

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: P368378

Luminaire Tested: **MSA-SA4B-740-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368378  
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-SA4B-740-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: 19474 lumens  
Efficiency: N/A  
Efficacy: 113.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G4

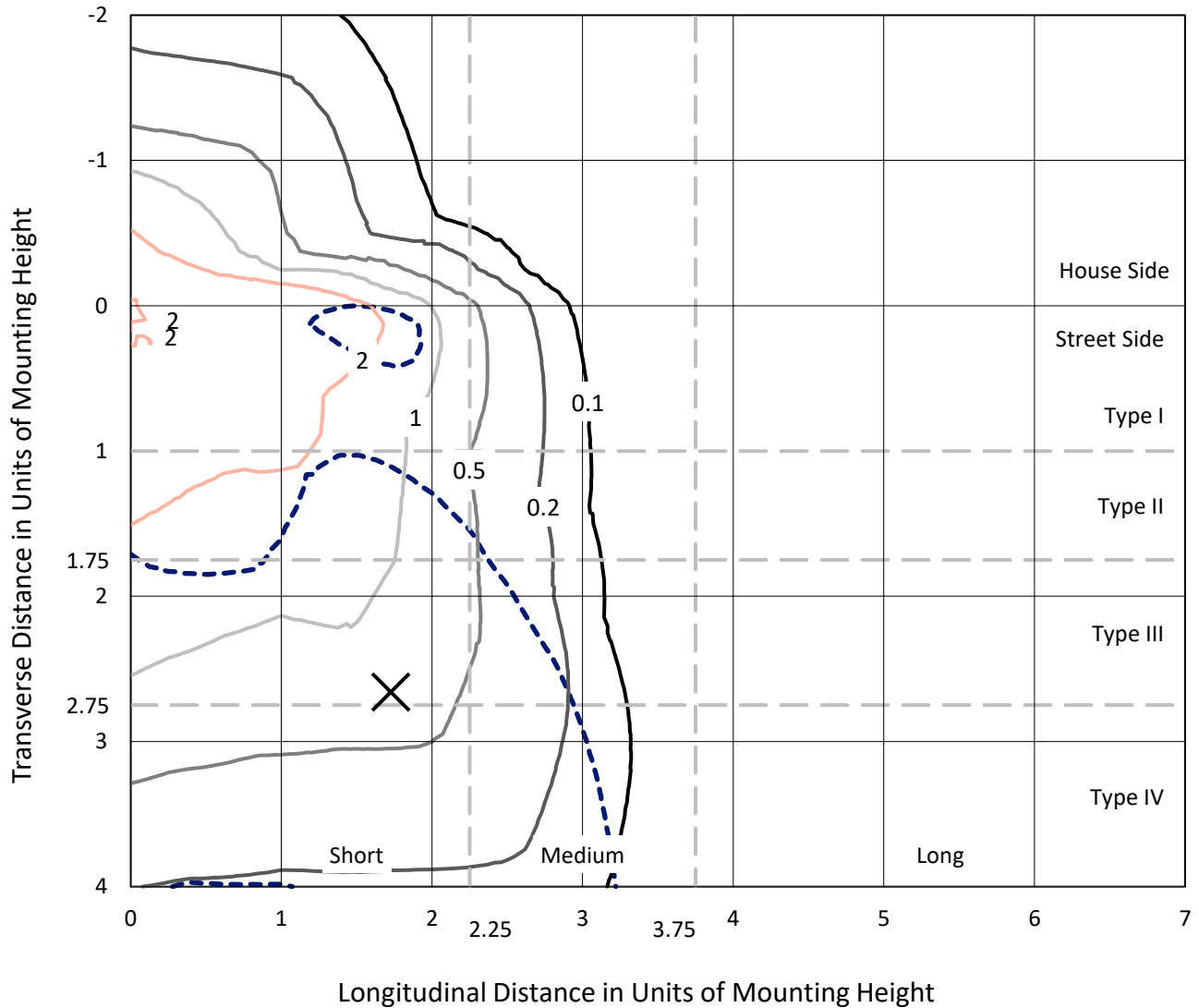
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

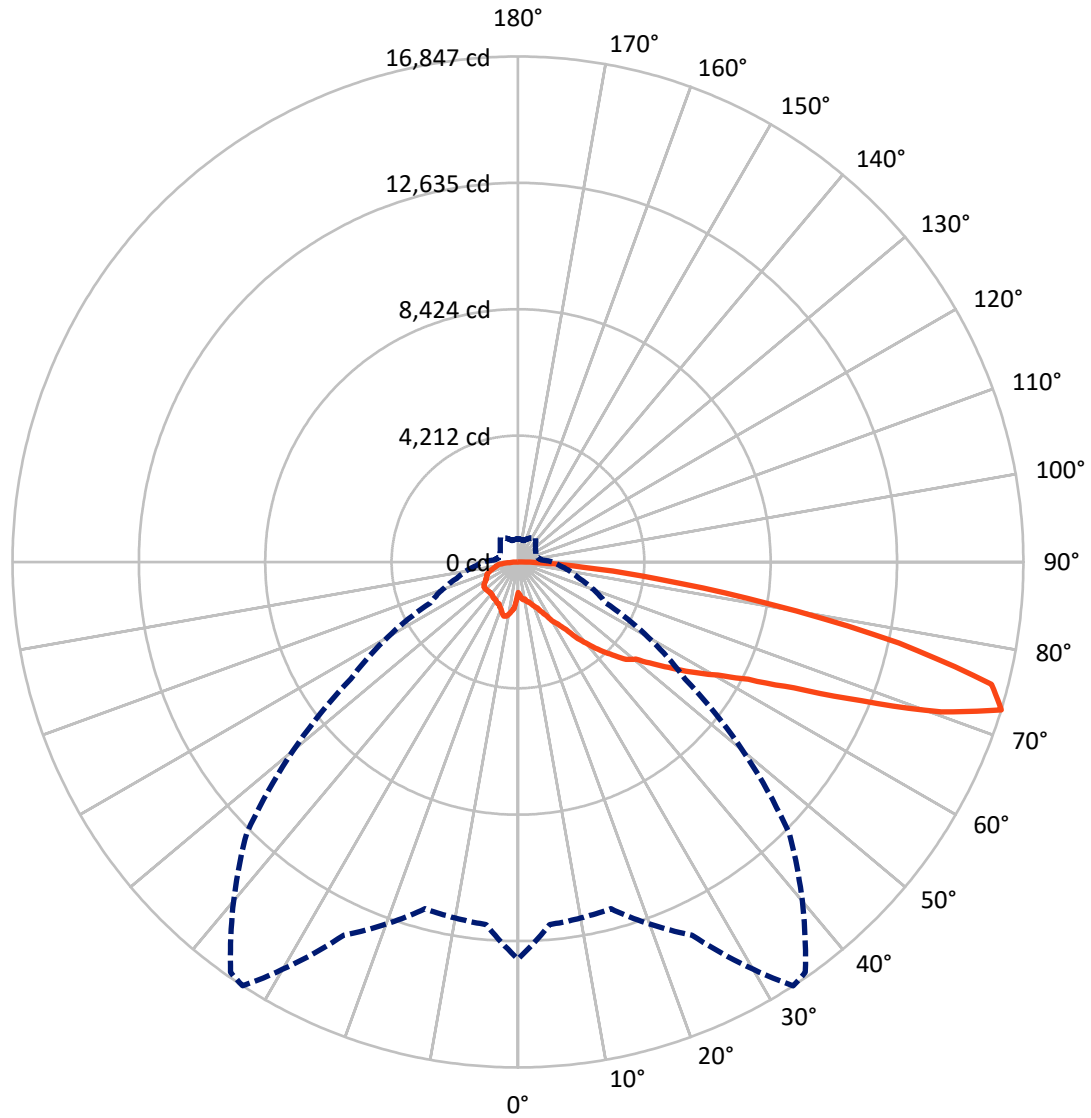
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 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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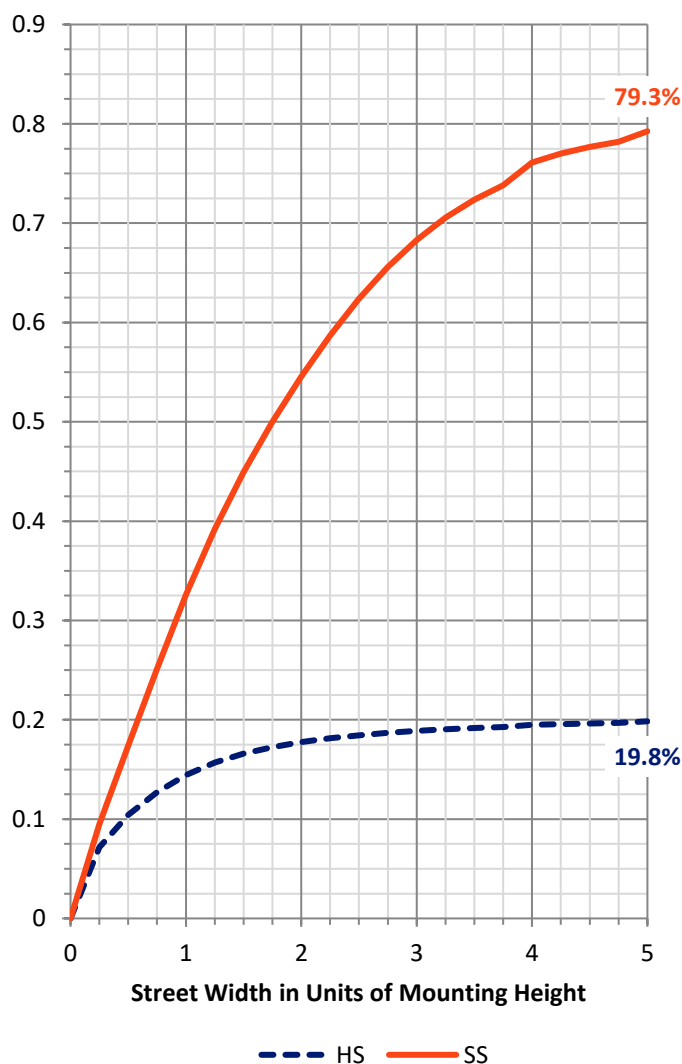
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3939.6	0.0	3939.6
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	15534.4	0.0	15534.4
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	19474.0	0.0	19474.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.4	0.7
10°-20°	518.9	2.7
20°-30°	946.2	4.9
30°-40°	1600.7	8.2
40°-50°	2663.0	13.7
50°-60°	3908.1	20.1
60°-70°	4999.4	25.7
70°-80°	4067.5	20.9
80°-90°	630.0	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°	19474.0	100.0
0°-180°	19474.0	100.0

**Coefficient of Utilization**



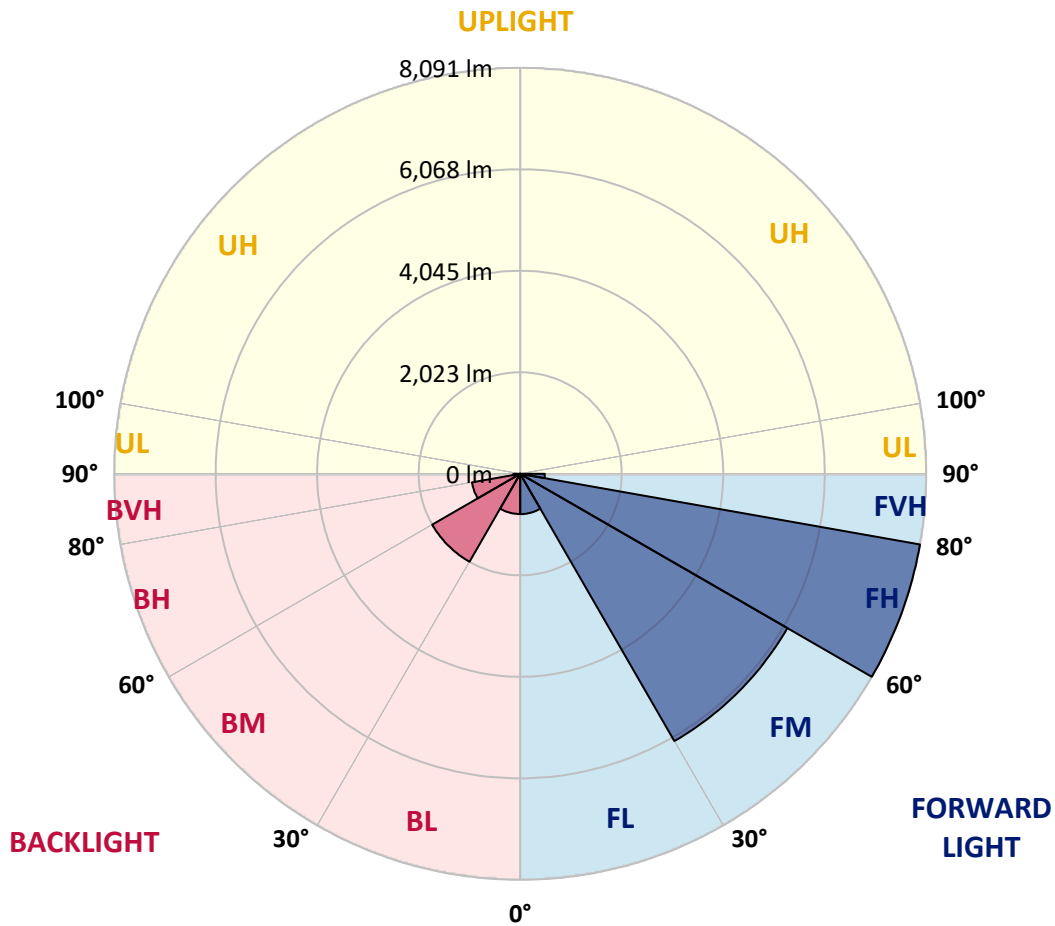
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	803.7	4.1			
FM (30°-60°)	6148.4	31.6			
FH (60°-80°)	8090.7	41.5			G4/12000
FVH (80°-90°)	491.7	2.5			G3/500
BL (0°-30°)	801.8	4.1	B2/1000		
BM (30°-60°)	2023.3	10.4	B2/2500		
BH (60°-80°)	976.1	5.0	B2/1000		G2/1000
BVH (80°-90°)	138.3	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: 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°	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1
2.5°	1157.7	1121.3	1061.5	1059.9	1093.0	1100.3	1122.1	1123.7	1131.8	1118.9	1211.0
5°	1277.2	1238.5	1215.0	1223.1	1207.8	1226.3	1226.3	1279.7	1350.7	1433.2	1550.3
7.5°	1305.5	1277.2	1250.6	1270.8	1274.0	1256.2	1273.2	1398.4	1526.9	1609.3	1796.7
10°	1249.0	1220.7	1240.9	1247.3	1246.5	1286.9	1375.0	1475.2	1618.2	1770.0	1871.0
12.5°	1238.5	1258.7	1268.3	1279.7	1356.4	1368.5	1501.8	1605.2	1749.0	1882.3	2144.9
15°	1394.4	1421.0	1361.3	1357.2	1382.3	1393.6	1531.7	1635.9	1846.0	2069.7	2305.6
17.5°	1616.5	1626.2	1518.8	1463.9	1482.4	1491.3	1551.9	1682.8	1812.0	2225.7	2519.7
20°	1831.4	1837.9	1635.9	1513.1	1578.6	1588.3	1644.8	1719.9	1821.7	2312.9	2664.3
22.5°	2056.8	2015.6	1794.3	1639.2	1677.1	1679.6	1712.7	1753.9	1898.5	2299.2	2840.5
25°	2303.2	2277.4	1998.7	1850.0	1848.4	1815.3	1816.9	1875.9	1980.1	2446.2	2956.0
27.5°	2630.4	2633.6	2228.9	2148.9	2023.7	2001.9	1892.8	2002.7	2121.5	2447.8	3205.6
30°	3054.5	2976.2	2549.6	2420.4	2296.8	2250.7	2102.9	2196.6	2248.3	2587.6	3477.0
32.5°	3399.5	3376.9	2884.1	2688.6	2486.6	2539.9	2376.7	2294.3	2387.2	2828.3	3888.3
35°	3729.9	3655.6	3237.9	2983.4	2771.0	2738.7	2632.8	2646.6	2703.1	3132.9	4425.5
37.5°	4222.7	4182.3	3738.8	3331.6	3232.3	3100.6	3033.5	3076.3	3031.9	3523.1	5230.9
40°	4773.7	4539.4	4157.3	3794.5	3608.7	3515.8	3539.3	3498.9	3464.9	3961.0	5953.2
42.5°	5301.2	5087.9	4435.2	4272.0	4029.6	4068.4	3940.0	3968.2	4064.4	4582.2	6621.3
45°	5875.6	5414.3	4730.0	4586.2	4412.6	4461.8	4564.4	4533.7	4691.3	5314.9	7250.6
47.5°	6162.4	5723.7	5092.0	4857.7	4855.3	4752.7	5377.1	5445.0	5198.6	5857.8	7889.6
50°	6438.7	6007.3	5361.0	5202.6	5087.9	5307.7	6156.7	6000.8	5657.5	6480.7	8592.4
52.5°	6823.2	6331.2	5669.6	5500.7	5642.9	5846.5	6778.8	6748.1	6107.5	7121.3	9203.2
55°	7116.5	6619.6	6134.1	5977.4	6248.8	6448.4	7412.2	7227.2	6492.8	7591.5	9590.2
57.5°	7630.3	7120.5	6820.0	6471.8	6959.8	6956.5	8022.9	7879.9	6904.8	7977.7	9746.1
60°	8447.0	7848.4	7534.1	7132.6	7655.3	7841.9	8720.9	8308.9	7196.5	8221.6	9464.9
62.5°	9593.4	8882.5	8372.7	7975.2	8612.6	8950.3	9582.9	8621.5	7215.0	8152.2	8725.7
65°	11011.2	10146.8	9478.7	9058.6	10110.4	10592.7	10625.0	8814.6	7043.8	7434.0	7171.4
67.5°	12394.3	11422.4	10725.2	10805.2	12340.9	12569.6	11754.4	8976.2	6123.6	5969.3	4979.7
70°	13304.7	12251.3	11786.7	12635.0	14968.1	14733.8	12669.7	8550.4	4822.1	3869.7	2804.1
72.5°	13236.1	12133.3	11966.1	13722.4	16847.2	16701.0	12781.2	6799.8	3229.8	2115.8	1398.4
75°	10783.4	9926.2	10305.9	12990.5	16305.9	16298.7	11096.8	4209.0	1656.9	1086.6	883.8
77.5°	5962.0	5629.2	6744.9	9835.8	12983.2	13049.4	7497.8	1909.0	893.5	769.9	665.7
80°	2088.3	2057.6	2922.9	5307.7	8540.7	8556.9	3486.7	873.3	649.5	582.5	488.8
82.5°	763.4	757.0	1211.8	2465.6	4702.6	4692.1	1322.5	543.7	481.5	412.0	322.3
85°	304.6	298.1	554.2	1094.7	2160.2	2125.5	513.8	308.6	315.1	245.6	158.3
87.5°	84.0	87.2	188.2	342.5	661.6	613.2	129.3	104.2	127.6	100.2	50.1
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°	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1	1021.1
2.5°	1227.1	1235.2	1155.2	1183.5	1219.9	1239.3	1249.0	1207.8	1221.5	1279.7	1277.2
5°	1574.5	1542.2	1511.5	1543.0	1522.0	1492.1	1540.6	1538.2	1569.7	1601.2	1608.5
7.5°	1833.9	1791.8	1777.3	1706.2	1635.1	1563.2	1625.4	1664.2	1672.3	1750.6	1783.8
10°	1927.6	1911.4	1917.1	1823.4	1814.5	1821.7	1764.4	1702.2	1740.1	1707.8	1732.1
12.5°	2144.1	2184.5	2084.3	2020.5	2014.8	1970.4	1855.7	1815.3	1772.5	1816.9	1794.3
15°	2317.8	2392.9	2285.4	2173.2	2046.3	1977.7	1879.9	1818.5	1790.2	1799.9	1772.5
17.5°	2572.2	2642.5	2369.5	2197.4	2066.5	1965.5	1816.1	1685.2	1754.7	1760.3	1728.8
20°	2741.1	2745.9	2397.7	2137.6	2019.7	1844.4	1698.9	1584.2	1664.2	1745.8	1781.3
22.5°	2905.9	2869.5	2432.5	2089.9	1849.2	1679.6	1608.5	1601.2	1661.0	1729.6	1737.7
25°	3029.5	3035.1	2452.7	2072.2	1749.0	1518.0	1518.0	1570.5	1623.0	1786.2	1778.1
27.5°	3329.2	3108.7	2374.3	1990.6	1610.1	1423.5	1518.8	1589.1	1614.1	1791.0	1808.8
30°	3547.3	3403.5	2390.5	1850.8	1469.5	1379.0	1457.4	1545.4	1614.9	1819.3	1812.8
32.5°	3913.3	3526.3	2428.4	1654.5	1364.5	1362.1	1431.5	1524.4	1607.7	1788.6	1798.3
35°	4318.0	3888.3	2322.6	1505.1	1339.4	1352.4	1442.0	1479.2	1577.0	1776.5	1785.4
37.5°	5066.9	4077.3	2255.6	1389.5	1323.3	1360.4	1394.4	1451.7	1550.3	1715.9	1774.1
40°	5506.4	4466.7	2006.7	1322.5	1289.4	1354.0	1370.9	1419.4	1472.7	1643.2	1680.4
42.5°	6084.8	4589.5	1794.3	1248.2	1272.4	1327.3	1378.2	1390.3	1425.9	1528.5	1596.3
45°	6567.1	4681.6	1568.9	1188.4	1215.0	1386.3	1389.5	1383.9	1377.4	1415.4	1471.1
47.5°	7066.4	4928.8	1361.3	1122.1	1193.2	1434.8	1395.2	1343.5	1316.8	1321.7	1373.4
50°	7617.4	5108.1	1214.2	1068.0	1198.1	1434.8	1422.6	1302.3	1249.0	1235.2	1289.4
52.5°	8102.1	5129.1	1102.7	1024.4	1177.9	1385.5	1441.2	1276.4	1186.8	1153.6	1204.5
55°	8366.2	4863.3	1021.9	984.8	1126.2	1341.1	1431.5	1261.9	1111.6	1086.6	1131.8
57.5°	8360.6	4422.3	953.3	929.9	1067.2	1278.8	1377.4	1182.7	1065.6	1051.0	1095.5
60°	8059.3	3905.2	900.8	884.6	1006.6	1188.4	1280.5	1131.0	1021.1	1013.9	1062.3
62.5°	7375.8	3371.2	849.9	836.9	950.0	1124.5	1234.4	1073.7	975.1	974.3	1020.3
65°	6040.4	2706.3	802.2	799.0	897.5	1061.5	1190.8	1025.2	927.4	943.6	990.4
67.5°	4162.1	1901.7	751.3	761.0	849.1	1000.9	1157.7	992.9	877.3	910.5	952.5
70°	2283.8	1176.3	694.8	714.2	787.7	930.7	1106.0	940.4	811.9	862.8	891.9
72.5°	1161.7	784.4	624.5	655.2	712.5	827.3	1009.0	864.4	741.6	761.0	776.4
75°	780.4	590.5	546.1	580.0	621.2	728.7	895.1	793.3	674.6	672.1	689.1
77.5°	589.7	461.3	463.7	502.5	529.2	640.6	804.6	733.5	618.0	612.4	637.4
80°	431.4	349.8	373.2	413.6	437.9	575.2	745.7	667.3	541.3	518.6	539.7
82.5°	286.0	248.0	276.3	316.7	336.1	480.7	677.0	566.3	441.1	383.7	387.0
85°	134.9	130.1	164.8	184.2	209.2	298.1	506.5	391.8	281.1	232.7	243.2
87.5°	30.7	41.2	54.1	53.3	62.2	80.0	157.5	109.9	81.6	55.7	37.2
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)