

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: P367670

Luminaire Tested: **MSA-SA3A-727-U-T2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367670  
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-SA3A-727-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: 9784 lumens  
Efficiency: N/A  
Efficacy: 101.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Medium  
BUG Rating: B2 - U0 - G2

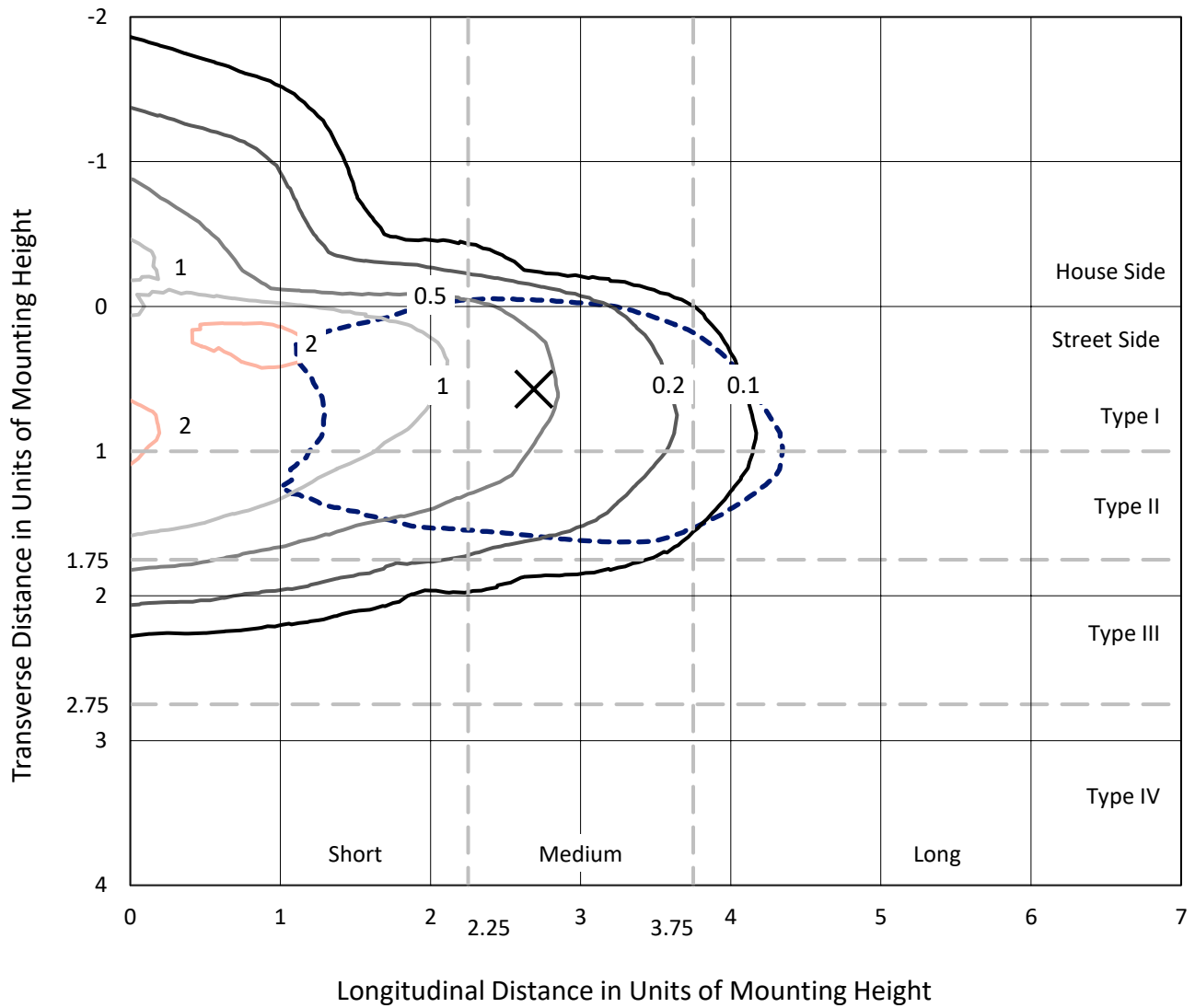
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

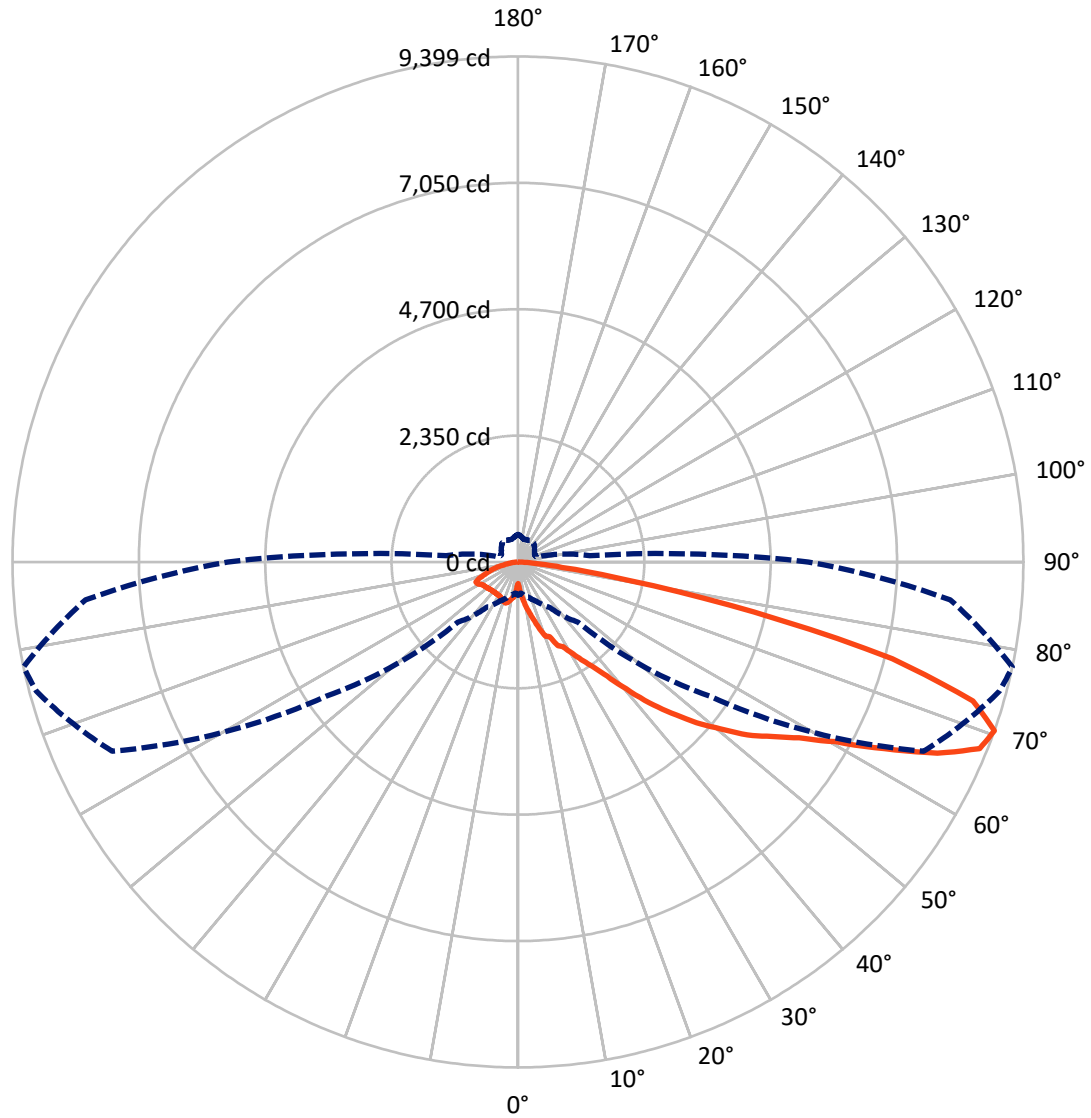
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 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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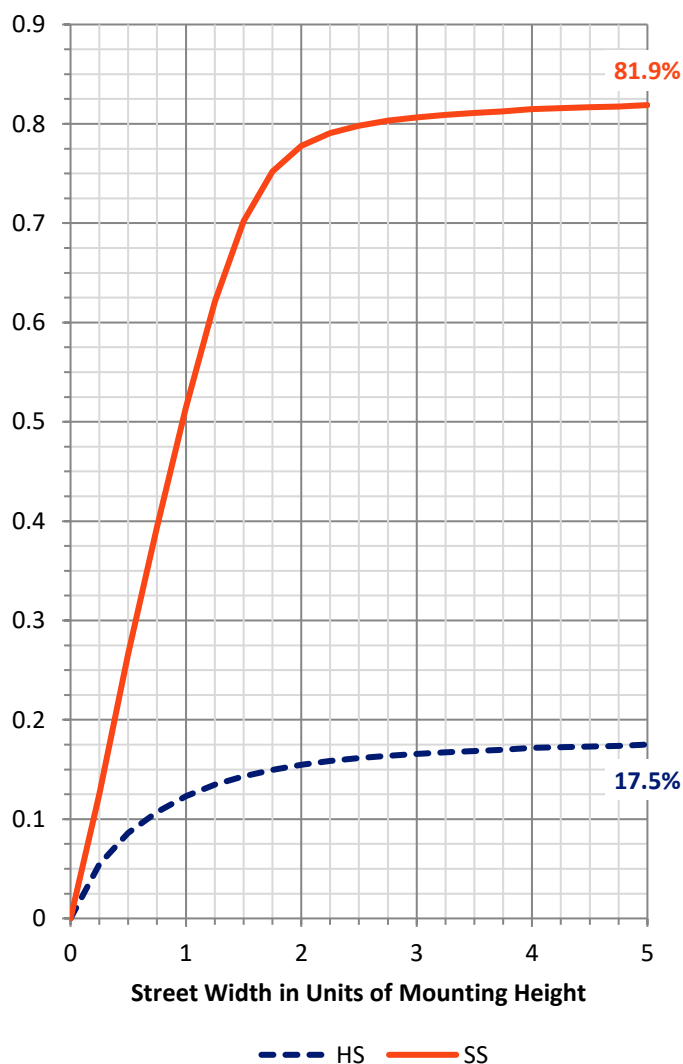
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1746.3	0.0	1746.3
	% Fixture	17.8	0.0	17.8
<b>Street Side</b>	Lumens	8037.7	0.0	8037.7
	% Fixture	82.2	0.0	82.2
<b>Total</b>	Lumens	9784.0	0.0	9784.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.7	0.6
10°-20°	271.6	2.8
20°-30°	522.8	5.3
30°-40°	880.6	9.0
40°-50°	1523.6	15.6
50°-60°	2300.5	23.5
60°-70°	2548.1	26.0
70°-80°	1469.1	15.0
80°-90°	206.0	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°	9784.0	100.0
0°-180°	9784.0	100.0

**Coefficient of Utilization**

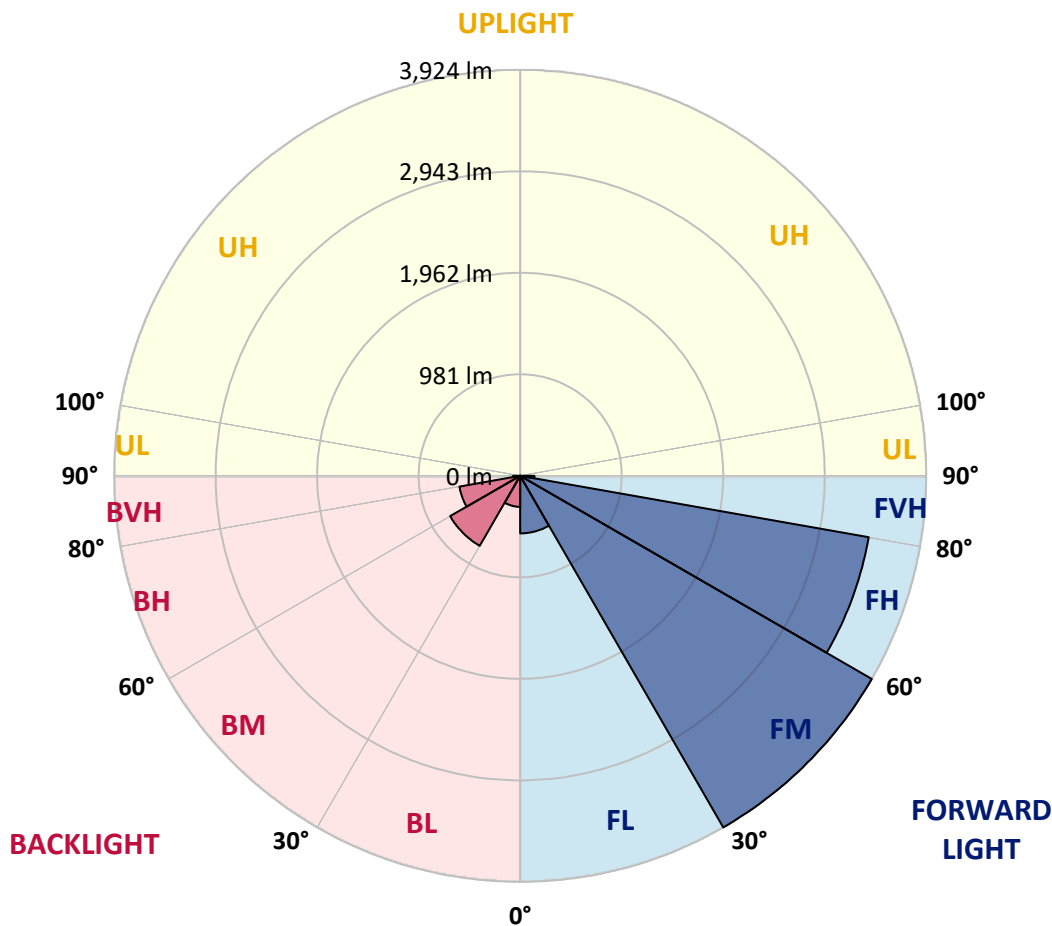


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	556.2	5.7			
FM (30°-60°)	3923.7	40.1			
FH (60°-80°)	3420.4	35.0			G2/5000
FVH (80°-90°)	137.4	1.4			G2/225
BL (0°-30°)	299.9	3.1	B1/500		
BM (30°-60°)	781.1	8.0	B1/1000		
BH (60°-80°)	596.8	6.1	B2/1000		G2/1000
BVH (80°-90°)	68.6	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 II Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	78°	85°
0°	398.9	398.9	398.9	398.9	398.9	398.9	398.9	398.9	398.9	398.9	398.9
2.5°	513.5	495.2	467.4	478.8	492.7	494.3	489.9	464.6	456.0	475.2	480.9
5°	719.5	688.5	669.7	663.6	642.8	599.6	630.6	614.7	617.9	608.5	626.9
7.5°	892.8	872.0	844.3	836.5	788.8	755.0	776.2	769.2	735.8	722.7	743.5
10°	980.9	958.1	959.3	942.6	929.9	933.2	922.6	892.0	867.1	849.6	799.4
12.5°	1034.0	1039.7	1070.3	1061.7	1109.4	1148.6	1118.8	1073.5	994.8	978.9	929.1
15°	1160.0	1181.2	1152.6	1165.7	1186.1	1261.1	1248.9	1239.1	1155.9	1124.9	1033.1
17.5°	1289.7	1293.8	1250.5	1243.6	1292.5	1330.5	1378.2	1323.1	1333.3	1311.7	1163.2
20°	1317.4	1345.6	1283.6	1240.7	1341.5	1416.5	1475.7	1417.4	1471.2	1476.9	1270.5
22.5°	1419.0	1385.1	1303.6	1261.5	1349.6	1441.8	1538.1	1570.7	1553.6	1505.5	1374.1
25°	1489.5	1471.6	1388.4	1341.9	1375.3	1460.2	1629.0	1714.3	1729.4	1722.8	1472.8
27.5°	1620.5	1629.4	1458.1	1471.2	1424.7	1432.4	1683.7	1904.8	1810.5	1784.4	1595.2
30°	1827.3	1787.3	1595.2	1605.8	1528.7	1515.6	1799.1	2069.1	1984.7	1953.3	1695.9
32.5°	2043.0	2046.7	1813.4	1722.8	1681.7	1668.6	1776.3	2155.2	2205.0	2164.2	1848.1
35°	2347.3	2326.1	2050.0	1930.9	1782.0	1759.1	1939.0	2404.8	2496.2	2382.0	2028.8
37.5°	2810.6	2746.6	2425.2	2149.9	2039.8	2013.7	2171.5	2628.7	2834.3	2692.4	2324.1
40°	3182.6	3052.5	2760.5	2425.2	2238.8	2271.0	2336.7	2900.4	3185.1	3105.1	2597.3
42.5°	3479.1	3363.7	2997.9	2762.1	2508.8	2468.8	2540.6	3236.9	3662.3	3584.0	2938.3
45°	3763.4	3528.5	3264.6	3052.5	2809.0	2857.5	2846.9	3580.3	4247.6	4006.5	3239.7
47.5°	4044.0	3823.4	3547.3	3262.2	3017.0	3319.3	3206.3	3835.6	4642.4	4463.7	3557.0
50°	4404.6	4161.9	3847.5	3560.7	3413.9	3634.9	3445.3	4051.8	5084.5	4874.9	3856.4
52.5°	4644.0	4407.9	4132.1	3927.4	3913.9	3828.7	3780.2	4325.5	5472.0	5344.7	4173.7
55°	4615.9	4388.3	4263.5	4285.9	4452.3	4164.8	4125.2	4730.5	5876.2	5729.0	4516.4
57.5°	4263.1	4014.7	4041.2	4174.2	4621.2	4755.0	4687.7	5163.2	6236.8	6169.9	4940.1
60°	3320.9	3193.2	3409.0	3652.1	4395.2	4927.9	5401.0	5691.0	6680.5	6787.4	5605.8
62.5°	2157.2	1986.7	2327.7	2740.5	3721.0	4813.7	6127.5	6691.9	7407.4	7650.0	6617.3
65°	1117.6	1090.2	1328.8	1708.2	2590.4	4104.4	6383.6	7741.8	8290.8	8573.5	7583.6
67.5°	812.5	761.9	872.4	1095.5	1581.3	2798.8	5898.2	8544.9	9000.1	9259.1	8145.2
70°	618.7	581.2	665.6	803.9	1032.7	1580.9	4354.0	8325.9	9273.8	9399.4	8070.5
72.5°	463.3	431.1	504.9	633.8	795.8	890.0	2573.7	6845.7	8806.8	8849.6	7243.4
75°	369.9	345.1	376.9	500.5	648.5	605.7	1367.2	4959.7	7155.3	7192.0	5532.8
77.5°	303.5	282.2	295.3	375.2	504.5	455.6	678.3	3154.9	4542.9	4486.6	3112.9
80°	247.6	229.2	235.3	271.2	384.2	340.2	381.0	1645.8	2167.0	2079.7	1294.6
82.5°	190.5	175.0	187.2	199.4	278.2	244.3	222.3	748.9	887.5	826.8	474.8
85°	127.7	113.4	162.7	149.7	181.9	150.1	121.5	298.2	330.8	308.4	166.8
87.5°	35.1	33.0	54.7	74.6	74.6	56.7	44.5	72.2	92.2	80.8	39.2
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°	398.9	398.9	398.9	398.9	398.9	398.9	398.9	398.9	398.9	398.9	398.9
2.5°	483.3	474.4	450.7	448.7	454.4	455.2	451.5	442.9	438.5	462.9	459.3
5°	622.4	590.6	571.4	553.9	529.4	511.9	516.4	528.6	532.7	551.0	553.1
7.5°	730.5	688.5	646.5	590.2	553.1	529.4	547.4	560.4	570.6	596.7	607.3
10°	777.4	731.7	672.2	613.0	602.8	606.9	596.7	600.0	615.9	617.1	622.4
12.5°	864.7	812.9	705.6	652.2	649.3	657.9	654.2	669.3	680.3	710.1	697.5
15°	948.3	882.2	730.9	676.3	664.4	681.6	701.5	726.8	750.5	778.6	764.4
17.5°	1049.9	950.3	732.1	665.2	667.3	704.0	724.8	738.7	809.2	848.0	828.4
20°	1113.9	957.3	704.8	637.9	667.3	700.3	729.3	744.4	823.5	881.8	895.3
22.5°	1171.8	959.7	683.6	623.2	642.0	685.6	729.3	762.7	813.3	869.2	871.2
25°	1203.6	957.7	656.3	624.5	641.6	663.2	701.9	732.5	770.1	848.0	850.0
27.5°	1285.2	931.2	629.3	629.3	638.3	639.1	688.5	706.4	711.7	782.7	795.3
30°	1308.9	936.9	626.1	628.5	633.0	624.9	646.5	658.3	666.1	727.2	729.3
32.5°	1346.8	891.2	635.9	621.2	615.5	614.3	619.6	630.2	633.4	670.9	677.9
35°	1392.9	872.8	639.1	619.1	607.7	601.6	617.5	604.5	614.7	658.7	663.6
37.5°	1543.0	847.6	655.9	619.1	604.5	597.5	589.8	595.9	632.2	674.6	700.7
40°	1638.8	855.3	651.8	625.3	593.5	586.9	573.9	596.3	652.6	727.6	747.2
42.5°	1806.9	859.8	656.7	622.4	597.1	571.8	580.4	604.9	664.0	706.8	737.0
45°	1980.6	873.7	653.4	613.8	589.0	600.8	589.0	611.0	639.1	640.4	663.2
47.5°	2151.1	929.5	646.5	596.3	586.9	617.9	587.7	591.4	593.5	600.8	627.7
50°	2351.4	989.1	636.7	571.8	589.8	618.7	592.2	574.3	572.2	596.3	626.5
52.5°	2579.0	1056.4	624.0	548.2	573.1	611.0	607.7	575.5	558.0	581.2	611.4
55°	2846.9	1133.1	609.4	524.5	554.7	611.8	616.3	566.9	558.4	583.7	615.9
57.5°	3203.0	1244.0	580.8	490.3	532.3	599.2	594.3	557.2	549.0	575.9	609.4
60°	3810.7	1457.3	540.0	456.4	508.2	568.2	576.3	539.6	531.5	561.2	596.3
62.5°	4624.4	1713.9	490.7	423.4	478.8	534.7	553.9	514.3	513.5	551.4	588.2
65°	5381.9	1859.5	439.7	393.2	448.7	503.7	528.6	490.7	492.3	540.0	576.7
67.5°	5696.7	1688.2	394.0	366.3	414.0	468.2	507.8	472.3	467.0	524.5	558.4
70°	5401.0	1341.1	354.4	337.7	374.8	429.9	478.8	447.8	435.6	487.8	514.3
72.5°	4779.0	1118.0	317.3	304.3	340.6	389.5	439.7	414.8	398.9	438.9	462.5
75°	3735.7	917.3	274.9	271.2	301.4	352.8	398.9	381.8	361.4	386.7	410.3
77.5°	2127.0	580.4	230.9	233.3	254.9	309.2	350.0	336.5	315.7	326.3	353.6
80°	851.2	292.9	185.6	187.2	205.6	254.1	290.0	285.1	263.5	272.1	290.8
82.5°	318.1	160.7	137.0	137.9	156.2	201.1	247.6	245.1	224.7	218.6	229.2
85°	126.4	79.5	84.0	87.7	105.2	144.8	198.6	176.2	152.1	133.4	139.9
87.5°	30.2	25.3	29.4	31.0	34.3	45.3	72.6	58.3	60.0	48.1	35.9
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)