

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: P331772-940

Luminaire Tested: **S122RDIW-S290D710U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331772-940
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-S290D710U940-4F0-1E-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: 3116.3 lumens
Efficiency: N/A
Efficacy: 102.5 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

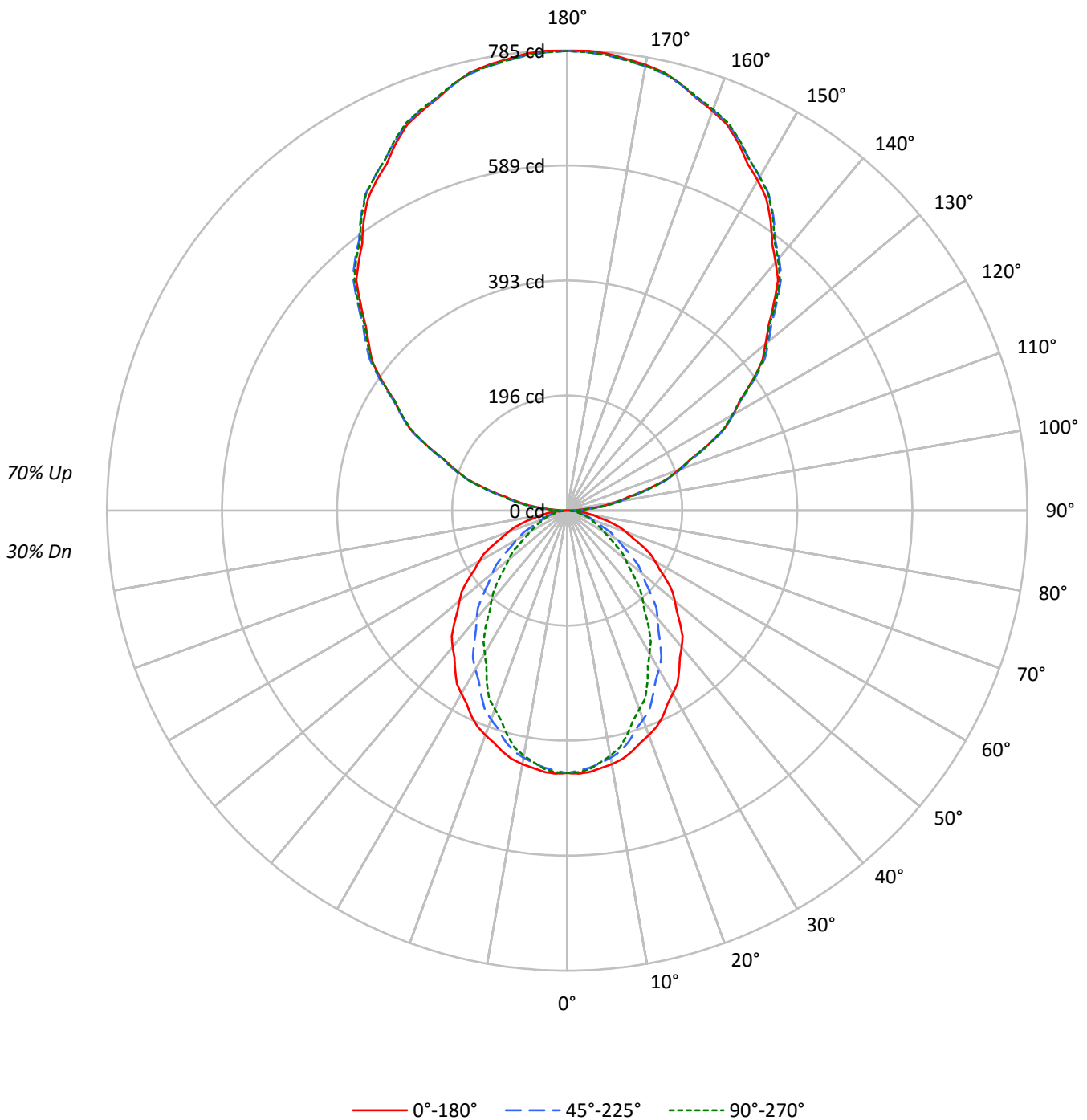
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	7227	7227	7227
5°	7254	7136	7175
10°	7199	7020	6960
15°	7116	6812	6614
20°	7002	6515	6189
25°	6885	6178	5772
30°	6721	5830	5243
35°	6564	5454	4776
40°	6403	5063	4234
45°	6215	4624	3747
50°	6023	4182	3265
55°	5827	3704	2806
60°	5596	3203	2328
65°	5337	2690	2120
70°	5032	2219	1950
75°	4648	2021	1822
80°	4100	1804	1655
85°	3223	1426	1426



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	1.3
10°-20°	115.0	3.7
20°-30°	161.6	5.2
30°-40°	176.2	5.7
40°-50°	162.0	5.2
50°-60°	127.2	4.1
60°-70°	82.9	2.7
70°-80°	42.8	1.4
80°-90°	14.2	0.5
90°-100°	49.7	1.6
100°-110°	154.3	5.0
110°-120°	263.8	8.5
120°-130°	346.9	11.1
130°-140°	389.3	12.5
140°-150°	381.7	12.2
150°-160°	320.2	10.3
160°-170°	212.4	6.8
170°-180°	74.2	2.4
0°-30°	318.5	10.2
0°-40°	494.7	15.9
0°-60°	783.8	25.2
0°-90°	923.8	29.6
90°-120°	467.8	15.0
90°-150°	1585.7	50.9
90°-180°	2193.0	70.4
0°-180°	3116.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	448	448	448	448	448	
5°	448	445	440	444	443	42
15°	426	421	408	400	396	120
25°	386	373	347	331	324	178
35°	333	312	277	252	242	208
45°	272	244	202	175	164	210
55°	207	175	132	108	100	185
65°	140	107	70	57	56	138
75°	74	47	32	30	29	79
85°	17	9	8	8	8	21
90°	1	9	23	22	22	3
95°	34	41	42	42	41	39
105°	142	144	146	147	147	150
115°	265	268	267	267	265	262
125°	385	391	389	387	386	344
135°	498	505	507	506	504	385
145°	605	609	613	614	611	378
155°	691	693	695	698	697	318
165°	752	752	752	756	753	212
175°	783	781	779	784	780	74
180°	784	784	784	784	784	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	449.2	448.9	448.5	448.2	447.8	447.2	446.4	445.7	444.9	444.1	444.8
5°	447.6	447.2	446.7	446.3	445.9	445.0	443.8	442.6	441.5	440.3	441.1
7.5°	443.0	442.5	441.8	441.3	440.8	439.8	438.5	437.0	435.7	434.4	434.5
10°	439.1	438.5	437.8	437.2	436.6	435.3	433.5	431.8	430.0	428.2	427.9
12.5°	434.3	433.5	432.7	431.9	431.1	429.6	427.3	425.0	422.7	420.4	419.9
15°	425.7	424.7	423.7	422.8	421.8	419.7	416.7	413.7	410.5	407.5	405.8
17.5°	415.3	413.8	412.2	410.7	409.2	406.5	402.6	398.7	394.8	390.8	388.8
20°	407.5	405.7	403.9	402.1	400.3	397.2	392.6	388.2	383.7	379.2	376.9
22.5°	399.1	397.1	395.0	393.1	391.0	387.4	382.4	377.3	372.3	367.2	364.3
25°	386.5	383.5	380.7	377.8	375.0	370.5	364.5	358.6	352.7	346.8	343.0
27.5°	371.2	368.1	365.0	361.9	358.6	353.7	347.1	340.4	333.7	327.0	322.7
30°	360.5	357.1	353.7	350.3	346.9	341.5	334.3	327.2	319.9	312.7	308.2
32.5°	350.2	346.2	342.1	338.1	334.1	328.5	321.2	313.8	306.5	299.1	293.9
35°	333.0	328.4	323.8	319.2	314.6	308.4	300.4	292.5	284.6	276.7	271.0
37.5°	315.8	310.8	305.7	300.7	295.6	288.9	280.4	272.0	263.6	255.1	248.9
40°	303.8	298.5	293.0	287.6	282.2	275.2	266.4	257.7	249.0	240.2	233.8
42.5°	291.5	285.8	280.1	274.5	268.8	261.4	252.4	243.3	234.3	225.3	218.7
45°	272.2	266.2	260.1	254.1	248.1	240.3	230.9	221.4	212.0	202.5	196.2
47.5°	253.4	247.0	240.7	234.3	227.8	219.8	210.0	200.3	190.5	180.7	174.4
50°	239.8	233.4	227.0	220.6	214.3	206.1	196.2	186.3	176.4	166.5	160.2
52.5°	226.5	219.8	213.2	206.5	199.8	191.6	181.9	172.3	162.6	152.8	146.9
55°	207.0	200.0	193.0	185.9	178.9	170.6	160.8	151.1	141.3	131.6	126.3
57.5°	187.0	179.8	172.5	165.4	158.2	149.9	140.5	131.3	121.9	112.5	107.5
60°	173.3	166.2	159.0	151.8	144.5	136.3	127.1	117.8	108.5	99.2	94.6
62.5°	160.1	152.9	145.7	138.5	131.3	123.2	114.4	105.6	96.8	87.9	83.6
65°	139.7	132.4	125.2	117.9	110.6	102.9	94.8	86.7	78.6	70.4	67.4
67.5°	120.1	112.9	105.7	98.4	91.2	83.9	76.6	69.4	62.1	54.8	53.3
70°	106.6	99.5	92.5	85.5	78.5	71.9	65.6	59.4	53.2	47.0	46.1
72.5°	93.5	86.9	80.1	73.4	66.6	60.8	55.8	50.8	45.8	40.8	40.0
75°	74.5	68.2	62.0	55.6	49.3	44.7	41.6	38.5	35.5	32.4	31.7
77.5°	55.8	50.3	44.8	39.2	33.7	30.2	28.7	27.3	25.8	24.3	24.0
80°	44.1	39.6	35.0	30.4	25.8	23.0	22.1	21.2	20.3	19.4	19.1
82.5°	33.4	29.9	26.3	22.7	19.2	17.0	16.4	15.8	15.2	14.6	14.4
85°	17.4	15.5	13.6	11.8	9.9	8.7	8.5	8.2	7.9	7.7	7.7
87.5°	5.4	5.1	4.9	4.6	4.5	4.6	5.3	6.0	6.6	7.2	7.1
90°	0.6	2.4	4.2	6.0	7.8	10.3	13.5	16.7	19.9	23.2	22.8
92.5°	11.8	13.1	14.4	15.7	16.9	18.0	18.7	19.5	20.2	21.0	21.1
95°	34.4	35.8	37.4	38.8	40.3	41.2	41.5	41.7	42.1	42.4	42.4
97.5°	62.9	64.1	65.5	66.7	68.0	68.9	69.6	70.1	70.6	71.2	71.2
100°	84.0	85.2	86.4	87.6	88.7	89.5	90.0	90.4	90.9	91.3	91.3
102.5°	106.3	107.2	108.2	109.1	110.0	110.8	111.4	111.9	112.4	113.0	113.2
105°	142.2	142.7	143.1	143.6	144.0	144.4	144.7	145.0	145.3	145.6	145.9
107.5°	178.5	179.1	179.9	180.5	181.1	181.5	181.5	181.5	181.5	181.5	181.6
110°	201.8	202.7	203.6	204.5	205.4	205.8	205.8	205.8	205.8	205.8	205.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	227.2	228.1	229.0	229.9	230.8	231.1	231.0	230.9	230.8	230.7	230.3
115°	264.7	265.6	266.4	267.3	268.2	268.5	268.2	267.9	267.6	267.3	267.2
117.5°	302.0	303.2	304.3	305.5	306.7	306.8	306.0	305.2	304.4	303.6	303.3
120°	326.9	328.1	329.2	330.4	331.5	331.5	330.4	329.2	328.1	326.9	326.9
122.5°	349.6	351.1	352.5	353.8	355.3	355.6	354.7	353.9	353.1	352.3	352.0
125°	385.1	386.5	387.7	389.1	390.4	390.8	390.4	389.9	389.5	389.1	388.6
127.5°	419.6	421.3	423.0	424.6	426.3	427.0	426.4	425.9	425.3	424.8	424.3
130°	441.3	443.3	445.1	447.1	449.0	449.8	449.5	449.2	448.9	448.6	448.4
132.5°	465.7	467.3	468.9	470.4	471.9	472.8	472.8	472.9	473.0	473.0	472.3
135°	498.3	499.9	501.5	503.1	504.7	505.7	506.0	506.3	506.6	506.8	506.7
137.5°	532.5	533.9	535.2	536.5	537.8	538.7	539.0	539.5	539.8	540.2	540.1
140°	553.2	554.5	555.8	557.1	558.5	559.5	560.3	561.0	561.7	562.4	562.4
142.5°	574.4	575.7	577.0	578.4	579.6	580.6	581.0	581.6	582.0	582.6	582.6
145°	604.8	605.8	606.8	607.9	608.9	609.8	610.7	611.6	612.5	613.4	613.5
147.5°	632.0	633.1	634.4	635.6	636.9	637.8	638.4	638.9	639.5	640.2	640.4
150°	650.4	651.3	652.2	653.1	654.0	654.7	655.3	655.9	656.5	657.1	657.5
152.5°	666.8	667.7	668.6	669.5	670.4	671.2	671.9	672.6	673.3	674.0	674.6
155°	691.4	691.9	692.3	692.8	693.2	693.7	694.1	694.6	695.0	695.4	696.2
157.5°	712.5	712.8	713.1	713.4	713.7	714.0	714.3	714.5	714.8	715.1	716.0
160°	725.2	725.5	725.8	726.1	726.4	726.7	726.7	726.9	727.0	727.2	728.1
162.5°	736.8	736.9	737.0	737.0	737.1	737.2	737.4	737.5	737.6	737.8	738.8
165°	752.3	752.2	752.1	751.9	751.8	751.7	751.7	751.7	751.7	751.7	752.7
167.5°	765.4	764.9	764.5	764.0	763.6	763.3	763.3	763.2	763.2	763.2	764.2
170°	772.2	771.8	771.3	770.9	770.4	770.2	770.0	769.8	769.7	769.5	770.6
172.5°	776.9	776.5	776.1	775.6	775.2	774.9	774.7	774.6	774.5	774.3	775.3
175°	782.7	782.4	781.9	781.5	781.0	780.7	780.3	780.1	779.8	779.4	780.5
177.5°	785.2	784.8	784.4	784.1	783.7	783.5	783.2	783.0	782.7	782.5	783.2
180°	784.1	784.1	784.1	784.1	784.1	784.1	784.1	784.1	784.1	784.1	784.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	447.6	447.6	447.6	447.6	447.6	447.6	447.6	447.6
2.5°	445.5	446.2	446.9	447.2	447.1	446.9	446.7	446.7
5°	441.9	442.7	443.5	443.8	443.5	443.3	443.0	442.7
7.5°	434.8	435.1	435.2	435.2	434.7	434.2	433.7	433.3
10°	427.7	427.4	427.1	426.7	426.1	425.6	425.1	424.5
12.5°	419.5	418.9	418.5	417.8	416.9	416.0	415.1	414.2
15°	404.1	402.3	400.6	399.4	398.5	397.5	396.6	395.7
17.5°	386.7	384.7	382.7	380.9	379.3	377.8	376.2	374.7
20°	374.7	372.4	370.1	368.0	366.0	364.1	362.1	360.2
22.5°	361.4	358.5	355.6	353.4	351.9	350.4	348.9	347.5
25°	339.4	335.6	332.0	329.5	328.1	326.7	325.4	324.0
27.5°	318.3	314.1	309.8	306.6	304.4	302.3	300.1	298.0
30°	303.5	299.0	294.4	290.9	288.4	286.0	283.6	281.2
32.5°	288.6	283.4	278.1	274.4	272.2	269.8	267.5	265.3
35°	265.4	259.7	254.0	250.1	248.2	246.2	244.2	242.3
37.5°	242.6	236.4	230.2	225.9	223.6	221.3	219.1	216.8
40°	227.5	221.1	214.6	210.3	207.9	205.6	203.2	200.9
42.5°	212.0	205.5	198.9	194.5	192.2	189.9	187.6	185.4
45°	189.8	183.3	177.0	172.7	170.6	168.4	166.2	164.1
47.5°	168.0	161.7	155.3	151.1	149.2	147.2	145.3	143.3
50°	154.1	147.8	141.6	137.6	135.7	133.8	131.9	130.0
52.5°	140.9	134.9	128.9	125.0	123.3	121.5	119.8	118.1
55°	120.8	115.5	110.0	106.5	104.8	103.1	101.4	99.7
57.5°	102.6	97.6	92.7	89.5	88.1	86.7	85.2	83.7
60°	90.1	85.5	80.9	77.8	76.4	75.0	73.6	72.1
62.5°	79.2	74.8	70.4	67.8	66.9	66.1	65.2	64.3
65°	64.4	61.3	58.2	56.5	56.3	56.0	55.7	55.5
67.5°	52.0	50.6	49.1	48.3	48.0	47.7	47.4	47.2
70°	45.2	44.3	43.4	42.8	42.4	42.0	41.6	41.3
72.5°	39.3	38.5	37.8	37.4	37.1	36.9	36.6	36.5
75°	31.1	30.5	29.9	29.5	29.4	29.3	29.2	29.2
77.5°	23.5	23.2	22.8	22.6	22.5	22.3	22.2	22.0
80°	18.7	18.4	18.0	17.8	17.8	17.8	17.8	17.8
82.5°	14.2	13.9	13.7	13.6	13.6	13.6	13.6	13.6
85°	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
87.5°	7.0	6.9	6.7	6.7	6.7	6.7	6.8	6.8
90°	22.6	22.3	22.0	21.9	22.0	22.2	22.4	22.5
92.5°	21.1	21.2	21.3	21.3	21.3	21.4	21.4	21.4
95°	42.4	42.4	42.4	42.2	41.9	41.6	41.3	41.0
97.5°	71.2	71.2	71.2	71.2	71.2	71.2	71.1	71.1
100°	91.3	91.3	91.3	91.2	91.1	91.0	90.8	90.7
102.5°	113.2	113.3	113.5	113.5	113.3	113.2	113.1	112.9
105°	146.2	146.4	146.8	146.9	146.9	146.9	146.9	146.9
107.5°	181.6	181.8	181.9	181.6	180.9	180.3	179.6	179.0
110°	205.8	205.8	205.8	205.5	205.1	204.6	204.2	203.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	230.0	229.6	229.3	228.9	228.6	228.3	227.9	227.7
115°	267.1	266.9	266.7	266.4	266.0	265.6	265.1	264.7
117.5°	302.9	302.6	302.2	301.8	301.3	300.9	300.4	300.0
120°	326.9	326.9	326.9	326.6	326.2	325.7	325.3	324.9
122.5°	351.6	351.2	350.9	350.5	350.2	349.9	349.6	349.3
125°	388.2	387.7	387.3	387.0	386.9	386.7	386.6	386.5
127.5°	423.7	423.2	422.7	422.2	421.7	421.2	420.8	420.4
130°	448.1	447.7	447.5	447.0	446.4	445.9	445.2	444.7
132.5°	471.7	471.0	470.4	469.8	469.4	468.9	468.4	468.0
135°	506.6	506.4	506.3	506.0	505.5	505.1	504.6	504.2
137.5°	539.9	539.8	539.8	539.4	538.8	538.2	537.6	537.0
140°	562.4	562.4	562.4	562.1	561.6	561.0	560.4	559.8
142.5°	582.8	582.9	583.0	582.8	582.2	581.6	581.0	580.4
145°	613.7	613.9	613.9	613.8	613.1	612.6	612.0	611.4
147.5°	640.8	641.1	641.4	641.3	640.8	640.2	639.6	639.1
150°	657.9	658.4	658.8	658.8	658.4	657.9	657.5	657.1
152.5°	675.1	675.6	676.3	676.3	675.6	675.1	674.6	674.0
155°	696.9	697.7	698.4	698.6	698.1	697.7	697.2	696.8
157.5°	717.0	718.0	719.0	719.2	718.5	717.7	717.0	716.3
160°	729.0	729.9	730.8	730.8	730.3	729.7	729.2	728.5
162.5°	739.8	740.8	741.8	741.9	741.2	740.6	739.9	739.1
165°	753.8	754.7	755.8	756.0	755.2	754.5	753.8	753.0
167.5°	765.3	766.2	767.3	767.4	766.7	765.9	765.2	764.4
170°	771.6	772.7	773.6	773.7	772.8	772.0	771.1	770.2
172.5°	776.4	777.4	778.5	778.5	777.7	776.8	775.9	775.0
175°	781.5	782.6	783.6	783.6	782.7	781.9	781.0	780.2
177.5°	783.9	784.6	785.3	785.3	784.6	783.9	783.2	782.5
180°	784.1	784.1	784.1	784.1	784.1	784.1	784.1	784.1

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