

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: P331389-840

Luminaire Tested: **SA2XXDIP-C865D530U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331389-840  
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-C865D530U840-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 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: 5614.2 lumens  
Efficiency: N/A  
Efficacy: 115.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

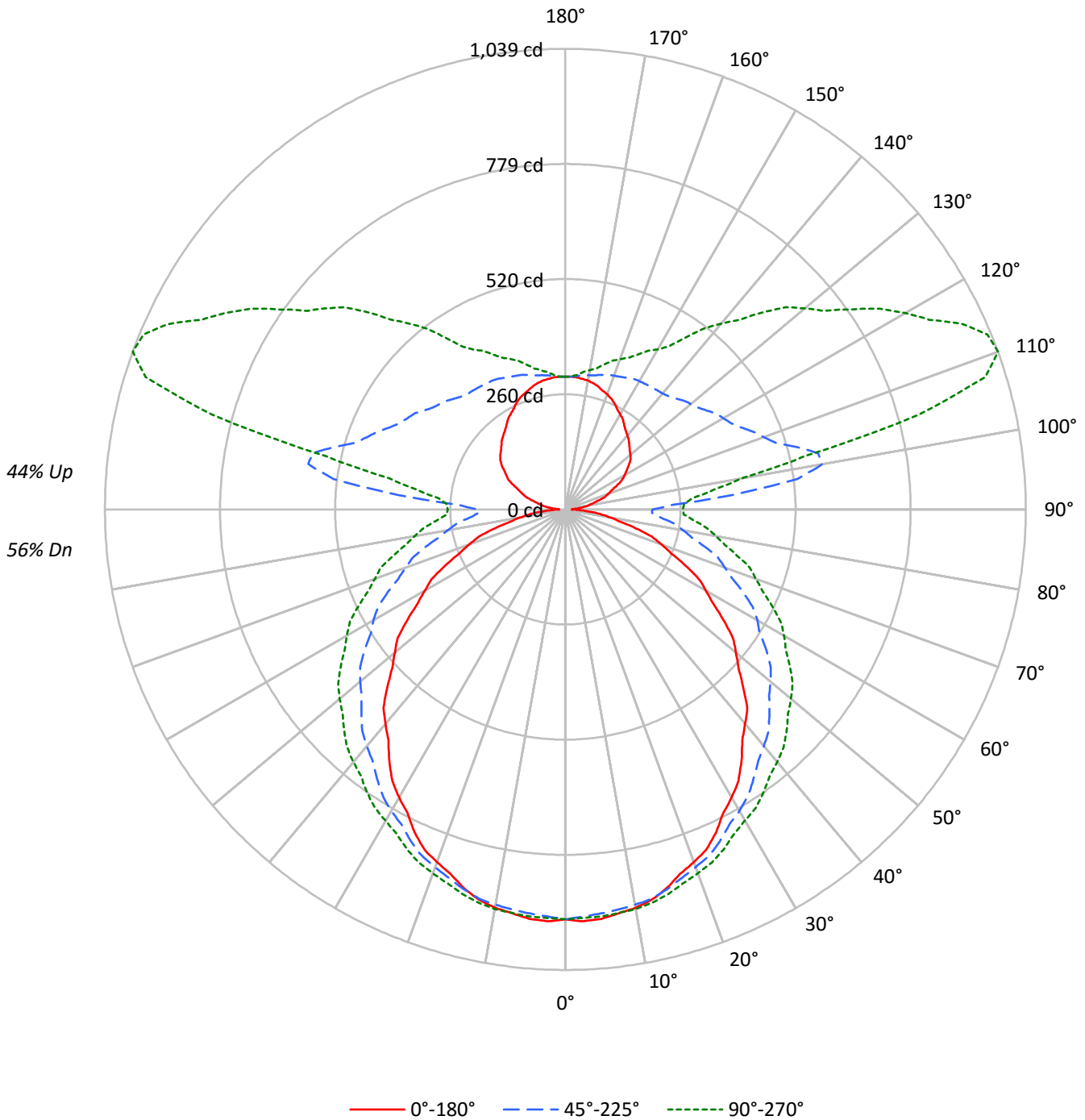
Input Watts (W): 48.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	97	92	88	84	90	86	82	78	73	70	68	62	60	58	52	50	49	44
2	88	80	73	67	81	74	68	63	63	59	55	54	50	47	45	42	40	35
3	80	69	61	55	74	65	57	52	55	50	45	47	43	39	39	36	33	29
4	73	61	53	46	67	57	49	43	49	43	38	41	37	33	34	31	28	24
5	67	54	46	39	62	51	43	37	44	37	33	37	32	28	31	27	24	21
6	61	49	40	34	57	45	38	32	39	33	28	33	28	25	28	24	21	18
7	57	44	35	29	52	41	33	28	35	29	25	30	25	22	25	22	19	16
8	53	40	32	26	49	37	30	25	32	26	22	28	23	19	23	19	17	14
9	49	36	28	23	45	34	27	22	29	24	20	25	21	17	21	18	15	13
10	46	33	26	21	42	31	24	20	27	21	18	23	19	15	20	16	13	11

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

	0°	45°	90°
0°	14928	14928	14928
5°	15002	14370	14315
10°	14907	13945	13789
15°	14701	13496	13236
20°	14442	13015	12701
25°	14187	12551	12216
30°	13824	12074	11729
35°	13459	11611	11386
40°	13075	11219	11044
45°	12709	10869	10750
50°	12316	10551	10462
55°	11908	10209	10166
60°	11404	9856	9857
65°	10880	9439	9485
70°	10292	8992	9089
75°	9539	8554	8722
80°	8357	8107	8349
85°	7227	7720	8061



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	87.6	1.6
10°-20°	251.2	4.5
20°-30°	380.7	6.8
30°-40°	463.7	8.3
40°-50°	498.9	8.9
50°-60°	484.5	8.6
60°-70°	423.0	7.5
70°-80°	325.7	5.8
80°-90°	221.3	3.9
90°-100°	270.3	4.8
100°-110°	516.3	9.2
110°-120°	504.3	9.0
120°-130°	395.9	7.1
130°-140°	302.4	5.4
140°-150°	218.6	3.9
150°-160°	151.6	2.7
160°-170°	89.2	1.6
170°-180°	29.0	0.5
0°-30°	719.6	12.8
0°-40°	1183.3	21.1
0°-60°	2166.6	38.6
0°-90°	3136.6	55.9
90°-120°	1290.9	23.0
90°-150°	2207.8	39.3
90°-180°	2478.0	44.1
0°-180°	5614.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	927	923	915	923	922	88
15°	884	887	887	898	898	249
25°	804	814	826	841	846	369
35°	693	716	741	769	780	433
45°	568	605	651	691	706	438
55°	436	485	553	600	619	389
65°	298	364	442	495	514	295
75°	165	240	326	381	401	174
85°	48	132	217	271	292	52
90°	14	99	196	247	266	10
95°	31	124	380	288	287	30
105°	77	153	542	923	826	82
115°	129	179	438	856	990	128
125°	175	209	389	677	787	156
135°	204	244	354	544	628	158
145°	232	266	338	427	473	146
155°	263	284	328	371	385	121
165°	287	295	314	333	338	81
175°	299	299	302	306	305	28
180°	299	299	299	299	299	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	930.0	929.3	928.6	927.9	927.2	925.9	924.2	922.6	920.9	919.3	920.5
5°	927.3	926.5	925.5	924.6	923.7	922.4	920.6	918.8	917.1	915.2	917.1
7.5°	919.0	918.4	917.8	917.3	916.7	915.6	914.2	912.9	911.5	910.2	912.3
10°	912.6	912.0	911.4	910.8	910.2	909.5	908.6	907.7	906.8	905.8	908.3
12.5°	901.8	902.0	902.1	902.2	902.3	902.0	901.4	900.7	900.1	899.4	901.8
15°	884.4	885.0	885.7	886.3	886.8	887.1	887.1	887.1	887.1	887.1	889.8
17.5°	861.9	863.1	864.4	865.7	866.9	868.0	869.0	869.9	870.9	871.8	874.6
20°	846.9	848.4	849.9	851.4	852.8	854.2	855.4	856.6	857.8	859.0	862.2
22.5°	830.8	832.5	834.2	836.0	837.7	839.4	841.1	842.7	844.4	846.1	849.4
25°	804.1	806.1	808.2	810.3	812.3	814.8	817.4	820.1	822.7	825.5	829.0
27.5°	771.8	775.3	778.6	782.0	785.5	788.7	791.8	795.1	798.2	801.3	805.9
30°	750.4	754.3	758.2	762.0	765.9	769.8	773.7	777.5	781.4	785.3	790.0
32.5°	726.8	731.1	735.5	739.9	744.3	748.7	753.3	757.9	762.4	767.0	772.5
35°	692.8	697.8	703.0	708.0	713.1	718.4	724.1	729.7	735.4	741.0	747.6
37.5°	655.8	661.7	667.5	673.3	679.1	685.7	693.1	700.4	707.7	715.1	722.4
40°	631.2	637.7	644.3	650.9	657.3	664.7	672.7	680.8	688.8	696.8	704.6
42.5°	607.5	614.1	620.7	627.2	633.8	641.7	650.9	660.1	669.3	678.6	687.0
45°	568.2	576.2	584.2	592.3	600.4	609.6	620.0	630.5	640.9	651.3	660.5
47.5°	529.3	538.1	546.8	555.6	564.3	574.8	587.0	599.3	611.5	623.7	633.3
50°	502.5	511.7	521.0	530.2	539.5	550.8	564.1	577.5	591.0	604.4	614.5
52.5°	476.8	486.5	496.2	505.9	515.6	527.6	541.7	555.7	569.9	584.0	594.3
55°	435.6	446.3	457.0	467.7	478.4	491.5	507.0	522.5	538.0	553.4	564.1
57.5°	394.8	406.9	419.0	431.0	443.1	457.1	472.8	488.7	504.4	520.2	531.8
60°	365.9	378.6	391.4	404.2	417.1	431.9	448.9	465.9	482.8	499.9	511.2
62.5°	340.1	353.4	366.7	379.9	393.2	408.4	425.4	442.3	459.3	476.3	488.3
65°	297.5	312.0	326.7	341.2	355.9	371.9	389.5	407.1	424.6	442.2	454.4
67.5°	258.3	273.6	288.8	304.1	319.3	336.0	354.0	371.9	389.9	407.9	420.2
70°	230.5	246.0	261.5	276.9	292.5	309.4	327.9	346.3	364.8	383.2	396.1
72.5°	204.8	220.8	236.7	252.7	268.6	285.9	304.7	323.4	342.0	360.7	373.3
75°	164.8	181.5	198.1	214.9	231.6	249.4	268.4	287.5	306.6	325.6	338.4
77.5°	126.2	143.7	161.2	178.5	196.0	214.4	233.8	253.2	272.5	291.9	304.6
80°	100.5	118.7	136.8	155.0	173.2	191.9	211.3	230.7	249.9	269.3	281.9
82.5°	79.1	96.9	114.9	132.8	150.8	169.6	189.1	208.7	228.3	247.9	260.4
85°	48.3	66.8	85.1	103.6	122.1	140.9	159.9	178.9	198.0	217.1	229.6
87.5°	26.4	44.4	62.7	80.7	98.7	117.3	137.0	156.9	176.6	195.8	207.8
90°	13.9	33.0	52.5	71.0	89.4	109.3	131.2	154.3	176.8	196.4	207.8
92.5°	19.4	38.6	58.8	77.4	97.4	120.0	151.4	188.0	222.7	242.1	242.2
95°	30.9	47.2	67.0	86.1	109.4	139.1	183.4	251.5	336.1	379.9	362.9
97.5°	42.2	57.8	76.3	96.6	119.7	150.1	200.6	287.5	415.7	528.0	557.8
100°	53.7	66.4	82.7	102.9	125.4	155.4	202.6	289.5	430.6	589.0	683.0
102.5°	63.2	74.6	89.9	109.1	131.2	160.4	204.8	283.5	414.9	583.8	725.0
105°	77.0	87.9	100.6	117.9	139.2	167.3	209.8	276.6	387.2	542.0	705.6
107.5°	93.3	102.0	112.9	127.7	147.1	174.3	215.4	274.9	368.3	498.3	643.7
110°	103.3	111.5	121.0	134.4	152.4	179.5	219.3	275.4	360.2	476.2	604.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	113.4	120.7	129.7	141.7	158.2	184.9	223.2	276.2	354.0	458.6	575.3
115°	129.2	135.3	142.1	152.3	167.0	191.0	229.1	277.6	346.9	437.5	537.3
117.5°	144.2	148.7	154.2	162.5	175.7	199.0	234.4	279.7	341.0	421.1	509.0
120°	154.3	157.8	162.5	168.8	181.6	204.2	238.6	281.7	337.9	411.4	492.9
122.5°	164.0	166.3	170.3	176.4	188.3	210.8	243.1	283.1	335.4	403.1	478.4
125°	175.4	177.2	180.7	187.5	199.0	219.9	250.2	285.7	330.9	388.8	456.2
127.5°	185.6	187.6	192.2	199.4	210.2	230.5	258.3	289.2	328.0	377.2	435.5
130°	191.6	193.6	199.0	206.8	218.0	237.1	263.6	291.6	326.7	369.8	421.9
132.5°	197.1	199.5	205.5	213.7	225.4	243.8	267.8	294.1	325.4	362.9	409.7
135°	204.1	206.3	213.3	221.9	235.2	252.8	274.2	297.3	323.4	354.0	393.0
137.5°	211.9	214.6	221.5	230.7	243.7	259.2	278.8	298.9	321.1	346.1	379.1
140°	217.9	219.8	226.5	235.4	247.8	262.9	280.7	299.2	319.4	341.3	370.8
142.5°	223.9	225.4	231.6	240.4	252.4	266.4	283.3	300.8	319.1	339.2	364.6
145°	231.6	233.8	239.5	248.2	259.7	272.4	287.9	304.1	320.2	337.5	357.7
147.5°	241.2	242.9	248.4	256.4	266.0	277.2	291.9	306.1	320.6	335.4	351.7
150°	247.6	249.3	254.0	261.5	270.1	280.4	293.7	307.0	320.2	334.1	347.9
152.5°	254.1	254.9	259.5	266.1	274.3	283.7	295.6	307.4	319.3	331.7	344.7
155°	263.2	263.8	267.2	273.6	279.9	288.5	298.3	308.1	317.9	327.7	338.6
157.5°	270.7	271.4	274.2	279.6	284.8	292.0	300.2	308.1	315.3	323.6	333.0
160°	275.9	276.4	278.7	283.4	287.9	294.3	301.2	308.1	313.9	320.8	328.8
162.5°	280.9	280.5	282.9	286.6	290.7	295.7	301.6	307.6	312.5	318.5	325.2
165°	286.8	286.2	287.4	290.8	293.7	297.2	302.4	306.4	309.8	313.9	319.0
167.5°	291.6	290.9	292.0	294.2	296.3	298.4	302.3	305.6	307.2	309.8	313.1
170°	294.9	293.7	294.3	296.0	297.2	298.9	301.7	304.7	305.8	307.5	309.8
172.5°	296.7	296.0	295.7	297.4	298.1	299.3	301.3	303.3	304.0	304.8	306.6
175°	298.9	298.3	297.7	298.9	298.9	299.4	300.6	301.7	301.2	301.7	302.4
177.5°	299.9	299.0	298.5	299.4	299.4	299.4	299.9	300.8	299.9	299.4	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	924.6	924.6	924.6	924.6	924.6	924.6	924.6	924.6
2.5°	921.6	922.8	924.0	924.4	923.9	923.4	922.9	922.5
5°	918.8	920.6	922.4	923.1	922.8	922.5	922.2	921.9
7.5°	914.4	916.6	918.8	919.7	919.4	919.1	918.8	918.5
10°	910.6	913.0	915.4	916.5	916.1	915.8	915.5	915.2
12.5°	904.2	906.6	909.0	910.0	909.7	909.4	909.1	908.8
15°	892.4	895.1	897.9	899.0	898.7	898.4	898.1	897.9
17.5°	877.5	880.2	883.0	884.4	884.4	884.4	884.4	884.4
20°	865.6	868.8	872.0	873.7	873.7	873.7	873.7	873.7
22.5°	852.6	856.0	859.2	861.1	861.5	862.0	862.5	863.0
25°	832.6	836.2	839.8	842.0	842.8	843.7	844.7	845.6
27.5°	810.4	815.0	819.4	822.0	822.7	823.3	824.0	824.7
30°	794.8	799.5	804.4	807.2	808.0	808.9	809.8	810.7
32.5°	778.0	783.5	788.9	792.5	794.1	795.7	797.3	798.9
35°	754.2	760.7	767.3	771.5	773.7	775.8	777.8	779.9
37.5°	729.5	736.8	744.1	748.8	751.0	753.3	755.5	757.7
40°	712.3	720.0	727.8	733.0	735.7	738.3	741.0	743.8
42.5°	695.5	704.0	712.5	718.0	720.6	723.4	726.0	728.7
45°	669.7	678.9	688.2	694.3	697.3	700.2	703.3	706.2
47.5°	643.0	652.6	662.3	668.7	672.0	675.3	678.5	681.9
50°	624.6	634.7	644.9	651.6	654.8	658.1	661.4	664.7
52.5°	604.7	615.1	625.4	632.4	635.9	639.4	642.9	646.4
55°	574.9	585.6	596.3	603.6	607.4	611.4	615.2	619.0
57.5°	543.3	554.8	566.4	574.2	578.0	582.0	585.9	589.9
60°	522.5	533.8	545.1	552.8	557.0	561.2	565.3	569.6
62.5°	500.3	512.3	524.3	532.4	536.2	540.2	544.1	548.1
65°	466.7	478.9	491.1	499.1	502.9	506.9	510.7	514.5
67.5°	432.5	444.8	457.3	465.4	469.5	473.5	477.6	481.6
70°	408.9	421.6	434.4	442.6	446.3	449.8	453.4	457.0
72.5°	385.9	398.4	411.0	419.4	423.7	428.0	432.3	436.6
75°	351.2	364.1	376.9	385.2	389.1	392.9	396.8	400.7
77.5°	317.4	330.1	342.8	351.3	355.5	359.6	363.9	368.0
80°	294.4	306.9	319.4	327.7	331.8	336.1	340.2	344.4
82.5°	273.0	285.4	297.9	306.2	310.1	314.0	317.9	321.8
85°	242.1	254.6	267.1	275.5	279.6	283.8	287.9	292.2
87.5°	219.8	231.8	244.2	252.3	256.1	259.9	263.7	267.5
90°	219.1	229.9	243.0	251.3	254.9	258.4	262.0	265.6
92.5°	240.9	245.3	252.2	256.2	259.3	261.1	265.1	267.7
95°	327.6	303.8	290.9	285.7	281.8	280.7	282.7	286.8
97.5°	516.7	463.7	412.4	378.1	354.1	343.5	338.5	337.2
100°	681.9	621.5	553.6	491.0	446.5	425.1	411.6	404.6
102.5°	787.7	782.3	735.4	668.6	620.0	580.9	563.3	552.6
105°	835.9	911.3	929.3	917.1	884.6	852.2	830.7	826.0
107.5°	780.7	888.7	958.7	993.1	1000.9	1002.2	1000.6	993.1
110°	736.0	848.6	931.8	985.5	1013.5	1027.7	1036.2	1038.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	694.4	802.8	891.2	951.7	989.5	1011.0	1024.1	1030.5
115°	641.4	739.0	823.3	888.8	932.9	962.7	981.0	989.5
117.5°	598.5	685.3	762.4	824.0	868.8	899.8	918.6	926.0
120°	575.5	655.3	724.7	782.8	826.5	856.8	876.8	885.9
122.5°	556.1	629.7	695.6	748.4	787.4	816.8	834.5	842.0
125°	526.9	594.3	653.1	701.7	737.7	762.2	779.3	786.6
127.5°	498.2	559.3	614.4	659.2	691.1	714.2	729.2	735.5
130°	479.8	536.4	589.1	631.9	662.5	684.4	698.3	705.3
132.5°	461.8	514.5	563.2	603.6	633.7	655.7	668.7	675.2
135°	436.8	481.0	525.2	561.8	589.0	610.4	623.1	627.8
137.5°	415.1	452.3	488.0	519.9	544.4	562.8	574.0	579.5
140°	401.5	433.9	465.1	493.8	514.0	530.8	541.2	546.4
142.5°	391.0	418.3	444.9	468.8	487.9	503.0	512.3	514.5
145°	377.4	398.1	417.8	436.2	451.4	462.7	470.0	473.1
147.5°	367.2	382.4	396.6	409.3	421.4	430.0	434.5	436.4
150°	361.6	374.4	386.5	396.8	405.5	412.3	415.8	416.4
152.5°	356.6	368.4	378.6	387.6	394.4	400.4	402.9	403.0
155°	349.6	358.8	367.4	373.8	380.1	384.2	386.5	385.3
157.5°	341.4	349.1	356.4	361.3	365.8	369.2	370.2	370.2
160°	336.3	342.6	349.0	353.0	357.1	359.9	360.5	360.5
162.5°	331.2	336.7	342.1	345.2	349.2	351.2	351.7	351.3
165°	323.7	327.7	331.7	334.1	336.3	338.6	338.6	338.1
167.5°	316.4	319.5	322.2	324.4	325.4	326.7	326.6	325.9
170°	312.8	314.5	316.8	317.9	318.5	320.2	319.6	318.5
172.5°	308.6	309.8	311.6	312.4	313.0	313.8	313.2	312.5
175°	304.1	304.7	305.3	305.8	305.8	306.4	305.8	304.7
177.5°	300.8	300.8	301.3	301.3	301.3	301.3	300.8	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4

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