

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: P331772-840

Luminaire Tested: **S122RDIW-S290D710U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331772-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIW-S290D710U840-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3529.2 lumens  
Efficiency: N/A  
Efficacy: 116.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

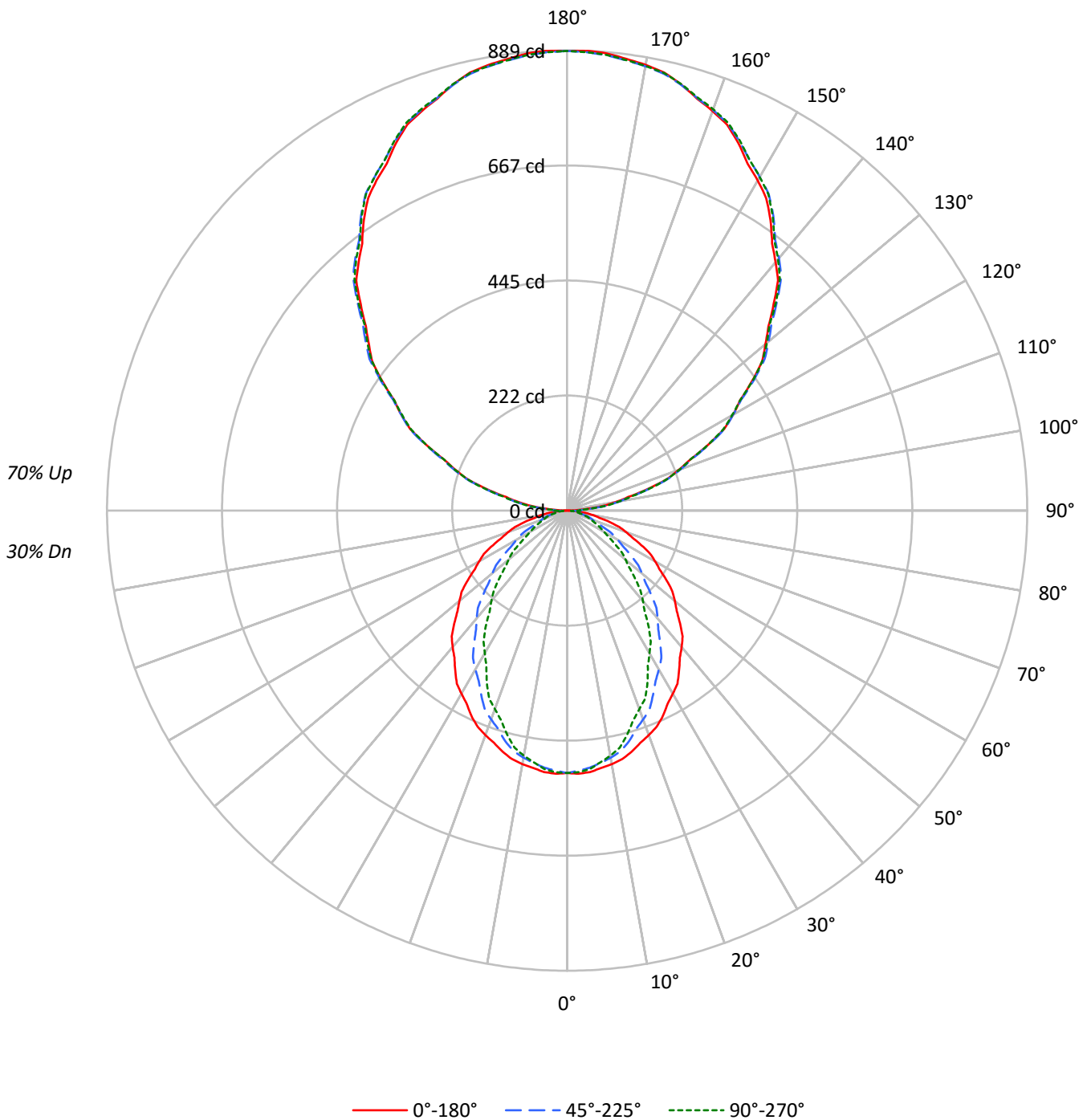
Input Watts (W): 30.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	30
1	93	89	86	82	84	80	77	75	63	61	59	48	47	45	33	33	32	25
2	85	78	73	68	76	71	66	62	56	52	50	42	40	38	30	29	27	22
3	78	69	62	57	70	62	56	52	49	45	42	38	35	33	27	25	24	19
4	71	61	54	48	64	55	49	44	44	40	36	34	31	28	24	22	21	16
5	66	55	47	41	59	49	43	38	39	35	31	30	27	24	22	20	18	14
6	60	49	41	36	54	44	38	33	36	31	27	27	24	22	20	18	16	13
7	56	44	37	31	50	40	33	29	32	27	24	25	22	19	18	16	14	11
8	52	40	33	28	46	36	30	25	29	25	21	23	19	17	17	14	13	10
9	48	36	29	24	43	33	27	23	27	22	19	21	18	15	15	13	12	9
10	45	33	26	22	40	30	24	20	25	20	17	19	16	14	14	12	11	9

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

	0°	45°	90°
0°	8186	8186	8186
5°	8217	8083	8126
10°	8153	7950	7883
15°	8058	7714	7492
20°	7930	7378	7009
25°	7798	6996	6538
30°	7612	6604	5936
35°	7433	6177	5409
40°	7253	5735	4795
45°	7040	5236	4242
50°	6822	4735	3697
55°	6598	4197	3178
60°	6339	3630	2638
65°	6044	3049	2399
70°	5698	2511	2209
75°	5265	2289	2059
80°	4649	2046	1878
85°	3649	1612	1612



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.4	1.3
10°-20°	130.3	3.7
20°-30°	183.0	5.2
30°-40°	199.5	5.7
40°-50°	183.4	5.2
50°-60°	144.1	4.1
60°-70°	93.9	2.7
70°-80°	48.4	1.4
80°-90°	16.1	0.5
90°-100°	56.3	1.6
100°-110°	174.8	5.0
110°-120°	298.7	8.5
120°-130°	392.8	11.1
130°-140°	440.9	12.5
140°-150°	432.3	12.2
150°-160°	362.6	10.3
160°-170°	240.5	6.8
170°-180°	84.1	2.4
0°-30°	360.7	10.2
0°-40°	560.2	15.9
0°-60°	887.7	25.2
0°-90°	1046.2	29.6
90°-120°	529.8	15.0
90°-150°	1795.8	50.9
90°-180°	2483.0	70.4
0°-180°	3529.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	507	507	507	507	507	
5°	507	504	499	502	501	48
15°	482	476	462	453	448	136
25°	438	422	393	375	367	201
35°	377	353	313	285	274	236
45°	308	277	229	198	186	238
55°	234	198	149	123	113	209
65°	158	121	80	65	63	157
75°	84	53	37	34	33	89
85°	20	11	9	9	9	23
90°	1	10	26	25	25	3
95°	39	46	48	48	46	45
105°	161	163	165	166	166	170
115°	300	304	303	302	300	296
125°	436	442	441	438	438	390
135°	564	572	574	573	571	436
145°	685	690	695	695	692	428
155°	783	785	788	791	789	360
165°	852	851	851	856	853	240
175°	886	884	883	888	884	84
180°	888	888	888	888	888	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0
2.5°	508.8	508.4	508.0	507.6	507.2	506.4	505.5	504.7	503.8	502.9	503.7
5°	507.0	506.4	505.9	505.4	504.9	503.9	502.6	501.3	500.0	498.7	499.6
7.5°	501.7	501.1	500.4	499.8	499.2	498.1	496.6	494.9	493.4	491.9	492.1
10°	497.3	496.6	495.8	495.1	494.4	493.0	491.0	489.0	487.0	484.9	484.6
12.5°	491.8	490.9	490.0	489.2	488.3	486.6	483.9	481.3	478.7	476.1	475.5
15°	482.1	481.0	479.9	478.8	477.7	475.3	471.9	468.5	464.9	461.5	459.6
17.5°	470.3	468.6	466.9	465.1	463.4	460.4	456.0	451.5	447.1	442.6	440.3
20°	461.5	459.5	457.5	455.3	453.3	449.8	444.6	439.6	434.5	429.4	426.9
22.5°	452.0	449.7	447.4	445.1	442.8	438.8	433.0	427.3	421.6	415.9	412.5
25°	437.7	434.3	431.1	427.9	424.6	419.6	412.8	406.2	399.4	392.7	388.5
27.5°	420.4	416.9	413.3	409.8	406.2	400.6	393.0	385.5	377.9	370.3	365.5
30°	408.3	404.5	400.5	396.7	392.8	386.8	378.6	370.5	362.3	354.2	349.0
32.5°	396.6	392.0	387.5	382.9	378.4	372.0	363.8	355.4	347.1	338.7	332.9
35°	377.1	371.9	366.7	361.5	356.3	349.2	340.2	331.2	322.3	313.4	306.9
37.5°	357.7	351.9	346.2	340.5	334.8	327.2	317.6	308.0	298.5	288.9	281.9
40°	344.1	338.0	331.8	325.7	319.6	311.6	301.7	291.9	282.0	272.1	264.8
42.5°	330.1	323.7	317.2	310.8	304.4	296.0	285.8	275.6	265.4	255.2	247.7
45°	308.3	301.4	294.6	287.8	280.9	272.2	261.5	250.7	240.0	229.3	222.2
47.5°	287.0	279.7	272.6	265.3	258.0	248.9	237.8	226.8	215.7	204.7	197.5
50°	271.6	264.4	257.1	249.8	242.7	233.4	222.2	211.0	199.8	188.5	181.5
52.5°	256.5	248.9	241.5	233.9	226.3	217.0	206.0	195.1	184.1	173.1	166.3
55°	234.4	226.5	218.5	210.6	202.6	193.2	182.1	171.1	160.1	149.1	143.0
57.5°	211.8	203.6	195.4	187.3	179.2	169.8	159.2	148.7	138.0	127.4	121.8
60°	196.3	188.2	180.1	171.9	163.7	154.4	143.9	133.4	122.9	112.4	107.1
62.5°	181.3	173.2	165.0	156.8	148.7	139.6	129.6	119.6	109.6	99.6	94.6
65°	158.2	150.0	141.8	133.5	125.2	116.5	107.3	98.2	89.0	79.8	76.3
67.5°	136.0	127.8	119.7	111.5	103.3	95.0	86.7	78.6	70.3	62.0	60.4
70°	120.7	112.7	104.7	96.8	88.9	81.4	74.3	67.3	60.3	53.2	52.2
72.5°	105.9	98.4	90.7	83.1	75.4	68.9	63.2	57.6	51.9	46.3	45.3
75°	84.4	77.3	70.2	63.0	55.8	50.6	47.1	43.6	40.2	36.7	36.0
77.5°	63.2	57.0	50.7	44.4	38.2	34.2	32.5	30.9	29.2	27.6	27.2
80°	50.0	44.8	39.6	34.4	29.2	26.1	25.0	24.0	23.0	22.0	21.6
82.5°	37.9	33.8	29.8	25.8	21.7	19.3	18.6	17.9	17.2	16.6	16.3
85°	19.7	17.6	15.5	13.3	11.2	9.9	9.6	9.3	9.0	8.7	8.7
87.5°	6.1	5.8	5.6	5.3	5.0	5.3	6.0	6.8	7.5	8.2	8.1
90°	0.7	2.7	4.7	6.8	8.8	11.6	15.2	18.9	22.5	26.3	25.9
92.5°	13.3	14.8	16.3	17.8	19.2	20.4	21.2	22.1	22.9	23.8	23.9
95°	39.0	40.6	42.3	43.9	45.6	46.7	47.0	47.3	47.7	48.0	48.0
97.5°	71.2	72.6	74.1	75.5	77.1	78.1	78.8	79.4	80.0	80.6	80.6
100°	95.1	96.5	97.9	99.2	100.5	101.4	101.9	102.4	102.9	103.4	103.4
102.5°	120.4	121.4	122.5	123.5	124.6	125.4	126.1	126.7	127.3	127.9	128.2
105°	161.1	161.6	162.1	162.6	163.1	163.5	163.9	164.2	164.5	164.9	165.2
107.5°	202.2	202.9	203.7	204.4	205.1	205.5	205.5	205.5	205.5	205.5	205.6
110°	228.5	229.5	230.6	231.6	232.6	233.1	233.1	233.1	233.1	233.1	233.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	257.3	258.3	259.3	260.3	261.4	261.8	261.7	261.5	261.4	261.3	260.8
115°	299.7	300.7	301.7	302.8	303.8	304.1	303.8	303.4	303.1	302.8	302.6
117.5°	342.0	343.4	344.7	346.0	347.3	347.5	346.6	345.7	344.8	343.9	343.5
120°	370.2	371.5	372.8	374.2	375.5	375.5	374.2	372.8	371.5	370.2	370.2
122.5°	396.0	397.6	399.2	400.7	402.3	402.7	401.7	400.8	399.9	399.0	398.6
125°	436.2	437.7	439.1	440.6	442.1	442.6	442.1	441.6	441.1	440.6	440.1
127.5°	475.2	477.2	479.1	480.9	482.8	483.5	482.9	482.3	481.7	481.1	480.5
130°	499.8	502.0	504.1	506.3	508.5	509.4	509.1	508.8	508.4	508.1	507.8
132.5°	527.5	529.2	531.0	532.7	534.4	535.4	535.4	535.5	535.6	535.6	534.9
135°	564.3	566.1	567.9	569.8	571.6	572.7	573.0	573.4	573.7	574.0	573.8
137.5°	603.1	604.6	606.1	607.6	609.0	610.1	610.5	611.0	611.4	611.8	611.7
140°	626.5	627.9	629.4	631.0	632.5	633.6	634.5	635.3	636.1	636.9	636.9
142.5°	650.5	652.0	653.5	655.0	656.4	657.5	658.0	658.6	659.1	659.7	659.8
145°	684.9	686.1	687.2	688.4	689.6	690.6	691.7	692.7	693.7	694.7	694.8
147.5°	715.7	717.0	718.4	719.8	721.2	722.3	723.0	723.6	724.3	725.0	725.3
150°	736.6	737.6	738.6	739.6	740.6	741.4	742.1	742.8	743.5	744.2	744.7
152.5°	755.2	756.2	757.2	758.2	759.2	760.1	760.9	761.7	762.5	763.4	764.0
155°	783.0	783.6	784.1	784.6	785.1	785.6	786.1	786.6	787.1	787.6	788.4
157.5°	806.9	807.3	807.6	807.9	808.3	808.6	808.9	809.2	809.5	809.8	810.9
160°	821.3	821.6	821.9	822.3	822.6	822.9	823.0	823.2	823.3	823.5	824.6
162.5°	834.5	834.6	834.7	834.7	834.8	834.9	835.1	835.3	835.4	835.6	836.7
165°	852.0	851.8	851.7	851.5	851.4	851.3	851.3	851.3	851.3	851.3	852.4
167.5°	866.8	866.3	865.8	865.3	864.7	864.4	864.4	864.3	864.3	864.3	865.5
170°	874.5	874.0	873.5	873.0	872.5	872.2	872.0	871.8	871.7	871.5	872.7
172.5°	879.9	879.4	878.9	878.4	877.9	877.6	877.4	877.3	877.1	876.9	878.1
175°	886.5	886.1	885.6	885.0	884.5	884.1	883.7	883.4	883.1	882.7	883.9
177.5°	889.2	888.8	888.4	888.0	887.6	887.3	887.0	886.8	886.5	886.2	887.0
180°	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0
2.5°	504.5	505.3	506.1	506.4	506.3	506.1	505.9	505.8
5°	500.5	501.4	502.3	502.6	502.3	502.0	501.7	501.4
7.5°	492.4	492.7	492.9	492.8	492.3	491.7	491.2	490.7
10°	484.3	484.0	483.7	483.2	482.6	482.0	481.4	480.8
12.5°	475.0	474.4	473.9	473.1	472.1	471.1	470.1	469.1
15°	457.7	455.7	453.7	452.3	451.3	450.2	449.2	448.2
17.5°	438.0	435.7	433.4	431.4	429.6	427.9	426.1	424.3
20°	424.3	421.7	419.2	416.8	414.5	412.3	410.1	407.9
22.5°	409.3	406.0	402.7	400.2	398.5	396.9	395.2	393.5
25°	384.4	380.1	376.0	373.1	371.6	370.0	368.5	367.0
27.5°	360.5	355.7	350.8	347.2	344.8	342.3	339.9	337.5
30°	343.8	338.6	333.4	329.4	326.6	323.9	321.1	318.4
32.5°	326.9	320.9	315.0	310.7	308.2	305.6	303.0	300.4
35°	300.5	294.1	287.6	283.3	281.0	278.8	276.6	274.4
37.5°	274.8	267.7	260.6	255.8	253.3	250.6	248.1	245.5
40°	257.6	250.3	243.1	238.1	235.5	232.9	230.1	227.5
42.5°	240.1	232.7	225.2	220.3	217.6	215.1	212.5	210.0
45°	214.9	207.6	200.5	195.6	193.2	190.7	188.2	185.8
47.5°	190.3	183.1	175.9	171.2	169.0	166.7	164.5	162.3
50°	174.5	167.4	160.4	155.8	153.7	151.6	149.4	147.2
52.5°	159.6	152.8	146.0	141.6	139.7	137.6	135.6	133.7
55°	136.8	130.8	124.6	120.6	118.7	116.7	114.8	112.9
57.5°	116.2	110.6	105.0	101.4	99.8	98.2	96.5	94.8
60°	102.0	96.8	91.6	88.2	86.5	84.9	83.3	81.7
62.5°	89.7	84.7	79.8	76.7	75.7	74.8	73.8	72.8
65°	72.9	69.4	65.9	64.0	63.7	63.4	63.1	62.8
67.5°	58.9	57.3	55.6	54.7	54.3	54.0	53.7	53.4
70°	51.2	50.2	49.2	48.5	48.0	47.6	47.2	46.8
72.5°	44.5	43.6	42.8	42.3	42.0	41.8	41.5	41.3
75°	35.2	34.5	33.8	33.4	33.3	33.2	33.1	33.0
77.5°	26.7	26.3	25.9	25.7	25.4	25.2	25.1	24.9
80°	21.2	20.8	20.4	20.2	20.2	20.2	20.2	20.2
82.5°	16.1	15.8	15.6	15.5	15.5	15.5	15.5	15.5
85°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
87.5°	7.9	7.8	7.6	7.6	7.6	7.6	7.7	7.7
90°	25.5	25.2	24.9	24.8	24.9	25.1	25.3	25.4
92.5°	23.9	24.0	24.1	24.1	24.1	24.2	24.2	24.2
95°	48.0	48.0	48.0	47.8	47.5	47.2	46.8	46.5
97.5°	80.6	80.6	80.6	80.6	80.6	80.6	80.5	80.5
100°	103.4	103.4	103.4	103.3	103.2	103.0	102.8	102.7
102.5°	128.3	128.4	128.6	128.6	128.4	128.2	128.1	127.8
105°	165.5	165.8	166.2	166.3	166.3	166.3	166.3	166.3
107.5°	205.7	205.9	206.0	205.7	204.9	204.2	203.4	202.7
110°	233.1	233.1	233.1	232.8	232.3	231.8	231.3	230.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	260.4	260.0	259.6	259.2	258.9	258.5	258.1	257.8
115°	302.5	302.3	302.1	301.7	301.2	300.7	300.2	299.7
117.5°	343.1	342.6	342.2	341.7	341.2	340.7	340.2	339.7
120°	370.2	370.2	370.2	369.9	369.4	368.9	368.4	367.9
122.5°	398.2	397.8	397.4	397.0	396.6	396.3	395.9	395.6
125°	439.6	439.1	438.6	438.3	438.2	438.0	437.8	437.7
127.5°	479.9	479.3	478.7	478.2	477.6	477.1	476.6	476.1
130°	507.5	507.1	506.8	506.2	505.5	504.9	504.2	503.6
132.5°	534.2	533.4	532.7	532.1	531.6	531.0	530.5	530.0
135°	573.7	573.5	573.4	573.0	572.5	572.0	571.5	571.0
137.5°	611.5	611.4	611.3	610.9	610.2	609.6	608.8	608.1
140°	636.9	636.9	636.9	636.6	636.0	635.3	634.6	634.0
142.5°	660.0	660.1	660.2	660.0	659.3	658.6	658.0	657.3
145°	695.0	695.2	695.3	695.1	694.4	693.8	693.1	692.5
147.5°	725.7	726.0	726.4	726.3	725.7	725.0	724.4	723.8
150°	745.1	745.6	746.1	746.1	745.6	745.1	744.7	744.2
152.5°	764.6	765.2	765.9	765.9	765.2	764.6	764.0	763.4
155°	789.2	790.1	790.9	791.1	790.6	790.1	789.6	789.1
157.5°	812.0	813.1	814.3	814.5	813.6	812.8	812.0	811.2
160°	825.6	826.6	827.6	827.7	827.1	826.4	825.8	825.1
162.5°	837.8	839.0	840.1	840.2	839.4	838.7	837.9	837.1
165°	853.6	854.7	856.0	856.2	855.3	854.4	853.6	852.8
167.5°	866.7	867.8	869.0	869.1	868.3	867.4	866.6	865.7
170°	873.8	875.0	876.2	876.3	875.3	874.2	873.2	872.2
172.5°	879.3	880.4	881.6	881.6	880.7	879.7	878.7	877.7
175°	885.0	886.3	887.5	887.5	886.5	885.6	884.5	883.5
177.5°	887.8	888.6	889.4	889.4	888.6	887.8	887.0	886.2
180°	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0

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