

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: P368466

Luminaire Tested: **MSA-SA4C-727-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368466  
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-727-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: 20170 lumens  
Efficiency: N/A  
Efficacy: 89.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G4

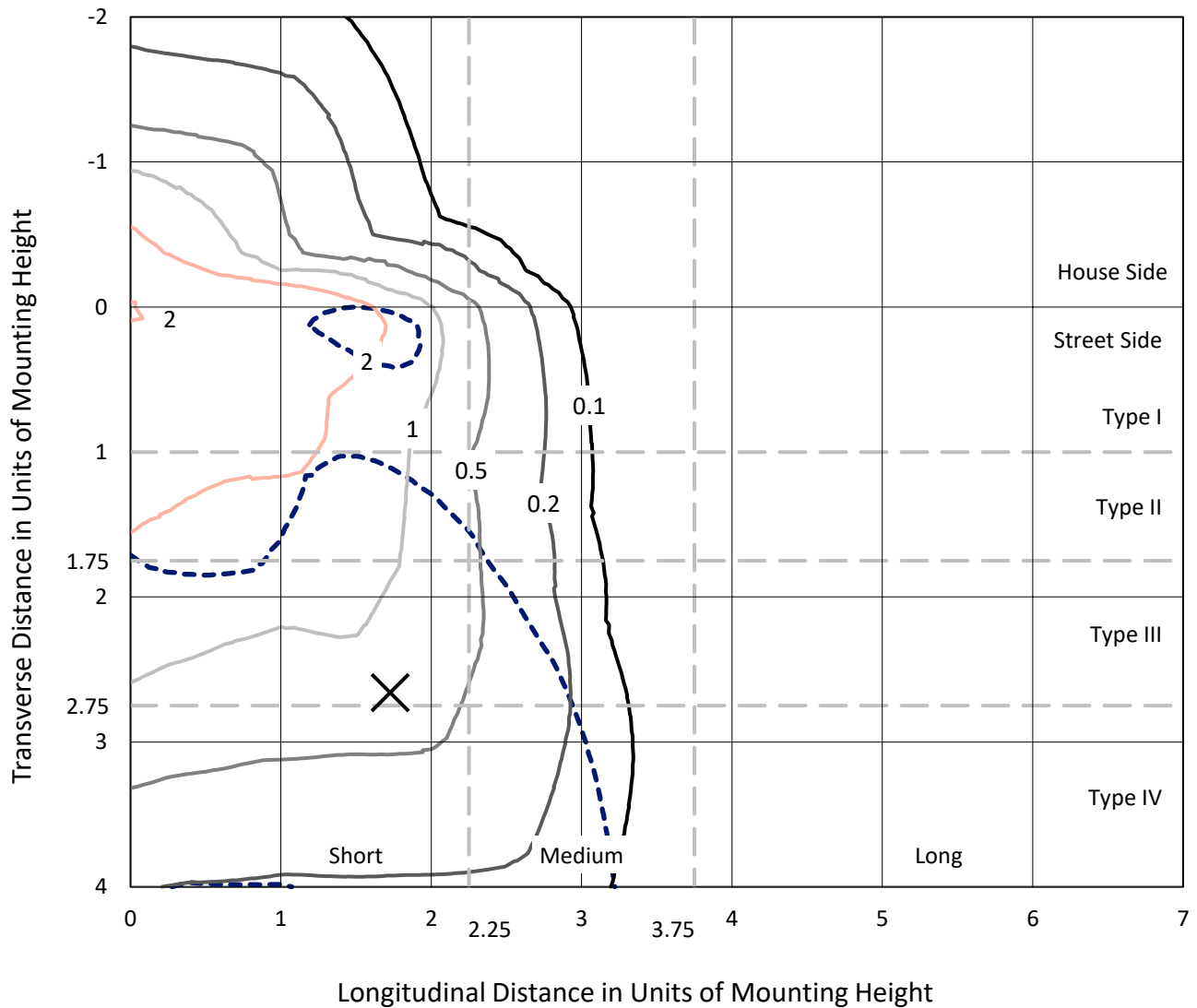
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

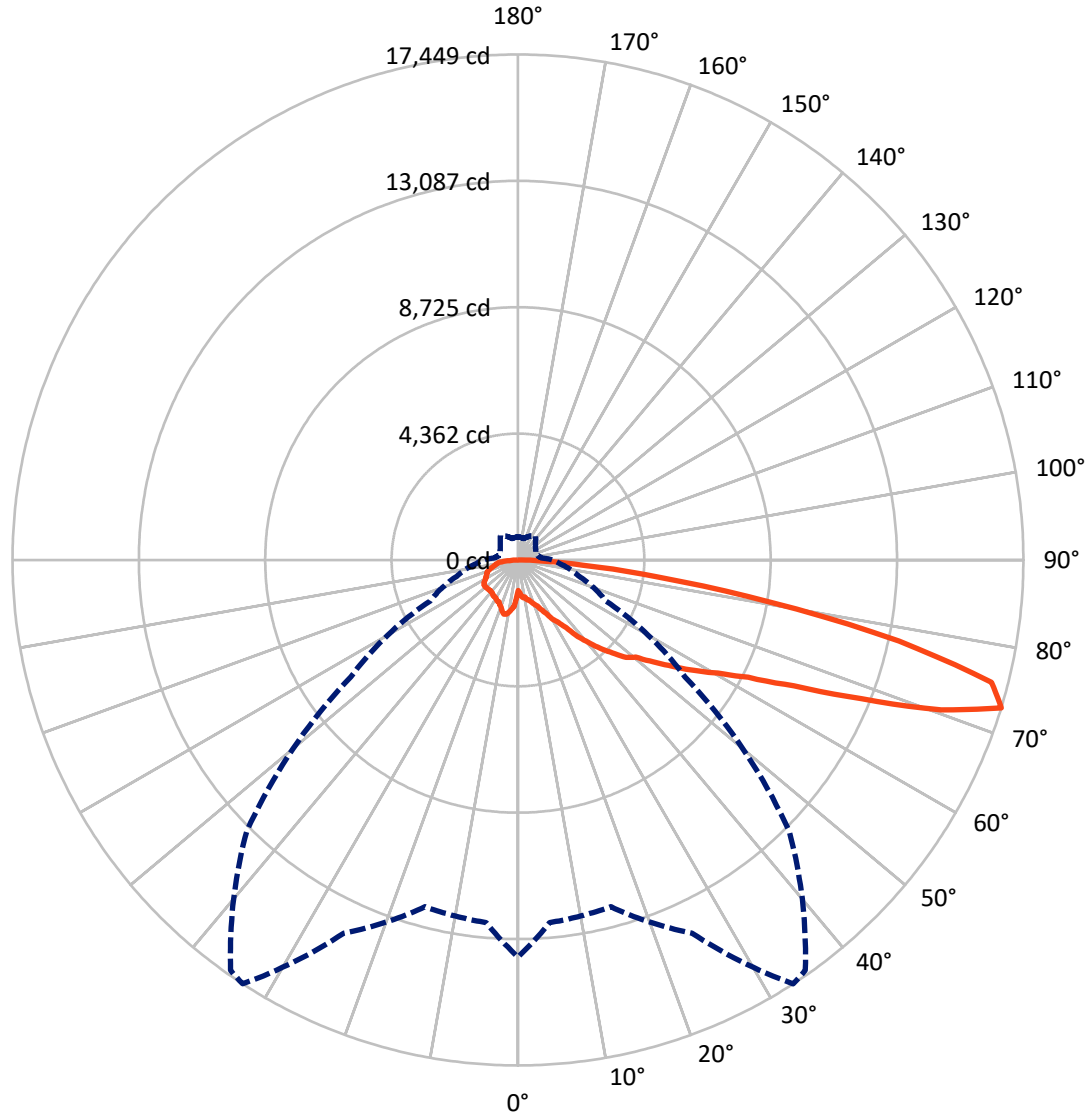
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.1 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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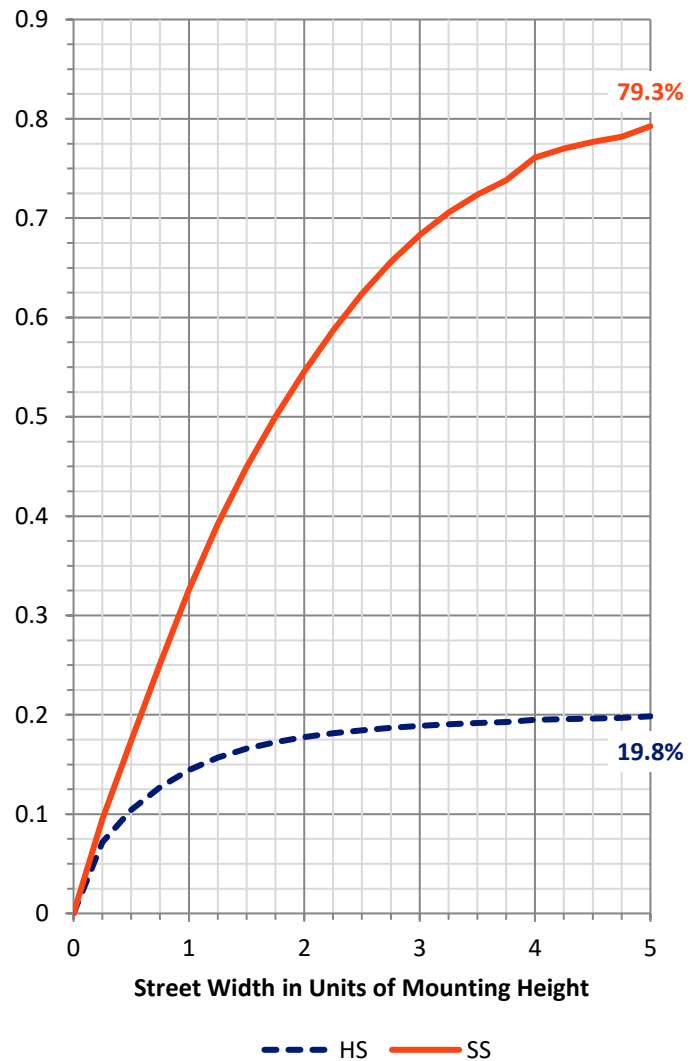
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4080.4	0.0	4080.4
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	16089.6	0.0	16089.6
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	20170.0	0.0	20170.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	145.4	0.7
10°-20°	537.4	2.7
20°-30°	980.0	4.9
30°-40°	1657.9	8.2
40°-50°	2758.1	13.7
50°-60°	4047.8	20.1
60°-70°	5178.1	25.7
70°-80°	4212.8	20.9
80°-90°	652.5	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°	20170.0	100.0
0°-180°	20170.0	100.0

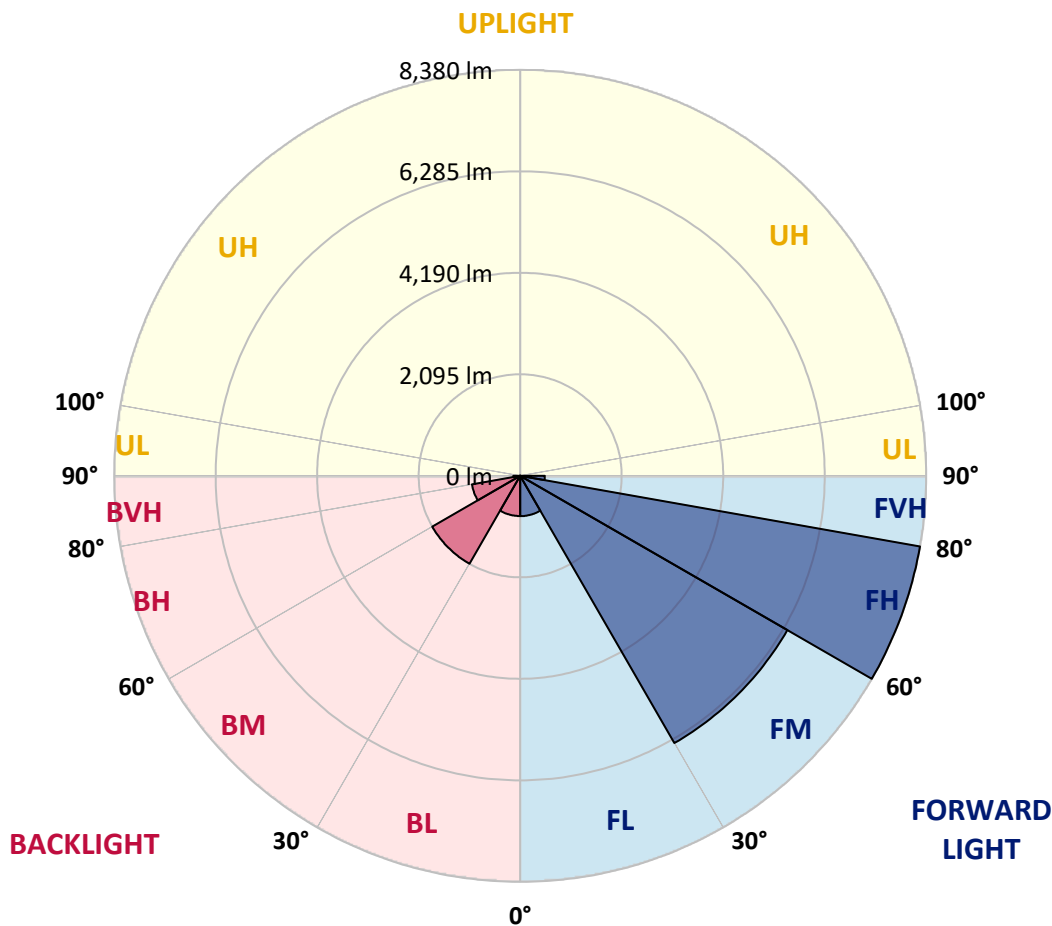


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	832.4	4.1			
FM (30°-60°)	6368.1	31.6			
FH (60°-80°)	8379.9	41.5			G4/12000
FVH (80°-90°)	509.2	2.5			G4/750
BL (0°-30°)	830.4	4.1	B2/1000		
BM (30°-60°)	2095.6	10.4	B2/2500		
BH (60°-80°)	1011.0	5.0	B3/2500		G3/2500
BVH (80°-90°)	143.2	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°	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6
2.5°	1199.0	1161.4	1099.5	1097.8	1132.1	1139.6	1162.2	1163.9	1172.3	1158.9	1254.3
5°	1322.9	1282.7	1258.5	1266.8	1250.9	1270.2	1270.2	1325.4	1399.0	1484.4	1605.7
7.5°	1352.2	1322.9	1295.3	1316.2	1319.5	1301.1	1318.7	1448.4	1581.4	1666.8	1860.9
10°	1293.6	1264.3	1285.2	1291.9	1291.1	1332.9	1424.1	1527.9	1676.0	1833.3	1937.9
12.5°	1282.7	1303.6	1313.7	1325.4	1404.9	1417.4	1555.5	1662.6	1811.5	1949.6	2221.5
15°	1444.2	1471.8	1409.9	1405.7	1431.7	1443.4	1586.5	1694.4	1911.9	2143.7	2388.0
17.5°	1674.3	1684.4	1573.1	1516.2	1535.4	1544.6	1607.4	1742.9	1876.8	2305.2	2609.8
20°	1896.9	1903.6	1694.4	1567.2	1635.0	1645.0	1703.6	1781.4	1886.8	2395.6	2759.6
22.5°	2130.3	2087.7	1858.4	1697.7	1737.1	1739.6	1773.9	1816.6	1966.3	2381.4	2942.0
25°	2385.5	2358.8	2070.1	1916.1	1914.5	1880.1	1881.8	1942.9	2050.8	2533.6	3061.6
27.5°	2724.4	2727.8	2308.6	2225.7	2096.0	2073.4	1960.5	2074.3	2197.3	2535.3	3320.2
30°	3163.7	3082.5	2640.7	2506.9	2378.8	2331.2	2178.0	2275.1	2328.6	2680.1	3601.3
32.5°	3521.0	3497.6	2987.2	2784.7	2575.5	2630.7	2461.7	2376.3	2472.6	2929.4	4027.2
35°	3863.2	3786.2	3353.6	3090.1	2870.0	2836.5	2726.9	2741.2	2799.7	3244.9	4583.6
37.5°	4373.6	4331.8	3872.4	3450.7	3347.8	3211.4	3141.9	3186.3	3140.3	3649.0	5417.9
40°	4944.3	4701.6	4305.9	3930.2	3737.7	3641.5	3665.7	3623.9	3588.8	4102.5	6165.9
42.5°	5490.7	5269.8	4593.7	4424.7	4173.6	4213.8	4080.8	4110.1	4209.6	4746.0	6857.9
45°	6085.6	5607.8	4899.1	4750.2	4570.3	4621.3	4727.6	4695.8	4858.9	5504.9	7509.7
47.5°	6382.6	5928.3	5274.0	5031.3	5028.8	4922.5	5569.3	5639.6	5384.4	6067.2	8171.6
50°	6668.8	6222.0	5552.6	5388.6	5269.8	5497.4	6376.8	6215.3	5859.7	6712.3	8899.5
52.5°	7067.1	6557.5	5872.2	5697.3	5844.6	6055.5	7021.1	6989.3	6325.7	7375.8	9532.1
55°	7370.8	6856.2	6353.3	6191.0	6472.2	6678.8	7677.1	7485.5	6724.9	7862.8	9932.9
57.5°	7903.0	7375.0	7063.7	6703.1	7208.5	7205.1	8309.6	8161.5	7151.6	8262.8	10094.4
60°	8748.9	8128.9	7803.4	7387.6	7928.9	8122.2	9032.6	8605.8	7453.7	8515.5	9803.2
62.5°	9936.3	9199.9	8671.9	8260.3	8920.5	9270.2	9925.4	8929.7	7472.9	8443.5	9037.6
65°	11404.7	10509.4	9817.4	9382.3	10471.8	10971.3	11004.8	9129.6	7295.5	7699.7	7427.7
67.5°	12837.2	11830.6	11108.5	11191.4	12782.0	13018.8	12174.5	9297.0	6342.5	6182.7	5157.7
70°	13780.2	12689.1	12208.0	13086.6	15503.1	15260.4	13122.6	8856.0	4994.5	4008.0	2904.3
72.5°	13709.1	12567.0	12393.8	14212.8	17449.3	17297.9	13238.0	7042.8	3345.3	2191.4	1448.4
75°	11168.8	10281.0	10674.3	13454.7	16888.7	16881.2	11493.4	4359.4	1716.1	1125.4	915.4
77.5°	6175.1	5830.4	6985.9	10187.3	13447.2	13515.8	7765.8	1977.2	925.4	797.4	689.5
80°	2163.0	2131.2	3027.3	5497.4	8846.0	8862.7	3611.4	904.5	672.7	603.3	506.2
82.5°	790.7	784.0	1255.1	2553.7	4870.6	4859.8	1369.7	563.1	498.7	426.7	333.9
85°	315.5	308.8	574.0	1133.8	2237.4	2201.5	532.2	319.6	326.3	254.4	164.0
87.5°	87.0	90.4	195.0	354.8	685.3	635.1	133.9	107.9	132.2	103.8	51.9
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°	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6	1057.6
2.5°	1271.0	1279.4	1196.5	1225.8	1263.5	1283.6	1293.6	1250.9	1265.1	1325.4	1322.9
5°	1630.8	1597.3	1565.5	1598.2	1576.4	1545.5	1595.7	1593.1	1625.8	1658.4	1665.9
7.5°	1899.4	1855.9	1840.8	1767.2	1693.6	1619.1	1683.5	1723.7	1732.0	1813.2	1847.5
10°	1996.5	1979.7	1985.6	1888.5	1879.3	1886.8	1827.4	1763.0	1802.3	1768.9	1794.0
12.5°	2220.7	2262.5	2158.8	2092.7	2086.8	2040.8	1922.0	1880.1	1835.8	1881.8	1858.4
15°	2400.6	2478.4	2367.1	2250.8	2119.5	2048.3	1947.1	1883.5	1854.2	1864.3	1835.8
17.5°	2664.2	2737.0	2454.2	2275.9	2140.4	2035.8	1881.0	1745.4	1817.4	1823.3	1790.6
20°	2839.1	2844.1	2483.4	2214.0	2091.8	1910.3	1759.7	1640.8	1723.7	1808.2	1845.0
22.5°	3009.7	2972.1	2519.4	2164.6	1915.3	1739.6	1665.9	1658.4	1720.3	1791.5	1799.8
25°	3137.8	3143.6	2540.3	2146.2	1811.5	1572.2	1572.2	1626.6	1681.0	1850.0	1841.7
27.5°	3448.2	3219.8	2459.2	2061.7	1667.6	1474.3	1573.1	1645.9	1671.8	1855.0	1873.5
30°	3674.1	3525.2	2475.9	1917.0	1522.0	1428.3	1509.5	1600.7	1672.6	1884.3	1877.6
32.5°	4053.2	3652.4	2515.2	1713.6	1413.2	1410.7	1482.7	1578.9	1665.1	1852.5	1862.6
35°	4472.4	4027.2	2405.6	1558.8	1387.3	1400.7	1493.6	1532.1	1633.3	1840.0	1849.2
37.5°	5248.0	4223.0	2336.2	1439.2	1370.6	1409.1	1444.2	1503.6	1605.7	1777.2	1837.5
40°	5703.2	4626.3	2078.5	1369.7	1335.4	1402.4	1419.9	1470.1	1525.4	1701.9	1740.4
42.5°	6302.3	4753.5	1858.4	1292.8	1317.9	1374.8	1427.5	1440.0	1476.8	1583.1	1653.4
45°	6801.8	4848.9	1624.9	1230.8	1258.5	1435.8	1439.2	1433.3	1426.6	1466.0	1523.7
47.5°	7318.9	5104.9	1409.9	1162.2	1235.9	1486.0	1445.0	1391.5	1363.9	1368.9	1422.5
50°	7889.6	5290.7	1257.6	1106.2	1240.9	1486.0	1473.5	1348.8	1293.6	1279.4	1335.4
52.5°	8391.6	5312.4	1142.1	1061.0	1220.0	1435.0	1492.7	1322.0	1229.2	1194.9	1247.6
55°	8665.3	5037.2	1058.5	1020.0	1166.4	1389.0	1482.7	1307.0	1151.4	1125.4	1172.3
57.5°	8659.4	4580.3	987.4	963.1	1105.3	1324.6	1426.6	1225.0	1103.7	1088.6	1134.6
60°	8347.3	4044.8	933.0	916.2	1042.6	1230.8	1326.2	1171.4	1057.6	1050.1	1100.3
62.5°	7639.4	3491.7	880.2	866.9	984.0	1164.7	1278.5	1112.0	1009.9	1009.1	1056.8
65°	6256.3	2803.1	830.9	827.5	929.6	1099.5	1233.4	1061.8	960.6	977.3	1025.8
67.5°	4310.9	1969.7	778.2	788.2	879.4	1036.7	1199.0	1028.4	908.7	943.0	986.5
70°	2365.5	1218.3	719.6	739.7	815.8	963.9	1145.5	974.0	840.9	893.6	923.8
72.5°	1203.2	812.5	646.8	678.6	738.0	856.8	1045.1	895.3	768.1	788.2	804.1
75°	808.3	611.7	565.6	600.8	643.5	754.7	927.1	821.7	698.7	696.2	713.7
77.5°	610.8	477.8	480.3	520.5	548.1	663.5	833.4	759.8	640.1	634.2	660.2
80°	446.8	362.3	386.6	428.4	453.5	595.8	772.3	691.1	560.6	537.2	558.9
82.5°	296.2	256.9	286.2	328.0	348.1	497.9	701.2	586.6	456.9	397.5	400.8
85°	139.7	134.7	170.7	190.8	216.7	308.8	524.6	405.8	291.2	241.0	251.9
87.5°	31.8	42.7	56.1	55.2	64.4	82.8	163.2	113.8	84.5	57.7	38.5
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)