

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: P331379

Luminaire Tested: **SA2XXDIP-C865D330U835-4F0-1E-UDD-D1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331379
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D330U835-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

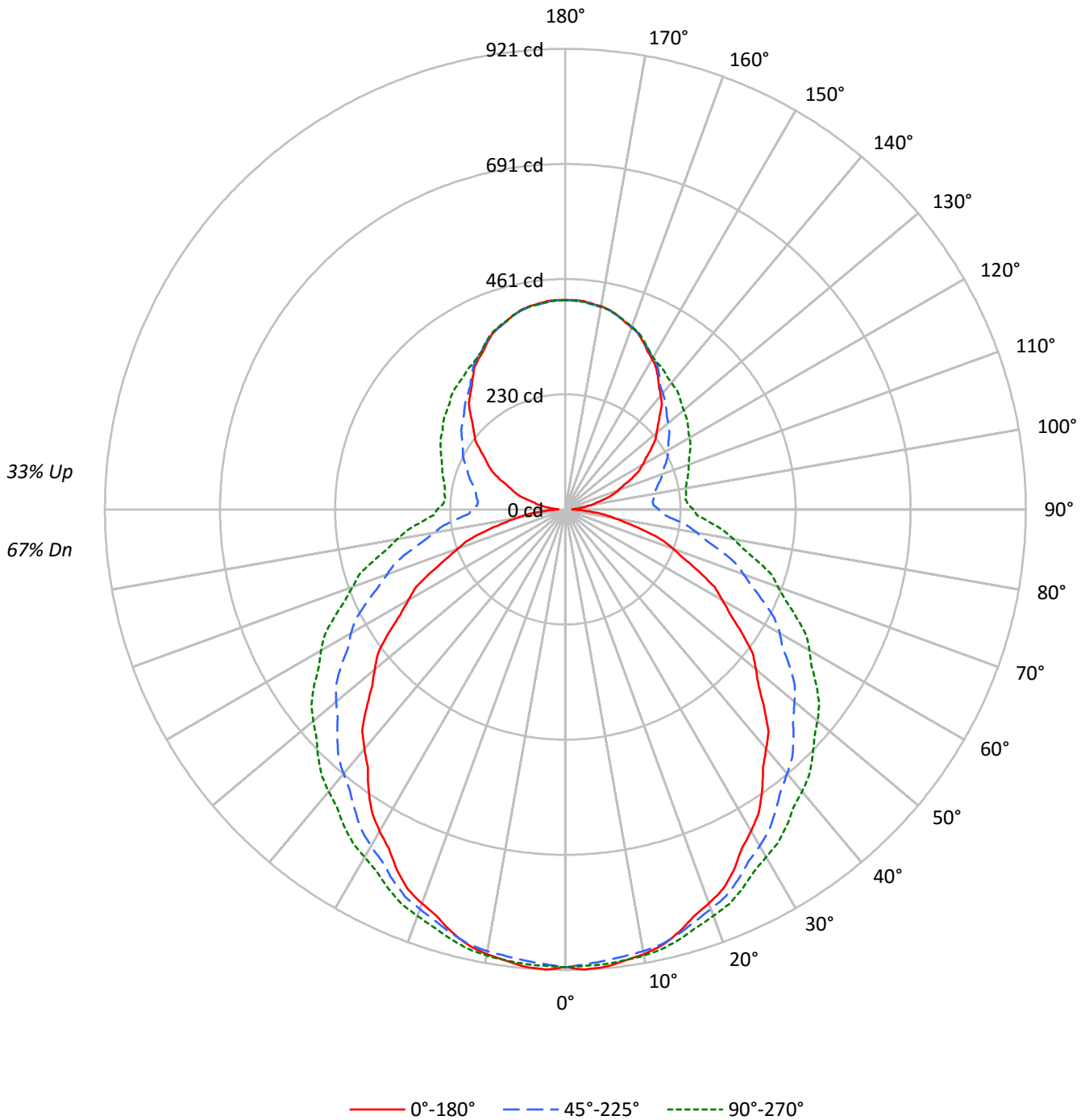
Lumens per Lamp: N/A
Luminaire Lumens: 4665.4 lumens
Efficiency: N/A
Efficacy: 107.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Direct

Input Watts (W): 43.5
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	111	111	111	111	105	105	105	105	93	93	93	81	81	81	71	71	71	67
1	99	94	89	85	93	89	84	81	78	75	72	69	66	64	60	58	56	52
2	90	81	74	68	84	76	70	65	67	62	58	59	55	52	52	49	46	42
3	81	71	62	56	76	67	59	53	59	53	48	52	47	43	45	41	38	35
4	74	62	53	47	69	59	51	45	52	45	40	46	41	36	40	36	32	29
5	68	55	46	40	64	52	44	38	46	40	35	41	35	31	36	31	28	25
6	63	49	41	34	59	47	39	33	42	35	30	37	31	27	32	28	24	22
7	58	45	36	30	54	42	34	29	38	31	26	33	28	24	29	25	21	19
8	54	41	32	26	50	38	31	25	34	28	23	31	25	21	27	23	19	17
9	50	37	29	24	47	35	28	23	31	25	21	28	23	19	25	20	17	15
10	47	34	26	21	44	32	25	20	29	23	19	26	21	17	23	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14783	14783	14783
5°	14855	14230	14176
10°	14762	13809	13655
15°	14558	13364	13106
20°	14300	12888	12577
25°	14048	12428	12096
30°	13689	11955	11614
35°	13327	11498	11275
40°	12947	11110	10935
45°	12584	10762	10645
50°	12196	10448	10360
55°	11790	10109	10067
60°	11292	9759	9760
65°	10774	9347	9393
70°	10189	8905	8999
75°	9446	8470	8637
80°	8274	8029	8266
85°	7152	7646	7981



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.8	1.9
10°-20°	248.8	5.3
20°-30°	377.0	8.1
30°-40°	459.2	9.8
40°-50°	494.0	10.6
50°-60°	479.7	10.3
60°-70°	418.9	9.0
70°-80°	322.5	6.9
80°-90°	218.1	4.7
90°-100°	175.6	3.8
100°-110°	191.3	4.1
110°-120°	212.7	4.6
120°-130°	225.4	4.8
130°-140°	224.7	4.8
140°-150°	206.8	4.4
150°-160°	171.0	3.7
160°-170°	113.4	2.4
170°-180°	39.6	0.8
0°-30°	712.5	15.3
0°-40°	1171.7	25.1
0°-60°	2145.5	46.0
0°-90°	3104.9	66.6
90°-120°	579.6	12.4
90°-150°	1236.5	26.5
90°-180°	1560.0	33.4
0°-180°	4665.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	916	916	916	916	916	
5°	918	914	906	914	913	87
15°	876	878	878	890	889	247
25°	796	806	817	833	837	366
35°	686	709	734	762	772	429
45°	563	599	645	684	699	434
55°	431	480	548	594	613	385
65°	295	360	438	490	510	293
75°	163	238	322	377	397	173
85°	48	130	215	269	289	51
90°	14	95	188	238	256	10
95°	29	96	175	224	241	29
105°	83	124	192	237	254	88
115°	147	166	222	260	275	145
125°	208	214	253	286	299	187
135°	267	272	285	312	322	207
145°	323	325	328	336	341	202
155°	369	370	371	373	372	170
165°	402	401	401	404	402	113
175°	418	417	416	418	416	40
180°	419	419	419	419	419	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	920.9	920.2	919.5	918.8	918.1	916.9	915.2	913.6	911.9	910.3	911.5
5°	918.2	917.4	916.5	915.6	914.7	913.4	911.6	909.8	908.1	906.3	908.1
7.5°	910.0	909.4	908.8	908.3	907.7	906.7	905.3	904.0	902.6	901.3	903.4
10°	903.7	903.1	902.5	901.9	901.3	900.6	899.7	898.8	897.9	897.0	899.4
12.5°	893.0	893.2	893.3	893.4	893.5	893.2	892.6	891.9	891.3	890.6	893.0
15°	875.8	876.4	877.0	877.6	878.1	878.4	878.4	878.4	878.4	878.4	881.1
17.5°	853.5	854.7	856.0	857.2	858.4	859.5	860.5	861.4	862.4	863.3	866.1
20°	838.6	840.1	841.6	843.1	844.5	845.9	847.0	848.2	849.4	850.6	853.8
22.5°	822.7	824.4	826.1	827.8	829.5	831.2	832.9	834.5	836.2	837.8	841.1
25°	796.2	798.2	800.3	802.4	804.4	806.8	809.4	812.1	814.7	817.4	820.9
27.5°	764.3	767.7	771.0	774.4	777.8	781.0	784.1	787.3	790.4	793.5	798.0
30°	743.1	746.9	750.8	754.6	758.4	762.3	766.1	769.9	773.8	777.6	782.3
32.5°	719.7	724.0	728.3	732.7	737.0	741.4	745.9	750.5	755.0	759.5	765.0
35°	686.0	691.0	696.1	701.1	706.1	711.4	717.0	722.6	728.2	733.8	740.3
37.5°	649.4	655.2	661.0	666.7	672.5	679.0	686.3	693.6	700.8	708.1	715.3
40°	625.0	631.5	638.0	644.5	650.9	658.2	666.1	674.1	682.1	690.0	697.7
42.5°	601.6	608.1	614.6	621.1	627.6	635.4	644.5	653.7	662.8	672.0	680.3
45°	562.6	570.6	578.5	586.5	594.5	603.6	613.9	624.3	634.6	644.9	654.0
47.5°	524.1	532.8	541.5	550.2	558.8	569.2	581.3	593.4	605.5	617.6	627.1
50°	497.6	506.7	515.9	525.0	534.2	545.4	558.6	571.9	585.2	598.5	608.5
52.5°	472.1	481.7	491.4	501.0	510.6	522.4	536.4	550.3	564.3	578.3	588.5
55°	431.3	441.9	452.5	463.1	473.7	486.7	502.0	517.4	532.7	548.0	558.6
57.5°	390.9	402.9	414.9	426.8	438.8	452.6	468.2	483.9	499.5	515.1	526.6
60°	362.3	374.9	387.6	400.3	413.0	427.7	444.5	461.3	478.1	495.0	506.2
62.5°	336.8	349.9	363.1	376.2	389.4	404.4	421.2	438.0	454.8	471.6	483.5
65°	294.6	309.0	323.5	337.9	352.4	368.3	385.7	403.1	420.5	437.9	450.0
67.5°	255.8	270.9	286.0	301.1	316.2	332.7	350.5	368.3	386.1	403.9	416.1
70°	228.2	243.6	258.9	274.2	289.6	306.4	324.7	342.9	361.2	379.5	392.2
72.5°	202.8	218.6	234.4	250.2	266.0	283.1	301.7	320.2	338.7	357.2	369.7
75°	163.2	179.7	196.2	212.8	229.3	247.0	265.8	284.7	303.6	322.4	335.1
77.5°	125.0	142.3	159.6	176.8	194.1	212.3	231.5	250.7	269.8	289.0	301.6
80°	99.5	117.5	135.5	153.5	171.5	190.0	209.2	228.4	247.5	266.7	279.1
82.5°	78.3	96.0	113.8	131.5	149.3	167.9	187.3	206.7	226.1	245.5	257.9
85°	47.8	66.1	84.3	102.6	120.9	139.5	158.3	177.2	196.1	215.0	227.4
87.5°	26.1	43.8	61.6	79.4	97.1	115.6	134.8	154.1	173.3	192.5	204.5
90°	13.6	31.7	49.7	67.8	85.8	105.1	125.7	146.3	166.9	187.5	199.2
92.5°	18.5	35.1	51.7	68.3	85.0	102.5	121.1	139.7	158.3	176.8	188.4
95°	29.0	43.6	58.3	72.9	87.6	103.8	121.7	139.5	157.4	175.2	186.4
97.5°	42.9	55.9	68.9	81.9	94.9	110.1	127.4	144.6	161.9	179.2	190.1
100°	54.2	65.7	77.2	88.8	100.3	114.5	131.2	148.0	164.7	181.5	192.4
102.5°	65.0	75.4	85.9	96.4	106.8	120.2	136.6	152.9	169.3	185.6	196.3
105°	82.6	91.4	100.2	109.0	117.7	129.9	145.4	160.9	176.4	191.8	202.3
107.5°	101.7	108.9	116.1	123.2	130.4	141.4	156.1	170.7	185.4	200.1	210.1
110°	113.1	119.4	125.8	132.2	138.5	148.9	163.4	177.8	192.3	206.7	216.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	126.6	132.1	137.5	142.9	148.3	157.9	171.6	185.2	198.9	212.6	221.8
115°	146.6	150.3	154.1	157.8	161.5	169.9	183.0	196.1	209.2	222.4	231.1
117.5°	165.2	168.0	170.7	173.5	176.2	183.5	195.3	207.2	219.0	230.8	239.4
120°	178.5	180.3	182.1	183.9	185.7	192.2	203.4	214.6	225.7	236.9	245.2
122.5°	190.7	191.9	193.1	194.3	195.6	201.5	212.2	222.8	233.4	244.1	251.9
125°	208.3	209.0	209.7	210.4	211.1	216.1	225.3	234.5	243.7	252.9	260.6
127.5°	226.7	227.3	227.9	228.5	229.1	233.1	240.4	247.7	255.1	262.4	269.4
130°	238.3	239.0	239.8	240.5	241.2	244.6	250.6	256.7	262.7	268.7	275.7
132.5°	251.3	251.8	252.4	252.9	253.5	256.1	260.9	265.7	270.6	275.4	281.9
135°	267.4	268.2	269.1	270.0	270.8	272.8	275.9	279.0	282.1	285.2	291.3
137.5°	285.7	286.3	287.0	287.6	288.3	289.3	290.8	292.3	293.8	295.3	300.7
140°	296.7	297.1	297.5	297.9	298.3	299.0	300.0	301.0	302.0	303.0	307.7
142.5°	308.0	308.4	308.8	309.2	309.6	310.0	310.4	310.8	311.2	311.6	315.4
145°	322.9	323.5	324.0	324.6	325.1	325.6	326.1	326.6	327.0	327.5	329.4
147.5°	337.4	338.1	338.7	339.4	340.0	340.5	340.8	341.2	341.5	341.8	342.2
150°	347.3	347.8	348.2	348.7	349.2	349.6	349.9	350.2	350.5	350.8	351.1
152.5°	356.1	356.5	357.0	357.5	357.9	358.4	358.7	359.1	359.5	359.9	360.2
155°	369.2	369.4	369.7	369.9	370.1	370.4	370.6	370.8	371.1	371.3	371.7
157.5°	380.4	380.6	380.7	380.9	381.1	381.2	381.4	381.5	381.6	381.8	382.3
160°	387.2	387.4	387.5	387.7	387.8	388.0	388.0	388.1	388.2	388.3	388.7
162.5°	393.4	393.5	393.5	393.5	393.6	393.6	393.7	393.8	393.9	393.9	394.5
165°	401.7	401.6	401.5	401.5	401.4	401.3	401.3	401.3	401.3	401.3	401.9
167.5°	408.6	408.4	408.2	407.9	407.7	407.6	407.5	407.5	407.5	407.5	408.0
170°	412.3	412.1	411.8	411.6	411.4	411.2	411.1	411.0	411.0	410.9	411.4
172.5°	414.8	414.6	414.4	414.1	413.9	413.7	413.7	413.6	413.5	413.4	414.0
175°	418.0	417.7	417.5	417.2	417.0	416.8	416.7	416.5	416.3	416.2	416.7
177.5°	419.2	419.0	418.8	418.7	418.5	418.3	418.2	418.1	417.9	417.8	418.2
180°	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	912.6	913.8	915.0	915.4	914.9	914.4	913.9	913.5
5°	909.8	911.6	913.4	914.1	913.8	913.5	913.2	912.9
7.5°	905.5	907.6	909.8	910.7	910.4	910.1	909.8	909.5
10°	901.7	904.1	906.5	907.5	907.2	906.9	906.6	906.3
12.5°	895.4	897.7	900.1	901.1	900.8	900.5	900.2	899.9
15°	883.7	886.4	889.1	890.2	889.9	889.6	889.3	889.1
17.5°	868.9	871.6	874.4	875.8	875.8	875.8	875.8	875.8
20°	857.1	860.3	863.5	865.2	865.2	865.2	865.2	865.2
22.5°	844.3	847.6	850.8	852.7	853.1	853.6	854.1	854.6
25°	824.5	828.0	831.6	833.8	834.6	835.5	836.4	837.3
27.5°	802.5	807.0	811.4	814.0	814.7	815.3	816.0	816.6
30°	787.0	791.7	796.5	799.3	800.1	801.0	801.9	802.8
32.5°	770.4	775.8	781.2	784.8	786.3	787.9	789.5	791.1
35°	746.8	753.3	759.8	764.0	766.1	768.2	770.2	772.3
37.5°	722.4	729.6	736.8	741.5	743.7	745.9	748.1	750.3
40°	705.3	713.0	720.7	725.8	728.5	731.1	733.8	736.5
42.5°	688.7	697.1	705.5	711.0	713.6	716.3	718.9	721.6
45°	663.2	672.3	681.5	687.5	690.5	693.4	696.4	699.3
47.5°	636.7	646.2	655.8	662.2	665.4	668.7	671.9	675.2
50°	618.5	628.5	638.6	645.2	648.4	651.7	654.9	658.2
52.5°	598.8	609.1	619.3	626.2	629.7	633.2	636.6	640.1
55°	569.3	579.9	590.5	597.7	601.5	605.4	609.2	613.0
57.5°	538.0	549.4	560.9	568.6	572.4	576.3	580.2	584.1
60°	517.4	528.6	539.8	547.4	551.6	555.7	559.8	564.0
62.5°	495.4	507.3	519.2	527.2	531.0	534.9	538.8	542.7
65°	462.1	474.2	486.3	494.2	498.0	501.9	505.7	509.5
67.5°	428.3	440.5	452.8	460.9	464.9	468.9	472.9	476.9
70°	404.9	417.5	430.2	438.3	441.9	445.4	449.0	452.5
72.5°	382.1	394.5	407.0	415.3	419.6	423.8	428.1	432.3
75°	347.8	360.5	373.2	381.4	385.3	389.1	392.9	396.8
77.5°	314.3	326.9	339.5	347.9	352.0	356.1	360.3	364.4
80°	291.5	303.9	316.3	324.5	328.6	332.8	336.9	341.0
82.5°	270.3	282.6	295.0	303.2	307.1	310.9	314.8	318.7
85°	239.7	252.1	264.5	272.8	276.9	281.0	285.1	289.3
87.5°	216.5	228.5	240.5	248.4	252.2	256.0	259.8	263.5
90°	210.8	222.4	234.1	241.7	245.3	248.9	252.6	256.2
92.5°	200.0	211.6	223.2	230.8	234.3	237.9	241.4	245.0
95°	197.6	208.8	220.0	227.3	230.7	234.1	237.5	240.9
97.5°	201.0	211.9	222.8	230.0	233.5	237.0	240.4	243.9
100°	203.3	214.2	225.1	232.1	235.3	238.5	241.6	244.8
102.5°	207.1	217.8	228.6	235.5	238.7	241.8	245.0	248.2
105°	212.8	223.3	233.8	240.6	243.9	247.1	250.3	253.6
107.5°	220.1	230.0	240.0	246.4	249.3	252.2	255.1	258.0
110°	225.6	235.1	244.5	250.7	253.7	256.7	259.7	262.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	231.1	240.3	249.6	255.7	258.8	261.9	265.0	268.0
115°	239.9	248.7	257.4	263.3	266.3	269.3	272.3	275.3
117.5°	247.9	256.4	265.0	270.6	273.4	276.2	279.0	281.7
120°	253.4	261.7	269.9	275.6	278.6	281.6	284.6	287.6
122.5°	259.8	267.6	275.4	280.6	283.2	285.8	288.4	291.0
125°	268.3	276.0	283.8	288.9	291.5	294.1	296.6	299.2
127.5°	276.4	283.5	290.5	295.2	297.5	299.9	302.2	304.6
130°	282.6	289.5	296.4	300.9	302.9	305.0	307.0	309.1
132.5°	288.4	294.8	301.3	305.6	307.8	309.9	312.0	314.1
135°	297.5	303.6	309.7	313.8	315.9	318.0	320.2	322.3
137.5°	306.1	311.4	316.8	320.3	322.0	323.7	325.4	327.1
140°	312.4	317.1	321.8	324.9	326.4	327.8	329.3	330.7
142.5°	319.3	323.1	326.9	329.5	330.7	331.9	333.1	334.3
145°	331.2	333.1	334.9	336.4	337.6	338.7	339.9	341.0
147.5°	342.6	343.0	343.4	343.8	344.2	344.6	345.1	345.5
150°	351.3	351.5	351.8	351.8	351.5	351.3	351.1	350.8
152.5°	360.5	360.8	361.1	361.1	360.8	360.5	360.2	359.9
155°	372.1	372.5	372.9	373.0	372.7	372.5	372.3	372.0
157.5°	382.8	383.4	383.9	384.0	383.6	383.2	382.9	382.5
160°	389.2	389.7	390.2	390.2	389.9	389.6	389.3	389.0
162.5°	395.0	395.5	396.1	396.1	395.8	395.4	395.0	394.6
165°	402.4	403.0	403.5	403.6	403.2	402.8	402.4	402.1
167.5°	408.6	409.1	409.7	409.8	409.4	408.9	408.5	408.1
170°	412.0	412.5	413.1	413.1	412.7	412.2	411.7	411.2
172.5°	414.5	415.1	415.6	415.7	415.2	414.7	414.3	413.8
175°	417.3	417.8	418.4	418.4	418.0	417.5	417.0	416.5
177.5°	418.6	418.9	419.3	419.3	418.9	418.6	418.2	417.8
180°	418.7	418.7	418.7	418.7	418.7	418.7	418.7	418.7

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