

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: P331257-830

Luminaire Tested: **SA2XXDIP-C290D530U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331257-830  
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-C290D530U830-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

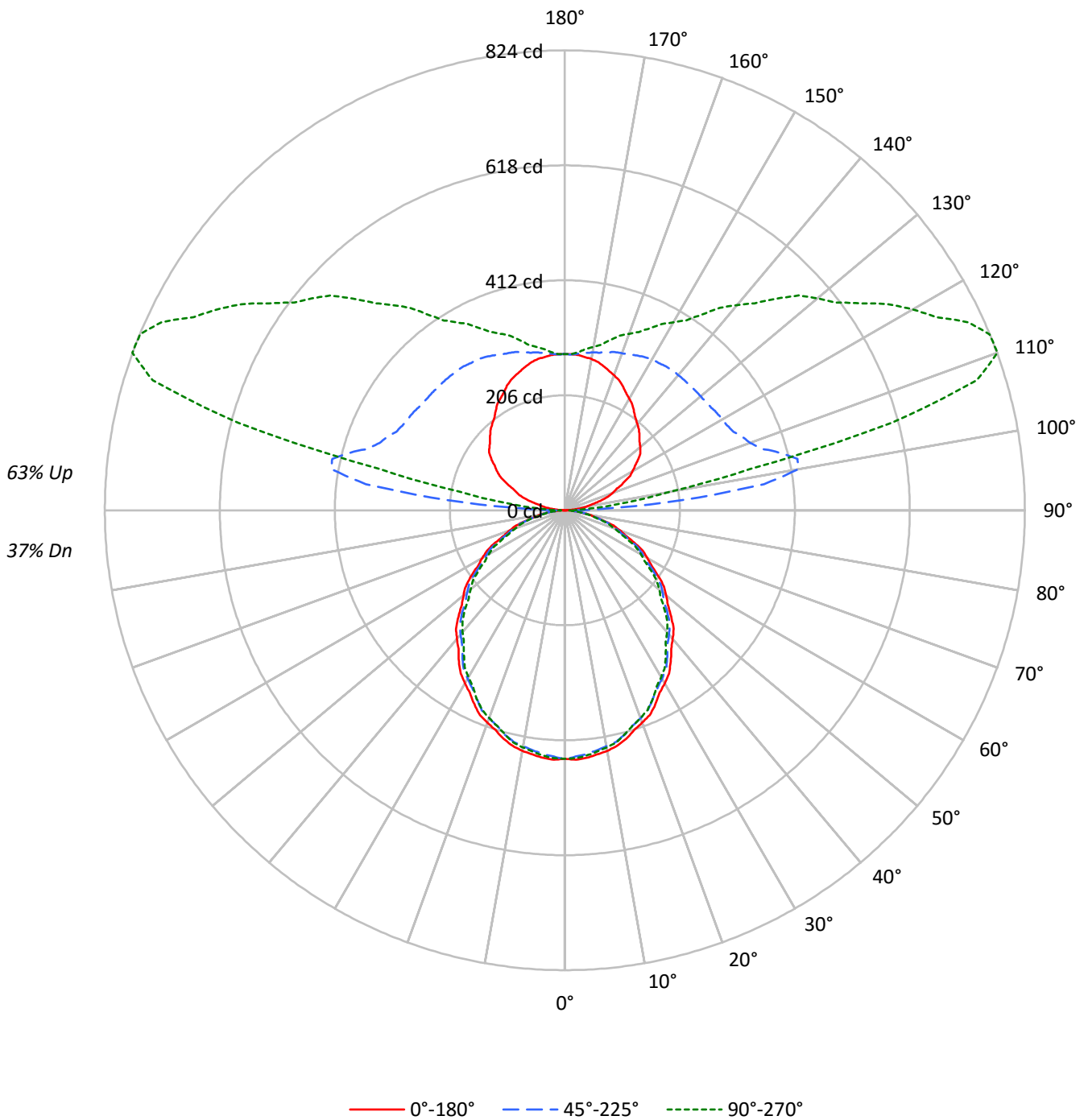
Lumens per Lamp: N/A  
Luminaire Lumens: 3080.4 lumens  
Efficiency: N/A  
Efficacy: 120.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37				37
1	95	91	87	83	86	82	79	76	67	64	62	52	51	49	39	38	37				31	
2	86	79	73	68	78	72	67	62	58	55	52	46	43	41	34	33	31				26	
3	79	69	62	57	71	63	57	52	51	47	43	40	37	35	30	28	27				22	
4	72	61	54	48	65	56	49	44	46	41	37	36	33	30	27	25	23				19	
5	66	55	47	41	60	50	43	38	41	36	32	32	29	26	24	22	20				16	
6	61	49	41	35	55	45	38	33	37	31	28	29	25	22	22	20	18				14	
7	56	44	36	31	51	40	33	29	33	28	24	26	23	20	20	18	16				13	
8	52	40	32	27	47	37	30	25	30	25	21	24	20	18	19	16	14				11	
9	48	36	29	24	44	33	27	22	28	23	19	22	18	16	17	14	13				10	
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	16	13	11				9	

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

	0°	45°	90°
0°	7190	7190	7190
5°	7217	7112	7156
10°	7174	7040	7076
15°	7086	6950	6944
20°	6959	6813	6806
25°	6834	6645	6645
30°	6674	6490	6434
35°	6524	6303	6211
40°	6336	6119	6001
45°	6149	5934	5786
50°	5948	5745	5541
55°	5737	5520	5315
60°	5503	5254	5060
65°	5249	4989	4760
70°	4928	4669	4447
75°	4485	4298	4192
80°	3980	3868	3663
85°	3242	3094	2779



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	41.9	1.4
10°-20°	117.8	3.8
20°-30°	173.2	5.6
30°-40°	201.2	6.5
40°-50°	200.9	6.5
50°-60°	175.2	5.7
60°-70°	129.6	4.2
70°-80°	73.4	2.4
80°-90°	22.3	0.7
90°-100°	111.8	3.6
100°-110°	379.3	12.3
110°-120°	402.9	13.1
120°-130°	331.7	10.8
130°-140°	266.3	8.6
140°-150°	201.3	6.5
150°-160°	141.4	4.6
160°-170°	83.3	2.7
170°-180°	27.1	0.9
0°-30°	332.9	10.8
0°-40°	534.0	17.3
0°-60°	910.2	29.5
0°-90°	1135.4	36.9
90°-120°	893.9	29.0
90°-150°	1693.2	55.0
90°-180°	1945.0	63.1
0°-180°	3080.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	445	445	445	445	445	
5°	445	443	439	442	442	42
15°	424	421	416	417	415	119
25°	384	380	373	374	373	176
35°	331	327	320	317	315	207
45°	269	266	260	255	253	208
55°	204	201	196	191	189	182
65°	137	135	131	127	125	136
75°	72	71	69	66	67	77
85°	18	17	17	16	15	20
90°	1	7	18	17	18	2
95°	19	46	211	80	61	20
105°	66	99	398	712	606	70
115°	116	146	333	688	797	115
125°	161	191	320	557	647	143
135°	189	226	317	468	536	146
145°	216	248	315	391	428	136
155°	246	265	306	346	360	113
165°	268	276	293	311	316	75
175°	279	279	282	285	284	26
180°	280	280	280	280	280	



TEST NUMBER: P331257-830

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	447.3	447.0	446.6	446.2	445.8	445.3	444.4	443.6	442.7	441.9	442.6
5°	445.3	444.9	444.5	444.1	443.7	443.1	442.1	441.0	439.9	438.8	439.6
7.5°	441.4	440.7	440.2	439.6	439.0	438.2	437.2	436.0	435.0	433.9	434.7
10°	437.6	437.0	436.3	435.6	434.9	434.0	432.9	431.8	430.6	429.4	430.2
12.5°	432.4	431.9	431.3	430.6	430.1	429.2	428.1	427.0	425.8	424.7	425.2
15°	423.9	423.3	422.7	422.2	421.6	420.8	419.4	418.2	417.0	415.8	416.1
17.5°	412.9	412.4	411.8	411.2	410.7	409.7	408.5	407.2	406.0	404.7	405.1
20°	405.0	404.4	403.9	403.3	402.7	401.8	400.5	399.2	397.8	396.5	396.8
22.5°	397.2	396.3	395.6	394.7	394.0	392.9	391.7	390.4	389.2	388.0	388.0
25°	383.6	382.9	382.1	381.4	380.6	379.4	377.8	376.2	374.6	373.0	373.2
27.5°	368.3	367.6	366.8	366.2	365.5	364.5	363.3	361.9	360.7	359.4	359.1
30°	358.0	357.2	356.5	355.7	354.9	353.8	352.4	351.0	349.5	348.1	347.8
32.5°	346.9	346.4	345.8	345.2	344.6	343.5	342.0	340.5	339.0	337.5	337.0
35°	331.0	330.0	329.0	328.1	327.2	325.9	324.4	322.9	321.4	319.8	319.2
37.5°	312.9	312.1	311.2	310.4	309.5	308.4	306.9	305.4	303.8	302.3	301.6
40°	300.6	299.8	299.1	298.3	297.6	296.4	294.8	293.3	291.8	290.3	289.5
42.5°	288.6	287.9	287.1	286.3	285.6	284.4	282.9	281.3	279.8	278.3	277.4
45°	269.3	268.6	268.0	267.3	266.6	265.6	264.2	262.8	261.4	259.9	258.8
47.5°	250.2	249.5	248.9	248.3	247.6	246.6	245.1	243.6	242.1	240.6	239.5
50°	236.8	236.3	235.8	235.4	234.9	233.9	232.6	231.3	230.0	228.7	227.3
52.5°	223.8	223.1	222.5	221.9	221.2	220.3	219.0	217.8	216.5	215.3	214.1
55°	203.8	203.2	202.6	202.1	201.5	200.7	199.5	198.4	197.3	196.1	194.9
57.5°	183.8	183.3	182.9	182.4	181.9	181.1	179.8	178.6	177.3	176.1	174.9
60°	170.4	170.0	169.7	169.3	168.9	168.1	166.7	165.4	164.0	162.7	161.6
62.5°	157.4	156.7	156.2	155.6	155.0	154.1	153.1	152.1	151.1	150.1	149.0
65°	137.4	136.9	136.3	135.7	135.2	134.4	133.5	132.5	131.6	130.6	129.7
67.5°	117.2	116.7	116.2	115.7	115.4	114.7	113.8	112.9	112.1	111.2	110.6
70°	104.4	104.1	103.7	103.3	102.9	102.4	101.5	100.7	99.7	98.9	98.2
72.5°	91.4	91.0	90.7	90.3	89.9	89.4	88.9	88.4	87.8	87.3	86.6
75°	71.9	71.7	71.5	71.4	71.2	70.9	70.4	69.8	69.4	68.9	68.3
77.5°	54.5	54.1	53.8	53.5	53.2	52.9	52.7	52.5	52.3	52.1	51.8
80°	42.8	42.7	42.6	42.5	42.4	42.3	42.1	41.9	41.8	41.6	41.3
82.5°	31.9	31.9	31.9	31.8	31.8	31.7	31.6	31.5	31.4	31.3	30.9
85°	17.5	17.4	17.3	17.2	17.2	17.1	17.0	16.9	16.8	16.7	16.4
87.5°	6.3	6.4	6.7	6.8	6.9	7.0	7.4	8.0	8.5	8.5	8.1
90°	0.6	2.2	4.3	5.4	6.4	8.1	10.7	14.5	17.7	18.3	17.7
92.5°	6.6	9.4	13.3	15.7	19.3	24.4	36.6	53.6	68.9	69.8	59.0
95°	18.9	20.9	26.3	31.2	39.8	52.7	77.4	124.1	186.5	210.8	184.4
97.5°	30.6	33.6	39.2	46.6	56.5	71.1	102.2	167.3	270.9	359.7	377.3
100°	41.4	43.0	47.9	56.5	67.2	82.3	110.7	176.3	292.4	424.6	502.0
102.5°	51.3	52.5	57.3	65.9	77.1	92.1	118.5	176.7	284.3	426.8	548.5
105°	65.6	67.8	71.4	79.6	91.3	106.4	131.7	179.6	268.2	398.3	541.3
107.5°	81.1	82.8	86.4	93.9	105.6	120.7	145.2	186.9	260.2	367.8	494.1
110°	91.3	93.5	96.8	103.8	115.0	130.6	154.3	192.9	258.5	353.2	464.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	100.9	103.0	106.6	113.2	124.0	140.1	162.9	199.4	259.0	343.7	443.7
115°	115.6	118.3	121.5	127.9	138.6	153.2	176.3	209.1	261.3	333.3	418.2
117.5°	130.8	133.0	136.2	141.9	152.2	167.3	188.7	219.4	265.1	328.2	402.1
120°	140.3	142.4	145.6	150.5	161.3	176.3	197.3	226.3	267.7	325.2	393.5
122.5°	149.3	151.1	154.3	159.6	170.3	185.8	205.5	232.3	270.7	323.5	386.2
125°	161.3	162.9	166.1	172.6	183.3	198.3	217.7	241.9	275.2	320.4	375.7
127.5°	170.7	172.9	177.4	184.5	194.8	210.3	229.1	250.8	279.8	318.6	366.1
130°	176.3	178.4	183.8	191.3	202.1	217.2	236.0	256.4	283.2	317.6	359.6
132.5°	181.4	184.1	189.8	197.8	209.0	224.0	242.0	262.0	286.7	317.3	354.4
135°	189.2	191.3	197.8	205.9	218.2	233.3	250.5	269.3	290.8	316.6	347.2
137.5°	196.5	199.1	205.6	214.1	226.4	240.3	257.4	274.8	294.5	316.5	342.1
140°	202.1	204.2	210.8	219.3	231.1	245.2	261.3	277.9	296.1	316.0	339.2
142.5°	207.7	209.4	215.5	224.0	235.4	248.5	264.3	280.5	297.5	316.0	336.2
145°	216.1	218.2	223.6	231.7	242.4	254.2	268.7	283.8	298.9	315.0	332.2
147.5°	225.1	226.7	231.9	239.3	248.3	258.7	272.4	285.7	299.3	313.0	328.1
150°	231.1	232.7	237.0	244.0	252.1	261.7	274.1	286.5	298.9	311.8	324.7
152.5°	237.1	237.9	242.2	248.4	256.0	264.8	275.9	286.9	298.0	309.6	321.7
155°	245.6	246.2	249.4	255.3	261.3	269.3	278.4	287.6	296.7	305.9	316.0
157.5°	252.7	253.3	255.9	261.0	265.8	272.5	280.2	287.6	294.3	302.0	310.8
160°	257.5	258.0	260.1	264.5	268.7	274.7	281.2	287.6	292.9	299.4	306.9
162.5°	262.2	261.8	264.0	267.5	271.4	276.0	281.5	287.1	291.6	297.3	303.5
165°	267.7	267.1	268.2	271.5	274.1	277.4	282.2	286.0	289.2	292.9	297.7
167.5°	272.2	271.5	272.5	274.6	276.5	278.5	282.1	285.2	286.7	289.2	292.2
170°	275.2	274.1	274.7	276.3	277.4	279.0	281.6	284.4	285.4	287.0	289.2
172.5°	276.9	276.3	276.0	277.6	278.2	279.4	281.3	283.0	283.7	284.5	286.2
175°	279.0	278.4	277.9	279.0	279.0	279.5	280.6	281.6	281.2	281.6	282.2
177.5°	279.9	279.1	278.6	279.5	279.5	279.5	279.9	280.8	279.9	279.5	279.9
180°	279.5	279.5	279.5	279.5	279.5	279.5	279.5	279.5	279.5	279.5	279.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	445.3	445.3	445.3	445.3	445.3	445.3	445.3	445.3
2.5°	443.4	444.1	444.9	445.3	445.1	444.9	444.8	444.6
5°	440.5	441.2	442.0	442.2	442.1	441.9	441.7	441.5
7.5°	435.5	436.2	437.0	437.2	437.1	436.8	436.6	436.4
10°	431.0	431.8	432.5	432.7	432.4	432.2	431.9	431.6
12.5°	425.7	426.2	426.8	427.0	426.8	426.5	426.3	426.1
15°	416.5	416.9	417.3	417.3	416.8	416.3	415.8	415.4
17.5°	405.6	406.0	406.4	406.4	406.0	405.6	405.1	404.6
20°	397.1	397.4	397.7	397.6	397.2	396.8	396.4	396.1
22.5°	388.0	388.1	388.1	388.0	387.9	387.6	387.4	387.2
25°	373.3	373.5	373.7	373.7	373.5	373.3	373.2	373.0
27.5°	358.8	358.5	358.3	357.9	357.4	356.9	356.6	356.1
30°	347.5	347.2	346.9	346.7	346.3	345.9	345.5	345.1
32.5°	336.5	335.9	335.5	335.0	334.6	334.2	333.8	333.5
35°	318.7	318.1	317.5	317.1	316.6	316.1	315.7	315.1
37.5°	300.9	300.2	299.4	298.9	298.4	297.9	297.6	297.1
40°	288.6	287.8	286.9	286.3	285.9	285.5	285.1	284.7
42.5°	276.4	275.5	274.6	273.8	273.3	272.8	272.3	271.7
45°	257.8	256.7	255.7	255.0	254.6	254.2	253.8	253.4
47.5°	238.5	237.3	236.2	235.4	234.9	234.3	233.8	233.2
50°	226.0	224.6	223.3	222.4	222.0	221.5	221.0	220.6
52.5°	213.1	212.0	210.8	210.0	209.3	208.8	208.1	207.5
55°	193.8	192.7	191.5	190.8	190.3	189.7	189.3	188.8
57.5°	173.8	172.7	171.5	170.8	170.5	170.1	169.8	169.4
60°	160.6	159.6	158.5	157.9	157.6	157.3	157.0	156.7
62.5°	148.1	147.1	146.2	145.5	145.2	144.8	144.4	144.0
65°	128.8	128.0	127.1	126.5	126.0	125.5	125.1	124.6
67.5°	109.9	109.2	108.6	108.0	107.6	107.3	106.9	106.5
70°	97.6	96.9	96.2	95.8	95.4	94.9	94.5	94.2
72.5°	86.0	85.3	84.6	84.1	83.8	83.5	83.2	82.8
75°	67.8	67.2	66.6	66.4	66.6	66.8	67.0	67.2
77.5°	51.6	51.3	51.0	50.7	50.4	50.2	50.0	49.7
80°	41.0	40.7	40.4	40.2	40.0	39.8	39.6	39.4
82.5°	30.5	30.2	29.8	29.6	29.6	29.5	29.5	29.5
85°	16.1	15.8	15.6	15.4	15.3	15.2	15.1	15.0
87.5°	7.8	7.4	7.4	7.3	7.2	7.2	7.1	7.0
90°	17.2	16.1	17.2	17.7	17.7	17.7	17.7	17.7
92.5°	46.8	40.2	35.7	32.3	32.0	30.3	30.6	29.8
95°	140.8	108.0	85.5	73.6	66.6	62.4	60.7	61.3
97.5°	328.7	268.9	210.8	171.9	146.2	133.0	125.2	120.6
100°	490.8	424.1	350.4	285.4	240.8	217.7	202.1	192.5
102.5°	597.0	581.9	528.1	459.1	410.7	371.2	351.8	338.7
105°	653.1	713.8	720.9	703.0	669.8	636.4	613.3	605.8
107.5°	612.7	704.2	760.1	786.1	790.2	788.4	783.8	773.8
110°	577.9	674.0	742.8	786.9	810.0	820.3	825.1	824.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	546.0	638.4	711.9	762.4	794.6	811.6	820.8	823.7
115°	506.9	589.7	660.1	715.5	753.6	778.4	792.3	797.1
117.5°	477.4	550.1	614.0	665.9	704.8	730.9	745.6	749.7
120°	462.8	529.4	586.4	635.4	673.0	698.2	713.8	719.2
122.5°	451.2	512.3	566.2	610.4	644.1	669.0	682.9	687.4
125°	434.3	489.7	537.0	577.3	608.5	628.9	642.3	646.7
127.5°	417.6	467.8	512.4	549.6	576.7	595.9	607.5	611.0
130°	406.9	453.2	495.6	531.0	557.4	575.7	586.4	590.7
132.5°	396.6	439.4	478.4	511.7	537.6	555.9	565.8	569.7
135°	382.2	417.6	453.2	483.2	506.3	524.1	533.8	535.9
137.5°	370.7	400.4	428.5	454.8	475.8	491.1	499.5	502.8
140°	363.4	389.2	413.9	437.5	454.8	468.7	476.7	480.0
142.5°	357.3	379.3	400.6	420.4	436.7	449.4	456.6	457.2
145°	348.8	366.6	383.2	398.9	411.7	420.8	426.2	427.8
147.5°	342.3	356.3	369.3	380.7	391.3	398.6	402.3	403.2
150°	337.5	349.4	360.7	370.3	378.4	384.8	388.0	388.6
152.5°	332.8	343.8	353.4	361.7	368.1	373.7	376.1	376.2
155°	326.3	334.9	342.9	348.8	354.8	358.5	360.7	359.6
157.5°	318.7	325.8	332.6	337.2	341.4	344.6	345.5	345.5
160°	313.9	319.8	325.7	329.5	333.3	335.9	336.5	336.5
162.5°	309.2	314.2	319.3	322.2	325.9	327.8	328.3	327.9
165°	302.1	305.9	309.6	311.8	313.9	316.0	316.0	315.6
167.5°	295.3	298.2	300.8	302.7	303.7	304.9	304.8	304.2
170°	291.9	293.5	295.7	296.7	297.3	298.9	298.3	297.3
172.5°	288.0	289.2	290.9	291.5	292.1	292.8	292.3	291.6
175°	283.8	284.4	284.9	285.4	285.4	286.0	285.4	284.4
177.5°	280.8	280.8	281.3	281.3	281.3	281.3	280.8	279.9
180°	279.5	279.5	279.5	279.5	279.5	279.5	279.5	279.5

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