

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: P332754-840

Luminaire Tested: **S124DIW-S575D770U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332754-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIW-S575D770U840-4F0-1E-UDD-D1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 575 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

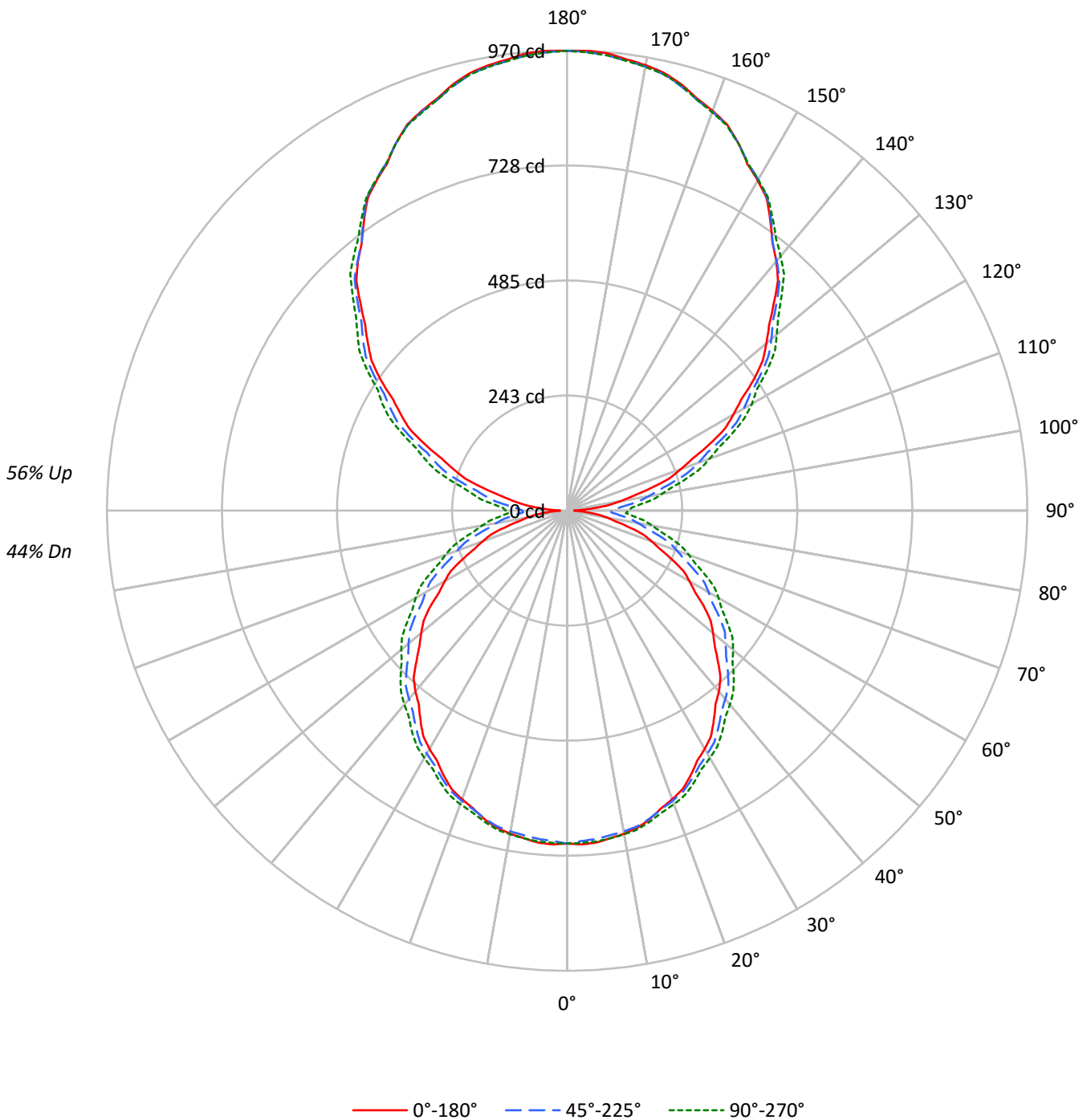
Lumens per Lamp: N/A  
Luminaire Lumens: 5083.8 lumens  
Efficiency: N/A  
Efficacy: 135.2 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: General Diffuse  
  
Input Watts (W): 37.6  
Input Voltage (V): 120  
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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44
1	95	91	87	83	87	83	79	76	69	66	64	55	53	52	43	42	41	35
2	87	79	72	67	79	72	66	62	60	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	36	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	23	24	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	17	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	12	10

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

	0°	45°	90°
0°	5666	5666	5666
5°	5683	5537	5552
10°	5649	5446	5442
15°	5598	5341	5312
20°	5521	5226	5185
25°	5435	5096	5047
30°	5342	4967	4904
35°	5237	4834	4779
40°	5153	4710	4648
45°	5027	4594	4537
50°	4920	4460	4418
55°	4811	4333	4278
60°	4641	4173	4153
65°	4454	4001	3997
70°	4226	3805	3816
75°	3910	3587	3652
80°	3559	3381	3492
85°	3112	3195	3398



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.5	1.3
10°-20°	190.4	3.7
20°-30°	287.9	5.7
30°-40°	348.3	6.9
40°-50°	368.3	7.2
50°-60°	346.6	6.8
60°-70°	287.5	5.7
70°-80°	202.0	4.0
80°-90°	117.1	2.3
90°-100°	131.7	2.6
100°-110°	239.5	4.7
110°-120°	355.1	7.0
120°-130°	442.8	8.7
130°-140°	484.1	9.5
140°-150°	469.4	9.2
150°-160°	393.4	7.7
160°-170°	261.7	5.1
170°-180°	91.6	1.8
0°-30°	544.7	10.7
0°-40°	893.1	17.6
0°-60°	1607.9	31.6
0°-90°	2214.5	43.6
90°-120°	726.3	14.3
90°-150°	2122.6	41.8
90°-180°	2869.0	56.4
0°-180°	5083.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	702	702	702	702	702	
5°	703	700	695	700	700	67
15°	674	674	672	678	678	190
25°	616	621	623	631	633	284
35°	539	548	556	567	570	337
45°	450	464	479	492	497	347
55°	352	369	392	407	412	314
65°	244	269	296	314	321	241
75°	135	164	197	218	226	144
85°	42	75	110	133	142	44
90°	15	54	94	120	129	11
95°	55	88	125	148	156	58
105°	182	199	230	251	261	193
115°	332	340	362	378	384	327
125°	479	479	497	510	514	427
135°	615	620	625	636	639	476
145°	747	749	750	753	754	467
155°	854	854	854	856	854	393
165°	930	928	926	930	928	262
175°	968	964	963	968	963	92
180°	969	969	969	969	969	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8
2.5°	704.3	703.9	703.5	703.0	702.6	701.9	700.7	699.6	698.4	697.3	698.3
5°	702.6	702.1	701.5	700.9	700.4	699.5	698.3	697.1	695.9	694.7	696.1
7.5°	696.6	696.2	695.9	695.6	695.3	694.7	693.7	692.7	691.6	690.5	692.2
10°	691.6	691.4	691.2	691.1	690.8	690.3	689.4	688.5	687.7	686.8	688.4
12.5°	684.6	684.6	684.6	684.5	684.5	684.2	683.6	683.0	682.4	681.8	683.2
15°	673.5	673.7	673.8	674.0	674.2	674.0	673.5	673.0	672.4	671.9	673.5
17.5°	658.2	658.7	659.2	659.7	660.4	660.6	660.5	660.4	660.2	660.1	661.7
20°	647.5	648.0	648.5	649.1	649.6	649.9	650.2	650.4	650.5	650.7	652.4
22.5°	635.6	636.2	636.9	637.5	638.2	638.7	639.0	639.3	639.6	640.0	641.8
25°	616.1	617.1	618.2	619.2	620.3	621.1	621.6	622.1	622.7	623.2	625.1
27.5°	594.4	595.9	597.4	599.1	600.6	601.7	602.5	603.3	604.1	604.9	606.7
30°	580.0	581.4	582.7	584.1	585.5	586.8	588.0	589.3	590.5	591.8	593.7
32.5°	564.2	565.9	567.5	569.3	571.0	572.5	573.8	575.2	576.5	577.9	580.1
35°	539.1	541.2	543.3	545.3	547.4	549.4	551.1	552.9	554.6	556.3	558.9
37.5°	513.8	516.1	518.6	521.0	523.4	525.7	527.9	530.1	532.2	534.3	536.8
40°	497.5	499.7	502.0	504.2	506.5	508.9	511.3	513.7	516.2	518.7	521.3
42.5°	478.6	481.1	483.6	486.3	488.8	491.5	494.3	497.2	500.1	502.9	505.8
45°	449.5	452.8	456.2	459.5	462.7	466.1	469.4	472.7	476.1	479.4	482.3
47.5°	421.7	425.1	428.5	431.9	435.4	439.0	442.8	446.7	450.5	454.3	457.5
50°	401.5	405.4	409.2	413.1	417.0	420.8	424.6	428.5	432.3	436.2	439.6
52.5°	381.4	385.3	389.1	392.9	396.8	400.9	405.4	409.7	414.1	418.5	422.0
55°	352.0	355.7	359.4	363.0	366.7	371.1	376.4	381.6	386.9	392.1	395.7
57.5°	319.2	323.8	328.3	332.9	337.4	342.2	347.4	352.6	357.9	363.0	367.2
60°	297.8	302.4	306.9	311.4	316.0	321.1	326.9	332.6	338.4	344.2	348.2
62.5°	277.1	282.1	287.0	292.0	296.9	302.3	308.0	313.8	319.6	325.4	329.3
65°	243.6	249.2	254.8	260.3	266.0	271.8	277.6	283.6	289.5	295.5	299.8
67.5°	211.4	217.3	223.3	229.2	235.1	241.3	247.6	254.0	260.3	266.7	271.1
70°	189.3	195.3	201.3	207.2	213.2	219.4	226.0	232.7	239.3	246.0	250.6
72.5°	168.0	174.1	180.2	186.2	192.3	198.8	205.9	213.0	220.0	227.1	231.7
75°	135.1	141.6	148.0	154.5	161.0	167.9	175.2	182.6	190.0	197.2	202.2
77.5°	104.5	111.4	118.3	125.0	131.9	139.2	146.8	154.5	162.2	169.9	174.8
80°	85.6	92.6	99.7	106.6	113.6	120.9	128.7	136.3	144.0	151.7	156.9
82.5°	66.8	74.0	81.3	88.6	95.8	103.3	111.0	118.7	126.3	134.1	139.5
85°	41.6	49.0	56.4	63.6	71.0	78.6	86.4	94.3	102.2	110.0	115.2
87.5°	23.7	31.2	38.7	46.2	53.7	61.4	69.3	77.3	85.1	93.0	98.3
90°	14.8	23.6	32.4	41.3	50.1	58.9	67.8	76.6	85.4	94.3	100.4
92.5°	28.0	36.4	44.7	53.1	61.5	70.0	78.4	86.8	95.2	103.7	109.3
95°	55.1	62.4	69.7	77.0	84.2	92.0	100.4	108.7	117.0	125.3	130.6
97.5°	87.9	94.0	100.2	106.3	112.5	119.8	128.3	136.6	145.1	153.6	158.8
100°	113.6	118.8	124.0	129.2	134.4	141.2	149.5	157.7	166.1	174.4	179.5
102.5°	141.2	145.4	149.7	153.9	158.1	164.3	172.3	180.4	188.4	196.4	201.5
105°	181.7	185.4	189.0	192.7	196.3	201.8	208.8	216.0	223.1	230.2	235.1
107.5°	225.8	228.8	231.9	235.0	238.0	242.7	248.8	255.1	261.3	267.5	272.3
110°	255.1	257.9	260.6	263.5	266.2	270.6	276.5	282.5	288.4	294.4	298.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	285.7	287.9	290.1	292.4	294.6	298.5	304.0	309.5	315.1	320.6	324.5
115°	331.5	333.1	334.7	336.2	337.8	341.2	346.5	351.7	357.0	362.2	365.9
117.5°	375.4	376.5	377.6	378.6	379.7	382.7	387.7	392.6	397.7	402.6	405.7
120°	404.1	405.4	406.6	407.8	408.9	411.8	416.4	420.9	425.5	430.1	432.7
122.5°	434.7	435.2	435.5	435.9	436.3	438.7	443.2	447.8	452.3	456.9	459.8
125°	479.1	478.9	478.8	478.6	478.4	480.4	484.6	488.8	493.0	497.2	500.2
127.5°	519.9	520.2	520.5	520.8	521.2	522.8	525.9	529.1	532.1	535.2	538.1
130°	548.0	548.4	548.7	549.0	549.3	550.9	553.6	556.4	559.3	562.0	564.8
132.5°	577.3	577.5	577.7	577.9	578.1	579.3	581.4	583.5	585.6	587.7	590.4
135°	615.4	616.4	617.4	618.4	619.5	620.6	621.8	623.0	624.2	625.4	627.8
137.5°	657.7	658.0	658.2	658.5	658.8	659.4	660.2	661.2	662.0	662.9	665.0
140°	685.9	686.0	686.2	686.3	686.5	686.7	686.8	687.0	687.2	687.4	689.4
142.5°	711.0	711.3	711.7	712.0	712.3	712.3	712.1	711.8	711.6	711.3	713.3
145°	746.6	747.0	747.5	748.0	748.5	748.8	749.0	749.2	749.3	749.5	750.4
147.5°	781.9	782.5	783.2	783.8	784.5	784.7	784.6	784.4	784.3	784.2	784.2
150°	803.5	804.0	804.5	805.0	805.5	805.8	805.8	805.8	805.8	805.8	805.8
152.5°	823.2	823.6	823.9	824.4	824.8	825.0	825.1	825.3	825.4	825.5	825.9
155°	854.4	854.4	854.4	854.4	854.4	854.3	854.1	854.0	853.8	853.7	854.3
157.5°	880.8	880.5	880.2	879.9	879.6	879.5	879.4	879.4	879.4	879.3	879.8
160°	896.5	896.3	896.1	896.0	895.8	895.5	895.4	895.2	895.0	894.9	895.4
162.5°	910.8	910.4	909.9	909.5	909.1	908.8	908.6	908.5	908.3	908.1	909.0
165°	930.2	929.7	929.2	928.7	928.2	927.8	927.4	927.1	926.8	926.3	927.4
167.5°	944.9	944.3	943.6	942.9	942.2	941.8	941.9	941.9	941.9	942.0	943.0
170°	953.4	952.5	951.7	950.9	950.1	949.7	949.9	950.1	950.2	950.4	951.4
172.5°	959.4	958.7	958.0	957.3	956.5	956.2	956.2	956.3	956.3	956.3	957.6
175°	967.7	966.7	965.9	965.1	964.3	963.8	963.6	963.4	963.3	963.1	964.3
177.5°	970.3	969.7	969.0	968.4	967.7	967.3	967.3	967.3	967.3	967.3	968.3
180°	969.1	969.1	969.1	969.1	969.1	969.1	969.1	969.1	969.1	969.1	969.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	701.8	701.8	701.8	701.8	701.8	701.8	701.8	701.8
2.5°	699.3	700.2	701.3	701.7	701.6	701.4	701.3	701.1
5°	697.5	698.8	700.2	700.8	700.7	700.5	700.3	700.1
7.5°	693.8	695.3	696.9	697.6	697.4	697.2	697.0	696.9
10°	689.9	691.6	693.1	693.8	693.7	693.5	693.3	693.1
12.5°	684.7	686.1	687.5	688.2	688.2	688.1	688.1	688.1
15°	675.0	676.6	678.1	678.8	678.7	678.5	678.3	678.1
17.5°	663.3	664.9	666.5	667.2	667.1	667.0	666.8	666.7
20°	654.2	655.9	657.6	658.5	658.5	658.5	658.5	658.5
22.5°	643.5	645.2	646.9	648.0	648.2	648.5	648.8	649.1
25°	627.0	628.9	630.9	631.9	632.1	632.3	632.4	632.6
27.5°	608.5	610.3	612.1	613.1	613.3	613.5	613.7	613.9
30°	595.6	597.5	599.5	600.6	600.9	601.3	601.6	602.0
32.5°	582.3	584.5	586.7	587.9	588.3	588.7	589.1	589.4
35°	561.3	563.7	566.1	567.6	568.2	568.7	569.2	569.8
37.5°	539.4	541.8	544.3	545.8	546.3	546.9	547.4	548.1
40°	523.9	526.5	529.2	530.8	531.5	532.2	532.9	533.6
42.5°	508.8	511.6	514.5	516.2	516.8	517.4	518.0	518.5
45°	485.3	488.3	491.2	493.1	494.0	494.9	495.7	496.7
47.5°	460.5	463.6	466.7	468.7	469.8	470.8	471.9	472.9
50°	443.1	446.7	450.1	452.4	453.4	454.4	455.6	456.6
52.5°	425.6	429.0	432.5	434.7	435.9	436.9	437.9	439.0
55°	399.1	402.6	406.1	408.4	409.4	410.5	411.5	412.5
57.5°	371.3	375.6	379.7	382.2	383.2	384.2	385.2	386.2
60°	352.2	356.3	360.2	362.9	364.4	365.8	367.2	368.6
62.5°	333.4	337.4	341.4	344.1	345.5	346.9	348.3	349.7
65°	304.2	308.6	313.0	315.8	317.2	318.6	320.0	321.4
67.5°	275.6	280.0	284.5	287.3	288.7	290.0	291.4	292.8
70°	255.4	260.1	264.8	267.8	269.0	270.2	271.5	272.7
72.5°	236.2	240.9	245.4	248.3	249.7	251.1	252.5	253.8
75°	207.0	211.9	216.8	220.0	221.6	223.2	224.8	226.3
77.5°	179.9	184.8	189.8	193.1	194.7	196.4	198.0	199.8
80°	162.2	167.3	172.6	175.9	177.3	178.7	180.2	181.6
82.5°	144.8	150.2	155.6	159.1	160.6	162.1	163.6	165.2
85°	120.5	125.7	131.0	134.5	136.2	137.9	139.7	141.5
87.5°	103.6	108.9	114.1	117.5	119.2	120.8	122.3	123.9
90°	106.4	112.5	118.6	122.4	124.2	125.9	127.6	129.4
92.5°	114.7	120.3	125.8	129.4	131.0	132.6	134.1	135.7
95°	135.7	141.0	146.2	149.6	151.2	152.7	154.3	155.8
97.5°	163.9	169.2	174.3	177.6	179.2	180.7	182.2	183.6
100°	184.5	189.6	194.6	197.7	198.9	200.2	201.4	202.6
102.5°	206.5	211.6	216.6	219.8	221.4	222.9	224.4	225.8
105°	239.9	244.9	249.7	253.1	255.0	256.9	258.8	260.6
107.5°	277.0	281.8	286.6	289.5	290.7	292.1	293.3	294.5
110°	301.7	305.4	309.1	311.9	313.8	315.7	317.6	319.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	328.2	332.0	335.9	338.5	340.0	341.5	343.1	344.5
115°	369.6	373.2	376.9	379.3	380.3	381.4	382.4	383.5
117.5°	408.8	411.8	414.9	417.0	418.0	419.1	420.1	421.2
120°	435.4	438.1	440.7	442.9	444.6	446.4	448.1	449.8
122.5°	462.7	465.6	468.6	470.4	471.1	471.7	472.4	473.0
125°	503.1	506.1	509.2	511.0	511.7	512.4	513.1	513.8
127.5°	540.8	543.6	546.4	548.3	549.3	550.2	551.1	552.0
130°	567.6	570.5	573.3	574.9	575.2	575.6	576.0	576.4
132.5°	593.1	595.7	598.3	600.1	600.9	601.7	602.5	603.2
135°	630.4	632.8	635.3	636.7	637.3	637.8	638.4	638.9
137.5°	667.1	669.2	671.4	672.9	673.9	674.8	675.8	676.8
140°	691.6	693.7	695.8	697.2	697.9	698.6	699.3	700.0
142.5°	715.2	717.2	719.1	720.4	721.1	721.9	722.6	723.3
145°	751.2	752.1	753.1	753.6	753.8	754.0	754.2	754.4
147.5°	784.2	784.2	784.2	784.4	784.8	785.2	785.6	786.0
150°	805.8	805.8	805.8	805.7	805.5	805.3	805.2	805.0
152.5°	826.3	826.7	827.1	827.1	826.7	826.3	825.8	825.4
155°	855.1	855.7	856.4	856.4	855.7	855.1	854.3	853.7
157.5°	880.3	880.8	881.3	881.3	880.7	880.2	879.6	879.0
160°	896.0	896.5	897.0	896.8	896.0	895.0	894.2	893.4
162.5°	909.9	910.8	911.7	911.7	910.9	910.1	909.3	908.4
165°	928.4	929.4	930.4	930.6	929.9	929.2	928.6	927.9
167.5°	944.0	944.9	945.9	945.9	944.9	943.9	942.9	941.8
170°	952.4	953.4	954.4	954.3	953.1	952.0	950.8	949.7
172.5°	958.7	959.8	960.9	960.9	959.7	958.6	957.4	956.2
175°	965.4	966.6	967.8	967.8	966.6	965.4	964.3	963.1
177.5°	969.2	970.1	971.1	971.0	969.9	968.9	967.8	966.7
180°	969.1	969.1	969.1	969.1	969.1	969.1	969.1	969.1

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