

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: P331961-930

Luminaire Tested: **S123DIP-S775D365U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331961-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S775D365U930-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 775 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3767.1 lumens  
Efficiency: N/A  
Efficacy: 107.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

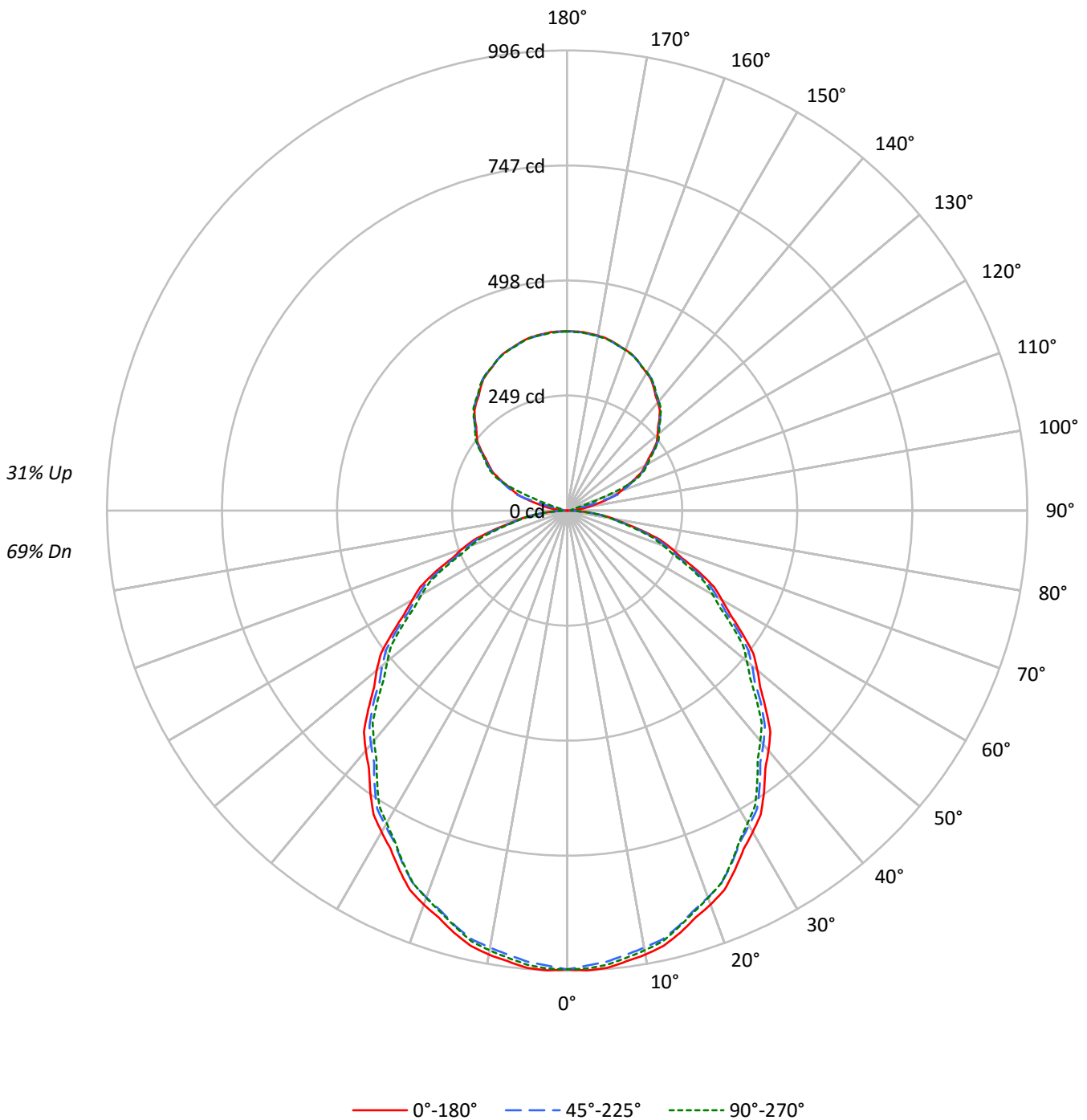
Input Watts (W): 35  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	112	112	112	112	105	105	105	105	94	94	94		83	83	83		73	73	73	69
1	102	97	93	90	96	92	89	85	82	79	77		73	71	69		65	63	62	58
2	93	85	79	73	87	80	75	70	72	68	64		64	61	58		57	54	52	48
3	85	75	67	61	80	71	64	58	63	58	54		57	52	49		50	47	44	41
4	77	66	58	52	73	63	55	50	56	50	46		51	46	42		45	41	38	35
5	71	59	51	44	67	56	49	43	51	44	39		45	40	36		41	36	33	30
6	66	53	45	39	62	51	43	37	46	39	35		41	36	32		37	33	29	27
7	61	48	40	34	57	46	38	33	41	35	31		37	32	28		34	29	26	24
8	57	44	36	30	53	42	34	29	38	32	27		34	29	25		31	27	23	21
9	53	40	32	27	50	38	31	26	35	29	24		32	26	23		29	24	21	19
10	49	37	29	24	47	35	28	24	32	26	22		29	24	21		26	22	19	17

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

	0°	45°	90°
0°	10687	10687	10687
5°	10737	10589	10662
10°	10665	10497	10563
15°	10541	10379	10398
20°	10394	10208	10219
25°	10200	10007	9987
30°	9984	9783	9708
35°	9759	9546	9423
40°	9524	9284	9140
45°	9266	9045	8824
50°	9008	8748	8505
55°	8668	8443	8188
60°	8325	8086	7830
65°	8023	7697	7457
70°	7578	7254	6930
75°	6924	6675	6392
80°	6248	5976	5926
85°	5483	5274	5064



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	93.5	2.5
10°-20°	264.1	7.0
20°-30°	390.1	10.4
30°-40°	455.7	12.1
40°-50°	458.1	12.2
50°-60°	402.4	10.7
60°-70°	299.8	8.0
70°-80°	170.8	4.5
80°-90°	50.1	1.3
90°-100°	14.1	0.4
100°-110°	67.2	1.8
110°-120°	161.4	4.3
120°-130°	205.5	5.5
130°-140°	219.6	5.8
140°-150°	205.4	5.5
150°-160°	165.6	4.4
160°-170°	106.9	2.8
170°-180°	36.8	1.0
0°-30°	747.7	19.8
0°-40°	1203.3	31.9
0°-60°	2063.8	54.8
0°-90°	2584.6	68.6
90°-120°	242.7	6.4
90°-150°	873.2	23.2
90°-180°	1183.0	31.4
0°-180°	3767.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	993	993	993	993	993	
5°	994	989	980	988	987	94
15°	946	942	931	938	933	267
25°	859	853	843	843	841	395
35°	743	737	726	721	717	464
45°	609	605	594	584	580	470
55°	462	460	450	441	436	414
65°	315	310	302	296	293	311
75°	166	163	160	156	154	178
85°	44	43	43	41	41	49
90°	0	3	7	8	9	3
95°	18	7	9	11	11	22
105°	86	87	63	15	13	91
115°	161	163	165	168	169	159
125°	227	229	230	231	232	203
135°	283	284	286	286	286	217
145°	326	328	329	329	329	204
155°	359	359	359	360	359	165
165°	379	378	378	380	378	107
175°	388	386	387	388	386	37
180°	388	388	388	388	388	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9
2.5°	996.2	995.6	995.1	994.4	993.8	992.7	991.0	989.4	987.7	986.0	987.5
5°	993.7	992.7	991.8	990.8	989.9	988.4	986.3	984.2	982.1	980.0	981.9
7.5°	984.0	983.0	982.0	981.1	980.2	978.6	976.4	974.3	972.1	970.0	971.7
10°	975.8	974.8	973.9	972.9	972.0	970.3	967.8	965.3	962.9	960.4	962.1
12.5°	964.8	964.0	963.3	962.5	961.6	960.1	957.8	955.4	953.2	950.8	952.1
15°	945.9	945.1	944.4	943.6	942.8	941.3	938.7	936.3	933.8	931.4	932.9
17.5°	923.8	922.8	921.9	920.9	919.9	918.2	915.7	913.2	910.8	908.3	909.4
20°	907.4	906.3	905.2	904.1	902.9	901.1	898.6	896.2	893.7	891.2	892.0
22.5°	889.0	887.9	886.7	885.6	884.4	882.6	880.2	877.8	875.3	872.8	873.4
25°	858.8	857.7	856.6	855.4	854.3	852.5	849.9	847.5	845.1	842.6	842.8
27.5°	826.6	825.4	824.3	823.2	822.1	820.3	817.6	815.0	812.3	809.6	809.8
30°	803.3	802.3	801.4	800.5	799.5	797.7	795.1	792.4	789.8	787.1	787.1
32.5°	780.1	778.9	777.6	776.3	775.1	773.5	771.4	769.3	767.3	765.2	764.2
35°	742.7	741.6	740.5	739.3	738.2	736.4	733.9	731.4	729.0	726.5	725.4
37.5°	704.4	703.0	701.6	700.1	698.7	696.8	694.2	691.7	689.2	686.7	685.3
40°	677.8	676.7	675.6	674.4	673.3	671.4	668.7	666.1	663.4	660.7	659.3
42.5°	651.2	649.9	648.6	647.3	646.0	644.1	641.4	638.7	636.1	633.4	631.9
45°	608.7	607.9	607.2	606.4	605.6	604.1	601.5	599.1	596.6	594.2	591.9
47.5°	566.5	565.4	564.3	563.2	562.1	560.4	558.1	555.8	553.4	551.1	548.9
50°	537.9	536.9	535.9	535.0	534.0	532.3	529.9	527.4	524.9	522.4	520.4
52.5°	507.8	507.1	506.5	505.8	505.2	503.5	500.9	498.3	495.7	493.1	491.3
55°	461.9	461.6	461.5	461.3	461.1	459.7	457.3	454.9	452.3	449.9	447.8
57.5°	418.2	417.5	416.9	416.2	415.6	414.3	412.3	410.3	408.3	406.3	404.5
60°	386.7	386.5	386.4	386.1	386.0	384.7	382.5	380.2	377.9	375.6	373.9
62.5°	358.7	358.2	357.8	357.3	356.8	355.4	353.1	350.8	348.5	346.3	344.5
65°	315.0	314.1	313.1	312.2	311.2	309.8	307.9	306.0	304.1	302.2	300.7
67.5°	268.7	267.9	267.1	266.2	265.4	264.2	262.9	261.4	259.9	258.5	257.1
70°	240.8	239.6	238.5	237.3	236.2	235.1	233.9	232.8	231.6	230.5	229.2
72.5°	211.4	210.5	209.7	208.9	208.1	207.0	205.7	204.4	203.1	201.8	200.6
75°	166.5	165.7	164.9	164.2	163.5	162.7	162.2	161.6	161.0	160.5	159.6
77.5°	126.7	126.3	125.9	125.5	125.0	124.5	123.8	123.1	122.5	121.7	121.1
80°	100.8	100.2	99.6	99.1	98.5	98.0	97.6	97.3	96.9	96.4	96.3
82.5°	75.5	75.3	75.3	75.1	75.0	74.9	74.8	74.8	74.7	74.6	74.3
85°	44.4	44.0	43.6	43.3	42.9	42.7	42.7	42.7	42.7	42.7	42.3
87.5°	17.8	17.4	17.1	16.8	16.5	16.4	16.4	16.4	16.4	16.4	16.3
90°	0.3	0.9	1.5	2.2	2.9	3.6	4.4	5.2	6.1	6.9	7.2
92.5°	5.4	5.2	5.0	4.8	4.6	4.9	5.5	6.1	6.8	7.3	7.7
95°	17.6	14.9	12.3	9.7	7.1	6.1	6.8	7.5	8.2	9.0	9.4
97.5°	35.3	34.2	32.9	31.8	30.6	27.7	23.1	18.5	13.9	9.3	9.8
100°	48.7	50.0	51.3	52.5	53.8	49.5	39.5	29.5	19.5	9.5	10.0
102.5°	63.9	64.8	65.7	66.7	67.6	62.6	51.7	40.8	29.8	19.0	17.4
105°	85.9	86.6	87.2	88.0	88.7	86.2	80.4	74.6	68.9	63.1	51.8
107.5°	109.0	109.6	110.1	110.7	111.3	112.0	112.9	113.8	114.7	115.6	107.3
110°	124.5	125.0	125.5	126.0	126.5	127.1	127.8	128.5	129.2	130.0	127.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	139.2	139.7	140.1	140.6	141.0	141.6	142.4	143.1	143.7	144.5	144.5
115°	161.0	161.4	161.8	162.2	162.6	163.1	163.6	164.2	164.8	165.3	166.0
117.5°	182.2	182.7	183.1	183.6	184.1	184.5	184.7	185.1	185.4	185.6	186.1
120°	195.3	195.9	196.5	197.1	197.6	198.0	198.2	198.4	198.6	198.8	199.3
122.5°	208.7	209.2	209.6	210.1	210.6	210.9	211.2	211.4	211.7	211.9	212.3
125°	227.1	227.6	228.0	228.5	229.1	229.4	229.8	230.0	230.2	230.5	230.6
127.5°	244.8	245.3	245.8	246.3	246.8	247.2	247.5	247.9	248.2	248.4	248.7
130°	255.8	256.3	256.8	257.4	257.9	258.3	258.5	258.8	259.0	259.3	259.5
132.5°	266.4	266.9	267.5	268.0	268.5	268.8	269.0	269.3	269.5	269.7	269.9
135°	282.7	283.0	283.4	283.8	284.1	284.5	284.7	285.0	285.3	285.5	285.7
137.5°	296.4	296.9	297.4	297.9	298.4	298.7	298.9	299.0	299.1	299.3	299.6
140°	305.7	306.1	306.5	306.8	307.2	307.5	307.7	307.9	308.1	308.3	308.5
142.5°	314.2	314.6	315.0	315.4	315.8	316.0	316.3	316.4	316.6	316.8	317.0
145°	326.1	326.6	327.0	327.5	327.9	328.2	328.3	328.5	328.6	328.7	328.9
147.5°	337.4	337.7	337.9	338.3	338.5	338.8	338.9	339.0	339.2	339.2	339.4
150°	344.3	344.5	344.6	344.9	345.0	345.2	345.4	345.4	345.6	345.7	345.8
152.5°	350.5	350.6	350.7	350.7	350.8	351.0	351.0	351.1	351.1	351.2	351.5
155°	359.3	359.1	359.0	358.9	358.7	358.7	358.8	358.8	358.9	359.0	359.3
157.5°	366.1	366.1	366.1	366.0	366.0	366.0	365.9	365.8	365.7	365.7	366.1
160°	370.2	370.1	370.1	370.0	370.0	369.9	369.8	369.7	369.7	369.7	370.0
162.5°	374.1	374.0	373.8	373.7	373.5	373.3	373.2	373.2	373.2	373.1	373.5
165°	378.9	378.6	378.5	378.3	378.1	378.0	377.9	377.8	377.7	377.7	378.2
167.5°	382.5	382.3	382.0	381.8	381.5	381.4	381.4	381.4	381.4	381.4	381.9
170°	384.6	384.3	384.1	383.8	383.6	383.4	383.4	383.4	383.4	383.4	384.0
172.5°	386.0	385.7	385.4	385.1	384.7	384.7	384.7	384.7	384.8	384.8	385.4
175°	387.8	387.4	387.1	386.9	386.5	386.4	386.5	386.5	386.5	386.6	387.1
177.5°	388.2	388.0	387.8	387.5	387.2	387.1	387.2	387.2	387.3	387.3	387.8
180°	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	992.9	992.9	992.9	992.9	992.9	992.9	992.9	992.9
2.5°	989.0	990.6	992.1	992.8	992.6	992.5	992.3	992.1
5°	983.8	985.7	987.7	988.4	988.0	987.7	987.2	986.8
7.5°	973.4	975.1	976.8	977.5	977.3	977.1	976.8	976.6
10°	963.8	965.5	967.2	967.9	967.5	967.1	966.8	966.4
12.5°	953.3	954.6	955.9	956.3	956.1	955.9	955.7	955.4
15°	934.4	935.9	937.4	937.6	936.5	935.3	934.3	933.1
17.5°	910.4	911.5	912.6	912.9	912.5	912.1	911.7	911.3
20°	892.8	893.5	894.3	894.4	893.8	893.2	892.7	892.1
22.5°	874.0	874.7	875.2	875.1	874.5	873.8	873.0	872.3
25°	842.9	843.2	843.3	843.2	842.6	842.0	841.5	840.9
27.5°	809.9	810.1	810.2	809.9	809.3	808.5	807.8	807.1
30°	787.1	787.1	787.1	786.4	785.1	783.7	782.4	781.1
32.5°	763.1	762.1	761.0	760.1	759.4	758.6	757.9	757.2
35°	724.2	723.1	721.9	720.9	719.9	719.0	718.0	717.1
37.5°	684.0	682.6	681.3	680.3	679.6	679.1	678.4	677.8
40°	657.7	656.2	654.7	653.5	652.8	652.0	651.3	650.5
42.5°	630.4	628.8	627.4	626.2	625.5	624.7	623.9	623.2
45°	589.6	587.3	585.1	583.4	582.5	581.6	580.6	579.7
47.5°	546.7	544.5	542.2	540.6	539.8	539.0	538.2	537.3
50°	518.3	516.2	514.1	512.5	511.4	510.2	509.1	507.9
52.5°	489.5	487.7	485.9	484.5	483.4	482.2	481.1	480.0
55°	445.7	443.6	441.6	440.0	439.0	438.1	437.2	436.3
57.5°	402.6	400.8	398.9	397.5	396.3	395.3	394.1	393.1
60°	372.2	370.5	368.8	367.5	366.5	365.6	364.6	363.7
62.5°	342.8	341.1	339.4	338.3	337.6	337.0	336.3	335.7
65°	299.1	297.7	296.1	295.1	294.5	293.9	293.3	292.8
67.5°	255.8	254.5	253.2	252.1	251.4	250.5	249.7	248.9
70°	227.9	226.5	225.2	224.0	223.1	222.2	221.2	220.2
72.5°	199.4	198.3	197.1	196.2	195.8	195.3	194.8	194.3
75°	158.6	157.7	156.7	156.0	155.4	154.8	154.3	153.7
77.5°	120.4	119.8	119.1	118.9	118.9	118.9	118.9	118.9
80°	96.1	95.9	95.7	95.6	95.6	95.6	95.6	95.6
82.5°	73.9	73.6	73.2	73.0	72.9	72.7	72.6	72.4
85°	41.9	41.6	41.2	41.0	41.0	41.0	41.0	41.0
87.5°	16.2	16.1	16.0	16.0	16.0	16.0	16.1	16.1
90°	7.4	7.7	7.9	8.2	8.2	8.4	8.5	8.6
92.5°	8.2	8.6	9.0	9.3	9.3	9.4	9.5	9.5
95°	9.9	10.3	10.8	10.9	10.9	10.9	10.9	10.9
97.5°	10.3	10.8	11.3	11.6	11.7	11.7	11.8	11.9
100°	10.5	11.0	11.6	11.8	11.9	12.0	12.1	12.1
102.5°	15.8	14.2	12.6	11.9	12.0	12.1	12.2	12.3
105°	40.4	29.1	17.8	12.1	12.3	12.4	12.6	12.6
107.5°	99.1	90.7	82.4	73.9	65.5	56.9	48.3	39.8
110°	125.7	123.6	121.5	115.9	106.7	97.5	88.4	79.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	144.6	144.6	144.6	143.7	141.7	139.8	137.9	135.9
115°	166.6	167.3	168.0	168.4	168.6	168.9	169.2	169.4
117.5°	186.7	187.2	187.7	188.0	188.0	188.1	188.2	188.2
120°	199.8	200.3	200.8	201.1	201.1	201.1	201.1	201.1
122.5°	212.6	213.0	213.4	213.5	213.6	213.7	213.7	213.8
125°	230.7	230.9	231.0	231.1	231.2	231.4	231.5	231.6
127.5°	248.8	249.1	249.3	249.3	249.2	249.1	248.9	248.8
130°	259.8	260.1	260.3	260.4	260.2	260.2	260.0	259.8
132.5°	270.2	270.4	270.7	270.8	270.5	270.4	270.2	270.0
135°	285.9	286.1	286.3	286.3	286.1	285.9	285.7	285.5
137.5°	299.9	300.2	300.5	300.6	300.4	300.4	300.2	300.1
140°	308.8	309.0	309.3	309.3	309.2	309.1	309.0	308.8
142.5°	317.2	317.4	317.6	317.6	317.5	317.2	317.1	316.9
145°	329.0	329.1	329.2	329.3	329.3	329.3	329.3	329.3
147.5°	339.5	339.7	339.8	339.7	339.4	339.1	338.8	338.5
150°	346.0	346.1	346.3	346.2	346.0	345.8	345.6	345.4
152.5°	351.7	352.0	352.2	352.1	351.9	351.6	351.2	351.0
155°	359.6	360.0	360.3	360.2	359.9	359.5	359.1	358.7
157.5°	366.5	366.9	367.3	367.2	366.7	366.2	365.7	365.2
160°	370.4	370.8	371.2	371.1	370.7	370.2	369.8	369.3
162.5°	374.0	374.4	374.8	374.9	374.5	374.1	373.7	373.2
165°	378.7	379.3	379.8	379.8	379.4	378.9	378.5	378.0
167.5°	382.4	382.9	383.4	383.4	382.9	382.4	381.9	381.4
170°	384.5	385.0	385.5	385.5	385.0	384.5	384.0	383.4
172.5°	385.9	386.4	386.9	386.9	386.3	385.7	385.1	384.6
175°	387.5	388.0	388.4	388.4	387.9	387.3	386.9	386.4
177.5°	388.2	388.6	389.0	388.9	388.4	387.9	387.3	386.9
180°	387.8	387.8	387.8	387.8	387.8	387.8	387.8	387.8

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