

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: P368554

Luminaire Tested: **MSA-SA4C-760-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368554  
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-SA4C-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: 24118 lumens  
Efficiency: N/A  
Efficacy: 107.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G4

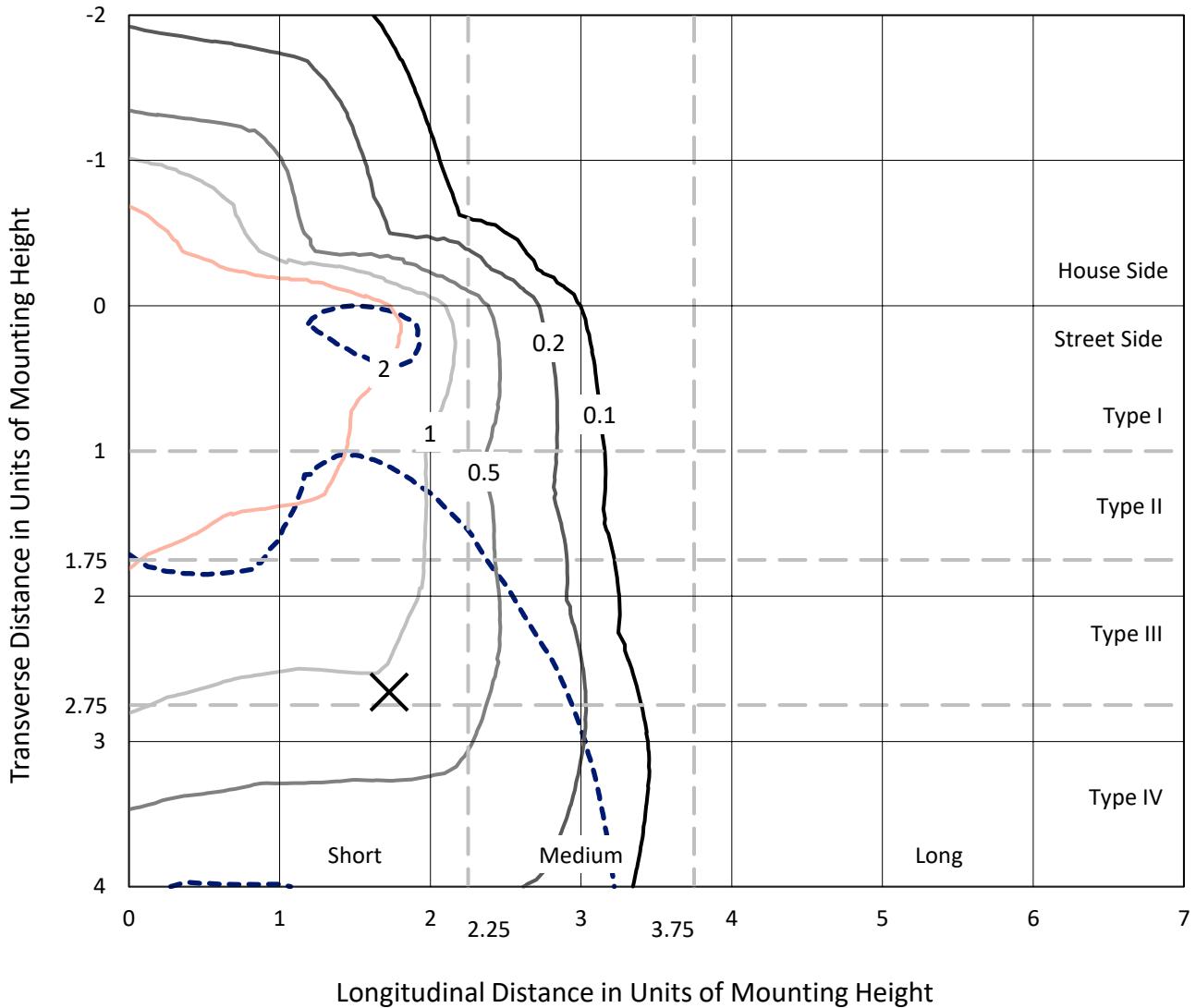
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

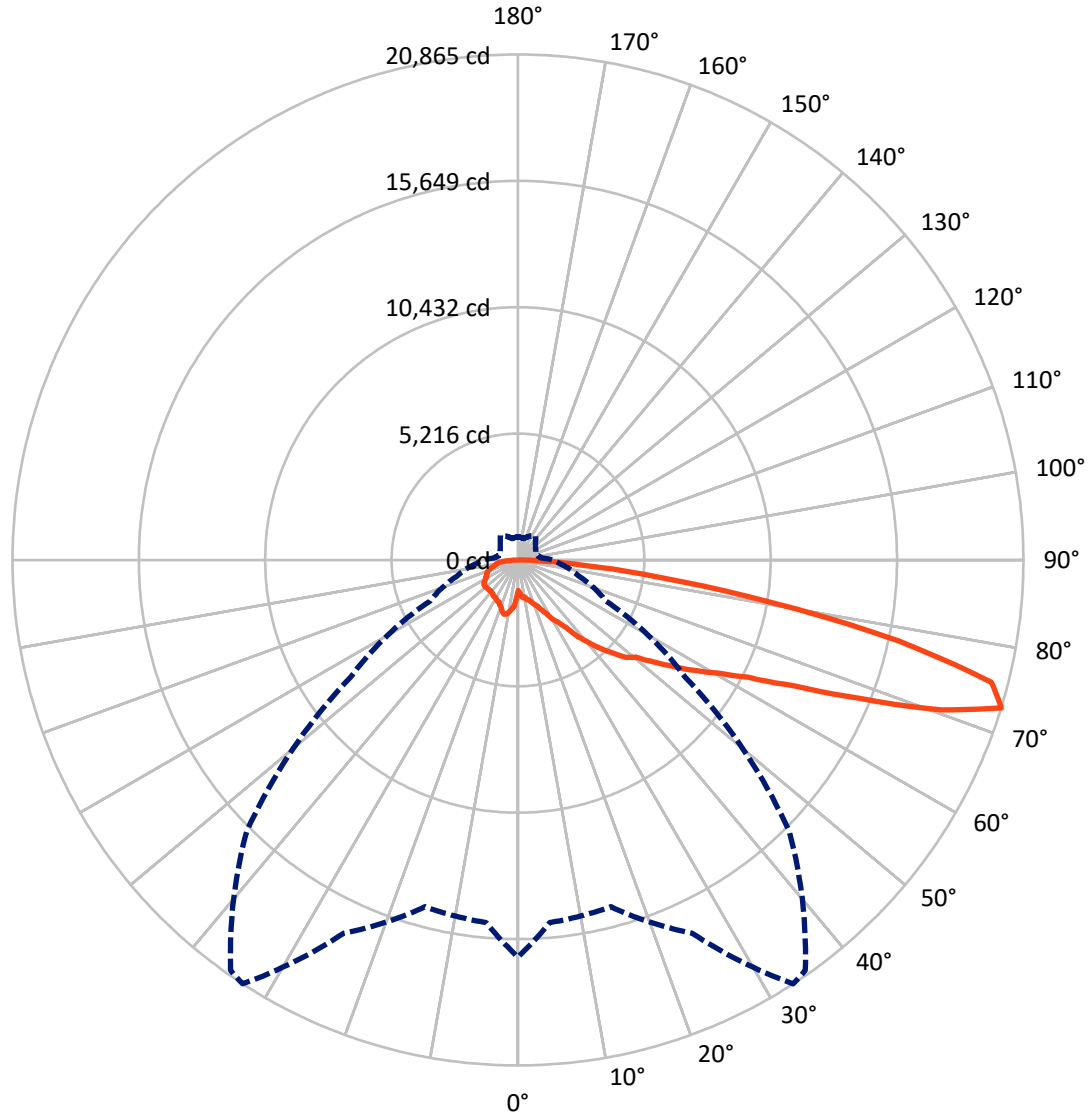
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.9 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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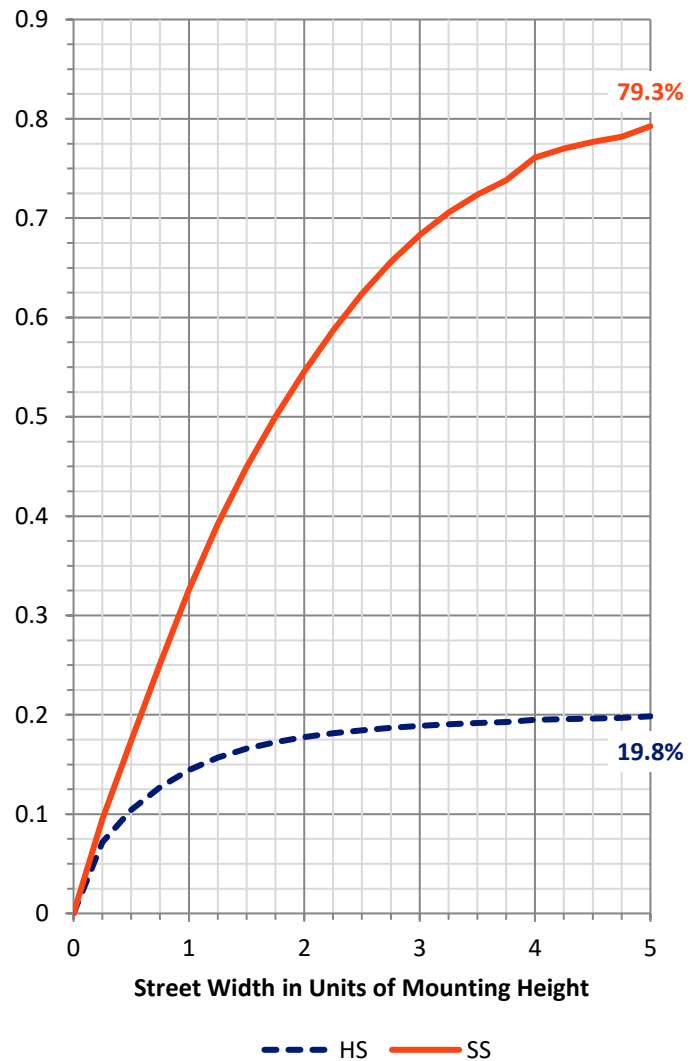
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4879.0	0.0	4879.0
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	19239.0	0.0	19239.0
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	24118.0	0.0	24118.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	173.9	0.7
10°-20°	642.6	2.7
20°-30°	1171.8	4.9
30°-40°	1982.4	8.2
40°-50°	3298.0	13.7
50°-60°	4840.1	20.1
60°-70°	6191.6	25.7
70°-80°	5037.4	20.9
80°-90°	780.2	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°	24118.0	100.0
0°-180°	24118.0	100.0



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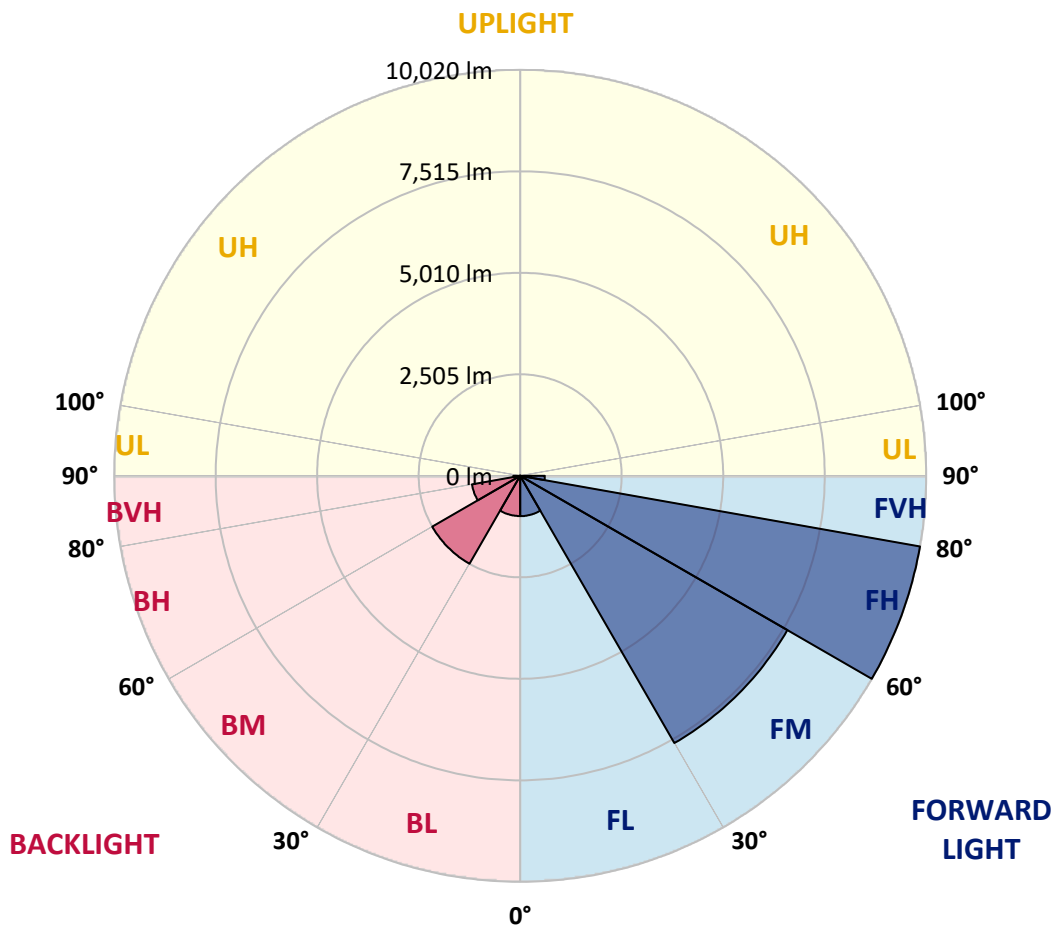
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	995.3	4.1			
FM (30°-60°)	7614.6	31.6			
FH (60°-80°)	10020.1	41.5			G4/12000
FVH (80°-90°)	608.9	2.5			G4/750
BL (0°-30°)	993.0	4.1	B2/1000		
BM (30°-60°)	2505.8	10.4	B3/5000		
BH (60°-80°)	1208.9	5.0	B3/2500		G3/2500
BVH (80°-90°)	171.3	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°	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7
2.5°	1433.7	1388.7	1314.7	1312.7	1353.7	1362.7	1389.7	1391.7	1401.7	1385.7	1499.8
5°	1581.8	1533.8	1504.8	1514.8	1495.8	1518.8	1518.8	1584.8	1672.9	1774.9	1920.0
7.5°	1616.8	1581.8	1548.8	1573.8	1577.8	1555.8	1576.8	1731.9	1891.0	1993.0	2225.2
10°	1546.8	1511.8	1536.8	1544.8	1543.8	1593.8	1702.9	1826.9	2004.0	2192.1	2317.2
12.5°	1533.8	1558.8	1570.8	1584.8	1679.9	1694.9	1860.0	1988.0	2166.1	2331.2	2656.4
15°	1726.9	1759.9	1685.9	1680.9	1711.9	1725.9	1897.0	2026.0	2286.2	2563.3	2855.5
17.5°	2002.0	2014.0	1881.0	1812.9	1835.9	1847.0	1922.0	2084.1	2244.2	2756.4	3120.6
20°	2268.2	2276.2	2026.0	1874.0	1955.0	1967.0	2037.1	2130.1	2256.2	2864.5	3299.7
22.5°	2547.3	2496.3	2222.1	2030.0	2077.1	2080.1	2121.1	2172.1	2351.2	2847.5	3517.8
25°	2852.5	2820.5	2475.3	2291.2	2289.2	2248.2	2250.2	2323.2	2452.3	3029.6	3660.9
27.5°	3257.7	3261.7	2760.4	2661.4	2506.3	2479.3	2344.2	2480.3	2627.4	3031.6	3970.1
30°	3783.0	3685.9	3157.6	2997.6	2844.5	2787.4	2604.3	2720.4	2784.4	3204.7	4306.2
32.5°	4210.2	4182.2	3571.8	3329.7	3079.6	3145.6	2943.5	2841.5	2956.5	3502.8	4815.5
35°	4619.4	4527.3	4010.1	3694.9	3431.8	3391.8	3260.7	3277.7	3347.7	3880.0	5480.8
37.5°	5229.7	5179.7	4630.4	4126.1	4003.1	3840.0	3756.9	3810.0	3754.9	4363.3	6478.4
40°	5912.1	5621.9	5148.7	4699.4	4469.3	4354.3	4383.3	4333.2	4291.2	4905.5	7372.8
42.5°	6565.4	6301.3	5492.8	5290.7	4990.6	5038.6	4879.5	4914.5	5033.6	5674.9	8200.2
45°	7276.8	6705.5	5858.0	5679.9	5464.8	5525.9	5652.9	5614.9	5810.0	6582.4	8979.6
47.5°	7631.9	7088.7	6306.3	6016.1	6013.1	5886.0	6659.4	6743.5	6438.3	7254.8	9771.1
50°	7974.1	7439.8	6639.4	6443.3	6301.3	6573.4	7624.9	7431.8	7006.6	8026.2	10641.5
52.5°	8450.4	7841.1	7021.6	6812.5	6988.6	7240.7	8395.3	8357.3	7563.9	8819.6	11397.9
55°	8813.6	8198.2	7596.9	7402.8	7739.0	7986.1	9179.7	8950.6	8041.2	9401.9	11877.1
57.5°	9449.9	8818.6	8446.4	8015.1	8619.5	8615.5	9936.1	9759.0	8551.4	9880.1	12070.2
60°	10461.4	9720.0	9330.8	8833.6	9480.9	9712.0	10800.6	10290.3	8912.6	10182.3	11722.1
62.5°	11881.1	11000.7	10369.4	9877.1	10666.5	11084.7	11868.1	10677.5	8935.6	10096.2	10806.6
65°	13637.1	12566.5	11739.1	11218.8	12521.5	13118.8	13158.8	10916.6	8723.5	9206.8	8881.6
67.5°	15349.9	14146.3	13282.9	13381.9	15283.9	15567.1	14557.5	11116.7	7583.9	7392.8	6167.2
70°	16477.5	15172.8	14597.5	15648.1	18537.6	18247.4	15691.1	10589.5	5972.1	4792.5	3472.8
72.5°	16392.5	15026.8	14819.7	16994.8	20864.8	20683.7	15829.2	8421.4	4000.1	2620.4	1731.9
75°	13354.9	12293.4	12763.6	16088.3	20194.4	20185.4	13743.1	5212.7	2052.1	1345.7	1094.6
77.5°	7383.8	6971.6	8353.3	12181.3	16079.3	16161.4	9285.8	2364.2	1106.6	953.5	824.4
80°	2586.3	2548.3	3619.9	6573.4	10577.5	10597.5	4318.2	1081.6	804.4	721.4	605.3
82.5°	945.5	937.5	1500.8	3053.6	5824.0	5811.0	1637.8	673.3	596.3	510.3	399.2
85°	377.2	369.2	686.4	1355.7	2675.4	2632.4	636.3	382.2	390.2	304.2	196.1
87.5°	104.1	108.1	233.1	424.2	819.4	759.4	160.1	129.1	158.1	124.1	62.0
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°	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7	1264.7
2.5°	1519.8	1529.8	1430.7	1465.8	1510.8	1534.8	1546.8	1495.8	1512.8	1584.8	1581.8
5°	1950.0	1910.0	1872.0	1911.0	1885.0	1848.0	1908.0	1905.0	1944.0	1983.0	1992.0
7.5°	2271.2	2219.1	2201.1	2113.1	2025.0	1936.0	2013.0	2061.1	2071.1	2168.1	2209.1
10°	2387.2	2367.2	2374.2	2258.2	2247.2	2256.2	2185.1	2108.1	2155.1	2115.1	2145.1
12.5°	2655.4	2705.4	2581.3	2502.3	2495.3	2440.3	2298.2	2248.2	2195.1	2250.2	2222.1
15°	2870.5	2963.5	2830.5	2691.4	2534.3	2449.3	2328.2	2252.2	2217.1	2229.2	2195.1
17.5°	3185.6	3272.7	2934.5	2721.4	2559.3	2434.3	2249.2	2087.1	2173.1	2180.1	2141.1
20°	3394.8	3400.8	2969.5	2647.4	2501.3	2284.2	2104.1	1962.0	2061.1	2162.1	2206.1
22.5°	3598.9	3553.8	3012.6	2588.3	2290.2	2080.1	1992.0	1983.0	2057.1	2142.1	2152.1
25°	3751.9	3758.9	3037.6	2566.3	2166.1	1880.0	1880.0	1945.0	2010.0	2212.1	2202.1
27.5°	4123.1	3850.0	2940.5	2465.3	1994.0	1762.9	1881.0	1968.0	1999.0	2218.1	2240.2
30°	4393.3	4215.2	2960.5	2292.2	1819.9	1707.9	1804.9	1914.0	2000.0	2253.2	2245.2
32.5°	4846.5	4367.3	3007.6	2049.1	1689.9	1686.9	1772.9	1888.0	1991.0	2215.1	2227.2
35°	5347.8	4815.5	2876.5	1864.0	1658.9	1674.9	1785.9	1831.9	1953.0	2200.1	2211.1
37.5°	6275.2	5049.6	2793.4	1720.9	1638.8	1684.9	1726.9	1797.9	1920.0	2125.1	2197.1
40°	6819.5	5531.9	2485.3	1637.8	1596.8	1676.9	1697.9	1757.9	1823.9	2035.1	2081.1
42.5°	7535.9	5683.9	2222.1	1545.8	1575.8	1643.9	1706.9	1721.9	1765.9	1893.0	1977.0
45°	8133.2	5798.0	1943.0	1471.8	1504.8	1716.9	1720.9	1713.9	1705.9	1752.9	1821.9
47.5°	8751.5	6104.2	1685.9	1389.7	1477.8	1776.9	1727.9	1663.9	1630.8	1636.8	1700.9
50°	9433.9	6326.3	1503.8	1322.7	1483.8	1776.9	1761.9	1612.8	1546.8	1529.8	1596.8
52.5°	10034.2	6352.3	1365.7	1268.7	1458.8	1715.9	1784.9	1580.8	1469.8	1428.7	1491.8
55°	10361.4	6023.1	1265.7	1219.6	1394.7	1660.9	1772.9	1562.8	1376.7	1345.7	1401.7
57.5°	10354.4	5476.8	1180.6	1151.6	1321.7	1583.8	1705.9	1464.8	1319.7	1301.7	1356.7
60°	9981.2	4836.5	1115.6	1095.6	1246.6	1471.8	1585.8	1400.7	1264.7	1255.6	1315.7
62.5°	9134.7	4175.2	1052.5	1036.5	1176.6	1392.7	1528.8	1329.7	1207.6	1206.6	1263.7
65°	7480.9	3351.7	993.5	989.5	1111.6	1314.7	1474.8	1269.7	1148.6	1168.6	1226.6
67.5°	5154.7	2355.2	930.5	942.5	1051.5	1239.6	1433.7	1229.6	1086.6	1127.6	1179.6
70°	2828.5	1456.8	860.4	884.5	975.5	1152.6	1369.7	1164.6	1005.5	1068.6	1104.6
72.5°	1438.7	971.5	773.4	811.4	882.5	1024.5	1249.6	1070.6	918.5	942.5	961.5
75°	966.5	731.4	676.3	718.4	769.4	902.5	1108.6	982.5	835.4	832.4	853.4
77.5°	730.4	571.3	574.3	622.3	655.3	793.4	996.5	908.5	765.4	758.4	789.4
80°	534.3	433.2	462.2	512.3	542.3	712.4	923.5	826.4	670.3	642.3	668.3
82.5°	354.2	307.2	342.2	392.2	416.2	595.3	838.4	701.4	546.3	475.2	479.2
85°	167.1	161.1	204.1	228.1	259.1	369.2	627.3	485.3	348.2	288.1	301.2
87.5°	38.0	51.0	67.0	66.0	77.0	99.1	195.1	136.1	101.1	69.0	46.0
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)