

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: P367245

Luminaire Tested: **MSA-SA2A-830-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367245  
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-SA2A-830-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 5224 lumens  
Efficiency: N/A  
Efficacy: 79.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

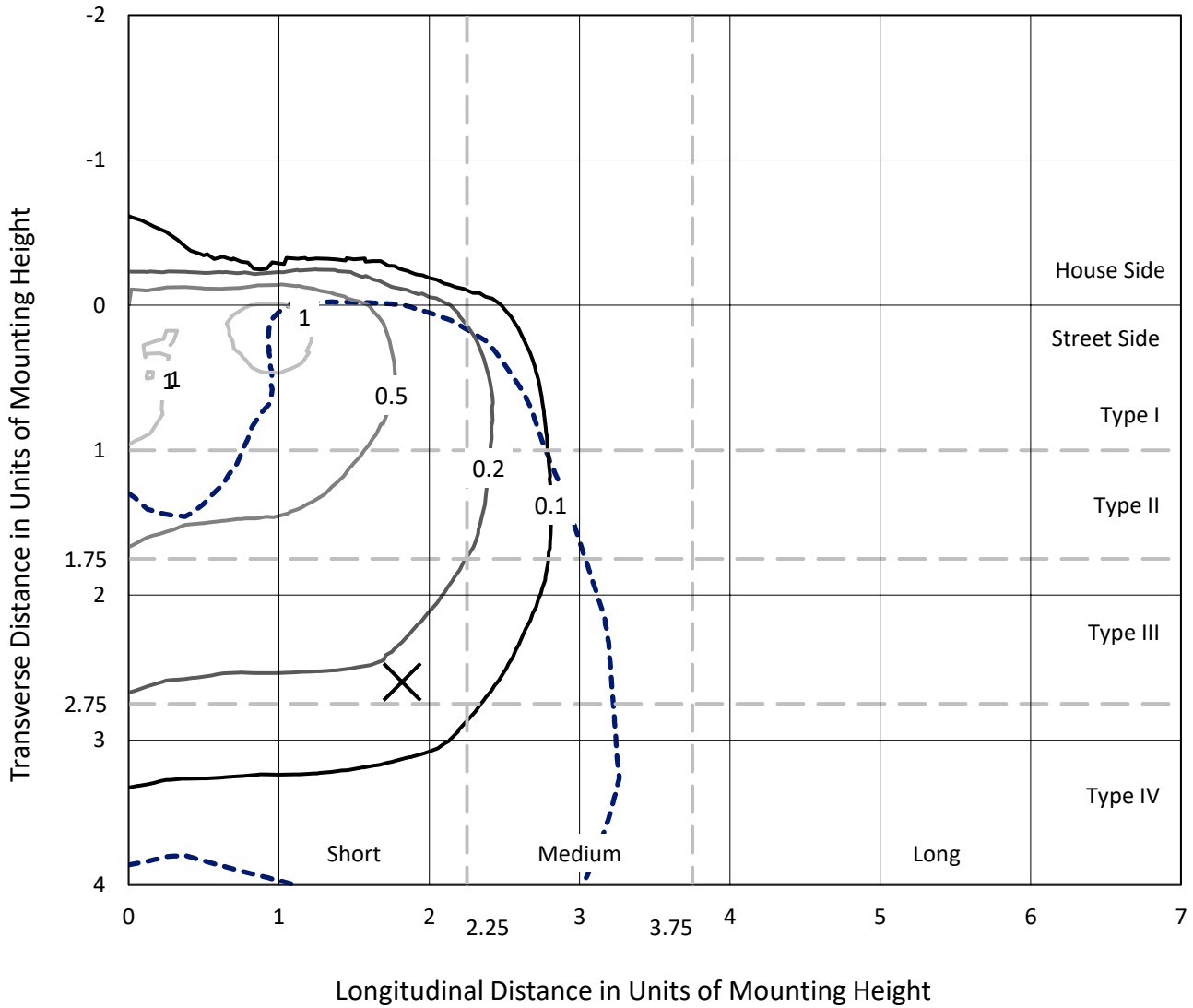
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

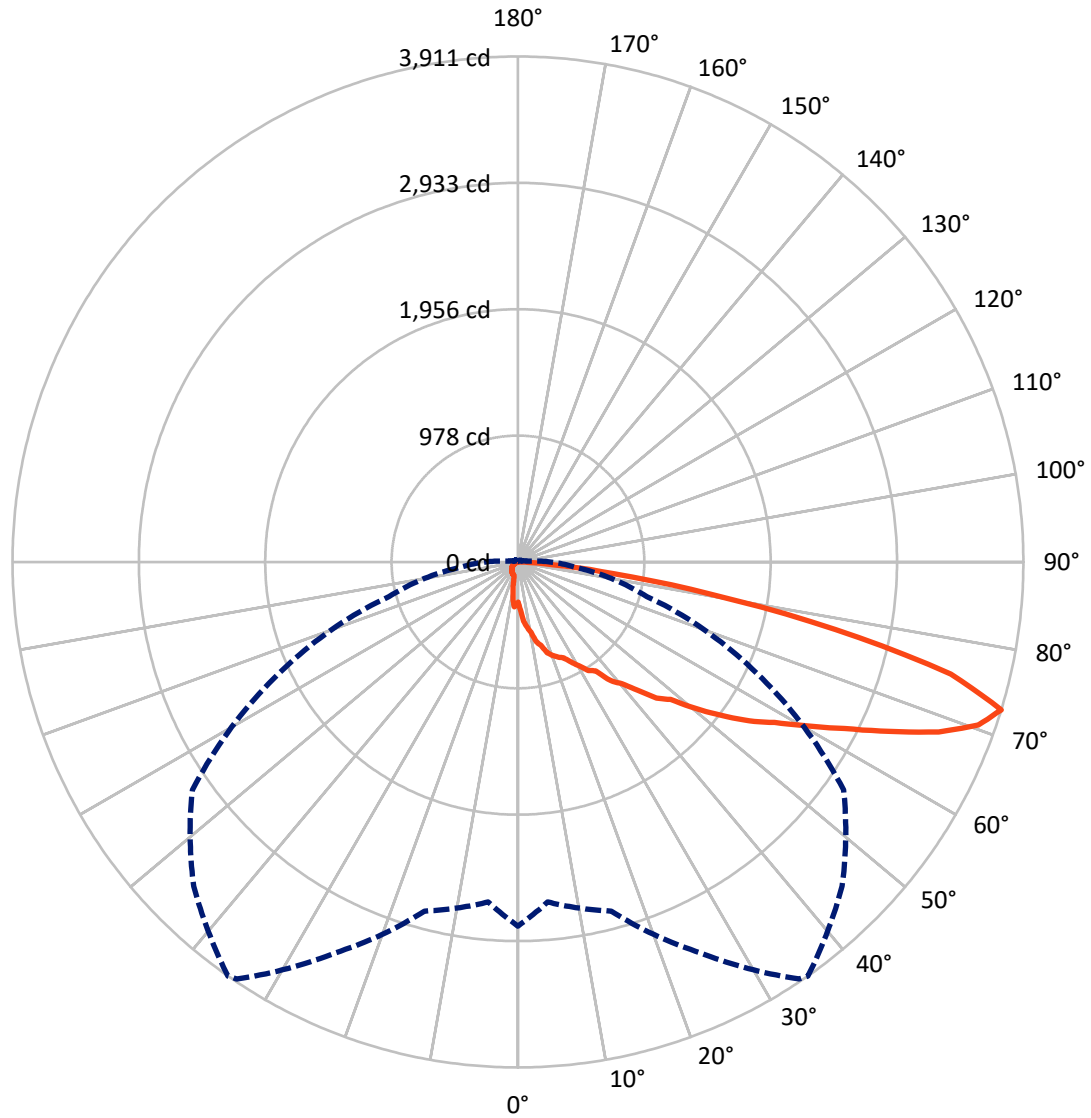
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 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	407.5	0.0	407.5
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	4816.5	0.0	4816.5
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	5224.0	0.0	5224.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	39.7	0.8
10°-20°	133.7	2.6
20°-30°	243.5	4.7
30°-40°	419.9	8.0
40°-50°	746.5	14.3
50°-60°	1114.0	21.3
60°-70°	1423.2	27.2
70°-80°	990.2	19.0
80°-90°	113.3	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°	5224.0	100.0
0°-180°	5224.0	100.0

**Coefficient of Utilization**

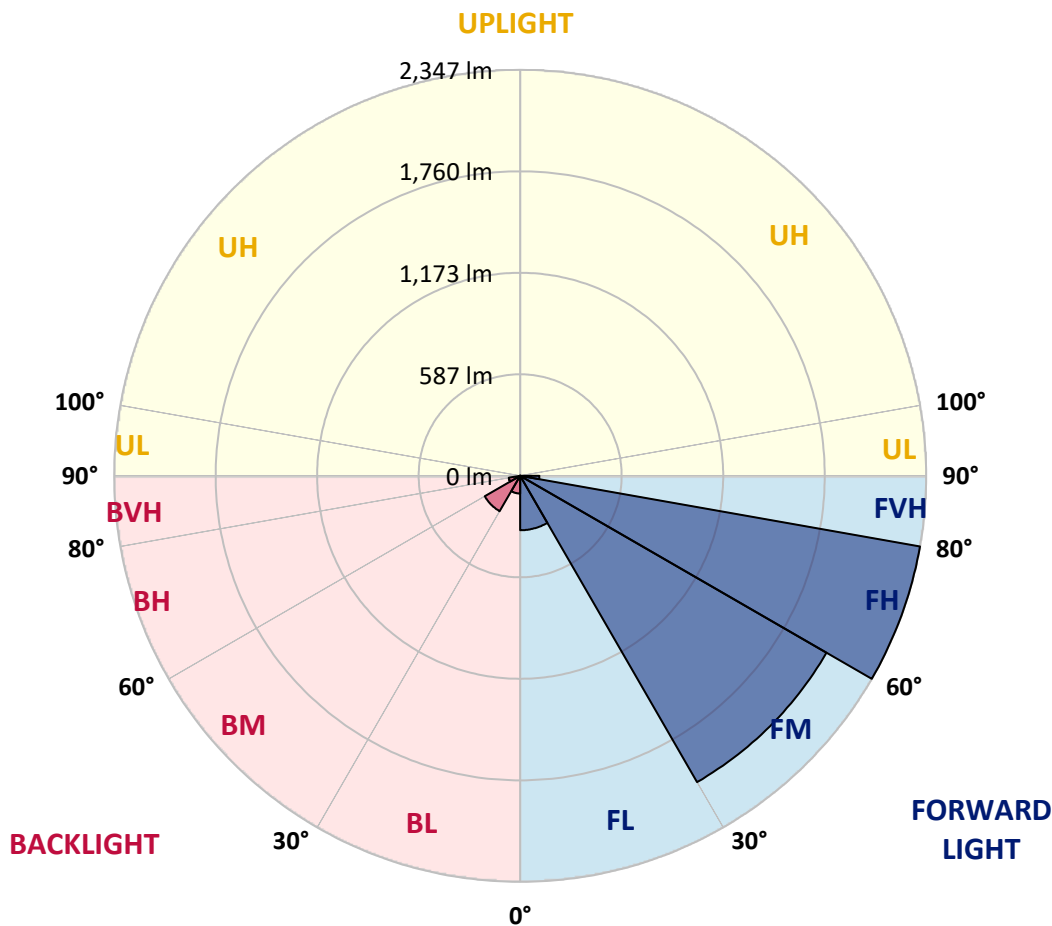


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	314.4	6.0			
FM (30°-60°)	2044.2	39.1			
FH (60°-80°)	2346.6	44.9			G2/5000
FVH (80°-90°)	111.4	2.1			G2/225
BL (0°-30°)	102.5	2.0	B0/110		
BM (30°-60°)	236.3	4.5	B1/1000		
BH (60°-80°)	66.8	1.3	B0/110		G0/110
BVH (80°-90°)	1.9	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-G2**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2
2.5°	396.0	380.5	355.3	357.1	368.4	370.8	374.2	365.3	357.4	343.5	370.5
5°	507.4	485.0	470.9	466.4	459.8	460.4	444.3	450.1	448.5	458.8	471.1
7.5°	570.1	557.8	539.9	534.9	510.8	508.2	488.5	515.0	517.6	513.9	534.1
10°	595.1	578.8	580.9	562.2	550.2	553.3	556.5	558.6	562.0	565.4	540.7
12.5°	609.8	612.7	641.3	621.9	633.9	633.9	655.2	632.6	633.4	608.7	612.9
15°	676.0	692.0	679.1	678.8	665.7	669.1	693.8	676.0	685.1	677.8	649.4
17.5°	758.9	762.1	737.7	726.9	738.7	739.0	728.5	727.7	695.7	749.8	715.3
20°	785.5	803.3	768.7	726.6	775.8	773.4	772.6	760.3	706.9	782.1	753.7
22.5°	857.7	832.2	808.6	781.0	800.2	800.2	797.3	770.2	749.5	779.2	791.2
25°	880.3	883.4	852.7	843.8	844.3	820.7	818.6	807.0	787.0	837.7	813.6
27.5°	958.0	956.7	882.9	907.8	876.1	876.3	818.3	844.3	847.7	840.6	867.7
30°	1034.4	1055.7	944.3	975.9	942.5	932.5	875.8	898.9	905.0	896.8	931.0
32.5°	1131.8	1163.1	1054.9	1023.9	973.0	1001.3	962.2	907.6	937.5	1010.3	1029.4
35°	1235.1	1250.3	1135.0	1091.7	1034.2	1033.9	1032.6	1037.0	1070.1	1152.1	1168.4
37.5°	1420.5	1384.5	1280.2	1181.0	1193.8	1165.2	1145.2	1166.3	1200.7	1335.6	1405.2
40°	1523.9	1497.9	1351.1	1292.3	1228.5	1239.0	1293.1	1290.7	1382.4	1523.7	1627.9
42.5°	1624.5	1599.8	1455.4	1407.9	1325.9	1354.5	1378.2	1408.1	1595.9	1823.8	1881.1
45°	1714.1	1641.6	1539.7	1541.5	1499.0	1502.4	1544.1	1571.7	1843.3	2077.0	2117.2
47.5°	1768.2	1708.5	1610.9	1609.0	1606.4	1590.4	1787.1	1812.3	2040.5	2318.1	2321.7
50°	1844.3	1769.7	1684.1	1685.7	1746.4	1780.2	2015.0	2012.4	2230.9	2519.2	2434.4
52.5°	1939.1	1848.0	1753.7	1823.8	1917.6	1972.7	2163.4	2241.1	2435.4	2645.5	2478.5
55°	2060.4	1946.5	1855.6	1945.4	2150.0	2171.3	2308.6	2472.7	2658.4	2774.5	2492.7
57.5°	2202.8	2066.7	1993.2	2137.9	2342.0	2342.5	2520.0	2719.6	2795.2	2827.0	2476.7
60°	2356.1	2197.5	2123.5	2253.7	2553.6	2575.2	2755.0	2855.9	2934.1	2853.5	2448.1
62.5°	2491.1	2316.0	2258.4	2411.5	2785.8	2836.7	2959.9	2945.4	3034.5	2886.9	2375.3
65°	2651.8	2469.3	2431.5	2657.6	3088.8	3158.9	3189.9	3104.3	3068.1	2861.1	2186.0
67.5°	2811.0	2640.3	2639.2	2930.5	3486.1	3510.3	3477.7	3328.3	3028.9	2634.2	1839.1
70°	2923.1	2739.8	2808.9	3229.3	3847.2	3779.5	3642.4	3434.2	2746.4	2018.9	1201.4
72.5°	2817.8	2641.1	2796.8	3335.7	3891.9	3911.3	3547.1	3076.2	2040.5	1032.6	434.9
75°	2141.3	2033.1	2428.4	2959.4	3455.4	3459.9	2960.7	2169.7	1004.7	280.5	120.3
77.5°	1078.5	1044.1	1537.1	2100.9	2521.1	2513.7	2034.2	1162.3	323.3	93.2	60.7
80°	546.0	518.4	654.2	1133.4	1497.1	1508.2	1161.5	520.5	163.1	50.7	42.0
82.5°	335.4	318.3	357.9	512.9	726.6	744.2	440.7	329.6	101.1	29.9	38.3
85°	64.9	68.3	205.6	256.8	290.2	283.4	130.5	271.3	30.5	17.9	27.8
87.5°	0.0	1.1	47.5	83.8	84.0	74.6	29.7	60.1	4.2	5.0	3.4
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°	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2	311.2
2.5°	375.0	371.1	338.2	334.6	335.4	329.8	328.0	316.4	313.6	331.4	334.6
5°	465.9	439.6	409.1	398.1	381.0	352.2	348.0	340.6	332.5	335.6	333.3
7.5°	521.5	486.6	454.1	396.0	348.0	305.9	299.1	286.5	273.9	274.2	282.3
10°	530.5	501.1	456.2	385.5	330.6	278.1	232.4	199.3	184.4	171.0	174.9
12.5°	582.2	554.9	472.2	382.4	305.4	223.5	163.6	131.3	117.1	112.4	111.9
15°	623.7	602.2	499.5	372.6	249.5	157.3	117.1	107.7	105.0	109.5	108.2
17.5°	685.4	646.5	496.6	332.5	190.1	119.5	107.9	106.6	109.8	112.4	113.2
20°	712.5	656.5	476.9	269.4	142.3	109.5	105.3	102.7	108.5	116.3	114.8
22.5°	739.8	673.6	453.8	220.6	114.5	104.8	102.4	100.3	104.8	112.4	114.2
25°	752.1	700.9	428.1	172.3	106.4	99.3	97.7	98.5	102.2	109.0	108.2
27.5°	814.4	704.1	378.9	136.0	102.9	95.3	95.3	97.2	97.2	106.4	105.6
30°	853.2	757.4	339.0	114.5	99.0	89.8	93.0	93.8	92.4	102.4	103.2
32.5°	921.5	772.1	300.2	105.0	92.7	89.0	88.5	89.0	90.1	99.8	100.1
35°	1026.5	844.6	247.1	101.4	89.6	85.1	81.4	84.3	86.9	94.0	95.3
37.5°	1231.9	918.9	201.4	98.5	88.0	81.4	80.1	79.6	84.3	92.4	95.1
40°	1398.1	1050.4	163.9	96.1	84.8	79.3	75.9	76.2	80.4	86.4	90.3
42.5°	1633.4	1145.5	138.9	92.4	80.4	74.8	70.9	73.3	75.1	81.4	84.0
45°	1829.9	1219.3	122.4	90.1	75.9	70.6	67.5	70.1	68.3	71.4	75.1
47.5°	1986.1	1283.6	110.0	84.3	73.0	68.3	64.3	63.6	60.4	61.2	64.6
50°	2072.0	1272.9	99.8	78.5	69.3	65.9	60.4	54.9	50.7	50.4	52.5
52.5°	2102.5	1215.4	91.4	73.5	64.9	60.7	54.4	46.7	42.5	41.2	43.1
55°	2110.9	1132.6	83.8	68.0	60.7	54.1	47.5	39.4	34.9	32.8	34.7
57.5°	2083.5	1005.3	76.4	62.8	55.7	47.8	40.7	32.3	28.1	25.5	27.0
60°	2016.1	843.5	69.9	56.2	50.4	42.3	34.4	26.0	21.5	19.2	20.0
62.5°	1866.6	661.3	62.8	50.2	44.9	37.0	28.9	20.5	16.3	14.2	14.4
65°	1639.2	492.9	54.6	44.4	39.9	32.0	23.1	15.8	12.3	10.5	10.2
67.5°	1306.0	334.0	46.5	38.3	35.5	27.0	18.4	12.3	9.7	8.4	7.9
70°	767.6	168.3	38.6	33.1	30.5	22.6	14.4	10.0	8.9	7.9	7.4
72.5°	253.2	72.7	30.2	27.3	25.2	18.1	11.3	9.2	8.7	7.6	7.1
75°	88.2	42.0	22.3	21.0	20.0	13.7	9.5	8.4	8.4	7.4	6.6
77.5°	57.8	32.6	16.5	15.2	15.0	10.0	8.1	7.9	7.4	6.0	5.0
80°	48.1	18.4	11.6	10.8	10.5	6.3	6.6	5.8	4.5	2.6	1.1
82.5°	44.4	11.0	6.0	6.6	6.0	2.4	3.7	3.2	2.4	1.1	0.0
85°	26.0	5.0	3.4	3.4	2.6	0.5	1.8	1.8	1.1	0.3	0.0
87.5°	2.9	2.4	1.8	1.8	1.3	0.0	0.8	0.5	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)