

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: P331879-927

Luminaire Tested: **S123DIP-S340D585U927-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331879-927  
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-S340D585U927-4F0-1E-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: 2819.7 lumens  
Efficiency: N/A  
Efficacy: 110.1 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

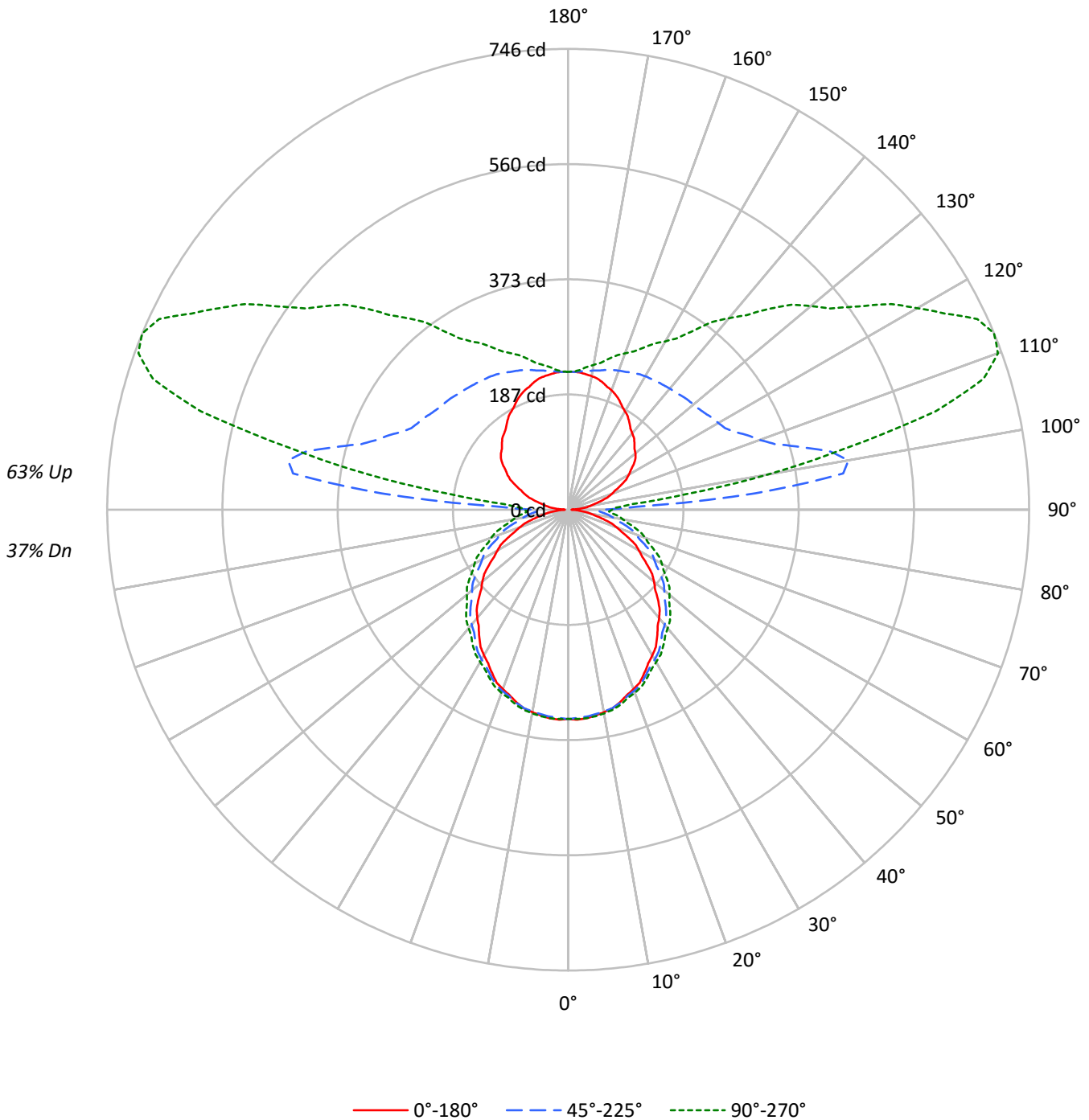
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	3647	3647	3647
5°	3658	3556	3557
10°	3626	3473	3456
15°	3579	3380	3345
20°	3513	3274	3224
25°	3430	3152	3096
30°	3345	3043	2966
35°	3251	2926	2863
40°	3161	2820	2752
45°	3061	2718	2664
50°	2962	2618	2566
55°	2852	2516	2478
60°	2745	2411	2388
65°	2636	2300	2280
70°	2471	2174	2170
75°	2265	2031	2059
80°	2023	1890	1932
85°	1805	1794	1856



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.1	1.1
10°-20°	91.6	3.2
20°-30°	137.0	4.9
30°-40°	163.6	5.8
40°-50°	171.1	6.1
50°-60°	160.6	5.7
60°-70°	134.1	4.8
70°-80°	96.0	3.4
80°-90°	59.0	2.1
90°-100°	160.1	5.7
100°-110°	378.1	13.4
110°-120°	363.6	12.9
120°-130°	286.1	10.1
130°-140°	222.1	7.9
140°-150°	163.4	5.8
150°-160°	113.2	4.0
160°-170°	66.5	2.4
170°-180°	21.6	0.8
0°-30°	260.6	9.2
0°-40°	424.2	15.0
0°-60°	755.9	26.8
0°-90°	1044.9	37.1
90°-120°	901.9	32.0
90°-150°	1573.4	55.8
90°-180°	1775.0	62.9
0°-180°	2819.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	339	339	339	339	339	
5°	339	338	336	339	339	32
15°	323	324	324	327	327	91
25°	292	295	296	301	301	134
35°	251	257	262	267	269	157
45°	205	214	223	230	233	158
55°	156	169	182	192	195	140
65°	108	123	139	149	154	107
75°	59	76	94	106	111	63
85°	18	37	56	68	72	19
90°	6	28	53	66	71	4
95°	19	69	304	126	104	20
105°	55	90	391	673	616	59
115°	94	122	298	637	730	94
125°	130	154	271	489	573	115
135°	152	181	260	398	460	117
145°	172	197	252	320	354	108
155°	196	211	244	278	290	90
165°	214	220	234	248	252	60
175°	223	223	225	228	227	21
180°	223	223	223	223	223	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	340.3	340.2	339.9	339.8	339.5	339.2	338.7	338.1	337.6	337.1	337.6
5°	339.2	339.1	338.9	338.7	338.6	338.3	337.7	337.2	336.8	336.3	336.9
7.5°	335.9	336.0	336.0	336.0	336.0	335.8	335.3	334.9	334.4	333.9	334.7
10°	333.0	333.1	333.3	333.4	333.6	333.5	333.0	332.6	332.2	331.8	332.6
12.5°	329.4	329.6	329.9	330.1	330.3	330.3	330.0	329.7	329.5	329.2	329.9
15°	323.0	323.2	323.4	323.7	323.9	324.1	323.9	323.8	323.8	323.7	324.6
17.5°	314.9	315.4	315.8	316.3	316.8	317.0	317.0	317.0	317.0	317.0	317.7
20°	309.0	309.4	309.9	310.5	310.9	311.2	311.4	311.6	311.7	311.9	312.7
22.5°	302.8	303.2	303.7	304.2	304.8	305.1	305.3	305.5	305.8	306.0	307.0
25°	291.6	292.4	293.3	294.1	294.9	295.4	295.6	295.9	296.1	296.4	297.5
27.5°	280.4	281.3	282.3	283.2	284.2	284.9	285.3	285.9	286.5	286.9	287.9
30°	272.4	273.5	274.6	275.6	276.7	277.5	278.2	278.8	279.5	280.2	281.1
32.5°	263.6	264.7	265.9	267.1	268.3	269.3	270.2	271.1	272.0	272.7	273.9
35°	251.0	252.3	253.7	254.9	256.3	257.5	258.5	259.6	260.6	261.7	262.9
37.5°	237.7	239.2	240.7	242.2	243.6	245.0	246.3	247.6	249.0	250.3	251.7
40°	228.9	230.4	231.8	233.3	234.7	236.3	238.0	239.6	241.2	242.9	244.3
42.5°	219.1	220.9	222.7	224.5	226.3	228.1	229.8	231.5	233.2	234.9	236.5
45°	205.3	207.2	209.1	211.1	213.1	215.1	217.1	219.2	221.3	223.3	224.9
47.5°	190.7	192.9	195.1	197.4	199.6	201.9	204.2	206.6	208.9	211.3	213.0
50°	181.3	183.5	185.8	188.1	190.4	192.8	195.4	198.0	200.5	203.0	204.9
52.5°	171.2	173.6	176.0	178.5	180.9	183.5	186.3	189.2	191.9	194.7	196.7
55°	156.5	159.2	161.9	164.6	167.3	170.2	173.1	176.1	179.0	182.0	184.2
57.5°	142.2	145.0	147.8	150.7	153.4	156.5	159.7	163.0	166.2	169.4	171.7
60°	132.1	135.1	138.1	141.0	143.9	147.1	150.5	153.8	157.2	160.6	162.9
62.5°	122.7	125.7	128.7	131.7	134.8	138.1	141.6	145.2	148.8	152.3	154.6
65°	108.1	111.4	114.5	117.7	121.0	124.4	127.9	131.6	135.1	138.8	141.2
67.5°	93.4	96.8	100.2	103.5	106.9	110.5	114.2	117.9	121.5	125.2	127.9
70°	83.0	86.6	90.1	93.6	97.1	100.9	104.8	108.8	112.7	116.6	119.3
72.5°	73.6	77.2	80.6	84.2	87.7	91.5	95.5	99.7	103.7	107.8	110.5
75°	58.7	62.6	66.4	70.3	74.1	78.1	82.2	86.3	90.4	94.5	97.2
77.5°	45.7	49.6	53.5	57.4	61.2	65.3	69.4	73.5	77.6	81.8	84.7
80°	36.5	40.6	44.6	48.6	52.6	56.8	61.0	65.3	69.6	73.8	76.6
82.5°	28.6	32.6	36.8	40.8	44.9	49.1	53.5	57.8	62.1	66.5	69.2
85°	18.1	22.2	26.3	30.4	34.5	38.7	43.1	47.4	51.7	56.1	58.9
87.5°	10.0	14.3	18.5	22.9	27.2	31.4	35.9	40.4	44.8	49.3	52.0
90°	5.7	10.6	15.5	20.9	25.8	30.8	36.4	41.9	47.5	53.0	55.4
92.5°	10.1	16.5	23.8	31.0	38.4	49.0	65.0	88.5	111.7	108.8	94.5
95°	19.4	24.0	32.2	43.0	58.0	79.2	121.6	193.0	271.1	304.5	256.4
97.5°	29.8	33.2	39.9	49.5	63.9	86.4	126.9	206.7	334.1	449.1	480.6
100°	36.8	39.8	45.6	54.6	68.0	88.9	124.3	194.9	317.5	460.0	551.4
102.5°	44.0	47.2	52.4	60.7	72.9	92.1	124.1	184.6	294.1	434.7	553.2
105°	55.4	58.7	63.4	70.7	81.3	98.1	126.0	176.1	265.0	390.9	522.9
107.5°	67.0	70.0	74.4	81.4	91.1	106.6	131.3	173.4	245.6	352.0	472.0
110°	75.4	78.3	82.0	88.4	97.6	112.6	136.3	173.9	237.7	329.9	440.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	83.3	86.0	89.4	95.6	104.5	119.0	141.0	175.9	232.4	314.5	411.9
115°	94.5	97.3	100.9	106.5	115.1	129.3	149.4	179.9	228.9	297.5	377.6
117.5°	105.9	108.5	111.5	116.2	125.4	138.4	158.1	185.4	227.4	286.2	355.8
120°	113.5	115.3	118.0	122.9	131.9	144.7	163.7	189.9	227.4	280.7	344.0
122.5°	120.4	122.0	124.5	129.5	138.0	151.4	169.8	194.2	228.6	276.7	334.2
125°	129.9	130.8	133.5	138.5	147.0	160.4	178.6	200.9	230.4	271.2	321.2
127.5°	137.4	138.6	141.9	146.9	156.3	169.4	186.7	206.5	232.9	267.4	309.5
130°	142.1	143.4	147.3	152.7	162.1	175.1	191.6	210.4	234.6	264.7	302.9
132.5°	145.4	147.1	151.5	158.0	167.5	180.0	195.8	214.0	235.7	262.9	296.7
135°	151.6	153.4	158.3	164.9	174.4	187.0	201.9	218.2	237.1	260.2	288.3
137.5°	157.6	159.4	164.2	171.3	180.7	192.2	206.2	221.3	237.9	257.4	281.0
140°	161.2	163.5	168.0	175.2	184.3	195.7	209.1	222.8	238.4	255.9	276.6
142.5°	165.6	167.4	172.2	178.6	187.6	198.2	211.0	224.2	238.5	254.0	272.4
145°	172.5	173.8	177.8	184.5	192.1	202.4	214.2	226.4	239.0	252.5	267.7
147.5°	179.2	180.0	184.0	189.9	197.3	206.1	216.9	227.8	239.0	250.9	263.4
150°	183.9	184.3	188.0	193.8	200.2	208.3	218.7	228.1	239.0	249.4	260.7
152.5°	188.6	188.7	192.3	197.5	203.0	210.8	219.8	228.9	238.0	247.6	257.9
155°	195.7	195.7	198.4	202.9	207.9	214.2	221.9	229.1	236.8	244.5	253.5
157.5°	201.2	201.6	203.7	207.8	212.0	216.9	223.0	229.6	235.2	241.6	248.6
160°	205.6	205.6	207.4	211.0	214.2	218.7	224.1	229.6	234.5	239.5	245.3
162.5°	208.8	208.8	210.3	213.2	215.9	219.8	224.5	229.2	233.1	237.3	242.1
165°	213.7	213.3	214.2	216.4	218.2	221.4	225.0	228.1	230.9	234.1	237.7
167.5°	217.5	216.9	217.3	219.0	220.3	222.3	224.9	227.4	228.7	230.8	233.5
170°	219.6	218.7	219.1	220.5	221.4	222.3	224.6	226.4	227.3	228.6	230.9
172.5°	221.0	220.5	220.6	221.6	222.1	222.7	224.6	226.0	226.2	226.8	228.4
175°	222.8	222.3	221.9	222.8	222.8	223.2	224.1	225.0	224.6	224.6	225.5
177.5°	223.6	223.2	222.8	223.2	223.2	223.2	223.6	224.3	223.6	223.2	223.6
180°	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	338.8	338.8	338.8	338.8	338.8	338.8	338.8	338.8
2.5°	338.1	338.7	339.2	339.4	339.4	339.3	339.2	339.1
5°	337.5	338.3	338.9	339.2	339.1	339.0	338.9	338.8
7.5°	335.6	336.4	337.2	337.5	337.5	337.3	337.2	337.2
10°	333.5	334.3	335.1	335.4	335.3	335.1	334.9	334.8
12.5°	330.7	331.4	332.2	332.5	332.3	332.2	332.0	331.8
15°	325.3	326.1	327.0	327.3	327.3	327.2	327.1	327.0
17.5°	318.4	319.2	319.9	320.2	320.0	320.0	319.9	319.7
20°	313.4	314.1	314.9	315.3	315.4	315.4	315.5	315.6
22.5°	307.8	308.8	309.7	310.2	310.1	310.1	310.1	310.0
25°	298.5	299.6	300.6	301.2	301.2	301.2	301.2	301.2
27.5°	288.8	289.7	290.7	291.1	291.2	291.3	291.3	291.4
30°	282.1	283.1	284.1	284.6	284.6	284.6	284.6	284.6
32.5°	274.9	275.9	276.9	277.6	277.8	278.0	278.2	278.4
35°	264.2	265.4	266.6	267.4	267.8	268.1	268.4	268.7
37.5°	253.0	254.4	255.9	256.7	256.9	257.2	257.5	257.7
40°	245.7	247.1	248.4	249.3	249.6	250.0	250.3	250.6
42.5°	238.0	239.5	241.0	242.0	242.5	242.9	243.4	243.8
45°	226.4	228.0	229.6	230.7	231.3	232.0	232.7	233.3
47.5°	214.8	216.6	218.3	219.4	219.9	220.5	220.9	221.5
50°	206.8	208.7	210.6	211.8	212.4	212.9	213.5	214.1
52.5°	198.7	200.6	202.6	203.9	204.6	205.3	206.0	206.7
55°	186.4	188.6	190.8	192.3	192.9	193.6	194.2	194.9
57.5°	173.9	176.1	178.3	179.8	180.6	181.4	182.2	182.9
60°	165.2	167.5	169.8	171.3	172.2	173.2	174.0	175.0
62.5°	156.9	159.1	161.4	163.0	163.9	164.7	165.6	166.4
65°	143.7	146.2	148.6	150.3	151.1	151.9	152.7	153.5
67.5°	130.6	133.2	135.9	137.7	138.3	139.0	139.7	140.4
70°	121.9	124.5	127.1	128.9	129.7	130.5	131.3	132.1
72.5°	113.1	115.8	118.5	120.3	121.1	121.9	122.8	123.6
75°	99.9	102.6	105.4	107.2	108.1	109.2	110.1	111.1
77.5°	87.5	90.4	93.2	95.0	95.8	96.6	97.3	98.1
80°	79.4	82.2	85.0	86.7	87.6	88.4	89.3	90.1
82.5°	72.0	74.8	77.6	79.4	80.2	81.0	81.8	82.7
85°	61.7	64.5	67.3	69.1	69.9	70.7	71.5	72.3
87.5°	54.9	57.8	60.6	62.6	63.4	64.2	65.2	65.9
90°	58.6	61.8	65.0	67.8	68.1	69.4	70.7	71.1
92.5°	82.9	77.7	76.9	76.3	76.2	75.7	76.8	76.8
95°	204.3	154.4	133.0	118.4	110.7	107.4	105.0	104.1
97.5°	444.3	366.0	310.1	257.8	225.2	205.7	194.3	191.2
100°	569.6	535.4	484.9	422.3	377.5	345.3	328.5	329.8
102.5°	610.0	611.1	582.7	543.5	508.8	483.5	469.6	460.0
105°	619.6	667.2	678.0	667.8	647.8	631.3	617.6	616.1
107.5°	581.3	656.9	698.6	716.2	717.2	712.2	708.1	704.6
110°	545.7	631.0	690.1	723.0	736.3	740.6	740.4	740.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	510.2	597.2	663.1	705.1	729.0	740.9	745.0	746.0
115°	463.1	543.8	612.1	662.7	697.2	717.8	727.5	730.4
117.5°	428.3	498.0	559.7	610.9	646.9	670.3	684.0	687.7
120°	409.6	472.5	528.6	575.5	611.8	637.7	649.1	652.4
122.5°	394.7	451.7	503.7	547.4	579.6	603.0	615.5	619.5
125°	374.5	425.5	470.6	507.9	537.3	557.8	569.7	573.4
127.5°	356.5	402.0	442.8	476.8	503.1	520.6	531.4	534.9
130°	345.2	387.4	425.6	457.2	481.7	498.4	508.4	512.5
132.5°	334.5	373.4	409.0	439.3	462.3	479.2	488.1	491.2
135°	320.0	353.6	384.4	411.1	433.7	447.7	456.2	459.8
137.5°	306.8	334.4	361.0	384.2	403.2	417.3	424.6	427.1
140°	299.0	323.3	346.2	366.5	384.0	397.0	404.7	404.6
142.5°	291.4	312.3	332.2	349.8	364.9	376.5	383.4	383.4
145°	282.8	298.4	313.5	327.1	338.7	348.6	352.4	353.7
147.5°	275.8	287.9	299.8	309.3	318.1	324.9	328.6	329.2
150°	271.1	281.5	291.0	299.7	306.6	311.7	314.6	314.7
152.5°	267.1	276.1	284.5	291.6	297.0	301.7	303.3	303.3
155°	261.2	268.4	275.2	280.6	284.6	288.3	289.1	289.6
157.5°	254.8	260.9	266.2	270.4	273.9	276.6	277.3	277.3
160°	251.2	256.2	260.7	263.9	267.0	269.7	269.7	269.3
162.5°	246.9	251.1	255.3	258.1	260.2	262.5	262.5	262.1
165°	241.3	244.0	247.2	249.4	251.2	253.0	252.5	252.5
167.5°	236.4	238.4	240.3	241.9	242.7	244.0	243.5	243.5
170°	233.1	234.5	236.3	237.2	237.7	238.6	238.1	238.1
172.5°	230.3	231.2	232.7	233.2	233.3	234.2	233.5	233.1
175°	226.4	226.8	227.8	227.8	227.8	228.1	227.8	227.3
177.5°	223.9	224.3	224.7	224.7	224.3	224.7	223.9	223.9
180°	223.2	223.2	223.2	223.2	223.2	223.2	223.2	223.2

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