

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: P366752

Luminaire Tested: **MSA-SA1B-727-U-T4W**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P366752
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-SA1B-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: 4294 lumens
Efficiency: N/A
Efficacy: 97.6 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

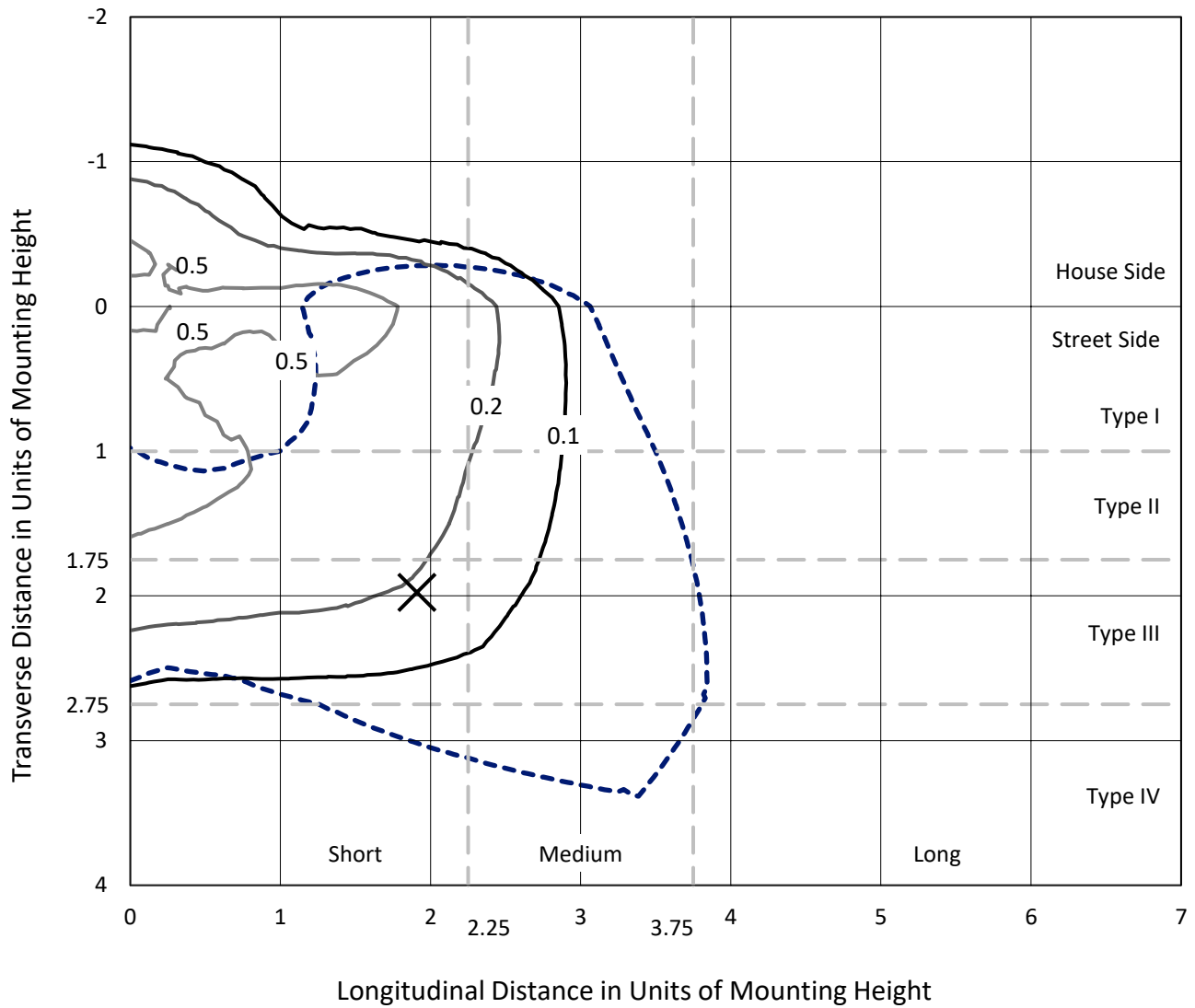
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

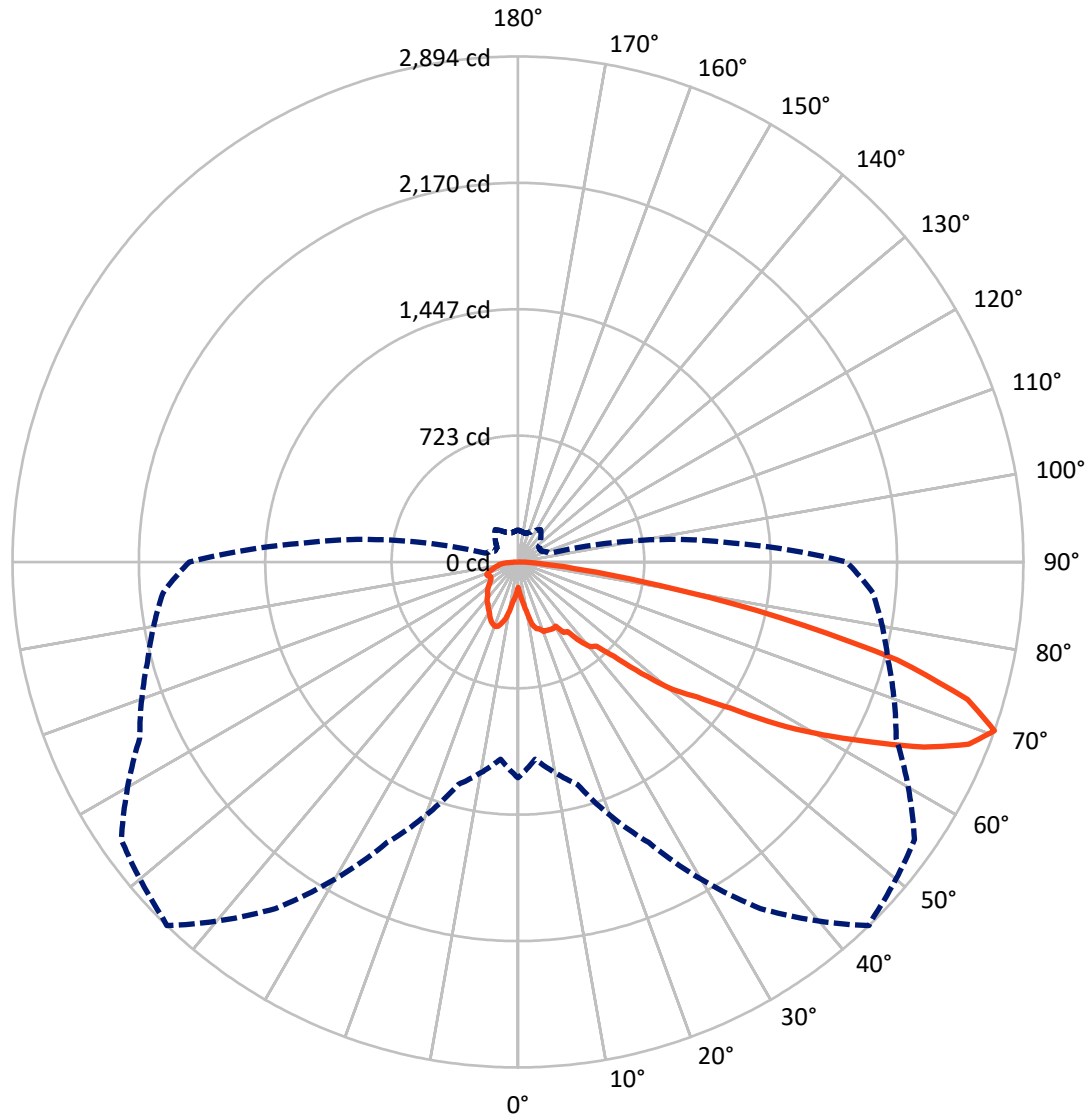
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.8 fc
 Type IV - Short - N/A

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CATALOG NUMBER: MSA-SA1B-727-U-T4W

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	947.4	0.0	947.4
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	3346.6	0.0	3346.6
	% Fixture	77.9	0.0	77.9
Total	Lumens	4294.0	0.0	4294.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.9	0.5
10°-20°	105.4	2.5
20°-30°	196.9	4.6
30°-40°	316.1	7.4
40°-50°	533.6	12.4
50°-60°	950.8	22.1
60°-70°	1300.6	30.3
70°-80°	764.8	17.8
80°-90°	103.0	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°	4294.0	100.0
0°-180°	4294.0	100.0

Coefficient of Utilization



REPORT NUMBER: P366752

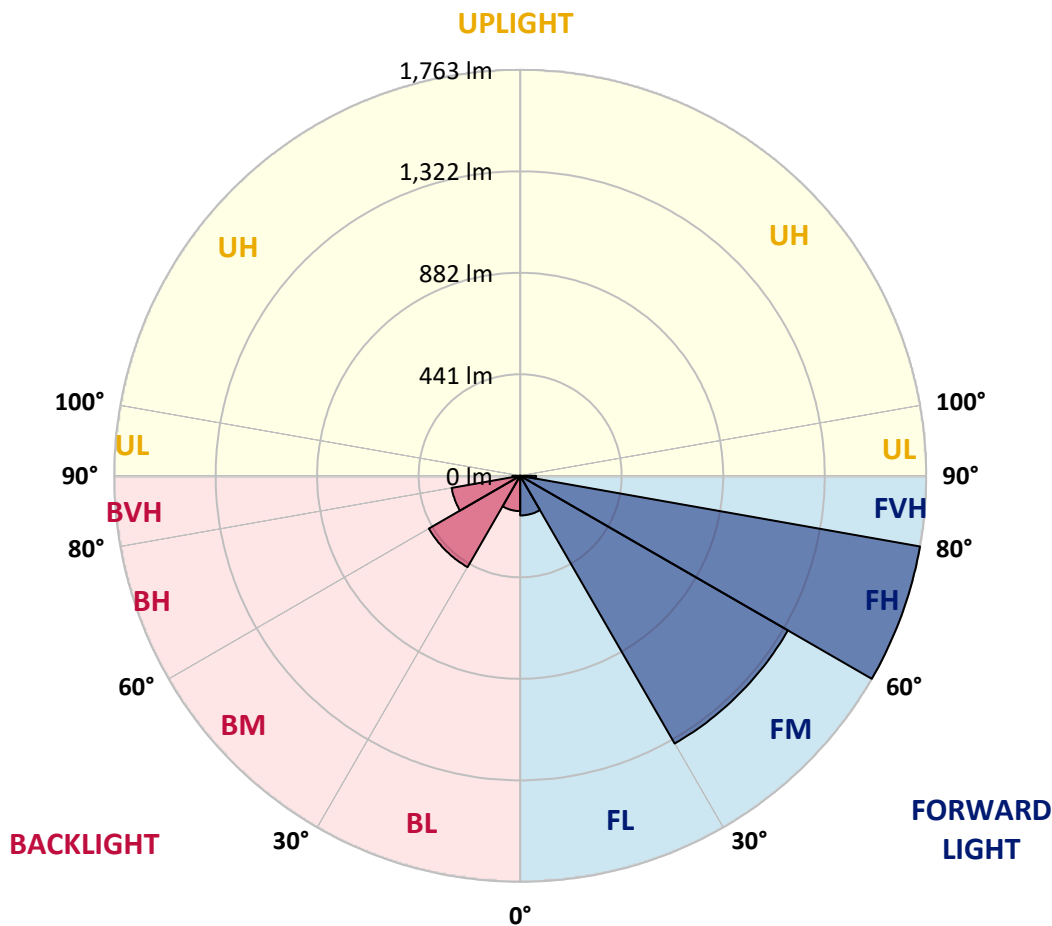
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	172.1	4.0			
FM (30°-60°)	1342.6	31.3			
FH (60°-80°)	1763.2	41.1			G1/1800
FVH (80°-90°)	68.6	1.6			G1/100
BL (0°-30°)	153.1	3.6	B1/500		
BM (30°-60°)	457.8	10.7	B1/1000		
BH (60°-80°)	302.1	7.0	B1/500		G1/500
BVH (80°-90°)	34.3	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°	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0
2.5°	177.1	173.6	165.1	168.0	171.5	172.9	172.5	172.2	166.7	164.8	174.5
5°	240.7	232.9	226.8	224.3	216.2	209.9	206.0	216.2	214.6	217.3	224.0
7.5°	300.5	295.6	281.7	276.8	260.2	249.3	248.1	256.2	258.3	254.1	265.5
10°	339.1	330.7	327.8	316.0	304.6	302.8	301.8	298.1	293.0	292.6	282.4
12.5°	369.0	373.4	375.7	362.2	362.5	368.9	365.5	350.5	341.9	326.8	328.0
15°	422.7	429.1	410.9	402.3	385.8	395.3	394.0	381.5	380.3	370.4	359.0
17.5°	469.6	472.4	442.1	422.4	416.7	403.0	406.7	407.1	390.9	408.5	398.3
20°	473.4	483.5	448.6	409.4	426.3	424.5	425.0	421.5	400.2	429.2	425.4
22.5°	492.5	477.1	445.8	417.1	421.5	424.1	426.6	422.4	421.1	437.3	449.1
25°	488.9	484.0	452.3	428.0	428.5	429.1	430.3	443.0	441.6	463.6	469.7
27.5°	521.9	514.3	454.3	448.3	434.5	431.5	423.1	449.5	470.1	469.6	503.5
30°	584.5	576.8	499.3	481.9	457.1	426.4	442.6	477.8	494.0	499.5	542.6
32.5°	682.4	695.1	588.1	517.8	487.0	480.3	478.5	475.0	515.2	542.1	581.4
35°	822.9	812.9	692.6	594.8	518.5	489.8	493.7	515.2	562.9	580.3	616.6
37.5°	983.9	963.1	826.6	681.9	609.4	573.4	560.6	581.4	591.9	605.7	679.8
40°	1147.4	1096.7	958.2	796.5	663.9	636.8	625.6	600.0	624.9	652.7	746.9
42.5°	1305.4	1266.1	1101.3	933.3	755.9	659.2	653.0	628.0	705.0	734.4	843.7
45°	1470.9	1379.8	1248.0	1087.7	890.2	768.9	759.7	714.8	813.4	874.7	980.3
47.5°	1582.1	1497.8	1382.3	1213.1	1002.7	952.3	934.9	858.1	947.6	1027.2	1191.4
50°	1687.4	1600.6	1479.3	1350.3	1206.4	1148.5	1111.3	983.5	1114.7	1244.3	1462.1
52.5°	1838.1	1760.5	1592.0	1488.5	1425.3	1282.8	1255.2	1184.9	1310.1	1484.9	1757.8
55°	1999.2	1893.4	1740.8	1683.4	1657.8	1475.4	1452.9	1408.2	1570.3	1731.3	2045.4
57.5°	2070.4	1960.0	1875.8	1841.5	1839.4	1755.4	1729.5	1698.3	1836.4	1942.5	2316.0
60°	2126.9	2008.4	1974.8	1993.9	2063.7	2008.4	1974.8	1947.3	2052.9	2151.4	2536.8
62.5°	2116.5	1997.6	2014.9	2073.4	2251.4	2267.6	2241.7	2175.1	2267.6	2322.5	2663.4
65°	1948.9	1839.0	1939.5	2078.3	2425.8	2555.2	2553.8	2379.7	2411.8	2411.8	2650.0
67.5°	1655.2	1541.5	1706.1	2034.8	2546.4	2783.3	2783.6	2596.6	2425.0	2402.8	2442.9
70°	1236.0	1133.0	1318.0	1772.1	2422.0	2893.6	2877.6	2771.6	2388.7	2194.8	2040.6
72.5°	738.2	671.7	841.9	1290.0	2066.0	2690.6	2733.2	2570.0	2186.7	1825.3	1458.7
75°	335.2	306.4	395.6	741.1	1474.9	2244.3	2290.6	2169.0	1736.9	1312.7	843.0
77.5°	143.5	135.7	172.7	328.7	813.2	1534.8	1629.7	1550.1	1176.8	762.9	372.9
80°	92.3	87.3	106.2	158.1	377.7	829.3	911.0	881.2	599.5	296.7	131.3
82.5°	55.1	53.5	71.0	99.3	206.0	365.0	411.3	422.2	249.0	133.1	75.2
85°	30.1	30.5	38.9	60.2	123.6	142.1	152.1	165.5	117.3	77.1	36.4
87.5°	10.0	11.6	15.7	24.5	44.0	40.1	40.3	46.8	49.5	32.0	11.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P366752
 CATALOG NUMBER: MSA-SA1B-727-U-T4W

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0	146.0
2.5°	176.1	172.9	164.8	165.3	168.3	169.0	169.9	164.8	163.7	173.4	174.3
5°	225.0	214.6	209.9	208.3	203.7	202.1	210.6	214.4	218.3	225.9	229.6
7.5°	264.3	252.7	244.0	236.1	229.4	225.5	239.8	250.7	257.4	272.9	279.9
10°	282.2	272.2	269.0	262.7	267.8	279.4	282.1	282.4	297.2	296.8	299.8
12.5°	318.0	311.5	301.1	303.4	316.7	328.7	325.4	330.5	335.8	348.4	342.6
15°	350.5	348.8	339.1	340.7	343.3	358.3	360.2	365.3	373.4	383.5	376.6
17.5°	390.7	390.0	366.4	364.3	370.4	385.1	380.5	371.5	398.3	409.0	406.2
20°	418.0	412.7	382.4	373.4	389.1	391.0	385.8	371.5	394.7	418.2	424.5
22.5°	440.7	434.5	403.4	385.8	382.6	383.5	383.5	380.8	392.3	411.5	411.3
25°	459.0	464.8	425.2	408.3	391.4	370.3	367.6	369.9	376.4	413.4	412.2
27.5°	505.0	488.9	432.6	419.9	385.2	352.0	359.2	362.7	364.8	405.3	412.0
30°	534.9	539.8	459.0	426.8	376.3	331.5	334.0	344.2	356.5	404.4	406.4
32.5°	575.2	564.6	500.2	415.3	352.3	319.2	314.6	328.4	346.7	390.2	395.4
35°	612.7	625.2	517.6	413.2	335.6	300.7	305.7	310.4	329.4	374.3	380.5
37.5°	700.7	672.2	566.6	403.0	321.7	291.4	286.1	293.3	309.5	344.2	358.5
40°	767.6	769.4	577.1	390.2	295.1	278.0	266.7	274.0	280.8	308.5	314.6
42.5°	893.2	854.8	603.0	362.0	278.4	257.9	251.6	254.8	255.8	267.4	277.7
45°	1052.9	962.9	613.2	324.1	256.4	249.7	236.8	235.2	229.4	231.0	240.0
47.5°	1273.8	1131.6	605.8	283.8	236.8	238.9	220.4	213.2	205.1	207.1	215.5
50°	1559.6	1347.1	605.3	249.7	223.4	224.8	209.7	196.7	188.6	192.6	200.0
52.5°	1880.2	1563.3	607.8	226.2	208.8	208.1	202.7	186.8	180.3	184.5	193.0
55°	2186.9	1749.2	626.1	211.5	193.7	194.9	197.0	183.6	176.4	180.3	189.1
57.5°	2453.8	1896.1	619.2	195.8	179.6	185.2	190.9	179.2	173.8	179.4	188.2
60°	2640.5	1964.2	565.0	180.8	169.2	176.9	187.9	178.7	178.0	190.2	200.7
62.5°	2708.6	1939.0	459.4	169.0	163.0	175.9	194.7	190.3	191.0	206.0	220.6
65°	2609.1	1806.6	342.6	161.5	158.3	181.0	210.6	197.2	187.5	199.8	213.2
67.5°	2326.2	1571.2	250.4	154.9	152.8	189.1	225.2	196.5	178.5	191.0	201.9
70°	1882.0	1240.2	193.8	146.7	145.6	183.6	226.6	191.2	168.8	176.9	183.1
72.5°	1289.5	849.2	160.6	138.7	133.1	162.7	215.2	179.4	157.2	162.0	167.1
75°	720.6	476.6	135.0	128.9	116.6	144.9	201.8	172.4	148.6	150.0	157.1
77.5°	323.4	206.2	114.6	115.9	101.6	128.2	184.3	161.1	135.4	132.2	139.3
80°	122.4	100.5	93.0	97.9	85.4	111.1	166.2	150.9	121.5	117.4	121.5
82.5°	71.0	60.9	69.0	75.4	67.8	102.1	158.6	141.6	107.0	96.8	100.4
85°	32.9	31.5	41.4	48.9	47.4	79.6	135.7	106.5	76.2	64.4	71.3
87.5°	8.6	9.7	14.6	17.3	17.6	27.3	52.3	39.6	29.8	22.5	21.7
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)