

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: P136309

Luminaire Tested: **LD6A20D010TE ERW6A20930 6LW111LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P136309
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23359-R2)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD6A20D010TE ERW6A20930 6LW111LI
Description: PORTFOLIO 6 INCH 60 DEGREE CUTOFF RECESSED SINGLE WALL WASH LUMINAIRE
SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER
Light Source: (1) HIGH LUMEN LED 3000K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2240.5 lumens
Efficiency: N/A
Efficacy: 68.3 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.1
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

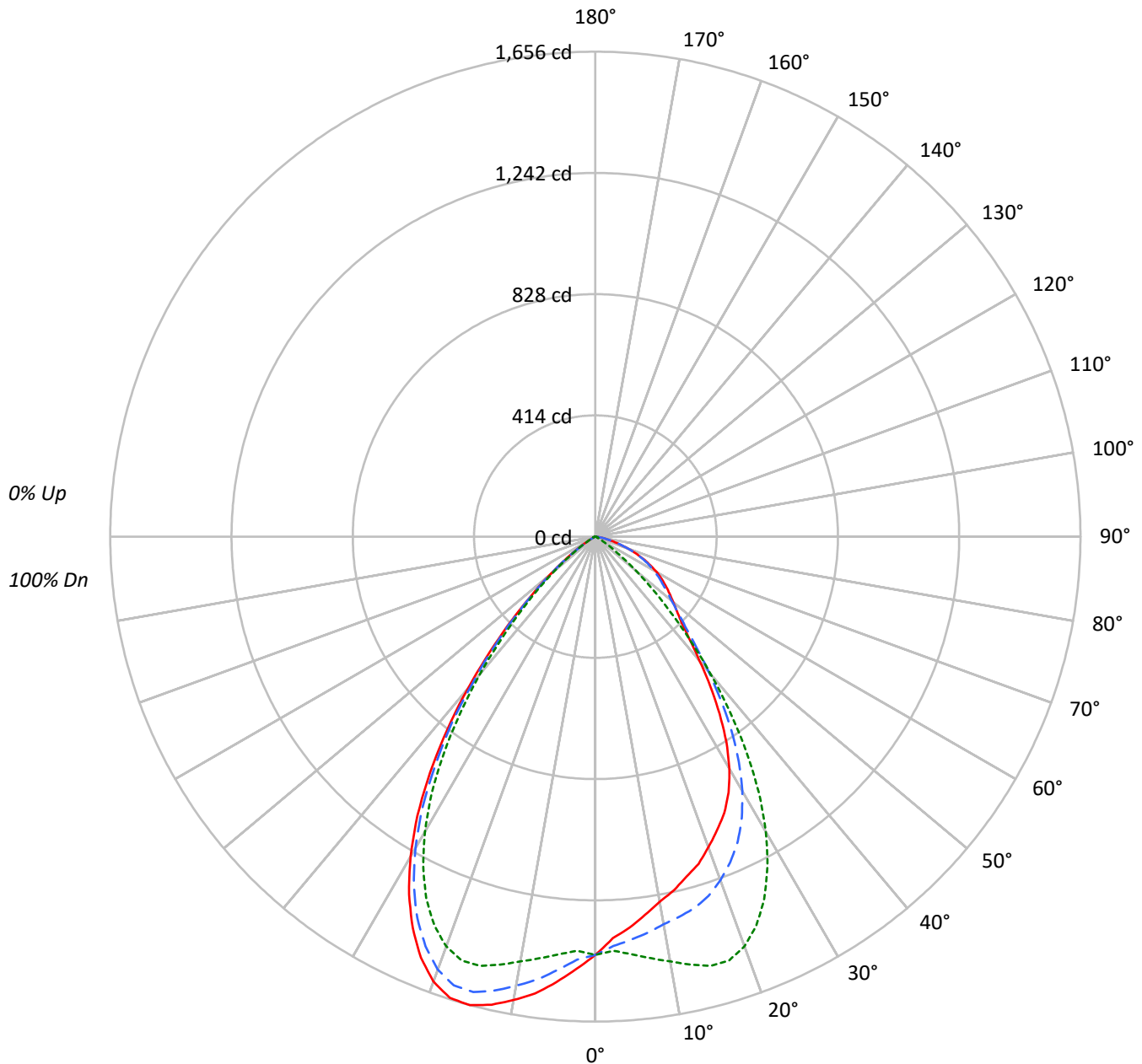
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	109	106	103	110	107	104	102	103	100	98		99	97	95		95
2	105	99	94	90	103	97	93	89	94	90	87		91	88	85		88
3	98	91	85	80	96	89	84	79	86	82	78		84	80	77		82
4	92	83	76	71	90	82	76	71	80	74	70		77	73	69		75
5	86	76	69	64	84	75	69	64	73	68	63		72	67	63		70
6	81	70	63	58	79	70	63	58	68	62	57		66	61	57		65
7	76	65	58	53	75	64	58	53	63	57	53		62	56	52		60
8	72	60	53	49	70	60	53	48	59	53	48		58	52	48		56
9	68	56	49	45	66	56	49	45	55	49	44		54	48	44		53
10	64	53	46	41	63	52	46	41	51	45	41		50	45	41		50

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	93183	93183	93183
5°	87796	93749	100010
10°	83849	97575	106452
15°	81179	102502	111870
20°	78356	103364	112230
25°	74929	98231	106149
30°	68930	87665	94988
35°	58905	71735	78338
40°	47105	51994	57563
45°	38391	32948	36915
50°	35108	18117	20553
55°	33361	7439	8701
60°	31407	2701	2701
65°	28049	1482	1220
70°	22490	1221	916
75°	14872	807	807
80°	7777	601	601
85°	3593	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.8	6.2
10°-20°	413.1	18.4
20°-30°	594.4	26.5
30°-40°	546.0	24.4
40°-50°	313.5	14.0
50°-60°	138.5	6.2
60°-70°	68.1	3.0
70°-80°	26.1	1.2
80°-90°	3.0	0.1
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	51.1
0°-40°	1691.3	75.5
0°-60°	2143.3	95.7
0°-90°	2240.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2240.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1428	1428	1428	1428	1428	
5°	1341	1382	1432	1486	1527	126
15°	1202	1312	1518	1610	1656	339
25°	1041	1149	1365	1438	1475	475
35°	740	810	901	952	984	459
45°	416	434	357	391	400	331
55°	293	279	65	72	76	262
65°	182	175	10	6	8	178
75°	59	62	3	3	3	66
85°	5	5	0	0	0	8
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3
2.5°	1372.5	1380.5	1372.5	1383.6	1390.0	1393.2	1390.0	1382.1	1393.2	1399.6	1398.0
5°	1340.6	1347.0	1340.6	1351.7	1359.8	1367.7	1364.6	1359.8	1372.5	1382.1	1383.6
7.5°	1302.4	1310.3	1305.6	1316.7	1326.3	1335.9	1335.9	1334.2	1350.2	1364.6	1369.4
10°	1265.7	1272.1	1268.9	1280.0	1291.2	1302.4	1305.6	1307.1	1324.7	1343.8	1355.0
12.5°	1237.0	1240.2	1237.0	1249.8	1260.9	1273.7	1280.0	1283.2	1305.6	1329.4	1343.8
15°	1201.9	1209.9	1206.7	1219.4	1232.3	1246.5	1254.6	1260.9	1284.8	1311.9	1332.7
17.5°	1171.7	1174.8	1171.7	1186.0	1197.1	1213.1	1222.7	1230.6	1256.1	1286.5	1308.8
20°	1128.6	1135.0	1133.4	1146.1	1158.9	1173.2	1182.8	1190.8	1217.9	1248.2	1273.7
22.5°	1085.6	1091.9	1091.9	1104.7	1114.2	1130.2	1138.2	1146.1	1171.7	1203.6	1225.9
25°	1040.9	1045.7	1044.2	1055.3	1066.5	1082.4	1088.8	1096.7	1120.7	1149.4	1170.0
27.5°	985.2	988.3	991.5	1001.1	1009.0	1023.4	1028.2	1036.1	1055.3	1082.4	1101.5
30°	915.0	918.2	923.0	930.9	937.3	951.7	954.8	961.3	980.4	1002.7	1020.2
32.5°	832.1	833.7	841.7	848.1	856.0	865.6	873.6	875.2	889.5	911.9	924.6
35°	739.6	741.3	749.2	754.0	761.9	771.5	777.9	779.6	792.3	809.8	817.8
37.5°	644.0	653.6	651.9	656.7	664.8	672.7	679.1	679.1	688.6	703.0	706.2
40°	553.1	557.9	562.7	565.9	572.3	578.6	583.4	583.4	589.8	599.4	599.4
42.5°	475.0	483.0	483.0	486.2	491.0	497.3	500.6	499.0	502.1	506.9	503.7
45°	416.1	419.2	420.8	425.6	427.3	433.6	435.2	432.0	433.6	433.6	424.0
47.5°	377.8	377.8	377.8	381.0	382.5	387.3	387.3	382.5	381.0	379.4	366.7
50°	345.9	345.9	347.5	350.7	352.3	353.9	353.9	347.5	345.9	339.6	322.0
52.5°	318.8	320.4	320.4	323.6	325.2	326.8	325.2	318.8	314.0	307.7	286.9
55°	293.3	294.9	296.5	299.7	299.7	299.7	298.1	291.7	286.9	279.0	258.3
57.5°	267.8	269.4	269.4	272.6	274.2	274.2	272.6	266.2	261.4	255.0	232.7
60°	240.7	240.7	242.3	245.5	245.5	247.1	245.5	240.7	235.9	227.9	208.8
62.5°	210.4	212.1	213.6	216.8	218.4	218.4	218.4	213.6	210.4	204.0	185.0
65°	181.7	181.7	183.3	186.5	186.5	191.3	188.1	185.0	181.7	175.4	159.4
67.5°	148.3	149.8	149.8	153.1	154.6	156.2	156.2	153.1	151.5	146.7	132.3
70°	117.9	117.9	119.6	121.2	122.7	124.4	124.4	122.7	121.2	116.4	105.2
72.5°	86.1	87.7	87.7	89.2	92.5	94.0	94.0	94.0	90.9	87.7	79.7
75°	59.0	60.6	60.6	62.1	63.8	65.4	65.4	65.4	63.8	62.1	55.8
77.5°	36.7	36.7	38.3	38.3	39.8	41.5	43.1	43.1	41.5	39.8	36.7
80°	20.7	20.7	22.3	22.3	22.3	23.9	25.5	25.5	25.5	23.9	20.7
82.5°	11.2	11.2	11.2	11.2	11.2	12.7	12.7	12.7	12.7	12.7	11.2
85°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
87.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3
2.5°	1398.0	1409.2	1417.1	1404.4	1415.5	1426.7	1439.4	1415.5	1437.9	1425.1	1429.9
5°	1390.0	1402.8	1414.0	1406.0	1420.3	1434.7	1452.2	1431.5	1457.0	1447.4	1455.4
7.5°	1378.9	1396.5	1412.3	1409.2	1428.3	1447.4	1469.8	1452.2	1479.3	1474.6	1484.1
10°	1369.4	1393.2	1414.0	1414.0	1439.4	1461.7	1485.7	1472.9	1504.8	1500.0	1512.8
12.5°	1363.0	1393.2	1420.3	1425.1	1455.4	1480.9	1509.6	1496.9	1531.9	1527.1	1541.5
15°	1356.5	1391.7	1423.6	1433.1	1466.5	1496.9	1527.1	1517.6	1554.2	1549.4	1563.8
17.5°	1335.9	1377.3	1412.3	1425.1	1461.7	1493.6	1525.5	1517.6	1554.2	1549.4	1563.8
20°	1300.8	1342.2	1380.5	1394.8	1431.5	1465.0	1495.3	1488.8	1525.5	1520.7	1533.5
22.5°	1256.1	1296.0	1332.7	1347.0	1382.1	1412.3	1442.7	1436.3	1471.3	1463.4	1477.7
25°	1194.0	1235.4	1270.5	1281.7	1313.6	1343.8	1370.9	1364.6	1398.0	1388.4	1402.8
27.5°	1130.2	1160.5	1189.2	1198.8	1227.5	1253.0	1278.4	1272.1	1304.0	1292.8	1307.1
30°	1044.2	1068.0	1093.6	1098.3	1125.4	1146.1	1168.5	1163.7	1190.8	1181.3	1194.0
32.5°	943.7	964.4	981.9	983.6	1005.9	1023.4	1042.5	1039.4	1063.3	1055.3	1064.8
35°	833.7	846.5	857.6	856.0	873.6	886.3	903.8	900.7	923.0	915.0	924.6
37.5°	717.3	723.7	726.9	720.5	733.3	742.9	755.6	754.0	773.1	766.7	776.3
40°	604.2	604.2	599.4	588.2	596.2	601.0	610.5	610.5	624.8	618.5	626.5
42.5°	500.6	494.2	483.0	467.1	468.7	475.0	475.0	475.0	486.2	479.8	494.2
45°	416.1	401.7	384.2	363.5	357.1	360.2	357.1	357.1	365.0	360.2	371.4
47.5°	350.7	333.2	302.9	277.3	266.2	264.6	259.8	259.8	264.6	264.6	269.4
50°	301.3	275.8	239.1	208.8	192.9	188.1	181.7	178.5	183.3	181.7	185.0
52.5°	261.4	229.6	186.5	151.5	135.5	124.4	119.6	113.2	114.8	114.8	116.4
55°	227.9	191.3	145.0	108.4	90.9	78.1	71.7	65.4	65.4	63.8	65.4
57.5°	202.5	164.2	117.9	81.3	62.1	49.4	43.1	36.7	35.0	35.0	35.0
60°	180.2	143.5	97.3	63.8	44.6	31.9	25.5	20.7	19.1	17.5	17.5
62.5°	157.8	124.4	82.9	52.6	33.5	23.9	17.5	12.7	11.2	9.6	9.6
65°	135.5	106.8	71.7	44.6	28.7	19.1	12.7	9.6	7.9	6.4	6.4
67.5°	111.6	87.7	60.6	36.7	23.9	16.0	11.2	7.9	6.4	4.8	4.8
70°	89.2	70.2	47.9	30.3	19.1	12.7	7.9	6.4	4.8	4.8	4.8
72.5°	66.9	52.6	36.7	22.3	14.4	9.6	6.4	4.8	3.2	3.2	3.2
75°	47.9	38.3	25.5	16.0	9.6	6.4	4.8	3.2	3.2	3.2	3.2
77.5°	30.3	23.9	16.0	9.6	6.4	3.2	3.2	1.6	1.6	1.6	1.6
80°	17.5	14.4	9.6	6.4	3.2	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	9.6	6.4	4.8	3.2	1.6	1.6	1.6	0.0	0.0	0.0	0.0
85°	3.2	3.2	1.6	1.6	1.6	1.6	0.0	0.0	0.0	0.0	0.0
87.5°	1.6	1.6	1.6	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



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3	1428.3
2.5°	1442.7	1439.4	1450.6	1455.4	1452.2	1445.9	1466.5	1471.3	1457.0	1463.4	1463.4
5°	1471.3	1471.3	1485.7	1492.1	1492.1	1485.7	1509.6	1517.6	1503.2	1509.6	1511.2
7.5°	1503.2	1503.2	1520.7	1528.8	1530.3	1525.5	1549.4	1555.9	1546.3	1552.6	1554.2
10°	1531.9	1531.9	1552.6	1560.6	1562.2	1557.4	1581.3	1589.3	1578.2	1584.5	1586.1
12.5°	1562.2	1563.8	1584.5	1592.5	1592.5	1587.7	1611.7	1619.6	1606.9	1614.8	1613.2
15°	1584.5	1586.1	1606.9	1614.8	1616.5	1610.0	1632.3	1641.9	1629.2	1634.0	1634.0
17.5°	1582.9	1584.5	1603.6	1611.7	1611.7	1606.9	1625.9	1637.1	1624.4	1629.2	1627.6
20°	1551.1	1552.6	1573.4	1579.8	1579.8	1573.4	1590.9	1602.1	1589.3	1592.5	1590.9
22.5°	1493.6	1495.3	1514.4	1520.7	1522.3	1514.4	1531.9	1544.7	1530.3	1531.9	1530.3
25°	1418.8	1418.8	1439.4	1439.4	1447.4	1437.9	1450.6	1468.2	1453.8	1453.8	1449.0
27.5°	1321.5	1321.5	1342.2	1342.2	1351.7	1342.2	1363.0	1370.9	1358.2	1356.5	1356.5
30°	1208.3	1208.3	1227.5	1227.5	1235.4	1227.5	1248.2	1256.1	1243.4	1241.8	1243.4
32.5°	1079.2	1079.2	1098.3	1096.7	1106.3	1099.9	1119.0	1125.4	1115.9	1111.1	1114.2
35°	937.3	945.3	956.5	954.8	964.4	951.7	975.6	980.4	972.4	974.0	969.2
37.5°	787.5	795.4	803.4	803.4	811.4	808.2	822.5	827.3	820.9	822.5	817.8
40°	637.7	645.6	651.9	651.9	660.0	650.4	669.6	674.3	667.9	661.5	664.8
42.5°	495.8	503.7	510.1	508.5	516.5	514.9	526.1	529.2	524.4	522.9	519.6
45°	373.0	374.6	385.8	390.6	390.6	390.6	398.5	400.1	395.4	395.4	393.8
47.5°	269.4	272.6	280.6	283.8	285.4	283.8	286.9	293.3	288.5	288.5	290.2
50°	186.5	188.1	194.4	197.7	197.7	197.7	199.2	204.0	200.8	200.8	197.7
52.5°	119.6	119.6	124.4	125.9	125.9	125.9	127.5	130.7	127.5	129.1	130.7
55°	66.9	66.9	70.2	71.7	71.7	71.7	73.3	75.0	73.3	75.0	75.0
57.5°	35.0	35.0	36.7	36.7	38.3	38.3	38.3	39.8	39.8	39.8	39.8
60°	17.5	17.5	17.5	19.1	19.1	19.1	19.1	20.7	20.7	20.7	20.7
62.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	11.2	11.2	11.2	11.2
65°	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
67.5°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	6.4	6.4	6.4
70°	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
72.5°	3.2	3.2	3.2	3.2	3.2	3.2	4.8	4.8	4.8	3.2	3.2
75°	1.6	3.2	3.2	1.6	1.6	3.2	3.2	3.2	3.2	3.2	3.2
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	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	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: P136309

CATALOG NUMBER: LD6A20D010TE ERW6A20930 6LW111LI

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1428.3	1428.3	1428.3	1428.3
2.5°	1450.6	1452.2	1479.3	1477.7
5°	1498.4	1500.0	1527.1	1527.1
7.5°	1541.5	1543.1	1571.7	1573.4
10°	1573.4	1576.5	1603.6	1606.9
12.5°	1603.6	1603.6	1630.7	1637.1
15°	1622.8	1622.8	1648.3	1656.3
17.5°	1616.5	1616.5	1641.9	1651.5
20°	1581.3	1579.8	1603.6	1616.5
22.5°	1520.7	1522.3	1541.5	1555.9
25°	1444.2	1441.1	1461.7	1474.6
27.5°	1348.6	1350.2	1363.0	1377.3
30°	1233.8	1237.0	1246.5	1260.9
32.5°	1104.7	1109.4	1115.9	1130.2
35°	962.8	967.6	970.8	983.6
37.5°	809.8	816.2	817.8	830.5
40°	658.4	664.8	664.8	675.9
42.5°	516.5	521.3	519.6	529.2
45°	390.6	393.8	392.1	400.1
47.5°	285.4	288.5	285.4	291.7
50°	197.7	200.8	197.7	202.5
52.5°	127.5	129.1	125.9	130.7
55°	73.3	75.0	73.3	76.5
57.5°	41.5	39.8	38.3	41.5
60°	20.7	20.7	20.7	20.7
62.5°	11.2	11.2	11.2	11.2
65°	6.4	6.4	6.4	7.9
67.5°	6.4	6.4	6.4	6.4
70°	4.8	4.8	4.8	4.8
72.5°	3.2	3.2	3.2	3.2
75°	3.2	3.2	3.2	3.2
77.5°	1.6	1.6	1.6	1.6
80°	0.0	0.0	0.0	1.6
82.5°	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)