

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: P135950

Luminaire Tested: **LD6A20D010TE ERM6A20935 6LM121H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135950
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 ERM6A20935 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 3500K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2199.0 lumens
Efficiency: N/A
Efficacy: 67.0 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

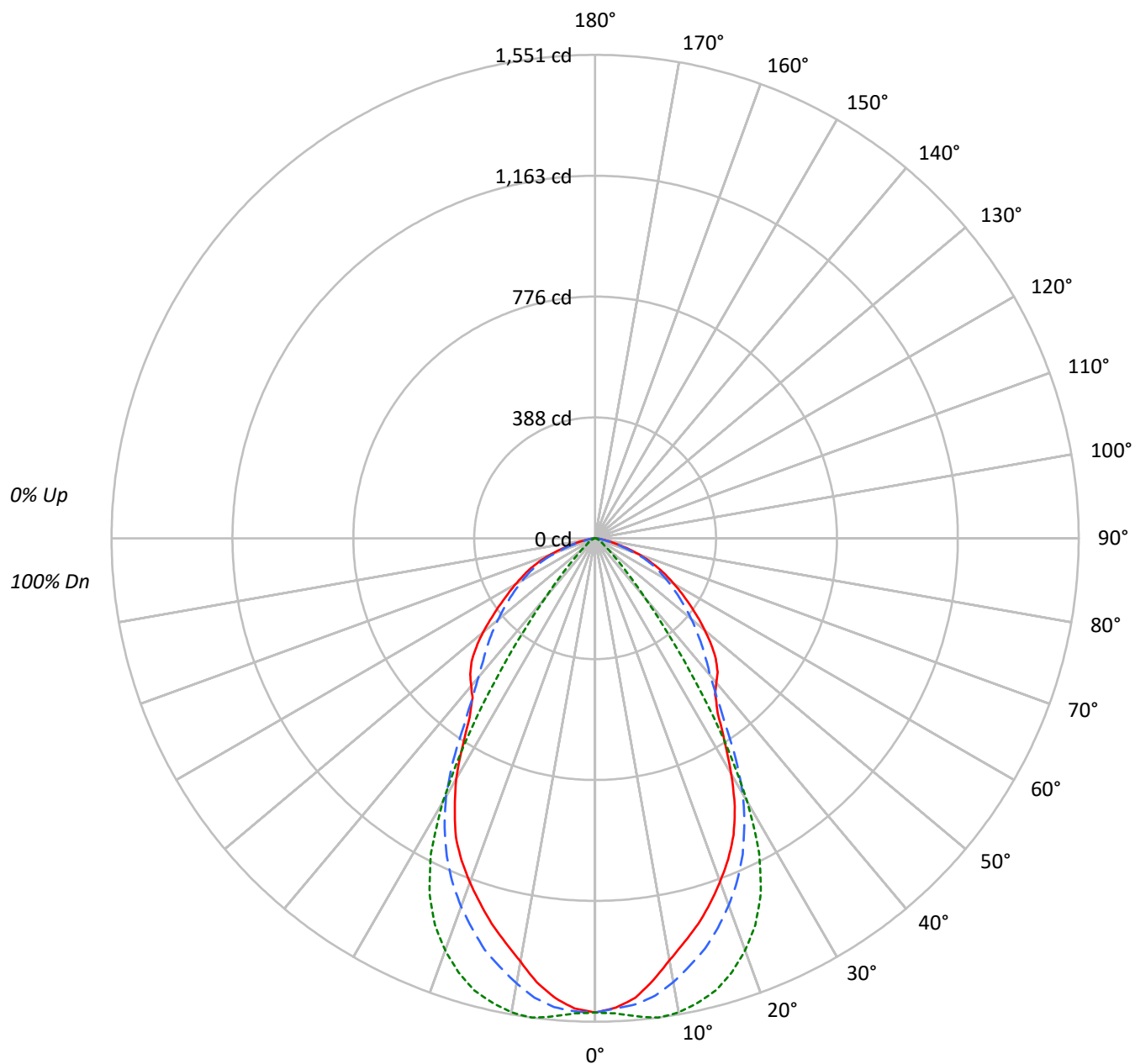
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	111	108	104	102	109	106	103	100	101	99	97		98	96	94		94
2	104	97	92	87	101	95	90	86	92	88	84		89	85	82		86
3	96	88	81	76	94	86	80	75	84	78	74		81	77	73		79
4	90	80	73	67	88	79	72	67	76	71	66		74	69	65		72
5	84	73	66	60	82	72	65	60	70	64	59		68	63	59		67
6	78	67	60	54	77	66	59	54	65	58	54		63	57	53		62
7	74	62	55	49	72	61	54	49	60	53	49		59	53	49		57
8	69	58	50	45	68	57	50	45	56	49	45		55	49	45		53
9	65	54	46	42	64	53	46	41	52	46	41		51	45	41		50
10	62	50	43	38	61	50	43	38	49	43	38		48	42	38		47

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	99257	99257	99257
5°	96932	100841	96932
10°	91043	102312	91348
15°	86461	101360	86461
20°	81369	97650	81536
25°	75606	90492	76103
30°	65789	73586	67175
35°	54548	44481	55831
40°	51483	20746	52649
45°	50459	9762	51742
50°	46648	5126	47582
55°	42085	3401	42347
60°	38087	2701	38388
65°	34055	2130	35120
70°	28059	1755	28937
75°	18552	1160	18552
80°	10369	864	10369
85°	6887	0	5165



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	141.9	6.5
10°-20°	385.0	17.5
20°-30°	514.6	23.4
30°-40°	425.5	19.4
40°-50°	305.3	13.9
50°-60°	224.4	10.2
60°-70°	144.9	6.6
70°-80°	51.4	2.3
80°-90°	5.9	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°	1041.5	47.4
0°-40°	1467.0	66.7
0°-60°	1996.8	90.8
0°-90°	2199.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2199.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1521	1521	1521	1521	1521	
5°	1480	1501	1540	1510	1480	138
15°	1280	1363	1501	1367	1280	359
25°	1050	1119	1257	1126	1057	477
35°	685	726	558	733	701	441
45°	547	483	106	490	561	418
55°	370	329	30	333	372	332
65°	221	204	14	207	228	217
75°	74	60	5	60	74	83
85°	9	5	0	5	7	11
90°	0	0	0	0	0	



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CATALOG NUMBER: LD6A20D010TE ERM6A20935 6LM121H

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4
2.5°	1507.7	1496.1	1505.3	1496.1	1498.4	1507.7	1510.0	1514.5	1516.8	1510.0	1510.0
5°	1480.1	1468.6	1480.1	1470.9	1475.5	1486.9	1489.2	1498.4	1503.0	1500.7	1505.3
7.5°	1429.5	1420.2	1431.8	1424.9	1431.8	1447.9	1454.7	1466.3	1475.5	1480.1	1486.9
10°	1374.3	1365.1	1376.6	1369.7	1381.2	1399.6	1406.5	1420.2	1434.1	1445.6	1457.0
12.5°	1326.0	1316.9	1323.8	1321.5	1332.9	1349.1	1360.5	1376.6	1392.7	1404.2	1420.2
15°	1280.1	1270.9	1280.1	1275.5	1284.7	1303.1	1314.6	1330.6	1349.1	1362.8	1381.2
17.5°	1227.3	1218.1	1225.0	1222.7	1231.8	1247.9	1259.5	1275.5	1293.8	1310.0	1328.3
20°	1172.0	1162.9	1169.7	1165.2	1174.4	1192.8	1201.9	1220.4	1236.4	1252.5	1268.6
22.5°	1114.6	1105.5	1114.6	1107.7	1121.5	1133.0	1142.2	1160.6	1174.4	1190.5	1204.2
25°	1050.3	1041.1	1047.9	1043.4	1052.6	1066.4	1073.3	1091.6	1103.2	1119.2	1133.0
27.5°	969.9	958.3	972.2	962.9	974.5	985.9	992.8	1008.9	1022.7	1036.5	1047.9
30°	873.3	864.1	877.9	871.0	884.8	894.0	903.2	919.2	930.8	946.9	949.2
32.5°	772.2	767.6	779.1	774.5	788.3	797.4	804.4	820.5	829.6	838.8	831.9
35°	684.9	680.3	691.8	689.5	701.0	707.8	714.7	724.0	724.0	726.3	707.8
37.5°	632.0	629.7	638.9	636.6	645.8	652.7	652.7	655.0	650.4	638.9	611.3
40°	604.5	602.2	609.0	606.8	613.6	615.9	613.6	609.0	595.2	572.3	535.5
42.5°	581.4	576.8	581.4	579.1	583.7	586.0	579.1	572.3	553.8	526.3	482.7
45°	546.9	542.4	549.2	544.7	549.2	549.2	542.4	533.2	512.5	482.7	436.7
47.5°	505.6	501.0	507.9	503.3	507.9	507.9	501.0	491.8	471.1	441.3	395.3
50°	459.6	455.0	459.6	457.3	461.9	464.2	455.0	448.2	429.7	402.2	356.3
52.5°	413.7	409.1	413.7	413.7	416.0	416.0	409.1	404.5	388.4	363.1	321.8
55°	370.0	365.4	372.3	370.0	372.3	372.3	365.4	360.8	349.3	328.6	289.6
57.5°	328.6	326.4	330.9	328.6	328.6	328.6	324.1	321.8	312.6	294.2	262.0
60°	291.9	287.3	289.6	289.6	289.6	291.9	287.3	285.0	278.1	264.3	234.4
62.5°	255.1	252.8	255.1	252.8	252.8	255.1	252.8	250.5	245.9	234.4	209.1
65°	220.6	216.0	220.6	218.3	218.3	218.3	216.0	216.0	211.4	204.5	181.5
67.5°	183.8	181.5	183.8	181.5	179.2	179.2	176.9	176.9	174.6	170.1	149.4
70°	147.1	142.4	144.8	140.2	142.4	137.9	137.9	135.6	133.3	131.0	114.9
72.5°	108.1	105.8	105.8	101.1	101.1	98.8	96.5	96.5	94.2	94.2	82.7
75°	73.6	73.6	71.3	66.7	69.0	64.4	64.4	64.4	62.1	59.7	52.8
77.5°	48.2	46.0	46.0	43.7	43.7	39.1	41.4	39.1	39.1	36.8	32.2
80°	27.6	27.6	27.6	25.3	25.3	23.0	23.0	23.0	20.7	20.7	18.3
82.5°	16.0	16.0	16.0	13.8	13.8	13.8	13.8	11.5	11.5	11.5	9.2
85°	9.2	6.9	6.9	6.9	6.9	6.9	6.9	4.6	4.6	4.6	4.6
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



TEST NUMBER: P135950

CATALOG NUMBER: LD6A20D010TE ERM6A20935 6LM121H

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4
2.5°	1519.1	1516.8	1514.5	1523.7	1526.0	1519.1	1519.1	1526.0	1530.6	1519.1	1516.8
5°	1516.8	1519.1	1519.1	1530.6	1537.5	1532.9	1532.9	1539.8	1544.4	1530.6	1526.0
7.5°	1505.3	1512.2	1516.8	1532.9	1544.4	1542.1	1544.4	1551.3	1553.6	1539.8	1532.9
10°	1480.1	1489.2	1498.4	1519.1	1532.9	1535.2	1537.5	1544.4	1549.0	1530.6	1521.4
12.5°	1445.6	1459.3	1473.2	1496.1	1512.2	1514.5	1521.4	1526.0	1528.3	1512.2	1500.7
15°	1406.5	1424.9	1438.7	1464.0	1482.3	1486.9	1493.8	1500.7	1500.7	1482.3	1470.9
17.5°	1358.2	1374.3	1392.7	1417.9	1438.7	1443.3	1452.4	1459.3	1459.3	1441.0	1424.9
20°	1298.5	1316.9	1332.9	1360.5	1383.6	1390.4	1399.6	1406.5	1406.5	1390.4	1369.7
22.5°	1236.4	1254.8	1270.9	1296.1	1319.2	1326.0	1332.9	1342.2	1339.9	1326.0	1307.7
25°	1162.9	1179.0	1190.5	1215.7	1234.1	1241.0	1250.2	1257.1	1254.8	1241.0	1225.0
27.5°	1073.3	1084.7	1087.0	1103.2	1119.2	1126.1	1133.0	1139.9	1137.6	1126.1	1112.3
30°	969.9	967.5	956.0	956.0	962.9	967.5	972.2	976.8	974.5	967.5	958.3
32.5°	838.8	822.8	792.9	776.8	769.9	769.9	769.9	774.5	772.2	769.9	769.9
35°	698.7	664.2	618.2	583.7	565.4	558.5	553.8	558.5	556.2	558.5	567.7
37.5°	583.7	533.2	471.1	425.1	395.3	381.5	372.3	374.6	374.6	381.5	397.6
40°	498.7	434.4	365.4	307.9	273.5	255.1	243.6	243.6	245.9	255.1	275.8
42.5°	434.4	363.1	287.3	232.2	190.8	172.3	160.9	158.6	160.9	172.3	193.1
45°	383.8	307.9	232.2	172.3	137.9	117.2	108.1	105.8	108.1	119.5	137.9
47.5°	340.1	264.3	193.1	133.3	98.8	82.7	73.6	71.3	75.9	85.0	101.1
50°	303.3	229.9	158.6	105.8	75.9	59.7	52.8	50.5	52.8	62.1	75.9
52.5°	268.9	200.0	133.3	82.7	57.4	46.0	39.1	36.8	39.1	46.0	59.7
55°	241.3	176.9	114.9	69.0	46.0	36.8	32.2	29.9	32.2	36.8	48.2
57.5°	216.0	156.3	98.8	57.4	39.1	29.9	25.3	25.3	25.3	29.9	39.1
60°	193.1	137.9	85.0	48.2	32.2	25.3	20.7	20.7	20.7	25.3	32.2
62.5°	172.3	121.8	73.6	41.4	27.6	20.7	18.3	18.3	18.3	20.7	27.6
65°	147.1	103.4	62.1	34.5	23.0	18.3	16.0	13.8	16.0	18.3	23.0
67.5°	121.8	85.0	50.5	27.6	18.3	13.8	11.5	11.5	11.5	13.8	18.3
70°	94.2	66.7	39.1	20.7	13.8	11.5	9.2	9.2	9.2	11.5	13.8
72.5°	64.4	46.0	27.6	16.0	11.5	9.2	6.9	6.9	6.9	9.2	11.5
75°	41.4	29.9	18.3	11.5	6.9	6.9	4.6	4.6	4.6	6.9	6.9
77.5°	25.3	18.3	11.5	6.9	4.6	4.6	4.6	4.6	4.6	4.6	4.6
80°	13.8	11.5	6.9	4.6	4.6	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	6.9	6.9	4.6	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



TEST NUMBER: P135950

CATALOG NUMBER: LD6A20D010TE ERM6A20935 6LM121H

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4	1521.4
2.5°	1516.8	1521.4	1523.7	1514.5	1516.8	1519.1	1505.3	1507.7	1500.7	1514.5	1507.7
5°	1523.7	1526.0	1528.3	1514.5	1512.2	1510.0	1493.8	1491.5	1482.3	1493.8	1486.9
7.5°	1526.0	1521.4	1521.4	1500.7	1493.8	1486.9	1466.3	1459.3	1447.9	1452.4	1443.3
10°	1514.5	1505.3	1498.4	1473.2	1461.6	1450.1	1424.9	1415.7	1399.6	1401.9	1390.4
12.5°	1489.2	1477.8	1466.3	1438.7	1424.9	1408.8	1383.6	1369.7	1353.7	1353.7	1339.9
15°	1457.0	1443.3	1429.5	1401.9	1383.6	1367.4	1337.5	1323.8	1307.7	1305.4	1293.8
17.5°	1411.1	1395.0	1381.2	1349.1	1330.6	1312.3	1284.7	1268.6	1252.5	1252.5	1238.7
20°	1355.9	1337.5	1321.5	1291.6	1273.2	1257.1	1225.0	1211.1	1197.4	1195.1	1183.6
22.5°	1291.6	1273.2	1259.5	1231.8	1211.1	1195.1	1167.5	1156.0	1142.2	1139.9	1126.1
25°	1211.1	1195.1	1181.3	1158.3	1139.9	1126.1	1100.9	1087.0	1077.8	1077.8	1066.4
27.5°	1103.2	1089.3	1087.0	1068.7	1054.9	1045.6	1025.0	1015.8	1004.3	1004.3	990.5
30°	958.3	960.6	969.9	965.2	960.6	956.0	937.7	935.4	921.5	919.2	903.2
32.5°	781.4	797.4	822.8	836.5	843.4	848.1	843.4	838.8	827.3	825.1	806.7
35°	592.9	625.1	666.5	694.1	717.0	733.1	740.0	740.0	735.4	733.1	717.0
37.5°	429.7	478.1	533.2	579.1	615.9	645.8	659.6	668.8	668.8	668.8	661.9
40°	314.9	372.3	436.7	496.4	542.4	581.4	602.2	618.2	622.8	629.7	625.1
42.5°	234.4	296.4	365.4	434.4	487.2	530.9	558.5	576.8	588.3	595.2	595.2
45°	179.2	241.3	312.6	386.1	441.3	489.5	517.1	537.8	549.2	558.5	558.5
47.5°	137.9	197.7	268.9	342.4	399.9	448.2	475.8	494.1	505.6	514.8	514.8
50°	108.1	163.2	232.2	303.3	360.8	406.8	432.0	450.5	459.6	466.5	468.8
52.5°	87.3	137.9	204.5	273.5	326.4	367.7	388.4	404.5	413.7	418.3	420.6
55°	71.3	119.5	181.5	243.6	294.2	333.2	351.7	363.1	370.0	374.6	374.6
57.5°	59.7	103.4	160.9	220.6	268.9	298.7	314.9	324.1	328.6	333.2	333.2
60°	50.5	89.6	142.4	197.7	241.3	268.9	280.4	287.3	291.9	294.2	294.2
62.5°	43.7	75.9	124.1	174.6	213.7	239.0	248.2	252.8	255.1	255.1	257.4
65°	36.8	64.4	105.8	151.7	183.8	206.8	213.7	216.0	216.0	218.3	220.6
67.5°	27.6	50.5	85.0	124.1	151.7	170.1	176.9	176.9	176.9	176.9	179.2
70°	23.0	39.1	64.4	94.2	117.2	131.0	135.6	135.6	135.6	135.6	137.9
72.5°	16.0	27.6	46.0	66.7	85.0	94.2	94.2	96.5	94.2	94.2	98.8
75°	11.5	18.3	29.9	43.7	52.8	59.7	62.1	62.1	62.1	62.1	64.4
77.5°	6.9	11.5	18.3	25.3	34.5	36.8	39.1	39.1	39.1	39.1	41.4
80°	4.6	6.9	11.5	16.0	18.3	20.7	23.0	23.0	23.0	23.0	23.0
82.5°	2.3	4.6	6.9	6.9	9.2	11.5	11.5	11.5	11.5	11.5	13.8
85°	0.0	2.3	2.3	4.6	4.6	4.6	4.6	4.6	4.6	4.6	6.9
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: P135950

CATALOG NUMBER: LD6A20D010TE ERM6A20935 6LM121H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1521.4	1521.4	1521.4	1521.4
2.5°	1493.8	1510.0	1498.4	1510.0
5°	1470.9	1484.6	1470.9	1480.1
7.5°	1424.9	1436.4	1422.6	1436.4
10°	1369.7	1381.2	1367.4	1378.9
12.5°	1319.2	1328.3	1314.6	1328.3
15°	1273.2	1282.4	1268.6	1280.1
17.5°	1220.4	1227.3	1215.7	1227.3
20°	1165.2	1172.0	1162.9	1174.4
22.5°	1110.0	1119.2	1107.7	1119.2
25°	1047.9	1054.9	1043.4	1057.2
27.5°	974.5	979.1	967.5	974.5
30°	884.8	887.1	877.9	891.7
32.5°	790.6	790.6	776.8	790.6
35°	703.2	701.0	691.8	701.0
37.5°	648.1	648.1	641.2	645.8
40°	615.9	618.2	609.0	618.2
42.5°	588.3	592.9	586.0	592.9
45°	553.8	558.5	551.5	560.8
47.5°	510.2	514.8	510.2	517.1
50°	461.9	466.5	461.9	468.8
52.5°	413.7	418.3	413.7	418.3
55°	370.0	372.3	367.7	372.3
57.5°	328.6	330.9	326.4	330.9
60°	289.6	294.2	289.6	294.2
62.5°	255.1	257.4	257.4	259.7
65°	218.3	227.5	225.2	227.5
67.5°	181.5	188.5	188.5	190.8
70°	140.2	144.8	149.4	151.7
72.5°	98.8	105.8	108.1	110.3
75°	64.4	71.3	71.3	73.6
77.5°	41.4	46.0	46.0	46.0
80°	25.3	27.6	25.3	27.6
82.5°	13.8	13.8	13.8	16.0
85°	6.9	6.9	6.9	6.9
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)