

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: P331890-940

Luminaire Tested: **S123DIP-S340D805U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331890-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D805U940-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3719.0 lumens  
Efficiency: N/A  
Efficacy: 119.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

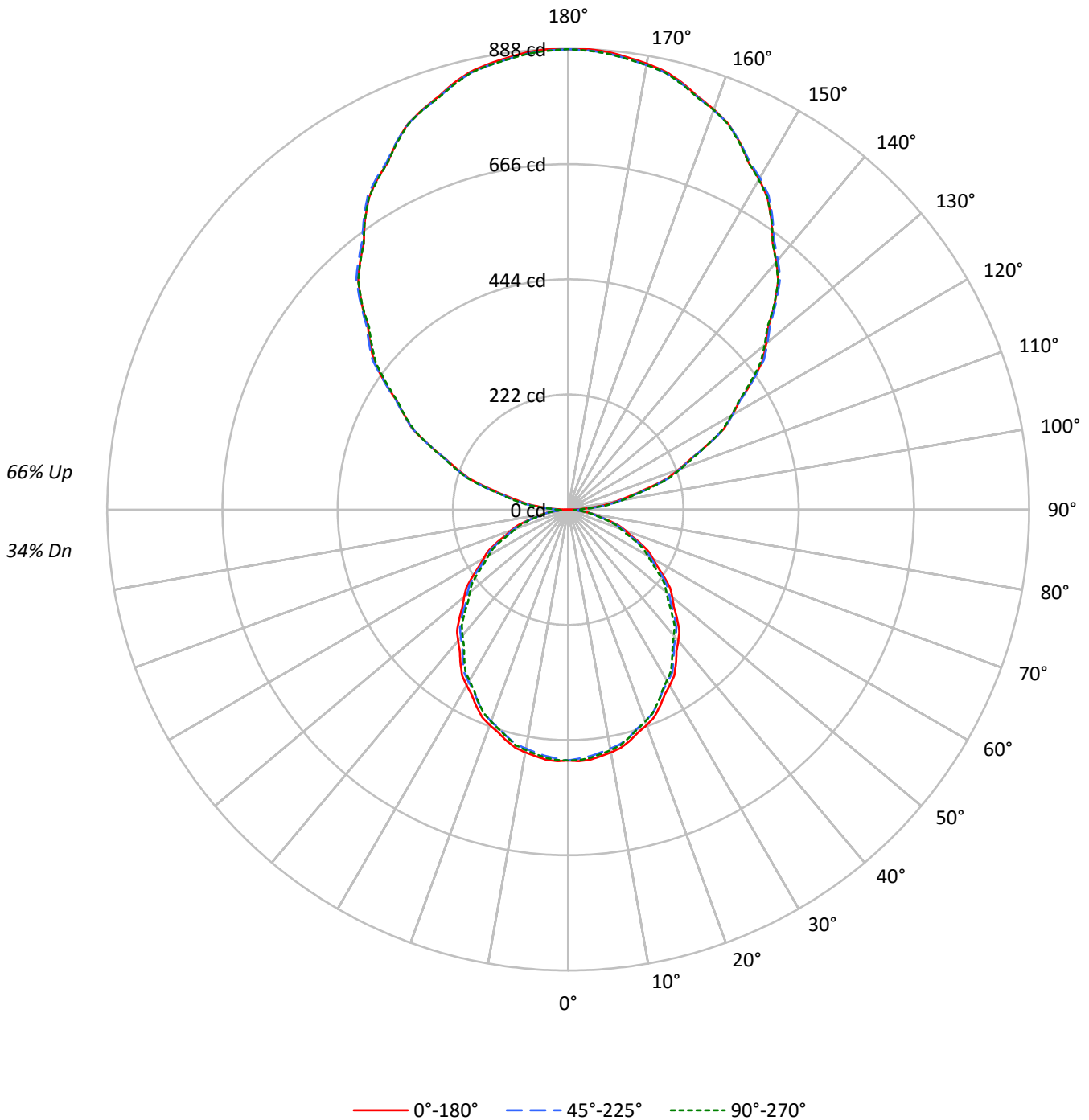
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	94	90	86	83	85	81	78	75	65	63	61	50	49	47	36	36	35	28
2	86	78	72	67	77	71	66	62	57	53	50	44	42	39	32	31	29	24
3	78	69	62	56	70	62	56	51	50	46	42	39	36	33	28	26	25	20
4	71	61	53	47	64	55	49	43	44	40	36	35	31	28	25	23	21	17
5	65	54	46	40	59	49	42	37	40	35	31	31	27	25	23	20	19	15
6	60	48	40	35	54	44	37	32	36	31	27	28	24	21	21	18	16	13
7	56	44	36	30	50	40	33	28	32	27	23	25	22	19	19	16	14	12
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	15	13	10
9	48	36	29	24	43	33	26	22	27	22	18	21	18	15	16	13	12	9
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	12	11	9

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5201	5201	5201
5°	5226	5154	5190
10°	5191	5109	5141
15°	5131	5051	5060
20°	5060	4969	4974
25°	4963	4871	4861
30°	4860	4762	4724
35°	4750	4646	4586
40°	4636	4519	4449
45°	4509	4402	4294
50°	4382	4258	4140
55°	4219	4110	3984
60°	4052	3935	3810
65°	3904	3744	3629
70°	3688	3531	3374
75°	3373	3248	3111
80°	3037	2913	2882
85°	2668	2569	2470



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	45.5	1.2
10°-20°	128.5	3.5
20°-30°	189.9	5.1
30°-40°	221.8	6.0
40°-50°	223.0	6.0
50°-60°	195.8	5.3
60°-70°	145.9	3.9
70°-80°	83.1	2.2
80°-90°	26.5	0.7
90°-100°	57.8	1.6
100°-110°	173.1	4.7
110°-120°	294.3	7.9
120°-130°	387.1	10.4
130°-140°	435.1	11.7
140°-150°	427.7	11.5
150°-160°	360.1	9.7
160°-170°	239.7	6.4
170°-180°	83.9	2.3
0°-30°	363.9	9.8
0°-40°	585.7	15.7
0°-60°	1004.5	27.0
0°-90°	1260.0	33.9
90°-120°	525.2	14.1
90°-150°	1775.2	47.7
90°-180°	2459.0	66.1
0°-180°	3719.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	483	483	483	483	483	
5°	484	481	477	481	480	46
15°	460	458	453	456	454	130
25°	418	415	410	410	409	192
35°	362	359	354	351	349	226
45°	296	294	289	284	282	229
55°	225	224	219	215	212	201
65°	153	151	147	144	142	151
75°	81	79	78	76	75	87
85°	22	21	21	20	20	24
90°	1	8	17	19	21	4
95°	41	46	52	54	54	46
105°	157	159	164	165	166	168
115°	296	298	297	298	297	293
125°	434	436	434	432	429	387
135°	563	567	566	563	562	433
145°	682	684	686	685	682	426
155°	782	782	782	785	780	360
165°	851	849	849	853	848	240
175°	885	883	883	886	882	84
180°	888	888	888	888	888	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	484.9	484.6	484.3	484.0	483.7	483.1	482.3	481.5	480.7	479.9	480.6
5°	483.7	483.1	482.7	482.2	481.8	481.1	480.0	479.0	478.0	477.0	477.9
7.5°	478.9	478.4	478.0	477.5	477.1	476.3	475.3	474.2	473.1	472.1	472.9
10°	474.9	474.5	473.9	473.5	473.1	472.3	471.0	469.8	468.6	467.4	468.2
12.5°	469.6	469.2	468.8	468.4	468.1	467.3	466.2	465.0	463.9	462.8	463.4
15°	460.4	460.0	459.6	459.2	458.9	458.1	456.9	455.7	454.5	453.3	454.1
17.5°	449.6	449.2	448.7	448.2	447.7	446.9	445.7	444.5	443.3	442.1	442.6
20°	441.7	441.1	440.6	440.0	439.4	438.5	437.4	436.1	435.0	433.8	434.2
22.5°	432.7	432.1	431.6	431.1	430.5	429.6	428.4	427.2	426.0	424.8	425.1
25°	417.9	417.4	416.9	416.3	415.8	414.9	413.7	412.5	411.3	410.1	410.2
27.5°	402.3	401.7	401.2	400.6	400.1	399.2	398.0	396.6	395.4	394.0	394.1
30°	391.0	390.5	390.0	389.6	389.1	388.3	387.0	385.7	384.4	383.1	383.1
32.5°	379.7	379.1	378.4	377.8	377.3	376.4	375.4	374.4	373.4	372.5	371.9
35°	361.5	361.0	360.3	359.8	359.3	358.4	357.2	356.0	354.8	353.6	353.0
37.5°	342.9	342.1	341.4	340.7	340.1	339.1	337.9	336.6	335.5	334.2	333.6
40°	329.9	329.3	328.8	328.2	327.7	326.7	325.5	324.1	322.9	321.6	320.8
42.5°	316.9	316.3	315.7	315.0	314.4	313.4	312.2	310.9	309.6	308.3	307.6
45°	296.2	295.9	295.5	295.2	294.8	294.0	292.7	291.6	290.3	289.2	288.1
47.5°	275.7	275.2	274.6	274.1	273.6	272.8	271.6	270.5	269.4	268.2	267.2
50°	261.7	261.3	260.8	260.4	259.9	259.0	257.9	256.7	255.5	254.3	253.2
52.5°	247.1	246.8	246.5	246.2	245.8	245.0	243.8	242.5	241.3	240.0	239.2
55°	224.8	224.7	224.6	224.5	224.4	223.7	222.6	221.3	220.2	219.0	217.9
57.5°	203.5	203.2	202.9	202.6	202.2	201.6	200.6	199.7	198.8	197.8	196.9
60°	188.2	188.2	188.1	188.0	187.9	187.3	186.1	185.0	184.0	182.8	182.0
62.5°	174.6	174.3	174.2	173.9	173.6	173.0	171.8	170.8	169.6	168.5	167.7
65°	153.3	152.8	152.4	151.9	151.5	150.8	149.9	148.9	148.0	147.0	146.3
67.5°	130.8	130.4	130.0	129.6	129.2	128.6	128.0	127.2	126.5	125.8	125.2
70°	117.2	116.6	116.1	115.5	114.9	114.4	113.9	113.2	112.7	112.2	111.6
72.5°	102.9	102.5	102.1	101.7	101.2	100.8	100.1	99.5	98.9	98.3	97.6
75°	81.1	80.6	80.3	79.9	79.5	79.2	78.9	78.6	78.4	78.1	77.7
77.5°	61.6	61.4	61.3	61.1	60.8	60.5	60.3	59.9	59.6	59.2	58.9
80°	49.0	48.8	48.5	48.2	47.9	47.7	47.5	47.3	47.2	47.0	46.8
82.5°	36.7	36.6	36.6	36.6	36.5	36.5	36.4	36.4	36.4	36.3	36.1
85°	21.6	21.4	21.2	21.0	20.9	20.8	20.8	20.8	20.8	20.8	20.6
87.5°	8.7	8.8	8.9	9.0	9.1	9.4	9.6	10.0	10.3	10.7	10.7
90°	0.7	2.2	3.8	5.4	6.9	8.6	10.7	12.7	14.7	16.8	17.4
92.5°	16.9	17.9	19.0	20.1	21.0	22.2	23.4	24.5	25.6	26.8	27.3
95°	41.1	42.2	43.3	44.4	45.5	46.6	47.9	49.1	50.4	51.6	52.3
97.5°	73.0	73.8	74.6	75.4	76.3	77.1	78.0	78.9	79.8	80.7	81.4
100°	94.8	95.8	96.7	97.6	98.5	99.4	100.1	100.9	101.7	102.5	103.0
102.5°	119.9	120.5	121.0	121.6	122.2	123.0	123.9	125.0	126.0	127.1	127.5
105°	156.9	157.2	157.5	157.8	158.1	159.0	160.3	161.8	163.2	164.5	164.5
107.5°	199.8	200.0	200.2	200.4	200.5	200.9	201.5	202.1	202.6	203.1	203.7
110°	226.6	226.9	227.2	227.5	227.8	228.1	228.5	228.7	229.1	229.3	230.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	254.5	254.7	254.9	255.0	255.2	255.3	255.4	255.5	255.6	255.6	256.4
115°	296.3	296.8	297.2	297.7	298.2	298.3	297.9	297.7	297.3	297.0	297.1
117.5°	338.4	338.8	339.0	339.3	339.7	339.6	339.2	338.8	338.4	338.0	338.0
120°	364.6	365.5	366.5	367.4	368.4	368.5	367.7	366.8	366.1	365.3	365.2
122.5°	392.0	392.6	393.3	394.0	394.7	394.8	394.4	394.0	393.6	393.2	392.8
125°	433.6	434.1	434.5	435.1	435.5	435.6	435.2	435.0	434.6	434.4	433.7
127.5°	472.2	473.1	474.1	475.1	476.1	476.4	476.1	475.7	475.4	475.0	474.2
130°	497.8	499.0	500.2	501.5	502.7	503.1	502.7	502.2	501.8	501.2	500.6
132.5°	523.4	524.7	525.9	527.2	528.4	528.9	528.5	528.2	527.8	527.4	526.7
135°	562.6	563.6	564.5	565.4	566.3	566.8	566.6	566.4	566.2	566.1	565.5
137.5°	598.9	599.7	600.4	601.2	602.0	602.5	603.0	603.3	603.8	604.1	603.5
140°	623.9	624.7	625.5	626.3	627.1	627.5	627.7	627.9	628.0	628.1	628.0
142.5°	646.8	647.6	648.4	649.2	650.0	650.5	650.8	651.0	651.3	651.6	651.4
145°	682.5	682.9	683.1	683.5	683.8	684.1	684.7	685.1	685.5	686.0	685.9
147.5°	713.8	714.3	714.9	715.4	716.0	716.5	716.9	717.4	717.8	718.3	718.3
150°	735.5	735.8	736.1	736.5	736.7	737.1	737.4	737.7	738.0	738.3	738.3
152.5°	753.4	753.8	754.2	754.7	755.1	755.5	755.6	755.8	756.0	756.2	756.4
155°	781.5	781.5	781.5	781.5	781.5	781.6	781.8	781.9	782.1	782.2	782.8
157.5°	805.5	805.3	805.1	804.9	804.8	804.8	804.9	805.0	805.1	805.2	805.9
160°	820.6	820.3	819.9	819.7	819.3	819.2	819.2	819.2	819.2	819.2	819.9
162.5°	833.9	833.6	833.1	832.7	832.2	832.1	832.2	832.3	832.4	832.6	833.3
165°	851.2	850.8	850.3	849.9	849.4	849.2	849.2	849.2	849.2	849.2	850.1
167.5°	865.0	864.4	863.8	863.2	862.6	862.4	862.5	862.6	862.7	862.8	863.8
170°	872.9	872.3	871.6	871.0	870.4	870.0	870.0	870.0	870.0	870.0	871.2
172.5°	879.0	878.4	877.8	877.2	876.6	876.2	876.2	876.2	876.2	876.2	877.2
175°	885.4	884.8	884.2	883.6	883.0	882.6	882.6	882.6	882.6	882.6	883.6
177.5°	888.1	887.6	887.1	886.5	886.1	885.8	885.8	885.8	885.8	885.8	886.5
180°	887.5	887.5	887.5	887.5	887.5	887.5	887.5	887.5	887.5	887.5	887.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	481.3	482.1	482.9	483.2	483.1	483.0	483.0	482.9
5°	478.8	479.7	480.7	481.1	480.9	480.7	480.5	480.3
7.5°	473.8	474.6	475.4	475.7	475.6	475.5	475.5	475.3
10°	469.1	469.9	470.7	471.1	470.9	470.7	470.6	470.4
12.5°	464.0	464.6	465.2	465.5	465.4	465.2	465.1	465.0
15°	454.8	455.5	456.3	456.4	455.8	455.2	454.7	454.1
17.5°	443.1	443.6	444.2	444.3	444.1	443.9	443.7	443.5
20°	434.5	434.9	435.2	435.3	435.0	434.7	434.4	434.2
22.5°	425.3	425.7	426.0	426.0	425.6	425.3	424.9	424.5
25°	410.3	410.4	410.5	410.4	410.1	409.8	409.6	409.3
27.5°	394.2	394.3	394.3	394.2	393.9	393.5	393.2	392.8
30°	383.1	383.1	383.1	382.7	382.1	381.5	380.8	380.1
32.5°	371.4	370.9	370.4	370.0	369.6	369.3	368.9	368.5
35°	352.5	352.0	351.3	350.9	350.4	349.9	349.5	349.0
37.5°	332.9	332.3	331.5	331.1	330.8	330.5	330.2	329.9
40°	320.1	319.4	318.6	318.1	317.7	317.4	317.0	316.6
42.5°	306.8	306.0	305.3	304.8	304.4	304.1	303.7	303.3
45°	287.0	285.9	284.7	284.0	283.5	283.0	282.6	282.1
47.5°	266.1	265.0	263.9	263.1	262.7	262.3	261.9	261.5
50°	252.3	251.2	250.2	249.4	248.9	248.3	247.8	247.2
52.5°	238.3	237.4	236.5	235.8	235.2	234.7	234.2	233.6
55°	217.0	215.9	214.9	214.2	213.7	213.2	212.8	212.3
57.5°	196.0	195.0	194.1	193.4	192.9	192.3	191.8	191.3
60°	181.2	180.3	179.5	178.9	178.3	177.9	177.5	177.0
62.5°	166.8	166.0	165.2	164.6	164.3	164.0	163.7	163.4
65°	145.6	144.9	144.1	143.7	143.4	143.0	142.8	142.5
67.5°	124.5	123.9	123.2	122.7	122.3	121.9	121.5	121.2
70°	110.9	110.2	109.6	109.1	108.6	108.2	107.6	107.2
72.5°	97.1	96.5	95.9	95.5	95.3	95.1	94.8	94.5
75°	77.2	76.7	76.2	75.9	75.6	75.3	75.1	74.8
77.5°	58.6	58.3	58.0	57.9	57.9	57.9	57.9	57.9
80°	46.7	46.6	46.5	46.5	46.5	46.5	46.5	46.5
82.5°	36.0	35.8	35.7	35.5	35.5	35.4	35.3	35.2
85°	20.4	20.2	20.1	20.0	20.0	20.0	20.0	20.0
87.5°	10.8	10.8	10.9	10.9	11.0	11.1	11.1	11.1
90°	18.0	18.5	19.2	19.7	20.0	20.3	20.6	21.0
92.5°	27.7	28.3	28.7	28.9	28.7	28.5	28.4	28.2
95°	52.8	53.4	54.0	54.4	54.4	54.4	54.4	54.4
97.5°	82.1	82.8	83.6	83.9	83.8	83.8	83.7	83.6
100°	103.4	103.9	104.3	104.8	105.0	105.3	105.7	105.9
102.5°	128.0	128.4	128.9	129.1	129.0	128.9	128.9	128.9
105°	164.5	164.5	164.5	164.7	165.0	165.3	165.6	165.9
107.5°	204.1	204.6	205.2	205.3	205.1	204.9	204.7	204.6
110°	230.6	231.2	231.8	232.0	231.7	231.4	231.0	230.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	257.1	257.8	258.6	258.9	258.9	258.8	258.7	258.7
115°	297.3	297.5	297.7	297.7	297.5	297.3	297.1	297.0
117.5°	338.0	337.9	337.9	337.6	337.2	336.8	336.4	335.9
120°	365.0	364.9	364.7	364.4	364.2	363.8	363.6	363.2
122.5°	392.4	392.0	391.6	391.2	390.7	390.3	389.9	389.4
125°	433.1	432.5	431.9	431.2	430.6	430.0	429.4	428.7
127.5°	473.3	472.4	471.6	470.8	470.1	469.4	468.7	468.0
130°	500.1	499.4	498.8	497.9	496.9	495.8	494.7	493.6
132.5°	526.0	525.2	524.5	523.7	522.9	522.0	521.2	520.4
135°	564.9	564.3	563.7	563.2	562.8	562.6	562.2	562.0
137.5°	602.9	602.3	601.5	600.9	600.4	599.8	599.2	598.6
140°	627.9	627.7	627.5	627.0	625.8	624.7	623.7	622.6
142.5°	651.3	651.1	650.9	650.5	649.6	648.8	647.9	647.1
145°	685.7	685.5	685.4	685.0	684.4	683.8	683.1	682.5
147.5°	718.3	718.3	718.3	717.7	716.8	715.9	715.0	714.1
150°	738.3	738.3	738.3	737.9	736.9	736.0	735.0	734.1
152.5°	756.6	756.9	757.2	756.9	756.1	755.3	754.5	753.7
155°	783.5	784.1	784.7	784.4	783.4	782.3	781.2	780.2
157.5°	806.6	807.2	807.8	807.7	806.9	806.0	805.1	804.2
160°	820.7	821.5	822.2	822.3	821.7	821.1	820.5	819.8
162.5°	834.1	834.9	835.7	835.5	834.6	833.6	832.6	831.6
165°	851.0	851.9	852.9	852.8	851.8	850.6	849.5	848.5
167.5°	864.8	865.7	866.7	866.7	865.7	864.8	863.8	862.8
170°	872.3	873.3	874.4	874.4	873.3	872.3	871.2	870.0
172.5°	878.2	879.1	880.0	880.0	878.9	877.8	876.7	875.7
175°	884.5	885.4	886.4	886.3	885.2	884.1	883.0	881.9
177.5°	887.3	888.1	888.8	888.8	887.9	887.0	886.2	885.3
180°	887.5	887.5	887.5	887.5	887.5	887.5	887.5	887.5

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