

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: P367666

Luminaire Tested: **MSA-SA3A-727-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367666
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3A-727-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: 8404 lumens
Efficiency: N/A
Efficacy: 87.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

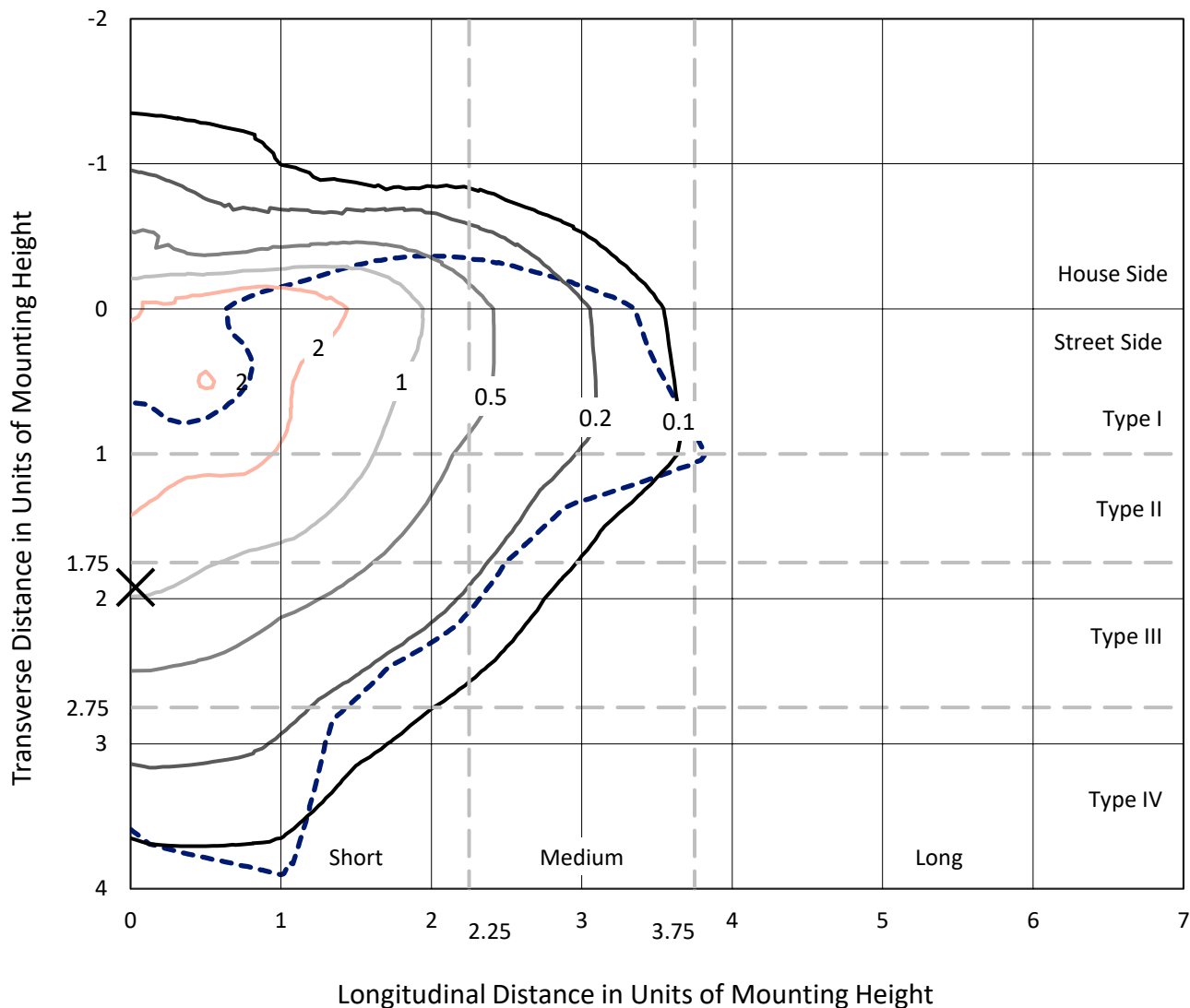
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P367666
 CATALOG NUMBER: MSA-SA3A-727-U-SLL

Iso-Footcandle Lines of Horizontal Illumination

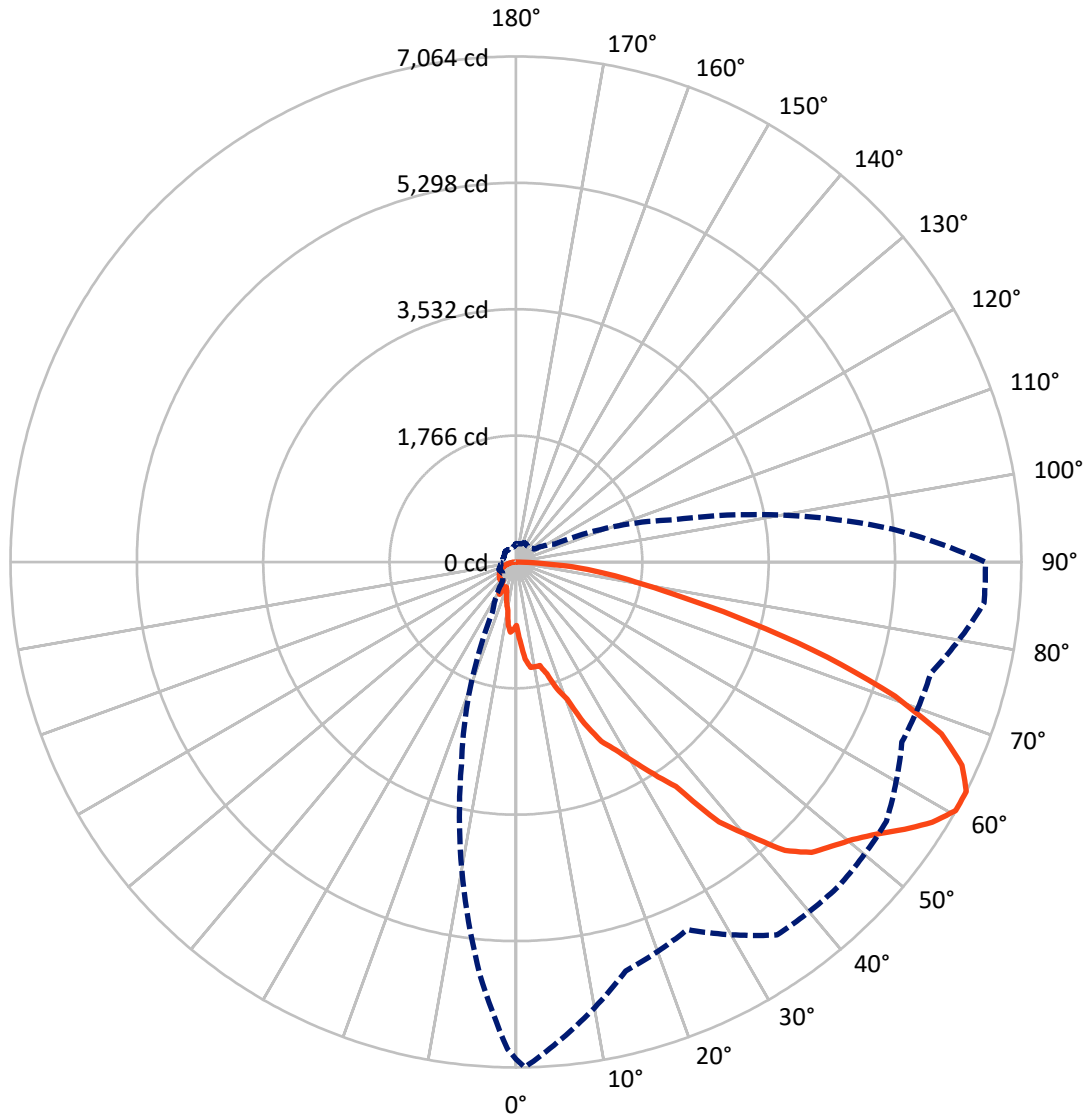
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.6 fc
 Type IV - Short - N/A

REPORT NUMBER: P367666
CATALOG NUMBER: MSA-SA3A-727-U-SLL

Luminous Intensity Polar Plot



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

REPORT NUMBER: P367666
 CATALOG NUMBER: MSA-SA3A-727-U-SLL

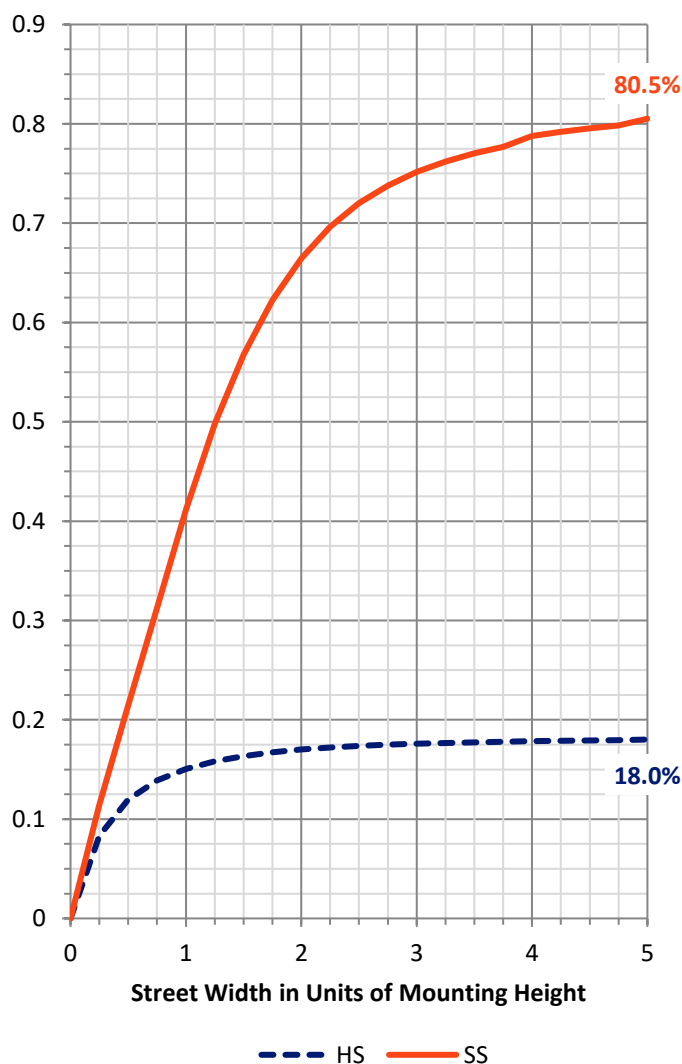
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1530.3	0.0	1530.3
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	6873.7	0.0	6873.7
	% Fixture	81.8	0.0	81.8
Total	Lumens	8404.0	0.0	8404.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.6	1.2
10°-20°	295.2	3.5
20°-30°	521.2	6.2
30°-40°	811.8	9.7
40°-50°	1336.7	15.9
50°-60°	1907.9	22.7
60°-70°	2023.1	24.1
70°-80°	1117.5	13.3
80°-90°	289.0	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°	8404.0	100.0
0°-180°	8404.0	100.0

Coefficient of Utilization



REPORT NUMBER: P367666

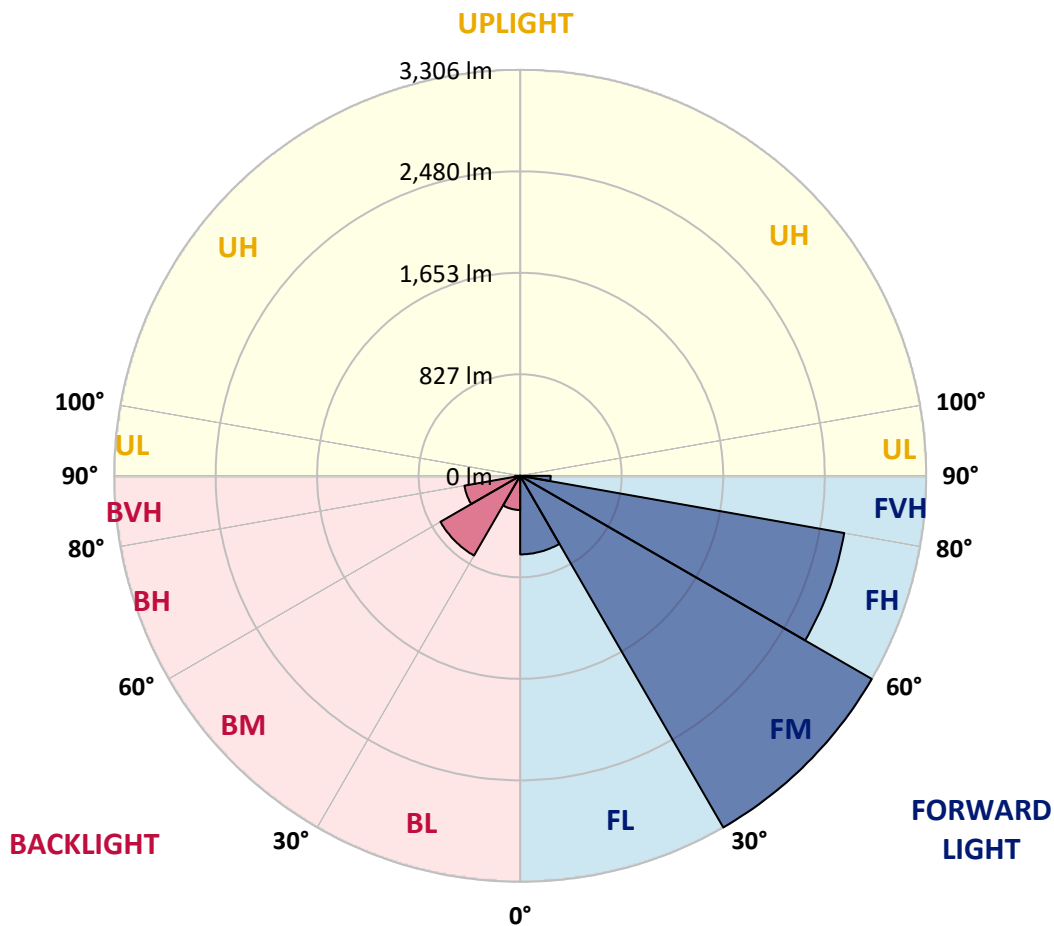
CATALOG NUMBER: MSA-SA3A-727-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	639.7	7.6			
FM (30°-60°)	3306.2	39.3			
FH (60°-80°)	2679.5	31.9			G2/5000
FVH (80°-90°)	248.3	3.0			G3/500
BL (0°-30°)	278.3	3.3	B1/500		
BM (30°-60°)	750.2	8.9	B1/1000		
BH (60°-80°)	461.0	5.5	B1/500		G1/500
BVH (80°-90°)	40.8	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





REPORT NUMBER: P367666

CATALOG NUMBER: MSA-SA3A-727-U-SLL

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2
2.5°	1089.7	1099.1	1079.9	1058.3	969.0	1055.0	1029.3	1077.1	1061.6	958.0	1147.6
5°	1346.6	1363.8	1345.0	1409.8	1413.9	1430.6	1276.1	1372.3	1338.9	1330.3	1426.1
7.5°	1470.6	1488.1	1535.9	1651.3	1741.4	1659.8	1569.7	1549.7	1523.6	1455.5	1513.4
10°	1478.3	1488.1	1552.2	1796.9	1840.5	1898.4	1840.1	1702.6	1646.0	1497.9	1453.9
12.5°	1455.1	1485.7	1568.5	1866.6	1996.3	2059.5	2073.8	1920.8	1781.8	1612.9	1590.5
15°	1611.3	1622.3	1741.0	1916.3	2005.7	2059.1	2105.6	2011.4	1967.7	1834.0	1654.1
17.5°	1835.2	1865.8	1962.8	2027.7	2088.0	2098.2	2059.9	2023.2	1953.9	2132.5	1941.2
20°	1986.9	2046.0	2165.1	2177.4	2050.5	2073.0	2067.6	2070.1	2030.5	2360.9	2255.7
22.5°	2388.2	2452.2	2468.5	2397.6	2158.6	2056.2	2076.6	2135.8	2291.5	2574.6	2693.7
25°	2751.6	2776.4	2925.3	2742.6	2361.7	2138.6	2105.2	2258.1	2512.2	2934.3	3019.1
27.5°	2941.2	2973.4	3072.5	2674.9	2387.0	2032.6	1954.3	2187.1	2446.1	2765.0	3137.4
30°	3183.9	3235.2	3370.2	2742.6	2463.2	2101.9	1928.6	2151.3	2437.5	2875.9	3387.8
32.5°	3433.8	3533.8	3634.1	2981.2	2452.6	2207.9	2092.9	2110.9	2515.0	3108.4	3647.1
35°	3765.0	3853.1	3939.5	3119.0	2666.3	2296.4	2182.2	2372.3	2714.0	3378.0	4008.9
37.5°	4473.0	4612.4	4384.5	3511.3	2898.8	2695.3	2489.3	2601.9	2924.5	3602.7	4599.8
40°	4924.0	5028.8	4808.6	3778.5	3308.2	2964.0	2930.2	2939.6	3214.4	3795.2	4997.4
42.5°	5372.2	5514.1	5163.8	4145.1	3803.3	3519.1	3344.5	3332.7	3539.1	4141.0	5449.7
45°	5706.6	5790.2	5285.8	4454.2	4334.3	4123.5	3992.6	3785.0	3965.6	4380.4	5729.5
47.5°	5865.7	5933.8	5481.9	4634.1	4678.5	4689.5	4925.7	4571.7	4338.4	4542.3	5876.3
50°	6064.3	6096.5	5597.3	4792.3	5005.6	5489.3	5545.9	4946.0	4701.4	4718.9	5963.1
52.5°	6301.6	6315.1	5765.8	4975.0	5336.3	6015.3	5927.7	5580.6	5046.8	5041.5	6126.7
55°	6600.2	6592.0	5977.0	5220.9	5572.5	6328.1	6261.7	6008.8	5423.2	5308.6	6381.2
57.5°	6865.7	6860.8	6257.2	5447.3	5771.1	6488.8	6508.4	6441.5	5679.3	5499.9	6656.8
60°	6995.7	7058.1	6576.1	5694.8	5783.7	6561.4	6568.8	6462.3	5965.6	5745.4	6730.3
62.5°	6945.2	7063.9	6732.7	5917.5	5667.5	6363.2	6393.8	6320.4	5952.5	6003.1	6566.3
65°	6715.2	6852.2	6596.9	6036.1	5596.1	6031.3	6039.0	5853.4	5766.2	6174.0	6182.1
67.5°	6283.7	6412.2	6164.6	5846.9	5107.5	5136.5	5309.4	5324.5	5197.3	6045.1	5642.6
70°	5528.4	5618.9	5464.0	5379.6	4269.1	4099.4	4287.0	4367.3	4425.3	5579.8	4995.0
72.5°	4376.7	4551.7	4576.2	4631.2	3437.1	3154.5	3293.6	3174.5	3551.7	4749.1	4081.1
75°	3238.1	3385.7	3544.4	3851.5	2709.1	2361.7	2344.6	2283.8	2636.1	3819.2	3026.8
77.5°	2288.3	2382.5	2504.4	3076.6	2044.4	1818.9	1829.5	1767.9	1903.7	2886.6	2090.9
80°	1640.3	1689.6	1746.3	2026.9	1508.1	1569.3	1570.9	1512.6	1415.5	1960.4	1395.6
82.5°	1168.8	1207.1	1272.0	1336.8	1124.4	1286.3	1285.0	1281.4	1122.3	1325.0	873.1
85°	650.9	702.3	814.8	1047.3	812.0	919.6	808.7	890.7	823.8	882.1	442.1
87.5°	45.7	40.8	182.3	606.8	378.9	276.9	145.2	287.5	368.7	460.8	61.6
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: P367666
 CATALOG NUMBER: MSA-SA3A-727-U-SLL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2
2.5°	1186.8	1201.0	1145.2	1061.1	1084.0	1059.1	1027.7	978.8	878.0	940.4	940.8
5°	1425.3	1371.1	1327.5	1286.3	1216.9	1112.1	1098.3	1014.2	966.9	991.8	988.1
7.5°	1500.0	1422.9	1357.2	1210.0	1081.5	918.8	869.9	820.1	799.3	859.7	883.7
10°	1418.0	1337.7	1273.2	1094.2	1006.9	905.4	770.8	701.9	661.1	677.0	686.4
12.5°	1484.1	1402.1	1199.4	1099.5	955.5	893.5	775.7	674.5	614.2	628.9	611.3
15°	1547.7	1437.2	1234.5	1035.5	918.8	829.1	733.7	629.3	558.3	533.0	519.6
17.5°	1780.1	1596.6	1230.4	999.6	865.8	762.6	647.6	533.4	486.1	460.0	437.6
20°	2063.6	1807.9	1252.4	962.5	809.5	679.4	554.2	448.2	415.2	398.0	391.9
22.5°	2400.8	2078.7	1378.4	957.2	756.5	618.7	502.8	436.8	399.7	380.9	373.2
25°	2668.8	2358.8	1471.4	993.0	753.7	568.5	471.8	485.3	468.2	473.9	428.6
27.5°	2929.0	2435.1	1419.2	977.1	677.8	479.6	464.5	492.6	507.3	511.8	510.2
30°	3148.8	2757.3	1430.6	887.4	572.6	390.7	355.6	369.5	409.9	473.9	486.1
32.5°	3470.6	2911.4	1528.1	833.2	511.8	349.5	310.4	305.0	314.4	337.7	357.7
35°	3847.0	3266.2	1555.4	818.9	469.8	331.2	303.8	291.6	296.5	314.0	318.1
37.5°	4548.8	3524.8	1656.6	801.4	454.3	320.1	298.9	294.4	305.0	319.3	327.5
40°	4935.8	3989.7	1661.5	786.3	434.3	315.7	302.2	300.2	306.7	326.3	331.2
42.5°	5451.7	4254.8	1738.1	768.7	427.4	321.8	308.7	307.9	313.6	325.0	334.0
45°	5766.2	4432.2	1742.2	758.5	425.8	348.7	317.3	314.4	313.2	320.1	328.3
47.5°	5968.9	4687.9	1792.0	747.1	435.6	355.6	327.5	315.2	311.2	314.0	320.1
50°	6160.9	4892.2	1886.2	745.5	445.7	348.7	345.4	314.8	306.7	305.5	309.9
52.5°	6396.7	5228.3	2002.4	761.0	443.3	338.5	358.9	313.2	298.5	295.7	300.2
55°	6739.6	5588.4	2126.0	747.9	418.0	318.9	345.8	312.0	290.0	284.7	288.7
57.5°	6961.9	5794.7	2264.2	736.9	379.7	304.2	334.0	312.8	290.8	278.9	281.4
60°	6888.1	5683.8	2318.5	669.6	343.4	292.8	305.9	306.3	283.4	272.4	274.5
62.5°	6561.8	5282.1	2267.9	591.3	316.5	276.5	276.9	294.0	262.2	254.5	257.7
65°	6105.9	4782.5	2063.2	540.4	303.8	259.4	252.8	258.2	233.7	228.0	234.5
67.5°	5546.4	4166.7	1758.5	486.5	299.3	236.1	228.4	226.3	210.8	204.3	210.8
70°	4844.5	3488.9	1405.8	448.6	282.2	210.8	204.7	202.7	189.6	184.7	190.5
72.5°	3893.9	2724.2	1084.8	419.6	263.5	187.6	182.3	179.8	168.8	161.9	168.8
75°	2769.5	2081.9	805.9	375.2	236.9	163.9	157.8	154.6	144.4	137.8	144.0
77.5°	1968.1	1562.8	562.8	310.4	195.3	138.7	135.0	129.7	120.7	113.0	119.1
80°	1455.1	1116.6	363.0	239.4	149.3	110.9	108.9	105.2	96.7	87.3	91.8
82.5°	958.0	805.0	208.0	162.3	108.5	79.9	81.6	79.1	71.0	61.2	63.6
85°	429.0	476.7	110.5	89.3	70.6	48.1	52.6	51.0	44.9	35.5	36.3
87.5°	41.2	80.3	33.8	32.6	26.1	15.1	18.8	15.9	13.5	8.6	6.5
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: P367666
 CATALOG NUMBER: MSA-SA3A-727-U-SLL

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2
2.5°	955.1	897.6	840.1	875.2	876.0	885.4	886.6	851.9	879.7	900.9	922.9
5°	970.2	932.7	934.7	900.9	882.5	906.2	901.3	891.9	908.6	931.9	960.0
7.5°	860.9	836.4	832.4	799.7	720.6	703.1	717.8	723.9	746.3	782.2	812.4
10°	672.1	720.6	666.0	653.3	632.5	591.7	568.1	565.2	613.0	641.9	667.2
12.5°	605.6	593.4	586.9	552.2	552.2	509.0	495.1	507.7	581.1	601.9	634.6
15°	515.9	506.9	476.7	459.6	451.5	433.9	448.6	460.8	529.4	531.0	565.2
17.5°	428.2	422.9	394.4	391.1	382.9	375.2	388.7	418.0	455.1	448.6	464.5
20°	382.9	364.6	338.5	347.9	339.3	333.2	327.5	369.1	395.2	403.7	413.1
22.5°	371.5	338.1	322.6	314.0	314.4	304.6	305.9	340.5	380.1	385.4	379.7
25°	424.5	365.0	314.8	290.0	280.6	277.3	286.7	317.3	365.0	376.4	380.9
27.5°	496.7	396.4	324.2	281.8	263.0	264.7	278.1	299.3	355.6	376.0	381.3
30°	476.7	372.7	324.6	275.7	252.4	261.0	265.9	286.3	348.3	378.9	405.4
32.5°	367.9	335.2	326.7	280.6	271.2	257.7	264.7	284.3	326.7	345.8	347.1
35°	311.6	286.7	281.0	269.6	256.5	250.8	258.6	275.7	303.4	315.2	313.6
37.5°	309.1	281.8	259.4	254.5	249.2	247.5	252.0	267.9	296.1	316.9	312.4
40°	313.2	279.4	256.5	248.0	250.0	242.7	247.1	266.7	297.3	316.9	312.8
42.5°	308.3	276.5	252.8	246.3	248.4	238.2	243.5	263.9	294.0	317.3	309.5
45°	298.5	270.0	250.8	239.8	249.2	234.1	240.6	256.5	284.3	309.5	300.6
47.5°	288.7	262.2	242.2	235.3	244.7	230.0	232.9	246.7	274.5	299.3	291.6
50°	278.1	252.4	235.3	233.3	239.8	229.2	224.7	236.1	262.6	287.5	281.0
52.5°	266.7	244.3	230.4	229.6	235.7	223.9	217.4	226.3	250.0	274.9	269.6
55°	255.7	235.3	224.3	226.3	233.3	219.4	211.3	217.0	236.5	261.0	253.7
57.5°	244.7	225.1	216.1	221.9	227.2	213.7	203.5	206.8	222.7	246.7	238.2
60°	234.9	216.1	207.2	214.1	219.0	205.1	193.3	195.3	209.6	231.2	223.5
62.5°	222.3	206.4	194.5	203.5	207.2	193.7	181.1	183.5	194.9	215.3	209.6
65°	204.3	194.1	183.1	189.2	194.1	180.3	168.4	171.3	179.8	199.0	194.9
67.5°	188.8	179.0	171.7	176.6	177.4	166.8	156.2	157.8	164.8	182.7	178.2
70°	171.7	162.3	156.6	160.3	159.9	150.9	142.7	143.1	148.9	165.2	159.0
72.5°	152.9	144.0	141.1	143.1	141.5	133.4	125.6	128.5	132.1	144.4	139.5
75°	132.9	124.8	123.2	125.2	122.8	115.0	108.1	110.9	114.2	124.4	118.3
77.5°	112.2	104.8	105.2	105.6	102.4	97.1	90.1	93.0	95.0	102.0	95.8
80°	89.3	83.6	85.2	85.2	81.6	77.9	71.4	72.2	73.4	75.9	71.4
82.5°	65.3	65.3	65.3	65.7	57.9	59.1	53.4	53.0	51.8	51.4	48.5
85°	38.7	40.4	41.2	42.4	31.4	36.7	31.8	30.6	28.1	25.7	24.9
87.5°	8.6	11.0	11.0	10.6	0.0	4.1	2.0	3.3	0.8	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: P367666
 CATALOG NUMBER: MSA-SA3A-727-U-SLL

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2	886.2
2.5°	897.6	873.1	918.8	959.6	953.1	976.7	921.7	1003.2	1089.7	1089.7
5°	952.7	931.9	943.7	967.3	985.3	1067.7	1136.2	1204.3	1345.0	1346.6
7.5°	803.4	848.3	858.9	851.9	929.0	1035.0	1148.0	1342.1	1461.2	1470.6
10°	751.2	771.6	803.8	821.8	853.2	957.6	1097.9	1328.3	1454.7	1478.3
12.5°	680.7	756.1	805.0	905.4	930.2	951.0	1174.1	1373.5	1460.8	1455.1
15°	603.6	660.7	731.2	842.1	905.4	1064.4	1219.4	1518.7	1568.1	1611.3
17.5°	481.2	523.2	617.0	743.5	900.1	1046.5	1331.1	1698.2	1790.3	1835.2
20°	396.0	396.4	490.2	657.8	828.3	971.4	1373.5	1847.0	1964.1	1986.9
22.5°	374.4	355.6	405.0	541.2	749.2	1015.9	1459.2	2086.4	2330.7	2388.2
25°	362.6	339.7	370.7	477.6	692.5	1039.1	1631.7	2415.5	2729.1	2751.6
27.5°	367.4	378.0	387.8	425.8	620.7	995.5	1591.7	2562.7	2898.8	2941.2
30°	400.5	417.6	395.2	408.2	561.6	932.3	1663.1	2801.7	3112.5	3183.9
32.5°	333.2	326.7	324.6	353.2	502.4	875.2	1812.8	3138.2	3344.1	3433.8
35°	300.6	290.4	294.4	327.1	473.5	867.0	1896.8	3416.7	3709.9	3765.0
37.5°	299.3	287.5	292.8	317.3	483.7	881.7	2031.4	3863.7	4355.1	4473.0
40°	296.5	290.0	292.8	311.2	473.1	889.9	2108.8	4239.3	4804.5	4924.0
42.5°	296.1	292.8	295.7	316.1	462.1	893.5	2216.1	4578.6	5278.0	5372.2
45°	294.9	298.1	298.1	320.1	457.2	918.0	2279.3	4745.0	5590.4	5706.6
47.5°	289.1	298.9	314.8	318.9	437.2	906.6	2368.6	4997.4	5756.4	5865.7
50°	281.8	297.7	336.0	310.8	433.9	878.9	2473.0	5197.7	5969.3	6064.3
52.5°	272.0	295.7	331.2	294.9	428.2	874.0	2619.4	5457.9	6217.6	6301.6
55°	258.2	288.3	316.1	278.9	414.3	858.5	2843.3	5780.4	6542.7	6600.2
57.5°	245.5	277.3	294.0	270.0	381.3	861.7	2999.1	6043.5	6815.5	6865.7
60°	234.1	276.1	262.6	260.6	347.5	818.1	3049.7	6040.6	6917.0	6995.7
62.5°	221.9	260.6	240.6	248.0	317.7	773.2	2942.4	5781.7	6807.3	6945.2
65°	205.9	223.5	222.3	239.0	318.5	700.2	2696.5	5324.9	6533.7	6715.2
67.5°	187.2	197.8	204.7	224.3	328.7	643.5	2300.9	4775.6	6068.0	6283.7
70°	168.0	178.6	186.4	205.1	338.1	617.4	1831.5	4004.0	5309.4	5528.4
72.5°	148.4	159.5	165.6	181.9	325.4	561.6	1355.6	3115.3	4261.7	4376.7
75°	128.1	138.7	143.6	158.6	282.6	464.5	935.9	2359.6	3121.5	3238.1
77.5°	107.3	118.7	120.3	132.5	215.7	355.2	599.9	1809.9	2210.4	2288.3
80°	85.6	97.1	97.1	103.6	151.7	244.3	359.3	1365.4	1609.7	1640.3
82.5°	61.6	73.8	73.0	73.4	104.8	151.3	208.0	1023.2	1163.1	1168.8
85°	36.3	44.9	44.5	40.8	62.0	81.6	112.6	635.4	649.2	650.9
87.5°	6.9	10.6	9.4	4.1	17.1	24.1	32.6	117.9	46.9	45.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)