

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: P331254-930

Luminaire Tested: **SA2XXDIP-C290D530U930-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331254-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C290D530U930-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

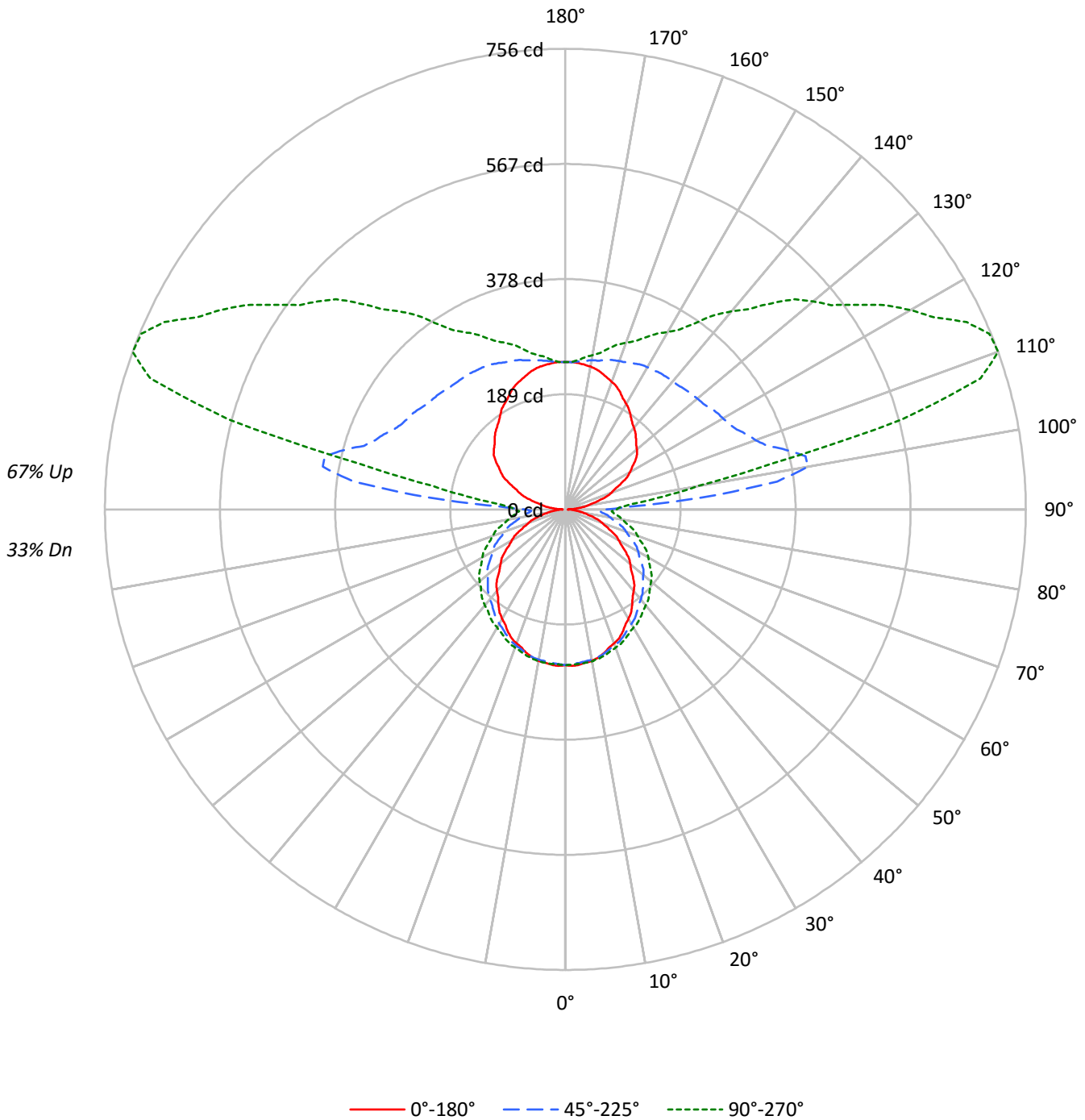
Lumens per Lamp: N/A  
Luminaire Lumens: 2659.6 lumens  
Efficiency: N/A  
Efficacy: 103.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

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	50	30	10	0	
RCR																						
0	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33				
1	93	88	84	80	83	79	76	73	63	61	58	48	46	45	34	33	32	25				
2	84	76	70	65	75	69	63	59	55	51	47	41	39	37	29	28	26	21				
3	76	67	59	53	68	60	54	49	48	43	39	36	33	30	26	24	22	17				
4	70	59	51	45	62	53	46	41	42	37	33	32	29	26	23	20	18	14				
5	64	52	44	38	57	47	40	35	38	32	28	29	25	22	20	18	16	12				
6	59	47	38	33	52	42	35	30	34	28	24	26	22	19	18	16	14	11				
7	54	42	34	28	48	38	31	26	30	25	21	23	20	17	17	14	12	9				
8	50	38	30	25	45	34	28	23	28	22	19	21	17	15	15	13	11	8				
9	47	34	27	22	42	31	25	20	25	20	17	19	16	13	14	12	10	7				
10	43	31	24	20	39	29	22	18	23	18	15	18	14	12	13	11	9	7				

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

	0°	45°	90°
0°	4127	4127	4127
5°	4146	3973	3957
10°	4121	3855	3812
15°	4063	3730	3659
20°	3992	3597	3511
25°	3922	3468	3376
30°	3821	3336	3241
35°	3720	3209	3148
40°	3615	3101	3051
45°	3512	3004	2971
50°	3404	2917	2891
55°	3289	2822	2810
60°	3151	2723	2724
65°	3006	2608	2622
70°	2844	2485	2512
75°	2639	2365	2410
80°	2312	2240	2305
85°	2005	2134	2226



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	24.2	0.9
10°-20°	69.4	2.6
20°-30°	105.2	4.0
30°-40°	128.2	4.8
40°-50°	137.9	5.2
50°-60°	133.9	5.0
60°-70°	116.9	4.4
70°-80°	90.0	3.4
80°-90°	62.6	2.4
90°-100°	138.3	5.2
100°-110°	358.4	13.5
110°-120°	368.6	13.9
120°-130°	298.1	11.2
130°-140°	235.1	8.8
140°-150°	174.9	6.6
150°-160°	122.4	4.6
160°-170°	72.0	2.7
170°-180°	23.4	0.9
0°-30°	198.9	7.5
0°-40°	327.1	12.3
0°-60°	598.8	22.5
0°-90°	868.4	32.6
90°-120°	865.3	32.5
90°-150°	1573.4	59.2
90°-180°	1791.0	67.3
0°-180°	2659.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	256	256	256	256	256	
5°	256	255	253	255	255	24
15°	244	245	245	248	248	69
25°	222	225	228	232	234	102
35°	192	198	205	213	216	120
45°	157	167	180	191	195	121
55°	120	134	153	166	171	108
65°	82	101	122	137	142	82
75°	46	66	90	105	111	48
85°	13	36	60	75	81	14
90°	4	32	65	78	84	3
95°	19	61	225	125	114	20
105°	58	99	376	660	573	62
115°	101	132	310	628	727	100
125°	140	166	290	504	585	125
135°	164	196	278	417	478	127
145°	187	215	272	340	374	117
155°	212	229	265	299	311	98
165°	232	238	253	269	273	65
175°	241	242	244	247	246	23
180°	242	242	242	242	242	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	257.1	256.8	256.7	256.4	256.2	255.9	255.4	255.0	254.5	254.0	254.4
5°	256.3	256.1	255.8	255.6	255.3	254.9	254.5	254.0	253.5	253.0	253.5
7.5°	254.0	253.8	253.6	253.5	253.3	253.1	252.7	252.3	251.9	251.5	252.2
10°	252.3	252.1	251.9	251.8	251.6	251.4	251.1	250.9	250.6	250.4	251.0
12.5°	249.2	249.3	249.3	249.4	249.4	249.3	249.2	249.0	248.7	248.6	249.2
15°	244.4	244.6	244.8	244.9	245.1	245.2	245.2	245.2	245.2	245.2	245.9
17.5°	238.2	238.6	238.9	239.3	239.6	239.9	240.2	240.4	240.7	241.0	241.7
20°	234.1	234.5	234.9	235.3	235.7	236.1	236.4	236.8	237.1	237.4	238.3
22.5°	229.7	230.1	230.6	231.1	231.5	232.0	232.4	232.9	233.4	233.8	234.7
25°	222.3	222.8	223.4	224.0	224.5	225.2	225.9	226.7	227.4	228.1	229.1
27.5°	213.4	214.3	215.2	216.1	217.1	218.0	218.8	219.7	220.6	221.5	222.7
30°	207.4	208.5	209.5	210.6	211.7	212.8	213.9	214.9	216.0	217.0	218.3
32.5°	200.9	202.1	203.3	204.5	205.7	206.9	208.2	209.5	210.8	212.0	213.5
35°	191.5	192.9	194.3	195.7	197.1	198.5	200.2	201.7	203.3	204.8	206.6
37.5°	181.2	182.9	184.5	186.1	187.7	189.6	191.6	193.6	195.6	197.6	199.7
40°	174.5	176.3	178.1	179.9	181.6	183.7	185.9	188.2	190.4	192.6	194.7
42.5°	168.0	169.7	171.5	173.3	175.2	177.3	179.9	182.5	185.0	187.5	189.9
45°	157.0	159.2	161.5	163.7	165.9	168.4	171.4	174.2	177.1	180.0	182.5
47.5°	146.3	148.7	151.2	153.5	156.0	158.9	162.2	165.6	169.0	172.4	175.0
50°	138.9	141.5	144.0	146.5	149.1	152.2	156.0	159.6	163.3	167.1	169.8
52.5°	131.8	134.4	137.1	139.8	142.5	145.8	149.7	153.6	157.5	161.4	164.3
55°	120.3	123.4	126.3	129.2	132.2	135.8	140.1	144.4	148.7	153.0	156.0
57.5°	109.1	112.4	115.8	119.1	122.5	126.3	130.7	135.0	139.4	143.8	147.0
60°	101.1	104.7	108.2	111.7	115.3	119.4	124.1	128.7	133.5	138.1	141.3
62.5°	94.0	97.7	101.3	105.0	108.7	112.8	117.6	122.2	126.9	131.7	134.9
65°	82.2	86.3	90.3	94.3	98.3	102.8	107.6	112.5	117.4	122.2	125.6
67.5°	71.4	75.7	79.8	84.1	88.3	92.9	97.8	102.8	107.8	112.8	116.2
70°	63.7	68.0	72.2	76.6	80.8	85.5	90.6	95.7	100.9	105.9	109.5
72.5°	56.6	61.0	65.4	69.8	74.3	79.0	84.2	89.4	94.6	99.7	103.2
75°	45.6	50.1	54.8	59.4	64.0	68.9	74.2	79.5	84.7	90.0	93.5
77.5°	34.9	39.7	44.5	49.3	54.2	59.3	64.7	70.0	75.3	80.6	84.2
80°	27.8	32.8	37.8	42.8	47.9	53.1	58.4	63.8	69.1	74.4	77.9
82.5°	21.9	26.8	31.8	36.7	41.7	46.9	52.3	57.7	63.1	68.5	72.0
85°	13.4	18.4	23.6	28.6	33.8	38.9	44.2	49.5	54.7	60.0	63.4
87.5°	7.3	12.6	17.8	22.9	28.0	33.3	39.1	45.0	50.9	56.2	59.4
90°	4.2	10.4	17.0	22.7	28.4	34.8	42.4	50.9	58.9	64.7	67.5
92.5°	9.0	16.1	23.8	30.3	37.9	47.0	62.6	82.5	100.8	106.6	100.5
95°	19.2	24.9	33.5	41.5	52.8	68.4	94.7	140.1	199.0	224.9	205.2
97.5°	29.1	35.1	43.5	53.2	65.1	81.9	113.5	174.6	269.0	350.6	368.8
100°	38.4	42.8	50.1	60.6	72.9	89.8	119.0	180.3	285.4	404.4	474.3
102.5°	46.6	50.5	57.4	67.7	80.1	96.8	124.0	178.9	276.4	404.1	512.4
105°	58.5	62.9	68.5	77.9	90.4	106.8	132.9	178.6	259.6	376.4	503.0
107.5°	71.9	75.3	80.4	88.7	100.8	116.8	142.2	182.3	249.8	346.9	458.9
110°	80.6	84.1	88.5	96.1	107.5	123.9	148.4	185.9	246.6	332.5	431.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	88.7	92.0	96.5	103.5	114.3	130.8	154.3	189.8	245.2	322.3	411.5
115°	101.4	104.7	108.4	114.9	125.1	139.9	163.6	195.7	244.5	310.5	386.5
117.5°	114.3	116.8	120.1	125.6	135.2	150.2	172.1	202.1	245.1	303.0	369.4
120°	122.5	124.7	127.8	132.3	141.9	156.8	178.1	206.6	245.6	298.7	360.0
122.5°	130.3	131.9	134.9	139.5	149.0	164.0	184.0	210.4	246.7	295.5	351.9
125°	140.2	141.6	144.4	150.0	159.3	173.7	193.0	216.5	248.0	289.7	339.8
127.5°	148.4	150.2	154.0	160.0	168.9	183.4	201.7	222.7	249.9	285.4	328.6
130°	153.3	155.0	159.6	166.0	175.2	189.1	207.1	226.5	251.4	282.9	321.1
132.5°	157.7	159.9	164.8	171.6	181.2	194.9	211.7	230.3	253.1	280.8	314.9
135°	164.0	165.9	171.5	178.5	189.1	202.6	218.3	235.4	254.8	277.9	306.1
137.5°	170.4	172.6	178.1	185.6	196.2	208.4	223.5	239.0	256.2	275.7	299.5
140°	175.2	177.0	182.5	189.8	200.0	212.1	226.2	240.8	256.7	274.1	295.5
142.5°	180.0	181.4	186.5	193.9	203.7	215.0	228.6	242.7	257.4	273.5	292.0
145°	186.9	188.7	193.4	200.4	209.7	219.9	232.4	245.5	258.5	272.5	287.8
147.5°	194.7	196.1	200.6	207.0	214.7	223.8	235.6	247.1	258.9	270.8	283.9
150°	199.9	201.3	205.0	211.1	218.1	226.4	237.1	247.9	258.5	269.7	280.9
152.5°	205.1	205.8	209.5	214.8	221.4	229.0	238.6	248.2	257.8	267.8	278.3
155°	212.5	213.0	215.7	220.9	226.0	232.9	240.8	248.7	256.7	264.6	273.4
157.5°	218.6	219.1	221.4	225.8	229.9	235.7	242.4	248.7	254.5	261.2	268.8
160°	222.7	223.1	225.0	228.8	232.4	237.6	243.2	248.7	253.4	259.0	265.5
162.5°	226.8	226.5	228.4	231.4	234.7	238.7	243.5	248.3	252.3	257.1	262.5
165°	231.5	231.1	232.0	234.8	237.1	239.9	244.1	247.4	250.1	253.4	257.6
167.5°	235.5	234.9	235.7	237.5	239.2	240.9	244.0	246.7	248.0	250.1	252.7
170°	238.1	237.1	237.6	239.0	239.9	241.3	243.6	246.0	246.9	248.3	250.1
172.5°	239.5	239.0	238.7	240.1	240.7	241.7	243.3	244.8	245.4	246.1	247.5
175°	241.3	240.8	240.4	241.3	241.3	241.7	242.7	243.6	243.2	243.6	244.1
177.5°	242.1	241.4	241.0	241.7	241.7	241.7	242.1	242.9	242.1	241.7	242.1
180°	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	255.6	255.6	255.6	255.6	255.6	255.6	255.6	255.6
2.5°	254.7	255.0	255.4	255.5	255.4	255.2	255.1	254.9
5°	254.0	254.5	254.9	255.1	255.0	254.9	254.9	254.8
7.5°	252.7	253.3	254.0	254.2	254.1	254.0	254.0	253.9
10°	251.7	252.3	253.0	253.3	253.2	253.2	253.1	253.0
12.5°	249.9	250.5	251.2	251.5	251.4	251.4	251.3	251.2
15°	246.6	247.4	248.2	248.5	248.4	248.3	248.3	248.2
17.5°	242.6	243.3	244.0	244.4	244.4	244.4	244.4	244.4
20°	239.2	240.1	241.0	241.5	241.5	241.5	241.5	241.5
22.5°	235.7	236.6	237.5	238.0	238.1	238.2	238.4	238.6
25°	230.2	231.1	232.1	232.7	232.9	233.2	233.4	233.7
27.5°	224.0	225.3	226.5	227.2	227.4	227.6	227.7	228.0
30°	219.6	221.0	222.3	223.1	223.3	223.6	223.8	224.0
32.5°	215.0	216.5	218.1	219.1	219.5	220.0	220.4	220.8
35°	208.5	210.3	212.1	213.3	213.9	214.4	215.0	215.6
37.5°	201.6	203.7	205.7	207.0	207.6	208.2	208.8	209.4
40°	196.9	199.0	201.1	202.6	203.3	204.1	204.8	205.5
42.5°	192.2	194.5	196.9	198.4	199.2	199.9	200.6	201.4
45°	185.1	187.7	190.2	191.9	192.7	193.6	194.4	195.2
47.5°	177.7	180.3	183.0	184.8	185.7	186.6	187.5	188.4
50°	172.6	175.5	178.2	180.1	181.0	181.9	182.8	183.7
52.5°	167.1	170.0	172.8	174.8	175.8	176.8	177.7	178.6
55°	158.9	161.8	164.9	166.8	167.9	169.0	170.1	171.1
57.5°	150.2	153.4	156.5	158.7	159.8	160.9	161.9	163.1
60°	144.4	147.6	150.7	152.8	153.9	155.1	156.3	157.4
62.5°	138.3	141.6	145.0	147.2	148.2	149.3	150.4	151.5
65°	129.0	132.3	135.7	137.9	139.0	140.1	141.1	142.2
67.5°	119.5	122.9	126.4	128.7	129.7	130.9	132.0	133.1
70°	113.0	116.5	120.1	122.4	123.4	124.3	125.3	126.3
72.5°	106.6	110.1	113.6	115.9	117.1	118.3	119.5	120.7
75°	97.1	100.6	104.2	106.5	107.5	108.6	109.7	110.7
77.5°	87.7	91.2	94.7	97.1	98.2	99.4	100.5	101.7
80°	81.4	84.8	88.3	90.6	91.7	92.9	94.0	95.1
82.5°	75.4	78.9	82.3	84.6	85.7	86.8	87.9	88.9
85°	66.9	70.4	73.9	76.1	77.3	78.4	79.6	80.7
87.5°	62.7	65.9	69.5	71.7	72.8	73.9	74.9	76.0
90°	70.4	72.7	77.0	79.6	80.6	81.5	82.5	83.5
92.5°	93.2	90.7	90.0	89.2	89.8	89.4	90.7	90.9
95°	170.6	145.4	129.1	120.8	115.8	113.1	112.7	114.1
97.5°	329.8	281.1	233.8	202.3	181.0	170.6	164.8	161.8
100°	467.7	413.0	352.4	298.1	260.4	241.3	228.8	221.3
102.5°	557.3	547.2	503.7	446.0	405.0	371.7	355.8	345.4
105°	602.5	657.9	666.9	653.5	625.5	597.6	578.5	572.9
107.5°	564.3	646.2	697.3	721.7	726.2	725.5	722.4	714.7
110°	532.1	618.0	680.1	720.1	740.9	750.6	755.8	756.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	502.6	585.1	651.3	696.8	725.5	741.2	750.0	753.4
115°	465.6	539.6	603.1	652.6	686.6	708.8	721.9	726.9
117.5°	437.0	502.3	560.0	606.6	641.1	664.5	678.1	682.4
120°	422.3	482.3	533.9	577.8	611.2	634.1	648.4	654.0
122.5°	410.4	465.5	514.4	554.1	584.1	606.3	619.1	623.8
125°	392.7	442.9	486.0	522.4	550.0	568.4	580.8	585.3
127.5°	375.3	420.6	461.3	494.8	519.1	536.4	547.1	550.8
130°	364.0	406.0	444.7	476.7	500.2	516.7	526.6	531.0
132.5°	353.3	392.2	427.8	458.0	481.0	497.5	506.7	510.7
135°	338.1	370.6	402.9	430.2	450.9	466.8	475.9	478.3
137.5°	325.5	352.8	378.6	402.4	421.2	435.0	442.8	446.2
140°	317.7	341.3	364.0	385.4	400.7	413.4	420.8	424.1
142.5°	311.4	331.4	350.8	368.7	383.3	394.7	401.3	402.3
145°	302.7	318.6	333.5	347.4	359.0	367.3	372.3	374.1
147.5°	296.2	308.3	319.7	329.7	339.1	345.6	348.9	350.0
150°	292.0	302.2	312.0	320.3	327.3	332.9	335.7	336.1
152.5°	287.9	297.4	305.7	312.9	318.4	323.3	325.3	325.4
155°	282.3	289.7	296.6	301.7	306.9	310.1	312.0	311.0
157.5°	275.7	281.8	287.7	291.7	295.3	298.1	298.9	298.9
160°	271.5	276.6	281.8	285.0	288.3	290.6	291.1	291.1
162.5°	267.4	271.8	276.2	278.7	281.9	283.6	284.0	283.6
165°	261.3	264.6	267.8	269.7	271.5	273.4	273.4	273.0
167.5°	255.4	258.0	260.2	261.9	262.7	263.7	263.7	263.1
170°	252.5	253.9	255.8	256.7	257.1	258.5	258.0	257.1
172.5°	249.2	250.1	251.6	252.2	252.7	253.3	252.8	252.3
175°	245.5	246.0	246.5	246.9	246.9	247.4	246.9	246.0
177.5°	242.9	242.9	243.3	243.3	243.3	243.3	242.9	242.1
180°	241.7	241.7	241.7	241.7	241.7	241.7	241.7	241.7

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