

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: P596728

Luminaire Tested: **MSA-SA3D-827-U-SLL**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596728
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-SA3D-827-U-SLL
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 12535 lumens
Efficiency: N/A
Efficacy: 65.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

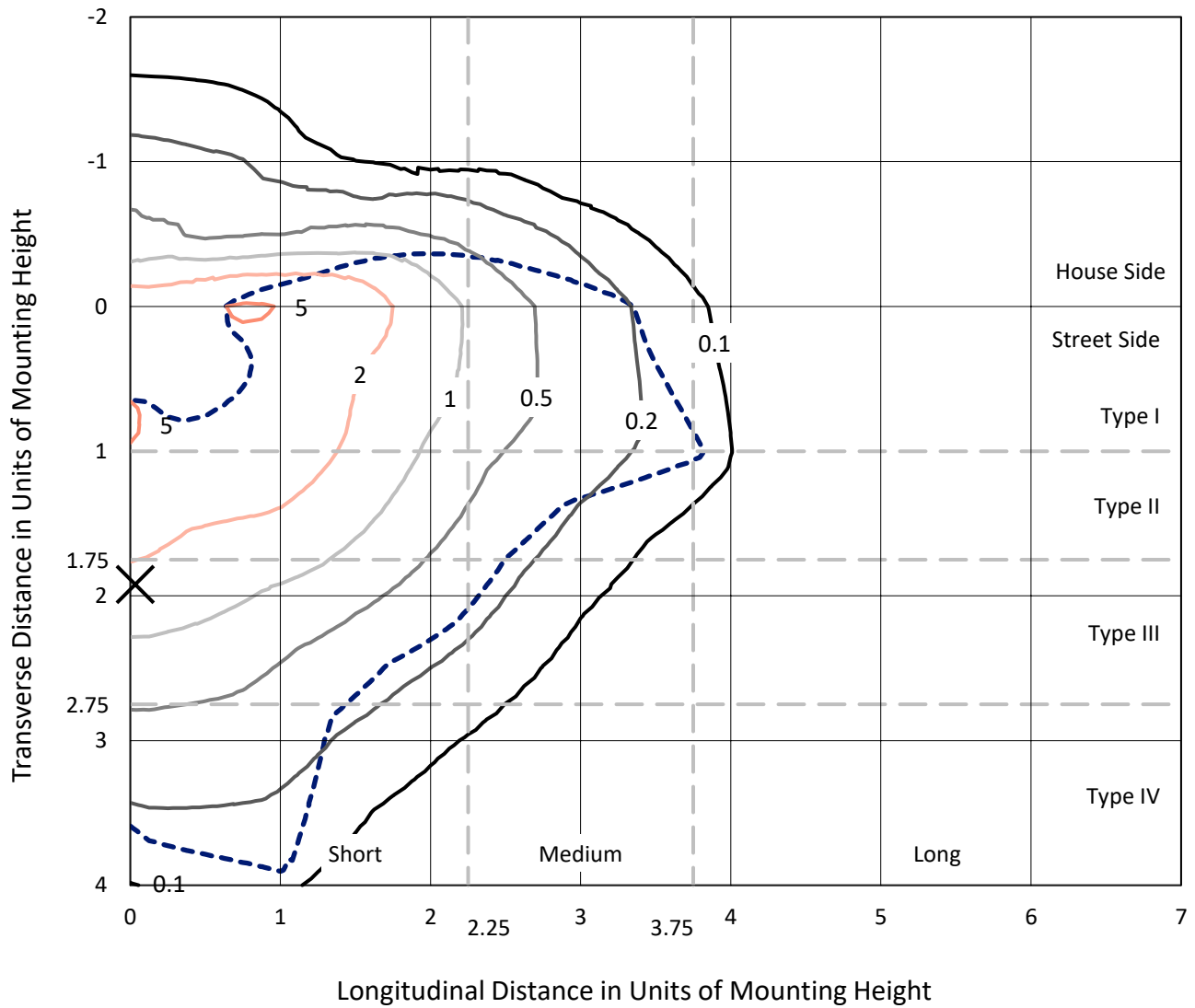
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P596728
 CATALOG NUMBER: MSA-SA3D-827-U-SLL

Iso-Footcandle Lines of Horizontal Illumination

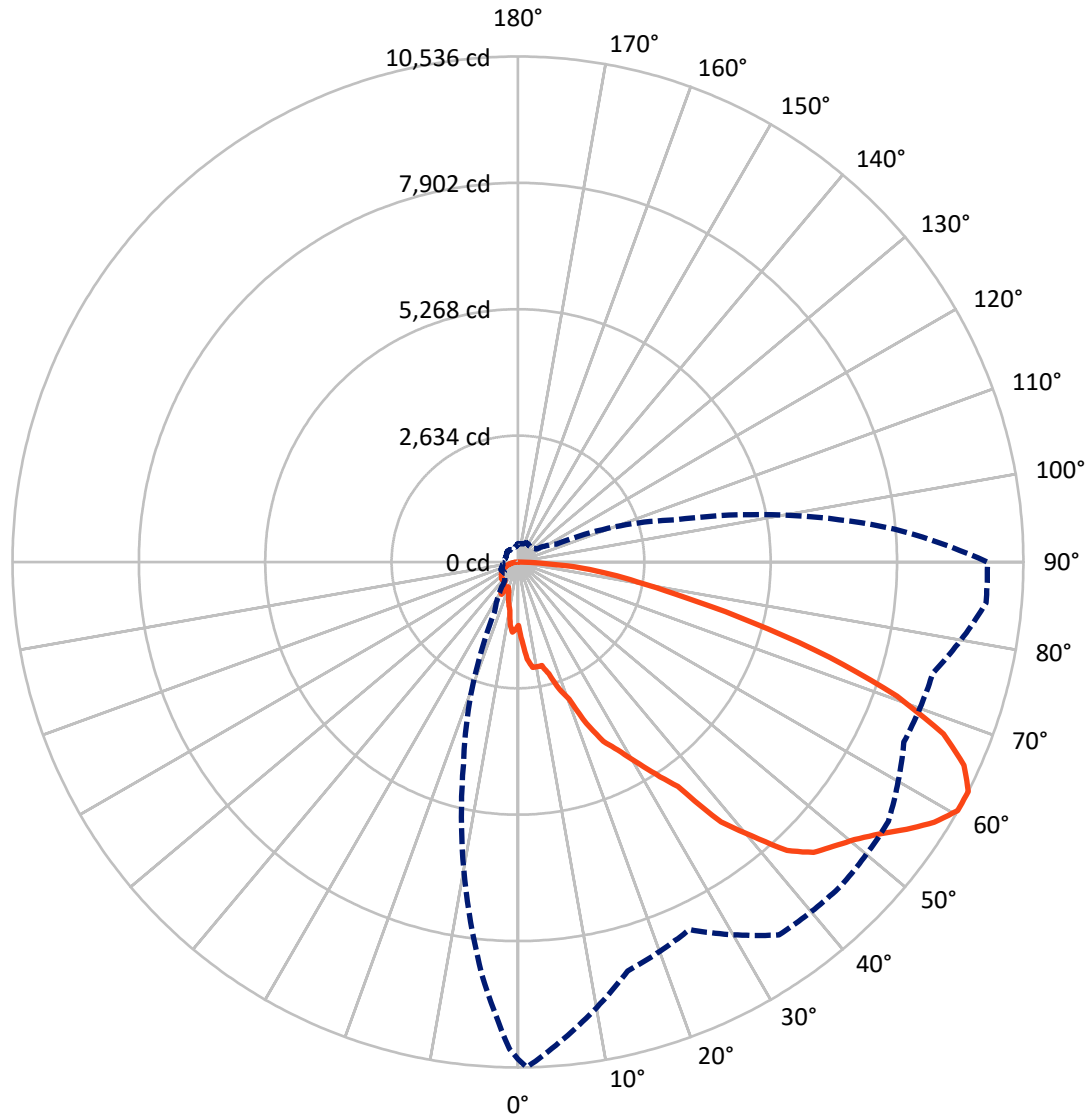
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.3 fc
 Type IV - Short - N/A

REPORT NUMBER: P596728
CATALOG NUMBER: MSA-SA3D-827-U-SLL

Luminous Intensity Polar Plot



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

REPORT NUMBER: P596728
 CATALOG NUMBER: MSA-SA3D-827-U-SLL

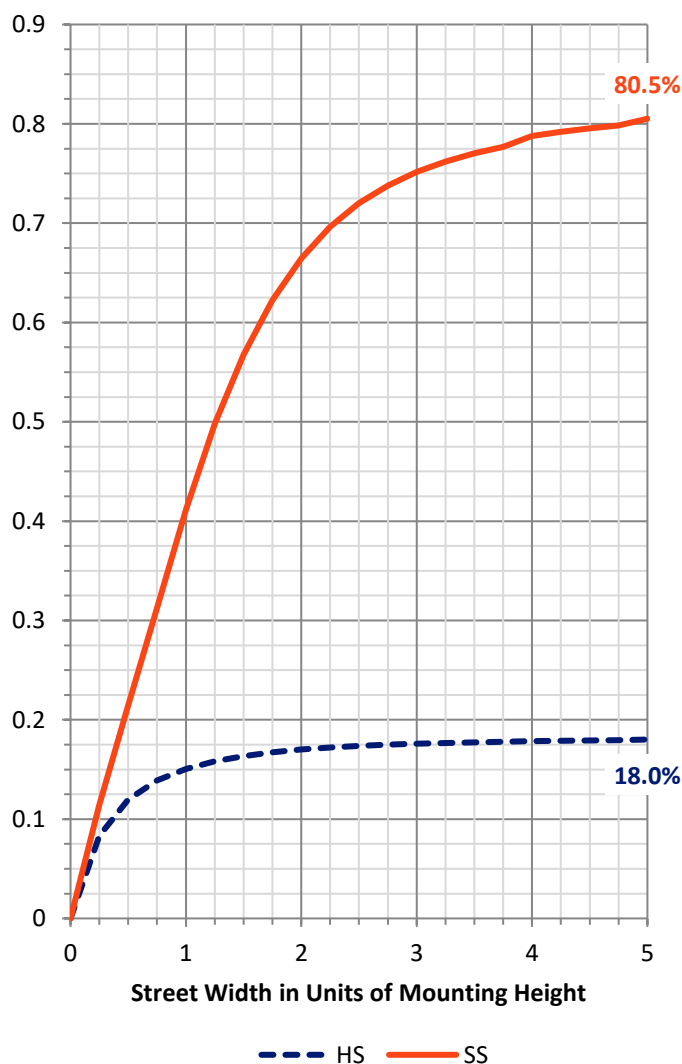
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2282.5	0.0	2282.5
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	10252.5	0.0	10252.5
	% Fixture	81.8	0.0	81.8
Total	Lumens	12535.0	0.0	12535.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.5	1.2
10°-20°	440.3	3.5
20°-30°	777.4	6.2
30°-40°	1210.9	9.7
40°-50°	1993.8	15.9
50°-60°	2845.7	22.7
60°-70°	3017.6	24.1
70°-80°	1666.8	13.3
80°-90°	431.1	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°	12535.0	100.0
0°-180°	12535.0	100.0

Coefficient of Utilization



REPORT NUMBER: P596728

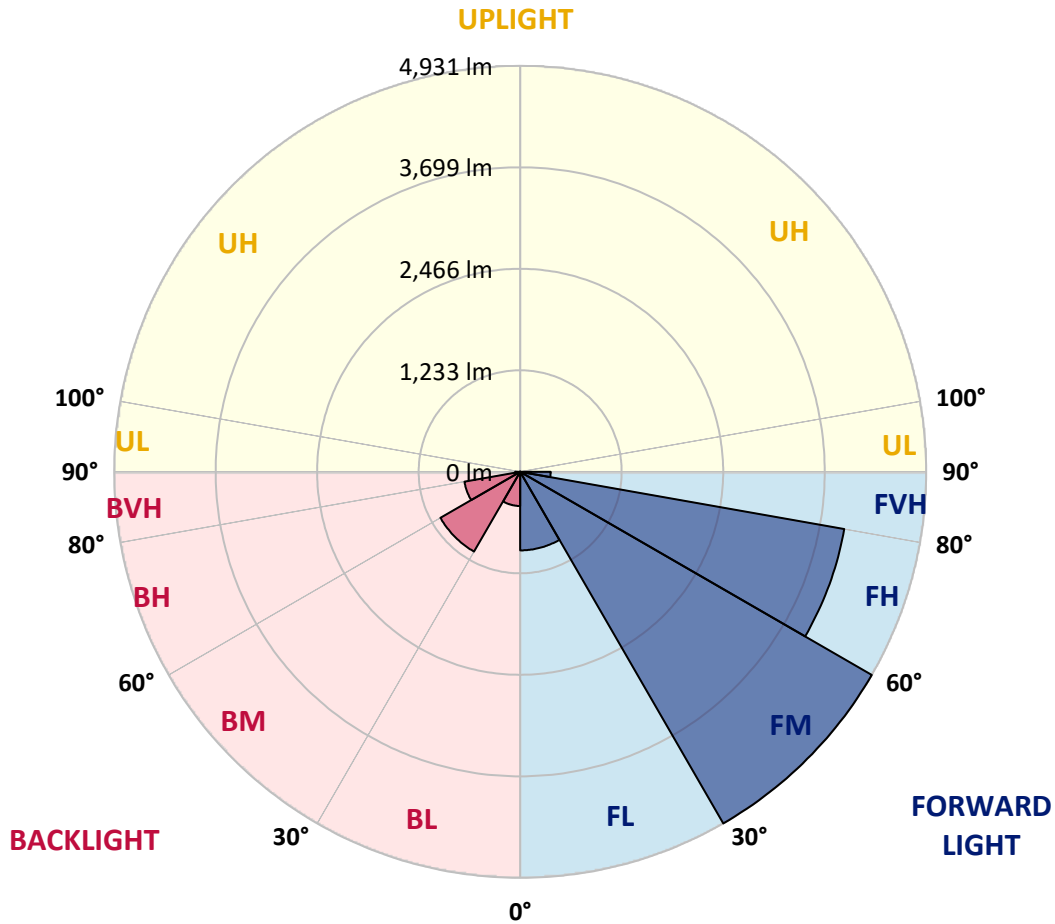
CATALOG NUMBER: MSA-SA3D-827-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	954.1	7.6			
FM (30°-60°)	4931.4	39.3			
FH (60°-80°)	3996.7	31.9			G2/5000
FVH (80°-90°)	370.3	3.0			G3/500
BL (0°-30°)	415.1	3.3	B1/500		
BM (30°-60°)	1119.0	8.9	B2/2500		
BH (60°-80°)	687.7	5.5	B2/1000		G2/1000
BVH (80°-90°)	60.8	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: P596728

CATALOG NUMBER: MSA-SA3D-827-U-SLL

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8
2.5°	1625.3	1639.3	1610.7	1578.5	1445.3	1573.6	1535.3	1606.5	1583.4	1428.9	1711.7
5°	2008.6	2034.1	2006.1	2102.8	2108.9	2133.9	1903.3	2046.9	1997.0	1984.2	2127.2
7.5°	2193.5	2219.6	2290.8	2462.9	2597.4	2475.7	2341.3	2311.5	2272.6	2171.0	2257.3
10°	2205.0	2219.6	2315.1	2680.1	2745.2	2831.6	2744.6	2539.6	2455.0	2234.2	2168.5
12.5°	2170.4	2216.0	2339.5	2784.1	2977.6	3071.8	3093.1	2865.0	2657.6	2405.8	2372.3
15°	2403.3	2419.8	2596.8	2858.3	2991.5	3071.2	3140.6	3000.1	2935.0	2735.5	2467.2
17.5°	2737.3	2782.9	2927.7	3024.4	3114.4	3129.6	3072.4	3017.7	2914.3	3180.7	2895.4
20°	2963.6	3051.8	3229.4	3247.6	3058.5	3091.9	3084.0	3087.7	3028.7	3521.4	3364.4
22.5°	3562.1	3657.6	3681.9	3576.1	3219.7	3067.0	3097.4	3185.6	3418.0	3840.1	4017.7
25°	4104.1	4141.2	4363.2	4090.7	3522.6	3189.8	3140.0	3368.1	3747.0	4376.6	4503.1
27.5°	4387.0	4435.0	4582.8	3989.7	3560.3	3031.7	2914.9	3262.2	3648.5	4124.2	4679.5
30°	4748.9	4825.5	5026.9	4090.7	3674.0	3135.1	2876.6	3208.7	3635.7	4289.6	5053.0
32.5°	5121.8	5270.8	5420.4	4446.6	3658.2	3293.3	3121.7	3148.5	3751.3	4636.3	5439.9
35°	5615.7	5747.1	5876.0	4652.2	3977.0	3425.3	3254.9	3538.4	4048.1	5038.4	5979.4
37.5°	6671.7	6879.7	6539.7	5237.3	4323.7	4020.2	3713.0	3880.9	4362.0	5373.6	6860.8
40°	7344.4	7500.8	7172.3	5635.8	4934.4	4421.0	4370.5	4384.5	4794.5	5660.7	7453.9
42.5°	8012.9	8224.6	7702.1	6182.6	5672.9	5248.9	4988.5	4970.9	5278.7	6176.5	8128.5
45°	8511.7	8636.4	7884.0	6643.7	6464.9	6150.4	5955.1	5645.5	5915.0	6533.6	8545.8
47.5°	8749.0	8850.5	8176.6	6911.9	6978.2	6994.7	7346.9	6818.9	6470.9	6775.1	8764.8
50°	9045.2	9093.3	8348.7	7148.0	7466.1	8187.5	8272.1	7377.3	7012.3	7038.5	8894.3
52.5°	9399.2	9419.3	8599.9	7420.5	7959.4	8972.2	8841.4	8323.8	7527.5	7519.6	9138.3
55°	9844.5	9832.3	8915.0	7787.3	8311.6	9438.8	9339.6	8962.5	8089.0	7918.0	9517.8
57.5°	10240.5	10233.2	9332.9	8124.9	8607.8	9678.4	9707.6	9607.9	8471.0	8203.3	9929.0
60°	10434.5	10527.6	9808.6	8494.1	8626.7	9786.7	9797.6	9638.9	8898.0	8569.5	10038.5
62.5°	10359.1	10536.1	10042.2	8826.2	8453.3	9491.1	9536.7	9427.2	8878.5	8954.0	9794.0
65°	10016.0	10220.4	9839.6	9003.2	8346.9	8995.9	9007.5	8730.7	8600.5	9208.8	9221.0
67.5°	9372.5	9564.1	9194.8	8721.0	7618.2	7661.3	7919.3	7941.8	7752.0	9016.6	8416.2
70°	8245.9	8380.9	8149.8	8023.9	6367.5	6114.5	6394.3	6514.1	6600.5	8322.6	7450.3
72.5°	6528.1	6789.1	6825.6	6907.7	5126.6	4705.1	4912.5	4734.9	5297.6	7083.5	6087.1
75°	4829.8	5050.0	5286.6	5744.6	4040.8	3522.6	3497.0	3406.4	3932.0	5696.6	4514.7
77.5°	3413.1	3553.6	3735.5	4588.9	3049.3	2713.0	2728.8	2636.9	2839.5	4305.4	3118.7
80°	2446.5	2520.1	2604.7	3023.2	2249.4	2340.7	2343.1	2256.1	2111.4	2924.0	2081.6
82.5°	1743.3	1800.5	1897.2	1994.0	1677.0	1918.5	1916.7	1911.2	1674.0	1976.3	1302.3
85°	970.8	1047.5	1215.4	1562.1	1211.1	1371.7	1206.2	1328.5	1228.7	1315.7	659.4
87.5°	68.1	60.8	271.9	905.1	565.1	413.0	216.5	428.8	549.9	687.4	91.9
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: P596728

CATALOG NUMBER: MSA-SA3D-827-U-SLL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8
2.5°	1770.1	1791.4	1708.1	1582.8	1616.8	1579.7	1532.9	1459.9	1309.6	1402.7	1403.3
5°	2126.0	2045.1	1980.0	1918.5	1815.1	1658.8	1638.1	1512.8	1442.2	1479.3	1473.9
7.5°	2237.3	2122.3	2024.4	1804.8	1613.2	1370.5	1297.5	1223.3	1192.2	1282.3	1318.2
10°	2115.0	1995.2	1899.1	1632.0	1501.9	1350.4	1149.7	1046.9	986.0	1009.8	1023.7
12.5°	2213.5	2091.3	1789.0	1639.9	1425.2	1332.8	1157.0	1006.1	916.1	938.0	911.8
15°	2308.4	2143.6	1841.3	1544.4	1370.5	1236.6	1094.3	938.6	832.7	795.0	775.0
17.5°	2655.2	2381.4	1835.2	1490.9	1291.4	1137.5	966.0	795.6	725.1	686.1	652.7
20°	3077.9	2696.5	1868.0	1435.6	1207.4	1013.4	826.7	668.5	619.2	593.7	584.6
22.5°	3581.0	3100.4	2056.0	1427.6	1128.4	922.8	750.0	651.5	596.1	568.1	556.6
25°	3980.6	3518.3	2194.7	1481.2	1124.1	847.9	703.8	723.9	698.3	706.8	639.3
27.5°	4368.7	3632.1	2116.8	1457.5	1011.0	715.3	692.8	734.8	756.7	763.4	761.0
30°	4696.6	4112.6	2133.9	1323.6	854.0	582.7	530.4	551.1	611.3	706.8	725.1
32.5°	5176.5	4342.5	2279.2	1242.7	763.4	521.3	462.9	455.0	469.0	503.7	533.5
35°	5738.0	4871.8	2320.0	1221.4	700.7	493.9	453.2	434.9	442.2	468.4	474.5
37.5°	6784.8	5257.4	2470.9	1195.3	677.6	477.5	445.9	439.2	455.0	476.3	488.5
40°	7362.1	5950.9	2478.2	1172.8	647.8	470.8	450.7	447.7	457.4	486.6	493.9
42.5°	8131.6	6346.2	2592.5	1146.6	637.5	479.9	460.5	459.3	467.8	484.8	498.2
45°	8600.5	6610.8	2598.6	1131.4	635.0	520.1	473.2	469.0	467.2	477.5	489.7
47.5°	8902.9	6992.2	2672.8	1114.4	649.6	530.4	488.5	470.2	464.1	468.4	477.5
50°	9189.4	7297.0	2813.3	1111.9	664.9	520.1	515.2	469.6	457.4	455.6	462.3
52.5°	9540.9	7798.2	2986.7	1135.1	661.2	504.9	535.3	467.2	445.3	441.0	447.7
55°	10052.5	8335.3	3171.0	1115.6	623.5	475.7	515.8	465.3	432.5	424.6	430.7
57.5°	10384.0	8643.1	3377.2	1099.2	566.3	453.8	498.2	466.6	433.7	416.1	419.7
60°	10273.9	8477.7	3458.1	998.8	512.2	436.7	456.2	456.8	422.8	406.3	409.4
62.5°	9787.3	7878.5	3382.7	882.0	472.0	412.4	413.0	438.6	391.1	379.6	384.4
65°	9107.2	7133.4	3077.3	806.0	453.2	386.9	377.1	385.0	348.5	340.0	349.8
67.5°	8272.7	6214.8	2622.9	725.7	446.5	352.2	340.6	337.6	314.5	304.8	314.5
70°	7225.8	5203.9	2096.8	669.1	420.9	314.5	305.4	302.3	282.9	275.6	284.1
72.5°	5807.9	4063.3	1618.0	625.9	393.0	279.8	271.9	268.3	251.8	241.5	251.8
75°	4130.9	3105.3	1202.0	559.6	353.4	244.5	235.4	230.5	215.3	205.6	214.7
77.5°	2935.6	2330.9	839.4	462.9	291.4	206.8	201.3	193.4	180.1	168.5	177.6
80°	2170.4	1665.5	541.4	357.1	222.6	165.5	162.4	156.9	144.2	130.2	136.9
82.5°	1428.9	1200.8	310.2	242.1	161.8	119.2	121.7	118.0	105.8	91.2	94.9
85°	639.9	711.1	164.8	133.2	105.2	71.8	78.5	76.0	66.9	52.9	54.1
87.5°	61.4	119.8	50.5	48.7	38.9	22.5	28.0	23.7	20.1	12.8	9.7
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: P596728

CATALOG NUMBER: MSA-SA3D-827-U-SLL

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8
2.5°	1424.6	1338.8	1253.1	1305.4	1306.6	1320.6	1322.4	1270.7	1312.1	1343.7	1376.5
5°	1447.1	1391.1	1394.2	1343.7	1316.3	1351.6	1344.3	1330.3	1355.3	1389.9	1431.9
7.5°	1284.1	1247.6	1241.5	1192.8	1074.8	1048.7	1070.6	1079.7	1113.2	1166.7	1211.7
10°	1002.5	1074.8	993.3	974.5	943.4	882.6	847.3	843.1	914.3	957.4	995.2
12.5°	903.3	885.1	875.3	823.6	823.6	759.1	738.5	757.3	866.8	897.8	946.5
15°	769.5	756.1	711.1	685.5	673.4	647.2	669.1	687.4	789.6	792.0	843.1
17.5°	638.7	630.8	588.2	583.3	571.2	559.6	579.7	623.5	678.8	669.1	692.8
20°	571.2	543.8	504.9	518.9	506.1	497.0	488.5	550.5	589.4	602.2	616.2
22.5°	554.1	504.3	481.2	468.4	469.0	454.4	456.2	507.9	566.9	574.8	566.3
25°	633.2	544.4	469.6	432.5	418.5	413.6	427.6	473.2	544.4	561.4	568.1
27.5°	740.9	591.3	483.6	420.3	392.3	394.8	414.9	446.5	530.4	560.8	568.7
30°	711.1	556.0	484.2	411.2	376.5	389.3	396.6	427.0	519.5	565.1	604.6
32.5°	548.7	500.0	487.2	418.5	404.5	384.4	394.8	424.0	487.2	515.8	517.7
35°	464.7	427.6	419.1	402.1	382.6	374.1	385.7	411.2	452.6	470.2	467.8
37.5°	461.1	420.3	386.9	379.6	371.7	369.2	375.9	399.6	441.6	472.6	465.9
40°	467.2	416.7	382.6	369.8	372.9	361.9	368.6	397.8	443.4	472.6	466.6
42.5°	459.9	412.4	377.1	367.4	370.4	355.2	363.1	393.6	438.6	473.2	461.7
45°	445.3	402.7	374.1	357.7	371.7	349.2	358.9	382.6	424.0	461.7	448.3
47.5°	430.7	391.1	361.3	351.0	365.0	343.1	347.3	368.0	409.4	446.5	434.9
50°	414.9	376.5	351.0	347.9	357.7	341.9	335.2	352.2	391.7	428.8	419.1
52.5°	397.8	364.4	343.7	342.5	351.6	333.9	324.2	337.6	372.9	410.0	402.1
55°	381.4	351.0	334.6	337.6	347.9	327.3	315.1	323.6	352.8	389.3	378.4
57.5°	365.0	335.8	322.4	330.9	338.8	318.7	303.5	308.4	332.1	368.0	355.2
60°	350.4	322.4	309.0	319.3	326.6	306.0	288.3	291.4	312.7	344.9	333.3
62.5°	331.5	307.8	290.2	303.5	309.0	288.9	270.1	273.7	290.8	321.2	312.7
65°	304.8	289.5	273.1	282.2	289.5	268.9	251.2	255.5	268.3	296.8	290.8
67.5°	281.6	267.0	256.1	263.4	264.6	248.8	233.0	235.4	245.7	272.5	265.8
70°	256.1	242.1	233.6	239.1	238.4	225.1	212.9	213.5	222.0	246.4	237.2
72.5°	228.1	214.7	210.5	213.5	211.1	198.9	187.4	191.6	197.1	215.3	208.0
75°	198.3	186.1	183.7	186.7	183.1	171.5	161.2	165.5	170.3	185.5	176.4
77.5°	167.3	156.3	156.9	157.5	152.7	144.8	134.4	138.7	141.7	152.1	142.9
80°	133.2	124.7	127.1	127.1	121.7	116.2	106.4	107.7	109.5	113.1	106.4
82.5°	97.3	97.3	97.3	97.9	86.4	88.2	79.7	79.1	77.3	76.6	72.4
85°	57.8	60.2	61.4	63.3	46.8	54.7	47.4	45.6	42.0	38.3	37.1
87.5°	12.8	16.4	16.4	15.8	0.0	6.1	3.0	4.9	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: P596728
 CATALOG NUMBER: MSA-SA3D-827-U-SLL

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8	1321.8
2.5°	1338.8	1302.3	1370.5	1431.3	1421.6	1456.8	1374.7	1496.4	1625.3	1625.3
5°	1421.0	1389.9	1407.6	1442.9	1469.6	1592.5	1694.7	1796.3	2006.1	2008.6
7.5°	1198.3	1265.2	1281.0	1270.7	1385.7	1543.8	1712.3	2001.9	2179.5	2193.5
10°	1120.5	1150.9	1198.9	1225.7	1272.5	1428.3	1637.5	1981.2	2169.8	2205.0
12.5°	1015.2	1127.8	1200.8	1350.4	1387.5	1418.5	1751.3	2048.7	2178.9	2170.4
15°	900.3	985.4	1090.7	1256.1	1350.4	1587.6	1818.8	2265.3	2338.9	2403.3
17.5°	717.8	780.4	920.3	1108.9	1342.5	1560.9	1985.4	2532.9	2670.4	2737.3
20°	590.6	591.3	731.2	981.2	1235.4	1448.9	2048.7	2754.9	2929.5	2963.6
22.5°	558.4	530.4	604.0	807.2	1117.4	1515.2	2176.4	3112.0	3476.3	3562.1
25°	540.8	506.7	552.9	712.3	1032.9	1549.9	2433.7	3602.9	4070.6	4104.1
27.5°	548.1	563.9	578.5	635.0	925.8	1484.8	2374.1	3822.5	4323.7	4387.0
30°	597.3	622.9	589.4	608.9	837.6	1390.5	2480.6	4178.9	4642.4	4748.9
32.5°	497.0	487.2	484.2	526.8	749.4	1305.4	2703.8	4680.8	4987.9	5121.8
35°	448.3	433.1	439.2	487.8	706.2	1293.2	2829.1	5096.2	5533.6	5615.7
37.5°	446.5	428.8	436.7	473.2	721.4	1315.1	3029.9	5762.9	6495.9	6671.7
40°	442.2	432.5	436.7	464.1	705.6	1327.3	3145.4	6323.1	7166.2	7344.4
42.5°	441.6	436.7	441.0	471.4	689.2	1332.8	3305.4	6829.2	7872.4	8012.9
45°	439.8	444.7	444.7	477.5	681.9	1369.2	3399.7	7077.4	8338.4	8511.7
47.5°	431.3	445.9	469.6	475.7	652.1	1352.2	3532.9	7453.9	8585.9	8749.0
50°	420.3	444.0	501.2	463.5	647.2	1310.9	3688.6	7752.6	8903.5	9045.2
52.5°	405.7	441.0	493.9	439.8	638.7	1303.6	3907.0	8140.7	9273.9	9399.2
55°	385.0	430.1	471.4	416.1	618.0	1280.4	4241.0	8621.8	9758.7	9844.5
57.5°	366.2	413.6	438.6	402.7	568.7	1285.3	4473.3	9014.2	10165.7	10240.5
60°	349.2	411.8	391.7	388.7	518.3	1220.2	4548.8	9009.9	10317.1	10434.5
62.5°	330.9	388.7	358.9	369.8	473.9	1153.3	4388.8	8623.7	10153.5	10359.1
65°	307.2	333.3	331.5	356.5	475.1	1044.4	4022.0	7942.4	9745.3	10016.0
67.5°	279.2	295.0	305.4	334.6	490.3	959.9	3431.9	7123.0	9050.7	9372.5
70°	250.6	266.4	278.0	306.0	504.3	920.9	2731.8	5972.1	7919.3	8245.9
72.5°	221.4	237.8	247.0	271.3	485.4	837.6	2021.9	4646.7	6356.6	6528.1
75°	191.0	206.8	214.1	236.6	421.5	692.8	1396.0	3519.5	4655.8	4829.8
77.5°	160.0	177.0	179.4	197.7	321.8	529.8	894.8	2699.6	3296.9	3413.1
80°	127.7	144.8	144.8	154.5	226.3	364.4	535.9	2036.5	2400.9	2446.5
82.5°	91.9	110.1	108.9	109.5	156.3	225.7	310.2	1526.2	1734.8	1743.3
85°	54.1	66.9	66.3	60.8	92.5	121.7	167.9	947.7	968.4	970.8
87.5°	10.3	15.8	14.0	6.1	25.5	35.9	48.7	175.8	70.0	68.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)