

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: P332257-830

Luminaire Tested: **S123RDIP-S340D805U830-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332257-830  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123RDIP-S340D805U830-4F0-1E-UDD-F4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3964.9 lumens  
Efficiency: N/A  
Efficacy: 127.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

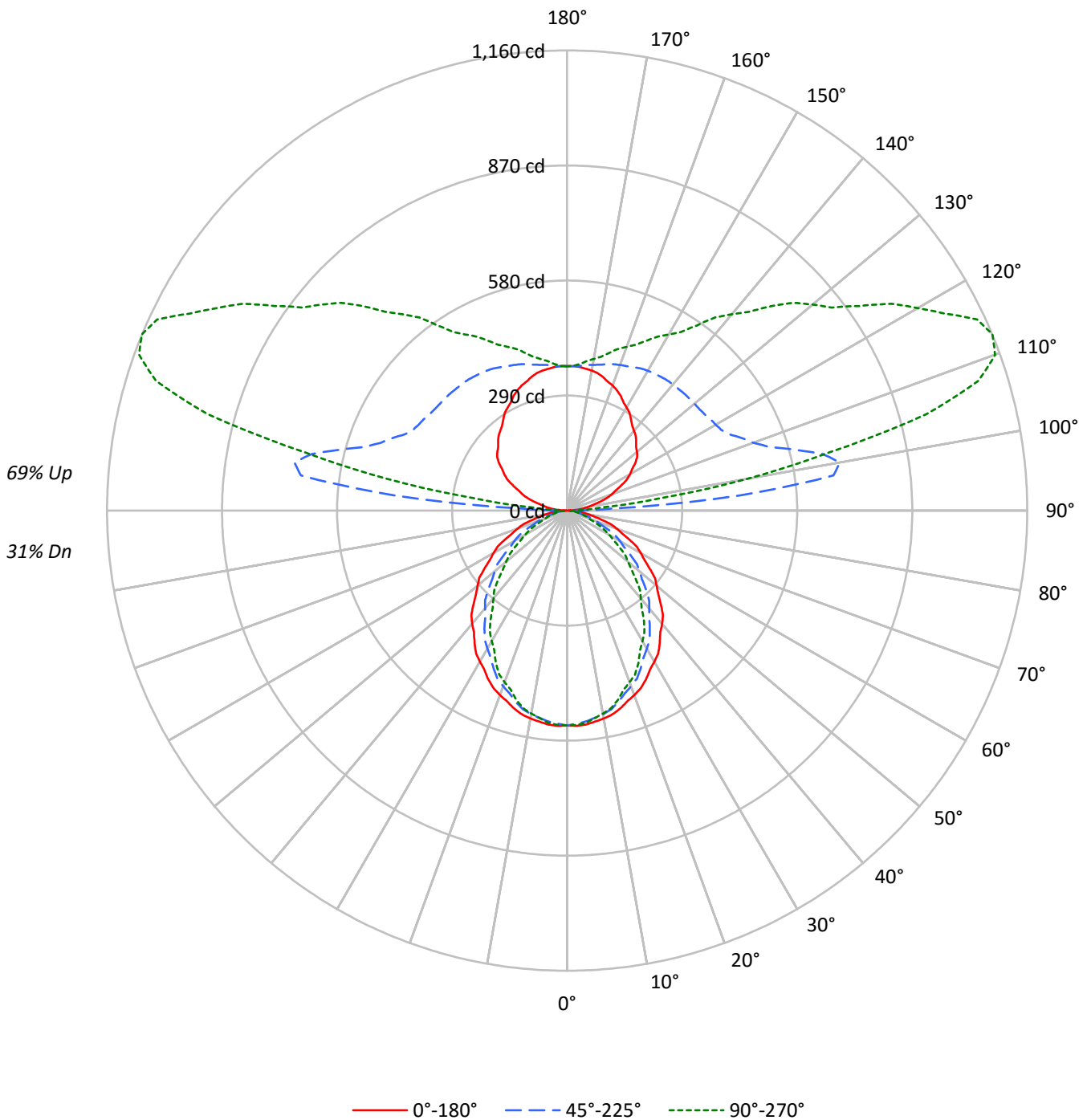
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	39	39	39	39	39	39	31	
1	94	90	86	83	84	81	78	75	64	62	60	49	47	46	34	34	33	34	34	33	26	
2	85	78	73	68	77	71	66	62	56	53	50	43	41	39	30	29	28	30	29	28	22	
3	78	69	62	56	70	62	56	52	50	46	42	38	35	33	27	25	24	27	25	24	19	
4	71	61	54	48	64	55	49	44	44	40	36	34	31	28	24	22	21	24	22	21	17	
5	65	54	47	41	59	49	43	38	40	35	31	30	27	25	22	20	18	22	20	18	15	
6	60	49	41	35	54	44	37	33	36	31	27	28	24	21	20	18	16	20	18	16	13	
7	56	44	36	31	50	40	33	29	32	27	24	25	22	19	18	16	14	18	16	14	11	
8	52	40	32	27	46	36	30	25	29	24	21	23	19	17	17	15	13	17	15	13	10	
9	48	36	29	24	43	33	27	22	27	22	19	21	18	15	16	13	12	16	13	12	9	
10	45	33	26	22	40	30	24	20	25	20	17	19	16	14	14	12	11	14	12	11	9	

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

	0°	45°	90°
0°	5829	5829	5829
5°	5851	5770	5804
10°	5818	5698	5678
15°	5756	5565	5506
20°	5669	5399	5271
25°	5582	5211	5044
30°	5464	4994	4721
35°	5344	4778	4427
40°	5233	4523	4061
45°	5087	4271	3731
50°	4928	3985	3361
55°	4763	3659	3016
60°	4613	3309	2637
65°	4419	2932	2259
70°	4173	2458	1825
75°	3818	1938	1718
80°	3403	1717	1574
85°	2878	1519	1408



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.9	1.3
10°-20°	141.5	3.6
20°-30°	203.7	5.1
30°-40°	229.5	5.8
40°-50°	219.5	5.5
50°-60°	179.8	4.5
60°-70°	121.3	3.1
70°-80°	61.0	1.5
80°-90°	19.0	0.5
90°-100°	202.6	5.1
100°-110°	573.6	14.5
110°-120°	564.3	14.2
120°-130°	450.1	11.4
130°-140°	354.9	9.0
140°-150°	264.9	6.7
150°-160°	184.6	4.7
160°-170°	108.5	2.7
170°-180°	35.3	0.9
0°-30°	396.1	10.0
0°-40°	625.5	15.8
0°-60°	1024.8	25.8
0°-90°	1226.1	30.9
90°-120°	1340.5	33.8
90°-150°	2410.4	60.8
90°-180°	2739.0	69.1
0°-180°	3964.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	542	542	542	542	542	
5°	542	539	534	538	537	51
15°	516	511	499	497	494	145
25°	470	458	439	430	425	216
35°	407	390	364	345	337	254
45°	334	314	281	256	245	258
55°	254	231	195	170	161	228
65°	174	149	115	94	89	172
75°	92	71	47	42	41	98
85°	23	14	12	11	11	26
90°	2	9	18	21	21	3
95°	25	81	437	127	86	27
105°	86	126	592	1036	937	91
115°	151	188	453	994	1140	150
125°	210	248	423	766	899	186
135°	246	294	417	631	729	190
145°	281	322	412	518	570	176
155°	319	344	399	453	472	147
165°	349	358	382	405	412	98
175°	363	364	366	371	371	34
180°	364	364	364	364	364	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	543.3	542.9	542.6	542.3	542.1	541.4	540.5	539.5	538.6	537.6	538.5
5°	541.5	541.0	540.5	540.1	539.5	538.8	537.5	536.4	535.2	534.0	534.9
7.5°	536.5	535.9	535.5	534.9	534.4	533.4	531.9	530.4	528.8	527.3	527.7
10°	532.3	531.6	530.9	530.3	529.5	528.3	526.6	524.8	523.0	521.3	521.4
12.5°	526.3	525.6	524.8	524.1	523.3	521.8	519.6	517.6	515.4	513.2	513.1
15°	516.5	515.4	514.3	513.2	512.2	510.3	507.6	504.8	502.1	499.4	498.9
17.5°	504.1	502.8	501.6	500.3	499.1	496.7	493.2	489.7	486.4	482.9	481.8
20°	494.9	493.4	491.8	490.3	488.7	486.1	482.4	478.6	474.9	471.3	470.0
22.5°	484.7	483.0	481.2	479.4	477.6	474.8	470.8	466.8	462.9	458.9	457.3
25°	470.0	467.5	465.1	462.6	460.1	456.7	452.2	447.7	443.2	438.8	436.7
27.5°	451.9	449.2	446.5	443.8	441.1	437.3	432.3	427.3	422.3	417.3	414.4
30°	439.6	436.7	433.8	430.8	427.9	423.7	418.2	412.7	407.3	401.8	398.5
32.5°	427.3	424.0	420.7	417.4	414.1	409.5	403.7	397.9	392.2	386.3	382.8
35°	406.7	403.1	399.6	396.2	392.7	387.9	381.8	375.7	369.7	363.6	359.5
37.5°	385.8	381.8	378.0	374.1	370.1	365.0	358.5	352.0	345.6	339.1	334.4
40°	372.4	368.2	363.8	359.6	355.2	349.6	342.7	335.7	328.9	321.9	316.9
42.5°	357.3	353.0	348.7	344.4	340.2	334.4	327.3	320.1	312.9	305.8	300.2
45°	334.2	329.8	325.5	321.0	316.6	310.7	303.2	295.7	288.1	280.6	275.0
47.5°	311.1	306.3	301.4	296.6	291.8	285.7	278.1	270.6	263.2	255.6	249.6
50°	294.3	289.6	285.1	280.5	275.9	269.7	261.7	253.8	245.9	238.0	232.0
52.5°	279.2	274.2	269.2	264.2	259.2	252.8	245.0	237.1	229.3	221.5	215.3
55°	253.8	249.0	244.3	239.5	234.7	228.2	219.9	211.6	203.3	195.0	189.4
57.5°	230.5	225.3	220.1	214.8	209.6	202.8	194.5	186.2	177.9	169.6	164.2
60°	214.3	209.0	203.6	198.2	192.8	186.2	178.0	169.9	161.8	153.7	148.5
62.5°	198.1	192.7	187.4	182.1	176.7	169.9	161.8	153.7	145.6	137.5	132.6
65°	173.5	168.1	162.8	157.4	152.0	145.5	137.9	130.3	122.7	115.1	110.3
67.5°	148.8	143.4	137.9	132.5	127.1	120.7	113.4	106.1	98.8	91.5	87.9
70°	132.6	127.3	122.1	116.8	111.6	105.5	98.7	91.8	85.0	78.1	74.7
72.5°	116.5	111.3	106.1	100.9	95.7	90.0	83.8	77.6	71.4	65.1	62.4
75°	91.8	87.1	82.4	77.8	73.0	68.1	62.7	57.3	51.9	46.6	45.6
77.5°	69.3	65.0	60.8	56.6	52.4	48.5	45.1	41.6	38.2	34.7	34.2
80°	54.9	50.9	46.9	42.9	38.9	35.9	33.8	31.8	29.7	27.7	27.3
82.5°	41.2	37.7	34.3	30.8	27.3	25.2	24.2	23.3	22.3	21.3	21.0
85°	23.3	21.1	18.9	16.9	14.7	13.5	13.2	12.9	12.6	12.3	12.1
87.5°	8.8	8.2	7.6	7.2	6.6	6.5	6.9	7.4	7.8	8.3	8.0
90°	1.5	2.9	4.4	6.6	8.1	9.6	11.8	14.0	16.2	18.4	17.7
92.5°	9.1	13.6	19.8	25.5	31.7	42.6	61.9	93.6	124.7	113.3	85.5
95°	25.1	27.2	35.3	47.9	67.0	95.8	158.4	268.2	389.1	437.0	354.5
97.5°	42.7	43.5	49.9	60.7	79.6	110.7	170.5	294.4	495.8	677.2	724.5
100°	54.6	55.2	60.4	70.8	88.4	117.2	168.7	277.8	471.6	697.9	843.0
102.5°	66.9	68.2	72.8	82.6	98.5	124.8	171.1	263.6	436.2	659.5	848.9
105°	85.5	87.7	92.1	100.9	115.0	137.8	177.6	253.4	392.8	592.5	804.0
107.5°	105.2	107.4	111.7	120.4	133.6	154.8	189.6	252.8	365.0	533.2	725.3
110°	119.4	121.6	125.3	133.4	145.9	166.5	199.7	255.7	354.5	499.6	675.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	132.3	134.6	138.3	146.4	158.9	178.9	209.7	261.6	348.6	477.2	632.7
115°	151.1	154.0	158.4	165.8	178.3	198.2	226.2	271.2	346.4	453.2	580.7
117.5°	169.8	173.1	176.8	183.6	197.7	216.0	243.7	283.9	347.7	439.0	549.3
120°	182.8	184.9	188.6	196.0	210.0	228.5	255.0	293.3	350.1	432.5	532.8
122.5°	194.0	196.1	199.8	207.8	221.2	240.8	266.7	302.1	354.1	428.5	519.2
125°	210.0	211.5	215.9	224.0	238.0	257.9	283.7	316.1	360.3	423.0	501.8
127.5°	222.3	224.4	229.9	238.2	253.6	273.5	298.4	327.6	367.4	420.4	486.5
130°	229.9	232.1	238.7	247.6	263.1	283.0	307.3	335.3	372.1	418.6	478.2
132.5°	235.8	238.7	245.8	256.5	271.9	291.2	314.9	342.3	375.7	417.9	470.6
135°	246.1	249.1	257.2	268.2	283.7	303.6	326.4	351.5	381.0	417.1	460.5
137.5°	255.8	258.9	266.9	278.7	294.0	312.5	334.4	358.3	384.6	415.5	451.9
140°	262.3	266.0	273.4	285.2	299.9	318.3	339.7	361.8	386.9	414.9	446.6
142.5°	269.4	272.5	280.5	291.1	305.9	323.0	343.8	365.3	388.6	413.7	441.9
145°	280.8	283.0	289.6	300.7	313.2	330.2	349.3	369.2	389.8	411.9	435.5
147.5°	292.3	293.6	300.1	309.6	321.7	336.2	353.7	371.6	389.8	409.2	429.3
150°	299.9	300.7	306.5	316.1	326.4	339.7	356.7	372.1	389.8	406.8	425.2
152.5°	307.6	307.7	313.6	322.1	331.1	343.8	358.4	373.3	388.0	403.8	420.5
155°	319.1	319.1	323.5	330.8	338.9	349.3	361.8	373.6	386.2	398.7	413.4
157.5°	328.2	328.8	332.3	338.8	345.7	353.7	363.7	374.4	383.6	394.1	405.5
160°	335.3	335.3	338.3	344.1	349.3	356.7	365.5	374.4	382.5	390.6	400.1
162.5°	340.6	340.6	343.0	347.7	352.2	358.4	366.1	373.7	380.1	387.0	394.8
165°	348.6	347.8	349.3	353.0	355.9	361.1	366.9	372.1	376.5	381.7	387.6
167.5°	354.6	353.7	354.5	357.2	359.3	362.6	366.8	371.0	373.1	376.5	380.7
170°	358.2	356.7	357.4	359.6	361.1	362.6	366.3	369.2	370.7	372.9	376.5
172.5°	360.5	359.6	359.8	361.4	362.2	363.2	366.3	368.6	368.9	369.9	372.4
175°	363.3	362.6	361.8	363.3	363.3	364.0	365.5	366.9	366.3	366.3	367.7
177.5°	364.6	364.0	363.4	364.0	364.0	364.0	364.6	365.8	364.6	364.0	364.6
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	539.3	540.2	541.1	541.4	541.3	541.1	540.9	540.8
5°	535.8	536.7	537.5	537.9	537.7	537.5	537.3	537.2
7.5°	528.3	528.8	529.2	529.3	529.0	528.7	528.3	528.0
10°	521.5	521.6	521.7	521.5	521.0	520.6	520.0	519.5
12.5°	513.1	513.0	513.0	512.6	512.1	511.5	511.0	510.4
15°	498.3	497.9	497.4	496.8	496.2	495.4	494.7	494.1
17.5°	480.8	479.8	478.7	477.7	476.6	475.6	474.7	473.6
20°	468.7	467.4	466.2	465.0	463.7	462.6	461.5	460.2
22.5°	455.8	454.2	452.6	451.3	450.2	449.1	448.0	447.0
25°	434.6	432.6	430.6	429.0	427.9	426.9	425.7	424.7
27.5°	411.6	408.8	406.0	403.7	402.0	400.4	398.8	397.1
30°	395.2	391.9	388.6	386.2	384.6	383.0	381.4	379.8
32.5°	379.1	375.5	371.8	369.2	367.6	366.0	364.3	362.7
35°	355.2	351.0	346.9	343.8	342.1	340.4	338.6	336.9
37.5°	329.6	324.8	320.1	316.6	314.4	312.3	310.1	307.9
40°	311.8	306.7	301.6	297.9	295.7	293.5	291.2	289.0
42.5°	294.6	289.2	283.6	279.8	277.8	275.8	273.8	271.7
45°	269.5	263.9	258.4	254.4	252.1	249.8	247.4	245.1
47.5°	243.5	237.4	231.4	227.3	225.3	223.2	221.0	219.0
50°	225.9	219.9	213.9	209.7	207.5	205.2	202.9	200.7
52.5°	209.0	202.6	196.4	192.3	190.2	188.2	186.2	184.2
55°	183.7	178.0	172.4	168.5	166.6	164.7	162.7	160.7
57.5°	158.8	153.4	148.2	144.6	143.0	141.3	139.7	138.0
60°	143.2	137.9	132.6	129.1	127.5	125.8	124.2	122.5
62.5°	127.6	122.7	117.7	114.3	112.6	110.9	109.1	107.4
65°	105.5	100.8	96.0	93.0	91.9	90.9	89.8	88.7
67.5°	84.4	80.8	77.2	74.8	73.7	72.6	71.4	70.3
70°	71.4	68.0	64.5	62.3	61.2	60.1	59.0	58.0
72.5°	59.6	56.8	54.0	52.4	51.9	51.5	51.1	50.6
75°	44.6	43.6	42.6	42.0	41.8	41.7	41.5	41.3
77.5°	33.6	33.1	32.6	32.2	32.0	31.9	31.7	31.5
80°	27.1	26.8	26.5	26.3	26.0	25.8	25.6	25.4
82.5°	20.7	20.5	20.2	20.0	20.0	19.9	19.9	19.9
85°	11.9	11.7	11.5	11.4	11.4	11.4	11.4	11.4
87.5°	8.1	8.2	8.2	8.5	8.2	8.3	8.4	8.1
90°	18.4	19.1	19.9	21.4	20.6	21.4	22.1	21.4
92.5°	62.0	49.2	43.5	39.7	38.4	36.1	36.9	35.5
95°	265.3	179.8	140.7	114.2	100.2	93.6	88.4	85.5
97.5°	661.3	529.7	434.6	346.5	292.1	258.9	239.0	232.7
100°	868.8	809.1	722.9	618.2	543.8	490.0	461.3	462.0
102.5°	937.7	935.9	885.6	819.3	761.4	718.8	694.7	677.8
105°	958.0	1031.6	1045.7	1026.5	992.6	964.6	941.0	937.4
107.5°	899.9	1019.5	1084.1	1110.3	1111.0	1101.5	1093.5	1086.8
110°	844.5	980.1	1072.9	1124.5	1145.1	1151.0	1149.5	1148.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	789.7	928.2	1032.3	1098.5	1136.3	1154.6	1160.2	1160.5
115°	717.0	845.2	953.6	1033.9	1089.1	1121.5	1136.3	1140.0
117.5°	664.4	775.1	872.3	953.9	1011.4	1048.6	1069.8	1074.9
120°	636.7	736.1	824.6	899.0	957.2	998.5	1016.2	1020.6
122.5°	614.9	704.9	786.8	856.0	907.7	944.8	964.3	969.9
125°	585.8	666.2	736.9	795.9	843.0	875.4	893.8	899.0
127.5°	560.5	632.1	696.0	749.6	791.5	819.3	835.9	840.7
130°	544.6	610.9	670.6	720.7	759.8	786.3	801.7	807.7
132.5°	529.8	590.9	646.4	694.2	730.8	757.4	771.1	775.2
135°	509.9	562.2	610.1	652.1	688.2	710.4	723.6	728.8
137.5°	491.8	534.7	576.0	612.4	642.7	665.2	676.4	679.8
140°	481.2	518.8	554.1	585.8	613.9	634.4	646.3	645.5
142.5°	471.2	503.4	534.1	561.7	585.5	603.8	614.4	613.7
145°	459.1	483.4	507.0	528.4	546.8	562.2	568.2	569.6
147.5°	449.2	468.5	487.6	502.8	516.7	527.2	532.8	533.4
150°	442.1	459.1	474.6	488.5	499.6	507.7	512.2	512.2
152.5°	435.6	450.3	463.9	475.6	484.3	491.8	494.5	494.5
155°	425.9	437.7	448.7	457.6	464.2	470.1	471.6	472.3
157.5°	415.6	425.5	434.0	440.9	446.7	451.1	452.3	452.1
160°	409.7	417.8	425.2	430.4	435.5	439.9	439.9	439.2
162.5°	402.7	409.5	416.3	420.9	424.3	428.1	428.1	427.4
165°	393.5	397.9	403.1	406.8	409.7	412.6	411.9	411.9
167.5°	385.5	388.9	391.9	394.5	395.9	397.9	397.2	397.2
170°	380.2	382.5	385.4	386.9	387.6	389.1	388.3	388.3
172.5°	375.5	377.1	379.5	380.4	380.5	382.0	380.7	380.1
175°	369.2	369.9	371.4	371.4	371.4	372.1	371.4	370.7
177.5°	365.2	365.8	366.4	366.4	365.8	366.4	365.2	365.2
180°	364.0	364.0	364.0	364.0	364.0	364.0	364.0	364.0

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