

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: P596913

Luminaire Tested: **MSA-SA1D-835-U-T4W-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596913  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-15)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1D-835-U-T4W-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4262 lumens  
Efficiency: N/A  
Efficacy: 63.6 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

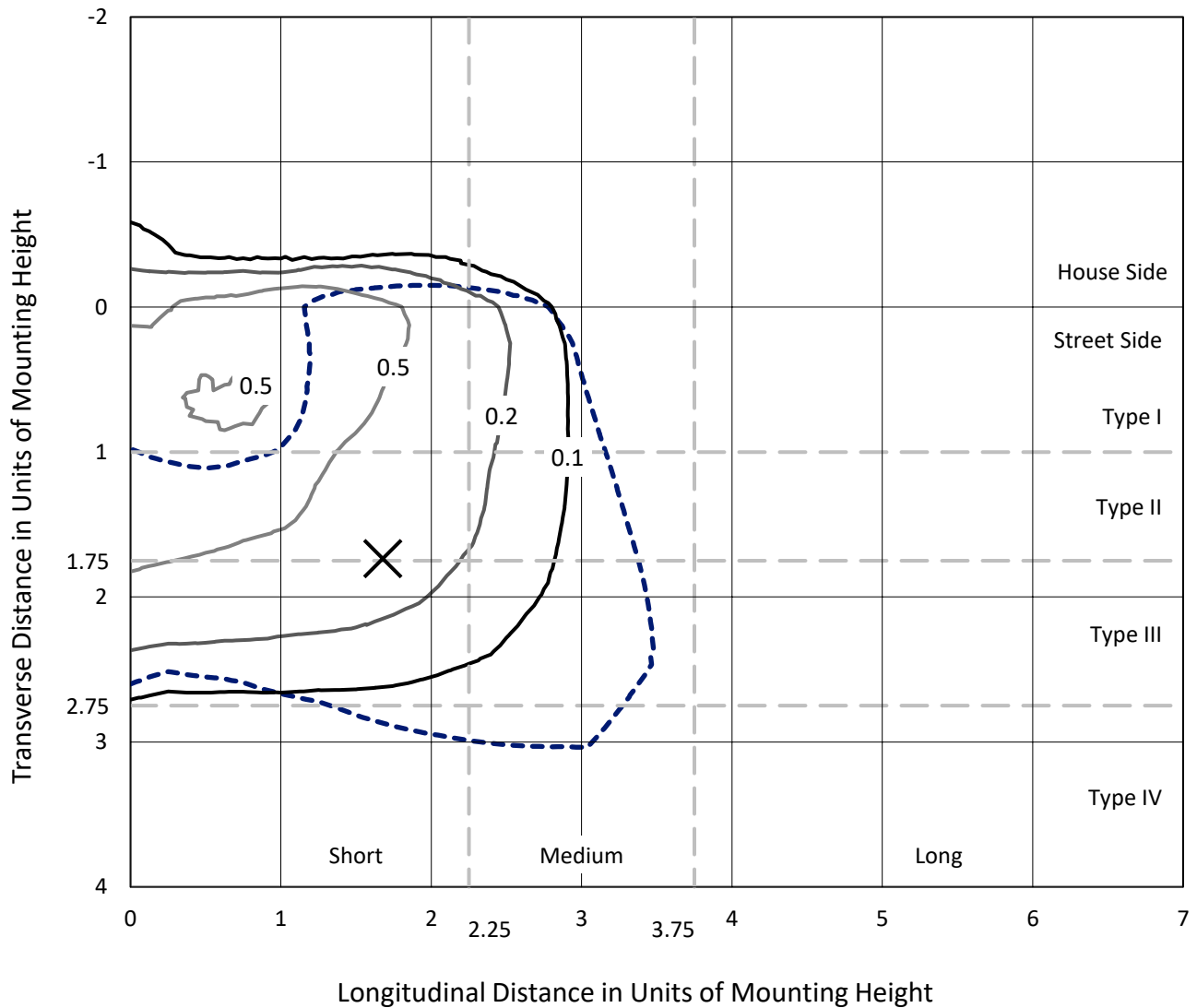
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

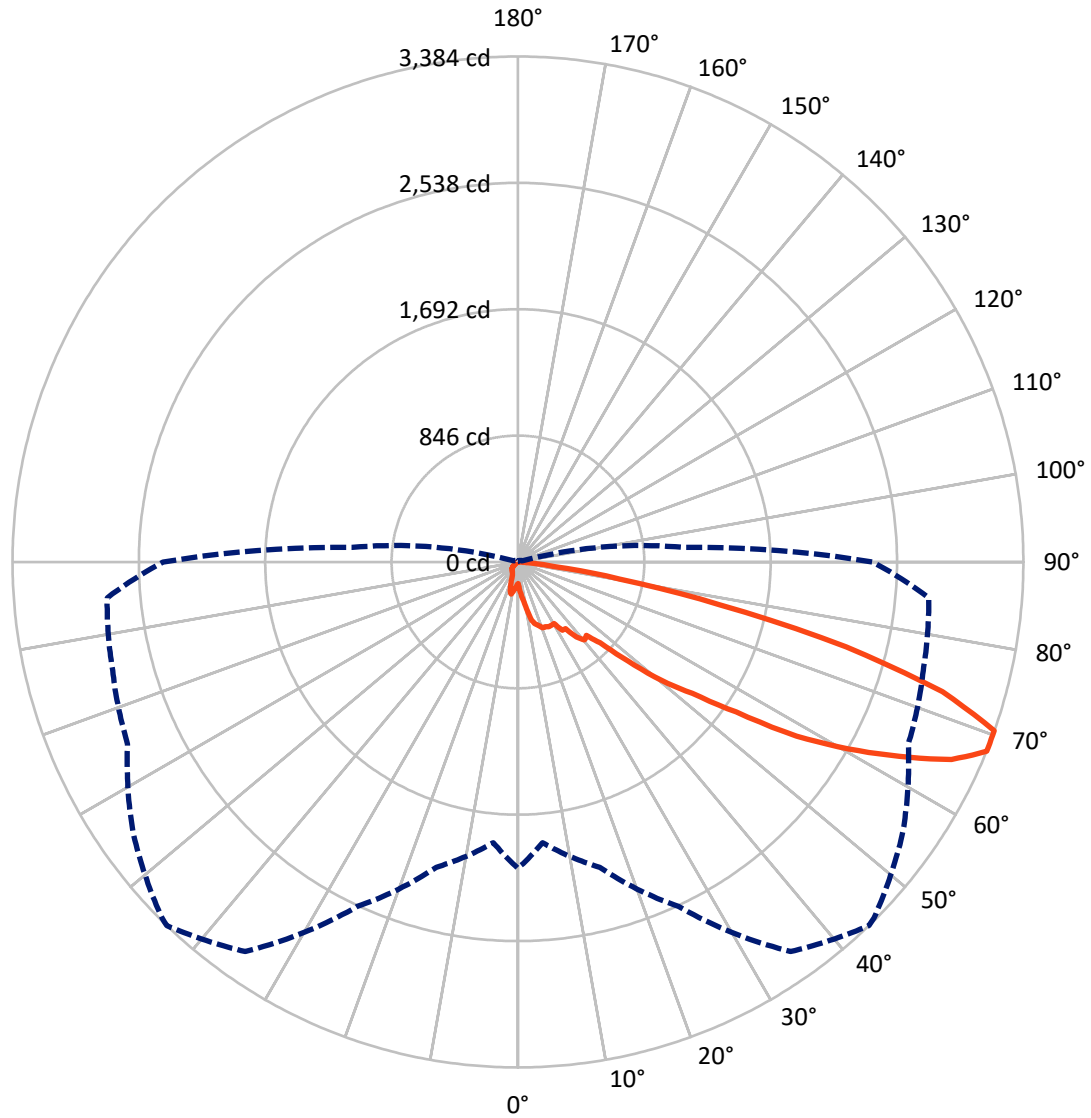
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral    - - - Horizontal Cone Through 67.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	432.9	0.0	432.9
	% Fixture	10.2	0.0	10.2
<b>Street Side</b>	Lumens	3829.1	0.0	3829.1
	% Fixture	89.8	0.0	89.8
<b>Total</b>	Lumens	4262.0	0.0	4262.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	21.3	0.5
10°-20°	89.1	2.1
20°-30°	157.9	3.7
30°-40°	256.6	6.0
40°-50°	513.4	12.0
50°-60°	1053.3	24.7
60°-70°	1446.9	33.9
70°-80°	680.1	16.0
80°-90°	43.6	1.0
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°	4262.0	100.0
0°-180°	4262.0	100.0

**Coefficient of Utilization**

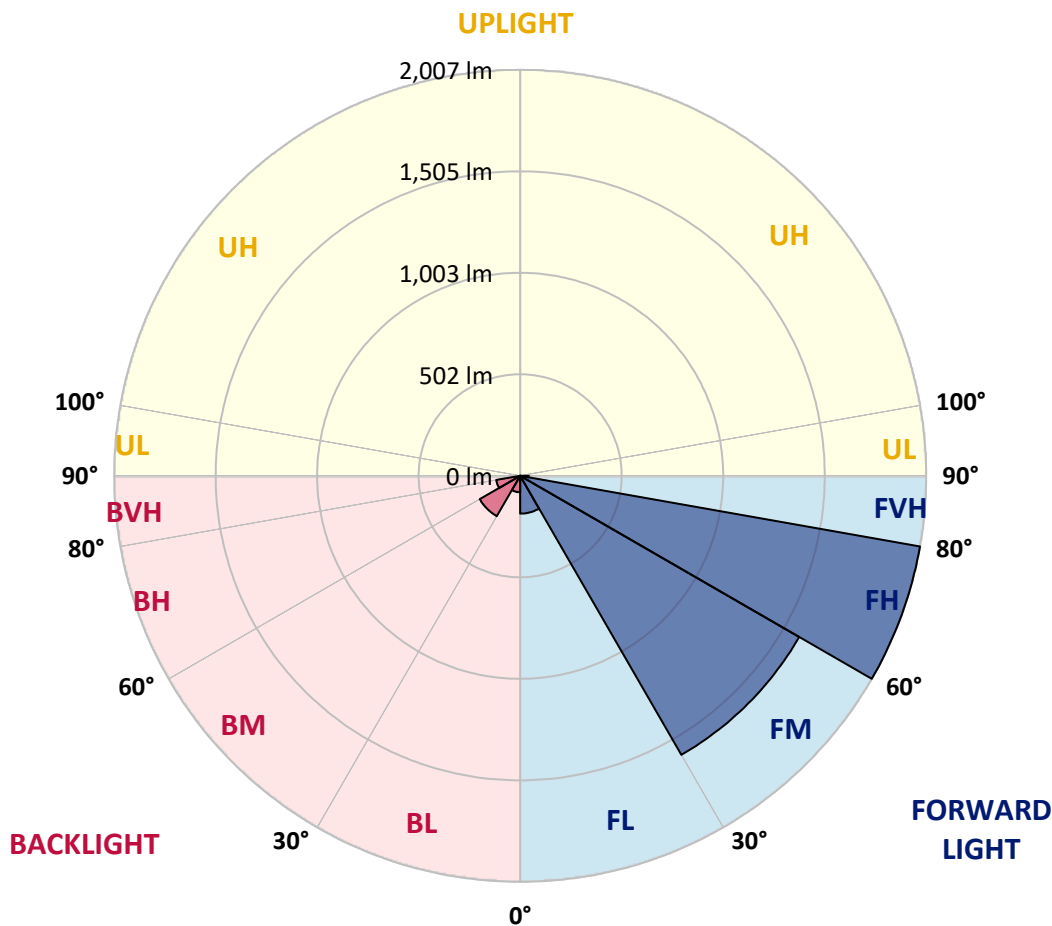


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	186.9	4.4			
FM (30°-60°)	1592.6	37.4			
FH (60°-80°)	2006.8	47.1			G2/5000
FVH (80°-90°)	42.7	1.0			G1/100
BL (0°-30°)	81.3	1.9	B0/110		
BM (30°-60°)	230.6	5.4	B1/1000		
BH (60°-80°)	120.1	2.8	B1/500		G1/500
BVH (80°-90°)	0.9	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°	35°	44°	45°	55°	65°	75°	85°
0°	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6
2.5°	182.6	176.7	168.3	170.2	171.1	173.7	173.9	170.6	161.2	158.6	170.2
5°	255.9	241.6	239.0	233.6	222.8	216.9	215.5	221.4	213.9	211.5	214.6
7.5°	326.9	314.7	301.3	294.0	271.4	257.6	256.9	259.2	260.6	252.4	256.6
10°	374.1	360.8	357.9	340.8	321.3	318.0	316.6	307.6	300.4	294.2	273.8
12.5°	416.9	416.7	421.9	397.2	394.1	397.4	396.2	364.3	357.0	331.4	325.5
15°	473.8	487.9	465.6	444.9	418.6	429.8	426.8	406.3	401.4	384.0	358.9
17.5°	532.8	536.5	499.2	467.4	460.6	445.8	448.9	441.6	416.7	430.6	405.6
20°	534.2	542.4	502.5	450.1	471.0	470.3	470.5	463.5	430.6	463.0	440.2
22.5°	553.9	533.7	496.6	463.2	467.0	470.5	474.3	465.6	458.5	466.5	470.7
25°	545.9	538.0	502.2	480.1	476.6	479.4	480.4	491.4	487.0	506.2	495.7
27.5°	566.6	555.1	491.2	495.2	482.7	479.4	473.8	510.7	523.9	508.6	536.8
30°	602.1	600.5	510.2	516.1	506.5	477.6	492.6	540.8	557.2	547.8	582.1
32.5°	657.6	663.2	565.9	527.8	532.8	545.7	540.1	540.8	582.4	603.3	630.5
35°	736.3	733.3	620.2	572.5	546.6	548.8	556.8	595.1	648.9	647.5	676.4
37.5°	890.9	857.6	716.3	618.1	625.8	636.4	630.5	682.0	687.2	689.1	758.2
40°	1118.9	1074.5	867.9	714.2	639.5	686.2	683.4	696.1	730.7	743.6	844.4
42.5°	1419.3	1359.6	1134.7	890.9	705.3	673.1	690.5	714.5	830.5	867.4	977.9
45°	1751.1	1630.3	1400.7	1142.9	870.3	770.4	783.5	828.2	989.2	1050.3	1172.3
47.5°	1966.1	1859.9	1664.2	1366.2	1042.3	989.9	991.1	1000.7	1175.6	1288.8	1452.4
50°	2153.0	2039.9	1858.3	1599.5	1346.6	1247.5	1224.9	1180.5	1412.9	1567.8	1749.2
52.5°	2416.7	2284.6	2052.4	1873.3	1693.8	1460.2	1452.2	1467.2	1692.8	1855.7	2053.6
55°	2654.5	2494.0	2272.4	2159.6	2089.5	1772.7	1779.5	1804.7	2052.2	2138.4	2324.3
57.5°	2759.6	2585.7	2471.7	2420.9	2383.5	2199.8	2176.7	2161.7	2335.6	2368.5	2608.0
60°	2828.4	2663.0	2611.3	2623.0	2736.3	2541.2	2520.3	2432.9	2570.1	2597.2	2862.3
62.5°	2784.9	2634.1	2645.1	2743.1	2994.6	2866.3	2805.9	2659.7	2761.9	2783.8	3044.9
65°	2511.2	2353.9	2495.9	2733.0	3191.5	3188.5	3160.5	2869.1	2868.1	2896.1	3059.0
67.5°	2051.2	1886.2	2115.9	2543.6	3183.3	3383.8	3370.6	3146.9	2883.4	2808.7	2760.5
70°	1426.1	1283.0	1543.4	2100.6	2899.6	3382.4	3361.2	3333.5	2762.6	2417.6	2140.3
72.5°	741.0	662.3	904.8	1447.5	2311.4	2971.8	3041.6	2996.0	2358.9	1756.5	1260.4
75°	251.7	225.9	373.2	768.3	1536.5	2269.3	2351.1	2304.8	1602.1	942.4	498.5
77.5°	97.5	90.7	133.7	311.9	770.9	1382.8	1471.7	1424.4	859.2	345.2	117.3
80°	55.5	53.6	73.8	140.5	339.8	687.9	750.4	680.6	309.8	116.3	30.6
82.5°	23.5	24.2	41.1	75.9	170.9	242.8	270.7	247.0	129.7	79.7	11.3
85°	5.2	6.3	19.5	42.3	71.7	69.3	72.6	80.6	79.7	58.5	4.9
87.5°	0.0	0.0	6.1	11.5	17.2	11.3	8.9	15.7	24.4	23.5	2.1
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°	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6	143.6
2.5°	172.3	169.9	155.1	154.2	155.1	152.5	152.3	146.9	147.4	159.6	160.5
5°	214.6	202.8	190.1	186.1	182.4	173.9	178.6	178.6	178.6	186.4	188.7
7.5°	252.9	237.1	219.3	204.2	189.7	179.1	186.4	191.5	194.6	204.7	209.4
10°	270.3	254.8	238.8	217.4	206.1	202.1	193.7	189.2	194.6	192.5	195.1
12.5°	307.4	293.3	265.8	243.7	235.3	221.6	196.7	179.3	167.8	165.9	165.5
15°	343.6	334.9	298.0	268.4	239.0	207.5	165.0	142.0	129.7	127.6	127.8
17.5°	389.4	377.0	322.7	280.1	230.3	173.7	127.4	107.6	106.7	111.9	112.3
20°	420.0	399.5	335.1	270.5	201.6	131.4	99.6	94.9	102.5	111.9	110.9
22.5°	449.1	427.0	351.6	262.0	156.3	99.6	91.7	92.1	98.5	108.6	111.2
25°	468.4	460.4	371.8	242.3	119.2	86.3	87.7	91.2	96.6	106.2	106.2
27.5°	526.4	489.1	369.4	204.0	91.7	80.4	83.7	88.1	91.0	102.5	103.6
30°	561.7	549.5	381.7	165.0	80.4	72.9	79.2	83.2	85.1	98.2	98.7
32.5°	604.9	577.9	396.5	121.7	74.7	72.4	71.0	74.0	79.4	91.0	91.7
35°	657.6	649.6	375.3	95.7	72.9	67.7	64.9	66.5	70.0	77.8	79.4
37.5°	765.0	717.5	362.6	82.0	72.9	66.0	63.0	58.8	59.2	64.6	67.7
40°	855.5	840.9	327.1	79.7	69.6	63.7	56.2	51.0	47.5	49.1	50.3
42.5°	1021.6	954.2	281.3	78.5	66.5	57.6	47.7	42.3	36.9	37.4	39.2
45°	1223.3	1077.8	240.4	77.3	64.4	51.5	40.2	33.8	28.2	28.4	30.3
47.5°	1492.6	1258.0	190.8	73.8	60.6	45.8	32.4	25.9	22.6	23.3	24.9
50°	1798.6	1416.2	150.9	68.4	56.2	40.4	26.3	20.9	19.7	20.4	22.3
52.5°	2071.9	1532.8	124.6	63.5	49.8	32.9	22.1	18.6	18.1	18.6	20.0
55°	2314.9	1600.5	104.1	57.8	42.8	26.6	20.0	17.2	16.9	16.7	17.6
57.5°	2542.9	1620.0	81.3	48.9	34.8	23.0	18.6	16.0	15.5	14.8	15.5
60°	2709.0	1586.6	59.7	39.2	28.4	20.9	17.4	14.3	13.6	12.5	12.9
62.5°	2789.2	1495.2	45.1	31.5	24.2	19.0	15.5	12.5	11.5	10.1	10.3
65°	2713.0	1344.5	35.5	26.6	20.7	16.0	13.2	10.6	9.4	8.0	8.0
67.5°	2375.8	1115.4	30.1	23.0	17.4	13.6	10.8	9.6	7.8	6.6	6.3
70°	1743.8	802.3	25.9	20.2	15.0	11.8	9.2	8.7	7.5	6.3	5.9
72.5°	984.2	454.1	22.1	17.9	12.7	9.9	7.8	8.0	7.3	5.9	5.4
75°	375.6	153.0	18.3	14.8	10.3	7.5	6.6	6.6	6.6	4.9	4.2
77.5°	93.1	39.0	14.6	12.0	8.2	4.9	5.4	5.6	5.6	4.2	3.1
80°	25.6	13.2	8.7	8.7	5.9	2.8	3.8	3.8	3.1	1.4	0.0
82.5°	9.4	4.9	3.1	3.8	2.6	0.9	1.4	0.9	0.7	0.0	0.0
85°	4.0	2.6	1.9	2.1	1.2	0.0	0.2	0.5	0.0	0.0	0.0
87.5°	1.6	1.2	0.9	0.9	0.5	0.0	0.0	0.0	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)