

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: P331897-830

Luminaire Tested: **S123DIP-S340D1025U830-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331897-830
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-S340D1025U830-4F0-1E-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: 4855.1 lumens
Efficiency: N/A
Efficacy: 130.2 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

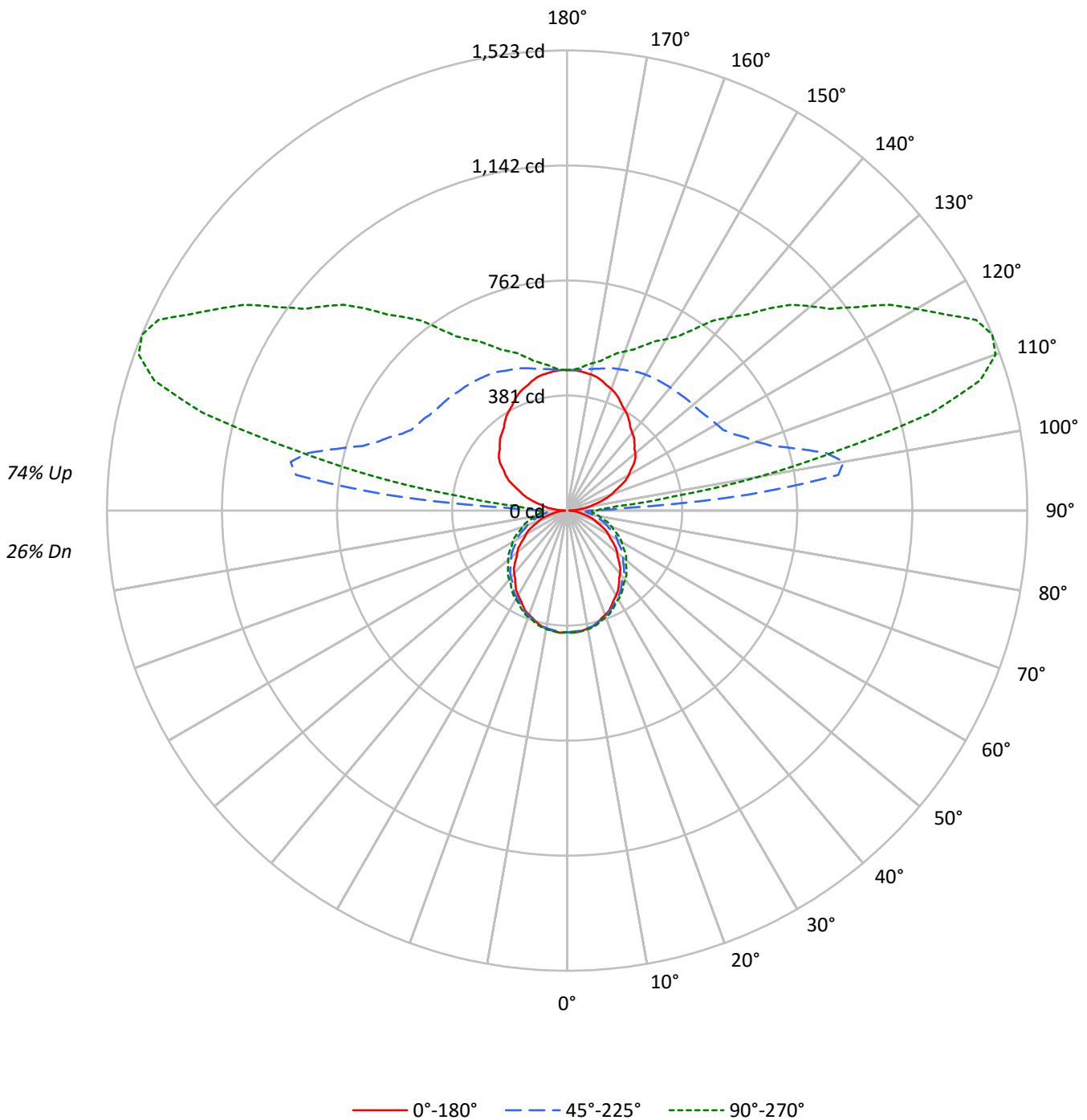
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	4339	4339	4339
5°	4353	4230	4232
10°	4315	4133	4112
15°	4259	4022	3980
20°	4179	3896	3836
25°	4080	3751	3684
30°	3980	3620	3529
35°	3867	3481	3406
40°	3760	3356	3274
45°	3641	3235	3169
50°	3525	3116	3054
55°	3393	2993	2948
60°	3266	2869	2842
65°	3138	2736	2714
70°	2941	2586	2582
75°	2693	2416	2450
80°	2412	2249	2299
85°	2145	2133	2211



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.2	0.8
10°-20°	108.9	2.2
20°-30°	163.0	3.4
30°-40°	194.6	4.0
40°-50°	203.6	4.2
50°-60°	191.1	3.9
60°-70°	159.6	3.3
70°-80°	114.2	2.4
80°-90°	71.7	1.5
90°-100°	301.4	6.2
100°-110°	763.8	15.7
110°-120°	741.4	15.3
120°-130°	586.6	12.1
130°-140°	458.5	9.4
140°-150°	339.3	7.0
150°-160°	235.7	4.9
160°-170°	138.5	2.9
170°-180°	45.1	0.9
0°-30°	310.1	6.4
0°-40°	504.7	10.4
0°-60°	899.4	18.5
0°-90°	1244.8	25.6
90°-120°	1806.6	37.2
90°-150°	3191.0	65.7
90°-180°	3610.0	74.4
0°-180°	4855.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	403	403	403	403	403	
5°	404	403	400	403	403	38
15°	384	386	385	389	389	108
25°	347	351	353	358	358	160
35°	299	306	311	318	320	187
45°	244	255	266	274	278	188
55°	186	201	216	228	232	167
65°	129	146	165	178	183	127
75°	70	91	112	126	132	75
85°	22	44	67	81	86	23
90°	8	39	73	90	96	6
95°	37	126	601	219	171	38
105°	113	176	789	1368	1246	120
115°	195	248	602	1302	1493	193
125°	270	319	554	1001	1174	239
135°	315	376	538	819	946	243
145°	359	411	526	664	732	225
155°	407	439	509	579	603	187
165°	445	458	487	517	526	125
175°	464	464	468	474	473	44
180°	465	465	465	465	465	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	404.9	404.7	404.4	404.3	404.0	403.6	402.9	402.3	401.7	401.1	401.7
5°	403.6	403.4	403.2	403.0	402.8	402.5	401.8	401.2	400.7	400.1	400.9
7.5°	399.6	399.7	399.7	399.7	399.8	399.5	399.0	398.4	397.8	397.3	398.2
10°	396.2	396.3	396.5	396.7	396.9	396.8	396.2	395.8	395.3	394.8	395.8
12.5°	391.9	392.2	392.5	392.8	393.0	392.9	392.7	392.3	392.0	391.6	392.6
15°	384.3	384.6	384.8	385.1	385.4	385.6	385.4	385.3	385.2	385.1	386.2
17.5°	374.7	375.2	375.8	376.4	376.9	377.2	377.2	377.1	377.1	377.1	378.0
20°	367.6	368.2	368.7	369.4	369.9	370.3	370.5	370.7	370.9	371.1	372.0
22.5°	360.2	360.8	361.4	361.9	362.6	363.0	363.3	363.5	363.8	364.1	365.2
25°	346.9	347.9	348.9	349.9	350.8	351.5	351.8	352.0	352.3	352.7	353.9
27.5°	333.6	334.7	335.8	337.0	338.1	338.9	339.5	340.2	340.8	341.4	342.5
30°	324.1	325.4	326.7	327.9	329.2	330.2	331.0	331.8	332.5	333.4	334.5
32.5°	313.6	315.0	316.4	317.8	319.2	320.5	321.5	322.5	323.6	324.5	325.8
35°	298.6	300.2	301.8	303.3	304.9	306.3	307.6	308.9	310.1	311.4	312.8
37.5°	282.9	284.6	286.3	288.1	289.8	291.5	293.0	294.6	296.2	297.7	299.4
40°	272.3	274.1	275.8	277.6	279.3	281.2	283.1	285.1	287.0	289.0	290.7
42.5°	260.7	262.9	264.9	267.1	269.3	271.4	273.4	275.4	277.5	279.5	281.3
45°	244.2	246.6	248.8	251.2	253.5	255.9	258.4	260.8	263.3	265.7	267.6
47.5°	226.9	229.5	232.1	234.9	237.5	240.3	243.0	245.8	248.5	251.4	253.4
50°	215.7	218.4	221.1	223.9	226.6	229.4	232.4	235.5	238.6	241.6	243.8
52.5°	203.7	206.6	209.4	212.4	215.3	218.4	221.7	225.1	228.4	231.7	234.0
55°	186.2	189.5	192.7	195.9	199.1	202.5	205.9	209.5	213.0	216.5	219.1
57.5°	169.2	172.5	175.9	179.3	182.6	186.2	190.0	193.9	197.7	201.6	204.2
60°	157.2	160.7	164.3	167.8	171.3	175.0	179.1	183.0	187.0	191.1	193.8
62.5°	146.0	149.6	153.2	156.7	160.3	164.3	168.5	172.8	177.0	181.3	183.9
65°	128.7	132.5	136.3	140.1	143.9	148.0	152.2	156.6	160.8	165.1	168.1
67.5°	111.1	115.2	119.2	123.2	127.2	131.5	135.8	140.3	144.6	149.0	152.1
70°	98.8	103.0	107.2	111.4	115.6	120.1	124.7	129.4	134.1	138.7	141.9
72.5°	87.6	91.8	96.0	100.2	104.3	108.9	113.7	118.6	123.4	128.3	131.5
75°	69.8	74.5	79.0	83.6	88.2	92.9	97.8	102.6	107.5	112.4	115.6
77.5°	54.4	59.0	63.6	68.2	72.9	77.7	82.6	87.5	92.4	97.4	100.8
80°	43.5	48.3	53.1	57.9	62.6	67.6	72.6	77.7	82.8	87.8	91.1
82.5°	34.0	38.8	43.7	48.5	53.4	58.4	63.6	68.7	73.9	79.1	82.4
85°	21.5	26.4	31.3	36.2	41.0	46.1	51.3	56.4	61.5	66.7	70.0
87.5°	12.1	17.2	22.5	28.0	33.2	38.5	44.0	49.6	55.1	60.7	63.8
90°	7.6	14.2	20.9	28.6	35.2	41.9	49.8	57.6	65.3	73.1	75.5
92.5°	17.1	27.0	39.2	50.9	63.1	81.6	111.1	156.5	201.1	191.5	159.2
95°	36.9	43.5	57.6	77.4	105.7	146.7	231.4	376.4	535.5	601.3	499.1
97.5°	58.9	63.2	74.7	92.2	119.6	163.3	244.3	407.0	668.7	904.9	968.3
100°	73.6	77.7	87.4	103.7	129.3	169.8	240.2	383.9	635.8	929.2	1117.4
102.5°	89.1	93.5	102.2	117.4	140.5	177.9	241.3	363.9	588.6	878.2	1122.7
105°	112.6	117.8	125.8	139.4	159.7	192.1	247.1	348.2	530.2	789.4	1062.2
107.5°	137.3	142.1	149.6	162.7	181.4	211.5	260.0	344.6	492.0	710.7	958.5
110°	155.0	159.7	166.1	178.2	196.0	225.1	271.4	346.8	476.7	666.0	893.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	171.6	175.9	182.0	193.8	211.2	239.4	282.5	352.5	467.2	635.3	836.2
115°	195.1	200.0	206.8	217.4	234.6	262.3	301.6	362.5	461.9	601.9	766.9
117.5°	218.9	223.9	229.3	238.7	257.3	282.9	321.5	376.0	460.8	580.7	723.8
120°	235.1	238.4	243.6	253.4	271.8	297.2	334.3	386.4	462.1	570.7	700.9
122.5°	249.4	252.4	257.4	267.9	285.2	311.9	348.1	396.3	465.8	563.6	681.7
125°	269.5	271.4	277.0	287.3	305.2	332.1	367.8	412.0	471.3	554.1	656.8
127.5°	285.0	287.8	294.6	305.1	324.8	351.3	385.4	425.0	478.2	548.1	634.5
130°	294.8	297.6	305.9	317.2	336.8	363.2	396.2	433.9	482.9	544.0	622.1
132.5°	302.0	305.6	314.8	328.3	348.1	373.4	405.3	441.9	486.0	541.6	610.5
135°	315.1	318.8	329.0	343.1	362.7	388.6	418.9	451.9	490.6	537.8	595.0
137.5°	327.4	331.3	341.4	356.4	375.9	399.6	428.3	459.4	493.5	533.6	581.6
140°	335.4	340.1	349.5	364.6	383.3	407.0	434.6	463.1	495.4	531.4	573.3
142.5°	344.4	348.3	358.4	371.8	390.6	412.6	439.1	466.7	496.5	528.6	565.8
145°	358.9	361.7	369.9	384.0	399.9	421.5	445.9	471.4	497.7	525.9	556.9
147.5°	373.2	374.8	383.1	395.3	410.8	429.2	451.6	474.4	497.7	522.4	548.4
150°	383.0	383.9	391.3	403.6	416.8	433.8	455.3	475.1	497.7	519.3	542.8
152.5°	392.7	392.9	400.4	411.1	422.8	439.0	457.6	476.6	495.4	515.6	536.9
155°	407.4	407.4	413.0	422.4	432.8	445.9	461.9	477.0	492.9	509.0	527.8
157.5°	419.1	419.8	424.3	432.6	441.4	451.6	464.4	478.0	489.8	503.1	517.6
160°	428.1	428.1	431.9	439.3	445.9	455.3	466.7	478.0	488.3	498.6	510.9
162.5°	434.9	434.9	437.9	443.8	449.7	457.6	467.4	477.2	485.3	494.1	504.1
165°	445.0	444.0	445.9	450.6	454.4	461.0	468.5	475.1	480.8	487.4	494.8
167.5°	452.7	451.6	452.5	456.1	458.7	462.9	468.3	473.6	476.3	480.6	486.1
170°	457.2	455.3	456.3	459.1	461.0	462.9	467.6	471.4	473.3	476.1	480.8
172.5°	460.2	459.1	459.3	461.4	462.5	463.6	467.6	470.6	471.0	472.3	475.5
175°	463.8	462.9	461.9	463.8	463.8	464.8	466.7	468.5	467.6	467.6	469.5
177.5°	465.5	464.8	464.0	464.8	464.8	464.8	465.5	467.0	465.5	464.8	465.5
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	403.1	403.1	403.1	403.1	403.1	403.1	403.1	403.1
2.5°	402.3	402.9	403.6	403.8	403.8	403.7	403.6	403.5
5°	401.6	402.5	403.2	403.6	403.5	403.3	403.2	403.1
7.5°	399.3	400.2	401.1	401.6	401.5	401.3	401.2	401.1
10°	396.8	397.8	398.7	399.1	398.9	398.7	398.5	398.3
12.5°	393.4	394.4	395.2	395.6	395.4	395.2	395.0	394.8
15°	387.1	388.0	389.1	389.5	389.4	389.3	389.2	389.1
17.5°	378.8	379.8	380.6	381.0	380.8	380.7	380.6	380.4
20°	372.9	373.7	374.7	375.1	375.2	375.3	375.4	375.5
22.5°	366.3	367.4	368.5	369.1	369.0	368.9	368.9	368.8
25°	355.2	356.5	357.7	358.4	358.4	358.4	358.4	358.4
27.5°	343.6	344.7	345.8	346.4	346.5	346.6	346.6	346.7
30°	335.6	336.9	338.0	338.6	338.6	338.6	338.6	338.6
32.5°	327.1	328.3	329.5	330.3	330.5	330.7	331.0	331.2
35°	314.3	315.8	317.3	318.2	318.6	319.0	319.3	319.7
37.5°	301.0	302.7	304.4	305.4	305.7	306.0	306.3	306.6
40°	292.3	294.0	295.6	296.6	297.0	297.5	297.8	298.2
42.5°	283.1	284.9	286.7	287.9	288.5	289.0	289.5	290.1
45°	269.4	271.3	273.1	274.5	275.2	276.0	276.8	277.6
47.5°	255.5	257.7	259.8	261.1	261.6	262.3	262.9	263.5
50°	246.0	248.3	250.5	252.0	252.7	253.4	254.0	254.8
52.5°	236.4	238.7	241.0	242.6	243.5	244.3	245.1	245.9
55°	221.8	224.4	227.1	228.8	229.5	230.4	231.1	231.9
57.5°	206.9	209.5	212.2	214.0	214.9	215.8	216.8	217.6
60°	196.5	199.3	202.0	203.9	204.9	206.0	207.1	208.2
62.5°	186.6	189.4	192.1	194.0	195.0	196.0	197.0	198.0
65°	171.0	173.9	176.8	178.8	179.7	180.8	181.7	182.7
67.5°	155.3	158.5	161.7	163.8	164.6	165.4	166.3	167.0
70°	145.1	148.2	151.3	153.4	154.3	155.2	156.3	157.2
72.5°	134.6	137.8	141.0	143.2	144.1	145.1	146.1	147.0
75°	118.9	122.1	125.4	127.5	128.7	129.9	131.0	132.2
77.5°	104.2	107.5	110.9	113.0	114.0	114.9	115.7	116.7
80°	94.4	97.8	101.1	103.2	104.2	105.2	106.2	107.2
82.5°	85.7	89.0	92.4	94.4	95.5	96.4	97.4	98.4
85°	73.4	76.7	80.0	82.2	83.1	84.2	85.1	86.1
87.5°	67.3	70.8	74.3	76.8	77.6	78.8	79.9	80.8
90°	79.7	84.1	88.3	92.4	92.4	94.3	96.2	96.2
92.5°	132.5	119.4	115.3	112.4	111.7	109.7	111.6	110.7
95°	388.2	282.1	235.3	203.4	186.5	179.0	173.4	170.6
97.5°	890.4	725.3	606.8	496.2	427.8	386.4	362.0	354.9
100°	1153.1	1079.7	972.5	840.7	746.8	679.0	643.3	645.3
102.5°	1238.9	1239.2	1177.8	1095.0	1022.0	968.7	938.9	918.2
105°	1261.5	1358.3	1378.9	1356.2	1313.8	1278.9	1249.7	1245.9
107.5°	1184.0	1339.4	1424.5	1459.7	1461.3	1450.1	1440.9	1433.0
110°	1111.4	1287.0	1408.1	1475.6	1502.7	1511.1	1510.0	1508.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1039.2	1218.4	1353.8	1440.1	1489.1	1513.3	1521.3	1522.6
115°	943.4	1109.5	1250.1	1354.2	1425.5	1467.7	1487.3	1492.8
117.5°	873.1	1016.7	1143.2	1248.9	1323.1	1371.4	1399.2	1406.4
120°	835.8	965.1	1080.2	1176.7	1251.7	1305.0	1328.3	1334.6
122.5°	806.1	923.2	1030.0	1119.6	1186.4	1234.4	1260.0	1267.8
125°	766.1	870.7	963.1	1039.7	1100.6	1142.6	1166.9	1174.1
127.5°	730.8	824.3	907.7	977.4	1031.7	1067.8	1089.7	1096.4
130°	708.6	795.1	873.3	938.4	988.9	1023.3	1043.7	1051.8
132.5°	687.9	767.6	840.3	902.5	950.0	984.6	1002.7	1008.6
135°	659.9	728.4	791.3	846.0	892.7	921.3	938.8	945.8
137.5°	634.1	690.4	744.7	792.2	831.4	860.5	875.3	880.1
140°	619.1	668.5	715.1	756.6	792.8	819.6	835.2	834.7
142.5°	604.5	647.1	687.5	723.6	754.5	778.4	792.4	791.9
145°	587.7	619.5	650.4	678.3	702.2	722.4	730.3	732.5
147.5°	574.0	598.9	623.4	643.1	661.3	675.0	682.5	683.6
150°	564.5	586.2	605.9	623.9	638.2	648.8	654.6	654.8
152.5°	556.2	574.9	592.4	607.2	618.4	628.0	631.4	631.5
155°	543.8	558.8	573.0	584.3	592.8	600.2	602.1	603.0
157.5°	530.7	543.2	554.1	563.0	570.3	576.0	577.5	577.3
160°	523.1	533.5	542.8	549.4	556.0	561.7	561.7	560.7
162.5°	514.1	522.9	531.6	537.4	541.8	546.6	546.6	545.6
165°	502.4	508.0	514.6	519.3	523.1	526.9	525.9	525.9
167.5°	492.2	496.5	500.3	503.7	505.4	508.0	507.1	507.1
170°	485.5	488.3	492.0	493.9	494.8	496.7	495.8	495.8
172.5°	479.5	481.5	484.6	485.7	485.9	487.8	486.1	485.3
175°	471.4	472.3	474.2	474.2	474.2	475.1	474.2	473.3
177.5°	466.3	467.0	467.8	467.8	467.0	467.8	466.3	466.3
180°	464.8	464.8	464.8	464.8	464.8	464.8	464.8	464.8

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