

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: FAIL-SAFE

Report Number: P392686

Luminaire Tested: **MWL-4-55-25-UNV-L935-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392686
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-4-55-25-UNV-L935-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

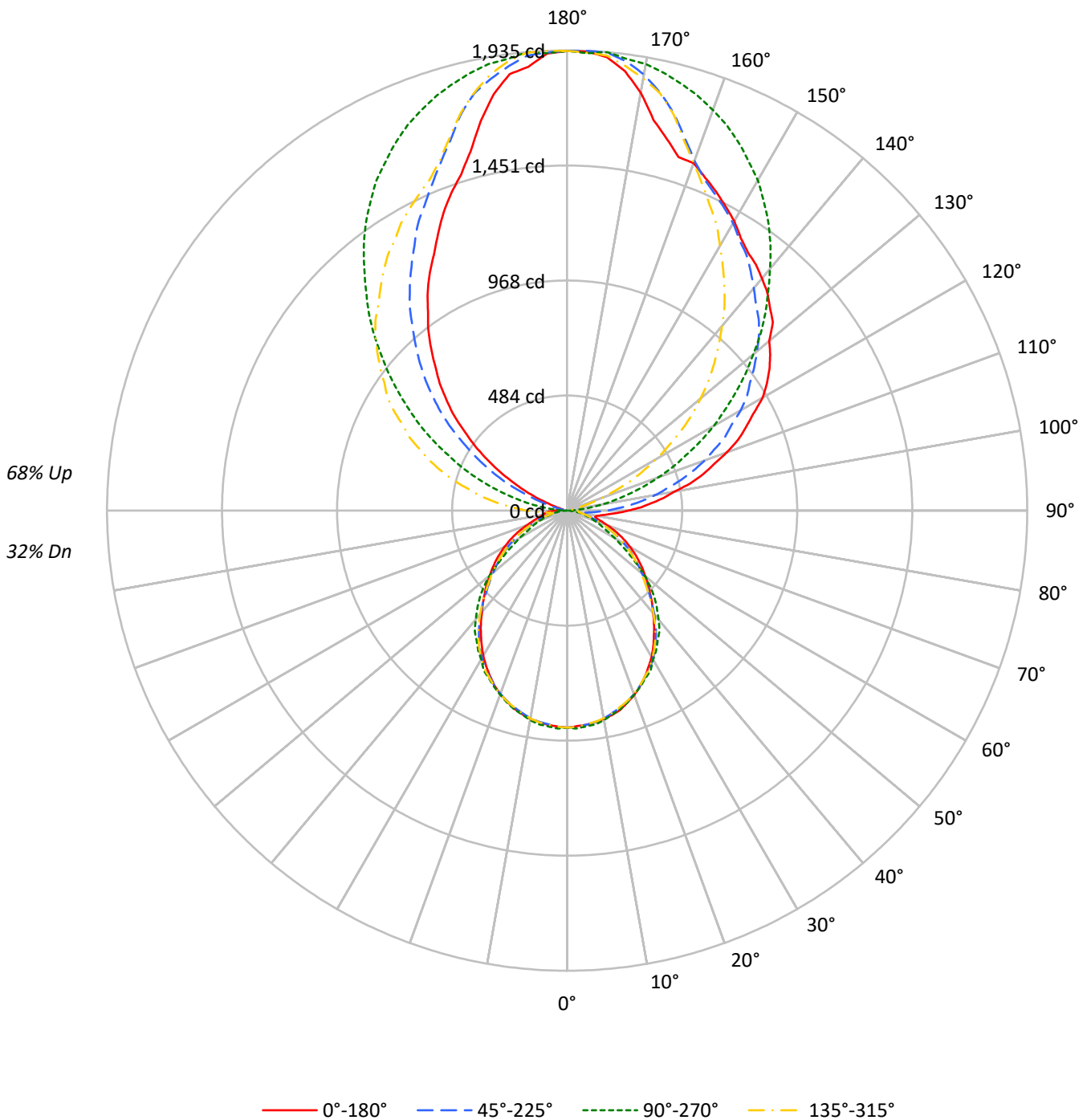
Lumens per Lamp: N/A
Luminaire Lumens: 6778.1 lumens
Efficiency: N/A
Efficacy: 76.4 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Indirect

Input Watts (W): 88.678
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: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20										
RC	80									70									50									30									10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0														
RCR																																						
0	103	103	103	103	93	93	93	93	73	73	73	56	56	56	40	40	40	32																				
1	94	89	86	82	84	81	77	75	64	62	60	49	47	46	35	34	33	27																				
2	85	78	72	67	77	71	66	61	56	53	50	43	41	39	31	30	28	23																				
3	78	69	62	56	70	62	56	51	50	46	42	38	35	33	28	26	24	20																				
4	71	61	53	48	64	55	49	44	44	40	36	34	31	28	25	23	21	17																				
5	65	54	47	41	59	49	43	37	40	35	31	31	27	25	22	20	18	15																				
6	60	49	41	35	54	44	37	32	36	31	27	28	24	22	20	18	16	13																				
7	56	44	36	31	50	40	33	28	32	27	24	25	22	19	19	16	15	12																				
8	52	40	32	27	46	36	30	25	29	25	21	23	20	17	17	15	13	10																				
9	48	36	29	24	43	33	27	22	27	22	19	21	18	15	16	13	12	9																				
10	45	33	26	22	40	30	24	20	25	20	17	20	16	14	15	12	11	9																				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	5895	5895	5895	5895
5°	5810	5430	5810	5430
10°	5727	4990	5727	4990
15°	5636	4558	5608	4558
20°	5467	4151	5440	4151
25°	5244	3781	5217	3781
30°	4999	3418	4960	3418
35°	4676	3080	4646	3080
40°	4368	2737	4325	2737
45°	4080	2378	4047	2378
50°	3825	1946	3789	1946
55°	3600	1462	3573	1462
60°	3335	1086	3321	1086
65°	3028	804	3028	804
70°	2629	604	2648	604
75°	2320	441	2393	441
80°	2983	287	2375	287
85°	5937	129	2936	129



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.1	1.3
10°-20°	242.6	3.6
20°-30°	356.6	5.3
30°-40°	405.5	6.0
40°-50°	381.8	5.6
50°-60°	306.4	4.5
60°-70°	203.8	3.0
70°-80°	108.0	1.6
80°-90°	81.3	1.2
90°-100°	149.2	2.2
100°-110°	298.9	4.4
110°-120°	513.1	7.6
120°-130°	697.4	10.3
130°-140°	795.5	11.7
140°-150°	793.6	11.7
150°-160°	691.1	10.2
160°-170°	486.2	7.2
170°-180°	181.1	2.7
0°-30°	685.3	10.1
0°-40°	1090.8	16.1
0°-60°	1779.0	26.2
0°-90°	2172.0	32.0
90°-120°	961.3	14.2
90°-150°	3247.7	47.9
90°-180°	4606.0	68.0
0°-180°	6778.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	913	913	913	913	913	
5°	904	911	904	911	904	86
15°	866	864	862	864	866	243
25°	772	778	768	778	772	355
35°	636	664	632	664	636	398
45°	493	521	489	521	493	382
55°	367	315	364	315	367	329
65°	242	166	242	166	242	240
75°	129	84	133	84	129	147
85°	176	22	87	22	176	134
90°	257	1	52	1	257	142
95°	355	56	31	56	355	312
105°	592	270	17	270	592	622
115°	829	551	190	551	829	823
125°	1038	865	472	865	1038	927
135°	1206	1180	758	1180	1206	931
145°	1325	1476	1020	1476	1325	835
155°	1480	1707	1284	1707	1480	683
165°	1618	1857	1565	1857	1618	459
175°	1914	1935	1873	1935	1914	178
180°	1933	1933	1933	1933	1933	



TEST NUMBER: P392686

CATALOG NUMBER: MWL-4-55-25-UNV-L935-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	912.8	912.8	912.8	912.8	912.8	912.8	912.8	912.8	912.8	912.8	912.8
2.5°	907.8	908.9	909.9	920.6	917.2	919.2	909.9	908.9	909.2	908.9	909.9
5°	904.4	905.5	904.0	911.6	910.8	911.6	902.6	905.5	904.4	905.5	902.6
7.5°	897.3	898.4	897.5	904.0	906.5	902.6	896.1	897.0	897.3	897.0	896.1
10°	889.4	889.9	888.2	893.3	895.0	891.9	886.8	887.1	889.4	887.1	886.8
12.5°	879.4	880.6	872.4	877.5	877.8	877.5	872.4	877.8	876.6	877.8	872.4
15°	866.4	860.2	857.1	864.8	864.3	863.4	855.8	857.5	862.2	857.5	855.8
17.5°	845.1	845.0	841.1	844.8	844.8	844.8	839.7	843.6	841.1	843.6	839.7
20°	825.6	824.2	821.6	825.3	823.8	823.8	820.2	821.6	821.6	821.6	820.2
22.5°	799.6	802.2	798.6	801.5	802.6	800.1	797.3	799.5	797.0	799.5	797.3
25°	771.7	772.6	774.5	778.6	778.0	777.2	771.9	768.4	767.6	768.4	771.9
27.5°	741.1	744.5	751.7	757.9	759.4	756.6	748.9	740.5	737.1	740.5	748.9
30°	710.6	710.6	719.9	726.2	722.9	723.5	715.9	706.5	705.1	706.5	715.9
32.5°	675.0	675.0	687.7	699.0	696.4	696.4	683.7	669.4	669.4	669.4	683.7
35°	636.3	638.9	650.7	667.7	664.3	663.6	646.6	634.7	632.2	634.7	646.6
37.5°	599.9	598.2	611.7	631.2	637.9	627.1	607.6	594.0	595.7	594.0	607.6
40°	563.4	560.0	570.2	591.7	597.1	588.9	564.7	554.5	557.9	554.5	564.7
42.5°	528.6	522.7	527.2	550.2	559.0	547.3	523.1	517.1	523.1	517.1	523.1
45°	493.3	486.5	484.9	509.5	520.8	506.6	479.3	482.4	489.2	482.4	479.3
47.5°	462.8	453.5	446.7	461.5	476.7	460.0	441.2	449.3	458.6	449.3	441.2
50°	428.0	420.4	411.1	417.3	424.4	414.5	405.6	414.9	423.9	414.9	405.6
52.5°	399.2	389.9	375.8	376.7	369.2	373.8	371.7	384.3	395.0	384.3	371.7
55°	367.3	358.8	342.7	332.0	315.3	329.2	338.5	354.7	364.5	354.7	338.5
57.5°	336.8	330.8	309.6	288.7	267.8	286.0	305.5	326.7	333.9	326.7	305.5
60°	304.8	298.8	275.1	242.4	229.6	241.0	272.4	296.1	303.5	296.1	272.4
62.5°	274.2	270.0	242.0	205.0	192.7	203.7	239.4	267.3	272.9	267.3	239.4
65°	242.4	235.6	209.3	172.0	165.5	170.6	208.0	234.3	242.4	234.3	208.0
67.5°	210.1	203.4	177.1	144.4	143.5	144.4	175.7	202.0	210.1	202.0	175.7
70°	179.1	169.0	145.2	119.8	119.8	119.8	145.2	170.3	180.4	170.3	145.2
72.5°	152.0	139.3	118.9	99.4	101.4	98.0	118.9	140.7	154.7	140.7	118.9
75°	129.1	113.0	93.8	79.4	83.6	79.4	95.2	114.3	133.2	114.3	95.2
77.5°	120.5	98.1	73.4	62.4	67.5	62.4	74.8	94.0	115.1	94.0	74.8
80°	127.6	101.1	61.4	47.1	51.4	47.1	58.7	79.2	101.6	79.2	58.7
82.5°	146.8	118.4	67.7	33.6	36.2	33.6	51.3	69.3	94.9	69.3	51.3
85°	175.5	149.2	90.1	30.9	21.7	28.1	50.5	65.9	86.8	65.9	50.5
87.5°	212.9	192.1	122.9	45.5	6.8	26.4	45.0	61.0	72.2	61.0	45.0
90°	256.8	237.2	166.9	69.0	1.4	17.2	31.8	44.7	51.9	44.7	31.8
92.5°	308.4	289.4	212.4	105.4	22.7	11.2	25.3	36.8	40.8	36.8	25.3
95°	354.8	345.9	265.9	145.4	55.5	8.8	20.2	29.0	31.2	29.0	20.2
97.5°	409.0	403.0	321.0	192.0	97.8	17.3	19.2	27.4	26.7	27.4	19.2
100°	458.0	455.8	377.3	250.7	149.7	45.9	15.5	27.1	27.9	27.1	15.5
102.5°	530.8	512.6	429.1	306.8	205.6	85.5	22.2	21.1	22.8	21.1	22.2
105°	592.0	571.2	495.2	365.4	269.8	138.8	54.1	22.3	17.3	22.3	54.1
107.5°	646.6	631.2	555.3	425.5	338.2	200.2	100.5	52.2	34.8	52.2	100.5
110°	713.2	696.7	614.0	485.6	409.1	265.8	153.8	96.0	74.0	96.0	153.8



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CATALOG NUMBER: MWL-4-55-25-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	778.6	766.4	668.6	548.4	482.9	336.8	219.3	150.6	130.0	150.6	219.3
115°	829.2	822.3	732.3	607.1	551.1	417.3	292.5	214.8	190.1	214.8	292.5
117.5°	882.4	881.1	778.6	668.1	633.1	490.6	359.4	278.9	253.0	278.9	359.4
120°	949.4	938.4	842.8	728.2	711.7	567.0	433.2	352.7	326.7	352.7	433.2
122.5°	995.7	989.0	897.4	785.5	785.5	644.8	504.2	423.6	396.3	423.6	504.2
125°	1038.2	1035.3	938.4	842.8	864.7	717.2	583.4	501.4	471.5	501.4	583.4
127.5°	1076.3	1080.4	991.6	905.7	945.3	790.9	661.2	571.1	539.7	571.1	661.2
130°	1109.1	1122.8	1042.2	963.0	1021.7	871.4	730.9	640.7	620.3	640.7	730.9
132.5°	1173.3	1165.1	1094.1	1021.7	1103.6	945.3	804.6	710.3	687.2	710.3	804.6
135°	1206.1	1208.8	1139.1	1072.2	1180.1	1019.0	874.2	781.4	758.1	781.4	874.2
137.5°	1245.7	1237.4	1174.7	1133.7	1251.1	1089.9	942.5	856.5	819.6	856.5	942.5
140°	1274.3	1273.0	1221.1	1188.3	1327.6	1159.7	1012.2	924.8	890.7	924.8	1012.2
142.5°	1304.4	1313.4	1267.5	1248.4	1404.1	1233.3	1087.3	992.5	958.9	992.5	1087.3
145°	1324.9	1342.6	1313.9	1323.5	1476.4	1315.3	1152.8	1055.8	1020.3	1055.8	1152.8
147.5°	1359.0	1382.2	1348.1	1376.8	1539.2	1387.6	1218.3	1122.8	1091.4	1122.8	1218.3
150°	1405.4	1416.4	1395.8	1450.4	1603.4	1468.2	1285.3	1187.0	1155.5	1187.0	1285.3
152.5°	1442.3	1455.9	1432.8	1531.0	1653.9	1542.0	1359.0	1249.7	1212.9	1249.7	1359.0
155°	1480.5	1486.0	1469.5	1608.9	1707.2	1614.3	1417.7	1319.4	1283.9	1319.4	1417.7
157.5°	1516.0	1527.0	1507.8	1667.6	1753.6	1677.1	1484.6	1389.1	1357.6	1389.1	1484.6
160°	1554.3	1554.3	1565.2	1735.8	1791.8	1731.8	1555.6	1465.5	1421.8	1465.5	1555.6
162.5°	1558.3	1584.3	1643.0	1783.7	1828.7	1779.6	1632.0	1520.1	1481.9	1520.1	1632.0
165°	1618.4	1641.6	1730.5	1826.0	1857.4	1821.9	1726.2	1610.3	1565.2	1610.3	1726.2
167.5°	1681.2	1730.5	1801.4	1873.7	1884.7	1861.4	1798.7	1718.1	1677.1	1718.1	1798.7
170°	1783.7	1826.0	1861.4	1891.6	1906.6	1892.9	1843.8	1804.2	1778.2	1804.2	1843.8
172.5°	1863.4	1891.6	1905.2	1924.3	1915.6	1909.3	1884.7	1865.6	1851.1	1865.6	1884.7
175°	1913.8	1920.2	1932.6	1925.6	1934.7	1918.8	1920.2	1929.7	1872.9	1929.7	1920.2
177.5°	1931.7	1942.0	1935.2	1923.0	1925.1	1921.6	1927.0	1932.6	1923.4	1932.6	1927.0
180°	1932.6	1932.6	1932.6	1932.6	1932.6	1932.6	1932.6	1932.6	1932.6	1932.6	1932.6



TEST NUMBER: P392686

CATALOG NUMBER: MWL-4-55-25-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	912.8	912.8	912.8	912.8	912.8	912.8
2.5°	919.2	917.2	920.6	909.9	908.9	907.8
5°	911.6	910.8	911.6	904.0	905.5	904.4
7.5°	902.6	906.5	904.0	897.5	898.4	897.3
10°	891.9	895.0	893.3	888.2	889.9	889.4
12.5°	877.5	877.8	877.5	872.4	880.6	879.4
15°	863.4	864.3	864.8	857.1	860.2	866.4
17.5°	844.8	844.8	844.8	841.1	845.0	845.1
20°	823.8	823.8	825.3	821.6	824.2	825.6
22.5°	800.1	802.6	801.5	798.6	802.2	799.6
25°	777.2	778.0	778.6	774.5	772.6	771.7
27.5°	756.6	759.4	757.9	751.7	744.5	741.1
30°	723.5	722.9	726.2	719.9	710.6	710.6
32.5°	696.4	696.4	699.0	687.7	675.0	675.0
35°	663.6	664.3	667.7	650.7	638.9	636.3
37.5°	627.1	637.9	631.2	611.7	598.2	599.9
40°	588.9	597.1	591.7	570.2	560.0	563.4
42.5°	547.3	559.0	550.2	527.2	522.7	528.6
45°	506.6	520.8	509.5	484.9	486.5	493.3
47.5°	460.0	476.7	461.5	446.7	453.5	462.8
50°	414.5	424.4	417.3	411.1	420.4	428.0
52.5°	373.8	369.2	376.7	375.8	389.9	399.2
55°	329.2	315.3	332.0	342.7	358.8	367.3
57.5°	286.0	267.8	288.7	309.6	330.8	336.8
60°	241.0	229.6	242.4	275.1	298.8	304.8
62.5°	203.7	192.7	205.0	242.0	270.0	274.2
65°	170.6	165.5	172.0	209.3	235.6	242.4
67.5°	144.4	143.5	144.4	177.1	203.4	210.1
70°	119.8	119.8	119.8	145.2	169.0	179.1
72.5°	98.0	101.4	99.4	118.9	139.3	152.0
75°	79.4	83.6	79.4	93.8	113.0	129.1
77.5°	62.4	67.5	62.4	73.4	98.1	120.5
80°	47.1	51.4	47.1	61.4	101.1	127.6
82.5°	33.6	36.2	33.6	67.7	118.4	146.8
85°	28.1	21.7	30.9	90.1	149.2	175.5
87.5°	26.4	6.8	45.5	122.9	192.1	212.9
90°	17.2	1.4	69.0	166.9	237.2	256.8
92.5°	11.2	22.7	105.4	212.4	289.4	308.4
95°	8.8	55.5	145.4	265.9	345.9	354.8
97.5°	17.3	97.8	192.0	321.0	403.0	409.0
100°	45.9	149.7	250.7	377.3	455.8	458.0
102.5°	85.5	205.6	306.8	429.1	512.6	530.8
105°	138.8	269.8	365.4	495.2	571.2	592.0
107.5°	200.2	338.2	425.5	555.3	631.2	646.6
110°	265.8	409.1	485.6	614.0	696.7	713.2



TEST NUMBER: P392686

CATALOG NUMBER: MWL-4-55-25-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	336.8	482.9	548.4	668.6	766.4	778.6
115°	417.3	551.1	607.1	732.3	822.3	829.2
117.5°	490.6	633.1	668.1	778.6	881.1	882.4
120°	567.0	711.7	728.2	842.8	938.4	949.4
122.5°	644.8	785.5	785.5	897.4	989.0	995.7
125°	717.2	864.7	842.8	938.4	1035.3	1038.2
127.5°	790.9	945.3	905.7	991.6	1080.4	1076.3
130°	871.4	1021.7	963.0	1042.2	1122.8	1109.1
132.5°	945.3	1103.6	1021.7	1094.1	1165.1	1173.3
135°	1019.0	1180.1	1072.2	1139.1	1208.8	1206.1
137.5°	1089.9	1251.1	1133.7	1174.7	1237.4	1245.7
140°	1159.7	1327.6	1188.3	1221.1	1273.0	1274.3
142.5°	1233.3	1404.1	1248.4	1267.5	1313.4	1304.4
145°	1315.3	1476.4	1323.5	1313.9	1342.6	1324.9
147.5°	1387.6	1539.2	1376.8	1348.1	1382.2	1359.0
150°	1468.2	1603.4	1450.4	1395.8	1416.4	1405.4
152.5°	1542.0	1653.9	1531.0	1432.8	1455.9	1442.3
155°	1614.3	1707.2	1608.9	1469.5	1486.0	1480.5
157.5°	1677.1	1753.6	1667.6	1507.8	1527.0	1516.0
160°	1731.8	1791.8	1735.8	1565.2	1554.3	1554.3
162.5°	1779.6	1828.7	1783.7	1643.0	1584.3	1558.3
165°	1821.9	1857.4	1826.0	1730.5	1641.6	1618.4
167.5°	1861.4	1884.7	1873.7	1801.4	1730.5	1681.2
170°	1892.9	1906.6	1891.6	1861.4	1826.0	1783.7
172.5°	1909.3	1915.6	1924.3	1905.2	1891.6	1863.4
175°	1918.8	1934.7	1925.6	1932.6	1920.2	1913.8
177.5°	1921.6	1925.1	1923.0	1935.2	1942.0	1931.7
180°	1932.6	1932.6	1932.6	1932.6	1932.6	1932.6

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