

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: P332507-927

Luminaire Tested: **SA4XXDIP-C350D590U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332507-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXDIP-C350D590U927-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 590 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2875.0 lumens  
Efficiency: N/A  
Efficacy: 112.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: General Diffuse

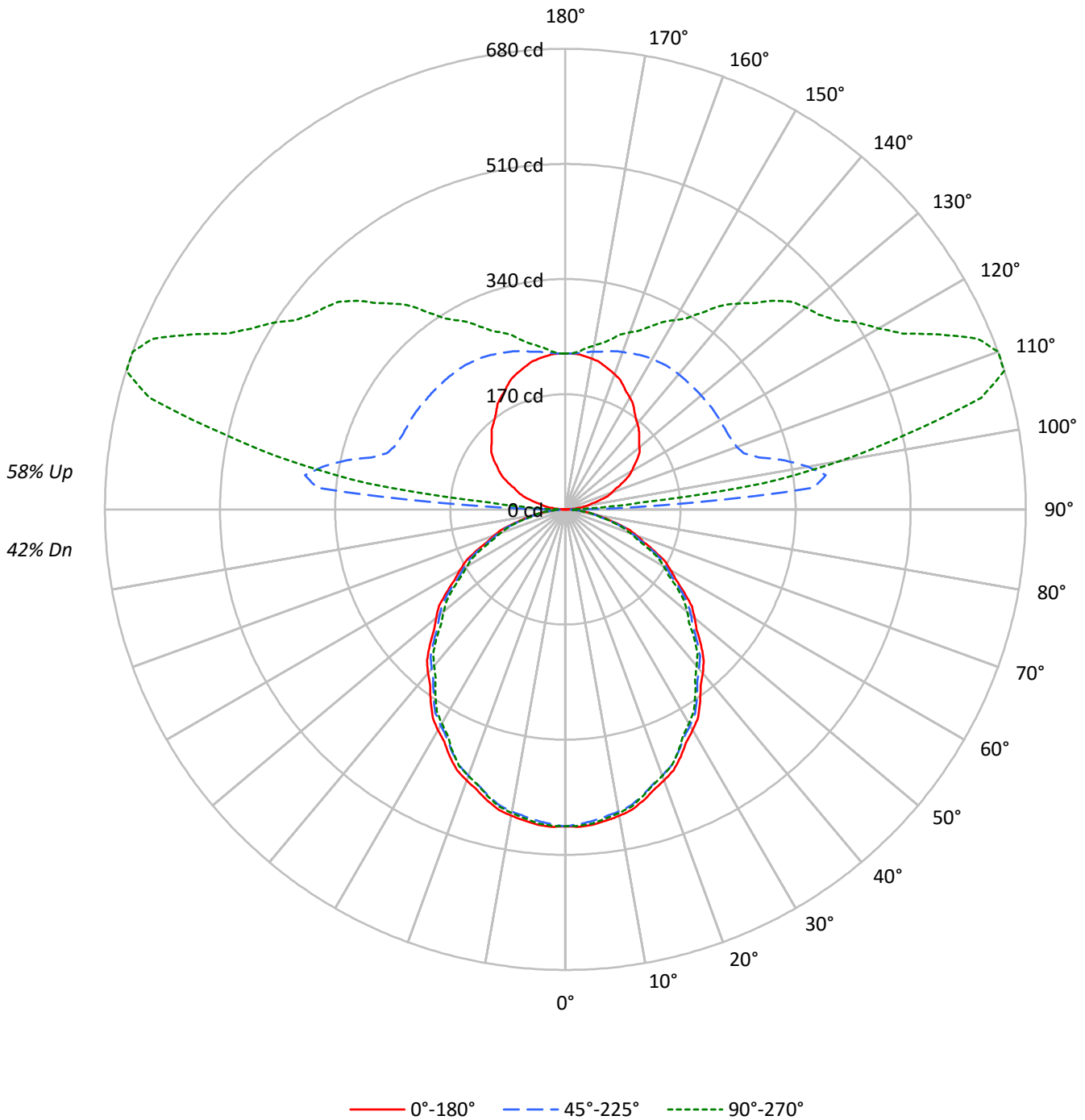
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	49	49	49	42				
1	96	92	88	84	87	84	80	77	69	67	65	55	54	52	43	42	41	35				
2	87	80	74	69	79	73	68	64	60	57	53	49	46	44	38	36	34	29				
3	80	70	63	57	72	64	58	53	53	49	45	43	40	37	33	31	29	25				
4	73	62	54	48	66	57	50	45	47	42	38	38	35	32	30	27	25	21				
5	67	55	47	41	61	51	44	39	42	37	33	34	30	27	27	24	22	19				
6	61	50	42	36	56	46	39	33	38	33	29	31	27	24	24	22	19	16				
7	57	45	37	31	52	41	34	29	34	29	25	28	24	21	22	19	17	14				
8	53	41	33	28	48	37	31	26	31	26	22	26	22	19	20	18	15	13				
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12				
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	15	13	11				

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

	0°	45°	90°
0°	3777	3777	3777
5°	3789	3743	3771
10°	3765	3713	3731
15°	3719	3661	3670
20°	3660	3594	3598
25°	3591	3520	3510
30°	3506	3432	3402
35°	3418	3341	3297
40°	3327	3236	3177
45°	3232	3134	3075
50°	3127	3042	2948
55°	3013	2923	2829
60°	2900	2792	2706
65°	2772	2665	2558
70°	2629	2497	2398
75°	2408	2293	2233
80°	2143	2060	2004
85°	1880	1806	1769



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.1	1.5
10°-20°	124.2	4.3
20°-30°	182.8	6.4
30°-40°	212.5	7.4
40°-50°	212.5	7.4
50°-60°	185.9	6.5
60°-70°	138.0	4.8
70°-80°	78.4	2.7
80°-90°	23.9	0.8
90°-100°	166.1	5.8
100°-110°	345.8	12.0
110°-120°	309.7	10.8
120°-130°	260.5	9.1
130°-140°	217.2	7.6
140°-150°	166.0	5.8
150°-160°	116.6	4.1
160°-170°	68.6	2.4
170°-180°	22.3	0.8
0°-30°	351.0	12.2
0°-40°	563.5	19.6
0°-60°	961.8	33.5
0°-90°	1202.1	41.8
90°-120°	821.6	28.6
90°-150°	1465.3	51.0
90°-180°	1673.0	58.2
0°-180°	2875.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	468	468	468	468	468	
5°	468	466	462	466	465	44
15°	445	443	438	440	439	125
25°	403	400	395	396	394	185
35°	347	344	339	336	334	217
45°	283	280	274	270	269	218
55°	214	213	208	203	201	192
65°	145	143	140	136	134	144
75°	77	75	74	72	72	82
85°	20	20	20	20	19	22
90°	0	4	8	9	10	2
95°	15	47	368	182	110	17
105°	53	77	296	638	636	56
115°	93	117	264	508	610	92
125°	130	154	263	432	487	115
135°	154	183	261	384	436	119
145°	178	203	259	324	356	111
155°	202	218	252	286	298	93
165°	220	227	242	256	260	62
175°	230	230	232	235	234	22
180°	230	230	230	230	230	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	469.1	469.0	468.7	468.6	468.3	467.9	467.1	466.4	465.7	464.9	465.6
5°	467.5	467.2	466.9	466.6	466.3	465.6	464.7	463.8	462.9	461.9	462.9
7.5°	463.3	462.9	462.6	462.2	461.9	461.2	460.2	459.2	458.2	457.2	457.9
10°	459.3	459.0	458.7	458.4	458.0	457.3	456.2	455.1	454.1	453.0	453.6
12.5°	454.2	453.9	453.6	453.2	452.9	452.2	451.0	449.9	448.7	447.6	448.3
15°	445.0	444.7	444.4	444.1	443.8	443.0	441.7	440.5	439.2	438.0	438.5
17.5°	434.0	433.6	433.2	432.8	432.4	431.6	430.4	429.2	428.0	426.8	427.1
20°	426.0	425.6	425.2	424.7	424.3	423.5	422.2	421.0	419.7	418.4	418.7
22.5°	417.2	416.7	416.1	415.6	415.0	414.2	412.9	411.7	410.4	409.2	409.6
25°	403.1	402.5	402.0	401.3	400.8	399.9	398.7	397.5	396.4	395.2	395.3
27.5°	386.9	386.3	385.7	385.1	384.5	383.7	382.5	381.5	380.4	379.3	379.1
30°	376.1	375.4	374.8	374.1	373.4	372.6	371.5	370.3	369.3	368.2	367.9
32.5°	364.7	364.1	363.5	362.9	362.3	361.4	360.3	359.1	358.0	356.8	356.4
35°	346.8	346.3	345.7	345.1	344.5	343.6	342.5	341.3	340.2	339.0	338.4
37.5°	328.0	327.5	326.9	326.5	325.9	325.0	323.8	322.5	321.2	320.0	319.3
40°	315.7	315.1	314.4	313.7	313.1	312.1	310.9	309.6	308.3	307.1	306.3
42.5°	302.5	302.1	301.7	301.3	301.0	300.0	298.7	297.2	295.9	294.5	293.5
45°	283.1	282.5	281.9	281.4	280.7	279.8	278.5	277.1	275.8	274.5	273.5
47.5°	262.8	262.4	262.0	261.6	261.2	260.4	259.1	257.9	256.7	255.4	254.4
50°	249.0	248.7	248.3	248.0	247.6	246.9	245.7	244.5	243.4	242.2	241.1
52.5°	235.5	235.0	234.6	234.2	233.9	233.1	231.8	230.6	229.3	228.1	227.1
55°	214.1	213.9	213.6	213.3	213.1	212.4	211.2	210.1	208.9	207.7	206.8
57.5°	193.7	193.5	193.1	192.9	192.6	191.9	190.7	189.6	188.4	187.3	186.3
60°	179.6	179.2	178.8	178.3	177.9	177.2	176.1	175.0	174.0	172.9	172.1
62.5°	165.8	165.5	165.1	164.8	164.4	163.7	162.5	161.4	160.2	159.1	158.4
65°	145.1	144.7	144.3	143.9	143.5	142.8	142.0	141.2	140.3	139.5	138.6
67.5°	124.3	123.9	123.5	123.1	122.7	122.2	121.4	120.6	119.8	118.9	118.1
70°	111.4	110.7	110.2	109.6	109.0	108.4	107.7	107.1	106.4	105.8	105.0
72.5°	97.6	97.0	96.4	95.9	95.2	94.7	94.1	93.6	93.1	92.5	92.0
75°	77.2	76.8	76.4	76.0	75.6	75.2	74.8	74.3	73.9	73.5	73.2
77.5°	57.8	57.7	57.4	57.3	57.1	56.8	56.5	56.1	55.7	55.4	55.2
80°	46.1	45.9	45.6	45.4	45.2	44.9	44.8	44.6	44.4	44.3	44.0
82.5°	34.7	34.6	34.5	34.4	34.2	34.1	34.1	34.1	34.1	34.1	34.0
85°	20.3	20.3	20.3	20.3	20.3	20.2	20.0	19.8	19.6	19.5	19.5
87.5°	7.9	8.0	8.2	8.2	8.2	8.2	8.6	8.6	8.7	8.8	8.7
90°	0.5	1.3	2.7	3.2	3.6	3.6	6.3	6.3	7.2	8.2	7.7
92.5°	5.1	7.5	11.7	17.3	23.8	33.3	56.2	91.3	125.5	143.3	119.4
95°	14.9	16.2	20.8	26.7	37.5	56.5	95.8	169.9	277.9	368.3	378.7
97.5°	26.8	26.8	30.7	36.0	45.4	61.3	91.6	152.7	260.2	387.9	475.8
100°	34.4	34.4	37.5	42.9	51.5	66.0	92.6	143.7	235.9	363.3	479.0
102.5°	41.6	42.3	45.1	50.1	58.4	72.1	96.3	141.2	219.6	332.6	451.9
105°	52.8	54.3	56.5	61.9	70.0	83.2	104.8	142.4	205.7	296.4	402.7
107.5°	65.4	66.2	68.5	74.3	82.1	95.0	114.9	149.0	203.1	276.2	362.9
110°	73.7	74.5	76.8	82.2	90.4	102.6	122.5	154.1	203.8	269.3	343.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	81.6	82.5	85.2	90.2	98.3	110.5	129.7	159.5	206.0	266.1	331.8
115°	93.1	94.4	97.6	102.1	110.7	122.9	141.0	168.1	210.2	264.4	321.3
117.5°	105.0	106.3	109.1	114.1	122.1	134.8	151.9	176.9	214.5	263.9	316.6
120°	113.0	113.9	117.0	122.0	129.7	142.4	159.5	183.0	217.9	263.9	314.1
122.5°	120.2	121.1	124.3	128.9	137.3	149.6	166.8	188.8	221.1	263.6	311.2
125°	129.7	131.5	134.2	139.2	147.7	160.4	176.7	197.5	225.9	263.0	306.4
127.5°	138.1	139.6	142.8	148.5	157.4	170.2	185.9	205.0	229.8	262.0	300.0
130°	142.8	144.6	148.2	155.0	163.6	176.7	192.0	209.7	232.7	261.7	296.0
132.5°	147.5	148.9	153.7	160.1	169.4	181.7	197.1	214.4	235.3	261.3	292.4
135°	154.1	155.9	160.4	168.1	177.6	189.3	204.2	220.5	239.1	260.7	286.9
137.5°	160.7	162.4	167.4	174.7	184.6	195.7	209.7	224.9	241.3	260.6	282.3
140°	165.4	166.8	171.7	179.4	188.9	199.7	213.3	227.8	243.1	260.3	279.7
142.5°	170.5	171.8	176.4	183.7	192.9	203.4	216.6	229.9	244.5	260.3	277.6
145°	177.6	179.0	183.5	189.8	198.4	208.3	220.1	232.3	245.4	259.4	273.9
147.5°	185.6	186.1	190.0	196.5	203.7	212.7	223.7	234.3	245.8	257.8	270.5
150°	190.7	191.2	194.8	200.2	207.0	215.6	225.5	235.4	245.8	256.7	268.0
152.5°	195.4	195.5	199.1	204.1	210.2	218.1	227.0	236.1	245.1	254.8	265.1
155°	202.0	202.5	205.2	209.7	214.7	221.4	229.1	236.8	244.0	252.2	260.7
157.5°	208.4	208.4	211.0	214.4	218.8	224.1	230.7	236.8	242.9	249.4	256.4
160°	212.4	212.4	214.2	217.4	220.9	225.9	231.4	236.8	241.8	247.2	253.1
162.5°	216.0	215.6	217.1	219.9	223.2	227.0	232.1	236.8	240.7	245.0	250.2
165°	220.1	220.1	220.9	223.2	225.5	228.2	232.3	235.9	238.6	241.8	245.4
167.5°	224.1	223.7	224.1	225.9	227.1	229.2	232.2	234.8	236.5	238.5	241.1
170°	225.9	225.5	225.9	227.3	228.2	229.6	231.8	234.1	235.0	236.3	238.1
172.5°	227.8	227.3	227.4	228.4	228.9	229.9	231.5	233.4	233.5	234.2	235.6
175°	229.6	229.1	229.1	229.6	230.0	230.0	230.9	232.3	231.8	231.8	232.7
177.5°	230.4	230.0	229.7	230.0	230.0	230.0	230.4	231.1	230.4	230.4	230.8
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	466.3	467.0	467.6	467.9	467.9	467.8	467.7	467.6
5°	463.8	464.7	465.6	466.0	465.8	465.6	465.5	465.3
7.5°	458.6	459.4	460.1	460.4	460.3	460.2	460.1	460.0
10°	454.3	455.0	455.7	455.9	455.7	455.5	455.3	455.2
12.5°	449.0	449.7	450.5	450.8	450.5	450.3	450.0	449.8
15°	438.9	439.4	440.0	440.1	439.8	439.6	439.3	439.1
17.5°	427.5	427.8	428.1	428.2	428.0	427.9	427.7	427.5
20°	419.0	419.2	419.5	419.5	419.3	419.1	419.0	418.8
22.5°	410.0	410.5	411.0	411.1	410.7	410.4	410.1	409.9
25°	395.4	395.5	395.5	395.5	395.1	394.7	394.4	394.1
27.5°	378.9	378.7	378.5	378.2	377.8	377.4	376.9	376.5
30°	367.6	367.3	366.9	366.5	366.1	365.7	365.3	364.9
32.5°	356.0	355.6	355.2	354.8	354.4	353.9	353.6	353.2
35°	337.8	337.2	336.6	336.1	335.7	335.3	334.9	334.5
37.5°	318.7	318.1	317.4	316.9	316.3	315.8	315.2	314.7
40°	305.5	304.6	303.8	303.2	302.7	302.3	301.9	301.5
42.5°	292.6	291.6	290.7	290.0	289.7	289.5	289.1	288.9
45°	272.7	271.7	270.8	270.2	270.0	269.7	269.5	269.3
47.5°	253.3	252.3	251.3	250.5	249.9	249.2	248.6	248.0
50°	239.9	238.8	237.6	236.7	236.2	235.8	235.2	234.7
52.5°	226.1	225.1	224.0	223.2	222.5	221.9	221.3	220.6
55°	205.7	204.7	203.7	203.0	202.5	202.0	201.5	201.0
57.5°	185.4	184.4	183.5	182.8	182.3	181.8	181.3	180.8
60°	171.3	170.6	169.8	169.3	168.9	168.4	168.0	167.6
62.5°	157.7	157.0	156.3	155.7	155.3	155.0	154.6	154.1
65°	137.8	137.0	136.2	135.5	135.1	134.7	134.3	133.9
67.5°	117.3	116.5	115.7	115.3	115.2	115.0	114.9	114.8
70°	104.4	103.8	103.1	102.6	102.3	102.1	101.9	101.6
72.5°	91.5	90.9	90.4	90.0	89.8	89.5	89.3	89.0
75°	72.8	72.5	72.2	71.9	71.9	71.8	71.7	71.6
77.5°	55.1	55.1	55.0	54.8	54.6	54.3	54.1	53.9
80°	43.9	43.7	43.6	43.5	43.3	43.3	43.2	43.1
82.5°	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2
85°	19.5	19.5	19.5	19.5	19.4	19.3	19.2	19.1
87.5°	8.8	9.0	9.0	9.0	9.1	9.2	9.1	9.1
90°	8.2	8.6	9.0	9.0	9.5	9.9	9.5	9.5
92.5°	88.7	66.8	53.2	44.1	38.7	36.4	34.8	34.8
95°	334.9	264.8	204.2	160.4	138.3	124.3	116.1	110.3
97.5°	494.7	468.7	424.5	377.3	344.9	317.7	304.1	294.7
100°	545.0	554.1	531.9	498.4	459.1	431.6	418.0	414.4
102.5°	542.5	587.3	593.7	579.8	555.6	535.7	521.4	518.5
105°	506.1	584.3	629.1	647.6	648.5	644.8	638.5	635.8
107.5°	454.6	537.7	600.8	641.0	663.4	673.7	678.2	679.4
110°	423.4	501.6	567.1	616.9	649.0	667.9	676.0	680.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	400.7	469.8	531.7	581.4	617.8	640.8	652.2	658.8
115°	377.8	433.4	486.2	529.7	565.3	592.5	606.9	610.5
117.5°	366.5	412.6	454.2	490.9	521.4	544.2	558.8	561.7
120°	361.6	403.5	439.7	471.7	497.6	517.5	529.2	534.2
122.5°	357.2	397.8	430.6	458.8	480.5	497.6	507.5	512.5
125°	349.7	388.6	419.8	444.7	462.7	475.9	484.4	487.1
127.5°	340.7	377.9	409.0	432.5	450.8	462.4	469.6	472.3
130°	333.5	369.2	399.9	423.9	442.4	453.7	461.0	463.7
132.5°	325.9	359.4	389.4	413.4	431.6	444.3	451.1	453.9
135°	315.4	344.8	372.3	395.0	413.0	425.7	432.9	435.6
137.5°	305.9	330.8	354.0	374.5	391.3	403.9	409.8	413.0
140°	300.5	321.8	342.1	361.1	376.9	386.8	393.2	396.8
142.5°	295.5	314.2	331.6	348.1	362.0	371.3	376.9	379.4
145°	288.3	303.6	317.3	329.9	341.2	348.9	353.4	355.6
147.5°	282.4	294.6	305.5	315.4	323.8	330.3	333.7	334.6
150°	278.8	289.2	298.3	306.4	313.6	319.5	322.2	322.7
152.5°	274.8	283.8	292.1	298.8	304.9	309.7	311.3	311.8
155°	268.9	276.1	282.9	288.3	292.9	296.4	297.8	297.8
157.5°	262.4	268.5	274.2	278.5	282.0	284.7	285.5	285.5
160°	258.5	263.5	268.4	272.0	274.7	277.5	277.9	277.9
162.5°	254.5	258.7	262.6	265.9	267.9	270.6	271.1	270.7
165°	249.0	251.7	254.8	257.1	259.0	260.7	260.3	259.8
167.5°	243.7	245.7	248.3	249.6	250.6	251.7	251.6	251.3
170°	240.4	241.8	243.6	244.9	245.8	246.3	245.8	245.8
172.5°	237.5	238.5	239.6	240.6	241.1	241.6	241.1	240.4
175°	233.6	234.1	235.0	235.0	235.0	235.9	235.0	234.1
177.5°	231.1	231.5	231.5	231.8	231.5	231.8	231.1	230.4
180°	230.0	230.0	230.0	230.0	230.0	230.0	230.0	230.0

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