

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: P367588

Luminaire Tested: **MSA-SA2D-740-U-T4W**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367588  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2D-740-U-T4W  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 13675 lumens  
Efficiency: N/A  
Efficacy: 106.0 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

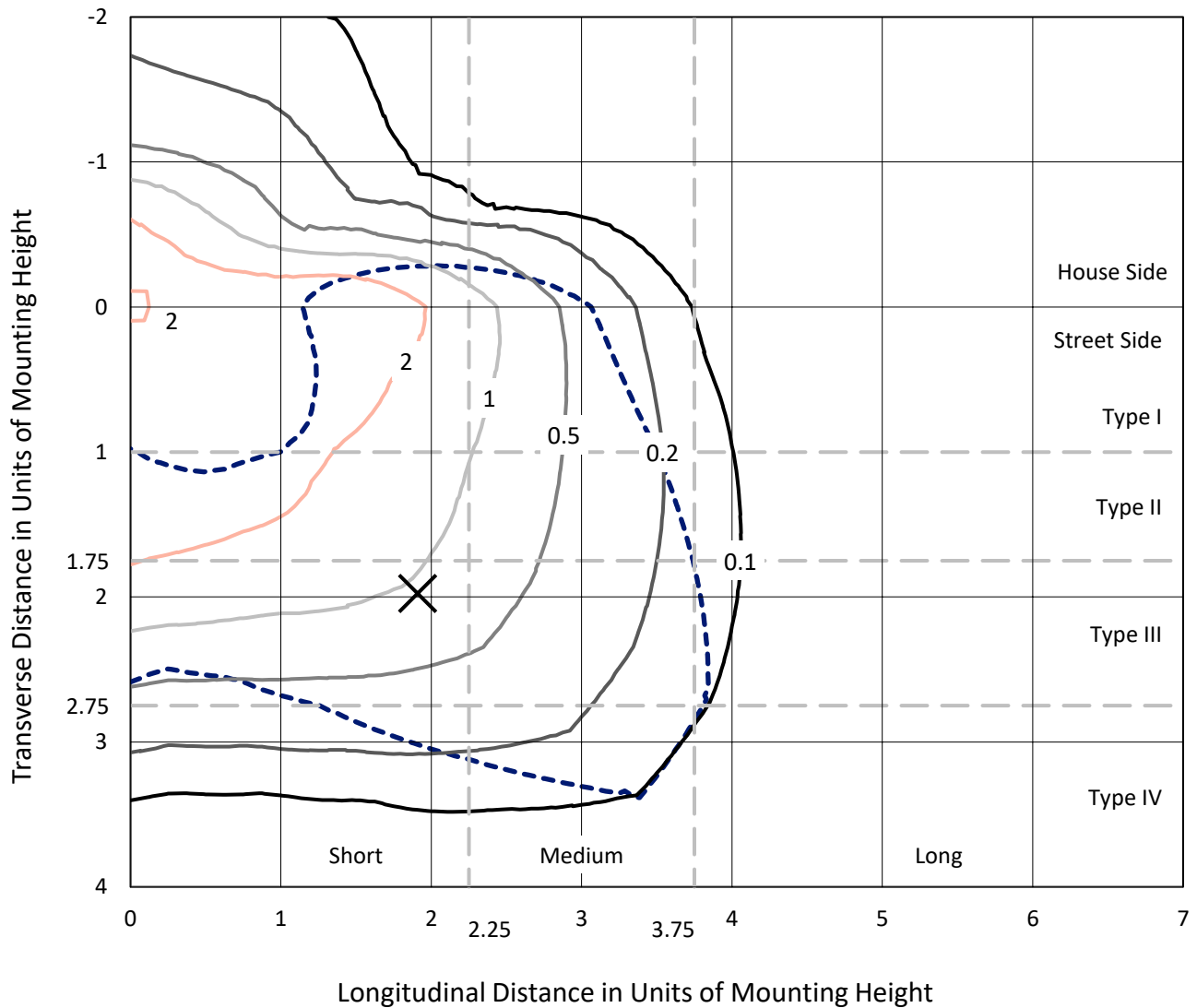
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

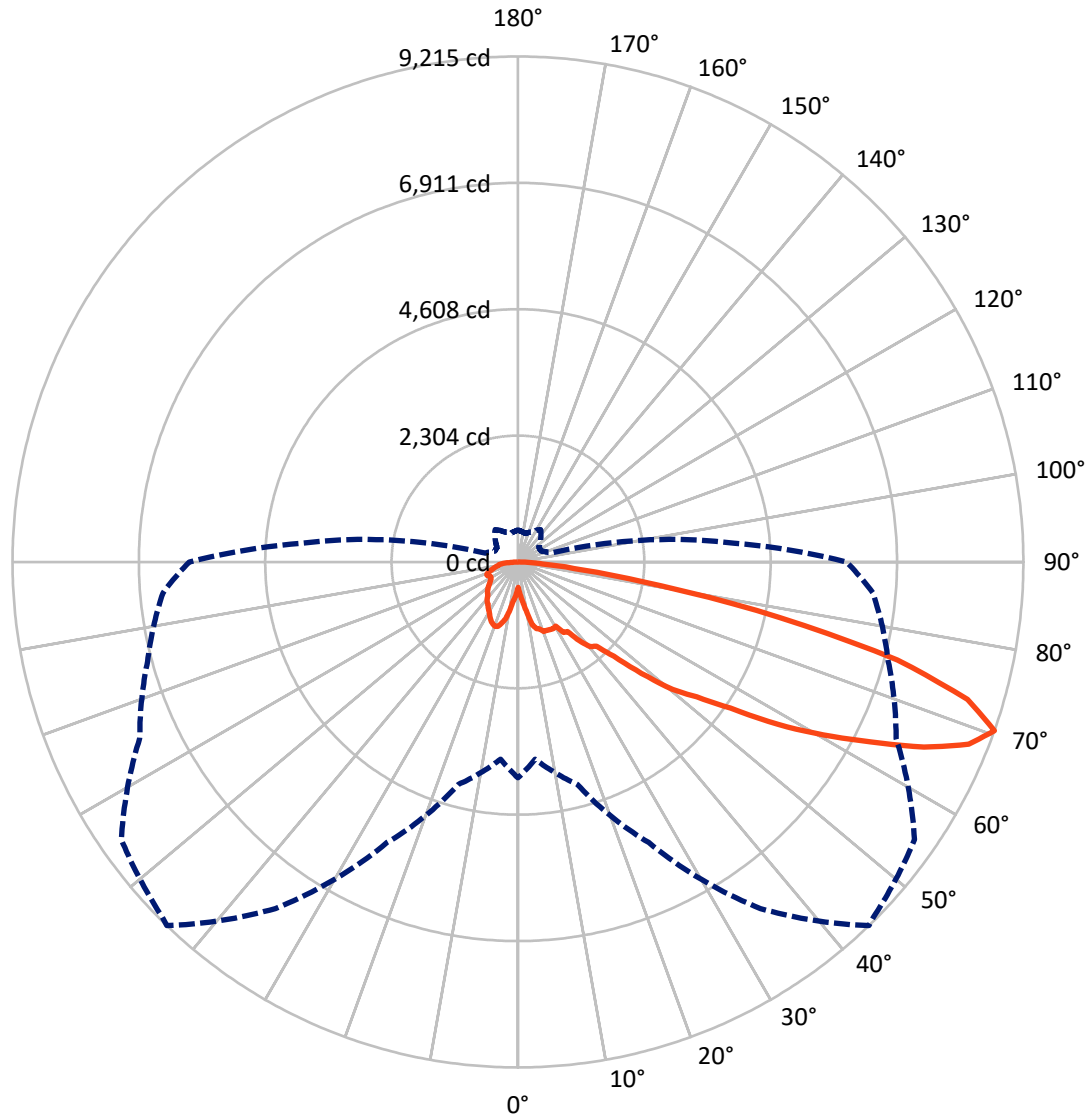
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 4.1 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 44-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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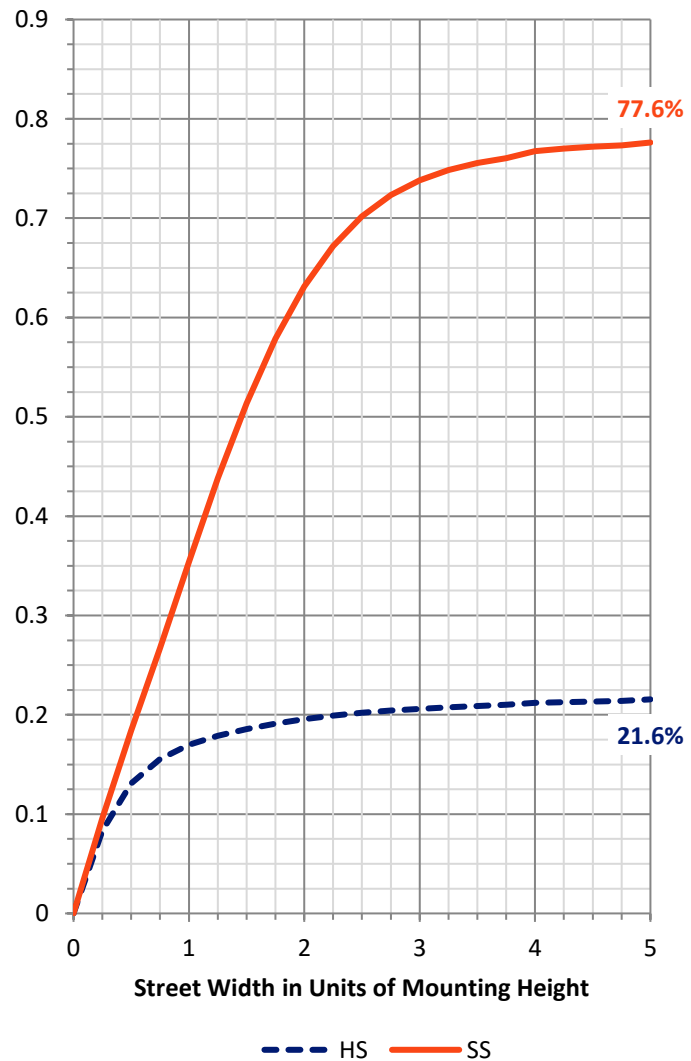
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3017.2	0.0	3017.2
	% Fixture	22.1	0.0	22.1
<b>Street Side</b>	Lumens	10657.8	0.0	10657.8
	% Fixture	77.9	0.0	77.9
<b>Total</b>	Lumens	13675.0	0.0	13675.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.9	0.5
10°-20°	335.6	2.5
20°-30°	627.2	4.6
30°-40°	1006.7	7.4
40°-50°	1699.2	12.4
50°-60°	3028.0	22.1
60°-70°	4141.9	30.3
70°-80°	2435.6	17.8
80°-90°	327.9	2.4
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°	13675.0	100.0
0°-180°	13675.0	100.0

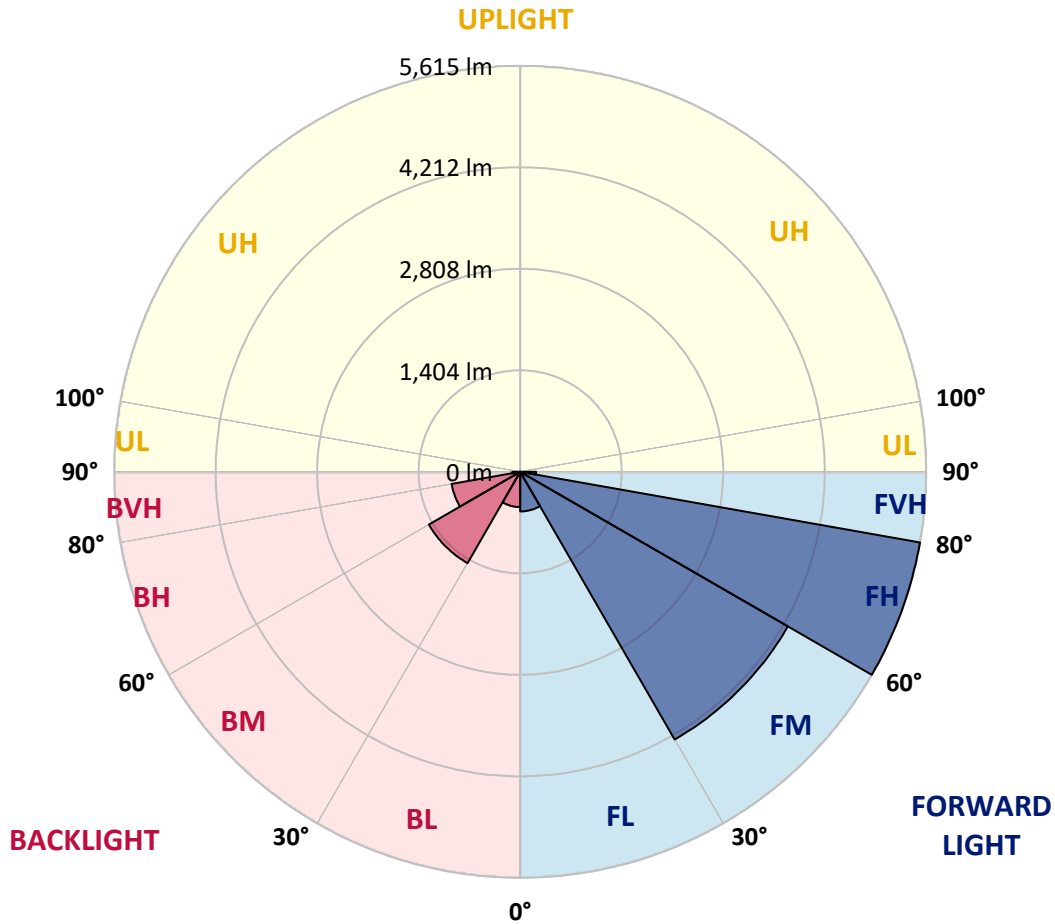


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	548.0	4.0			
FM (30°-60°)	4275.8	31.3			
FH (60°-80°)	5615.4	41.1			G3/7500
FVH (80°-90°)	218.6	1.6			G2/225
BL (0°-30°)	487.7	3.6	B1/500		
BM (30°-60°)	1458.1	10.7	B2/2500		
BH (60°-80°)	962.1	7.0	B2/1000		G2/1000
BVH (80°-90°)	109.4	0.8			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**  
 Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	44°	45°	55°	65°	75°	85°
0°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8
2.5°	564.1	552.9	525.9	534.9	546.1	550.6	549.5	548.4	531.0	524.8	555.7
5°	766.5	741.8	722.2	714.3	688.6	668.4	656.0	688.6	683.5	691.9	713.2
7.5°	957.1	941.4	897.1	881.4	828.7	794.0	790.0	815.8	822.6	809.1	845.6
10°	1079.9	1053.0	1044.0	1006.5	970.0	964.4	961.1	949.3	933.0	931.9	899.4
12.5°	1175.3	1189.3	1196.6	1153.4	1154.5	1174.7	1164.0	1116.4	1088.9	1040.7	1044.6
15°	1346.3	1366.5	1308.7	1281.2	1228.5	1258.8	1254.9	1215.1	1211.1	1179.7	1143.3
17.5°	1495.4	1504.4	1408.0	1345.2	1327.2	1283.5	1295.2	1296.4	1244.8	1300.9	1268.3
20°	1507.8	1539.7	1428.7	1303.7	1357.5	1351.9	1353.6	1342.3	1274.5	1367.0	1354.7
22.5°	1568.3	1519.5	1419.7	1328.3	1342.3	1350.8	1358.6	1345.2	1341.2	1392.8	1430.4
25°	1557.1	1541.4	1440.5	1363.1	1364.8	1366.5	1370.4	1410.8	1406.3	1476.4	1496.0
27.5°	1662.0	1637.8	1446.6	1427.6	1383.8	1374.3	1347.4	1431.5	1497.1	1495.4	1603.6
30°	1861.6	1836.9	1590.2	1534.7	1455.6	1358.0	1409.6	1521.8	1573.4	1590.7	1728.1
32.5°	2173.3	2213.7	1872.8	1649.1	1550.9	1529.6	1524.0	1512.8	1640.6	1726.4	1851.5
35°	2620.8	2588.8	2205.8	1894.1	1651.3	1559.9	1572.2	1640.6	1792.6	1848.1	1963.6
37.5°	3133.3	3067.1	2632.5	2171.6	1940.6	1826.2	1785.3	1851.5	1885.1	1928.9	2164.9
40°	3654.2	3492.7	3051.4	2536.7	2114.4	2028.1	1992.2	1910.9	1990.0	2078.6	2378.5
42.5°	4157.1	4032.1	3507.3	2972.3	2407.1	2099.3	2079.7	2000.1	2245.1	2338.7	2686.9
45°	4684.2	4394.3	3974.3	3464.1	2835.0	2448.6	2419.5	2276.5	2590.5	2785.6	3122.1
47.5°	5038.6	4770.0	4402.2	3863.3	3193.3	3032.9	2977.4	2732.9	3017.8	3271.2	3794.3
50°	5373.9	5097.4	4711.1	4300.1	3842.0	3657.5	3539.2	3132.1	3549.9	3962.6	4656.2
52.5°	5853.8	5606.6	5070.0	4740.3	4539.0	4085.4	3997.3	3773.6	4172.3	4729.1	5598.2
55°	6366.9	6029.9	5543.8	5361.0	5279.7	4698.8	4627.0	4484.6	5001.0	5513.5	6513.8
57.5°	6593.4	6241.9	5973.8	5864.5	5857.8	5590.3	5507.9	5408.6	5848.2	6186.3	7375.6
60°	6773.4	6396.1	6289.0	6350.1	6572.1	6396.1	6289.0	6201.5	6537.9	6851.4	8078.8
62.5°	6740.3	6361.9	6416.8	6603.0	7169.8	7221.4	7139.0	6927.1	7221.4	7396.4	8481.9
65°	6206.5	5856.6	6176.8	6618.7	7725.5	8137.6	8133.1	7578.6	7680.7	7680.7	8439.3
67.5°	5271.3	4909.0	5433.3	6480.2	8109.6	8863.8	8864.9	8269.4	7722.7	7652.1	7779.9
70°	3936.2	3608.2	4197.5	5643.6	7713.2	9215.3	9164.3	8826.7	7607.2	6989.9	6498.7
72.5°	2351.1	2139.1	2681.3	4108.3	6579.4	8568.8	8704.5	8184.7	6964.1	5812.9	4645.5
75°	1067.6	975.6	1259.9	2360.0	4697.1	7147.4	7294.9	6907.4	5531.4	4180.7	2684.7
77.5°	457.0	432.3	550.1	1046.9	2589.9	4887.7	5190.0	4936.5	3747.8	2429.6	1187.6
80°	293.8	278.1	338.1	503.5	1202.7	2641.0	2901.1	2806.4	1909.2	944.8	418.3
82.5°	175.5	170.5	226.0	316.2	656.0	1162.4	1309.8	1344.6	792.8	423.9	239.4
85°	95.9	97.0	123.9	191.8	393.6	452.5	484.5	527.1	373.4	245.6	116.1
87.5°	32.0	37.0	49.9	77.9	140.2	127.8	128.4	149.1	157.6	102.0	37.0
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°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8
2.5°	560.7	550.6	524.8	526.5	536.0	538.3	541.1	524.8	521.5	552.3	555.1
5°	716.6	683.5	668.4	663.3	648.7	643.7	670.6	682.9	695.3	719.4	731.2
7.5°	841.6	804.6	777.1	751.9	730.6	718.3	763.7	798.5	819.8	869.1	891.5
10°	898.8	866.9	856.8	836.6	852.8	889.9	898.3	899.4	946.5	945.4	954.9
12.5°	1012.6	991.9	958.8	966.1	1008.7	1046.9	1036.2	1052.5	1069.3	1109.7	1091.1
15°	1116.4	1110.8	1079.9	1085.0	1093.4	1141.1	1147.2	1163.5	1189.3	1221.2	1199.4
17.5°	1244.2	1242.0	1166.8	1160.1	1179.7	1226.3	1211.7	1183.1	1268.3	1302.5	1293.6
20°	1331.1	1314.3	1217.9	1189.3	1239.2	1245.3	1228.5	1183.1	1257.1	1331.7	1351.9
22.5°	1403.5	1383.8	1284.6	1228.5	1218.4	1221.2	1221.2	1212.8	1249.3	1310.4	1309.8
25°	1461.8	1480.3	1354.1	1300.3	1246.5	1179.2	1170.8	1178.1	1198.8	1316.6	1312.6
27.5°	1608.1	1557.1	1377.7	1337.3	1226.8	1120.9	1143.9	1155.1	1161.8	1290.8	1312.1
30°	1703.4	1719.1	1461.8	1359.2	1198.2	1055.8	1063.7	1096.2	1135.4	1288.0	1294.1
32.5°	1831.9	1798.2	1593.0	1322.7	1122.0	1016.6	1002.0	1045.7	1104.0	1242.5	1259.4
35°	1951.3	1991.1	1648.5	1316.0	1068.7	957.7	973.4	988.5	1049.1	1192.1	1211.7
37.5°	2231.6	2140.8	1804.4	1283.5	1024.4	928.0	911.2	934.1	985.7	1096.2	1141.6
40°	2444.7	2450.3	1838.0	1242.5	939.8	885.4	849.5	872.5	894.3	982.4	1002.0
42.5°	2844.5	2722.3	1920.4	1152.8	886.5	821.4	801.3	811.4	814.7	851.7	884.2
45°	3353.1	3066.5	1953.0	1032.3	816.4	795.1	754.2	749.1	730.6	735.7	764.3
47.5°	4056.8	3603.7	1929.4	903.9	754.2	760.9	702.0	679.0	653.2	659.4	686.3
50°	4966.8	4290.0	1927.7	795.1	711.5	716.0	667.8	626.3	600.5	613.4	637.0
52.5°	5987.9	4978.6	1935.6	720.5	665.0	662.8	645.4	594.9	574.2	587.6	614.5
55°	6964.6	5570.7	1993.9	673.4	616.8	620.7	627.4	584.8	561.8	574.2	602.2
57.5°	7814.7	6038.3	1972.0	623.5	571.9	589.9	607.8	570.8	553.4	571.4	599.4
60°	8409.0	6255.3	1799.3	575.9	538.8	563.5	598.3	569.1	566.9	605.6	639.2
62.5°	8626.0	6175.1	1462.9	538.3	519.2	560.2	620.1	606.1	608.4	656.0	702.6
65°	8309.2	5753.5	1091.1	514.2	504.1	576.4	670.6	628.0	597.2	636.4	679.0
67.5°	7408.1	5003.8	797.3	493.4	486.7	602.2	717.2	625.8	568.6	608.4	643.1
70°	5993.5	3949.7	617.3	467.1	463.7	584.8	721.6	608.9	537.7	563.5	583.1
72.5°	4106.7	2704.3	511.4	441.8	423.9	518.1	685.2	571.4	500.7	515.9	532.1
75°	2295.0	1517.9	430.1	410.4	371.2	461.5	642.6	548.9	473.2	477.7	500.2
77.5°	1030.0	656.6	365.0	368.9	323.5	408.2	587.1	513.1	431.2	421.1	443.5
80°	389.7	320.2	296.1	311.8	271.9	353.8	529.3	480.5	386.9	374.0	386.9
82.5°	226.0	194.0	219.8	240.0	215.9	325.2	505.2	450.8	340.9	308.4	319.6
85°	104.9	100.4	131.8	155.9	150.8	253.4	432.3	339.2	242.8	205.2	227.1
87.5°	27.5	30.8	46.5	54.9	56.1	86.9	166.5	126.2	94.8	71.8	69.0
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)