

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: P596496

Luminaire Tested: **MSA-SA1A-827-U-T4W**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596496  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA1A-827-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

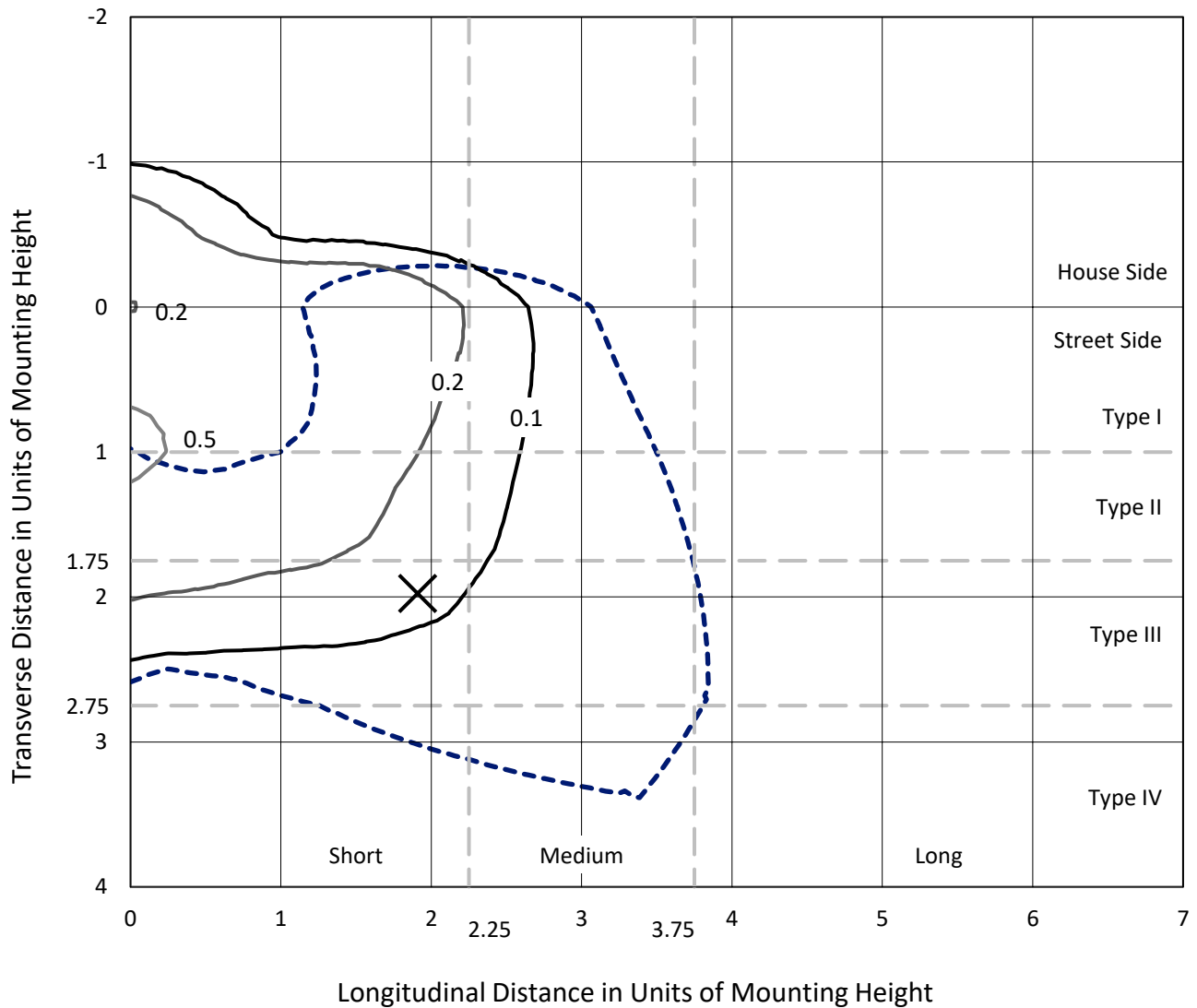
Lumens per Lamp: N/A  
Luminaire Lumens: 3012 lumens  
Efficiency: N/A  
Efficacy: 88.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 34  
Input Voltage (V): NR  
Input Current (Ain): NR  
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

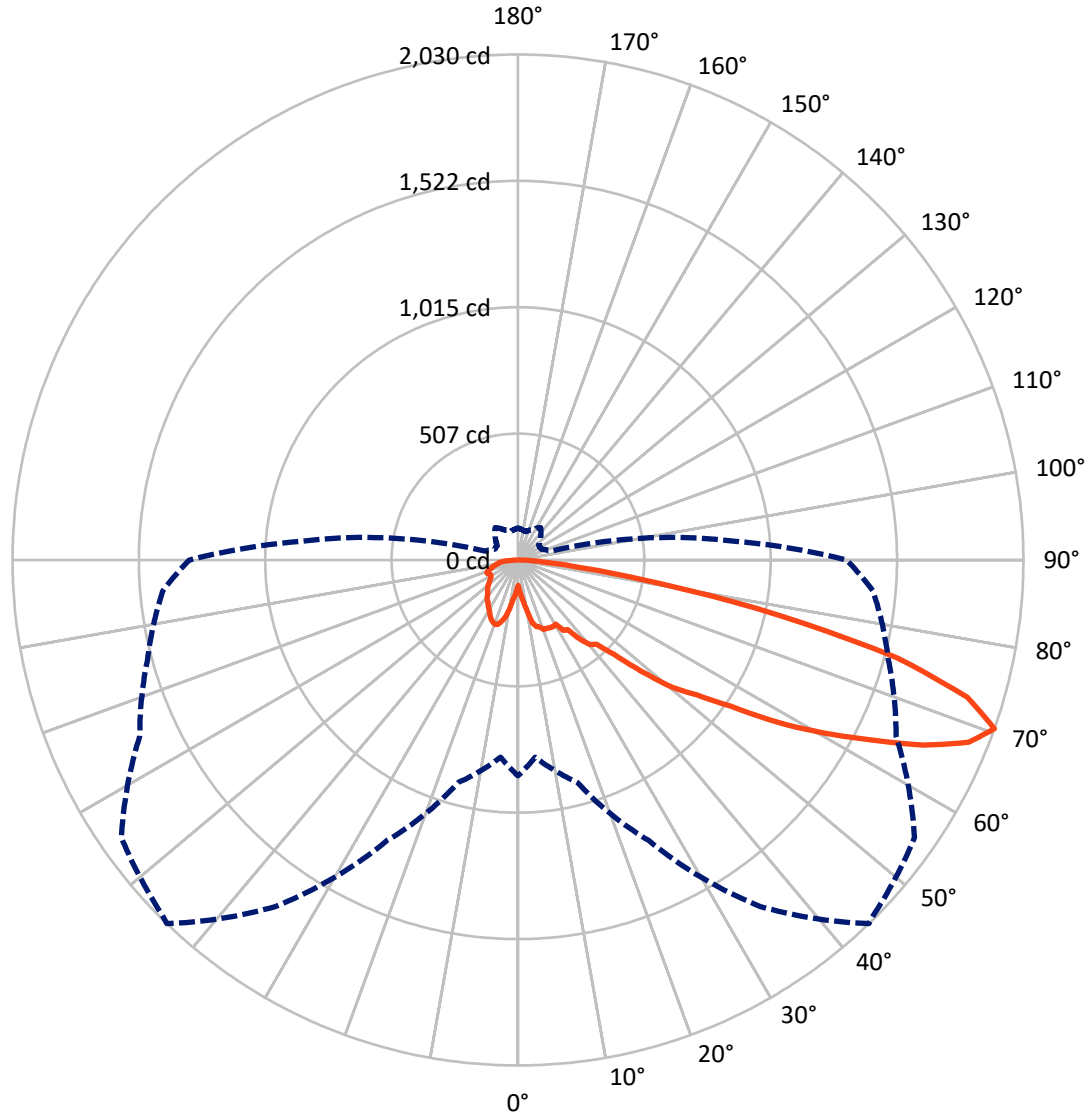
✕ Max cd  
 - - - 1/2 Max cd



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 44-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	664.6	0.0	664.6
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	2347.4	0.0	2347.4
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	3012.0	0.0	3012.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	16.1	0.5
10°-20°	73.9	2.5
20°-30°	138.1	4.6
30°-40°	221.7	7.4
40°-50°	374.3	12.4
50°-60°	666.9	22.1
60°-70°	912.3	30.3
70°-80°	536.5	17.8
80°-90°	72.2	2.4
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°	3012.0	100.0
0°-180°	3012.0	100.0

**Coefficient of Utilization**



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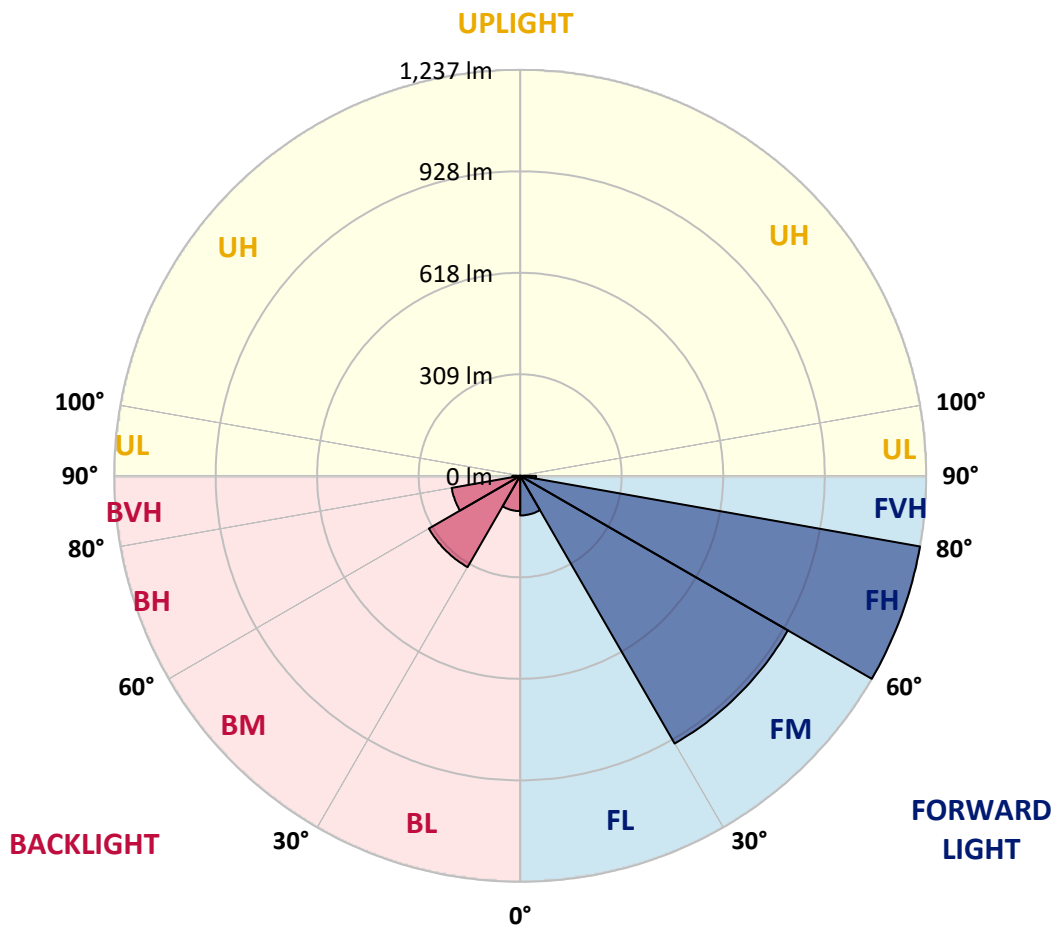
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	120.7	4.0			
FM (30°-60°)	941.8	31.3			
FH (60°-80°)	1236.8	41.1			G1/1800
FVH (80°-90°)	48.1	1.6			G1/100
BL (0°-30°)	107.4	3.6	B0/110		
BM (30°-60°)	321.2	10.7	B1/1000		
BH (60°-80°)	211.9	7.0	B1/500		G1/500
BVH (80°-90°)	24.1	0.8			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 IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4
2.5°	124.2	121.8	115.8	117.8	120.3	121.3	121.0	120.8	117.0	115.6	122.4
5°	168.8	163.4	159.1	157.3	151.7	147.2	144.5	151.7	150.5	152.4	157.1
7.5°	210.8	207.4	197.6	194.1	182.5	174.9	174.0	179.7	181.2	178.2	186.2
10°	237.9	231.9	230.0	221.7	213.7	212.4	211.7	209.1	205.5	205.3	198.1
12.5°	258.9	261.9	263.5	254.0	254.3	258.7	256.4	245.9	239.8	229.2	230.1
15°	296.5	301.0	288.2	282.2	270.6	277.3	276.4	267.6	266.8	259.8	251.8
17.5°	329.4	331.4	310.1	296.3	292.3	282.7	285.3	285.5	274.2	286.5	279.4
20°	332.1	339.1	314.7	287.1	299.0	297.8	298.1	295.7	280.7	301.1	298.4
22.5°	345.4	334.7	312.7	292.6	295.7	297.5	299.2	296.3	295.4	306.8	315.0
25°	343.0	339.5	317.3	300.2	300.6	301.0	301.8	310.7	309.7	325.2	329.5
27.5°	366.1	360.7	318.6	314.4	304.8	302.7	296.8	315.3	329.7	329.4	353.2
30°	410.0	404.6	350.2	338.0	320.6	299.1	310.5	335.2	346.5	350.4	380.6
32.5°	478.7	487.6	412.5	363.2	341.6	336.9	335.7	333.2	361.4	380.3	407.8
35°	577.2	570.2	485.9	417.2	363.7	343.6	346.3	361.4	394.8	407.1	432.5
37.5°	690.1	675.5	579.8	478.3	427.4	402.2	393.2	407.8	415.2	424.8	476.8
40°	804.9	769.3	672.1	558.7	465.7	446.7	438.8	420.9	438.3	457.8	523.9
42.5°	915.6	888.1	772.5	654.7	530.2	462.4	458.1	440.5	494.5	515.1	591.8
45°	1031.7	967.9	875.4	763.0	624.4	539.3	532.9	501.4	570.6	613.6	687.7
47.5°	1109.8	1050.6	969.6	850.9	703.3	668.0	655.8	601.9	664.7	720.5	835.7
50°	1183.6	1122.7	1037.7	947.1	846.2	805.6	779.5	689.9	781.9	872.8	1025.5
52.5°	1289.3	1234.9	1116.7	1044.1	999.7	899.8	880.4	831.2	919.0	1041.6	1233.0
55°	1402.3	1328.1	1221.0	1180.8	1162.9	1034.9	1019.1	987.8	1101.5	1214.4	1434.7
57.5°	1452.2	1374.8	1315.8	1291.7	1290.2	1231.3	1213.1	1191.3	1288.1	1362.6	1624.5
60°	1491.9	1408.8	1385.2	1398.6	1447.5	1408.8	1385.2	1365.9	1440.0	1509.1	1779.4
62.5°	1484.6	1401.2	1413.3	1454.3	1579.2	1590.6	1572.4	1525.7	1590.6	1629.1	1868.2
65°	1367.0	1290.0	1360.5	1457.8	1701.6	1792.4	1791.4	1669.2	1691.7	1691.7	1858.8
67.5°	1161.0	1081.2	1196.7	1427.3	1786.2	1952.3	1952.5	1821.4	1701.0	1685.4	1713.6
70°	867.0	794.7	924.5	1243.0	1698.9	2029.7	2018.5	1944.1	1675.5	1539.6	1431.4
72.5°	517.8	471.2	590.6	904.9	1449.2	1887.3	1917.2	1802.7	1533.9	1280.3	1023.2
75°	235.1	214.9	277.5	519.8	1034.6	1574.3	1606.7	1521.4	1218.3	920.8	591.3
77.5°	100.7	95.2	121.2	230.6	570.4	1076.6	1143.1	1087.3	825.5	535.1	261.6
80°	64.7	61.3	74.5	110.9	264.9	581.7	639.0	618.1	420.5	208.1	92.1
82.5°	38.7	37.5	49.8	69.7	144.5	256.0	288.5	296.2	174.6	93.4	52.7
85°	21.1	21.4	27.3	42.2	86.7	99.7	106.7	116.1	82.3	54.1	25.6
87.5°	7.0	8.2	11.0	17.2	30.9	28.2	28.3	32.9	34.7	22.5	8.2
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°	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4	102.4
2.5°	123.5	121.3	115.6	116.0	118.1	118.6	119.2	115.6	114.9	121.6	122.3
5°	157.8	150.5	147.2	146.1	142.9	141.8	147.7	150.4	153.1	158.5	161.0
7.5°	185.4	177.2	171.2	165.6	160.9	158.2	168.2	175.9	180.6	191.4	196.4
10°	198.0	190.9	188.7	184.3	187.8	196.0	197.8	198.1	208.5	208.2	210.3
12.5°	223.0	218.5	211.2	212.8	222.2	230.6	228.2	231.8	235.5	244.4	240.3
15°	245.9	244.7	237.9	239.0	240.8	251.3	252.7	256.3	261.9	269.0	264.2
17.5°	274.0	273.6	257.0	255.5	259.8	270.1	266.9	260.6	279.4	286.9	284.9
20°	293.2	289.5	268.2	261.9	272.9	274.3	270.6	260.6	276.9	293.3	297.8
22.5°	309.1	304.8	282.9	270.6	268.4	269.0	269.0	267.1	275.2	288.6	288.5
25°	322.0	326.0	298.3	286.4	274.5	259.7	257.9	259.5	264.0	290.0	289.1
27.5°	354.2	343.0	303.4	294.5	270.2	246.9	251.9	254.4	255.9	284.3	289.0
30°	375.2	378.7	322.0	299.4	263.9	232.6	234.3	241.4	250.1	283.7	285.0
32.5°	403.5	396.1	350.9	291.3	247.1	223.9	220.7	230.3	243.2	273.7	277.4
35°	429.8	438.6	363.1	289.9	235.4	210.9	214.4	217.7	231.1	262.6	266.9
37.5°	491.5	471.5	397.4	282.7	225.6	204.4	200.7	205.8	217.1	241.4	251.4
40°	538.5	539.7	404.8	273.7	207.0	195.0	187.1	192.2	197.0	216.4	220.7
42.5°	626.5	599.6	423.0	253.9	195.3	180.9	176.5	178.7	179.4	187.6	194.8
45°	738.5	675.4	430.2	227.4	179.8	175.1	166.1	165.0	160.9	162.0	168.3
47.5°	893.5	793.7	425.0	199.1	166.1	167.6	154.6	149.6	143.9	145.2	151.2
50°	1094.0	944.9	424.6	175.1	156.7	157.7	147.1	137.9	132.3	135.1	140.3
52.5°	1318.9	1096.6	426.3	158.7	146.5	146.0	142.1	131.0	126.5	129.4	135.4
55°	1534.0	1227.0	439.2	148.3	135.9	136.7	138.2	128.8	123.7	126.5	132.6
57.5°	1721.2	1330.0	434.4	137.3	126.0	129.9	133.9	125.7	121.9	125.8	132.0
60°	1852.1	1377.8	396.3	126.8	118.7	124.1	131.8	125.4	124.9	133.4	140.8
62.5°	1899.9	1360.1	322.2	118.6	114.4	123.4	136.6	133.5	134.0	144.5	154.7
65°	1830.2	1267.2	240.3	113.2	111.0	127.0	147.7	138.3	131.5	140.2	149.6
67.5°	1631.7	1102.1	175.6	108.7	107.2	132.6	158.0	137.8	125.2	134.0	141.7
70°	1320.1	869.9	136.0	102.9	102.1	128.8	158.9	134.1	118.4	124.1	128.4
72.5°	904.5	595.6	112.6	97.3	93.4	114.1	150.9	125.8	110.3	113.6	117.2
75°	505.5	334.3	94.7	90.4	81.8	101.6	141.5	120.9	104.2	105.2	110.2
77.5°	226.9	144.6	80.4	81.3	71.3	89.9	129.3	113.0	95.0	92.7	97.7
80°	85.8	70.5	65.2	68.7	59.9	77.9	116.6	105.8	85.2	82.4	85.2
82.5°	49.8	42.7	48.4	52.9	47.5	71.6	111.3	99.3	75.1	67.9	70.4
85°	23.1	22.1	29.0	34.3	33.2	55.8	95.2	74.7	53.5	45.2	50.0
87.5°	6.1	6.8	10.3	12.1	12.4	19.1	36.7	27.8	20.9	15.8	15.2
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)