

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: P368114

Luminaire Tested: **MSA-SA3D-740-U-T4FT**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368114  
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-SA3D-740-U-T4FT  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 19951 lumens  
Efficiency: N/A  
Efficacy: 103.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G4

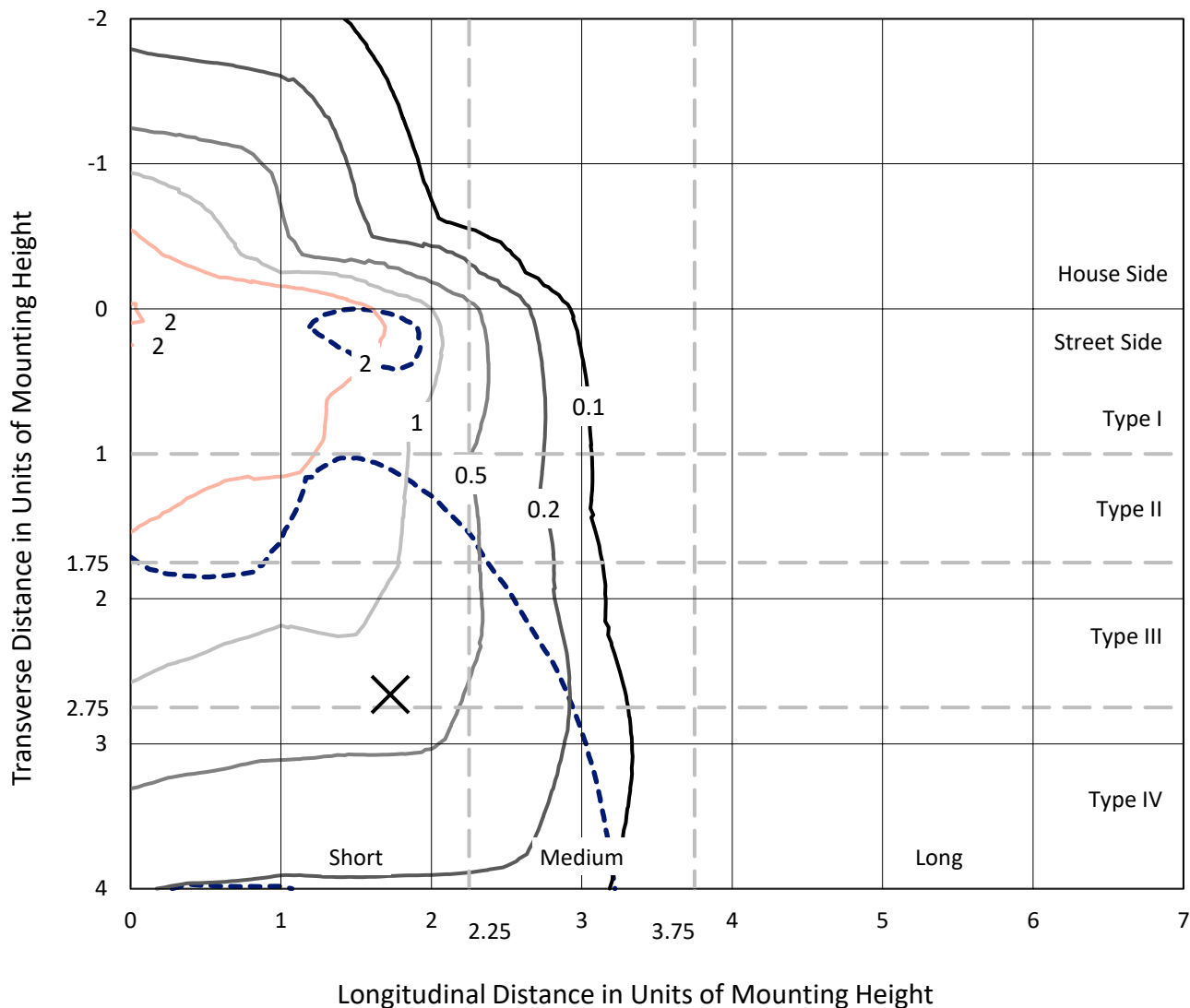
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

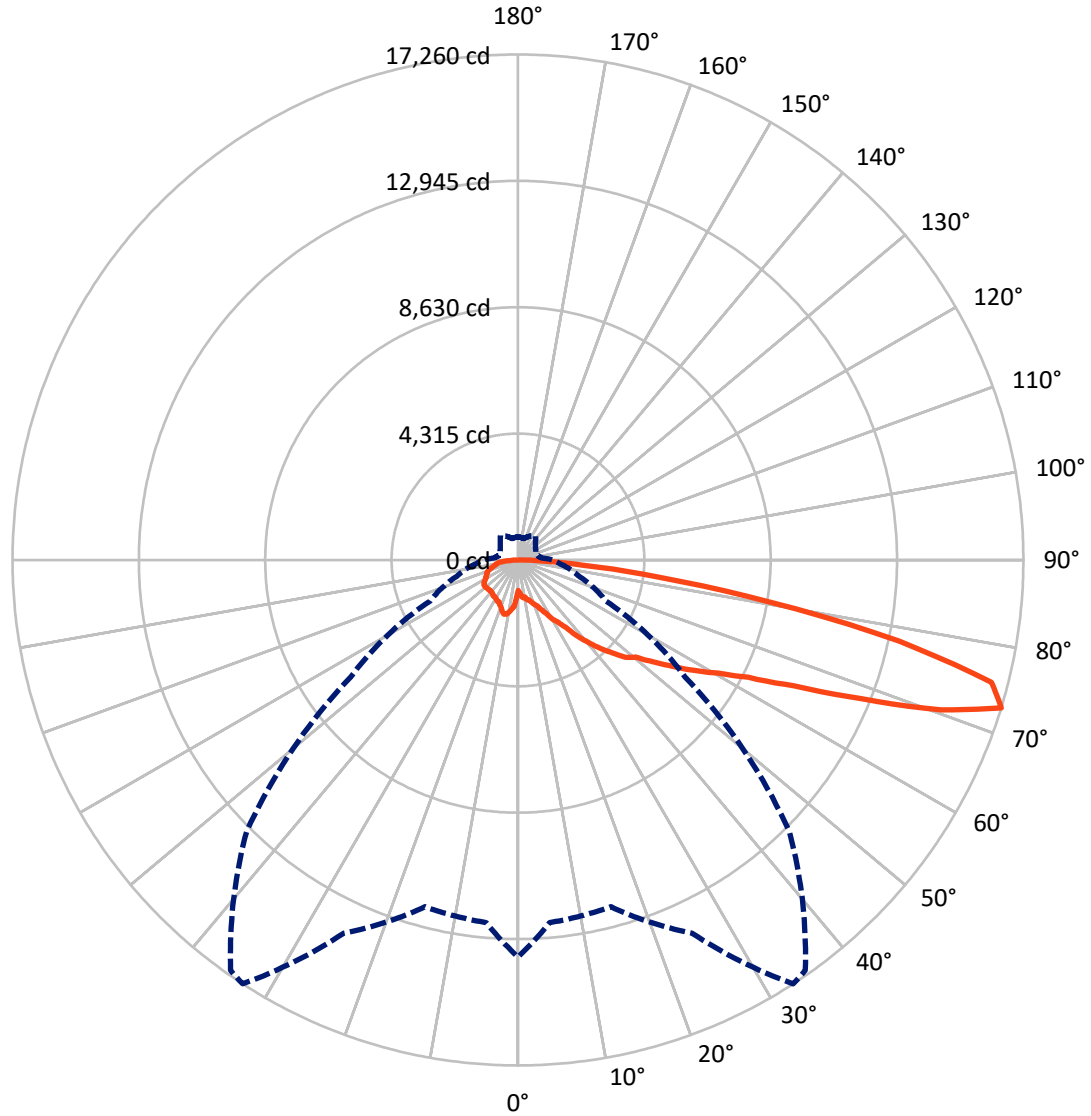
× Max cd  
 - - - 1/2 Max cd



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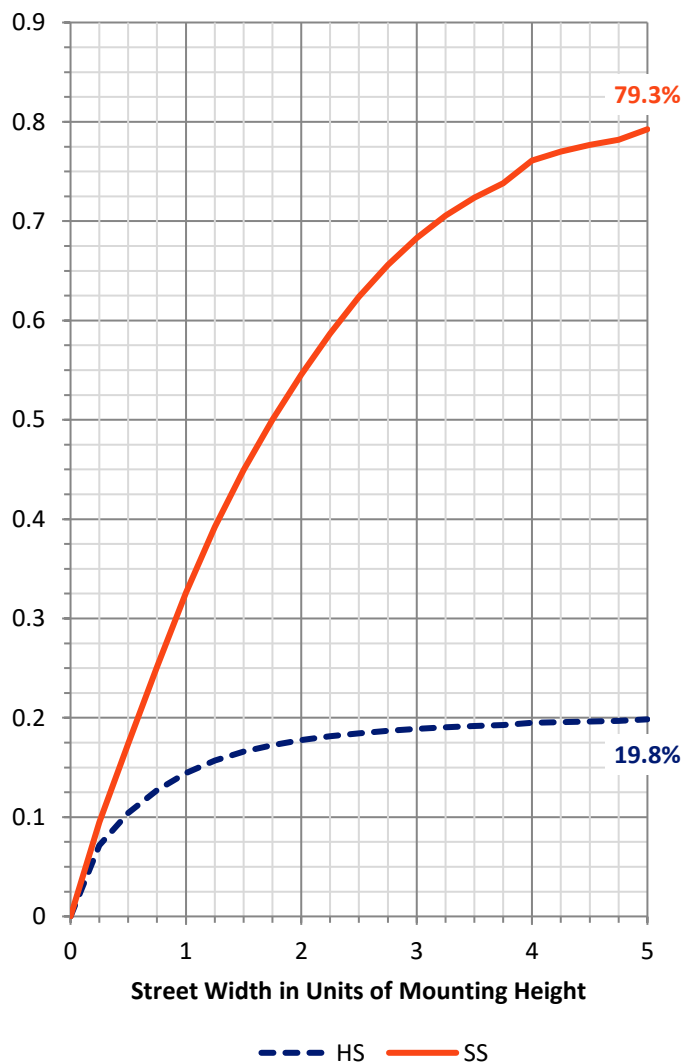
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4036.1	0.0	4036.1
	% Fixture	20.2	0.0	20.2
<b>Street Side</b>	Lumens	15915.0	0.0	15915.0
	% Fixture	79.8	0.0	79.8
<b>Total</b>	Lumens	19951.0	0.0	19951.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	143.9	0.7
10°-20°	531.6	2.7
20°-30°	969.3	4.9
30°-40°	1639.9	8.2
40°-50°	2728.2	13.7
50°-60°	4003.8	20.1
60°-70°	5121.8	25.7
70°-80°	4167.1	20.9
80°-90°	645.4	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°	19951.0	100.0
0°-180°	19951.0	100.0

**Coefficient of Utilization**



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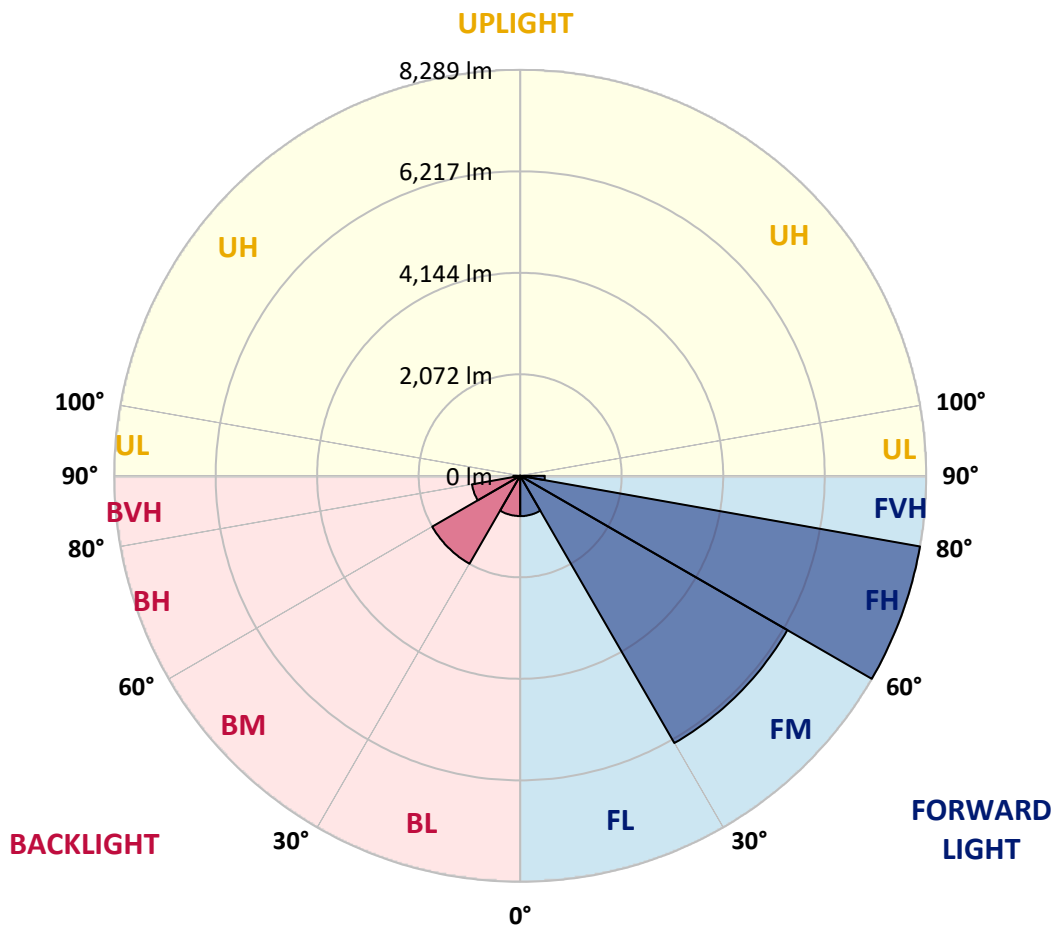
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	823.4	4.1			
FM (30°-60°)	6299.0	31.6			
FH (60°-80°)	8288.9	41.5			G4/12000
FVH (80°-90°)	503.7	2.5			G4/750
BL (0°-30°)	821.4	4.1	B2/1000		
BM (30°-60°)	2072.9	10.4	B2/2500		
BH (60°-80°)	1000.1	5.0	B3/2500		G3/2500
BVH (80°-90°)	141.7	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: 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°	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2
2.5°	1186.0	1148.8	1087.5	1085.9	1119.8	1127.3	1149.6	1151.3	1159.5	1146.3	1240.7
5°	1308.5	1268.8	1244.8	1253.1	1237.3	1256.4	1256.4	1311.0	1383.8	1468.3	1588.3
7.5°	1337.5	1308.5	1281.2	1301.9	1305.2	1287.0	1304.4	1432.7	1564.3	1648.7	1840.7
10°	1279.6	1250.6	1271.3	1277.9	1277.1	1318.5	1408.7	1511.3	1657.8	1813.4	1916.8
12.5°	1268.8	1289.5	1299.4	1311.0	1389.6	1402.0	1538.6	1644.5	1791.9	1928.4	2197.4
15°	1428.5	1455.8	1394.6	1390.5	1416.1	1427.7	1569.2	1676.0	1891.2	2120.4	2362.1
17.5°	1656.1	1666.1	1556.0	1499.7	1518.7	1527.8	1589.9	1724.0	1856.4	2280.2	2581.4
20°	1876.3	1882.9	1676.0	1550.2	1617.2	1627.2	1685.1	1762.1	1866.4	2369.6	2729.6
22.5°	2107.2	2065.0	1838.2	1679.3	1718.2	1720.7	1754.6	1796.8	1945.0	2355.5	2910.0
25°	2359.6	2333.2	2047.6	1895.3	1893.7	1859.7	1861.4	1921.8	2028.6	2506.1	3028.4
27.5°	2694.8	2698.1	2283.5	2201.6	2073.3	2050.9	1939.2	2051.8	2173.4	2507.8	3284.1
30°	3129.4	3049.1	2612.1	2479.6	2353.0	2305.8	2154.4	2250.4	2303.4	2651.0	3562.2
32.5°	3482.8	3459.6	2954.7	2754.4	2547.5	2602.1	2435.0	2350.5	2445.7	2897.6	3983.5
35°	3821.3	3745.1	3317.2	3056.5	2838.8	2805.7	2697.3	2711.4	2769.3	3209.6	4533.9
37.5°	4326.1	4284.8	3830.4	3413.2	3311.4	3176.5	3107.8	3151.7	3106.2	3609.4	5359.1
40°	4890.6	4650.6	4259.1	3887.5	3697.1	3601.9	3625.9	3584.6	3549.8	4058.0	6099.0
42.5°	5431.1	5212.6	4543.8	4376.6	4128.3	4168.1	4036.5	4065.4	4163.9	4694.4	6783.4
45°	6019.5	5546.9	4845.9	4698.6	4520.6	4571.1	4676.2	4644.8	4806.2	5445.1	7428.2
47.5°	6313.3	5863.9	5216.7	4976.7	4974.2	4869.1	5508.9	5578.4	5325.9	6001.3	8082.9
50°	6596.4	6154.4	5492.3	5330.1	5212.6	5437.7	6307.5	6147.8	5796.1	6639.4	8802.9
52.5°	6990.4	6486.3	5808.5	5635.5	5781.2	5989.7	6944.8	6913.4	6257.1	7295.8	9428.6
55°	7290.8	6781.8	6284.4	6123.8	6401.9	6606.3	7593.7	7404.2	6651.8	7777.5	9825.1
57.5°	7817.2	7294.9	6987.0	6630.3	7130.2	7126.9	8219.4	8072.9	7073.9	8173.1	9984.8
60°	8653.9	8040.6	7718.7	7307.3	7842.8	8034.0	8934.5	8512.4	7372.7	8423.0	9696.8
62.5°	9828.4	9100.0	8577.8	8170.6	8823.6	9169.6	9817.6	8832.7	7391.8	8351.8	8939.5
65°	11280.9	10395.3	9710.8	9280.5	10358.1	10852.2	10885.3	9030.5	7216.3	7616.1	7347.1
67.5°	12697.8	11702.2	10987.9	11069.9	12643.2	12877.4	12042.3	9196.0	6273.6	6115.5	5101.7
70°	13630.6	12551.4	12075.5	12944.5	15334.7	15094.7	12980.1	8759.9	4940.3	3964.5	2872.8
72.5°	13560.3	12430.5	12259.2	14058.5	17259.9	17110.1	13094.3	6966.4	3309.0	2167.6	1432.7
75°	11047.5	10169.4	10558.4	13308.7	16705.3	16697.9	11368.6	4312.1	1697.5	1113.2	905.5
77.5°	6108.1	5767.1	6910.1	10076.7	13301.2	13369.1	7681.4	1955.7	915.4	788.8	682.0
80°	2139.5	2108.0	2994.4	5437.7	8749.9	8766.5	3572.1	894.7	665.4	596.7	500.7
82.5°	782.1	775.5	1241.5	2526.0	4817.8	4807.0	1354.9	557.0	493.3	422.1	330.2
85°	312.0	305.4	567.8	1121.5	2213.1	2177.6	526.4	316.2	322.8	251.6	162.2
87.5°	86.1	89.4	192.8	350.9	677.8	628.2	132.4	106.8	130.8	102.6	51.3
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°	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2	1046.2
2.5°	1257.2	1265.5	1183.5	1212.5	1249.8	1269.6	1279.6	1237.3	1251.4	1311.0	1308.5
5°	1613.1	1580.0	1548.5	1580.8	1559.3	1528.7	1578.3	1575.9	1608.1	1640.4	1647.9
7.5°	1878.8	1835.7	1820.8	1748.0	1675.2	1601.5	1665.2	1705.0	1713.2	1793.5	1827.5
10°	1974.8	1958.2	1964.0	1868.0	1858.9	1866.4	1807.6	1743.9	1782.8	1749.7	1774.5
12.5°	2196.6	2238.0	2135.3	2070.0	2064.2	2018.6	1901.1	1859.7	1815.9	1861.4	1838.2
15°	2374.5	2451.5	2341.4	2226.4	2096.4	2026.1	1925.9	1863.0	1834.1	1844.0	1815.9
17.5°	2635.2	2707.3	2427.5	2251.2	2117.1	2013.7	1860.6	1726.5	1797.7	1803.5	1771.2
20°	2808.2	2813.2	2456.5	2190.0	2069.1	1889.5	1740.6	1623.0	1705.0	1788.6	1825.0
22.5°	2977.1	2939.8	2492.1	2141.1	1894.5	1720.7	1647.9	1640.4	1701.7	1772.0	1780.3
25°	3103.7	3109.5	2512.8	2122.9	1791.9	1555.2	1555.2	1609.0	1662.8	1829.9	1821.7
27.5°	3410.8	3184.8	2432.5	2039.3	1649.5	1458.3	1556.0	1628.0	1653.6	1834.9	1853.1
30°	3634.2	3486.9	2449.0	1896.2	1505.5	1412.8	1493.1	1583.3	1654.5	1863.9	1857.3
32.5°	4009.1	3612.7	2487.9	1695.0	1397.9	1395.4	1466.6	1561.8	1647.0	1832.4	1842.4
35°	4423.8	3983.5	2379.5	1541.9	1372.2	1385.5	1477.4	1515.4	1615.6	1820.0	1829.1
37.5°	5191.0	4177.2	2310.8	1423.6	1355.7	1393.8	1428.5	1487.3	1588.3	1757.9	1817.5
40°	5641.3	4576.1	2055.9	1354.9	1320.9	1387.1	1404.5	1454.2	1508.8	1683.4	1721.5
42.5°	6233.9	4701.9	1838.2	1278.7	1303.6	1359.8	1412.0	1424.4	1460.8	1565.9	1635.4
45°	6728.0	4796.2	1607.3	1217.5	1244.8	1420.3	1423.6	1417.8	1411.1	1450.0	1507.2
47.5°	7239.5	5049.5	1394.6	1149.6	1222.4	1469.9	1429.4	1376.4	1349.1	1354.0	1407.0
50°	7803.9	5233.2	1244.0	1094.2	1227.4	1469.9	1457.5	1334.2	1279.6	1265.5	1320.9
52.5°	8300.5	5254.8	1129.7	1049.5	1206.7	1419.4	1476.5	1307.7	1215.8	1181.9	1234.0
55°	8571.2	4982.5	1047.0	1008.9	1153.7	1373.9	1466.6	1292.8	1138.8	1113.2	1159.5
57.5°	8565.4	4530.6	976.6	952.6	1093.3	1310.2	1411.1	1211.7	1091.7	1076.8	1122.3
60°	8256.7	4000.9	922.8	906.3	1031.3	1217.5	1311.8	1158.7	1046.2	1038.7	1088.4
62.5°	7556.5	3453.8	870.7	857.4	973.3	1152.1	1264.7	1100.0	999.0	998.1	1045.3
65°	6188.4	2772.6	821.9	818.5	919.5	1087.5	1220.0	1050.3	950.1	966.7	1014.7
67.5°	4264.1	1948.3	769.7	779.6	869.9	1025.5	1186.0	1017.2	898.8	932.8	975.8
70°	2339.8	1205.1	711.8	731.6	807.0	953.5	1133.1	963.4	831.8	883.9	913.7
72.5°	1190.2	803.7	639.8	671.2	730.0	847.5	1033.7	885.6	759.8	779.6	795.4
75°	799.5	605.0	559.5	594.3	636.5	746.5	917.0	812.8	691.1	688.6	706.0
77.5°	604.2	472.6	475.1	514.8	542.1	656.3	824.3	751.5	633.2	627.4	653.0
80°	442.0	358.4	382.4	423.8	448.6	589.3	763.9	683.6	554.5	531.4	552.9
82.5°	293.0	254.1	283.1	324.4	344.3	492.5	693.6	580.2	451.9	393.1	396.4
85°	138.2	133.3	168.8	188.7	214.4	305.4	518.9	401.4	288.0	238.4	249.1
87.5°	31.5	42.2	55.5	54.6	63.7	81.9	161.4	112.6	83.6	57.1	38.1
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)