

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: P367930

Luminaire Tested: **MSA-SA3C-727-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367930
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-SA3C-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: 13043 lumens
Efficiency: N/A
Efficacy: 78.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

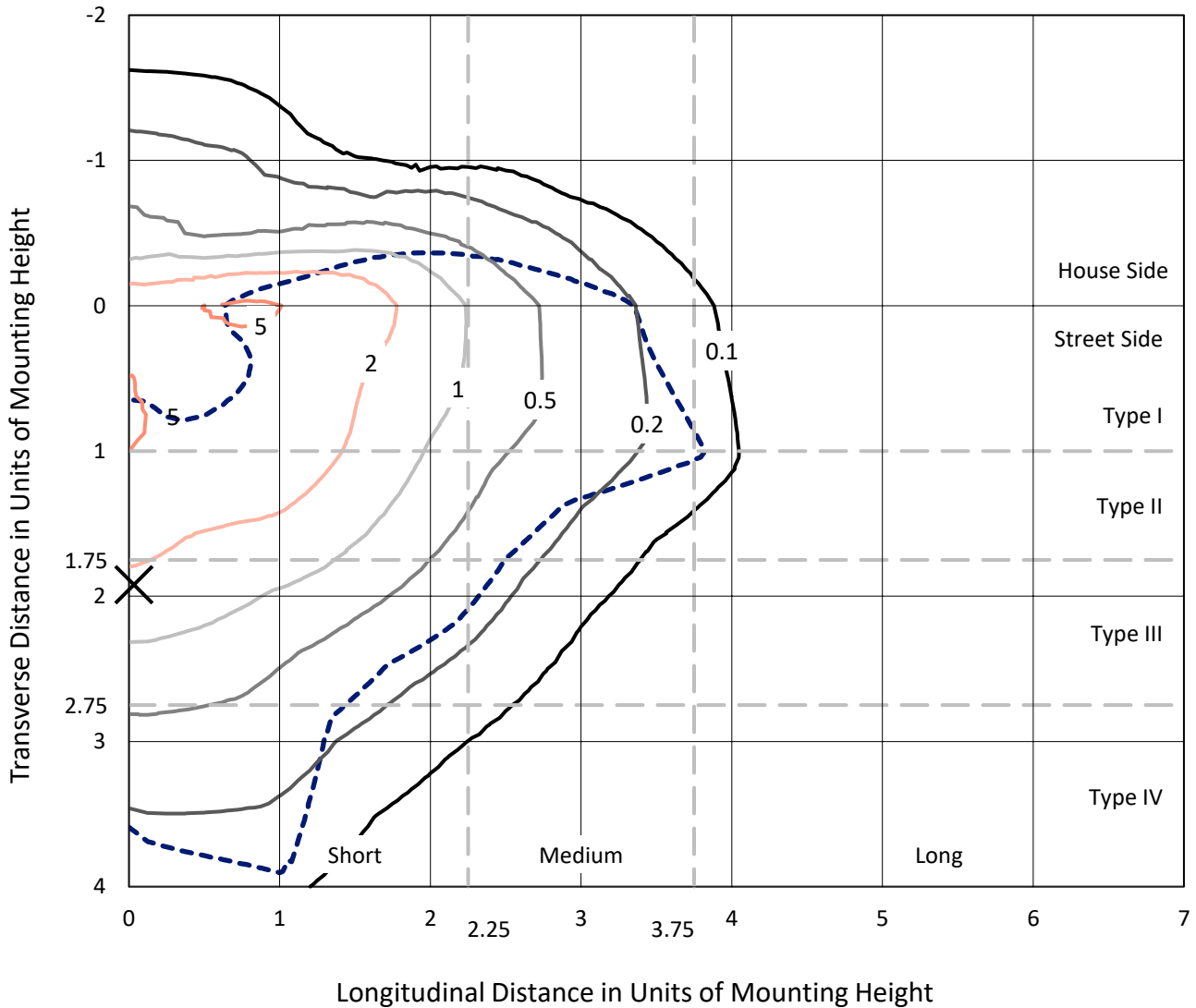
Input Watts (W): 166
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

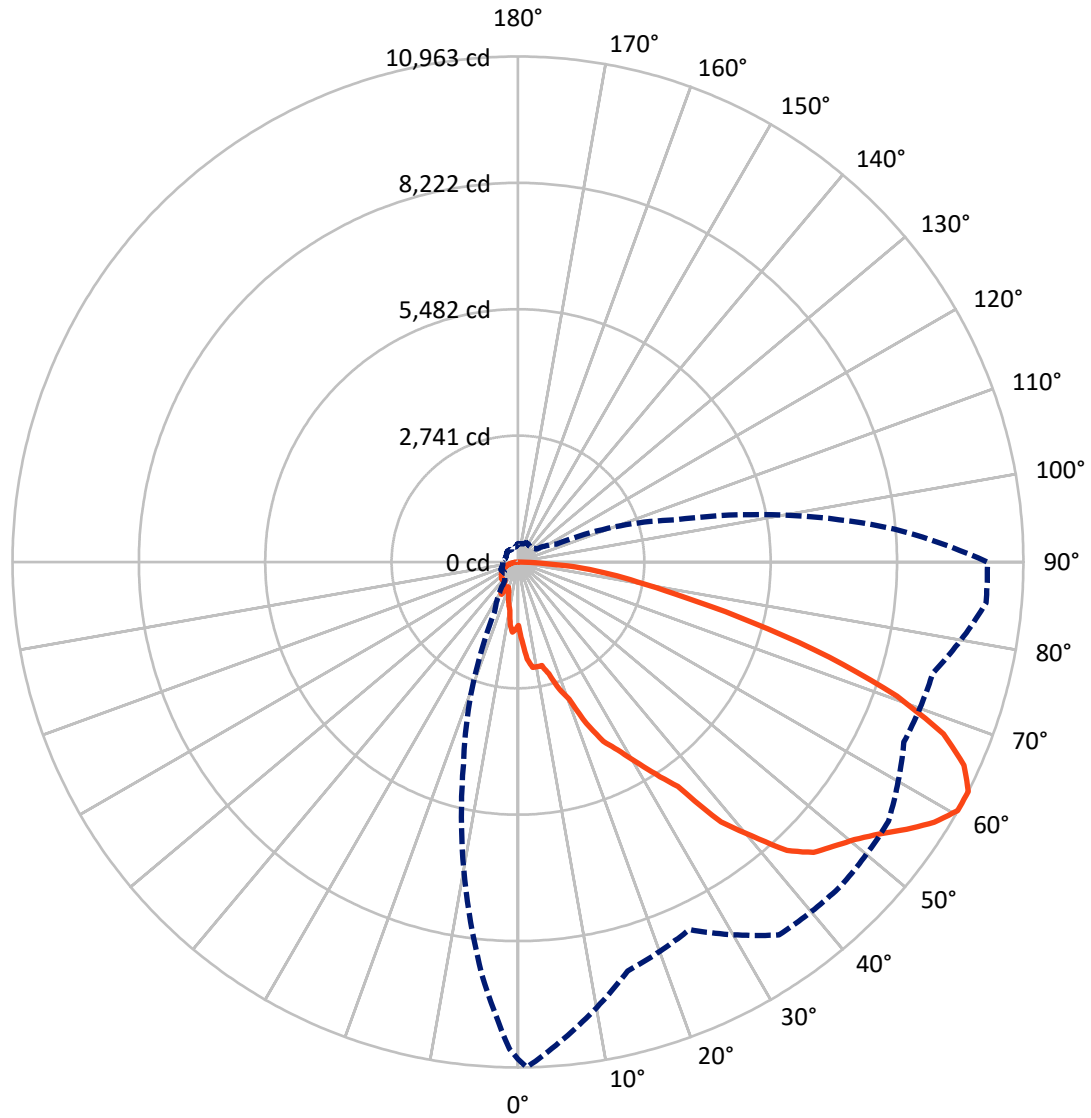
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.6 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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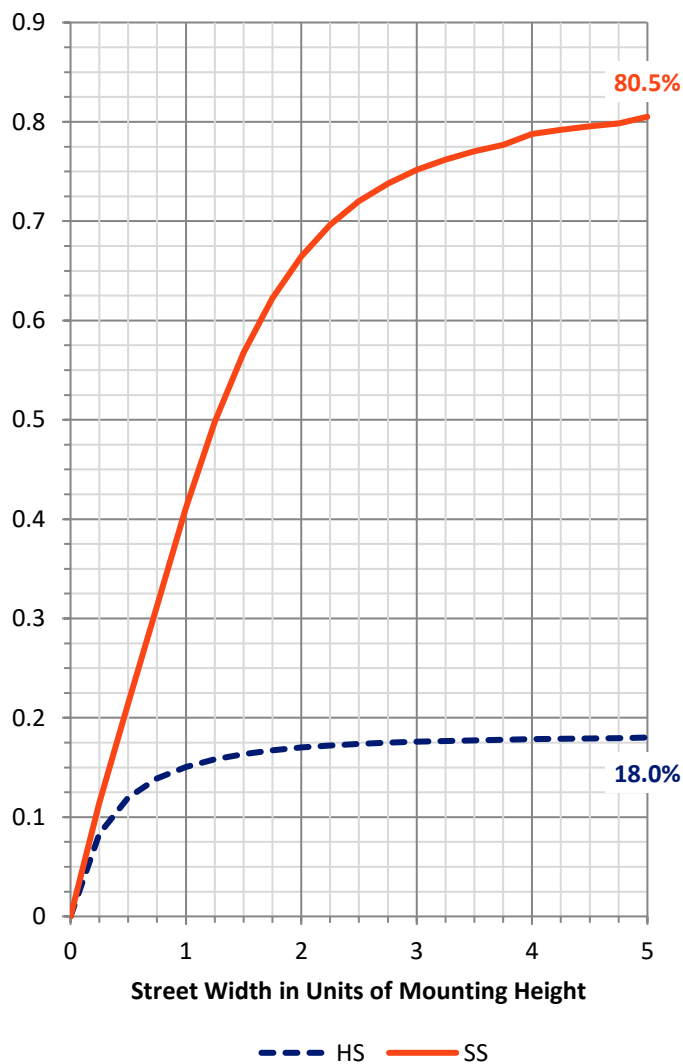
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2375.0	0.0	2375.0
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	10667.9	0.0	10667.9
	% Fixture	81.8	0.0	81.8
Total	Lumens	13043.0	0.0	13043.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.7	1.2
10°-20°	458.2	3.5
20°-30°	808.9	6.2
30°-40°	1259.9	9.7
40°-50°	2074.6	15.9
50°-60°	2961.0	22.7
60°-70°	3139.8	24.1
70°-80°	1734.3	13.3
80°-90°	448.6	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°	13043.0	100.0
0°-180°	13043.0	100.0

Coefficient of Utilization



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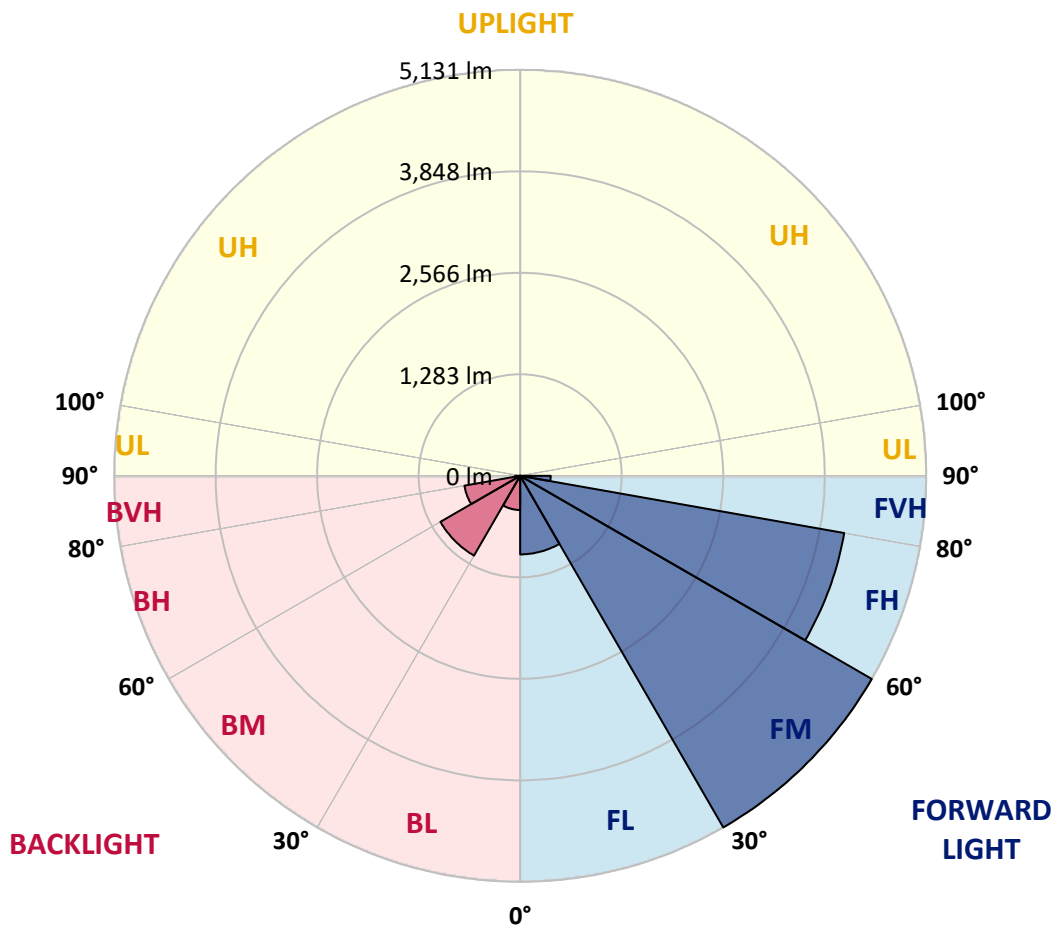
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	992.8	7.6			
FM (30°-60°)	5131.2	39.3			
FH (60°-80°)	4158.6	31.9			G2/5000
FVH (80°-90°)	385.3	3.0			G3/500
BL (0°-30°)	432.0	3.3	B1/500		
BM (30°-60°)	1164.3	8.9	B2/2500		
BH (60°-80°)	715.5	5.5	B2/1000		G2/1000
BVH (80°-90°)	63.3	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





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4
2.5°	1691.2	1705.8	1676.0	1642.5	1503.9	1637.4	1597.5	1671.6	1647.5	1486.8	1781.1
5°	2090.0	2116.5	2087.4	2188.1	2194.4	2220.3	1980.5	2129.8	2077.9	2064.6	2213.4
7.5°	2282.4	2309.6	2383.6	2562.8	2702.6	2576.1	2436.2	2405.2	2364.7	2259.0	2348.8
10°	2294.4	2309.6	2409.0	2788.7	2856.4	2946.3	2855.8	2642.5	2554.5	2324.8	2256.4
12.5°	2258.3	2305.8	2434.3	2897.0	3098.2	3196.3	3218.5	2981.1	2765.3	2503.3	2468.5
15°	2500.7	2517.8	2702.0	2974.2	3112.8	3195.7	3267.9	3121.6	3053.9	2846.3	2567.2
17.5°	2848.2	2895.7	3046.3	3147.0	3240.6	3256.5	3197.0	3140.0	3032.4	3309.6	3012.8
20°	3083.7	3175.4	3360.3	3379.2	3182.4	3217.2	3209.0	3212.8	3151.4	3664.1	3500.8
22.5°	3706.5	3805.8	3831.2	3721.0	3350.1	3191.3	3222.9	3314.7	3556.5	3995.7	4180.5
25°	4270.4	4309.0	4540.1	4256.5	3665.3	3319.1	3267.2	3504.6	3898.9	4554.0	4685.6
27.5°	4564.7	4614.7	4768.5	4151.4	3704.6	3154.6	3033.0	3394.4	3796.4	4291.3	4869.2
30°	4941.3	5021.1	5230.6	4256.5	3822.9	3262.2	2993.2	3338.7	3783.1	4463.5	5257.8
32.5°	5329.3	5484.4	5640.1	4626.8	3806.5	3426.7	3248.2	3276.1	3903.3	4824.2	5660.4
35°	5843.3	5980.0	6114.2	4840.7	4138.1	3564.1	3386.8	3681.8	4212.2	5242.6	6221.8
37.5°	6942.0	7158.5	6804.7	5449.6	4498.9	4183.1	3863.4	4038.1	4538.8	5591.4	7138.9
40°	7642.1	7804.7	7463.0	5864.2	5134.4	4600.2	4547.6	4562.2	4988.8	5890.1	7756.0
42.5°	8337.7	8557.9	8014.2	6433.2	5902.8	5461.6	5190.7	5172.4	5492.6	6426.8	8457.9
45°	8856.7	8986.4	8203.5	6912.9	6726.9	6399.6	6196.4	5874.3	6154.7	6798.4	8892.1
47.5°	9103.5	9209.2	8507.9	7192.1	7261.0	7278.1	7644.6	7095.2	6733.2	7049.6	9120.0
50°	9411.8	9461.8	8687.1	7437.6	7768.7	8519.3	8607.3	7676.3	7296.5	7323.7	9254.8
52.5°	9780.1	9801.0	8948.5	7721.2	8282.0	9335.8	9199.7	8661.1	7832.6	7824.4	9508.6
55°	10243.4	10230.8	9276.3	8102.9	8648.4	9821.3	9718.1	9325.7	8416.8	8238.9	9903.6
57.5°	10655.5	10647.9	9711.1	8454.1	8956.7	10070.7	10101.0	9997.2	8814.3	8535.8	10331.4
60°	10857.4	10954.2	10206.1	8838.3	8976.3	10183.3	10194.7	10029.5	9258.6	8916.8	10445.4
62.5°	10778.9	10963.1	10449.2	9183.9	8795.9	9875.7	9923.2	9809.3	9238.3	9316.8	10190.9
65°	10421.9	10634.6	10238.4	9368.1	8685.2	9360.5	9372.5	9084.5	8949.1	9582.0	9594.7
67.5°	9752.3	9951.7	9567.5	9074.4	7926.9	7971.8	8240.2	8263.6	8066.1	9382.0	8757.3
70°	8580.1	8720.6	8480.1	8349.1	6625.6	6362.3	6653.4	6778.1	6868.0	8659.8	7752.2
72.5°	6792.7	7064.2	7102.2	7187.6	5334.4	4895.8	5111.6	4926.8	5512.2	7370.5	6333.8
75°	5025.5	5254.6	5500.9	5977.5	4204.6	3665.3	3638.8	3544.4	4091.3	5927.5	4697.7
77.5°	3551.4	3697.6	3886.9	4774.9	3172.9	2822.9	2839.4	2743.8	2954.5	4479.9	3245.1
80°	2545.7	2622.3	2710.2	3145.7	2340.6	2435.5	2438.1	2347.6	2196.9	3042.5	2165.9
82.5°	1814.0	1873.5	1974.1	2074.8	1745.0	1996.3	1994.4	1988.7	1741.8	2056.4	1355.1
85°	1010.2	1089.9	1264.6	1625.4	1260.2	1427.3	1255.1	1382.3	1278.5	1369.0	686.1
87.5°	70.9	63.3	282.9	941.8	588.0	429.8	225.3	446.2	572.2	715.2	95.6
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°	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4
2.5°	1841.8	1864.0	1777.3	1646.9	1682.3	1643.7	1595.0	1519.0	1362.7	1459.6	1460.2
5°	2212.1	2127.9	2060.2	1996.3	1888.7	1726.0	1704.5	1574.1	1500.7	1539.3	1533.6
7.5°	2327.9	2208.3	2106.4	1877.9	1678.5	1426.0	1350.1	1272.8	1240.6	1334.2	1371.6
10°	2200.7	2076.0	1976.0	1698.2	1562.7	1405.1	1196.3	1089.3	1026.0	1050.7	1065.2
12.5°	2303.3	2176.0	1861.5	1706.4	1483.0	1386.8	1203.8	1046.9	953.2	976.0	948.8
15°	2402.0	2230.5	1915.9	1607.0	1426.0	1286.8	1138.7	976.6	866.5	827.2	806.4
17.5°	2762.8	2477.9	1909.6	1551.3	1343.7	1183.6	1005.1	827.9	754.5	714.0	679.1
20°	3202.7	2805.8	1943.7	1493.7	1256.4	1054.5	860.2	695.6	644.3	617.7	608.3
22.5°	3726.1	3226.1	2139.3	1485.5	1174.1	960.2	780.4	677.9	620.3	591.2	579.1
25°	4141.9	3660.9	2283.6	1541.2	1169.7	882.3	732.3	753.2	726.6	735.5	665.2
27.5°	4545.8	3779.3	2202.6	1516.5	1051.9	744.3	720.9	764.6	787.4	794.3	791.8
30°	4886.9	4279.3	2220.3	1377.3	888.6	606.4	551.9	573.4	636.1	735.5	754.5
32.5°	5386.3	4518.5	2371.6	1293.1	794.3	542.4	481.7	473.4	488.0	524.1	555.1
35°	5970.5	5069.2	2414.0	1270.9	729.1	513.9	471.5	452.5	460.1	487.4	493.7
37.5°	7059.8	5470.5	2571.0	1243.7	705.1	496.9	463.9	457.0	473.4	495.6	508.2
40°	7660.4	6192.0	2578.6	1220.3	674.1	489.9	469.0	465.8	476.0	506.3	513.9
42.5°	8461.1	6603.4	2697.6	1193.1	663.3	499.4	479.1	477.9	486.7	504.5	518.4
45°	8949.1	6878.8	2703.9	1177.3	660.8	541.2	492.4	488.0	486.1	496.9	509.5
47.5°	9263.7	7275.6	2781.1	1159.5	676.0	551.9	508.2	489.3	482.9	487.4	496.9
50°	9561.8	7592.7	2927.3	1157.0	691.8	541.2	536.1	488.6	476.0	474.1	481.0
52.5°	9927.6	8114.2	3107.7	1181.1	688.0	525.3	557.0	486.1	463.3	458.9	465.8
55°	10459.9	8673.1	3299.5	1160.8	648.8	495.0	536.7	484.2	450.0	441.8	448.1
57.5°	10804.9	8993.4	3514.1	1143.7	589.3	472.2	518.4	485.5	451.3	432.9	436.7
60°	10690.3	8821.2	3598.2	1039.3	532.9	454.4	474.7	475.3	439.9	422.8	426.0
62.5°	10183.9	8197.8	3519.8	917.8	491.2	429.1	429.8	456.3	407.0	395.0	400.0
65°	9476.3	7422.4	3202.0	838.6	471.5	402.5	392.4	400.6	362.7	353.8	363.9
67.5°	8607.9	6466.7	2729.2	755.1	464.6	366.5	354.4	351.3	327.2	317.1	327.2
70°	7518.7	5414.8	2181.7	696.2	438.0	327.2	317.7	314.6	294.3	286.7	295.6
72.5°	6043.3	4228.0	1683.6	651.3	408.9	291.2	282.9	279.1	262.0	251.3	262.0
75°	4298.3	3231.1	1250.7	582.3	367.7	254.4	244.9	239.9	224.1	213.9	223.4
77.5°	3054.6	2425.4	873.5	481.7	303.2	215.2	209.5	201.3	187.3	175.3	184.8
80°	2258.3	1733.0	563.3	371.5	231.7	172.2	169.0	163.3	150.0	135.4	142.4
82.5°	1486.8	1249.4	322.8	251.9	168.4	124.1	126.6	122.8	110.1	94.9	98.7
85°	665.8	739.9	171.5	138.6	109.5	74.7	81.6	79.1	69.6	55.1	56.3
87.5°	63.9	124.7	52.5	50.6	40.5	23.4	29.1	24.7	20.9	13.3	10.1
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°	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4
2.5°	1482.3	1393.1	1303.8	1358.3	1359.5	1374.1	1376.0	1322.2	1365.2	1398.2	1432.3
5°	1505.8	1447.5	1450.7	1398.2	1369.7	1406.4	1398.8	1384.2	1410.2	1446.3	1489.9
7.5°	1336.1	1298.2	1291.8	1241.2	1118.4	1091.2	1114.0	1123.5	1158.3	1214.0	1260.8
10°	1043.1	1118.4	1033.6	1014.0	981.7	918.4	881.7	877.3	951.3	996.2	1035.5
12.5°	939.9	920.9	910.8	857.0	857.0	789.9	768.4	788.0	901.9	934.2	984.8
15°	800.7	786.7	739.9	713.3	700.7	673.4	696.2	715.2	821.6	824.1	877.3
17.5°	664.6	656.4	612.0	607.0	594.3	582.3	603.2	648.8	706.4	696.2	720.9
20°	594.3	565.8	525.3	539.9	526.6	517.1	508.2	572.8	613.3	626.6	641.2
22.5°	576.6	524.7	500.7	487.4	488.0	472.8	474.7	528.5	589.9	598.1	589.3
25°	658.9	566.5	488.6	450.0	435.5	430.4	445.0	492.4	566.5	584.2	591.2
27.5°	770.9	615.2	503.2	437.4	408.2	410.8	431.7	464.6	551.9	583.6	591.8
30°	739.9	578.5	503.8	427.9	391.8	405.1	412.7	444.3	540.5	588.0	629.1
32.5°	570.9	520.3	507.0	435.5	420.9	400.0	410.8	441.2	507.0	536.7	538.6
35°	483.6	445.0	436.1	418.4	398.1	389.3	401.3	427.9	470.9	489.3	486.7
37.5°	479.8	437.4	402.5	395.0	386.7	384.2	391.2	415.8	459.5	491.8	484.8
40°	486.1	433.6	398.1	384.8	388.0	376.6	383.6	413.9	461.4	491.8	485.5
42.5°	478.5	429.1	392.4	382.3	385.5	369.6	377.9	409.5	456.3	492.4	480.4
45°	463.3	419.0	389.3	372.2	386.7	363.3	373.4	398.1	441.2	480.4	466.5
47.5°	448.1	407.0	376.0	365.2	379.8	357.0	361.4	382.9	426.0	464.6	452.5
50°	431.7	391.8	365.2	362.0	372.2	355.7	348.7	366.5	407.6	446.2	436.1
52.5°	413.9	379.1	357.6	356.3	365.8	347.5	337.4	351.3	388.0	426.6	418.4
55°	396.9	365.2	348.1	351.3	362.0	340.5	327.9	336.7	367.1	405.1	393.7
57.5°	379.8	349.4	335.5	344.3	352.5	331.7	315.8	320.9	345.6	382.9	369.6
60°	364.6	335.5	321.5	332.3	339.9	318.4	300.0	303.2	325.3	358.9	346.8
62.5°	345.0	320.3	301.9	315.8	321.5	300.6	281.0	284.8	302.5	334.2	325.3
65°	317.1	301.3	284.2	293.7	301.3	279.8	261.4	265.8	279.1	308.9	302.5
67.5°	293.0	277.9	266.5	274.1	275.3	258.9	242.4	244.9	255.7	283.6	276.6
70°	266.5	251.9	243.0	248.7	248.1	234.2	221.5	222.2	231.0	256.3	246.8
72.5°	237.4	223.4	219.0	222.2	219.6	207.0	194.9	199.4	205.1	224.1	216.5
75°	206.3	193.7	191.1	194.3	190.5	178.5	167.7	172.2	177.2	193.0	183.6
77.5°	174.1	162.7	163.3	163.9	158.9	150.6	139.9	144.3	147.5	158.2	148.7
80°	138.6	129.8	132.3	132.3	126.6	120.9	110.8	112.0	113.9	117.7	110.8
82.5°	101.3	101.3	101.3	101.9	89.9	91.8	82.9	82.3	80.4	79.8	75.3
85°	60.1	62.7	63.9	65.8	48.7	57.0	49.4	47.5	43.7	39.9	38.6
87.5°	13.3	17.1	17.1	16.5	0.0	6.3	3.2	5.1	1.3	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-SA3C-727-U-SLL

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4	1375.4
2.5°	1393.1	1355.1	1426.0	1489.3	1479.2	1515.9	1430.4	1557.0	1691.2	1691.2
5°	1478.5	1446.3	1464.6	1501.3	1529.2	1657.0	1763.4	1869.1	2087.4	2090.0
7.5°	1246.9	1316.5	1333.0	1322.2	1441.8	1606.4	1781.7	2083.0	2267.8	2282.4
10°	1165.9	1197.5	1247.5	1275.4	1324.1	1486.1	1703.9	2061.5	2257.7	2294.4
12.5°	1056.4	1173.5	1249.4	1405.1	1443.7	1476.0	1822.2	2131.7	2267.2	2258.3
15°	936.7	1025.4	1134.9	1307.0	1405.1	1652.0	1892.5	2357.1	2433.6	2500.7
17.5°	746.9	812.1	957.6	1153.8	1396.9	1624.1	2065.9	2635.5	2778.6	2848.2
20°	614.6	615.2	760.8	1020.9	1285.5	1507.7	2131.7	2866.6	3048.2	3083.7
22.5°	581.0	551.9	628.5	839.9	1162.7	1576.6	2264.6	3238.1	3617.2	3706.5
25°	562.7	527.2	575.3	741.2	1074.7	1612.7	2532.4	3748.9	4235.6	4270.4
27.5°	570.3	586.7	601.9	660.8	963.3	1545.0	2470.4	3977.4	4498.9	4564.7
30°	621.5	648.1	613.3	633.6	871.6	1446.9	2581.1	4348.3	4830.6	4941.3
32.5°	517.1	507.0	503.8	548.1	779.8	1358.3	2813.4	4870.4	5190.1	5329.3
35°	466.5	450.7	457.0	507.6	734.8	1345.6	2943.8	5302.7	5757.8	5843.3
37.5°	464.6	446.2	454.4	492.4	750.7	1368.4	3152.7	5996.4	6759.1	6942.0
40°	460.1	450.0	454.4	482.9	734.2	1381.1	3272.9	6579.4	7456.6	7642.1
42.5°	459.5	454.4	458.9	490.5	717.1	1386.8	3439.4	7106.0	8191.5	8337.7
45°	457.6	462.7	462.7	496.9	709.5	1424.7	3537.5	7364.2	8676.3	8856.7
47.5°	448.8	463.9	488.6	495.0	678.5	1407.0	3676.1	7756.0	8933.9	9103.5
50°	437.4	462.0	521.5	482.3	673.4	1364.0	3838.1	8066.8	9264.3	9411.8
52.5°	422.2	458.9	513.9	457.6	664.6	1356.4	4065.4	8470.6	9649.8	9780.1
55°	400.6	447.5	490.5	432.9	643.1	1332.3	4412.8	8971.2	10154.2	10243.4
57.5°	381.0	430.4	456.3	419.0	591.8	1337.4	4654.6	9379.5	10577.6	10655.5
60°	363.3	428.5	407.6	404.4	539.3	1269.7	4733.1	9375.1	10735.2	10857.4
62.5°	344.3	404.4	373.4	384.8	493.1	1200.0	4566.6	8973.1	10565.0	10778.9
65°	319.6	346.8	345.0	370.9	494.3	1086.8	4185.0	8264.3	10140.3	10421.9
67.5°	290.5	307.0	317.7	348.1	510.1	998.8	3571.0	7411.7	9417.5	9752.3
70°	260.8	277.2	289.3	318.4	524.7	958.3	2842.5	6214.2	8240.2	8580.1
72.5°	230.4	247.5	257.0	282.3	505.1	871.6	2103.9	4835.0	6614.2	6792.7
75°	198.7	215.2	222.8	246.2	438.6	720.9	1452.6	3662.2	4844.5	5025.5
77.5°	166.5	184.2	186.7	205.7	334.8	551.3	931.0	2809.0	3430.5	3551.4
80°	132.9	150.6	150.6	160.8	235.5	379.1	557.6	2119.1	2498.2	2545.7
82.5°	95.6	114.6	113.3	113.9	162.7	234.8	322.8	1588.0	1805.1	1814.0
85°	56.3	69.6	69.0	63.3	96.2	126.6	174.7	986.1	1007.6	1010.2
87.5°	10.8	16.5	14.6	6.3	26.6	37.3	50.6	182.9	72.8	70.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)