

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

Luminaire Tested: **S122DIP-S290D530U835-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331257  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S290D530U835-4F0-1E-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: 3268.2 lumens  
Efficiency: N/A  
Efficacy: 127.7 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

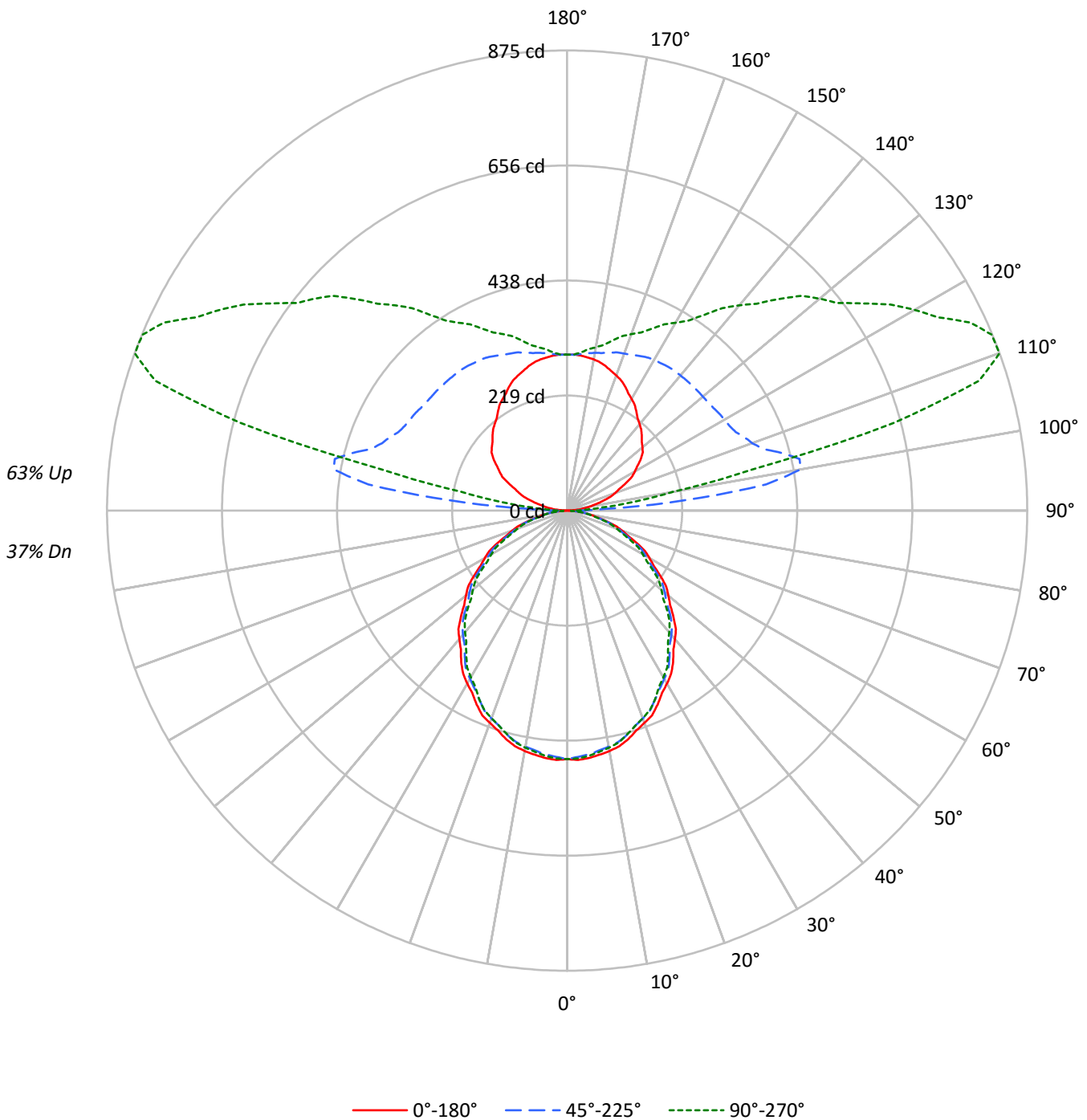
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	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°	7627	7627	7627
5°	7656	7546	7592
10°	7612	7470	7507
15°	7517	7373	7366
20°	7383	7228	7220
25°	7251	7049	7049
30°	7081	6885	6825
35°	6922	6688	6589
40°	6721	6492	6367
45°	6524	6295	6140
50°	6310	6094	5878
55°	6086	5858	5638
60°	5838	5574	5370
65°	5570	5295	5051
70°	5231	4952	4716
75°	4760	4560	4448
80°	4221	4100	3887
85°	3446	3279	2946



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.4	1.4
10°-20°	125.0	3.8
20°-30°	183.7	5.6
30°-40°	213.4	6.5
40°-50°	213.2	6.5
50°-60°	185.9	5.7
60°-70°	137.5	4.2
70°-80°	77.9	2.4
80°-90°	23.6	0.7
90°-100°	118.6	3.6
100°-110°	402.4	12.3
110°-120°	427.5	13.1
120°-130°	351.9	10.8
130°-140°	282.6	8.6
140°-150°	213.5	6.5
150°-160°	150.1	4.6
160°-170°	88.3	2.7
170°-180°	28.8	0.9
0°-30°	353.2	10.8
0°-40°	566.6	17.3
0°-60°	965.7	29.5
0°-90°	1204.6	36.9
90°-120°	948.4	29.0
90°-150°	1796.4	55.0
90°-180°	2064.0	63.2
0°-180°	3268.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	472	470	466	469	468	45
15°	450	447	441	443	441	127
25°	407	403	396	396	396	187
35°	351	346	339	337	334	219
45°	286	282	276	271	269	220
55°	216	213	208	203	200	193
65°	146	143	139	135	132	144
75°	76	75	73	71	71	82
85°	19	18	18	16	16	21
90°	1	8	19	18	19	2
95°	20	49	224	84	65	21
105°	70	105	423	755	643	74
115°	123	155	354	730	846	122
125°	171	202	340	591	686	152
135°	201	240	336	497	569	155
145°	229	263	334	415	454	144
155°	261	281	324	367	382	120
165°	284	293	311	330	335	80
175°	296	296	299	303	302	28
180°	296	296	296	296	296	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	474.6	474.2	473.8	473.4	473.0	472.4	471.5	470.6	469.7	468.8	469.6
5°	472.4	472.0	471.6	471.2	470.8	470.1	469.0	467.9	466.7	465.6	466.4
7.5°	468.3	467.6	467.0	466.4	465.8	464.9	463.8	462.6	461.5	460.4	461.2
10°	464.3	463.6	462.9	462.2	461.4	460.5	459.3	458.1	456.9	455.6	456.4
12.5°	458.8	458.2	457.6	456.9	456.3	455.4	454.2	453.0	451.8	450.6	451.1
15°	449.7	449.1	448.5	447.9	447.3	446.4	445.0	443.7	442.4	441.1	441.5
17.5°	438.1	437.5	436.9	436.3	435.7	434.7	433.4	432.0	430.7	429.4	429.8
20°	429.7	429.1	428.5	427.9	427.3	426.3	424.9	423.5	422.1	420.7	421.0
22.5°	421.4	420.5	419.7	418.8	418.0	416.9	415.6	414.2	412.9	411.6	411.6
25°	407.0	406.2	405.4	404.6	403.8	402.5	400.8	399.1	397.4	395.7	395.9
27.5°	390.7	390.0	389.2	388.5	387.8	386.7	385.4	384.0	382.7	381.3	381.0
30°	379.8	379.0	378.2	377.4	376.5	375.4	373.9	372.4	370.8	369.3	369.0
32.5°	368.1	367.5	366.9	366.2	365.6	364.4	362.8	361.3	359.7	358.1	357.5
35°	351.2	350.1	349.1	348.1	347.1	345.8	344.2	342.6	341.0	339.3	338.7
37.5°	332.0	331.1	330.2	329.3	328.4	327.2	325.6	324.0	322.3	320.7	320.0
40°	318.9	318.1	317.3	316.5	315.7	314.5	312.8	311.2	309.6	308.0	307.1
42.5°	306.2	305.4	304.6	303.8	303.0	301.7	300.1	298.5	296.9	295.3	294.3
45°	285.7	285.0	284.3	283.6	282.9	281.8	280.3	278.8	277.3	275.7	274.6
47.5°	265.4	264.7	264.1	263.4	262.7	261.6	260.0	258.5	256.9	255.3	254.1
50°	251.2	250.7	250.2	249.7	249.2	248.2	246.8	245.4	244.0	242.6	241.2
52.5°	237.4	236.7	236.1	235.4	234.7	233.7	232.4	231.1	229.7	228.4	227.2
55°	216.2	215.6	215.0	214.4	213.8	212.9	211.7	210.5	209.3	208.1	206.8
57.5°	195.0	194.5	194.0	193.5	193.0	192.1	190.8	189.5	188.1	186.8	185.6
60°	180.8	180.4	180.0	179.6	179.2	178.3	176.9	175.5	174.0	172.6	171.5
62.5°	167.0	166.3	165.7	165.1	164.4	163.5	162.4	161.4	160.3	159.2	158.1
65°	145.8	145.2	144.6	144.0	143.4	142.6	141.6	140.6	139.6	138.6	137.6
67.5°	124.3	123.8	123.3	122.8	122.4	121.7	120.7	119.8	118.9	118.0	117.3
70°	110.8	110.4	110.0	109.6	109.2	108.6	107.7	106.8	105.8	104.9	104.2
72.5°	97.0	96.6	96.2	95.8	95.4	94.9	94.3	93.8	93.2	92.6	91.9
75°	76.3	76.1	75.9	75.7	75.5	75.2	74.7	74.1	73.6	73.1	72.5
77.5°	57.8	57.4	57.1	56.8	56.4	56.1	55.9	55.7	55.5	55.3	55.0
80°	45.4	45.3	45.2	45.1	45.0	44.9	44.7	44.5	44.3	44.1	43.8
82.5°	33.8	33.8	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2	32.8
85°	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.8	17.7	17.4
87.5°	6.7	6.8	7.1	7.2	7.3	7.4	7.9	8.5	9.0	9.0	8.6
90°	0.6	2.3	4.6	5.7	6.8	8.6	11.4	15.4	18.8	19.4	18.8
92.5°	7.0	10.0	14.1	16.7	20.5	25.9	38.8	56.9	73.1	74.1	62.6
95°	20.0	22.2	27.9	33.1	42.2	55.9	82.1	131.7	197.9	223.6	195.6
97.5°	32.5	35.6	41.6	49.4	59.9	75.4	108.4	177.5	287.4	381.6	400.3
100°	43.9	45.6	50.8	59.9	71.3	87.3	117.5	187.1	310.2	450.5	532.6
102.5°	54.4	55.7	60.8	69.9	81.8	97.7	125.7	187.5	301.6	452.8	581.9
105°	69.6	71.9	75.8	84.4	96.9	112.9	139.7	190.5	284.6	422.6	574.3
107.5°	86.0	87.8	91.7	99.6	112.0	128.1	154.1	198.3	276.1	390.2	524.2
110°	96.9	99.2	102.7	110.1	122.0	138.6	163.7	204.7	274.3	374.7	492.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	107.0	109.3	113.1	120.1	131.6	148.6	172.8	211.6	274.8	364.6	470.8
115°	122.6	125.5	128.9	135.7	147.1	162.5	187.1	221.8	277.2	353.6	443.7
117.5°	138.8	141.1	144.5	150.6	161.5	177.5	200.2	232.8	281.3	348.2	426.6
120°	148.8	151.1	154.5	159.7	171.1	187.1	209.3	240.1	284.0	345.0	417.5
122.5°	158.4	160.3	163.7	169.3	180.7	197.1	218.0	246.5	287.2	343.2	409.7
125°	171.1	172.8	176.2	183.1	194.5	210.4	231.0	256.6	292.0	339.9	398.6
127.5°	181.1	183.4	188.2	195.7	206.7	223.1	243.1	266.1	296.9	338.0	388.4
130°	187.1	189.3	195.0	203.0	214.4	230.4	250.4	272.0	300.5	337.0	381.5
132.5°	192.5	195.3	201.4	209.9	221.7	237.7	256.7	278.0	304.2	336.6	376.0
135°	200.7	203.0	209.9	218.4	231.5	247.5	265.8	285.7	308.5	335.9	368.4
137.5°	208.5	211.2	218.1	227.2	240.2	255.0	273.1	291.6	312.4	335.8	363.0
140°	214.4	216.7	223.6	232.7	245.2	260.1	277.2	294.8	314.2	335.3	359.9
142.5°	220.4	222.2	228.6	237.7	249.8	263.7	280.4	297.6	315.6	335.3	356.7
145°	229.3	231.5	237.2	245.8	257.2	269.7	285.1	301.1	317.1	334.2	352.4
147.5°	238.8	240.5	246.0	253.9	263.4	274.5	289.0	303.1	317.5	332.1	348.1
150°	245.2	246.9	251.5	258.9	267.5	277.7	290.8	304.0	317.1	330.8	344.5
152.5°	251.6	252.4	257.0	263.5	271.6	280.9	292.7	304.4	316.2	328.5	341.3
155°	260.6	261.2	264.6	270.9	277.2	285.7	295.4	305.1	314.8	324.5	335.3
157.5°	268.1	268.7	271.5	276.9	282.0	289.1	297.3	305.1	312.2	320.4	329.7
160°	273.2	273.7	276.0	280.6	285.1	291.4	298.3	305.1	310.8	317.7	325.6
162.5°	278.2	277.8	280.1	283.8	287.9	292.8	298.7	304.6	309.4	315.4	322.0
165°	284.0	283.4	284.6	288.0	290.8	294.3	299.4	303.4	306.8	310.8	315.9
167.5°	288.8	288.1	289.1	291.3	293.4	295.5	299.3	302.6	304.2	306.8	310.0
170°	292.0	290.8	291.4	293.1	294.3	296.0	298.8	301.7	302.8	304.5	306.8
172.5°	293.8	293.1	292.8	294.5	295.2	296.4	298.4	300.3	301.0	301.8	303.6
175°	296.0	295.4	294.8	296.0	296.0	296.5	297.7	298.8	298.3	298.8	299.4
177.5°	297.0	296.1	295.6	296.5	296.5	296.5	297.0	297.9	297.0	296.5	297.0
180°	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	470.4	471.2	472.0	472.4	472.2	472.0	471.9	471.7
5°	467.3	468.1	468.9	469.2	469.0	468.8	468.6	468.4
7.5°	462.0	462.8	463.6	463.9	463.7	463.4	463.2	463.0
10°	457.3	458.1	458.9	459.1	458.8	458.5	458.2	457.9
12.5°	451.7	452.2	452.8	453.0	452.8	452.5	452.3	452.1
15°	441.9	442.3	442.7	442.7	442.2	441.7	441.2	440.7
17.5°	430.3	430.8	431.2	431.2	430.7	430.3	429.8	429.3
20°	421.3	421.6	421.9	421.8	421.4	421.0	420.6	420.2
22.5°	411.7	411.8	411.8	411.7	411.5	411.2	411.0	410.8
25°	396.1	396.3	396.5	396.5	396.3	396.1	395.9	395.7
27.5°	380.7	380.4	380.1	379.7	379.2	378.7	378.3	377.8
30°	368.7	368.4	368.1	367.8	367.4	367.0	366.6	366.1
32.5°	357.0	356.4	355.9	355.4	355.0	354.6	354.2	353.8
35°	338.1	337.5	336.9	336.4	335.9	335.4	334.9	334.3
37.5°	319.2	318.5	317.7	317.1	316.6	316.1	315.7	315.2
40°	306.2	305.3	304.4	303.7	303.3	302.9	302.5	302.1
42.5°	293.3	292.3	291.3	290.5	290.0	289.4	288.9	288.3
45°	273.5	272.4	271.3	270.5	270.1	269.7	269.3	268.9
47.5°	253.0	251.8	250.6	249.7	249.2	248.6	248.0	247.4
50°	239.8	238.3	236.9	236.0	235.5	235.0	234.5	234.0
52.5°	226.1	224.9	223.7	222.8	222.1	221.5	220.8	220.1
55°	205.6	204.4	203.2	202.4	201.9	201.3	200.8	200.3
57.5°	184.4	183.2	182.0	181.2	180.9	180.5	180.1	179.7
60°	170.4	169.3	168.2	167.5	167.2	166.9	166.6	166.3
62.5°	157.1	156.1	155.1	154.4	154.0	153.6	153.2	152.8
65°	136.7	135.8	134.9	134.2	133.7	133.2	132.7	132.2
67.5°	116.6	115.9	115.2	114.6	114.2	113.8	113.4	113.0
70°	103.5	102.8	102.1	101.6	101.2	100.7	100.3	99.9
72.5°	91.2	90.5	89.8	89.2	88.9	88.6	88.3	87.9
75°	71.9	71.3	70.7	70.5	70.7	70.9	71.1	71.3
77.5°	54.7	54.4	54.1	53.8	53.5	53.3	53.0	52.7
80°	43.5	43.2	42.9	42.6	42.4	42.2	42.0	41.8
82.5°	32.4	32.0	31.6	31.4	31.4	31.3	31.3	31.3
85°	17.1	16.8	16.5	16.3	16.2	16.1	16.0	15.9
87.5°	8.3	7.8	7.8	7.7	7.6	7.6	7.5	7.4
90°	18.2	17.1	18.2	18.8	18.8	18.8	18.8	18.8
92.5°	49.7	42.7	37.9	34.3	33.9	32.1	32.5	31.6
95°	149.4	114.6	90.7	78.1	70.7	66.2	64.4	65.0
97.5°	348.7	285.3	223.6	182.4	155.1	141.1	132.8	128.0
100°	520.7	450.0	371.8	302.8	255.5	231.0	214.4	204.2
102.5°	633.4	617.4	560.3	487.1	435.7	393.8	373.2	359.3
105°	692.9	757.3	764.8	745.9	710.6	675.2	650.7	642.7
107.5°	650.0	747.1	806.4	834.0	838.4	836.5	831.6	821.0
110°	613.1	715.1	788.1	834.9	859.4	870.3	875.4	874.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	579.3	677.3	755.3	808.9	843.0	861.1	870.8	873.9
115°	537.8	625.6	700.3	759.1	799.5	825.8	840.6	845.7
117.5°	506.5	583.6	651.4	706.5	747.8	775.5	791.1	795.4
120°	491.0	561.7	622.2	674.1	714.0	740.8	757.3	763.0
122.5°	478.7	543.5	600.7	647.6	683.4	709.8	724.5	729.3
125°	460.8	519.5	569.7	612.5	645.6	667.2	681.5	686.1
127.5°	443.1	496.3	543.6	583.1	611.9	632.2	644.5	648.2
130°	431.7	480.8	525.8	563.4	591.4	610.8	622.2	626.7
132.5°	420.8	466.2	507.6	542.9	570.4	589.8	600.3	604.4
135°	405.5	443.1	480.8	512.7	537.2	556.0	566.3	568.6
137.5°	393.3	424.8	454.6	482.5	504.8	521.0	530.0	533.4
140°	385.5	412.9	439.1	464.2	482.5	497.3	505.8	509.3
142.5°	379.1	402.4	425.0	446.0	463.3	476.8	484.4	485.1
145°	370.1	388.9	406.6	423.2	436.8	446.5	452.2	453.9
147.5°	363.2	378.0	391.8	403.9	415.2	422.9	426.8	427.8
150°	358.1	370.7	382.7	392.9	401.5	408.3	411.7	412.3
152.5°	353.1	364.8	374.9	383.8	390.5	396.5	399.0	399.1
155°	346.2	355.3	363.8	370.1	376.4	380.4	382.7	381.5
157.5°	338.1	345.7	352.9	357.8	362.2	365.6	366.6	366.6
160°	333.0	339.3	345.6	349.6	353.6	356.4	357.0	357.0
162.5°	328.0	333.4	338.8	341.8	345.8	347.8	348.3	347.9
165°	320.5	324.5	328.5	330.8	333.0	335.3	335.3	334.8
167.5°	313.3	316.4	319.1	321.2	322.2	323.5	323.4	322.7
170°	309.7	311.4	313.7	314.8	315.4	317.1	316.5	315.4
172.5°	305.6	306.8	308.6	309.3	309.9	310.7	310.1	309.4
175°	301.1	301.7	302.3	302.8	302.8	303.4	302.8	301.7
177.5°	297.9	297.9	298.4	298.4	298.4	298.4	297.9	297.0
180°	296.5	296.5	296.5	296.5	296.5	296.5	296.5	296.5

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