

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

Luminaire Tested: **S123DIP-S340D585U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331879  
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-S340D585U835-4F0-1E-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: 3559.4 lumens  
Efficiency: N/A  
Efficacy: 139.0 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

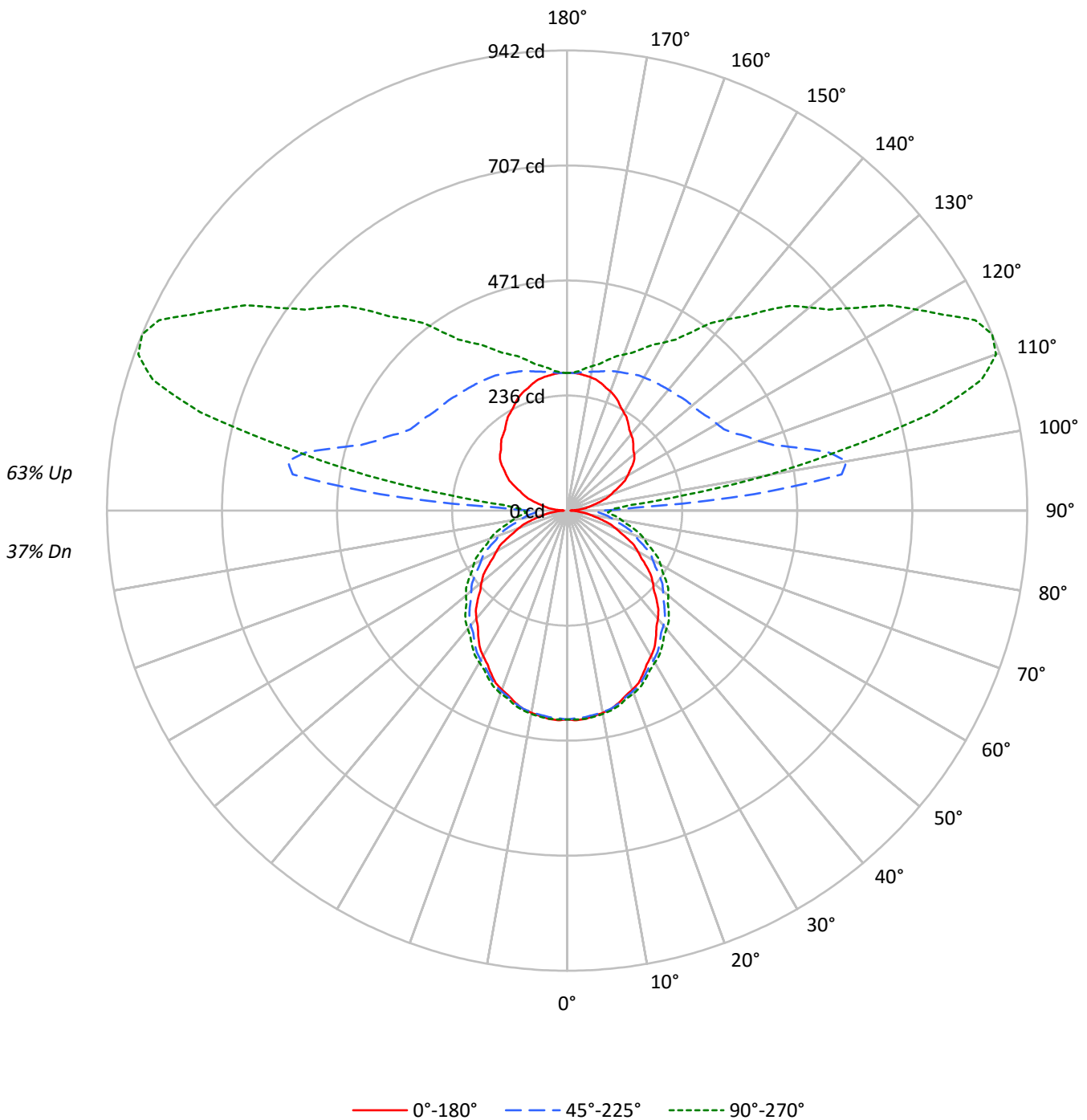
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.5	1.1
10°-20°	115.6	3.2
20°-30°	172.9	4.9
30°-40°	206.5	5.8
40°-50°	216.0	6.1
50°-60°	202.7	5.7
60°-70°	169.3	4.8
70°-80°	121.1	3.4
80°-90°	74.4	2.1
90°-100°	202.1	5.7
100°-110°	477.3	13.4
110°-120°	459.0	12.9
120°-130°	361.1	10.1
130°-140°	280.4	7.9
140°-150°	206.2	5.8
150°-160°	142.9	4.0
160°-170°	83.9	2.4
170°-180°	27.3	0.8
0°-30°	329.0	9.2
0°-40°	535.5	15.0
0°-60°	954.2	26.8
0°-90°	1319.1	37.1
90°-120°	1138.5	32.0
90°-150°	1986.2	55.8
90°-180°	2240.0	62.9
0°-180°	3559.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	7	36	67	84	90	5
95°	24	87	384	159	131	25
105°	70	113	494	849	778	74
115°	119	154	376	805	922	118
125°	164	194	342	618	724	146
135°	191	228	328	502	580	148
145°	218	249	319	404	446	136
155°	247	266	309	351	366	114
165°	270	278	296	313	319	76
175°	281	282	284	288	287	27
180°	282	282	282	282	282	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.6	18.0	23.4	28.9	34.3	39.7	45.3	51.0	56.6	62.2	65.6
90°	7.2	13.4	19.6	26.4	32.6	38.9	45.9	52.9	59.9	66.9	69.9
92.5°	12.8	20.8	30.1	39.1	48.5	61.8	82.0	111.7	141.0	137.4	119.3
95°	24.5	30.3	40.6	54.3	73.2	100.0	153.5	243.6	342.2	384.4	323.7
97.5°	37.6	41.9	50.4	62.5	80.7	109.1	160.2	260.9	421.7	566.9	606.7
100°	46.4	50.3	57.6	68.9	85.9	112.2	156.9	246.0	400.8	580.7	696.0
102.5°	55.6	59.6	66.1	76.6	92.0	116.2	156.7	233.0	371.3	548.8	698.3
105°	69.9	74.1	80.0	89.3	102.6	123.8	159.0	222.3	334.5	493.5	660.1
107.5°	84.6	88.4	93.9	102.7	115.0	134.6	165.8	218.9	310.0	444.4	595.8
110°	95.2	98.8	103.5	111.6	123.2	142.2	172.0	219.5	300.0	416.5	555.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	105.2	108.5	112.9	120.7	131.9	150.2	178.0	222.1	293.4	397.0	519.9
115°	119.3	122.8	127.4	134.4	145.3	163.2	188.6	227.1	289.0	375.5	476.6
117.5°	133.7	137.0	140.7	146.7	158.3	174.7	199.6	234.1	287.0	361.3	449.1
120°	143.3	145.5	148.9	155.1	166.5	182.7	206.7	239.7	287.1	354.4	434.3
122.5°	152.0	154.0	157.1	163.5	174.2	191.1	214.4	245.1	288.6	349.3	421.9
125°	164.0	165.1	168.5	174.8	185.6	202.5	225.5	253.6	290.8	342.3	405.5
127.5°	173.4	175.0	179.1	185.4	197.3	213.9	235.7	260.7	294.0	337.5	390.7
130°	179.4	181.0	186.0	192.7	204.6	221.0	241.9	265.6	296.2	334.2	382.4
132.5°	183.5	185.7	191.3	199.5	211.4	227.2	247.2	270.1	297.5	331.9	374.5
135°	191.4	193.6	199.8	208.2	220.1	236.0	254.9	275.4	299.3	328.4	363.9
137.5°	198.9	201.2	207.3	216.3	228.1	242.6	260.3	279.4	300.3	324.9	354.7
140°	203.5	206.4	212.1	221.2	232.6	247.0	263.9	281.3	301.0	323.0	349.1
142.5°	209.0	211.3	217.4	225.5	236.8	250.2	266.3	283.0	301.1	320.6	343.8
145°	217.8	219.4	224.4	232.9	242.5	255.5	270.4	285.8	301.7	318.8	337.9
147.5°	226.2	227.2	232.3	239.7	249.0	260.2	273.8	287.6	301.7	316.7	332.5
150°	232.1	232.7	237.3	244.7	252.7	262.9	276.1	288.0	301.7	314.8	329.1
152.5°	238.1	238.2	242.8	249.3	256.3	266.1	277.4	289.0	300.4	312.6	325.5
155°	247.0	247.0	250.4	256.1	262.4	270.4	280.1	289.2	298.9	308.6	320.0
157.5°	254.0	254.5	257.2	262.3	267.6	273.8	281.5	289.8	296.9	305.0	313.8
160°	259.5	259.5	261.8	266.4	270.4	276.1	282.9	289.8	296.0	302.3	309.7
162.5°	263.6	263.6	265.5	269.1	272.6	277.4	283.4	289.3	294.2	299.6	305.6
165°	269.8	269.2	270.4	273.2	275.5	279.5	284.0	288.0	291.5	295.5	300.0
167.5°	274.5	273.8	274.3	276.5	278.1	280.6	283.9	287.1	288.7	291.3	294.7
170°	277.2	276.1	276.6	278.3	279.5	280.6	283.5	285.8	286.9	288.6	291.5
172.5°	279.0	278.3	278.5	279.7	280.4	281.1	283.5	285.3	285.5	286.3	288.3
175°	281.2	280.6	280.1	281.2	281.2	281.8	282.9	284.0	283.5	283.5	284.6
177.5°	282.2	281.8	281.3	281.8	281.8	281.8	282.2	283.1	282.2	281.8	282.2
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	69.3	72.9	76.5	79.0	80.0	81.1	82.3	83.2
90°	74.0	78.0	82.1	85.6	86.0	87.6	89.2	89.7
92.5°	104.6	98.1	97.1	96.3	96.2	95.5	97.0	96.9
95°	257.9	194.9	167.9	149.5	139.7	135.6	132.6	131.4
97.5°	560.8	462.0	391.5	325.4	284.3	259.7	245.3	241.4
100°	719.0	675.8	612.1	533.1	476.5	435.9	414.7	416.3
102.5°	770.0	771.4	735.5	686.1	642.3	610.4	592.8	580.7
105°	782.2	842.2	855.9	843.0	817.7	796.9	779.6	777.7
107.5°	733.8	829.2	881.9	904.1	905.4	899.0	893.8	889.5
110°	688.9	796.5	871.1	912.7	929.5	934.9	934.6	934.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	644.0	753.9	837.0	890.1	920.2	935.3	940.5	941.7
115°	584.6	686.4	772.7	836.5	880.1	906.1	918.3	922.0
117.5°	540.6	628.7	706.5	771.2	816.6	846.2	863.4	868.1
120°	517.1	596.5	667.3	726.5	772.3	805.0	819.4	823.5
122.5°	498.2	570.2	635.9	691.0	731.7	761.2	777.0	782.0
125°	472.7	537.1	594.0	641.1	678.3	704.1	719.1	723.8
127.5°	450.0	507.5	559.0	601.9	635.1	657.2	670.8	675.2
130°	435.7	489.0	537.2	577.2	608.1	629.2	641.8	647.0
132.5°	422.3	471.4	516.3	554.5	583.6	604.9	616.2	620.1
135°	404.0	446.4	485.3	519.0	547.5	565.1	575.9	580.4
137.5°	387.3	422.1	455.7	485.0	509.0	526.8	536.0	539.2
140°	377.4	408.1	437.0	462.6	484.8	501.2	510.9	510.8
142.5°	367.8	394.2	419.3	441.6	460.6	475.3	484.0	484.0
145°	357.0	376.7	395.7	412.9	427.6	440.0	444.9	446.5
147.5°	348.2	363.4	378.4	390.4	401.6	410.1	414.8	415.6
150°	342.2	355.3	367.3	378.3	387.0	393.5	397.1	397.3
152.5°	337.2	348.5	359.1	368.1	374.9	380.8	382.9	382.9
155°	329.7	338.8	347.4	354.2	359.3	363.9	365.0	365.6
157.5°	321.7	329.3	336.0	341.3	345.8	349.2	350.1	350.0
160°	317.1	323.4	329.1	333.1	337.1	340.5	340.5	339.9
162.5°	311.7	317.0	322.3	325.8	328.4	331.4	331.4	330.8
165°	304.6	308.0	312.0	314.8	317.1	319.4	318.8	318.8
167.5°	298.4	301.0	303.3	305.4	306.4	308.0	307.4	307.4
170°	294.3	296.0	298.3	299.4	300.0	301.2	300.6	300.6
172.5°	290.7	291.9	293.7	294.4	294.5	295.7	294.7	294.2
175°	285.8	286.3	287.5	287.5	287.5	288.0	287.5	286.9
177.5°	282.7	283.1	283.6	283.6	283.1	283.6	282.7	282.7
180°	281.8	281.8	281.8	281.8	281.8	281.8	281.8	281.8

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