

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: P366718

Luminaire Tested: **MSA-SA1A-830-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366718  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-830-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3128 lumens  
Efficiency: N/A  
Efficacy: 92.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1

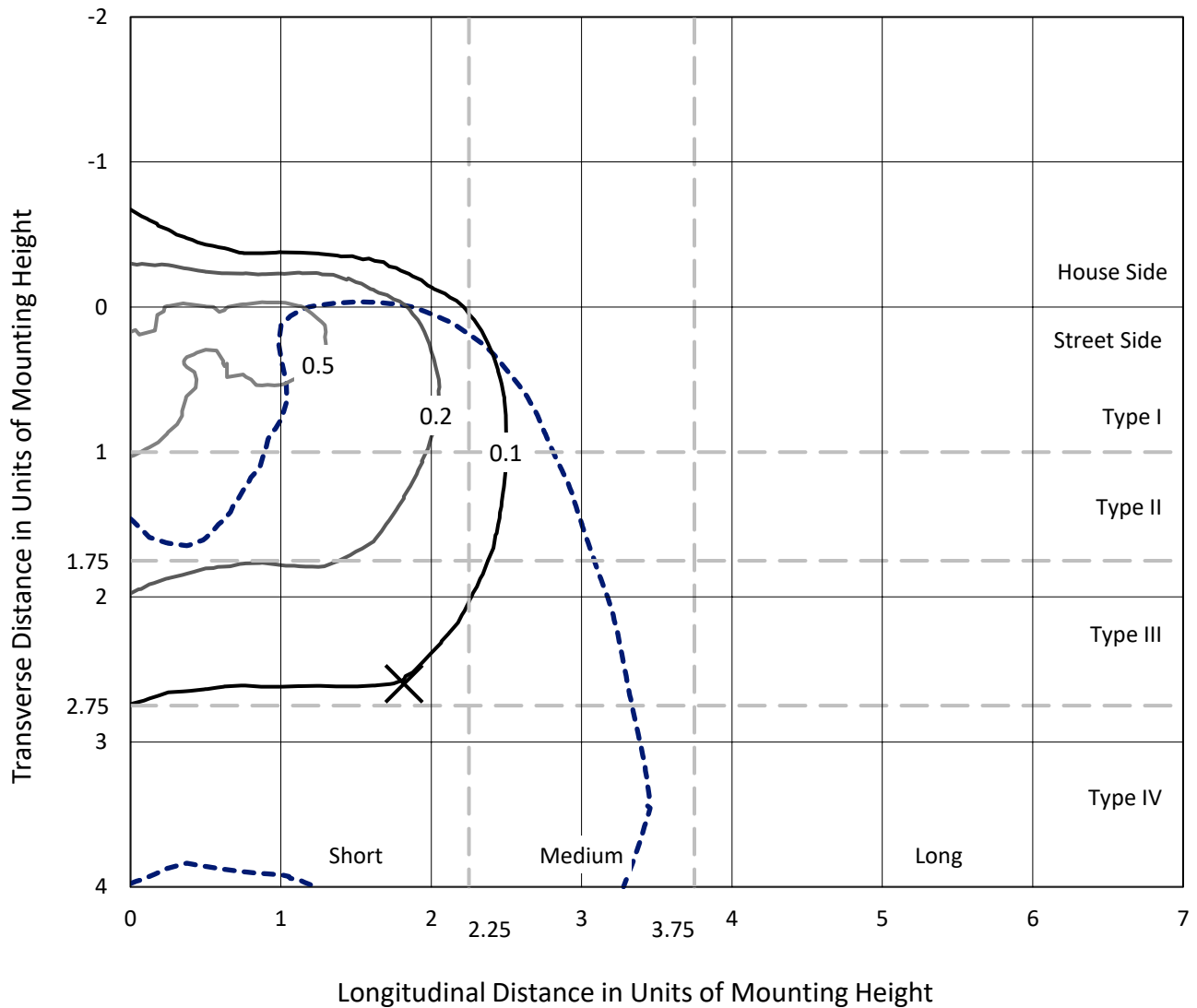
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

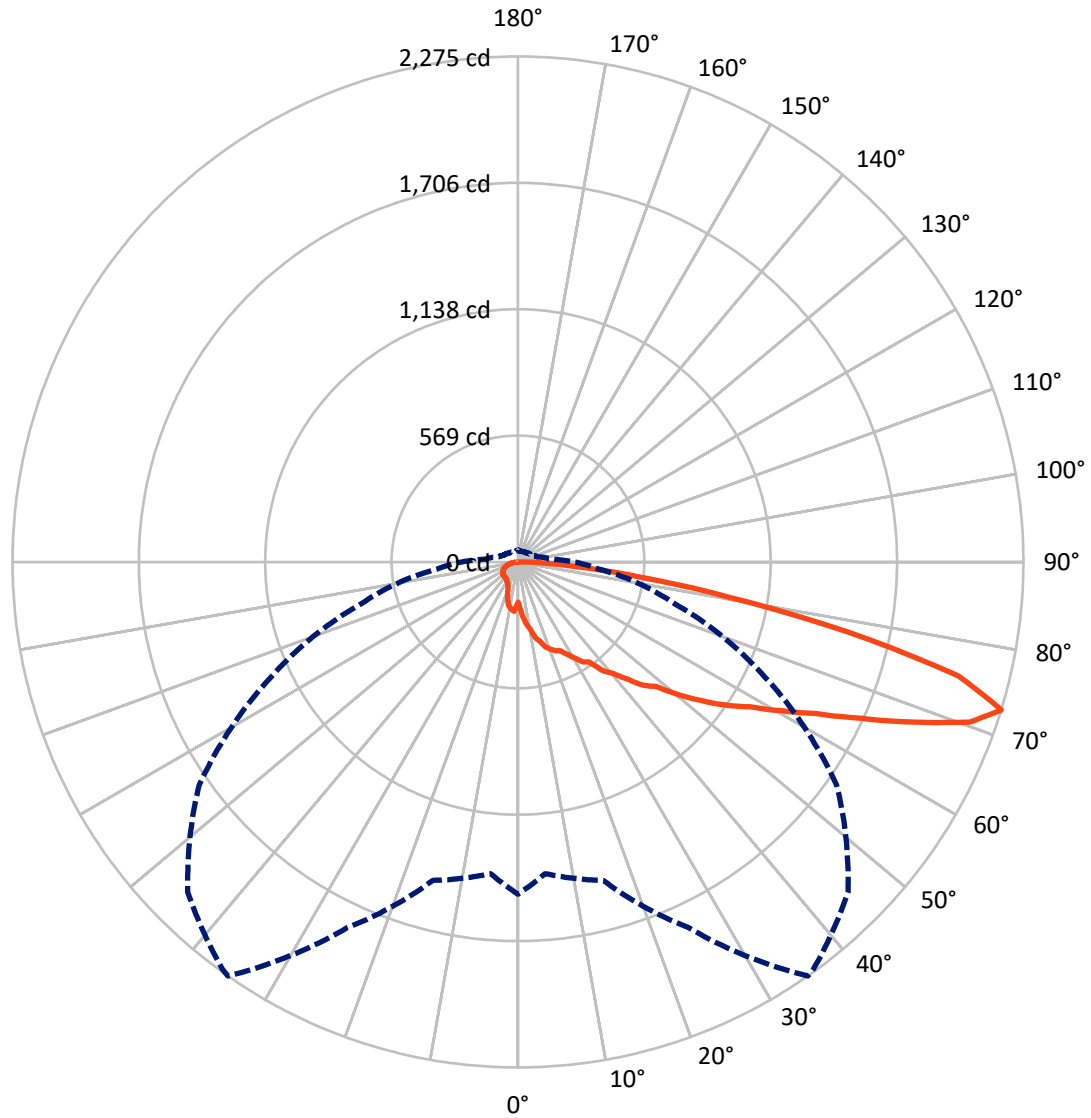
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.6 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	419.8	0.0	419.8
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	2708.2	0.0	2708.2
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	3128.0	0.0	3128.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	24.0	0.8
10°-20°	84.6	2.7
20°-30°	147.0	4.7
30°-40°	245.8	7.9
40°-50°	426.6	13.6
50°-60°	644.8	20.6
60°-70°	835.4	26.7
70°-80°	616.4	19.7
80°-90°	103.3	3.3
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°	3128.0	100.0
0°-180°	3128.0	100.0

**Coefficient of Utilization**



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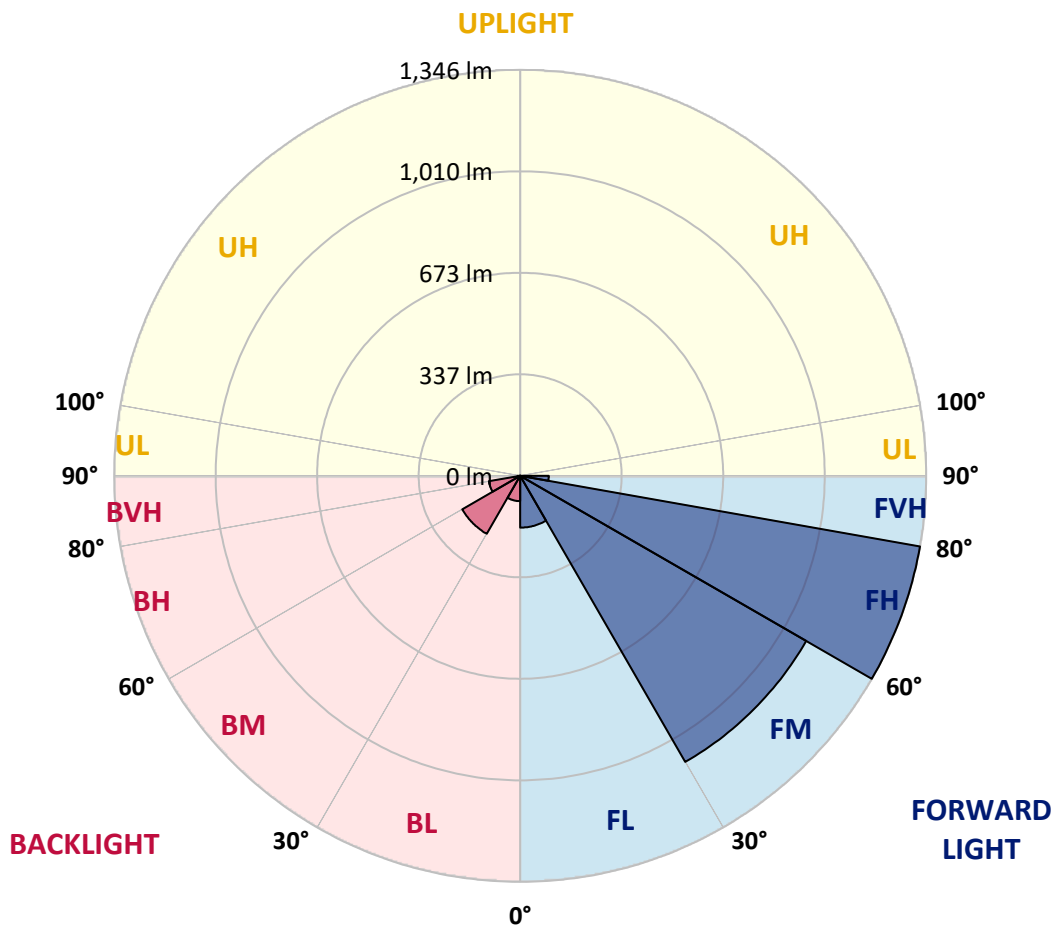
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	171.8	5.5			
FM (30°-60°)	1095.3	35.0			
FH (60°-80°)	1346.3	43.0			G1/1800
FVH (80°-90°)	94.9	3.0			G1/100
BL (0°-30°)	83.9	2.7	B0/110		
BM (30°-60°)	221.9	7.1	B1/1000		
BH (60°-80°)	105.6	3.4	B0/110		G0/110
BVH (80°-90°)	8.5	0.3			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	180.8	180.8	180.8	180.8	180.8	180.8	180.8	180.8	180.8	180.8	180.8
2.5°	225.5	214.7	205.3	204.9	213.6	216.9	215.6	212.7	209.2	201.9	217.9
5°	282.5	267.0	264.1	260.6	252.7	254.9	242.0	251.8	254.9	261.9	272.6
7.5°	316.1	307.1	300.0	297.1	283.4	281.8	272.4	286.2	292.1	291.2	307.1
10°	329.4	321.1	321.6	312.0	307.6	309.5	310.5	310.8	314.4	317.3	309.3
12.5°	336.2	339.4	351.1	344.6	350.2	352.5	363.7	352.2	352.6	337.5	345.8
15°	370.5	378.5	371.7	371.4	369.7	373.4	383.0	375.3	381.3	376.5	365.8
17.5°	411.9	414.3	401.2	395.8	402.8	401.6	399.2	400.4	385.4	413.2	400.1
20°	424.6	434.0	416.8	395.8	418.8	421.9	421.3	416.1	390.5	430.6	417.9
22.5°	461.4	448.6	435.0	421.6	433.4	435.1	432.2	419.7	411.2	426.4	436.4
25°	478.1	475.0	457.7	456.1	443.1	437.0	442.0	438.4	430.0	457.1	446.0
27.5°	516.3	512.7	472.7	489.2	470.3	468.7	441.9	453.9	462.3	460.3	476.9
30°	559.5	563.7	505.3	521.7	500.0	497.0	470.1	485.3	491.0	492.9	513.6
32.5°	607.6	618.9	561.0	547.5	535.9	537.9	515.1	487.3	509.6	553.3	562.2
35°	659.7	664.3	603.6	583.3	553.0	550.8	551.3	554.7	577.3	627.1	634.0
37.5°	755.9	734.3	681.0	629.6	619.5	599.6	613.1	623.7	646.3	722.7	751.8
40°	815.2	799.2	718.0	688.2	660.2	662.1	687.3	687.2	740.4	819.2	863.7
42.5°	870.1	852.6	776.1	746.2	719.6	726.1	733.4	746.0	848.2	975.1	995.4
45°	914.3	875.9	820.9	814.3	792.4	783.7	814.3	834.6	977.0	1101.3	1113.0
47.5°	944.3	912.8	859.0	853.1	837.0	858.2	941.6	954.7	1076.9	1228.0	1227.1
50°	990.0	946.8	898.2	895.2	940.7	952.0	1053.8	1052.4	1174.1	1333.2	1311.2
52.5°	1042.6	988.2	935.5	968.5	1037.9	1043.5	1131.7	1167.7	1280.2	1434.7	1377.1
55°	1103.0	1042.3	991.3	1035.3	1138.7	1122.1	1211.4	1299.2	1413.0	1541.6	1424.8
57.5°	1177.9	1104.2	1063.0	1130.0	1230.7	1245.4	1325.6	1436.0	1520.0	1608.1	1459.5
60°	1257.0	1170.5	1132.7	1196.5	1359.5	1376.3	1454.8	1549.7	1639.9	1670.7	1453.0
62.5°	1332.4	1238.8	1204.6	1283.4	1502.4	1544.0	1602.0	1662.4	1739.6	1685.9	1373.8
65°	1416.4	1322.7	1301.2	1419.3	1696.1	1737.5	1813.2	1795.0	1773.8	1632.0	1242.8
67.5°	1505.3	1410.1	1414.1	1577.0	1924.5	1931.6	2047.9	1927.2	1733.6	1489.1	1022.9
70°	1553.1	1455.6	1496.9	1745.1	2156.9	2146.8	2170.6	1962.7	1569.8	1177.1	705.1
72.5°	1495.1	1408.2	1483.8	1815.8	2275.2	2264.3	2101.7	1751.9	1227.3	732.0	365.5
75°	1265.9	1182.1	1297.7	1618.6	2048.3	2058.4	1788.6	1302.8	702.6	294.4	151.8
77.5°	860.2	816.9	916.0	1206.5	1521.4	1556.6	1327.1	761.8	295.1	121.9	91.9
80°	454.6	434.0	507.2	695.0	963.4	989.6	780.3	379.4	151.1	78.9	65.6
82.5°	247.0	238.3	277.6	357.4	547.4	570.2	404.7	252.1	101.9	49.4	40.1
85°	165.9	162.6	188.6	192.0	258.9	266.3	212.0	194.1	61.1	24.2	26.4
87.5°	83.0	79.7	99.3	87.7	98.8	98.9	97.2	123.9	15.5	8.0	4.8
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°	180.8	180.8	180.8	180.8	180.8	180.8	180.8	180.8	180.8	180.8	180.8
2.5°	218.2	213.5	197.3	197.2	199.6	198.0	199.2	192.7	189.8	202.7	202.0
5°	271.2	257.1	243.7	239.0	233.5	221.6	222.3	222.4	220.4	228.0	228.6
7.5°	302.3	285.4	273.0	248.2	228.7	213.5	215.5	217.7	215.5	225.6	229.4
10°	306.8	293.4	278.6	251.0	238.0	224.3	210.4	198.1	196.7	192.0	193.5
12.5°	333.8	322.7	291.7	261.4	246.3	225.2	199.9	185.8	174.1	176.1	172.4
15°	355.9	348.1	310.9	271.3	235.2	209.1	182.1	162.9	152.3	151.1	147.4
17.5°	386.0	374.8	312.7	264.5	221.0	189.6	159.1	137.4	132.8	131.0	129.1
20°	400.4	380.2	306.4	243.1	204.3	166.3	136.4	117.8	116.4	119.8	119.1
22.5°	412.9	384.8	300.8	230.2	178.2	142.9	121.0	108.7	107.2	111.5	112.3
25°	420.3	397.7	294.6	216.9	162.1	125.4	109.3	102.4	102.7	108.3	107.6
27.5°	453.4	402.3	279.2	201.3	143.5	112.4	103.7	100.1	98.7	106.4	107.1
30°	474.2	431.9	275.7	184.8	129.8	102.9	98.7	97.2	96.9	106.3	106.9
32.5°	512.9	441.8	277.3	166.8	117.4	100.0	94.9	94.8	97.5	106.4	107.5
35°	566.6	483.4	269.6	156.5	110.5	95.5	92.0	93.1	97.6	107.3	108.8
37.5°	671.3	522.7	272.0	146.9	108.3	94.0	91.2	91.9	99.2	109.7	113.7
40°	754.2	593.8	268.2	142.1	105.2	93.7	89.4	92.1	99.1	111.1	114.7
42.5°	874.3	650.6	268.6	137.2	105.1	92.7	89.2	92.4	98.8	109.9	114.8
45°	977.4	701.4	274.4	134.4	103.7	94.4	88.8	92.8	97.1	105.6	111.1
47.5°	1061.9	758.2	280.2	131.8	103.2	96.0	88.4	90.0	94.1	100.8	105.7
50°	1130.8	798.1	287.7	131.2	103.2	95.2	87.3	87.2	90.7	96.0	100.7
52.5°	1184.5	826.3	292.8	131.9	103.2	92.1	86.0	84.9	87.0	90.9	95.6
55°	1223.3	835.0	288.6	133.6	103.1	89.3	83.6	82.6	83.7	86.4	90.8
57.5°	1238.9	812.1	263.9	130.6	103.1	87.3	80.6	79.6	80.6	82.6	87.0
60°	1199.8	738.7	228.3	122.7	101.1	84.6	77.3	76.6	78.2	80.0	84.2
62.5°	1101.7	641.1	190.2	113.3	96.9	82.4	74.1	74.2	76.8	79.2	83.4
65°	949.2	523.1	158.6	103.9	91.7	78.8	70.8	71.7	75.3	78.5	82.8
67.5°	747.0	387.6	133.5	94.7	84.4	72.9	67.0	67.3	69.8	72.9	77.0
70°	499.3	246.6	109.7	83.8	74.8	65.3	61.3	60.3	59.7	62.3	66.0
72.5°	253.3	145.7	90.1	71.7	64.4	57.0	53.9	51.5	49.7	51.3	54.1
75°	132.7	101.9	72.8	59.5	53.1	48.5	46.2	43.0	41.7	42.6	44.6
77.5°	93.9	79.7	58.9	47.1	43.3	38.5	38.9	35.5	34.4	35.0	37.1
80°	72.1	63.1	45.3	35.6	33.4	28.7	30.0	28.0	26.7	26.4	28.0
82.5°	49.1	47.5	32.2	25.0	23.4	20.0	21.9	21.1	19.4	18.3	19.1
85°	33.1	31.5	19.6	14.4	13.8	10.4	13.4	12.8	11.3	9.7	9.9
87.5°	5.7	10.5	5.6	3.6	3.3	1.2	3.1	2.9	2.7	1.3	1.1
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)