

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: P332888-940

Luminaire Tested: **S124RDIP-S350D1035U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332888-940  
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: S124RDIP-S350D1035U940-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4571.5 lumens  
Efficiency: N/A  
Efficacy: 122.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

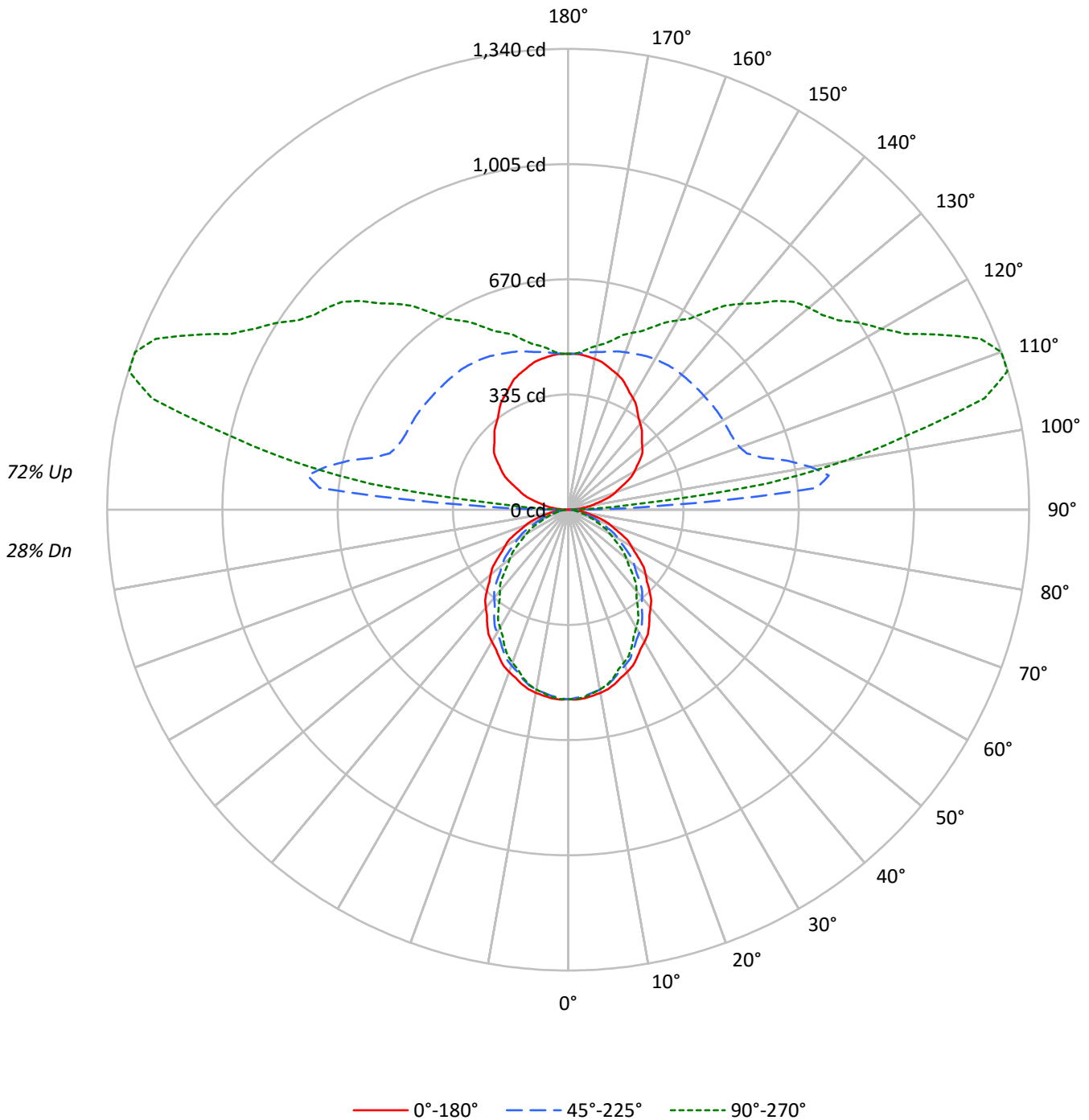
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36
1	93	89	85	82	83	80	77	74	62	60	58	46	45	44	32	31	30
2	85	78	72	67	76	70	65	61	55	51	49	41	39	37	28	27	26
3	77	68	61	56	69	61	56	51	48	44	41	36	34	31	25	24	22
4	71	60	53	47	63	54	48	43	43	38	35	32	29	27	22	21	19
5	65	54	46	40	58	48	42	37	38	34	30	29	26	23	20	18	17
6	60	48	40	35	53	43	37	32	35	30	26	26	23	20	18	16	15
7	55	43	36	30	49	39	33	28	31	26	23	24	20	18	17	15	13
8	51	39	32	27	46	36	29	25	28	24	20	22	18	16	15	13	12
9	47	36	29	24	42	32	26	22	26	21	18	20	17	14	14	12	11
10	44	33	26	21	40	30	24	19	24	19	16	18	15	13	13	11	10

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4451	4451	4451
5°	4460	4406	4433
10°	4432	4353	4353
15°	4381	4262	4229
20°	4312	4141	4064
25°	4222	4000	3899
30°	4135	3852	3691
35°	4039	3698	3482
40°	3923	3523	3256
45°	3817	3350	3027
50°	3695	3149	2783
55°	3564	2940	2519
60°	3421	2713	2249
65°	3289	2428	1983
70°	3099	2110	1683
75°	2857	1753	1369
80°	2492	1334	1255
85°	2112	1213	1130



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.8	1.1
10°-20°	144.4	3.2
20°-30°	208.5	4.6
30°-40°	236.4	5.2
40°-50°	228.2	5.0
50°-60°	189.8	4.2
60°-70°	131.1	2.9
70°-80°	66.4	1.5
80°-90°	19.5	0.4
90°-100°	327.3	7.2
100°-110°	681.1	14.9
110°-120°	610.1	13.3
120°-130°	513.2	11.2
130°-140°	427.9	9.4
140°-150°	326.9	7.2
150°-160°	229.8	5.0
160°-170°	135.2	3.0
170°-180°	44.0	1.0
0°-30°	404.7	8.9
0°-40°	641.0	14.0
0°-60°	1059.1	23.2
0°-90°	1276.1	27.9
90°-120°	1618.5	35.4
90°-150°	2886.5	63.1
90°-180°	3295.0	72.1
0°-180°	4571.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	551	551	551	551	551	
5°	550	548	544	548	547	52
15°	524	520	510	509	506	148
25°	474	466	449	442	438	218
35°	410	396	375	361	353	256
45°	334	318	293	273	265	258
55°	253	236	209	188	179	226
65°	172	154	127	110	104	170
75°	92	76	56	47	44	97
85°	23	15	13	12	12	26
90°	1	7	16	18	19	3
95°	29	93	726	359	217	33
105°	104	151	584	1257	1252	111
115°	183	230	521	1001	1203	182
125°	256	304	518	851	960	227
135°	304	361	514	756	858	235
145°	350	401	511	637	701	220
155°	398	430	497	563	587	183
165°	434	447	476	504	512	122
175°	452	453	457	463	461	43
180°	453	453	453	453	453	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	552.6	552.2	552.0	551.7	551.3	550.8	550.0	549.2	548.3	547.5	548.3
5°	550.4	550.0	549.7	549.3	548.8	548.1	547.0	545.9	544.7	543.7	544.6
7.5°	545.4	545.0	544.7	544.2	543.9	542.9	541.4	539.9	538.5	537.1	537.6
10°	540.6	540.2	539.8	539.3	538.8	537.7	536.0	534.3	532.6	531.0	531.4
12.5°	534.6	534.0	533.5	533.0	532.4	531.2	529.1	527.2	525.2	523.2	523.4
15°	524.2	523.3	522.5	521.7	520.8	519.2	516.9	514.5	512.2	509.9	509.7
17.5°	511.7	510.4	509.2	508.0	506.8	504.7	501.9	499.1	496.3	493.5	492.9
20°	501.9	500.6	499.4	498.2	497.0	494.8	491.6	488.4	485.2	482.0	481.3
22.5°	491.1	489.6	488.3	487.0	485.5	483.1	479.7	476.4	473.0	469.5	468.4
25°	474.0	472.3	470.6	469.0	467.3	464.5	460.7	456.8	452.9	449.1	447.5
27.5°	456.1	454.0	451.8	449.8	447.6	444.5	440.4	436.3	432.2	428.1	426.1
30°	443.6	441.2	438.9	436.6	434.3	430.9	426.4	422.0	417.6	413.2	410.9
32.5°	430.4	427.8	425.2	422.5	419.8	416.3	411.7	407.2	402.6	398.1	395.3
35°	409.8	406.8	403.9	400.8	397.8	394.0	389.3	384.6	380.0	375.2	372.0
37.5°	387.8	384.7	381.7	378.5	375.4	371.3	366.0	360.9	355.7	350.5	347.0
40°	372.3	369.2	366.0	363.0	359.9	355.7	350.4	345.0	339.7	334.3	330.4
42.5°	357.4	354.2	350.9	347.7	344.5	340.0	334.5	328.9	323.3	317.7	313.7
45°	334.3	330.8	327.3	323.9	320.4	315.8	310.2	304.6	299.0	293.4	288.7
47.5°	310.4	306.8	303.3	299.6	296.0	291.3	285.5	279.6	273.8	268.0	263.1
50°	294.2	290.5	286.9	283.2	279.6	274.7	268.8	262.7	256.7	250.7	246.0
52.5°	277.7	274.0	270.5	266.9	263.3	258.4	252.3	246.1	240.0	233.8	229.1
55°	253.2	249.5	245.8	242.0	238.3	233.3	227.2	221.1	215.0	208.9	204.0
57.5°	229.1	225.2	221.3	217.4	213.5	208.6	202.5	196.5	190.6	184.5	179.6
60°	211.9	208.1	204.4	200.6	196.9	192.0	186.0	179.9	174.0	168.0	163.1
62.5°	196.4	192.4	188.5	184.7	180.7	175.8	169.6	163.5	157.3	151.1	146.6
65°	172.2	168.2	164.2	160.2	156.0	151.1	145.1	139.0	133.0	127.1	123.1
67.5°	147.1	143.3	139.4	135.5	131.7	127.0	121.4	115.8	110.2	104.7	101.2
70°	131.3	127.3	123.4	119.5	115.5	110.8	105.5	100.1	94.8	89.4	86.4
72.5°	114.4	110.8	107.3	103.7	100.1	95.9	90.8	85.7	80.7	75.6	73.0
75°	91.6	88.1	84.6	81.1	77.7	73.7	69.4	64.9	60.5	56.2	53.9
77.5°	68.5	65.5	62.6	59.7	56.7	53.4	49.8	46.3	42.7	39.1	37.9
80°	53.6	50.9	48.2	45.5	42.7	39.9	37.2	34.3	31.5	28.7	28.4
82.5°	40.8	38.3	35.8	33.3	30.8	28.7	27.1	25.5	23.9	22.3	22.1
85°	22.8	21.0	19.1	17.1	15.2	14.2	13.9	13.6	13.4	13.1	12.9
87.5°	7.9	7.7	7.7	7.2	6.8	6.4	7.4	7.4	7.7	7.9	7.7
90°	0.9	2.7	5.4	6.2	7.1	7.1	12.5	12.5	14.3	16.1	15.2
92.5°	10.2	14.8	23.2	34.0	47.0	65.5	110.8	179.9	247.1	282.4	235.2
95°	29.3	32.0	40.9	52.5	73.9	111.3	188.7	334.7	547.5	725.5	746.0
97.5°	52.7	52.7	60.4	71.1	89.3	120.7	180.4	300.9	512.4	764.1	937.2
100°	67.7	67.7	73.9	84.5	101.5	130.0	182.5	283.1	464.7	715.7	943.6
102.5°	81.9	83.3	88.8	98.8	115.0	142.0	189.6	278.1	432.7	655.2	890.2
105°	104.2	106.8	111.3	122.0	137.9	163.8	206.5	280.4	405.0	584.0	793.2
107.5°	128.8	130.5	134.9	146.3	161.7	187.1	226.3	293.6	400.0	544.1	714.8
110°	145.1	146.9	151.3	162.0	178.1	202.1	241.2	303.5	401.4	530.6	675.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	160.8	162.6	167.7	177.7	193.7	217.8	255.5	314.2	405.7	524.1	653.6
115°	183.4	186.0	192.3	201.2	218.1	242.1	277.8	331.2	413.9	520.8	632.9
117.5°	206.9	209.4	214.9	224.7	240.5	265.5	299.3	348.4	422.7	519.9	623.7
120°	222.6	224.4	230.6	240.3	255.5	280.4	314.2	360.5	429.1	519.9	618.7
122.5°	236.8	238.5	244.8	253.9	270.5	294.6	328.5	371.9	435.5	519.2	613.0
125°	255.5	259.0	264.4	274.2	291.1	316.0	348.0	389.1	445.1	518.1	603.6
127.5°	272.1	274.9	281.3	292.5	310.1	335.3	366.2	403.8	452.7	516.1	590.9
130°	281.3	284.9	291.9	305.3	322.3	348.0	378.4	413.0	458.4	515.4	583.1
132.5°	290.5	293.4	302.6	315.3	333.7	358.0	388.3	422.3	463.4	514.7	576.0
135°	303.5	307.1	316.0	331.2	349.8	373.0	402.3	434.4	470.9	513.6	565.3
137.5°	316.6	319.9	329.8	344.1	363.6	385.7	413.0	443.0	475.4	513.4	556.0
140°	325.8	328.5	338.3	353.4	372.1	393.5	420.2	448.6	478.9	512.7	551.1
142.5°	335.8	338.5	347.5	361.9	380.0	400.6	426.6	452.9	481.8	512.7	546.8
145°	349.8	352.5	361.4	373.9	390.8	410.4	433.5	457.5	483.4	511.0	539.5
147.5°	365.7	366.6	374.4	387.3	401.3	418.9	440.7	461.6	484.3	507.7	532.9
150°	375.7	376.6	383.7	394.4	407.7	424.6	444.3	463.8	484.3	505.6	527.9
152.5°	385.0	385.1	392.3	402.2	414.1	429.6	447.1	465.2	482.9	502.0	522.2
155°	397.9	398.8	404.1	413.0	422.8	436.2	451.3	466.5	480.7	496.8	513.6
157.5°	410.5	410.5	415.5	422.5	431.1	441.6	454.3	466.5	478.4	491.2	504.9
160°	418.4	418.4	422.0	428.2	435.3	445.1	455.8	466.5	476.3	487.0	498.6
162.5°	425.5	424.8	427.7	433.2	439.6	447.3	457.2	466.5	474.1	482.7	492.8
165°	433.5	433.5	435.3	439.8	444.3	449.5	457.5	464.7	470.0	476.3	483.4
167.5°	441.6	440.7	441.6	445.0	447.5	451.5	457.4	462.5	465.7	469.8	474.8
170°	445.1	444.3	445.1	447.8	449.5	452.2	456.6	461.1	462.9	465.6	469.1
172.5°	448.6	447.8	447.9	449.9	450.9	452.9	455.9	459.7	460.0	461.3	464.1
175°	452.2	451.3	451.3	452.2	453.1	453.1	454.9	457.5	456.6	456.6	458.4
177.5°	453.8	453.1	452.4	453.1	453.1	453.1	453.8	455.2	453.8	453.8	454.5
180°	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	549.2	550.0	550.8	551.2	551.1	551.1	551.0	550.9
5°	545.5	546.4	547.4	547.8	547.6	547.4	547.2	547.0
7.5°	538.2	538.9	539.5	539.6	539.3	539.0	538.7	538.4
10°	531.7	532.1	532.4	532.4	532.1	531.7	531.4	531.0
12.5°	523.6	523.9	524.1	524.0	523.4	522.9	522.4	521.8
15°	509.5	509.3	509.1	508.7	508.0	507.4	506.8	506.0
17.5°	492.4	492.0	491.4	490.6	489.6	488.7	487.7	486.7
20°	480.5	479.7	479.0	478.0	476.8	475.5	474.4	473.1
22.5°	467.3	466.1	465.0	464.0	463.0	462.0	461.0	459.9
25°	445.9	444.3	442.7	441.5	440.5	439.5	438.6	437.7
27.5°	424.1	422.1	420.2	418.6	417.1	415.8	414.5	413.1
30°	408.5	406.2	403.9	401.9	400.4	399.0	397.4	395.9
32.5°	392.6	389.9	387.2	385.0	383.6	382.2	380.8	379.3
35°	368.8	365.7	362.5	360.1	358.4	356.7	355.0	353.3
37.5°	343.4	339.8	336.3	333.6	331.9	330.2	328.5	326.8
40°	326.4	322.4	318.5	315.8	314.1	312.4	310.7	309.0
42.5°	309.7	305.7	301.7	298.8	297.0	295.2	293.5	291.8
45°	284.2	279.6	274.9	271.8	270.1	268.4	266.7	265.1
47.5°	258.4	253.6	248.9	245.6	243.7	241.8	240.0	238.2
50°	241.3	236.7	231.9	228.7	226.9	225.2	223.4	221.6
52.5°	224.3	219.5	214.8	211.4	209.6	207.8	205.9	204.0
55°	199.2	194.3	189.4	186.1	184.3	182.5	180.7	179.0
57.5°	174.6	169.7	164.7	161.6	160.2	158.9	157.5	156.1
60°	158.2	153.4	148.5	145.3	143.7	142.3	140.8	139.3
62.5°	142.1	137.6	133.1	130.3	129.0	127.9	126.6	125.5
65°	119.0	114.9	110.9	108.3	107.2	106.1	105.0	103.8
67.5°	97.7	94.3	90.8	88.5	87.2	86.0	84.7	83.5
70°	83.3	80.2	77.1	75.1	74.1	73.2	72.2	71.3
72.5°	70.4	67.7	65.1	63.3	62.4	61.6	60.7	59.8
75°	51.8	49.7	47.5	46.2	45.6	45.0	44.5	43.9
77.5°	36.6	35.4	34.2	33.4	33.3	33.1	32.9	32.7
80°	28.2	27.8	27.6	27.4	27.3	27.2	27.1	27.0
82.5°	21.8	21.7	21.5	21.3	21.2	21.1	21.0	21.0
85°	12.8	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	7.8	7.8	8.0	8.0	8.2	8.5	8.4	8.5
90°	16.1	16.9	17.8	17.8	18.7	19.6	18.7	18.7
92.5°	174.9	131.6	104.7	86.9	76.4	71.6	68.6	68.6
95°	659.6	521.7	402.3	316.0	272.4	244.8	228.8	217.2
97.5°	974.6	923.3	836.2	743.3	679.4	625.8	599.1	580.6
100°	1073.6	1091.4	1047.8	981.9	904.5	850.2	823.4	816.4
102.5°	1068.6	1156.9	1169.6	1142.1	1094.6	1055.3	1027.2	1021.5
105°	997.0	1151.0	1239.1	1275.7	1277.5	1270.3	1257.8	1252.5
107.5°	895.4	1059.4	1183.5	1262.8	1306.8	1327.1	1336.1	1338.4
110°	834.1	988.1	1117.2	1215.1	1278.4	1315.7	1331.8	1339.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	789.3	925.4	1047.4	1145.3	1217.1	1262.3	1284.8	1297.7
115°	744.2	853.7	957.9	1043.3	1113.7	1167.1	1195.5	1202.7
117.5°	722.1	812.8	894.7	967.1	1027.2	1072.0	1100.8	1106.3
120°	712.1	795.0	866.2	929.3	980.1	1019.3	1042.4	1052.2
122.5°	703.6	783.5	848.4	903.7	946.6	980.1	999.7	1009.5
125°	689.0	765.5	827.0	875.9	911.6	937.4	954.3	959.7
127.5°	671.2	744.4	805.7	852.1	887.9	910.9	925.1	930.4
130°	657.0	727.3	787.8	835.0	871.5	893.8	908.0	913.4
132.5°	642.0	708.1	767.1	814.4	850.2	875.2	888.8	894.1
135°	621.3	679.2	733.5	778.0	813.7	838.6	852.8	858.2
137.5°	602.7	651.7	697.4	737.6	770.9	795.5	807.3	813.7
140°	592.0	633.8	673.9	711.2	742.4	762.1	774.5	781.6
142.5°	582.0	618.8	653.3	685.6	713.2	731.4	742.4	747.4
145°	567.9	598.2	624.9	649.9	672.1	687.2	696.2	700.6
147.5°	556.3	580.4	601.8	621.3	637.8	650.8	657.5	659.1
150°	549.3	569.7	587.5	603.6	617.8	629.4	634.7	635.6
152.5°	541.4	559.0	575.4	588.6	600.7	610.1	613.3	614.2
155°	529.7	543.9	557.2	567.9	576.8	584.0	586.7	586.7
157.5°	517.0	529.0	540.2	548.8	555.4	560.8	562.4	562.4
160°	509.2	519.0	528.8	535.9	541.3	546.6	547.5	547.5
162.5°	501.3	509.7	517.4	523.8	527.7	533.1	534.0	533.2
165°	490.5	495.9	502.0	506.5	510.1	513.6	512.7	511.8
167.5°	480.0	484.1	489.1	491.8	493.6	495.9	495.7	495.0
170°	473.6	476.3	479.8	482.5	484.3	485.2	484.3	484.3
172.5°	467.9	469.8	472.0	473.9	475.0	475.9	475.0	473.6
175°	460.2	461.1	462.9	462.9	462.9	464.7	462.9	461.1
177.5°	455.2	455.9	455.9	456.6	455.9	456.6	455.2	453.8
180°	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1

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