

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: P332520-840

Luminaire Tested: **S124DIP-S350D1035U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332520-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D1035U840-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5628.3 lumens
Efficiency: N/A
Efficacy: 150.9 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

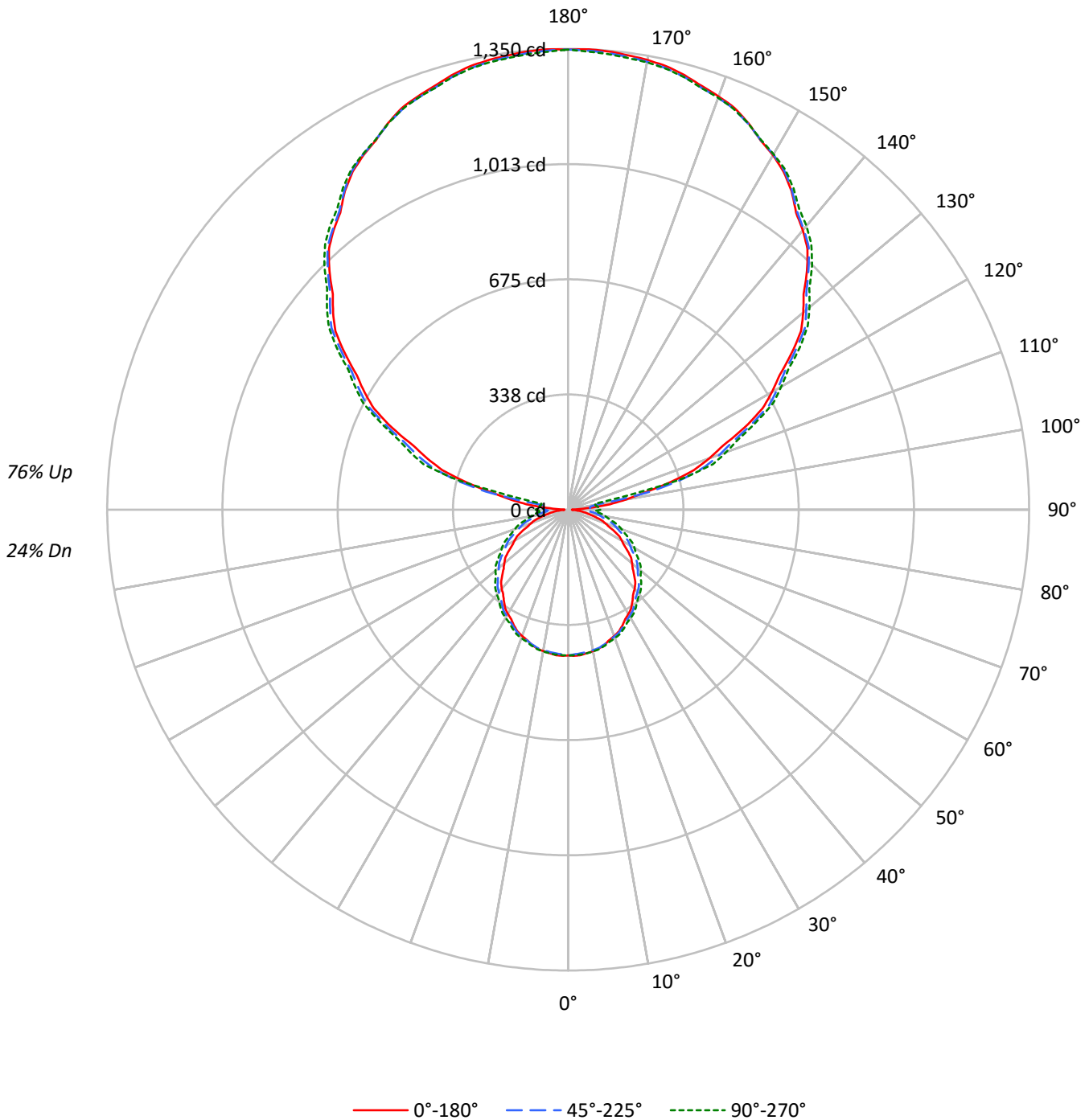
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	80	81	77	74	71	59	57	55	43	42	40	28	27	26	19
2	83	76	70	65	73	67	62	58	52	48	45	37	35	33	24	23	22	16
3	76	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	46	40	40	36	32	29	26	24	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	35	30	32	27	23	23	20	17	15	13	12	8
7	53	42	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	14	13	11	9	6
9	46	34	27	22	41	31	24	20	24	19	16	18	14	12	12	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3446	3446	3446
5°	3457	3367	3378
10°	3435	3313	3310
15°	3404	3249	3231
20°	3358	3179	3155
25°	3306	3100	3070
30°	3249	3021	2983
35°	3185	2941	2907
40°	3134	2865	2828
45°	3058	2793	2759
50°	2994	2713	2687
55°	2928	2636	2603
60°	2824	2538	2526
65°	2708	2435	2431
70°	2572	2315	2320
75°	2379	2183	2220
80°	2166	2057	2123
85°	1893	1946	2065



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.4	0.7
10°-20°	115.8	2.1
20°-30°	175.1	3.1
30°-40°	211.9	3.8
40°-50°	224.0	4.0
50°-60°	210.8	3.7
60°-70°	174.9	3.1
70°-80°	122.9	2.2
80°-90°	73.3	1.3
90°-100°	87.3	1.6
100°-110°	324.5	5.8
110°-120°	582.8	10.4
120°-130°	725.4	12.9
130°-140°	768.7	13.7
140°-150°	715.2	12.7
150°-160°	575.9	10.2
160°-170°	371.4	6.6
170°-180°	128.0	2.3
0°-30°	331.4	5.9
0°-40°	543.2	9.7
0°-60°	978.1	17.4
0°-90°	1349.2	24.0
90°-120°	994.6	17.7
90°-150°	3203.8	56.9
90°-180°	4279.0	76.0
0°-180°	5628.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	427	427	427	427	427	
5°	427	426	422	426	426	41
15°	410	410	409	413	412	115
25°	375	378	379	384	385	173
35°	328	334	338	345	347	205
45°	273	282	292	299	302	211
55°	214	224	238	248	251	191
65°	148	164	180	191	196	147
75°	82	100	120	133	138	87
85°	25	46	67	81	86	27
90°	11	41	70	89	95	8
95°	62	45	64	82	88	76
105°	308	324	346	364	335	322
115°	570	577	591	603	607	560
125°	798	802	812	823	828	713
135°	989	988	995	1005	1010	762
145°	1140	1142	1142	1146	1150	712
155°	1249	1250	1247	1251	1248	576
165°	1318	1313	1312	1320	1312	372
175°	1348	1342	1343	1351	1340	128
180°	1348	1348	1348	1348	1348	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	428.4	428.1	427.9	427.6	427.4	426.9	426.3	425.6	424.9	424.1	424.7
5°	427.4	427.0	426.7	426.4	426.1	425.6	424.7	424.0	423.3	422.5	423.4
7.5°	423.7	423.5	423.3	423.1	422.9	422.5	421.9	421.3	420.7	420.1	421.0
10°	420.6	420.5	420.4	420.3	420.2	419.9	419.4	418.8	418.3	417.8	418.7
12.5°	416.5	416.4	416.4	416.4	416.4	416.2	415.8	415.5	415.1	414.8	415.6
15°	409.6	409.8	409.9	410.0	410.1	410.0	409.6	409.3	409.0	408.7	409.6
17.5°	400.4	400.7	401.0	401.3	401.6	401.8	401.7	401.6	401.6	401.5	402.5
20°	393.8	394.2	394.6	394.9	395.2	395.4	395.5	395.6	395.7	395.8	396.9
22.5°	386.6	387.0	387.4	387.8	388.2	388.5	388.7	388.9	389.1	389.3	390.3
25°	374.8	375.4	376.1	376.7	377.3	377.8	378.1	378.4	378.7	379.1	380.2
27.5°	361.5	362.5	363.5	364.4	365.3	366.0	366.5	367.0	367.5	368.0	369.0
30°	352.7	353.7	354.5	355.3	356.2	357.0	357.7	358.4	359.2	359.9	361.1
32.5°	343.3	344.3	345.3	346.3	347.3	348.2	349.0	349.8	350.7	351.5	352.8
35°	327.9	329.2	330.4	331.7	333.1	334.2	335.3	336.3	337.4	338.4	339.9
37.5°	312.6	314.0	315.5	316.9	318.4	319.7	321.1	322.4	323.8	325.1	326.6
40°	302.6	304.0	305.4	306.7	308.1	309.5	311.0	312.6	314.0	315.5	317.1
42.5°	291.1	292.7	294.2	295.8	297.3	298.9	300.7	302.5	304.2	305.9	307.7
45°	273.4	275.4	277.4	279.4	281.4	283.5	285.5	287.5	289.5	291.5	293.4
47.5°	256.5	258.6	260.6	262.8	264.8	267.0	269.3	271.8	274.1	276.4	278.2
50°	244.3	246.6	248.9	251.3	253.6	255.9	258.3	260.6	263.0	265.3	267.4
52.5°	232.1	234.4	236.7	239.0	241.4	243.9	246.5	249.2	251.9	254.6	256.7
55°	214.2	216.4	218.6	220.9	223.1	225.8	228.9	232.2	235.3	238.5	240.7
57.5°	194.2	196.9	199.7	202.5	205.2	208.1	211.4	214.5	217.6	220.9	223.4
60°	181.2	183.9	186.7	189.5	192.2	195.3	198.8	202.4	205.8	209.3	211.8
62.5°	168.5	171.6	174.6	177.6	180.6	183.9	187.3	190.9	194.4	197.9	200.4
65°	148.1	151.6	155.0	158.3	161.8	165.3	168.8	172.5	176.1	179.8	182.4
67.5°	128.6	132.2	135.8	139.5	143.0	146.7	150.7	154.5	158.3	162.2	164.9
70°	115.2	118.8	122.4	126.0	129.7	133.5	137.5	141.6	145.6	149.7	152.5
72.5°	102.2	105.9	109.6	113.3	116.9	121.0	125.2	129.6	133.8	138.1	140.9
75°	82.2	86.1	90.1	94.0	98.0	102.1	106.6	111.1	115.5	120.0	123.0
77.5°	63.6	67.8	71.9	76.0	80.2	84.6	89.3	94.0	98.7	103.3	106.3
80°	52.1	56.4	60.6	64.8	69.1	73.5	78.3	82.9	87.6	92.3	95.4
82.5°	40.6	45.0	49.5	53.9	58.3	62.8	67.6	72.2	76.9	81.6	84.8
85°	25.3	29.8	34.2	38.7	43.2	47.8	52.6	57.4	62.1	67.0	70.1
87.5°	14.7	19.6	24.4	29.2	34.0	39.0	44.0	49.0	54.0	59.0	62.4
90°	10.7	17.4	24.1	30.8	37.6	44.0	50.4	56.8	63.1	69.5	73.9
92.5°	20.0	23.9	27.9	31.8	35.9	41.0	47.4	53.7	60.1	66.4	70.7
95°	61.7	57.6	53.4	49.3	45.2	45.4	50.0	54.6	59.2	63.7	68.0
97.5°	123.4	131.2	139.0	146.7	154.4	147.9	127.3	106.6	85.9	65.2	68.2
100°	170.6	177.4	184.2	191.0	197.7	187.7	161.0	134.2	107.4	80.7	79.8
102.5°	223.8	229.2	234.6	239.9	245.3	248.0	248.0	248.1	248.1	248.1	209.8
105°	307.7	311.2	314.7	318.1	321.6	325.9	330.9	336.0	341.0	346.1	350.7
107.5°	386.5	388.9	391.3	393.7	396.2	400.0	405.3	410.4	415.7	420.9	424.5
110°	439.3	441.5	443.6	445.9	448.0	451.6	456.7	461.7	466.8	471.8	474.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	490.6	493.1	495.6	498.2	500.7	504.0	508.2	512.4	516.5	520.7	523.0
115°	569.5	571.1	572.7	574.3	575.9	578.3	581.5	584.7	587.8	591.1	593.8
117.5°	641.0	642.4	643.9	645.3	646.8	649.3	653.0	656.7	660.4	664.0	666.1
120°	688.9	690.1	691.4	692.6	693.8	695.8	698.6	701.6	704.4	707.2	709.8
122.5°	734.1	734.7	735.3	735.9	736.5	738.4	741.6	744.9	748.1	751.3	753.7
125°	798.3	799.1	799.9	800.7	801.5	802.9	805.2	807.4	809.6	811.8	814.5
127.5°	859.5	859.6	859.8	859.9	860.0	861.6	864.6	867.8	870.8	873.8	875.7
130°	898.7	898.8	898.9	899.0	899.1	900.4	902.7	905.1	907.5	909.9	912.0
132.5°	934.9	935.2	935.5	935.8	936.1	937.4	939.6	941.8	944.0	946.2	948.3
135°	989.0	988.7	988.5	988.3	988.1	988.8	990.4	992.0	993.6	995.3	997.4
137.5°	1037.1	1037.1	1037.0	1037.0	1037.0	1037.7	1039.1	1040.4	1041.8	1043.1	1045.1
140°	1068.5	1068.9	1069.2	1069.5	1070.0	1070.4	1071.0	1071.5	1072.1	1072.6	1074.6
142.5°	1096.4	1097.2	1097.9	1098.7	1099.5	1100.0	1100.2	1100.4	1100.7	1100.9	1102.6
145°	1139.6	1140.2	1140.7	1141.3	1142.0	1142.2	1142.2	1142.2	1142.2	1142.2	1143.1
147.5°	1174.2	1175.3	1176.4	1177.6	1178.7	1179.2	1178.9	1178.7	1178.5	1178.3	1178.5
150°	1199.1	1199.9	1200.7	1201.5	1202.2	1202.5	1202.3	1202.1	1201.9	1201.6	1201.6
152.5°	1219.7	1220.4	1221.1	1221.8	1222.5	1222.6	1222.2	1221.8	1221.4	1221.0	1221.4
155°	1249.1	1249.3	1249.5	1249.7	1249.9	1249.7	1249.1	1248.4	1247.7	1247.1	1247.9
157.5°	1273.8	1273.7	1273.5	1273.4	1273.3	1272.8	1272.1	1271.3	1270.6	1269.8	1271.0
160°	1288.4	1287.7	1287.1	1286.4	1285.7	1285.3	1285.1	1284.8	1284.5	1284.3	1285.7
162.5°	1301.3	1300.4	1299.6	1298.7	1297.9	1297.4	1297.1	1296.9	1296.7	1296.5	1297.8
165°	1317.6	1316.5	1315.3	1314.2	1313.1	1312.5	1312.5	1312.5	1312.5	1312.5	1314.3
167.5°	1330.5	1329.4	1328.2	1327.1	1325.9	1325.2	1325.0	1324.9	1324.8	1324.6	1326.7
170°	1337.8	1336.5	1335.0	1333.7	1332.4	1331.8	1332.0	1332.3	1332.5	1332.7	1334.5
172.5°	1342.6	1341.3	1339.9	1338.6	1337.3	1336.7	1336.9	1337.2	1337.4	1337.6	1339.4
175°	1347.9	1346.6	1345.1	1343.8	1342.5	1341.9	1342.1	1342.4	1342.6	1342.8	1344.8
177.5°	1350.3	1349.0	1347.8	1346.6	1345.2	1344.8	1345.1	1345.5	1345.8	1346.3	1347.7
180°	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	426.9	426.9	426.9	426.9	426.9	426.9	426.9	426.9
2.5°	425.4	426.0	426.6	426.8	426.8	426.7	426.6	426.5
5°	424.2	425.1	426.0	426.4	426.3	426.1	426.0	425.9
7.5°	422.0	422.9	423.9	424.3	424.2	424.1	424.0	423.9
10°	419.7	420.6	421.6	422.0	421.9	421.8	421.7	421.6
12.5°	416.5	417.4	418.2	418.6	418.6	418.6	418.6	418.5
15°	410.6	411.5	412.5	412.9	412.8	412.7	412.6	412.5
17.5°	403.4	404.5	405.5	405.9	405.8	405.7	405.7	405.6
20°	397.9	399.0	400.0	400.6	400.6	400.6	400.6	400.6
22.5°	391.4	392.4	393.5	394.2	394.4	394.5	394.7	394.9
25°	381.4	382.5	383.7	384.4	384.5	384.6	384.7	384.8
27.5°	370.1	371.2	372.3	372.9	373.0	373.1	373.2	373.4
30°	362.2	363.5	364.6	365.3	365.5	365.8	366.0	366.2
32.5°	354.2	355.6	356.9	357.7	357.9	358.1	358.3	358.5
35°	341.4	342.8	344.4	345.3	345.6	345.9	346.3	346.6
37.5°	328.1	329.5	331.0	332.0	332.3	332.6	333.1	333.4
40°	318.7	320.2	321.8	322.9	323.3	323.8	324.2	324.6
42.5°	309.4	311.2	313.0	314.1	314.4	314.7	315.1	315.4
45°	295.2	297.0	298.8	299.9	300.5	301.0	301.5	302.1
47.5°	280.1	282.0	283.9	285.1	285.8	286.4	287.0	287.7
50°	269.5	271.7	273.8	275.2	275.8	276.4	277.1	277.7
52.5°	258.8	260.9	263.1	264.5	265.1	265.7	266.4	267.0
55°	242.8	244.9	247.0	248.4	249.0	249.6	250.3	251.0
57.5°	225.9	228.4	231.0	232.5	233.1	233.7	234.3	234.9
60°	214.3	216.7	219.1	220.8	221.7	222.5	223.4	224.2
62.5°	202.8	205.2	207.6	209.3	210.2	211.0	211.9	212.7
65°	185.0	187.7	190.4	192.1	193.0	193.8	194.7	195.5
67.5°	167.6	170.4	173.0	174.8	175.6	176.4	177.2	178.1
70°	155.3	158.2	161.1	162.9	163.6	164.4	165.1	165.8
72.5°	143.7	146.5	149.3	151.1	151.9	152.7	153.6	154.4
75°	125.9	128.9	131.9	133.8	134.8	135.7	136.7	137.6
77.5°	109.4	112.4	115.4	117.4	118.5	119.5	120.5	121.5
80°	98.7	101.8	105.0	107.0	107.9	108.8	109.6	110.4
82.5°	88.1	91.4	94.6	96.7	97.7	98.6	99.6	100.5
85°	73.3	76.4	79.7	81.8	82.8	83.9	84.9	86.0
87.5°	65.7	69.1	72.4	74.6	75.6	76.6	77.7	78.7
90°	78.4	82.8	87.2	90.1	91.4	92.7	93.9	95.2
92.5°	75.0	79.4	83.7	86.4	87.4	88.3	89.2	90.2
95°	72.2	76.4	80.6	83.3	84.5	85.6	86.8	88.1
97.5°	71.1	74.0	77.0	79.0	80.1	81.2	82.3	83.5
100°	78.8	77.9	77.0	77.0	77.9	78.9	79.9	80.8
102.5°	171.6	133.2	94.9	76.2	77.1	78.0	78.9	79.7
105°	355.5	360.1	364.8	363.5	356.3	349.1	341.8	334.7
107.5°	428.1	431.7	435.4	438.0	439.6	441.2	442.8	444.4
110°	477.6	480.5	483.4	485.6	487.2	488.7	490.2	491.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	525.2	527.6	529.8	531.8	533.5	535.2	536.8	538.6
115°	596.6	599.4	602.2	603.9	604.7	605.4	606.2	606.9
117.5°	668.2	670.3	672.5	673.9	674.7	675.4	676.2	676.9
120°	712.4	715.0	717.5	719.0	719.4	719.8	720.2	720.6
122.5°	756.1	758.5	760.8	762.2	762.5	762.9	763.2	763.5
125°	817.2	819.9	822.5	824.4	825.3	826.1	827.0	827.8
127.5°	877.5	879.2	881.0	882.1	882.7	883.2	883.7	884.3
130°	914.1	916.3	918.4	919.8	920.4	921.1	921.7	922.3
132.5°	950.4	952.4	954.4	955.7	956.1	956.6	957.0	957.6
135°	999.6	1001.7	1003.9	1005.5	1006.5	1007.6	1008.8	1009.9
137.5°	1047.1	1049.2	1051.3	1052.5	1052.9	1053.3	1053.7	1054.1
140°	1076.7	1078.7	1080.8	1082.2	1083.0	1083.7	1084.5	1085.2
142.5°	1104.3	1106.0	1107.6	1108.7	1109.2	1109.7	1110.2	1110.8
145°	1143.9	1144.8	1145.7	1146.5	1147.4	1148.2	1149.1	1150.0
147.5°	1178.8	1179.1	1179.3	1179.7	1180.3	1180.9	1181.4	1182.0
150°	1201.6	1201.6	1201.6	1201.7	1202.0	1202.2	1202.4	1202.6
152.5°	1221.7	1222.1	1222.4	1222.5	1222.4	1222.3	1222.1	1222.0
155°	1248.8	1249.7	1250.6	1250.7	1250.1	1249.4	1248.7	1248.1
157.5°	1272.1	1273.3	1274.4	1274.4	1273.3	1272.1	1271.0	1269.8
160°	1287.1	1288.4	1289.7	1289.7	1288.4	1287.1	1285.7	1284.3
162.5°	1299.1	1300.5	1301.8	1301.7	1300.2	1298.7	1297.2	1295.7
165°	1316.2	1318.0	1319.7	1319.6	1317.6	1315.6	1313.5	1311.5
167.5°	1328.6	1330.6	1332.5	1332.4	1330.2	1328.0	1325.6	1323.4
170°	1336.4	1338.1	1339.9	1339.7	1337.5	1335.2	1332.9	1330.7
172.5°	1341.2	1342.9	1344.7	1344.4	1342.0	1339.6	1337.2	1334.7
175°	1346.9	1348.9	1350.9	1350.5	1347.9	1345.1	1342.5	1339.8
177.5°	1349.1	1350.5	1352.0	1351.6	1349.5	1347.4	1345.1	1343.0
180°	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9	1347.9

(END OF REPORT)