

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: P367770

Luminaire Tested: **MSA-SA3A-830-U-SL2**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P367770  
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-SA3A-830-U-SL2  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 9260 lumens  
Efficiency: N/A  
Efficacy: 96.5 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B2 - U0 - G2

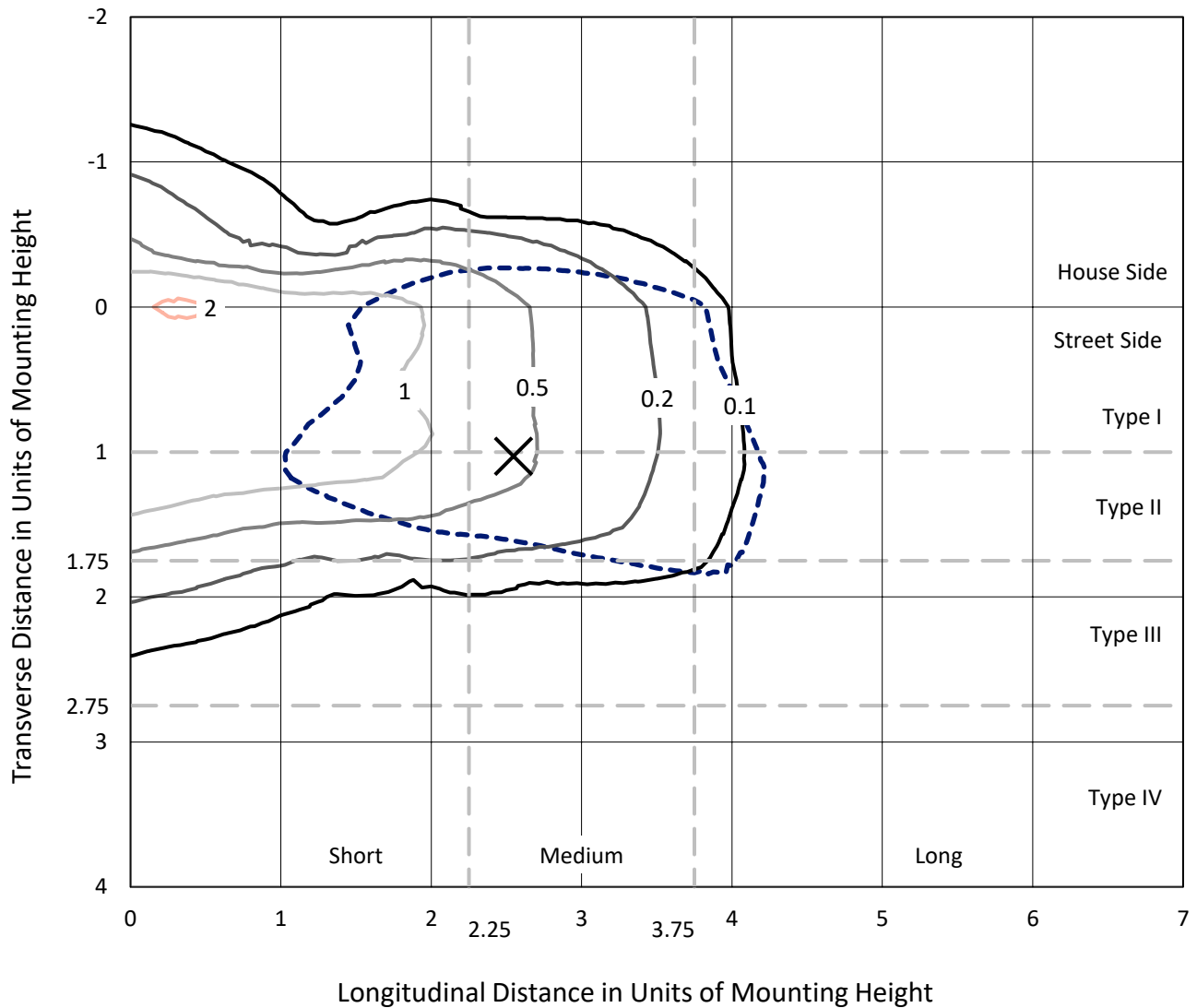
Input Watts (W): 96  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

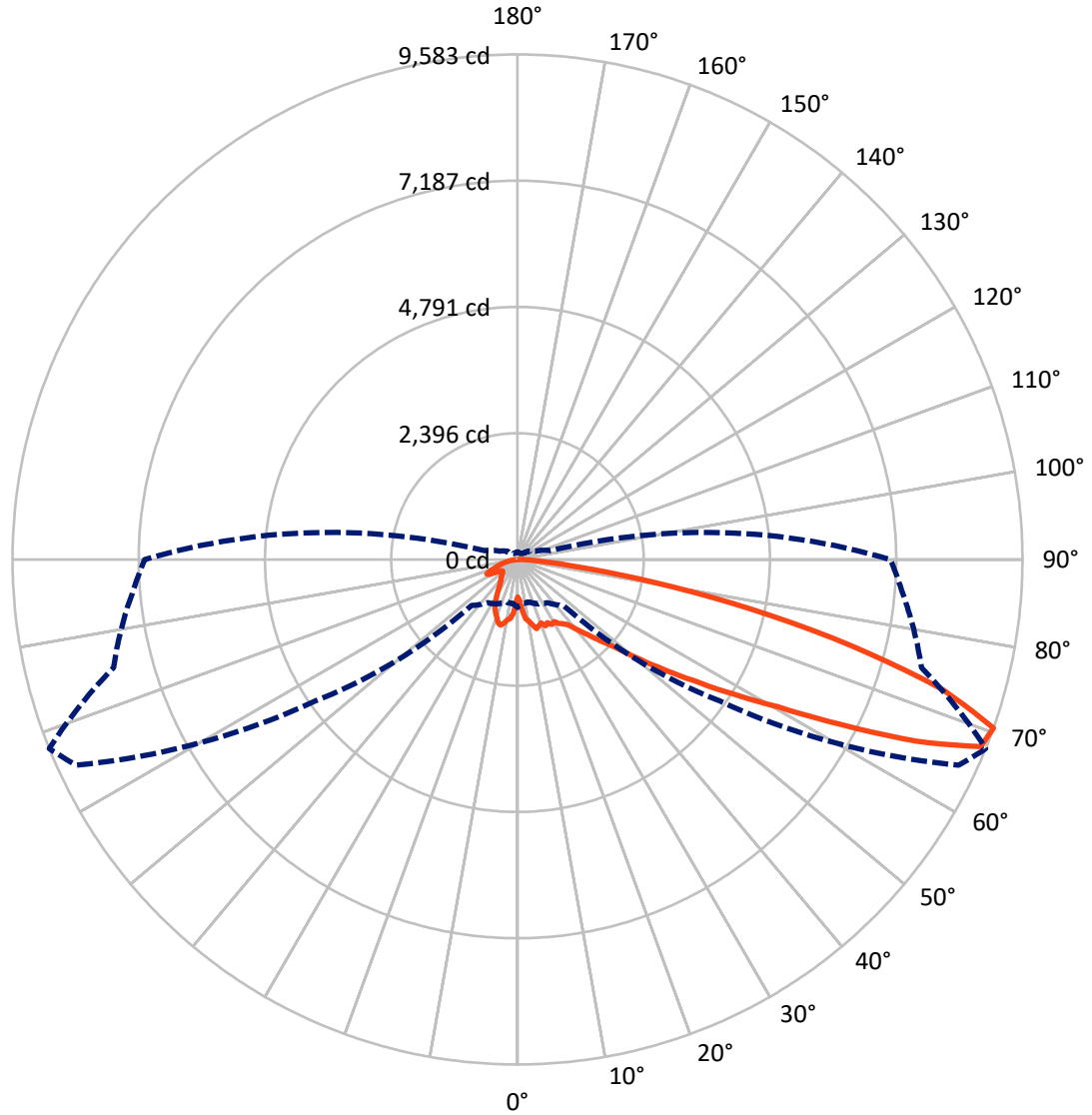
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.2 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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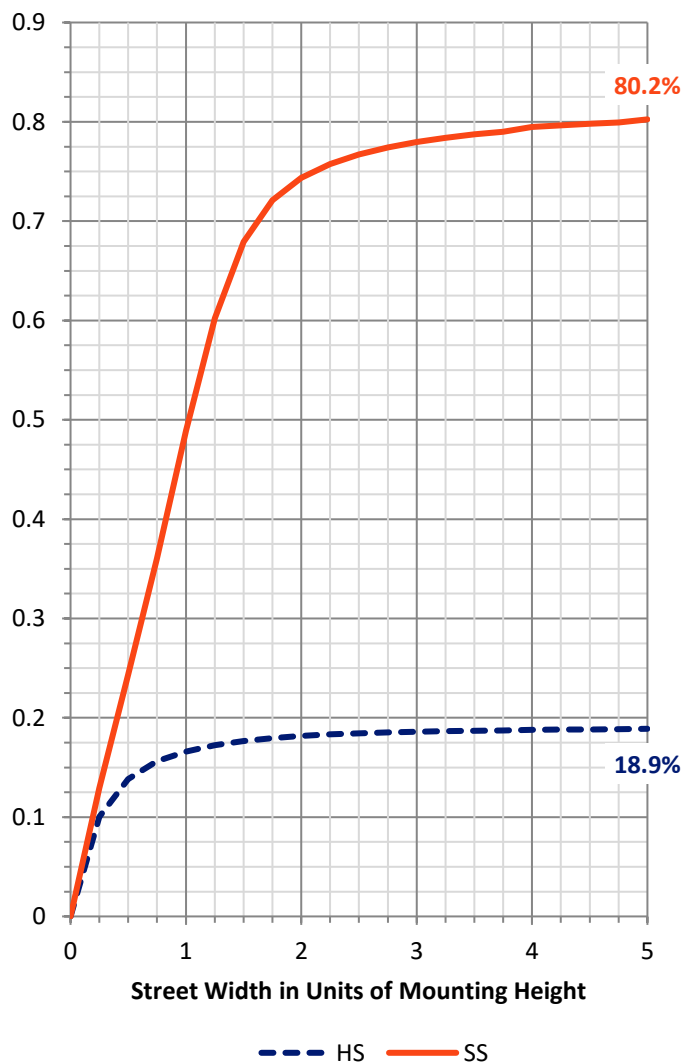
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1768.0	0.0	1768.0
	% Fixture	19.1	0.0	19.1
<b>Street Side</b>	Lumens	7492.0	0.0	7492.0
	% Fixture	80.9	0.0	80.9
<b>Total</b>	Lumens	9260.0	0.0	9260.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.8	1.0
10°-20°	309.1	3.3
20°-30°	470.1	5.1
30°-40°	718.1	7.8
40°-50°	1234.8	13.3
50°-60°	2043.8	22.1
60°-70°	2519.7	27.2
70°-80°	1618.6	17.5
80°-90°	251.1	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°	9260.0	100.0
0°-180°	9260.0	100.0

**Coefficient of Utilization**



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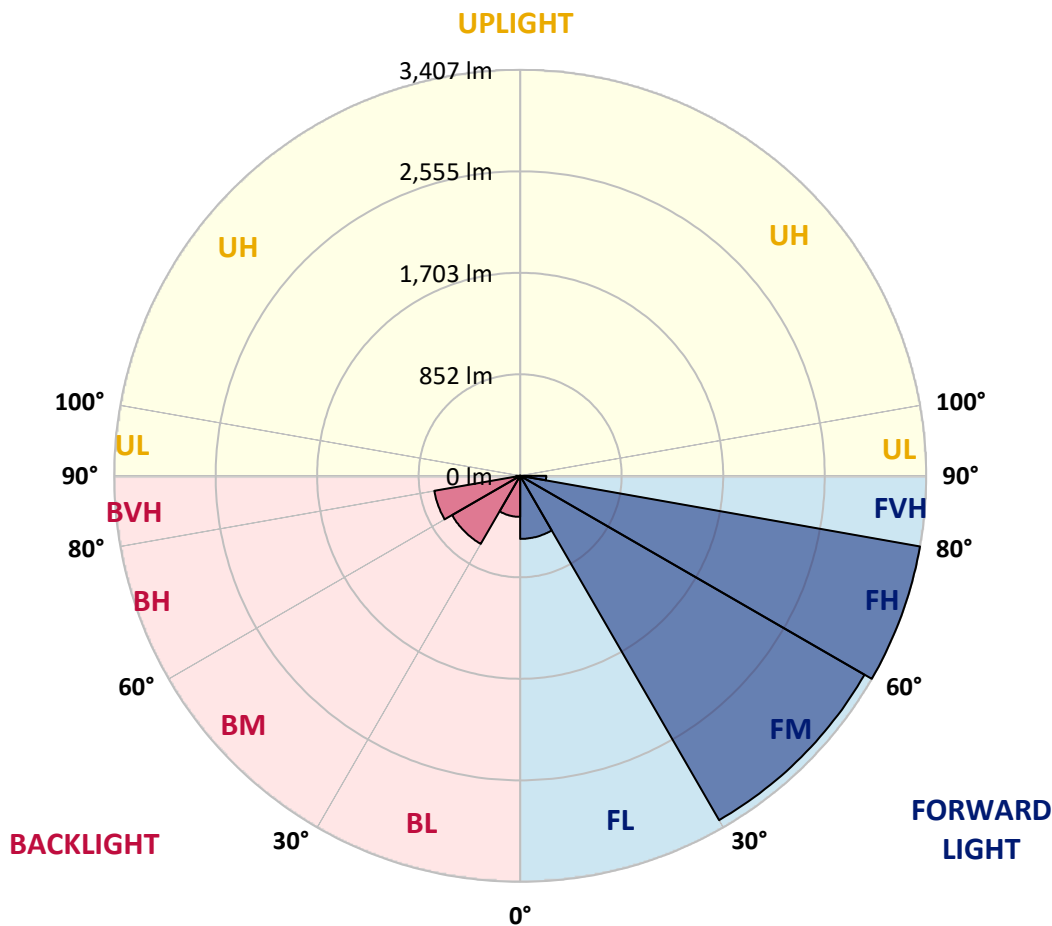
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	529.5	5.7			
FM (30°-60°)	3336.7	36.0			
FH (60°-80°)	3407.0	36.8			G2/5000
FVH (80°-90°)	218.8	2.4			G2/225
BL (0°-30°)	344.5	3.7	B1/500		
BM (30°-60°)	659.9	7.1	B1/1000		
BH (60°-80°)	731.3	7.9	B2/1000		G2/1000
BVH (80°-90°)	32.2	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°	710.0	710.0	710.0	710.0	710.0	710.0	710.0	710.0	710.0	710.0	710.0
2.5°	815.8	782.9	749.5	765.8	791.8	814.6	810.0	812.7	781.3	777.0	859.6
5°	961.1	904.5	903.4	904.2	906.5	880.1	944.5	977.8	985.2	1019.3	1100.3
7.5°	1011.5	988.6	965.4	977.0	947.6	950.3	1029.3	1116.2	1136.7	1161.5	1272.3
10°	1001.0	979.3	986.3	988.3	993.7	1037.5	1088.2	1171.6	1189.0	1268.1	1296.8
12.5°	1002.6	998.7	1031.3	1032.4	1090.6	1169.2	1189.4	1266.1	1273.1	1331.2	1451.0
15°	1055.7	1082.4	1064.2	1073.9	1085.1	1179.3	1208.4	1318.5	1360.3	1435.1	1525.0
17.5°	1159.2	1166.9	1112.3	1097.9	1134.8	1163.4	1229.7	1277.4	1321.2	1530.1	1654.1
20°	1183.2	1204.1	1139.0	1065.0	1142.9	1182.8	1228.9	1250.6	1284.7	1544.0	1720.0
22.5°	1286.3	1242.9	1164.2	1099.9	1125.5	1164.2	1197.5	1279.3	1368.8	1504.1	1785.8
25°	1344.8	1319.6	1249.5	1180.5	1158.8	1159.9	1224.3	1297.5	1328.5	1562.6	1799.0
27.5°	1486.3	1446.0	1288.2	1275.0	1193.3	1129.7	1228.5	1342.5	1396.7	1516.9	1863.4
30°	1663.4	1632.8	1425.8	1408.4	1283.6	1172.7	1282.8	1375.8	1368.1	1546.7	1907.9
32.5°	1806.8	1857.9	1649.0	1511.5	1422.7	1316.5	1265.7	1370.0	1447.1	1616.1	1983.5
35°	2011.4	2059.5	1823.0	1730.0	1537.4	1383.2	1384.7	1449.8	1497.5	1697.1	2068.0
37.5°	2365.6	2323.4	2133.1	1986.2	1863.0	1632.8	1563.8	1540.9	1579.3	1796.3	2233.5
40°	2621.0	2585.4	2361.4	2277.6	2037.8	1904.0	1714.9	1693.2	1761.0	1898.6	2368.7
42.5°	2923.7	2860.1	2651.6	2582.7	2331.9	2090.8	1900.2	1912.6	1945.5	2091.6	2551.6
45°	3231.8	3077.6	2959.4	2953.9	2786.5	2453.6	2197.4	2187.3	2188.5	2375.7	2757.1
47.5°	3476.3	3337.6	3202.4	3138.0	3053.5	3081.0	2629.2	2511.0	2475.3	2661.7	3065.2
50°	3641.8	3482.2	3329.1	3314.0	3539.5	3688.0	3034.5	2908.2	2930.3	3071.0	3476.0
52.5°	3645.3	3455.8	3296.1	3401.9	3933.3	4145.7	3732.9	3379.8	3450.4	3546.1	4011.9
55°	3391.9	3195.4	3091.5	3332.6	4087.1	4688.6	4714.2	4135.6	4054.2	4089.5	4652.6
57.5°	2857.4	2659.0	2598.5	2887.3	3795.3	5212.2	5899.3	5038.6	4799.8	4652.6	5309.1
60°	2150.9	1979.2	1941.6	2125.7	3146.5	5058.3	6858.9	6162.5	5676.1	5281.6	5967.5
62.5°	1613.0	1489.8	1433.2	1459.5	2177.3	4558.0	7489.1	7582.5	6893.8	5968.3	6610.9
65°	1310.7	1211.1	1160.7	1126.6	1354.1	3524.4	7375.1	8777.7	8316.1	6689.6	7111.6
67.5°	1094.8	1006.5	983.2	1016.6	1070.4	2044.7	6483.8	9446.2	9477.6	7401.1	7404.2
70°	908.8	843.3	834.8	929.4	1000.3	1234.0	4683.2	9236.2	9582.6	7934.8	7335.6
72.5°	702.2	667.0	665.8	814.2	993.7	1051.8	2788.8	7978.9	8444.4	7764.2	6664.4
75°	487.2	462.7	481.3	669.3	970.8	1066.9	1591.7	6214.8	6563.2	6607.0	5338.5
77.5°	335.2	314.7	334.8	484.1	867.0	1092.5	1113.4	4493.7	4532.4	4430.5	3057.8
80°	233.3	219.0	234.5	342.6	674.7	1081.3	948.0	2829.1	2595.8	1977.3	979.0
82.5°	144.6	140.3	157.3	244.2	475.1	983.6	898.3	1459.9	1114.6	545.7	349.6
85°	76.0	69.8	91.5	159.3	297.3	772.0	841.8	666.2	430.2	193.8	140.3
87.5°	22.5	20.2	35.3	64.3	126.0	346.1	481.7	282.5	160.4	57.0	43.8
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°	710.0	710.0	710.0	710.0	710.0	710.0	710.0	710.0	710.0	710.0	710.0
2.5°	865.4	861.1	803.8	811.1	823.6	826.7	826.3	805.3	783.2	844.9	842.9
5°	1102.2	1063.8	1035.2	1029.0	993.7	958.4	970.8	966.6	961.1	989.0	992.5
7.5°	1272.7	1219.6	1186.3	1100.7	1019.3	948.7	971.2	978.2	964.2	1014.6	1029.7
10°	1317.7	1275.8	1239.8	1129.7	1084.8	1043.7	982.8	913.5	904.2	875.1	878.6
12.5°	1433.6	1427.7	1304.9	1208.0	1149.5	1067.7	936.3	852.2	780.1	783.6	762.7
15°	1525.0	1528.1	1380.5	1244.8	1087.9	963.1	808.4	703.8	629.8	615.0	599.9
17.5°	1647.9	1641.7	1386.7	1200.6	1001.8	818.9	629.4	525.5	513.1	521.6	508.5
20°	1701.4	1646.7	1347.1	1091.0	867.3	622.0	475.5	420.5	444.5	478.6	479.4
22.5°	1749.4	1656.0	1326.6	1002.6	688.3	452.3	381.7	371.7	400.0	446.1	449.9
25°	1747.5	1699.0	1289.8	913.5	533.7	353.1	331.7	339.1	372.8	420.9	423.6
27.5°	1835.5	1666.1	1194.1	796.4	401.9	302.3	307.7	321.3	337.2	382.9	391.8
30°	1834.7	1727.3	1146.0	654.2	322.8	277.1	291.1	302.7	315.9	357.7	362.7
32.5°	1878.1	1687.4	1116.9	508.9	289.5	270.9	274.4	286.0	305.0	333.3	336.8
35°	1930.4	1732.7	1023.9	404.2	277.1	265.5	268.2	274.8	292.2	318.2	321.7
37.5°	2098.2	1741.3	987.1	340.7	276.3	263.1	262.8	266.2	286.0	309.7	320.1
40°	2163.7	1819.2	879.7	318.2	273.6	263.1	257.7	259.7	275.9	306.2	314.3
42.5°	2320.7	1845.1	800.3	310.4	273.6	258.5	250.0	253.1	272.1	298.8	311.6
45°	2482.3	1882.0	705.7	308.9	273.2	258.1	241.8	248.8	264.3	286.8	300.7
47.5°	2712.5	2014.5	611.2	304.2	270.1	260.0	239.9	239.5	253.1	272.4	285.6
50°	3088.0	2221.5	537.9	298.4	270.5	258.5	236.0	230.6	239.5	256.6	269.3
52.5°	3610.8	2574.1	509.2	295.3	267.4	252.3	229.4	220.9	225.9	239.5	251.9
55°	4217.7	3050.4	537.5	295.3	261.2	242.6	220.1	210.1	212.8	222.1	234.1
57.5°	4927.0	3642.2	674.3	291.1	253.5	231.0	208.9	197.3	198.0	206.2	217.0
60°	5667.6	4303.4	980.9	287.6	248.0	218.2	195.7	183.7	182.5	190.3	200.0
62.5°	6409.4	4913.4	1303.3	295.7	246.5	207.3	181.8	169.7	169.4	176.3	184.5
65°	6999.2	5330.4	1383.6	328.6	256.6	194.9	167.4	156.2	155.4	161.2	170.1
67.5°	7288.7	5390.9	1051.0	369.7	277.9	183.3	153.5	143.0	142.2	148.4	156.2
70°	7074.4	4977.7	648.8	374.0	276.7	169.7	139.1	130.2	128.7	135.3	141.1
72.5°	6281.5	4354.2	493.0	331.0	239.5	150.4	124.8	117.0	114.7	120.5	126.0
75°	5041.7	3457.0	394.9	267.0	188.7	126.7	110.5	103.1	100.4	105.8	110.5
77.5°	2936.9	1944.7	288.7	208.5	142.6	103.5	94.2	87.6	84.5	90.3	93.8
80°	954.9	648.0	181.4	149.6	104.3	81.0	76.3	71.7	68.6	72.5	73.6
82.5°	343.0	241.1	100.4	91.9	69.4	58.1	57.7	55.0	51.2	52.7	52.7
85°	151.9	110.1	59.7	49.2	41.5	31.0	36.4	34.5	30.6	29.8	28.7
87.5°	42.6	36.4	21.7	16.7	13.6	5.0	11.6	10.5	8.5	7.8	5.4
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)