

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: P368332

Luminaire Tested: **MSA-SA4B-727-U-T3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368332  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4B-727-U-T3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16225 lumens  
Efficiency: N/A  
Efficacy: 94.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3

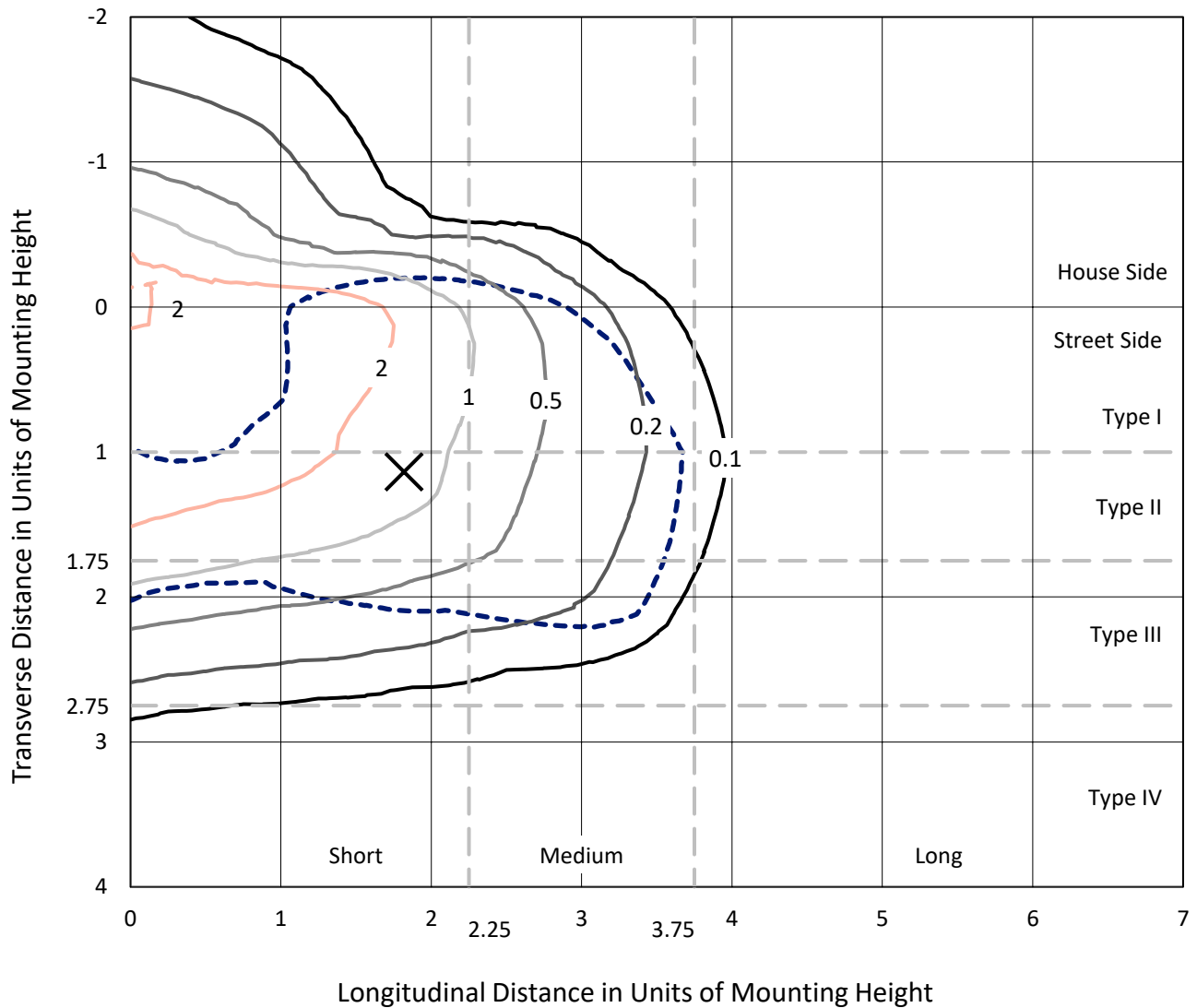
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

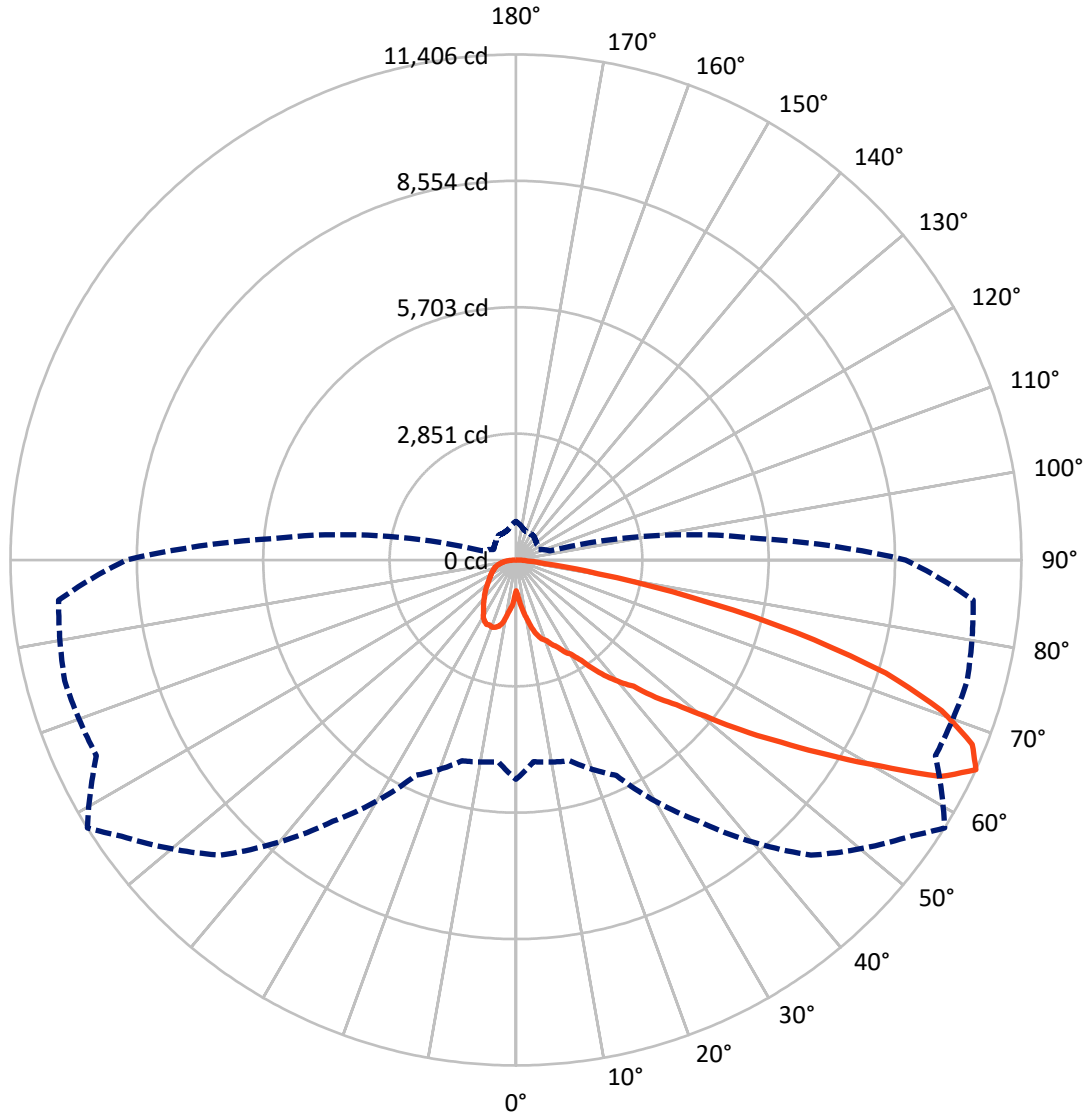
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.4 fc  
 Type III - Short - N/A

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CATALOG NUMBER: MSA-SA4B-727-U-T3

### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 65-Deg Vertical

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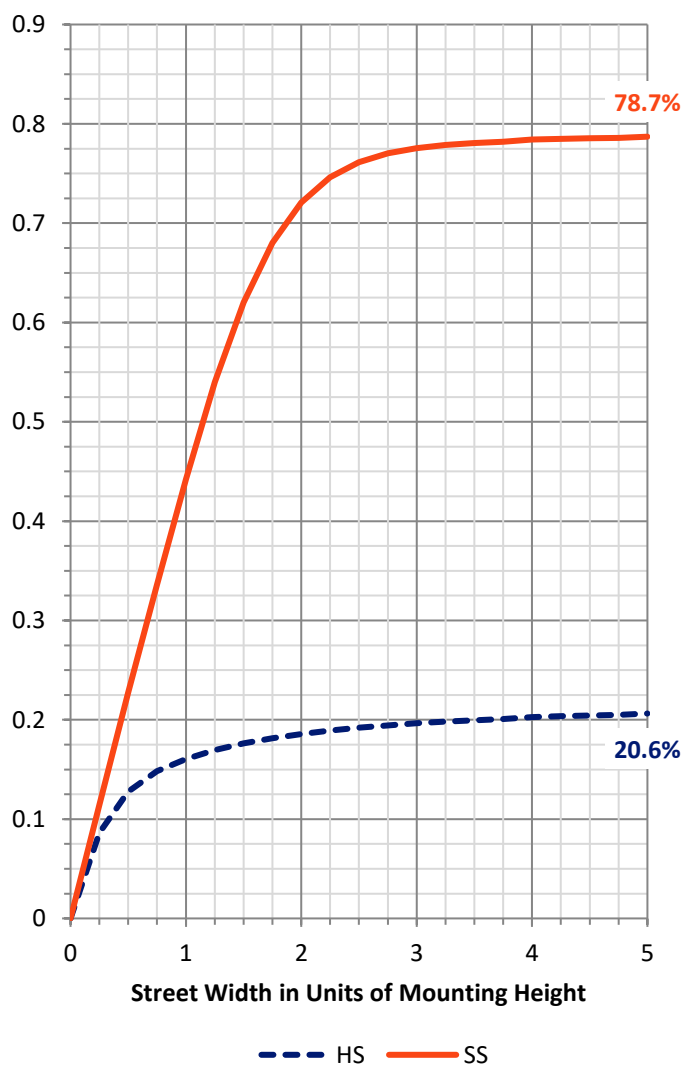
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3417.5	0.0	3417.5
	% Fixture	21.1	0.0	21.1
<b>Street Side</b>	Lumens	12807.5	0.0	12807.5
	% Fixture	78.9	0.0	78.9
<b>Total</b>	Lumens	16225.0	0.0	16225.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.1	0.7
10°-20°	463.0	2.9
20°-30°	888.5	5.5
30°-40°	1466.9	9.0
40°-50°	2438.2	15.0
50°-60°	4026.6	24.8
60°-70°	4517.0	27.8
70°-80°	2053.8	12.7
80°-90°	264.9	1.6
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°	16225.0	100.0
0°-180°	16225.0	100.0

**Coefficient of Utilization**

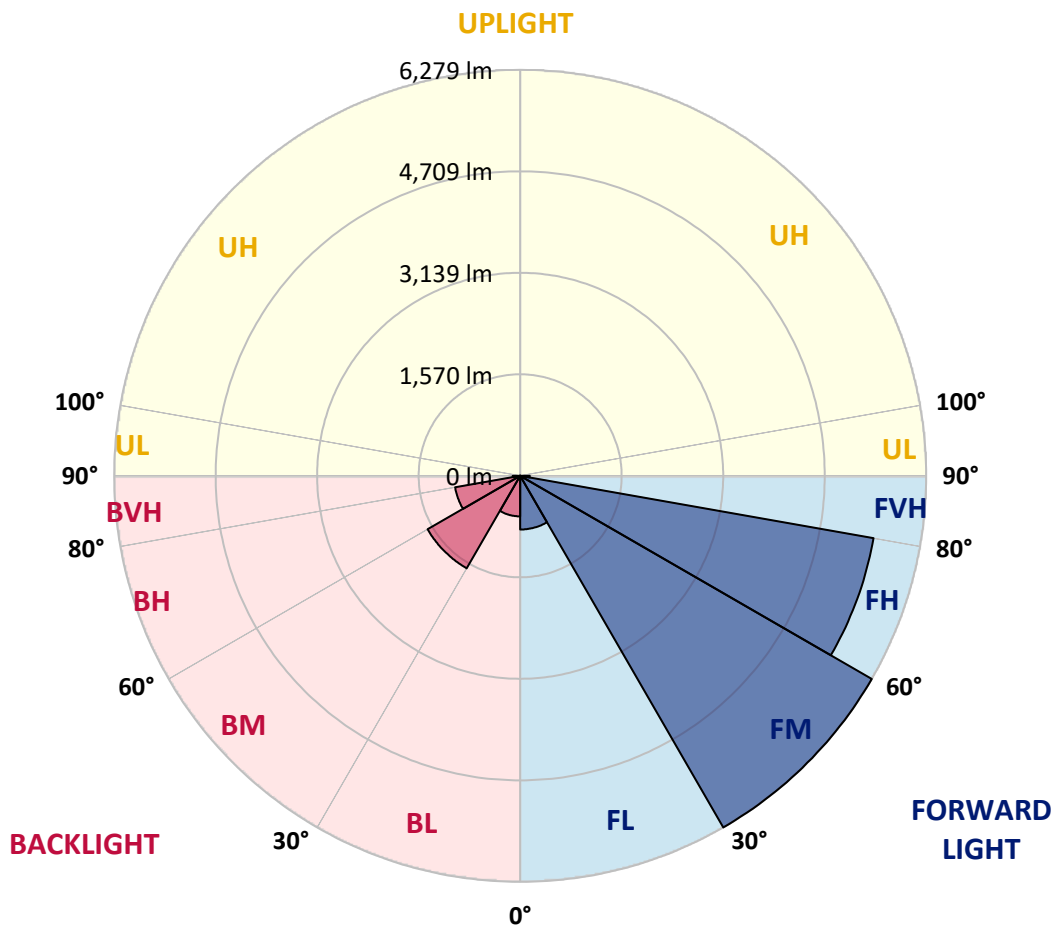


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 CATALOG NUMBER: MSA-SA4B-727-U-T3

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	830.3	5.1			
FM (30°-60°)	6278.8	38.7			
FH (60°-80°)	5549.3	34.2			G3/7500
FVH (80°-90°)	149.2	0.9			G2/225
BL (0°-30°)	627.4	3.9	B2/1000		
BM (30°-60°)	1652.8	10.2	B2/2500		
BH (60°-80°)	1021.6	6.3	B3/2500		G3/2500
BVH (80°-90°)	115.7	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-G3**  
 Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6
2.5°	831.8	806.8	764.9	775.0	799.3	812.8	804.7	793.9	779.7	777.0	839.2
5°	1077.0	1029.1	1009.5	1001.4	971.6	954.1	984.5	980.4	996.6	1026.4	1087.2
7.5°	1256.1	1222.3	1189.9	1186.5	1129.1	1108.8	1149.3	1171.0	1200.0	1200.7	1283.1
10°	1352.0	1323.0	1322.3	1291.9	1287.2	1325.7	1326.4	1342.6	1346.0	1380.4	1364.2
12.5°	1456.1	1454.1	1491.2	1490.6	1533.8	1597.3	1565.6	1565.6	1575.0	1533.1	1584.5
15°	1704.1	1725.7	1656.1	1667.6	1667.6	1729.7	1727.7	1739.9	1768.9	1758.1	1735.1
17.5°	1962.2	1975.7	1898.7	1827.0	1832.4	1818.9	1867.6	1872.3	1844.6	1970.3	1942.6
20°	2128.4	2181.1	2018.9	1929.1	1946.6	1962.2	1964.2	1935.2	1921.0	2114.2	2076.4
22.5°	2333.8	2289.2	2140.6	2041.2	2067.6	2046.6	2042.6	2064.9	2084.5	2157.5	2218.9
25°	2471.0	2467.6	2289.2	2180.4	2151.4	2145.3	2186.5	2177.7	2224.3	2356.8	2318.3
27.5°	2670.3	2732.5	2416.2	2443.3	2315.6	2181.1	2313.5	2353.4	2437.2	2415.6	2501.4
30°	3056.8	3010.2	2679.8	2672.3	2527.7	2414.9	2506.8	2473.0	2623.7	2618.9	2682.5
32.5°	3372.3	3404.8	2989.2	2911.5	2804.1	2668.3	2607.5	2701.4	2782.5	2915.6	2951.4
35°	3706.1	3698.7	3306.1	3149.4	2971.6	2915.6	2990.6	3029.8	3202.1	3324.4	3239.2
37.5°	4225.0	4166.3	3716.9	3420.3	3287.2	3266.9	3395.3	3338.5	3525.0	3554.1	3602.1
40°	4707.5	4530.4	4092.6	3752.7	3541.2	3616.9	3621.0	3628.4	3728.4	3807.5	4044.6
42.5°	5166.3	5041.9	4474.4	4219.0	3907.5	3833.8	3879.8	3895.3	4148.0	4309.5	4637.9
45°	5793.3	5460.2	5023.0	4760.9	4412.2	4318.3	4285.8	4419.6	4663.6	5031.1	5312.9
47.5°	6323.7	6023.0	5606.1	5260.9	4871.0	5139.2	4955.4	4880.4	5208.2	5663.6	6112.2
50°	6763.6	6432.5	6023.7	5824.4	5762.2	6001.4	5524.4	5533.2	5833.2	6475.7	6989.9
52.5°	7104.1	6750.7	6388.6	6287.2	6634.5	6772.4	6427.8	6375.7	6594.7	7354.1	7971.7
55°	7422.4	7047.4	6767.6	6974.4	7559.5	7575.1	7550.7	7262.2	7525.7	8295.3	8987.9
57.5°	7504.1	7100.1	6914.2	7210.9	8002.1	8617.6	8859.5	8293.3	8561.6	9151.4	9858.2
60°	7083.2	6737.2	6662.9	7065.6	8241.3	9141.3	9773.1	9434.5	9333.9	9838.6	10467.7
62.5°	6221.0	5819.6	5879.8	6439.2	7989.3	9348.7	10494.7	10758.9	10149.4	10385.2	10733.9
65°	4951.4	4568.3	4689.9	5362.9	7198.0	9417.6	10863.6	11405.5	10444.0	10540.0	10356.8
67.5°	3491.9	3143.9	3297.3	4167.6	5987.9	8535.2	10927.1	11104.1	10130.5	10098.7	9327.1
70°	1978.4	1760.2	1926.4	2652.0	4226.4	6799.4	10429.1	10196.0	9568.3	9118.3	7804.1
72.5°	907.4	832.4	912.2	1350.0	2433.1	4524.4	8514.3	8725.7	8244.7	7681.8	5937.2
75°	482.4	456.1	489.9	674.3	1138.5	2461.5	6049.4	6525.1	6269.0	5826.4	3873.0
77.5°	358.8	338.5	354.7	437.2	608.1	962.8	3437.2	4037.2	4134.5	3727.1	2150.7
80°	275.0	258.8	275.0	330.4	420.9	457.4	1469.6	1881.8	2143.3	1731.8	854.7
82.5°	204.1	193.2	218.2	248.0	295.9	285.8	521.6	649.3	837.2	572.3	333.1
85°	162.2	148.6	158.1	168.2	189.2	156.8	238.5	266.9	282.4	236.5	123.0
87.5°	63.5	58.8	114.9	90.5	77.0	47.3	71.6	81.1	83.1	79.7	35.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P368332  
 CATALOG NUMBER: MSA-SA4B-727-U-T3

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6
2.5°	846.0	839.2	799.3	812.2	833.1	837.2	846.0	821.6	809.5	854.1	856.1
5°	1092.6	1056.1	1037.2	1039.2	1025.7	1004.7	1036.5	1057.4	1065.5	1098.7	1110.8
7.5°	1283.8	1239.9	1208.1	1171.6	1120.3	1087.2	1142.6	1183.1	1204.7	1273.7	1300.7
10°	1368.9	1333.8	1327.0	1281.1	1279.7	1279.1	1276.4	1262.2	1308.8	1302.0	1321.0
12.5°	1544.6	1537.2	1473.0	1454.7	1456.8	1454.7	1398.0	1395.3	1396.0	1458.1	1435.8
15°	1708.1	1709.5	1650.7	1584.5	1525.0	1506.8	1484.5	1474.3	1489.2	1524.3	1502.7
17.5°	1910.2	1916.9	1748.7	1643.9	1565.6	1563.5	1510.1	1447.3	1537.9	1559.5	1535.8
20°	2040.6	2012.2	1805.4	1629.7	1607.4	1546.6	1480.4	1393.9	1472.3	1525.0	1539.9
22.5°	2164.2	2114.9	1858.1	1654.7	1548.0	1475.7	1411.5	1355.4	1380.4	1439.2	1429.7
25°	2248.0	2234.5	1931.1	1714.9	1546.0	1385.1	1298.7	1262.8	1275.7	1366.9	1358.1
27.5°	2448.0	2302.0	1918.3	1730.4	1481.1	1261.5	1218.3	1179.7	1166.9	1265.6	1292.6
30°	2581.8	2521.6	2004.1	1706.1	1399.3	1160.1	1096.6	1088.5	1092.6	1204.7	1212.2
32.5°	2808.8	2652.7	2144.6	1612.9	1280.4	1085.1	1012.2	1015.5	1033.8	1115.5	1132.4
35°	3045.3	2952.1	2163.5	1546.0	1183.8	1005.4	975.7	952.0	962.2	1033.8	1037.2
37.5°	3484.5	3162.2	2279.7	1442.6	1112.8	975.0	918.3	897.3	902.7	943.3	972.3
40°	3871.0	3584.5	2225.7	1342.6	1025.0	934.5	863.5	848.0	831.8	871.6	889.9
42.5°	4490.6	3885.8	2207.5	1232.4	983.8	879.7	831.1	789.9	774.3	808.1	841.2
45°	5110.2	4205.4	2108.1	1121.0	925.7	875.7	783.8	744.6	748.7	779.1	812.8
47.5°	5800.7	4634.5	1939.9	1012.8	862.2	856.1	736.5	719.6	731.8	765.5	799.3
50°	6616.9	5089.9	1800.7	915.5	816.9	797.3	730.4	710.1	721.6	761.5	794.6
52.5°	7509.5	5589.2	1699.3	825.7	765.5	750.7	738.5	718.9	732.4	766.9	801.4
55°	8396.7	6045.3	1630.4	764.2	721.6	731.1	755.4	741.2	748.0	773.7	808.1
57.5°	9054.8	6285.9	1491.9	698.7	685.8	719.6	757.4	733.8	737.8	773.7	810.8
60°	9437.2	6331.8	1264.2	645.3	657.4	696.6	736.5	706.1	703.4	762.2	808.8
62.5°	9395.3	6064.9	1002.7	596.6	625.0	662.2	704.7	675.7	683.1	763.5	812.8
65°	8795.3	5519.6	797.3	555.4	585.8	624.3	678.4	666.9	702.7	817.6	871.0
67.5°	7741.3	4723.0	640.5	516.9	549.3	598.7	696.6	727.0	742.6	873.0	927.7
70°	6273.7	3669.6	533.8	483.1	520.3	610.8	749.3	743.2	730.4	846.6	889.9
72.5°	4532.5	2515.6	469.6	450.0	484.5	574.3	750.7	718.2	702.0	773.0	804.1
75°	2835.8	1500.7	410.1	408.1	429.7	514.9	716.9	687.8	643.9	679.1	719.6
77.5°	1619.6	768.2	345.3	363.5	376.4	446.6	641.9	615.5	576.4	591.2	631.1
80°	618.2	371.6	291.2	323.0	319.6	378.4	543.9	537.8	493.2	498.0	522.3
82.5°	291.2	208.1	241.9	277.7	259.5	301.4	441.9	439.9	400.7	362.8	382.4
85°	108.1	110.8	177.0	211.5	180.4	194.6	319.6	310.8	273.0	230.4	254.7
87.5°	24.3	39.9	87.2	110.1	62.8	60.1	129.1	112.2	108.1	64.2	67.6
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)