

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: P367640

Luminaire Tested: **MSA-SA2D-830-U-SL3**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367640
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-18)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2D-830-U-SL3
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10516 lumens
Efficiency: N/A
Efficacy: 81.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

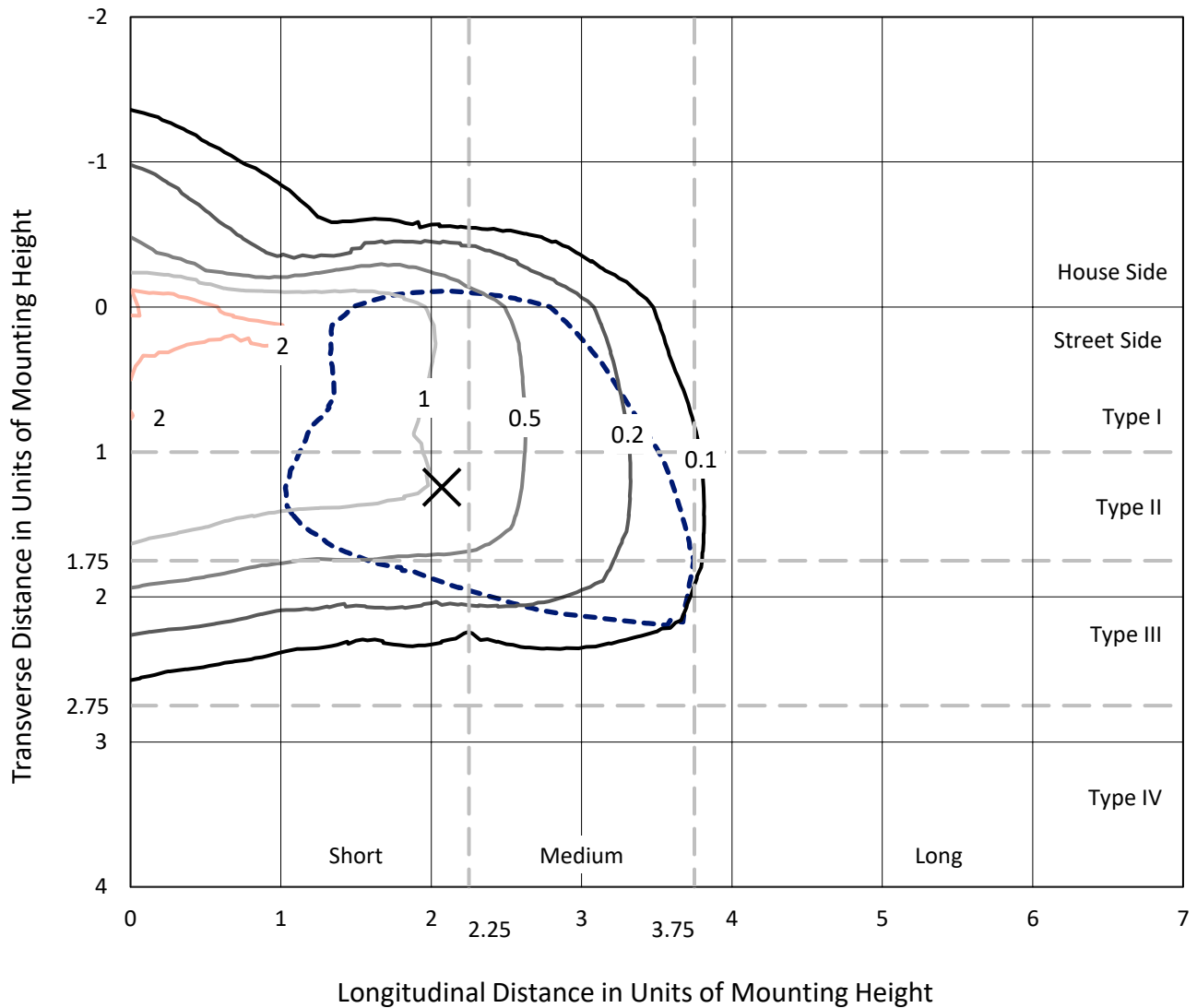
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

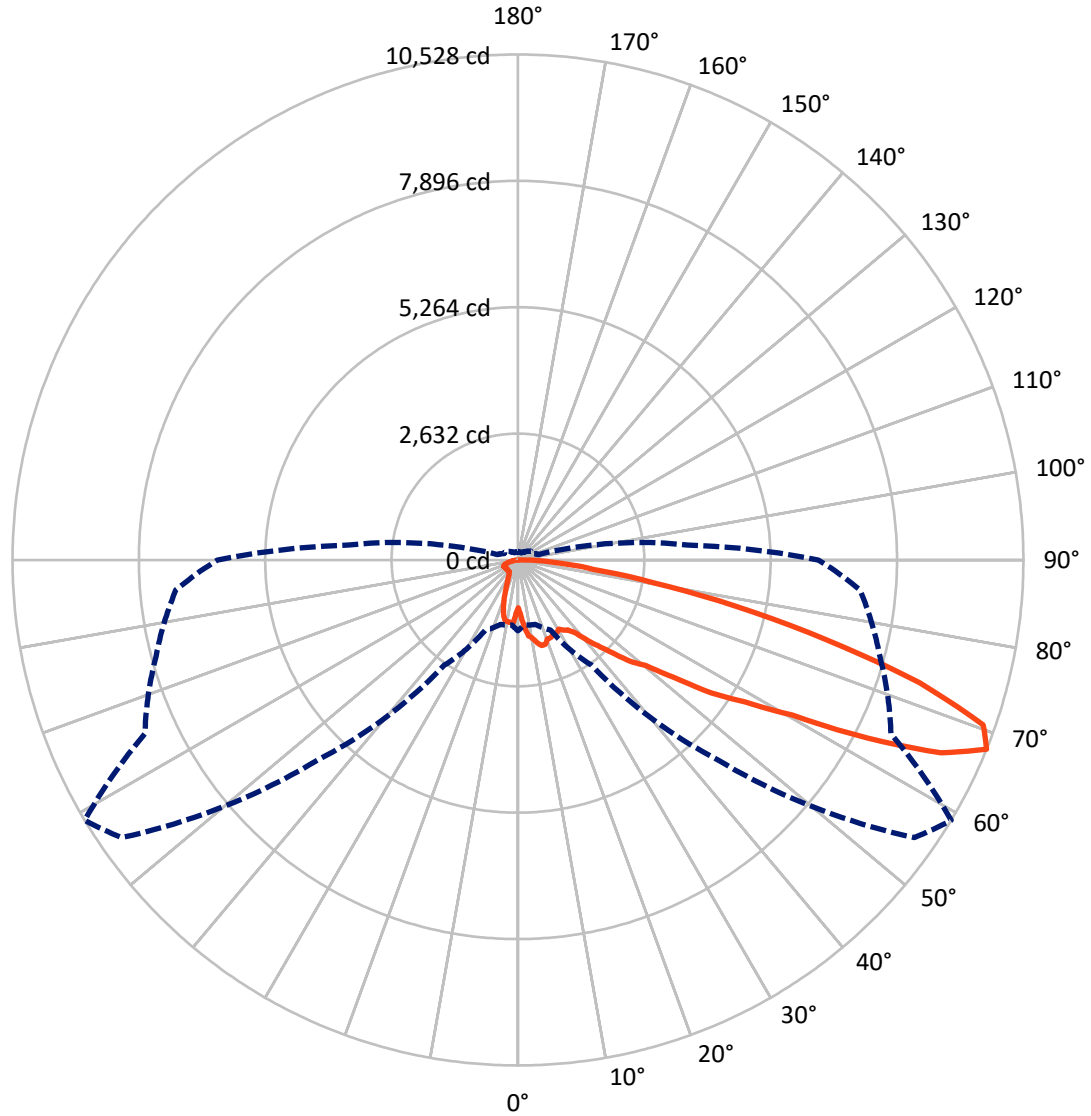
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 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	1582.9	0.0	1582.9
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	8933.1	0.0	8933.1
	% Fixture	84.9	0.0	84.9
Total	Lumens	10516.0	0.0	10516.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.0	1.2
10°-20°	384.6	3.7
20°-30°	549.2	5.2
30°-40°	809.3	7.7
40°-50°	1367.4	13.0
50°-60°	2379.5	22.6
60°-70°	3032.2	28.8
70°-80°	1605.6	15.3
80°-90°	258.3	2.5
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°	10516.0	100.0
0°-180°	10516.0	100.0

Coefficient of Utilization



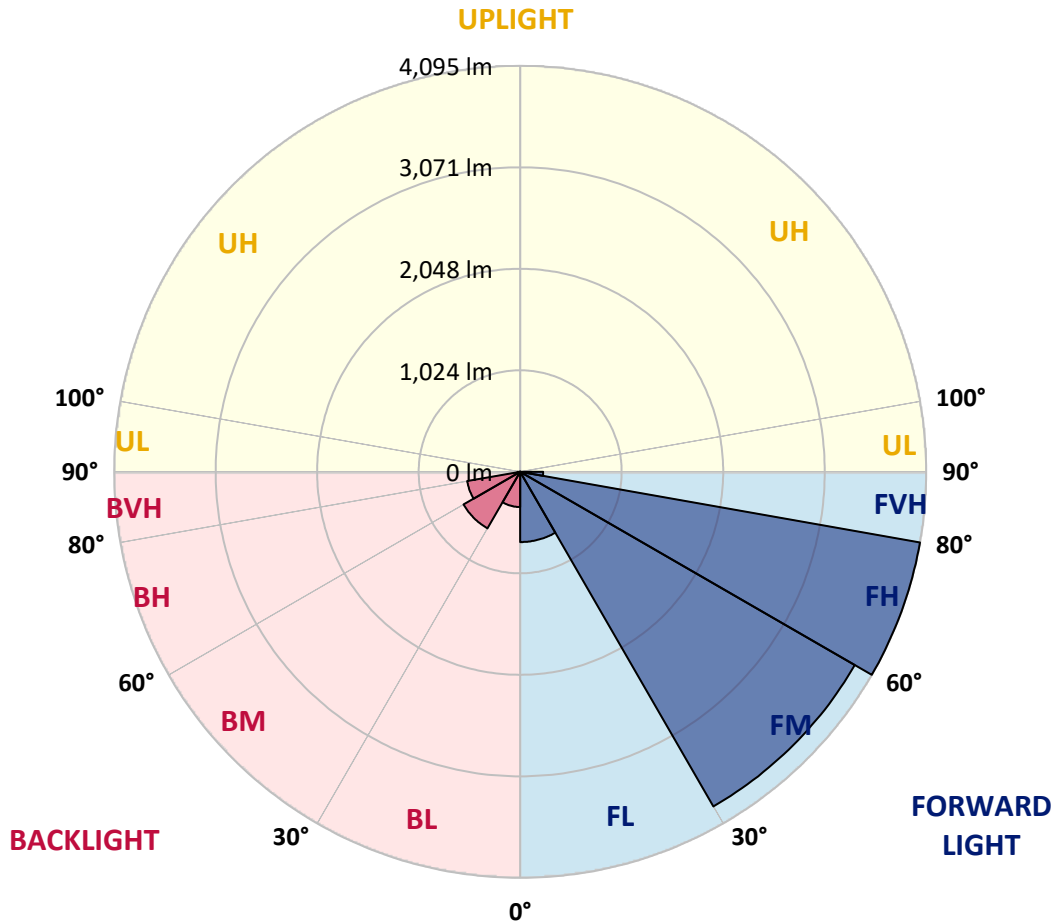
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	708.8	6.7			
FM (30°-60°)	3897.1	37.1			
FH (60°-80°)	4095.3	38.9			G2/5000
FVH (80°-90°)	232.0	2.2			G3/500
BL (0°-30°)	355.0	3.4	B1/500		
BM (30°-60°)	659.1	6.3	B1/1000		
BH (60°-80°)	542.5	5.2	B2/1000		G2/1000
BVH (80°-90°)	26.3	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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	995.1	995.1	995.1	995.1	995.1	995.1	995.1	995.1	995.1	995.1	995.1
2.5°	1242.4	1184.5	1123.0	1140.4	1175.6	1191.6	1174.2	1157.3	1135.5	1109.6	1197.9
5°	1506.7	1420.7	1408.2	1407.7	1395.3	1345.4	1409.5	1405.1	1430.9	1457.7	1526.3
7.5°	1582.0	1549.9	1515.1	1531.6	1468.8	1466.1	1565.9	1594.5	1644.4	1627.9	1720.1
10°	1543.2	1507.1	1525.4	1518.7	1524.5	1590.5	1651.5	1653.3	1706.8	1759.3	1700.1
12.5°	1475.0	1477.7	1550.3	1547.7	1641.3	1763.8	1782.1	1767.8	1855.2	1819.5	1870.3
15°	1523.6	1556.1	1537.9	1553.5	1590.5	1746.4	1797.2	1848.9	1931.8	1963.9	1913.1
17.5°	1601.1	1618.5	1536.5	1528.1	1604.3	1678.2	1804.4	1848.5	1861.4	2090.0	2018.3
20°	1568.2	1603.4	1523.2	1420.2	1546.8	1644.8	1769.1	1755.8	1818.6	2099.8	2040.1
22.5°	1661.8	1603.4	1501.3	1428.2	1472.8	1562.8	1668.4	1756.2	1830.6	2042.3	2071.7
25°	1679.6	1651.9	1556.6	1483.9	1468.8	1500.9	1651.5	1709.0	1834.7	2120.8	2054.8
27.5°	1788.3	1746.9	1552.6	1554.8	1479.5	1422.9	1598.0	1718.8	1880.1	2072.2	2096.2
30°	1923.3	1891.7	1647.9	1656.9	1552.6	1448.3	1634.6	1671.1	1906.4	2147.9	2148.4
32.5°	2024.5	2080.2	1835.5	1714.3	1677.3	1599.4	1578.4	1742.9	1875.7	2285.2	2237.5
35°	2206.8	2250.0	1979.9	1882.8	1757.6	1669.8	1730.8	1790.1	2003.6	2465.7	2369.9
37.5°	2544.1	2494.2	2248.2	2095.4	2048.6	1922.0	1955.9	1914.4	2142.6	2668.4	2629.2
40°	2739.3	2696.1	2437.1	2352.5	2167.1	2183.1	2140.8	2171.1	2328.4	2884.1	2871.6
42.5°	2931.8	2873.9	2655.1	2596.2	2411.3	2332.9	2340.4	2438.5	2615.0	3232.6	3191.2
45°	3122.1	2973.7	2877.9	2893.5	2804.3	2643.5	2654.6	2746.9	2927.8	3631.0	3535.6
47.5°	3267.8	3145.3	3070.4	3051.2	3007.1	3222.3	3126.1	3163.5	3243.3	3985.7	3949.6
50°	3543.6	3400.6	3303.0	3275.4	3425.1	3724.6	3528.5	3447.8	3617.6	4444.3	4425.5
52.5°	3985.3	3807.0	3644.4	3642.6	3859.2	4053.4	4191.6	4052.6	4114.9	4914.0	4967.4
55°	4370.7	4164.4	4018.2	4098.9	4407.3	4526.3	4995.5	4886.8	4834.2	5388.1	5541.0
57.5°	4514.7	4273.6	4178.2	4297.2	4751.7	5363.2	5859.1	5573.0	5521.8	5924.6	6245.1
60°	4198.7	3943.8	3949.6	4173.8	4961.2	5977.7	6803.4	6560.6	6260.2	6592.6	6905.5
62.5°	3298.6	3068.2	3218.3	3559.2	4785.6	6574.8	8069.0	8171.5	7103.8	7146.6	7271.8
65°	2242.0	2082.4	2217.9	2551.7	3881.4	6900.6	9274.4	9685.3	7872.0	7509.3	7430.0
67.5°	1475.5	1362.7	1389.0	1611.0	2672.0	5882.8	10080.6	10528.4	8574.4	7807.0	7151.0
70°	1142.6	1051.7	1040.1	1156.4	1584.7	4086.9	9602.9	10283.8	9002.2	7528.0	6233.0
72.5°	896.6	827.5	833.8	945.6	1227.3	2267.4	7430.9	8745.0	8357.8	6492.4	4788.7
75°	699.2	642.6	674.2	802.1	1135.0	1409.1	5127.0	6637.2	6461.6	4807.5	2731.3
77.5°	507.6	471.0	516.0	683.2	1066.8	1209.0	3191.6	4630.5	4139.5	2468.3	937.2
80°	332.9	312.4	349.4	557.0	967.5	1163.5	1972.4	2837.3	2045.4	693.4	354.7
82.5°	196.1	187.2	217.9	377.0	777.6	1090.5	1315.5	1576.6	836.9	293.2	188.5
85°	102.9	96.3	129.2	216.6	536.1	995.5	1035.6	943.8	404.2	127.5	90.0
87.5°	34.3	33.4	54.8	83.8	202.8	528.5	552.6	448.3	166.7	37.0	19.6
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°	995.1	995.1	995.1	995.1	995.1	995.1	995.1	995.1	995.1	995.1	995.1
2.5°	1209.9	1192.1	1089.6	1103.8	1117.2	1110.5	1106.5	1060.2	1055.7	1121.6	1116.3
5°	1524.5	1450.5	1363.2	1359.2	1301.7	1242.9	1254.4	1235.7	1241.1	1268.3	1270.9
7.5°	1690.7	1598.5	1515.1	1379.7	1264.7	1171.6	1186.3	1181.8	1169.8	1231.3	1247.8
10°	1687.6	1605.6	1511.6	1347.6	1270.0	1194.3	1103.4	1017.4	992.0	961.7	964.3
12.5°	1799.0	1726.4	1521.4	1354.3	1249.1	1118.5	948.3	854.3	764.3	762.5	739.7
15°	1833.8	1780.3	1542.3	1315.9	1102.5	915.3	739.3	637.3	572.2	559.3	540.1
17.5°	1921.6	1837.8	1478.6	1192.1	932.3	715.7	555.7	484.4	479.1	488.0	478.2
20°	1927.3	1791.4	1363.6	1008.9	749.1	542.3	453.2	417.6	436.7	458.6	457.7
22.5°	1922.4	1733.1	1264.3	852.9	562.8	435.8	397.1	389.0	406.9	439.4	443.4
25°	1872.5	1713.9	1139.9	700.5	456.8	373.4	362.7	367.6	389.9	428.3	428.3
27.5°	1924.7	1635.9	984.0	570.0	384.1	332.4	340.0	352.5	369.0	412.7	420.7
30°	1907.7	1661.8	858.3	459.0	338.7	303.9	320.9	333.3	352.0	397.5	401.5
32.5°	1953.2	1592.7	752.7	385.9	308.8	292.8	296.8	313.7	338.2	373.9	381.0
35°	2022.7	1618.1	631.5	347.1	294.1	279.9	287.4	300.8	325.3	360.1	365.9
37.5°	2244.6	1616.7	547.7	325.8	291.4	277.2	280.7	290.1	318.6	350.3	363.6
40°	2387.2	1709.4	471.5	320.9	288.3	275.8	272.7	283.0	305.7	343.1	352.5
42.5°	2655.1	1766.0	438.5	319.1	287.9	268.3	265.1	277.2	299.5	334.2	348.5
45°	2938.0	1846.7	412.2	318.2	286.5	266.9	257.6	272.7	291.4	324.9	341.4
47.5°	3270.9	2017.4	397.5	315.1	283.9	268.7	254.9	262.5	283.4	316.8	333.3
50°	3706.7	2243.3	400.6	310.6	287.9	269.2	250.9	254.5	273.6	306.1	323.1
52.5°	4236.6	2593.1	420.7	312.4	290.6	266.9	249.1	247.3	263.8	292.3	309.3
55°	4875.2	3089.5	480.8	320.9	290.6	266.5	246.4	238.4	250.9	274.1	290.6
57.5°	5645.7	3664.4	598.5	324.9	288.3	263.8	240.6	226.4	234.0	253.1	268.7
60°	6307.4	4128.3	719.7	327.5	292.8	257.6	229.1	211.2	216.1	230.8	244.7
62.5°	6644.8	4258.4	756.2	325.3	304.8	253.6	215.2	195.2	195.6	208.1	220.6
65°	6708.1	4085.1	609.6	323.1	320.4	253.1	205.4	181.4	178.3	187.2	197.9
67.5°	6257.1	3545.9	439.8	318.2	322.2	250.4	198.8	170.2	162.2	168.4	177.4
70°	5312.8	2855.6	369.4	308.4	300.8	237.1	187.2	158.6	147.9	152.4	159.1
72.5°	3960.8	2112.7	322.2	287.4	262.0	202.8	169.3	145.7	134.6	137.7	142.6
75°	2200.5	1127.0	269.6	250.0	213.9	164.0	144.4	129.2	119.4	120.8	126.1
77.5°	730.8	415.8	197.9	198.3	161.8	126.6	119.0	110.5	102.9	103.4	107.8
80°	331.1	229.9	141.7	142.6	112.7	91.8	91.4	88.7	83.8	82.4	85.6
82.5°	192.1	139.5	97.1	92.7	72.6	59.7	66.4	65.1	63.7	58.8	59.7
85°	94.5	74.9	50.8	48.1	40.1	29.9	35.7	37.0	35.7	30.3	29.9
87.5°	23.2	24.5	12.5	11.6	6.7	3.1	5.3	5.3	6.7	4.5	2.2
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)