

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

Luminaire Tested: **SA2XXDIP-C865D530U835-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331389  
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-C865D530U835-4F0-1E-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: 5559.3 lumens  
Efficiency: N/A  
Efficacy: 113.9 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

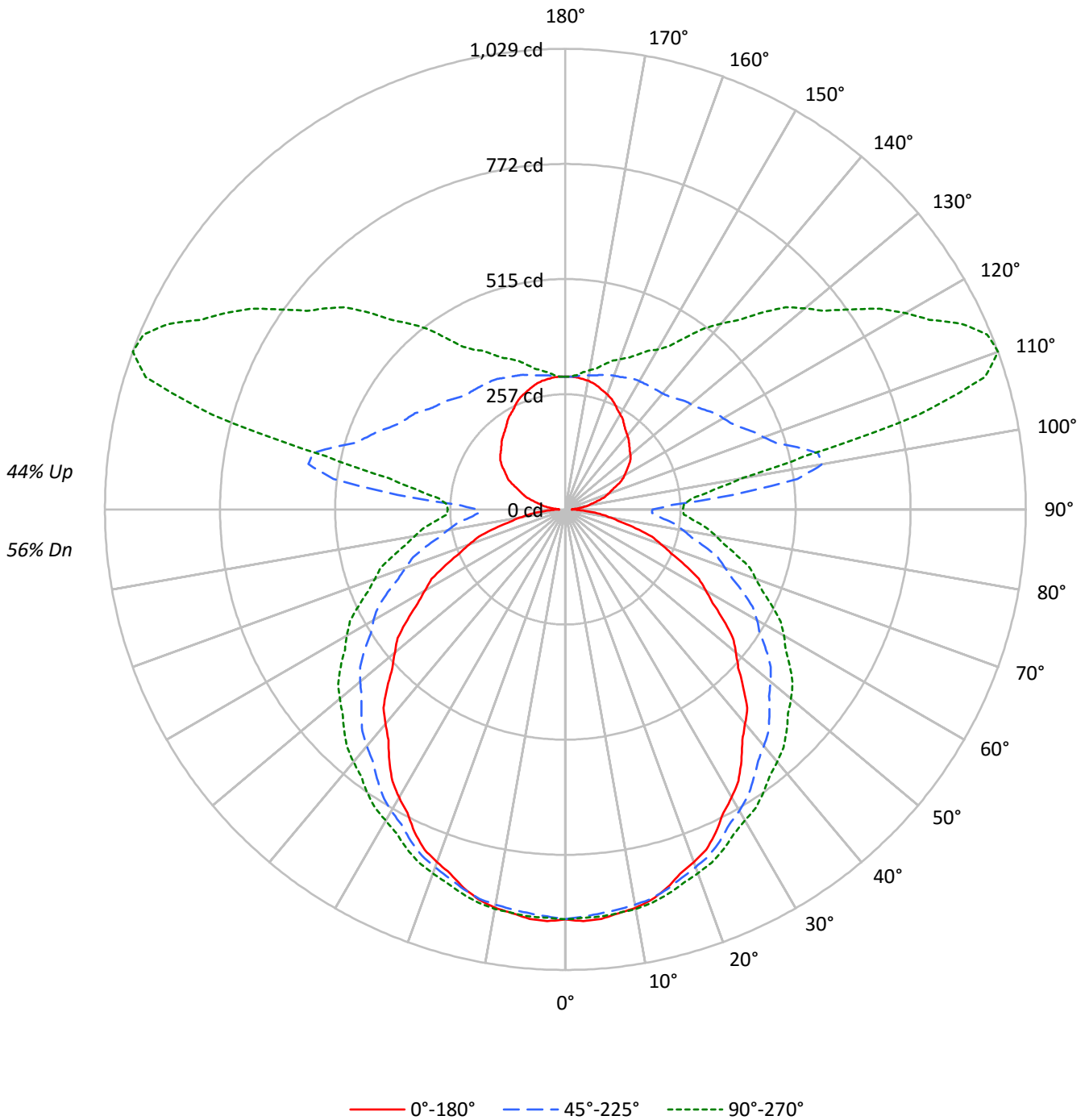
Input Watts (W): 48.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	14783	14783	14783
5°	14855	14230	14176
10°	14762	13809	13655
15°	14558	13364	13106
20°	14300	12888	12577
25°	14048	12428	12096
30°	13689	11955	11614
35°	13327	11498	11275
40°	12947	11110	10935
45°	12584	10762	10645
50°	12196	10448	10360
55°	11790	10109	10067
60°	11292	9759	9760
65°	10774	9347	9393
70°	10189	8905	8999
75°	9446	8470	8637
80°	8274	8029	8266
85°	7152	7646	7981



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	86.8	1.6
10°-20°	248.8	4.5
20°-30°	377.0	6.8
30°-40°	459.2	8.3
40°-50°	494.0	8.9
50°-60°	479.7	8.6
60°-70°	418.9	7.5
70°-80°	322.5	5.8
80°-90°	219.1	3.9
90°-100°	267.7	4.8
100°-110°	511.3	9.2
110°-120°	499.4	9.0
120°-130°	392.0	7.1
130°-140°	299.4	5.4
140°-150°	216.5	3.9
150°-160°	150.1	2.7
160°-170°	88.3	1.6
170°-180°	28.8	0.5
0°-30°	712.5	12.8
0°-40°	1171.7	21.1
0°-60°	2145.5	38.6
0°-90°	3105.9	55.9
90°-120°	1278.3	23.0
90°-150°	2186.2	39.3
90°-180°	2453.0	44.1
0°-180°	5559.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	916	916	916	916	916	
5°	918	914	906	914	913	87
15°	876	878	878	890	889	247
25°	796	806	817	833	837	366
35°	686	709	734	762	772	429
45°	563	599	645	684	699	434
55°	431	480	548	594	613	385
65°	295	360	438	490	510	293
75°	163	238	322	377	397	173
85°	48	130	215	269	289	51
90°	14	98	194	245	263	10
95°	31	123	376	286	284	30
105°	76	152	537	914	818	82
115°	128	177	433	848	980	126
125°	174	207	385	671	779	155
135°	202	242	350	538	622	157
145°	229	263	334	423	468	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°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	920.9	920.2	919.5	918.8	918.1	916.9	915.2	913.6	911.9	910.3	911.5
5°	918.2	917.4	916.5	915.6	914.7	913.4	911.6	909.8	908.1	906.3	908.1
7.5°	910.0	909.4	908.8	908.3	907.7	906.7	905.3	904.0	902.6	901.3	903.4
10°	903.7	903.1	902.5	901.9	901.3	900.6	899.7	898.8	897.9	897.0	899.4
12.5°	893.0	893.2	893.3	893.4	893.5	893.2	892.6	891.9	891.3	890.6	893.0
15°	875.8	876.4	877.0	877.6	878.1	878.4	878.4	878.4	878.4	878.4	881.1
17.5°	853.5	854.7	856.0	857.2	858.4	859.5	860.5	861.4	862.4	863.3	866.1
20°	838.6	840.1	841.6	843.1	844.5	845.9	847.0	848.2	849.4	850.6	853.8
22.5°	822.7	824.4	826.1	827.8	829.5	831.2	832.9	834.5	836.2	837.8	841.1
25°	796.2	798.2	800.3	802.4	804.4	806.8	809.4	812.1	814.7	817.4	820.9
27.5°	764.3	767.7	771.0	774.4	777.8	781.0	784.1	787.3	790.4	793.5	798.0
30°	743.1	746.9	750.8	754.6	758.4	762.3	766.1	769.9	773.8	777.6	782.3
32.5°	719.7	724.0	728.3	732.7	737.0	741.4	745.9	750.5	755.0	759.5	765.0
35°	686.0	691.0	696.1	701.1	706.1	711.4	717.0	722.6	728.2	733.8	740.3
37.5°	649.4	655.2	661.0	666.7	672.5	679.0	686.3	693.6	700.8	708.1	715.3
40°	625.0	631.5	638.0	644.5	650.9	658.2	666.1	674.1	682.1	690.0	697.7
42.5°	601.6	608.1	614.6	621.1	627.6	635.4	644.5	653.7	662.8	672.0	680.3
45°	562.6	570.6	578.5	586.5	594.5	603.6	613.9	624.3	634.6	644.9	654.0
47.5°	524.1	532.8	541.5	550.2	558.8	569.2	581.3	593.4	605.5	617.6	627.1
50°	497.6	506.7	515.9	525.0	534.2	545.4	558.6	571.9	585.2	598.5	608.5
52.5°	472.1	481.7	491.4	501.0	510.6	522.4	536.4	550.3	564.3	578.3	588.5
55°	431.3	441.9	452.5	463.1	473.7	486.7	502.0	517.4	532.7	548.0	558.6
57.5°	390.9	402.9	414.9	426.8	438.8	452.6	468.2	483.9	499.5	515.1	526.6
60°	362.3	374.9	387.6	400.3	413.0	427.7	444.5	461.3	478.1	495.0	506.2
62.5°	336.8	349.9	363.1	376.2	389.4	404.4	421.2	438.0	454.8	471.6	483.5
65°	294.6	309.0	323.5	337.9	352.4	368.3	385.7	403.1	420.5	437.9	450.0
67.5°	255.8	270.9	286.0	301.1	316.2	332.7	350.5	368.3	386.1	403.9	416.1
70°	228.2	243.6	258.9	274.2	289.6	306.4	324.7	342.9	361.2	379.5	392.2
72.5°	202.8	218.6	234.4	250.2	266.0	283.1	301.7	320.2	338.7	357.2	369.7
75°	163.2	179.7	196.2	212.8	229.3	247.0	265.8	284.7	303.6	322.4	335.1
77.5°	125.0	142.3	159.6	176.8	194.1	212.3	231.5	250.7	269.8	289.0	301.6
80°	99.5	117.5	135.5	153.5	171.5	190.0	209.2	228.4	247.5	266.7	279.1
82.5°	78.3	96.0	113.8	131.5	149.3	167.9	187.3	206.7	226.1	245.5	257.9
85°	47.8	66.1	84.3	102.6	120.9	139.5	158.3	177.2	196.1	215.0	227.4
87.5°	26.1	44.0	62.1	79.9	97.7	116.2	135.7	155.4	174.9	193.9	205.8
90°	13.8	32.7	52.0	70.3	88.5	108.2	129.9	152.8	175.1	194.5	205.8
92.5°	19.2	38.2	58.2	76.6	96.4	118.8	149.9	186.2	220.5	239.7	239.8
95°	30.6	46.7	66.3	85.3	108.3	137.7	181.6	249.0	332.8	376.2	359.4
97.5°	41.8	57.2	75.6	95.7	118.5	148.6	198.6	284.7	411.6	522.8	552.4
100°	53.2	65.8	81.9	101.9	124.2	153.9	200.6	286.7	426.4	583.2	676.3
102.5°	62.6	73.9	89.0	108.0	129.9	158.8	202.8	280.7	410.8	578.1	717.9
105°	76.2	87.0	99.6	116.7	137.8	165.7	207.8	273.9	383.4	536.7	698.7
107.5°	92.4	101.0	111.8	126.5	145.7	172.6	213.3	272.2	364.7	493.4	637.4
110°	102.3	110.4	119.8	133.1	150.9	177.7	217.2	272.7	356.7	471.5	599.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	112.3	119.5	128.4	140.3	156.7	183.1	221.0	273.5	350.5	454.1	569.7
115°	127.9	134.0	140.7	150.8	165.4	189.1	226.9	274.9	343.5	433.2	532.1
117.5°	142.8	147.2	152.7	160.9	174.0	197.1	232.1	277.0	337.7	417.0	504.0
120°	152.8	156.3	160.9	167.2	179.8	202.2	236.3	278.9	334.6	407.4	488.1
122.5°	162.4	164.7	168.6	174.7	186.5	208.7	240.7	280.3	332.1	399.2	473.7
125°	173.7	175.5	178.9	185.7	197.1	217.8	247.8	282.9	327.7	385.0	451.7
127.5°	183.8	185.8	190.3	197.5	208.1	228.2	255.8	286.4	324.8	373.5	431.2
130°	189.7	191.7	197.1	204.8	215.9	234.8	261.0	288.8	323.5	366.2	417.8
132.5°	195.2	197.6	203.5	211.6	223.2	241.4	265.2	291.2	322.2	359.4	405.7
135°	202.1	204.3	211.2	219.7	232.9	250.3	271.5	294.4	320.2	350.5	389.2
137.5°	209.8	212.5	219.3	228.4	241.3	256.7	276.1	296.0	318.0	342.7	375.4
140°	215.8	217.7	224.3	233.1	245.4	260.3	278.0	296.3	316.3	338.0	367.2
142.5°	221.7	223.2	229.3	238.1	249.9	263.8	280.5	297.9	316.0	335.9	361.0
145°	229.3	231.5	237.2	245.8	257.2	269.7	285.1	301.1	317.1	334.2	354.2
147.5°	238.8	240.5	246.0	253.9	263.4	274.5	289.0	303.1	317.5	332.1	348.3
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°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	912.6	913.8	915.0	915.4	914.9	914.4	913.9	913.5
5°	909.8	911.6	913.4	914.1	913.8	913.5	913.2	912.9
7.5°	905.5	907.6	909.8	910.7	910.4	910.1	909.8	909.5
10°	901.7	904.1	906.5	907.5	907.2	906.9	906.6	906.3
12.5°	895.4	897.7	900.1	901.1	900.8	900.5	900.2	899.9
15°	883.7	886.4	889.1	890.2	889.9	889.6	889.3	889.1
17.5°	868.9	871.6	874.4	875.8	875.8	875.8	875.8	875.8
20°	857.1	860.3	863.5	865.2	865.2	865.2	865.2	865.2
22.5°	844.3	847.6	850.8	852.7	853.1	853.6	854.1	854.6
25°	824.5	828.0	831.6	833.8	834.6	835.5	836.4	837.3
27.5°	802.5	807.0	811.4	814.0	814.7	815.3	816.0	816.6
30°	787.0	791.7	796.5	799.3	800.1	801.0	801.9	802.8
32.5°	770.4	775.8	781.2	784.8	786.3	787.9	789.5	791.1
35°	746.8	753.3	759.8	764.0	766.1	768.2	770.2	772.3
37.5°	722.4	729.6	736.8	741.5	743.7	745.9	748.1	750.3
40°	705.3	713.0	720.7	725.8	728.5	731.1	733.8	736.5
42.5°	688.7	697.1	705.5	711.0	713.6	716.3	718.9	721.6
45°	663.2	672.3	681.5	687.5	690.5	693.4	696.4	699.3
47.5°	636.7	646.2	655.8	662.2	665.4	668.7	671.9	675.2
50°	618.5	628.5	638.6	645.2	648.4	651.7	654.9	658.2
52.5°	598.8	609.1	619.3	626.2	629.7	633.2	636.6	640.1
55°	569.3	579.9	590.5	597.7	601.5	605.4	609.2	613.0
57.5°	538.0	549.4	560.9	568.6	572.4	576.3	580.2	584.1
60°	517.4	528.6	539.8	547.4	551.6	555.7	559.8	564.0
62.5°	495.4	507.3	519.2	527.2	531.0	534.9	538.8	542.7
65°	462.1	474.2	486.3	494.2	498.0	501.9	505.7	509.5
67.5°	428.3	440.5	452.8	460.9	464.9	468.9	472.9	476.9
70°	404.9	417.5	430.2	438.3	441.9	445.4	449.0	452.5
72.5°	382.1	394.5	407.0	415.3	419.6	423.8	428.1	432.3
75°	347.8	360.5	373.2	381.4	385.3	389.1	392.9	396.8
77.5°	314.3	326.9	339.5	347.9	352.0	356.1	360.3	364.4
80°	291.5	303.9	316.3	324.5	328.6	332.8	336.9	341.0
82.5°	270.3	282.6	295.0	303.2	307.1	310.9	314.8	318.7
85°	239.7	252.1	264.5	272.8	276.9	281.0	285.1	289.3
87.5°	217.7	229.5	241.8	249.8	253.6	257.4	261.1	264.9
90°	217.0	227.7	240.6	248.8	252.4	255.9	259.4	263.0
92.5°	238.5	242.9	249.7	253.7	256.8	258.5	262.5	265.1
95°	324.4	300.8	288.1	282.9	279.0	278.0	279.9	284.0
97.5°	511.7	459.2	408.4	374.4	350.6	340.1	335.2	333.9
100°	675.2	615.4	548.2	486.2	442.1	420.9	407.6	400.6
102.5°	780.0	774.7	728.2	662.1	613.9	575.2	557.8	547.2
105°	827.7	902.4	920.2	908.1	876.0	843.9	822.6	817.9
107.5°	773.1	880.0	949.3	983.4	991.1	992.4	990.8	983.4
110°	728.8	840.3	922.7	975.9	1003.6	1017.7	1026.1	1028.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	687.6	795.0	882.5	942.4	979.8	1001.1	1014.1	1020.4
115°	635.1	731.8	815.3	880.1	923.8	953.3	971.4	979.8
117.5°	592.7	678.6	755.0	816.0	860.3	891.0	909.6	917.0
120°	569.9	648.9	717.6	775.2	818.4	848.4	868.2	877.2
122.5°	550.7	623.5	688.8	741.1	779.7	808.8	826.3	833.8
125°	521.8	588.5	646.7	694.8	730.5	754.8	771.7	778.9
127.5°	493.3	553.8	608.4	652.8	684.3	707.2	722.1	728.3
130°	475.1	531.2	583.3	625.7	656.0	677.7	691.5	698.4
132.5°	457.3	509.5	557.7	597.7	627.5	649.3	662.2	668.6
135°	432.5	476.3	520.1	556.3	583.2	604.4	617.0	621.7
137.5°	411.0	447.9	483.2	514.8	539.1	557.3	568.4	573.8
140°	397.6	429.7	460.6	489.0	509.0	525.6	535.9	541.1
142.5°	387.2	414.2	440.6	464.2	483.1	498.1	507.3	509.5
145°	373.7	394.2	413.7	431.9	447.0	458.2	465.4	468.5
147.5°	363.6	378.7	392.7	405.3	417.3	425.8	430.3	432.1
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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