

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: P331410-927

Luminaire Tested: **SA2XXDIP-C865D925U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331410-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D925U927-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5645.9 lumens
Efficiency: N/A
Efficacy: 93.3 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

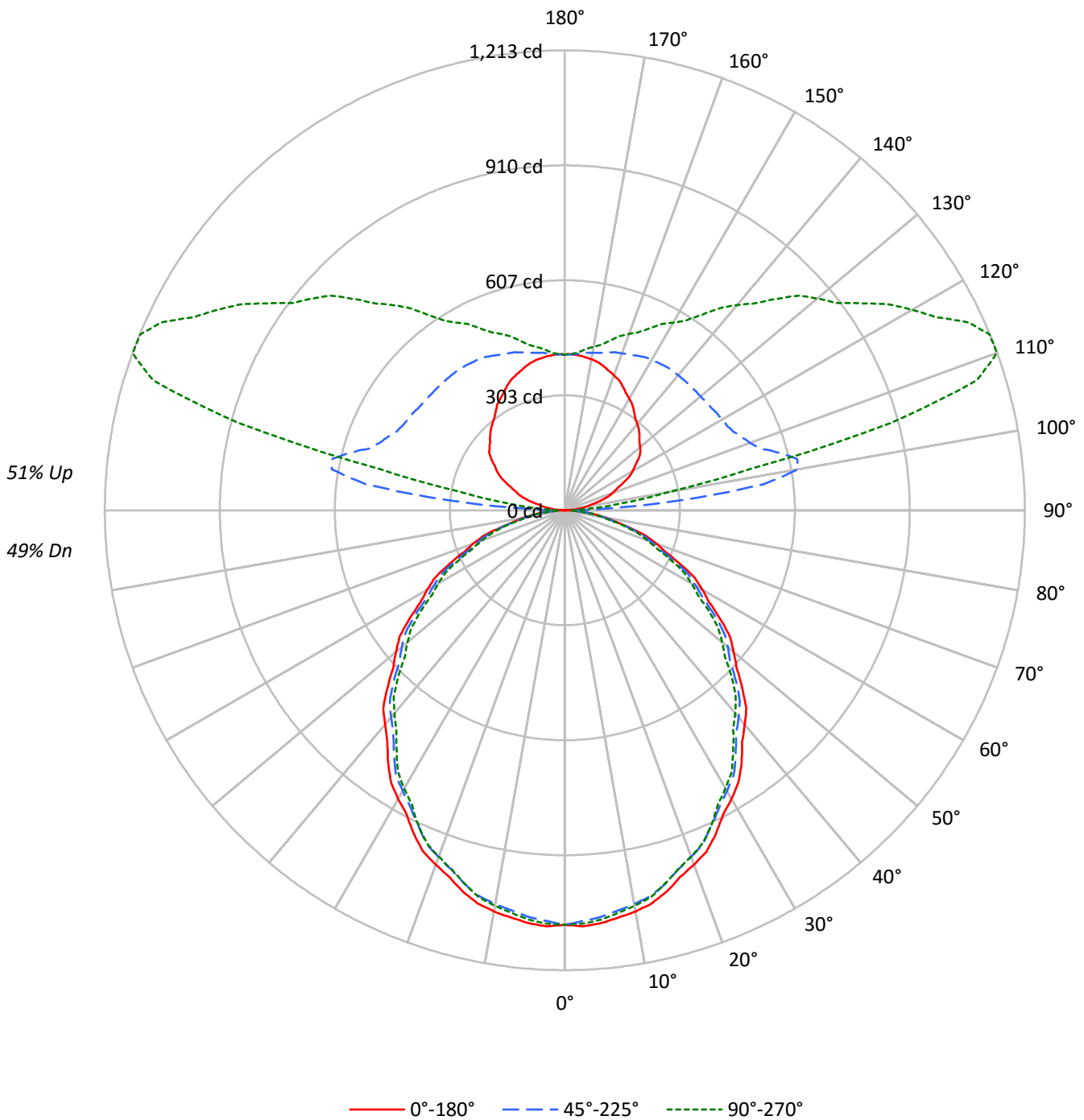
Input Watts (W): 60.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	99	99	99	83	83	83	69	69	69	56	56	56	49
1	98	93	89	86	90	86	83	80	73	70	68	60	59	57	49	48	47	42
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	43	41	39	35
3	81	72	64	58	74	66	60	55	56	51	47	47	43	40	38	36	34	29
4	74	63	55	49	68	59	52	46	50	45	40	42	38	35	34	31	29	25
5	68	56	48	42	63	52	45	40	45	39	35	38	33	30	31	28	25	22
6	63	51	43	37	58	47	40	35	40	35	30	34	30	26	28	25	22	19
7	58	46	38	32	53	43	35	30	36	31	27	31	26	23	26	22	20	17
8	54	42	34	28	50	39	32	27	33	28	24	28	24	21	23	20	18	15
9	50	38	30	25	46	35	29	24	31	25	21	26	22	19	22	18	16	14
10	47	35	28	23	43	32	26	22	28	23	19	24	20	17	20	17	15	13

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	5.1
20°-30°	425.2	7.5
30°-40°	493.9	8.7
40°-50°	493.3	8.7
50°-60°	430.2	7.6
60°-70°	318.1	5.6
70°-80°	180.2	3.2
80°-90°	52.1	0.9
90°-100°	164.4	2.9
100°-110°	557.8	9.9
110°-120°	592.6	10.5
120°-130°	487.8	8.6
130°-140°	391.8	6.9
140°-150°	296.0	5.2
150°-160°	208.1	3.7
160°-170°	122.5	2.2
170°-180°	39.9	0.7
0°-30°	817.2	14.5
0°-40°	1311.1	23.2
0°-60°	2234.6	39.6
0°-90°	2785.0	49.3
90°-120°	1314.8	23.3
90°-150°	2490.5	44.1
90°-180°	2861.0	50.7
0°-180°	5645.9	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	11	27	26	26	4
95°	28	68	310	117	90	29
105°	96	145	586	1047	891	102
115°	170	215	490	1012	1172	169
125°	237	281	471	819	951	211
135°	278	332	466	689	788	215
145°	318	365	463	575	629	199
155°	361	390	450	509	529	166
165°	394	406	431	457	464	111
175°	410	411	414	420	418	39
180°	411	411	411	411	411	



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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	15.7	15.6	15.5	15.6	16.1	16.8	17.3	17.1	16.4
90°	0.8	3.2	6.3	7.9	9.5	11.9	15.8	21.3	26.1	26.9	26.1
92.5°	9.7	13.9	19.6	23.1	28.4	35.9	53.8	78.9	101.3	102.7	86.8
95°	27.6	30.8	38.7	45.9	58.5	77.5	113.8	182.6	274.3	309.9	271.2
97.5°	45.1	49.4	57.8	68.4	83.0	104.5	150.2	246.1	398.5	529.1	555.0
100°	60.8	63.2	70.3	83.0	98.9	121.0	162.9	259.4	430.1	624.6	738.5
102.5°	75.4	77.2	84.3	97.0	113.4	135.5	174.3	260.0	418.1	627.7	806.8
105°	96.5	99.7	105.1	117.0	134.4	156.5	193.7	264.0	394.5	585.8	796.1
107.5°	119.2	121.8	127.1	138.1	155.3	177.6	213.7	275.0	382.8	541.0	726.7
110°	134.4	137.6	142.3	152.6	169.2	192.1	226.9	283.8	380.3	519.4	683.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	148.3	151.5	156.9	166.5	182.4	206.0	239.6	293.3	380.9	505.5	652.8
115°	170.0	174.0	178.7	188.1	204.0	225.3	259.4	307.5	384.2	490.2	615.1
117.5°	192.4	195.6	200.3	208.7	223.9	246.1	277.5	322.7	389.9	482.8	591.4
120°	206.4	209.5	214.3	221.3	237.2	259.4	290.2	332.9	393.7	478.3	578.8
122.5°	219.7	222.1	226.9	234.6	250.5	273.2	302.1	341.7	398.2	475.8	568.0
125°	237.2	239.6	244.3	253.8	269.6	291.8	320.2	355.8	404.8	471.2	552.6
127.5°	251.1	254.3	260.9	271.3	286.5	309.3	337.0	368.9	411.6	468.5	538.4
130°	259.4	262.4	270.4	281.5	297.3	319.4	347.1	377.2	416.7	467.2	528.9
132.5°	266.9	270.7	279.2	291.0	307.4	329.5	355.9	385.3	421.7	466.6	521.3
135°	278.3	281.5	291.0	302.8	321.0	343.1	368.4	396.1	427.7	465.6	510.7
137.5°	289.1	292.9	302.3	315.0	333.0	353.6	378.6	404.3	433.1	465.5	503.3
140°	297.3	300.5	309.9	322.6	340.0	360.5	384.2	408.8	435.6	464.9	498.9
142.5°	305.5	308.0	316.9	329.5	346.3	365.6	388.6	412.6	437.5	464.9	494.5
145°	317.8	321.0	328.9	340.8	356.6	374.0	395.3	417.5	439.6	463.3	488.6
147.5°	331.1	333.5	341.0	352.0	365.1	380.6	400.7	420.2	440.2	460.5	482.6
150°	340.0	342.3	348.6	358.9	370.8	385.0	403.2	421.4	439.6	458.6	477.5
152.5°	348.8	349.9	356.2	365.3	376.5	389.4	405.8	422.0	438.3	455.4	473.1
155°	361.3	362.1	366.9	375.6	384.2	396.1	409.6	422.9	436.4	449.9	464.9
157.5°	371.8	372.6	376.4	383.9	390.9	400.8	412.3	422.9	432.8	444.2	457.2
160°	378.7	379.5	382.6	389.0	395.3	404.0	413.5	422.9	430.9	440.4	451.5
162.5°	385.6	385.2	388.3	393.4	399.1	405.9	414.2	422.3	429.0	437.2	446.4
165°	393.7	392.9	394.5	399.3	403.2	408.0	415.1	420.6	425.3	430.9	438.0
167.5°	400.4	399.4	400.8	403.9	406.7	409.7	414.9	419.5	421.7	425.3	429.8
170°	404.8	403.2	404.0	406.4	408.0	410.4	414.3	418.3	419.9	422.2	425.3
172.5°	407.3	406.4	405.9	408.3	409.2	411.0	413.7	416.4	417.3	418.4	421.0
175°	410.4	409.6	408.8	410.4	410.4	411.1	412.7	414.3	413.5	414.3	415.1
177.5°	411.8	410.5	409.9	411.1	411.1	411.1	411.8	413.0	411.8	411.1	411.8
180°	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1



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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°	15.7	14.8	14.6	14.3	14.2	14.0	13.8	13.6
90°	25.3	23.7	25.3	26.1	26.1	26.1	26.1	26.1
92.5°	68.9	59.2	52.5	47.6	47.0	44.4	45.1	43.8
95°	207.2	158.9	125.7	108.3	98.1	91.7	89.4	90.2
97.5°	483.4	395.5	309.9	252.9	215.1	195.6	184.0	177.4
100°	721.8	623.8	515.5	419.9	354.2	320.2	297.3	283.0
102.5°	878.1	856.0	776.7	675.3	604.0	546.0	517.4	498.1
105°	960.6	1050.0	1060.3	1034.1	985.1	936.1	902.1	891.0
107.5°	901.2	1035.7	1117.9	1156.2	1162.4	1159.7	1152.9	1138.2
110°	849.9	991.4	1092.7	1157.5	1191.4	1206.5	1213.6	1212.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	803.1	939.0	1047.1	1121.4	1168.7	1193.8	1207.3	1211.6
115°	745.5	867.3	970.9	1052.3	1108.4	1144.8	1165.4	1172.5
117.5°	702.2	809.1	903.0	979.5	1036.6	1075.1	1096.8	1102.7
120°	680.7	778.8	862.5	934.5	989.8	1027.0	1050.0	1057.9
122.5°	663.6	753.4	832.8	897.9	947.5	984.0	1004.4	1011.1
125°	638.8	720.3	789.8	849.1	895.0	925.0	944.8	951.1
127.5°	614.3	688.0	753.6	808.3	848.3	876.5	893.6	898.7
130°	598.5	666.5	729.0	781.2	819.9	846.8	862.5	868.9
132.5°	583.3	646.3	703.6	752.7	790.8	817.7	832.2	837.9
135°	562.1	614.3	666.5	710.7	744.7	770.9	785.1	788.2
137.5°	545.2	588.8	630.3	668.8	699.9	722.3	734.8	739.6
140°	534.5	572.4	608.8	643.6	668.8	689.4	701.3	706.0
142.5°	525.6	557.9	589.1	618.3	642.3	661.0	671.5	672.5
145°	513.1	539.2	563.7	586.6	605.6	619.1	626.9	629.3
147.5°	503.4	524.0	543.1	559.9	575.6	586.3	591.7	593.1
150°	496.5	513.9	530.5	544.7	556.6	566.1	570.8	571.6
152.5°	489.6	505.6	519.8	532.1	541.4	549.6	553.1	553.3
155°	479.9	492.6	504.4	513.1	521.8	527.4	530.5	528.9
157.5°	468.7	479.3	489.3	496.1	502.2	506.8	508.2	508.2
160°	461.7	470.4	479.1	484.7	490.2	494.2	495.0	495.0
162.5°	454.8	462.2	469.6	473.9	479.4	482.1	482.9	482.3
165°	444.3	449.9	455.4	458.6	461.7	464.9	464.9	464.1
167.5°	434.4	438.6	442.4	445.3	446.7	448.5	448.3	447.3
170°	429.3	431.7	434.8	436.4	437.2	439.6	438.8	437.2
172.5°	423.6	425.3	427.9	428.8	429.6	430.7	429.9	429.0
175°	417.5	418.3	419.1	419.9	419.9	420.6	419.9	418.3
177.5°	413.0	413.0	413.7	413.7	413.7	413.7	413.0	411.8
180°	411.1	411.1	411.1	411.1	411.1	411.1	411.1	411.1

(END OF REPORT)