

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: P332513-840

Luminaire Tested: **SA4XXDIP-C350D810U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332513-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C350D810U840-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

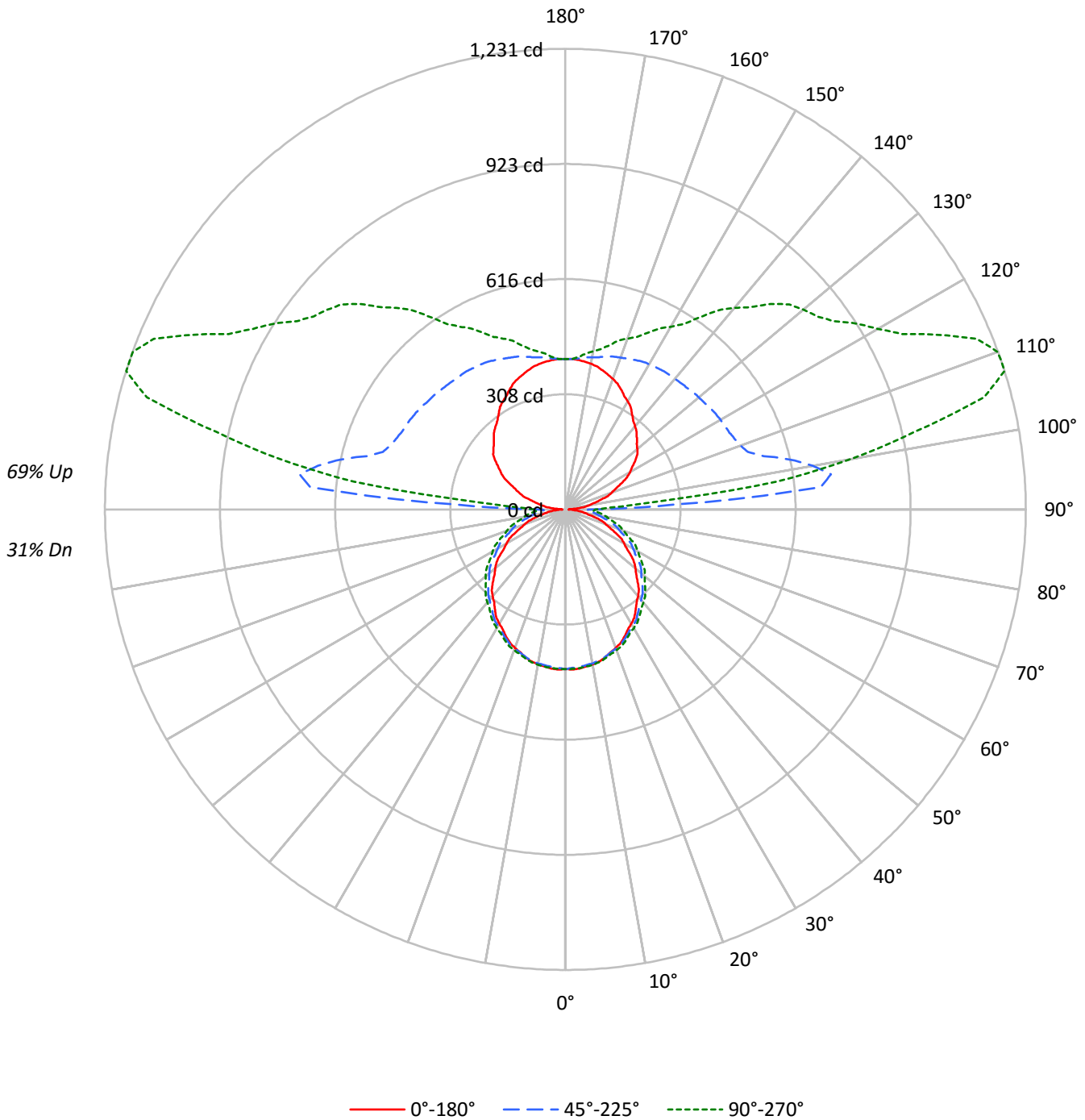
Lumens per Lamp: N/A
Luminaire Lumens: 4380.5 lumens
Efficiency: N/A
Efficacy: 140.4 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	38	38	38	31
1	93	88	84	81	83	79	76	73	63	60	58	47	46	44	33	32	31	25
2	84	77	71	65	75	69	64	59	54	51	48	41	39	36	29	27	26	20
3	77	67	60	54	68	60	54	49	48	43	40	36	33	30	25	23	22	17
4	70	59	51	45	62	53	47	41	42	37	33	32	29	26	22	20	18	14
5	64	53	44	39	57	47	40	35	38	32	29	28	25	22	20	18	16	12
6	59	47	39	33	53	42	35	30	34	29	25	26	22	19	18	16	14	11
7	54	42	34	29	48	38	31	26	30	25	22	23	20	17	16	14	12	9
8	50	38	30	25	45	34	28	23	28	23	19	21	18	15	15	13	11	8
9	47	35	27	22	42	31	25	20	25	20	17	19	16	13	14	11	10	7
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	13	10	9	7

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	2.6
20°-30°	175.1	4.0
30°-40°	211.9	4.8
40°-50°	224.0	5.1
50°-60°	210.8	4.8
60°-70°	174.9	4.0
70°-80°	122.9	2.8
80°-90°	71.7	1.6
90°-100°	331.5	7.6
100°-110°	634.7	14.5
110°-120°	561.7	12.8
120°-130°	466.8	10.7
130°-140°	384.6	8.8
140°-150°	291.0	6.6
150°-160°	203.8	4.7
160°-170°	119.9	2.7
170°-180°	39.0	0.9
0°-30°	331.4	7.6
0°-40°	543.2	12.4
0°-60°	978.1	22.3
0°-90°	1347.5	30.8
90°-120°	1527.9	34.9
90°-150°	2670.3	61.0
90°-180°	3033.0	69.2
0°-180°	4380.5	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°	8	33	62	76	82	7
95°	32	104	685	373	252	34
105°	97	148	550	1158	1158	103
115°	166	212	484	920	1103	164
125°	228	271	473	777	877	204
135°	270	322	460	682	776	209
145°	311	355	453	568	626	195
155°	353	381	441	499	520	163
165°	385	396	422	447	454	109
175°	401	402	405	411	409	38
180°	402	402	402	402	402	



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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°	14.3	19.0	23.7	28.3	32.7	37.3	42.8	47.5	52.4	57.5	60.4
90°	8.5	14.2	20.9	26.0	31.0	35.3	44.6	49.3	55.3	61.5	63.8
92.5°	16.3	24.2	35.4	48.9	64.2	84.8	129.6	195.4	259.6	295.5	256.6
95°	32.3	38.2	49.6	63.3	85.7	122.9	195.9	329.8	522.8	685.1	706.2
97.5°	52.4	55.4	65.2	77.7	96.9	128.5	185.7	296.9	488.8	716.4	872.7
100°	65.2	68.1	76.3	88.6	106.3	135.0	185.8	279.1	444.3	671.2	876.3
102.5°	77.9	81.6	88.9	100.2	116.9	144.2	190.5	273.0	414.1	615.6	826.9
105°	96.6	101.2	107.2	118.9	135.2	161.1	203.0	272.5	386.9	549.6	737.8
107.5°	118.4	121.7	127.4	139.3	154.6	179.9	218.3	281.8	379.9	511.4	665.5
110°	132.5	135.6	141.1	152.0	167.7	191.7	230.0	289.1	379.6	497.9	629.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	146.0	149.0	154.8	165.0	180.6	204.3	241.4	297.0	381.7	490.3	607.4
115°	165.5	168.8	175.3	184.2	200.2	223.7	258.6	309.4	386.3	484.4	586.2
117.5°	186.3	189.0	194.5	203.8	218.4	242.4	275.6	322.3	391.3	480.7	575.0
120°	199.8	201.7	207.5	216.5	230.2	254.1	287.2	331.3	395.2	478.9	568.7
122.5°	212.5	214.1	219.6	227.8	242.6	265.5	298.4	339.8	399.2	476.3	561.7
125°	228.5	231.6	236.2	244.8	259.7	283.1	314.2	353.1	405.6	472.9	550.8
127.5°	243.2	245.6	251.2	260.9	276.5	299.7	329.2	364.7	410.1	468.4	536.5
130°	251.0	254.0	260.2	272.0	286.9	310.5	339.1	371.6	413.5	465.9	527.8
132.5°	259.1	261.6	269.7	280.8	297.0	319.2	347.4	379.0	416.8	463.6	519.8
135°	270.2	273.4	281.2	294.7	311.2	332.1	359.0	388.2	421.3	459.9	507.5
137.5°	281.8	284.7	293.3	305.9	323.1	342.7	367.4	394.4	423.4	457.6	496.9
140°	289.9	292.3	300.8	314.2	330.6	349.5	373.3	398.7	425.7	455.8	491.1
142.5°	298.4	300.7	308.8	321.5	337.5	355.8	378.8	402.1	427.6	455.0	486.4
145°	310.8	313.1	320.8	331.8	346.7	364.1	384.6	405.9	428.8	453.2	479.2
147.5°	324.9	325.6	332.3	343.7	356.0	371.6	390.9	409.5	429.6	450.4	472.7
150°	333.7	334.4	340.6	349.9	361.7	376.7	394.0	411.4	429.6	448.5	468.3
152.5°	341.5	341.6	348.0	356.8	367.4	381.1	396.6	412.6	428.3	445.4	463.2
155°	352.9	353.8	358.5	366.4	375.1	386.9	400.3	413.7	426.4	440.6	455.7
157.5°	364.2	364.2	368.6	374.8	382.3	391.6	403.0	413.7	424.3	435.8	447.9
160°	371.1	371.1	374.3	379.8	386.2	394.9	404.2	413.7	422.4	431.9	442.2
162.5°	377.5	376.8	379.3	384.3	389.9	396.7	405.6	413.7	420.6	428.2	437.2
165°	384.6	384.6	386.2	390.1	394.0	398.8	405.9	412.2	417.0	422.4	428.8
167.5°	391.6	390.9	391.6	394.7	396.9	400.5	405.8	410.3	413.1	416.8	421.2
170°	394.9	394.0	394.9	397.2	398.8	401.1	405.1	409.0	410.6	412.9	416.2
172.5°	398.0	397.2	397.4	399.1	400.0	401.7	404.5	407.8	408.1	409.2	411.7
175°	401.1	400.3	400.3	401.1	401.9	401.9	403.5	405.9	405.1	405.1	406.7
177.5°	402.5	401.9	401.3	401.9	401.9	401.9	402.5	403.8	402.5	402.5	403.1
180°	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9



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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°	63.6	66.9	70.1	72.1	73.2	74.2	75.0	75.9
90°	67.7	71.6	75.4	77.4	79.1	80.7	80.8	81.6
92.5°	206.1	170.8	149.9	136.0	127.5	124.1	122.3	123.1
95°	632.5	512.9	410.0	335.3	297.5	274.1	260.7	251.5
97.5°	908.7	866.0	791.5	710.9	655.2	608.5	585.7	570.3
100°	994.4	1013.0	977.2	920.6	852.6	805.2	782.2	776.7
102.5°	987.8	1068.9	1083.0	1060.5	1019.2	985.0	960.9	956.7
105°	921.3	1060.6	1141.3	1175.5	1177.9	1172.5	1162.3	1158.3
107.5°	828.2	976.2	1088.9	1161.1	1200.8	1219.6	1228.3	1231.1
110°	772.0	911.1	1028.0	1116.5	1173.5	1207.5	1222.5	1230.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	730.1	853.3	963.8	1052.3	1116.8	1157.8	1178.5	1190.9
115°	687.3	786.8	881.5	958.8	1021.9	1070.1	1096.1	1103.2
117.5°	664.6	747.2	822.0	887.9	941.9	982.5	1009.0	1014.7
120°	653.7	729.2	794.5	852.0	897.9	933.5	954.9	964.4
122.5°	644.2	717.2	776.8	827.4	866.2	896.7	914.7	924.2
125°	628.6	698.5	755.1	799.8	832.0	855.6	871.2	876.6
127.5°	609.8	676.5	732.8	775.3	807.8	828.9	842.2	847.7
130°	595.2	659.4	715.1	758.2	791.2	811.6	824.9	830.2
132.5°	580.2	640.7	694.9	738.0	770.3	793.2	805.9	811.2
135°	558.9	611.9	661.8	702.4	734.7	757.4	770.6	776.0
137.5°	539.8	584.8	626.9	663.7	693.7	716.0	727.0	733.2
140°	528.9	567.3	604.2	638.3	666.5	684.4	696.0	702.9
142.5°	518.9	552.8	584.5	614.0	638.9	655.5	665.8	670.7
145°	505.0	532.5	556.8	579.6	599.7	613.5	621.9	626.2
147.5°	493.7	515.1	534.1	551.7	566.6	578.5	584.8	586.5
150°	487.2	505.3	521.2	535.3	548.1	558.3	563.0	563.8
152.5°	480.3	495.8	510.4	522.1	532.8	541.2	544.0	544.8
155°	469.8	482.5	494.3	503.8	511.7	518.0	520.4	520.4
157.5°	458.6	469.2	479.2	486.8	492.7	497.5	498.9	498.9
160°	451.7	460.4	469.1	475.3	480.1	484.8	485.6	485.6
162.5°	444.7	452.1	459.0	464.6	468.1	472.8	473.6	473.0
165°	435.0	439.8	445.4	449.3	452.4	455.7	454.8	454.0
167.5°	425.8	429.4	433.8	436.2	437.8	439.8	439.7	439.0
170°	420.1	422.4	425.7	428.0	429.6	430.3	429.6	429.6
172.5°	415.1	416.8	418.7	420.4	421.3	422.1	421.3	420.1
175°	408.3	409.0	410.6	410.6	410.6	412.2	410.6	409.0
177.5°	403.8	404.5	404.5	405.1	404.5	405.1	403.8	402.5
180°	401.9	401.9	401.9	401.9	401.9	401.9	401.9	401.9

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