

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: P331414-940

Luminaire Tested: **SA2XXDIP-C865D1080U940-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331414-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D1080U940-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

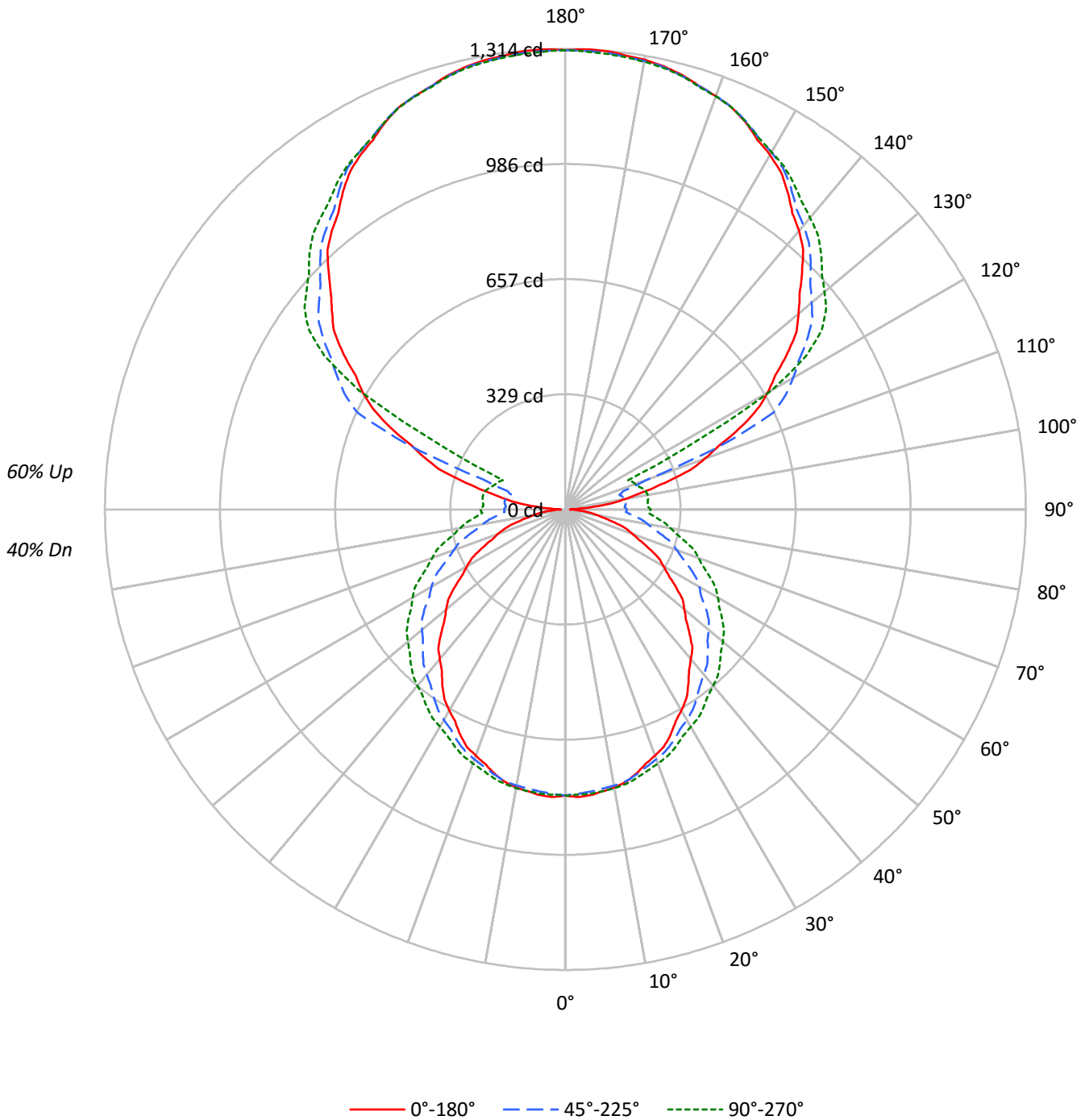
Lumens per Lamp: N/A
Luminaire Lumens: 6957.1 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

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	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	94	90	85	81	85	81	78	74	66	64	61	52	50	49	39	38	37	31
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25
3	78	68	60	54	70	62	55	50	50	45	41	40	36	33	30	27	25	21
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	24	21	17
5	65	53	45	38	58	48	41	35	39	34	30	31	27	24	24	21	18	15
6	59	47	39	33	54	43	36	31	35	30	26	28	24	21	21	18	16	13
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10
9	47	35	27	22	43	32	25	21	26	21	18	21	17	14	16	13	11	9
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13183	13183	13183
5°	13247	12690	12640
10°	13163	12315	12177
15°	12982	11917	11686
20°	12752	11492	11215
25°	12527	11082	10786
30°	12206	10661	10357
35°	11884	10253	10054
40°	11544	9907	9750
45°	11222	9597	9493
50°	10875	9317	9238
55°	10513	9015	8977
60°	10070	8702	8703
65°	9607	8336	8376
70°	9087	7940	8025
75°	8422	7553	7701
80°	7376	7159	7372
85°	6374	6817	7118



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.4	1.1
10°-20°	221.8	3.2
20°-30°	336.2	4.8
30°-40°	409.5	5.9
40°-50°	440.5	6.3
50°-60°	427.8	6.1
60°-70°	373.5	5.4
70°-80°	287.6	4.1
80°-90°	196.2	2.8
90°-100°	176.7	2.5
100°-110°	257.3	3.7
110°-120°	492.5	7.1
120°-130°	742.9	10.7
130°-140°	767.0	11.0
140°-150°	701.6	10.1
150°-160°	562.0	8.1
160°-170°	362.1	5.2
170°-180°	124.6	1.8
0°-30°	635.4	9.1
0°-40°	1044.8	15.0
0°-60°	1913.1	27.5
0°-90°	2770.4	39.8
90°-120°	926.5	13.3
90°-150°	3137.9	45.1
90°-180°	4187.0	60.2
0°-180°	6957.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	816	816	816	816	816	
5°	819	815	808	815	814	78
15°	781	783	783	793	793	220
25°	710	718	729	742	747	326
35°	612	632	654	679	689	382
45°	502	534	575	610	624	387
55°	385	428	489	530	547	344
65°	263	321	390	437	454	261
75°	146	212	288	336	354	154
85°	43	116	192	240	258	46
90°	13	92	175	225	243	11
95°	71	98	173	221	236	83
105°	294	342	160	209	228	315
115°	550	582	656	272	197	541
125°	773	788	841	878	893	689
135°	955	970	990	1023	1032	738
145°	1106	1106	1121	1134	1136	692
155°	1218	1211	1221	1226	1219	561
165°	1284	1278	1281	1287	1281	362
175°	1313	1307	1308	1314	1305	125
180°	1310	1310	1310	1310	1310	



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CATALOG NUMBER: SA2XXDIP-C865D1080U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	821.2	820.6	819.9	819.3	818.7	817.6	816.1	814.7	813.2	811.7	812.8
5°	818.8	818.1	817.3	816.5	815.6	814.5	812.9	811.3	809.8	808.2	809.8
7.5°	811.5	810.9	810.4	809.9	809.4	808.5	807.3	806.1	804.9	803.7	805.6
10°	805.8	805.3	804.8	804.2	803.7	803.1	802.3	801.5	800.7	799.9	802.0
12.5°	796.3	796.5	796.6	796.7	796.7	796.5	795.9	795.3	794.8	794.2	796.3
15°	781.0	781.5	782.0	782.6	783.0	783.3	783.3	783.3	783.3	783.3	785.7
17.5°	761.1	762.1	763.3	764.4	765.4	766.4	767.3	768.1	769.0	769.8	772.3
20°	747.8	749.1	750.5	751.8	753.0	754.3	755.3	756.3	757.4	758.5	761.3
22.5°	733.6	735.1	736.6	738.2	739.7	741.2	742.7	744.1	745.6	747.1	750.0
25°	710.0	711.8	713.6	715.5	717.3	719.4	721.8	724.2	726.5	728.9	732.0
27.5°	681.5	684.6	687.5	690.5	693.6	696.4	699.2	702.0	704.8	707.6	711.6
30°	662.6	666.0	669.5	672.9	676.3	679.8	683.1	686.5	690.0	693.4	697.6
32.5°	641.8	645.6	649.4	653.4	657.2	661.1	665.1	669.2	673.2	677.3	682.2
35°	611.7	616.2	620.7	625.2	629.6	634.4	639.4	644.4	649.3	654.3	660.1
37.5°	579.1	584.2	589.4	594.5	599.7	605.5	612.0	618.5	624.9	631.4	637.8
40°	557.3	563.1	568.9	574.7	580.4	586.9	594.0	601.1	608.2	615.3	622.1
42.5°	536.5	542.2	548.0	553.8	559.6	566.6	574.7	582.9	591.0	599.2	606.6
45°	501.7	508.8	515.9	523.0	530.1	538.2	547.4	556.7	565.9	575.1	583.2
47.5°	467.3	475.1	482.9	490.6	498.3	507.6	518.4	529.1	539.9	550.7	559.2
50°	443.7	451.8	460.0	468.1	476.4	486.3	498.1	510.0	521.8	533.7	542.6
52.5°	421.0	429.5	438.2	446.7	455.3	465.8	478.3	490.7	503.2	515.7	524.8
55°	384.6	394.0	403.5	413.0	422.4	434.0	447.6	461.4	475.0	488.7	498.1
57.5°	348.6	359.3	370.0	380.6	391.3	403.6	417.5	431.5	445.4	459.3	469.6
60°	323.1	334.3	345.6	357.0	368.3	381.4	396.4	411.3	426.3	441.4	451.4
62.5°	300.3	312.0	323.8	335.5	347.2	360.6	375.6	390.6	405.6	420.5	431.1
65°	262.7	275.5	288.5	301.3	314.2	328.4	343.9	359.4	375.0	390.5	401.3
67.5°	228.1	241.6	255.0	268.5	282.0	296.7	312.5	328.4	344.3	360.2	371.0
70°	203.5	217.2	230.9	244.5	258.2	273.2	289.5	305.8	322.1	338.4	349.7
72.5°	180.8	194.9	209.0	223.1	237.2	252.4	269.0	285.5	302.0	318.5	329.7
75°	145.5	160.2	175.0	189.8	204.5	220.3	237.0	253.9	270.7	287.5	298.8
77.5°	111.5	126.9	142.3	157.7	173.1	189.3	206.4	223.6	240.6	257.7	268.9
80°	88.7	104.8	120.8	136.9	152.9	169.4	186.5	203.7	220.7	237.8	248.9
82.5°	69.8	85.6	101.5	117.3	133.1	149.7	167.0	184.3	201.6	218.9	230.0
85°	42.6	58.9	75.2	91.5	107.8	124.4	141.2	158.0	174.9	191.7	202.8
87.5°	23.4	39.5	55.6	71.8	87.9	104.6	121.7	138.9	156.0	173.3	184.1
90°	12.8	30.3	47.9	65.5	83.0	101.1	119.6	138.1	156.7	175.1	186.7
92.5°	30.1	44.1	58.1	72.0	86.0	101.5	118.5	135.5	152.7	169.7	180.5
95°	71.1	76.5	81.9	87.3	92.7	104.1	121.3	138.6	155.8	173.1	184.0
97.5°	130.5	122.0	113.3	104.8	96.1	101.1	119.7	138.3	156.9	175.4	185.9
100°	176.0	156.9	137.8	118.7	99.5	99.2	117.4	135.7	154.1	172.4	183.8
102.5°	225.2	227.9	230.7	233.5	236.3	229.9	214.2	198.6	182.9	167.3	179.0
105°	294.1	308.0	322.0	335.9	349.9	334.9	291.1	247.3	203.4	159.6	171.1
107.5°	374.1	385.2	396.5	407.6	418.8	396.5	340.6	284.7	228.9	173.0	179.5
110°	424.6	434.4	444.1	453.7	463.4	444.3	396.3	348.2	300.2	252.3	239.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	473.2	481.5	489.9	498.2	506.6	509.3	506.5	503.7	501.0	498.2	429.7
115°	549.8	556.2	562.8	569.2	575.7	587.5	604.6	621.7	638.7	655.9	566.2
117.5°	617.1	622.9	628.8	634.7	640.6	650.9	665.4	680.0	694.6	709.1	693.3
120°	667.1	671.3	675.6	679.8	683.9	693.2	707.5	721.8	736.1	750.5	760.4
122.5°	709.5	713.3	717.0	720.8	724.6	733.4	747.4	761.4	775.5	789.5	798.2
125°	773.0	775.8	778.6	781.2	784.0	791.6	804.0	816.4	828.8	841.2	849.8
127.5°	831.6	834.4	837.1	839.9	842.7	849.0	858.7	868.5	878.3	888.1	896.7
130°	868.8	871.9	874.9	878.1	881.2	886.7	894.5	902.3	910.2	918.0	926.7
132.5°	906.7	909.3	911.9	914.5	917.1	921.7	928.3	934.9	941.4	948.0	956.1
135°	954.8	958.1	961.5	964.9	968.3	972.2	976.8	981.2	985.8	990.3	997.9
137.5°	1004.7	1007.0	1009.2	1011.6	1013.9	1016.7	1020.0	1023.3	1026.6	1029.9	1036.8
140°	1037.2	1038.7	1040.1	1041.5	1042.9	1045.1	1047.9	1050.8	1053.6	1056.5	1062.6
142.5°	1064.5	1065.9	1067.1	1068.4	1069.6	1071.6	1074.3	1077.1	1079.9	1082.6	1087.7
145°	1106.3	1106.0	1105.8	1105.6	1105.4	1107.1	1110.6	1114.2	1117.8	1121.4	1124.4
147.5°	1143.6	1142.8	1142.0	1141.2	1140.4	1141.7	1145.3	1148.8	1152.4	1155.9	1157.2
150°	1167.9	1166.4	1164.9	1163.4	1162.0	1162.9	1166.3	1169.7	1173.0	1176.3	1177.7
152.5°	1188.3	1186.7	1185.0	1183.4	1181.8	1182.5	1185.7	1188.9	1192.1	1195.3	1196.6
155°	1218.1	1216.2	1214.3	1212.4	1210.5	1210.9	1213.4	1215.8	1218.4	1220.9	1222.2
157.5°	1241.4	1239.8	1238.2	1236.6	1235.0	1235.1	1236.9	1238.6	1240.4	1242.2	1243.6
160°	1255.1	1253.8	1252.5	1251.2	1250.0	1250.0	1251.2	1252.5	1253.8	1255.1	1256.3
162.5°	1267.2	1266.0	1264.6	1263.4	1262.1	1262.0	1263.1	1264.3	1265.3	1266.4	1267.8
165°	1283.5	1282.2	1280.9	1279.7	1278.4	1278.1	1278.7	1279.4	1280.1	1280.7	1282.1
167.5°	1295.7	1294.4	1293.1	1291.8	1290.6	1290.2	1290.8	1291.4	1292.0	1292.6	1294.1
170°	1302.4	1301.2	1299.9	1298.7	1297.4	1297.0	1297.4	1297.8	1298.2	1298.7	1300.1
172.5°	1307.0	1305.7	1304.5	1303.2	1302.0	1301.5	1302.0	1302.3	1302.8	1303.2	1304.7
175°	1312.9	1311.4	1309.9	1308.5	1307.0	1306.4	1306.9	1307.3	1307.7	1308.1	1309.7
177.5°	1313.8	1312.7	1311.4	1310.3	1309.1	1308.6	1308.8	1308.9	1309.1	1309.3	1310.5
180°	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	816.5	816.5	816.5	816.5	816.5	816.5	816.5	816.5
2.5°	813.8	814.8	815.9	816.3	815.8	815.4	814.9	814.6
5°	811.3	812.9	814.5	815.1	814.8	814.6	814.3	814.0
7.5°	807.4	809.3	811.3	812.1	811.8	811.5	811.3	811.0
10°	804.1	806.2	808.3	809.2	809.0	808.7	808.4	808.2
12.5°	798.4	800.5	802.6	803.5	803.3	803.0	802.7	802.5
15°	788.0	790.4	792.8	793.8	793.5	793.3	793.0	792.8
17.5°	774.8	777.2	779.7	781.0	781.0	781.0	781.0	781.0
20°	764.3	767.1	770.0	771.5	771.5	771.5	771.5	771.5
22.5°	752.9	755.8	758.7	760.4	760.7	761.2	761.6	762.1
25°	735.2	738.3	741.5	743.5	744.2	745.0	745.8	746.6
27.5°	715.6	719.6	723.5	725.9	726.5	727.0	727.6	728.2
30°	701.8	706.0	710.2	712.7	713.5	714.3	715.1	715.9
32.5°	687.0	691.8	696.6	699.8	701.2	702.6	704.0	705.4
35°	665.9	671.7	677.5	681.3	683.1	685.0	686.8	688.7
37.5°	644.2	650.6	657.0	661.2	663.2	665.1	667.1	669.1
40°	628.9	635.8	642.7	647.2	649.6	651.9	654.3	656.7
42.5°	614.1	621.6	629.1	634.0	636.3	638.7	641.1	643.5
45°	591.4	599.5	607.7	613.1	615.7	618.3	621.0	623.6
47.5°	567.8	576.2	584.8	590.5	593.3	596.3	599.1	602.1
50°	551.5	560.4	569.4	575.3	578.2	581.1	584.0	586.9
52.5°	534.0	543.1	552.2	558.4	561.5	564.6	567.7	570.8
55°	507.7	517.1	526.6	533.0	536.4	539.8	543.2	546.6
57.5°	479.7	489.9	500.2	507.0	510.4	513.9	517.4	520.8
60°	461.4	471.4	481.3	488.1	491.9	495.5	499.2	502.9
62.5°	441.8	452.4	463.0	470.1	473.5	477.0	480.5	483.9
65°	412.1	422.8	433.6	440.7	444.1	447.5	450.9	454.3
67.5°	381.9	392.8	403.8	411.0	414.6	418.1	421.7	425.3
70°	361.1	372.3	383.6	390.8	394.0	397.2	400.4	403.5
72.5°	340.7	351.8	362.9	370.3	374.2	377.9	381.7	385.5
75°	310.1	321.5	332.8	340.1	343.6	347.0	350.4	353.8
77.5°	280.3	291.5	302.7	310.2	313.9	317.5	321.3	324.9
80°	259.9	271.0	282.0	289.4	293.0	296.8	300.4	304.1
82.5°	241.0	252.0	263.1	270.4	273.8	277.2	280.7	284.2
85°	213.7	224.8	235.9	243.3	246.9	250.6	254.2	258.0
87.5°	195.1	206.1	217.0	224.2	227.7	231.0	234.5	238.0
90°	198.3	209.8	221.4	229.0	232.6	236.1	239.7	243.3
92.5°	191.4	202.2	213.1	220.3	223.6	227.0	230.4	233.8
95°	195.1	206.2	217.2	224.2	227.2	230.2	233.1	236.0
97.5°	196.5	207.1	217.7	224.6	228.0	231.3	234.7	238.1
100°	195.2	206.6	218.0	225.3	228.7	232.0	235.3	238.6
102.5°	190.6	202.4	214.1	221.7	225.2	228.6	232.1	235.6
105°	182.6	194.1	205.6	213.3	217.0	220.8	224.5	228.2
107.5°	185.9	192.4	198.9	204.0	207.8	211.5	215.3	218.9
110°	226.9	214.3	201.7	197.2	200.9	204.6	208.4	212.1



TEST NUMBER: P331414-940

CATALOG NUMBER: SA2XXDIP-C865D1080U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	361.3	292.8	224.4	192.0	195.6	199.1	202.7	206.3
115°	476.6	386.9	297.3	246.4	234.1	221.8	209.6	197.2
117.5°	677.5	661.6	645.9	614.4	567.2	520.0	472.9	425.8
120°	770.3	780.2	790.0	782.2	756.6	731.1	705.5	680.0
122.5°	806.8	815.5	824.2	827.0	823.9	820.9	817.9	814.8
125°	858.4	866.9	875.5	881.3	884.3	887.3	890.3	893.3
127.5°	905.4	914.1	922.7	928.3	930.8	933.2	935.6	938.1
130°	935.3	943.9	952.5	957.8	959.7	961.6	963.5	965.4
132.5°	964.1	972.2	980.3	985.3	987.2	989.1	991.0	992.8
135°	1005.6	1013.3	1020.8	1025.5	1027.2	1028.9	1030.6	1032.2
137.5°	1043.7	1050.6	1057.6	1061.5	1062.6	1063.6	1064.7	1065.8
140°	1068.6	1074.8	1080.8	1084.2	1084.7	1085.2	1085.7	1086.3
142.5°	1092.8	1097.9	1103.0	1105.7	1106.0	1106.3	1106.6	1107.0
145°	1127.5	1130.5	1133.6	1135.2	1135.5	1135.8	1136.0	1136.3
147.5°	1158.5	1159.8	1161.1	1161.6	1161.4	1161.2	1160.9	1160.7
150°	1178.9	1180.2	1181.4	1181.5	1180.4	1179.5	1178.4	1177.3
152.5°	1197.8	1199.2	1200.4	1200.3	1198.9	1197.6	1196.1	1194.8
155°	1223.4	1224.8	1226.0	1225.7	1224.1	1222.4	1220.8	1219.1
157.5°	1245.0	1246.4	1247.9	1247.8	1246.2	1244.5	1242.9	1241.2
160°	1257.6	1258.8	1260.1	1260.0	1258.6	1257.0	1255.6	1254.1
162.5°	1269.3	1270.7	1272.2	1271.9	1270.2	1268.4	1266.5	1264.7
165°	1283.6	1285.0	1286.6	1286.6	1285.0	1283.6	1282.1	1280.7
167.5°	1295.6	1297.0	1298.5	1298.2	1296.4	1294.5	1292.6	1290.7
170°	1301.6	1303.1	1304.6	1304.3	1302.4	1300.6	1298.7	1296.7
172.5°	1306.2	1307.6	1309.1	1308.9	1307.0	1305.1	1303.2	1301.3
175°	1311.1	1312.6	1314.0	1313.8	1311.6	1309.5	1307.4	1305.3
177.5°	1311.6	1312.8	1314.0	1313.8	1312.3	1310.8	1309.3	1307.8
180°	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0	1310.0

(END OF REPORT)