

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: P596507

Luminaire Tested: **MSA-SA1B-827-U-SLL-HSS**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P596507  
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-SA1B-827-U-SLL-HSS  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

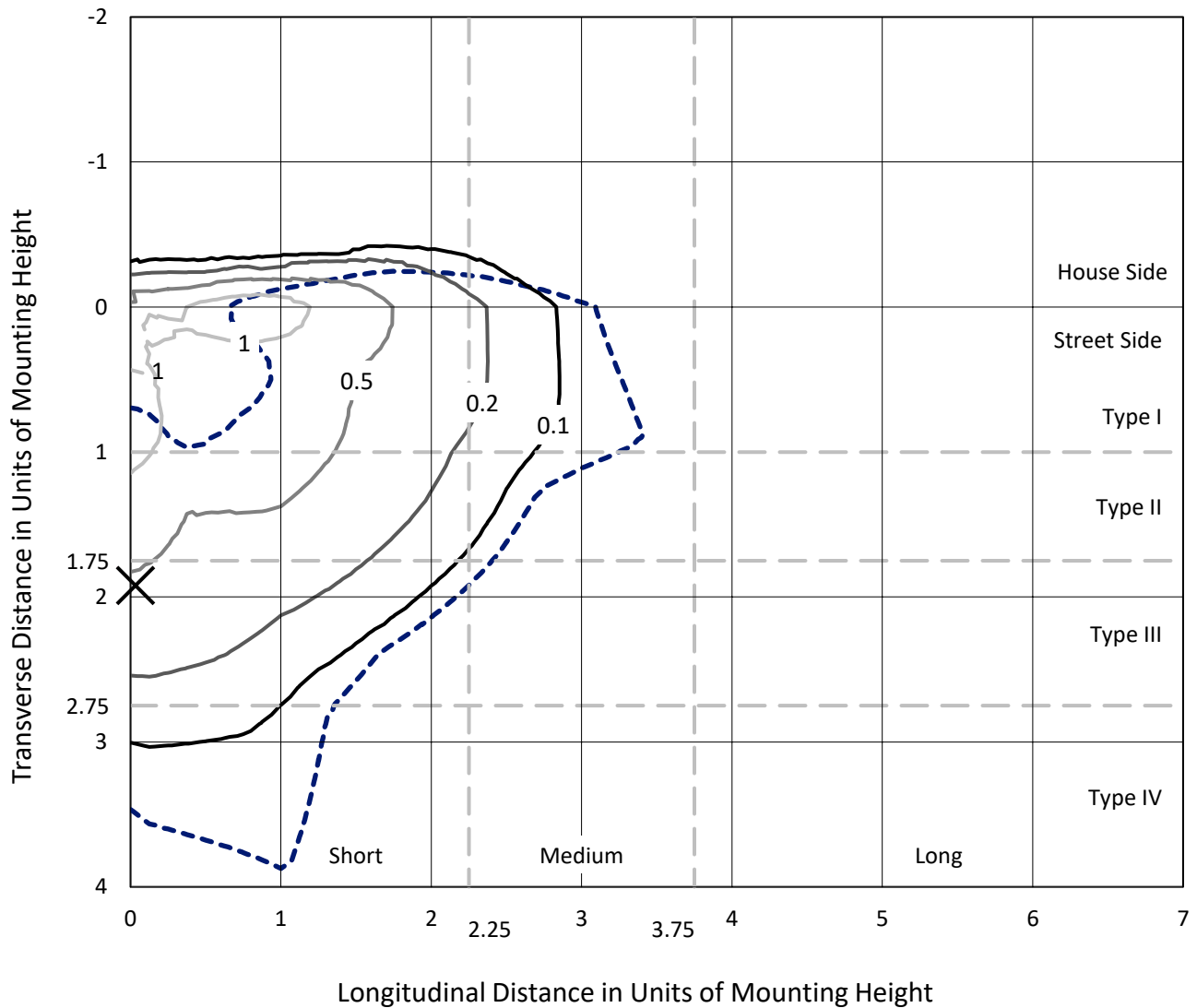
Lumens per Lamp: N/A  
Luminaire Lumens: 2716 lumens  
Efficiency: N/A  
Efficacy: 61.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G1  
  
Input Watts (W): 44  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: P596507  
 CATALOG NUMBER: MSA-SA1B-827-U-SLL-HSS

### Iso-Footcandle Lines of Horizontal Illumination

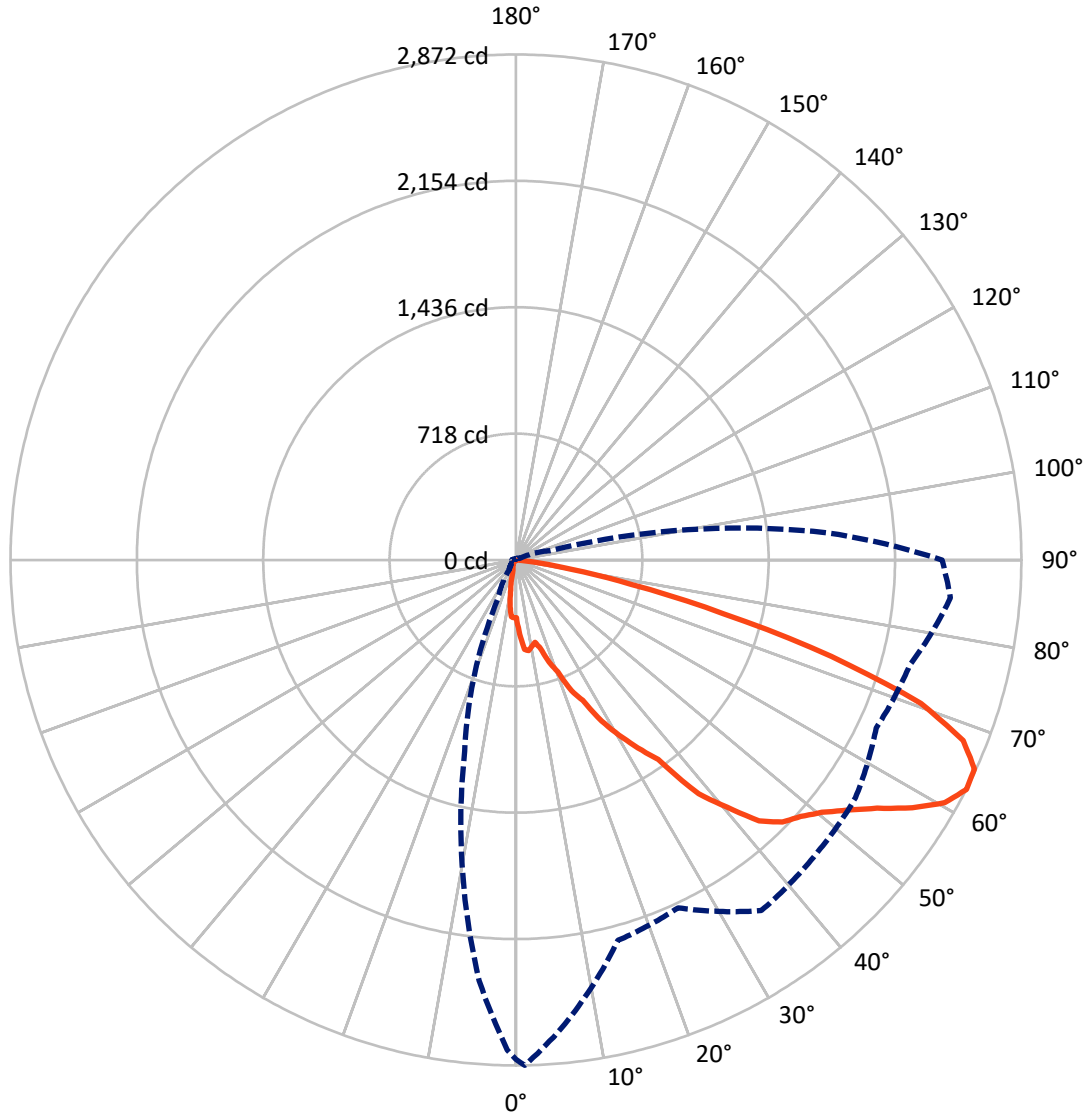
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 fc  
 Type IV - Short - N/A

REPORT NUMBER: P596507  
CATALOG NUMBER: MSA-SA1B-827-U-SLL-HSS

### Luminous Intensity Polar Plot



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

REPORT NUMBER: P596507  
 CATALOG NUMBER: MSA-SA1B-827-U-SLL-HSS

**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	310.6	0.0	310.6
	% Fixture	11.4	0.0	11.4
<b>Street Side</b>	Lumens	2405.4	0.0	2405.4
	% Fixture	88.6	0.0	88.6
<b>Total</b>	Lumens	2716.0	0.0	2716.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	36.6	1.3
10°-20°	95.5	3.5
20°-30°	154.4	5.7
30°-40°	258.5	9.5
40°-50°	422.8	15.6
50°-60°	625.8	23.0
60°-70°	718.5	26.5
70°-80°	355.3	13.1
80°-90°	48.8	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°	2716.0	100.0
0°-180°	2716.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P596507

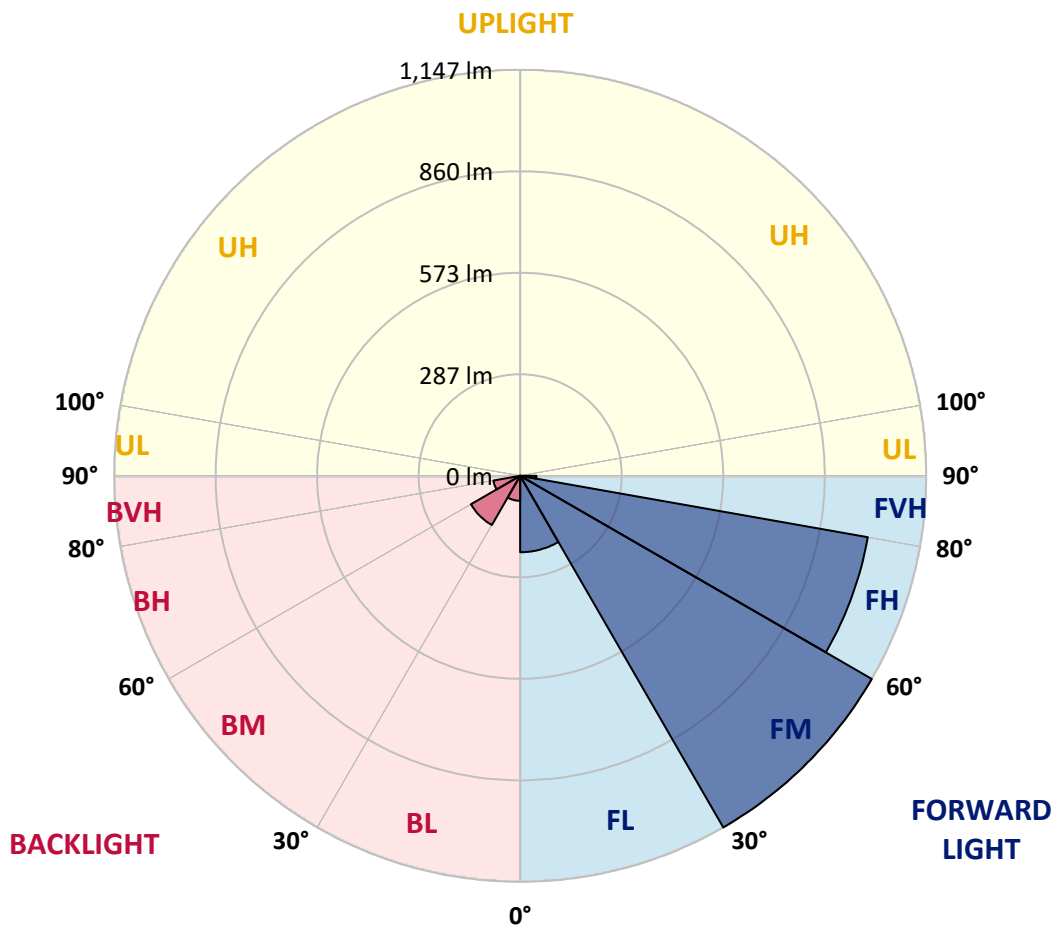
CATALOG NUMBER: MSA-SA1B-827-U-SLL-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	215.7	7.9			
FM (30°-60°)	1146.7	42.2			
FH (60°-80°)	996.9	36.7			G1/1800
FVH (80°-90°)	46.1	1.7			G1/100
BL (0°-30°)	70.7	2.6	B0/110		
BM (30°-60°)	160.4	5.9	B0/220		
BH (60°-80°)	76.8	2.8	B0/110		G0/110
BVH (80°-90°)	2.7	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type IV Short





REPORT NUMBER: P596507

CATALOG NUMBER: MSA-SA1B-827-U-SLL-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2
2.5°	421.9	423.9	414.5	413.2	391.3	418.7	419.4	422.7	402.6	363.6	418.0
5°	504.9	510.4	503.2	535.5	544.8	564.8	528.1	560.9	547.0	550.8	558.7
7.5°	514.8	520.5	535.8	590.0	640.0	627.4	623.4	635.8	634.7	606.1	620.3
10°	494.2	499.0	524.5	623.1	644.9	701.3	715.0	686.6	675.0	612.3	584.9
12.5°	471.7	479.8	512.3	630.5	696.0	753.0	798.3	757.8	719.2	652.5	627.4
15°	514.8	519.3	570.3	646.0	703.3	742.6	779.7	766.3	760.4	712.4	627.4
17.5°	599.1	609.6	646.6	683.9	729.1	752.8	744.0	739.8	724.8	800.2	712.3
20°	659.2	678.8	727.3	743.4	707.5	729.6	724.2	720.5	708.7	848.9	809.8
22.5°	789.2	807.3	808.2	813.9	730.4	695.1	686.1	687.2	740.6	863.5	931.1
25°	877.7	883.9	932.8	891.9	792.9	705.6	671.4	686.7	763.6	968.1	1045.2
27.5°	1022.6	1037.3	1067.8	929.4	830.3	698.9	644.5	700.2	824.3	1002.8	1171.9
30°	1140.7	1154.7	1203.8	980.6	862.8	731.9	656.1	727.3	862.1	1074.1	1285.8
32.5°	1236.5	1272.8	1328.6	1059.7	861.6	769.8	715.4	718.3	908.5	1166.5	1398.5
35°	1358.9	1392.8	1431.9	1114.2	917.9	782.1	732.8	806.5	977.5	1263.1	1550.2
37.5°	1634.8	1686.1	1608.7	1251.5	983.6	892.6	801.9	860.8	1049.8	1361.7	1758.7
40°	1803.2	1846.4	1771.7	1321.6	1097.2	948.3	925.1	955.2	1120.5	1412.6	1915.8
42.5°	1969.2	2026.1	1901.2	1427.1	1205.0	1105.5	1042.1	1066.4	1222.8	1535.5	2092.5
45°	2089.3	2124.5	1929.2	1482.4	1353.3	1284.8	1242.5	1206.3	1365.5	1614.4	2206.6
47.5°	2149.6	2177.8	1984.5	1499.9	1441.5	1474.3	1566.9	1491.2	1491.8	1671.5	2268.0
50°	2233.2	2252.8	2015.4	1520.8	1537.3	1769.8	1816.5	1655.4	1636.1	1728.8	2278.1
52.5°	2350.7	2360.3	2075.5	1575.9	1680.8	2001.2	2018.1	1952.9	1780.5	1835.3	2300.4
55°	2506.8	2490.0	2182.7	1691.6	1830.5	2170.7	2193.3	2136.5	1962.0	1941.6	2369.4
57.5°	2675.2	2655.9	2341.7	1854.8	1992.8	2300.2	2313.7	2318.2	2082.6	2035.7	2486.7
60°	2795.9	2799.5	2541.8	2041.9	2093.7	2424.2	2397.2	2356.4	2204.2	2173.6	2543.8
62.5°	2838.2	2872.4	2697.7	2238.0	2180.7	2431.9	2390.1	2355.6	2258.7	2315.8	2478.3
65°	2803.7	2863.4	2733.9	2410.2	2233.3	2334.9	2291.4	2269.3	2257.0	2373.9	2333.5
67.5°	2666.5	2741.3	2630.2	2411.8	2042.0	1988.0	2039.4	2109.5	2069.0	2325.7	2130.6
70°	2359.3	2441.2	2389.5	2270.3	1701.1	1564.1	1620.8	1726.8	1698.1	2068.5	1832.0
72.5°	1770.1	1875.4	1885.6	1960.0	1350.4	1177.2	1185.4	1182.4	1231.8	1668.0	1429.6
75°	1137.1	1219.0	1329.6	1581.6	1025.8	859.4	780.8	761.6	853.7	1303.3	1023.5
77.5°	660.1	669.8	720.9	1193.3	734.7	619.2	565.7	593.1	625.3	909.6	678.4
80°	315.7	320.7	341.7	614.0	510.4	536.0	494.6	525.4	429.3	522.8	384.9
82.5°	100.1	101.2	104.8	301.6	317.0	355.0	227.5	305.1	265.4	316.0	256.3
85°	16.7	28.5	35.1	87.1	178.9	119.8	49.4	108.8	148.1	199.3	116.4
87.5°	0.0	0.0	0.0	1.5	14.5	6.8	1.1	6.2	22.8	44.4	5.3
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: P596507  
 CATALOG NUMBER: MSA-SA1B-827-U-SLL-HSS

**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2
2.5°	433.8	444.5	404.3	368.2	377.3	370.1	359.1	340.3	297.0	328.9	326.7
5°	558.3	538.4	484.0	458.6	427.6	380.4	374.7	338.5	322.5	325.2	322.9
7.5°	601.6	566.2	518.0	441.6	369.0	300.9	280.0	256.3	251.5	261.7	268.4
10°	567.5	529.9	487.8	392.8	336.9	287.7	236.2	203.1	185.1	182.9	184.8
12.5°	583.2	542.6	456.0	383.2	324.9	280.3	222.7	172.7	133.7	136.7	128.9
15°	594.0	547.4	448.4	363.1	299.9	240.4	171.0	121.0	89.1	79.9	74.3
17.5°	657.6	591.1	438.8	339.9	265.1	187.1	107.4	70.1	59.7	56.5	53.9
20°	739.3	644.8	438.6	315.4	213.7	117.0	67.0	50.8	48.3	50.1	48.1
22.5°	834.4	716.3	462.0	284.9	153.4	73.8	52.2	45.0	42.6	44.1	44.3
25°	930.0	823.5	481.0	256.0	106.8	56.6	46.4	41.5	38.7	40.1	39.3
27.5°	1102.7	912.4	476.7	219.0	78.6	49.8	43.2	38.8	34.7	36.8	36.7
30°	1215.7	1069.2	493.6	167.2	62.4	43.6	40.2	35.4	31.0	33.4	33.3
32.5°	1350.8	1136.5	511.8	128.3	51.8	41.3	36.2	31.6	28.9	30.5	30.2
35°	1502.7	1269.6	478.2	106.8	45.0	37.3	32.0	28.5	26.2	26.9	26.9
37.5°	1770.9	1380.9	458.1	87.0	41.9	33.7	30.0	25.7	24.3	24.3	25.1
40°	1923.2	1550.8	398.1	68.9	42.9	31.1	28.0	23.5	21.7	21.5	22.3
42.5°	2121.3	1648.8	360.5	55.7	38.8	30.3	25.7	21.4	19.2	19.0	19.8
45°	2238.8	1703.6	307.5	43.8	34.8	35.3	23.8	19.7	16.4	15.8	17.2
47.5°	2312.9	1776.2	277.5	34.8	30.3	35.1	23.2	17.0	13.8	13.0	14.2
50°	2350.5	1812.1	271.6	29.9	26.3	31.4	26.6	14.2	11.8	10.7	11.8
52.5°	2389.7	1870.4	273.8	27.5	23.2	25.2	25.2	12.2	10.4	9.1	9.9
55°	2468.8	1956.6	269.0	26.2	21.4	19.2	16.3	10.8	9.4	8.0	8.8
57.5°	2565.9	2018.5	269.0	24.9	19.8	16.4	13.0	10.1	8.7	7.0	7.6
60°	2547.5	1953.4	255.7	23.7	18.6	15.3	11.8	9.3	8.0	6.3	6.8
62.5°	2421.1	1776.2	207.1	21.8	17.5	14.5	10.7	8.8	7.6	5.6	6.0
65°	2272.5	1587.9	143.9	19.8	16.3	13.2	9.6	8.4	7.0	5.0	5.3
67.5°	2093.6	1363.7	79.9	17.8	15.0	11.5	8.8	8.2	6.7	4.5	4.8
70°	1783.1	1029.5	42.9	16.3	14.1	10.5	8.4	8.2	6.7	4.3	4.5
72.5°	1338.6	648.3	25.1	14.9	12.8	9.8	7.9	8.4	6.5	4.2	4.2
75°	910.8	393.6	18.0	12.7	11.5	8.2	7.6	8.0	6.7	4.2	3.9
77.5°	619.2	276.6	14.7	11.5	10.4	7.3	7.7	8.0	6.7	3.4	2.6
80°	386.6	142.7	11.1	9.1	9.0	6.3	7.7	7.0	4.3	0.8	0.0
82.5°	270.4	53.1	6.5	7.0	7.0	4.5	6.0	5.0	2.5	0.0	0.0
85°	113.4	9.1	3.6	5.0	4.3	2.6	4.8	3.7	1.5	0.0	0.0
87.5°	2.0	0.0	1.4	2.9	3.1	1.5	2.5	1.5	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: P596507  
 CATALOG NUMBER: MSA-SA1B-827-U-SLL-HSS

**CANDELA DISTRIBUTION (continued):**

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2
2.5°	336.9	322.2	291.3	306.1	304.6	311.4	312.0	296.2	330.3	351.3	354.4
5°	323.2	313.3	311.6	303.0	300.9	313.4	306.6	306.1	322.5	346.5	346.7
7.5°	268.5	260.9	264.5	254.6	229.1	230.6	232.9	242.7	256.8	272.6	278.3
10°	184.3	204.0	189.6	188.4	185.7	177.5	171.0	176.1	194.4	208.9	214.4
12.5°	131.6	134.7	143.5	140.2	144.7	137.7	135.1	151.1	168.9	183.7	194.4
15°	76.9	82.2	87.4	98.6	103.1	101.7	109.7	123.0	137.4	144.2	157.4
17.5°	54.2	54.6	55.7	67.8	75.7	78.8	83.6	93.6	99.5	102.6	108.0
20°	47.4	46.0	44.1	50.9	58.3	62.2	60.8	68.7	73.5	76.6	80.5
22.5°	42.9	40.5	39.5	41.8	47.5	50.9	51.5	56.2	63.5	65.6	66.9
25°	38.7	37.1	36.4	37.6	40.7	44.0	44.6	50.6	57.1	58.0	60.5
27.5°	35.9	33.0	33.3	34.2	35.6	39.6	40.9	44.3	53.7	54.8	55.6
30°	33.0	29.9	30.8	31.7	31.1	36.1	37.9	41.8	50.9	52.6	53.6
32.5°	30.0	27.7	27.5	28.5	29.6	32.2	36.2	40.7	49.1	51.4	53.7
35°	26.8	24.9	25.2	25.4	26.8	30.2	33.1	35.4	41.2	42.4	43.2
37.5°	24.5	22.9	22.6	24.1	25.5	28.2	29.3	30.3	37.9	40.7	40.9
40°	21.7	20.7	20.7	21.8	24.9	24.6	26.0	29.4	36.7	39.6	39.9
42.5°	19.7	18.4	18.7	19.8	22.0	20.4	23.2	28.2	36.2	39.2	39.0
45°	16.6	16.3	16.9	17.8	18.7	17.3	21.7	26.9	34.7	38.5	37.5
47.5°	13.8	13.8	14.5	15.5	15.0	15.5	19.7	25.2	33.7	37.3	36.5
50°	11.3	11.5	12.2	13.8	12.4	13.6	17.6	23.5	32.2	36.1	35.4
52.5°	9.6	9.8	10.2	11.3	10.7	12.4	16.3	21.8	30.6	33.9	33.6
55°	8.4	8.7	8.7	9.3	9.6	11.6	14.7	20.1	28.3	31.9	31.3
57.5°	7.4	7.7	7.6	8.0	8.4	10.2	13.2	18.3	26.0	28.9	28.0
60°	6.7	7.0	6.8	7.4	7.3	8.8	11.5	16.3	23.5	25.8	25.1
62.5°	5.9	6.2	6.2	6.5	6.7	7.4	9.9	14.4	21.0	22.9	22.3
65°	5.3	5.6	5.7	5.6	5.9	6.3	8.4	13.0	18.3	20.1	19.2
67.5°	4.8	5.1	5.4	4.8	5.1	5.3	7.1	11.6	16.1	17.6	16.9
70°	4.6	4.8	4.8	4.2	4.0	4.2	6.2	9.9	14.1	15.6	14.5
72.5°	4.3	4.5	4.3	3.4	2.9	3.3	5.3	8.4	11.9	13.2	12.2
75°	4.0	4.2	4.0	2.8	1.9	2.3	4.3	7.3	10.2	10.8	10.4
77.5°	3.4	3.7	3.7	2.0	0.6	1.4	3.3	5.9	8.5	8.5	8.7
80°	0.3	0.9	1.5	1.1	0.0	0.2	1.1	3.1	5.4	5.3	5.7
82.5°	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.9	1.4	1.5
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: P596507  
 CATALOG NUMBER: MSA-SA1B-827-U-SLL-HSS

**CANDELA DISTRIBUTION (continued):**

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2	327.2
2.5°	347.2	342.4	348.4	366.8	359.4	360.8	355.8	386.3	420.8	421.9
5°	347.0	342.7	351.6	350.9	372.1	395.1	417.4	453.5	504.6	504.9
7.5°	275.6	301.3	308.0	306.0	333.2	364.9	399.3	468.3	510.3	514.8
10°	248.6	259.7	273.3	278.3	289.6	319.8	358.6	436.8	483.8	494.2
12.5°	215.4	251.0	269.1	304.3	310.8	315.1	376.4	444.3	473.0	471.7
15°	178.5	209.4	238.0	280.9	298.6	344.1	392.3	481.3	498.4	514.8
17.5°	126.3	149.7	193.6	238.7	292.5	342.0	436.3	547.4	579.6	599.1
20°	84.5	95.8	135.6	195.2	263.4	312.6	454.3	607.2	642.3	659.2
22.5°	68.6	74.0	94.6	143.0	225.0	311.2	461.5	672.3	766.7	789.2
25°	60.4	64.1	75.1	105.9	186.8	305.1	501.8	745.7	859.6	877.7
27.5°	52.8	58.3	66.6	87.3	160.2	300.7	522.2	868.9	1004.8	1022.6
30°	50.5	57.3	65.2	79.6	141.6	284.0	554.7	980.0	1108.9	1140.7
32.5°	54.5	56.8	60.7	72.9	127.2	266.4	611.8	1112.8	1195.1	1236.5
35°	43.2	47.4	54.2	66.9	121.2	265.4	644.2	1198.2	1333.4	1358.9
37.5°	42.3	46.1	54.9	65.2	128.5	272.6	692.1	1373.3	1582.5	1634.8
40°	41.0	46.0	54.3	64.4	128.5	279.5	722.8	1513.4	1750.1	1803.2
42.5°	40.5	46.9	54.2	67.6	124.4	283.4	769.1	1653.1	1927.2	1969.2
45°	40.2	47.8	54.6	71.5	123.5	296.1	795.2	1721.1	2041.1	2089.3
47.5°	39.5	47.8	61.0	69.2	118.4	294.8	829.1	1821.8	2109.1	2149.6
50°	38.8	48.1	69.0	64.8	119.2	287.3	875.1	1916.4	2204.2	2233.2
52.5°	37.5	49.2	67.8	58.8	116.9	286.5	943.6	2050.9	2329.5	2350.7
55°	34.4	47.8	61.3	51.4	108.6	277.7	1034.5	2225.8	2503.1	2506.8
57.5°	31.6	44.4	51.2	47.2	91.0	278.7	1112.8	2386.7	2657.9	2675.2
60°	28.8	46.1	39.8	44.0	75.4	258.9	1150.7	2448.3	2770.6	2795.9
62.5°	26.2	42.6	33.9	40.4	67.2	240.5	1124.4	2398.8	2784.9	2838.2
65°	23.2	29.6	28.6	36.2	67.9	214.7	1036.5	2253.8	2730.3	2803.7
67.5°	20.0	23.2	25.2	31.3	72.7	192.5	885.8	2021.0	2583.4	2666.5
70°	17.5	20.9	22.0	27.4	75.7	178.0	698.9	1698.0	2282.6	2359.3
72.5°	14.5	19.3	19.7	24.0	72.9	163.6	498.1	1219.0	1733.3	1770.1
75°	12.5	16.1	17.8	20.1	61.3	122.1	274.4	754.5	1095.9	1137.1
77.5°	11.3	12.2	13.5	13.9	26.0	63.6	94.4	465.2	613.7	660.1
80°	8.7	9.6	9.3	9.6	14.2	22.0	35.9	218.1	289.9	315.7
82.5°	2.8	4.6	5.1	4.3	9.3	10.8	10.4	75.4	94.3	100.1
85°	0.6	1.7	0.8	0.0	3.1	5.6	0.8	11.5	22.6	16.7
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

(END OF REPORT)