

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: P331356-830

Luminaire Tested: **SA2XXDIP-C675D725U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331356-830  
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-C675D725U830-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5215.4 lumens  
Efficiency: N/A  
Efficacy: 113.6 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: General Diffuse

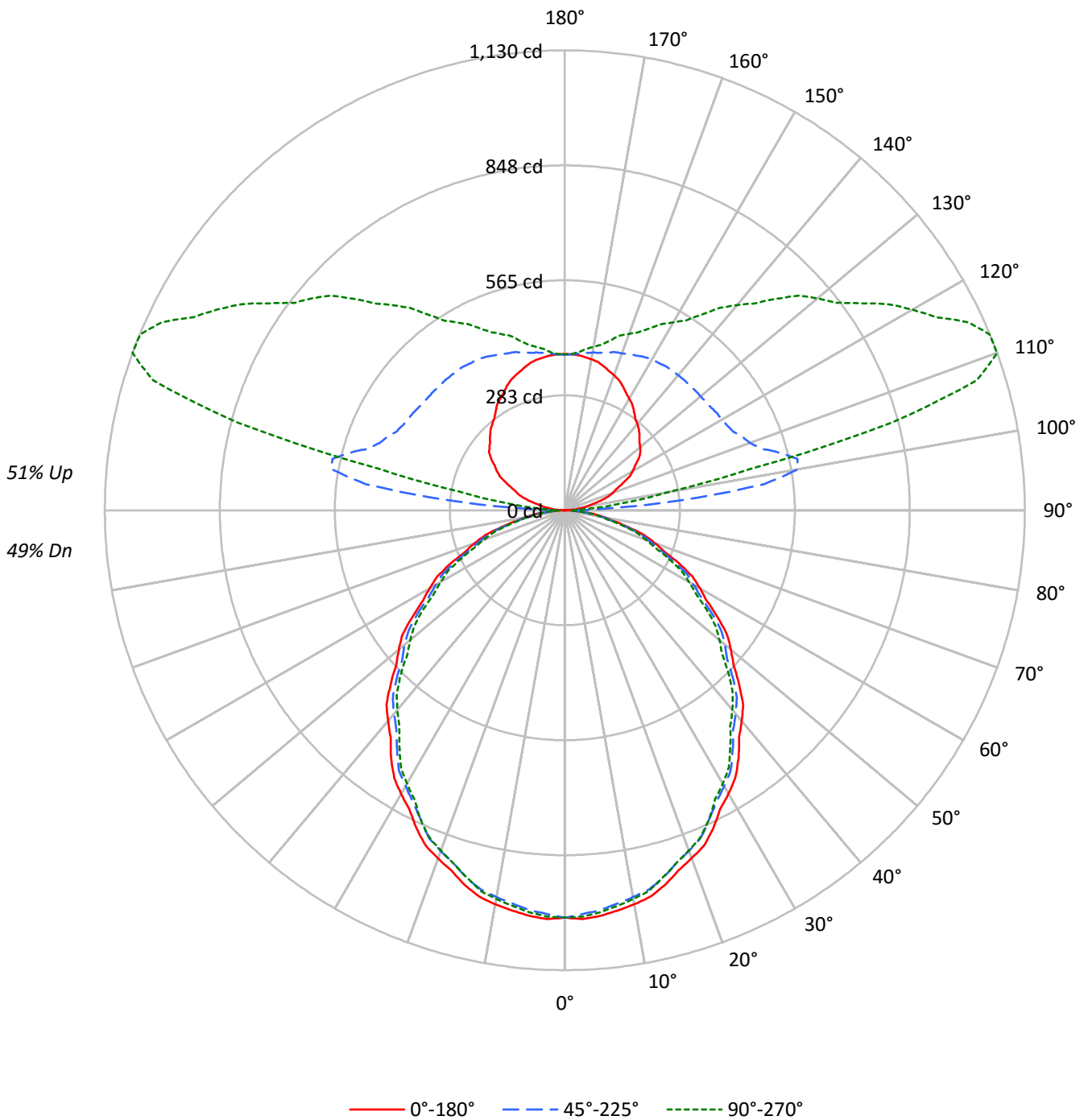
Input Watts (W): 45.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49				
1	98	93	89	86	90	86	83	80	72	70	68	60	58	57	49	48	46	41				
2	89	81	75	70	82	75	70	65	64	60	56	53	50	47	43	41	39	34				
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	35	33	29				
4	74	63	55	49	68	59	52	46	50	44	40	42	38	34	34	31	29	25				
5	68	56	48	42	62	52	45	40	45	39	35	37	33	30	31	28	25	22				
6	63	51	42	37	58	47	40	35	40	34	30	34	29	26	28	25	22	19				
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	20	17				
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	18	15				
9	50	38	30	25	46	35	29	24	30	25	21	26	22	19	21	18	16	14				
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12				

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

	0°	45°	90°
0°	16157	16157	16157
5°	16219	15985	16078
10°	16123	15823	15901
15°	15921	15616	15600
20°	15639	15309	15292
25°	15358	14931	14931
30°	14997	14585	14458
35°	14661	14168	13957
40°	14235	13748	13487
45°	13819	13337	13006
50°	13366	12906	12446
55°	12892	12405	11944
60°	12368	11806	11370
65°	11801	11213	10697
70°	11084	10494	9994
75°	10081	9669	9426
80°	8945	8675	8229
85°	7317	6947	6224



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.1	1.8
10°-20°	264.8	5.1
20°-30°	389.2	7.5
30°-40°	452.1	8.7
40°-50°	451.6	8.7
50°-60°	393.8	7.6
60°-70°	291.2	5.6
70°-80°	164.9	3.2
80°-90°	47.8	0.9
90°-100°	153.2	2.9
100°-110°	519.8	10.0
110°-120°	552.3	10.6
120°-130°	454.6	8.7
130°-140°	365.1	7.0
140°-150°	275.9	5.3
150°-160°	193.9	3.7
160°-170°	114.1	2.2
170°-180°	37.1	0.7
0°-30°	748.0	14.3
0°-40°	1200.1	23.0
0°-60°	2045.4	39.2
0°-90°	2549.3	48.9
90°-120°	1225.3	23.5
90°-150°	2320.9	44.5
90°-180°	2666.0	51.1
0°-180°	5215.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1001	1001	1001	1001	1001	
5°	1001	996	986	993	992	95
15°	952	946	934	938	933	268
25°	862	854	838	840	838	396
35°	744	734	719	713	708	464
45°	605	598	584	574	570	467
55°	458	452	441	430	424	409
65°	309	303	294	285	280	305
75°	162	160	155	150	151	173
85°	40	38	38	35	34	45
90°	1	10	25	24	24	3
95°	26	63	289	109	84	27
105°	90	136	546	976	830	96
115°	158	200	457	943	1093	157
125°	221	262	439	764	886	196
135°	259	310	434	642	735	200
145°	296	340	432	536	586	186
155°	337	364	419	474	493	155
165°	367	378	402	426	432	103
175°	382	383	386	391	390	36
180°	383	383	383	383	383	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7
2.5°	1005.3	1004.5	1003.6	1002.8	1001.9	1000.5	998.6	996.7	994.9	993.0	994.7
5°	1000.7	999.8	999.0	998.2	997.3	995.7	993.3	991.0	988.6	986.3	988.0
7.5°	991.8	990.5	989.2	987.9	986.6	984.7	982.3	979.9	977.5	975.1	976.8
10°	983.4	981.8	980.3	978.8	977.4	975.3	972.8	970.3	967.6	965.1	966.8
12.5°	971.9	970.5	969.1	967.8	966.5	964.6	962.0	959.4	956.9	954.3	955.5
15°	952.5	951.3	950.0	948.8	947.4	945.4	942.6	939.8	937.1	934.2	935.2
17.5°	927.9	926.6	925.4	924.1	922.8	920.8	917.9	915.1	912.3	909.5	910.5
20°	910.2	909.0	907.7	906.3	905.1	903.0	899.9	897.0	894.0	891.0	891.6
22.5°	892.5	890.7	888.9	887.1	885.3	883.1	880.2	877.4	874.6	871.8	871.9
25°	862.1	860.4	858.8	857.0	855.3	852.6	848.9	845.4	841.7	838.1	838.5
27.5°	827.5	826.0	824.4	822.8	821.3	819.2	816.2	813.4	810.5	807.7	807.0
30°	804.4	802.7	801.0	799.3	797.6	795.1	791.9	788.7	785.5	782.3	781.7
32.5°	779.8	778.4	777.0	775.6	774.3	771.9	768.5	765.2	761.8	758.4	757.2
35°	743.8	741.7	739.5	737.4	735.2	732.4	729.1	725.6	722.2	718.8	717.5
37.5°	703.1	701.3	699.4	697.5	695.7	693.0	689.6	686.2	682.8	679.3	677.7
40°	675.4	673.7	672.0	670.3	668.6	666.1	662.6	659.2	655.8	652.3	650.4
42.5°	648.6	646.8	645.1	643.4	641.7	639.1	635.7	632.3	628.9	625.5	623.3
45°	605.2	603.7	602.2	600.8	599.3	596.9	593.7	590.5	587.3	584.1	581.7
47.5°	562.1	560.7	559.3	557.9	556.5	554.1	550.7	547.4	544.1	540.7	538.3
50°	532.1	531.0	530.0	528.9	527.8	525.8	522.8	519.8	516.8	513.8	510.9
52.5°	502.8	501.4	500.0	498.6	497.2	495.1	492.3	489.5	486.6	483.8	481.4
55°	458.0	456.8	455.4	454.1	452.9	450.9	448.4	445.8	443.3	440.7	438.1
57.5°	412.9	412.0	410.9	409.9	408.9	407.0	404.2	401.3	398.5	395.7	393.1
60°	383.0	382.1	381.3	380.4	379.6	377.6	374.7	371.6	368.6	365.6	363.3
62.5°	353.7	352.3	351.0	349.6	348.3	346.4	344.1	341.8	339.5	337.1	335.0
65°	308.9	307.6	306.3	305.0	303.7	302.0	299.9	297.7	295.6	293.5	291.5
67.5°	263.3	262.2	261.2	260.1	259.1	257.7	255.7	253.8	251.9	250.0	248.5
70°	234.8	233.9	233.1	232.2	231.4	230.0	228.0	226.1	224.2	222.3	220.7
72.5°	205.6	204.6	203.8	202.9	202.1	201.0	199.8	198.6	197.4	196.0	194.6
75°	161.6	161.2	160.8	160.3	159.9	159.2	158.2	157.0	156.0	155.0	153.6
77.5°	122.4	121.7	120.9	120.2	119.5	118.9	118.5	118.0	117.6	117.2	116.6
80°	96.2	96.0	95.8	95.6	95.4	95.0	94.6	94.2	93.8	93.3	92.7
82.5°	71.6	71.5	71.5	71.4	71.4	71.3	71.0	70.8	70.5	70.2	69.5
85°	39.5	39.2	39.0	38.8	38.5	38.4	38.2	38.0	37.7	37.5	36.9
87.5°	14.0	14.1	14.3	14.3	14.2	14.3	14.7	15.5	16.0	15.7	15.1
90°	0.8	2.9	5.9	7.4	8.9	11.0	14.7	19.9	24.3	25.1	24.3
92.5°	9.0	13.0	18.3	21.5	26.5	33.5	50.1	73.5	94.4	95.8	80.9
95°	25.8	28.7	36.1	42.7	54.5	72.2	106.1	170.2	255.7	288.8	252.7
97.5°	42.0	46.0	53.8	63.8	77.4	97.4	140.0	229.3	371.4	493.0	517.3
100°	56.7	58.9	65.6	77.4	92.1	112.7	151.7	241.7	400.8	582.0	688.2
102.5°	70.3	71.9	78.5	90.3	105.7	126.3	162.4	242.2	389.6	585.0	751.8
105°	89.9	92.8	98.0	109.1	125.3	145.9	180.5	246.1	367.7	545.9	742.0
107.5°	111.1	113.5	118.5	128.7	144.7	165.5	199.1	256.3	356.8	504.1	677.2
110°	125.3	128.2	132.6	142.2	157.7	179.1	211.4	264.5	354.4	484.1	636.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	138.2	141.2	146.2	155.1	170.0	192.0	223.3	273.3	355.0	471.1	608.3
115°	158.4	162.1	166.5	175.3	190.1	210.0	241.7	286.6	358.1	456.9	573.3
117.5°	179.4	182.3	186.7	194.5	208.7	229.3	258.6	300.8	363.4	449.9	551.1
120°	192.3	195.3	199.6	206.3	221.0	241.7	270.4	310.2	366.9	445.7	539.3
122.5°	204.7	207.1	211.4	218.7	233.4	254.7	281.6	318.5	371.1	443.4	529.3
125°	221.0	223.3	227.6	236.5	251.3	271.8	298.4	331.6	377.2	439.1	515.0
127.5°	234.0	237.0	243.2	252.9	267.0	288.2	314.1	343.7	383.6	436.6	501.7
130°	241.7	244.6	251.9	262.3	277.0	297.7	323.5	351.5	388.3	435.5	492.9
132.5°	248.7	252.3	260.2	271.2	286.4	307.1	331.7	359.1	393.0	434.9	485.9
135°	259.4	262.3	271.2	282.2	299.2	319.8	343.4	369.1	398.6	433.9	476.0
137.5°	269.4	272.9	281.7	293.5	310.4	329.5	352.8	376.8	403.6	433.9	469.0
140°	277.0	279.9	288.8	300.6	316.8	336.0	358.1	380.9	406.0	433.2	465.0
142.5°	284.6	287.1	295.3	307.1	322.7	340.7	362.2	384.5	407.7	433.2	460.8
145°	296.1	299.2	306.5	317.5	332.2	348.5	368.4	389.0	409.6	431.8	455.3
147.5°	308.6	310.8	317.8	328.0	340.3	354.7	373.4	391.5	410.3	429.1	449.8
150°	316.8	319.1	324.9	334.5	345.5	358.8	375.8	392.7	409.6	427.3	445.0
152.5°	325.1	326.1	332.0	340.4	350.8	363.0	378.1	393.3	408.5	424.4	440.9
155°	336.7	337.4	341.9	350.0	358.1	369.1	381.6	394.2	406.7	419.2	433.2
157.5°	346.5	347.1	350.7	357.8	364.3	373.5	384.2	394.2	403.3	414.0	426.0
160°	352.9	353.6	356.6	362.5	368.4	376.5	385.3	394.2	401.5	410.4	420.8
162.5°	359.4	358.9	361.9	366.6	371.9	378.2	386.0	393.6	399.8	407.5	415.9
165°	366.9	366.2	367.7	372.1	375.8	380.2	386.8	392.0	396.4	401.5	408.2
167.5°	373.2	372.2	373.5	376.4	379.0	381.8	386.6	391.0	393.0	396.4	400.5
170°	377.2	375.8	376.5	378.7	380.2	382.4	386.1	389.7	391.2	393.4	396.4
172.5°	379.6	378.7	378.2	380.5	381.4	383.0	385.5	388.0	388.9	389.9	392.3
175°	382.4	381.6	380.9	382.4	382.4	383.1	384.6	386.1	385.3	386.1	386.8
177.5°	383.7	382.6	381.9	383.1	383.1	383.1	383.7	384.9	383.7	383.1	383.7
180°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7	1000.7
2.5°	996.4	998.2	999.8	1000.5	1000.1	999.8	999.5	999.2
5°	989.7	991.4	993.1	993.7	993.3	992.9	992.5	992.0
7.5°	978.5	980.2	981.9	982.5	982.0	981.7	981.2	980.7
10°	968.5	970.3	971.9	972.4	971.9	971.2	970.5	969.9
12.5°	956.7	957.9	959.1	959.4	958.9	958.6	958.1	957.6
15°	936.0	936.9	937.7	937.6	936.5	935.5	934.4	933.3
17.5°	911.4	912.4	913.4	913.4	912.4	911.3	910.3	909.3
20°	892.3	893.0	893.5	893.4	892.6	891.7	890.9	890.0
22.5°	872.0	872.1	872.2	872.0	871.6	871.0	870.5	870.1
25°	839.0	839.3	839.8	839.8	839.3	839.0	838.5	838.1
27.5°	806.3	805.8	805.1	804.3	803.2	802.2	801.2	800.1
30°	781.0	780.3	779.7	778.9	778.1	777.2	776.4	775.5
32.5°	756.1	755.0	753.8	752.8	752.0	751.1	750.2	749.3
35°	716.2	714.9	713.6	712.5	711.4	710.3	709.3	708.1
37.5°	676.2	674.6	673.0	671.7	670.6	669.6	668.6	667.6
40°	648.6	646.6	644.7	643.3	642.4	641.6	640.7	639.9
42.5°	621.2	619.2	617.1	615.4	614.2	613.0	611.8	610.6
45°	579.4	577.0	574.7	573.1	572.2	571.4	570.5	569.6
47.5°	535.8	533.3	530.8	529.0	527.7	526.5	525.3	524.1
50°	507.8	504.8	501.8	499.8	498.7	497.7	496.6	495.5
52.5°	478.8	476.4	473.9	471.9	470.5	469.1	467.7	466.3
55°	435.5	433.0	430.5	428.6	427.5	426.5	425.4	424.3
57.5°	390.6	388.0	385.6	383.9	383.0	382.3	381.4	380.6
60°	360.9	358.5	356.2	354.8	354.1	353.5	352.8	352.1
62.5°	332.8	330.6	328.5	327.0	326.1	325.3	324.5	323.7
65°	289.6	287.7	285.8	284.3	283.2	282.1	281.1	280.0
67.5°	246.9	245.5	244.0	242.8	242.0	241.1	240.3	239.4
70°	219.2	217.8	216.3	215.1	214.2	213.4	212.5	211.7
72.5°	193.1	191.6	190.1	189.0	188.3	187.7	187.0	186.2
75°	152.3	151.1	149.8	149.4	149.8	150.2	150.6	151.1
77.5°	115.9	115.3	114.6	114.0	113.4	112.8	112.3	111.6
80°	92.1	91.4	90.8	90.2	89.8	89.4	89.0	88.5
82.5°	68.6	67.8	67.0	66.5	66.4	66.4	66.3	66.2
85°	36.3	35.6	35.0	34.5	34.3	34.1	33.9	33.6
87.5°	14.4	13.7	13.5	13.3	13.1	12.9	12.7	12.5
90°	23.6	22.1	23.6	24.3	24.3	24.3	24.3	24.3
92.5°	64.3	55.1	48.9	44.4	43.7	41.4	42.0	40.8
95°	193.0	148.1	117.2	100.9	91.3	85.5	83.2	84.0
97.5°	450.4	368.5	288.8	235.6	200.4	182.3	171.5	165.3
100°	672.7	581.4	480.4	391.2	330.1	298.4	277.0	263.7
102.5°	818.3	797.7	723.8	629.3	562.9	508.8	482.1	464.2
105°	895.2	978.5	988.1	963.7	918.0	872.3	840.7	830.4
107.5°	839.8	965.2	1041.8	1077.5	1083.3	1080.7	1074.4	1060.6
110°	792.0	924.0	1018.2	1078.6	1110.3	1124.4	1131.0	1130.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	748.5	875.0	975.8	1045.1	1089.1	1112.6	1125.1	1129.1
115°	694.7	808.2	904.7	980.6	1032.9	1066.9	1086.0	1092.7
117.5°	654.4	754.0	841.6	912.8	966.1	1001.9	1022.1	1027.7
120°	634.3	725.8	803.8	870.9	922.5	957.1	978.5	985.8
122.5°	618.5	702.2	776.1	836.7	883.0	917.0	936.0	942.2
125°	595.3	671.2	736.0	791.3	834.1	862.0	880.4	886.4
127.5°	572.5	641.1	702.3	753.3	790.6	816.8	832.7	837.4
130°	557.7	621.1	679.3	727.9	764.0	789.1	803.8	809.7
132.5°	543.6	602.3	655.7	701.4	737.0	762.0	775.5	780.8
135°	523.9	572.5	621.1	662.3	694.1	718.4	731.6	734.6
137.5°	508.1	548.7	587.4	623.3	652.2	673.2	684.8	689.2
140°	498.0	533.5	567.3	599.7	623.3	642.4	653.6	658.0
142.5°	489.8	519.9	549.0	576.2	598.6	616.0	625.8	626.7
145°	478.2	502.5	525.4	546.7	564.4	576.9	584.3	586.4
147.5°	469.2	488.3	506.1	521.8	536.4	546.4	551.4	552.7
150°	462.7	478.9	494.4	507.7	518.7	527.5	532.0	532.7
152.5°	456.2	471.3	484.4	495.9	504.5	512.2	515.5	515.6
155°	447.2	459.0	470.0	478.2	486.3	491.4	494.4	492.9
157.5°	436.8	446.7	455.9	462.2	468.0	472.3	473.6	473.6
160°	430.3	438.4	446.5	451.7	456.9	460.5	461.2	461.2
162.5°	423.8	430.7	437.6	441.7	446.8	449.3	450.1	449.4
165°	414.1	419.2	424.4	427.3	430.3	433.2	433.2	432.5
167.5°	404.8	408.8	412.3	415.0	416.3	417.9	417.7	416.9
170°	400.1	402.3	405.2	406.7	407.5	409.6	408.9	407.5
172.5°	394.7	396.4	398.8	399.6	400.4	401.4	400.7	399.8
175°	389.0	389.7	390.5	391.2	391.2	392.0	391.2	389.7
177.5°	384.9	384.9	385.5	385.5	385.5	385.5	384.9	383.7
180°	383.1	383.1	383.1	383.1	383.1	383.1	383.1	383.1

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