

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: P135522

Luminaire Tested: **LD6A10D010TE ERM6A10835 6LM111LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135522
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23399)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD6A10D010TE ERM6A10835 6LM111LI
Description: PORTFOLIO 6 INCH 50 DEGREE CUTOFF RECESSED SINGLE WALL WASH LUMINAIRE
SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER
Light Source: (1) HIGH LUMEN LED 3500K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1204.0 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Spacing Criteria (0/90/45): 0.85 / 0.93 / 0.89
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

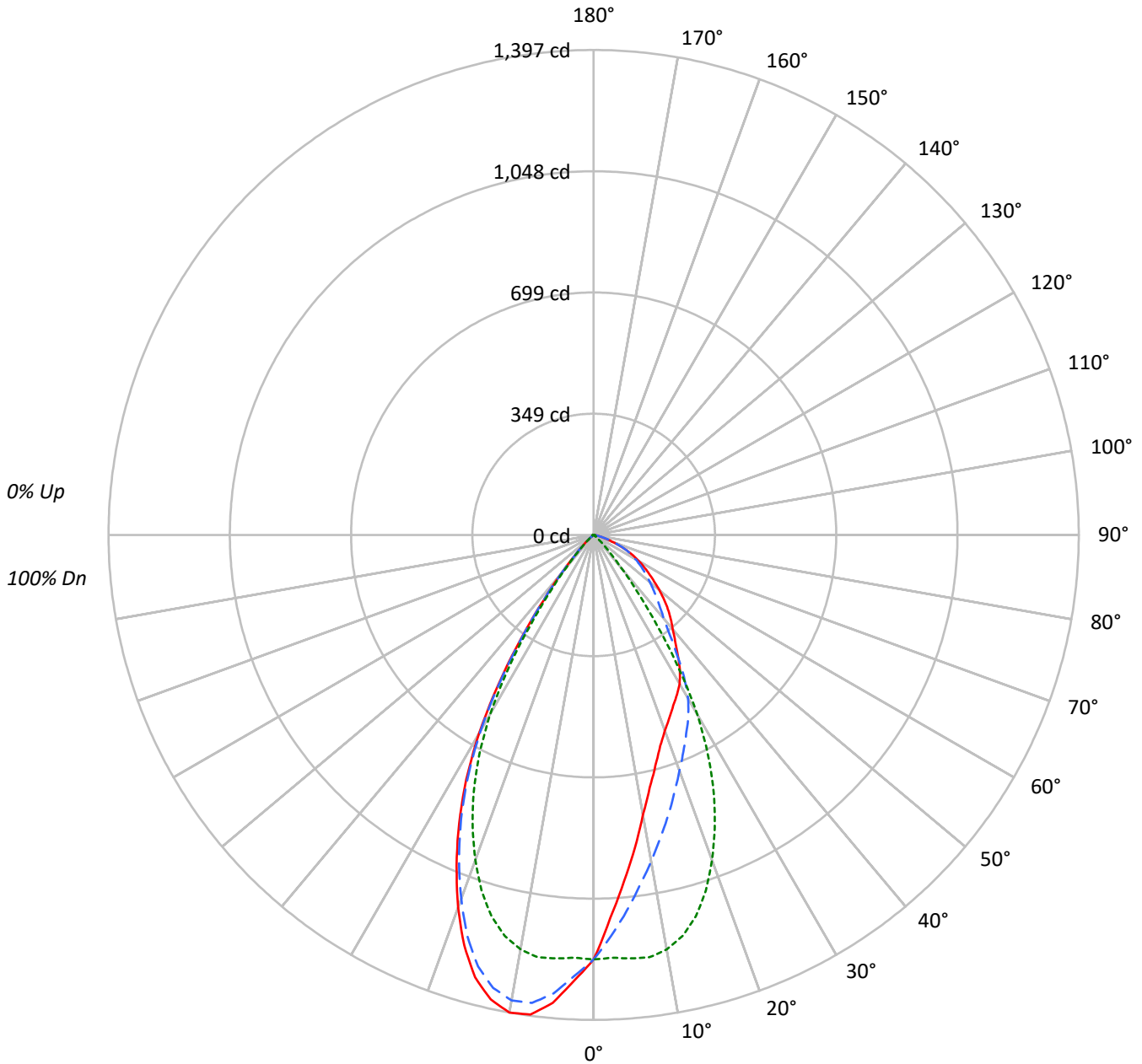
Input Watts (W): 14
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P135522

CATALOG NUMBER: LD6A10D010TE ERM6A10835 6LM111LI

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92				92															
2	106	101	96	93	104	99	95	91	96	92	89	93	90	87	90	88	86	84				84															
3	100	93	87	83	98	92	86	82	89	85	81	86	83	80	84	81	78	77				77															
4	95	86	80	75	93	85	79	75	83	78	74	81	76	73	79	75	72	71				71															
5	89	80	74	69	88	79	73	69	77	72	68	75	71	67	74	70	67	65				65															
6	84	75	68	63	83	74	68	63	72	67	63	71	66	62	69	65	62	60				60															
7	80	70	63	59	78	69	63	59	68	62	58	67	62	58	65	61	58	56				56															
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52				52															
9	72	62	55	51	71	61	55	51	60	55	51	59	54	50	58	54	50	49				49															
10	68	58	52	48	67	58	52	48	57	51	48	56	51	47	55	51	47	46				46															

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	79789	79789	79789
5°	65562	80205	88608
10°	54197	80311	92541
15°	46422	76789	89095
20°	41622	69157	79224
25°	39045	58891	66046
30°	37305	44914	49720
35°	33634	25454	28823
40°	30183	10365	12204
45°	27882	3589	4124
50°	25049	1259	1340
55°	22134	751	660
60°	19559	652	535
65°	16101	509	386
70°	10739	477	324
75°	5848	429	202
80°	3118	939	0
85°	1273	1273	0



TEST NUMBER: P135522

CATALOG NUMBER: LD6A10D010TE ERM6A10835 6LM111LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.9	9.5
10°-20°	296.2	24.6
20°-30°	349.9	29.1
30°-40°	233.2	19.4
40°-50°	101.2	8.4
50°-60°	60.7	5.0
60°-70°	36.4	3.0
70°-80°	11.2	0.9
80°-90°	1.4	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°	760.0	63.1
0°-40°	993.2	82.5
0°-60°	1155.0	95.9
0°-90°	1204.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1204.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1223	1223	1223	1223	1223	
5°	1001	1088	1225	1326	1353	90
15°	687	833	1137	1287	1319	194
25°	542	631	818	903	918	251
35°	422	416	320	355	362	264
45°	302	256	39	45	45	232
55°	195	173	7	6	6	175
65°	104	104	3	2	2	102
75°	23	26	2	1	1	28
85°	2	2	2	0	0	3
90°	0	0	0	0	0	



TEST NUMBER: P135522

CATALOG NUMBER: LD6A10D010TE ERM6A10835 6LM111LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0
2.5°	1103.8	1122.8	1131.1	1136.9	1115.4	1138.6	1131.1	1141.9	1145.2	1156.0	1165.9
5°	1001.1	1019.3	1028.4	1035.1	1018.5	1045.0	1044.2	1058.3	1069.8	1088.1	1100.5
7.5°	909.2	917.5	926.6	935.7	928.2	952.3	956.4	976.3	993.7	1018.5	1041.7
10°	818.1	826.4	835.5	845.4	842.1	866.1	875.3	897.6	920.8	953.9	978.8
12.5°	745.2	753.5	761.8	771.7	770.1	794.1	805.7	829.7	857.9	891.0	919.1
15°	687.3	694.7	703.0	709.6	711.3	733.7	746.1	769.3	799.1	833.0	862.0
17.5°	636.8	645.1	652.5	658.3	660.0	680.7	693.1	713.8	742.8	775.1	803.2
20°	599.5	607.0	613.6	619.4	619.4	637.6	648.4	667.4	693.1	722.9	746.9
22.5°	569.7	576.3	582.1	587.1	587.1	602.8	611.9	627.7	650.0	674.9	694.7
25°	542.4	549.0	554.0	558.1	557.3	572.2	579.6	591.2	610.3	631.0	645.9
27.5°	519.2	525.8	530.0	535.8	532.4	544.9	550.7	560.6	575.5	590.4	598.7
30°	495.2	501.8	505.9	510.9	507.6	518.4	521.7	526.6	536.6	544.0	544.9
32.5°	462.1	467.9	472.0	474.5	470.3	478.6	478.6	479.4	482.8	483.6	477.0
35°	422.3	426.4	429.8	430.6	425.6	430.6	429.8	424.0	422.3	415.7	402.4
37.5°	385.0	390.0	391.7	391.7	385.0	387.5	384.2	375.1	368.5	356.9	338.7
40°	354.4	358.5	359.4	358.5	351.9	352.8	347.8	337.0	327.9	313.8	290.6
42.5°	328.7	332.0	332.9	332.0	325.4	325.4	320.5	308.9	298.1	282.4	258.4
45°	302.2	305.6	307.2	305.6	299.8	299.8	294.0	283.2	272.4	255.9	231.9
47.5°	274.9	277.4	279.1	278.2	272.4	272.4	267.5	256.7	247.6	232.7	209.5
50°	246.8	250.1	251.7	250.9	245.9	245.9	241.8	231.9	224.4	211.2	190.5
52.5°	219.4	223.6	224.4	222.7	219.4	218.6	216.1	207.0	201.2	192.1	172.2
55°	194.6	197.9	197.9	197.9	193.8	192.9	191.3	183.8	180.5	173.1	156.5
57.5°	172.2	174.7	173.9	173.1	171.4	169.8	168.1	162.3	160.6	155.7	141.6
60°	149.9	152.4	151.5	150.7	149.0	147.4	145.7	141.6	141.6	138.3	126.7
62.5°	128.3	130.0	129.2	128.3	128.3	126.7	125.9	122.6	123.4	121.7	111.8
65°	104.3	106.8	106.0	106.0	106.8	106.8	106.0	104.3	104.3	103.5	95.2
67.5°	79.5	82.0	81.1	82.0	84.5	85.3	85.3	84.5	84.5	82.8	75.4
70°	56.3	58.0	58.0	58.8	61.3	62.1	64.6	62.1	62.1	60.4	54.7
72.5°	37.3	38.1	38.9	40.6	41.4	42.2	43.9	43.9	43.1	40.6	36.4
75°	23.2	24.0	24.0	24.8	25.7	26.5	28.2	27.3	26.5	25.7	22.4
77.5°	14.1	14.1	14.9	14.9	15.7	16.6	16.6	16.6	15.7	14.9	13.2
80°	8.3	8.3	8.3	9.1	9.1	9.1	9.1	9.1	9.1	8.3	7.5
82.5°	4.1	4.1	4.1	5.0	5.0	5.0	5.0	5.0	5.0	4.1	4.1
85°	1.7	1.7	1.7	2.5	2.5	2.5	2.5	2.5	2.5	2.5	1.7
87.5°	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.8	0.8	0.8
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: P135522

CATALOG NUMBER: LD6A10D010TE ERM6A10835 6LM111LI

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0
2.5°	1175.8	1175.8	1173.4	1188.3	1207.3	1204.0	1204.8	1218.9	1224.7	1234.6	1243.7
5°	1122.0	1131.1	1137.7	1161.8	1189.1	1194.1	1203.2	1224.7	1237.9	1254.5	1270.2
7.5°	1068.2	1087.2	1103.0	1134.4	1170.0	1183.3	1199.8	1227.2	1244.6	1266.9	1288.5
10°	1012.7	1039.2	1062.4	1100.5	1141.9	1160.9	1181.6	1212.3	1235.5	1259.5	1283.5
12.5°	957.2	989.5	1018.5	1060.7	1104.6	1127.8	1151.0	1183.3	1208.1	1233.0	1257.8
15°	902.6	937.4	968.0	1012.7	1057.4	1081.4	1104.6	1136.9	1163.4	1186.6	1211.4
17.5°	842.1	881.0	909.2	951.4	994.5	1018.5	1044.2	1074.0	1097.2	1117.0	1141.1
20°	783.3	819.8	845.4	884.4	923.3	945.6	969.7	996.1	1016.9	1034.2	1056.6
22.5°	726.2	758.5	782.5	818.1	847.9	867.0	887.7	910.9	929.1	943.2	963.0
25°	670.7	696.4	714.6	742.8	766.8	781.7	799.1	818.1	833.9	845.4	863.7
27.5°	615.2	632.6	639.3	656.6	671.6	688.1	697.2	712.1	726.2	735.3	751.0
30°	551.5	557.3	551.5	556.5	560.6	568.0	578.8	596.2	602.8	608.6	624.4
32.5°	472.0	467.9	448.8	441.4	436.4	443.8	445.5	458.7	462.9	467.9	480.3
35°	388.4	373.5	342.8	323.8	312.2	313.0	305.6	319.6	322.1	327.1	336.2
37.5°	317.1	293.1	253.4	226.9	209.5	205.4	196.2	204.5	205.4	208.7	215.3
40°	265.0	231.0	186.3	154.8	135.8	127.5	118.4	121.7	121.7	124.2	128.3
42.5°	228.5	192.1	141.6	107.6	86.9	77.0	69.6	69.6	69.6	70.4	72.9
45°	201.2	160.6	110.1	75.4	56.3	46.4	38.9	38.9	38.1	38.1	39.7
47.5°	178.9	138.3	86.9	55.5	36.4	27.3	22.4	20.7	19.9	20.7	21.5
50°	160.6	120.9	72.0	42.2	25.7	18.2	14.1	12.4	11.6	11.6	11.6
52.5°	144.9	106.8	60.4	34.0	19.9	13.2	9.9	8.3	7.5	7.5	7.5
55°	131.7	94.4	52.2	28.2	16.6	11.6	8.3	6.6	5.8	5.8	5.8
57.5°	118.4	83.6	44.7	24.0	14.1	9.9	7.5	5.8	5.0	5.0	5.0
60°	105.2	72.9	38.9	19.9	11.6	8.3	6.6	5.0	4.1	4.1	4.1
62.5°	91.9	62.1	32.3	16.6	9.9	7.5	5.0	4.1	4.1	3.3	3.3
65°	76.2	50.5	26.5	14.1	8.3	5.8	5.0	3.3	3.3	3.3	3.3
67.5°	59.6	38.9	19.9	10.8	6.6	5.0	4.1	3.3	2.5	2.5	2.5
70°	42.2	27.3	14.9	8.3	5.8	4.1	3.3	2.5	2.5	2.5	1.7
72.5°	28.2	18.2	10.8	6.6	5.0	3.3	2.5	2.5	1.7	1.7	1.7
75°	18.2	11.6	7.5	5.0	3.3	3.3	2.5	1.7	1.7	1.7	0.8
77.5°	10.8	7.5	5.0	3.3	2.5	2.5	2.5	2.5	2.5	1.7	0.8
80°	5.8	4.1	3.3	2.5	1.7	2.5	2.5	2.5	2.5	1.7	0.8
82.5°	3.3	2.5	1.7	1.7	1.7	1.7	1.7	2.5	2.5	1.7	0.8
85°	1.7	1.7	0.8	0.8	0.8	1.7	1.7	1.7	1.7	0.8	0.8
87.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.7	1.7	0.8	0.8
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: P135522

CATALOG NUMBER: LD6A10D010TE ERM6A10835 6LM111LI

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0	1223.0
2.5°	1251.2	1256.2	1257.8	1260.3	1274.4	1271.1	1283.5	1283.5	1293.4	1287.6	1293.4
5°	1283.5	1294.2	1299.2	1305.8	1325.7	1325.7	1340.6	1343.1	1356.4	1352.2	1358.0
7.5°	1304.2	1317.4	1324.1	1334.8	1356.4	1359.7	1373.7	1377.9	1393.6	1391.1	1394.4
10°	1300.0	1314.1	1322.4	1334.0	1356.4	1361.3	1373.7	1381.2	1396.1	1392.8	1394.4
12.5°	1274.4	1287.6	1296.7	1307.5	1330.7	1336.5	1347.2	1355.5	1369.6	1367.1	1367.1
15°	1226.3	1241.3	1248.7	1257.8	1280.2	1286.8	1295.1	1301.7	1317.4	1315.8	1313.3
17.5°	1154.3	1168.4	1174.2	1181.6	1203.2	1210.6	1217.2	1222.2	1237.1	1236.3	1232.1
20°	1066.5	1079.0	1083.9	1088.9	1107.9	1115.4	1120.4	1125.3	1137.7	1137.7	1131.9
22.5°	970.5	981.2	984.6	988.7	1005.3	1012.7	1015.2	1019.3	1030.9	1030.9	1023.5
25°	868.6	877.7	879.4	882.7	896.8	903.4	904.2	906.7	918.3	918.3	910.9
27.5°	754.4	761.8	763.5	765.1	777.5	784.2	783.3	792.4	795.8	797.4	788.3
30°	626.0	638.4	631.8	639.3	643.4	650.0	647.5	656.6	659.1	661.6	650.0
32.5°	481.9	493.5	486.1	493.5	495.2	501.8	498.5	506.8	508.4	510.9	500.1
35°	337.8	347.0	340.3	342.8	348.6	355.2	351.1	358.5	360.2	361.0	352.8
37.5°	217.0	223.6	225.2	227.7	227.7	232.7	234.3	234.3	235.2	236.0	229.4
40°	130.0	135.0	135.8	135.0	137.5	141.6	142.4	141.6	142.4	143.3	139.1
42.5°	73.7	77.0	77.8	77.8	79.5	82.0	82.0	81.1	82.0	82.0	79.5
45°	40.6	42.2	43.1	42.2	43.1	44.7	44.7	44.7	44.7	44.7	43.9
47.5°	21.5	22.4	22.4	23.2	22.4	23.2	23.2	23.2	24.0	24.0	23.2
50°	11.6	12.4	12.4	12.4	12.4	13.2	13.2	13.2	13.2	13.2	12.4
52.5°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
55°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
57.5°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
60°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
62.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
65°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
67.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
70°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
72.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
75°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
80°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.8	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: P135522

CATALOG NUMBER: LD6A10D010TE ERM6A10835 6LM111LI

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1223.0	1223.0	1223.0	1223.0
2.5°	1295.9	1300.0	1294.2	1285.1
5°	1362.1	1367.1	1361.3	1353.0
7.5°	1398.6	1406.0	1399.4	1393.6
10°	1400.2	1407.7	1400.2	1396.9
12.5°	1372.9	1380.4	1372.1	1370.4
15°	1320.7	1326.5	1318.3	1319.1
17.5°	1240.4	1245.4	1237.1	1239.6
20°	1139.4	1144.4	1136.1	1141.1
22.5°	1030.9	1034.2	1032.6	1031.8
25°	917.5	920.0	912.5	917.5
27.5°	793.3	794.9	795.8	794.9
30°	655.8	656.6	651.7	660.0
32.5°	505.1	504.3	502.6	510.1
35°	355.2	355.2	355.2	361.9
37.5°	231.0	230.2	231.0	236.0
40°	139.9	139.1	139.9	143.3
42.5°	79.5	79.5	80.3	82.0
45°	44.7	43.9	43.9	44.7
47.5°	24.0	24.0	23.2	24.0
50°	13.2	13.2	12.4	13.2
52.5°	7.5	7.5	7.5	7.5
55°	5.8	5.8	5.8	5.8
57.5°	5.0	5.0	5.0	5.0
60°	4.1	4.1	4.1	4.1
62.5°	3.3	3.3	3.3	3.3
65°	2.5	3.3	2.5	2.5
67.5°	2.5	2.5	2.5	2.5
70°	1.7	1.7	1.7	1.7
72.5°	1.7	1.7	1.7	1.7
75°	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8
80°	0.0	0.0	0.0	0.0
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)