

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: P331888-930

Luminaire Tested: **S123DIP-S340D805U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331888-930  
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-S340D805U930-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 805 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3543.4 lumens  
Efficiency: N/A  
Efficacy: 113.6 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

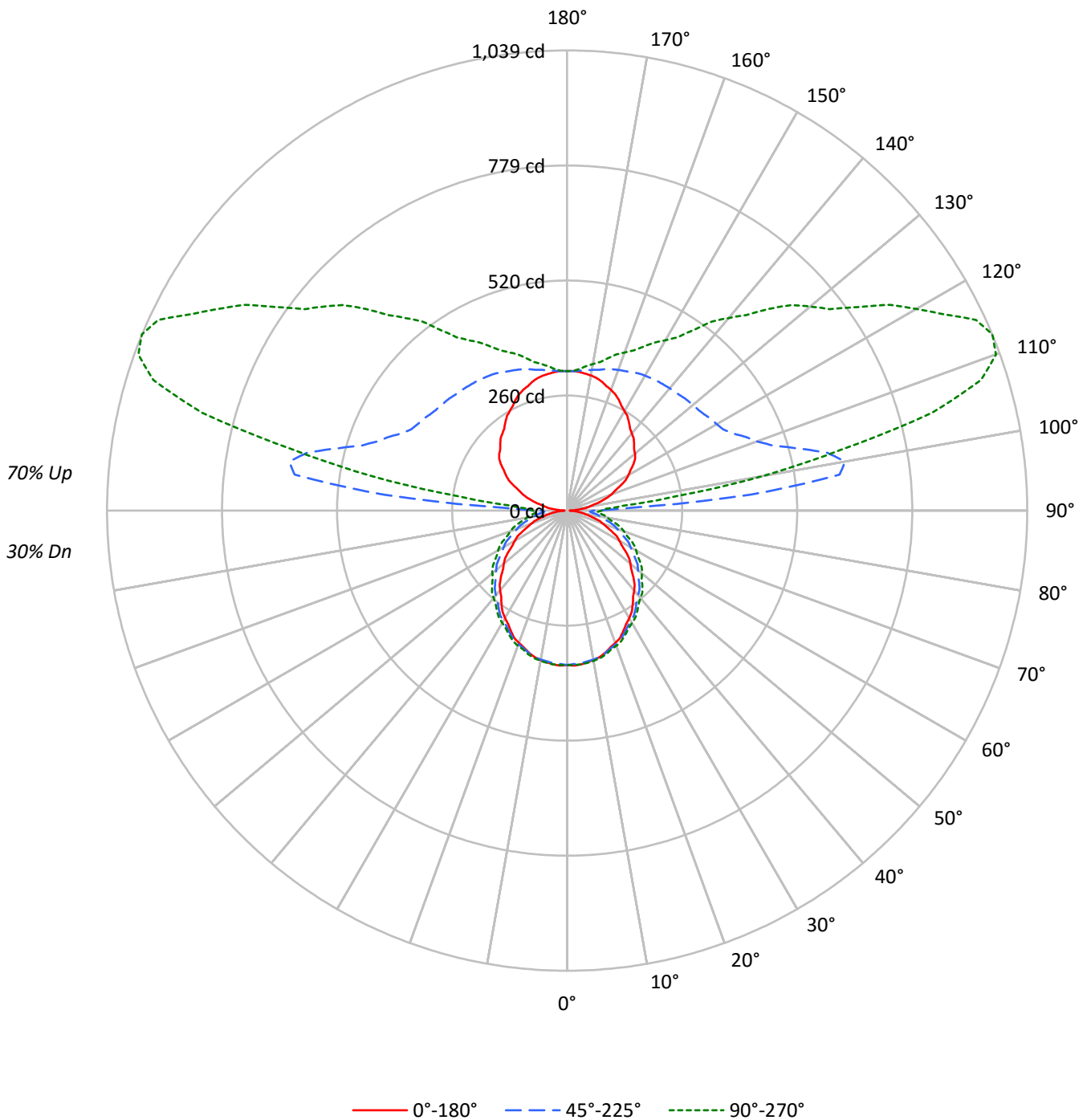
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	102	102	102	102	92	92	92	92	72	72	72	55	55	55	38	38	38	30				
1	93	88	84	81	83	79	76	73	62	60	58	47	45	44	33	32	31	24				
2	84	77	70	65	75	69	64	59	54	51	47	41	38	36	28	27	25	20				
3	77	67	60	54	68	60	54	49	48	43	39	36	33	30	25	23	21	16				
4	70	59	51	45	62	53	47	41	42	37	33	32	28	26	22	20	18	14				
5	64	52	44	39	57	47	40	35	37	32	29	28	25	22	20	18	16	12				
6	59	47	39	33	52	42	35	30	34	28	25	25	22	19	18	16	14	10				
7	54	42	34	29	48	38	31	26	30	25	22	23	19	17	16	14	12	9				
8	50	38	31	25	45	34	28	23	28	23	19	21	17	15	15	13	11	8				
9	47	35	27	22	42	31	25	21	25	20	17	19	16	13	14	11	10	7				
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	13	10	9	7				

**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	0.9
10°-20°	94.2	2.7
20°-30°	141.0	4.0
30°-40°	168.3	4.8
40°-50°	176.1	5.0
50°-60°	165.3	4.7
60°-70°	138.0	3.9
70°-80°	98.8	2.8
80°-90°	61.3	1.7
90°-100°	212.2	6.0
100°-110°	523.4	14.8
110°-120°	506.3	14.3
120°-130°	399.7	11.3
130°-140°	311.6	8.8
140°-150°	230.1	6.5
150°-160°	159.7	4.5
160°-170°	93.8	2.6
170°-180°	30.5	0.9
0°-30°	268.3	7.6
0°-40°	436.6	12.3
0°-60°	778.0	22.0
0°-90°	1076.1	30.4
90°-120°	1241.8	35.0
90°-150°	2183.3	61.6
90°-180°	2467.0	69.6
0°-180°	3543.4	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	31	59	73	78	5
95°	26	90	416	159	127	27
105°	77	122	541	935	853	82
115°	133	170	412	888	1018	131
125°	183	216	378	683	800	162
135°	214	255	365	557	644	165
145°	243	278	356	451	497	152
155°	276	298	345	392	408	127
165°	302	310	330	350	356	85
175°	314	315	317	321	321	30
180°	315	315	315	315	315	



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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°	10.4	14.8	19.2	23.9	28.3	32.9	37.5	42.2	46.9	51.6	54.3
90°	6.2	11.7	17.0	23.1	28.5	34.0	40.2	46.4	52.7	58.9	61.1
92.5°	12.6	20.1	29.2	37.9	47.0	60.4	81.3	113.0	144.1	138.5	117.2
95°	25.8	31.1	41.3	55.5	75.3	104.0	162.2	261.4	370.1	415.6	346.8
97.5°	40.7	44.3	52.7	65.1	84.5	114.8	170.5	281.5	459.7	620.7	664.1
100°	50.5	53.9	61.1	72.7	90.7	118.9	167.4	265.6	437.1	636.7	764.7
102.5°	61.0	64.6	70.9	81.8	98.0	123.9	167.8	251.7	404.8	601.7	767.9
105°	77.0	80.9	86.7	96.4	110.6	133.1	171.2	240.5	364.6	541.0	726.3
107.5°	93.6	97.3	102.6	111.9	125.0	145.9	179.6	237.6	338.2	487.1	655.4
110°	105.6	109.0	113.7	122.2	134.6	154.8	186.9	238.7	327.5	456.5	611.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	116.8	119.9	124.3	132.6	144.7	164.3	194.2	242.3	320.7	435.3	571.9
115°	132.6	136.2	141.0	148.4	160.2	179.4	206.7	248.6	316.7	412.1	524.5
117.5°	148.7	152.2	156.0	162.6	175.3	193.0	219.8	257.3	315.4	397.2	494.6
120°	159.6	161.9	165.5	172.4	184.9	202.4	228.1	264.1	315.9	390.1	478.7
122.5°	169.3	171.5	174.8	181.9	193.7	212.1	237.3	270.4	318.1	385.1	465.5
125°	182.8	184.1	187.9	194.9	207.0	225.4	250.2	280.7	321.4	378.1	448.0
127.5°	193.4	195.2	199.8	206.9	220.2	238.4	262.0	289.2	325.6	373.5	432.4
130°	200.0	201.9	207.5	215.1	228.4	246.4	269.1	295.0	328.6	370.4	423.6
132.5°	204.8	207.2	213.4	222.6	235.9	253.3	275.2	300.3	330.4	368.4	415.4
135°	213.7	216.1	223.1	232.5	245.8	263.4	284.1	306.7	333.2	365.3	404.5
137.5°	222.0	224.6	231.4	241.6	254.8	270.9	290.4	311.6	334.8	362.1	394.9
140°	227.3	230.5	236.8	247.0	259.8	275.9	294.6	314.0	335.9	360.4	389.1
142.5°	233.4	236.0	242.9	251.9	264.6	279.6	297.6	316.3	336.4	358.2	383.6
145°	243.2	245.1	250.7	260.2	270.9	285.6	302.1	319.4	337.2	356.3	377.4
147.5°	252.8	254.0	259.6	267.8	278.3	290.8	306.0	321.4	337.2	353.9	371.5
150°	259.4	260.1	265.1	273.5	282.3	293.8	308.5	321.9	337.2	351.9	367.8
152.5°	266.0	266.2	271.3	278.6	286.4	297.4	310.1	322.9	335.7	349.3	363.7
155°	276.0	276.0	279.8	286.2	293.2	302.1	313.0	323.2	334.0	344.9	357.6
157.5°	283.9	284.4	287.5	293.1	299.1	306.0	314.6	323.8	331.8	340.9	350.7
160°	290.0	290.0	292.6	297.7	302.1	308.5	316.2	323.8	330.8	337.9	346.1
162.5°	294.6	294.6	296.7	300.8	304.7	310.1	316.7	323.3	328.8	334.8	341.5
165°	301.5	300.8	302.1	305.3	307.9	312.3	317.4	321.9	325.7	330.2	335.3
167.5°	306.7	306.0	306.6	309.0	310.8	313.6	317.3	320.9	322.7	325.6	329.3
170°	309.8	308.5	309.2	311.0	312.3	313.6	316.8	319.4	320.7	322.5	325.7
172.5°	311.9	311.0	311.2	312.6	313.3	314.1	316.8	318.9	319.1	320.0	322.1
175°	314.2	313.6	313.0	314.2	314.2	314.9	316.2	317.4	316.8	316.8	318.0
177.5°	315.4	314.9	314.4	314.9	314.9	314.9	315.4	316.4	315.4	314.9	315.4
180°	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9



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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°	57.3	60.3	63.3	65.5	66.1	67.1	68.1	68.8
90°	64.6	68.1	71.6	74.8	74.9	76.5	77.9	78.1
92.5°	99.8	91.5	89.3	87.8	87.4	86.3	87.7	87.3
95°	272.3	201.0	169.8	148.6	137.4	132.5	128.8	127.1
97.5°	612.0	500.6	420.9	346.3	300.1	272.3	255.9	251.3
100°	789.5	740.3	668.1	579.3	515.8	470.0	446.1	447.5
102.5°	847.2	847.9	806.8	751.1	701.8	665.8	645.9	632.0
105°	861.9	928.0	942.4	927.4	898.9	875.4	855.7	853.4
107.5°	808.8	914.5	972.7	996.9	998.1	990.7	984.6	979.4
110°	759.2	878.6	961.2	1007.2	1025.7	1031.5	1030.9	1030.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	709.8	831.8	923.9	982.7	1016.1	1032.7	1038.2	1039.2
115°	644.4	757.3	853.0	923.9	972.4	1001.1	1014.5	1018.4
117.5°	596.2	693.9	780.1	851.9	902.5	935.2	954.2	959.2
120°	570.5	658.6	737.0	802.7	853.6	889.9	905.8	910.2
122.5°	550.1	629.8	702.5	763.6	808.9	841.6	859.1	864.5
125°	522.4	593.7	656.6	708.8	750.2	778.9	795.4	800.5
127.5°	498.1	561.7	618.6	666.1	703.0	727.5	742.5	747.1
130°	482.7	541.6	594.8	639.2	673.5	697.0	710.9	716.5
132.5°	468.2	522.5	572.1	614.5	646.8	670.3	682.7	686.9
135°	448.7	495.5	538.4	575.7	607.4	626.9	638.8	643.7
137.5°	430.8	469.3	506.3	538.7	565.3	585.1	595.3	598.6
140°	420.3	454.0	485.9	514.2	538.8	557.1	567.7	567.5
142.5°	410.1	439.2	466.8	491.5	512.5	528.7	538.3	538.1
145°	398.4	420.2	441.2	460.2	476.5	490.2	495.7	497.3
147.5°	389.0	405.9	422.5	435.9	448.3	457.7	462.8	463.7
150°	382.5	397.1	410.5	422.7	432.4	439.6	443.6	443.8
152.5°	376.8	389.5	401.3	411.4	419.0	425.5	427.8	427.9
155°	368.4	378.6	388.2	395.8	401.5	406.7	408.0	408.5
157.5°	359.5	368.0	375.4	381.4	386.4	390.2	391.3	391.1
160°	354.4	361.4	367.8	372.3	376.7	380.5	380.5	379.9
162.5°	348.3	354.2	360.1	364.1	367.0	370.3	370.3	369.7
165°	340.4	344.2	348.7	351.9	354.4	356.9	356.3	356.3
167.5°	333.5	336.4	339.0	341.3	342.4	344.2	343.6	343.6
170°	328.9	330.8	333.4	334.7	335.3	336.6	335.9	335.9
172.5°	324.8	326.2	328.2	329.1	329.1	330.4	329.3	328.8
175°	319.4	320.0	321.2	321.2	321.2	321.9	321.2	320.7
177.5°	315.9	316.4	316.9	316.9	316.4	316.9	315.9	315.9
180°	314.9	314.9	314.9	314.9	314.9	314.9	314.9	314.9

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