

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: P331557-830

Luminaire Tested: **S122DIW-S865D435U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331557-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S865D435U830-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 435 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

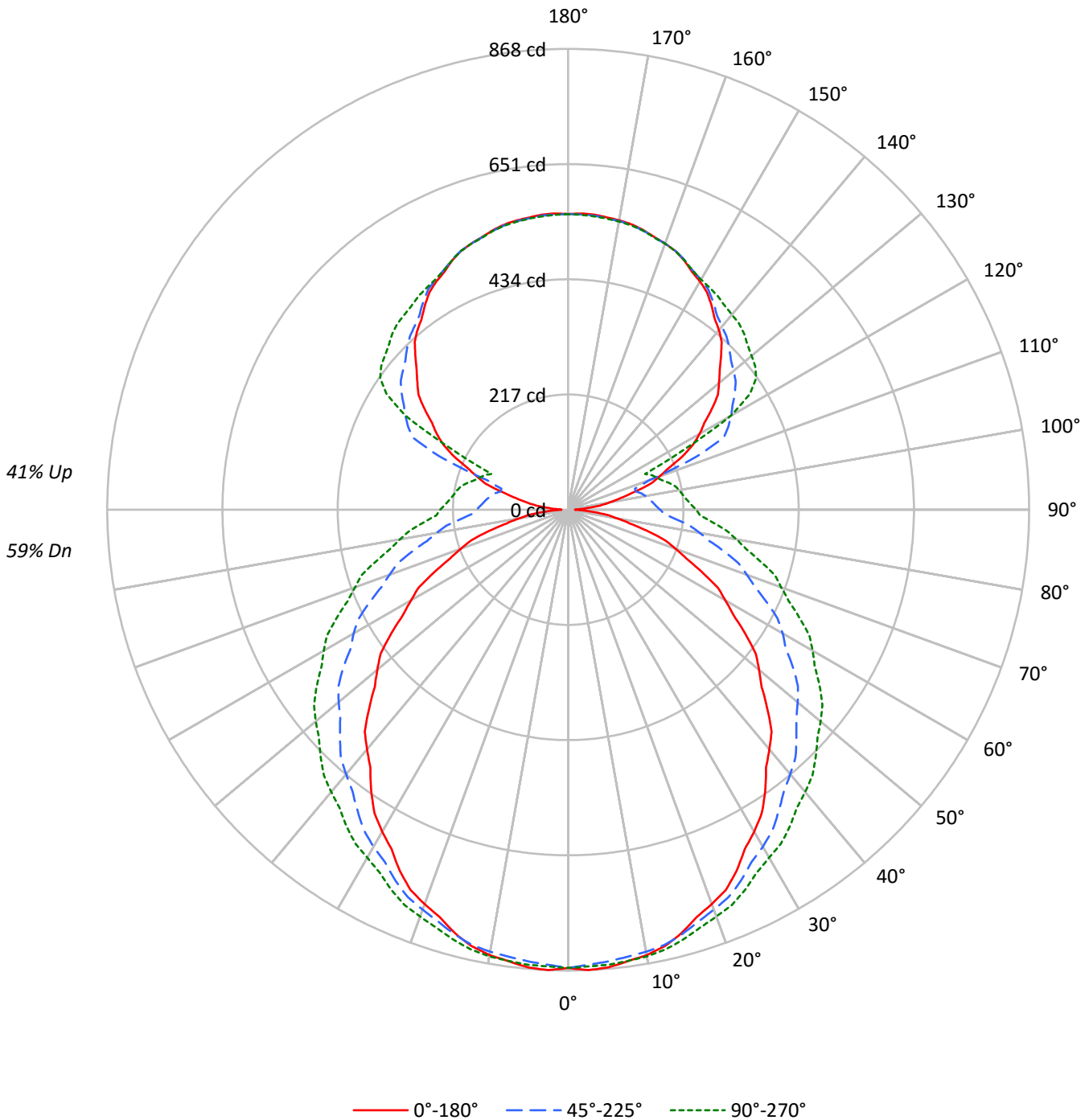
Lumens per Lamp: N/A  
Luminaire Lumens: 4925.3 lumens  
Efficiency: N/A  
Efficacy: 106.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 46.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	59
1	98	93	88	84	91	87	83	79	75	72	69	64	62	60	54	53	51	46
2	89	80	73	67	82	75	69	63	65	60	56	55	52	49	47	44	42	37
3	80	70	62	55	75	65	58	52	57	51	46	48	44	40	41	38	35	31
4	73	62	53	46	68	58	50	44	50	44	39	43	38	34	36	33	29	26
5	67	55	46	39	62	51	43	37	44	38	33	38	33	29	32	29	25	22
6	62	49	40	34	57	46	38	32	40	34	29	34	29	25	29	25	22	19
7	57	44	36	30	53	41	34	28	36	30	25	31	26	22	27	23	20	17
8	53	40	32	26	49	38	30	25	33	27	22	29	24	20	25	20	17	15
9	49	36	29	23	46	34	27	22	30	24	20	26	21	18	23	19	16	13
10	46	33	26	21	43	31	25	20	28	22	18	24	19	16	21	17	14	12

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	13934	13934	13934
5°	14000	13412	13361
10°	13914	13017	12870
15°	13722	12596	12353
20°	13478	12147	11855
25°	13241	11713	11401
30°	12903	11268	10947
35°	12562	10837	10627
40°	12203	10472	10307
45°	11862	10143	10033
50°	11495	9847	9765
55°	11112	9528	9489
60°	10644	9199	9199
65°	10156	8809	8853
70°	9605	8393	8482
75°	8902	7984	8141
80°	7800	7568	7791
85°	6748	7205	7523



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.8	1.7
10°-20°	234.5	4.8
20°-30°	355.3	7.2
30°-40°	432.8	8.8
40°-50°	465.6	9.5
50°-60°	452.2	9.2
60°-70°	394.8	8.0
70°-80°	304.0	6.2
80°-90°	205.4	4.2
90°-100°	159.1	3.2
100°-110°	170.7	3.5
110°-120°	249.8	5.1
120°-130°	338.3	6.9
130°-140°	335.5	6.8
140°-150°	299.8	6.1
150°-160°	238.8	4.8
160°-170°	153.9	3.1
170°-180°	53.0	1.1
0°-30°	671.6	13.6
0°-40°	1104.4	22.4
0°-60°	2022.2	41.1
0°-90°	2926.3	59.4
90°-120°	579.7	11.8
90°-150°	1553.3	31.5
90°-180°	1999.0	40.6
0°-180°	4925.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	865	862	854	861	860	82
15°	826	828	828	839	838	232
25°	750	759	770	785	789	345
35°	647	668	692	718	728	404
45°	530	565	608	645	659	409
55°	406	453	516	560	578	363
65°	278	340	413	462	480	276
75°	154	224	304	356	374	163
85°	45	123	203	253	273	48
90°	13	90	173	223	241	10
95°	36	83	160	207	224	40
105°	129	172	132	178	196	138
115°	237	260	324	182	159	233
125°	330	338	383	418	432	295
135°	406	414	429	458	469	314
145°	470	470	476	487	491	294
155°	518	514	519	521	518	238
165°	545	543	544	547	544	154
175°	558	555	556	558	555	53
180°	557	557	557	557	557	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	868.0	867.3	866.7	866.0	865.3	864.2	862.6	861.1	859.5	858.0	859.1
5°	865.4	864.7	863.8	863.0	862.1	860.9	859.2	857.5	855.9	854.2	855.9
7.5°	857.7	857.1	856.6	856.1	855.5	854.6	853.3	852.1	850.7	849.5	851.5
10°	851.8	851.2	850.6	850.1	849.5	848.9	848.0	847.2	846.3	845.5	847.7
12.5°	841.7	841.9	842.0	842.1	842.2	841.9	841.3	840.7	840.1	839.4	841.7
15°	825.5	826.0	826.6	827.2	827.6	827.9	827.9	827.9	827.9	827.9	830.5
17.5°	804.5	805.6	806.8	807.9	809.1	810.1	811.1	811.9	812.8	813.7	816.3
20°	790.4	791.8	793.2	794.7	796.0	797.3	798.3	799.5	800.6	801.7	804.7
22.5°	775.4	777.0	778.6	780.2	781.8	783.4	785.0	786.6	788.2	789.7	792.8
25°	750.5	752.3	754.3	756.3	758.2	760.4	762.9	765.4	767.9	770.4	773.7
27.5°	720.4	723.6	726.7	729.9	733.1	736.1	739.0	742.1	745.0	747.9	752.1
30°	700.4	704.0	707.7	711.2	714.8	718.5	722.1	725.7	729.3	732.9	737.4
32.5°	678.3	682.4	686.5	690.6	694.7	698.8	703.0	707.4	711.6	715.9	721.0
35°	646.6	651.3	656.1	660.8	665.5	670.5	675.8	681.1	686.4	691.6	697.8
37.5°	612.1	617.6	623.0	628.4	633.9	640.0	646.9	653.7	660.5	667.4	674.2
40°	589.1	595.2	601.3	607.5	613.5	620.4	627.8	635.4	642.9	650.4	657.6
42.5°	567.0	573.2	579.3	585.4	591.5	598.9	607.5	616.1	624.7	633.4	641.2
45°	530.3	537.8	545.3	552.8	560.3	568.9	578.6	588.4	598.1	607.8	616.4
47.5°	494.0	502.2	510.4	518.6	526.7	536.5	547.9	559.3	570.7	582.1	591.1
50°	469.0	477.6	486.3	494.8	503.5	514.1	526.5	539.0	551.6	564.1	573.5
52.5°	445.0	454.0	463.2	472.2	481.3	492.4	505.6	518.7	531.9	545.1	554.7
55°	406.5	416.5	426.5	436.5	446.5	458.7	473.2	487.7	502.1	516.5	526.5
57.5°	368.4	379.8	391.1	402.3	413.6	426.6	441.3	456.1	470.8	485.5	496.3
60°	341.5	353.4	365.3	377.3	389.3	403.1	419.0	434.8	450.6	466.6	477.1
62.5°	317.4	329.8	342.2	354.6	367.0	381.2	397.0	412.8	428.7	444.5	455.7
65°	277.7	291.2	304.9	318.5	332.2	347.1	363.5	379.9	396.3	412.7	424.1
67.5°	241.1	255.3	269.6	283.8	298.0	313.6	330.4	347.1	363.9	380.7	392.2
70°	215.1	229.6	244.0	258.4	273.0	288.8	306.0	323.2	340.4	357.7	369.7
72.5°	191.1	206.0	220.9	235.8	250.7	266.8	284.4	301.8	319.2	336.7	348.5
75°	153.8	169.4	184.9	200.6	216.1	232.8	250.5	268.3	286.2	303.9	315.8
77.5°	117.8	134.1	150.4	166.6	182.9	200.1	218.2	236.3	254.3	272.4	284.3
80°	93.8	110.7	127.7	144.7	161.6	179.1	197.2	215.3	233.3	251.4	263.1
82.5°	73.8	90.5	107.3	123.9	140.7	158.3	176.5	194.8	213.1	231.4	243.1
85°	45.1	62.3	79.5	96.7	114.0	131.5	149.2	167.0	184.8	202.6	214.3
87.5°	24.6	41.4	58.2	74.8	91.6	109.0	127.0	144.9	162.8	180.7	192.2
90°	12.9	30.0	47.1	64.2	81.3	99.2	117.6	136.1	154.7	173.1	184.7
92.5°	19.6	34.6	49.5	64.4	79.4	95.5	113.0	130.4	148.0	165.4	176.5
95°	36.2	46.3	56.4	66.5	76.6	90.3	107.6	125.0	142.2	159.6	170.5
97.5°	60.7	64.0	67.3	70.6	73.9	84.3	101.7	119.2	136.7	154.1	164.8
100°	80.0	78.0	76.1	74.1	72.1	79.6	96.8	113.9	130.9	148.1	159.0
102.5°	100.3	107.2	114.0	120.7	127.5	132.1	134.5	136.9	139.3	141.7	152.7
105°	128.8	139.5	150.2	161.0	171.7	172.1	162.1	152.1	142.1	132.1	142.9
107.5°	162.6	171.2	179.7	188.4	197.0	193.6	178.1	162.7	147.1	131.7	140.1
110°	183.5	190.9	198.3	205.8	213.2	210.8	198.6	186.3	174.1	161.8	161.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.1	210.5	216.8	223.1	229.4	235.9	242.4	249.0	255.5	262.1	238.4
115°	236.7	241.2	245.8	250.3	255.0	264.7	279.4	294.1	308.9	323.6	290.5
117.5°	264.5	268.2	271.9	275.6	279.3	287.7	300.8	313.9	327.0	340.1	338.3
120°	285.8	288.2	290.7	293.1	295.6	303.1	315.8	328.7	341.4	354.1	363.0
122.5°	303.8	305.7	307.6	309.3	311.2	318.3	330.5	342.7	354.9	367.1	375.3
125°	330.0	331.2	332.3	333.5	334.7	340.5	351.2	361.7	372.3	383.0	391.1
127.5°	355.0	355.9	356.9	358.0	358.9	363.7	372.1	380.6	389.0	397.5	405.3
130°	370.7	371.8	373.1	374.2	375.3	379.3	386.2	392.9	399.8	406.6	414.2
132.5°	386.8	387.8	388.7	389.6	390.6	393.8	399.3	404.7	410.3	415.8	423.0
135°	406.5	407.9	409.3	410.9	412.3	414.7	418.4	422.0	425.6	429.1	435.8
137.5°	427.7	428.7	429.6	430.6	431.5	433.0	435.2	437.3	439.4	441.6	447.6
140°	441.6	442.1	442.4	442.9	443.4	444.3	445.8	447.4	448.9	450.4	455.7
142.5°	453.2	453.6	453.9	454.3	454.7	455.4	456.7	457.9	459.2	460.4	464.7
145°	470.1	470.0	470.0	469.9	469.8	470.5	472.0	473.5	475.0	476.5	478.9
147.5°	486.0	485.7	485.3	485.0	484.7	485.2	486.7	488.2	489.7	491.3	491.9
150°	496.3	495.7	495.0	494.5	493.8	494.2	495.7	497.1	498.5	499.9	500.5
152.5°	505.0	504.4	503.6	502.9	502.2	502.6	503.9	505.3	506.6	508.0	508.5
155°	517.6	516.9	516.0	515.3	514.4	514.6	515.7	516.7	517.8	518.9	519.4
157.5°	527.5	526.9	526.2	525.6	524.9	524.9	525.7	526.4	527.2	527.9	528.5
160°	533.4	532.8	532.3	531.8	531.2	531.2	531.8	532.3	532.8	533.4	534.0
162.5°	538.6	538.0	537.4	537.0	536.4	536.4	536.8	537.2	537.7	538.2	538.9
165°	545.4	545.0	544.4	543.8	543.3	543.2	543.5	543.8	544.0	544.2	544.9
167.5°	550.6	550.1	549.6	549.0	548.5	548.4	548.6	548.8	549.1	549.3	550.0
170°	553.6	553.0	552.4	552.0	551.4	551.2	551.4	551.6	551.8	552.0	552.5
172.5°	555.4	555.0	554.4	553.8	553.3	553.2	553.3	553.5	553.6	553.8	554.5
175°	558.0	557.3	556.7	556.1	555.4	555.3	555.4	555.6	555.7	555.9	556.6
177.5°	558.4	557.9	557.3	556.9	556.4	556.1	556.2	556.3	556.4	556.4	556.9
180°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	860.2	861.3	862.4	862.8	862.3	861.9	861.4	861.0
5°	857.5	859.2	860.9	861.6	861.3	861.0	860.7	860.4
7.5°	853.5	855.5	857.5	858.4	858.1	857.8	857.5	857.2
10°	849.9	852.2	854.4	855.4	855.1	854.8	854.5	854.2
12.5°	844.0	846.1	848.4	849.3	849.0	848.8	848.5	848.2
15°	832.9	835.5	838.0	839.1	838.8	838.5	838.2	838.0
17.5°	819.0	821.5	824.2	825.5	825.5	825.5	825.5	825.5
20°	807.9	810.9	813.9	815.5	815.5	815.5	815.5	815.5
22.5°	795.8	798.9	801.9	803.7	804.1	804.6	805.0	805.5
25°	777.1	780.4	783.8	785.9	786.6	787.5	788.3	789.2
27.5°	756.4	760.6	764.8	767.2	767.9	768.5	769.1	769.7
30°	741.8	746.2	750.7	753.4	754.1	755.0	755.8	756.7
32.5°	726.1	731.2	736.3	739.7	741.1	742.6	744.1	745.6
35°	703.9	710.0	716.1	720.1	722.1	724.1	725.9	727.9
37.5°	680.9	687.7	694.5	698.9	701.0	703.0	705.1	707.2
40°	664.8	672.0	679.3	684.1	686.6	689.1	691.6	694.2
42.5°	649.1	657.0	665.0	670.1	672.6	675.1	677.6	680.1
45°	625.1	633.7	642.3	648.0	650.8	653.6	656.4	659.1
47.5°	600.1	609.1	618.1	624.2	627.2	630.3	633.3	636.4
50°	583.0	592.4	601.9	608.1	611.1	614.3	617.3	620.4
52.5°	564.4	574.1	583.7	590.2	593.5	596.8	600.0	603.3
55°	536.6	546.6	556.6	563.4	566.9	570.6	574.2	577.8
57.5°	507.1	517.8	528.7	535.9	539.5	543.2	546.9	550.5
60°	487.7	498.2	508.8	515.9	519.9	523.8	527.6	531.6
62.5°	466.9	478.2	489.4	496.9	500.5	504.2	507.8	511.5
65°	435.5	447.0	458.4	465.8	469.4	473.1	476.6	480.2
67.5°	403.7	415.2	426.8	434.4	438.2	442.0	445.7	449.5
70°	381.6	393.5	405.5	413.1	416.5	419.8	423.2	426.5
72.5°	360.1	371.8	383.6	391.4	395.5	399.4	403.5	407.5
75°	327.8	339.8	351.8	359.5	363.2	366.7	370.3	374.0
77.5°	296.2	308.1	320.0	327.9	331.8	335.6	339.6	343.5
80°	274.8	286.4	298.1	305.9	309.7	313.7	317.5	321.4
82.5°	254.8	266.4	278.1	285.8	289.5	293.0	296.7	300.4
85°	225.9	237.6	249.3	257.1	261.0	264.9	268.7	272.7
87.5°	203.6	215.0	226.4	233.9	237.5	241.1	244.7	248.4
90°	196.2	207.8	219.4	227.0	230.5	233.9	237.5	241.0
92.5°	187.7	198.8	209.9	217.3	220.6	224.1	227.5	231.0
95°	181.5	192.6	203.6	210.8	214.0	217.2	220.5	223.7
97.5°	175.4	186.1	196.7	203.7	207.1	210.5	213.9	217.3
100°	170.0	181.1	192.0	199.2	202.4	205.7	208.9	212.1
102.5°	163.6	174.7	185.7	192.7	196.1	199.4	202.7	206.0
105°	153.5	164.3	175.0	182.0	185.5	188.9	192.3	195.7
107.5°	148.4	156.7	165.0	170.9	174.4	177.8	181.2	184.5
110°	161.6	161.6	161.6	163.2	166.6	170.0	173.5	176.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	214.6	190.9	167.0	156.8	160.2	163.5	166.9	170.2
115°	257.4	224.2	191.1	172.9	169.6	166.2	162.8	159.4
117.5°	336.5	334.7	332.9	322.8	304.4	286.2	267.8	249.4
120°	371.8	380.7	389.5	389.5	380.4	371.4	362.3	353.3
122.5°	383.5	391.7	399.9	404.2	404.4	404.6	404.9	405.2
125°	399.2	407.4	415.5	420.9	423.7	426.4	429.2	432.0
127.5°	413.1	420.8	428.7	433.9	436.3	438.8	441.3	443.8
130°	421.9	429.6	437.2	442.1	444.2	446.4	448.6	450.6
132.5°	430.4	437.6	444.9	449.6	451.8	453.9	456.0	458.2
135°	442.5	449.3	456.0	460.4	462.5	464.5	466.6	468.6
137.5°	453.6	459.6	465.5	469.4	470.9	472.5	474.1	475.7
140°	461.0	466.3	471.5	474.8	476.0	477.2	478.3	479.6
142.5°	469.0	473.3	477.6	480.2	481.2	482.2	483.2	484.2
145°	481.2	483.4	485.8	487.4	488.3	489.3	490.2	491.2
147.5°	492.7	493.3	494.0	494.5	494.7	495.0	495.4	495.7
150°	501.1	501.5	502.1	502.2	501.7	501.2	500.8	500.4
152.5°	509.1	509.6	510.2	510.1	509.5	509.0	508.3	507.7
155°	520.0	520.5	521.0	520.9	520.2	519.5	518.8	518.1
157.5°	529.1	529.7	530.4	530.3	529.6	528.9	528.2	527.5
160°	534.4	535.0	535.6	535.5	534.9	534.2	533.6	533.0
162.5°	539.4	540.1	540.6	540.5	539.8	539.0	538.3	537.5
165°	545.5	546.1	546.8	546.8	546.1	545.5	544.9	544.2
167.5°	550.6	551.2	551.9	551.8	550.9	550.2	549.3	548.6
170°	553.2	553.8	554.4	554.3	553.6	552.7	552.0	551.1
172.5°	555.1	555.7	556.4	556.3	555.4	554.7	553.8	553.1
175°	557.2	557.8	558.5	558.4	557.4	556.6	555.6	554.8
177.5°	557.4	557.9	558.5	558.4	557.7	557.0	556.4	555.8
180°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8

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