

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: P331566-840

Luminaire Tested: **S122DIW-S865D710U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331566-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D710U840-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6032.2 lumens
Efficiency: N/A
Efficacy: 112.5 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

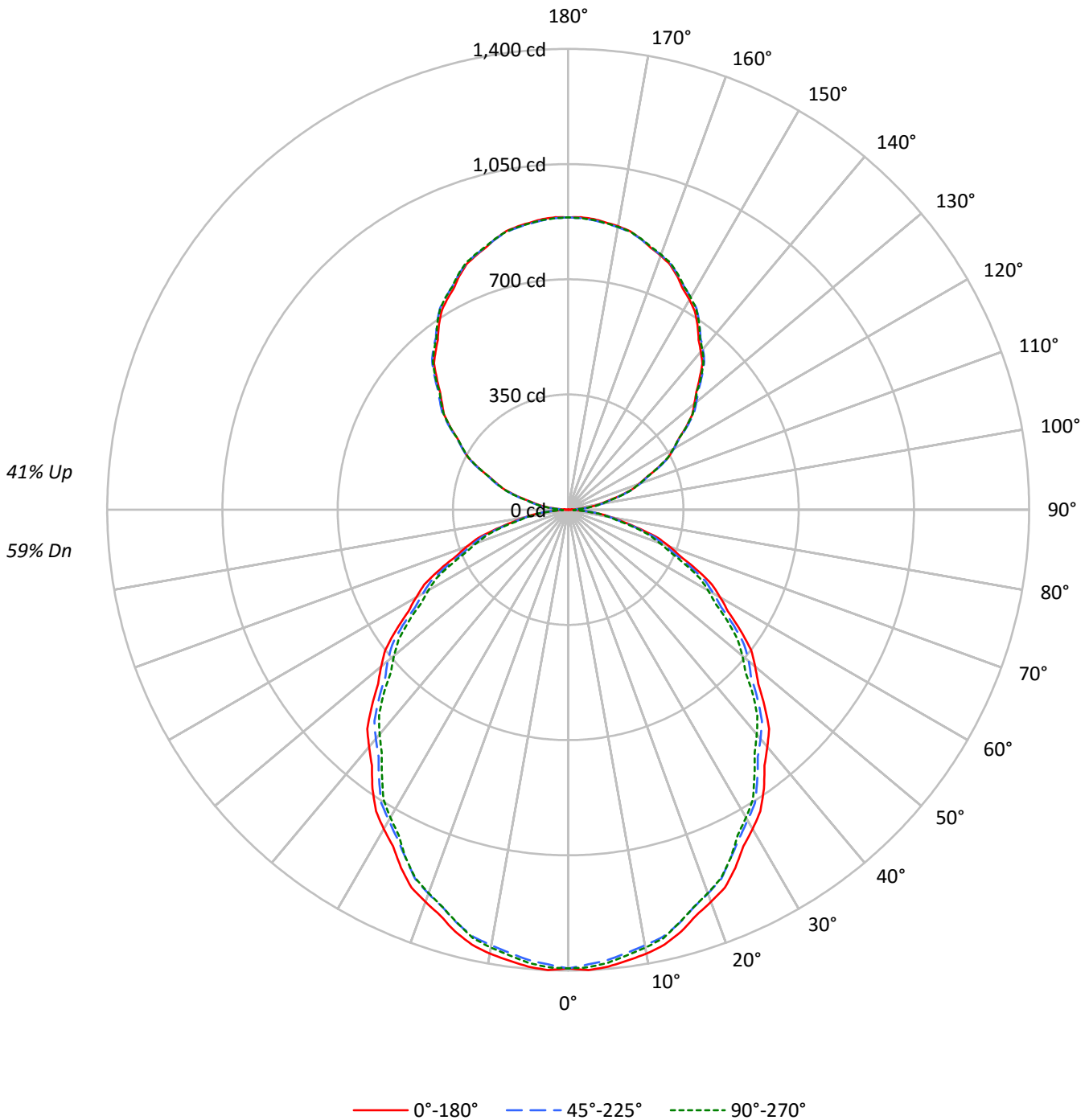
Input Watts (W): 53.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64	59				
1	100	95	91	88	93	89	86	83	77	75	73	67	65	63	57	55	54	50				
2	91	83	77	72	84	78	72	68	68	64	60	59	55	53	50	48	46	41				
3	83	73	66	60	77	69	62	57	60	55	51	52	48	45	44	41	39	35				
4	76	65	57	51	70	61	54	48	53	48	43	46	42	38	40	36	34	30				
5	70	58	50	43	65	54	47	41	48	42	37	41	37	33	36	32	29	26				
6	64	52	44	38	60	49	41	36	43	37	33	38	33	29	32	29	26	23				
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	30	26	23	20				
8	55	43	35	29	51	40	33	28	36	30	26	31	27	23	27	23	21	18				
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	19	16				
10	48	36	29	24	45	34	27	23	30	25	21	27	22	19	23	20	17	15				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	22501	22501	22501
5°	22587	22261	22392
10°	22453	22035	22146
15°	22176	21750	21727
20°	21782	21321	21297
25°	21389	20794	20794
30°	20885	20310	20137
35°	20416	19730	19438
40°	19827	19150	18782
45°	19244	18573	18114
50°	18613	17975	17334
55°	17954	17275	16636
60°	17221	16443	15839
65°	16435	15614	14896
70°	15437	14611	13917
75°	14042	13456	13125
80°	12459	12087	11464
85°	10170	9689	8688



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.0	2.2
10°-20°	368.7	6.1
20°-30°	542.0	9.0
30°-40°	629.6	10.4
40°-50°	628.9	10.4
50°-60°	548.4	9.1
60°-70°	405.5	6.7
70°-80°	229.7	3.8
80°-90°	65.3	1.1
90°-100°	56.3	0.9
100°-110°	174.8	2.9
110°-120°	298.7	5.0
120°-130°	392.8	6.5
130°-140°	440.9	7.3
140°-150°	432.3	7.2
150°-160°	362.6	6.0
160°-170°	240.5	4.0
170°-180°	84.1	1.4
0°-30°	1041.8	17.3
0°-40°	1671.3	27.7
0°-60°	2848.6	47.2
0°-90°	3549.2	58.8
90°-120°	529.8	8.8
90°-150°	1795.8	29.8
90°-180°	2483.0	41.2
0°-180°	6032.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1394	1394	1394	1394	1394	
5°	1394	1388	1374	1384	1382	132
15°	1327	1318	1301	1306	1300	373
25°	1201	1189	1167	1170	1167	552
35°	1036	1022	1001	993	986	646
45°	843	833	813	799	793	650
55°	638	629	614	598	591	570
65°	430	422	409	397	390	425
75°	225	222	216	208	210	240
85°	55	54	52	48	47	63
90°	1	10	26	25	25	5
95°	39	46	48	48	46	45
105°	161	163	165	166	166	170
115°	300	304	303	302	300	296
125°	436	442	441	438	438	390
135°	564	572	574	573	571	436
145°	685	690	695	695	692	428
155°	783	785	788	791	789	360
165°	852	851	851	856	853	240
175°	886	884	883	888	884	84
180°	888	888	888	888	888	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6
2.5°	1400.1	1398.9	1397.7	1396.5	1395.3	1393.4	1390.8	1388.2	1385.5	1382.9	1385.3
5°	1393.6	1392.4	1391.3	1390.1	1388.9	1386.6	1383.4	1380.1	1376.8	1373.5	1375.9
7.5°	1381.3	1379.5	1377.7	1375.7	1373.9	1371.3	1368.0	1364.6	1361.3	1358.0	1360.4
10°	1369.5	1367.5	1365.3	1363.2	1361.2	1358.4	1354.7	1351.2	1347.7	1344.0	1346.5
12.5°	1353.4	1351.6	1349.8	1347.9	1346.0	1343.3	1339.8	1336.2	1332.6	1329.1	1330.7
15°	1326.7	1324.8	1323.0	1321.3	1319.5	1316.7	1312.8	1308.9	1305.0	1301.2	1302.3
17.5°	1292.3	1290.5	1288.8	1287.0	1285.2	1282.3	1278.4	1274.4	1270.5	1266.6	1268.0
20°	1267.7	1265.9	1264.1	1262.3	1260.5	1257.6	1253.3	1249.2	1245.1	1240.9	1241.7
22.5°	1243.0	1240.5	1238.0	1235.5	1233.0	1229.8	1225.9	1221.9	1218.0	1214.1	1214.3
25°	1200.6	1198.3	1195.9	1193.6	1191.1	1187.4	1182.3	1177.3	1172.3	1167.2	1167.8
27.5°	1152.5	1150.3	1148.1	1146.0	1143.9	1140.7	1136.8	1132.8	1128.8	1124.8	1124.0
30°	1120.2	1117.9	1115.5	1113.2	1110.8	1107.3	1102.9	1098.4	1093.9	1089.4	1088.5
32.5°	1086.0	1084.1	1082.2	1080.3	1078.3	1075.0	1070.4	1065.6	1061.0	1056.2	1054.6
35°	1035.8	1032.9	1029.9	1026.9	1023.9	1020.1	1015.3	1010.6	1005.7	1001.0	999.3
37.5°	979.3	976.6	974.0	971.4	968.9	965.1	960.4	955.6	950.8	946.0	943.8
40°	940.7	938.4	935.9	933.5	931.2	927.6	922.8	918.1	913.3	908.6	905.8
42.5°	903.2	900.8	898.4	896.1	893.6	890.1	885.3	880.6	875.8	871.0	868.1
45°	842.8	840.8	838.7	836.7	834.6	831.2	826.8	822.3	817.9	813.4	810.1
47.5°	782.8	780.9	778.9	777.0	775.0	771.6	767.0	762.3	757.7	753.1	749.6
50°	741.0	739.5	738.1	736.6	735.1	732.3	728.1	723.9	719.7	715.6	711.4
52.5°	700.3	698.3	696.4	694.4	692.5	689.5	685.6	681.7	677.7	673.8	670.3
55°	637.8	636.1	634.3	632.5	630.7	628.0	624.5	620.9	617.3	613.7	610.2
57.5°	575.1	573.7	572.3	570.9	569.5	566.7	562.8	558.9	554.9	551.0	547.5
60°	533.3	532.1	531.0	529.8	528.6	525.9	521.7	517.6	513.4	509.2	505.9
62.5°	492.6	490.7	488.8	486.9	484.9	482.4	479.2	475.9	472.7	469.6	466.6
65°	430.2	428.4	426.6	424.7	423.0	420.6	417.7	414.7	411.7	408.7	406.1
67.5°	366.7	365.2	363.8	362.3	360.9	358.9	356.2	353.5	350.8	348.1	346.1
70°	327.0	325.8	324.6	323.4	322.2	320.2	317.6	314.9	312.3	309.5	307.5
72.5°	286.2	285.1	283.9	282.7	281.4	280.0	278.3	276.6	274.8	273.1	271.0
75°	225.1	224.5	223.9	223.4	222.8	221.7	220.3	218.7	217.2	215.7	214.0
77.5°	170.5	169.5	168.4	167.4	166.4	165.6	165.0	164.4	163.8	163.2	162.3
80°	134.0	133.7	133.4	133.1	132.8	132.4	131.8	131.2	130.6	130.0	129.1
82.5°	99.7	99.7	99.6	99.5	99.5	99.3	98.9	98.6	98.2	97.9	96.6
85°	54.9	54.6	54.3	54.0	53.7	53.4	53.1	52.8	52.5	52.3	51.4
87.5°	19.5	19.4	19.3	19.2	19.2	19.2	19.5	19.7	20.0	20.3	19.5
90°	0.7	2.7	4.7	6.8	8.8	11.6	15.2	18.9	22.5	26.3	25.9
92.5°	13.3	14.8	16.3	17.8	19.2	20.4	21.2	22.1	22.9	23.8	23.9
95°	39.0	40.6	42.3	43.9	45.6	46.7	47.0	47.3	47.7	48.0	48.0
97.5°	71.2	72.6	74.1	75.5	77.1	78.1	78.8	79.4	80.0	80.6	80.6
100°	95.1	96.5	97.9	99.2	100.5	101.4	101.9	102.4	102.9	103.4	103.4
102.5°	120.4	121.4	122.5	123.5	124.6	125.4	126.1	126.7	127.3	127.9	128.2
105°	161.1	161.6	162.1	162.6	163.1	163.5	163.9	164.2	164.5	164.9	165.2
107.5°	202.2	202.9	203.7	204.4	205.1	205.5	205.5	205.5	205.5	205.5	205.6
110°	228.5	229.5	230.6	231.6	232.6	233.1	233.1	233.1	233.1	233.1	233.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	257.3	258.3	259.3	260.3	261.4	261.8	261.7	261.5	261.4	261.3	260.8
115°	299.7	300.7	301.7	302.8	303.8	304.1	303.8	303.4	303.1	302.8	302.6
117.5°	342.0	343.4	344.7	346.0	347.3	347.5	346.6	345.7	344.8	343.9	343.5
120°	370.2	371.5	372.8	374.2	375.5	375.5	374.2	372.8	371.5	370.2	370.2
122.5°	396.0	397.6	399.2	400.7	402.3	402.7	401.7	400.8	399.9	399.0	398.6
125°	436.2	437.7	439.1	440.6	442.1	442.6	442.1	441.6	441.1	440.6	440.1
127.5°	475.2	477.2	479.1	480.9	482.8	483.5	482.9	482.3	481.7	481.1	480.5
130°	499.8	502.0	504.1	506.3	508.5	509.4	509.1	508.8	508.4	508.1	507.8
132.5°	527.5	529.2	531.0	532.7	534.4	535.4	535.4	535.5	535.6	535.6	534.9
135°	564.3	566.1	567.9	569.8	571.6	572.7	573.0	573.4	573.7	574.0	573.8
137.5°	603.1	604.6	606.1	607.6	609.0	610.1	610.5	611.0	611.4	611.8	611.7
140°	626.5	627.9	629.4	631.0	632.5	633.6	634.5	635.3	636.1	636.9	636.9
142.5°	650.5	652.0	653.5	655.0	656.4	657.5	658.0	658.6	659.1	659.7	659.8
145°	684.9	686.1	687.2	688.4	689.6	690.6	691.7	692.7	693.7	694.7	694.8
147.5°	715.7	717.0	718.4	719.8	721.2	722.3	723.0	723.6	724.3	725.0	725.3
150°	736.6	737.6	738.6	739.6	740.6	741.4	742.1	742.8	743.5	744.2	744.7
152.5°	755.2	756.2	757.2	758.2	759.2	760.1	760.9	761.7	762.5	763.4	764.0
155°	783.0	783.6	784.1	784.6	785.1	785.6	786.1	786.6	787.1	787.6	788.4
157.5°	806.9	807.3	807.6	807.9	808.3	808.6	808.9	809.2	809.5	809.8	810.9
160°	821.3	821.6	821.9	822.3	822.6	822.9	823.0	823.2	823.3	823.5	824.6
162.5°	834.5	834.6	834.7	834.7	834.8	834.9	835.1	835.3	835.4	835.6	836.7
165°	852.0	851.8	851.7	851.5	851.4	851.3	851.3	851.3	851.3	851.3	852.4
167.5°	866.8	866.3	865.8	865.3	864.7	864.4	864.4	864.3	864.3	864.3	865.5
170°	874.5	874.0	873.5	873.0	872.5	872.2	872.0	871.8	871.7	871.5	872.7
172.5°	879.9	879.4	878.9	878.4	877.9	877.6	877.4	877.3	877.1	876.9	878.1
175°	886.5	886.1	885.6	885.0	884.5	884.1	883.7	883.4	883.1	882.7	883.9
177.5°	889.2	888.8	888.4	888.0	887.6	887.3	887.0	886.8	886.5	886.2	887.0
180°	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6	1393.6
2.5°	1387.7	1390.1	1392.4	1393.4	1392.9	1392.4	1392.0	1391.5
5°	1378.3	1380.7	1383.1	1383.9	1383.4	1382.8	1382.2	1381.6
7.5°	1362.7	1365.1	1367.6	1368.4	1367.8	1367.1	1366.4	1365.7
10°	1348.8	1351.2	1353.6	1354.3	1353.4	1352.5	1351.6	1350.8
12.5°	1332.4	1334.0	1335.7	1336.3	1335.5	1334.9	1334.2	1333.6
15°	1303.5	1304.7	1306.0	1305.8	1304.3	1302.8	1301.3	1299.8
17.5°	1269.3	1270.7	1272.1	1272.0	1270.6	1269.2	1267.8	1266.4
20°	1242.6	1243.5	1244.5	1244.3	1243.1	1241.9	1240.7	1239.5
22.5°	1214.5	1214.6	1214.8	1214.6	1213.8	1213.0	1212.3	1211.6
25°	1168.4	1168.9	1169.5	1169.5	1168.9	1168.4	1167.8	1167.2
27.5°	1123.1	1122.2	1121.3	1120.1	1118.6	1117.2	1115.8	1114.4
30°	1087.6	1086.8	1085.9	1084.8	1083.7	1082.5	1081.3	1080.1
32.5°	1053.0	1051.4	1049.8	1048.3	1047.2	1046.0	1044.8	1043.6
35°	997.4	995.6	993.9	992.2	990.8	989.3	987.7	986.2
37.5°	941.7	939.5	937.3	935.4	934.0	932.6	931.2	929.7
40°	903.2	900.5	897.9	895.9	894.7	893.5	892.3	891.1
42.5°	865.2	862.2	859.4	857.1	855.4	853.7	852.0	850.4
45°	806.9	803.5	800.3	798.1	796.9	795.7	794.5	793.3
47.5°	746.2	742.8	739.3	736.7	735.0	733.3	731.5	729.8
50°	707.2	703.1	698.9	696.1	694.6	693.1	691.7	690.1
52.5°	666.8	663.4	659.9	657.2	655.3	653.3	651.4	649.3
55°	606.6	603.0	599.5	596.9	595.4	593.9	592.5	591.0
57.5°	544.0	540.5	536.9	534.6	533.5	532.4	531.3	530.1
60°	502.7	499.4	496.1	494.0	493.1	492.2	491.3	490.5
62.5°	463.4	460.4	457.4	455.3	454.1	453.0	451.9	450.8
65°	403.3	400.7	398.0	395.9	394.5	392.9	391.4	389.9
67.5°	344.0	341.8	339.8	338.2	337.0	335.8	334.6	333.4
70°	305.4	303.3	301.2	299.5	298.4	297.2	296.0	294.8
72.5°	268.9	266.8	264.8	263.3	262.3	261.4	260.3	259.4
75°	212.2	210.4	208.6	208.0	208.6	209.2	209.7	210.4
77.5°	161.5	160.6	159.7	158.8	157.9	157.1	156.3	155.4
80°	128.2	127.3	126.4	125.6	125.0	124.5	123.9	123.3
82.5°	95.5	94.4	93.3	92.7	92.5	92.4	92.3	92.2
85°	50.5	49.6	48.7	48.1	47.8	47.5	47.2	46.9
87.5°	18.7	17.9	17.2	16.7	16.5	16.3	16.1	15.9
90°	25.5	25.2	24.9	24.8	24.9	25.1	25.3	25.4
92.5°	23.9	24.0	24.1	24.1	24.1	24.2	24.2	24.2
95°	48.0	48.0	48.0	47.8	47.5	47.2	46.8	46.5
97.5°	80.6	80.6	80.6	80.6	80.6	80.6	80.5	80.5
100°	103.4	103.4	103.4	103.3	103.2	103.0	102.8	102.7
102.5°	128.3	128.4	128.6	128.6	128.4	128.2	128.1	127.8
105°	165.5	165.8	166.2	166.3	166.3	166.3	166.3	166.3
107.5°	205.7	205.9	206.0	205.7	204.9	204.2	203.4	202.7
110°	233.1	233.1	233.1	232.8	232.3	231.8	231.3	230.9



TEST NUMBER: P331566-840

CATALOG NUMBER: S122DIW-S865D710U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	260.4	260.0	259.6	259.2	258.9	258.5	258.1	257.8
115°	302.5	302.3	302.1	301.7	301.2	300.7	300.2	299.7
117.5°	343.1	342.6	342.2	341.7	341.2	340.7	340.2	339.7
120°	370.2	370.2	370.2	369.9	369.4	368.9	368.4	367.9
122.5°	398.2	397.8	397.4	397.0	396.6	396.3	395.9	395.6
125°	439.6	439.1	438.6	438.3	438.2	438.0	437.8	437.7
127.5°	479.9	479.3	478.7	478.2	477.6	477.1	476.6	476.1
130°	507.5	507.1	506.8	506.2	505.5	504.9	504.2	503.6
132.5°	534.2	533.4	532.7	532.1	531.6	531.0	530.5	530.0
135°	573.7	573.5	573.4	573.0	572.5	572.0	571.5	571.0
137.5°	611.5	611.4	611.3	610.9	610.2	609.6	608.8	608.1
140°	636.9	636.9	636.9	636.6	636.0	635.3	634.6	634.0
142.5°	660.0	660.1	660.2	660.0	659.3	658.6	658.0	657.3
145°	695.0	695.2	695.3	695.1	694.4	693.8	693.1	692.5
147.5°	725.7	726.0	726.4	726.3	725.7	725.0	724.4	723.8
150°	745.1	745.6	746.1	746.1	745.6	745.1	744.7	744.2
152.5°	764.6	765.2	765.9	765.9	765.2	764.6	764.0	763.4
155°	789.2	790.1	790.9	791.1	790.6	790.1	789.6	789.1
157.5°	812.0	813.1	814.3	814.5	813.6	812.8	812.0	811.2
160°	825.6	826.6	827.6	827.7	827.1	826.4	825.8	825.1
162.5°	837.8	839.0	840.1	840.2	839.4	838.7	837.9	837.1
165°	853.6	854.7	856.0	856.2	855.3	854.4	853.6	852.8
167.5°	866.7	867.8	869.0	869.1	868.3	867.4	866.6	865.7
170°	873.8	875.0	876.2	876.3	875.3	874.2	873.2	872.2
172.5°	879.3	880.4	881.6	881.6	880.7	879.7	878.7	877.7
175°	885.0	886.3	887.5	887.5	886.5	885.6	884.5	883.5
177.5°	887.8	888.6	889.4	889.4	888.6	887.8	887.0	886.2
180°	888.0	888.0	888.0	888.0	888.0	888.0	888.0	888.0

(END OF REPORT)