

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: P367015

Luminaire Tested: **MSA-SA1D-727-U-T4W-HSS**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367015  
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-SA1D-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: 4324 lumens  
Efficiency: N/A  
Efficacy: 64.5 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

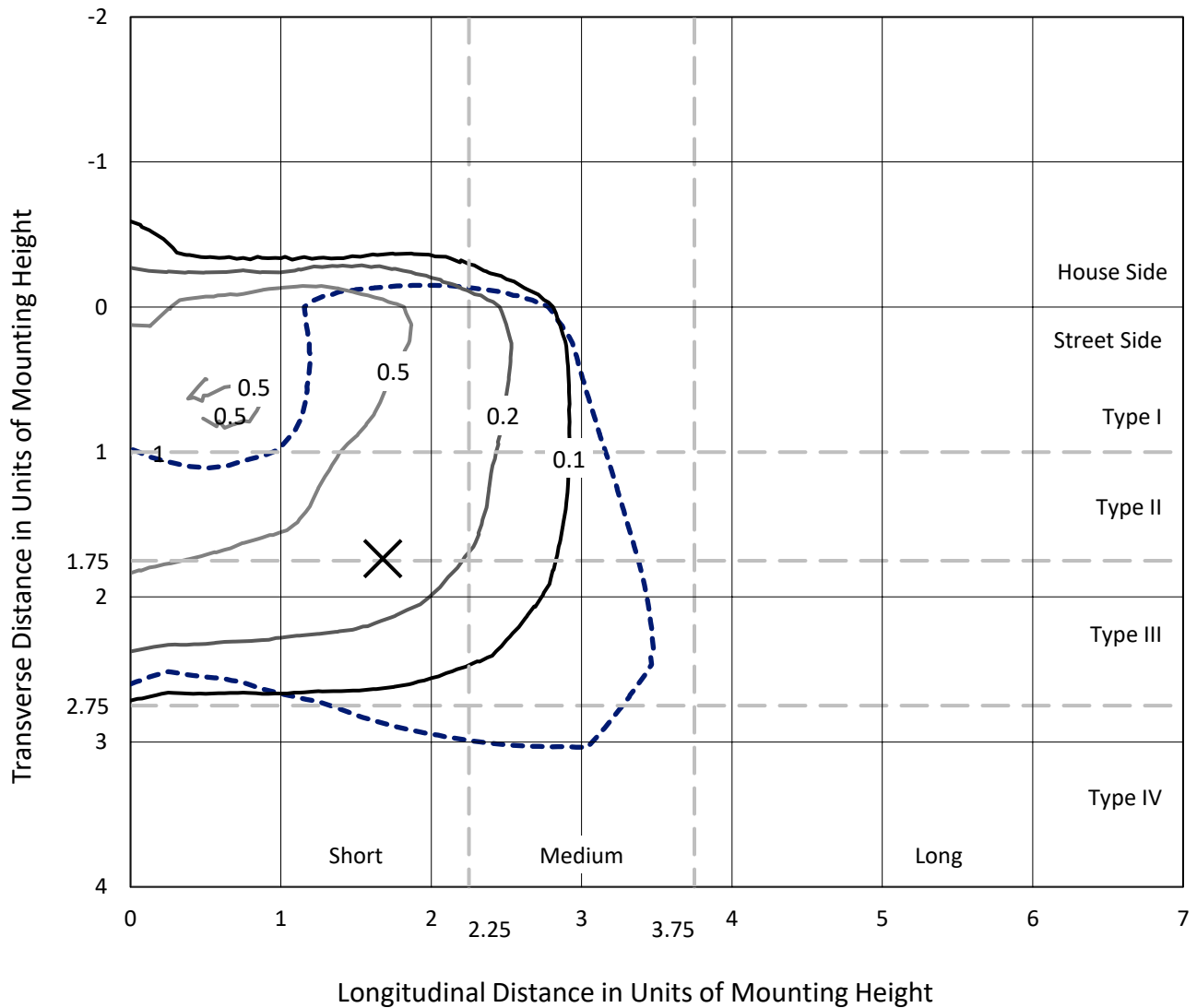
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

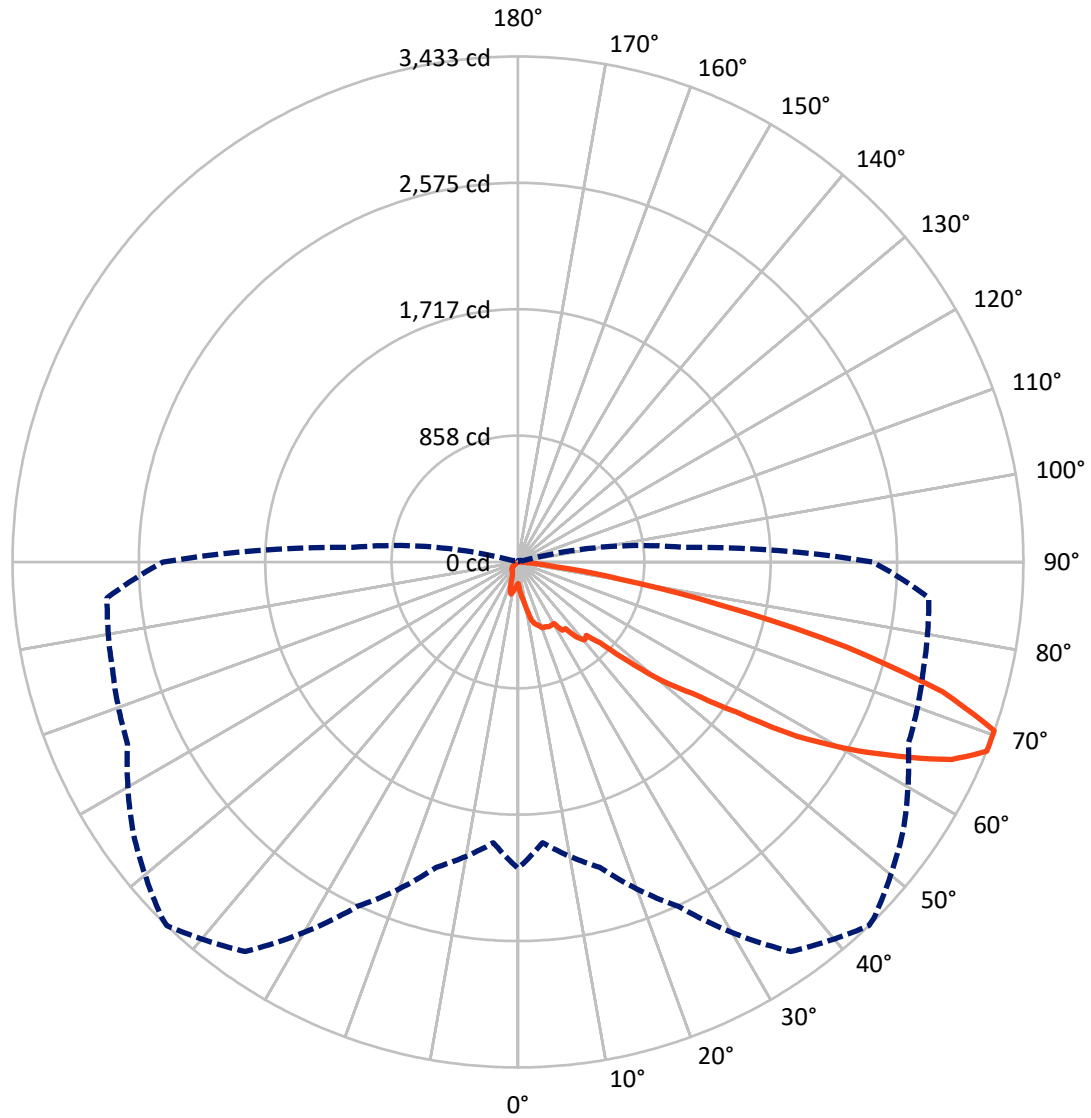
× Max cd  
 - - - 1/2 Max cd



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	439.2	0.0	439.2
	% Fixture	10.2	0.0	10.2
<b>Street Side</b>	Lumens	3884.8	0.0	3884.8
	% Fixture	89.8	0.0	89.8
<b>Total</b>	Lumens	4324.0	0.0	4324.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	21.6	0.5
10°-20°	90.4	2.1
20°-30°	160.1	3.7
30°-40°	260.3	6.0
40°-50°	520.9	12.0
50°-60°	1068.6	24.7
60°-70°	1467.9	33.9
70°-80°	690.0	16.0
80°-90°	44.2	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°	4324.0	100.0
0°-180°	4324.0	100.0

**Coefficient of Utilization**



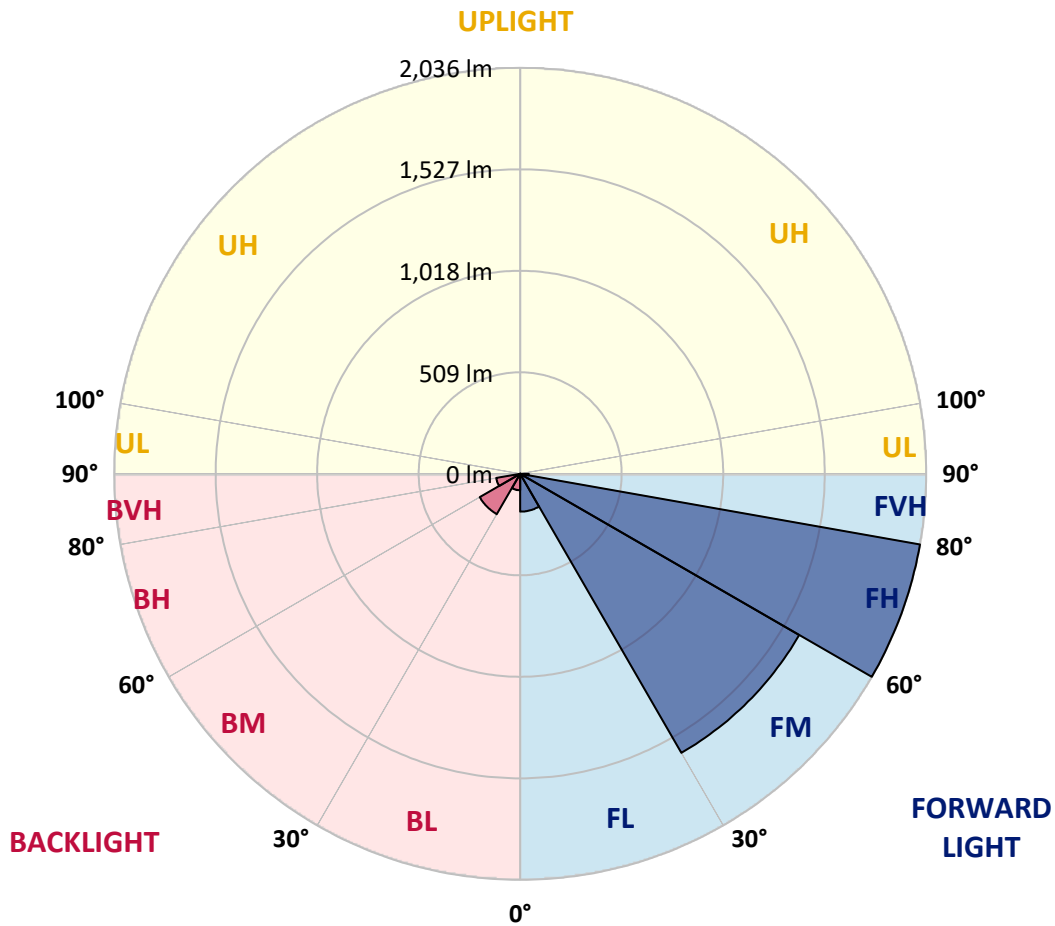
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	189.7	4.4			
FM (30°-60°)	1615.8	37.4			
FH (60°-80°)	2036.0	47.1			G2/5000
FVH (80°-90°)	43.3	1.0			G1/100
BL (0°-30°)	82.5	1.9	B0/110		
BM (30°-60°)	234.0	5.4	B1/1000		
BH (60°-80°)	121.9	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°	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7
2.5°	185.3	179.3	170.7	172.6	173.6	176.2	176.4	173.1	163.6	160.9	172.6
5°	259.7	245.1	242.5	237.0	226.0	220.1	218.6	224.6	217.0	214.6	217.7
7.5°	331.7	319.3	305.7	298.3	275.4	261.3	260.6	263.0	264.4	256.1	260.4
10°	379.6	366.0	363.1	345.7	325.9	322.6	321.2	312.1	304.7	298.5	277.8
12.5°	423.0	422.7	428.0	403.0	399.9	403.2	402.0	369.6	362.2	336.2	330.2
15°	480.7	495.0	472.3	451.4	424.7	436.1	433.0	412.3	407.2	389.6	364.1
17.5°	540.5	544.3	506.4	474.2	467.3	452.3	455.4	448.0	422.7	436.8	411.5
20°	542.0	550.3	509.8	456.6	477.8	477.1	477.3	470.2	436.8	469.7	446.6
22.5°	562.0	541.5	503.8	470.0	473.8	477.3	481.2	472.3	465.2	473.3	477.6
25°	553.9	545.8	509.5	487.1	483.5	486.4	487.4	498.6	494.0	513.6	502.9
27.5°	574.9	563.2	498.3	502.4	489.7	486.4	480.7	518.1	531.5	516.0	544.6
30°	610.9	609.2	517.6	523.6	513.8	484.5	499.8	548.6	565.3	555.8	590.6
32.5°	667.1	672.9	574.2	535.5	540.5	553.6	547.9	548.6	590.8	612.1	639.7
35°	747.0	743.9	629.2	580.8	554.6	556.7	564.9	603.7	658.3	656.9	686.2
37.5°	903.9	870.1	726.8	627.1	635.0	645.7	639.7	691.9	697.2	699.1	769.2
40°	1135.2	1090.1	880.5	724.6	648.8	696.2	693.4	706.2	741.3	754.4	856.7
42.5°	1439.9	1379.3	1151.2	903.9	715.5	682.9	700.5	724.8	842.6	880.1	992.1
45°	1776.6	1654.0	1421.1	1159.5	882.9	781.6	794.9	840.2	1003.6	1065.6	1189.3
47.5°	1994.8	1887.0	1688.4	1386.0	1057.5	1004.3	1005.5	1015.3	1192.7	1307.6	1473.5
50°	2184.3	2069.6	1885.3	1622.8	1366.2	1265.6	1242.7	1197.7	1433.5	1590.6	1774.7
52.5°	2451.8	2317.8	2082.3	1900.6	1718.4	1481.4	1473.3	1488.6	1717.5	1882.7	2083.4
55°	2693.1	2530.3	2305.4	2191.0	2119.9	1798.5	1805.4	1830.9	2082.0	2169.5	2358.1
57.5°	2799.7	2623.3	2507.6	2456.1	2418.2	2231.8	2208.4	2193.1	2369.6	2403.0	2645.9
60°	2869.6	2701.7	2649.3	2661.2	2776.1	2578.2	2557.0	2468.3	2607.5	2635.0	2903.9
62.5°	2825.5	2672.4	2683.6	2783.0	3038.1	2908.0	2846.7	2698.4	2802.1	2824.3	3089.2
65°	2547.7	2388.2	2532.2	2772.8	3238.0	3234.9	3206.5	2910.8	2909.9	2938.2	3103.5
67.5°	2081.1	1913.7	2146.6	2580.6	3229.6	3433.0	3419.6	3192.7	2925.4	2849.5	2800.7
70°	1446.8	1301.6	1565.8	2131.1	2941.8	3431.6	3410.1	3382.0	2802.8	2452.8	2171.4
72.5°	751.8	671.9	918.0	1468.5	2345.0	3015.0	3085.8	3039.6	2393.2	1782.1	1278.7
75°	255.4	229.1	378.6	779.4	1558.9	2302.3	2385.3	2338.3	1625.4	956.1	505.7
77.5°	99.0	92.0	135.7	316.4	782.1	1403.0	1493.1	1445.2	871.7	350.3	119.0
80°	56.3	54.4	74.9	142.6	344.8	697.9	761.3	690.5	314.3	118.0	31.0
82.5°	23.8	24.6	41.7	77.0	173.3	246.3	274.7	250.6	131.6	80.8	11.4
85°	5.2	6.4	19.8	42.9	72.7	70.3	73.7	81.8	80.8	59.4	5.0
87.5°	0.0	0.0	6.2	11.7	17.4	11.4	9.1	16.0	24.8	23.8	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°	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7	145.7
2.5°	174.8	172.4	157.4	156.4	157.4	154.7	154.5	149.0	149.5	161.9	162.9
5°	217.7	205.8	192.9	188.8	185.0	176.4	181.2	181.2	181.2	189.1	191.5
7.5°	256.6	240.6	222.5	207.2	192.4	181.7	189.1	194.3	197.4	207.7	212.4
10°	274.2	258.5	242.3	220.6	209.1	205.1	196.5	191.9	197.4	195.3	197.9
12.5°	311.9	297.6	269.7	247.3	238.7	224.8	199.6	181.9	170.2	168.3	167.9
15°	348.6	339.8	302.3	272.3	242.5	210.5	167.4	144.0	131.6	129.5	129.7
17.5°	395.1	382.5	327.4	284.2	233.7	176.2	129.2	109.2	108.2	113.5	114.0
20°	426.1	405.3	340.0	274.4	204.6	133.3	101.1	96.3	104.0	113.5	112.5
22.5°	455.7	433.2	356.7	265.9	158.6	101.1	93.0	93.5	99.9	110.2	112.8
25°	475.2	467.1	377.2	245.8	120.9	87.5	88.9	92.5	98.0	107.8	107.8
27.5°	534.1	496.2	374.8	207.0	93.0	81.5	84.9	89.4	92.3	104.0	105.2
30°	569.9	557.5	387.2	167.4	81.5	73.9	80.4	84.4	86.3	99.7	100.1
32.5°	613.7	586.3	402.2	123.5	75.8	73.4	72.0	75.1	80.6	92.3	93.0
35°	667.1	659.0	380.8	97.0	73.9	68.7	65.8	67.5	71.1	78.9	80.6
37.5°	776.1	727.9	367.9	83.2	73.9	67.0	63.9	59.6	60.1	65.6	68.7
40°	867.9	853.1	331.9	80.8	70.6	64.6	57.0	51.7	48.2	49.8	51.0
42.5°	1036.5	968.0	285.4	79.6	67.5	58.4	48.4	42.9	37.4	37.9	39.8
45°	1241.1	1093.5	243.9	78.4	65.3	52.2	40.8	34.3	28.6	28.9	30.8
47.5°	1514.3	1276.3	193.6	74.9	61.5	46.5	32.9	26.2	22.9	23.6	25.3
50°	1824.7	1436.8	153.1	69.4	57.0	41.0	26.7	21.2	20.0	20.7	22.7
52.5°	2102.0	1555.1	126.4	64.4	50.5	33.4	22.4	18.8	18.4	18.8	20.3
55°	2348.6	1623.7	105.6	58.7	43.4	26.9	20.3	17.4	17.2	16.9	17.9
57.5°	2579.9	1643.5	82.5	49.6	35.3	23.4	18.8	16.2	15.7	15.0	15.7
60°	2748.4	1609.7	60.6	39.8	28.9	21.2	17.6	14.5	13.8	12.6	13.1
62.5°	2829.8	1516.9	45.8	32.0	24.6	19.3	15.7	12.6	11.7	10.3	10.5
65°	2752.5	1364.1	36.0	26.9	21.0	16.2	13.4	10.7	9.5	8.1	8.1
67.5°	2410.3	1131.6	30.5	23.4	17.6	13.8	11.0	9.8	7.9	6.7	6.4
70°	1769.2	814.0	26.2	20.5	15.3	11.9	9.3	8.8	7.6	6.4	6.0
72.5°	998.6	460.7	22.4	18.1	12.9	10.0	7.9	8.1	7.4	6.0	5.5
75°	381.0	155.2	18.6	15.0	10.5	7.6	6.7	6.7	6.7	5.0	4.3
77.5°	94.4	39.6	14.8	12.2	8.3	5.0	5.5	5.7	5.7	4.3	3.1
80°	26.0	13.4	8.8	8.8	6.0	2.9	3.8	3.8	3.1	1.4	0.0
82.5°	9.5	5.0	3.1	3.8	2.6	1.0	1.4	1.0	0.7	0.0	0.0
85°	4.1	2.6	1.9	2.1	1.2	0.0	0.2	0.5	0.0	0.0	0.0
87.5°	1.7	1.2	1.0	1.0	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)