

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: P331648-935

Luminaire Tested: **SA2XXRDIP-C485D330U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331648-935  
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: SA2XXRDIP-C485D330U935-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 330 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

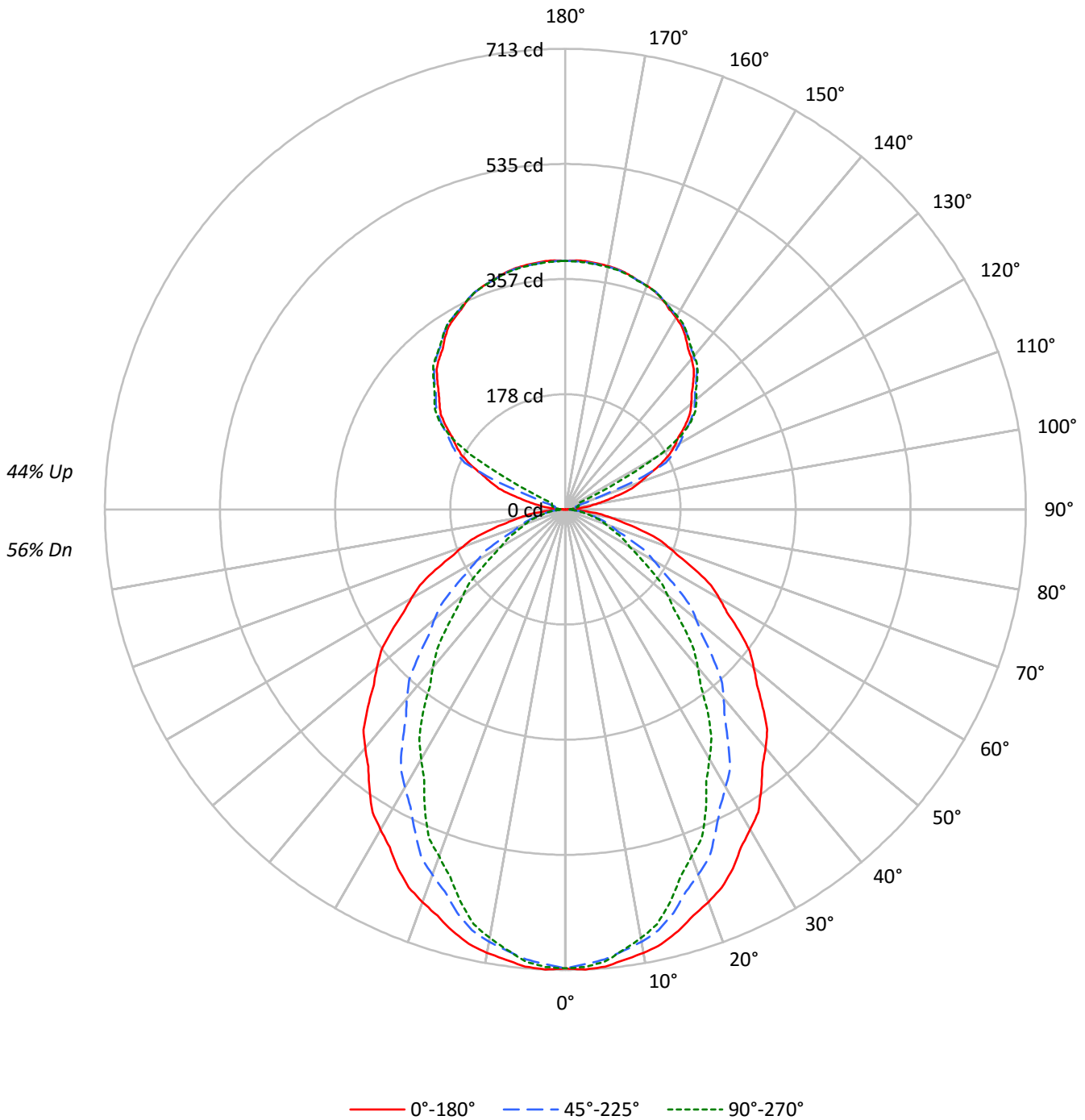
Lumens per Lamp: N/A  
Luminaire Lumens: 2589.8 lumens  
Efficiency: N/A  
Efficacy: 94.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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	101	101	101	101	87	87	87	74	74	74	62	62	62	56				
1	100	96	92	89	93	89	86	83	77	75	73	66	64	63	56	55	53	49				
2	91	84	78	73	85	79	73	69	68	64	61	59	56	53	50	48	46	42				
3	84	74	67	62	78	70	63	58	61	56	52	52	49	46	45	42	40	36				
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	31				
5	71	59	51	46	66	56	49	43	49	43	39	42	38	35	36	33	31	28				
6	65	54	46	40	61	50	43	38	44	39	34	39	34	31	33	30	27	24				
7	61	49	41	35	56	46	39	34	40	35	30	35	31	27	31	27	24	22				
8	56	44	37	31	52	42	35	30	37	31	27	32	28	25	28	25	22	20				
9	53	41	33	28	49	38	32	27	34	28	25	30	25	22	26	23	20	18				
10	49	37	30	25	46	35	29	24	31	26	22	28	23	20	24	21	18	16				

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

	0°	45°	90°
0°	11472	11472	11472
5°	11515	11329	11391
10°	11429	11144	11049
15°	11296	10813	10502
20°	11115	10340	9821
25°	10929	9805	9164
30°	10670	9257	8321
35°	10419	8657	7579
40°	10163	8037	6721
45°	9866	7341	5948
50°	9560	6636	5184
55°	9250	5883	4453
60°	8887	5089	3694
65°	8478	4271	3366
70°	7983	3522	3097
75°	7380	3206	2888
80°	6518	2864	2631
85°	5113	2260	2260



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.5	2.6
10°-20°	182.6	7.1
20°-30°	256.4	9.9
30°-40°	279.6	10.8
40°-50°	257.1	9.9
50°-60°	201.9	7.8
60°-70°	131.7	5.1
70°-80°	67.9	2.6
80°-90°	18.6	0.7
90°-100°	12.8	0.5
100°-110°	47.1	1.8
110°-120°	125.8	4.9
120°-130°	207.7	8.0
130°-140°	220.8	8.5
140°-150°	205.3	7.9
150°-160°	165.0	6.4
160°-170°	106.3	4.1
170°-180°	36.6	1.4
0°-30°	505.6	19.5
0°-40°	785.2	30.3
0°-60°	1244.3	48.0
0°-90°	1462.4	56.5
90°-120°	185.7	7.2
90°-150°	819.5	31.6
90°-180°	1127.0	43.5
0°-180°	2589.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	710	707	699	704	703	67
15°	676	668	647	635	628	190
25°	614	592	550	525	514	282
35°	529	494	439	400	384	331
45°	432	388	322	278	260	334
55°	329	277	209	172	158	293
65°	222	169	112	91	88	220
75°	118	75	51	47	46	125
85°	28	15	12	12	12	33
90°	0	3	6	7	8	2
95°	18	10	11	12	12	22
105°	85	88	17	20	21	90
115°	160	165	172	49	23	158
125°	226	230	235	237	238	202
135°	280	284	287	290	289	216
145°	325	325	329	331	330	203
155°	358	356	358	360	358	165
165°	377	375	376	378	376	106
175°	386	384	384	386	383	37
180°	385	385	385	385	385	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	710.5	710.5	710.5	710.5	710.5	710.5	710.5	710.5	710.5	710.5	710.5
2.5°	713.1	712.6	712.0	711.4	710.8	709.9	708.7	707.4	706.1	704.9	706.0
5°	710.5	709.8	709.1	708.4	707.7	706.4	704.6	702.7	700.9	699.0	700.3
7.5°	703.2	702.3	701.5	700.5	699.6	698.1	695.9	693.8	691.6	689.5	689.8
10°	697.1	696.0	695.0	694.1	693.0	691.1	688.3	685.4	682.5	679.7	679.2
12.5°	689.3	688.1	686.8	685.6	684.4	682.0	678.3	674.7	671.0	667.4	666.6
15°	675.8	674.2	672.7	671.1	669.5	666.3	661.4	656.6	651.8	646.9	644.2
17.5°	659.3	656.9	654.4	652.0	649.6	645.3	639.1	632.8	626.6	620.4	617.2
20°	646.9	644.0	641.2	638.3	635.4	630.4	623.3	616.1	609.0	601.8	598.3
22.5°	633.5	630.3	627.1	623.9	620.7	615.1	607.0	598.9	590.9	582.8	578.2
25°	613.5	608.9	604.3	599.7	595.1	588.1	578.7	569.3	559.8	550.4	544.6
27.5°	589.3	584.3	579.3	574.4	569.4	561.5	551.0	540.3	529.7	519.0	512.2
30°	572.3	566.9	561.5	556.0	550.6	542.2	530.7	519.3	507.8	496.5	489.1
32.5°	555.9	549.5	543.1	536.8	530.5	521.4	509.8	498.1	486.5	474.8	466.5
35°	528.6	521.2	514.0	506.7	499.4	489.5	476.9	464.3	451.8	439.2	430.2
37.5°	501.3	493.3	485.3	477.3	469.3	458.6	445.2	431.8	418.4	405.0	395.0
40°	482.2	473.7	465.1	456.6	448.0	436.8	422.9	409.1	395.2	381.3	371.2
42.5°	462.7	453.7	444.6	435.7	426.6	414.9	400.6	386.2	372.0	357.7	347.2
45°	432.1	422.6	412.9	403.4	393.8	381.5	366.5	351.5	336.5	321.5	311.3
47.5°	402.3	392.1	382.0	371.9	361.7	348.9	333.4	317.9	302.4	286.9	276.8
50°	380.6	370.5	360.4	350.3	340.1	327.2	311.4	295.8	280.0	264.2	254.4
52.5°	359.6	349.0	338.4	327.8	317.2	304.2	288.8	273.5	258.0	242.7	233.2
55°	328.6	317.5	306.3	295.2	284.0	270.7	255.3	239.9	224.4	209.0	200.4
57.5°	296.8	285.4	274.0	262.5	251.1	238.0	223.2	208.3	193.5	178.7	170.7
60°	275.2	263.8	252.4	240.9	229.5	216.5	201.7	187.0	172.3	157.6	150.2
62.5°	254.1	242.7	231.3	219.8	208.4	195.7	181.7	167.6	153.6	139.6	132.6
65°	221.9	210.3	198.7	187.1	175.6	163.3	150.5	137.6	124.8	111.8	107.0
67.5°	190.7	179.3	167.7	156.3	144.7	133.2	121.7	110.1	98.5	87.0	84.7
70°	169.1	158.0	146.8	135.7	124.5	114.0	104.2	94.3	84.5	74.6	73.2
72.5°	148.5	137.8	127.2	116.5	105.8	96.5	88.6	80.7	72.8	64.8	63.6
75°	118.3	108.3	98.3	88.3	78.3	70.9	66.0	61.1	56.3	51.4	50.5
77.5°	88.6	79.8	71.0	62.3	53.6	48.0	45.6	43.3	40.9	38.6	38.0
80°	70.1	62.8	55.5	48.2	40.9	36.6	35.1	33.8	32.3	30.8	30.3
82.5°	53.1	47.4	41.8	36.1	30.4	27.0	26.1	25.1	24.1	23.2	22.8
85°	27.6	24.6	21.6	18.7	15.7	13.9	13.5	13.1	12.7	12.2	12.2
87.5°	8.3	7.5	6.7	5.9	5.2	4.8	4.9	5.0	5.2	5.3	5.2
90°	0.3	0.9	1.6	2.3	3.0	3.6	4.0	4.6	5.1	5.6	5.9
92.5°	5.6	5.6	5.5	5.4	5.3	5.5	5.7	5.9	6.2	6.5	6.6
95°	18.1	16.0	14.0	12.0	9.9	9.1	9.6	10.0	10.4	10.8	11.2
97.5°	35.9	30.1	24.4	18.7	12.9	10.5	11.5	12.5	13.5	14.6	14.8
100°	49.2	40.8	32.3	23.8	15.4	11.6	12.7	13.8	14.8	15.8	16.4
102.5°	64.0	62.2	60.4	58.6	56.8	51.5	42.7	33.9	25.1	16.3	17.0
105°	84.6	86.4	88.3	90.2	92.0	84.6	67.7	50.8	33.8	17.0	17.7
107.5°	108.1	109.7	111.2	112.7	114.2	104.8	84.6	64.3	44.0	23.8	23.1
110°	123.3	124.6	126.0	127.3	128.5	120.2	102.4	84.5	66.6	48.7	42.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	137.6	138.7	139.9	141.0	142.2	140.5	136.1	131.7	127.3	122.9	100.3
115°	160.1	161.1	162.2	163.2	164.3	165.6	167.1	168.7	170.2	171.8	143.1
117.5°	180.2	181.3	182.5	183.7	184.9	186.0	187.1	188.1	189.2	190.3	183.3
120°	194.8	195.8	196.7	197.7	198.5	199.6	200.7	201.8	202.9	204.1	204.8
122.5°	207.3	208.4	209.3	210.3	211.3	212.3	213.5	214.7	216.0	217.2	217.7
125°	226.4	227.1	227.9	228.8	229.5	230.6	231.7	232.9	234.0	235.2	235.7
127.5°	243.5	244.4	245.3	246.2	247.1	248.0	248.8	249.8	250.6	251.5	252.1
130°	254.4	255.5	256.4	257.4	258.4	259.2	259.9	260.6	261.3	262.0	262.6
132.5°	265.6	266.4	267.3	268.1	269.0	269.7	270.4	271.0	271.7	272.4	273.0
135°	280.1	281.0	282.1	283.0	284.0	284.8	285.3	285.9	286.5	287.1	287.7
137.5°	294.7	295.4	296.1	296.8	297.5	298.2	298.8	299.4	300.1	300.7	301.3
140°	304.3	304.8	305.2	305.7	306.3	306.9	307.5	308.2	308.9	309.5	310.1
142.5°	312.3	312.7	313.1	313.7	314.1	314.7	315.5	316.2	317.0	317.8	318.3
145°	324.9	324.9	324.8	324.7	324.6	325.1	326.1	327.3	328.3	329.3	329.8
147.5°	335.9	335.6	335.4	335.1	334.9	335.3	336.3	337.4	338.5	339.5	339.8
150°	342.9	342.5	342.1	341.6	341.2	341.6	342.5	343.5	344.5	345.5	345.9
152.5°	349.0	348.5	348.0	347.5	347.1	347.2	348.2	349.1	350.1	351.0	351.4
155°	357.7	357.1	356.6	356.0	355.5	355.6	356.4	357.1	357.8	358.5	359.0
157.5°	364.5	364.1	363.6	363.2	362.7	362.7	363.3	363.8	364.3	364.8	365.2
160°	368.6	368.2	367.8	367.5	367.1	367.1	367.5	367.8	368.2	368.6	368.9
162.5°	372.1	371.8	371.4	371.0	370.7	370.7	370.9	371.3	371.6	372.0	372.4
165°	376.9	376.6	376.2	375.8	375.5	375.4	375.6	375.7	375.9	376.1	376.5
167.5°	380.5	380.1	379.8	379.4	379.0	378.9	379.1	379.3	379.4	379.6	380.0
170°	382.5	382.1	381.8	381.4	381.0	380.9	381.0	381.2	381.3	381.4	381.9
172.5°	383.8	383.5	383.1	382.7	382.4	382.2	382.4	382.5	382.6	382.7	383.1
175°	385.6	385.1	384.7	384.3	383.8	383.7	383.8	383.9	384.1	384.2	384.6
177.5°	385.8	385.5	385.1	384.8	384.4	384.4	384.4	384.4	384.4	384.5	384.9
180°	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	710.5	710.5	710.5	710.5	710.5	710.5	710.5	710.5
2.5°	707.1	708.3	709.5	709.9	709.7	709.5	709.2	709.0
5°	701.5	702.8	704.1	704.6	704.1	703.7	703.3	702.8
7.5°	690.2	690.5	691.0	690.8	690.0	689.2	688.5	687.8
10°	678.8	678.4	678.0	677.3	676.5	675.6	674.8	673.9
12.5°	665.8	665.0	664.3	663.1	661.7	660.3	658.8	657.5
15°	641.4	638.8	636.0	634.0	632.5	631.1	629.6	628.3
17.5°	613.9	610.7	607.4	604.6	602.2	599.7	597.3	594.8
20°	594.7	591.2	587.5	584.2	581.1	577.9	574.8	571.6
22.5°	573.6	569.0	564.5	560.9	558.6	556.3	554.0	551.6
25°	538.7	532.9	527.0	523.0	520.8	518.7	516.6	514.4
27.5°	505.4	498.5	491.7	486.6	483.2	479.8	476.4	473.0
30°	481.8	474.6	467.3	461.7	457.8	454.0	450.1	446.3
32.5°	458.1	449.9	441.5	435.6	432.0	428.3	424.6	421.0
35°	421.2	412.2	403.2	397.1	394.0	390.8	387.7	384.5
37.5°	385.1	375.2	365.3	358.5	355.0	351.4	347.8	344.1
40°	361.0	350.9	340.7	333.8	330.1	326.4	322.6	318.9
42.5°	336.7	326.1	315.7	308.7	305.1	301.4	297.8	294.2
45°	301.2	291.1	280.9	274.1	270.7	267.3	263.8	260.5
47.5°	266.7	256.7	246.6	240.0	236.9	233.8	230.6	227.5
50°	244.5	234.7	224.8	218.4	215.4	212.4	209.4	206.4
52.5°	223.6	214.1	204.6	198.5	195.7	193.0	190.1	187.4
55°	191.8	183.2	174.7	169.0	166.3	163.6	160.9	158.2
57.5°	162.9	155.1	147.2	142.2	139.8	137.6	135.3	132.9
60°	142.9	135.7	128.4	123.6	121.3	119.0	116.8	114.4
62.5°	125.6	118.7	111.8	107.6	106.2	104.9	103.5	102.1
65°	102.2	97.3	92.5	89.8	89.4	88.9	88.5	88.1
67.5°	82.5	80.2	78.0	76.7	76.2	75.8	75.3	74.8
70°	71.7	70.3	68.9	67.8	67.3	66.7	66.1	65.6
72.5°	62.4	61.2	60.0	59.2	58.9	58.5	58.2	57.9
75°	49.4	48.5	47.4	46.8	46.8	46.6	46.4	46.3
77.5°	37.5	36.9	36.3	35.9	35.6	35.5	35.2	35.0
80°	29.7	29.2	28.6	28.3	28.3	28.3	28.3	28.3
82.5°	22.5	22.1	21.8	21.6	21.6	21.6	21.6	21.6
85°	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
87.5°	5.2	5.1	5.0	5.0	5.0	5.1	5.1	5.1
90°	6.2	6.5	6.8	7.1	7.1	7.2	7.4	7.5
92.5°	6.8	7.0	7.1	7.2	7.3	7.4	7.4	7.5
95°	11.5	11.8	12.1	12.2	12.1	12.1	12.1	12.0
97.5°	15.1	15.2	15.5	15.7	15.8	15.8	15.9	16.0
100°	16.9	17.4	17.8	18.2	18.3	18.4	18.5	18.7
102.5°	17.6	18.3	18.9	19.3	19.5	19.6	19.8	20.0
105°	18.3	19.0	19.7	20.1	20.4	20.7	20.9	21.2
107.5°	22.4	21.7	21.0	20.8	21.0	21.3	21.5	21.8
110°	36.3	30.1	23.9	21.0	21.3	21.5	21.8	22.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	77.7	55.2	32.6	21.4	21.6	21.8	22.0	22.2
115°	114.5	85.8	57.2	40.6	36.2	31.8	27.3	22.8
117.5°	176.4	169.4	162.6	151.8	137.2	122.5	107.9	93.2
120°	205.5	206.3	207.0	203.2	194.8	186.5	178.1	169.8
122.5°	218.1	218.5	219.0	218.3	216.8	215.2	213.5	211.9
125°	236.1	236.5	236.9	237.3	237.5	237.6	237.8	238.0
127.5°	252.8	253.4	254.0	254.3	254.4	254.4	254.4	254.5
130°	263.3	264.0	264.7	265.0	264.9	264.8	264.8	264.8
132.5°	273.6	274.1	274.7	275.0	274.9	274.9	274.8	274.7
135°	288.3	288.9	289.5	289.7	289.6	289.5	289.4	289.2
137.5°	301.9	302.5	303.1	303.2	303.1	302.9	302.6	302.5
140°	310.6	311.3	311.8	311.9	311.6	311.3	311.0	310.6
142.5°	318.8	319.3	319.9	319.9	319.6	319.3	319.0	318.7
145°	330.2	330.6	331.1	331.1	330.8	330.5	330.2	329.8
147.5°	340.1	340.4	340.8	340.8	340.5	340.3	340.0	339.8
150°	346.2	346.6	347.0	347.0	346.7	346.4	346.0	345.8
152.5°	351.8	352.1	352.5	352.5	352.1	351.7	351.3	350.9
155°	359.3	359.6	360.1	360.0	359.5	359.0	358.5	358.0
157.5°	365.7	366.1	366.4	366.4	365.9	365.5	365.0	364.5
160°	369.4	369.7	370.1	370.1	369.6	369.2	368.8	368.3
162.5°	372.7	373.2	373.6	373.6	373.0	372.5	372.0	371.4
165°	376.9	377.4	377.8	377.8	377.4	376.9	376.5	376.1
167.5°	380.5	380.9	381.3	381.3	380.7	380.1	379.6	379.0
170°	382.3	382.7	383.1	383.1	382.5	381.9	381.4	380.8
172.5°	383.6	384.0	384.4	384.4	383.8	383.3	382.7	382.2
175°	385.0	385.5	385.9	385.8	385.2	384.6	383.9	383.3
177.5°	385.2	385.6	385.9	385.8	385.4	385.0	384.5	384.1
180°	384.7	384.7	384.7	384.7	384.7	384.7	384.7	384.7

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