

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: P367016

Luminaire Tested: **MSA-SA1D-727-U-T4W**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367016
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1D-727-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: 5815 lumens
Efficiency: N/A
Efficacy: 86.8 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

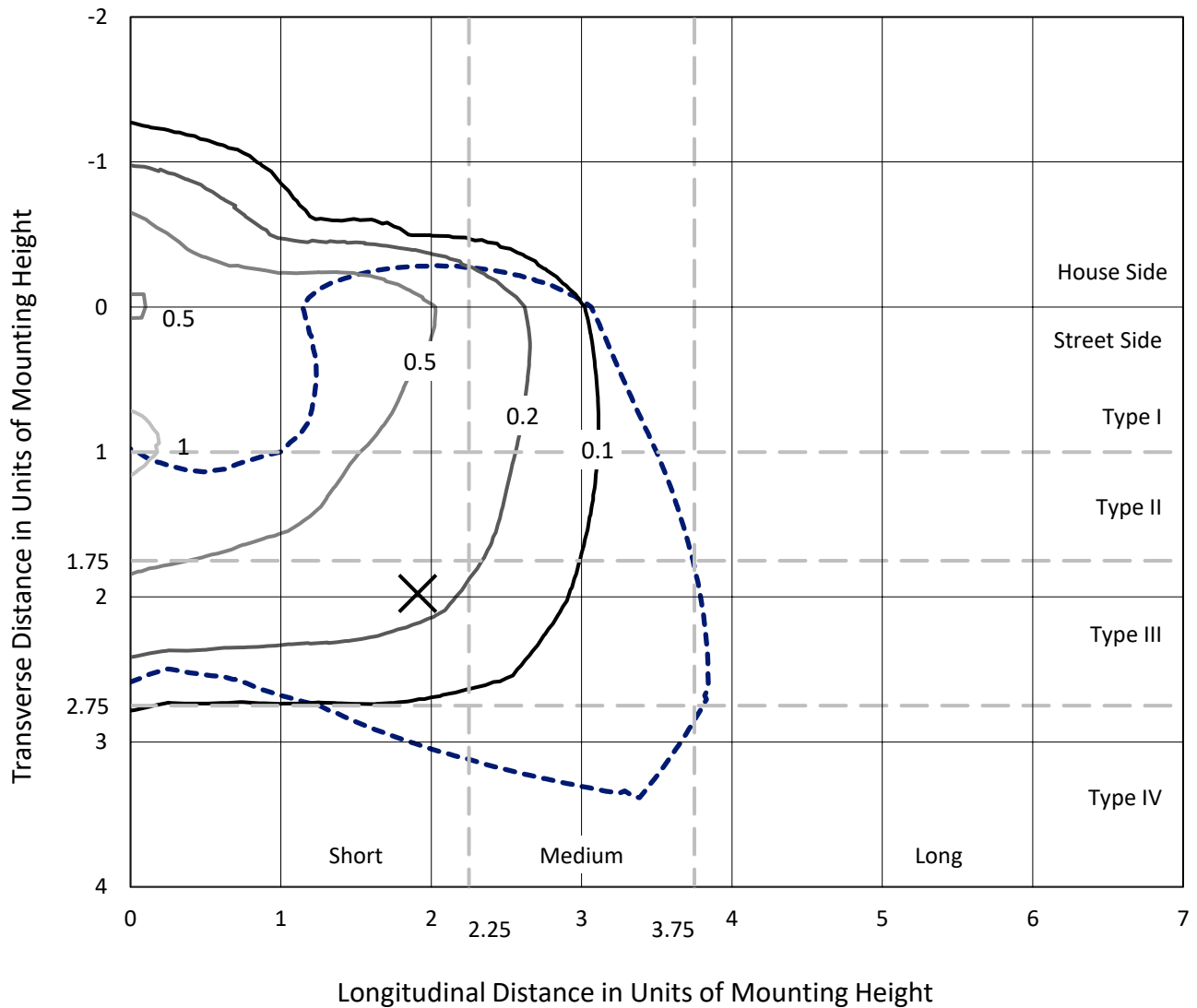
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

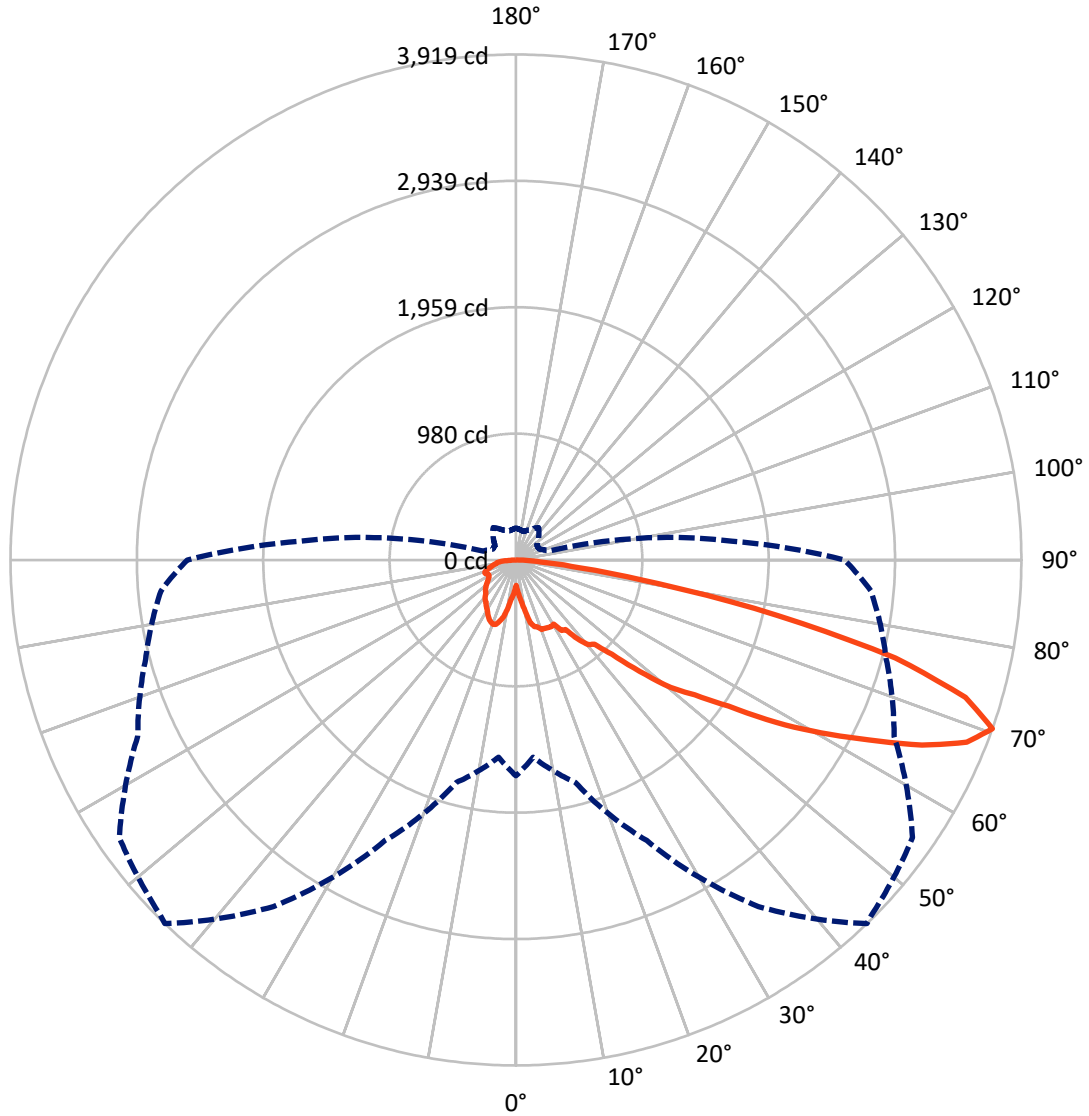
✕ Max cd
 - - - 1/2 Max cd



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

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1283.0	0.0	1283.0
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	4532.0	0.0	4532.0
	% Fixture	77.9	0.0	77.9
Total	Lumens	5815.0	0.0	5815.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.0	0.5
10°-20°	142.7	2.5
20°-30°	266.7	4.6
30°-40°	428.1	7.4
40°-50°	722.6	12.4
50°-60°	1287.6	22.1
60°-70°	1761.2	30.3
70°-80°	1035.7	17.8
80°-90°	139.5	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°	5815.0	100.0
0°-180°	5815.0	100.0

Coefficient of Utilization



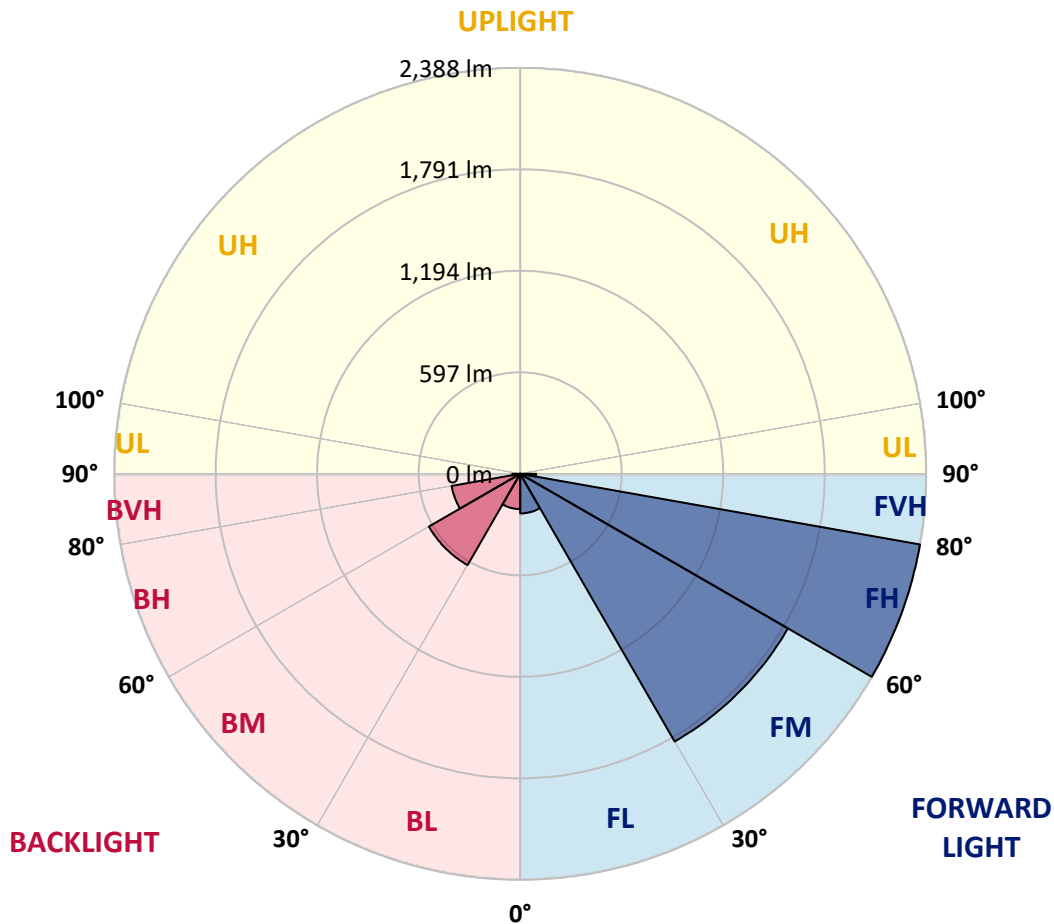
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	233.0	4.0			
FM (30°-60°)	1818.2	31.3			
FH (60°-80°)	2387.8	41.1			G2/5000
FVH (80°-90°)	92.9	1.6			G1/100
BL (0°-30°)	207.4	3.6	B1/500		
BM (30°-60°)	620.0	10.7	B1/1000		
BH (60°-80°)	409.1	7.0	B1/500		G1/500
BVH (80°-90°)	46.5	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	197.7	197.7	197.7	197.7	197.7	197.7	197.7	197.7	197.7	197.7	197.7
2.5°	239.9	235.1	223.6	227.5	232.2	234.1	233.7	233.2	225.8	223.2	236.3
5°	325.9	315.4	307.1	303.8	292.8	284.2	279.0	292.8	290.6	294.2	303.3
7.5°	407.0	400.3	381.5	374.8	352.4	337.6	335.9	346.9	349.8	344.1	359.6
10°	459.2	447.8	444.0	428.0	412.5	410.1	408.7	403.7	396.7	396.3	382.4
12.5°	499.8	505.7	508.8	490.5	490.9	499.5	495.0	474.7	463.0	442.5	444.2
15°	572.5	581.1	556.5	544.8	522.4	535.3	533.6	516.7	515.0	501.7	486.2
17.5°	635.9	639.7	598.7	572.0	564.4	545.8	550.8	551.3	529.3	553.2	539.3
20°	641.1	654.7	607.5	554.4	577.2	574.9	575.6	570.8	542.0	581.3	576.0
22.5°	666.9	646.1	603.7	564.8	570.8	574.4	577.7	572.0	570.3	592.3	608.2
25°	662.1	655.4	612.5	579.6	580.3	581.1	582.7	599.9	598.0	627.8	636.1
27.5°	706.7	696.5	615.2	607.0	588.4	584.4	573.0	608.7	636.6	635.9	681.9
30°	791.6	781.1	676.2	652.6	619.0	577.5	599.4	647.1	669.0	676.4	734.8
32.5°	924.2	941.3	796.4	701.2	659.5	650.4	648.1	643.3	697.6	734.1	787.3
35°	1114.4	1100.8	938.0	805.4	702.2	663.3	668.6	697.6	762.3	785.9	835.0
37.5°	1332.4	1304.2	1119.4	923.4	825.2	776.6	759.2	787.3	801.6	820.2	920.6
40°	1553.9	1485.2	1297.5	1078.7	899.1	862.4	847.1	812.6	846.2	883.9	1011.4
42.5°	1767.7	1714.6	1491.4	1263.9	1023.6	892.7	884.3	850.5	954.7	994.5	1142.6
45°	1991.9	1868.6	1690.0	1473.0	1205.5	1041.2	1028.8	968.0	1101.6	1184.5	1327.6
47.5°	2142.5	2028.3	1871.9	1642.8	1357.9	1289.7	1266.1	1162.1	1283.2	1391.0	1613.5
50°	2285.1	2167.6	2003.3	1828.5	1633.7	1555.3	1505.0	1331.9	1509.5	1685.0	1979.9
52.5°	2489.2	2384.1	2155.9	2015.7	1930.1	1737.2	1699.8	1604.6	1774.2	2010.9	2380.5
55°	2707.4	2564.1	2357.4	2279.6	2245.1	1998.1	1967.5	1907.0	2126.6	2344.5	2769.9
57.5°	2803.7	2654.2	2540.2	2493.8	2490.9	2377.2	2342.1	2299.9	2486.8	2630.6	3136.3
60°	2880.2	2719.8	2674.2	2700.2	2794.7	2719.8	2674.2	2637.0	2780.1	2913.4	3435.3
62.5°	2866.2	2705.2	2728.6	2807.8	3048.8	3070.8	3035.7	2945.6	3070.8	3145.1	3606.7
65°	2639.2	2490.4	2626.6	2814.4	3285.1	3460.4	3458.4	3222.6	3266.0	3266.0	3588.6
67.5°	2241.5	2087.5	2310.4	2755.6	3448.4	3769.1	3769.6	3516.4	3283.9	3253.9	3308.2
70°	1673.8	1534.3	1784.9	2399.8	3279.9	3918.6	3896.9	3753.4	3234.8	2972.3	2763.4
72.5°	999.7	909.6	1140.2	1747.0	2797.8	3643.7	3701.4	3480.4	2961.3	2471.8	1975.4
75°	454.0	414.9	535.8	1003.6	1997.3	3039.3	3102.0	2937.2	2352.1	1777.7	1141.6
77.5°	194.3	183.8	233.9	445.2	1101.3	2078.4	2206.9	2099.1	1593.7	1033.1	505.0
80°	124.9	118.3	143.8	214.1	511.4	1123.0	1233.6	1193.3	811.9	401.8	177.9
82.5°	74.6	72.5	96.1	134.5	279.0	494.3	557.0	571.8	337.1	180.3	101.8
85°	40.8	41.2	52.7	81.5	167.4	192.4	206.0	224.1	158.8	104.4	49.4
87.5°	13.6	15.7	21.2	33.1	59.6	54.4	54.6	63.4	67.0	43.4	15.7
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°	197.7	197.7	197.7	197.7	197.7	197.7	197.7	197.7	197.7	197.7	197.7
2.5°	238.4	234.1	223.2	223.9	227.9	228.9	230.1	223.2	221.7	234.9	236.0
5°	304.7	290.6	284.2	282.1	275.9	273.7	285.2	290.4	295.7	305.9	310.9
7.5°	357.9	342.1	330.5	319.7	310.7	305.4	324.7	339.5	348.6	369.6	379.1
10°	382.2	368.6	364.3	355.7	362.7	378.4	382.0	382.4	402.5	402.0	406.0
12.5°	430.6	421.8	407.7	410.8	428.9	445.2	440.6	447.5	454.7	471.9	464.0
15°	474.7	472.3	459.2	461.4	464.9	485.2	487.8	494.7	505.7	519.3	510.0
17.5°	529.1	528.1	496.2	493.3	501.7	521.4	515.2	503.1	539.3	553.9	550.1
20°	566.0	558.9	517.9	505.7	526.9	529.6	522.4	503.1	534.6	566.3	574.9
22.5°	596.8	588.4	546.2	522.4	518.1	519.3	519.3	515.7	531.2	557.2	557.0
25°	621.6	629.5	575.8	552.9	530.0	501.4	497.8	500.9	509.8	559.8	558.2
27.5°	683.8	662.1	585.8	568.7	521.7	476.6	486.4	491.2	494.0	548.9	557.9
30°	724.4	731.0	621.6	578.0	509.5	449.0	452.3	466.1	482.8	547.7	550.3
32.5°	779.0	764.6	677.4	562.5	477.1	432.3	426.1	444.7	469.5	528.4	535.5
35°	829.7	846.7	701.0	559.6	454.4	407.2	413.9	420.4	446.1	506.9	515.2
37.5°	949.0	910.3	767.3	545.8	435.6	394.6	387.5	397.2	419.2	466.1	485.4
40°	1039.6	1041.9	781.6	528.4	399.6	376.5	361.2	371.0	380.3	417.7	426.1
42.5°	1209.6	1157.6	816.6	490.2	377.0	349.3	340.7	345.0	346.4	362.2	376.0
45°	1425.8	1304.0	830.5	439.0	347.2	338.1	320.7	318.5	310.7	312.8	325.0
47.5°	1725.1	1532.4	820.4	384.4	320.7	323.6	298.5	288.7	277.8	280.4	291.8
50°	2112.0	1824.2	819.7	338.1	302.6	304.5	284.0	266.3	255.4	260.8	270.9
52.5°	2546.2	2117.0	823.1	306.4	282.8	281.8	274.4	253.0	244.2	249.9	261.3
55°	2961.6	2368.8	847.9	286.4	262.3	263.9	266.8	248.7	238.9	244.2	256.1
57.5°	3323.0	2567.7	838.6	265.1	243.2	250.8	258.5	242.7	235.3	243.0	254.9
60°	3575.8	2659.9	765.1	244.9	229.1	239.6	254.4	242.0	241.1	257.5	271.8
62.5°	3668.0	2625.8	622.1	228.9	220.8	238.2	263.7	257.7	258.7	279.0	298.8
65°	3533.3	2446.5	464.0	218.6	214.3	245.1	285.2	267.0	253.9	270.6	288.7
67.5°	3150.2	2127.8	339.0	209.8	207.0	256.1	305.0	266.1	241.8	258.7	273.5
70°	2548.6	1679.5	262.5	198.6	197.2	248.7	306.9	258.9	228.7	239.6	248.0
72.5°	1746.3	1150.0	217.4	187.9	180.3	220.3	291.4	243.0	212.9	219.4	226.3
75°	975.9	645.4	182.9	174.5	157.8	196.2	273.2	233.4	201.2	203.1	212.7
77.5°	438.0	279.2	155.2	156.9	137.6	173.6	249.6	218.2	183.4	179.1	188.6
80°	165.7	136.1	125.9	132.6	115.6	150.5	225.1	204.3	164.5	159.0	164.5
82.5°	96.1	82.5	93.5	102.0	91.8	138.3	214.8	191.7	145.0	131.1	135.9
85°	44.6	42.7	56.0	66.3	64.1	107.8	183.8	144.3	103.2	87.3	96.6
87.5°	11.7	13.1	19.8	23.4	23.8	37.0	70.8	53.6	40.3	30.5	29.3
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)