

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: P332098-940

Luminaire Tested: **S123DIW-S340D755U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332098-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIW-S340D755U940-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 755 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3977.6 lumens
Efficiency: N/A
Efficacy: 130.8 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

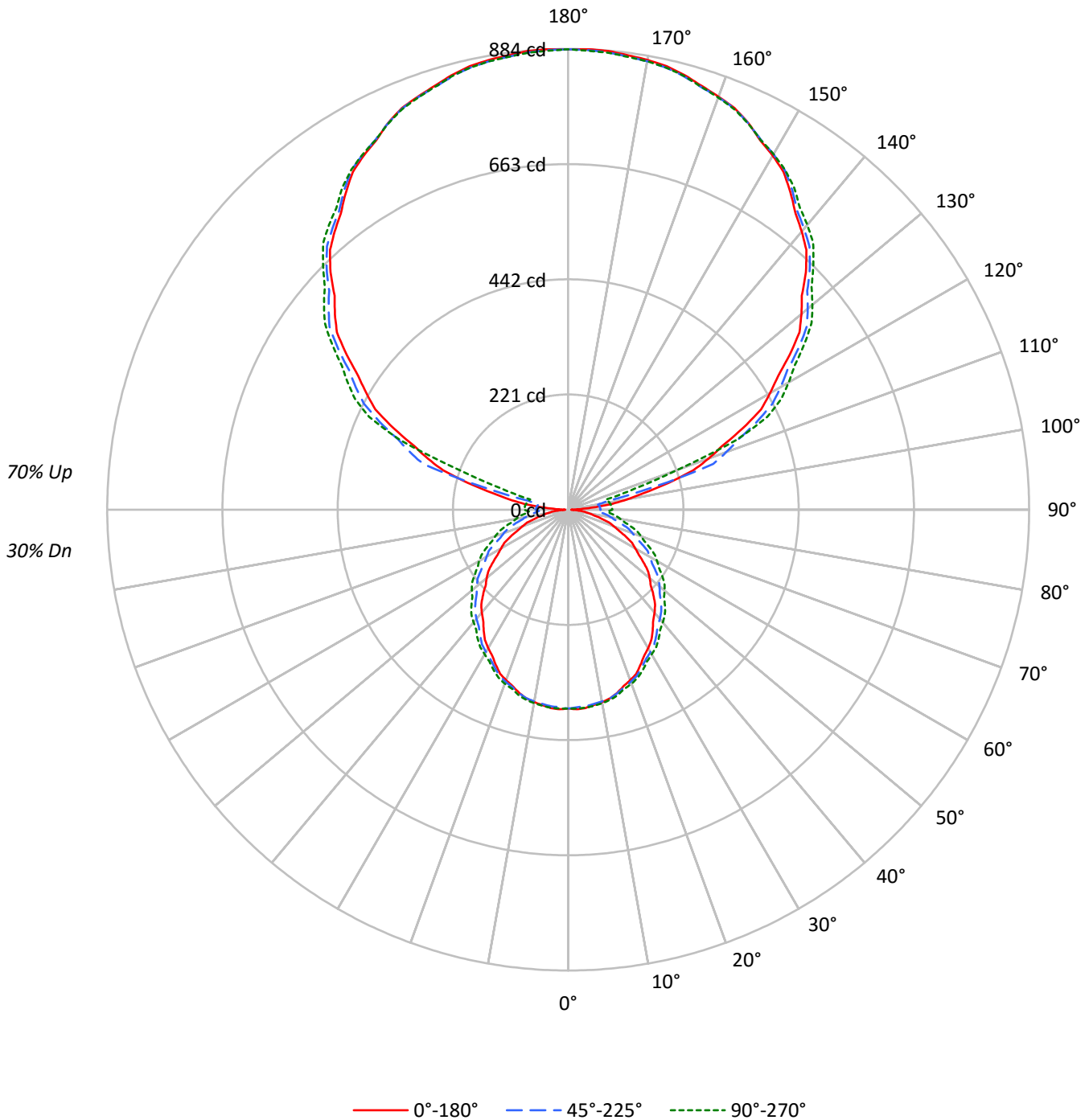
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332098-940

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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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	30				
1	93	88	84	80	83	79	76	73	62	60	58	46	45	43	32	31	30	24				
2	84	77	70	65	75	69	63	59	54	50	47	40	38	36	28	26	25	19				
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	23	21	16				
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	22	20	18	14				
5	64	52	44	38	57	47	40	35	37	32	28	28	25	22	19	17	15	12				
6	59	47	39	33	52	42	35	30	33	28	25	25	22	19	18	15	13	10				
7	54	42	34	29	48	38	31	26	30	25	21	23	19	17	16	14	12	9				
8	50	38	30	25	45	34	28	23	27	22	19	21	17	15	15	12	11	8				
9	47	35	27	22	42	31	25	20	25	20	17	19	16	13	13	11	10	7				
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	12	10	9	7				

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	0.9
10°-20°	103.1	2.6
20°-30°	154.2	3.9
30°-40°	184.1	4.6
40°-50°	192.6	4.8
50°-60°	180.7	4.5
60°-70°	151.0	3.8
70°-80°	108.0	2.7
80°-90°	66.9	1.7
90°-100°	72.5	1.8
100°-110°	182.7	4.6
110°-120°	387.4	9.7
120°-130°	479.4	12.1
130°-140°	505.2	12.7
140°-150°	468.8	11.8
150°-160°	377.3	9.5
160°-170°	243.5	6.1
170°-180°	83.9	2.1
0°-30°	293.4	7.4
0°-40°	477.5	12.0
0°-60°	850.9	21.4
0°-90°	1176.7	29.6
90°-120°	642.7	16.2
90°-150°	2096.2	52.7
90°-180°	2801.0	70.4
0°-180°	3977.6	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°	6	33	63	79	85	6
95°	45	36	61	78	83	53
105°	199	213	175	76	75	211
115°	369	378	399	415	421	364
125°	518	524	538	548	552	463
135°	644	648	655	664	665	496
145°	743	747	749	753	755	465
155°	818	817	818	821	817	377
165°	863	861	860	865	861	244
175°	883	880	881	885	880	84
180°	883	883	883	883	883	



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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°	11.1	16.1	21.0	25.9	30.8	35.8	40.8	45.9	51.0	56.1	59.3
90°	6.1	12.0	18.0	24.0	30.0	36.3	42.9	49.5	56.1	62.7	66.4
92.5°	17.3	21.0	24.6	28.3	31.9	36.8	42.9	49.0	55.0	61.1	65.1
95°	44.6	42.2	39.9	37.5	35.0	37.0	43.1	49.2	55.4	61.4	65.4
97.5°	84.5	85.1	85.7	86.2	86.8	84.0	77.8	71.6	65.5	59.3	63.2
100°	114.7	120.5	126.4	132.2	138.1	131.8	113.3	94.8	76.3	57.8	61.6
102.5°	148.9	153.7	158.5	163.2	168.0	160.1	139.4	118.7	98.0	77.3	76.3
105°	198.9	202.7	206.5	210.4	214.1	211.5	202.3	193.1	184.0	174.9	151.7
107.5°	251.1	254.3	257.4	260.6	263.8	268.3	274.1	280.0	285.8	291.7	275.2
110°	286.0	288.8	291.6	294.4	297.3	301.3	306.7	311.9	317.3	322.5	320.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	319.6	322.0	324.4	326.8	329.2	333.0	338.1	343.3	348.5	353.6	356.1
115°	368.9	370.9	372.8	374.8	376.8	380.1	384.8	389.4	394.0	398.7	402.3
117.5°	417.0	418.7	420.4	422.2	424.0	426.8	430.6	434.4	438.2	441.9	445.3
120°	446.6	448.4	450.1	451.8	453.6	456.3	459.8	463.2	466.7	470.2	473.5
122.5°	477.0	478.3	479.7	481.0	482.2	484.6	488.1	491.6	495.0	498.5	501.3
125°	518.4	519.5	520.7	521.8	523.0	525.2	528.4	531.7	534.9	538.2	540.5
127.5°	558.7	559.8	560.9	562.0	563.0	565.0	567.9	570.9	573.8	576.7	579.0
130°	583.9	585.0	586.1	587.2	588.3	590.0	592.4	594.9	597.3	599.7	602.0
132.5°	607.7	608.9	610.0	611.2	612.3	613.9	615.8	617.8	619.7	621.7	623.9
135°	644.5	645.3	646.1	646.8	647.6	648.9	650.4	652.0	653.6	655.2	657.4
137.5°	675.9	677.0	678.1	679.0	680.1	681.1	682.0	682.9	683.8	684.7	686.8
140°	696.6	697.5	698.4	699.3	700.1	700.9	701.6	702.3	703.0	703.7	705.7
142.5°	716.0	716.8	717.6	718.5	719.3	719.9	720.4	720.9	721.4	721.8	723.5
145°	743.2	744.1	745.0	746.0	746.9	747.5	747.8	748.1	748.4	748.7	749.8
147.5°	768.4	769.0	769.7	770.3	771.1	771.5	771.9	772.1	772.4	772.7	773.2
150°	784.2	784.5	785.0	785.4	785.9	786.2	786.6	786.8	787.1	787.4	787.7
152.5°	798.3	798.5	798.7	798.9	799.2	799.3	799.5	799.7	799.9	800.0	800.5
155°	818.2	818.0	817.7	817.3	817.1	817.0	817.2	817.3	817.4	817.6	818.3
157.5°	833.7	833.7	833.7	833.7	833.7	833.6	833.4	833.2	833.1	832.9	833.8
160°	843.2	843.0	842.9	842.8	842.6	842.5	842.3	842.1	842.0	841.9	842.8
162.5°	852.1	851.8	851.3	851.0	850.6	850.3	850.2	850.1	849.9	849.7	850.8
165°	862.9	862.5	862.0	861.6	861.1	860.9	860.7	860.5	860.4	860.2	861.4
167.5°	871.3	870.7	870.1	869.5	869.0	868.6	868.6	868.6	868.6	868.6	869.8
170°	876.0	875.4	874.9	874.2	873.7	873.3	873.3	873.3	873.3	873.3	874.5
172.5°	879.1	878.4	877.7	877.1	876.4	876.0	876.2	876.3	876.4	876.6	877.7
175°	883.2	882.4	881.7	881.0	880.3	880.0	880.1	880.3	880.5	880.6	881.6
177.5°	884.2	883.7	883.1	882.5	881.9	881.7	881.8	881.9	882.1	882.2	883.1
180°	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2



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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°	62.6	65.8	69.1	71.2	72.2	73.2	74.2	75.2
90°	70.2	73.8	77.6	80.1	81.2	82.5	83.7	84.9
92.5°	69.1	73.1	77.0	79.6	80.6	81.7	82.7	83.7
95°	69.2	73.1	77.0	79.5	80.3	81.2	82.2	83.1
97.5°	67.1	71.1	74.9	77.4	78.5	79.5	80.6	81.7
100°	65.5	69.4	73.2	75.6	76.7	77.8	78.8	79.9
102.5°	75.3	74.3	73.3	73.4	74.5	75.7	77.0	78.1
105°	128.4	105.2	81.9	70.9	72.1	73.1	74.3	75.4
107.5°	258.8	242.3	225.9	208.3	189.7	171.0	152.4	133.8
110°	317.7	315.3	312.9	301.6	281.5	261.4	241.3	221.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	358.5	360.9	363.3	362.7	359.1	355.5	351.9	348.3
115°	406.0	409.7	413.4	415.9	417.1	418.5	419.8	421.2
117.5°	448.7	452.0	455.4	457.5	458.3	459.1	460.0	460.8
120°	476.8	480.1	483.4	485.4	486.0	486.6	487.3	487.9
122.5°	504.2	507.0	510.0	511.8	512.6	513.3	514.1	514.8
125°	542.7	544.9	547.2	548.8	549.7	550.6	551.5	552.5
127.5°	581.3	583.5	585.9	587.2	587.5	587.8	588.2	588.5
130°	604.4	606.7	609.0	610.4	610.6	610.9	611.2	611.4
132.5°	626.2	628.5	630.7	632.0	632.1	632.4	632.6	632.8
135°	659.4	661.6	663.6	664.7	664.8	664.8	664.8	664.8
137.5°	688.9	691.1	693.2	694.5	694.6	694.7	694.9	695.1
140°	707.7	709.7	711.7	712.7	712.9	713.0	713.2	713.4
142.5°	725.2	727.0	728.7	729.6	729.6	729.7	729.7	729.8
145°	750.7	751.8	752.8	753.5	753.9	754.3	754.7	755.0
147.5°	773.7	774.3	774.8	774.8	774.5	774.2	773.8	773.5
150°	788.0	788.3	788.5	788.6	788.4	788.1	787.8	787.6
152.5°	801.0	801.6	802.1	802.1	801.4	800.8	800.1	799.5
155°	819.0	819.7	820.6	820.5	819.6	818.7	817.8	816.9
157.5°	834.7	835.5	836.4	836.3	835.2	834.0	832.9	831.8
160°	843.6	844.5	845.3	845.3	844.3	843.3	842.2	841.2
162.5°	851.8	852.7	853.7	853.7	852.8	851.9	851.0	850.2
165°	862.6	863.7	864.9	865.0	864.0	862.9	861.9	860.9
167.5°	870.9	872.2	873.3	873.3	872.2	870.9	869.8	868.6
170°	875.7	876.9	878.1	878.1	876.9	875.7	874.5	873.3
172.5°	878.9	880.0	881.2	881.1	879.9	878.6	877.3	876.0
175°	882.6	883.7	884.7	884.6	883.4	882.3	881.1	879.9
177.5°	884.0	884.9	885.9	885.7	884.6	883.4	882.3	881.1
180°	883.2	883.2	883.2	883.2	883.2	883.2	883.2	883.2

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