

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: P331511-930

Luminaire Tested: **S122DIW-S485D970U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331511-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIW-S485D970U930-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 970 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4768.9 lumens  
Efficiency: N/A  
Efficacy: 105.5 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: Semi-Indirect

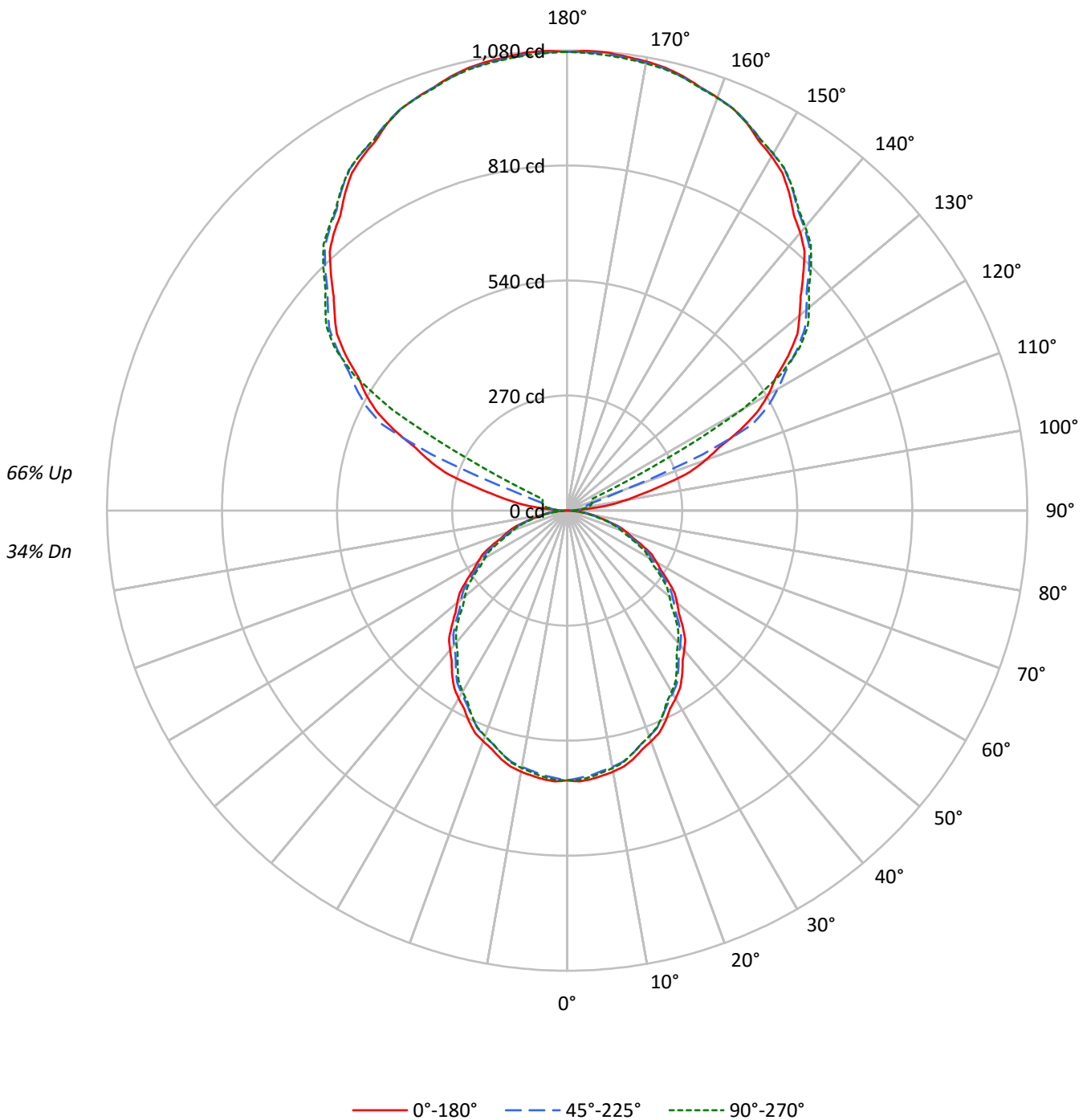
Input Watts (W): 45.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	34
1	94	90	86	83	85	81	78	75	65	63	61	50	49	47	36	36	35	28
2	86	78	73	67	77	71	66	62	57	53	50	44	42	40	32	31	29	24
3	78	69	62	56	70	62	56	51	50	46	42	39	36	33	28	27	25	20
4	71	61	53	47	64	55	49	44	45	40	36	35	31	29	25	23	21	17
5	65	54	46	40	59	49	42	37	40	35	31	31	27	25	23	21	19	15
6	60	48	41	35	54	44	37	32	36	31	27	28	24	22	21	18	16	13
7	56	44	36	31	50	40	33	28	32	27	24	25	22	19	19	16	15	12
8	52	40	32	27	46	36	29	25	29	24	21	23	20	17	17	15	13	11
9	48	36	29	24	43	33	26	22	27	22	19	21	18	15	16	14	12	9
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	12	11	9

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

	0°	45°	90°
0°	10224	10224	10224
5°	10263	10115	10175
10°	10203	10012	10063
15°	10076	9884	9872
20°	9897	9689	9677
25°	9720	9449	9449
30°	9491	9229	9148
35°	9278	8966	8834
40°	9010	8703	8534
45°	8745	8439	8229
50°	8457	8166	7877
55°	8158	7848	7561
60°	7824	7472	7195
65°	7465	7095	6770
70°	7010	6637	6326
75°	6382	6114	5964
80°	5662	5486	5207
85°	4613	4390	3946



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.5	1.2
10°-20°	167.6	3.5
20°-30°	246.3	5.2
30°-40°	286.1	6.0
40°-50°	285.8	6.0
50°-60°	249.2	5.2
60°-70°	184.3	3.9
70°-80°	104.4	2.2
80°-90°	30.7	0.6
90°-100°	35.9	0.8
100°-110°	131.7	2.8
110°-120°	352.0	7.4
120°-130°	581.1	12.2
130°-140°	618.0	13.0
140°-150°	574.4	12.0
150°-160°	461.8	9.7
160°-170°	297.6	6.2
170°-180°	102.4	2.1
0°-30°	473.4	9.9
0°-40°	759.4	15.9
0°-60°	1294.4	27.1
0°-90°	1613.7	33.8
90°-120°	519.7	10.9
90°-150°	2293.2	48.1
90°-180°	3155.0	66.2
0°-180°	4768.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	633	633	633	633	633	
5°	633	631	624	629	628	60
15°	603	599	591	593	591	170
25°	546	540	530	531	530	251
35°	471	464	455	451	448	294
45°	383	378	370	363	360	295
55°	290	286	279	272	269	259
65°	195	192	186	180	177	193
75°	102	101	98	95	96	109
85°	25	24	24	22	21	29
90°	1	9	16	19	21	4
95°	51	27	30	34	34	62
105°	237	247	48	56	59	253
115°	448	462	481	137	64	441
125°	633	644	658	664	666	565
135°	784	796	803	810	809	605
145°	909	909	922	927	923	568
155°	1001	995	1003	1007	1002	461
165°	1055	1051	1052	1057	1052	298
175°	1079	1074	1075	1080	1073	103
180°	1077	1077	1077	1077	1077	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	633.2	633.2	633.2	633.2	633.2	633.2	633.2	633.2	633.2	633.2	633.2
2.5°	636.2	635.6	635.1	634.5	634.0	633.2	631.9	630.8	629.6	628.4	629.5
5°	633.2	632.7	632.2	631.6	631.1	630.1	628.6	627.1	625.6	624.1	625.2
7.5°	627.6	626.8	626.0	625.1	624.3	623.1	621.6	620.1	618.6	617.0	618.2
10°	622.3	621.3	620.4	619.5	618.5	617.2	615.6	614.0	612.4	610.7	611.8
12.5°	615.0	614.2	613.3	612.5	611.6	610.4	608.8	607.2	605.5	603.9	604.6
15°	602.8	602.0	601.2	600.4	599.6	598.3	596.5	594.8	593.0	591.3	591.7
17.5°	587.2	586.4	585.6	584.8	584.0	582.7	580.9	579.1	577.3	575.5	576.2
20°	576.0	575.2	574.4	573.6	572.7	571.4	569.5	567.6	565.7	563.9	564.3
22.5°	564.8	563.7	562.6	561.4	560.3	558.8	557.0	555.2	553.4	551.6	551.7
25°	545.6	544.5	543.4	542.3	541.3	539.6	537.3	534.9	532.6	530.4	530.6
27.5°	523.7	522.7	521.7	520.7	519.8	518.4	516.6	514.7	512.9	511.1	510.7
30°	509.1	507.9	506.9	505.8	504.7	503.1	501.1	499.1	497.1	495.0	494.6
32.5°	493.4	492.6	491.7	490.8	490.0	488.4	486.3	484.2	482.1	480.0	479.2
35°	470.7	469.3	468.0	466.6	465.3	463.5	461.4	459.2	457.0	454.9	454.0
37.5°	445.0	443.8	442.6	441.4	440.2	438.5	436.3	434.2	432.0	429.9	428.8
40°	427.5	426.3	425.3	424.2	423.1	421.5	419.3	417.2	415.0	412.9	411.6
42.5°	410.4	409.3	408.2	407.2	406.1	404.5	402.3	400.1	397.9	395.7	394.4
45°	383.0	382.0	381.1	380.2	379.2	377.7	375.7	373.7	371.6	369.6	368.1
47.5°	355.7	354.8	353.9	353.0	352.1	350.7	348.5	346.4	344.3	342.2	340.6
50°	336.7	336.1	335.3	334.7	334.0	332.7	330.8	329.0	327.0	325.1	323.3
52.5°	318.2	317.3	316.4	315.5	314.6	313.3	311.5	309.7	307.9	306.1	304.6
55°	289.8	289.0	288.2	287.4	286.6	285.4	283.7	282.1	280.5	278.8	277.3
57.5°	261.3	260.7	260.0	259.4	258.8	257.6	255.8	254.0	252.2	250.4	248.7
60°	242.3	241.8	241.2	240.7	240.2	239.0	237.1	235.1	233.3	231.4	229.9
62.5°	223.8	223.0	222.1	221.2	220.4	219.2	217.8	216.3	214.8	213.4	212.0
65°	195.4	194.6	193.8	193.0	192.2	191.1	189.8	188.4	187.0	185.7	184.5
67.5°	166.6	165.9	165.3	164.6	164.0	163.1	161.8	160.6	159.4	158.2	157.3
70°	148.5	148.1	147.5	146.9	146.4	145.5	144.3	143.1	141.9	140.6	139.7
72.5°	130.0	129.6	129.0	128.4	127.9	127.3	126.5	125.6	124.9	124.1	123.1
75°	102.3	102.0	101.7	101.5	101.2	100.8	100.0	99.4	98.7	98.0	97.2
77.5°	77.5	77.0	76.6	76.1	75.6	75.3	75.0	74.7	74.4	74.2	73.8
80°	60.9	60.7	60.7	60.5	60.3	60.2	59.8	59.6	59.4	59.0	58.6
82.5°	45.3	45.2	45.2	45.2	45.2	45.1	44.9	44.8	44.6	44.4	43.9
85°	24.9	24.9	24.7	24.5	24.5	24.3	24.1	24.1	23.9	23.7	23.3
87.5°	8.9	9.0	9.2	9.5	9.6	9.7	9.8	9.8	9.9	9.9	9.8
90°	0.8	2.7	4.6	6.5	8.4	10.0	11.4	12.8	14.2	15.6	16.5
92.5°	15.7	15.6	15.4	15.2	15.1	15.3	16.0	16.7	17.4	18.1	18.5
95°	50.6	44.9	39.2	33.5	27.8	25.5	26.7	28.0	29.2	30.4	31.2
97.5°	100.5	84.4	68.3	52.2	36.1	29.4	32.3	35.1	37.8	40.7	41.3
100°	137.9	114.1	90.4	66.8	43.0	32.6	35.5	38.5	41.5	44.4	45.8
102.5°	179.0	174.0	169.0	164.0	158.9	144.1	119.5	94.9	70.3	45.7	47.5
105°	236.8	242.1	247.2	252.4	257.6	236.6	189.3	142.0	94.8	47.5	49.4
107.5°	302.7	307.0	311.1	315.3	319.5	293.3	236.6	179.9	123.2	66.5	64.6
110°	345.1	348.8	352.4	356.0	359.6	336.5	286.4	236.4	186.4	136.3	119.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	385.0	388.2	391.4	394.7	397.9	393.3	381.0	368.6	356.2	343.9	280.7
115°	447.9	450.9	453.9	456.8	459.7	463.3	467.7	472.0	476.4	480.7	400.5
117.5°	504.2	507.5	510.8	514.0	517.4	520.5	523.5	526.4	529.5	532.4	513.0
120°	545.4	548.0	550.5	553.1	555.7	558.6	561.7	564.8	567.9	571.0	573.2
122.5°	580.2	582.9	585.7	588.4	591.2	594.3	597.6	601.0	604.4	607.8	609.0
125°	633.3	635.6	637.9	640.1	642.4	645.1	648.4	651.8	655.0	658.3	659.5
127.5°	681.5	684.0	686.5	689.0	691.5	694.0	696.4	698.9	701.3	703.8	705.6
130°	712.1	714.9	717.6	720.3	723.1	725.5	727.3	729.3	731.2	733.1	735.0
132.5°	743.2	745.6	748.0	750.2	752.6	754.7	756.7	758.6	760.4	762.4	764.0
135°	783.7	786.5	789.3	792.1	794.8	797.0	798.5	800.1	801.6	803.2	804.9
137.5°	824.7	826.6	828.6	830.5	832.4	834.3	836.1	837.8	839.6	841.4	843.1
140°	851.5	852.9	854.3	855.7	857.0	858.7	860.5	862.5	864.4	866.3	867.9
142.5°	873.9	875.1	876.4	877.7	878.9	880.6	882.8	885.0	887.2	889.3	890.8
145°	909.1	909.0	908.8	908.7	908.5	909.9	912.8	915.7	918.7	921.6	922.8
147.5°	939.9	939.1	938.5	937.8	937.2	938.3	941.3	944.1	947.1	950.0	950.9
150°	959.8	958.5	957.3	956.2	955.0	955.7	958.5	961.2	964.0	966.8	967.8
152.5°	976.6	975.3	973.9	972.6	971.2	971.8	974.4	977.1	979.7	982.4	983.4
155°	1001.1	999.5	997.9	996.4	994.8	995.1	997.2	999.2	1001.4	1003.4	1004.4
157.5°	1020.3	1019.0	1017.6	1016.3	1015.0	1015.0	1016.5	1018.0	1019.4	1020.8	1022.1
160°	1031.4	1030.5	1029.4	1028.3	1027.3	1027.3	1028.3	1029.4	1030.5	1031.4	1032.5
162.5°	1041.5	1040.4	1039.3	1038.3	1037.3	1037.2	1038.1	1039.0	1039.9	1040.8	1042.0
165°	1054.8	1053.8	1052.7	1051.7	1050.7	1050.4	1050.9	1051.4	1052.0	1052.5	1053.7
167.5°	1064.8	1063.7	1062.7	1061.7	1060.6	1060.4	1060.9	1061.4	1061.8	1062.3	1063.5
170°	1070.4	1069.3	1068.4	1067.3	1066.2	1065.9	1066.2	1066.6	1067.0	1067.3	1068.5
172.5°	1074.2	1073.1	1072.0	1071.1	1070.0	1069.7	1070.0	1070.3	1070.7	1071.1	1072.3
175°	1079.0	1077.7	1076.5	1075.4	1074.2	1073.7	1074.1	1074.4	1074.7	1075.1	1076.3
177.5°	1079.8	1078.8	1077.8	1076.8	1075.9	1075.5	1075.6	1075.7	1075.9	1076.0	1077.0
180°	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	633.2	633.2	633.2	633.2	633.2	633.2	633.2	633.2
2.5°	630.6	631.6	632.7	633.2	632.9	632.7	632.5	632.3
5°	626.3	627.4	628.4	628.8	628.6	628.3	628.0	627.8
7.5°	619.2	620.3	621.4	621.7	621.5	621.2	620.9	620.6
10°	612.9	614.0	615.1	615.4	615.0	614.6	614.2	613.8
12.5°	605.4	606.2	606.9	607.2	606.8	606.6	606.3	605.9
15°	592.3	592.9	593.4	593.3	592.6	592.0	591.3	590.6
17.5°	576.7	577.4	578.0	578.0	577.3	576.7	576.1	575.4
20°	564.7	565.1	565.5	565.4	564.8	564.3	563.8	563.2
22.5°	551.8	551.9	552.0	551.9	551.5	551.2	550.9	550.6
25°	530.9	531.2	531.4	531.4	531.2	530.9	530.6	530.4
27.5°	510.3	509.9	509.5	509.0	508.3	507.7	507.0	506.4
30°	494.2	493.8	493.4	492.9	492.4	491.9	491.3	490.7
32.5°	478.5	477.8	477.0	476.4	475.8	475.3	474.7	474.2
35°	453.2	452.4	451.6	450.9	450.2	449.5	448.8	448.2
37.5°	427.9	426.9	425.9	425.0	424.4	423.7	423.1	422.5
40°	410.4	409.2	408.0	407.1	406.5	406.0	405.4	404.9
42.5°	393.1	391.8	390.4	389.5	388.7	387.9	387.2	386.4
45°	366.6	365.2	363.6	362.6	362.1	361.6	361.0	360.4
47.5°	339.1	337.5	335.9	334.8	333.9	333.2	332.4	331.6
50°	321.4	319.4	317.6	316.3	315.6	315.0	314.2	313.6
52.5°	303.0	301.4	299.9	298.6	297.7	296.9	296.0	295.1
55°	275.7	274.0	272.4	271.3	270.5	269.9	269.2	268.6
57.5°	247.2	245.6	244.0	243.0	242.4	241.9	241.4	240.8
60°	228.4	226.9	225.4	224.5	224.0	223.6	223.2	222.8
62.5°	210.6	209.2	207.8	206.9	206.4	205.9	205.4	204.8
65°	183.3	182.1	180.8	179.9	179.2	178.6	177.9	177.2
67.5°	156.3	155.3	154.4	153.7	153.1	152.5	152.1	151.5
70°	138.8	137.8	136.9	136.2	135.6	135.0	134.5	134.0
72.5°	122.2	121.2	120.3	119.6	119.2	118.7	118.3	117.9
75°	96.4	95.6	94.8	94.5	94.8	95.1	95.3	95.6
77.5°	73.4	73.0	72.6	72.2	71.7	71.4	71.0	70.6
80°	58.2	57.8	57.5	57.1	56.8	56.6	56.3	56.0
82.5°	43.5	42.9	42.4	42.1	42.1	42.0	41.9	41.9
85°	22.9	22.5	22.1	21.9	21.7	21.6	21.4	21.3
87.5°	9.6	9.5	9.3	9.2	9.2	9.1	9.1	9.0
90°	17.3	18.2	19.1	19.6	20.0	20.3	20.7	21.0
92.5°	19.0	19.4	19.9	20.2	20.4	20.6	20.8	21.0
95°	32.1	33.0	33.8	34.2	34.0	33.8	33.7	33.5
97.5°	42.1	42.7	43.5	43.9	44.1	44.3	44.5	44.7
100°	47.2	48.6	50.0	50.8	51.1	51.5	51.9	52.2
102.5°	49.2	51.0	52.8	54.0	54.5	55.0	55.4	55.9
105°	51.4	53.2	55.1	56.4	57.2	57.8	58.5	59.2
107.5°	62.6	60.7	58.8	58.1	58.9	59.5	60.3	60.9
110°	101.7	84.4	67.1	58.8	59.4	60.2	60.8	61.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	217.5	154.4	91.2	59.9	60.5	61.1	61.6	62.2
115°	320.3	240.2	160.0	113.7	101.3	88.8	76.3	63.9
117.5°	493.6	474.3	454.9	424.7	383.7	342.8	301.8	260.8
120°	575.2	577.2	579.4	568.7	545.4	522.0	498.6	475.2
122.5°	610.3	611.6	612.8	611.1	606.6	602.1	597.5	593.0
125°	660.7	661.9	663.2	664.0	664.6	665.0	665.5	666.1
127.5°	707.4	709.1	710.9	711.8	711.9	712.0	712.1	712.2
130°	736.9	738.8	740.7	741.6	741.4	741.2	741.0	740.9
132.5°	765.6	767.3	768.9	769.6	769.4	769.2	769.1	768.9
135°	806.7	808.4	810.1	810.8	810.5	810.1	809.8	809.4
137.5°	844.7	846.4	848.2	848.7	848.2	847.5	846.9	846.4
140°	869.4	871.0	872.5	872.9	872.0	871.1	870.3	869.4
142.5°	892.2	893.6	895.0	895.3	894.5	893.6	892.8	891.9
145°	924.1	925.3	926.4	926.7	925.8	924.9	924.1	923.2
147.5°	951.8	952.7	953.6	953.7	952.9	952.2	951.5	950.7
150°	968.9	969.9	970.9	971.0	970.2	969.3	968.4	967.6
152.5°	984.5	985.5	986.5	986.5	985.4	984.2	983.1	981.9
155°	1005.5	1006.5	1007.5	1007.4	1006.0	1004.6	1003.2	1001.8
157.5°	1023.2	1024.4	1025.6	1025.5	1024.1	1022.8	1021.4	1020.1
160°	1033.6	1034.5	1035.6	1035.5	1034.3	1033.1	1031.9	1030.7
162.5°	1043.2	1044.3	1045.5	1045.4	1043.8	1042.4	1040.9	1039.4
165°	1054.9	1056.1	1057.4	1057.4	1056.1	1054.9	1053.7	1052.5
167.5°	1064.7	1065.9	1067.1	1067.0	1065.4	1063.9	1062.3	1060.8
170°	1069.8	1070.9	1072.1	1072.0	1070.4	1068.9	1067.3	1065.8
172.5°	1073.4	1074.6	1075.9	1075.7	1074.2	1072.6	1071.1	1069.5
175°	1077.5	1078.7	1079.9	1079.7	1077.9	1076.2	1074.5	1072.8
177.5°	1078.0	1078.9	1079.9	1079.8	1078.5	1077.3	1076.0	1074.8
180°	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6	1076.6

(END OF REPORT)