

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: P366883

Luminaire Tested: **MSA-SA1C-727-U-T4W-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366883  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1C-727-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**

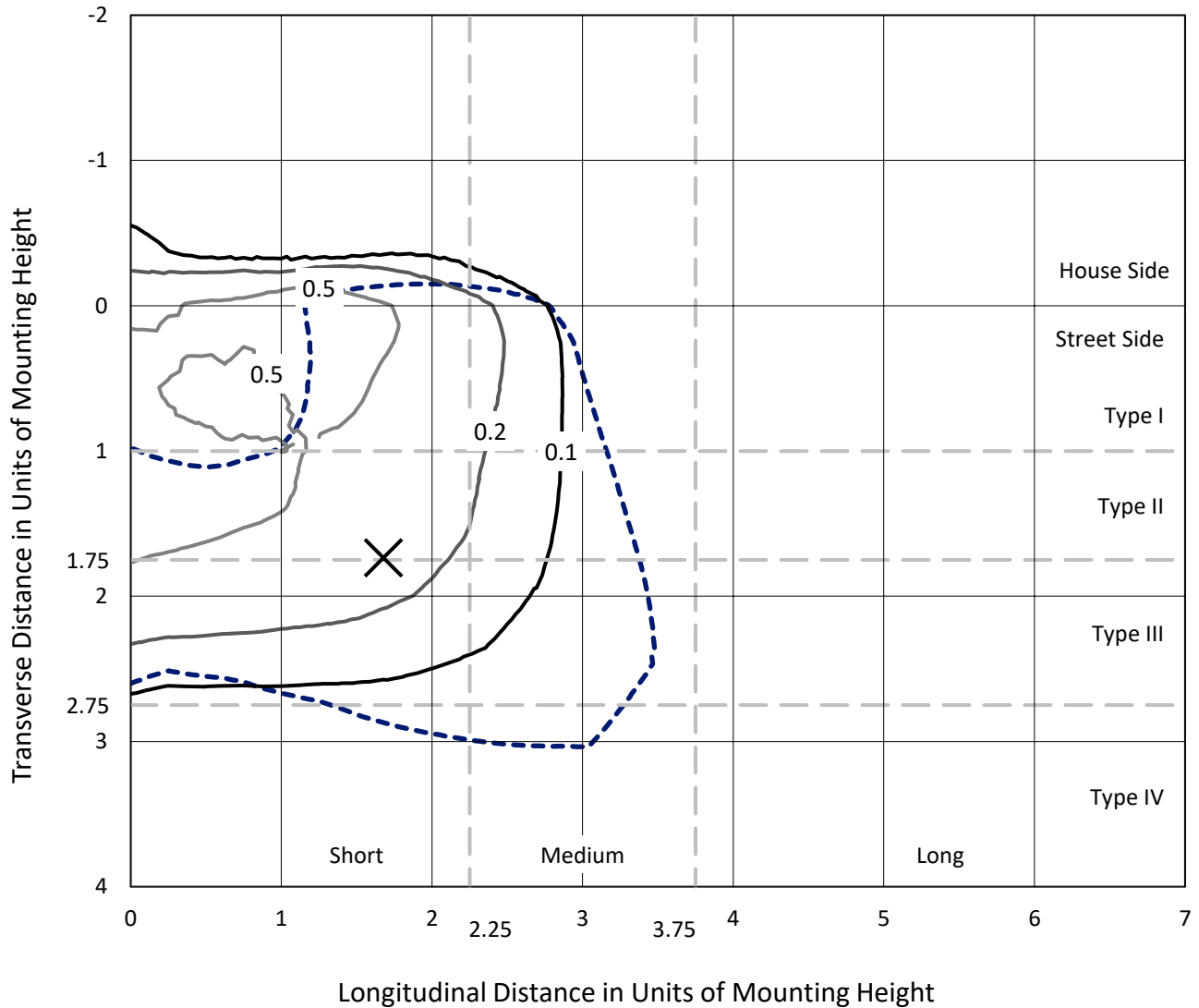
Lumens per Lamp: N/A  
Luminaire Lumens: 3954 lumens  
Efficiency: N/A  
Efficacy: 67.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2  
  
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

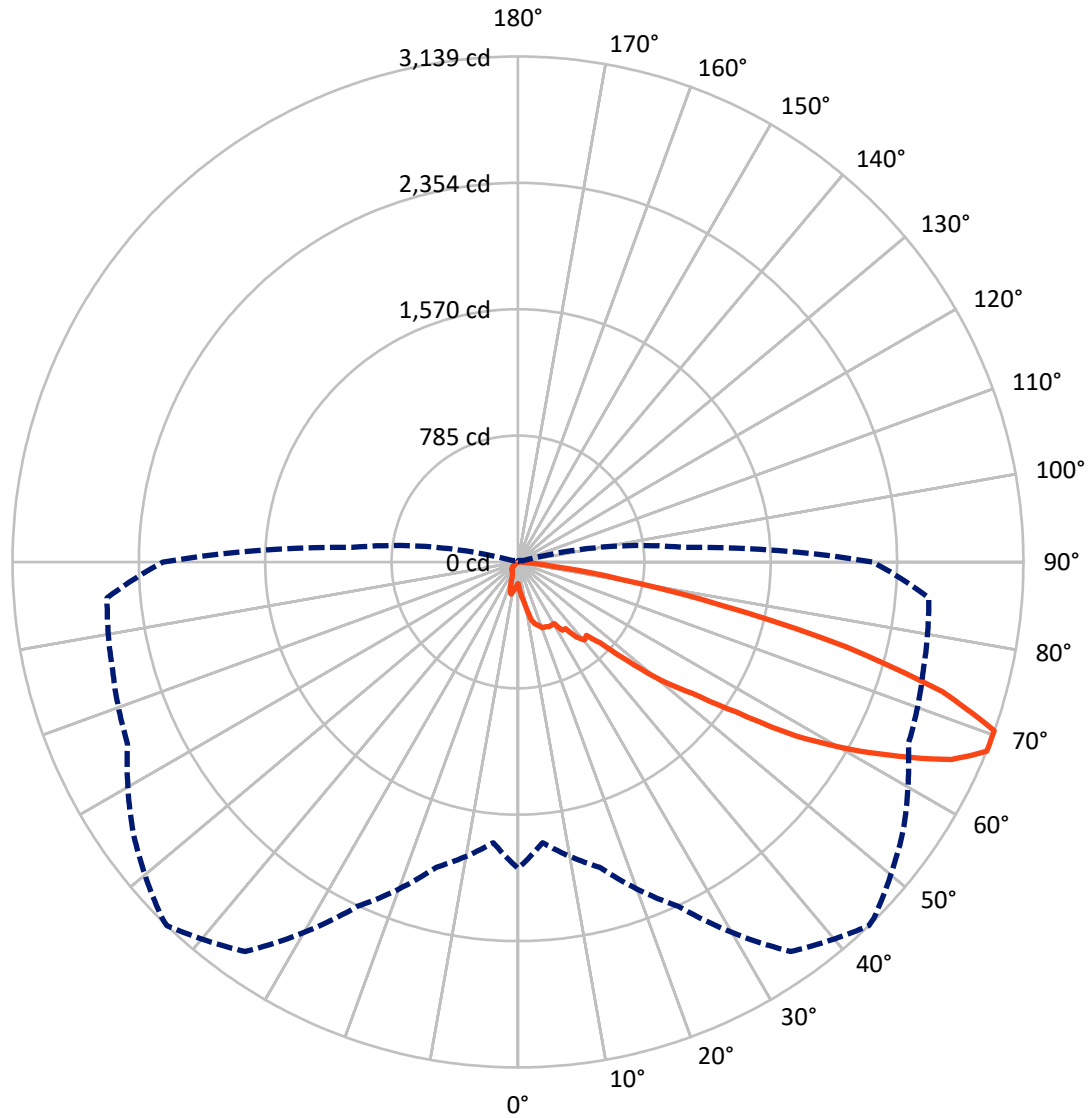
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.9 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	401.7	0.0	401.7
	% Fixture	10.2	0.0	10.2
<b>Street Side</b>	Lumens	3552.4	0.0	3552.4
	% Fixture	89.8	0.0	89.8
<b>Total</b>	Lumens	3954.0	0.0	3954.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	19.7	0.5
10°-20°	82.7	2.1
20°-30°	146.4	3.7
30°-40°	238.0	6.0
40°-50°	476.3	12.0
50°-60°	977.2	24.7
60°-70°	1342.3	33.9
70°-80°	630.9	16.0
80°-90°	40.4	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°	3954.0	100.0
0°-180°	3954.0	100.0

**Coefficient of Utilization**



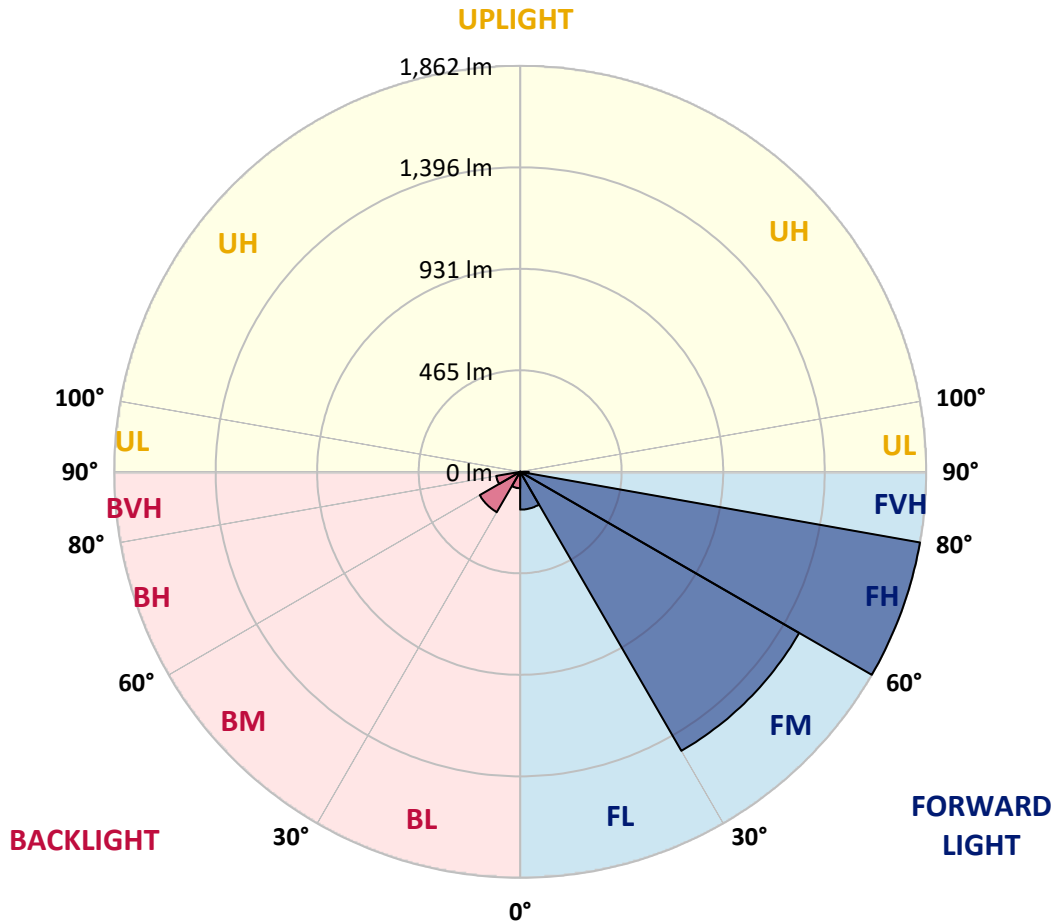
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	173.4	4.4			
FM (30°-60°)	1477.5	37.4			
FH (60°-80°)	1861.8	47.1			G2/5000
FVH (80°-90°)	39.6	1.0			G1/100
BL (0°-30°)	75.4	1.9	B0/110		
BM (30°-60°)	213.9	5.4	B0/220		
BH (60°-80°)	111.5	2.8	B1/500		G1/500
BVH (80°-90°)	0.8	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-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2
2.5°	169.4	164.0	156.1	157.9	158.7	161.1	161.3	158.3	149.6	147.2	157.9
5°	237.4	224.1	221.7	216.7	206.7	201.2	199.9	205.4	198.4	196.2	199.1
7.5°	303.3	291.9	279.5	272.8	251.8	239.0	238.3	240.5	241.8	234.2	238.1
10°	347.1	334.7	332.1	316.1	298.1	295.0	293.7	285.4	278.6	273.0	254.0
12.5°	386.8	386.6	391.4	368.5	365.6	368.7	367.6	338.0	331.2	307.4	302.0
15°	439.6	452.6	431.9	412.7	388.3	398.8	395.9	377.0	372.4	356.3	332.9
17.5°	494.3	497.8	463.1	433.7	427.3	413.6	416.4	409.7	386.6	399.4	376.3
20°	495.6	503.2	466.2	417.5	436.9	436.3	436.5	430.0	399.4	429.5	408.4
22.5°	513.9	495.2	460.7	429.7	433.2	436.5	440.0	431.9	425.4	432.8	436.7
25°	506.5	499.1	465.9	445.4	442.2	444.8	445.7	455.9	451.8	469.6	459.8
27.5°	525.7	515.0	455.7	459.4	447.8	444.8	439.6	473.8	486.0	471.8	498.0
30°	558.6	557.1	473.3	478.8	469.9	443.0	457.0	501.7	517.0	508.2	540.1
32.5°	610.1	615.3	525.0	489.7	494.3	506.3	501.0	501.7	540.3	559.7	585.0
35°	683.1	680.3	575.4	531.1	507.1	509.1	516.5	552.1	602.0	600.7	627.5
37.5°	826.6	795.6	664.6	573.4	580.6	590.4	585.0	632.7	637.5	639.3	703.4
40°	1038.1	996.8	805.2	662.6	593.3	636.7	634.0	645.8	677.9	689.9	783.4
42.5°	1316.7	1261.3	1052.7	826.6	654.3	624.4	640.6	662.8	770.5	804.8	907.2
45°	1624.6	1512.5	1299.5	1060.3	807.4	714.7	726.9	768.3	917.7	974.4	1087.5
47.5°	1824.1	1725.5	1543.9	1267.4	967.0	918.4	919.4	928.4	1090.6	1195.7	1347.4
50°	1997.4	1892.5	1724.0	1483.9	1249.3	1157.3	1136.4	1095.2	1310.8	1454.5	1622.8
52.5°	2242.0	2119.5	1904.1	1737.9	1571.4	1354.6	1347.2	1361.2	1570.5	1721.6	1905.2
55°	2462.7	2313.8	2108.2	2003.5	1938.5	1644.6	1650.9	1674.3	1903.9	1983.9	2156.3
57.5°	2560.1	2398.8	2293.1	2246.0	2211.3	2040.8	2019.4	2005.5	2166.8	2197.3	2419.5
60°	2624.0	2470.5	2422.6	2433.5	2538.6	2357.6	2338.2	2257.1	2384.4	2409.5	2655.4
62.5°	2583.7	2443.7	2454.0	2544.9	2778.2	2659.1	2603.1	2467.5	2562.3	2582.6	2824.8
65°	2329.7	2183.8	2315.5	2535.5	2960.9	2958.1	2932.1	2661.7	2660.9	2686.8	2837.9
67.5°	1903.0	1749.9	1962.9	2359.8	2953.3	3139.2	3127.0	2919.5	2675.0	2605.7	2561.0
70°	1323.0	1190.2	1431.8	1948.8	2690.1	3137.9	3118.3	3092.6	2563.0	2242.9	1985.6
72.5°	687.5	614.4	839.4	1342.9	2144.4	2757.0	2821.8	2779.5	2188.4	1629.6	1169.3
75°	233.5	209.5	346.2	712.7	1425.5	2105.3	2181.2	2138.2	1486.3	874.3	462.4
77.5°	90.5	84.2	124.1	289.3	715.1	1282.9	1365.3	1321.5	797.1	320.3	108.8
80°	51.5	49.7	68.5	130.4	315.3	638.2	696.2	631.4	287.4	107.9	28.3
82.5°	21.8	22.5	38.2	70.4	158.5	225.2	251.2	229.2	120.4	73.9	10.5
85°	4.8	5.9	18.1	39.2	66.5	64.3	67.4	74.8	73.9	54.3	4.6
87.5°	0.0	0.0	5.7	10.7	15.9	10.5	8.3	14.6	22.7	21.8	2.0
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°	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2	133.2
2.5°	159.8	157.6	143.9	143.0	143.9	141.5	141.3	136.3	136.7	148.0	148.9
5°	199.1	188.2	176.4	172.7	169.2	161.3	165.7	165.7	165.7	172.9	175.1
7.5°	234.6	220.0	203.4	189.5	176.0	166.1	172.9	177.7	180.5	189.9	194.3
10°	250.7	236.3	221.5	201.7	191.2	187.5	179.7	175.5	180.5	178.6	181.0
12.5°	285.2	272.1	246.6	226.1	218.3	205.6	182.5	166.4	155.7	153.9	153.5
15°	318.8	310.7	276.5	249.0	221.7	192.5	153.1	131.7	120.4	118.4	118.6
17.5°	361.3	349.7	299.4	259.9	213.7	161.1	118.2	99.9	99.0	103.8	104.2
20°	389.6	370.7	310.9	251.0	187.1	121.9	92.4	88.1	95.1	103.8	102.9
22.5°	416.7	396.2	326.2	243.1	145.0	92.4	85.0	85.5	91.4	100.7	103.1
25°	434.5	427.1	344.9	224.8	110.5	80.0	81.3	84.6	89.6	98.6	98.6
27.5°	488.4	453.7	342.7	189.3	85.0	74.6	77.6	81.8	84.4	95.1	96.2
30°	521.1	509.8	354.1	153.1	74.6	67.6	73.5	77.2	78.9	91.1	91.6
32.5°	561.2	536.1	367.8	112.9	69.3	67.2	65.8	68.7	73.7	84.4	85.0
35°	610.1	602.6	348.2	88.7	67.6	62.8	60.2	61.7	65.0	72.2	73.7
37.5°	709.7	665.7	336.4	76.1	67.6	61.3	58.4	54.5	54.9	60.0	62.8
40°	793.6	780.1	303.5	73.9	64.5	59.1	52.1	47.3	44.0	45.6	46.7
42.5°	947.8	885.2	261.0	72.8	61.7	53.4	44.3	39.2	34.2	34.7	36.4
45°	1134.9	999.9	223.0	71.7	59.7	47.7	37.3	31.4	26.2	26.4	28.1
47.5°	1384.7	1167.1	177.0	68.5	56.3	42.5	30.1	24.0	20.9	21.6	23.1
50°	1668.6	1313.9	140.0	63.4	52.1	37.5	24.4	19.4	18.3	19.0	20.7
52.5°	1922.2	1422.0	115.6	58.9	46.2	30.5	20.5	17.2	16.8	17.2	18.5
55°	2147.6	1484.8	96.6	53.6	39.7	24.6	18.5	15.9	15.7	15.5	16.4
57.5°	2359.1	1502.9	75.4	45.4	32.3	21.4	17.2	14.8	14.4	13.7	14.4
60°	2513.3	1471.9	55.4	36.4	26.4	19.4	16.1	13.3	12.6	11.6	12.0
62.5°	2587.6	1387.1	41.9	29.2	22.5	17.7	14.4	11.6	10.7	9.4	9.6
65°	2517.0	1247.4	32.9	24.6	19.2	14.8	12.2	9.8	8.7	7.4	7.4
67.5°	2204.1	1034.8	27.9	21.4	16.1	12.6	10.0	8.9	7.2	6.1	5.9
70°	1617.8	744.4	24.0	18.8	14.0	10.9	8.5	8.1	7.0	5.9	5.5
72.5°	913.1	421.2	20.5	16.6	11.8	9.2	7.2	7.4	6.8	5.5	5.0
75°	348.4	141.9	17.0	13.7	9.6	7.0	6.1	6.1	6.1	4.6	3.9
77.5°	86.3	36.2	13.5	11.1	7.6	4.6	5.0	5.2	5.2	3.9	2.8
80°	23.8	12.2	8.1	8.1	5.5	2.6	3.5	3.5	2.8	1.3	0.0
82.5°	8.7	4.6	2.8	3.5	2.4	0.9	1.3	0.9	0.7	0.0	0.0
85°	3.7	2.4	1.7	2.0	1.1	0.0	0.2	0.4	0.0	0.0	0.0
87.5°	1.5	1.1	0.9	0.9	0.4	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)