

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: P331897-940

Luminaire Tested: **S123DIP-S340D1025U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331897-940
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-S340D1025U940-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4593.2 lumens
Efficiency: N/A
Efficacy: 123.1 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

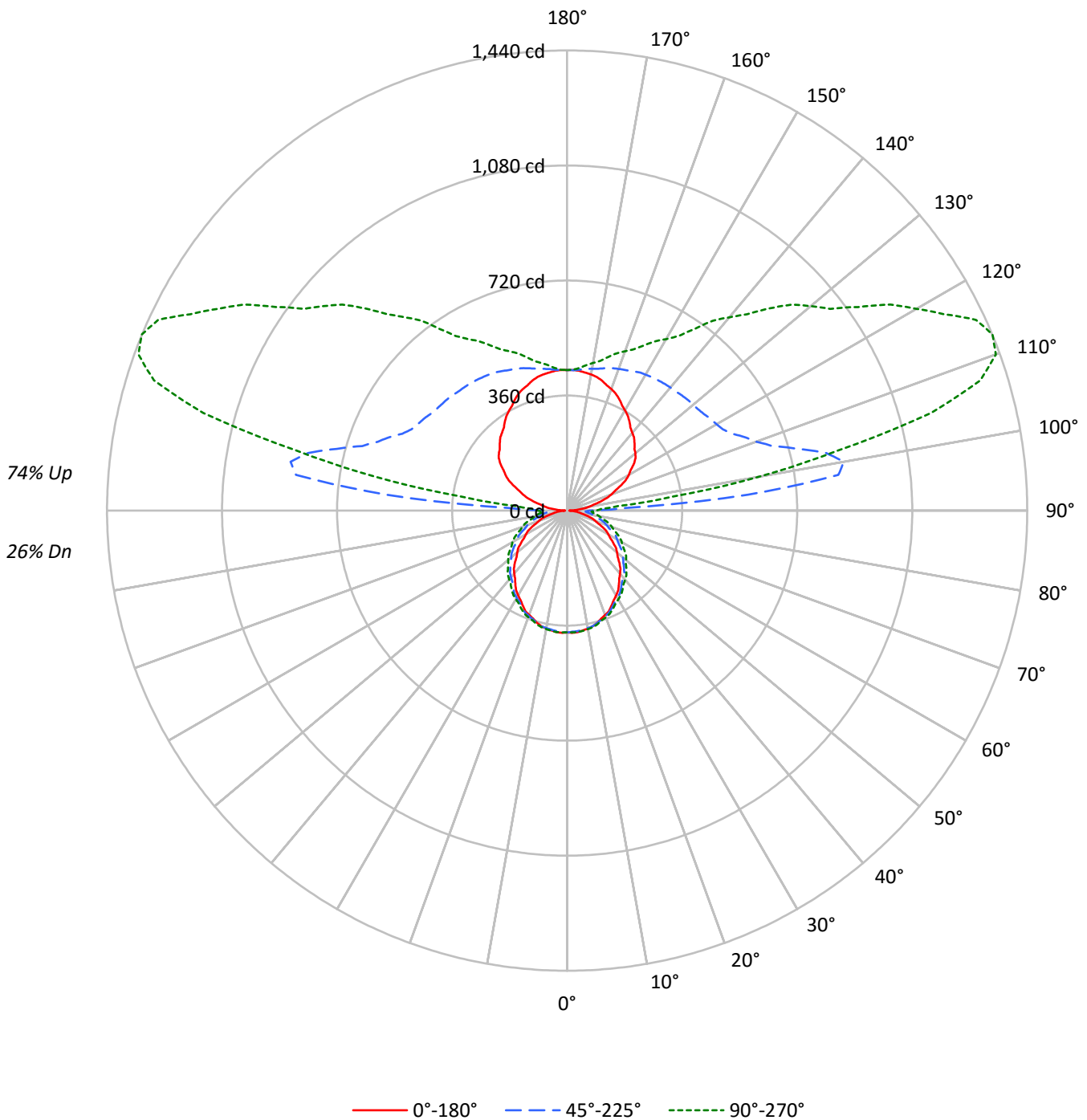
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	83	80	82	78	75	72	60	58	56	44	42	41	29	28	27	20
2	83	76	70	65	74	68	63	58	52	49	46	38	36	34	25	24	23	17
3	76	66	59	54	67	59	53	48	46	42	38	34	31	28	22	20	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	27	24	24	21	18	16	14	12	9
7	54	42	34	29	48	37	31	26	29	24	21	22	18	16	14	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	19	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°	4105	4105	4105
5°	4118	4002	4004
10°	4082	3910	3890
15°	4029	3805	3766
20°	3954	3686	3630
25°	3860	3549	3485
30°	3767	3425	3339
35°	3659	3294	3223
40°	3557	3175	3098
45°	3445	3060	2998
50°	3333	2947	2888
55°	3211	2831	2789
60°	3090	2713	2689
65°	2967	2588	2567
70°	2783	2448	2443
75°	2551	2287	2318
80°	2278	2128	2175
85°	2025	2018	2090



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.2	0.8
10°-20°	103.1	2.2
20°-30°	154.2	3.4
30°-40°	184.1	4.0
40°-50°	192.6	4.2
50°-60°	180.7	3.9
60°-70°	151.0	3.3
70°-80°	108.0	2.4
80°-90°	67.8	1.5
90°-100°	285.1	6.2
100°-110°	722.6	15.7
110°-120°	701.4	15.3
120°-130°	555.0	12.1
130°-140°	433.7	9.4
140°-150°	321.0	7.0
150°-160°	223.0	4.9
160°-170°	131.0	2.9
170°-180°	42.6	0.9
0°-30°	293.4	6.4
0°-40°	477.5	10.4
0°-60°	850.9	18.5
0°-90°	1177.7	25.6
90°-120°	1709.2	37.2
90°-150°	3018.9	65.7
90°-180°	3416.0	74.4
0°-180°	4593.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	381	381	381	381	381	
5°	382	381	378	382	381	36
15°	364	365	364	368	368	102
25°	328	332	334	339	339	151
35°	282	289	295	301	302	177
45°	231	241	251	259	263	178
55°	176	190	205	216	219	158
65°	122	138	156	168	173	120
75°	66	86	106	120	125	71
85°	20	41	63	77	81	21
90°	7	36	69	86	91	6
95°	35	119	569	208	161	36
105°	107	166	747	1294	1179	113
115°	185	235	569	1232	1412	183
125°	255	301	524	947	1111	226
135°	298	355	509	774	895	230
145°	340	389	498	629	693	213
155°	385	416	482	547	570	177
165°	421	433	461	489	498	119
175°	439	439	442	449	448	42
180°	440	440	440	440	440	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	383.1	382.9	382.6	382.5	382.2	381.8	381.2	380.6	380.0	379.4	380.0
5°	381.8	381.7	381.5	381.3	381.1	380.8	380.1	379.6	379.1	378.5	379.2
7.5°	378.1	378.2	378.2	378.2	378.3	378.0	377.5	376.9	376.4	375.9	376.7
10°	374.8	375.0	375.1	375.3	375.5	375.4	374.9	374.4	374.0	373.5	374.4
12.5°	370.8	371.0	371.3	371.6	371.8	371.8	371.5	371.1	370.9	370.5	371.4
15°	363.6	363.8	364.1	364.4	364.6	364.8	364.6	364.5	364.4	364.4	365.3
17.5°	354.5	355.0	355.5	356.1	356.6	356.9	356.9	356.8	356.8	356.8	357.6
20°	347.8	348.3	348.8	349.5	350.0	350.4	350.5	350.7	350.9	351.1	352.0
22.5°	340.8	341.3	341.9	342.4	343.0	343.4	343.7	343.9	344.2	344.5	345.5
25°	328.2	329.1	330.1	331.0	331.9	332.5	332.8	333.1	333.3	333.7	334.8
27.5°	315.6	316.6	317.7	318.8	319.9	320.7	321.2	321.8	322.4	323.0	324.0
30°	306.7	307.8	309.1	310.2	311.5	312.4	313.2	313.9	314.6	315.4	316.5
32.5°	296.7	298.0	299.3	300.7	302.0	303.2	304.2	305.1	306.1	307.0	308.3
35°	282.5	284.0	285.5	287.0	288.5	289.8	291.0	292.2	293.4	294.6	296.0
37.5°	267.6	269.2	270.9	272.6	274.2	275.8	277.2	278.7	280.3	281.7	283.3
40°	257.6	259.3	260.9	262.6	264.2	266.0	267.9	269.7	271.5	273.4	275.0
42.5°	246.6	248.7	250.7	252.7	254.8	256.7	258.7	260.6	262.5	264.4	266.2
45°	231.0	233.3	235.4	237.6	239.9	242.1	244.4	246.7	249.1	251.4	253.2
47.5°	214.6	217.1	219.6	222.2	224.7	227.3	229.9	232.6	235.1	237.8	239.8
50°	204.0	206.6	209.2	211.8	214.4	217.0	219.9	222.8	225.7	228.5	230.7
52.5°	192.7	195.5	198.1	200.9	203.7	206.6	209.7	212.9	216.1	219.2	221.4
55°	176.2	179.2	182.3	185.3	188.3	191.5	194.8	198.2	201.5	204.8	207.3
57.5°	160.1	163.2	166.4	169.6	172.7	176.2	179.8	183.4	187.1	190.7	193.2
60°	148.7	152.0	155.4	158.7	162.0	165.6	169.4	173.2	176.9	180.7	183.3
62.5°	138.1	141.5	144.9	148.3	151.7	155.4	159.4	163.5	167.5	171.5	174.0
65°	121.7	125.4	128.9	132.5	136.2	140.0	144.0	148.1	152.1	156.2	159.0
67.5°	105.1	109.0	112.8	116.5	120.4	124.4	128.5	132.7	136.8	141.0	143.9
70°	93.5	97.5	101.4	105.4	109.3	113.6	118.0	122.4	126.9	131.3	134.3
72.5°	82.8	86.9	90.8	94.8	98.7	103.0	107.5	112.2	116.7	121.4	124.4
75°	66.1	70.4	74.7	79.1	83.5	87.9	92.6	97.1	101.7	106.4	109.4
77.5°	51.5	55.8	60.2	64.6	68.9	73.5	78.1	82.8	87.4	92.1	95.3
80°	41.1	45.7	50.2	54.8	59.2	63.9	68.7	73.5	78.3	83.1	86.2
82.5°	32.2	36.7	41.4	45.9	50.6	55.3	60.2	65.0	69.9	74.8	77.9
85°	20.3	25.0	29.6	34.2	38.8	43.6	48.5	53.3	58.2	63.1	66.3
87.5°	11.4	16.3	21.3	26.5	31.4	36.4	41.6	46.9	52.2	57.4	60.4
90°	7.2	13.5	19.8	27.0	33.3	39.7	47.1	54.5	61.8	69.2	71.4
92.5°	16.1	25.5	37.1	48.2	59.7	77.2	105.1	148.0	190.3	181.2	150.6
95°	34.9	41.1	54.5	73.2	100.0	138.8	218.9	356.1	506.6	568.9	472.2
97.5°	55.7	59.8	70.7	87.2	113.2	154.5	231.1	385.0	632.7	856.1	916.1
100°	69.6	73.5	82.7	98.1	122.3	160.7	227.2	363.2	601.5	879.0	1057.1
102.5°	84.3	88.5	96.7	111.1	133.0	168.3	228.3	344.3	556.9	830.8	1062.1
105°	106.6	111.5	119.0	131.9	151.1	181.7	233.8	329.4	501.6	746.8	1004.9
107.5°	129.9	134.5	141.5	153.9	171.7	200.1	246.0	326.0	465.5	672.3	906.8
110°	146.7	151.1	157.1	168.6	185.4	212.9	256.7	328.1	451.0	630.1	845.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	162.4	166.4	172.2	183.3	199.8	226.5	267.2	333.5	442.0	601.0	791.1
115°	184.6	189.2	195.6	205.6	221.9	248.2	285.3	343.0	437.0	569.4	725.6
117.5°	207.1	211.9	217.0	225.9	243.4	267.6	304.2	355.7	436.0	549.4	684.7
120°	222.4	225.5	230.4	239.8	257.2	281.2	316.3	365.6	437.2	539.9	663.1
122.5°	235.9	238.8	243.5	253.4	269.8	295.1	329.3	375.0	440.7	533.2	645.0
125°	254.9	256.7	262.1	271.8	288.7	314.1	347.9	389.8	445.9	524.2	621.3
127.5°	269.7	272.2	278.7	288.6	307.3	332.3	364.6	402.1	452.4	518.5	600.3
130°	278.9	281.5	289.4	300.1	318.6	343.6	374.8	410.5	456.8	514.7	588.5
132.5°	285.7	289.1	297.8	310.6	329.3	353.3	383.4	418.0	459.8	512.4	577.6
135°	298.1	301.6	311.3	324.6	343.1	367.7	396.3	427.5	464.1	508.8	562.9
137.5°	309.8	313.4	323.0	337.2	355.6	378.1	405.2	434.6	466.9	504.8	550.3
140°	317.3	321.7	330.6	344.9	362.7	385.0	411.2	438.1	468.7	502.7	542.4
142.5°	325.8	329.5	339.0	351.8	369.5	390.3	415.4	441.5	469.8	500.1	535.3
145°	339.6	342.1	350.0	363.3	378.4	398.8	421.9	445.9	470.8	497.6	526.8
147.5°	353.0	354.6	362.5	374.0	388.6	406.1	427.2	448.8	470.8	494.2	518.8
150°	362.3	363.2	370.2	381.8	394.3	410.4	430.8	449.5	470.8	491.3	513.5
152.5°	371.5	371.7	378.8	389.0	400.0	415.4	432.9	450.9	468.7	487.8	507.9
155°	385.4	385.4	390.7	399.7	409.5	421.9	437.0	451.3	466.4	481.5	499.4
157.5°	396.5	397.2	401.4	409.3	417.6	427.2	439.3	452.2	463.4	476.0	489.7
160°	405.0	405.0	408.6	415.6	421.9	430.8	441.5	452.2	462.0	471.7	483.3
162.5°	411.4	411.4	414.3	419.9	425.4	432.9	442.2	451.5	459.1	467.4	476.9
165°	421.0	420.1	421.9	426.3	429.9	436.1	443.3	449.5	454.9	461.1	468.1
167.5°	428.3	427.2	428.1	431.5	434.0	437.9	443.1	448.1	450.6	454.7	459.9
170°	432.6	430.8	431.7	434.4	436.1	437.9	442.4	445.9	447.7	450.4	454.9
172.5°	435.4	434.4	434.5	436.5	437.6	438.6	442.4	445.2	445.6	446.8	449.9
175°	438.8	437.9	437.0	438.8	438.8	439.7	441.5	443.3	442.4	442.4	444.2
177.5°	440.4	439.7	439.0	439.7	439.7	439.7	440.4	441.8	440.4	439.7	440.4
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	381.4	381.4	381.4	381.4	381.4	381.4	381.4	381.4
2.5°	380.6	381.2	381.8	382.0	382.0	381.9	381.8	381.7
5°	380.0	380.8	381.5	381.8	381.7	381.6	381.5	381.4
7.5°	377.7	378.6	379.5	380.0	379.9	379.7	379.6	379.5
10°	375.4	376.3	377.2	377.6	377.4	377.2	377.0	376.8
12.5°	372.2	373.1	373.9	374.3	374.1	373.9	373.7	373.5
15°	366.2	367.1	368.1	368.5	368.4	368.3	368.2	368.1
17.5°	358.4	359.3	360.1	360.4	360.3	360.2	360.1	359.9
20°	352.8	353.6	354.5	354.9	355.0	355.1	355.2	355.3
22.5°	346.5	347.6	348.7	349.2	349.1	349.0	349.0	348.9
25°	336.0	337.2	338.4	339.0	339.0	339.0	339.0	339.0
27.5°	325.0	326.1	327.2	327.7	327.8	327.9	327.9	328.0
30°	317.5	318.7	319.8	320.3	320.3	320.3	320.3	320.3
32.5°	309.4	310.6	311.7	312.5	312.7	312.9	313.2	313.3
35°	297.4	298.7	300.1	301.0	301.4	301.8	302.1	302.5
37.5°	284.8	286.4	288.0	288.9	289.2	289.5	289.8	290.1
40°	276.5	278.1	279.6	280.6	281.0	281.4	281.8	282.1
42.5°	267.9	269.6	271.3	272.4	273.0	273.4	273.9	274.5
45°	254.9	256.6	258.4	259.7	260.4	261.1	261.9	262.6
47.5°	241.7	243.8	245.8	247.0	247.5	248.2	248.7	249.3
50°	232.7	234.9	237.0	238.4	239.1	239.7	240.3	241.0
52.5°	223.6	225.8	228.0	229.5	230.3	231.1	231.8	232.6
55°	209.8	212.3	214.8	216.4	217.1	217.9	218.6	219.4
57.5°	195.7	198.2	200.7	202.4	203.3	204.2	205.1	205.9
60°	185.9	188.5	191.1	192.9	193.9	194.9	195.9	197.0
62.5°	176.6	179.1	181.7	183.5	184.5	185.4	186.4	187.3
65°	161.8	164.5	167.3	169.2	170.0	171.0	171.9	172.8
67.5°	147.0	150.0	153.0	155.0	155.7	156.5	157.3	158.0
70°	137.2	140.2	143.1	145.1	146.0	146.9	147.8	148.7
72.5°	127.3	130.4	133.4	135.5	136.3	137.2	138.2	139.1
75°	112.4	115.5	118.6	120.6	121.7	122.9	123.9	125.1
77.5°	98.5	101.7	105.0	106.9	107.8	108.7	109.5	110.4
80°	89.3	92.6	95.7	97.6	98.6	99.5	100.5	101.4
82.5°	81.1	84.2	87.4	89.3	90.3	91.2	92.1	93.1
85°	69.5	72.6	75.7	77.8	78.6	79.6	80.5	81.4
87.5°	63.7	67.0	70.3	72.7	73.4	74.5	75.6	76.4
90°	75.4	79.5	83.6	87.4	87.4	89.2	91.0	91.0
92.5°	125.4	113.0	109.1	106.4	105.7	103.8	105.6	104.8
95°	367.3	266.9	222.6	192.4	176.5	169.3	164.1	161.4
97.5°	842.4	686.2	574.1	469.5	404.7	365.6	342.5	335.7
100°	1090.9	1021.5	920.1	795.4	706.5	642.4	608.6	610.5
102.5°	1172.1	1172.3	1114.3	1035.9	966.9	916.4	888.2	868.7
105°	1193.5	1285.0	1304.6	1283.1	1243.0	1210.0	1182.3	1178.8
107.5°	1120.2	1267.2	1347.6	1381.0	1382.5	1371.9	1363.2	1355.8
110°	1051.4	1217.6	1332.1	1396.1	1421.7	1429.6	1428.5	1427.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	983.1	1152.7	1280.8	1362.4	1408.8	1431.7	1439.2	1440.5
115°	892.5	1049.6	1182.7	1281.1	1348.6	1388.6	1407.1	1412.3
117.5°	826.0	961.9	1081.6	1181.5	1251.8	1297.4	1323.7	1330.5
120°	790.8	913.0	1022.0	1113.2	1184.2	1234.7	1256.7	1262.7
122.5°	762.6	873.4	974.5	1059.3	1122.4	1167.9	1192.0	1199.4
125°	724.8	823.8	911.2	983.6	1041.3	1081.0	1103.9	1110.8
127.5°	691.4	779.8	858.7	924.7	976.1	1010.2	1030.9	1037.2
130°	670.4	752.2	826.2	887.8	935.6	968.1	987.4	995.1
132.5°	650.8	726.2	795.0	853.8	898.8	931.5	948.6	954.2
135°	624.3	689.1	748.6	800.4	844.5	871.6	888.1	894.8
137.5°	599.9	653.2	704.5	749.5	786.6	814.1	828.1	832.7
140°	585.7	632.4	676.5	715.8	750.0	775.4	790.1	789.7
142.5°	571.9	612.2	650.4	684.6	713.8	736.4	749.7	749.2
145°	556.0	586.1	615.4	641.7	664.3	683.4	690.9	693.0
147.5°	543.1	566.6	589.8	608.4	625.6	638.6	645.7	646.8
150°	534.0	554.6	573.2	590.2	603.8	613.8	619.3	619.5
152.5°	526.2	543.9	560.4	574.4	585.1	594.1	597.4	597.4
155°	514.4	528.7	542.1	552.8	560.8	567.8	569.6	570.5
157.5°	502.0	513.9	524.2	532.6	539.6	544.9	546.4	546.2
160°	494.9	504.7	513.5	519.8	526.0	531.4	531.4	530.5
162.5°	486.3	494.7	502.9	508.5	512.6	517.1	517.1	516.2
165°	475.3	480.6	486.9	491.3	494.9	498.5	497.6	497.6
167.5°	465.7	469.8	473.3	476.5	478.1	480.6	479.7	479.7
170°	459.3	462.0	465.5	467.3	468.1	469.9	469.0	469.0
172.5°	453.6	455.6	458.4	459.5	459.7	461.5	459.9	459.1
175°	445.9	446.8	448.6	448.6	448.6	449.5	448.6	447.7
177.5°	441.1	441.8	442.6	442.6	441.8	442.6	441.1	441.1
180°	439.7	439.7	439.7	439.7	439.7	439.7	439.7	439.7

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