

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: P368419

Luminaire Tested: **MSA-SA4B-760-U-T3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368419
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-11)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4B-760-U-T3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14348 lumens
Efficiency: N/A
Efficacy: 83.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G3

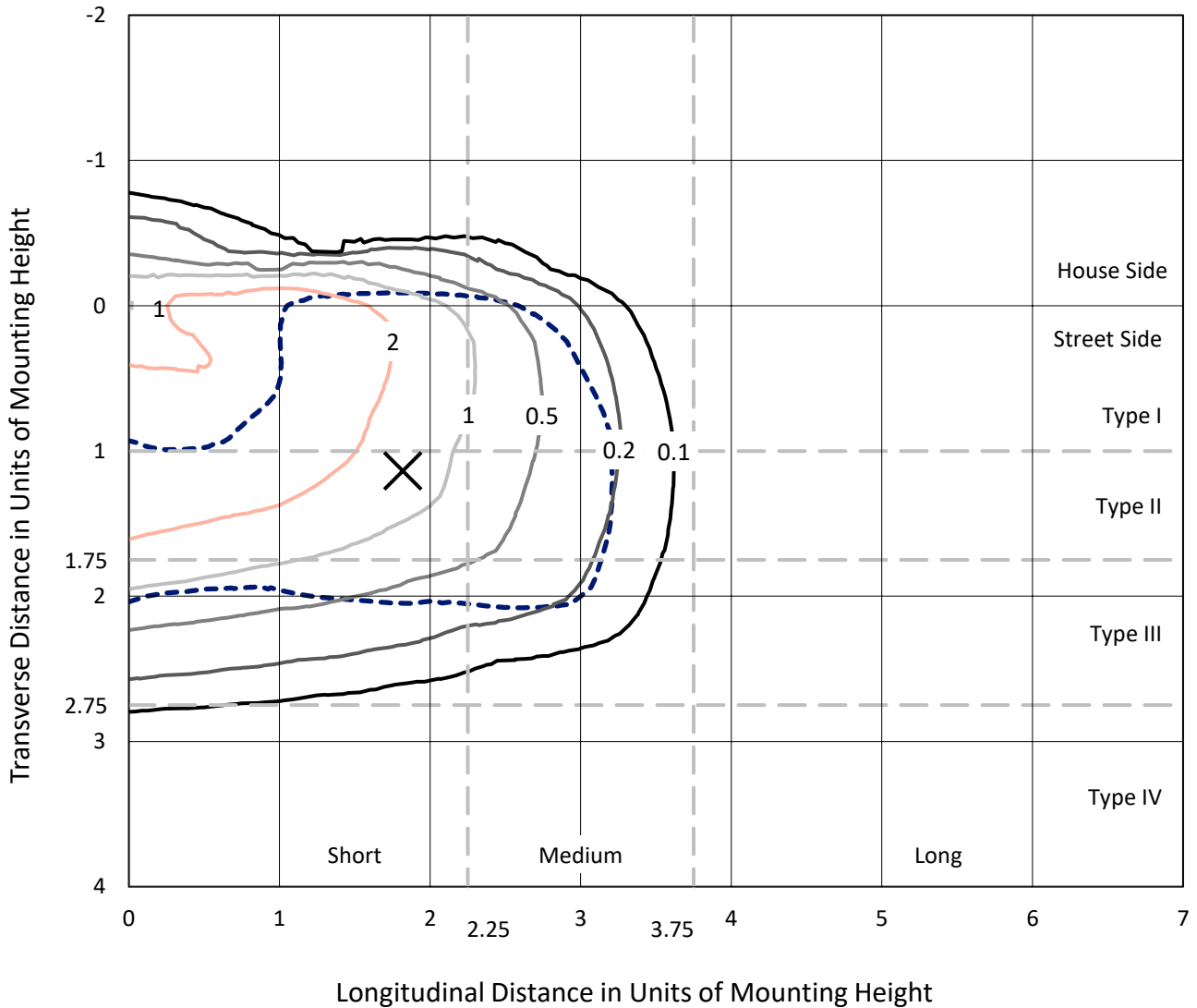
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

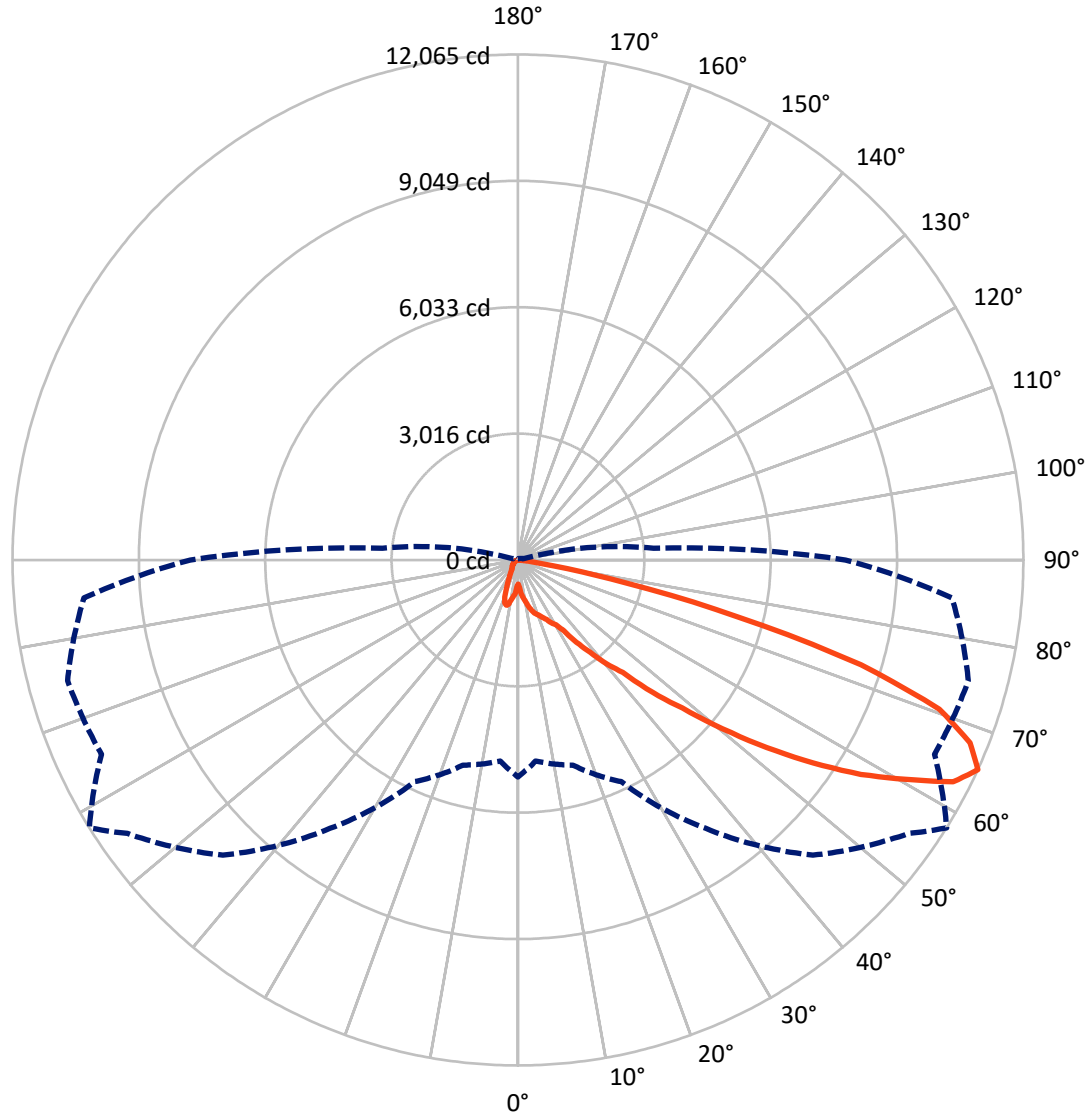
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1415.8	0.0	1415.8
	% Fixture	9.9	0.0	9.9
Street Side	Lumens	12932.2	0.0	12932.2
	% Fixture	90.1	0.0	90.1
Total	Lumens	14348.0	0.0	14348.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.7	0.6
10°-20°	294.5	2.1
20°-30°	570.1	4.0
30°-40°	1137.4	7.9
40°-50°	2325.3	16.2
50°-60°	4124.4	28.7
60°-70°	4348.2	30.3
70°-80°	1409.7	9.8
80°-90°	57.6	0.4
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°	14348.0	100.0
0°-180°	14348.0	100.0

Coefficient of Utilization



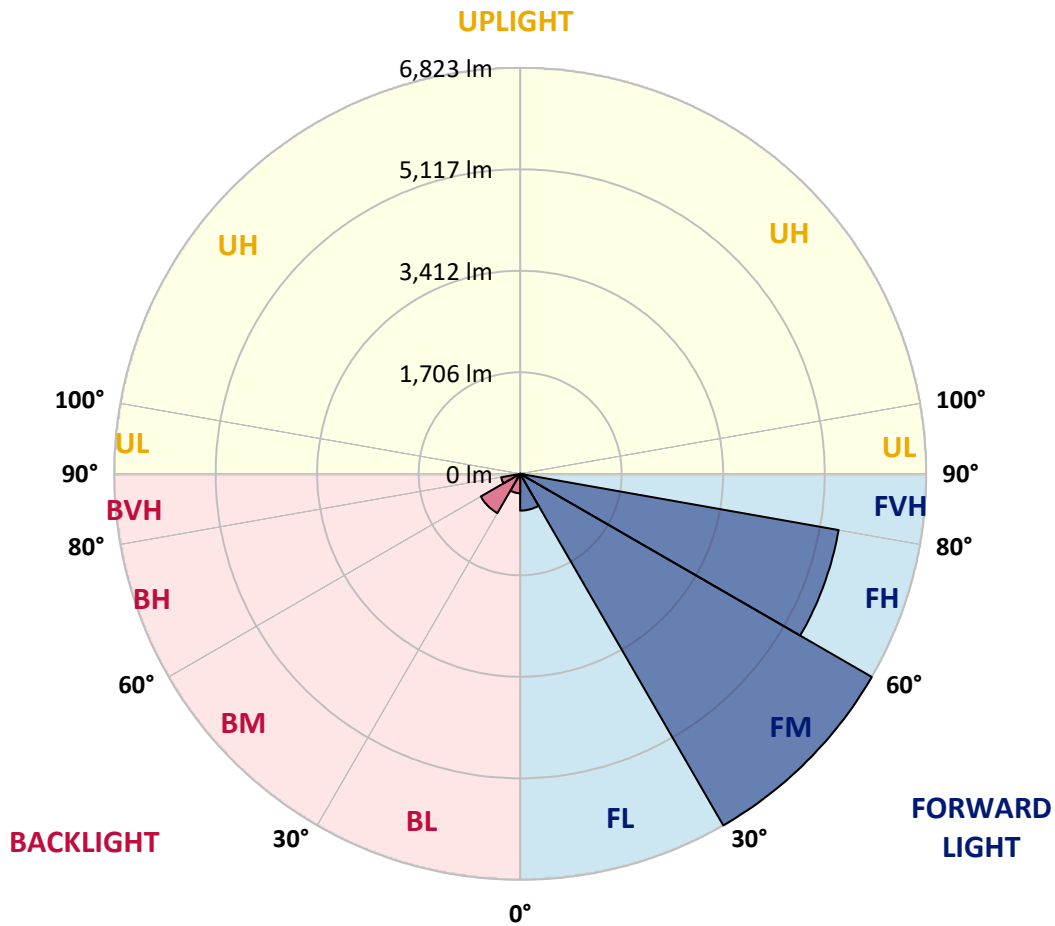
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	619.0	4.3			
FM (30°-60°)	6823.2	47.6			
FH (60°-80°)	5434.8	37.9			G3/7500
FVH (80°-90°)	55.2	0.4			G1/100
BL (0°-30°)	326.3	2.3	B1/500		
BM (30°-60°)	763.9	5.3	B1/1000		
BH (60°-80°)	323.1	2.3	B1/500		G1/500
BVH (80°-90°)	2.4	0.0			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	574.4	574.4	574.4	574.4	574.4	574.4	574.4	574.4	574.4	574.4	574.4
2.5°	701.2	680.2	647.1	652.7	659.2	672.1	661.6	651.9	641.4	627.7	680.2
5°	846.6	811.9	808.6	801.4	795.7	794.9	807.8	803.8	809.5	835.3	862.0
7.5°	899.9	885.4	857.9	869.2	851.5	837.7	895.1	913.7	949.2	961.3	1030.8
10°	894.3	873.3	884.6	890.2	902.4	952.4	988.8	1009.0	1039.7	1105.9	1092.2
12.5°	920.1	938.7	950.8	951.6	1013.8	1105.9	1131.8	1148.7	1203.7	1229.5	1297.4
15°	1006.6	1037.3	1017.9	1026.0	1046.1	1158.4	1219.0	1256.2	1333.7	1417.8	1434.7
17.5°	1130.2	1149.6	1109.2	1080.1	1135.8	1197.2	1307.1	1345.9	1395.1	1591.4	1627.8
20°	1286.1	1319.2	1232.0	1116.4	1189.9	1262.7	1382.2	1400.8	1453.3	1709.4	1766.7
22.5°	1650.4	1601.1	1467.8	1287.7	1265.9	1298.2	1412.1	1484.8	1573.7	1775.6	1908.9
25°	2009.9	1992.9	1796.6	1595.5	1450.1	1377.4	1528.4	1568.8	1714.2	1933.2	2006.7
27.5°	2409.8	2443.7	2115.7	1993.7	1708.6	1471.1	1601.1	1702.1	1874.2	1990.5	2167.4
30°	2937.3	2883.2	2498.6	2376.7	2051.1	1728.8	1789.4	1795.8	2048.7	2179.5	2347.6
32.5°	3350.9	3385.6	2902.6	2715.1	2455.0	2125.4	1930.7	2014.7	2195.7	2487.3	2646.5
35°	3798.5	3795.2	3324.3	3072.2	2732.1	2449.4	2350.0	2411.4	2638.4	2968.8	3010.8
37.5°	4467.3	4410.0	3854.2	3485.0	3195.8	2954.3	2878.3	2796.7	3031.0	3346.1	3503.6
40°	5098.3	4900.3	4386.6	3948.7	3578.7	3480.2	3205.5	3255.6	3325.1	3741.1	4176.5
42.5°	5735.6	5612.9	4926.2	4559.4	4104.6	3870.4	3691.0	3667.6	3998.0	4490.8	4940.7
45°	6576.6	6201.0	5651.6	5329.3	4802.6	4567.5	4422.9	4509.4	4806.6	5526.4	5826.1
47.5°	7282.7	6936.9	6465.1	5975.6	5423.0	5687.2	5415.7	5279.2	5687.2	6431.2	6829.5
50°	7889.3	7504.0	7026.6	6663.9	6574.2	6827.8	6278.5	6328.6	6593.6	7467.7	7692.2
52.5°	8330.4	7924.9	7508.0	7332.7	7700.3	7827.9	7552.5	7441.8	7682.5	8351.4	8460.5
55°	8662.4	8247.2	7921.7	8163.2	8874.1	8832.1	8929.0	8551.0	8781.2	9273.2	9221.5
57.5°	8682.6	8190.7	8000.0	8388.6	9364.5	10014.8	10298.3	9655.3	9786.1	9993.8	9877.4
60°	8047.7	7558.1	7542.8	8094.5	9506.6	10320.9	10941.4	10627.9	10452.6	10606.9	10386.4
62.5°	6782.6	6440.1	6600.0	7210.0	8977.5	10152.1	11283.9	11661.1	10978.5	11013.3	10699.8
65°	5179.0	4819.6	5070.0	5838.2	7820.7	9963.1	11380.8	12065.1	10968.8	11128.8	10399.3
67.5°	3430.1	3221.7	3505.2	4351.8	6217.9	8794.9	11330.7	11640.9	10620.6	10677.2	9283.7
70°	1770.8	1719.9	1949.3	2617.4	4180.6	6756.8	10838.8	10669.1	9913.8	9198.0	7160.7
72.5°	567.1	569.5	790.1	1195.6	2253.9	4113.5	8331.2	8563.9	7933.0	6728.5	4372.0
75°	251.2	247.2	330.4	501.7	939.5	1844.3	5175.8	5427.1	4939.1	3701.5	1837.8
77.5°	181.0	175.3	211.7	293.2	465.3	625.3	2426.7	2619.0	2239.3	1282.8	420.9
80°	127.6	126.8	153.5	206.0	290.8	277.9	766.6	859.5	688.3	311.0	123.6
82.5°	71.9	74.3	106.6	145.4	176.9	138.9	215.7	237.5	231.8	165.6	54.1
85°	34.7	38.8	69.5	105.0	92.9	54.1	76.7	83.2	96.9	96.1	27.5
87.5°	0.0	0.0	28.3	47.7	25.0	8.1	23.4	26.7	25.9	30.7	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



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	574.4	574.4	574.4	574.4	574.4	574.4	574.4	574.4	574.4	574.4	574.4
2.5°	690.7	685.9	624.5	629.3	643.0	637.4	642.2	630.9	618.0	670.5	669.7
5°	873.3	836.9	817.5	799.8	803.0	766.6	787.6	797.3	795.7	825.6	833.7
7.5°	1033.2	984.8	946.0	908.8	852.3	801.4	832.9	853.1	866.8	918.5	938.7
10°	1108.4	1068.8	1053.4	980.7	940.3	908.8	870.8	843.4	854.7	841.0	854.7
12.5°	1273.2	1246.5	1187.5	1114.0	1065.5	1000.9	859.5	741.6	668.9	669.7	664.9
15°	1423.4	1421.8	1333.7	1211.8	1071.2	887.0	666.5	517.8	449.2	429.8	423.3
17.5°	1619.7	1595.5	1434.7	1254.6	1001.7	686.7	454.0	354.6	348.2	359.5	354.6
20°	1744.9	1709.4	1484.8	1192.4	825.6	464.5	342.5	314.2	333.6	349.8	345.8
22.5°	1870.1	1816.8	1522.8	1116.4	587.3	340.1	309.4	304.6	316.7	336.9	340.1
25°	1938.8	1928.3	1597.1	974.3	402.3	298.1	298.1	296.5	300.5	315.1	312.6
27.5°	2138.3	1996.2	1541.4	760.2	311.0	273.9	277.9	276.3	261.7	276.3	277.1
30°	2262.8	2197.3	1545.4	541.3	273.9	242.4	252.9	239.9	218.1	230.2	227.8
32.5°	2513.2	2350.0	1533.3	365.1	249.6	231.0	214.9	196.3	180.1	185.0	181.0
35°	2804.8	2680.4	1369.3	293.2	232.7	204.4	178.5	160.0	143.0	147.0	146.2
37.5°	3384.8	2989.8	1233.6	264.2	221.3	187.4	157.5	131.7	122.8	125.2	127.6
40°	3922.1	3506.0	980.7	251.2	202.0	167.2	130.1	111.5	105.8	107.4	109.9
42.5°	4725.0	3916.4	740.8	238.3	182.6	141.4	108.3	96.1	90.5	93.7	95.3
45°	5502.2	4265.4	553.4	227.0	166.4	122.0	91.3	83.2	76.7	79.2	82.4
47.5°	6278.5	4653.1	412.8	209.2	148.6	105.0	78.4	72.7	68.7	69.5	73.5
50°	6973.3	4834.1	324.8	187.4	134.1	91.3	71.1	65.4	63.8	64.6	67.9
52.5°	7483.8	4835.7	273.9	168.0	120.4	80.8	67.1	60.6	59.8	61.4	64.6
55°	7945.1	4706.5	237.5	151.1	108.3	73.5	63.8	58.2	58.2	59.8	63.0
57.5°	8251.3	4469.0	206.0	133.3	97.7	69.5	61.4	55.7	54.9	54.1	56.5
60°	8400.7	4145.0	174.5	117.1	88.1	67.1	59.8	49.3	48.5	46.9	48.5
62.5°	8306.2	3739.5	146.2	101.0	78.4	63.8	52.5	42.8	41.2	38.0	40.4
65°	7823.1	3246.7	123.6	86.4	67.9	54.1	44.4	36.4	32.3	28.3	27.5
67.5°	6835.1	2637.6	103.4	74.3	58.2	44.4	36.4	32.3	25.0	21.8	21.0
70°	5122.5	1800.7	85.6	63.8	48.5	38.0	30.7	29.1	23.4	21.0	19.4
72.5°	3005.2	971.8	71.9	55.7	41.2	31.5	25.0	26.7	23.4	19.4	17.8
75°	1200.4	323.1	57.4	44.4	33.1	22.6	21.0	21.8	21.0	17.8	14.5
77.5°	273.9	101.8	44.4	34.7	25.9	14.5	17.0	18.6	18.6	14.5	10.5
80°	85.6	40.4	25.9	21.8	18.6	8.1	12.1	12.9	8.9	4.0	0.0
82.5°	27.5	11.3	8.9	8.9	8.1	1.6	2.4	1.6	0.0	0.0	0.0
85°	10.5	7.3	5.7	5.7	3.2	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	4.0	3.2	2.4	3.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0
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)