

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: P368299

Luminaire Tested: **MSA-SA4A-830-U-SL3-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368299
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-19)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4A-830-U-SL3-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10117 lumens
Efficiency: N/A
Efficacy: 78.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

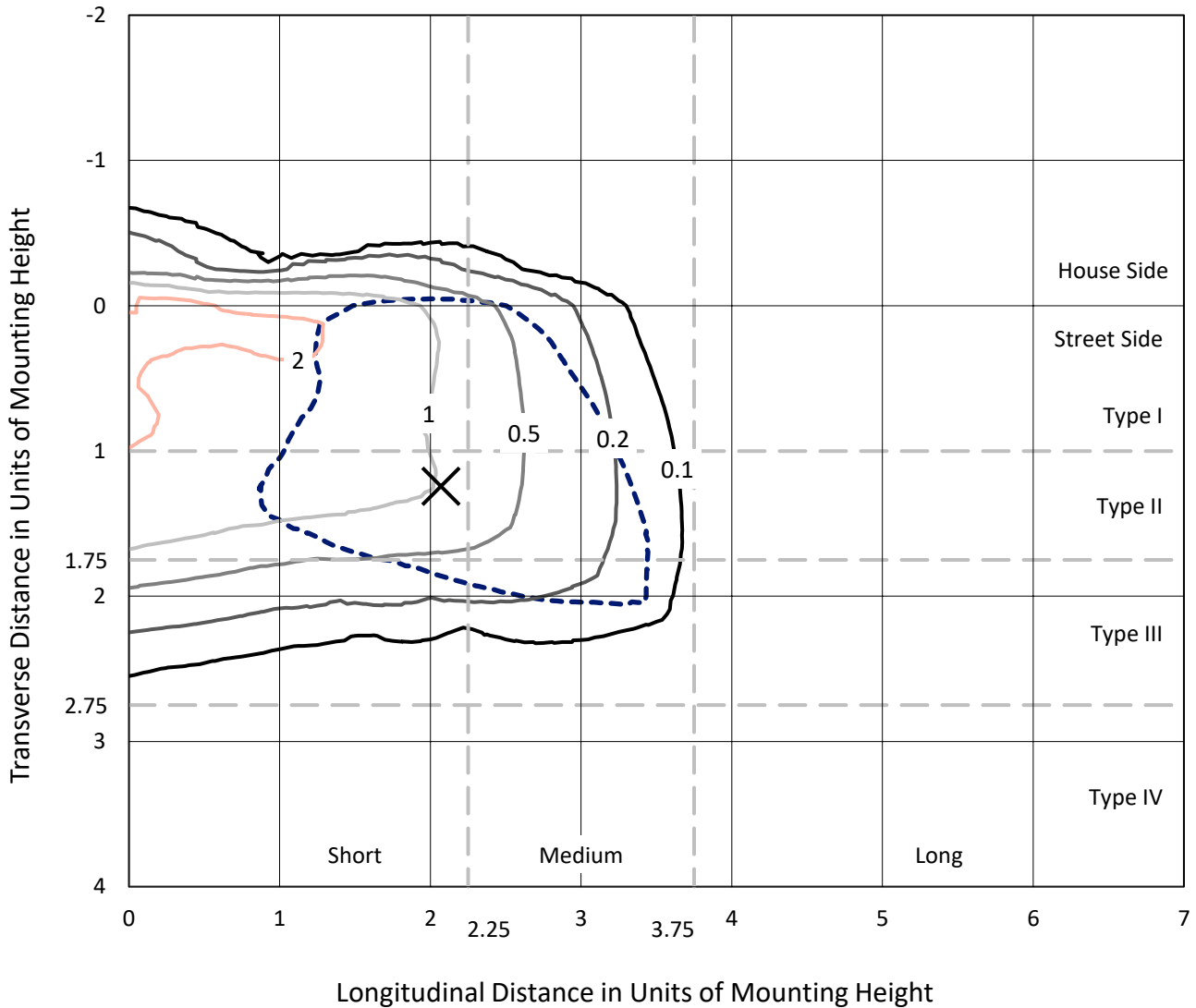
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

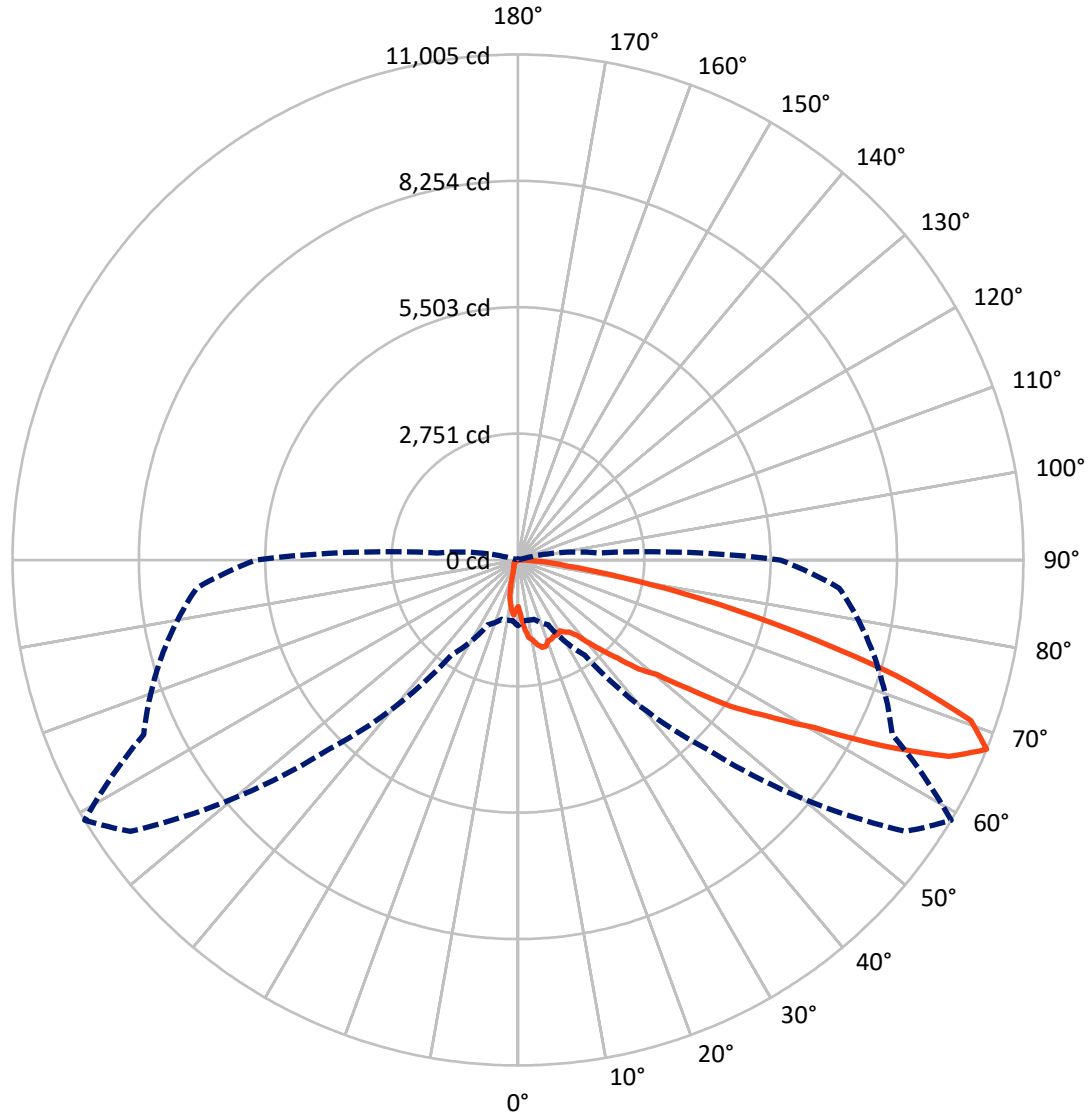
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.9 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	860.4	0.0	860.4
	% Fixture	8.5	0.0	8.5
Street Side	Lumens	9256.6	0.0	9256.6
	% Fixture	91.5	0.0	91.5
Total	Lumens	10117.0	0.0	10117.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.1	1.2
10°-20°	346.6	3.4
20°-30°	515.5	5.1
30°-40°	795.3	7.9
40°-50°	1419.3	14.0
50°-60°	2525.6	25.0
60°-70°	2941.5	29.1
70°-80°	1308.1	12.9
80°-90°	142.1	1.4
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°	10117.0	100.0
0°-180°	10117.0	100.0

Coefficient of Utilization

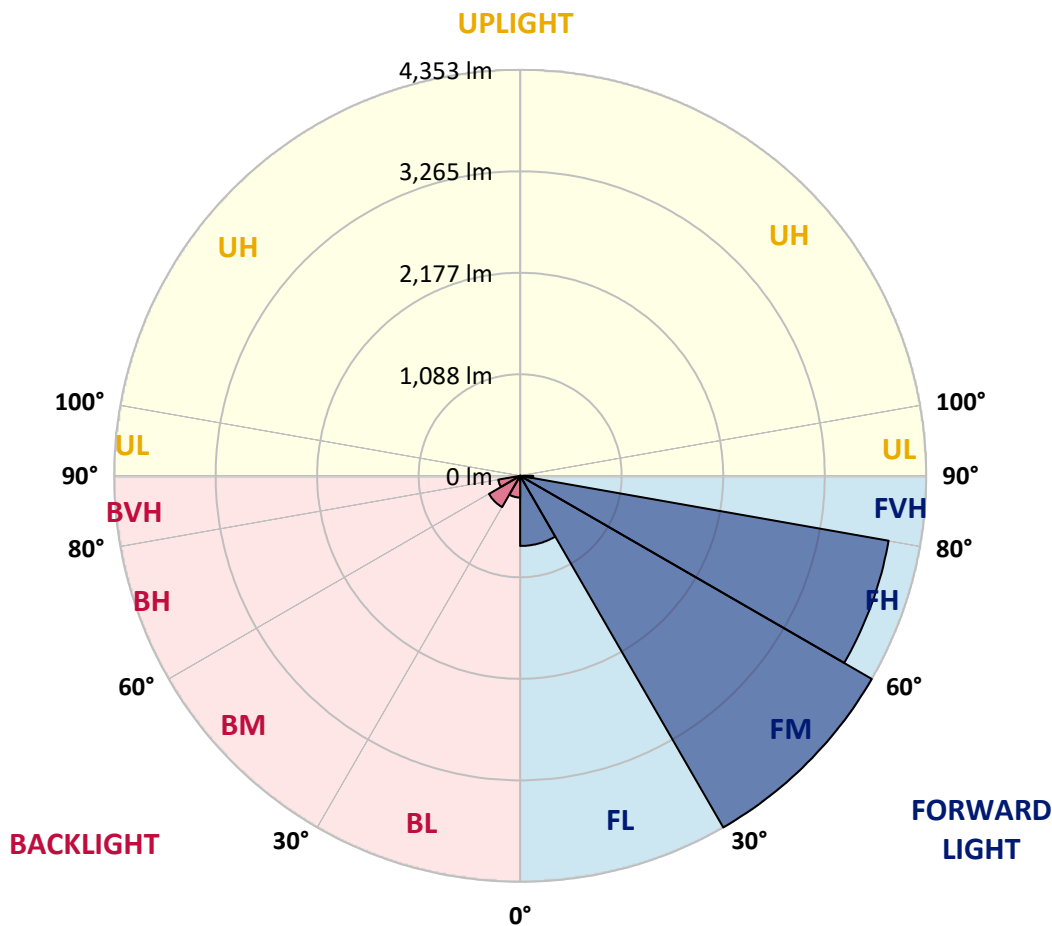


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	752.4	7.4			
FM (30°-60°)	4353.3	43.0			
FH (60°-80°)	4011.3	39.6			G2/5000
FVH (80°-90°)	139.5	1.4			G2/225
BL (0°-30°)	232.7	2.3	B1/500		
BM (30°-60°)	386.8	3.8	B1/1000		
BH (60°-80°)	238.3	2.4	B1/500		G1/500
BVH (80°-90°)	2.5	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-G2
 Type III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2
2.5°	1319.6	1269.9	1199.2	1220.2	1239.2	1257.1	1227.4	1210.5	1202.3	1129.5	1220.7
5°	1620.3	1558.3	1526.0	1517.8	1497.4	1451.8	1527.6	1493.8	1505.0	1519.4	1549.1
7.5°	1712.0	1683.8	1637.2	1654.6	1576.8	1570.1	1675.1	1704.3	1742.7	1716.6	1752.5
10°	1664.9	1616.2	1638.2	1632.1	1629.0	1697.7	1771.4	1773.0	1830.3	1858.0	1736.6
12.5°	1571.6	1577.3	1656.2	1650.0	1752.5	1889.8	1906.7	1888.7	1982.5	1934.3	1915.9
15°	1633.6	1679.7	1636.2	1651.0	1687.4	1859.0	1918.9	1974.3	2062.9	2091.6	1967.1
17.5°	1708.4	1713.0	1633.6	1615.2	1706.9	1786.8	1928.2	1973.8	1982.5	2234.0	2082.4
20°	1667.9	1707.4	1612.6	1496.3	1638.7	1747.3	1890.8	1876.4	1934.8	2276.0	2108.5
22.5°	1775.5	1719.2	1597.8	1510.2	1558.3	1657.2	1778.6	1872.3	1959.9	2175.6	2142.3
25°	1785.8	1765.3	1657.2	1579.3	1571.1	1596.2	1765.3	1825.7	1963.0	2265.8	2113.6
27.5°	1901.0	1877.5	1656.2	1663.8	1587.0	1509.6	1700.7	1842.6	2018.8	2210.9	2174.6
30°	2049.6	2051.6	1766.3	1790.4	1680.7	1556.3	1753.5	1792.4	2056.7	2298.5	2219.7
32.5°	2200.2	2262.2	1984.0	1856.5	1822.1	1733.0	1687.9	1867.7	2015.3	2448.1	2332.3
35°	2429.2	2471.2	2163.3	2049.1	1914.3	1812.9	1866.2	1930.7	2164.3	2646.4	2480.4
37.5°	2817.0	2741.1	2485.0	2286.2	2254.0	2104.4	2131.0	2073.1	2316.5	2880.0	2773.4
40°	3035.2	2966.5	2700.2	2603.3	2397.4	2420.5	2336.4	2370.3	2537.3	3123.3	3040.3
42.5°	3262.6	3197.1	2963.5	2894.8	2698.6	2603.3	2565.4	2686.8	2875.9	3528.5	3423.0
45°	3491.1	3324.6	3225.7	3260.1	3172.0	2983.4	2939.4	3047.5	3245.7	4026.4	3826.6
47.5°	3683.7	3543.3	3469.1	3453.2	3418.9	3680.6	3501.3	3549.0	3636.6	4467.0	4329.7
50°	4031.0	3892.7	3776.4	3744.2	3911.2	4282.5	4005.9	3913.7	4088.9	4999.2	4912.6
52.5°	4532.5	4356.3	4171.4	4171.9	4486.9	4690.8	4822.0	4660.1	4692.9	5584.7	5546.3
55°	4935.7	4711.8	4558.7	4679.6	5149.3	5263.5	5764.0	5622.1	5579.6	6127.7	6080.6
57.5°	4991.0	4722.6	4649.8	4861.9	5504.8	6234.3	6772.7	6418.2	6353.1	6582.1	6675.9
60°	4474.6	4189.8	4244.6	4585.8	5620.6	6825.9	7698.9	7409.4	6996.0	7114.4	7178.9
62.5°	3337.4	3110.0	3263.6	3715.5	5174.4	7222.4	8771.0	8905.2	7741.9	7513.9	7500.1
65°	2165.3	2022.9	2123.9	2494.2	3915.8	7177.4	9729.0	10310.9	8329.5	7839.7	7601.0
67.5°	1432.3	1324.2	1338.6	1557.8	2532.1	5837.3	10301.7	11005.0	8990.3	8024.7	7022.7
70°	1067.6	982.5	987.6	1106.5	1503.0	3849.7	9503.1	10457.4	9231.6	7383.8	5668.2
72.5°	769.9	713.1	760.7	892.9	1197.7	2035.7	7083.1	8612.2	8049.8	5824.0	3818.9
75°	533.3	495.9	573.7	746.9	1093.2	1263.8	4680.6	6199.4	5642.1	3654.0	1726.3
77.5°	295.6	284.3	396.5	608.6	992.3	1035.8	2867.2	4073.5	3129.4	1309.9	410.8
80°	129.1	125.0	192.1	456.9	834.0	935.9	1614.2	2258.6	1231.0	233.6	132.7
82.5°	55.3	53.3	82.0	275.1	606.0	782.7	995.3	1087.0	423.6	72.2	75.3
85°	9.7	10.8	32.8	145.0	368.8	397.5	720.8	643.4	213.1	34.3	53.8
87.5°	0.0	0.0	5.1	28.2	69.2	113.7	312.5	225.4	40.5	11.3	9.2
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°	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2	1012.2
2.5°	1233.5	1204.9	1095.7	1081.9	1067.1	1045.0	1036.8	989.7	983.6	1044.0	1044.0
5°	1535.3	1432.8	1328.8	1246.9	1173.6	1072.2	1043.5	1013.8	989.7	983.6	1002.5
7.5°	1694.6	1569.6	1406.2	1197.7	1028.6	881.6	820.1	777.1	729.0	743.3	751.0
10°	1685.9	1553.2	1344.7	1076.8	889.3	726.9	570.7	479.5	428.8	403.7	400.6
12.5°	1771.4	1646.4	1303.2	980.5	741.2	516.9	359.1	294.0	256.6	257.2	254.1
15°	1821.1	1684.8	1255.1	858.6	522.0	332.5	249.0	234.6	229.5	235.1	232.1
17.5°	1908.7	1725.3	1145.9	676.7	359.1	251.0	229.0	223.3	230.0	241.8	238.7
20°	1902.0	1655.1	990.7	476.9	265.4	225.9	216.7	208.0	221.8	234.1	232.1
22.5°	1895.9	1586.5	844.7	351.9	221.8	205.9	198.2	194.7	201.8	216.2	219.2
25°	1841.6	1552.7	696.7	264.3	200.8	187.0	183.4	180.3	182.9	194.7	194.1
27.5°	1908.2	1467.1	537.9	221.8	186.0	169.6	166.5	161.4	156.2	166.5	168.0
30°	1894.4	1478.9	421.6	195.2	171.1	149.1	150.1	139.3	130.1	139.3	139.3
32.5°	1944.6	1392.9	337.6	177.2	156.2	140.4	127.6	116.3	109.6	115.3	116.3
35°	2017.8	1396.4	264.3	166.0	143.4	125.0	109.6	98.4	92.2	94.8	96.3
37.5°	2263.2	1371.8	220.8	157.3	138.8	115.8	99.9	85.0	80.9	84.0	85.5
40°	2423.0	1437.4	194.7	152.7	127.0	106.6	85.5	74.8	71.2	72.7	75.3
42.5°	2724.2	1473.8	181.9	147.5	116.3	91.2	73.3	67.1	62.0	64.0	66.1
45°	3046.4	1535.8	172.1	141.9	108.1	79.9	64.5	59.4	52.8	53.3	55.3
47.5°	3442.4	1683.3	160.9	132.2	96.8	72.7	57.4	49.7	43.5	43.0	45.6
50°	3974.2	1880.5	150.6	119.9	89.6	66.6	50.2	40.5	35.3	33.8	35.9
52.5°	4541.8	2135.6	139.8	111.2	80.9	58.4	43.0	32.8	28.2	27.2	28.7
55°	5104.2	2380.5	129.6	105.5	71.7	50.2	36.4	27.2	23.1	22.0	23.1
57.5°	5745.1	2645.3	116.3	94.3	63.0	43.5	30.2	22.5	19.0	17.9	18.4
60°	6227.6	2738.6	105.0	82.0	54.8	38.4	25.6	17.9	15.4	14.3	14.9
62.5°	6456.6	2586.4	94.3	71.2	48.2	33.3	21.5	14.9	12.8	11.8	11.8
65°	6397.2	2249.4	83.5	61.0	41.5	27.7	16.9	12.8	11.3	9.7	9.2
67.5°	5710.7	1760.1	71.2	51.2	34.8	22.5	14.3	12.3	10.2	9.2	7.7
70°	4528.9	1274.5	57.9	42.5	29.2	18.4	11.3	11.3	9.7	9.2	7.2
72.5°	2968.6	802.2	47.1	34.3	24.1	14.3	8.7	10.2	9.2	9.2	6.7
75°	1286.3	286.9	37.9	27.7	20.0	9.7	7.7	9.2	9.7	9.2	7.7
77.5°	301.2	89.1	29.7	22.0	16.4	6.7	7.7	9.2	9.7	8.7	6.7
80°	113.2	37.9	19.5	14.3	12.8	4.1	6.7	5.6	5.1	3.6	1.0
82.5°	68.6	15.9	10.2	7.2	6.1	1.0	3.1	2.0	1.0	1.0	0.0
85°	48.7	7.7	5.6	5.1	3.1	0.0	0.5	0.0	0.0	0.5	0.0
87.5°	6.7	2.0	2.6	2.6	2.0	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)