

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: P368414

Luminaire Tested: **MSA-SA4B-760-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368414
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-SA4B-760-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: 16644 lumens
Efficiency: N/A
Efficacy: 97.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

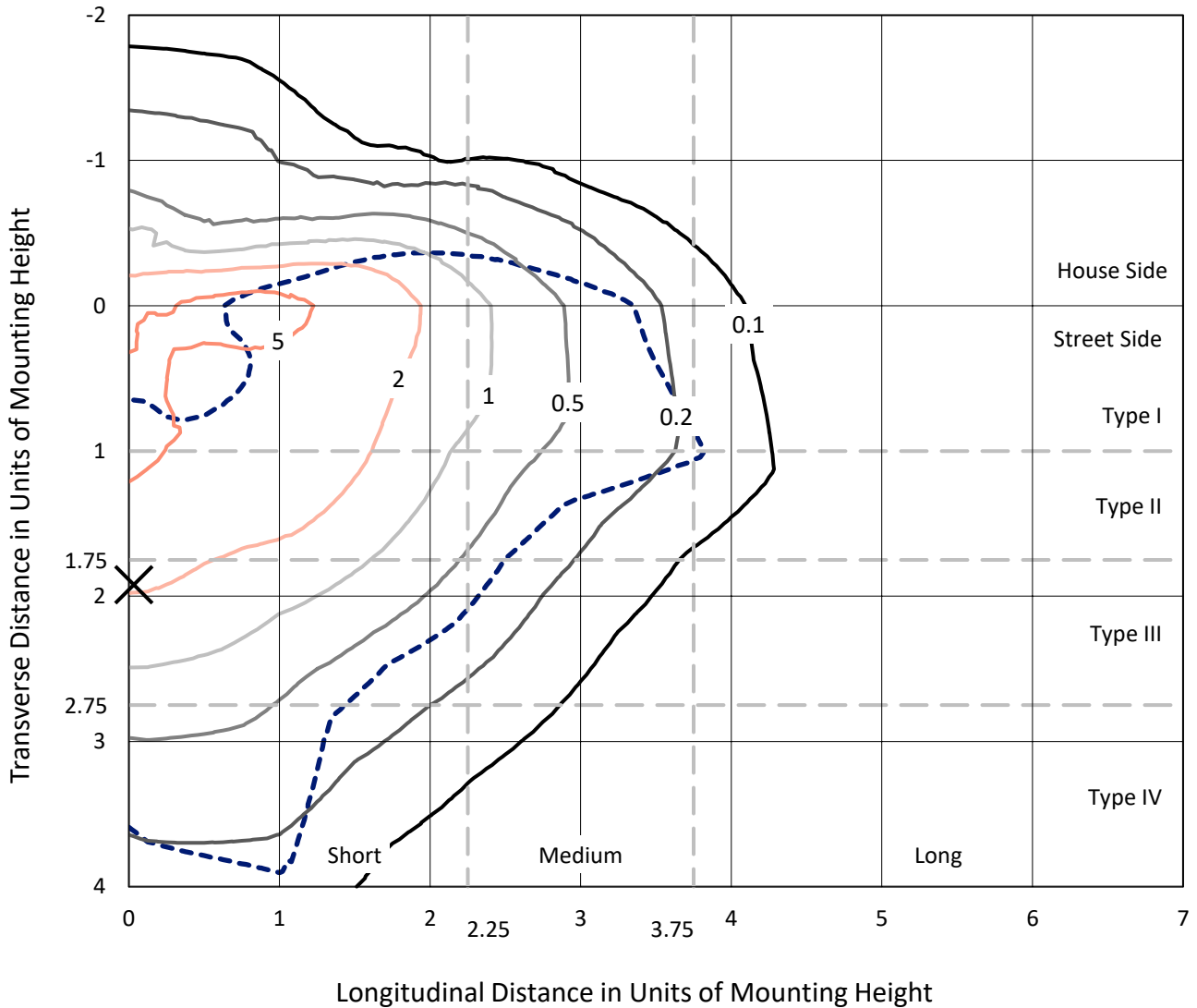
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

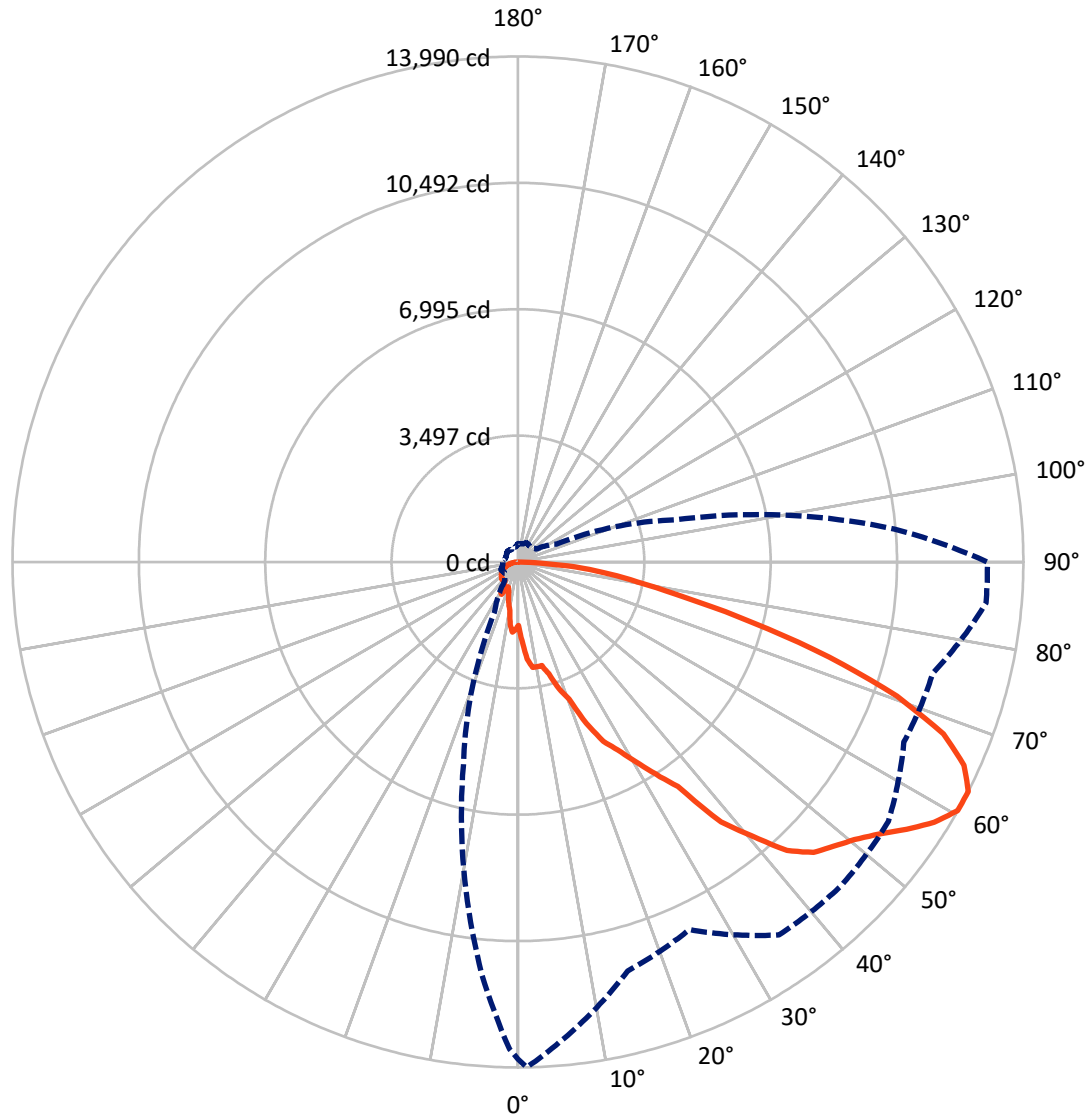
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.1 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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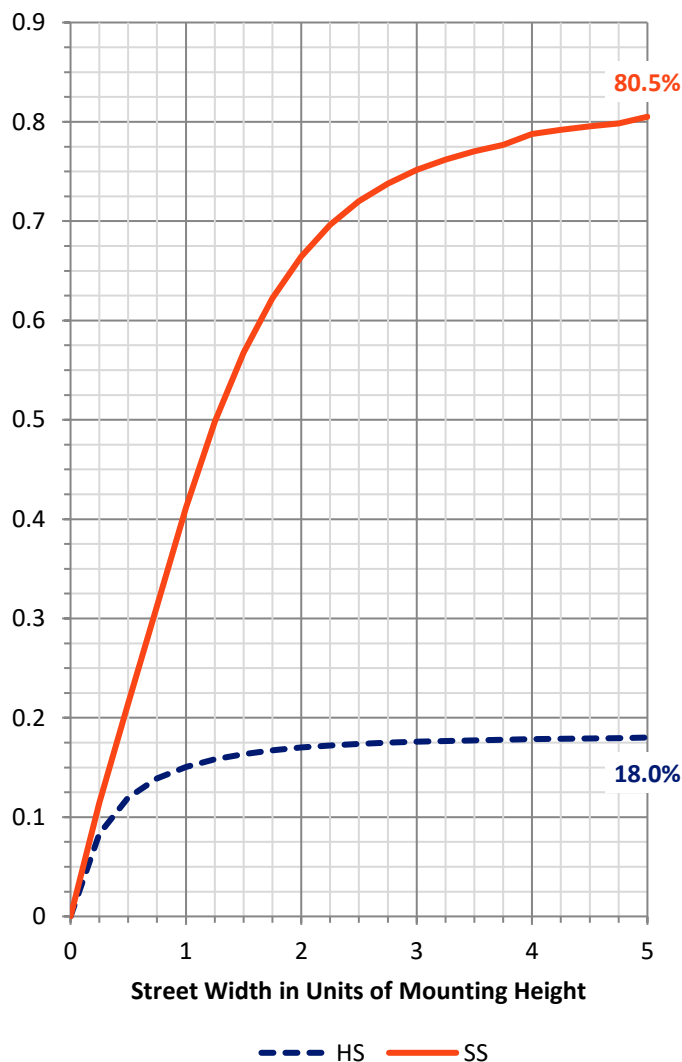
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3030.8	0.0	3030.8
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	13613.2	0.0	13613.2
	% Fixture	81.8	0.0	81.8
Total	Lumens	16644.0	0.0	16644.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.2	1.2
10°-20°	584.7	3.5
20°-30°	1032.2	6.2
30°-40°	1607.8	9.7
40°-50°	2647.4	15.9
50°-60°	3778.5	22.7
60°-70°	4006.7	24.1
70°-80°	2213.1	13.3
80°-90°	572.4	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°	16644.0	100.0
0°-180°	16644.0	100.0

Coefficient of Utilization



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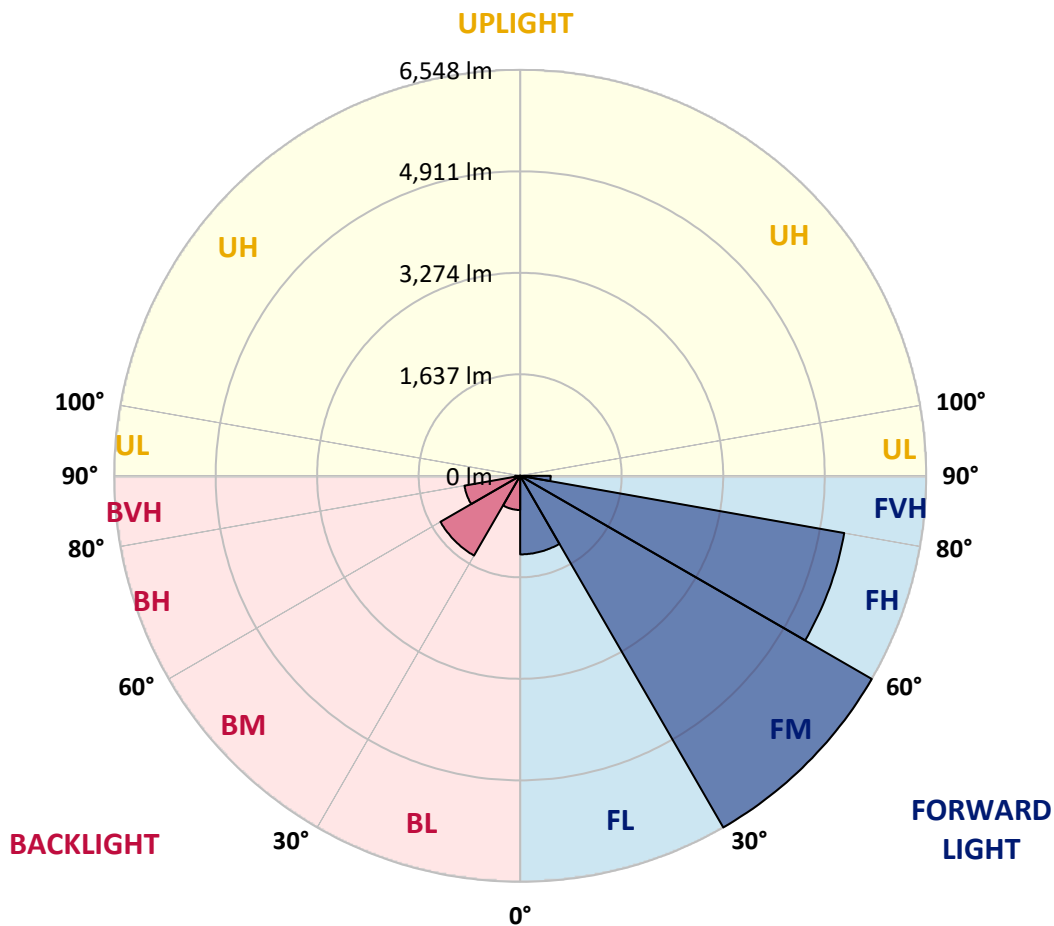
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1266.9	7.6			
FM (30°-60°)	6547.9	39.3			
FH (60°-80°)	5306.8	31.9			G3/7500
FVH (80°-90°)	491.7	3.0			G3/500
BL (0°-30°)	551.2	3.3	B2/1000		
BM (30°-60°)	1485.7	8.9	B2/2500		
BH (60°-80°)	913.1	5.5	B2/1000		G2/1000
BVH (80°-90°)	80.7	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°	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1
2.5°	2158.1	2176.7	2138.7	2095.9	1919.1	2089.5	2038.6	2133.1	2102.4	1897.2	2272.8
5°	2667.0	2700.9	2663.7	2792.2	2800.2	2833.3	2527.2	2717.9	2651.6	2634.7	2824.5
7.5°	2912.5	2947.2	3041.7	3270.3	3448.8	3287.3	3108.8	3069.2	3017.5	2882.6	2997.3
10°	2927.8	2947.2	3074.0	3558.6	3645.1	3759.8	3644.3	3372.1	3259.8	2966.6	2879.4
12.5°	2881.8	2942.4	3106.3	3696.8	3953.6	4078.8	4107.1	3804.2	3528.8	3194.4	3150.0
15°	3191.2	3213.0	3448.0	3795.3	3972.2	4078.0	4170.1	3983.5	3897.1	3632.1	3276.0
17.5°	3634.6	3695.1	3887.4	4015.8	4135.3	4155.5	4079.6	4006.9	3869.6	4223.4	3844.6
20°	3935.0	4052.1	4288.0	4312.2	4061.0	4105.4	4094.9	4099.8	4021.4	4675.7	4467.3
22.5°	4729.8	4856.6	4888.9	4748.4	4275.1	4072.3	4112.7	4229.8	4538.4	5098.9	5334.7
25°	5449.4	5498.7	5793.5	5431.7	4677.3	4235.5	4169.3	4472.1	4975.3	5811.3	5979.3
27.5°	5825.0	5888.8	6085.1	5297.6	4727.4	4025.5	3870.4	4331.6	4844.5	5476.1	6213.5
30°	6305.6	6407.3	6674.7	5431.7	4878.4	4162.8	3819.5	4260.5	4827.5	5695.8	6709.4
32.5°	6800.7	6998.6	7197.3	5904.2	4857.4	4372.8	4145.0	4180.6	4981.0	6156.2	7223.1
35°	7456.5	7631.0	7802.2	6177.2	5280.6	4548.1	4321.9	4698.3	5375.1	6690.0	7939.5
37.5°	8858.7	9134.9	8683.4	6954.1	5741.0	5338.0	4930.1	5153.0	5791.9	7135.1	9109.8
40°	9752.0	9959.5	9523.4	7483.2	6551.9	5870.2	5803.2	5821.8	6366.1	7516.3	9897.3
42.5°	10639.6	10920.7	10226.9	8209.3	7532.4	6969.5	6623.8	6600.4	7009.1	8201.2	10793.1
45°	11301.9	11467.5	10468.4	8821.5	8584.0	8166.5	7907.2	7496.1	7853.9	8675.3	11347.1
47.5°	11616.9	11751.8	10856.9	9177.7	9265.7	9287.5	9755.2	9054.1	8592.1	8996.0	11637.9
50°	12010.2	12074.0	11085.4	9491.1	9913.5	10871.4	10983.7	9795.6	9311.0	9345.7	11809.9
52.5°	12480.3	12507.0	11419.0	9852.9	10568.5	11913.3	11739.7	11052.3	9995.1	9984.6	12133.8
55°	13071.5	13055.4	11837.4	10339.9	11036.2	12532.8	12401.1	11900.4	10740.6	10513.6	12637.8
57.5°	13597.3	13587.6	12392.3	10788.2	11429.5	12851.0	12889.8	12757.3	11247.8	10892.4	13183.8
60°	13855.0	13978.6	13023.9	11278.5	11454.5	12994.8	13009.3	12798.5	11814.8	11378.6	13329.2
62.5°	13754.8	13989.9	13334.0	11719.5	11224.4	12602.3	12662.8	12517.5	11788.9	11889.1	13004.5
65°	13299.3	13570.7	13065.1	11954.5	11083.0	11944.8	11960.2	11592.7	11419.8	12227.5	12243.7
67.5°	12444.8	12699.2	12208.9	11579.7	10115.4	10172.8	10515.2	10545.1	10293.1	11972.3	11175.1
70°	10948.9	11128.2	10821.3	10654.1	8454.8	8118.8	8490.4	8649.5	8764.2	11050.7	9892.5
72.5°	8668.0	9014.5	9063.0	9172.0	6807.1	6247.4	6522.8	6287.0	7034.1	9405.5	8082.5
75°	6413.0	6705.4	7019.6	7627.7	5365.4	4677.3	4643.4	4523.0	5220.9	7563.9	5994.6
77.5°	4531.9	4718.5	4960.0	6093.2	4048.9	3602.3	3623.3	3501.3	3770.3	5716.8	4141.0
80°	3248.5	3346.2	3458.5	4014.2	2986.8	3108.0	3111.2	2995.7	2803.5	3882.5	2763.9
82.5°	2314.8	2390.7	2519.2	2647.6	2226.8	2547.4	2545.0	2537.7	2222.7	2624.2	1729.2
85°	1289.1	1390.8	1613.7	2074.1	1608.1	1821.3	1601.6	1764.0	1631.5	1747.0	875.5
87.5°	90.5	80.8	361.0	1201.8	750.3	548.4	287.5	569.4	730.1	912.7	122.0
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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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1
2.5°	2350.4	2378.6	2268.0	2101.6	2146.8	2097.6	2035.4	1938.4	1738.9	1862.5	1863.3
5°	2822.8	2715.4	2629.0	2547.4	2410.1	2202.5	2175.1	2008.7	1915.0	1964.3	1957.0
7.5°	2970.7	2818.0	2688.0	2396.4	2142.0	1819.7	1722.8	1624.2	1583.1	1702.6	1750.2
10°	2808.3	2649.2	2521.6	2167.0	1994.2	1793.1	1526.5	1390.0	1309.3	1340.8	1359.3
12.5°	2939.2	2776.8	2375.4	2177.5	1892.4	1769.6	1536.2	1335.9	1216.4	1245.4	1210.7
15°	3065.2	2846.3	2444.9	2050.7	1819.7	1642.0	1453.0	1246.3	1105.7	1055.6	1029.0
17.5°	3525.5	3162.1	2436.8	1979.6	1714.7	1510.4	1282.6	1056.4	962.8	911.1	866.6
20°	4086.9	3580.5	2480.4	1906.1	1603.2	1345.6	1097.6	887.6	822.2	788.3	776.2
22.5°	4754.8	4116.8	2730.0	1895.6	1498.3	1225.3	995.9	865.0	791.5	754.4	739.0
25°	5285.5	4671.6	2914.1	1966.7	1492.6	1125.9	934.5	961.1	927.2	938.5	848.9
27.5°	5800.8	4822.7	2810.7	1935.2	1342.4	949.8	919.9	975.7	1004.8	1013.6	1010.4
30°	6236.1	5460.7	2833.3	1757.5	1134.0	773.8	704.3	731.8	811.7	938.5	962.8
32.5°	6873.4	5766.0	3026.4	1650.1	1013.6	692.2	614.6	604.1	622.7	668.8	708.3
35°	7618.9	6468.7	3080.5	1621.8	930.4	655.8	601.7	577.5	587.2	621.9	630.0
37.5°	9008.9	6980.8	3280.8	1587.1	899.8	634.0	592.0	583.1	604.1	632.4	648.6
40°	9775.4	7901.6	3290.5	1557.2	860.2	625.1	598.5	594.5	607.4	646.1	655.8
42.5°	10797.1	8426.5	3442.3	1522.5	846.5	637.3	611.4	609.8	621.1	643.7	661.5
45°	11419.8	8777.9	3450.4	1502.3	843.2	690.6	628.4	622.7	620.3	634.0	650.2
47.5°	11821.2	9284.3	3549.0	1479.7	862.6	704.3	648.6	624.3	616.3	621.9	634.0
50°	12201.7	9689.0	3735.5	1476.4	882.8	690.6	684.1	623.5	607.4	605.0	613.8
52.5°	12668.5	10354.5	3965.7	1507.1	878.0	670.4	710.8	620.3	591.2	585.6	594.5
55°	13347.8	11067.7	4210.4	1481.3	827.9	631.6	684.9	617.9	574.3	563.8	571.8
57.5°	13787.9	11476.4	4484.3	1459.5	752.0	602.5	661.5	619.5	575.9	552.5	557.3
60°	13641.7	11256.7	4591.7	1326.2	680.1	579.9	605.8	606.6	561.3	539.5	543.6
62.5°	12995.6	10461.1	4491.5	1171.1	626.8	547.6	548.4	582.3	519.3	504.0	510.5
65°	12092.6	9471.7	4086.1	1070.2	601.7	513.7	500.8	511.3	462.8	451.5	464.4
67.5°	10984.5	8252.1	3482.7	963.6	592.8	467.6	452.3	448.3	417.6	404.6	417.6
70°	9594.5	6909.7	2784.1	888.5	558.9	417.6	405.5	401.4	375.6	365.9	377.2
72.5°	7711.7	5395.3	2148.4	831.1	521.8	371.5	361.0	356.2	334.4	320.6	334.4
75°	5485.0	4123.2	1596.0	743.1	469.3	324.7	312.6	306.1	285.9	273.0	285.1
77.5°	3897.9	3095.0	1114.6	614.6	386.9	274.6	267.3	256.8	239.1	223.7	235.8
80°	2881.8	2211.4	718.8	474.1	295.6	219.7	215.7	208.4	191.4	172.8	181.7
82.5°	1897.2	1594.4	411.9	321.5	214.8	158.3	161.5	156.7	140.5	121.2	126.0
85°	849.7	944.2	218.9	176.9	139.7	95.3	104.2	101.0	88.8	70.3	71.9
87.5°	81.6	159.1	67.0	64.6	51.7	29.9	37.2	31.5	26.7	17.0	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



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CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1
2.5°	1891.6	1777.7	1663.8	1733.3	1734.9	1753.5	1755.9	1687.2	1742.2	1784.2	1827.8
5°	1921.5	1847.2	1851.2	1784.2	1747.8	1794.7	1785.0	1766.4	1799.5	1845.6	1901.3
7.5°	1705.0	1656.6	1648.5	1583.9	1427.2	1392.4	1421.5	1433.6	1478.1	1549.1	1608.9
10°	1331.1	1427.2	1318.9	1293.9	1252.7	1171.9	1125.1	1119.4	1213.9	1271.3	1321.4
12.5°	1199.4	1175.2	1162.3	1093.6	1093.6	1008.0	980.5	1005.6	1150.9	1192.1	1256.8
15°	1021.7	1003.9	944.2	910.3	894.1	859.4	888.5	912.7	1048.4	1051.6	1119.4
17.5°	848.1	837.6	781.0	774.6	758.4	743.1	769.7	827.9	901.4	888.5	919.9
20°	758.4	722.1	670.4	689.0	672.0	659.9	648.6	731.0	782.6	799.6	818.2
22.5°	735.8	669.6	638.9	621.9	622.7	603.3	605.8	674.4	752.8	763.3	752.0
25°	840.8	722.9	623.5	574.3	555.7	549.2	567.8	628.4	722.9	745.5	754.4
27.5°	983.8	785.1	642.1	558.1	521.0	524.2	550.8	592.8	704.3	744.7	755.2
30°	944.2	738.2	642.9	546.0	500.0	516.9	526.6	567.0	689.8	750.3	802.8
32.5°	728.5	663.9	647.0	555.7	537.1	510.5	524.2	563.0	647.0	684.9	687.3
35°	617.1	567.8	556.5	533.9	508.0	496.7	512.1	546.0	600.9	624.3	621.1
37.5°	612.2	558.1	513.7	504.0	493.5	490.3	499.1	530.6	586.4	627.6	618.7
40°	620.3	553.3	508.0	491.1	495.1	480.6	489.5	528.2	588.8	627.6	619.5
42.5°	610.6	547.6	500.8	487.8	491.9	471.7	482.2	522.6	582.3	628.4	613.0
45°	591.2	534.7	496.7	474.9	493.5	463.6	476.5	508.0	563.0	613.0	595.3
47.5°	571.8	519.3	479.8	466.0	484.6	455.5	461.2	488.6	543.6	592.8	577.5
50°	550.8	500.0	466.0	462.0	474.9	453.9	445.0	467.6	520.1	569.4	556.5
52.5°	528.2	483.8	456.3	454.7	466.8	443.4	430.5	448.3	495.1	544.4	533.9
55°	506.4	466.0	444.2	448.3	462.0	434.5	418.4	429.7	468.5	516.9	502.4
57.5°	484.6	445.8	428.1	439.4	449.9	423.2	403.0	409.5	441.0	488.6	471.7
60°	465.2	428.1	410.3	424.0	433.7	406.3	382.8	386.9	415.1	458.0	442.6
62.5°	440.2	408.7	385.3	403.0	410.3	383.6	358.6	363.5	386.1	426.5	415.1
65°	404.6	384.5	362.6	374.8	384.5	357.0	333.6	339.2	356.2	394.1	386.1
67.5°	374.0	354.6	340.0	349.7	351.3	330.3	309.3	312.6	326.3	361.8	353.0
70°	340.0	321.5	310.1	317.4	316.6	298.8	282.7	283.5	294.8	327.1	315.0
72.5°	302.9	285.1	279.5	283.5	280.3	264.1	248.8	254.4	261.7	285.9	276.2
75°	263.3	247.2	243.9	248.0	243.1	227.8	214.0	219.7	226.2	246.3	234.2
77.5°	222.1	207.6	208.4	209.2	202.7	192.2	178.5	184.2	188.2	201.9	189.8
80°	176.9	165.6	168.8	168.8	161.5	154.3	141.3	143.0	145.4	150.2	141.3
82.5°	129.2	129.2	129.2	130.0	114.7	117.1	105.8	105.0	102.6	101.8	96.1
85°	76.7	80.0	81.6	84.0	62.2	72.7	63.0	60.6	55.7	50.9	49.3
87.5°	17.0	21.8	21.8	21.0	0.0	8.1	4.0	6.5	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: P368414

CATALOG NUMBER: MSA-SA4B-760-U-SLL

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1	1755.1
2.5°	1777.7	1729.2	1819.7	1900.5	1887.6	1934.4	1825.4	1986.9	2158.1	2158.1
5°	1886.7	1845.6	1869.0	1915.8	1951.4	2114.5	2250.2	2385.1	2663.7	2667.0
7.5°	1591.1	1680.0	1701.0	1687.2	1839.9	2049.9	2273.6	2658.1	2893.9	2912.5
10°	1487.8	1528.1	1591.9	1627.5	1689.7	1896.4	2174.3	2630.6	2881.0	2927.8
12.5°	1348.0	1497.4	1594.4	1793.1	1842.3	1883.5	2325.3	2720.3	2893.1	2881.8
15°	1195.4	1308.4	1448.2	1667.9	1793.1	2108.1	2415.0	3007.8	3105.5	3191.2
17.5°	953.1	1036.3	1222.0	1472.4	1782.6	2072.5	2636.3	3363.2	3545.7	3634.6
20°	784.3	785.1	970.8	1302.8	1640.4	1923.9	2720.3	3658.0	3889.8	3935.0
22.5°	741.5	704.3	802.0	1071.8	1483.7	2011.9	2889.9	4132.1	4615.9	4729.8
25°	718.0	672.8	734.2	945.8	1371.4	2058.0	3231.5	4783.9	5405.0	5449.4
27.5°	727.7	748.7	768.1	843.2	1229.3	1971.6	3152.4	5075.5	5741.0	5825.0
30°	793.1	827.1	782.6	808.5	1112.2	1846.4	3293.7	5548.8	6164.2	6305.6
32.5°	659.9	647.0	642.9	699.5	995.1	1733.3	3590.1	6215.1	6623.0	6800.7
35°	595.3	575.1	583.1	647.8	937.7	1717.1	3756.5	6766.8	7347.5	7456.5
37.5°	592.8	569.4	579.9	628.4	957.9	1746.2	4023.1	7652.0	8625.2	8858.7
40°	587.2	574.3	579.9	616.3	936.9	1762.4	4176.5	8395.9	9515.3	9752.0
42.5°	586.4	579.9	585.6	626.0	915.1	1769.6	4388.9	9067.8	10453.0	10639.6
45°	584.0	590.4	590.4	634.0	905.4	1818.1	4514.1	9397.4	11071.7	11301.9
47.5°	572.6	592.0	623.5	631.6	865.8	1795.5	4691.0	9897.3	11400.4	11616.9
50°	558.1	589.6	665.5	615.5	859.4	1740.6	4897.8	10293.9	11822.0	12010.2
52.5°	538.7	585.6	655.8	584.0	848.1	1730.9	5187.7	10809.2	12313.9	12480.3
55°	511.3	571.0	626.0	552.5	820.6	1700.2	5631.2	11448.1	12957.6	13071.5
57.5°	486.2	549.2	582.3	534.7	755.2	1706.6	5939.7	11969.0	13498.0	13597.3
60°	463.6	546.8	520.1	516.1	688.1	1620.2	6039.8	11963.4	13699.1	13855.0
62.5°	439.4	516.1	476.5	491.1	629.2	1531.4	5827.4	11450.5	13481.8	13754.8
65°	407.9	442.6	440.2	473.3	630.8	1386.8	5340.4	10545.9	12939.9	13299.3
67.5°	370.7	391.7	405.5	444.2	651.0	1274.5	4556.9	9458.0	12017.5	12444.8
70°	332.8	353.8	369.1	406.3	669.6	1222.8	3627.3	7929.8	10515.2	10948.9
72.5°	294.0	315.8	327.9	360.2	644.5	1112.2	2684.7	6169.9	8440.3	8668.0
75°	253.6	274.6	284.3	314.2	559.7	919.9	1853.6	4673.2	6182.0	6413.0
77.5°	212.4	235.0	238.3	262.5	427.3	703.5	1188.1	3584.5	4377.6	4531.9
80°	169.6	192.2	192.2	205.2	300.5	483.8	711.6	2704.1	3187.9	3248.5
82.5°	122.0	146.2	144.6	145.4	207.6	299.7	411.9	2026.5	2303.5	2314.8
85°	71.9	88.8	88.0	80.8	122.8	161.5	222.9	1258.4	1285.8	1289.1
87.5°	13.7	21.0	18.6	8.1	33.9	47.7	64.6	233.4	92.9	90.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)