

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: P597080

Luminaire Tested: **MSA-SA3D-835-U-SLL**

Issue Date: 5/27/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P597080  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)  
Test Lab: INNOVATIONS CENTER  
Issue Date: 5/27/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3D-835-U-SLL  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT ELIMINATOR LEFT OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14057 lumens  
Efficiency: N/A  
Efficacy: 73.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B2 - U0 - G3

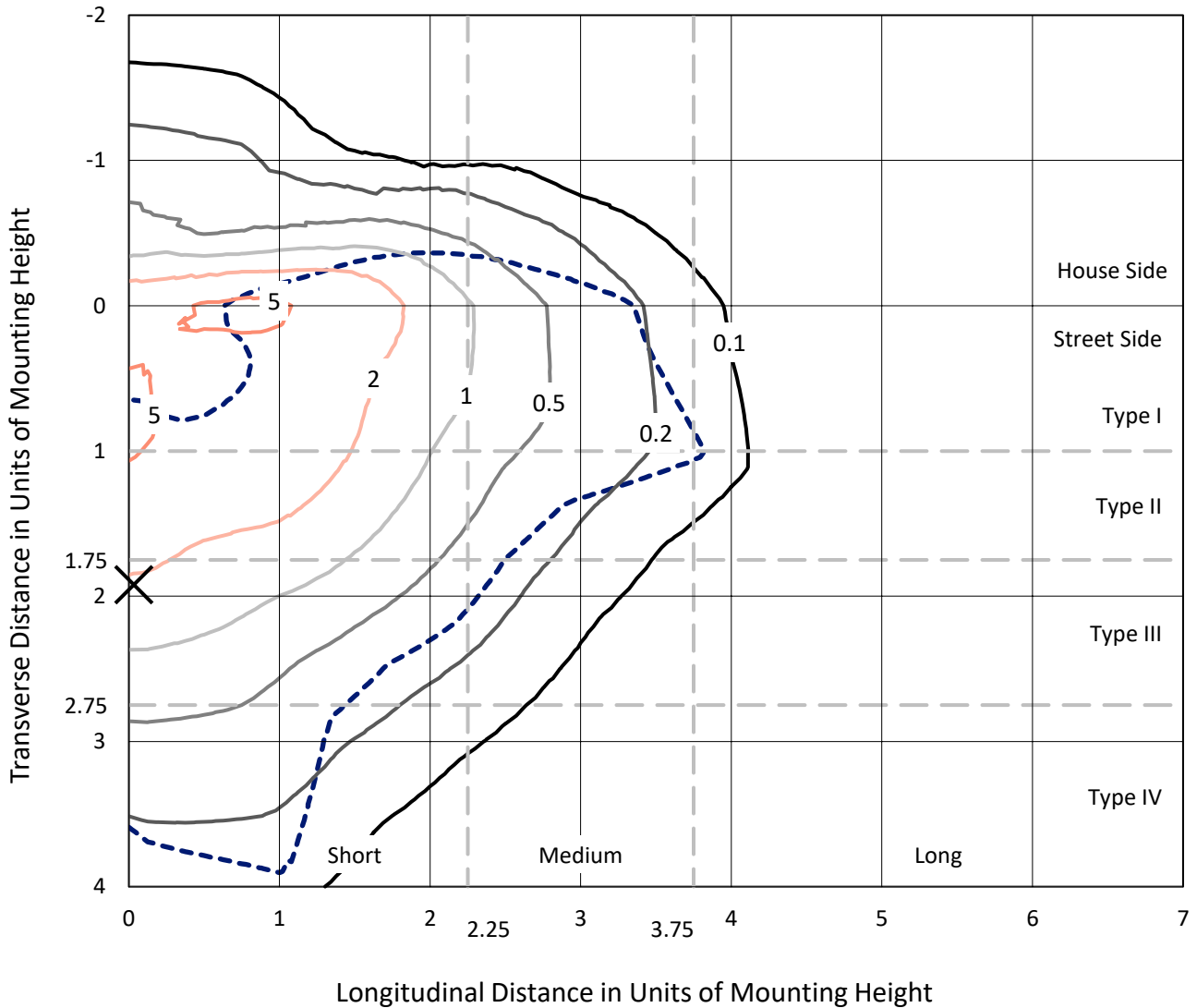
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

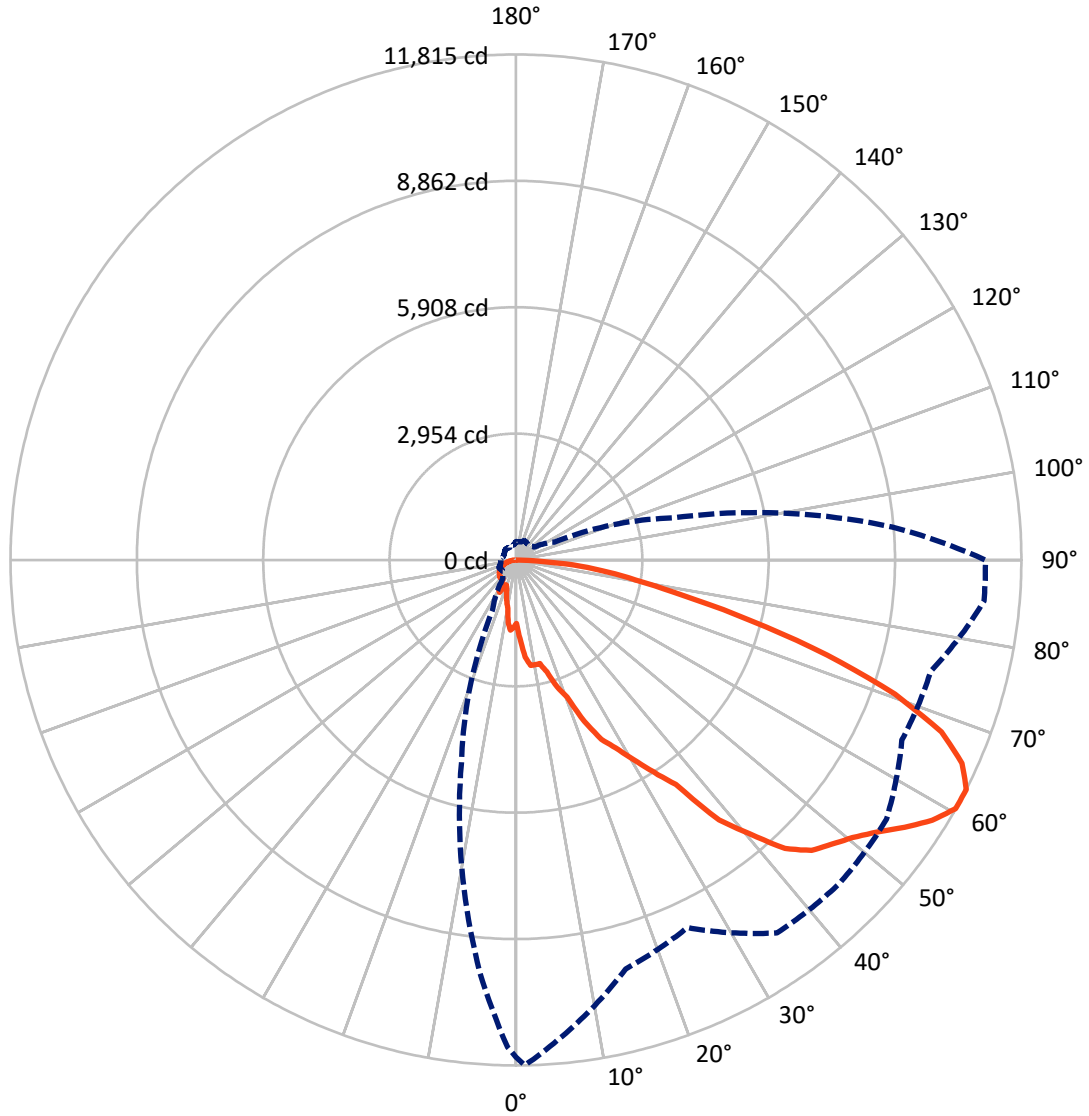
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6 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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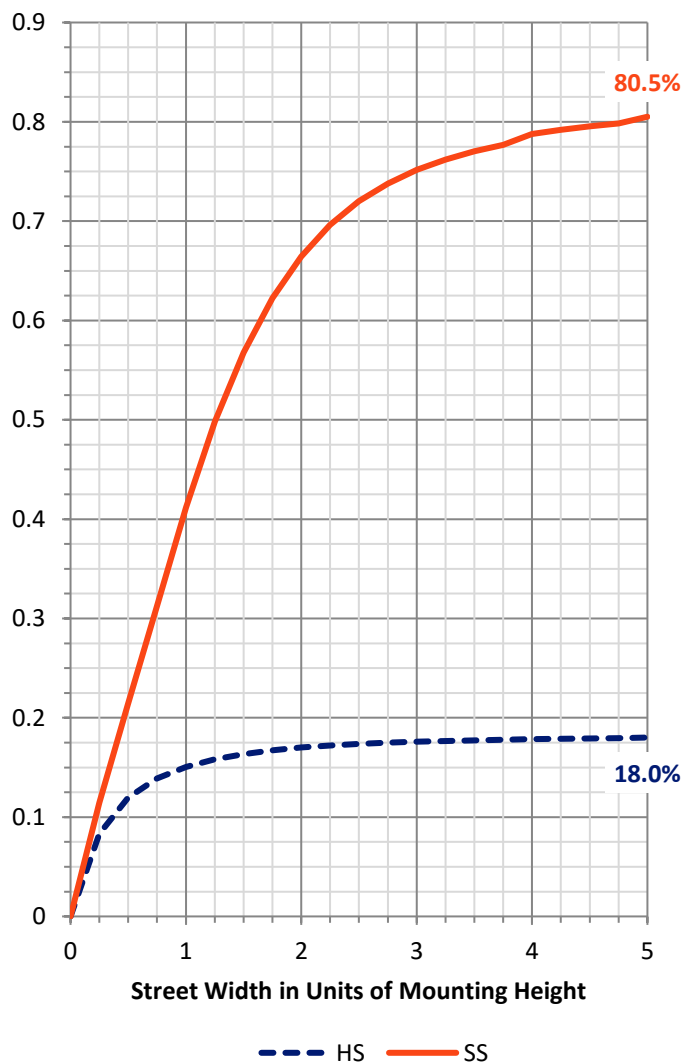
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2559.7	0.0	2559.7
	% Fixture	18.2	0.0	18.2
<b>Street Side</b>	Lumens	11497.3	0.0	11497.3
	% Fixture	81.8	0.0	81.8
<b>Total</b>	Lumens	14057.0	0.0	14057.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	169.9	1.2
10°-20°	493.8	3.5
20°-30°	871.8	6.2
30°-40°	1357.9	9.7
40°-50°	2235.9	15.9
50°-60°	3191.2	22.7
60°-70°	3384.0	24.1
70°-80°	1869.2	13.3
80°-90°	483.4	3.4
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°	14057.0	100.0
0°-180°	14057.0	100.0

**Coefficient of Utilization**



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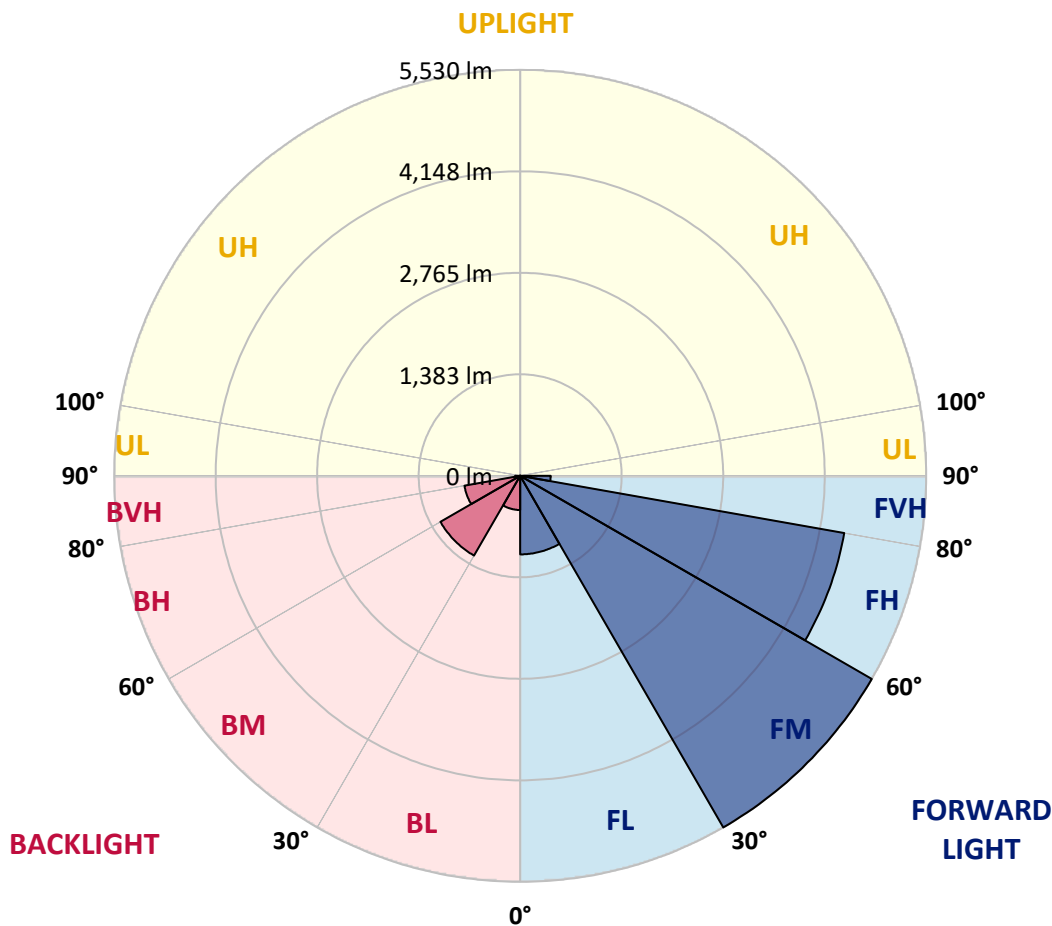
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1069.9	7.6			
FM (30°-60°)	5530.2	39.3			
FH (60°-80°)	4481.9	31.9			G2/5000
FVH (80°-90°)	415.3	3.0			G3/500
BL (0°-30°)	465.5	3.3	B1/500		
BM (30°-60°)	1254.8	8.9	B2/2500		
BH (60°-80°)	771.2	5.5	B2/1000		G2/1000
BVH (80°-90°)	68.2	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3
2.5°	1822.7	1838.4	1806.3	1770.2	1620.8	1764.7	1721.7	1801.5	1775.6	1602.4	1919.6
5°	2252.4	2281.1	2249.7	2358.2	2365.0	2393.0	2134.4	2295.4	2239.5	2225.2	2385.5
7.5°	2459.8	2489.1	2569.0	2762.0	2912.8	2776.3	2625.6	2592.1	2548.5	2434.6	2531.4
10°	2472.8	2489.1	2596.2	3005.5	3078.5	3175.4	3077.8	2847.9	2753.1	2505.5	2431.8
12.5°	2433.9	2485.0	2623.5	3122.2	3339.1	3444.8	3468.7	3212.9	2980.3	2697.9	2660.4
15°	2695.1	2713.6	2912.1	3205.4	3354.8	3444.1	3521.9	3364.3	3291.3	3067.6	2766.8
17.5°	3069.6	3120.8	3283.2	3391.6	3492.6	3509.6	3445.5	3384.1	3268.1	3566.9	3247.0
20°	3323.4	3422.3	3621.5	3642.0	3429.8	3467.3	3458.5	3462.6	3396.4	3948.9	3772.9
22.5°	3994.6	4101.7	4129.0	4010.3	3610.6	3439.4	3473.5	3572.4	3833.0	4306.4	4505.6
25°	4602.4	4644.0	4893.0	4587.4	3950.3	3577.2	3521.2	3777.0	4202.0	4908.0	5049.9
27.5°	4919.6	4973.5	5139.3	4474.2	3992.6	3399.8	3268.8	3658.3	4091.5	4624.9	5247.7
30°	5325.5	5411.4	5637.2	4587.4	4120.1	3515.8	3225.9	3598.3	4077.2	4810.5	5666.6
32.5°	5743.6	5910.8	6078.6	4986.5	4102.4	3693.1	3500.8	3530.8	4206.8	5199.3	6100.4
35°	6297.5	6444.9	6589.5	5217.0	4459.9	3841.1	3650.1	3968.0	4539.7	5650.2	6705.5
37.5°	7481.7	7715.0	7333.7	5873.3	4848.7	4508.3	4163.8	4352.1	4891.6	6026.1	7693.9
40°	8236.2	8411.5	8043.1	6320.1	5533.5	4957.8	4901.2	4916.9	5376.7	6348.0	8359.0
42.5°	8985.9	9223.3	8637.3	6933.3	6361.7	5886.2	5594.3	5574.5	5919.6	6926.5	9115.5
45°	9545.2	9685.1	8841.3	7450.4	7249.8	6897.1	6678.2	6331.0	6633.2	7326.9	9583.4
47.5°	9811.3	9925.2	9169.4	7751.2	7825.5	7844.0	8238.9	7646.8	7256.6	7597.7	9829.0
50°	10143.5	10197.4	9362.4	8015.9	8372.6	9181.6	9276.5	8273.0	7863.7	7893.1	9974.3
52.5°	10540.5	10563.0	9644.1	8321.5	8925.8	10061.6	9914.9	9334.4	8441.5	8432.7	10247.8
55°	11039.8	11026.2	9997.5	8732.8	9320.8	10584.8	10473.6	10050.7	9071.1	8879.5	10673.5
57.5°	11483.9	11475.7	10466.1	9111.4	9653.0	10853.6	10886.3	10774.4	9499.5	9199.4	11134.6
60°	11701.5	11805.8	10999.6	9525.4	9674.2	10975.0	10987.3	10809.2	9978.4	9610.0	11257.4
62.5°	11616.9	11815.4	11261.5	9897.9	9479.7	10643.5	10694.6	10571.9	9956.6	10041.1	10983.2
65°	11232.2	11461.4	11034.3	10096.4	9360.4	10088.2	10101.2	9790.8	9644.8	10327.0	10340.6
67.5°	10510.5	10725.3	10311.3	9779.9	8543.2	8591.6	8880.8	8906.1	8693.2	10111.4	9438.1
70°	9247.1	9398.6	9139.4	8998.1	7140.7	6856.9	7170.7	7305.1	7401.9	9333.1	8354.9
72.5°	7320.8	7613.4	7654.3	7746.4	5749.1	5276.4	5509.0	5309.8	5940.8	7943.6	6826.2
75°	5416.2	5663.2	5928.5	6442.2	4531.5	3950.3	3921.6	3820.0	4409.4	6388.3	5062.9
77.5°	3827.5	3985.1	4189.0	5146.1	3419.6	3042.4	3060.1	2957.1	3184.2	4828.2	3497.3
80°	2743.6	2826.1	2920.9	3390.3	2522.6	2624.9	2627.6	2530.1	2367.7	3279.1	2334.3
82.5°	1955.0	2019.1	2127.6	2236.1	1880.7	2151.5	2149.4	2143.3	1877.3	2216.3	1460.5
85°	1088.7	1174.7	1362.9	1751.7	1358.1	1538.2	1352.7	1489.8	1377.9	1475.5	739.4
87.5°	76.4	68.2	304.9	1015.0	633.7	463.2	242.8	480.9	616.7	770.8	103.0
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3
2.5°	1985.0	2008.9	1915.5	1774.9	1813.1	1771.5	1719.0	1637.1	1468.7	1573.0	1573.7
5°	2384.1	2293.4	2220.4	2151.5	2035.5	1860.2	1837.0	1696.5	1617.4	1659.0	1652.8
7.5°	2508.9	2380.0	2270.2	2023.9	1809.0	1536.9	1455.0	1371.8	1337.0	1438.0	1478.2
10°	2371.8	2237.4	2129.7	1830.2	1684.2	1514.4	1289.3	1174.0	1105.8	1132.4	1148.0
12.5°	2482.3	2345.2	2006.2	1839.1	1598.3	1494.6	1297.4	1128.3	1027.3	1051.9	1022.5
15°	2588.7	2403.9	2064.8	1732.0	1536.9	1386.8	1227.2	1052.5	933.9	891.6	869.1
17.5°	2977.6	2670.6	2058.0	1671.9	1448.2	1275.6	1083.2	892.2	813.1	769.5	731.9
20°	3451.6	3023.9	2094.9	1609.9	1354.1	1136.5	927.0	749.7	694.4	665.8	655.5
22.5°	4015.8	3476.9	2305.6	1601.0	1265.4	1034.8	841.1	730.6	668.5	637.1	624.2
25°	4463.9	3945.5	2461.2	1661.0	1260.6	950.9	789.2	811.8	783.1	792.7	716.9
27.5°	4899.2	4073.1	2373.9	1634.4	1133.7	802.2	777.0	824.0	848.6	856.1	853.4
30°	5266.8	4612.0	2393.0	1484.3	957.7	653.5	594.8	618.0	685.6	792.7	813.1
32.5°	5805.0	4869.8	2556.0	1393.6	856.1	584.6	519.1	510.2	525.9	564.8	598.2
35°	6434.7	5463.3	2601.7	1369.7	785.8	553.9	508.2	487.7	495.9	525.3	532.1
37.5°	7608.6	5895.8	2770.9	1340.4	759.9	535.5	500.0	492.5	510.2	534.1	547.8
40°	8256.0	6673.4	2779.1	1315.2	726.5	528.0	505.5	502.1	513.0	545.7	553.9
42.5°	9118.9	7116.8	2907.3	1285.8	714.9	538.2	516.4	515.0	524.6	543.7	558.7
45°	9644.8	7413.5	2914.1	1268.8	712.2	583.2	530.7	525.9	523.9	535.5	549.1
47.5°	9983.8	7841.2	2997.3	1249.7	728.5	594.8	547.8	527.3	520.5	525.3	535.5
50°	10305.1	8183.0	3154.9	1247.0	745.6	583.2	577.8	526.6	513.0	510.9	518.4
52.5°	10699.4	8745.1	3349.3	1272.9	741.5	566.2	600.3	523.9	499.3	494.6	502.1
55°	11273.1	9347.4	3556.0	1251.1	699.2	533.4	578.5	521.8	485.0	476.1	483.0
57.5°	11644.9	9692.6	3787.3	1232.6	635.1	508.9	558.7	523.2	486.4	466.6	470.7
60°	11521.4	9507.0	3878.0	1120.1	574.4	489.8	511.6	512.3	474.1	455.7	459.1
62.5°	10975.7	8835.1	3793.4	989.1	529.3	462.5	463.2	491.8	438.6	425.7	431.1
65°	10213.0	7999.5	3451.0	903.8	508.2	433.8	422.9	431.8	390.9	381.3	392.2
67.5°	9277.1	6969.5	2941.4	813.8	500.7	395.0	382.0	378.6	352.7	341.8	352.7
70°	8103.2	5835.7	2351.3	750.4	472.0	352.7	342.4	339.0	317.2	309.0	318.6
72.5°	6513.1	4556.7	1814.5	701.9	440.7	313.8	304.9	300.8	282.4	270.8	282.4
75°	4632.4	3482.3	1347.9	627.6	396.3	274.2	264.0	258.5	241.5	230.6	240.8
77.5°	3292.0	2614.0	941.4	519.1	326.7	231.9	225.8	216.9	201.9	189.0	199.2
80°	2433.9	1867.7	607.1	400.4	249.7	185.5	182.1	176.0	161.7	146.0	153.5
82.5°	1602.4	1346.6	347.9	271.5	181.5	133.7	136.4	132.3	118.7	102.3	106.4
85°	717.6	797.4	184.9	149.4	118.0	80.5	88.0	85.3	75.0	59.3	60.7
87.5°	68.9	134.4	56.6	54.6	43.7	25.2	31.4	26.6	22.5	14.3	10.9
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°	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3
2.5°	1597.6	1501.4	1405.2	1463.9	1465.2	1480.9	1483.0	1425.0	1471.4	1506.9	1543.7
5°	1622.8	1560.1	1563.5	1506.9	1476.2	1515.7	1507.5	1491.8	1519.8	1558.7	1605.8
7.5°	1440.0	1399.1	1392.3	1337.7	1205.3	1176.0	1200.6	1210.8	1248.3	1308.4	1358.8
10°	1124.2	1205.3	1113.9	1092.8	1058.0	989.8	950.2	945.5	1025.3	1073.7	1116.0
12.5°	1013.0	992.5	981.6	923.6	923.6	851.3	828.1	849.3	972.1	1006.8	1061.4
15°	862.9	847.9	797.4	768.8	755.1	725.8	750.4	770.8	885.4	888.2	945.5
17.5°	716.3	707.4	659.6	654.2	640.5	627.6	650.1	699.2	761.3	750.4	777.0
20°	640.5	609.8	566.2	581.9	567.5	557.3	547.8	617.3	661.0	675.3	691.0
22.5°	621.4	565.5	539.6	525.3	525.9	509.6	511.6	569.6	635.8	644.6	635.1
25°	710.1	610.5	526.6	485.0	469.3	463.9	479.5	530.7	610.5	629.6	637.1
27.5°	830.9	663.0	542.3	471.4	440.0	442.7	465.2	500.7	594.8	628.9	637.8
30°	797.4	623.5	543.0	461.1	422.2	436.6	444.8	478.9	582.6	633.7	678.1
32.5°	615.3	560.7	546.4	469.3	453.6	431.1	442.7	475.5	546.4	578.5	580.5
35°	521.2	479.5	470.0	450.9	429.1	419.5	432.5	461.1	507.5	527.3	524.6
37.5°	517.1	471.4	433.8	425.7	416.8	414.1	421.6	448.2	495.2	530.0	522.5
40°	523.9	467.3	429.1	414.7	418.2	405.9	413.4	446.1	497.3	530.0	523.2
42.5°	515.7	462.5	422.9	412.0	415.4	398.4	407.2	441.3	491.8	530.7	517.7
45°	499.3	451.6	419.5	401.1	416.8	391.6	402.5	429.1	475.5	517.7	502.7
47.5°	483.0	438.6	405.2	393.6	409.3	384.7	389.5	412.7	459.1	500.7	487.7
50°	465.2	422.2	393.6	390.2	401.1	383.4	375.9	395.0	439.3	480.9	470.0
52.5°	446.1	408.6	385.4	384.0	394.3	374.5	363.6	378.6	418.2	459.8	450.9
55°	427.7	393.6	375.2	378.6	390.2	367.0	353.4	362.9	395.6	436.6	424.3
57.5°	409.3	376.5	361.5	371.1	380.0	357.4	340.4	345.8	372.5	412.7	398.4
60°	392.9	361.5	346.5	358.1	366.3	343.1	323.3	326.7	350.6	386.8	373.8
62.5°	371.8	345.2	325.4	340.4	346.5	324.0	302.9	307.0	326.1	360.2	350.6
65°	341.8	324.7	306.3	316.5	324.7	301.5	281.7	286.5	300.8	332.9	326.1
67.5°	315.8	299.5	287.2	295.4	296.7	279.0	261.3	264.0	275.6	305.6	298.1
70°	287.2	271.5	261.9	268.1	267.4	252.4	238.8	239.4	249.0	276.3	266.0
72.5°	255.8	240.8	236.0	239.4	236.7	223.1	210.1	214.9	221.0	241.5	233.3
75°	222.4	208.7	206.0	209.4	205.3	192.4	180.8	185.5	191.0	208.1	197.8
77.5°	187.6	175.3	176.0	176.7	171.2	162.4	150.8	155.5	158.9	170.5	160.3
80°	149.4	139.8	142.6	142.6	136.4	130.3	119.4	120.7	122.8	126.9	119.4
82.5°	109.1	109.1	109.1	109.8	96.9	98.9	89.4	88.7	86.6	86.0	81.2
85°	64.8	67.5	68.9	70.9	52.5	61.4	53.2	51.2	47.1	43.0	41.6
87.5°	14.3	18.4	18.4	17.7	0.0	6.8	3.4	5.5	1.4	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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 CATALOG NUMBER: MSA-SA3D-835-U-SLL

**CANDELA DISTRIBUTION (continued):**

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3	1482.3
2.5°	1501.4	1460.5	1536.9	1605.1	1594.2	1633.7	1541.6	1678.1	1822.7	1822.7
5°	1593.5	1558.7	1578.5	1618.0	1648.1	1785.9	1900.5	2014.4	2249.7	2252.4
7.5°	1343.8	1418.9	1436.6	1425.0	1553.9	1731.3	1920.2	2244.9	2444.1	2459.8
10°	1256.5	1290.6	1344.5	1374.5	1427.0	1601.7	1836.3	2221.7	2433.2	2472.8
12.5°	1138.5	1264.7	1346.6	1514.4	1556.0	1590.8	1963.9	2297.5	2443.4	2433.9
15°	1009.6	1105.1	1223.1	1408.6	1514.4	1780.4	2039.6	2540.3	2622.8	2695.1
17.5°	804.9	875.2	1032.1	1243.5	1505.5	1750.4	2226.5	2840.4	2994.6	3069.6
20°	662.4	663.0	819.9	1100.3	1385.4	1624.9	2297.5	3089.4	3285.2	3323.4
22.5°	626.2	594.8	677.4	905.2	1253.1	1699.2	2440.7	3489.8	3898.4	3994.6
25°	606.4	568.2	620.1	798.8	1158.3	1738.1	2729.3	4040.3	4564.9	4602.4
27.5°	614.6	632.3	648.7	712.2	1038.2	1665.1	2662.4	4286.6	4848.7	4919.6
30°	669.9	698.5	661.0	682.8	939.3	1559.4	2781.8	4686.3	5206.1	5325.5
32.5°	557.3	546.4	543.0	590.7	840.4	1463.9	3032.1	5249.1	5593.6	5743.6
35°	502.7	485.7	492.5	547.1	792.0	1450.2	3172.6	5715.0	6205.5	6297.5
37.5°	500.7	480.9	489.8	530.7	809.0	1474.8	3397.8	6462.6	7284.6	7481.7
40°	495.9	485.0	489.8	520.5	791.3	1488.4	3527.4	7090.9	8036.3	8236.2
42.5°	495.2	489.8	494.6	528.7	772.9	1494.6	3706.8	7658.4	8828.3	8985.9
45°	493.2	498.6	498.6	535.5	764.7	1535.5	3812.5	7936.7	9350.8	9545.2
47.5°	483.6	500.0	526.6	533.4	731.3	1516.4	3961.9	8359.0	9628.4	9811.3
50°	471.4	498.0	562.1	519.8	725.8	1470.0	4136.5	8693.9	9984.5	10143.5
52.5°	455.0	494.6	553.9	493.2	716.3	1461.8	4381.4	9129.1	10400.0	10540.5
55°	431.8	482.3	528.7	466.6	693.1	1435.9	4755.9	9668.7	10943.6	11039.8
57.5°	410.7	463.9	491.8	451.6	637.8	1441.4	5016.5	10108.7	11400.0	11483.9
60°	391.6	461.8	439.3	435.9	581.2	1368.4	5101.1	10103.9	11569.8	11701.5
62.5°	371.1	435.9	402.5	414.7	531.4	1293.3	4921.7	9670.7	11386.3	11616.9
65°	344.5	373.8	371.8	399.7	532.8	1171.2	4510.3	8906.7	10928.6	11232.2
67.5°	313.1	330.8	342.4	375.2	549.8	1076.4	3848.7	7987.9	10149.6	10510.5
70°	281.0	298.8	311.7	343.1	565.5	1032.8	3063.5	6697.3	8880.8	9247.1
72.5°	248.3	266.7	277.0	304.2	544.4	939.3	2267.4	5210.9	7128.4	7320.8
75°	214.2	231.9	240.1	265.4	472.7	777.0	1565.5	3946.9	5221.1	5416.2
77.5°	179.4	198.5	201.2	221.7	360.9	594.1	1003.4	3027.4	3697.2	3827.5
80°	143.3	162.4	162.4	173.3	253.8	408.6	601.0	2283.8	2692.4	2743.6
82.5°	103.0	123.5	122.1	122.8	175.3	253.1	347.9	1711.5	1945.5	1955.0
85°	60.7	75.0	74.4	68.2	103.7	136.4	188.3	1062.8	1086.0	1088.7
87.5°	11.6	17.7	15.7	6.8	28.7	40.2	54.6	197.1	78.4	76.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)