

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: P367628

Luminaire Tested: **MSA-SA2D-760-U-T3**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367628  
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-SA2D-760-U-T3  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13468 lumens  
Efficiency: N/A  
Efficacy: 104.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G2

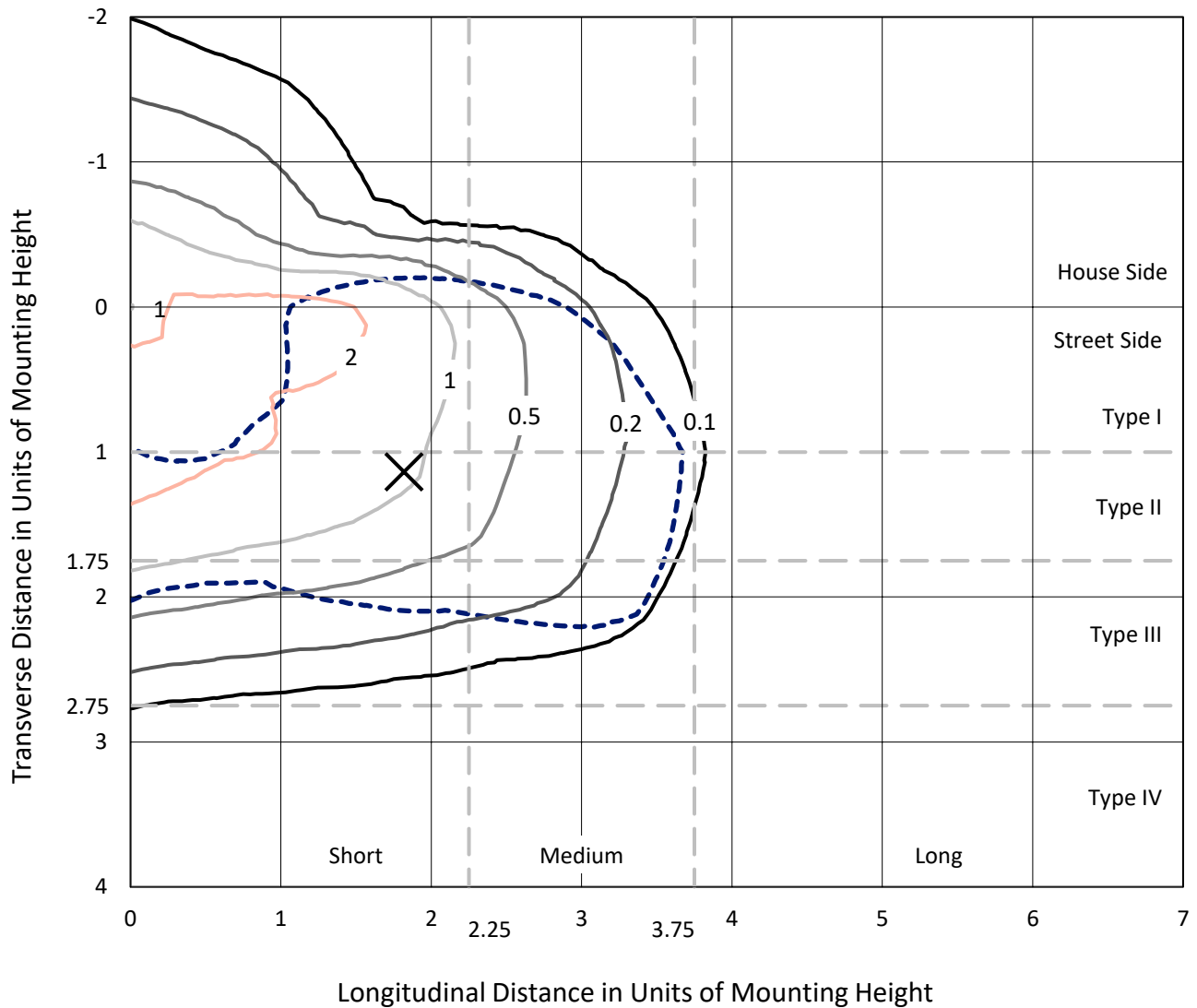
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

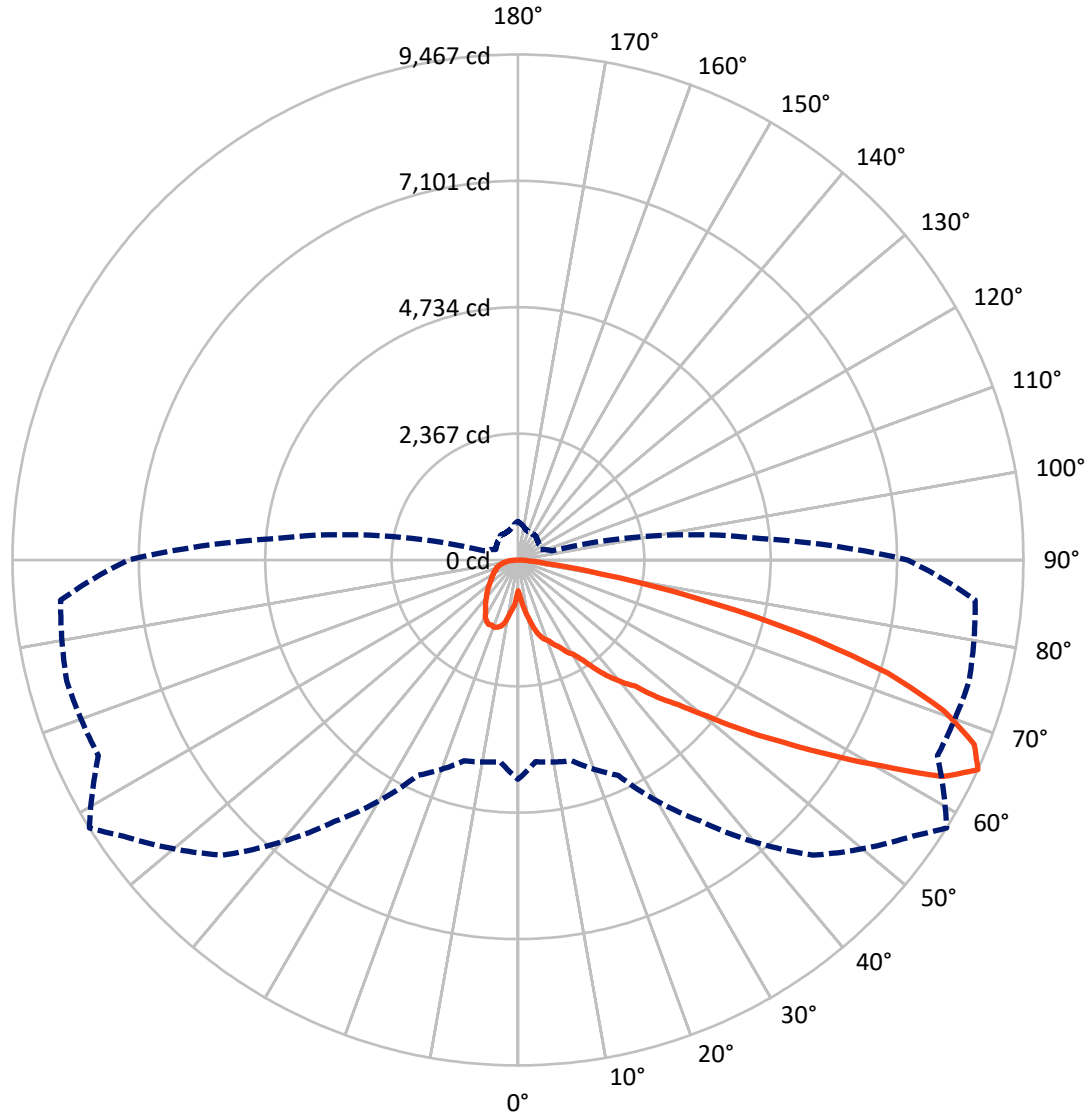
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.8 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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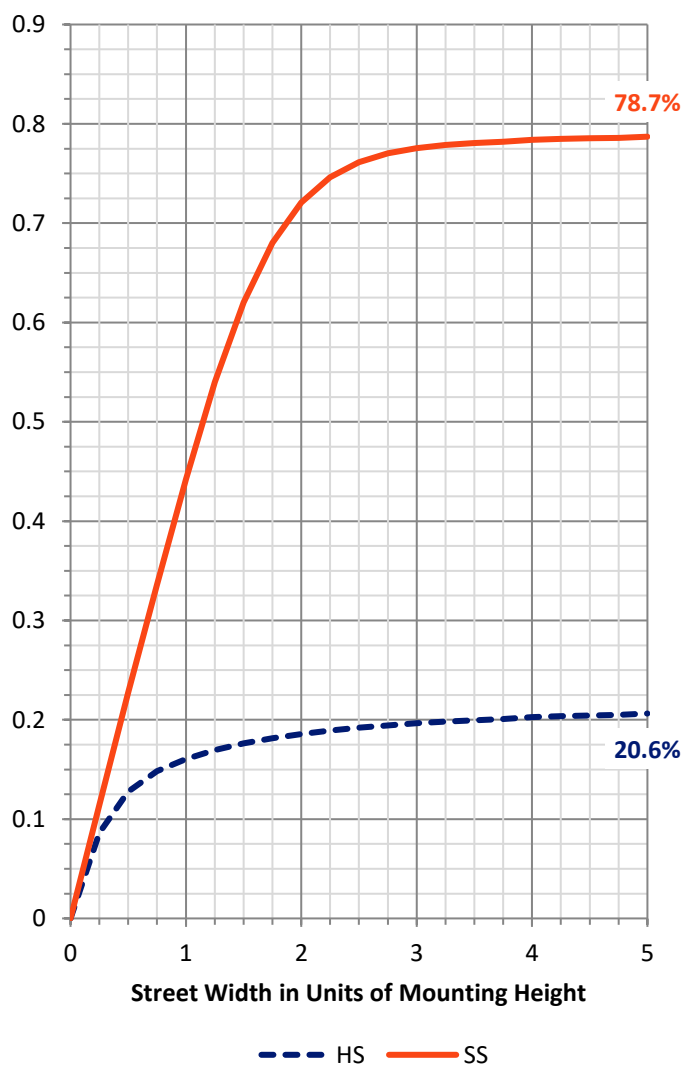
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2836.8	0.0	2836.8
	% Fixture	21.1	0.0	21.1
<b>Street Side</b>	Lumens	10631.2	0.0	10631.2
	% Fixture	78.9	0.0	78.9
<b>Total</b>	Lumens	13468.0	0.0	13468.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.1	0.7
10°-20°	384.4	2.9
20°-30°	737.5	5.5
30°-40°	1217.6	9.0
40°-50°	2023.9	15.0
50°-60°	3342.4	24.8
60°-70°	3749.5	27.8
70°-80°	1704.8	12.7
80°-90°	219.9	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°	13468.0	100.0
0°-180°	13468.0	100.0

**Coefficient of Utilization**



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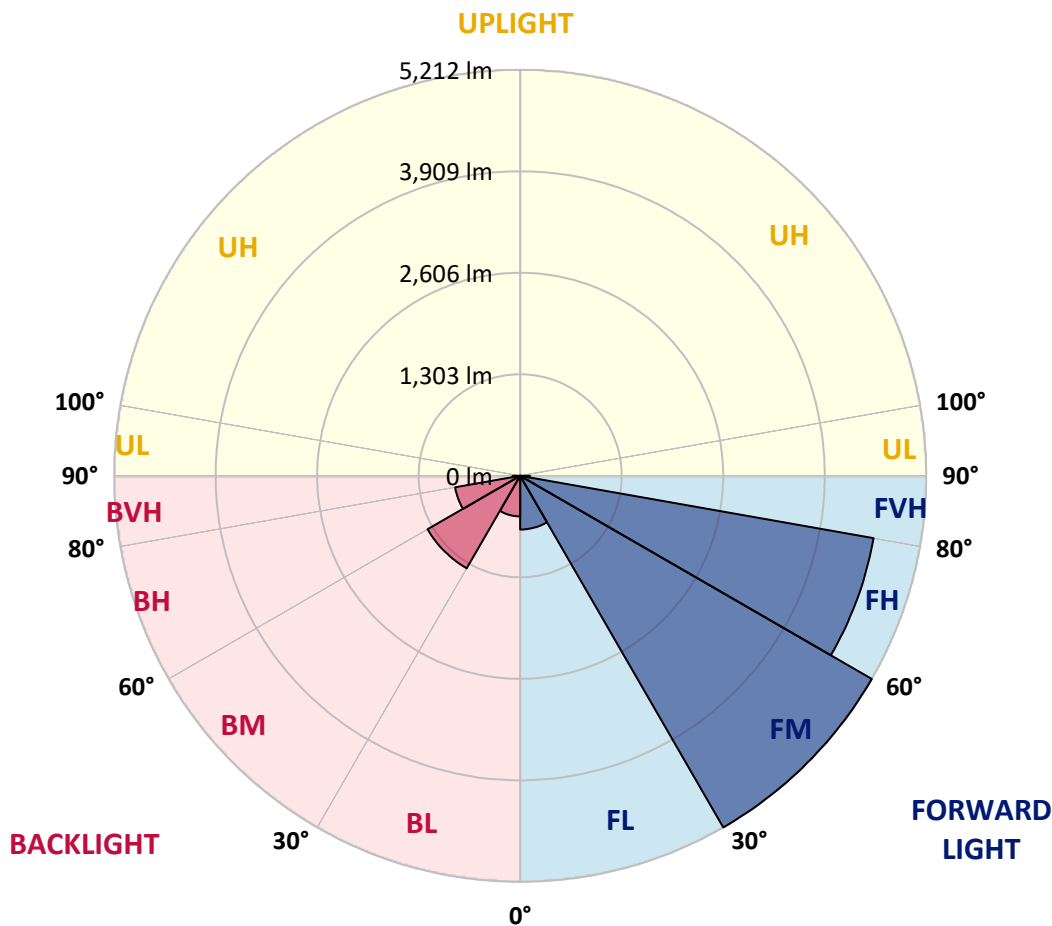
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	689.2	5.1			
FM (30°-60°)	5211.9	38.7			
FH (60°-80°)	4606.3	34.2			G2/5000
FVH (80°-90°)	123.8	0.9			G2/225
BL (0°-30°)	520.8	3.9	B2/1000		
BM (30°-60°)	1371.9	10.2	B2/2500		
BH (60°-80°)	848.0	6.3	B2/1000		G2/1000
BVH (80°-90°)	96.1	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	578.3	578.3	578.3	578.3	578.3	578.3	578.3	578.3	578.3	578.3	578.3
2.5°	690.4	669.7	634.9	643.3	663.5	674.7	668.0	659.0	647.2	645.0	696.6
5°	894.0	854.2	837.9	831.2	806.5	791.9	817.2	813.8	827.3	852.0	902.4
7.5°	1042.7	1014.6	987.7	984.9	937.2	920.4	954.0	972.0	996.1	996.7	1065.1
10°	1122.3	1098.2	1097.6	1072.4	1068.5	1100.4	1101.0	1114.4	1117.2	1145.9	1132.4
12.5°	1208.7	1207.0	1237.8	1237.3	1273.2	1325.9	1299.5	1299.5	1307.4	1272.6	1315.2
15°	1414.5	1432.5	1374.7	1384.2	1384.2	1435.8	1434.1	1444.2	1468.4	1459.4	1440.3
17.5°	1628.8	1640.0	1576.0	1516.6	1521.1	1509.9	1550.2	1554.2	1531.2	1635.5	1612.5
20°	1766.7	1810.5	1675.9	1601.3	1615.9	1628.8	1630.4	1606.3	1594.5	1755.0	1723.5
22.5°	1937.2	1900.2	1776.8	1694.4	1716.3	1698.9	1695.5	1714.0	1730.3	1790.9	1841.9
25°	2051.1	2048.3	1900.2	1809.9	1785.8	1780.8	1815.0	1807.7	1846.4	1956.3	1924.3
27.5°	2216.5	2268.1	2005.7	2028.1	1922.1	1810.5	1920.4	1953.5	2023.0	2005.1	2076.3
30°	2537.4	2498.7	2224.4	2218.2	2098.2	2004.5	2080.8	2052.8	2177.8	2173.9	2226.6
32.5°	2799.3	2826.2	2481.3	2416.8	2327.6	2214.9	2164.4	2242.3	2309.7	2420.1	2449.9
35°	3076.4	3070.2	2744.3	2614.2	2466.7	2420.1	2482.4	2514.9	2658.0	2759.5	2688.8
37.5°	3507.1	3458.3	3085.3	2839.1	2728.6	2711.8	2818.4	2771.2	2926.0	2950.2	2990.0
40°	3907.6	3760.6	3397.2	3115.1	2939.5	3002.3	3005.7	3011.9	3094.9	3160.5	3357.4
42.5°	4288.4	4185.2	3714.1	3502.1	3243.5	3182.4	3220.5	3233.4	3443.2	3577.2	3849.8
45°	4808.9	4532.4	4169.5	3951.9	3662.5	3584.5	3557.6	3668.6	3871.1	4176.2	4410.1
47.5°	5249.2	4999.6	4653.5	4366.9	4043.3	4266.0	4113.4	4051.1	4323.2	4701.2	5073.6
50°	5614.3	5339.5	5000.1	4834.7	4783.1	4981.6	4585.7	4592.9	4842.0	5375.4	5802.2
52.5°	5897.0	5603.6	5303.0	5218.9	5507.2	5621.6	5335.5	5292.3	5474.1	6104.5	6617.1
55°	6161.1	5849.8	5617.6	5789.3	6275.0	6287.9	6267.7	6028.2	6246.9	6885.8	7460.7
57.5°	6229.0	5893.6	5739.4	5985.6	6642.4	7153.3	7354.1	6884.1	7106.8	7596.4	8183.1
60°	5879.6	5592.4	5530.7	5865.0	6840.9	7588.0	8112.4	7831.4	7747.8	8166.8	8689.0
62.5°	5163.9	4830.8	4880.7	5345.1	6631.7	7760.2	8711.4	8930.7	8424.8	8620.5	8909.9
65°	4110.0	3792.0	3893.0	4451.6	5974.9	7817.4	9017.6	9467.4	8669.3	8749.0	8597.0
67.5°	2898.6	2609.7	2737.0	3459.4	4970.4	7084.9	9070.4	9217.3	8409.1	8382.7	7742.2
70°	1642.2	1461.1	1599.0	2201.4	3508.2	5644.0	8657.0	8463.5	7942.4	7568.9	6478.0
72.5°	753.2	691.0	757.2	1120.6	2019.7	3755.6	7067.5	7243.0	6843.7	6376.5	4928.3
75°	400.5	378.6	406.6	559.7	945.1	2043.2	5021.4	5416.3	5203.7	4836.4	3214.9
77.5°	297.8	281.0	294.5	362.9	504.8	799.2	2853.1	3351.2	3431.9	3093.7	1785.2
80°	228.3	214.8	228.3	274.3	349.4	379.7	1219.9	1562.0	1779.1	1437.5	709.5
82.5°	169.4	160.4	181.2	205.8	245.7	237.2	433.0	539.0	694.9	475.1	276.5
85°	134.6	123.4	131.2	139.7	157.0	130.1	198.0	221.5	234.4	196.3	102.1
87.5°	52.7	48.8	95.3	75.2	63.9	39.3	59.5	67.3	69.0	66.2	29.7
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°	578.3	578.3	578.3	578.3	578.3	578.3	578.3	578.3	578.3	578.3	578.3
2.5°	702.2	696.6	663.5	674.2	691.5	694.9	702.2	682.0	671.9	708.9	710.6
5°	906.9	876.6	860.9	862.6	851.4	834.0	860.4	877.8	884.5	912.0	922.1
7.5°	1065.6	1029.2	1002.8	972.5	929.9	902.4	948.4	982.1	1000.0	1057.2	1079.7
10°	1136.3	1107.2	1101.5	1063.4	1062.3	1061.7	1059.5	1047.7	1086.4	1080.8	1096.5
12.5°	1282.1	1276.0	1222.7	1207.5	1209.2	1207.5	1160.4	1158.2	1158.8	1210.4	1191.8
15°	1417.9	1419.0	1370.2	1315.2	1265.9	1250.7	1232.2	1223.8	1236.2	1265.3	1247.4
17.5°	1585.6	1591.2	1451.5	1364.6	1299.5	1297.8	1253.5	1201.4	1276.5	1294.5	1274.9
20°	1693.8	1670.3	1498.6	1352.8	1334.3	1283.8	1228.9	1157.1	1222.1	1265.9	1278.2
22.5°	1796.5	1755.5	1542.4	1373.6	1284.9	1224.9	1171.7	1125.1	1145.9	1194.6	1186.8
25°	1866.0	1854.8	1603.0	1423.5	1283.3	1149.8	1078.0	1048.3	1058.9	1134.6	1127.3
27.5°	2032.0	1910.9	1592.3	1436.4	1229.4	1047.1	1011.2	979.3	968.6	1050.5	1072.9
30°	2143.1	2093.2	1663.5	1416.2	1161.6	963.0	910.3	903.6	906.9	1000.0	1006.2
32.5°	2331.5	2202.0	1780.2	1338.8	1062.8	900.8	840.2	843.0	858.1	926.0	940.0
35°	2527.8	2450.4	1795.9	1283.3	982.6	834.6	809.9	790.3	798.7	858.1	860.9
37.5°	2892.4	2624.9	1892.4	1197.5	923.7	809.3	762.2	744.8	749.3	783.0	807.1
40°	3213.2	2975.4	1847.5	1114.4	850.8	775.7	716.8	703.9	690.4	723.5	738.7
42.5°	3727.5	3225.5	1832.4	1023.0	816.6	730.2	689.9	655.7	642.8	670.8	698.3
45°	4241.8	3490.8	1749.9	930.5	768.4	726.9	650.6	618.1	621.4	646.7	674.7
47.5°	4815.0	3847.0	1610.3	840.7	715.7	710.6	611.3	597.3	607.4	635.5	663.5
50°	5492.6	4225.0	1494.7	760.0	678.1	661.8	606.3	589.5	599.0	632.1	659.6
52.5°	6233.5	4639.5	1410.6	685.4	635.5	623.1	613.0	596.8	608.0	636.6	665.2
55°	6969.9	5018.1	1353.4	634.3	599.0	606.9	627.0	615.3	620.9	642.2	670.8
57.5°	7516.2	5217.8	1238.4	579.9	569.3	597.3	628.7	609.1	612.5	642.2	673.0
60°	7833.6	5255.9	1049.4	535.6	545.7	578.3	611.3	586.1	583.9	632.7	671.4
62.5°	7798.9	5034.3	832.3	495.2	518.8	549.7	585.0	560.9	567.0	633.8	674.7
65°	7300.8	4581.7	661.8	461.0	486.3	518.2	563.1	553.6	583.3	678.6	723.0
67.5°	6425.9	3920.5	531.7	429.1	456.0	496.9	578.3	603.5	616.4	724.6	770.1
70°	5207.7	3046.1	443.1	401.0	431.9	507.0	622.0	617.0	606.3	702.8	738.7
72.5°	3762.3	2088.1	389.8	373.5	402.1	476.7	623.1	596.2	582.7	641.6	667.4
75°	2354.0	1245.7	340.4	338.8	356.7	427.4	595.1	571.0	534.5	563.7	597.3
77.5°	1344.4	637.7	286.6	301.7	312.4	370.7	532.8	511.0	478.4	490.8	523.9
80°	513.2	308.5	241.7	268.1	265.3	314.1	451.5	446.5	409.4	413.4	433.6
82.5°	241.7	172.7	200.8	230.5	215.4	250.1	366.8	365.1	332.6	301.2	317.5
85°	89.7	92.0	146.9	175.6	149.8	161.5	265.3	258.0	226.6	191.3	211.4
87.5°	20.2	33.1	72.4	91.4	52.2	49.9	107.1	93.1	89.7	53.3	56.1
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)