

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: NEO-RAY

Report Number: P331649-940

Luminaire Tested: **SA2XXRDIP-C485D330U940-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331649-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D330U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

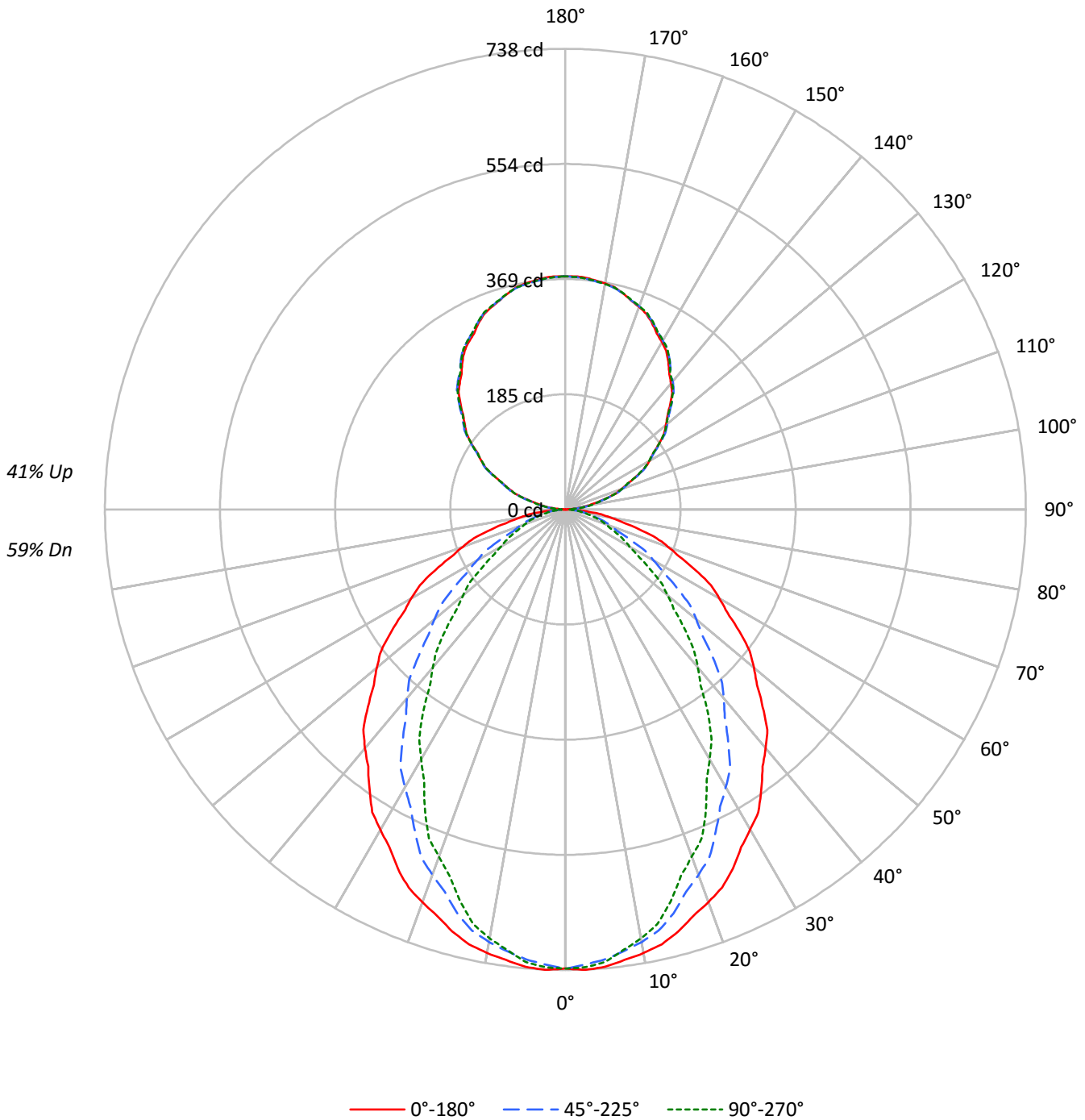
Lumens per Lamp: N/A
Luminaire Lumens: 2558.9 lumens
Efficiency: N/A
Efficacy: 93.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 27.5
Input Voltage (V): 120
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	
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	0	
RCR																						
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	65	65	65	59				
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	56	51				
2	92	85	79	74	86	79	74	70	69	65	62	60	57	55	52	50	48	44				
3	84	75	68	62	78	70	64	59	62	57	53	54	50	47	46	44	41	38				
4	77	67	59	53	72	63	56	51	55	50	46	48	44	41	42	39	36	33				
5	71	60	52	46	66	56	49	44	50	44	40	44	39	36	38	35	32	29				
6	66	54	46	40	61	51	44	39	45	39	35	40	35	32	35	31	28	26				
7	61	49	41	36	57	46	39	34	41	35	31	36	32	28	32	28	25	23				
8	57	45	37	32	53	42	35	30	38	32	28	33	29	25	29	26	23	21				
9	53	41	34	29	50	39	32	27	35	29	25	31	26	23	27	24	21	19				
10	50	38	31	26	47	36	29	25	32	27	23	29	24	21	25	22	19	17				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11880	11880	11880
5°	11925	11733	11797
10°	11835	11540	11442
15°	11699	11198	10877
20°	11510	10710	10172
25°	11318	10156	9492
30°	11050	9587	8617
35°	10789	8966	7849
40°	10526	8323	6962
45°	10218	7604	6158
50°	9902	6875	5368
55°	9579	6092	4611
60°	9203	5270	3827
65°	8779	4424	3484
70°	8266	3644	3205
75°	7642	3319	2994
80°	6750	2966	2724
85°	5298	2353	2353



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.9	2.7
10°-20°	189.1	7.4
20°-30°	265.6	10.4
30°-40°	289.6	11.3
40°-50°	266.3	10.4
50°-60°	209.1	8.2
60°-70°	136.4	5.3
70°-80°	70.3	2.7
80°-90°	19.7	0.8
90°-100°	23.7	0.9
100°-110°	73.5	2.9
110°-120°	125.6	4.9
120°-130°	165.1	6.5
130°-140°	185.4	7.2
140°-150°	181.8	7.1
150°-160°	152.4	6.0
160°-170°	101.1	4.0
170°-180°	35.3	1.4
0°-30°	523.6	20.5
0°-40°	813.2	31.8
0°-60°	1288.6	50.4
0°-90°	1515.0	59.2
90°-120°	222.7	8.7
90°-150°	755.0	29.5
90°-180°	1044.0	40.8
0°-180°	2558.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	736	736	736	736	736	
5°	736	732	724	729	728	70
15°	700	692	670	658	651	197
25°	635	613	570	544	533	292
35°	547	512	455	414	398	342
45°	448	402	333	287	270	345
55°	340	287	216	178	164	304
65°	230	176	116	94	91	228
75°	122	77	53	49	48	130
85°	29	15	13	13	13	34
90°	0	4	11	10	11	2
95°	16	19	20	20	20	19
105°	68	69	69	70	70	72
115°	126	128	127	127	126	125
125°	183	186	185	184	184	164
135°	237	241	241	241	240	183
145°	288	290	292	292	291	180
155°	329	330	331	333	332	151
165°	358	358	358	360	359	101
175°	373	372	371	373	371	35
180°	373	373	373	373	373	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	738.5	738.0	737.4	736.7	736.2	735.2	734.0	732.6	731.3	730.0	731.2
5°	735.8	735.1	734.4	733.7	732.9	731.6	729.7	727.7	725.9	723.9	725.2
7.5°	728.3	727.4	726.5	725.5	724.6	723.0	720.8	718.5	716.3	714.1	714.4
10°	721.9	720.9	719.8	718.8	717.7	715.8	712.8	709.8	706.9	703.9	703.5
12.5°	713.9	712.7	711.3	710.1	708.8	706.3	702.5	698.7	694.9	691.2	690.4
15°	699.9	698.3	696.7	695.0	693.4	690.1	685.0	680.0	675.0	669.9	667.2
17.5°	682.8	680.3	677.8	675.3	672.8	668.3	661.9	655.4	649.0	642.5	639.2
20°	669.9	667.0	664.1	661.1	658.1	652.9	645.5	638.1	630.7	623.3	619.6
22.5°	656.1	652.8	649.4	646.1	642.8	637.0	628.7	620.3	612.0	603.6	598.9
25°	635.3	630.6	625.9	621.1	616.4	609.1	599.3	589.6	579.8	570.1	564.0
27.5°	610.3	605.1	599.9	594.9	589.7	581.6	570.6	559.5	548.6	537.5	530.5
30°	592.7	587.1	581.5	575.9	570.2	561.5	549.7	537.8	525.9	514.2	506.6
32.5°	575.7	569.1	562.5	556.0	549.4	540.0	528.0	515.9	503.8	491.8	483.1
35°	547.4	539.8	532.4	524.8	517.2	506.9	493.9	480.9	467.9	454.9	445.5
37.5°	519.2	510.9	502.6	494.3	486.1	474.9	461.1	447.2	433.3	419.5	409.1
40°	499.4	490.6	481.7	472.9	464.0	452.4	438.0	423.7	409.3	394.9	384.4
42.5°	479.2	469.8	460.5	451.2	441.8	429.7	414.9	400.0	385.2	370.4	359.5
45°	447.5	437.7	427.7	417.8	407.9	395.1	379.6	364.1	348.5	333.0	322.4
47.5°	416.6	406.1	395.7	385.1	374.6	361.3	345.3	329.2	313.2	297.1	286.7
50°	394.2	383.7	373.3	362.7	352.2	338.9	322.5	306.3	290.0	273.7	263.5
52.5°	372.4	361.4	350.4	339.5	328.5	315.0	299.1	283.2	267.2	251.4	241.5
55°	340.3	328.8	317.2	305.7	294.2	280.4	264.4	248.4	232.4	216.4	207.6
57.5°	307.4	295.6	283.7	271.9	260.0	246.5	231.1	215.7	200.4	185.0	176.8
60°	285.0	273.2	261.4	249.5	237.6	224.2	208.9	193.7	178.4	163.2	155.6
62.5°	263.1	251.4	239.5	227.7	215.8	202.7	188.2	173.6	159.1	144.5	137.3
65°	229.8	217.8	205.8	193.8	181.8	169.2	155.9	142.5	129.2	115.8	110.8
67.5°	197.5	185.7	173.7	161.8	149.9	137.9	126.0	114.0	102.0	90.1	87.7
70°	175.1	163.6	152.0	140.5	128.9	118.1	107.9	97.6	87.5	77.2	75.8
72.5°	153.8	142.8	131.7	120.6	109.6	100.0	91.8	83.6	75.3	67.1	65.9
75°	122.5	112.2	101.8	91.5	81.1	73.4	68.4	63.3	58.3	53.2	52.3
77.5°	91.8	82.7	73.6	64.5	55.5	49.7	47.3	44.9	42.4	39.9	39.3
80°	72.6	65.0	57.5	49.9	42.4	37.9	36.4	35.0	33.4	31.9	31.4
82.5°	55.0	49.1	43.2	37.4	31.5	28.0	27.0	25.9	25.0	24.0	23.6
85°	28.6	25.5	22.4	19.4	16.2	14.4	14.0	13.6	13.1	12.7	12.7
87.5°	8.6	7.8	7.0	6.2	5.4	5.3	5.5	5.9	6.2	6.5	6.3
90°	0.4	1.2	2.0	2.9	3.7	4.9	6.4	7.9	9.5	11.1	10.9
92.5°	5.6	6.2	6.9	7.5	8.1	8.6	8.9	9.3	9.6	10.0	10.1
95°	16.4	17.1	17.7	18.5	19.2	19.6	19.7	19.9	20.1	20.2	20.2
97.5°	30.0	30.6	31.1	31.7	32.4	32.8	33.1	33.3	33.6	33.9	33.9
100°	40.0	40.6	41.1	41.7	42.3	42.6	42.8	43.1	43.2	43.5	43.5
102.5°	50.6	51.0	51.5	51.9	52.3	52.8	53.0	53.2	53.5	53.8	53.9
105°	67.8	67.9	68.1	68.4	68.6	68.8	68.9	69.0	69.2	69.3	69.5
107.5°	85.0	85.3	85.6	86.0	86.2	86.4	86.4	86.4	86.4	86.4	86.4
110°	96.1	96.5	96.9	97.4	97.7	98.0	98.0	98.0	98.0	98.0	98.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	108.2	108.6	109.1	109.4	109.9	110.0	109.9	109.9	109.9	109.9	109.7
115°	126.0	126.4	126.9	127.2	127.7	127.9	127.7	127.5	127.4	127.2	127.2
117.5°	143.7	144.4	144.9	145.4	146.1	146.2	145.7	145.3	144.9	144.5	144.4
120°	155.6	156.2	156.8	157.3	157.8	157.8	157.3	156.8	156.2	155.6	155.6
122.5°	166.5	167.1	167.8	168.4	169.2	169.3	168.9	168.5	168.1	167.7	167.6
125°	183.3	184.0	184.6	185.2	185.8	186.1	185.8	185.7	185.5	185.2	185.0
127.5°	199.8	200.6	201.4	202.2	203.0	203.2	203.0	202.8	202.5	202.2	202.0
130°	210.2	211.1	212.0	212.9	213.7	214.2	214.0	213.9	213.7	213.6	213.5
132.5°	221.8	222.5	223.2	223.9	224.7	225.1	225.1	225.2	225.2	225.2	224.9
135°	237.2	238.0	238.8	239.5	240.3	240.8	240.9	241.0	241.2	241.3	241.2
137.5°	253.5	254.1	254.8	255.5	256.1	256.5	256.6	256.8	257.0	257.2	257.2
140°	263.4	264.0	264.7	265.3	265.9	266.4	266.7	267.1	267.4	267.8	267.8
142.5°	273.5	274.1	274.7	275.4	276.0	276.4	276.6	276.9	277.1	277.3	277.4
145°	287.9	288.5	288.9	289.4	289.9	290.3	290.8	291.2	291.6	292.0	292.1
147.5°	300.9	301.5	302.0	302.6	303.2	303.6	303.9	304.3	304.5	304.8	305.0
150°	309.7	310.1	310.5	310.9	311.4	311.7	312.0	312.3	312.5	312.8	313.1
152.5°	317.5	317.9	318.3	318.8	319.1	319.6	319.9	320.2	320.6	320.9	321.2
155°	329.2	329.4	329.7	329.8	330.0	330.3	330.5	330.6	330.9	331.1	331.4
157.5°	339.2	339.4	339.5	339.7	339.8	339.9	340.1	340.2	340.3	340.5	340.9
160°	345.3	345.4	345.5	345.7	345.8	346.0	346.0	346.1	346.2	346.3	346.6
162.5°	350.8	350.9	350.9	350.9	351.0	351.0	351.1	351.2	351.2	351.2	351.8
165°	358.2	358.1	358.0	358.0	357.9	357.8	357.8	357.8	357.8	357.8	358.4
167.5°	364.4	364.2	364.0	363.7	363.6	363.5	363.4	363.4	363.4	363.4	363.8
170°	367.7	367.5	367.2	367.0	366.8	366.7	366.6	366.5	366.5	366.4	366.8
172.5°	369.9	369.7	369.5	369.3	369.1	368.9	368.9	368.8	368.7	368.6	369.2
175°	372.7	372.5	372.3	372.0	371.8	371.7	371.6	371.4	371.2	371.1	371.6
177.5°	373.8	373.6	373.4	373.4	373.2	373.0	372.9	372.8	372.6	372.6	372.9
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	732.4	733.6	734.8	735.2	735.0	734.8	734.5	734.3
5°	726.6	727.9	729.2	729.7	729.2	728.8	728.3	727.9
7.5°	714.8	715.2	715.6	715.4	714.6	713.8	713.1	712.3
10°	703.0	702.6	702.1	701.5	700.6	699.7	698.8	697.9
12.5°	689.6	688.8	688.0	686.8	685.3	683.9	682.3	680.9
15°	664.3	661.6	658.7	656.6	655.1	653.6	652.1	650.7
17.5°	635.8	632.5	629.1	626.2	623.7	621.1	618.6	616.0
20°	615.9	612.2	608.5	605.0	601.8	598.5	595.3	592.0
22.5°	594.1	589.3	584.6	580.9	578.5	576.1	573.7	571.2
25°	557.9	551.9	545.8	541.6	539.4	537.2	535.0	532.8
27.5°	523.4	516.3	509.3	504.0	500.4	497.0	493.4	489.9
30°	499.0	491.5	483.9	478.1	474.1	470.2	466.2	462.2
32.5°	474.5	465.9	457.3	451.1	447.4	443.6	439.8	436.0
35°	436.2	426.9	417.6	411.3	408.0	404.7	401.5	398.2
37.5°	398.9	388.6	378.4	371.3	367.7	363.9	360.2	356.4
40°	373.9	363.4	352.8	345.7	341.9	338.0	334.1	330.3
42.5°	348.7	337.8	327.0	319.7	315.9	312.2	308.4	304.7
45°	311.9	301.5	291.0	283.9	280.4	276.8	273.2	269.7
47.5°	276.3	265.8	255.4	248.5	245.3	242.1	238.8	235.6
50°	253.2	243.1	232.8	226.2	223.1	220.0	216.9	213.7
52.5°	231.6	221.8	211.9	205.5	202.7	199.8	196.9	194.0
55°	198.7	189.8	180.9	175.0	172.3	169.4	166.7	163.8
57.5°	168.7	160.6	152.5	147.2	144.8	142.5	140.1	137.7
60°	148.0	140.5	133.0	128.0	125.6	123.2	120.9	118.5
62.5°	130.1	123.0	115.7	111.5	110.0	108.6	107.2	105.8
65°	105.8	100.8	95.8	93.0	92.6	92.1	91.7	91.2
67.5°	85.4	83.1	80.8	79.5	78.9	78.5	78.0	77.5
70°	74.3	72.9	71.3	70.3	69.7	69.1	68.5	67.9
72.5°	64.6	63.4	62.2	61.3	61.0	60.6	60.3	59.9
75°	51.2	50.2	49.1	48.5	48.4	48.2	48.1	48.0
77.5°	38.8	38.2	37.6	37.2	36.9	36.7	36.5	36.2
80°	30.8	30.2	29.6	29.3	29.3	29.3	29.3	29.3
82.5°	23.3	22.9	22.6	22.4	22.4	22.4	22.4	22.4
85°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
87.5°	6.2	6.1	5.9	5.8	5.8	5.9	5.9	5.9
90°	10.8	10.6	10.4	10.4	10.5	10.6	10.6	10.7
92.5°	10.1	10.1	10.2	10.2	10.2	10.2	10.2	10.2
95°	20.2	20.2	20.2	20.1	20.0	19.8	19.7	19.5
97.5°	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.8
100°	43.5	43.5	43.5	43.4	43.3	43.3	43.2	43.2
102.5°	53.9	53.9	54.0	54.0	53.9	53.9	53.9	53.8
105°	69.6	69.7	69.9	69.9	69.9	69.9	69.9	69.9
107.5°	86.5	86.6	86.6	86.5	86.1	85.9	85.5	85.2
110°	98.0	98.0	98.0	97.9	97.6	97.5	97.3	97.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	109.5	109.3	109.1	109.0	108.9	108.7	108.5	108.3
115°	127.2	127.1	127.0	126.9	126.6	126.4	126.3	126.0
117.5°	144.2	144.0	143.8	143.7	143.5	143.3	143.0	142.9
120°	155.6	155.6	155.6	155.5	155.3	155.1	154.9	154.7
122.5°	167.4	167.2	167.0	166.9	166.7	166.6	166.4	166.3
125°	184.9	184.6	184.4	184.2	184.2	184.1	184.0	184.0
127.5°	201.8	201.5	201.3	201.0	200.8	200.5	200.4	200.1
130°	213.3	213.2	213.0	212.9	212.6	212.2	212.0	211.7
132.5°	224.5	224.3	224.0	223.7	223.5	223.3	223.0	222.8
135°	241.2	241.1	241.0	240.9	240.7	240.5	240.3	240.0
137.5°	257.1	257.0	257.0	256.8	256.5	256.3	256.0	255.7
140°	267.8	267.8	267.8	267.6	267.3	267.1	266.8	266.5
142.5°	277.5	277.5	277.6	277.5	277.2	276.9	276.6	276.3
145°	292.2	292.2	292.3	292.2	291.9	291.7	291.4	291.1
147.5°	305.1	305.2	305.4	305.3	305.1	304.8	304.5	304.3
150°	313.3	313.4	313.7	313.7	313.4	313.3	313.1	312.8
152.5°	321.5	321.7	322.0	322.0	321.7	321.5	321.2	320.9
155°	331.8	332.2	332.5	332.6	332.3	332.2	332.0	331.7
157.5°	341.3	341.9	342.3	342.4	342.1	341.7	341.4	341.1
160°	347.1	347.5	347.9	347.9	347.7	347.4	347.1	346.9
162.5°	352.2	352.7	353.2	353.2	352.9	352.6	352.2	351.9
165°	358.8	359.4	359.8	359.9	359.5	359.2	358.8	358.6
167.5°	364.4	364.8	365.3	365.4	365.1	364.6	364.3	363.9
170°	367.4	367.8	368.4	368.4	368.0	367.6	367.1	366.7
172.5°	369.6	370.1	370.6	370.7	370.2	369.8	369.4	369.0
175°	372.1	372.6	373.1	373.1	372.7	372.3	371.8	371.4
177.5°	373.3	373.5	373.9	373.9	373.5	373.3	372.9	372.6
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4

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