

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: P331354-830

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

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331354-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
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-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

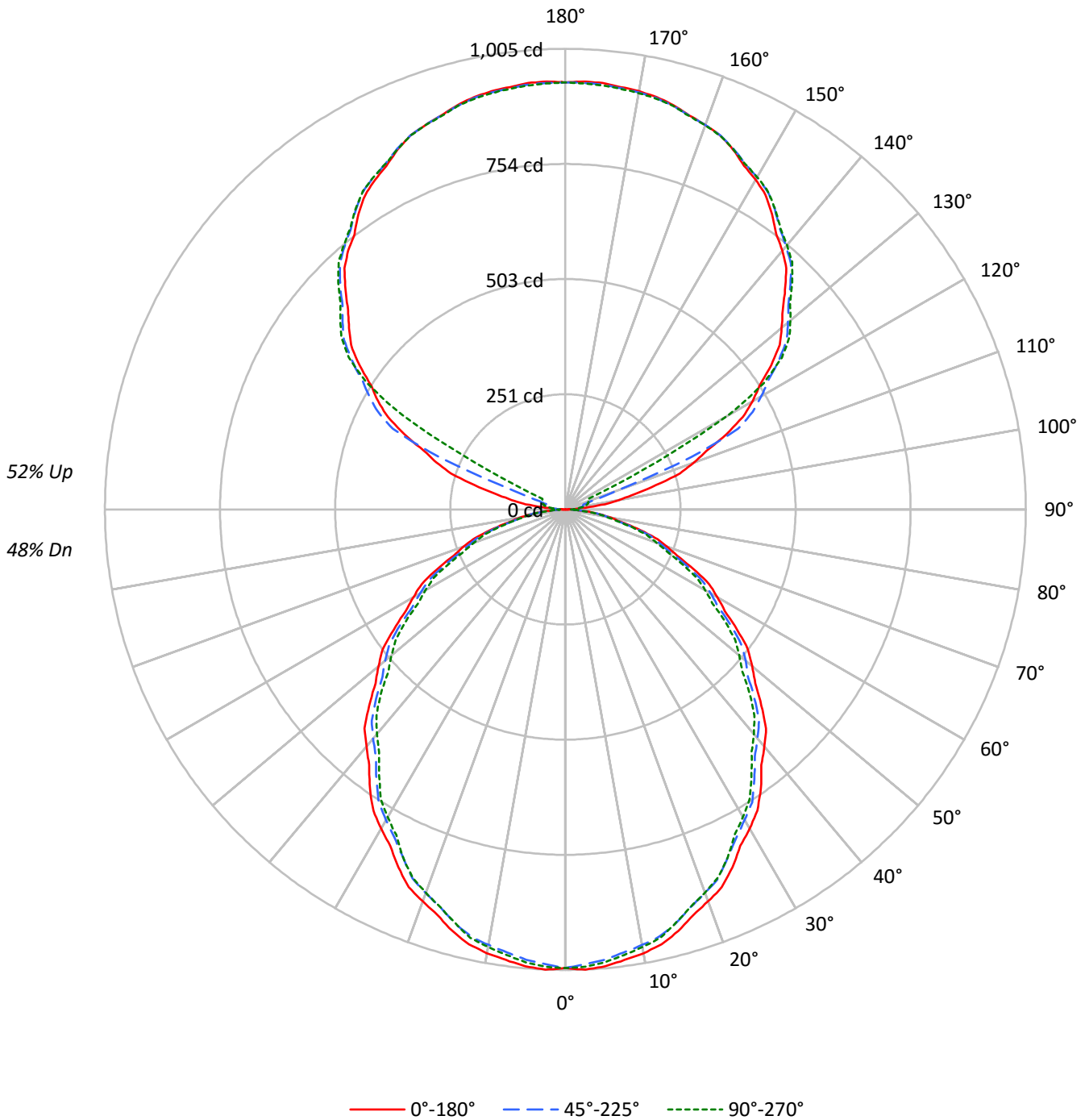
Lumens per Lamp: N/A
Luminaire Lumens: 5278.8 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

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	0
RCR																		
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48
1	97	93	89	86	89	86	82	79	72	70	68	60	58	56	48	47	46	41
2	89	81	75	70	81	75	70	65	63	59	56	52	50	47	42	40	39	34
3	81	71	64	58	74	66	60	54	56	51	47	46	43	40	38	35	33	29
4	74	63	55	49	68	58	52	46	50	44	40	41	37	34	34	31	28	25
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25	22
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	27	24	22	19
7	58	46	38	32	53	42	35	30	36	31	27	30	26	23	25	22	19	17
8	54	41	34	28	49	38	32	27	33	28	24	28	24	20	23	20	17	15
9	50	38	30	25	46	35	28	24	30	25	21	26	21	18	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	5.0
20°-30°	389.2	7.4
30°-40°	452.1	8.6
40°-50°	451.6	8.6
50°-60°	393.8	7.5
60°-70°	291.2	5.5
70°-80°	164.9	3.1
80°-90°	46.6	0.9
90°-100°	31.1	0.6
100°-110°	114.0	2.2
110°-120°	304.7	5.8
120°-130°	502.9	9.5
130°-140°	534.9	10.1
140°-150°	497.1	9.4
150°-160°	399.7	7.6
160°-170°	257.6	4.9
170°-180°	88.7	1.7
0°-30°	748.0	14.2
0°-40°	1200.1	22.7
0°-60°	2045.4	38.7
0°-90°	2548.2	48.3
90°-120°	449.7	8.5
90°-150°	1984.7	37.6
90°-180°	2731.0	51.7
0°-180°	5278.8	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	8	14	17	18	4
95°	44	23	26	29	29	54
105°	205	214	41	48	51	219
115°	388	399	416	118	55	382
125°	548	557	570	574	576	489
135°	678	689	695	701	700	524
145°	787	787	798	802	799	492
155°	866	861	868	872	867	399
165°	913	909	911	915	911	258
175°	934	929	930	934	928	89
180°	932	932	932	932	932	



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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°	13.9	13.9	13.9	13.9	13.9	13.9	13.8	13.7	13.6	13.5	13.1
90°	0.7	2.4	4.0	5.7	7.3	8.7	9.9	11.1	12.3	13.5	14.2
92.5°	13.6	13.5	13.3	13.2	13.0	13.3	13.9	14.4	15.1	15.6	16.0
95°	43.8	38.9	33.9	29.0	24.0	22.1	23.2	24.2	25.3	26.3	27.1
97.5°	87.0	73.0	59.1	45.1	31.2	25.4	27.9	30.3	32.8	35.2	35.8
100°	119.3	98.8	78.3	57.8	37.2	28.3	30.8	33.4	35.9	38.5	39.6
102.5°	155.0	150.6	146.3	141.9	137.5	124.7	103.4	82.1	60.8	39.5	41.1
105°	205.0	209.4	214.0	218.5	222.9	204.7	163.8	122.9	82.0	41.1	42.8
107.5°	262.0	265.6	269.3	272.9	276.5	253.8	204.7	155.7	106.6	57.6	55.9
110°	298.7	301.8	305.0	308.1	311.2	291.2	247.9	204.6	161.3	118.0	103.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	333.2	336.0	338.7	341.6	344.3	340.4	329.7	319.0	308.3	297.6	243.0
115°	387.7	390.2	392.8	395.3	397.8	401.1	404.7	408.5	412.3	416.0	346.7
117.5°	436.4	439.2	442.1	444.9	447.7	450.4	453.1	455.6	458.2	460.8	444.0
120°	471.9	474.2	476.5	478.7	481.0	483.4	486.2	488.8	491.5	494.2	496.0
122.5°	502.2	504.5	506.9	509.3	511.6	514.3	517.3	520.2	523.1	526.0	527.1
125°	548.2	550.1	552.0	554.0	555.9	558.4	561.2	564.0	566.8	569.8	570.8
127.5°	589.8	592.0	594.2	596.3	598.4	600.6	602.8	604.8	607.0	609.1	610.7
130°	616.2	618.7	621.0	623.4	625.8	627.8	629.5	631.1	632.8	634.4	636.1
132.5°	643.2	645.3	647.3	649.3	651.4	653.2	654.9	656.5	658.2	659.8	661.2
135°	678.3	680.7	683.1	685.5	687.9	689.8	691.1	692.4	693.8	695.1	696.6
137.5°	713.8	715.4	717.1	718.8	720.5	722.1	723.6	725.1	726.6	728.2	729.6
140°	737.0	738.1	739.3	740.6	741.7	743.2	744.8	746.5	748.1	749.8	751.1
142.5°	756.4	757.4	758.6	759.6	760.6	762.1	764.0	765.9	767.8	769.7	770.9
145°	786.8	786.6	786.6	786.4	786.3	787.4	789.9	792.5	795.0	797.6	798.7
147.5°	813.4	812.8	812.3	811.7	811.2	812.1	814.6	817.1	819.6	822.2	822.9
150°	830.7	829.6	828.6	827.6	826.4	827.2	829.5	831.9	834.3	836.7	837.6
152.5°	845.2	844.0	842.9	841.7	840.6	841.1	843.4	845.6	847.9	850.2	851.1
155°	866.4	865.1	863.7	862.3	861.0	861.2	863.0	864.8	866.6	868.4	869.3
157.5°	883.0	881.8	880.7	879.6	878.4	878.4	879.8	881.0	882.2	883.5	884.6
160°	892.7	891.7	890.9	889.9	889.1	889.1	889.9	890.9	891.7	892.7	893.6
162.5°	901.4	900.4	899.6	898.6	897.7	897.7	898.4	899.2	900.0	900.8	901.8
165°	912.9	912.0	911.2	910.2	909.3	909.1	909.6	910.0	910.4	910.9	911.9
167.5°	921.5	920.7	919.7	918.9	917.9	917.7	918.1	918.5	919.0	919.4	920.4
170°	926.4	925.5	924.6	923.7	922.8	922.5	922.8	923.1	923.4	923.7	924.7
172.5°	929.6	928.7	927.8	926.9	926.0	925.8	926.0	926.3	926.6	926.9	928.0
175°	933.8	932.7	931.7	930.7	929.6	929.3	929.5	929.8	930.1	930.5	931.5
177.5°	934.5	933.7	932.8	932.0	931.1	930.8	930.9	931.0	931.1	931.2	932.1
180°	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8



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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°	12.7	12.3	12.1	11.8	11.7	11.6	11.4	11.3
90°	15.0	15.7	16.5	17.0	17.3	17.6	17.9	18.2
92.5°	16.4	16.8	17.2	17.5	17.6	17.8	18.0	18.2
95°	27.8	28.6	29.3	29.6	29.4	29.3	29.1	29.0
97.5°	36.4	36.9	37.6	38.0	38.2	38.4	38.5	38.7
100°	40.8	42.0	43.3	44.0	44.3	44.6	44.9	45.1
102.5°	42.6	44.2	45.7	46.8	47.1	47.6	48.0	48.4
105°	44.4	46.1	47.7	48.8	49.5	50.0	50.6	51.3
107.5°	54.2	52.5	50.9	50.3	50.9	51.6	52.1	52.7
110°	88.0	73.0	58.1	50.9	51.5	52.0	52.7	53.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	188.3	133.7	79.0	51.8	52.4	52.9	53.3	53.8
115°	277.3	207.9	138.6	98.4	87.7	76.8	66.1	55.3
117.5°	427.3	410.4	393.6	367.5	332.1	296.6	261.2	225.7
120°	497.9	499.6	501.4	492.2	471.9	451.8	431.5	411.3
122.5°	528.2	529.2	530.4	529.0	525.0	521.0	517.2	513.2
125°	571.8	572.9	573.9	574.7	575.1	575.6	576.0	576.5
127.5°	612.2	613.7	615.2	616.0	616.1	616.2	616.3	616.4
130°	637.7	639.4	641.0	641.8	641.7	641.5	641.3	641.2
132.5°	662.6	664.0	665.4	666.1	665.9	665.8	665.6	665.4
135°	698.1	699.6	701.2	701.7	701.4	701.2	700.8	700.5
137.5°	731.1	732.5	734.1	734.5	734.1	733.5	733.0	732.4
140°	752.4	753.8	755.2	755.4	754.7	753.9	753.2	752.4
142.5°	772.1	773.4	774.6	774.9	774.1	773.4	772.6	771.8
145°	799.7	800.8	801.8	801.9	801.3	800.5	799.7	799.0
147.5°	823.7	824.5	825.3	825.4	824.7	824.1	823.5	822.8
150°	838.5	839.4	840.3	840.4	839.6	838.9	838.1	837.4
152.5°	852.0	852.9	853.8	853.8	852.8	851.8	850.8	849.8
155°	870.2	871.1	872.0	871.9	870.6	869.5	868.3	867.0
157.5°	885.5	886.6	887.6	887.5	886.4	885.1	884.0	882.9
160°	894.5	895.4	896.3	896.2	895.1	894.1	893.1	892.0
162.5°	902.8	903.8	904.8	904.7	903.4	902.1	900.9	899.6
165°	912.9	914.1	915.1	915.1	914.1	912.9	911.9	910.9
167.5°	921.5	922.6	923.6	923.4	922.1	920.8	919.4	918.0
170°	925.8	926.8	927.9	927.7	926.4	925.0	923.7	922.4
172.5°	929.1	930.1	931.1	930.9	929.6	928.3	926.9	925.6
175°	932.6	933.6	934.6	934.4	932.9	931.4	929.9	928.4
177.5°	932.9	933.8	934.6	934.5	933.4	932.4	931.2	930.2
180°	931.8	931.8	931.8	931.8	931.8	931.8	931.8	931.8

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