

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: P368576

Luminaire Tested: **MSA-SA4C-830-U-T4FT**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368576
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-830-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: 19165 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

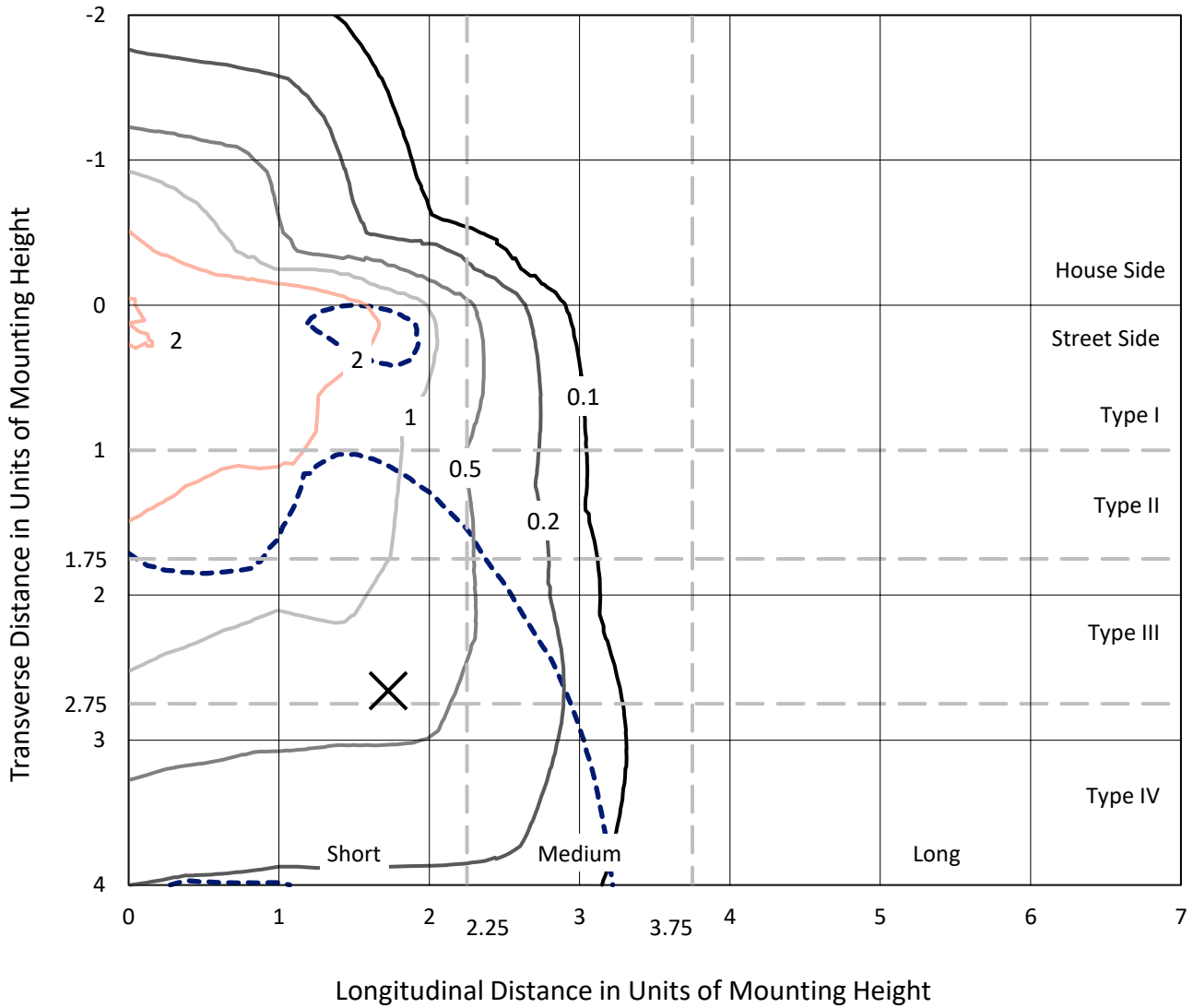
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

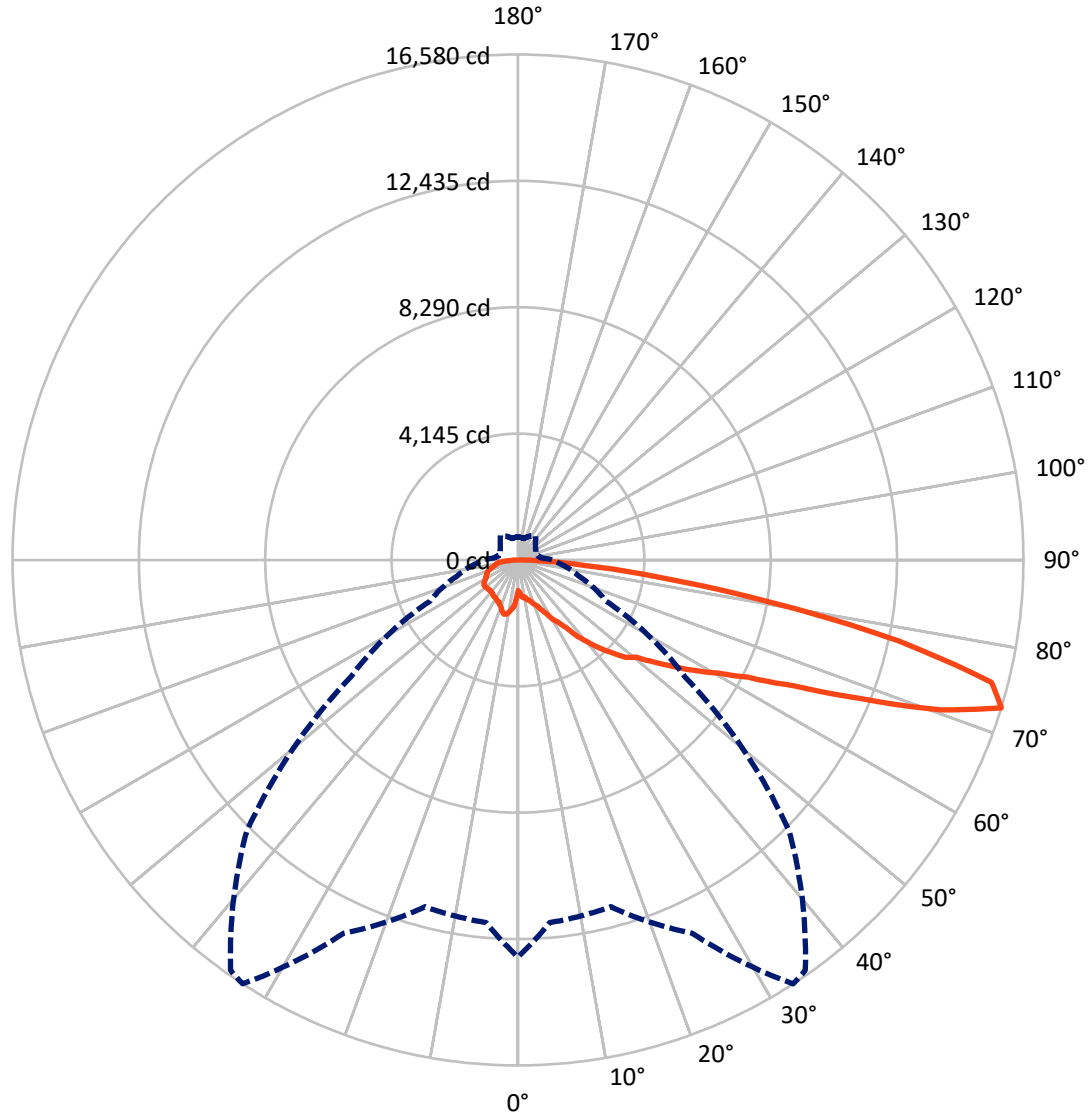
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 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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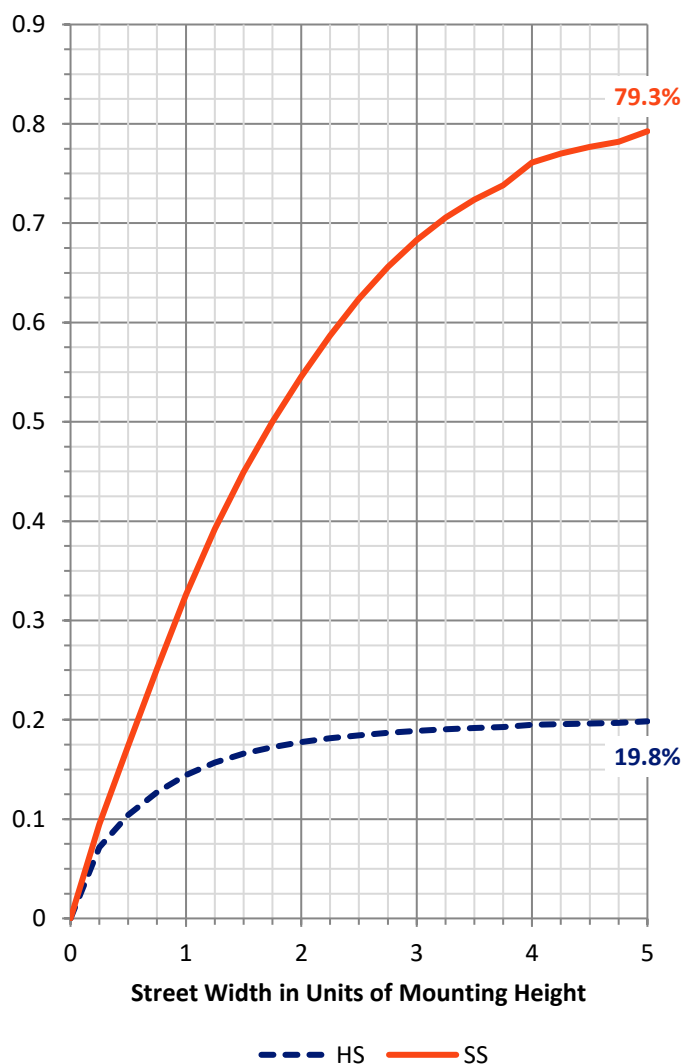
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3877.0	0.0	3877.0
	% Fixture	20.2	0.0	20.2
Street Side	Lumens	15288.0	0.0	15288.0
	% Fixture	79.8	0.0	79.8
Total	Lumens	19165.0	0.0	19165.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.2	0.7
10°-20°	510.6	2.7
20°-30°	931.2	4.9
30°-40°	1575.3	8.2
40°-50°	2620.7	13.7
50°-60°	3846.1	20.1
60°-70°	4920.1	25.7
70°-80°	4002.9	20.9
80°-90°	620.0	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°	19165.0	100.0
0°-180°	19165.0	100.0

Coefficient of Utilization



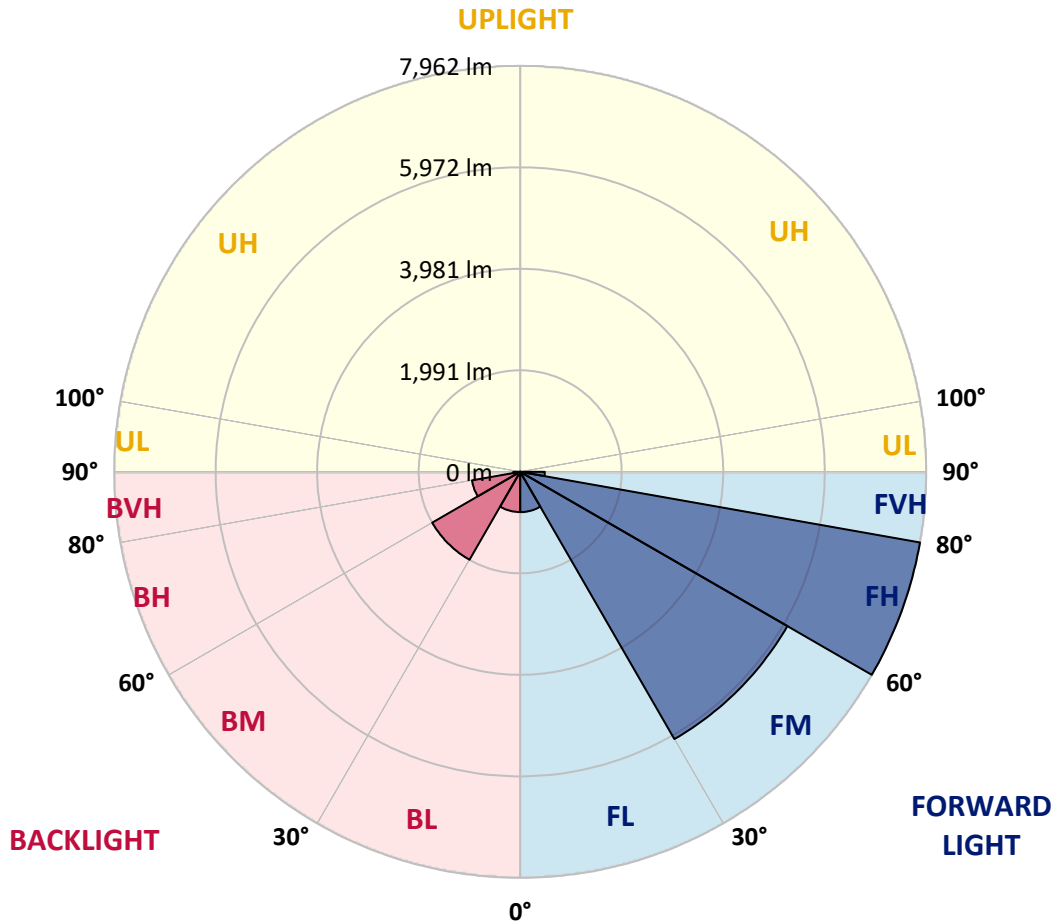
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	790.9	4.1			
FM (30°-60°)	6050.8	31.6			
FH (60°-80°)	7962.3	41.5			G4/12000
FVH (80°-90°)	483.9	2.5			G3/500
BL (0°-30°)	789.1	4.1	B2/1000		
BM (30°-60°)	1991.2	10.4	B2/2500		
BH (60°-80°)	960.7	5.0	B2/1000		G2/1000
BVH (80°-90°)	136.1	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	33°	35°	45°	55°	65°	75°	85°
0°	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9
2.5°	1139.3	1103.5	1044.7	1043.1	1075.7	1082.9	1104.3	1105.9	1113.9	1101.1	1191.8
5°	1257.0	1218.8	1195.7	1203.7	1188.6	1206.9	1206.9	1259.4	1329.3	1410.4	1525.7
7.5°	1284.8	1257.0	1230.7	1250.6	1253.8	1236.3	1253.0	1376.2	1502.6	1583.7	1768.2
10°	1229.1	1201.3	1221.2	1227.6	1226.8	1266.5	1353.2	1451.8	1592.5	1741.9	1841.3
12.5°	1218.8	1238.7	1248.2	1259.4	1334.9	1346.8	1478.0	1579.8	1721.3	1852.5	2110.8
15°	1372.2	1398.5	1339.7	1335.7	1360.3	1371.5	1507.4	1610.0	1816.7	2036.9	2269.1
17.5°	1590.9	1600.4	1494.7	1440.6	1458.9	1467.7	1527.3	1656.1	1783.3	2190.4	2479.7
20°	1802.4	1808.7	1610.0	1489.1	1553.5	1563.1	1618.7	1692.7	1792.8	2276.2	2622.1
22.5°	2024.2	1983.6	1765.8	1613.1	1650.5	1652.9	1685.5	1726.0	1868.4	2262.7	2795.4
25°	2266.7	2241.2	1966.9	1820.7	1819.1	1786.5	1788.1	1846.1	1948.7	2407.4	2909.1
27.5°	2588.7	2591.8	2193.5	2114.8	1991.6	1970.1	1862.8	1970.9	2087.8	2409.0	3154.7
30°	3006.1	2928.9	2509.2	2382.0	2260.3	2215.0	2069.5	2161.7	2212.6	2546.5	3421.9
32.5°	3345.6	3323.3	2838.3	2645.9	2447.2	2499.6	2339.0	2257.9	2349.4	2783.5	3826.6
35°	3670.7	3597.6	3186.5	2936.1	2727.0	2695.2	2591.1	2604.6	2660.2	3083.2	4355.3
37.5°	4155.7	4116.0	3679.5	3278.8	3181.0	3051.4	2985.4	3027.5	2983.8	3467.2	5147.9
40°	4697.9	4467.4	4091.3	3734.3	3551.5	3460.0	3483.1	3443.3	3410.0	3898.1	5858.7
42.5°	5217.1	5007.2	4364.8	4204.2	3965.7	4003.9	3877.4	3905.3	3999.9	4509.5	6516.2
45°	5782.4	5328.4	4655.0	4513.5	4342.5	4391.0	4492.0	4461.8	4616.8	5230.6	7135.5
47.5°	6064.6	5632.9	5011.2	4780.6	4778.2	4677.3	5291.8	5358.6	5116.1	5764.9	7764.4
50°	6336.5	5912.0	5275.9	5120.1	5007.2	5223.5	6059.0	5905.6	5567.7	6377.9	8456.1
52.5°	6715.0	6230.8	5579.6	5413.5	5553.4	5753.7	6671.2	6641.0	6010.5	7008.3	9057.2
55°	7003.6	6514.6	6036.8	5882.5	6149.7	6346.1	7294.5	7112.5	6389.8	7471.0	9438.0
57.5°	7509.2	7007.5	6711.8	6369.1	6849.3	6846.1	7895.6	7754.9	6795.3	7851.1	9591.4
60°	8313.0	7723.9	7414.6	7019.5	7533.9	7717.5	8582.5	8177.0	7082.3	8091.2	9314.8
62.5°	9441.2	8741.5	8239.9	7848.7	8476.0	8808.3	9430.8	8484.7	7100.6	8022.8	8587.3
65°	10836.5	9985.8	9328.3	8914.8	9950.0	10424.6	10456.4	8674.7	6932.0	7316.0	7057.6
67.5°	12197.6	11241.2	10555.0	10633.7	12145.1	12370.1	11567.9	8833.8	6026.4	5874.6	4900.7
70°	13093.6	12056.9	11599.7	12434.5	14730.6	14500.0	12468.7	8414.8	4745.6	3808.3	2759.6
72.5°	13026.0	11940.8	11776.2	13504.6	16579.9	16436.0	12578.4	6691.9	3178.6	2082.2	1376.2
75°	10612.3	9768.7	10142.4	12784.3	16047.2	16040.1	10920.8	4142.2	1630.6	1069.3	869.8
77.5°	5867.4	5539.9	6637.8	9679.7	12777.2	12842.4	7378.8	1878.7	879.3	757.7	655.1
80°	2055.2	2025.0	2876.5	5223.5	8405.2	8421.1	3431.4	859.4	639.2	573.2	481.0
82.5°	751.3	745.0	1192.6	2426.5	4628.0	4617.6	1301.5	535.1	473.8	405.5	317.2
85°	299.7	293.4	545.4	1077.3	2126.0	2091.8	505.6	303.7	310.1	241.7	155.8
87.5°	82.7	85.9	185.2	337.1	651.1	603.4	127.2	102.6	125.6	98.6	49.3
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°	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9	1004.9
2.5°	1207.7	1215.6	1136.9	1164.7	1200.5	1219.6	1229.1	1188.6	1202.1	1259.4	1257.0
5°	1549.5	1517.7	1487.5	1518.5	1497.9	1468.4	1516.2	1513.8	1544.8	1575.8	1582.9
7.5°	1804.8	1763.4	1749.1	1679.1	1609.2	1538.4	1599.6	1637.8	1645.7	1722.9	1755.5
10°	1897.0	1881.1	1886.6	1794.4	1785.7	1792.8	1736.4	1675.2	1712.5	1680.7	1704.6
12.5°	2110.1	2149.8	2051.2	1988.4	1982.8	1939.1	1826.2	1786.5	1744.3	1788.1	1765.8
15°	2281.0	2354.9	2249.2	2138.7	2013.9	1946.3	1850.1	1789.6	1761.8	1771.4	1744.3
17.5°	2531.4	2600.6	2331.9	2162.5	2033.7	1934.3	1787.3	1658.5	1726.8	1732.4	1701.4
20°	2697.6	2702.4	2359.7	2103.7	1987.6	1815.1	1672.0	1559.1	1637.8	1718.1	1753.1
22.5°	2859.8	2824.0	2393.9	2056.8	1819.9	1652.9	1582.9	1575.8	1634.6	1702.2	1710.1
25°	2981.4	2987.0	2413.8	2039.3	1721.3	1493.9	1493.9	1545.6	1597.2	1757.8	1749.9
27.5°	3276.4	3059.3	2336.6	1959.0	1584.5	1400.9	1494.7	1563.9	1588.5	1762.6	1780.1
30°	3491.0	3349.5	2352.5	1821.5	1446.2	1357.1	1434.3	1520.9	1589.3	1790.4	1784.1
32.5°	3851.2	3470.4	2389.9	1628.3	1342.8	1340.4	1408.8	1500.3	1582.1	1760.2	1769.8
35°	4249.5	3826.6	2285.8	1481.2	1318.2	1330.9	1419.2	1455.7	1551.9	1748.3	1757.1
37.5°	4986.5	4012.6	2219.8	1367.5	1302.3	1338.9	1372.2	1428.7	1525.7	1688.7	1745.9
40°	5419.0	4395.8	1974.9	1301.5	1268.9	1332.5	1349.2	1396.9	1449.4	1617.1	1653.7
42.5°	5988.3	4516.7	1765.8	1228.3	1252.2	1306.3	1356.3	1368.3	1403.3	1504.2	1571.0
45°	6462.9	4607.3	1544.0	1169.5	1195.7	1364.3	1367.5	1361.9	1355.6	1392.9	1447.8
47.5°	6954.3	4850.6	1339.7	1104.3	1174.3	1412.0	1373.0	1322.2	1295.9	1300.7	1351.6
50°	7496.5	5027.1	1195.0	1051.1	1179.1	1412.0	1400.1	1281.6	1229.1	1215.6	1268.9
52.5°	7973.5	5047.7	1085.2	1008.1	1159.2	1363.5	1418.4	1256.2	1167.9	1135.3	1185.4
55°	8233.5	4786.2	1005.7	969.2	1108.3	1319.8	1408.8	1241.9	1094.0	1069.3	1113.9
57.5°	8227.9	4352.1	938.2	915.1	1050.3	1258.6	1355.6	1163.9	1048.7	1034.4	1078.1
60°	7931.4	3843.3	886.5	870.6	990.6	1169.5	1260.1	1113.1	1004.9	997.8	1045.5
62.5°	7258.8	3317.7	836.4	823.7	935.0	1106.7	1214.8	1056.6	959.6	958.8	1004.1
65°	5944.6	2663.4	789.5	786.3	883.3	1044.7	1171.9	1008.9	912.7	928.6	974.7
67.5°	4096.1	1871.5	739.4	748.9	835.6	985.1	1139.3	977.1	863.4	896.0	937.4
70°	2247.6	1157.6	683.7	702.8	775.2	915.9	1088.4	925.4	799.0	849.1	877.7
72.5°	1143.3	772.0	614.6	644.8	701.2	814.1	993.0	850.7	729.9	748.9	764.0
75°	768.0	581.2	537.5	570.8	611.4	717.1	880.9	780.7	663.9	661.5	678.2
77.5°	580.4	454.0	456.4	494.5	520.8	630.5	791.9	721.9	608.2	602.6	627.3
80°	424.6	344.3	367.3	407.1	430.9	566.1	733.8	656.7	532.7	510.4	531.1
82.5°	281.4	244.1	271.9	311.7	330.7	473.1	666.2	557.3	434.1	377.6	380.8
85°	132.8	128.0	162.2	181.3	205.9	293.4	498.5	385.6	276.7	229.0	239.3
87.5°	30.2	40.5	53.3	52.5	61.2	78.7	155.0	108.1	80.3	54.9	36.6
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)