

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: P331879-840

Luminaire Tested: **S123DIP-S340D585U840-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331879-840
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-S340D585U840-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3594.6 lumens
Efficiency: N/A
Efficacy: 140.4 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

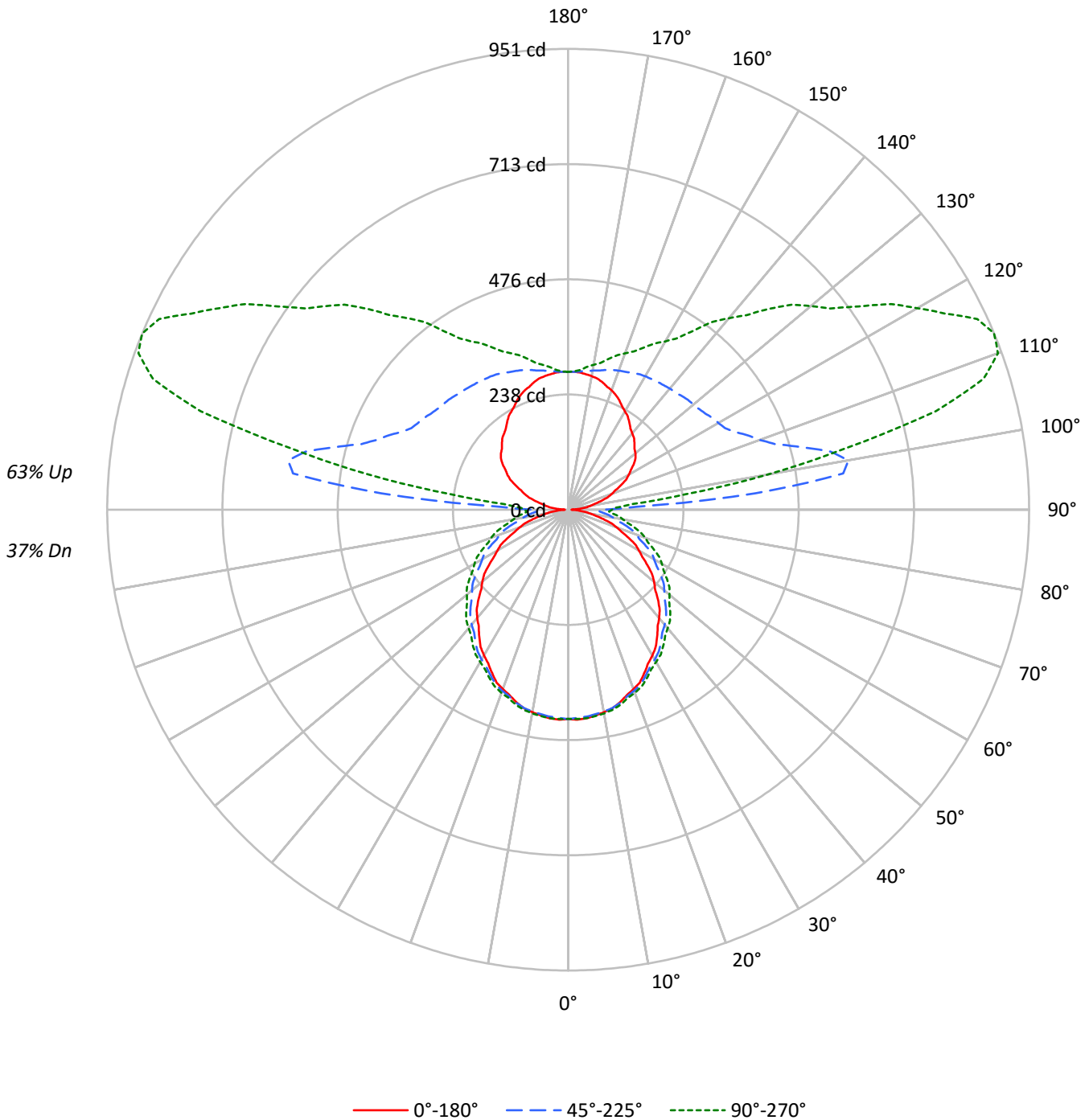
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	104	104	104	104	94	94	94	94	76	76	76	60	60	60	44	44	44	37				
1	94	89	85	82	85	81	78	74	65	63	61	51	49	48	38	37	36	30				
2	85	78	71	66	77	70	65	60	57	53	50	44	42	39	33	31	29	24				
3	78	68	61	55	70	62	55	50	50	45	41	39	36	33	29	27	25	20				
4	71	60	52	46	64	54	48	42	44	39	35	35	31	28	26	23	21	17				
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	15				
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13				
7	55	43	35	29	50	39	32	27	32	27	23	25	21	18	19	16	14	11				
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	17	15	13	10				
9	47	35	28	23	43	32	26	21	26	21	18	21	17	15	16	13	11	9				
10	44	32	25	20	40	30	23	19	24	19	16	19	16	13	15	12	10	8				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4649	4649	4649
5°	4664	4533	4534
10°	4622	4428	4406
15°	4562	4309	4265
20°	4477	4174	4110
25°	4372	4019	3947
30°	4265	3879	3780
35°	4143	3731	3649
40°	4030	3595	3508
45°	3902	3466	3395
50°	3776	3338	3272
55°	3636	3207	3158
60°	3499	3074	3045
65°	3360	2931	2907
70°	3149	2772	2766
75°	2886	2590	2626
80°	2583	2410	2462
85°	2294	2286	2367



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.9	1.1
10°-20°	116.7	3.2
20°-30°	174.6	4.9
30°-40°	208.5	5.8
40°-50°	218.1	6.1
50°-60°	204.7	5.7
60°-70°	171.0	4.8
70°-80°	122.3	3.4
80°-90°	75.2	2.1
90°-100°	204.1	5.7
100°-110°	482.0	13.4
110°-120°	463.6	12.9
120°-130°	364.7	10.1
130°-140°	283.2	7.9
140°-150°	208.3	5.8
150°-160°	144.3	4.0
160°-170°	84.8	2.4
170°-180°	27.6	0.8
0°-30°	332.3	9.2
0°-40°	540.8	15.0
0°-60°	963.6	26.8
0°-90°	1332.1	37.1
90°-120°	1149.7	32.0
90°-150°	2005.8	55.8
90°-180°	2262.0	62.9
0°-180°	3594.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	431	429	432	432	41
15°	412	413	413	417	417	116
25°	372	376	378	384	384	171
35°	320	327	334	340	342	200
45°	262	273	285	293	297	202
55°	200	215	232	244	248	179
65°	138	156	177	191	196	136
75°	75	97	120	135	142	80
85°	23	47	72	87	92	24
90°	7	36	68	85	91	6
95°	25	87	388	160	133	25
105°	71	114	498	858	785	75
115°	120	156	379	813	931	119
125°	166	196	346	624	731	147
135°	193	230	332	507	586	149
145°	220	251	322	408	451	138
155°	249	269	312	354	369	115
165°	272	280	298	316	322	77
175°	284	284	286	290	290	27
180°	285	285	285	285	285	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	433.8	433.6	433.3	433.1	432.8	432.4	431.7	431.0	430.4	429.7	430.4
5°	432.4	432.2	432.0	431.8	431.6	431.2	430.5	429.9	429.3	428.7	429.5
7.5°	428.2	428.3	428.3	428.3	428.4	428.1	427.5	426.9	426.3	425.7	426.7
10°	424.4	424.6	424.9	425.1	425.3	425.2	424.5	424.0	423.5	423.0	424.0
12.5°	419.9	420.2	420.5	420.8	421.1	421.0	420.7	420.3	420.0	419.6	420.6
15°	411.7	412.0	412.3	412.6	412.9	413.1	412.9	412.8	412.7	412.6	413.7
17.5°	401.4	402.0	402.6	403.2	403.8	404.1	404.1	404.0	404.0	404.0	405.0
20°	393.8	394.5	395.1	395.8	396.4	396.8	397.0	397.2	397.4	397.6	398.6
22.5°	386.0	386.6	387.2	387.8	388.5	388.9	389.2	389.5	389.8	390.1	391.3
25°	371.7	372.7	373.9	374.9	375.9	376.6	376.9	377.2	377.5	377.9	379.2
27.5°	357.4	358.6	359.8	361.0	362.2	363.1	363.8	364.5	365.2	365.8	367.0
30°	347.3	348.6	350.0	351.3	352.7	353.8	354.7	355.5	356.3	357.2	358.4
32.5°	336.0	337.5	339.0	340.5	342.0	343.4	344.5	345.6	346.7	347.7	349.1
35°	319.9	321.6	323.4	325.0	326.7	328.2	329.5	330.9	332.2	333.7	335.2
37.5°	303.1	304.9	306.8	308.7	310.5	312.4	314.0	315.7	317.4	319.0	320.8
40°	291.8	293.7	295.5	297.4	299.2	301.2	303.4	305.5	307.5	309.6	311.4
42.5°	279.3	281.7	283.9	286.2	288.5	290.7	293.0	295.1	297.3	299.4	301.4
45°	261.7	264.2	266.6	269.1	271.7	274.2	276.8	279.4	282.1	284.7	286.7
47.5°	243.1	245.9	248.7	251.7	254.5	257.4	260.3	263.4	266.3	269.3	271.6
50°	231.1	234.0	236.9	239.8	242.8	245.8	249.0	252.4	255.6	258.8	261.3
52.5°	218.2	221.4	224.4	227.5	230.7	234.0	237.5	241.2	244.7	248.2	250.7
55°	199.5	203.0	206.4	209.8	213.3	216.9	220.7	224.5	228.2	232.0	234.8
57.5°	181.3	184.8	188.4	192.1	195.6	199.5	203.6	207.7	211.9	216.0	218.8
60°	168.4	172.2	176.0	179.8	183.5	187.5	191.9	196.1	200.4	204.7	207.6
62.5°	156.4	160.3	164.1	167.9	171.8	176.0	180.6	185.1	189.7	194.2	197.0
65°	137.8	142.0	146.0	150.1	154.2	158.5	163.1	167.7	172.3	176.9	180.1
67.5°	119.1	123.4	127.7	132.0	136.3	140.9	145.5	150.3	154.9	159.7	163.0
70°	105.8	110.4	114.8	119.4	123.8	128.7	133.6	138.7	143.7	148.7	152.1
72.5°	93.8	98.4	102.8	107.3	111.8	116.6	121.8	127.0	132.2	137.4	140.9
75°	74.8	79.8	84.6	89.6	94.5	99.6	104.8	110.0	115.2	120.5	123.9
77.5°	58.3	63.2	68.2	73.1	78.1	83.2	88.5	93.7	99.0	104.3	108.0
80°	46.6	51.7	56.9	62.0	67.1	72.4	77.8	83.2	88.7	94.1	97.7
82.5°	36.5	41.6	46.9	52.0	57.3	62.6	68.2	73.6	79.2	84.7	88.3
85°	23.0	28.3	33.5	38.8	43.9	49.4	54.9	60.4	65.9	71.5	75.0
87.5°	12.7	18.2	23.6	29.2	34.6	40.1	45.7	51.5	57.2	62.8	66.2
90°	7.3	13.5	19.8	26.7	32.9	39.3	46.4	53.4	60.5	67.6	70.6
92.5°	12.9	21.0	30.4	39.5	49.0	62.4	82.8	112.8	142.4	138.8	120.5
95°	24.7	30.6	41.0	54.8	73.9	101.0	155.0	246.0	345.6	388.2	326.9
97.5°	38.0	42.3	50.9	63.1	81.5	110.2	161.8	263.5	425.9	572.5	612.7
100°	46.9	50.8	58.2	69.6	86.7	113.3	158.4	248.4	404.8	586.4	702.9
102.5°	56.1	60.2	66.8	77.4	92.9	117.3	158.2	235.3	375.0	554.2	705.2
105°	70.6	74.8	80.8	90.2	103.6	125.0	160.6	224.5	337.8	498.4	666.6
107.5°	85.4	89.3	94.8	103.7	116.1	135.9	167.4	221.1	313.1	448.8	601.7
110°	96.1	99.8	104.5	112.7	124.4	143.6	173.7	221.7	303.0	420.6	561.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	106.2	109.6	114.0	121.9	133.2	151.7	179.8	224.3	296.3	400.9	525.0
115°	120.5	124.0	128.7	135.7	146.7	164.8	190.5	229.3	291.9	379.2	481.3
117.5°	135.0	138.4	142.1	148.1	159.9	176.4	201.6	236.4	289.8	364.9	453.5
120°	144.7	146.9	150.4	156.6	168.1	184.5	208.7	242.1	289.9	357.9	438.6
122.5°	153.5	155.5	158.6	165.1	175.9	193.0	216.5	247.5	291.4	352.7	426.1
125°	165.6	166.7	170.2	176.5	187.4	204.5	227.7	256.1	293.7	345.7	409.5
127.5°	175.1	176.7	180.9	187.2	199.2	216.0	238.0	263.3	296.9	340.8	394.6
130°	181.2	182.8	187.8	194.6	206.6	223.2	244.3	268.2	299.1	337.5	386.2
132.5°	185.3	187.5	193.2	201.5	213.5	229.4	249.6	272.8	300.4	335.2	378.2
135°	193.3	195.5	201.8	210.3	222.3	238.3	257.4	278.1	302.3	331.6	367.5
137.5°	200.9	203.2	209.3	218.4	230.4	245.0	262.9	282.2	303.3	328.1	358.2
140°	205.5	208.4	214.2	223.4	234.9	249.4	266.5	284.1	304.0	326.2	352.5
142.5°	211.1	213.4	219.5	227.7	239.1	252.7	268.9	285.8	304.1	323.8	347.2
145°	219.9	221.6	226.6	235.2	244.9	258.0	273.1	288.6	304.7	321.9	341.2
147.5°	228.4	229.4	234.6	242.1	251.5	262.8	276.5	290.4	304.7	319.8	335.8
150°	234.4	235.0	239.6	247.1	255.2	265.5	278.8	290.8	304.7	317.9	332.3
152.5°	240.4	240.5	245.2	251.8	258.8	268.7	280.1	291.9	303.4	315.7	328.7
155°	249.4	249.4	252.9	258.6	265.0	273.1	282.9	292.1	301.8	311.6	323.2
157.5°	256.5	257.0	259.7	264.9	270.2	276.5	284.3	292.7	299.8	308.0	316.9
160°	262.1	262.1	264.4	269.0	273.1	278.8	285.7	292.7	298.9	305.3	312.8
162.5°	266.2	266.2	268.1	271.8	275.3	280.1	286.2	292.2	297.1	302.6	308.6
165°	272.5	271.9	273.1	275.9	278.2	282.3	286.8	290.8	294.4	298.4	303.0
167.5°	277.2	276.5	277.0	279.2	280.8	283.4	286.7	289.9	291.5	294.2	297.6
170°	279.9	278.8	279.3	281.0	282.3	283.4	286.3	288.6	289.7	291.4	294.4
172.5°	281.8	281.0	281.2	282.5	283.2	283.9	286.3	288.1	288.3	289.1	291.1
175°	284.0	283.4	282.9	284.0	284.0	284.6	285.7	286.8	286.3	286.3	287.4
177.5°	285.0	284.6	284.1	284.6	284.6	284.6	285.0	285.9	285.0	284.6	285.0
180°	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	431.9	431.9	431.9	431.9	431.9	431.9	431.9	431.9
2.5°	431.0	431.7	432.4	432.6	432.6	432.5	432.4	432.3
5°	430.3	431.2	432.0	432.4	432.3	432.1	432.0	431.9
7.5°	427.8	428.8	429.8	430.3	430.2	430.0	429.9	429.8
10°	425.2	426.2	427.2	427.6	427.4	427.2	427.0	426.8
12.5°	421.5	422.5	423.4	423.8	423.6	423.4	423.2	423.0
15°	414.8	415.8	416.9	417.3	417.2	417.1	417.0	416.9
17.5°	405.9	406.9	407.8	408.2	408.0	407.9	407.8	407.6
20°	399.5	400.4	401.4	401.9	402.0	402.1	402.2	402.3
22.5°	392.4	393.6	394.9	395.5	395.4	395.3	395.3	395.2
25°	380.5	381.9	383.2	384.0	384.0	384.0	384.0	384.0
27.5°	368.1	369.3	370.5	371.1	371.2	371.3	371.3	371.4
30°	359.6	360.9	362.1	362.7	362.7	362.7	362.7	362.7
32.5°	350.4	351.7	353.0	353.9	354.2	354.4	354.7	354.9
35°	336.8	338.3	339.9	340.9	341.3	341.7	342.1	342.5
37.5°	322.6	324.4	326.2	327.2	327.5	327.9	328.2	328.5
40°	313.2	315.0	316.7	317.8	318.2	318.7	319.1	319.5
42.5°	303.4	305.3	307.2	308.5	309.1	309.6	310.2	310.8
45°	288.6	290.6	292.7	294.1	294.9	295.7	296.6	297.4
47.5°	273.8	276.1	278.3	279.7	280.3	281.0	281.7	282.4
50°	263.6	266.0	268.4	270.0	270.7	271.5	272.2	273.0
52.5°	253.3	255.7	258.2	259.9	260.8	261.8	262.6	263.5
55°	237.6	240.4	243.3	245.1	245.9	246.8	247.6	248.4
57.5°	221.7	224.5	227.3	229.2	230.2	231.3	232.3	233.2
60°	210.6	213.5	216.4	218.4	219.5	220.8	221.9	223.1
62.5°	200.0	202.9	205.8	207.8	208.9	210.0	211.1	212.2
65°	183.2	186.3	189.5	191.6	192.6	193.7	194.7	195.7
67.5°	166.4	169.9	173.3	175.5	176.3	177.2	178.1	178.9
70°	155.4	158.8	162.1	164.3	165.3	166.3	167.4	168.4
72.5°	144.2	147.6	151.1	153.4	154.4	155.4	156.5	157.5
75°	127.3	130.8	134.3	136.6	137.8	139.2	140.4	141.7
77.5°	111.6	115.2	118.9	121.1	122.1	123.1	124.0	125.0
80°	101.2	104.8	108.4	110.6	111.7	112.7	113.8	114.8
82.5°	91.8	95.3	99.0	101.2	102.3	103.3	104.3	105.4
85°	78.7	82.2	85.7	88.1	89.1	90.2	91.2	92.2
87.5°	70.0	73.6	77.3	79.8	80.8	81.9	83.1	84.0
90°	74.7	78.8	82.9	86.4	86.8	88.5	90.1	90.6
92.5°	105.6	99.1	98.1	97.3	97.1	96.4	98.0	97.9
95°	260.4	196.8	169.6	151.0	141.1	136.9	133.9	132.7
97.5°	566.3	466.6	395.4	328.6	287.1	262.3	247.7	243.8
100°	726.1	682.5	618.1	538.4	481.2	440.2	418.8	420.4
102.5°	777.6	779.0	742.8	692.9	648.6	616.4	598.6	586.4
105°	789.9	850.5	864.3	851.3	825.8	804.8	787.3	785.4
107.5°	741.0	837.4	890.6	913.0	914.3	907.9	902.6	898.3
110°	695.7	804.4	879.7	921.7	938.7	944.1	943.8	943.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	650.4	761.3	845.3	898.9	929.3	944.5	949.8	951.0
115°	590.4	693.2	780.3	844.8	888.8	915.0	927.4	931.1
117.5°	545.9	634.9	713.5	778.8	824.7	854.5	871.9	876.7
120°	522.2	602.4	673.9	733.7	779.9	812.9	827.5	831.6
122.5°	503.1	575.8	642.2	697.8	738.9	768.7	784.7	789.7
125°	477.4	542.4	599.9	647.4	685.0	711.0	726.2	730.9
127.5°	454.4	512.5	564.5	607.8	641.4	663.7	677.4	681.9
130°	440.0	493.8	542.5	582.9	614.1	635.4	648.1	653.4
132.5°	426.5	476.1	521.4	560.0	589.4	610.9	622.3	626.2
135°	408.0	450.8	490.1	524.1	552.9	570.7	581.6	586.1
137.5°	391.1	426.3	460.2	489.8	514.0	532.0	541.3	544.5
140°	381.1	412.1	441.3	467.2	489.6	506.1	515.9	515.8
142.5°	371.4	398.1	423.4	446.0	465.1	480.0	488.8	488.8
145°	360.5	380.4	399.6	417.0	431.8	444.3	449.3	450.9
147.5°	351.6	367.0	382.1	394.3	405.6	414.1	418.9	419.7
150°	345.6	358.8	370.9	382.0	390.8	397.4	401.0	401.2
152.5°	340.5	351.9	362.6	371.7	378.6	384.6	386.7	386.7
155°	333.0	342.1	350.8	357.7	362.8	367.5	368.6	369.2
157.5°	324.9	332.5	339.3	344.7	349.2	352.6	353.6	353.5
160°	320.2	326.6	332.3	336.4	340.4	343.9	343.9	343.3
162.5°	314.8	320.1	325.5	329.0	331.6	334.7	334.7	334.1
165°	307.6	311.0	315.1	317.9	320.2	322.6	321.9	321.9
167.5°	301.3	304.0	306.3	308.4	309.4	311.0	310.4	310.4
170°	297.2	298.9	301.2	302.4	303.0	304.2	303.6	303.6
172.5°	293.6	294.8	296.6	297.3	297.4	298.6	297.6	297.1
175°	288.6	289.1	290.3	290.3	290.3	290.8	290.3	289.7
177.5°	285.5	285.9	286.4	286.4	285.9	286.4	285.5	285.5
180°	284.6	284.6	284.6	284.6	284.6	284.6	284.6	284.6

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