

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: P331405

Luminaire Tested: **SA2XXDIP-C865D925U835-4F0-1E-UDD-D**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331405
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-C865D925U835-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 925 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

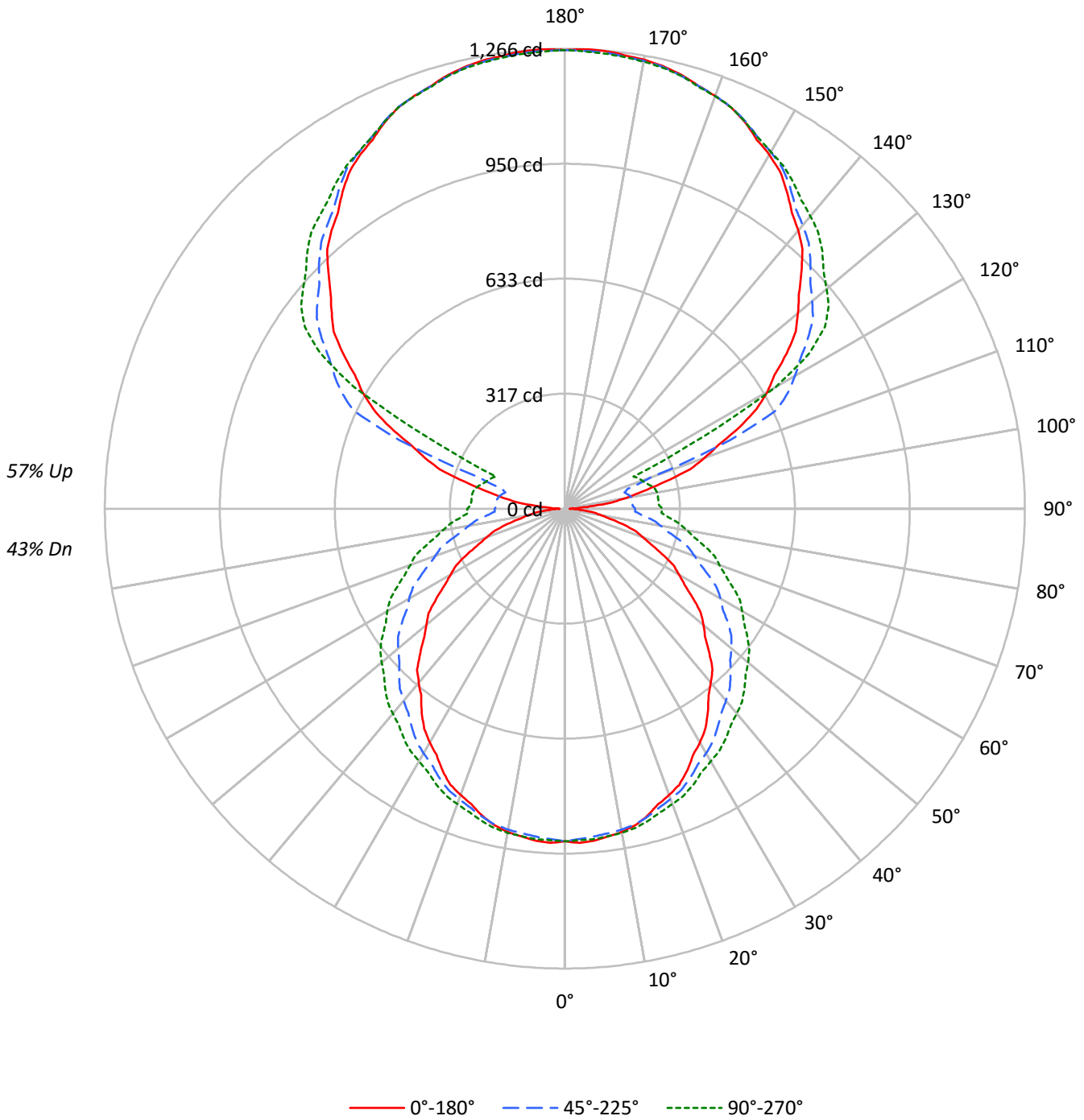
Lumens per Lamp: N/A
Luminaire Lumens: 7195.0 lumens
Efficiency: N/A
Efficacy: 118.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

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	106	106	106	106	96	96	96	96	80	80	80	64	64	64	50	50	50	43
1	95	90	86	82	86	82	79	75	68	65	63	54	52	51	42	41	39	34
2	86	78	71	66	78	71	65	61	59	54	51	47	44	41	36	34	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	22
4	71	60	52	45	65	55	48	42	45	40	35	36	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16
6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	20	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	17	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	13	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14783	14783	14783
5°	14855	14230	14176
10°	14762	13809	13655
15°	14558	13364	13106
20°	14300	12888	12577
25°	14048	12428	12096
30°	13689	11955	11614
35°	13327	11498	11275
40°	12947	11110	10935
45°	12584	10762	10645
50°	12196	10448	10360
55°	11790	10109	10067
60°	11292	9759	9760
65°	10774	9347	9393
70°	10189	8905	8999
75°	9446	8470	8637
80°	8274	8029	8266
85°	7152	7646	7981



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.8	1.2
10°-20°	248.8	3.5
20°-30°	377.0	5.2
30°-40°	459.2	6.4
40°-50°	494.0	6.9
50°-60°	479.7	6.7
60°-70°	418.9	5.8
70°-80°	322.5	4.5
80°-90°	219.5	3.1
90°-100°	191.2	2.7
100°-110°	263.3	3.7
110°-120°	484.6	6.7
120°-130°	721.4	10.0
130°-140°	741.4	10.3
140°-150°	676.3	9.4
150°-160°	541.4	7.5
160°-170°	348.9	4.8
170°-180°	120.1	1.7
0°-30°	712.5	9.9
0°-40°	1171.7	16.3
0°-60°	2145.5	29.8
0°-90°	3106.4	43.2
90°-120°	939.1	13.1
90°-150°	3078.2	42.8
90°-180°	4089.0	56.8
0°-180°	7195.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	916	916	916	916	916	
5°	918	914	906	914	913	87
15°	876	878	878	890	889	247
25°	796	806	817	833	837	366
35°	686	709	734	762	772	429
45°	563	599	645	684	699	434
55°	431	480	548	594	613	385
65°	295	360	438	490	510	293
75°	163	238	322	377	397	173
85°	48	130	215	269	289	51
90°	14	101	193	249	269	12
95°	70	105	188	241	258	81
105°	284	336	170	224	245	304
115°	530	563	643	278	209	522
125°	745	760	817	858	874	665
135°	920	935	956	992	1002	711
145°	1066	1066	1080	1094	1097	667
155°	1174	1166	1176	1181	1174	541
165°	1237	1232	1234	1240	1234	349
175°	1265	1259	1260	1266	1258	120
180°	1262	1262	1262	1262	1262	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	920.9	920.2	919.5	918.8	918.1	916.9	915.2	913.6	911.9	910.3	911.5
5°	918.2	917.4	916.5	915.6	914.7	913.4	911.6	909.8	908.1	906.3	908.1
7.5°	910.0	909.4	908.8	908.3	907.7	906.7	905.3	904.0	902.6	901.3	903.4
10°	903.7	903.1	902.5	901.9	901.3	900.6	899.7	898.8	897.9	897.0	899.4
12.5°	893.0	893.2	893.3	893.4	893.5	893.2	892.6	891.9	891.3	890.6	893.0
15°	875.8	876.4	877.0	877.6	878.1	878.4	878.4	878.4	878.4	878.4	881.1
17.5°	853.5	854.7	856.0	857.2	858.4	859.5	860.5	861.4	862.4	863.3	866.1
20°	838.6	840.1	841.6	843.1	844.5	845.9	847.0	848.2	849.4	850.6	853.8
22.5°	822.7	824.4	826.1	827.8	829.5	831.2	832.9	834.5	836.2	837.8	841.1
25°	796.2	798.2	800.3	802.4	804.4	806.8	809.4	812.1	814.7	817.4	820.9
27.5°	764.3	767.7	771.0	774.4	777.8	781.0	784.1	787.3	790.4	793.5	798.0
30°	743.1	746.9	750.8	754.6	758.4	762.3	766.1	769.9	773.8	777.6	782.3
32.5°	719.7	724.0	728.3	732.7	737.0	741.4	745.9	750.5	755.0	759.5	765.0
35°	686.0	691.0	696.1	701.1	706.1	711.4	717.0	722.6	728.2	733.8	740.3
37.5°	649.4	655.2	661.0	666.7	672.5	679.0	686.3	693.6	700.8	708.1	715.3
40°	625.0	631.5	638.0	644.5	650.9	658.2	666.1	674.1	682.1	690.0	697.7
42.5°	601.6	608.1	614.6	621.1	627.6	635.4	644.5	653.7	662.8	672.0	680.3
45°	562.6	570.6	578.5	586.5	594.5	603.6	613.9	624.3	634.6	644.9	654.0
47.5°	524.1	532.8	541.5	550.2	558.8	569.2	581.3	593.4	605.5	617.6	627.1
50°	497.6	506.7	515.9	525.0	534.2	545.4	558.6	571.9	585.2	598.5	608.5
52.5°	472.1	481.7	491.4	501.0	510.6	522.4	536.4	550.3	564.3	578.3	588.5
55°	431.3	441.9	452.5	463.1	473.7	486.7	502.0	517.4	532.7	548.0	558.6
57.5°	390.9	402.9	414.9	426.8	438.8	452.6	468.2	483.9	499.5	515.1	526.6
60°	362.3	374.9	387.6	400.3	413.0	427.7	444.5	461.3	478.1	495.0	506.2
62.5°	336.8	349.9	363.1	376.2	389.4	404.4	421.2	438.0	454.8	471.6	483.5
65°	294.6	309.0	323.5	337.9	352.4	368.3	385.7	403.1	420.5	437.9	450.0
67.5°	255.8	270.9	286.0	301.1	316.2	332.7	350.5	368.3	386.1	403.9	416.1
70°	228.2	243.6	258.9	274.2	289.6	306.4	324.7	342.9	361.2	379.5	392.2
72.5°	202.8	218.6	234.4	250.2	266.0	283.1	301.7	320.2	338.7	357.2	369.7
75°	163.2	179.7	196.2	212.8	229.3	247.0	265.8	284.7	303.6	322.4	335.1
77.5°	125.0	142.3	159.6	176.8	194.1	212.3	231.5	250.7	269.8	289.0	301.6
80°	99.5	117.5	135.5	153.5	171.5	190.0	209.2	228.4	247.5	266.7	279.1
82.5°	78.3	96.0	113.8	131.5	149.3	167.9	187.3	206.7	226.1	245.5	257.9
85°	47.8	66.1	84.3	102.6	120.9	139.5	158.3	177.2	196.1	215.0	227.4
87.5°	26.2	44.2	62.2	80.3	98.3	116.9	136.1	155.3	174.5	193.7	205.9
90°	14.2	33.5	52.9	72.2	91.5	111.4	131.9	152.4	172.9	193.4	206.2
92.5°	30.7	46.4	62.1	77.8	93.5	110.9	129.9	148.8	167.8	186.8	198.9
95°	70.0	77.1	84.3	91.5	98.6	111.8	130.9	150.0	169.1	188.2	200.4
97.5°	127.1	120.6	114.0	107.5	100.9	107.8	128.0	148.3	168.6	188.9	200.6
100°	170.9	154.0	137.2	120.3	103.4	104.9	124.9	144.8	164.8	184.8	197.3
102.5°	218.1	222.2	226.3	230.3	234.4	230.1	217.2	204.4	191.6	178.8	191.6
105°	284.3	298.9	313.6	328.2	342.8	330.1	290.0	250.0	209.9	169.8	182.4
107.5°	361.3	373.0	384.8	396.5	408.3	388.3	336.5	284.8	233.0	181.2	188.9
110°	409.9	420.1	430.2	440.4	450.5	433.5	389.3	345.1	300.9	256.7	245.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	456.7	465.4	474.1	482.8	491.6	495.6	494.8	494.1	493.3	492.6	428.0
115°	530.5	537.1	543.8	550.5	557.2	569.7	588.1	606.4	624.8	643.1	558.0
117.5°	595.1	601.0	607.0	613.0	619.0	629.9	645.6	661.4	677.1	692.9	678.9
120°	643.3	647.5	651.7	656.0	660.2	670.0	685.5	700.9	716.4	731.8	742.5
122.5°	684.2	687.9	691.6	695.2	698.9	708.3	723.4	738.4	753.5	768.5	778.0
125°	745.2	747.8	750.4	753.1	755.7	763.7	777.0	790.3	803.6	816.8	826.2
127.5°	801.6	804.2	806.9	809.5	812.1	818.7	829.2	839.7	850.1	860.6	870.0
130°	837.4	840.4	843.3	846.3	849.2	854.9	863.3	871.8	880.2	888.6	897.9
132.5°	873.9	876.4	878.9	881.3	883.8	888.5	895.5	902.6	909.6	916.6	925.3
135°	920.1	923.3	926.6	929.8	933.1	937.1	941.9	946.7	951.4	956.2	964.4
137.5°	968.1	970.4	972.6	974.8	977.0	979.8	983.2	986.5	989.9	993.3	1000.7
140°	999.6	1000.9	1002.2	1003.5	1004.9	1006.9	1009.8	1012.6	1015.4	1018.2	1024.8
142.5°	1025.9	1027.0	1028.2	1029.4	1030.5	1032.4	1035.1	1037.8	1040.5	1043.1	1048.6
145°	1065.8	1065.6	1065.4	1065.2	1065.0	1066.6	1070.1	1073.5	1077.0	1080.4	1083.6
147.5°	1101.8	1101.0	1100.3	1099.5	1098.7	1100.0	1103.4	1106.9	1110.3	1113.7	1115.0
150°	1125.2	1123.8	1122.3	1120.9	1119.5	1120.4	1123.7	1126.9	1130.2	1133.4	1134.6
152.5°	1144.9	1143.3	1141.7	1140.2	1138.6	1139.3	1142.4	1145.5	1148.6	1151.7	1152.9
155°	1173.6	1171.8	1169.9	1168.1	1166.3	1166.6	1169.0	1171.5	1173.9	1176.3	1177.5
157.5°	1196.0	1194.5	1193.0	1191.4	1189.9	1190.0	1191.7	1193.4	1195.1	1196.8	1198.2
160°	1209.2	1208.0	1206.8	1205.5	1204.3	1204.3	1205.5	1206.8	1208.0	1209.2	1210.4
162.5°	1220.9	1219.7	1218.5	1217.2	1216.0	1215.9	1217.0	1218.0	1219.1	1220.2	1221.5
165°	1236.6	1235.4	1234.2	1232.9	1231.7	1231.4	1232.0	1232.6	1233.3	1233.9	1235.3
167.5°	1248.3	1247.1	1245.9	1244.6	1243.4	1243.1	1243.7	1244.2	1244.8	1245.4	1246.8
170°	1254.9	1253.6	1252.4	1251.2	1250.0	1249.6	1250.0	1250.4	1250.8	1251.2	1252.6
172.5°	1259.2	1258.0	1256.8	1255.6	1254.4	1254.0	1254.4	1254.8	1255.2	1255.6	1257.0
175°	1264.9	1263.5	1262.1	1260.6	1259.2	1258.7	1259.1	1259.5	1259.9	1260.3	1261.8
177.5°	1265.8	1264.7	1263.6	1262.4	1261.3	1260.8	1261.0	1261.1	1261.3	1261.4	1262.6
180°	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	915.6	915.6	915.6	915.6	915.6	915.6	915.6	915.6
2.5°	912.6	913.8	915.0	915.4	914.9	914.4	913.9	913.5
5°	909.8	911.6	913.4	914.1	913.8	913.5	913.2	912.9
7.5°	905.5	907.6	909.8	910.7	910.4	910.1	909.8	909.5
10°	901.7	904.1	906.5	907.5	907.2	906.9	906.6	906.3
12.5°	895.4	897.7	900.1	901.1	900.8	900.5	900.2	899.9
15°	883.7	886.4	889.1	890.2	889.9	889.6	889.3	889.1
17.5°	868.9	871.6	874.4	875.8	875.8	875.8	875.8	875.8
20°	857.1	860.3	863.5	865.2	865.2	865.2	865.2	865.2
22.5°	844.3	847.6	850.8	852.7	853.1	853.6	854.1	854.6
25°	824.5	828.0	831.6	833.8	834.6	835.5	836.4	837.3
27.5°	802.5	807.0	811.4	814.0	814.7	815.3	816.0	816.6
30°	787.0	791.7	796.5	799.3	800.1	801.0	801.9	802.8
32.5°	770.4	775.8	781.2	784.8	786.3	787.9	789.5	791.1
35°	746.8	753.3	759.8	764.0	766.1	768.2	770.2	772.3
37.5°	722.4	729.6	736.8	741.5	743.7	745.9	748.1	750.3
40°	705.3	713.0	720.7	725.8	728.5	731.1	733.8	736.5
42.5°	688.7	697.1	705.5	711.0	713.6	716.3	718.9	721.6
45°	663.2	672.3	681.5	687.5	690.5	693.4	696.4	699.3
47.5°	636.7	646.2	655.8	662.2	665.4	668.7	671.9	675.2
50°	618.5	628.5	638.6	645.2	648.4	651.7	654.9	658.2
52.5°	598.8	609.1	619.3	626.2	629.7	633.2	636.6	640.1
55°	569.3	579.9	590.5	597.7	601.5	605.4	609.2	613.0
57.5°	538.0	549.4	560.9	568.6	572.4	576.3	580.2	584.1
60°	517.4	528.6	539.8	547.4	551.6	555.7	559.8	564.0
62.5°	495.4	507.3	519.2	527.2	531.0	534.9	538.8	542.7
65°	462.1	474.2	486.3	494.2	498.0	501.9	505.7	509.5
67.5°	428.3	440.5	452.8	460.9	464.9	468.9	472.9	476.9
70°	404.9	417.5	430.2	438.3	441.9	445.4	449.0	452.5
72.5°	382.1	394.5	407.0	415.3	419.6	423.8	428.1	432.3
75°	347.8	360.5	373.2	381.4	385.3	389.1	392.9	396.8
77.5°	314.3	326.9	339.5	347.9	352.0	356.1	360.3	364.4
80°	291.5	303.9	316.3	324.5	328.6	332.8	336.9	341.0
82.5°	270.3	282.6	295.0	303.2	307.1	310.9	314.8	318.7
85°	239.7	252.1	264.5	272.8	276.9	281.0	285.1	289.3
87.5°	218.1	230.4	242.6	250.7	254.5	258.4	262.2	266.1
90°	219.0	231.9	244.7	253.0	257.0	260.9	264.9	268.8
92.5°	211.0	223.1	235.1	243.1	246.9	250.6	254.4	258.2
95°	212.7	224.9	237.1	244.9	248.2	251.5	254.9	258.2
97.5°	212.3	224.0	235.8	243.5	247.2	250.9	254.6	258.4
100°	209.8	222.4	234.9	243.0	246.6	250.3	253.9	257.6
102.5°	204.4	217.1	229.9	238.2	242.0	245.8	249.7	253.5
105°	194.9	207.5	220.0	228.3	232.4	236.5	240.5	244.6
107.5°	196.5	204.1	211.8	217.6	221.7	225.7	229.8	233.8
110°	235.0	224.1	213.3	209.9	213.9	218.0	222.0	226.1



TEST NUMBER: P331405

CATALOG NUMBER: SA2XXDIP-C865D925U835-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	363.4	298.8	234.2	203.8	207.7	211.6	215.5	219.4
115°	472.9	387.8	302.6	254.4	243.0	231.6	220.3	208.9
117.5°	664.9	650.9	636.9	607.4	562.4	517.3	472.3	427.3
120°	753.2	763.9	774.6	767.8	743.7	719.5	695.4	671.2
122.5°	787.5	797.0	806.5	809.9	807.4	804.9	802.3	799.8
125°	835.6	845.0	854.4	860.7	864.0	867.2	870.5	873.8
127.5°	879.4	888.8	898.2	904.2	906.9	909.6	912.4	915.1
130°	907.2	916.5	925.8	931.6	933.7	935.9	938.0	940.2
132.5°	934.1	942.8	951.6	957.0	959.2	961.3	963.5	965.6
135°	972.6	980.9	989.1	994.2	996.1	998.1	1000.0	1002.0
137.5°	1008.1	1015.5	1022.9	1027.3	1028.6	1029.9	1031.2	1032.5
140°	1031.3	1037.9	1044.4	1048.1	1048.8	1049.6	1050.3	1051.1
142.5°	1054.0	1059.5	1064.9	1067.9	1068.4	1068.9	1069.4	1070.0
145°	1086.8	1090.0	1093.2	1095.0	1095.5	1095.9	1096.4	1096.8
147.5°	1116.3	1117.5	1118.8	1119.4	1119.3	1119.1	1119.0	1118.8
150°	1135.8	1137.1	1138.3	1138.4	1137.4	1136.3	1135.3	1134.3
152.5°	1154.1	1155.3	1156.5	1156.5	1155.1	1153.8	1152.5	1151.1
155°	1178.8	1180.0	1181.2	1181.0	1179.4	1177.7	1176.1	1174.5
157.5°	1199.5	1200.9	1202.3	1202.2	1200.6	1199.0	1197.4	1195.9
160°	1211.6	1212.9	1214.1	1214.0	1212.5	1211.1	1209.7	1208.3
162.5°	1222.9	1224.3	1225.7	1225.5	1223.8	1222.0	1220.3	1218.5
165°	1236.7	1238.1	1239.5	1239.5	1238.1	1236.7	1235.3	1233.9
167.5°	1248.2	1249.6	1251.1	1250.8	1249.0	1247.2	1245.4	1243.5
170°	1254.1	1255.5	1256.9	1256.7	1254.9	1253.0	1251.2	1249.4
172.5°	1258.4	1259.9	1261.3	1261.1	1259.2	1257.4	1255.6	1253.8
175°	1263.2	1264.6	1266.0	1265.7	1263.7	1261.7	1259.6	1257.6
177.5°	1263.7	1264.9	1266.0	1265.8	1264.4	1262.9	1261.4	1260.0
180°	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2	1262.2

(END OF REPORT)