

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: P366916

Luminaire Tested: **MSA-SA1C-740-U-SL4**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P366916  
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-SA1C-740-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) 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: 6109 lumens  
Efficiency: N/A  
Efficacy: 103.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

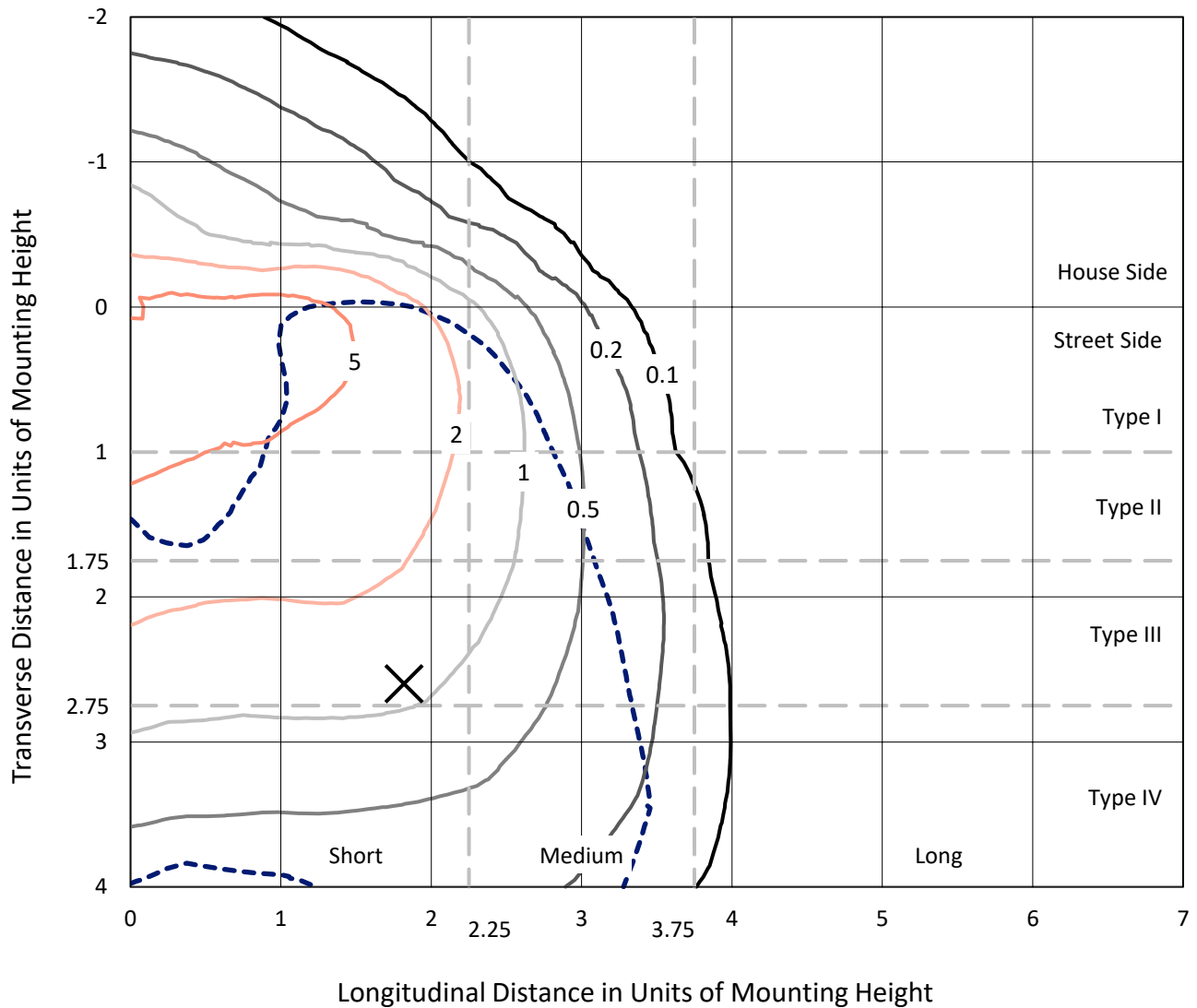
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

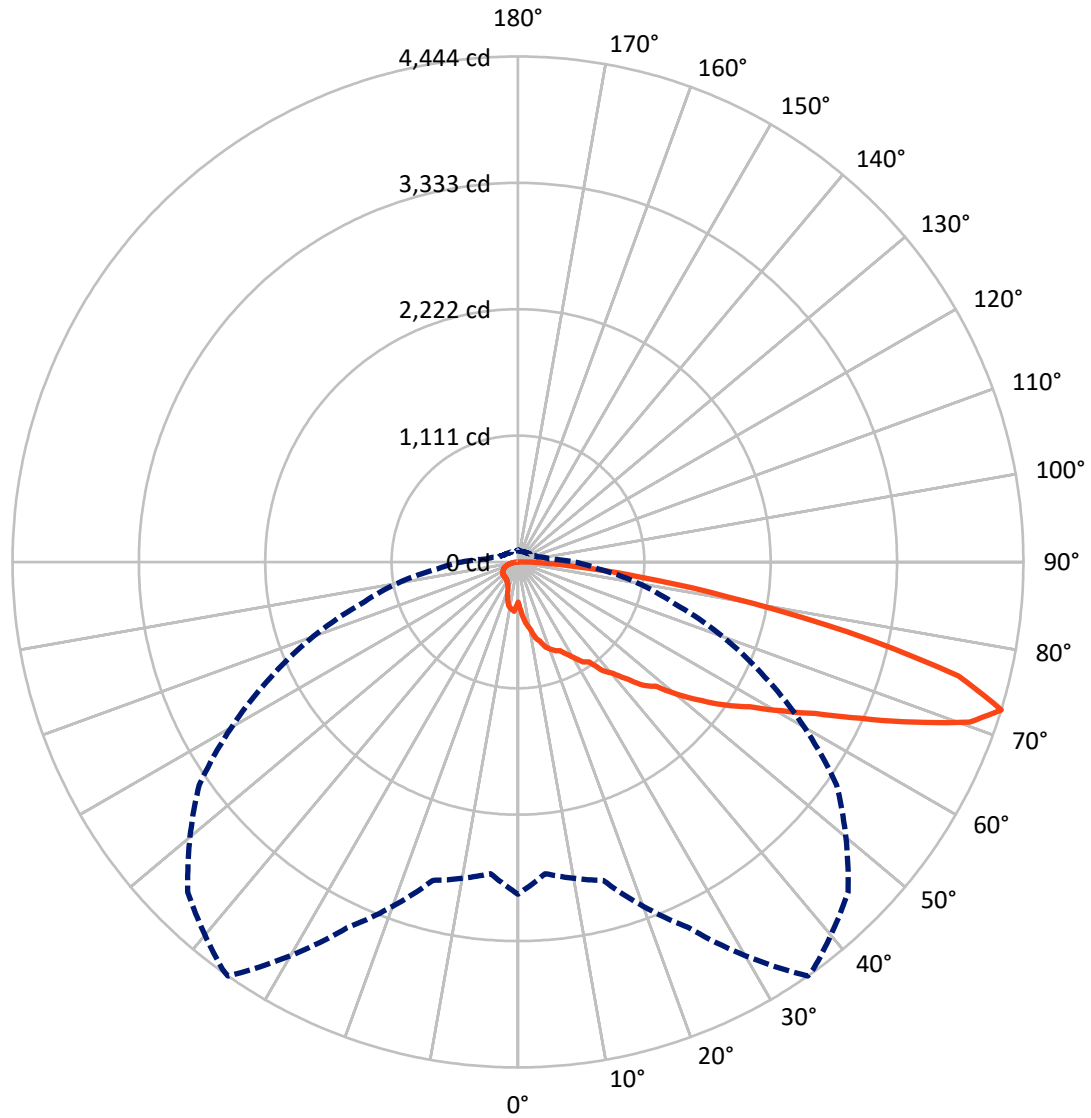
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.7 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	819.8	0.0	819.8
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	5289.2	0.0	5289.2
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	6109.0	0.0	6109.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	46.9	0.8
10°-20°	165.3	2.7
20°-30°	287.2	4.7
30°-40°	480.0	7.9
40°-50°	833.1	13.6
50°-60°	1259.4	20.6
60°-70°	1631.5	26.7
70°-80°	1203.9	19.7
80°-90°	201.8	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°	6109.0	100.0
0°-180°	6109.0	100.0

**Coefficient of Utilization**



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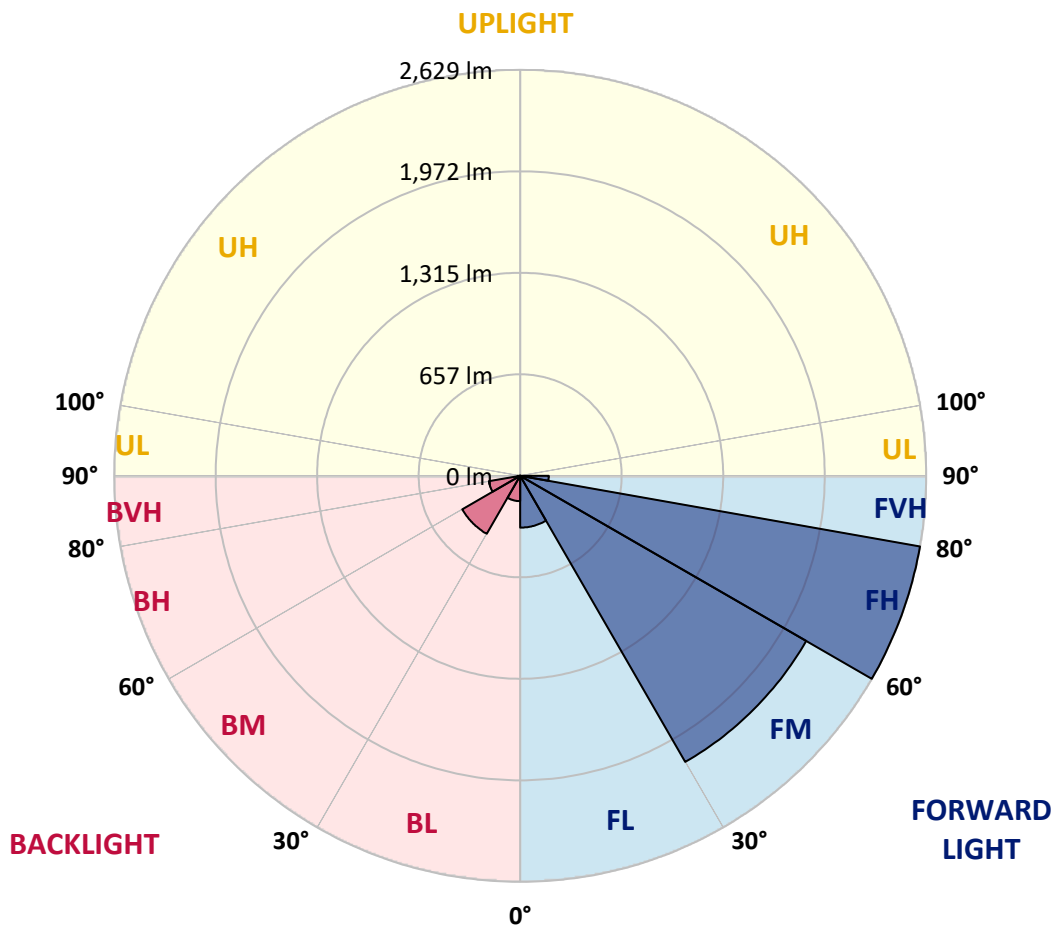
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	335.5	5.5			
FM (30°-60°)	2139.2	35.0			
FH (60°-80°)	2629.3	43.0			G2/5000
FVH (80°-90°)	185.3	3.0			G2/225
BL (0°-30°)	163.9	2.7	B1/500		
BM (30°-60°)	433.3	7.1	B1/1000		
BH (60°-80°)	206.2	3.4	B1/500		G1/500
BVH (80°-90°)	16.5	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-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	353.0	353.0	353.0	353.0	353.0	353.0	353.0	353.0	353.0	353.0	353.0
2.5°	440.4	419.3	401.0	400.2	417.2	423.7	421.1	415.4	408.6	394.2	425.5
5°	551.7	521.5	515.7	509.0	493.6	497.8	472.7	491.8	497.8	511.6	532.4
7.5°	617.4	599.7	585.9	580.1	553.6	550.4	531.9	559.0	570.5	568.7	599.7
10°	643.2	627.1	628.1	609.3	600.7	604.4	606.5	607.0	614.0	619.8	604.1
12.5°	656.5	662.8	685.7	673.0	683.9	688.4	710.3	687.8	688.6	659.2	675.3
15°	723.6	739.2	725.9	725.4	722.0	729.3	748.1	732.9	744.7	735.3	714.4
17.5°	804.4	809.1	783.5	773.1	786.7	784.3	779.6	782.0	752.8	807.0	781.4
20°	829.2	847.7	814.0	773.1	817.9	823.9	822.9	812.7	762.7	840.9	816.1
22.5°	901.1	876.1	849.5	823.4	846.4	849.8	844.0	819.8	803.1	832.8	852.4
25°	933.7	927.7	893.8	890.7	865.4	853.4	863.3	856.3	839.8	892.8	871.1
27.5°	1008.3	1001.2	923.3	955.4	918.6	915.5	863.0	886.5	902.9	899.0	931.4
30°	1092.8	1100.8	986.9	1019.0	976.5	970.7	918.1	947.8	959.0	962.7	1003.1
32.5°	1186.6	1208.8	1095.6	1069.3	1046.6	1050.5	1005.9	951.7	995.2	1080.5	1098.0
35°	1288.3	1297.4	1178.8	1139.2	1080.0	1075.8	1076.6	1083.4	1127.4	1224.7	1238.3
37.5°	1476.3	1434.1	1330.0	1229.6	1209.8	1171.0	1197.3	1218.2	1262.2	1411.4	1468.2
40°	1592.1	1560.8	1402.3	1344.1	1289.4	1293.0	1342.3	1342.0	1446.1	1599.9	1686.7
42.5°	1699.2	1665.1	1515.7	1457.3	1405.4	1418.2	1432.2	1457.0	1656.5	1904.4	1944.1
45°	1785.5	1710.7	1603.3	1590.3	1547.5	1530.5	1590.3	1629.9	1908.1	2150.8	2173.8
47.5°	1844.2	1782.7	1677.6	1666.1	1634.6	1676.0	1839.0	1864.6	2103.1	2398.3	2396.5
50°	1933.4	1849.2	1754.3	1748.3	1837.2	1859.3	2058.0	2055.4	2292.9	2603.7	2560.7
52.5°	2036.1	1930.0	1827.0	1891.4	2027.0	2037.9	2210.3	2280.4	2500.2	2801.9	2689.5
55°	2154.2	2035.6	1936.0	2022.0	2223.9	2191.5	2366.0	2537.3	2759.7	3010.8	2782.6
57.5°	2300.5	2156.6	2076.0	2206.9	2403.5	2432.2	2588.9	2804.5	2968.5	3140.6	2850.4
60°	2454.9	2285.9	2212.1	2336.8	2655.1	2688.0	2841.3	3026.7	3202.7	3262.9	2837.6
62.5°	2602.2	2419.4	2352.7	2506.5	2934.1	3015.5	3128.6	3246.7	3397.4	3292.6	2683.0
65°	2766.2	2583.1	2541.2	2771.9	3312.4	3393.3	3541.1	3505.6	3464.2	3187.3	2427.2
67.5°	2939.8	2753.9	2761.8	3079.9	3758.6	3772.4	3999.5	3763.8	3385.7	2908.3	1997.8
70°	3033.2	2842.8	2923.4	3408.1	4212.5	4192.7	4239.1	3833.1	3065.8	2298.9	1377.0
72.5°	2920.0	2750.3	2897.9	3546.3	4443.5	4422.1	4104.6	3421.4	2397.0	1429.6	713.9
75°	2472.3	2308.6	2534.4	3161.2	4000.3	4020.1	3493.1	2544.3	1372.3	574.9	296.5
77.5°	1679.9	1595.5	1788.9	2356.3	2971.4	3040.0	2591.8	1487.8	576.2	238.1	179.4
80°	887.8	847.7	990.6	1357.4	1881.5	1932.6	1524.0	741.0	295.2	154.1	128.0
82.5°	482.4	465.4	542.1	698.0	1069.0	1113.6	790.3	492.3	198.9	96.5	78.2
85°	324.1	317.6	368.4	374.9	505.6	520.2	414.1	379.1	119.4	47.2	51.6
87.5°	162.2	155.7	194.0	171.3	192.9	193.2	189.8	242.0	30.2	15.6	9.4
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°	353.0	353.0	353.0	353.0	353.0	353.0	353.0	353.0	353.0	353.0	353.0
2.5°	426.0	416.9	385.4	385.1	389.8	386.7	389.0	376.2	370.8	395.8	394.5
5°	529.6	502.2	475.9	466.7	456.0	432.8	434.1	434.4	430.5	445.3	446.4
7.5°	590.3	557.5	533.2	484.7	446.6	416.9	420.8	425.3	420.8	440.7	448.0
10°	599.2	573.1	544.2	490.2	464.9	438.0	410.9	386.9	384.1	374.9	377.8
12.5°	651.8	630.2	569.7	510.5	481.1	439.9	390.3	362.9	340.0	343.9	336.6
15°	695.1	679.7	607.3	529.8	459.4	408.3	355.6	318.1	297.5	295.2	287.9
17.5°	753.8	731.9	610.7	516.5	431.5	370.3	310.8	268.3	259.4	255.8	252.1
20°	782.0	742.6	598.4	474.8	398.9	324.9	266.5	230.0	227.4	233.9	232.6
22.5°	806.5	751.5	587.4	449.5	348.1	279.0	236.2	212.2	209.4	217.7	219.3
25°	820.8	776.7	575.5	423.7	316.5	244.8	213.5	200.0	200.5	211.5	210.2
27.5°	885.5	785.6	545.2	393.2	280.3	219.5	202.6	195.6	192.7	207.8	209.1
30°	926.1	843.5	538.4	360.9	253.4	201.0	192.7	189.8	189.3	207.5	208.9
32.5°	1001.8	862.8	541.6	325.7	229.2	195.3	185.4	185.1	190.3	207.8	209.9
35°	1106.6	944.1	526.4	305.6	215.9	186.4	179.6	181.7	190.6	209.6	212.5
37.5°	1311.0	1020.8	531.1	286.8	211.5	183.6	178.1	179.4	193.7	214.3	222.2
40°	1472.9	1159.8	523.8	277.4	205.5	183.0	174.7	179.9	193.5	216.9	224.0
42.5°	1707.6	1270.6	524.6	268.0	205.2	181.0	174.2	180.4	192.9	214.6	224.2
45°	1908.9	1369.9	535.8	262.6	202.6	184.3	173.4	181.2	189.6	206.2	216.9
47.5°	2073.9	1480.7	547.3	257.4	201.6	187.5	172.6	175.7	183.8	196.9	206.5
50°	2208.5	1558.7	561.9	256.3	201.6	185.9	170.5	170.3	177.0	187.5	196.6
52.5°	2313.3	1613.7	571.8	257.6	201.6	179.9	167.9	165.8	170.0	177.6	186.7
55°	2389.2	1630.7	563.7	261.0	201.3	174.4	163.2	161.4	163.5	168.7	177.3
57.5°	2419.7	1586.1	515.5	255.0	201.3	170.5	157.5	155.4	157.5	161.4	170.0
60°	2343.3	1442.7	445.9	239.6	197.4	165.3	151.0	149.7	152.8	156.2	164.5
62.5°	2151.6	1252.1	371.6	221.4	189.3	160.9	144.7	145.0	149.9	154.6	163.0
65°	1853.9	1021.6	309.8	202.9	179.1	153.8	138.2	140.0	147.1	153.3	161.7
67.5°	1458.8	756.9	260.7	184.9	164.8	142.4	130.9	131.4	136.4	142.4	150.4
70°	975.2	481.6	214.3	163.7	146.0	127.5	119.7	117.9	116.6	121.8	128.8
72.5°	494.6	284.5	176.0	140.0	125.7	111.3	105.3	100.6	97.0	100.1	105.6
75°	259.2	198.9	142.1	116.3	103.8	94.6	90.2	84.0	81.4	83.2	87.1
77.5°	183.3	155.7	115.0	92.0	84.5	75.1	75.9	69.4	67.3	68.3	72.5
80°	140.8	123.3	88.4	69.6	65.2	56.1	58.7	54.8	52.1	51.6	54.8
82.5°	96.0	92.8	62.8	48.8	45.6	39.1	42.8	41.2	37.8	35.7	37.3
85°	64.7	61.5	38.3	28.2	26.9	20.3	26.1	25.0	22.2	19.0	19.3
87.5°	11.2	20.6	11.0	7.0	6.5	2.3	6.0	5.7	5.2	2.6	2.1
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)