

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: P392580

Luminaire Tested: **MWL-3-30-28-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392580
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-L930-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

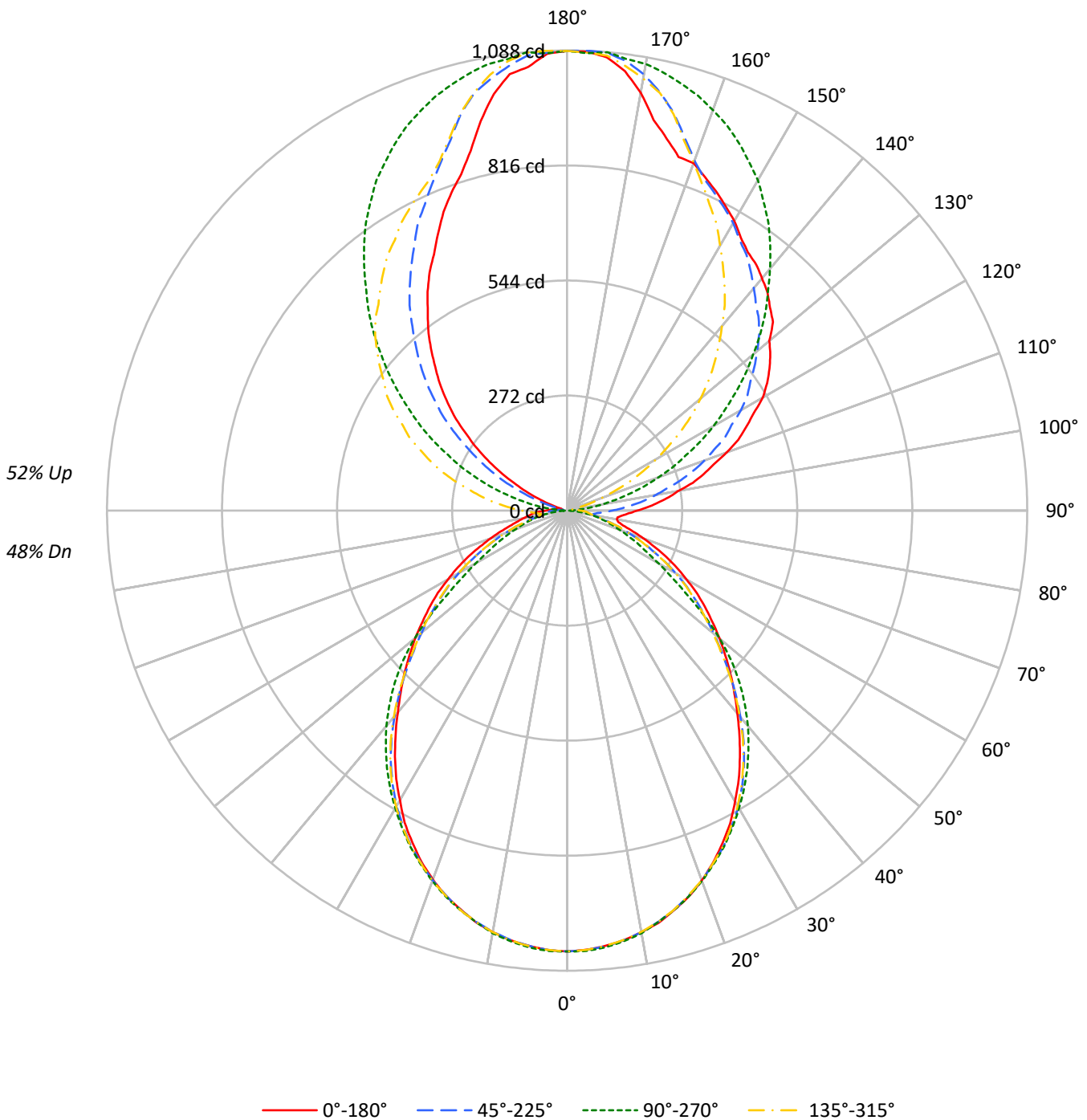
Lumens per Lamp: N/A
Luminaire Lumens: 4989.8 lumens
Efficiency: N/A
Efficacy: 87.4 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 57.065
Input Voltage (V): NR
Input Current (A_{in}): 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



TEST NUMBER: P392580
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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	48	48	48	48	48	48														
1	97	93	89	86	89	86	83	80	72	70	68	60	58	56	48	47	46	41	41	41	41	41	41	41														
2	89	82	76	71	82	75	70	66	64	60	57	53	50	48	43	41	39	34	34	34	34	34	34	34														
3	81	72	65	59	75	67	60	55	56	52	48	47	44	41	38	36	34	30	30	30	30	30	30	30														
4	75	64	56	50	68	59	53	47	50	45	41	42	38	35	34	32	29	26	26	26	26	26	26	26														
5	69	57	49	43	63	53	46	41	45	40	36	38	34	31	31	28	26	23	23	23	23	23	23	23														
6	63	51	43	38	58	48	41	36	41	35	31	34	30	27	28	25	23	20	20	20	20	20	20	20														
7	59	46	39	33	54	43	36	31	37	32	28	31	27	24	26	23	20	18	18	18	18	18	18	18														
8	54	42	35	29	50	39	33	28	34	28	25	29	25	21	24	21	18	16	16	16	16	16	16	16														
9	51	39	31	26	47	36	29	25	31	26	22	26	22	19	22	19	17	15	15	15	15	15	15	15														
10	47	35	28	24	44	33	27	22	29	24	20	24	20	18	21	17	15	13	13	13	13	13	13	13														

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	8976	8976	8976	8976
5°	8825	8238	8825	8238
10°	8637	7541	8637	7541
15°	8407	6872	8386	6872
20°	8118	6261	8097	6261
25°	7748	5683	7727	5683
30°	7308	5123	7279	5123
35°	6821	4591	6798	4591
40°	6300	4063	6268	4063
45°	5843	3512	5818	3512
50°	5406	2880	5379	2880
55°	4981	2130	4962	2130
60°	4524	1570	4515	1570
65°	4043	1187	4043	1187
70°	3493	879	3508	879
75°	2995	635	3046	635
80°	3318	420	2913	420
85°	5021	174	3108	174



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.1	2.0
10°-20°	275.3	5.5
20°-30°	401.7	8.0
30°-40°	453.8	9.1
40°-50°	424.2	8.5
50°-60°	334.7	6.7
60°-70°	218.9	4.4
70°-80°	114.3	2.3
80°-90°	68.4	1.4
90°-100°	92.4	1.9
100°-110°	169.1	3.4
110°-120°	288.9	5.8
120°-130°	392.3	7.9
130°-140°	447.5	9.0
140°-150°	446.4	8.9
150°-160°	388.7	7.8
160°-170°	273.4	5.5
170°-180°	101.8	2.0
0°-30°	775.0	15.5
0°-40°	1228.9	24.6
0°-60°	1987.7	39.8
0°-90°	2389.3	47.9
90°-120°	550.4	11.0
90°-150°	1836.5	36.8
90°-180°	2601.0	52.1
0°-180°	4989.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1042	1042	1042	1042	1042	
5°	1033	1036	1033	1036	1033	98
15°	978	977	976	977	978	276
25°	868	877	866	877	868	399
35°	712	742	710	742	712	445
45°	546	577	544	577	546	422
55°	398	344	396	344	398	356
65°	258	183	258	183	258	255
75°	137	90	139	90	137	153
85°	132	22	81	22	132	105
90°	165	2	50	2	165	92
95°	216	32	34	32	216	187
105°	334	152	11	152	334	353
115°	467	310	108	310	467	463
125°	584	486	266	486	584	522
135°	678	663	427	663	678	524
145°	745	830	574	830	745	470
155°	833	960	722	960	833	384
165°	910	1044	880	1044	910	258
175°	1076	1088	1053	1088	1076	100
180°	1087	1087	1087	1087	1087	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1042.4	1042.4	1042.4	1042.4	1042.4	1042.4	1042.4	1042.4	1042.4	1042.4	1042.4
2.5°	1039.3	1040.8	1039.8	1041.4	1042.2	1040.7	1039.8	1040.8	1040.0	1040.8	1039.8
5°	1033.3	1034.9	1033.9	1034.8	1036.4	1034.8	1033.1	1034.9	1033.3	1034.9	1033.1
7.5°	1024.7	1026.4	1024.6	1026.3	1027.1	1025.5	1023.8	1025.5	1024.7	1025.5	1023.8
10°	1012.0	1012.8	1012.0	1012.8	1014.5	1012.0	1011.2	1011.3	1012.0	1011.3	1011.2
12.5°	998.4	997.6	995.9	996.8	996.0	996.8	995.9	996.0	996.8	996.0	995.9
15°	978.1	978.2	977.4	979.0	977.4	978.2	976.6	976.6	975.7	976.6	976.6
17.5°	956.9	956.2	954.6	956.3	956.3	956.3	953.8	955.3	954.6	955.3	953.8
20°	930.7	931.7	930.9	932.6	931.9	931.9	930.1	930.0	928.3	930.0	930.1
22.5°	901.2	902.9	903.0	906.5	904.8	905.7	902.2	901.3	899.6	901.3	902.2
25°	868.3	870.8	875.9	877.7	877.0	877.0	874.3	868.4	865.9	868.4	874.3
27.5°	834.4	837.0	842.1	846.3	845.6	845.5	840.5	834.6	832.1	834.6	840.5
30°	793.9	799.0	809.1	814.2	812.7	812.6	806.7	796.6	790.8	796.6	806.7
32.5°	754.9	759.2	770.2	779.6	778.8	778.0	767.8	756.1	751.9	756.1	767.8
35°	712.0	714.5	728.9	741.6	742.5	739.2	726.5	712.1	709.6	712.1	726.5
37.5°	668.8	669.7	684.9	702.6	704.4	700.3	682.6	667.3	666.5	667.3	682.6
40°	625.8	624.1	637.6	658.7	664.7	657.2	634.5	620.9	622.6	620.9	634.5
42.5°	585.2	579.3	590.3	613.9	621.6	612.4	588.0	576.1	582.1	576.1	588.0
45°	546.4	536.1	542.1	563.3	576.8	561.7	539.0	533.8	544.1	533.8	539.0
47.5°	507.4	498.1	495.6	512.6	527.8	511.8	492.6	495.9	505.1	495.9	492.6
50°	470.3	460.1	452.5	462.7	471.2	461.2	449.5	457.1	468.0	457.1	449.5
52.5°	433.0	423.8	411.2	412.9	409.6	411.4	408.9	420.7	430.7	420.7	408.9
55°	397.6	389.2	372.3	363.9	344.5	362.4	370.0	386.9	396.1	386.9	370.0
57.5°	363.8	356.3	335.1	314.1	293.0	312.6	332.8	354.0	362.3	354.0	332.8
60°	325.9	321.6	297.2	265.1	249.1	264.3	295.7	320.1	325.2	320.1	295.7
62.5°	292.1	287.0	259.1	223.7	211.1	222.9	257.6	285.5	291.4	285.5	257.6
65°	257.5	249.9	221.2	186.5	183.2	185.8	220.4	249.2	257.5	249.2	220.4
67.5°	222.9	215.3	188.3	157.0	154.5	157.0	187.5	214.5	222.9	214.5	187.5
70°	191.7	179.9	156.2	129.2	130.8	129.2	156.2	180.6	192.5	180.6	156.2
72.5°	163.0	146.1	128.3	106.4	109.8	105.6	128.3	146.8	164.5	146.8	128.3
75°	136.7	118.2	99.7	85.3	90.3	85.3	100.4	119.0	139.0	119.0	100.4
77.5°	123.4	99.2	77.7	67.5	74.3	67.5	78.5	96.9	120.4	96.9	78.5
80°	119.6	93.2	63.0	51.5	56.5	51.5	61.5	80.8	105.0	80.8	61.5
82.5°	120.3	97.3	62.2	36.3	38.8	36.3	52.9	69.6	91.1	69.6	52.9
85°	131.5	110.2	70.5	30.1	21.9	28.5	48.3	63.4	81.4	63.4	48.3
87.5°	146.3	131.0	86.0	34.9	5.9	24.1	42.4	57.3	67.3	57.3	42.4
90°	165.3	153.4	106.9	45.1	1.6	15.8	30.9	45.2	50.2	45.2	30.9
92.5°	191.4	178.8	130.2	63.0	13.1	9.9	25.1	36.9	41.0	36.9	25.1
95°	215.5	209.2	157.3	82.3	31.5	5.5	19.2	31.1	33.5	31.1	19.2
97.5°	242.5	236.9	185.2	108.3	55.4	10.0	15.6	25.9	27.6	25.9	15.6
100°	266.4	263.2	213.0	141.3	84.5	26.2	9.6	22.2	24.7	22.2	9.6
102.5°	304.3	291.7	241.1	172.8	116.0	48.4	12.3	15.5	18.8	15.5	12.3
105°	334.3	320.2	278.7	205.7	152.1	78.4	30.7	11.7	11.4	11.7	30.7
107.5°	363.1	355.5	312.4	239.5	190.5	112.9	56.9	30.1	19.4	30.1	56.9
110°	401.4	392.3	345.4	273.2	230.3	149.7	86.8	54.6	42.4	54.6	86.8



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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°	438.3	431.4	376.1	308.5	271.7	189.7	123.6	85.3	73.8	85.3	123.6
115°	466.7	462.9	412.3	341.5	310.1	234.8	165.2	121.3	107.6	121.3	165.2
117.5°	496.6	495.9	438.3	375.4	356.2	275.5	202.8	157.4	142.9	157.4	202.8
120°	534.2	528.1	474.4	409.1	399.8	318.6	244.2	198.9	184.3	198.9	244.2
122.5°	560.4	556.6	505.1	441.3	441.3	362.2	284.0	238.9	223.5	238.9	284.0
125°	584.1	582.5	528.1	473.5	485.8	403.0	328.6	282.6	265.6	282.6	328.6
127.5°	605.6	607.9	558.1	508.8	531.1	444.4	372.3	321.6	304.0	321.6	372.3
130°	624.1	631.7	586.5	541.1	574.0	489.6	411.5	360.8	349.3	360.8	411.5
132.5°	660.1	655.5	615.6	574.0	620.1	531.1	452.9	399.9	386.9	399.9	452.9
135°	678.5	680.0	640.9	603.3	663.1	573.4	492.0	439.8	426.8	439.8	492.0
137.5°	700.7	696.1	660.8	637.8	703.0	613.3	530.4	482.1	461.4	482.1	530.4
140°	716.9	716.1	687.0	668.6	746.0	652.4	569.6	520.5	501.3	520.5	569.6
142.5°	733.8	738.3	713.0	702.4	788.9	693.9	611.8	558.1	539.7	558.1	611.8
145°	745.3	755.2	739.1	744.5	829.6	740.0	648.6	594.1	574.1	594.1	648.6
147.5°	764.5	777.5	758.3	774.4	864.9	780.6	685.5	631.7	614.0	631.7	685.5
150°	790.6	796.7	785.1	815.9	901.8	825.8	723.1	667.8	650.1	667.8	723.1
152.5°	811.3	819.0	805.8	861.1	930.2	867.3	764.5	703.1	682.4	703.1	764.5
155°	832.8	835.8	826.6	904.9	960.1	908.0	797.4	742.3	722.3	742.3	797.4
157.5°	852.7	858.8	848.1	937.9	986.2	943.3	835.0	781.4	763.7	781.4	835.0
160°	874.2	874.2	880.3	976.2	1007.7	974.0	875.0	824.3	799.8	824.3	875.0
162.5°	876.5	891.1	924.1	1003.2	1028.4	1000.9	917.9	855.0	833.5	855.0	917.9
165°	910.3	923.4	973.2	1026.8	1044.5	1024.5	970.8	905.7	880.3	905.7	970.8
167.5°	945.6	973.2	1013.1	1053.8	1059.9	1046.8	1011.6	966.3	943.3	966.3	1011.6
170°	1003.2	1026.8	1046.8	1063.7	1072.2	1064.5	1036.9	1014.6	1000.0	1014.6	1036.9
172.5°	1047.6	1063.7	1071.4	1082.1	1076.8	1073.7	1059.9	1049.2	1040.7	1049.2	1059.9
175°	1075.9	1079.8	1086.7	1082.9	1087.6	1079.1	1079.8	1085.2	1052.9	1085.2	1079.8
177.5°	1085.8	1092.1	1088.3	1081.4	1082.1	1080.6	1083.6	1086.7	1081.3	1086.7	1083.6
180°	1086.7	1086.7	1086.7	1086.7	1086.7	1086.7	1086.7	1086.7	1086.7	1086.7	1086.7



TEST NUMBER: P392580

CATALOG NUMBER: MWL-3-30-28-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1042.4	1042.4	1042.4	1042.4	1042.4	1042.4
2.5°	1040.7	1042.2	1041.4	1039.8	1040.8	1039.3
5°	1034.8	1036.4	1034.8	1033.9	1034.9	1033.3
7.5°	1025.5	1027.1	1026.3	1024.6	1026.4	1024.7
10°	1012.0	1014.5	1012.8	1012.0	1012.8	1012.0
12.5°	996.8	996.0	996.8	995.9	997.6	998.4
15°	978.2	977.4	979.0	977.4	978.2	978.1
17.5°	956.3	956.3	956.3	954.6	956.2	956.9
20°	931.9	931.9	932.6	930.9	931.7	930.7
22.5°	905.7	904.8	906.5	903.0	902.9	901.2
25°	877.0	877.0	877.7	875.9	870.8	868.3
27.5°	845.5	845.6	846.3	842.1	837.0	834.4
30°	812.6	812.7	814.2	809.1	799.0	793.9
32.5°	778.0	778.8	779.6	770.2	759.2	754.9
35°	739.2	742.5	741.6	728.9	714.5	712.0
37.5°	700.3	704.4	702.6	684.9	669.7	668.8
40°	657.2	664.7	658.7	637.6	624.1	625.8
42.5°	612.4	621.6	613.9	590.3	579.3	585.2
45°	561.7	576.8	563.3	542.1	536.1	546.4
47.5°	511.8	527.8	512.6	495.6	498.1	507.4
50°	461.2	471.2	462.7	452.5	460.1	470.3
52.5°	411.4	409.6	412.9	411.2	423.8	433.0
55°	362.4	344.5	363.9	372.3	389.2	397.6
57.5°	312.6	293.0	314.1	335.1	356.3	363.8
60°	264.3	249.1	265.1	297.2	321.6	325.9
62.5°	222.9	211.1	223.7	259.1	287.0	292.1
65°	185.8	183.2	186.5	221.2	249.9	257.5
67.5°	157.0	154.5	157.0	188.3	215.3	222.9
70°	129.2	130.8	129.2	156.2	179.9	191.7
72.5°	105.6	109.8	106.4	128.3	146.1	163.0
75°	85.3	90.3	85.3	99.7	118.2	136.7
77.5°	67.5	74.3	67.5	77.7	99.2	123.4
80°	51.5	56.5	51.5	63.0	93.2	119.6
82.5°	36.3	38.8	36.3	62.2	97.3	120.3
85°	28.5	21.9	30.1	70.5	110.2	131.5
87.5°	24.1	5.9	34.9	86.0	131.0	146.3
90°	15.8	1.6	45.1	106.9	153.4	165.3
92.5°	9.9	13.1	63.0	130.2	178.8	191.4
95°	5.5	31.5	82.3	157.3	209.2	215.5
97.5°	10.0	55.4	108.3	185.2	236.9	242.5
100°	26.2	84.5	141.3	213.0	263.2	266.4
102.5°	48.4	116.0	172.8	241.1	291.7	304.3
105°	78.4	152.1	205.7	278.7	320.2	334.3
107.5°	112.9	190.5	239.5	312.4	355.5	363.1
110°	149.7	230.3	273.2	345.4	392.3	401.4



TEST NUMBER: P392580

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	189.7	271.7	308.5	376.1	431.4	438.3
115°	234.8	310.1	341.5	412.3	462.9	466.7
117.5°	275.5	356.2	375.4	438.3	495.9	496.6
120°	318.6	399.8	409.1	474.4	528.1	534.2
122.5°	362.2	441.3	441.3	505.1	556.6	560.4
125°	403.0	485.8	473.5	528.1	582.5	584.1
127.5°	444.4	531.1	508.8	558.1	607.9	605.6
130°	489.6	574.0	541.1	586.5	631.7	624.1
132.5°	531.1	620.1	574.0	615.6	655.5	660.1
135°	573.4	663.1	603.3	640.9	680.0	678.5
137.5°	613.3	703.0	637.8	660.8	696.1	700.7
140°	652.4	746.0	668.6	687.0	716.1	716.9
142.5°	693.9	788.9	702.4	713.0	738.3	733.8
145°	740.0	829.6	744.5	739.1	755.2	745.3
147.5°	780.6	864.9	774.4	758.3	777.5	764.5
150°	825.8	901.8	815.9	785.1	796.7	790.6
152.5°	867.3	930.2	861.1	805.8	819.0	811.3
155°	908.0	960.1	904.9	826.6	835.8	832.8
157.5°	943.3	986.2	937.9	848.1	858.8	852.7
160°	974.0	1007.7	976.2	880.3	874.2	874.2
162.5°	1000.9	1028.4	1003.2	924.1	891.1	876.5
165°	1024.5	1044.5	1026.8	973.2	923.4	910.3
167.5°	1046.8	1059.9	1053.8	1013.1	973.2	945.6
170°	1064.5	1072.2	1063.7	1046.8	1026.8	1003.2
172.5°	1073.7	1076.8	1082.1	1071.4	1063.7	1047.6
175°	1079.1	1087.6	1082.9	1086.7	1079.8	1075.9
177.5°	1080.6	1082.1	1081.4	1088.3	1092.1	1085.8
180°	1086.7	1086.7	1086.7	1086.7	1086.7	1086.7

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