

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: P368110

Luminaire Tested: **MSA-SA3D-740-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368110  
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-SA3D-740-U-T2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 19853 lumens  
Efficiency: N/A  
Efficacy: 103.4 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B3 - U0 - G3

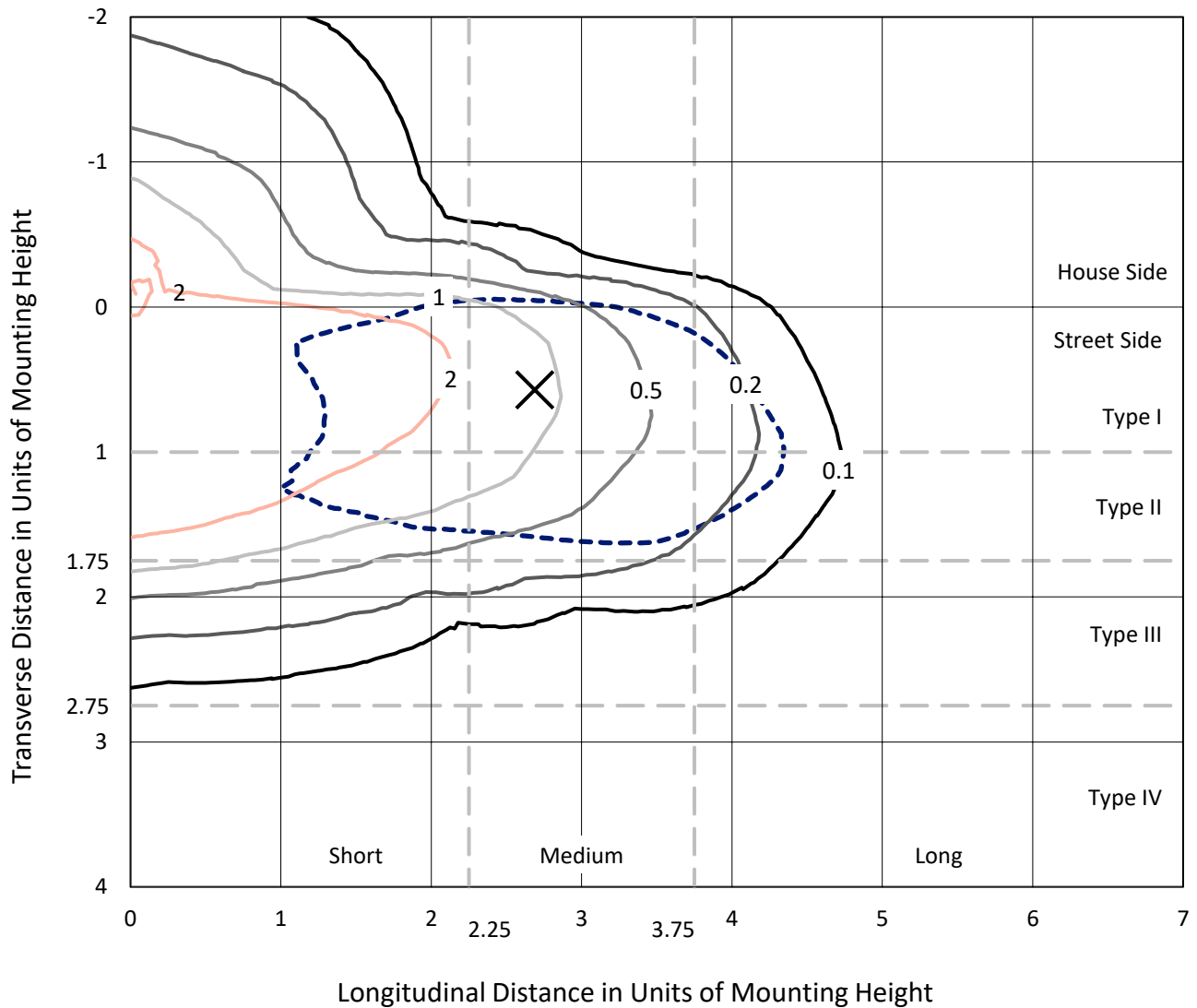
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

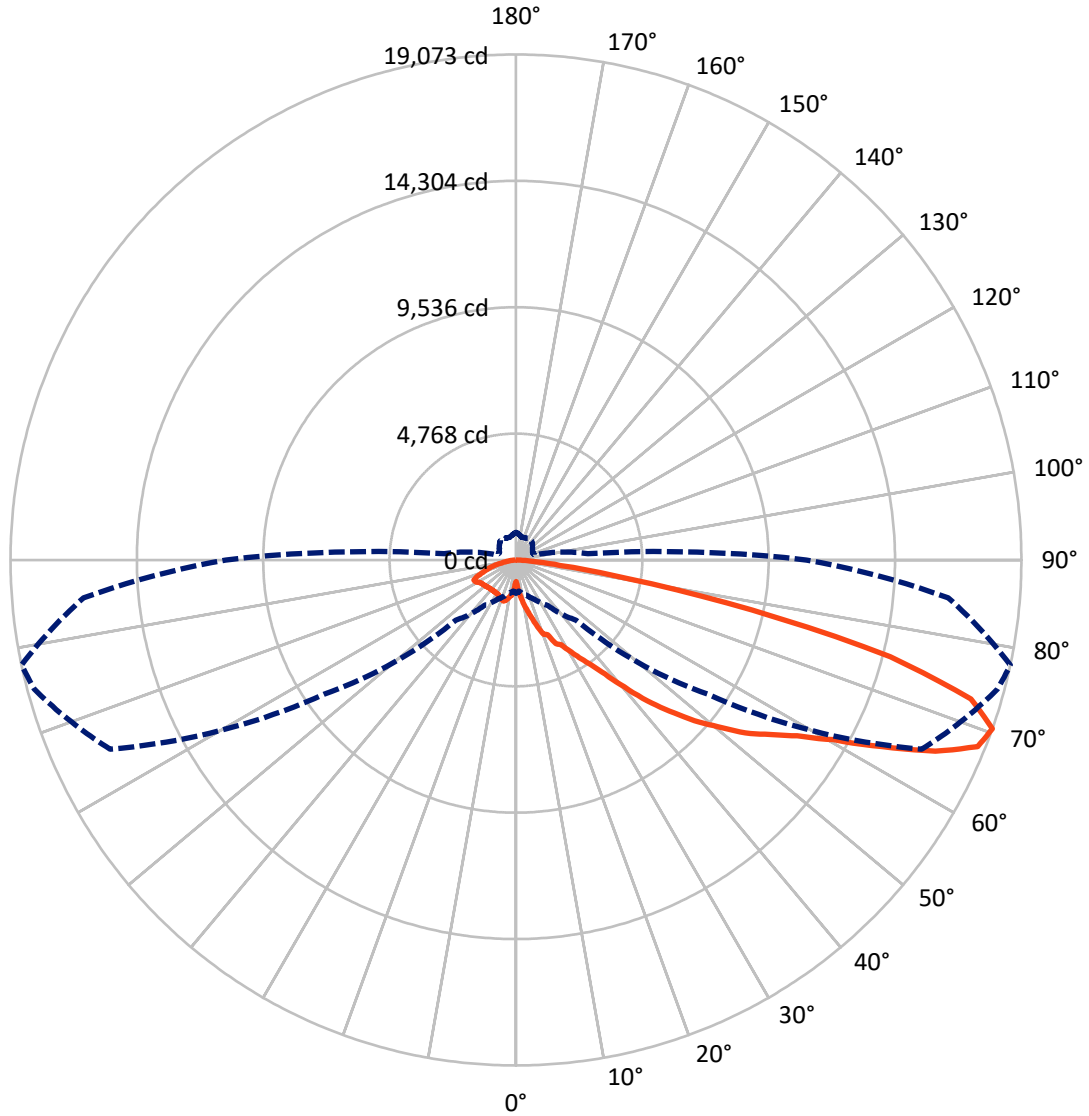
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.7 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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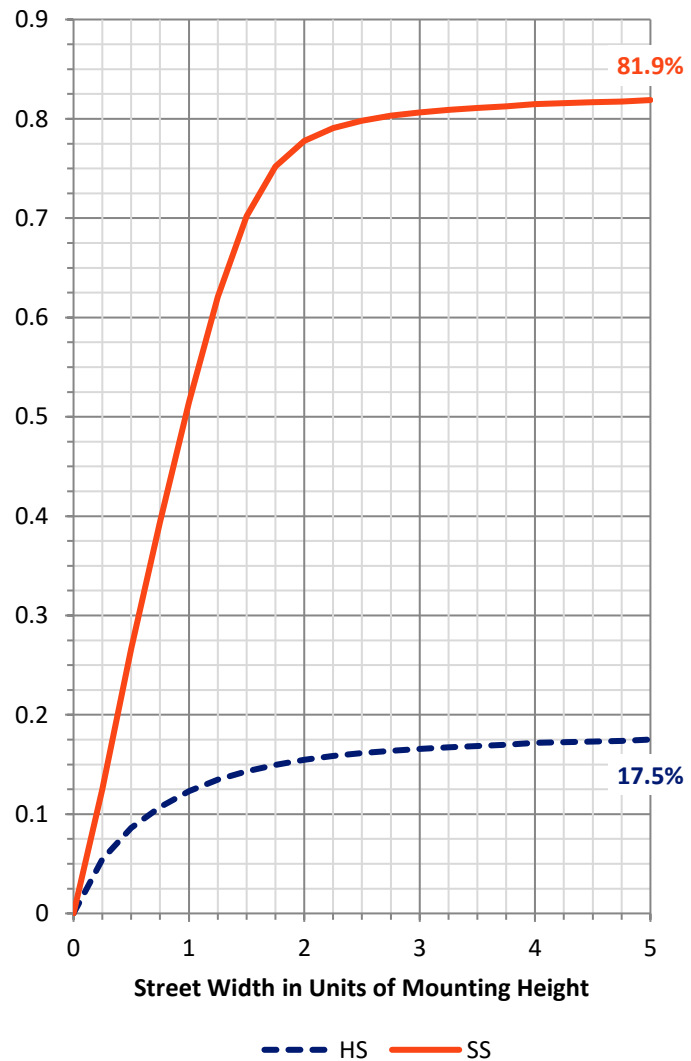
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3543.5	0.0	3543.5
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	16309.5	0.0	16309.5
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	19853.0	0.0	19853.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.1	0.6
10°-20°	551.1	2.8
20°-30°	1060.8	5.3
30°-40°	1786.8	9.0
40°-50°	3091.7	15.6
50°-60°	4668.0	23.5
60°-70°	5170.4	26.0
70°-80°	2980.9	15.0
80°-90°	418.1	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°	19853.0	100.0
0°-180°	19853.0	100.0

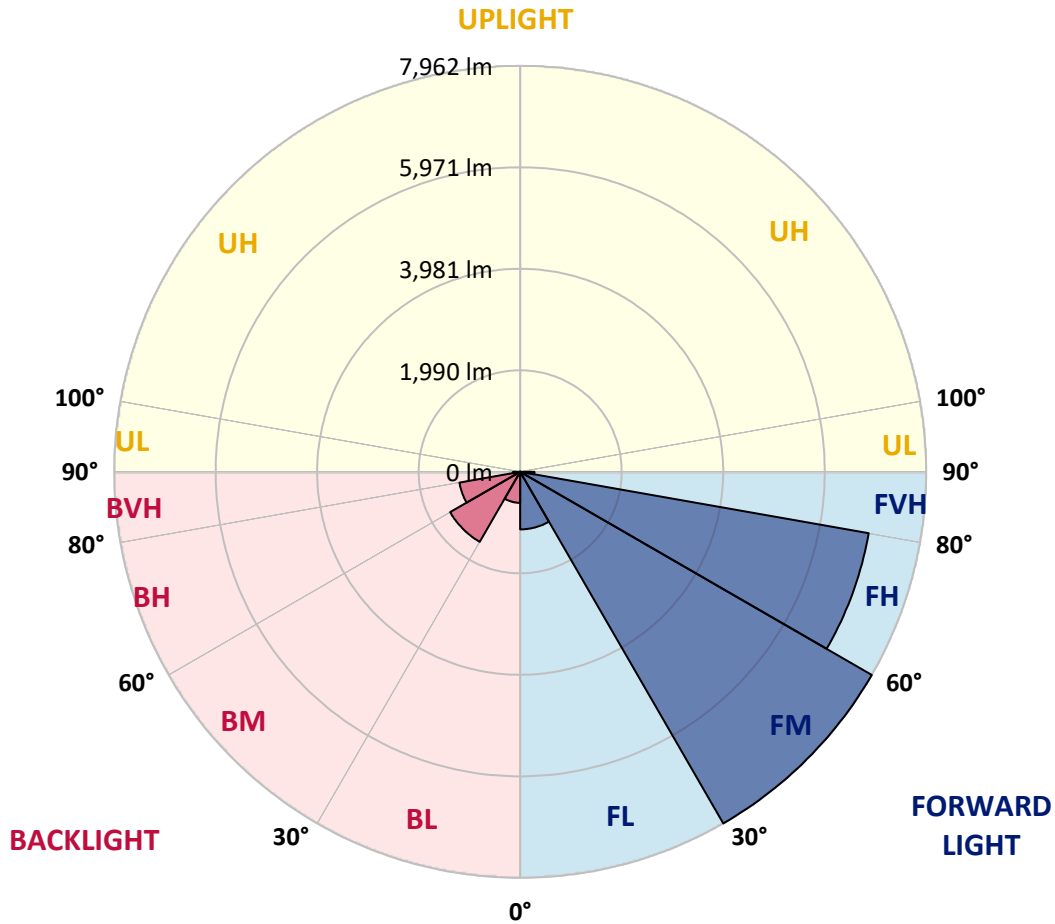


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1128.6	5.7			
FM (30°-60°)	7961.6	40.1			
FH (60°-80°)	6940.4	35.0			G3/7500
FVH (80°-90°)	278.9	1.4			G3/500
BL (0°-30°)	608.4	3.1	B2/1000		
BM (30°-60°)	1584.9	8.0	B2/2500		
BH (60°-80°)	1211.0	6.1	B3/2500		G3/2500
BVH (80°-90°)	139.2	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	809.4	809.4	809.4	809.4	809.4	809.4	809.4	809.4	809.4	809.4	809.4
2.5°	1042.0	1004.7	948.5	971.6	999.8	1003.1	994.0	942.7	925.3	964.2	975.8
5°	1459.9	1397.0	1359.0	1346.5	1304.3	1216.6	1279.5	1247.2	1253.8	1234.8	1272.1
7.5°	1811.7	1769.5	1713.2	1697.5	1600.6	1531.9	1575.0	1560.9	1493.0	1466.5	1508.8
10°	1990.4	1944.1	1946.6	1912.6	1887.0	1893.6	1872.1	1810.0	1759.5	1723.9	1622.1
12.5°	2098.0	2109.6	2171.7	2154.3	2251.1	2330.6	2270.2	2178.3	2018.6	1986.3	1885.3
15°	2353.8	2396.8	2338.9	2365.3	2406.7	2559.0	2534.2	2514.3	2345.5	2282.6	2096.4
17.5°	2616.9	2625.2	2537.5	2523.4	2622.7	2699.7	2796.5	2684.8	2705.5	2661.6	2360.4
20°	2673.2	2730.3	2604.5	2517.6	2722.1	2874.3	2994.3	2876.0	2985.2	2996.8	2578.0
22.5°	2879.3	2810.6	2645.1	2559.8	2738.6	2925.6	3121.0	3187.2	3152.4	3054.8	2788.3
25°	3022.5	2986.1	2817.2	2722.9	2790.7	2962.9	3305.5	3478.5	3509.1	3495.9	2988.5
27.5°	3288.1	3306.4	2958.8	2985.2	2890.9	2906.6	3416.4	3865.0	3673.8	3620.9	3236.8
30°	3707.8	3626.6	3236.8	3258.4	3101.9	3075.4	3650.6	4198.5	4027.2	3963.5	3441.3
32.5°	4145.6	4153.0	3679.6	3495.9	3412.3	3385.8	3604.3	4373.2	4474.1	4391.4	3750.0
35°	4763.0	4719.9	4159.6	3918.0	3615.9	3569.5	3934.5	4879.7	5065.1	4833.3	4116.6
37.5°	5703.2	5573.2	4921.0	4362.4	4138.9	4086.0	4406.3	5334.0	5751.2	5463.1	4715.8
40°	6457.9	6193.9	5601.4	4921.0	4542.8	4608.2	4741.5	5885.2	6462.9	6300.7	5270.3
42.5°	7059.6	6825.4	6083.0	5604.7	5090.7	5009.6	5155.3	6568.0	7431.2	7272.3	5962.2
45°	7636.5	7159.8	6624.3	6193.9	5699.8	5798.3	5776.8	7264.9	8618.9	8129.7	6573.8
47.5°	8205.9	7758.1	7197.8	6619.3	6121.9	6735.2	6505.9	7783.0	9420.0	9057.5	7217.7
50°	8937.5	8445.1	7807.0	7225.2	6927.2	7375.8	6990.9	8221.6	10317.2	9891.8	7825.2
52.5°	9423.3	8944.1	8384.7	7969.2	7941.9	7768.9	7670.4	8776.9	11103.4	10845.2	8469.1
55°	9366.2	8904.4	8651.1	8696.7	9034.3	8450.9	8370.6	9598.8	11923.6	11624.8	9164.3
57.5°	8650.3	8146.3	8200.1	8469.9	9377.0	9648.4	9511.9	10476.9	12655.2	12519.5	10024.2
60°	6738.5	6479.5	6917.3	7410.5	8918.5	9999.3	10959.4	11547.8	13555.6	13772.5	11374.9
62.5°	4377.3	4031.4	4723.2	5560.8	7550.4	9767.6	12433.4	13578.8	15030.5	15522.9	13427.4
65°	2267.7	2212.2	2696.4	3466.1	5256.2	8328.4	12953.1	15709.1	16823.1	17396.6	15388.0
67.5°	1648.6	1546.0	1770.3	2223.0	3208.7	5679.2	11968.3	17338.7	18262.3	18787.9	16527.6
70°	1255.5	1179.4	1350.7	1631.2	2095.5	3207.9	8834.9	16894.3	18817.7	19072.6	16376.2
72.5°	940.2	874.8	1024.6	1286.1	1614.7	1805.9	5222.3	13890.8	17870.0	17956.9	14697.8
75°	750.7	700.2	764.7	1015.5	1315.9	1229.0	2774.2	10063.9	14519.0	14593.5	11226.7
77.5°	615.8	572.7	599.2	761.4	1023.8	924.5	1376.3	6401.7	9218.1	9103.9	6316.4
80°	502.4	465.1	477.5	550.4	779.6	690.2	773.0	3339.5	4397.2	4220.1	2626.9
82.5°	386.5	355.1	379.9	404.7	564.4	495.7	451.1	1519.5	1800.9	1677.6	963.4
85°	259.0	230.1	330.2	303.7	369.1	304.6	246.6	605.0	671.2	625.7	338.5
87.5°	71.2	67.0	110.9	151.5	151.5	115.0	90.2	146.5	187.0	163.9	79.5
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°	809.4	809.4	809.4	809.4	809.4	809.4	809.4	809.4	809.4	809.4	809.4
2.5°	980.7	962.5	914.5	910.4	922.0	923.6	916.2	898.8	889.7	939.4	931.9
5°	1263.0	1198.4	1159.5	1123.9	1074.3	1038.7	1047.8	1072.6	1080.9	1118.1	1122.3
7.5°	1482.3	1397.0	1311.8	1197.6	1122.3	1074.3	1110.7	1137.2	1157.8	1210.8	1232.3
10°	1577.5	1484.8	1363.9	1243.9	1223.2	1231.5	1210.8	1217.4	1249.7	1252.2	1263.0
12.5°	1754.6	1649.5	1431.8	1323.4	1317.6	1335.0	1327.5	1358.1	1380.5	1440.9	1415.2
15°	1924.2	1790.1	1483.1	1372.2	1348.2	1383.0	1423.5	1474.8	1522.8	1579.9	1551.0
17.5°	2130.3	1928.4	1485.6	1349.9	1354.0	1428.5	1470.7	1498.8	1642.0	1720.6	1680.9
20°	2260.2	1942.4	1430.1	1294.4	1354.0	1421.0	1479.8	1510.4	1671.0	1789.3	1816.6
22.5°	2377.8	1947.4	1387.1	1264.6	1302.7	1391.2	1479.8	1547.7	1650.3	1763.7	1767.8
25°	2442.3	1943.3	1331.6	1267.1	1301.9	1345.7	1424.3	1486.4	1562.6	1720.6	1724.8
27.5°	2607.8	1889.5	1277.0	1277.0	1295.2	1296.9	1397.0	1433.4	1444.2	1588.2	1613.9
30°	2655.8	1901.1	1270.4	1275.4	1284.5	1267.9	1311.8	1335.8	1351.5	1475.7	1479.8
32.5°	2732.8	1808.4	1290.3	1260.5	1248.9	1246.4	1257.2	1278.7	1285.3	1361.4	1375.5
35°	2826.3	1771.1	1296.9	1256.3	1233.2	1220.7	1253.0	1226.5	1247.2	1336.6	1346.5
37.5°	3130.9	1719.8	1330.8	1256.3	1226.5	1212.5	1196.7	1209.2	1282.8	1368.9	1421.9
40°	3325.4	1735.5	1322.5	1268.7	1204.2	1191.0	1164.5	1210.0	1324.2	1476.5	1516.2
42.5°	3666.4	1744.6	1332.5	1263.0	1211.6	1160.3	1177.7	1227.4	1347.4	1434.3	1495.5
45°	4018.9	1772.8	1325.9	1245.6	1195.1	1219.1	1195.1	1239.8	1296.9	1299.4	1345.7
47.5°	4364.9	1886.2	1311.8	1210.0	1191.0	1253.8	1192.6	1200.1	1204.2	1219.1	1273.7
50°	4771.2	2007.0	1291.9	1160.3	1196.7	1255.5	1201.7	1165.3	1161.2	1210.0	1271.2
52.5°	5233.1	2143.5	1266.3	1112.3	1162.8	1239.8	1233.2	1167.8	1132.2	1179.4	1240.6
55°	5776.8	2299.1	1236.5	1064.3	1125.6	1241.4	1250.5	1150.4	1133.0	1184.3	1249.7
57.5°	6499.3	2524.3	1178.5	994.8	1080.0	1215.8	1205.8	1130.5	1114.0	1168.6	1236.5
60°	7732.5	2957.1	1095.8	926.1	1031.2	1152.9	1169.4	1094.9	1078.4	1138.8	1210.0
62.5°	9383.6	3477.7	995.6	859.1	971.6	1085.0	1123.9	1043.6	1042.0	1118.9	1193.4
65°	10920.5	3773.1	892.2	797.8	910.4	1022.1	1072.6	995.6	998.9	1095.8	1170.3
67.5°	11559.4	3425.5	799.5	743.2	840.0	950.1	1030.4	958.4	947.6	1064.3	1133.0
70°	10959.4	2721.2	719.2	685.3	760.6	872.3	971.6	908.7	883.9	989.8	1043.6
72.5°	9697.3	2268.5	643.9	617.4	691.1	790.4	892.2	841.7	809.4	890.5	938.5
75°	7580.2	1861.3	557.8	550.4	611.6	715.9	809.4	774.7	733.3	784.6	832.6
77.5°	4316.1	1177.7	468.4	473.4	517.3	627.3	710.1	682.8	640.6	662.1	717.5
80°	1727.3	594.2	376.6	379.9	417.1	515.6	588.4	578.5	534.6	552.0	590.1
82.5°	645.5	326.1	278.1	279.7	317.0	408.0	502.4	497.4	456.0	443.6	465.1
85°	256.6	161.4	170.5	177.9	213.5	293.8	403.1	357.5	308.7	270.6	283.9
87.5°	61.2	51.3	59.6	62.9	69.5	91.9	147.3	118.4	121.7	97.7	72.8
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)