

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: P331879-930

Luminaire Tested: **S123DIP-S340D585U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331879-930  
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: S123DIP-S340D585U930-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2902.0 lumens  
Efficiency: N/A  
Efficacy: 113.4 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

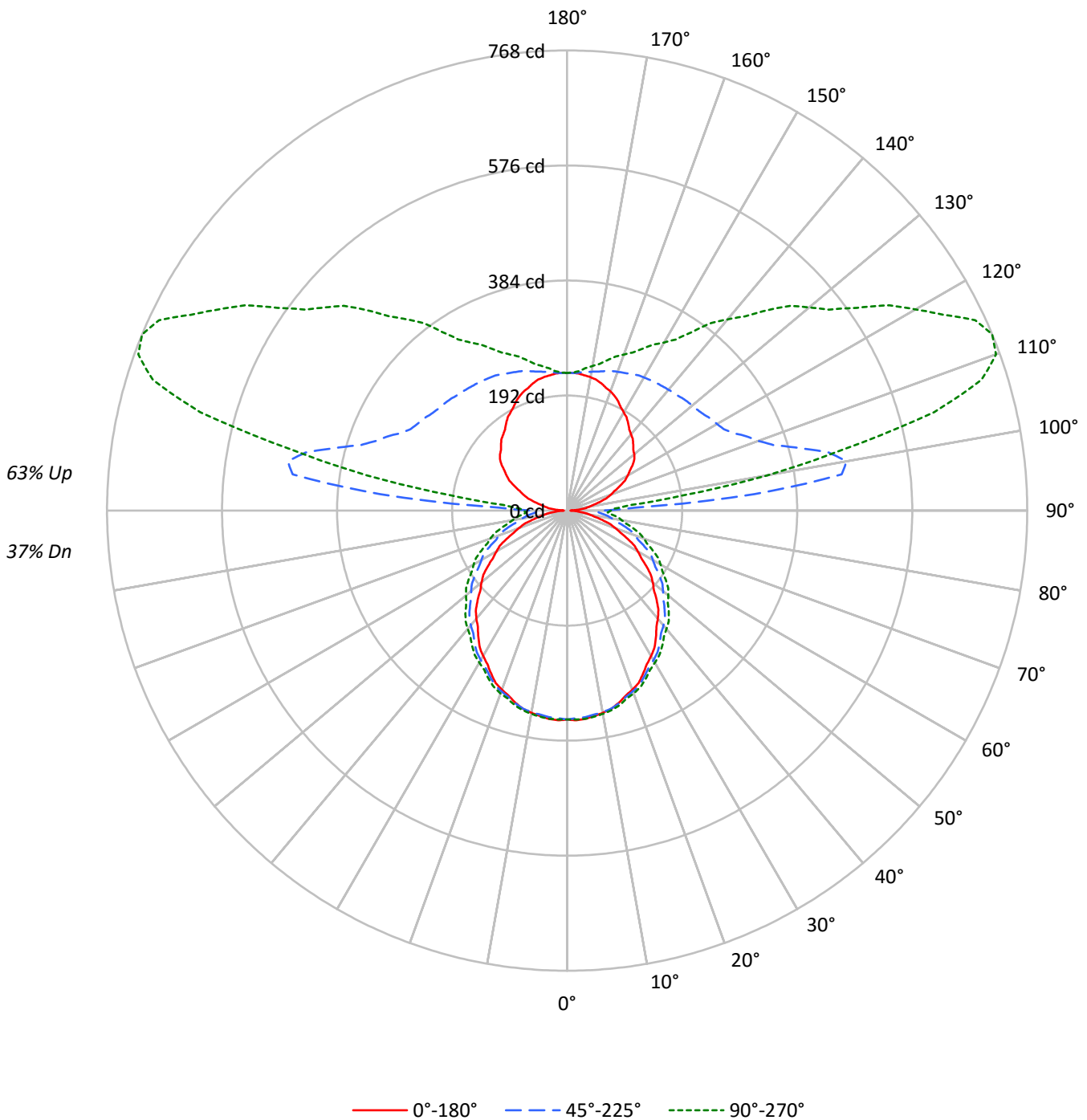
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	44	44	44	37
1	94	89	85	82	85	81	78	74	65	63	61	51	49	48	38	37	36	30
2	85	78	71	66	77	70	65	60	57	53	50	44	42	39	33	31	29	24
3	78	68	61	55	70	62	55	50	50	45	41	39	36	33	29	27	25	20
4	71	60	52	46	64	54	48	42	44	39	35	35	31	28	26	23	21	17
5	65	53	45	39	58	48	41	36	39	34	30	31	27	24	23	20	18	15
6	60	48	39	34	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	43	35	29	50	39	32	27	32	27	23	25	21	18	19	16	14	11
8	51	39	31	26	46	35	29	24	29	24	20	23	19	16	17	15	13	10
9	47	35	28	23	43	32	26	21	26	21	18	21	17	15	16	13	11	9
10	44	32	25	20	40	30	23	19	24	19	16	19	16	13	15	12	10	8

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

	0°	45°	90°
0°	3753	3753	3753
5°	3765	3659	3661
10°	3732	3575	3556
15°	3684	3479	3443
20°	3615	3370	3318
25°	3530	3245	3186
30°	3444	3132	3053
35°	3345	3012	2946
40°	3252	2903	2833
45°	3149	2798	2741
50°	3047	2695	2641
55°	2936	2589	2550
60°	2826	2482	2458
65°	2714	2366	2347
70°	2542	2237	2234
75°	2331	2092	2120
80°	2084	1946	1988
85°	1855	1845	1910



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.1	1.1
10°-20°	94.2	3.2
20°-30°	141.0	4.9
30°-40°	168.3	5.8
40°-50°	176.1	6.1
50°-60°	165.3	5.7
60°-70°	138.0	4.8
70°-80°	98.8	3.4
80°-90°	60.7	2.1
90°-100°	164.8	5.7
100°-110°	389.2	13.4
110°-120°	374.2	12.9
120°-130°	294.4	10.1
130°-140°	228.6	7.9
140°-150°	168.1	5.8
150°-160°	116.5	4.0
160°-170°	68.4	2.4
170°-180°	22.3	0.8
0°-30°	268.3	9.2
0°-40°	436.6	15.0
0°-60°	778.0	26.8
0°-90°	1075.4	37.1
90°-120°	928.2	32.0
90°-150°	1619.4	55.8
90°-180°	1827.0	63.0
0°-180°	2902.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	349	349	349	349	349	
5°	349	348	346	349	349	33
15°	332	333	333	337	337	94
25°	300	304	305	310	310	138
35°	258	264	269	275	276	162
45°	211	220	230	237	240	163
55°	161	174	187	197	201	144
65°	111	126	143	154	158	110
75°	60	78	97	109	114	64
85°	19	38	58	70	74	20
90°	6	29	54	68	73	4
95°	20	71	313	129	107	20
105°	57	92	402	693	634	60
115°	97	126	306	656	752	96
125°	134	158	279	504	590	119
135°	156	186	268	409	473	121
145°	178	203	260	330	364	111
155°	201	217	252	286	298	93
165°	220	226	241	256	260	62
175°	229	230	231	234	234	22
180°	230	230	230	230	230	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	350.3	350.1	349.8	349.7	349.4	349.1	348.5	348.0	347.5	346.9	347.5
5°	349.1	348.9	348.8	348.6	348.5	348.1	347.6	347.1	346.6	346.1	346.7
7.5°	345.7	345.8	345.8	345.8	345.8	345.6	345.1	344.6	344.1	343.6	344.5
10°	342.7	342.8	343.0	343.2	343.3	343.2	342.8	342.3	341.9	341.5	342.3
12.5°	339.0	339.2	339.5	339.7	340.0	339.9	339.7	339.3	339.1	338.8	339.6
15°	332.4	332.6	332.9	333.1	333.4	333.5	333.4	333.3	333.2	333.1	334.0
17.5°	324.1	324.6	325.1	325.5	326.0	326.3	326.3	326.2	326.2	326.2	326.9
20°	318.0	318.5	318.9	319.5	320.0	320.3	320.5	320.7	320.8	321.0	321.8
22.5°	311.6	312.1	312.6	313.1	313.6	314.0	314.2	314.5	314.7	315.0	315.9
25°	300.1	300.9	301.8	302.6	303.5	304.0	304.3	304.5	304.8	305.1	306.1
27.5°	288.5	289.5	290.5	291.5	292.4	293.2	293.7	294.2	294.8	295.3	296.3
30°	280.4	281.4	282.6	283.6	284.8	285.6	286.3	287.0	287.6	288.4	289.3
32.5°	271.3	272.5	273.7	274.9	276.1	277.2	278.1	279.0	279.9	280.7	281.8
35°	258.3	259.7	261.1	262.4	263.7	265.0	266.0	267.2	268.2	269.4	270.6
37.5°	244.7	246.1	247.7	249.2	250.7	252.2	253.5	254.9	256.2	257.6	259.0
40°	235.5	237.1	238.6	240.1	241.6	243.2	244.9	246.6	248.3	250.0	251.4
42.5°	225.5	227.4	229.2	231.1	232.9	234.7	236.5	238.2	240.0	241.7	243.4
45°	211.2	213.3	215.2	217.3	219.3	221.4	223.5	225.6	227.7	229.8	231.5
47.5°	196.2	198.5	200.8	203.2	205.5	207.8	210.2	212.6	215.0	217.4	219.2
50°	186.5	188.9	191.3	193.6	196.0	198.4	201.1	203.7	206.4	209.0	210.9
52.5°	176.2	178.7	181.2	183.7	186.2	188.9	191.8	194.7	197.5	200.4	202.4
55°	161.1	163.9	166.6	169.4	172.2	175.1	178.1	181.2	184.3	187.3	189.6
57.5°	146.3	149.2	152.1	155.1	157.9	161.1	164.4	167.7	171.0	174.4	176.7
60°	136.0	139.0	142.1	145.1	148.1	151.4	154.9	158.3	161.8	165.3	167.6
62.5°	126.3	129.4	132.5	135.6	138.7	142.1	145.8	149.4	153.1	156.8	159.1
65°	111.3	114.6	117.9	121.2	124.5	128.0	131.7	135.4	139.1	142.8	145.4
67.5°	96.1	99.6	103.1	106.6	110.1	113.7	117.5	121.3	125.1	128.9	131.6
70°	85.4	89.1	92.7	96.4	100.0	103.9	107.9	111.9	116.0	120.0	122.8
72.5°	75.7	79.4	83.0	86.7	90.3	94.2	98.3	102.6	106.7	111.0	113.7
75°	60.4	64.4	68.3	72.3	76.3	80.4	84.6	88.8	93.0	97.3	100.0
77.5°	47.0	51.0	55.0	59.0	63.0	67.2	71.4	75.7	79.9	84.2	87.2
80°	37.6	41.7	45.9	50.1	54.1	58.5	62.8	67.2	71.6	76.0	78.8
82.5°	29.4	33.6	37.8	42.0	46.2	50.5	55.0	59.4	63.9	68.4	71.3
85°	18.6	22.8	27.1	31.3	35.5	39.9	44.4	48.8	53.2	57.7	60.6
87.5°	10.3	14.7	19.1	23.6	28.0	32.4	36.9	41.6	46.1	50.7	53.5
90°	5.9	10.9	16.0	21.5	26.6	31.7	37.4	43.1	48.8	54.5	57.0
92.5°	10.4	17.0	24.5	31.9	39.5	50.4	66.9	91.1	115.0	112.0	97.3
95°	20.0	24.7	33.1	44.3	59.7	81.5	125.1	198.6	279.0	313.4	263.9
97.5°	30.7	34.2	41.1	51.0	65.8	88.9	130.6	212.7	343.8	462.2	494.6
100°	37.8	41.0	47.0	56.2	70.0	91.5	127.9	200.6	326.8	473.4	567.4
102.5°	45.3	48.6	53.9	62.5	75.0	94.7	127.8	190.0	302.7	447.4	569.3
105°	57.0	60.4	65.2	72.8	83.6	100.9	129.6	181.2	272.7	402.4	538.2
107.5°	69.0	72.1	76.6	83.7	93.8	109.7	135.2	178.5	252.7	362.3	485.8
110°	77.6	80.6	84.4	91.0	100.4	115.9	140.2	179.0	244.6	339.6	452.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	85.8	88.5	92.0	98.4	107.5	122.5	145.1	181.1	239.2	323.7	423.9
115°	97.3	100.1	103.9	109.6	118.5	133.1	153.8	185.2	235.6	306.1	388.6
117.5°	109.0	111.7	114.7	119.6	129.1	142.4	162.7	190.9	234.0	294.6	366.2
120°	116.8	118.6	121.4	126.5	135.7	149.0	168.5	195.4	234.1	288.9	354.1
122.5°	123.9	125.6	128.1	133.3	142.0	155.8	174.8	199.8	235.3	284.8	344.0
125°	133.7	134.6	137.4	142.5	151.3	165.1	183.8	206.8	237.1	279.1	330.6
127.5°	141.4	142.7	146.0	151.2	160.9	174.4	192.2	212.5	239.7	275.2	318.5
130°	146.3	147.6	151.6	157.1	166.8	180.2	197.2	216.5	241.5	272.5	311.8
132.5°	149.6	151.4	156.0	162.7	172.4	185.2	201.5	220.2	242.6	270.6	305.3
135°	156.0	157.8	162.9	169.7	179.4	192.4	207.8	224.5	244.0	267.7	296.7
137.5°	162.2	164.0	169.0	176.3	186.0	197.8	212.2	227.8	244.8	264.9	289.2
140°	165.9	168.3	172.9	180.3	189.6	201.4	215.2	229.3	245.4	263.3	284.6
142.5°	170.4	172.3	177.2	183.8	193.1	204.0	217.1	230.7	245.5	261.4	280.3
145°	177.6	178.9	183.0	189.9	197.7	208.3	220.5	233.0	246.0	259.9	275.5
147.5°	184.4	185.2	189.4	195.4	203.0	212.1	223.2	234.5	246.0	258.2	271.1
150°	189.2	189.7	193.5	199.5	206.0	214.3	225.1	234.8	246.0	256.7	268.3
152.5°	194.1	194.2	198.0	203.3	209.0	217.0	226.2	235.6	244.9	254.9	265.4
155°	201.4	201.4	204.2	208.8	213.9	220.5	228.4	235.8	243.7	251.6	260.9
157.5°	207.1	207.5	209.7	213.9	218.2	223.2	229.5	236.3	242.1	248.7	255.8
160°	211.6	211.6	213.4	217.2	220.5	225.1	230.6	236.3	241.3	246.5	252.5
162.5°	214.9	214.9	216.5	219.4	222.3	226.2	231.1	235.9	239.9	244.3	249.2
165°	220.0	219.5	220.5	222.7	224.6	227.9	231.5	234.8	237.7	240.9	244.6
167.5°	223.8	223.2	223.6	225.4	226.7	228.8	231.5	234.1	235.4	237.5	240.3
170°	226.0	225.1	225.5	226.9	227.9	228.8	231.1	233.0	233.9	235.3	237.7
172.5°	227.5	226.9	227.1	228.0	228.6	229.2	231.1	232.6	232.8	233.4	235.1
175°	229.3	228.8	228.4	229.3	229.3	229.8	230.6	231.5	231.1	231.1	232.0
177.5°	230.1	229.8	229.3	229.8	229.8	229.8	230.1	230.8	230.1	229.8	230.1
180°	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	348.7	348.7	348.7	348.7	348.7	348.7	348.7	348.7
2.5°	348.0	348.5	349.1	349.3	349.3	349.2	349.1	349.0
5°	347.4	348.1	348.8	349.1	349.0	348.9	348.8	348.7
7.5°	345.4	346.2	347.0	347.4	347.3	347.2	347.1	347.0
10°	343.2	344.1	344.9	345.2	345.0	344.9	344.7	344.5
12.5°	340.3	341.1	341.9	342.2	342.0	341.9	341.7	341.5
15°	334.8	335.7	336.6	336.9	336.8	336.7	336.6	336.6
17.5°	327.7	328.5	329.2	329.5	329.4	329.3	329.2	329.1
20°	322.5	323.3	324.1	324.5	324.6	324.7	324.7	324.8
22.5°	316.8	317.8	318.8	319.3	319.2	319.1	319.1	319.0
25°	307.2	308.3	309.4	310.0	310.0	310.0	310.0	310.0
27.5°	297.2	298.2	299.1	299.6	299.7	299.8	299.8	299.9
30°	290.3	291.4	292.4	292.9	292.9	292.9	292.9	292.9
32.5°	282.9	284.0	285.0	285.7	285.9	286.1	286.3	286.5
35°	271.9	273.1	274.4	275.2	275.6	275.9	276.2	276.5
37.5°	260.4	261.9	263.3	264.2	264.4	264.7	265.0	265.2
40°	252.8	254.3	255.7	256.6	256.9	257.3	257.6	258.0
42.5°	244.9	246.5	248.0	249.1	249.6	250.0	250.5	250.9
45°	233.0	234.6	236.3	237.4	238.1	238.7	239.5	240.1
47.5°	221.0	222.9	224.7	225.8	226.3	226.9	227.4	228.0
50°	212.8	214.7	216.7	218.0	218.6	219.2	219.7	220.4
52.5°	204.5	206.4	208.5	209.9	210.6	211.3	212.0	212.7
55°	191.8	194.1	196.4	197.9	198.5	199.3	199.9	200.6
57.5°	179.0	181.2	183.5	185.1	185.9	186.7	187.5	188.3
60°	170.0	172.4	174.7	176.3	177.2	178.2	179.1	180.1
62.5°	161.4	163.8	166.2	167.8	168.7	169.5	170.4	171.3
65°	147.9	150.4	153.0	154.7	155.5	156.4	157.2	158.0
67.5°	134.4	137.1	139.9	141.7	142.4	143.1	143.8	144.5
70°	125.5	128.2	130.9	132.6	133.5	134.3	135.2	136.0
72.5°	116.4	119.2	122.0	123.8	124.7	125.5	126.4	127.2
75°	102.8	105.6	108.4	110.3	111.3	112.3	113.3	114.4
77.5°	90.1	93.0	96.0	97.8	98.6	99.4	100.1	100.9
80°	81.7	84.6	87.5	89.3	90.2	91.0	91.9	92.7
82.5°	74.1	77.0	79.9	81.7	82.6	83.4	84.2	85.1
85°	63.5	66.4	69.2	71.1	71.9	72.8	73.6	74.4
87.5°	56.5	59.4	62.4	64.4	65.2	66.1	67.1	67.8
90°	60.3	63.6	66.9	69.8	70.1	71.4	72.7	73.1
92.5°	85.3	80.0	79.2	78.5	78.4	77.9	79.1	79.0
95°	210.3	158.9	136.9	121.9	113.9	110.6	108.1	107.1
97.5°	457.2	376.7	319.2	265.3	231.8	211.7	200.0	196.8
100°	586.2	551.0	499.0	434.6	388.5	355.4	338.1	339.4
102.5°	627.8	628.9	599.7	559.4	523.7	497.7	483.3	473.4
105°	637.7	686.6	697.8	687.3	666.7	649.7	635.6	634.1
107.5°	598.3	676.0	719.0	737.1	738.2	733.0	728.7	725.2
110°	561.7	649.4	710.2	744.1	757.8	762.2	762.0	761.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	525.1	614.7	682.4	725.7	750.2	762.5	766.8	767.8
115°	476.6	559.6	630.0	682.0	717.5	738.7	748.7	751.7
117.5°	440.8	512.6	576.0	628.8	665.8	689.9	703.9	707.8
120°	421.6	486.3	544.0	592.3	629.7	656.3	668.1	671.4
122.5°	406.2	464.9	518.4	563.4	596.6	620.6	633.5	637.6
125°	385.4	437.9	484.3	522.7	553.0	574.1	586.3	590.1
127.5°	366.9	413.8	455.8	490.7	517.8	535.8	546.9	550.5
130°	355.2	398.7	438.0	470.6	495.8	513.0	523.3	527.5
132.5°	344.3	384.3	420.9	452.1	475.8	493.2	502.4	505.6
135°	329.4	363.9	395.7	423.1	446.4	460.7	469.5	473.2
137.5°	315.8	344.1	371.5	395.4	415.0	429.5	437.0	439.6
140°	307.7	332.7	356.3	377.2	395.3	408.6	416.5	416.5
142.5°	299.9	321.4	341.9	360.0	375.5	387.5	394.6	394.6
145°	291.1	307.1	322.6	336.6	348.6	358.7	362.7	364.0
147.5°	283.9	296.3	308.5	318.3	327.4	334.4	338.2	338.8
150°	279.0	289.7	299.5	308.4	315.5	320.8	323.8	323.9
152.5°	274.9	284.1	292.8	300.1	305.7	310.5	312.2	312.2
155°	268.8	276.2	283.2	288.8	292.9	296.7	297.6	298.1
157.5°	262.3	268.5	273.9	278.3	281.9	284.7	285.4	285.4
160°	258.5	263.7	268.3	271.6	274.8	277.6	277.6	277.1
162.5°	254.1	258.4	262.8	265.6	267.7	270.2	270.2	269.7
165°	248.3	251.1	254.4	256.7	258.5	260.4	259.9	259.9
167.5°	243.3	245.4	247.3	249.0	249.8	251.1	250.6	250.6
170°	239.9	241.3	243.2	244.1	244.6	245.6	245.1	245.1
172.5°	237.0	238.0	239.5	240.0	240.1	241.1	240.3	239.9
175°	233.0	233.4	234.4	234.4	234.4	234.8	234.4	233.9
177.5°	230.5	230.8	231.2	231.2	230.8	231.2	230.5	230.5
180°	229.8	229.8	229.8	229.8	229.8	229.8	229.8	229.8

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