

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: P331897-927

Luminaire Tested: **S123DIP-S340D1025U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331897-927
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-S340D1025U927-4F0-1E-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: 4080.6 lumens
Efficiency: N/A
Efficacy: 109.4 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

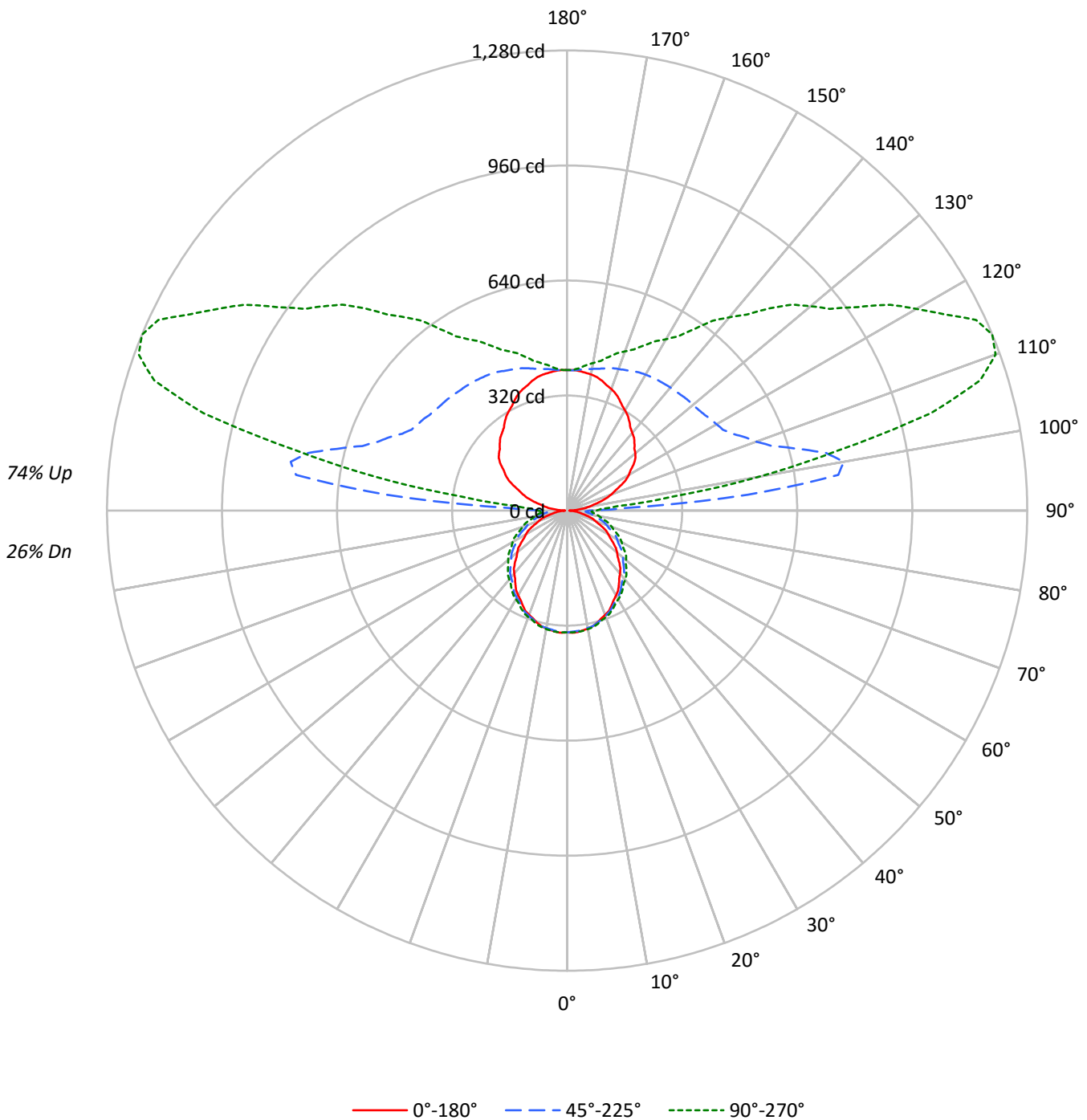
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	3647	3647	3647
5°	3658	3556	3557
10°	3626	3473	3456
15°	3579	3380	3345
20°	3513	3274	3224
25°	3430	3152	3096
30°	3345	3043	2966
35°	3251	2926	2863
40°	3161	2820	2752
45°	3061	2718	2664
50°	2962	2618	2566
55°	2852	2516	2478
60°	2745	2411	2388
65°	2636	2300	2280
70°	2471	2174	2170
75°	2265	2031	2059
80°	2023	1890	1932
85°	1805	1794	1856



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.1	0.8
10°-20°	91.6	2.2
20°-30°	137.0	3.4
30°-40°	163.6	4.0
40°-50°	171.1	4.2
50°-60°	160.6	3.9
60°-70°	134.1	3.3
70°-80°	96.0	2.4
80°-90°	60.2	1.5
90°-100°	253.3	6.2
100°-110°	641.9	15.7
110°-120°	623.2	15.3
120°-130°	493.1	12.1
130°-140°	385.3	9.4
140°-150°	285.2	7.0
150°-160°	198.1	4.9
160°-170°	116.4	2.9
170°-180°	37.9	0.9
0°-30°	260.6	6.4
0°-40°	424.2	10.4
0°-60°	755.9	18.5
0°-90°	1046.2	25.6
90°-120°	1518.4	37.2
90°-150°	2682.0	65.7
90°-180°	3034.0	74.4
0°-180°	4080.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	339	338	336	339	339	32
15°	323	324	324	327	327	91
25°	292	295	296	301	301	134
35°	251	257	262	267	269	157
45°	205	214	223	230	233	158
55°	156	169	182	192	195	140
65°	108	123	139	149	154	107
75°	59	76	94	106	111	63
85°	18	37	56	68	72	19
90°	6	32	62	76	81	5
95°	31	106	505	184	143	32
105°	95	148	664	1149	1047	101
115°	164	209	506	1094	1255	162
125°	226	268	466	842	987	201
135°	265	316	452	688	795	205
145°	302	345	442	558	616	189
155°	342	369	428	486	507	157
165°	374	385	410	434	442	105
175°	390	390	393	398	398	37
180°	391	391	391	391	391	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	340.3	340.2	339.9	339.8	339.5	339.2	338.7	338.1	337.6	337.1	337.6
5°	339.2	339.1	338.9	338.7	338.6	338.3	337.7	337.2	336.8	336.3	336.9
7.5°	335.9	336.0	336.0	336.0	336.0	335.8	335.3	334.9	334.4	333.9	334.7
10°	333.0	333.1	333.3	333.4	333.6	333.5	333.0	332.6	332.2	331.8	332.6
12.5°	329.4	329.6	329.9	330.1	330.3	330.3	330.0	329.7	329.5	329.2	329.9
15°	323.0	323.2	323.4	323.7	323.9	324.1	323.9	323.8	323.8	323.7	324.6
17.5°	314.9	315.4	315.8	316.3	316.8	317.0	317.0	317.0	317.0	317.0	317.7
20°	309.0	309.4	309.9	310.5	310.9	311.2	311.4	311.6	311.7	311.9	312.7
22.5°	302.8	303.2	303.7	304.2	304.8	305.1	305.3	305.5	305.8	306.0	307.0
25°	291.6	292.4	293.3	294.1	294.9	295.4	295.6	295.9	296.1	296.4	297.5
27.5°	280.4	281.3	282.3	283.2	284.2	284.9	285.3	285.9	286.5	286.9	287.9
30°	272.4	273.5	274.6	275.6	276.7	277.5	278.2	278.8	279.5	280.2	281.1
32.5°	263.6	264.7	265.9	267.1	268.3	269.3	270.2	271.1	272.0	272.7	273.9
35°	251.0	252.3	253.7	254.9	256.3	257.5	258.5	259.6	260.6	261.7	262.9
37.5°	237.7	239.2	240.7	242.2	243.6	245.0	246.3	247.6	249.0	250.3	251.7
40°	228.9	230.4	231.8	233.3	234.7	236.3	238.0	239.6	241.2	242.9	244.3
42.5°	219.1	220.9	222.7	224.5	226.3	228.1	229.8	231.5	233.2	234.9	236.5
45°	205.3	207.2	209.1	211.1	213.1	215.1	217.1	219.2	221.3	223.3	224.9
47.5°	190.7	192.9	195.1	197.4	199.6	201.9	204.2	206.6	208.9	211.3	213.0
50°	181.3	183.5	185.8	188.1	190.4	192.8	195.4	198.0	200.5	203.0	204.9
52.5°	171.2	173.6	176.0	178.5	180.9	183.5	186.3	189.2	191.9	194.7	196.7
55°	156.5	159.2	161.9	164.6	167.3	170.2	173.1	176.1	179.0	182.0	184.2
57.5°	142.2	145.0	147.8	150.7	153.4	156.5	159.7	163.0	166.2	169.4	171.7
60°	132.1	135.1	138.1	141.0	143.9	147.1	150.5	153.8	157.2	160.6	162.9
62.5°	122.7	125.7	128.7	131.7	134.8	138.1	141.6	145.2	148.8	152.3	154.6
65°	108.1	111.4	114.5	117.7	121.0	124.4	127.9	131.6	135.1	138.8	141.2
67.5°	93.4	96.8	100.2	103.5	106.9	110.5	114.2	117.9	121.5	125.2	127.9
70°	83.0	86.6	90.1	93.6	97.1	100.9	104.8	108.8	112.7	116.6	119.3
72.5°	73.6	77.2	80.6	84.2	87.7	91.5	95.5	99.7	103.7	107.8	110.5
75°	58.7	62.6	66.4	70.3	74.1	78.1	82.2	86.3	90.4	94.5	97.2
77.5°	45.7	49.6	53.5	57.4	61.2	65.3	69.4	73.5	77.6	81.8	84.7
80°	36.5	40.6	44.6	48.6	52.6	56.8	61.0	65.3	69.6	73.8	76.6
82.5°	28.6	32.6	36.8	40.8	44.9	49.1	53.5	57.8	62.1	66.5	69.2
85°	18.1	22.2	26.3	30.4	34.5	38.7	43.1	47.4	51.7	56.1	58.9
87.5°	10.1	14.5	18.9	23.5	27.9	32.3	37.0	41.7	46.3	51.0	53.6
90°	6.4	12.0	17.6	24.0	29.5	35.3	41.8	48.4	54.9	61.5	63.5
92.5°	14.3	22.7	33.0	42.8	53.0	68.6	93.4	131.5	169.1	161.0	133.8
95°	31.0	36.5	48.4	65.0	88.8	123.3	194.5	316.3	450.0	505.4	419.5
97.5°	49.5	53.2	62.8	77.5	100.5	137.3	205.3	342.1	562.1	760.6	813.8
100°	61.9	65.3	73.4	87.1	108.7	142.8	201.8	322.7	534.4	780.9	939.1
102.5°	74.9	78.6	85.9	98.7	118.1	149.5	202.8	305.9	494.7	738.1	943.6
105°	94.7	99.0	105.8	117.2	134.2	161.4	207.7	292.6	445.6	663.5	892.7
107.5°	115.4	119.5	125.7	136.7	152.5	177.8	218.6	289.6	413.5	597.3	805.6
110°	130.3	134.2	139.6	149.8	164.7	189.2	228.1	291.4	400.7	559.8	750.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	144.3	147.8	153.0	162.9	177.5	201.2	237.4	296.3	392.7	533.9	702.8
115°	164.0	168.1	173.8	182.7	197.2	220.5	253.5	304.7	388.2	505.9	644.6
117.5°	183.9	188.2	192.7	200.7	216.3	237.7	270.2	316.0	387.3	488.1	608.3
120°	197.6	200.3	204.7	213.0	228.5	249.8	281.0	324.8	388.4	479.7	589.1
122.5°	209.6	212.1	216.3	225.1	239.7	262.1	292.6	333.1	391.5	473.7	573.0
125°	226.5	228.1	232.8	241.5	256.5	279.1	309.1	346.3	396.1	465.7	552.0
127.5°	239.6	241.9	247.6	256.4	273.0	295.2	323.9	357.2	401.9	460.7	533.3
130°	247.8	250.1	257.1	266.6	283.0	305.2	333.0	364.6	405.8	457.2	522.8
132.5°	253.8	256.8	264.6	275.9	292.6	313.9	340.6	371.4	408.4	455.2	513.1
135°	264.8	267.9	276.6	288.4	304.8	326.6	352.0	379.8	412.3	452.0	500.1
137.5°	275.2	278.5	286.9	299.5	315.9	335.9	360.0	386.1	414.8	448.5	488.9
140°	281.9	285.8	293.7	306.4	322.2	342.1	365.3	389.2	416.4	446.6	481.9
142.5°	289.5	292.7	301.2	312.5	328.3	346.7	369.1	392.2	417.3	444.3	475.5
145°	301.7	304.0	310.9	322.7	336.1	354.3	374.8	396.2	418.3	442.0	468.0
147.5°	313.6	315.1	322.0	332.2	345.2	360.8	379.5	398.7	418.3	439.0	460.9
150°	321.9	322.7	328.9	339.2	350.3	364.6	382.7	399.3	418.3	436.5	456.2
152.5°	330.0	330.2	336.5	345.5	355.4	369.0	384.6	400.6	416.4	433.3	451.2
155°	342.4	342.4	347.1	355.1	363.8	374.8	388.2	400.9	414.3	427.8	443.6
157.5°	352.2	352.8	356.6	363.6	371.0	379.5	390.3	401.7	411.7	422.9	435.1
160°	359.8	359.8	363.0	369.2	374.8	382.7	392.2	401.7	410.4	419.1	429.4
162.5°	365.5	365.5	368.0	373.0	378.0	384.6	392.8	401.1	407.9	415.3	423.7
165°	374.0	373.2	374.8	378.7	381.9	387.5	393.8	399.3	404.1	409.6	415.9
167.5°	380.5	379.5	380.3	383.3	385.6	389.0	393.6	398.1	400.3	403.9	408.5
170°	384.3	382.7	383.5	385.9	387.5	389.0	393.0	396.2	397.8	400.1	404.1
172.5°	386.8	385.9	386.0	387.8	388.7	389.7	393.0	395.5	395.9	397.0	399.7
175°	389.8	389.0	388.2	389.8	389.8	390.6	392.2	393.8	393.0	393.0	394.6
177.5°	391.3	390.6	390.0	390.6	390.6	390.6	391.3	392.5	391.3	390.6	391.3
180°	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	338.1	338.7	339.2	339.4	339.4	339.3	339.2	339.1
5°	337.5	338.3	338.9	339.2	339.1	339.0	338.9	338.8
7.5°	335.6	336.4	337.2	337.5	337.5	337.3	337.2	337.2
10°	333.5	334.3	335.1	335.4	335.3	335.1	334.9	334.8
12.5°	330.7	331.4	332.2	332.5	332.3	332.2	332.0	331.8
15°	325.3	326.1	327.0	327.3	327.3	327.2	327.1	327.0
17.5°	318.4	319.2	319.9	320.2	320.0	320.0	319.9	319.7
20°	313.4	314.1	314.9	315.3	315.4	315.4	315.5	315.6
22.5°	307.8	308.8	309.7	310.2	310.1	310.1	310.1	310.0
25°	298.5	299.6	300.6	301.2	301.2	301.2	301.2	301.2
27.5°	288.8	289.7	290.7	291.1	291.2	291.3	291.3	291.4
30°	282.1	283.1	284.1	284.6	284.6	284.6	284.6	284.6
32.5°	274.9	275.9	276.9	277.6	277.8	278.0	278.2	278.4
35°	264.2	265.4	266.6	267.4	267.8	268.1	268.4	268.7
37.5°	253.0	254.4	255.9	256.7	256.9	257.2	257.5	257.7
40°	245.7	247.1	248.4	249.3	249.6	250.0	250.3	250.6
42.5°	238.0	239.5	241.0	242.0	242.5	242.9	243.4	243.8
45°	226.4	228.0	229.6	230.7	231.3	232.0	232.7	233.3
47.5°	214.8	216.6	218.3	219.4	219.9	220.5	220.9	221.5
50°	206.8	208.7	210.6	211.8	212.4	212.9	213.5	214.1
52.5°	198.7	200.6	202.6	203.9	204.6	205.3	206.0	206.7
55°	186.4	188.6	190.8	192.3	192.9	193.6	194.2	194.9
57.5°	173.9	176.1	178.3	179.8	180.6	181.4	182.2	182.9
60°	165.2	167.5	169.8	171.3	172.2	173.2	174.0	175.0
62.5°	156.9	159.1	161.4	163.0	163.9	164.7	165.6	166.4
65°	143.7	146.2	148.6	150.3	151.1	151.9	152.7	153.5
67.5°	130.6	133.2	135.9	137.7	138.3	139.0	139.7	140.4
70°	121.9	124.5	127.1	128.9	129.7	130.5	131.3	132.1
72.5°	113.1	115.8	118.5	120.3	121.1	121.9	122.8	123.6
75°	99.9	102.6	105.4	107.2	108.1	109.2	110.1	111.1
77.5°	87.5	90.4	93.2	95.0	95.8	96.6	97.3	98.1
80°	79.4	82.2	85.0	86.7	87.6	88.4	89.3	90.1
82.5°	72.0	74.8	77.6	79.4	80.2	81.0	81.8	82.7
85°	61.7	64.5	67.3	69.1	69.9	70.7	71.5	72.3
87.5°	56.6	59.5	62.4	64.6	65.2	66.2	67.2	67.9
90°	67.0	70.7	74.2	77.6	77.6	79.2	80.9	80.9
92.5°	111.4	100.4	96.9	94.5	93.9	92.2	93.8	93.1
95°	326.3	237.1	197.7	171.0	156.8	150.4	145.8	143.4
97.5°	748.4	609.6	510.0	417.1	359.6	324.8	304.3	298.3
100°	969.2	907.4	817.4	706.6	627.6	570.7	540.7	542.3
102.5°	1041.2	1041.5	989.9	920.3	859.0	814.1	789.1	771.7
105°	1060.3	1141.6	1159.0	1139.9	1104.2	1074.9	1050.4	1047.2
107.5°	995.1	1125.8	1197.2	1226.9	1228.2	1218.8	1211.0	1204.4
110°	934.1	1081.7	1183.4	1240.2	1263.0	1270.0	1269.1	1268.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	873.4	1024.1	1137.8	1210.4	1251.6	1271.9	1278.6	1279.7
115°	792.9	932.5	1050.7	1138.1	1198.1	1233.6	1250.1	1254.7
117.5°	733.8	854.5	960.8	1049.6	1112.1	1152.6	1176.0	1182.0
120°	702.5	811.1	907.9	989.0	1052.0	1096.9	1116.4	1121.7
122.5°	677.5	775.9	865.7	941.0	997.1	1037.5	1059.0	1065.6
125°	643.9	731.8	809.5	873.9	925.0	960.4	980.7	986.8
127.5°	614.3	692.8	762.9	821.5	867.1	897.5	915.8	921.5
130°	595.6	668.3	734.0	788.7	831.2	860.1	877.2	884.0
132.5°	578.1	645.2	706.2	758.5	798.4	827.5	842.7	847.7
135°	554.6	612.2	665.0	711.1	750.3	774.4	789.0	795.0
137.5°	533.0	580.3	625.9	665.8	698.8	723.3	735.7	739.7
140°	520.3	561.8	601.0	635.9	666.3	688.9	702.0	701.6
142.5°	508.1	543.8	577.8	608.2	634.1	654.2	666.0	665.6
145°	493.9	520.7	546.7	570.1	590.2	607.1	613.8	615.7
147.5°	482.4	503.4	523.9	540.5	555.8	567.3	573.6	574.6
150°	474.4	492.7	509.2	524.3	536.4	545.3	550.2	550.3
152.5°	467.5	483.2	497.9	510.3	519.8	527.8	530.7	530.8
155°	457.0	469.7	481.6	491.1	498.2	504.5	506.0	506.8
157.5°	446.0	456.5	465.7	473.2	479.3	484.1	485.4	485.2
160°	439.7	448.4	456.2	461.8	467.3	472.1	472.1	471.3
162.5°	432.1	439.5	446.8	451.7	455.3	459.4	459.4	458.6
165°	422.2	427.0	432.5	436.5	439.7	442.8	442.0	442.0
167.5°	413.7	417.3	420.5	423.3	424.8	427.0	426.2	426.2
170°	408.1	410.4	413.5	415.1	415.9	417.5	416.7	416.7
172.5°	403.0	404.7	407.3	408.2	408.4	410.0	408.5	407.9
175°	396.2	397.0	398.5	398.5	398.5	399.3	398.5	397.8
177.5°	391.9	392.5	393.2	393.2	392.5	393.2	391.9	391.9
180°	390.6	390.6	390.6	390.6	390.6	390.6	390.6	390.6

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