

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: P596816

Luminaire Tested: **MSA-SA4D-827-U-SLL**

Issue Date: 5/27/2021

Test Information

Test Method: LM-79-08
Report Number: P596816
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-SA4D-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: 16567 lumens
Efficiency: N/A
Efficacy: 64.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

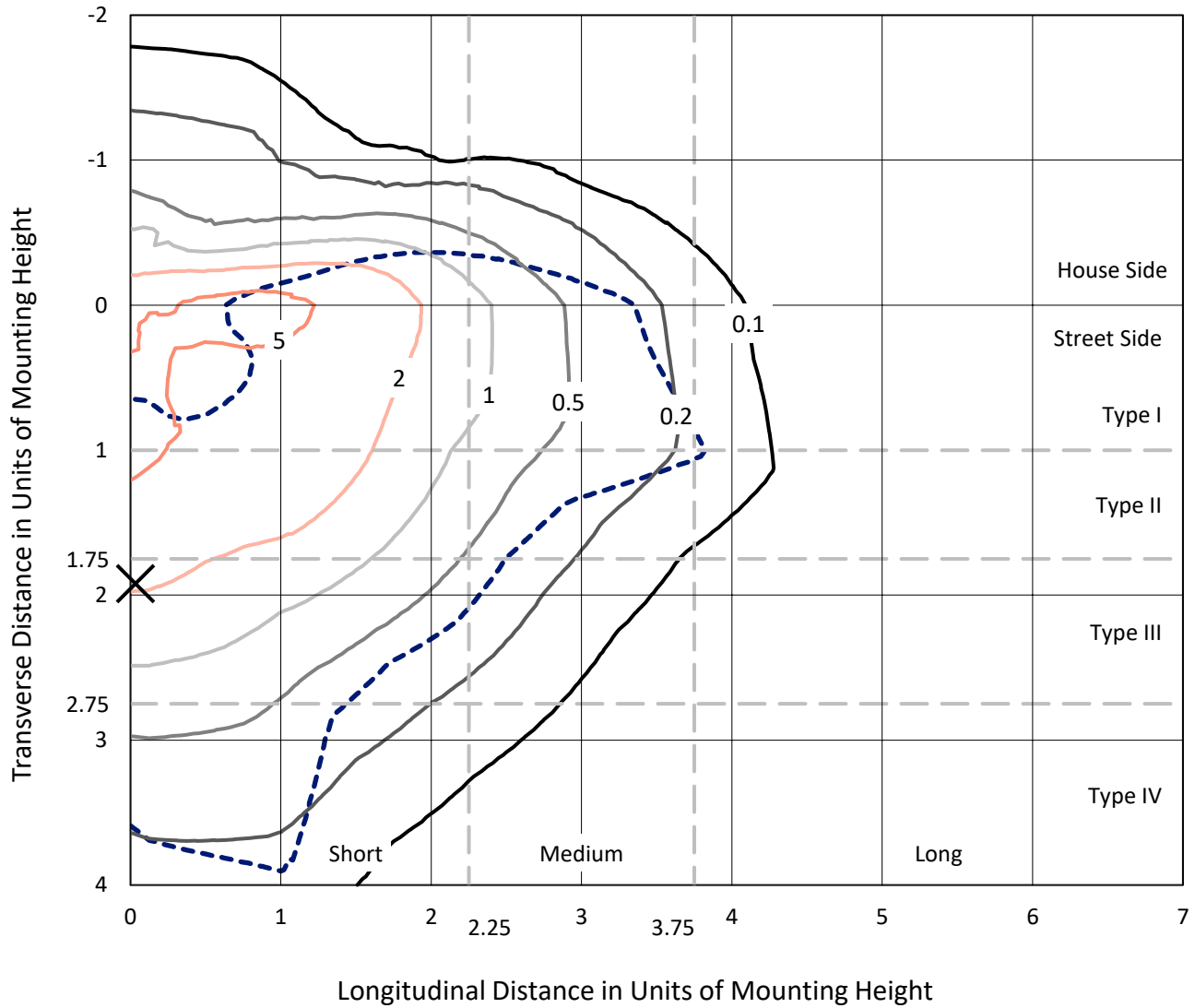
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P596816
 CATALOG NUMBER: MSA-SA4D-827-U-SLL

Iso-Footcandle Lines of Horizontal Illumination

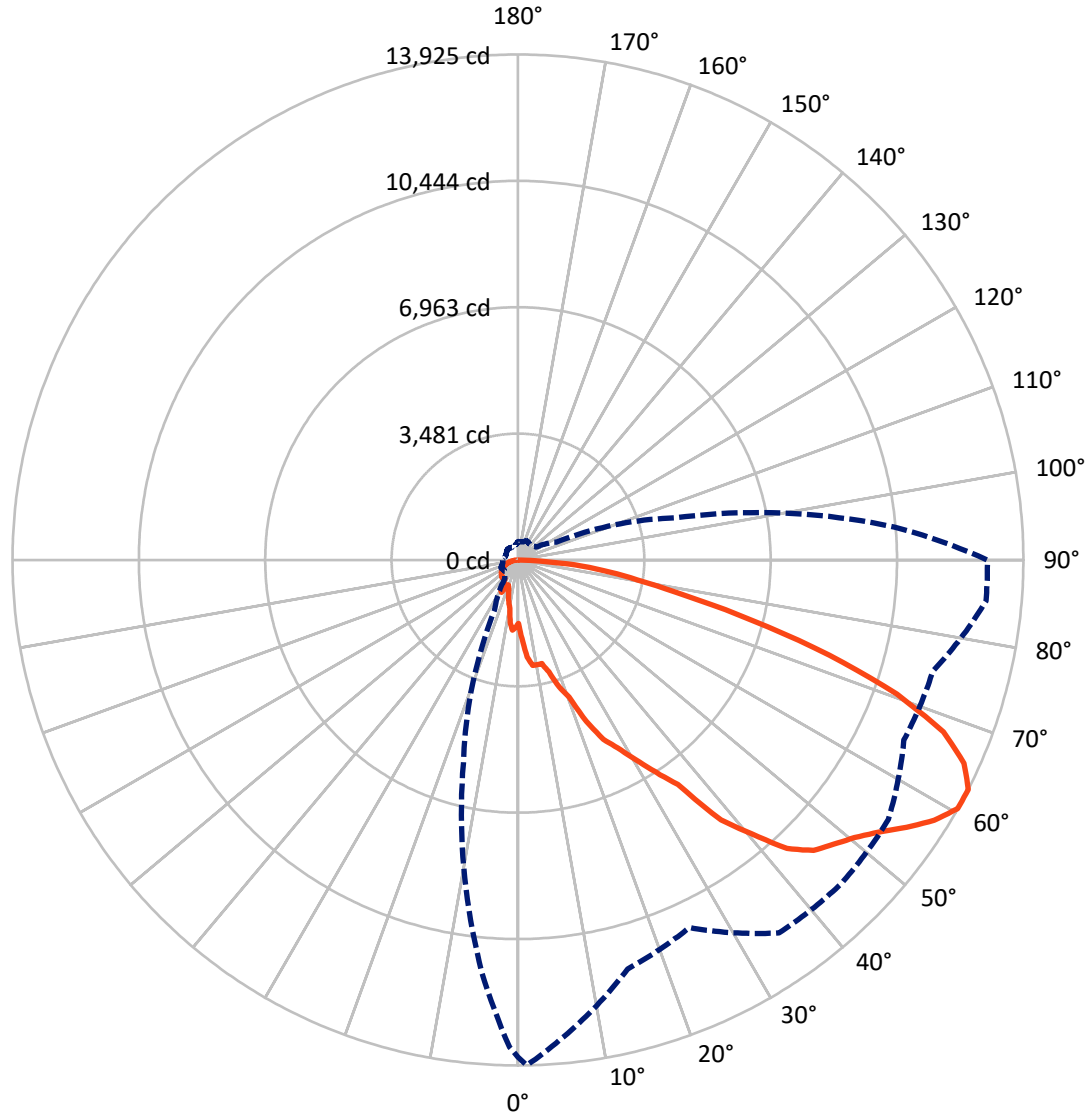
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.1 fc
 Type IV - Short - N/A

REPORT NUMBER: P596816
CATALOG NUMBER: MSA-SA4D-827-U-SLL

Luminous Intensity Polar Plot



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

REPORT NUMBER: P596816
 CATALOG NUMBER: MSA-SA4D-827-U-SLL

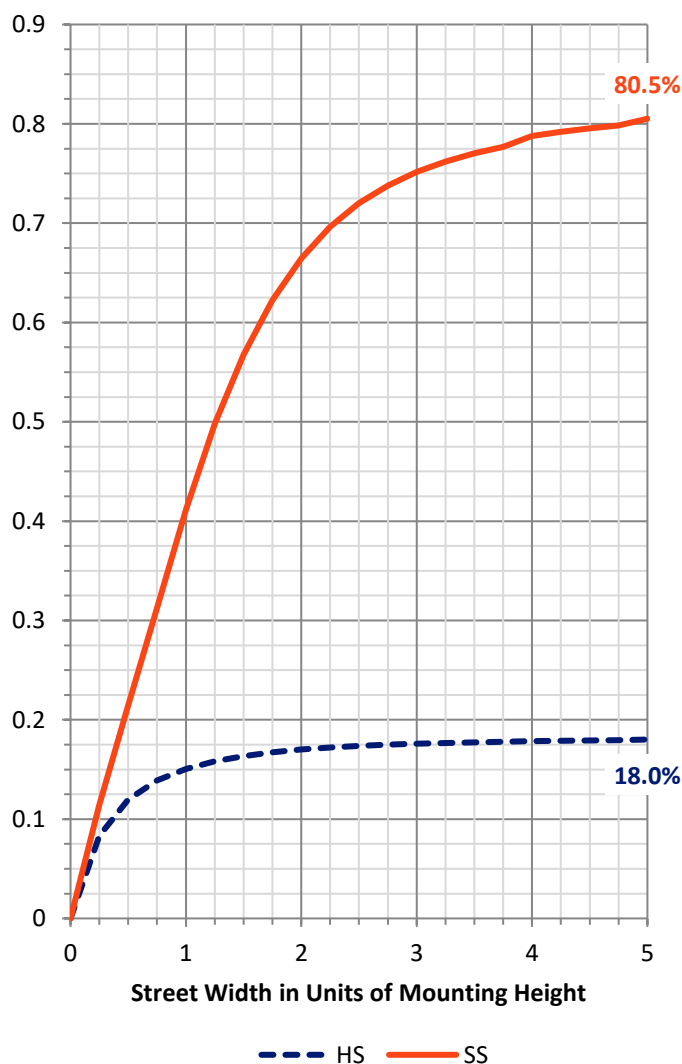
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3016.7	0.0	3016.7
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	13550.3	0.0	13550.3
	% Fixture	81.8	0.0	81.8
Total	Lumens	16567.0	0.0	16567.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.3	1.2
10°-20°	581.9	3.5
20°-30°	1027.4	6.2
30°-40°	1600.3	9.7
40°-50°	2635.1	15.9
50°-60°	3761.0	22.7
60°-70°	3988.2	24.1
70°-80°	2202.9	13.3
80°-90°	569.8	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°	16567.0	100.0
0°-180°	16567.0	100.0

Coefficient of Utilization



REPORT NUMBER: P596816

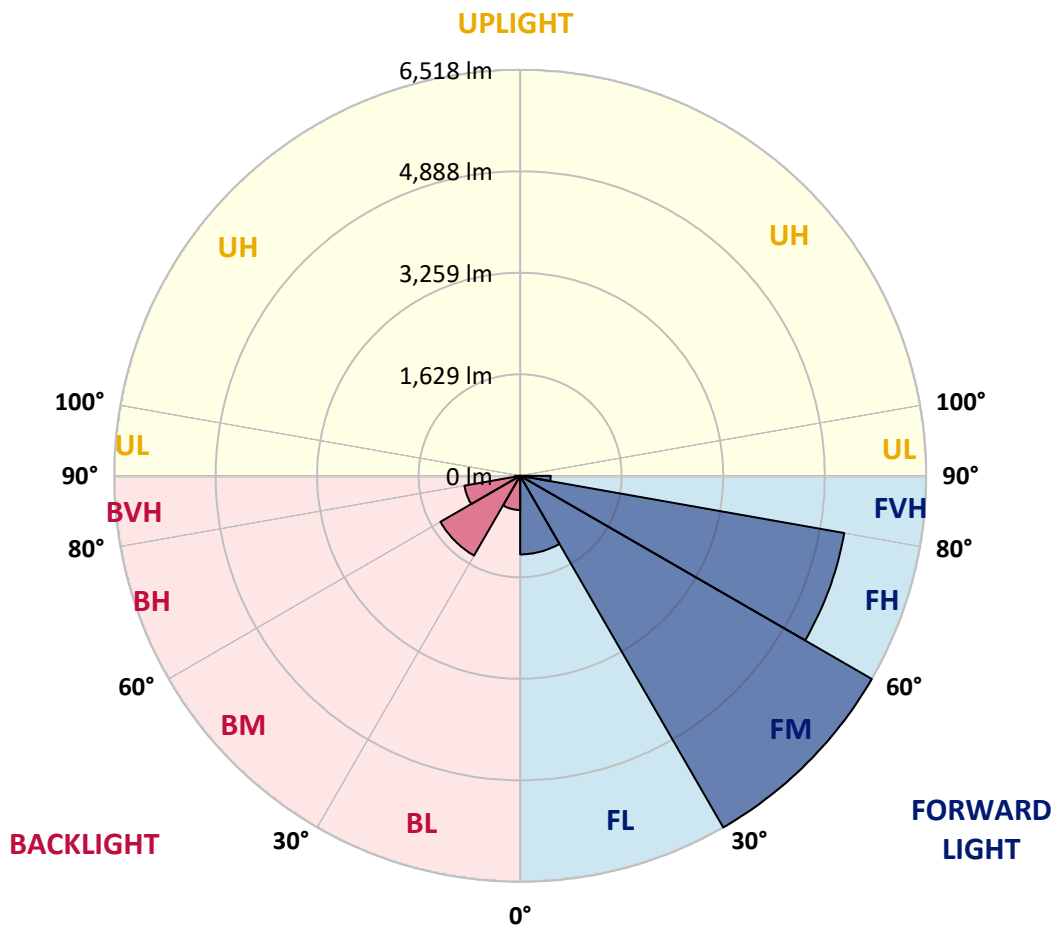
CATALOG NUMBER: MSA-SA4D-827-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1261.0	7.6			
FM (30°-60°)	6517.6	39.3			
FH (60°-80°)	5282.2	31.9			G3/7500
FVH (80°-90°)	489.4	3.0			G3/500
BL (0°-30°)	548.7	3.3	B2/1000		
BM (30°-60°)	1478.9	8.9	B2/2500		
BH (60°-80°)	908.9	5.5	B2/1000		G2/1000
BVH (80°-90°)	80.3	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: P596816
 CATALOG NUMBER: MSA-SA4D-827-U-SLL

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0
2.5°	2148.1	2166.6	2128.8	2086.2	1910.2	2079.8	2029.2	2123.2	2092.7	1888.5	2262.3
5°	2654.6	2688.4	2651.4	2779.2	2787.3	2820.2	2515.5	2705.3	2639.4	2622.5	2811.4
7.5°	2899.0	2933.6	3027.7	3255.2	3432.8	3272.1	3094.4	3055.0	3003.5	2869.3	2983.4
10°	2914.3	2933.6	3059.8	3542.2	3628.2	3742.4	3627.4	3356.5	3244.7	2952.9	2866.1
12.5°	2868.5	2928.8	3092.0	3679.7	3935.3	4059.9	4088.1	3786.6	3512.4	3179.6	3135.4
15°	3176.4	3198.1	3432.0	3777.7	3953.8	4059.1	4150.8	3965.1	3879.0	3615.3	3260.8
17.5°	3617.8	3678.1	3869.4	3997.2	4116.2	4136.3	4060.7	3988.4	3851.7	4203.8	3826.8
20°	3916.8	4033.4	4268.1	4292.3	4042.2	4086.5	4076.0	4080.8	4002.8	4654.0	4446.6
22.5°	4707.9	4834.1	4866.3	4726.4	4255.3	4053.5	4093.7	4210.3	4517.4	5075.3	5310.1
25°	5424.2	5473.3	5766.7	5406.5	4655.6	4215.9	4150.0	4451.4	4952.3	5784.4	5951.6
27.5°	5798.1	5861.6	6056.9	5273.1	4705.5	4006.9	3852.5	4311.6	4822.1	5450.8	6184.8
30°	6276.4	6377.7	6643.8	5406.5	4855.8	4143.5	3801.9	4240.8	4805.2	5669.4	6678.4
32.5°	6769.2	6966.2	7164.0	5876.8	4834.9	4352.6	4125.8	4161.2	4957.9	6127.7	7189.7
35°	7422.0	7595.7	7766.1	6148.6	5256.2	4527.0	4301.9	4676.6	5350.3	6659.1	7902.8
37.5°	8817.7	9092.6	8643.2	6922.0	5714.4	5313.3	4907.3	5129.2	5765.1	7102.1	9067.7
40°	9706.8	9913.5	9479.3	7448.6	6521.6	5843.1	5776.3	5794.8	6336.7	7481.5	9851.5
42.5°	10590.4	10870.1	10179.6	8171.3	7497.6	6937.2	6593.2	6569.8	6976.6	8163.3	10743.1
45°	11249.6	11414.4	10419.9	8780.7	8544.3	8128.7	7870.6	7461.4	7817.6	8635.2	11294.6
47.5°	11563.1	11697.4	10806.6	9135.2	9222.9	9244.6	9710.1	9012.2	8552.4	8954.3	11584.1
50°	11954.7	12018.2	11034.2	9447.2	9867.6	10821.1	10932.9	9750.3	9267.9	9302.5	11755.3
52.5°	12422.6	12449.1	11366.2	9807.3	10519.6	11858.2	11685.3	11001.2	9948.8	9938.4	12077.7
55°	13011.1	12995.0	11782.6	10292.1	10985.1	12474.8	12343.8	11845.3	10690.9	10465.0	12579.3
57.5°	13534.4	13524.8	12334.9	10738.3	11376.6	12791.6	12830.2	12698.3	11195.7	10842.0	13122.8
60°	13790.9	13913.9	12963.6	11226.3	11401.6	12934.7	12949.1	12739.3	11760.1	11326.0	13267.5
62.5°	13691.2	13925.1	13272.3	11665.2	11172.4	12544.0	12604.3	12459.5	11734.4	11834.1	12944.3
65°	13237.8	13507.9	13004.6	11899.2	11031.7	11889.5	11904.8	11539.0	11367.0	12170.9	12187.0
67.5°	12387.2	12640.4	12152.4	11526.2	10068.6	10125.7	10466.6	10496.3	10245.5	11916.9	11123.4
70°	10898.3	11076.8	10771.3	10604.8	8415.7	8081.3	8451.1	8609.5	8723.6	10999.6	9846.7
72.5°	8627.9	8972.8	9021.1	9129.6	6775.7	6218.5	6492.7	6257.9	7001.6	9361.9	8045.1
75°	6383.3	6674.4	6987.1	7592.5	5340.6	4655.6	4621.9	4502.1	5196.7	7528.9	5966.9
77.5°	4510.9	4696.6	4937.0	6065.0	4030.2	3585.6	3606.5	3485.1	3752.8	5690.3	4121.8
80°	3233.5	3330.7	3442.5	3995.6	2973.0	3093.6	3096.8	2981.8	2790.5	3864.6	2751.1
82.5°	2304.1	2379.7	2507.5	2635.3	2216.5	2535.6	2533.2	2526.0	2212.5	2612.0	1721.2
85°	1283.1	1384.4	1606.3	2064.5	1600.7	1812.9	1594.2	1755.8	1624.0	1738.9	871.5
87.5°	90.0	80.4	359.4	1196.3	746.9	545.9	286.2	566.8	726.8	908.5	121.4
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: P596816

CATALOG NUMBER: MSA-SA4D-827-U-SLL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0
2.5°	2339.5	2367.6	2257.5	2091.9	2136.9	2087.8	2025.9	1929.5	1730.9	1853.9	1854.7
5°	2809.8	2702.9	2616.8	2535.6	2399.0	2192.4	2165.0	1999.4	1906.2	1955.2	1948.0
7.5°	2956.9	2805.0	2675.5	2385.3	2132.1	1811.3	1714.8	1616.7	1575.7	1694.7	1742.1
10°	2795.3	2636.9	2509.9	2157.0	1984.9	1784.8	1519.5	1383.6	1303.2	1334.5	1353.0
12.5°	2925.6	2764.0	2364.4	2167.4	1883.6	1761.4	1529.1	1329.7	1210.7	1239.7	1205.1
15°	3051.0	2833.1	2433.5	2041.2	1811.3	1634.4	1446.3	1240.5	1100.6	1050.8	1024.2
17.5°	3509.2	3147.4	2425.5	1970.5	1706.8	1503.4	1276.7	1051.6	958.3	906.9	862.6
20°	4068.0	3563.9	2468.9	1897.3	1595.8	1339.4	1092.6	883.5	818.4	784.7	772.6
22.5°	4732.8	4097.7	2717.3	1886.9	1491.3	1219.6	991.3	861.0	787.9	750.9	735.6
25°	5261.0	4650.0	2900.6	1957.6	1485.7	1120.7	930.2	956.7	922.9	934.2	844.9
27.5°	5773.9	4800.4	2797.7	1926.3	1336.2	945.4	915.7	971.2	1000.1	1009.0	1005.7
30°	6207.3	5435.5	2820.2	1749.4	1128.7	770.2	701.0	728.4	808.0	934.2	958.3
32.5°	6841.6	5739.4	3012.4	1642.5	1009.0	689.0	611.8	601.4	619.8	665.7	705.1
35°	7583.6	6438.8	3066.2	1614.3	926.1	652.8	598.9	574.8	584.5	619.0	627.1
37.5°	8967.2	6948.5	3265.6	1579.8	895.6	631.1	589.3	580.4	601.4	629.5	645.6
40°	9730.2	7865.0	3275.3	1550.0	856.2	622.3	595.7	591.7	604.6	643.2	652.8
42.5°	10747.1	8387.6	3426.4	1515.4	842.5	634.3	608.6	607.0	618.2	640.7	658.4
45°	11367.0	8737.3	3434.5	1495.3	839.3	687.4	625.5	619.8	617.4	631.1	647.2
47.5°	11766.5	9241.4	3532.5	1472.8	858.6	701.0	645.6	621.4	613.4	619.0	631.1
50°	12145.2	9644.1	3718.2	1469.6	878.7	687.4	680.9	620.6	604.6	602.2	611.0
52.5°	12609.9	10306.6	3947.4	1500.2	873.9	667.3	707.5	617.4	588.5	582.9	591.7
55°	13286.0	11016.5	4191.0	1474.4	824.0	628.7	681.7	615.0	571.6	561.2	569.2
57.5°	13724.2	11423.3	4463.5	1452.7	748.5	599.7	658.4	616.6	573.2	549.9	554.7
60°	13578.6	11204.6	4570.4	1320.1	676.9	577.2	603.0	603.8	558.7	537.0	541.1
62.5°	12935.5	10412.7	4470.7	1165.7	623.9	545.1	545.9	579.6	516.9	501.7	508.1
65°	12036.7	9427.9	4067.2	1065.2	598.9	511.3	498.4	508.9	460.7	449.4	462.3
67.5°	10933.7	8213.9	3466.6	959.1	590.1	465.5	450.2	446.2	415.6	402.8	415.6
70°	9550.1	6877.8	2771.2	884.3	556.3	415.6	403.6	399.6	373.8	364.2	375.4
72.5°	7676.1	5370.4	2138.5	827.3	519.3	369.8	359.4	354.5	332.8	319.2	332.8
75°	5459.6	4104.1	1588.6	739.6	467.1	323.2	311.1	304.7	284.6	271.7	283.8
77.5°	3879.8	3080.7	1109.4	611.8	385.1	273.3	266.1	255.7	238.0	222.7	234.8
80°	2868.5	2201.2	715.5	471.9	294.2	218.7	214.7	207.4	190.5	172.0	180.9
82.5°	1888.5	1587.0	410.0	320.0	213.8	157.6	160.8	156.0	139.9	120.6	125.4
85°	845.8	939.8	217.9	176.1	139.1	94.9	103.7	100.5	88.4	69.9	71.6
87.5°	81.2	158.4	66.7	64.3	51.5	29.7	37.0	31.4	26.5	16.9	12.9
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: P596816

CATALOG NUMBER: MSA-SA4D-827-U-SLL

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0
2.5°	1882.8	1769.5	1656.1	1725.3	1726.9	1745.4	1747.8	1679.4	1734.1	1775.9	1819.3
5°	1912.6	1838.6	1842.6	1775.9	1739.7	1786.4	1776.7	1758.2	1791.2	1837.0	1892.5
7.5°	1697.1	1648.9	1640.9	1576.5	1420.6	1386.0	1414.9	1427.0	1471.2	1542.0	1601.5
10°	1324.9	1420.6	1312.8	1287.9	1246.9	1166.5	1119.9	1114.3	1208.3	1265.4	1315.3
12.5°	1193.9	1169.7	1156.9	1088.5	1088.5	1003.3	976.0	1000.9	1145.6	1186.6	1250.9
15°	1017.0	999.3	939.8	906.0	890.0	855.4	884.3	908.5	1043.5	1046.7	1114.3
17.5°	844.1	833.7	777.4	771.0	754.9	739.6	766.2	824.0	897.2	884.3	915.7
20°	754.9	718.7	667.3	685.8	668.9	656.8	645.6	727.6	779.0	795.9	814.4
22.5°	732.4	666.5	635.9	619.0	619.8	600.5	603.0	671.3	749.3	759.7	748.5
25°	836.9	719.5	620.6	571.6	553.1	546.7	565.2	625.5	719.5	742.0	750.9
27.5°	979.2	781.4	639.1	555.5	518.5	521.8	548.3	590.1	701.0	741.2	751.7
30°	939.8	734.8	639.9	543.5	497.6	514.5	524.2	564.4	686.6	746.9	799.1
32.5°	725.2	660.8	644.0	553.1	534.6	508.1	521.8	560.3	644.0	681.7	684.2
35°	614.2	565.2	553.9	531.4	505.7	494.4	509.7	543.5	598.1	621.4	618.2
37.5°	609.4	555.5	511.3	501.7	491.2	488.0	496.8	528.2	583.7	624.7	615.8
40°	617.4	550.7	505.7	488.8	492.8	478.3	487.2	525.8	586.1	624.7	616.6
42.5°	607.8	545.1	498.4	485.6	489.6	469.5	480.0	520.2	579.6	625.5	610.2
45°	588.5	532.2	494.4	472.7	491.2	461.5	474.3	505.7	560.3	610.2	592.5
47.5°	569.2	516.9	477.5	463.9	482.4	453.4	459.1	486.4	541.1	590.1	574.8
50°	548.3	497.6	463.9	459.9	472.7	451.8	443.0	465.5	517.7	566.8	553.9
52.5°	525.8	481.6	454.2	452.6	464.7	441.4	428.5	446.2	492.8	541.9	531.4
55°	504.1	463.9	442.2	446.2	459.9	432.5	416.4	427.7	466.3	514.5	500.1
57.5°	482.4	443.8	426.1	437.3	447.8	421.3	401.2	407.6	439.0	486.4	469.5
60°	463.1	426.1	408.4	422.1	431.7	404.4	381.1	385.1	413.2	455.8	440.6
62.5°	438.2	406.8	383.5	401.2	408.4	381.9	357.0	361.8	384.3	424.5	413.2
65°	402.8	382.7	361.0	373.0	382.7	355.3	332.0	337.7	354.5	392.3	384.3
67.5°	372.2	352.9	338.5	348.1	349.7	328.8	307.9	311.1	324.8	360.2	351.3
70°	338.5	320.0	308.7	316.0	315.1	297.5	281.4	282.2	293.4	325.6	313.5
72.5°	301.5	283.8	278.2	282.2	279.0	262.9	247.6	253.2	260.5	284.6	274.9
75°	262.1	246.0	242.8	246.8	242.0	226.7	213.0	218.7	225.1	245.2	233.1
77.5°	221.1	206.6	207.4	208.2	201.8	191.3	177.7	183.3	187.3	201.0	188.9
80°	176.1	164.8	168.0	168.0	160.8	153.6	140.7	142.3	144.7	149.5	140.7
82.5°	128.6	128.6	128.6	129.4	114.2	116.6	105.3	104.5	102.1	101.3	95.7
85°	76.4	79.6	81.2	83.6	61.9	72.4	62.7	60.3	55.5	50.6	49.0
87.5°	16.9	21.7	21.7	20.9	0.0	8.0	4.0	6.4	1.6	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: P596816
 CATALOG NUMBER: MSA-SA4D-827-U-SLL

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0	1747.0
2.5°	1769.5	1721.2	1811.3	1891.7	1878.8	1925.4	1816.9	1977.7	2148.1	2148.1
5°	1878.0	1837.0	1860.3	1907.0	1942.3	2104.7	2239.8	2374.1	2651.4	2654.6
7.5°	1583.8	1672.2	1693.1	1679.4	1831.4	2040.4	2263.1	2645.8	2880.5	2899.0
10°	1480.9	1521.1	1584.6	1620.0	1681.9	1887.7	2164.2	2618.5	2867.7	2914.3
12.5°	1341.8	1490.5	1587.0	1784.8	1833.8	1874.8	2314.6	2707.7	2879.7	2868.5
15°	1189.8	1302.4	1441.5	1660.1	1784.8	2098.3	2403.8	2993.9	3091.2	3176.4
17.5°	948.7	1031.5	1216.4	1465.6	1774.3	2062.9	2624.1	3347.6	3529.3	3617.8
20°	780.6	781.4	966.3	1296.8	1632.8	1915.0	2707.7	3641.1	3871.8	3916.8
22.5°	738.0	701.0	798.3	1066.8	1476.8	2002.6	2876.5	4113.0	4594.5	4707.9
25°	714.7	669.7	730.8	941.4	1365.1	2048.5	3216.6	4761.8	5380.0	5424.2
27.5°	724.4	745.3	764.6	839.3	1223.6	1962.4	3137.8	5052.0	5714.4	5798.1
30°	789.5	823.2	779.0	804.7	1107.0	1837.8	3278.5	5523.1	6135.7	6276.4
32.5°	656.8	644.0	639.9	696.2	990.5	1725.3	3573.5	6186.4	6592.4	6769.2
35°	592.5	572.4	580.4	644.8	933.4	1709.2	3739.2	6735.5	7313.5	7422.0
37.5°	590.1	566.8	577.2	625.5	953.5	1738.1	4004.5	7616.6	8585.3	8817.7
40°	584.5	571.6	577.2	613.4	932.6	1754.2	4157.2	8357.0	9471.3	9706.8
42.5°	583.7	577.2	582.9	623.1	910.9	1761.4	4368.6	9025.9	10404.7	10590.4
45°	581.3	587.7	587.7	631.1	901.2	1809.7	4493.3	9353.9	11020.5	11249.6
47.5°	570.0	589.3	620.6	628.7	861.8	1787.2	4669.3	9851.5	11347.7	11563.1
50°	555.5	586.9	662.5	612.6	855.4	1732.5	4875.1	10246.3	11767.3	11954.7
52.5°	536.2	582.9	652.8	581.3	844.1	1722.9	5163.7	10759.2	12257.0	12422.6
55°	508.9	568.4	623.1	549.9	816.8	1692.3	5605.1	11395.1	12897.7	13011.1
57.5°	484.0	546.7	579.6	532.2	751.7	1698.7	5912.2	11913.7	13435.5	13534.4
60°	461.5	544.3	517.7	513.7	685.0	1612.7	6011.9	11908.0	13635.7	13790.9
62.5°	437.3	513.7	474.3	488.8	626.3	1524.3	5800.5	11397.5	13419.5	13691.2
65°	406.0	440.6	438.2	471.1	627.9	1380.4	5315.7	10497.1	12880.0	13237.8
67.5°	369.0	389.9	403.6	442.2	648.0	1268.6	4535.9	9414.2	11961.9	12387.2
70°	331.2	352.1	367.4	404.4	666.5	1217.2	3610.5	7893.1	10466.6	10898.3
72.5°	292.6	314.3	326.4	358.6	641.5	1107.0	2672.3	6141.3	8401.2	8627.9
75°	252.4	273.3	283.0	312.7	557.1	915.7	1845.1	4651.6	6153.4	6383.3
77.5°	211.4	233.9	237.2	261.3	425.3	700.2	1182.6	3567.9	4357.4	4510.9
80°	168.8	191.3	191.3	204.2	299.1	481.6	708.3	2691.6	3173.2	3233.5
82.5°	121.4	145.5	143.9	144.7	206.6	298.3	410.0	2017.1	2292.9	2304.1
85°	71.6	88.4	87.6	80.4	122.2	160.8	221.9	1252.5	1279.9	1283.1
87.5°	13.7	20.9	18.5	8.0	33.8	47.4	64.3	232.3	92.5	90.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)