

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: P368710

Luminaire Tested: **MSA-SA4D-830-U-T4W**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368710
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-830-U-T4W
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21196 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G4

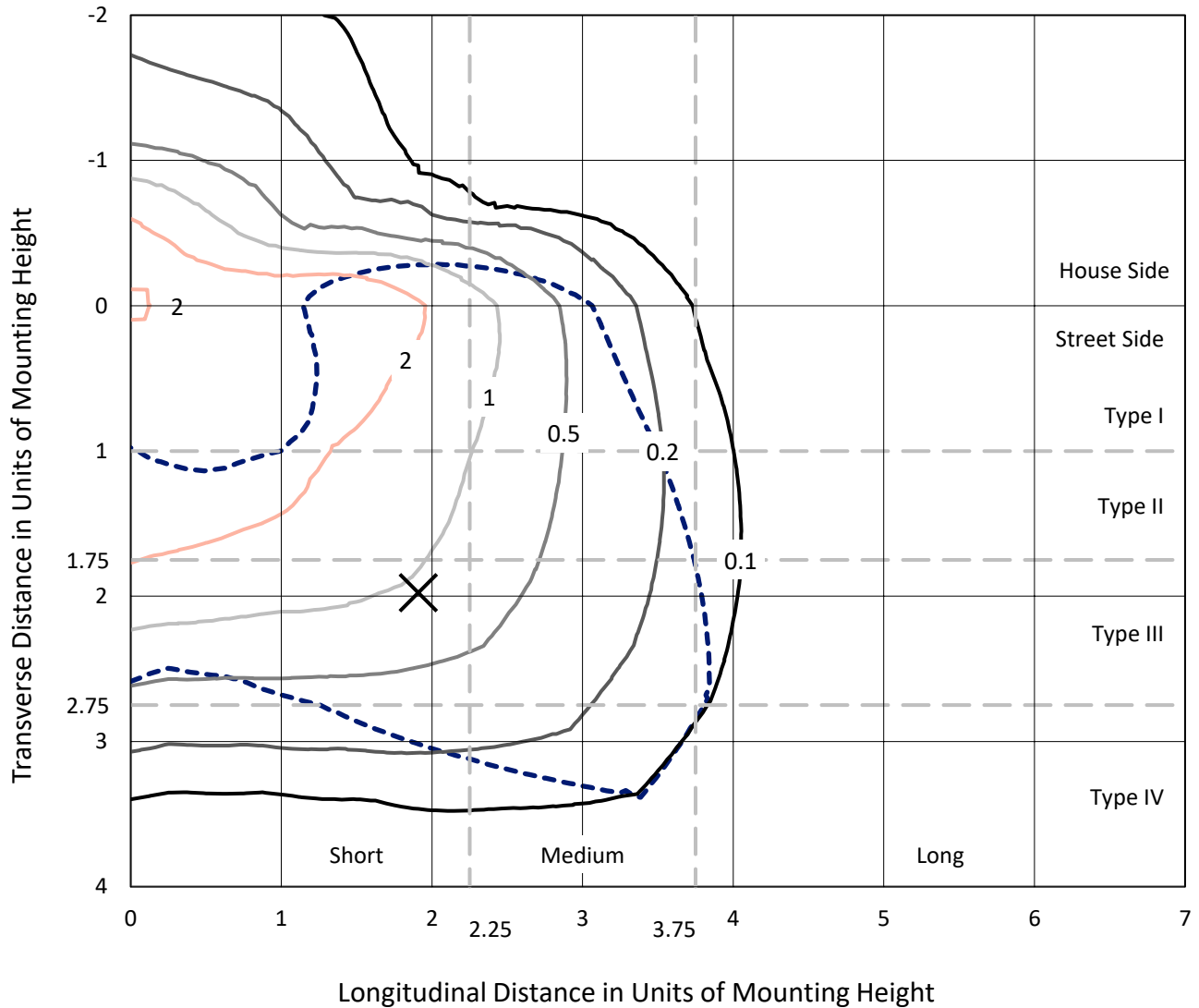
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

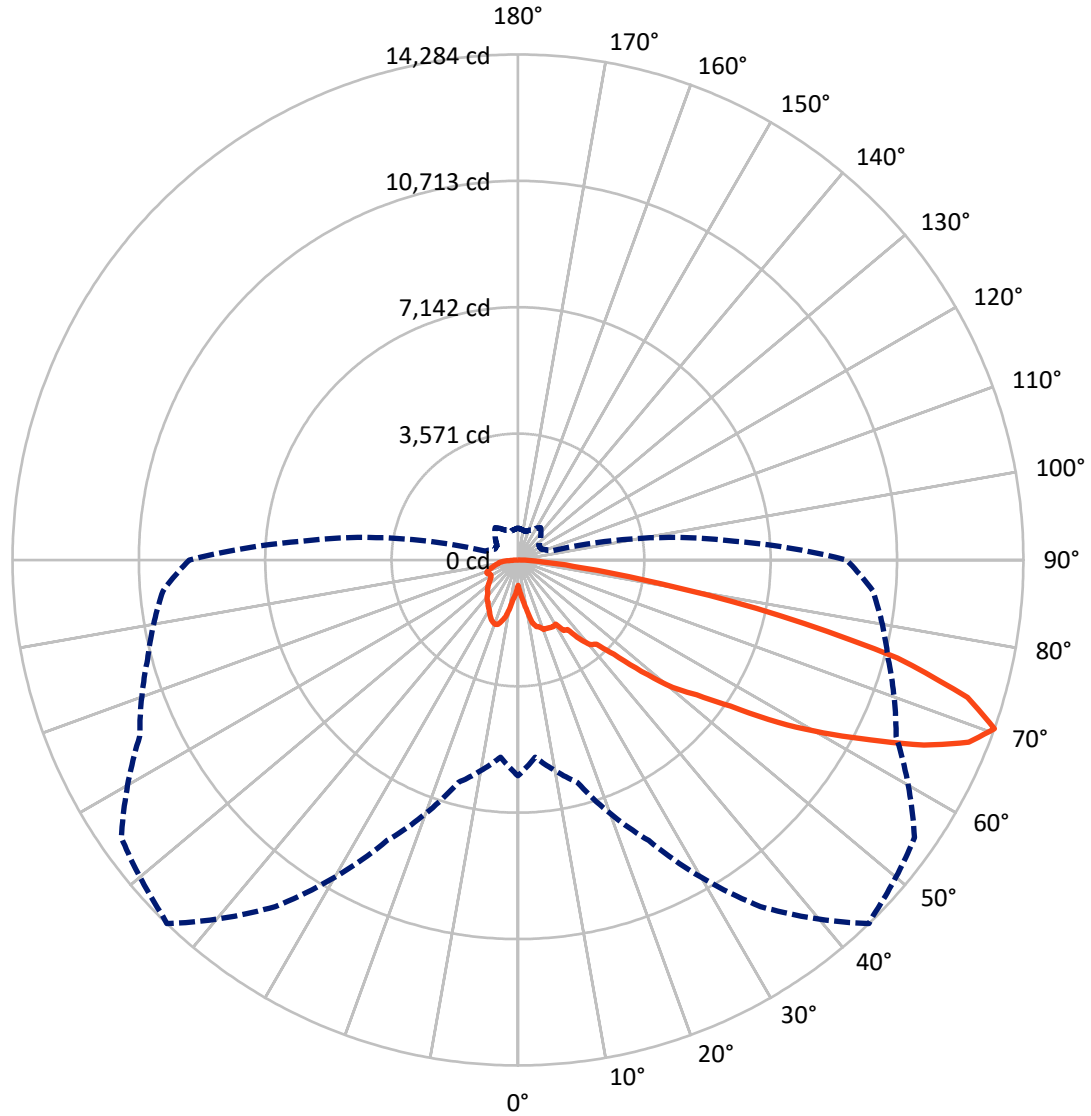
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4676.7	0.0	4676.7
	% Fixture	22.1	0.0	22.1
Street Side	Lumens	16519.3	0.0	16519.3
	% Fixture	77.9	0.0	77.9
Total	Lumens	21196.0	0.0	21196.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.0	0.5
10°-20°	520.2	2.5
20°-30°	972.1	4.6
30°-40°	1560.4	7.4
40°-50°	2633.8	12.4
50°-60°	4693.3	22.1
60°-70°	6419.8	30.3
70°-80°	3775.2	17.8
80°-90°	508.3	2.4
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°	21196.0	100.0
0°-180°	21196.0	100.0

Coefficient of Utilization

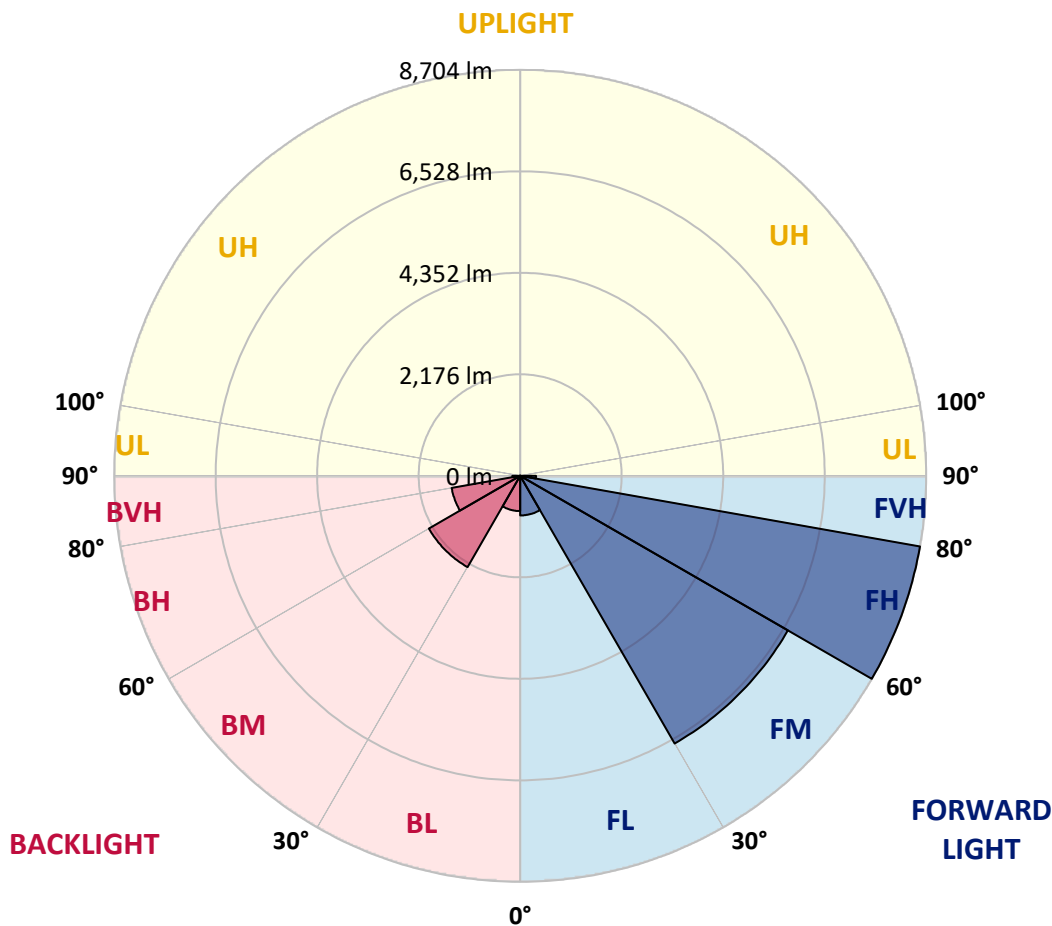


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	849.4	4.0			
FM (30°-60°)	6627.4	31.3			
FH (60°-80°)	8703.7	41.1			G4/12000
FVH (80°-90°)	338.8	1.6			G3/500
BL (0°-30°)	755.9	3.6	B2/1000		
BM (30°-60°)	2260.0	10.7	B2/2500		
BH (60°-80°)	1491.3	7.0	B3/2500		G3/2500
BVH (80°-90°)	169.5	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	720.5	720.5	720.5	720.5	720.5	720.5	720.5	720.5	720.5	720.5	720.5
2.5°	874.3	856.9	815.2	829.1	846.5	853.5	851.7	850.0	823.0	813.5	861.3
5°	1188.1	1149.8	1119.4	1107.2	1067.2	1036.0	1016.8	1067.2	1059.4	1072.5	1105.5
7.5°	1483.5	1459.2	1390.6	1366.2	1284.5	1230.6	1224.6	1264.5	1275.0	1254.1	1310.6
10°	1673.9	1632.2	1618.3	1560.0	1503.5	1494.8	1489.6	1471.4	1446.2	1444.4	1394.0
12.5°	1821.6	1843.4	1854.6	1787.7	1789.5	1820.8	1804.2	1730.4	1687.8	1613.0	1619.1
15°	2086.7	2118.0	2028.5	1985.9	1904.2	1951.1	1945.0	1883.3	1877.2	1828.6	1772.1
17.5°	2317.9	2331.8	2182.3	2085.0	2057.1	1989.4	2007.6	2009.3	1929.4	2016.3	1965.9
20°	2337.0	2386.5	2214.5	2020.6	2104.1	2095.4	2098.0	2080.6	1975.5	2118.9	2099.7
22.5°	2430.9	2355.2	2200.5	2058.9	2080.6	2093.7	2105.8	2085.0	2078.9	2158.8	2217.1
25°	2413.5	2389.1	2232.7	2112.8	2115.4	2118.0	2124.1	2186.6	2179.7	2288.3	2318.7
27.5°	2576.0	2538.6	2242.3	2212.7	2144.9	2130.2	2088.4	2218.8	2320.5	2317.9	2485.6
30°	2885.4	2847.2	2464.8	2378.7	2256.2	2104.9	2184.9	2358.7	2438.7	2465.6	2678.6
32.5°	3368.6	3431.2	2902.8	2556.0	2403.9	2370.9	2362.2	2344.8	2543.0	2675.9	2869.8
35°	4062.2	4012.6	3419.0	2935.8	2559.5	2417.8	2436.9	2543.0	2778.5	2864.5	3043.6
37.5°	4856.5	4754.0	4080.4	3366.0	3007.9	2830.6	2767.2	2869.8	2921.9	2989.7	3355.6
40°	5663.9	5413.6	4729.6	3931.8	3277.4	3143.5	3087.9	2961.9	3084.4	3221.7	3686.7
42.5°	6443.5	6249.7	5436.2	4607.1	3731.0	3253.9	3223.5	3100.1	3479.9	3625.0	4164.7
45°	7260.4	6811.1	6160.1	5369.3	4394.1	3795.3	3750.1	3528.5	4015.2	4317.7	4839.1
47.5°	7809.7	7393.4	6823.3	5988.1	4949.5	4700.9	4614.9	4236.0	4677.5	5070.3	5881.2
50°	8329.4	7900.9	7302.1	6665.1	5955.0	5669.1	5485.7	4854.8	5502.2	6141.9	7217.0
52.5°	9073.4	8690.1	7858.4	7347.3	7035.3	6332.2	6195.8	5849.0	6466.9	7329.9	8677.0
55°	9868.6	9346.3	8592.7	8309.4	8183.4	7283.0	7171.8	6951.0	7751.5	8545.8	10096.3
57.5°	10219.7	9674.8	9259.3	9089.9	9079.4	8664.9	8537.1	8383.3	9064.7	9588.7	11432.1
60°	10498.7	9913.8	9747.8	9842.5	10186.7	9913.8	9747.8	9612.2	10133.7	10619.5	12521.9
62.5°	10447.4	9860.8	9945.9	10234.5	11113.1	11193.1	11065.3	10736.8	11193.1	11464.2	13146.8
65°	9620.0	9077.7	9574.0	10258.8	11974.4	12613.2	12606.2	11746.7	11904.9	11904.9	13080.8
67.5°	8170.4	7608.9	8421.5	10044.1	12569.7	13738.7	13740.4	12817.4	11970.0	11860.5	12058.7
70°	6101.0	5592.6	6506.0	8747.4	11955.3	14283.6	14204.5	13681.3	11791.0	10834.1	10072.8
72.5°	3644.1	3315.6	4156.0	6367.9	10198.0	13281.5	13491.8	12686.2	10794.2	9009.9	7200.5
75°	1654.8	1512.2	1952.9	3658.0	7280.4	11078.4	11306.9	10706.4	8573.6	6480.0	4161.2
77.5°	708.3	670.1	852.6	1622.6	4014.4	7575.9	8044.3	7651.5	5809.0	3765.8	1840.7
80°	455.4	431.1	524.1	780.4	1864.2	4093.4	4496.7	4349.8	2959.3	1464.4	648.3
82.5°	272.0	264.2	350.2	490.2	1016.8	1801.6	2030.2	2084.1	1228.9	657.0	371.1
85°	148.6	150.4	192.1	297.2	610.1	701.4	750.9	816.9	578.8	380.7	179.9
87.5°	49.5	57.4	77.3	120.8	217.3	198.2	199.0	231.2	244.2	158.2	57.4
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°	720.5	720.5	720.5	720.5	720.5	720.5	720.5	720.5	720.5	720.5	720.5
2.5°	869.1	853.5	813.5	816.1	830.9	834.3	838.7	813.5	808.3	856.1	860.4
5°	1110.7	1059.4	1036.0	1028.1	1005.5	997.7	1039.4	1058.6	1077.7	1115.0	1133.3
7.5°	1304.5	1247.2	1204.6	1165.5	1132.4	1113.3	1183.7	1237.6	1270.6	1347.1	1381.9
10°	1393.2	1343.6	1328.0	1296.7	1321.9	1379.3	1392.3	1394.0	1467.0	1465.3	1480.1
12.5°	1569.6	1537.4	1486.2	1497.5	1563.5	1622.6	1606.1	1631.3	1657.4	1719.9	1691.3
15°	1730.4	1721.7	1673.9	1681.7	1694.7	1768.6	1778.2	1803.4	1843.4	1892.9	1859.0
17.5°	1928.5	1925.0	1808.6	1798.2	1828.6	1900.7	1878.1	1833.8	1965.9	2018.9	2005.0
20°	2063.2	2037.2	1887.7	1843.4	1920.7	1930.3	1904.2	1833.8	1948.5	2064.1	2095.4
22.5°	2175.3	2144.9	1991.1	1904.2	1888.5	1892.9	1892.9	1879.9	1936.3	2031.1	2030.2
25°	2265.7	2294.4	2098.9	2015.4	1932.0	1827.7	1814.7	1826.0	1858.1	2040.6	2034.6
27.5°	2492.6	2413.5	2135.4	2072.8	1901.6	1737.3	1773.0	1790.3	1800.8	2000.7	2033.7
30°	2640.3	2664.6	2265.7	2106.7	1857.3	1636.5	1648.7	1699.1	1759.9	1996.3	2005.9
32.5°	2839.3	2787.2	2469.1	2050.2	1739.1	1575.7	1553.1	1620.9	1711.2	1925.9	1952.0
35°	3024.5	3086.2	2555.1	2039.8	1656.5	1484.4	1508.7	1532.2	1626.1	1847.7	1878.1
37.5°	3459.0	3318.2	2796.7	1989.4	1587.8	1438.4	1412.3	1447.9	1527.9	1699.1	1769.5
40°	3789.3	3797.9	2848.9	1925.9	1456.6	1372.3	1316.7	1352.3	1386.2	1522.7	1553.1
42.5°	4408.9	4219.5	2976.7	1786.9	1374.0	1273.2	1241.9	1257.6	1262.8	1320.2	1370.6
45°	5197.2	4753.1	3027.1	1600.0	1265.4	1232.4	1168.9	1161.1	1132.4	1140.3	1184.6
47.5°	6287.9	5585.7	2990.6	1401.0	1168.9	1179.4	1088.1	1052.5	1012.5	1022.1	1063.8
50°	7698.4	6649.4	2987.9	1232.4	1102.9	1109.8	1035.1	970.8	930.8	950.8	987.3
52.5°	9281.1	7716.7	3000.1	1116.8	1030.7	1027.3	1000.3	922.1	890.0	910.8	952.5
55°	10795.0	8634.5	3090.5	1043.8	956.0	962.1	972.5	906.5	870.8	890.0	933.4
57.5°	12112.6	9359.3	3056.6	966.4	886.5	914.3	942.1	884.7	857.8	885.6	929.1
60°	13033.8	9695.6	2788.9	892.6	835.2	873.4	927.3	882.1	878.7	938.6	990.8
62.5°	13370.2	9571.3	2267.5	834.3	804.8	868.2	961.2	939.5	943.0	1016.8	1089.0
65°	12879.1	8917.8	1691.3	797.0	781.3	893.4	1039.4	973.4	925.6	986.4	1052.5
67.5°	11482.5	7755.8	1235.9	764.8	754.4	933.4	1111.6	969.9	881.3	943.0	996.9
70°	9289.8	6121.9	956.9	724.0	718.7	906.5	1118.5	943.8	833.5	873.4	903.9
72.5°	6365.3	4191.6	792.6	684.8	657.0	803.0	1062.0	885.6	776.1	799.6	824.8
75°	3557.2	2352.6	666.6	636.2	575.3	715.3	996.0	850.8	733.5	740.5	775.2
77.5°	1596.5	1017.7	565.8	571.9	501.5	632.7	909.9	795.2	668.3	652.7	687.5
80°	604.0	496.3	458.9	483.2	421.5	548.4	820.4	744.8	599.7	579.7	599.7
82.5°	350.2	300.7	340.7	372.0	334.6	504.1	783.1	698.8	528.4	478.0	495.4
85°	162.5	155.6	204.2	241.6	233.8	392.8	670.1	525.8	376.3	318.1	352.0
87.5°	42.6	47.8	72.1	85.2	86.9	134.7	258.1	195.5	146.9	111.2	106.9
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)