

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-L935-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-L935-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

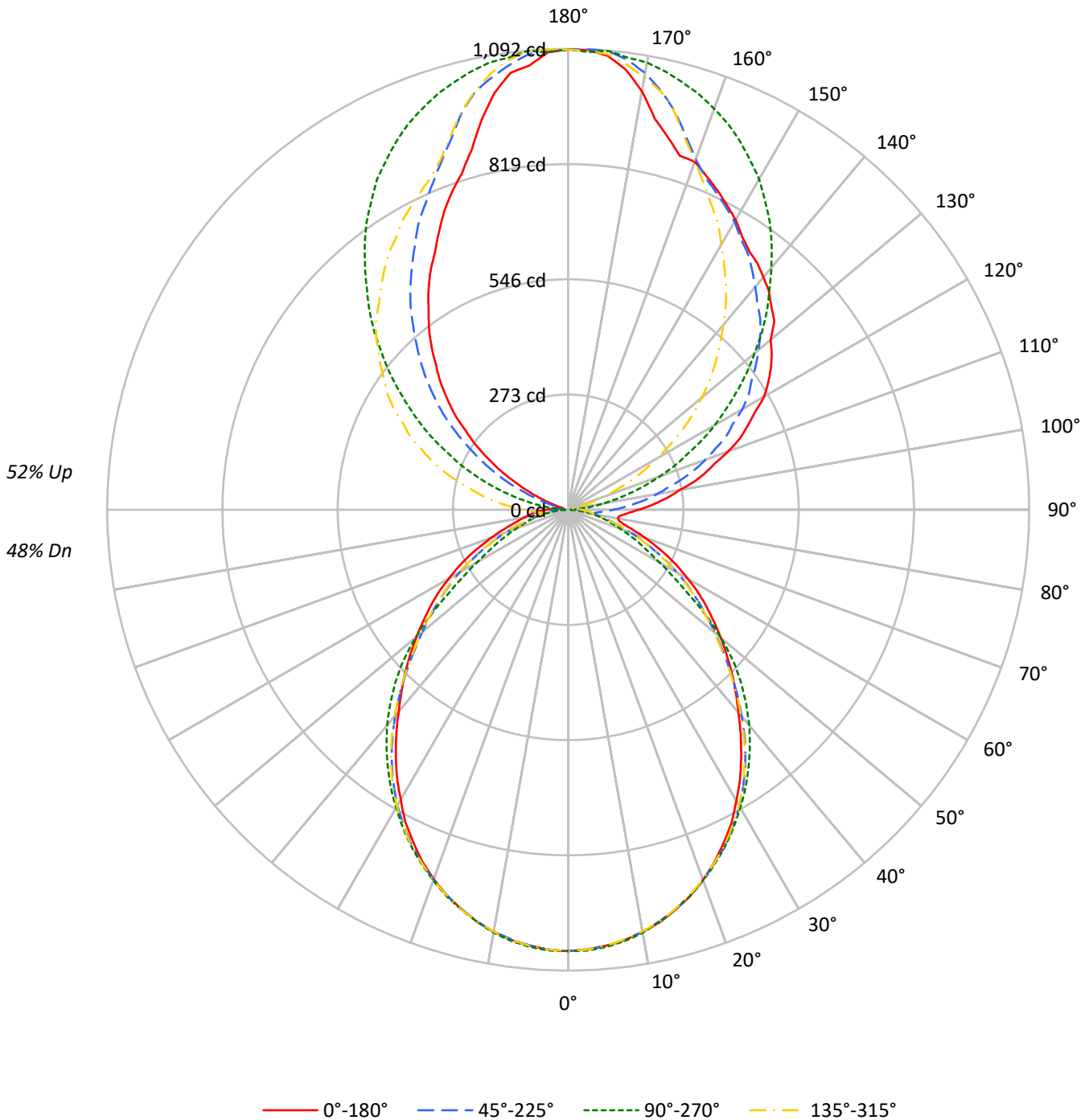
Lumens per Lamp: N/A
Luminaire Lumens: 5006.5 lumens
Efficiency: N/A
Efficacy: 87.7 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 57.065
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	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°	9006	9006	9006	9006
5°	8855	8266	8855	8266
10°	8666	7567	8666	7567
15°	8434	6895	8415	6895
20°	8145	6282	8124	6282
25°	7774	5702	7753	5702
30°	7332	5140	7303	5140
35°	6844	4606	6821	4606
40°	6321	4076	6289	4076
45°	5861	3524	5837	3524
50°	5423	2890	5396	2890
55°	4999	2138	4980	2138
60°	4540	1575	4530	1575
65°	4057	1192	4057	1192
70°	3504	881	3519	881
75°	3006	638	3057	638
80°	3329	421	2924	421
85°	5036	175	3120	175



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.4	2.0
10°-20°	276.2	5.5
20°-30°	403.0	8.0
30°-40°	455.4	9.1
40°-50°	425.6	8.5
50°-60°	335.8	6.7
60°-70°	219.7	4.4
70°-80°	114.6	2.3
80°-90°	68.6	1.4
90°-100°	92.7	1.9
100°-110°	169.7	3.4
110°-120°	289.8	5.8
120°-130°	393.6	7.9
130°-140°	449.0	9.0
140°-150°	447.8	8.9
150°-160°	390.0	7.8
160°-170°	274.4	5.5
170°-180°	102.2	2.0
0°-30°	777.6	15.5
0°-40°	1233.0	24.6
0°-60°	1994.4	39.8
0°-90°	2397.3	47.9
90°-120°	552.3	11.0
90°-150°	1842.7	36.8
90°-180°	2609.0	52.1
0°-180°	5006.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1046	1046	1046	1046	1046	
5°	1037	1040	1037	1040	1037	98
15°	981	981	979	981	981	276
25°	871	880	869	880	871	401
35°	714	745	712	745	714	446
45°	548	579	546	579	548	423
55°	399	346	398	346	399	357
65°	258	184	258	184	258	256
75°	137	91	140	91	137	153
85°	132	22	82	22	132	105
90°	166	2	50	2	166	92
95°	216	32	34	32	216	188
105°	336	153	11	153	336	354
115°	468	311	108	311	468	465
125°	586	488	266	488	586	523
135°	681	665	428	665	681	525
145°	748	832	576	832	748	471
155°	836	963	725	963	836	385
165°	913	1048	883	1048	913	259
175°	1080	1091	1056	1091	1080	101
180°	1090	1090	1090	1090	1090	



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CATALOG NUMBER: MWL-3-30-28-UNV-L935-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1045.9	1045.9	1045.9	1045.9	1045.9	1045.9	1045.9	1045.9	1045.9	1045.9	1045.9
2.5°	1042.7	1044.2	1043.3	1044.9	1045.7	1044.1	1043.3	1044.2	1043.5	1044.2	1043.3
5°	1036.8	1038.3	1037.4	1038.2	1039.9	1038.2	1036.6	1038.3	1036.8	1038.3	1036.6
7.5°	1028.2	1029.8	1028.1	1029.7	1030.6	1028.9	1027.3	1028.9	1028.2	1028.9	1027.3
10°	1015.4	1016.2	1015.4	1016.2	1018.0	1015.4	1014.5	1014.6	1015.4	1014.6	1014.5
12.5°	1001.7	1001.0	999.3	1000.1	999.4	1000.1	999.3	999.4	1000.1	999.4	999.3
15°	981.3	981.5	980.6	982.3	980.7	981.5	979.8	979.8	979.0	979.8	979.8
17.5°	960.1	959.5	957.7	959.5	959.5	959.5	957.0	958.6	957.7	958.6	957.0
20°	933.8	934.8	934.0	935.7	935.0	935.0	933.2	933.1	931.4	933.1	933.2
22.5°	904.2	906.0	906.0	909.5	907.9	908.7	905.3	904.3	902.6	904.3	905.3
25°	871.2	873.7	878.9	880.7	879.9	879.9	877.2	871.4	868.8	871.4	877.2
27.5°	837.3	839.8	845.0	849.2	848.5	848.4	843.3	837.4	834.9	837.4	843.3
30°	796.5	801.6	811.8	817.0	815.4	815.4	809.4	799.2	793.4	799.2	809.4
32.5°	757.5	761.8	772.8	782.2	781.4	780.6	770.4	758.7	754.3	758.7	770.4
35°	714.4	716.9	731.3	744.1	745.0	741.7	729.0	714.6	712.0	714.6	729.0
37.5°	671.1	671.9	687.2	705.0	706.8	702.7	684.9	669.6	668.7	669.6	684.9
40°	627.8	626.2	639.8	660.9	666.9	659.4	636.6	623.0	624.7	623.0	636.6
42.5°	587.1	581.2	592.2	616.0	623.7	614.5	590.0	578.1	584.0	578.1	590.0
45°	548.1	537.9	543.9	565.1	578.7	563.6	540.9	535.7	545.9	535.7	540.9
47.5°	509.1	499.8	497.3	514.3	529.6	513.5	494.2	497.5	506.9	497.5	494.2
50°	471.8	461.7	454.1	464.2	472.9	462.8	451.0	458.6	469.5	458.6	451.0
52.5°	434.6	425.2	412.6	414.3	410.9	412.7	410.2	422.1	432.2	422.1	410.2
55°	399.0	390.5	373.5	365.2	345.8	363.6	371.2	388.2	397.5	388.2	371.2
57.5°	365.1	357.4	336.3	315.1	294.0	313.6	333.9	355.2	363.5	355.2	333.9
60°	327.0	322.7	298.1	266.0	249.9	265.3	296.7	321.3	326.3	321.3	296.7
62.5°	293.0	287.9	260.0	224.4	211.8	223.7	258.4	286.5	292.3	286.5	258.4
65°	258.4	250.8	221.9	187.2	183.9	186.4	221.2	250.0	258.4	250.0	221.2
67.5°	223.6	216.0	188.9	157.6	155.0	157.6	188.1	215.2	223.6	215.2	188.1
70°	192.3	180.4	156.7	129.6	131.2	129.6	156.7	181.2	193.1	181.2	156.7
72.5°	163.5	146.5	128.7	106.7	110.2	105.9	128.7	147.3	165.0	147.3	128.7
75°	137.2	118.6	100.0	85.6	90.7	85.6	100.7	119.3	139.5	119.3	100.7
77.5°	123.9	99.6	77.9	67.7	74.6	67.7	78.7	97.2	120.7	97.2	78.7
80°	120.0	93.5	63.3	51.6	56.7	51.6	61.7	81.0	105.4	81.0	61.7
82.5°	120.6	97.6	62.3	36.4	38.9	36.4	53.1	69.9	91.4	69.9	53.1
85°	131.9	110.5	70.8	30.2	22.0	28.6	48.5	63.6	81.7	63.6	48.5
87.5°	146.8	131.4	86.3	35.0	6.0	24.2	42.5	57.5	67.5	57.5	42.5
90°	165.8	153.9	107.3	45.2	1.6	16.0	31.1	45.3	50.4	45.3	31.1
92.5°	192.1	179.4	130.6	63.2	13.1	10.0	25.2	36.9	41.2	36.9	25.2
95°	216.2	209.9	157.9	82.6	31.7	5.6	19.2	31.2	33.7	31.2	19.2
97.5°	243.3	237.7	185.8	108.6	55.6	10.1	15.6	26.0	27.6	26.0	15.6
100°	267.4	264.0	213.7	141.8	84.8	26.3	9.7	22.3	24.9	22.3	9.7
102.5°	305.3	292.6	241.9	173.4	116.3	48.6	12.3	15.5	18.9	15.5	12.3
105°	335.5	321.3	279.6	206.4	152.6	78.6	30.9	11.8	11.4	11.8	30.9
107.5°	364.3	356.6	313.4	240.3	191.0	113.3	57.0	30.2	19.4	30.2	57.0
110°	402.8	393.6	346.5	274.1	231.1	150.1	87.1	54.8	42.5	54.8	87.1



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CATALOG NUMBER: MWL-3-30-28-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	439.7	432.9	377.3	309.6	272.6	190.3	124.1	85.7	74.0	85.7	124.1
115°	468.3	464.4	413.7	342.7	311.2	235.7	165.7	121.8	107.9	121.8	165.7
117.5°	498.3	497.5	439.7	376.6	357.3	276.5	203.5	158.0	143.4	158.0	203.5
120°	536.0	529.9	476.0	410.4	401.2	319.6	245.0	199.5	184.9	199.5	245.0
122.5°	562.3	558.4	506.8	442.8	442.8	363.5	285.0	239.6	224.2	239.6	285.0
125°	586.1	584.5	529.9	475.1	487.5	404.4	329.7	283.5	266.5	283.5	329.7
127.5°	607.7	610.0	559.9	510.6	532.8	445.9	373.5	322.7	305.0	322.7	373.5
130°	626.2	633.8	588.4	542.9	576.0	491.3	412.8	362.0	350.5	362.0	412.8
132.5°	662.3	657.7	617.7	576.0	622.2	532.8	454.4	401.2	388.2	401.2	454.4
135°	680.7	682.3	643.0	605.3	665.4	575.3	493.7	441.3	428.3	441.3	493.7
137.5°	703.1	698.5	663.1	640.0	705.3	615.3	532.2	483.7	462.9	483.7	532.2
140°	719.3	718.5	689.3	670.7	748.5	654.6	571.5	522.2	503.0	522.2	571.5
142.5°	736.2	740.8	715.4	704.7	791.6	696.2	613.8	559.9	541.5	559.9	613.8
145°	747.8	757.8	741.6	747.0	832.4	742.4	650.7	596.1	576.1	596.1	650.7
147.5°	767.0	780.1	760.8	777.0	867.8	783.3	687.7	633.8	616.1	633.8	687.7
150°	793.2	799.3	787.8	818.5	904.8	828.6	725.4	670.0	652.3	670.0	725.4
152.5°	814.0	821.7	808.5	864.0	933.3	870.2	767.0	705.4	684.7	705.4	767.0
155°	835.5	838.6	829.4	907.9	963.3	911.0	800.1	744.7	724.7	744.7	800.1
157.5°	855.6	861.8	851.0	941.0	989.6	946.4	837.8	783.9	766.3	783.9	837.8
160°	877.1	877.1	883.3	979.6	1011.1	977.2	877.9	827.1	802.5	827.1	877.9
162.5°	879.5	894.1	927.2	1006.5	1031.9	1004.2	921.0	857.8	836.3	857.8	921.0
165°	913.3	926.4	976.5	1030.3	1048.1	1028.1	974.1	908.7	883.3	908.7	974.1
167.5°	948.8	976.5	1016.5	1057.3	1063.4	1050.3	1014.9	969.6	946.4	969.6	1014.9
170°	1006.5	1030.3	1050.3	1067.3	1075.8	1068.1	1040.3	1018.0	1003.4	1018.0	1040.3
172.5°	1051.1	1067.3	1075.0	1085.8	1080.4	1077.3	1063.4	1052.7	1044.1	1052.7	1063.4
175°	1079.5	1083.5	1090.4	1086.6	1091.2	1082.8	1083.5	1088.8	1056.4	1088.8	1083.5
177.5°	1089.5	1095.8	1092.0	1085.0	1085.8	1084.2	1087.3	1090.4	1084.9	1090.4	1087.3
180°	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4



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CATALOG NUMBER: MWL-3-30-28-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1045.9	1045.9	1045.9	1045.9	1045.9	1045.9
2.5°	1044.1	1045.7	1044.9	1043.3	1044.2	1042.7
5°	1038.2	1039.9	1038.2	1037.4	1038.3	1036.8
7.5°	1028.9	1030.6	1029.7	1028.1	1029.8	1028.2
10°	1015.4	1018.0	1016.2	1015.4	1016.2	1015.4
12.5°	1000.1	999.4	1000.1	999.3	1001.0	1001.7
15°	981.5	980.7	982.3	980.6	981.5	981.3
17.5°	959.5	959.5	959.5	957.7	959.5	960.1
20°	935.0	935.0	935.7	934.0	934.8	933.8
22.5°	908.7	907.9	909.5	906.0	906.0	904.2
25°	879.9	879.9	880.7	878.9	873.7	871.2
27.5°	848.4	848.5	849.2	845.0	839.8	837.3
30°	815.4	815.4	817.0	811.8	801.6	796.5
32.5°	780.6	781.4	782.2	772.8	761.8	757.5
35°	741.7	745.0	744.1	731.3	716.9	714.4
37.5°	702.7	706.8	705.0	687.2	671.9	671.1
40°	659.4	666.9	660.9	639.8	626.2	627.8
42.5°	614.5	623.7	616.0	592.2	581.2	587.1
45°	563.6	578.7	565.1	543.9	537.9	548.1
47.5°	513.5	529.6	514.3	497.3	499.8	509.1
50°	462.8	472.9	464.2	454.1	461.7	471.8
52.5°	412.7	410.9	414.3	412.6	425.2	434.6
55°	363.6	345.8	365.2	373.5	390.5	399.0
57.5°	313.6	294.0	315.1	336.3	357.4	365.1
60°	265.3	249.9	266.0	298.1	322.7	327.0
62.5°	223.7	211.8	224.4	260.0	287.9	293.0
65°	186.4	183.9	187.2	221.9	250.8	258.4
67.5°	157.6	155.0	157.6	188.9	216.0	223.6
70°	129.6	131.2	129.6	156.7	180.4	192.3
72.5°	105.9	110.2	106.7	128.7	146.5	163.5
75°	85.6	90.7	85.6	100.0	118.6	137.2
77.5°	67.7	74.6	67.7	77.9	99.6	123.9
80°	51.6	56.7	51.6	63.3	93.5	120.0
82.5°	36.4	38.9	36.4	62.3	97.6	120.6
85°	28.6	22.0	30.2	70.8	110.5	131.9
87.5°	24.2	6.0	35.0	86.3	131.4	146.8
90°	16.0	1.6	45.2	107.3	153.9	165.8
92.5°	10.0	13.1	63.2	130.6	179.4	192.1
95°	5.6	31.7	82.6	157.9	209.9	216.2
97.5°	10.1	55.6	108.6	185.8	237.7	243.3
100°	26.3	84.8	141.8	213.7	264.0	267.4
102.5°	48.6	116.3	173.4	241.9	292.6	305.3
105°	78.6	152.6	206.4	279.6	321.3	335.5
107.5°	113.3	191.0	240.3	313.4	356.6	364.3
110°	150.1	231.1	274.1	346.5	393.6	402.8



TEST NUMBER: P392581

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	190.3	272.6	309.6	377.3	432.9	439.7
115°	235.7	311.2	342.7	413.7	464.4	468.3
117.5°	276.5	357.3	376.6	439.7	497.5	498.3
120°	319.6	401.2	410.4	476.0	529.9	536.0
122.5°	363.5	442.8	442.8	506.8	558.4	562.3
125°	404.4	487.5	475.1	529.9	584.5	586.1
127.5°	445.9	532.8	510.6	559.9	610.0	607.7
130°	491.3	576.0	542.9	588.4	633.8	626.2
132.5°	532.8	622.2	576.0	617.7	657.7	662.3
135°	575.3	665.4	605.3	643.0	682.3	680.7
137.5°	615.3	705.3	640.0	663.1	698.5	703.1
140°	654.6	748.5	670.7	689.3	718.5	719.3
142.5°	696.2	791.6	704.7	715.4	740.8	736.2
145°	742.4	832.4	747.0	741.6	757.8	747.8
147.5°	783.3	867.8	777.0	760.8	780.1	767.0
150°	828.6	904.8	818.5	787.8	799.3	793.2
152.5°	870.2	933.3	864.0	808.5	821.7	814.0
155°	911.0	963.3	907.9	829.4	838.6	835.5
157.5°	946.4	989.6	941.0	851.0	861.8	855.6
160°	977.2	1011.1	979.6	883.3	877.1	877.1
162.5°	1004.2	1031.9	1006.5	927.2	894.1	879.5
165°	1028.1	1048.1	1030.3	976.5	926.4	913.3
167.5°	1050.3	1063.4	1057.3	1016.5	976.5	948.8
170°	1068.1	1075.8	1067.3	1050.3	1030.3	1006.5
172.5°	1077.3	1080.4	1085.8	1075.0	1067.3	1051.1
175°	1082.8	1091.2	1086.6	1090.4	1083.5	1079.5
177.5°	1084.2	1085.8	1085.0	1092.0	1095.8	1089.5
180°	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4

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