

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: P331679-940

Luminaire Tested: **SA2XXRDIP-C675D330U940-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331679-940  
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: SA2XXRDIP-C675D330U940-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

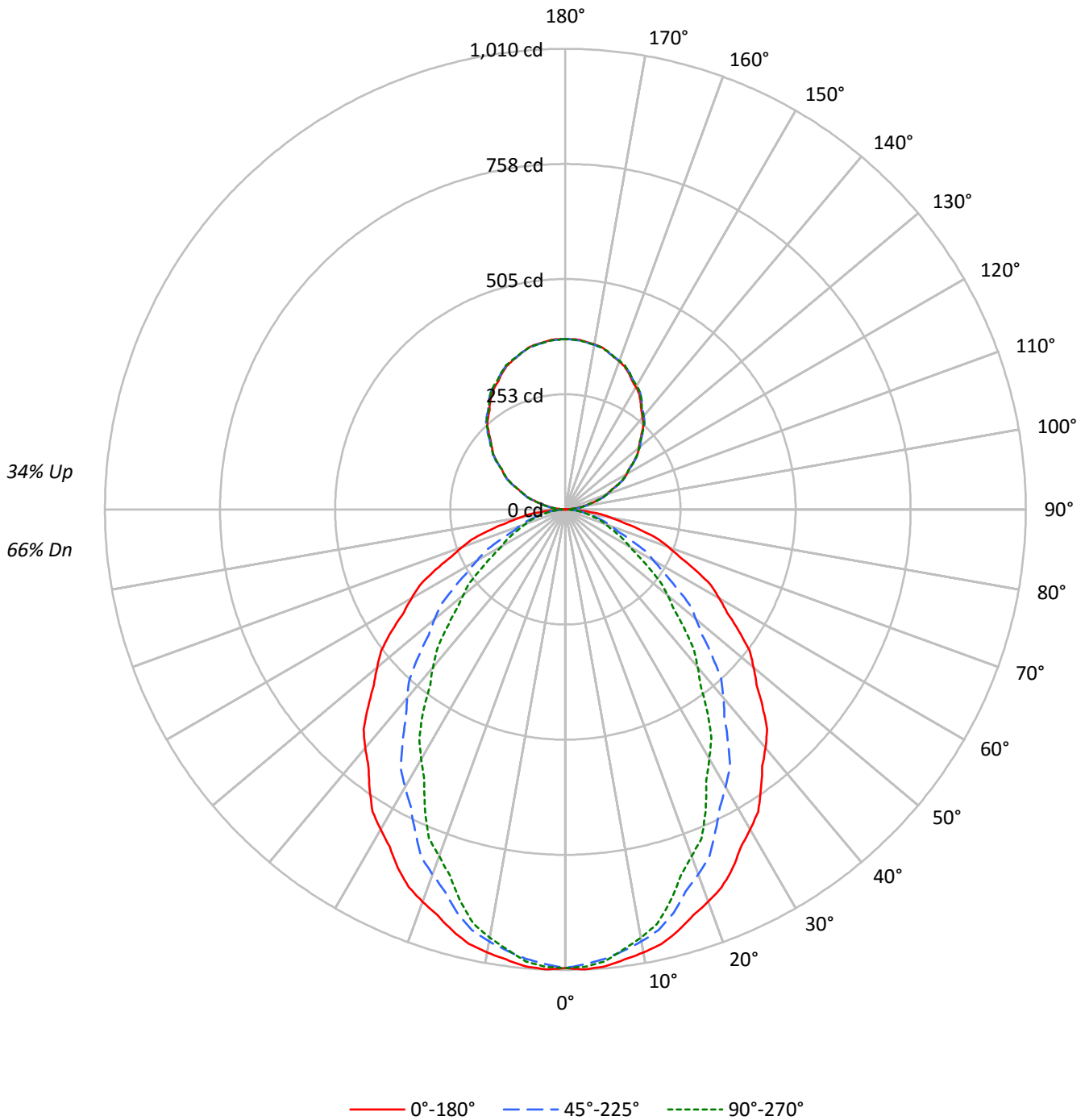
Lumens per Lamp: N/A  
Luminaire Lumens: 3114.2 lumens  
Efficiency: N/A  
Efficacy: 89.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	111	111	111	111	105	105	105	105	92	92	92	81	81	81	71	71	71	66				
1	102	98	94	91	96	92	89	86	82	80	77	73	71	69	64	63	61	57				
2	94	86	80	75	88	82	76	72	73	69	65	65	62	59	57	55	53	49				
3	86	76	69	64	81	72	66	61	65	60	56	58	54	51	51	48	46	42				
4	79	68	60	54	74	65	58	52	58	52	48	52	47	44	46	43	40	37				
5	73	61	53	47	68	58	51	45	52	46	42	47	42	39	42	38	35	32				
6	67	55	47	41	63	53	45	40	47	41	37	43	38	34	38	34	31	29				
7	62	50	42	37	59	48	41	35	43	37	33	39	34	31	35	31	28	26				
8	58	46	38	33	55	44	37	32	40	34	30	36	31	27	32	28	25	23				
9	54	42	35	30	51	40	33	29	37	31	27	33	28	25	30	26	23	21				
10	51	39	32	27	48	37	30	26	34	28	24	31	26	23	28	24	21	19				

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

	0°	45°	90°
0°	16239	16239	16239
5°	16302	16037	16126
10°	16179	15775	15641
15°	15992	15308	14867
20°	15735	14639	13904
25°	15471	13881	12975
30°	15105	13103	11779
35°	14747	12254	10730
40°	14389	11377	9516
45°	13967	10392	8416
50°	13536	9399	7340
55°	13095	8329	6303
60°	12581	7201	5231
65°	12000	6052	4768
70°	11301	4985	4381
75°	10449	4548	4086
80°	9224	4063	3719
85°	7243	3205	3205



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.2	3.0
10°-20°	258.5	8.3
20°-30°	363.0	11.7
30°-40°	395.9	12.7
40°-50°	364.0	11.7
50°-60°	285.9	9.2
60°-70°	186.4	6.0
70°-80°	96.1	3.1
80°-90°	26.4	0.8
90°-100°	23.7	0.8
100°-110°	73.5	2.4
110°-120°	125.6	4.0
120°-130°	165.1	5.3
130°-140°	185.4	6.0
140°-150°	181.8	5.8
150°-160°	152.4	4.9
160°-170°	101.1	3.2
170°-180°	35.3	1.1
0°-30°	715.7	23.0
0°-40°	1111.6	35.7
0°-60°	1761.4	56.6
0°-90°	2070.4	66.5
90°-120°	222.7	7.2
90°-150°	755.0	24.2
90°-180°	1044.0	33.5
0°-180°	3114.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1006	1006	1006	1006	1006	
5°	1006	1001	990	997	995	95
15°	957	946	916	899	889	269
25°	868	838	779	743	728	399
35°	748	700	622	566	544	468
45°	612	549	455	393	369	472
55°	465	393	296	243	224	416
65°	314	240	158	129	125	311
75°	168	106	73	67	66	177
85°	39	21	17	17	17	46
90°	0	4	11	10	11	2
95°	16	19	20	20	20	19
105°	68	69	69	70	70	72
115°	126	128	127	127	126	125
125°	183	186	185	184	184	164
135°	237	241	241	241	240	183
145°	288	290	292	292	291	180
155°	329	330	331	333	332	151
165°	358	358	358	360	359	101
175°	373	372	371	373	371	35
180°	373	373	373	373	373	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1009.5	1008.7	1007.9	1007.1	1006.3	1005.0	1003.2	1001.4	999.7	997.9	999.5
5°	1005.8	1004.9	1003.9	1002.8	1001.8	1000.1	997.4	994.8	992.1	989.5	991.3
7.5°	995.5	994.3	993.0	991.8	990.5	988.3	985.3	982.2	979.1	976.1	976.5
10°	986.8	985.3	983.9	982.5	981.1	978.4	974.3	970.3	966.3	962.2	961.6
12.5°	975.8	974.1	972.3	970.6	968.8	965.5	960.3	955.1	949.9	944.7	943.6
15°	956.7	954.5	952.3	950.0	947.8	943.3	936.4	929.5	922.7	915.8	912.0
17.5°	933.3	929.9	926.5	923.0	919.6	913.6	904.7	895.9	887.1	878.2	873.7
20°	915.8	911.7	907.7	903.7	899.6	892.5	882.3	872.3	862.2	852.0	846.9
22.5°	896.8	892.3	887.8	883.2	878.7	870.8	859.3	847.9	836.5	825.1	818.6
25°	868.4	861.9	855.5	849.0	842.6	832.6	819.3	805.9	792.6	779.2	770.9
27.5°	834.2	827.2	820.1	813.1	806.0	795.0	780.0	764.9	749.8	734.8	725.1
30°	810.2	802.5	794.8	787.1	779.4	767.5	751.3	735.1	718.9	702.8	692.4
32.5°	786.8	777.8	768.9	759.9	750.9	738.2	721.7	705.2	688.7	672.2	660.4
35°	748.2	738.0	727.6	717.3	707.0	692.9	675.1	657.4	639.5	621.7	608.9
37.5°	709.7	698.3	687.0	675.6	664.3	649.2	630.3	611.3	592.3	573.3	559.3
40°	682.7	670.6	658.4	646.3	634.2	618.3	598.7	579.1	559.5	539.8	525.5
42.5°	655.1	642.3	629.5	616.7	604.0	587.4	567.1	546.9	526.6	506.3	491.4
45°	611.7	598.2	584.6	571.1	557.5	540.1	518.9	497.7	476.4	455.1	440.8
47.5°	569.4	555.1	540.7	526.4	512.0	493.9	472.0	450.0	428.1	406.2	391.9
50°	538.9	524.5	510.1	495.8	481.4	463.2	440.9	418.7	396.4	374.2	360.2
52.5°	509.1	494.0	479.0	464.0	449.0	430.6	408.8	387.1	365.3	343.6	330.1
55°	465.2	449.4	433.6	417.9	402.1	383.3	361.4	339.6	317.7	295.9	283.7
57.5°	420.2	404.0	387.8	371.7	355.4	336.9	315.8	294.9	273.8	252.9	241.7
60°	389.6	373.4	357.2	341.1	324.9	306.4	285.5	264.7	243.9	223.0	212.7
62.5°	359.7	343.6	327.3	311.2	295.0	277.0	257.2	237.3	217.4	197.5	187.7
65°	314.1	297.7	281.2	264.9	248.5	231.2	213.0	194.8	176.6	158.4	151.5
67.5°	270.0	253.7	237.5	221.2	204.9	188.6	172.2	155.9	139.5	123.1	119.9
70°	239.4	223.6	207.9	192.1	176.3	161.4	147.5	133.5	119.6	105.6	103.5
72.5°	210.3	195.1	180.0	164.9	149.7	136.6	125.4	114.1	103.0	91.8	90.1
75°	167.5	153.4	139.2	125.0	110.8	100.3	93.5	86.6	79.7	72.9	71.4
77.5°	125.5	113.0	100.6	88.2	75.8	67.9	64.6	61.3	58.0	54.7	53.8
80°	99.2	88.9	78.6	68.3	58.0	51.8	49.8	47.7	45.7	43.7	42.9
82.5°	75.2	67.1	59.1	51.0	43.0	38.3	36.9	35.5	34.2	32.8	32.3
85°	39.1	34.9	30.7	26.4	22.1	19.7	19.1	18.5	17.9	17.3	17.3
87.5°	11.7	10.6	9.5	8.3	7.2	6.8	7.1	7.4	7.8	8.0	7.8
90°	0.4	1.2	2.0	2.9	3.7	4.9	6.4	7.9	9.5	11.1	10.9
92.5°	5.6	6.2	6.9	7.5	8.1	8.6	8.9	9.3	9.6	10.0	10.1
95°	16.4	17.1	17.7	18.5	19.2	19.6	19.7	19.9	20.1	20.2	20.2
97.5°	30.0	30.6	31.1	31.7	32.4	32.8	33.1	33.3	33.6	33.9	33.9
100°	40.0	40.6	41.1	41.7	42.3	42.6	42.8	43.1	43.2	43.5	43.5
102.5°	50.6	51.0	51.5	51.9	52.3	52.8	53.0	53.2	53.5	53.8	53.9
105°	67.8	67.9	68.1	68.4	68.6	68.8	68.9	69.0	69.2	69.3	69.5
107.5°	85.0	85.3	85.6	86.0	86.2	86.4	86.4	86.4	86.4	86.4	86.4
110°	96.1	96.5	96.9	97.4	97.7	98.0	98.0	98.0	98.0	98.0	98.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	108.2	108.6	109.1	109.4	109.9	110.0	109.9	109.9	109.9	109.9	109.7
115°	126.0	126.4	126.9	127.2	127.7	127.9	127.7	127.5	127.4	127.2	127.2
117.5°	143.7	144.4	144.9	145.4	146.1	146.2	145.7	145.3	144.9	144.5	144.4
120°	155.6	156.2	156.8	157.3	157.8	157.8	157.3	156.8	156.2	155.6	155.6
122.5°	166.5	167.1	167.8	168.4	169.2	169.3	168.9	168.5	168.1	167.7	167.6
125°	183.3	184.0	184.6	185.2	185.8	186.1	185.8	185.7	185.5	185.2	185.0
127.5°	199.8	200.6	201.4	202.2	203.0	203.2	203.0	202.8	202.5	202.2	202.0
130°	210.2	211.1	212.0	212.9	213.7	214.2	214.0	213.9	213.7	213.6	213.5
132.5°	221.8	222.5	223.2	223.9	224.7	225.1	225.1	225.2	225.2	225.2	224.9
135°	237.2	238.0	238.8	239.5	240.3	240.8	240.9	241.0	241.2	241.3	241.2
137.5°	253.5	254.1	254.8	255.5	256.1	256.5	256.6	256.8	257.0	257.2	257.2
140°	263.4	264.0	264.7	265.3	265.9	266.4	266.7	267.1	267.4	267.8	267.8
142.5°	273.5	274.1	274.7	275.4	276.0	276.4	276.6	276.9	277.1	277.3	277.4
145°	287.9	288.5	288.9	289.4	289.9	290.3	290.8	291.2	291.6	292.0	292.1
147.5°	300.9	301.5	302.0	302.6	303.2	303.6	303.9	304.3	304.5	304.8	305.0
150°	309.7	310.1	310.5	310.9	311.4	311.7	312.0	312.3	312.5	312.8	313.1
152.5°	317.5	317.9	318.3	318.8	319.1	319.6	319.9	320.2	320.6	320.9	321.2
155°	329.2	329.4	329.7	329.8	330.0	330.3	330.5	330.6	330.9	331.1	331.4
157.5°	339.2	339.4	339.5	339.7	339.8	339.9	340.1	340.2	340.3	340.5	340.9
160°	345.3	345.4	345.5	345.7	345.8	346.0	346.0	346.1	346.2	346.3	346.6
162.5°	350.8	350.9	350.9	350.9	351.0	351.0	351.1	351.2	351.2	351.2	351.8
165°	358.2	358.1	358.0	358.0	357.9	357.8	357.8	357.8	357.8	357.8	358.4
167.5°	364.4	364.2	364.0	363.7	363.6	363.5	363.4	363.4	363.4	363.4	363.8
170°	367.7	367.5	367.2	367.0	366.8	366.7	366.6	366.5	366.5	366.4	366.8
172.5°	369.9	369.7	369.5	369.3	369.1	368.9	368.9	368.8	368.7	368.6	369.2
175°	372.7	372.5	372.3	372.0	371.8	371.7	371.6	371.4	371.2	371.1	371.6
177.5°	373.8	373.6	373.4	373.4	373.2	373.0	372.9	372.8	372.6	372.6	372.9
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1001.1	1002.7	1004.3	1005.0	1004.7	1004.3	1004.1	1003.7
5°	993.1	995.0	996.8	997.4	996.8	996.1	995.6	995.0
7.5°	977.0	977.6	978.1	977.9	976.8	975.8	974.7	973.7
10°	961.0	960.4	959.7	958.9	957.6	956.4	955.2	954.0
12.5°	942.5	941.5	940.3	938.8	936.7	934.8	932.7	930.7
15°	908.1	904.2	900.4	897.4	895.5	893.4	891.4	889.4
17.5°	869.2	864.5	860.0	856.0	852.5	849.0	845.5	842.0
20°	842.0	836.9	831.8	827.1	822.6	818.1	813.7	809.2
22.5°	812.1	805.6	799.1	794.2	790.8	787.5	784.2	780.9
25°	762.6	754.3	746.0	740.4	737.4	734.3	731.3	728.3
27.5°	715.4	705.8	696.2	688.8	684.0	679.2	674.4	669.6
30°	682.2	671.8	661.5	653.6	648.1	642.7	637.2	631.8
32.5°	648.6	636.9	625.1	616.6	611.4	606.4	601.2	596.1
35°	596.3	583.5	570.8	562.1	557.7	553.2	548.8	544.4
37.5°	545.2	531.2	517.2	507.6	502.5	497.4	492.3	487.2
40°	511.0	496.7	482.3	472.5	467.3	462.0	456.7	451.5
42.5°	476.6	461.7	446.9	436.9	431.9	426.8	421.7	416.5
45°	426.4	412.1	397.7	388.1	383.3	378.4	373.5	368.6
47.5°	377.6	363.4	349.0	339.7	335.3	330.9	326.5	322.1
50°	346.3	332.3	318.3	309.2	305.0	300.7	296.5	292.2
52.5°	316.6	303.1	289.6	281.0	277.1	273.1	269.2	265.3
55°	271.6	259.4	247.3	239.3	235.5	231.6	227.7	223.9
57.5°	230.6	219.5	208.4	201.2	198.0	194.7	191.5	188.2
60°	202.4	192.1	181.7	175.0	171.7	168.5	165.2	162.0
62.5°	177.9	168.0	158.2	152.3	150.3	148.5	146.5	144.5
65°	144.6	137.8	130.9	127.2	126.5	125.9	125.3	124.8
67.5°	116.7	113.6	110.5	108.5	107.9	107.3	106.6	105.9
70°	101.6	99.5	97.5	96.1	95.2	94.4	93.6	92.8
72.5°	88.4	86.7	85.0	83.9	83.4	82.9	82.4	81.9
75°	70.0	68.6	67.1	66.3	66.2	66.0	65.7	65.5
77.5°	53.0	52.2	51.4	50.8	50.5	50.2	49.8	49.5
80°	42.1	41.3	40.5	40.0	40.0	40.0	40.0	40.0
82.5°	31.8	31.3	30.9	30.6	30.6	30.6	30.6	30.6
85°	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
87.5°	7.7	7.5	7.3	7.2	7.2	7.2	7.2	7.2
90°	10.8	10.6	10.4	10.4	10.5	10.6	10.6	10.7
92.5°	10.1	10.1	10.2	10.2	10.2	10.2	10.2	10.2
95°	20.2	20.2	20.2	20.1	20.0	19.8	19.7	19.5
97.5°	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.8
100°	43.5	43.5	43.5	43.4	43.3	43.3	43.2	43.2
102.5°	53.9	53.9	54.0	54.0	53.9	53.9	53.9	53.8
105°	69.6	69.7	69.9	69.9	69.9	69.9	69.9	69.9
107.5°	86.5	86.6	86.6	86.5	86.1	85.9	85.5	85.2
110°	98.0	98.0	98.0	97.9	97.6	97.5	97.3	97.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	109.5	109.3	109.1	109.0	108.9	108.7	108.5	108.3
115°	127.2	127.1	127.0	126.9	126.6	126.4	126.3	126.0
117.5°	144.2	144.0	143.8	143.7	143.5	143.3	143.0	142.9
120°	155.6	155.6	155.6	155.5	155.3	155.1	154.9	154.7
122.5°	167.4	167.2	167.0	166.9	166.7	166.6	166.4	166.3
125°	184.9	184.6	184.4	184.2	184.2	184.1	184.0	184.0
127.5°	201.8	201.5	201.3	201.0	200.8	200.5	200.4	200.1
130°	213.3	213.2	213.0	212.9	212.6	212.2	212.0	211.7
132.5°	224.5	224.3	224.0	223.7	223.5	223.3	223.0	222.8
135°	241.2	241.1	241.0	240.9	240.7	240.5	240.3	240.0
137.5°	257.1	257.0	257.0	256.8	256.5	256.3	256.0	255.7
140°	267.8	267.8	267.8	267.6	267.3	267.1	266.8	266.5
142.5°	277.5	277.5	277.6	277.5	277.2	276.9	276.6	276.3
145°	292.2	292.2	292.3	292.2	291.9	291.7	291.4	291.1
147.5°	305.1	305.2	305.4	305.3	305.1	304.8	304.5	304.3
150°	313.3	313.4	313.7	313.7	313.4	313.3	313.1	312.8
152.5°	321.5	321.7	322.0	322.0	321.7	321.5	321.2	320.9
155°	331.8	332.2	332.5	332.6	332.3	332.2	332.0	331.7
157.5°	341.3	341.9	342.3	342.4	342.1	341.7	341.4	341.1
160°	347.1	347.5	347.9	347.9	347.7	347.4	347.1	346.9
162.5°	352.2	352.7	353.2	353.2	352.9	352.6	352.2	351.9
165°	358.8	359.4	359.8	359.9	359.5	359.2	358.8	358.6
167.5°	364.4	364.8	365.3	365.4	365.1	364.6	364.3	363.9
170°	367.4	367.8	368.4	368.4	368.0	367.6	367.1	366.7
172.5°	369.6	370.1	370.6	370.7	370.2	369.8	369.4	369.0
175°	372.1	372.6	373.1	373.1	372.7	372.3	371.8	371.4
177.5°	373.3	373.5	373.9	373.9	373.5	373.3	372.9	372.6
180°	373.4	373.4	373.4	373.4	373.4	373.4	373.4	373.4

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