

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: P331407-830

Luminaire Tested: **SA2XXDIP-C865D925U830-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331407-830  
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-C865D925U830-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

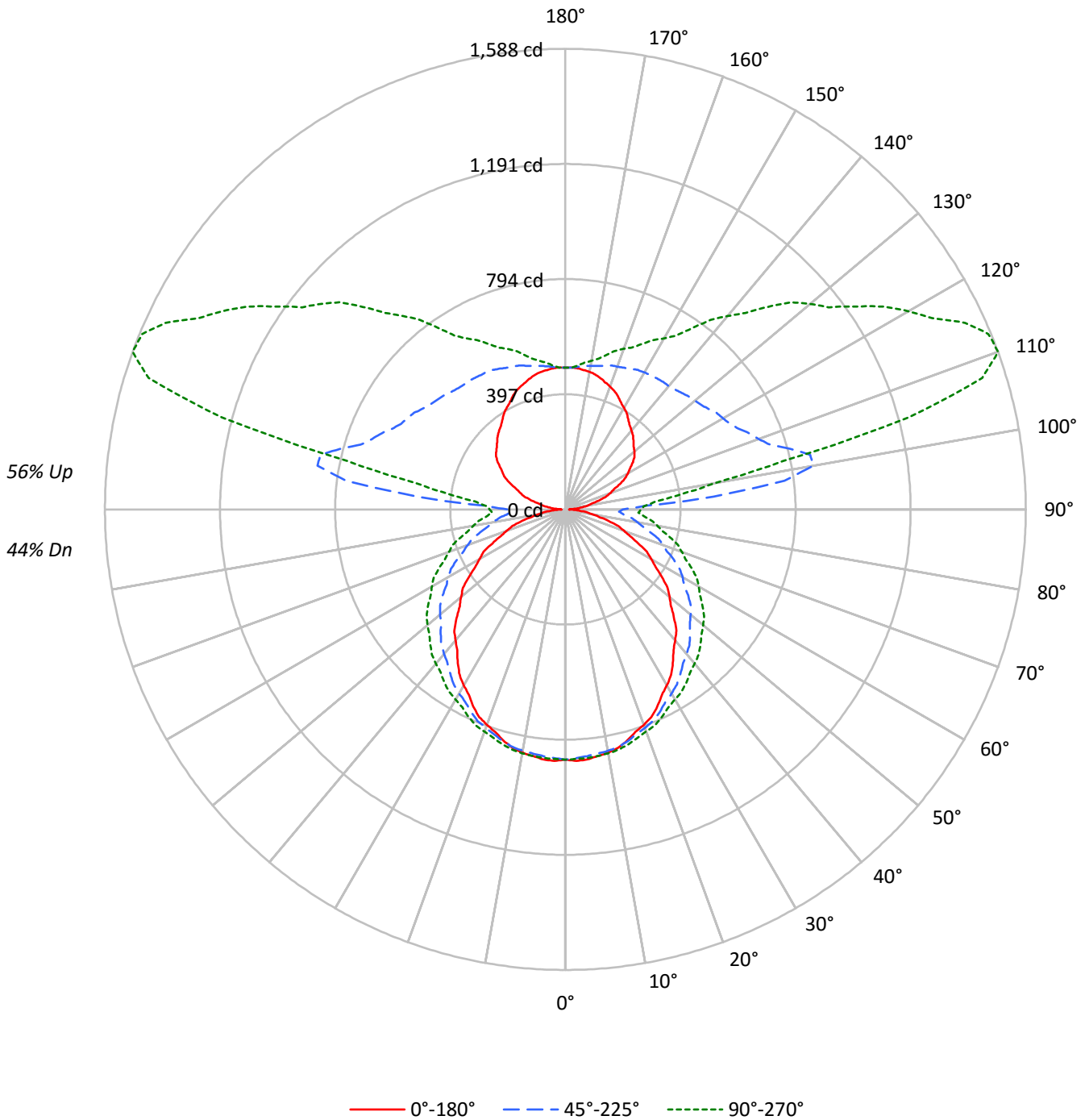
Lumens per Lamp: N/A  
Luminaire Lumens: 6700.6 lumens  
Efficiency: N/A  
Efficacy: 110.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

Input Watts (W): 60.5  
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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44
1	95	90	86	82	87	82	79	75	68	65	63	55	53	51	42	41	40	34
2	86	78	71	66	78	71	66	61	59	55	51	47	44	42	37	34	33	28
3	78	68	60	54	71	62	56	50	51	46	42	41	38	35	32	29	27	23
4	71	60	52	45	65	55	48	42	45	40	36	37	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	33	28	25	25	22	20	16
6	60	48	39	33	54	44	36	31	36	31	26	29	25	22	23	20	17	14
7	55	43	35	29	50	39	32	27	33	27	23	27	22	19	21	18	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	14	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	18	14	12	10
10	44	32	25	20	41	30	23	19	25	20	16	21	16	14	16	13	11	9

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

	0°	45°	90°
0°	13934	13934	13934
5°	14000	13412	13361
10°	13914	13017	12870
15°	13722	12596	12353
20°	13478	12147	11855
25°	13241	11713	11401
30°	12903	11268	10947
35°	12562	10837	10627
40°	12203	10472	10307
45°	11862	10143	10033
50°	11495	9847	9765
55°	11112	9528	9489
60°	10644	9199	9199
65°	10156	8809	8853
70°	9605	8393	8482
75°	8902	7984	8141
80°	7800	7568	7791
85°	6748	7205	7523



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.8	1.2
10°-20°	234.5	3.5
20°-30°	355.3	5.3
30°-40°	432.8	6.5
40°-50°	465.6	6.9
50°-60°	452.2	6.7
60°-70°	394.8	5.9
70°-80°	304.0	4.5
80°-90°	208.4	3.1
90°-100°	336.1	5.0
100°-110°	766.3	11.4
110°-120°	772.9	11.5
120°-130°	618.3	9.2
130°-140°	482.0	7.2
140°-150°	355.0	5.3
150°-160°	247.5	3.7
160°-170°	145.7	2.2
170°-180°	47.4	0.7
0°-30°	671.6	10.0
0°-40°	1104.4	16.5
0°-60°	2022.2	30.2
0°-90°	2929.4	43.7
90°-120°	1875.3	28.0
90°-150°	3330.6	49.7
90°-180°	3771.0	56.3
0°-180°	6700.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	863	863	863	863	863	
5°	865	862	854	861	860	82
15°	826	828	828	839	838	232
25°	750	759	770	785	789	345
35°	647	668	692	718	728	404
45°	530	565	608	645	659	409
55°	406	453	516	560	578	363
65°	278	340	413	462	480	276
75°	154	224	304	356	374	163
85°	45	123	203	253	273	48
90°	14	98	197	244	261	10
95°	43	151	513	329	314	43
105°	121	217	805	1396	1225	129
115°	207	277	658	1315	1521	205
125°	285	339	603	1050	1219	253
135°	332	397	568	858	988	257
145°	378	435	551	692	762	238
155°	430	464	535	605	629	198
165°	468	483	513	544	552	132
175°	488	489	493	499	498	46
180°	489	489	489	489	489	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	868.0	867.3	866.7	866.0	865.3	864.2	862.6	861.1	859.5	858.0	859.1
5°	865.4	864.7	863.8	863.0	862.1	860.9	859.2	857.5	855.9	854.2	855.9
7.5°	857.7	857.1	856.6	856.1	855.5	854.6	853.3	852.1	850.7	849.5	851.5
10°	851.8	851.2	850.6	850.1	849.5	848.9	848.0	847.2	846.3	845.5	847.7
12.5°	841.7	841.9	842.0	842.1	842.2	841.9	841.3	840.7	840.1	839.4	841.7
15°	825.5	826.0	826.6	827.2	827.6	827.9	827.9	827.9	827.9	827.9	830.5
17.5°	804.5	805.6	806.8	807.9	809.1	810.1	811.1	811.9	812.8	813.7	816.3
20°	790.4	791.8	793.2	794.7	796.0	797.3	798.3	799.5	800.6	801.7	804.7
22.5°	775.4	777.0	778.6	780.2	781.8	783.4	785.0	786.6	788.2	789.7	792.8
25°	750.5	752.3	754.3	756.3	758.2	760.4	762.9	765.4	767.9	770.4	773.7
27.5°	720.4	723.6	726.7	729.9	733.1	736.1	739.0	742.1	745.0	747.9	752.1
30°	700.4	704.0	707.7	711.2	714.8	718.5	722.1	725.7	729.3	732.9	737.4
32.5°	678.3	682.4	686.5	690.6	694.7	698.8	703.0	707.4	711.6	715.9	721.0
35°	646.6	651.3	656.1	660.8	665.5	670.5	675.8	681.1	686.4	691.6	697.8
37.5°	612.1	617.6	623.0	628.4	633.9	640.0	646.9	653.7	660.5	667.4	674.2
40°	589.1	595.2	601.3	607.5	613.5	620.4	627.8	635.4	642.9	650.4	657.6
42.5°	567.0	573.2	579.3	585.4	591.5	598.9	607.5	616.1	624.7	633.4	641.2
45°	530.3	537.8	545.3	552.8	560.3	568.9	578.6	588.4	598.1	607.8	616.4
47.5°	494.0	502.2	510.4	518.6	526.7	536.5	547.9	559.3	570.7	582.1	591.1
50°	469.0	477.6	486.3	494.8	503.5	514.1	526.5	539.0	551.6	564.1	573.5
52.5°	445.0	454.0	463.2	472.2	481.3	492.4	505.6	518.7	531.9	545.1	554.7
55°	406.5	416.5	426.5	436.5	446.5	458.7	473.2	487.7	502.1	516.5	526.5
57.5°	368.4	379.8	391.1	402.3	413.6	426.6	441.3	456.1	470.8	485.5	496.3
60°	341.5	353.4	365.3	377.3	389.3	403.1	419.0	434.8	450.6	466.6	477.1
62.5°	317.4	329.8	342.2	354.6	367.0	381.2	397.0	412.8	428.7	444.5	455.7
65°	277.7	291.2	304.9	318.5	332.2	347.1	363.5	379.9	396.3	412.7	424.1
67.5°	241.1	255.3	269.6	283.8	298.0	313.6	330.4	347.1	363.9	380.7	392.2
70°	215.1	229.6	244.0	258.4	273.0	288.8	306.0	323.2	340.4	357.7	369.7
72.5°	191.1	206.0	220.9	235.8	250.7	266.8	284.4	301.8	319.2	336.7	348.5
75°	153.8	169.4	184.9	200.6	216.1	232.8	250.5	268.3	286.2	303.9	315.8
77.5°	117.8	134.1	150.4	166.6	182.9	200.1	218.2	236.3	254.3	272.4	284.3
80°	93.8	110.7	127.7	144.7	161.6	179.1	197.2	215.3	233.3	251.4	263.1
82.5°	73.8	90.5	107.3	123.9	140.7	158.3	176.5	194.8	213.1	231.4	243.1
85°	45.1	62.3	79.5	96.7	114.0	131.5	149.2	167.0	184.8	202.6	214.3
87.5°	24.7	41.8	59.2	76.1	93.0	110.7	129.5	148.6	167.5	185.5	196.6
90°	13.5	32.4	52.3	70.3	88.3	108.0	130.5	155.0	178.3	197.1	207.3
92.5°	23.0	43.1	64.8	84.0	105.4	130.4	168.7	215.7	259.6	278.3	270.2
95°	42.9	59.8	82.2	103.8	131.9	169.3	229.2	327.8	453.6	512.6	477.0
97.5°	62.4	79.1	100.7	125.1	154.0	193.4	263.8	393.8	591.2	762.6	803.7
100°	81.2	94.3	113.0	138.4	167.5	206.7	272.1	402.5	621.2	868.2	1014.0
102.5°	97.5	109.0	126.9	151.3	180.2	218.9	280.0	397.1	600.4	865.0	1088.0
105°	121.0	132.8	147.5	169.7	198.4	236.0	294.6	392.9	562.5	804.6	1064.6
107.5°	147.9	157.3	170.1	189.5	216.5	253.3	309.9	396.8	538.9	740.9	971.3
110°	164.9	174.3	185.4	203.2	228.6	265.4	320.5	401.8	530.2	709.4	912.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	181.4	189.9	201.0	217.2	240.8	277.7	330.5	407.4	524.5	685.8	869.8
115°	207.3	215.0	223.7	238.1	260.0	293.1	346.1	415.9	519.7	658.3	815.2
117.5°	232.7	238.5	246.1	258.1	278.1	311.3	360.2	425.7	517.2	639.1	776.7
120°	249.3	254.1	260.9	270.5	290.4	322.8	370.7	432.5	516.1	627.9	755.2
122.5°	265.0	268.5	274.7	284.3	303.5	336.1	381.0	438.5	516.0	618.9	736.1
125°	284.7	287.6	293.1	304.4	323.3	354.0	396.8	448.1	515.3	603.1	707.6
127.5°	301.2	304.7	312.4	324.5	342.3	372.9	412.9	458.1	516.0	591.0	681.0
130°	311.0	314.5	323.7	336.6	355.1	384.2	422.9	464.6	517.5	583.4	663.5
132.5°	320.1	324.3	334.2	347.8	367.1	395.6	431.5	471.0	518.8	576.7	648.3
135°	332.3	336.1	347.4	361.6	383.1	410.9	443.7	479.5	519.9	567.8	627.3
137.5°	345.2	349.6	360.9	375.9	397.3	422.3	453.3	485.1	520.6	560.3	610.5
140°	355.0	358.4	369.5	384.2	404.6	429.2	458.0	487.8	520.3	555.6	600.5
142.5°	364.8	367.5	377.7	392.5	412.2	435.0	462.6	491.2	520.9	553.6	592.4
145°	378.1	381.9	391.3	405.5	424.2	445.0	470.3	496.7	523.0	551.2	583.1
147.5°	394.0	396.8	405.8	418.8	434.4	452.9	476.7	499.9	523.8	547.9	574.4
150°	404.5	407.3	414.8	427.1	441.2	458.1	479.8	501.3	523.0	545.6	568.2
152.5°	415.0	416.3	423.9	434.6	448.0	463.4	482.8	502.1	521.5	541.9	562.9
155°	429.9	430.8	436.5	446.9	457.1	471.3	487.3	503.2	519.2	535.3	553.1
157.5°	442.3	443.3	447.8	456.8	465.1	476.9	490.5	503.2	514.9	528.5	543.9
160°	450.6	451.6	455.2	462.8	470.3	480.7	492.0	503.2	512.6	524.0	537.2
162.5°	458.8	458.3	462.0	468.1	474.9	483.0	492.8	502.5	510.4	520.2	531.1
165°	468.4	467.5	469.4	475.0	479.8	485.4	493.9	500.5	506.1	512.6	521.1
167.5°	476.4	475.2	476.9	480.5	483.9	487.5	493.7	499.2	501.7	506.1	511.3
170°	481.6	479.8	480.7	483.5	485.4	488.2	492.9	497.7	499.5	502.3	506.1
172.5°	484.7	483.5	483.0	485.8	486.9	489.0	492.2	495.4	496.5	497.9	500.9
175°	488.2	487.3	486.4	488.2	488.2	489.2	491.1	492.9	492.0	492.9	493.9
177.5°	489.9	488.4	487.7	489.2	489.2	489.2	489.9	491.4	489.9	489.2	489.9
180°	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	863.0	863.0	863.0	863.0	863.0	863.0	863.0	863.0
2.5°	860.2	861.3	862.4	862.8	862.3	861.9	861.4	861.0
5°	857.5	859.2	860.9	861.6	861.3	861.0	860.7	860.4
7.5°	853.5	855.5	857.5	858.4	858.1	857.8	857.5	857.2
10°	849.9	852.2	854.4	855.4	855.1	854.8	854.5	854.2
12.5°	844.0	846.1	848.4	849.3	849.0	848.8	848.5	848.2
15°	832.9	835.5	838.0	839.1	838.8	838.5	838.2	838.0
17.5°	819.0	821.5	824.2	825.5	825.5	825.5	825.5	825.5
20°	807.9	810.9	813.9	815.5	815.5	815.5	815.5	815.5
22.5°	795.8	798.9	801.9	803.7	804.1	804.6	805.0	805.5
25°	777.1	780.4	783.8	785.9	786.6	787.5	788.3	789.2
27.5°	756.4	760.6	764.8	767.2	767.9	768.5	769.1	769.7
30°	741.8	746.2	750.7	753.4	754.1	755.0	755.8	756.7
32.5°	726.1	731.2	736.3	739.7	741.1	742.6	744.1	745.6
35°	703.9	710.0	716.1	720.1	722.1	724.1	725.9	727.9
37.5°	680.9	687.7	694.5	698.9	701.0	703.0	705.1	707.2
40°	664.8	672.0	679.3	684.1	686.6	689.1	691.6	694.2
42.5°	649.1	657.0	665.0	670.1	672.6	675.1	677.6	680.1
45°	625.1	633.7	642.3	648.0	650.8	653.6	656.4	659.1
47.5°	600.1	609.1	618.1	624.2	627.2	630.3	633.3	636.4
50°	583.0	592.4	601.9	608.1	611.1	614.3	617.3	620.4
52.5°	564.4	574.1	583.7	590.2	593.5	596.8	600.0	603.3
55°	536.6	546.6	556.6	563.4	566.9	570.6	574.2	577.8
57.5°	507.1	517.8	528.7	535.9	539.5	543.2	546.9	550.5
60°	487.7	498.2	508.8	515.9	519.9	523.8	527.6	531.6
62.5°	466.9	478.2	489.4	496.9	500.5	504.2	507.8	511.5
65°	435.5	447.0	458.4	465.8	469.4	473.1	476.6	480.2
67.5°	403.7	415.2	426.8	434.4	438.2	442.0	445.7	449.5
70°	381.6	393.5	405.5	413.1	416.5	419.8	423.2	426.5
72.5°	360.1	371.8	383.6	391.4	395.5	399.4	403.5	407.5
75°	327.8	339.8	351.8	359.5	363.2	366.7	370.3	374.0
77.5°	296.2	308.1	320.0	327.9	331.8	335.6	339.6	343.5
80°	274.8	286.4	298.1	305.9	309.7	313.7	317.5	321.4
82.5°	254.8	266.4	278.1	285.8	289.5	293.0	296.7	300.4
85°	225.9	237.6	249.3	257.1	261.0	264.9	268.7	272.7
87.5°	207.8	218.8	230.5	238.1	241.7	245.2	248.8	252.3
90°	217.4	226.7	239.7	247.8	251.2	254.5	257.9	261.2
92.5°	259.9	259.1	262.1	263.4	266.0	266.4	270.4	272.2
95°	411.4	364.6	335.6	321.9	313.0	308.8	309.3	313.6
97.5°	728.8	634.4	543.0	481.8	440.2	420.3	409.8	405.2
100°	1004.5	898.1	779.6	672.4	597.4	560.0	535.7	521.9
102.5°	1182.9	1166.7	1082.4	968.4	886.6	820.6	789.7	769.8
105°	1270.0	1386.0	1408.0	1383.3	1328.0	1272.7	1235.4	1225.2
107.5°	1188.2	1357.6	1464.8	1516.6	1526.9	1526.7	1521.7	1507.3
110°	1120.3	1297.6	1426.9	1510.0	1553.5	1574.4	1586.0	1588.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1057.6	1228.1	1365.7	1460.1	1519.4	1552.4	1571.4	1579.6
115°	978.7	1132.0	1263.6	1366.1	1436.0	1482.3	1509.9	1521.4
117.5°	916.7	1052.2	1172.1	1268.6	1339.4	1388.1	1416.6	1426.6
120°	884.3	1008.7	1116.2	1207.2	1276.1	1323.4	1353.8	1366.2
122.5°	857.5	971.9	1073.9	1156.3	1218.0	1264.1	1291.0	1301.5
125°	817.6	922.0	1012.3	1087.9	1144.9	1183.2	1209.2	1219.2
127.5°	778.3	872.8	957.7	1027.6	1077.5	1113.5	1136.2	1144.7
130°	753.0	840.6	921.5	988.1	1036.3	1070.5	1091.6	1101.4
132.5°	728.5	809.7	884.5	947.2	994.8	1029.0	1048.5	1057.4
135°	694.3	762.1	830.1	886.8	929.4	962.7	981.9	987.9
137.5°	665.4	722.5	776.8	826.3	865.1	893.6	910.4	917.9
140°	647.3	696.9	744.6	789.1	820.9	847.0	862.7	870.1
142.5°	633.0	675.0	715.8	752.8	782.9	806.5	820.6	823.1
145°	613.9	646.6	677.4	706.2	730.2	747.5	758.4	762.5
147.5°	599.5	624.2	647.1	667.5	686.8	700.3	707.4	709.7
150°	590.8	611.4	631.2	648.1	662.2	673.5	679.2	680.1
152.5°	582.5	601.6	618.4	633.1	644.1	653.9	658.1	658.3
155°	571.0	586.1	600.1	610.5	620.9	627.5	631.2	629.3
157.5°	557.6	570.2	582.1	590.2	597.5	602.9	604.6	604.6
160°	549.3	559.7	570.0	576.6	583.2	588.0	588.9	588.9
162.5°	541.1	549.9	558.7	563.8	570.4	573.6	574.6	573.8
165°	528.7	535.3	541.9	545.6	549.3	553.1	553.1	552.1
167.5°	516.8	521.9	526.4	529.8	531.5	533.6	533.4	532.3
170°	510.8	513.6	517.4	519.2	520.2	523.0	522.1	520.2
172.5°	504.0	506.1	509.1	510.2	511.1	512.5	511.5	510.4
175°	496.7	497.7	498.6	499.5	499.5	500.5	499.5	497.7
177.5°	491.4	491.4	492.2	492.2	492.2	492.2	491.4	489.9
180°	489.2	489.2	489.2	489.2	489.2	489.2	489.2	489.2

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