

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: P331650-935

Luminaire Tested: **SA2XXRDIP-C485D330U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331650-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
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-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

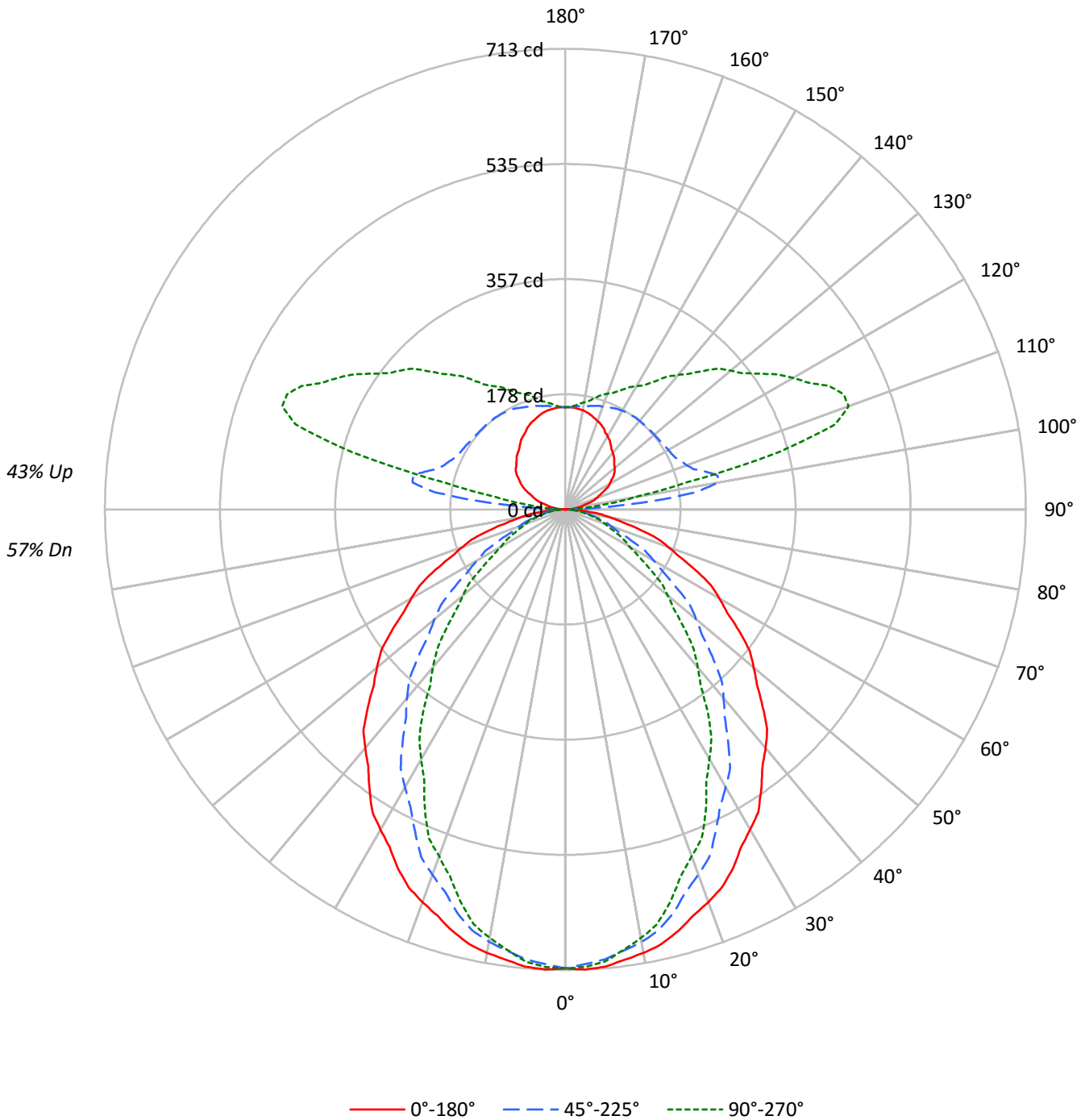
Lumens per Lamp: N/A  
Luminaire Lumens: 2563.7 lumens  
Efficiency: N/A  
Efficacy: 93.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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	63	63	63	57				
1	100	96	92	89	93	89	86	83	77	75	73	66	65	63	56	55	54	49				
2	91	84	78	73	85	79	74	69	68	65	61	59	56	54	50	48	46	42				
3	84	75	67	62	78	70	64	58	61	56	52	53	49	46	45	42	40	36				
4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	32				
5	71	59	52	46	66	56	49	43	49	43	39	43	38	35	37	33	31	28				
6	65	54	46	40	61	50	43	38	44	39	34	39	34	31	34	30	27	25				
7	61	49	41	35	57	46	39	34	40	35	31	35	31	28	31	27	25	22				
8	56	44	37	31	53	42	35	30	37	31	27	33	28	25	28	25	22	20				
9	53	41	33	28	49	38	32	27	34	29	25	30	26	22	26	23	20	18				
10	49	37	30	26	46	35	29	24	32	26	22	28	24	20	25	21	18	17				

**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	10.0
30°-40°	279.6	10.9
40°-50°	257.1	10.0
50°-60°	201.9	7.9
60°-70°	131.7	5.1
70°-80°	67.9	2.6
80°-90°	19.0	0.7
90°-100°	63.3	2.5
100°-110°	214.7	8.4
110°-120°	228.0	8.9
120°-130°	187.7	7.3
130°-140°	150.7	5.9
140°-150°	113.9	4.4
150°-160°	80.1	3.1
160°-170°	47.1	1.8
170°-180°	15.3	0.6
0°-30°	505.6	19.7
0°-40°	785.2	30.6
0°-60°	1244.3	48.5
0°-90°	1462.8	57.1
90°-120°	505.9	19.7
90°-150°	958.3	37.4
90°-180°	1101.0	42.9
0°-180°	2563.7	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	4	10	10	10	2
95°	11	26	119	45	35	11
105°	37	56	225	403	343	39
115°	65	83	189	389	451	65
125°	91	108	181	315	366	81
135°	107	128	179	265	303	83
145°	122	141	178	221	242	77
155°	139	150	173	196	204	64
165°	152	156	166	176	179	43
175°	158	158	159	161	161	15
180°	158	158	158	158	158	



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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	7.6	6.9	6.1	5.3	5.0	5.3	5.8	6.1	6.2	6.0
90°	0.3	1.2	2.4	3.0	3.6	4.6	6.1	8.2	10.1	10.3	10.1
92.5°	3.7	5.3	7.6	8.9	10.9	13.8	20.7	30.4	39.0	39.5	33.4
95°	10.7	11.9	14.9	17.7	22.5	29.8	43.8	70.3	105.6	119.2	104.4
97.5°	17.3	18.9	22.2	26.3	31.9	40.2	57.8	94.7	153.3	203.5	213.5
100°	23.4	24.4	27.0	31.9	38.1	46.6	62.7	99.8	165.5	240.3	284.1
102.5°	29.0	29.7	32.5	37.3	43.7	52.2	67.1	100.0	160.8	241.5	310.4
105°	37.1	38.3	40.5	45.0	51.7	60.3	74.6	101.6	151.8	225.4	306.3
107.5°	45.9	46.8	48.9	53.1	59.8	68.4	82.2	105.8	147.3	208.1	279.7
110°	51.7	53.0	54.8	58.7	65.1	74.0	87.3	109.2	146.4	199.8	262.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	57.1	58.3	60.4	64.1	70.2	79.3	92.2	112.9	146.5	194.5	251.2
115°	65.4	66.9	68.8	72.4	78.5	86.7	99.8	118.3	147.8	188.6	236.7
117.5°	74.0	75.3	77.1	80.3	86.2	94.7	106.8	124.2	150.1	185.7	227.6
120°	79.4	80.6	82.5	85.2	91.3	99.8	111.7	128.1	151.5	184.1	222.7
122.5°	84.6	85.5	87.3	90.3	96.3	105.1	116.2	131.5	153.2	183.0	218.5
125°	91.3	92.2	94.0	97.6	103.8	112.3	123.2	136.9	155.8	181.3	212.7
127.5°	96.6	97.8	100.4	104.4	110.2	119.0	129.7	142.0	158.3	180.3	207.2
130°	99.8	101.0	104.0	108.3	114.4	122.9	133.5	145.1	160.3	179.8	203.5
132.5°	102.7	104.2	107.5	111.9	118.3	126.8	137.0	148.3	162.3	179.5	200.6
135°	107.1	108.3	111.9	116.5	123.6	132.0	141.8	152.4	164.6	179.2	196.5
137.5°	111.2	112.7	116.3	121.2	128.1	136.0	145.7	155.6	166.7	179.1	193.6
140°	114.4	115.6	119.2	124.2	130.8	138.7	147.8	157.3	167.6	178.9	191.9
142.5°	117.5	118.6	121.9	126.8	133.3	140.7	149.6	158.8	168.3	178.9	190.3
145°	122.3	123.6	126.6	131.1	137.2	143.9	152.1	160.7	169.1	178.2	188.0
147.5°	127.4	128.3	131.2	135.4	140.5	146.5	154.2	161.7	169.4	177.2	185.7
150°	130.8	131.7	134.1	138.1	142.7	148.2	155.2	162.1	169.1	176.4	183.7
152.5°	134.2	134.7	137.1	140.5	144.9	149.8	156.1	162.4	168.7	175.2	182.0
155°	139.1	139.3	141.1	144.5	147.8	152.4	157.6	162.7	167.9	173.1	178.9
157.5°	143.0	143.4	144.8	147.7	150.4	154.2	158.6	162.7	166.5	170.9	175.9
160°	145.7	146.0	147.2	149.6	152.1	155.5	159.1	162.7	165.8	169.4	173.7
162.5°	148.4	148.2	149.5	151.4	153.6	156.2	159.4	162.5	165.1	168.2	171.8
165°	151.5	151.2	151.8	153.6	155.2	157.0	159.7	161.9	163.7	165.8	168.5
167.5°	154.0	153.7	154.2	155.4	156.5	157.6	159.6	161.4	162.3	163.7	165.4
170°	155.8	155.2	155.5	156.4	157.0	157.9	159.4	160.9	161.5	162.5	163.7
172.5°	156.7	156.4	156.2	157.1	157.5	158.2	159.2	160.2	160.6	161.0	162.0
175°	157.9	157.6	157.3	157.9	157.9	158.2	158.8	159.4	159.1	159.4	159.7
177.5°	158.4	157.9	157.7	158.2	158.2	158.2	158.4	158.9	158.4	158.2	158.4
180°	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2



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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°	5.9	5.6	5.6	5.6	5.6	5.6	5.6	5.6
90°	9.7	9.1	9.7	10.1	10.1	10.1	10.1	10.1
92.5°	26.5	22.7	20.2	18.3	18.1	17.1	17.3	16.9
95°	79.7	61.1	48.4	41.7	37.7	35.3	34.4	34.7
97.5°	186.0	152.1	119.2	97.3	82.7	75.3	70.9	68.3
100°	277.8	240.0	198.4	161.5	136.3	123.2	114.4	108.9
102.5°	337.9	329.3	298.9	259.8	232.4	210.1	199.1	191.7
105°	369.6	404.0	407.9	398.0	379.0	360.2	347.1	342.9
107.5°	346.7	398.6	430.2	444.9	447.3	446.3	443.6	438.0
110°	327.0	381.5	420.4	445.4	458.5	464.3	467.0	466.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	309.0	361.3	402.9	431.5	449.7	459.3	464.5	466.1
115°	286.9	333.7	373.6	404.9	426.5	440.5	448.4	451.2
117.5°	270.2	311.3	347.5	376.9	398.9	413.7	422.0	424.3
120°	261.9	299.6	331.9	359.6	380.9	395.2	404.0	407.1
122.5°	255.4	289.9	320.5	345.4	364.5	378.7	386.5	389.0
125°	245.8	277.2	303.9	326.7	344.4	355.9	363.5	366.0
127.5°	236.3	264.8	290.0	311.0	326.4	337.3	343.8	345.8
130°	230.3	256.5	280.5	300.6	315.5	325.8	331.9	334.3
132.5°	224.5	248.7	270.8	289.6	304.3	314.6	320.2	322.4
135°	216.3	236.3	256.5	273.5	286.5	296.6	302.1	303.3
137.5°	209.8	226.6	242.5	257.4	269.3	277.9	282.8	284.6
140°	205.6	220.2	234.3	247.6	257.4	265.3	269.8	271.6
142.5°	202.2	214.6	226.7	237.9	247.1	254.3	258.4	258.7
145°	197.4	207.5	216.9	225.8	233.0	238.2	241.3	242.1
147.5°	193.7	201.6	209.0	215.4	221.4	225.6	227.6	228.3
150°	191.1	197.8	204.1	209.6	214.1	217.8	219.6	220.0
152.5°	188.4	194.6	200.0	204.7	208.4	211.5	212.8	212.9
155°	184.7	189.5	194.1	197.4	200.8	202.9	204.1	203.5
157.5°	180.4	184.4	188.2	190.9	193.2	195.0	195.5	195.5
160°	177.6	181.0	184.3	186.5	188.6	190.1	190.5	190.5
162.5°	175.0	177.9	180.7	182.4	184.5	185.5	185.8	185.5
165°	171.0	173.1	175.2	176.4	177.6	178.9	178.9	178.6
167.5°	167.1	168.8	170.2	171.3	171.9	172.5	172.5	172.1
170°	165.2	166.1	167.3	167.9	168.2	169.1	168.8	168.2
172.5°	163.0	163.7	164.6	165.0	165.3	165.7	165.4	165.1
175°	160.7	160.9	161.3	161.5	161.5	161.9	161.5	160.9
177.5°	158.9	158.9	159.2	159.2	159.2	159.2	158.9	158.4
180°	158.2	158.2	158.2	158.2	158.2	158.2	158.2	158.2

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