

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: P368698

Luminaire Tested: **MSA-SA4D-830-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368698
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-SA4D-830-U-SL4
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 20363 lumens
Efficiency: N/A
Efficacy: 78.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

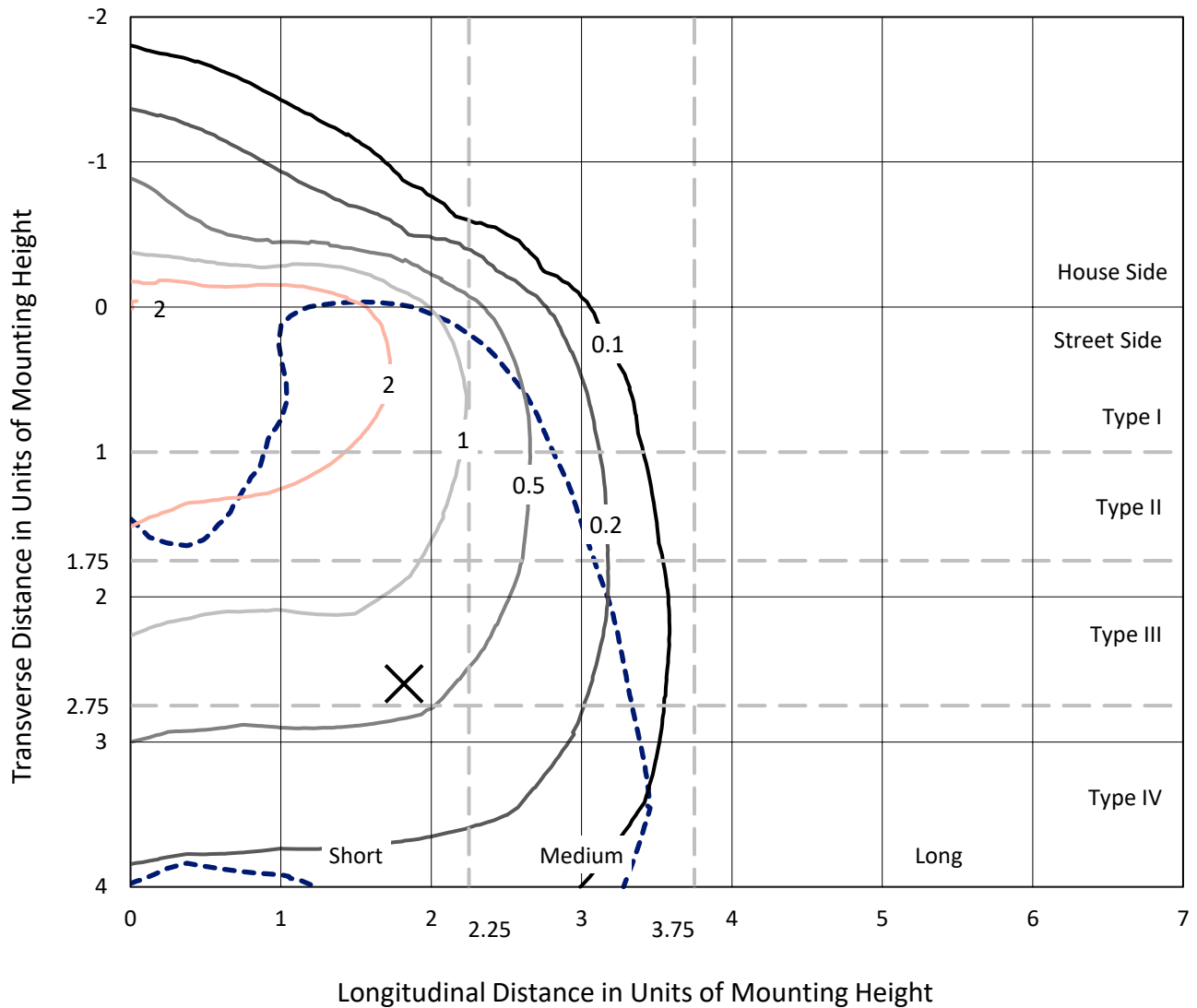
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P368698
 CATALOG NUMBER: MSA-SA4D-830-U-SL4

Iso-Footcandle Lines of Horizontal Illumination

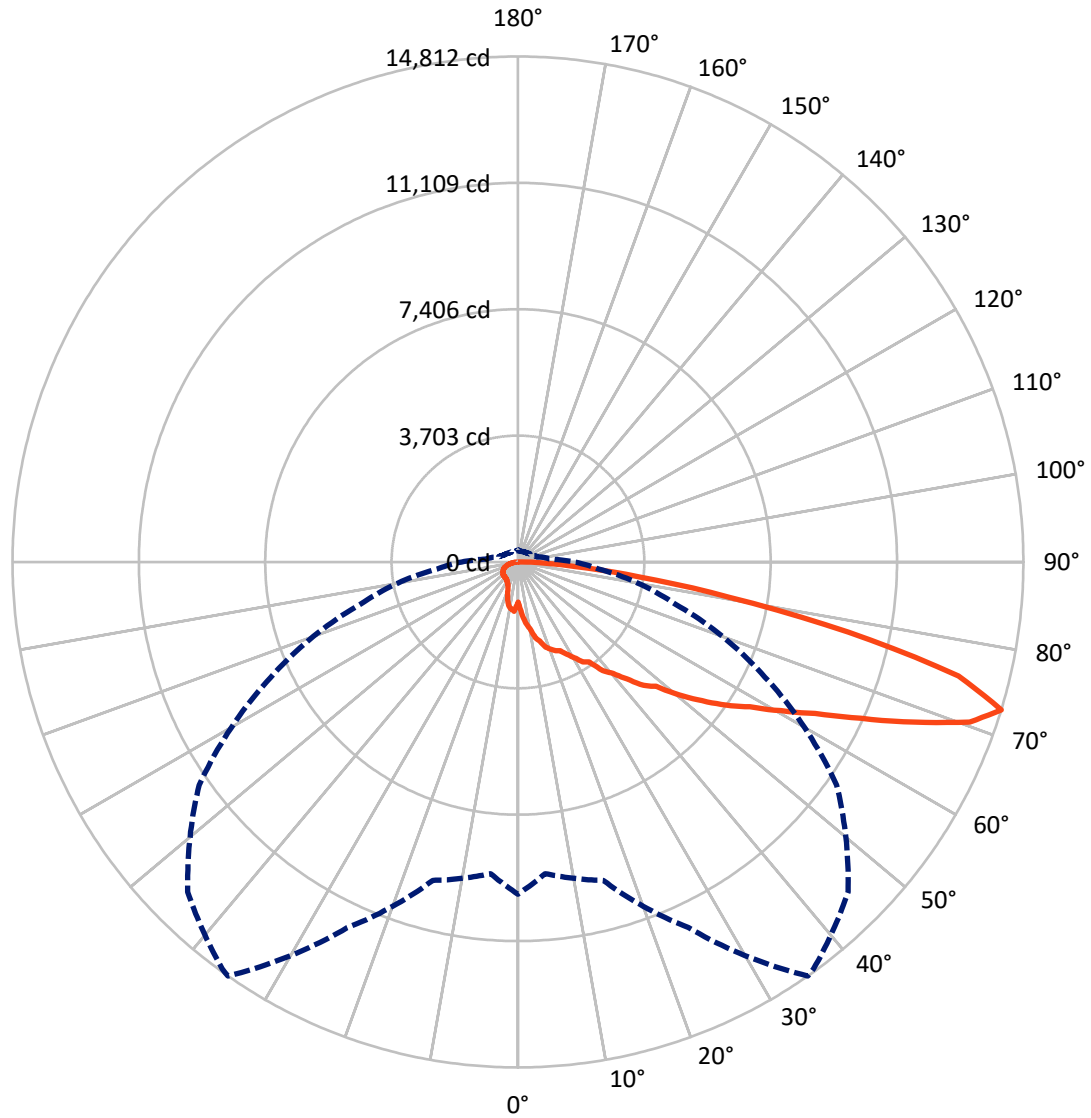
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.1 fc
 Type IV - Short - N/A

REPORT NUMBER: P368698
CATALOG NUMBER: MSA-SA4D-830-U-SL4

Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

REPORT NUMBER: P368698

CATALOG NUMBER: MSA-SA4D-830-U-SL4

FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2732.6	0.0	2732.6
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	17630.3	0.0	17630.3
	% Fixture	86.6	0.0	86.6
Total	Lumens	20363.0	0.0	20363.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.4	0.8
10°-20°	550.9	2.7
20°-30°	957.3	4.7
30°-40°	1599.9	7.9
40°-50°	2776.9	13.6
50°-60°	4197.9	20.6
60°-70°	5438.3	26.7
70°-80°	4012.9	19.7
80°-90°	672.6	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°	20363.0	100.0
0°-180°	20363.0	100.0

Coefficient of Utilization



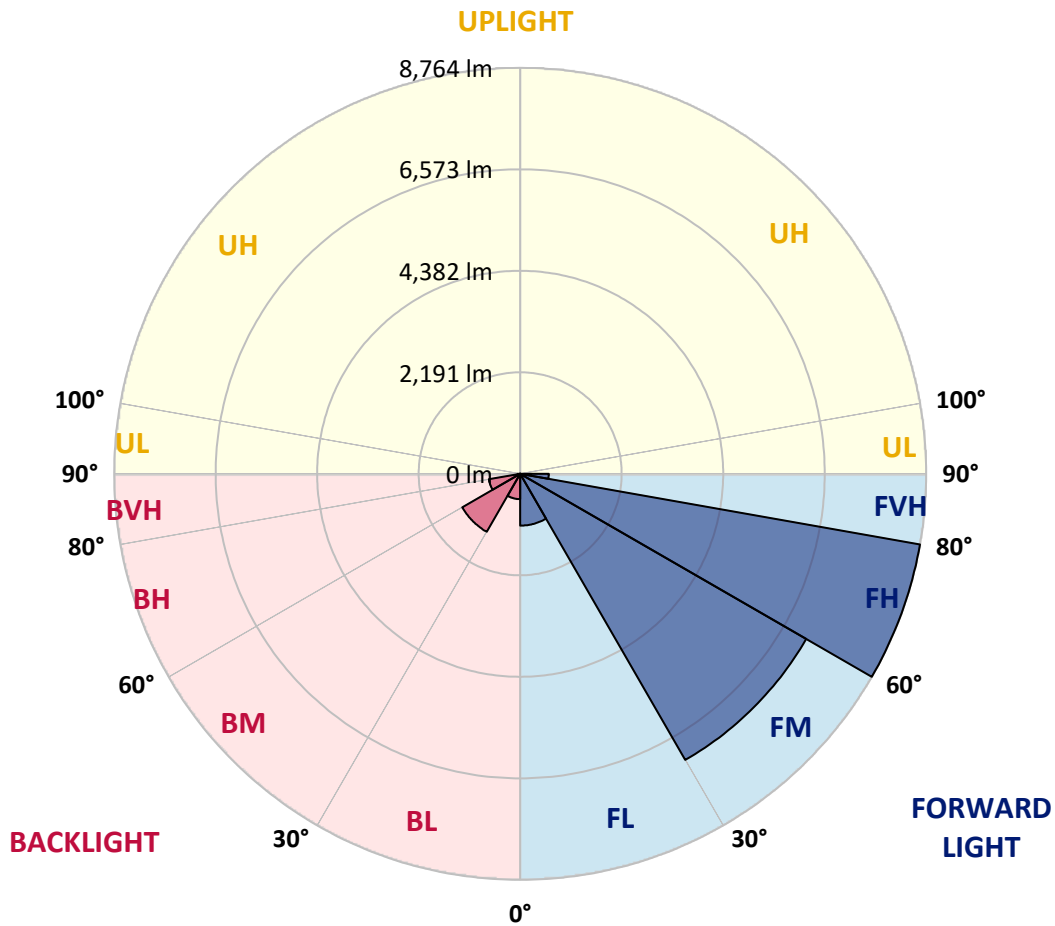
REPORT NUMBER: P368698
 CATALOG NUMBER: MSA-SA4D-830-U-SL4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1118.4	5.5			
FM (30°-60°)	7130.4	35.0			
FH (60°-80°)	8764.1	43.0			G4/12000
FVH (80°-90°)	617.5	3.0			G4/750
BL (0°-30°)	546.2	2.7	B2/1000		
BM (30°-60°)	1444.3	7.1	B2/2500		
BH (60°-80°)	687.1	3.4	B2/1000		G2/1000
BVH (80°-90°)	55.1	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





REPORT NUMBER: P368698

CATALOG NUMBER: MSA-SA4D-830-U-SL4

CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8
2.5°	1467.9	1397.5	1336.7	1334.1	1390.6	1412.3	1403.6	1384.5	1361.9	1314.1	1418.4
5°	1839.1	1738.2	1719.1	1696.5	1645.2	1659.1	1575.7	1639.2	1659.1	1705.2	1774.7
7.5°	2058.1	1999.0	1952.9	1933.8	1845.1	1834.7	1773.0	1863.4	1901.6	1895.5	1999.0
10°	2144.1	2090.2	2093.7	2031.1	2002.4	2014.6	2021.6	2023.3	2046.8	2065.9	2013.7
12.5°	2188.4	2209.3	2285.8	2243.2	2279.7	2294.5	2367.5	2292.7	2295.3	2197.1	2251.0
15°	2411.8	2464.0	2419.6	2417.9	2406.6	2430.9	2493.5	2443.1	2482.2	2450.9	2381.4
17.5°	2681.2	2696.9	2611.7	2576.9	2622.1	2614.3	2598.7	2606.5	2509.1	2689.9	2604.7
20°	2763.8	2825.5	2713.4	2576.9	2726.4	2746.4	2742.9	2709.0	2542.2	2802.9	2720.3
22.5°	3003.7	2920.2	2831.6	2744.7	2821.2	2832.5	2813.3	2732.5	2676.9	2776.0	2841.1
25°	3112.3	3092.3	2979.3	2968.9	2884.6	2844.6	2877.7	2854.2	2799.4	2975.9	2903.7
27.5°	3360.9	3337.4	3077.5	3184.5	3061.9	3051.5	2876.8	2955.0	3009.8	2996.7	3104.5
30°	3642.5	3669.4	3289.6	3396.5	3254.8	3235.7	3060.2	3159.2	3196.6	3208.8	3343.5
32.5°	3955.4	4029.2	3652.0	3564.3	3488.6	3501.7	3353.1	3172.3	3317.4	3601.6	3659.9
35°	4294.3	4324.7	3929.3	3797.2	3599.9	3586.0	3588.6	3611.2	3758.1	4082.3	4127.4
37.5°	4920.9	4780.2	4433.4	4098.8	4032.7	3903.2	3991.0	4060.5	4207.4	4704.5	4894.0
40°	5306.8	5202.5	4674.1	4480.3	4297.8	4310.0	4474.2	4473.4	4820.1	5332.9	5622.3
42.5°	5664.0	5550.2	5052.2	4857.5	4684.5	4727.1	4774.1	4856.6	5521.5	6348.0	6480.1
45°	5951.7	5702.3	5344.2	5300.8	5158.2	5101.7	5300.8	5432.9	6360.2	7169.4	7245.8
47.5°	6147.3	5942.2	5591.9	5553.7	5448.5	5586.7	6129.9	6215.1	7010.3	7994.2	7988.1
50°	6444.5	6163.8	5847.4	5827.4	6123.8	6197.7	6860.0	6851.3	7643.0	8679.0	8535.6
52.5°	6786.9	6433.2	6089.9	6304.6	6756.5	6793.0	7367.5	7601.3	8334.0	9339.5	8965.0
55°	7180.7	6785.2	6453.2	6740.0	7412.7	7304.9	7886.4	8457.4	9198.8	10035.7	9275.2
57.5°	7668.2	7188.5	6919.9	7356.2	8011.5	8107.1	8629.5	9348.2	9894.9	10468.5	9501.2
60°	8182.8	7619.6	7373.6	7789.0	8850.2	8959.7	9470.8	10088.7	10675.4	10876.2	9458.6
62.5°	8673.8	8064.6	7842.1	8354.8	9780.2	10051.4	10428.6	10822.3	11324.6	10975.2	8943.2
65°	9220.5	8610.4	8470.4	9239.6	11041.3	11310.7	11803.5	11685.3	11547.1	10624.1	8090.6
67.5°	9799.3	9179.6	9205.7	10266.0	12528.3	12574.4	13331.4	12545.7	11285.5	9694.1	6659.2
70°	10110.5	9476.0	9744.6	11360.2	14041.5	13975.4	14130.1	12776.9	10219.1	7663.0	4589.8
72.5°	9733.3	9167.5	9659.4	11820.9	14811.5	14740.3	13681.7	11404.6	7989.8	4765.4	2379.6
75°	8241.0	7695.2	8447.8	10537.2	13334.0	13400.1	11643.6	8480.9	4574.2	1916.4	988.2
77.5°	5599.7	5318.1	5963.0	7854.2	9904.5	10133.1	8639.0	4959.2	1920.8	793.5	598.0
80°	2959.3	2825.5	3301.8	4524.6	6271.6	6441.9	5080.0	2470.0	983.8	513.6	426.7
82.5°	1607.9	1551.4	1806.9	2326.6	3563.4	3712.0	2634.3	1640.9	663.1	321.6	260.7
85°	1080.3	1058.6	1228.1	1249.8	1685.2	1733.9	1380.2	1263.7	398.1	157.3	172.1
87.5°	540.6	518.9	646.6	571.0	643.1	644.0	632.7	806.5	100.8	52.1	31.3
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: P368698
 CATALOG NUMBER: MSA-SA4D-830-U-SL4

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8	1176.8
2.5°	1420.1	1389.7	1284.6	1283.7	1299.3	1288.9	1296.7	1254.1	1235.9	1319.3	1315.0
5°	1765.2	1673.9	1586.1	1555.7	1520.1	1442.7	1447.1	1448.0	1434.9	1484.5	1487.9
7.5°	1967.7	1858.2	1777.3	1615.7	1488.8	1389.7	1402.8	1417.5	1402.8	1468.8	1493.1
10°	1997.2	1910.3	1813.9	1633.9	1549.6	1460.1	1369.7	1289.8	1280.2	1249.8	1259.4
12.5°	2172.8	2100.7	1899.0	1701.7	1603.5	1466.2	1301.1	1209.8	1133.3	1146.4	1122.0
15°	2317.1	2265.8	2024.2	1766.0	1531.4	1361.0	1185.5	1060.3	991.7	983.8	959.5
17.5°	2512.6	2439.6	2035.5	1721.7	1438.4	1234.1	1036.0	894.3	864.8	852.6	840.4
20°	2606.5	2475.2	1994.6	1582.7	1329.8	1082.9	888.2	766.6	757.9	779.6	775.3
22.5°	2688.2	2504.8	1958.1	1498.4	1160.3	930.0	787.4	707.5	697.9	725.7	730.9
25°	2736.0	2589.1	1918.1	1412.3	1055.1	816.1	711.8	666.6	668.4	704.9	700.5
27.5°	2951.5	2618.7	1817.3	1310.6	934.3	731.8	675.3	651.8	642.3	692.7	697.0
30°	3087.1	2811.6	1794.7	1202.9	844.8	670.1	642.3	632.7	631.0	691.8	696.2
32.5°	3339.2	2875.9	1805.2	1085.5	764.0	651.0	617.9	617.1	634.5	692.7	699.6
35°	3688.5	3147.1	1754.8	1018.6	719.6	621.4	598.8	605.8	635.3	698.8	708.3
37.5°	4369.9	3402.6	1770.4	956.0	704.9	611.9	593.6	598.0	645.8	714.4	740.5
40°	4909.7	3865.8	1746.1	924.7	684.9	610.1	582.3	599.7	644.9	723.1	746.6
42.5°	5691.9	4235.2	1748.7	893.5	684.0	603.2	580.6	601.4	643.1	715.3	747.4
45°	6362.8	4566.3	1786.0	875.2	675.3	614.5	578.0	604.0	631.8	687.5	723.1
47.5°	6913.0	4935.7	1824.3	857.8	671.8	624.9	575.4	585.8	612.7	656.2	688.3
50°	7361.4	5195.6	1873.0	854.3	671.8	619.7	568.4	567.5	590.1	624.9	655.3
52.5°	7710.8	5379.0	1906.0	858.7	671.8	599.7	559.7	552.8	566.7	591.9	622.3
55°	7963.7	5435.5	1879.0	870.0	671.0	581.4	544.1	538.0	544.9	562.3	591.0
57.5°	8065.4	5286.8	1718.2	850.0	671.0	568.4	524.9	518.0	524.9	538.0	566.7
60°	7810.8	4808.8	1486.2	798.7	657.9	551.0	503.2	498.9	509.3	520.6	548.4
62.5°	7172.0	4173.5	1238.5	737.9	631.0	536.2	482.4	483.2	499.7	515.4	543.2
65°	6179.4	3405.2	1032.5	676.2	597.1	512.8	460.6	466.7	490.2	511.0	538.9
67.5°	4862.7	2523.1	869.1	616.2	549.3	474.5	436.3	438.0	454.5	474.5	501.5
70°	3250.5	1605.3	714.4	545.8	486.7	425.0	398.9	392.8	388.5	405.9	429.3
72.5°	1648.7	948.2	586.7	466.7	418.9	371.1	351.1	335.5	323.3	333.7	352.0
75°	863.9	663.1	473.7	387.6	345.9	315.5	300.7	279.9	271.2	277.2	290.3
77.5°	611.0	518.9	383.3	306.8	281.6	250.3	252.9	231.2	224.2	227.7	241.6
80°	469.3	411.1	294.6	232.1	217.3	186.9	195.6	182.5	173.8	172.1	182.5
82.5°	319.8	309.4	209.5	162.5	152.1	130.4	142.5	137.3	126.0	119.1	124.3
85°	215.5	205.1	127.8	93.9	89.5	67.8	86.9	83.4	73.9	63.4	64.3
87.5°	37.4	68.7	36.5	23.5	21.7	7.8	20.0	19.1	17.4	8.7	7.0
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)