

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: P331679-840

Luminaire Tested: **SA2XXRDIP-C675D330U840-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331679-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C675D330U840-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

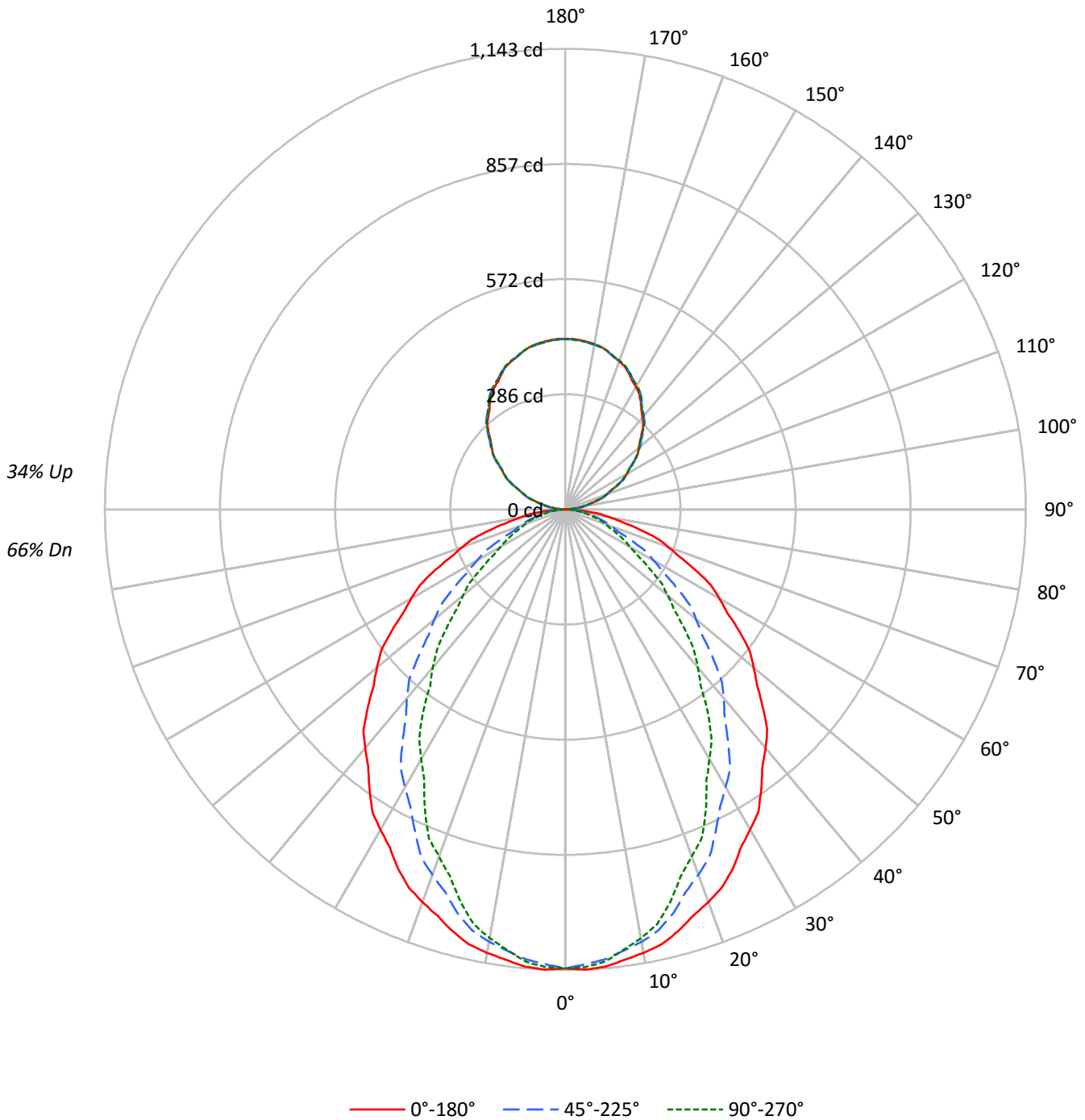
Lumens per Lamp: N/A
Luminaire Lumens: 3526.9 lumens
Efficiency: N/A
Efficacy: 100.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 35
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	111	111	111	111	105	105	105	105	92	92	92	81	81	81	71	71	71	66				
1	102	98	94	91	96	92	89	86	82	80	77	73	71	69	64	63	61	57				
2	94	86	80	75	88	82	76	72	73	69	65	65	62	59	57	55	53	49				
3	86	76	69	64	81	72	66	61	65	60	56	58	54	51	51	48	46	42				
4	79	68	60	54	74	65	58	52	58	52	48	52	47	44	46	43	40	37				
5	73	61	53	47	68	58	51	45	52	46	42	47	42	39	42	38	35	32				
6	67	55	47	41	63	53	45	40	47	41	37	43	38	34	38	34	31	29				
7	62	50	42	37	59	48	41	35	43	37	33	39	34	31	35	31	28	26				
8	58	46	38	33	55	44	37	32	40	34	30	36	31	27	32	28	25	23				
9	54	42	35	30	51	40	33	29	37	31	27	33	28	25	30	26	23	21				
10	51	39	32	27	48	37	30	26	34	28	24	31	26	23	28	24	21	19				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	18392	18392	18392
5°	18462	18162	18263
10°	18321	17864	17713
15°	18111	17336	16836
20°	17819	16579	15747
25°	17521	15720	14694
30°	17107	14838	13340
35°	16703	13878	12151
40°	16297	12886	10777
45°	15819	11768	9533
50°	15330	10643	8312
55°	14829	9433	7139
60°	14247	8157	5926
65°	13589	6854	5398
70°	12798	5646	4961
75°	11834	5147	4629
80°	10451	4603	4212
85°	8207	3631	3631



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.6	3.0
10°-20°	292.8	8.3
20°-30°	411.1	11.7
30°-40°	448.3	12.7
40°-50°	412.2	11.7
50°-60°	323.8	9.2
60°-70°	211.1	6.0
70°-80°	108.8	3.1
80°-90°	29.9	0.8
90°-100°	26.8	0.8
100°-110°	83.2	2.4
110°-120°	142.2	4.0
120°-130°	187.0	5.3
130°-140°	209.9	6.0
140°-150°	205.8	5.8
150°-160°	172.7	4.9
160°-170°	114.5	3.2
170°-180°	40.0	1.1
0°-30°	810.5	23.0
0°-40°	1258.9	35.7
0°-60°	1994.8	56.6
0°-90°	2344.7	66.5
90°-120°	252.2	7.2
90°-150°	855.0	24.2
90°-180°	1182.0	33.5
0°-180°	3526.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1139	1139	1139	1139	1139	
5°	1139	1134	1121	1129	1127	108
15°	1084	1071	1037	1018	1007	305
25°	984	949	882	842	825	452
35°	847	793	704	642	616	530
45°	693	622	515	445	418	535
55°	527	445	335	276	254	471
65°	356	272	179	146	141	352
75°	190	120	82	76	74	201
85°	44	24	20	20	20	52
90°	0	5	12	12	12	3
95°	19	22	23	23	22	21
105°	77	78	78	79	79	81
115°	143	145	144	144	143	141
125°	208	211	210	209	208	185
135°	269	272	273	273	272	207
145°	326	329	331	331	330	204
155°	373	374	375	377	376	172
165°	406	405	405	408	406	114
175°	422	421	420	422	421	40
180°	423	423	423	423	423	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1
2.5°	1143.3	1142.4	1141.5	1140.5	1139.6	1138.1	1136.1	1134.1	1132.2	1130.1	1132.0
5°	1139.1	1138.0	1136.9	1135.7	1134.6	1132.6	1129.5	1126.6	1123.6	1120.6	1122.7
7.5°	1127.4	1126.0	1124.6	1123.2	1121.8	1119.2	1115.8	1112.4	1108.8	1105.4	1105.9
10°	1117.5	1115.9	1114.3	1112.7	1111.1	1108.0	1103.4	1098.8	1094.3	1089.6	1089.0
12.5°	1105.1	1103.2	1101.2	1099.2	1097.2	1093.4	1087.5	1081.7	1075.7	1069.9	1068.6
15°	1083.5	1081.0	1078.4	1075.9	1073.4	1068.2	1060.5	1052.7	1044.9	1037.1	1032.8
17.5°	1056.9	1053.1	1049.2	1045.3	1041.5	1034.6	1024.6	1014.6	1004.6	994.6	989.5
20°	1037.1	1032.5	1027.9	1023.4	1018.8	1010.8	999.3	987.8	976.4	964.9	959.2
22.5°	1015.6	1010.6	1005.4	1000.3	995.1	986.1	973.2	960.3	947.4	934.4	927.1
25°	983.5	976.1	968.9	961.5	954.2	942.9	927.9	912.7	897.6	882.4	873.0
27.5°	944.7	936.8	928.8	920.8	912.8	900.3	883.3	866.3	849.2	832.1	821.2
30°	917.6	908.8	900.1	891.4	882.7	869.2	850.8	832.5	814.2	795.9	784.2
32.5°	891.1	880.9	870.8	860.6	850.4	836.0	817.3	798.6	779.9	761.2	747.9
35°	847.4	835.8	824.0	812.3	800.7	784.8	764.6	744.5	724.3	704.1	689.6
37.5°	803.8	790.8	778.0	765.2	752.3	735.2	713.8	692.3	670.8	649.2	633.4
40°	773.2	759.4	745.7	732.0	718.2	700.2	678.0	655.8	633.6	611.4	595.1
42.5°	741.8	727.4	712.9	698.4	684.0	665.2	642.3	619.4	596.3	573.4	556.5
45°	692.8	677.4	662.1	646.7	631.4	611.7	587.6	563.6	539.5	515.4	499.2
47.5°	644.9	628.6	612.4	596.1	579.9	559.4	534.5	509.7	484.8	460.0	443.8
50°	610.3	594.0	577.7	561.5	545.2	524.5	499.3	474.1	448.9	423.7	407.9
52.5°	576.5	559.5	542.5	525.5	508.5	487.7	463.0	438.4	413.7	389.1	373.9
55°	526.8	509.0	491.1	473.2	455.3	434.0	409.3	384.6	359.8	335.1	321.3
57.5°	475.8	457.6	439.2	420.9	402.5	381.5	357.7	334.0	310.1	286.4	273.8
60°	441.2	422.9	404.6	386.3	367.9	347.0	323.4	299.7	276.2	252.6	240.9
62.5°	407.4	389.1	370.7	352.4	334.1	313.7	291.2	268.7	246.2	223.7	212.6
65°	355.7	337.1	318.5	300.0	281.4	261.9	241.3	220.7	200.0	179.4	171.6
67.5°	305.8	287.3	268.9	250.5	232.1	213.6	195.0	176.5	157.9	139.4	135.8
70°	271.1	253.3	235.4	217.5	199.7	182.8	167.0	151.2	135.4	119.6	117.2
72.5°	238.1	221.0	203.9	186.7	169.6	154.7	142.0	129.3	116.6	103.9	102.0
75°	189.7	173.7	157.6	141.6	125.5	113.6	105.8	98.1	90.3	82.5	80.9
77.5°	142.1	127.9	113.9	99.9	85.8	76.9	73.1	69.4	65.6	61.9	60.9
80°	112.4	100.7	89.0	77.4	65.6	58.7	56.4	54.0	51.8	49.5	48.6
82.5°	85.1	76.0	67.0	57.8	48.7	43.3	41.8	40.2	38.7	37.2	36.6
85°	44.3	39.5	34.7	29.9	25.0	22.3	21.6	21.0	20.3	19.6	19.6
87.5°	13.2	12.0	10.7	9.4	8.2	7.7	8.1	8.4	8.8	9.1	8.9
90°	0.4	1.3	2.2	3.2	4.1	5.6	7.3	9.0	10.7	12.5	12.3
92.5°	6.4	7.1	7.8	8.5	9.2	9.7	10.1	10.5	10.9	11.3	11.4
95°	18.6	19.4	20.1	20.9	21.7	22.2	22.3	22.5	22.7	22.8	22.8
97.5°	33.9	34.6	35.2	36.0	36.7	37.2	37.5	37.8	38.1	38.4	38.4
100°	45.3	45.9	46.6	47.3	47.9	48.3	48.5	48.8	49.0	49.3	49.3
102.5°	57.3	57.8	58.3	58.8	59.3	59.8	60.0	60.3	60.6	60.9	61.0
105°	76.7	77.0	77.2	77.5	77.7	77.9	78.1	78.2	78.4	78.5	78.7
107.5°	96.2	96.6	96.9	97.4	97.7	97.9	97.9	97.9	97.9	97.9	97.9
110°	108.9	109.3	109.8	110.3	110.7	111.0	111.0	111.0	111.0	111.0	111.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	122.5	123.0	123.5	123.9	124.4	124.6	124.5	124.5	124.4	124.4	124.2
115°	142.7	143.2	143.7	144.1	144.6	144.8	144.6	144.4	144.3	144.1	144.1
117.5°	162.8	163.5	164.1	164.7	165.4	165.5	165.0	164.6	164.1	163.7	163.5
120°	176.2	176.9	177.5	178.1	178.7	178.7	178.1	177.5	176.9	176.2	176.2
122.5°	188.5	189.2	190.1	190.8	191.6	191.8	191.3	190.9	190.4	190.0	189.8
125°	207.6	208.3	209.0	209.7	210.5	210.8	210.5	210.3	210.1	209.7	209.5
127.5°	226.3	227.2	228.1	228.9	229.8	230.1	229.9	229.6	229.3	229.0	228.7
130°	238.0	239.0	240.0	241.1	242.1	242.6	242.4	242.3	242.1	241.9	241.8
132.5°	251.2	252.0	252.8	253.6	254.5	254.9	254.9	255.0	255.0	255.0	254.7
135°	268.6	269.5	270.4	271.2	272.2	272.7	272.9	273.0	273.2	273.3	273.2
137.5°	287.1	287.8	288.5	289.3	290.0	290.4	290.6	290.8	291.0	291.2	291.2
140°	298.3	299.0	299.7	300.4	301.1	301.6	302.1	302.5	302.9	303.3	303.3
142.5°	309.7	310.4	311.1	311.8	312.6	313.1	313.3	313.6	313.9	314.1	314.2
145°	326.1	326.7	327.2	327.8	328.3	328.8	329.3	329.8	330.2	330.7	330.8
147.5°	340.7	341.4	342.0	342.7	343.4	343.9	344.2	344.6	344.9	345.2	345.4
150°	350.7	351.2	351.6	352.1	352.6	353.0	353.4	353.7	354.0	354.3	354.6
152.5°	359.6	360.0	360.5	361.0	361.4	361.9	362.2	362.6	363.0	363.5	363.8
155°	372.8	373.0	373.3	373.5	373.8	374.1	374.3	374.5	374.8	375.0	375.4
157.5°	384.2	384.4	384.5	384.7	384.9	385.0	385.2	385.3	385.4	385.6	386.1
160°	391.0	391.2	391.3	391.5	391.6	391.8	391.8	391.9	392.0	392.1	392.5
162.5°	397.3	397.4	397.4	397.4	397.5	397.5	397.6	397.7	397.8	397.8	398.4
165°	405.7	405.6	405.5	405.5	405.4	405.3	405.3	405.3	405.3	405.3	405.9
167.5°	412.6	412.4	412.2	411.9	411.7	411.6	411.5	411.5	411.5	411.5	412.0
170°	416.4	416.2	415.9	415.7	415.5	415.3	415.2	415.1	415.1	415.0	415.5
172.5°	418.9	418.7	418.5	418.2	418.0	417.8	417.8	417.7	417.6	417.5	418.1
175°	422.1	421.8	421.6	421.3	421.1	420.9	420.8	420.6	420.4	420.3	420.8
177.5°	423.3	423.1	422.9	422.8	422.6	422.4	422.3	422.2	422.0	421.9	422.3
180°	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1	1139.1
2.5°	1133.8	1135.6	1137.4	1138.1	1137.8	1137.4	1137.1	1136.7
5°	1124.7	1126.8	1128.8	1129.5	1128.8	1128.1	1127.5	1126.8
7.5°	1106.5	1107.1	1107.7	1107.4	1106.2	1105.1	1103.9	1102.7
10°	1088.3	1087.6	1086.9	1085.9	1084.5	1083.2	1081.8	1080.4
12.5°	1067.4	1066.2	1064.9	1063.2	1060.9	1058.6	1056.3	1054.0
15°	1028.4	1024.0	1019.7	1016.3	1014.1	1011.8	1009.5	1007.2
17.5°	984.3	979.1	973.9	969.4	965.4	961.5	957.6	953.6
20°	953.5	947.8	942.0	936.6	931.6	926.6	921.5	916.5
22.5°	919.7	912.3	904.9	899.4	895.5	891.8	888.1	884.3
25°	863.6	854.2	844.9	838.5	835.1	831.6	828.2	824.8
27.5°	810.2	799.3	788.4	780.1	774.7	769.2	763.8	758.3
30°	772.5	760.8	749.1	740.2	734.0	727.8	721.6	715.5
32.5°	734.6	721.2	707.9	698.3	692.5	686.7	680.9	675.1
35°	675.3	660.9	646.4	636.6	631.6	626.5	621.6	616.5
37.5°	617.4	601.6	585.7	574.8	569.1	563.3	557.5	551.8
40°	578.8	562.5	546.2	535.1	529.2	523.2	517.3	511.3
42.5°	539.8	522.9	506.1	494.8	489.1	483.3	477.6	471.7
45°	482.9	466.7	450.4	439.5	434.0	428.5	423.0	417.5
47.5°	427.7	411.5	395.3	384.8	379.7	374.8	369.7	364.8
50°	392.1	376.3	360.5	350.1	345.4	340.5	335.8	330.9
52.5°	358.6	343.3	328.0	318.2	313.8	309.3	304.9	300.4
55°	307.6	293.8	280.0	271.0	266.7	262.3	257.9	253.6
57.5°	261.2	248.6	236.0	227.8	224.2	220.6	216.8	213.2
60°	229.2	217.5	205.8	198.1	194.5	190.9	187.1	183.5
62.5°	201.5	190.3	179.2	172.5	170.3	168.1	165.9	163.7
65°	163.8	156.0	148.2	144.0	143.3	142.6	141.9	141.3
67.5°	132.2	128.7	125.1	122.9	122.2	121.5	120.8	120.0
70°	115.0	112.7	110.4	108.9	107.9	106.9	106.0	105.1
72.5°	100.1	98.2	96.2	95.0	94.4	93.9	93.3	92.8
75°	79.3	77.7	76.0	75.1	74.9	74.7	74.4	74.2
77.5°	60.0	59.1	58.2	57.6	57.2	56.9	56.5	56.0
80°	47.7	46.8	45.8	45.3	45.3	45.3	45.3	45.3
82.5°	36.1	35.4	34.9	34.6	34.6	34.6	34.6	34.6
85°	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
87.5°	8.7	8.5	8.3	8.2	8.2	8.2	8.2	8.2
90°	12.2	12.0	11.8	11.8	11.9	12.0	12.0	12.1
92.5°	11.4	11.4	11.5	11.5	11.5	11.5	11.5	11.5
95°	22.8	22.8	22.8	22.7	22.6	22.4	22.3	22.1
97.5°	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.3
100°	49.3	49.3	49.3	49.2	49.1	49.1	49.0	48.9
102.5°	61.1	61.1	61.2	61.2	61.1	61.0	61.0	60.9
105°	78.8	79.0	79.2	79.2	79.2	79.2	79.2	79.2
107.5°	98.0	98.1	98.1	98.0	97.6	97.3	96.8	96.4
110°	111.0	111.0	111.0	110.9	110.6	110.4	110.2	109.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	124.0	123.8	123.6	123.4	123.3	123.1	122.9	122.7
115°	144.0	143.9	143.8	143.7	143.4	143.2	143.0	142.7
117.5°	163.3	163.1	162.9	162.7	162.5	162.3	162.0	161.8
120°	176.2	176.2	176.2	176.1	175.9	175.6	175.4	175.2
122.5°	189.6	189.3	189.1	189.0	188.8	188.6	188.4	188.3
125°	209.3	209.0	208.8	208.6	208.6	208.5	208.4	208.3
127.5°	228.5	228.2	227.9	227.6	227.4	227.1	226.9	226.6
130°	241.6	241.5	241.3	241.1	240.8	240.3	240.0	239.7
132.5°	254.3	254.0	253.7	253.4	253.1	252.9	252.6	252.4
135°	273.2	273.1	273.0	272.9	272.6	272.4	272.2	271.9
137.5°	291.1	291.0	291.0	290.8	290.5	290.2	289.9	289.5
140°	303.3	303.3	303.3	303.1	302.8	302.5	302.2	301.8
142.5°	314.3	314.3	314.4	314.3	314.0	313.6	313.3	313.0
145°	330.9	330.9	331.0	330.9	330.6	330.3	330.0	329.6
147.5°	345.5	345.7	345.9	345.8	345.5	345.2	344.9	344.6
150°	354.8	355.0	355.3	355.3	355.0	354.8	354.6	354.3
152.5°	364.1	364.4	364.7	364.7	364.4	364.1	363.8	363.5
155°	375.8	376.2	376.6	376.7	376.4	376.2	376.0	375.7
157.5°	386.6	387.2	387.7	387.8	387.4	387.0	386.7	386.3
160°	393.0	393.5	394.0	394.0	393.7	393.4	393.1	392.8
162.5°	398.9	399.4	400.0	400.0	399.7	399.3	398.9	398.5
165°	406.4	407.0	407.5	407.6	407.2	406.8	406.4	406.1
167.5°	412.6	413.1	413.7	413.8	413.4	412.9	412.5	412.1
170°	416.1	416.6	417.2	417.2	416.8	416.3	415.8	415.3
172.5°	418.6	419.2	419.7	419.8	419.3	418.8	418.4	417.9
175°	421.4	421.9	422.5	422.5	422.1	421.6	421.1	420.6
177.5°	422.7	423.0	423.4	423.4	423.0	422.7	422.3	421.9
180°	422.8	422.8	422.8	422.8	422.8	422.8	422.8	422.8

(END OF REPORT)