

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: P368682

Luminaire Tested: **MSA-SA4D-760-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368682  
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-760-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: 26239 lumens  
Efficiency: N/A  
Efficacy: 101.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B3 - U0 - G4

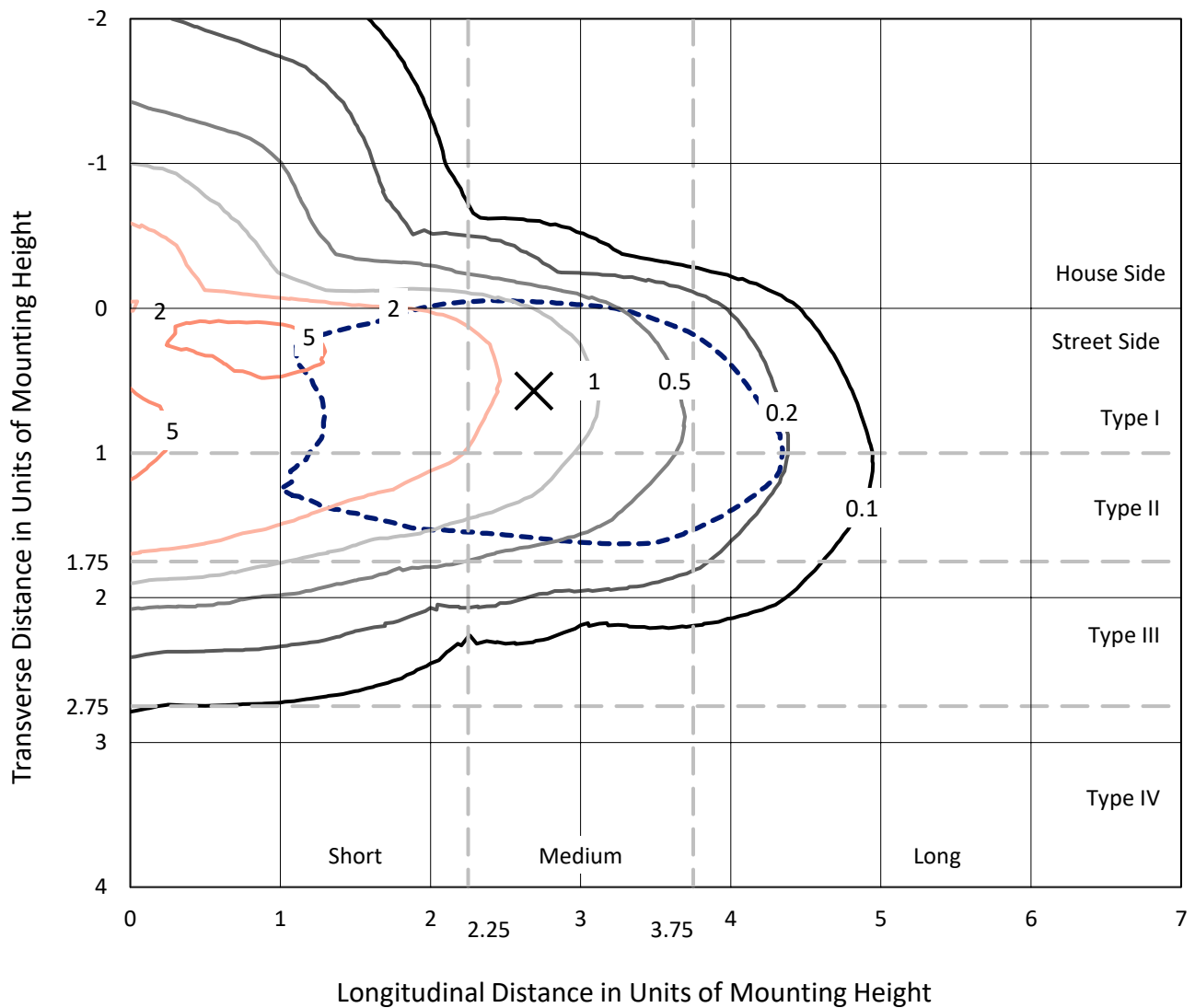
Input Watts (W): 259  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

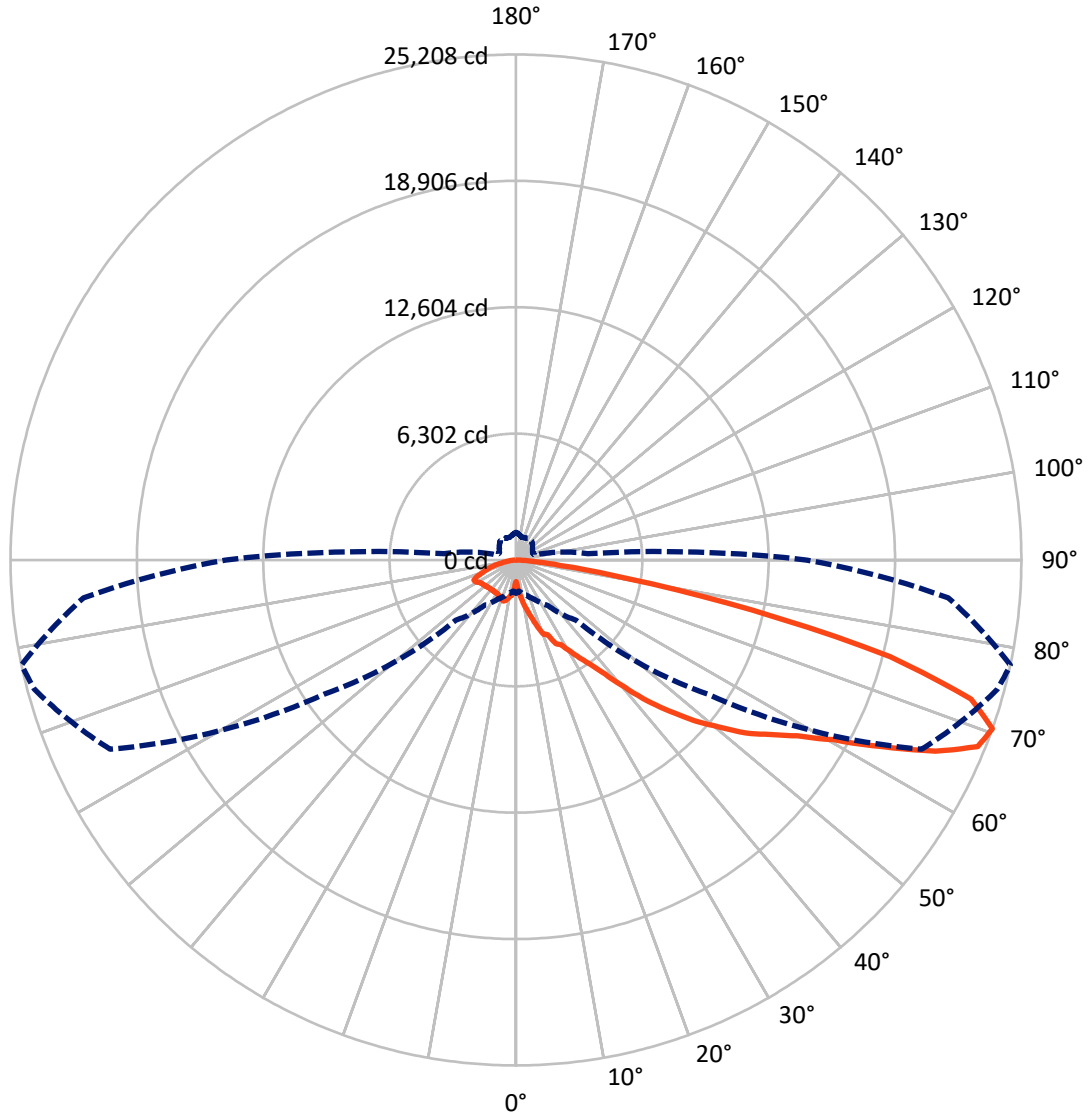
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.2 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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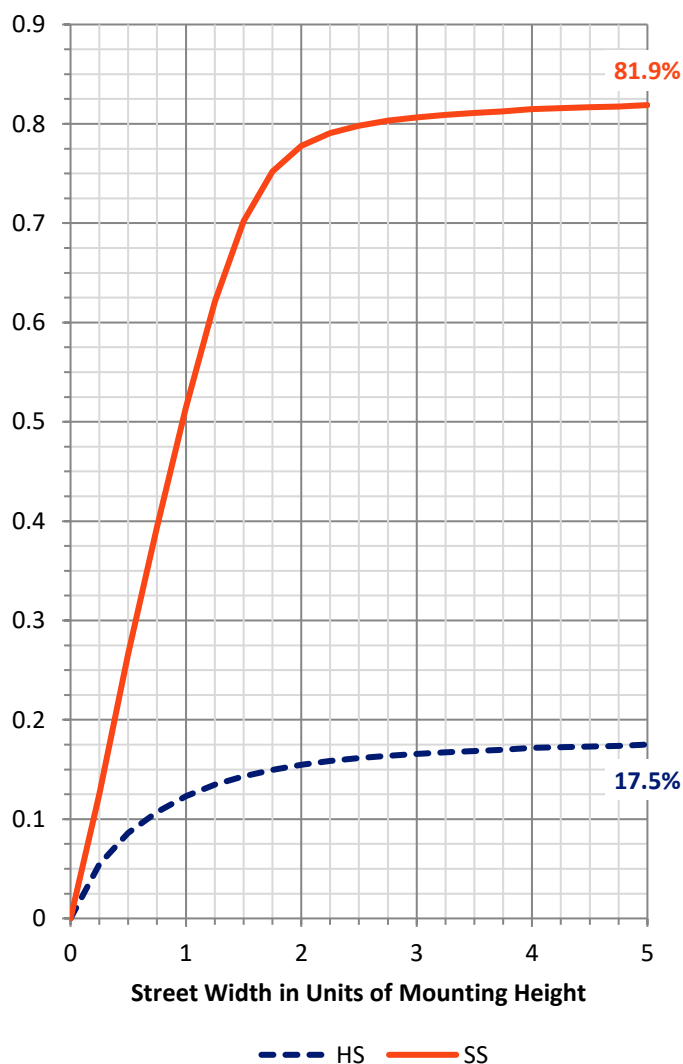
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	4683.3	0.0	4683.3
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	21555.7	0.0	21555.7
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	26239.0	0.0	26239.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	165.3	0.6
10°-20°	728.4	2.8
20°-30°	1402.1	5.3
30°-40°	2361.6	9.0
40°-50°	4086.2	15.6
50°-60°	6169.6	23.5
60°-70°	6833.6	26.0
70°-80°	3939.8	15.0
80°-90°	552.6	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°	26239.0	100.0
0°-180°	26239.0	100.0

**Coefficient of Utilization**



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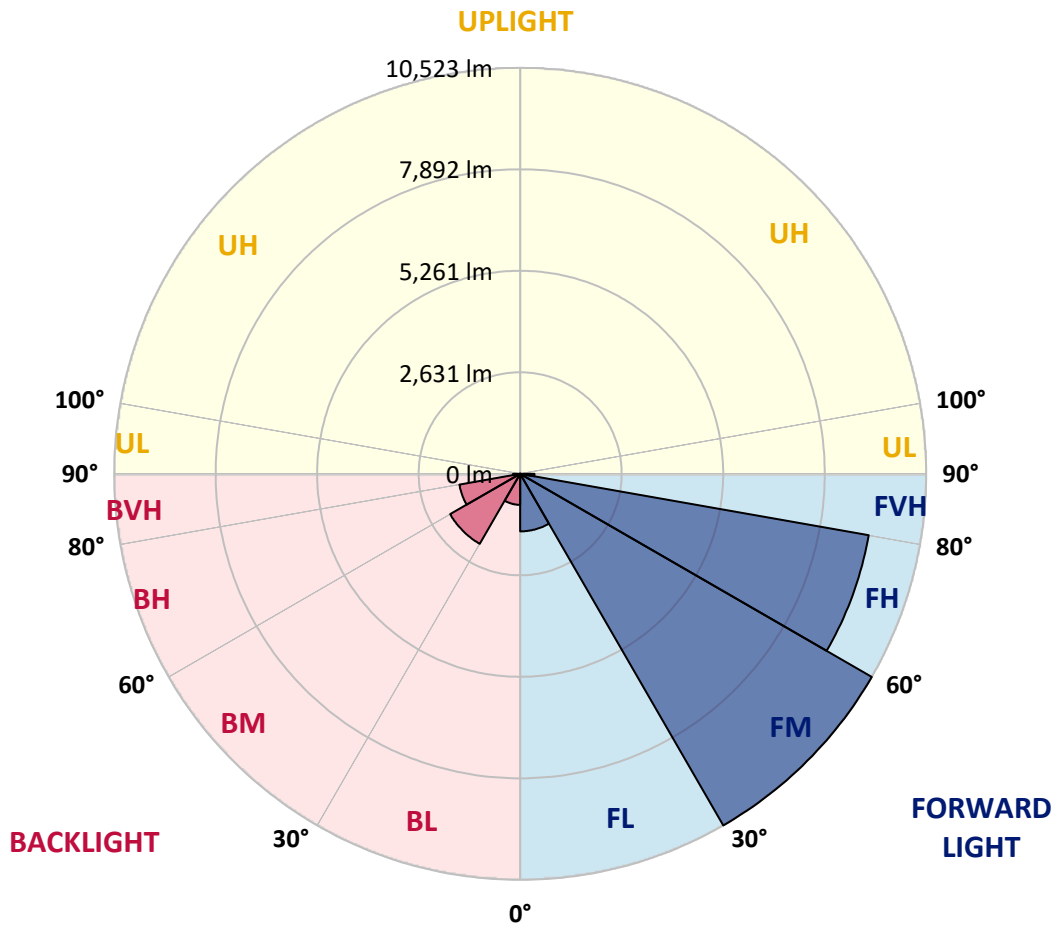
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1491.6	5.7			
FM (30°-60°)	10522.6	40.1			
FH (60°-80°)	9172.9	35.0			G4/12000
FVH (80°-90°)	368.6	1.4			G3/500
BL (0°-30°)	804.2	3.1	B2/1000		
BM (30°-60°)	2094.7	8.0	B2/2500		
BH (60°-80°)	1600.5	6.1	B3/2500		G3/2500
BVH (80°-90°)	183.9	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°	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8
2.5°	1377.1	1327.9	1253.5	1284.2	1321.4	1325.7	1313.7	1245.9	1222.9	1274.3	1289.6
5°	1929.5	1846.4	1796.1	1779.7	1723.9	1607.9	1691.1	1648.4	1657.2	1632.0	1681.2
7.5°	2394.4	2338.6	2264.2	2243.5	2115.5	2024.7	2081.6	2063.0	1973.3	1938.3	1994.1
10°	2630.7	2569.4	2572.7	2527.9	2494.0	2502.7	2474.3	2392.2	2325.5	2278.5	2143.9
12.5°	2772.9	2788.2	2870.2	2847.3	2975.2	3080.3	3000.4	2879.0	2667.9	2625.2	2491.8
15°	3110.9	3167.8	3091.2	3126.2	3180.9	3382.2	3349.3	3323.1	3099.9	3016.8	2770.7
17.5°	3458.7	3469.7	3353.7	3335.1	3466.4	3568.1	3696.1	3548.4	3575.8	3517.8	3119.6
20°	3533.1	3608.6	3442.3	3327.5	3597.6	3798.9	3957.5	3801.1	3945.5	3960.8	3407.3
22.5°	3805.5	3714.7	3495.9	3383.2	3619.5	3866.7	4124.9	4212.4	4166.4	4037.4	3685.1
25°	3994.7	3946.6	3723.4	3598.7	3688.4	3915.9	4368.8	4597.4	4637.9	4620.4	3949.9
27.5°	4345.8	4369.9	3910.5	3945.5	3820.8	3841.6	4515.4	5108.2	4855.6	4785.6	4278.0
30°	4900.4	4793.2	4278.0	4306.5	4099.7	4064.7	4824.9	5549.1	5322.6	5238.4	4548.2
32.5°	5479.0	5488.9	4863.2	4620.4	4509.9	4474.9	4763.7	5779.9	5913.3	5803.9	4956.2
35°	6295.1	6238.2	5497.6	5178.2	4779.0	4717.7	5200.1	6449.3	6694.3	6388.0	5440.8
37.5°	7537.7	7365.9	6504.0	5765.6	5470.3	5400.3	5823.6	7049.8	7601.1	7220.4	6232.7
40°	8535.2	8186.3	7403.1	6504.0	6004.1	6090.5	6266.6	7778.3	8541.8	8327.4	6965.6
42.5°	9330.5	9020.9	8039.7	7407.5	6728.2	6621.0	6813.5	8680.7	9821.6	9611.6	7880.0
45°	10092.9	9462.8	8755.1	8186.3	7533.3	7663.4	7635.0	9601.7	11391.3	10744.8	8688.4
47.5°	10845.4	10253.7	9513.1	8748.5	8091.1	8901.7	8598.7	10286.5	12450.1	11971.0	9539.4
50°	11812.4	11161.5	10318.2	9549.2	9155.4	9748.3	9239.7	10866.2	13635.8	13073.6	10342.3
52.5°	12454.5	11821.1	11081.7	10532.6	10496.5	10267.9	10137.7	11600.2	14675.0	14333.7	11193.3
55°	12379.0	11768.6	11433.9	11494.1	11940.4	11169.2	11063.1	12686.4	15759.0	15364.1	12112.1
57.5°	11432.8	10766.7	10837.8	11194.4	12393.2	12752.0	12571.5	13846.9	16725.9	16546.5	13248.6
60°	8906.0	8563.7	9142.3	9794.2	11787.2	13215.8	14484.6	15262.4	17916.0	18202.6	15033.7
62.5°	5785.3	5328.1	6242.5	7349.5	9979.1	12909.5	16432.8	17946.6	19865.2	20516.1	17746.5
65°	2997.1	2923.8	3563.7	4581.0	6947.0	11007.3	17119.7	20762.2	22234.5	22992.5	20337.8
67.5°	2178.9	2043.3	2339.7	2938.1	4240.8	7505.9	15818.0	22916.0	24136.7	24831.3	21844.0
70°	1659.4	1558.7	1785.1	2156.0	2769.6	4239.7	11676.7	22328.6	24870.7	25207.6	21643.8
72.5°	1242.6	1156.2	1354.2	1699.8	2134.1	2386.8	6902.1	18359.0	23618.2	23733.1	19425.5
75°	992.1	925.4	1010.7	1342.1	1739.2	1624.4	3666.6	13301.1	19189.2	19287.7	14837.9
77.5°	813.8	756.9	791.9	1006.3	1353.1	1221.8	1819.1	8460.9	12183.2	12032.2	8348.2
80°	664.0	614.7	631.1	727.4	1030.4	912.3	1021.6	4413.6	5811.6	5577.5	3471.8
82.5°	510.8	469.3	502.1	534.9	746.0	655.2	596.1	2008.3	2380.2	2217.2	1273.2
85°	342.4	304.1	436.4	401.4	487.9	402.5	326.0	799.6	887.1	826.9	447.4
87.5°	94.1	88.6	146.6	200.2	200.2	152.0	119.2	193.6	247.2	216.6	105.0
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°	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8	1069.8
2.5°	1296.2	1272.1	1208.7	1203.2	1218.5	1220.7	1210.9	1187.9	1175.9	1241.5	1231.7
5°	1669.2	1583.9	1532.5	1485.4	1419.8	1372.8	1384.8	1417.6	1428.6	1477.8	1483.2
7.5°	1959.1	1846.4	1733.7	1582.8	1483.2	1419.8	1467.9	1502.9	1530.3	1600.3	1628.7
10°	2084.9	1962.3	1802.6	1644.0	1616.7	1627.6	1600.3	1609.0	1651.7	1655.0	1669.2
12.5°	2318.9	2180.0	1892.3	1749.1	1741.4	1764.4	1754.5	1795.0	1824.5	1904.4	1870.5
15°	2543.2	2366.0	1960.2	1813.6	1781.9	1827.8	1881.4	1949.2	2012.7	2088.1	2049.9
17.5°	2815.5	2548.6	1963.4	1784.1	1789.5	1888.0	1943.8	1980.9	2170.2	2274.1	2221.6
20°	2987.3	2567.2	1890.2	1710.8	1789.5	1878.1	1955.8	1996.3	2208.5	2364.9	2401.0
22.5°	3142.6	2573.8	1833.3	1671.4	1721.7	1838.7	1955.8	2045.5	2181.1	2331.0	2336.4
25°	3227.9	2568.3	1760.0	1674.7	1720.6	1778.6	1882.5	1964.5	2065.2	2274.1	2279.6
27.5°	3446.7	2497.2	1687.8	1687.8	1711.9	1714.0	1846.4	1894.5	1908.8	2099.1	2133.0
30°	3510.1	2512.6	1679.0	1685.6	1697.6	1675.8	1733.7	1765.5	1786.2	1950.3	1955.8
32.5°	3611.9	2390.0	1705.3	1665.9	1650.6	1647.3	1661.5	1690.0	1698.7	1799.4	1818.0
35°	3735.5	2340.8	1714.0	1660.4	1629.8	1613.4	1656.1	1621.1	1648.4	1766.6	1779.7
37.5°	4138.0	2273.0	1758.9	1660.4	1621.1	1602.5	1581.7	1598.1	1695.5	1809.2	1879.2
40°	4395.1	2293.8	1748.0	1676.9	1591.5	1574.0	1539.0	1599.2	1750.1	1951.4	2003.9
42.5°	4845.7	2305.8	1761.1	1669.2	1601.4	1533.6	1556.5	1622.2	1780.8	1895.6	1976.6
45°	5311.7	2343.0	1752.3	1646.2	1579.5	1611.2	1579.5	1638.6	1714.0	1717.3	1778.6
47.5°	5768.9	2492.9	1733.7	1599.2	1574.0	1657.2	1576.2	1586.1	1591.5	1611.2	1683.4
50°	6306.0	2652.6	1707.5	1533.6	1581.7	1659.4	1588.3	1540.1	1534.7	1599.2	1680.1
52.5°	6916.4	2833.0	1673.6	1470.1	1536.8	1638.6	1629.8	1543.4	1496.4	1558.7	1639.7
55°	7635.0	3038.7	1634.2	1406.7	1487.6	1640.8	1652.8	1520.4	1497.5	1565.3	1651.7
57.5°	8589.9	3336.2	1557.6	1314.8	1427.5	1606.9	1593.7	1494.2	1472.3	1544.5	1634.2
60°	10219.8	3908.3	1448.2	1224.0	1362.9	1523.7	1545.6	1447.2	1425.3	1505.1	1599.2
62.5°	12402.0	4596.3	1315.9	1135.4	1284.2	1434.0	1485.4	1379.3	1377.1	1478.9	1577.3
65°	14433.2	4986.8	1179.2	1054.5	1203.2	1350.9	1417.6	1315.9	1320.3	1448.2	1546.7
67.5°	15277.7	4527.4	1056.6	982.3	1110.2	1255.7	1361.8	1266.7	1252.4	1406.7	1497.5
70°	14484.6	3596.5	950.5	905.7	1005.2	1152.9	1284.2	1201.0	1168.2	1308.2	1379.3
72.5°	12816.5	2998.2	851.0	816.0	913.4	1044.6	1179.2	1112.4	1069.8	1177.0	1240.4
75°	10018.5	2460.0	737.2	727.4	808.3	946.2	1069.8	1023.8	969.1	1037.0	1100.4
77.5°	5704.4	1556.5	619.1	625.7	683.7	829.1	938.5	902.4	846.6	875.1	948.4
80°	2282.8	785.4	497.7	502.1	551.3	681.5	777.7	764.6	706.6	729.6	779.9
82.5°	853.2	431.0	367.5	369.7	418.9	539.3	664.0	657.4	602.7	586.3	614.7
85°	339.1	213.3	225.3	235.2	282.2	388.3	532.7	472.5	408.0	357.7	375.2
87.5°	80.9	67.8	78.8	83.1	91.9	121.4	194.7	156.4	160.8	129.1	96.3
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)