

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: P368068

Luminaire Tested: **MSA-SA3D-727-U-T3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368068  
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-SA3D-727-U-T3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16623 lumens  
Efficiency: N/A  
Efficacy: 86.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G3

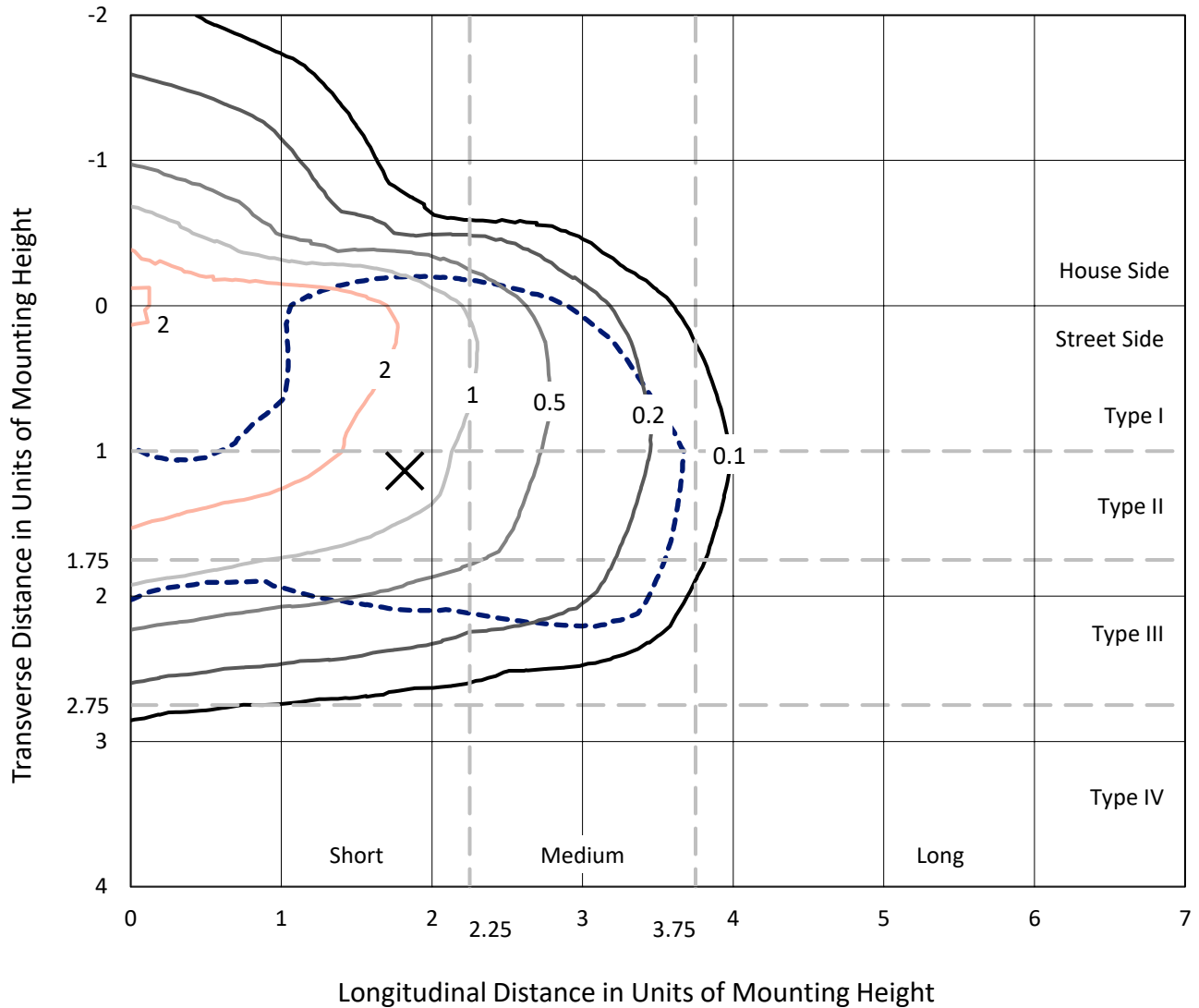
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

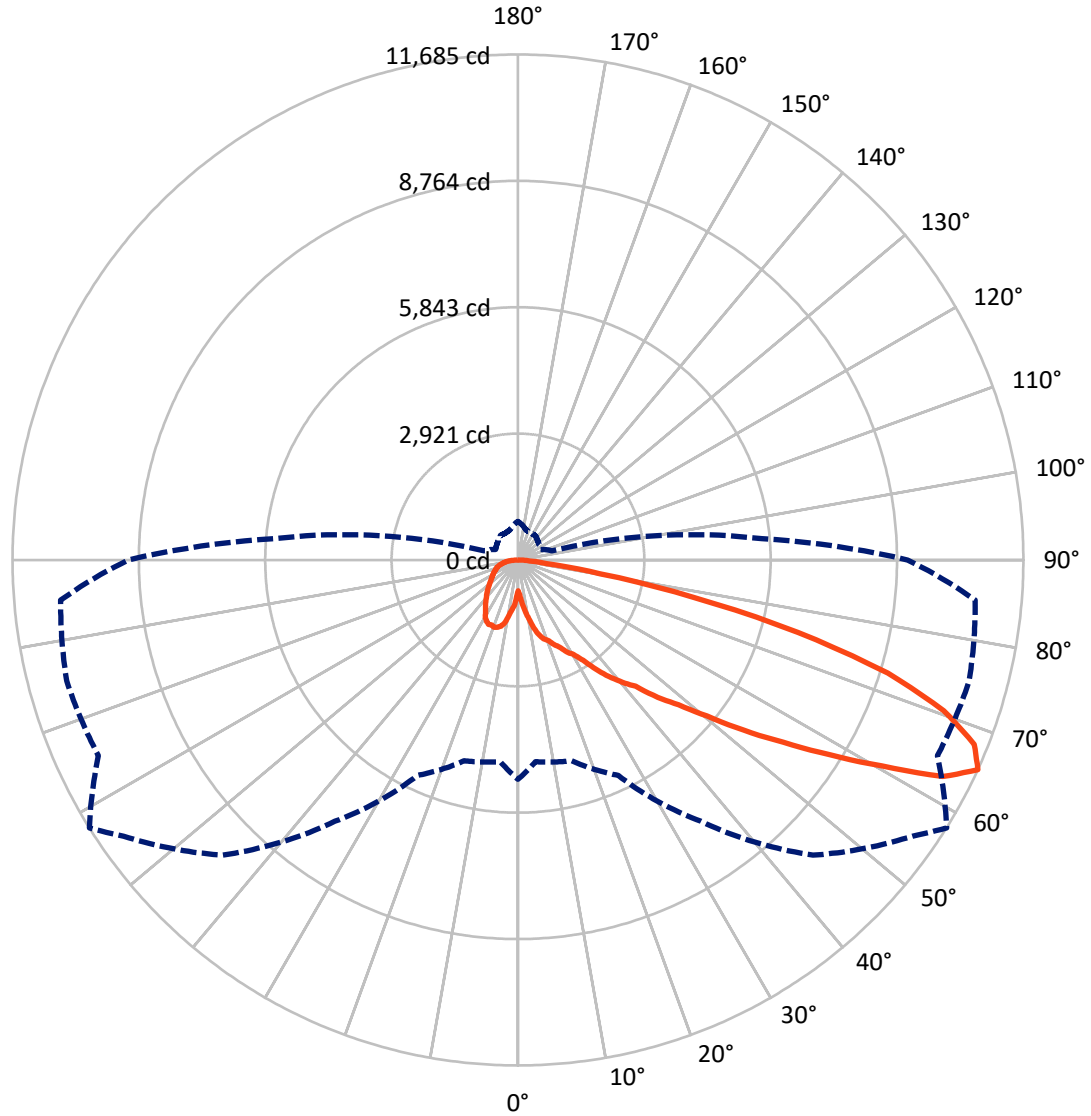
✕ Max cd  
 - - - 1/2 Max cd



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

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### Luminous Intensity Polar Plot



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

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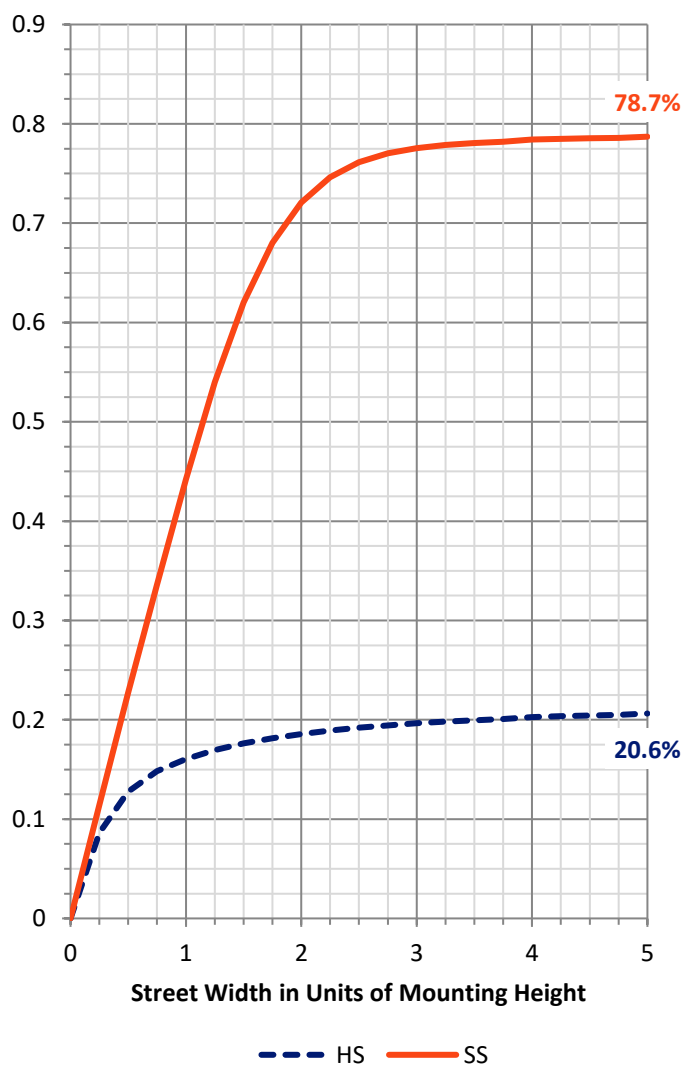
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3501.3	0.0	3501.3
	% Fixture	21.1	0.0	21.1
<b>Street Side</b>	Lumens	13121.7	0.0	13121.7
	% Fixture	78.9	0.0	78.9
<b>Total</b>	Lumens	16623.0	0.0	16623.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.7	0.7
10°-20°	474.4	2.9
20°-30°	910.3	5.5
30°-40°	1502.9	9.0
40°-50°	2498.0	15.0
50°-60°	4125.3	24.8
60°-70°	4627.9	27.8
70°-80°	2104.2	12.7
80°-90°	271.4	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°	16623.0	100.0
0°-180°	16623.0	100.0

**Coefficient of Utilization**



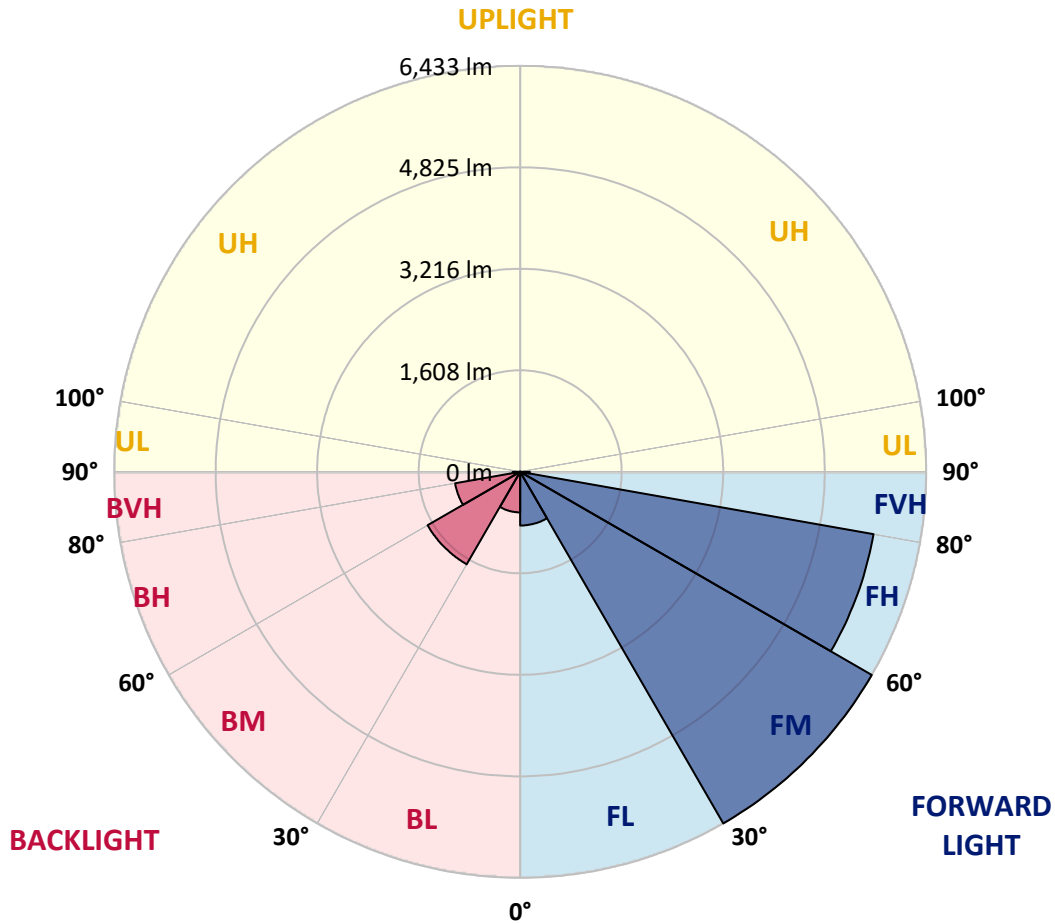
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	850.6	5.1			
FM (30°-60°)	6432.8	38.7			
FH (60°-80°)	5685.4	34.2			G3/7500
FVH (80°-90°)	152.8	0.9			G2/225
BL (0°-30°)	642.8	3.9	B2/1000		
BM (30°-60°)	1693.3	10.2	B2/2500		
BH (60°-80°)	1046.6	6.3	B3/2500		G3/2500
BVH (80°-90°)	118.6	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°	713.7	713.7	713.7	713.7	713.7	713.7	713.7	713.7	713.7	713.7	713.7
2.5°	852.2	826.6	783.6	794.0	818.9	832.8	824.5	813.4	798.9	796.1	859.8
5°	1103.5	1054.3	1034.2	1025.9	995.5	977.5	1008.6	1004.5	1021.1	1051.5	1113.8
7.5°	1286.9	1252.3	1219.1	1215.6	1156.8	1136.0	1177.5	1199.7	1229.4	1230.1	1314.6
10°	1385.2	1355.4	1354.7	1323.6	1318.7	1358.2	1358.9	1375.5	1379.0	1414.3	1397.7
12.5°	1491.8	1489.7	1527.8	1527.1	1571.4	1636.5	1604.0	1604.0	1613.6	1570.7	1623.3
15°	1745.9	1768.0	1696.7	1708.5	1708.5	1772.2	1770.1	1782.6	1812.3	1801.2	1777.7
17.5°	2010.3	2024.2	1945.2	1871.9	1877.4	1863.6	1913.4	1918.2	1889.9	2018.6	1990.2
20°	2180.6	2234.6	2068.5	1976.4	1994.4	2010.3	2012.4	1982.6	1968.1	2166.1	2127.3
22.5°	2391.1	2345.4	2193.1	2091.3	2118.3	2096.8	2092.7	2115.5	2135.6	2210.4	2273.4
25°	2531.6	2528.1	2345.4	2233.9	2204.1	2197.9	2240.1	2231.1	2278.9	2414.6	2375.1
27.5°	2735.8	2799.5	2475.5	2503.2	2372.4	2234.6	2370.3	2411.1	2497.0	2474.8	2562.7
30°	3131.8	3084.0	2745.5	2737.9	2589.7	2474.1	2568.3	2533.7	2688.0	2683.2	2748.3
32.5°	3455.0	3488.3	3062.5	2982.9	2872.9	2733.7	2671.4	2767.6	2850.7	2987.1	3023.8
35°	3797.0	3789.4	3387.2	3226.6	3044.5	2987.1	3063.9	3104.1	3280.6	3405.9	3318.7
37.5°	4328.7	4268.4	3808.1	3504.2	3367.8	3347.1	3478.6	3420.4	3611.5	3641.3	3690.4
40°	4822.9	4641.6	4193.0	3844.8	3628.1	3705.6	3709.8	3717.4	3819.9	3900.9	4143.8
42.5°	5293.0	5165.6	4584.1	4322.4	4003.3	3927.9	3974.9	3990.9	4249.8	4415.2	4751.6
45°	5935.4	5594.1	5146.2	4877.6	4520.4	4424.2	4391.0	4528.0	4778.0	5154.5	5443.2
47.5°	6478.8	6170.8	5743.6	5389.9	4990.5	5265.3	5077.0	5000.2	5335.9	5802.5	6262.1
50°	6929.5	6590.3	6171.5	5967.2	5903.6	6148.6	5659.9	5668.9	5976.2	6634.6	7161.4
52.5°	7278.4	6916.3	6545.3	6441.4	6797.3	6938.5	6585.4	6532.1	6756.4	7534.5	8167.2
55°	7604.4	7220.2	6933.6	7145.5	7745.0	7760.9	7736.0	7440.4	7710.3	8498.8	9208.4
57.5°	7688.2	7274.2	7083.9	7387.8	8198.4	8829.0	9076.9	8496.7	8771.6	9375.9	10100.0
60°	7256.9	6902.5	6826.3	7238.9	8443.4	9365.5	10012.8	9666.0	9562.8	10079.9	10724.4
62.5°	6373.6	5962.4	6024.0	6597.2	8185.2	9578.1	10752.1	11022.8	10398.4	10640.0	10997.2
65°	5072.9	4680.3	4804.9	5494.4	7374.6	9648.7	11130.1	11685.3	10700.2	10798.5	10610.9
67.5°	3577.6	3221.1	3378.2	4269.8	6134.8	8744.6	11195.2	11376.5	10379.0	10346.5	9555.9
70°	2026.9	1803.3	1973.6	2717.1	4330.1	6966.2	10685.0	10446.1	9803.0	9342.0	7995.6
72.5°	929.7	852.9	934.5	1383.1	2492.8	4635.3	8723.1	8939.8	8446.9	7870.3	6082.9
75°	494.3	467.3	501.9	690.9	1166.5	2521.9	6197.8	6685.1	6422.8	5969.3	3968.0
77.5°	367.6	346.8	363.4	447.9	623.0	986.5	3521.5	4136.2	4235.9	3818.5	2203.5
80°	281.7	265.1	281.7	338.5	431.3	468.7	1505.7	1927.9	2195.8	1774.3	875.7
82.5°	209.1	198.0	223.6	254.1	303.2	292.8	534.4	665.3	857.7	586.3	341.3
85°	166.1	152.3	162.0	172.4	193.8	160.6	244.4	273.4	289.4	242.3	126.0
87.5°	65.1	60.2	117.7	92.8	78.9	48.5	73.4	83.1	85.1	81.7	36.7
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°	713.7	713.7	713.7	713.7	713.7	713.7	713.7	713.7	713.7	713.7	713.7
2.5°	866.7	859.8	818.9	832.1	853.6	857.7	866.7	841.8	829.3	875.0	877.1
5°	1119.4	1082.0	1062.6	1064.7	1050.8	1029.4	1061.9	1083.4	1091.7	1125.6	1138.1
7.5°	1315.3	1270.3	1237.8	1200.4	1147.8	1113.8	1170.6	1212.1	1234.3	1304.9	1332.6
10°	1402.5	1366.5	1359.6	1312.5	1311.1	1310.4	1307.7	1293.1	1340.9	1334.0	1353.4
12.5°	1582.5	1574.9	1509.1	1490.4	1492.5	1490.4	1432.3	1429.5	1430.2	1493.9	1471.0
15°	1750.0	1751.4	1691.2	1623.3	1562.4	1543.7	1520.9	1510.5	1525.7	1561.7	1539.6
17.5°	1957.0	1963.9	1791.6	1684.3	1604.0	1601.9	1547.2	1482.8	1575.6	1597.7	1573.5
20°	2090.6	2061.5	1849.7	1669.7	1646.9	1584.6	1516.7	1428.1	1508.4	1562.4	1577.7
22.5°	2217.3	2166.8	1903.7	1695.3	1586.0	1511.9	1446.1	1388.7	1414.3	1474.5	1464.8
25°	2303.1	2289.3	1978.5	1756.9	1583.9	1419.1	1330.5	1293.8	1307.0	1400.4	1391.4
27.5°	2508.0	2358.5	1965.3	1772.9	1517.4	1292.4	1248.1	1208.7	1195.5	1296.6	1324.3
30°	2645.1	2583.5	2053.2	1747.9	1433.7	1188.6	1123.5	1115.2	1119.4	1234.3	1241.9
32.5°	2877.7	2717.8	2197.2	1652.4	1311.8	1111.8	1037.0	1040.5	1059.2	1142.9	1160.2
35°	3120.0	3024.5	2216.6	1583.9	1212.8	1030.1	999.6	975.4	985.8	1059.2	1062.6
37.5°	3570.0	3239.8	2335.7	1478.0	1140.1	998.9	940.8	919.3	924.9	966.4	996.2
40°	3965.9	3672.4	2280.3	1375.5	1050.2	957.4	884.7	868.8	852.2	893.0	911.7
42.5°	4600.7	3981.2	2261.6	1262.7	1007.9	901.3	851.5	809.2	793.3	827.9	861.9
45°	5235.5	4308.6	2159.8	1148.5	948.4	897.2	803.0	762.9	767.0	798.2	832.8
47.5°	5943.0	4748.2	1987.5	1037.7	883.3	877.1	754.6	737.3	749.7	784.3	818.9
50°	6779.3	5214.8	1844.9	938.0	836.9	816.9	748.3	727.6	739.3	780.2	814.1
52.5°	7693.7	5726.3	1741.0	845.9	784.3	769.1	756.6	736.6	750.4	785.7	821.0
55°	8602.7	6193.6	1670.4	782.9	739.3	749.0	773.9	759.4	766.3	792.6	827.9
57.5°	9276.9	6440.1	1528.5	715.8	702.6	737.3	776.0	751.8	755.9	792.6	830.7
60°	9668.7	6487.1	1295.2	661.1	673.6	713.7	754.6	723.4	720.6	780.9	828.6
62.5°	9625.8	6213.7	1027.3	611.3	640.3	678.4	722.0	692.3	699.9	782.2	832.8
65°	9011.1	5655.0	816.9	569.0	600.2	639.6	695.0	683.3	719.9	837.6	892.3
67.5°	7931.2	4838.9	656.3	529.6	562.8	613.3	713.7	744.9	760.8	894.4	950.5
70°	6427.6	3759.6	546.9	495.0	533.0	625.8	767.7	761.5	748.3	867.4	911.7
72.5°	4643.7	2577.3	481.1	461.0	496.3	588.4	769.1	735.9	719.3	791.9	823.8
75°	2905.4	1537.5	420.2	418.1	440.3	527.5	734.5	704.7	659.7	695.7	737.3
77.5°	1659.3	787.1	353.7	372.4	385.6	457.6	657.6	630.6	590.5	605.7	646.6
80°	633.4	380.7	298.4	330.9	327.4	387.7	557.3	551.0	505.3	510.2	535.1
82.5°	298.4	213.2	247.8	284.5	265.8	308.7	452.7	450.7	410.5	371.7	391.8
85°	110.8	113.5	181.4	216.7	184.8	199.4	327.4	318.4	279.7	236.1	261.0
87.5°	24.9	40.8	89.3	112.8	64.4	61.6	132.2	114.9	110.8	65.8	69.2
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)