738.5	3784.6	3435.6	3304.5	3130.4	3129.6	3125.6	3139.1	3239.3	3487.3	3536.6
37.5°	4299.7	4190.8	3875.2	3574.7	3613.7	3527.1	3466.6	3530.2	3634.4	4043.0	4253.6
40°	4612.9	4534.2	4089.9	3911.8	3718.6	3750.4	3914.2	3907.0	4184.5	4612.1	4927.7
42.5°	4917.4	4842.6	4405.4	4261.6	4013.5	4100.2	4171.7	4262.4	4830.7	5520.7	5694.0
45°	5188.4	4969.0	4660.6	4666.2	4537.4	4547.7	4674.1	4757.6	5579.5	6287.0	6408.6
47.5°	5352.2	5171.7	4876.0	4870.5	4862.5	4814.0	5409.4	5485.7	6176.5	7016.7	7027.9
50°	5582.7	5357.0	5097.8	5102.6	5286.2	5388.8	6099.4	6091.5	6752.8	7625.7	7368.9
52.5°	5869.7	5593.8	5308.5	5520.7	5804.5	5971.4	6548.5	6783.8	7372.1	8008.0	7502.4
55°	6236.9	5891.9	5616.9	5888.8	6508.0	6572.4	6988.1	7485.0	8047.0	8398.3	7545.4
57.5°	6667.8	6256.0	6033.4	6471.4	7089.1	7090.7	7628.0	8232.2	8461.1	8557.3	7496.9
60°	7132.0	6651.9	6427.7	6822.0	7729.8	7795.0	8339.5	8644.7	8881.6	8637.6	7410.2
62.5°	7540.6	7010.4	6836.3	7299.7	8432.5	8586.7	8959.5	8915.8	9185.3	8738.5	7190.0
65°	8027.1	7474.6	7360.1	8044.6	9349.8	9562.1	9655.9	9396.7	9287.0	8660.6	6616.9
67.5°	8508.8	7992.1	7988.9	8870.5	10552.5	10625.7	10527.1	10074.8	9168.6	7973.8	5566.8
70°	8848.2	8293.4	8502.4	9775.1	11645.6	11440.5	11025.5	10395.1	8313.3	6111.3	3636.8
72.5°	8529.5	7994.5	8465.9	10097.1	11780.7	11839.5	10737.0	9311.7	6176.5	3125.6	1316.4
75°	6481.8	6154.3	7350.6	8957.9	10459.5	10473.0	8961.9	6567.6	3041.4	849.0	364.1
77.5°	3264.7	3160.6	4652.7	6359.3	7631.2	7609.0	6157.4	3518.3	978.5	282.2	183.6
80°	1652.6	1569.2	1980.1	3430.9	4531.8	4565.2	3515.9	1575.5	493.6	153.4	127.2
82.5°	1015.1	963.4	1083.5	1552.5	2199.5	2252.8	1333.9	997.6	306.0	90.6	116.1
85°	196.3	206.7	622.4	777.4	878.4	857.7	395.1	821.2	92.2	54.1	84.3
87.5°	0.0	3.2	143.9	253.6	254.4	225.8	89.8	182.0	12.7	15.1	10.3
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°	942.0	942.0	942.0	942.0	942.0	942.0	942.0	942.0	942.0	942.0	942.0
2.5°	1135.1	1123.2	1023.9	1012.7	1015.1	998.4	992.9	957.9	949.1	1003.2	1012.7
5°	1410.2	1330.7	1238.5	1205.1	1153.4	1066.0	1053.3	1031.0	1006.4	1015.9	1008.8
7.5°	1578.7	1473.0	1374.4	1198.7	1053.3	926.1	905.4	867.3	829.1	829.9	854.5
10°	1605.7	1516.7	1380.8	1166.9	1000.8	841.8	703.5	603.3	558.0	517.5	529.4
12.5°	1762.3	1679.7	1429.3	1157.4	924.5	676.5	495.2	397.5	354.5	340.2	338.6
15°	1887.9	1822.7	1511.9	1128.0	755.2	476.2	354.5	325.9	318.0	331.5	327.5
17.5°	2074.7	1957.1	1503.2	1006.4	575.5	361.7	326.7	322.7	332.3	340.2	342.6
20°	2156.6	1987.3	1443.6	815.6	430.8	331.5	318.8	310.8	328.3	352.1	347.4
22.5°	2239.3	2039.0	1373.6	667.7	346.6	317.2	310.0	303.7	317.2	340.2	345.8
25°	2276.6	2121.6	1295.7	521.5	321.9	300.5	295.7	298.1	309.2	329.9	327.5
27.5°	2465.0	2131.2	1147.1	411.8	311.6	288.6	288.6	294.1	294.1	321.9	319.6
30°	2582.7	2292.5	1026.2	346.6	299.7	271.9	281.4	283.8	279.8	310.0	312.4
32.5°	2789.4	2337.1	908.6	318.0	280.6	269.5	267.9	269.5	272.7	302.1	302.9
35°	3107.3	2556.5	748.0	306.8	271.1	257.6	246.4	255.2	263.1	284.6	288.6
37.5°	3729.0	2781.4	609.7	298.1	266.3	246.4	242.5	240.9	255.2	279.8	287.8
40°	4232.1	3179.7	496.0	290.9	256.8	240.1	229.7	230.5	243.2	261.5	273.5
42.5°	4944.4	3467.4	420.5	279.8	243.2	226.6	214.6	221.8	227.3	246.4	254.4
45°	5539.0	3690.8	370.4	272.7	229.7	213.8	204.3	212.2	206.7	216.2	227.3
47.5°	6012.0	3885.6	333.1	255.2	221.0	206.7	194.8	192.4	182.8	185.2	195.5
50°	6271.9	3853.0	302.1	237.7	209.9	199.5	182.8	166.1	153.4	152.6	159.0
52.5°	6364.1	3678.9	276.6	222.6	196.3	183.6	164.5	141.5	128.8	124.8	130.4
55°	6389.6	3428.5	253.6	205.9	183.6	163.8	143.9	119.2	105.7	99.4	104.9
57.5°	6306.9	3042.9	231.3	190.0	168.5	144.7	123.2	97.8	85.1	77.1	81.9
60°	6102.6	2553.3	211.4	170.1	152.6	128.0	104.1	78.7	65.2	58.0	60.4
62.5°	5650.3	2001.6	190.0	151.8	135.9	112.1	87.4	62.0	49.3	42.9	43.7
65°	4961.9	1492.1	165.3	134.3	120.8	97.0	70.0	47.7	37.4	31.8	31.0
67.5°	3953.1	1011.1	140.7	116.1	107.3	81.9	55.6	37.4	29.4	25.4	23.8
70°	2323.5	509.5	116.9	100.2	92.2	68.4	43.7	30.2	27.0	23.8	22.3
72.5°	766.3	220.2	91.4	82.7	76.3	54.8	34.2	27.8	26.2	23.1	21.5
75°	267.1	127.2	67.6	63.6	60.4	41.3	28.6	25.4	25.4	22.3	19.9
77.5°	174.9	98.6	50.1	46.1	45.3	30.2	24.6	23.8	22.3	18.3	15.1
80°	145.5	55.6	35.0	32.6	31.8	19.1	19.9	17.5	13.5	7.9	3.2
82.5°	134.3	33.4	18.3	19.9	18.3	7.2	11.1	9.5	7.2	3.2	0.0
85°	78.7	15.1	10.3	10.3	7.9	1.6	5.6	5.6	3.2	0.8	0.0
87.5°	8.7	7.2	5.6	5.6	4.0	0.0	2.4	1.6	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)