

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: P332524-830

Luminaire Tested: **S124DIP-S350D1035U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332524-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D1035U830-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4807.3 lumens
Efficiency: N/A
Efficacy: 128.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

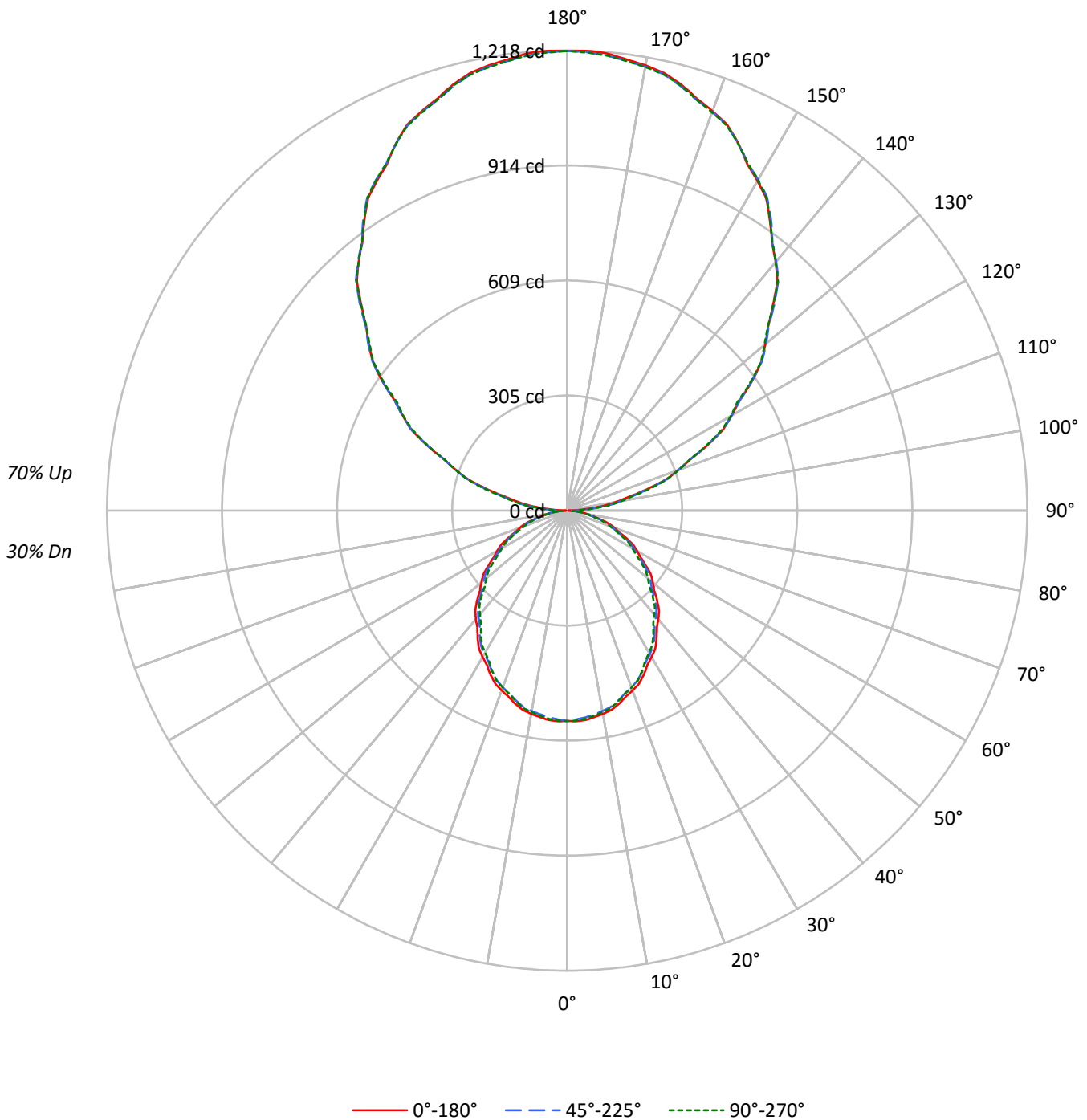
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38	30
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	32	25
2	85	78	72	67	76	70	65	61	55	52	49	42	39	37	29	28	27	21
3	77	68	61	55	69	61	55	51	49	44	41	37	34	32	26	24	23	18
4	71	60	53	47	63	54	48	43	43	38	35	33	30	27	23	21	19	15
5	65	54	46	40	58	48	42	37	38	34	30	29	26	23	21	19	17	13
6	60	48	40	34	53	43	36	32	35	30	26	26	23	20	19	17	15	12
7	55	43	35	30	49	39	32	28	31	26	23	24	20	18	17	15	13	10
8	51	39	32	26	46	35	29	24	28	24	20	22	18	16	16	13	12	9
9	47	35	28	23	42	32	26	21	26	21	18	20	17	14	14	12	11	8
10	44	32	25	21	40	29	23	19	24	19	16	18	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4495	4495	4495
5°	4508	4454	4486
10°	4480	4418	4440
15°	4425	4355	4367
20°	4354	4277	4281
25°	4272	4188	4177
30°	4172	4084	4047
35°	4066	3975	3921
40°	3958	3851	3780
45°	3846	3729	3658
50°	3720	3620	3508
55°	3586	3478	3365
60°	3450	3321	3219
65°	3299	3171	3043
70°	3127	2969	2854
75°	2866	2729	2658
80°	2552	2450	2385
85°	2232	2149	2103



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.4	1.1
10°-20°	147.7	3.1
20°-30°	217.4	4.5
30°-40°	252.8	5.3
40°-50°	252.8	5.3
50°-60°	221.1	4.6
60°-70°	164.2	3.4
70°-80°	93.3	1.9
80°-90°	30.6	0.6
90°-100°	80.2	1.7
100°-110°	237.7	4.9
110°-120°	403.4	8.4
120°-130°	531.9	11.1
130°-140°	597.4	12.4
140°-150°	587.0	12.2
150°-160°	493.7	10.3
160°-170°	328.5	6.8
170°-180°	115.0	2.4
0°-30°	417.6	8.7
0°-40°	670.4	13.9
0°-60°	1144.3	23.8
0°-90°	1432.4	29.8
90°-120°	721.3	15.0
90°-150°	2437.7	50.7
90°-180°	3375.0	70.2
0°-180°	4807.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	556	554	550	554	554	53
15°	530	528	521	524	522	149
25°	480	476	470	471	469	221
35°	413	409	403	400	398	258
45°	337	333	327	322	320	260
55°	255	253	247	242	239	228
65°	173	170	166	162	159	171
75°	92	90	88	86	85	98
85°	24	24	23	23	23	27
90°	3	13	21	26	28	5
95°	56	65	72	74	74	63
105°	219	220	224	227	230	233
115°	410	410	408	407	406	404
125°	597	597	596	595	593	532
135°	770	776	776	774	772	596
145°	936	940	941	940	937	586
155°	1072	1072	1072	1075	1072	493
165°	1168	1165	1163	1168	1165	329
175°	1215	1210	1209	1215	1209	115
180°	1216	1216	1216	1216	1216	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8
2.5°	558.2	558.0	557.7	557.5	557.2	556.7	555.8	555.0	554.1	553.2	554.0
5°	556.3	555.9	555.5	555.2	554.8	554.0	552.9	551.9	550.7	549.6	550.7
7.5°	551.2	550.7	550.4	550.0	549.6	548.7	547.5	546.4	545.2	543.9	544.8
10°	546.5	546.1	545.7	545.4	545.0	544.1	542.8	541.5	540.3	538.9	539.7
12.5°	540.5	540.1	539.7	539.2	538.9	538.0	536.6	535.3	533.9	532.5	533.4
15°	529.5	529.1	528.8	528.4	528.0	527.1	525.6	524.1	522.5	521.1	521.7
17.5°	516.4	515.9	515.5	515.0	514.4	513.5	512.1	510.7	509.3	507.8	508.2
20°	506.8	506.3	505.9	505.3	504.8	503.9	502.4	500.9	499.4	497.9	498.2
22.5°	496.4	495.8	495.1	494.5	493.8	492.8	491.3	489.8	488.3	486.8	487.4
25°	479.6	478.9	478.2	477.5	476.8	475.8	474.4	473.0	471.6	470.2	470.3
27.5°	460.3	459.6	458.9	458.2	457.5	456.5	455.2	453.9	452.6	451.3	451.1
30°	447.5	446.7	445.9	445.1	444.3	443.3	442.0	440.6	439.4	438.1	437.7
32.5°	433.9	433.2	432.4	431.8	431.0	430.0	428.7	427.3	425.9	424.5	424.0
35°	412.6	412.0	411.3	410.6	409.9	408.9	407.5	406.0	404.7	403.3	402.7
37.5°	390.3	389.6	389.0	388.4	387.8	386.7	385.2	383.7	382.2	380.7	379.9
40°	375.6	374.8	374.1	373.2	372.5	371.4	369.9	368.3	366.8	365.4	364.4
42.5°	360.0	359.5	359.0	358.5	358.1	356.9	355.3	353.6	352.0	350.4	349.2
45°	336.9	336.1	335.5	334.8	334.0	332.9	331.3	329.7	328.2	326.6	325.5
47.5°	312.6	312.2	311.7	311.2	310.8	309.8	308.3	306.8	305.4	303.9	302.7
50°	296.2	295.9	295.5	295.0	294.6	293.8	292.4	291.0	289.5	288.2	286.8
52.5°	280.2	279.7	279.2	278.7	278.2	277.3	275.8	274.4	272.9	271.5	270.2
55°	254.8	254.5	254.1	253.8	253.5	252.7	251.3	250.0	248.5	247.1	246.0
57.5°	230.5	230.2	229.8	229.5	229.1	228.3	226.9	225.6	224.1	222.8	221.7
60°	213.7	213.2	212.7	212.2	211.7	210.8	209.5	208.2	207.0	205.7	204.8
62.5°	197.3	196.9	196.4	196.0	195.6	194.7	193.3	192.0	190.6	189.3	188.4
65°	172.7	172.2	171.6	171.2	170.7	169.9	168.9	168.0	166.9	166.0	164.9
67.5°	147.9	147.4	146.9	146.5	146.0	145.3	144.4	143.5	142.5	141.5	140.5
70°	132.5	131.8	131.1	130.4	129.7	128.9	128.2	127.4	126.6	125.8	125.0
72.5°	116.1	115.4	114.7	114.0	113.3	112.6	112.0	111.4	110.7	110.1	109.4
75°	91.9	91.4	91.0	90.4	89.9	89.4	89.0	88.4	87.9	87.5	87.1
77.5°	68.8	68.6	68.3	68.1	68.0	67.6	67.2	66.7	66.3	65.9	65.7
80°	54.9	54.6	54.3	54.0	53.7	53.4	53.3	53.1	52.9	52.7	52.4
82.5°	41.3	41.2	41.0	40.9	40.7	40.6	40.6	40.6	40.5	40.5	40.4
85°	24.1	24.1	24.1	24.1	24.1	24.0	23.8	23.6	23.4	23.2	23.2
87.5°	9.8	10.2	10.7	11.0	11.4	11.7	12.0	12.2	12.4	12.7	12.9
90°	2.8	5.1	7.4	9.7	12.1	14.0	15.6	17.3	19.0	20.7	22.0
92.5°	20.2	22.8	25.4	28.0	30.6	32.6	33.7	34.9	36.1	37.2	38.0
95°	56.5	58.3	60.2	62.1	64.0	65.6	67.1	68.6	70.0	71.5	72.1
97.5°	98.6	100.1	101.6	103.1	104.6	106.2	107.9	109.6	111.4	113.1	113.9
100°	131.7	132.5	133.4	134.2	135.1	136.4	138.3	140.2	142.0	143.9	144.4
102.5°	166.4	166.6	167.0	167.3	167.7	168.7	170.4	172.1	173.8	175.6	176.2
105°	219.2	219.4	219.6	219.8	220.1	220.6	221.4	222.3	223.1	223.9	224.5
107.5°	274.8	274.9	275.2	275.5	275.7	275.9	276.1	276.2	276.3	276.4	277.0
110°	312.4	312.7	313.2	313.6	314.1	314.1	313.9	313.7	313.5	313.3	312.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	351.5	351.6	351.7	351.8	351.9	351.7	351.3	350.9	350.5	350.2	350.1
115°	410.2	410.2	410.2	410.2	410.2	410.0	409.5	409.2	408.7	408.3	408.1
117.5°	465.5	465.7	465.8	466.0	466.2	466.1	465.8	465.5	465.2	465.0	464.2
120°	502.4	503.2	504.1	504.9	505.8	505.9	505.2	504.5	504.0	503.3	502.3
122.5°	540.7	541.1	541.4	541.8	542.1	542.2	541.9	541.5	541.2	540.9	540.3
125°	597.4	597.4	597.4	597.4	597.4	597.3	597.1	596.9	596.6	596.4	596.1
127.5°	648.8	649.4	650.0	650.6	651.3	651.4	651.1	650.7	650.4	650.1	649.7
130°	684.9	685.5	686.2	686.7	687.4	687.7	687.7	687.7	687.7	687.7	687.3
132.5°	721.8	722.3	722.6	723.1	723.6	723.8	723.6	723.4	723.2	723.1	722.6
135°	770.5	771.8	773.0	774.3	775.5	776.2	776.2	776.2	776.2	776.2	775.7
137.5°	823.6	824.2	824.7	825.3	826.0	826.3	826.7	827.1	827.4	827.7	827.2
140°	858.9	859.3	859.8	860.2	860.6	860.8	860.8	860.8	860.8	860.8	860.6
142.5°	891.3	891.7	892.1	892.6	893.0	893.1	893.0	892.8	892.6	892.4	892.4
145°	936.0	936.9	937.7	938.6	939.4	939.9	940.2	940.4	940.6	940.8	940.6
147.5°	980.5	981.5	982.5	983.5	984.5	985.0	984.8	984.6	984.4	984.3	984.1
150°	1007.6	1008.4	1009.3	1010.1	1011.0	1011.3	1011.3	1011.3	1011.3	1011.3	1011.3
152.5°	1033.2	1033.7	1034.2	1034.7	1035.2	1035.5	1035.7	1035.9	1036.0	1036.1	1036.7
155°	1072.5	1072.5	1072.5	1072.5	1072.5	1072.4	1072.1	1072.0	1071.8	1071.6	1072.4
157.5°	1105.6	1105.2	1104.8	1104.5	1104.1	1103.9	1103.8	1103.8	1103.8	1103.7	1104.4
160°	1125.2	1124.9	1124.7	1124.5	1124.4	1124.2	1123.9	1123.7	1123.5	1123.3	1123.9
162.5°	1143.2	1142.7	1142.2	1141.6	1141.0	1140.7	1140.5	1140.3	1140.1	1139.8	1140.9
165°	1167.5	1166.9	1166.3	1165.6	1165.0	1164.5	1164.0	1163.7	1163.2	1162.8	1164.0
167.5°	1186.2	1185.2	1184.4	1183.6	1182.6	1182.2	1182.2	1182.3	1182.3	1182.4	1183.6
170°	1196.7	1195.6	1194.6	1193.5	1192.5	1192.0	1192.3	1192.5	1192.7	1192.9	1194.2
172.5°	1204.2	1203.3	1202.5	1201.6	1200.7	1200.2	1200.3	1200.3	1200.4	1200.4	1201.8
175°	1214.6	1213.5	1212.5	1211.4	1210.4	1209.8	1209.6	1209.3	1209.1	1208.9	1210.4
177.5°	1218.0	1217.1	1216.3	1215.4	1214.6	1214.2	1214.2	1214.2	1214.2	1214.2	1215.3
180°	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8
2.5°	554.8	555.6	556.4	556.8	556.7	556.6	556.5	556.4
5°	551.9	552.9	554.0	554.4	554.2	554.0	553.8	553.6
7.5°	545.6	546.6	547.4	547.8	547.7	547.5	547.4	547.3
10°	540.5	541.3	542.2	542.4	542.2	542.0	541.8	541.6
12.5°	534.2	535.1	536.0	536.3	536.0	535.7	535.5	535.2
15°	522.3	522.8	523.5	523.6	523.3	523.0	522.7	522.5
17.5°	508.6	509.0	509.3	509.4	509.3	509.1	508.9	508.7
20°	498.5	498.8	499.1	499.2	498.9	498.7	498.5	498.3
22.5°	487.9	488.4	489.0	489.1	488.7	488.3	488.0	487.7
25°	470.4	470.5	470.6	470.5	470.0	469.7	469.3	468.9
27.5°	450.8	450.6	450.3	450.0	449.5	449.0	448.5	448.0
30°	437.3	437.0	436.5	436.1	435.5	435.1	434.6	434.1
32.5°	423.6	423.1	422.6	422.2	421.7	421.1	420.7	420.2
35°	401.9	401.2	400.5	399.9	399.4	399.0	398.4	397.9
37.5°	379.2	378.4	377.7	377.0	376.4	375.7	375.0	374.4
40°	363.4	362.4	361.5	360.7	360.1	359.7	359.2	358.7
42.5°	348.1	346.9	345.8	345.1	344.7	344.4	344.0	343.7
45°	324.4	323.3	322.3	321.5	321.2	320.9	320.7	320.4
47.5°	301.4	300.2	299.0	298.0	297.3	296.5	295.8	295.0
50°	285.4	284.1	282.7	281.6	281.1	280.5	279.8	279.3
52.5°	269.0	267.8	266.6	265.5	264.8	264.0	263.3	262.5
55°	244.8	243.6	242.4	241.5	240.9	240.3	239.7	239.1
57.5°	220.6	219.4	218.3	217.4	216.9	216.3	215.7	215.1
60°	203.9	203.0	202.1	201.4	201.0	200.4	199.9	199.4
62.5°	187.7	186.8	186.0	185.3	184.8	184.4	183.9	183.3
65°	164.0	163.0	162.0	161.3	160.8	160.2	159.8	159.3
67.5°	139.6	138.6	137.7	137.1	137.0	136.9	136.8	136.6
70°	124.2	123.5	122.6	122.1	121.8	121.5	121.2	120.9
72.5°	108.9	108.2	107.5	107.1	106.8	106.5	106.2	105.9
75°	86.6	86.2	85.9	85.6	85.5	85.4	85.3	85.2
77.5°	65.6	65.5	65.4	65.2	64.9	64.7	64.4	64.2
80°	52.2	52.0	51.8	51.7	51.6	51.5	51.4	51.3
82.5°	40.2	40.2	40.1	40.0	39.9	39.7	39.6	39.5
85°	23.2	23.2	23.2	23.2	23.1	23.0	22.8	22.7
87.5°	13.2	13.5	13.7	13.9	13.9	14.0	14.1	14.2
90°	23.2	24.5	25.7	26.6	27.0	27.4	27.8	28.2
92.5°	38.7	39.5	40.2	40.8	41.0	41.3	41.6	41.8
95°	72.8	73.4	74.0	74.4	74.4	74.4	74.4	74.4
97.5°	114.6	115.4	116.1	116.5	116.5	116.5	116.5	116.5
100°	144.8	145.2	145.6	145.8	145.8	145.8	145.8	145.8
102.5°	176.7	177.3	177.9	178.2	178.4	178.6	178.8	178.9
105°	225.2	225.8	226.4	227.1	227.6	228.3	228.9	229.5
107.5°	277.6	278.1	278.7	279.0	279.0	278.9	278.9	278.8
110°	312.5	312.0	311.6	311.7	312.4	312.9	313.6	314.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	350.0	349.9	349.9	349.9	350.0	350.1	350.2	350.3
115°	407.8	407.6	407.5	407.3	407.1	406.8	406.6	406.4
117.5°	463.5	462.8	462.1	461.6	461.1	460.7	460.2	459.9
120°	501.2	500.2	499.2	498.8	499.3	499.6	500.1	500.5
122.5°	539.5	538.9	538.1	537.3	536.6	535.8	535.1	534.3
125°	595.6	595.2	594.7	594.4	594.0	593.5	593.1	592.7
127.5°	649.2	648.8	648.4	648.0	647.7	647.3	647.1	646.7
130°	686.9	686.5	686.1	685.4	684.6	683.7	682.9	682.0
132.5°	722.3	721.8	721.4	721.0	720.7	720.4	720.0	719.7
135°	775.3	774.9	774.5	773.9	773.4	772.7	772.0	771.5
137.5°	826.6	826.0	825.6	825.3	825.5	825.6	825.7	825.9
140°	860.4	860.2	860.0	859.8	859.6	859.3	859.1	858.9
142.5°	892.3	892.3	892.3	892.2	892.2	892.1	892.1	892.0
145°	940.4	940.2	939.9	939.5	938.9	938.3	937.6	937.0
147.5°	983.9	983.7	983.5	983.4	983.2	983.0	982.8	982.6
150°	1011.3	1011.3	1011.3	1011.3	1011.1	1010.8	1010.6	1010.4
152.5°	1037.2	1037.6	1038.2	1038.2	1037.6	1037.1	1036.5	1035.9
155°	1073.3	1074.0	1074.9	1074.9	1074.0	1073.3	1072.4	1071.6
157.5°	1104.9	1105.6	1106.3	1106.2	1105.5	1104.8	1104.1	1103.3
160°	1124.5	1125.2	1125.8	1125.6	1124.5	1123.5	1122.5	1121.4
162.5°	1142.1	1143.2	1144.3	1144.4	1143.4	1142.4	1141.3	1140.2
165°	1165.4	1166.6	1167.8	1168.0	1167.2	1166.4	1165.5	1164.7
167.5°	1184.9	1186.2	1187.4	1187.4	1186.1	1184.8	1183.5	1182.2
170°	1195.4	1196.7	1198.0	1197.8	1196.4	1194.9	1193.4	1191.9
172.5°	1203.2	1204.7	1206.2	1206.1	1204.7	1203.2	1201.7	1200.2
175°	1211.8	1213.3	1214.7	1214.7	1213.3	1211.8	1210.4	1208.9
177.5°	1216.5	1217.7	1218.9	1218.8	1217.5	1216.1	1214.7	1213.4
180°	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4	1216.4

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