

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: P368412

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

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368412
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-SA4B-760-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: 18925 lumens
Efficiency: N/A
Efficacy: 110.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

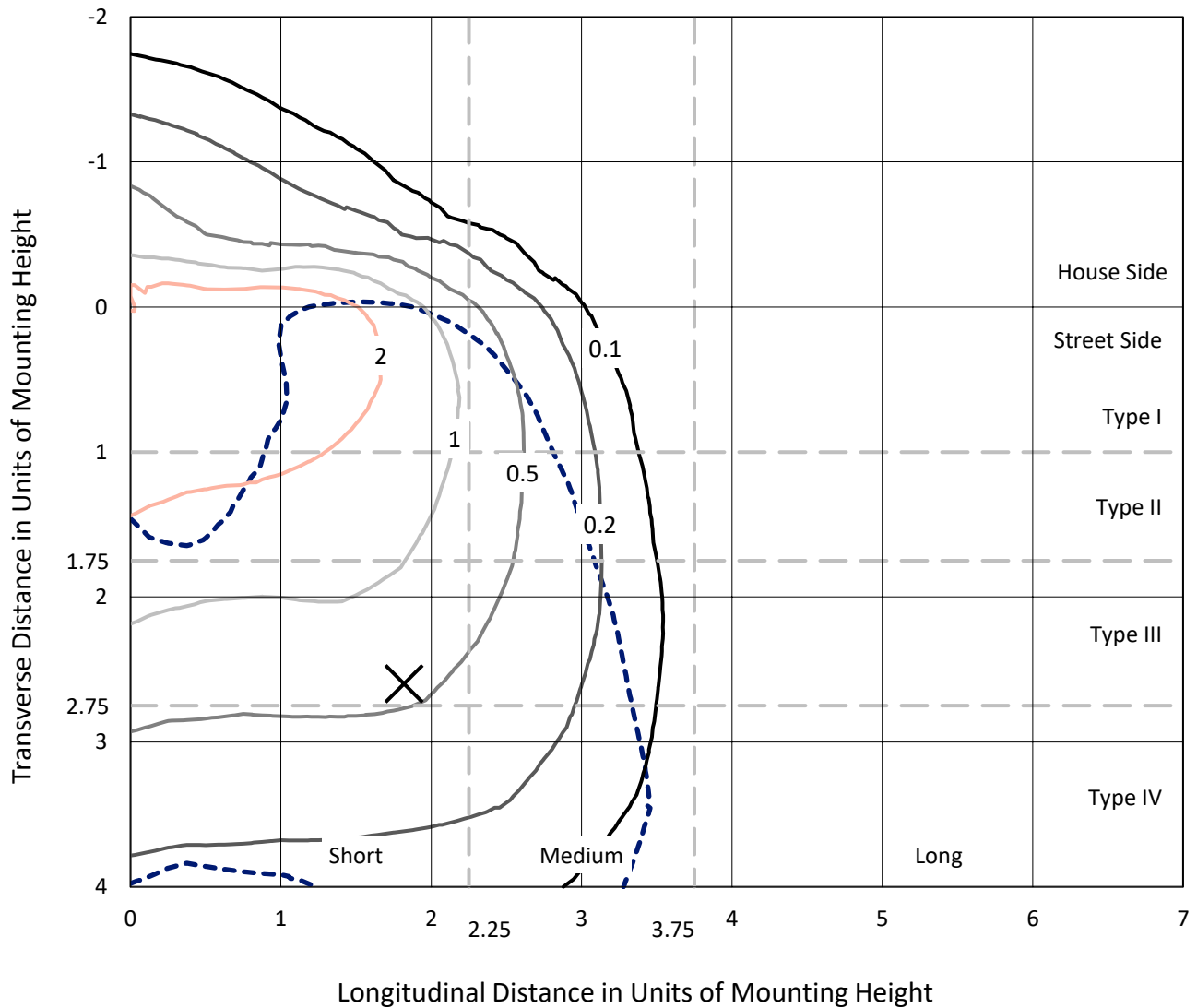
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

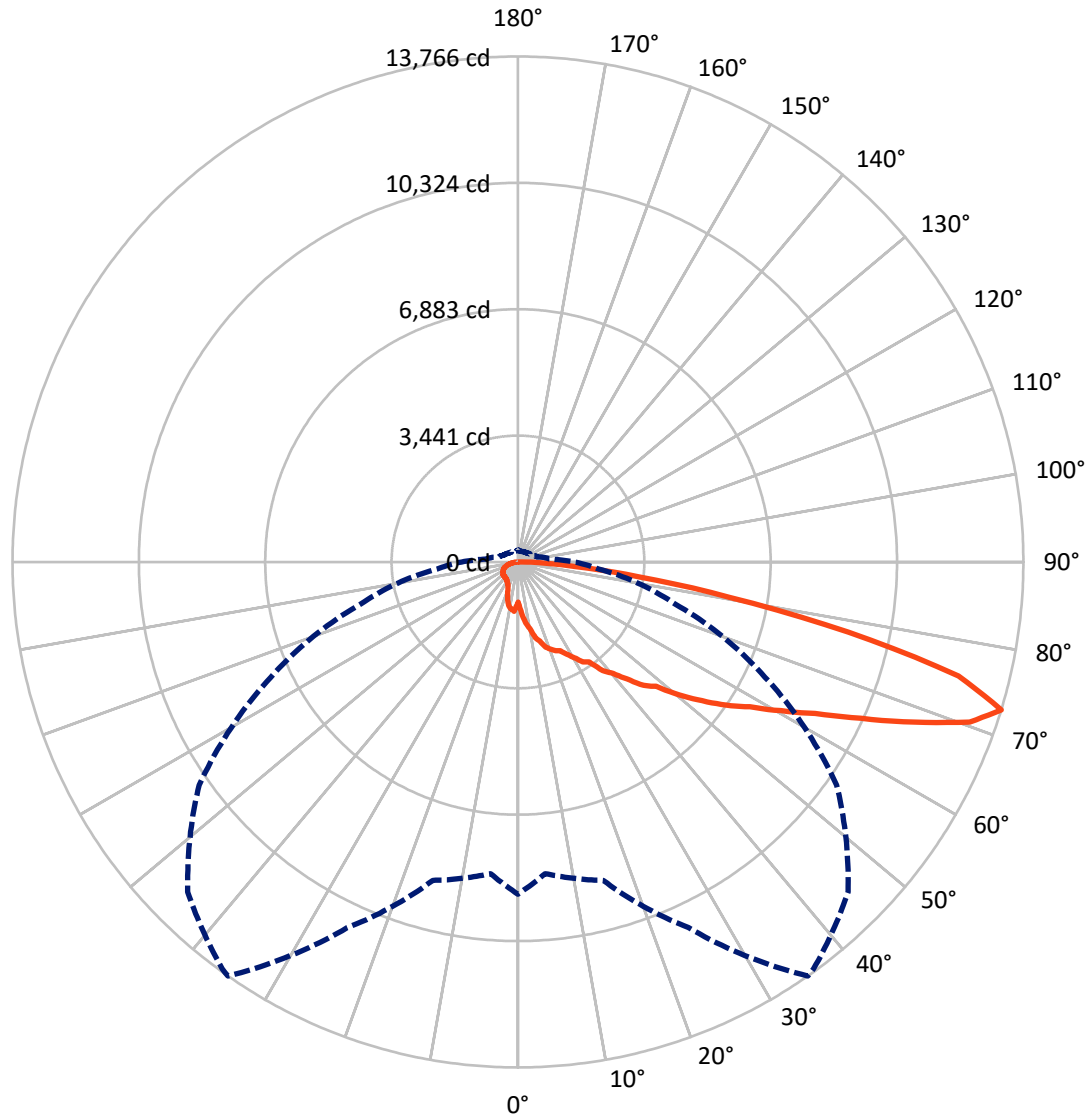
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 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	2539.7	0.0	2539.7
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	16385.3	0.0	16385.3
	% Fixture	86.6	0.0	86.6
Total	Lumens	18925.0	0.0	18925.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.4	0.8
10°-20°	512.0	2.7
20°-30°	889.7	4.7
30°-40°	1486.9	7.9
40°-50°	2580.8	13.6
50°-60°	3901.4	20.6
60°-70°	5054.3	26.7
70°-80°	3729.5	19.7
80°-90°	625.1	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°	18925.0	100.0
0°-180°	18925.0	100.0

Coefficient of Utilization



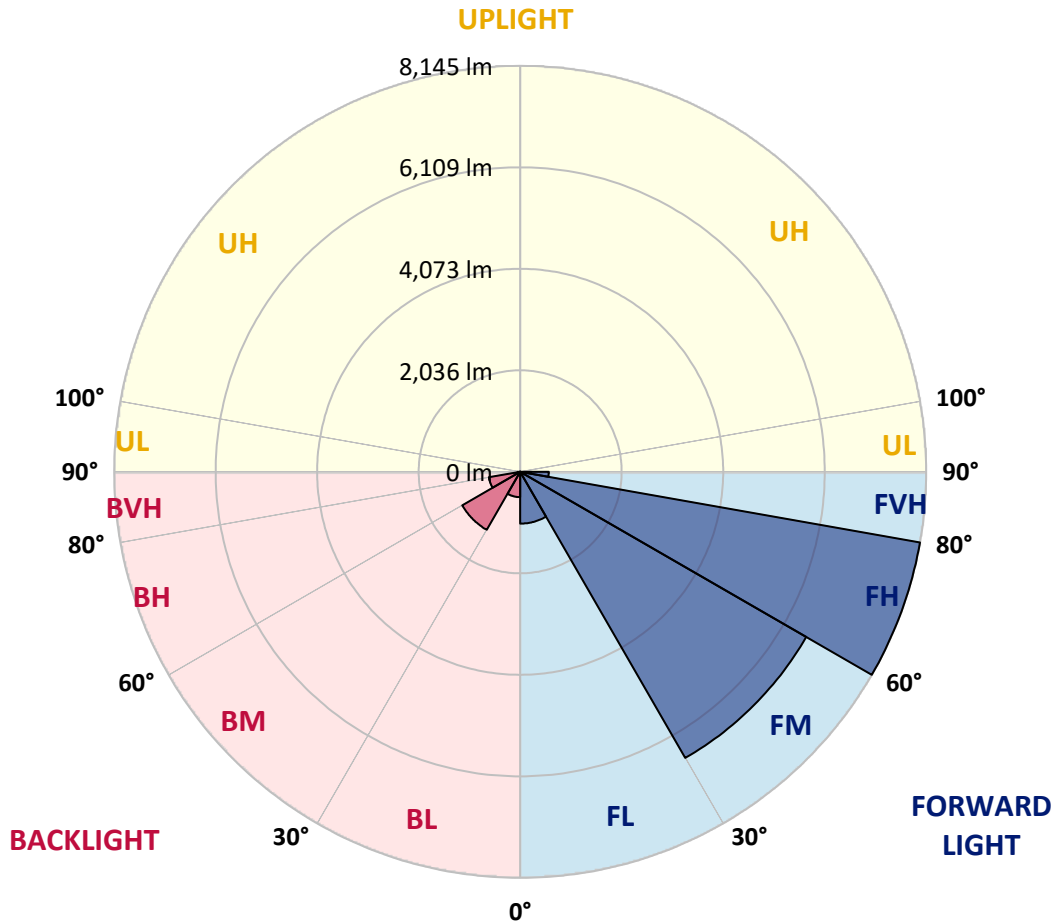
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1039.4	5.5			
FM (30°-60°)	6626.9	35.0			
FH (60°-80°)	8145.2	43.0			G4/12000
FVH (80°-90°)	573.9	3.0			G4/750
BL (0°-30°)	507.6	2.7	B2/1000		
BM (30°-60°)	1342.3	7.1	B2/2500		
BH (60°-80°)	638.6	3.4	B2/1000		G2/1000
BVH (80°-90°)	51.2	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





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7
2.5°	1364.3	1298.9	1242.3	1239.9	1292.4	1312.6	1304.5	1286.7	1265.7	1221.3	1318.2
5°	1709.2	1615.5	1597.7	1576.7	1529.1	1542.0	1464.4	1523.4	1542.0	1584.8	1649.4
7.5°	1912.7	1857.8	1815.0	1797.2	1714.8	1705.1	1647.8	1731.8	1767.3	1761.7	1857.8
10°	1992.7	1942.6	1945.9	1887.7	1861.0	1872.3	1878.8	1880.4	1902.2	1920.0	1871.5
12.5°	2033.9	2053.3	2124.4	2084.8	2118.7	2132.4	2200.3	2130.8	2133.2	2042.0	2092.1
15°	2241.5	2290.0	2248.8	2247.1	2236.6	2259.3	2317.4	2270.6	2306.9	2277.8	2213.2
17.5°	2491.9	2506.4	2427.3	2395.0	2437.0	2429.7	2415.2	2422.4	2332.0	2500.0	2420.8
20°	2568.6	2626.0	2521.8	2395.0	2533.9	2552.5	2549.2	2517.7	2362.6	2605.0	2528.2
22.5°	2791.6	2714.0	2631.6	2550.9	2621.9	2632.4	2614.7	2539.5	2487.8	2579.9	2640.5
25°	2892.5	2873.9	2768.9	2759.2	2680.9	2643.7	2674.4	2652.6	2601.7	2765.7	2698.7
27.5°	3123.5	3101.7	2860.2	2959.6	2845.7	2836.0	2673.6	2746.3	2797.2	2785.1	2885.3
30°	3385.3	3410.3	3057.3	3156.7	3025.0	3007.2	2844.1	2936.1	2970.9	2982.2	3107.4
32.5°	3676.0	3744.7	3394.1	3312.6	3242.3	3254.4	3116.3	2948.3	3083.2	3347.3	3401.4
35°	3991.1	4019.3	3651.8	3529.0	3345.7	3332.7	3335.2	3356.2	3492.7	3794.0	3836.0
37.5°	4573.4	4442.6	4120.3	3809.3	3747.9	3627.6	3709.2	3773.8	3910.3	4372.3	4548.4
40°	4932.1	4835.1	4344.0	4163.9	3994.3	4005.6	4158.3	4157.5	4479.7	4956.3	5225.3
42.5°	5264.1	5158.2	4695.4	4514.5	4353.7	4393.3	4436.9	4513.7	5131.6	5899.8	6022.5
45°	5531.4	5299.6	4966.8	4926.4	4794.0	4741.5	4926.4	5049.2	5911.1	6663.1	6734.2
47.5°	5713.2	5522.5	5197.0	5161.5	5063.7	5192.2	5697.0	5776.2	6515.3	7429.6	7424.0
50°	5989.4	5728.5	5434.5	5415.9	5691.4	5760.0	6375.5	6367.4	7103.3	8066.1	7932.8
52.5°	6307.7	5978.9	5659.9	5859.4	6279.4	6313.3	6847.2	7064.5	7745.4	8680.0	8331.9
55°	6673.6	6306.0	5997.5	6264.0	6889.2	6789.1	7329.5	7860.1	8549.2	9327.0	8620.2
57.5°	7126.7	6680.8	6431.2	6836.7	7445.8	7534.6	8020.1	8688.1	9196.2	9729.3	8830.2
60°	7604.9	7081.5	6852.9	7239.0	8225.2	8327.0	8802.0	9376.3	9921.5	10108.1	8790.7
62.5°	8061.3	7495.0	7288.3	7764.8	9089.5	9341.5	9692.1	10058.0	10524.9	10200.2	8311.7
65°	8569.3	8002.3	7872.3	8587.1	10261.6	10512.0	10970.0	10860.1	10731.7	9873.8	7519.3
67.5°	9107.3	8531.4	8555.6	9541.1	11643.6	11686.4	12390.0	11659.8	10488.5	9009.6	6188.9
70°	9396.5	8806.8	9056.4	10558.0	13049.9	12988.5	13132.3	11874.6	9497.4	7121.9	4265.7
72.5°	9045.9	8520.1	8977.3	10986.1	13765.6	13699.3	12715.5	10599.2	7425.6	4428.9	2211.6
75°	7659.0	7151.8	7851.3	9793.1	12392.4	12453.8	10821.3	7882.0	4251.2	1781.1	918.4
77.5°	5204.3	4942.6	5541.9	7299.6	9205.0	9417.5	8029.0	4609.0	1785.1	737.5	555.7
80°	2750.4	2626.0	3068.6	4205.1	5828.7	5987.0	4721.3	2295.6	914.4	477.4	396.6
82.5°	1494.3	1441.8	1679.3	2162.3	3311.7	3449.9	2448.3	1525.0	616.3	298.9	242.3
85°	1004.0	983.8	1141.3	1161.5	1566.2	1611.4	1282.7	1174.5	369.9	146.2	159.9
87.5°	502.4	482.2	601.0	530.7	597.7	598.5	588.0	749.6	93.7	48.5	29.1
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°	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7	1093.7
2.5°	1319.9	1291.6	1193.8	1193.0	1207.6	1197.9	1205.2	1165.6	1148.6	1226.2	1222.1
5°	1640.5	1555.7	1474.1	1445.9	1412.7	1340.9	1344.9	1345.7	1333.6	1379.6	1382.9
7.5°	1828.7	1727.0	1651.8	1501.6	1383.7	1291.6	1303.7	1317.4	1303.7	1365.1	1387.7
10°	1856.2	1775.4	1685.8	1518.6	1440.2	1357.0	1273.0	1198.7	1189.8	1161.5	1170.4
12.5°	2019.4	1952.3	1764.9	1581.6	1490.3	1362.7	1209.2	1124.4	1053.3	1065.4	1042.8
15°	2153.4	2105.8	1881.2	1641.3	1423.2	1264.9	1101.8	985.4	921.6	914.4	891.7
17.5°	2335.2	2267.3	1891.7	1600.1	1336.8	1147.0	962.8	831.2	803.7	792.4	781.1
20°	2422.4	2300.5	1853.8	1470.9	1235.8	1006.4	825.5	712.4	704.4	724.5	720.5
22.5°	2498.3	2327.9	1819.8	1392.5	1078.3	864.3	731.8	657.5	648.6	674.5	679.3
25°	2542.8	2406.3	1782.7	1312.6	980.6	758.5	661.5	619.5	621.2	655.1	651.0
27.5°	2743.1	2433.7	1689.0	1218.1	868.3	680.1	627.6	605.8	596.9	643.8	647.8
30°	2869.1	2613.0	1668.0	1117.9	785.1	622.8	596.9	588.0	586.4	643.0	647.0
32.5°	3103.3	2672.8	1677.7	1008.9	710.0	605.0	574.3	573.5	589.7	643.8	650.2
35°	3428.1	2924.8	1630.8	946.7	668.8	577.5	556.5	563.0	590.5	649.4	658.3
37.5°	4061.3	3162.3	1645.4	888.5	655.1	568.7	551.7	555.7	600.2	664.0	688.2
40°	4562.9	3592.8	1622.8	859.4	636.5	567.0	541.2	557.3	599.3	672.0	693.9
42.5°	5289.9	3936.1	1625.2	830.4	635.7	560.6	539.6	559.0	597.7	664.8	694.7
45°	5913.5	4243.9	1659.9	813.4	627.6	571.1	537.1	561.4	587.2	638.9	672.0
47.5°	6424.8	4587.2	1695.5	797.2	624.4	580.8	534.7	544.4	569.5	609.8	639.7
50°	6841.6	4828.7	1740.7	794.0	624.4	575.9	528.3	527.5	548.5	580.8	609.0
52.5°	7166.3	4999.1	1771.4	798.1	624.4	557.3	520.2	513.7	526.6	550.1	578.3
55°	7401.3	5051.6	1746.3	808.6	623.6	540.4	505.6	500.0	506.5	522.6	549.3
57.5°	7495.9	4913.5	1596.9	790.0	623.6	528.3	487.9	481.4	487.9	500.0	526.6
60°	7259.2	4469.2	1381.2	742.3	611.5	512.1	467.7	463.6	473.3	483.8	509.7
62.5°	6665.5	3878.8	1151.0	685.8	586.4	498.4	448.3	449.1	464.5	479.0	504.8
65°	5743.1	3164.7	959.6	628.4	554.9	476.6	428.1	433.8	455.6	475.0	500.8
67.5°	4519.3	2344.9	807.7	572.7	510.5	441.0	405.5	407.1	422.4	441.0	466.1
70°	3021.0	1491.9	664.0	507.3	452.3	395.0	370.8	365.1	361.1	377.2	399.0
72.5°	1532.3	881.2	545.2	433.8	389.3	344.9	326.3	311.8	300.5	310.2	327.1
75°	802.9	616.3	440.2	360.3	321.5	293.2	279.5	260.1	252.0	257.7	269.8
77.5°	567.8	482.2	356.2	285.1	261.7	232.6	235.1	214.9	208.4	211.6	224.6
80°	436.2	382.1	273.8	215.7	201.9	173.7	181.7	169.6	161.5	159.9	169.6
82.5°	297.2	287.6	194.7	151.0	141.4	121.2	132.5	127.6	117.1	110.7	115.5
85°	200.3	190.6	118.7	87.2	83.2	63.0	80.8	77.5	68.7	59.0	59.8
87.5°	34.7	63.8	33.9	21.8	20.2	7.3	18.6	17.8	16.2	8.1	6.5
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)