

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: P596561

Luminaire Tested: **MSA-SA1D-827-U-T4W-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596561  
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-827-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: 3800 lumens  
Efficiency: N/A  
Efficacy: 56.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1

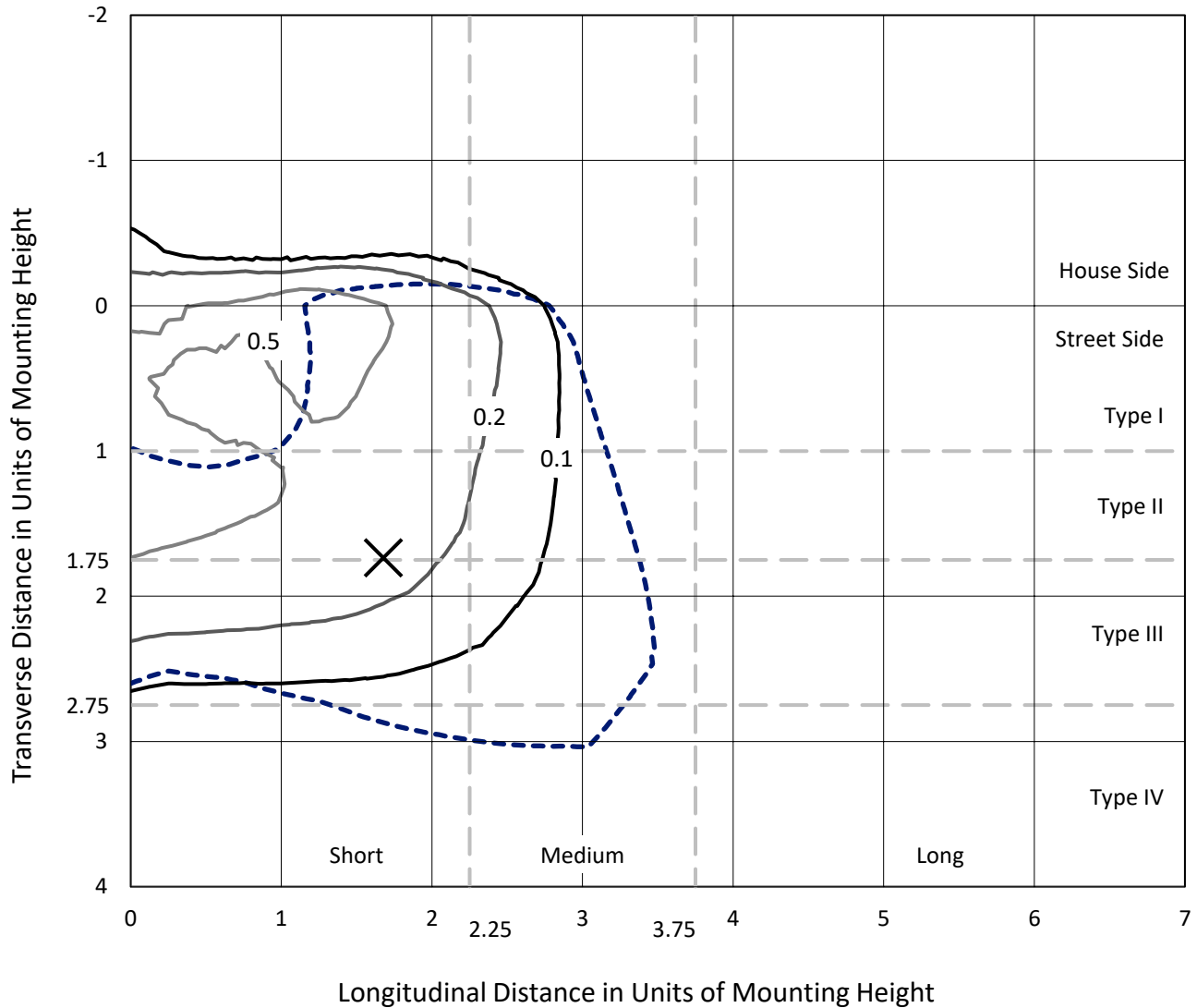
Input Watts (W): 67  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

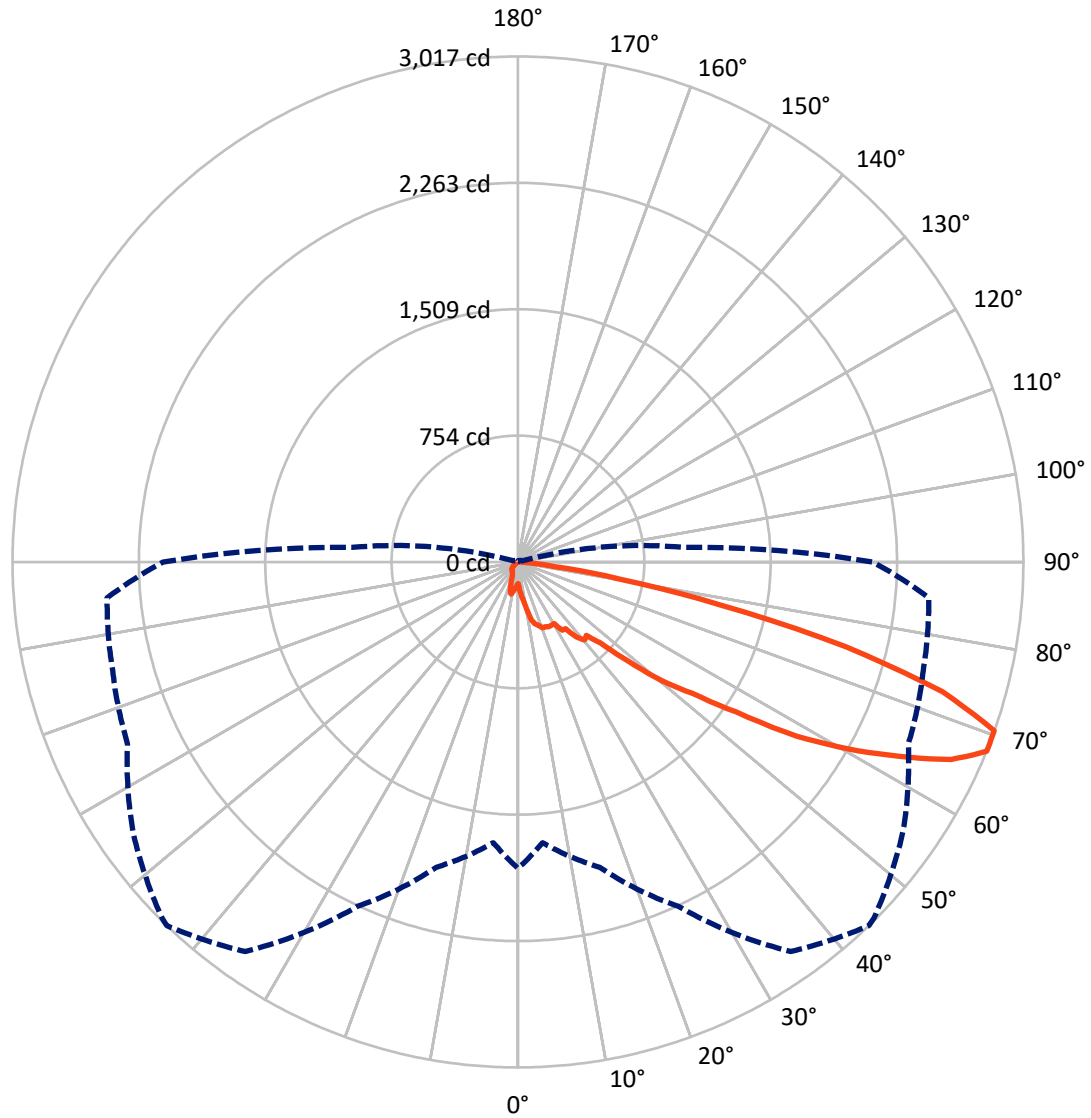
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 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	386.0	0.0	386.0
	% Fixture	10.2	0.0	10.2
<b>Street Side</b>	Lumens	3414.0	0.0	3414.0
	% Fixture	89.8	0.0	89.8
<b>Total</b>	Lumens	3800.0	0.0	3800.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	19.0	0.5
10°-20°	79.4	2.1
20°-30°	140.7	3.7
30°-40°	228.8	6.0
40°-50°	457.8	12.0
50°-60°	939.1	24.7
60°-70°	1290.1	33.9
70°-80°	606.3	16.0
80°-90°	38.8	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°	3800.0	100.0
0°-180°	3800.0	100.0

**Coefficient of Utilization**

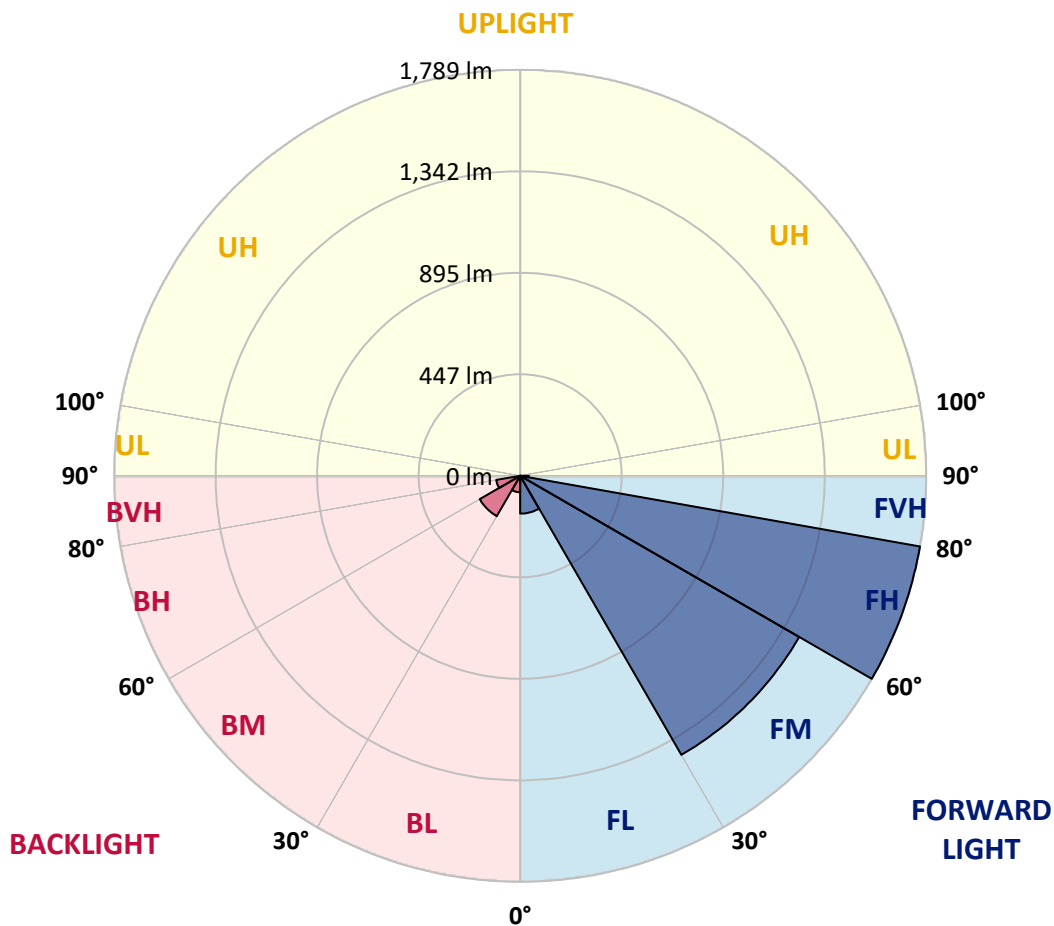


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	166.7	4.4			
FM (30°-60°)	1420.0	37.4			
FH (60°-80°)	1789.3	47.1			G1/1800
FVH (80°-90°)	38.0	1.0			G1/100
BL (0°-30°)	72.5	1.9	B0/110		
BM (30°-60°)	205.6	5.4	B0/220		
BH (60°-80°)	107.1	2.8	B0/110		G0/110
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: B0-U0-G1**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0
2.5°	162.8	157.6	150.0	151.7	152.5	154.9	155.1	152.1	143.7	141.4	151.7
5°	228.2	215.4	213.1	208.3	198.6	193.4	192.1	197.4	190.7	188.6	191.3
7.5°	291.5	280.6	268.6	262.1	242.0	229.7	229.0	231.1	232.4	225.0	228.8
10°	333.6	321.6	319.1	303.8	286.4	283.5	282.3	274.3	267.8	262.3	244.1
12.5°	371.7	371.5	376.1	354.1	351.4	354.3	353.3	324.8	318.3	295.5	290.2
15°	422.4	435.0	415.1	396.7	373.2	383.3	380.5	362.3	357.9	342.4	320.0
17.5°	475.0	478.4	445.1	416.8	410.7	397.5	400.2	393.7	371.5	383.9	361.7
20°	476.3	483.6	448.0	401.3	419.9	419.3	419.5	413.2	383.9	412.8	392.5
22.5°	493.9	475.9	442.8	413.0	416.4	419.5	422.9	415.1	408.8	415.9	419.7
25°	486.8	479.6	447.8	428.1	424.9	427.5	428.3	438.1	434.2	451.4	441.9
27.5°	505.2	494.9	437.9	441.5	430.4	427.5	422.4	455.3	467.1	453.4	478.6
30°	536.8	535.4	454.9	460.2	451.6	425.8	439.2	482.2	496.8	488.4	519.0
32.5°	586.3	591.3	504.6	470.6	475.0	486.6	481.5	482.2	519.2	537.9	562.2
35°	656.5	653.8	553.0	510.4	487.4	489.3	496.4	530.6	578.5	577.3	603.1
37.5°	794.4	764.6	638.7	551.1	558.0	567.4	562.2	608.1	612.7	614.4	676.0
40°	997.6	958.0	773.8	636.8	570.2	611.9	609.3	620.7	651.5	663.0	752.9
42.5°	1265.4	1212.2	1011.7	794.4	628.8	600.1	615.6	637.0	740.5	773.4	871.9
45°	1561.3	1453.6	1248.9	1019.0	775.9	686.9	698.6	738.4	882.0	936.4	1045.2
47.5°	1753.0	1658.3	1483.8	1218.1	929.3	882.6	883.6	892.2	1048.1	1149.1	1295.0
50°	1919.6	1818.8	1656.8	1426.1	1200.7	1112.2	1092.1	1052.5	1259.8	1397.8	1559.6
52.5°	2154.7	2036.9	1829.9	1670.3	1510.2	1301.9	1294.8	1308.2	1509.3	1654.5	1831.0
55°	2366.8	2223.6	2026.1	1925.5	1863.0	1580.6	1586.6	1609.1	1829.7	1906.6	2072.4
57.5°	2460.4	2305.4	2203.7	2158.5	2125.2	1961.3	1940.8	1927.4	2082.4	2111.8	2325.3
60°	2521.8	2374.3	2328.2	2338.7	2439.7	2265.8	2247.1	2169.2	2291.5	2315.6	2552.0
62.5°	2483.1	2348.5	2358.4	2445.8	2670.0	2555.6	2501.7	2371.4	2462.5	2482.0	2714.8
65°	2238.9	2098.8	2225.3	2436.8	2845.6	2842.8	2817.9	2558.1	2557.2	2582.2	2727.4
67.5°	1828.9	1681.8	1886.5	2267.9	2838.2	3017.0	3005.2	2805.8	2570.9	2504.2	2461.3
70°	1271.5	1143.9	1376.1	1872.9	2585.3	3015.7	2996.9	2972.1	2463.2	2155.5	1908.3
72.5°	660.7	590.5	806.7	1290.6	2060.8	2649.6	2711.9	2671.2	2103.2	1566.1	1123.8
75°	224.4	201.4	332.8	685.0	1370.0	2023.3	2096.2	2055.0	1428.4	840.3	444.4
77.5°	87.0	80.9	119.2	278.1	687.3	1232.9	1312.1	1270.0	766.1	307.8	104.6
80°	49.5	47.8	65.8	125.3	303.0	613.3	669.1	606.8	276.2	103.7	27.2
82.5°	21.0	21.6	36.7	67.7	152.3	216.5	241.4	220.2	115.7	71.0	10.1
85°	4.6	5.7	17.4	37.7	63.9	61.8	64.7	71.9	71.0	52.2	4.4
87.5°	0.0	0.0	5.4	10.3	15.3	10.1	8.0	14.0	21.8	21.0	1.9
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°	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0	128.0
2.5°	153.6	151.5	138.3	137.5	138.3	136.0	135.8	131.0	131.4	142.3	143.1
5°	191.3	180.8	169.5	166.0	162.6	155.1	159.3	159.3	159.3	166.2	168.3
7.5°	225.5	211.4	195.5	182.1	169.1	159.7	166.2	170.8	173.5	182.5	186.7
10°	241.0	227.1	212.9	193.8	183.8	180.2	172.7	168.7	173.5	171.6	173.9
12.5°	274.1	261.5	237.0	217.3	209.8	197.6	175.4	159.9	149.6	147.9	147.5
15°	306.3	298.6	265.7	239.3	213.1	185.0	147.1	126.6	115.7	113.8	114.0
17.5°	347.2	336.1	287.7	249.8	205.4	154.9	113.6	96.0	95.1	99.7	100.2
20°	374.4	356.2	298.8	241.2	179.8	117.1	88.8	84.7	91.4	99.7	98.9
22.5°	400.4	380.7	313.5	233.6	139.3	88.8	81.7	82.1	87.8	96.8	99.1
25°	417.6	410.5	331.5	216.0	106.2	76.9	78.2	81.3	86.1	94.7	94.7
27.5°	469.4	436.1	329.4	181.9	81.7	71.7	74.6	78.6	81.1	91.4	92.4
30°	500.8	489.9	340.3	147.1	71.7	65.0	70.6	74.2	75.9	87.6	88.0
32.5°	539.4	515.3	353.5	108.5	66.6	64.5	63.3	66.0	70.8	81.1	81.7
35°	586.3	579.2	334.6	85.3	65.0	60.3	57.8	59.3	62.4	69.4	70.8
37.5°	682.1	639.7	323.3	73.1	65.0	58.9	56.2	52.4	52.8	57.6	60.3
40°	762.7	749.7	291.7	71.0	62.0	56.8	50.1	45.5	42.3	43.8	44.8
42.5°	910.9	850.7	250.8	70.0	59.3	51.3	42.5	37.7	32.9	33.3	35.0
45°	1090.7	961.0	214.4	68.9	57.4	45.9	35.8	30.2	25.1	25.4	27.0
47.5°	1330.8	1121.7	170.1	65.8	54.1	40.9	28.9	23.0	20.1	20.7	22.2
50°	1603.6	1262.7	134.5	61.0	50.1	36.0	23.5	18.6	17.6	18.2	19.9
52.5°	1847.3	1366.6	111.1	56.6	44.4	29.3	19.7	16.6	16.1	16.6	17.8
55°	2064.0	1427.0	92.8	51.5	38.1	23.7	17.8	15.3	15.1	14.9	15.7
57.5°	2267.2	1444.4	72.5	43.6	31.0	20.5	16.6	14.2	13.8	13.2	13.8
60°	2415.4	1414.6	53.2	35.0	25.4	18.6	15.5	12.8	12.2	11.1	11.5
62.5°	2486.8	1333.1	40.2	28.1	21.6	17.0	13.8	11.1	10.3	9.0	9.2
65°	2418.9	1198.8	31.6	23.7	18.4	14.2	11.7	9.4	8.4	7.1	7.1
67.5°	2118.2	994.5	26.8	20.5	15.5	12.2	9.6	8.6	6.9	5.9	5.7
70°	1554.8	715.4	23.0	18.0	13.4	10.5	8.2	7.8	6.7	5.7	5.2
72.5°	877.6	404.8	19.7	15.9	11.3	8.8	6.9	7.1	6.5	5.2	4.8
75°	334.8	136.4	16.3	13.2	9.2	6.7	5.9	5.9	5.9	4.4	3.8
77.5°	83.0	34.8	13.0	10.7	7.3	4.4	4.8	5.0	5.0	3.8	2.7
80°	22.8	11.7	7.8	7.8	5.2	2.5	3.4	3.4	2.7	1.3	0.0
82.5°	8.4	4.4	2.7	3.4	2.3	0.8	1.3	0.8	0.6	0.0	0.0
85°	3.6	2.3	1.7	1.9	1.0	0.0	0.2	0.4	0.0	0.0	0.0
87.5°	1.5	1.0	0.8	0.8	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)