

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: P596771

Luminaire Tested: **MSA-SA4B-827-U-SLL-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596771  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-25)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA4B-827-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: 10419 lumens  
Efficiency: N/A  
Efficacy: 60.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

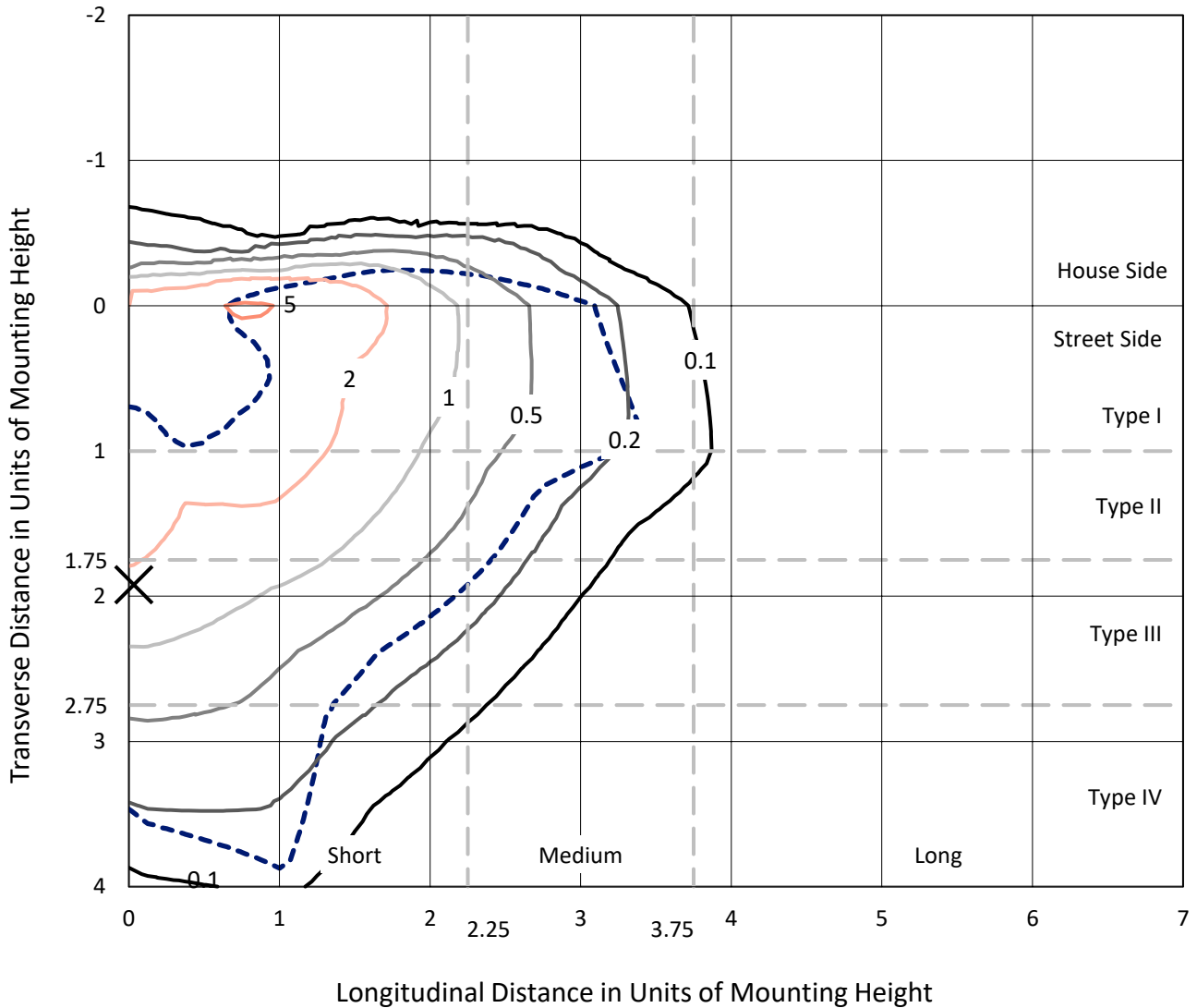
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

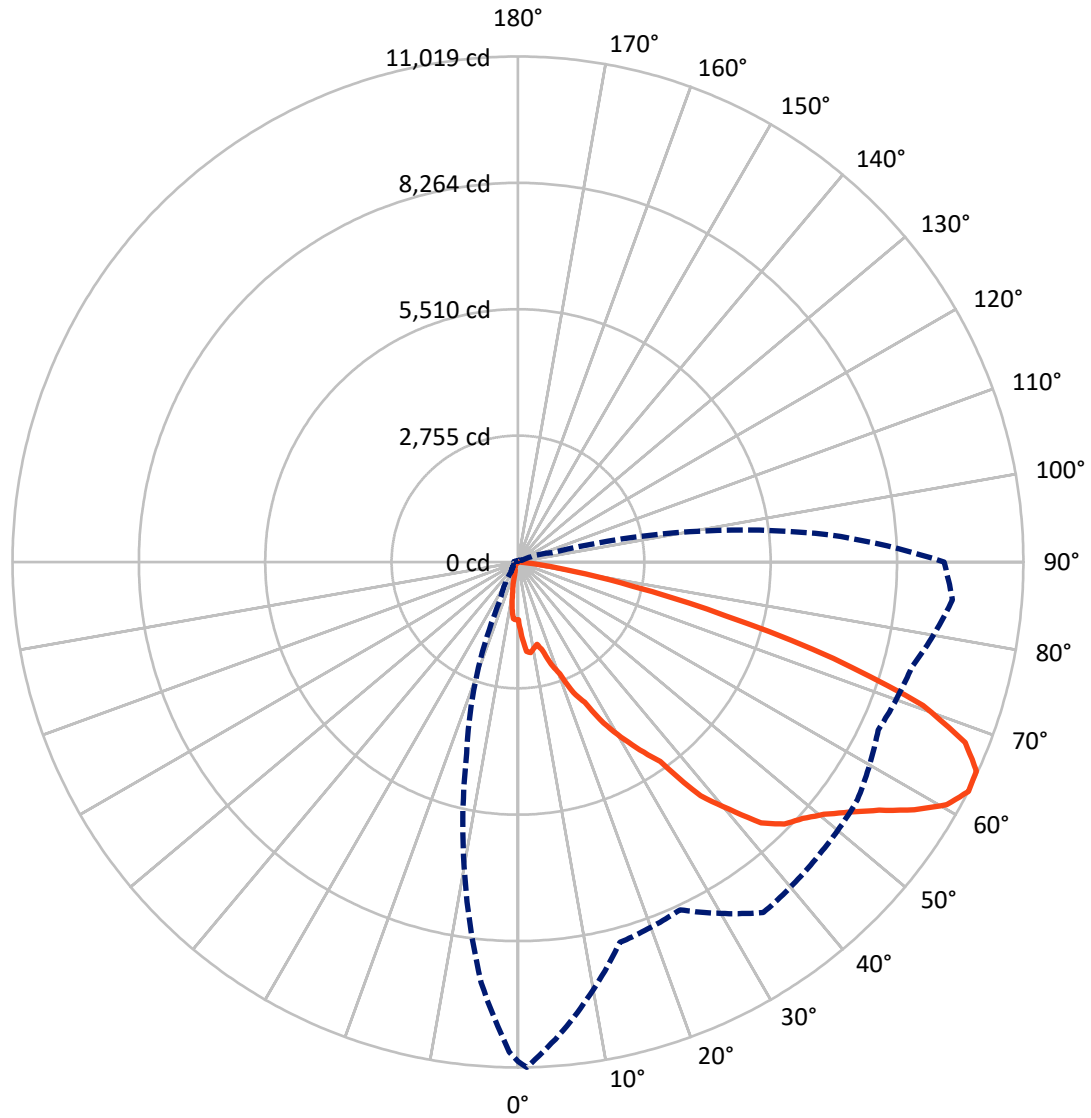
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.4 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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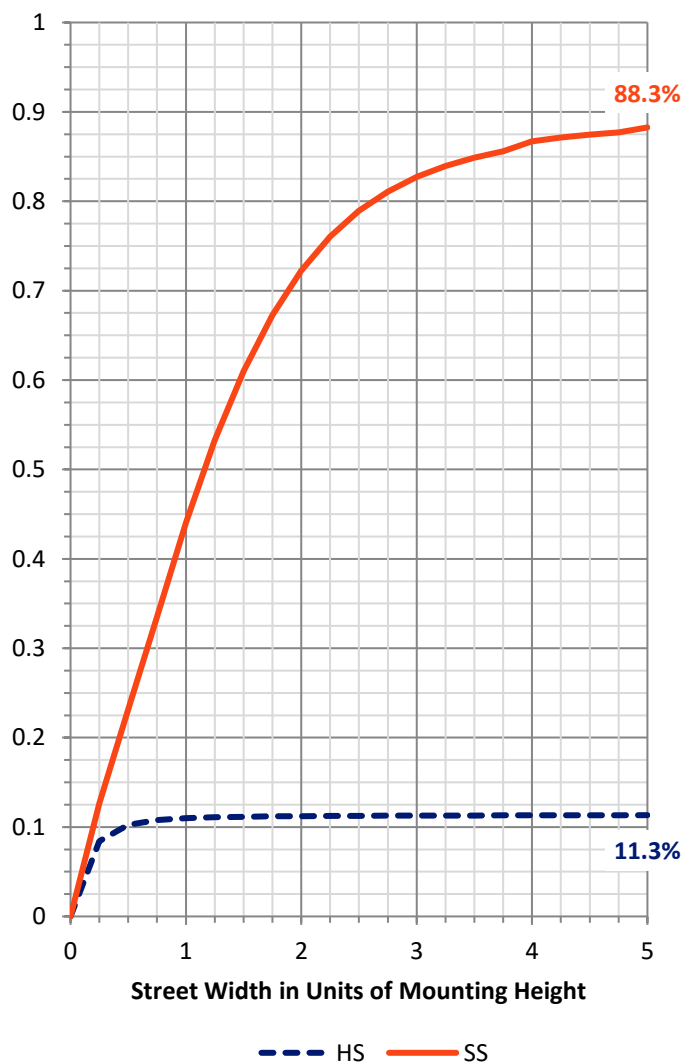
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1191.4	0.0	1191.4
	% Fixture	11.4	0.0	11.4
<b>Street Side</b>	Lumens	9227.5	0.0	9227.5
	% Fixture	88.6	0.0	88.6
<b>Total</b>	Lumens	10419.0	0.0	10419.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.2	1.3
10°-20°	366.3	3.5
20°-30°	592.1	5.7
30°-40°	991.8	9.5
40°-50°	1621.8	15.6
50°-60°	2400.7	23.0
60°-70°	2756.1	26.5
70°-80°	1362.9	13.1
80°-90°	187.1	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°	10419.0	100.0
0°-180°	10419.0	100.0

**Coefficient of Utilization**



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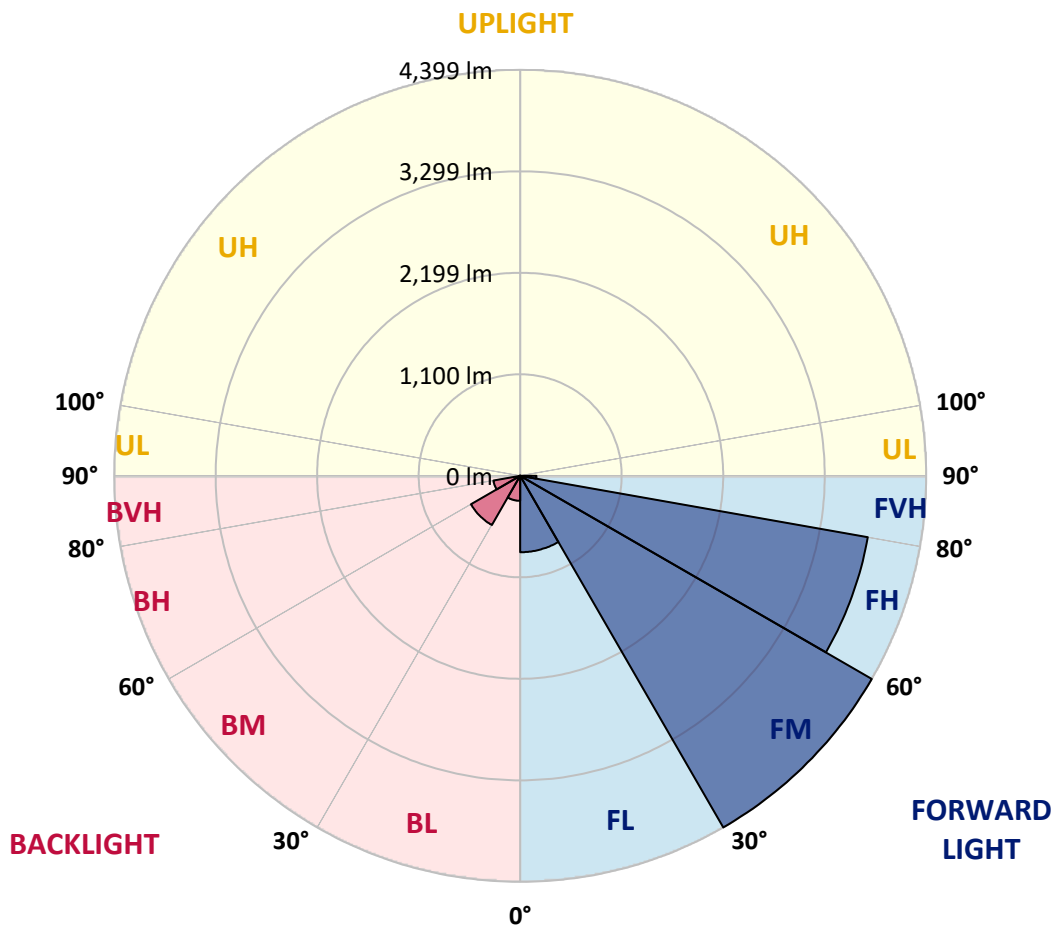
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	827.6	7.9			
FM (30°-60°)	4398.8	42.2			
FH (60°-80°)	3824.4	36.7			G2/5000
FVH (80°-90°)	176.7	1.7			G2/225
BL (0°-30°)	271.1	2.6	B1/500		
BM (30°-60°)	615.4	5.9	B1/1000		
BH (60°-80°)	294.6	2.8	B1/500		G1/500
BVH (80°-90°)	10.4	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





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1
2.5°	1618.5	1626.2	1590.0	1585.2	1500.9	1606.0	1609.0	1621.5	1544.3	1394.7	1603.7
5°	1936.7	1958.1	1930.2	2054.3	2089.9	2166.5	2025.8	2151.7	2098.2	2113.1	2143.3
7.5°	1974.7	1996.7	2055.5	2263.3	2455.1	2407.0	2391.5	2439.0	2434.9	2325.0	2379.7
10°	1895.8	1914.2	2012.1	2390.3	2474.1	2690.2	2743.0	2633.8	2589.2	2348.8	2243.7
12.5°	1809.7	1840.5	1965.2	2418.8	2670.0	2888.5	3062.4	2906.9	2759.0	2503.1	2407.0
15°	1974.7	1991.9	2187.9	2478.2	2697.9	2848.7	2991.2	2939.5	2917.0	2732.9	2407.0
17.5°	2298.3	2338.7	2480.6	2623.7	2797.0	2887.9	2854.0	2838.0	2780.4	3069.6	2732.3
20°	2528.7	2604.1	2789.9	2851.7	2713.9	2798.8	2778.0	2763.8	2718.7	3256.6	3106.4
22.5°	3027.4	3096.9	3100.4	3122.4	2801.8	2666.4	2632.0	2636.1	2841.0	3312.4	3571.9
25°	3367.0	3390.8	3578.4	3421.6	3041.7	2706.8	2575.6	2634.4	2929.4	3713.8	4009.4
27.5°	3922.7	3979.1	4096.1	3565.3	3185.3	2681.3	2472.3	2686.0	3162.2	3846.7	4495.7
30°	4375.8	4429.8	4618.0	3761.8	3310.0	2807.7	2516.8	2789.9	3307.1	4120.5	4932.7
32.5°	4743.3	4882.8	5096.5	4065.2	3305.3	2953.2	2744.2	2755.5	3485.2	4474.9	5364.9
35°	5212.9	5342.9	5493.1	4274.2	3521.4	3000.1	2811.3	3093.9	3750.0	4845.4	5946.8
37.5°	6271.5	6468.0	6171.2	4800.9	3773.1	3424.0	3076.1	3302.3	4027.2	5223.6	6746.5
40°	6917.5	7083.1	6796.4	5069.8	4208.9	3637.8	3548.7	3664.5	4298.6	5418.9	7349.1
42.5°	7554.0	7772.5	7293.3	5474.7	4622.7	4241.0	3997.6	4090.8	4691.0	5890.3	8027.2
45°	8014.7	8150.1	7400.8	5686.7	5191.5	4928.5	4766.4	4627.5	5238.4	6193.1	8464.7
47.5°	8246.3	8354.3	7612.7	5753.8	5530.0	5655.8	6010.9	5720.5	5722.9	6412.2	8700.5
50°	8566.9	8642.3	7731.5	5833.9	5897.5	6789.3	6968.6	6350.5	6276.3	6631.9	8739.0
52.5°	9017.5	9054.3	7961.9	6045.3	6447.9	7676.9	7741.6	7491.6	6830.2	7040.4	8824.5
55°	9616.6	9551.9	8373.3	6489.4	7022.0	8327.0	8413.7	8195.8	7526.7	7448.3	9089.3
57.5°	10262.5	10188.3	8983.1	7115.2	7644.8	8823.9	8875.6	8892.8	7989.2	7809.3	9539.4
60°	10725.6	10739.3	9750.8	7833.0	8031.9	9299.5	9196.2	9039.5	8455.8	8338.3	9758.5
62.5°	10887.7	11019.0	10348.6	8585.3	8365.6	9329.2	9168.9	9036.5	8664.8	8883.9	9507.3
65°	10755.3	10984.5	10487.6	9246.1	8567.5	8956.9	8790.1	8705.2	8658.3	9106.6	8951.6
67.5°	10229.3	10516.1	10089.8	9252.0	7833.6	7626.4	7823.5	8092.5	7936.9	8921.9	8173.2
70°	9050.8	9364.8	9166.5	8709.4	6525.6	6000.2	6217.5	6624.2	6514.4	7935.1	7027.9
72.5°	6790.4	7194.2	7233.4	7518.9	5180.3	4515.9	4547.3	4536.1	4725.5	6398.6	5484.2
75°	4362.1	4676.2	5100.7	6067.3	3935.2	3297.0	2995.3	2921.7	3275.0	4999.8	3926.3
77.5°	2532.2	2569.6	2765.6	4577.6	2818.4	2375.5	2170.1	2275.2	2398.7	3489.3	2602.3
80°	1211.2	1230.2	1310.9	2355.3	1958.1	2056.1	1897.5	2015.7	1647.0	2005.6	1476.6
82.5°	384.1	388.3	402.0	1157.2	1215.9	1362.0	872.8	1170.2	1018.2	1212.4	983.2
85°	64.1	109.2	134.8	334.3	686.3	459.5	189.4	417.4	568.2	764.7	446.5
87.5°	0.0	0.0	0.0	5.9	55.8	26.1	4.2	23.7	87.3	170.4	20.2
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°	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1
2.5°	1664.2	1705.2	1550.8	1412.5	1447.5	1419.6	1377.4	1305.6	1139.4	1261.7	1253.4
5°	2141.6	2065.6	1856.6	1759.2	1640.5	1459.4	1437.4	1298.5	1237.3	1247.4	1238.5
7.5°	2307.8	2171.8	1987.2	1693.9	1415.4	1154.2	1074.0	983.2	964.8	1004.0	1029.5
10°	2177.2	2032.9	1871.4	1506.9	1292.5	1103.7	906.0	779.0	710.1	701.8	708.9
12.5°	2237.2	2081.6	1749.1	1470.1	1246.2	1075.2	854.4	662.6	513.0	524.3	494.6
15°	2278.7	2100.0	1720.0	1392.9	1150.6	922.1	656.1	464.3	342.0	306.4	285.0
17.5°	2522.7	2267.4	1683.2	1303.8	1017.1	717.8	412.0	269.0	229.2	216.7	206.6
20°	2836.2	2473.5	1682.6	1210.0	819.9	448.9	257.1	194.7	185.2	192.4	184.6
22.5°	3200.8	2747.8	1772.3	1093.0	588.4	283.2	200.1	172.8	163.3	169.2	169.8
25°	3567.7	3159.2	1845.3	982.0	409.7	217.3	178.1	159.1	148.4	153.8	150.8
27.5°	4230.3	3500.0	1828.7	840.1	301.6	191.2	165.6	149.0	133.0	141.3	140.7
30°	4663.7	4101.5	1893.4	641.2	239.3	167.4	154.4	136.0	118.7	128.2	127.7
32.5°	5182.0	4359.7	1963.4	492.2	198.9	158.5	138.9	121.1	111.0	117.0	115.8
35°	5764.5	4870.3	1834.6	409.7	172.8	143.1	122.9	109.2	100.3	103.3	103.3
37.5°	6793.4	5297.2	1757.4	333.7	160.9	129.4	115.2	98.6	93.2	93.2	96.2
40°	7377.6	5949.1	1527.1	264.2	164.5	119.3	107.5	90.2	83.1	82.5	85.5
42.5°	8137.6	6325.0	1382.8	213.7	149.0	116.4	98.6	81.9	73.6	73.0	76.0
45°	8588.2	6535.1	1179.7	168.0	133.6	135.4	91.4	75.4	62.9	60.6	65.9
47.5°	8872.6	6813.6	1064.5	133.6	116.4	134.8	89.1	65.3	52.8	49.9	54.6
50°	9016.9	6951.3	1042.0	114.6	100.9	120.5	102.1	54.6	45.1	41.0	45.1
52.5°	9167.1	7175.2	1050.3	105.7	89.1	96.8	96.8	46.9	39.8	35.0	38.0
55°	9470.5	7505.9	1031.9	100.3	81.9	73.6	62.3	41.6	36.2	30.9	33.8
57.5°	9843.4	7743.4	1031.9	95.6	76.0	62.9	49.9	38.6	33.2	26.7	29.1
60°	9772.7	7493.4	980.8	90.8	71.2	58.8	45.1	35.6	30.9	24.3	26.1
62.5°	9287.6	6813.6	794.4	83.7	67.1	55.8	41.0	33.8	29.1	21.4	23.2
65°	8717.7	6091.6	552.2	76.0	62.3	50.5	36.8	32.1	26.7	19.0	20.2
67.5°	8031.3	5231.3	306.4	68.3	57.6	43.9	33.8	31.5	25.5	17.2	18.4
70°	6840.3	3949.5	164.5	62.3	54.0	40.4	32.1	31.5	25.5	16.6	17.2
72.5°	5135.1	2487.1	96.2	57.0	49.3	37.4	30.3	32.1	24.9	16.0	16.0
75°	3494.1	1509.8	68.9	48.7	43.9	31.5	29.1	30.9	25.5	16.0	14.8
77.5°	2375.5	1061.0	56.4	43.9	39.8	27.9	29.7	30.9	25.5	13.1	10.1
80°	1483.1	547.4	42.7	35.0	34.4	24.3	29.7	26.7	16.6	3.0	0.0
82.5°	1037.2	203.6	24.9	26.7	26.7	17.2	23.2	19.0	9.5	0.0	0.0
85°	435.2	35.0	13.7	19.0	16.6	10.1	18.4	14.2	5.9	0.0	0.0
87.5°	7.7	0.0	5.3	11.3	11.9	5.9	9.5	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





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**CANDELA DISTRIBUTION (continued):**

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1
2.5°	1292.5	1236.1	1117.4	1174.4	1168.5	1194.6	1197.0	1136.4	1267.0	1347.8	1359.6
5°	1239.7	1201.7	1195.2	1162.5	1154.2	1202.3	1176.2	1174.4	1237.3	1329.4	1329.9
7.5°	1030.1	1001.0	1014.7	976.7	878.7	884.7	893.6	931.0	985.0	1045.6	1067.5
10°	707.1	782.5	727.3	722.6	712.5	681.0	656.1	675.7	745.7	801.5	822.3
12.5°	504.7	516.5	550.4	537.9	555.1	528.4	518.3	579.5	647.8	704.8	745.7
15°	295.1	315.3	335.5	378.2	395.4	390.1	421.0	472.0	527.2	553.4	603.8
17.5°	207.8	209.6	213.7	260.1	290.3	302.2	320.6	359.2	381.8	393.6	414.4
20°	181.7	176.3	169.2	195.3	223.8	238.7	233.3	263.6	282.0	293.9	308.7
22.5°	164.5	155.6	151.4	160.3	182.3	195.3	197.7	215.5	243.4	251.7	256.5
25°	148.4	142.5	139.5	144.3	156.1	168.6	171.0	194.1	219.1	222.6	232.1
27.5°	137.7	126.5	127.7	131.2	136.6	152.0	156.7	169.8	206.0	210.2	213.1
30°	126.5	114.6	118.2	121.7	119.3	138.3	145.5	160.3	195.3	201.9	205.4
32.5°	115.2	106.3	105.7	109.2	113.4	123.5	138.9	156.1	188.2	197.1	206.0
35°	102.7	95.6	96.8	97.4	102.7	115.8	127.1	136.0	157.9	162.7	165.6
37.5°	93.8	87.9	86.7	92.6	98.0	108.1	112.2	116.4	145.5	156.1	156.7
40°	83.1	79.6	79.6	83.7	95.6	94.4	99.7	112.8	140.7	152.0	153.2
42.5°	75.4	70.7	71.8	76.0	84.3	78.4	89.1	108.1	138.9	150.2	149.6
45°	63.5	62.3	64.7	68.3	71.8	66.5	83.1	103.3	133.0	147.8	143.7
47.5°	52.8	52.8	55.8	59.4	57.6	59.4	75.4	96.8	129.4	143.1	140.1
50°	43.3	43.9	46.9	52.8	47.5	52.2	67.7	90.2	123.5	138.3	136.0
52.5°	36.8	37.4	39.2	43.3	41.0	47.5	62.3	83.7	117.6	130.0	128.8
55°	32.1	33.2	33.2	35.6	36.8	44.5	56.4	77.2	108.7	122.3	119.9
57.5°	28.5	29.7	29.1	30.9	32.1	39.2	50.5	70.1	99.7	111.0	107.5
60°	25.5	26.7	26.1	28.5	27.9	33.8	43.9	62.3	90.2	99.2	96.2
62.5°	22.6	23.7	23.7	24.9	25.5	28.5	38.0	55.2	80.7	87.9	85.5
65°	20.2	21.4	22.0	21.4	22.6	24.3	32.1	49.9	70.1	77.2	73.6
67.5°	18.4	19.6	20.8	18.4	19.6	20.2	27.3	44.5	61.7	67.7	64.7
70°	17.8	18.4	18.4	16.0	15.4	16.0	23.7	38.0	54.0	60.0	55.8
72.5°	16.6	17.2	16.6	13.1	11.3	12.5	20.2	32.1	45.7	50.5	46.9
75°	15.4	16.0	15.4	10.7	7.1	8.9	16.6	27.9	39.2	41.6	39.8
77.5°	13.1	14.2	14.2	7.7	2.4	5.3	12.5	22.6	32.7	32.7	33.2
80°	1.2	3.6	5.9	4.2	0.0	0.6	4.2	11.9	20.8	20.2	22.0
82.5°	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	7.1	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: P596771  
 CATALOG NUMBER: MSA-SA4B-827-U-SLL-HSS

**CANDELA DISTRIBUTION (continued):**

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1	1255.1
2.5°	1331.7	1313.3	1336.5	1407.1	1378.6	1384.0	1365.0	1481.9	1614.3	1618.5
5°	1331.1	1314.5	1348.9	1346.0	1427.3	1515.8	1601.3	1739.6	1935.5	1936.7
7.5°	1057.4	1156.0	1181.5	1173.8	1278.3	1400.0	1531.8	1796.6	1957.5	1974.7
10°	953.5	996.3	1048.5	1067.5	1110.9	1226.6	1375.7	1675.5	1856.0	1895.8
12.5°	826.5	963.0	1032.5	1167.3	1192.2	1208.8	1443.9	1704.6	1814.4	1809.7
15°	684.6	803.3	913.1	1077.6	1145.3	1319.9	1505.1	1846.5	1911.8	1974.7
17.5°	484.5	574.1	742.8	915.5	1122.1	1312.1	1673.7	2100.0	2223.5	2298.3
20°	324.2	367.5	520.1	748.7	1010.5	1199.3	1742.6	2329.2	2464.0	2528.7
22.5°	263.0	283.8	362.8	548.6	863.3	1194.0	1770.5	2579.1	2941.3	3027.4
25°	231.6	245.8	288.0	406.1	716.6	1170.2	1924.9	2860.6	3297.6	3367.0
27.5°	202.5	223.8	255.3	334.9	614.5	1153.6	2003.2	3333.2	3854.5	3922.7
30°	193.6	219.7	250.0	305.2	543.3	1089.5	2127.9	3759.5	4254.0	4375.8
32.5°	209.0	217.9	232.7	279.6	488.0	1021.8	2347.0	4268.9	4584.7	4743.3
35°	165.6	181.7	207.8	256.5	464.9	1018.2	2471.1	4596.6	5114.9	5212.9
37.5°	162.1	176.9	210.8	250.0	492.8	1045.6	2655.1	5268.1	6070.8	6271.5
40°	157.3	176.3	208.4	247.0	492.8	1072.3	2772.7	5805.4	6713.8	6917.5
42.5°	155.6	179.9	207.8	259.5	477.4	1087.1	2950.2	6341.6	7393.1	7554.0
45°	154.4	183.5	209.6	274.3	473.8	1135.8	3050.6	6602.2	7830.1	8014.7
47.5°	151.4	183.5	233.9	265.4	454.2	1131.0	3180.6	6988.7	8090.7	8246.3
50°	149.0	184.6	264.8	248.8	457.2	1102.0	3356.9	7351.5	8455.8	8566.9
52.5°	143.7	188.8	260.1	225.6	448.3	1099.0	3619.9	7867.5	8936.2	9017.5
55°	131.8	183.5	235.1	197.1	416.8	1065.1	3968.5	8538.4	9602.3	9616.6
57.5°	121.1	170.4	196.5	181.1	349.1	1069.3	4268.9	9155.8	10196.0	10262.5
60°	110.4	176.9	152.6	168.6	289.1	993.3	4414.3	9392.1	10628.3	10725.6
62.5°	100.3	163.3	130.0	155.0	257.7	922.6	4313.4	9202.2	10683.5	10887.7
65°	89.1	113.4	109.8	138.9	260.6	823.5	3976.2	8645.8	10473.9	10755.3
67.5°	76.6	89.1	96.8	119.9	279.1	738.6	3397.9	7752.9	9910.5	10229.3
70°	67.1	80.2	84.3	105.1	290.3	682.8	2681.3	6513.8	8756.3	9050.8
72.5°	55.8	74.2	75.4	92.0	279.6	627.6	1910.6	4676.2	6649.1	6790.4
75°	48.1	61.7	68.3	77.2	235.1	468.4	1052.7	2894.4	4204.2	4362.1
77.5°	43.3	46.9	51.7	53.4	99.7	244.0	362.2	1784.7	2354.1	2532.2
80°	33.2	36.8	35.6	36.8	54.6	84.3	137.7	836.6	1112.0	1211.2
82.5°	10.7	17.8	19.6	16.6	35.6	41.6	39.8	289.1	361.6	384.1
85°	2.4	6.5	3.0	0.0	11.9	21.4	3.0	43.9	86.7	64.1
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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