

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: P331906-927

Luminaire Tested: **S123DIP-S340D1195U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331906-927
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-S340D1195U927-4F0-1E-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: 4563.0 lumens
Efficiency: N/A
Efficacy: 108.1 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

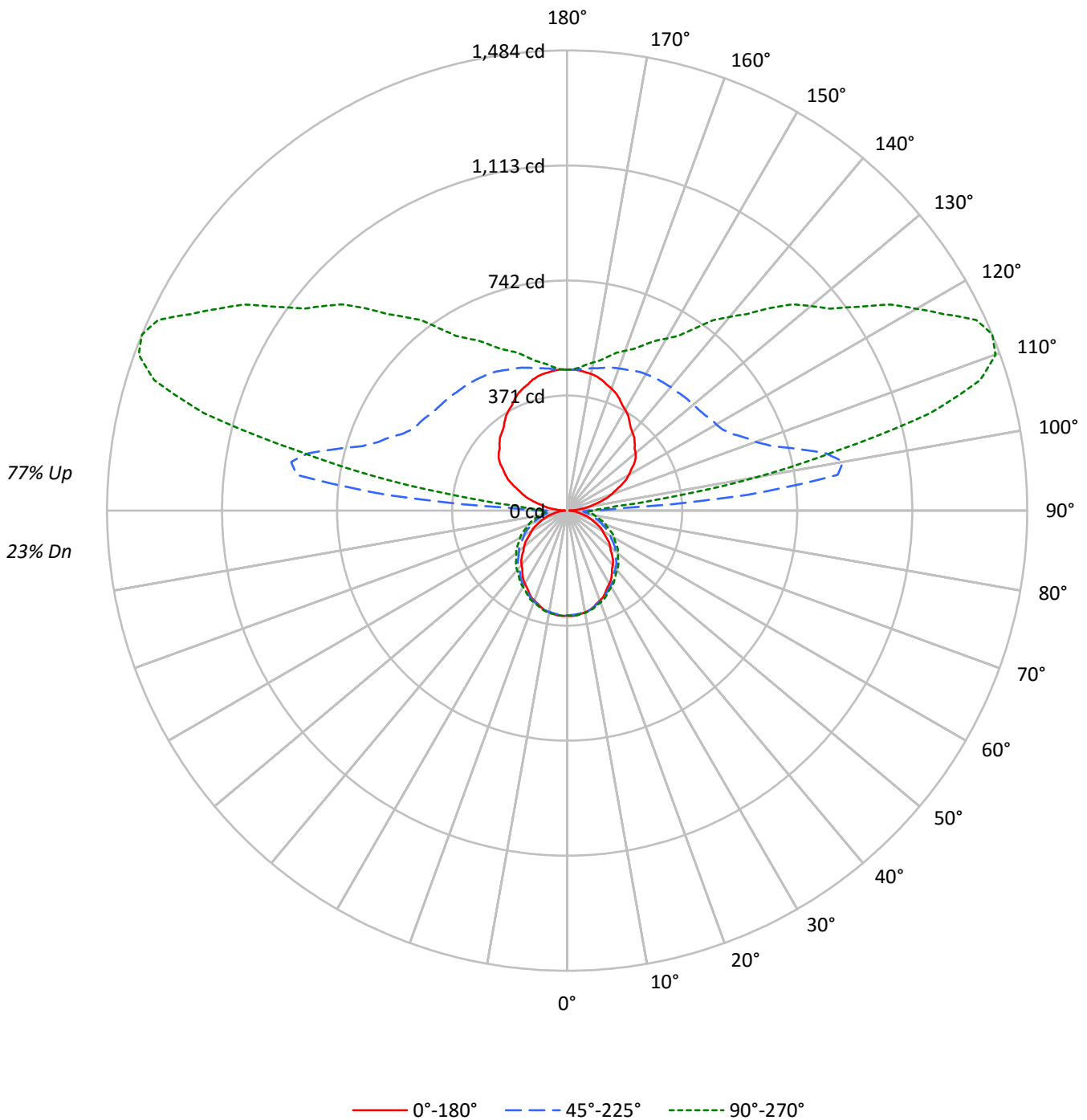
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	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	0.7
10°-20°	91.6	2.0
20°-30°	137.0	3.0
30°-40°	163.6	3.6
40°-50°	171.1	3.8
50°-60°	160.6	3.5
60°-70°	134.1	2.9
70°-80°	96.0	2.1
80°-90°	60.7	1.3
90°-100°	288.9	6.3
100°-110°	742.9	16.3
110°-120°	722.4	15.8
120°-130°	572.3	12.5
130°-140°	447.8	9.8
140°-150°	331.8	7.3
150°-160°	230.6	5.1
160°-170°	135.5	3.0
170°-180°	44.1	1.0
0°-30°	260.6	5.7
0°-40°	424.2	9.3
0°-60°	755.9	16.6
0°-90°	1046.7	22.9
90°-120°	1754.3	38.4
90°-150°	3106.1	68.1
90°-180°	3516.0	77.1
0°-180°	4563.0	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°	7	34	65	80	85	5
95°	35	120	582	207	158	37
105°	110	170	768	1332	1212	116
115°	190	242	586	1269	1455	189
125°	263	311	540	976	1145	234
135°	308	367	525	799	923	238
145°	351	402	514	650	716	220
155°	398	430	498	566	590	183
165°	435	448	477	506	514	123
175°	454	454	457	464	463	43
180°	455	455	455	455	455	



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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°	10.2	14.7	19.1	23.8	28.2	32.7	37.4	42.1	46.9	51.7	54.3
90°	6.7	12.5	18.4	25.1	31.0	36.9	43.9	50.9	57.8	64.7	66.6
92.5°	15.9	25.0	36.4	47.2	58.6	76.0	104.3	148.0	191.0	180.9	148.9
95°	35.3	41.4	54.7	73.5	100.6	140.1	222.4	363.5	518.5	582.3	481.8
97.5°	57.0	60.8	71.6	88.1	114.5	156.8	235.4	393.8	649.3	879.7	941.3
100°	71.5	74.9	84.1	99.6	124.3	163.3	231.6	371.5	617.4	903.7	1087.4
102.5°	86.6	90.6	98.7	113.2	135.5	171.4	232.9	352.2	571.5	854.1	1093.0
105°	109.7	114.5	121.9	135.0	154.4	185.7	238.9	337.2	514.8	767.7	1034.1
107.5°	134.0	138.4	145.4	158.0	175.9	205.0	252.0	334.1	477.7	691.1	933.1
110°	151.3	155.6	161.6	173.3	190.4	218.5	263.2	336.4	463.0	647.7	869.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	167.5	171.5	177.3	188.6	205.5	232.7	274.3	342.3	454.1	617.9	814.2
115°	190.5	195.2	201.7	211.9	228.5	255.3	293.3	352.4	449.2	585.6	746.8
117.5°	213.8	218.6	223.9	233.0	251.0	275.8	313.1	366.0	448.5	565.4	705.0
120°	229.7	232.9	237.9	247.6	265.5	290.0	325.8	376.4	450.0	555.8	682.9
122.5°	243.8	246.7	251.5	261.7	278.6	304.5	339.5	386.3	453.8	549.1	664.3
125°	263.4	265.2	270.8	280.9	298.4	324.4	359.0	401.9	459.5	540.1	640.3
127.5°	278.7	281.4	288.1	298.3	317.6	343.4	376.4	414.9	466.5	534.6	618.9
130°	288.3	291.0	299.1	310.1	329.4	355.0	387.0	423.6	471.3	530.9	607.0
132.5°	295.3	298.8	307.8	321.1	340.4	365.1	396.1	431.7	474.5	528.7	595.9
135°	308.2	311.7	321.8	335.5	354.7	380.0	409.5	441.6	479.3	525.4	581.1
137.5°	320.2	324.0	333.9	348.6	367.7	390.9	418.8	449.2	482.4	521.6	568.3
140°	328.0	332.6	341.8	356.6	374.9	398.1	425.0	452.9	484.4	519.7	560.5
142.5°	336.8	340.6	350.5	363.7	382.1	403.6	429.6	456.5	485.7	517.0	553.3
145°	351.0	353.7	361.9	375.7	391.2	412.3	436.3	461.1	486.9	514.5	544.6
147.5°	365.0	366.7	374.8	386.7	401.9	419.9	441.8	464.1	486.9	511.0	536.4
150°	374.6	375.5	382.9	394.8	407.7	424.3	445.4	464.8	486.9	508.0	531.1
152.5°	384.2	384.4	391.7	402.2	413.6	429.4	447.7	466.3	484.7	504.4	525.2
155°	398.5	398.5	404.1	413.3	423.3	436.3	451.9	466.7	482.3	498.0	516.3
157.5°	410.0	410.7	415.1	423.2	431.8	441.8	454.3	467.5	479.2	492.3	506.4
160°	418.7	418.7	422.5	429.8	436.3	445.4	456.5	467.5	477.7	487.8	499.8
162.5°	425.4	425.4	428.3	434.3	440.0	447.7	457.2	466.8	474.8	483.4	493.1
165°	435.4	434.4	436.3	440.8	444.6	451.0	458.4	464.8	470.3	476.7	484.1
167.5°	442.9	441.8	442.7	446.2	448.8	452.8	458.2	463.3	465.9	470.2	475.5
170°	447.3	445.4	446.4	449.2	451.0	452.8	457.4	461.1	463.0	465.7	470.3
172.5°	450.3	449.2	449.3	451.4	452.5	453.6	457.4	460.4	460.7	462.0	465.2
175°	453.8	452.8	451.9	453.8	453.8	454.7	456.5	458.4	457.4	457.4	459.3
177.5°	455.4	454.7	453.9	454.7	454.7	454.7	455.4	456.9	455.4	454.7	455.4
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7



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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°	57.2	60.2	63.1	65.4	66.0	66.9	68.0	68.6
90°	70.3	74.0	77.7	81.4	81.3	83.0	84.8	84.6
92.5°	122.3	109.0	104.6	101.5	100.6	98.6	100.3	99.3
95°	373.0	268.7	222.5	191.1	174.4	166.9	161.3	158.4
97.5°	864.7	702.8	586.5	478.1	411.0	370.3	346.3	339.2
100°	1122.0	1049.9	944.5	815.5	723.3	657.0	621.9	623.6
102.5°	1206.3	1206.2	1145.7	1064.5	992.9	940.6	911.4	891.0
105°	1228.8	1323.1	1342.9	1320.5	1278.9	1244.7	1215.9	1212.1
107.5°	1153.5	1305.1	1388.0	1422.2	1423.6	1412.6	1403.4	1395.7
110°	1082.7	1254.2	1372.2	1438.0	1464.5	1472.5	1471.3	1470.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1012.3	1187.4	1319.4	1403.7	1451.5	1475.0	1482.7	1483.8
115°	919.0	1081.2	1218.5	1320.1	1389.7	1430.9	1449.9	1455.2
117.5°	850.7	990.9	1114.4	1217.4	1290.1	1337.1	1364.2	1371.1
120°	814.5	940.6	1053.0	1147.2	1220.4	1272.6	1295.2	1301.3
122.5°	785.6	899.9	1004.1	1091.6	1156.8	1203.8	1228.7	1236.2
125°	746.9	849.0	939.1	1013.9	1073.3	1114.4	1138.0	1145.0
127.5°	712.9	804.0	885.3	953.4	1006.5	1041.6	1063.0	1069.4
130°	691.4	775.8	851.9	915.5	964.8	998.4	1018.3	1026.1
132.5°	671.4	749.1	820.0	880.7	927.0	960.8	978.4	984.1
135°	644.3	711.1	772.5	825.9	871.3	899.4	916.3	923.2
137.5°	619.5	674.4	727.2	773.6	811.9	840.3	854.7	859.3
140°	605.0	653.2	698.5	738.9	774.3	800.5	815.6	815.2
142.5°	591.0	632.4	671.8	706.9	737.2	760.4	774.1	773.6
145°	574.7	605.8	635.9	663.1	686.3	706.1	713.8	715.9
147.5°	561.5	585.7	609.7	628.9	646.7	660.0	667.3	668.4
150°	552.2	573.4	592.7	610.3	624.2	634.5	640.2	640.4
152.5°	544.2	562.4	579.5	594.1	604.9	614.3	617.7	617.7
155°	532.0	546.7	560.5	571.6	579.9	587.2	589.1	589.9
157.5°	519.1	531.5	542.1	550.7	557.9	563.5	564.9	564.7
160°	511.7	521.9	531.1	537.5	544.0	549.5	549.5	548.6
162.5°	502.9	511.6	520.0	525.7	530.0	534.7	534.7	533.9
165°	491.5	497.0	503.4	508.0	511.7	515.4	514.5	514.5
167.5°	481.6	485.8	489.5	492.8	494.4	497.0	496.1	496.1
170°	474.9	477.7	481.3	483.2	484.1	486.0	485.1	485.1
172.5°	469.1	471.0	474.0	475.1	475.3	477.1	475.5	474.8
175°	461.1	462.0	463.9	463.9	463.9	464.8	463.9	463.0
177.5°	456.1	456.9	457.6	457.6	456.9	457.6	456.1	456.1
180°	454.7	454.7	454.7	454.7	454.7	454.7	454.7	454.7

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