

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: P332531-930

Luminaire Tested: **S124DIP-S350D1205U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332531-930
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-S350D1205U930-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4684.5 lumens
Efficiency: N/A
Efficacy: 111.0 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

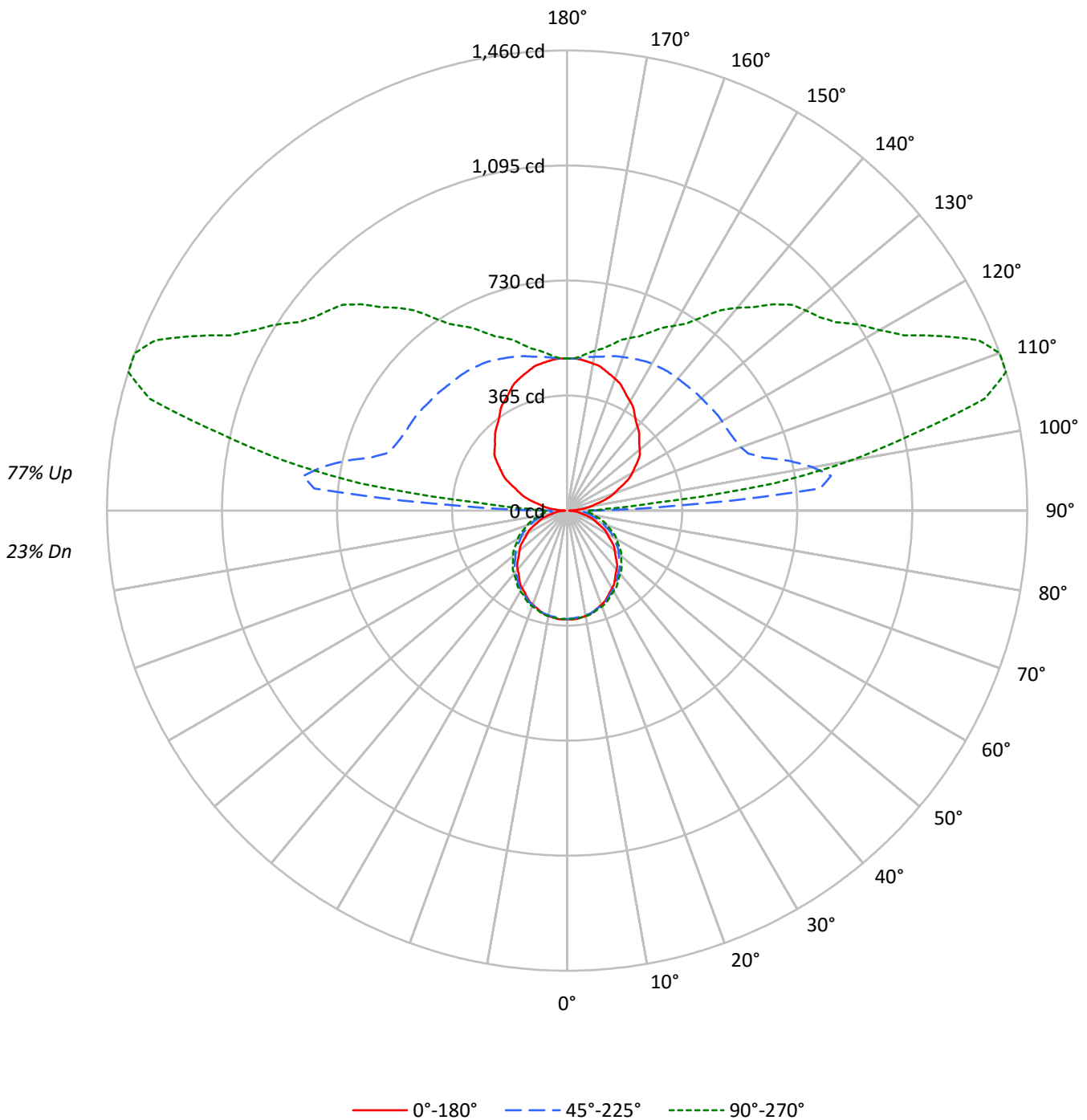
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	68	68	68	49	49	49	32	32	32	23
1	91	87	83	80	81	77	74	71	59	57	55	42	41	40	27	26	26	19
2	83	76	70	64	73	67	62	58	51	48	45	37	35	33	24	22	21	15
3	75	66	59	53	67	59	53	48	45	41	38	32	30	27	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	18	17	15	11
5	63	52	44	38	56	46	39	34	35	31	27	26	22	20	16	15	13	9
6	58	46	38	33	51	41	34	30	32	27	23	23	20	17	15	13	11	8
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	13	12	10	7
8	49	37	30	25	44	33	27	22	26	21	18	19	16	13	12	10	9	6
9	46	34	27	22	40	30	24	20	24	19	16	17	14	12	11	9	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	10	9	7	5

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	0.7
10°-20°	93.5	2.0
20°-30°	141.4	3.0
30°-40°	171.1	3.7
40°-50°	180.8	3.9
50°-60°	170.2	3.6
60°-70°	141.2	3.0
70°-80°	99.2	2.1
80°-90°	58.7	1.3
90°-100°	381.6	8.1
100°-110°	749.5	16.0
110°-120°	665.8	14.2
120°-130°	555.5	11.9
130°-140°	459.4	9.8
140°-150°	348.7	7.4
150°-160°	244.5	5.2
160°-170°	143.8	3.1
170°-180°	46.8	1.0
0°-30°	267.5	5.7
0°-40°	438.6	9.4
0°-60°	789.6	16.9
0°-90°	1088.7	23.2
90°-120°	1797.0	38.4
90°-150°	3160.6	67.5
90°-180°	3596.0	76.8
0°-180°	4684.5	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	29	55	68	72	6
95°	36	116	806	426	279	39
105°	114	172	647	1373	1371	122
115°	198	251	572	1091	1309	196
125°	274	325	562	924	1042	243
135°	324	386	550	814	925	250
145°	373	426	544	681	749	234
155°	424	457	529	599	624	195
165°	461	476	507	537	545	130
175°	481	482	486	493	491	46
180°	482	482	482	482	482	



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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	15.5	19.6	23.2	26.9	30.6	35.5	39.2	43.4	47.5	49.8
90°	7.1	12.5	18.8	23.1	27.5	31.1	40.4	44.1	49.7	55.3	56.8
92.5°	16.6	24.7	36.7	51.3	68.2	91.3	143.2	220.4	295.6	336.9	289.1
95°	36.3	42.0	54.2	69.4	95.0	137.9	223.9	382.8	612.7	805.7	829.8
97.5°	60.7	63.1	73.6	87.5	109.4	145.7	212.7	344.5	573.0	844.4	1030.9
100°	76.2	78.5	87.3	100.9	121.2	154.3	213.5	323.9	520.5	791.0	1035.8
102.5°	91.4	94.9	102.7	115.3	134.4	165.9	219.7	317.2	484.9	725.0	977.4
105°	114.3	118.9	125.3	138.4	157.2	187.1	235.7	317.6	453.4	646.9	871.7
107.5°	140.4	143.7	149.9	163.4	181.1	210.3	255.0	329.7	446.0	602.3	786.1
110°	157.5	160.6	166.6	179.1	197.4	225.0	269.7	339.1	446.3	586.6	743.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	173.9	176.8	183.4	195.1	213.2	240.8	283.7	349.1	449.4	578.3	718.0
115°	197.5	201.1	208.5	218.7	237.5	264.8	305.5	365.1	455.9	572.3	693.6
117.5°	222.4	225.5	231.9	242.7	260.1	288.1	326.7	381.5	463.1	569.1	681.3
120°	238.8	240.9	247.9	258.5	274.8	302.7	341.2	393.0	468.4	567.5	674.4
122.5°	254.0	255.8	262.5	272.3	289.9	316.9	355.3	403.8	473.9	565.2	666.8
125°	273.5	277.1	282.7	293.1	311.0	338.5	374.8	420.5	482.3	562.1	654.8
127.5°	291.0	293.9	300.7	312.5	331.2	358.7	393.3	435.0	488.7	557.7	638.9
130°	300.5	304.3	311.7	325.9	343.7	371.9	405.4	443.8	493.5	555.5	629.0
132.5°	310.4	313.3	323.1	336.5	355.9	382.4	415.6	453.0	497.8	553.5	620.1
135°	323.8	327.6	337.1	353.2	373.1	398.0	429.9	464.6	504.0	550.1	606.4
137.5°	337.7	341.2	351.5	366.8	387.3	410.9	440.4	472.5	507.3	548.1	594.7
140°	347.5	350.3	360.6	376.6	396.4	419.1	447.7	478.1	510.4	546.5	588.3
142.5°	357.8	360.6	370.3	385.6	404.7	426.6	454.3	482.2	512.9	545.8	583.0
145°	372.7	375.4	384.8	398.0	416.0	436.8	461.4	487.0	514.5	543.8	574.6
147.5°	389.6	390.4	398.7	412.2	427.1	445.8	469.0	491.3	515.4	540.4	567.2
150°	400.1	401.0	408.5	419.8	433.9	451.9	472.7	493.6	515.4	538.1	561.8
152.5°	409.7	409.9	417.4	428.0	440.8	457.2	475.8	495.1	513.9	534.3	555.7
155°	423.5	424.4	430.1	439.6	450.0	464.2	480.3	496.4	511.6	528.6	546.7
157.5°	436.9	436.9	442.2	449.6	458.7	469.9	483.6	496.4	509.2	522.8	537.4
160°	445.2	445.2	449.1	455.7	463.3	473.7	485.0	496.4	506.9	518.2	530.5
162.5°	452.8	452.1	455.1	461.0	467.8	476.0	486.6	496.4	504.6	513.6	524.5
165°	461.4	461.4	463.3	468.0	472.7	478.4	487.0	494.6	500.2	506.9	514.5
167.5°	469.9	469.0	469.9	473.5	476.1	480.5	486.7	492.3	495.7	500.0	505.3
170°	473.7	472.7	473.7	476.5	478.4	481.3	486.0	490.7	492.6	495.5	499.3
172.5°	477.4	476.5	476.7	478.8	480.0	482.0	485.3	489.3	489.6	490.9	494.0
175°	481.3	480.3	480.3	481.3	482.2	482.2	484.1	487.0	486.0	486.0	487.9
177.5°	483.0	482.2	481.4	482.2	482.2	482.2	483.0	484.5	483.0	483.0	483.7
180°	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2



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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°	52.4	55.1	57.8	59.4	60.3	61.3	61.9	62.6
90°	60.3	63.7	67.1	68.6	70.4	72.0	71.7	72.4
92.5°	227.2	183.6	157.4	140.1	129.6	125.1	122.6	123.3
95°	740.2	595.7	471.1	380.7	335.1	306.5	290.2	278.6
97.5°	1072.9	1020.5	930.2	832.7	765.4	709.1	681.4	662.5
100°	1176.5	1197.8	1153.6	1085.0	1003.1	946.0	918.2	911.2
102.5°	1169.5	1265.8	1281.4	1253.7	1203.8	1162.6	1133.3	1128.0
105°	1090.8	1256.9	1352.8	1393.0	1395.6	1388.8	1376.1	1371.2
107.5°	980.3	1156.9	1291.1	1377.0	1424.4	1446.6	1456.7	1459.8
110°	913.6	1079.5	1218.9	1324.4	1392.4	1432.8	1450.6	1459.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	864.2	1011.1	1142.7	1248.2	1325.3	1374.1	1398.6	1413.2
115°	813.9	932.3	1045.1	1137.3	1212.7	1270.2	1301.1	1309.2
117.5°	787.9	886.1	975.1	1053.4	1117.9	1166.4	1197.8	1204.4
120°	775.6	865.4	943.0	1011.4	1066.1	1108.5	1133.8	1144.9
122.5°	765.0	851.7	922.4	982.5	1028.8	1065.0	1086.5	1097.6
125°	747.3	830.5	897.4	950.6	989.0	1017.0	1035.5	1041.7
127.5°	725.9	805.4	872.0	922.6	961.2	986.3	1002.0	1008.3
130°	709.2	785.6	851.6	902.8	942.2	966.4	982.0	988.2
132.5°	691.9	763.7	828.1	879.3	917.9	945.1	960.0	966.2
135°	667.5	730.4	789.6	837.9	876.3	903.4	919.0	925.2
137.5°	645.6	699.0	748.9	792.6	828.4	855.0	867.9	875.1
140°	633.0	678.7	722.4	763.0	796.5	817.8	831.5	839.5
142.5°	621.5	661.7	699.3	734.4	764.1	783.8	795.9	801.6
145°	605.4	638.2	667.1	694.1	718.1	734.6	744.4	749.4
147.5°	592.2	617.9	640.7	661.7	679.4	693.5	701.0	703.0
150°	584.6	606.3	625.3	642.3	657.5	669.8	675.5	676.5
152.5°	576.2	594.9	612.4	626.4	639.3	649.3	652.7	653.7
155°	563.7	578.9	593.0	604.5	613.9	621.5	624.4	624.4
157.5°	550.2	563.0	574.9	584.0	591.2	596.9	598.6	598.6
160°	541.9	552.3	562.7	570.3	576.0	581.7	582.6	582.6
162.5°	533.5	542.5	550.7	557.4	561.6	567.3	568.3	567.4
165°	522.0	527.7	534.3	539.1	542.8	546.7	545.7	544.8
167.5°	510.9	515.2	520.5	523.3	525.2	527.7	527.5	526.8
170°	504.0	506.9	510.6	513.5	515.4	516.3	515.4	515.4
172.5°	497.9	500.0	502.3	504.3	505.5	506.5	505.5	504.0
175°	489.8	490.7	492.6	492.6	492.6	494.6	492.6	490.7
177.5°	484.5	485.3	485.3	486.0	485.3	486.0	484.5	483.0
180°	482.2	482.2	482.2	482.2	482.2	482.2	482.2	482.2

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