

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: P368686

Luminaire Tested: **MSA-SA4D-760-U-T4FT**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368686
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-760-U-T4FT
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV FORWARD THROW OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26369 lumens
Efficiency: N/A
Efficacy: 101.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G4

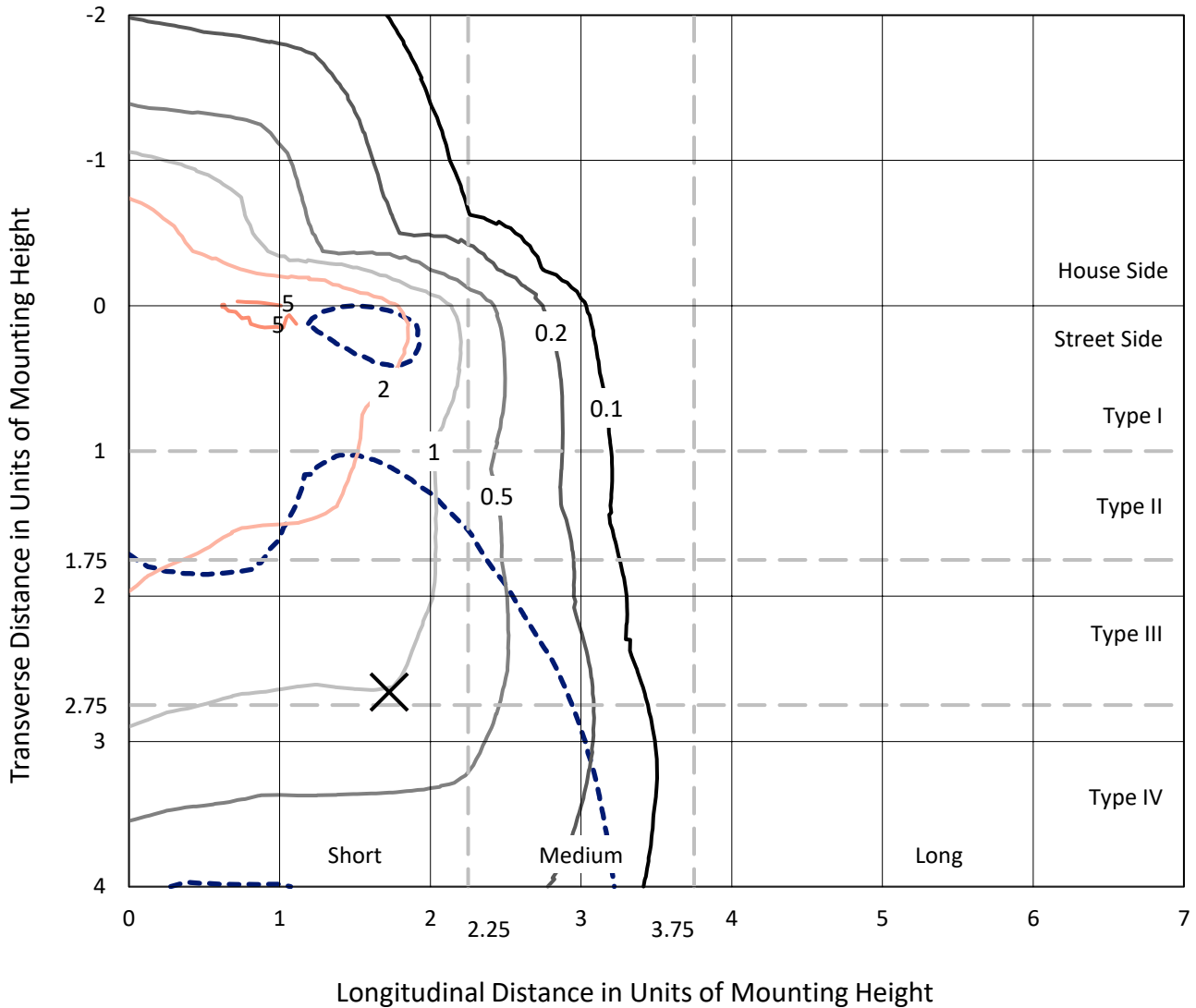
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

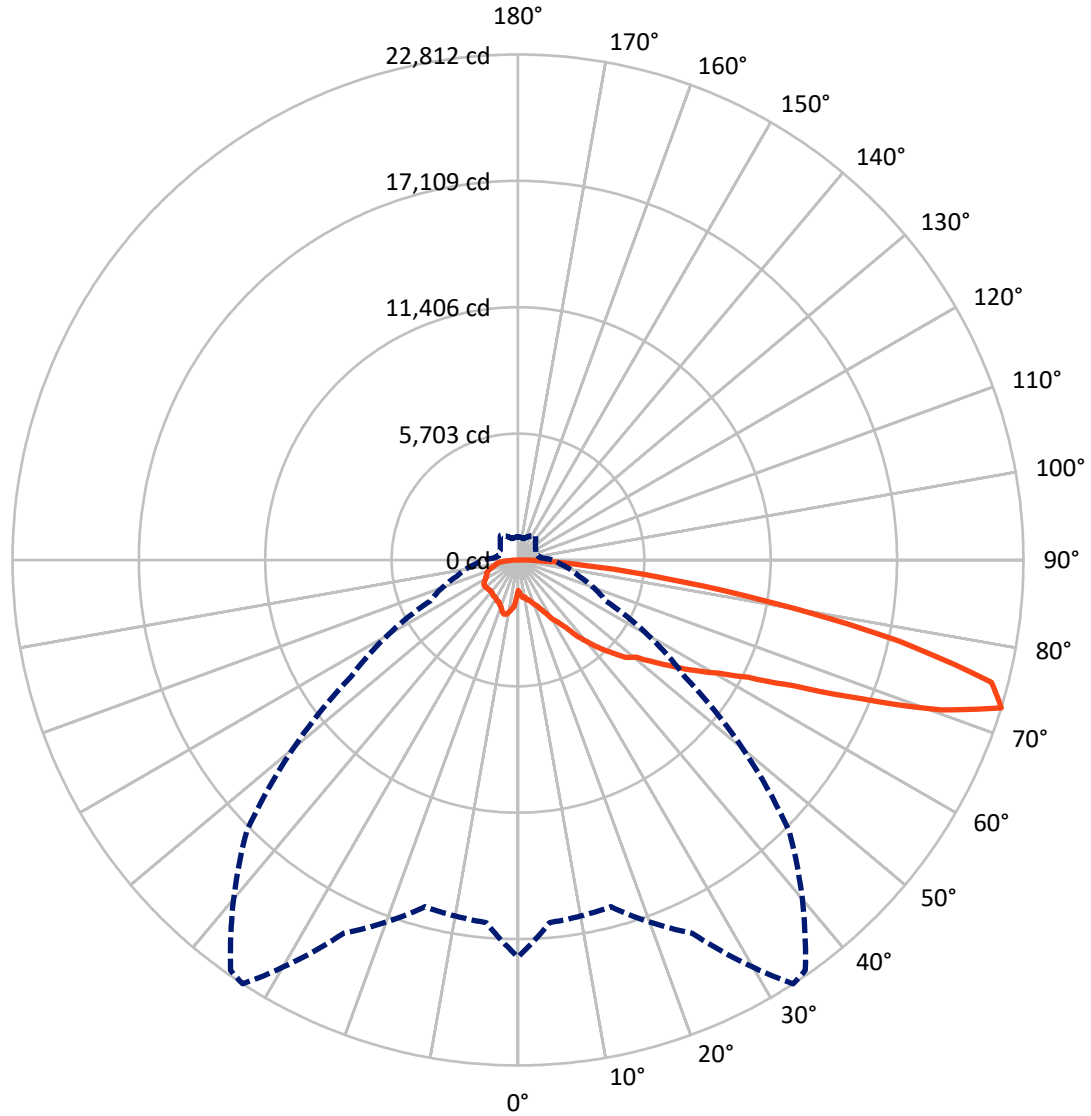
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.4 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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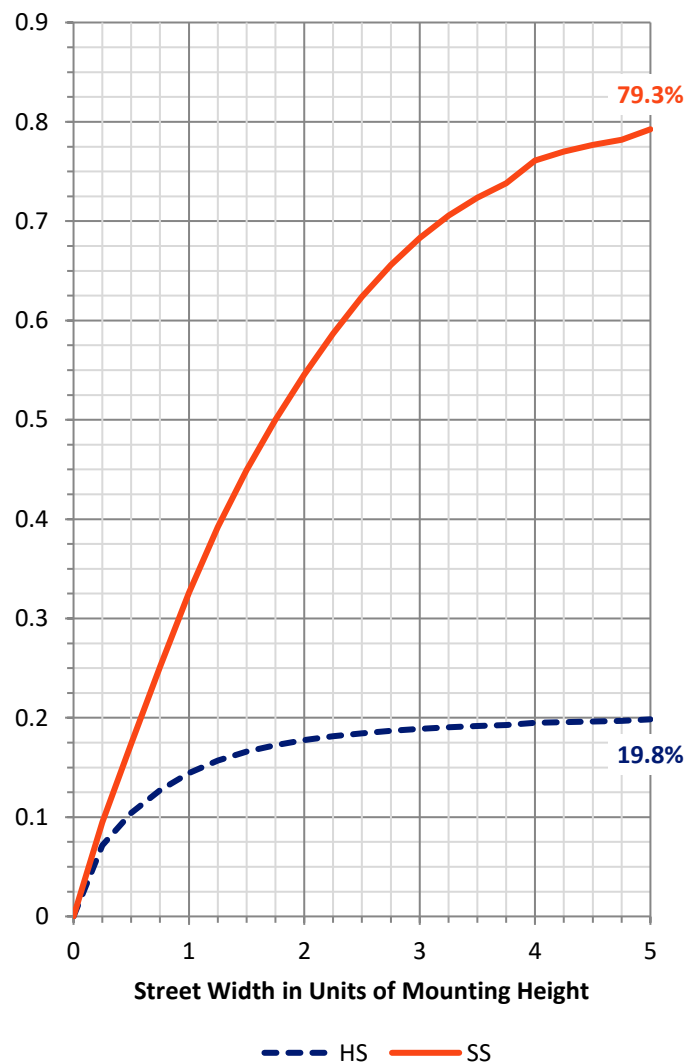
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	5334.4	0.0	5334.4
	% Fixture	20.2	0.0	20.2
Street Side	Lumens	21034.6	0.0	21034.6
	% Fixture	79.8	0.0	79.8
Total	Lumens	26369.0	0.0	26369.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.1	0.7
10°-20°	702.6	2.7
20°-30°	1281.2	4.9
30°-40°	2167.4	8.2
40°-50°	3605.8	13.7
50°-60°	5291.8	20.1
60°-70°	6769.5	25.7
70°-80°	5507.6	20.9
80°-90°	853.0	3.2
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°	26369.0	100.0
0°-180°	26369.0	100.0

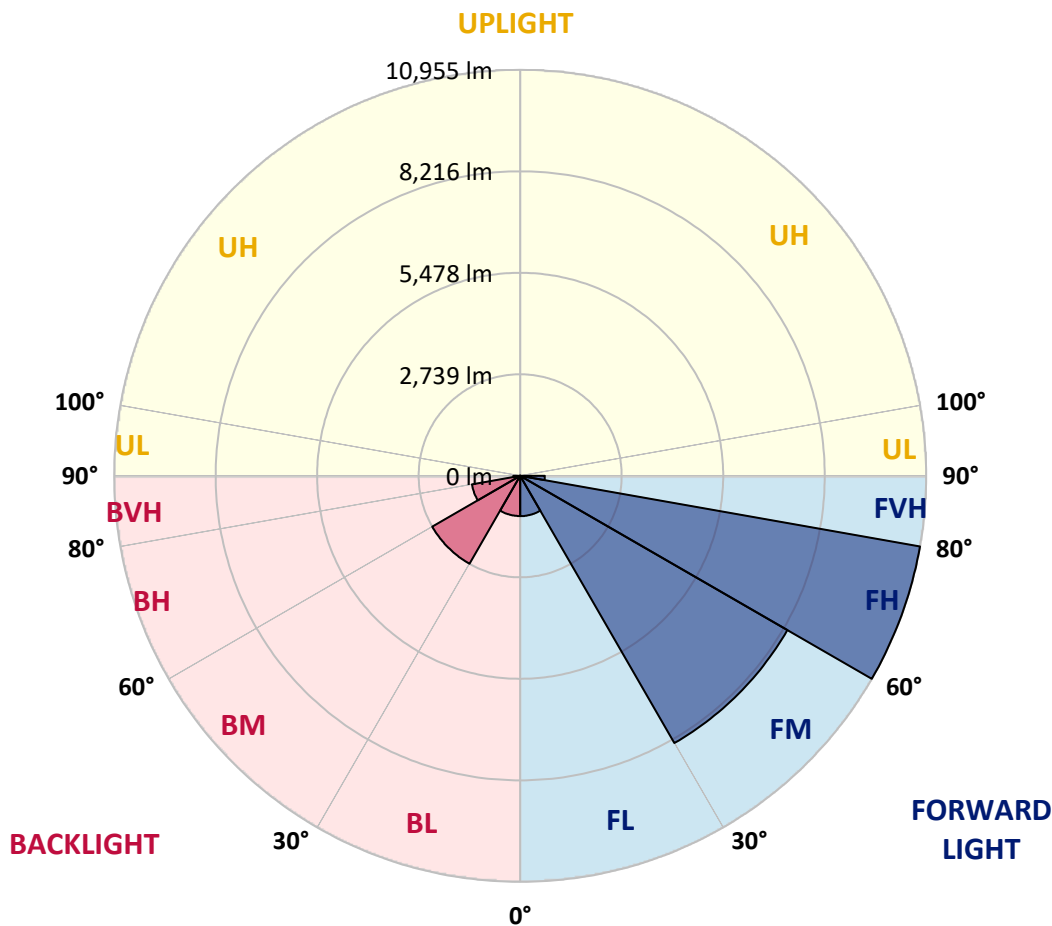


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1088.2	4.1			
FM (30°-60°)	8325.3	31.6			
FH (60°-80°)	10955.3	41.5			G4/12000
FVH (80°-90°)	665.7	2.5			G4/750
BL (0°-30°)	1085.6	4.1	B3/2500		
BM (30°-60°)	2739.7	10.4	B3/5000		
BH (60°-80°)	1321.8	5.0	B3/2500		G3/2500
BVH (80°-90°)	187.3	0.7			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°	33°	35°	45°	55°	65°	75°	85°
0°	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7
2.5°	1567.6	1518.3	1437.4	1435.2	1480.0	1489.9	1519.4	1521.6	1532.6	1515.0	1639.8
5°	1729.5	1676.9	1645.2	1656.2	1635.4	1660.5	1660.5	1732.7	1829.0	1940.6	2099.2
7.5°	1767.7	1729.5	1693.4	1720.7	1725.1	1701.0	1724.0	1893.5	2067.5	2179.0	2432.8
10°	1691.2	1652.9	1680.2	1689.0	1687.9	1742.6	1861.8	1997.5	2191.1	2396.7	2533.5
12.5°	1676.9	1704.3	1717.4	1732.7	1836.7	1853.1	2033.6	2173.6	2368.3	2548.8	2904.3
15°	1888.1	1924.2	1843.2	1837.7	1871.7	1887.0	2074.0	2215.1	2499.6	2802.6	3122.0
17.5°	2188.9	2202.0	2056.5	1982.1	2007.3	2019.3	2101.4	2278.6	2453.6	3013.7	3411.9
20°	2479.9	2488.6	2215.1	2048.9	2137.5	2150.6	2227.2	2328.9	2466.7	3131.8	3607.7
22.5°	2785.1	2729.3	2429.5	2219.5	2270.9	2274.2	2319.1	2374.9	2570.7	3113.2	3846.1
25°	3118.7	3083.7	2706.3	2505.0	2502.8	2458.0	2460.2	2540.0	2681.1	3312.3	4002.6
27.5°	3561.7	3566.1	3018.1	2909.8	2740.2	2710.7	2563.0	2711.8	2872.6	3314.5	4340.6
30°	4136.0	4029.9	3452.3	3277.3	3110.0	3047.6	2847.4	2974.3	3044.3	3503.8	4708.1
32.5°	4603.1	4572.5	3905.2	3640.5	3367.0	3439.2	3218.2	3106.7	3232.5	3829.7	5264.9
35°	5050.5	4949.9	4384.3	4039.8	3752.1	3708.3	3565.0	3583.6	3660.2	4242.1	5992.4
37.5°	5717.8	5663.1	5062.6	4511.2	4376.7	4198.4	4107.6	4165.6	4105.4	4770.5	7083.0
40°	6463.8	6146.6	5629.2	5138.0	4886.4	4760.6	4792.4	4737.7	4691.7	5363.4	8060.9
42.5°	7178.2	6889.4	6005.5	5784.5	5456.4	5508.9	5334.9	5373.2	5503.4	6204.6	8965.6
45°	7955.9	7331.3	6404.8	6210.1	5974.9	6041.6	6180.5	6139.0	6352.3	7196.8	9817.7
47.5°	8344.3	7750.3	6894.8	6577.6	6574.3	6435.4	7281.0	7372.9	7039.2	7931.9	10683.0
50°	8718.4	8134.2	7259.1	7044.7	6889.4	7186.9	8336.6	8125.5	7660.6	8775.3	11634.7
52.5°	9239.1	8572.9	7677.0	7448.4	7640.9	7916.5	9178.9	9137.3	8269.9	9642.7	12461.7
55°	9636.2	8963.4	8306.0	8093.8	8461.3	8731.5	10036.5	9786.0	8791.7	10279.4	12985.7
57.5°	10331.9	9641.6	9234.7	8763.2	9423.9	9419.6	10863.5	10669.9	9349.6	10802.2	13196.8
60°	11437.8	10627.2	10201.7	9658.0	10365.8	10618.5	11808.6	11250.7	9744.4	11132.6	12816.1
62.5°	12990.0	12027.4	11337.2	10799.0	11662.1	12119.3	12975.8	11674.1	9769.6	11038.5	11815.2
65°	14909.8	13739.4	12834.7	12265.9	13690.1	14343.2	14387.0	11935.5	9537.7	10066.1	9710.5
67.5°	16782.6	15466.6	14522.6	14630.9	16710.4	17020.0	15916.2	12154.3	8291.8	8082.8	6742.8
70°	18015.4	16589.0	15960.0	17108.6	20267.8	19950.5	17155.6	11577.8	6529.5	5239.8	3796.9
72.5°	17922.4	16429.3	16202.8	18581.0	22812.2	22614.2	17306.6	9207.3	4373.4	2864.9	1893.5
75°	14601.4	13440.7	13954.9	17589.9	22079.2	22069.4	15025.8	5699.2	2243.6	1471.3	1196.7
77.5°	8073.0	7622.3	9133.0	13318.2	17580.0	17669.7	10152.5	2584.9	1209.9	1042.5	901.4
80°	2827.7	2786.2	3957.7	7186.9	11564.7	11586.6	4721.3	1182.5	879.5	788.7	661.8
82.5°	1033.7	1025.0	1640.8	3338.6	6367.6	6353.4	1790.7	736.2	652.0	557.9	436.5
85°	412.4	403.6	750.4	1482.2	2925.1	2878.0	695.7	417.9	426.6	332.5	214.4
87.5°	113.8	118.1	254.9	463.8	895.9	830.3	175.0	141.1	172.8	135.6	67.8
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°	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7	1382.7
2.5°	1661.6	1672.6	1564.3	1602.6	1651.8	1678.0	1691.2	1635.4	1654.0	1732.7	1729.5
5°	2132.0	2088.3	2046.7	2089.3	2060.9	2020.4	2086.1	2082.8	2125.4	2168.1	2178.0
7.5°	2483.1	2426.3	2406.6	2310.3	2214.1	2116.7	2200.9	2253.4	2264.4	2370.5	2415.3
10°	2610.0	2588.2	2595.8	2468.9	2456.9	2466.7	2389.1	2304.8	2356.3	2312.5	2345.3
12.5°	2903.2	2957.9	2822.3	2735.8	2728.2	2668.0	2512.7	2458.0	2400.0	2460.2	2429.5
15°	3138.4	3240.1	3094.6	2942.6	2770.8	2677.9	2545.5	2462.4	2424.1	2437.2	2400.0
17.5°	3483.0	3578.1	3208.4	2975.4	2798.2	2661.5	2459.1	2281.9	2375.9	2383.6	2340.9
20°	3711.6	3718.2	3246.7	2894.5	2734.7	2497.4	2300.5	2145.1	2253.4	2363.9	2412.0
22.5°	3934.8	3885.5	3293.7	2829.9	2503.9	2274.2	2178.0	2168.1	2249.1	2342.0	2353.0
25°	4102.1	4109.8	3321.1	2805.8	2368.3	2055.4	2055.4	2126.5	2197.6	2418.6	2407.7
27.5°	4508.0	4209.3	3215.0	2695.4	2180.1	1927.4	2056.5	2151.7	2185.6	2425.2	2449.2
30°	4803.3	4608.6	3236.8	2506.1	1989.8	1867.3	1973.4	2092.6	2186.7	2463.5	2454.7
32.5°	5298.8	4774.9	3288.3	2240.3	1847.6	1844.3	1938.4	2064.2	2176.9	2421.9	2435.0
35°	5846.9	5264.9	3145.0	2037.9	1813.7	1831.2	1952.6	2002.9	2135.3	2405.5	2417.5
37.5°	6860.9	5520.9	3054.2	1881.5	1791.8	1842.1	1888.1	1965.7	2099.2	2323.4	2402.2
40°	7456.0	6048.2	2717.2	1790.7	1745.9	1833.4	1856.3	1922.0	1994.2	2225.0	2275.3
42.5°	8239.2	6214.4	2429.5	1690.1	1722.9	1797.3	1866.2	1882.6	1930.7	2069.7	2161.5
45°	8892.3	6339.1	2124.4	1609.1	1645.2	1877.1	1881.5	1873.8	1865.1	1916.5	1992.0
47.5°	9568.3	6673.9	1843.2	1519.4	1615.7	1942.8	1889.2	1819.2	1783.1	1789.6	1859.6
50°	10314.4	6916.7	1644.1	1446.1	1622.3	1942.8	1926.4	1763.4	1691.2	1672.6	1745.9
52.5°	10970.7	6945.2	1493.2	1387.1	1594.9	1876.0	1951.5	1728.4	1606.9	1562.1	1631.0
55°	11328.4	6585.3	1383.8	1333.5	1524.9	1815.9	1938.4	1708.7	1505.2	1471.3	1532.6
57.5°	11320.8	5988.0	1290.8	1259.1	1445.0	1731.6	1865.1	1601.5	1442.9	1423.2	1483.3
60°	10912.7	5287.9	1219.7	1197.8	1363.0	1609.1	1733.8	1531.5	1382.7	1372.8	1438.5
62.5°	9987.3	4564.8	1150.8	1133.3	1286.4	1522.7	1671.5	1453.8	1320.3	1319.2	1381.6
65°	8179.1	3664.6	1086.2	1081.9	1215.3	1437.4	1612.4	1388.2	1255.8	1277.7	1341.1
67.5°	5635.8	2575.0	1017.3	1030.5	1149.7	1355.3	1567.6	1344.4	1188.0	1232.8	1289.7
70°	3092.5	1592.7	940.8	967.0	1066.6	1260.2	1497.5	1273.3	1099.4	1168.3	1207.7
72.5°	1573.0	1062.2	845.6	887.2	964.8	1120.2	1366.3	1170.5	1004.2	1030.5	1051.2
75°	1056.7	799.6	739.5	785.4	841.2	986.7	1212.0	1074.2	913.4	910.1	933.1
77.5°	798.5	624.6	627.9	680.4	716.5	867.5	1089.5	993.3	836.8	829.2	863.1
80°	584.1	473.7	505.4	560.1	592.9	778.9	1009.7	903.6	732.9	702.3	730.7
82.5°	387.2	335.8	374.1	428.8	455.1	650.9	916.7	766.8	597.3	519.6	524.0
85°	182.7	176.1	223.2	249.4	283.3	403.6	685.9	530.5	380.7	315.0	329.3
87.5°	41.6	55.8	73.3	72.2	84.2	108.3	213.3	148.8	110.5	75.5	50.3
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)