

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: P368215

Luminaire Tested: **MSA-SA4A-730-U-SLL-HSS**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368215
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-SA4A-730-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: 10299 lumens
Efficiency: N/A
Efficacy: 79.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

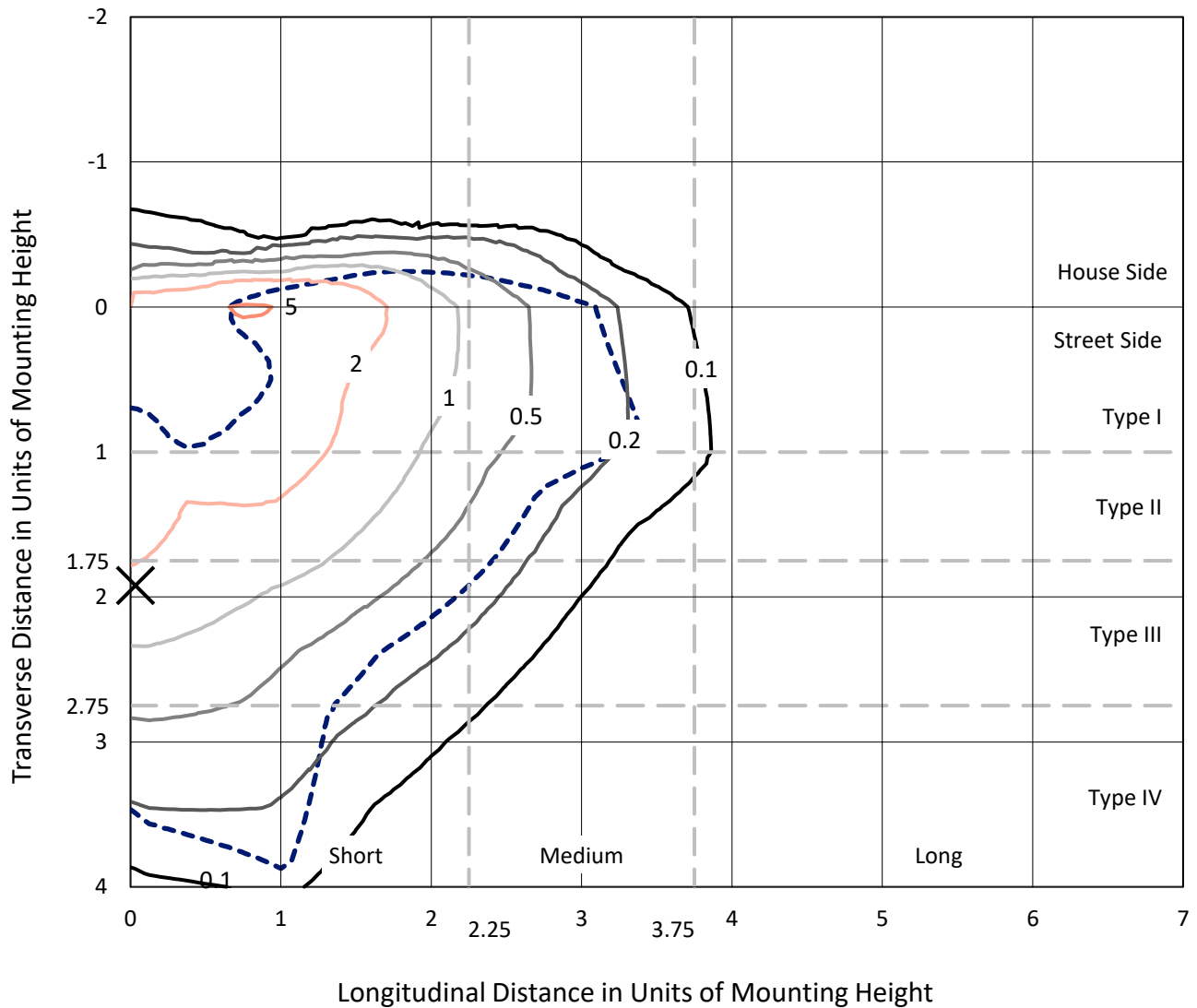
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P368215
 CATALOG NUMBER: MSA-SA4A-730-U-SLL-HSS

Iso-Footcandle Lines of Horizontal Illumination

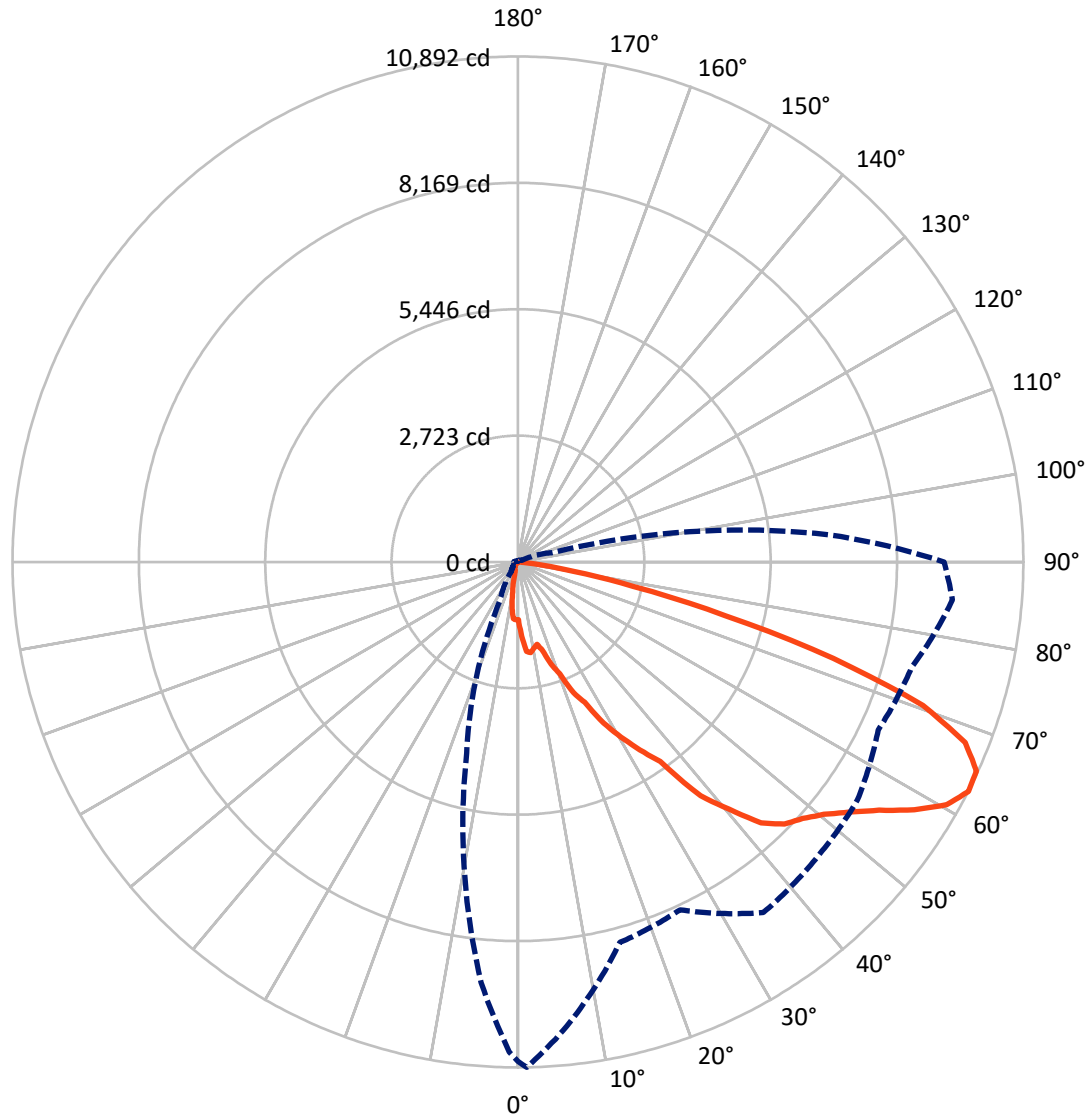
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.3 fc
 Type IV - Short - N/A

REPORT NUMBER: P368215
CATALOG NUMBER: MSA-SA4A-730-U-SLL-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P368215
 CATALOG NUMBER: MSA-SA4A-730-U-SLL-HSS

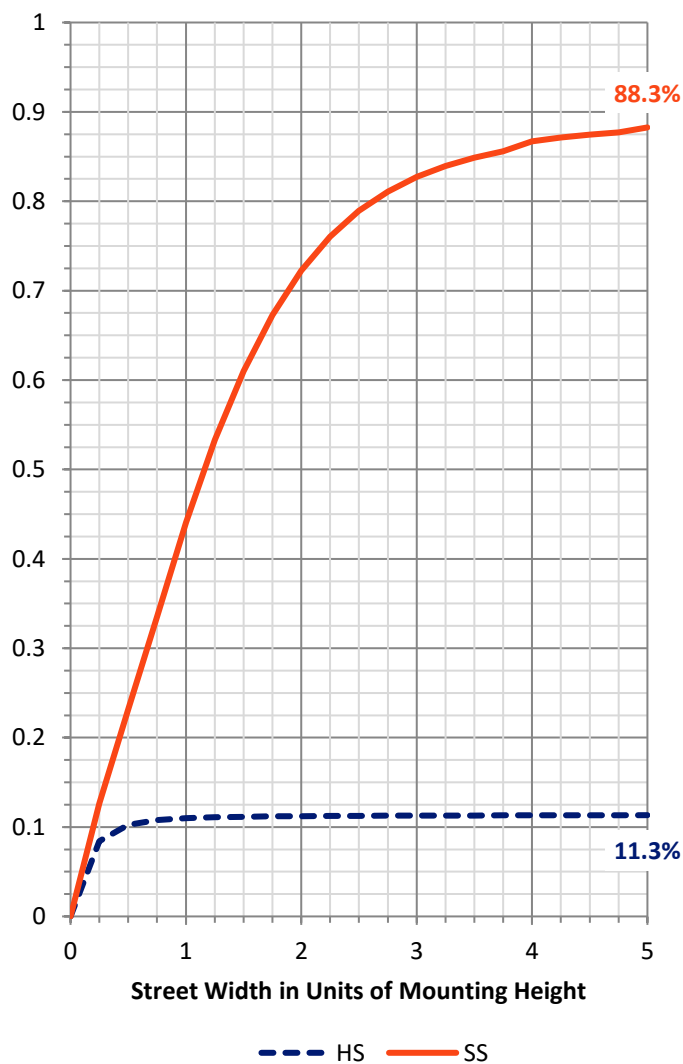
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1177.7	0.0	1177.7
	% Fixture	11.4	0.0	11.4
Street Side	Lumens	9121.3	0.0	9121.3
	% Fixture	88.6	0.0	88.6
Total	Lumens	10299.0	0.0	10299.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.6	1.3
10°-20°	362.1	3.5
20°-30°	585.3	5.7
30°-40°	980.4	9.5
40°-50°	1603.1	15.6
50°-60°	2373.0	23.0
60°-70°	2724.4	26.5
70°-80°	1347.2	13.1
80°-90°	184.9	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°	10299.0	100.0
0°-180°	10299.0	100.0

Coefficient of Utilization

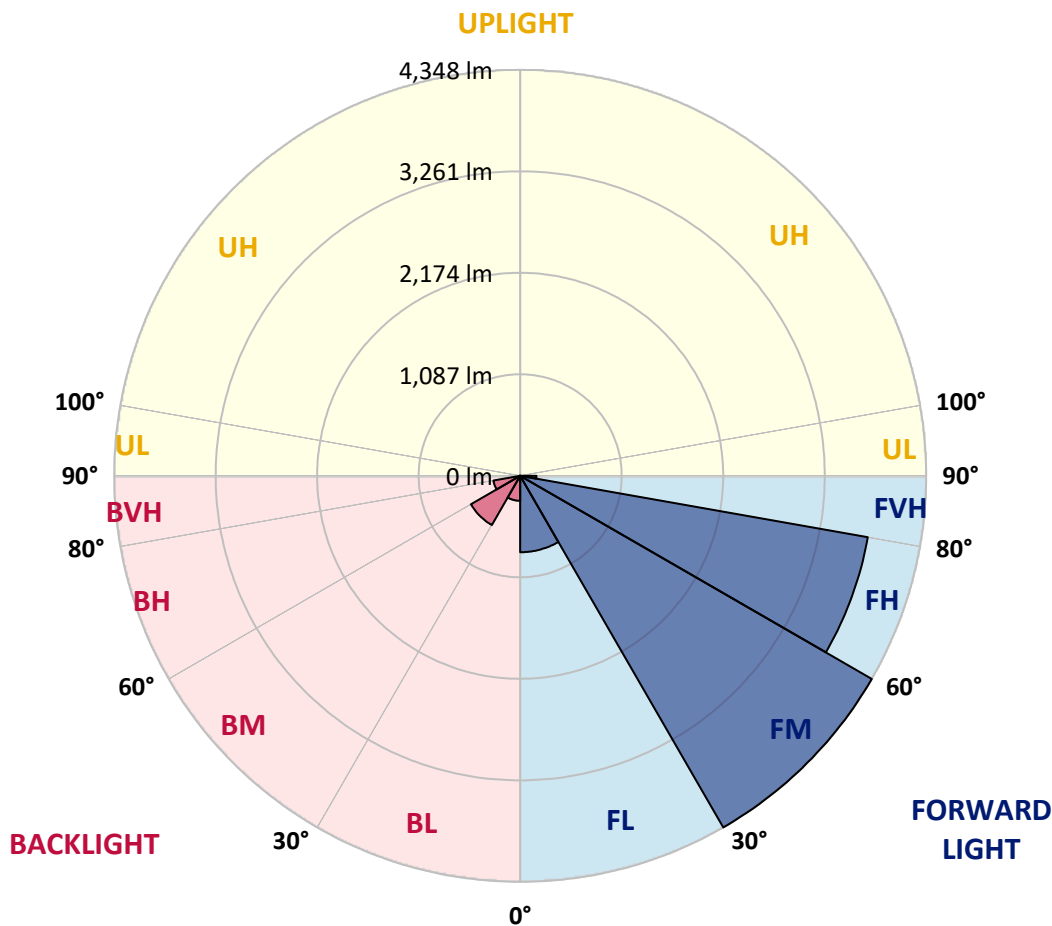


REPORT NUMBER: P368215
 CATALOG NUMBER: MSA-SA4A-730-U-SLL-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	818.0	7.9			
FM (30°-60°)	4348.2	42.2			
FH (60°-80°)	3780.4	36.7			G2/5000
FVH (80°-90°)	174.7	1.7			G2/225
BL (0°-30°)	268.0	2.6	B1/500		
BM (30°-60°)	608.3	5.9	B1/1000		
BH (60°-80°)	291.2	2.8	B1/500		G1/500
BVH (80°-90°)	10.3	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-G2
 Type IV Short





REPORT NUMBER: P368215

CATALOG NUMBER: MSA-SA4A-730-U-SLL-HSS

CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7
2.5°	1599.9	1607.5	1571.7	1567.0	1483.7	1587.5	1590.5	1602.8	1526.5	1378.6	1585.2
5°	1914.4	1935.6	1908.0	2030.6	2065.8	2141.6	2002.5	2126.9	2074.1	2088.7	2118.7
7.5°	1952.0	1973.7	2031.8	2237.2	2426.8	2379.2	2364.0	2410.9	2406.8	2298.3	2352.2
10°	1873.9	1892.1	1989.0	2362.8	2445.6	2659.2	2711.4	2603.4	2559.4	2321.7	2217.8
12.5°	1788.8	1819.4	1942.6	2391.0	2639.2	2855.2	3027.2	2873.4	2727.3	2474.3	2379.2
15°	1952.0	1969.0	2162.7	2449.7	2666.8	2815.9	2956.7	2905.7	2883.4	2701.4	2379.2
17.5°	2271.8	2311.7	2452.0	2593.5	2764.8	2854.6	2821.2	2805.3	2748.4	3034.2	2700.9
20°	2499.6	2574.1	2757.8	2818.8	2682.7	2766.6	2746.0	2732.0	2687.4	3219.1	3070.6
22.5°	2992.5	3061.2	3064.7	3086.4	2769.5	2635.7	2601.7	2605.8	2808.3	3274.2	3530.7
25°	3328.2	3351.7	3537.2	3382.2	3006.6	2675.6	2545.9	2604.0	2895.7	3671.0	3963.2
27.5°	3877.6	3933.3	4048.9	3524.3	3148.7	2650.4	2443.8	2655.1	3125.8	3802.4	4443.9
30°	4325.4	4378.8	4564.8	3718.5	3271.9	2775.4	2487.8	2757.8	3269.0	4073.0	4875.9
32.5°	4688.6	4826.6	5037.8	4018.4	3267.2	2919.2	2712.6	2723.7	3445.0	4423.4	5303.1
35°	5152.9	5281.4	5429.9	4225.0	3480.8	2965.5	2778.9	3058.3	3706.8	4789.6	5878.3
37.5°	6199.3	6393.5	6100.1	4745.6	3729.7	3384.6	3040.7	3264.3	3980.9	5163.4	6668.8
40°	6837.8	7001.6	6718.1	5011.4	4160.4	3595.9	3507.8	3622.3	4249.1	5356.5	7264.5
42.5°	7467.0	7682.9	7209.3	5411.7	4569.5	4192.1	3951.5	4043.7	4637.0	5822.5	7934.7
45°	7922.4	8056.2	7315.5	5621.2	5131.7	4871.8	4711.5	4574.2	5178.1	6121.8	8367.3
47.5°	8151.3	8258.1	7525.1	5687.5	5466.3	5590.7	5941.6	5654.7	5657.0	6338.4	8600.2
50°	8468.2	8542.7	7642.4	5766.8	5829.6	6711.1	6888.3	6277.3	6204.0	6555.5	8638.4
52.5°	8913.6	8950.0	7870.2	5975.7	6373.6	7588.5	7652.4	7405.3	6751.6	6959.3	8722.9
55°	9505.8	9441.8	8276.9	6414.7	6941.1	8231.1	8316.8	8101.4	7440.0	7362.5	8984.7
57.5°	10144.3	10071.0	8879.6	7033.3	7556.8	8722.3	8773.4	8790.4	7897.2	7719.3	9429.5
60°	10602.1	10615.6	9638.4	7742.8	7939.4	9192.4	9090.3	8935.4	8358.4	8242.2	9646.1
62.5°	10762.3	10892.0	10229.4	8486.4	8269.2	9221.8	9063.3	8932.4	8565.0	8781.6	9397.8
65°	10631.5	10858.0	10366.8	9139.6	8468.8	8853.8	8688.9	8604.9	8558.6	9001.7	8848.5
67.5°	10111.5	10394.9	9973.6	9145.5	7743.4	7538.6	7733.4	7999.3	7845.5	8819.2	8079.1
70°	8946.5	9257.0	9061.0	8609.0	6450.5	5931.1	6145.9	6547.9	6439.3	7843.7	6947.0
72.5°	6712.2	7111.3	7150.0	7432.3	5120.6	4463.9	4495.0	4483.8	4671.0	6324.9	5421.1
75°	4311.9	4622.3	5041.9	5997.4	3889.9	3259.0	2960.8	2888.1	3237.3	4942.2	3881.1
77.5°	2503.1	2540.0	2733.7	4524.9	2786.0	2348.1	2145.1	2249.0	2371.0	3449.1	2572.3
80°	1197.2	1216.0	1295.8	2328.2	1935.6	2032.4	1875.7	1992.5	1628.0	1982.5	1459.6
82.5°	379.7	383.8	397.3	1143.8	1201.9	1346.3	862.7	1156.8	1006.5	1198.4	971.9
85°	63.4	108.0	133.2	330.4	678.4	454.3	187.2	412.6	561.7	755.9	441.3
87.5°	0.0	0.0	0.0	5.9	55.2	25.8	4.1	23.5	86.3	168.4	20.0
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: P368215
 CATALOG NUMBER: MSA-SA4A-730-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7
2.5°	1645.0	1685.5	1532.9	1396.2	1430.8	1403.2	1361.6	1290.6	1126.2	1247.1	1238.9
5°	2116.9	2041.8	1835.2	1738.9	1621.6	1442.6	1420.9	1283.5	1223.1	1233.1	1224.2
7.5°	2281.2	2146.8	1964.3	1674.4	1399.1	1140.9	1061.7	971.9	953.7	992.4	1017.7
10°	2152.1	2009.5	1849.9	1489.5	1277.7	1091.0	895.6	770.0	701.9	693.7	700.7
12.5°	2211.4	2057.6	1729.0	1453.1	1231.9	1062.9	844.5	655.0	507.1	518.2	488.9
15°	2252.5	2075.8	1700.2	1376.8	1137.4	911.4	648.5	458.9	338.0	302.8	281.7
17.5°	2493.7	2241.3	1663.8	1288.8	1005.3	709.5	407.3	265.9	226.5	214.2	204.2
20°	2803.6	2445.0	1663.2	1196.1	810.5	443.7	254.1	192.5	183.1	190.2	182.5
22.5°	3163.9	2716.1	1751.9	1080.5	581.6	279.9	197.8	170.8	161.4	167.3	167.8
25°	3526.6	3122.8	1824.0	970.7	405.0	214.8	176.1	157.3	146.7	152.0	149.1
27.5°	4181.6	3459.7	1807.6	830.4	298.1	189.0	163.7	147.3	131.5	139.7	139.1
30°	4610.0	4054.2	1871.6	633.8	236.5	165.5	152.6	134.4	117.4	126.8	126.2
32.5°	5122.4	4309.5	1940.8	486.5	196.6	156.7	137.3	119.7	109.7	115.6	114.4
35°	5698.1	4814.2	1813.5	405.0	170.8	141.4	121.5	108.0	99.2	102.1	102.1
37.5°	6715.2	5236.2	1737.2	329.8	159.0	127.9	113.9	97.4	92.1	92.1	95.1
40°	7292.7	5880.6	1509.5	261.2	162.6	118.0	106.2	89.2	82.2	81.6	84.5
42.5°	8043.9	6252.1	1366.9	211.3	147.3	115.0	97.4	81.0	72.8	72.2	75.1
45°	8489.3	6459.9	1166.1	166.1	132.0	133.8	90.4	74.5	62.2	59.9	65.1
47.5°	8770.4	6735.1	1052.3	132.0	115.0	133.2	88.0	64.6	52.2	49.3	54.0
50°	8913.1	6871.3	1030.0	113.3	99.8	119.1	100.9	54.0	44.6	40.5	44.6
52.5°	9061.5	7092.5	1038.2	104.5	88.0	95.7	95.7	46.4	39.3	34.6	37.6
55°	9361.4	7419.4	1020.0	99.2	81.0	72.8	61.6	41.1	35.8	30.5	33.5
57.5°	9730.0	7654.2	1020.0	94.5	75.1	62.2	49.3	38.1	32.9	26.4	28.8
60°	9660.2	7407.1	969.5	89.8	70.4	58.1	44.6	35.2	30.5	24.1	25.8
62.5°	9180.7	6735.1	785.3	82.8	66.3	55.2	40.5	33.5	28.8	21.1	22.9
65°	8617.3	6021.5	545.8	75.1	61.6	49.9	36.4	31.7	26.4	18.8	20.0
67.5°	7938.8	5171.1	302.8	67.5	56.9	43.4	33.5	31.1	25.2	17.0	18.2
70°	6761.5	3904.0	162.6	61.6	53.4	39.9	31.7	31.1	25.2	16.4	17.0
72.5°	5076.0	2458.5	95.1	56.3	48.7	37.0	29.9	31.7	24.6	15.8	15.8
75°	3453.8	1492.5	68.1	48.1	43.4	31.1	28.8	30.5	25.2	15.8	14.7
77.5°	2348.1	1048.8	55.8	43.4	39.3	27.6	29.3	30.5	25.2	12.9	10.0
80°	1466.0	541.1	42.3	34.6	34.0	24.1	29.3	26.4	16.4	2.9	0.0
82.5°	1025.3	201.3	24.6	26.4	26.4	17.0	22.9	18.8	9.4	0.0	0.0
85°	430.2	34.6	13.5	18.8	16.4	10.0	18.2	14.1	5.9	0.0	0.0
87.5°	7.6	0.0	5.3	11.2	11.7	5.9	9.4	5.9	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: P368215
 CATALOG NUMBER: MSA-SA4A-730-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7
2.5°	1277.7	1221.9	1104.5	1160.9	1155.0	1180.8	1183.2	1123.3	1252.4	1332.2	1344.0
5°	1225.4	1187.9	1181.4	1149.1	1140.9	1188.4	1162.6	1160.9	1223.1	1314.0	1314.6
7.5°	1018.2	989.5	1003.0	965.4	868.6	874.5	883.3	920.2	973.6	1033.5	1055.2
10°	699.0	773.5	718.9	714.2	704.3	673.2	648.5	667.9	737.1	792.3	812.8
12.5°	498.9	510.6	544.0	531.7	548.7	522.3	512.4	572.8	640.3	696.6	737.1
15°	291.7	311.6	331.6	373.8	390.9	385.6	416.1	466.6	521.2	547.0	596.9
17.5°	205.4	207.2	211.3	257.1	287.0	298.7	316.9	355.1	377.4	389.1	409.6
20°	179.6	174.3	167.3	193.1	221.3	235.9	230.6	260.6	278.8	290.5	305.2
22.5°	162.6	153.8	149.7	158.5	180.2	193.1	195.4	213.0	240.6	248.8	253.5
25°	146.7	140.9	137.9	142.6	154.4	166.7	169.0	191.9	216.6	220.1	229.5
27.5°	136.2	125.0	126.2	129.7	135.0	150.2	154.9	167.8	203.6	207.8	210.7
30°	125.0	113.3	116.8	120.3	118.0	136.7	143.8	158.5	193.1	199.5	203.1
32.5°	113.9	105.1	104.5	108.0	112.1	122.1	137.3	154.4	186.0	194.8	203.6
35°	101.5	94.5	95.7	96.2	101.5	114.4	125.6	134.4	156.1	160.8	163.7
37.5°	92.7	86.9	85.7	91.6	96.8	106.8	110.9	115.0	143.8	154.4	154.9
40°	82.2	78.6	78.6	82.8	94.5	93.3	98.6	111.5	139.1	150.2	151.4
42.5°	74.5	69.8	71.0	75.1	83.3	77.5	88.0	106.8	137.3	148.5	147.9
45°	62.8	61.6	64.0	67.5	71.0	65.7	82.2	102.1	131.5	146.1	142.0
47.5°	52.2	52.2	55.2	58.7	56.9	58.7	74.5	95.7	127.9	141.4	138.5
50°	42.8	43.4	46.4	52.2	47.0	51.6	66.9	89.2	122.1	136.7	134.4
52.5°	36.4	37.0	38.7	42.8	40.5	47.0	61.6	82.8	116.2	128.5	127.4
55°	31.7	32.9	32.9	35.2	36.4	44.0	55.8	76.3	107.4	120.9	118.6
57.5°	28.2	29.3	28.8	30.5	31.7	38.7	49.9	69.3	98.6	109.7	106.2
60°	25.2	26.4	25.8	28.2	27.6	33.5	43.4	61.6	89.2	98.0	95.1
62.5°	22.3	23.5	23.5	24.6	25.2	28.2	37.6	54.6	79.8	86.9	84.5
65°	20.0	21.1	21.7	21.1	22.3	24.1	31.7	49.3	69.3	76.3	72.8
67.5°	18.2	19.4	20.5	18.2	19.4	20.0	27.0	44.0	61.0	66.9	64.0
70°	17.6	18.2	18.2	15.8	15.3	15.8	23.5	37.6	53.4	59.3	55.2
72.5°	16.4	17.0	16.4	12.9	11.2	12.3	20.0	31.7	45.2	49.9	46.4
75°	15.3	15.8	15.3	10.6	7.0	8.8	16.4	27.6	38.7	41.1	39.3
77.5°	12.9	14.1	14.1	7.6	2.3	5.3	12.3	22.3	32.3	32.3	32.9
80°	1.2	3.5	5.9	4.1	0.0	0.6	4.1	11.7	20.5	20.0	21.7
82.5°	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	7.0	5.3	5.9
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: P368215
 CATALOG NUMBER: MSA-SA4A-730-U-SLL-HSS

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7	1240.7
2.5°	1316.4	1298.2	1321.1	1390.9	1362.8	1368.0	1349.3	1464.9	1595.7	1599.9
5°	1315.8	1299.4	1333.4	1330.5	1410.9	1498.3	1582.8	1719.6	1913.3	1914.4
7.5°	1045.2	1142.7	1167.9	1160.3	1263.6	1383.9	1514.2	1775.9	1935.0	1952.0
10°	942.5	984.8	1036.4	1055.2	1098.1	1212.5	1359.8	1656.2	1834.6	1873.9
12.5°	816.9	951.9	1020.6	1153.8	1178.5	1194.9	1427.3	1685.0	1793.5	1788.8
15°	676.7	794.1	902.6	1065.2	1132.1	1304.7	1487.8	1825.2	1889.8	1952.0
17.5°	478.9	567.5	734.2	905.0	1109.2	1297.0	1654.4	2075.8	2197.9	2271.8
20°	320.4	363.3	514.1	740.1	998.9	1185.5	1722.5	2302.4	2435.6	2499.6
22.5°	260.0	280.5	358.6	542.3	853.3	1180.2	1750.1	2549.4	2907.4	2992.5
25°	228.9	243.0	284.6	401.4	708.4	1156.8	1902.7	2827.6	3259.6	3328.2
27.5°	200.1	221.3	252.4	331.0	607.4	1140.3	1980.2	3294.8	3810.1	3877.6
30°	191.3	217.1	247.1	301.7	537.0	1076.9	2103.4	3716.2	4205.0	4325.4
32.5°	206.6	215.4	230.1	276.4	482.4	1010.0	2320.0	4219.7	4531.9	4688.6
35°	163.7	179.6	205.4	253.5	459.5	1006.5	2442.6	4543.7	5056.0	5152.9
37.5°	160.2	174.9	208.3	247.1	487.1	1033.5	2624.6	5207.5	6000.9	6199.3
40°	155.5	174.3	206.0	244.1	487.1	1059.9	2740.8	5738.6	6636.5	6837.8
42.5°	153.8	177.8	205.4	256.5	471.9	1074.6	2916.2	6268.5	7307.9	7467.0
45°	152.6	181.3	207.2	271.1	468.3	1122.7	3015.4	6526.2	7739.9	7922.4
47.5°	149.7	181.3	231.2	262.3	449.0	1118.0	3144.0	6908.2	7997.5	8151.3
50°	147.3	182.5	261.8	245.9	451.9	1089.3	3318.3	7266.8	8358.4	8468.2
52.5°	142.0	186.6	257.1	223.0	443.1	1086.3	3578.3	7776.8	8833.2	8913.6
55°	130.3	181.3	232.4	194.8	412.0	1052.9	3922.8	8440.0	9491.7	9505.8
57.5°	119.7	168.4	194.3	179.0	345.1	1057.0	4219.7	9050.4	10078.6	10144.3
60°	109.2	174.9	150.8	166.7	285.8	981.9	4363.5	9284.0	10505.9	10602.1
62.5°	99.2	161.4	128.5	153.2	254.7	912.0	4263.7	9096.2	10560.4	10762.3
65°	88.0	112.1	108.6	137.3	257.6	814.0	3930.4	8546.3	10353.3	10631.5
67.5°	75.7	88.0	95.7	118.6	275.8	730.1	3358.8	7663.6	9796.3	10111.5
70°	66.3	79.2	83.3	103.9	287.0	674.9	2650.4	6438.7	8655.4	8946.5
72.5°	55.2	73.4	74.5	91.0	276.4	620.3	1888.6	4622.3	6572.6	6712.2
75°	47.5	61.0	67.5	76.3	232.4	463.1	1040.6	2861.1	4155.7	4311.9
77.5°	42.8	46.4	51.1	52.8	98.6	241.2	358.0	1764.2	2327.0	2503.1
80°	32.9	36.4	35.2	36.4	54.0	83.3	136.2	826.9	1099.2	1197.2
82.5°	10.6	17.6	19.4	16.4	35.2	41.1	39.3	285.8	357.4	379.7
85°	2.3	6.5	2.9	0.0	11.7	21.1	2.9	43.4	85.7	63.4
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)