

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: P367220

Luminaire Tested: **MSA-SA2A-760-U-SL2**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367220
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-16)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA2A-760-U-SL2
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS.
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7896 lumens
Efficiency: N/A
Efficacy: 119.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B2 - U0 - G2

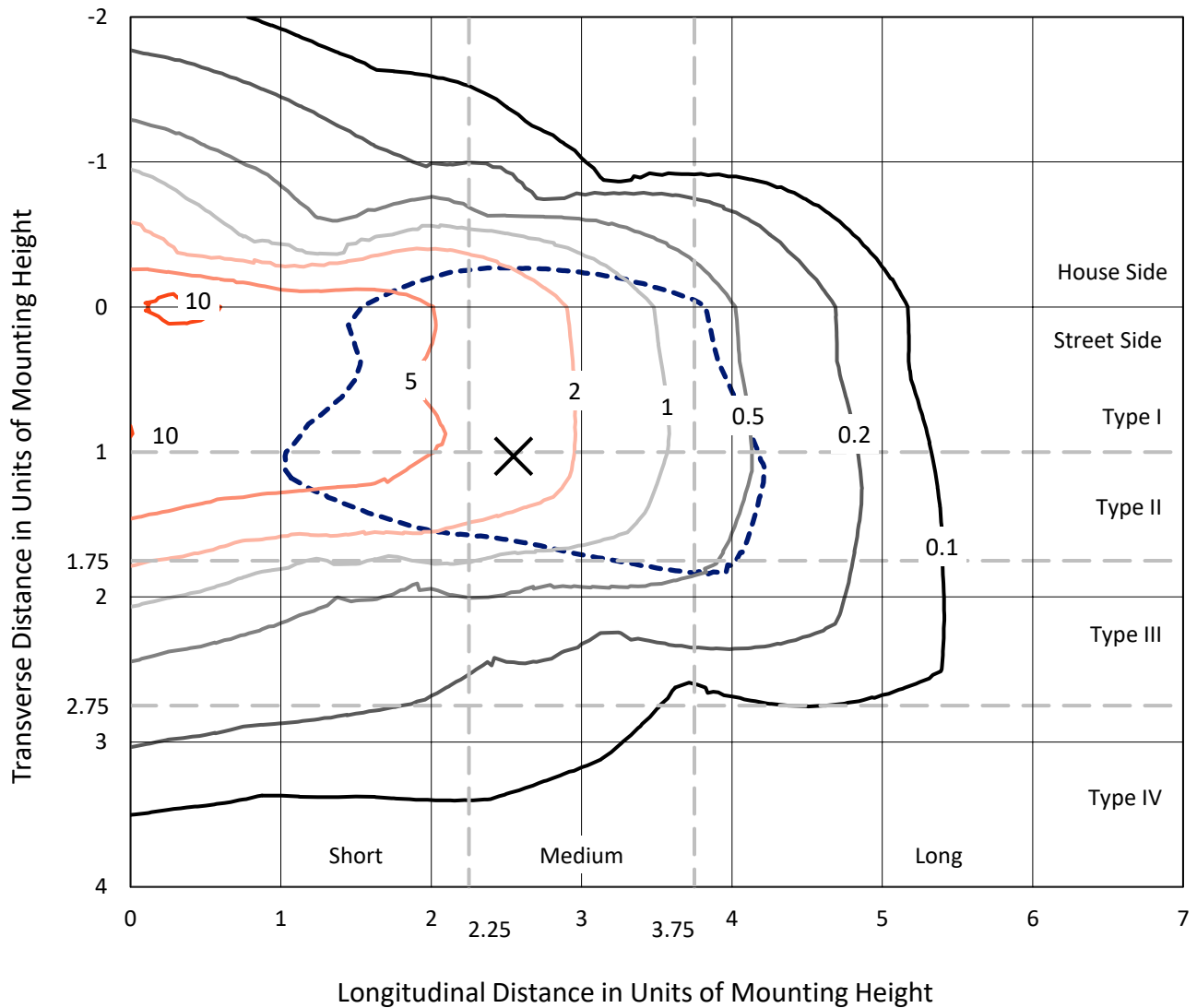
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

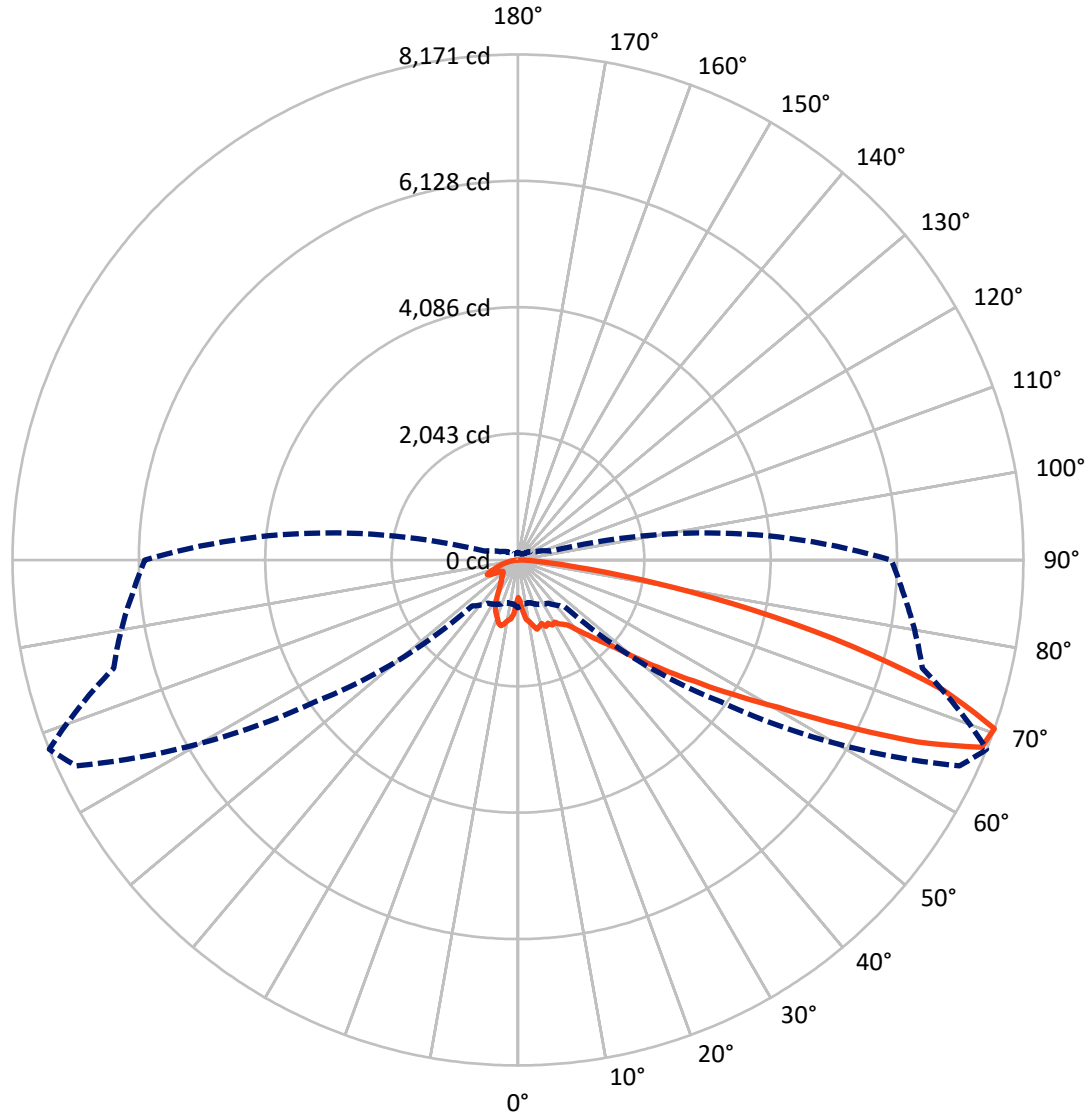
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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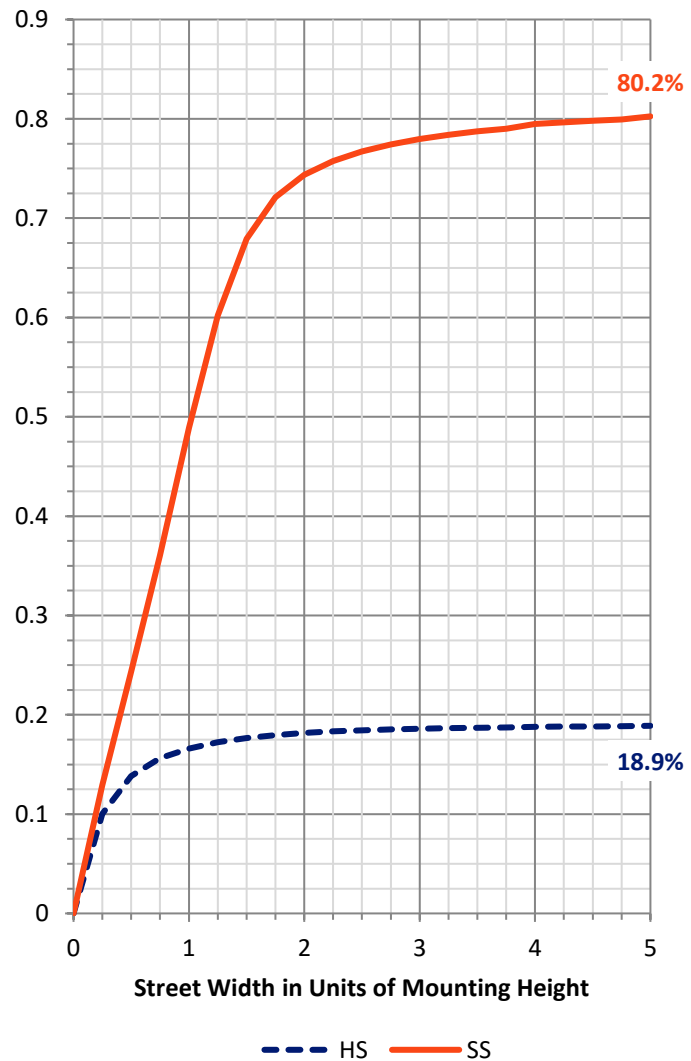
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1507.5	0.0	1507.5
	% Fixture	19.1	0.0	19.1
Street Side	Lumens	6388.5	0.0	6388.5
	% Fixture	80.9	0.0	80.9
Total	Lumens	7896.0	0.0	7896.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	80.8	1.0
10°-20°	263.5	3.3
20°-30°	400.9	5.1
30°-40°	612.3	7.8
40°-50°	1052.9	13.3
50°-60°	1742.7	22.1
60°-70°	2148.5	27.2
70°-80°	1380.2	17.5
80°-90°	214.1	2.7
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°	7896.0	100.0
0°-180°	7896.0	100.0



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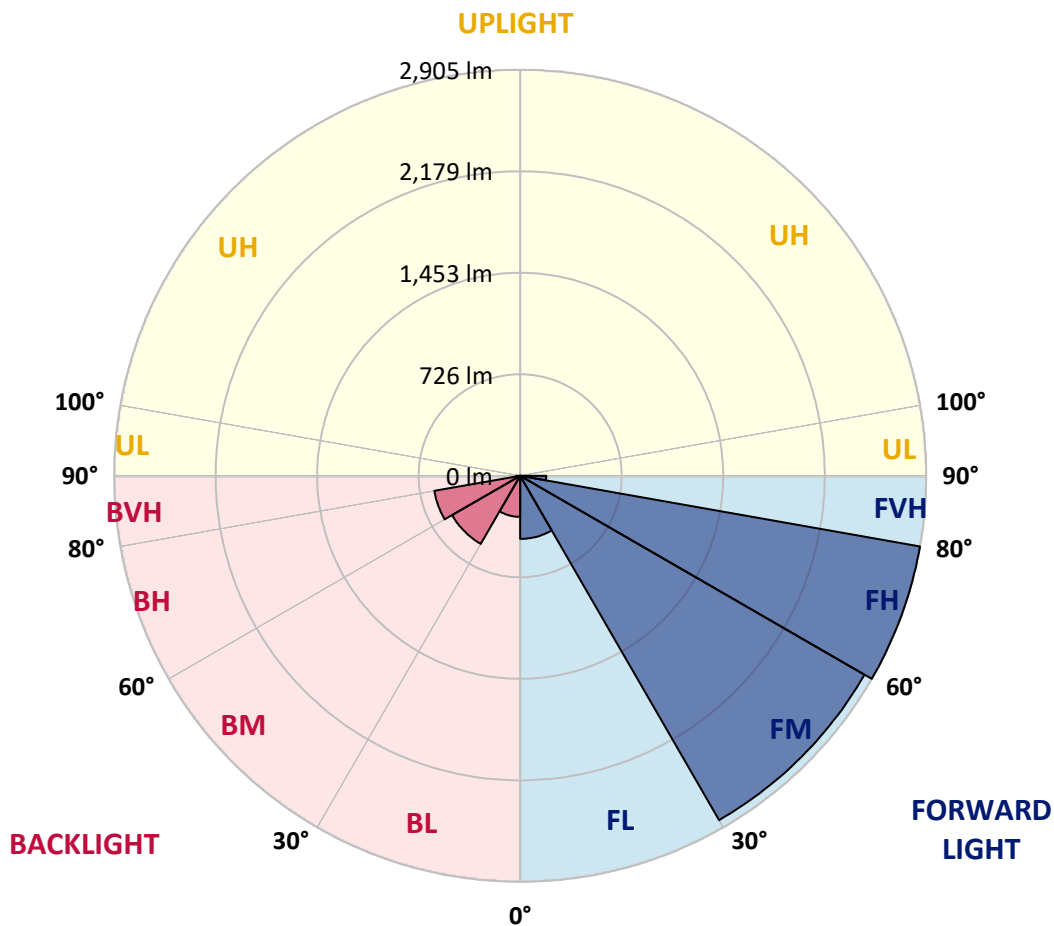
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	451.5	5.7			
FM (30°-60°)	2845.2	36.0			
FH (60°-80°)	2905.1	36.8			G2/5000
FVH (80°-90°)	186.6	2.4			G2/225
BL (0°-30°)	293.8	3.7	B1/500		
BM (30°-60°)	562.7	7.1	B1/1000		
BH (60°-80°)	623.6	7.9	B2/1000		G2/1000
BVH (80°-90°)	27.5	0.3			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 Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	605.4	605.4	605.4	605.4	605.4	605.4	605.4	605.4	605.4	605.4	605.4
2.5°	695.6	667.5	639.1	653.0	675.1	694.6	690.7	693.0	666.2	662.6	733.0
5°	819.6	771.3	770.3	771.0	773.0	750.5	805.3	833.8	840.0	869.1	938.2
7.5°	862.5	843.0	823.2	833.1	808.0	810.3	877.7	951.7	969.3	990.4	1084.9
10°	853.6	835.1	841.0	842.7	847.3	884.7	927.9	999.0	1013.9	1081.3	1105.7
12.5°	854.9	851.6	879.4	880.4	929.9	997.0	1014.2	1079.6	1085.6	1135.2	1237.3
15°	900.2	923.0	907.5	915.7	925.3	1005.6	1030.4	1124.2	1159.9	1223.7	1300.4
17.5°	988.4	995.0	948.4	936.2	967.6	992.1	1048.6	1089.2	1126.6	1304.7	1410.4
20°	1008.9	1026.8	971.2	908.1	974.5	1008.6	1047.9	1066.4	1095.5	1316.6	1466.6
22.5°	1096.8	1059.8	992.7	937.9	959.7	992.7	1021.1	1090.9	1167.2	1282.5	1522.8
25°	1146.7	1125.2	1065.4	1006.6	988.1	989.1	1043.9	1106.4	1132.8	1332.4	1534.0
27.5°	1267.3	1233.0	1098.5	1087.2	1017.5	963.3	1047.6	1144.7	1191.0	1293.4	1588.9
30°	1418.4	1392.3	1215.8	1200.9	1094.5	1000.0	1093.8	1173.2	1166.5	1318.9	1626.9
32.5°	1540.6	1584.3	1406.1	1288.8	1213.1	1122.6	1079.3	1168.2	1234.0	1378.0	1691.3
35°	1715.1	1756.1	1554.5	1475.2	1311.0	1179.4	1180.8	1236.3	1276.9	1447.1	1763.4
37.5°	2017.2	1981.1	1818.9	1693.6	1588.6	1392.3	1333.4	1313.9	1346.7	1531.7	1904.5
40°	2234.9	2204.5	2013.5	1942.2	1737.6	1623.6	1462.3	1443.8	1501.6	1619.0	2019.8
42.5°	2493.0	2438.8	2261.1	2202.2	1988.4	1782.9	1620.3	1630.9	1658.9	1783.5	2175.8
45°	2755.8	2624.2	2523.4	2518.8	2376.1	2092.2	1873.7	1865.2	1866.1	2025.8	2350.9
47.5°	2964.3	2846.0	2730.6	2675.8	2603.7	2627.2	2241.9	2141.1	2110.7	2269.6	2613.7
50°	3105.4	2969.2	2838.7	2825.8	3018.1	3144.7	2587.6	2479.8	2498.7	2618.6	2964.0
52.5°	3108.4	2946.8	2810.6	2900.8	3353.9	3535.0	3183.1	2882.0	2942.1	3023.8	3421.0
55°	2892.2	2724.7	2636.1	2841.7	3485.1	3998.0	4019.8	3526.4	3457.0	3487.1	3967.2
57.5°	2436.5	2267.3	2215.8	2462.0	3236.3	4444.4	5030.4	4296.4	4092.8	3967.2	4527.1
60°	1834.1	1687.7	1655.6	1812.6	2683.1	4313.2	5848.6	5254.7	4840.0	4503.6	5088.5
62.5°	1375.4	1270.3	1222.1	1244.5	1856.6	3886.6	6385.9	6465.6	5878.3	5089.2	5637.1
65°	1117.6	1032.7	989.7	960.7	1154.6	3005.3	6288.8	7484.7	7091.1	5704.2	6064.1
67.5°	933.6	858.2	838.4	866.8	912.7	1743.5	5528.7	8054.8	8081.6	6310.9	6313.6
70°	774.9	719.1	711.8	792.5	852.9	1052.2	3993.4	7875.7	8171.1	6766.0	6255.1
72.5°	598.8	568.7	567.7	694.3	847.3	896.9	2378.0	6803.6	7200.5	6620.6	5682.7
75°	415.4	394.6	410.4	570.7	827.8	909.8	1357.2	5299.4	5596.4	5633.8	4552.2
77.5°	285.9	268.3	285.5	412.8	739.3	931.6	949.4	3831.8	3864.8	3777.9	2607.4
80°	198.9	186.7	199.9	292.1	575.3	922.0	808.3	2412.4	2213.5	1686.0	834.8
82.5°	123.3	119.6	134.2	208.2	405.2	838.7	766.0	1244.9	950.4	465.3	298.1
85°	64.8	59.5	78.0	135.8	253.5	658.3	717.8	568.1	366.8	165.2	119.6
87.5°	19.2	17.2	30.1	54.9	107.4	295.1	410.8	240.9	136.8	48.6	37.3
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°	605.4	605.4	605.4	605.4	605.4	605.4	605.4	605.4	605.4	605.4	605.4
2.5°	737.9	734.3	685.4	691.7	702.2	704.9	704.6	686.7	667.9	720.4	718.8
5°	939.8	907.1	882.7	877.4	847.3	817.2	827.8	824.2	819.6	843.4	846.3
7.5°	1085.3	1040.0	1011.6	938.5	869.1	809.0	828.1	834.1	822.2	865.2	878.0
10°	1123.6	1087.9	1057.2	963.3	925.0	889.9	838.1	778.9	771.0	746.2	749.2
12.5°	1222.4	1217.4	1112.7	1030.1	980.2	910.4	798.4	726.7	665.2	668.2	650.4
15°	1300.4	1303.0	1177.1	1061.5	927.6	821.2	689.4	600.1	537.0	524.5	511.6
17.5°	1405.1	1399.9	1182.4	1023.8	854.3	698.3	536.7	448.1	437.5	444.8	433.6
20°	1450.7	1404.2	1148.7	930.3	739.6	530.4	405.5	358.6	379.0	408.1	408.8
22.5°	1491.7	1412.1	1131.2	854.9	586.9	385.7	325.5	316.9	341.0	380.4	383.7
25°	1490.1	1448.8	1099.8	778.9	455.1	301.1	282.9	289.2	317.9	358.9	361.2
27.5°	1565.1	1420.7	1018.2	679.1	342.7	257.8	262.4	274.0	287.5	326.5	334.1
30°	1564.4	1472.9	977.2	557.8	275.3	236.3	248.2	258.1	269.3	305.0	309.3
32.5°	1601.4	1438.9	952.4	433.9	246.9	231.0	234.0	243.9	260.1	284.2	287.2
35°	1646.1	1477.5	873.1	344.7	236.3	226.4	228.7	234.3	249.2	271.3	274.3
37.5°	1789.1	1484.8	841.7	290.5	235.6	224.4	224.1	227.0	243.9	264.0	273.0
40°	1845.0	1551.2	750.2	271.3	233.3	224.4	219.8	221.4	235.3	261.1	268.0
42.5°	1978.8	1573.4	682.4	264.7	233.3	220.4	213.2	215.8	232.0	254.8	265.7
45°	2116.6	1604.7	601.8	263.4	233.0	220.1	206.2	212.2	225.4	244.5	256.4
47.5°	2312.9	1717.8	521.1	259.4	230.3	221.7	204.6	204.2	215.8	232.3	243.6
50°	2633.2	1894.2	458.7	254.5	230.7	220.4	201.3	196.6	204.2	218.8	229.7
52.5°	3079.0	2195.0	434.2	251.8	228.0	215.1	195.6	188.4	192.7	204.2	214.8
55°	3596.5	2601.1	458.4	251.8	222.7	206.9	187.7	179.1	181.4	189.4	199.6
57.5°	4201.2	3105.7	575.0	248.2	216.1	197.0	178.1	168.2	168.9	175.8	185.1
60°	4832.7	3669.5	836.4	245.2	211.5	186.1	166.9	156.6	155.6	162.3	170.5
62.5°	5465.3	4189.7	1111.4	252.1	210.2	176.8	155.0	144.7	144.4	150.4	157.3
65°	5968.2	4545.2	1179.8	280.2	218.8	166.2	142.8	133.2	132.5	137.5	145.1
67.5°	6215.1	4596.8	896.2	315.3	236.9	156.3	130.9	121.9	121.3	126.6	133.2
70°	6032.3	4244.5	553.2	318.9	236.0	144.7	118.6	111.0	109.7	115.3	120.3
72.5°	5356.2	3712.8	420.4	282.2	204.2	128.2	106.4	99.8	97.8	102.8	107.4
75°	4299.0	2947.8	336.7	227.7	160.9	108.1	94.2	87.9	85.6	90.2	94.2
77.5°	2504.3	1658.3	246.2	177.8	121.6	88.2	80.3	74.7	72.0	77.0	80.0
80°	814.3	552.5	154.7	127.6	88.9	69.1	65.1	61.1	58.5	61.8	62.8
82.5°	292.5	205.6	85.6	78.3	59.2	49.6	49.2	46.9	43.6	44.9	44.9
85°	129.5	93.9	50.9	42.0	35.4	26.4	31.1	29.4	26.1	25.4	24.5
87.5°	36.4	31.1	18.5	14.2	11.6	4.3	9.9	8.9	7.3	6.6	4.6
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)