

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: P366856

Luminaire Tested: **MSA-SA1B-830-U-T2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366856
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1B-830-U-T2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4014 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G1

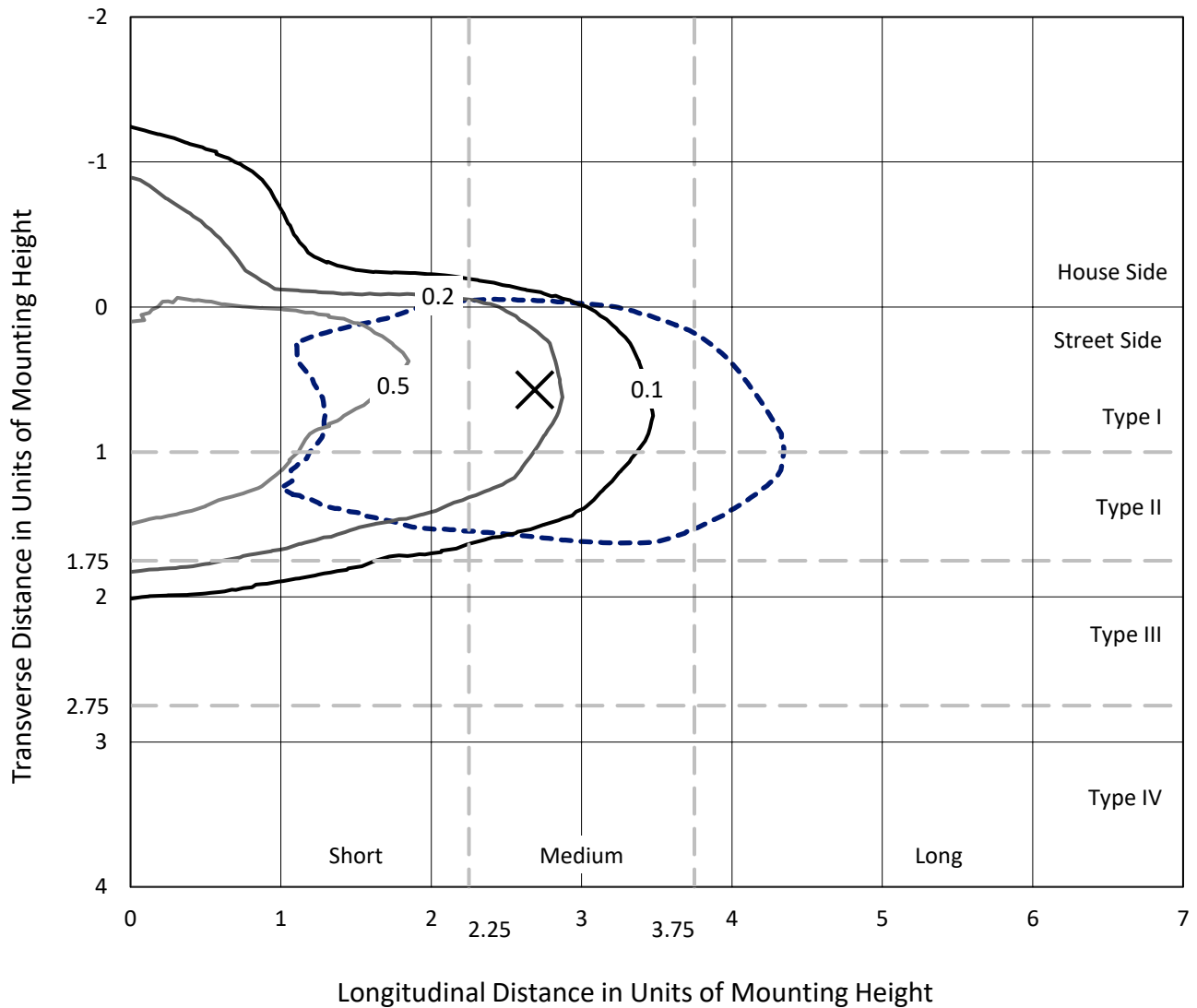
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

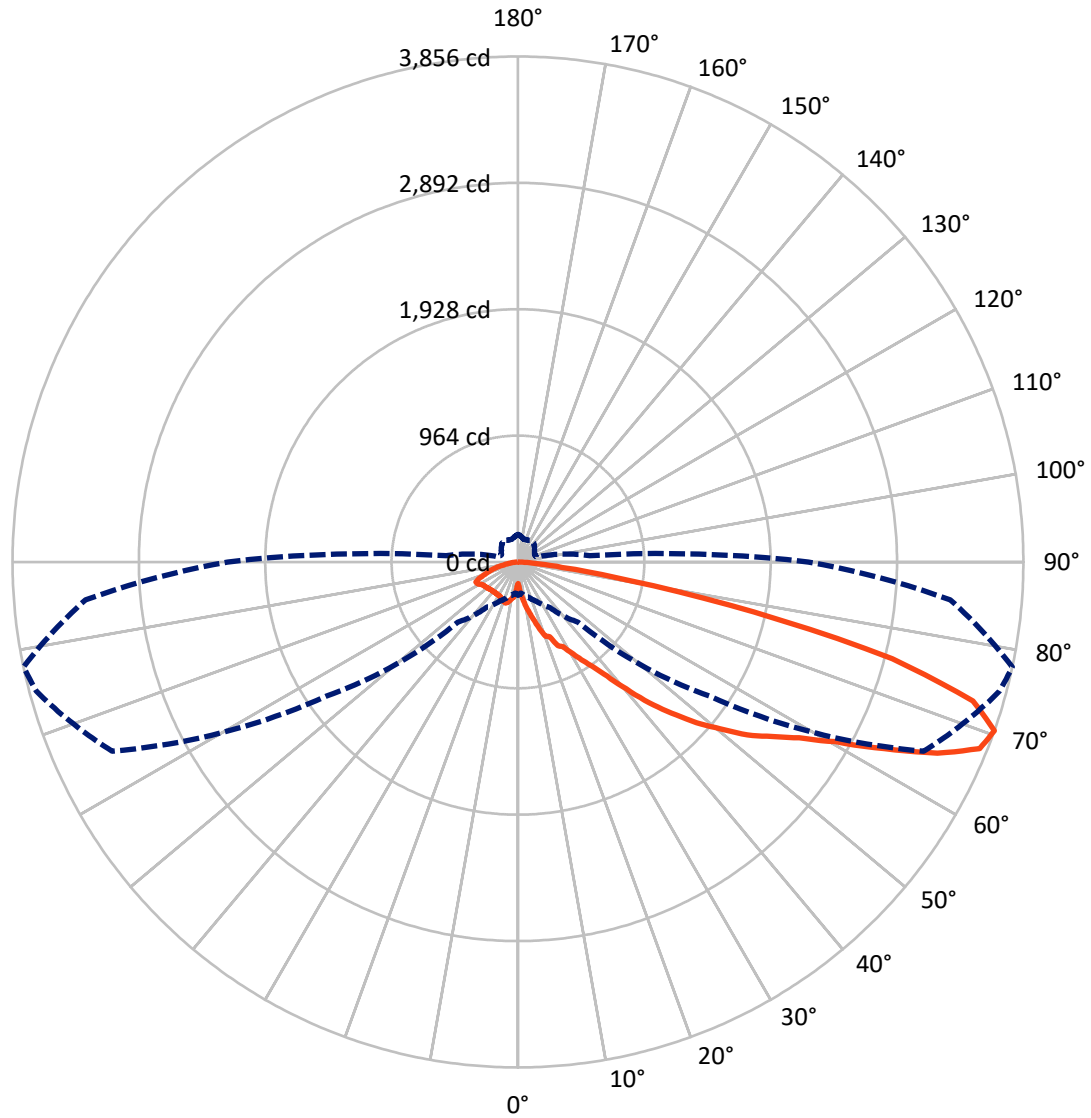
× Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	716.4	0.0	716.4
	% Fixture	17.8	0.0	17.8
Street Side	Lumens	3297.6	0.0	3297.6
	% Fixture	82.2	0.0	82.2
Total	Lumens	4014.0	0.0	4014.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.3	0.6
10°-20°	111.4	2.8
20°-30°	214.5	5.3
30°-40°	361.3	9.0
40°-50°	625.1	15.6
50°-60°	943.8	23.5
60°-70°	1045.4	26.0
70°-80°	602.7	15.0
80°-90°	84.5	2.1
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°	4014.0	100.0
0°-180°	4014.0	100.0

Coefficient of Utilization



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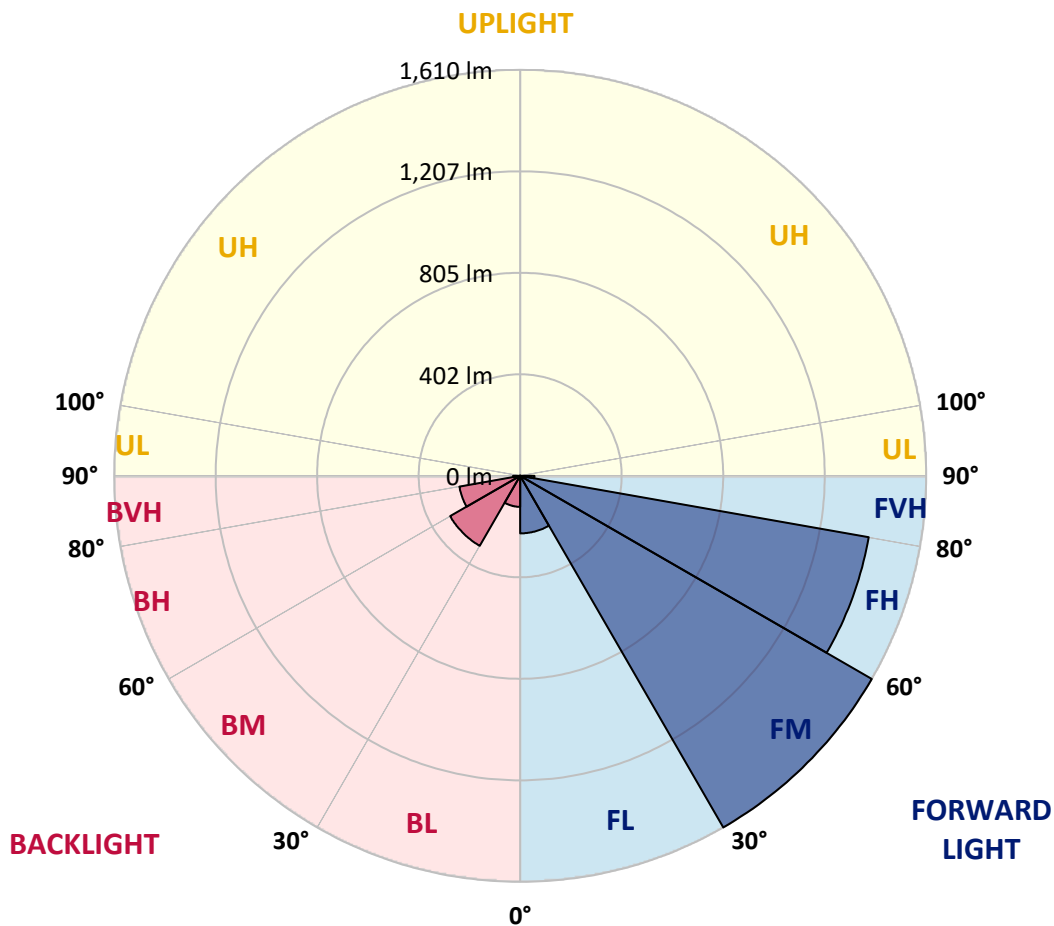
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	228.2	5.7			
FM (30°-60°)	1609.7	40.1			
FH (60°-80°)	1403.3	35.0			G1/1800
FVH (80°-90°)	56.4	1.4			G1/100
BL (0°-30°)	123.0	3.1	B1/500		
BM (30°-60°)	320.4	8.0	B1/1000		
BH (60°-80°)	244.8	6.1	B1/500		G1/500
BVH (80°-90°)	28.1	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	163.7	163.7	163.7	163.7	163.7	163.7	163.7	163.7	163.7	163.7	163.7
2.5°	210.7	203.1	191.8	196.5	202.1	202.8	201.0	190.6	187.1	194.9	197.3
5°	295.2	282.5	274.8	272.3	263.7	246.0	258.7	252.2	253.5	249.7	257.2
7.5°	366.3	357.8	346.4	343.2	323.6	309.7	318.4	315.6	301.9	296.5	305.0
10°	402.4	393.1	393.6	386.7	381.5	382.9	378.5	366.0	355.8	348.6	328.0
12.5°	424.2	426.5	439.1	435.6	455.1	471.2	459.0	440.4	408.1	401.6	381.2
15°	475.9	484.6	472.9	478.2	486.6	517.4	512.4	508.4	474.2	461.5	423.9
17.5°	529.1	530.8	513.0	510.2	530.3	545.8	565.4	542.8	547.0	538.1	477.2
20°	540.5	552.0	526.6	509.0	550.4	581.2	605.4	581.5	603.6	605.9	521.2
22.5°	582.2	568.3	534.8	517.6	553.7	591.5	631.0	644.4	637.4	617.6	563.7
25°	611.1	603.7	569.6	550.5	564.3	599.1	668.3	703.3	709.5	706.8	604.2
27.5°	664.8	668.5	598.2	603.6	584.5	587.7	690.8	781.4	742.8	732.1	654.4
30°	749.7	733.3	654.4	658.8	627.2	621.8	738.1	848.9	814.2	801.4	695.8
32.5°	838.2	839.7	744.0	706.8	689.9	684.6	728.7	884.2	904.6	887.9	758.2
35°	963.0	954.3	841.0	792.2	731.1	721.7	795.5	986.6	1024.1	977.2	832.3
37.5°	1153.1	1126.8	995.0	882.0	836.8	826.1	890.9	1078.5	1162.8	1104.6	953.5
40°	1305.7	1252.3	1132.5	995.0	918.5	931.7	958.7	1189.9	1306.7	1273.9	1065.6
42.5°	1427.4	1380.0	1229.9	1133.2	1029.3	1012.9	1042.3	1328.0	1502.5	1470.4	1205.5
45°	1544.0	1447.6	1339.3	1252.3	1152.4	1172.3	1168.0	1468.9	1742.6	1643.7	1329.1
47.5°	1659.1	1568.6	1455.3	1338.3	1237.8	1361.8	1315.4	1573.6	1904.6	1831.3	1459.3
50°	1807.0	1707.5	1578.5	1460.8	1400.6	1491.3	1413.5	1662.3	2086.0	2000.0	1582.1
52.5°	1905.3	1808.4	1695.3	1611.3	1605.7	1570.8	1550.9	1774.6	2245.0	2192.7	1712.3
55°	1893.7	1800.3	1749.1	1758.3	1826.6	1708.6	1692.4	1940.7	2410.8	2350.4	1852.9
57.5°	1749.0	1647.1	1657.9	1712.5	1895.9	1950.8	1923.2	2118.3	2558.7	2531.3	2026.7
60°	1362.4	1310.1	1398.6	1498.3	1803.2	2021.7	2215.8	2334.8	2740.8	2784.6	2299.8
62.5°	885.0	815.1	955.0	1124.3	1526.6	1974.9	2513.9	2745.4	3039.0	3138.5	2714.8
65°	458.5	447.3	545.2	700.8	1062.7	1683.9	2618.9	3176.2	3401.4	3517.4	3111.2
67.5°	333.3	312.6	357.9	449.5	648.8	1148.2	2419.8	3505.6	3692.4	3798.6	3341.7
70°	253.8	238.5	273.1	329.8	423.7	648.6	1786.3	3415.8	3804.7	3856.2	3311.0
72.5°	190.1	176.9	207.2	260.0	326.5	365.1	1055.9	2808.5	3613.1	3630.6	2971.7
75°	151.8	141.6	154.6	205.3	266.1	248.5	560.9	2034.8	2935.5	2950.6	2269.9
77.5°	124.5	115.8	121.1	153.9	207.0	186.9	278.3	1294.3	1863.8	1840.7	1277.1
80°	101.6	94.0	96.6	111.3	157.6	139.6	156.3	675.2	889.0	853.2	531.1
82.5°	78.1	71.8	76.8	81.8	114.1	100.2	91.2	307.2	364.1	339.2	194.8
85°	52.4	46.5	66.8	61.4	74.6	61.6	49.9	122.3	135.7	126.5	68.4
87.5°	14.4	13.6	22.4	30.6	30.6	23.3	18.2	29.6	37.8	33.1	16.1
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°	163.7	163.7	163.7	163.7	163.7	163.7	163.7	163.7	163.7	163.7	163.7
2.5°	198.3	194.6	184.9	184.1	186.4	186.7	185.2	181.7	179.9	189.9	188.4
5°	255.4	242.3	234.4	227.2	217.2	210.0	211.8	216.9	218.5	226.1	226.9
7.5°	299.7	282.5	265.2	242.1	226.9	217.2	224.6	229.9	234.1	244.8	249.2
10°	318.9	300.2	275.8	251.5	247.3	249.0	244.8	246.1	252.7	253.2	255.4
12.5°	354.7	333.5	289.5	267.6	266.4	269.9	268.4	274.6	279.1	291.3	286.1
15°	389.1	361.9	299.9	277.4	272.6	279.6	287.8	298.2	307.9	319.4	313.6
17.5°	430.7	389.9	300.4	272.9	273.8	288.8	297.4	303.0	332.0	347.9	339.9
20°	457.0	392.7	289.2	261.7	273.8	287.3	299.2	305.4	337.8	361.8	367.3
22.5°	480.8	393.7	280.5	255.7	263.4	281.3	299.2	312.9	333.7	356.6	357.4
25°	493.8	392.9	269.2	256.2	263.2	272.1	288.0	300.5	315.9	347.9	348.7
27.5°	527.3	382.0	258.2	258.2	261.9	262.2	282.5	289.8	292.0	321.1	326.3
30°	537.0	384.4	256.9	257.9	259.7	256.4	265.2	270.1	273.3	298.4	299.2
32.5°	552.5	365.6	260.9	254.8	252.5	252.0	254.2	258.5	259.9	275.3	278.1
35°	571.4	358.1	262.2	254.0	249.3	246.8	253.3	248.0	252.2	270.2	272.3
37.5°	633.0	347.7	269.1	254.0	248.0	245.1	242.0	244.5	259.4	276.8	287.5
40°	672.3	350.9	267.4	256.5	243.5	240.8	235.4	244.6	267.7	298.5	306.6
42.5°	741.3	352.7	269.4	255.4	245.0	234.6	238.1	248.2	272.4	290.0	302.4
45°	812.6	358.4	268.1	251.8	241.6	246.5	241.6	250.7	262.2	262.7	272.1
47.5°	882.5	381.4	265.2	244.6	240.8	253.5	241.1	242.6	243.5	246.5	257.5
50°	964.7	405.8	261.2	234.6	242.0	253.8	243.0	235.6	234.8	244.6	257.0
52.5°	1058.1	433.4	256.0	224.9	235.1	250.7	249.3	236.1	228.9	238.5	250.8
55°	1168.0	464.9	250.0	215.2	227.6	251.0	252.8	232.6	229.1	239.5	252.7
57.5°	1314.1	510.4	238.3	201.1	218.4	245.8	243.8	228.6	225.2	236.3	250.0
60°	1563.4	597.9	221.6	187.2	208.5	233.1	236.4	221.4	218.0	230.3	244.6
62.5°	1897.2	703.1	201.3	173.7	196.5	219.4	227.2	211.0	210.7	226.2	241.3
65°	2208.0	762.9	180.4	161.3	184.1	206.7	216.9	201.3	202.0	221.6	236.6
67.5°	2337.2	692.6	161.6	150.3	169.8	192.1	208.3	193.8	191.6	215.2	229.1
70°	2215.8	550.2	145.4	138.6	153.8	176.4	196.5	183.7	178.7	200.1	211.0
72.5°	1960.7	458.7	130.2	124.8	139.7	159.8	180.4	170.2	163.7	180.1	189.8
75°	1532.6	376.3	112.8	111.3	123.7	144.7	163.7	156.6	148.3	158.6	168.3
77.5°	872.6	238.1	94.7	95.7	104.6	126.8	143.6	138.1	129.5	133.9	145.1
80°	349.2	120.1	76.1	76.8	84.3	104.2	119.0	117.0	108.1	111.6	119.3
82.5°	130.5	65.9	56.2	56.6	64.1	82.5	101.6	100.6	92.2	89.7	94.0
85°	51.9	32.6	34.5	36.0	43.2	59.4	81.5	72.3	62.4	54.7	57.4
87.5°	12.4	10.4	12.0	12.7	14.1	18.6	29.8	23.9	24.6	19.7	14.7
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)