

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: P331536-830

Luminaire Tested: **S122DIW-S675D710U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331536-830  
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-S675D710U830-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH 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: 4866.7 lumens  
Efficiency: N/A  
Efficacy: 108.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

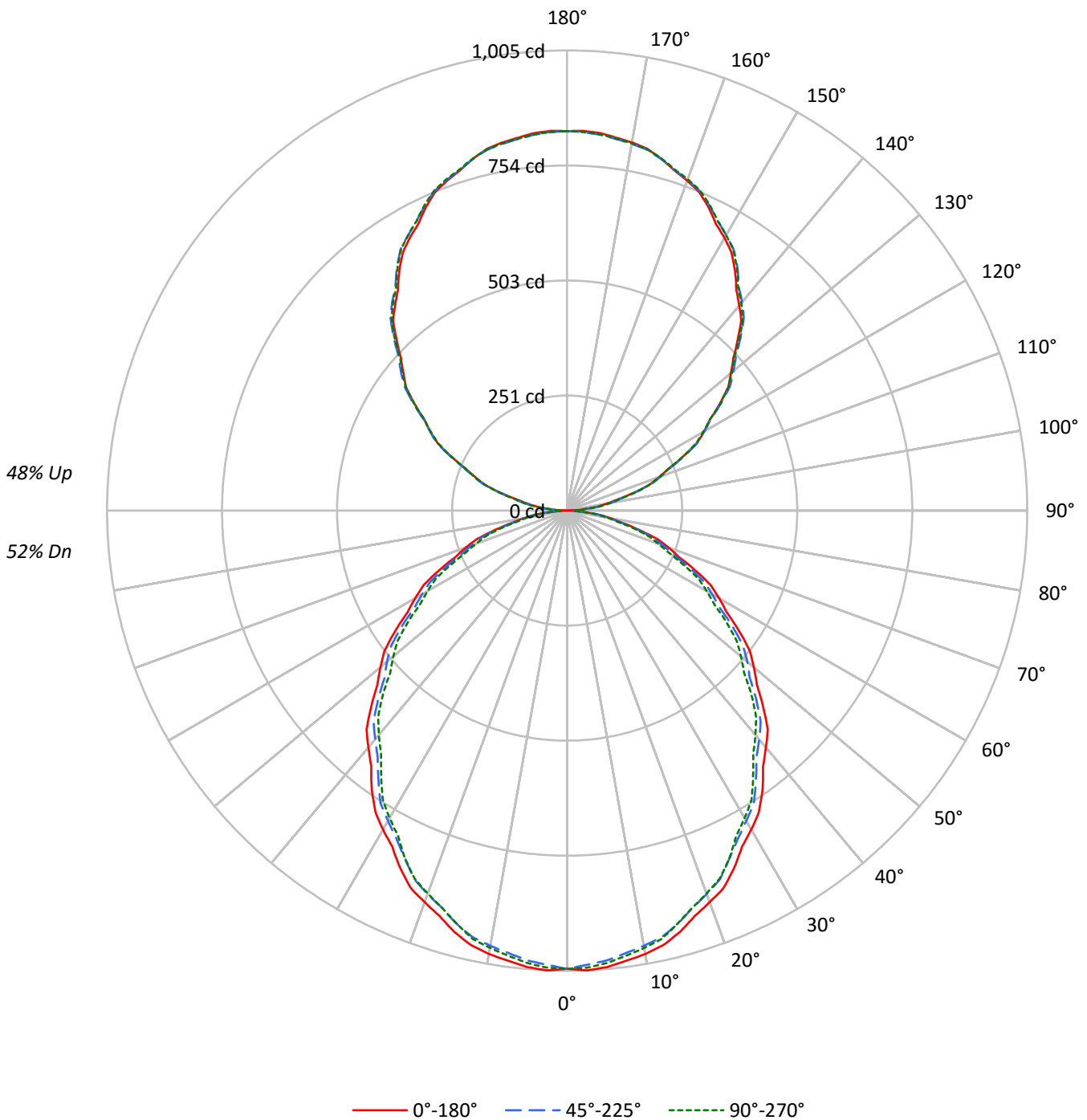
Input Watts (W): 45  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P331536-830

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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	98	94	90	87	91	87	84	81	74	72	70	62	61	59	52	50	49	44
2	90	82	76	71	83	76	71	66	65	61	58	55	52	49	45	43	41	37
3	82	72	65	59	75	67	61	55	57	52	48	48	45	42	40	38	35	31
4	75	64	56	50	69	59	52	47	51	46	41	43	39	36	36	33	30	27
5	69	57	49	43	63	53	46	40	46	40	36	39	34	31	32	29	27	23
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	29	26	23	20
7	58	46	38	33	54	43	36	31	37	32	27	32	27	24	27	23	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	25	21	19	16
9	51	38	31	26	47	36	29	24	31	26	22	27	22	19	23	19	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	17	21	18	15	13

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

	0°	45°	90°
0°	16157	16157	16157
5°	16219	15985	16078
10°	16123	15823	15901
15°	15921	15616	15600
20°	15639	15309	15292
25°	15358	14931	14931
30°	14997	14585	14458
35°	14661	14168	13957
40°	14235	13748	13487
45°	13819	13337	13006
50°	13366	12906	12446
55°	12892	12405	11944
60°	12368	11806	11370
65°	11801	11213	10697
70°	11084	10494	9994
75°	10081	9669	9426
80°	8945	8675	8229
85°	7317	6947	6224



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.1	1.9
10°-20°	264.8	5.4
20°-30°	389.2	8.0
30°-40°	452.1	9.3
40°-50°	451.6	9.3
50°-60°	393.8	8.1
60°-70°	291.2	6.0
70°-80°	164.9	3.4
80°-90°	47.7	1.0
90°-100°	52.5	1.1
100°-110°	163.1	3.4
110°-120°	278.8	5.7
120°-130°	366.6	7.5
130°-140°	411.5	8.5
140°-150°	403.5	8.3
150°-160°	338.4	7.0
160°-170°	224.5	4.6
170°-180°	78.5	1.6
0°-30°	748.0	15.4
0°-40°	1200.1	24.7
0°-60°	2045.4	42.0
0°-90°	2549.2	52.4
90°-120°	494.4	10.2
90°-150°	1676.1	34.4
90°-180°	2317.0	47.6
0°-180°	4866.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1001	1001	1001	1001	1001	
5°	1001	996	986	993	992	95
15°	952	946	934	938	933	268
25°	862	854	838	840	838	396
35°	744	734	719	713	708	464
45°	605	598	584	574	570	467
55°	458	452	441	430	424	409
65°	309	303	294	285	280	305
75°	162	160	155	150	151	173
85°	40	38	38	35	34	45
90°	1	10	24	23	24	4
95°	36	43	45	45	43	42
105°	150	152	154	155	155	159
115°	280	284	283	282	280	277
125°	407	413	411	409	408	364
135°	527	534	536	535	533	407
145°	639	644	648	649	646	399
155°	731	733	735	738	736	336
165°	795	795	795	799	796	224
175°	827	825	824	828	825	79
180°	829	829	829	829	829	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7
2.5°	1005.3	1004.5	1003.6	1002.8	1001.9	1000.5	998.6	996.7	994.9	993.0	994.7
5°	1000.7	999.8	999.0	998.2	997.3	995.7	993.3	991.0	988.6	986.3	988.0
7.5°	991.8	990.5	989.2	987.9	986.6	984.7	982.3	979.9	977.5	975.1	976.8
10°	983.4	981.8	980.3	978.8	977.4	975.3	972.8	970.3	967.6	965.1	966.8
12.5°	971.9	970.5	969.1	967.8	966.5	964.6	962.0	959.4	956.9	954.3	955.5
15°	952.5	951.3	950.0	948.8	947.4	945.4	942.6	939.8	937.1	934.2	935.2
17.5°	927.9	926.6	925.4	924.1	922.8	920.8	917.9	915.1	912.3	909.5	910.5
20°	910.2	909.0	907.7	906.3	905.1	903.0	899.9	897.0	894.0	891.0	891.6
22.5°	892.5	890.7	888.9	887.1	885.3	883.1	880.2	877.4	874.6	871.8	871.9
25°	862.1	860.4	858.8	857.0	855.3	852.6	848.9	845.4	841.7	838.1	838.5
27.5°	827.5	826.0	824.4	822.8	821.3	819.2	816.2	813.4	810.5	807.7	807.0
30°	804.4	802.7	801.0	799.3	797.6	795.1	791.9	788.7	785.5	782.3	781.7
32.5°	779.8	778.4	777.0	775.6	774.3	771.9	768.5	765.2	761.8	758.4	757.2
35°	743.8	741.7	739.5	737.4	735.2	732.4	729.1	725.6	722.2	718.8	717.5
37.5°	703.1	701.3	699.4	697.5	695.7	693.0	689.6	686.2	682.8	679.3	677.7
40°	675.4	673.7	672.0	670.3	668.6	666.1	662.6	659.2	655.8	652.3	650.4
42.5°	648.6	646.8	645.1	643.4	641.7	639.1	635.7	632.3	628.9	625.5	623.3
45°	605.2	603.7	602.2	600.8	599.3	596.9	593.7	590.5	587.3	584.1	581.7
47.5°	562.1	560.7	559.3	557.9	556.5	554.1	550.7	547.4	544.1	540.7	538.3
50°	532.1	531.0	530.0	528.9	527.8	525.8	522.8	519.8	516.8	513.8	510.9
52.5°	502.8	501.4	500.0	498.6	497.2	495.1	492.3	489.5	486.6	483.8	481.4
55°	458.0	456.8	455.4	454.1	452.9	450.9	448.4	445.8	443.3	440.7	438.1
57.5°	412.9	412.0	410.9	409.9	408.9	407.0	404.2	401.3	398.5	395.7	393.1
60°	383.0	382.1	381.3	380.4	379.6	377.6	374.7	371.6	368.6	365.6	363.3
62.5°	353.7	352.3	351.0	349.6	348.3	346.4	344.1	341.8	339.5	337.1	335.0
65°	308.9	307.6	306.3	305.0	303.7	302.0	299.9	297.7	295.6	293.5	291.5
67.5°	263.3	262.2	261.2	260.1	259.1	257.7	255.7	253.8	251.9	250.0	248.5
70°	234.8	233.9	233.1	232.2	231.4	230.0	228.0	226.1	224.2	222.3	220.7
72.5°	205.6	204.6	203.8	202.9	202.1	201.0	199.8	198.6	197.4	196.0	194.6
75°	161.6	161.2	160.8	160.3	159.9	159.2	158.2	157.0	156.0	155.0	153.6
77.5°	122.4	121.7	120.9	120.2	119.5	118.9	118.5	118.0	117.6	117.2	116.6
80°	96.2	96.0	95.8	95.6	95.4	95.0	94.6	94.2	93.8	93.3	92.7
82.5°	71.6	71.5	71.5	71.4	71.4	71.3	71.0	70.8	70.5	70.2	69.5
85°	39.5	39.2	39.0	38.8	38.5	38.4	38.2	38.0	37.7	37.5	36.9
87.5°	13.9	14.0	14.0	14.0	14.1	14.3	14.6	15.0	15.4	15.6	15.1
90°	0.7	2.5	4.4	6.3	8.2	10.8	14.2	17.6	21.0	24.5	24.1
92.5°	12.4	13.9	15.2	16.6	17.9	19.0	19.8	20.6	21.4	22.2	22.3
95°	36.4	37.9	39.5	41.0	42.6	43.5	43.8	44.1	44.5	44.8	44.8
97.5°	66.4	67.8	69.2	70.5	71.9	72.9	73.5	74.1	74.6	75.2	75.2
100°	88.8	90.1	91.3	92.6	93.8	94.6	95.1	95.6	96.0	96.5	96.5
102.5°	112.4	113.3	114.3	115.3	116.3	117.1	117.7	118.3	118.9	119.4	119.6
105°	150.3	150.8	151.3	151.7	152.2	152.6	153.0	153.3	153.5	153.9	154.2
107.5°	188.7	189.4	190.1	190.8	191.4	191.8	191.8	191.8	191.8	191.8	191.9
110°	213.3	214.2	215.2	216.1	217.1	217.5	217.5	217.5	217.5	217.5	217.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	240.2	241.1	242.0	243.0	243.9	244.3	244.2	244.0	243.9	243.8	243.5
115°	279.7	280.7	281.6	282.6	283.5	283.8	283.5	283.1	282.9	282.6	282.4
117.5°	319.2	320.5	321.7	322.9	324.1	324.3	323.5	322.6	321.8	320.9	320.6
120°	345.5	346.8	348.0	349.2	350.4	350.4	349.2	348.0	346.8	345.5	345.5
122.5°	369.6	371.1	372.6	374.0	375.5	375.9	374.9	374.1	373.2	372.4	372.0
125°	407.1	408.5	409.8	411.2	412.6	413.1	412.6	412.2	411.7	411.2	410.8
127.5°	443.6	445.4	447.1	448.8	450.6	451.3	450.7	450.2	449.6	449.0	448.5
130°	466.5	468.5	470.5	472.6	474.6	475.4	475.1	474.9	474.5	474.2	473.9
132.5°	492.3	493.9	495.6	497.2	498.8	499.7	499.7	499.8	499.9	499.9	499.3
135°	526.7	528.4	530.1	531.8	533.5	534.5	534.8	535.2	535.5	535.7	535.6
137.5°	562.9	564.3	565.7	567.1	568.4	569.4	569.8	570.2	570.6	571.0	570.9
140°	584.8	586.1	587.5	588.9	590.3	591.4	592.2	593.0	593.7	594.5	594.5
142.5°	607.1	608.5	609.9	611.3	612.7	613.7	614.2	614.7	615.2	615.8	615.9
145°	639.2	640.4	641.4	642.5	643.7	644.6	645.5	646.5	647.4	648.4	648.5
147.5°	668.0	669.2	670.5	671.8	673.2	674.1	674.8	675.3	676.0	676.7	676.9
150°	687.5	688.4	689.4	690.3	691.3	692.0	692.7	693.2	693.9	694.6	695.0
152.5°	704.8	705.8	706.7	707.7	708.6	709.5	710.2	711.0	711.7	712.5	713.0
155°	730.8	731.3	731.8	732.3	732.7	733.2	733.7	734.1	734.6	735.1	735.8
157.5°	753.1	753.5	753.8	754.0	754.4	754.7	755.0	755.3	755.5	755.8	756.9
160°	766.6	766.9	767.1	767.5	767.8	768.1	768.2	768.4	768.5	768.6	769.6
162.5°	778.8	778.9	779.0	779.0	779.1	779.2	779.4	779.6	779.7	779.9	780.9
165°	795.2	795.0	794.9	794.8	794.7	794.6	794.6	794.6	794.6	794.6	795.6
167.5°	809.0	808.5	808.0	807.6	807.1	806.8	806.8	806.7	806.7	806.7	807.8
170°	816.2	815.8	815.3	814.8	814.4	814.1	813.9	813.7	813.6	813.4	814.5
172.5°	821.2	820.8	820.3	819.8	819.4	819.1	818.9	818.8	818.6	818.4	819.5
175°	827.4	827.0	826.5	826.0	825.6	825.2	824.8	824.5	824.3	823.9	825.0
177.5°	829.9	829.5	829.2	828.8	828.4	828.1	827.8	827.6	827.4	827.1	827.8
180°	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7
2.5°	996.4	998.2	999.8	1000.5	1000.1	999.8	999.5	999.2
5°	989.7	991.4	993.1	993.7	993.3	992.9	992.5	992.0
7.5°	978.5	980.2	981.9	982.5	982.0	981.7	981.2	980.7
10°	968.5	970.3	971.9	972.4	971.9	971.2	970.5	969.9
12.5°	956.7	957.9	959.1	959.4	958.9	958.6	958.1	957.6
15°	936.0	936.9	937.7	937.6	936.5	935.5	934.4	933.3
17.5°	911.4	912.4	913.4	913.4	912.4	911.3	910.3	909.3
20°	892.3	893.0	893.5	893.4	892.6	891.7	890.9	890.0
22.5°	872.0	872.1	872.2	872.0	871.6	871.0	870.5	870.1
25°	839.0	839.3	839.8	839.8	839.3	839.0	838.5	838.1
27.5°	806.3	805.8	805.1	804.3	803.2	802.2	801.2	800.1
30°	781.0	780.3	779.7	778.9	778.1	777.2	776.4	775.5
32.5°	756.1	755.0	753.8	752.8	752.0	751.1	750.2	749.3
35°	716.2	714.9	713.6	712.5	711.4	710.3	709.3	708.1
37.5°	676.2	674.6	673.0	671.7	670.6	669.6	668.6	667.6
40°	648.6	646.6	644.7	643.3	642.4	641.6	640.7	639.9
42.5°	621.2	619.2	617.1	615.4	614.2	613.0	611.8	610.6
45°	579.4	577.0	574.7	573.1	572.2	571.4	570.5	569.6
47.5°	535.8	533.3	530.8	529.0	527.7	526.5	525.3	524.1
50°	507.8	504.8	501.8	499.8	498.7	497.7	496.6	495.5
52.5°	478.8	476.4	473.9	471.9	470.5	469.1	467.7	466.3
55°	435.5	433.0	430.5	428.6	427.5	426.5	425.4	424.3
57.5°	390.6	388.0	385.6	383.9	383.0	382.3	381.4	380.6
60°	360.9	358.5	356.2	354.8	354.1	353.5	352.8	352.1
62.5°	332.8	330.6	328.5	327.0	326.1	325.3	324.5	323.7
65°	289.6	287.7	285.8	284.3	283.2	282.1	281.1	280.0
67.5°	246.9	245.5	244.0	242.8	242.0	241.1	240.3	239.4
70°	219.2	217.8	216.3	215.1	214.2	213.4	212.5	211.7
72.5°	193.1	191.6	190.1	189.0	188.3	187.7	187.0	186.2
75°	152.3	151.1	149.8	149.4	149.8	150.2	150.6	151.1
77.5°	115.9	115.3	114.6	114.0	113.4	112.8	112.3	111.6
80°	92.1	91.4	90.8	90.2	89.8	89.4	89.0	88.5
82.5°	68.6	67.8	67.0	66.5	66.4	66.4	66.3	66.2
85°	36.3	35.6	35.0	34.5	34.3	34.1	33.9	33.6
87.5°	14.5	13.9	13.4	13.0	12.9	12.7	12.6	12.4
90°	23.8	23.6	23.3	23.2	23.3	23.5	23.7	23.8
92.5°	22.3	22.4	22.5	22.5	22.5	22.6	22.6	22.6
95°	44.8	44.8	44.8	44.6	44.3	44.0	43.6	43.4
97.5°	75.2	75.2	75.2	75.2	75.2	75.2	75.1	75.1
100°	96.5	96.5	96.5	96.4	96.3	96.1	96.0	95.9
102.5°	119.7	119.8	120.0	120.0	119.8	119.6	119.5	119.3
105°	154.5	154.8	155.1	155.2	155.2	155.2	155.2	155.2
107.5°	192.0	192.2	192.3	192.0	191.2	190.6	189.8	189.2
110°	217.5	217.5	217.5	217.3	216.8	216.3	215.8	215.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	243.1	242.7	242.3	242.0	241.7	241.3	240.9	240.6
115°	282.3	282.1	281.9	281.6	281.2	280.7	280.2	279.7
117.5°	320.2	319.8	319.4	319.0	318.5	318.0	317.5	317.1
120°	345.5	345.5	345.5	345.3	344.8	344.3	343.8	343.4
122.5°	371.6	371.3	370.9	370.5	370.1	369.9	369.5	369.2
125°	410.3	409.8	409.3	409.1	409.0	408.8	408.6	408.5
127.5°	447.9	447.3	446.8	446.3	445.7	445.3	444.8	444.3
130°	473.6	473.3	473.0	472.5	471.8	471.3	470.6	470.0
132.5°	498.6	497.9	497.2	496.6	496.2	495.6	495.1	494.6
135°	535.5	535.3	535.2	534.8	534.3	533.9	533.4	532.9
137.5°	570.7	570.6	570.5	570.1	569.5	568.9	568.3	567.6
140°	594.5	594.5	594.5	594.2	593.6	593.0	592.3	591.7
142.5°	616.0	616.1	616.2	616.0	615.4	614.7	614.2	613.5
145°	648.7	648.8	648.9	648.8	648.1	647.5	646.9	646.3
147.5°	677.3	677.6	678.0	677.9	677.3	676.7	676.1	675.5
150°	695.4	695.9	696.4	696.4	695.9	695.4	695.0	694.6
152.5°	713.6	714.2	714.8	714.8	714.2	713.6	713.0	712.5
155°	736.6	737.4	738.2	738.4	737.9	737.4	737.0	736.5
157.5°	757.9	758.9	760.0	760.2	759.4	758.7	757.9	757.1
160°	770.5	771.5	772.4	772.5	771.9	771.3	770.7	770.1
162.5°	781.9	783.1	784.1	784.2	783.4	782.8	782.0	781.3
165°	796.7	797.8	798.9	799.1	798.2	797.5	796.7	796.0
167.5°	808.9	809.9	811.1	811.2	810.4	809.5	808.8	807.9
170°	815.6	816.7	817.7	817.8	816.9	816.0	815.0	814.1
172.5°	820.7	821.7	822.8	822.8	822.0	821.0	820.1	819.2
175°	826.0	827.2	828.3	828.3	827.4	826.5	825.6	824.6
177.5°	828.6	829.3	830.1	830.1	829.3	828.6	827.8	827.1
180°	828.8	828.8	828.8	828.8	828.8	828.8	828.8	828.8

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