

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: P368150

Luminaire Tested: **MSA-SA3D-760-U-SLL**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P368150
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-24)
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA3D-760-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: 17051 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

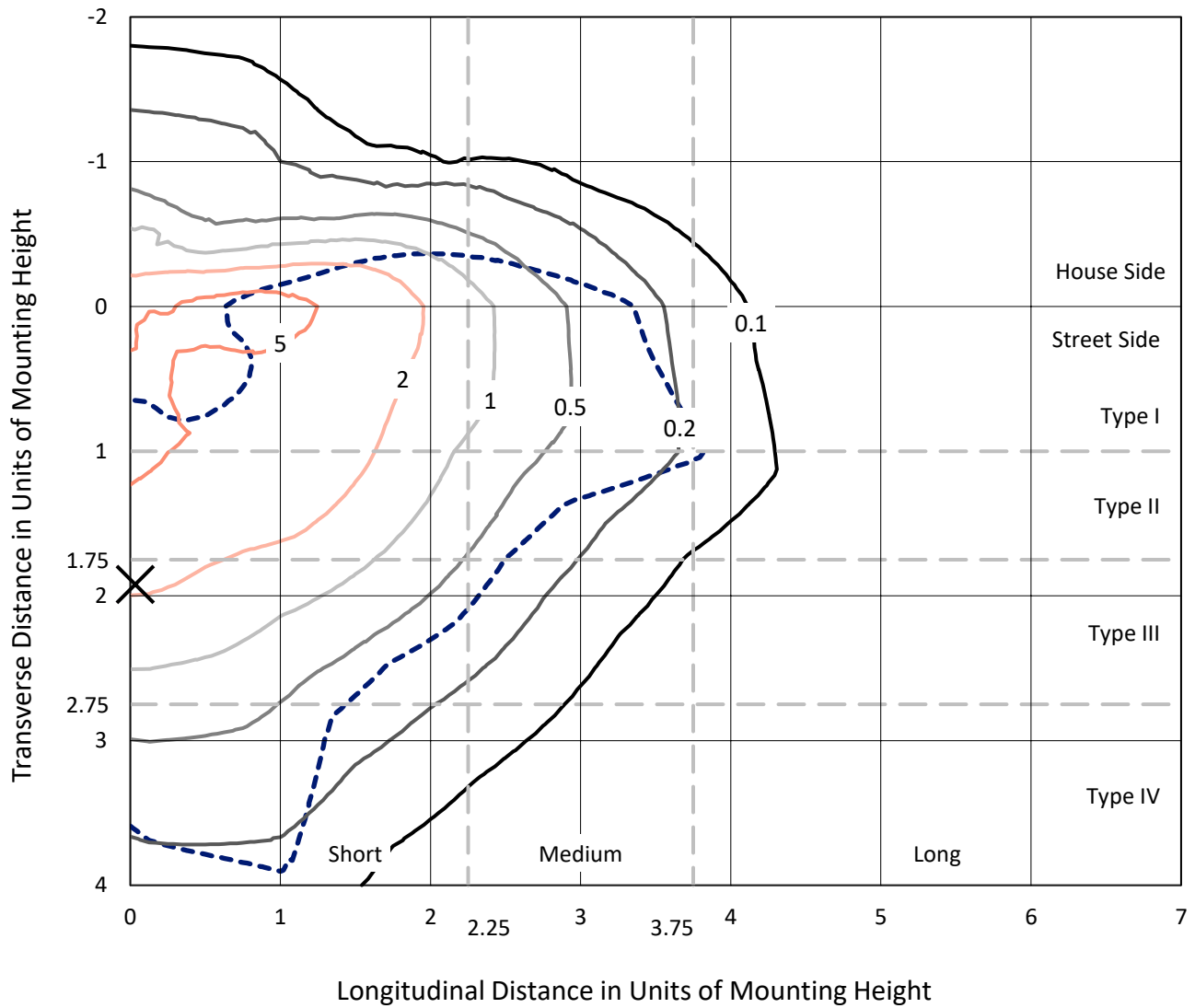
Input Watts (W): 192
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

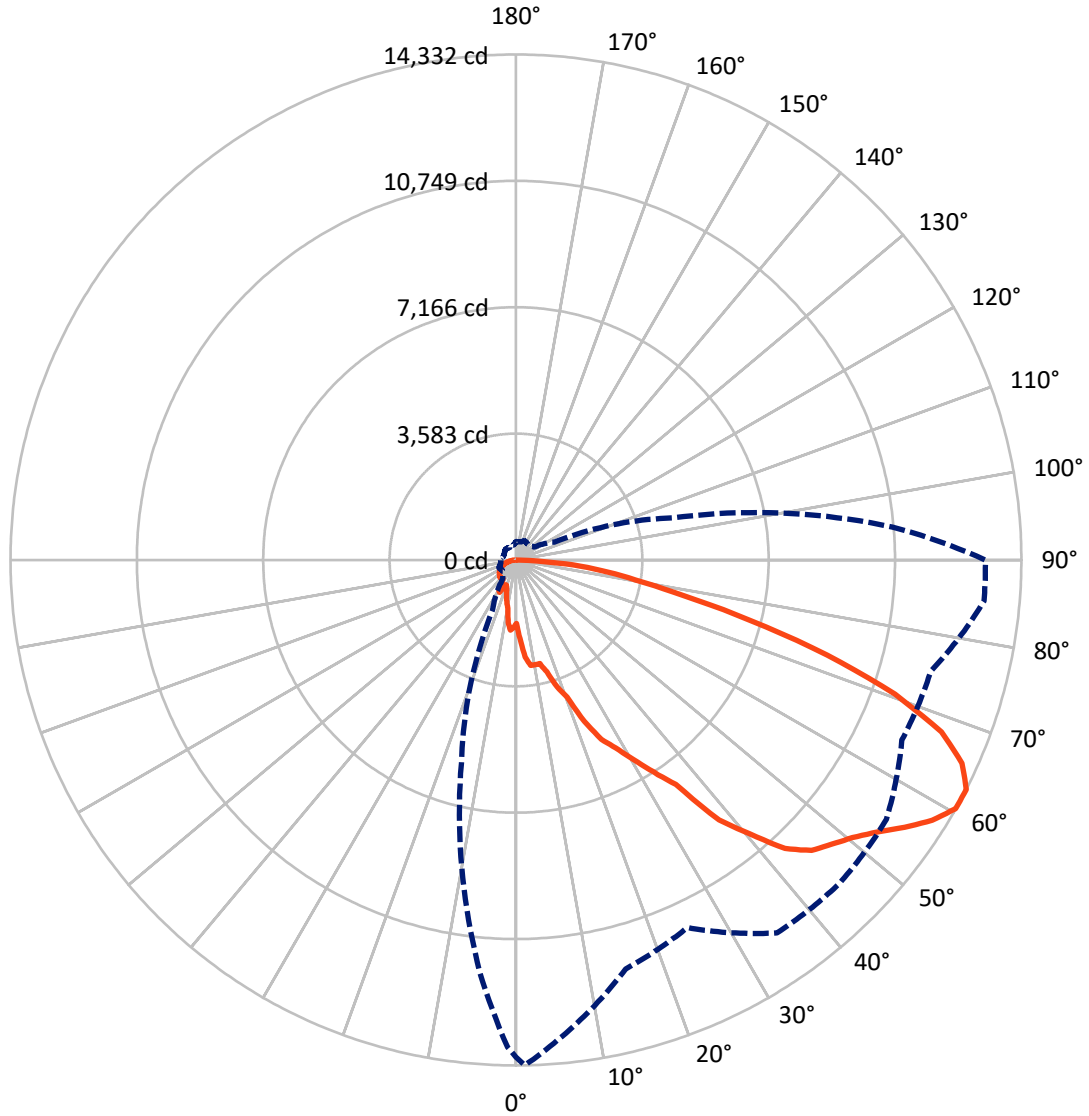
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.3 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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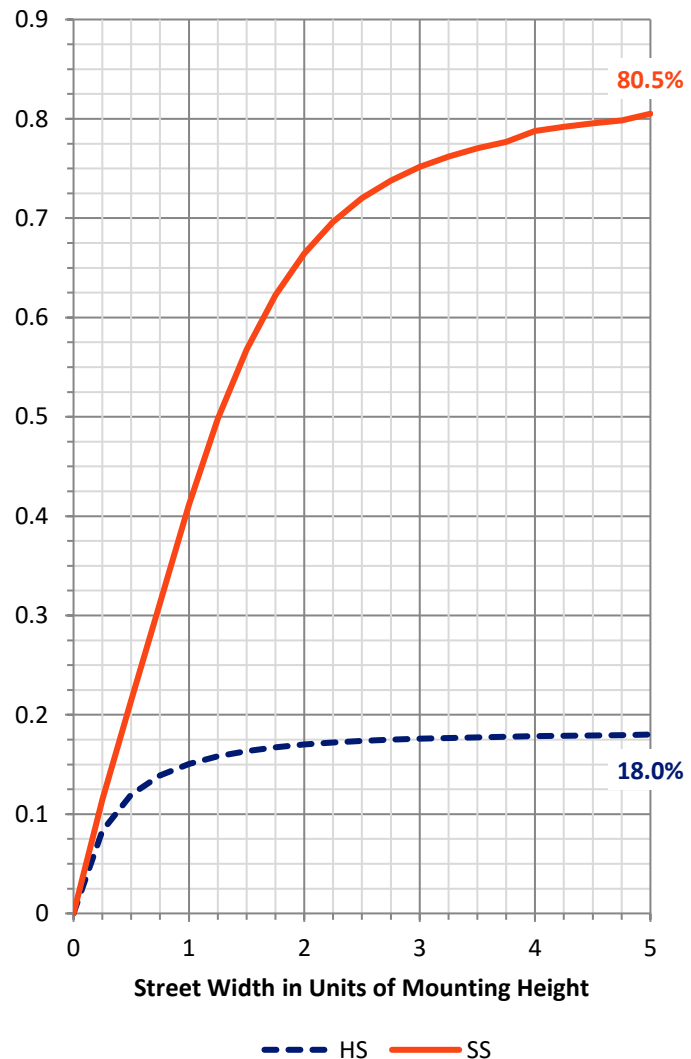
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3104.9	0.0	3104.9
	% Fixture	18.2	0.0	18.2
Street Side	Lumens	13946.1	0.0	13946.1
	% Fixture	81.8	0.0	81.8
Total	Lumens	17051.0	0.0	17051.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	206.1	1.2
10°-20°	598.9	3.5
20°-30°	1057.5	6.2
30°-40°	1647.1	9.7
40°-50°	2712.1	15.9
50°-60°	3870.9	22.7
60°-70°	4104.7	24.1
70°-80°	2267.3	13.3
80°-90°	586.4	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°	17051.0	100.0
0°-180°	17051.0	100.0

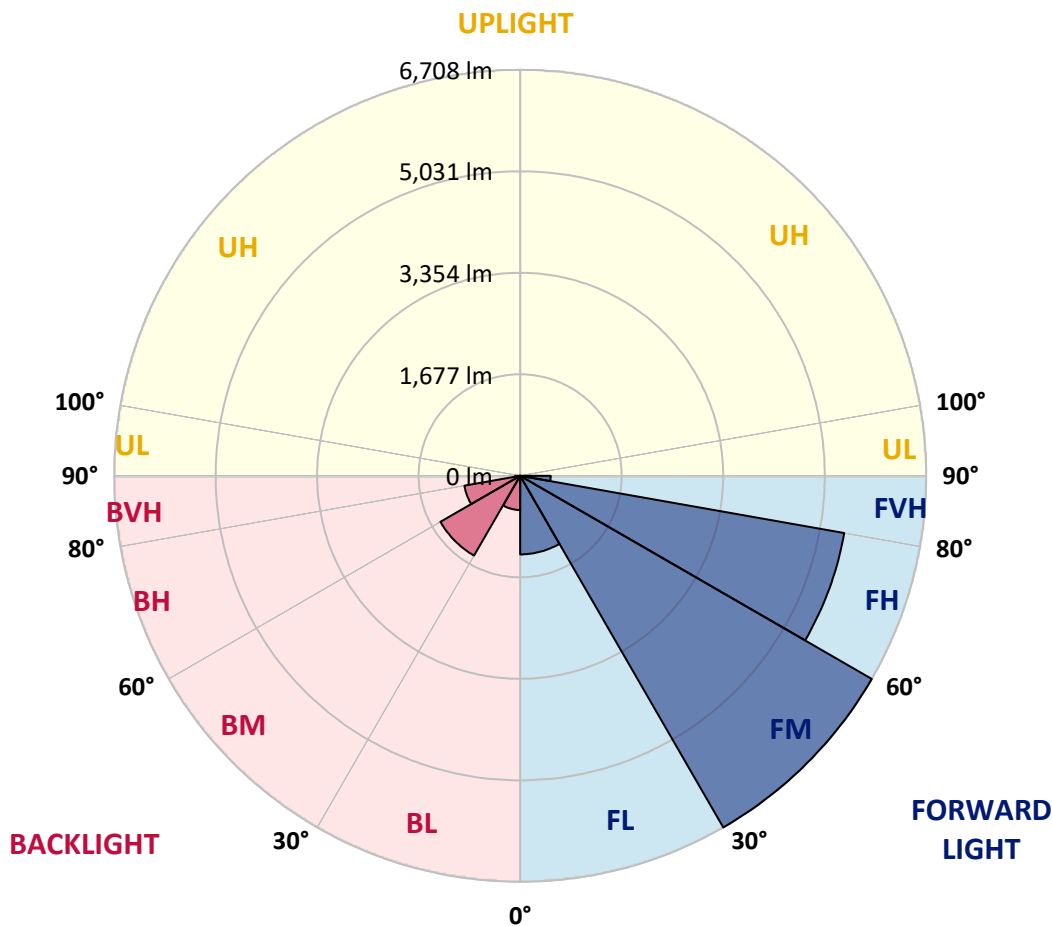


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1297.8	7.6			
FM (30°-60°)	6708.0	39.3			
FH (60°-80°)	5436.5	31.9			G3/7500
FVH (80°-90°)	503.7	3.0			G4/750
BL (0°-30°)	564.7	3.3	B2/1000		
BM (30°-60°)	1522.1	8.9	B2/2500		
BH (60°-80°)	935.4	5.5	B2/1000		G2/1000
BVH (80°-90°)	82.7	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-G4
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0
2.5°	2210.9	2229.9	2191.0	2147.2	1966.0	2140.6	2088.4	2185.2	2153.8	1943.6	2328.4
5°	2732.2	2766.9	2728.9	2860.4	2868.7	2902.6	2589.0	2784.3	2716.5	2699.1	2893.5
7.5°	2983.7	3019.3	3116.1	3350.3	3533.1	3367.7	3184.8	3144.2	3091.3	2953.1	3070.6
10°	2999.4	3019.3	3149.2	3645.7	3734.2	3851.7	3733.4	3454.5	3339.5	3039.2	2949.8
12.5°	2952.3	3014.3	3182.3	3787.2	4050.3	4178.5	4207.5	3897.2	3615.1	3272.5	3227.0
15°	3269.2	3291.5	3532.3	3888.1	4069.3	4177.7	4272.0	4080.9	3992.4	3721.0	3356.1
17.5°	3723.4	3785.5	3982.4	4114.0	4236.5	4257.1	4179.4	4104.9	3964.2	4326.6	3938.6
20°	4031.3	4151.2	4392.8	4417.7	4160.3	4205.8	4195.1	4200.0	4119.8	4790.0	4576.5
22.5°	4845.4	4975.4	5008.4	4864.5	4379.6	4171.9	4213.3	4333.3	4649.3	5223.6	5465.2
25°	5582.7	5633.2	5935.2	5564.5	4791.7	4339.1	4271.2	4581.5	5097.0	5953.4	6125.5
27.5°	5967.4	6032.8	6233.9	5427.1	4843.0	4123.9	3965.1	4437.5	4962.9	5610.0	6365.4
30°	6459.8	6564.0	6837.9	5564.5	4997.7	4264.6	3912.9	4364.7	4945.6	5835.1	6873.5
32.5°	6967.0	7169.7	7373.3	6048.5	4976.2	4479.7	4246.4	4282.8	5102.8	6306.7	7399.7
35°	7638.9	7817.6	7993.0	6328.2	5409.8	4659.3	4427.6	4813.2	5506.6	6853.6	8133.7
37.5°	9075.3	9358.3	8895.7	7124.2	5881.4	5468.5	5050.6	5279.0	5933.5	7309.5	9332.6
40°	9990.4	10203.1	9756.3	7666.2	6712.1	6013.8	5945.1	5964.1	6521.8	7700.1	10139.4
42.5°	10899.8	11187.7	10477.0	8410.0	7716.6	7139.9	6785.8	6761.8	7180.5	8401.7	11057.0
45°	11578.3	11747.9	10724.4	9037.2	8794.0	8366.2	8100.6	7679.4	8046.0	8887.5	11624.6
47.5°	11901.0	12039.1	11122.3	9402.1	9492.3	9514.6	9993.7	9275.5	8802.2	9215.9	11922.5
50°	12303.9	12369.3	11356.5	9723.2	10155.9	11137.2	11252.3	10035.1	9538.6	9574.2	12098.7
52.5°	12785.5	12812.8	11698.2	10093.8	10827.0	12204.6	12026.7	11322.6	10239.5	10228.7	12430.5
55°	13391.2	13374.6	12126.9	10592.8	11306.0	12839.3	12704.4	12191.4	11003.2	10770.7	12946.8
57.5°	13929.8	13919.9	12695.3	11052.0	11709.0	13165.3	13205.0	13069.3	11522.8	11158.8	13506.2
60°	14193.8	14320.4	13342.3	11554.3	11734.6	13312.6	13327.5	13111.5	12103.7	11656.9	13655.1
62.5°	14091.2	14332.0	13660.1	12006.0	11498.8	12910.4	12972.5	12823.5	12077.2	12179.8	13322.5
65°	13624.5	13902.5	13384.5	12246.8	11354.0	12236.9	12252.6	11876.1	11699.1	12526.5	12543.0
67.5°	12749.1	13009.7	12507.5	11862.9	10362.8	10421.5	10772.3	10803.0	10544.8	12265.0	11448.4
70°	11216.7	11400.4	11085.9	10914.7	8661.6	8317.4	8698.0	8861.0	8978.5	11320.9	10134.4
72.5°	8880.0	9235.0	9284.6	9396.3	6973.6	6400.2	6682.3	6440.7	7206.1	9635.5	8280.1
75°	6569.8	6869.3	7191.2	7814.3	5496.6	4791.7	4756.9	4633.6	5348.5	7748.9	6141.2
77.5°	4642.7	4833.9	5081.3	6242.2	4147.9	3690.3	3711.9	3586.9	3862.5	5856.6	4242.2
80°	3327.9	3428.1	3543.1	4112.3	3059.8	3184.0	3187.3	3068.9	2872.0	3977.5	2831.5
82.5°	2371.4	2449.2	2580.8	2712.3	2281.2	2609.7	2607.2	2599.8	2277.1	2688.3	1771.5
85°	1320.6	1424.8	1653.2	2124.8	1647.4	1865.9	1640.8	1807.1	1671.4	1789.7	896.9
87.5°	92.7	82.7	369.9	1231.2	768.7	561.8	294.6	583.3	748.0	935.0	124.9
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0
2.5°	2407.8	2436.8	2323.4	2153.0	2199.3	2148.8	2085.1	1985.8	1781.5	1908.1	1908.9
5°	2891.9	2781.8	2693.3	2609.7	2469.1	2256.4	2228.3	2057.8	1961.8	2012.3	2004.9
7.5°	3043.3	2886.9	2753.7	2455.0	2194.4	1864.2	1764.9	1664.0	1621.8	1744.2	1793.0
10°	2877.0	2714.0	2583.2	2220.0	2042.9	1836.9	1563.8	1424.0	1341.3	1373.5	1392.6
12.5°	3011.0	2844.7	2433.5	2230.8	1938.7	1812.9	1573.8	1368.6	1246.1	1275.9	1240.3
15°	3140.1	2915.9	2504.6	2100.9	1864.2	1682.2	1488.6	1276.7	1132.8	1081.5	1054.1
17.5°	3611.7	3239.4	2496.4	2028.0	1756.6	1547.3	1314.0	1082.3	986.3	933.3	887.8
20°	4186.8	3668.0	2541.0	1952.7	1642.5	1378.5	1124.5	909.3	842.3	807.6	795.2
22.5°	4871.1	4217.4	2796.7	1942.0	1534.9	1255.2	1020.2	886.2	810.9	772.8	757.1
25°	5414.7	4785.9	2985.4	2014.8	1529.1	1153.4	957.3	984.6	949.9	961.5	869.6
27.5°	5942.6	4940.6	2879.5	1982.5	1375.2	973.1	942.4	999.5	1029.3	1038.4	1035.1
30°	6388.6	5594.3	2902.6	1800.5	1161.7	792.7	721.5	749.7	831.6	961.5	986.3
32.5°	7041.5	5907.0	3100.4	1690.4	1038.4	709.1	629.7	618.9	638.0	685.1	725.7
35°	7805.2	6626.9	3155.8	1661.5	953.2	671.9	616.4	591.6	601.5	637.1	645.4
37.5°	9229.2	7151.5	3361.0	1625.9	921.8	649.5	606.5	597.4	618.9	647.9	664.4
40°	10014.4	8094.8	3371.0	1595.3	881.2	640.4	613.1	609.0	622.2	661.9	671.9
42.5°	11061.1	8632.6	3526.5	1559.7	867.1	652.8	626.4	624.7	636.3	659.5	677.7
45°	11699.1	8992.5	3534.8	1539.0	863.8	707.5	643.7	638.0	635.5	649.5	666.1
47.5°	12110.3	9511.3	3635.7	1515.9	883.7	721.5	664.4	639.6	631.3	637.1	649.5
50°	12500.0	9925.9	3826.9	1512.5	904.4	707.5	700.8	638.8	622.2	619.7	628.8
52.5°	12978.3	10607.7	4062.7	1544.0	899.4	686.8	728.1	635.5	605.7	599.9	609.0
55°	13674.1	11338.3	4313.4	1517.5	848.1	647.1	701.7	633.0	588.3	577.5	585.8
57.5°	14125.1	11757.0	4593.9	1495.2	770.3	617.3	677.7	634.6	590.0	566.0	570.9
60°	13975.3	11531.9	4704.0	1358.6	696.7	594.1	620.6	621.4	575.1	552.7	556.9
62.5°	13313.4	10716.9	4601.4	1199.8	642.1	561.0	561.8	596.6	532.0	516.3	522.9
65°	12388.3	9703.3	4186.0	1096.3	616.4	526.2	513.0	523.8	474.1	462.5	475.8
67.5°	11253.1	8453.9	3567.9	987.1	607.3	479.1	463.4	459.2	427.8	414.5	427.8
70°	9829.1	7078.7	2852.2	910.2	572.6	427.8	415.4	411.2	384.8	374.8	386.4
72.5°	7900.3	5527.2	2201.0	851.4	534.5	380.6	369.9	364.9	342.6	328.5	342.6
75°	5619.1	4224.0	1635.0	761.2	480.7	332.6	320.2	313.6	292.9	279.7	292.1
77.5°	3993.2	3170.7	1141.9	629.7	396.3	281.3	273.9	263.1	244.9	229.2	241.6
80°	2952.3	2265.5	736.4	485.7	302.8	225.1	220.9	213.5	196.1	177.1	186.2
82.5°	1943.6	1633.4	422.0	329.3	220.1	162.2	165.5	160.5	144.0	124.1	129.1
85°	870.5	967.3	224.2	181.2	143.1	97.6	106.7	103.4	91.0	72.0	73.6
87.5°	83.6	163.0	68.7	66.2	53.0	30.6	38.1	32.3	27.3	17.4	13.2
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0
2.5°	1937.8	1821.2	1704.5	1775.7	1777.3	1796.4	1798.8	1728.5	1784.8	1827.8	1872.5
5°	1968.5	1892.3	1896.5	1827.8	1790.6	1838.6	1828.6	1809.6	1843.5	1890.7	1947.8
7.5°	1746.7	1697.1	1688.8	1622.6	1462.1	1426.5	1456.3	1468.7	1514.2	1587.0	1648.2
10°	1363.6	1462.1	1351.2	1325.5	1283.3	1200.6	1152.6	1146.8	1243.6	1302.4	1353.7
12.5°	1228.7	1203.9	1190.7	1120.3	1120.3	1032.6	1004.5	1030.2	1179.1	1221.3	1287.5
15°	1046.7	1028.5	967.3	932.5	916.0	880.4	910.2	935.0	1074.0	1077.3	1146.8
17.5°	868.8	858.0	800.1	793.5	777.0	761.2	788.5	848.1	923.4	910.2	942.4
20°	777.0	739.7	686.8	705.8	688.4	676.0	664.4	748.8	801.8	819.2	838.2
22.5°	753.8	685.9	654.5	637.1	638.0	618.1	620.6	690.9	771.2	781.9	770.3
25°	861.4	740.6	638.8	588.3	569.3	562.7	581.7	643.7	740.6	763.7	772.8
27.5°	1007.8	804.3	657.8	571.8	533.7	537.0	564.3	607.3	721.5	762.9	773.6
30°	967.3	756.3	658.6	559.3	512.2	529.6	539.5	580.9	706.6	768.7	822.5
32.5°	746.3	680.1	662.8	569.3	550.2	522.9	537.0	576.7	662.8	701.7	704.1
35°	632.2	581.7	570.1	546.9	520.5	508.9	524.6	559.3	615.6	639.6	636.3
37.5°	627.2	571.8	526.2	516.3	505.6	502.3	511.4	543.6	600.7	642.9	633.8
40°	635.5	566.8	520.5	503.1	507.2	492.3	501.4	541.1	603.2	642.9	634.6
42.5°	625.5	561.0	513.0	499.8	503.9	483.2	494.0	535.3	596.6	643.7	628.0
45°	605.7	547.8	508.9	486.5	505.6	474.9	488.2	520.5	576.7	628.0	609.8
47.5°	585.8	532.0	491.5	477.4	496.5	466.7	472.5	500.6	556.9	607.3	591.6
50°	564.3	512.2	477.4	473.3	486.5	465.0	455.9	479.1	532.9	583.3	570.1
52.5°	541.1	495.6	467.5	465.8	478.3	454.3	441.0	459.2	507.2	557.7	546.9
55°	518.8	477.4	455.1	459.2	473.3	445.2	428.6	440.2	479.9	529.6	514.7
57.5°	496.5	456.7	438.5	450.1	460.9	433.6	412.9	419.5	451.8	500.6	483.2
60°	476.6	438.5	420.3	434.4	444.3	416.2	392.2	396.3	425.3	469.2	453.4
62.5°	451.0	418.7	394.7	412.9	420.3	393.0	367.4	372.3	395.5	436.9	425.3
65°	414.5	393.9	371.5	383.9	393.9	365.7	341.7	347.5	364.9	403.8	395.5
67.5°	383.1	363.2	348.3	358.3	359.9	338.4	316.9	320.2	334.3	370.7	361.6
70°	348.3	329.3	317.7	325.2	324.4	306.2	289.6	290.4	302.0	335.1	322.7
72.5°	310.3	292.1	286.3	290.4	287.1	270.6	254.8	260.6	268.1	292.9	283.0
75°	269.7	253.2	249.9	254.0	249.1	233.3	219.3	225.1	231.7	252.4	240.0
77.5°	227.5	212.7	213.5	214.3	207.7	196.9	182.9	188.7	192.8	206.9	194.4
80°	181.2	169.6	172.9	172.9	165.5	158.0	144.8	146.5	148.9	153.9	144.8
82.5°	132.4	132.4	132.4	133.2	117.5	120.0	108.4	107.6	105.1	104.3	98.5
85°	78.6	81.9	83.6	86.1	63.7	74.5	64.5	62.1	57.1	52.1	50.5
87.5°	17.4	22.3	22.3	21.5	0.0	8.3	4.1	6.6	1.7	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-760-U-SLL

CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0	1798.0
2.5°	1821.2	1771.5	1864.2	1946.9	1933.7	1981.7	1870.0	2035.5	2210.9	2210.9
5°	1932.9	1890.7	1914.7	1962.7	1999.1	2166.2	2305.2	2443.4	2728.9	2732.2
7.5°	1630.0	1721.1	1742.6	1728.5	1884.9	2100.0	2329.2	2723.1	2964.7	2983.7
10°	1524.1	1565.5	1630.9	1667.3	1731.0	1942.8	2227.4	2694.9	2951.5	2999.4
12.5°	1381.0	1534.1	1633.4	1836.9	1887.4	1929.6	2382.2	2786.8	2963.9	2952.3
15°	1224.6	1340.4	1483.6	1708.6	1836.9	2159.6	2474.0	3081.4	3181.5	3269.2
17.5°	976.4	1061.6	1251.9	1508.4	1826.1	2123.2	2700.7	3445.4	3632.4	3723.4
20°	803.4	804.3	994.6	1334.6	1680.5	1970.9	2786.8	3747.4	3984.9	4031.3
22.5°	759.6	721.5	821.6	1098.0	1520.0	2061.1	2960.6	4233.1	4728.8	4845.4
25°	735.6	689.3	752.1	968.9	1405.0	2108.3	3310.6	4900.9	5537.2	5582.7
27.5°	745.5	767.0	786.9	863.8	1259.4	2019.8	3229.5	5199.6	5881.4	5967.4
30°	812.5	847.3	801.8	828.3	1139.4	1891.5	3374.3	5684.5	6315.0	6459.8
32.5°	676.0	662.8	658.6	716.6	1019.4	1775.7	3677.9	6367.1	6784.9	6967.0
35°	609.8	589.1	597.4	663.6	960.6	1759.1	3848.4	6932.2	7527.2	7638.9
37.5°	607.3	583.3	594.1	643.7	981.3	1788.9	4121.4	7839.1	8836.2	9075.3
40°	601.5	588.3	594.1	631.3	959.8	1805.5	4278.7	8601.2	9748.0	9990.4
42.5°	600.7	594.1	599.9	641.3	937.5	1812.9	4496.3	9289.6	10708.6	10899.8
45°	598.2	604.9	604.9	649.5	927.6	1862.6	4624.5	9627.2	11342.4	11578.3
47.5°	586.6	606.5	638.8	647.1	887.0	1839.4	4805.7	10139.4	11679.2	11901.0
50°	571.8	604.0	681.8	630.5	880.4	1783.1	5017.6	10545.6	12111.1	12303.9
52.5°	551.9	599.9	671.9	598.2	868.8	1773.2	5314.6	11073.5	12615.0	12785.5
55°	523.8	585.0	641.3	566.0	840.7	1741.7	5768.9	11728.0	13274.5	13391.2
57.5°	498.1	562.7	596.6	547.8	773.6	1748.4	6084.9	12261.7	13828.1	13929.8
60°	474.9	560.2	532.9	528.7	705.0	1659.8	6187.5	12255.9	14034.1	14193.8
62.5°	450.1	528.7	488.2	503.1	644.6	1568.8	5969.9	11730.5	13811.5	14091.2
65°	417.9	453.4	451.0	484.9	646.2	1420.7	5471.0	10803.8	13256.3	13624.5
67.5°	379.8	401.3	415.4	455.1	666.9	1305.7	4668.4	9689.2	12311.4	12749.1
70°	340.9	362.4	378.1	416.2	685.9	1252.7	3716.0	8123.7	10772.3	11216.7
72.5°	301.2	323.5	335.9	369.0	660.3	1139.4	2750.4	6320.8	8646.7	8880.0
75°	259.8	281.3	291.3	321.9	573.4	942.4	1899.0	4787.5	6333.2	6569.8
77.5°	217.6	240.8	244.1	268.9	437.7	720.7	1217.2	3672.1	4484.7	4642.7
80°	173.8	196.9	196.9	210.2	307.8	495.6	729.0	2770.2	3265.9	3327.9
82.5°	124.9	149.8	148.1	148.9	212.7	307.0	422.0	2076.0	2359.8	2371.4
85°	73.6	91.0	90.2	82.7	125.8	165.5	228.4	1289.1	1317.3	1320.6
87.5°	14.1	21.5	19.0	8.3	34.8	48.8	66.2	239.1	95.2	92.7
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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