

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: P367180

Luminaire Tested: **MSA-SA2A-740-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367180  
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-SA2A-740-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) 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: 7742 lumens  
Efficiency: N/A  
Efficacy: 117.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

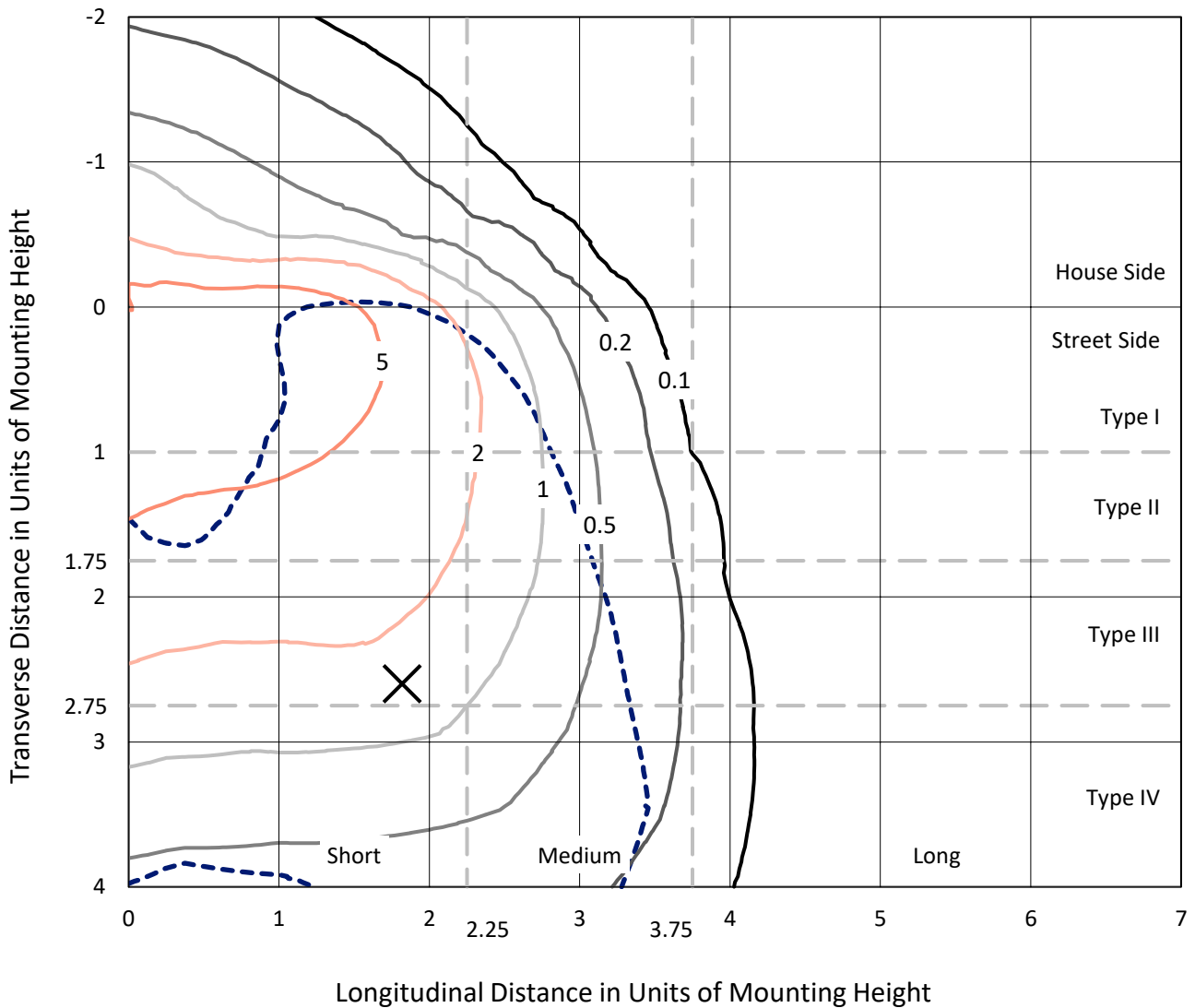
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

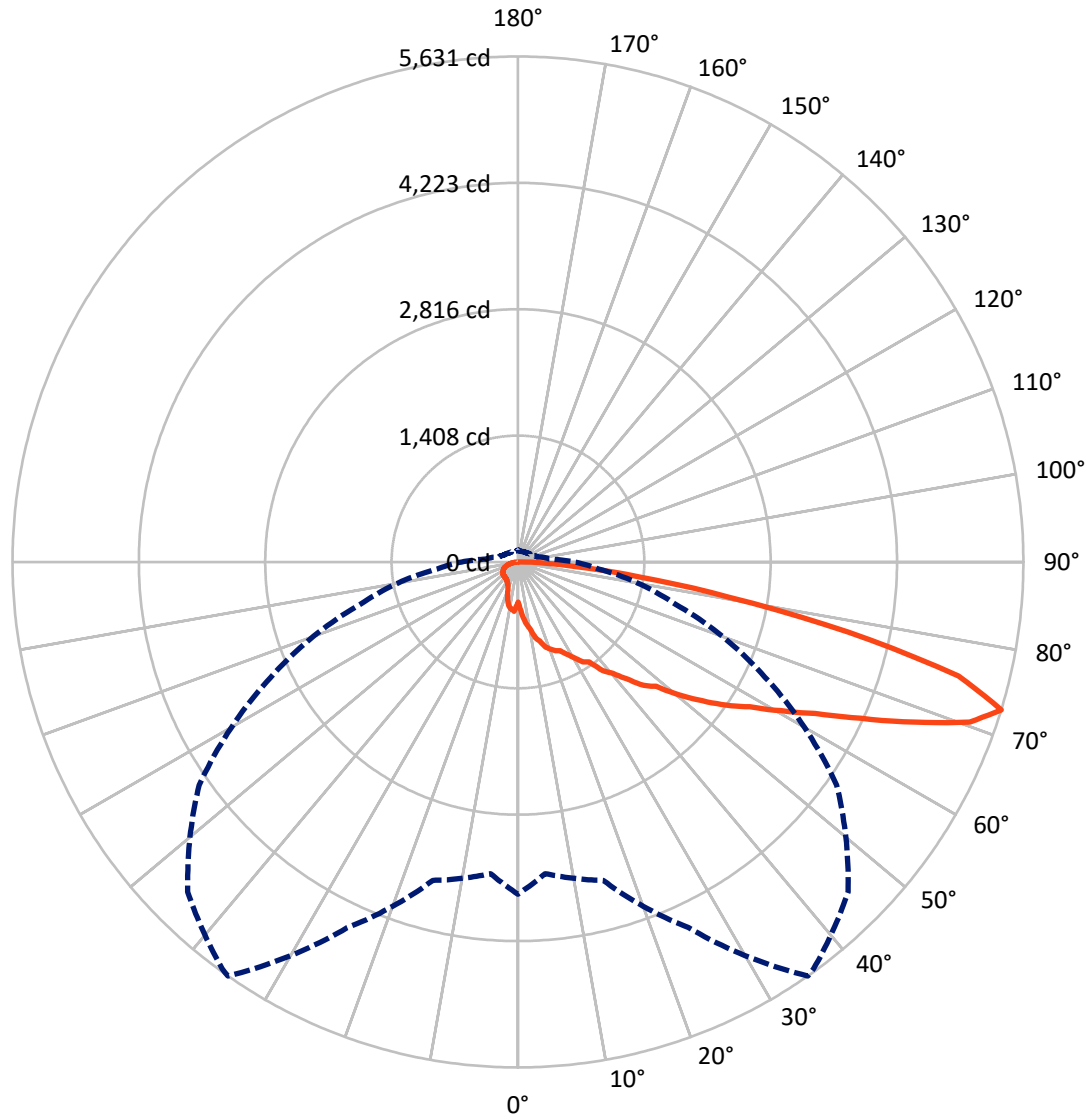
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.7 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
<b>House Side</b>	Lumens	1039.0	0.0	1039.0
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	6703.1	0.0	6703.1
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	7742.0	0.0	7742.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.5	0.8
10°-20°	209.5	2.7
20°-30°	363.9	4.7
30°-40°	608.3	7.9
40°-50°	1055.8	13.6
50°-60°	1596.0	20.6
60°-70°	2067.6	26.7
70°-80°	1525.7	19.7
80°-90°	255.7	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°	7742.0	100.0
0°-180°	7742.0	100.0

**Coefficient of Utilization**



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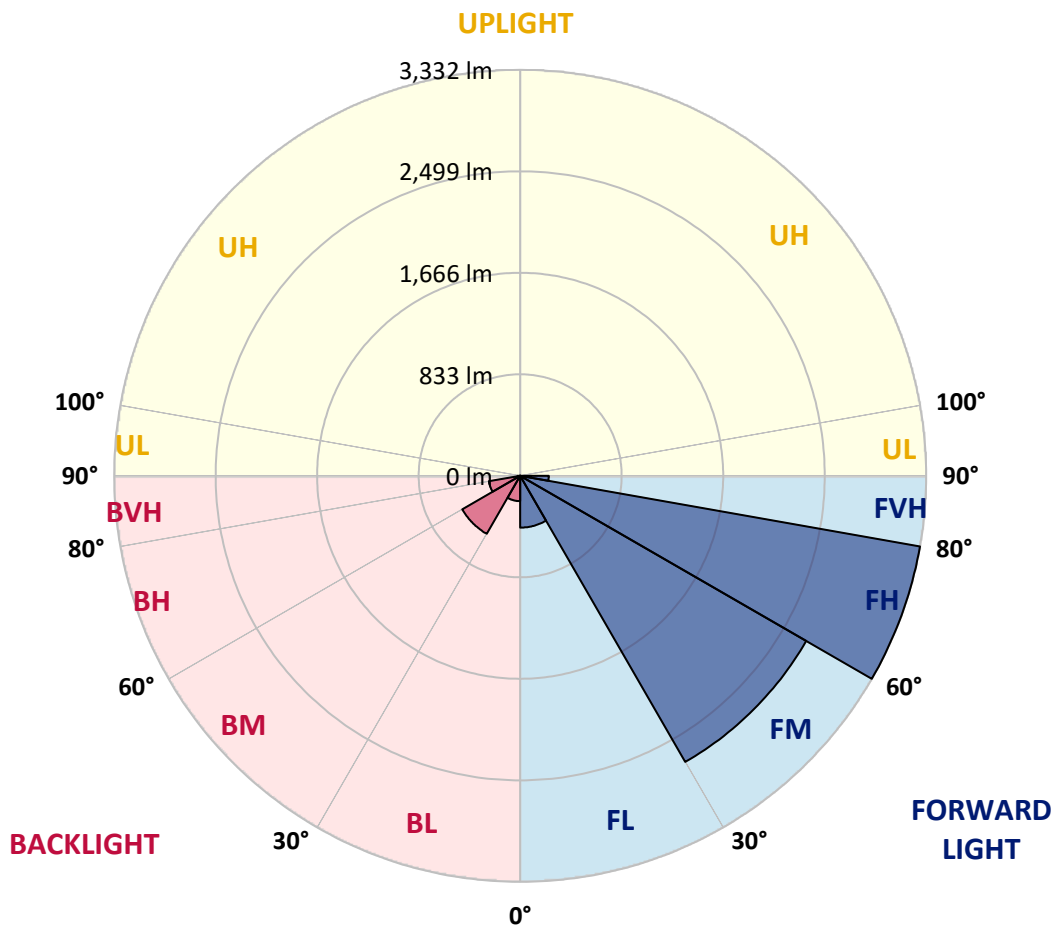
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	425.2	5.5			
FM (30°-60°)	2711.0	35.0			
FH (60°-80°)	3332.1	43.0			G2/5000
FVH (80°-90°)	234.8	3.0			G3/500
BL (0°-30°)	207.7	2.7	B1/500		
BM (30°-60°)	549.1	7.1	B1/1000		
BH (60°-80°)	261.2	3.4	B1/500		G1/500
BVH (80°-90°)	20.9	0.3			G1/100
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°	35°	36°	45°	55°	65°	75°	85°
0°	447.4	447.4	447.4	447.4	447.4	447.4	447.4	447.4	447.4	447.4	447.4
2.5°	558.1	531.3	508.2	507.2	528.7	537.0	533.7	526.4	517.8	499.6	539.3
5°	699.2	660.9	653.6	645.0	625.5	630.8	599.1	623.2	630.8	648.3	674.8
7.5°	782.5	760.0	742.5	735.2	701.5	697.6	674.1	708.5	723.0	720.7	760.0
10°	815.2	794.7	796.0	772.2	761.3	766.0	768.6	769.3	778.2	785.5	765.6
12.5°	832.0	840.0	869.1	852.9	866.7	872.4	900.1	871.7	872.7	835.3	855.8
15°	917.0	936.8	919.9	919.3	915.0	924.2	948.0	928.9	943.7	931.8	905.4
17.5°	1019.4	1025.4	993.0	979.7	996.9	994.0	988.0	991.0	954.0	1022.7	990.3
20°	1050.8	1074.3	1031.6	979.7	1036.6	1044.2	1042.9	1030.0	966.5	1065.7	1034.3
22.5°	1142.0	1110.3	1076.6	1043.5	1072.6	1076.9	1069.6	1038.9	1017.8	1055.4	1080.2
25°	1183.3	1175.7	1132.7	1128.8	1096.7	1081.5	1094.1	1085.2	1064.3	1131.4	1104.0
27.5°	1277.8	1268.9	1170.1	1210.7	1164.1	1160.2	1093.8	1123.5	1144.3	1139.4	1180.3
30°	1384.9	1395.1	1250.7	1291.4	1237.5	1230.2	1163.5	1201.1	1215.4	1220.0	1271.2
32.5°	1503.8	1531.9	1388.5	1355.1	1326.4	1331.3	1274.8	1206.1	1261.3	1369.3	1391.5
35°	1632.7	1644.3	1493.9	1443.7	1368.7	1363.4	1364.4	1373.0	1428.8	1552.1	1569.3
37.5°	1870.9	1817.4	1685.6	1558.3	1533.2	1484.0	1517.4	1543.8	1599.7	1788.7	1860.7
40°	2017.7	1978.0	1777.1	1703.4	1634.0	1638.6	1701.1	1700.8	1832.6	2027.6	2137.6
42.5°	2153.5	2110.2	1920.8	1846.8	1781.1	1797.3	1815.1	1846.5	2099.3	2413.5	2463.7
45°	2262.8	2168.0	2031.9	2015.3	1961.2	1939.7	2015.3	2065.6	2418.1	2725.8	2754.9
47.5°	2337.2	2259.2	2126.0	2111.5	2071.5	2124.1	2330.6	2363.0	2665.3	3039.4	3037.1
50°	2450.2	2343.5	2223.2	2215.6	2328.3	2356.4	2608.1	2604.8	2905.9	3299.8	3245.2
52.5°	2580.4	2445.9	2315.4	2397.0	2568.8	2582.7	2801.1	2890.0	3168.6	3550.9	3408.5
55°	2730.1	2579.7	2453.5	2562.5	2818.3	2777.3	2998.4	3215.5	3497.4	3815.6	3526.4
57.5°	2915.5	2733.1	2631.0	2796.8	3046.0	3082.3	3280.9	3554.2	3762.0	3980.1	3612.4
60°	3111.1	2897.0	2803.4	2961.4	3364.9	3406.5	3600.8	3835.7	4058.8	4135.1	3596.2
62.5°	3297.8	3066.1	2981.5	3176.5	3718.4	3821.5	3964.9	4114.6	4305.6	4172.8	3400.2
65°	3505.6	3273.7	3220.5	3512.9	4197.9	4300.3	4487.7	4442.7	4390.2	4039.3	3076.1
67.5°	3725.7	3490.1	3500.0	3903.1	4763.3	4780.8	5068.6	4769.9	4290.7	3685.7	2531.8
70°	3844.0	3602.8	3704.9	4319.2	5338.6	5313.4	5372.3	4857.8	3885.3	2913.5	1745.0
72.5°	3700.6	3485.5	3672.5	4494.3	5631.3	5604.2	5201.8	4336.0	3037.7	1811.8	904.7
75°	3133.2	2925.7	3211.9	4006.2	5069.6	5094.7	4426.9	3224.4	1739.1	728.6	375.7
77.5°	2129.0	2022.0	2267.1	2986.2	3765.7	3852.6	3284.6	1885.5	730.3	301.7	227.3
80°	1125.1	1074.3	1255.3	1720.3	2384.4	2449.2	1931.4	939.1	374.1	195.3	162.2
82.5°	611.3	589.8	687.0	884.6	1354.8	1411.3	1001.6	623.9	252.1	122.3	99.1
85°	410.7	402.5	466.9	475.2	640.7	659.2	524.7	480.5	151.3	59.8	65.4
87.5°	205.5	197.3	245.8	217.1	244.5	244.9	240.6	306.6	38.3	19.8	11.9
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°	447.4	447.4	447.4	447.4	447.4	447.4	447.4	447.4	447.4	447.4	447.4
2.5°	539.9	528.4	488.4	488.1	494.0	490.0	493.0	476.8	469.9	501.6	500.0
5°	671.1	636.4	603.0	591.5	577.9	548.5	550.2	550.5	545.6	564.4	565.7
7.5°	748.1	706.5	675.7	614.3	566.0	528.4	533.3	538.9	533.3	558.4	567.7
10°	759.3	726.3	689.6	621.2	589.2	555.1	520.8	490.4	486.7	475.2	478.8
12.5°	826.1	798.7	722.0	647.0	609.7	557.4	494.7	460.0	430.9	435.8	426.6
15°	880.9	861.5	769.6	671.5	582.2	517.5	450.7	403.1	377.0	374.1	364.8
17.5°	955.3	927.5	773.9	654.6	546.9	469.2	393.9	340.0	328.8	324.2	319.5
20°	991.0	941.1	758.4	601.7	505.6	411.7	337.7	291.4	288.1	296.4	294.8
22.5°	1022.0	952.3	744.5	569.7	441.1	353.6	299.4	269.0	265.3	275.9	277.9
25°	1040.2	984.4	729.3	537.0	401.2	310.3	270.6	253.4	254.1	268.0	266.3
27.5°	1122.2	995.6	690.9	498.3	355.2	278.2	256.8	247.8	244.2	263.4	265.0
30°	1173.7	1069.0	682.4	457.3	321.2	254.8	244.2	240.6	239.9	263.0	264.7
32.5°	1269.5	1093.4	686.3	412.7	290.5	247.5	234.9	234.6	241.2	263.4	266.0
35°	1402.4	1196.5	667.2	387.3	273.6	236.3	227.7	230.3	241.6	265.7	269.3
37.5°	1661.4	1293.7	673.1	363.5	268.0	232.6	225.7	227.3	245.5	271.6	281.5
40°	1866.6	1469.8	663.9	351.6	260.4	232.0	221.4	228.0	245.2	274.9	283.8
42.5°	2164.0	1610.2	664.8	339.7	260.1	229.3	220.7	228.7	244.5	272.0	284.2
45°	2419.1	1736.1	679.1	332.8	256.8	233.6	219.7	229.7	240.2	261.4	274.9
47.5°	2628.3	1876.6	693.6	326.1	255.4	237.6	218.8	222.7	233.0	249.5	261.7
50°	2798.8	1975.4	712.1	324.8	255.4	235.6	216.1	215.8	224.4	237.6	249.2
52.5°	2931.6	2045.1	724.7	326.5	255.4	228.0	212.8	210.2	215.4	225.0	236.6
55°	3027.8	2066.6	714.4	330.8	255.1	221.1	206.9	204.5	207.2	213.8	224.7
57.5°	3066.5	2010.1	653.3	323.2	255.1	216.1	199.6	196.9	199.6	204.5	215.4
60°	2969.6	1828.3	565.0	303.7	250.1	209.5	191.3	189.7	193.6	197.9	208.5
62.5°	2726.8	1586.8	470.9	280.5	239.9	203.9	183.4	183.7	190.0	195.9	206.5
65°	2349.4	1294.7	392.6	257.1	227.0	195.0	175.1	177.4	186.4	194.3	204.9
67.5°	1848.8	959.3	330.4	234.3	208.8	180.4	165.9	166.5	172.8	180.4	190.7
70°	1235.8	610.3	271.6	207.5	185.0	161.6	151.7	149.4	147.7	154.3	163.2
72.5°	626.8	360.5	223.0	177.4	159.3	141.1	133.5	127.5	122.9	126.9	133.8
75°	328.5	252.1	180.1	147.4	131.5	119.9	114.3	106.4	103.1	105.4	110.4
77.5°	232.3	197.3	145.7	116.6	107.1	95.2	96.2	87.9	85.3	86.6	91.9
80°	178.4	156.3	112.0	88.2	82.6	71.0	74.3	69.4	66.1	65.4	69.4
82.5°	121.6	117.6	79.6	61.8	57.8	49.6	54.2	52.2	47.9	45.3	47.3
85°	81.9	78.0	48.6	35.7	34.0	25.8	33.0	31.7	28.1	24.1	24.5
87.5°	14.2	26.1	13.9	8.9	8.3	3.0	7.6	7.3	6.6	3.3	2.6
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)