

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: P368326

Luminaire Tested: **MSA-SA4B-727-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368326
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-727-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: 13919 lumens
Efficiency: N/A
Efficacy: 81.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

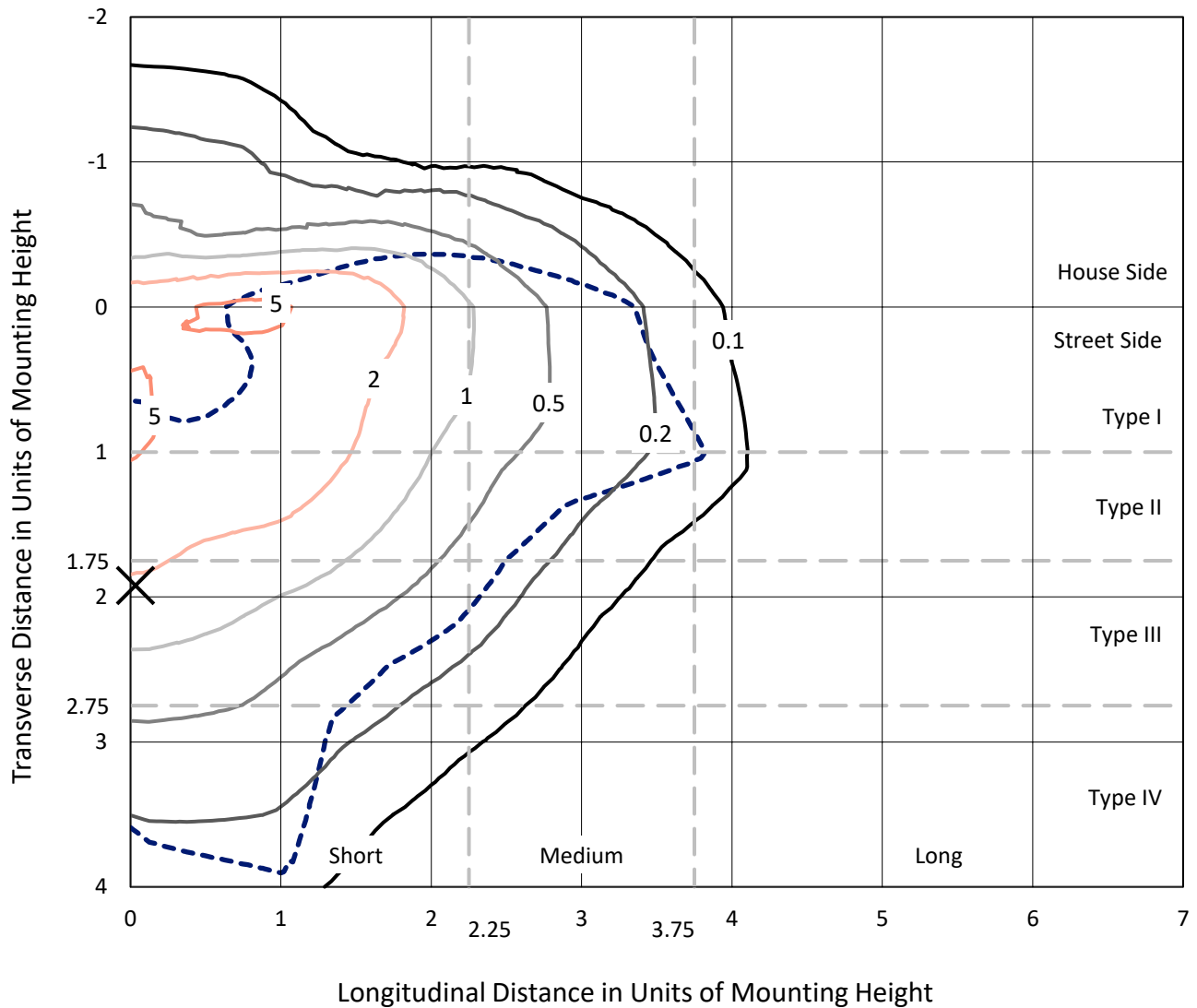
Input Watts (W): 171
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

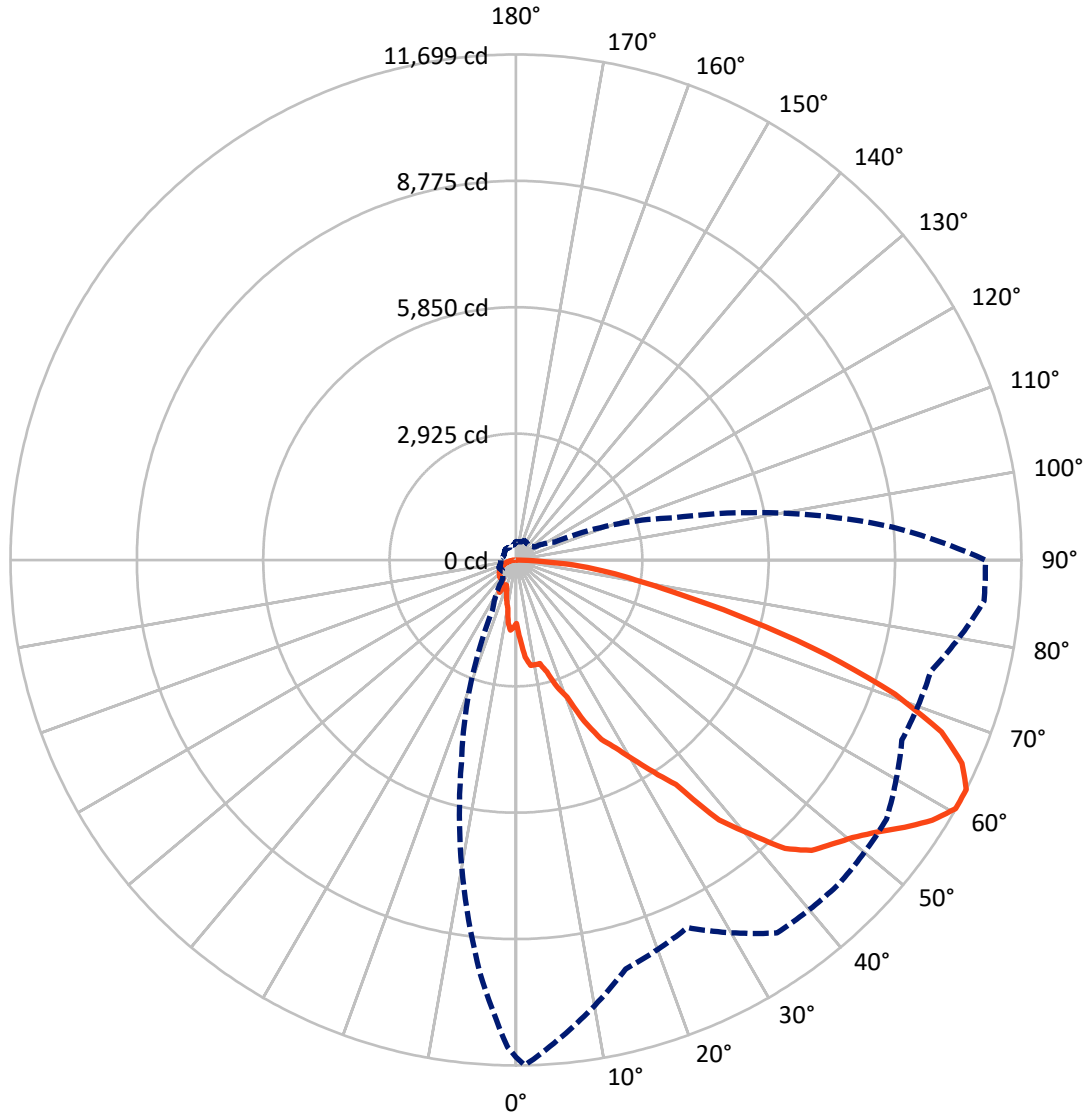
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.9 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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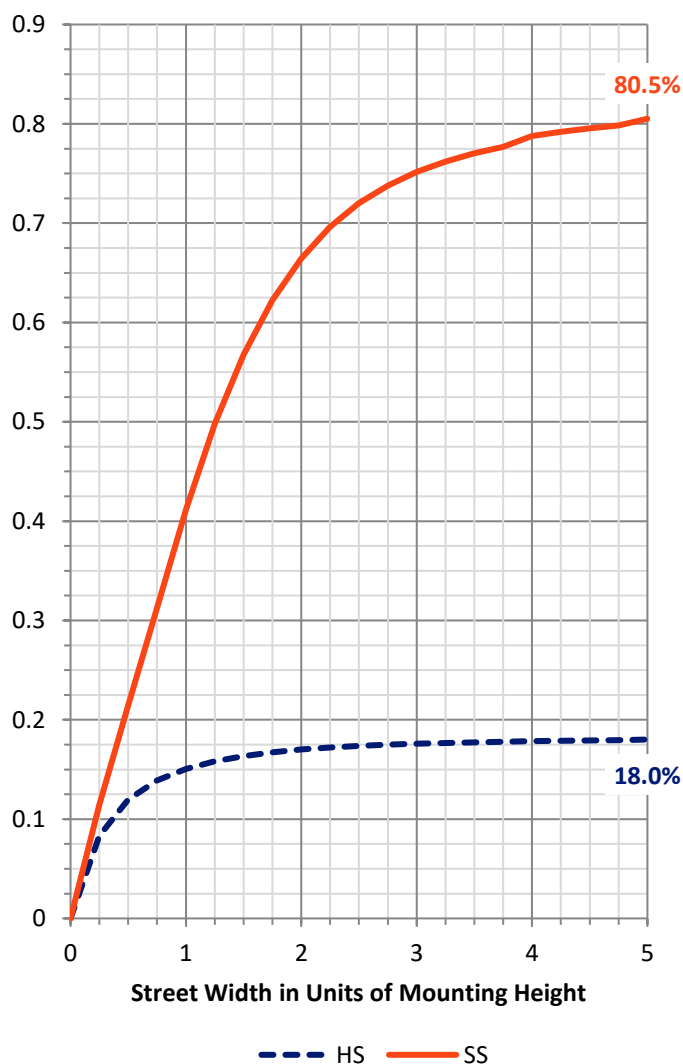
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2534.6	0.0	2534.6
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	11384.4	0.0	11384.4
	% Fixture	81.8	0.0	81.8
Total	Lumens	13919.0	0.0	13919.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.3	1.2
10°-20°	488.9	3.5
20°-30°	863.2	6.2
30°-40°	1344.5	9.7
40°-50°	2213.9	15.9
50°-60°	3159.9	22.7
60°-70°	3350.7	24.1
70°-80°	1850.8	13.3
80°-90°	478.7	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°	13919.0	100.0
0°-180°	13919.0	100.0

Coefficient of Utilization



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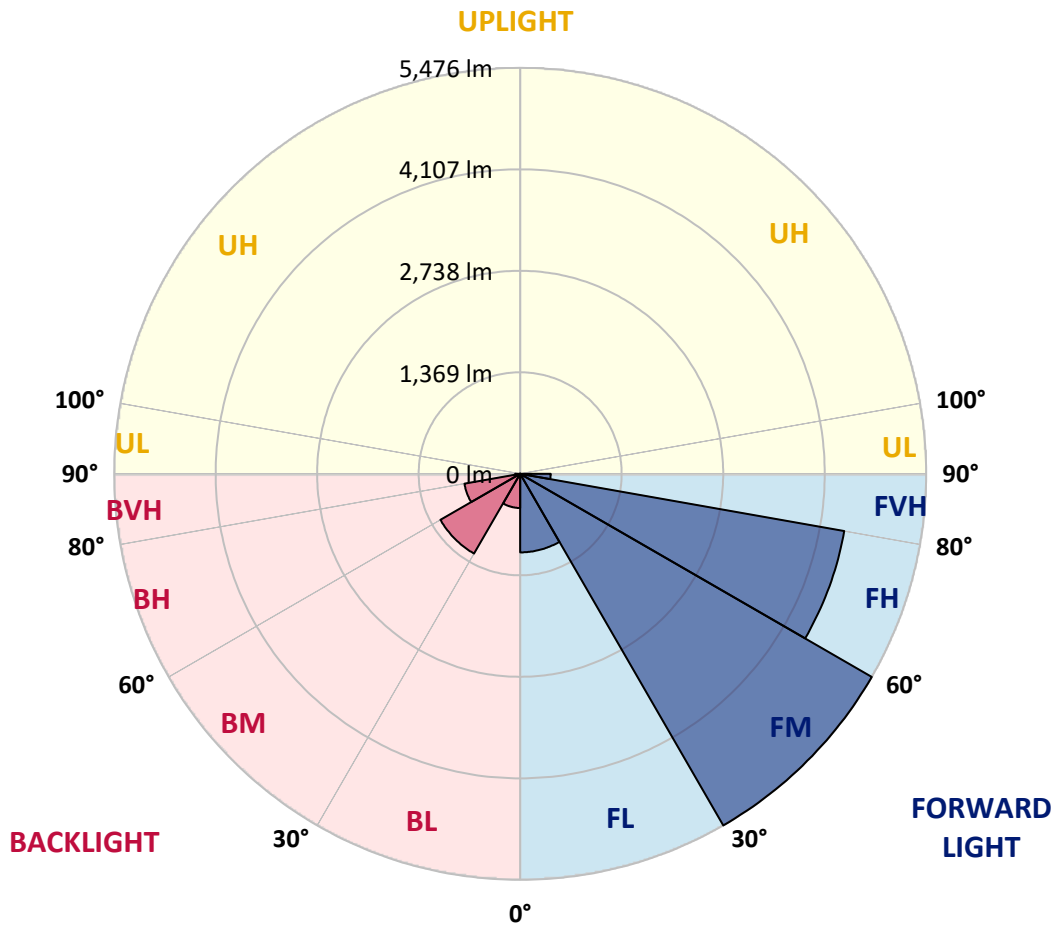
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1059.4	7.6			
FM (30°-60°)	5475.9	39.3			
FH (60°-80°)	4437.9	31.9			G2/5000
FVH (80°-90°)	411.2	3.0			G3/500
BL (0°-30°)	461.0	3.3	B1/500		
BM (30°-60°)	1242.5	8.9	B2/2500		
BH (60°-80°)	763.6	5.5	B2/1000		G2/1000
BVH (80°-90°)	67.5	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°	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7
2.5°	1804.8	1820.3	1788.6	1752.8	1604.9	1747.4	1704.8	1783.9	1758.2	1586.6	1900.7
5°	2230.3	2258.7	2227.6	2335.0	2341.8	2369.5	2113.5	2272.9	2217.5	2203.3	2362.0
7.5°	2435.7	2464.7	2543.7	2734.9	2884.2	2749.1	2599.8	2566.7	2523.5	2410.7	2506.6
10°	2448.5	2464.7	2570.7	2976.0	3048.3	3144.2	3047.6	2820.0	2726.1	2480.9	2408.0
12.5°	2410.0	2460.7	2597.8	3091.5	3306.3	3411.0	3434.6	3181.4	2951.0	2671.4	2634.2
15°	2668.7	2686.9	2883.5	3173.9	3321.8	3410.3	3487.3	3331.3	3259.0	3037.5	2739.6
17.5°	3039.5	3090.2	3250.9	3358.3	3458.3	3475.2	3411.7	3350.9	3236.1	3531.9	3215.1
20°	3290.8	3388.7	3585.9	3606.2	3396.1	3433.3	3424.5	3428.6	3363.0	3910.2	3735.9
22.5°	3955.4	4061.5	4088.5	3970.9	3575.1	3405.6	3439.4	3537.3	3795.3	4264.1	4461.3
25°	4557.2	4598.4	4845.0	4542.4	3911.5	3542.0	3486.7	3739.9	4160.7	4859.8	5000.3
27.5°	4871.3	4924.7	5088.8	4430.3	3953.4	3366.4	3236.7	3622.4	4051.3	4579.5	5196.2
30°	5273.2	5358.3	5581.9	4542.4	4079.7	3481.2	3194.2	3563.0	4037.1	4763.2	5610.9
32.5°	5687.3	5852.7	6018.9	4937.5	4062.1	3656.9	3466.4	3496.1	4165.5	5148.3	6040.5
35°	6235.7	6381.6	6524.8	5165.8	4416.1	3803.4	3614.3	3929.1	4495.1	5594.7	6639.6
37.5°	7408.3	7639.3	7261.7	5815.6	4801.1	4464.0	4122.9	4309.3	4843.6	5966.9	7618.4
40°	8155.3	8328.9	7964.2	6258.0	5479.2	4909.1	4853.1	4868.6	5323.9	6285.7	8276.9
42.5°	8897.7	9132.7	8552.5	6865.2	6299.2	5828.4	5539.3	5519.7	5861.5	6858.5	9026.0
45°	9451.5	9590.0	8754.5	7377.2	7178.6	6829.4	6612.6	6268.8	6568.0	7255.0	9489.3
47.5°	9714.9	9827.7	9079.3	7675.1	7748.7	7767.0	8158.0	7571.8	7185.4	7523.1	9732.5
50°	10043.9	10097.2	9270.5	7937.2	8290.4	9091.5	9185.4	8191.8	7786.5	7815.6	9876.4
52.5°	10437.0	10459.3	9549.5	8239.8	8838.2	9962.8	9817.6	9242.8	8358.6	8349.9	10147.2
55°	10931.4	10917.9	9899.3	8647.1	9229.3	10480.9	10370.8	9952.0	8982.1	8792.3	10568.7
57.5°	11371.1	11363.0	10363.4	9021.9	9558.2	10747.0	10779.4	10668.7	9406.3	9109.1	11025.3
60°	11586.6	11689.9	10891.6	9431.9	9579.2	10867.3	10879.4	10703.1	9880.4	9515.7	11146.9
62.5°	11502.8	11699.4	11150.9	9800.7	9386.7	10539.0	10589.6	10468.1	9858.8	9942.6	10875.4
65°	11121.9	11348.8	10926.0	9997.3	9268.5	9989.2	10002.0	9694.7	9550.1	10225.6	10239.1
67.5°	10407.3	10620.0	10210.0	9683.9	8459.3	8507.2	8793.6	8818.6	8607.9	10012.1	9345.5
70°	9156.3	9306.3	9049.6	8909.8	7070.6	6789.6	7100.3	7233.4	7329.3	9241.5	8272.9
72.5°	7248.9	7538.7	7579.2	7670.4	5692.7	5224.6	5454.9	5257.7	5882.5	7865.6	6759.2
75°	5363.0	5607.6	5870.3	6378.9	4487.0	3911.5	3883.1	3782.5	4366.1	6325.6	5013.2
77.5°	3789.9	3946.0	4147.9	5095.6	3386.0	3012.5	3030.1	2928.1	3153.0	4780.8	3463.0
80°	2716.6	2798.4	2892.3	3357.0	2497.8	2599.1	2601.8	2505.2	2344.5	3246.9	2311.4
82.5°	1935.8	1999.3	2106.7	2214.1	1862.2	2130.4	2128.3	2122.3	1858.8	2194.5	1446.1
85°	1078.0	1163.1	1349.5	1734.5	1344.8	1523.1	1339.4	1475.2	1364.4	1461.0	732.2
87.5°	75.6	67.5	301.9	1005.1	627.5	458.6	240.5	476.2	610.6	763.3	102.0
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°	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7
2.5°	1965.5	1989.2	1896.7	1757.5	1795.3	1754.1	1702.1	1621.1	1454.2	1557.6	1558.3
5°	2360.7	2270.9	2198.6	2130.4	2015.5	1841.9	1819.0	1679.8	1601.5	1642.7	1636.6
7.5°	2484.3	2356.6	2247.9	2004.0	1791.3	1521.8	1440.7	1358.3	1323.9	1423.8	1463.7
10°	2348.5	2215.5	2108.7	1812.2	1667.7	1499.5	1276.6	1162.4	1094.9	1121.2	1136.8
12.5°	2457.9	2322.2	1986.5	1821.0	1582.6	1479.9	1284.7	1117.2	1017.2	1041.5	1012.5
15°	2563.3	2380.3	2044.6	1715.0	1521.8	1373.2	1215.1	1042.2	924.7	882.8	860.5
17.5°	2948.3	2644.4	2037.8	1655.5	1434.0	1263.1	1072.6	883.5	805.1	761.9	724.8
20°	3417.8	2994.3	2074.3	1594.1	1340.8	1125.3	917.9	742.3	687.6	659.2	649.1
22.5°	3976.4	3442.7	2283.0	1585.3	1253.0	1024.7	832.8	723.4	661.9	630.9	618.0
25°	4420.1	3906.8	2437.0	1644.7	1248.2	941.6	781.5	803.8	775.4	784.9	709.9
27.5°	4851.1	4033.1	2350.6	1618.4	1122.6	794.3	769.3	815.9	840.3	847.7	845.0
30°	5215.1	4566.7	2369.5	1469.8	948.3	647.1	589.0	612.0	678.8	784.9	805.1
32.5°	5748.0	4822.0	2530.9	1379.9	847.7	578.9	514.0	505.2	520.8	559.3	592.4
35°	6371.5	5409.6	2576.2	1356.3	778.1	548.5	503.2	482.9	491.0	520.1	526.8
37.5°	7533.9	5837.9	2743.7	1327.3	752.4	530.2	495.1	487.7	505.2	528.9	542.4
40°	8174.9	6607.9	2751.8	1302.3	719.4	522.8	500.5	497.1	507.9	540.4	548.5
42.5°	9029.4	7046.9	2878.8	1273.2	707.9	532.9	511.3	510.0	519.4	538.3	553.2
45°	9550.1	7340.7	2885.5	1256.3	705.2	577.5	525.5	520.8	518.7	530.2	543.7
47.5°	9885.8	7764.3	2967.9	1237.4	721.4	589.0	542.4	522.1	515.4	520.1	530.2
50°	10204.0	8102.7	3123.9	1234.7	738.3	577.5	572.1	521.4	507.9	505.9	513.3
52.5°	10594.4	8659.2	3316.4	1260.4	734.2	560.6	594.4	518.7	494.4	489.7	497.1
55°	11162.4	9255.6	3521.1	1238.8	692.3	528.2	572.8	516.7	480.2	471.5	478.2
57.5°	11530.5	9597.4	3750.1	1220.5	628.8	503.9	553.2	518.1	481.6	462.0	466.1
60°	11408.3	9413.7	3839.9	1109.1	568.7	485.0	506.6	507.3	469.4	451.2	454.6
62.5°	10867.9	8748.4	3756.2	979.4	524.1	458.0	458.6	487.0	434.3	421.5	426.9
65°	10112.8	7921.0	3417.1	895.0	503.2	429.6	418.8	427.6	387.0	377.6	388.4
67.5°	9186.1	6901.0	2912.5	805.8	495.8	391.1	378.2	374.9	349.2	338.4	349.2
70°	8023.6	5778.4	2328.3	743.0	467.4	349.2	339.1	335.7	314.1	306.0	315.4
72.5°	6449.2	4512.0	1796.7	695.0	436.3	310.7	301.9	297.9	279.6	268.2	279.6
75°	4587.0	3448.2	1334.7	621.4	392.4	271.5	261.4	256.0	239.1	228.3	238.4
77.5°	3259.7	2588.3	932.1	514.0	323.5	229.7	223.6	214.8	199.9	187.1	197.2
80°	2410.0	1849.4	601.1	396.5	247.2	183.7	180.3	174.3	160.1	144.5	152.0
82.5°	1586.6	1333.3	344.5	268.8	179.7	132.4	135.1	131.0	117.5	101.3	105.4
85°	710.6	789.6	183.0	147.9	116.9	79.7	87.1	84.4	74.3	58.8	60.1
87.5°	68.2	133.1	56.1	54.0	43.2	25.0	31.1	26.3	22.3	14.2	10.8
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°	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7
2.5°	1581.9	1486.7	1391.4	1449.5	1450.9	1466.4	1468.4	1411.0	1456.9	1492.1	1528.5
5°	1606.9	1544.7	1548.1	1492.1	1461.7	1500.8	1492.7	1477.2	1504.9	1543.4	1590.0
7.5°	1425.9	1385.3	1378.6	1324.5	1193.5	1164.5	1188.8	1198.9	1236.1	1295.5	1345.5
10°	1113.1	1193.5	1103.0	1082.1	1047.6	980.1	940.9	936.2	1015.2	1063.2	1105.0
12.5°	1003.0	982.8	972.0	914.6	914.6	843.0	820.0	840.9	962.5	997.0	1051.0
15°	854.4	839.6	789.6	761.2	747.7	718.7	743.0	763.3	876.7	879.4	936.2
17.5°	709.2	700.4	653.2	647.8	634.2	621.4	643.7	692.3	753.8	743.0	769.3
20°	634.2	603.8	560.6	576.2	562.0	551.8	542.4	611.3	654.5	668.7	684.2
22.5°	615.3	559.9	534.3	520.1	520.8	504.6	506.6	564.0	629.5	638.3	628.8
25°	703.1	604.5	521.4	480.2	464.7	459.3	474.8	525.5	604.5	623.4	630.9
27.5°	822.7	656.5	537.0	466.7	435.7	438.4	460.7	495.8	589.0	622.8	631.5
30°	789.6	617.4	537.7	456.6	418.1	432.3	440.4	474.2	576.8	627.5	671.4
32.5°	609.3	555.2	541.0	464.7	449.2	426.9	438.4	470.8	541.0	572.8	574.8
35°	516.0	474.8	465.4	446.5	424.9	415.4	428.2	456.6	502.5	522.1	519.4
37.5°	512.0	466.7	429.6	421.5	412.7	410.0	417.4	443.8	490.4	524.8	517.4
40°	518.7	462.7	424.9	410.7	414.0	401.9	409.3	441.7	492.4	524.8	518.1
42.5°	510.6	458.0	418.8	408.0	411.3	394.5	403.2	437.0	487.0	525.5	512.7
45°	494.4	447.1	415.4	397.2	412.7	387.7	398.5	424.9	470.8	512.7	497.8
47.5°	478.2	434.3	401.2	389.7	405.3	381.0	385.7	408.6	454.6	495.8	482.9
50°	460.7	418.1	389.7	386.4	397.2	379.6	372.2	391.1	435.0	476.2	465.4
52.5°	441.7	404.6	381.6	380.3	390.4	370.8	360.0	374.9	414.0	455.3	446.5
55°	423.5	389.7	371.5	374.9	386.4	363.4	349.9	359.3	391.8	432.3	420.1
57.5°	405.3	372.8	358.0	367.4	376.2	353.9	337.0	342.5	368.8	408.6	394.5
60°	389.1	358.0	343.1	354.6	362.7	339.7	320.2	323.5	347.2	383.0	370.1
62.5°	368.1	341.8	322.2	337.0	343.1	320.8	299.9	304.0	322.9	356.6	347.2
65°	338.4	321.5	303.3	313.4	321.5	298.5	279.0	283.7	297.9	329.6	322.9
67.5°	312.7	296.5	284.4	292.5	293.8	276.3	258.7	261.4	272.9	302.6	295.2
70°	284.4	268.8	259.4	265.5	264.8	249.9	236.4	237.1	246.5	273.6	263.4
72.5°	253.3	238.4	233.7	237.1	234.4	220.9	208.0	212.8	218.8	239.1	231.0
75°	220.2	206.7	204.0	207.4	203.3	190.5	179.0	183.7	189.1	206.0	195.9
77.5°	185.7	173.6	174.3	174.9	169.5	160.8	149.3	154.0	157.4	168.9	158.7
80°	147.9	138.5	141.2	141.2	135.1	129.0	118.2	119.6	121.6	125.6	118.2
82.5°	108.1	108.1	108.1	108.7	95.9	97.9	88.5	87.8	85.8	85.1	80.4
85°	64.2	66.9	68.2	70.2	52.0	60.8	52.7	50.7	46.6	42.6	41.2
87.5°	14.2	18.2	18.2	17.6	0.0	6.8	3.4	5.4	1.4	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



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 CATALOG NUMBER: MSA-SA4B-727-U-SLL

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7	1467.7
2.5°	1486.7	1446.1	1521.8	1589.3	1578.5	1617.7	1526.5	1661.6	1804.8	1804.8
5°	1577.8	1543.4	1563.0	1602.2	1631.9	1768.3	1881.8	1994.6	2227.6	2230.3
7.5°	1330.6	1404.9	1422.5	1411.0	1538.7	1714.3	1901.4	2222.9	2420.1	2435.7
10°	1244.2	1277.9	1331.3	1361.0	1413.0	1585.9	1818.3	2199.9	2409.3	2448.5
12.5°	1127.3	1252.3	1333.3	1499.5	1540.7	1575.1	1944.6	2274.9	2419.4	2410.0
15°	999.7	1094.2	1211.1	1394.8	1499.5	1762.9	2019.6	2515.4	2597.1	2668.7
17.5°	797.0	866.6	1022.0	1231.3	1490.7	1733.2	2204.7	2812.6	2965.2	3039.5
20°	655.9	656.5	811.9	1089.5	1371.8	1608.9	2274.9	3059.1	3252.9	3290.8
22.5°	620.1	589.0	670.7	896.3	1240.8	1682.5	2416.7	3455.6	3860.2	3955.4
25°	600.5	562.6	614.0	790.9	1146.9	1721.0	2702.5	4000.7	4520.1	4557.2
27.5°	608.6	626.1	642.3	705.2	1028.0	1648.8	2636.3	4244.5	4801.1	4871.3
30°	663.3	691.7	654.5	676.1	930.1	1544.1	2754.5	4640.3	5155.0	5273.2
32.5°	551.8	541.0	537.7	584.9	832.1	1449.5	3002.4	5197.6	5538.7	5687.3
35°	497.8	480.9	487.7	541.7	784.2	1436.0	3141.5	5658.9	6144.5	6235.7
37.5°	495.8	476.2	485.0	525.5	801.1	1460.3	3364.4	6399.2	7213.1	7408.3
40°	491.0	480.2	485.0	515.4	783.5	1473.8	3492.7	7021.3	7957.4	8155.3
42.5°	490.4	485.0	489.7	523.5	765.3	1479.9	3670.4	7583.2	8741.6	8897.7
45°	488.3	493.8	493.8	530.2	757.2	1520.4	3775.1	7858.8	9259.0	9451.5
47.5°	478.9	495.1	521.4	528.2	724.1	1501.5	3923.0	8276.9	9533.9	9714.9
50°	466.7	493.1	556.6	514.7	718.7	1455.6	4095.9	8608.6	9886.5	10043.9
52.5°	450.5	489.7	548.5	488.3	709.2	1447.5	4338.4	9039.5	10297.9	10437.0
55°	427.6	477.5	523.5	462.0	686.3	1421.8	4709.2	9573.8	10836.2	10931.4
57.5°	406.6	459.3	487.0	447.1	631.5	1427.2	4967.2	10009.4	11288.1	11371.1
60°	387.7	457.3	435.0	431.6	575.5	1354.9	5051.0	10004.7	11456.2	11586.6
62.5°	367.4	431.6	398.5	410.7	526.2	1280.6	4873.3	9575.8	11274.5	11502.8
65°	341.1	370.1	368.1	395.8	527.5	1159.7	4466.1	8819.3	10821.3	11121.9
67.5°	310.0	327.6	339.1	371.5	544.4	1065.9	3810.9	7909.5	10050.0	10407.3
70°	278.3	295.8	308.7	339.7	559.9	1022.6	3033.4	6631.5	8793.6	9156.3
72.5°	245.9	264.1	274.2	301.2	539.0	930.1	2245.2	5159.7	7058.4	7248.9
75°	212.1	229.7	237.8	262.7	468.1	769.3	1550.1	3908.1	5169.9	5363.0
77.5°	177.6	196.6	199.3	219.5	357.3	588.3	993.6	2997.6	3660.9	3789.9
80°	141.8	160.8	160.8	171.6	251.3	404.6	595.1	2261.4	2666.0	2716.6
82.5°	102.0	122.3	120.9	121.6	173.6	250.6	344.5	1694.7	1926.4	1935.8
85°	60.1	74.3	73.6	67.5	102.7	135.1	186.4	1052.3	1075.3	1078.0
87.5°	11.5	17.6	15.5	6.8	28.4	39.9	54.0	195.2	77.7	75.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)