

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: P368616

Luminaire Tested: **MSA-SA4D-730-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368616  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4D-730-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 23896 lumens  
Efficiency: N/A  
Efficacy: 92.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B3 - U0 - G4

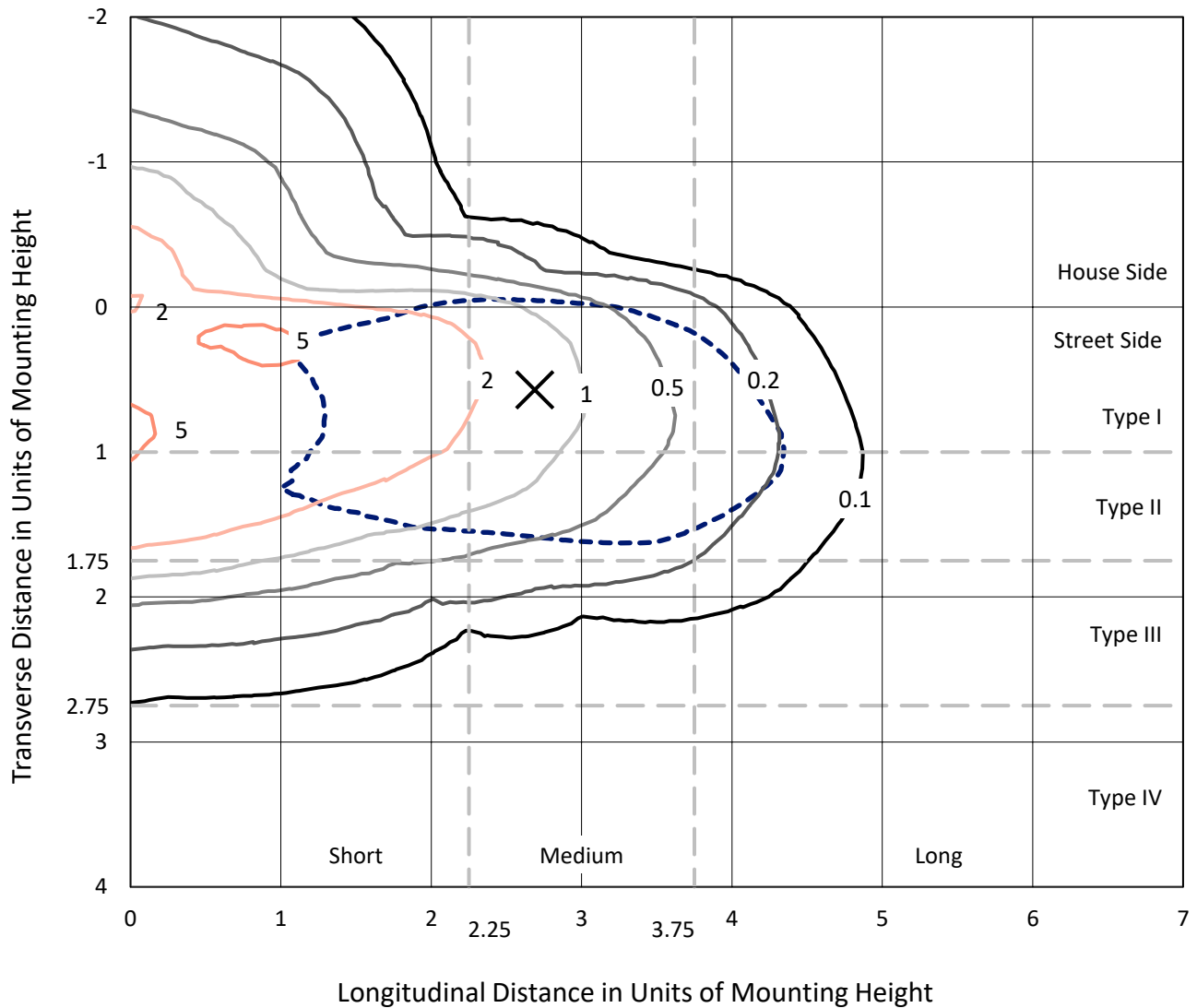
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

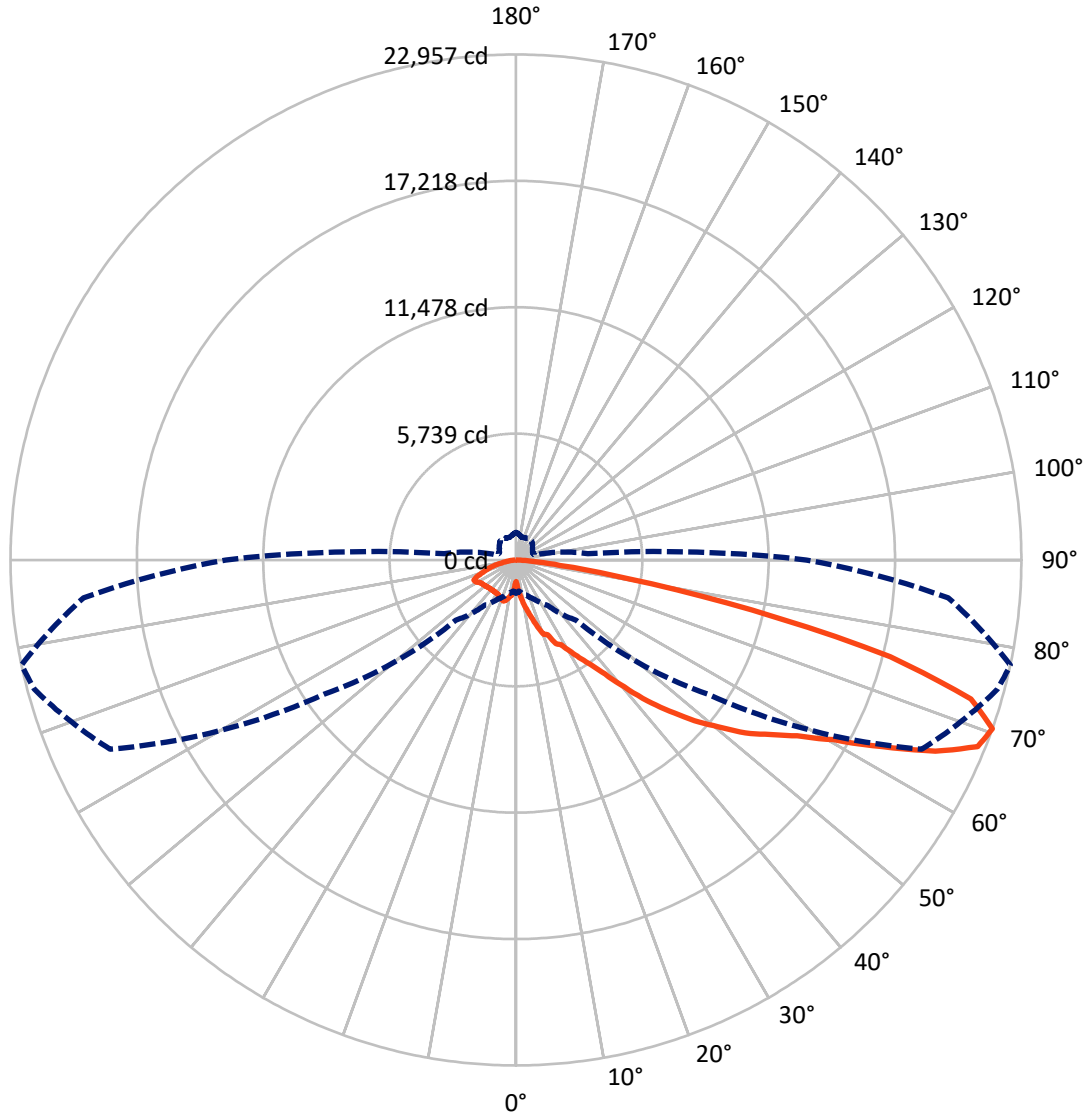
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 fc  
 Type II - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 78-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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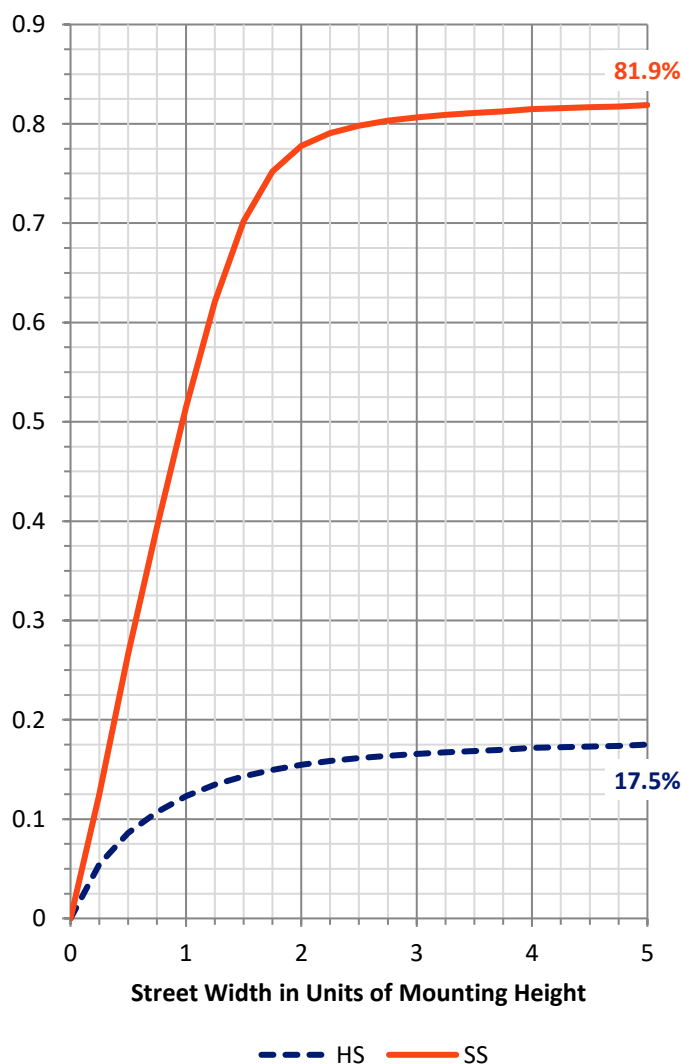
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4265.1	0.0	4265.1
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	19630.9	0.0	19630.9
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	23896.0	0.0	23896.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.6	0.6
10°-20°	663.3	2.8
20°-30°	1276.9	5.3
30°-40°	2150.7	9.0
40°-50°	3721.3	15.6
50°-60°	5618.7	23.5
60°-70°	6223.4	26.0
70°-80°	3588.0	15.0
80°-90°	503.2	2.1
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°	23896.0	100.0
0°-180°	23896.0	100.0

**Coefficient of Utilization**

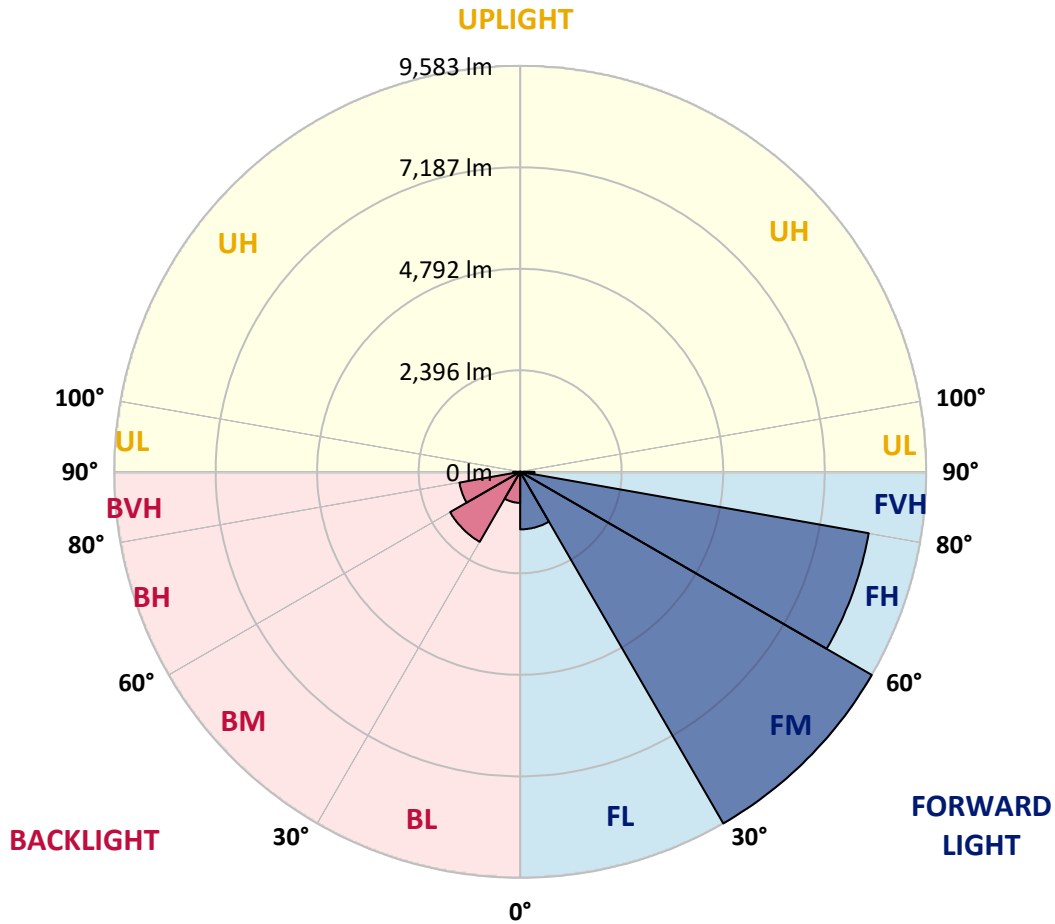


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1358.4	5.7			
FM (30°-60°)	9583.0	40.1			
FH (60°-80°)	8353.8	35.0			G4/12000
FVH (80°-90°)	335.7	1.4			G3/500
BL (0°-30°)	732.3	3.1	B2/1000		
BM (30°-60°)	1907.6	8.0	B2/2500		
BH (60°-80°)	1457.6	6.1	B3/2500		G3/2500
BVH (80°-90°)	167.5	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	974.3	974.3	974.3	974.3	974.3	974.3	974.3	974.3	974.3	974.3	974.3
2.5°	1254.2	1209.3	1141.6	1169.5	1203.4	1207.4	1196.4	1134.6	1113.7	1160.5	1174.5
5°	1757.2	1681.5	1635.7	1620.8	1570.0	1464.4	1540.1	1501.2	1509.2	1486.3	1531.1
7.5°	2180.6	2129.8	2062.1	2043.1	1926.6	1843.9	1895.7	1878.8	1797.1	1765.2	1816.0
10°	2395.8	2340.0	2343.0	2302.1	2271.3	2279.2	2253.3	2178.6	2117.8	2075.0	1952.5
12.5°	2525.3	2539.2	2613.9	2593.0	2709.6	2805.2	2732.5	2621.9	2429.7	2390.8	2269.3
15°	2833.1	2884.9	2815.2	2847.0	2896.9	3080.1	3050.3	3026.4	2823.1	2747.4	2523.3
17.5°	3149.9	3159.8	3054.2	3037.3	3156.9	3249.5	3366.0	3231.6	3256.5	3203.7	2841.1
20°	3217.6	3286.4	3134.9	3030.3	3276.4	3459.7	3604.1	3461.7	3593.2	3607.1	3103.1
22.5°	3465.7	3383.0	3183.7	3081.1	3296.3	3521.4	3756.5	3836.2	3794.4	3676.9	3356.1
25°	3638.0	3594.2	3391.0	3277.4	3359.1	3566.3	3978.7	4186.9	4223.7	4207.8	3597.2
27.5°	3957.8	3979.7	3561.3	3593.2	3479.6	3498.5	4112.2	4652.1	4422.0	4358.2	3896.0
30°	4462.8	4365.2	3896.0	3921.9	3733.6	3701.8	4394.1	5053.6	4847.3	4770.6	4142.1
32.5°	4989.8	4998.8	4429.0	4207.8	4107.2	4075.3	4338.3	5263.7	5385.3	5285.7	4513.6
35°	5732.9	5681.1	5006.7	4715.9	4352.3	4296.5	4735.8	5873.4	6096.5	5817.6	4954.9
37.5°	6864.6	6708.2	5923.2	5250.8	4981.8	4918.1	5303.6	6420.3	6922.4	6575.7	5676.2
40°	7773.1	7455.3	6742.1	5923.2	5468.0	5546.7	5707.0	7083.7	7779.1	7583.8	6343.6
42.5°	8497.3	8215.4	7321.8	6746.0	6127.4	6029.8	6205.1	7905.6	8944.6	8753.3	7176.4
45°	9191.6	8617.8	7973.3	7455.3	6860.6	6979.1	6953.2	8744.3	10374.1	9785.3	7912.6
47.5°	9877.0	9338.1	8663.7	7967.3	7368.6	8106.8	7830.9	9367.9	11338.4	10902.0	8687.6
50°	10757.6	10164.9	9396.8	8696.5	8337.9	8877.8	8414.6	9895.9	12418.2	11906.2	9418.8
52.5°	11342.4	10765.6	10092.2	9592.1	9559.2	9351.0	9232.5	10564.3	13364.6	13053.8	10193.8
55°	11273.6	10717.8	10412.9	10467.7	10874.2	10171.9	10075.2	11553.5	14351.8	13992.2	11030.6
57.5°	10411.9	9805.3	9870.0	10194.8	11286.6	11613.3	11448.9	12610.5	15232.4	15069.0	12065.6
60°	8110.8	7799.0	8326.0	8919.7	10734.7	12035.7	13191.2	13899.5	16316.2	16577.2	13691.3
62.5°	5268.7	4852.3	5685.1	6693.2	9088.0	11756.8	14965.4	16344.1	18091.4	18684.1	16161.8
65°	2729.5	2662.8	3245.5	4171.9	6326.7	10024.4	15591.0	18908.2	20249.1	20939.4	18521.7
67.5°	1984.4	1860.8	2130.8	2675.7	3862.1	6835.7	14405.6	20869.7	21981.4	22614.0	19893.4
70°	1511.2	1419.5	1625.7	1963.4	2522.3	3861.1	10634.1	20334.7	22649.8	22956.7	19711.1
72.5°	1131.6	1052.9	1233.3	1548.0	1943.5	2173.6	6285.8	16719.7	21509.2	21613.8	17690.9
75°	903.5	842.8	920.5	1222.3	1583.9	1479.3	3339.2	12113.4	17475.7	17565.4	13513.0
77.5°	741.1	689.3	721.2	916.5	1232.3	1112.7	1656.6	7705.3	11095.3	10957.8	7602.7
80°	604.7	559.8	574.8	662.5	938.4	830.8	930.4	4019.5	5292.6	5079.5	3161.8
82.5°	465.2	427.4	457.2	487.1	679.4	596.7	542.9	1829.0	2167.7	2019.2	1159.5
85°	311.8	276.9	397.5	365.6	444.3	366.6	296.9	728.2	807.9	753.1	407.4
87.5°	85.7	80.7	133.5	182.3	182.3	138.5	108.6	176.3	225.1	197.2	95.6
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°	974.3	974.3	974.3	974.3	974.3	974.3	974.3	974.3	974.3	974.3	974.3
2.5°	1180.5	1158.5	1100.8	1095.8	1109.7	1111.7	1102.8	1081.8	1070.9	1130.6	1121.7
5°	1520.2	1442.4	1395.6	1352.8	1293.0	1250.2	1261.1	1291.0	1301.0	1345.8	1350.8
7.5°	1784.1	1681.5	1578.9	1441.5	1350.8	1293.0	1336.9	1368.7	1393.6	1457.4	1483.3
10°	1898.7	1787.1	1641.7	1497.2	1472.3	1482.3	1457.4	1465.4	1504.2	1507.2	1520.2
12.5°	2111.9	1985.4	1723.4	1592.9	1585.9	1606.8	1597.9	1634.7	1661.6	1734.3	1703.4
15°	2316.1	2154.7	1785.1	1651.6	1622.8	1664.6	1713.4	1775.2	1832.9	1901.7	1866.8
17.5°	2564.1	2321.1	1788.1	1624.7	1629.7	1719.4	1770.2	1804.1	1976.4	2071.0	2023.2
20°	2720.5	2338.0	1721.4	1558.0	1629.7	1710.4	1781.1	1818.0	2011.3	2153.7	2186.6
22.5°	2862.0	2344.0	1669.6	1522.1	1568.0	1674.6	1781.1	1862.8	1986.4	2122.8	2127.8
25°	2939.7	2339.0	1602.8	1525.1	1567.0	1619.8	1714.4	1789.1	1880.8	2071.0	2076.0
27.5°	3138.9	2274.2	1537.1	1537.1	1559.0	1561.0	1681.5	1725.4	1738.3	1911.6	1942.5
30°	3196.7	2288.2	1529.1	1535.1	1546.1	1526.1	1578.9	1607.8	1626.7	1776.2	1781.1
32.5°	3289.3	2176.6	1553.0	1517.2	1503.2	1500.2	1513.2	1539.1	1547.0	1638.7	1655.6
35°	3401.9	2131.8	1561.0	1512.2	1484.3	1469.3	1508.2	1476.3	1501.2	1608.8	1620.8
37.5°	3768.5	2070.0	1601.8	1512.2	1476.3	1459.4	1440.5	1455.4	1544.1	1647.7	1711.4
40°	4002.6	2089.0	1591.9	1527.1	1449.4	1433.5	1401.6	1456.4	1593.9	1777.2	1825.0
42.5°	4413.0	2099.9	1603.8	1520.2	1458.4	1396.6	1417.5	1477.3	1621.8	1726.4	1800.1
45°	4837.4	2133.8	1595.9	1499.2	1438.5	1467.4	1438.5	1492.3	1561.0	1564.0	1619.8
47.5°	5253.8	2270.3	1578.9	1456.4	1433.5	1509.2	1435.5	1444.4	1449.4	1467.4	1533.1
50°	5742.9	2415.7	1555.0	1396.6	1440.5	1511.2	1446.4	1402.6	1397.6	1456.4	1530.1
52.5°	6298.8	2580.1	1524.1	1338.8	1399.6	1492.3	1484.3	1405.6	1362.8	1419.5	1493.3
55°	6953.2	2767.4	1488.3	1281.1	1354.8	1494.2	1505.2	1384.7	1363.8	1425.5	1504.2
57.5°	7822.9	3038.3	1418.5	1197.4	1300.0	1463.4	1451.4	1360.8	1340.8	1406.6	1488.3
60°	9307.2	3559.3	1318.9	1114.7	1241.2	1387.7	1407.6	1317.9	1298.0	1370.7	1456.4
62.5°	11294.5	4185.9	1198.4	1034.0	1169.5	1306.0	1352.8	1256.2	1254.2	1346.8	1436.5
65°	13144.4	4541.5	1073.9	960.3	1095.8	1230.3	1291.0	1198.4	1202.4	1318.9	1408.6
67.5°	13913.5	4123.1	962.3	894.6	1011.1	1143.6	1240.2	1153.6	1140.6	1281.1	1363.8
70°	13191.2	3275.4	865.7	824.8	915.5	1050.0	1169.5	1093.8	1063.9	1191.4	1256.2
72.5°	11672.1	2730.5	775.0	743.1	831.8	951.3	1073.9	1013.1	974.3	1071.9	1129.7
75°	9123.9	2240.4	671.4	662.5	736.2	861.7	974.3	932.4	882.6	944.4	1002.1
77.5°	5195.0	1417.5	563.8	569.8	622.6	755.1	854.7	821.8	771.0	796.9	863.7
80°	2079.0	715.2	453.3	457.2	502.1	620.6	708.3	696.3	643.5	664.4	710.3
82.5°	777.0	392.5	334.7	336.7	381.5	491.1	604.7	598.7	548.9	533.9	559.8
85°	308.8	194.3	205.2	214.2	257.0	353.6	485.1	430.3	371.6	325.7	341.7
87.5°	73.7	61.8	71.7	75.7	83.7	110.6	177.3	142.5	146.4	117.5	87.7
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)