

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: P596824

Luminaire Tested: **MSA-SA4D-827-U-T4FT**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596824  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-12)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-827-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: 19384 lumens  
Efficiency: N/A  
Efficacy: 74.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G4

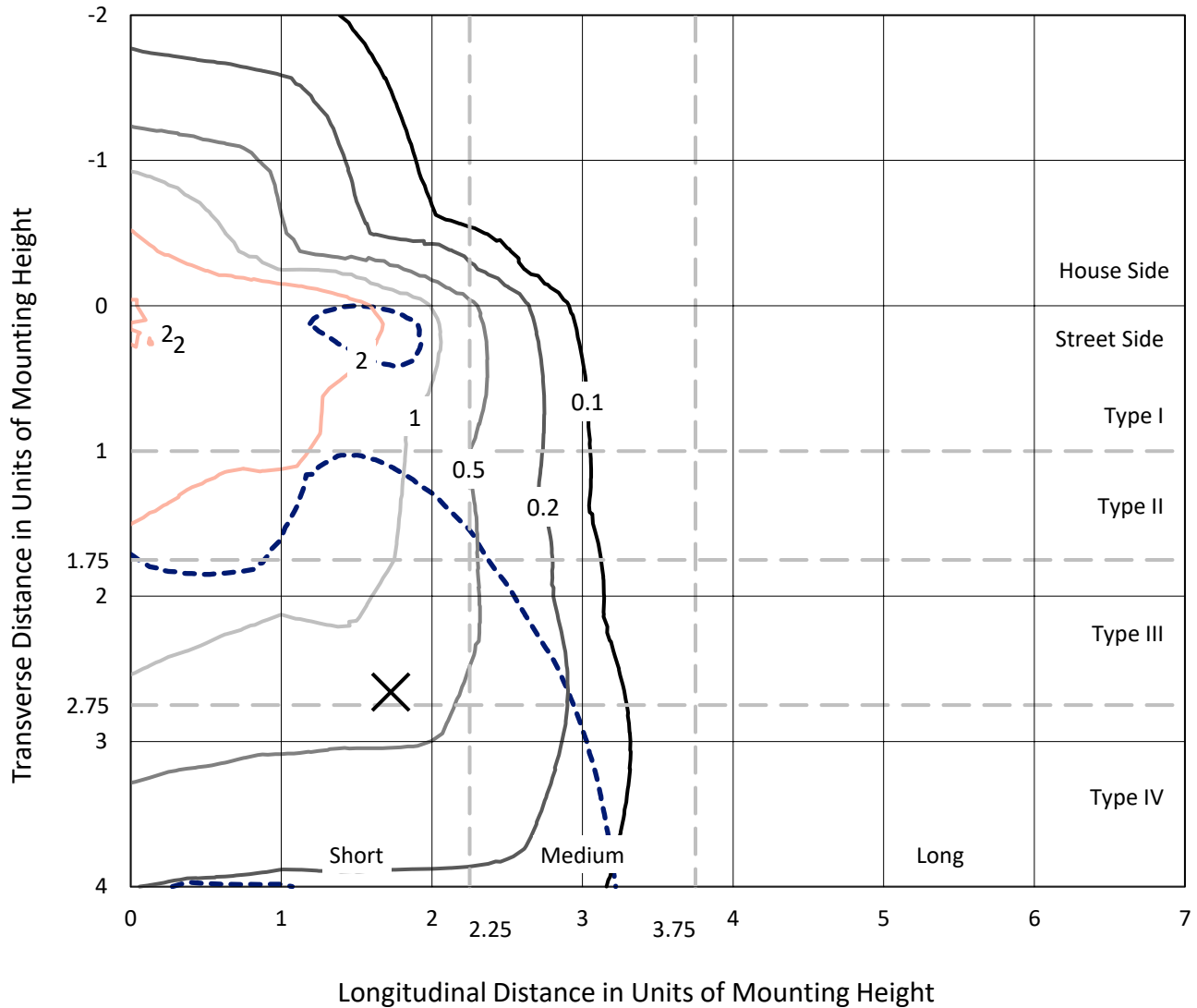
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

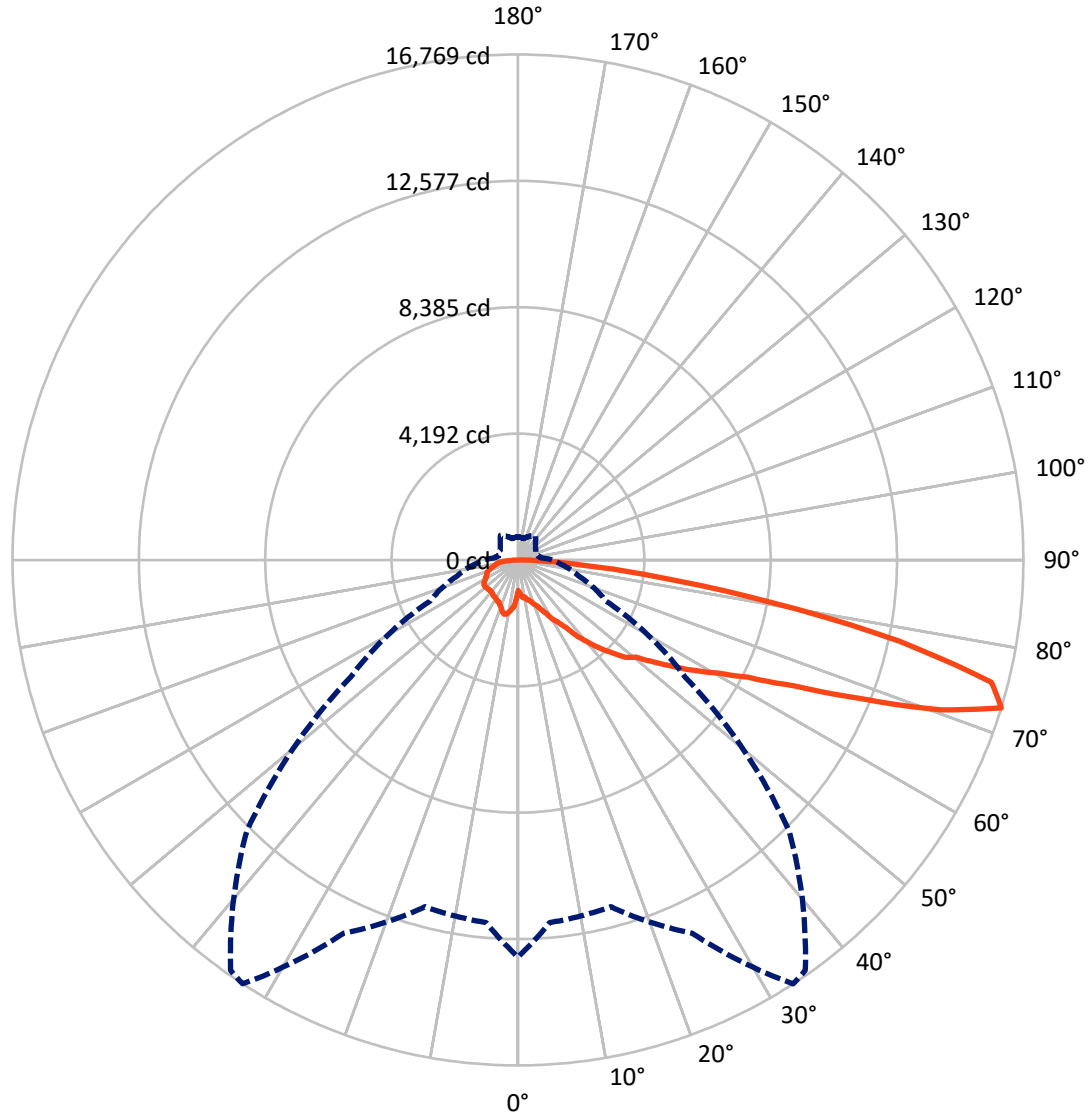
× Max cd  
 - - - 1/2 Max cd



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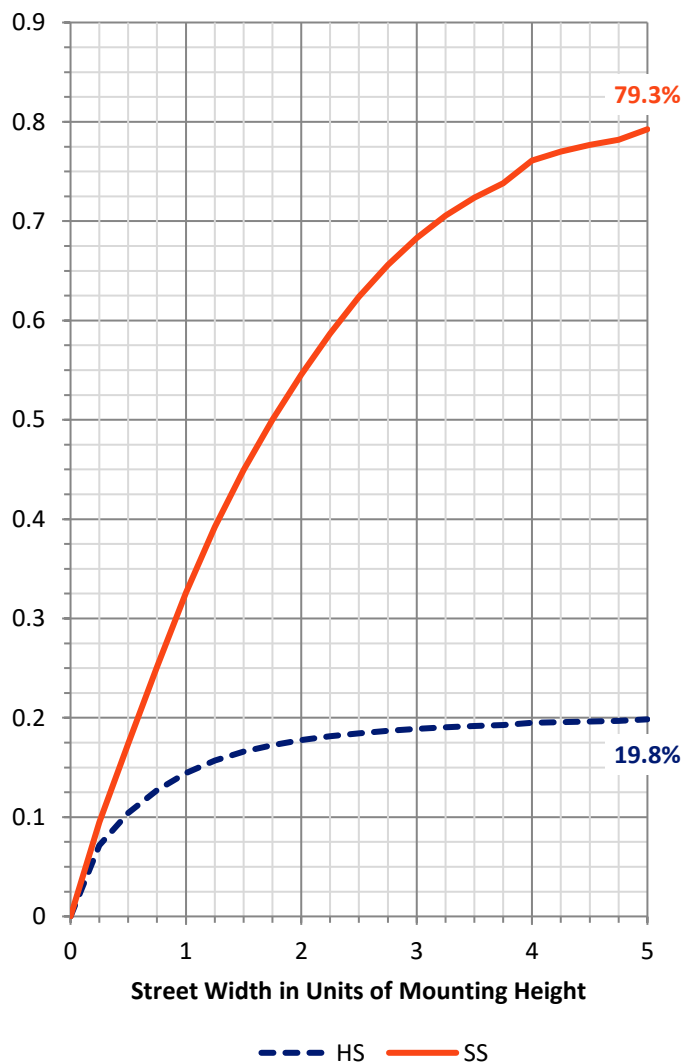
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3921.4	0.0	3921.4
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	15462.7	0.0	15462.7
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	19384.0	0.0	19384.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.8	0.7
10°-20°	516.5	2.7
20°-30°	941.8	4.9
30°-40°	1593.3	8.2
40°-50°	2650.6	13.7
50°-60°	3890.0	20.1
60°-70°	4976.3	25.7
70°-80°	4048.7	20.9
80°-90°	627.1	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°	19384.0	100.0
0°-180°	19384.0	100.0

**Coefficient of Utilization**



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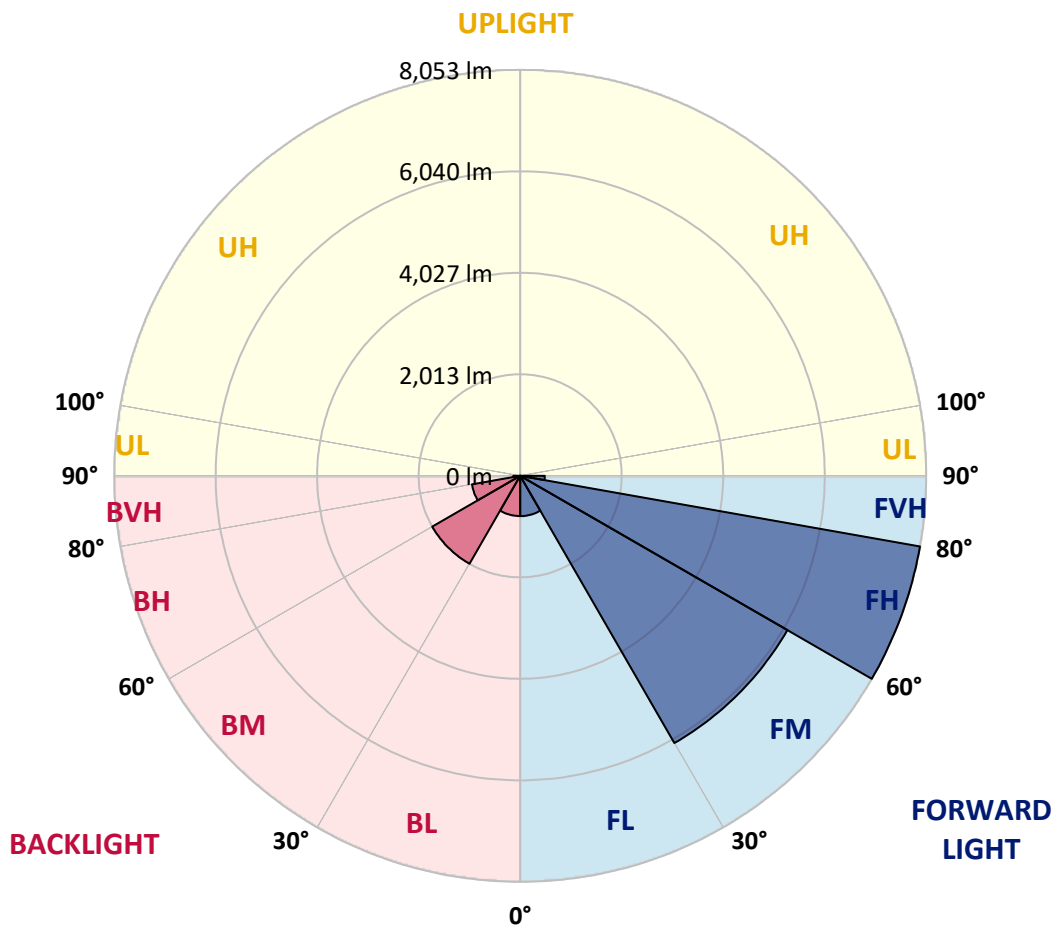
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	800.0	4.1			
FM (30°-60°)	6120.0	31.6			
FH (60°-80°)	8053.3	41.5			G4/12000
FVH (80°-90°)	489.4	2.5			G3/500
BL (0°-30°)	798.1	4.1	B2/1000		
BM (30°-60°)	2014.0	10.4	B2/2500		
BH (60°-80°)	971.6	5.0	B2/1000		G2/1000
BVH (80°-90°)	137.7	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°	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4
2.5°	1152.3	1116.1	1056.6	1055.0	1088.0	1095.2	1116.9	1118.5	1126.6	1113.7	1205.4
5°	1271.3	1232.7	1209.4	1217.5	1202.2	1220.7	1220.7	1273.7	1344.5	1426.5	1543.1
7.5°	1299.5	1271.3	1244.8	1264.9	1268.1	1250.4	1267.3	1392.0	1519.8	1601.8	1788.4
10°	1243.2	1215.0	1235.1	1241.6	1240.8	1281.0	1368.6	1468.3	1610.7	1761.9	1862.4
12.5°	1232.7	1252.8	1262.5	1273.7	1350.1	1362.2	1494.9	1597.8	1740.9	1873.6	2135.0
15°	1387.9	1414.5	1355.0	1350.9	1375.9	1387.1	1524.6	1628.4	1837.4	2060.2	2295.0
17.5°	1609.1	1618.7	1511.8	1457.1	1475.6	1484.4	1544.7	1675.0	1803.7	2215.4	2508.1
20°	1823.0	1829.4	1628.4	1506.1	1571.3	1580.9	1637.2	1712.0	1813.3	2302.2	2652.0
22.5°	2047.3	2006.3	1786.0	1631.6	1669.4	1671.8	1704.8	1745.8	1889.7	2288.6	2827.3
25°	2292.6	2266.8	1989.4	1841.5	1839.9	1806.9	1808.5	1867.2	1970.9	2434.9	2942.3
27.5°	2618.3	2621.5	2218.6	2139.0	2014.3	1992.6	1884.1	1993.4	2111.6	2436.5	3190.8
30°	3040.4	2962.4	2537.8	2409.2	2286.1	2240.3	2093.2	2186.4	2237.9	2575.6	3461.0
32.5°	3383.8	3361.3	2870.7	2676.1	2475.1	2528.2	2365.8	2283.7	2376.2	2815.3	3870.3
35°	3712.7	3638.7	3223.0	2969.7	2758.2	2726.0	2620.7	2634.3	2690.6	3118.4	4405.0
37.5°	4203.2	4163.0	3721.5	3316.2	3217.3	3086.3	3019.5	3062.1	3017.9	3506.8	5206.7
40°	4751.6	4518.4	4138.1	3777.0	3592.1	3499.6	3522.9	3482.7	3448.9	3942.7	5925.6
42.5°	5276.7	5064.4	4414.7	4252.2	4011.0	4049.6	3921.7	3949.9	4045.6	4561.0	6590.7
45°	5848.4	5389.3	4708.2	4565.1	4392.2	4441.2	4543.3	4512.8	4669.6	5290.4	7217.1
47.5°	6133.9	5697.3	5068.4	4835.2	4832.8	4730.7	5352.3	5419.8	5174.6	5830.8	7853.1
50°	6408.9	5979.5	5336.2	5178.6	5064.4	5283.1	6128.3	5973.1	5631.3	6450.7	8552.7
52.5°	6791.7	6302.0	5643.4	5475.3	5616.9	5819.5	6747.5	6716.9	6079.2	7088.4	9160.7
55°	7083.6	6589.0	6105.8	5949.8	6220.0	6418.6	7377.9	7193.8	6462.8	7556.4	9545.8
57.5°	7595.0	7087.6	6788.5	6441.9	6927.6	6924.4	7985.8	7843.5	6872.9	7940.8	9701.0
60°	8408.0	7812.1	7499.3	7099.7	7619.9	7805.7	8680.6	8270.5	7163.2	8183.6	9421.2
62.5°	9549.1	8841.4	8334.0	7938.4	8572.8	8909.0	9538.6	8581.7	7181.7	8114.5	8685.4
65°	10960.3	10099.9	9434.9	9016.7	10063.7	10543.8	10575.9	8773.9	7011.2	7399.6	7138.3
67.5°	12337.0	11369.6	10675.6	10755.3	12283.9	12511.5	11700.1	8934.7	6095.3	5941.7	4956.7
70°	13243.2	12194.6	11732.3	12576.6	14898.9	14665.7	12611.2	8510.9	4799.9	3851.8	2791.1
72.5°	13174.9	12077.2	11910.8	13659.0	16769.3	16623.8	12722.2	6768.4	3214.9	2106.0	1392.0
75°	10733.5	9880.4	10258.3	12930.4	16230.6	16223.3	11045.5	4189.5	1649.3	1081.6	879.7
77.5°	5934.5	5603.2	6713.7	9790.3	12923.2	12989.1	7463.1	1900.2	889.4	766.3	662.6
80°	2078.7	2048.1	2909.3	5283.1	8501.3	8517.4	3470.6	869.3	646.5	579.8	486.5
82.5°	759.9	753.5	1206.2	2454.2	4680.8	4670.4	1316.4	541.2	479.3	410.1	320.8
85°	303.2	296.7	551.6	1089.6	2150.2	2115.7	511.4	307.2	313.6	244.5	157.6
87.5°	83.6	86.8	187.4	341.0	658.6	610.3	128.7	103.7	127.1	99.7	49.9
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°	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4	1016.4
2.5°	1221.5	1229.5	1149.9	1178.1	1214.2	1233.5	1243.2	1202.2	1215.8	1273.7	1271.3
5°	1567.3	1535.1	1504.5	1535.9	1515.0	1485.2	1533.5	1531.1	1562.4	1593.8	1601.0
7.5°	1825.4	1783.6	1769.1	1698.3	1627.6	1556.0	1617.9	1656.5	1664.6	1742.6	1775.5
10°	1918.7	1902.6	1908.2	1814.9	1806.1	1813.3	1756.2	1694.3	1732.1	1699.9	1724.1
12.5°	2134.2	2174.4	2074.7	2011.1	2005.5	1961.3	1847.1	1806.9	1764.3	1808.5	1786.0
15°	2307.1	2381.8	2274.9	2163.1	2036.9	1968.5	1871.2	1810.1	1782.0	1791.6	1764.3
17.5°	2560.4	2630.3	2358.5	2187.2	2057.0	1956.5	1807.7	1677.4	1746.6	1752.2	1720.8
20°	2728.4	2733.2	2386.7	2127.7	2010.3	1835.8	1691.1	1576.9	1656.5	1737.7	1773.1
22.5°	2892.5	2856.3	2421.2	2080.3	1840.7	1671.8	1601.0	1593.8	1653.3	1721.6	1729.7
25°	3015.5	3021.1	2441.3	2062.6	1740.9	1511.0	1511.0	1563.2	1615.5	1777.9	1769.9
27.5°	3313.8	3094.3	2363.3	1981.4	1602.6	1416.9	1511.8	1581.7	1606.7	1782.8	1800.4
30°	3530.9	3387.8	2379.4	1842.3	1462.7	1372.7	1450.7	1538.3	1607.5	1810.9	1804.5
32.5°	3895.2	3510.0	2417.2	1646.9	1358.2	1355.8	1424.9	1517.4	1600.2	1780.3	1790.0
35°	4298.1	3870.3	2311.9	1498.1	1333.2	1346.1	1435.4	1472.4	1569.7	1768.3	1777.1
37.5°	5043.5	4058.4	2245.1	1383.1	1317.2	1354.2	1387.9	1445.0	1543.1	1708.0	1765.9
40°	5481.0	4446.0	1997.5	1316.4	1283.4	1347.7	1364.6	1412.9	1465.9	1635.6	1672.6
42.5°	6056.7	4568.3	1786.0	1242.4	1266.5	1321.2	1371.8	1383.9	1419.3	1521.4	1589.0
45°	6536.8	4659.9	1561.6	1182.9	1209.4	1379.9	1383.1	1377.5	1371.0	1408.8	1464.3
47.5°	7033.7	4906.0	1355.0	1116.9	1187.7	1428.1	1388.7	1337.3	1310.7	1315.6	1367.0
50°	7582.2	5084.5	1208.6	1063.1	1192.5	1428.1	1416.1	1296.3	1243.2	1229.5	1283.4
52.5°	8064.6	5105.4	1097.6	1019.6	1172.4	1379.1	1434.6	1270.5	1181.3	1148.3	1199.0
55°	8327.6	4840.9	1017.2	980.2	1121.0	1334.9	1424.9	1256.1	1106.5	1081.6	1126.6
57.5°	8322.0	4401.8	948.9	925.6	1062.3	1272.9	1371.0	1177.2	1060.6	1046.2	1090.4
60°	8022.0	3887.2	896.6	880.5	1001.9	1182.9	1274.5	1125.8	1016.4	1009.2	1057.4
62.5°	7341.7	3355.6	845.9	833.1	945.7	1119.4	1228.7	1068.7	970.6	969.8	1015.6
65°	6012.5	2693.8	798.5	795.3	893.4	1056.6	1185.3	1020.4	923.1	939.2	985.9
67.5°	4142.9	1892.9	747.8	757.5	845.1	996.3	1152.3	988.3	873.3	906.3	948.1
70°	2273.3	1170.8	691.6	710.9	784.0	926.4	1100.9	936.0	808.2	858.8	887.8
72.5°	1156.3	780.8	621.6	652.2	709.2	823.4	1004.4	860.4	738.2	757.5	772.8
75°	776.8	587.8	543.6	577.4	618.4	725.3	891.0	789.7	671.4	669.0	685.9
77.5°	587.0	459.2	461.6	500.2	526.7	637.7	800.9	730.2	615.2	609.5	634.5
80°	429.4	348.2	371.5	411.7	435.8	572.5	742.2	664.2	538.8	516.3	537.2
82.5°	284.7	246.9	275.0	315.2	334.5	478.5	673.9	563.7	439.1	382.0	385.2
85°	134.3	129.5	164.0	183.3	208.3	296.7	504.2	390.0	279.8	231.6	242.0
87.5°	30.6	41.0	53.9	53.1	61.9	79.6	156.8	109.4	81.2	55.5	37.0
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)