

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: P331889-930

Luminaire Tested: **S123DIP-S340D805U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331889-930  
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-S340D805U930-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3768.3 lumens  
Efficiency: N/A  
Efficacy: 120.8 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-Indirect

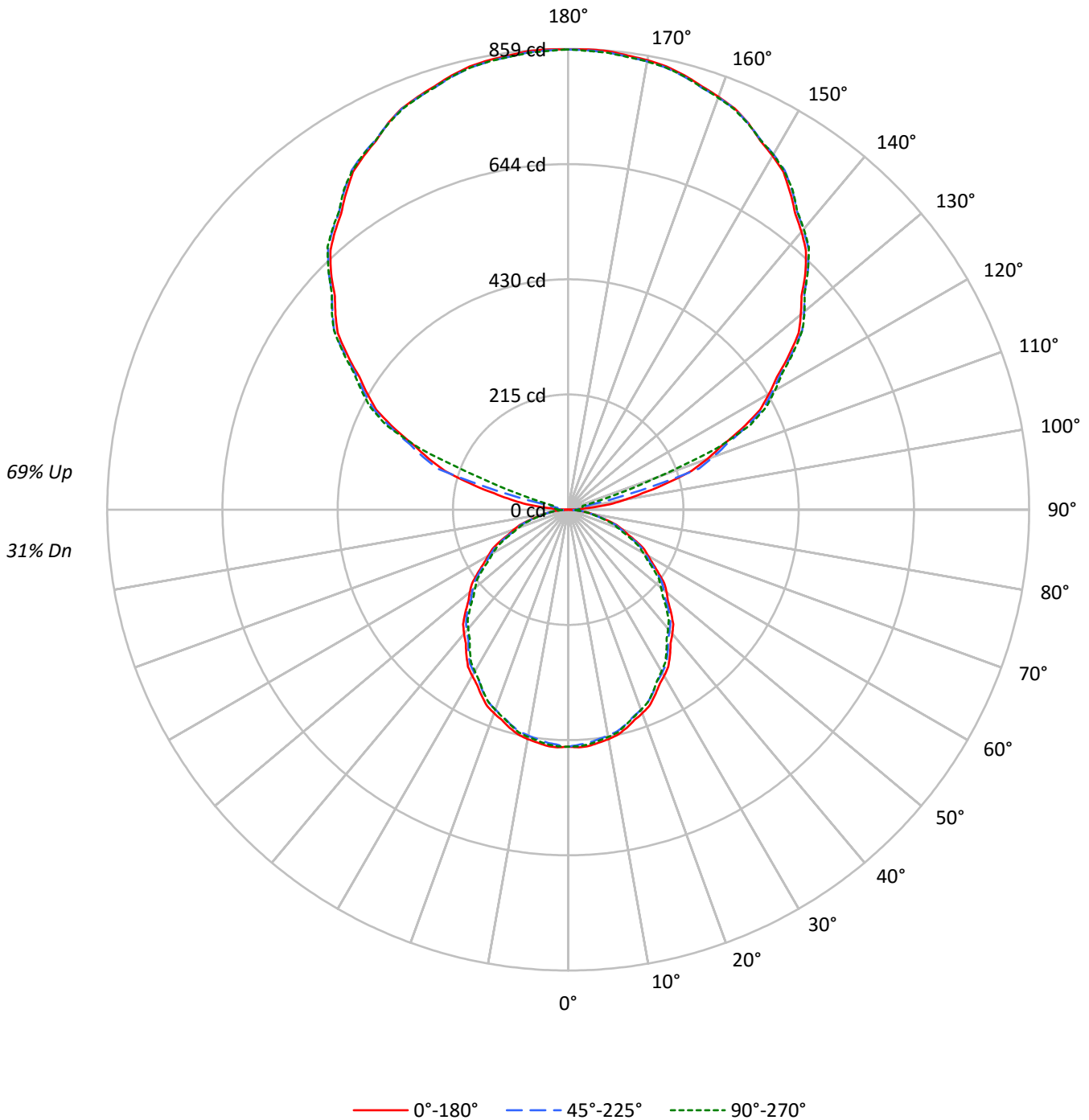
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	103	103	103	103	92	92	92	92	73	73	73	55	55	55	38	38	38	31				
1	93	89	85	82	84	80	77	74	63	61	59	48	47	45	34	33	32	26				
2	85	78	72	67	76	70	65	61	55	52	49	42	40	38	30	28	27	21				
3	77	68	61	56	69	62	56	51	49	45	41	37	34	32	26	24	23	18				
4	71	60	53	47	63	54	48	43	43	39	35	33	30	27	23	21	20	16				
5	65	54	46	40	58	48	42	37	39	34	30	30	26	23	21	19	17	13				
6	60	48	40	34	53	43	37	32	35	30	26	27	23	20	19	17	15	12				
7	55	43	35	30	49	39	32	28	31	26	23	24	21	18	17	15	13	10				
8	51	39	32	26	46	35	29	24	29	24	20	22	19	16	16	14	12	9				
9	47	36	28	23	42	32	26	22	26	21	18	20	17	14	15	12	11	8				
10	44	32	25	21	40	30	23	19	24	19	16	19	15	13	14	11	10	8				

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

	0°	45°	90°
0°	4755	4755	4755
5°	4778	4712	4744
10°	4746	4671	4701
15°	4690	4619	4627
20°	4625	4543	4548
25°	4538	4454	4444
30°	4443	4354	4320
35°	4343	4248	4193
40°	4239	4131	4068
45°	4122	4025	3927
50°	4007	3893	3785
55°	3856	3757	3643
60°	3705	3597	3483
65°	3568	3423	3319
70°	3371	3229	3084
75°	3082	2969	2845
80°	2777	2665	2641
85°	2433	2347	2260



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.6	1.1
10°-20°	117.5	3.1
20°-30°	173.6	4.6
30°-40°	202.8	5.4
40°-50°	203.9	5.4
50°-60°	179.1	4.8
60°-70°	133.4	3.5
70°-80°	76.0	2.0
80°-90°	24.2	0.6
90°-100°	31.2	0.8
100°-110°	148.7	3.9
110°-120°	357.1	9.5
120°-130°	454.7	12.1
130°-140°	485.8	12.9
140°-150°	454.3	12.1
150°-160°	366.5	9.7
160°-170°	236.5	6.3
170°-180°	81.5	2.2
0°-30°	332.7	8.8
0°-40°	535.5	14.2
0°-60°	918.4	24.4
0°-90°	1152.0	30.6
90°-120°	536.9	14.2
90°-150°	1931.8	51.3
90°-180°	2616.0	69.4
0°-180°	3768.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	442	442	442	442	442	
5°	442	440	436	440	439	42
15°	421	419	414	417	415	119
25°	382	380	375	375	374	176
35°	330	328	323	321	319	207
45°	271	269	264	260	258	209
55°	206	205	200	196	194	184
65°	140	138	134	132	130	138
75°	74	73	71	70	68	79
85°	20	19	19	18	18	22
90°	1	7	15	18	19	3
95°	39	15	20	24	24	48
105°	190	193	140	33	28	201
115°	356	360	366	372	375	352
125°	502	507	510	511	512	448
135°	625	629	632	633	632	481
145°	722	726	727	728	729	451
155°	795	794	794	797	794	366
165°	838	836	836	840	836	237
175°	858	855	855	859	855	82
180°	858	858	858	858	858	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	443.4	443.0	442.8	442.5	442.2	441.7	441.0	440.3	439.5	438.8	439.4
5°	442.2	441.7	441.3	440.9	440.5	439.9	438.9	438.0	437.0	436.1	436.9
7.5°	437.9	437.4	437.0	436.6	436.2	435.5	434.6	433.6	432.6	431.6	432.4
10°	434.2	433.8	433.3	432.9	432.5	431.8	430.6	429.6	428.4	427.4	428.1
12.5°	429.3	429.0	428.6	428.3	428.0	427.2	426.2	425.2	424.1	423.1	423.7
15°	420.9	420.6	420.2	419.9	419.6	418.8	417.8	416.6	415.6	414.5	415.2
17.5°	411.1	410.7	410.3	409.8	409.4	408.6	407.5	406.4	405.3	404.2	404.6
20°	403.8	403.3	402.8	402.3	401.8	401.0	399.9	398.8	397.7	396.6	397.0
22.5°	395.6	395.1	394.6	394.1	393.6	392.8	391.7	390.6	389.5	388.4	388.7
25°	382.1	381.6	381.2	380.7	380.2	379.4	378.2	377.2	376.0	375.0	375.0
27.5°	367.8	367.3	366.8	366.3	365.8	365.0	363.9	362.6	361.5	360.3	360.4
30°	357.5	357.0	356.6	356.2	355.8	355.0	353.8	352.6	351.5	350.3	350.3
32.5°	347.2	346.6	346.0	345.4	345.0	344.1	343.2	342.3	341.4	340.6	340.1
35°	330.5	330.0	329.5	329.0	328.5	327.7	326.6	325.5	324.4	323.3	322.8
37.5°	313.5	312.8	312.2	311.5	311.0	310.1	308.9	307.8	306.7	305.6	305.0
40°	301.7	301.1	300.6	300.1	299.6	298.7	297.6	296.4	295.2	294.0	293.3
42.5°	289.8	289.2	288.6	288.0	287.5	286.6	285.4	284.2	283.1	281.8	281.2
45°	270.8	270.5	270.2	269.9	269.5	268.8	267.7	266.6	265.5	264.4	263.4
47.5°	252.1	251.6	251.1	250.6	250.1	249.4	248.3	247.3	246.3	245.2	244.3
50°	239.3	238.9	238.5	238.1	237.7	236.8	235.8	234.7	233.6	232.5	231.5
52.5°	225.9	225.7	225.3	225.1	224.8	224.0	222.9	221.8	220.6	219.4	218.7
55°	205.5	205.5	205.4	205.3	205.2	204.6	203.5	202.4	201.3	200.2	199.3
57.5°	186.1	185.8	185.5	185.2	184.9	184.3	183.4	182.5	181.7	180.8	180.0
60°	172.1	172.0	171.9	171.9	171.8	171.2	170.2	169.2	168.2	167.1	166.4
62.5°	159.6	159.4	159.2	159.0	158.7	158.2	157.1	156.1	155.1	154.1	153.4
65°	140.1	139.7	139.3	138.9	138.5	137.9	137.1	136.2	135.3	134.4	133.8
67.5°	119.6	119.2	118.9	118.5	118.1	117.6	117.0	116.3	115.7	115.0	114.5
70°	107.1	106.6	106.2	105.6	105.1	104.6	104.1	103.5	103.1	102.6	102.0
72.5°	94.1	93.7	93.4	92.9	92.5	92.1	91.6	91.0	90.4	89.8	89.3
75°	74.1	73.7	73.4	73.1	72.7	72.4	72.2	71.9	71.7	71.4	71.0
77.5°	56.3	56.2	56.0	55.8	55.6	55.4	55.1	54.8	54.5	54.1	53.9
80°	44.8	44.6	44.4	44.1	43.8	43.6	43.5	43.3	43.1	43.0	42.8
82.5°	33.6	33.5	33.5	33.4	33.3	33.3	33.3	33.3	33.3	33.2	33.0
85°	19.7	19.6	19.4	19.2	19.1	19.0	19.0	19.0	19.0	19.0	18.8
87.5°	8.0	8.1	8.2	8.2	8.3	8.6	8.8	9.1	9.5	9.8	9.8
90°	0.7	2.0	3.5	4.9	6.3	7.9	9.8	11.6	13.5	15.3	15.9
92.5°	11.8	11.5	11.1	10.7	10.3	10.8	12.1	13.5	14.9	16.3	17.2
95°	38.9	33.1	27.2	21.4	15.7	13.5	15.1	16.6	18.2	19.7	20.8
97.5°	78.1	75.6	73.0	70.4	67.8	61.3	51.1	40.9	30.7	20.5	21.7
100°	107.7	110.6	113.4	116.2	119.0	109.4	87.3	65.2	43.1	21.0	22.2
102.5°	141.4	143.4	145.4	147.5	149.5	138.5	114.4	90.2	66.0	41.9	38.4
105°	190.0	191.5	193.1	194.6	196.2	190.6	177.8	165.1	152.3	139.6	114.5
107.5°	241.2	242.5	243.7	244.9	246.1	247.8	249.8	251.8	253.8	255.8	237.5
110°	275.3	276.5	277.6	278.8	279.9	281.2	282.8	284.4	285.9	287.5	282.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.0	309.0	310.1	311.0	312.1	313.3	315.0	316.5	318.0	319.6	319.7
115°	356.3	357.2	358.0	358.9	359.7	360.8	362.1	363.3	364.6	365.9	367.3
117.5°	403.1	404.1	405.2	406.3	407.2	408.1	408.8	409.4	410.1	410.7	411.9
120°	432.2	433.4	434.7	435.9	437.2	438.1	438.5	439.0	439.4	439.8	440.9
122.5°	461.7	462.8	463.8	464.9	465.9	466.7	467.2	467.8	468.3	468.9	469.7
125°	502.3	503.4	504.5	505.6	506.8	507.7	508.3	508.7	509.3	509.9	510.2
127.5°	541.5	542.7	543.8	544.9	546.1	547.0	547.6	548.4	549.0	549.7	550.2
130°	566.0	567.1	568.3	569.4	570.5	571.4	571.9	572.5	573.1	573.6	574.2
132.5°	589.5	590.6	591.7	592.9	594.0	594.8	595.3	595.7	596.1	596.6	597.2
135°	625.3	626.1	627.0	627.9	628.7	629.4	630.0	630.6	631.1	631.7	632.1
137.5°	655.9	657.0	658.0	659.1	660.1	660.9	661.2	661.5	661.8	662.1	662.8
140°	676.3	677.1	678.0	678.8	679.7	680.3	680.8	681.2	681.6	682.0	682.6
142.5°	695.1	696.0	696.8	697.7	698.5	699.2	699.6	700.0	700.4	700.9	701.3
145°	721.5	722.5	723.5	724.5	725.5	726.1	726.4	726.7	727.0	727.2	727.6
147.5°	746.4	747.1	747.7	748.4	749.0	749.5	749.7	750.0	750.3	750.6	750.9
150°	761.7	762.1	762.5	763.0	763.4	763.8	764.0	764.3	764.6	764.9	765.2
152.5°	775.4	775.7	775.8	776.1	776.2	776.4	776.6	776.7	777.0	777.1	777.6
155°	794.8	794.6	794.3	794.0	793.7	793.6	793.8	793.9	794.0	794.2	794.9
157.5°	809.8	809.8	809.8	809.8	809.8	809.7	809.5	809.4	809.3	809.1	810.0
160°	819.0	818.9	818.8	818.6	818.5	818.3	818.2	818.1	817.9	817.7	818.6
162.5°	827.7	827.4	827.0	826.6	826.2	826.0	825.8	825.7	825.6	825.4	826.4
165°	838.2	837.7	837.3	836.9	836.5	836.2	836.1	835.9	835.8	835.6	836.7
167.5°	846.4	845.8	845.2	844.7	844.1	843.8	843.8	843.8	843.8	843.8	844.9
170°	850.9	850.4	849.8	849.2	848.6	848.4	848.4	848.4	848.4	848.4	849.5
172.5°	853.9	853.3	852.6	851.9	851.3	851.0	851.1	851.2	851.3	851.4	852.6
175°	857.9	857.2	856.6	855.8	855.1	854.8	854.9	855.1	855.2	855.4	856.4
177.5°	858.9	858.4	857.9	857.3	856.7	856.5	856.6	856.7	856.8	856.9	857.9
180°	857.9	857.9	857.9	857.9	857.9	857.9	857.9	857.9	857.9	857.9	857.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	441.8	441.8	441.8	441.8	441.8	441.8	441.8	441.8
2.5°	440.1	440.8	441.5	441.8	441.7	441.6	441.6	441.5
5°	437.8	438.6	439.5	439.9	439.7	439.5	439.3	439.1
7.5°	433.2	433.9	434.6	435.0	434.9	434.8	434.7	434.6
10°	428.9	429.7	430.4	430.7	430.6	430.4	430.2	430.1
12.5°	424.2	424.8	425.3	425.6	425.5	425.3	425.3	425.2
15°	415.8	416.5	417.2	417.3	416.7	416.2	415.7	415.2
17.5°	405.1	405.6	406.1	406.3	406.0	405.9	405.7	405.5
20°	397.3	397.6	397.9	398.0	397.7	397.5	397.2	397.0
22.5°	388.9	389.2	389.5	389.5	389.1	388.8	388.5	388.2
25°	375.1	375.2	375.3	375.2	375.0	374.7	374.5	374.2
27.5°	360.4	360.5	360.5	360.4	360.1	359.8	359.5	359.1
30°	350.3	350.3	350.3	349.9	349.4	348.8	348.2	347.6
32.5°	339.6	339.1	338.7	338.3	337.9	337.6	337.3	337.0
35°	322.3	321.8	321.2	320.8	320.4	319.9	319.5	319.1
37.5°	304.4	303.8	303.1	302.7	302.5	302.1	301.9	301.7
40°	292.7	292.0	291.3	290.8	290.5	290.2	289.8	289.5
42.5°	280.5	279.8	279.2	278.7	278.3	278.0	277.7	277.3
45°	262.4	261.4	260.3	259.7	259.2	258.8	258.4	258.0
47.5°	243.3	242.3	241.2	240.6	240.2	239.9	239.5	239.1
50°	230.6	229.7	228.8	228.0	227.6	227.1	226.6	226.0
52.5°	217.8	217.0	216.2	215.6	215.1	214.6	214.1	213.6
55°	198.4	197.4	196.5	195.8	195.4	194.9	194.5	194.1
57.5°	179.2	178.3	177.5	176.8	176.3	175.9	175.4	174.9
60°	165.7	164.9	164.1	163.5	163.1	162.7	162.2	161.8
62.5°	152.5	151.8	151.1	150.5	150.3	149.9	149.7	149.4
65°	133.1	132.5	131.8	131.3	131.1	130.8	130.5	130.3
67.5°	113.8	113.2	112.7	112.2	111.9	111.5	111.1	110.8
70°	101.4	100.8	100.2	99.7	99.3	98.9	98.4	98.0
72.5°	88.8	88.2	87.7	87.3	87.2	86.9	86.7	86.4
75°	70.6	70.1	69.7	69.4	69.1	68.9	68.6	68.4
77.5°	53.6	53.3	53.0	52.9	52.9	52.9	52.9	52.9
80°	42.7	42.6	42.6	42.6	42.6	42.6	42.6	42.6
82.5°	32.9	32.8	32.6	32.4	32.4	32.4	32.3	32.2
85°	18.7	18.5	18.3	18.3	18.3	18.3	18.3	18.3
87.5°	9.9	9.9	9.9	9.9	10.0	10.1	10.1	10.2
90°	16.5	17.0	17.5	18.0	18.3	18.6	18.8	19.2
92.5°	18.1	19.0	20.0	20.5	20.6	20.8	21.0	21.2
95°	21.8	22.7	23.7	24.2	24.2	24.2	24.2	24.2
97.5°	22.8	23.9	25.0	25.7	25.8	26.0	26.1	26.3
100°	23.3	24.5	25.6	26.2	26.3	26.5	26.7	26.7
102.5°	34.9	31.4	27.9	26.3	26.5	26.7	27.0	27.3
105°	89.4	64.4	39.3	26.9	27.2	27.5	27.8	28.0
107.5°	219.1	200.7	182.3	163.6	144.8	125.9	107.0	88.1
110°	278.1	273.5	268.8	256.3	236.0	215.8	195.5	175.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	319.8	319.8	319.9	317.8	313.6	309.2	305.0	300.8
115°	368.7	370.1	371.5	372.5	373.1	373.7	374.2	374.8
117.5°	413.0	414.2	415.2	415.9	416.0	416.1	416.2	416.4
120°	442.1	443.2	444.3	444.9	444.9	444.9	444.9	444.9
122.5°	470.4	471.2	472.1	472.5	472.6	472.7	472.9	473.0
125°	510.5	510.8	511.0	511.4	511.6	511.9	512.2	512.5
127.5°	550.6	551.1	551.5	551.5	551.3	551.1	550.7	550.5
130°	574.8	575.4	575.9	576.1	575.8	575.5	575.2	574.9
132.5°	597.7	598.3	598.8	598.9	598.6	598.2	597.8	597.4
135°	632.5	632.9	633.3	633.3	632.9	632.5	632.1	631.7
137.5°	663.5	664.1	664.9	665.0	664.8	664.5	664.2	663.9
140°	683.1	683.7	684.3	684.4	684.1	683.9	683.5	683.3
142.5°	701.8	702.2	702.7	702.7	702.3	701.9	701.6	701.2
145°	727.8	728.1	728.4	728.6	728.6	728.6	728.6	728.6
147.5°	751.1	751.5	751.7	751.5	750.9	750.2	749.6	748.9
150°	765.4	765.7	766.0	766.0	765.5	765.1	764.7	764.3
152.5°	778.1	778.6	779.2	779.1	778.4	777.8	777.1	776.5
155°	795.7	796.3	797.0	797.0	796.1	795.2	794.4	793.5
157.5°	810.8	811.6	812.5	812.4	811.3	810.2	809.1	808.0
160°	819.5	820.4	821.2	821.1	820.1	819.1	818.2	817.2
162.5°	827.4	828.3	829.2	829.3	828.4	827.5	826.7	825.8
165°	837.9	839.0	840.2	840.2	839.3	838.2	837.2	836.3
167.5°	846.0	847.2	848.3	848.3	847.2	846.0	844.9	843.8
170°	850.6	851.7	852.9	852.9	851.7	850.6	849.5	848.4
172.5°	853.7	854.8	856.0	855.9	854.7	853.5	852.2	850.9
175°	857.4	858.3	859.3	859.2	858.2	857.0	855.9	854.8
177.5°	858.8	859.7	860.5	860.5	859.3	858.2	857.0	855.9
180°	857.9	857.9	857.9	857.9	857.9	857.9	857.9	857.9

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