

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: P596901

Luminaire Tested: **MSA-SA1D-835-U-SL4-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596901  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-835-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: 4676 lumens  
Efficiency: N/A  
Efficacy: 69.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G2

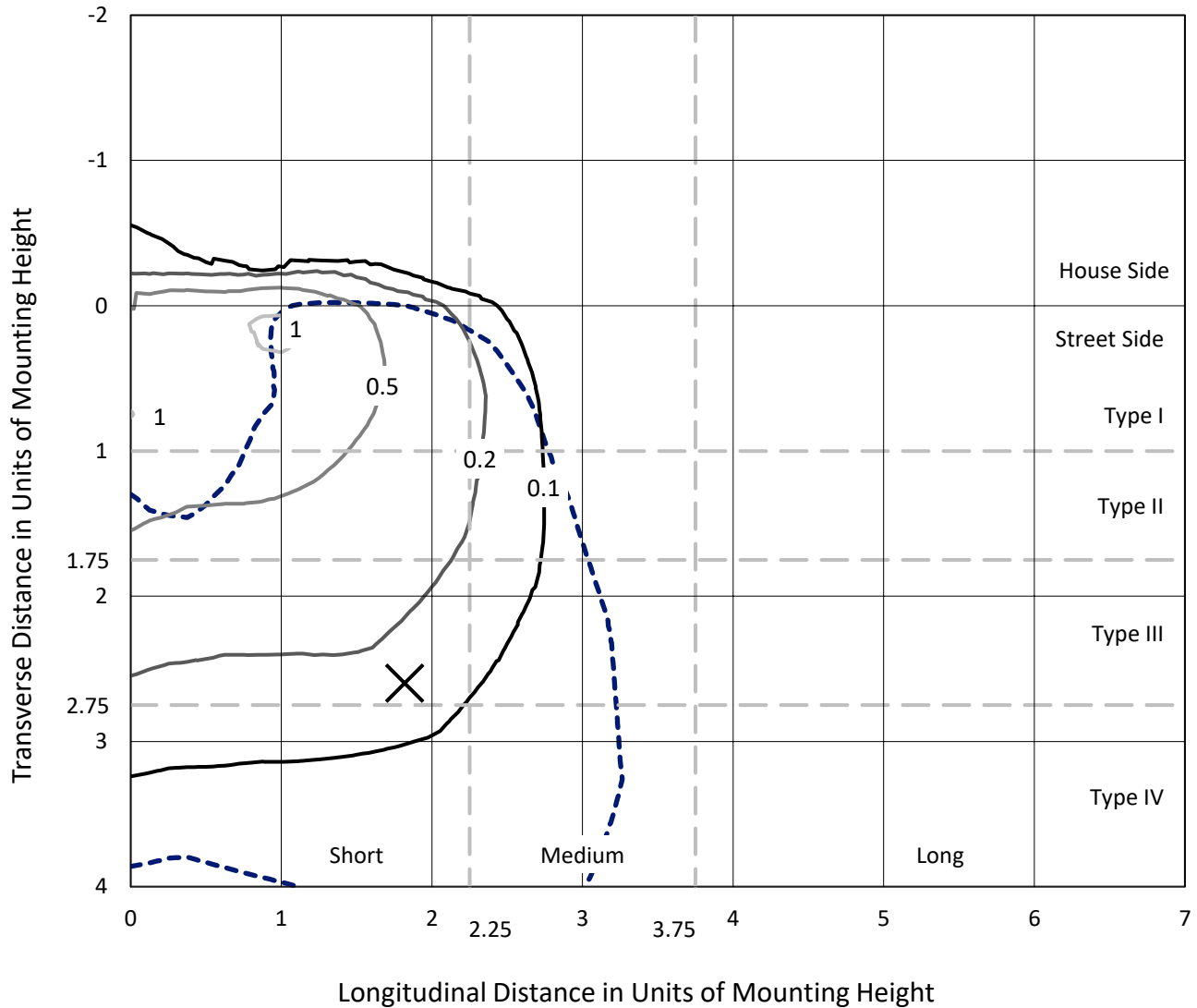
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

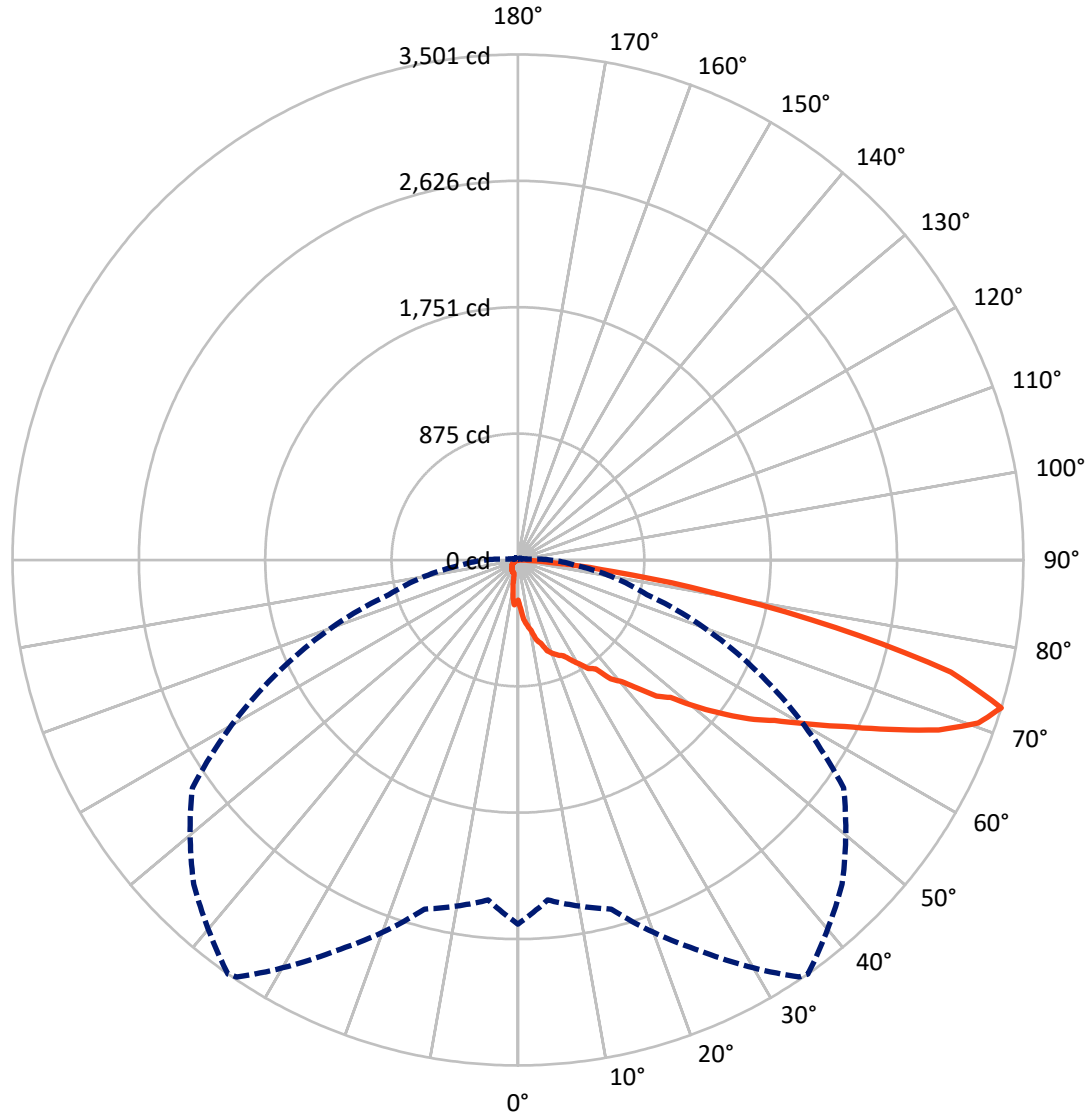
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 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	364.7	0.0	364.7
	% Fixture	7.8	0.0	7.8
<b>Street Side</b>	Lumens	4311.3	0.0	4311.3
	% Fixture	92.2	0.0	92.2
<b>Total</b>	Lumens	4676.0	0.0	4676.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.5	0.8
10°-20°	119.7	2.6
20°-30°	217.9	4.7
30°-40°	375.9	8.0
40°-50°	668.2	14.3
50°-60°	997.1	21.3
60°-70°	1273.9	27.2
70°-80°	886.3	19.0
80°-90°	101.4	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°	4676.0	100.0
0°-180°	4676.0	100.0

**Coefficient of Utilization**

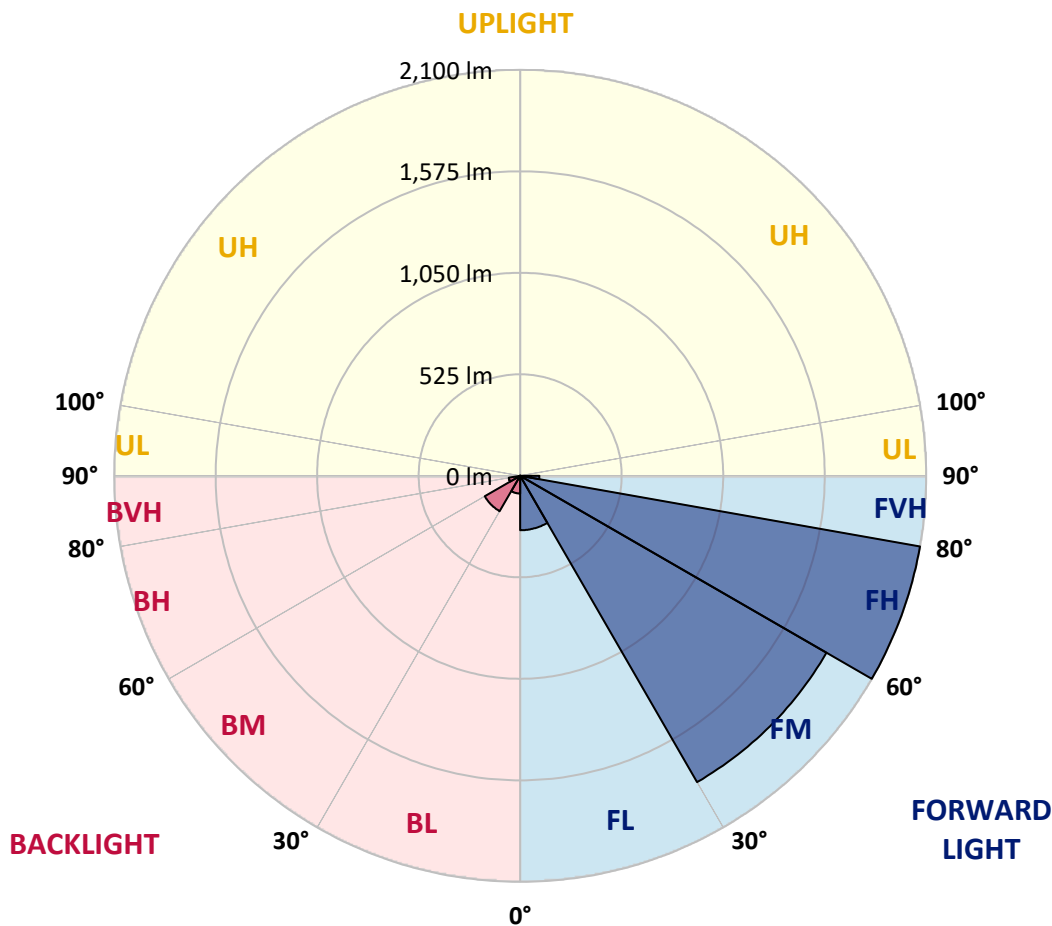


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	281.4	6.0			
FM (30°-60°)	1829.7	39.1			
FH (60°-80°)	2100.5	44.9			G2/5000
FVH (80°-90°)	99.7	2.1			G1/100
BL (0°-30°)	91.7	2.0	B0/110		
BM (30°-60°)	211.5	4.5	B0/220		
BH (60°-80°)	59.8	1.3	B0/110		G0/110
BVH (80°-90°)	1.7	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G2**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	278.5	278.5	278.5	278.5	278.5	278.5	278.5	278.5	278.5	278.5	278.5
2.5°	354.5	340.6	318.0	319.7	329.8	331.9	335.0	327.0	319.9	307.5	331.7
5°	454.1	434.2	421.5	417.5	411.6	412.1	397.7	402.9	401.5	410.7	421.7
7.5°	510.3	499.3	483.3	478.8	457.2	454.8	437.2	461.0	463.3	460.0	478.1
10°	532.7	518.1	520.0	503.3	492.5	495.3	498.1	500.0	503.0	506.1	484.0
12.5°	545.8	548.4	574.0	556.6	567.4	567.4	586.5	566.3	567.0	544.9	548.6
15°	605.1	619.4	607.9	607.6	595.9	598.9	621.0	605.1	613.3	606.7	581.3
17.5°	679.3	682.2	660.3	650.7	661.2	661.5	652.1	651.4	622.7	671.1	640.3
20°	703.1	719.1	688.0	650.4	694.4	692.3	691.6	680.5	632.8	700.0	674.6
22.5°	767.7	744.9	723.8	699.1	716.2	716.2	713.6	689.4	670.9	697.4	708.2
25°	787.9	790.7	763.2	755.3	755.7	734.6	732.7	722.3	704.5	749.8	728.2
27.5°	857.5	856.3	790.3	812.6	784.2	784.4	732.5	755.7	758.8	752.4	776.6
30°	925.9	944.9	845.3	873.5	843.6	834.7	783.9	804.6	810.0	802.7	833.3
32.5°	1013.1	1041.1	944.2	916.5	870.9	896.3	861.3	812.4	839.2	904.3	921.4
35°	1105.5	1119.1	1015.9	977.2	925.7	925.4	924.3	928.3	957.9	1031.2	1045.8
37.5°	1271.5	1239.2	1145.9	1057.1	1068.6	1043.0	1025.1	1043.9	1074.7	1195.5	1257.8
40°	1364.1	1340.8	1209.4	1156.7	1099.6	1109.0	1157.4	1155.3	1237.4	1363.8	1457.2
42.5°	1454.1	1432.0	1302.7	1260.2	1186.8	1212.5	1233.6	1260.4	1428.5	1632.5	1683.8
45°	1534.3	1469.4	1378.2	1379.8	1341.7	1344.8	1382.2	1406.8	1649.9	1859.1	1895.1
47.5°	1582.7	1529.3	1441.9	1440.2	1437.9	1423.5	1599.6	1622.2	1826.4	2074.9	2078.2
50°	1650.8	1584.1	1507.5	1508.9	1563.2	1593.5	1803.6	1801.3	1996.9	2255.0	2179.0
52.5°	1735.7	1654.1	1569.7	1632.5	1716.4	1765.8	1936.4	2006.0	2180.0	2368.0	2218.5
55°	1844.3	1742.3	1660.9	1741.3	1924.5	1943.5	2066.4	2213.3	2379.5	2483.4	2231.2
57.5°	1971.7	1849.9	1784.1	1913.6	2096.3	2096.8	2255.7	2434.3	2502.0	2530.4	2216.9
60°	2109.0	1967.0	1900.7	2017.3	2285.7	2305.0	2466.0	2556.3	2626.3	2554.2	2191.2
62.5°	2229.8	2073.0	2021.5	2158.6	2493.5	2539.1	2649.4	2636.5	2716.1	2584.0	2126.1
65°	2373.7	2210.3	2176.4	2378.8	2764.8	2827.6	2855.3	2778.7	2746.2	2561.0	1956.7
67.5°	2516.1	2363.3	2362.4	2623.1	3120.5	3142.1	3112.9	2979.2	2711.2	2357.9	1646.1
70°	2616.5	2452.4	2514.2	2890.6	3443.7	3383.0	3260.3	3073.9	2458.3	1807.2	1075.4
72.5°	2522.2	2364.0	2503.4	2985.8	3483.6	3501.0	3175.0	2753.5	1826.4	924.3	389.3
75°	1916.7	1819.9	2173.6	2648.9	3092.9	3096.9	2650.1	1942.1	899.3	251.0	107.7
77.5°	965.4	934.6	1375.8	1880.5	2256.6	2250.0	1820.8	1040.4	289.4	83.4	54.3
80°	488.7	464.0	585.5	1014.5	1340.1	1350.0	1039.7	465.9	146.0	45.4	37.6
82.5°	300.2	284.9	320.4	459.1	650.4	666.2	394.4	295.0	90.5	26.8	34.3
85°	58.1	61.1	184.1	229.9	259.7	253.6	116.8	242.8	27.3	16.0	24.9
87.5°	0.0	0.9	42.5	75.0	75.2	66.8	26.6	53.8	3.8	4.5	3.1
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°	278.5	278.5	278.5	278.5	278.5	278.5	278.5	278.5	278.5	278.5	278.5
2.5°	335.7	332.1	302.8	299.5	300.2	295.2	293.6	283.2	280.7	296.6	299.5
5°	417.0	393.5	366.2	356.4	341.1	315.2	311.5	304.9	297.6	300.4	298.3
7.5°	466.8	435.6	406.4	354.5	311.5	273.8	267.7	256.5	245.2	245.4	252.7
10°	474.8	448.5	408.3	345.1	295.9	248.9	208.0	178.4	165.0	153.0	156.6
12.5°	521.1	496.7	422.6	342.3	273.4	200.0	146.4	117.5	104.8	100.6	100.1
15°	558.3	539.0	447.1	333.6	223.3	140.8	104.8	96.4	94.0	98.0	96.8
17.5°	613.5	578.7	444.5	297.6	170.2	107.0	96.6	95.4	98.3	100.6	101.3
20°	637.7	587.7	426.9	241.2	127.4	98.0	94.3	91.9	97.1	104.1	102.7
22.5°	662.2	602.9	406.2	197.5	102.5	93.8	91.7	89.8	93.8	100.6	102.3
25°	673.2	627.4	383.2	154.2	95.2	88.9	87.4	88.1	91.4	97.6	96.8
27.5°	728.9	630.2	339.2	121.8	92.1	85.3	85.3	87.0	87.0	95.2	94.5
30°	763.7	677.9	303.5	102.5	88.6	80.4	83.2	83.9	82.7	91.7	92.4
32.5°	824.8	691.1	268.7	94.0	83.0	79.7	79.2	79.7	80.6	89.3	89.6
35°	918.9	756.0	221.2	90.7	80.2	76.2	72.9	75.5	77.8	84.2	85.3
37.5°	1102.7	822.5	180.3	88.1	78.7	72.9	71.7	71.2	75.5	82.7	85.1
40°	1251.5	940.2	146.7	86.0	75.9	71.0	67.9	68.2	71.9	77.3	80.9
42.5°	1462.1	1025.3	124.3	82.7	71.9	67.0	63.5	65.6	67.2	72.9	75.2
45°	1637.9	1091.4	109.5	80.6	67.9	63.2	60.4	62.8	61.1	63.9	67.2
47.5°	1777.8	1149.0	98.5	75.5	65.3	61.1	57.6	56.9	54.1	54.8	57.8
50°	1854.6	1139.3	89.3	70.3	62.1	59.0	54.1	49.1	45.4	45.1	47.0
52.5°	1881.9	1087.9	81.8	65.8	58.1	54.3	48.7	41.8	38.1	36.9	38.6
55°	1889.4	1013.8	75.0	60.9	54.3	48.4	42.5	35.3	31.3	29.4	31.0
57.5°	1865.0	899.8	68.4	56.2	49.8	42.8	36.4	28.9	25.2	22.8	24.2
60°	1804.6	755.0	62.5	50.3	45.1	37.8	30.8	23.3	19.3	17.2	17.9
62.5°	1670.8	591.9	56.2	44.9	40.2	33.1	25.9	18.3	14.6	12.7	12.9
65°	1467.3	441.2	48.9	39.7	35.7	28.7	20.7	14.1	11.0	9.4	9.2
67.5°	1169.0	299.0	41.6	34.3	31.7	24.2	16.5	11.0	8.7	7.5	7.1
70°	687.1	150.7	34.6	29.6	27.3	20.2	12.9	8.9	8.0	7.1	6.6
72.5°	226.6	65.1	27.0	24.4	22.6	16.2	10.1	8.2	7.8	6.8	6.3
75°	79.0	37.6	20.0	18.8	17.9	12.2	8.5	7.5	7.5	6.6	5.9
77.5°	51.7	29.1	14.8	13.6	13.4	8.9	7.3	7.1	6.6	5.4	4.5
80°	43.0	16.5	10.3	9.6	9.4	5.6	5.9	5.2	4.0	2.4	0.9
82.5°	39.7	9.9	5.4	5.9	5.4	2.1	3.3	2.8	2.1	0.9	0.0
85°	23.3	4.5	3.1	3.1	2.4	0.5	1.6	1.6	0.9	0.2	0.0
87.5°	2.6	2.1	1.6	1.6	1.2	0.0	0.7	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)