

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: P331637-940

Luminaire Tested: **SA2XXRDIP-C290D925U940-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331637-940  
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-C290D925U940-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3873.4 lumens  
Efficiency: N/A  
Efficacy: 103.8 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-Indirect

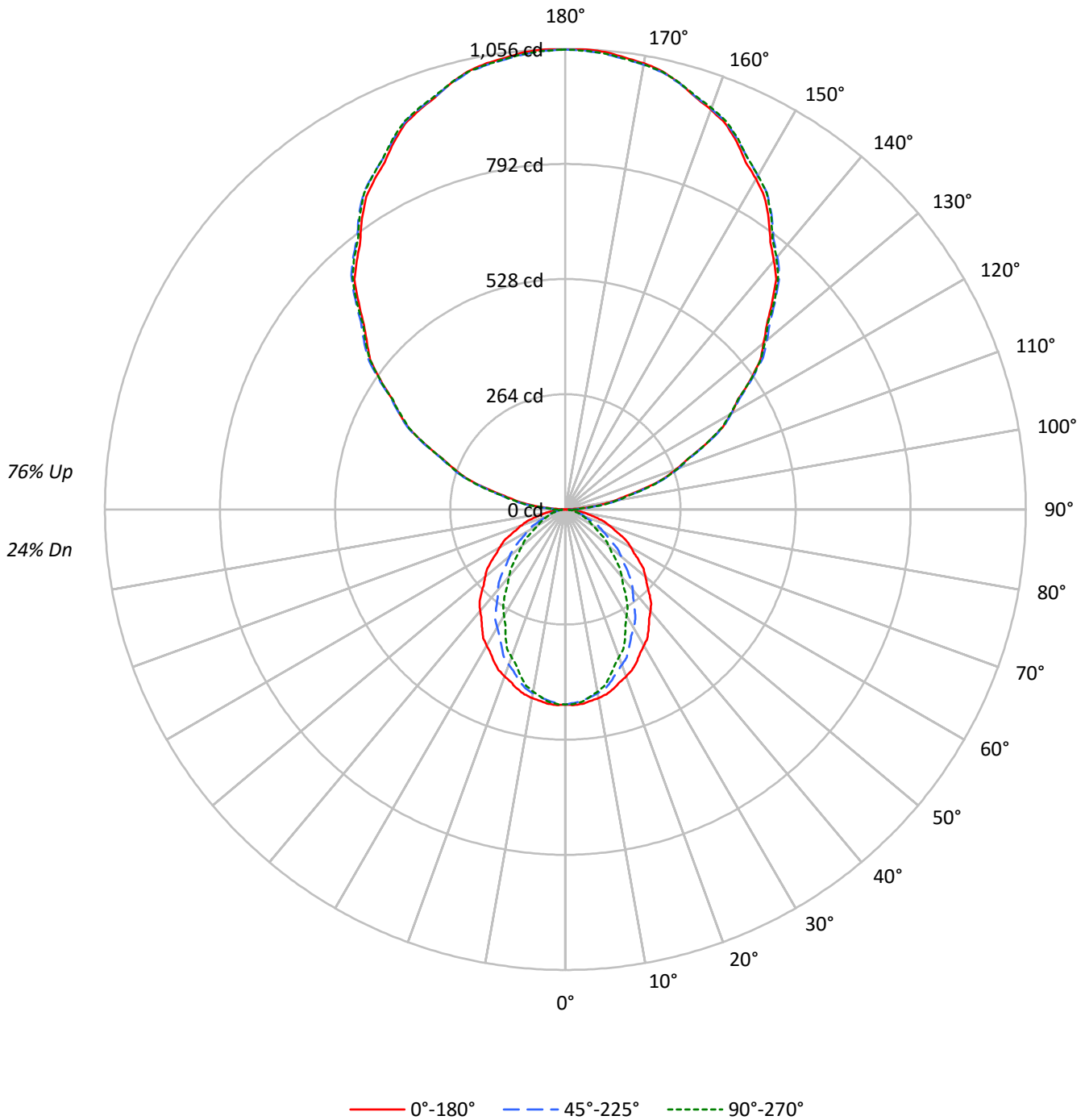
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	92	88	84	81	82	78	75	73	60	58	57	44	43	42	29	28	27	20
2	84	77	71	67	75	69	64	60	53	50	47	39	37	35	25	24	23	18
3	77	68	61	56	68	61	55	50	47	43	40	34	32	30	23	21	20	15
4	70	60	53	47	62	54	47	43	42	37	34	31	28	26	20	19	18	13
5	64	53	46	40	57	48	41	37	37	33	29	28	25	22	19	17	15	12
6	59	48	40	35	53	43	36	32	34	29	26	25	22	20	17	15	14	10
7	55	43	36	30	49	39	32	28	30	26	22	23	20	17	15	14	12	9
8	51	39	32	27	45	35	29	24	28	23	20	21	18	15	14	12	11	8
9	47	36	28	24	42	32	26	22	25	21	18	19	16	14	13	11	10	8
10	44	32	26	21	39	29	23	19	23	19	16	18	15	12	12	10	9	7

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

	0°	45°	90°
0°	7227	7227	7227
5°	7254	7136	7175
10°	7199	7020	6960
15°	7116	6812	6614
20°	7002	6515	6189
25°	6885	6178	5772
30°	6721	5830	5243
35°	6564	5454	4776
40°	6403	5063	4234
45°	6215	4624	3747
50°	6023	4182	3265
55°	5827	3704	2806
60°	5596	3203	2328
65°	5337	2690	2120
70°	5032	2219	1950
75°	4648	2021	1822
80°	4100	1804	1655
85°	3223	1426	1426



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.9	1.1
10°-20°	115.0	3.0
20°-30°	161.6	4.2
30°-40°	176.2	4.5
40°-50°	162.0	4.2
50°-60°	127.2	3.3
60°-70°	82.9	2.1
70°-80°	42.8	1.1
80°-90°	15.3	0.4
90°-100°	66.8	1.7
100°-110°	207.5	5.4
110°-120°	354.7	9.2
120°-130°	466.5	12.0
130°-140°	523.6	13.5
140°-150°	513.4	13.3
150°-160°	430.6	11.1
160°-170°	285.6	7.4
170°-180°	99.8	2.6
0°-30°	318.5	8.2
0°-40°	494.7	12.8
0°-60°	783.8	20.2
0°-90°	924.8	23.9
90°-120°	629.1	16.2
90°-150°	2132.6	55.1
90°-180°	2949.0	76.1
0°-180°	3873.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	448	448	448	448	448	
5°	448	445	440	444	443	42
15°	426	421	408	400	396	120
25°	386	373	347	331	324	178
35°	333	312	277	252	242	208
45°	272	244	202	175	164	210
55°	207	175	132	108	100	185
65°	140	107	70	57	56	138
75°	74	47	32	30	29	79
85°	17	9	8	8	8	21
90°	1	12	31	30	30	3
95°	46	55	57	57	55	53
105°	191	194	196	197	198	202
115°	356	361	360	358	356	352
125°	518	525	523	521	520	463
135°	670	679	682	681	678	517
145°	813	820	825	826	822	508
155°	930	933	935	939	937	428
165°	1012	1011	1011	1017	1013	285
175°	1053	1050	1048	1054	1049	100
180°	1054	1054	1054	1054	1054	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	449.2	448.9	448.5	448.2	447.8	447.2	446.4	445.7	444.9	444.1	444.8
5°	447.6	447.2	446.7	446.3	445.9	445.0	443.8	442.6	441.5	440.3	441.1
7.5°	443.0	442.5	441.8	441.3	440.8	439.8	438.5	437.0	435.7	434.4	434.5
10°	439.1	438.5	437.8	437.2	436.6	435.3	433.5	431.8	430.0	428.2	427.9
12.5°	434.3	433.5	432.7	431.9	431.1	429.6	427.3	425.0	422.7	420.4	419.9
15°	425.7	424.7	423.7	422.8	421.8	419.7	416.7	413.7	410.5	407.5	405.8
17.5°	415.3	413.8	412.2	410.7	409.2	406.5	402.6	398.7	394.8	390.8	388.8
20°	407.5	405.7	403.9	402.1	400.3	397.2	392.6	388.2	383.7	379.2	376.9
22.5°	399.1	397.1	395.0	393.1	391.0	387.4	382.4	377.3	372.3	367.2	364.3
25°	386.5	383.5	380.7	377.8	375.0	370.5	364.5	358.6	352.7	346.8	343.0
27.5°	371.2	368.1	365.0	361.9	358.6	353.7	347.1	340.4	333.7	327.0	322.7
30°	360.5	357.1	353.7	350.3	346.9	341.5	334.3	327.2	319.9	312.7	308.2
32.5°	350.2	346.2	342.1	338.1	334.1	328.5	321.2	313.8	306.5	299.1	293.9
35°	333.0	328.4	323.8	319.2	314.6	308.4	300.4	292.5	284.6	276.7	271.0
37.5°	315.8	310.8	305.7	300.7	295.6	288.9	280.4	272.0	263.6	255.1	248.9
40°	303.8	298.5	293.0	287.6	282.2	275.2	266.4	257.7	249.0	240.2	233.8
42.5°	291.5	285.8	280.1	274.5	268.8	261.4	252.4	243.3	234.3	225.3	218.7
45°	272.2	266.2	260.1	254.1	248.1	240.3	230.9	221.4	212.0	202.5	196.2
47.5°	253.4	247.0	240.7	234.3	227.8	219.8	210.0	200.3	190.5	180.7	174.4
50°	239.8	233.4	227.0	220.6	214.3	206.1	196.2	186.3	176.4	166.5	160.2
52.5°	226.5	219.8	213.2	206.5	199.8	191.6	181.9	172.3	162.6	152.8	146.9
55°	207.0	200.0	193.0	185.9	178.9	170.6	160.8	151.1	141.3	131.6	126.3
57.5°	187.0	179.8	172.5	165.4	158.2	149.9	140.5	131.3	121.9	112.5	107.5
60°	173.3	166.2	159.0	151.8	144.5	136.3	127.1	117.8	108.5	99.2	94.6
62.5°	160.1	152.9	145.7	138.5	131.3	123.2	114.4	105.6	96.8	87.9	83.6
65°	139.7	132.4	125.2	117.9	110.6	102.9	94.8	86.7	78.6	70.4	67.4
67.5°	120.1	112.9	105.7	98.4	91.2	83.9	76.6	69.4	62.1	54.8	53.3
70°	106.6	99.5	92.5	85.5	78.5	71.9	65.6	59.4	53.2	47.0	46.1
72.5°	93.5	86.9	80.1	73.4	66.6	60.8	55.8	50.8	45.8	40.8	40.0
75°	74.5	68.2	62.0	55.6	49.3	44.7	41.6	38.5	35.5	32.4	31.7
77.5°	55.8	50.3	44.8	39.2	33.7	30.2	28.7	27.3	25.8	24.3	24.0
80°	44.1	39.6	35.0	30.4	25.8	23.0	22.1	21.2	20.3	19.4	19.1
82.5°	33.4	29.9	26.3	22.7	19.2	17.0	16.4	15.8	15.2	14.6	14.4
85°	17.4	15.5	13.6	11.8	9.9	8.7	8.5	8.2	7.9	7.7	7.7
87.5°	5.4	5.3	5.2	5.1	5.0	5.4	6.2	7.0	7.9	8.8	8.6
90°	0.9	3.3	5.6	8.0	10.3	13.7	18.1	22.5	26.8	31.1	30.8
92.5°	15.9	17.6	19.4	21.0	22.8	24.2	25.2	26.2	27.3	28.3	28.4
95°	46.3	48.2	50.2	52.2	54.2	55.4	55.7	56.2	56.5	57.0	57.0
97.5°	84.5	86.3	88.0	89.8	91.5	92.7	93.5	94.3	95.0	95.8	95.8
100°	113.0	114.6	116.2	117.8	119.3	120.5	121.0	121.6	122.3	122.8	122.8
102.5°	142.9	144.2	145.4	146.7	147.9	149.0	149.7	150.5	151.2	152.0	152.1
105°	191.4	191.9	192.5	193.1	193.7	194.2	194.6	195.0	195.4	195.7	196.2
107.5°	240.0	240.9	241.8	242.7	243.6	244.0	244.0	244.0	244.0	244.0	244.2
110°	271.4	272.6	273.8	275.0	276.2	276.8	276.8	276.8	276.8	276.8	276.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	305.6	306.7	308.0	309.2	310.3	310.9	310.7	310.5	310.4	310.2	309.8
115°	356.0	357.1	358.3	359.5	360.7	361.1	360.7	360.3	359.9	359.5	359.4
117.5°	406.2	407.7	409.3	410.9	412.5	412.7	411.6	410.5	409.4	408.3	407.8
120°	439.6	441.2	442.7	444.3	445.9	445.9	444.3	442.7	441.2	439.6	439.6
122.5°	470.2	472.1	474.0	475.9	477.8	478.2	477.1	476.0	474.9	473.8	473.3
125°	517.9	519.7	521.5	523.3	525.0	525.7	525.0	524.4	523.9	523.3	522.6
127.5°	564.4	566.6	568.9	571.1	573.4	574.2	573.5	572.7	572.0	571.3	570.6
130°	593.5	596.1	598.7	601.3	603.9	604.9	604.5	604.1	603.8	603.3	603.0
132.5°	626.3	628.4	630.5	632.6	634.7	635.8	635.9	636.0	636.0	636.1	635.3
135°	670.1	672.3	674.4	676.6	678.8	680.1	680.5	680.8	681.3	681.6	681.4
137.5°	716.2	717.9	719.7	721.5	723.3	724.4	725.0	725.5	726.0	726.5	726.4
140°	744.0	745.7	747.5	749.3	751.1	752.4	753.4	754.4	755.5	756.4	756.4
142.5°	772.4	774.2	776.0	777.8	779.5	780.8	781.4	782.1	782.7	783.5	783.6
145°	813.3	814.8	816.1	817.5	818.9	820.2	821.4	822.5	823.8	824.9	825.1
147.5°	849.8	851.5	853.2	854.8	856.5	857.7	858.5	859.3	860.1	860.9	861.3
150°	874.8	875.9	877.1	878.3	879.5	880.5	881.3	882.1	882.9	883.7	884.2
152.5°	896.8	898.0	899.2	900.4	901.6	902.7	903.6	904.6	905.4	906.4	907.2
155°	930.0	930.5	931.1	931.7	932.3	932.9	933.5	934.1	934.7	935.2	936.3
157.5°	958.2	958.6	959.0	959.4	959.8	960.2	960.6	960.9	961.3	961.6	963.0
160°	975.4	975.7	976.1	976.5	976.9	977.2	977.4	977.6	977.8	977.9	979.2
162.5°	991.0	991.0	991.1	991.2	991.3	991.4	991.7	991.8	992.0	992.2	993.5
165°	1011.8	1011.6	1011.4	1011.2	1011.0	1010.9	1010.9	1010.9	1010.9	1010.9	1012.3
167.5°	1029.2	1028.7	1028.1	1027.4	1026.9	1026.5	1026.5	1026.4	1026.4	1026.4	1027.8
170°	1038.5	1037.9	1037.3	1036.7	1036.1	1035.7	1035.5	1035.4	1035.1	1034.9	1036.3
172.5°	1044.9	1044.3	1043.7	1043.1	1042.5	1042.1	1042.0	1041.7	1041.5	1041.3	1042.8
175°	1052.8	1052.1	1051.5	1051.0	1050.3	1049.9	1049.5	1049.1	1048.7	1048.3	1049.6
177.5°	1056.0	1055.4	1055.0	1054.5	1054.0	1053.6	1053.3	1053.0	1052.7	1052.4	1053.3
180°	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	445.5	446.2	446.9	447.2	447.1	446.9	446.7	446.7
5°	441.9	442.7	443.5	443.8	443.5	443.3	443.0	442.7
7.5°	434.8	435.1	435.2	435.2	434.7	434.2	433.7	433.3
10°	427.7	427.4	427.1	426.7	426.1	425.6	425.1	424.5
12.5°	419.5	418.9	418.5	417.8	416.9	416.0	415.1	414.2
15°	404.1	402.3	400.6	399.4	398.5	397.5	396.6	395.7
17.5°	386.7	384.7	382.7	380.9	379.3	377.8	376.2	374.7
20°	374.7	372.4	370.1	368.0	366.0	364.1	362.1	360.2
22.5°	361.4	358.5	355.6	353.4	351.9	350.4	348.9	347.5
25°	339.4	335.6	332.0	329.5	328.1	326.7	325.4	324.0
27.5°	318.3	314.1	309.8	306.6	304.4	302.3	300.1	298.0
30°	303.5	299.0	294.4	290.9	288.4	286.0	283.6	281.2
32.5°	288.6	283.4	278.1	274.4	272.2	269.8	267.5	265.3
35°	265.4	259.7	254.0	250.1	248.2	246.2	244.2	242.3
37.5°	242.6	236.4	230.2	225.9	223.6	221.3	219.1	216.8
40°	227.5	221.1	214.6	210.3	207.9	205.6	203.2	200.9
42.5°	212.0	205.5	198.9	194.5	192.2	189.9	187.6	185.4
45°	189.8	183.3	177.0	172.7	170.6	168.4	166.2	164.1
47.5°	168.0	161.7	155.3	151.1	149.2	147.2	145.3	143.3
50°	154.1	147.8	141.6	137.6	135.7	133.8	131.9	130.0
52.5°	140.9	134.9	128.9	125.0	123.3	121.5	119.8	118.1
55°	120.8	115.5	110.0	106.5	104.8	103.1	101.4	99.7
57.5°	102.6	97.6	92.7	89.5	88.1	86.7	85.2	83.7
60°	90.1	85.5	80.9	77.8	76.4	75.0	73.6	72.1
62.5°	79.2	74.8	70.4	67.8	66.9	66.1	65.2	64.3
65°	64.4	61.3	58.2	56.5	56.3	56.0	55.7	55.5
67.5°	52.0	50.6	49.1	48.3	48.0	47.7	47.4	47.2
70°	45.2	44.3	43.4	42.8	42.4	42.0	41.6	41.3
72.5°	39.3	38.5	37.8	37.4	37.1	36.9	36.6	36.5
75°	31.1	30.5	29.9	29.5	29.4	29.3	29.2	29.2
77.5°	23.5	23.2	22.8	22.6	22.5	22.3	22.2	22.0
80°	18.7	18.4	18.0	17.8	17.8	17.8	17.8	17.8
82.5°	14.2	13.9	13.7	13.6	13.6	13.6	13.6	13.6
85°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
87.5°	8.6	8.4	8.2	8.2	8.2	8.2	8.3	8.3
90°	30.3	30.0	29.6	29.4	29.7	29.9	30.1	30.2
92.5°	28.4	28.5	28.6	28.7	28.7	28.7	28.8	28.8
95°	57.0	57.0	57.0	56.7	56.4	56.0	55.6	55.2
97.5°	95.8	95.8	95.8	95.8	95.7	95.7	95.6	95.6
100°	122.8	122.8	122.8	122.7	122.5	122.3	122.1	121.9
102.5°	152.3	152.5	152.7	152.6	152.4	152.2	152.0	151.9
105°	196.5	197.0	197.3	197.5	197.5	197.5	197.5	197.5
107.5°	244.3	244.5	244.6	244.2	243.3	242.5	241.6	240.6
110°	276.8	276.8	276.8	276.4	275.9	275.3	274.6	274.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	309.2	308.8	308.4	307.8	307.5	307.0	306.6	306.1
115°	359.1	358.9	358.7	358.3	357.8	357.1	356.5	356.0
117.5°	407.3	406.9	406.4	405.8	405.3	404.7	404.0	403.5
120°	439.6	439.6	439.6	439.3	438.7	438.1	437.6	436.9
122.5°	472.8	472.3	471.9	471.4	471.0	470.6	470.1	469.7
125°	522.1	521.5	520.8	520.5	520.3	520.0	519.9	519.7
127.5°	569.9	569.2	568.5	567.8	567.1	566.5	565.9	565.3
130°	602.5	602.2	601.7	601.2	600.4	599.6	598.8	598.0
132.5°	634.4	633.5	632.6	631.9	631.2	630.6	630.0	629.4
135°	681.3	681.1	680.8	680.5	679.8	679.3	678.7	678.1
137.5°	726.2	726.0	725.9	725.4	724.6	723.8	723.0	722.2
140°	756.4	756.4	756.4	756.0	755.2	754.4	753.7	752.9
142.5°	783.8	783.9	784.1	783.8	783.0	782.2	781.4	780.6
145°	825.3	825.5	825.7	825.5	824.7	823.9	823.0	822.2
147.5°	861.7	862.2	862.6	862.5	861.7	860.9	860.2	859.4
150°	884.8	885.5	886.0	886.0	885.5	884.8	884.2	883.7
152.5°	907.9	908.7	909.5	909.5	908.7	907.9	907.2	906.4
155°	937.3	938.3	939.2	939.4	938.8	938.3	937.6	937.0
157.5°	964.3	965.6	967.0	967.1	966.3	965.3	964.3	963.4
160°	980.3	981.5	982.8	982.9	982.1	981.3	980.5	979.7
162.5°	994.9	996.2	997.6	997.8	996.8	995.9	995.0	994.0
165°	1013.7	1015.0	1016.5	1016.6	1015.7	1014.7	1013.7	1012.7
167.5°	1029.1	1030.6	1031.9	1032.1	1031.1	1030.0	1029.0	1028.0
170°	1037.7	1039.1	1040.4	1040.5	1039.4	1038.2	1037.0	1035.8
172.5°	1044.1	1045.5	1046.9	1047.0	1045.8	1044.6	1043.4	1042.2
175°	1051.1	1052.4	1053.8	1053.9	1052.8	1051.5	1050.3	1049.2
177.5°	1054.3	1055.3	1056.1	1056.1	1055.3	1054.3	1053.3	1052.4
180°	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5	1054.5

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