

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P251625

Luminaire Tested: **LD4B30D010 EU4B30508050 4LBSW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251625
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-13)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B30D010 EU4B30508050 4LBSW1H
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2681.0 lumens
Efficiency: N/A
Efficacy: 95.7 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.17 / 1.15
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

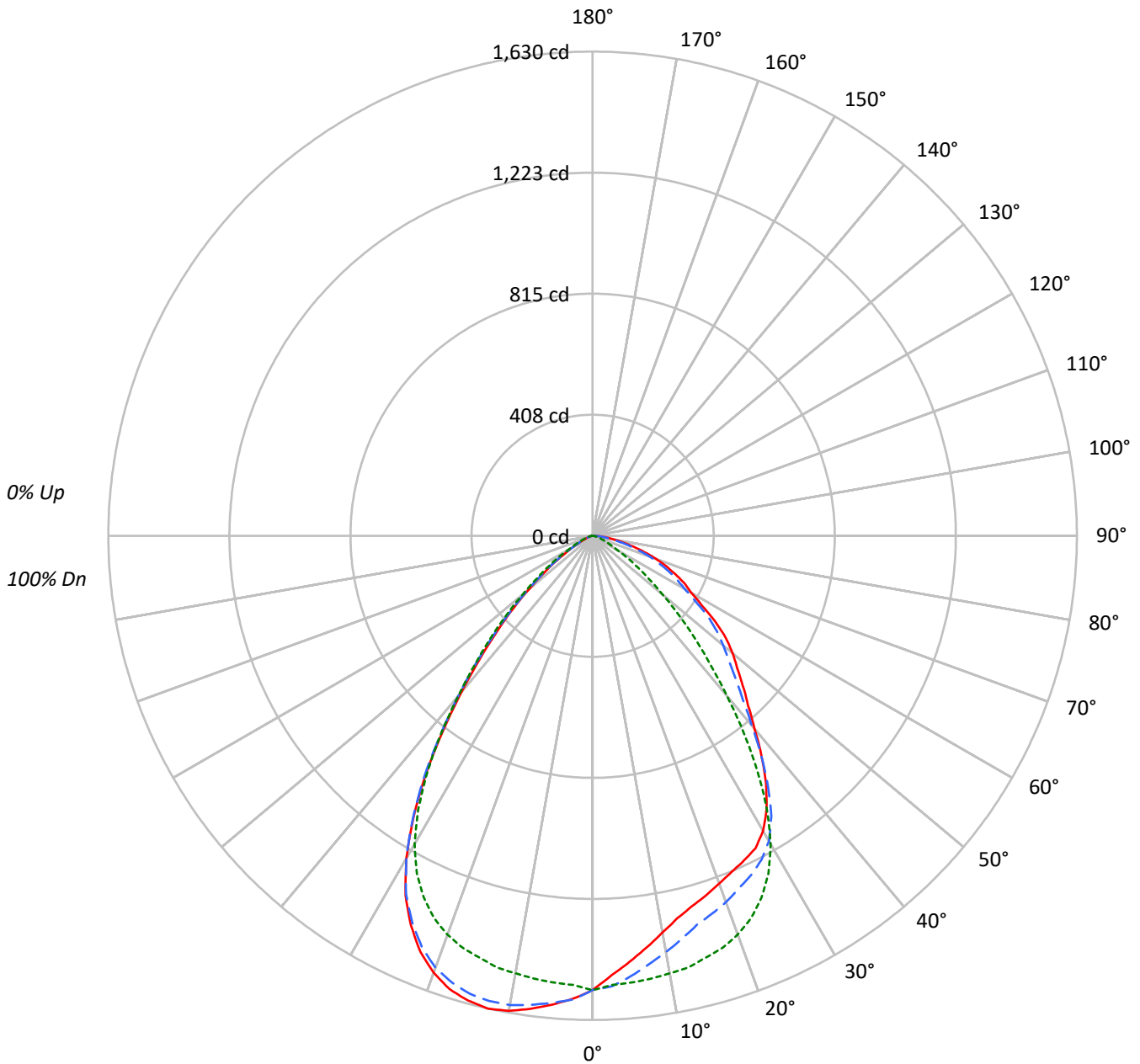
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	111	108	104	101	109	106	103	100	101	99	97	98	96	94	94	93	91	89				89
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79				79
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70				70
4	90	80	72	67	88	78	72	66	76	70	66	74	69	65	72	68	64	62				62
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56				56
6	78	67	59	53	76	66	59	53	64	58	53	62	57	52	61	56	52	50				50
7	73	61	54	48	71	61	53	48	59	53	48	58	52	48	56	51	47	46				46
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42				42
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38				38
10	61	49	42	37	59	48	42	37	47	41	37	47	41	37	46	40	37	35				35

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	149062	149062	149062
5°	140758	147704	155032
10°	134192	148046	160723
15°	130257	148347	163462
20°	129195	148205	162310
25°	129706	144546	155568
30°	129089	134862	141062
35°	120997	115131	116309
40°	107821	89272	87262
45°	98615	66556	62477
50°	93230	46622	42135
55°	85738	31485	26455
60°	74906	18439	14599
65°	70911	11807	8186
70°	64598	8434	5044
75°	53432	5949	3728
80°	42037	3311	2189
85°	37460	2236	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.5	5.4
10°-20°	414.6	15.5
20°-30°	614.6	22.9
30°-40°	615.4	23.0
40°-50°	430.1	16.0
50°-60°	255.9	9.5
60°-70°	133.6	5.0
70°-80°	59.4	2.2
80°-90°	12.9	0.5
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°	1173.7	43.8
0°-40°	1789.1	66.7
0°-60°	2475.1	92.3
0°-90°	2681.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2681.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1530	1530	1530	1530	1530	
5°	1439	1488	1510	1579	1585	135
15°	1291	1356	1470	1596	1620	366
25°	1206	1261	1344	1437	1447	556
35°	1017	1029	968	986	978	631
45°	716	680	483	467	453	555
55°	505	473	185	162	156	448
65°	308	282	51	37	36	304
75°	142	124	16	10	10	153
85°	34	26	2	2	0	38
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°	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5
2.5°	1480.2	1497.9	1480.2	1486.1	1509.8	1488.1	1499.9	1499.9	1494.0	1507.8	1517.7
5°	1438.8	1456.6	1438.8	1446.7	1472.3	1450.6	1464.4	1460.5	1462.5	1474.3	1488.1
7.5°	1397.4	1411.2	1395.4	1405.3	1429.0	1411.2	1423.0	1423.0	1425.0	1442.8	1454.6
10°	1356.0	1367.9	1356.0	1363.9	1389.5	1373.8	1381.7	1383.6	1389.5	1405.3	1423.0
12.5°	1318.6	1328.4	1316.6	1328.4	1350.1	1334.3	1344.2	1346.2	1352.1	1369.8	1389.5
15°	1291.0	1300.8	1289.0	1298.9	1318.6	1306.8	1314.6	1318.6	1322.5	1338.3	1356.0
17.5°	1269.3	1277.2	1267.3	1279.2	1294.9	1281.1	1293.0	1293.0	1298.9	1314.6	1334.3
20°	1245.7	1253.5	1245.7	1255.5	1273.2	1261.4	1271.3	1271.3	1277.2	1294.9	1312.7
22.5°	1224.0	1227.9	1224.0	1231.9	1249.6	1239.7	1245.7	1247.6	1253.5	1269.3	1285.1
25°	1206.2	1214.1	1210.2	1218.1	1229.9	1220.0	1225.9	1227.9	1233.8	1247.6	1261.4
27.5°	1186.5	1190.5	1186.5	1196.4	1206.2	1198.4	1204.3	1202.3	1206.2	1218.1	1229.9
30°	1147.1	1151.0	1151.0	1157.0	1164.8	1160.9	1166.8	1160.9	1164.8	1174.7	1186.5
32.5°	1089.9	1091.9	1093.9	1099.8	1105.7	1099.8	1103.7	1103.7	1103.7	1111.6	1119.5
35°	1017.0	1021.0	1019.0	1022.9	1028.8	1026.9	1026.9	1024.9	1021.0	1024.9	1028.8
37.5°	934.2	928.3	928.3	934.2	938.2	930.3	934.2	930.3	930.3	932.3	932.3
40°	847.5	841.6	847.5	849.5	851.5	847.5	845.5	841.6	835.7	837.7	833.7
42.5°	774.6	770.7	772.6	772.6	774.6	770.7	772.6	764.7	758.8	754.9	749.0
45°	715.5	709.6	715.5	711.5	711.5	709.6	707.6	703.6	695.8	689.8	680.0
47.5°	660.3	660.3	662.2	662.2	662.2	658.3	658.3	650.4	642.5	634.7	620.9
50°	614.9	611.0	618.9	618.9	613.0	611.0	613.0	603.1	597.2	587.4	573.6
52.5°	565.7	565.7	567.6	567.6	565.7	561.7	563.7	555.8	549.9	540.0	526.3
55°	504.6	500.6	506.5	506.5	504.6	502.6	504.6	498.7	492.7	484.9	473.0
57.5°	435.6	433.6	437.6	439.5	435.6	435.6	437.6	431.6	429.7	421.8	410.0
60°	384.3	382.4	386.3	388.3	384.3	384.3	384.3	376.5	372.5	364.6	356.7
62.5°	348.9	346.9	350.8	348.9	346.9	344.9	346.9	339.0	335.1	327.2	319.3
65°	307.5	309.4	311.4	311.4	309.4	307.5	307.5	303.5	299.6	291.7	281.8
67.5°	268.1	268.1	270.0	272.0	270.0	270.0	270.0	264.1	260.2	254.3	242.4
70°	226.7	224.7	230.6	230.6	226.7	228.6	226.7	224.7	220.7	212.9	203.0
72.5°	183.3	183.3	185.3	185.3	183.3	183.3	183.3	181.3	175.4	171.5	161.6
75°	141.9	141.9	143.9	145.9	141.9	141.9	143.9	139.9	136.0	130.1	124.2
77.5°	106.4	104.5	106.4	106.4	104.5	104.5	104.5	102.5	100.5	94.6	88.7
80°	74.9	72.9	74.9	74.9	74.9	72.9	72.9	71.0	71.0	67.0	61.1
82.5°	51.2	49.3	51.2	51.2	51.2	49.3	49.3	49.3	47.3	45.3	41.4
85°	33.5	31.5	31.5	33.5	31.5	31.5	31.5	31.5	29.6	27.6	25.6
87.5°	15.8	15.8	15.8	15.8	15.8	15.8	15.8	13.8	13.8	13.8	11.8
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°	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5
2.5°	1509.8	1505.8	1517.7	1513.7	1515.7	1505.8	1521.6	1513.7	1523.6	1513.7	1533.4
5°	1484.1	1480.2	1497.9	1496.0	1497.9	1490.1	1507.8	1505.8	1517.7	1509.8	1531.4
7.5°	1456.6	1452.6	1472.3	1474.3	1478.2	1470.3	1494.0	1494.0	1505.8	1503.9	1527.5
10°	1425.0	1427.0	1446.7	1450.6	1458.5	1454.6	1476.3	1482.2	1497.9	1496.0	1525.5
12.5°	1395.4	1395.4	1421.1	1429.0	1434.9	1432.9	1458.5	1466.4	1484.1	1488.1	1515.7
15°	1365.9	1367.9	1391.5	1403.3	1411.2	1409.2	1436.8	1446.7	1468.4	1470.3	1503.9
17.5°	1342.2	1340.3	1365.9	1375.7	1387.6	1385.6	1415.2	1427.0	1448.7	1454.6	1486.1
20°	1322.5	1320.6	1344.2	1356.0	1363.9	1361.9	1391.5	1405.3	1425.0	1429.0	1460.5
22.5°	1298.9	1294.9	1318.6	1328.4	1336.3	1334.3	1360.0	1369.8	1389.5	1393.5	1423.0
25°	1271.3	1267.3	1289.0	1294.9	1300.8	1296.9	1318.6	1324.5	1340.3	1344.2	1373.8
27.5°	1239.7	1229.9	1247.6	1247.6	1251.6	1245.7	1261.4	1267.3	1281.1	1281.1	1308.7
30°	1190.5	1176.7	1186.5	1184.6	1186.5	1178.6	1188.5	1190.5	1200.3	1198.4	1218.1
32.5°	1121.5	1101.8	1107.7	1101.8	1095.9	1084.0	1095.9	1091.9	1099.8	1091.9	1109.7
35°	1026.9	1007.2	1005.2	997.3	991.4	981.5	981.5	971.7	973.7	967.7	979.6
37.5°	924.4	898.8	894.8	879.1	869.2	857.4	857.4	849.5	839.6	835.7	845.5
40°	823.9	796.3	786.4	760.8	750.9	739.1	731.2	721.4	717.4	701.7	709.6
42.5°	737.1	707.6	685.9	658.3	648.5	630.7	618.9	607.1	601.1	583.4	591.3
45°	664.2	628.7	605.1	569.6	555.8	536.1	518.4	504.6	490.8	482.9	478.9
47.5°	603.1	565.7	534.1	494.7	473.0	455.3	431.6	417.8	400.1	390.3	384.3
50°	551.9	510.5	475.0	429.7	408.0	388.3	360.7	339.0	323.2	307.5	303.5
52.5°	506.5	463.2	423.8	372.5	346.9	323.2	293.7	270.0	256.2	238.5	236.5
55°	453.3	415.9	372.5	319.3	293.7	270.0	238.5	214.8	197.1	185.3	181.3
57.5°	396.2	360.7	319.3	266.1	240.5	214.8	185.3	163.6	147.8	138.0	136.0
60°	342.9	309.4	270.0	216.8	191.2	169.5	138.0	116.3	102.5	94.6	90.7
62.5°	303.5	272.0	234.5	185.3	161.6	139.9	110.4	90.7	78.8	71.0	67.0
65°	266.1	234.5	201.0	155.7	136.0	116.3	88.7	71.0	59.1	51.2	47.3
67.5°	226.7	199.1	167.5	130.1	110.4	94.6	71.0	55.2	45.3	39.4	35.5
70°	187.2	161.6	136.0	104.5	90.7	74.9	55.2	43.4	33.5	29.6	25.6
72.5°	147.8	128.1	106.4	80.8	69.0	59.1	43.4	31.5	25.6	21.7	17.7
75°	110.4	96.6	78.8	61.1	51.2	43.4	31.5	23.7	19.7	15.8	13.8
77.5°	78.8	67.0	55.2	41.4	37.4	31.5	21.7	17.7	13.8	9.9	7.9
80°	53.2	47.3	37.4	29.6	23.7	21.7	15.8	11.8	7.9	5.9	5.9
82.5°	35.5	29.6	23.7	17.7	15.8	13.8	9.9	7.9	5.9	3.9	3.9
85°	21.7	17.7	13.8	9.9	9.9	7.9	5.9	3.9	2.0	2.0	2.0
87.5°	9.9	7.9	5.9	3.9	3.9	2.0	2.0	2.0	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°	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5
2.5°	1549.2	1537.4	1529.5	1539.3	1543.3	1537.4	1543.3	1553.1	1563.0	1565.0	1537.4
5°	1551.2	1539.3	1535.4	1547.2	1549.2	1547.2	1553.1	1566.9	1578.8	1582.7	1555.1
7.5°	1551.2	1543.3	1541.3	1555.1	1557.1	1555.1	1565.0	1580.7	1592.5	1600.4	1572.8
10°	1547.2	1543.3	1545.2	1557.1	1561.0	1561.0	1574.8	1592.5	1604.4	1612.3	1584.7
12.5°	1541.3	1541.3	1541.3	1555.1	1559.0	1561.0	1572.8	1596.5	1604.4	1616.2	1588.6
15°	1531.4	1531.4	1531.4	1545.2	1551.2	1551.2	1565.0	1586.6	1596.5	1608.3	1580.7
17.5°	1513.7	1513.7	1515.7	1527.5	1533.4	1533.4	1547.2	1570.9	1576.8	1590.6	1563.0
20°	1488.1	1488.1	1490.1	1501.9	1507.8	1503.9	1521.6	1541.3	1547.2	1559.0	1531.4
22.5°	1450.6	1450.6	1450.6	1462.5	1466.4	1464.4	1482.2	1499.9	1499.9	1515.7	1486.1
25°	1395.4	1399.4	1395.4	1407.3	1411.2	1409.2	1425.0	1440.8	1436.8	1454.6	1425.0
27.5°	1328.4	1326.5	1326.5	1336.3	1336.3	1334.3	1346.2	1363.9	1360.0	1371.8	1344.2
30°	1235.8	1241.7	1231.9	1245.7	1239.7	1235.8	1243.7	1259.5	1253.5	1263.4	1241.7
32.5°	1129.4	1121.5	1121.5	1121.5	1125.4	1115.6	1123.5	1131.3	1125.4	1135.3	1111.6
35°	989.4	991.4	985.5	987.5	989.4	977.6	985.5	993.4	985.5	991.4	969.7
37.5°	849.5	851.5	837.7	845.5	837.7	833.7	841.6	845.5	837.7	843.6	819.9
40°	709.6	705.6	703.6	703.6	705.6	695.8	701.7	707.6	701.7	705.6	683.9
42.5°	587.4	585.4	581.4	583.4	577.5	575.5	577.5	583.4	577.5	581.4	565.7
45°	480.9	477.0	471.1	473.0	473.0	463.2	469.1	473.0	467.1	469.1	455.3
47.5°	382.4	376.5	376.5	374.5	374.5	370.5	376.5	374.5	368.6	372.5	358.7
50°	297.6	293.7	293.7	293.7	293.7	287.8	289.7	293.7	287.8	287.8	279.9
52.5°	232.6	226.7	222.7	222.7	222.7	220.7	220.7	222.7	216.8	216.8	214.8
55°	175.4	173.4	167.5	167.5	167.5	161.6	163.6	163.6	161.6	161.6	155.7
57.5°	130.1	124.2	120.2	120.2	116.3	116.3	114.3	116.3	112.3	112.3	108.4
60°	86.7	82.8	80.8	78.8	78.8	76.9	78.8	76.9	76.9	74.9	72.9
62.5°	63.1	59.1	55.2	55.2	55.2	53.2	53.2	53.2	53.2	53.2	51.2
65°	45.3	41.4	41.4	39.4	39.4	37.4	37.4	37.4	37.4	37.4	35.5
67.5°	31.5	29.6	27.6	27.6	27.6	27.6	27.6	27.6	25.6	25.6	25.6
70°	23.7	21.7	19.7	19.7	19.7	19.7	19.7	17.7	19.7	19.7	17.7
72.5°	15.8	15.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
75°	11.8	11.8	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
77.5°	7.9	7.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
80°	5.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
82.5°	3.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	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: P251625

CATALOG NUMBER: LD4B30D010 EU4B30508050 4LBSW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5	1529.5
2.5°	1566.9	1565.0	1561.0	1566.9	1551.2	1545.2	1543.3	1561.0
5°	1588.6	1584.7	1584.7	1590.6	1572.8	1568.9	1565.0	1584.7
7.5°	1608.3	1604.4	1604.4	1610.3	1594.5	1590.6	1586.6	1606.3
10°	1620.1	1620.1	1620.1	1624.1	1610.3	1606.3	1604.4	1624.1
12.5°	1626.1	1626.1	1624.1	1632.0	1614.2	1614.2	1610.3	1630.0
15°	1618.2	1618.2	1618.2	1624.1	1608.3	1604.4	1604.4	1620.1
17.5°	1598.5	1598.5	1596.5	1602.4	1584.7	1584.7	1582.7	1600.4
20°	1568.9	1568.9	1565.0	1572.8	1555.1	1549.2	1547.2	1565.0
22.5°	1521.6	1519.6	1517.7	1521.6	1505.8	1501.9	1499.9	1515.7
25°	1460.5	1458.5	1454.6	1458.5	1440.8	1434.9	1434.9	1446.7
27.5°	1373.8	1373.8	1367.9	1373.8	1354.1	1352.1	1350.1	1363.9
30°	1267.3	1259.5	1255.5	1263.4	1243.7	1243.7	1239.7	1253.5
32.5°	1135.3	1127.4	1125.4	1129.4	1111.6	1105.7	1113.6	1121.5
35°	983.5	985.5	977.6	977.6	961.8	963.8	965.8	977.6
37.5°	837.7	833.7	831.8	833.7	821.9	818.0	814.0	825.8
40°	701.7	691.8	689.8	689.8	680.0	678.0	680.0	685.9
42.5°	573.6	571.6	563.7	567.6	557.8	561.7	559.8	559.8
45°	463.2	465.1	457.3	463.2	455.3	449.4	449.4	453.3
47.5°	366.6	366.6	364.6	364.6	358.7	360.7	356.7	362.7
50°	283.8	283.8	279.9	281.8	277.9	277.9	275.9	277.9
52.5°	216.8	214.8	214.8	212.9	208.9	210.9	212.9	208.9
55°	157.7	159.6	155.7	157.7	153.7	155.7	153.7	155.7
57.5°	108.4	110.4	106.4	110.4	106.4	108.4	106.4	106.4
60°	74.9	74.9	72.9	74.9	72.9	72.9	71.0	74.9
62.5°	51.2	51.2	51.2	51.2	51.2	49.3	51.2	51.2
65°	37.4	35.5	35.5	35.5	35.5	35.5	35.5	35.5
67.5°	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
70°	17.7	17.7	17.7	17.7	17.7	17.7	17.7	17.7
72.5°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
75°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
77.5°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
80°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
82.5°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
85°	2.0	2.0	2.0	0.0	2.0	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



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)