

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: P392581

Luminaire Tested: **MWL-3-30-28-UNV-L835-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392581
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-13 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-3-30-28-UNV-L835-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

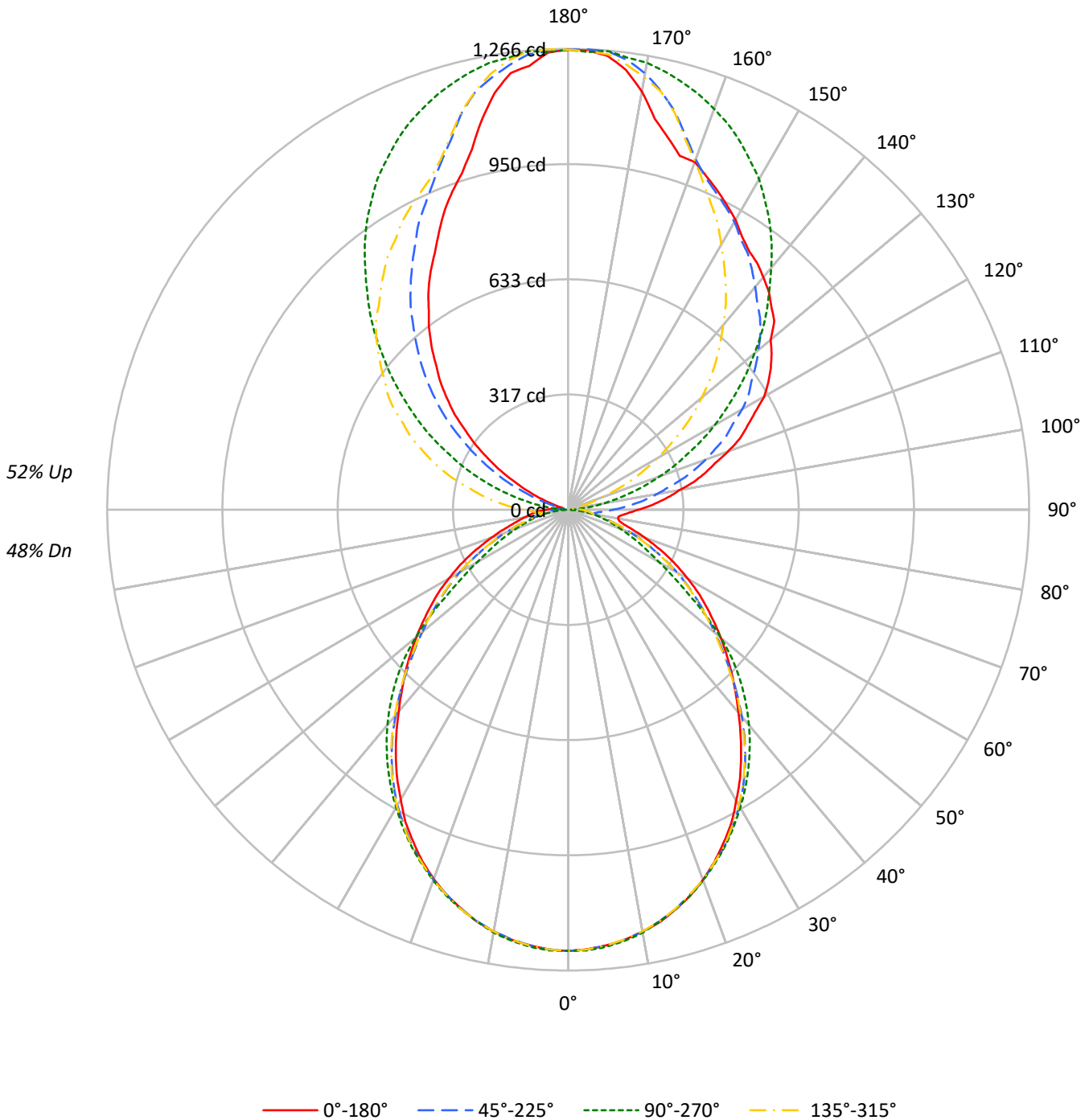
Lumens per Lamp: N/A
Luminaire Lumens: 5802.0 lumens
Efficiency: N/A
Efficacy: 102.7 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 56.5
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			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	0
RCR																		
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	97	93	89	86	89	86	83	80	72	70	68	60	58	56	48	47	46	41
2	89	82	76	71	82	75	70	66	64	60	57	53	50	48	43	41	39	34
3	81	72	65	59	75	67	60	55	56	52	48	47	44	41	38	36	34	30
4	75	64	56	50	68	59	53	47	50	45	41	42	38	35	34	32	29	26
5	69	57	49	43	63	53	46	41	45	40	36	38	34	31	31	28	26	23
6	63	51	43	38	58	48	41	36	41	35	31	34	30	27	28	25	23	20
7	59	46	39	33	54	43	36	31	37	32	28	31	27	24	26	23	20	18
8	54	42	35	29	50	39	33	28	34	28	25	29	25	21	24	21	18	16
9	51	39	31	26	47	36	29	25	31	26	22	26	22	19	22	19	17	15
10	47	35	28	24	44	33	27	22	29	24	20	24	20	18	21	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	10438	10438	10438	10438
5°	10261	9579	10261	9579
10°	10043	8769	10043	8769
15°	9774	7991	9751	7991
20°	9440	7280	9415	7280
25°	9009	6607	8984	6607
30°	8497	5957	8463	5957
35°	7932	5338	7905	5338
40°	7325	4724	7289	4724
45°	6792	4084	6764	4084
50°	6285	3350	6254	3350
55°	5793	2477	5770	2477
60°	5260	1826	5249	1826
65°	4700	1381	4700	1381
70°	4062	1022	4078	1022
75°	3484	739	3543	739
80°	3859	488	3390	488
85°	5835	203	3616	203



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.0	2.0
10°-20°	320.1	5.5
20°-30°	467.0	8.0
30°-40°	527.7	9.1
40°-50°	493.2	8.5
50°-60°	389.1	6.7
60°-70°	254.6	4.4
70°-80°	132.9	2.3
80°-90°	79.5	1.4
90°-100°	107.5	1.9
100°-110°	196.7	3.4
110°-120°	335.9	5.8
120°-130°	456.2	7.9
130°-140°	520.3	9.0
140°-150°	519.0	8.9
150°-160°	452.0	7.8
160°-170°	317.9	5.5
170°-180°	118.4	2.0
0°-30°	901.2	15.5
0°-40°	1428.9	24.6
0°-60°	2311.3	39.8
0°-90°	2778.2	47.9
90°-120°	640.0	11.0
90°-150°	2135.4	36.8
90°-180°	3024.0	52.1
0°-180°	5802.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1212	1212	1212	1212	1212	
5°	1202	1205	1202	1205	1202	114
15°	1137	1136	1134	1136	1137	320
25°	1010	1020	1007	1020	1010	464
35°	828	863	825	863	828	517
45°	635	671	633	671	635	490
55°	462	401	461	401	462	414
65°	299	213	299	213	299	297
75°	159	105	162	105	159	178
85°	153	26	95	26	153	122
90°	192	2	58	2	192	106
95°	250	37	39	37	250	217
105°	389	177	13	177	389	410
115°	543	361	125	361	543	539
125°	679	565	309	565	679	607
135°	789	771	496	771	789	609
145°	867	965	668	965	867	546
155°	968	1116	840	1116	968	447
165°	1058	1215	1024	1215	1058	300
175°	1251	1265	1224	1265	1251	117
180°	1264	1264	1264	1264	1264	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1212.1	1212.1	1212.1	1212.1	1212.1	1212.1	1212.1	1212.1	1212.1	1212.1	1212.1
2.5°	1208.4	1210.1	1209.1	1210.9	1211.9	1210.0	1209.1	1210.1	1209.3	1210.1	1209.1
5°	1201.5	1203.3	1202.2	1203.2	1205.1	1203.2	1201.3	1203.3	1201.5	1203.3	1201.3
7.5°	1191.6	1193.4	1191.5	1193.3	1194.3	1192.4	1190.5	1192.4	1191.6	1192.4	1190.5
10°	1176.7	1177.7	1176.7	1177.7	1179.7	1176.7	1175.7	1175.8	1176.7	1175.8	1175.7
12.5°	1160.9	1160.0	1158.1	1159.0	1158.2	1159.0	1158.1	1158.2	1159.0	1158.2	1158.1
15°	1137.2	1137.4	1136.4	1138.4	1136.5	1137.5	1135.5	1135.5	1134.5	1135.5	1135.5
17.5°	1112.7	1111.9	1109.9	1112.0	1112.0	1112.0	1109.0	1110.9	1109.9	1110.9	1109.0
20°	1082.2	1083.3	1082.4	1084.4	1083.6	1083.6	1081.5	1081.4	1079.4	1081.4	1081.5
22.5°	1047.9	1049.9	1050.0	1054.0	1052.1	1053.1	1049.1	1048.0	1046.0	1048.0	1049.1
25°	1009.6	1012.5	1018.5	1020.6	1019.7	1019.7	1016.6	1009.8	1006.8	1009.8	1016.6
27.5°	970.3	973.2	979.2	984.1	983.3	983.2	977.3	970.4	967.5	970.4	977.3
30°	923.1	929.0	940.8	946.8	945.0	944.9	938.0	926.2	919.4	926.2	938.0
32.5°	877.9	882.8	895.6	906.5	905.6	904.6	892.8	879.2	874.2	879.2	892.8
35°	827.9	830.8	847.5	862.3	863.4	859.5	844.8	828.1	825.1	828.1	844.8
37.5°	777.7	778.7	796.4	817.0	819.1	814.3	793.7	776.0	775.0	776.0	793.7
40°	727.6	725.7	741.4	765.9	772.9	764.2	737.7	722.0	724.0	722.0	737.7
42.5°	680.4	673.6	686.3	713.9	722.8	712.1	683.7	669.9	676.8	669.9	683.7
45°	635.2	623.4	630.3	654.9	670.7	653.1	626.8	620.8	632.6	620.8	626.8
47.5°	590.0	579.2	576.3	596.0	613.7	595.1	572.7	576.6	587.4	576.6	572.7
50°	546.8	535.0	526.2	538.0	548.0	536.3	522.6	531.5	544.1	531.5	522.6
52.5°	503.6	492.7	478.1	480.1	476.2	478.3	475.4	489.2	500.9	489.2	475.4
55°	462.4	452.5	432.9	423.2	400.7	421.4	430.2	449.9	460.6	449.9	430.2
57.5°	423.1	414.2	389.7	365.2	340.7	363.4	387.0	411.6	421.3	411.6	387.0
60°	378.9	374.0	345.5	308.3	289.6	307.4	343.8	372.3	378.1	372.3	343.8
62.5°	339.6	333.7	301.3	260.1	245.5	259.2	299.5	332.0	338.7	332.0	299.5
65°	299.4	290.6	257.2	216.9	213.1	216.0	256.3	289.7	299.4	289.7	256.3
67.5°	259.1	250.3	218.9	182.6	179.6	182.6	218.0	249.4	259.1	249.4	218.0
70°	222.9	209.1	181.6	150.2	152.1	150.2	181.6	210.0	223.8	210.0	181.6
72.5°	189.5	169.8	149.2	123.6	127.7	122.7	149.2	170.7	191.2	170.7	149.2
75°	159.0	137.4	115.9	99.2	105.1	99.2	116.7	138.3	161.7	138.3	116.7
77.5°	143.6	115.4	90.3	78.5	86.4	78.5	91.2	112.7	139.9	112.7	91.2
80°	139.1	108.3	73.3	59.8	65.7	59.8	71.5	93.9	122.2	93.9	71.5
82.5°	139.8	113.1	72.2	42.2	45.1	42.2	61.5	81.0	105.9	81.0	61.5
85°	152.8	128.1	82.1	35.0	25.5	33.2	56.2	73.7	94.7	73.7	56.2
87.5°	170.1	152.3	100.0	40.6	6.9	28.0	49.2	66.6	78.2	66.6	49.2
90°	192.1	178.4	124.3	52.4	1.9	18.5	36.0	52.5	58.4	52.5	36.0
92.5°	222.6	207.9	151.4	73.2	15.2	11.6	29.2	42.8	47.7	42.8	29.2
95°	250.5	243.2	183.0	95.7	36.7	6.5	22.3	36.2	39.0	36.2	22.3
97.5°	281.9	275.5	215.3	125.9	64.4	11.7	18.1	30.1	32.0	30.1	18.1
100°	309.9	306.0	247.6	164.3	98.3	30.5	11.2	25.8	28.8	25.8	11.2
102.5°	353.8	339.1	280.3	200.9	134.8	56.3	14.3	18.0	21.9	18.0	14.3
105°	388.8	372.4	324.0	239.2	176.8	91.1	35.8	13.7	13.2	13.7	35.8
107.5°	422.2	413.3	363.2	278.5	221.4	131.3	66.1	35.0	22.5	35.0	66.1
110°	466.8	456.1	401.6	317.7	267.8	174.0	100.9	63.5	49.2	63.5	100.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	509.6	501.7	437.3	358.8	315.9	220.5	143.8	99.3	85.8	99.3	143.8
115°	542.7	538.2	479.4	397.1	360.6	273.1	192.0	141.1	125.1	141.1	192.0
117.5°	577.5	576.6	509.6	436.4	414.1	320.4	235.8	183.1	166.2	183.1	235.8
120°	621.2	614.1	551.6	475.6	464.9	370.4	283.9	231.2	214.3	231.2	283.9
122.5°	651.6	647.1	587.3	513.2	513.2	421.2	330.3	277.7	259.8	277.7	330.3
125°	679.2	677.4	614.1	550.6	564.9	468.6	382.1	328.5	308.9	328.5	382.1
127.5°	704.2	706.9	648.9	591.7	617.5	516.7	432.9	374.0	353.5	374.0	432.9
130°	725.7	734.5	681.9	629.1	667.5	569.4	478.4	419.5	406.2	419.5	478.4
132.5°	767.5	762.2	715.8	667.5	721.0	617.5	526.6	465.0	449.9	465.0	526.6
135°	788.9	790.7	745.2	701.5	771.1	666.7	572.1	511.4	496.3	511.4	572.1
137.5°	814.8	809.5	768.4	741.7	817.4	713.1	616.8	560.6	536.5	560.6	616.8
140°	833.6	832.7	798.8	777.3	867.4	758.6	662.3	605.2	582.9	605.2	662.3
142.5°	853.2	858.5	829.1	816.7	917.4	806.8	711.3	648.9	627.5	648.9	711.3
145°	866.6	878.2	859.4	865.7	964.7	860.4	754.1	690.8	667.6	690.8	754.1
147.5°	888.9	904.0	881.7	900.5	1005.7	907.7	797.0	734.5	714.0	734.5	797.0
150°	919.2	926.3	913.0	948.6	1048.6	960.2	840.7	776.5	755.9	776.5	840.7
152.5°	943.3	952.3	937.0	1001.3	1081.6	1008.5	888.9	817.5	793.5	817.5	888.9
155°	968.3	971.8	961.2	1052.2	1116.4	1055.8	927.2	863.0	839.8	863.0	927.2
157.5°	991.5	998.7	986.2	1090.5	1146.8	1096.8	970.9	908.5	888.0	908.5	970.9
160°	1016.4	1016.4	1023.6	1135.2	1171.7	1132.5	1017.4	958.5	930.0	958.5	1017.4
162.5°	1019.2	1036.1	1074.5	1166.4	1195.8	1163.8	1067.3	994.1	969.2	994.1	1067.3
165°	1058.4	1073.6	1131.6	1194.0	1214.6	1191.4	1128.9	1053.1	1023.6	1053.1	1128.9
167.5°	1099.5	1131.6	1178.0	1225.3	1232.4	1217.2	1176.2	1123.6	1096.8	1123.6	1176.2
170°	1166.4	1194.0	1217.2	1236.9	1246.7	1237.8	1205.6	1179.8	1162.8	1179.8	1205.6
172.5°	1218.1	1236.9	1245.8	1258.3	1252.0	1248.5	1232.4	1220.0	1210.0	1220.0	1232.4
175°	1251.0	1255.6	1263.6	1259.2	1264.6	1254.8	1255.6	1261.8	1224.3	1261.8	1255.6
177.5°	1262.6	1269.9	1265.5	1257.4	1258.3	1256.5	1260.1	1263.6	1257.3	1263.6	1260.1
180°	1263.6	1263.6	1263.6	1263.6	1263.6	1263.6	1263.6	1263.6	1263.6	1263.6	1263.6



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1212.1	1212.1	1212.1	1212.1	1212.1	1212.1
2.5°	1210.0	1211.9	1210.9	1209.1	1210.1	1208.4
5°	1203.2	1205.1	1203.2	1202.2	1203.3	1201.5
7.5°	1192.4	1194.3	1193.3	1191.5	1193.4	1191.6
10°	1176.7	1179.7	1177.7	1176.7	1177.7	1176.7
12.5°	1159.0	1158.2	1159.0	1158.1	1160.0	1160.9
15°	1137.5	1136.5	1138.4	1136.4	1137.4	1137.2
17.5°	1112.0	1112.0	1112.0	1109.9	1111.9	1112.7
20°	1083.6	1083.6	1084.4	1082.4	1083.3	1082.2
22.5°	1053.1	1052.1	1054.0	1050.0	1049.9	1047.9
25°	1019.7	1019.7	1020.6	1018.5	1012.5	1009.6
27.5°	983.2	983.3	984.1	979.2	973.2	970.3
30°	944.9	945.0	946.8	940.8	929.0	923.1
32.5°	904.6	905.6	906.5	895.6	882.8	877.9
35°	859.5	863.4	862.3	847.5	830.8	827.9
37.5°	814.3	819.1	817.0	796.4	778.7	777.7
40°	764.2	772.9	765.9	741.4	725.7	727.6
42.5°	712.1	722.8	713.9	686.3	673.6	680.4
45°	653.1	670.7	654.9	630.3	623.4	635.2
47.5°	595.1	613.7	596.0	576.3	579.2	590.0
50°	536.3	548.0	538.0	526.2	535.0	546.8
52.5°	478.3	476.2	480.1	478.1	492.7	503.6
55°	421.4	400.7	423.2	432.9	452.5	462.4
57.5°	363.4	340.7	365.2	389.7	414.2	423.1
60°	307.4	289.6	308.3	345.5	374.0	378.9
62.5°	259.2	245.5	260.1	301.3	333.7	339.6
65°	216.0	213.1	216.9	257.2	290.6	299.4
67.5°	182.6	179.6	182.6	218.9	250.3	259.1
70°	150.2	152.1	150.2	181.6	209.1	222.9
72.5°	122.7	127.7	123.6	149.2	169.8	189.5
75°	99.2	105.1	99.2	115.9	137.4	159.0
77.5°	78.5	86.4	78.5	90.3	115.4	143.6
80°	59.8	65.7	59.8	73.3	108.3	139.1
82.5°	42.2	45.1	42.2	72.2	113.1	139.8
85°	33.2	25.5	35.0	82.1	128.1	152.8
87.5°	28.0	6.9	40.6	100.0	152.3	170.1
90°	18.5	1.9	52.4	124.3	178.4	192.1
92.5°	11.6	15.2	73.2	151.4	207.9	222.6
95°	6.5	36.7	95.7	183.0	243.2	250.5
97.5°	11.7	64.4	125.9	215.3	275.5	281.9
100°	30.5	98.3	164.3	247.6	306.0	309.9
102.5°	56.3	134.8	200.9	280.3	339.1	353.8
105°	91.1	176.8	239.2	324.0	372.4	388.8
107.5°	131.3	221.4	278.5	363.2	413.3	422.2
110°	174.0	267.8	317.7	401.6	456.1	466.8



TEST NUMBER: P392581

CATALOG NUMBER: MWL-3-30-28-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	220.5	315.9	358.8	437.3	501.7	509.6
115°	273.1	360.6	397.1	479.4	538.2	542.7
117.5°	320.4	414.1	436.4	509.6	576.6	577.5
120°	370.4	464.9	475.6	551.6	614.1	621.2
122.5°	421.2	513.2	513.2	587.3	647.1	651.6
125°	468.6	564.9	550.6	614.1	677.4	679.2
127.5°	516.7	617.5	591.7	648.9	706.9	704.2
130°	569.4	667.5	629.1	681.9	734.5	725.7
132.5°	617.5	721.0	667.5	715.8	762.2	767.5
135°	666.7	771.1	701.5	745.2	790.7	788.9
137.5°	713.1	817.4	741.7	768.4	809.5	814.8
140°	758.6	867.4	777.3	798.8	832.7	833.6
142.5°	806.8	917.4	816.7	829.1	858.5	853.2
145°	860.4	964.7	865.7	859.4	878.2	866.6
147.5°	907.7	1005.7	900.5	881.7	904.0	888.9
150°	960.2	1048.6	948.6	913.0	926.3	919.2
152.5°	1008.5	1081.6	1001.3	937.0	952.3	943.3
155°	1055.8	1116.4	1052.2	961.2	971.8	968.3
157.5°	1096.8	1146.8	1090.5	986.2	998.7	991.5
160°	1132.5	1171.7	1135.2	1023.6	1016.4	1016.4
162.5°	1163.8	1195.8	1166.4	1074.5	1036.1	1019.2
165°	1191.4	1214.6	1194.0	1131.6	1073.6	1058.4
167.5°	1217.2	1232.4	1225.3	1178.0	1131.6	1099.5
170°	1237.8	1246.7	1236.9	1217.2	1194.0	1166.4
172.5°	1248.5	1252.0	1258.3	1245.8	1236.9	1218.1
175°	1254.8	1264.6	1259.2	1263.6	1255.6	1251.0
177.5°	1256.5	1258.3	1257.4	1265.5	1269.9	1262.6
180°	1263.6	1263.6	1263.6	1263.6	1263.6	1263.6

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