

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: P331654-840

Luminaire Tested: **SA2XXRDIP-C485D530U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331654-840  
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-C485D530U840-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 530 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3850.3 lumens  
Efficiency: N/A  
Efficacy: 117.4 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

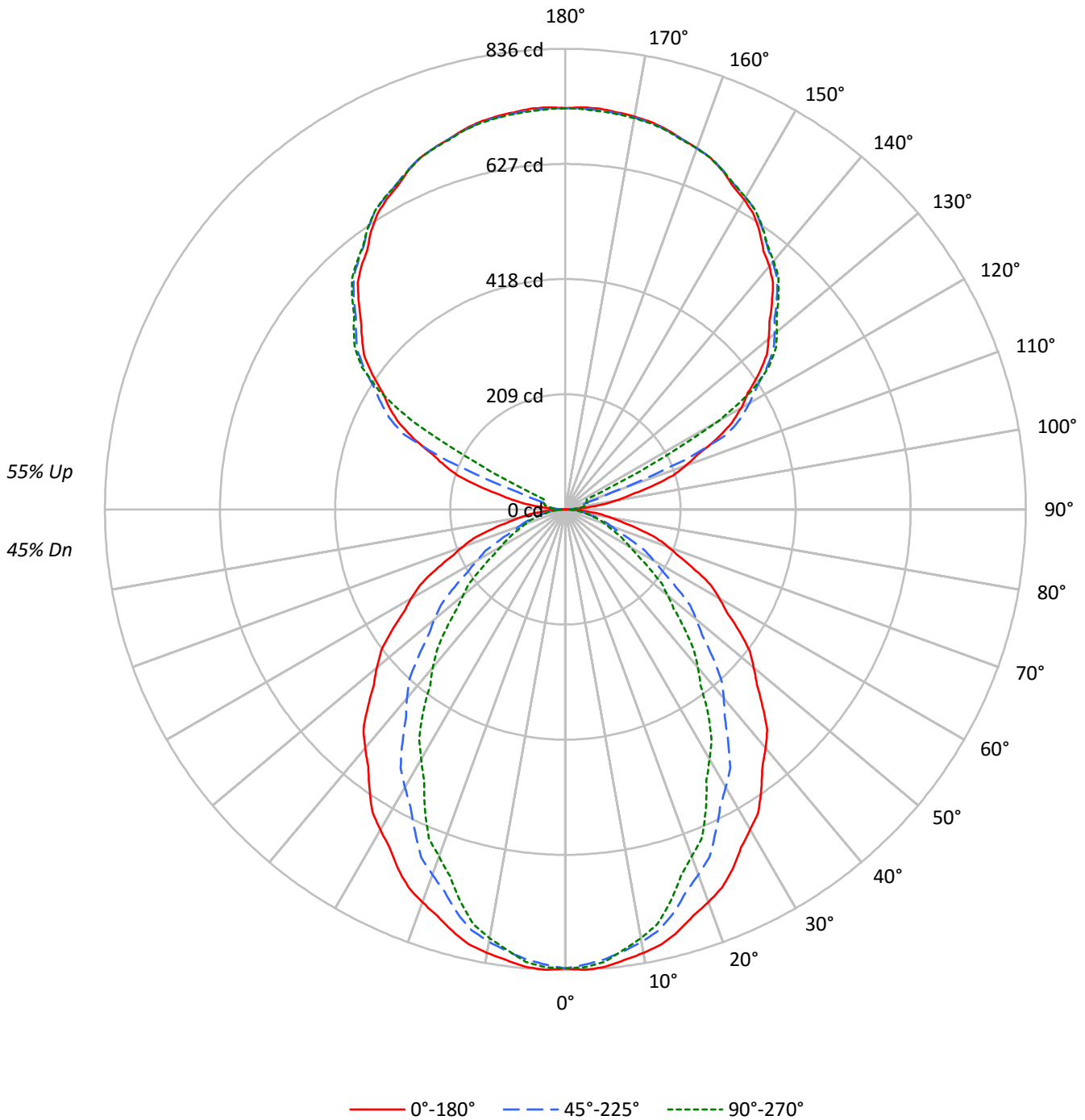
Input Watts (W): 32.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45				
1	97	93	89	86	89	85	82	79	71	69	67	58	56	55	46	45	44	38				
2	89	82	76	71	81	75	70	66	63	59	56	51	49	47	41	39	38	33				
3	81	72	65	59	74	66	60	55	56	51	48	46	43	40	37	34	33	28				
4	74	64	56	51	68	59	52	47	50	45	41	41	37	35	33	30	28	25				
5	68	57	49	44	63	53	46	41	45	39	35	37	33	30	30	27	25	22				
6	63	51	44	38	58	48	41	36	40	35	31	34	30	27	27	24	22	19				
7	58	47	39	33	54	43	36	31	37	31	28	31	27	24	25	22	20	17				
8	54	42	35	30	50	39	33	28	34	28	25	28	24	21	23	20	18	16				
9	51	39	31	27	46	36	29	25	31	26	22	26	22	19	21	18	16	14				
10	47	36	29	24	43	33	27	23	28	23	20	24	20	17	20	17	15	13				

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

	0°	45°	90°
0°	13454	13454	13454
5°	13506	13287	13361
10°	13404	13070	12959
15°	13249	12682	12318
20°	13036	12129	11519
25°	12818	11501	10750
30°	12515	10856	9758
35°	12220	10153	8889
40°	11921	9428	7885
45°	11574	8611	6976
50°	11215	7784	6081
55°	10849	6899	5222
60°	10424	5968	4334
65°	9941	5012	3947
70°	9361	4131	3635
75°	8659	3762	3387
80°	7643	3366	3087
85°	6002	2649	2649



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.0	2.0
10°-20°	214.2	5.6
20°-30°	300.8	7.8
30°-40°	328.0	8.5
40°-50°	301.6	7.8
50°-60°	236.8	6.2
60°-70°	154.4	4.0
70°-80°	79.6	2.1
80°-90°	22.5	0.6
90°-100°	24.3	0.6
100°-110°	89.1	2.3
110°-120°	238.2	6.2
120°-130°	393.1	10.2
130°-140°	418.1	10.9
140°-150°	388.6	10.1
150°-160°	312.4	8.1
160°-170°	201.3	5.2
170°-180°	69.3	1.8
0°-30°	593.0	15.4
0°-40°	921.0	23.9
0°-60°	1459.4	37.9
0°-90°	1715.9	44.6
90°-120°	351.5	9.1
90°-150°	1551.4	40.3
90°-180°	2134.0	55.4
0°-180°	3850.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	833	833	833	833	833	
5°	833	829	820	826	824	79
15°	793	783	759	745	737	223
25°	720	694	646	616	603	331
35°	620	580	515	469	451	388
45°	507	455	377	326	306	391
55°	385	325	245	202	186	344
65°	260	199	131	107	103	258
75°	139	87	60	55	54	147
85°	32	17	14	14	14	38
90°	0	6	10	13	14	3
95°	34	18	21	23	23	42
105°	160	167	32	38	40	171
115°	303	312	325	93	43	298
125°	428	436	445	449	451	382
135°	530	538	543	548	548	409
145°	615	615	624	627	624	385
155°	677	673	679	682	678	312
165°	714	711	712	715	712	202
175°	730	726	727	730	726	69
180°	728	728	728	728	728	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	833.3	833.3	833.3	833.3	833.3	833.3	833.3	833.3	833.3	833.3	833.3
2.5°	836.4	835.8	835.1	834.4	833.7	832.6	831.2	829.7	828.2	826.8	828.1
5°	833.3	832.5	831.7	830.9	830.0	828.5	826.4	824.2	822.0	819.8	821.3
7.5°	824.8	823.7	822.7	821.6	820.6	818.8	816.3	813.7	811.2	808.7	809.1
10°	817.6	816.4	815.2	814.1	812.8	810.6	807.3	803.9	800.5	797.2	796.7
12.5°	808.5	807.1	805.6	804.2	802.7	799.9	795.6	791.3	787.0	782.7	781.8
15°	792.6	790.8	789.0	787.1	785.3	781.5	775.8	770.1	764.5	758.7	755.6
17.5°	773.3	770.4	767.6	764.8	761.9	756.9	749.6	742.3	735.0	727.6	723.9
20°	758.7	755.4	752.0	748.7	745.3	739.4	731.0	722.7	714.3	705.9	701.8
22.5°	743.1	739.3	735.5	731.7	728.0	721.4	712.0	702.5	693.1	683.6	678.2
25°	719.5	714.2	708.8	703.4	698.0	689.8	678.7	667.7	656.6	645.6	638.7
27.5°	691.2	685.3	679.4	673.7	667.8	658.6	646.2	633.7	621.3	608.7	600.8
30°	671.3	664.9	658.5	652.2	645.8	635.9	622.5	609.0	595.6	582.3	573.7
32.5°	652.0	644.5	637.0	629.7	622.2	611.6	597.9	584.2	570.6	556.9	547.1
35°	620.0	611.4	602.9	594.3	585.7	574.1	559.4	544.6	529.9	515.1	504.5
37.5°	587.9	578.6	569.2	559.8	550.5	537.9	522.2	506.4	490.7	475.0	463.3
40°	565.6	555.6	545.5	535.5	525.4	512.3	496.0	479.8	463.5	447.3	435.4
42.5°	542.7	532.1	521.5	511.0	500.4	486.7	469.9	453.0	436.3	419.5	407.2
45°	506.9	495.6	484.3	473.1	461.9	447.5	429.9	412.3	394.7	377.1	365.2
47.5°	471.8	459.9	448.1	436.2	424.2	409.2	391.0	372.8	354.7	336.5	324.7
50°	446.5	434.5	422.7	410.8	398.9	383.7	365.3	346.9	328.4	309.9	298.4
52.5°	421.7	409.3	396.9	384.5	372.0	356.8	338.7	320.7	302.7	284.7	273.5
55°	385.4	372.3	359.2	346.2	333.2	317.5	299.4	281.3	263.2	245.1	235.1
57.5°	348.1	334.8	321.3	307.9	294.5	279.1	261.8	244.3	226.9	209.5	200.3
60°	322.8	309.4	296.0	282.6	269.1	253.9	236.6	219.3	202.1	184.8	176.2
62.5°	298.0	284.7	271.2	257.8	244.4	229.5	213.1	196.6	180.2	163.7	155.5
65°	260.2	246.6	233.1	219.4	205.9	191.6	176.5	161.4	146.3	131.2	125.5
67.5°	223.7	210.3	196.7	183.3	169.8	156.2	142.7	129.2	115.5	102.0	99.4
70°	198.3	185.3	172.2	159.2	146.0	133.7	122.2	110.6	99.1	87.5	85.8
72.5°	174.2	161.7	149.2	136.6	124.1	113.2	103.9	94.6	85.3	76.0	74.6
75°	138.8	127.0	115.3	103.6	91.8	83.1	77.5	71.7	66.0	60.3	59.2
77.5°	103.9	93.6	83.3	73.0	62.8	56.2	53.5	50.8	48.0	45.2	44.5
80°	82.2	73.6	65.1	56.6	48.0	42.9	41.2	39.6	37.9	36.2	35.5
82.5°	62.3	55.6	49.0	42.3	35.6	31.7	30.6	29.4	28.3	27.2	26.8
85°	32.4	28.9	25.3	21.9	18.4	16.4	15.9	15.3	14.8	14.3	14.3
87.5°	9.8	9.0	8.1	7.3	6.5	6.2	6.4	6.6	6.8	7.0	7.0
90°	0.5	1.8	3.1	4.3	5.7	6.8	7.8	8.7	9.6	10.5	11.1
92.5°	10.6	10.5	10.4	10.3	10.2	10.4	10.8	11.3	11.7	12.2	12.5
95°	34.2	30.4	26.6	22.6	18.8	17.3	18.1	18.9	19.7	20.6	21.1
97.5°	68.0	57.1	46.3	35.3	24.4	19.9	21.8	23.7	25.7	27.5	28.0
100°	93.3	77.3	61.2	45.1	29.1	22.1	24.0	26.1	28.1	30.0	31.0
102.5°	121.1	117.8	114.3	110.9	107.6	97.5	80.9	64.2	47.6	30.9	32.1
105°	160.2	163.7	167.2	170.8	174.3	160.1	128.1	96.1	64.1	32.1	33.4
107.5°	204.8	207.6	210.5	213.3	216.1	198.3	160.1	121.7	83.3	45.0	43.7
110°	233.5	235.9	238.4	240.9	243.3	227.6	193.8	160.0	126.0	92.2	80.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	260.4	262.7	264.8	267.0	269.1	266.1	257.7	249.3	241.0	232.7	189.9
115°	303.1	305.0	307.0	309.0	311.0	313.5	316.4	319.3	322.2	325.2	270.9
117.5°	341.1	343.4	345.6	347.8	350.0	352.1	354.2	356.2	358.2	360.1	347.1
120°	368.9	370.6	372.4	374.2	376.0	377.9	380.0	382.1	384.2	386.3	387.7
122.5°	392.5	394.4	396.3	398.1	399.9	402.0	404.2	406.6	408.9	411.2	412.0
125°	428.5	430.0	431.5	433.0	434.5	436.5	438.7	440.9	443.1	445.4	446.2
127.5°	461.0	462.7	464.4	466.1	467.8	469.5	471.1	472.8	474.4	476.2	477.3
130°	481.7	483.5	485.4	487.4	489.2	490.8	492.1	493.3	494.6	495.9	497.3
132.5°	502.8	504.3	505.9	507.6	509.2	510.6	511.9	513.2	514.4	515.7	516.8
135°	530.2	532.1	533.9	535.8	537.7	539.2	540.2	541.3	542.3	543.3	544.5
137.5°	558.0	559.2	560.5	561.8	563.1	564.4	565.6	566.8	567.9	569.2	570.4
140°	576.0	576.9	577.9	578.9	579.8	580.9	582.2	583.5	584.7	586.0	587.1
142.5°	591.2	592.1	592.9	593.7	594.6	595.7	597.2	598.6	600.2	601.7	602.6
145°	615.0	614.9	614.8	614.7	614.6	615.5	617.5	619.5	621.5	623.5	624.3
147.5°	635.8	635.3	634.9	634.5	634.0	634.8	636.7	638.7	640.7	642.7	643.3
150°	649.2	648.4	647.6	646.8	646.0	646.5	648.4	650.3	652.2	654.0	654.7
152.5°	660.7	659.7	658.8	657.9	657.0	657.4	659.2	661.1	662.8	664.6	665.3
155°	677.2	676.2	675.1	674.1	673.0	673.2	674.6	676.0	677.4	678.8	679.5
157.5°	690.1	689.3	688.4	687.5	686.6	686.7	687.6	688.6	689.6	690.6	691.4
160°	697.8	697.1	696.4	695.7	695.0	695.0	695.7	696.4	697.1	697.8	698.5
162.5°	704.5	703.8	703.1	702.4	701.8	701.7	702.3	702.9	703.5	704.1	704.9
165°	713.6	712.9	712.2	711.4	710.7	710.6	710.9	711.2	711.7	712.0	712.9
167.5°	720.3	719.6	718.9	718.2	717.5	717.3	717.6	718.0	718.3	718.6	719.4
170°	724.1	723.5	722.8	722.1	721.3	721.0	721.3	721.5	721.8	722.1	722.9
172.5°	726.7	726.0	725.3	724.6	723.9	723.6	723.9	724.1	724.3	724.6	725.4
175°	729.9	729.1	728.3	727.5	726.6	726.4	726.6	726.8	727.0	727.3	728.1
177.5°	730.4	729.8	729.1	728.5	727.8	727.5	727.6	727.7	727.8	727.9	728.6
180°	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	833.3	833.3	833.3	833.3	833.3	833.3	833.3	833.3
2.5°	829.4	830.8	832.1	832.6	832.4	832.1	831.8	831.6
5°	822.8	824.4	825.9	826.4	825.9	825.4	824.9	824.4
7.5°	809.5	809.9	810.4	810.2	809.3	808.4	807.6	806.7
10°	796.2	795.7	795.2	794.5	793.5	792.4	791.4	790.4
12.5°	780.9	780.0	779.1	777.8	776.1	774.5	772.7	771.1
15°	752.3	749.2	746.0	743.6	741.8	740.2	738.5	736.9
17.5°	720.0	716.3	712.5	709.1	706.3	703.4	700.5	697.6
20°	697.5	693.4	689.1	685.2	681.6	677.8	674.2	670.4
22.5°	672.8	667.4	662.1	657.9	655.2	652.5	649.7	646.9
25°	631.9	625.0	618.1	613.4	610.9	608.3	605.9	603.4
27.5°	592.8	584.7	576.7	570.8	566.7	562.8	558.8	554.8
30°	565.1	556.6	548.1	541.5	536.9	532.5	528.0	523.4
32.5°	537.3	527.7	517.9	510.9	506.6	502.4	498.1	493.8
35°	494.0	483.4	472.9	465.7	462.1	458.4	454.7	451.0
37.5°	451.7	440.1	428.5	420.5	416.4	412.1	407.9	403.6
40°	423.4	411.5	399.6	391.5	387.2	382.8	378.4	374.1
42.5°	394.9	382.5	370.3	362.0	357.8	353.6	349.3	345.1
45°	353.3	341.4	329.5	321.5	317.5	313.5	309.4	305.5
47.5°	312.9	301.0	289.2	281.4	277.8	274.2	270.4	266.8
50°	286.8	275.3	263.7	256.2	252.7	249.1	245.6	242.1
52.5°	262.3	251.2	239.9	232.8	229.5	226.3	223.0	219.7
55°	225.0	214.9	204.9	198.2	195.1	191.9	188.7	185.5
57.5°	191.1	181.9	172.7	166.7	164.0	161.4	158.6	155.9
60°	167.6	159.2	150.6	145.0	142.3	139.6	136.9	134.2
62.5°	147.3	139.3	131.1	126.2	124.6	123.0	121.4	119.8
65°	119.9	114.1	108.5	105.3	104.8	104.3	103.8	103.3
67.5°	96.7	94.1	91.5	90.0	89.4	88.9	88.4	87.8
70°	84.1	82.5	80.8	79.6	79.0	78.3	77.6	77.0
72.5°	73.2	71.8	70.4	69.5	69.1	68.7	68.3	67.9
75°	58.0	56.9	55.6	54.9	54.8	54.6	54.4	54.3
77.5°	43.9	43.2	42.6	42.1	41.8	41.6	41.3	41.0
80°	34.8	34.2	33.5	33.2	33.2	33.2	33.2	33.2
82.5°	26.4	26.0	25.5	25.3	25.3	25.3	25.3	25.3
85°	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
87.5°	6.9	6.9	6.9	6.9	7.0	7.0	7.1	7.1
90°	11.7	12.3	12.9	13.3	13.5	13.7	14.0	14.2
92.5°	12.8	13.1	13.4	13.6	13.8	13.9	14.1	14.2
95°	21.7	22.3	22.9	23.1	23.0	22.9	22.8	22.6
97.5°	28.5	28.9	29.4	29.7	29.8	30.0	30.1	30.3
100°	31.9	32.8	33.8	34.3	34.6	34.8	35.0	35.3
102.5°	33.3	34.5	35.7	36.6	36.9	37.2	37.5	37.9
105°	34.7	36.1	37.3	38.2	38.7	39.1	39.6	40.1
107.5°	42.4	41.1	39.8	39.4	39.8	40.3	40.7	41.2
110°	68.8	57.1	45.3	39.8	40.2	40.7	41.2	41.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	147.1	104.4	61.7	40.6	40.9	41.3	41.7	42.0
115°	216.7	162.5	108.3	77.0	68.5	60.1	51.6	43.2
117.5°	334.0	320.8	307.7	287.3	259.5	231.9	204.2	176.4
120°	389.1	390.5	391.9	384.8	368.9	353.1	337.3	321.4
122.5°	412.8	413.7	414.5	413.4	410.4	407.3	404.2	401.1
125°	447.0	447.8	448.6	449.2	449.6	449.9	450.3	450.6
127.5°	478.5	479.7	480.9	481.5	481.6	481.7	481.7	481.8
130°	498.5	499.8	501.1	501.7	501.5	501.4	501.3	501.2
132.5°	518.0	519.1	520.2	520.6	520.5	520.4	520.3	520.2
135°	545.7	546.8	548.1	548.6	548.3	548.1	547.9	547.5
137.5°	571.5	572.6	573.8	574.1	573.7	573.3	573.0	572.6
140°	588.1	589.2	590.3	590.5	589.9	589.4	588.8	588.1
142.5°	603.6	604.5	605.5	605.7	605.1	604.5	603.9	603.3
145°	625.1	625.9	626.7	626.8	626.3	625.7	625.1	624.5
147.5°	643.9	644.5	645.1	645.1	644.7	644.2	643.7	643.2
150°	655.4	656.1	656.8	656.9	656.3	655.7	655.1	654.6
152.5°	666.0	666.7	667.4	667.3	666.6	665.8	665.0	664.3
155°	680.2	681.0	681.7	681.5	680.5	679.6	678.7	677.7
157.5°	692.2	693.0	693.8	693.8	692.8	691.9	690.9	690.0
160°	699.1	699.8	700.5	700.5	699.7	698.9	698.0	697.2
162.5°	705.7	706.5	707.3	707.2	706.2	705.2	704.2	703.2
165°	713.7	714.5	715.3	715.3	714.5	713.7	712.9	712.0
167.5°	720.2	721.1	722.0	721.9	720.7	719.7	718.6	717.6
170°	723.7	724.5	725.3	725.2	724.1	723.1	722.1	720.9
172.5°	726.2	727.0	727.8	727.7	726.7	725.6	724.6	723.5
175°	728.9	729.7	730.5	730.4	729.2	728.0	726.9	725.7
177.5°	729.2	729.9	730.5	730.4	729.6	728.7	727.9	727.1
180°	728.3	728.3	728.3	728.3	728.3	728.3	728.3	728.3

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