

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: P367091

Luminaire Tested: **MSA-SA1D-760-U-SL4-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367091  
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-SA1D-760-U-SL4-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

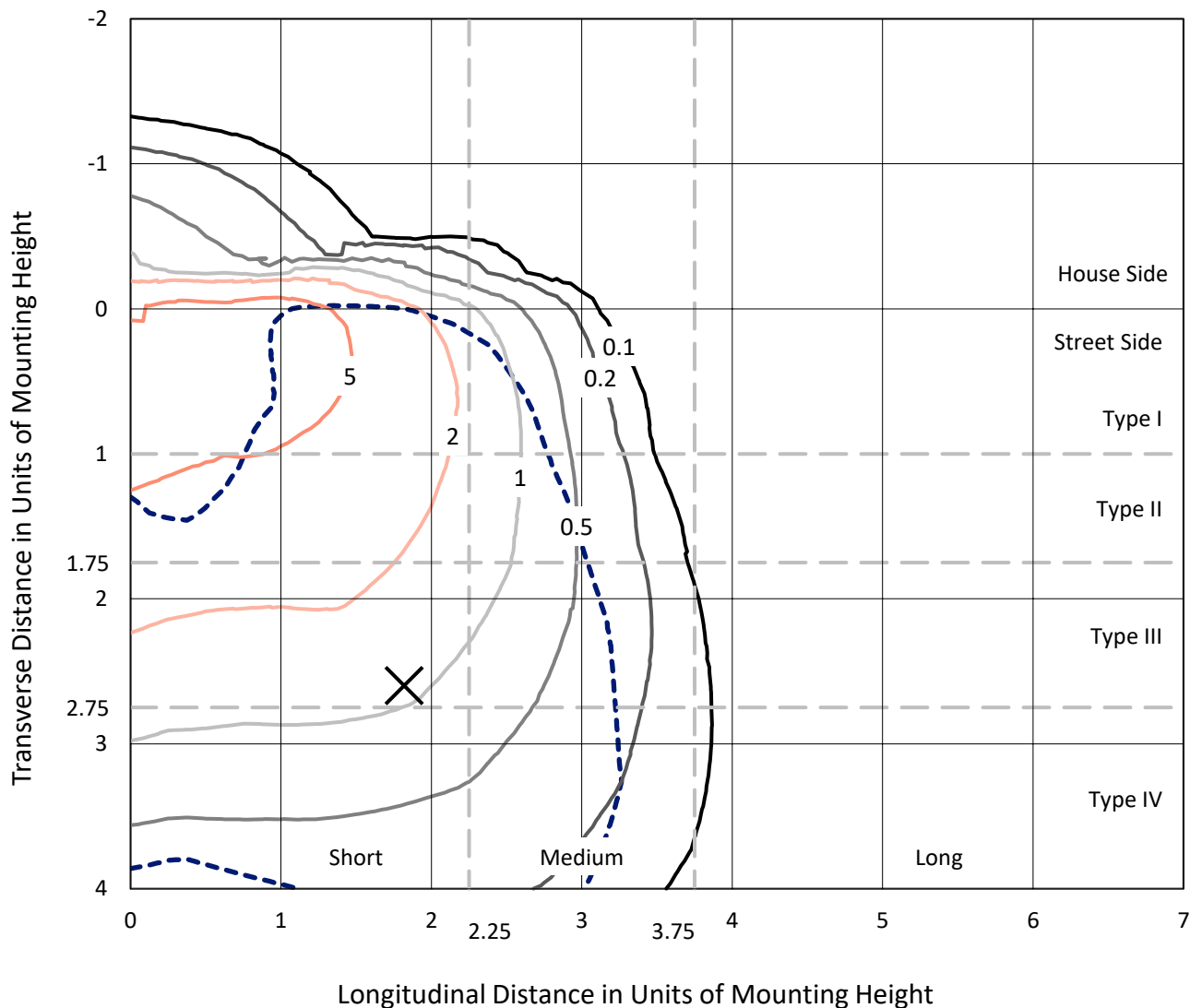
Lumens per Lamp: N/A  
Luminaire Lumens: 5671 lumens  
Efficiency: N/A  
Efficacy: 84.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

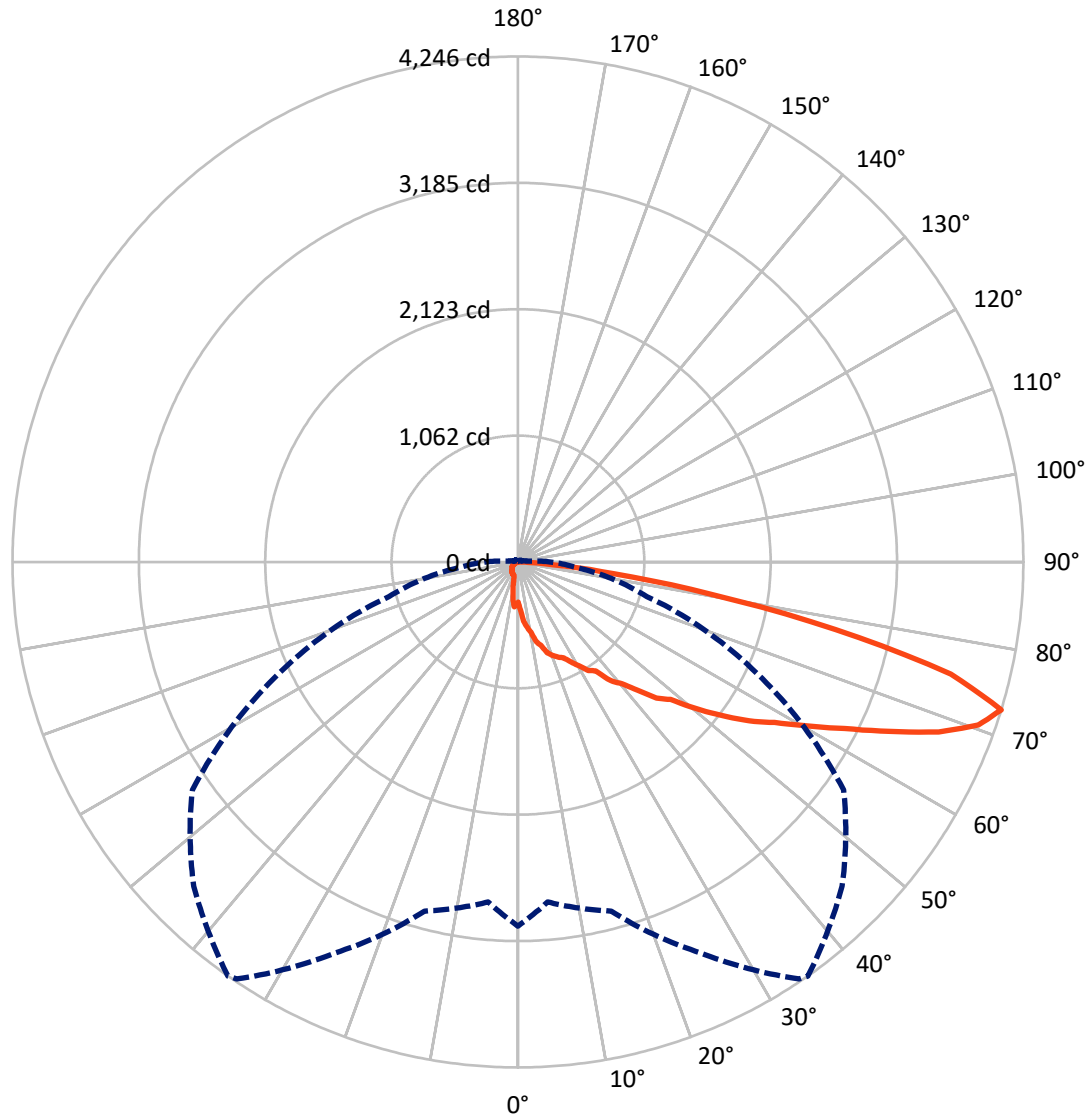
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.1 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	442.3	0.0	442.3
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	5228.7	0.0	5228.7
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	5671.0	0.0	5671.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.1	0.8
10°-20°	145.1	2.6
20°-30°	264.3	4.7
30°-40°	455.9	8.0
40°-50°	810.4	14.3
50°-60°	1209.3	21.3
60°-70°	1545.0	27.2
70°-80°	1074.9	19.0
80°-90°	123.0	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°	5671.0	100.0
0°-180°	5671.0	100.0

**Coefficient of Utilization**

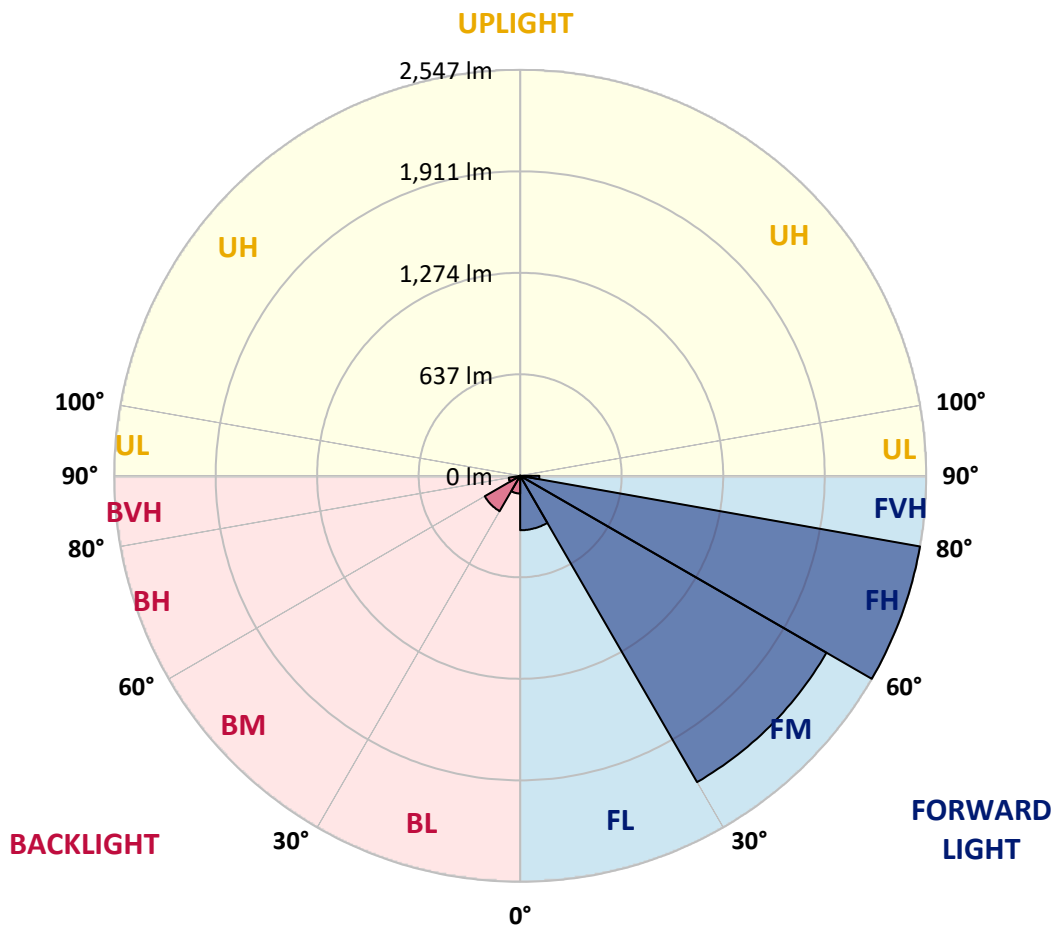


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	341.3	6.0			
FM (30°-60°)	2219.1	39.1			
FH (60°-80°)	2547.4	44.9			G2/5000
FVH (80°-90°)	120.9	2.1			G2/225
BL (0°-30°)	111.2	2.0	B1/500		
BM (30°-60°)	256.5	4.5	B1/1000		
BH (60°-80°)	72.5	1.3	B0/110		G0/110
BVH (80°-90°)	2.1	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°	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8
2.5°	429.9	413.1	385.7	387.7	400.0	402.5	406.2	396.5	388.0	372.9	402.2
5°	550.8	526.5	511.1	506.3	499.2	499.7	482.4	488.6	486.9	498.0	511.4
7.5°	618.9	605.5	586.1	580.7	554.5	551.6	530.3	559.0	561.9	557.9	579.9
10°	646.0	628.3	630.6	610.4	597.2	600.7	604.1	606.4	610.1	613.8	587.0
12.5°	662.0	665.1	696.2	675.1	688.2	688.2	711.3	686.8	687.6	660.8	665.4
15°	733.8	751.2	737.2	736.9	722.7	726.4	753.2	733.8	743.8	735.8	705.0
17.5°	823.9	827.3	800.8	789.1	801.9	802.2	790.8	790.0	755.2	813.9	776.6
20°	852.7	872.1	834.4	788.8	842.1	839.6	838.7	825.3	767.4	849.0	818.2
22.5°	931.1	903.4	877.8	847.8	868.6	868.6	865.5	836.1	813.6	845.8	858.9
25°	955.6	959.0	925.7	916.0	916.5	890.9	888.6	876.1	854.4	909.4	883.2
27.5°	1040.0	1038.5	958.4	985.5	951.0	951.3	888.3	916.5	920.2	912.5	941.9
30°	1122.9	1146.0	1025.2	1059.4	1023.2	1012.3	950.7	975.8	982.4	973.6	1010.6
32.5°	1228.7	1262.6	1145.2	1111.5	1056.2	1087.0	1044.5	985.2	1017.7	1096.7	1117.5
35°	1340.7	1357.3	1232.1	1185.1	1122.6	1122.4	1120.9	1125.8	1161.7	1250.6	1268.3
37.5°	1542.0	1502.9	1389.8	1282.0	1296.0	1264.9	1243.2	1266.0	1303.4	1449.9	1525.5
40°	1654.3	1626.1	1466.7	1402.9	1333.6	1345.0	1403.7	1401.2	1500.7	1654.0	1767.2
42.5°	1763.5	1736.7	1579.9	1528.3	1439.4	1470.4	1496.1	1528.6	1732.4	1979.9	2042.0
45°	1860.7	1782.0	1671.4	1673.4	1627.2	1630.9	1676.3	1706.2	2001.0	2254.7	2298.3
47.5°	1919.4	1854.7	1748.7	1746.7	1743.8	1726.4	1940.0	1967.3	2215.1	2516.4	2520.4
50°	2002.1	1921.2	1828.2	1829.9	1895.8	1932.6	2187.4	2184.6	2421.8	2734.8	2642.7
52.5°	2105.0	2006.1	1903.8	1979.9	2081.7	2141.5	2348.5	2432.9	2643.8	2871.9	2690.6
55°	2236.7	2113.0	2014.4	2111.9	2334.0	2357.0	2506.1	2684.3	2885.9	3011.9	2706.0
57.5°	2391.3	2243.6	2163.8	2320.8	2542.4	2542.9	2735.6	2952.3	3034.4	3068.9	2688.6
60°	2557.7	2385.6	2305.2	2446.6	2772.1	2795.5	2990.8	3100.3	3185.2	3097.7	2657.5
62.5°	2704.3	2514.1	2451.7	2617.9	3024.1	3079.4	3213.1	3197.5	3294.1	3133.9	2578.6
65°	2878.7	2680.6	2639.6	2885.0	3353.1	3429.2	3462.9	3369.9	3330.6	3106.0	2373.0
67.5°	3051.5	2866.2	2865.1	3181.2	3784.4	3810.7	3775.3	3613.1	3288.1	2859.6	1996.4
70°	3173.2	2974.2	3049.2	3505.6	4176.4	4102.9	3954.1	3728.0	2981.4	2191.7	1304.2
72.5°	3058.9	2867.1	3036.1	3621.1	4224.9	4246.0	3850.6	3339.4	2215.1	1120.9	472.1
75°	2324.5	2207.1	2636.1	3212.6	3751.1	3755.9	3214.0	2355.3	1090.7	304.5	130.6
77.5°	1170.8	1133.5	1668.6	2280.6	2736.8	2728.8	2208.2	1261.8	350.9	101.2	65.9
80°	592.7	562.7	710.1	1230.4	1625.2	1637.2	1260.9	565.0	177.0	55.0	45.6
82.5°	364.0	345.5	388.6	556.8	788.8	807.9	478.4	357.8	109.8	32.5	41.6
85°	70.4	74.1	223.2	278.8	315.0	307.6	141.7	294.5	33.1	19.4	30.2
87.5°	0.0	1.1	51.6	90.9	91.2	81.0	32.2	65.3	4.6	5.4	3.7
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°	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8	337.8
2.5°	407.1	402.8	367.2	363.2	364.0	358.1	356.1	343.5	340.4	359.8	363.2
5°	505.7	477.2	444.2	432.2	413.7	382.3	377.7	369.7	360.9	364.3	361.8
7.5°	566.2	528.3	492.9	429.9	377.7	332.1	324.7	311.0	297.3	297.6	306.5
10°	575.9	543.9	495.2	418.5	358.9	301.9	252.3	216.4	200.1	185.6	189.9
12.5°	632.0	602.4	512.6	415.1	331.5	242.6	177.6	142.5	127.1	122.0	121.4
15°	677.1	653.7	542.2	404.5	270.8	170.8	127.1	116.9	114.0	118.9	117.5
17.5°	744.1	701.9	539.1	360.9	206.4	129.7	117.2	115.7	119.2	122.0	122.9
20°	773.4	712.7	517.7	292.5	154.5	118.9	114.3	111.5	117.7	126.3	124.6
22.5°	803.1	731.2	492.6	239.5	124.3	113.7	111.2	108.9	113.7	122.0	124.0
25°	816.5	760.9	464.7	187.0	115.5	107.8	106.1	106.9	110.9	118.3	117.5
27.5°	884.0	764.3	411.4	147.7	111.8	103.5	103.5	105.5	105.5	115.5	114.6
30°	926.2	822.2	368.0	124.3	107.5	97.5	100.9	101.8	100.3	111.2	112.0
32.5°	1000.3	838.1	325.8	114.0	100.6	96.6	96.1	96.6	97.8	108.3	108.6
35°	1114.4	916.8	268.3	110.0	97.2	92.4	88.4	91.5	94.4	102.1	103.5
37.5°	1337.3	997.5	218.7	106.9	95.5	88.4	86.9	86.4	91.5	100.3	103.2
40°	1517.8	1140.3	177.9	104.3	92.1	86.1	82.4	82.7	87.2	93.8	98.1
42.5°	1773.2	1243.5	150.8	100.3	87.2	81.2	77.0	79.5	81.5	88.4	91.2
45°	1986.4	1323.6	132.8	97.8	82.4	76.7	73.3	76.1	74.1	77.5	81.5
47.5°	2156.1	1393.5	119.4	91.5	79.3	74.1	69.8	69.0	65.6	66.4	70.1
50°	2249.3	1381.8	108.3	85.2	75.3	71.6	65.6	59.6	55.0	54.7	57.0
52.5°	2282.4	1319.4	99.2	79.8	70.4	65.9	59.0	50.7	46.2	44.8	46.8
55°	2291.5	1229.6	90.9	73.8	65.9	58.7	51.6	42.8	37.9	35.6	37.6
57.5°	2261.8	1091.3	83.0	68.1	60.4	51.9	44.2	35.1	30.5	27.7	29.4
60°	2188.6	915.7	75.8	61.0	54.7	45.9	37.3	28.2	23.4	20.8	21.7
62.5°	2026.4	717.8	68.1	54.5	48.7	40.2	31.4	22.2	17.7	15.4	15.7
65°	1779.5	535.1	59.3	48.2	43.3	34.8	25.1	17.1	13.4	11.4	11.1
67.5°	1417.7	362.6	50.5	41.6	38.5	29.4	20.0	13.4	10.5	9.1	8.6
70°	833.3	182.7	41.9	35.9	33.1	24.5	15.7	10.8	9.7	8.6	8.0
72.5°	274.8	79.0	32.8	29.6	27.4	19.7	12.3	10.0	9.4	8.3	7.7
75°	95.8	45.6	24.2	22.8	21.7	14.8	10.3	9.1	9.1	8.0	7.1
77.5°	62.7	35.4	18.0	16.5	16.2	10.8	8.8	8.6	8.0	6.6	5.4
80°	52.2	20.0	12.5	11.7	11.4	6.8	7.1	6.3	4.8	2.9	1.1
82.5°	48.2	12.0	6.6	7.1	6.6	2.6	4.0	3.4	2.6	1.1	0.0
85°	28.2	5.4	3.7	3.7	2.9	0.6	2.0	2.0	1.1	0.3	0.0
87.5°	3.1	2.6	2.0	2.0	1.4	0.0	0.9	0.6	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)