

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: P332522-930

Luminaire Tested: **S124DIP-S350D1035U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332522-930
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-S350D1035U930-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4190.1 lumens
Efficiency: N/A
Efficacy: 112.3 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

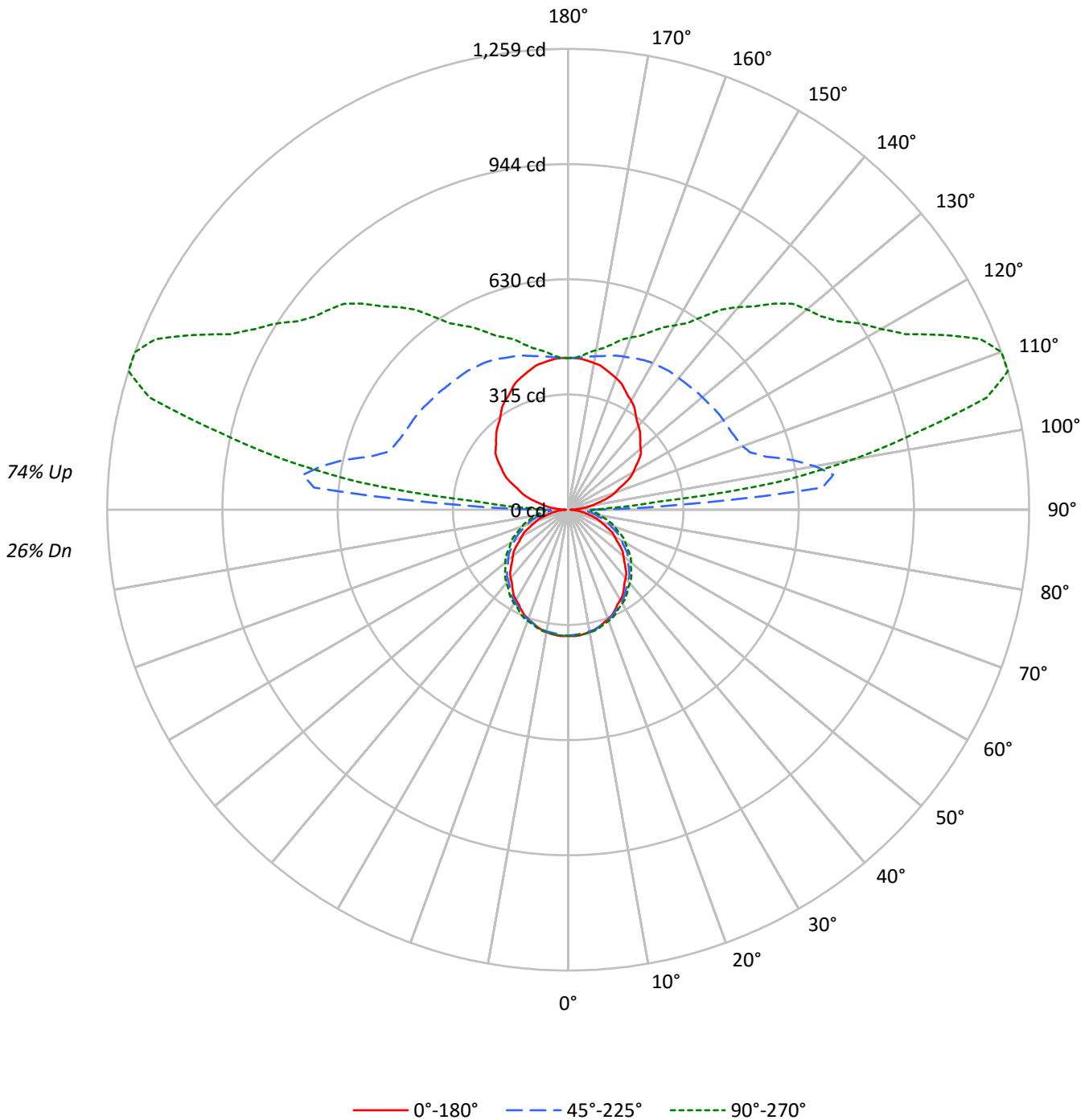
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	87	84	80	82	78	75	72	60	58	56	44	43	41	29	28	28	21
2	83	76	70	65	74	68	63	58	53	49	46	38	36	34	25	24	23	17
3	76	67	59	54	67	59	53	48	46	42	38	34	31	29	22	21	19	14
4	69	59	51	45	61	52	46	41	41	36	32	30	27	24	20	18	16	12
5	63	52	44	38	56	47	40	35	36	31	28	27	23	21	18	16	14	10
6	58	46	39	33	52	42	35	30	32	28	24	24	21	18	16	14	12	9
7	54	42	34	29	48	37	31	26	29	24	21	22	18	16	15	12	11	8
8	50	38	30	25	44	34	27	23	27	22	18	20	16	14	13	11	10	7
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	12	10	9	6
10	43	31	24	20	38	28	22	18	22	18	14	17	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2782	2782	2782
5°	2791	2719	2726
10°	2774	2675	2673
15°	2749	2623	2608
20°	2711	2566	2547
25°	2669	2503	2478
30°	2623	2439	2408
35°	2571	2374	2347
40°	2530	2313	2282
45°	2468	2256	2228
50°	2417	2190	2169
55°	2363	2129	2101
60°	2280	2049	2039
65°	2187	1965	1962
70°	2076	1868	1874
75°	1922	1763	1793
80°	1750	1660	1713
85°	1534	1571	1669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.6	0.8
10°-20°	93.5	2.2
20°-30°	141.4	3.4
30°-40°	171.1	4.1
40°-50°	180.8	4.3
50°-60°	170.2	4.1
60°-70°	141.2	3.4
70°-80°	99.2	2.4
80°-90°	58.4	1.4
90°-100°	332.5	7.9
100°-110°	647.4	15.5
110°-120°	574.4	13.7
120°-130°	478.5	11.4
130°-140°	395.3	9.4
140°-150°	299.7	7.2
150°-160°	210.1	5.0
160°-170°	123.6	2.9
170°-180°	40.2	1.0
0°-30°	267.5	6.4
0°-40°	438.6	10.5
0°-60°	789.6	18.8
0°-90°	1088.4	26.0
90°-120°	1554.3	37.1
90°-150°	2727.8	65.1
90°-180°	3102.0	74.0
0°-180°	4190.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	345	344	341	344	344	33
15°	331	331	330	333	333	93
25°	303	305	306	310	311	139
35°	265	269	273	278	280	166
45°	221	228	235	242	244	171
55°	173	181	193	200	203	154
65°	120	132	145	154	158	119
75°	66	81	97	107	111	71
85°	20	37	54	65	70	22
90°	7	28	53	65	70	6
95°	32	103	697	372	246	34
105°	99	150	559	1184	1183	105
115°	170	217	494	941	1129	169
125°	235	279	484	796	898	209
135°	278	331	473	700	796	215
145°	320	366	467	585	644	201
155°	364	393	454	514	536	168
165°	396	409	436	461	468	112
175°	413	414	418	423	422	39
180°	414	414	414	414	414	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	345.8	345.6	345.4	345.2	345.0	344.6	344.1	343.6	343.0	342.4	342.9
5°	345.0	344.7	344.5	344.2	344.0	343.6	342.9	342.3	341.8	341.1	341.9
7.5°	342.1	341.9	341.8	341.6	341.4	341.1	340.6	340.1	339.7	339.2	339.9
10°	339.6	339.5	339.4	339.3	339.2	339.0	338.6	338.1	337.7	337.3	338.0
12.5°	336.2	336.1	336.1	336.1	336.1	336.0	335.7	335.4	335.1	334.8	335.5
15°	330.7	330.8	330.9	331.0	331.1	331.0	330.7	330.4	330.2	330.0	330.7
17.5°	323.3	323.5	323.8	324.0	324.2	324.4	324.3	324.2	324.2	324.2	325.0
20°	318.0	318.2	318.5	318.8	319.0	319.2	319.3	319.4	319.4	319.5	320.4
22.5°	312.1	312.4	312.7	313.1	313.4	313.6	313.8	314.0	314.1	314.3	315.1
25°	302.6	303.0	303.6	304.1	304.6	305.0	305.2	305.5	305.7	306.1	307.0
27.5°	291.9	292.7	293.4	294.2	294.9	295.5	295.9	296.3	296.7	297.1	297.9
30°	284.8	285.5	286.2	286.8	287.6	288.2	288.8	289.3	290.0	290.6	291.6
32.5°	277.1	277.9	278.8	279.6	280.4	281.1	281.8	282.4	283.2	283.8	284.9
35°	264.7	265.8	266.8	267.8	268.9	269.8	270.7	271.5	272.4	273.2	274.4
37.5°	252.3	253.5	254.7	255.8	257.1	258.1	259.3	260.3	261.4	262.4	263.7
40°	244.3	245.4	246.5	247.6	248.7	249.9	251.1	252.3	253.5	254.7	256.0
42.5°	235.1	236.3	237.5	238.8	240.0	241.3	242.8	244.2	245.6	247.0	248.4
45°	220.7	222.3	224.0	225.6	227.2	228.9	230.5	232.1	233.7	235.4	236.8
47.5°	207.1	208.8	210.4	212.1	213.8	215.6	217.4	219.4	221.3	223.1	224.6
50°	197.2	199.1	201.0	202.8	204.7	206.6	208.6	210.4	212.3	214.2	215.9
52.5°	187.4	189.2	191.1	193.0	194.9	196.9	199.0	201.2	203.3	205.5	207.2
55°	172.9	174.7	176.5	178.3	180.1	182.3	184.8	187.4	190.0	192.6	194.3
57.5°	156.8	159.0	161.2	163.5	165.7	168.0	170.6	173.2	175.7	178.3	180.3
60°	146.3	148.5	150.7	153.0	155.2	157.7	160.5	163.4	166.2	169.0	171.0
62.5°	136.1	138.5	141.0	143.4	145.8	148.5	151.2	154.1	156.9	159.8	161.8
65°	119.6	122.4	125.1	127.8	130.6	133.5	136.3	139.3	142.2	145.1	147.2
67.5°	103.8	106.7	109.7	112.6	115.4	118.5	121.6	124.7	127.8	130.9	133.1
70°	93.0	95.9	98.8	101.7	104.7	107.8	111.0	114.3	117.6	120.8	123.1
72.5°	82.5	85.5	88.5	91.5	94.4	97.7	101.1	104.6	108.0	111.5	113.7
75°	66.4	69.5	72.7	75.9	79.1	82.4	86.1	89.7	93.3	96.9	99.3
77.5°	51.4	54.7	58.0	61.4	64.7	68.3	72.1	75.9	79.7	83.4	85.9
80°	42.1	45.5	48.9	52.3	55.8	59.4	63.2	66.9	70.7	74.5	77.0
82.5°	32.8	36.4	39.9	43.5	47.0	50.7	54.5	58.3	62.0	65.9	68.5
85°	20.5	24.1	27.6	31.2	34.9	38.6	42.5	46.3	50.1	54.1	56.6
87.5°	11.6	15.4	19.4	23.1	26.7	30.3	35.1	38.8	42.9	47.0	49.3
90°	7.0	12.1	17.9	22.2	26.4	30.0	38.6	42.2	47.5	52.8	54.5
92.5°	15.2	22.5	33.2	46.2	61.2	81.5	126.5	193.4	258.6	294.6	253.8
95°	31.9	37.2	48.1	61.6	83.9	121.2	195.6	332.6	530.6	696.9	718.0
97.5°	52.7	55.2	64.6	76.8	96.0	127.6	185.6	299.3	496.2	729.9	890.3
100°	66.1	68.3	76.2	88.3	106.0	134.8	186.1	281.4	450.9	683.7	894.4
102.5°	79.2	82.3	89.4	100.4	117.2	144.6	191.4	275.5	420.0	626.8	843.9
105°	98.7	102.9	108.7	120.1	136.5	162.6	204.8	275.5	392.6	559.4	752.8
107.5°	121.1	124.1	129.6	141.5	156.9	182.3	221.1	285.7	386.0	520.7	678.9
110°	135.7	138.6	143.8	154.8	170.6	194.8	233.6	293.5	386.0	507.1	641.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	149.8	152.5	158.2	168.4	184.2	208.1	245.5	302.1	388.6	499.7	620.0
115°	170.0	173.2	179.7	188.6	204.8	228.5	263.8	315.4	393.9	494.3	598.8
117.5°	191.4	194.1	199.7	209.0	224.0	248.3	281.8	329.3	399.7	491.1	587.8
120°	205.4	207.3	213.3	222.5	236.5	260.7	294.2	338.9	404.1	489.6	581.6
122.5°	218.4	220.1	225.8	234.2	249.4	272.7	306.1	348.1	408.5	487.4	574.9
125°	235.1	238.3	243.1	252.0	267.3	291.1	322.6	362.2	415.6	484.5	564.3
127.5°	250.2	252.7	258.5	268.6	284.7	308.4	338.4	374.4	420.8	480.4	550.3
130°	258.4	261.5	268.0	280.1	295.5	319.7	348.8	381.9	424.8	478.2	541.6
132.5°	266.8	269.4	277.7	289.2	305.9	328.6	357.4	389.6	428.4	476.3	533.8
135°	278.3	281.6	289.7	303.5	320.7	342.1	369.6	399.5	433.4	473.1	521.7
137.5°	290.2	293.2	302.1	315.2	332.8	353.1	378.5	406.1	436.0	471.2	511.4
140°	298.6	301.0	309.9	323.7	340.6	360.2	384.7	410.8	438.5	469.6	505.7
142.5°	307.4	309.9	318.2	331.3	347.8	366.6	390.4	414.4	440.7	469.0	501.1
145°	320.2	322.6	330.7	341.9	357.3	375.2	396.4	418.3	442.0	467.2	493.7
147.5°	334.8	335.5	342.6	354.2	367.0	383.0	402.9	422.1	442.8	464.2	487.3
150°	343.9	344.6	351.0	360.7	372.8	388.2	406.2	424.0	442.8	462.3	482.7
152.5°	352.0	352.1	358.7	367.8	378.6	392.8	408.8	425.3	441.5	459.0	477.4
155°	363.8	364.6	369.5	377.6	386.6	398.8	412.6	426.5	439.5	454.2	469.6
157.5°	375.4	375.4	379.9	386.3	394.1	403.7	415.4	426.5	437.4	449.1	461.6
160°	382.5	382.5	385.8	391.5	398.0	407.0	416.7	426.5	435.5	445.2	455.8
162.5°	389.1	388.4	391.0	396.1	401.9	409.0	418.0	426.5	433.5	441.3	450.6
165°	396.4	396.4	398.0	402.1	406.2	411.0	418.3	424.9	429.7	435.5	442.0
167.5°	403.7	402.9	403.7	406.8	409.1	412.8	418.2	422.9	425.8	429.6	434.1
170°	407.0	406.2	407.0	409.4	411.0	413.4	417.5	421.6	423.2	425.7	428.9
172.5°	410.2	409.4	409.5	411.3	412.3	414.1	416.9	420.3	420.6	421.8	424.4
175°	413.4	412.6	412.6	413.4	414.3	414.3	415.9	418.3	417.5	417.5	419.1
177.5°	414.9	414.3	413.6	414.3	414.3	414.3	414.9	416.2	414.9	414.9	415.6
180°	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	343.4	343.9	344.4	344.5	344.5	344.5	344.4	344.3
5°	342.5	343.2	343.9	344.2	344.1	344.0	343.9	343.8
7.5°	340.7	341.4	342.3	342.6	342.5	342.4	342.3	342.3
10°	338.8	339.6	340.4	340.7	340.6	340.6	340.5	340.4
12.5°	336.2	337.0	337.6	337.9	337.9	337.9	337.9	337.9
15°	331.5	332.2	333.0	333.4	333.3	333.2	333.1	333.0
17.5°	325.7	326.5	327.3	327.7	327.6	327.5	327.5	327.4
20°	321.2	322.1	322.9	323.4	323.4	323.4	323.4	323.4
22.5°	316.0	316.8	317.7	318.2	318.4	318.5	318.6	318.8
25°	307.9	308.8	309.8	310.3	310.4	310.5	310.5	310.6
27.5°	298.8	299.7	300.6	301.1	301.2	301.3	301.3	301.5
30°	292.4	293.4	294.3	294.9	295.1	295.3	295.5	295.6
32.5°	285.9	287.1	288.1	288.8	288.9	289.1	289.3	289.4
35°	275.7	276.8	278.0	278.8	279.0	279.2	279.6	279.8
37.5°	264.9	266.0	267.3	268.1	268.3	268.6	268.9	269.1
40°	257.3	258.5	259.8	260.7	261.0	261.4	261.7	262.0
42.5°	249.8	251.3	252.7	253.6	253.8	254.0	254.4	254.6
45°	238.3	239.8	241.2	242.1	242.6	243.0	243.4	243.9
47.5°	226.2	227.6	229.2	230.2	230.7	231.2	231.7	232.3
50°	217.6	219.3	221.0	222.2	222.7	223.1	223.7	224.2
52.5°	209.0	210.7	212.4	213.5	214.0	214.5	215.1	215.6
55°	196.0	197.7	199.4	200.6	201.1	201.5	202.1	202.6
57.5°	182.4	184.4	186.5	187.7	188.2	188.7	189.1	189.6
60°	173.0	175.0	176.9	178.2	179.0	179.6	180.3	181.0
62.5°	163.7	165.7	167.6	169.0	169.7	170.3	171.0	171.7
65°	149.4	151.6	153.7	155.1	155.8	156.5	157.2	157.8
67.5°	135.3	137.5	139.7	141.1	141.8	142.4	143.1	143.8
70°	125.4	127.8	130.0	131.5	132.1	132.7	133.3	133.9
72.5°	116.0	118.3	120.5	122.0	122.6	123.3	124.0	124.7
75°	101.7	104.0	106.5	108.0	108.8	109.6	110.4	111.1
77.5°	88.3	90.7	93.2	94.8	95.6	96.4	97.3	98.1
80°	79.7	82.2	84.8	86.4	87.1	87.8	88.5	89.1
82.5°	71.1	73.8	76.4	78.1	78.8	79.6	80.4	81.1
85°	59.2	61.7	64.3	66.0	66.9	67.8	68.6	69.5
87.5°	51.9	54.6	57.2	58.9	59.8	60.7	61.3	62.0
90°	57.8	61.1	64.4	66.0	67.5	69.1	68.9	69.5
92.5°	201.1	163.9	141.8	127.0	118.1	114.4	112.3	113.0
95°	641.3	517.5	410.7	333.3	294.2	269.8	255.8	246.1
97.5°	926.8	882.2	804.8	721.3	663.6	615.3	591.7	575.4
100°	1015.5	1034.1	996.5	937.8	867.6	818.6	794.8	788.8
102.5°	1009.3	1092.3	1106.1	1082.5	1039.7	1004.4	979.3	974.8
105°	941.3	1084.3	1167.0	1201.8	1204.1	1198.3	1187.6	1183.4
107.5°	846.1	998.1	1113.7	1187.6	1228.5	1247.7	1256.5	1259.1
110°	788.6	931.4	1051.3	1142.2	1200.7	1235.6	1250.9	1258.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	745.9	872.3	985.7	1076.5	1142.8	1184.9	1206.1	1218.6
115°	702.4	804.4	901.5	980.8	1045.8	1095.2	1121.9	1128.9
117.5°	679.6	764.3	841.0	908.4	964.0	1005.7	1032.7	1038.4
120°	668.9	746.2	813.1	872.0	919.2	955.6	977.5	987.2
122.5°	659.5	734.3	795.2	847.0	886.9	918.1	936.6	946.2
125°	644.0	715.7	773.5	819.3	852.4	876.4	892.4	897.9
127.5°	625.3	693.7	751.3	794.8	828.1	849.7	863.3	868.8
130°	610.7	676.5	733.4	777.6	811.5	832.3	845.9	851.3
132.5°	595.7	657.5	713.1	757.2	790.4	813.9	826.8	832.2
135°	574.3	628.6	679.6	721.3	754.3	777.6	791.2	796.5
137.5°	555.2	601.3	644.3	682.0	712.8	735.7	746.9	753.2
140°	544.3	583.6	621.3	656.3	685.3	703.6	715.4	722.4
142.5°	534.3	568.9	601.3	631.6	657.2	674.2	684.6	689.6
145°	520.3	548.5	573.4	596.6	617.3	631.5	640.0	644.4
147.5°	508.8	530.9	550.5	568.6	583.8	596.0	602.4	604.1
150°	502.2	520.9	537.2	551.9	564.8	575.4	580.3	581.1
152.5°	495.0	511.1	526.1	538.2	549.3	557.8	560.8	561.6
155°	484.3	497.3	509.5	519.3	527.4	533.9	536.4	536.4
157.5°	472.7	483.6	493.9	501.7	507.8	512.7	514.2	514.2
160°	465.5	474.5	483.5	490.0	494.9	499.8	500.6	500.6
162.5°	458.4	466.0	473.0	478.9	482.5	487.4	488.2	487.5
165°	448.5	453.4	459.0	463.1	466.4	469.6	468.8	468.0
167.5°	438.9	442.6	447.2	449.6	451.3	453.4	453.2	452.6
170°	433.0	435.5	438.7	441.2	442.8	443.6	442.8	442.8
172.5°	427.8	429.6	431.5	433.3	434.3	435.1	434.3	433.0
175°	420.8	421.6	423.2	423.2	423.2	424.9	423.2	421.6
177.5°	416.2	416.9	416.9	417.5	416.9	417.5	416.2	414.9
180°	414.3	414.3	414.3	414.3	414.3	414.3	414.3	414.3

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