

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: P331534-927

Luminaire Tested: **S122DIW-S675D710U927-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331534-927  
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: S122DIW-S675D710U927-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4079.4 lumens  
Efficiency: N/A  
Efficacy: 90.7 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

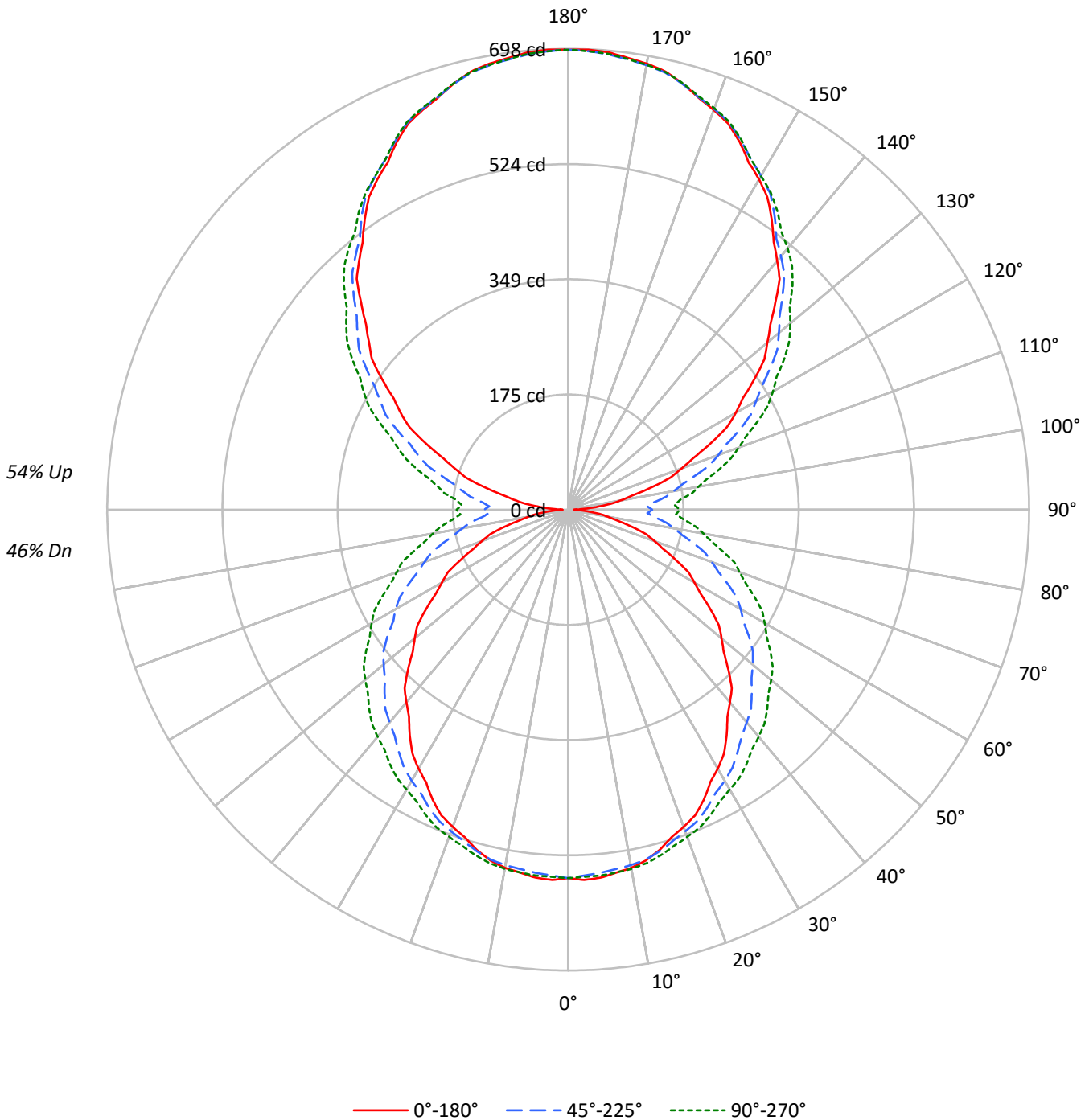
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	98	98	98	98	81	81	81	66	66	66	53	53	53	46
1	96	91	86	82	87	83	79	76	69	66	64	56	54	52	44	43	42	36
2	86	78	72	66	79	72	66	61	60	55	52	49	45	43	38	36	34	29
3	79	68	61	54	72	63	56	50	52	47	43	43	39	36	33	31	28	24
4	72	60	52	46	65	55	48	42	46	41	36	38	33	30	30	27	24	20
5	66	53	45	39	60	49	42	36	41	35	31	34	29	26	27	23	21	17
6	60	48	39	33	55	44	37	31	37	31	27	30	26	22	24	21	18	15
7	56	43	35	29	51	40	32	27	33	28	23	27	23	20	22	19	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	17	20	17	14	12
9	48	35	28	23	44	33	26	21	28	22	18	23	19	16	18	15	13	11
10	45	32	25	20	41	30	23	19	25	20	16	21	17	14	17	14	12	10

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

	0°	45°	90°
0°	9009	9009	9009
5°	9053	8672	8638
10°	8996	8417	8321
15°	8873	8146	7988
20°	8716	7854	7665
25°	8561	7573	7372
30°	8343	7286	7079
35°	8122	7007	6870
40°	7890	6771	6665
45°	7670	6558	6488
50°	7431	6366	6313
55°	7184	6161	6135
60°	6882	5948	5948
65°	6564	5697	5724
70°	6211	5427	5485
75°	5759	5163	5263
80°	5048	4895	5040
85°	4369	4658	4864



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.9	1.3
10°-20°	151.6	3.7
20°-30°	229.8	5.6
30°-40°	279.8	6.9
40°-50°	301.1	7.4
50°-60°	292.4	7.2
60°-70°	255.3	6.3
70°-80°	196.5	4.8
80°-90°	134.7	3.3
90°-100°	135.0	3.3
100°-110°	203.4	5.0
110°-120°	278.2	6.8
120°-130°	332.6	8.2
130°-140°	356.1	8.7
140°-150°	340.9	8.4
150°-160°	284.5	7.0
160°-170°	188.7	4.6
170°-180°	65.9	1.6
0°-30°	434.3	10.6
0°-40°	714.1	17.5
0°-60°	1307.5	32.1
0°-90°	1894.0	46.4
90°-120°	616.6	15.1
90°-150°	1646.3	40.4
90°-180°	2185.0	53.6
0°-180°	4079.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	558	558	558	558	558	
5°	560	557	552	557	556	53
15°	534	535	535	542	542	150
25°	485	491	498	507	510	223
35°	418	432	447	464	471	261
45°	343	365	393	417	426	265
55°	263	293	334	362	374	235
65°	180	220	267	299	310	178
75°	100	145	196	230	242	105
85°	29	79	131	164	176	31
90°	9	63	127	157	169	7
95°	37	81	131	160	170	40
105°	130	157	199	227	237	138
115°	238	252	286	309	317	235
125°	344	350	373	392	400	307
135°	444	450	459	475	480	343
145°	537	541	545	550	552	336
155°	614	616	618	620	619	283
165°	668	668	668	672	669	188
175°	695	694	692	696	693	66
180°	697	697	697	697	697	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0
2.5°	561.3	560.8	560.4	559.9	559.5	558.8	557.8	556.7	555.8	554.8	555.5
5°	559.6	559.0	558.6	558.0	557.5	556.7	555.6	554.5	553.4	552.3	553.4
7.5°	554.6	554.2	553.9	553.5	553.2	552.5	551.8	550.9	550.1	549.3	550.6
10°	550.7	550.3	550.0	549.6	549.3	548.8	548.3	547.8	547.2	546.7	548.1
12.5°	544.2	544.3	544.4	544.5	544.5	544.4	544.0	543.6	543.2	542.8	544.2
15°	533.8	534.1	534.5	534.8	535.2	535.4	535.4	535.4	535.4	535.4	536.9
17.5°	520.1	520.9	521.7	522.4	523.2	523.9	524.4	525.0	525.5	526.2	527.8
20°	511.1	512.0	512.9	513.8	514.7	515.5	516.2	517.0	517.7	518.4	520.4
22.5°	501.4	502.4	503.5	504.5	505.6	506.6	507.6	508.6	509.6	510.6	512.6
25°	485.2	486.5	487.7	489.0	490.3	491.7	493.3	495.0	496.5	498.1	500.3
27.5°	465.8	467.9	469.9	472.0	474.0	476.0	477.9	479.8	481.7	483.6	486.3
30°	452.9	455.2	457.6	459.9	462.2	464.5	466.9	469.2	471.6	473.9	476.7
32.5°	438.6	441.2	443.9	446.5	449.2	451.9	454.6	457.3	460.1	462.9	466.2
35°	418.1	421.1	424.2	427.2	430.3	433.6	437.0	440.4	443.8	447.2	451.1
37.5°	395.8	399.3	402.8	406.3	409.9	413.8	418.3	422.7	427.1	431.5	435.9
40°	380.9	384.8	388.8	392.8	396.7	401.1	406.0	410.8	415.7	420.5	425.2
42.5°	366.7	370.6	374.5	378.5	382.5	387.2	392.8	398.4	403.9	409.6	414.6
45°	342.9	347.8	352.6	357.4	362.3	367.9	374.1	380.5	386.7	393.0	398.6
47.5°	319.4	324.7	330.0	335.3	340.6	346.9	354.3	361.6	369.0	376.4	382.2
50°	303.2	308.9	314.4	320.0	325.5	332.4	340.5	348.6	356.6	364.7	370.8
52.5°	287.7	293.6	299.4	305.3	311.2	318.4	326.9	335.4	343.9	352.4	358.7
55°	262.8	269.3	275.8	282.3	288.7	296.6	305.9	315.3	324.6	334.0	340.5
57.5°	238.2	245.6	252.9	260.2	267.4	275.8	285.3	294.9	304.4	313.9	320.9
60°	220.8	228.5	236.2	244.0	251.7	260.7	270.9	281.1	291.4	301.7	308.5
62.5°	205.3	213.3	221.3	229.3	237.3	246.4	256.7	266.9	277.2	287.4	294.7
65°	179.5	188.3	197.2	206.0	214.8	224.4	235.0	245.7	256.3	266.9	274.3
67.5°	155.9	165.1	174.4	183.5	192.7	202.7	213.6	224.4	235.3	246.1	253.6
70°	139.1	148.5	157.8	167.2	176.5	186.7	197.9	209.0	220.1	231.3	239.0
72.5°	123.6	133.2	142.8	152.5	162.1	172.5	183.9	195.1	206.4	217.7	225.3
75°	99.5	109.6	119.6	129.7	139.7	150.5	162.0	173.5	185.0	196.5	204.2
77.5°	76.2	86.7	97.3	107.7	118.3	129.4	141.1	152.8	164.5	176.1	183.9
80°	60.7	71.6	82.5	93.6	104.5	115.8	127.5	139.2	150.8	162.6	170.1
82.5°	47.7	58.5	69.3	80.2	91.0	102.3	114.2	126.0	137.8	149.6	157.2
85°	29.2	40.2	51.4	62.5	73.7	85.0	96.5	108.0	119.5	131.0	138.6
87.5°	16.0	27.0	38.0	49.0	60.0	71.6	83.7	95.8	107.8	119.9	127.2
90°	8.7	20.7	32.6	44.7	56.6	69.8	84.2	98.5	113.0	127.3	134.3
92.5°	17.9	28.8	39.6	50.5	61.3	72.6	84.4	96.1	107.9	119.6	126.7
95°	37.1	46.8	56.6	66.3	76.0	86.4	97.5	108.5	119.5	130.6	137.4
97.5°	61.5	70.2	78.8	87.5	96.2	105.9	116.8	127.6	138.5	149.3	156.0
100°	80.3	88.0	95.7	103.4	111.1	120.2	130.6	141.1	151.5	162.0	168.7
102.5°	99.4	106.3	113.2	120.2	127.1	135.6	145.9	156.2	166.4	176.7	183.4
105°	130.4	136.0	141.6	147.3	152.8	160.4	170.1	179.7	189.3	198.8	205.4
107.5°	162.5	167.2	172.0	176.7	181.5	188.3	197.3	206.2	215.2	224.1	230.2
110°	182.5	186.9	191.3	195.7	200.0	206.6	215.5	224.3	233.1	241.9	247.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	205.1	208.9	212.7	216.5	220.3	226.3	234.6	242.9	251.1	259.4	264.8
115°	238.4	241.1	243.9	246.7	249.4	254.7	262.5	270.4	278.2	286.0	291.3
117.5°	270.7	273.1	275.4	277.7	280.0	284.6	291.4	298.1	304.8	311.6	316.6
120°	292.8	294.6	296.4	298.1	299.8	303.8	310.0	316.1	322.3	328.4	333.4
122.5°	313.1	314.6	316.2	317.7	319.2	323.0	329.0	335.0	341.0	347.1	351.6
125°	343.7	344.9	346.1	347.3	348.5	351.7	357.0	362.4	367.8	373.1	377.6
127.5°	374.5	375.7	377.1	378.3	379.7	382.4	386.6	390.7	394.9	399.1	403.1
130°	393.7	395.2	396.7	398.2	399.8	402.3	405.8	409.3	412.8	416.4	420.4
132.5°	415.3	416.5	417.7	419.0	420.2	422.2	425.2	428.2	431.1	434.1	437.7
135°	443.5	444.9	446.3	447.7	449.2	450.9	453.0	455.0	457.1	459.1	462.8
137.5°	473.9	475.1	476.2	477.3	478.5	479.6	480.7	481.9	483.0	484.1	487.4
140°	492.3	493.2	494.2	495.2	496.2	497.3	498.2	499.2	500.3	501.3	504.1
142.5°	511.0	512.1	513.0	514.0	515.0	515.8	516.3	516.8	517.4	517.8	520.2
145°	537.3	538.2	539.1	540.0	541.0	541.8	542.6	543.4	544.2	544.9	546.1
147.5°	561.4	562.4	563.6	564.7	565.8	566.6	567.1	567.6	568.2	568.7	569.1
150°	577.8	578.6	579.4	580.2	581.0	581.6	582.2	582.7	583.2	583.8	584.2
152.5°	592.4	593.2	594.0	594.8	595.6	596.3	596.9	597.5	598.2	598.8	599.3
155°	614.3	614.7	615.1	615.4	615.8	616.2	616.6	617.0	617.4	617.8	618.5
157.5°	633.0	633.3	633.5	633.7	634.1	634.3	634.5	634.8	635.0	635.3	636.1
160°	644.3	644.5	644.8	645.1	645.3	645.5	645.6	645.8	645.9	646.0	646.8
162.5°	654.6	654.7	654.7	654.7	654.8	654.9	655.1	655.2	655.3	655.5	656.3
165°	668.4	668.2	668.1	668.0	667.9	667.8	667.8	667.8	667.8	667.8	668.7
167.5°	679.9	679.5	679.1	678.7	678.3	678.1	678.1	678.0	678.0	678.0	678.9
170°	686.0	685.6	685.2	684.8	684.4	684.2	684.0	683.9	683.8	683.7	684.6
172.5°	690.2	689.8	689.4	689.0	688.6	688.4	688.2	688.2	688.0	687.9	688.8
175°	695.4	695.1	694.7	694.3	693.9	693.6	693.2	693.0	692.8	692.4	693.4
177.5°	697.5	697.2	696.9	696.6	696.2	696.0	695.8	695.6	695.4	695.1	695.8
180°	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	558.0	558.0	558.0	558.0	558.0	558.0	558.0	558.0
2.5°	556.2	556.9	557.6	557.9	557.5	557.3	557.0	556.7
5°	554.5	555.6	556.7	557.1	556.9	556.7	556.6	556.3
7.5°	551.8	553.2	554.4	555.0	554.8	554.6	554.4	554.3
10°	549.5	551.0	552.5	553.0	552.9	552.7	552.5	552.3
12.5°	545.7	547.1	548.6	549.1	549.0	548.8	548.7	548.4
15°	538.6	540.2	541.9	542.6	542.4	542.2	542.0	541.9
17.5°	529.5	531.2	532.9	533.8	533.8	533.8	533.8	533.8
20°	522.4	524.3	526.2	527.3	527.3	527.3	527.3	527.3
22.5°	514.6	516.6	518.5	519.7	519.9	520.2	520.5	520.8
25°	502.5	504.6	506.8	508.1	508.7	509.2	509.8	510.3
27.5°	489.1	491.8	494.6	496.1	496.5	496.9	497.3	497.6
30°	479.7	482.5	485.4	487.1	487.7	488.2	488.7	489.3
32.5°	469.5	472.9	476.1	478.2	479.3	480.2	481.2	482.1
35°	455.1	459.1	463.0	465.6	466.9	468.2	469.4	470.6
37.5°	440.3	444.7	449.1	451.9	453.3	454.6	455.9	457.2
40°	429.8	434.5	439.2	442.4	443.9	445.6	447.2	448.9
42.5°	419.7	424.8	429.9	433.3	434.9	436.6	438.2	439.7
45°	404.2	409.7	415.3	419.0	420.8	422.6	424.4	426.2
47.5°	388.0	393.9	399.7	403.5	405.5	407.5	409.5	411.5
50°	376.9	383.0	389.2	393.2	395.2	397.2	399.1	401.1
52.5°	365.0	371.2	377.5	381.7	383.7	385.9	388.0	390.1
55°	346.9	353.4	359.9	364.2	366.6	368.9	371.3	373.6
57.5°	327.9	334.9	341.8	346.5	348.9	351.3	353.6	356.0
60°	315.3	322.1	329.0	333.7	336.1	338.7	341.2	343.7
62.5°	301.9	309.2	316.5	321.3	323.6	326.0	328.4	330.7
65°	281.6	289.0	296.4	301.2	303.6	305.9	308.2	310.5
67.5°	261.0	268.5	275.9	280.9	283.3	285.7	288.2	290.7
70°	246.8	254.4	262.2	267.1	269.3	271.5	273.6	275.8
72.5°	232.9	240.4	248.0	253.1	255.7	258.3	260.9	263.5
75°	212.0	219.7	227.4	232.4	234.8	237.1	239.5	241.8
77.5°	191.5	199.2	206.9	212.0	214.5	217.1	219.5	222.0
80°	177.6	185.2	192.7	197.8	200.3	202.8	205.3	207.9
82.5°	164.7	172.2	179.8	184.7	187.1	189.5	191.9	194.2
85°	146.1	153.7	161.2	166.2	168.7	171.3	173.8	176.3
87.5°	134.5	141.7	149.0	153.8	156.1	158.5	160.8	163.1
90°	141.2	148.1	155.0	159.6	161.9	164.2	166.5	168.8
92.5°	133.8	140.9	148.0	152.7	154.8	157.0	159.2	161.4
95°	144.3	151.1	158.0	162.3	164.2	166.1	168.0	169.8
97.5°	162.6	169.2	175.9	180.3	182.4	184.4	186.6	188.6
100°	175.3	182.0	188.6	192.8	194.7	196.5	198.4	200.2
102.5°	190.0	196.5	203.2	207.4	209.3	211.1	212.9	214.8
105°	212.0	218.6	225.1	229.3	231.3	233.3	235.3	237.3
107.5°	236.4	242.6	248.7	252.5	253.8	255.2	256.6	257.9
110°	253.3	259.1	264.8	268.5	270.1	271.7	273.3	274.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	270.3	275.8	281.1	284.7	286.5	288.1	289.8	291.5
115°	296.5	301.8	307.0	310.5	312.0	313.6	315.2	316.8
117.5°	321.6	326.6	331.6	334.9	336.3	337.7	339.1	340.6
120°	338.5	343.5	348.6	351.8	353.4	355.0	356.6	358.1
122.5°	356.2	360.8	365.4	368.4	369.8	371.2	372.6	374.0
125°	382.1	386.5	391.0	394.0	395.5	397.0	398.4	399.9
127.5°	407.0	411.1	415.0	417.6	418.7	419.9	421.0	422.2
130°	424.5	428.5	432.5	435.1	435.9	436.9	437.8	438.7
132.5°	441.3	444.9	448.5	450.8	451.8	452.8	453.8	454.9
135°	466.4	470.1	473.7	476.1	477.1	478.2	479.3	480.3
137.5°	490.5	493.7	496.9	498.8	499.6	500.3	501.0	501.7
140°	507.0	509.9	512.8	514.5	515.1	515.6	516.2	516.7
142.5°	522.7	525.1	527.5	528.9	529.3	529.7	530.1	530.5
145°	547.3	548.6	549.8	550.6	551.0	551.3	551.7	552.1
147.5°	569.5	570.0	570.4	570.6	570.5	570.5	570.4	570.3
150°	584.5	584.9	585.3	585.3	584.9	584.5	584.2	583.8
152.5°	599.8	600.2	600.8	600.8	600.2	599.8	599.3	598.8
155°	619.1	619.8	620.4	620.6	620.2	619.8	619.4	619.0
157.5°	637.0	637.9	638.7	638.9	638.3	637.6	637.0	636.4
160°	647.6	648.4	649.2	649.3	648.8	648.2	647.8	647.2
162.5°	657.2	658.1	659.0	659.1	658.5	657.9	657.3	656.6
165°	669.6	670.5	671.5	671.6	670.9	670.3	669.6	669.0
167.5°	679.9	680.7	681.7	681.8	681.1	680.4	679.8	679.1
170°	685.5	686.4	687.3	687.4	686.6	685.8	685.0	684.2
172.5°	689.8	690.6	691.6	691.6	690.9	690.1	689.3	688.5
175°	694.3	695.2	696.2	696.2	695.4	694.7	693.9	693.1
177.5°	696.4	697.0	697.7	697.7	697.0	696.4	695.8	695.1
180°	696.6	696.6	696.6	696.6	696.6	696.6	696.6	696.6

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