

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: P596946

Luminaire Tested: **MSA-SA2B-835-U-SL4**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596946  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-20)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA2B-835-U-SL4  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7999 lumens  
Efficiency: N/A  
Efficacy: 94.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G3

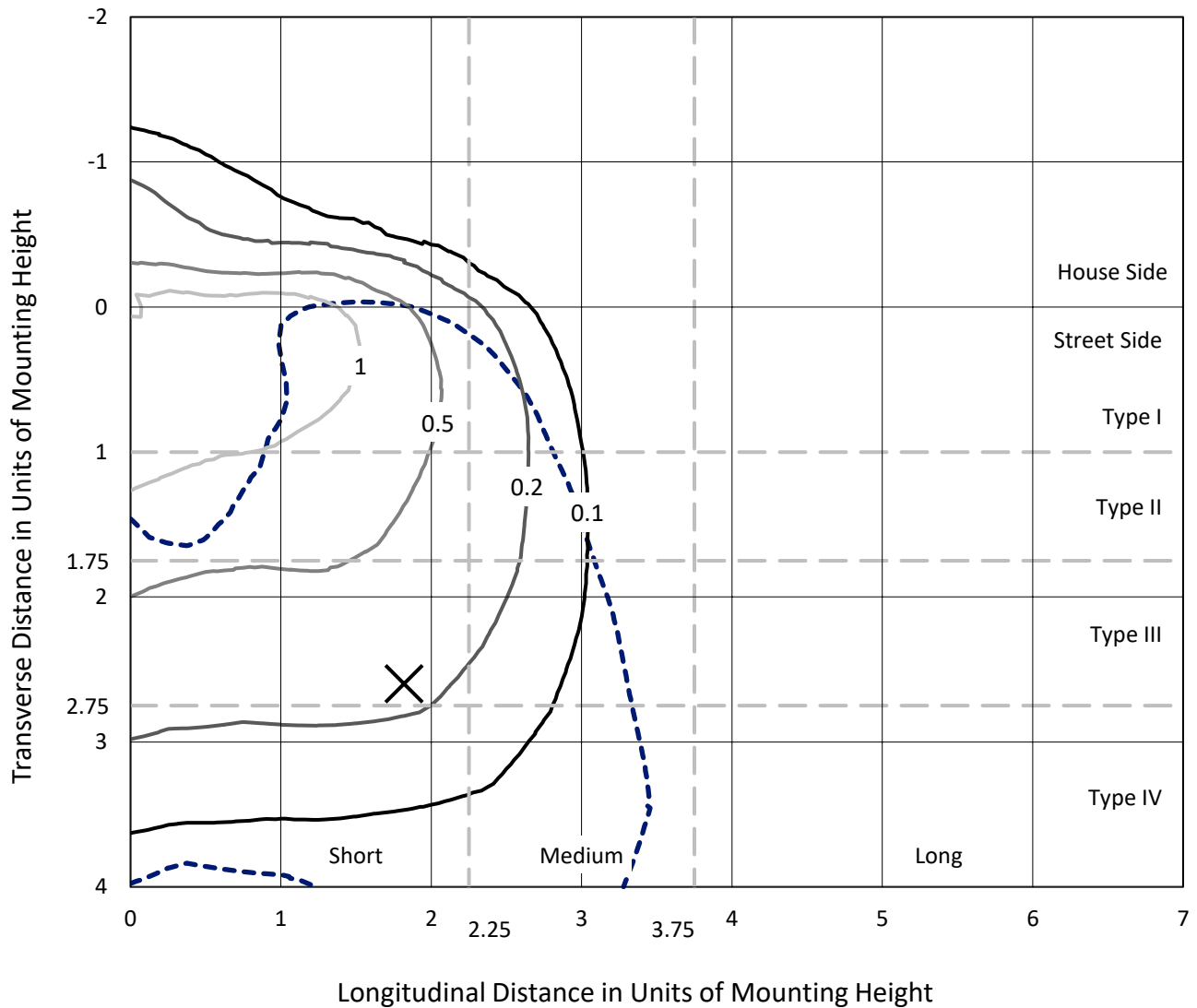
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

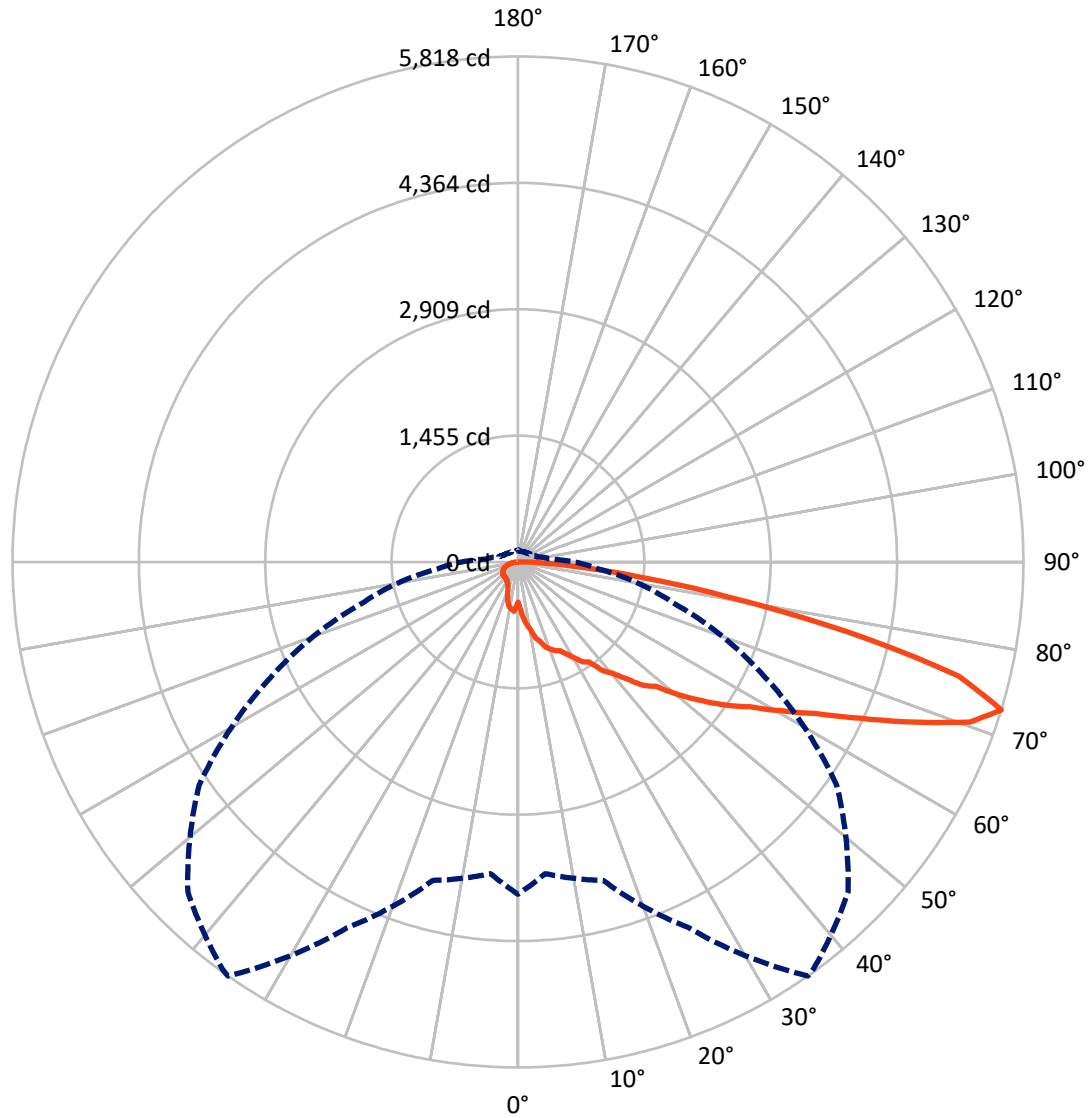
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.6 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 35-Deg Lateral    - - - Horizontal Cone Through 72.5-Deg Vertical

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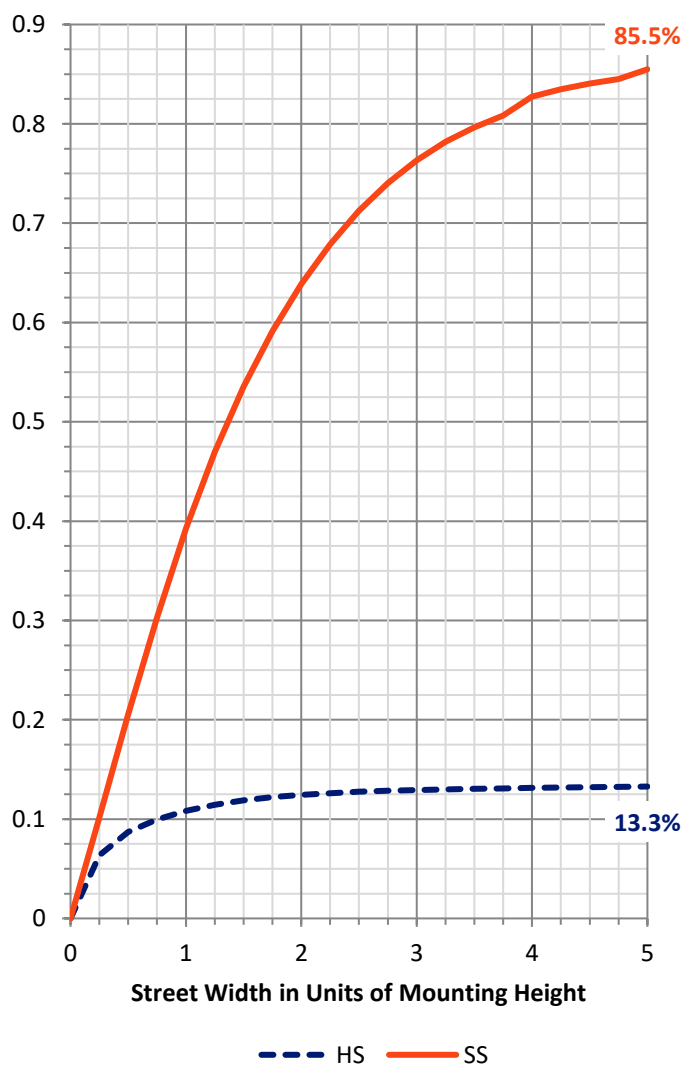
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1073.4	0.0	1073.4
	% Fixture	13.4	0.0	13.4
<b>Street Side</b>	Lumens	6925.6	0.0	6925.6
	% Fixture	86.6	0.0	86.6
<b>Total</b>	Lumens	7999.0	0.0	7999.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.4	0.8
10°-20°	216.4	2.7
20°-30°	376.0	4.7
30°-40°	628.5	7.9
40°-50°	1090.8	13.6
50°-60°	1649.0	20.6
60°-70°	2136.3	26.7
70°-80°	1576.3	19.7
80°-90°	264.2	3.3
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°	7999.0	100.0
0°-180°	7999.0	100.0

**Coefficient of Utilization**



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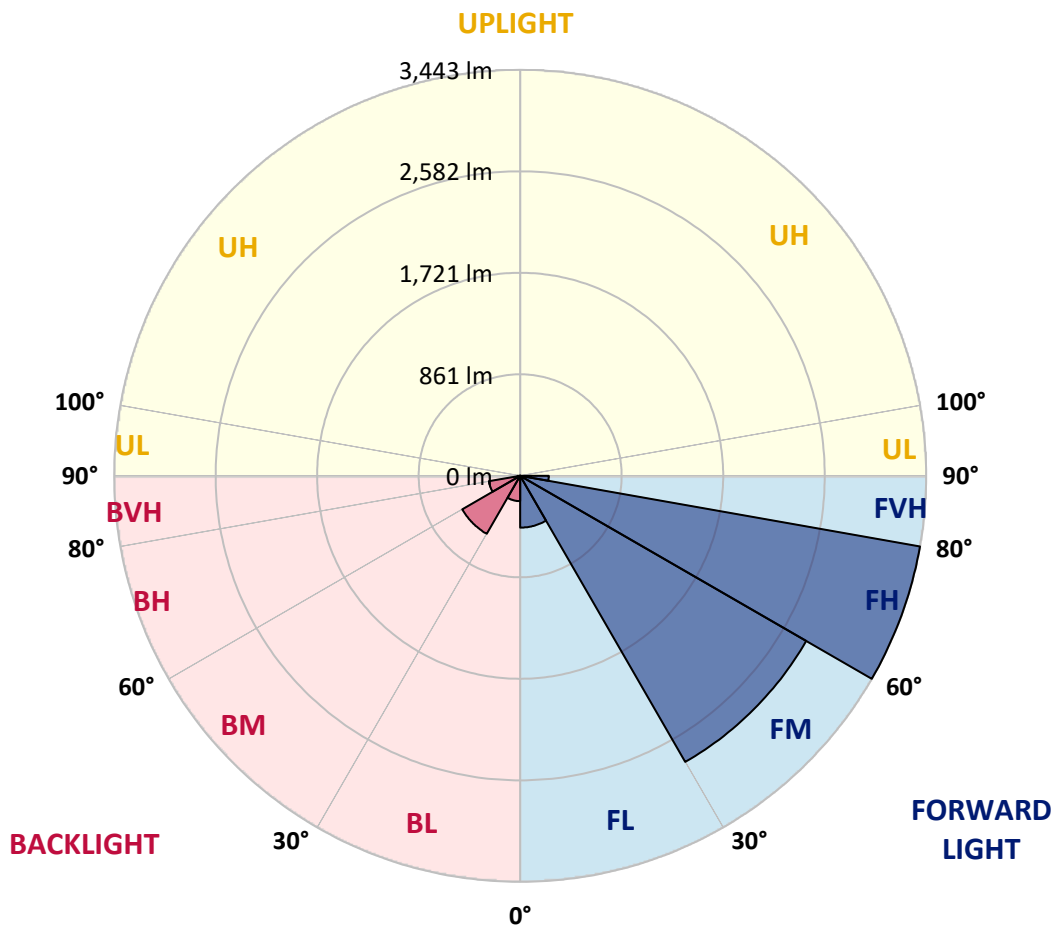
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	439.3	5.5			
FM (30°-60°)	2801.0	35.0			
FH (60°-80°)	3442.7	43.0			G2/5000
FVH (80°-90°)	242.6	3.0			G3/500
BL (0°-30°)	214.6	2.7	B1/500		
BM (30°-60°)	567.3	7.1	B1/1000		
BH (60°-80°)	269.9	3.4	B1/500		G1/500
BVH (80°-90°)	21.6	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	36°	45°	55°	65°	75°	85°
0°	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3
2.5°	576.6	549.0	525.1	524.1	546.3	554.8	551.4	543.9	535.0	516.2	557.2
5°	722.4	682.8	675.3	666.4	646.3	651.7	619.0	643.9	651.7	669.8	697.2
7.5°	808.5	785.2	767.1	759.6	724.8	720.7	696.5	732.0	747.0	744.6	785.2
10°	842.3	821.1	822.5	797.9	786.6	791.4	794.1	794.8	804.0	811.5	791.0
12.5°	859.7	867.9	897.9	881.2	895.5	901.3	930.0	900.6	901.7	863.1	884.2
15°	947.4	967.9	950.5	949.8	945.4	954.9	979.5	959.7	975.1	962.8	935.5
17.5°	1053.2	1059.4	1025.9	1012.3	1030.0	1027.0	1020.8	1023.9	985.6	1056.7	1023.2
20°	1085.7	1109.9	1065.9	1012.3	1071.0	1078.8	1077.5	1064.2	998.6	1101.0	1068.6
22.5°	1179.9	1147.1	1112.3	1078.2	1108.2	1112.6	1105.1	1073.4	1051.5	1090.5	1116.1
25°	1222.6	1214.7	1170.3	1166.2	1133.1	1117.4	1130.4	1121.2	1099.7	1169.0	1140.6
27.5°	1320.2	1311.0	1208.9	1250.9	1202.8	1198.7	1130.1	1160.8	1182.3	1177.2	1219.5
30°	1430.8	1441.4	1292.2	1334.2	1278.6	1271.1	1202.1	1241.0	1255.7	1260.5	1313.4
32.5°	1553.7	1582.8	1434.6	1400.1	1370.4	1375.5	1317.1	1246.1	1303.2	1414.8	1437.7
35°	1686.9	1698.8	1543.5	1491.6	1414.1	1408.6	1409.7	1418.5	1476.2	1603.6	1621.3
37.5°	1933.0	1877.7	1741.5	1610.1	1584.1	1533.3	1567.7	1595.1	1652.8	1848.0	1922.5
40°	2084.6	2043.7	1836.1	1760.0	1688.3	1693.0	1757.6	1757.2	1893.4	2094.9	2208.6
42.5°	2225.0	2180.2	1984.6	1908.1	1840.2	1856.9	1875.4	1907.8	2169.0	2493.6	2545.5
45°	2338.0	2240.0	2099.3	2082.2	2026.3	2004.1	2082.2	2134.1	2498.4	2816.3	2846.3
47.5°	2414.8	2334.2	2196.6	2181.6	2140.3	2194.6	2407.9	2441.4	2753.8	3140.3	3137.9
50°	2531.5	2421.3	2297.0	2289.1	2405.6	2434.6	2694.7	2691.3	3002.3	3409.3	3353.0
52.5°	2666.1	2527.1	2392.2	2476.6	2654.1	2668.4	2894.1	2985.9	3273.8	3668.8	3521.6
55°	2820.7	2665.4	2535.0	2647.6	2911.9	2869.5	3097.9	3322.2	3613.5	3942.2	3643.5
57.5°	3012.2	2823.8	2718.3	2889.7	3147.1	3184.6	3389.8	3672.2	3886.9	4112.3	3732.3
60°	3214.4	2993.1	2896.5	3059.7	3476.6	3519.6	3720.3	3963.1	4193.5	4272.4	3715.5
62.5°	3407.2	3167.9	3080.5	3281.9	3841.9	3948.4	4096.5	4251.2	4448.5	4311.3	3513.1
65°	3622.0	3382.3	3327.4	3629.5	4337.2	4443.1	4636.7	4590.2	4535.9	4173.4	3178.2
67.5°	3849.4	3605.9	3616.2	4032.7	4921.4	4939.5	5236.8	4928.2	4433.2	3808.1	2615.9
70°	3971.6	3722.4	3827.9	4462.5	5515.8	5489.8	5550.6	5019.0	4014.3	3010.2	1803.0
72.5°	3823.4	3601.2	3794.4	4643.5	5818.3	5790.3	5374.4	4479.9	3138.6	1871.9	934.8
75°	3237.2	3022.8	3318.5	4139.2	5237.9	5263.8	4573.8	3331.5	1796.8	752.8	388.2
77.5°	2199.7	2089.1	2342.4	3085.3	3890.7	3980.5	3393.6	1948.1	754.5	311.7	234.9
80°	1162.5	1109.9	1297.0	1777.4	2463.6	2530.5	1995.5	970.3	386.5	201.8	167.6
82.5°	631.6	609.4	709.8	913.9	1399.8	1458.2	1034.8	644.6	260.5	126.3	102.4
85°	424.4	415.8	482.4	490.9	662.0	681.1	542.2	496.4	156.4	61.8	67.6
87.5°	212.4	203.8	254.0	224.3	252.6	253.0	248.5	316.8	39.6	20.5	12.3
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°	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3	462.3
2.5°	557.9	545.9	504.6	504.3	510.4	506.3	509.4	492.7	485.5	518.3	516.5
5°	693.4	657.6	623.1	611.1	597.1	566.7	568.4	568.8	563.7	583.1	584.5
7.5°	772.9	729.9	698.2	634.7	584.8	545.9	551.0	556.8	551.0	577.0	586.5
10°	784.6	750.4	712.5	641.8	608.7	573.6	538.1	506.6	502.9	490.9	494.7
12.5°	853.5	825.2	746.0	668.5	629.9	576.0	511.1	475.2	445.2	450.3	440.8
15°	910.2	890.0	795.1	693.7	601.6	534.6	465.7	416.5	389.5	386.5	376.9
17.5°	987.0	958.3	799.6	676.3	565.0	484.8	407.0	351.3	339.7	334.9	330.1
20°	1023.9	972.3	783.5	621.7	522.4	425.4	348.9	301.1	297.7	306.2	304.5
22.5°	1056.0	983.9	769.2	588.6	455.8	365.3	309.3	277.9	274.2	285.1	287.1
25°	1074.8	1017.1	753.5	554.8	414.5	320.6	279.6	261.9	262.5	276.9	275.2
27.5°	1159.4	1028.7	713.9	514.8	367.0	287.5	265.3	256.1	252.3	272.1	273.8
30°	1212.7	1104.5	705.0	472.5	331.8	263.2	252.3	248.5	247.9	271.8	273.5
32.5°	1311.7	1129.7	709.1	426.4	300.1	255.7	242.7	242.4	249.2	272.1	274.8
35°	1448.9	1236.2	689.3	400.1	282.7	244.1	235.2	238.0	249.6	274.5	278.2
37.5°	1716.6	1336.6	695.4	375.5	276.9	240.4	233.2	234.9	253.7	280.6	290.9
40°	1928.6	1518.6	685.9	363.3	269.0	239.7	228.7	235.6	253.3	284.1	293.3
42.5°	2235.9	1663.7	686.9	351.0	268.7	236.9	228.1	236.3	252.6	281.0	293.6
45°	2499.4	1793.8	701.6	343.8	265.3	241.4	227.0	237.3	248.2	270.1	284.1
47.5°	2715.6	1938.9	716.6	337.0	263.9	245.5	226.0	230.1	240.7	257.8	270.4
50°	2891.7	2040.9	735.7	335.6	263.9	243.4	223.3	222.9	231.8	245.5	257.4
52.5°	3029.0	2113.0	748.7	337.3	263.9	235.6	219.9	217.1	222.6	232.5	244.4
55°	3128.3	2135.2	738.1	341.7	263.6	228.4	213.7	211.3	214.1	220.9	232.2
57.5°	3168.3	2076.8	675.0	333.9	263.6	223.3	206.2	203.5	206.2	211.3	222.6
60°	3068.2	1889.0	583.8	313.8	258.4	216.5	197.7	196.0	200.1	204.5	215.4
62.5°	2817.3	1639.4	486.5	289.9	247.9	210.6	189.5	189.8	196.3	202.5	213.4
65°	2427.4	1337.6	405.6	265.6	234.5	201.4	180.9	183.3	192.6	200.7	211.7
67.5°	1910.2	991.1	341.4	242.1	215.8	186.4	171.4	172.1	178.6	186.4	197.0
70°	1276.9	630.6	280.6	214.4	191.2	166.9	156.7	154.3	152.6	159.4	168.7
72.5°	647.6	372.5	230.5	183.3	164.6	145.8	137.9	131.8	127.0	131.1	138.3
75°	339.4	260.5	186.1	152.3	135.9	123.9	118.1	109.9	106.5	108.9	114.0
77.5°	240.0	203.8	150.6	120.5	110.6	98.3	99.3	90.8	88.1	89.4	94.9
80°	184.4	161.5	115.7	91.2	85.4	73.4	76.8	71.7	68.3	67.6	71.7
82.5°	125.6	121.5	82.3	63.8	59.7	51.2	56.0	53.9	49.5	46.8	48.8
85°	84.7	80.6	50.2	36.9	35.2	26.6	34.1	32.8	29.0	24.9	25.3
87.5°	14.7	27.0	14.3	9.2	8.5	3.1	7.9	7.5	6.8	3.4	2.7
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)