

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: P368062

Luminaire Tested: **MSA-SA3D-727-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368062
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-SA3D-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: 14260 lumens
Efficiency: N/A
Efficacy: 74.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

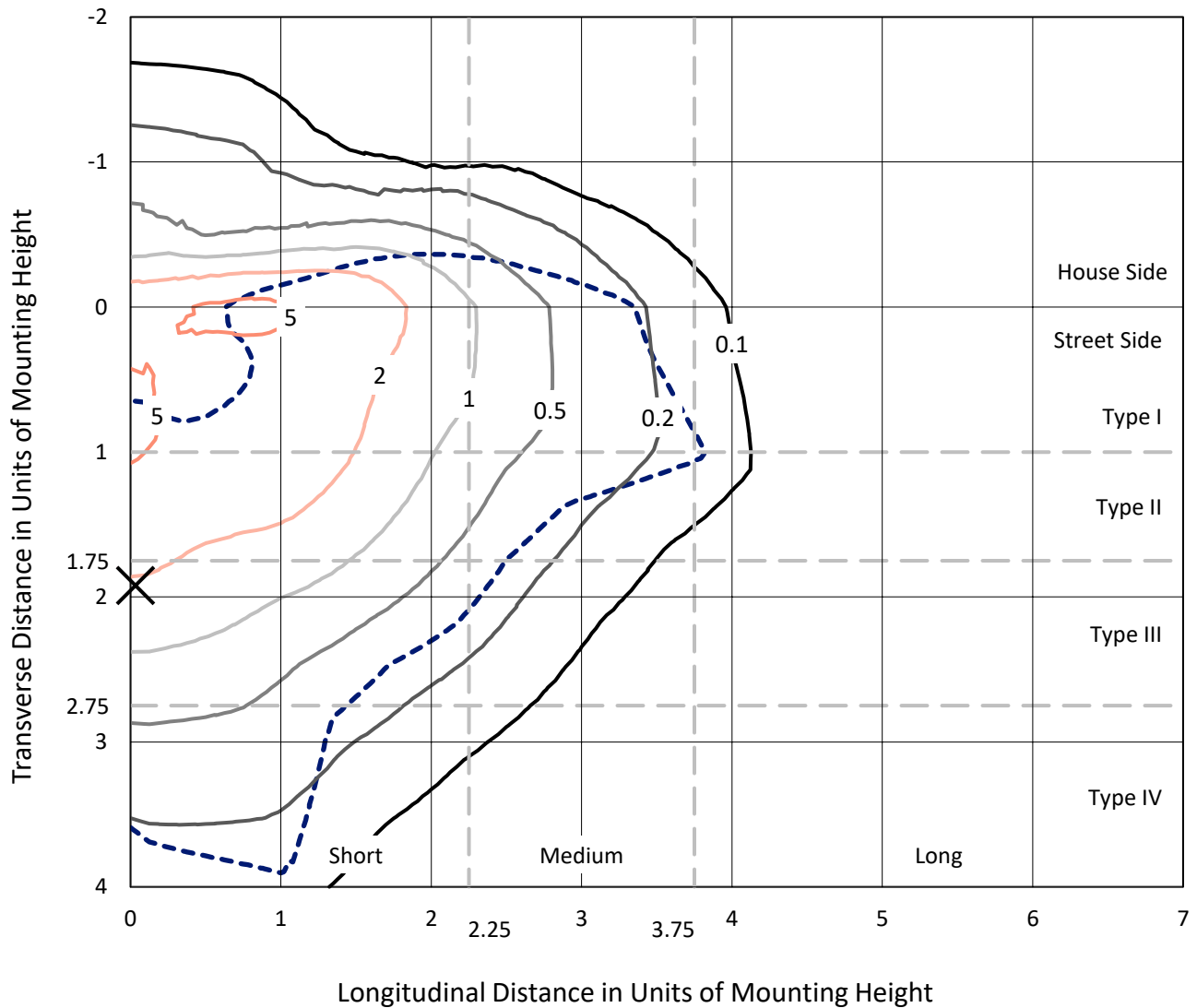
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P368062
 CATALOG NUMBER: MSA-SA3D-727-U-SLL

Iso-Footcandle Lines of Horizontal Illumination

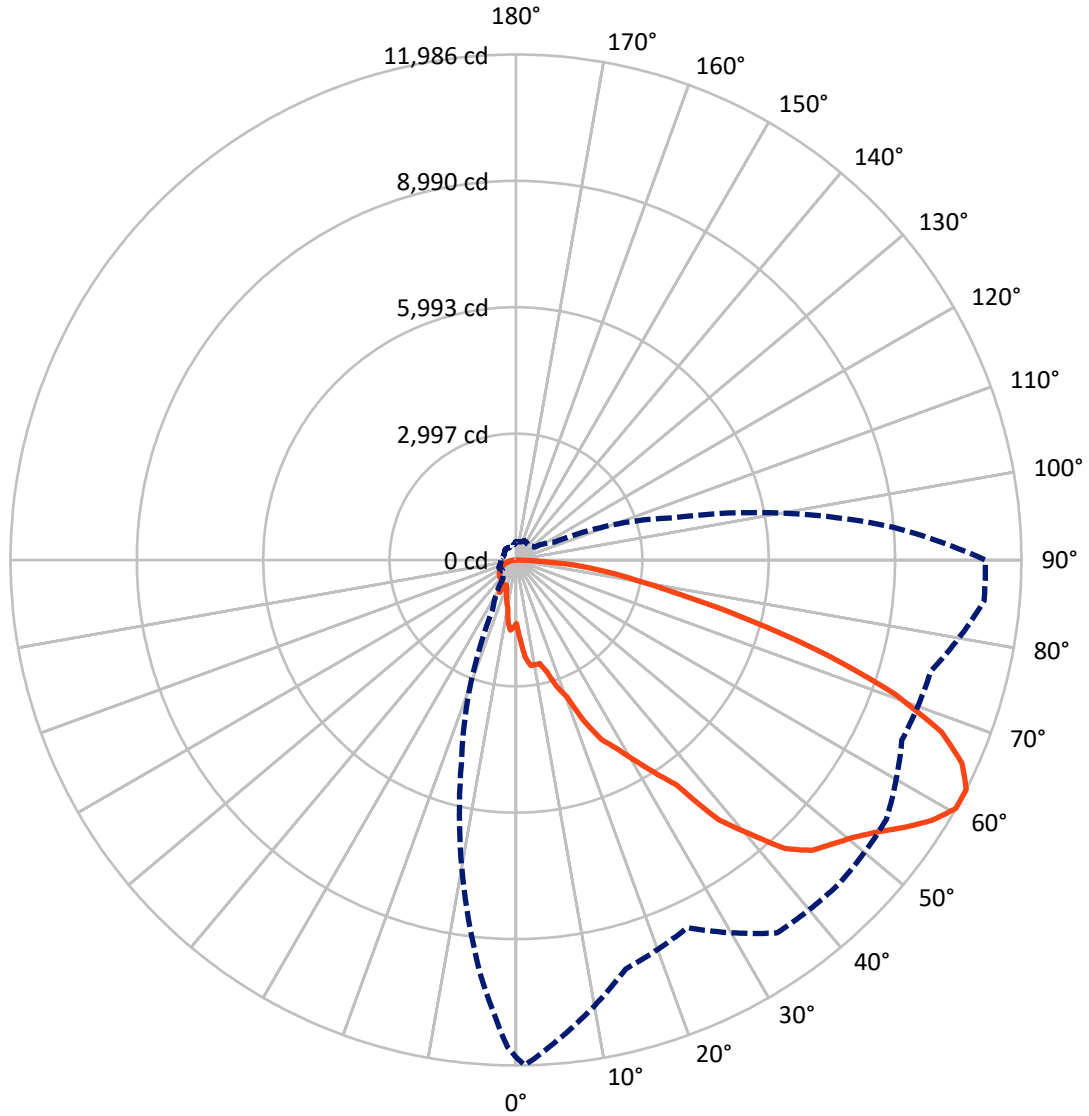
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.1 fc
 Type IV - Short - N/A

REPORT NUMBER: P368062
CATALOG NUMBER: MSA-SA3D-727-U-SLL

Luminous Intensity Polar Plot



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

REPORT NUMBER: P368062

CATALOG NUMBER: MSA-SA3D-727-U-SLL

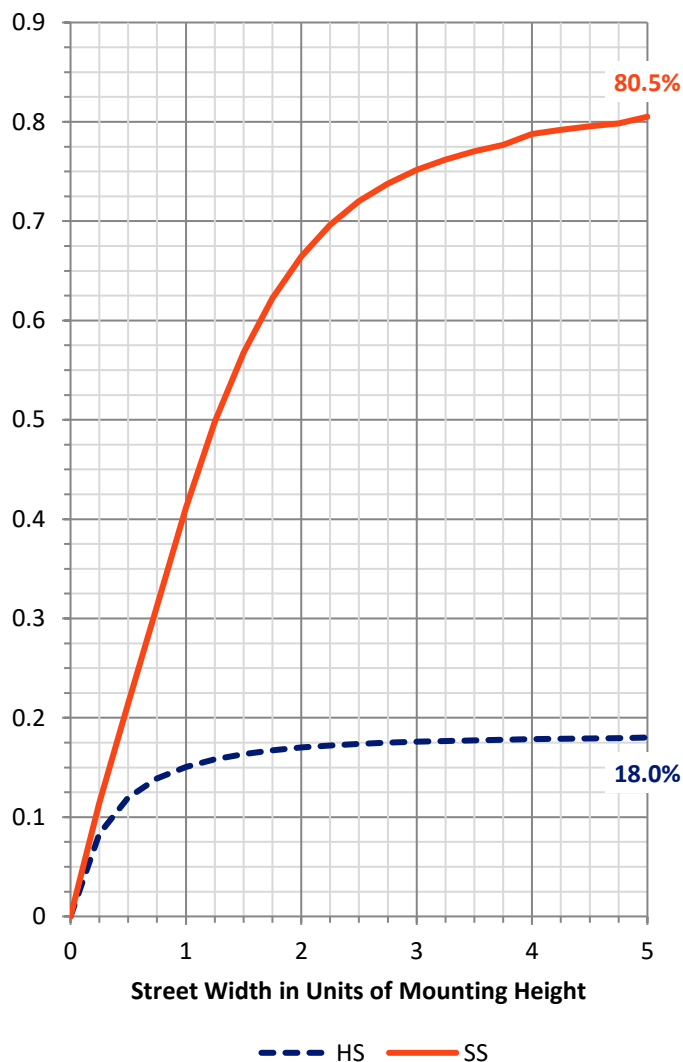
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2596.7	0.0	2596.7
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	11663.3	0.0	11663.3
	% Fixture	81.8	0.0	81.8
Total	Lumens	14260.0	0.0	14260.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.4	1.2
10°-20°	500.9	3.5
20°-30°	884.4	6.2
30°-40°	1377.5	9.7
40°-50°	2268.2	15.9
50°-60°	3237.3	22.7
60°-70°	3432.8	24.1
70°-80°	1896.1	13.3
80°-90°	490.4	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°	14260.0	100.0
0°-180°	14260.0	100.0

Coefficient of Utilization



REPORT NUMBER: P368062

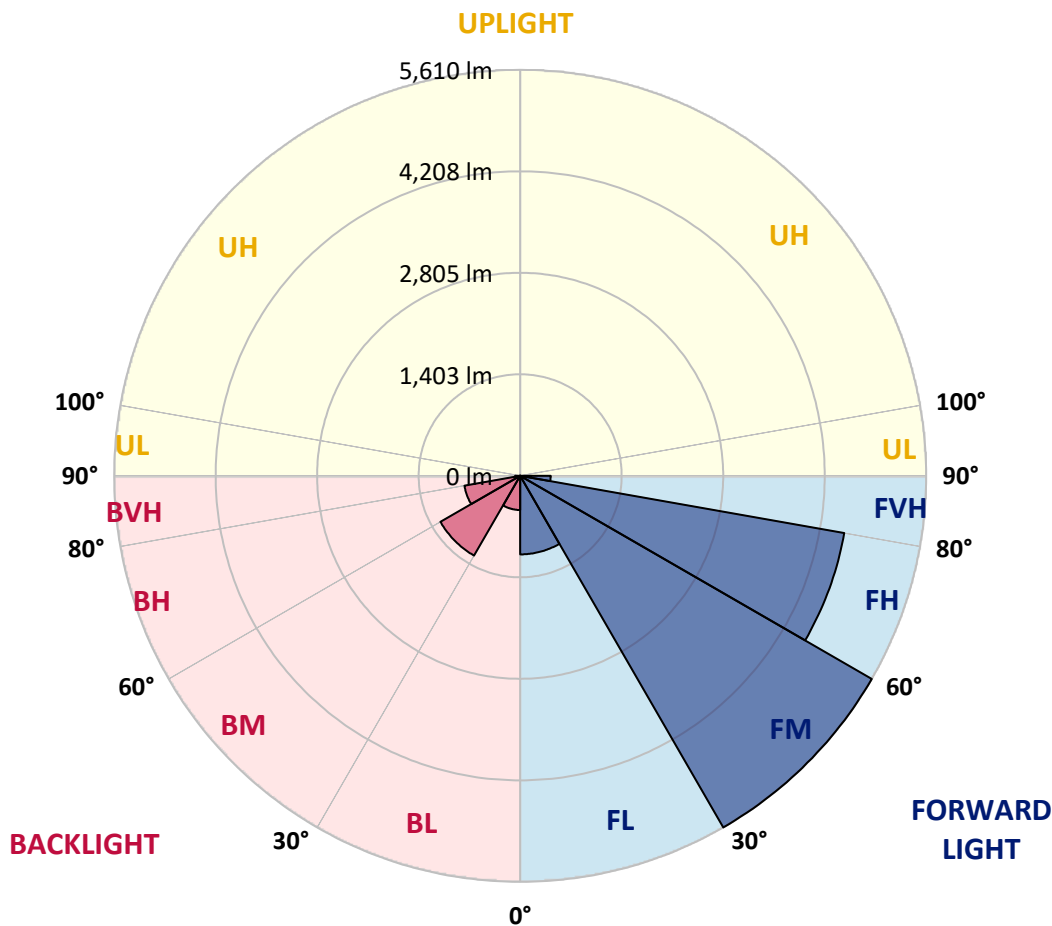
CATALOG NUMBER: MSA-SA3D-727-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1085.4	7.6			
FM (30°-60°)	5610.0	39.3			
FH (60°-80°)	4546.7	31.9			G2/5000
FVH (80°-90°)	421.3	3.0			G3/500
BL (0°-30°)	472.3	3.3	B1/500		
BM (30°-60°)	1272.9	8.9	B2/2500		
BH (60°-80°)	782.3	5.5	B2/1000		G2/1000
BVH (80°-90°)	69.2	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: P368062

CATALOG NUMBER: MSA-SA3D-727-U-SLL

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7
2.5°	1849.0	1864.9	1832.4	1795.7	1644.2	1790.2	1746.6	1827.6	1801.3	1625.5	1947.3
5°	2285.0	2314.0	2282.2	2392.2	2399.1	2427.5	2165.2	2328.6	2271.8	2257.3	2419.9
7.5°	2495.3	2525.1	2606.0	2801.9	2954.8	2816.4	2663.5	2629.6	2585.3	2469.7	2568.0
10°	2508.5	2525.1	2633.7	3048.9	3123.0	3221.2	3122.3	2889.1	2792.9	2541.7	2467.0
12.5°	2469.0	2520.9	2661.4	3167.3	3387.3	3494.6	3518.8	3259.3	3023.3	2736.8	2698.8
15°	2734.1	2752.8	2954.1	3251.7	3403.2	3493.9	3572.8	3412.9	3338.9	3111.9	2806.7
17.5°	3114.0	3165.9	3330.6	3440.6	3543.0	3560.3	3495.3	3433.0	3315.3	3618.4	3293.9
20°	3371.4	3471.7	3673.8	3694.6	3479.3	3517.4	3508.4	3512.6	3445.4	4006.0	3827.4
22.5°	4052.3	4161.0	4188.6	4068.2	3662.7	3489.0	3523.6	3624.0	3888.3	4368.6	4570.6
25°	4668.9	4711.1	4963.7	4653.7	4007.3	3628.8	3572.1	3831.6	4262.7	4978.9	5122.8
27.5°	4990.7	5045.3	5213.5	4538.8	4050.2	3448.9	3316.0	3711.2	4150.6	4691.7	5323.5
30°	5402.4	5489.6	5718.6	4653.7	4179.6	3566.5	3272.4	3650.3	4136.0	4879.9	5748.4
32.5°	5826.6	5996.1	6166.4	5058.5	4161.7	3746.5	3551.3	3581.8	4267.5	5274.4	6188.5
35°	6388.5	6538.0	6684.7	5292.4	4524.3	3896.6	3702.9	4025.3	4605.2	5731.8	6802.3
37.5°	7589.8	7826.5	7439.6	5958.1	4918.7	4573.4	4223.9	4414.9	4962.3	6113.1	7805.0
40°	8355.1	8533.0	8159.3	6411.3	5613.5	5029.4	4972.0	4987.9	5454.3	6439.7	8479.7
42.5°	9115.6	9356.4	8762.0	7033.4	6453.5	5971.2	5675.0	5655.0	6005.1	7026.5	9247.1
45°	9683.1	9824.9	8968.9	7558.0	7354.5	6996.7	6774.6	6422.4	6728.9	7432.7	9721.8
47.5°	9952.9	10068.5	9301.8	7863.1	7938.6	7957.2	8357.9	7757.3	7361.4	7707.4	9970.9
50°	10289.9	10344.6	9497.6	8131.6	8493.5	9314.2	9410.4	8392.5	7977.3	8007.1	10118.3
52.5°	10692.7	10715.5	9783.4	8441.6	9054.7	10206.9	10058.1	9469.2	8563.4	8554.4	10395.8
55°	11199.2	11185.4	10141.9	8858.9	9455.4	10737.7	10624.9	10195.8	9202.1	9007.7	10827.6
57.5°	11649.7	11641.4	10617.3	9243.0	9792.4	11010.3	11043.5	10930.0	9636.7	9332.2	11295.4
60°	11870.5	11976.3	11158.4	9663.0	9813.9	11133.5	11145.9	10965.3	10122.5	9748.8	11420.0
62.5°	11784.7	11986.0	11424.1	10040.8	9616.6	10797.2	10849.1	10724.5	10100.3	10186.1	11141.8
65°	11394.4	11626.9	11193.7	10242.2	9495.5	10233.9	10247.0	9932.2	9784.1	10476.1	10489.9
67.5°	10662.2	10880.2	10460.2	9921.1	8666.5	8715.7	9009.1	9034.7	8818.8	10257.4	9574.4
70°	9380.7	9534.3	9271.3	9128.1	7243.8	6955.9	7274.2	7410.6	7508.8	9467.9	8475.5
72.5°	7426.5	7723.3	7764.9	7858.3	5832.1	5352.6	5588.5	5386.5	6026.6	8058.3	6924.8
75°	5494.4	5744.9	6014.1	6535.2	4596.9	4007.3	3978.3	3875.2	4473.0	6480.5	5136.0
77.5°	3882.8	4042.6	4249.5	5220.4	3469.0	3086.3	3104.3	2999.8	3230.2	4897.9	3547.9
80°	2783.2	2866.9	2963.1	3439.2	2559.0	2662.8	2665.6	2566.6	2401.9	3326.4	2368.0
82.5°	1983.3	2048.3	2158.3	2268.4	1907.8	2182.5	2180.5	2174.2	1904.4	2248.3	1481.6
85°	1104.4	1191.6	1382.6	1777.0	1377.8	1560.4	1372.2	1511.3	1397.8	1496.8	750.1
87.5°	77.5	69.2	309.3	1029.7	642.9	469.9	246.3	487.9	625.6	782.0	104.5
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: P368062
 CATALOG NUMBER: MSA-SA3D-727-U-SLL

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7
2.5°	2013.7	2037.9	1943.1	1800.6	1839.3	1797.1	1743.8	1660.8	1489.9	1595.7	1596.4
5°	2418.5	2326.5	2252.4	2182.5	2064.9	1887.1	1863.5	1721.0	1640.7	1682.9	1676.7
7.5°	2545.2	2414.4	2303.0	2053.1	1835.2	1559.1	1476.0	1391.6	1356.3	1458.7	1499.6
10°	2406.1	2269.7	2160.4	1856.6	1708.5	1536.2	1307.9	1190.9	1121.7	1148.7	1164.6
12.5°	2518.2	2379.1	2035.2	1865.6	1621.3	1516.2	1316.2	1144.6	1042.1	1067.1	1037.3
15°	2626.1	2438.6	2094.7	1757.0	1559.1	1406.8	1244.9	1067.7	947.3	904.4	881.6
17.5°	3020.6	2709.2	2087.7	1696.1	1469.1	1294.0	1098.9	905.1	824.9	780.6	742.5
20°	3501.5	3067.6	2125.1	1633.1	1373.6	1152.9	940.4	760.5	704.4	675.4	665.0
22.5°	4073.8	3527.1	2338.9	1624.1	1283.6	1049.8	853.2	741.1	678.2	646.3	633.2
25°	4528.4	4002.5	2496.7	1685.0	1278.8	964.6	800.6	823.5	794.4	804.1	727.3
27.5°	4969.9	4131.9	2408.1	1658.0	1150.1	813.8	788.2	835.9	860.8	868.5	865.7
30°	5342.9	4678.6	2427.5	1505.8	971.6	662.9	603.4	626.9	695.5	804.1	824.9
32.5°	5888.9	4940.1	2592.9	1413.7	868.5	593.0	526.6	517.6	533.5	573.0	606.9
35°	6527.6	5542.2	2639.3	1389.5	797.2	561.9	515.5	494.8	503.1	532.8	539.8
37.5°	7718.5	5980.9	2810.9	1359.8	770.9	543.2	507.2	499.6	517.6	541.8	555.7
40°	8375.2	6769.8	2819.2	1334.2	737.0	535.6	512.8	509.3	520.4	553.6	561.9
42.5°	9250.6	7219.6	2949.3	1304.4	725.2	546.0	523.8	522.5	532.1	551.5	566.7
45°	9784.1	7520.6	2956.2	1287.1	722.4	591.7	538.4	533.5	531.5	543.2	557.1
47.5°	10128.0	7954.5	3040.6	1267.7	739.0	603.4	555.7	534.9	528.0	532.8	543.2
50°	10454.0	8301.2	3200.5	1265.0	756.3	591.7	586.1	534.2	520.4	518.3	525.9
52.5°	10853.9	8871.4	3397.7	1291.3	752.2	574.4	609.0	531.5	506.5	501.7	509.3
55°	11435.9	9482.4	3607.4	1269.1	709.3	541.1	586.8	529.4	492.0	483.0	489.9
57.5°	11813.0	9832.5	3841.9	1250.4	644.2	516.2	566.7	530.8	493.4	473.3	477.5
60°	11687.8	9644.3	3934.0	1136.3	582.7	496.9	519.0	519.7	480.9	462.3	465.7
62.5°	11134.2	8962.7	3848.2	1003.4	537.0	469.2	469.9	498.9	445.0	431.8	437.3
65°	10360.5	8115.0	3500.8	916.9	515.5	440.1	429.0	438.0	396.5	386.8	397.9
67.5°	9411.1	7070.1	2983.9	825.5	507.9	400.7	387.5	384.1	357.8	346.7	357.8
70°	8220.2	5920.0	2385.3	761.2	478.9	357.8	347.4	343.9	321.8	313.5	323.2
72.5°	6607.2	4622.5	1840.7	712.1	447.0	318.3	309.3	305.2	286.5	274.7	286.5
75°	4699.3	3532.6	1367.4	636.6	402.0	278.2	267.8	262.3	245.0	233.9	244.3
77.5°	3339.6	2651.7	955.0	526.6	331.5	235.3	229.0	220.1	204.8	191.7	202.1
80°	2469.0	1894.7	615.9	406.2	253.3	188.2	184.8	178.5	164.0	148.1	155.7
82.5°	1625.5	1366.0	352.9	275.4	184.1	135.6	138.4	134.2	120.4	103.8	108.0
85°	728.0	808.9	187.5	151.5	119.7	81.7	89.3	86.5	76.1	60.2	61.6
87.5°	69.9	136.3	57.4	55.4	44.3	25.6	31.8	27.0	22.8	14.5	11.1
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: P368062
 CATALOG NUMBER: MSA-SA3D-727-U-SLL

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7
2.5°	1620.6	1523.1	1425.5	1485.0	1486.4	1502.3	1504.4	1445.6	1492.6	1528.6	1566.0
5°	1646.3	1582.6	1586.0	1528.6	1497.5	1537.6	1529.3	1513.4	1541.8	1581.2	1629.0
7.5°	1460.8	1419.3	1412.4	1357.0	1222.8	1193.0	1217.9	1228.3	1266.3	1327.2	1378.5
10°	1140.4	1222.8	1130.0	1108.6	1073.3	1004.1	963.9	959.1	1040.1	1089.2	1132.1
12.5°	1027.6	1006.9	995.8	937.0	937.0	863.6	840.1	861.5	986.1	1021.4	1076.7
15°	875.4	860.1	808.9	779.9	766.0	736.3	761.2	782.0	898.2	901.0	959.1
17.5°	726.6	717.6	669.2	663.6	649.8	636.6	659.5	709.3	772.3	761.2	788.2
20°	649.8	618.6	574.4	590.3	575.7	565.4	555.7	626.3	670.5	685.1	701.0
22.5°	630.4	573.7	547.4	532.8	533.5	516.9	519.0	577.8	644.9	653.9	644.2
25°	720.4	619.3	534.2	492.0	476.1	470.6	486.5	538.4	619.3	638.7	646.3
27.5°	842.8	672.6	550.1	478.2	446.3	449.1	471.9	507.9	603.4	638.0	647.0
30°	808.9	632.5	550.8	467.8	428.3	442.9	451.2	485.8	591.0	642.9	687.8
32.5°	624.2	568.8	554.3	476.1	460.2	437.3	449.1	482.3	554.3	586.8	588.9
35°	528.7	486.5	476.8	457.4	435.3	425.6	438.7	467.8	514.8	534.9	532.1
37.5°	524.5	478.2	440.1	431.8	422.8	420.0	427.7	454.6	502.4	537.7	530.1
40°	531.5	474.0	435.3	420.7	424.2	411.7	419.3	452.6	504.5	537.7	530.8
42.5°	523.1	469.2	429.0	418.0	421.4	404.1	413.1	447.7	498.9	538.4	525.2
45°	506.5	458.1	425.6	406.9	422.8	397.2	408.3	435.3	482.3	525.2	510.0
47.5°	489.9	445.0	411.0	399.3	415.2	390.3	395.1	418.7	465.7	507.9	494.8
50°	471.9	428.3	399.3	395.8	406.9	388.9	381.3	400.7	445.6	487.9	476.8
52.5°	452.6	414.5	391.0	389.6	400.0	379.9	368.8	384.1	424.2	466.4	457.4
55°	433.9	399.3	380.6	384.1	395.8	372.3	358.5	368.1	401.4	442.9	430.4
57.5°	415.2	382.0	366.8	376.4	385.4	362.6	345.3	350.8	377.8	418.7	404.1
60°	398.6	366.8	351.5	363.3	371.6	348.1	328.0	331.5	355.7	392.4	379.2
62.5°	377.1	350.1	330.1	345.3	351.5	328.7	307.2	311.4	330.8	365.4	355.7
65°	346.7	329.4	310.7	321.1	329.4	305.9	285.8	290.6	305.2	337.7	330.8
67.5°	320.4	303.8	291.3	299.6	301.0	283.0	265.0	267.8	279.6	310.0	302.4
70°	291.3	275.4	265.7	272.0	271.3	256.0	242.2	242.9	252.6	280.3	269.9
72.5°	259.5	244.3	239.4	242.9	240.1	226.3	213.1	218.0	224.2	245.0	236.7
75°	225.6	211.8	209.0	212.4	208.3	195.1	183.4	188.2	193.8	211.1	200.7
77.5°	190.3	177.8	178.5	179.2	173.7	164.7	152.9	157.8	161.2	173.0	162.6
80°	151.5	141.9	144.6	144.6	138.4	132.2	121.1	122.5	124.6	128.7	121.1
82.5°	110.7	110.7	110.7	111.4	98.3	100.3	90.7	90.0	87.9	87.2	82.3
85°	65.7	68.5	69.9	72.0	53.3	62.3	54.0	51.9	47.7	43.6	42.2
87.5°	14.5	18.7	18.7	18.0	0.0	6.9	3.5	5.5	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



REPORT NUMBER: P368062
 CATALOG NUMBER: MSA-SA3D-727-U-SLL

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7	1503.7
2.5°	1523.1	1481.6	1559.1	1628.3	1617.2	1657.3	1563.9	1702.3	1849.0	1849.0
5°	1616.5	1581.2	1601.3	1641.4	1671.9	1811.6	1927.9	2043.5	2282.2	2285.0
7.5°	1363.2	1439.3	1457.3	1445.6	1576.4	1756.3	1948.0	2277.4	2479.4	2495.3
10°	1274.7	1309.3	1363.9	1394.4	1447.7	1624.8	1862.8	2253.8	2468.3	2508.5
12.5°	1154.9	1283.0	1366.0	1536.2	1578.4	1613.7	1992.3	2330.6	2478.7	2469.0
15°	1024.2	1121.0	1240.7	1429.0	1536.2	1806.1	2069.1	2577.0	2660.7	2734.1
17.5°	816.6	887.8	1047.0	1261.5	1527.2	1775.7	2258.7	2881.5	3037.9	3114.0
20°	671.9	672.6	831.8	1116.2	1405.4	1648.3	2330.6	3134.0	3332.6	3371.4
22.5°	635.3	603.4	687.1	918.3	1271.2	1723.8	2476.0	3540.2	3954.7	4052.3
25°	615.2	576.4	629.0	810.3	1175.0	1763.2	2768.7	4098.7	4630.8	4668.9
27.5°	623.5	641.5	658.1	722.4	1053.2	1689.2	2700.9	4348.5	4918.7	4990.7
30°	679.5	708.6	670.5	692.7	952.9	1581.9	2822.0	4754.0	5281.3	5402.4
32.5°	565.4	554.3	550.8	599.3	852.5	1485.0	3075.9	5324.9	5674.3	5826.6
35°	510.0	492.7	499.6	555.0	803.4	1471.2	3218.5	5797.5	6295.1	6388.5
37.5°	507.9	487.9	496.9	538.4	820.7	1496.1	3446.8	6555.9	7389.8	7589.8
40°	503.1	492.0	496.9	528.0	802.7	1509.9	3578.3	7193.3	8152.4	8355.1
42.5°	502.4	496.9	501.7	536.3	784.0	1516.2	3760.3	7769.0	8955.8	9115.6
45°	500.3	505.8	505.8	543.2	775.7	1557.7	3867.6	8051.3	9485.9	9683.1
47.5°	490.6	507.2	534.2	541.1	741.8	1538.3	4019.1	8479.7	9767.5	9952.9
50°	478.2	505.2	570.2	527.3	736.3	1491.2	4196.3	8819.5	10128.7	10289.9
52.5°	461.6	501.7	561.9	500.3	726.6	1482.9	4444.7	9261.0	10550.1	10692.7
55°	438.0	489.2	536.3	473.3	703.1	1456.6	4824.6	9808.3	11101.7	11199.2
57.5°	416.6	470.6	498.9	458.1	647.0	1462.2	5088.9	10254.7	11564.6	11649.7
60°	397.2	468.5	445.6	442.2	589.6	1388.1	5174.7	10249.8	11736.9	11870.5
62.5°	376.4	442.2	408.3	420.7	539.1	1312.0	4992.7	9810.4	11550.8	11784.7
65°	349.5	379.2	377.1	405.5	540.4	1188.2	4575.5	9035.4	11086.4	11394.4
67.5°	317.6	335.6	347.4	380.6	557.7	1092.0	3904.2	8103.2	10296.2	10662.2
70°	285.1	303.1	316.2	348.1	573.7	1047.7	3107.7	6794.0	9009.1	9380.7
72.5°	251.9	270.6	280.9	308.6	552.2	952.9	2300.2	5286.1	7231.3	7426.5
75°	217.3	235.3	243.6	269.2	479.6	788.2	1588.1	4003.9	5296.5	5494.4
77.5°	182.0	201.4	204.1	224.9	366.1	602.7	1017.9	3071.1	3750.6	3882.8
80°	145.3	164.7	164.7	175.8	257.4	414.5	609.6	2316.8	2731.3	2783.2
82.5°	104.5	125.3	123.9	124.6	177.8	256.7	352.9	1736.2	1973.6	1983.3
85°	61.6	76.1	75.4	69.2	105.2	138.4	191.0	1078.1	1101.7	1104.4
87.5°	11.8	18.0	15.9	6.9	29.1	40.8	55.4	200.0	79.6	77.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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