

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

Luminaire Tested: **S124DIP-S350D810U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332513
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D810U835-4F0-1E-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

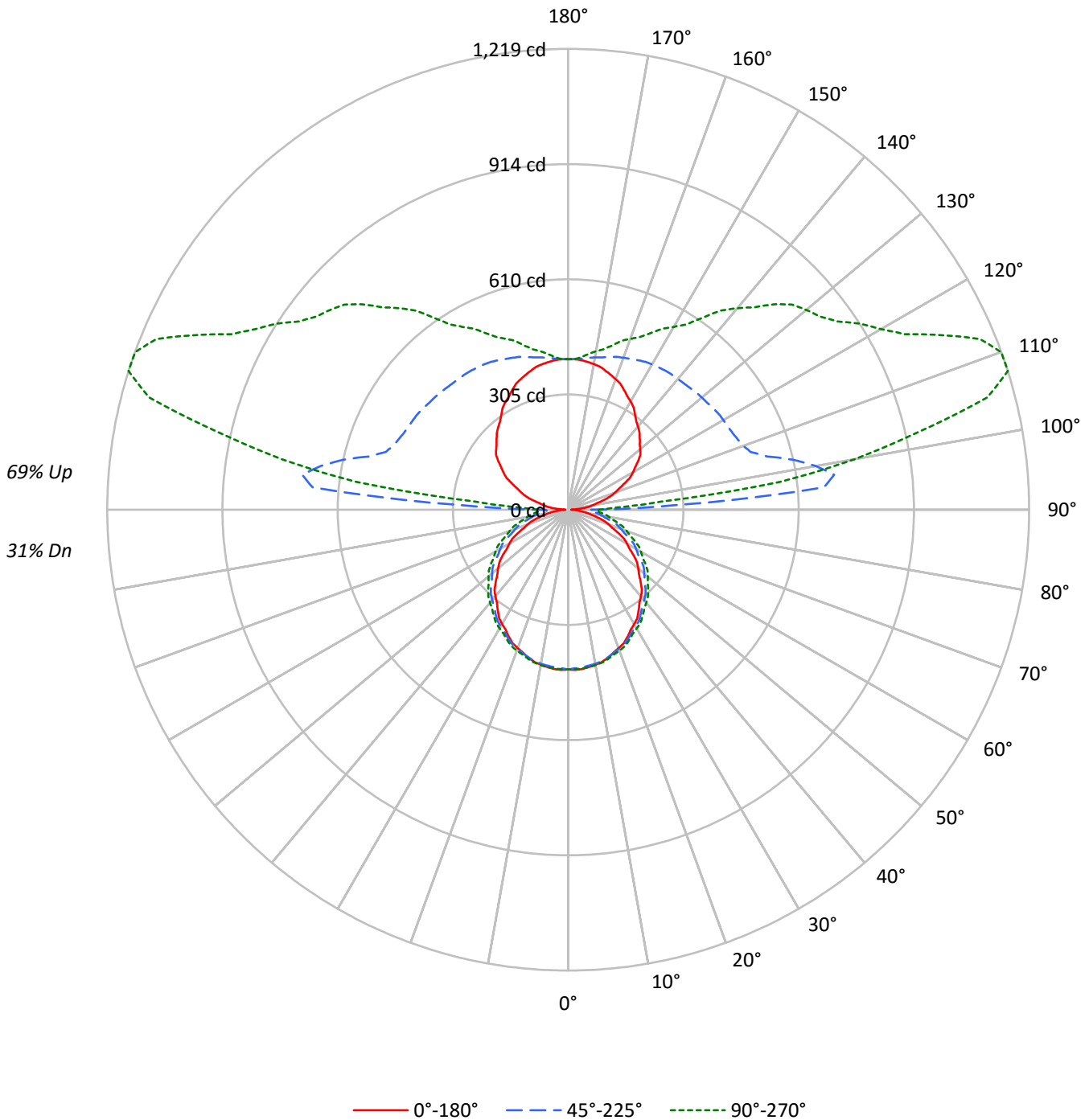
Lumens per Lamp: N/A
Luminaire Lumens: 4337.7 lumens
Efficiency: N/A
Efficacy: 139.0 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

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°	3412	3412	3412
5°	3423	3335	3344
10°	3402	3281	3278
15°	3371	3217	3200
20°	3325	3147	3124
25°	3274	3070	3039
30°	3217	2992	2954
35°	3154	2912	2878
40°	3103	2836	2800
45°	3027	2766	2732
50°	2964	2686	2661
55°	2899	2610	2577
60°	2796	2513	2501
65°	2682	2410	2407
70°	2547	2292	2298
75°	2356	2161	2199
80°	2145	2037	2102
85°	1878	1926	2046



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.0	0.9
10°-20°	114.7	2.6
20°-30°	173.4	4.0
30°-40°	209.8	4.8
40°-50°	221.8	5.1
50°-60°	208.8	4.8
60°-70°	173.2	4.0
70°-80°	121.7	2.8
80°-90°	71.0	1.6
90°-100°	328.3	7.6
100°-110°	628.5	14.5
110°-120°	556.2	12.8
120°-130°	462.2	10.7
130°-140°	380.8	8.8
140°-150°	288.1	6.6
150°-160°	201.8	4.7
160°-170°	118.7	2.7
170°-180°	38.6	0.9
0°-30°	328.1	7.6
0°-40°	537.9	12.4
0°-60°	968.5	22.3
0°-90°	1334.3	30.8
90°-120°	1513.0	34.9
90°-150°	2644.2	61.0
90°-180°	3003.0	69.2
0°-180°	4337.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	423	423	423	423	423	
5°	423	422	418	422	422	40
15°	406	406	405	409	408	114
25°	371	374	375	380	381	171
35°	325	330	335	341	343	203
45°	271	280	289	296	299	209
55°	212	222	236	245	248	189
65°	147	162	178	189	194	145
75°	81	99	119	132	136	87
85°	25	45	66	80	85	27
90°	8	33	61	76	81	6
95°	32	103	678	369	249	34
105°	96	147	544	1147	1147	102
115°	164	210	480	911	1092	163
125°	226	269	468	770	868	202
135°	268	319	455	675	768	207
145°	308	352	449	563	620	193
155°	350	377	436	494	515	161
165°	381	393	418	443	450	107
175°	397	398	401	407	405	38
180°	398	398	398	398	398	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	424.2	423.9	423.7	423.4	423.2	422.7	422.1	421.4	420.7	420.0	420.6
5°	423.2	422.8	422.5	422.2	421.9	421.4	420.6	419.9	419.2	418.4	419.3
7.5°	419.6	419.4	419.2	419.0	418.8	418.4	417.8	417.2	416.6	416.0	416.9
10°	416.5	416.4	416.3	416.2	416.1	415.8	415.3	414.7	414.2	413.7	414.6
12.5°	412.4	412.3	412.3	412.3	412.3	412.1	411.7	411.4	411.0	410.7	411.5
15°	405.6	405.8	405.9	406.0	406.1	406.0	405.6	405.3	405.0	404.7	405.6
17.5°	396.5	396.8	397.1	397.4	397.7	397.9	397.8	397.7	397.7	397.6	398.6
20°	390.0	390.3	390.7	391.0	391.3	391.5	391.6	391.7	391.8	391.9	393.0
22.5°	382.8	383.2	383.6	384.0	384.4	384.7	384.9	385.1	385.3	385.5	386.5
25°	371.1	371.7	372.4	373.0	373.6	374.1	374.4	374.7	375.0	375.4	376.5
27.5°	358.0	359.0	359.9	360.8	361.7	362.4	362.9	363.4	363.9	364.4	365.4
30°	349.3	350.2	351.0	351.8	352.7	353.5	354.2	354.9	355.7	356.4	357.6
32.5°	339.9	340.9	341.9	342.9	343.9	344.8	345.6	346.4	347.3	348.1	349.4
35°	324.7	326.0	327.2	328.5	329.8	330.9	332.0	333.0	334.1	335.1	336.6
37.5°	309.5	310.9	312.4	313.8	315.3	316.6	318.0	319.3	320.6	321.9	323.4
40°	299.6	301.0	302.4	303.7	305.1	306.5	308.0	309.5	310.9	312.4	314.0
42.5°	288.3	289.8	291.3	292.9	294.4	296.0	297.8	299.5	301.2	302.9	304.7
45°	270.7	272.7	274.7	276.7	278.7	280.7	282.7	284.7	286.7	288.7	290.5
47.5°	254.0	256.1	258.1	260.2	262.2	264.4	266.7	269.1	271.4	273.7	275.5
50°	241.9	244.2	246.5	248.8	251.1	253.4	255.8	258.1	260.4	262.7	264.8
52.5°	229.8	232.1	234.4	236.7	239.0	241.5	244.1	246.8	249.4	252.1	254.2
55°	212.1	214.3	216.5	218.7	220.9	223.6	226.7	229.9	233.0	236.2	238.3
57.5°	192.3	195.0	197.7	200.5	203.2	206.1	209.3	212.4	215.5	218.7	221.2
60°	179.4	182.1	184.9	187.6	190.3	193.4	196.9	200.4	203.8	207.3	209.7
62.5°	166.9	169.9	172.9	175.9	178.8	182.1	185.5	189.0	192.5	196.0	198.4
65°	146.7	150.1	153.5	156.8	160.2	163.7	167.2	170.8	174.4	178.0	180.6
67.5°	127.3	130.9	134.5	138.1	141.6	145.3	149.2	153.0	156.8	160.6	163.3
70°	114.1	117.6	121.2	124.8	128.4	132.2	136.2	140.2	144.2	148.2	151.0
72.5°	101.2	104.9	108.5	112.2	115.8	119.8	124.0	128.3	132.5	136.8	139.5
75°	81.4	85.3	89.2	93.1	97.0	101.1	105.6	110.0	114.4	118.8	121.8
77.5°	63.0	67.1	71.2	75.3	79.4	83.8	88.4	93.1	97.7	102.3	105.3
80°	51.6	55.8	60.0	64.2	68.4	72.8	77.5	82.1	86.7	91.4	94.5
82.5°	40.2	44.6	49.0	53.4	57.7	62.2	66.9	71.5	76.1	80.8	84.0
85°	25.1	29.5	33.9	38.3	42.8	47.3	52.1	56.8	61.5	66.3	69.4
87.5°	14.2	18.8	23.5	28.0	32.4	36.9	42.4	47.0	51.9	56.9	59.8
90°	8.4	14.1	20.7	25.7	30.7	35.0	44.2	48.8	54.8	60.9	63.2
92.5°	16.1	24.0	35.1	48.4	63.6	84.0	128.3	193.5	257.1	292.6	254.1
95°	32.0	37.8	49.1	62.7	84.9	121.7	194.0	326.6	517.7	678.4	699.3
97.5°	51.9	54.9	64.6	76.9	96.0	127.2	183.9	294.0	484.0	709.4	864.2
100°	64.6	67.4	75.6	87.7	105.3	133.7	184.0	276.4	440.0	664.6	867.7
102.5°	77.1	80.8	88.0	99.2	115.8	142.8	188.6	270.3	410.1	609.6	818.8
105°	95.7	100.2	106.2	117.7	133.9	159.5	201.0	269.8	383.1	544.2	730.6
107.5°	117.2	120.5	126.2	137.9	153.1	178.1	216.2	279.0	376.2	506.4	659.0
110°	131.2	134.3	139.7	150.5	166.1	189.8	227.8	286.3	375.9	493.0	622.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	144.6	147.5	153.3	163.4	178.8	202.3	239.0	294.1	378.0	485.5	601.5
115°	163.9	167.2	173.6	182.4	198.2	221.5	256.1	306.4	382.5	479.7	580.5
117.5°	184.5	187.2	192.6	201.8	216.3	240.0	272.9	319.2	387.5	476.0	569.4
120°	197.8	199.7	205.5	214.4	228.0	251.6	284.4	328.1	391.3	474.2	563.1
122.5°	210.4	212.0	217.5	225.6	240.2	262.9	295.5	336.5	395.3	471.6	556.2
125°	226.3	229.3	233.9	242.4	257.2	280.3	311.1	349.7	401.6	468.3	545.4
127.5°	240.8	243.2	248.7	258.4	273.8	296.8	326.0	361.1	406.1	463.8	531.3
130°	248.5	251.5	257.7	269.3	284.1	307.5	335.8	368.0	409.5	461.3	522.6
132.5°	256.6	259.0	267.1	278.1	294.1	316.1	344.0	375.3	412.7	459.1	514.7
135°	267.6	270.7	278.5	291.8	308.2	328.9	355.5	384.4	417.2	455.4	502.5
137.5°	279.0	281.9	290.4	302.9	319.9	339.4	363.8	390.5	419.3	453.1	492.0
140°	287.1	289.4	297.9	311.1	327.4	346.1	369.7	394.8	421.5	451.3	486.3
142.5°	295.5	297.8	305.8	318.4	334.2	352.3	375.1	398.2	423.4	450.6	481.6
145°	307.8	310.0	317.7	328.6	343.3	360.5	380.8	401.9	424.6	448.8	474.5
147.5°	321.7	322.4	329.1	340.3	352.5	368.0	387.1	405.5	425.4	446.0	468.1
150°	330.4	331.1	337.3	346.5	358.2	373.0	390.2	407.4	425.4	444.1	463.7
152.5°	338.2	338.3	344.6	353.3	363.8	377.4	392.7	408.6	424.1	441.0	458.7
155°	349.5	350.3	355.0	362.8	371.4	383.1	396.4	409.7	422.2	436.3	451.2
157.5°	360.6	360.6	365.0	371.1	378.6	387.8	399.1	409.7	420.2	431.5	443.5
160°	367.5	367.5	370.6	376.1	382.4	391.0	400.3	409.7	418.3	427.7	437.9
162.5°	373.8	373.1	375.6	380.5	386.1	392.8	401.6	409.7	416.5	424.0	432.9
165°	380.8	380.8	382.4	386.3	390.2	394.9	401.9	408.2	412.9	418.3	424.6
167.5°	387.8	387.1	387.8	390.8	393.0	396.6	401.8	406.3	409.1	412.7	417.1
170°	391.0	390.2	391.0	393.3	394.9	397.2	401.1	405.0	406.6	408.9	412.1
172.5°	394.1	393.3	393.5	395.2	396.1	397.8	400.5	403.8	404.1	405.2	407.7
175°	397.2	396.4	396.4	397.2	398.0	398.0	399.6	401.9	401.1	401.1	402.7
177.5°	398.6	398.0	397.4	398.0	398.0	398.0	398.6	399.9	398.6	398.6	399.2
180°	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	422.7	422.7	422.7	422.7	422.7	422.7	422.7	422.7
2.5°	421.2	421.8	422.4	422.6	422.6	422.5	422.4	422.3
5°	420.1	420.9	421.8	422.2	422.1	421.9	421.8	421.7
7.5°	417.9	418.8	419.8	420.2	420.1	420.0	419.9	419.8
10°	415.6	416.5	417.5	417.9	417.8	417.7	417.6	417.5
12.5°	412.4	413.3	414.1	414.5	414.5	414.5	414.5	414.4
15°	406.6	407.5	408.5	408.9	408.8	408.7	408.6	408.5
17.5°	399.5	400.5	401.5	401.9	401.8	401.7	401.7	401.6
20°	394.0	395.1	396.1	396.7	396.7	396.7	396.7	396.7
22.5°	387.6	388.6	389.7	390.3	390.5	390.6	390.8	391.0
25°	377.7	378.8	380.0	380.6	380.7	380.8	380.9	381.0
27.5°	366.5	367.6	368.7	369.3	369.4	369.5	369.6	369.8
30°	358.7	359.9	361.0	361.7	361.9	362.2	362.4	362.6
32.5°	350.7	352.1	353.4	354.2	354.4	354.6	354.8	355.0
35°	338.1	339.5	341.0	341.9	342.2	342.5	342.9	343.2
37.5°	324.9	326.3	327.8	328.8	329.1	329.4	329.8	330.1
40°	315.6	317.1	318.7	319.7	320.1	320.6	321.0	321.4
42.5°	306.4	308.2	309.9	311.0	311.3	311.6	312.0	312.3
45°	292.3	294.1	295.9	297.0	297.6	298.1	298.6	299.1
47.5°	277.4	279.2	281.1	282.3	283.0	283.6	284.2	284.9
50°	266.9	269.0	271.1	272.5	273.1	273.7	274.4	275.0
52.5°	256.3	258.4	260.5	261.9	262.5	263.1	263.8	264.4
55°	240.4	242.5	244.6	246.0	246.6	247.2	247.9	248.5
57.5°	223.7	226.2	228.7	230.2	230.8	231.4	232.0	232.6
60°	212.2	214.6	217.0	218.6	219.5	220.3	221.2	222.0
62.5°	200.8	203.2	205.6	207.3	208.1	208.9	209.8	210.6
65°	183.2	185.9	188.5	190.2	191.1	191.9	192.8	193.6
67.5°	166.0	168.7	171.3	173.1	173.9	174.7	175.5	176.4
70°	153.8	156.7	159.5	161.3	162.0	162.8	163.5	164.2
72.5°	142.3	145.1	147.8	149.6	150.4	151.2	152.1	152.9
75°	124.7	127.6	130.6	132.5	133.5	134.4	135.4	136.3
77.5°	108.3	111.3	114.3	116.3	117.3	118.3	119.3	120.3
80°	97.7	100.8	104.0	106.0	106.8	107.7	108.5	109.3
82.5°	87.2	90.5	93.7	95.8	96.7	97.6	98.6	99.5
85°	72.6	75.7	78.9	81.0	82.0	83.1	84.1	85.2
87.5°	63.0	66.2	69.4	71.4	72.5	73.5	74.3	75.2
90°	67.0	70.9	74.7	76.6	78.3	79.9	80.0	80.8
92.5°	204.1	169.1	148.4	134.7	126.3	122.9	121.1	121.9
95°	626.3	507.9	406.0	332.0	294.6	271.4	258.2	249.0
97.5°	899.8	857.5	783.8	704.0	648.8	602.6	580.0	564.7
100°	984.7	1003.1	967.7	911.6	844.3	797.3	774.6	769.1
102.5°	978.2	1058.5	1072.4	1050.1	1009.2	975.4	951.5	947.4
105°	912.3	1050.2	1130.2	1164.0	1166.4	1161.0	1150.9	1147.0
107.5°	820.1	966.7	1078.3	1149.8	1189.1	1207.7	1216.3	1219.1
110°	764.5	902.2	1018.0	1105.6	1162.0	1195.7	1210.6	1218.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	723.0	845.0	954.4	1042.0	1105.9	1146.5	1167.0	1179.3
115°	680.6	779.1	872.9	949.4	1011.9	1059.6	1085.4	1092.4
117.5°	658.1	739.9	814.0	879.2	932.7	972.9	999.1	1004.8
120°	647.3	722.1	786.7	843.7	889.1	924.4	945.6	955.0
122.5°	637.9	710.2	769.2	819.3	857.7	887.9	905.8	915.2
125°	622.5	691.7	747.7	792.0	823.9	847.2	862.7	868.0
127.5°	603.8	669.9	725.6	767.7	799.9	820.8	834.0	839.4
130°	589.4	653.0	708.1	750.8	783.5	803.7	816.8	822.1
132.5°	574.5	634.4	688.1	730.8	762.8	785.5	798.0	803.3
135°	553.4	605.9	655.3	695.5	727.5	750.0	763.1	768.4
137.5°	534.5	579.1	620.8	657.2	686.9	709.0	719.9	726.0
140°	523.7	561.8	598.3	632.1	660.0	677.7	689.2	696.0
142.5°	513.8	547.4	578.8	608.0	632.7	649.1	659.3	664.1
145°	500.1	527.3	551.4	573.9	593.8	607.5	615.8	620.1
147.5°	488.9	510.1	528.9	546.3	561.1	572.8	579.1	580.8
150°	482.4	500.4	516.1	530.1	542.7	552.8	557.5	558.3
152.5°	475.6	491.0	505.4	517.0	527.6	535.9	538.7	539.5
155°	465.2	477.8	489.5	498.9	506.7	512.9	515.3	515.3
157.5°	454.1	464.6	474.5	482.0	487.9	492.6	494.0	494.0
160°	447.3	455.9	464.5	470.7	475.4	480.1	480.9	480.9
162.5°	440.4	447.7	454.5	460.1	463.5	468.2	469.0	468.4
165°	430.8	435.5	441.0	444.9	448.0	451.2	450.4	449.6
167.5°	421.6	425.2	429.6	431.9	433.5	435.5	435.4	434.7
170°	416.0	418.3	421.5	423.8	425.4	426.1	425.4	425.4
172.5°	411.0	412.7	414.6	416.3	417.2	418.0	417.2	416.0
175°	404.3	405.0	406.6	406.6	406.6	408.2	406.6	405.0
177.5°	399.9	400.5	400.5	401.1	400.5	401.1	399.9	398.6
180°	398.0	398.0	398.0	398.0	398.0	398.0	398.0	398.0

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