

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: P331263-940

Luminaire Tested: **SA2XXDIP-C290D725U940-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331263-940  
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-C290D725U940-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

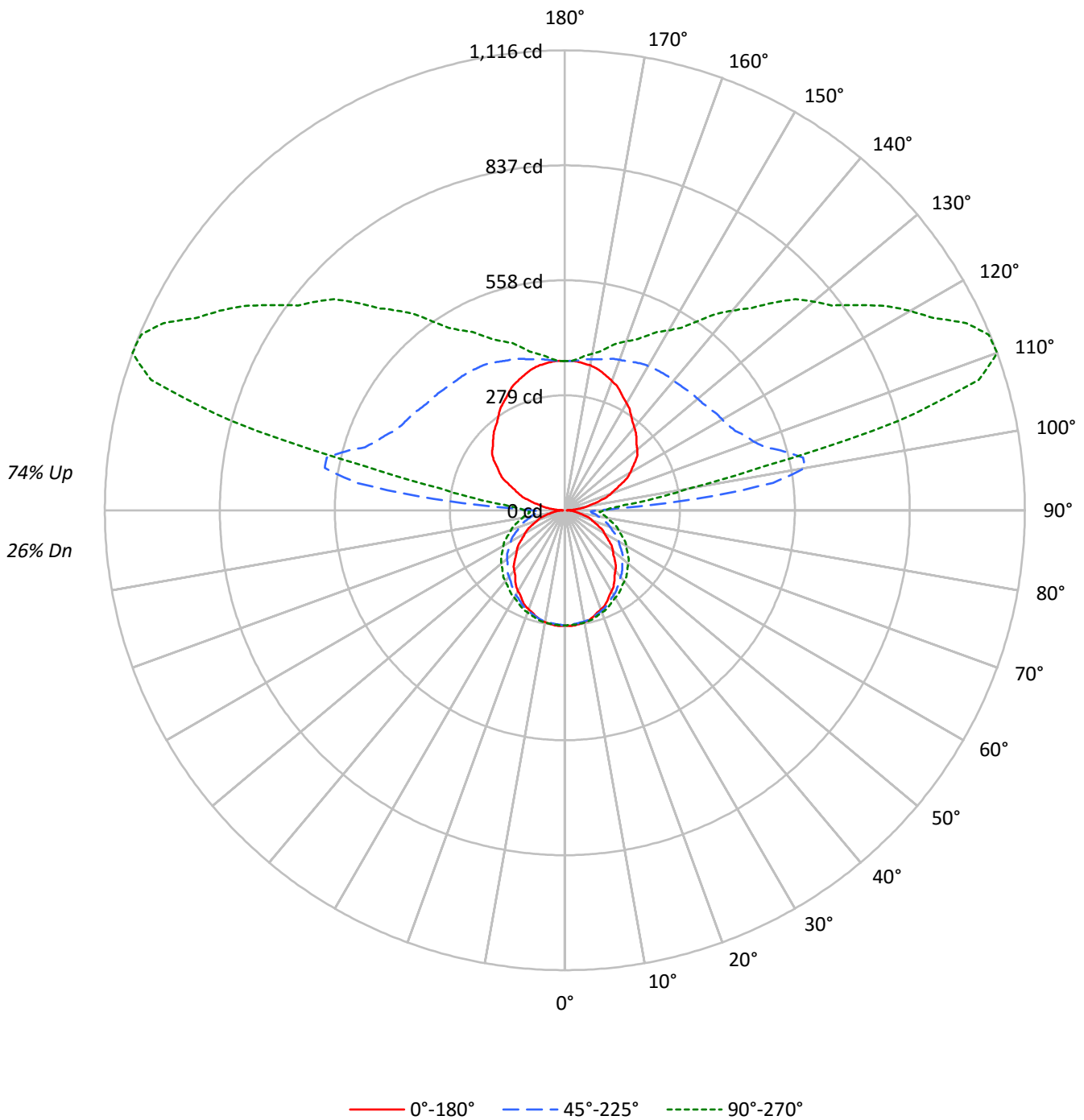
Lumens per Lamp: N/A  
Luminaire Lumens: 3591.9 lumens  
Efficiency: N/A  
Efficacy: 115.1 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 31.2  
Input Voltage (V): 120  
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	0
RCR																		
0	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	26
1	92	87	83	79	82	78	74	71	60	58	56	44	43	41	29	28	27	21
2	83	76	69	64	74	67	62	58	52	49	45	38	36	34	25	24	22	17
3	76	66	59	53	67	59	53	48	46	41	38	33	31	28	22	20	19	14
4	69	58	50	44	61	52	45	40	40	36	32	30	26	24	20	18	16	12
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	14	10
6	58	46	38	32	51	41	34	29	32	27	23	24	20	18	16	14	12	9
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	8
8	49	37	30	25	44	34	27	22	26	21	18	19	16	14	13	11	9	7
9	46	34	27	22	41	30	24	20	24	19	16	18	14	12	12	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	8	5

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

	0°	45°	90°
0°	4514	4514	4514
5°	4536	4345	4328
10°	4507	4215	4169
15°	4443	4079	4001
20°	4366	3935	3839
25°	4289	3793	3693
30°	4180	3650	3544
35°	4070	3510	3442
40°	3952	3391	3338
45°	3841	3286	3250
50°	3723	3189	3162
55°	3597	3086	3074
60°	3447	2979	2980
65°	3288	2854	2867
70°	3108	2717	2746
75°	2883	2585	2636
80°	2528	2450	2524
85°	2185	2333	2436



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	26.5	0.7
10°-20°	75.9	2.1
20°-30°	115.1	3.2
30°-40°	140.2	3.9
40°-50°	150.8	4.2
50°-60°	146.5	4.1
60°-70°	127.9	3.6
70°-80°	98.4	2.7
80°-90°	69.3	1.9
90°-100°	190.4	5.3
100°-110°	525.1	14.6
110°-120°	544.4	15.2
120°-130°	442.4	12.3
130°-140°	350.5	9.8
140°-150°	261.9	7.3
150°-160°	183.4	5.1
160°-170°	108.0	3.0
170°-180°	35.1	1.0
0°-30°	217.5	6.1
0°-40°	357.7	10.0
0°-60°	654.9	18.2
0°-90°	950.6	26.5
90°-120°	1259.9	35.1
90°-150°	2314.7	64.4
90°-180°	2641.0	73.5
0°-180°	3591.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	280	280	280	280	280	
5°	280	279	277	279	279	27
15°	267	268	268	272	271	75
25°	243	246	250	254	256	112
35°	210	216	224	233	236	131
45°	172	183	197	209	214	133
55°	132	147	167	181	187	118
65°	90	110	134	150	156	89
75°	50	73	98	115	121	53
85°	15	40	66	82	88	16
90°	5	37	77	92	98	4
95°	28	83	320	165	146	28
105°	87	143	551	972	839	93
115°	152	196	456	928	1075	150
125°	210	249	429	747	867	186
135°	246	293	415	620	711	190
145°	280	322	408	510	559	176
155°	318	344	397	449	466	147
165°	347	358	380	403	409	98
175°	362	362	365	370	369	34
180°	362	362	362	362	362	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	281.2	280.9	280.7	280.4	280.3	279.9	279.4	278.9	278.4	277.9	278.2
5°	280.4	280.1	279.8	279.6	279.2	278.8	278.3	277.8	277.2	276.7	277.2
7.5°	277.8	277.6	277.4	277.2	277.1	276.8	276.3	276.0	275.5	275.1	275.8
10°	275.9	275.7	275.5	275.4	275.2	274.9	274.6	274.4	274.1	273.8	274.6
12.5°	272.6	272.7	272.7	272.8	272.8	272.7	272.5	272.3	272.1	271.9	272.6
15°	267.3	267.5	267.7	267.9	268.0	268.1	268.1	268.1	268.1	268.1	268.9
17.5°	260.6	260.9	261.3	261.7	262.1	262.4	262.7	263.0	263.2	263.6	264.4
20°	256.0	256.5	256.9	257.3	257.8	258.2	258.6	259.0	259.3	259.7	260.6
22.5°	251.2	251.6	252.2	252.7	253.2	253.8	254.2	254.8	255.3	255.7	256.7
25°	243.1	243.7	244.3	245.0	245.6	246.3	247.1	247.9	248.7	249.5	250.6
27.5°	233.4	234.3	235.4	236.4	237.5	238.4	239.3	240.3	241.3	242.3	243.6
30°	226.9	228.0	229.2	230.3	231.5	232.7	233.9	235.1	236.2	237.4	238.8
32.5°	219.7	221.1	222.3	223.6	225.0	226.3	227.7	229.1	230.5	231.8	233.5
35°	209.5	211.0	212.5	214.0	215.5	217.1	218.9	220.6	222.3	224.0	226.0
37.5°	198.2	200.0	201.8	203.6	205.3	207.3	209.6	211.7	213.9	216.2	218.4
40°	190.8	192.8	194.7	196.7	198.7	200.9	203.3	205.8	208.2	210.6	212.9
42.5°	183.7	185.7	187.6	189.6	191.6	193.9	196.8	199.6	202.3	205.1	207.7
45°	171.7	174.2	176.6	179.1	181.5	184.2	187.4	190.6	193.7	196.9	199.7
47.5°	160.0	162.6	165.3	167.9	170.6	173.8	177.5	181.1	184.9	188.5	191.5
50°	151.9	154.7	157.5	160.2	163.1	166.5	170.6	174.6	178.6	182.7	185.7
52.5°	144.1	147.0	150.0	152.9	155.9	159.4	163.7	168.0	172.3	176.6	179.7
55°	131.6	134.9	138.1	141.3	144.6	148.6	153.3	157.9	162.6	167.3	170.6
57.5°	119.3	123.0	126.6	130.3	133.9	138.1	142.9	147.7	152.5	157.3	160.8
60°	110.6	114.5	118.3	122.2	126.1	130.5	135.7	140.8	146.0	151.1	154.5
62.5°	102.8	106.8	110.8	114.9	118.9	123.4	128.6	133.7	138.8	144.0	147.6
65°	89.9	94.3	98.7	103.2	107.5	112.4	117.7	123.1	128.4	133.7	137.4
67.5°	78.1	82.8	87.3	91.9	96.6	101.6	107.0	112.4	117.9	123.3	127.1
70°	69.6	74.4	79.0	83.7	88.4	93.5	99.1	104.7	110.3	115.8	119.8
72.5°	61.9	66.7	71.5	76.3	81.2	86.4	92.1	97.7	103.4	109.1	112.9
75°	49.8	54.8	59.9	64.9	70.0	75.3	81.1	86.9	92.6	98.4	102.3
77.5°	38.2	43.4	48.7	53.9	59.3	64.8	70.7	76.5	82.4	88.2	92.1
80°	30.4	35.8	41.4	46.8	52.3	58.1	63.8	69.7	75.5	81.4	85.2
82.5°	23.9	29.3	34.8	40.1	45.6	51.3	57.2	63.1	69.0	74.9	78.7
85°	14.6	20.2	25.8	31.3	36.9	42.5	48.3	54.1	59.8	65.6	69.4
87.5°	8.1	13.8	19.8	25.4	31.0	37.1	43.5	50.3	56.9	62.8	66.3
90°	4.7	12.0	20.1	26.7	33.3	40.8	50.1	60.7	70.7	77.1	80.1
92.5°	12.2	20.9	30.8	38.7	48.2	60.0	81.3	109.1	134.4	141.2	130.6
95°	27.6	34.7	45.8	56.4	71.8	93.3	130.7	196.8	283.0	319.9	289.1
97.5°	42.5	50.1	61.3	74.5	91.0	114.5	160.0	249.7	389.2	509.5	535.7
100°	56.5	62.0	71.5	86.1	103.3	127.0	169.0	259.0	414.6	591.2	694.9
102.5°	69.0	73.6	82.9	97.1	114.7	138.1	177.2	257.6	402.0	591.7	752.8
105°	87.0	92.5	100.0	113.0	131.0	154.1	191.5	258.3	378.0	551.3	739.9
107.5°	107.1	111.4	118.2	129.9	147.2	170.1	206.4	265.0	364.5	508.5	675.3
110°	120.1	124.8	130.7	141.5	158.0	181.3	216.4	271.0	360.4	487.5	634.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	132.4	136.7	142.9	152.9	168.5	192.2	226.0	277.5	358.9	473.0	605.6
115°	151.5	156.0	161.1	170.5	185.4	206.8	240.8	287.4	359.0	456.5	569.3
117.5°	170.9	174.3	179.1	187.2	201.2	222.9	254.4	298.0	361.1	446.6	545.0
120°	183.2	186.3	190.8	197.5	211.8	233.3	264.0	305.3	362.6	440.8	531.8
122.5°	194.8	197.2	201.5	208.6	222.7	244.4	273.3	311.6	364.7	436.6	520.3
125°	209.9	212.0	216.2	224.5	238.5	259.5	287.4	321.7	367.7	429.2	503.5
127.5°	222.2	224.9	230.7	239.8	253.1	274.3	301.0	331.4	371.4	423.9	487.8
130°	229.4	232.1	239.0	248.7	262.5	282.9	309.2	337.6	374.3	420.9	477.4
132.5°	236.1	239.4	246.8	257.1	271.4	291.7	316.4	343.8	377.3	418.4	468.7
135°	245.8	248.5	256.9	267.3	283.4	303.4	326.5	351.9	380.7	415.0	456.6
137.5°	255.2	258.6	266.9	278.0	293.9	312.3	334.7	357.8	383.5	412.5	447.5
140°	262.5	265.2	273.5	284.5	299.8	318.0	339.0	360.8	384.7	410.6	442.1
142.5°	269.7	271.9	279.6	290.7	305.3	322.4	342.7	363.8	385.8	410.0	437.2
145°	280.2	283.0	290.0	300.4	314.3	329.7	348.6	368.0	387.5	408.5	431.3
147.5°	291.9	294.0	300.7	310.3	321.9	335.6	353.3	370.4	388.2	406.0	425.5
150°	299.7	301.8	307.4	316.5	326.9	339.5	355.5	371.5	387.5	404.3	421.0
152.5°	307.6	308.5	314.1	322.0	331.9	343.4	357.8	372.1	386.5	401.5	417.1
155°	318.5	319.2	323.4	331.1	338.8	349.2	361.1	372.9	384.8	396.6	409.8
157.5°	327.8	328.4	331.8	338.5	344.6	353.4	363.5	372.9	381.6	391.6	403.1
160°	333.9	334.6	337.3	343.0	348.6	356.1	364.5	372.9	379.9	388.3	398.1
162.5°	340.0	339.6	342.4	346.9	351.9	357.8	365.2	372.4	378.3	385.5	393.5
165°	347.1	346.4	347.9	352.0	355.5	359.7	366.0	370.9	375.1	379.9	386.2
167.5°	353.0	352.1	353.4	356.1	358.6	361.2	365.8	369.9	371.8	375.1	378.9
170°	356.9	355.5	356.1	358.3	359.7	361.8	365.2	368.7	370.1	372.2	375.1
172.5°	359.1	358.3	357.8	360.0	360.8	362.3	364.7	367.0	367.9	368.9	371.1
175°	361.8	361.1	360.3	361.8	361.8	362.5	363.8	365.2	364.5	365.2	366.0
177.5°	363.0	361.9	361.3	362.5	362.5	362.5	363.0	364.2	363.0	362.5	363.0
180°	362.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	279.6	279.6	279.6	279.6	279.6	279.6	279.6	279.6
2.5°	278.6	278.9	279.3	279.5	279.3	279.1	279.0	278.8
5°	277.8	278.3	278.8	279.0	278.9	278.8	278.7	278.7
7.5°	276.4	277.1	277.8	278.0	277.9	277.9	277.8	277.7
10°	275.3	276.0	276.7	277.1	277.0	276.9	276.8	276.7
12.5°	273.3	274.0	274.7	275.1	275.0	274.9	274.8	274.7
15°	269.7	270.6	271.4	271.8	271.7	271.6	271.5	271.4
17.5°	265.3	266.1	266.9	267.3	267.3	267.3	267.3	267.3
20°	261.6	262.6	263.6	264.1	264.1	264.1	264.1	264.1
22.5°	257.8	258.8	259.8	260.3	260.5	260.6	260.7	260.9
25°	251.7	252.8	253.9	254.5	254.8	255.0	255.3	255.6
27.5°	245.0	246.4	247.7	248.5	248.7	248.9	249.1	249.3
30°	240.2	241.7	243.2	244.0	244.2	244.5	244.8	245.0
32.5°	235.1	236.8	238.5	239.6	240.0	240.6	241.0	241.5
35°	228.0	230.0	231.9	233.3	233.9	234.5	235.1	235.8
37.5°	220.5	222.7	225.0	226.4	227.0	227.7	228.4	229.0
40°	215.3	217.7	220.0	221.6	222.4	223.2	224.0	224.8
42.5°	210.3	212.8	215.3	217.0	217.8	218.6	219.5	220.3
45°	202.4	205.3	208.0	209.9	210.8	211.7	212.6	213.5
47.5°	194.4	197.2	200.2	202.2	203.1	204.1	205.1	206.1
50°	188.8	191.9	194.9	197.0	198.0	198.9	199.9	200.9
52.5°	182.8	185.9	189.0	191.2	192.3	193.3	194.4	195.4
55°	173.8	177.0	180.3	182.4	183.6	184.9	186.0	187.2
57.5°	164.3	167.7	171.2	173.5	174.8	175.9	177.1	178.3
60°	157.9	161.4	164.8	167.1	168.4	169.6	170.9	172.2
62.5°	151.2	154.9	158.5	161.0	162.1	163.3	164.5	165.7
65°	141.1	144.7	148.5	150.9	152.0	153.2	154.4	155.5
67.5°	130.7	134.5	138.2	140.7	141.9	143.1	144.4	145.6
70°	123.6	127.4	131.3	133.8	134.9	136.0	137.1	138.1
72.5°	116.6	120.5	124.2	126.8	128.0	129.4	130.7	132.0
75°	106.2	110.0	114.0	116.5	117.6	118.8	119.9	121.1
77.5°	95.9	99.8	103.6	106.2	107.5	108.7	109.9	111.2
80°	89.0	92.7	96.6	99.1	100.3	101.6	102.8	104.1
82.5°	82.5	86.3	90.1	92.6	93.7	95.0	96.1	97.3
85°	73.2	77.0	80.8	83.3	84.5	85.8	87.0	88.3
87.5°	69.8	73.2	77.1	79.7	80.9	82.0	83.2	84.4
90°	83.0	85.2	90.2	93.2	94.3	95.4	96.5	97.6
92.5°	118.4	113.2	110.9	109.0	109.5	108.3	109.9	109.9
95°	236.0	197.0	171.1	158.0	150.1	145.5	144.5	146.3
97.5°	475.9	401.7	329.7	281.5	249.3	233.2	224.1	219.3
100°	683.6	600.5	508.3	426.1	369.3	340.3	321.0	309.5
102.5°	818.9	802.6	736.0	648.8	586.9	536.7	512.6	496.5
105°	888.1	970.0	982.2	961.3	919.0	876.8	847.8	839.0
107.5°	832.1	953.7	1029.2	1065.0	1071.4	1070.1	1065.1	1053.0
110°	784.7	912.3	1004.4	1063.5	1094.5	1108.8	1116.0	1116.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	741.1	863.8	962.0	1029.5	1072.1	1095.3	1108.1	1112.9
115°	687.1	797.1	891.1	964.7	1015.2	1048.3	1067.4	1074.6
117.5°	645.4	742.3	827.8	897.0	948.3	983.1	1003.2	1009.3
120°	624.2	713.2	789.6	854.8	904.6	938.3	959.6	967.5
122.5°	607.1	688.8	761.2	820.1	864.7	897.8	916.6	923.3
125°	581.8	656.1	719.9	773.7	815.0	842.3	860.5	866.9
127.5°	557.0	624.1	684.2	734.0	770.0	795.7	811.5	816.7
130°	540.9	603.0	660.2	707.7	742.5	767.0	781.7	787.9
132.5°	525.4	583.0	635.7	680.3	714.6	739.0	752.6	758.3
135°	503.8	551.7	599.7	640.0	670.7	694.4	707.7	711.1
137.5°	486.1	526.2	564.5	599.6	627.5	647.9	659.5	664.3
140°	474.9	509.8	543.3	575.0	597.8	616.4	627.5	632.2
142.5°	465.8	495.4	524.2	550.6	572.3	589.2	599.1	600.4
145°	453.4	477.0	499.2	519.9	537.1	549.4	556.8	559.3
147.5°	444.0	462.3	479.2	494.1	508.1	517.8	522.7	524.2
150°	437.7	453.1	467.7	480.3	490.7	499.1	503.3	504.0
152.5°	431.6	445.9	458.3	469.1	477.3	484.6	487.7	487.8
155°	423.1	434.3	444.7	452.4	460.0	464.9	467.7	466.4
157.5°	413.2	422.6	431.3	437.3	442.7	446.8	448.1	448.1
160°	407.1	414.7	422.4	427.3	432.2	435.7	436.3	436.3
162.5°	400.9	407.5	414.0	417.9	422.7	425.1	425.8	425.2
165°	391.7	396.6	401.5	404.3	407.1	409.8	409.8	409.2
167.5°	383.0	386.7	390.0	392.6	393.9	395.4	395.2	394.4
170°	378.5	380.6	383.3	384.8	385.5	387.5	386.8	385.5
172.5°	373.4	375.1	377.3	378.1	378.8	379.8	379.1	378.3
175°	368.0	368.7	369.4	370.1	370.1	370.9	370.1	368.7
177.5°	364.2	364.2	364.7	364.7	364.7	364.7	364.2	363.0
180°	362.5	362.5	362.5	362.5	362.5	362.5	362.5	362.5

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