

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: P880569

Luminaire Tested: **LD4C35D010 EU4359035 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: P880569
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 EU4359035 4LBDWNH
Description: 4 INCH 3500 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3500K, 90CRI LEDS
AND 4LBDWN TRIM WITH H FINISH
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

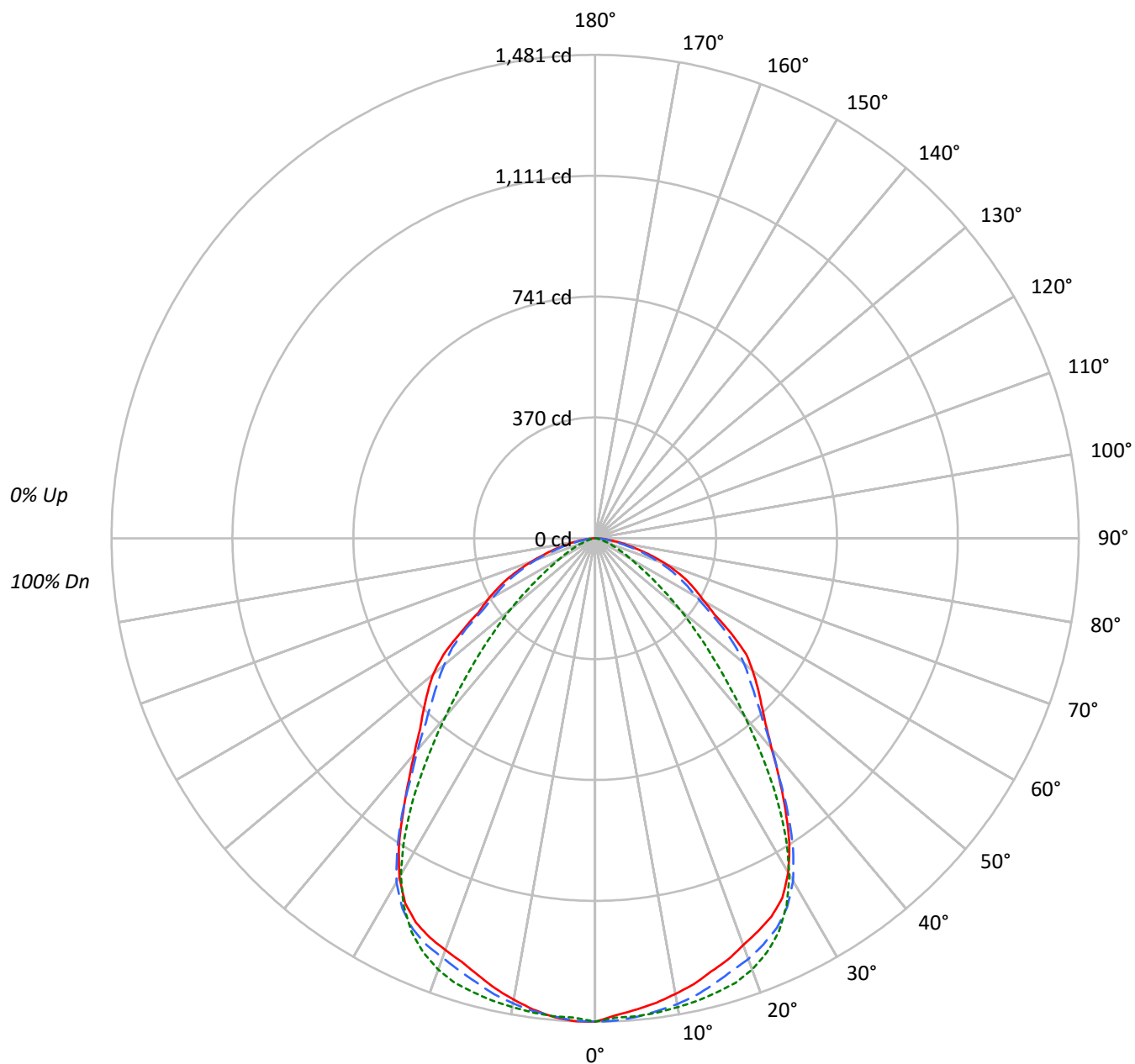
Lumens per Lamp: N/A
Luminaire Lumens: 3014.0 lumens
Efficiency: N/A
Efficacy: 74.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	181934	181934	181934
5°	178707	181235	181506
10°	176794	181909	179064
15°	174743	183137	176180
20°	173359	183791	175437
25°	173265	180368	176030
30°	167748	168713	170018
35°	152406	145237	153771
40°	134826	114363	138114
45°	125076	87079	129055
50°	120199	64467	123678
55°	108829	44423	107351
60°	94622	30222	94057
65°	91395	21860	86773
70°	82652	14763	73636
75°	68115	9731	58384
80°	54830	6438	43510
85°	44966	3101	28897



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.8	4.6
10°-20°	399.7	13.3
20°-30°	603.9	20.0
30°-40°	632.0	21.0
40°-50°	511.8	17.0
50°-60°	372.3	12.4
60°-70°	229.6	7.6
70°-80°	103.7	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°	1143.4	37.9
0°-40°	1775.4	58.9
0°-60°	2659.5	88.2
0°-90°	3014.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3014.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1481	1481	1481	1481	1481	
5°	1449	1472	1470	1470	1472	137
15°	1374	1413	1440	1408	1385	388
25°	1278	1317	1331	1322	1299	586
35°	1016	1030	968	1030	1025	633
45°	720	697	501	706	743	560
55°	508	476	207	481	501	453
65°	314	282	75	278	298	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°	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9
2.5°	1462.7	1462.7	1476.5	1492.3	1478.7	1465.0	1474.1	1469.6	1485.6	1485.6	1478.7
5°	1449.1	1453.6	1465.0	1478.7	1467.3	1453.6	1465.0	1460.5	1476.5	1476.5	1471.8
7.5°	1435.4	1437.6	1451.4	1467.3	1455.9	1442.3	1451.4	1449.1	1462.7	1465.0	1460.5
10°	1417.2	1419.4	1433.2	1449.1	1437.6	1426.3	1435.4	1433.2	1451.4	1451.4	1449.1
12.5°	1399.0	1401.2	1414.9	1428.5	1417.2	1405.8	1414.9	1414.9	1433.2	1435.4	1433.2
15°	1373.9	1378.4	1389.9	1403.5	1396.7	1383.0	1392.1	1392.1	1408.1	1412.6	1412.6
17.5°	1353.4	1355.7	1367.0	1380.8	1371.6	1360.2	1369.3	1369.3	1385.2	1389.9	1389.9
20°	1326.0	1330.6	1341.9	1355.7	1348.8	1339.7	1346.6	1346.6	1364.8	1369.3	1371.6
22.5°	1303.3	1307.7	1316.9	1335.2	1323.7	1316.9	1326.0	1323.7	1344.3	1346.6	1346.6
25°	1278.2	1282.8	1294.2	1305.5	1298.6	1291.9	1298.6	1298.6	1314.6	1316.9	1316.9
27.5°	1241.8	1244.0	1255.3	1266.8	1260.0	1250.9	1260.0	1257.7	1273.6	1275.9	1273.6
30°	1182.5	1187.1	1191.6	1207.6	1200.7	1193.8	1202.9	1198.5	1214.4	1214.4	1212.0
32.5°	1107.2	1107.2	1116.5	1127.8	1118.7	1114.1	1121.0	1123.2	1134.7	1134.7	1127.8
35°	1016.2	1020.8	1027.5	1034.4	1027.5	1023.0	1029.9	1027.5	1041.2	1036.6	1029.9
37.5°	925.1	927.3	934.2	943.3	934.2	927.3	929.6	927.3	938.7	938.7	927.3
40°	840.7	845.3	849.8	858.9	849.8	845.3	847.6	840.7	854.5	849.8	843.0
42.5°	772.3	774.6	781.5	786.1	777.0	774.6	777.0	772.3	779.2	774.6	761.0
45°	719.9	719.9	722.3	729.0	719.9	717.7	717.7	713.1	719.9	710.8	697.2
47.5°	674.4	676.6	679.0	683.5	676.6	669.9	672.2	663.1	667.5	660.7	642.5
50°	628.9	633.3	635.7	640.2	633.3	628.9	631.1	622.0	622.0	610.6	594.7
52.5°	583.3	585.6	583.3	587.8	583.3	576.5	578.7	569.6	569.6	556.0	540.0
55°	508.1	510.3	512.7	517.2	512.7	505.8	510.3	503.6	503.6	494.3	476.1
57.5°	432.8	435.2	437.5	439.7	439.7	435.2	437.5	432.8	430.6	423.7	410.1
60°	385.1	385.1	385.1	387.3	385.1	382.8	382.8	378.2	378.2	369.1	355.5
62.5°	348.6	350.9	350.9	353.1	350.9	348.6	346.4	341.8	339.5	330.4	318.9
65°	314.4	314.4	312.2	316.7	314.4	312.2	312.2	307.6	303.1	294.0	282.5
67.5°	273.4	275.6	273.4	275.6	275.6	273.4	271.1	266.5	264.3	257.4	243.8
70°	230.1	230.1	230.1	232.5	230.1	230.1	232.5	225.6	223.4	214.1	202.8
72.5°	186.8	189.2	189.2	186.8	189.2	184.5	184.5	184.5	182.3	173.2	161.7
75°	143.5	145.9	145.9	148.1	145.9	143.5	143.5	141.2	139.0	132.1	123.0
77.5°	107.1	107.1	109.3	109.3	109.3	107.1	107.1	102.6	102.6	97.9	88.8
80°	77.5	77.5	75.2	77.5	77.5	75.2	75.2	72.9	72.9	68.4	61.5
82.5°	50.2	52.4	52.4	52.4	52.4	50.2	50.2	50.2	47.8	45.5	41.1
85°	31.9	31.9	31.9	31.9	34.2	31.9	34.2	31.9	31.9	27.3	25.1
87.5°	13.7	13.7	13.7	16.0	16.0	13.7	13.7	13.7	13.7	13.7	11.3
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°	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9
2.5°	1478.7	1480.9	1474.1	1483.2	1476.5	1478.7	1480.9	1478.7	1469.6	1469.6	1494.7
5°	1469.6	1474.1	1467.3	1478.7	1474.1	1474.1	1478.7	1476.5	1467.3	1469.6	1492.3
7.5°	1460.5	1467.3	1462.7	1474.1	1467.3	1467.3	1471.8	1471.8	1462.7	1465.0	1485.6
10°	1446.7	1455.9	1453.6	1465.0	1458.2	1458.2	1465.0	1465.0	1455.9	1458.2	1478.7
12.5°	1435.4	1444.5	1442.3	1453.6	1449.1	1451.4	1453.6	1458.2	1446.7	1451.4	1469.6
15°	1417.2	1426.3	1426.3	1437.6	1433.2	1437.6	1442.3	1449.1	1439.9	1439.9	1458.2
17.5°	1396.7	1408.1	1408.1	1417.2	1417.2	1419.4	1428.5	1435.4	1426.3	1428.5	1444.5
20°	1373.9	1387.6	1387.6	1399.0	1396.7	1401.2	1408.1	1414.9	1405.8	1405.8	1424.0
22.5°	1351.0	1362.5	1364.8	1371.6	1371.6	1373.9	1380.8	1385.2	1373.9	1373.9	1392.1
25°	1319.2	1330.6	1332.8	1337.5	1332.8	1332.8	1337.5	1341.9	1330.6	1330.6	1346.6
27.5°	1275.9	1287.3	1287.3	1285.0	1280.4	1282.8	1280.4	1282.8	1271.3	1269.1	1285.0
30°	1212.0	1218.9	1218.9	1216.7	1209.8	1209.8	1202.9	1205.3	1189.3	1189.3	1202.9
32.5°	1125.6	1132.3	1127.8	1123.2	1114.1	1109.6	1105.0	1102.8	1086.8	1086.8	1102.8
35°	1023.0	1027.5	1020.8	1011.7	1000.2	993.3	986.6	977.5	966.0	968.4	977.5
37.5°	918.2	918.2	909.1	890.9	881.8	870.3	858.9	858.9	840.7	838.5	845.3
40°	829.4	820.3	804.3	779.2	763.2	751.9	735.9	726.8	713.1	713.1	724.6
42.5°	749.6	731.4	710.8	676.6	660.7	647.1	626.6	617.5	601.5	599.2	606.0
45°	679.0	660.7	631.1	594.7	574.2	558.2	528.5	517.2	503.6	501.2	505.8
47.5°	622.0	601.5	565.1	517.2	496.7	476.1	446.6	430.6	419.2	412.4	419.2
50°	571.8	544.5	505.8	455.7	428.3	410.1	373.7	357.7	341.8	337.3	339.5
52.5°	517.2	489.9	448.8	396.4	371.3	344.0	309.8	287.1	273.4	266.5	273.4
55°	457.9	430.6	389.7	337.3	309.8	284.9	248.3	230.1	214.1	207.4	214.1
57.5°	394.2	369.1	332.6	280.2	255.2	232.5	198.3	180.1	164.1	159.5	164.1
60°	339.5	318.9	282.5	232.5	211.9	186.8	157.2	139.0	125.3	123.0	125.3
62.5°	303.1	280.2	246.1	198.3	177.7	157.2	129.9	111.7	100.2	97.9	100.2
65°	266.5	241.6	209.6	168.6	148.1	132.1	104.8	88.8	77.5	75.2	77.5
67.5°	225.6	202.8	175.4	139.0	123.0	107.1	84.4	68.4	59.3	57.0	59.3
70°	186.8	166.3	139.0	111.7	95.7	84.4	63.8	52.4	43.3	41.1	43.3
72.5°	148.1	129.9	107.1	84.4	75.2	63.8	50.2	38.7	31.9	29.6	31.9
75°	113.9	100.2	82.0	61.5	54.6	47.8	34.2	27.3	22.8	20.5	22.8
77.5°	79.7	70.6	57.0	45.5	38.7	34.2	25.1	18.2	16.0	13.7	16.0
80°	54.6	47.8	38.7	29.6	25.1	20.5	16.0	11.3	9.1	9.1	9.1
82.5°	36.4	29.6	22.8	18.2	16.0	13.7	9.1	6.9	6.9	4.6	4.6
85°	20.5	18.2	13.7	11.3	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°	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9
2.5°	1487.8	1480.9	1490.0	1480.9	1476.5	1480.9	1476.5	1490.0	1478.7	1469.6	1478.7
5°	1485.6	1476.5	1485.6	1478.7	1471.8	1474.1	1469.6	1483.2	1469.6	1462.7	1467.3
7.5°	1480.9	1474.1	1478.7	1471.8	1465.0	1467.3	1462.7	1474.1	1460.5	1453.6	1458.2
10°	1474.1	1467.3	1469.6	1465.0	1458.2	1458.2	1453.6	1462.7	1446.7	1437.6	1442.3
12.5°	1465.0	1455.9	1460.5	1453.6	1444.5	1444.5	1439.9	1446.7	1430.8	1421.7	1424.0
15°	1453.6	1444.5	1444.5	1437.6	1428.5	1428.5	1419.4	1426.3	1408.1	1399.0	1399.0
17.5°	1439.9	1428.5	1428.5	1421.7	1410.3	1408.1	1401.2	1408.1	1387.6	1378.4	1378.4
20°	1419.4	1410.3	1408.1	1403.5	1392.1	1389.9	1380.8	1383.0	1367.0	1360.2	1357.9
22.5°	1392.1	1383.0	1385.2	1378.4	1369.3	1367.0	1357.9	1364.8	1348.8	1341.9	1344.3
25°	1344.3	1339.7	1344.3	1341.9	1335.2	1335.2	1330.6	1335.2	1321.5	1316.9	1319.2
27.5°	1289.5	1287.3	1289.5	1289.5	1285.0	1285.0	1285.0	1291.9	1278.2	1275.9	1275.9
30°	1209.8	1209.8	1212.0	1214.4	1214.4	1218.9	1216.7	1225.8	1216.7	1212.0	1216.7
32.5°	1105.0	1114.1	1121.0	1121.0	1121.0	1125.6	1130.1	1136.9	1127.8	1130.1	1130.1
35°	986.6	993.3	997.9	1009.3	1002.6	1018.4	1023.0	1032.1	1029.9	1034.4	1032.1
37.5°	854.5	863.6	872.7	888.6	886.3	904.5	913.6	931.8	927.3	936.4	940.9
40°	731.4	745.0	758.8	770.1	779.2	797.4	815.6	838.5	845.3	852.1	854.5
42.5°	612.9	626.6	649.3	665.3	679.0	708.6	733.7	761.0	767.9	781.5	786.1
45°	517.2	528.5	556.0	576.5	587.8	631.1	660.7	694.9	706.3	722.3	729.0
47.5°	428.3	448.8	476.1	501.2	517.2	562.7	601.5	638.0	653.9	672.2	681.3
50°	350.9	373.7	410.1	432.8	455.7	505.8	549.1	587.8	603.8	624.2	633.3
52.5°	287.1	312.2	346.4	371.3	396.4	448.8	494.3	530.9	551.4	565.1	578.7
55°	225.6	252.9	287.1	314.4	334.9	391.9	430.6	467.0	480.8	492.1	499.0
57.5°	175.4	195.9	230.1	252.9	278.0	328.0	366.8	394.2	405.5	419.2	423.7
60°	136.8	157.2	189.2	211.9	234.7	282.5	321.3	348.6	360.0	371.3	378.2
62.5°	109.3	129.9	159.5	180.1	200.5	243.8	278.0	305.3	318.9	330.4	337.3
65°	86.6	104.8	129.9	150.3	166.3	205.0	239.2	264.3	278.0	289.3	296.2
67.5°	68.4	84.4	107.1	120.8	136.8	168.6	198.3	221.0	232.5	246.1	252.9
70°	52.4	63.8	84.4	95.7	107.1	134.4	157.2	180.1	191.4	200.5	205.0
72.5°	38.7	47.8	63.8	72.9	79.7	102.6	120.8	136.8	145.9	155.0	159.5
75°	27.3	34.2	45.5	52.4	57.0	72.9	88.8	100.2	107.1	113.9	120.8
77.5°	18.2	22.8	29.6	34.2	38.7	50.2	59.3	68.4	75.2	82.0	84.4
80°	11.3	16.0	20.5	22.8	25.1	31.9	41.1	45.5	50.2	54.6	57.0
82.5°	6.9	9.1	11.3	13.7	16.0	20.5	25.1	29.6	31.9	36.4	38.7
85°	2.2	4.6	4.6	6.9	6.9	11.3	13.7	16.0	18.2	20.5	22.8
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: P880569

CATALOG NUMBER: LD4C35D010 EU4359035 4LBDWNH

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9	1480.9
2.5°	1487.8	1480.9	1476.5	1474.1	1490.0	1469.6	1478.7	1480.9
5°	1478.7	1471.8	1467.3	1465.0	1478.7	1460.5	1467.3	1471.8
7.5°	1465.0	1460.5	1453.6	1451.4	1465.0	1444.5	1453.6	1455.9
10°	1449.1	1442.3	1437.6	1435.4	1446.7	1426.3	1435.4	1435.4
12.5°	1428.5	1424.0	1414.9	1414.9	1424.0	1405.8	1412.6	1412.6
15°	1401.2	1396.7	1387.6	1387.6	1396.7	1378.4	1385.2	1385.2
17.5°	1378.4	1373.9	1367.0	1364.8	1373.9	1355.7	1362.5	1360.2
20°	1360.2	1355.7	1346.6	1346.6	1353.4	1335.2	1341.9	1341.9
22.5°	1344.3	1341.9	1332.8	1332.8	1341.9	1323.7	1328.3	1323.7
25°	1319.2	1316.9	1307.7	1310.1	1314.6	1296.4	1303.3	1298.6
27.5°	1278.2	1278.2	1269.1	1266.8	1273.6	1257.7	1262.2	1260.0
30°	1214.4	1216.7	1205.3	1205.3	1207.6	1193.8	1200.7	1198.5
32.5°	1127.8	1130.1	1121.0	1118.7	1125.6	1114.1	1118.7	1118.7
35°	1032.1	1034.4	1027.5	1027.5	1034.4	1027.5	1027.5	1025.3
37.5°	936.4	940.9	936.4	938.7	943.3	936.4	940.9	938.7
40°	858.9	863.6	856.7	861.2	865.8	858.9	865.8	861.2
42.5°	788.3	795.2	790.6	795.2	799.7	795.2	799.7	792.9
45°	735.9	740.5	738.2	740.5	745.0	742.8	745.0	742.8
47.5°	685.8	694.9	690.4	694.9	701.7	697.2	701.7	694.9
50°	640.2	647.1	644.8	649.3	651.6	649.3	653.9	647.1
52.5°	580.9	587.8	585.6	585.6	590.0	585.6	590.0	585.6
55°	503.6	505.8	505.8	508.1	505.8	503.6	505.8	501.2
57.5°	428.3	432.8	426.1	432.8	430.6	428.3	428.3	423.7
60°	380.4	387.3	382.8	387.3	385.1	385.1	385.1	382.8
62.5°	341.8	346.4	341.8	344.0	344.0	344.0	341.8	339.5
65°	298.5	305.3	300.7	303.1	300.7	298.5	300.7	298.5
67.5°	255.2	257.4	257.4	255.2	255.2	255.2	255.2	250.7
70°	207.4	209.6	207.4	211.9	209.6	207.4	209.6	205.0
72.5°	161.7	164.1	161.7	164.1	161.7	161.7	161.7	161.7
75°	120.8	123.0	123.0	123.0	123.0	123.0	118.5	123.0
77.5°	86.6	86.6	86.6	88.8	86.6	86.6	86.6	86.6
80°	59.3	59.3	59.3	61.5	59.3	61.5	59.3	61.5
82.5°	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7
85°	20.5	22.8	22.8	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)