

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: P331503-840

Luminaire Tested: **S122DIW-S485D710U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331503-840  
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-S485D710U840-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 710 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4851.0 lumens  
Efficiency: N/A  
Efficacy: 129.0 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: Semi-Indirect

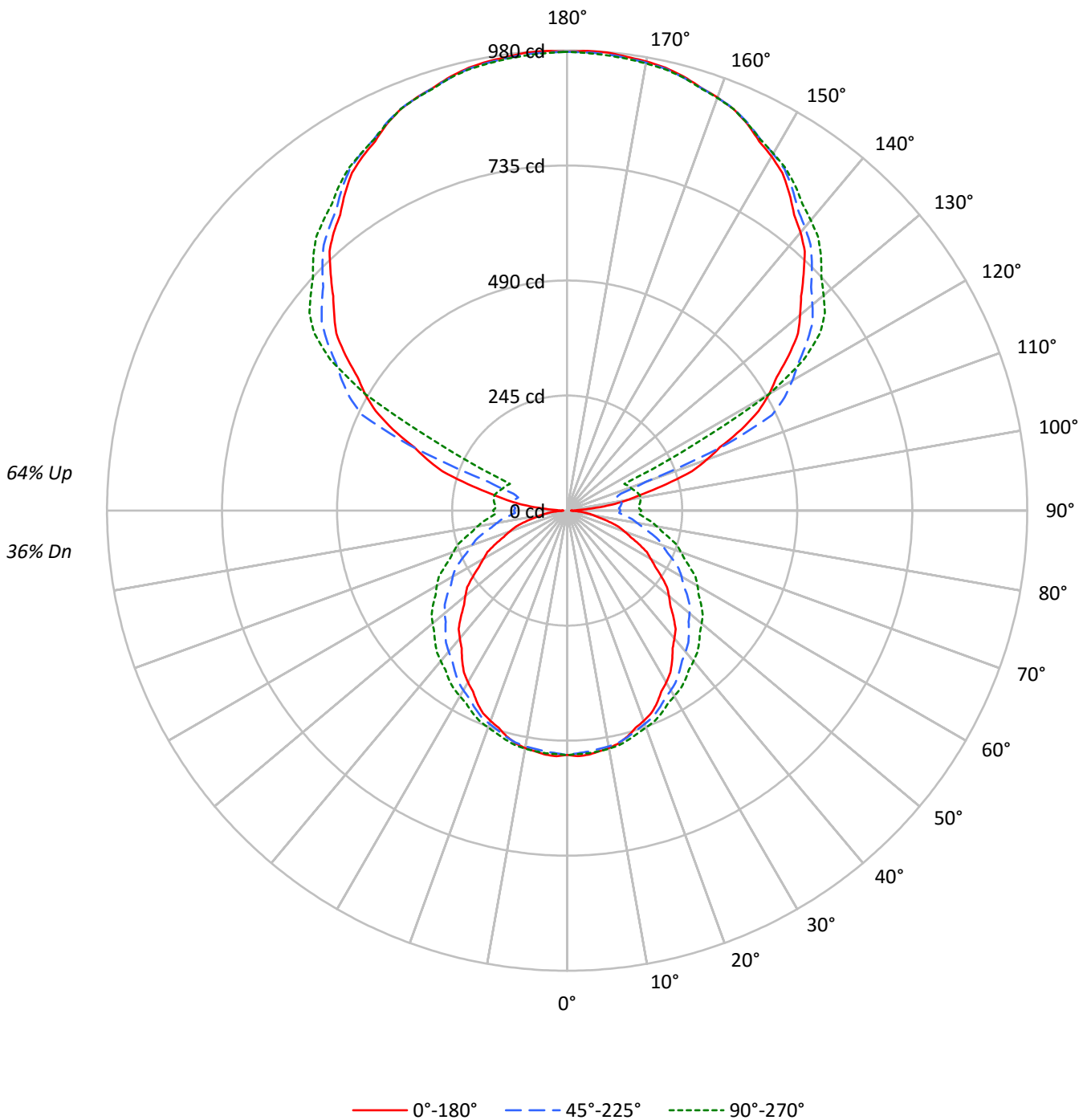
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36
1	94	89	85	81	84	80	77	74	65	62	60	50	48	47	37	36	35	28
2	85	77	71	65	76	70	64	59	56	52	49	43	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	20	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10	7

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

	0°	45°	90°
0°	8402	8402	8402
5°	8443	8088	8058
10°	8390	7850	7761
15°	8275	7596	7448
20°	8129	7324	7148
25°	7984	7062	6875
30°	7780	6794	6601
35°	7575	6536	6409
40°	7360	6315	6215
45°	7153	6118	6051
50°	6934	5937	5888
55°	6700	5744	5722
60°	6417	5546	5546
65°	6122	5313	5339
70°	5796	5061	5115
75°	5371	4816	4908
80°	4707	4564	4698
85°	4070	4346	4535



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	49.3	1.0
10°-20°	141.4	2.9
20°-30°	214.3	4.4
30°-40°	261.0	5.4
40°-50°	280.8	5.8
50°-60°	272.7	5.6
60°-70°	238.1	4.9
70°-80°	183.3	3.8
80°-90°	125.4	2.6
90°-100°	117.3	2.4
100°-110°	181.4	3.7
110°-120°	360.3	7.4
120°-130°	550.2	11.3
130°-140°	570.4	11.8
140°-150°	522.9	10.8
150°-160°	419.1	8.6
160°-170°	270.1	5.6
170°-180°	93.0	1.9
0°-30°	405.0	8.3
0°-40°	666.0	13.7
0°-60°	1219.4	25.1
0°-90°	1766.2	36.4
90°-120°	659.1	13.6
90°-150°	2302.6	47.5
90°-180°	3085.0	63.6
0°-180°	4851.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	520	520	520	520	520	
5°	522	520	515	519	519	49
15°	498	499	499	506	505	140
25°	452	458	464	473	476	208
35°	390	403	417	433	439	244
45°	320	340	367	389	398	247
55°	245	273	311	338	348	219
65°	167	205	249	279	290	166
75°	93	135	183	214	226	98
85°	27	74	122	153	164	29
90°	8	60	114	146	158	7
95°	52	66	114	145	155	61
105°	219	251	108	141	153	234
115°	410	432	481	191	134	403
125°	576	587	623	647	657	514
135°	712	723	737	759	765	550
145°	825	825	836	845	846	516
155°	908	903	911	914	909	418
165°	957	953	955	960	955	270
175°	979	974	976	980	974	93
180°	977	977	977	977	977	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	523.4	523.0	522.6	522.2	521.8	521.1	520.2	519.3	518.4	517.4	518.1
5°	521.9	521.4	520.9	520.4	519.9	519.2	518.2	517.2	516.1	515.1	516.1
7.5°	517.3	516.8	516.5	516.2	515.9	515.3	514.5	513.8	513.0	512.2	513.4
10°	513.6	513.3	512.9	512.6	512.3	511.9	511.4	510.9	510.4	509.9	511.2
12.5°	507.6	507.7	507.8	507.8	507.9	507.7	507.4	507.0	506.5	506.2	507.6
15°	497.8	498.1	498.5	498.8	499.1	499.3	499.3	499.3	499.3	499.3	500.8
17.5°	485.1	485.8	486.6	487.3	488.0	488.6	489.1	489.6	490.2	490.7	492.2
20°	476.7	477.5	478.4	479.2	480.0	480.8	481.4	482.1	482.8	483.4	485.2
22.5°	467.6	468.6	469.6	470.5	471.5	472.4	473.4	474.3	475.2	476.3	478.1
25°	452.5	453.7	454.8	456.1	457.2	458.6	460.1	461.6	463.1	464.5	466.6
27.5°	434.4	436.4	438.3	440.2	442.0	443.9	445.7	447.5	449.2	451.0	453.5
30°	422.3	424.5	426.7	428.9	431.1	433.2	435.5	437.6	439.8	441.9	444.6
32.5°	409.1	411.5	413.9	416.5	418.9	421.4	423.9	426.6	429.1	431.7	434.7
35°	389.9	392.7	395.7	398.5	401.3	404.3	407.5	410.7	413.8	417.1	420.7
37.5°	369.1	372.4	375.7	379.0	382.2	386.0	390.1	394.2	398.3	402.4	406.6
40°	355.3	358.9	362.6	366.3	370.0	374.1	378.6	383.1	387.7	392.2	396.6
42.5°	341.9	345.7	349.3	353.0	356.7	361.1	366.4	371.5	376.8	381.9	386.7
45°	319.8	324.3	328.8	333.4	337.9	343.1	348.9	354.8	360.7	366.6	371.7
47.5°	297.9	302.9	307.8	312.7	317.6	323.6	330.4	337.3	344.2	351.0	356.5
50°	282.9	288.0	293.3	298.4	303.6	309.9	317.5	325.1	332.6	340.1	345.9
52.5°	268.3	273.8	279.2	284.8	290.2	296.9	304.9	312.8	320.7	328.7	334.5
55°	245.1	251.2	257.2	263.2	269.2	276.6	285.4	294.1	302.8	311.4	317.5
57.5°	222.2	229.0	235.8	242.6	249.4	257.2	266.1	275.0	283.9	292.8	299.3
60°	205.9	213.1	220.4	227.5	234.7	243.1	252.7	262.2	271.8	281.3	287.7
62.5°	191.4	198.8	206.4	213.9	221.4	229.8	239.3	248.9	258.5	268.0	274.8
65°	167.4	175.6	183.9	192.1	200.3	209.3	219.2	229.1	239.0	248.9	255.8
67.5°	145.4	154.0	162.6	171.2	179.8	189.0	199.2	209.3	219.4	229.5	236.5
70°	129.8	138.5	147.1	155.8	164.6	174.1	184.5	194.9	205.3	215.7	222.9
72.5°	115.2	124.2	133.2	142.2	151.2	161.0	171.5	182.0	192.5	203.0	210.2
75°	92.8	102.2	111.5	120.9	130.3	140.4	151.1	161.8	172.6	183.3	190.5
77.5°	71.1	80.9	90.7	100.5	110.4	120.7	131.6	142.5	153.4	164.3	171.5
80°	56.6	66.8	77.1	87.3	97.5	108.1	119.0	129.8	140.7	151.6	158.6
82.5°	44.5	54.6	64.6	74.7	84.8	95.4	106.4	117.4	128.5	139.6	146.5
85°	27.2	37.6	48.0	58.4	68.7	79.3	90.0	100.7	111.5	122.2	129.3
87.5°	14.9	25.2	35.5	45.9	56.2	67.0	77.9	88.9	99.9	110.8	117.9
90°	8.3	19.7	31.1	42.6	54.0	65.7	77.8	89.8	101.7	113.7	121.2
92.5°	21.2	30.1	39.0	47.9	56.8	66.8	77.7	88.7	99.6	110.5	117.5
95°	52.0	54.6	57.4	60.1	62.7	69.7	80.8	92.0	103.1	114.3	121.5
97.5°	96.4	88.9	81.3	73.6	66.0	68.4	80.6	92.7	104.9	117.1	124.0
100°	130.4	115.1	99.8	84.4	69.1	67.5	79.6	91.6	103.6	115.7	123.2
102.5°	167.1	168.2	169.4	170.5	171.6	165.5	152.3	139.1	125.8	112.6	120.3
105°	218.7	228.2	237.8	247.4	257.0	244.7	210.6	176.3	142.2	108.0	115.6
107.5°	278.3	286.0	293.8	301.4	309.1	291.4	248.3	205.2	162.2	119.1	122.9
110°	316.2	322.9	329.5	336.2	342.8	327.5	290.3	253.2	216.0	178.7	168.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	352.4	358.1	363.9	369.6	375.4	376.5	373.1	369.7	366.3	362.8	310.9
115°	409.5	414.0	418.6	423.0	427.6	435.6	447.1	458.5	470.0	481.4	413.7
117.5°	459.8	464.0	468.2	472.4	476.6	483.5	493.2	502.8	512.5	522.2	509.6
120°	497.2	500.2	503.2	506.2	509.3	515.5	525.0	534.6	544.1	553.6	560.3
122.5°	528.8	531.6	534.3	537.0	539.8	545.8	555.2	564.6	574.0	583.4	589.1
125°	576.2	578.3	580.4	582.4	584.4	589.7	597.9	606.3	614.7	623.0	628.6
127.5°	620.0	622.1	624.1	626.2	628.3	632.7	639.2	645.8	652.4	658.8	664.6
130°	647.6	650.1	652.4	654.7	657.0	660.9	666.1	671.4	676.6	681.9	687.6
132.5°	675.9	677.9	679.8	681.9	683.8	687.0	691.5	695.9	700.3	704.8	710.1
135°	712.0	714.5	717.0	719.5	722.1	724.8	727.9	731.0	734.1	737.2	742.3
137.5°	749.1	750.8	752.6	754.4	756.1	758.1	760.4	762.8	765.1	767.4	772.0
140°	773.5	774.6	775.7	776.7	777.8	779.4	781.4	783.6	785.6	787.7	791.7
142.5°	793.9	794.8	795.8	796.7	797.7	799.2	801.2	803.2	805.4	807.4	810.8
145°	825.1	824.9	824.8	824.6	824.4	825.7	828.3	831.0	833.6	836.4	838.4
147.5°	852.8	852.3	851.7	851.1	850.5	851.5	854.1	856.8	859.4	862.0	863.0
150°	871.0	869.9	868.8	867.7	866.6	867.3	869.8	872.3	874.8	877.4	878.3
152.5°	886.3	885.0	883.8	882.5	881.3	881.9	884.3	886.7	889.1	891.5	892.4
155°	908.5	907.1	905.6	904.2	902.8	903.0	904.9	906.8	908.7	910.6	911.5
157.5°	925.8	924.6	923.4	922.2	921.1	921.1	922.4	923.7	925.0	926.3	927.5
160°	936.0	935.0	934.1	933.2	932.2	932.2	933.2	934.1	935.0	936.0	937.0
162.5°	945.0	944.1	943.2	942.2	941.3	941.2	942.0	942.9	943.7	944.5	945.5
165°	957.3	956.2	955.3	954.4	953.4	953.2	953.7	954.1	954.6	955.1	956.2
167.5°	966.2	965.3	964.4	963.4	962.5	962.3	962.7	963.1	963.6	964.0	965.1
170°	971.4	970.4	969.5	968.6	967.6	967.2	967.6	968.0	968.3	968.6	969.7
172.5°	974.7	973.8	972.9	971.9	971.0	970.7	971.0	971.3	971.6	971.9	973.0
175°	979.2	978.1	976.9	975.8	974.7	974.3	974.6	975.0	975.3	975.6	976.7
177.5°	979.9	979.0	978.1	977.2	976.3	975.9	976.0	976.2	976.3	976.4	977.3
180°	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	520.4	520.4	520.4	520.4	520.4	520.4	520.4	520.4
2.5°	518.8	519.4	520.1	520.3	520.0	519.8	519.5	519.2
5°	517.2	518.2	519.2	519.6	519.4	519.3	519.1	518.9
7.5°	514.6	515.8	517.1	517.6	517.5	517.3	517.1	516.9
10°	512.5	513.8	515.2	515.8	515.6	515.4	515.3	515.1
12.5°	508.9	510.3	511.6	512.2	512.0	511.8	511.7	511.5
15°	502.3	503.8	505.3	505.9	505.8	505.6	505.4	505.3
17.5°	493.8	495.4	497.0	497.8	497.8	497.8	497.8	497.8
20°	487.2	489.0	490.8	491.7	491.7	491.7	491.7	491.7
22.5°	479.9	481.7	483.6	484.6	484.9	485.1	485.4	485.7
25°	468.6	470.6	472.6	473.9	474.4	474.9	475.4	475.9
27.5°	456.2	458.7	461.2	462.6	463.0	463.4	463.7	464.1
30°	447.4	450.0	452.7	454.2	454.7	455.2	455.8	456.3
32.5°	437.9	440.9	444.0	446.1	447.0	447.9	448.8	449.7
35°	424.4	428.2	431.8	434.2	435.5	436.6	437.8	439.0
37.5°	410.6	414.8	418.8	421.4	422.7	423.9	425.2	426.5
40°	400.9	405.3	409.6	412.5	414.0	415.6	417.1	418.6
42.5°	391.4	396.2	400.9	404.1	405.6	407.1	408.6	410.1
45°	377.0	382.1	387.3	390.7	392.4	394.2	395.8	397.5
47.5°	361.8	367.3	372.7	376.4	378.2	380.0	381.9	383.7
50°	351.5	357.2	362.9	366.7	368.6	370.4	372.2	374.1
52.5°	340.3	346.2	352.0	355.9	357.9	359.9	361.8	363.9
55°	323.6	329.6	335.6	339.7	341.9	344.1	346.3	348.4
57.5°	305.8	312.3	318.8	323.2	325.4	327.6	329.8	332.0
60°	294.1	300.4	306.8	311.1	313.5	315.9	318.2	320.5
62.5°	281.6	288.3	295.1	299.6	301.8	304.1	306.3	308.5
65°	262.7	269.5	276.4	280.9	283.1	285.3	287.4	289.6
67.5°	243.5	250.3	257.3	262.0	264.2	266.5	268.8	271.0
70°	230.1	237.3	244.5	249.1	251.2	253.2	255.2	257.2
72.5°	217.2	224.3	231.4	236.1	238.4	240.9	243.3	245.7
75°	197.7	204.9	212.1	216.8	218.9	221.2	223.3	225.5
77.5°	178.6	185.8	193.0	197.7	200.1	202.4	204.8	207.1
80°	165.7	172.7	179.8	184.4	186.8	189.1	191.5	193.8
82.5°	153.6	160.7	167.6	172.3	174.5	176.7	178.9	181.2
85°	136.2	143.3	150.4	155.0	157.3	159.8	162.1	164.4
87.5°	124.8	131.8	138.9	143.4	145.6	147.8	150.1	152.3
90°	128.7	136.1	143.6	148.6	150.9	153.2	155.5	157.8
92.5°	124.5	131.5	138.5	143.0	145.2	147.4	149.7	151.8
95°	128.7	135.7	142.9	147.4	149.3	151.2	153.0	154.8
97.5°	130.8	137.6	144.5	149.0	151.2	153.3	155.4	157.6
100°	130.7	138.0	145.5	150.4	152.5	154.7	156.8	159.0
102.5°	128.1	135.7	143.4	148.5	150.7	153.0	155.3	157.5
105°	123.2	130.8	138.4	143.4	145.8	148.3	150.8	153.3
107.5°	126.8	130.7	134.5	137.7	140.2	142.7	145.1	147.6
110°	158.0	147.7	137.3	133.4	135.9	138.4	140.9	143.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	259.0	207.0	155.1	130.3	132.6	135.0	137.3	139.7
115°	346.0	278.3	210.6	172.0	162.6	153.1	143.6	134.1
117.5°	497.0	484.3	471.7	447.6	412.1	376.7	341.2	305.8
120°	566.8	573.4	580.0	573.6	554.2	534.8	515.4	496.1
122.5°	594.8	600.5	606.1	607.7	605.2	602.7	600.1	597.5
125°	634.3	639.9	645.5	649.3	651.3	653.3	655.3	657.2
127.5°	670.3	676.2	682.0	685.6	687.1	688.7	690.2	691.9
130°	693.4	699.1	704.9	708.3	709.5	710.6	711.9	713.1
132.5°	715.5	720.9	726.3	729.5	730.7	732.0	733.1	734.3
135°	747.4	752.5	757.5	760.6	761.6	762.7	763.7	764.7
137.5°	776.7	781.3	786.0	788.5	789.1	789.7	790.3	790.9
140°	795.9	799.9	804.1	806.2	806.4	806.6	806.9	807.1
142.5°	814.3	817.7	821.1	822.8	822.9	823.0	823.1	823.2
145°	840.5	842.6	844.8	845.9	845.9	846.0	846.0	846.1
147.5°	863.9	864.9	865.9	866.3	866.0	865.7	865.5	865.2
150°	879.2	880.2	881.1	881.2	880.4	879.6	878.8	878.1
152.5°	893.3	894.3	895.2	895.2	894.1	893.1	892.1	891.0
155°	912.4	913.4	914.3	914.1	912.9	911.7	910.4	909.2
157.5°	928.6	929.6	930.7	930.6	929.4	928.2	927.0	925.6
160°	937.9	938.9	939.8	939.7	938.6	937.5	936.4	935.3
162.5°	946.6	947.7	948.8	948.7	947.3	945.9	944.5	943.2
165°	957.4	958.4	959.5	959.5	958.4	957.4	956.2	955.1
167.5°	966.2	967.3	968.4	968.3	966.8	965.4	964.0	962.6
170°	970.8	971.8	972.9	972.8	971.4	970.0	968.6	967.1
172.5°	974.1	975.2	976.3	976.1	974.7	973.3	971.9	970.5
175°	977.9	978.9	980.0	979.8	978.2	976.6	975.0	973.5
177.5°	978.3	979.1	980.0	979.9	978.8	977.5	976.4	975.3
180°	977.0	977.0	977.0	977.0	977.0	977.0	977.0	977.0

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