

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: P368280

Luminaire Tested: **MSA-SA4A-760-U-SL4**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368280
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-SA4A-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: 15101 lumens
Efficiency: N/A
Efficacy: 117.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

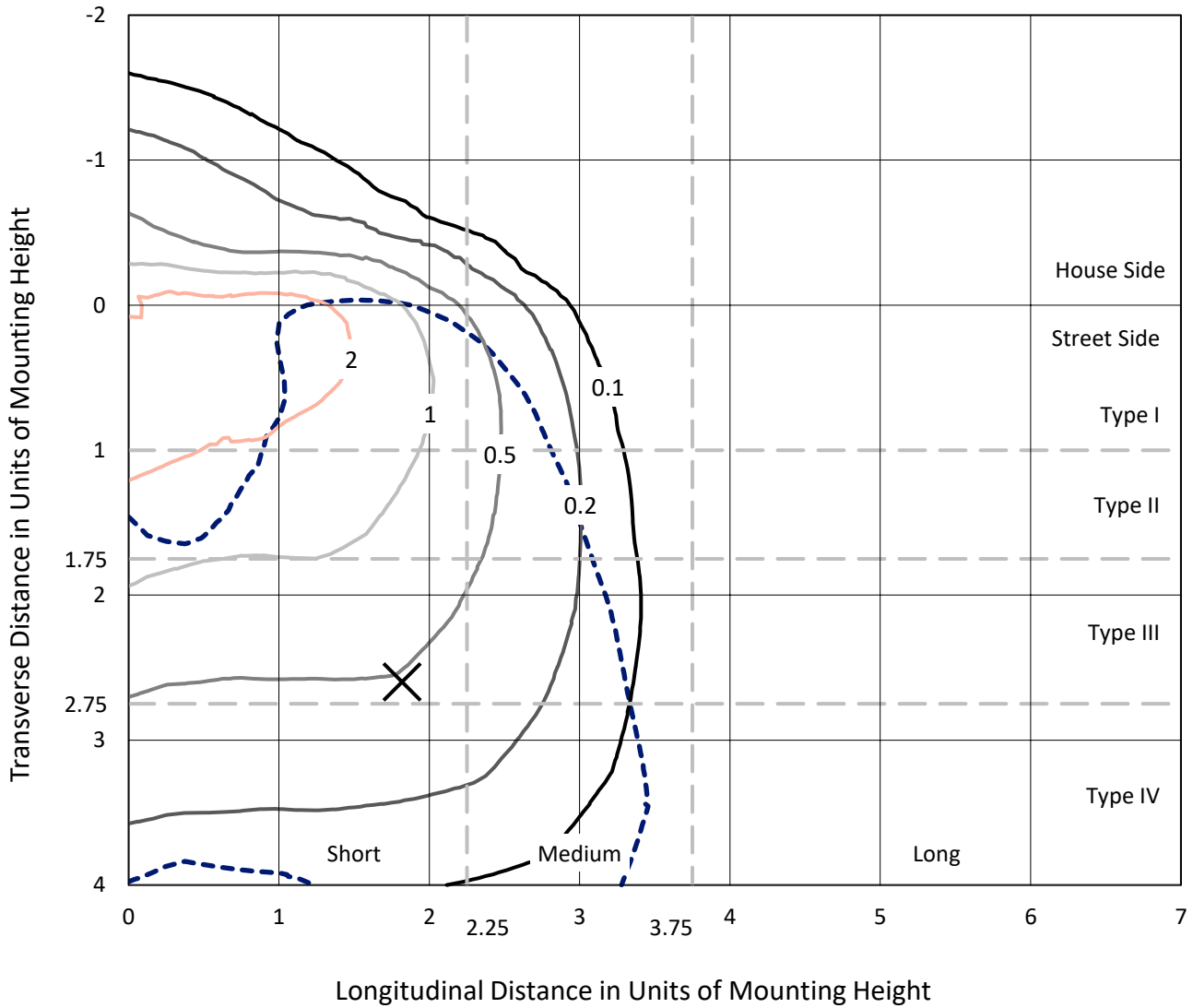
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

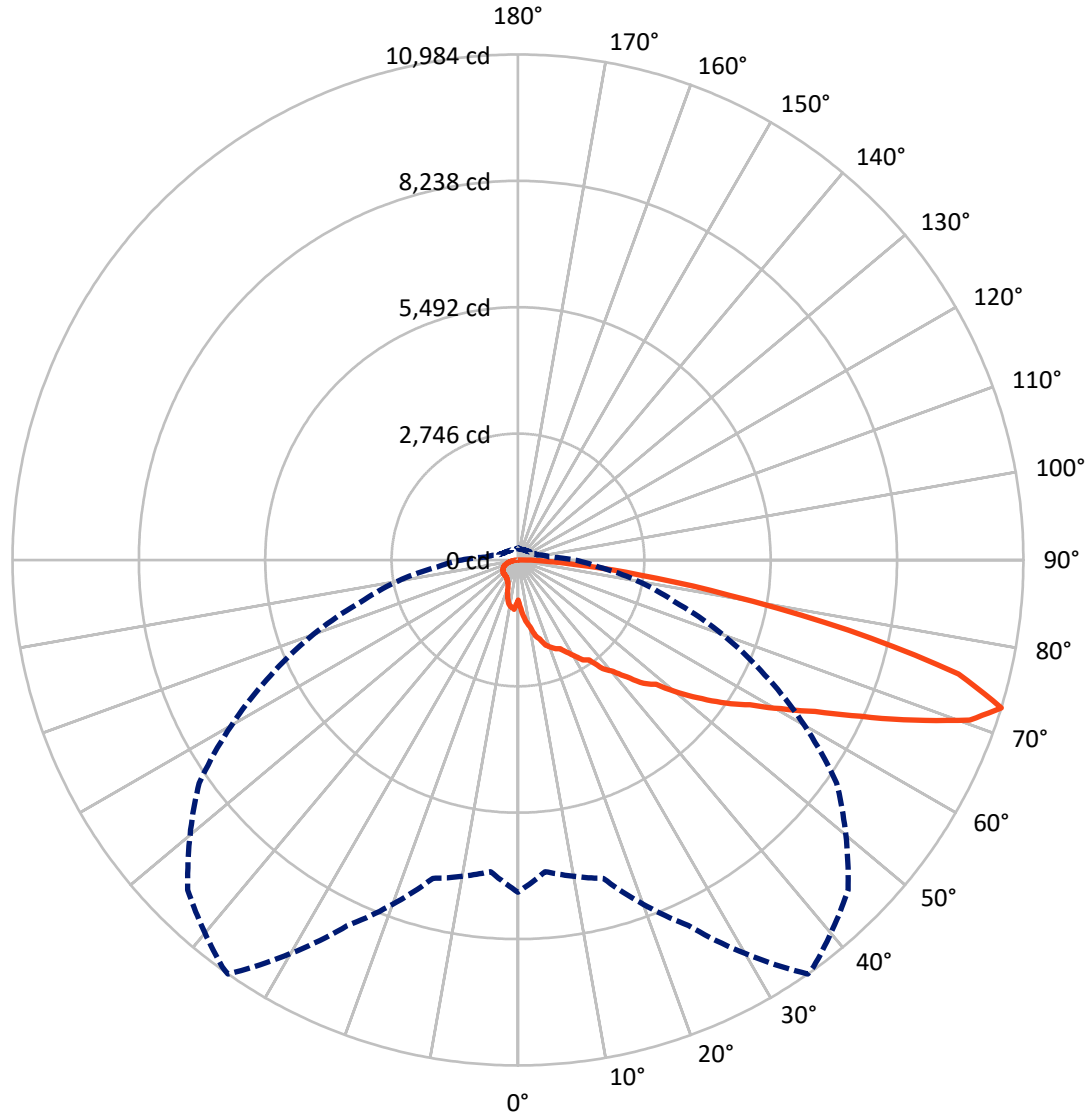
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3 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	2026.5	0.0	2026.5
	% Fixture	13.4	0.0	13.4
Street Side	Lumens	13074.5	0.0	13074.5
	% Fixture	86.6	0.0	86.6
Total	Lumens	15101.0	0.0	15101.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.0	0.8
10°-20°	408.6	2.7
20°-30°	709.9	4.7
30°-40°	1186.5	7.9
40°-50°	2059.3	13.6
50°-60°	3113.1	20.6
60°-70°	4033.0	26.7
70°-80°	2975.9	19.7
80°-90°	498.8	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°	15101.0	100.0
0°-180°	15101.0	100.0

Coefficient of Utilization



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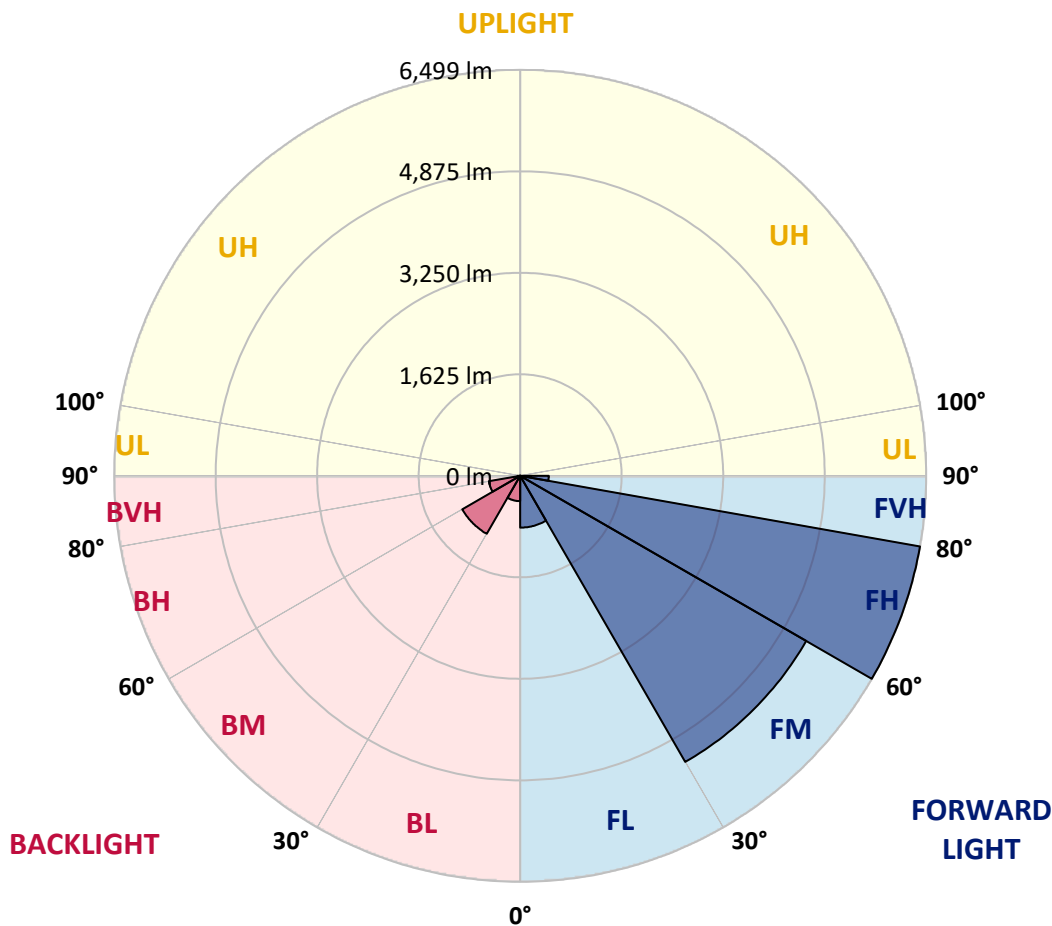
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	829.4	5.5			
FM (30°-60°)	5287.8	35.0			
FH (60°-80°)	6499.3	43.0			G3/7500
FVH (80°-90°)	457.9	3.0			G3/500
BL (0°-30°)	405.1	2.7	B1/500		
BM (30°-60°)	1071.0	7.1	B2/2500		
BH (60°-80°)	509.6	3.4	B2/1000		G2/1000
BVH (80°-90°)	40.8	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-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	872.7	872.7	872.7	872.7	872.7	872.7	872.7	872.7	872.7	872.7	872.7
2.5°	1088.6	1036.4	991.3	989.4	1031.2	1047.4	1040.9	1026.7	1010.0	974.5	1051.9
5°	1363.8	1289.1	1274.9	1258.1	1220.1	1230.4	1168.5	1215.6	1230.4	1264.6	1316.1
7.5°	1526.2	1482.4	1448.3	1434.1	1368.3	1360.6	1314.8	1381.9	1410.2	1405.7	1482.4
10°	1590.1	1550.1	1552.7	1506.3	1485.0	1494.0	1499.2	1500.5	1517.9	1532.0	1493.4
12.5°	1622.9	1638.4	1695.1	1663.5	1690.6	1701.6	1755.7	1700.3	1702.2	1629.4	1669.3
15°	1788.6	1827.2	1794.4	1793.1	1784.7	1802.7	1849.2	1811.8	1840.8	1817.6	1766.0
17.5°	1988.4	2000.0	1936.8	1911.0	1944.5	1938.7	1927.1	1932.9	1860.8	1994.8	1931.7
20°	2049.6	2095.4	2012.2	1911.0	2021.9	2036.7	2034.1	2009.0	1885.2	2078.6	2017.4
22.5°	2227.5	2165.6	2099.9	2035.4	2092.1	2100.5	2086.3	2026.4	1985.2	2058.6	2107.0
25°	2308.1	2293.2	2209.4	2201.7	2139.2	2109.5	2134.0	2116.6	2076.0	2206.9	2153.4
27.5°	2492.4	2475.0	2282.3	2361.6	2270.7	2262.9	2133.4	2191.4	2232.0	2222.3	2302.3
30°	2701.2	2721.2	2439.5	2518.8	2413.8	2399.6	2269.4	2342.9	2370.6	2379.6	2479.5
32.5°	2933.3	2988.0	2708.3	2643.2	2587.1	2596.8	2486.6	2352.5	2460.2	2670.9	2714.1
35°	3184.6	3207.2	2913.9	2816.0	2669.6	2659.3	2661.3	2678.0	2786.9	3027.4	3060.9
37.5°	3649.3	3544.9	3287.7	3039.6	2990.6	2894.6	2959.7	3011.2	3120.2	3488.8	3629.3
40°	3935.5	3858.2	3466.3	3322.6	3187.2	3196.2	3318.0	3317.4	3574.6	3954.8	4169.5
42.5°	4200.4	4116.0	3746.7	3602.3	3474.0	3505.6	3540.4	3601.6	4094.7	4707.6	4805.6
45°	4413.7	4228.8	3963.2	3931.0	3825.3	3783.4	3931.0	4029.0	4716.7	5316.7	5373.4
47.5°	4558.8	4406.7	4146.9	4118.5	4040.6	4143.0	4545.9	4609.0	5198.8	5928.4	5923.9
50°	4779.2	4571.0	4336.4	4321.6	4541.4	4596.1	5087.3	5080.8	5668.0	6436.3	6329.9
52.5°	5033.1	4770.8	4516.2	4675.4	5010.6	5037.6	5463.7	5637.1	6180.4	6926.1	6648.3
55°	5325.1	5031.8	4785.6	4998.3	5497.2	5417.3	5848.5	6271.9	6821.7	7442.4	6878.4
57.5°	5686.7	5330.9	5131.7	5455.3	5941.3	6012.2	6399.5	6932.6	7338.0	7763.4	7046.0
60°	6068.2	5650.6	5468.2	5776.3	6563.2	6644.5	7023.4	7481.7	7916.8	8065.6	7014.4
62.5°	6432.4	5980.6	5815.6	6195.9	7252.9	7454.0	7733.7	8025.7	8398.2	8139.1	6632.2
65°	6837.8	6385.4	6281.6	6852.0	8188.1	8387.9	8753.4	8665.7	8563.2	7878.7	5999.9
67.5°	7267.1	6807.5	6826.9	7613.2	9290.9	9325.1	9886.4	9303.8	8369.2	7189.1	4938.4
70°	7497.8	7027.3	7226.5	8424.6	10413.0	10364.0	10478.8	9475.2	7578.4	5682.8	3403.8
72.5°	7218.1	6798.5	7163.3	8766.2	10984.1	10931.2	10146.2	8457.5	5925.2	3534.0	1764.7
75°	6111.4	5706.7	6264.8	7814.3	9888.4	9937.4	8634.8	6289.3	3392.2	1421.2	732.8
77.5°	4152.7	3943.9	4422.1	5824.6	7345.1	7514.6	6406.6	3677.7	1424.4	588.5	443.4
80°	2194.6	2095.4	2448.6	3355.4	4650.9	4777.3	3767.3	1831.8	729.6	380.9	316.5
82.5°	1192.4	1150.5	1340.0	1725.4	2642.6	2752.8	1953.6	1216.9	491.8	238.5	193.4
85°	801.2	785.0	910.7	926.8	1249.7	1285.8	1023.5	937.1	295.2	116.7	127.6
87.5°	400.9	384.8	479.5	423.5	477.0	477.6	469.2	598.1	74.8	38.7	23.2
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°	872.7	872.7	872.7	872.7	872.7	872.7	872.7	872.7	872.7	872.7	872.7
2.5°	1053.2	1030.6	952.6	952.0	963.6	955.8	961.6	930.1	916.5	978.4	975.2
5°	1309.0	1241.4	1176.3	1153.7	1127.3	1069.9	1073.1	1073.8	1064.1	1100.9	1103.4
7.5°	1459.2	1378.0	1318.1	1198.2	1104.1	1030.6	1040.3	1051.2	1040.3	1089.3	1107.3
10°	1481.1	1416.7	1345.1	1211.7	1149.2	1082.8	1015.8	956.5	949.4	926.8	933.9
12.5°	1611.3	1557.8	1408.3	1262.0	1189.2	1087.3	964.9	897.2	840.5	850.1	832.1
15°	1718.3	1680.3	1501.1	1309.7	1135.7	1009.3	879.1	786.3	735.4	729.6	711.6
17.5°	1863.3	1809.2	1509.5	1276.8	1066.7	915.2	768.3	663.2	641.3	632.3	623.3
20°	1932.9	1835.6	1479.2	1173.7	986.1	803.1	658.7	568.5	562.0	578.1	574.9
22.5°	1993.5	1857.5	1452.1	1111.2	860.4	689.6	583.9	524.6	517.6	538.2	542.0
25°	2029.0	1920.1	1422.5	1047.4	782.5	605.2	527.9	494.4	495.6	522.7	519.5
27.5°	2188.8	1942.0	1347.7	972.0	692.9	542.7	500.8	483.4	476.3	513.7	516.9
30°	2289.4	2085.1	1331.0	892.0	626.5	496.9	476.3	469.2	467.9	513.0	516.3
32.5°	2476.3	2132.7	1338.7	805.0	566.5	482.8	458.3	457.6	470.5	513.7	518.8
35°	2735.4	2333.8	1301.3	755.4	533.7	460.8	444.1	449.2	471.2	518.2	525.3
37.5°	3240.7	2523.3	1312.9	709.0	522.7	453.7	440.2	443.4	478.9	529.8	549.1
40°	3640.9	2866.9	1294.9	685.8	507.9	452.5	431.8	444.7	478.2	536.2	553.7
42.5°	4221.0	3140.8	1296.8	662.6	507.2	447.3	430.5	446.0	477.0	530.4	554.3
45°	4718.6	3386.4	1324.5	649.0	500.8	455.7	428.6	447.9	468.6	509.8	536.2
47.5°	5126.6	3660.3	1352.9	636.2	498.2	463.4	426.7	434.4	454.4	486.6	510.5
50°	5459.2	3853.0	1389.0	633.6	498.2	459.5	421.5	420.9	437.6	463.4	486.0
52.5°	5718.3	3989.0	1413.5	636.8	498.2	444.7	415.1	409.9	420.2	438.9	461.5
55°	5905.8	4030.9	1393.5	645.2	497.6	431.2	403.5	399.0	404.1	417.0	438.3
57.5°	5981.2	3920.7	1274.2	630.4	497.6	421.5	389.3	384.1	389.3	399.0	420.2
60°	5792.4	3566.2	1102.1	592.3	487.9	408.6	373.2	370.0	377.7	386.1	406.7
62.5°	5318.7	3095.0	918.5	547.2	467.9	397.7	357.7	358.4	370.6	382.2	402.8
65°	4582.6	2525.3	765.7	501.4	442.8	380.3	341.6	346.1	363.5	379.0	399.6
67.5°	3606.1	1871.1	644.5	457.0	407.3	351.9	323.6	324.8	337.1	351.9	371.9
70°	2410.5	1190.4	529.8	404.8	360.9	315.2	295.8	291.3	288.1	301.0	318.4
72.5°	1222.7	703.2	435.1	346.1	310.7	275.2	260.4	248.8	239.8	247.5	261.0
75°	640.7	491.8	351.3	287.5	256.5	234.0	223.0	207.5	201.1	205.6	215.3
77.5°	453.1	384.8	284.2	227.5	208.8	185.6	187.6	171.4	166.3	168.9	179.2
80°	348.0	304.9	218.5	172.1	161.1	138.6	145.0	135.4	128.9	127.6	135.4
82.5°	237.2	229.5	155.3	120.5	112.8	96.7	105.7	101.8	93.5	88.3	92.2
85°	159.8	152.1	94.7	69.6	66.4	50.3	64.5	61.9	54.8	47.1	47.7
87.5°	27.7	50.9	27.1	17.4	16.1	5.8	14.8	14.2	12.9	6.4	5.2
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)