

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: P596813

Luminaire Tested: **MSA-SA4D-827-U-SL4-HSS**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596813
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-21)
Test Lab: INNOVATIONS CENTER
Issue Date: 5/27/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-827-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: 15994 lumens
Efficiency: N/A
Efficacy: 61.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

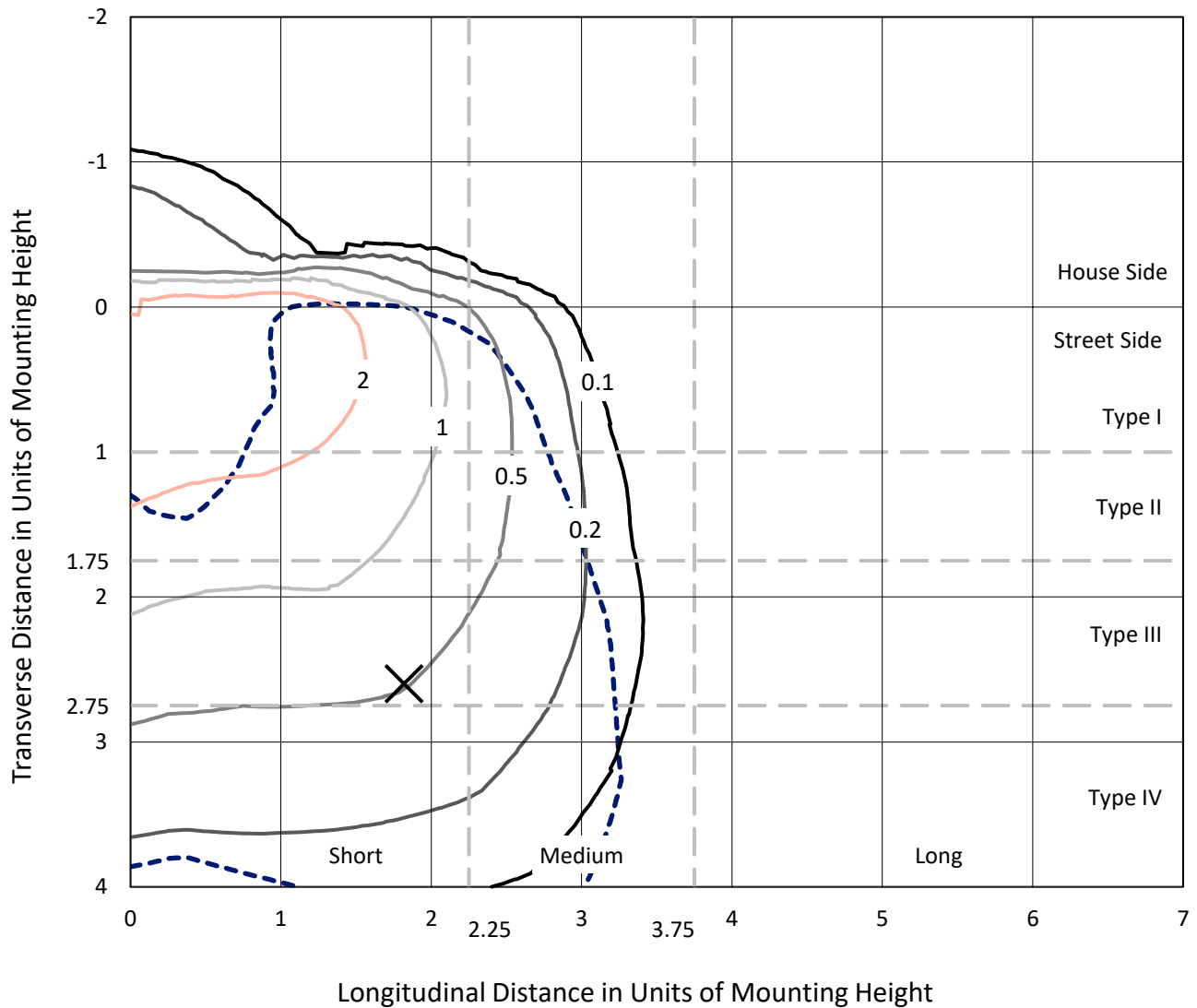
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

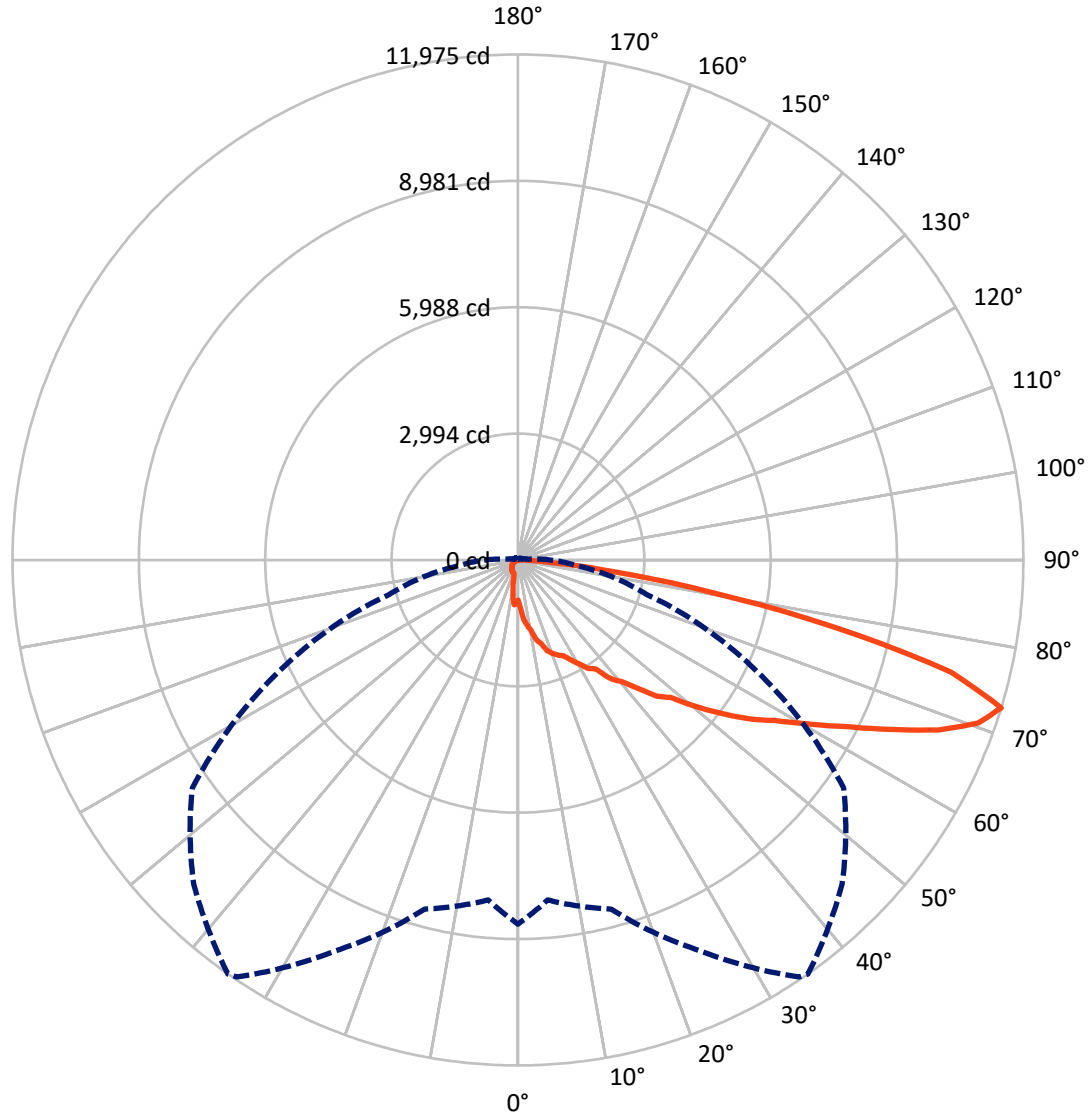
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 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	1247.5	0.0	1247.5
	% Fixture	7.8	0.0	7.8
Street Side	Lumens	14746.5	0.0	14746.5
	% Fixture	92.2	0.0	92.2
Total	Lumens	15994.0	0.0	15994.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.5	0.8
10°-20°	409.3	2.6
20°-30°	745.4	4.7
30°-40°	1285.7	8.0
40°-50°	2285.6	14.3
50°-60°	3410.6	21.3
60°-70°	4357.4	27.2
70°-80°	3031.6	19.0
80°-90°	346.8	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°	15994.0	100.0
0°-180°	15994.0	100.0

Coefficient of Utilization



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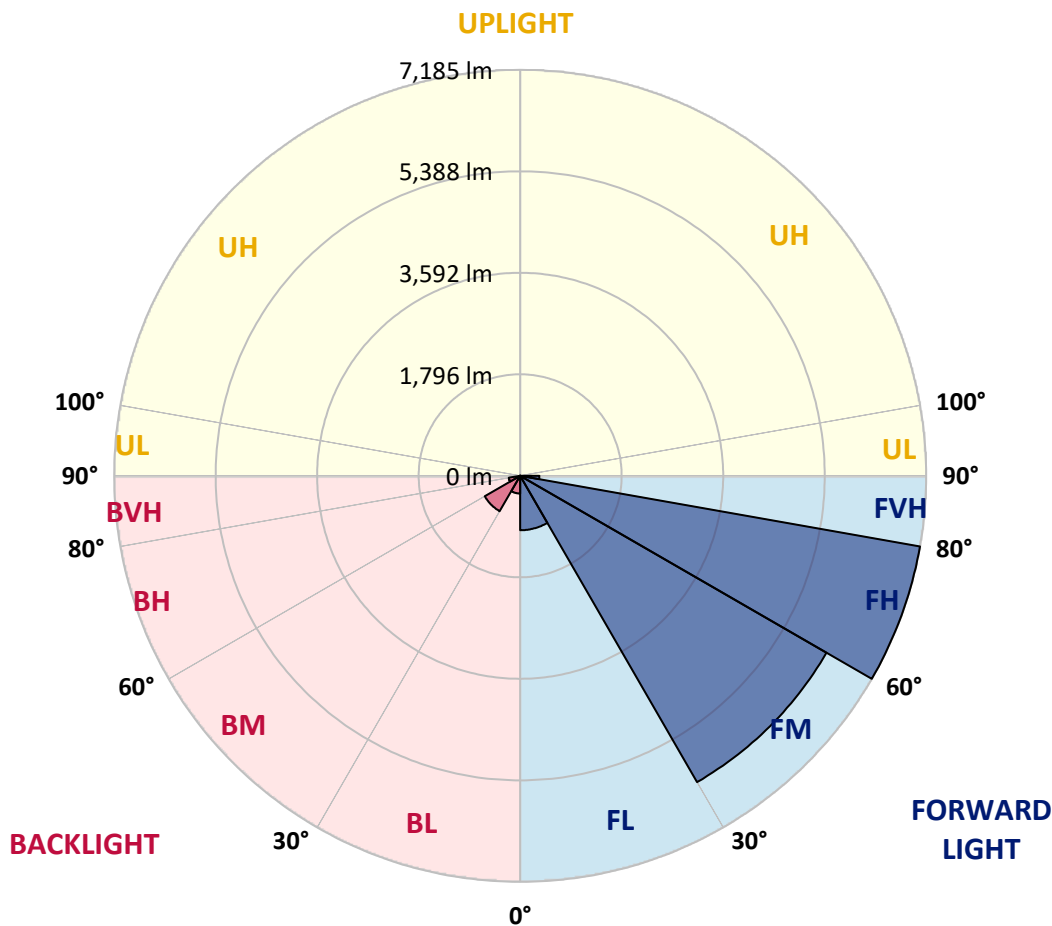
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	962.5	6.0			
FM (30°-60°)	6258.5	39.1			
FH (60°-80°)	7184.5	44.9			G3/7500
FVH (80°-90°)	341.0	2.1			G3/500
BL (0°-30°)	313.8	2.0	B1/500		
BM (30°-60°)	723.4	4.5	B1/1000		
BH (60°-80°)	204.5	1.3	B1/500		G1/500
BVH (80°-90°)	5.8	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°	952.8	952.8	952.8	952.8	952.8	952.8	952.8	952.8	952.8	952.8	952.8
2.5°	1212.5	1165.0	1087.8	1093.5	1128.0	1135.3	1145.7	1118.4	1094.3	1051.7	1134.5
5°	1553.4	1485.0	1441.6	1427.9	1407.8	1409.4	1360.4	1378.1	1373.3	1404.6	1442.4
7.5°	1745.5	1707.7	1653.1	1637.8	1563.8	1555.8	1495.5	1576.7	1584.7	1573.5	1635.4
10°	1821.9	1772.1	1778.5	1721.4	1684.4	1694.1	1703.7	1710.1	1720.6	1731.0	1655.5
12.5°	1866.9	1875.8	1963.4	1903.9	1940.9	1940.9	2006.0	1936.9	1939.3	1863.7	1876.6
15°	2069.5	2118.6	2079.2	2078.4	2038.2	2048.6	2124.2	2069.5	2097.7	2075.2	1988.3
17.5°	2323.6	2333.3	2258.5	2225.5	2261.7	2262.5	2230.3	2227.9	2129.8	2295.5	2190.1
20°	2404.8	2459.5	2353.4	2224.7	2375.1	2367.8	2365.4	2327.6	2164.4	2394.4	2307.5
22.5°	2625.9	2547.9	2475.6	2391.1	2449.8	2449.8	2441.0	2358.2	2294.7	2385.5	2422.5
25°	2695.1	2704.7	2610.6	2583.3	2584.9	2512.6	2506.1	2470.7	2409.6	2564.8	2490.8
27.5°	2933.1	2929.0	2703.1	2779.5	2682.2	2683.0	2505.3	2584.9	2595.4	2573.7	2656.5
30°	3167.0	3232.1	2891.2	2987.7	2885.6	2855.1	2681.4	2752.2	2770.6	2745.7	2850.2
32.5°	3465.3	3561.0	3229.7	3134.9	2978.9	3065.7	2945.9	2778.7	2870.3	3093.1	3151.7
35°	3781.3	3827.9	3475.0	3342.3	3166.2	3165.4	3161.4	3175.1	3276.4	3527.2	3577.1
37.5°	4348.9	4238.8	3919.6	3615.7	3655.1	3567.4	3506.3	3570.6	3676.0	4089.2	4302.3
40°	4665.7	4586.1	4136.7	3956.6	3761.2	3793.4	3959.0	3951.7	4232.3	4664.9	4984.1
42.5°	4973.7	4898.1	4455.9	4310.3	4059.5	4147.1	4219.5	4311.1	4886.0	5583.9	5759.2
45°	5247.8	5025.9	4714.0	4719.6	4589.3	4599.8	4727.6	4812.0	5643.4	6359.0	6482.0
47.5°	5413.4	5230.9	4931.8	4926.2	4918.2	4869.1	5471.3	5548.5	6247.2	7097.1	7108.3
50°	5646.6	5418.3	5156.2	5161.0	5346.7	5450.4	6169.2	6161.2	6830.1	7712.9	7453.2
52.5°	5936.9	5657.9	5369.2	5583.9	5870.9	6039.8	6623.5	6861.5	7456.5	8099.7	7588.3
55°	6308.3	5959.4	5681.2	5956.2	6582.5	6647.6	7068.1	7570.6	8139.1	8494.4	7631.7
57.5°	6744.1	6327.6	6102.5	6545.5	7170.2	7171.8	7715.3	8326.4	8558.0	8655.2	7582.7
60°	7213.6	6728.0	6501.3	6900.1	7818.3	7884.2	8434.9	8743.7	8983.3	8736.5	7495.0
62.5°	7626.9	7090.6	6914.5	7383.3	8529.0	8685.0	9062.1	9017.9	9290.4	8838.6	7272.3
65°	8119.0	7560.2	7444.4	8136.7	9456.9	9671.5	9766.4	9504.3	9393.3	8759.8	6692.6
67.5°	8606.2	8083.6	8080.4	8972.0	10673.3	10747.3	10647.6	10190.1	9273.5	8065.1	5630.5
70°	8949.5	8388.3	8599.8	9887.0	11778.9	11571.4	11151.7	10514.1	8408.4	6181.3	3678.4
72.5°	8627.1	8086.0	8562.8	10212.6	11915.5	11975.0	10859.9	9418.3	6247.2	3161.4	1331.5
75°	6556.0	6224.7	7434.7	9060.5	10579.3	10592.9	9064.5	6642.8	3076.2	858.7	368.2
77.5°	3302.1	3196.8	4705.9	6432.1	7718.6	7696.1	6227.9	3558.6	989.7	285.4	185.7
80°	1671.6	1587.1	2002.8	3470.1	4583.7	4617.5	3556.2	1593.6	499.3	155.2	128.6
82.5°	1026.7	974.5	1095.9	1570.2	2224.7	2278.6	1349.1	1009.0	309.5	91.7	117.4
85°	198.6	209.0	629.5	786.3	888.4	867.5	399.6	830.5	93.3	54.7	85.2
87.5°	0.0	3.2	145.5	256.5	257.3	228.3	90.9	184.1	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°	952.8	952.8	952.8	952.8	952.8	952.8	952.8	952.8	952.8	952.8	952.8
2.5°	1148.1	1136.1	1035.6	1024.3	1026.7	1009.8	1004.2	968.8	960.0	1014.7	1024.3
5°	1426.3	1345.9	1252.7	1218.9	1166.6	1078.2	1065.3	1042.8	1017.9	1027.5	1020.3
7.5°	1596.8	1489.8	1390.1	1212.5	1065.3	936.7	915.8	877.2	838.6	839.4	864.3
10°	1624.1	1534.1	1396.6	1180.3	1012.3	851.5	711.6	610.2	564.4	523.4	535.5
12.5°	1782.5	1698.9	1445.6	1170.6	935.1	684.2	500.9	402.0	358.6	344.1	342.5
15°	1909.5	1843.6	1529.2	1140.9	763.8	481.6	358.6	329.6	321.6	335.3	331.3
17.5°	2098.5	1979.5	1520.4	1017.9	582.1	365.8	330.5	326.4	336.1	344.1	346.5
20°	2181.3	2010.0	1460.1	824.9	435.8	335.3	322.4	314.4	332.1	356.2	351.4
22.5°	2264.9	2062.3	1389.3	675.4	350.6	320.8	313.6	307.1	320.8	344.1	349.7
25°	2302.7	2145.9	1310.5	527.4	325.6	303.9	299.1	301.5	312.8	333.7	331.3
27.5°	2493.3	2155.6	1160.2	416.5	315.2	291.9	291.9	297.5	297.5	325.6	323.2
30°	2612.3	2318.8	1038.0	350.6	303.1	275.0	284.6	287.0	283.0	313.6	316.0
32.5°	2821.3	2363.8	919.0	321.6	283.8	272.6	271.0	272.6	275.8	305.5	306.3
35°	3142.9	2585.7	756.6	310.4	274.2	260.5	249.2	258.1	266.1	287.8	291.9
37.5°	3771.6	2813.3	616.7	301.5	269.3	249.2	245.2	243.6	258.1	283.0	291.1
40°	4280.6	3216.1	501.7	294.3	259.7	242.8	232.4	233.2	246.0	264.5	276.6
42.5°	5001.0	3507.1	425.3	283.0	246.0	229.1	217.1	224.3	229.9	249.2	257.3
45°	5602.4	3733.1	374.7	275.8	232.4	216.3	206.6	214.7	209.0	218.7	229.9
47.5°	6080.8	3930.0	336.9	258.1	223.5	209.0	197.0	194.6	184.9	187.3	197.8
50°	6343.7	3897.1	305.5	240.4	212.3	201.8	184.9	168.0	155.2	154.4	160.8
52.5°	6437.0	3721.0	279.8	225.1	198.6	185.7	166.4	143.1	130.3	126.2	131.9
55°	6462.7	3467.7	256.5	208.2	185.7	165.6	145.5	120.6	106.9	100.5	106.1
57.5°	6379.1	3077.8	234.0	192.2	170.5	146.3	124.6	98.9	86.0	78.0	82.8
60°	6172.4	2582.5	213.9	172.1	154.4	129.4	105.3	79.6	65.9	58.7	61.1
62.5°	5715.0	2024.5	192.2	153.6	137.5	113.4	88.4	62.7	49.8	43.4	44.2
65°	5018.7	1509.1	167.2	135.9	122.2	98.1	70.8	48.2	37.8	32.2	31.4
67.5°	3998.4	1022.7	142.3	117.4	108.5	82.8	56.3	37.8	29.7	25.7	24.1
70°	2350.1	515.4	118.2	101.3	93.3	69.1	44.2	30.6	27.3	24.1	22.5
72.5°	775.1	222.7	92.5	83.6	77.2	55.5	34.6	28.1	26.5	23.3	21.7
75°	270.1	128.6	68.3	64.3	61.1	41.8	28.9	25.7	25.7	22.5	20.1
77.5°	176.9	99.7	50.7	46.6	45.8	30.6	24.9	24.1	22.5	18.5	15.3
80°	147.1	56.3	35.4	33.0	32.2	19.3	20.1	17.7	13.7	8.0	3.2
82.5°	135.9	33.8	18.5	20.1	18.5	7.2	11.3	9.6	7.2	3.2	0.0
85°	79.6	15.3	10.5	10.5	8.0	1.6	5.6	5.6	3.2	0.8	0.0
87.5°	8.8	7.2	5.6	5.6	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)