

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: P331931-927

Luminaire Tested: **S123DIP-S560D805U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331931-927  
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-S560D805U927-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4416.4 lumens  
Efficiency: N/A  
Efficacy: 115.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

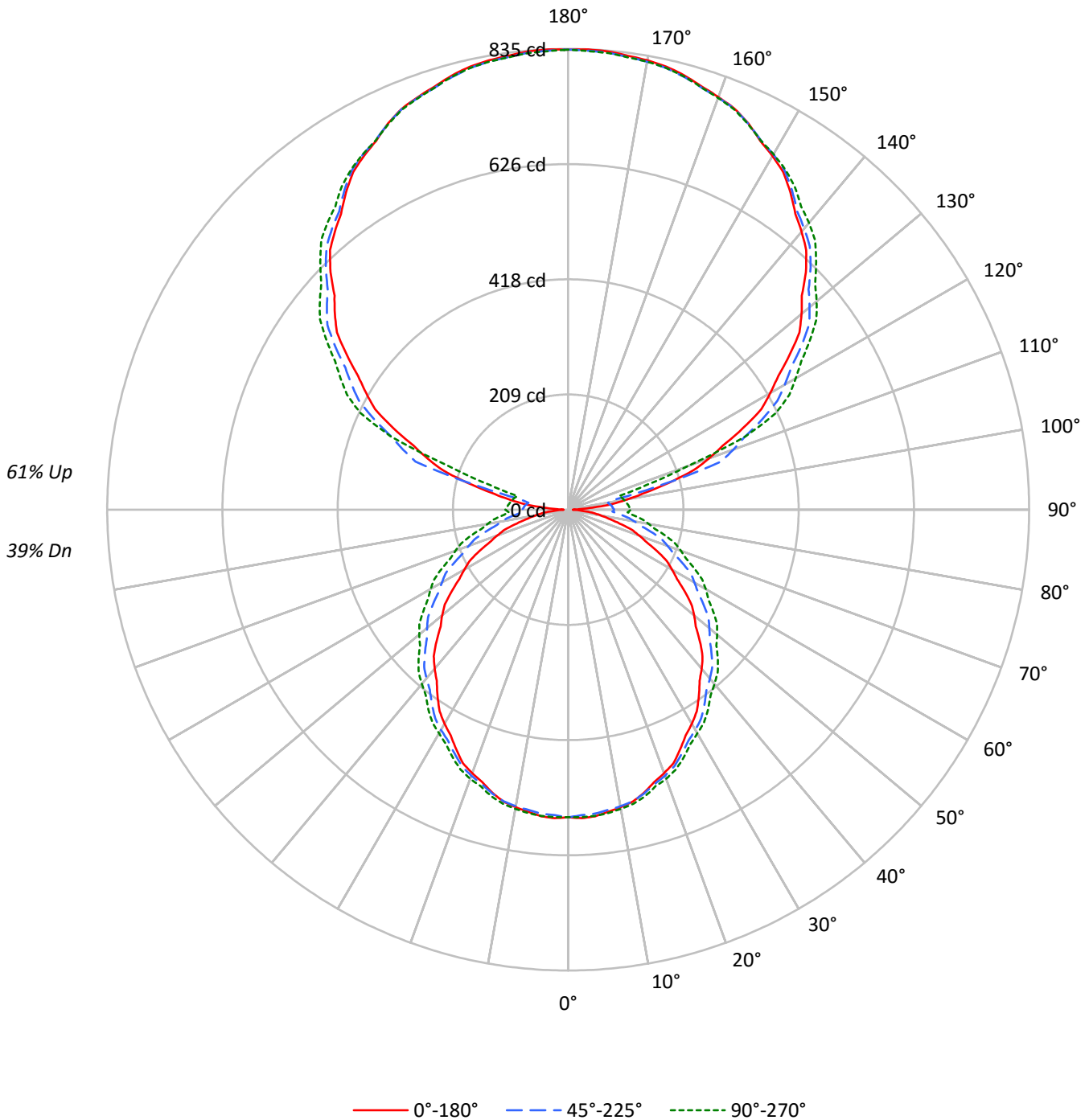
Input Watts (W): 38.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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CATALOG NUMBER: S123DIP-S560D805U927-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





TEST NUMBER: P331931-927

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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	104	104	104	104	95	95	95	95	77	77	77	61	61	61	46	46	46
1	94	90	86	82	86	82	78	75	66	64	62	52	51	49	39	38	37
2	86	78	72	66	77	71	65	61	58	54	50	45	43	40	34	32	31
3	78	68	61	55	70	62	56	50	51	46	42	40	36	34	30	28	26
4	71	60	52	46	64	55	48	42	45	39	35	35	32	29	27	24	22
5	65	53	45	39	59	49	42	36	40	34	30	32	28	25	24	21	19
6	60	48	40	34	54	44	36	31	36	30	26	28	24	21	22	19	17
7	55	43	35	29	50	39	32	27	32	27	23	26	22	19	20	17	15
8	51	39	31	26	46	36	29	24	29	24	20	24	20	17	18	15	13
9	48	35	28	23	43	32	26	21	27	22	18	22	18	15	17	14	12
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	15	13	11

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

	0°	45°	90°
0°	5997	5997	5997
5°	6015	5845	5849
10°	5961	5711	5682
15°	5884	5558	5501
20°	5774	5383	5300
25°	5639	5182	5090
30°	5500	5002	4877
35°	5344	4810	4707
40°	5195	4636	4524
45°	5031	4469	4378
50°	4868	4304	4219
55°	4689	4134	4074
60°	4513	3964	3925
65°	4335	3780	3750
70°	4066	3576	3568
75°	3724	3338	3386
80°	3326	3109	3176
85°	2963	2948	3053



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.8	1.2
10°-20°	150.5	3.4
20°-30°	225.2	5.1
30°-40°	268.9	6.1
40°-50°	281.3	6.4
50°-60°	264.0	6.0
60°-70°	220.5	5.0
70°-80°	157.8	3.6
80°-90°	96.4	2.2
90°-100°	89.3	2.0
100°-110°	187.8	4.3
110°-120°	375.9	8.5
120°-130°	458.4	10.4
130°-140°	479.5	10.9
140°-150°	443.0	10.0
150°-160°	356.1	8.1
160°-170°	229.8	5.2
170°-180°	79.2	1.8
0°-30°	428.5	9.7
0°-40°	697.4	15.8
0°-60°	1242.7	28.1
0°-90°	1717.4	38.9
90°-120°	653.1	14.8
90°-150°	2034.0	46.1
90°-180°	2699.0	61.1
0°-180°	4416.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	558	556	553	557	557	53
15°	531	533	532	538	538	149
25°	479	485	487	495	495	221
35°	413	422	430	439	442	258
45°	337	352	367	378	384	260
55°	257	277	299	315	320	230
65°	178	202	228	246	252	176
75°	96	125	155	175	183	103
85°	30	60	92	112	119	31
90°	8	45	83	106	114	7
95°	44	45	79	101	108	52
105°	189	208	181	94	95	201
115°	349	361	388	408	416	345
125°	490	496	515	528	534	438
135°	609	612	621	633	635	468
145°	702	705	707	713	715	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°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	559.5	559.2	558.9	558.5	558.2	557.6	556.7	555.9	555.0	554.1	555.0
5°	557.7	557.4	557.1	556.9	556.6	556.0	555.2	554.4	553.7	552.8	553.9
7.5°	552.2	552.2	552.3	552.4	552.5	552.1	551.3	550.5	549.7	548.9	550.2
10°	547.4	547.6	547.9	548.2	548.4	548.3	547.6	546.9	546.2	545.6	546.9
12.5°	541.5	541.9	542.3	542.6	543.0	543.0	542.6	542.1	541.6	541.1	542.4
15°	531.0	531.4	531.8	532.2	532.6	532.7	532.6	532.4	532.3	532.2	533.5
17.5°	517.6	518.4	519.3	520.1	520.9	521.3	521.2	521.1	521.1	521.0	522.2
20°	507.9	508.7	509.5	510.3	511.1	511.7	512.0	512.2	512.5	512.8	514.0
22.5°	497.7	498.5	499.3	500.2	501.0	501.5	501.9	502.3	502.7	503.0	504.6
25°	479.4	480.8	482.1	483.5	484.8	485.7	486.1	486.5	486.9	487.3	489.0
27.5°	461.0	462.5	464.1	465.6	467.1	468.3	469.1	470.0	470.9	471.7	473.2
30°	447.8	449.6	451.3	453.1	454.9	456.3	457.3	458.4	459.5	460.6	462.2
32.5°	433.2	435.2	437.2	439.2	441.2	442.8	444.3	445.6	447.0	448.5	450.2
35°	412.6	414.8	416.9	419.1	421.3	423.3	425.0	426.7	428.5	430.2	432.3
37.5°	390.8	393.2	395.6	398.1	400.5	402.8	405.0	407.1	409.2	411.5	413.8
40°	376.2	378.7	381.1	383.5	386.0	388.5	391.2	393.9	396.6	399.3	401.6
42.5°	360.2	363.2	366.1	369.1	372.1	374.9	377.8	380.6	383.4	386.2	388.7
45°	337.4	340.6	343.9	347.1	350.3	353.6	357.0	360.4	363.8	367.1	369.7
47.5°	313.5	317.2	320.8	324.5	328.1	331.9	335.8	339.6	343.5	347.4	350.2
50°	297.9	301.7	305.5	309.3	313.1	317.0	321.2	325.4	329.5	333.7	336.8
52.5°	281.5	285.4	289.5	293.4	297.4	301.7	306.3	310.9	315.5	320.2	323.4
55°	257.3	261.7	266.2	270.6	275.1	279.7	284.6	289.5	294.3	299.1	302.8
57.5°	233.8	238.4	243.0	247.6	252.3	257.3	262.6	267.9	273.2	278.5	282.2
60°	217.2	222.1	227.0	231.8	236.6	241.9	247.4	252.9	258.4	264.0	267.8
62.5°	201.7	206.7	211.7	216.6	221.6	227.0	232.8	238.7	244.5	250.4	254.1
65°	177.8	183.1	188.3	193.6	198.8	204.5	210.4	216.3	222.2	228.1	232.2
67.5°	153.5	159.1	164.7	170.2	175.9	181.6	187.7	193.8	199.8	205.8	210.2
70°	136.6	142.4	148.1	153.9	159.7	165.9	172.3	178.8	185.3	191.8	196.1
72.5°	121.0	126.8	132.6	138.4	144.2	150.4	157.1	163.8	170.5	177.2	181.6
75°	96.5	102.8	109.2	115.5	121.8	128.4	135.1	141.9	148.6	155.3	159.8
77.5°	75.1	81.5	87.9	94.3	100.7	107.3	114.1	120.9	127.7	134.5	139.2
80°	60.0	66.7	73.3	79.9	86.5	93.3	100.3	107.3	114.4	121.4	126.0
82.5°	47.0	53.7	60.4	67.1	73.8	80.7	87.9	95.0	102.1	109.2	113.8
85°	29.7	36.4	43.3	50.0	56.7	63.6	70.8	78.0	85.1	92.2	96.8
87.5°	16.2	23.3	30.3	37.2	44.2	51.3	58.5	65.8	73.0	80.2	85.0
90°	8.5	16.5	24.5	32.5	40.5	48.8	57.4	66.1	74.8	83.4	88.6
92.5°	18.9	24.5	30.1	35.6	41.2	48.1	56.2	64.3	72.4	80.6	85.9
95°	44.4	44.0	43.6	43.3	42.9	46.8	54.9	63.1	71.1	79.3	84.4
97.5°	81.9	84.1	86.3	88.5	90.7	90.1	86.4	82.9	79.2	75.7	80.8
100°	110.1	117.2	124.3	131.3	138.4	134.3	119.1	103.8	88.5	73.2	78.3
102.5°	142.4	148.2	154.1	159.9	165.8	160.0	142.7	125.3	108.0	90.6	91.0
105°	189.4	194.2	198.9	203.7	208.4	207.5	200.9	194.3	187.7	181.2	160.6
107.5°	238.4	242.4	246.4	250.3	254.3	260.1	267.5	275.0	282.4	289.9	275.6
110°	271.2	274.7	278.2	281.8	285.3	290.5	297.5	304.4	311.2	318.1	317.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	302.9	305.9	308.9	311.9	314.8	319.6	326.4	333.0	339.8	346.4	349.9
115°	349.3	351.6	354.1	356.6	359.0	363.3	369.4	375.5	381.6	387.6	392.3
117.5°	394.6	396.6	398.6	400.6	402.7	406.2	411.5	416.6	421.8	427.0	431.3
120°	422.3	424.2	426.2	428.1	430.0	433.4	438.2	443.1	448.0	452.8	457.0
122.5°	451.1	452.4	453.8	455.2	456.5	459.6	464.4	469.1	473.9	478.6	482.4
125°	489.9	490.9	492.0	493.1	494.2	497.0	501.5	506.0	510.4	514.8	518.0
127.5°	528.0	528.9	529.9	530.9	531.9	534.3	538.2	542.1	546.0	549.9	553.0
130°	551.8	552.8	553.7	554.7	555.6	557.8	561.0	564.3	567.5	570.8	573.9
132.5°	574.1	575.1	576.2	577.3	578.4	580.2	582.8	585.4	588.0	590.6	593.6
135°	608.8	609.4	610.1	610.9	611.6	612.9	614.9	617.0	619.0	621.1	623.8
137.5°	638.3	639.3	640.2	641.2	642.1	643.2	644.3	645.5	646.6	647.7	650.5
140°	657.7	658.5	659.3	660.2	661.0	661.9	662.7	663.5	664.3	665.1	667.7
142.5°	676.0	676.8	677.5	678.2	678.9	679.5	680.0	680.5	681.0	681.5	683.7
145°	701.7	702.5	703.3	704.2	705.0	705.5	705.8	706.1	706.4	706.6	708.0
147.5°	725.2	725.9	726.5	727.1	727.8	728.3	728.5	728.7	729.0	729.3	729.9
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°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	555.9	556.7	557.6	558.0	557.9	557.8	557.7	557.5
5°	555.0	556.0	557.1	557.6	557.5	557.3	557.2	557.1
7.5°	551.6	552.9	554.4	554.9	554.8	554.6	554.4	554.3
10°	548.3	549.6	551.0	551.4	551.2	551.0	550.6	550.4
12.5°	543.7	544.9	546.1	546.6	546.4	546.1	545.8	545.6
15°	534.9	536.2	537.6	538.2	538.1	537.9	537.8	537.7
17.5°	523.5	524.7	525.9	526.4	526.2	526.0	525.9	525.6
20°	515.2	516.4	517.6	518.3	518.4	518.6	518.7	518.8
22.5°	506.1	507.7	509.2	509.9	509.8	509.8	509.7	509.6
25°	490.8	492.6	494.3	495.2	495.2	495.2	495.2	495.2
27.5°	474.8	476.3	477.8	478.6	478.7	478.8	479.0	479.0
30°	463.8	465.4	467.1	467.9	467.9	467.9	467.9	467.9
32.5°	451.9	453.6	455.3	456.4	456.7	457.0	457.3	457.6
35°	434.3	436.3	438.3	439.6	440.1	440.7	441.2	441.8
37.5°	416.0	418.3	420.6	422.0	422.4	422.8	423.3	423.7
40°	403.9	406.2	408.4	409.9	410.4	411.0	411.5	412.0
42.5°	391.2	393.7	396.2	397.8	398.6	399.3	400.1	400.8
45°	372.2	374.8	377.4	379.2	380.2	381.4	382.5	383.5
47.5°	353.2	356.0	358.9	360.8	361.6	362.4	363.3	364.1
50°	339.9	343.1	346.2	348.2	349.1	350.1	351.0	352.0
52.5°	326.6	329.8	333.0	335.2	336.4	337.5	338.7	339.8
55°	306.4	310.1	313.7	316.1	317.2	318.2	319.3	320.4
57.5°	285.9	289.5	293.2	295.6	296.9	298.2	299.4	300.7
60°	271.6	275.3	279.1	281.7	283.2	284.6	286.1	287.6
62.5°	257.9	261.7	265.5	268.1	269.4	270.8	272.2	273.5
65°	236.2	240.3	244.4	247.1	248.4	249.8	251.1	252.5
67.5°	214.7	219.1	223.6	226.3	227.4	228.5	229.7	230.8
70°	200.4	204.7	209.1	211.8	213.2	214.5	215.9	217.2
72.5°	186.0	190.4	194.9	197.8	199.2	200.5	201.8	203.2
75°	164.2	168.7	173.2	176.2	177.8	179.4	181.0	182.7
77.5°	143.9	148.5	153.2	156.2	157.5	158.7	159.9	161.2
80°	130.6	135.1	139.7	142.7	144.0	145.4	146.7	148.1
82.5°	118.4	122.9	127.5	130.6	131.9	133.2	134.6	135.9
85°	101.4	106.0	110.6	113.5	114.9	116.2	117.6	118.9
87.5°	89.7	94.3	99.1	102.1	103.5	104.9	106.3	107.7
90°	93.7	98.9	104.0	107.3	109.0	110.6	112.3	113.8
92.5°	91.3	96.6	102.0	105.4	106.8	108.1	109.6	111.0
95°	89.6	94.7	99.8	103.1	104.4	105.8	107.1	108.5
97.5°	85.9	91.0	96.1	99.4	100.9	102.4	103.9	105.4
100°	83.3	88.2	93.2	96.5	98.0	99.5	101.0	102.5
102.5°	91.4	91.8	92.2	93.2	94.7	96.4	98.0	99.6
105°	140.0	119.4	98.8	89.3	90.8	92.2	93.7	95.2
107.5°	261.3	247.1	232.8	217.1	199.9	182.8	165.6	148.5
110°	316.1	315.1	314.0	304.2	285.6	267.0	248.3	229.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	353.4	356.9	360.4	360.6	357.7	354.7	351.7	348.7
115°	396.9	401.5	406.1	409.2	410.8	412.5	414.2	415.7
117.5°	435.6	439.9	444.3	446.9	448.1	449.3	450.4	451.6
120°	461.2	465.4	469.6	472.2	473.2	474.1	475.1	475.9
122.5°	486.2	490.0	493.7	496.1	497.2	498.2	499.2	500.3
125°	521.1	524.2	527.3	529.5	530.7	531.9	533.1	534.3
127.5°	556.1	559.2	562.3	564.2	564.8	565.5	566.1	566.8
130°	576.9	580.1	583.2	585.0	585.6	586.1	586.6	587.2
132.5°	596.6	599.6	602.6	604.4	604.9	605.5	606.0	606.5
135°	626.7	629.5	632.4	633.9	634.2	634.5	634.7	635.0
137.5°	653.3	656.1	658.9	660.5	660.9	661.3	661.7	662.1
140°	670.3	672.8	675.4	676.9	677.3	677.7	678.1	678.5
142.5°	686.0	688.2	690.5	691.7	692.1	692.4	692.6	692.9
145°	709.3	710.7	712.1	713.0	713.5	714.1	714.6	715.2
147.5°	730.6	731.1	731.7	732.0	731.8	731.7	731.5	731.3
150°	743.7	744.0	744.3	744.3	744.2	744.1	743.9	743.8
152.5°	756.1	756.5	757.1	757.0	756.5	755.9	755.3	754.7
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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