

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: P368589

Luminaire Tested: **MSA-SA4D-727-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368589
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA4D-727-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS
EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16049 lumens
Efficiency: N/A
Efficacy: 62.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

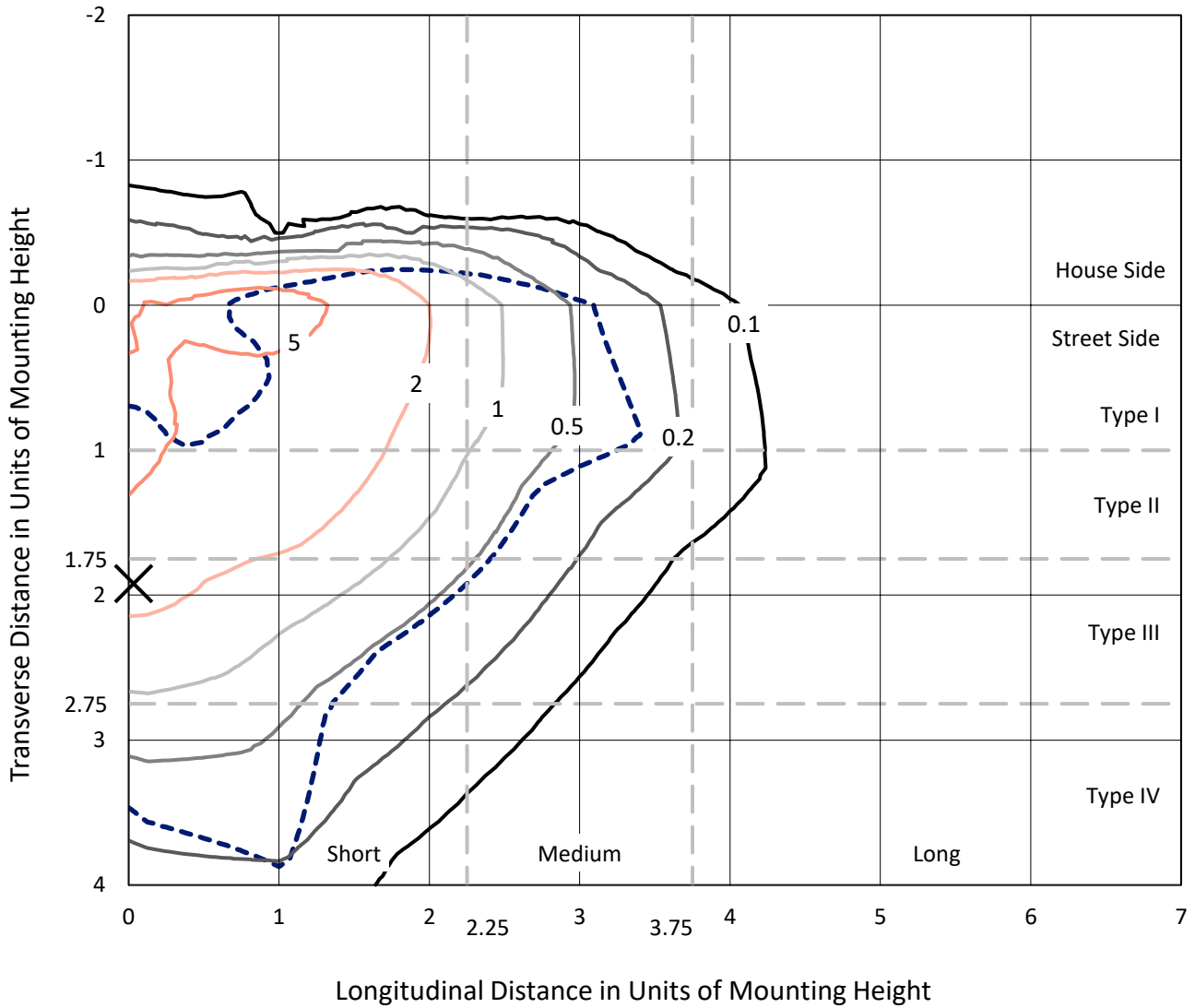
Input Watts (W): 259
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P368589
 CATALOG NUMBER: MSA-SA4D-727-U-SLL-HSS

Iso-Footcandle Lines of Horizontal Illumination

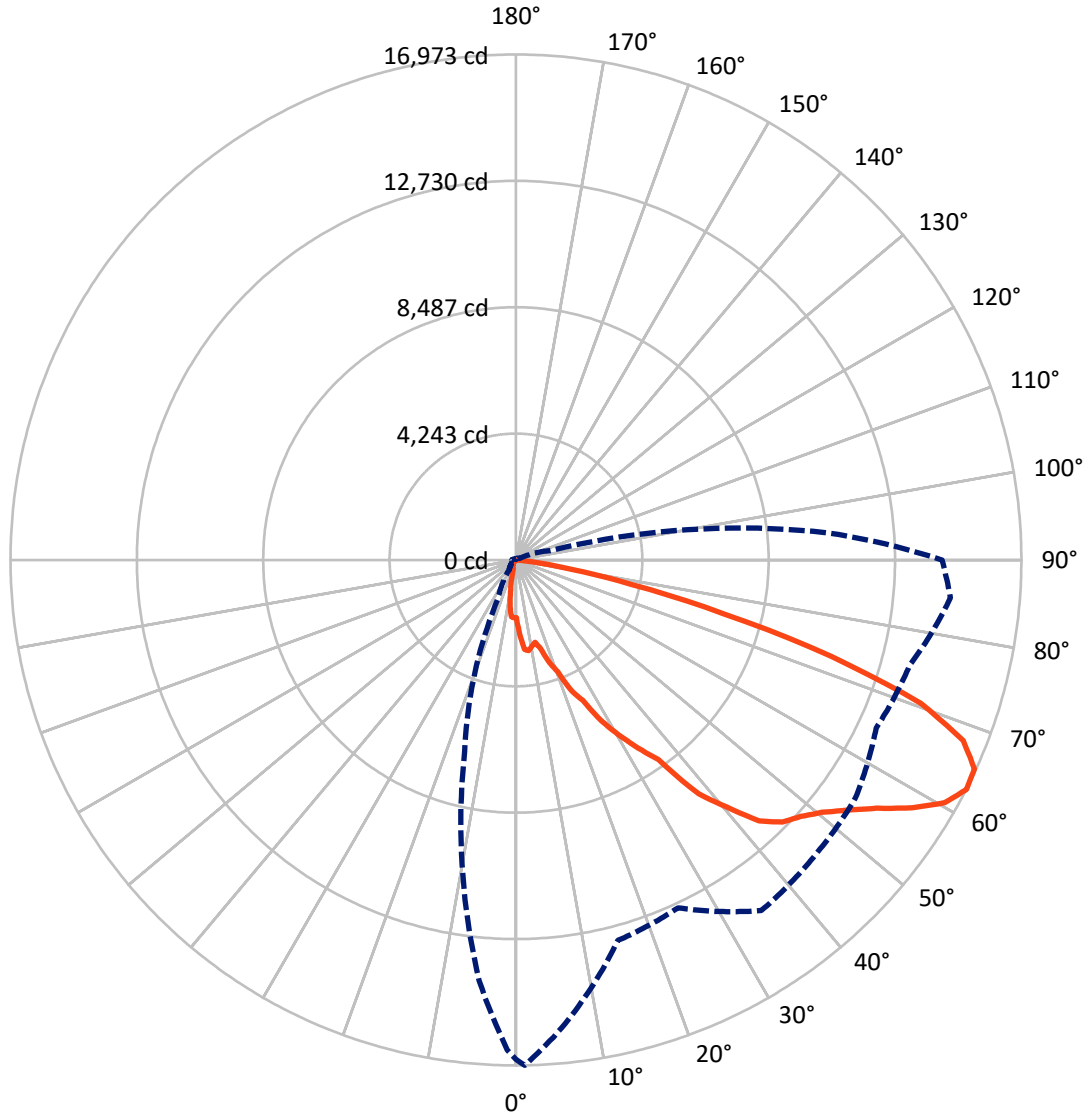
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 8.2 fc
 Type IV - Short - N/A

REPORT NUMBER: P368589
CATALOG NUMBER: MSA-SA4D-727-U-SLL-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P368589
 CATALOG NUMBER: MSA-SA4D-727-U-SLL-HSS

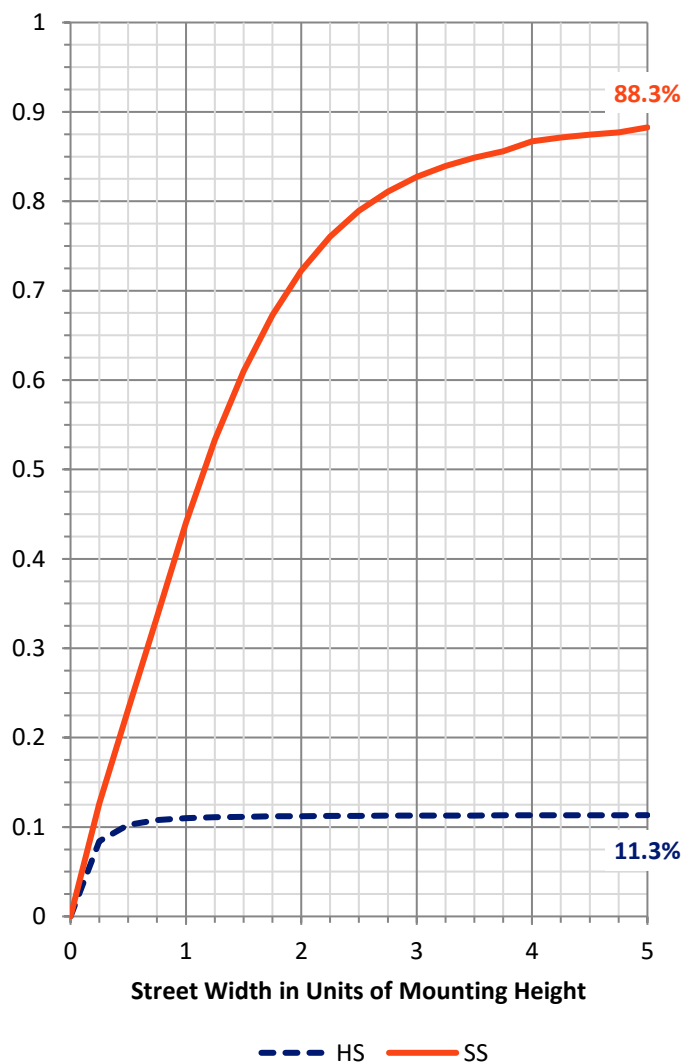
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1835.3	0.0	1835.3
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	14213.7	0.0	14213.7
	% Fixture	88.6	0.0	88.6
Total	Lumens	16049.0	0.0	16049.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	216.0	1.3
10°-20°	564.2	3.5
20°-30°	912.1	5.7
30°-40°	1527.8	9.5
40°-50°	2498.1	15.6
50°-60°	3697.9	23.0
60°-70°	4245.4	26.5
70°-80°	2099.4	13.1
80°-90°	288.2	1.8
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°	16049.0	100.0
0°-180°	16049.0	100.0

Coefficient of Utilization

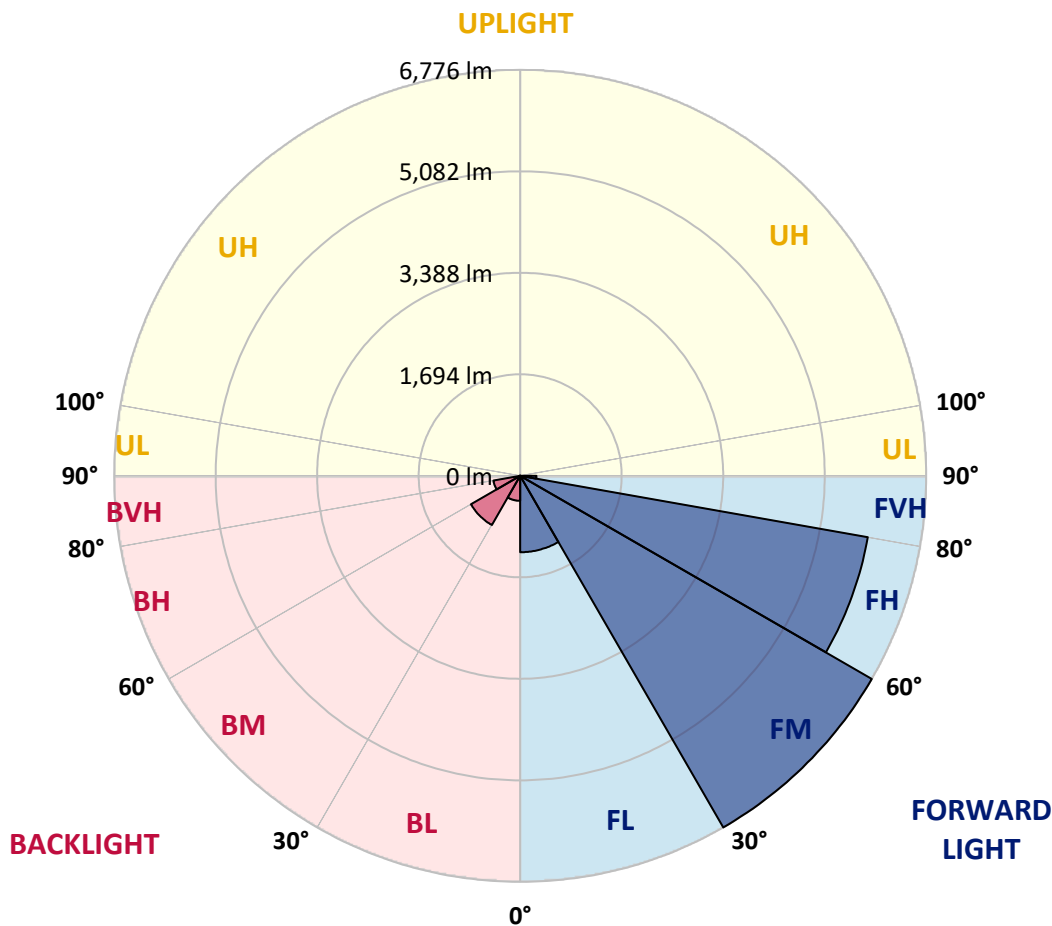


REPORT NUMBER: P368589
 CATALOG NUMBER: MSA-SA4D-727-U-SLL-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1274.8	7.9			
FM (30°-60°)	6775.8	42.2			
FH (60°-80°)	5891.0	36.7			G3/7500
FVH (80°-90°)	272.2	1.7			G3/500
BL (0°-30°)	417.6	2.6	B1/500		
BM (30°-60°)	948.0	5.9	B1/1000		
BH (60°-80°)	453.8	2.8	B1/500		G1/500
BVH (80°-90°)	16.0	0.1			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: P368589

CATALOG NUMBER: MSA-SA4D-727-U-SLL-HSS

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4
2.5°	2493.1	2505.0	2449.2	2441.8	2312.0	2473.9	2478.4	2497.6	2378.7	2148.3	2470.2
5°	2983.3	3016.2	2973.2	3164.3	3219.2	3337.2	3120.4	3314.3	3232.0	3254.9	3301.5
7.5°	3041.8	3075.6	3166.2	3486.3	3781.7	3707.6	3683.8	3757.0	3750.6	3581.4	3665.5
10°	2920.2	2948.5	3099.4	3682.0	3810.9	4143.8	4225.2	4056.9	3988.4	3618.0	3456.1
12.5°	2787.5	2835.1	3027.2	3725.9	4112.7	4449.3	4717.3	4477.6	4249.9	3855.7	3707.6
15°	3041.8	3068.3	3370.1	3817.3	4155.7	4388.0	4607.5	4527.9	4493.2	4209.7	3707.6
17.5°	3540.2	3602.4	3821.0	4041.4	4308.4	4448.4	4396.2	4371.6	4282.8	4728.2	4208.8
20°	3895.1	4011.2	4297.5	4392.6	4180.4	4311.2	4279.2	4257.2	4187.7	5016.3	4784.9
22.5°	4663.3	4770.3	4775.8	4809.6	4315.8	4107.2	4054.2	4060.6	4376.1	5102.3	5501.9
25°	5186.4	5223.0	5512.0	5270.6	4685.2	4169.4	3967.3	4057.9	4512.4	5720.5	6176.0
27.5°	6042.4	6129.3	6309.5	5491.9	4906.6	4130.1	3808.2	4137.4	4870.9	5925.4	6925.0
30°	6740.2	6823.5	7113.4	5794.6	5098.6	4324.9	3876.8	4297.5	5094.0	6347.0	7598.1
32.5°	7306.3	7521.3	7850.5	6261.9	5091.3	4549.0	4227.1	4244.4	5368.4	6893.0	8263.9
35°	8029.8	8230.0	8461.4	6583.8	5424.2	4621.2	4330.4	4765.7	5776.3	7463.6	9160.1
37.5°	9660.4	9963.1	9505.8	7395.1	5812.0	5274.2	4738.3	5086.7	6203.4	8046.2	10392.0
40°	10655.4	10910.6	10468.9	7809.3	6483.2	5603.4	5466.3	5644.6	6621.3	8347.1	11320.3
42.5°	11635.8	11972.4	11234.3	8433.1	7120.7	6532.6	6157.7	6301.3	7225.9	9073.3	12364.7
45°	12345.5	12554.0	11399.9	8759.6	7996.8	7591.7	7342.0	7128.0	8069.1	9539.7	13038.7
47.5°	12702.2	12868.6	11726.4	8862.9	8518.1	8712.0	9258.9	8811.7	8815.4	9877.1	13401.8
50°	13196.0	13312.2	11909.3	8986.4	9084.2	10457.9	10734.1	9782.0	9667.7	10215.5	13461.3
52.5°	13890.2	13946.9	12264.1	9312.0	9932.0	11825.1	11924.8	11539.8	10521.0	10844.7	13593.0
55°	14813.0	14713.3	12897.9	9996.0	10816.4	12826.6	12960.1	12624.5	11593.8	11473.0	14000.9
57.5°	15808.0	15693.7	13837.1	10960.0	11775.7	13592.0	13671.6	13698.1	12306.2	12029.1	14694.1
60°	16521.4	16542.4	15019.7	12065.7	12372.0	14324.6	14165.5	13924.0	13025.0	12843.9	15031.5
62.5°	16771.0	16973.1	15940.6	13224.4	12886.0	14370.3	14123.4	13919.5	13346.9	13684.4	14644.7
65°	16567.1	16920.1	16154.6	14242.3	13197.0	13796.9	13539.9	13409.1	13336.9	14027.4	13788.7
67.5°	15756.8	16198.5	15541.9	14251.4	12066.6	11747.4	12051.0	12465.3	12225.7	13742.9	12589.7
70°	13941.4	14425.2	14119.7	13415.5	10051.8	9242.4	9577.2	10203.6	10034.4	12223.0	10825.5
72.5°	10459.7	11081.6	11142.0	11581.9	7979.5	6956.1	7004.5	6987.2	7278.9	9856.1	8447.7
75°	6719.2	7203.0	7856.9	9345.8	6061.6	5078.5	4613.9	4500.5	5044.7	7701.4	6047.9
77.5°	3900.6	3958.2	4260.0	7051.2	4341.4	3659.1	3342.7	3504.6	3694.8	5374.8	4008.5
80°	1865.7	1894.9	2019.3	3628.0	3016.2	3167.1	2922.9	3104.9	2537.0	3089.4	2274.5
82.5°	591.7	598.1	619.2	1782.5	1873.0	2098.0	1344.4	1802.6	1568.5	1867.5	1514.5
85°	98.8	168.3	207.6	514.9	1057.2	707.9	291.7	642.9	875.2	1177.9	687.7
87.5°	0.0	0.0	0.0	9.1	86.0	40.2	6.4	36.6	134.4	262.5	31.1
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: P368589
 CATALOG NUMBER: MSA-SA4D-727-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4
2.5°	2563.5	2626.6	2388.8	2175.7	2229.7	2186.7	2121.8	2011.1	1755.0	1943.4	1930.6
5°	3298.8	3181.7	2859.8	2709.8	2526.9	2248.0	2214.1	2000.1	1905.9	1921.5	1907.8
7.5°	3554.9	3345.4	3061.0	2609.2	2180.3	1777.9	1654.4	1514.5	1486.1	1546.5	1585.8
10°	3353.7	3131.4	2882.7	2321.1	1991.0	1700.1	1395.6	1199.9	1093.8	1081.0	1092.0
12.5°	3446.0	3206.4	2694.3	2264.4	1919.6	1656.3	1316.0	1020.6	790.2	807.5	761.8
15°	3510.0	3234.8	2649.5	2145.5	1772.4	1420.3	1010.6	715.2	526.8	471.9	439.0
17.5°	3885.9	3492.7	2592.8	2008.4	1566.6	1105.7	634.7	414.3	353.0	333.8	318.3
20°	4368.8	3810.0	2591.8	1863.9	1263.0	691.4	396.0	300.0	285.3	296.3	284.4
22.5°	4930.3	4232.5	2729.9	1683.7	906.3	436.2	308.2	266.1	251.5	260.6	261.6
25°	5495.5	4866.3	2842.4	1512.7	631.0	334.7	274.4	245.1	228.6	236.9	232.3
27.5°	6516.2	5391.3	2816.8	1294.1	464.6	294.5	255.2	229.6	204.9	217.7	216.7
30°	7183.8	6317.7	2916.5	987.7	368.6	257.9	237.8	209.4	182.9	197.5	196.6
32.5°	7982.2	6715.5	3024.4	758.2	306.4	244.2	214.0	186.6	171.0	180.2	178.3
35°	8879.4	7502.1	2826.0	631.0	266.1	220.4	189.3	168.3	154.6	159.1	159.1
37.5°	10464.3	8159.6	2707.1	514.0	247.8	199.4	177.4	151.8	143.6	143.6	148.2
40°	11364.2	9163.8	2352.2	407.0	253.3	183.8	165.5	139.0	128.0	127.1	131.7
42.5°	12534.8	9742.7	2130.0	329.2	229.6	179.3	151.8	126.2	113.4	112.5	117.1
45°	13229.0	10066.5	1817.2	258.8	205.8	208.5	140.8	116.1	96.9	93.3	101.5
47.5°	13667.0	10495.4	1639.8	205.8	179.3	207.6	137.2	100.6	81.4	76.8	84.1
50°	13889.3	10707.6	1605.0	176.5	155.5	185.7	157.3	84.1	69.5	63.1	69.5
52.5°	14120.7	11052.3	1617.8	162.8	137.2	149.1	149.1	72.2	61.3	54.0	58.5
55°	14588.0	11561.7	1589.5	154.6	126.2	113.4	96.0	64.0	55.8	47.6	52.1
57.5°	15162.3	11927.6	1589.5	147.2	117.1	96.9	76.8	59.4	51.2	41.2	44.8
60°	15053.5	11542.5	1510.8	139.9	109.7	90.5	69.5	54.9	47.6	37.5	40.2
62.5°	14306.3	10495.4	1223.7	129.0	103.3	86.0	63.1	52.1	44.8	32.9	35.7
65°	13428.3	9383.3	850.5	117.1	96.0	77.7	56.7	49.4	41.2	29.3	31.1
67.5°	12371.1	8058.1	471.9	105.2	88.7	67.7	52.1	48.5	39.3	26.5	28.4
70°	10536.5	6083.6	253.3	96.0	83.2	62.2	49.4	48.5	39.3	25.6	26.5
72.5°	7909.9	3831.1	148.2	87.8	75.9	57.6	46.6	49.4	38.4	24.7	24.7
75°	5382.1	2325.7	106.1	75.0	67.7	48.5	44.8	47.6	39.3	24.7	22.9
77.5°	3659.1	1634.3	86.9	67.7	61.3	43.0	45.7	47.6	39.3	20.1	15.5
80°	2284.5	843.2	65.8	54.0	53.0	37.5	45.7	41.2	25.6	4.6	0.0
82.5°	1597.7	313.7	38.4	41.2	41.2	26.5	35.7	29.3	14.6	0.0	0.0
85°	670.4	54.0	21.0	29.3	25.6	15.5	28.4	21.9	9.1	0.0	0.0
87.5°	11.9	0.0	8.2	17.4	18.3	9.1	14.6	9.1	0.0	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: P368589
 CATALOG NUMBER: MSA-SA4D-727-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4
2.5°	1991.0	1904.1	1721.2	1809.0	1799.8	1840.1	1843.7	1750.4	1951.7	2076.0	2094.3
5°	1909.6	1851.0	1841.0	1790.7	1777.9	1852.0	1811.7	1809.0	1905.9	2047.7	2048.6
7.5°	1586.7	1541.9	1563.0	1504.4	1353.5	1362.7	1376.4	1434.0	1517.2	1610.5	1644.4
10°	1089.2	1205.4	1120.3	1113.0	1097.5	1049.0	1010.6	1040.8	1148.7	1234.6	1266.7
12.5°	777.4	795.7	847.8	828.6	855.1	813.9	798.4	892.6	997.8	1085.6	1148.7
15°	454.5	485.6	516.7	582.6	609.1	600.9	648.4	727.1	812.1	852.4	930.1
17.5°	320.1	322.8	329.2	400.6	447.2	465.5	493.9	553.3	588.1	606.3	638.4
20°	279.9	271.6	260.6	300.9	344.8	367.6	359.4	406.1	434.4	452.7	475.6
22.5°	253.3	239.6	233.2	246.9	280.8	300.9	304.5	332.0	375.0	387.8	395.1
25°	228.6	219.5	214.9	222.2	240.5	259.7	263.4	299.1	337.5	343.0	357.6
27.5°	212.2	194.8	196.6	202.1	210.3	234.1	241.4	261.6	317.3	323.8	328.3
30°	194.8	176.5	182.0	187.5	183.8	213.1	224.1	246.9	300.9	310.9	316.4
32.5°	177.4	163.7	162.8	168.3	174.7	190.2	214.0	240.5	289.9	303.6	317.3
35°	158.2	147.2	149.1	150.0	158.2	178.3	195.7	209.4	243.3	250.6	255.2
37.5°	144.5	135.4	133.5	142.7	150.9	166.4	172.9	179.3	224.1	240.5	241.4
40°	128.0	122.5	122.5	129.0	147.2	145.4	153.6	173.8	216.7	234.1	236.0
42.5°	116.1	108.8	110.7	117.1	129.9	120.7	137.2	166.4	214.0	231.4	230.5
45°	97.9	96.0	99.7	105.2	110.7	102.4	128.0	159.1	204.9	227.7	221.3
47.5°	81.4	81.4	86.0	91.5	88.7	91.5	116.1	149.1	199.4	220.4	215.8
50°	66.8	67.7	72.2	81.4	73.2	80.5	104.3	139.0	190.2	213.1	209.4
52.5°	56.7	57.6	60.4	66.8	63.1	73.2	96.0	129.0	181.1	200.3	198.5
55°	49.4	51.2	51.2	54.9	56.7	68.6	86.9	118.9	167.4	188.4	184.7
57.5°	43.9	45.7	44.8	47.6	49.4	60.4	77.7	107.9	153.6	171.0	165.5
60°	39.3	41.2	40.2	43.9	43.0	52.1	67.7	96.0	139.0	152.7	148.2
62.5°	34.8	36.6	36.6	38.4	39.3	43.9	58.5	85.1	124.4	135.4	131.7
65°	31.1	32.9	33.8	32.9	34.8	37.5	49.4	76.8	107.9	118.9	113.4
67.5°	28.4	30.2	32.0	28.4	30.2	31.1	42.1	68.6	95.1	104.3	99.7
70°	27.4	28.4	28.4	24.7	23.8	24.7	36.6	58.5	83.2	92.4	86.0
72.5°	25.6	26.5	25.6	20.1	17.4	19.2	31.1	49.4	70.4	77.7	72.2
75°	23.8	24.7	23.8	16.5	11.0	13.7	25.6	43.0	60.4	64.0	61.3
77.5°	20.1	21.9	21.9	11.9	3.7	8.2	19.2	34.8	50.3	50.3	51.2
80°	1.8	5.5	9.1	6.4	0.0	0.9	6.4	18.3	32.0	31.1	33.8
82.5°	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	11.0	8.2	9.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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: P368589
 CATALOG NUMBER: MSA-SA4D-727-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4	1933.4
2.5°	2051.3	2023.0	2058.7	2167.5	2123.6	2131.8	2102.6	2282.7	2486.7	2493.1
5°	2050.4	2024.8	2077.9	2073.3	2198.6	2334.8	2466.5	2679.6	2981.4	2983.3
7.5°	1628.8	1780.6	1820.0	1808.1	1969.0	2156.5	2359.5	2767.4	3015.3	3041.8
10°	1468.8	1534.6	1615.1	1644.4	1711.1	1889.5	2119.0	2580.9	2858.9	2920.2
12.5°	1273.1	1483.4	1590.4	1798.0	1836.4	1862.0	2224.2	2625.7	2794.9	2787.5
15°	1054.5	1237.4	1406.6	1659.9	1764.2	2033.0	2318.4	2844.3	2944.9	3041.8
17.5°	746.3	884.4	1144.1	1410.2	1728.5	2021.2	2578.1	3234.8	3425.0	3540.2
20°	499.3	566.1	801.1	1153.2	1556.6	1847.4	2684.2	3587.8	3795.4	3895.1
22.5°	405.1	437.2	558.8	845.0	1329.8	1839.2	2727.2	3972.8	4530.7	4663.3
25°	356.7	378.6	443.6	625.6	1103.9	1802.6	2965.0	4406.3	5079.4	5186.4
27.5°	311.9	344.8	393.3	515.8	946.6	1777.0	3085.7	5134.3	5937.3	6042.4
30°	298.1	338.4	385.0	470.1	836.8	1678.2	3277.7	5790.9	6552.8	6740.2
32.5°	321.9	335.6	358.5	430.8	751.8	1573.9	3615.2	6575.6	7062.2	7306.3
35°	255.2	279.9	320.1	395.1	716.1	1568.5	3806.4	7080.4	7878.9	8029.8
37.5°	249.7	272.5	324.7	385.0	759.1	1610.5	4089.9	8114.8	9351.3	9660.4
40°	242.4	271.6	321.0	380.5	759.1	1651.7	4270.9	8942.5	10341.7	10655.4
42.5°	239.6	277.1	320.1	399.7	735.3	1674.5	4544.4	9768.3	11388.0	11635.8
45°	237.8	282.6	322.8	422.5	729.8	1749.5	4699.0	10169.8	12061.1	12345.5
47.5°	233.2	282.6	360.3	408.8	699.6	1742.2	4899.2	10765.2	12462.6	12702.2
50°	229.6	284.4	407.9	383.2	704.2	1697.4	5170.9	11324.0	13025.0	13196.0
52.5°	221.3	290.8	400.6	347.5	690.5	1692.8	5576.0	12118.7	13764.9	13890.2
55°	203.0	282.6	362.2	303.6	642.0	1640.7	6112.9	13152.1	14791.0	14813.0
57.5°	186.6	262.5	302.7	278.9	537.8	1647.1	6575.6	14103.3	15705.6	15808.0
60°	170.1	272.5	235.0	259.7	445.4	1530.0	6799.7	14467.3	16371.4	16521.4
62.5°	154.6	251.5	200.3	238.7	396.9	1421.2	6644.2	14174.6	16456.4	16771.0
65°	137.2	174.7	169.2	214.0	401.5	1268.5	6124.7	13317.7	16133.6	16567.1
67.5°	118.0	137.2	149.1	184.7	429.8	1137.7	5234.0	11942.2	15265.7	15756.8
70°	103.3	123.5	129.9	161.9	447.2	1051.7	4130.1	10033.5	13487.8	13941.4
72.5°	86.0	114.3	116.1	141.8	430.8	966.7	2943.0	7203.0	10242.0	10459.7
75°	74.1	95.1	105.2	118.9	362.2	721.6	1621.5	4458.4	6475.9	6719.2
77.5°	66.8	72.2	79.6	82.3	153.6	375.9	557.9	2749.1	3626.2	3900.6
80°	51.2	56.7	54.9	56.7	84.1	129.9	212.2	1288.6	1713.0	1865.7
82.5°	16.5	27.4	30.2	25.6	54.9	64.0	61.3	445.4	557.0	591.7
85°	3.7	10.1	4.6	0.0	18.3	32.9	4.6	67.7	133.5	98.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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

(END OF REPORT)