

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: P880570

Luminaire Tested: **LD4C35D010 EU4359040 4LBDWNH**

Issue Date: 10/4/2024

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



Test Information

Test Method: LM-79-08
Report Number: P880570
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P251940)
Test Lab: INNOVATION CENTER
Issue Date: 10/4/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C35D010 EU4359040 4LBDWNH
Description: 4 INCH 3500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 4000K, 90CRI LEDS
AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

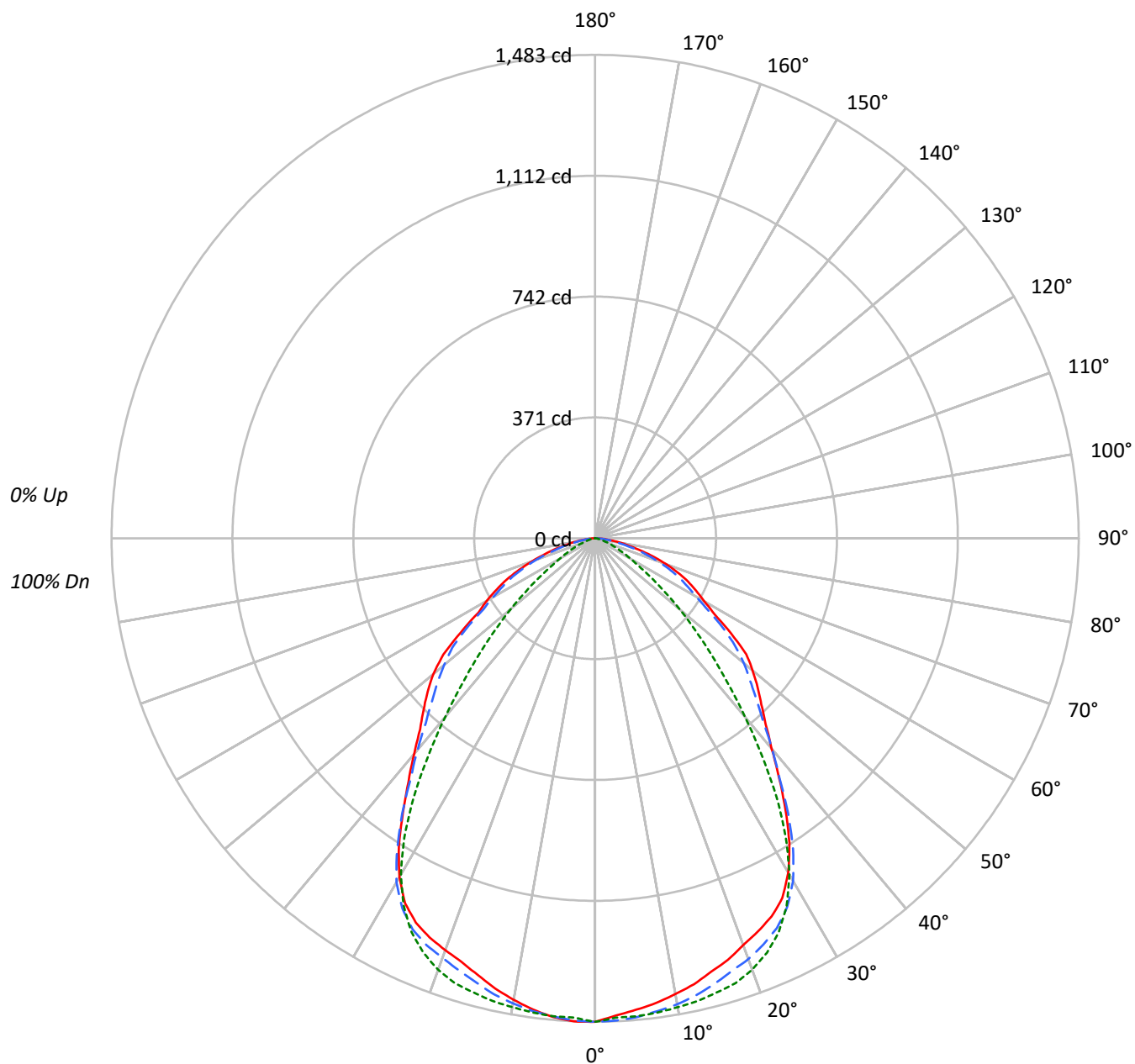
Lumens per Lamp: N/A
Luminaire Lumens: 3019.0 lumens
Efficiency: N/A
Efficacy: 74.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 40.4
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	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88		
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76		
3	94	85	78	72	92	84	77	72	81	75	70	78	73	69	76	72	68	66		
4	87	77	69	63	85	75	68	62	73	67	62	71	65	61	69	64	60	58		
5	81	69	61	55	79	68	61	55	66	60	54	64	58	54	63	57	53	51		
6	75	63	55	49	73	62	55	49	60	54	49	59	53	48	57	52	48	46		
7	70	58	50	44	68	57	49	44	56	49	44	54	48	43	53	47	43	41		
8	66	53	45	40	64	52	45	40	51	44	40	50	44	39	49	43	39	37		
9	62	49	41	36	60	49	41	36	47	41	36	46	40	36	45	40	36	34		
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	42	37	33	31		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	182241	182241	182241
5°	179003	181531	181815
10°	177081	182220	179364
15°	175035	183442	176472
20°	173646	184105	175738
25°	173550	180666	176328
30°	168018	168997	170288
35°	152646	145477	154026
40°	135051	114555	138338
45°	125285	87218	129263
50°	120390	64562	123888
55°	109001	44487	107523
60°	94769	30271	94204
65°	91569	21918	86918
70°	82795	14763	73744
75°	68210	9731	58479
80°	54901	6438	43581
85°	45107	3101	28897



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.0	4.6
10°-20°	400.4	13.3
20°-30°	604.9	20.0
30°-40°	633.0	21.0
40°-50°	512.7	17.0
50°-60°	372.9	12.4
60°-70°	230.0	7.6
70°-80°	103.9	3.4
80°-90°	21.1	0.7
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°	1145.3	37.9
0°-40°	1778.3	58.9
0°-60°	2664.0	88.2
0°-90°	3019.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3019.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1483	1483	1483	1483	1483	
5°	1452	1474	1472	1472	1474	138
15°	1376	1415	1442	1410	1388	389
25°	1280	1319	1333	1324	1301	587
35°	1018	1032	970	1032	1027	634
45°	721	698	502	708	744	560
55°	509	477	208	482	502	454
65°	315	283	75	278	299	308
75°	144	123	20	107	123	156
85°	32	25	2	18	20	37
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°	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4
2.5°	1465.1	1465.1	1478.9	1494.8	1481.1	1467.4	1476.5	1472.0	1488.0	1488.0	1481.1
5°	1451.5	1456.0	1467.4	1481.1	1469.8	1456.0	1467.4	1462.9	1478.9	1478.9	1474.3
7.5°	1437.8	1440.0	1453.8	1469.8	1458.3	1444.7	1453.8	1451.5	1465.1	1467.4	1462.9
10°	1419.5	1421.8	1435.5	1451.5	1440.0	1428.7	1437.8	1435.5	1453.8	1453.8	1451.5
12.5°	1401.3	1403.5	1417.3	1430.9	1419.5	1408.2	1417.3	1417.3	1435.5	1437.8	1435.5
15°	1376.2	1380.7	1392.2	1405.8	1399.0	1385.3	1394.4	1394.4	1410.4	1414.9	1414.9
17.5°	1355.7	1357.9	1369.3	1383.0	1373.9	1362.4	1371.5	1371.5	1387.5	1392.2	1392.2
20°	1328.2	1332.8	1344.2	1357.9	1351.0	1341.9	1348.8	1348.8	1367.0	1371.5	1373.9
22.5°	1305.4	1309.9	1319.0	1337.4	1325.9	1319.0	1328.2	1325.9	1346.5	1348.8	1348.8
25°	1280.3	1284.9	1296.3	1307.7	1300.8	1294.1	1300.8	1300.8	1316.8	1319.0	1319.0
27.5°	1243.8	1246.1	1257.4	1268.9	1262.1	1252.9	1262.1	1259.8	1275.7	1278.1	1275.7
30°	1184.4	1189.1	1193.6	1209.6	1202.7	1195.8	1204.9	1200.4	1216.4	1216.4	1214.1
32.5°	1109.1	1109.1	1118.3	1129.7	1120.6	1115.9	1122.8	1125.1	1136.6	1136.6	1129.7
35°	1017.8	1022.5	1029.2	1036.1	1029.2	1024.7	1031.6	1029.2	1043.0	1038.3	1031.6
37.5°	926.6	928.9	935.7	944.9	935.7	928.9	931.1	928.9	940.2	940.2	928.9
40°	842.1	846.8	851.2	860.4	851.2	846.8	849.0	842.1	855.9	851.2	844.4
42.5°	773.6	775.9	782.8	787.4	778.3	775.9	778.3	773.6	780.5	775.9	762.3
45°	721.1	721.1	723.5	730.3	721.1	718.9	718.9	714.3	721.1	712.0	698.4
47.5°	675.5	677.8	680.2	684.6	677.8	671.0	673.3	664.2	668.6	661.8	643.5
50°	629.9	634.4	636.8	641.3	634.4	629.9	632.2	623.0	623.0	611.7	595.7
52.5°	584.3	586.5	584.3	588.8	584.3	577.4	579.7	570.5	570.5	556.9	540.9
55°	508.9	511.2	513.6	518.0	513.6	506.7	511.2	504.4	504.4	495.2	476.9
57.5°	433.6	435.9	438.2	440.4	440.4	435.9	438.2	433.6	431.3	424.4	410.8
60°	385.7	385.7	385.7	387.9	385.7	383.4	383.4	378.8	378.8	369.7	356.1
62.5°	349.2	351.4	351.4	353.7	351.4	349.2	347.0	342.3	340.1	331.0	319.4
65°	315.0	315.0	312.7	317.2	315.0	312.7	312.7	308.1	303.6	294.5	283.0
67.5°	273.8	276.1	273.8	276.1	276.1	273.8	271.6	267.0	264.7	257.8	244.2
70°	230.5	230.5	230.5	232.8	230.5	230.5	232.8	226.0	223.7	214.5	203.1
72.5°	187.1	189.5	189.5	187.1	189.5	184.8	184.8	184.8	182.6	173.5	162.0
75°	143.7	146.1	146.1	148.4	146.1	143.7	143.7	141.5	139.2	132.4	123.2
77.5°	107.2	107.2	109.5	109.5	109.5	107.2	107.2	102.7	102.7	98.1	89.0
80°	77.6	77.6	75.4	77.6	77.6	75.4	75.4	73.0	73.0	68.5	61.6
82.5°	50.2	52.5	52.5	52.5	52.5	50.2	50.2	50.2	47.9	45.6	41.1
85°	32.0	32.0	32.0	32.0	34.2	32.0	34.2	32.0	32.0	27.4	25.1
87.5°	13.8	13.8	13.8	16.0	16.0	13.8	13.8	13.8	13.8	13.8	11.4
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°	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4
2.5°	1481.1	1483.4	1476.5	1485.6	1478.9	1481.1	1483.4	1481.1	1472.0	1472.0	1497.1
5°	1472.0	1476.5	1469.8	1481.1	1476.5	1476.5	1481.1	1478.9	1469.8	1472.0	1494.8
7.5°	1462.9	1469.8	1465.1	1476.5	1469.8	1469.8	1474.3	1474.3	1465.1	1467.4	1488.0
10°	1449.1	1458.3	1456.0	1467.4	1460.7	1460.7	1467.4	1467.4	1458.3	1460.7	1481.1
12.5°	1437.8	1446.9	1444.7	1456.0	1451.5	1453.8	1456.0	1460.7	1449.1	1453.8	1472.0
15°	1419.5	1428.7	1428.7	1440.0	1435.5	1440.0	1444.7	1451.5	1442.3	1442.3	1460.7
17.5°	1399.0	1410.4	1410.4	1419.5	1419.5	1421.8	1430.9	1437.8	1428.7	1430.9	1446.9
20°	1376.2	1389.9	1389.9	1401.3	1399.0	1403.5	1410.4	1417.3	1408.2	1408.2	1426.4
22.5°	1353.3	1364.8	1367.0	1373.9	1373.9	1376.2	1383.0	1387.5	1376.2	1376.2	1394.4
25°	1321.4	1332.8	1335.0	1339.7	1335.0	1335.0	1339.7	1344.2	1332.8	1332.8	1348.8
27.5°	1278.1	1289.4	1289.4	1287.2	1282.5	1284.9	1282.5	1284.9	1273.4	1271.2	1287.2
30°	1214.1	1220.9	1220.9	1218.7	1211.8	1211.8	1204.9	1207.3	1191.3	1191.3	1204.9
32.5°	1127.5	1134.2	1129.7	1125.1	1115.9	1111.5	1106.8	1104.6	1088.6	1088.6	1104.6
35°	1024.7	1029.2	1022.5	1013.4	1001.8	995.0	988.2	979.1	967.6	970.0	979.1
37.5°	919.7	919.7	910.6	892.4	883.2	871.7	860.4	860.4	842.1	839.9	846.8
40°	830.8	821.6	805.6	780.5	764.5	753.1	737.1	728.0	714.3	714.3	725.8
42.5°	750.9	732.6	712.0	677.8	661.8	648.2	627.7	618.5	602.5	600.2	607.0
45°	680.2	661.8	632.2	595.7	575.2	559.2	529.4	518.0	504.4	502.0	506.7
47.5°	623.0	602.5	566.0	518.0	497.6	476.9	447.3	431.3	419.9	413.1	419.9
50°	572.8	545.4	506.7	456.4	429.1	410.8	374.3	358.3	342.3	337.8	340.1
52.5°	518.0	490.7	449.6	397.1	371.9	344.6	310.3	287.6	273.8	267.0	273.8
55°	458.7	431.3	390.3	337.8	310.3	285.3	248.7	230.5	214.5	207.7	214.5
57.5°	394.8	369.7	333.2	280.7	255.6	232.8	198.6	180.4	164.4	159.7	164.4
60°	340.1	319.4	283.0	232.8	212.2	187.1	157.5	139.2	125.5	123.2	125.5
62.5°	303.6	280.7	246.5	198.6	178.0	157.5	130.1	111.9	100.4	98.1	100.4
65°	267.0	242.0	210.0	168.8	148.4	132.4	105.0	89.0	77.6	75.4	77.6
67.5°	226.0	203.1	175.7	139.2	123.2	107.2	84.5	68.5	59.4	57.1	59.4
70°	187.1	166.6	139.2	111.9	95.9	84.5	63.9	52.5	43.4	41.1	43.4
72.5°	148.4	130.1	107.2	84.5	75.4	63.9	50.2	38.7	32.0	29.6	32.0
75°	114.1	100.4	82.1	61.6	54.7	47.9	34.2	27.4	22.9	20.5	22.9
77.5°	79.9	70.7	57.1	45.6	38.7	34.2	25.1	18.2	16.0	13.8	16.0
80°	54.7	47.9	38.7	29.6	25.1	20.5	16.0	11.4	9.1	9.1	9.1
82.5°	36.5	29.6	22.9	18.2	16.0	13.8	9.1	6.9	6.9	4.6	4.6
85°	20.5	18.2	13.8	11.4	9.1	6.9	4.6	4.6	2.2	2.2	2.2
87.5°	9.1	6.9	4.6	4.6	2.2	2.2	2.2	2.2	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°	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4
2.5°	1490.3	1483.4	1492.5	1483.4	1478.9	1483.4	1478.9	1492.5	1481.1	1472.0	1481.1
5°	1488.0	1478.9	1488.0	1481.1	1474.3	1476.5	1472.0	1485.6	1472.0	1465.1	1469.8
7.5°	1483.4	1476.5	1481.1	1474.3	1467.4	1469.8	1465.1	1476.5	1462.9	1456.0	1460.7
10°	1476.5	1469.8	1472.0	1467.4	1460.7	1460.7	1456.0	1465.1	1449.1	1440.0	1444.7
12.5°	1467.4	1458.3	1462.9	1456.0	1446.9	1446.9	1442.3	1449.1	1433.1	1424.0	1426.4
15°	1456.0	1446.9	1446.9	1440.0	1430.9	1430.9	1421.8	1428.7	1410.4	1401.3	1401.3
17.5°	1442.3	1430.9	1430.9	1424.0	1412.7	1410.4	1403.5	1410.4	1389.9	1380.7	1380.7
20°	1421.8	1412.7	1410.4	1405.8	1394.4	1392.2	1383.0	1385.3	1369.3	1362.4	1360.2
22.5°	1394.4	1385.3	1387.5	1380.7	1371.5	1369.3	1360.2	1367.0	1351.0	1344.2	1346.5
25°	1346.5	1341.9	1346.5	1344.2	1337.4	1337.4	1332.8	1337.4	1323.7	1319.0	1321.4
27.5°	1291.7	1289.4	1291.7	1291.7	1287.2	1287.2	1287.2	1294.1	1280.3	1278.1	1278.1
30°	1211.8	1211.8	1214.1	1216.4	1216.4	1220.9	1218.7	1227.8	1218.7	1214.1	1218.7
32.5°	1106.8	1115.9	1122.8	1122.8	1122.8	1127.5	1131.9	1138.8	1129.7	1131.9	1131.9
35°	988.2	995.0	999.6	1011.0	1004.2	1020.1	1024.7	1033.8	1031.6	1036.1	1033.8
37.5°	855.9	865.0	874.1	890.1	887.7	906.0	915.1	933.3	928.9	938.0	942.5
40°	732.6	746.3	760.0	771.4	780.5	798.8	817.0	839.9	846.8	853.5	855.9
42.5°	613.9	627.7	650.4	666.4	680.2	709.8	734.9	762.3	769.1	782.8	787.4
45°	518.0	529.4	556.9	577.4	588.8	632.2	661.8	696.0	707.5	723.5	730.3
47.5°	429.1	449.6	476.9	502.0	518.0	563.7	602.5	639.0	655.0	673.3	682.4
50°	351.4	374.3	410.8	433.6	456.4	506.7	550.0	588.8	604.8	625.3	634.4
52.5°	287.6	312.7	347.0	371.9	397.1	449.6	495.2	531.8	552.3	566.0	579.7
55°	226.0	253.3	287.6	315.0	335.4	392.6	431.3	467.8	481.6	492.9	499.8
57.5°	175.7	196.2	230.5	253.3	278.5	328.6	367.4	394.8	406.2	419.9	424.4
60°	137.0	157.5	189.5	212.2	235.1	283.0	321.8	349.2	360.6	371.9	378.8
62.5°	109.5	130.1	159.7	180.4	200.8	244.2	278.5	305.8	319.4	331.0	337.8
65°	86.7	105.0	130.1	150.6	166.6	205.3	239.6	264.7	278.5	289.8	296.7
67.5°	68.5	84.5	107.2	121.0	137.0	168.8	198.6	221.3	232.8	246.5	253.3
70°	52.5	63.9	84.5	95.9	107.2	134.6	157.5	180.4	191.7	200.8	205.3
72.5°	38.7	47.9	63.9	73.0	79.9	102.7	121.0	137.0	146.1	155.2	159.7
75°	27.4	34.2	45.6	52.5	57.1	73.0	89.0	100.4	107.2	114.1	121.0
77.5°	18.2	22.9	29.6	34.2	38.7	50.2	59.4	68.5	75.4	82.1	84.5
80°	11.4	16.0	20.5	22.9	25.1	32.0	41.1	45.6	50.2	54.7	57.1
82.5°	6.9	9.1	11.4	13.8	16.0	20.5	25.1	29.6	32.0	36.5	38.7
85°	2.2	4.6	4.6	6.9	6.9	11.4	13.8	16.0	18.2	20.5	22.9
87.5°	0.0	0.0	2.2	2.2	2.2	2.2	4.6	4.6	4.6	4.6	4.6
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: P880570

CATALOG NUMBER: LD4C35D010 EU4359040 4LBDWNH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4	1483.4
2.5°	1490.3	1483.4	1478.9	1476.5	1492.5	1472.0	1481.1	1483.4
5°	1481.1	1474.3	1469.8	1467.4	1481.1	1462.9	1469.8	1474.3
7.5°	1467.4	1462.9	1456.0	1453.8	1467.4	1446.9	1456.0	1458.3
10°	1451.5	1444.7	1440.0	1437.8	1449.1	1428.7	1437.8	1437.8
12.5°	1430.9	1426.4	1417.3	1417.3	1426.4	1408.2	1414.9	1414.9
15°	1403.5	1399.0	1389.9	1389.9	1399.0	1380.7	1387.5	1387.5
17.5°	1380.7	1376.2	1369.3	1367.0	1376.2	1357.9	1364.8	1362.4
20°	1362.4	1357.9	1348.8	1348.8	1355.7	1337.4	1344.2	1344.2
22.5°	1346.5	1344.2	1335.0	1335.0	1344.2	1325.9	1330.5	1325.9
25°	1321.4	1319.0	1309.9	1312.3	1316.8	1298.5	1305.4	1300.8
27.5°	1280.3	1280.3	1271.2	1268.9	1275.7	1259.8	1264.3	1262.1
30°	1216.4	1218.7	1207.3	1207.3	1209.6	1195.8	1202.7	1200.4
32.5°	1129.7	1131.9	1122.8	1120.6	1127.5	1115.9	1120.6	1120.6
35°	1033.8	1036.1	1029.2	1029.2	1036.1	1029.2	1029.2	1027.0
37.5°	938.0	942.5	938.0	940.2	944.9	938.0	942.5	940.2
40°	860.4	865.0	858.1	862.6	867.2	860.4	867.2	862.6
42.5°	789.6	796.5	791.9	796.5	801.0	796.5	801.0	794.3
45°	737.1	741.8	739.4	741.8	746.3	744.0	746.3	744.0
47.5°	686.9	696.0	691.5	696.0	702.9	698.4	702.9	696.0
50°	641.3	648.2	645.9	650.4	652.6	650.4	655.0	648.2
52.5°	581.9	588.8	586.5	586.5	591.0	586.5	591.0	586.5
55°	504.4	506.7	506.7	508.9	506.7	504.4	506.7	502.0
57.5°	429.1	433.6	426.8	433.6	431.3	429.1	429.1	424.4
60°	381.1	387.9	383.4	387.9	385.7	385.7	385.7	383.4
62.5°	342.3	347.0	342.3	344.6	344.6	344.6	342.3	340.1
65°	299.0	305.8	301.2	303.6	301.2	299.0	301.2	299.0
67.5°	255.6	257.8	257.8	255.6	255.6	255.6	255.6	251.1
70°	207.7	210.0	207.7	212.2	210.0	207.7	210.0	205.3
72.5°	162.0	164.4	162.0	164.4	162.0	162.0	162.0	162.0
75°	121.0	123.2	123.2	123.2	123.2	123.2	118.7	123.2
77.5°	86.7	86.7	86.7	89.0	86.7	86.7	86.7	86.7
80°	59.4	59.4	59.4	61.6	59.4	61.6	59.4	61.6
82.5°	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7
85°	20.5	22.9	22.9	20.5	20.5	20.5	20.5	20.5
87.5°	4.6	2.2	2.2	2.2	2.2	2.2	2.2	2.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)