

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: P596772

Luminaire Tested: **MSA-SA4B-827-U-SLL**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596772
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-SA4B-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: 12235 lumens
Efficiency: N/A
Efficacy: 71.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

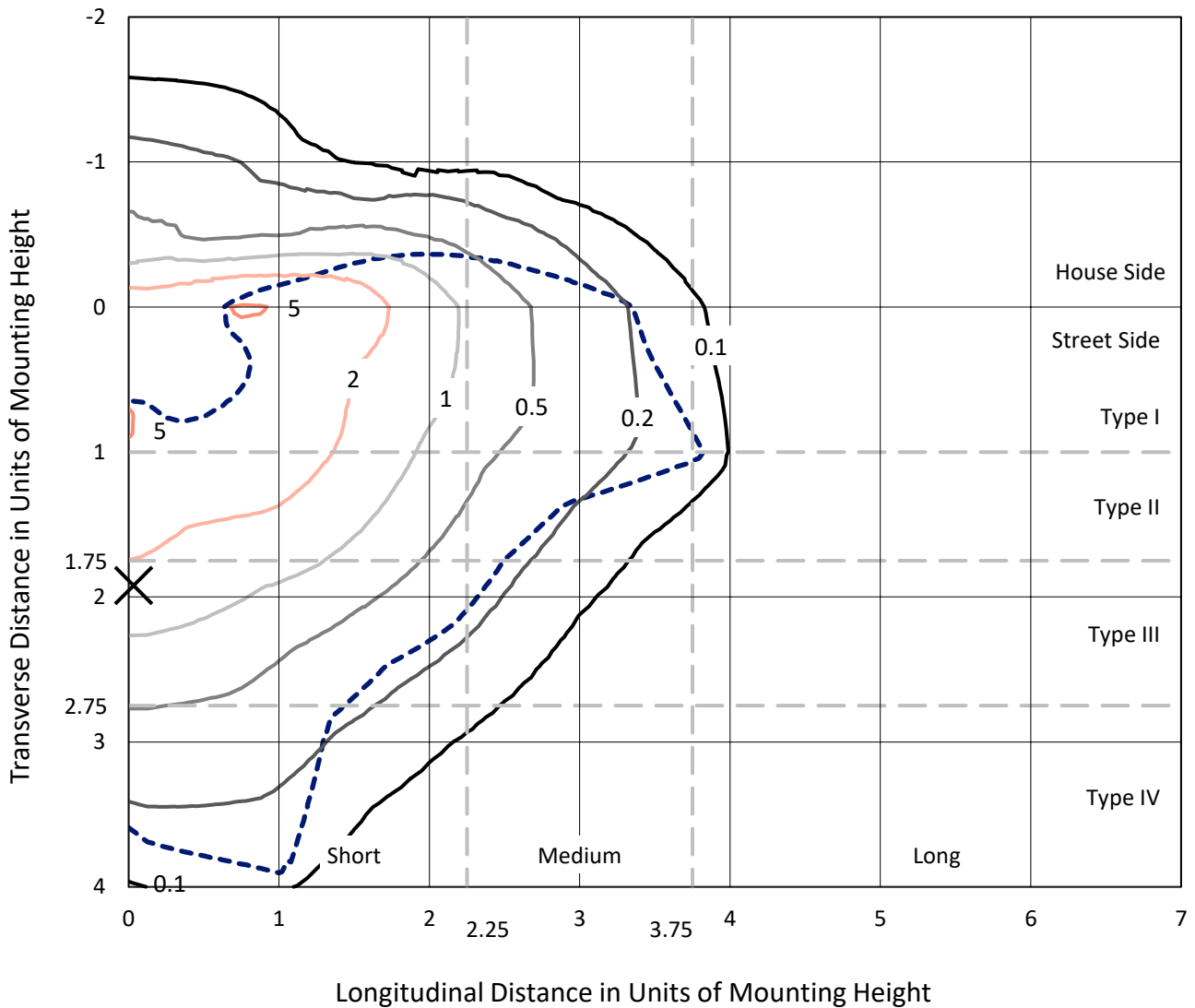
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P596772
 CATALOG NUMBER: MSA-SA4B-827-U-SLL

Iso-Footcandle Lines of Horizontal Illumination

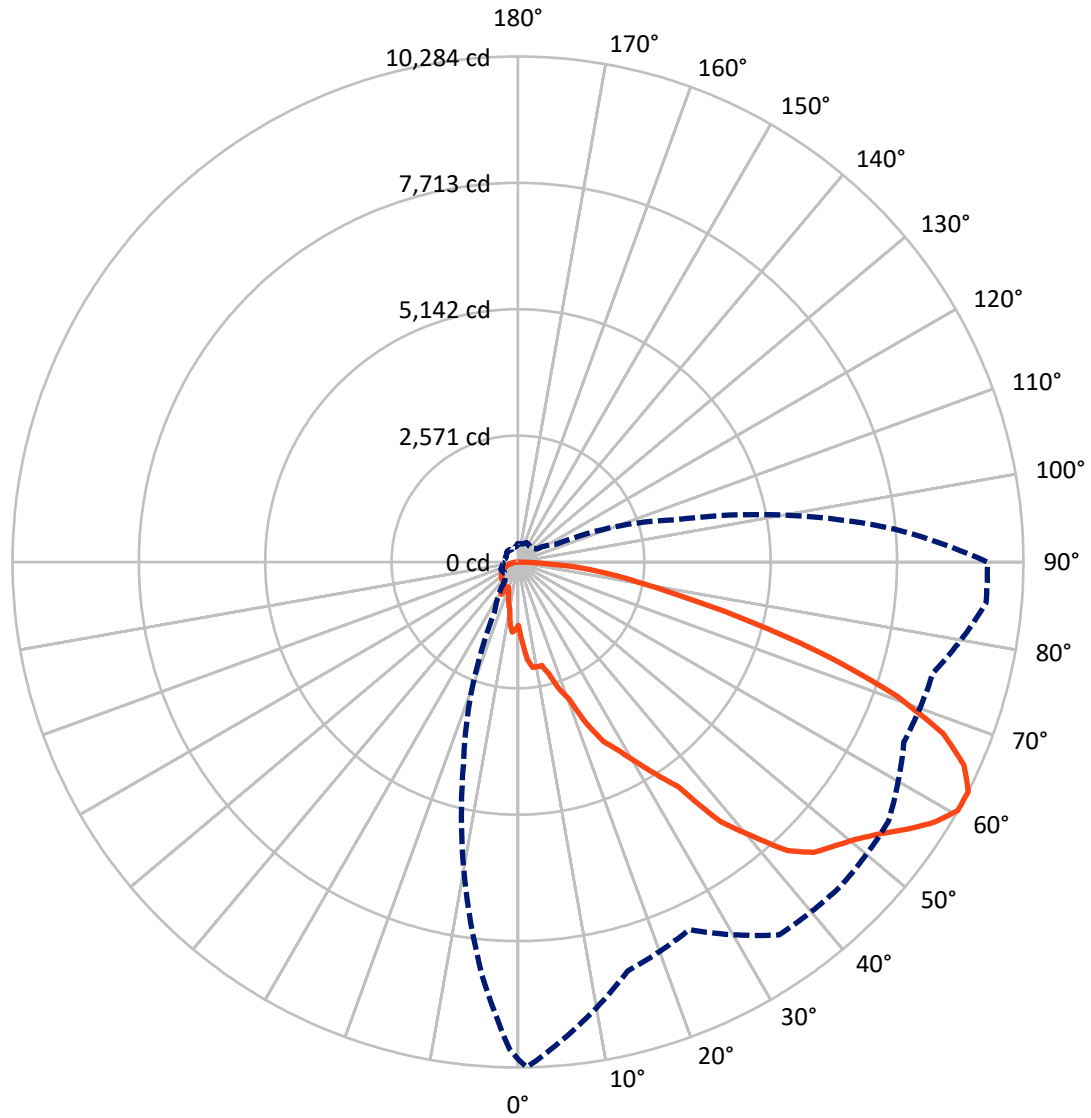
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 fc
 Type IV - Short - N/A

REPORT NUMBER: P596772
CATALOG NUMBER: MSA-SA4B-827-U-SLL

Luminous Intensity Polar Plot



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

REPORT NUMBER: P596772
 CATALOG NUMBER: MSA-SA4B-827-U-SLL

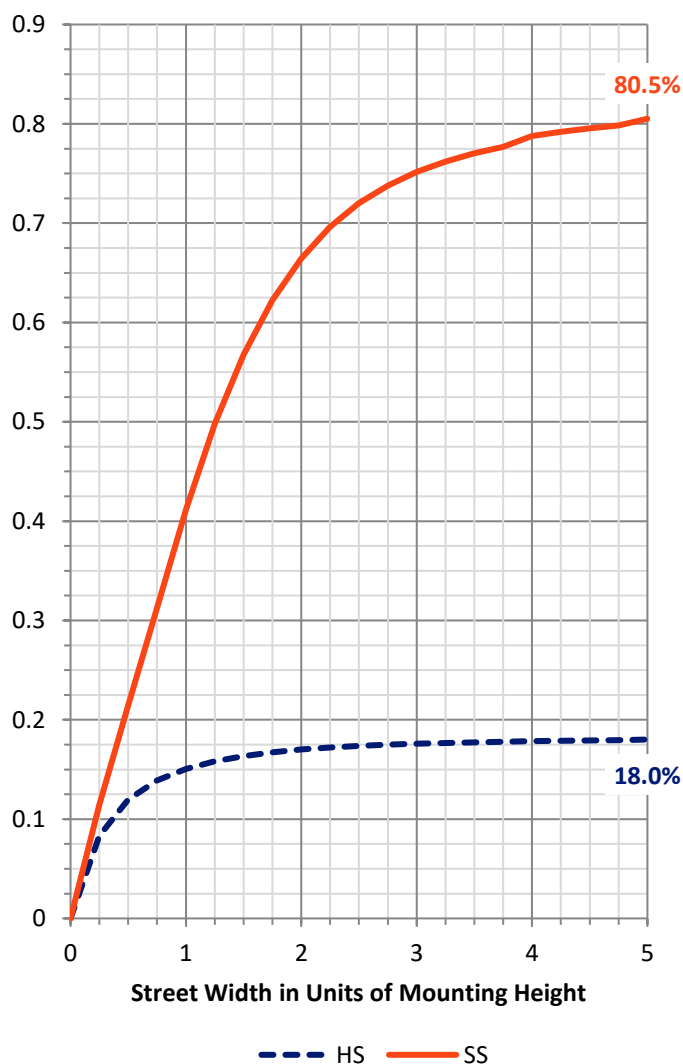
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2227.9	0.0	2227.9
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	10007.1	0.0	10007.1
	% Fixture	81.8	0.0	81.8
Total	Lumens	12235.0	0.0	12235.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.9	1.2
10°-20°	429.8	3.5
20°-30°	758.8	6.2
30°-40°	1181.9	9.7
40°-50°	1946.1	15.9
50°-60°	2777.6	22.7
60°-70°	2945.3	24.1
70°-80°	1626.9	13.3
80°-90°	420.8	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°	12235.0	100.0
0°-180°	12235.0	100.0

Coefficient of Utilization



REPORT NUMBER: P596772

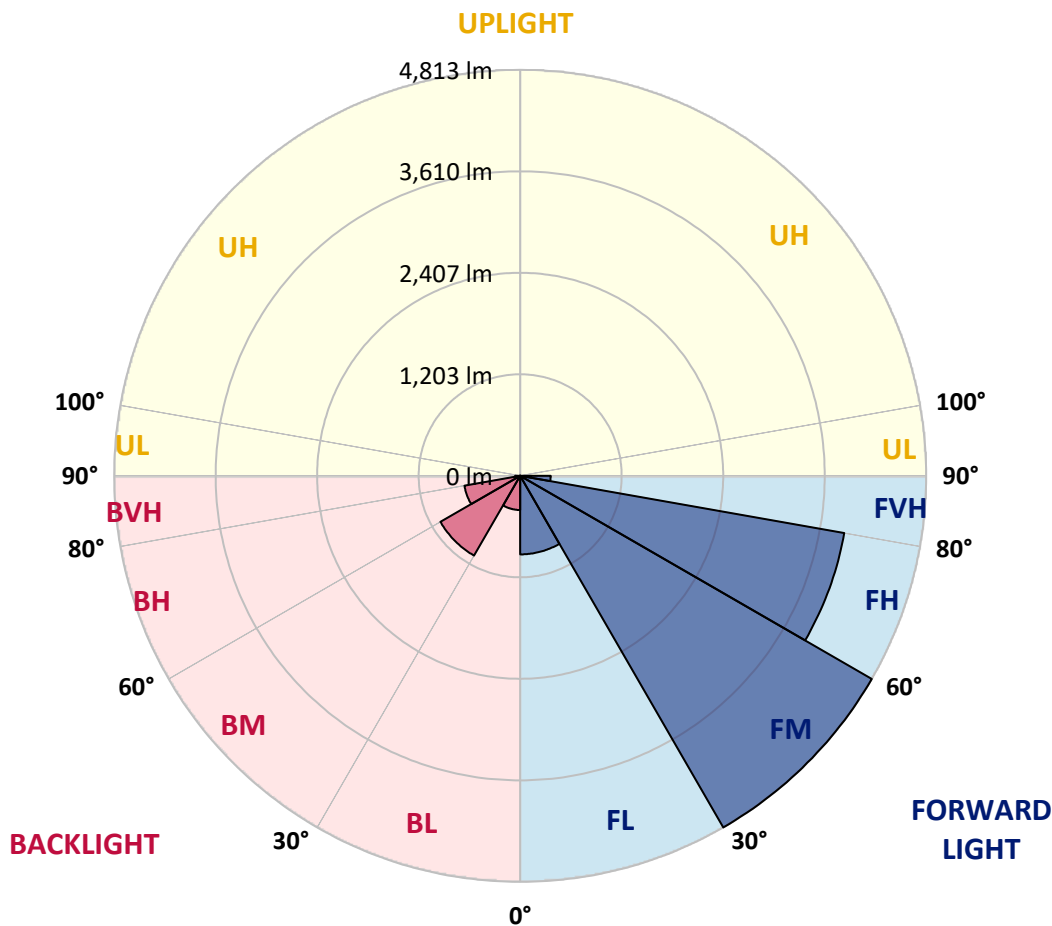
CATALOG NUMBER: MSA-SA4B-827-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	931.3	7.6			
FM (30°-60°)	4813.4	39.3			
FH (60°-80°)	3901.0	31.9			G2/5000
FVH (80°-90°)	361.4	3.0			G3/500
BL (0°-30°)	405.2	3.3	B1/500		
BM (30°-60°)	1092.2	8.9	B2/2500		
BH (60°-80°)	671.2	5.5	B2/1000		G2/1000
BVH (80°-90°)	59.3	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





REPORT NUMBER: P596772
 CATALOG NUMBER: MSA-SA4B-827-U-SLL

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2
2.5°	1586.4	1600.1	1572.2	1540.7	1410.7	1536.0	1498.6	1568.0	1545.5	1394.7	1670.7
5°	1960.5	1985.4	1958.1	2052.5	2058.5	2082.8	1857.8	1997.9	1949.2	1936.7	2076.3
7.5°	2141.0	2166.5	2236.0	2404.0	2535.2	2416.5	2285.3	2256.2	2218.2	2119.0	2203.3
10°	2152.3	2166.5	2259.7	2616.0	2679.5	2763.8	2678.9	2478.8	2396.3	2180.8	2116.6
12.5°	2118.4	2162.9	2283.5	2717.5	2906.3	2998.3	3019.1	2796.5	2594.0	2348.2	2315.5
15°	2345.8	2361.8	2534.6	2789.9	2919.9	2997.7	3065.4	2928.3	2864.7	2670.0	2408.2
17.5°	2671.8	2716.3	2857.6	2952.0	3039.9	3054.7	2998.9	2945.5	2844.5	3104.6	2826.1
20°	2892.6	2978.7	3152.1	3169.9	2985.3	3017.9	3010.2	3013.8	2956.2	3437.1	3283.9
22.5°	3476.9	3570.1	3593.8	3490.5	3142.6	2993.6	3023.3	3109.3	3336.2	3748.2	3921.6
25°	4005.9	4042.1	4258.8	3992.8	3438.3	3113.5	3064.8	3287.5	3657.4	4271.9	4395.4
27.5°	4282.0	4328.9	4473.1	3894.3	3475.1	2959.1	2845.1	3184.2	3561.2	4025.5	4567.5
30°	4635.2	4710.0	4906.6	3992.8	3586.1	3060.1	2807.7	3131.9	3548.7	4187.0	4932.1
32.5°	4999.2	5144.6	5290.7	4340.1	3570.7	3214.4	3047.0	3073.1	3661.5	4525.4	5309.7
35°	5481.3	5609.5	5735.4	4540.8	3881.8	3343.3	3177.0	3453.7	3951.3	4917.8	5836.3
37.5°	6512.0	6715.1	6383.2	5112.0	4220.2	3923.9	3624.1	3788.0	4257.6	5245.0	6696.6
40°	7168.7	7321.2	7000.6	5500.9	4816.3	4315.2	4265.9	4279.6	4679.8	5525.2	7275.5
42.5°	7821.2	8027.8	7517.8	6034.6	5537.1	5123.3	4869.2	4851.9	5152.4	6028.7	7934.0
45°	8308.0	8429.7	7695.3	6484.7	6310.1	6003.2	5812.6	5510.4	5773.4	6377.2	8341.3
47.5°	8539.6	8638.7	7980.9	6746.5	6811.2	6827.3	7171.0	6655.7	6316.1	6612.9	8555.0
50°	8828.7	8875.6	8148.9	6976.9	7287.4	7991.6	8074.1	7200.7	6844.5	6870.0	8681.5
52.5°	9174.3	9193.9	8394.1	7242.9	7768.9	8757.5	8629.8	8124.6	7347.4	7339.7	8919.6
55°	9608.9	9597.0	8701.7	7600.9	8112.7	9212.9	9116.1	8748.0	7895.4	7728.5	9290.0
57.5°	9995.4	9988.3	9109.6	7930.4	8401.8	9446.8	9475.3	9377.9	8268.2	8007.0	9691.4
60°	10184.8	10275.6	9573.8	8290.8	8420.2	9552.5	9563.2	9408.2	8685.0	8364.4	9798.3
62.5°	10111.2	10283.9	9801.8	8615.0	8251.0	9263.9	9308.4	9201.6	8666.0	8739.7	9559.6
65°	9776.3	9975.8	9604.1	8787.8	8147.1	8780.6	8791.9	8521.8	8394.7	8988.4	9000.3
67.5°	9148.1	9335.2	8974.8	8512.3	7435.8	7478.0	7729.7	7751.7	7566.5	8800.8	8214.8
70°	8048.6	8180.4	7954.8	7831.9	6215.1	5968.1	6241.3	6358.2	6442.5	8123.4	7272.0
72.5°	6371.9	6626.6	6662.2	6742.4	5003.9	4592.5	4794.9	4621.6	5170.8	6913.9	5941.4
75°	4714.2	4929.1	5160.1	5607.2	3944.1	3438.3	3413.3	3324.9	3837.9	5560.3	4406.6
77.5°	3331.4	3468.6	3646.1	4479.1	2976.4	2648.0	2663.5	2573.8	2771.5	4202.4	3044.0
80°	2388.0	2459.8	2542.3	2950.8	2195.6	2284.7	2287.0	2202.1	2060.8	2854.0	2031.7
82.5°	1701.6	1757.4	1851.8	1946.2	1636.9	1872.6	1870.8	1865.5	1633.9	1929.0	1271.2
85°	947.6	1022.4	1186.3	1524.7	1182.1	1338.9	1177.4	1296.7	1199.3	1284.2	643.6
87.5°	66.5	59.4	265.4	883.5	551.6	403.1	211.4	418.6	536.7	670.9	89.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P596772

CATALOG NUMBER: MSA-SA4B-827-U-SLL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2
2.5°	1727.7	1748.5	1667.2	1544.9	1578.1	1541.9	1496.2	1424.9	1278.3	1369.1	1369.7
5°	2075.1	1996.1	1932.6	1872.6	1771.7	1619.1	1598.9	1476.6	1407.7	1443.9	1438.6
7.5°	2183.7	2071.5	1975.9	1761.6	1574.6	1337.7	1266.4	1194.0	1163.7	1251.6	1286.6
10°	2064.4	1947.4	1853.6	1593.0	1465.9	1318.1	1122.1	1021.8	962.4	985.6	999.2
12.5°	2160.6	2041.2	1746.2	1600.7	1391.1	1300.9	1129.3	982.0	894.2	915.5	890.0
15°	2253.2	2092.3	1797.2	1507.5	1337.7	1207.0	1068.1	916.1	812.8	776.0	756.4
17.5°	2591.6	2324.4	1791.3	1455.2	1260.5	1110.3	942.8	776.6	707.7	669.7	637.1
20°	3004.3	2632.0	1823.3	1401.2	1178.5	989.1	806.9	652.5	604.4	579.5	570.6
22.5°	3495.3	3026.2	2006.8	1393.5	1101.4	900.7	732.1	635.9	581.9	554.5	543.3
25°	3885.3	3434.1	2142.2	1445.7	1097.2	827.7	686.9	706.5	681.6	689.9	624.0
27.5°	4264.1	3545.1	2066.2	1422.6	986.8	698.2	676.3	717.2	738.6	745.1	742.8
30°	4584.2	4014.2	2082.8	1291.9	833.6	568.8	517.7	537.9	596.7	689.9	707.7
32.5°	5052.6	4238.6	2224.7	1213.0	745.1	508.8	451.8	444.1	457.8	491.6	520.7
35°	5600.6	4755.2	2264.5	1192.2	684.0	482.1	442.3	424.5	431.6	457.2	463.1
37.5°	6622.4	5131.6	2411.7	1166.7	661.4	466.1	435.2	428.7	444.1	464.9	476.8
40°	7185.9	5808.4	2418.8	1144.7	632.3	459.5	440.0	437.0	446.5	475.0	482.1
42.5°	7936.9	6194.4	2530.5	1119.2	622.2	468.5	449.5	448.3	456.6	473.2	486.3
45°	8394.7	6452.6	2536.4	1104.3	619.9	507.6	461.9	457.8	456.0	466.1	478.0
47.5°	8689.8	6824.9	2608.8	1087.7	634.1	517.7	476.8	459.0	453.0	457.2	466.1
50°	8969.4	7122.3	2746.0	1085.3	648.9	507.6	502.9	458.4	446.5	444.7	451.2
52.5°	9312.6	7611.6	2915.2	1107.9	645.4	492.8	522.5	456.0	434.6	430.5	437.0
55°	9811.9	8135.8	3095.1	1088.9	608.6	464.3	503.5	454.2	422.1	414.4	420.4
57.5°	10135.5	8436.3	3296.4	1072.9	552.8	442.9	486.3	455.4	423.3	406.1	409.7
60°	10028.0	8274.8	3375.3	974.9	499.9	426.3	445.3	445.9	412.6	396.6	399.6
62.5°	9553.1	7690.0	3301.7	860.9	460.7	402.5	403.1	428.1	381.8	370.5	375.2
65°	8889.3	6962.6	3003.7	786.7	442.3	377.6	368.1	375.8	340.2	331.9	341.4
67.5°	8074.7	6066.1	2560.2	708.3	435.8	343.8	332.5	329.5	307.0	297.5	307.0
70°	7052.9	5079.3	2046.6	653.1	410.9	307.0	298.1	295.1	276.1	269.0	277.3
72.5°	5668.9	3966.1	1579.3	610.9	383.5	273.1	265.4	261.8	245.8	235.7	245.8
75°	4032.0	3031.0	1173.2	546.2	345.0	238.7	229.8	225.0	210.2	200.7	209.6
77.5°	2865.3	2275.2	819.3	451.8	284.4	201.9	196.5	188.8	175.7	164.5	173.4
80°	2118.4	1625.6	528.4	348.5	217.3	161.5	158.5	153.2	140.7	127.1	133.6
82.5°	1394.7	1172.0	302.8	236.3	157.9	116.4	118.7	115.2	103.3	89.1	92.6
85°	624.6	694.1	160.9	130.0	102.7	70.1	76.6	74.2	65.3	51.7	52.8
87.5°	60.0	117.0	49.3	47.5	38.0	22.0	27.3	23.2	19.6	12.5	9.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



REPORT NUMBER: P596772

CATALOG NUMBER: MSA-SA4B-827-U-SLL

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2
2.5°	1390.5	1306.8	1223.1	1274.1	1275.3	1289.0	1290.8	1240.3	1280.7	1311.5	1343.6
5°	1412.5	1357.9	1360.8	1311.5	1284.8	1319.3	1312.1	1298.5	1322.8	1356.7	1397.6
7.5°	1253.4	1217.7	1211.8	1164.3	1049.1	1023.6	1045.0	1053.9	1086.5	1138.8	1182.7
10°	978.5	1049.1	969.6	951.2	920.9	861.5	827.1	822.9	892.4	934.5	971.3
12.5°	881.7	863.9	854.4	803.9	803.9	741.0	720.8	739.2	846.1	876.3	923.8
15°	751.1	738.0	694.1	669.1	657.3	631.7	653.1	670.9	770.7	773.0	822.9
17.5°	623.4	615.7	574.1	569.4	557.5	546.2	565.8	608.6	662.6	653.1	676.3
20°	557.5	530.8	492.8	506.4	494.0	485.1	476.8	537.3	575.3	587.8	601.4
22.5°	540.9	492.2	469.6	457.2	457.8	443.5	445.3	495.8	553.4	561.1	552.8
25°	618.1	531.4	458.4	422.1	408.5	403.7	417.4	461.9	531.4	548.0	554.5
27.5°	723.2	577.1	472.0	410.3	383.0	385.3	404.9	435.8	517.7	547.4	555.1
30°	694.1	542.7	472.6	401.4	367.5	380.0	387.1	416.8	507.0	551.6	590.2
32.5°	535.5	488.0	475.6	408.5	394.8	375.2	385.3	413.8	475.6	503.5	505.3
35°	453.6	417.4	409.1	392.5	373.5	365.1	376.4	401.4	441.7	459.0	456.6
37.5°	450.0	410.3	377.6	370.5	362.8	360.4	366.9	390.1	431.0	461.3	454.8
40°	456.0	406.7	373.5	361.0	364.0	353.3	359.8	388.3	432.8	461.3	455.4
42.5°	448.9	402.5	368.1	358.6	361.6	346.7	354.5	384.1	428.1	461.9	450.6
45°	434.6	393.0	365.1	349.1	362.8	340.8	350.3	373.5	413.8	450.6	437.6
47.5°	420.4	381.8	352.7	342.6	356.2	334.9	339.0	359.2	399.6	435.8	424.5
50°	404.9	367.5	342.6	339.6	349.1	333.7	327.1	343.8	382.4	418.6	409.1
52.5°	388.3	355.6	335.5	334.3	343.2	326.0	316.5	329.5	364.0	400.2	392.5
55°	372.3	342.6	326.5	329.5	339.6	319.4	307.6	315.9	344.4	380.0	369.3
57.5°	356.2	327.7	314.7	323.0	330.7	311.1	296.3	301.0	324.2	359.2	346.7
60°	342.0	314.7	301.6	311.7	318.8	298.6	281.4	284.4	305.2	336.6	325.4
62.5°	323.6	300.4	283.2	296.3	301.6	282.0	263.6	267.2	283.8	313.5	305.2
65°	297.5	282.6	266.6	275.5	282.6	262.4	245.2	249.4	261.8	289.7	283.8
67.5°	274.9	260.6	250.0	257.1	258.3	242.8	227.4	229.8	239.9	266.0	259.5
70°	250.0	236.3	228.0	233.3	232.7	219.7	207.8	208.4	216.7	240.5	231.6
72.5°	222.6	209.6	205.4	208.4	206.0	194.1	182.9	187.0	192.4	210.2	203.1
75°	193.6	181.7	179.3	182.3	178.7	167.4	157.3	161.5	166.2	181.1	172.2
77.5°	163.3	152.6	153.2	153.8	149.0	141.3	131.2	135.4	138.3	148.4	139.5
80°	130.0	121.7	124.1	124.1	118.7	113.4	103.9	105.1	106.9	110.4	103.9
82.5°	95.0	95.0	95.0	95.6	84.3	86.1	77.8	77.2	75.4	74.8	70.7
85°	56.4	58.8	60.0	61.7	45.7	53.4	46.3	44.5	41.0	37.4	36.2
87.5°	12.5	16.0	16.0	15.4	0.0	5.9	3.0	4.7	1.2	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



REPORT NUMBER: P596772
 CATALOG NUMBER: MSA-SA4B-827-U-SLL

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2	1290.2
2.5°	1306.8	1271.2	1337.7	1397.0	1387.5	1422.0	1341.8	1460.6	1586.4	1586.4
5°	1386.9	1356.7	1373.9	1408.3	1434.4	1554.4	1654.1	1753.3	1958.1	1960.5
7.5°	1169.6	1235.0	1250.4	1240.3	1352.5	1506.9	1671.3	1954.0	2127.3	2141.0
10°	1093.6	1123.3	1170.2	1196.4	1242.1	1394.1	1598.3	1933.8	2117.8	2152.3
12.5°	990.9	1100.8	1172.0	1318.1	1354.3	1384.6	1709.3	1999.7	2126.7	2118.4
15°	878.7	961.8	1064.6	1226.0	1318.1	1549.6	1775.2	2211.0	2282.9	2345.8
17.5°	700.6	761.8	898.3	1082.4	1310.4	1523.5	1937.9	2472.3	2606.5	2671.8
20°	576.5	577.1	713.7	957.7	1205.9	1414.3	1999.7	2689.0	2859.4	2892.6
22.5°	545.0	517.7	589.6	787.9	1090.7	1479.0	2124.4	3037.5	3393.1	3476.9
25°	527.8	494.6	539.7	695.3	1008.1	1512.8	2375.5	3516.6	3973.2	4005.9
27.5°	534.9	550.4	564.6	619.9	903.7	1449.3	2317.3	3731.0	4220.2	4282.0
30°	583.0	608.0	575.3	594.3	817.6	1357.3	2421.2	4078.9	4531.3	4635.2
32.5°	485.1	475.6	472.6	514.2	731.5	1274.1	2639.1	4568.7	4868.6	4999.2
35°	437.6	422.7	428.7	476.2	689.3	1262.3	2761.4	4974.2	5401.1	5481.3
37.5°	435.8	418.6	426.3	461.9	704.2	1283.6	2957.4	5625.0	6340.4	6512.0
40°	431.6	422.1	426.3	453.0	688.7	1295.5	3070.2	6171.8	6994.7	7168.7
42.5°	431.0	426.3	430.5	460.1	672.7	1300.9	3226.3	6665.8	7684.0	7821.2
45°	429.3	434.0	434.0	466.1	665.6	1336.5	3318.3	6908.0	8138.8	8308.0
47.5°	421.0	435.2	458.4	464.3	636.5	1319.9	3448.4	7275.5	8380.5	8539.6
50°	410.3	433.4	489.2	452.4	631.7	1279.5	3600.4	7567.0	8690.4	8828.7
52.5°	396.0	430.5	482.1	429.3	623.4	1272.4	3813.5	7945.8	9052.0	9174.3
55°	375.8	419.8	460.1	406.1	603.2	1249.8	4139.5	8415.5	9525.2	9608.9
57.5°	357.4	403.7	428.1	393.0	555.1	1254.5	4366.3	8798.4	9922.4	9995.4
60°	340.8	402.0	382.4	379.4	505.9	1191.0	4439.9	8794.3	10070.2	10184.8
62.5°	323.0	379.4	350.3	361.0	462.5	1125.7	4283.7	8417.3	9910.5	10111.2
65°	299.8	325.4	323.6	347.9	463.7	1019.4	3925.7	7752.3	9512.1	9776.3
67.5°	272.5	288.0	298.1	326.5	478.5	936.9	3349.8	6952.5	8834.1	9148.1
70°	244.6	260.1	271.3	298.6	492.2	898.9	2666.4	5829.2	7729.7	8048.6
72.5°	216.1	232.1	241.1	264.8	473.8	817.6	1973.5	4535.5	6204.4	6371.9
75°	186.4	201.9	209.0	231.0	411.5	676.3	1362.6	3435.3	4544.4	4714.2
77.5°	156.2	172.8	175.1	193.0	314.1	517.1	873.4	2635.0	3218.0	3331.4
80°	124.7	141.3	141.3	150.8	220.9	355.6	523.1	1987.8	2343.4	2388.0
82.5°	89.7	107.5	106.3	106.9	152.6	220.3	302.8	1489.7	1693.3	1701.6
85°	52.8	65.3	64.7	59.4	90.2	118.7	163.9	925.0	945.2	947.6
87.5°	10.1	15.4	13.7	5.9	24.9	35.0	47.5	171.6	68.3	66.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)