

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: PORTFOLIO

Report Number: P858506

Luminaire Tested: **LD4C20W2N2765D010 4LBSWNL1_3000K**

Issue Date: 11/9/2023



Test Information

Test Method: LM-79-08
Report Number: P858506
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251556)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 11/9/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C20W2N2765D010 4LBSWNLI_3000K
Description: 4 INCH 2000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, W2N2765 LEDS
AND 4LBSWNLI TRIM WITH FINISH

Light Source: -
Ballast/Driver: -

Summary

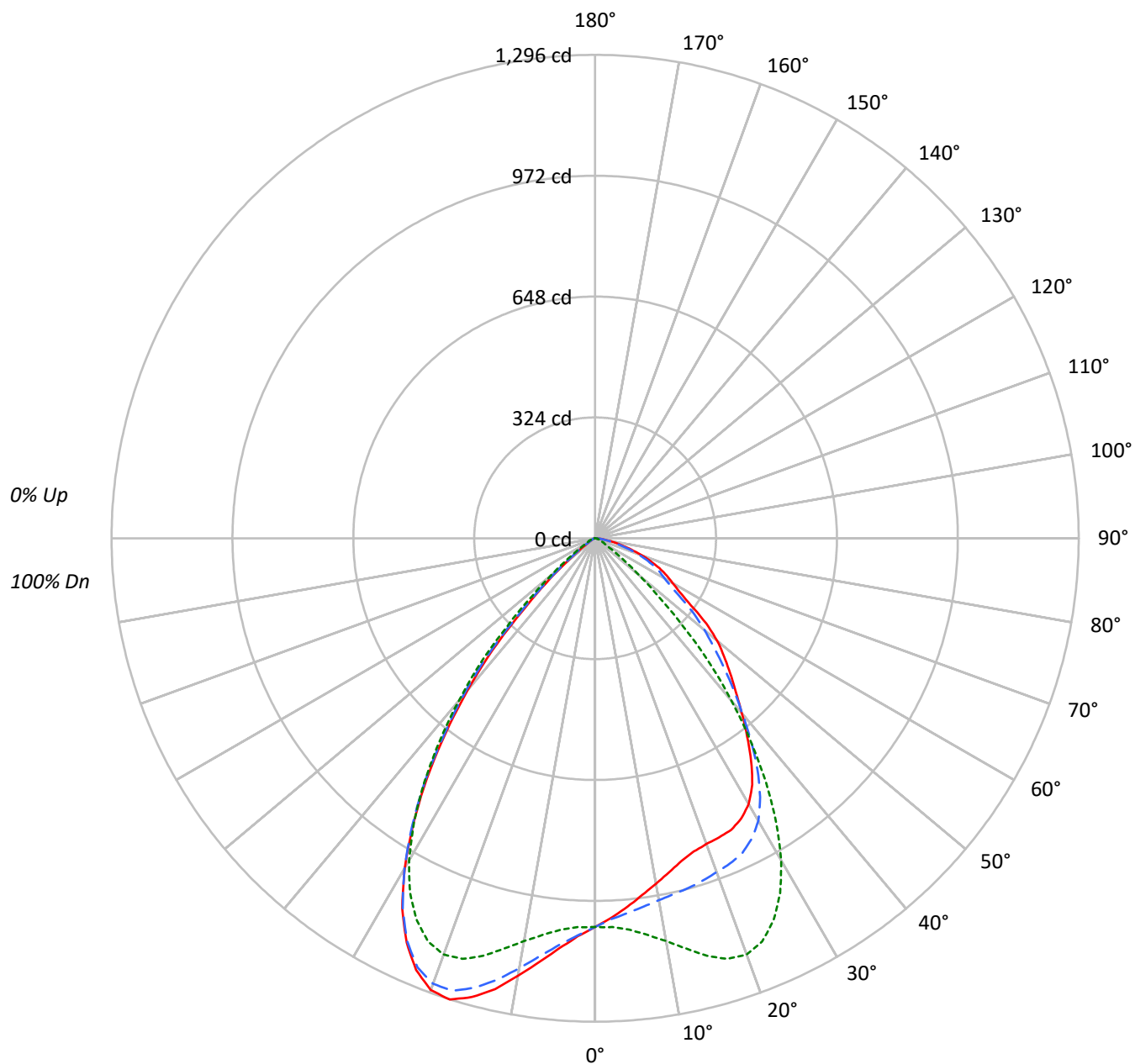
Lumens per Lamp: N/A
Luminaire Lumens: 1923.0 lumens
Efficiency: N/A
Efficacy: 75.7 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 25.4
Input Voltage (V): NR
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
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10
RCR																					
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102
1	112	108	105	102		109	106	103	101		102	100	98		98	96	95		95	93	92
2	104	98	93	89		102	96	92	88		93	89	86		90	87	84		87	85	82
3	97	89	83	78		95	88	82	77		85	80	76		82	78	75		80	77	74
4	91	81	75	69		89	80	74	69		78	72	68		76	71	67		74	70	66
5	85	75	67	62		83	74	67	62		72	66	61		70	65	60		68	64	60
6	79	69	61	56		78	68	61	56		66	60	55		64	59	55		63	58	54
7	75	63	56	51		73	62	55	51		61	55	50		60	54	50		58	53	50
8	70	58	51	46		69	58	51	46		57	50	46		55	50	46		54	49	45
9	66	54	47	42		65	54	47	42		53	46	42		52	46	42		51	46	42
10	62	51	44	39		61	50	43	39		49	43	39		48	43	39		47	42	39

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	128026	128026	128026
5°	122299	129859	136062
10°	117264	136787	148501
15°	113845	147423	161948
20°	114003	155264	168430
25°	116915	153244	162095
30°	116750	141462	144739
35°	109363	119561	117926
40°	97956	91189	85094
45°	88869	57908	47501
50°	81649	29376	20278
55°	67020	13108	6704
60°	58822	7371	3686
65°	55349	5523	2762
70°	47414	4418	2443
75°	36170	3228	1946
80°	25965	1910	990
85°	19170	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.2	5.3
10°-20°	315.5	16.4
20°-30°	488.1	25.4
30°-40°	480.9	25.0
40°-50°	295.3	15.4
50°-60°	131.3	6.8
60°-70°	73.3	3.8
70°-80°	31.7	1.7
80°-90°	5.7	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	904.8	47.0
0°-40°	1385.7	72.1
0°-60°	1812.2	94.2
0°-90°	1923.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1923.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1042	1042	1042	1042	1042	
5°	992	1008	1053	1094	1103	93
15°	895	970	1159	1248	1273	254
25°	862	932	1130	1192	1196	396
35°	729	759	797	794	786	453
45°	512	486	333	291	273	396
55°	313	283	61	35	31	288
65°	190	171	19	11	10	187
75°	76	65	7	4	4	84
85°	14	11	0	0	0	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1
2.5°	1017.6	1017.6	1017.6	1017.6	1020.3	1016.2	1020.3	1020.3	1024.4	1025.7	1021.7
5°	991.7	990.4	991.7	991.7	994.4	993.1	997.2	999.9	1005.4	1008.1	1008.1
7.5°	964.5	964.5	964.5	967.3	971.3	970.0	974.0	978.1	986.3	991.7	995.8
10°	940.0	938.7	942.7	944.1	948.2	948.2	955.0	959.1	968.6	979.5	984.9
12.5°	916.9	915.6	918.3	922.4	929.1	929.1	934.6	941.4	955.0	967.3	976.7
15°	895.1	896.5	900.6	903.3	911.5	911.5	918.3	926.4	941.4	956.4	970.0
17.5°	880.2	881.6	884.3	888.3	896.5	896.5	903.3	912.8	929.1	945.5	961.8
20°	872.0	873.4	876.1	880.2	887.0	888.3	893.8	904.7	919.6	937.3	952.3
22.5°	868.0	870.7	873.4	876.1	882.9	882.9	889.7	897.9	912.8	930.5	944.1
25°	862.5	865.2	866.6	870.7	876.1	876.1	880.2	889.7	903.3	918.3	931.9
27.5°	847.5	850.3	851.6	855.7	861.1	859.8	865.2	872.0	884.3	897.9	908.7
30°	823.0	824.4	827.1	828.5	832.6	832.6	836.6	843.4	851.6	863.9	874.7
32.5°	783.6	786.3	787.7	789.0	793.1	791.7	793.1	797.2	805.3	816.3	823.0
35°	729.2	734.6	734.6	737.3	738.7	737.3	737.3	742.8	746.9	755.0	759.1
37.5°	669.3	673.4	672.0	674.8	676.1	672.0	674.8	676.1	681.6	685.6	687.0
40°	610.8	612.2	612.2	612.2	612.2	610.8	612.2	613.5	617.6	617.6	613.5
42.5°	557.8	559.2	559.2	556.4	559.2	557.8	557.8	557.8	557.8	552.3	548.2
45°	511.5	512.9	512.9	511.5	511.5	508.8	507.5	506.1	502.0	495.2	485.7
47.5°	468.0	470.7	472.1	469.3	468.0	465.2	465.2	457.1	451.6	443.5	429.9
50°	427.2	429.9	429.9	427.2	427.2	423.1	419.0	416.3	408.1	398.6	382.3
52.5°	375.5	379.5	379.5	378.2	378.2	372.8	371.4	365.9	359.1	348.2	334.7
55°	312.9	318.3	317.0	315.6	312.9	312.9	312.9	308.8	304.7	296.6	283.0
57.5°	268.0	269.4	269.4	268.0	268.0	265.3	265.3	261.2	259.8	251.7	240.8
60°	239.4	239.4	240.8	239.4	238.1	236.7	235.4	232.6	228.5	223.1	215.0
62.5°	216.3	217.7	217.7	216.3	215.0	213.6	212.2	209.5	206.8	202.7	194.5
65°	190.4	193.2	191.8	190.4	189.1	187.7	187.7	185.0	182.3	179.6	171.4
67.5°	161.9	163.3	164.6	161.9	161.9	160.5	160.5	157.8	156.4	151.0	145.6
70°	132.0	133.3	133.3	132.0	132.0	130.6	130.6	129.2	127.9	123.8	118.4
72.5°	103.4	104.7	103.4	102.0	102.0	102.0	100.7	99.3	98.0	95.2	91.1
75°	76.2	76.2	77.5	76.2	74.8	74.8	73.4	73.4	70.7	69.4	65.3
77.5°	54.4	55.7	54.4	54.4	53.0	51.7	51.7	50.3	50.3	49.0	46.3
80°	36.7	36.7	38.1	36.7	35.4	36.7	35.4	34.0	34.0	32.7	30.0
82.5°	23.1	24.5	23.1	23.1	23.1	23.1	23.1	21.7	21.7	20.4	19.0
85°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	12.3	12.3	12.3	10.9
87.5°	6.8	6.8	5.4	5.4	6.8	6.8	6.8	5.4	5.4	5.4	5.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1
2.5°	1027.1	1028.4	1031.2	1035.3	1035.3	1032.5	1039.4	1039.4	1042.1	1043.4	1048.9
5°	1016.2	1019.0	1024.4	1031.2	1032.5	1031.2	1040.7	1044.8	1048.9	1053.0	1061.1
7.5°	1006.7	1012.1	1021.7	1031.2	1035.3	1035.3	1050.2	1055.7	1063.8	1072.0	1081.5
10°	1001.3	1009.4	1023.0	1038.0	1042.1	1046.1	1063.8	1074.7	1085.6	1096.5	1110.1
12.5°	994.4	1009.4	1027.1	1046.1	1054.3	1059.7	1084.2	1097.8	1112.8	1126.4	1144.1
15°	993.1	1010.8	1033.9	1058.4	1069.3	1077.4	1104.7	1123.7	1141.4	1159.1	1176.8
17.5°	987.7	1009.4	1038.0	1065.2	1078.8	1089.7	1121.0	1144.1	1164.5	1182.2	1202.6
20°	980.8	1005.4	1036.6	1066.5	1081.5	1092.4	1126.4	1148.2	1171.3	1187.6	1206.7
22.5°	971.3	995.8	1027.1	1057.0	1070.7	1080.1	1114.1	1133.2	1153.6	1169.9	1187.6
25°	955.0	978.1	1005.4	1029.8	1043.4	1051.6	1081.5	1099.2	1114.1	1130.5	1146.8
27.5°	931.9	949.6	972.7	990.4	998.5	1006.7	1031.2	1046.1	1059.7	1073.4	1084.2
30°	891.0	904.7	921.0	936.0	944.1	945.5	968.6	976.7	987.7	997.2	1005.4
32.5°	836.6	847.5	857.0	865.2	870.7	872.0	889.7	892.4	903.3	903.3	915.6
35°	767.3	772.7	779.5	779.5	783.6	779.5	791.7	794.5	795.8	797.2	806.7
37.5°	688.3	691.1	695.2	687.0	687.0	682.9	687.0	689.7	684.3	684.3	691.1
40°	613.5	608.1	602.6	594.5	590.4	582.2	582.2	575.5	571.4	568.6	570.0
42.5°	541.5	529.2	516.9	499.2	491.1	482.9	474.8	465.2	462.5	455.8	451.6
45°	472.1	454.4	438.1	409.5	393.2	385.0	367.3	348.2	336.0	333.3	322.4
47.5°	413.5	387.7	360.5	326.5	310.2	295.2	269.4	253.1	236.7	228.5	221.7
50°	361.8	338.8	303.4	266.7	246.2	231.3	202.7	183.7	166.0	153.7	145.6
52.5°	317.0	291.1	258.5	216.3	195.9	179.6	148.3	126.5	111.6	99.3	89.8
55°	266.7	246.2	213.6	174.1	153.7	134.7	107.4	84.4	69.4	61.2	54.4
57.5°	229.9	212.2	180.9	142.8	123.8	106.1	78.9	59.9	47.6	39.4	35.4
60°	205.4	189.1	161.9	125.1	107.4	91.1	65.3	47.6	36.7	30.0	27.2
62.5°	185.0	168.7	144.2	110.2	95.2	78.9	55.7	39.4	30.0	24.5	20.4
65°	161.9	146.9	125.1	95.2	81.6	68.0	47.6	32.7	24.5	19.0	16.3
67.5°	137.4	123.8	104.7	78.9	68.0	57.1	38.1	27.2	20.4	16.3	13.6
70°	111.6	100.7	83.0	64.0	54.4	44.9	31.3	21.7	15.0	12.3	10.9
72.5°	85.7	76.2	64.0	49.0	40.8	34.0	23.1	16.3	12.3	9.5	8.2
75°	61.2	54.4	44.9	35.4	30.0	24.5	17.7	12.3	8.2	6.8	5.4
77.5°	42.2	38.1	31.3	24.5	20.4	17.7	12.3	8.2	6.8	5.4	4.1
80°	27.2	24.5	20.4	15.0	12.3	10.9	6.8	5.4	4.1	2.7	2.7
82.5°	16.3	15.0	12.3	8.2	6.8	5.4	4.1	2.7	2.7	1.4	1.4
85°	9.5	8.2	5.4	4.1	4.1	2.7	2.7	1.4	1.4	0.0	0.0
87.5°	4.1	2.7	2.7	1.4	1.4	1.4	1.4	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1
2.5°	1046.1	1053.0	1051.6	1055.7	1054.3	1054.3	1061.1	1058.4	1065.2	1065.2	1066.5
5°	1061.1	1070.7	1070.7	1077.4	1076.1	1078.8	1085.6	1085.6	1093.8	1096.5	1096.5
7.5°	1082.9	1095.1	1097.8	1104.7	1106.0	1111.4	1116.9	1118.2	1129.1	1131.8	1133.2
10°	1112.8	1127.8	1131.8	1138.7	1141.4	1146.8	1153.6	1156.4	1169.9	1171.3	1176.8
12.5°	1149.5	1165.8	1169.9	1178.1	1179.5	1186.3	1195.8	1198.5	1212.1	1216.2	1220.3
15°	1184.9	1199.8	1206.7	1214.8	1216.2	1224.4	1232.5	1235.2	1247.5	1252.9	1257.0
17.5°	1209.4	1227.1	1231.2	1242.1	1242.1	1248.8	1257.0	1259.8	1272.0	1276.1	1278.8
20°	1214.8	1231.2	1236.6	1244.8	1246.1	1250.2	1257.0	1259.8	1270.6	1272.0	1276.1
22.5°	1194.4	1210.8	1213.5	1221.6	1223.0	1227.1	1232.5	1231.2	1244.8	1243.4	1244.8
25°	1150.9	1165.8	1165.8	1175.4	1174.1	1178.1	1180.8	1179.5	1191.7	1191.7	1191.7
27.5°	1088.3	1101.9	1103.3	1110.1	1106.0	1107.4	1110.1	1108.7	1116.9	1116.9	1116.9
30°	1010.8	1021.7	1017.6	1023.0	1020.3	1023.0	1020.3	1019.0	1021.7	1024.4	1023.0
32.5°	914.2	922.4	922.4	923.7	923.7	915.6	912.8	912.8	911.5	910.1	910.1
35°	802.6	809.4	806.7	806.7	805.3	797.2	793.1	790.4	794.5	786.3	791.7
37.5°	688.3	689.7	685.6	684.3	677.5	677.5	670.7	665.2	667.9	666.6	661.2
40°	563.2	568.6	560.5	557.8	561.9	556.4	549.6	542.8	548.2	541.5	544.2
42.5°	440.8	439.4	436.7	436.7	436.7	428.5	427.2	425.8	427.2	421.7	417.6
45°	318.3	314.2	310.2	310.2	304.7	302.0	302.0	297.9	291.1	291.1	283.0
47.5°	215.0	205.4	202.7	201.4	198.6	198.6	195.9	193.2	191.8	185.0	185.0
50°	140.1	130.6	127.9	126.5	127.9	125.1	122.4	119.7	117.0	115.7	112.9
52.5°	84.4	80.3	77.5	76.2	73.4	72.1	70.7	68.0	66.7	66.7	65.3
55°	50.3	46.3	40.8	40.8	40.8	39.4	38.1	36.7	35.4	35.4	34.0
57.5°	31.3	28.6	25.8	24.5	24.5	24.5	23.1	23.1	23.1	23.1	21.7
60°	23.1	20.4	19.0	19.0	19.0	17.7	17.7	17.7	17.7	16.3	16.3
62.5°	17.7	16.3	15.0	15.0	13.6	13.6	13.6	13.6	13.6	13.6	12.3
65°	15.0	12.3	12.3	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
67.5°	10.9	9.5	9.5	9.5	9.5	8.2	8.2	8.2	8.2	8.2	8.2
70°	8.2	8.2	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
72.5°	6.8	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
75°	5.4	5.4	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
77.5°	4.1	4.1	4.1	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
80°	2.7	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	1.4	1.4	1.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P858506

CATALOG NUMBER: LD4C20W2N2765D010 4LBSWNL1_3000K

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1	1042.1
2.5°	1066.5	1073.4	1066.5	1066.5	1070.7	1069.3	1072.0	1067.9
5°	1097.8	1107.4	1100.6	1099.2	1106.0	1104.7	1106.0	1103.3
7.5°	1135.9	1145.5	1138.7	1138.7	1145.5	1144.1	1148.2	1145.5
10°	1179.5	1190.4	1180.8	1182.2	1191.7	1190.4	1190.4	1190.4
12.5°	1224.4	1235.2	1229.8	1229.8	1236.6	1238.0	1239.3	1238.0
15°	1261.1	1272.0	1265.2	1265.2	1274.7	1273.3	1274.7	1273.3
17.5°	1282.8	1293.8	1285.6	1285.6	1293.8	1293.8	1295.1	1296.5
20°	1277.4	1289.7	1282.8	1280.1	1289.7	1289.7	1288.3	1288.3
22.5°	1246.1	1257.0	1251.5	1248.8	1255.7	1252.9	1251.5	1252.9
25°	1191.7	1202.6	1191.7	1191.7	1197.1	1195.8	1197.1	1195.8
27.5°	1118.2	1126.4	1115.5	1114.1	1119.6	1116.9	1115.5	1119.6
30°	1020.3	1028.4	1023.0	1019.0	1025.7	1021.7	1019.0	1020.3
32.5°	908.7	914.2	911.5	904.7	908.7	906.0	904.7	906.0
35°	786.3	793.1	782.3	780.9	787.7	782.3	779.5	786.3
37.5°	659.8	667.9	658.4	659.8	655.7	657.1	654.3	658.4
40°	540.1	538.7	536.0	534.6	536.0	531.9	534.6	530.6
42.5°	410.8	413.5	412.2	410.8	412.2	406.8	404.1	409.5
45°	285.7	284.3	281.6	278.9	278.9	277.5	277.5	273.4
47.5°	183.7	182.3	176.8	178.2	180.9	178.2	174.1	179.6
50°	111.6	110.2	110.2	108.8	111.6	108.8	106.1	106.1
52.5°	62.6	62.6	61.2	61.2	61.2	61.2	59.9	58.5
55°	34.0	32.7	32.7	32.7	31.3	31.3	31.3	31.3
57.5°	21.7	21.7	21.7	21.7	21.7	21.7	20.4	20.4
60°	16.3	16.3	16.3	16.3	15.0	16.3	15.0	15.0
62.5°	12.3	12.3	12.3	12.3	12.3	12.3	12.3	12.3
65°	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
67.5°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
70°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
72.5°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
75°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
77.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
80°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-50001EG





— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)