

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: P331379-930

Luminaire Tested: **SA2XXDIP-C865D330U930-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331379-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C865D330U930-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3803.7 lumens  
Efficiency: N/A  
Efficacy: 87.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Direct

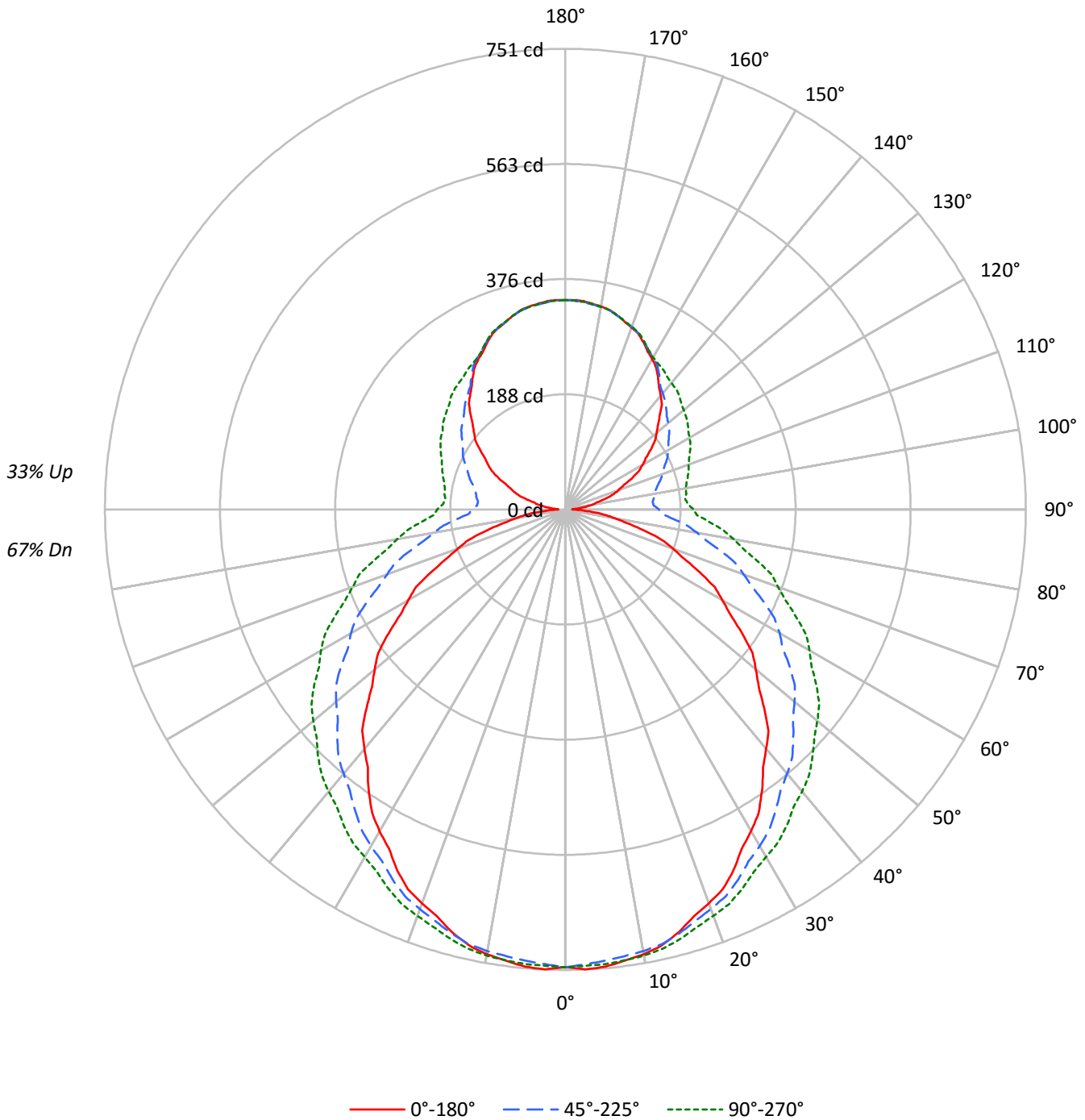
Input Watts (W): 43.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	111	111	111	111	105	105	105	105	93	93	93	81	81	81	71	71	71	67
1	99	94	89	85	93	89	84	81	78	75	72	69	66	64	60	58	56	52
2	90	81	74	68	84	76	70	65	67	62	58	59	55	52	52	49	46	42
3	81	71	62	56	76	67	59	53	59	53	48	52	47	43	45	41	38	35
4	74	62	53	47	69	59	51	45	52	45	40	46	41	36	40	36	32	29
5	68	55	46	40	64	52	44	38	46	40	35	41	35	31	36	31	28	25
6	63	49	41	34	59	47	39	33	42	35	30	37	31	27	32	28	24	22
7	58	45	36	30	54	42	34	29	38	31	26	33	28	24	29	25	21	19
8	54	41	32	26	50	38	31	25	34	28	23	31	25	21	27	23	19	17
9	50	37	29	24	47	35	28	23	31	25	21	28	23	19	25	20	17	15
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	19	16	14

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

	0°	45°	90°
0°	12053	12053	12053
5°	12111	11602	11558
10°	12036	11258	11133
15°	11869	10896	10685
20°	11659	10507	10254
25°	11452	10132	9863
30°	11160	9747	9469
35°	10866	9375	9193
40°	10556	9059	8916
45°	10260	8774	8678
50°	9944	8519	8446
55°	9611	8242	8208
60°	9207	7957	7957
65°	8784	7620	7658
70°	8310	7260	7336
75°	7704	6907	7041
80°	6744	6545	6739
85°	5835	6234	6508



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.7	1.9
10°-20°	202.8	5.3
20°-30°	307.4	8.1
30°-40°	374.4	9.8
40°-50°	402.8	10.6
50°-60°	391.1	10.3
60°-70°	341.5	9.0
70°-80°	262.9	6.9
80°-90°	177.8	4.7
90°-100°	143.2	3.8
100°-110°	155.9	4.1
110°-120°	173.5	4.6
120°-130°	183.7	4.8
130°-140°	183.2	4.8
140°-150°	168.6	4.4
150°-160°	139.4	3.7
160°-170°	92.4	2.4
170°-180°	32.3	0.8
0°-30°	580.9	15.3
0°-40°	955.3	25.1
0°-60°	1749.2	46.0
0°-90°	2531.5	66.6
90°-120°	472.6	12.4
90°-150°	1008.1	26.5
90°-180°	1272.0	33.4
0°-180°	3803.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	746	746	746	746	746	
5°	749	745	739	745	744	71
15°	714	716	716	725	725	201
25°	649	657	666	679	683	298
35°	559	578	598	621	630	349
45°	459	488	526	558	570	354
55°	352	392	447	484	500	314
65°	240	294	357	400	415	239
75°	133	194	263	308	324	141
85°	39	106	175	219	236	42
90°	11	78	153	194	209	8
95°	24	78	143	182	196	24
105°	67	101	156	193	207	72
115°	120	135	181	212	224	118
125°	170	174	206	233	244	152
135°	218	222	232	254	263	169
145°	263	265	267	274	278	165
155°	301	302	303	304	303	138
165°	328	327	327	329	328	92
175°	341	340	339	341	340	32
180°	341	341	341	341	341	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5
2.5°	750.8	750.2	749.7	749.1	748.5	747.5	746.2	744.9	743.5	742.2	743.1
5°	748.6	748.0	747.2	746.5	745.8	744.7	743.2	741.8	740.4	738.9	740.4
7.5°	741.9	741.4	740.9	740.5	740.0	739.2	738.1	737.0	735.9	734.8	736.5
10°	736.8	736.3	735.8	735.3	734.8	734.3	733.5	732.8	732.1	731.3	733.3
12.5°	728.1	728.2	728.3	728.4	728.5	728.2	727.7	727.2	726.7	726.1	728.1
15°	714.0	714.5	715.0	715.5	715.9	716.2	716.2	716.2	716.2	716.2	718.4
17.5°	695.9	696.8	697.9	698.9	699.9	700.7	701.6	702.3	703.1	703.8	706.1
20°	683.7	684.9	686.2	687.4	688.5	689.7	690.6	691.5	692.5	693.5	696.1
22.5°	670.7	672.1	673.5	674.9	676.3	677.7	679.1	680.4	681.8	683.1	685.7
25°	649.1	650.8	652.5	654.2	655.8	657.8	659.9	662.1	664.2	666.4	669.3
27.5°	623.1	625.9	628.6	631.4	634.1	636.7	639.3	641.9	644.4	646.9	650.6
30°	605.8	608.9	612.1	615.2	618.3	621.5	624.6	627.7	630.9	634.0	637.8
32.5°	586.8	590.3	593.8	597.4	600.9	604.5	608.1	611.9	615.6	619.2	623.7
35°	559.3	563.4	567.5	571.6	575.7	580.0	584.6	589.1	593.7	598.3	603.6
37.5°	529.5	534.2	538.9	543.6	548.3	553.6	559.5	565.5	571.4	577.3	583.2
40°	509.6	514.9	520.2	525.5	530.7	536.6	543.1	549.6	556.1	562.6	568.8
42.5°	490.5	495.8	501.1	506.4	511.7	518.0	525.5	533.0	540.4	547.9	554.6
45°	458.7	465.2	471.7	478.2	484.7	492.1	500.5	509.0	517.4	525.8	533.2
47.5°	427.3	434.4	441.5	448.6	455.6	464.1	473.9	483.8	493.7	503.5	511.3
50°	405.7	413.1	420.6	428.0	435.5	444.7	455.4	466.3	477.1	488.0	496.1
52.5°	384.9	392.7	400.6	408.5	416.3	425.9	437.3	448.7	460.1	471.5	479.8
55°	351.6	360.3	368.9	377.6	386.2	396.8	409.3	421.8	434.3	446.8	455.4
57.5°	318.7	328.5	338.3	348.0	357.8	369.0	381.7	394.5	407.2	420.0	429.3
60°	295.4	305.7	316.0	326.4	336.7	348.7	362.4	376.1	389.8	403.6	412.7
62.5°	274.6	285.3	296.0	306.7	317.5	329.7	343.4	357.1	370.8	384.5	394.2
65°	240.2	251.9	263.7	275.5	287.3	300.3	314.5	328.6	342.8	357.0	366.9
67.5°	208.6	220.9	233.2	245.5	257.8	271.3	285.8	300.3	314.8	329.3	339.2
70°	186.1	198.6	211.1	223.6	236.1	249.8	264.7	279.6	294.5	309.4	319.8
72.5°	165.3	178.2	191.1	204.0	216.9	230.8	246.0	261.1	276.1	291.2	301.4
75°	133.1	146.5	160.0	173.5	186.9	201.4	216.7	232.1	247.5	262.9	273.2
77.5°	101.9	116.0	130.1	144.1	158.2	173.1	188.7	204.4	220.0	235.6	245.9
80°	81.1	95.8	110.5	125.1	139.8	154.9	170.6	186.2	201.8	217.4	227.6
82.5°	63.8	78.3	92.8	107.2	121.7	136.9	152.7	168.5	184.3	200.2	210.3
85°	39.0	53.9	68.7	83.6	98.6	113.7	129.1	144.5	159.9	175.3	185.4
87.5°	21.3	35.7	50.2	64.7	79.2	94.2	109.9	125.6	141.3	156.9	166.7
90°	11.1	25.8	40.5	55.3	70.0	85.7	102.5	119.3	136.1	152.9	162.4
92.5°	15.1	28.6	42.2	55.7	69.3	83.6	98.7	113.9	129.1	144.1	153.6
95°	23.6	35.5	47.5	59.4	71.4	84.6	99.2	113.7	128.3	142.8	152.0
97.5°	35.0	45.6	56.2	66.8	77.4	89.8	103.9	117.9	132.0	146.1	155.0
100°	44.2	53.6	62.9	72.4	81.8	93.4	107.0	120.7	134.3	148.0	156.9
102.5°	53.0	61.5	70.0	78.6	87.1	98.0	111.4	124.7	138.0	151.3	160.0
105°	67.3	74.5	81.7	88.9	96.0	105.9	118.5	131.2	143.8	156.4	164.9
107.5°	82.9	88.8	94.7	100.4	106.3	115.3	127.3	139.2	151.2	163.1	171.3
110°	92.2	97.3	102.6	107.8	112.9	121.4	133.2	145.0	156.8	168.5	176.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	103.2	107.7	112.1	116.5	120.9	128.7	139.9	151.0	162.2	173.3	180.8
115°	119.5	122.5	125.6	128.7	131.7	138.5	149.2	159.9	170.6	181.3	188.4
117.5°	134.7	137.0	139.2	141.5	143.7	149.6	159.2	168.9	178.6	188.2	195.2
120°	145.5	147.0	148.5	149.9	151.4	156.7	165.8	175.0	184.0	193.1	199.9
122.5°	155.5	156.5	157.4	158.4	159.5	164.3	173.0	181.6	190.3	199.0	205.4
125°	169.8	170.4	171.0	171.5	172.1	176.2	183.7	191.2	198.7	206.2	212.5
127.5°	184.8	185.3	185.8	186.3	186.8	190.0	196.0	201.9	208.0	213.9	219.6
130°	194.3	194.9	195.5	196.1	196.7	199.4	204.3	209.3	214.2	219.1	224.8
132.5°	204.9	205.3	205.8	206.2	206.7	208.8	212.7	216.6	220.6	224.5	229.8
135°	218.0	218.7	219.4	220.1	220.8	222.4	224.9	227.5	230.0	232.5	237.5
137.5°	232.9	233.4	234.0	234.5	235.1	235.9	237.1	238.3	239.5	240.8	245.2
140°	241.9	242.2	242.6	242.9	243.2	243.8	244.6	245.4	246.2	247.0	250.9
142.5°	251.1	251.4	251.8	252.1	252.4	252.7	253.1	253.4	253.7	254.0	257.1
145°	263.3	263.7	264.2	264.6	265.1	265.5	265.9	266.3	266.6	267.0	268.6
147.5°	275.1	275.7	276.1	276.7	277.2	277.6	277.9	278.2	278.4	278.7	279.0
150°	283.2	283.6	283.9	284.3	284.7	285.0	285.3	285.5	285.8	286.0	286.3
152.5°	290.3	290.7	291.1	291.5	291.8	292.2	292.4	292.8	293.1	293.4	293.7
155°	301.0	301.2	301.4	301.6	301.7	302.0	302.1	302.3	302.6	302.7	303.0
157.5°	310.1	310.3	310.4	310.5	310.7	310.8	311.0	311.0	311.1	311.3	311.7
160°	315.7	315.8	315.9	316.1	316.2	316.3	316.3	316.4	316.5	316.6	316.9
162.5°	320.7	320.8	320.8	320.8	320.9	320.9	321.0	321.1	321.1	321.1	321.6
165°	327.5	327.4	327.3	327.3	327.3	327.2	327.2	327.2	327.2	327.2	327.7
167.5°	333.1	333.0	332.8	332.6	332.4	332.3	332.2	332.2	332.2	332.2	332.6
170°	336.1	336.0	335.7	335.6	335.4	335.3	335.2	335.1	335.1	335.0	335.4
172.5°	338.2	338.0	337.9	337.6	337.5	337.3	337.3	337.2	337.1	337.0	337.5
175°	340.8	340.6	340.4	340.1	340.0	339.8	339.7	339.6	339.4	339.3	339.7
177.5°	341.8	341.6	341.4	341.4	341.2	341.0	341.0	340.9	340.7	340.6	341.0
180°	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	746.5	746.5	746.5	746.5	746.5	746.5	746.5	746.5
2.5°	744.0	745.0	746.0	746.3	745.9	745.5	745.1	744.8
5°	741.8	743.2	744.7	745.3	745.0	744.8	744.5	744.3
7.5°	738.3	740.0	741.8	742.5	742.2	742.0	741.8	741.5
10°	735.2	737.1	739.1	739.9	739.6	739.4	739.2	738.9
12.5°	730.0	731.9	733.9	734.7	734.4	734.2	733.9	733.7
15°	720.5	722.7	724.9	725.8	725.5	725.3	725.0	724.9
17.5°	708.4	710.6	712.9	714.0	714.0	714.0	714.0	714.0
20°	698.8	701.4	704.0	705.4	705.4	705.4	705.4	705.4
22.5°	688.4	691.0	693.7	695.2	695.5	695.9	696.3	696.8
25°	672.2	675.1	678.0	679.8	680.4	681.2	681.9	682.7
27.5°	654.3	657.9	661.5	663.7	664.2	664.7	665.3	665.8
30°	641.6	645.5	649.4	651.7	652.3	653.1	653.8	654.5
32.5°	628.1	632.5	636.9	639.8	641.1	642.4	643.7	645.0
35°	608.9	614.2	619.5	622.9	624.6	626.3	627.9	629.7
37.5°	589.0	594.8	600.7	604.5	606.3	608.1	609.9	611.7
40°	575.0	581.3	587.6	591.7	593.9	596.1	598.3	600.5
42.5°	561.5	568.3	575.2	579.7	581.8	584.0	586.1	588.3
45°	540.7	548.1	555.6	560.5	563.0	565.3	567.8	570.1
47.5°	519.1	526.8	534.7	539.9	542.5	545.2	547.8	550.5
50°	504.3	512.4	520.7	526.0	528.6	531.3	533.9	536.6
52.5°	488.2	496.6	504.9	510.5	513.4	516.2	519.0	521.9
55°	464.1	472.8	481.4	487.3	490.4	493.6	496.7	499.8
57.5°	438.6	447.9	457.3	463.6	466.7	469.9	473.0	476.2
60°	421.8	431.0	440.1	446.3	449.7	453.1	456.4	459.8
62.5°	403.9	413.6	423.3	429.8	432.9	436.1	439.3	442.5
65°	376.7	386.6	396.5	402.9	406.0	409.2	412.3	415.4
67.5°	349.2	359.1	369.2	375.8	379.0	382.3	385.6	388.8
70°	330.1	340.4	350.7	357.3	360.3	363.1	366.1	368.9
72.5°	311.5	321.6	331.8	338.6	342.1	345.5	349.0	352.5
75°	283.6	293.9	304.3	311.0	314.1	317.2	320.3	323.5
77.5°	256.2	266.5	276.8	283.6	287.0	290.3	293.8	297.1
80°	237.7	247.8	257.9	264.6	267.9	271.3	274.7	278.0
82.5°	220.4	230.4	240.5	247.2	250.4	253.5	256.7	259.8
85°	195.4	205.5	215.6	222.4	225.8	229.1	232.4	235.9
87.5°	176.5	186.3	196.1	202.5	205.6	208.7	211.8	214.8
90°	171.9	181.3	190.9	197.1	200.0	202.9	205.9	208.9
92.5°	163.1	172.5	182.0	188.2	191.0	194.0	196.8	199.7
95°	161.1	170.2	179.4	185.3	188.1	190.9	193.6	196.4
97.5°	163.9	172.8	181.6	187.5	190.4	193.2	196.0	198.9
100°	165.8	174.6	183.5	189.2	191.8	194.4	197.0	199.6
102.5°	168.8	177.6	186.4	192.0	194.6	197.1	199.7	202.4
105°	173.5	182.1	190.6	196.2	198.9	201.5	204.1	206.8
107.5°	179.4	187.5	195.7	200.9	203.3	205.6	208.0	210.3
110°	183.9	191.7	199.3	204.4	206.8	209.3	211.7	214.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	188.4	195.9	203.5	208.5	211.0	213.5	216.1	218.5
115°	195.6	202.8	209.9	214.7	217.1	219.6	222.0	224.5
117.5°	202.1	209.0	216.1	220.6	222.9	225.2	227.5	229.7
120°	206.6	213.4	220.0	224.7	227.1	229.6	232.0	234.5
122.5°	211.8	218.2	224.5	228.8	230.9	233.0	235.1	237.3
125°	218.7	225.0	231.4	235.5	237.7	239.8	241.8	243.9
127.5°	225.3	231.1	236.8	240.7	242.6	244.5	246.4	248.3
130°	230.4	236.0	241.7	245.3	247.0	248.7	250.3	252.0
132.5°	235.1	240.4	245.6	249.2	250.9	252.7	254.4	256.1
135°	242.6	247.5	252.5	255.8	257.6	259.3	261.1	262.8
137.5°	249.6	253.9	258.3	261.1	262.5	263.9	265.3	266.7
140°	254.7	258.5	262.4	264.9	266.1	267.3	268.5	269.6
142.5°	260.3	263.4	266.5	268.6	269.6	270.6	271.6	272.6
145°	270.0	271.6	273.0	274.3	275.2	276.1	277.1	278.0
147.5°	279.3	279.6	280.0	280.3	280.6	281.0	281.4	281.7
150°	286.4	286.6	286.8	286.8	286.6	286.4	286.3	286.0
152.5°	293.9	294.2	294.4	294.4	294.2	293.9	293.7	293.4
155°	303.4	303.7	304.0	304.1	303.9	303.7	303.5	303.3
157.5°	312.1	312.6	313.0	313.1	312.7	312.4	312.2	311.9
160°	317.3	317.7	318.1	318.1	317.9	317.6	317.4	317.2
162.5°	322.0	322.5	322.9	322.9	322.7	322.4	322.0	321.7
165°	328.1	328.6	329.0	329.1	328.7	328.4	328.1	327.8
167.5°	333.1	333.5	334.0	334.1	333.8	333.4	333.0	332.7
170°	335.9	336.3	336.8	336.8	336.5	336.1	335.7	335.3
172.5°	337.9	338.4	338.8	338.9	338.5	338.1	337.8	337.4
175°	340.2	340.6	341.1	341.1	340.8	340.4	340.0	339.6
177.5°	341.3	341.5	341.9	341.9	341.5	341.3	341.0	340.6
180°	341.4	341.4	341.4	341.4	341.4	341.4	341.4	341.4

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