

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: P331418-927

Luminaire Tested: **SA2XXDIP-C865D1080U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331418-927
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: SA2XXDIP-C865D1080U927-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5834.7 lumens
Efficiency: N/A
Efficacy: 89.2 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

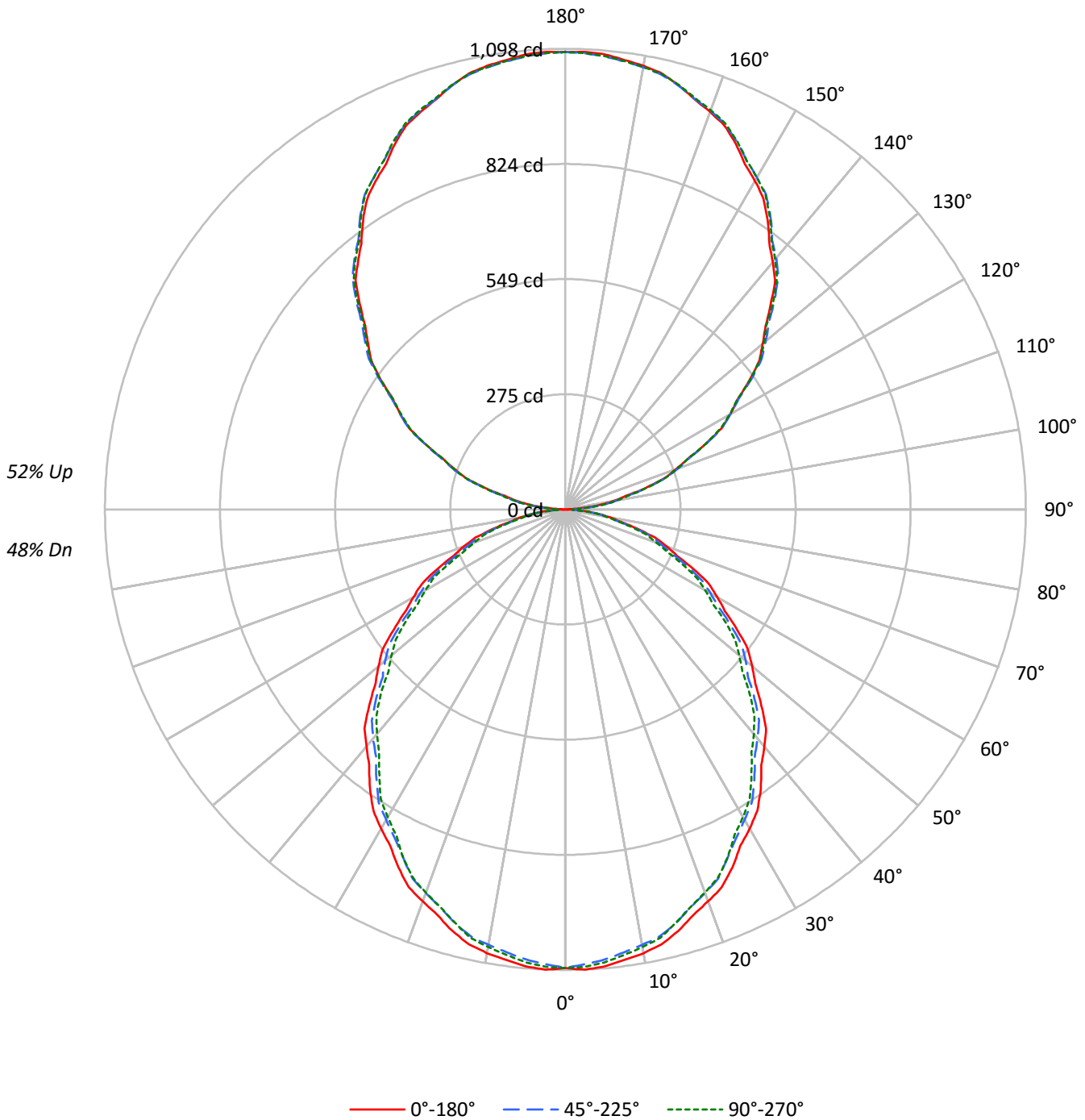
Input Watts (W): 65.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	67	67	67	54	54	54	48
1	97	93	89	86	89	86	82	79	72	70	67	59	58	56	48	47	46	40
2	89	81	75	70	81	75	70	65	63	59	56	52	49	47	42	40	38	34
3	81	71	64	58	74	66	59	54	56	51	47	46	43	40	37	35	33	29
4	74	63	55	49	68	58	51	46	49	44	40	41	37	34	33	30	28	24
5	68	56	48	42	62	52	45	40	44	39	34	37	33	29	30	27	25	21
6	62	50	42	37	57	47	40	34	40	34	30	33	29	26	27	24	22	19
7	58	46	38	32	53	42	35	30	36	30	26	30	26	23	25	22	19	17
8	54	41	34	28	49	38	31	27	33	27	23	28	23	20	23	20	17	15
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	21	18	16	13
10	47	35	27	23	43	32	26	21	28	23	19	24	19	17	20	16	14	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17651	17651	17651
5°	17718	17462	17566
10°	17613	17285	17372
15°	17396	17061	17043
20°	17086	16725	16706
25°	16778	16311	16311
30°	16384	15933	15795
35°	16015	15477	15248
40°	15553	15022	14733
45°	15098	14570	14209
50°	14601	14099	13599
55°	14083	13551	13050
60°	13511	12897	12426
65°	12894	12248	11687
70°	12109	11462	10914
75°	11017	10555	10293
80°	9772	9484	8991
85°	7984	7595	6817



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.8	1.8
10°-20°	289.3	5.0
20°-30°	425.2	7.3
30°-40°	493.9	8.5
40°-50°	493.3	8.5
50°-60°	430.2	7.4
60°-70°	318.1	5.5
70°-80°	180.2	3.1
80°-90°	52.8	0.9
90°-100°	69.1	1.2
100°-110°	214.6	3.7
110°-120°	366.8	6.3
120°-130°	482.4	8.3
130°-140°	541.4	9.3
140°-150°	530.9	9.1
150°-160°	445.3	7.6
160°-170°	295.3	5.1
170°-180°	103.2	1.8
0°-30°	817.2	14.0
0°-40°	1311.1	22.5
0°-60°	2234.6	38.3
0°-90°	2785.7	47.7
90°-120°	650.5	11.1
90°-150°	2205.2	37.8
90°-180°	3049.0	52.3
0°-180°	5834.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1093	1093	1093	1093	1093	
5°	1093	1089	1077	1085	1084	104
15°	1041	1034	1021	1024	1020	293
25°	942	933	916	917	916	433
35°	812	802	785	779	774	507
45°	661	653	638	627	622	510
55°	500	494	481	469	464	447
65°	338	331	321	311	306	334
75°	177	174	169	163	165	189
85°	43	42	41	38	37	49
90°	1	12	32	31	31	5
95°	48	57	59	59	57	55
105°	198	201	202	204	204	209
115°	368	373	372	371	368	364
125°	536	543	541	538	537	478
135°	693	703	705	704	701	535
145°	841	847	853	854	850	525
155°	962	964	967	971	969	442
165°	1046	1045	1045	1051	1047	295
175°	1089	1086	1084	1090	1085	103
180°	1090	1090	1090	1090	1090	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2
2.5°	1098.3	1097.3	1096.4	1095.5	1094.6	1093.1	1091.0	1088.9	1086.9	1084.8	1086.7
5°	1093.2	1092.3	1091.4	1090.4	1089.5	1087.7	1085.2	1082.6	1080.1	1077.4	1079.3
7.5°	1083.5	1082.1	1080.7	1079.2	1077.8	1075.7	1073.1	1070.5	1067.9	1065.2	1067.1
10°	1074.3	1072.7	1071.0	1069.4	1067.8	1065.6	1062.7	1059.9	1057.2	1054.3	1056.2
12.5°	1061.7	1060.3	1058.8	1057.3	1055.9	1053.8	1051.0	1048.1	1045.4	1042.6	1043.9
15°	1040.7	1039.3	1037.8	1036.5	1035.1	1032.8	1029.8	1026.7	1023.7	1020.7	1021.6
17.5°	1013.8	1012.3	1011.0	1009.6	1008.1	1005.9	1002.8	999.7	996.6	993.6	994.7
20°	994.4	993.0	991.7	990.2	988.8	986.5	983.2	979.9	976.7	973.4	974.1
22.5°	975.1	973.1	971.1	969.2	967.3	964.7	961.6	958.5	955.5	952.4	952.5
25°	941.8	940.0	938.1	936.3	934.4	931.4	927.5	923.5	919.6	915.6	916.1
27.5°	904.0	902.4	900.6	899.0	897.3	894.8	891.8	888.6	885.5	882.3	881.7
30°	878.8	876.9	875.0	873.2	871.3	868.6	865.1	861.7	858.1	854.6	853.9
32.5°	851.9	850.4	848.9	847.4	845.9	843.3	839.6	835.9	832.3	828.5	827.3
35°	812.5	810.2	807.9	805.6	803.2	800.2	796.5	792.7	788.9	785.2	783.9
37.5°	768.2	766.1	764.1	762.0	760.0	757.1	753.4	749.6	745.8	742.1	740.4
40°	737.9	736.1	734.2	732.3	730.5	727.6	723.9	720.2	716.4	712.7	710.6
42.5°	708.5	706.6	704.7	702.9	701.0	698.2	694.5	690.8	687.0	683.3	681.0
45°	661.2	659.6	657.9	656.3	654.7	652.0	648.6	645.1	641.6	638.1	635.5
47.5°	614.1	612.6	611.0	609.5	607.9	605.3	601.7	598.0	594.4	590.7	588.0
50°	581.3	580.1	579.0	577.8	576.6	574.4	571.2	567.8	564.6	561.3	558.1
52.5°	549.4	547.8	546.3	544.7	543.2	540.9	537.8	534.7	531.6	528.5	525.9
55°	500.3	499.0	497.6	496.1	494.7	492.7	489.9	487.0	484.3	481.4	478.6
57.5°	451.1	450.0	448.9	447.8	446.7	444.6	441.5	438.4	435.3	432.2	429.5
60°	418.4	417.4	416.5	415.6	414.6	412.6	409.2	406.0	402.7	399.4	396.9
62.5°	386.4	384.9	383.4	381.9	380.4	378.4	375.9	373.4	370.8	368.4	366.0
65°	337.5	336.0	334.6	333.2	331.8	329.9	327.6	325.3	323.0	320.6	318.5
67.5°	287.6	286.5	285.3	284.2	283.1	281.5	279.4	277.3	275.2	273.1	271.5
70°	256.5	255.6	254.6	253.7	252.8	251.2	249.1	247.0	244.9	242.8	241.2
72.5°	224.5	223.6	222.7	221.7	220.8	219.7	218.3	217.0	215.6	214.2	212.6
75°	176.6	176.1	175.6	175.2	174.8	173.9	172.8	171.6	170.4	169.2	167.9
77.5°	133.7	132.9	132.1	131.3	130.6	129.9	129.4	129.0	128.5	128.0	127.3
80°	105.1	104.9	104.6	104.4	104.2	103.9	103.4	102.9	102.4	102.0	101.2
82.5°	78.2	78.2	78.1	78.0	78.0	77.9	77.6	77.3	77.0	76.8	75.8
85°	43.1	42.9	42.6	42.4	42.1	41.9	41.7	41.4	41.2	41.0	40.3
87.5°	15.3	15.4	15.5	15.7	15.8	16.1	16.6	17.2	17.7	18.2	17.6
90°	1.0	3.4	5.9	8.3	10.8	14.2	18.7	23.2	27.7	32.2	31.8
92.5°	16.4	18.1	20.0	21.8	23.6	25.0	26.1	27.2	28.2	29.2	29.3
95°	47.8	49.9	52.0	53.9	56.0	57.3	57.7	58.1	58.5	58.9	58.9
97.5°	87.5	89.2	91.0	92.8	94.6	95.9	96.6	97.4	98.2	99.0	99.0
100°	116.8	118.5	120.2	121.8	123.4	124.5	125.2	125.7	126.4	127.0	127.0
102.5°	147.8	149.1	150.4	151.7	153.0	154.1	154.9	155.6	156.4	157.2	157.3
105°	197.8	198.4	199.1	199.7	200.3	200.8	201.2	201.6	202.0	202.4	202.9
107.5°	248.3	249.1	250.1	251.0	251.8	252.3	252.3	252.3	252.3	252.3	252.5
110°	280.7	281.9	283.1	284.3	285.6	286.2	286.2	286.2	286.2	286.2	286.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	316.0	317.2	318.5	319.6	320.9	321.5	321.2	321.1	320.9	320.8	320.3
115°	368.0	369.3	370.5	371.8	373.0	373.4	373.0	372.6	372.2	371.8	371.5
117.5°	419.9	421.6	423.3	424.8	426.5	426.7	425.6	424.5	423.3	422.2	421.7
120°	454.6	456.2	457.9	459.5	461.1	461.1	459.5	457.9	456.2	454.6	454.6
122.5°	486.2	488.2	490.1	492.1	494.1	494.5	493.4	492.2	491.1	489.9	489.4
125°	535.5	537.4	539.2	541.1	542.9	543.5	542.9	542.3	541.7	541.1	540.4
127.5°	583.6	585.9	588.3	590.6	592.9	593.7	592.9	592.2	591.5	590.7	590.0
130°	613.8	616.4	619.1	621.7	624.4	625.5	625.1	624.7	624.3	623.9	623.4
132.5°	647.6	649.8	652.0	654.1	656.3	657.4	657.5	657.6	657.7	657.7	656.9
135°	692.9	695.1	697.4	699.7	701.9	703.2	703.6	704.0	704.5	704.9	704.6
137.5°	740.5	742.4	744.3	746.1	747.9	749.1	749.6	750.2	750.7	751.2	751.1
140°	769.3	771.1	772.9	774.8	776.7	778.1	779.1	780.1	781.2	782.1	782.1
142.5°	798.8	800.6	802.4	804.2	806.0	807.3	808.0	808.7	809.5	810.2	810.3
145°	841.1	842.5	843.9	845.3	846.8	848.1	849.3	850.6	851.8	853.0	853.2
147.5°	878.8	880.5	882.2	883.9	885.7	886.9	887.7	888.6	889.4	890.2	890.7
150°	904.5	905.8	907.0	908.2	909.4	910.5	911.3	912.1	912.9	913.8	914.3
152.5°	927.3	928.6	929.8	931.1	932.2	933.3	934.4	935.3	936.4	937.3	938.1
155°	961.6	962.2	962.8	963.5	964.1	964.6	965.3	965.9	966.5	967.1	968.1
157.5°	990.9	991.3	991.7	992.0	992.5	992.8	993.2	993.6	994.0	994.3	995.8
160°	1008.5	1008.9	1009.3	1009.7	1010.2	1010.4	1010.7	1010.9	1011.1	1011.3	1012.5
162.5°	1024.7	1024.8	1024.8	1024.9	1025.1	1025.2	1025.4	1025.6	1025.8	1026.0	1027.4
165°	1046.2	1046.1	1045.8	1045.6	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1046.8
167.5°	1064.3	1063.7	1063.0	1062.5	1061.8	1061.5	1061.4	1061.4	1061.4	1061.4	1062.8
170°	1073.9	1073.2	1072.6	1072.0	1071.4	1071.0	1070.8	1070.6	1070.4	1070.2	1071.6
172.5°	1080.5	1079.9	1079.3	1078.6	1078.0	1077.6	1077.4	1077.2	1077.0	1076.8	1078.2
175°	1088.6	1088.0	1087.3	1086.7	1086.2	1085.6	1085.2	1084.8	1084.4	1083.9	1085.4
177.5°	1091.9	1091.4	1090.9	1090.4	1090.0	1089.5	1089.2	1088.9	1088.5	1088.2	1089.2
180°	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2	1093.2
2.5°	1088.5	1090.4	1092.3	1093.1	1092.7	1092.3	1091.9	1091.5
5°	1081.2	1083.1	1085.0	1085.6	1085.2	1084.7	1084.3	1083.8
7.5°	1069.0	1070.9	1072.8	1073.4	1072.9	1072.4	1071.9	1071.3
10°	1058.0	1059.9	1061.8	1062.4	1061.7	1061.0	1060.3	1059.6
12.5°	1045.2	1046.5	1047.8	1048.2	1047.7	1047.2	1046.6	1046.2
15°	1022.5	1023.5	1024.5	1024.3	1023.2	1022.0	1020.8	1019.6
17.5°	995.7	996.8	997.9	997.8	996.7	995.6	994.5	993.4
20°	974.8	975.5	976.2	976.0	975.2	974.2	973.3	972.3
22.5°	952.7	952.8	952.9	952.8	952.1	951.6	951.0	950.5
25°	916.6	917.0	917.4	917.4	917.0	916.6	916.1	915.6
27.5°	881.0	880.3	879.6	878.7	877.5	876.4	875.3	874.2
30°	853.2	852.5	851.8	851.0	850.1	849.1	848.2	847.2
32.5°	826.0	824.7	823.5	822.4	821.5	820.5	819.6	818.6
35°	782.4	781.0	779.7	778.3	777.2	776.0	774.8	773.6
37.5°	738.7	737.0	735.2	733.8	732.7	731.6	730.5	729.3
40°	708.5	706.4	704.3	702.7	701.9	700.9	700.0	699.0
42.5°	678.7	676.4	674.1	672.3	671.0	669.7	668.4	667.1
45°	633.0	630.3	627.8	626.1	625.1	624.2	623.2	622.3
47.5°	585.3	582.7	580.0	577.9	576.6	575.2	573.9	572.5
50°	554.8	551.5	548.3	546.1	544.9	543.7	542.6	541.4
52.5°	523.1	520.4	517.7	515.6	514.0	512.5	511.0	509.4
55°	475.9	473.0	470.2	468.3	467.1	465.9	464.8	463.6
57.5°	426.7	424.0	421.2	419.4	418.5	417.6	416.8	415.8
60°	394.3	391.7	389.2	387.5	386.8	386.1	385.4	384.8
62.5°	363.5	361.2	358.8	357.2	356.2	355.4	354.5	353.6
65°	316.4	314.3	312.2	310.5	309.4	308.2	307.0	305.9
67.5°	269.8	268.2	266.6	265.3	264.4	263.4	262.4	261.5
70°	239.6	237.9	236.3	235.0	234.1	233.1	232.2	231.2
72.5°	211.0	209.3	207.7	206.5	205.7	205.0	204.2	203.5
75°	166.4	165.0	163.7	163.2	163.7	164.1	164.5	165.0
77.5°	126.7	126.0	125.2	124.5	123.9	123.3	122.6	121.9
80°	100.5	99.9	99.2	98.5	98.1	97.7	97.2	96.7
82.5°	74.9	74.1	73.2	72.7	72.6	72.5	72.4	72.3
85°	39.6	38.9	38.2	37.7	37.5	37.2	37.0	36.8
87.5°	17.0	16.3	15.6	15.3	15.1	15.0	14.8	14.7
90°	31.4	31.0	30.6	30.5	30.7	30.9	31.1	31.3
92.5°	29.4	29.5	29.6	29.6	29.7	29.7	29.8	29.8
95°	58.9	58.9	58.9	58.7	58.3	57.9	57.4	57.0
97.5°	99.0	99.0	99.0	99.0	98.9	98.9	98.9	98.9
100°	127.0	127.0	127.0	126.9	126.7	126.5	126.3	126.0
102.5°	157.5	157.6	157.8	157.8	157.6	157.4	157.2	157.0
105°	203.3	203.7	204.1	204.3	204.3	204.3	204.3	204.3
107.5°	252.6	252.8	252.9	252.5	251.7	250.7	249.8	248.8
110°	286.2	286.2	286.2	285.9	285.3	284.6	284.0	283.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	319.8	319.3	318.9	318.4	317.9	317.4	317.0	316.6
115°	371.4	371.1	370.9	370.5	369.9	369.3	368.7	368.0
117.5°	421.2	420.7	420.3	419.7	419.1	418.4	417.8	417.2
120°	454.6	454.6	454.6	454.2	453.7	453.0	452.4	451.8
122.5°	488.9	488.5	487.9	487.5	487.0	486.6	486.2	485.7
125°	539.9	539.2	538.6	538.2	538.0	537.8	537.6	537.4
127.5°	589.3	588.5	587.8	587.1	586.5	585.8	585.2	584.5
130°	623.1	622.7	622.3	621.6	620.8	620.0	619.2	618.4
132.5°	655.9	655.1	654.2	653.4	652.8	652.0	651.4	650.8
135°	704.5	704.3	704.0	703.6	703.0	702.4	701.8	701.2
137.5°	750.9	750.8	750.6	750.1	749.2	748.5	747.7	746.8
140°	782.1	782.1	782.1	781.7	780.9	780.1	779.3	778.5
142.5°	810.5	810.6	810.8	810.5	809.6	808.8	808.0	807.2
145°	853.4	853.7	853.8	853.5	852.7	851.9	851.0	850.2
147.5°	891.1	891.5	892.0	891.8	891.0	890.3	889.5	888.7
150°	915.0	915.6	916.2	916.2	915.6	915.0	914.3	913.8
152.5°	938.9	939.6	940.4	940.4	939.6	938.9	938.1	937.3
155°	969.2	970.2	971.2	971.4	970.8	970.2	969.6	968.9
157.5°	997.1	998.5	999.9	1000.1	999.1	998.1	997.2	996.2
160°	1013.8	1014.9	1016.2	1016.4	1015.6	1014.8	1013.9	1013.1
162.5°	1028.8	1030.2	1031.6	1031.7	1030.8	1029.8	1028.8	1027.9
165°	1048.2	1049.6	1051.1	1051.2	1050.3	1049.2	1048.2	1047.2
167.5°	1064.2	1065.6	1067.1	1067.2	1066.2	1065.1	1064.1	1063.0
170°	1073.0	1074.4	1075.9	1076.0	1074.8	1073.6	1072.3	1071.1
172.5°	1079.7	1081.1	1082.5	1082.6	1081.4	1080.1	1079.0	1077.7
175°	1086.9	1088.3	1089.7	1089.8	1088.6	1087.3	1086.2	1084.9
177.5°	1090.2	1091.2	1092.1	1092.1	1091.2	1090.2	1089.2	1088.2
180°	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4	1090.4

(END OF REPORT)