

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: P367753

Luminaire Tested: **MSA-SA3A-760-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P367753
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-SA3A-760-U-SLL-HSS
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) 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: 8557 lumens
Efficiency: N/A
Efficacy: 89.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

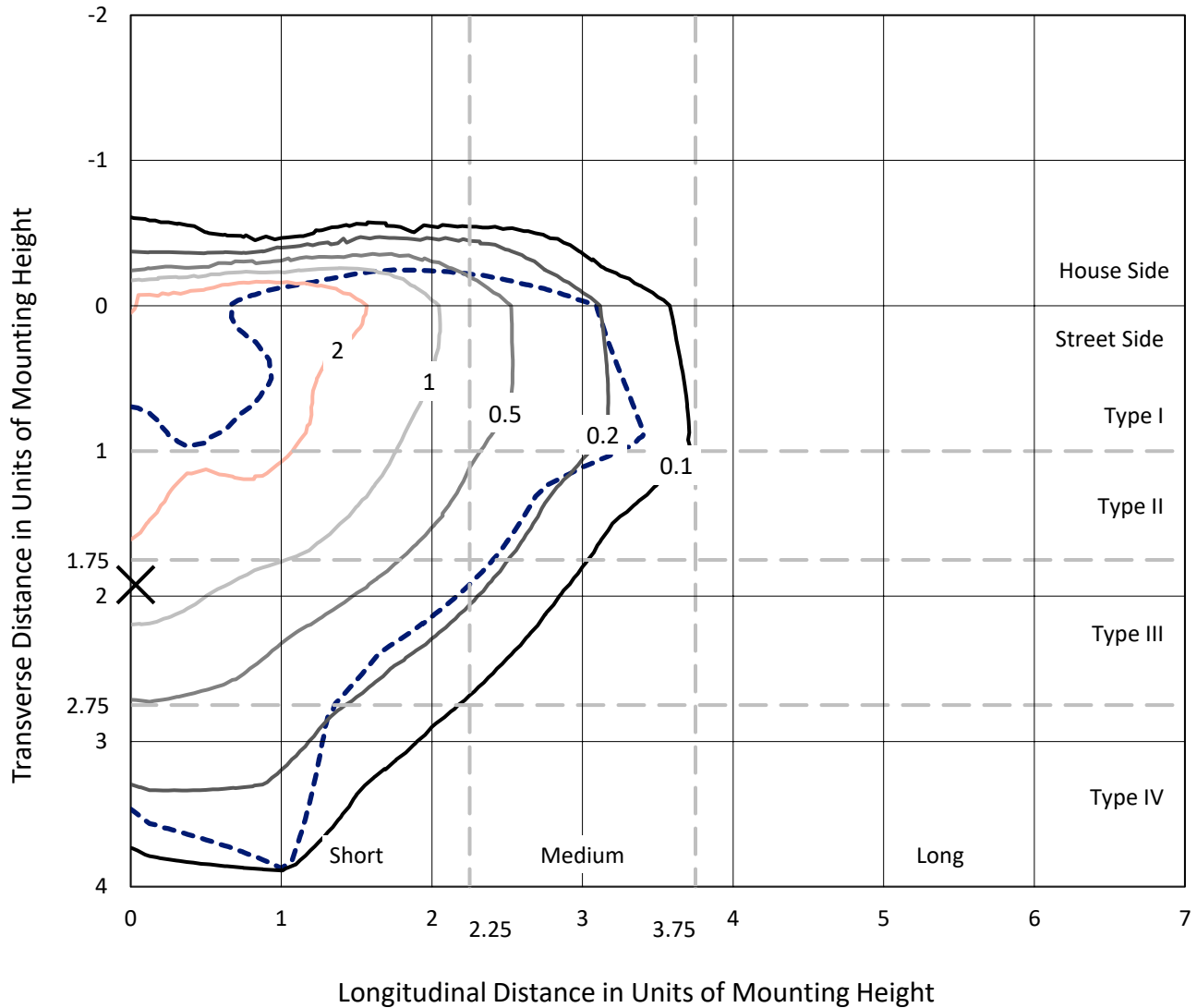
Input Watts (W): 96
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P367753
 CATALOG NUMBER: MSA-SA3A-760-U-SLL-HSS

Iso-Footcandle Lines of Horizontal Illumination

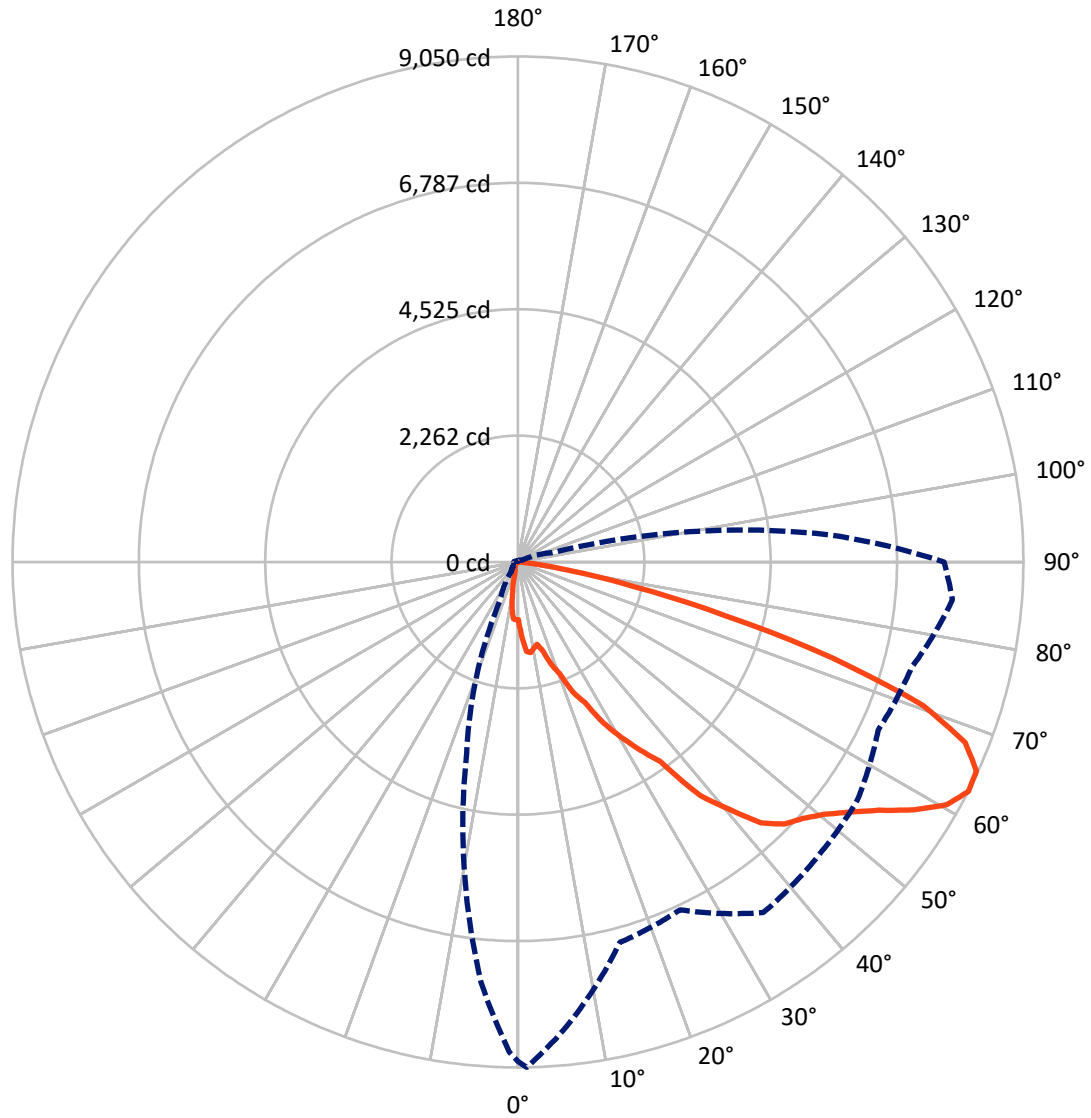
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.4 fc
 Type IV - Short - N/A

REPORT NUMBER: P367753
CATALOG NUMBER: MSA-SA3A-760-U-SLL-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P367753
 CATALOG NUMBER: MSA-SA3A-760-U-SLL-HSS

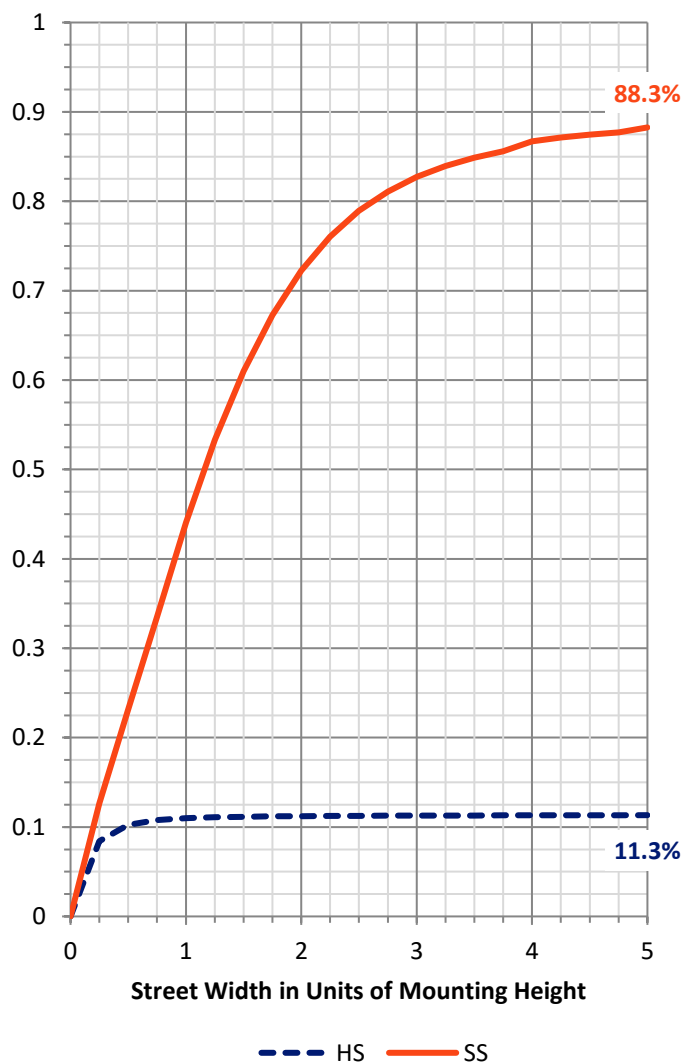
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	978.5	0.0	978.5
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	7578.5	0.0	7578.5
	% Fixture	88.6	0.0	88.6
Total	Lumens	8557.0	0.0	8557.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.2	1.3
10°-20°	300.8	3.5
20°-30°	486.3	5.7
30°-40°	814.6	9.5
40°-50°	1331.9	15.6
50°-60°	1971.6	23.0
60°-70°	2263.6	26.5
70°-80°	1119.3	13.1
80°-90°	153.7	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°	8557.0	100.0
0°-180°	8557.0	100.0

Coefficient of Utilization



REPORT NUMBER: P367753

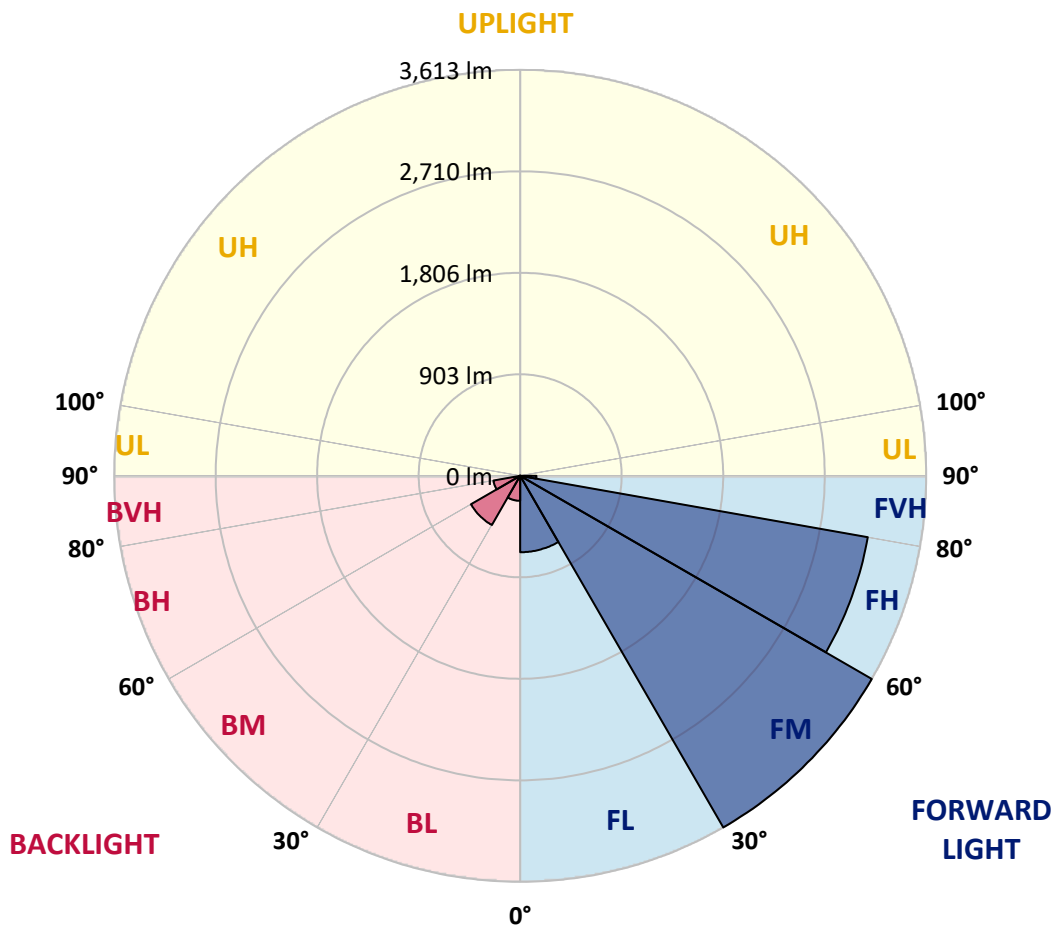
CATALOG NUMBER: MSA-SA3A-760-U-SLL-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	679.7	7.9			
FM (30°-60°)	3612.7	42.2			
FH (60°-80°)	3141.0	36.7			G2/5000
FVH (80°-90°)	145.1	1.7			G2/225
BL (0°-30°)	222.6	2.6	B1/500		
BM (30°-60°)	505.4	5.9	B1/1000		
BH (60°-80°)	242.0	2.8	B1/500		G1/500
BVH (80°-90°)	8.5	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





REPORT NUMBER: P367753

CATALOG NUMBER: MSA-SA3A-760-U-SLL-HSS

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8
2.5°	1329.3	1335.6	1305.8	1301.9	1232.7	1319.0	1321.4	1331.7	1268.3	1145.4	1317.1
5°	1590.6	1608.2	1585.3	1687.2	1716.4	1779.3	1663.8	1767.1	1723.2	1735.4	1760.3
7.5°	1621.8	1639.9	1688.1	1858.8	2016.3	1976.8	1964.1	2003.1	1999.7	1909.5	1954.4
10°	1557.0	1572.1	1652.5	1963.2	2031.9	2209.4	2252.8	2163.1	2126.5	1929.0	1842.7
12.5°	1486.3	1511.6	1614.0	1986.6	2192.8	2372.3	2515.1	2387.4	2266.0	2055.8	1976.8
15°	1621.8	1636.0	1796.9	2035.3	2215.7	2339.6	2456.6	2414.2	2395.7	2244.5	1976.8
17.5°	1887.6	1920.7	2037.3	2154.8	2297.2	2371.8	2344.0	2330.8	2283.5	2521.0	2244.0
20°	2076.8	2138.7	2291.3	2342.0	2228.9	2298.6	2281.6	2269.9	2232.8	2674.6	2551.2
22.5°	2486.4	2543.4	2546.3	2564.4	2301.1	2189.9	2161.6	2165.0	2333.3	2720.4	2933.5
25°	2765.3	2784.8	2938.9	2810.2	2498.1	2223.1	2115.3	2163.6	2405.9	3050.1	3292.9
27.5°	3221.7	3268.0	3364.1	2928.2	2616.1	2202.1	2030.4	2206.0	2597.1	3159.3	3692.3
30°	3593.8	3638.1	3792.7	3089.6	2718.5	2306.0	2067.0	2291.3	2716.0	3384.1	4051.1
32.5°	3895.6	4010.2	4185.7	3338.7	2714.6	2425.4	2253.8	2263.0	2862.3	3675.2	4406.1
35°	4281.3	4388.1	4511.5	3510.4	2892.1	2463.9	2308.9	2541.0	3079.8	3979.5	4884.0
37.5°	5150.7	5312.1	5068.3	3942.9	3098.8	2812.1	2526.4	2712.1	3307.5	4290.1	5540.8
40°	5681.3	5817.3	5581.8	4163.8	3456.7	2987.6	2914.5	3009.6	3530.4	4450.5	6035.8
42.5°	6204.0	6383.4	5989.9	4496.3	3796.6	3483.1	3283.1	3359.7	3852.7	4837.7	6592.6
45°	6582.4	6693.6	6078.2	4670.4	4263.7	4047.7	3914.6	3800.5	4302.3	5086.4	6952.0
47.5°	6772.5	6861.3	6252.3	4725.5	4541.7	4645.1	4936.7	4698.2	4700.2	5266.3	7145.6
50°	7035.9	7097.8	6349.8	4791.4	4843.5	5575.9	5723.2	5215.6	5154.6	5446.7	7177.3
52.5°	7406.0	7436.2	6539.0	4964.9	5295.5	6304.9	6358.1	6152.8	5609.6	5782.2	7247.5
55°	7898.0	7844.8	6876.9	5329.7	5767.1	6838.9	6910.1	6731.1	6181.6	6117.2	7465.0
57.5°	8428.5	8367.6	7377.7	5843.6	6278.6	7247.0	7289.4	7303.6	6561.4	6413.7	7834.6
60°	8808.8	8820.1	8008.2	6433.2	6596.5	7637.6	7552.7	7424.0	6944.7	6848.1	8014.5
62.5°	8942.0	9049.7	8499.2	7051.0	6870.6	7662.0	7530.3	7421.6	7116.3	7296.3	7808.3
65°	8833.2	9021.4	8613.3	7593.7	7036.4	7356.2	7219.2	7149.5	7111.0	7479.1	7351.8
67.5°	8401.2	8636.7	8286.6	7598.6	6433.7	6263.5	6425.4	6646.3	6518.5	7327.5	6712.6
70°	7433.3	7691.2	7528.4	7152.9	5359.4	4927.9	5106.4	5440.4	5350.2	6517.0	5772.0
72.5°	5576.9	5908.5	5940.7	6175.2	4254.5	3708.8	3734.7	3725.4	3881.0	5255.1	4504.1
75°	3582.5	3840.5	4189.1	4983.0	3231.9	2707.8	2460.0	2399.6	2689.7	4106.2	3224.6
77.5°	2079.7	2110.4	2271.3	3759.5	2314.7	1951.0	1782.2	1868.6	1970.0	2865.7	2137.2
80°	994.7	1010.3	1076.7	1934.4	1608.2	1688.6	1558.4	1655.5	1352.7	1647.2	1212.7
82.5°	315.5	318.9	330.1	950.4	998.6	1118.6	716.8	961.1	836.3	995.7	807.5
85°	52.7	89.7	110.7	274.5	563.7	377.4	155.6	342.8	466.7	628.1	366.7
87.5°	0.0	0.0	0.0	4.9	45.8	21.5	3.4	19.5	71.7	139.9	16.6
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: P367753
 CATALOG NUMBER: MSA-SA3A-760-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8
2.5°	1366.8	1400.4	1273.7	1160.0	1188.8	1165.9	1131.3	1072.3	935.7	1036.2	1029.4
5°	1758.8	1696.4	1524.8	1444.8	1347.3	1198.6	1180.5	1066.4	1016.2	1024.5	1017.2
7.5°	1895.4	1783.7	1632.1	1391.2	1162.5	947.9	882.1	807.5	792.4	824.6	845.5
10°	1788.1	1669.6	1537.0	1237.6	1061.5	906.5	744.1	639.8	583.2	576.4	582.2
12.5°	1837.4	1709.6	1436.5	1207.3	1023.5	883.1	701.7	544.2	421.3	430.6	406.2
15°	1871.5	1724.7	1412.6	1144.0	945.0	757.3	538.8	381.3	280.9	251.6	234.1
17.5°	2071.9	1862.2	1382.4	1070.8	835.3	589.5	338.4	220.9	188.2	178.0	169.7
20°	2329.4	2031.4	1381.9	993.8	673.4	368.6	211.1	159.9	152.1	158.0	151.6
22.5°	2628.8	2256.7	1455.5	897.7	483.2	232.6	164.3	141.9	134.1	139.0	139.5
25°	2930.1	2594.6	1515.5	806.5	336.5	178.5	146.3	130.7	121.9	126.3	123.9
27.5°	3474.3	2874.5	1501.9	690.0	247.7	157.0	136.0	122.4	109.2	116.1	115.6
30°	3830.3	3368.5	1555.0	526.6	196.5	137.5	126.8	111.7	97.5	105.3	104.8
32.5°	4255.9	3580.6	1612.6	404.2	163.4	130.2	114.1	99.5	91.2	96.1	95.1
35°	4734.3	3999.9	1506.7	336.5	141.9	117.5	100.9	89.7	82.4	84.8	84.8
37.5°	5579.3	4350.5	1443.4	274.0	132.1	106.3	94.6	80.9	76.6	76.6	79.0
40°	6059.2	4885.9	1254.2	217.0	135.1	98.0	88.3	74.1	68.3	67.8	70.2
42.5°	6683.3	5194.6	1135.7	175.5	122.4	95.6	80.9	67.3	60.5	60.0	62.4
45°	7053.4	5367.2	968.9	138.0	109.7	111.2	75.1	61.9	51.7	49.7	54.1
47.5°	7287.0	5595.9	874.3	109.7	95.6	110.7	73.1	53.6	43.4	41.0	44.9
50°	7405.5	5709.1	855.8	94.1	82.9	99.0	83.9	44.9	37.1	33.6	37.1
52.5°	7528.8	5892.9	862.6	86.8	73.1	79.5	79.5	38.5	32.7	28.8	31.2
55°	7778.0	6164.5	847.5	82.4	67.3	60.5	51.2	34.1	29.7	25.4	27.8
57.5°	8084.2	6359.5	847.5	78.5	62.4	51.7	41.0	31.7	27.3	21.9	23.9
60°	8026.2	6154.2	805.5	74.6	58.5	48.3	37.1	29.3	25.4	20.0	21.5
62.5°	7627.8	5595.9	652.4	68.8	55.1	45.8	33.6	27.8	23.9	17.6	19.0
65°	7159.7	5003.0	453.5	62.4	51.2	41.4	30.2	26.3	21.9	15.6	16.6
67.5°	6596.0	4296.4	251.6	56.1	47.3	36.1	27.8	25.8	21.0	14.1	15.1
70°	5617.9	3243.6	135.1	51.2	44.4	33.2	26.3	25.8	21.0	13.7	14.1
72.5°	4217.4	2042.6	79.0	46.8	40.5	30.7	24.9	26.3	20.5	13.2	13.2
75°	2869.6	1240.0	56.6	40.0	36.1	25.8	23.9	25.4	21.0	13.2	12.2
77.5°	1951.0	871.4	46.3	36.1	32.7	22.9	24.4	25.4	21.0	10.7	8.3
80°	1218.1	449.6	35.1	28.8	28.3	20.0	24.4	21.9	13.7	2.4	0.0
82.5°	851.9	167.3	20.5	21.9	21.9	14.1	19.0	15.6	7.8	0.0	0.0
85°	357.4	28.8	11.2	15.6	13.7	8.3	15.1	11.7	4.9	0.0	0.0
87.5°	6.3	0.0	4.4	9.3	9.8	4.9	7.8	4.9	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: P367753
 CATALOG NUMBER: MSA-SA3A-760-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8
2.5°	1061.5	1015.2	917.7	964.5	959.6	981.1	983.0	933.3	1040.6	1106.9	1116.6
5°	1018.1	986.9	981.6	954.8	947.9	987.4	966.0	964.5	1016.2	1091.8	1092.3
7.5°	846.0	822.1	833.3	802.1	721.7	726.6	733.9	764.6	809.0	858.7	876.7
10°	580.8	642.7	597.3	593.4	585.1	559.3	538.8	554.9	612.5	658.3	675.4
12.5°	414.5	424.2	452.0	441.8	455.9	434.0	425.7	475.9	532.0	578.8	612.5
15°	242.3	258.9	275.5	310.6	324.8	320.4	345.7	387.7	433.0	454.5	495.9
17.5°	170.7	172.1	175.5	213.6	238.4	248.2	263.3	295.0	313.5	323.3	340.4
20°	149.2	144.8	139.0	160.4	183.8	196.0	191.6	216.5	231.6	241.4	253.6
22.5°	135.1	127.8	124.3	131.7	149.7	160.4	162.4	177.0	199.9	206.8	210.7
25°	121.9	117.0	114.6	118.5	128.2	138.5	140.4	159.5	179.9	182.9	190.7
27.5°	113.1	103.9	104.8	107.8	112.2	124.8	128.7	139.5	169.2	172.6	175.1
30°	103.9	94.1	97.0	100.0	98.0	113.6	119.5	131.7	160.4	165.8	168.7
32.5°	94.6	87.3	86.8	89.7	93.1	101.4	114.1	128.2	154.6	161.9	169.2
35°	84.4	78.5	79.5	80.0	84.4	95.1	104.4	111.7	129.7	133.6	136.0
37.5°	77.0	72.2	71.2	76.1	80.5	88.7	92.2	95.6	119.5	128.2	128.7
40°	68.3	65.3	65.3	68.8	78.5	77.5	81.9	92.6	115.6	124.8	125.8
42.5°	61.9	58.0	59.0	62.4	69.2	64.4	73.1	88.7	114.1	123.4	122.9
45°	52.2	51.2	53.2	56.1	59.0	54.6	68.3	84.8	109.2	121.4	118.0
47.5°	43.4	43.4	45.8	48.8	47.3	48.8	61.9	79.5	106.3	117.5	115.1
50°	35.6	36.1	38.5	43.4	39.0	42.9	55.6	74.1	101.4	113.6	111.7
52.5°	30.2	30.7	32.2	35.6	33.6	39.0	51.2	68.8	96.5	106.8	105.8
55°	26.3	27.3	27.3	29.3	30.2	36.6	46.3	63.4	89.2	100.4	98.5
57.5°	23.4	24.4	23.9	25.4	26.3	32.2	41.4	57.5	81.9	91.2	88.3
60°	21.0	21.9	21.5	23.4	22.9	27.8	36.1	51.2	74.1	81.4	79.0
62.5°	18.5	19.5	19.5	20.5	21.0	23.4	31.2	45.3	66.3	72.2	70.2
65°	16.6	17.6	18.0	17.6	18.5	20.0	26.3	41.0	57.5	63.4	60.5
67.5°	15.1	16.1	17.1	15.1	16.1	16.6	22.4	36.6	50.7	55.6	53.2
70°	14.6	15.1	15.1	13.2	12.7	13.2	19.5	31.2	44.4	49.2	45.8
72.5°	13.7	14.1	13.7	10.7	9.3	10.2	16.6	26.3	37.5	41.4	38.5
75°	12.7	13.2	12.7	8.8	5.9	7.3	13.7	22.9	32.2	34.1	32.7
77.5°	10.7	11.7	11.7	6.3	2.0	4.4	10.2	18.5	26.8	26.8	27.3
80°	1.0	2.9	4.9	3.4	0.0	0.5	3.4	9.8	17.1	16.6	18.0
82.5°	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	5.9	4.4	4.9
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: P367753
 CATALOG NUMBER: MSA-SA3A-760-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8	1030.8
2.5°	1093.7	1078.6	1097.6	1155.7	1132.3	1136.6	1121.0	1217.1	1325.8	1329.3
5°	1093.2	1079.6	1107.9	1105.4	1172.2	1244.9	1315.1	1428.7	1589.6	1590.6
7.5°	868.5	949.4	970.4	964.0	1049.8	1149.8	1258.1	1475.5	1607.7	1621.8
10°	783.1	818.2	861.1	876.7	912.3	1007.4	1129.8	1376.1	1524.3	1557.0
12.5°	678.8	790.9	848.0	958.7	979.1	992.8	1185.9	1400.0	1490.2	1486.3
15°	562.2	659.7	750.0	885.0	940.6	1084.0	1236.1	1516.5	1570.1	1621.8
17.5°	397.9	471.5	610.0	751.9	921.6	1077.6	1374.6	1724.7	1826.1	1887.6
20°	266.2	301.8	427.2	614.9	829.9	985.0	1431.2	1912.9	2023.6	2076.8
22.5°	216.0	233.1	297.9	450.6	709.0	980.6	1454.1	2118.2	2415.7	2486.4
25°	190.2	201.9	236.5	333.5	588.6	961.1	1580.9	2349.4	2708.2	2765.3
27.5°	166.3	183.8	209.7	275.0	504.7	947.4	1645.2	2737.5	3165.6	3221.7
30°	159.0	180.4	205.3	250.6	446.2	894.8	1747.6	3087.6	3493.8	3593.8
32.5°	171.6	179.0	191.1	229.7	400.8	839.2	1927.6	3506.0	3765.4	3895.6
35°	136.0	149.2	170.7	210.7	381.8	836.3	2029.5	3775.2	4200.8	4281.3
37.5°	133.1	145.3	173.1	205.3	404.7	858.7	2180.6	4326.6	4985.9	5150.7
40°	129.2	144.8	171.2	202.8	404.7	880.6	2277.2	4767.9	5514.0	5681.3
42.5°	127.8	147.7	170.7	213.1	392.0	892.8	2423.0	5208.3	6071.8	6204.0
45°	126.8	150.7	172.1	225.3	389.1	932.8	2505.4	5422.3	6430.7	6582.4
47.5°	124.3	150.7	192.1	218.0	373.0	928.9	2612.2	5739.8	6644.8	6772.5
50°	122.4	151.6	217.5	204.3	375.5	905.0	2757.0	6037.7	6944.7	7035.9
52.5°	118.0	155.1	213.6	185.3	368.2	902.6	2973.0	6461.4	7339.2	7406.0
55°	108.3	150.7	193.1	161.9	342.3	874.8	3259.2	7012.5	7886.3	7898.0
57.5°	99.5	139.9	161.4	148.7	286.7	878.2	3506.0	7519.6	8373.9	8428.5
60°	90.7	145.3	125.3	138.5	237.5	815.8	3625.5	7713.7	8728.9	8808.8
62.5°	82.4	134.1	106.8	127.3	211.6	757.8	3542.6	7557.6	8774.2	8942.0
65°	73.1	93.1	90.2	114.1	214.1	676.3	3265.6	7100.7	8602.1	8833.2
67.5°	62.9	73.1	79.5	98.5	229.2	606.6	2790.6	6367.3	8139.3	8401.2
70°	55.1	65.8	69.2	86.3	238.4	560.8	2202.1	5349.7	7191.4	7433.3
72.5°	45.8	61.0	61.9	75.6	229.7	515.4	1569.2	3840.5	5460.9	5576.9
75°	39.5	50.7	56.1	63.4	193.1	384.7	864.5	2377.1	3452.8	3582.5
77.5°	35.6	38.5	42.4	43.9	81.9	200.4	297.4	1465.8	1933.4	2079.7
80°	27.3	30.2	29.3	30.2	44.9	69.2	113.1	687.1	913.3	994.7
82.5°	8.8	14.6	16.1	13.7	29.3	34.1	32.7	237.5	297.0	315.5
85°	2.0	5.4	2.4	0.0	9.8	17.6	2.4	36.1	71.2	52.7
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

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