

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: P331686-940

Luminaire Tested: **SA2XXRDIP-C675D530U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331686-940  
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: SA2XXRDIP-C675D530U940-4F0-1E-UDD-F4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

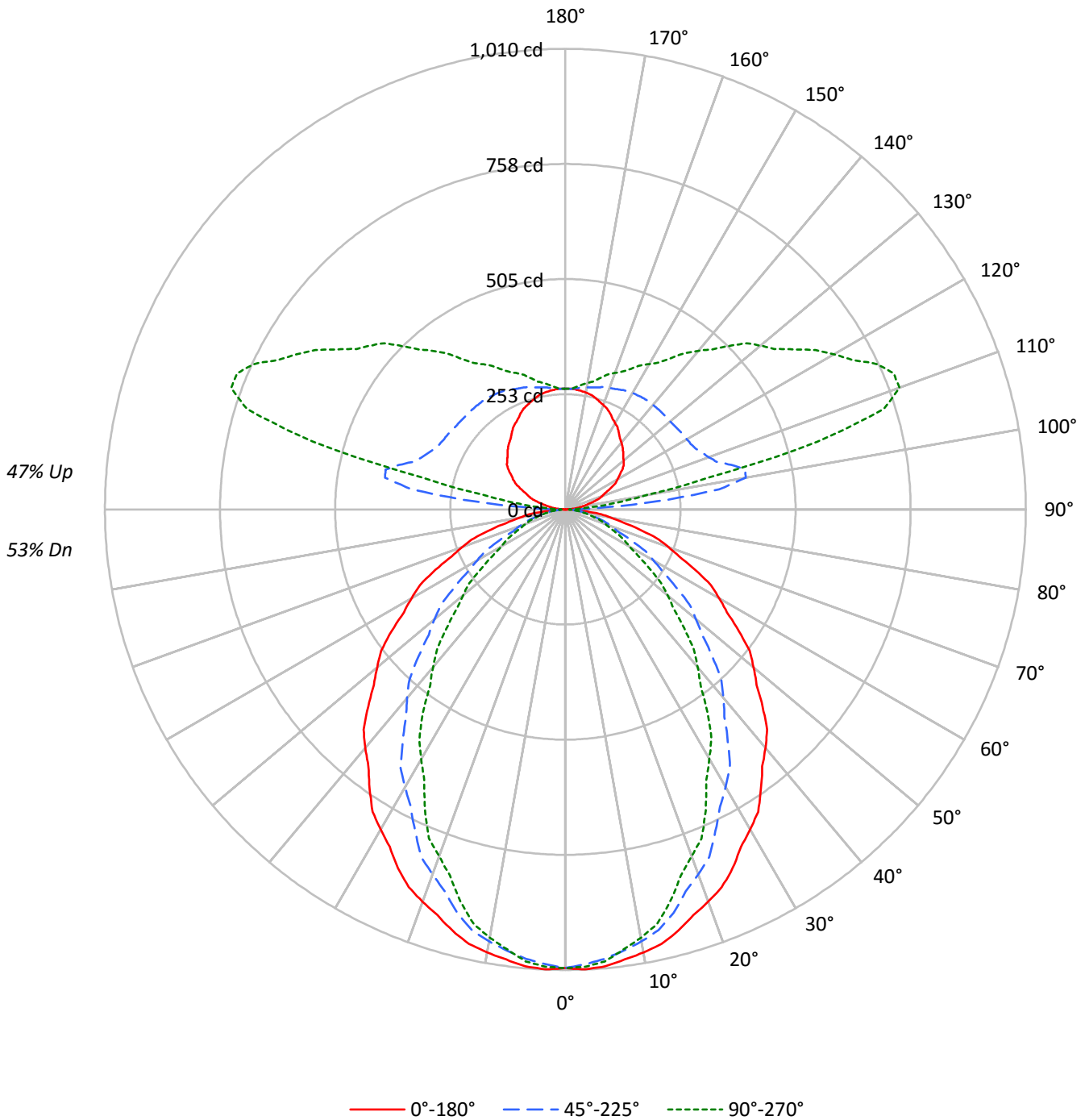
Lumens per Lamp: N/A  
Luminaire Lumens: 3911.4 lumens  
Efficiency: N/A  
Efficacy: 97.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

Input Watts (W): 40.3  
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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53				53
1	99	95	91	88	92	88	85	82	75	73	71	64	62	60	53	52	51	46				46
2	91	83	77	72	84	78	72	68	67	63	59	56	54	51	47	45	43	39				39
3	83	74	67	61	77	69	62	57	59	54	51	50	47	44	42	40	38	34				34
4	76	66	58	52	70	61	54	49	53	48	44	45	41	38	38	35	33	29				29
5	70	59	51	45	65	55	48	43	48	42	38	41	37	33	34	31	29	26				26
6	65	53	45	39	60	50	42	37	43	38	33	37	33	30	31	28	26	23				23
7	60	48	40	35	56	45	38	33	39	34	30	34	30	26	29	26	23	21				21
8	56	44	36	31	52	41	34	29	36	30	26	31	27	24	27	23	21	19				19
9	52	40	33	28	48	38	31	26	33	28	24	29	24	21	25	21	19	17				17
10	49	37	30	25	45	35	28	24	31	25	22	27	22	19	23	20	17	15				15

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

	0°	45°	90°
0°	16239	16239	16239
5°	16302	16037	16126
10°	16179	15775	15641
15°	15992	15308	14867
20°	15735	14639	13904
25°	15471	13881	12975
30°	15105	13103	11779
35°	14747	12254	10730
40°	14389	11377	9516
45°	13967	10392	8416
50°	13536	9399	7340
55°	13095	8329	6303
60°	12581	7201	5231
65°	12000	6052	4768
70°	11301	4985	4381
75°	10449	4548	4086
80°	9224	4063	3719
85°	7243	3205	3205



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.2	2.4
10°-20°	258.5	6.6
20°-30°	363.0	9.3
30°-40°	395.9	10.1
40°-50°	364.0	9.3
50°-60°	285.9	7.3
60°-70°	186.4	4.8
70°-80°	96.1	2.5
80°-90°	27.3	0.7
90°-100°	105.7	2.7
100°-110°	358.8	9.2
110°-120°	381.2	9.7
120°-130°	313.8	8.0
130°-140°	252.0	6.4
140°-150°	190.4	4.9
150°-160°	133.8	3.4
160°-170°	78.8	2.0
170°-180°	25.6	0.7
0°-30°	715.7	18.3
0°-40°	1111.6	28.4
0°-60°	1761.4	45.0
0°-90°	2071.2	53.0
90°-120°	845.7	21.6
90°-150°	1601.9	41.0
90°-180°	1840.0	47.0
0°-180°	3911.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1006	1006	1006	1006	1006	
5°	1006	1001	990	997	995	95
15°	957	946	916	899	889	269
25°	868	838	779	743	728	399
35°	748	700	622	566	544	468
45°	612	549	455	393	369	472
55°	465	393	296	243	224	416
65°	314	240	158	129	125	311
75°	168	106	73	67	66	177
85°	39	21	17	17	17	46
90°	0	7	17	16	17	3
95°	18	44	199	75	58	19
105°	62	94	377	674	573	66
115°	109	138	315	651	754	108
125°	153	180	303	527	612	135
135°	179	214	300	443	507	138
145°	204	235	298	370	405	128
155°	232	251	289	327	340	107
165°	253	261	277	294	298	71
175°	264	264	266	270	269	25
180°	264	264	264	264	264	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1009.5	1008.7	1007.9	1007.1	1006.3	1005.0	1003.2	1001.4	999.7	997.9	999.5
5°	1005.8	1004.9	1003.9	1002.8	1001.8	1000.1	997.4	994.8	992.1	989.5	991.3
7.5°	995.5	994.3	993.0	991.8	990.5	988.3	985.3	982.2	979.1	976.1	976.5
10°	986.8	985.3	983.9	982.5	981.1	978.4	974.3	970.3	966.3	962.2	961.6
12.5°	975.8	974.1	972.3	970.6	968.8	965.5	960.3	955.1	949.9	944.7	943.6
15°	956.7	954.5	952.3	950.0	947.8	943.3	936.4	929.5	922.7	915.8	912.0
17.5°	933.3	929.9	926.5	923.0	919.6	913.6	904.7	895.9	887.1	878.2	873.7
20°	915.8	911.7	907.7	903.7	899.6	892.5	882.3	872.3	862.2	852.0	846.9
22.5°	896.8	892.3	887.8	883.2	878.7	870.8	859.3	847.9	836.5	825.1	818.6
25°	868.4	861.9	855.5	849.0	842.6	832.6	819.3	805.9	792.6	779.2	770.9
27.5°	834.2	827.2	820.1	813.1	806.0	795.0	780.0	764.9	749.8	734.8	725.1
30°	810.2	802.5	794.8	787.1	779.4	767.5	751.3	735.1	718.9	702.8	692.4
32.5°	786.8	777.8	768.9	759.9	750.9	738.2	721.7	705.2	688.7	672.2	660.4
35°	748.2	738.0	727.6	717.3	707.0	692.9	675.1	657.4	639.5	621.7	608.9
37.5°	709.7	698.3	687.0	675.6	664.3	649.2	630.3	611.3	592.3	573.3	559.3
40°	682.7	670.6	658.4	646.3	634.2	618.3	598.7	579.1	559.5	539.8	525.5
42.5°	655.1	642.3	629.5	616.7	604.0	587.4	567.1	546.9	526.6	506.3	491.4
45°	611.7	598.2	584.6	571.1	557.5	540.1	518.9	497.7	476.4	455.1	440.8
47.5°	569.4	555.1	540.7	526.4	512.0	493.9	472.0	450.0	428.1	406.2	391.9
50°	538.9	524.5	510.1	495.8	481.4	463.2	440.9	418.7	396.4	374.2	360.2
52.5°	509.1	494.0	479.0	464.0	449.0	430.6	408.8	387.1	365.3	343.6	330.1
55°	465.2	449.4	433.6	417.9	402.1	383.3	361.4	339.6	317.7	295.9	283.7
57.5°	420.2	404.0	387.8	371.7	355.4	336.9	315.8	294.9	273.8	252.9	241.7
60°	389.6	373.4	357.2	341.1	324.9	306.4	285.5	264.7	243.9	223.0	212.7
62.5°	359.7	343.6	327.3	311.2	295.0	277.0	257.2	237.3	217.4	197.5	187.7
65°	314.1	297.7	281.2	264.9	248.5	231.2	213.0	194.8	176.6	158.4	151.5
67.5°	270.0	253.7	237.5	221.2	204.9	188.6	172.2	155.9	139.5	123.1	119.9
70°	239.4	223.6	207.9	192.1	176.3	161.4	147.5	133.5	119.6	105.6	103.5
72.5°	210.3	195.1	180.0	164.9	149.7	136.6	125.4	114.1	103.0	91.8	90.1
75°	167.5	153.4	139.2	125.0	110.8	100.3	93.5	86.6	79.7	72.9	71.4
77.5°	125.5	113.0	100.6	88.2	75.8	67.9	64.6	61.3	58.0	54.7	53.8
80°	99.2	88.9	78.6	68.3	58.0	51.8	49.8	47.7	45.7	43.7	42.9
82.5°	75.2	67.1	59.1	51.0	43.0	38.3	36.9	35.5	34.2	32.8	32.3
85°	39.1	34.9	30.7	26.4	22.1	19.7	19.1	18.5	17.9	17.3	17.3
87.5°	11.8	10.8	9.9	8.8	7.7	7.3	7.8	8.6	9.2	9.3	9.0
90°	0.5	2.1	4.1	5.1	6.1	7.7	10.2	13.7	16.8	17.3	16.8
92.5°	6.2	8.9	12.6	14.9	18.3	23.1	34.6	50.7	65.2	66.1	55.8
95°	17.8	19.8	24.9	29.5	37.6	49.8	73.2	117.4	176.5	199.4	174.4
97.5°	29.0	31.7	37.1	44.1	53.4	67.2	96.7	158.3	256.3	340.3	357.0
100°	39.1	40.7	45.3	53.4	63.6	77.8	104.8	166.8	276.6	401.7	474.9
102.5°	48.5	49.7	54.2	62.3	72.9	87.1	112.1	167.2	268.9	403.8	518.9
105°	62.1	64.1	67.6	75.3	86.4	100.7	124.6	169.9	253.8	376.8	512.1
107.5°	76.7	78.3	81.8	88.8	99.9	114.2	137.4	176.8	246.2	347.9	467.4
110°	86.4	88.5	91.6	98.2	108.8	123.6	146.0	182.5	244.6	334.1	439.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	95.4	97.5	100.9	107.1	117.3	132.5	154.1	188.7	245.0	325.1	419.8
115°	109.3	111.9	114.9	121.0	131.2	144.9	166.8	197.8	247.2	315.3	395.7
117.5°	123.8	125.8	128.9	134.3	144.0	158.3	178.5	207.6	250.8	310.5	380.4
120°	132.7	134.7	137.8	142.4	152.6	166.8	186.6	214.1	253.2	307.6	372.3
122.5°	141.2	142.9	146.0	151.0	161.1	175.8	194.4	219.8	256.1	306.0	365.3
125°	152.6	154.1	157.1	163.3	173.4	187.6	206.0	228.8	260.4	303.1	355.4
127.5°	161.5	163.5	167.8	174.5	184.3	198.9	216.8	237.3	264.7	301.4	346.3
130°	166.8	168.8	173.9	181.0	191.2	205.5	223.3	242.5	268.0	300.5	340.2
132.5°	171.7	174.2	179.6	187.2	197.7	212.0	228.9	247.9	271.3	300.1	335.3
135°	179.0	181.0	187.2	194.7	206.4	220.7	237.0	254.8	275.1	299.5	328.5
137.5°	185.9	188.3	194.5	202.6	214.2	227.4	243.5	260.0	278.6	299.4	323.7
140°	191.2	193.2	199.4	207.5	218.6	231.9	247.2	262.9	280.2	299.0	320.9
142.5°	196.5	198.1	203.8	212.0	222.7	235.1	250.0	265.4	281.4	299.0	318.1
145°	204.5	206.4	211.5	219.2	229.3	240.5	254.2	268.5	282.8	298.0	314.2
147.5°	212.9	214.5	219.4	226.4	234.9	244.8	257.7	270.3	283.1	296.1	310.4
150°	218.6	220.2	224.3	230.9	238.5	247.6	259.3	271.1	282.8	295.0	307.2
152.5°	224.4	225.1	229.2	235.0	242.2	250.5	261.0	271.4	282.0	292.9	304.3
155°	232.4	232.9	235.9	241.6	247.2	254.8	263.4	272.1	280.7	289.4	299.0
157.5°	239.1	239.6	242.1	246.9	251.5	257.8	265.1	272.1	278.4	285.7	294.0
160°	243.6	244.1	246.1	250.2	254.2	259.8	266.0	272.1	277.1	283.3	290.3
162.5°	248.1	247.7	249.8	253.1	256.7	261.1	266.4	271.6	275.9	281.2	287.1
165°	253.2	252.7	253.8	256.8	259.3	262.4	267.0	270.5	273.6	277.1	281.7
167.5°	257.5	256.9	257.8	259.8	261.6	263.5	266.9	269.8	271.3	273.6	276.4
170°	260.4	259.3	259.8	261.4	262.4	263.9	266.4	269.0	270.0	271.5	273.6
172.5°	262.0	261.4	261.1	262.6	263.2	264.3	266.1	267.8	268.4	269.1	270.7
175°	263.9	263.4	262.9	263.9	263.9	264.4	265.5	266.4	266.0	266.4	267.0
177.5°	264.8	264.0	263.6	264.4	264.4	264.4	264.8	265.6	264.8	264.4	264.8
180°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8	1005.8
2.5°	1001.1	1002.7	1004.3	1005.0	1004.7	1004.3	1004.1	1003.7
5°	993.1	995.0	996.8	997.4	996.8	996.1	995.6	995.0
7.5°	977.0	977.6	978.1	977.9	976.8	975.8	974.7	973.7
10°	961.0	960.4	959.7	958.9	957.6	956.4	955.2	954.0
12.5°	942.5	941.5	940.3	938.8	936.7	934.8	932.7	930.7
15°	908.1	904.2	900.4	897.4	895.5	893.4	891.4	889.4
17.5°	869.2	864.5	860.0	856.0	852.5	849.0	845.5	842.0
20°	842.0	836.9	831.8	827.1	822.6	818.1	813.7	809.2
22.5°	812.1	805.6	799.1	794.2	790.8	787.5	784.2	780.9
25°	762.6	754.3	746.0	740.4	737.4	734.3	731.3	728.3
27.5°	715.4	705.8	696.2	688.8	684.0	679.2	674.4	669.6
30°	682.2	671.8	661.5	653.6	648.1	642.7	637.2	631.8
32.5°	648.6	636.9	625.1	616.6	611.4	606.4	601.2	596.1
35°	596.3	583.5	570.8	562.1	557.7	553.2	548.8	544.4
37.5°	545.2	531.2	517.2	507.6	502.5	497.4	492.3	487.2
40°	511.0	496.7	482.3	472.5	467.3	462.0	456.7	451.5
42.5°	476.6	461.7	446.9	436.9	431.9	426.8	421.7	416.5
45°	426.4	412.1	397.7	388.1	383.3	378.4	373.5	368.6
47.5°	377.6	363.4	349.0	339.7	335.3	330.9	326.5	322.1
50°	346.3	332.3	318.3	309.2	305.0	300.7	296.5	292.2
52.5°	316.6	303.1	289.6	281.0	277.1	273.1	269.2	265.3
55°	271.6	259.4	247.3	239.3	235.5	231.6	227.7	223.9
57.5°	230.6	219.5	208.4	201.2	198.0	194.7	191.5	188.2
60°	202.4	192.1	181.7	175.0	171.7	168.5	165.2	162.0
62.5°	177.9	168.0	158.2	152.3	150.3	148.5	146.5	144.5
65°	144.6	137.8	130.9	127.2	126.5	125.9	125.3	124.8
67.5°	116.7	113.6	110.5	108.5	107.9	107.3	106.6	105.9
70°	101.6	99.5	97.5	96.1	95.2	94.4	93.6	92.8
72.5°	88.4	86.7	85.0	83.9	83.4	82.9	82.4	81.9
75°	70.0	68.6	67.1	66.3	66.2	66.0	65.7	65.5
77.5°	53.0	52.2	51.4	50.8	50.5	50.2	49.8	49.5
80°	42.1	41.3	40.5	40.0	40.0	40.0	40.0	40.0
82.5°	31.8	31.3	30.9	30.6	30.6	30.6	30.6	30.6
85°	17.3	17.3	17.3	17.3	17.3	17.3	17.3	17.3
87.5°	8.7	8.4	8.5	8.5	8.5	8.5	8.5	8.5
90°	16.2	15.2	16.2	16.8	16.8	16.8	16.8	16.8
92.5°	44.3	38.1	33.8	30.6	30.2	28.6	29.0	28.2
95°	133.2	102.2	80.9	69.6	63.0	59.0	57.4	58.0
97.5°	310.9	254.4	199.4	162.6	138.3	125.8	118.4	114.1
100°	464.3	401.3	331.5	270.0	227.8	206.0	191.2	182.1
102.5°	564.8	550.5	499.6	434.4	388.5	351.2	332.8	320.4
105°	617.9	675.3	682.0	665.1	633.6	602.1	580.2	573.1
107.5°	579.6	666.2	719.1	743.7	747.6	745.9	741.5	732.1
110°	546.7	637.7	702.8	744.5	766.3	776.1	780.6	780.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	516.6	604.0	673.5	721.3	751.7	767.9	776.5	779.3
115°	479.6	557.9	624.5	676.9	712.9	736.4	749.6	754.1
117.5°	451.7	520.4	580.9	630.0	666.8	691.5	705.4	709.3
120°	437.8	500.9	554.8	601.1	636.7	660.6	675.3	680.4
122.5°	426.9	484.6	535.7	577.5	609.4	632.9	646.0	650.3
125°	410.9	463.2	508.0	546.2	575.7	594.9	607.7	611.8
127.5°	395.1	442.6	484.7	520.0	545.6	563.7	574.7	578.0
130°	385.0	428.7	468.9	502.4	527.4	544.7	554.8	558.8
132.5°	375.2	415.7	452.6	484.1	508.6	525.9	535.3	539.0
135°	361.6	395.1	428.7	457.2	479.0	495.8	505.0	507.0
137.5°	350.7	378.8	405.4	430.3	450.1	464.6	472.6	475.6
140°	343.8	368.2	391.6	413.9	430.3	443.4	451.0	454.1
142.5°	338.0	358.8	379.0	397.7	413.1	425.2	431.9	432.6
145°	330.0	346.8	362.6	377.4	389.5	398.1	403.2	404.7
147.5°	323.9	337.1	349.4	360.2	370.2	377.1	380.6	381.5
150°	319.3	330.6	341.3	350.4	358.0	364.1	367.1	367.7
152.5°	314.9	325.3	334.3	342.2	348.2	353.6	355.8	355.9
155°	308.7	316.8	324.4	330.0	335.6	339.2	341.3	340.2
157.5°	301.5	308.3	314.7	319.1	323.0	326.0	326.9	326.9
160°	296.9	302.6	308.2	311.7	315.3	317.8	318.3	318.3
162.5°	292.5	297.3	302.1	304.8	308.4	310.1	310.6	310.2
165°	285.8	289.4	292.9	295.0	296.9	299.0	299.0	298.5
167.5°	279.4	282.1	284.5	286.4	287.3	288.5	288.4	287.8
170°	276.2	277.7	279.7	280.7	281.2	282.8	282.2	281.2
172.5°	272.5	273.6	275.2	275.8	276.3	277.1	276.5	275.9
175°	268.5	269.0	269.6	270.0	270.0	270.5	270.0	269.0
177.5°	265.6	265.6	266.1	266.1	266.1	266.1	265.6	264.8
180°	264.4	264.4	264.4	264.4	264.4	264.4	264.4	264.4

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