

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: P366850

Luminaire Tested: **MSA-SA1B-830-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366850
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-SA1B-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: 3920 lumens
Efficiency: N/A
Efficacy: 89.1 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

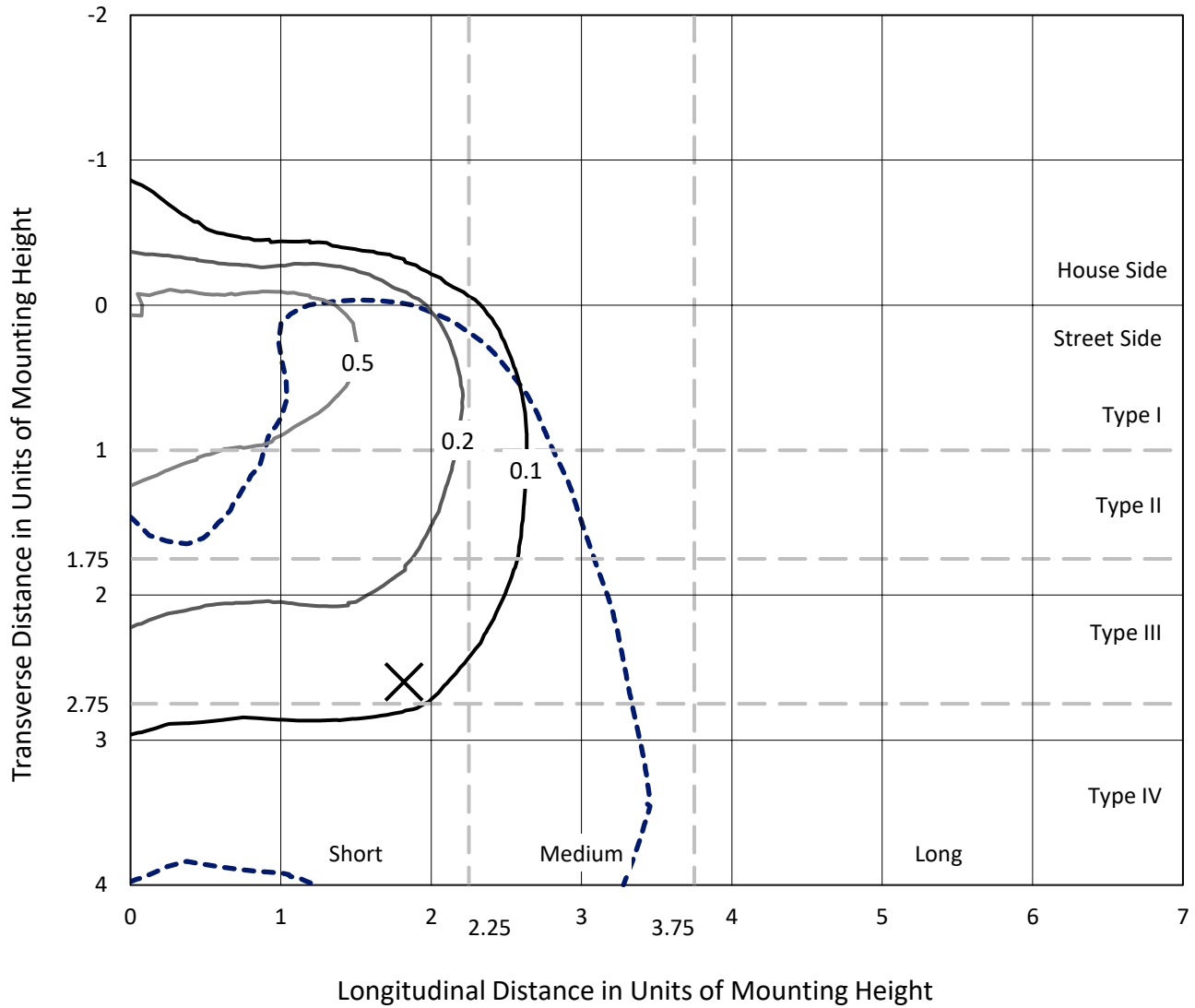
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

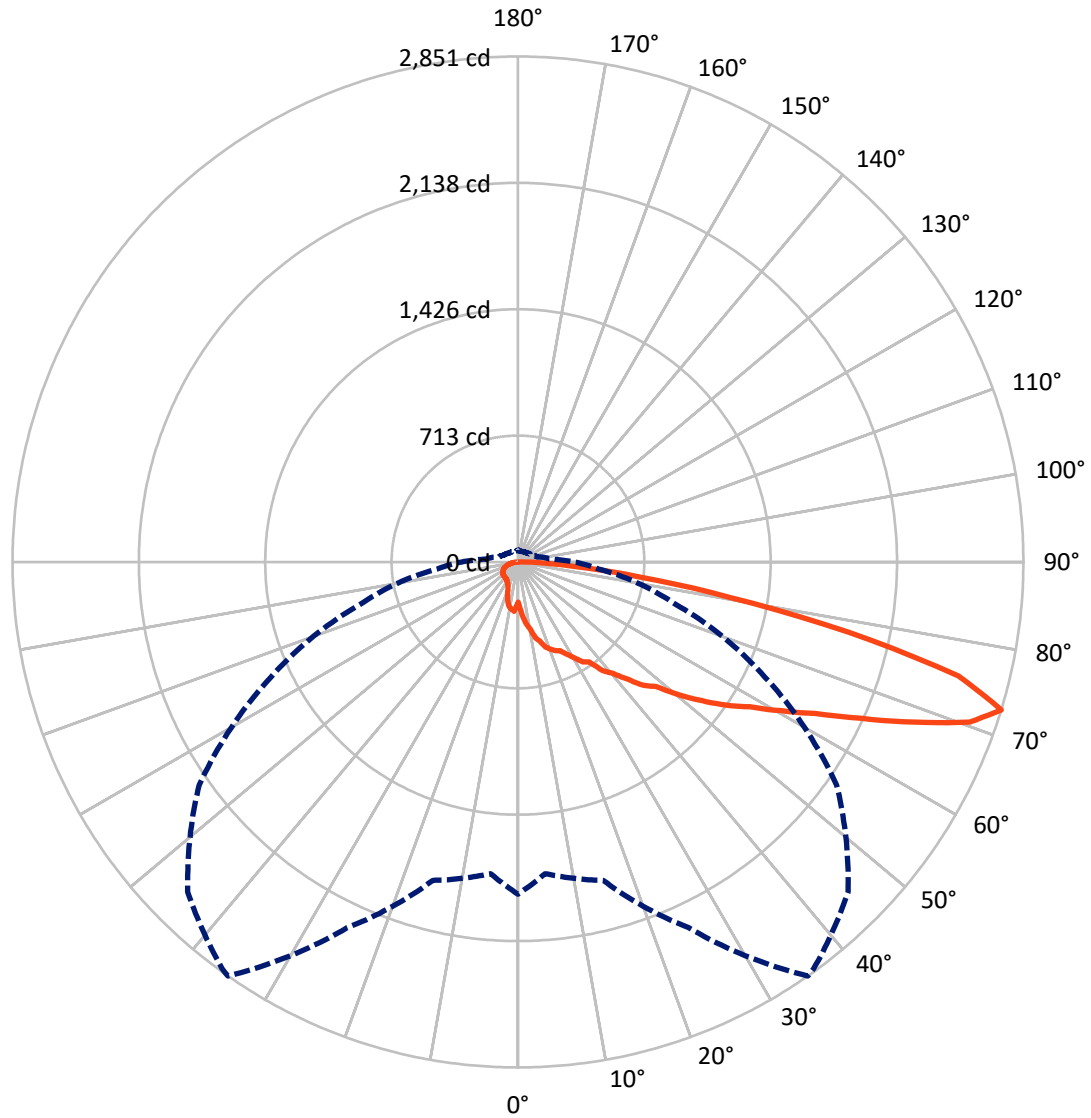
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.8 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
House Side	Lumens	526.0	0.0	526.0
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	3393.9	0.0	3393.9
	% Fixture	86.6	0.0	86.6
Total	Lumens	3920.0	0.0	3920.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.1	0.8
10°-20°	106.1	2.7
20°-30°	184.3	4.7
30°-40°	308.0	7.9
40°-50°	534.6	13.6
50°-60°	808.1	20.6
60°-70°	1046.9	26.7
70°-80°	772.5	19.7
80°-90°	129.5	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°	3920.0	100.0
0°-180°	3920.0	100.0

Coefficient of Utilization



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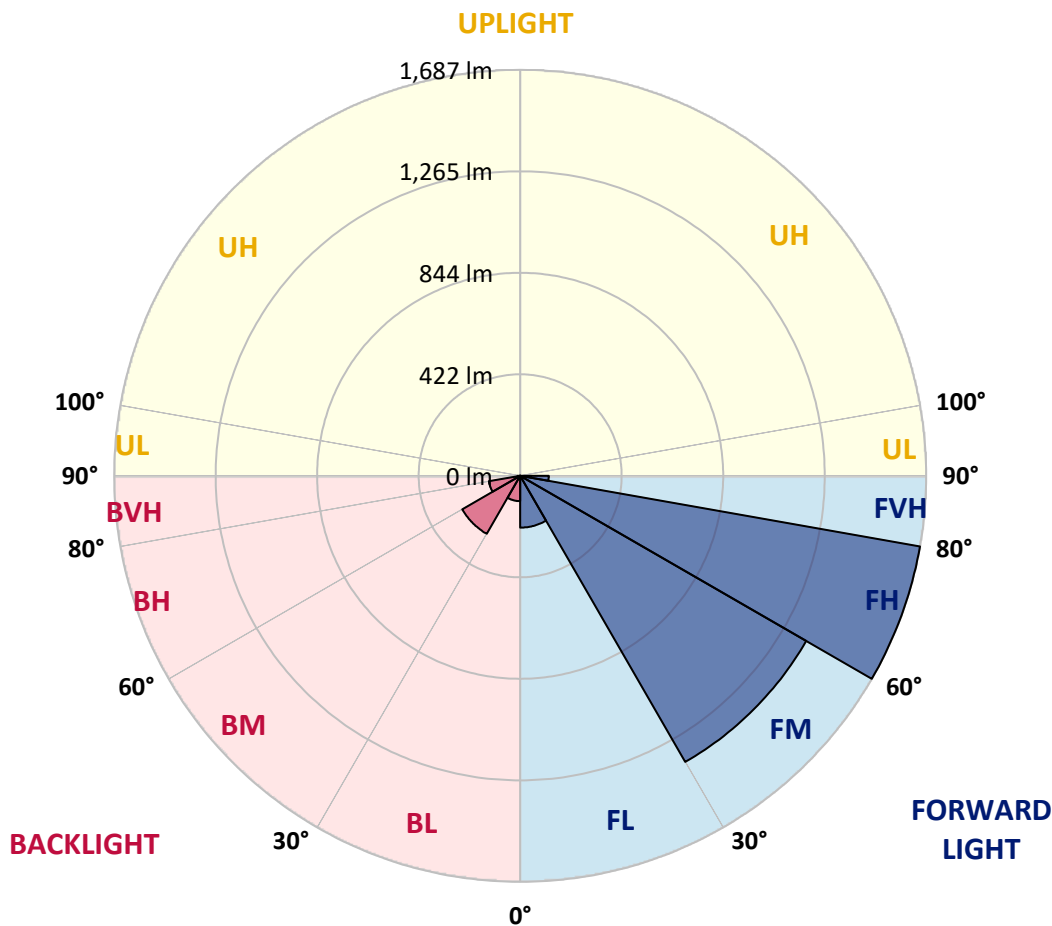
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	215.3	5.5			
FM (30°-60°)	1372.6	35.0			
FH (60°-80°)	1687.1	43.0			G1/1800
FVH (80°-90°)	118.9	3.0			G2/225
BL (0°-30°)	105.1	2.7	B0/110		
BM (30°-60°)	278.0	7.1	B1/1000		
BH (60°-80°)	132.3	3.4	B1/500		G1/500
BVH (80°-90°)	10.6	0.3			G1/100
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°	36°	45°	55°	65°	75°	85°
0°	226.5	226.5	226.5	226.5	226.5	226.5	226.5	226.5	226.5	226.5	226.5
2.5°	282.6	269.0	257.3	256.8	267.7	271.9	270.2	266.5	262.2	253.0	273.1
5°	354.0	334.6	330.9	326.6	316.7	319.4	303.3	315.5	319.4	328.3	341.6
7.5°	396.2	384.8	375.9	372.3	355.2	353.2	341.3	358.7	366.1	364.9	384.8
10°	412.8	402.4	403.1	391.0	385.5	387.8	389.2	389.5	394.0	397.7	387.7
12.5°	421.3	425.3	440.0	431.8	438.9	441.7	455.8	441.4	441.9	423.0	433.3
15°	464.3	474.3	465.8	465.5	463.3	468.0	480.0	470.3	477.8	471.8	458.4
17.5°	516.2	519.2	502.8	496.1	504.8	503.3	500.3	501.8	483.0	517.8	501.4
20°	532.0	543.9	522.3	496.1	524.9	528.7	528.0	521.5	489.4	539.6	523.7
22.5°	578.2	562.2	545.1	528.4	543.1	545.3	541.6	526.0	515.3	534.4	546.9
25°	599.1	595.3	573.5	571.5	555.3	547.6	554.0	549.4	538.9	572.9	559.0
27.5°	647.0	642.5	592.4	613.0	589.4	587.4	553.8	568.9	579.4	576.9	597.6
30°	701.2	706.4	633.3	653.8	626.6	622.9	589.1	608.2	615.4	617.7	643.6
32.5°	761.4	775.7	703.0	686.1	671.6	674.1	645.5	610.7	638.6	693.3	704.5
35°	826.7	832.5	756.4	731.0	693.0	690.3	690.8	695.2	723.5	785.9	794.6
37.5°	947.3	920.2	853.5	789.0	776.3	751.4	768.3	781.7	810.0	905.7	942.1
40°	1021.6	1001.5	899.8	862.5	827.4	829.7	861.3	861.1	927.9	1026.6	1082.3
42.5°	1090.4	1068.4	972.6	935.1	901.8	910.0	919.0	934.9	1062.9	1222.0	1247.5
45°	1145.7	1097.7	1028.8	1020.4	993.0	982.1	1020.4	1045.9	1224.4	1380.1	1394.9
47.5°	1183.4	1143.9	1076.5	1069.1	1048.9	1075.5	1180.0	1196.4	1349.5	1538.9	1537.8
50°	1240.6	1186.6	1125.7	1121.8	1178.9	1193.1	1320.6	1318.9	1471.3	1670.8	1643.2
52.5°	1306.5	1238.4	1172.3	1213.7	1300.7	1307.7	1418.3	1463.3	1604.3	1797.9	1725.8
55°	1382.3	1306.2	1242.3	1297.5	1427.0	1406.2	1518.2	1628.1	1770.8	1931.9	1785.5
57.5°	1476.2	1383.8	1332.1	1416.1	1542.3	1560.7	1661.2	1799.6	1904.8	2015.3	1829.0
60°	1575.2	1466.8	1419.5	1499.4	1703.7	1724.8	1823.2	1942.1	2055.1	2093.7	1820.8
62.5°	1669.8	1552.5	1509.6	1608.4	1882.7	1934.9	2007.6	2083.4	2180.1	2112.8	1721.6
65°	1775.0	1657.5	1630.6	1778.7	2125.5	2177.4	2272.2	2249.5	2222.9	2045.2	1557.5
67.5°	1886.4	1767.1	1772.2	1976.3	2411.8	2420.6	2566.4	2415.1	2172.5	1866.2	1281.9
70°	1946.3	1824.2	1875.9	2186.9	2703.1	2690.4	2720.1	2459.6	1967.2	1475.2	883.6
72.5°	1873.7	1764.8	1859.5	2275.6	2851.3	2837.6	2633.8	2195.4	1538.1	917.4	458.1
75°	1586.4	1481.4	1626.3	2028.5	2566.9	2579.6	2241.5	1632.6	880.6	368.9	190.2
77.5°	1078.0	1023.8	1147.9	1512.0	1906.7	1950.7	1663.1	954.7	369.8	152.8	115.1
80°	569.7	543.9	635.6	871.0	1207.3	1240.1	977.9	475.5	189.4	98.9	82.1
82.5°	309.5	298.6	347.8	447.9	686.0	714.6	507.1	315.9	127.7	61.9	50.2
85°	208.0	203.8	236.4	240.6	324.4	333.8	265.7	243.3	76.6	30.3	33.1
87.5°	104.1	99.9	124.5	109.9	123.8	124.0	121.8	155.3	19.4	10.0	6.0
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°	226.5	226.5	226.5	226.5	226.5	226.5	226.5	226.5	226.5	226.5	226.5
2.5°	273.4	267.5	247.3	247.1	250.1	248.1	249.6	241.4	237.9	254.0	253.1
5°	339.8	322.2	305.3	299.5	292.6	277.7	278.6	278.7	276.2	285.8	286.4
7.5°	378.8	357.7	342.2	311.0	286.6	267.5	270.0	272.9	270.0	282.8	287.4
10°	384.5	367.7	349.2	314.5	298.3	281.1	263.7	248.3	246.4	240.6	242.4
12.5°	418.3	404.4	365.6	327.6	308.7	282.3	250.5	232.9	218.2	220.7	216.0
15°	446.0	436.2	389.7	340.0	294.8	262.0	228.2	204.1	190.9	189.4	184.7
17.5°	483.7	469.6	391.8	331.4	276.9	237.6	199.4	172.2	166.5	164.1	161.8
20°	501.8	476.5	384.0	304.7	256.0	208.5	171.0	147.6	145.9	150.1	149.2
22.5°	517.5	482.2	377.0	288.4	223.4	179.0	151.6	136.2	134.4	139.7	140.7
25°	526.7	498.4	369.3	271.9	203.1	157.1	137.0	128.3	128.7	135.7	134.9
27.5°	568.2	504.1	349.8	252.3	179.9	140.9	130.0	125.5	123.6	133.3	134.2
30°	594.3	541.2	345.5	231.6	162.6	129.0	123.6	121.8	121.5	133.2	134.0
32.5°	642.8	553.6	347.5	209.0	147.1	125.3	119.0	118.8	122.1	133.3	134.7
35°	710.1	605.8	337.8	196.1	138.5	119.6	115.3	116.6	122.3	134.5	136.4
37.5°	841.2	655.0	340.8	184.0	135.7	117.8	114.3	115.1	124.3	137.5	142.5
40°	945.1	744.2	336.1	178.0	131.8	117.5	112.1	115.4	124.1	139.2	143.7
42.5°	1095.7	815.3	336.6	172.0	131.7	116.1	111.8	115.8	123.8	137.7	143.9
45°	1224.9	879.0	343.8	168.5	130.0	118.3	111.3	116.3	121.6	132.3	139.2
47.5°	1330.8	950.2	351.2	165.1	129.3	120.3	110.8	112.8	118.0	126.3	132.5
50°	1417.1	1000.2	360.6	164.5	129.3	119.3	109.4	109.3	113.6	120.3	126.2
52.5°	1484.4	1035.5	366.9	165.3	129.3	115.4	107.7	106.4	109.1	113.9	119.8
55°	1533.1	1046.4	361.7	167.5	129.2	111.9	104.7	103.6	104.9	108.2	113.8
57.5°	1552.6	1017.8	330.8	163.6	129.2	109.4	101.1	99.7	101.1	103.6	109.1
60°	1503.6	925.7	286.1	153.8	126.7	106.1	96.9	96.0	98.0	100.2	105.6
62.5°	1380.6	803.4	238.4	142.0	121.5	103.2	92.9	93.0	96.2	99.2	104.6
65°	1189.6	655.5	198.8	130.2	114.9	98.7	88.7	89.8	94.4	98.4	103.7
67.5°	936.1	485.7	167.3	118.6	105.7	91.4	84.0	84.3	87.5	91.4	96.5
70°	625.7	309.0	137.5	105.1	93.7	81.8	76.8	75.6	74.8	78.1	82.7
72.5°	317.4	182.5	112.9	89.8	80.6	71.4	67.6	64.6	62.2	64.2	67.8
75°	166.3	127.7	91.2	74.6	66.6	60.7	57.9	53.9	52.2	53.4	55.9
77.5°	117.6	99.9	73.8	59.1	54.2	48.2	48.7	44.5	43.2	43.8	46.5
80°	90.3	79.1	56.7	44.7	41.8	36.0	37.6	35.1	33.5	33.1	35.1
82.5°	61.6	59.6	40.3	31.3	29.3	25.1	27.4	26.4	24.3	22.9	23.9
85°	41.5	39.5	24.6	18.1	17.2	13.1	16.7	16.1	14.2	12.2	12.4
87.5°	7.2	13.2	7.0	4.5	4.2	1.5	3.8	3.7	3.3	1.7	1.3
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)