

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: P368300

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

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368300
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-SA4A-830-U-SL3
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) 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: 12088 lumens
Efficiency: N/A
Efficacy: 93.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G3

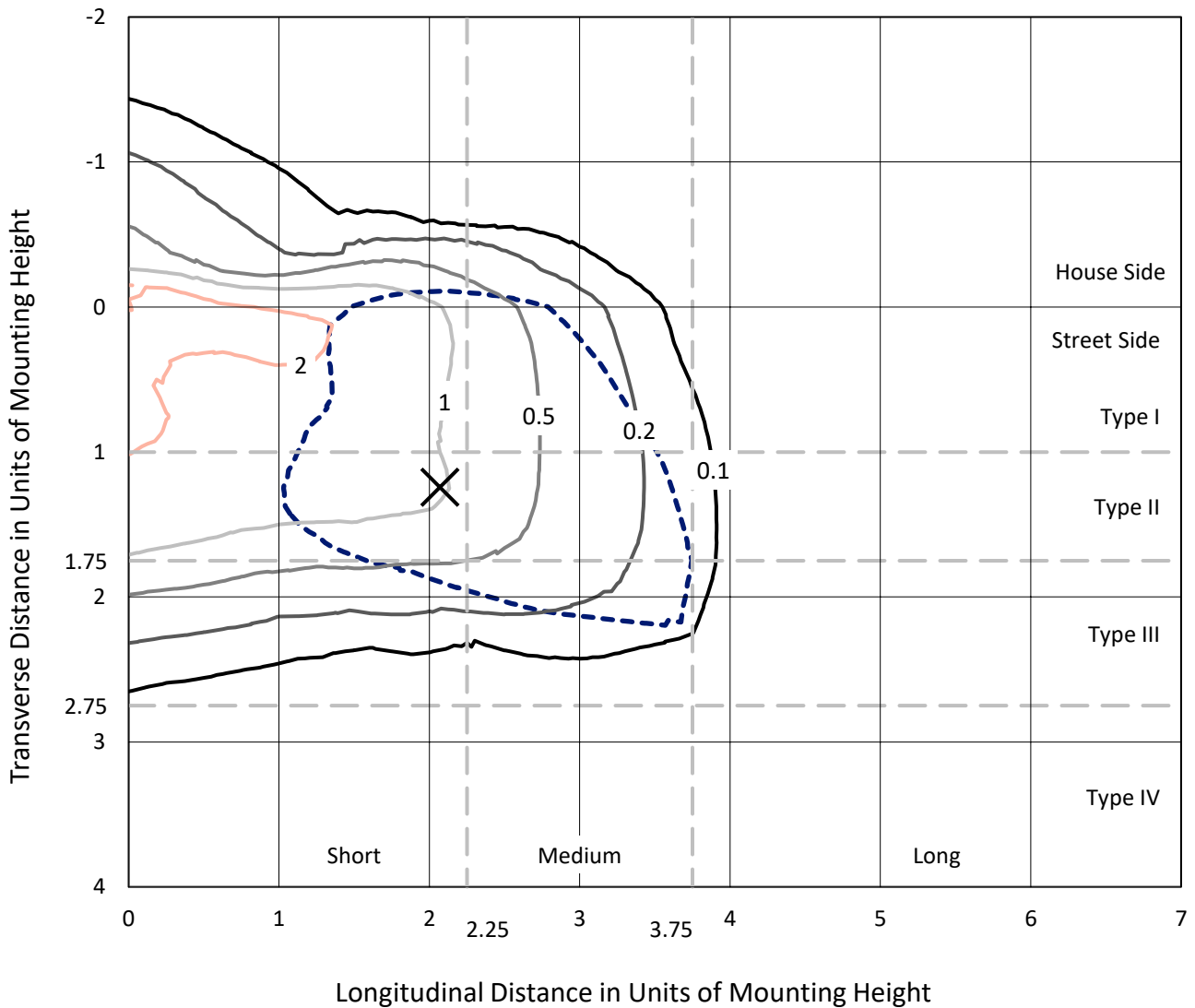
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

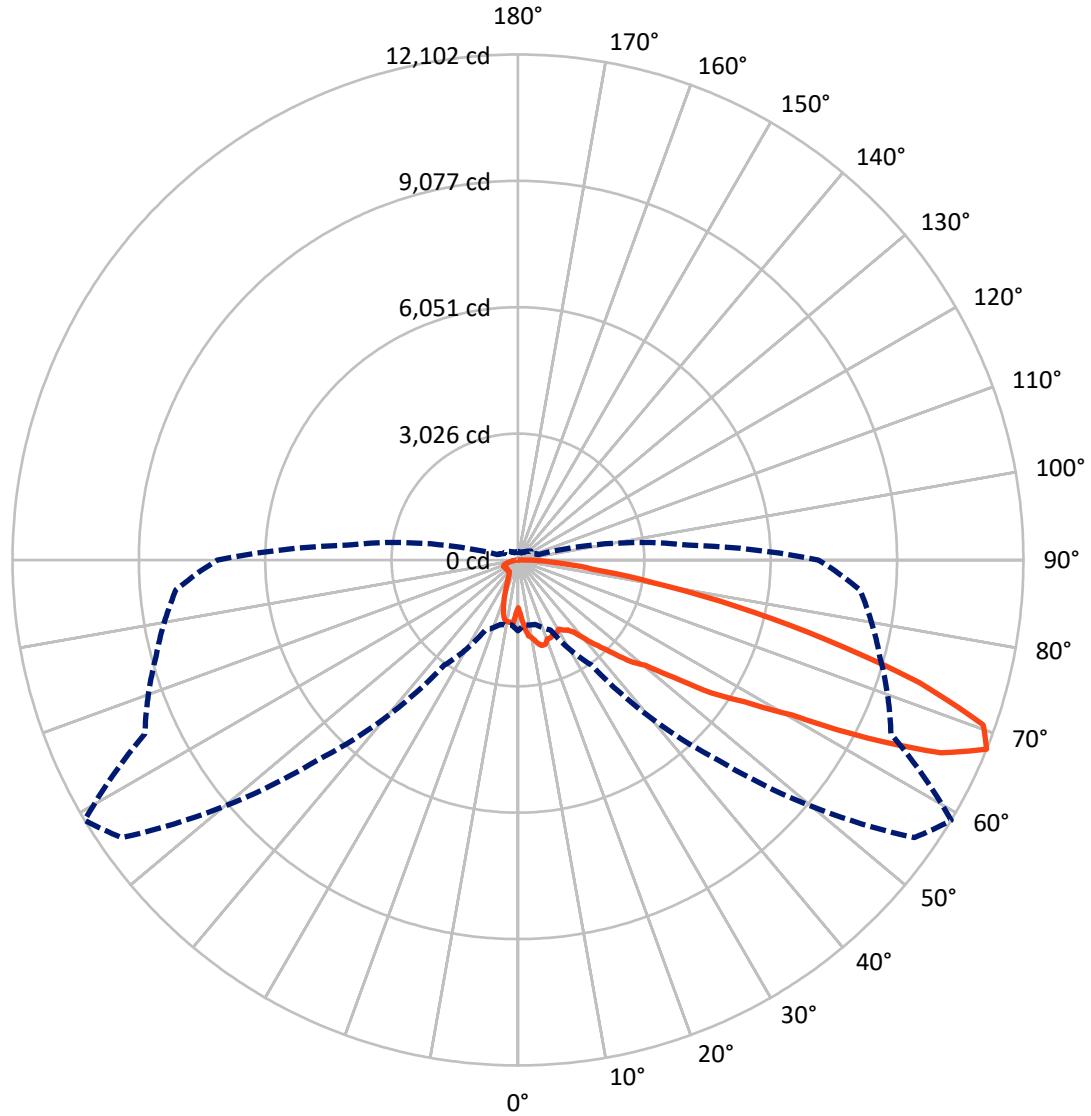
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 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	1819.5	0.0	1819.5
	% Fixture	15.1	0.0	15.1
Street Side	Lumens	10268.5	0.0	10268.5
	% Fixture	84.9	0.0	84.9
Total	Lumens	12088.0	0.0	12088.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.4	1.2
10°-20°	442.1	3.7
20°-30°	631.3	5.2
30°-40°	930.3	7.7
40°-50°	1571.8	13.0
50°-60°	2735.2	22.6
60°-70°	3485.5	28.8
70°-80°	1845.6	15.3
80°-90°	296.9	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°	12088.0	100.0
0°-180°	12088.0	100.0

Coefficient of Utilization



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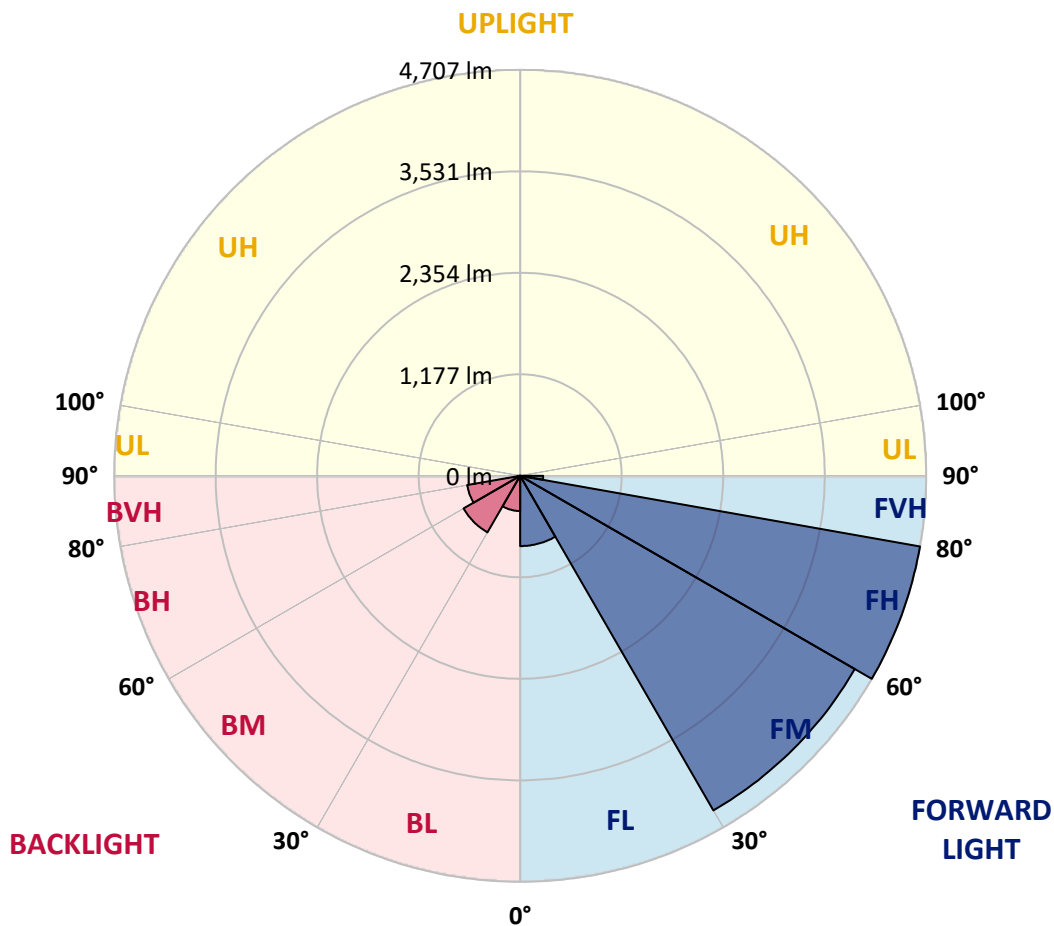
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	814.8	6.7			
FM (30°-60°)	4479.6	37.1			
FH (60°-80°)	4707.4	38.9			G2/5000
FVH (80°-90°)	266.7	2.2			G3/500
BL (0°-30°)	408.0	3.4	B1/500		
BM (30°-60°)	757.6	6.3	B1/1000		
BH (60°-80°)	623.6	5.2	B2/1000		G2/1000
BVH (80°-90°)	30.2	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°	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8
2.5°	1428.1	1361.5	1290.9	1310.8	1351.3	1369.7	1349.8	1330.3	1305.2	1275.5	1376.9
5°	1731.9	1633.0	1618.7	1618.2	1603.8	1546.5	1620.2	1615.1	1644.8	1675.6	1754.4
7.5°	1818.5	1781.6	1741.6	1760.6	1688.4	1685.3	1800.0	1832.8	1890.2	1871.2	1977.3
10°	1773.9	1732.4	1753.4	1745.7	1752.4	1828.2	1898.4	1900.4	1961.9	2022.3	1954.2
12.5°	1695.5	1698.6	1782.1	1779.0	1886.6	2027.5	2048.5	2032.1	2132.5	2091.5	2149.9
15°	1751.4	1788.8	1767.8	1785.7	1828.2	2007.5	2065.9	2125.3	2220.6	2257.5	2199.1
17.5°	1840.5	1860.5	1766.2	1756.5	1844.1	1929.1	2074.1	2124.8	2139.6	2402.4	2320.0
20°	1802.6	1843.1	1750.9	1632.5	1778.0	1890.7	2033.6	2018.2	2090.5	2413.7	2345.1
22.5°	1910.2	1843.1	1725.8	1641.7	1693.0	1796.4	1917.8	2018.8	2104.3	2347.6	2381.4
25°	1930.7	1898.9	1789.3	1705.8	1688.4	1725.2	1898.4	1964.5	2108.9	2437.8	2362.0
27.5°	2055.6	2008.0	1784.7	1787.2	1700.7	1635.6	1836.9	1975.7	2161.2	2381.9	2409.6
30°	2210.9	2174.5	1894.3	1904.5	1784.7	1664.8	1878.9	1920.9	2191.4	2469.0	2469.5
32.5°	2327.1	2391.2	2109.9	1970.6	1928.1	1838.4	1814.4	2003.4	2156.0	2626.8	2572.0
35°	2536.6	2586.3	2275.9	2164.2	2020.3	1919.4	1989.6	2057.7	2303.1	2834.3	2724.1
37.5°	2924.4	2867.0	2584.3	2408.6	2354.8	2209.3	2248.2	2200.6	2462.9	3067.3	3022.2
40°	3148.8	3099.1	2801.5	2704.1	2491.0	2509.5	2460.8	2495.7	2676.5	3315.3	3300.9
42.5°	3370.1	3303.5	3052.0	2984.3	2771.8	2681.6	2690.3	2803.0	3005.9	3715.8	3668.2
45°	3588.8	3418.2	3308.1	3326.0	3223.6	3038.6	3051.4	3157.5	3365.5	4173.8	4064.2
47.5°	3756.3	3615.4	3529.4	3507.3	3456.6	3704.0	3593.4	3636.4	3728.1	4581.5	4540.0
50°	4073.4	3908.9	3796.8	3765.0	3937.1	4281.3	4056.0	3963.2	4158.4	5108.6	5087.1
52.5°	4581.0	4376.1	4189.1	4187.1	4436.0	4659.4	4818.2	4658.4	4730.1	5648.5	5710.0
55°	5024.1	4786.9	4618.9	4711.6	5066.1	5202.9	5742.3	5617.3	5556.8	6193.6	6369.3
57.5°	5189.6	4912.4	4802.8	4939.6	5462.1	6164.9	6735.0	6406.1	6347.2	6810.3	7178.6
60°	4826.4	4533.4	4540.0	4797.7	5702.8	6871.3	7820.4	7541.3	7196.0	7578.2	7937.8
62.5°	3791.6	3526.8	3699.4	4091.3	5501.0	7557.7	9275.2	9393.0	8165.7	8214.9	8358.8
65°	2577.1	2393.7	2549.4	2933.1	4461.7	7932.1	10660.8	11133.1	9048.8	8631.8	8540.7
67.5°	1696.0	1566.4	1596.7	1851.8	3071.4	6762.1	11587.5	12102.3	9856.1	8974.0	8220.0
70°	1313.4	1208.9	1195.6	1329.3	1821.5	4697.8	11038.4	11821.1	10347.9	8653.4	7164.8
72.5°	1030.6	951.2	958.4	1087.0	1410.7	2606.3	8541.7	10052.3	9607.2	7462.9	5504.6
75°	803.7	738.7	775.0	922.0	1304.7	1619.7	5893.4	7629.4	7427.6	5526.1	3139.6
77.5°	583.4	541.4	593.2	785.3	1226.3	1389.7	3668.7	5322.7	4758.2	2837.3	1077.3
80°	382.6	359.1	401.6	640.3	1112.1	1337.5	2267.2	3261.5	2351.2	797.1	407.7
82.5°	225.4	215.1	250.5	433.4	893.9	1253.5	1512.1	1812.3	962.0	337.1	216.7
85°	118.3	110.6	148.6	249.0	616.2	1144.4	1190.5	1084.9	464.6	146.5	103.5
87.5°	39.4	38.4	63.0	96.3	233.1	607.5	635.2	515.3	191.6	42.5	22.5
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°	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8	1143.8
2.5°	1390.7	1370.3	1252.4	1268.8	1284.2	1276.5	1271.9	1218.6	1213.5	1289.3	1283.2
5°	1752.4	1667.4	1567.0	1562.3	1496.3	1428.7	1442.0	1420.5	1426.6	1457.8	1460.9
7.5°	1943.5	1837.4	1741.6	1585.9	1453.8	1346.7	1363.6	1358.5	1344.6	1415.3	1434.3
10°	1939.9	1845.6	1737.5	1549.0	1459.9	1372.8	1268.3	1169.5	1140.3	1105.4	1108.5
12.5°	2067.9	1984.4	1748.8	1556.7	1435.8	1285.7	1090.1	982.0	878.5	876.5	850.3
15°	2107.9	2046.4	1772.9	1512.7	1267.3	1052.2	849.8	732.5	657.7	642.9	620.8
17.5°	2208.8	2112.5	1699.6	1370.3	1071.6	822.7	638.8	556.8	550.7	560.9	549.6
20°	2215.5	2059.2	1567.5	1159.7	861.1	623.4	521.0	480.0	502.0	527.1	526.1
22.5°	2209.8	1992.1	1453.2	980.4	647.0	501.0	456.4	447.2	467.7	505.1	509.7
25°	2152.5	1970.1	1310.3	805.2	525.1	429.3	417.0	422.6	448.2	492.3	492.3
27.5°	2212.4	1880.5	1131.0	655.2	441.6	382.1	390.8	405.2	424.1	474.3	483.6
30°	2192.9	1910.2	986.6	527.6	389.3	349.4	368.8	383.2	404.7	456.9	461.5
32.5°	2245.2	1830.8	865.2	443.6	355.0	336.5	341.2	360.6	388.8	429.8	438.0
35°	2325.1	1860.0	725.9	399.0	338.1	321.7	330.4	345.8	373.9	413.9	420.6
37.5°	2580.2	1858.4	629.5	374.5	335.0	318.6	322.7	333.5	366.3	402.6	418.0
40°	2744.1	1965.0	542.0	368.8	331.4	317.1	313.5	325.3	351.4	394.4	405.2
42.5°	3052.0	2030.0	504.0	366.8	330.9	308.4	304.8	318.6	344.2	384.2	400.6
45°	3377.2	2122.7	473.8	365.7	329.4	306.8	296.1	313.5	335.0	373.4	392.4
47.5°	3759.9	2318.9	456.9	362.2	326.3	308.9	293.0	301.7	325.8	364.2	383.2
50°	4260.9	2578.6	460.5	357.0	330.9	309.4	288.4	292.5	314.5	351.9	371.4
52.5°	4869.9	2980.8	483.6	359.1	334.0	306.8	286.3	284.3	303.2	336.0	355.5
55°	5604.0	3551.4	552.7	368.8	334.0	306.3	283.3	274.1	288.4	315.0	334.0
57.5°	6489.6	4212.2	687.9	373.4	331.4	303.2	276.6	260.2	268.9	291.0	308.9
60°	7250.3	4745.4	827.3	376.5	336.5	296.1	263.3	242.8	248.4	265.3	281.2
62.5°	7638.1	4895.0	869.3	373.9	350.4	291.5	247.4	224.4	224.9	239.2	253.6
65°	7710.8	4695.8	700.8	371.4	368.3	291.0	236.1	208.5	204.9	215.1	227.4
67.5°	7192.4	4075.9	505.6	365.7	370.4	287.9	228.5	195.7	186.5	193.6	203.9
70°	6107.0	3282.5	424.7	354.5	345.8	272.5	215.1	182.4	170.1	175.2	182.9
72.5°	4552.8	2428.6	370.4	330.4	301.2	233.1	194.7	167.5	154.7	158.3	163.9
75°	2529.5	1295.5	309.9	287.4	245.9	188.5	166.0	148.6	137.3	138.8	145.0
77.5°	840.1	477.9	227.4	227.9	185.9	145.5	136.8	127.0	118.3	118.8	124.0
80°	380.6	264.3	162.9	163.9	129.6	105.5	105.0	101.9	96.3	94.8	98.4
82.5°	220.8	160.3	111.7	106.5	83.5	68.6	76.3	74.8	73.3	67.6	68.6
85°	108.6	86.1	58.4	55.3	46.1	34.3	41.0	42.5	41.0	34.8	34.3
87.5°	26.6	28.2	14.3	13.3	7.7	3.6	6.1	6.1	7.7	5.1	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)