

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: P332511-840

Luminaire Tested: **S124DIP-S350D810U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332511-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D810U840-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4723.8 lumens
Efficiency: N/A
Efficacy: 151.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

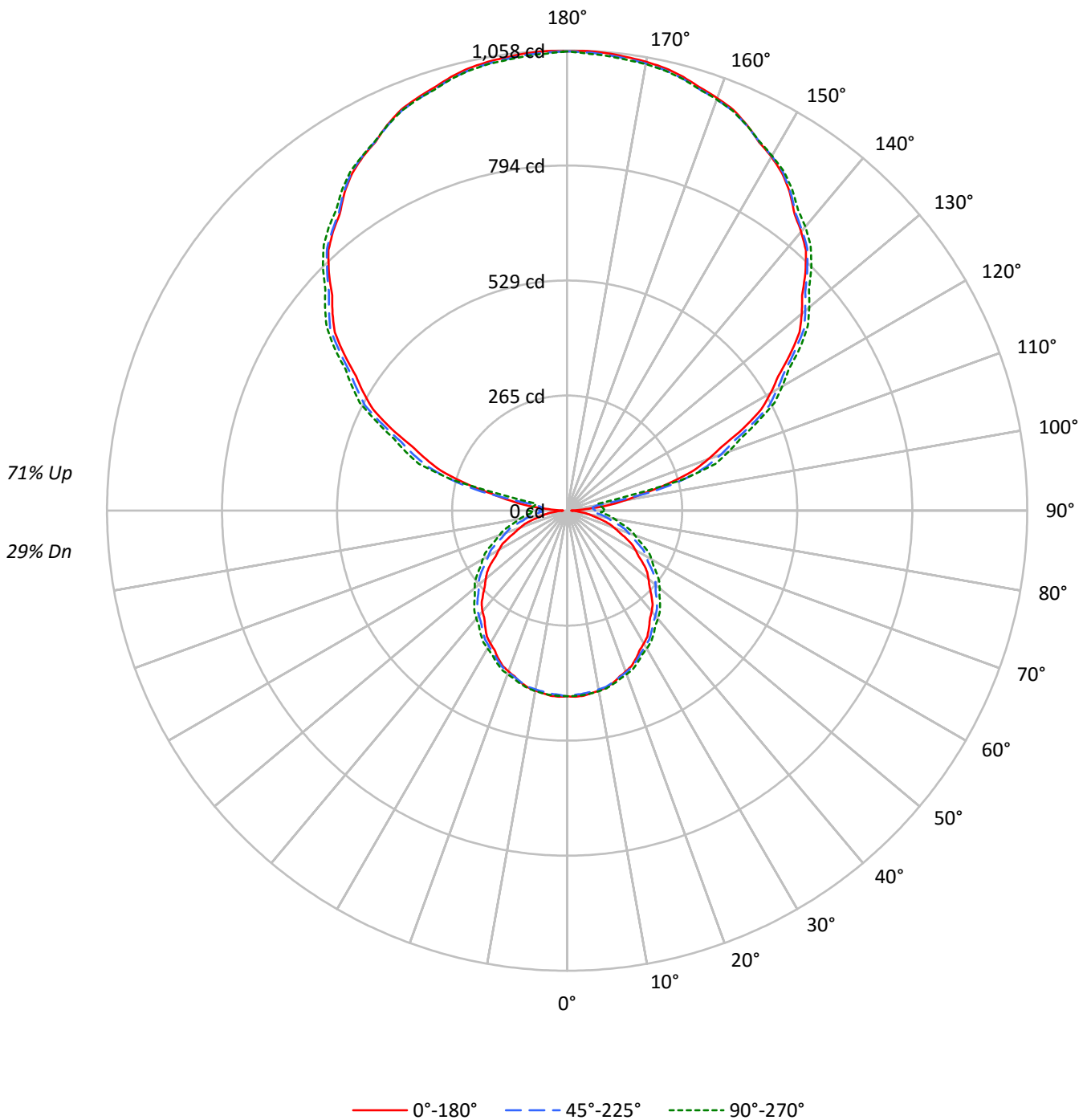
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332511-840

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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	29
1	92	88	84	80	82	79	75	72	62	59	57	46	44	43	31	30	30	23
2	84	76	70	65	75	68	63	59	54	50	47	40	37	35	27	26	24	19
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	22	20	15
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	21	19	17	13
5	64	52	44	38	57	47	40	35	37	32	28	28	24	22	19	17	15	11
6	59	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	16	13	12	9
8	50	38	30	25	45	34	28	23	27	22	19	20	17	14	14	12	10	8
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7
10	43	31	24	20	39	28	22	18	23	18	15	17	14	12	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3446	3446	3446
5°	3457	3367	3378
10°	3435	3313	3310
15°	3404	3249	3231
20°	3358	3179	3155
25°	3306	3100	3070
30°	3249	3021	2983
35°	3185	2941	2907
40°	3134	2865	2828
45°	3058	2793	2759
50°	2994	2713	2687
55°	2928	2636	2603
60°	2824	2538	2526
65°	2708	2435	2431
70°	2572	2315	2320
75°	2379	2183	2220
80°	2166	2057	2123
85°	1893	1946	2065



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	0.9
10°-20°	115.8	2.5
20°-30°	175.1	3.7
30°-40°	211.9	4.5
40°-50°	224.0	4.7
50°-60°	210.8	4.5
60°-70°	174.9	3.7
70°-80°	122.9	2.6
80°-90°	72.5	1.5
90°-100°	77.3	1.6
100°-110°	260.7	5.5
110°-120°	460.9	9.8
120°-130°	570.6	12.1
130°-140°	603.2	12.8
140°-150°	560.4	11.9
150°-160°	451.1	9.5
160°-170°	290.9	6.2
170°-180°	100.3	2.1
0°-30°	331.4	7.0
0°-40°	543.2	11.5
0°-60°	978.1	20.7
0°-90°	1348.3	28.5
90°-120°	799.0	16.9
90°-150°	2533.1	53.6
90°-180°	3375.0	71.4
0°-180°	4723.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	427	426	422	426	426	41
15°	410	410	409	413	412	115
25°	375	378	379	384	385	173
35°	328	334	338	345	347	205
45°	273	282	292	299	302	211
55°	214	224	238	248	251	191
65°	148	164	180	191	196	147
75°	82	100	120	133	138	87
85°	25	46	67	81	86	27
90°	10	38	65	83	89	7
95°	50	40	59	76	82	61
105°	242	257	278	295	272	254
115°	447	454	468	479	483	440
125°	626	629	639	650	654	559
135°	775	774	780	789	794	597
145°	893	894	895	898	902	558
155°	978	979	977	980	978	451
165°	1032	1028	1028	1034	1027	292
175°	1056	1051	1052	1058	1049	100
180°	1056	1056	1056	1056	1056	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	428.4	428.1	427.9	427.6	427.4	426.9	426.3	425.6	424.9	424.1	424.7
5°	427.4	427.0	426.7	426.4	426.1	425.6	424.7	424.0	423.3	422.5	423.4
7.5°	423.7	423.5	423.3	423.1	422.9	422.5	421.9	421.3	420.7	420.1	421.0
10°	420.6	420.5	420.4	420.3	420.2	419.9	419.4	418.8	418.3	417.8	418.7
12.5°	416.5	416.4	416.4	416.4	416.4	416.2	415.8	415.5	415.1	414.8	415.6
15°	409.6	409.8	409.9	410.0	410.1	410.0	409.6	409.3	409.0	408.7	409.6
17.5°	400.4	400.7	401.0	401.3	401.6	401.8	401.7	401.6	401.6	401.5	402.5
20°	393.8	394.2	394.6	394.9	395.2	395.4	395.5	395.6	395.7	395.8	396.9
22.5°	386.6	387.0	387.4	387.8	388.2	388.5	388.7	388.9	389.1	389.3	390.3
25°	374.8	375.4	376.1	376.7	377.3	377.8	378.1	378.4	378.7	379.1	380.2
27.5°	361.5	362.5	363.5	364.4	365.3	366.0	366.5	367.0	367.5	368.0	369.0
30°	352.7	353.7	354.5	355.3	356.2	357.0	357.7	358.4	359.2	359.9	361.1
32.5°	343.3	344.3	345.3	346.3	347.3	348.2	349.0	349.8	350.7	351.5	352.8
35°	327.9	329.2	330.4	331.7	333.1	334.2	335.3	336.3	337.4	338.4	339.9
37.5°	312.6	314.0	315.5	316.9	318.4	319.7	321.1	322.4	323.8	325.1	326.6
40°	302.6	304.0	305.4	306.7	308.1	309.5	311.0	312.6	314.0	315.5	317.1
42.5°	291.1	292.7	294.2	295.8	297.3	298.9	300.7	302.5	304.2	305.9	307.7
45°	273.4	275.4	277.4	279.4	281.4	283.5	285.5	287.5	289.5	291.5	293.4
47.5°	256.5	258.6	260.6	262.8	264.8	267.0	269.3	271.8	274.1	276.4	278.2
50°	244.3	246.6	248.9	251.3	253.6	255.9	258.3	260.6	263.0	265.3	267.4
52.5°	232.1	234.4	236.7	239.0	241.4	243.9	246.5	249.2	251.9	254.6	256.7
55°	214.2	216.4	218.6	220.9	223.1	225.8	228.9	232.2	235.3	238.5	240.7
57.5°	194.2	196.9	199.7	202.5	205.2	208.1	211.4	214.5	217.6	220.9	223.4
60°	181.2	183.9	186.7	189.5	192.2	195.3	198.8	202.4	205.8	209.3	211.8
62.5°	168.5	171.6	174.6	177.6	180.6	183.9	187.3	190.9	194.4	197.9	200.4
65°	148.1	151.6	155.0	158.3	161.8	165.3	168.8	172.5	176.1	179.8	182.4
67.5°	128.6	132.2	135.8	139.5	143.0	146.7	150.7	154.5	158.3	162.2	164.9
70°	115.2	118.8	122.4	126.0	129.7	133.5	137.5	141.6	145.6	149.7	152.5
72.5°	102.2	105.9	109.6	113.3	116.9	121.0	125.2	129.6	133.8	138.1	140.9
75°	82.2	86.1	90.1	94.0	98.0	102.1	106.6	111.1	115.5	120.0	123.0
77.5°	63.6	67.8	71.9	76.0	80.2	84.6	89.3	94.0	98.7	103.3	106.3
80°	52.1	56.4	60.6	64.8	69.1	73.5	78.3	82.9	87.6	92.3	95.4
82.5°	40.6	45.0	49.5	53.9	58.3	62.8	67.6	72.2	76.9	81.6	84.8
85°	25.3	29.8	34.2	38.7	43.2	47.8	52.6	57.4	62.1	67.0	70.1
87.5°	14.6	19.4	24.0	28.8	33.5	38.4	43.2	48.2	53.1	58.1	61.4
90°	10.0	16.2	22.4	28.6	34.7	40.8	46.8	52.7	58.7	64.7	68.9
92.5°	17.2	21.1	25.0	29.0	32.9	37.9	43.8	49.8	55.8	61.8	65.8
95°	49.7	47.2	44.7	42.2	39.8	40.8	45.3	49.9	54.4	59.0	62.9
97.5°	97.9	104.6	111.4	118.1	124.8	120.6	105.2	90.0	74.7	59.5	62.3
100°	134.7	140.7	146.6	152.5	158.4	151.4	131.3	111.2	91.2	71.1	71.0
102.5°	176.4	181.2	185.9	190.7	195.4	198.2	199.1	200.1	201.0	201.8	172.4
105°	242.0	245.2	248.3	251.5	254.7	258.6	263.5	268.3	273.1	277.9	282.2
107.5°	303.7	305.9	308.2	310.4	312.7	316.3	321.2	326.1	331.0	336.0	339.3
110°	345.0	347.0	349.0	350.9	352.9	356.4	361.1	365.9	370.7	375.5	378.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	385.0	387.3	389.5	391.7	394.0	397.2	401.2	405.3	409.3	413.3	415.7
115°	446.7	448.1	449.6	451.1	452.5	454.9	458.2	461.3	464.5	467.8	470.5
117.5°	502.6	503.8	505.1	506.4	507.7	510.1	513.6	517.3	520.8	524.3	526.4
120°	540.1	541.1	542.2	543.2	544.2	546.1	549.1	552.0	554.8	557.7	560.3
122.5°	575.5	575.9	576.4	576.9	577.4	579.3	582.4	585.5	588.8	591.9	594.2
125°	625.7	626.3	626.9	627.5	628.0	629.5	631.9	634.1	636.4	638.7	641.3
127.5°	673.6	673.7	673.8	673.8	673.9	675.3	678.2	681.1	683.9	686.7	688.5
130°	704.2	704.3	704.3	704.4	704.5	705.6	707.8	710.0	712.3	714.5	716.6
132.5°	732.7	732.9	733.1	733.3	733.5	734.6	736.6	738.6	740.6	742.7	744.7
135°	774.8	774.6	774.5	774.3	774.1	774.7	776.2	777.6	779.0	780.5	782.5
137.5°	812.5	812.4	812.4	812.4	812.3	812.9	814.1	815.2	816.3	817.5	819.4
140°	837.2	837.4	837.7	837.9	838.1	838.5	838.9	839.4	839.8	840.3	842.2
142.5°	858.9	859.5	860.1	860.7	861.3	861.7	861.8	862.0	862.1	862.3	863.8
145°	892.7	893.1	893.5	894.0	894.4	894.6	894.6	894.6	894.6	894.6	895.4
147.5°	919.8	920.6	921.5	922.4	923.2	923.6	923.4	923.2	923.0	922.9	923.1
150°	939.3	939.9	940.5	941.1	941.7	941.9	941.7	941.6	941.4	941.2	941.2
152.5°	955.3	955.9	956.4	956.9	957.6	957.7	957.4	957.0	956.6	956.3	956.6
155°	978.4	978.5	978.7	978.9	979.1	978.9	978.4	977.8	977.2	976.7	977.4
157.5°	997.7	997.6	997.5	997.4	997.3	996.9	996.3	995.8	995.2	994.6	995.5
160°	1009.2	1008.6	1008.0	1007.5	1007.0	1006.6	1006.5	1006.3	1006.1	1005.9	1007.0
162.5°	1019.3	1018.5	1017.8	1017.2	1016.5	1016.1	1015.9	1015.8	1015.6	1015.4	1016.5
165°	1032.0	1031.2	1030.3	1029.4	1028.5	1028.0	1028.0	1028.0	1028.0	1028.0	1029.5
167.5°	1042.1	1041.2	1040.3	1039.4	1038.4	1037.9	1037.8	1037.7	1037.6	1037.5	1039.1
170°	1047.8	1046.7	1045.7	1044.6	1043.6	1043.2	1043.3	1043.5	1043.7	1043.9	1045.2
172.5°	1051.6	1050.6	1049.5	1048.4	1047.4	1046.9	1047.1	1047.3	1047.4	1047.6	1049.0
175°	1055.7	1054.6	1053.6	1052.6	1051.5	1051.1	1051.3	1051.4	1051.6	1051.8	1053.3
177.5°	1057.6	1056.6	1055.6	1054.6	1053.7	1053.3	1053.6	1053.9	1054.2	1054.4	1055.5
180°	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	425.4	426.0	426.6	426.8	426.8	426.7	426.6	426.5
5°	424.2	425.1	426.0	426.4	426.3	426.1	426.0	425.9
7.5°	422.0	422.9	423.9	424.3	424.2	424.1	424.0	423.9
10°	419.7	420.6	421.6	422.0	421.9	421.8	421.7	421.6
12.5°	416.5	417.4	418.2	418.6	418.6	418.6	418.6	418.5
15°	410.6	411.5	412.5	412.9	412.8	412.7	412.6	412.5
17.5°	403.4	404.5	405.5	405.9	405.8	405.7	405.7	405.6
20°	397.9	399.0	400.0	400.6	400.6	400.6	400.6	400.6
22.5°	391.4	392.4	393.5	394.2	394.4	394.5	394.7	394.9
25°	381.4	382.5	383.7	384.4	384.5	384.6	384.7	384.8
27.5°	370.1	371.2	372.3	372.9	373.0	373.1	373.2	373.4
30°	362.2	363.5	364.6	365.3	365.5	365.8	366.0	366.2
32.5°	354.2	355.6	356.9	357.7	357.9	358.1	358.3	358.5
35°	341.4	342.8	344.4	345.3	345.6	345.9	346.3	346.6
37.5°	328.1	329.5	331.0	332.0	332.3	332.6	333.1	333.4
40°	318.7	320.2	321.8	322.9	323.3	323.8	324.2	324.6
42.5°	309.4	311.2	313.0	314.1	314.4	314.7	315.1	315.4
45°	295.2	297.0	298.8	299.9	300.5	301.0	301.5	302.1
47.5°	280.1	282.0	283.9	285.1	285.8	286.4	287.0	287.7
50°	269.5	271.7	273.8	275.2	275.8	276.4	277.1	277.7
52.5°	258.8	260.9	263.1	264.5	265.1	265.7	266.4	267.0
55°	242.8	244.9	247.0	248.4	249.0	249.6	250.3	251.0
57.5°	225.9	228.4	231.0	232.5	233.1	233.7	234.3	234.9
60°	214.3	216.7	219.1	220.8	221.7	222.5	223.4	224.2
62.5°	202.8	205.2	207.6	209.3	210.2	211.0	211.9	212.7
65°	185.0	187.7	190.4	192.1	193.0	193.8	194.7	195.5
67.5°	167.6	170.4	173.0	174.8	175.6	176.4	177.2	178.1
70°	155.3	158.2	161.1	162.9	163.6	164.4	165.1	165.8
72.5°	143.7	146.5	149.3	151.1	151.9	152.7	153.6	154.4
75°	125.9	128.9	131.9	133.8	134.8	135.7	136.7	137.6
77.5°	109.4	112.4	115.4	117.4	118.5	119.5	120.5	121.5
80°	98.7	101.8	105.0	107.0	107.9	108.8	109.6	110.4
82.5°	88.1	91.4	94.6	96.7	97.7	98.6	99.6	100.5
85°	73.3	76.4	79.7	81.8	82.8	83.9	84.9	86.0
87.5°	64.6	68.0	71.2	73.4	74.4	75.3	76.3	77.4
90°	72.9	77.1	81.2	83.9	85.1	86.3	87.5	88.7
92.5°	69.9	73.9	78.0	80.5	81.4	82.3	83.2	84.1
95°	66.8	70.7	74.6	77.2	78.3	79.5	80.6	81.7
97.5°	65.2	68.2	71.0	73.0	74.1	75.2	76.2	77.4
100°	70.8	70.7	70.6	71.0	71.9	72.8	73.7	74.7
102.5°	143.0	113.6	84.2	70.0	70.8	71.7	72.5	73.4
105°	286.4	290.6	294.9	294.3	288.7	283.3	277.8	272.4
107.5°	342.7	346.1	349.5	351.8	353.4	354.8	356.2	357.6
110°	381.0	383.8	386.7	388.7	390.1	391.5	392.8	394.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	417.9	420.2	422.5	424.4	426.0	427.5	429.0	430.5
115°	473.2	475.8	478.6	480.3	481.0	481.8	482.5	483.2
117.5°	528.6	530.7	532.9	534.3	535.1	535.9	536.6	537.5
120°	562.7	565.2	567.6	569.2	569.7	570.2	570.7	571.2
122.5°	596.5	598.8	601.2	602.6	603.0	603.4	603.8	604.2
125°	643.9	646.4	648.9	650.7	651.5	652.3	653.1	653.9
127.5°	690.3	692.2	694.0	695.2	695.7	696.3	696.9	697.5
130°	718.7	720.7	722.9	724.2	724.9	725.5	726.1	726.8
132.5°	746.7	748.7	750.6	751.9	752.5	753.0	753.5	754.0
135°	784.6	786.7	788.7	790.2	791.2	792.1	793.1	794.2
137.5°	821.3	823.2	825.2	826.4	826.8	827.2	827.7	828.1
140°	844.1	846.1	848.0	849.2	849.9	850.6	851.3	852.0
142.5°	865.5	867.1	868.7	869.7	870.2	870.7	871.1	871.6
145°	896.3	897.1	897.9	898.7	899.5	900.2	901.0	901.8
147.5°	923.3	923.5	923.8	924.1	924.6	925.2	925.7	926.2
150°	941.2	941.2	941.2	941.3	941.5	941.6	941.8	942.0
152.5°	956.9	957.3	957.5	957.6	957.5	957.4	957.3	957.2
155°	978.2	978.9	979.6	979.7	979.1	978.6	978.1	977.5
157.5°	996.4	997.3	998.3	998.3	997.3	996.4	995.5	994.6
160°	1008.0	1009.2	1010.2	1010.2	1009.2	1008.0	1007.0	1005.9
162.5°	1017.5	1018.5	1019.7	1019.6	1018.3	1017.1	1016.0	1014.8
165°	1030.9	1032.3	1033.7	1033.6	1032.0	1030.5	1028.9	1027.2
167.5°	1040.7	1042.2	1043.7	1043.6	1041.9	1040.1	1038.3	1036.6
170°	1046.6	1048.0	1049.5	1049.2	1047.5	1045.8	1044.0	1042.3
172.5°	1050.5	1051.9	1053.3	1053.0	1051.2	1049.2	1047.3	1045.4
175°	1054.9	1056.5	1058.0	1057.8	1055.7	1053.6	1051.5	1049.4
177.5°	1056.7	1057.8	1058.9	1058.6	1056.9	1055.3	1053.6	1051.9
180°	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7

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