

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: P135951

Luminaire Tested: **LD6A20D010TE ERM6A20940 6LM121H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135951
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23373)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD6A20D010TE ERM6A20940 6LM121H
Description: PORTFOLIO 6 INCH 50 DEGREE CUTOFF RECESSED DOUBLE WALL WASH LUMINAIRE
SEMI-SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER
Light Source: (1) HIGH LUMEN LED 4000K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2243.2 lumens
Efficiency: N/A
Efficacy: 68.4 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 1.06 / 1.01
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

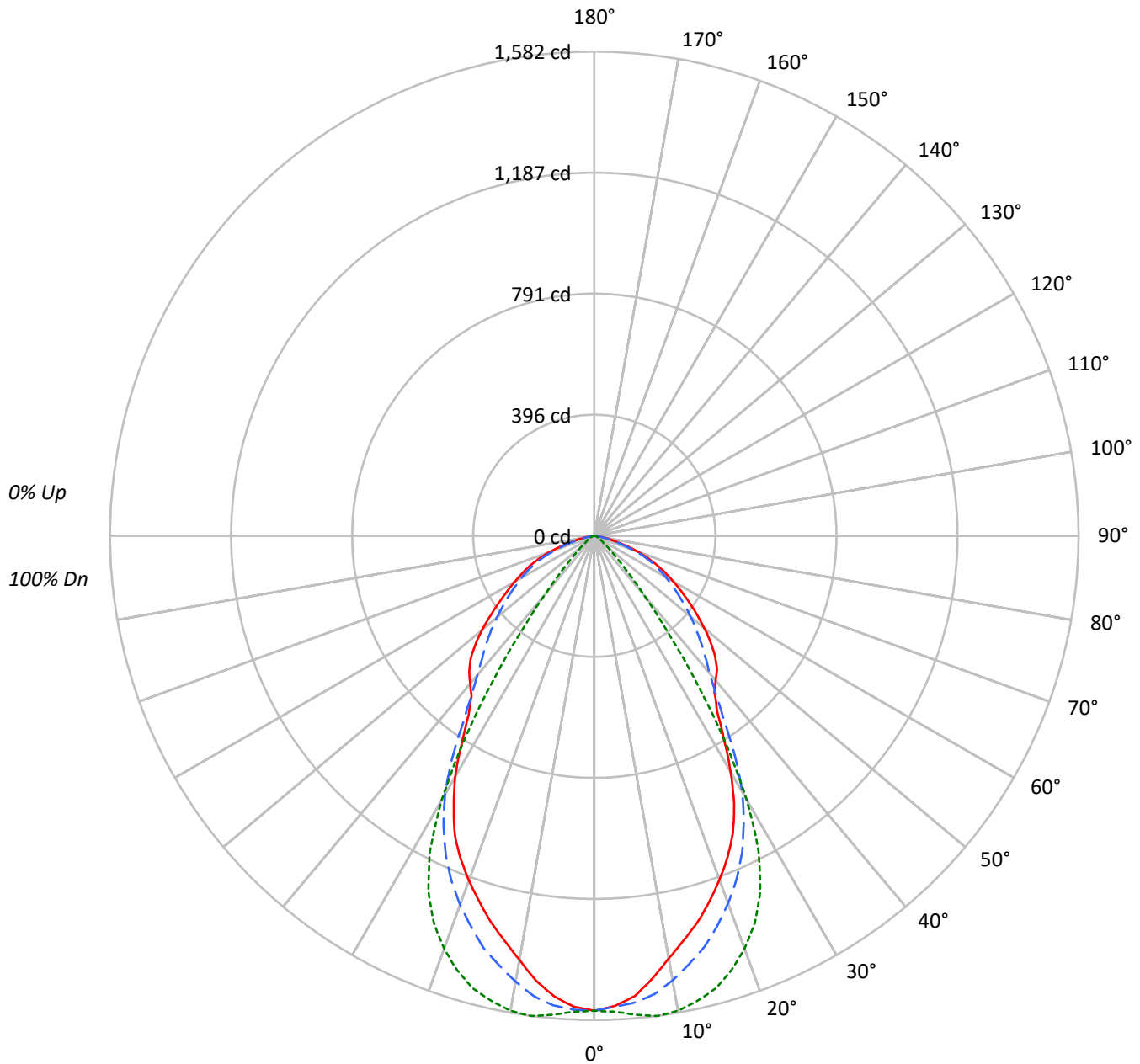
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	108	105	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89		
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79		
3	96	88	81	76	94	86	80	75	84	78	74	81	77	73	79	75	72	70		
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62		
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56		
6	78	67	60	54	77	66	59	54	65	58	54	63	57	53	62	57	53	51		
7	74	62	55	49	72	61	54	49	60	53	49	59	53	49	57	52	48	47		
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43		
9	65	54	46	42	64	53	46	41	52	46	41	51	45	41	50	45	41	39		
10	62	50	43	38	61	50	43	38	49	43	38	48	42	38	47	42	38	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	101253	101253	101253
5°	98883	102871	98883
10°	92878	104372	93190
15°	88196	103400	88196
20°	83008	99615	83174
25°	77132	92314	77636
30°	67115	75062	68523
35°	55647	45373	56953
40°	52513	21164	53705
45°	51483	9955	52775
50°	47592	5227	48536
55°	42938	3469	43200
60°	38844	2753	39157
65°	34749	2177	35830
70°	28613	1793	29509
75°	18930	1185	18930
80°	10557	864	10557
85°	7036	0	5240



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.8	6.5
10°-20°	392.7	17.5
20°-30°	525.0	23.4
30°-40°	434.1	19.4
40°-50°	311.5	13.9
50°-60°	228.9	10.2
60°-70°	147.8	6.6
70°-80°	52.4	2.3
80°-90°	6.0	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°	1062.5	47.4
0°-40°	1496.6	66.7
0°-60°	2037.0	90.8
0°-90°	2243.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2243.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1552	1552	1552	1552	1552	
5°	1510	1531	1571	1540	1510	140
15°	1306	1390	1531	1395	1306	366
25°	1072	1142	1282	1149	1078	487
35°	699	741	570	748	715	450
45°	558	492	108	499	572	426
55°	378	335	30	340	380	339
65°	225	209	14	211	232	222
75°	75	61	5	61	75	85
85°	9	5	0	5	7	11
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°	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0
2.5°	1538.0	1526.3	1535.6	1526.3	1528.6	1538.0	1540.3	1545.0	1547.3	1540.3	1540.3
5°	1509.9	1498.1	1509.9	1500.5	1505.2	1516.9	1519.2	1528.6	1533.3	1530.9	1535.6
7.5°	1458.2	1448.8	1460.6	1453.5	1460.6	1477.0	1484.1	1495.8	1505.2	1509.9	1516.9
10°	1402.0	1392.6	1404.3	1397.3	1409.0	1427.8	1434.8	1448.8	1462.9	1474.6	1486.4
12.5°	1352.8	1343.4	1350.4	1348.1	1359.8	1376.2	1387.9	1404.3	1420.7	1432.4	1448.8
15°	1305.8	1296.5	1305.8	1301.1	1310.5	1329.3	1341.0	1357.5	1376.2	1390.3	1409.0
17.5°	1252.0	1242.6	1249.6	1247.3	1256.6	1273.0	1284.7	1301.1	1319.9	1336.3	1355.1
20°	1195.6	1186.3	1193.3	1188.6	1198.0	1216.8	1226.2	1244.9	1261.3	1277.7	1294.1
22.5°	1137.1	1127.7	1137.1	1130.0	1144.1	1155.8	1165.2	1183.9	1198.0	1214.5	1228.5
25°	1071.5	1062.1	1069.1	1064.4	1073.8	1087.9	1094.9	1113.6	1125.3	1141.7	1155.8
27.5°	989.4	977.6	991.7	982.3	994.0	1005.8	1012.8	1029.2	1043.2	1057.3	1069.1
30°	890.9	881.5	895.5	888.5	902.6	912.0	921.4	937.8	949.5	965.9	968.3
32.5°	787.8	783.1	794.8	790.1	804.2	813.5	820.6	837.0	846.3	855.7	848.7
35°	698.7	694.0	705.7	703.3	715.1	722.1	729.1	738.5	738.5	740.8	722.1
37.5°	644.8	642.4	651.8	649.5	658.8	665.9	665.9	668.2	663.5	651.8	623.6
40°	616.6	614.2	621.2	618.9	625.9	628.3	625.9	621.2	607.2	583.8	546.3
42.5°	593.1	588.4	593.1	590.8	595.5	597.8	590.8	583.8	565.0	536.9	492.3
45°	558.0	553.3	560.3	555.6	560.3	560.3	553.3	543.9	522.8	492.3	445.4
47.5°	515.8	511.1	518.2	513.5	518.2	518.2	511.1	501.8	480.6	450.1	403.3
50°	468.9	464.2	468.9	466.5	471.2	473.5	464.2	457.1	438.4	410.3	363.4
52.5°	422.0	417.3	422.0	422.0	424.3	424.3	417.3	412.6	396.2	370.5	328.2
55°	377.5	372.8	379.8	377.5	379.8	379.8	372.8	368.1	356.4	335.2	295.4
57.5°	335.2	332.9	337.6	335.2	335.2	335.2	330.5	328.2	318.8	300.1	267.3
60°	297.7	293.0	295.4	295.4	295.4	297.7	293.0	290.7	283.7	269.6	239.2
62.5°	260.2	257.9	260.2	257.9	257.9	260.2	257.9	255.6	250.9	239.2	213.4
65°	225.1	220.4	225.1	222.8	222.8	222.8	220.4	220.4	215.7	208.6	185.2
67.5°	187.5	185.2	187.5	185.2	182.8	182.8	180.5	180.5	178.2	173.5	152.4
70°	150.0	145.4	147.7	143.0	145.4	140.7	140.7	138.3	136.0	133.6	117.2
72.5°	110.2	107.9	107.9	103.2	103.2	100.8	98.5	98.5	96.2	96.2	84.4
75°	75.1	75.1	72.7	68.0	70.3	65.6	65.6	65.6	63.3	60.9	53.9
77.5°	49.2	46.9	46.9	44.5	44.5	39.8	42.2	39.8	39.8	37.5	32.8
80°	28.1	28.1	28.1	25.8	25.8	23.4	23.4	23.4	21.1	21.1	18.7
82.5°	16.4	16.4	16.4	14.1	14.1	14.1	14.1	11.7	11.7	11.7	9.4
85°	9.4	7.0	7.0	7.0	7.0	7.0	7.0	4.7	4.7	4.7	4.7
87.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0
2.5°	1549.7	1547.3	1545.0	1554.4	1556.7	1549.7	1549.7	1556.7	1561.4	1549.7	1547.3
5°	1547.3	1549.7	1549.7	1561.4	1568.4	1563.7	1563.7	1570.8	1575.5	1561.4	1556.7
7.5°	1535.6	1542.7	1547.3	1563.7	1575.5	1573.1	1575.5	1582.5	1584.8	1570.8	1563.7
10°	1509.9	1519.2	1528.6	1549.7	1563.7	1566.1	1568.4	1575.5	1580.1	1561.4	1552.0
12.5°	1474.6	1488.8	1502.8	1526.3	1542.7	1545.0	1552.0	1556.7	1559.1	1542.7	1530.9
15°	1434.8	1453.5	1467.6	1493.5	1512.2	1516.9	1523.9	1530.9	1530.9	1512.2	1500.5
17.5°	1385.6	1402.0	1420.7	1446.5	1467.6	1472.3	1481.7	1488.8	1488.8	1469.9	1453.5
20°	1324.6	1343.4	1359.8	1387.9	1411.4	1418.4	1427.8	1434.8	1434.8	1418.4	1397.3
22.5°	1261.3	1280.1	1296.5	1322.2	1345.8	1352.8	1359.8	1369.2	1366.8	1352.8	1333.9
25°	1186.3	1202.7	1214.5	1240.2	1259.0	1266.0	1275.4	1282.4	1280.1	1266.0	1249.6
27.5°	1094.9	1106.6	1108.9	1125.3	1141.7	1148.8	1155.8	1162.8	1160.5	1148.8	1134.7
30°	989.4	987.0	975.3	975.3	982.3	987.0	991.7	996.4	994.0	987.0	977.6
32.5°	855.7	839.3	808.9	792.5	785.4	785.4	785.4	790.1	787.8	785.4	785.4
35°	712.7	677.6	630.6	595.5	576.7	569.7	565.0	569.7	567.4	569.7	579.1
37.5°	595.5	543.9	480.6	433.7	403.3	389.2	379.8	382.2	382.2	389.2	405.6
40°	508.8	443.1	372.8	314.1	279.0	260.2	248.5	248.5	250.9	260.2	281.3
42.5°	443.1	370.5	293.0	236.8	194.6	175.8	164.1	161.8	164.1	175.8	196.9
45°	391.5	314.1	236.8	175.8	140.7	119.6	110.2	107.9	110.2	121.9	140.7
47.5°	346.9	269.6	196.9	136.0	100.8	84.4	75.1	72.7	77.4	86.8	103.2
50°	309.4	234.5	161.8	107.9	77.4	60.9	53.9	51.5	53.9	63.3	77.4
52.5°	274.3	203.9	136.0	84.4	58.6	46.9	39.8	37.5	39.8	46.9	60.9
55°	246.2	180.5	117.2	70.3	46.9	37.5	32.8	30.5	32.8	37.5	49.2
57.5°	220.4	159.4	100.8	58.6	39.8	30.5	25.8	25.8	25.8	30.5	39.8
60°	196.9	140.7	86.8	49.2	32.8	25.8	21.1	21.1	21.1	25.8	32.8
62.5°	175.8	124.3	75.1	42.2	28.1	21.1	18.7	18.7	18.7	21.1	28.1
65°	150.0	105.5	63.3	35.1	23.4	18.7	16.4	14.1	16.4	18.7	23.4
67.5°	124.3	86.8	51.5	28.1	18.7	14.1	11.7	11.7	11.7	14.1	18.7
70°	96.2	68.0	39.8	21.1	14.1	11.7	9.4	9.4	9.4	11.7	14.1
72.5°	65.6	46.9	28.1	16.4	11.7	9.4	7.0	7.0	7.0	9.4	11.7
75°	42.2	30.5	18.7	11.7	7.0	7.0	4.7	4.7	4.7	7.0	7.0
77.5°	25.8	18.7	11.7	7.0	4.7	4.7	4.7	4.7	4.7	4.7	4.7
80°	14.1	11.7	7.0	4.7	4.7	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	7.0	7.0	4.7	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
85°	2.3	2.3	2.3	2.3	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



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0	1552.0
2.5°	1547.3	1552.0	1554.4	1545.0	1547.3	1549.7	1535.6	1538.0	1530.9	1545.0	1538.0
5°	1554.4	1556.7	1559.1	1545.0	1542.7	1540.3	1523.9	1521.6	1512.2	1523.9	1516.9
7.5°	1556.7	1552.0	1552.0	1530.9	1523.9	1516.9	1495.8	1488.8	1477.0	1481.7	1472.3
10°	1545.0	1535.6	1528.6	1502.8	1491.1	1479.3	1453.5	1444.2	1427.8	1430.1	1418.4
12.5°	1519.2	1507.5	1495.8	1467.6	1453.5	1437.1	1411.4	1397.3	1380.9	1380.9	1366.8
15°	1486.4	1472.3	1458.2	1430.1	1411.4	1395.0	1364.5	1350.4	1333.9	1331.6	1319.9
17.5°	1439.5	1423.1	1409.0	1376.2	1357.5	1338.7	1310.5	1294.1	1277.7	1277.7	1263.7
20°	1383.2	1364.5	1348.1	1317.5	1298.8	1282.4	1249.6	1235.6	1221.5	1219.2	1207.4
22.5°	1317.5	1298.8	1284.7	1256.6	1235.6	1219.2	1190.9	1179.2	1165.2	1162.8	1148.8
25°	1235.6	1219.2	1205.1	1181.6	1162.8	1148.8	1123.0	1108.9	1099.6	1099.6	1087.9
27.5°	1125.3	1111.3	1108.9	1090.2	1076.1	1066.8	1045.6	1036.2	1024.5	1024.5	1010.4
30°	977.6	980.0	989.4	984.7	980.0	975.3	956.6	954.2	940.2	937.8	921.4
32.5°	797.1	813.5	839.3	853.4	860.4	865.1	860.4	855.7	844.0	841.7	822.9
35°	604.8	637.7	679.9	708.0	731.5	747.9	754.9	754.9	750.2	747.9	731.5
37.5°	438.4	487.6	543.9	590.8	628.3	658.8	672.9	682.3	682.3	682.3	675.2
40°	321.2	379.8	445.4	506.4	553.3	593.1	614.2	630.6	635.4	642.4	637.7
42.5°	239.2	302.4	372.8	443.1	497.1	541.6	569.7	588.4	600.2	607.2	607.2
45°	182.8	246.2	318.8	393.9	450.1	499.4	527.5	548.6	560.3	569.7	569.7
47.5°	140.7	201.6	274.3	349.3	407.9	457.1	485.3	504.1	515.8	525.2	525.2
50°	110.2	166.4	236.8	309.4	368.1	415.0	440.7	459.5	468.9	475.9	478.2
52.5°	89.1	140.7	208.6	279.0	332.9	375.1	396.2	412.6	422.0	426.7	429.0
55°	72.7	121.9	185.2	248.5	300.1	339.9	358.7	370.5	377.5	382.2	382.2
57.5°	60.9	105.5	164.1	225.1	274.3	304.8	321.2	330.5	335.2	339.9	339.9
60°	51.5	91.5	145.4	201.6	246.2	274.3	286.0	293.0	297.7	300.1	300.1
62.5°	44.5	77.4	126.6	178.2	218.1	243.9	253.2	257.9	260.2	260.2	262.6
65°	37.5	65.6	107.9	154.7	187.5	211.0	218.1	220.4	220.4	222.8	225.1
67.5°	28.1	51.5	86.8	126.6	154.7	173.5	180.5	180.5	180.5	180.5	182.8
70°	23.4	39.8	65.6	96.2	119.6	133.6	138.3	138.3	138.3	138.3	140.7
72.5°	16.4	28.1	46.9	68.0	86.8	96.2	96.2	98.5	96.2	96.2	100.8
75°	11.7	18.7	30.5	44.5	53.9	60.9	63.3	63.3	63.3	63.3	65.6
77.5°	7.0	11.7	18.7	25.8	35.1	37.5	39.8	39.8	39.8	39.8	42.2
80°	4.7	7.0	11.7	16.4	18.7	21.1	23.4	23.4	23.4	23.4	23.4
82.5°	2.3	4.7	7.0	7.0	9.4	11.7	11.7	11.7	11.7	11.7	14.1
85°	0.0	2.3	2.3	4.7	4.7	4.7	4.7	4.7	4.7	4.7	7.0
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: P135951

CATALOG NUMBER: LD6A20D010TE ERM6A20940 6LM121H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1552.0	1552.0	1552.0	1552.0
2.5°	1523.9	1540.3	1528.6	1540.3
5°	1500.5	1514.5	1500.5	1509.9
7.5°	1453.5	1465.2	1451.2	1465.2
10°	1397.3	1409.0	1395.0	1406.7
12.5°	1345.8	1355.1	1341.0	1355.1
15°	1298.8	1308.2	1294.1	1305.8
17.5°	1244.9	1252.0	1240.2	1252.0
20°	1188.6	1195.6	1186.3	1198.0
22.5°	1132.4	1141.7	1130.0	1141.7
25°	1069.1	1076.1	1064.4	1078.5
27.5°	994.0	998.7	987.0	994.0
30°	902.6	904.9	895.5	909.6
32.5°	806.5	806.5	792.5	806.5
35°	717.4	715.1	705.7	715.1
37.5°	661.2	661.2	654.1	658.8
40°	628.3	630.6	621.2	630.6
42.5°	600.2	604.8	597.8	604.8
45°	565.0	569.7	562.7	572.0
47.5°	520.5	525.2	520.5	527.5
50°	471.2	475.9	471.2	478.2
52.5°	422.0	426.7	422.0	426.7
55°	377.5	379.8	375.1	379.8
57.5°	335.2	337.6	332.9	337.6
60°	295.4	300.1	295.4	300.1
62.5°	260.2	262.6	262.6	264.9
65°	222.8	232.1	229.8	232.1
67.5°	185.2	192.2	192.2	194.6
70°	143.0	147.7	152.4	154.7
72.5°	100.8	107.9	110.2	112.6
75°	65.6	72.7	72.7	75.1
77.5°	42.2	46.9	46.9	46.9
80°	25.8	28.1	25.8	28.1
82.5°	14.1	14.1	14.1	16.4
85°	7.0	7.0	7.0	7.0
87.5°	2.3	2.3	2.3	2.3
90°	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)