

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: P331906-930

Luminaire Tested: **S123DIP-S340D1195U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331906-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D1195U930-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4696.1 lumens
Efficiency: N/A
Efficacy: 111.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

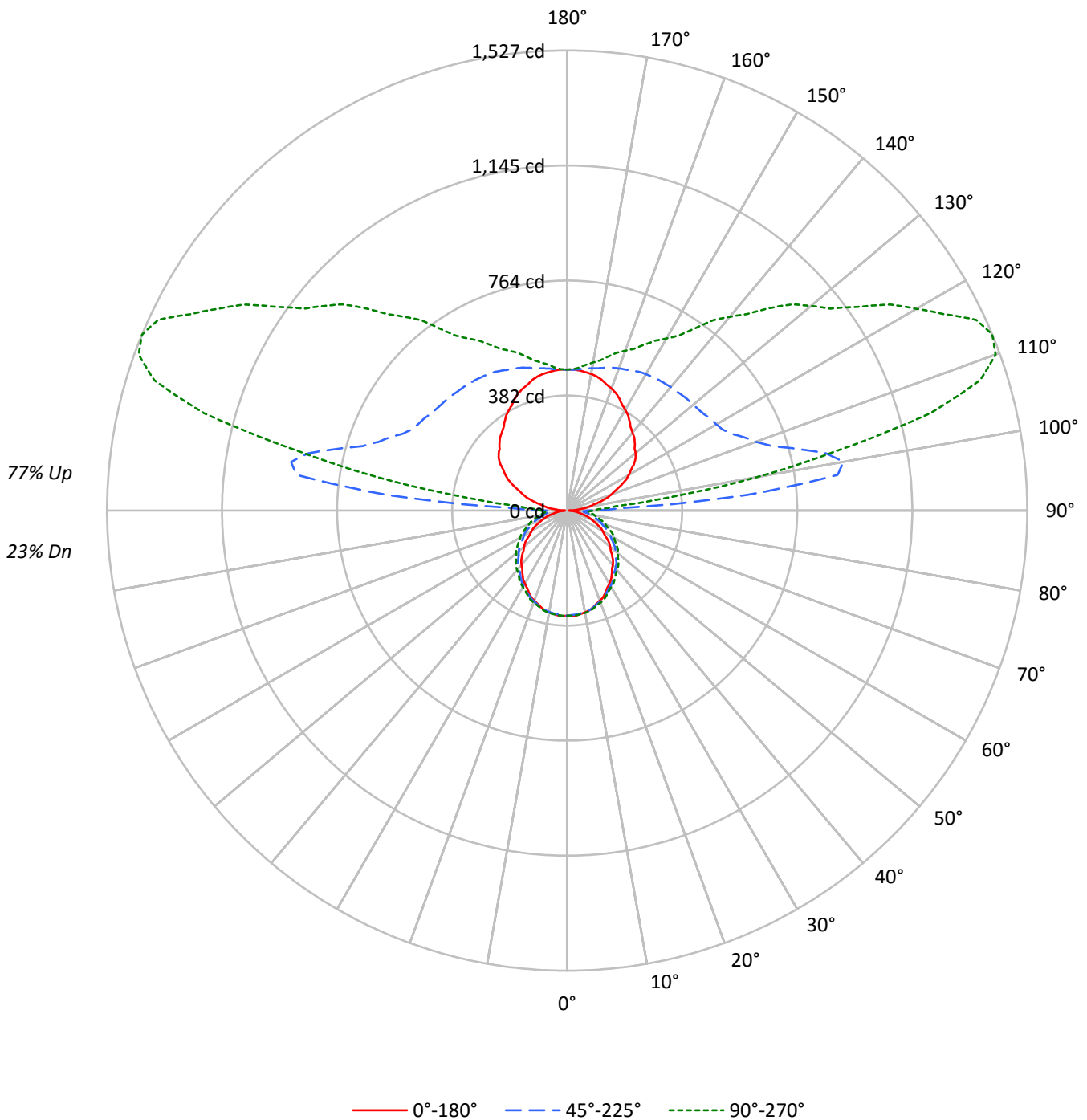
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	89	89	89	89	68	68	68	49	49	49	31	31	31	23
1	91	87	83	79	81	77	74	71	59	57	55	42	41	40	27	26	25	18
2	83	76	69	64	73	67	62	58	51	48	45	37	35	33	23	22	21	15
3	75	66	59	53	67	59	53	48	45	41	37	32	30	27	20	19	18	12
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	18	16	15	11
5	63	52	44	38	56	46	39	34	35	31	27	26	22	20	16	14	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	11	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°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.1	0.7
10°-20°	94.2	2.0
20°-30°	141.0	3.0
30°-40°	168.3	3.6
40°-50°	176.1	3.8
50°-60°	165.3	3.5
60°-70°	138.0	2.9
70°-80°	98.8	2.1
80°-90°	62.5	1.3
90°-100°	297.4	6.3
100°-110°	764.6	16.3
110°-120°	743.5	15.8
120°-130°	589.0	12.5
130°-140°	460.8	9.8
140°-150°	341.5	7.3
150°-160°	237.3	5.1
160°-170°	139.4	3.0
170°-180°	45.4	1.0
0°-30°	268.3	5.7
0°-40°	436.6	9.3
0°-60°	778.0	16.6
0°-90°	1077.3	22.9
90°-120°	1805.4	38.4
90°-150°	3196.7	68.1
90°-180°	3619.0	77.1
0°-180°	4696.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	7	35	67	82	87	6
95°	36	124	599	213	163	38
105°	113	175	790	1371	1248	120
115°	196	249	603	1306	1498	194
125°	271	320	556	1005	1178	241
135°	317	378	541	822	950	245
145°	361	414	530	668	737	226
155°	410	442	512	583	607	189
165°	448	461	491	520	530	126
175°	467	468	471	477	476	44
180°	468	468	468	468	468	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.5	15.1	19.6	24.5	29.0	33.7	38.5	43.4	48.3	53.2	55.8
90°	6.8	12.9	18.9	25.8	31.9	38.0	45.2	52.3	59.4	66.6	68.6
92.5°	16.4	25.8	37.5	48.6	60.3	78.3	107.4	152.3	196.6	186.2	153.2
95°	36.4	42.6	56.3	75.7	103.5	144.2	228.9	374.1	533.6	599.3	495.9
97.5°	58.7	62.6	73.7	90.7	117.9	161.3	242.2	405.3	668.2	905.4	968.7
100°	73.5	77.1	86.5	102.5	127.9	168.1	238.3	382.4	635.4	930.1	1119.2
102.5°	89.1	93.3	101.6	116.5	139.4	176.4	239.7	362.5	588.2	879.1	1124.9
105°	112.9	117.8	125.5	138.9	158.9	191.1	245.9	347.1	529.8	790.1	1064.3
107.5°	137.9	142.4	149.6	162.6	181.1	211.0	259.3	343.8	491.6	711.3	960.3
110°	155.7	160.1	166.3	178.3	195.9	224.9	270.9	346.3	476.5	666.6	895.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.4	176.5	182.5	194.1	211.5	239.5	282.3	352.3	467.3	635.9	838.0
115°	196.1	200.9	207.6	218.1	235.2	262.8	301.8	362.6	462.3	602.7	768.6
117.5°	220.0	225.0	230.4	239.8	258.4	283.8	322.3	376.7	461.5	581.9	725.5
120°	236.4	239.7	244.8	254.8	273.2	298.5	335.3	387.4	463.1	572.0	702.8
122.5°	250.9	253.9	258.9	269.3	286.7	313.4	349.4	397.5	467.0	565.2	683.7
125°	271.1	273.0	278.7	289.1	307.1	333.9	369.5	413.6	473.0	555.9	659.0
127.5°	286.8	289.6	296.5	307.0	326.9	353.4	387.4	427.0	480.1	550.2	636.9
130°	296.7	299.5	307.9	319.2	339.0	365.3	398.3	435.9	485.0	546.4	624.8
132.5°	303.9	307.5	316.8	330.4	350.3	375.8	407.6	444.3	488.4	544.1	613.3
135°	317.2	320.8	331.2	345.3	365.1	391.1	421.4	454.5	493.3	540.7	598.1
137.5°	329.5	333.5	343.6	358.7	378.4	402.3	431.0	462.3	496.5	536.8	584.9
140°	337.6	342.3	351.8	367.0	385.9	409.7	437.4	466.1	498.6	534.8	576.8
142.5°	346.7	350.6	360.8	374.3	393.2	415.4	442.1	469.9	499.9	532.1	569.4
145°	361.3	364.0	372.5	386.6	402.6	424.4	449.0	474.6	501.1	529.5	560.5
147.5°	375.7	377.4	385.7	398.0	413.6	432.1	454.7	477.6	501.1	525.9	552.0
150°	385.6	386.5	394.0	406.3	419.6	436.7	458.4	478.3	501.1	522.9	546.6
152.5°	395.4	395.6	403.2	413.9	425.7	442.0	460.7	479.9	498.8	519.1	540.5
155°	410.2	410.2	415.9	425.3	435.7	449.0	465.1	480.3	496.4	512.5	531.4
157.5°	421.9	422.7	427.2	435.5	444.4	454.7	467.6	481.2	493.2	506.6	521.1
160°	431.0	431.0	434.8	442.4	449.0	458.4	469.9	481.2	491.6	502.1	514.4
162.5°	437.8	437.8	440.8	446.9	452.8	460.7	470.6	480.5	488.6	497.5	507.5
165°	448.1	447.1	449.0	453.7	457.5	464.1	471.7	478.3	484.0	490.6	498.2
167.5°	455.8	454.7	455.6	459.3	461.9	466.0	471.6	476.9	479.5	483.9	489.3
170°	460.4	458.4	459.4	462.3	464.1	466.0	470.8	474.6	476.5	479.3	484.0
172.5°	463.4	462.3	462.4	464.6	465.7	466.8	470.8	473.9	474.2	475.5	478.7
175°	467.0	466.0	465.1	467.0	467.0	468.0	469.9	471.7	470.8	470.8	472.7
177.5°	468.7	468.0	467.2	468.0	468.0	468.0	468.7	470.2	468.7	468.0	468.7
180°	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	58.9	62.0	65.0	67.3	67.9	68.9	70.0	70.6
90°	72.3	76.1	80.0	83.7	83.6	85.4	87.2	87.1
92.5°	125.9	112.2	107.6	104.4	103.5	101.5	103.2	102.2
95°	383.8	276.5	229.0	196.7	179.4	171.8	166.0	163.1
97.5°	890.0	723.3	603.6	492.0	423.0	381.2	356.4	349.1
100°	1154.8	1080.5	972.1	839.3	744.4	676.1	640.0	641.8
102.5°	1241.5	1241.4	1179.2	1095.5	1021.9	968.0	938.0	917.0
105°	1264.6	1361.7	1382.1	1359.0	1316.2	1281.0	1251.4	1247.5
107.5°	1187.2	1343.2	1428.5	1463.7	1465.2	1453.8	1444.3	1436.4
110°	1114.3	1290.8	1412.3	1480.0	1507.2	1515.5	1514.3	1513.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1041.8	1222.1	1357.9	1444.6	1493.9	1518.1	1526.0	1527.1
115°	945.8	1112.7	1254.0	1358.6	1430.3	1472.7	1492.2	1497.7
117.5°	875.5	1019.9	1146.9	1253.0	1327.7	1376.1	1404.0	1411.1
120°	838.3	968.1	1083.7	1180.6	1256.1	1309.7	1333.0	1339.3
122.5°	808.5	926.2	1033.4	1123.5	1190.6	1238.9	1264.5	1272.3
125°	768.7	873.8	966.5	1043.5	1104.6	1147.0	1171.3	1178.4
127.5°	733.7	827.4	911.2	981.2	1035.8	1072.0	1094.0	1100.6
130°	711.6	798.4	876.8	942.2	993.0	1027.5	1048.0	1056.1
132.5°	691.0	770.9	843.9	906.4	954.1	988.8	1007.0	1012.8
135°	663.1	731.9	795.0	849.9	896.7	925.6	943.1	950.1
137.5°	637.6	694.1	748.4	796.1	835.6	864.8	879.6	884.4
140°	622.6	672.2	718.9	760.5	796.9	823.9	839.4	838.9
142.5°	608.2	650.9	691.4	727.6	758.7	782.6	796.7	796.1
145°	591.5	623.5	654.4	682.4	706.4	726.7	734.6	736.8
147.5°	577.9	602.8	627.5	647.3	665.6	679.3	686.8	687.9
150°	568.3	590.1	610.0	628.1	642.5	653.1	658.9	659.1
152.5°	560.0	578.8	596.4	611.4	622.6	632.3	635.7	635.8
155°	547.5	562.6	576.9	588.2	596.8	604.4	606.3	607.2
157.5°	534.3	547.0	557.9	566.8	574.2	579.9	581.4	581.2
160°	526.7	537.1	546.6	553.2	559.9	565.5	565.5	564.6
162.5°	517.6	526.5	535.2	541.0	545.4	550.3	550.3	549.4
165°	505.8	511.5	518.1	522.9	526.7	530.4	529.5	529.5
167.5°	495.6	499.9	503.8	507.2	508.8	511.5	510.5	510.5
170°	488.8	491.6	495.4	497.3	498.2	500.2	499.2	499.2
172.5°	482.7	484.8	487.9	488.9	489.2	491.1	489.3	488.6
175°	474.6	475.5	477.4	477.4	477.4	478.3	477.4	476.5
177.5°	469.4	470.2	471.0	471.0	470.2	471.0	469.4	469.4
180°	468.0	468.0	468.0	468.0	468.0	468.0	468.0	468.0

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