

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: P368468

Luminaire Tested: **MSA-SA4C-727-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368468  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4C-727-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 20403 lumens  
Efficiency: N/A  
Efficacy: 90.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G4

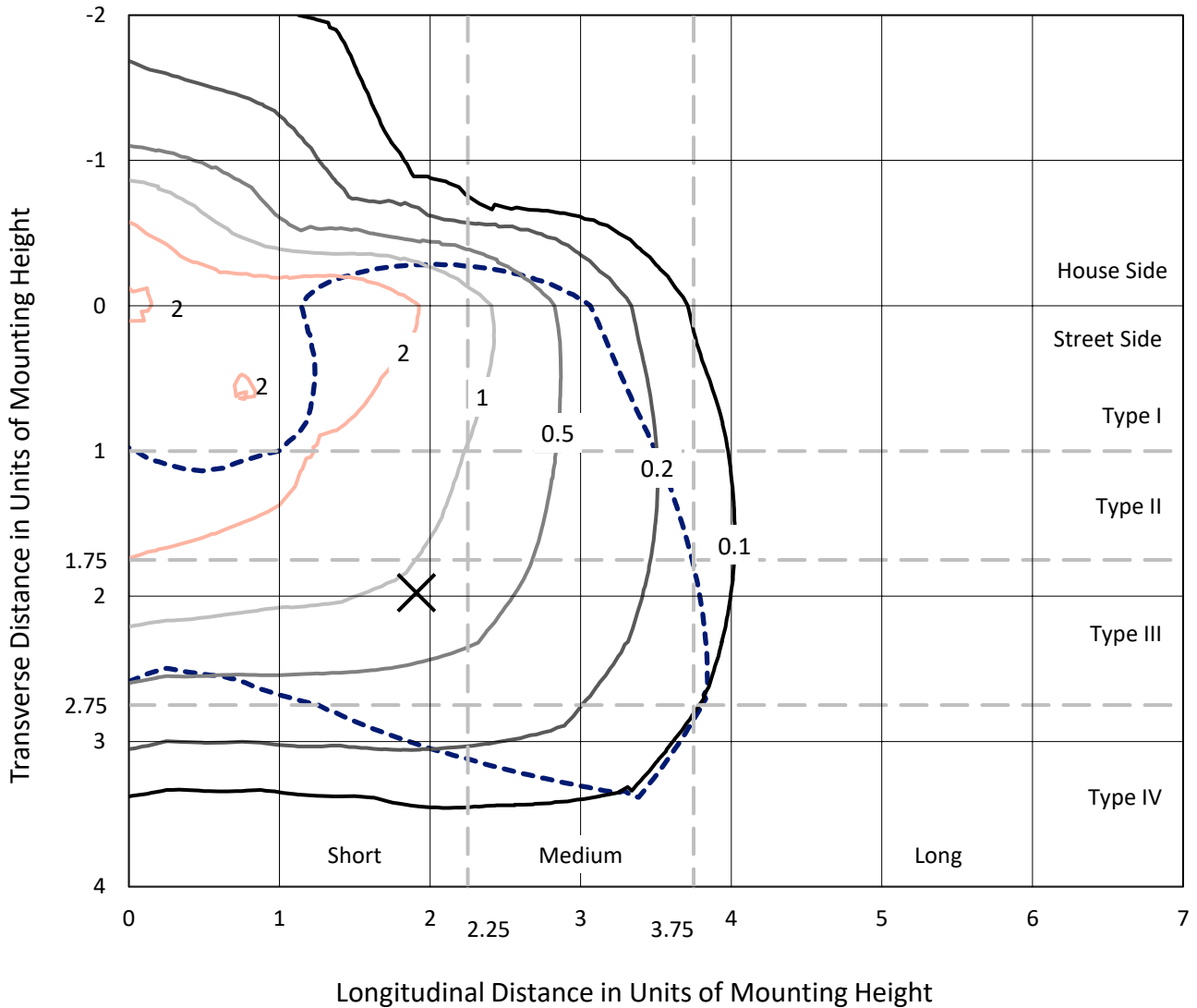
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

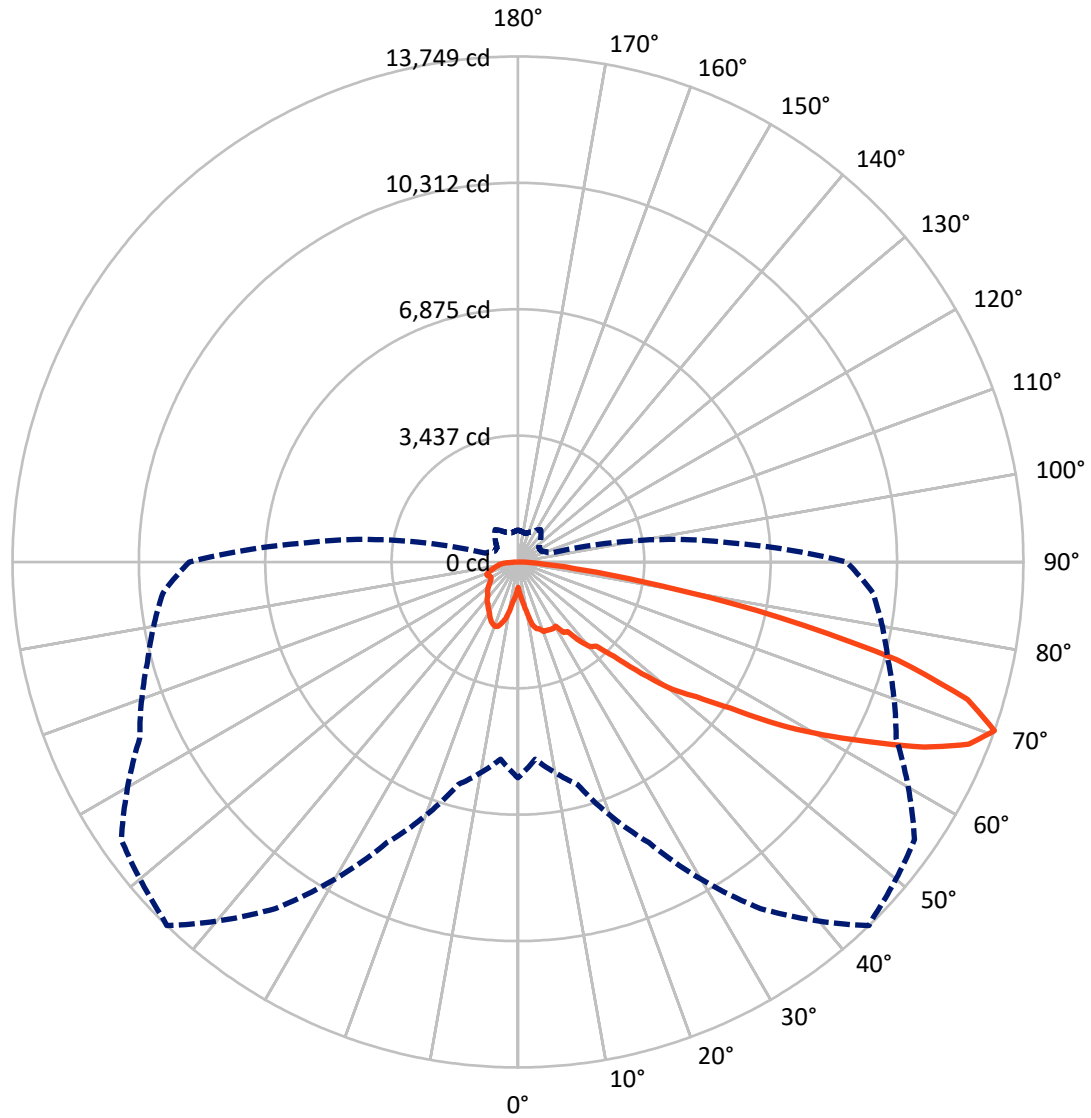
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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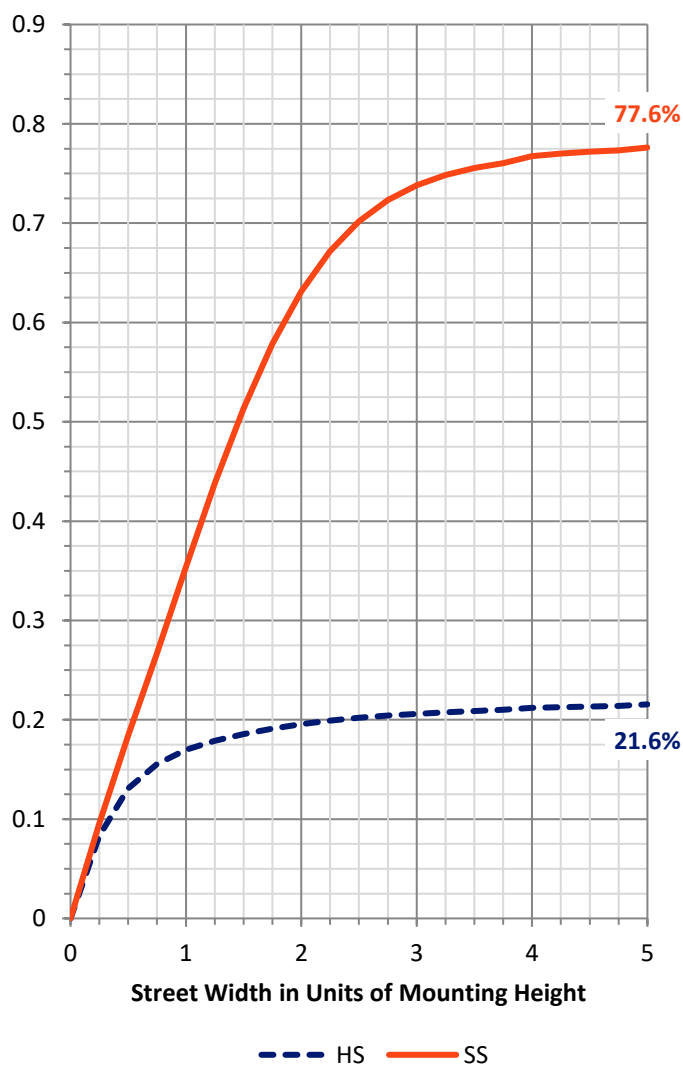
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4501.7	0.0	4501.7
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	15901.3	0.0	15901.3
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	20403.0	0.0	20403.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.7	0.5
10°-20°	500.7	2.5
20°-30°	935.7	4.6
30°-40°	1502.0	7.4
40°-50°	2535.2	12.4
50°-60°	4517.7	22.1
60°-70°	6179.6	30.3
70°-80°	3634.0	17.8
80°-90°	489.3	2.4
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°	20403.0	100.0
0°-180°	20403.0	100.0

**Coefficient of Utilization**



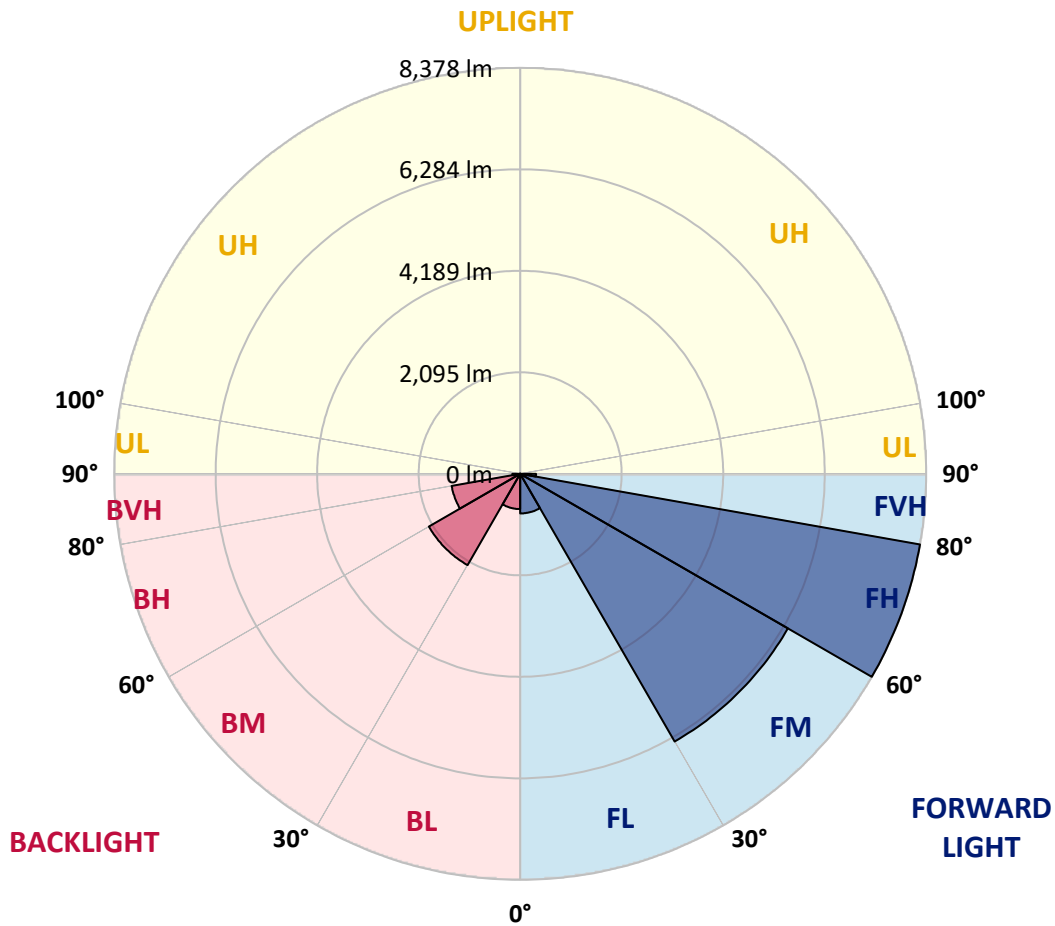
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	817.6	4.0			
FM (30°-60°)	6379.5	31.3			
FH (60°-80°)	8378.1	41.1			G4/12000
FVH (80°-90°)	326.1	1.6			G3/500
BL (0°-30°)	727.6	3.6	B2/1000		
BM (30°-60°)	2175.4	10.7	B2/2500		
BH (60°-80°)	1435.5	7.0	B3/2500		G3/2500
BVH (80°-90°)	163.2	0.8			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°	35°	44°	45°	55°	65°	75°	85°
0°	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5
2.5°	841.6	824.9	784.7	798.1	814.8	821.5	819.8	818.2	792.2	783.0	829.1
5°	1143.6	1106.8	1077.5	1065.8	1027.3	997.2	978.8	1027.3	1019.8	1032.3	1064.1
7.5°	1428.0	1404.6	1338.5	1315.1	1236.5	1184.6	1178.7	1217.2	1227.3	1207.2	1261.6
10°	1611.3	1571.1	1557.7	1501.7	1447.3	1438.9	1433.9	1416.3	1392.1	1390.4	1341.9
12.5°	1753.5	1774.4	1785.3	1720.8	1722.5	1752.6	1736.7	1665.6	1624.6	1552.7	1558.5
15°	2008.6	2038.7	1952.6	1911.6	1832.9	1878.1	1872.3	1812.9	1807.0	1760.2	1705.8
17.5°	2231.2	2244.5	2100.7	2007.0	1980.2	1914.9	1932.5	1934.2	1857.2	1940.9	1892.3
20°	2249.6	2297.2	2131.6	1945.0	2025.4	2017.0	2019.5	2002.8	1901.5	2039.6	2021.2
22.5°	2339.9	2267.1	2118.2	1981.9	2002.8	2015.3	2027.0	2007.0	2001.1	2078.1	2134.1
25°	2323.2	2299.8	2149.2	2033.7	2036.2	2038.7	2044.6	2104.8	2098.1	2202.7	2232.0
27.5°	2479.6	2443.7	2158.4	2129.9	2064.7	2050.5	2010.3	2135.8	2233.7	2231.2	2392.6
30°	2777.4	2740.6	2372.5	2289.7	2171.8	2026.2	2103.2	2270.5	2347.4	2373.4	2578.3
32.5°	3242.6	3302.8	2794.2	2460.4	2314.0	2282.2	2273.8	2257.1	2447.8	2575.8	2762.4
35°	3910.2	3862.5	3291.1	2826.0	2463.7	2327.4	2345.8	2447.8	2674.5	2757.4	2929.7
37.5°	4674.8	4576.1	3927.7	3240.1	2895.4	2724.7	2663.7	2762.4	2812.6	2877.8	3230.0
40°	5452.0	5211.1	4552.7	3784.7	3154.7	3025.9	2972.4	2851.1	2969.0	3101.2	3548.8
42.5°	6202.4	6015.8	5232.8	4434.7	3591.4	3132.2	3102.9	2984.1	3349.7	3489.4	4008.9
45°	6988.8	6556.3	5929.7	5168.4	4229.7	3653.3	3609.8	3396.5	3865.0	4156.1	4658.1
47.5°	7517.5	7116.8	6568.0	5764.0	4764.3	4525.1	4442.2	4077.5	4502.5	4880.6	5661.1
50°	8017.8	7605.3	7028.9	6415.7	5732.2	5457.0	5280.5	4673.1	5296.4	5912.1	6947.0
52.5°	8733.9	8365.0	7564.4	7072.4	6772.1	6095.3	5964.0	5630.2	6225.0	7055.7	8352.4
55°	9499.4	8996.6	8271.3	7998.5	7877.2	7010.5	6903.5	6691.0	7461.5	8226.1	9718.6
57.5°	9837.3	9312.8	8912.9	8749.8	8739.8	8340.7	8217.7	8069.7	8725.5	9230.0	11004.4
60°	10105.9	9542.9	9383.1	9474.3	9805.6	9542.9	9383.1	9252.6	9754.5	10222.2	12053.4
62.5°	10056.5	9491.8	9573.8	9851.6	10697.3	10774.3	10651.3	10335.1	10774.3	11035.3	12654.9
65°	9260.1	8738.1	9215.8	9875.0	11526.4	12141.3	12134.6	11307.2	11459.5	11459.5	12591.4
67.5°	7864.7	7324.3	8106.5	9668.4	12099.5	13224.7	13226.3	12337.9	11522.2	11416.8	11607.5
70°	5872.8	5383.4	6262.6	8420.2	11508.0	13749.2	13673.1	13169.4	11349.9	10428.8	9696.0
72.5°	3507.8	3191.6	4000.5	6129.6	9816.4	12784.6	12987.1	12211.6	10390.3	8672.8	6931.1
75°	1592.8	1455.6	1879.8	3521.2	7008.0	10663.9	10883.9	10305.8	8252.9	6237.5	4005.5
77.5°	681.8	645.0	820.7	1561.9	3864.2	7292.5	7743.4	7365.3	5591.7	3624.9	1771.9
80°	438.4	414.9	504.5	751.2	1794.5	3940.3	4328.5	4187.1	2848.6	1409.6	624.1
82.5°	261.8	254.3	337.1	471.8	978.8	1734.2	1954.3	2006.1	1182.9	632.5	357.2
85°	143.1	144.7	184.9	286.1	587.3	675.1	722.8	786.4	557.2	366.4	173.2
87.5°	47.7	55.2	74.5	116.3	209.1	190.7	191.6	222.5	235.1	152.3	55.2
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°	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5	693.5
2.5°	836.6	821.5	783.0	785.5	799.8	803.1	807.3	783.0	778.0	824.0	828.2
5°	1069.1	1019.8	997.2	989.7	967.9	960.4	1000.5	1019.0	1037.4	1073.3	1090.9
7.5°	1255.7	1200.5	1159.5	1121.9	1090.1	1071.7	1139.4	1191.3	1223.1	1296.7	1330.2
10°	1341.0	1293.4	1278.3	1248.2	1272.4	1327.7	1340.2	1341.9	1412.1	1410.5	1424.7
12.5°	1510.9	1479.9	1430.6	1441.4	1505.0	1561.9	1546.0	1570.3	1595.4	1655.6	1628.0
15°	1665.6	1657.3	1611.3	1618.8	1631.3	1702.4	1711.6	1735.9	1774.4	1822.1	1789.4
17.5°	1856.4	1853.0	1740.9	1730.9	1760.2	1829.6	1807.8	1765.2	1892.3	1943.4	1930.0
20°	1986.0	1960.9	1817.1	1774.4	1848.8	1858.0	1832.9	1765.2	1875.6	1986.9	2017.0
22.5°	2094.0	2064.7	1916.6	1832.9	1817.9	1822.1	1822.1	1809.5	1863.9	1955.1	1954.3
25°	2181.0	2208.6	2020.3	1940.0	1859.7	1759.3	1746.8	1757.7	1788.6	1964.3	1958.4
27.5°	2399.3	2323.2	2055.5	1995.2	1830.4	1672.3	1706.6	1723.4	1733.4	1925.8	1957.6
30°	2541.5	2565.0	2181.0	2027.9	1787.8	1575.3	1587.0	1635.5	1694.1	1921.6	1930.8
32.5°	2733.1	2682.9	2376.7	1973.5	1674.0	1516.7	1495.0	1560.2	1647.2	1853.9	1879.0
35°	2911.3	2970.7	2459.5	1963.5	1594.5	1428.9	1452.3	1474.9	1565.2	1778.6	1807.8
37.5°	3329.6	3194.1	2692.1	1914.9	1528.4	1384.5	1359.4	1393.7	1470.7	1635.5	1703.3
40°	3647.5	3655.9	2742.3	1853.9	1402.1	1321.0	1267.4	1301.7	1334.3	1465.7	1495.0
42.5°	4244.0	4061.6	2865.3	1720.0	1322.6	1225.6	1195.5	1210.5	1215.6	1270.8	1319.3
45°	5002.7	4575.3	2913.8	1540.1	1218.1	1186.3	1125.2	1117.7	1090.1	1097.6	1140.3
47.5°	6052.7	5376.7	2878.7	1348.6	1125.2	1135.2	1047.4	1013.1	974.6	983.8	1024.0
50°	7410.4	6400.7	2876.2	1186.3	1061.6	1068.3	996.4	934.5	896.0	915.2	950.4
52.5°	8933.8	7428.0	2887.9	1075.0	992.2	988.8	962.9	887.6	856.7	876.7	916.9
55°	10391.2	8311.4	2974.9	1004.7	920.2	926.1	936.1	872.6	838.3	856.7	898.5
57.5°	11659.4	9009.1	2942.3	930.3	853.3	880.1	906.9	851.6	825.7	852.5	894.3
60°	12546.2	9332.9	2684.6	859.2	804.0	840.8	892.6	849.1	845.8	903.5	953.7
62.5°	12869.9	9213.3	2182.6	803.1	774.7	835.7	925.3	904.3	907.7	978.8	1048.2
65°	12397.3	8584.1	1628.0	767.1	752.1	860.0	1000.5	937.0	891.0	949.5	1013.1
67.5°	11052.9	7465.6	1189.6	736.2	726.2	898.5	1070.0	933.6	848.3	907.7	959.6
70°	8942.2	5892.9	921.1	696.9	691.9	872.6	1076.7	908.5	802.3	840.8	870.0
72.5°	6127.1	4034.8	763.0	659.2	632.5	773.0	1022.3	852.5	747.1	769.7	793.9
75°	3424.1	2264.6	641.7	612.4	553.8	688.5	958.7	819.0	706.1	712.8	746.2
77.5°	1536.8	979.6	544.6	550.5	482.7	609.0	875.9	765.5	643.3	628.3	661.7
80°	581.4	477.7	441.7	465.1	405.7	527.9	789.7	716.9	577.2	558.0	577.2
82.5°	337.1	289.5	327.9	358.1	322.1	485.2	753.8	672.6	508.6	460.1	476.9
85°	156.4	149.7	196.6	232.6	225.0	378.1	645.0	506.1	362.2	306.2	338.8
87.5°	41.0	46.0	69.4	82.0	83.7	129.7	248.5	188.2	141.4	107.1	102.9
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)