

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: P331890-927

Luminaire Tested: **S123DIP-S340D805U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331890-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
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-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3303.9 lumens  
Efficiency: N/A  
Efficacy: 105.9 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

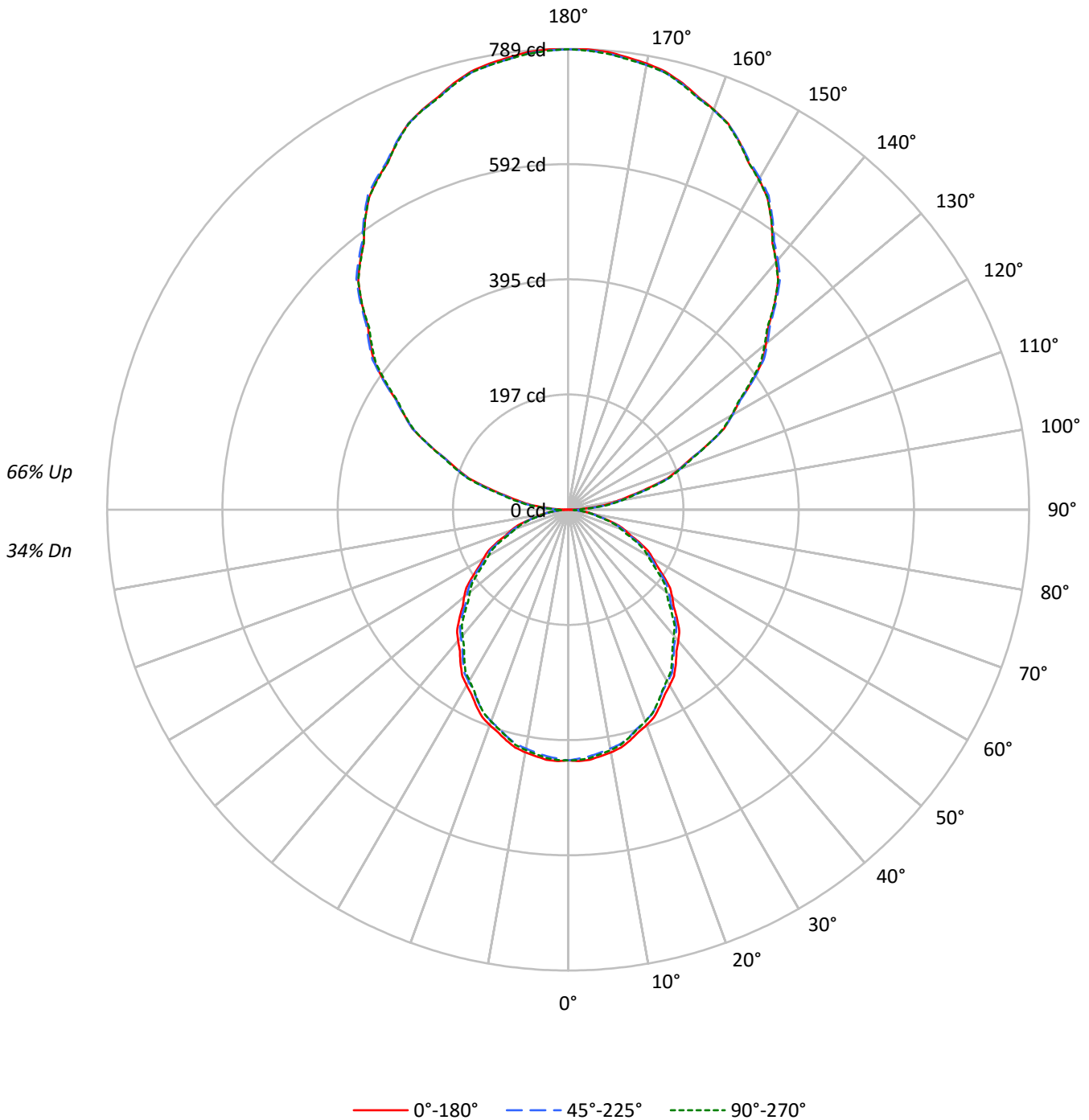
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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	72	67	77	71	66	62	57	53	50	44	42	39	32	31	29	24
3	78	69	62	56	70	62	56	51	50	46	42	39	36	33	28	26	25	20
4	71	61	53	47	64	55	49	43	44	40	36	35	31	28	25	23	21	17
5	65	54	46	40	59	49	42	37	40	35	31	31	27	25	23	20	19	15
6	60	48	40	35	54	44	37	32	36	31	27	28	24	21	21	18	16	13
7	56	44	36	30	50	40	33	28	32	27	23	25	22	19	19	16	14	12
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	15	13	10
9	48	36	29	24	43	33	26	22	27	22	18	21	18	15	16	13	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°	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	1.2
10°-20°	114.2	3.5
20°-30°	168.7	5.1
30°-40°	197.0	6.0
40°-50°	198.1	6.0
50°-60°	174.0	5.3
60°-70°	129.6	3.9
70°-80°	73.8	2.2
80°-90°	23.5	0.7
90°-100°	51.4	1.6
100°-110°	153.7	4.7
110°-120°	261.5	7.9
120°-130°	343.9	10.4
130°-140°	386.6	11.7
140°-150°	380.0	11.5
150°-160°	319.9	9.7
160°-170°	212.9	6.4
170°-180°	74.6	2.3
0°-30°	323.3	9.8
0°-40°	520.3	15.7
0°-60°	892.4	27.0
0°-90°	1119.4	33.9
90°-120°	466.6	14.1
90°-150°	1577.1	47.7
90°-180°	2185.0	66.1
0°-180°	3303.9	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°	36	41	46	48	48	41
105°	139	141	146	146	147	149
115°	263	265	264	264	264	260
125°	385	387	386	383	381	343
135°	500	503	503	500	499	385
145°	606	608	609	609	606	379
155°	694	694	695	697	693	319
165°	756	754	754	758	754	213
175°	787	784	784	787	784	75
180°	788	788	788	788	788	



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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°	15.0	15.9	16.9	17.8	18.7	19.7	20.8	21.8	22.7	23.8	24.2
95°	36.5	37.5	38.5	39.5	40.4	41.4	42.5	43.6	44.8	45.9	46.4
97.5°	64.9	65.6	66.3	67.0	67.8	68.5	69.3	70.1	70.9	71.7	72.3
100°	84.2	85.1	85.9	86.7	87.5	88.3	89.0	89.7	90.4	91.0	91.5
102.5°	106.5	107.0	107.5	108.1	108.5	109.2	110.1	111.1	111.9	112.9	113.3
105°	139.3	139.7	139.9	140.2	140.5	141.2	142.4	143.7	145.0	146.2	146.2
107.5°	177.5	177.7	177.8	178.0	178.2	178.5	179.0	179.5	180.0	180.5	180.9
110°	201.3	201.5	201.8	202.1	202.4	202.6	203.0	203.2	203.5	203.7	204.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	226.1	226.2	226.4	226.6	226.7	226.8	226.9	227.0	227.0	227.0	227.8
115°	263.2	263.6	264.0	264.4	264.9	265.0	264.7	264.4	264.1	263.9	264.0
117.5°	300.6	301.0	301.2	301.4	301.7	301.7	301.3	301.0	300.6	300.2	300.2
120°	323.9	324.7	325.6	326.4	327.3	327.3	326.6	325.9	325.3	324.6	324.4
122.5°	348.2	348.8	349.4	350.0	350.6	350.8	350.4	350.1	349.7	349.4	349.0
125°	385.2	385.6	386.0	386.5	386.9	387.0	386.7	386.4	386.1	385.9	385.3
127.5°	419.5	420.3	421.2	422.1	422.9	423.3	422.9	422.6	422.3	422.0	421.3
130°	442.2	443.3	444.4	445.5	446.6	446.9	446.6	446.2	445.8	445.3	444.7
132.5°	465.0	466.1	467.2	468.3	469.4	469.8	469.5	469.2	468.9	468.6	467.9
135°	499.8	500.7	501.5	502.3	503.1	503.5	503.4	503.2	503.0	503.0	502.4
137.5°	532.0	532.7	533.4	534.1	534.8	535.3	535.7	536.0	536.4	536.7	536.1
140°	554.3	555.0	555.7	556.4	557.1	557.5	557.6	557.8	557.9	558.0	557.9
142.5°	574.6	575.4	576.0	576.7	577.4	577.9	578.1	578.4	578.6	578.8	578.7
145°	606.3	606.7	606.9	607.2	607.4	607.8	608.2	608.6	609.0	609.4	609.3
147.5°	634.1	634.6	635.1	635.6	636.1	636.5	636.9	637.3	637.7	638.1	638.1
150°	653.4	653.7	653.9	654.3	654.5	654.8	655.1	655.4	655.6	655.9	655.9
152.5°	669.3	669.6	670.0	670.4	670.8	671.1	671.3	671.5	671.6	671.8	672.0
155°	694.3	694.3	694.3	694.3	694.3	694.3	694.5	694.7	694.8	694.9	695.5
157.5°	715.6	715.4	715.3	715.1	714.9	714.9	715.0	715.2	715.3	715.3	716.0
160°	729.0	728.7	728.4	728.2	727.9	727.8	727.8	727.8	727.8	727.8	728.4
162.5°	740.8	740.5	740.1	739.7	739.3	739.2	739.3	739.4	739.5	739.7	740.3
165°	756.2	755.8	755.4	755.0	754.6	754.4	754.4	754.4	754.4	754.4	755.2
167.5°	768.5	767.9	767.4	766.8	766.3	766.1	766.2	766.3	766.4	766.5	767.4
170°	775.5	774.9	774.4	773.8	773.2	772.9	772.9	772.9	772.9	772.9	774.0
172.5°	780.9	780.4	779.8	779.3	778.7	778.4	778.4	778.4	778.4	778.4	779.3
175°	786.6	786.0	785.5	785.0	784.4	784.1	784.1	784.1	784.1	784.1	785.0
177.5°	788.9	788.5	788.1	787.6	787.2	787.0	787.0	787.0	787.0	787.0	787.6
180°	788.5	788.5	788.5	788.5	788.5	788.5	788.5	788.5	788.5	788.5	788.5



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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°	24.6	25.1	25.5	25.7	25.5	25.3	25.2	25.0
95°	46.9	47.5	48.0	48.3	48.3	48.3	48.3	48.3
97.5°	73.0	73.6	74.2	74.5	74.5	74.5	74.4	74.3
100°	91.9	92.3	92.7	93.1	93.3	93.6	93.9	94.1
102.5°	113.7	114.1	114.5	114.7	114.6	114.5	114.5	114.5
105°	146.2	146.2	146.2	146.3	146.6	146.9	147.1	147.4
107.5°	181.3	181.8	182.3	182.4	182.2	182.0	181.9	181.7
110°	204.9	205.4	206.0	206.1	205.8	205.6	205.3	205.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	228.4	229.0	229.7	230.0	230.0	229.9	229.8	229.8
115°	264.1	264.3	264.4	264.4	264.3	264.1	264.0	263.9
117.5°	300.2	300.2	300.2	299.9	299.6	299.2	298.8	298.4
120°	324.2	324.2	324.0	323.8	323.5	323.2	323.0	322.7
122.5°	348.6	348.2	347.9	347.5	347.1	346.7	346.3	345.9
125°	384.8	384.2	383.7	383.1	382.5	382.0	381.4	380.9
127.5°	420.5	419.7	419.0	418.3	417.6	417.0	416.4	415.7
130°	444.3	443.7	443.1	442.4	441.4	440.5	439.5	438.5
132.5°	467.3	466.6	466.0	465.2	464.5	463.7	463.0	462.3
135°	501.8	501.3	500.7	500.3	500.0	499.8	499.5	499.2
137.5°	535.6	535.0	534.4	533.9	533.4	532.8	532.3	531.8
140°	557.8	557.6	557.5	557.0	556.0	555.0	554.1	553.1
142.5°	578.6	578.5	578.3	577.9	577.1	576.4	575.6	574.9
145°	609.2	609.0	608.9	608.6	608.0	607.4	606.9	606.3
147.5°	638.1	638.1	638.1	637.6	636.8	636.0	635.2	634.4
150°	655.9	655.9	655.9	655.5	654.7	653.9	653.0	652.2
152.5°	672.2	672.4	672.6	672.4	671.7	671.0	670.3	669.6
155°	696.0	696.6	697.1	696.9	695.9	695.0	694.0	693.1
157.5°	716.5	717.1	717.6	717.6	716.8	716.1	715.3	714.5
160°	729.1	729.8	730.5	730.6	730.0	729.4	728.9	728.3
162.5°	741.0	741.7	742.4	742.3	741.4	740.5	739.7	738.8
165°	756.1	756.9	757.7	757.6	756.7	755.7	754.7	753.8
167.5°	768.3	769.1	769.9	769.9	769.1	768.3	767.4	766.5
170°	774.9	775.9	776.8	776.8	775.9	774.9	774.0	772.9
172.5°	780.1	781.0	781.8	781.8	780.8	779.8	778.9	777.9
175°	785.8	786.6	787.4	787.3	786.4	785.4	784.4	783.5
177.5°	788.3	788.9	789.6	789.6	788.8	788.0	787.3	786.5
180°	788.5	788.5	788.5	788.5	788.5	788.5	788.5	788.5

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