

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: P368313

Luminaire Tested: **MSA-SA4A-830-U-T4W-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368313
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-SA4A-830-U-T4W-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 9288 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

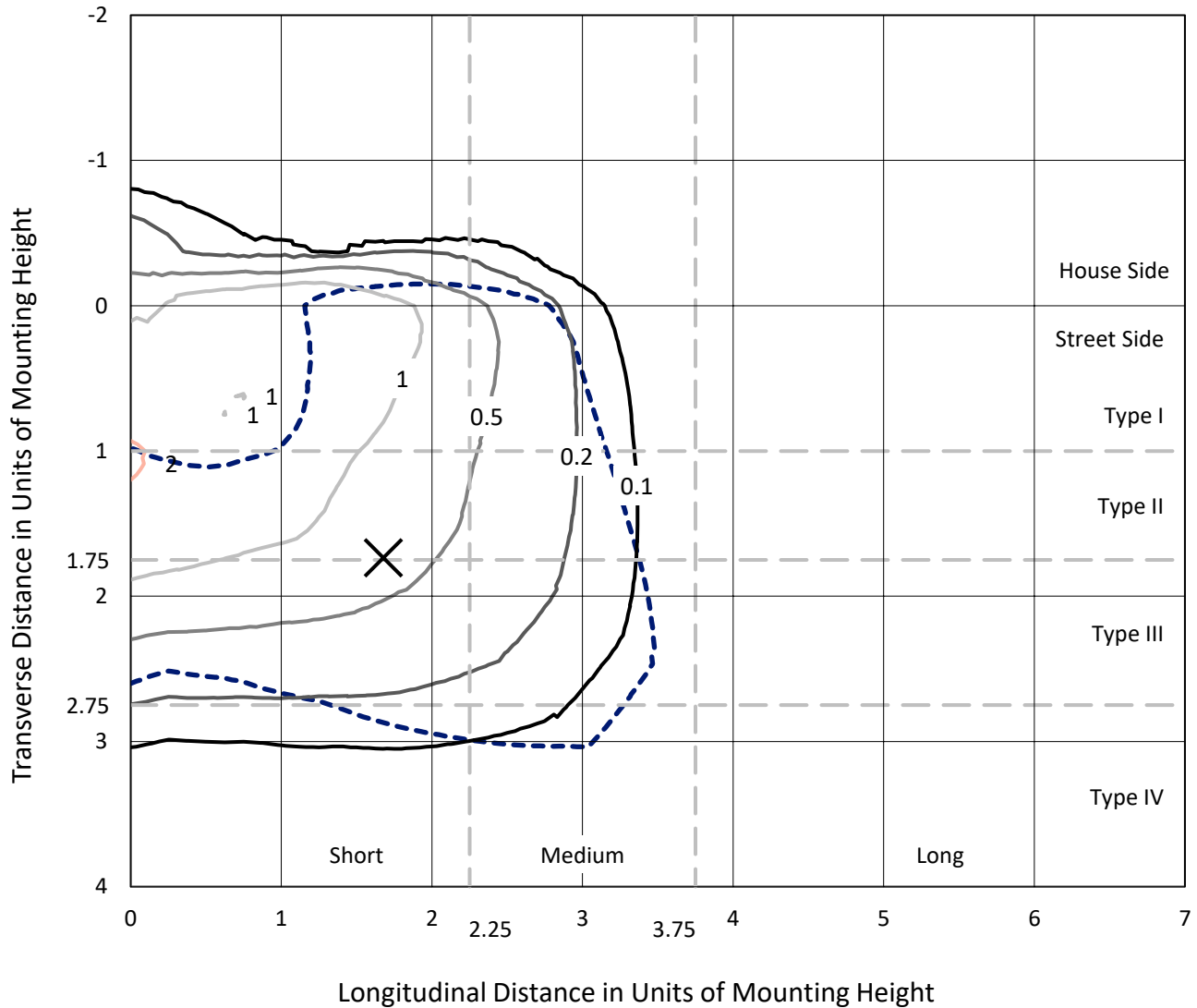
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

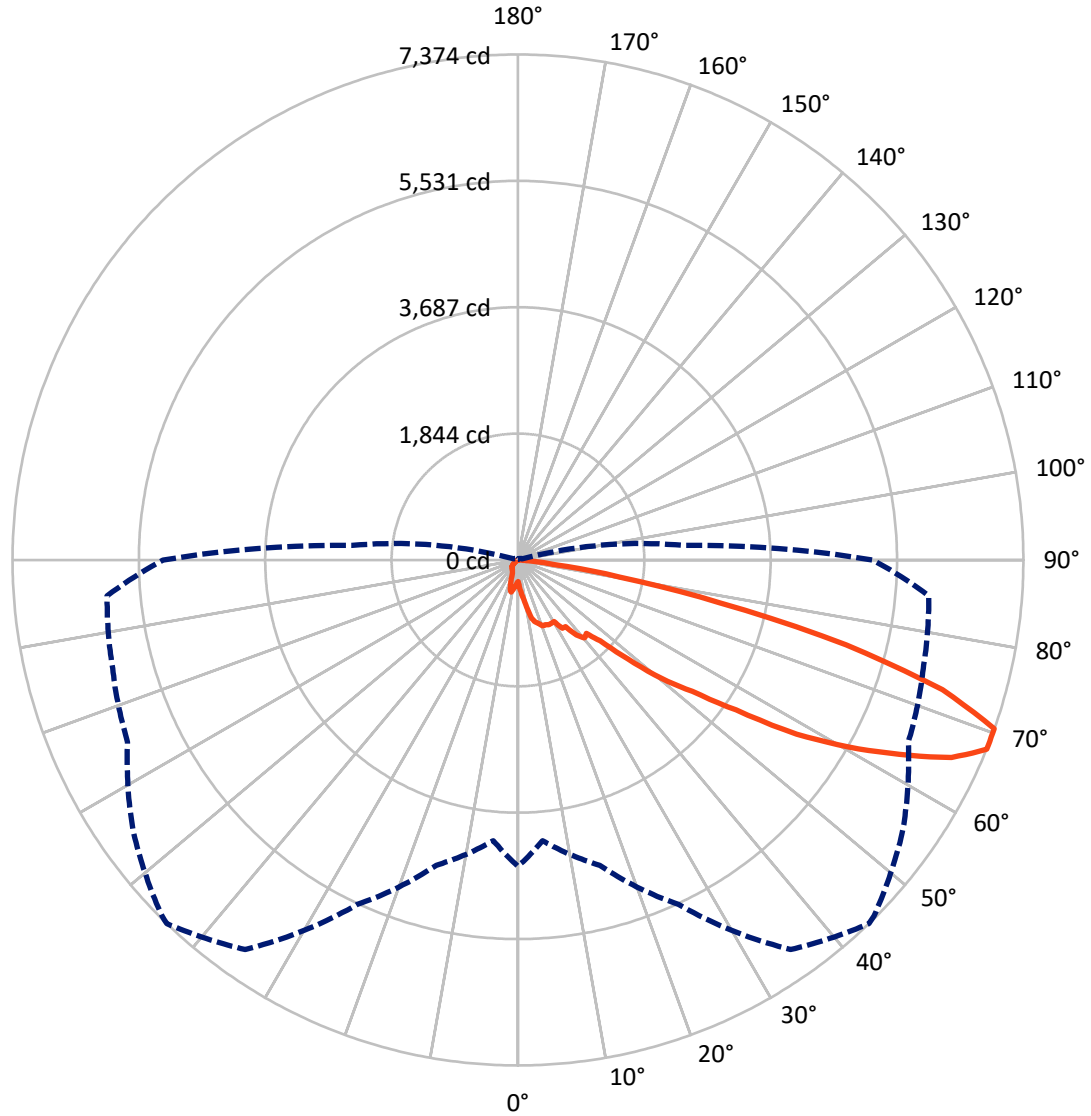
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.2 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
House Side	Lumens	943.5	0.0	943.5
	% Fixture	10.2	0.0	10.2
Street Side	Lumens	8344.5	0.0	8344.5
	% Fixture	89.8	0.0	89.8
Total	Lumens	9288.0	0.0	9288.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.4	0.5
10°-20°	194.2	2.1
20°-30°	344.0	3.7
30°-40°	559.1	6.0
40°-50°	1118.9	12.0
50°-60°	2295.4	24.7
60°-70°	3153.2	33.9
70°-80°	1482.0	16.0
80°-90°	94.9	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°	9288.0	100.0
0°-180°	9288.0	100.0

Coefficient of Utilization

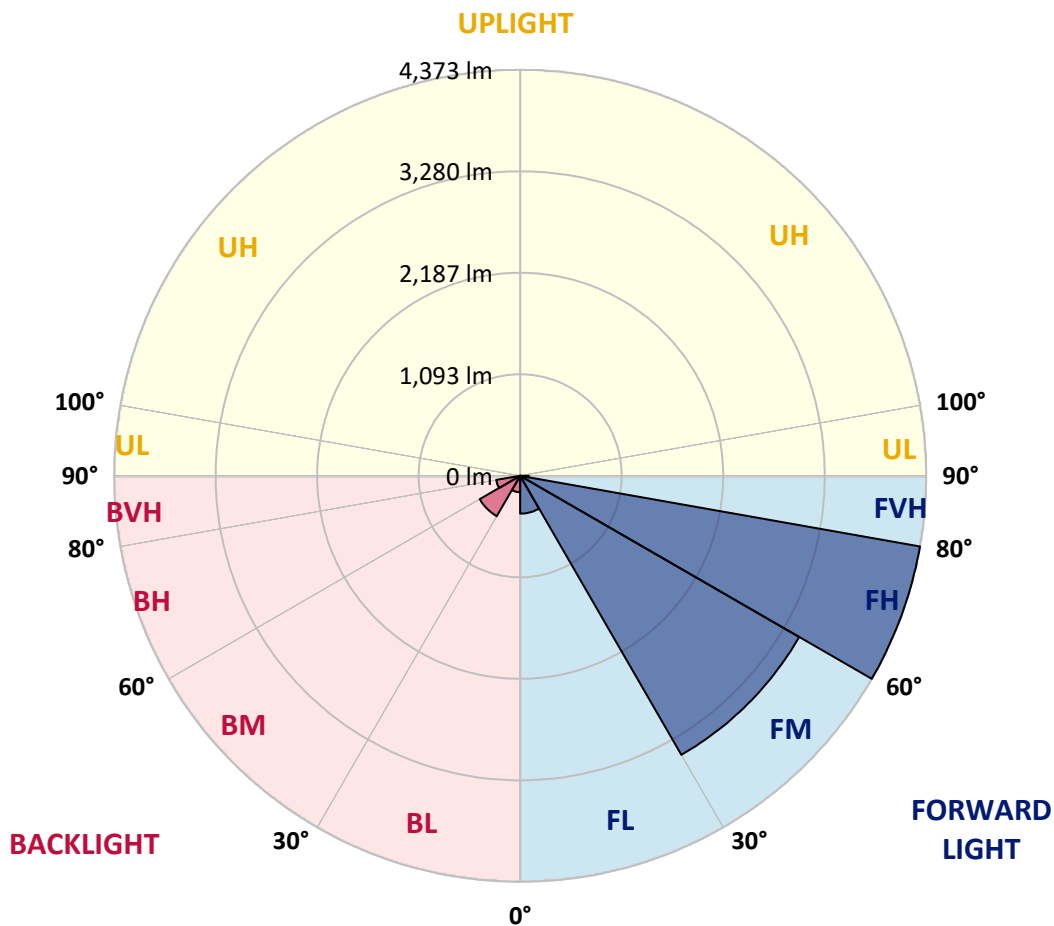


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	407.4	4.4			
FM (30°-60°)	3470.8	37.4			
FH (60°-80°)	4373.4	47.1			G2/5000
FVH (80°-90°)	93.0	1.0			G1/100
BL (0°-30°)	177.2	1.9	B1/500		
BM (30°-60°)	502.6	5.4	B1/1000		
BH (60°-80°)	261.8	2.8	B1/500		G1/500
BVH (80°-90°)	1.9	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°	312.9	312.9	312.9	312.9	312.9	312.9	312.9	312.9	312.9	312.9	312.9
2.5°	397.9	385.1	366.7	370.8	372.9	378.5	379.0	371.8	351.3	345.7	370.8
5°	557.7	526.5	520.9	509.1	485.5	472.7	469.7	482.5	466.1	460.9	467.6
7.5°	712.4	685.8	656.6	640.7	591.5	561.3	559.8	564.9	568.0	550.1	559.3
10°	815.4	786.2	780.0	742.6	700.1	693.0	689.9	670.4	654.5	641.2	596.7
12.5°	908.6	908.1	919.3	865.6	858.9	866.1	863.5	793.9	778.0	722.1	709.3
15°	1032.5	1063.2	1014.6	969.5	912.2	936.7	930.1	885.5	874.8	836.9	782.1
17.5°	1161.1	1169.3	1087.8	1018.7	1003.8	971.6	978.2	962.4	908.1	938.3	884.0
20°	1164.1	1182.1	1095.0	980.8	1026.4	1024.8	1025.3	1010.0	938.3	1009.0	959.3
22.5°	1207.2	1163.1	1082.2	1009.5	1017.7	1025.3	1033.5	1014.6	999.2	1016.6	1025.9
25°	1189.8	1172.3	1094.5	1046.3	1038.7	1044.8	1046.9	1070.9	1061.2	1103.2	1080.1
27.5°	1234.8	1209.7	1070.4	1079.1	1052.0	1044.8	1032.5	1112.9	1141.6	1108.3	1169.8
30°	1312.2	1308.6	1111.9	1124.7	1103.7	1040.7	1073.5	1178.5	1214.3	1193.8	1268.6
32.5°	1433.0	1445.3	1233.3	1150.3	1161.1	1189.2	1176.9	1178.5	1269.1	1314.7	1374.1
35°	1604.6	1597.9	1351.6	1247.6	1191.3	1195.9	1213.3	1296.8	1414.1	1411.0	1474.0
37.5°	1941.6	1868.9	1561.1	1347.0	1363.9	1386.9	1374.1	1486.3	1497.6	1501.7	1652.2
40°	2438.4	2341.6	1891.4	1556.5	1393.6	1495.5	1489.4	1517.0	1592.3	1620.5	1840.2
42.5°	3092.9	2962.9	2472.7	1941.6	1537.0	1466.8	1504.7	1557.0	1810.0	1890.4	2131.1
45°	3816.1	3552.9	3052.5	2490.6	1896.5	1678.9	1707.5	1804.9	2155.7	2288.9	2554.7
47.5°	4284.7	4053.3	3626.6	2977.2	2271.4	2157.2	2159.8	2180.8	2561.8	2808.7	3165.2
50°	4691.9	4445.6	4049.7	3485.8	2934.7	2718.6	2669.4	2572.6	3079.1	3416.6	3812.0
52.5°	5266.6	4978.7	4472.7	4082.4	3691.2	3182.1	3164.6	3197.4	3689.1	4044.0	4475.3
55°	5784.9	5435.1	4952.1	4706.3	4553.6	3863.2	3878.1	3932.9	4472.2	4660.2	5065.3
57.5°	6013.8	5634.8	5386.4	5275.8	5194.3	4793.8	4743.6	4710.9	5089.9	5161.6	5683.5
60°	6163.9	5803.3	5690.6	5716.2	5963.1	5538.0	5492.4	5301.9	5601.0	5659.9	6237.6
62.5°	6069.1	5740.3	5764.4	5978.0	6526.0	6246.3	6114.7	5796.1	6018.9	6066.6	6635.6
65°	5472.5	5129.8	5439.2	5955.9	6955.2	6948.5	6887.6	6252.5	6250.4	6311.4	6666.3
67.5°	4470.2	4110.6	4611.0	5543.1	6937.2	7374.1	7345.4	6857.8	6283.7	6120.8	6015.9
70°	3107.8	2795.9	3363.4	4577.7	6319.1	7371.0	7324.9	7264.5	6020.5	5268.6	4664.3
72.5°	1614.8	1443.3	1971.8	3154.4	5037.1	6476.3	6628.4	6529.0	5140.6	3827.9	2746.7
75°	548.5	492.2	813.3	1674.3	3348.5	4945.4	5123.7	5022.8	3491.4	2053.8	1086.3
77.5°	212.5	197.7	291.4	679.6	1679.9	3013.6	3207.2	3104.2	1872.5	752.4	255.6
80°	120.9	116.8	160.8	306.3	740.6	1499.1	1635.3	1483.2	675.0	253.5	66.6
82.5°	51.2	52.8	89.6	165.4	372.3	529.1	590.0	538.3	282.7	173.6	24.6
85°	11.3	13.8	42.5	92.2	156.2	151.1	158.3	175.7	173.6	127.5	10.8
87.5°	0.0	0.0	13.3	25.1	37.4	24.6	19.5	34.3	53.3	51.2	4.6
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°	312.9	312.9	312.9	312.9	312.9	312.9	312.9	312.9	312.9	312.9	312.9
2.5°	375.4	370.3	338.0	336.0	338.0	332.4	331.9	320.1	321.1	347.8	349.8
5°	467.6	442.0	414.3	405.6	397.4	379.0	389.2	389.2	389.2	406.1	411.3
7.5°	551.1	516.8	477.8	445.1	413.3	390.3	406.1	417.4	424.1	446.1	456.3
10°	589.0	555.2	520.4	473.7	449.2	440.5	422.0	412.3	424.1	419.5	425.1
12.5°	669.9	639.2	579.3	531.1	512.7	483.0	428.7	390.8	365.7	361.6	360.6
15°	748.8	729.8	649.4	584.9	520.9	452.2	359.5	309.3	282.7	278.1	278.6
17.5°	848.7	821.5	703.2	610.5	501.9	378.5	277.6	234.6	232.5	243.8	244.8
20°	915.2	870.7	730.3	589.5	439.4	286.3	217.2	206.9	223.3	243.8	241.7
22.5°	978.7	930.6	766.2	571.1	340.6	217.2	199.7	200.8	214.6	236.6	242.3
25°	1020.7	1003.3	810.2	528.0	259.7	188.0	191.0	198.7	210.5	231.5	231.5
27.5°	1147.2	1065.8	805.1	444.6	199.7	175.2	182.3	192.1	198.2	223.3	225.9
30°	1224.1	1197.4	831.8	359.5	175.2	158.8	172.6	181.3	185.4	214.1	215.1
32.5°	1318.3	1259.4	864.0	265.3	162.9	157.7	154.7	161.3	173.1	198.2	199.7
35°	1433.0	1415.6	817.9	208.4	158.8	147.5	141.4	144.9	152.6	169.5	173.1
37.5°	1667.1	1563.6	790.3	178.7	158.8	143.9	137.3	128.0	129.1	140.8	147.5
40°	1864.3	1832.5	712.9	173.6	151.6	138.8	122.4	111.1	103.5	107.0	109.6
42.5°	2226.4	2079.4	613.1	171.1	144.9	125.5	104.0	92.2	80.4	81.4	85.5
45°	2665.8	2348.8	523.9	168.5	140.3	112.2	87.6	73.8	61.5	62.0	66.1
47.5°	3252.7	2741.6	415.9	160.8	132.1	99.9	70.7	56.3	49.2	50.7	54.3
50°	3919.6	3086.3	328.8	149.0	122.4	88.1	57.4	45.6	43.0	44.6	48.7
52.5°	4515.2	3340.3	271.4	138.3	108.6	71.7	48.1	40.5	39.4	40.5	43.5
55°	5044.8	3487.8	226.9	126.0	93.2	57.9	43.5	37.4	36.9	36.4	38.4
57.5°	5541.6	3530.3	177.2	106.5	75.8	50.2	40.5	34.8	33.8	32.3	33.8
60°	5903.7	3457.6	130.1	85.5	62.0	45.6	37.9	31.2	29.7	27.1	28.2
62.5°	6078.3	3258.4	98.3	68.6	52.8	41.5	33.8	27.1	25.1	22.0	22.5
65°	5912.4	2930.1	77.3	57.9	45.1	34.8	28.7	23.0	20.5	17.4	17.4
67.5°	5177.4	2430.7	65.6	50.2	37.9	29.7	23.6	21.0	16.9	14.3	13.8
70°	3800.2	1748.5	56.3	44.0	32.8	25.6	20.0	18.9	16.4	13.8	12.8
72.5°	2144.9	989.5	48.1	38.9	27.7	21.5	16.9	17.4	15.9	12.8	11.8
75°	818.4	333.4	39.9	32.3	22.5	16.4	14.3	14.3	14.3	10.8	9.2
77.5°	202.8	85.0	31.8	26.1	17.9	10.8	11.8	12.3	12.3	9.2	6.7
80°	55.8	28.7	18.9	18.9	12.8	6.1	8.2	8.2	6.7	3.1	0.0
82.5°	20.5	10.8	6.7	8.2	5.6	2.0	3.1	2.0	1.5	0.0	0.0
85°	8.7	5.6	4.1	4.6	2.6	0.0	0.5	1.0	0.0	0.0	0.0
87.5°	3.6	2.6	2.0	2.0	1.0	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)