

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: P596750

Luminaire Tested: **MSA-SA4A-827-U-SLL**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596750  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4A-827-U-SLL  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9763 lumens  
Efficiency: N/A  
Efficacy: 75.7 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

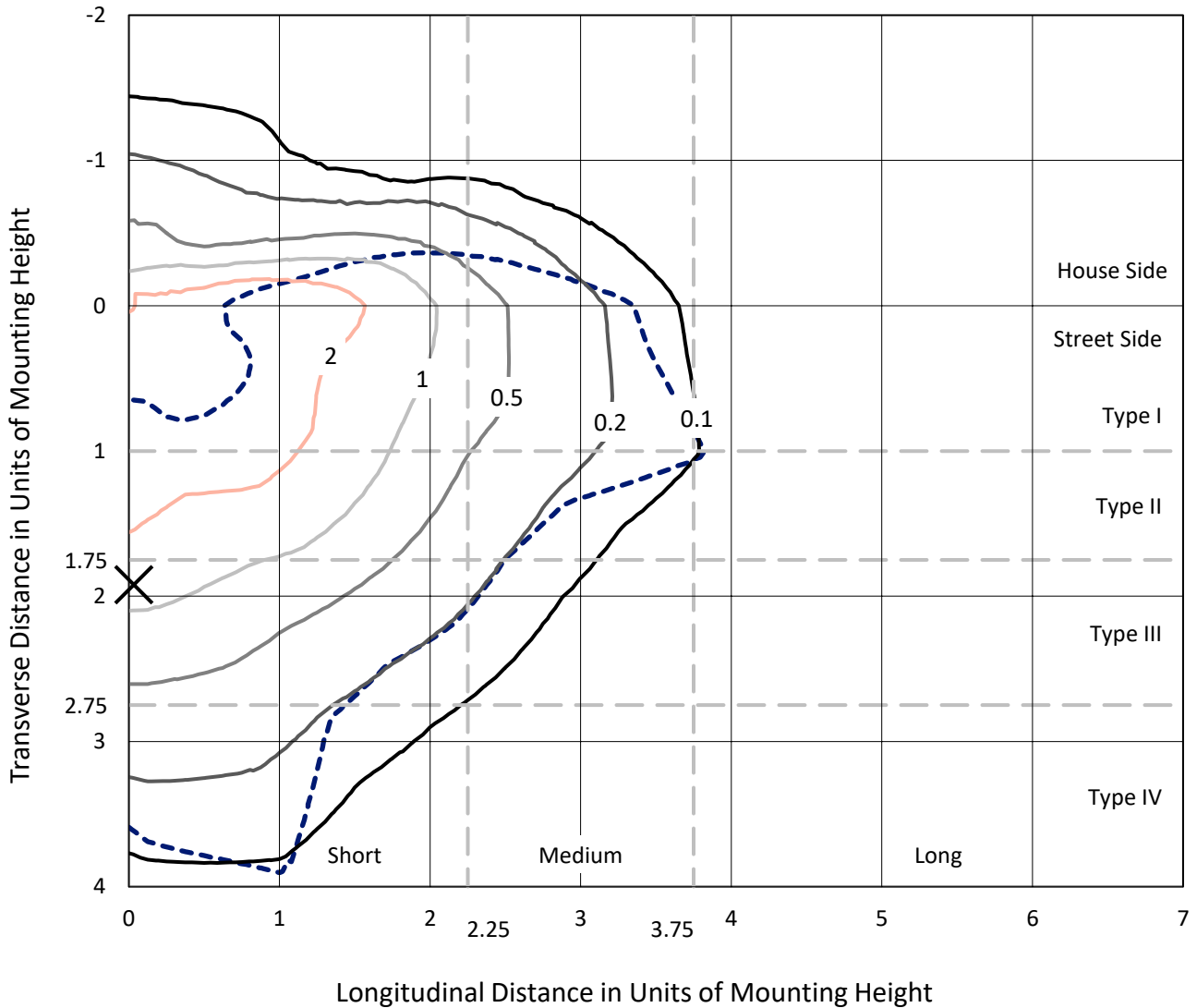
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

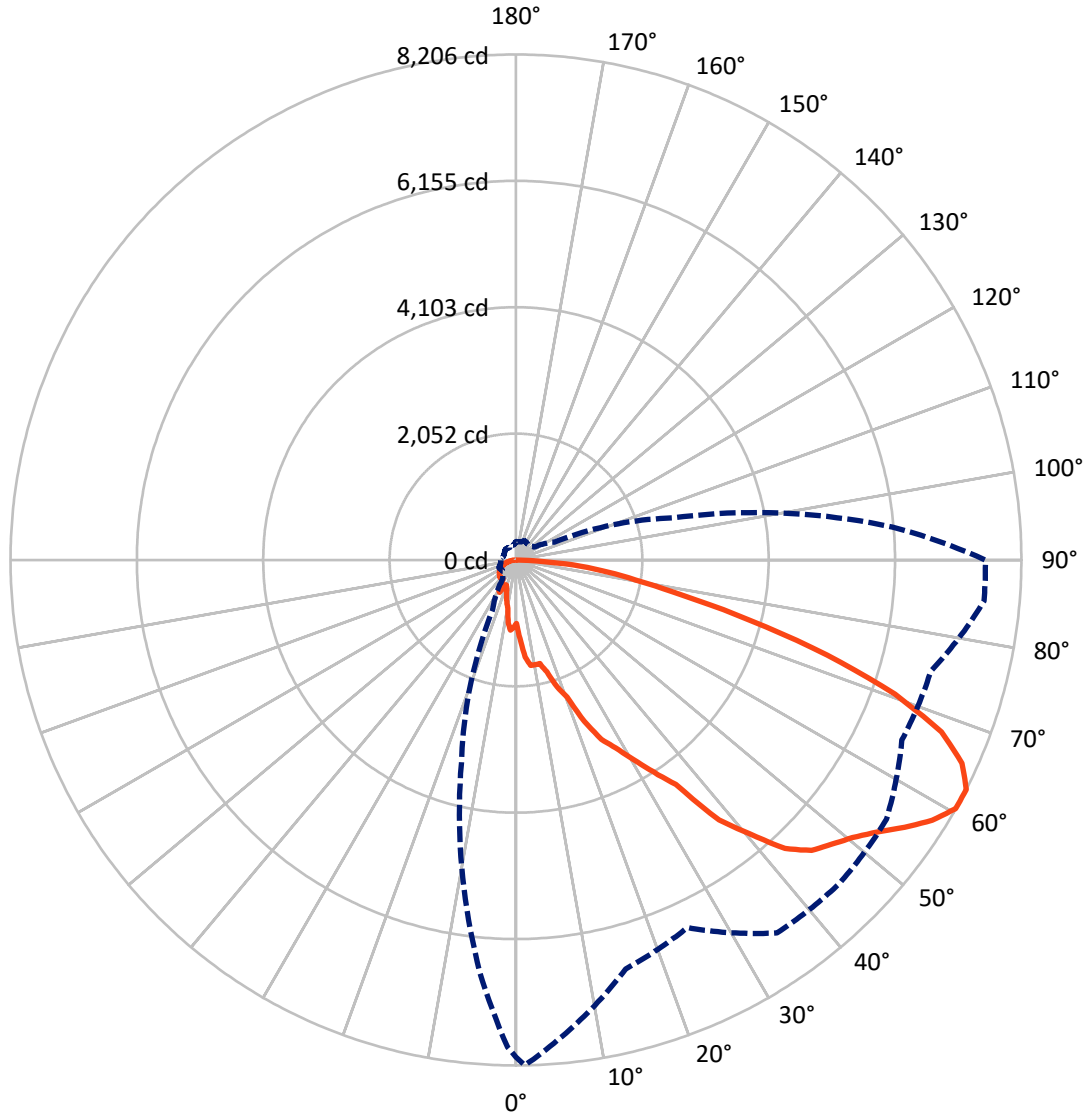
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.2 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 1-Deg Lateral      - - - Horizontal Cone Through 62.5-Deg Vertical

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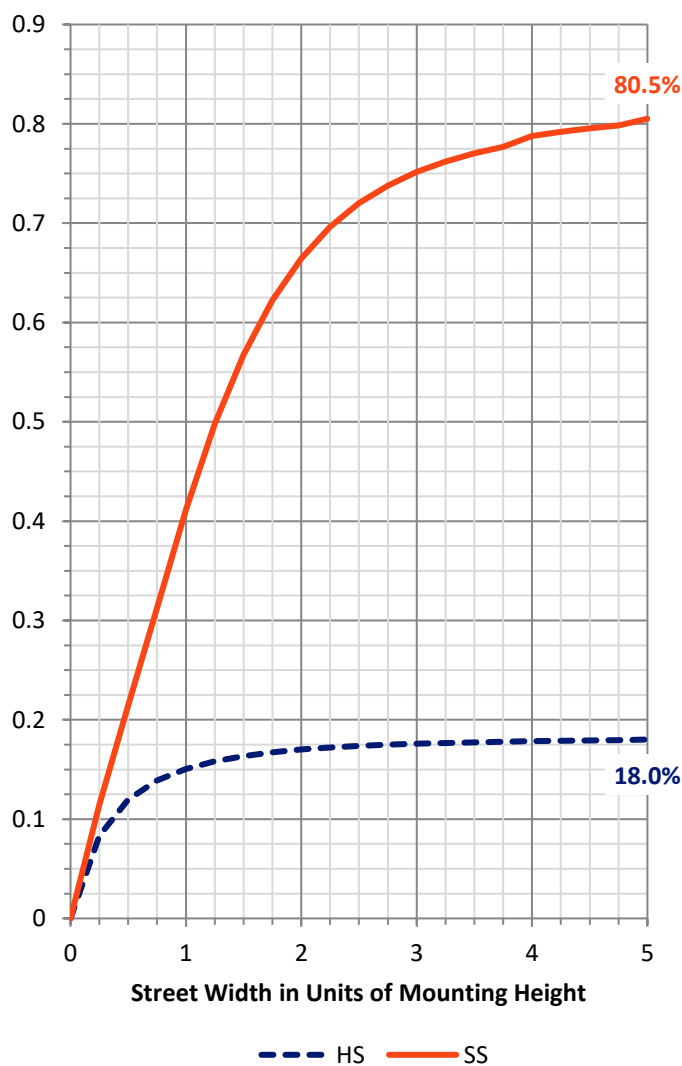
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1777.8	0.0	1777.8
	% Fixture	18.2	0.0	18.2
<b>Street Side</b>	Lumens	7985.2	0.0	7985.2
	% Fixture	81.8	0.0	81.8
<b>Total</b>	Lumens	9763.0	0.0	9763.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.0	1.2
10°-20°	342.9	3.5
20°-30°	605.5	6.2
30°-40°	943.1	9.7
40°-50°	1552.9	15.9
50°-60°	2216.4	22.7
60°-70°	2350.3	24.1
70°-80°	1298.2	13.3
80°-90°	335.8	3.4
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°	9763.0	100.0
0°-180°	9763.0	100.0

**Coefficient of Utilization**



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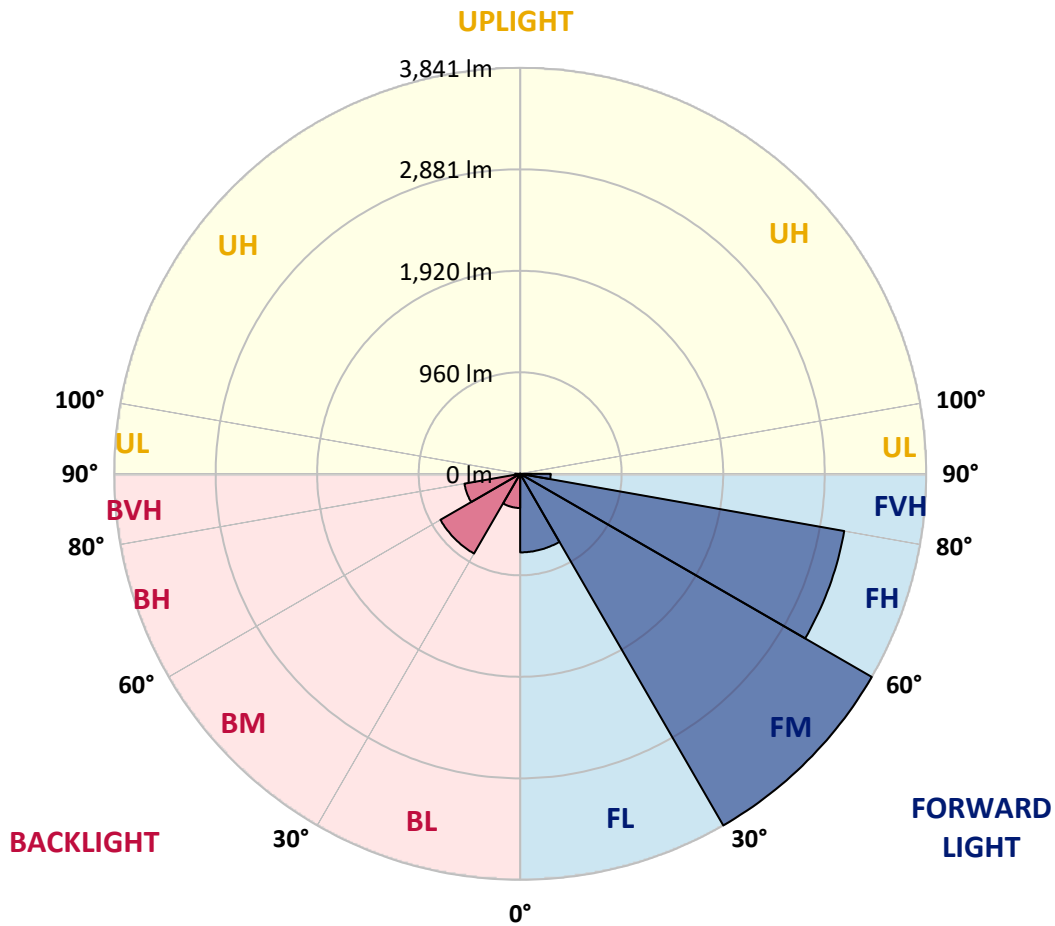
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	743.1	7.6			
FM (30°-60°)	3840.9	39.3			
FH (60°-80°)	3112.8	31.9			G2/5000
FVH (80°-90°)	288.4	3.0			G3/500
BL (0°-30°)	323.3	3.3	B1/500		
BM (30°-60°)	871.5	8.9	B1/1000		
BH (60°-80°)	535.6	5.5	B2/1000		G2/1000
BVH (80°-90°)	47.4	0.5			G1/100
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°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5
2.5°	1265.9	1276.8	1254.5	1229.4	1125.7	1225.6	1195.8	1251.2	1233.2	1112.9	1333.2
5°	1564.4	1584.3	1562.5	1637.8	1642.6	1662.0	1482.4	1594.2	1555.4	1545.4	1656.8
7.5°	1708.4	1728.8	1784.2	1918.3	2023.0	1928.2	1823.5	1800.3	1770.0	1690.9	1758.2
10°	1717.4	1728.8	1803.2	2087.4	2138.1	2205.4	2137.6	1978.0	1912.1	1740.2	1689.0
12.5°	1690.4	1725.9	1822.1	2168.4	2319.1	2392.5	2409.1	2231.4	2069.9	1873.8	1847.7
15°	1871.9	1884.7	2022.5	2226.2	2330.0	2392.1	2446.1	2336.6	2285.9	2130.5	1921.6
17.5°	2132.0	2167.5	2280.2	2355.6	2425.7	2437.5	2393.0	2350.4	2269.8	2477.3	2255.1
20°	2308.2	2376.9	2515.2	2529.4	2382.1	2408.2	2402.0	2404.8	2358.9	2742.6	2620.4
22.5°	2774.4	2848.8	2867.7	2785.3	2507.7	2388.7	2412.4	2481.1	2662.1	2990.9	3129.2
25°	3196.5	3225.4	3398.3	3186.1	2743.6	2484.4	2445.6	2623.3	2918.4	3408.8	3507.3
27.5°	3416.8	3454.2	3569.4	3107.4	2773.0	2361.3	2270.3	2540.8	2841.7	3212.1	3644.7
30°	3698.7	3758.4	3915.2	3186.1	2861.6	2441.8	2240.5	2499.1	2831.7	3341.0	3935.6
32.5°	3989.1	4105.2	4221.7	3463.2	2849.2	2565.0	2431.4	2452.2	2921.7	3611.1	4236.9
35°	4373.8	4476.2	4576.6	3623.4	3097.5	2667.8	2535.1	2755.9	3152.9	3924.2	4657.1
37.5°	5196.3	5358.3	5093.5	4079.1	3367.5	3131.1	2891.9	3022.6	3397.4	4185.3	5343.6
40°	5720.3	5842.0	5586.2	4389.5	3843.2	3443.3	3404.0	3414.9	3734.2	4408.9	5805.6
42.5°	6240.9	6405.8	5998.9	4815.4	4418.4	4088.1	3885.4	3871.6	4111.4	4810.6	6331.0
45°	6629.4	6726.6	6140.5	5174.5	5035.2	4790.3	4638.2	4397.0	4606.9	5088.7	6656.0
47.5°	6814.2	6893.3	6368.4	5383.4	5435.1	5447.9	5722.2	5310.9	5039.9	5276.8	6826.5
50°	7044.9	7082.4	6502.5	5567.3	5815.0	6376.9	6442.8	5745.9	5461.6	5482.0	6927.4
52.5°	7320.7	7336.3	6698.1	5779.5	6199.3	6988.1	6886.2	6483.0	5862.9	5856.7	7117.4
55°	7667.5	7658.0	6943.5	6065.2	6473.6	7351.5	7274.2	6980.5	6300.2	6167.0	7413.1
57.5°	7975.9	7970.2	7269.0	6328.1	6704.3	7538.1	7560.9	7483.2	6597.7	6389.2	7733.3
60°	8127.0	8199.5	7639.5	6615.7	6719.0	7622.5	7631.0	7507.3	6930.3	6674.4	7818.6
62.5°	8068.3	8206.1	7821.4	6874.4	6584.0	7392.2	7427.7	7342.5	6915.1	6973.9	7628.1
65°	7801.1	7960.3	7663.7	7012.2	6501.0	7006.6	7015.6	6800.0	6698.6	7172.4	7181.9
67.5°	7299.8	7449.1	7161.5	6792.4	5933.5	5967.1	6168.0	6185.5	6037.7	7022.7	6555.1
70°	6422.4	6527.6	6347.5	6249.5	4959.4	4762.3	4980.3	5073.6	5140.9	6482.1	5802.7
72.5°	5084.5	5287.7	5316.2	5380.1	3992.9	3664.6	3826.2	3687.8	4126.0	5517.0	4741.0
75°	3761.7	3933.2	4117.5	4474.3	3147.2	2743.6	2723.7	2653.1	3062.4	4436.8	3516.3
77.5°	2658.3	2767.8	2909.4	3574.1	2375.0	2113.0	2125.3	2053.8	2211.6	3353.3	2429.0
80°	1905.5	1962.8	2028.7	2354.6	1752.0	1823.1	1825.0	1757.2	1644.4	2277.4	1621.2
82.5°	1357.8	1402.4	1477.7	1553.0	1306.2	1494.3	1492.8	1488.6	1303.8	1539.3	1014.3
85°	756.1	815.8	946.6	1216.6	943.3	1068.3	939.5	1034.7	957.0	1024.8	513.6
87.5°	53.1	47.4	211.8	705.0	440.1	321.7	168.7	334.0	428.3	535.4	71.5
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°	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5
2.5°	1378.7	1395.2	1330.3	1232.7	1259.3	1230.4	1193.9	1137.0	1020.0	1092.5	1093.0
5°	1655.8	1592.8	1542.1	1494.3	1413.7	1292.0	1275.9	1178.3	1123.3	1152.2	1147.9
7.5°	1742.5	1653.0	1576.7	1405.7	1256.4	1067.4	1010.5	952.7	928.6	998.7	1026.7
10°	1647.3	1554.0	1479.1	1271.1	1169.7	1051.8	895.4	815.4	768.0	786.5	797.4
12.5°	1724.0	1628.8	1393.4	1277.3	1110.0	1038.0	901.1	783.6	713.5	730.6	710.2
15°	1798.0	1669.6	1434.1	1202.9	1067.4	963.2	852.3	731.0	648.6	619.2	603.6
17.5°	2068.0	1854.8	1429.4	1161.2	1005.8	885.9	752.3	619.7	564.7	534.4	508.4
20°	2397.3	2100.2	1454.9	1118.1	940.4	789.3	643.9	520.7	482.3	462.4	455.3
22.5°	2789.1	2414.8	1601.3	1111.9	878.8	718.7	584.2	507.4	464.3	442.5	433.5
25°	3100.3	2740.3	1709.4	1153.6	875.5	660.4	548.1	563.8	543.9	550.5	497.9
27.5°	3402.6	2828.9	1648.7	1135.1	787.4	557.2	539.6	572.3	589.4	594.6	592.7
30°	3658.0	3203.1	1662.0	1030.9	665.2	453.9	413.1	429.2	476.1	550.5	564.7
32.5°	4031.8	3382.2	1775.2	967.9	594.6	406.0	360.5	354.4	365.3	392.3	415.5
35°	4469.1	3794.4	1807.0	951.3	545.8	384.7	353.0	338.7	344.4	364.8	369.5
37.5°	5284.4	4094.8	1924.4	931.0	527.8	371.9	347.3	342.1	354.4	371.0	380.4
40°	5734.0	4634.9	1930.1	913.4	504.6	366.7	351.1	348.7	356.3	379.0	384.7
42.5°	6333.3	4942.8	2019.2	893.1	496.5	373.8	358.6	357.7	364.3	377.6	388.0
45°	6698.6	5148.9	2023.9	881.2	494.6	405.1	368.6	365.3	363.9	371.9	381.4
47.5°	6934.1	5446.0	2081.7	867.9	506.0	413.1	380.4	366.2	361.5	364.8	371.9
50°	7157.2	5683.3	2191.2	866.0	517.8	405.1	401.3	365.7	356.3	354.9	360.1
52.5°	7431.1	6073.7	2326.2	884.1	515.0	393.2	416.9	363.9	346.8	343.5	348.7
55°	7829.5	6492.0	2469.8	868.9	485.6	370.5	401.8	362.4	336.8	330.7	335.4
57.5°	8087.7	6731.8	2630.4	856.1	441.1	353.4	388.0	363.4	337.8	324.1	326.9
60°	8001.9	6602.9	2693.4	777.9	398.9	340.2	355.3	355.8	329.3	316.5	318.8
62.5°	7622.9	6136.2	2634.6	687.0	367.6	321.2	321.7	341.6	304.6	295.6	299.4
65°	7093.3	5555.9	2396.8	627.7	353.0	301.3	293.7	299.9	271.5	264.8	272.4
67.5°	6443.2	4840.5	2042.9	565.2	347.7	274.3	265.3	262.9	244.9	237.4	244.9
70°	5627.9	4053.1	1633.1	521.1	327.8	244.9	237.8	235.5	220.3	214.6	221.2
72.5°	4523.5	3164.8	1260.2	487.5	306.1	217.9	211.8	208.9	196.1	188.1	196.1
75°	3217.4	2418.6	936.2	435.9	275.3	190.5	183.3	179.6	167.7	160.1	167.2
77.5°	2286.4	1815.5	653.8	360.5	226.9	161.1	156.8	150.7	140.2	131.2	138.3
80°	1690.4	1297.2	421.7	278.1	173.4	128.9	126.5	122.2	112.3	101.4	106.6
82.5°	1112.9	935.2	241.6	188.6	126.0	92.9	94.8	91.9	82.4	71.1	73.9
85°	498.4	553.8	128.4	103.8	82.0	55.9	61.1	59.2	52.1	41.2	42.2
87.5°	47.9	93.3	39.3	37.9	30.3	17.5	21.8	18.5	15.6	9.9	7.6
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):**

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5
2.5°	1109.6	1042.8	976.0	1016.7	1017.7	1028.6	1030.0	989.7	1021.9	1046.6	1072.1
5°	1127.1	1083.5	1085.9	1046.6	1025.2	1052.7	1047.0	1036.1	1055.6	1082.6	1115.3
7.5°	1000.1	971.7	967.0	929.1	837.1	816.8	833.8	840.9	867.0	908.7	943.7
10°	780.8	837.1	773.7	759.0	734.8	687.4	660.0	656.6	712.1	745.7	775.1
12.5°	703.5	689.3	681.8	641.5	641.5	591.3	575.2	589.8	675.1	699.3	737.2
15°	599.3	588.9	553.8	533.9	524.5	504.1	521.1	535.4	615.0	616.8	656.6
17.5°	497.5	491.3	458.1	454.3	444.9	435.9	451.5	485.6	528.7	521.1	539.6
20°	444.9	423.5	393.2	404.1	394.2	387.1	380.4	428.8	459.1	469.0	479.9
22.5°	431.6	392.8	374.8	364.8	365.3	353.9	355.3	395.6	441.6	447.7	441.1
25°	493.2	424.0	365.7	336.8	326.0	322.2	333.1	368.6	424.0	437.3	442.5
27.5°	577.0	460.5	376.6	327.4	305.6	307.5	323.1	347.7	413.1	436.8	443.0
30°	553.8	433.0	377.1	320.3	293.3	303.2	308.9	332.6	404.6	440.1	470.9
32.5°	427.3	389.4	379.5	326.0	315.1	299.4	307.5	330.2	379.5	401.8	403.2
35°	362.0	333.1	326.4	313.2	298.0	291.4	300.4	320.3	352.5	366.2	364.3
37.5°	359.1	327.4	301.3	295.6	289.5	287.6	292.8	311.3	344.0	368.1	362.9
40°	363.9	324.5	298.0	288.1	290.4	281.9	287.1	309.8	345.4	368.1	363.4
42.5°	358.2	321.2	293.7	286.2	288.5	276.7	282.8	306.5	341.6	368.6	359.6
45°	346.8	313.6	291.4	278.6	289.5	271.9	279.5	298.0	330.2	359.6	349.2
47.5°	335.4	304.6	281.4	273.4	284.3	267.2	270.5	286.6	318.8	347.7	338.7
50°	323.1	293.3	273.4	271.0	278.6	266.3	261.0	274.3	305.1	334.0	326.4
52.5°	309.8	283.8	267.7	266.7	273.8	260.1	252.5	262.9	290.4	319.3	313.2
55°	297.1	273.4	260.6	262.9	271.0	254.9	245.4	252.0	274.8	303.2	294.7
57.5°	284.3	261.5	251.1	257.7	263.9	248.3	236.4	240.2	258.7	286.6	276.7
60°	272.9	251.1	240.7	248.7	254.4	238.3	224.6	226.9	243.5	268.6	259.6
62.5°	258.2	239.7	226.0	236.4	240.7	225.0	210.4	213.2	226.5	250.1	243.5
65°	237.4	225.5	212.7	219.8	225.5	209.4	195.7	199.0	208.9	231.2	226.5
67.5°	219.4	208.0	199.5	205.1	206.1	193.8	181.5	183.3	191.4	212.2	207.0
70°	199.5	188.6	181.9	186.2	185.7	175.3	165.8	166.3	172.9	191.9	184.8
72.5°	177.7	167.2	163.9	166.3	164.4	154.9	145.9	149.2	153.5	167.7	162.0
75°	154.4	145.0	143.1	145.4	142.6	133.6	125.5	128.9	132.7	144.5	137.4
77.5°	130.3	121.8	122.2	122.7	118.9	112.8	104.7	108.0	110.4	118.4	111.3
80°	103.8	97.1	99.0	99.0	94.8	90.5	82.9	83.9	85.3	88.1	82.9
82.5°	75.8	75.8	75.8	76.3	67.3	68.7	62.1	61.6	60.2	59.7	56.4
85°	45.0	46.9	47.9	49.3	36.5	42.6	37.0	35.5	32.7	29.8	28.9
87.5°	9.9	12.8	12.8	12.3	0.0	4.7	2.4	3.8	0.9	0.0	0.0
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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 CATALOG NUMBER: MSA-SA4A-827-U-SLL

**CANDELA DISTRIBUTION (continued):**

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5	1029.5
2.5°	1042.8	1014.3	1067.4	1114.8	1107.2	1134.7	1070.7	1165.5	1265.9	1265.9
5°	1106.7	1082.6	1096.3	1123.8	1144.6	1240.3	1319.9	1399.0	1562.5	1564.4
7.5°	933.3	985.4	997.8	989.7	1079.2	1202.4	1333.7	1559.2	1697.5	1708.4
10°	872.7	896.4	933.8	954.6	991.1	1112.4	1275.4	1543.1	1689.9	1717.4
12.5°	790.7	878.4	935.2	1051.8	1080.7	1104.8	1364.0	1595.7	1697.0	1690.4
15°	701.2	767.5	849.5	978.3	1051.8	1236.5	1416.6	1764.3	1821.6	1871.9
17.5°	559.0	607.8	716.8	863.7	1045.6	1215.7	1546.4	1972.8	2079.8	2132.0
20°	460.0	460.5	569.5	764.2	962.2	1128.5	1595.7	2145.7	2281.7	2308.2
22.5°	434.9	413.1	470.5	628.7	870.3	1180.2	1695.1	2423.8	2707.6	2774.4
25°	421.2	394.6	430.7	554.8	804.5	1207.2	1895.5	2806.1	3170.5	3196.5
27.5°	426.9	439.2	450.6	494.6	721.1	1156.5	1849.1	2977.2	3367.5	3416.8
30°	465.2	485.1	459.1	474.2	652.4	1083.0	1932.0	3254.8	3615.8	3698.7
32.5°	387.1	379.5	377.1	410.3	583.7	1016.7	2105.9	3645.6	3884.9	3989.1
35°	349.2	337.3	342.1	380.0	550.0	1007.2	2203.5	3969.2	4309.9	4373.8
37.5°	347.7	334.0	340.2	368.6	561.9	1024.3	2359.8	4488.5	5059.4	5196.3
40°	344.4	336.8	340.2	361.5	549.6	1033.8	2449.9	4924.8	5581.5	5720.3
42.5°	344.0	340.2	343.5	367.2	536.8	1038.0	2574.5	5319.0	6131.5	6240.9
45°	342.5	346.3	346.3	371.9	531.1	1066.5	2647.9	5512.3	6494.4	6629.4
47.5°	335.9	347.3	365.7	370.5	507.9	1053.2	2751.6	5805.6	6687.2	6814.2
50°	327.4	345.9	390.4	361.0	504.1	1021.0	2872.9	6038.2	6934.5	7044.9
52.5°	316.0	343.5	384.7	342.5	497.5	1015.3	3043.0	6340.4	7223.1	7320.7
55°	299.9	335.0	367.2	324.1	481.3	997.3	3303.1	6715.2	7600.7	7667.5
57.5°	285.2	322.2	341.6	313.6	443.0	1001.1	3484.1	7020.8	7917.6	7975.9
60°	271.9	320.7	305.1	302.7	403.7	950.4	3542.8	7017.5	8035.6	8127.0
62.5°	257.7	302.7	279.5	288.1	369.1	898.3	3418.2	6716.6	7908.1	8068.3
65°	239.3	259.6	258.2	277.6	370.0	813.5	3132.6	6186.0	7590.2	7801.1
67.5°	217.5	229.8	237.8	260.6	381.9	747.6	2673.0	5547.8	7049.2	7299.8
70°	195.2	207.5	216.5	238.3	392.8	717.3	2127.7	4651.5	6168.0	6422.4
72.5°	172.5	185.2	192.3	211.3	378.1	652.4	1574.8	3619.1	4950.9	5084.5
75°	148.8	161.1	166.8	184.3	328.3	539.6	1087.3	2741.2	3626.2	3761.7
77.5°	124.6	137.9	139.8	154.0	250.6	412.7	696.9	2102.6	2567.8	2658.3
80°	99.5	112.8	112.8	120.3	176.2	283.8	417.4	1586.2	1870.0	1905.5
82.5°	71.5	85.8	84.8	85.3	121.8	175.8	241.6	1188.7	1351.2	1357.8
85°	42.2	52.1	51.6	47.4	72.0	94.8	130.8	738.1	754.2	756.1
87.5°	8.1	12.3	10.9	4.7	19.9	28.0	37.9	136.9	54.5	53.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)