

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: P331557-940

Luminaire Tested: **S122DIW-S865D435U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331557-940  
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-S865D435U940-4F0-1E-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: 4659.7 lumens  
Efficiency: N/A  
Efficacy: 100.9 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

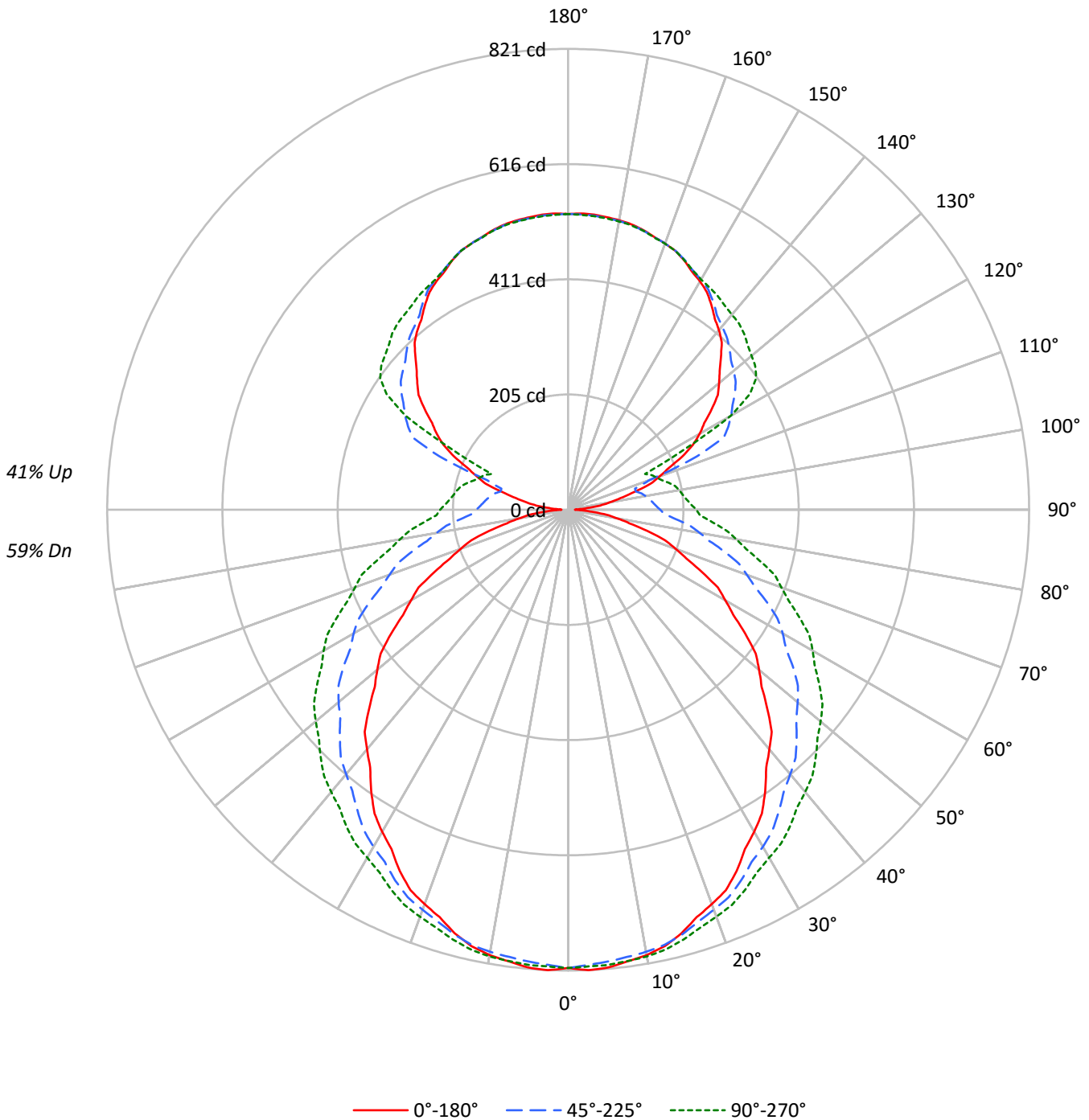
Input Watts (W): 46.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	13183	13183	13183
5°	13247	12690	12640
10°	13163	12315	12177
15°	12982	11917	11686
20°	12752	11492	11215
25°	12527	11082	10786
30°	12206	10661	10357
35°	11884	10253	10054
40°	11544	9907	9750
45°	11222	9597	9493
50°	10875	9317	9238
55°	10513	9015	8977
60°	10070	8702	8703
65°	9607	8336	8376
70°	9087	7940	8025
75°	8422	7553	7701
80°	7376	7159	7372
85°	6374	6817	7118



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.4	1.7
10°-20°	221.8	4.8
20°-30°	336.2	7.2
30°-40°	409.5	8.8
40°-50°	440.5	9.5
50°-60°	427.8	9.2
60°-70°	373.5	8.0
70°-80°	287.6	6.2
80°-90°	194.3	4.2
90°-100°	150.5	3.2
100°-110°	161.5	3.5
110°-120°	236.3	5.1
120°-130°	320.1	6.9
130°-140°	317.4	6.8
140°-150°	283.6	6.1
150°-160°	225.9	4.8
160°-170°	145.6	3.1
170°-180°	50.1	1.1
0°-30°	635.4	13.6
0°-40°	1044.8	22.4
0°-60°	1913.1	41.1
0°-90°	2768.5	59.4
90°-120°	548.4	11.8
90°-150°	1469.5	31.5
90°-180°	1891.0	40.6
0°-180°	4659.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	819	815	808	815	814	78
15°	781	783	783	793	793	220
25°	710	718	729	742	747	326
35°	612	632	654	679	689	382
45°	502	534	575	610	624	387
55°	385	428	489	530	547	344
65°	263	321	390	437	454	261
75°	146	212	288	336	354	154
85°	43	116	192	240	258	46
90°	12	85	164	211	228	9
95°	34	79	151	196	212	38
105°	122	163	125	169	185	131
115°	224	246	306	172	151	220
125°	312	319	362	396	409	279
135°	385	391	406	434	443	297
145°	445	445	451	460	465	278
155°	490	487	491	493	490	226
165°	516	514	515	517	515	146
175°	528	525	526	528	525	50
180°	527	527	527	527	527	



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CATALOG NUMBER: S122DIW-S865D435U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	821.2	820.6	819.9	819.3	818.7	817.6	816.1	814.7	813.2	811.7	812.8
5°	818.8	818.1	817.3	816.5	815.6	814.5	812.9	811.3	809.8	808.2	809.8
7.5°	811.5	810.9	810.4	809.9	809.4	808.5	807.3	806.1	804.9	803.7	805.6
10°	805.8	805.3	804.8	804.2	803.7	803.1	802.3	801.5	800.7	799.9	802.0
12.5°	796.3	796.5	796.6	796.7	796.7	796.5	795.9	795.3	794.8	794.2	796.3
15°	781.0	781.5	782.0	782.6	783.0	783.3	783.3	783.3	783.3	783.3	785.7
17.5°	761.1	762.1	763.3	764.4	765.4	766.4	767.3	768.1	769.0	769.8	772.3
20°	747.8	749.1	750.5	751.8	753.0	754.3	755.3	756.3	757.4	758.5	761.3
22.5°	733.6	735.1	736.6	738.2	739.7	741.2	742.7	744.1	745.6	747.1	750.0
25°	710.0	711.8	713.6	715.5	717.3	719.4	721.8	724.2	726.5	728.9	732.0
27.5°	681.5	684.6	687.5	690.5	693.6	696.4	699.2	702.0	704.8	707.6	711.6
30°	662.6	666.0	669.5	672.9	676.3	679.8	683.1	686.5	690.0	693.4	697.6
32.5°	641.8	645.6	649.4	653.4	657.2	661.1	665.1	669.2	673.2	677.3	682.2
35°	611.7	616.2	620.7	625.2	629.6	634.4	639.4	644.4	649.3	654.3	660.1
37.5°	579.1	584.2	589.4	594.5	599.7	605.5	612.0	618.5	624.9	631.4	637.8
40°	557.3	563.1	568.9	574.7	580.4	586.9	594.0	601.1	608.2	615.3	622.1
42.5°	536.5	542.2	548.0	553.8	559.6	566.6	574.7	582.9	591.0	599.2	606.6
45°	501.7	508.8	515.9	523.0	530.1	538.2	547.4	556.7	565.9	575.1	583.2
47.5°	467.3	475.1	482.9	490.6	498.3	507.6	518.4	529.1	539.9	550.7	559.2
50°	443.7	451.8	460.0	468.1	476.4	486.3	498.1	510.0	521.8	533.7	542.6
52.5°	421.0	429.5	438.2	446.7	455.3	465.8	478.3	490.7	503.2	515.7	524.8
55°	384.6	394.0	403.5	413.0	422.4	434.0	447.6	461.4	475.0	488.7	498.1
57.5°	348.6	359.3	370.0	380.6	391.3	403.6	417.5	431.5	445.4	459.3	469.6
60°	323.1	334.3	345.6	357.0	368.3	381.4	396.4	411.3	426.3	441.4	451.4
62.5°	300.3	312.0	323.8	335.5	347.2	360.6	375.6	390.6	405.6	420.5	431.1
65°	262.7	275.5	288.5	301.3	314.2	328.4	343.9	359.4	375.0	390.5	401.3
67.5°	228.1	241.6	255.0	268.5	282.0	296.7	312.5	328.4	344.3	360.2	371.0
70°	203.5	217.2	230.9	244.5	258.2	273.2	289.5	305.8	322.1	338.4	349.7
72.5°	180.8	194.9	209.0	223.1	237.2	252.4	269.0	285.5	302.0	318.5	329.7
75°	145.5	160.2	175.0	189.8	204.5	220.3	237.0	253.9	270.7	287.5	298.8
77.5°	111.5	126.9	142.3	157.7	173.1	189.3	206.4	223.6	240.6	257.7	268.9
80°	88.7	104.8	120.8	136.9	152.9	169.4	186.5	203.7	220.7	237.8	248.9
82.5°	69.8	85.6	101.5	117.3	133.1	149.7	167.0	184.3	201.6	218.9	230.0
85°	42.6	58.9	75.2	91.5	107.8	124.4	141.2	158.0	174.9	191.7	202.8
87.5°	23.3	39.1	55.0	70.8	86.7	103.1	120.1	137.1	154.0	170.9	181.8
90°	12.2	28.4	44.6	60.7	77.0	93.8	111.3	128.8	146.3	163.8	174.8
92.5°	18.5	32.7	46.8	60.9	75.1	90.3	106.9	123.4	140.0	156.5	167.0
95°	34.2	43.8	53.3	63.0	72.5	85.4	101.8	118.2	134.6	151.0	161.3
97.5°	57.4	60.5	63.7	66.8	69.9	79.7	96.2	112.8	129.3	145.8	155.9
100°	75.7	73.8	72.0	70.1	68.2	75.3	91.6	107.7	123.9	140.1	150.4
102.5°	94.9	101.4	107.8	114.2	120.6	125.0	127.2	129.5	131.8	134.0	144.5
105°	121.8	132.0	142.1	152.3	162.5	162.8	153.4	143.9	134.5	125.0	135.2
107.5°	153.8	161.9	170.0	178.3	186.4	183.2	168.5	153.9	139.2	124.6	132.5
110°	173.6	180.6	187.6	194.7	201.7	199.5	187.9	176.3	164.7	153.1	153.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	193.1	199.1	205.1	211.1	217.0	223.2	229.3	235.6	241.7	248.0	225.5
115°	223.9	228.2	232.6	236.8	241.2	250.4	264.3	278.2	292.2	306.1	274.8
117.5°	250.2	253.7	257.3	260.7	264.2	272.2	284.5	296.9	309.3	321.7	320.0
120°	270.4	272.7	275.0	277.3	279.6	286.8	298.8	310.9	323.0	335.0	343.4
122.5°	287.4	289.2	291.0	292.7	294.4	301.1	312.6	324.2	335.7	347.3	355.1
125°	312.2	313.3	314.4	315.5	316.6	322.2	332.3	342.2	352.2	362.3	370.0
127.5°	335.8	336.7	337.7	338.7	339.6	344.1	352.0	360.1	368.0	376.0	383.4
130°	350.7	351.8	352.9	354.0	355.1	358.8	365.3	371.8	378.3	384.7	391.9
132.5°	366.0	366.8	367.7	368.6	369.5	372.6	377.7	382.9	388.2	393.3	400.2
135°	384.6	385.9	387.3	388.7	390.0	392.4	395.8	399.2	402.6	406.0	412.3
137.5°	404.7	405.6	406.4	407.3	408.2	409.7	411.7	413.8	415.7	417.8	423.5
140°	417.8	418.2	418.6	419.0	419.5	420.4	421.8	423.3	424.7	426.1	431.1
142.5°	428.7	429.1	429.4	429.8	430.2	430.9	432.0	433.2	434.4	435.6	439.6
145°	444.8	444.7	444.6	444.5	444.4	445.1	446.6	448.0	449.4	450.8	453.1
147.5°	459.8	459.5	459.1	458.9	458.5	459.1	460.5	461.9	463.3	464.8	465.4
150°	469.6	469.0	468.3	467.8	467.2	467.5	469.0	470.3	471.6	473.0	473.5
152.5°	477.8	477.2	476.4	475.8	475.1	475.5	476.7	478.0	479.3	480.6	481.1
155°	489.7	489.0	488.2	487.5	486.7	486.9	487.9	488.8	489.9	490.9	491.4
157.5°	499.1	498.5	497.8	497.2	496.6	496.6	497.3	498.0	498.7	499.4	500.0
160°	504.6	504.1	503.6	503.1	502.6	502.6	503.1	503.6	504.1	504.6	505.2
162.5°	509.5	509.0	508.5	508.0	507.5	507.5	507.8	508.3	508.7	509.2	509.8
165°	516.0	515.6	515.1	514.5	514.0	513.9	514.2	514.4	514.7	514.9	515.5
167.5°	520.9	520.4	520.0	519.4	518.9	518.8	519.0	519.2	519.5	519.7	520.3
170°	523.7	523.2	522.6	522.2	521.7	521.5	521.7	521.8	522.0	522.2	522.7
172.5°	525.5	525.0	524.5	524.0	523.4	523.3	523.4	523.6	523.8	524.0	524.6
175°	527.9	527.3	526.6	526.1	525.5	525.3	525.5	525.7	525.8	525.9	526.6
177.5°	528.2	527.8	527.3	526.8	526.4	526.1	526.2	526.3	526.4	526.4	526.9
180°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	813.8	814.8	815.9	816.3	815.8	815.4	814.9	814.6
5°	811.3	812.9	814.5	815.1	814.8	814.6	814.3	814.0
7.5°	807.4	809.3	811.3	812.1	811.8	811.5	811.3	811.0
10°	804.1	806.2	808.3	809.2	809.0	808.7	808.4	808.2
12.5°	798.4	800.5	802.6	803.5	803.3	803.0	802.7	802.5
15°	788.0	790.4	792.8	793.8	793.5	793.3	793.0	792.8
17.5°	774.8	777.2	779.7	781.0	781.0	781.0	781.0	781.0
20°	764.3	767.1	770.0	771.5	771.5	771.5	771.5	771.5
22.5°	752.9	755.8	758.7	760.4	760.7	761.2	761.6	762.1
25°	735.2	738.3	741.5	743.5	744.2	745.0	745.8	746.6
27.5°	715.6	719.6	723.5	725.9	726.5	727.0	727.6	728.2
30°	701.8	706.0	710.2	712.7	713.5	714.3	715.1	715.9
32.5°	687.0	691.8	696.6	699.8	701.2	702.6	704.0	705.4
35°	665.9	671.7	677.5	681.3	683.1	685.0	686.8	688.7
37.5°	644.2	650.6	657.0	661.2	663.2	665.1	667.1	669.1
40°	628.9	635.8	642.7	647.2	649.6	651.9	654.3	656.7
42.5°	614.1	621.6	629.1	634.0	636.3	638.7	641.1	643.5
45°	591.4	599.5	607.7	613.1	615.7	618.3	621.0	623.6
47.5°	567.8	576.2	584.8	590.5	593.3	596.3	599.1	602.1
50°	551.5	560.4	569.4	575.3	578.2	581.1	584.0	586.9
52.5°	534.0	543.1	552.2	558.4	561.5	564.6	567.7	570.8
55°	507.7	517.1	526.6	533.0	536.4	539.8	543.2	546.6
57.5°	479.7	489.9	500.2	507.0	510.4	513.9	517.4	520.8
60°	461.4	471.4	481.3	488.1	491.9	495.5	499.2	502.9
62.5°	441.8	452.4	463.0	470.1	473.5	477.0	480.5	483.9
65°	412.1	422.8	433.6	440.7	444.1	447.5	450.9	454.3
67.5°	381.9	392.8	403.8	411.0	414.6	418.1	421.7	425.3
70°	361.1	372.3	383.6	390.8	394.0	397.2	400.4	403.5
72.5°	340.7	351.8	362.9	370.3	374.2	377.9	381.7	385.5
75°	310.1	321.5	332.8	340.1	343.6	347.0	350.4	353.8
77.5°	280.3	291.5	302.7	310.2	313.9	317.5	321.3	324.9
80°	259.9	271.0	282.0	289.4	293.0	296.8	300.4	304.1
82.5°	241.0	252.0	263.1	270.4	273.8	277.2	280.7	284.2
85°	213.7	224.8	235.9	243.3	246.9	250.6	254.2	258.0
87.5°	192.6	203.4	214.2	221.3	224.7	228.1	231.5	235.0
90°	185.7	196.6	207.6	214.7	218.0	221.3	224.7	228.0
92.5°	177.5	188.1	198.6	205.5	208.7	212.0	215.3	218.6
95°	171.7	182.2	192.6	199.4	202.4	205.5	208.6	211.6
97.5°	165.9	176.0	186.1	192.7	195.9	199.1	202.3	205.5
100°	160.9	171.3	181.6	188.4	191.5	194.6	197.6	200.6
102.5°	154.8	165.2	175.7	182.4	185.6	188.7	191.8	194.9
105°	145.3	155.4	165.6	172.2	175.5	178.7	181.9	185.1
107.5°	140.4	148.3	156.1	161.7	165.0	168.2	171.4	174.6
110°	152.9	152.9	152.8	154.4	157.7	160.9	164.2	167.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	203.0	180.6	158.0	148.4	151.6	154.7	157.9	161.0
115°	243.5	212.1	180.8	163.5	160.4	157.2	154.0	150.8
117.5°	318.3	316.6	315.0	305.4	288.0	270.7	253.3	235.9
120°	351.8	360.2	368.5	368.5	359.9	351.3	342.8	334.2
122.5°	362.8	370.6	378.4	382.4	382.6	382.8	383.1	383.3
125°	377.6	385.4	393.1	398.2	400.8	403.4	406.1	408.7
127.5°	390.8	398.1	405.6	410.5	412.8	415.2	417.5	419.9
130°	399.1	406.4	413.7	418.3	420.3	422.3	424.4	426.3
132.5°	407.2	414.0	420.9	425.3	427.4	429.4	431.4	433.5
135°	418.7	425.1	431.4	435.6	437.6	439.4	441.4	443.4
137.5°	429.1	434.8	440.4	444.1	445.5	447.0	448.5	450.0
140°	436.1	441.1	446.0	449.2	450.3	451.5	452.5	453.7
142.5°	443.7	447.7	451.8	454.3	455.2	456.2	457.2	458.1
145°	455.2	457.4	459.6	461.1	462.0	462.9	463.8	464.7
147.5°	466.1	466.7	467.3	467.8	468.1	468.3	468.7	469.0
150°	474.0	474.5	475.0	475.1	474.7	474.2	473.8	473.4
152.5°	481.6	482.1	482.7	482.6	482.1	481.5	480.9	480.4
155°	492.0	492.4	492.9	492.8	492.1	491.5	490.8	490.2
157.5°	500.6	501.1	501.8	501.7	501.1	500.3	499.7	499.1
160°	505.6	506.1	506.7	506.6	506.0	505.4	504.8	504.3
162.5°	510.3	511.0	511.5	511.4	510.7	510.0	509.3	508.5
165°	516.1	516.7	517.3	517.3	516.7	516.1	515.5	514.9
167.5°	520.9	521.5	522.1	522.0	521.2	520.5	519.7	519.0
170°	523.3	524.0	524.5	524.4	523.7	522.9	522.2	521.4
172.5°	525.1	525.8	526.4	526.3	525.5	524.8	524.0	523.3
175°	527.2	527.7	528.3	528.2	527.4	526.6	525.7	524.9
177.5°	527.4	527.8	528.3	528.2	527.6	527.0	526.4	525.8
180°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7

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