

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: P368411

Luminaire Tested: **MSA-SA4B-760-U-SL4-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368411
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-760-U-SL4-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16068 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

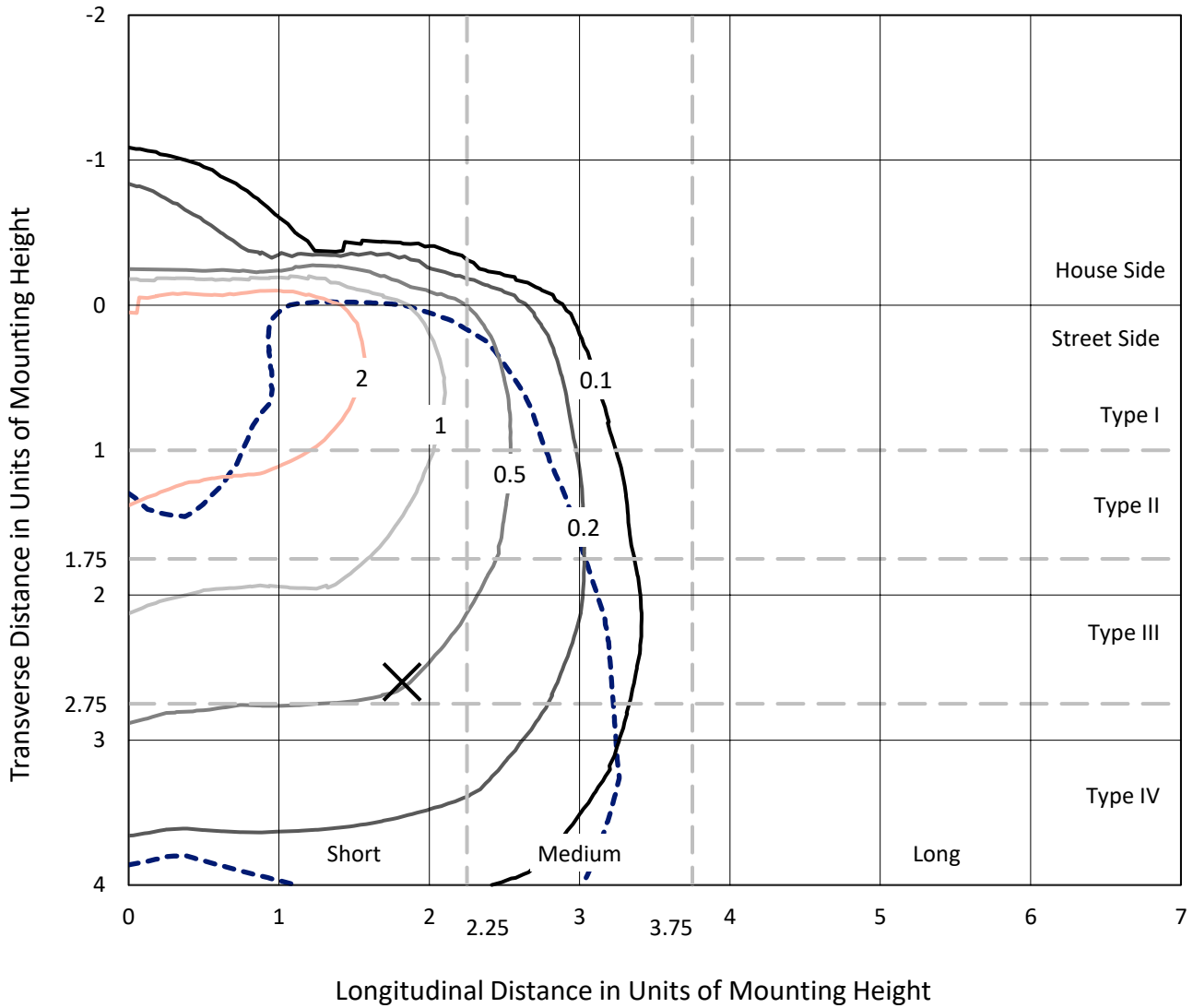
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

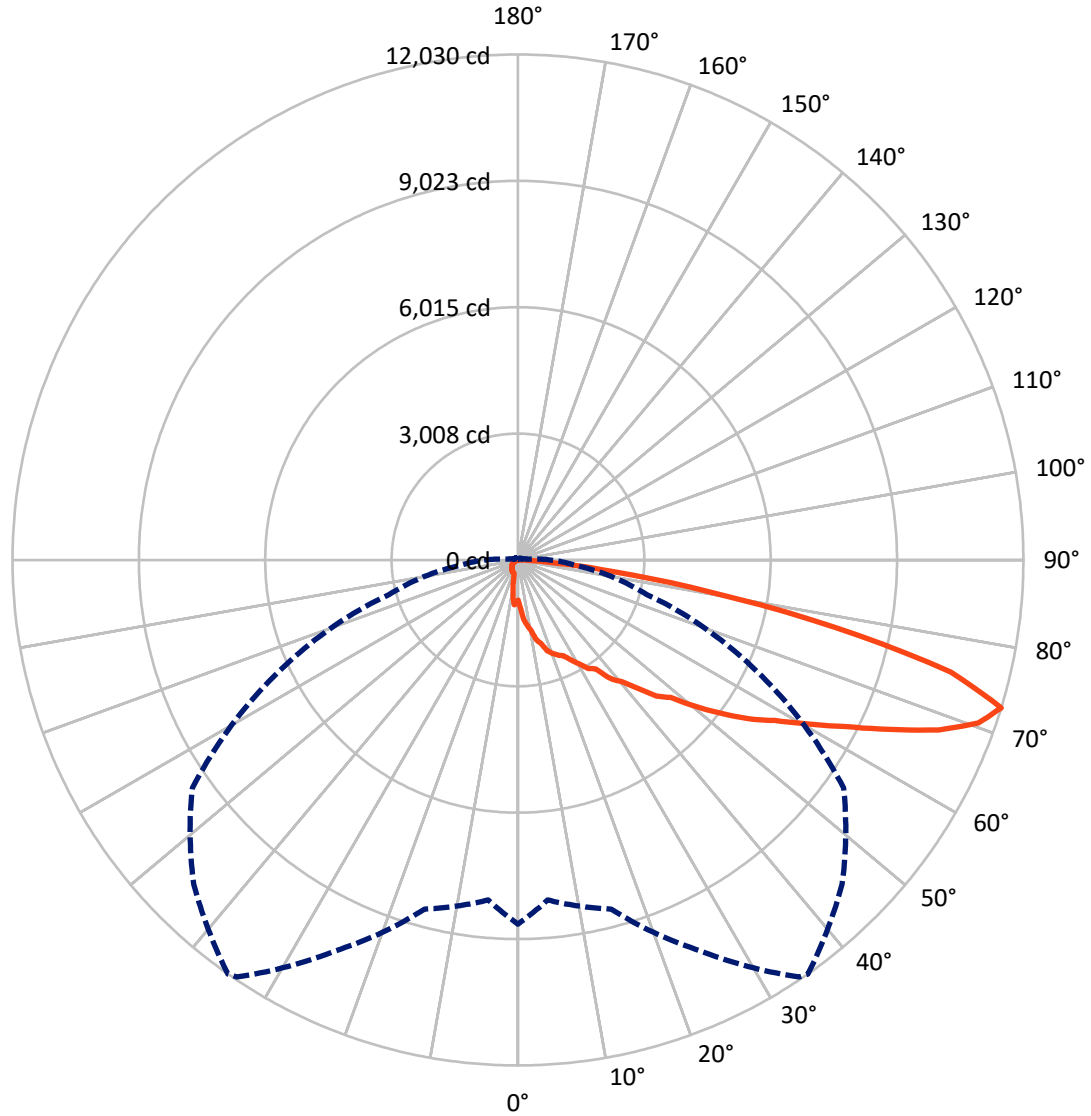
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 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	1253.3	0.0	1253.3
	% Fixture	7.8	0.0	7.8
Street Side	Lumens	14814.7	0.0	14814.7
	% Fixture	92.2	0.0	92.2
Total	Lumens	16068.0	0.0	16068.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.1	0.8
10°-20°	411.2	2.6
20°-30°	748.8	4.7
30°-40°	1291.7	8.0
40°-50°	2296.1	14.3
50°-60°	3426.4	21.3
60°-70°	4377.6	27.2
70°-80°	3045.6	19.0
80°-90°	348.4	2.2
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°	16068.0	100.0
0°-180°	16068.0	100.0

Coefficient of Utilization



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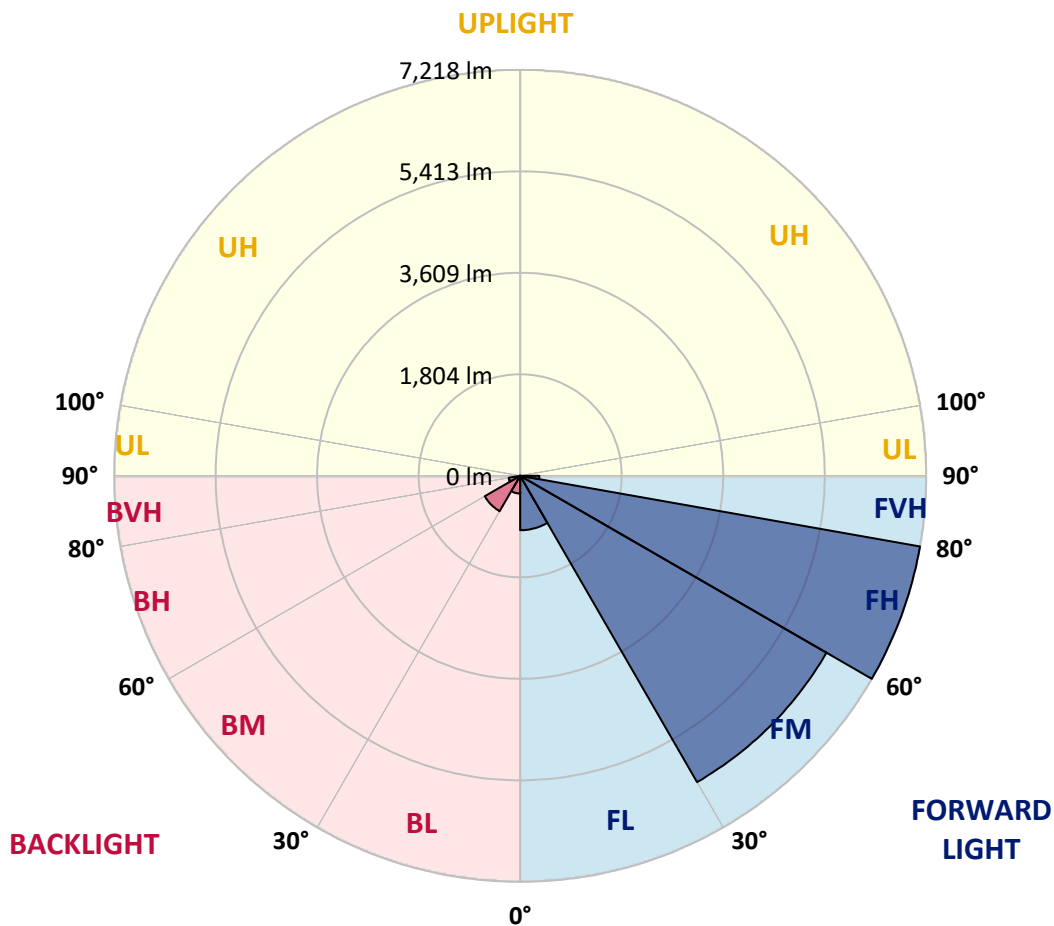
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	966.9	6.0			
FM (30°-60°)	6287.5	39.1			
FH (60°-80°)	7217.8	44.9			G3/7500
FVH (80°-90°)	342.5	2.1			G3/500
BL (0°-30°)	315.2	2.0	B1/500		
BM (30°-60°)	726.7	4.5	B1/1000		
BH (60°-80°)	205.5	1.3	B1/500		G1/500
BVH (80°-90°)	5.9	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	34°	35°	45°	55°	65°	75°	85°
0°	957.2	957.2	957.2	957.2	957.2	957.2	957.2	957.2	957.2	957.2	957.2
2.5°	1218.1	1170.4	1092.9	1098.5	1133.3	1140.5	1151.0	1123.6	1099.3	1056.5	1139.7
5°	1560.5	1491.9	1448.3	1434.5	1414.3	1416.0	1366.7	1384.5	1379.6	1411.1	1449.1
7.5°	1753.6	1715.6	1660.7	1645.4	1571.0	1563.0	1502.4	1584.0	1592.0	1580.7	1642.9
10°	1830.3	1780.3	1786.7	1729.4	1692.2	1701.9	1711.6	1718.1	1728.6	1739.1	1663.1
12.5°	1875.6	1884.5	1972.5	1912.7	1949.9	1949.9	2015.3	1945.8	1948.3	1872.3	1885.3
15°	2079.1	2128.4	2088.8	2088.0	2047.6	2058.1	2134.0	2079.1	2107.4	2084.8	1997.5
17.5°	2334.4	2344.1	2268.9	2235.8	2272.2	2273.0	2240.7	2238.2	2139.7	2306.1	2200.3
20°	2415.9	2470.9	2364.2	2235.0	2386.1	2378.8	2376.4	2338.4	2174.4	2405.4	2318.2
22.5°	2638.1	2559.7	2487.0	2402.2	2461.2	2461.2	2452.3	2369.1	2305.3	2396.6	2433.7
25°	2707.5	2717.2	2622.7	2595.3	2596.9	2524.2	2517.7	2482.2	2420.8	2576.7	2502.4
27.5°	2946.6	2942.6	2715.6	2792.3	2694.6	2695.4	2516.9	2596.9	2607.4	2585.6	2668.8
30°	3181.7	3247.1	2904.6	3001.6	2899.0	2868.3	2693.8	2764.9	2783.5	2758.4	2863.4
32.5°	3481.3	3577.5	3244.7	3149.4	2992.7	3079.9	2959.5	2791.5	2883.6	3107.4	3166.3
35°	3798.8	3845.6	3491.0	3357.8	3180.9	3180.1	3176.0	3189.8	3291.5	3543.5	3593.6
37.5°	4369.1	4258.4	3937.7	3632.4	3672.0	3583.9	3522.5	3587.2	3693.0	4108.2	4322.2
40°	4687.3	4607.3	4155.8	3974.9	3778.6	3810.9	3977.3	3970.0	4251.9	4686.5	5007.2
42.5°	4996.7	4920.7	4476.5	4330.3	4078.3	4166.3	4239.0	4331.1	4908.6	5609.7	5785.8
45°	5272.1	5049.2	4735.8	4741.4	4610.6	4621.1	4749.5	4834.3	5669.5	6388.4	6512.0
47.5°	5438.5	5255.1	4954.7	4949.0	4940.9	4891.7	5496.7	5574.2	6276.1	7129.9	7141.2
50°	5672.7	5443.3	5180.0	5184.9	5371.5	5475.7	6197.8	6189.7	6861.7	7748.6	7487.7
52.5°	5964.3	5684.0	5394.1	5609.7	5898.1	6067.7	6654.1	6893.2	7491.0	8137.1	7623.4
55°	6337.5	5986.9	5707.5	5983.7	6612.9	6678.4	7100.8	7605.7	8176.7	8533.7	7667.0
57.5°	6775.3	6356.9	6130.7	6575.8	7203.4	7205.0	7751.0	8364.9	8597.6	8695.3	7617.8
60°	7247.0	6759.1	6531.4	6932.0	7854.4	7920.7	8474.0	8784.1	9024.8	8776.9	7529.7
62.5°	7662.2	7123.4	6946.5	7417.5	8568.5	8725.2	9104.0	9059.6	9333.4	8879.5	7306.0
65°	8156.5	7595.2	7478.8	8174.3	9500.6	9716.3	9811.6	9548.3	9436.8	8800.3	6723.6
67.5°	8646.0	8121.0	8117.8	9013.5	10722.7	10797.0	10696.9	10237.3	9316.4	8102.4	5656.6
70°	8990.9	8427.1	8639.6	9932.7	11833.3	11625.0	11203.3	10562.8	8447.3	6209.9	3695.4
72.5°	8667.0	8123.4	8602.4	10259.9	11970.7	12030.4	10910.1	9461.8	6276.1	3176.0	1337.6
75°	6586.3	6253.5	7469.1	9102.4	10628.2	10641.9	9106.4	6673.5	3090.4	862.7	369.9
77.5°	3317.4	3211.6	4727.7	6461.9	7754.3	7731.7	6256.7	3575.0	994.3	286.7	186.6
80°	1679.3	1594.5	2012.1	3486.2	4604.9	4638.8	3572.6	1600.9	501.6	155.9	129.2
82.5°	1031.5	979.0	1100.9	1577.5	2235.0	2289.1	1355.4	1013.7	311.0	92.1	117.9
85°	199.5	210.0	632.5	790.0	892.5	871.5	401.4	834.4	93.7	54.9	85.6
87.5°	0.0	3.2	146.2	257.7	258.5	229.4	91.3	185.0	12.9	15.3	10.5
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°	957.2	957.2	957.2	957.2	957.2	957.2	957.2	957.2	957.2	957.2	957.2
2.5°	1153.4	1141.3	1040.4	1029.1	1031.5	1014.5	1008.9	973.3	964.4	1019.4	1029.1
5°	1432.9	1352.2	1258.5	1224.5	1172.0	1083.2	1070.3	1047.6	1022.6	1032.3	1025.0
7.5°	1604.2	1496.7	1396.6	1218.1	1070.3	941.0	920.0	881.2	842.5	843.3	868.3
10°	1631.6	1541.2	1403.0	1185.8	1016.9	855.4	714.8	613.1	567.0	525.8	538.0
12.5°	1790.8	1706.7	1452.3	1176.1	939.4	687.4	503.2	403.9	360.3	345.7	344.1
15°	1918.4	1852.1	1536.3	1146.2	767.4	483.8	360.3	331.2	323.1	336.8	332.8
17.5°	2108.2	1988.6	1527.4	1022.6	584.8	367.5	332.0	327.9	337.6	345.7	348.1
20°	2191.4	2019.3	1466.9	828.7	437.8	336.8	323.9	315.8	333.6	357.8	353.0
22.5°	2275.4	2071.8	1395.8	678.5	352.2	322.3	315.0	308.6	322.3	345.7	351.4
25°	2313.4	2155.9	1316.6	529.9	327.1	305.3	300.5	302.9	314.2	335.2	332.8
27.5°	2504.8	2165.5	1165.6	418.4	316.6	293.2	293.2	298.9	298.9	327.1	324.7
30°	2624.3	2329.5	1042.8	352.2	304.5	276.2	285.9	288.4	284.3	315.0	317.4
32.5°	2834.3	2374.7	923.2	323.1	285.1	273.8	272.2	273.8	277.1	306.9	307.7
35°	3157.4	2597.7	760.1	311.8	275.4	261.7	250.4	259.3	267.4	289.2	293.2
37.5°	3789.1	2826.3	619.5	302.9	270.6	250.4	246.4	244.7	259.3	284.3	292.4
40°	4300.4	3230.9	504.0	295.6	260.9	243.9	233.4	234.2	247.2	265.7	277.9
42.5°	5024.1	3523.3	427.3	284.3	247.2	230.2	218.1	225.4	231.0	250.4	258.5
45°	5628.3	3750.3	376.4	277.1	233.4	217.3	207.6	215.7	210.0	219.7	231.0
47.5°	6108.9	3948.2	338.4	259.3	224.6	210.0	197.9	195.5	185.8	188.2	198.7
50°	6373.0	3915.1	306.9	241.5	213.2	202.7	185.8	168.8	155.9	155.1	161.5
52.5°	6466.7	3738.2	281.1	226.2	199.5	186.6	167.2	143.8	130.9	126.8	132.5
55°	6492.6	3483.8	257.7	209.2	186.6	166.4	146.2	121.2	107.4	101.0	106.6
57.5°	6408.6	3092.0	235.1	193.0	171.2	147.0	125.2	99.4	86.4	78.4	83.2
60°	6201.0	2594.5	214.9	172.9	155.1	130.0	105.8	80.0	66.2	59.0	61.4
62.5°	5741.4	2033.9	193.0	154.3	138.1	113.9	88.9	63.0	50.1	43.6	44.4
65°	5041.9	1516.1	168.0	136.5	122.8	98.5	71.1	48.5	38.0	32.3	31.5
67.5°	4016.9	1027.4	143.0	117.9	109.0	83.2	56.5	38.0	29.9	25.8	24.2
70°	2361.0	517.8	118.7	101.8	93.7	69.5	44.4	30.7	27.5	24.2	22.6
72.5°	778.7	223.7	92.9	84.0	77.5	55.7	34.7	28.3	26.7	23.4	21.8
75°	271.4	129.2	68.7	64.6	61.4	42.0	29.1	25.8	25.8	22.6	20.2
77.5°	177.7	100.2	50.9	46.8	46.0	30.7	25.0	24.2	22.6	18.6	15.3
80°	147.8	56.5	35.5	33.1	32.3	19.4	20.2	17.8	13.7	8.1	3.2
82.5°	136.5	33.9	18.6	20.2	18.6	7.3	11.3	9.7	7.3	3.2	0.0
85°	80.0	15.3	10.5	10.5	8.1	1.6	5.7	5.7	3.2	0.8	0.0
87.5°	8.9	7.3	5.7	5.7	4.0	0.0	2.4	1.6	0.0	0.0	0.0
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)