

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: P367004

Luminaire Tested: **MSA-SA1D-727-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367004
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-SA1D-727-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: 5586 lumens
Efficiency: N/A
Efficacy: 83.4 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

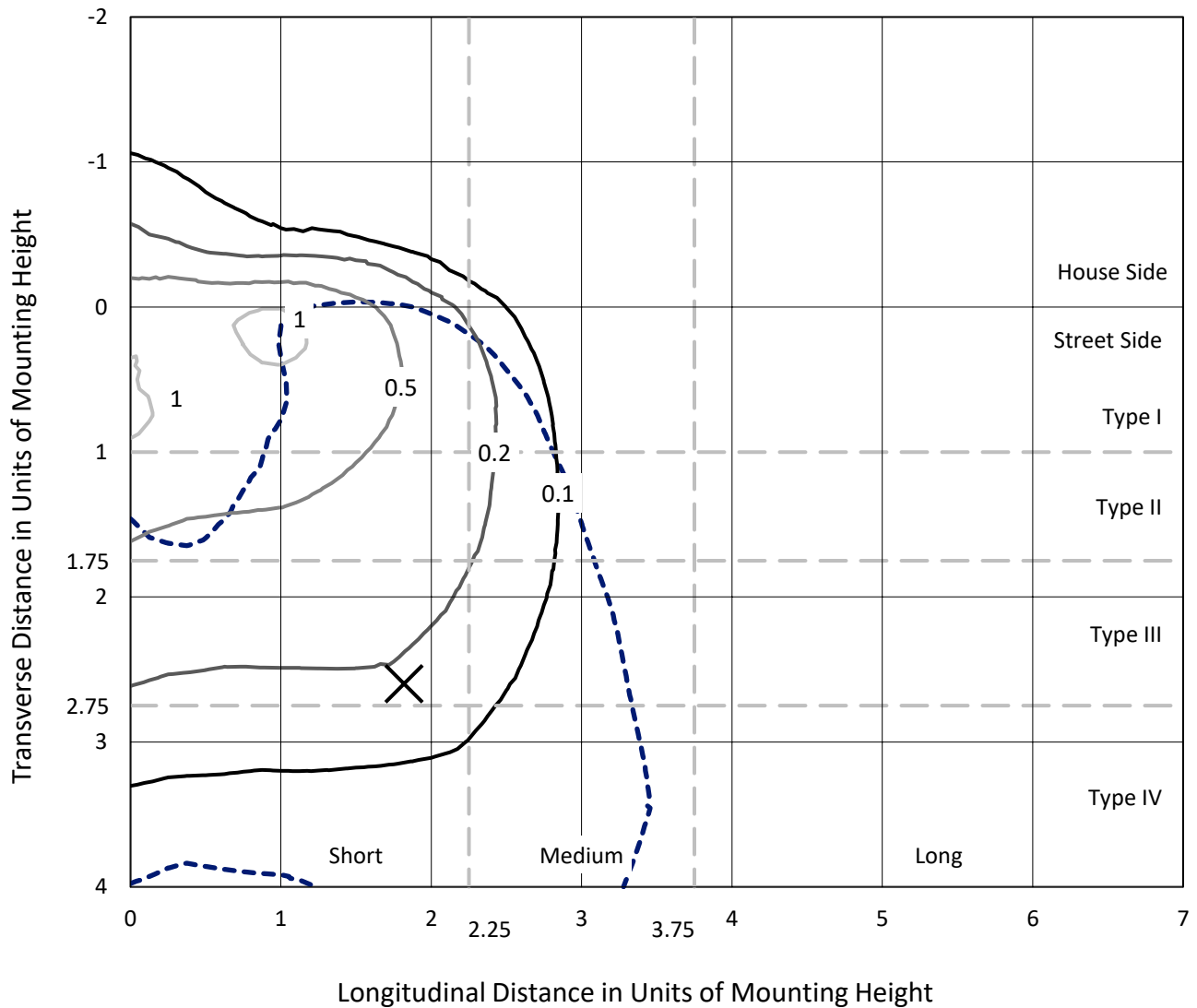
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

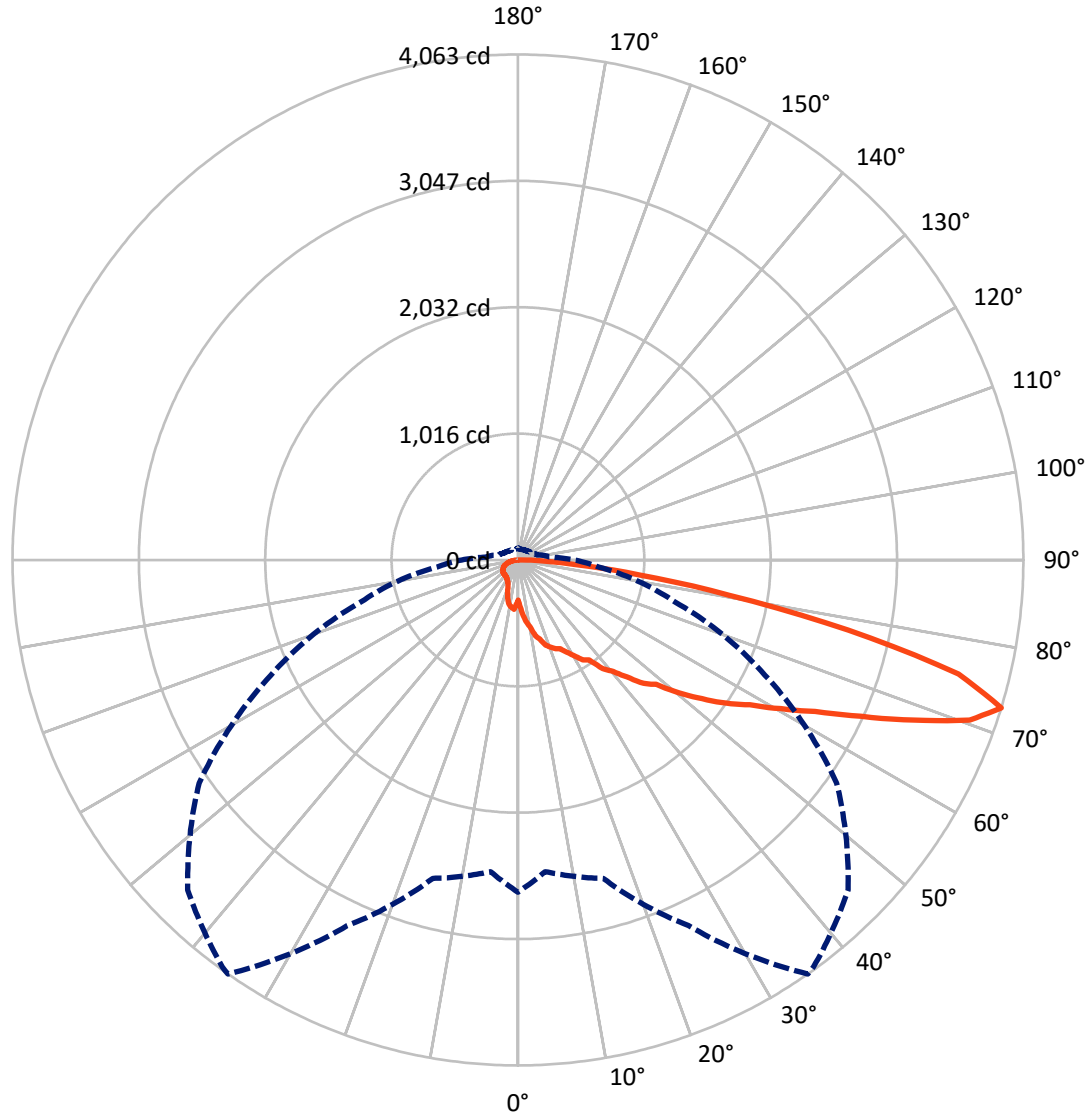
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.1 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	749.6	0.0	749.6
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	4836.4	0.0	4836.4
	% Fixture	86.6	0.0	86.6
Total	Lumens	5586.0	0.0	5586.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.9	0.8
10°-20°	151.1	2.7
20°-30°	262.6	4.7
30°-40°	438.9	7.9
40°-50°	761.7	13.6
50°-60°	1151.6	20.6
60°-70°	1491.8	26.7
70°-80°	1100.8	19.7
80°-90°	184.5	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°	5586.0	100.0
0°-180°	5586.0	100.0

Coefficient of Utilization



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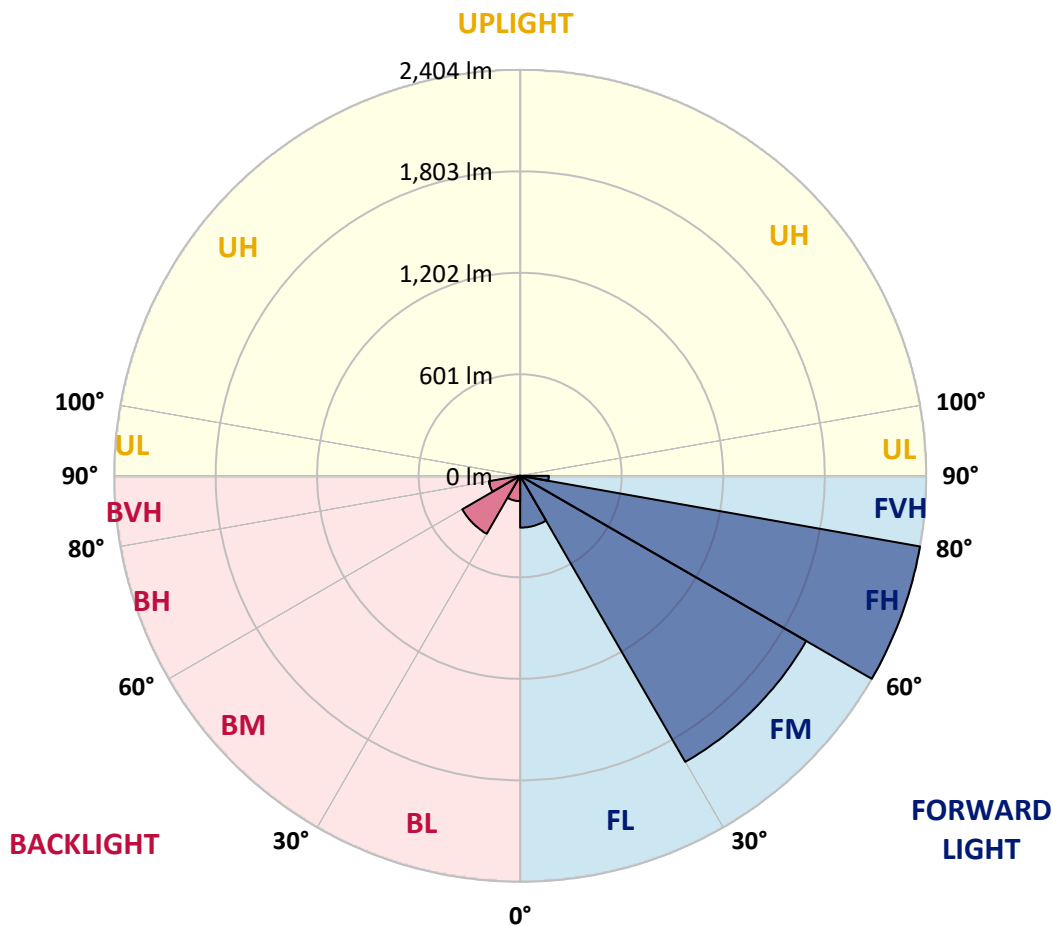
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	306.8	5.5			
FM (30°-60°)	1956.0	35.0			
FH (60°-80°)	2404.2	43.0			G2/5000
FVH (80°-90°)	169.4	3.0			G2/225
BL (0°-30°)	149.8	2.7	B1/500		
BM (30°-60°)	396.2	7.1	B1/1000		
BH (60°-80°)	188.5	3.4	B1/500		G1/500
BVH (80°-90°)	15.1	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°	322.8	322.8	322.8	322.8	322.8	322.8	322.8	322.8	322.8	322.8	322.8
2.5°	402.7	383.4	366.7	366.0	381.5	387.4	385.0	379.8	373.6	360.5	389.1
5°	504.5	476.8	471.6	465.4	451.3	455.1	432.3	449.7	455.1	467.8	486.8
7.5°	564.6	548.4	535.7	530.5	506.2	503.3	486.4	511.2	521.7	520.0	548.4
10°	588.2	573.4	574.3	557.2	549.3	552.7	554.6	555.0	561.5	566.7	552.4
12.5°	600.3	606.1	627.0	615.4	625.4	629.4	649.4	628.9	629.7	602.7	617.5
15°	661.6	675.9	663.8	663.3	660.2	666.9	684.0	670.2	680.9	672.3	653.3
17.5°	735.5	739.8	716.4	706.9	719.3	717.2	712.9	715.0	688.3	737.9	714.5
20°	758.2	775.1	744.3	706.9	747.9	753.4	752.4	743.1	697.4	768.9	746.2
22.5°	824.0	801.1	776.8	752.9	773.9	777.0	771.8	749.6	734.3	761.5	779.4
25°	853.8	848.3	817.3	814.4	791.3	780.3	789.4	783.0	767.9	816.3	796.6
27.5°	922.0	915.5	844.2	873.6	839.9	837.1	789.2	810.6	825.6	822.1	851.6
30°	999.2	1006.6	902.4	931.7	892.9	887.6	839.5	866.6	876.9	880.2	917.2
32.5°	1085.0	1105.3	1001.8	977.8	957.0	960.6	919.8	870.2	910.0	988.0	1004.0
35°	1178.0	1186.4	1077.9	1041.6	987.5	983.7	984.4	990.6	1030.9	1119.8	1132.2
37.5°	1349.9	1311.3	1216.2	1124.4	1106.3	1070.7	1094.8	1113.9	1154.2	1290.6	1342.5
40°	1455.8	1427.2	1282.2	1229.0	1179.0	1182.3	1227.4	1227.1	1322.3	1462.9	1542.3
42.5°	1553.8	1522.5	1385.9	1332.5	1285.1	1296.8	1309.6	1332.3	1514.7	1741.4	1777.6
45°	1632.7	1564.3	1466.0	1454.1	1415.0	1399.5	1454.1	1490.3	1744.7	1966.7	1987.7
47.5°	1686.3	1630.1	1534.0	1523.5	1494.6	1532.5	1681.6	1704.9	1923.1	2193.0	2191.3
50°	1767.9	1690.9	1604.1	1598.6	1679.9	1700.2	1881.8	1879.4	2096.6	2380.8	2341.5
52.5°	1861.8	1764.8	1670.6	1729.5	1853.5	1863.5	2021.1	2085.2	2286.2	2562.0	2459.3
55°	1969.8	1861.3	1770.3	1848.9	2033.5	2003.9	2163.4	2320.0	2523.4	2753.0	2544.4
57.5°	2103.6	1972.0	1898.3	2018.0	2197.7	2224.0	2367.2	2564.4	2714.4	2871.7	2606.4
60°	2244.7	2090.2	2022.7	2136.7	2427.8	2457.8	2598.0	2767.6	2928.5	2983.6	2594.7
62.5°	2379.4	2212.3	2151.2	2291.9	2682.9	2757.3	2860.8	2968.8	3106.6	3010.7	2453.3
65°	2529.4	2362.0	2323.6	2534.6	3028.9	3102.8	3237.9	3205.5	3167.6	2914.4	2219.4
67.5°	2688.2	2518.2	2525.3	2816.2	3436.8	3449.4	3657.1	3441.6	3095.9	2659.3	1826.8
70°	2773.5	2599.5	2673.1	3116.4	3851.9	3833.8	3876.2	3505.0	2803.3	2102.1	1259.1
72.5°	2670.0	2514.8	2649.8	3242.7	4063.1	4043.6	3753.2	3128.5	2191.8	1307.2	652.8
75°	2260.7	2110.9	2317.4	2890.6	3657.8	3675.9	3194.1	2326.5	1254.8	525.7	271.1
77.5°	1536.1	1458.9	1635.8	2154.6	2717.0	2779.7	2369.9	1360.4	526.9	217.7	164.0
80°	811.8	775.1	905.7	1241.2	1720.4	1767.2	1393.6	677.6	269.9	140.9	117.1
82.5°	441.1	425.6	495.7	638.2	977.5	1018.3	722.6	450.1	181.9	88.2	71.5
85°	296.4	290.4	336.9	342.8	462.3	475.6	378.6	346.7	109.2	43.2	47.2
87.5°	148.3	142.3	177.4	156.6	176.4	176.7	173.6	221.3	27.7	14.3	8.6
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°	322.8	322.8	322.8	322.8	322.8	322.8	322.8	322.8	322.8	322.8	322.8
2.5°	389.6	381.2	352.4	352.1	356.4	353.6	355.7	344.0	339.0	361.9	360.7
5°	484.2	459.2	435.1	426.8	417.0	395.8	397.0	397.2	393.6	407.2	408.2
7.5°	539.8	509.7	487.6	443.2	408.4	381.2	384.8	388.9	384.8	402.9	409.6
10°	547.9	524.0	497.6	448.2	425.1	400.5	375.7	353.8	351.2	342.8	345.5
12.5°	596.0	576.3	520.9	466.8	439.9	402.2	356.9	331.9	310.9	314.5	307.8
15°	635.6	621.6	555.3	484.5	420.1	373.4	325.2	290.9	272.0	269.9	263.2
17.5°	689.3	669.2	558.4	472.3	394.6	338.6	284.2	245.3	237.2	233.9	230.5
20°	715.0	679.0	547.2	434.2	364.8	297.1	243.7	210.3	207.9	213.9	212.7
22.5°	737.4	687.1	537.2	411.0	318.3	255.1	216.0	194.1	191.4	199.1	200.5
25°	750.5	710.2	526.2	387.4	289.4	223.9	195.3	182.9	183.3	193.4	192.2
27.5°	809.7	718.4	498.5	359.5	256.3	200.7	185.3	178.8	176.2	190.0	191.2
30°	846.9	771.3	492.3	330.0	231.7	183.8	176.2	173.6	173.1	189.8	191.0
32.5°	916.0	788.9	495.2	297.8	209.6	178.6	169.5	169.3	174.0	190.0	191.9
35°	1011.8	863.3	481.4	279.4	197.4	170.5	164.3	166.2	174.3	191.7	194.3
37.5°	1198.8	933.4	485.7	262.3	193.4	167.8	162.8	164.0	177.1	196.0	203.1
40°	1346.8	1060.5	479.0	253.7	187.9	167.4	159.7	164.5	176.9	198.4	204.8
42.5°	1561.4	1161.8	479.7	245.1	187.6	165.5	159.3	165.0	176.4	196.2	205.0
45°	1745.5	1252.6	489.9	240.1	185.3	168.6	158.5	165.7	173.3	188.6	198.4
47.5°	1896.4	1354.0	500.4	235.3	184.3	171.4	157.8	160.7	168.1	180.0	188.8
50°	2019.4	1425.3	513.8	234.4	184.3	170.0	155.9	155.7	161.9	171.4	179.8
52.5°	2115.2	1475.6	522.8	235.6	184.3	164.5	153.5	151.6	155.4	162.4	170.7
55°	2184.6	1491.1	515.5	238.7	184.1	159.5	149.2	147.6	149.5	154.3	162.1
57.5°	2212.5	1450.3	471.4	233.2	184.1	155.9	144.0	142.1	144.0	147.6	155.4
60°	2142.7	1319.2	407.7	219.1	180.5	151.2	138.0	136.9	139.7	142.8	150.4
62.5°	1967.4	1144.9	339.7	202.4	173.1	147.1	132.3	132.6	137.1	141.4	149.0
65°	1695.1	934.1	283.2	185.5	163.8	140.7	126.4	128.0	134.5	140.2	147.8
67.5°	1333.9	692.1	238.4	169.0	150.7	130.2	119.7	120.2	124.7	130.2	137.6
70°	891.7	440.4	196.0	149.7	133.5	116.6	109.4	107.8	106.6	111.3	117.8
72.5°	452.3	260.1	160.9	128.0	114.9	101.8	96.3	92.0	88.7	91.6	96.6
75°	237.0	181.9	129.9	106.3	94.9	86.5	82.5	76.8	74.4	76.1	79.6
77.5°	167.6	142.3	105.1	84.2	77.2	68.7	69.4	63.4	61.5	62.5	66.3
80°	128.7	112.8	80.8	63.7	59.6	51.3	53.6	50.1	47.7	47.2	50.1
82.5°	87.7	84.9	57.5	44.6	41.7	35.8	39.1	37.7	34.6	32.7	34.1
85°	59.1	56.3	35.0	25.7	24.6	18.6	23.8	22.9	20.3	17.4	17.6
87.5°	10.3	18.8	10.0	6.4	6.0	2.1	5.5	5.2	4.8	2.4	1.9
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)