

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: P331889-927

Luminaire Tested: **S123DIP-S340D805U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331889-927  
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-S340D805U927-4F0-1E-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: 3661.5 lumens  
Efficiency: N/A  
Efficacy: 117.4 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

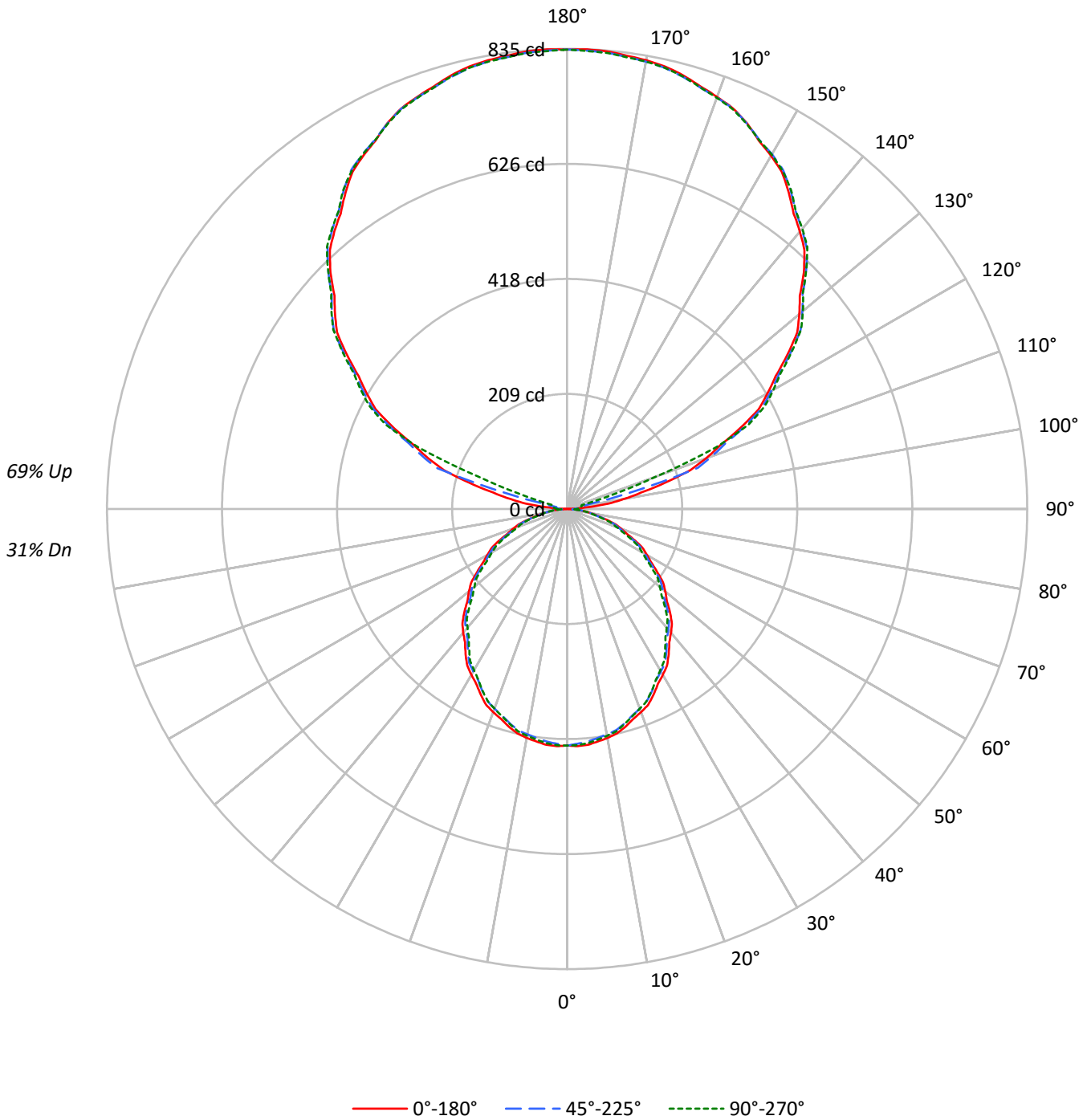
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	4621	4621	4621
5°	4643	4578	4611
10°	4611	4539	4568
15°	4558	4488	4496
20°	4495	4415	4418
25°	4410	4327	4318
30°	4318	4230	4197
35°	4221	4127	4075
40°	4118	4014	3953
45°	4007	3911	3815
50°	3893	3783	3677
55°	3748	3652	3539
60°	3599	3496	3384
65°	3469	3326	3224
70°	3276	3138	2996
75°	2994	2886	2766
80°	2703	2585	2566
85°	2371	2285	2186



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.4	1.1
10°-20°	114.2	3.1
20°-30°	168.7	4.6
30°-40°	197.0	5.4
40°-50°	198.1	5.4
50°-60°	174.0	4.8
60°-70°	129.6	3.5
70°-80°	73.8	2.0
80°-90°	23.5	0.6
90°-100°	30.3	0.8
100°-110°	144.4	3.9
110°-120°	347.0	9.5
120°-130°	441.8	12.1
130°-140°	472.1	12.9
140°-150°	441.4	12.1
150°-160°	356.1	9.7
160°-170°	229.8	6.3
170°-180°	79.2	2.2
0°-30°	323.3	8.8
0°-40°	520.3	14.2
0°-60°	892.4	24.4
0°-90°	1119.4	30.6
90°-120°	521.7	14.2
90°-150°	1877.0	51.3
90°-180°	2542.0	69.4
0°-180°	3661.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	429	429	429	429	429	
5°	430	428	424	427	427	41
15°	409	407	403	405	404	115
25°	371	369	364	365	364	171
35°	321	319	314	312	310	201
45°	263	262	257	253	251	203
55°	200	199	195	191	189	179
65°	136	134	131	128	127	134
75°	72	70	69	68	66	77
85°	19	18	18	18	18	21
90°	1	7	15	17	19	3
95°	38	14	19	23	24	47
105°	185	188	136	32	27	196
115°	346	350	356	361	364	342
125°	488	493	495	497	498	436
135°	608	611	614	615	614	468
145°	701	705	707	708	708	439
155°	772	771	772	774	771	356
165°	814	813	812	816	812	230
175°	834	831	831	835	830	79
180°	834	834	834	834	834	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	430.8	430.5	430.2	430.0	429.7	429.2	428.5	427.8	427.1	426.4	427.0
5°	429.7	429.2	428.8	428.4	428.0	427.4	426.4	425.6	424.6	423.7	424.5
7.5°	425.5	425.0	424.6	424.2	423.8	423.1	422.2	421.3	420.3	419.4	420.1
10°	421.9	421.5	421.0	420.6	420.3	419.5	418.4	417.4	416.3	415.3	416.0
12.5°	417.2	416.8	416.5	416.1	415.8	415.1	414.2	413.1	412.1	411.1	411.7
15°	409.0	408.7	408.3	408.0	407.7	406.9	405.9	404.8	403.8	402.7	403.4
17.5°	399.4	399.0	398.6	398.2	397.8	397.0	395.9	394.9	393.8	392.8	393.2
20°	392.4	391.9	391.4	390.9	390.4	389.6	388.6	387.5	386.4	385.4	385.7
22.5°	384.4	383.9	383.4	382.9	382.5	381.7	380.6	379.5	378.4	377.4	377.6
25°	371.3	370.8	370.3	369.9	369.4	368.6	367.5	366.5	365.4	364.3	364.4
27.5°	357.4	356.9	356.4	355.9	355.5	354.7	353.6	352.4	351.3	350.1	350.1
30°	347.4	346.9	346.5	346.1	345.7	344.9	343.8	342.6	341.5	340.3	340.3
32.5°	337.3	336.8	336.2	335.6	335.2	334.4	333.5	332.6	331.8	330.9	330.4
35°	321.2	320.7	320.1	319.6	319.2	318.4	317.3	316.2	315.2	314.1	313.6
37.5°	304.6	304.0	303.3	302.7	302.1	301.3	300.2	299.0	298.0	296.9	296.4
40°	293.1	292.6	292.1	291.6	291.1	290.3	289.1	288.0	286.8	285.7	285.0
42.5°	281.5	281.0	280.4	279.9	279.3	278.5	277.3	276.2	275.0	273.9	273.2
45°	263.2	262.8	262.5	262.2	261.9	261.2	260.1	259.0	257.9	256.9	256.0
47.5°	244.9	244.5	244.0	243.5	243.0	242.3	241.3	240.3	239.3	238.3	237.3
50°	232.5	232.1	231.7	231.3	230.9	230.1	229.1	228.1	227.0	225.9	225.0
52.5°	219.5	219.3	219.0	218.7	218.4	217.7	216.6	215.5	214.4	213.2	212.5
55°	199.7	199.6	199.6	199.5	199.4	198.8	197.7	196.6	195.6	194.6	193.6
57.5°	180.8	180.5	180.2	180.0	179.7	179.1	178.2	177.4	176.6	175.7	174.9
60°	167.2	167.2	167.1	167.0	166.9	166.4	165.3	164.4	163.4	162.4	161.7
62.5°	155.1	154.9	154.7	154.5	154.2	153.7	152.7	151.7	150.7	149.7	149.0
65°	136.2	135.8	135.4	135.0	134.6	134.0	133.2	132.3	131.5	130.6	130.0
67.5°	116.2	115.8	115.5	115.1	114.8	114.2	113.7	113.0	112.4	111.8	111.2
70°	104.1	103.6	103.1	102.6	102.1	101.6	101.2	100.6	100.1	99.7	99.1
72.5°	91.4	91.0	90.7	90.3	89.9	89.5	89.0	88.4	87.9	87.3	86.7
75°	72.0	71.6	71.3	71.0	70.7	70.3	70.1	69.9	69.6	69.4	69.0
77.5°	54.7	54.6	54.4	54.3	54.0	53.8	53.6	53.2	52.9	52.6	52.4
80°	43.6	43.3	43.1	42.9	42.5	42.4	42.2	42.1	41.9	41.7	41.6
82.5°	32.6	32.6	32.6	32.5	32.4	32.4	32.3	32.3	32.3	32.2	32.1
85°	19.2	19.0	18.9	18.7	18.5	18.5	18.5	18.5	18.5	18.5	18.3
87.5°	7.8	7.8	7.9	8.0	8.1	8.3	8.6	8.9	9.2	9.5	9.5
90°	0.6	2.0	3.4	4.8	6.1	7.7	9.5	11.2	13.1	14.9	15.4
92.5°	11.5	11.2	10.8	10.4	10.0	10.5	11.8	13.2	14.5	15.8	16.7
95°	37.8	32.2	26.5	20.8	15.2	13.2	14.7	16.2	17.7	19.2	20.2
97.5°	75.9	73.4	70.9	68.4	65.8	59.6	49.7	39.8	29.9	20.0	21.1
100°	104.6	107.4	110.2	112.9	115.7	106.3	84.8	63.4	41.9	20.4	21.5
102.5°	137.4	139.3	141.3	143.3	145.3	134.6	111.1	87.6	64.2	40.7	37.3
105°	184.6	186.1	187.6	189.1	190.6	185.2	172.8	160.4	148.0	135.6	111.3
107.5°	234.3	235.6	236.8	238.0	239.2	240.7	242.7	244.7	246.6	248.6	230.8
110°	267.5	268.6	269.7	270.8	272.0	273.2	274.8	276.3	277.8	279.3	274.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	299.3	300.2	301.3	302.2	303.2	304.4	306.0	307.5	309.0	310.5	310.6
115°	346.2	347.1	347.8	348.7	349.5	350.5	351.8	353.0	354.3	355.5	356.9
117.5°	391.7	392.7	393.7	394.7	395.7	396.6	397.2	397.8	398.5	399.1	400.2
120°	419.9	421.1	422.4	423.6	424.8	425.7	426.1	426.5	426.9	427.3	428.4
122.5°	448.6	449.6	450.7	451.7	452.7	453.4	454.0	454.6	455.0	455.6	456.4
125°	488.1	489.1	490.2	491.3	492.4	493.3	493.8	494.3	494.9	495.4	495.7
127.5°	526.2	527.3	528.4	529.5	530.6	531.5	532.1	532.8	533.5	534.1	534.6
130°	549.9	551.0	552.2	553.3	554.4	555.2	555.7	556.3	556.8	557.4	557.9
132.5°	572.7	573.9	575.0	576.1	577.2	577.9	578.4	578.8	579.2	579.7	580.3
135°	607.5	608.4	609.2	610.1	610.9	611.6	612.1	612.7	613.2	613.8	614.2
137.5°	637.3	638.3	639.4	640.4	641.4	642.1	642.5	642.8	643.0	643.3	644.0
140°	657.1	657.9	658.8	659.6	660.4	661.0	661.5	661.9	662.3	662.7	663.2
142.5°	675.4	676.3	677.1	677.9	678.7	679.4	679.8	680.2	680.6	681.0	681.4
145°	701.1	702.0	703.0	703.9	705.0	705.5	705.8	706.1	706.4	706.6	706.9
147.5°	725.2	725.9	726.5	727.1	727.8	728.3	728.5	728.7	729.0	729.3	729.6
150°	740.1	740.5	740.9	741.3	741.7	742.1	742.4	742.7	742.9	743.2	743.5
152.5°	753.4	753.7	753.8	754.1	754.2	754.4	754.6	754.7	754.9	755.1	755.6
155°	772.3	772.1	771.7	771.5	771.2	771.1	771.3	771.4	771.5	771.7	772.4
157.5°	786.9	786.9	786.9	786.8	786.8	786.7	786.6	786.5	786.3	786.2	787.0
160°	795.8	795.7	795.6	795.4	795.3	795.1	795.0	794.9	794.7	794.6	795.4
162.5°	804.2	803.9	803.5	803.2	802.8	802.6	802.4	802.3	802.2	802.0	803.0
165°	814.4	814.0	813.6	813.2	812.8	812.5	812.4	812.2	812.1	811.9	813.0
167.5°	822.4	821.8	821.3	820.7	820.1	819.8	819.8	819.8	819.8	819.8	820.9
170°	826.8	826.2	825.7	825.1	824.6	824.3	824.3	824.3	824.3	824.3	825.5
172.5°	829.7	829.1	828.5	827.8	827.1	826.9	827.0	827.0	827.2	827.3	828.4
175°	833.6	832.9	832.3	831.6	830.8	830.6	830.7	830.8	831.0	831.2	832.1
177.5°	834.6	834.1	833.5	833.0	832.4	832.2	832.3	832.4	832.5	832.6	833.5
180°	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	429.3	429.3	429.3	429.3	429.3	429.3	429.3	429.3
2.5°	427.6	428.3	429.0	429.3	429.2	429.1	429.0	429.0
5°	425.4	426.2	427.1	427.4	427.2	427.1	426.8	426.7
7.5°	420.9	421.6	422.3	422.6	422.6	422.5	422.4	422.2
10°	416.8	417.5	418.2	418.5	418.4	418.2	418.0	417.9
12.5°	412.2	412.7	413.3	413.5	413.4	413.3	413.2	413.1
15°	404.0	404.6	405.4	405.4	404.9	404.4	403.9	403.5
17.5°	393.6	394.1	394.6	394.7	394.5	394.3	394.2	394.0
20°	386.0	386.3	386.7	386.7	386.4	386.2	386.0	385.7
22.5°	377.9	378.2	378.4	378.4	378.1	377.8	377.5	377.2
25°	364.5	364.6	364.6	364.6	364.3	364.1	363.8	363.6
27.5°	350.2	350.3	350.3	350.2	349.9	349.6	349.3	349.0
30°	340.3	340.3	340.3	340.0	339.5	338.9	338.3	337.7
32.5°	329.9	329.5	329.1	328.7	328.4	328.0	327.7	327.4
35°	313.1	312.7	312.1	311.7	311.3	310.9	310.5	310.1
37.5°	295.7	295.2	294.5	294.1	293.9	293.6	293.3	293.1
40°	284.4	283.8	283.0	282.6	282.3	281.9	281.6	281.3
42.5°	272.6	271.9	271.2	270.8	270.5	270.1	269.8	269.4
45°	254.9	254.0	252.9	252.3	251.8	251.4	251.0	250.6
47.5°	236.4	235.4	234.4	233.8	233.4	233.1	232.7	232.3
50°	224.1	223.2	222.3	221.6	221.1	220.6	220.1	219.6
52.5°	211.7	210.9	210.1	209.5	209.0	208.5	208.0	207.6
55°	192.7	191.8	190.9	190.3	189.9	189.4	189.0	188.6
57.5°	174.1	173.3	172.5	171.8	171.3	170.9	170.4	169.9
60°	161.0	160.2	159.5	158.9	158.4	158.0	157.6	157.2
62.5°	148.2	147.5	146.8	146.2	146.0	145.7	145.4	145.1
65°	129.4	128.7	128.0	127.6	127.4	127.1	126.8	126.6
67.5°	110.6	110.0	109.5	109.0	108.7	108.3	108.0	107.7
70°	98.5	97.9	97.4	96.9	96.5	96.1	95.6	95.2
72.5°	86.3	85.7	85.2	84.8	84.7	84.4	84.2	84.0
75°	68.6	68.1	67.7	67.4	67.2	66.9	66.7	66.5
77.5°	52.0	51.8	51.5	51.4	51.4	51.4	51.4	51.4
80°	41.5	41.4	41.4	41.4	41.4	41.4	41.4	41.4
82.5°	32.0	31.8	31.7	31.5	31.5	31.4	31.4	31.3
85°	18.1	18.0	17.8	17.7	17.7	17.7	17.7	17.7
87.5°	9.6	9.6	9.7	9.7	9.7	9.8	9.8	9.9
90°	16.0	16.5	17.0	17.5	17.7	18.1	18.3	18.6
92.5°	17.6	18.5	19.4	19.9	20.0	20.2	20.4	20.6
95°	21.2	22.1	23.1	23.5	23.5	23.5	23.5	23.5
97.5°	22.2	23.2	24.3	25.0	25.1	25.3	25.3	25.5
100°	22.7	23.8	24.9	25.4	25.6	25.7	25.9	26.0
102.5°	33.9	30.5	27.1	25.5	25.7	26.0	26.2	26.5
105°	86.9	62.6	38.2	26.1	26.5	26.7	27.0	27.3
107.5°	212.9	195.0	177.1	159.0	140.7	122.3	103.9	85.6
110°	270.2	265.7	261.2	249.1	229.3	209.7	190.0	170.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	310.7	310.8	310.9	308.8	304.7	300.5	296.4	292.2
115°	358.2	359.7	361.0	361.9	362.5	363.1	363.6	364.2
117.5°	401.3	402.4	403.5	404.1	404.3	404.3	404.4	404.6
120°	429.5	430.6	431.7	432.3	432.3	432.3	432.3	432.3
122.5°	457.1	457.9	458.7	459.1	459.2	459.3	459.5	459.5
125°	496.0	496.3	496.5	496.9	497.1	497.4	497.6	498.0
127.5°	535.0	535.4	535.8	535.9	535.7	535.4	535.1	534.9
130°	558.5	559.0	559.6	559.8	559.4	559.2	558.9	558.6
132.5°	580.7	581.3	581.9	581.9	581.6	581.2	580.8	580.4
135°	614.6	615.0	615.4	615.4	615.0	614.6	614.2	613.8
137.5°	644.7	645.3	646.0	646.2	645.9	645.6	645.4	645.1
140°	663.8	664.3	664.9	665.0	664.7	664.5	664.2	663.9
142.5°	681.9	682.3	682.8	682.8	682.4	682.0	681.7	681.3
145°	707.2	707.5	707.7	707.9	707.9	707.9	707.9	707.9
147.5°	729.8	730.2	730.4	730.2	729.6	729.0	728.3	727.7
150°	743.7	744.0	744.3	744.3	743.8	743.4	743.0	742.6
152.5°	756.1	756.5	757.1	757.0	756.4	755.7	755.1	754.5
155°	773.1	773.7	774.4	774.4	773.6	772.7	771.9	771.0
157.5°	787.8	788.6	789.5	789.3	788.3	787.2	786.2	785.1
160°	796.2	797.1	797.9	797.8	796.9	795.9	795.0	794.0
162.5°	803.9	804.9	805.7	805.8	804.9	804.1	803.3	802.4
165°	814.1	815.2	816.3	816.4	815.5	814.4	813.5	812.5
167.5°	822.0	823.2	824.3	824.3	823.2	822.0	820.9	819.8
170°	826.5	827.6	828.7	828.7	827.6	826.5	825.5	824.3
172.5°	829.5	830.6	831.7	831.6	830.4	829.3	828.0	826.8
175°	833.1	834.0	835.0	834.9	833.9	832.7	831.6	830.5
177.5°	834.4	835.3	836.1	836.1	835.0	833.9	832.7	831.6
180°	833.6	833.6	833.6	833.6	833.6	833.6	833.6	833.6

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