

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: P331291-830

Luminaire Tested: **SA2XXDIP-C485D330U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331291-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C485D330U830-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

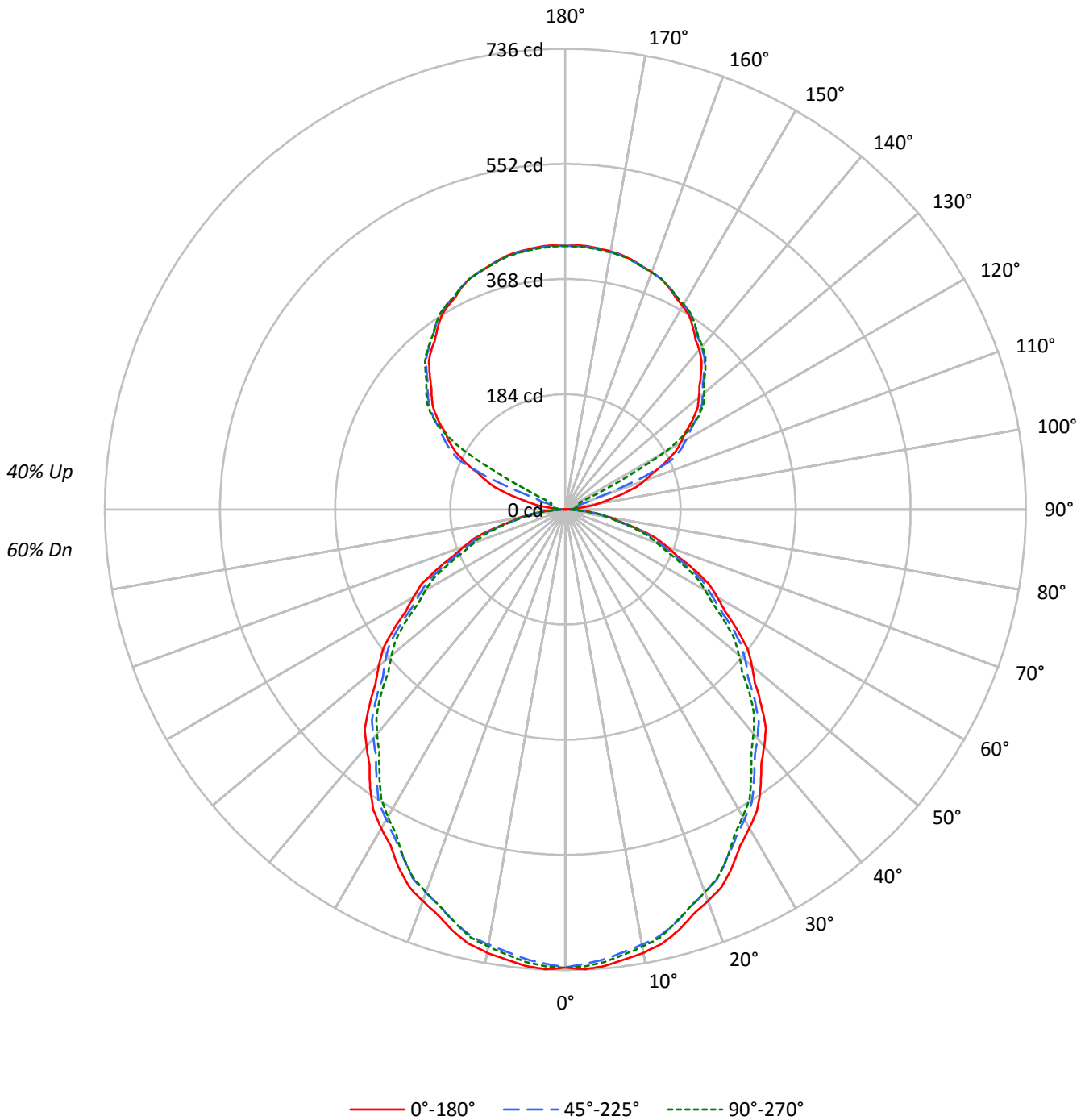
Lumens per Lamp: N/A  
Luminaire Lumens: 3097.8 lumens  
Efficiency: N/A  
Efficacy: 112.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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	110	110	110	110	102	102	102	102	89	89	89	77	77	77	65	65	65	60				
1	100	96	92	88	93	90	86	83	78	76	73	68	66	64	58	57	55	51				
2	91	84	77	72	85	78	73	68	68	64	61	59	56	53	51	49	47	42				
3	83	73	66	60	77	69	62	57	60	55	51	52	49	45	45	42	40	36				
4	76	65	57	51	71	61	54	48	54	48	44	47	42	39	40	37	34	31				
5	70	58	50	44	65	55	47	42	48	42	38	42	37	34	36	33	30	27				
6	64	52	44	38	60	49	42	36	43	37	33	38	33	30	33	29	26	24				
7	60	47	39	33	56	44	37	32	39	33	29	35	30	26	30	26	23	21				
8	55	43	35	30	52	41	33	28	36	30	26	32	27	23	28	24	21	19				
9	52	39	32	26	48	37	30	25	33	27	23	29	24	21	26	22	19	17				
10	48	36	29	24	45	34	27	23	30	25	21	27	22	19	24	20	17	15				

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

	0°	45°	90°
0°	11820	11820	11820
5°	11866	11694	11763
10°	11795	11576	11632
15°	11649	11425	11413
20°	11442	11201	11187
25°	11236	10922	10922
30°	10972	10670	10577
35°	10724	10364	10212
40°	10416	10060	9866
45°	10111	9757	9515
50°	9779	9442	9105
55°	9433	9073	8740
60°	9045	8638	8318
65°	8630	8202	7824
70°	8105	7676	7312
75°	7380	7068	6900
80°	6546	6341	6025
85°	5335	5076	4557



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	68.8	2.2
10°-20°	193.7	6.3
20°-30°	284.7	9.2
30°-40°	330.7	10.7
40°-50°	330.4	10.7
50°-60°	288.1	9.3
60°-70°	213.0	6.9
70°-80°	120.7	3.9
80°-90°	33.5	1.1
90°-100°	14.0	0.5
100°-110°	51.5	1.7
110°-120°	137.7	4.4
120°-130°	227.3	7.3
130°-140°	241.8	7.8
140°-150°	224.7	7.3
150°-160°	180.7	5.8
160°-170°	116.4	3.8
170°-180°	40.1	1.3
0°-30°	547.2	17.7
0°-40°	878.0	28.3
0°-60°	1496.4	48.3
0°-90°	1863.5	60.2
90°-120°	203.3	6.6
90°-150°	897.1	29.0
90°-180°	1234.0	39.8
0°-180°	3097.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	732	732	732	732	732	
5°	732	729	722	727	726	69
15°	697	692	684	686	683	196
25°	631	625	613	614	613	290
35°	544	537	526	522	518	340
45°	443	438	427	420	417	342
55°	335	331	322	314	310	299
65°	226	222	215	208	205	223
75°	118	117	113	109	111	126
85°	29	28	27	25	25	33
90°	0	4	6	8	8	2
95°	20	10	12	13	13	24
105°	93	97	19	22	23	99
115°	175	181	188	54	25	172
125°	248	252	258	260	260	221
135°	307	311	314	317	317	237
145°	356	356	360	362	361	222
155°	392	389	392	394	392	180
165°	413	411	412	414	412	117
175°	422	420	421	422	420	40
180°	421	421	421	421	421	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1
2.5°	735.5	734.8	734.2	733.6	732.9	732.0	730.6	729.2	727.8	726.4	727.7
5°	732.1	731.4	730.8	730.2	729.6	728.4	726.7	725.0	723.2	721.5	722.7
7.5°	725.6	724.6	723.7	722.6	721.7	720.4	718.6	716.9	715.1	713.3	714.6
10°	719.4	718.3	717.2	716.1	715.0	713.5	711.6	709.8	707.9	706.1	707.3
12.5°	711.0	710.0	709.0	708.0	707.1	705.7	703.8	701.9	700.0	698.1	699.0
15°	696.9	696.0	695.0	694.1	693.1	691.6	689.6	687.6	685.5	683.5	684.1
17.5°	678.8	678.0	677.0	676.1	675.1	673.6	671.6	669.5	667.4	665.3	666.1
20°	665.9	665.0	664.0	663.1	662.1	660.6	658.4	656.2	654.0	651.9	652.3
22.5°	653.0	651.7	650.4	649.0	647.7	646.0	643.9	641.9	639.8	637.7	637.8
25°	630.7	629.4	628.2	627.0	625.8	623.8	621.1	618.4	615.8	613.1	613.4
27.5°	605.4	604.3	603.1	602.0	600.9	599.3	597.2	595.0	593.0	590.9	590.4
30°	588.5	587.2	586.0	584.8	583.4	581.6	579.3	577.0	574.7	572.3	571.8
32.5°	570.4	569.5	568.4	567.4	566.5	564.7	562.2	559.8	557.3	554.9	554.0
35°	544.1	542.5	541.0	539.4	537.9	535.8	533.4	530.8	528.3	525.8	524.9
37.5°	514.4	513.0	511.7	510.3	508.9	507.0	504.4	502.0	499.5	497.0	495.8
40°	494.2	492.9	491.6	490.4	489.2	487.3	484.7	482.3	479.8	477.3	475.9
42.5°	474.5	473.2	471.9	470.7	469.5	467.6	465.1	462.6	460.1	457.5	456.0
45°	442.8	441.7	440.5	439.5	438.4	436.7	434.3	432.0	429.6	427.3	425.6
47.5°	411.2	410.2	409.2	408.1	407.1	405.4	402.9	400.5	398.0	395.6	393.8
50°	389.3	388.5	387.7	386.9	386.2	384.7	382.5	380.3	378.1	375.9	373.7
52.5°	367.9	366.8	365.8	364.8	363.7	362.2	360.1	358.1	356.0	353.9	352.1
55°	335.1	334.1	333.2	332.2	331.3	329.9	328.0	326.1	324.2	322.3	320.6
57.5°	302.1	301.3	300.6	299.9	299.2	297.7	295.7	293.6	291.5	289.5	287.6
60°	280.1	279.6	278.9	278.2	277.7	276.3	274.1	271.8	269.7	267.5	265.8
62.5°	258.7	257.8	256.7	255.7	254.8	253.4	251.8	250.1	248.4	246.7	245.1
65°	225.9	225.0	224.0	223.1	222.3	220.9	219.4	217.8	216.2	214.7	213.3
67.5°	192.6	191.8	191.1	190.3	189.5	188.5	187.1	185.7	184.3	182.9	181.8
70°	171.7	171.2	170.5	169.8	169.3	168.2	166.8	165.4	164.0	162.6	161.6
72.5°	150.3	149.8	149.1	148.5	147.9	147.1	146.2	145.2	144.4	143.5	142.3
75°	118.3	117.9	117.6	117.3	117.0	116.5	115.6	114.9	114.1	113.3	112.4
77.5°	89.5	89.0	88.5	87.9	87.4	87.0	86.7	86.3	86.1	85.8	85.3
80°	70.4	70.2	70.1	69.9	69.7	69.6	69.2	68.9	68.6	68.2	67.8
82.5°	52.4	52.3	52.3	52.3	52.2	52.1	51.9	51.7	51.6	51.4	50.8
85°	28.8	28.7	28.6	28.4	28.3	28.1	27.9	27.8	27.6	27.4	27.0
87.5°	10.2	10.1	10.0	9.9	9.8	9.7	9.5	9.4	9.2	9.1	8.8
90°	0.3	1.0	1.8	2.5	3.3	4.0	4.4	5.0	5.6	6.1	6.4
92.5°	6.1	6.1	6.0	5.9	5.8	6.0	6.2	6.5	6.8	7.1	7.3
95°	19.8	17.5	15.4	13.1	10.8	10.0	10.5	10.9	11.4	11.9	12.3
97.5°	39.3	33.0	26.7	20.5	14.1	11.5	12.6	13.7	14.8	15.9	16.2
100°	53.9	44.7	35.3	26.1	16.9	12.7	13.9	15.1	16.2	17.3	17.9
102.5°	70.0	68.1	66.1	64.2	62.2	56.4	46.8	37.1	27.5	17.8	18.6
105°	92.7	94.6	96.7	98.8	100.8	92.6	74.1	55.6	37.0	18.6	19.3
107.5°	118.4	120.1	121.7	123.4	125.0	114.7	92.6	70.4	48.2	26.0	25.3
110°	135.0	136.4	137.9	139.3	140.7	131.6	112.1	92.5	72.9	53.3	46.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	150.6	151.8	153.2	154.4	155.6	153.8	149.0	144.2	139.3	134.5	109.8
115°	175.2	176.3	177.6	178.7	179.8	181.3	182.9	184.6	186.3	188.0	156.7
117.5°	197.3	198.5	199.8	201.1	202.4	203.6	204.8	205.9	207.1	208.3	200.7
120°	213.3	214.3	215.4	216.4	217.4	218.5	219.7	220.9	222.2	223.4	224.2
122.5°	227.0	228.1	229.1	230.2	231.3	232.4	233.8	235.1	236.5	237.8	238.3
125°	247.8	248.6	249.5	250.4	251.3	252.4	253.6	255.0	256.2	257.5	258.0
127.5°	266.6	267.6	268.5	269.6	270.5	271.5	272.4	273.4	274.4	275.3	276.0
130°	278.5	279.7	280.7	281.8	282.9	283.8	284.6	285.3	286.1	286.8	287.5
132.5°	290.8	291.6	292.6	293.5	294.5	295.2	296.0	296.7	297.5	298.2	298.9
135°	306.6	307.6	308.8	309.8	310.9	311.8	312.4	313.0	313.6	314.2	314.9
137.5°	322.6	323.4	324.1	324.9	325.6	326.4	327.1	327.7	328.5	329.1	329.8
140°	333.1	333.7	334.1	334.7	335.3	335.9	336.7	337.4	338.2	338.8	339.5
142.5°	341.9	342.3	342.8	343.4	343.8	344.5	345.3	346.2	347.0	347.9	348.5
145°	355.6	355.6	355.5	355.4	355.3	355.9	357.0	358.3	359.4	360.5	361.0
147.5°	367.7	367.4	367.1	366.8	366.6	367.0	368.2	369.4	370.5	371.6	371.9
150°	375.4	374.9	374.5	374.0	373.5	373.9	374.9	376.1	377.1	378.2	378.6
152.5°	382.0	381.5	381.0	380.4	379.9	380.1	381.2	382.2	383.2	384.3	384.7
155°	391.6	391.0	390.4	389.7	389.2	389.3	390.1	390.9	391.7	392.5	392.9
157.5°	399.1	398.6	398.0	397.6	397.0	397.1	397.7	398.2	398.8	399.4	399.8
160°	403.5	403.1	402.7	402.3	401.9	401.9	402.3	402.7	403.1	403.5	403.9
162.5°	407.4	407.0	406.6	406.1	405.8	405.8	406.0	406.4	406.8	407.2	407.6
165°	412.6	412.3	411.8	411.4	411.0	410.9	411.1	411.3	411.5	411.7	412.2
167.5°	416.5	416.1	415.8	415.3	414.9	414.8	415.0	415.2	415.4	415.6	416.0
170°	418.8	418.3	417.9	417.5	417.1	417.0	417.1	417.3	417.4	417.5	418.0
172.5°	420.2	419.8	419.3	419.0	418.6	418.4	418.6	418.7	418.9	419.0	419.4
175°	422.1	421.6	421.1	420.7	420.2	420.0	420.2	420.3	420.5	420.6	421.0
177.5°	422.4	422.0	421.6	421.2	420.8	420.8	420.8	420.8	420.8	420.9	421.3
180°	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	732.1	732.1	732.1	732.1	732.1	732.1	732.1	732.1
2.5°	729.0	730.2	731.4	732.0	731.7	731.4	731.2	730.9
5°	724.1	725.3	726.5	727.0	726.7	726.3	726.0	725.8
7.5°	715.9	717.1	718.4	718.8	718.5	718.1	717.7	717.5
10°	708.5	709.8	711.1	711.4	711.0	710.5	710.0	709.5
12.5°	699.9	700.8	701.6	701.9	701.5	701.3	700.9	700.5
15°	684.8	685.4	686.0	685.9	685.1	684.4	683.6	682.8
17.5°	666.8	667.5	668.3	668.2	667.4	666.8	666.0	665.2
20°	652.8	653.3	653.7	653.7	653.0	652.3	651.8	651.1
22.5°	637.9	638.0	638.1	638.0	637.6	637.3	636.9	636.5
25°	613.8	614.1	614.3	614.3	614.1	613.8	613.4	613.1
27.5°	589.9	589.5	589.0	588.4	587.7	586.9	586.2	585.4
30°	571.4	570.9	570.4	569.9	569.2	568.6	568.0	567.3
32.5°	553.2	552.3	551.5	550.7	550.1	549.5	548.8	548.2
35°	524.0	523.0	522.1	521.2	520.5	519.6	518.9	518.1
37.5°	494.6	493.5	492.4	491.3	490.6	489.8	489.1	488.4
40°	474.5	473.1	471.6	470.6	470.0	469.4	468.7	468.1
42.5°	454.5	453.0	451.4	450.3	449.3	448.5	447.6	446.7
45°	423.9	422.2	420.4	419.2	418.6	418.0	417.4	416.7
47.5°	392.0	390.1	388.3	387.0	386.1	385.2	384.3	383.3
50°	371.6	369.3	367.1	365.6	364.9	364.1	363.3	362.5
52.5°	350.3	348.5	346.7	345.3	344.2	343.2	342.1	341.1
55°	318.7	316.8	314.9	313.6	312.7	312.0	311.2	310.5
57.5°	285.8	283.9	282.1	280.9	280.2	279.7	279.1	278.4
60°	264.0	262.3	260.6	259.5	259.0	258.5	258.1	257.6
62.5°	243.5	241.9	240.3	239.2	238.6	238.0	237.4	236.8
65°	211.9	210.5	209.1	207.9	207.2	206.4	205.7	204.8
67.5°	180.7	179.6	178.5	177.7	177.0	176.3	175.8	175.1
70°	160.4	159.3	158.3	157.4	156.7	156.1	155.5	154.9
72.5°	141.3	140.2	139.1	138.3	137.8	137.2	136.8	136.3
75°	111.4	110.6	109.6	109.2	109.6	109.9	110.2	110.6
77.5°	84.8	84.4	83.9	83.4	82.9	82.6	82.1	81.6
80°	67.3	66.8	66.4	66.0	65.7	65.4	65.0	64.8
82.5°	50.2	49.6	49.0	48.6	48.6	48.5	48.4	48.4
85°	26.5	26.0	25.5	25.3	25.1	25.0	24.8	24.6
87.5°	8.5	8.2	7.9	7.6	7.5	7.4	7.4	7.3
90°	6.8	7.1	7.4	7.7	7.8	7.9	8.1	8.2
92.5°	7.4	7.6	7.7	7.9	8.0	8.1	8.1	8.2
95°	12.5	12.9	13.2	13.4	13.3	13.2	13.2	13.1
97.5°	16.5	16.7	17.0	17.2	17.2	17.3	17.4	17.5
100°	18.5	19.0	19.5	19.9	20.0	20.2	20.3	20.5
102.5°	19.2	20.0	20.6	21.1	21.3	21.5	21.7	21.9
105°	20.1	20.8	21.6	22.1	22.3	22.6	22.9	23.2
107.5°	24.5	23.8	23.0	22.7	23.0	23.3	23.6	23.8
110°	39.8	33.0	26.2	23.0	23.3	23.6	23.8	24.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	85.1	60.4	35.7	23.5	23.7	23.8	24.1	24.3
115°	125.4	94.0	62.6	44.5	39.6	34.8	29.9	25.0
117.5°	193.1	185.5	178.0	166.2	150.1	134.1	118.1	102.1
120°	225.0	225.8	226.6	222.4	213.3	204.2	195.0	185.9
122.5°	238.7	239.2	239.7	239.0	237.3	235.5	233.8	232.0
125°	258.4	258.9	259.4	259.8	260.0	260.1	260.3	260.5
127.5°	276.7	277.4	278.1	278.4	278.5	278.5	278.5	278.6
130°	288.2	289.0	289.7	290.1	290.0	289.9	289.9	289.8
132.5°	299.5	300.1	300.8	301.0	301.0	301.0	300.9	300.8
135°	315.6	316.2	316.9	317.2	317.1	316.9	316.8	316.6
137.5°	330.5	331.1	331.8	332.0	331.8	331.6	331.3	331.1
140°	340.1	340.7	341.3	341.5	341.1	340.8	340.4	340.1
142.5°	349.0	349.6	350.2	350.2	349.9	349.6	349.2	348.8
145°	361.5	361.9	362.4	362.5	362.1	361.8	361.5	361.1
147.5°	372.3	372.7	373.1	373.1	372.8	372.5	372.2	371.9
150°	379.0	379.4	379.8	379.8	379.6	379.2	378.8	378.5
152.5°	385.1	385.5	385.9	385.9	385.4	385.0	384.6	384.1
155°	393.3	393.7	394.2	394.1	393.5	393.0	392.5	391.9
157.5°	400.3	400.8	401.1	401.1	400.6	400.1	399.5	399.1
160°	404.4	404.7	405.1	405.1	404.6	404.2	403.7	403.2
162.5°	408.0	408.5	409.0	409.0	408.3	407.7	407.2	406.6
165°	412.6	413.1	413.6	413.6	413.1	412.6	412.2	411.7
167.5°	416.5	417.0	417.5	417.4	416.8	416.1	415.6	414.9
170°	418.5	419.0	419.4	419.3	418.8	418.1	417.5	416.9
172.5°	419.9	420.4	420.8	420.8	420.2	419.6	419.0	418.4
175°	421.5	422.0	422.4	422.4	421.7	421.0	420.3	419.6
177.5°	421.7	422.1	422.4	422.4	421.9	421.4	420.9	420.5
180°	421.1	421.1	421.1	421.1	421.1	421.1	421.1	421.1

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