

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: P135947

Luminaire Tested: **LD6A20D010TE ERM6A20840 6LM121H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135947
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 ERM6A20840 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: 2433.0 lumens
Efficiency: N/A
Efficacy: 74.2 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

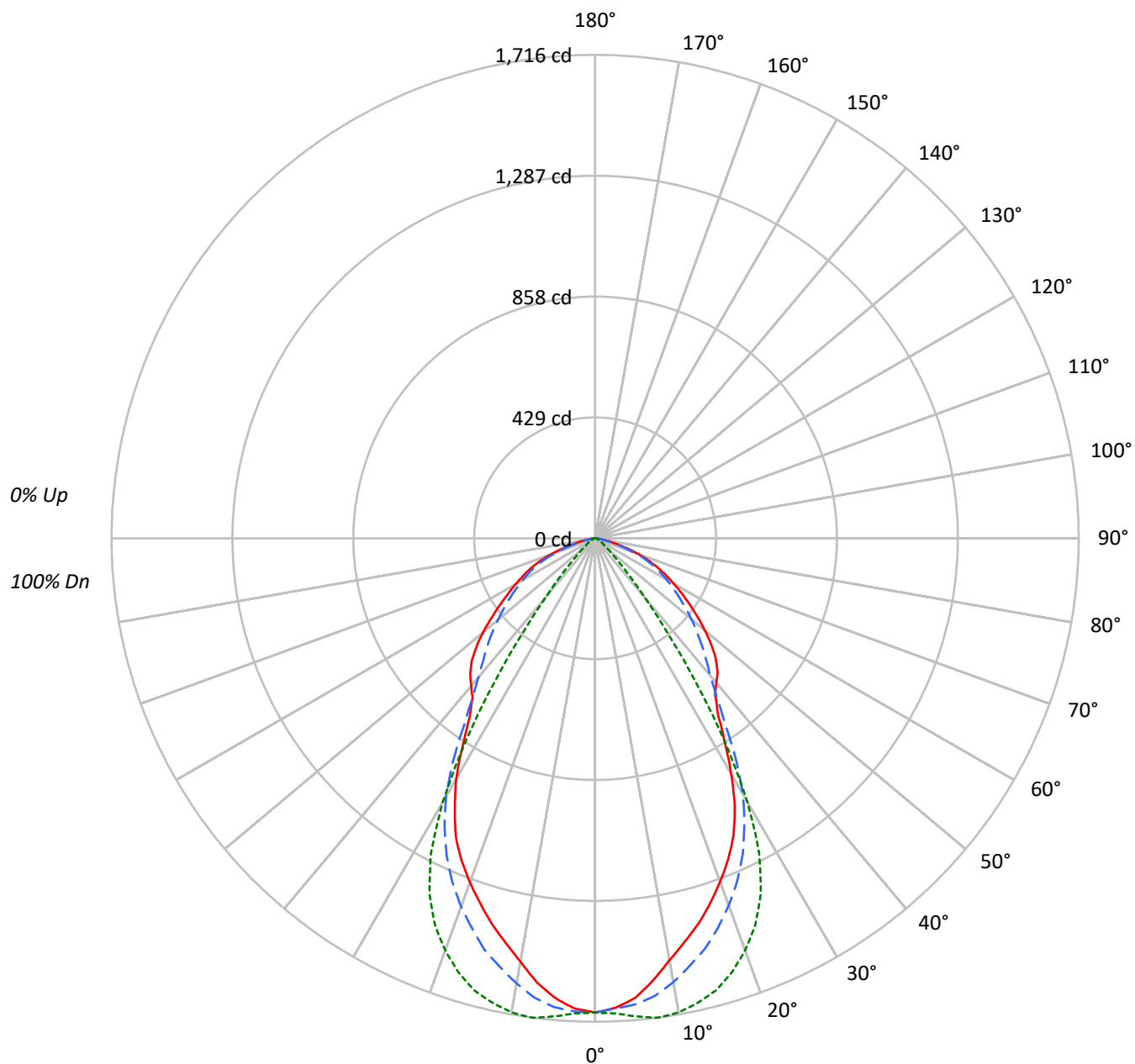
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	109820	109820	109820
5°	107246	111575	107246
10°	100735	113203	101073
15°	95660	112147	95660
20°	90034	108043	90214
25°	83654	100124	84201
30°	72795	81413	74324
35°	60354	49212	61772
40°	56959	22952	58253
45°	55838	10795	57241
50°	51621	5674	52646
55°	46567	3765	46851
60°	42132	2988	42472
65°	37682	2362	38856
70°	31035	1946	32008
75°	20519	1286	20519
80°	11459	939	11459
85°	7635	0	5689



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.0	6.5
10°-20°	426.0	17.5
20°-30°	569.4	23.4
30°-40°	470.8	19.4
40°-50°	337.8	13.9
50°-60°	248.3	10.2
60°-70°	160.3	6.6
70°-80°	56.8	2.3
80°-90°	6.6	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°	1152.4	47.4
0°-40°	1623.2	66.7
0°-60°	2209.3	90.8
0°-90°	2433.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2433.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1683	1683	1683	1683	1683	
5°	1638	1660	1704	1671	1638	152
15°	1416	1508	1660	1513	1416	397
25°	1162	1238	1391	1246	1170	528
35°	758	804	618	811	776	488
45°	605	534	117	542	620	462
55°	409	364	33	369	412	368
65°	244	226	15	229	252	240
75°	81	66	5	66	81	92
85°	10	5	0	5	8	12
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°	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3
2.5°	1668.1	1655.4	1665.5	1655.4	1657.9	1668.1	1670.6	1675.7	1678.2	1670.6	1670.6
5°	1637.6	1624.8	1637.6	1627.4	1632.5	1645.2	1647.7	1657.9	1663.0	1660.4	1665.5
7.5°	1581.6	1571.4	1584.2	1576.5	1584.2	1602.0	1609.6	1622.3	1632.5	1637.6	1645.2
10°	1520.6	1510.4	1523.1	1515.5	1528.2	1548.6	1556.2	1571.4	1586.7	1599.4	1612.1
12.5°	1467.2	1457.0	1464.6	1462.1	1474.8	1492.6	1505.3	1523.1	1540.9	1553.6	1571.4
15°	1416.3	1406.2	1416.3	1411.2	1421.4	1441.8	1454.5	1472.3	1492.6	1507.9	1528.2
17.5°	1357.9	1347.7	1355.3	1352.8	1362.9	1380.7	1393.4	1411.2	1431.6	1449.4	1469.7
20°	1296.8	1286.7	1294.3	1289.2	1299.4	1319.7	1329.9	1350.2	1368.0	1385.8	1403.6
22.5°	1233.3	1223.1	1233.3	1225.6	1240.9	1253.6	1263.8	1284.1	1299.4	1317.2	1332.4
25°	1162.1	1151.9	1159.5	1154.4	1164.6	1179.9	1187.5	1207.8	1220.5	1238.3	1253.6
27.5°	1073.1	1060.3	1075.6	1065.4	1078.1	1090.9	1098.5	1116.3	1131.5	1146.8	1159.5
30°	966.3	956.1	971.3	963.7	979.0	989.1	999.3	1017.1	1029.8	1047.6	1050.2
32.5°	854.4	849.3	862.0	856.9	872.2	882.3	890.0	907.8	917.9	928.1	920.5
35°	757.8	752.7	765.4	762.8	775.6	783.2	790.8	801.0	801.0	803.5	783.2
37.5°	699.3	696.7	706.9	704.4	714.5	722.2	722.2	724.7	719.6	706.9	676.4
40°	668.8	666.2	673.8	671.3	678.9	681.5	678.9	673.8	658.6	633.2	592.5
42.5°	643.3	638.2	643.3	640.8	645.9	648.4	640.8	633.2	612.8	582.3	534.0
45°	605.2	600.1	607.7	602.6	607.7	607.7	600.1	589.9	567.0	534.0	483.1
47.5°	559.4	554.3	562.0	556.9	562.0	562.0	554.3	544.2	521.3	488.2	437.4
50°	508.6	503.5	508.6	506.0	511.1	513.6	503.5	495.8	475.5	445.0	394.1
52.5°	457.7	452.6	457.7	457.7	460.2	460.2	452.6	447.5	429.7	401.8	356.0
55°	409.4	404.3	411.9	409.4	411.9	411.9	404.3	399.2	386.5	363.6	320.4
57.5°	363.6	361.1	366.2	363.6	363.6	363.6	358.5	356.0	345.8	325.5	289.9
60°	322.9	317.8	320.4	320.4	320.4	322.9	317.8	315.3	307.7	292.4	259.4
62.5°	282.2	279.7	282.2	279.7	279.7	282.2	279.7	277.2	272.1	259.4	231.4
65°	244.1	239.0	244.1	241.6	241.6	241.6	239.0	239.0	233.9	226.3	200.9
67.5°	203.4	200.9	203.4	200.9	198.3	198.3	195.8	195.8	193.3	188.2	165.3
70°	162.7	157.7	160.2	155.1	157.7	152.6	152.6	150.0	147.5	144.9	127.1
72.5°	119.5	117.0	117.0	111.9	111.9	109.3	106.8	106.8	104.3	104.3	91.5
75°	81.4	81.4	78.8	73.7	76.3	71.2	71.2	71.2	68.7	66.1	58.5
77.5°	53.4	50.9	50.9	48.3	48.3	43.2	45.8	43.2	43.2	40.7	35.6
80°	30.5	30.5	30.5	28.0	28.0	25.4	25.4	25.4	22.9	22.9	20.3
82.5°	17.8	17.8	17.8	15.3	15.3	15.3	15.3	12.7	12.7	12.7	10.2
85°	10.2	7.6	7.6	7.6	7.6	7.6	7.6	5.1	5.1	5.1	5.1
87.5°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	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°	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3
2.5°	1680.8	1678.2	1675.7	1685.9	1688.4	1680.8	1680.8	1688.4	1693.5	1680.8	1678.2
5°	1678.2	1680.8	1680.8	1693.5	1701.1	1696.0	1696.0	1703.7	1708.8	1693.5	1688.4
7.5°	1665.5	1673.2	1678.2	1696.0	1708.8	1706.2	1708.8	1716.4	1718.9	1703.7	1696.0
10°	1637.6	1647.7	1657.9	1680.8	1696.0	1698.6	1701.1	1708.8	1713.8	1693.5	1683.3
12.5°	1599.4	1614.7	1629.9	1655.4	1673.2	1675.7	1683.3	1688.4	1691.0	1673.2	1660.4
15°	1556.2	1576.5	1591.8	1619.8	1640.1	1645.2	1652.8	1660.4	1660.4	1640.1	1627.4
17.5°	1502.8	1520.6	1540.9	1568.9	1591.8	1596.9	1607.0	1614.7	1614.7	1594.3	1576.5
20°	1436.7	1457.0	1474.8	1505.3	1530.8	1538.4	1548.6	1556.2	1556.2	1538.4	1515.5
22.5°	1368.0	1388.4	1406.2	1434.1	1459.6	1467.2	1474.8	1485.0	1482.4	1467.2	1446.8
25°	1286.7	1304.5	1317.2	1345.1	1365.5	1373.1	1383.3	1390.9	1388.4	1373.1	1355.3
27.5°	1187.5	1200.2	1202.7	1220.5	1238.3	1246.0	1253.6	1261.2	1258.7	1246.0	1230.7
30°	1073.1	1070.5	1057.8	1057.8	1065.4	1070.5	1075.6	1080.7	1078.1	1070.5	1060.3
32.5°	928.1	910.3	877.3	859.5	851.8	851.8	851.8	856.9	854.4	851.8	851.8
35°	773.0	734.9	684.0	645.9	625.5	617.9	612.8	617.9	615.4	617.9	628.1
37.5°	645.9	589.9	521.3	470.4	437.4	422.1	411.9	414.5	414.5	422.1	439.9
40°	551.8	480.6	404.3	340.7	302.6	282.2	269.5	269.5	272.1	282.2	305.1
42.5°	480.6	401.8	317.8	256.8	211.1	190.7	178.0	175.5	178.0	190.7	213.6
45°	424.6	340.7	256.8	190.7	152.6	129.7	119.5	117.0	119.5	132.2	152.6
47.5°	376.3	292.4	213.6	147.5	109.3	91.5	81.4	78.8	83.9	94.1	111.9
50°	335.6	254.3	175.5	117.0	83.9	66.1	58.5	55.9	58.5	68.7	83.9
52.5°	297.5	221.2	147.5	91.5	63.6	50.9	43.2	40.7	43.2	50.9	66.1
55°	267.0	195.8	127.1	76.3	50.9	40.7	35.6	33.1	35.6	40.7	53.4
57.5°	239.0	172.9	109.3	63.6	43.2	33.1	28.0	28.0	28.0	33.1	43.2
60°	213.6	152.6	94.1	53.4	35.6	28.0	22.9	22.9	22.9	28.0	35.6
62.5°	190.7	134.8	81.4	45.8	30.5	22.9	20.3	20.3	20.3	22.9	30.5
65°	162.7	114.4	68.7	38.1	25.4	20.3	17.8	15.3	17.8	20.3	25.4
67.5°	134.8	94.1	55.9	30.5	20.3	15.3	12.7	12.7	12.7	15.3	20.3
70°	104.3	73.7	43.2	22.9	15.3	12.7	10.2	10.2	10.2	12.7	15.3
72.5°	71.2	50.9	30.5	17.8	12.7	10.2	7.6	7.6	7.6	10.2	12.7
75°	45.8	33.1	20.3	12.7	7.6	7.6	5.1	5.1	5.1	7.6	7.6
77.5°	28.0	20.3	12.7	7.6	5.1	5.1	5.1	5.1	5.1	5.1	5.1
80°	15.3	12.7	7.6	5.1	5.1	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	7.6	7.6	5.1	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
85°	2.5	2.5	2.5	2.5	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°	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3	1683.3
2.5°	1678.2	1683.3	1685.9	1675.7	1678.2	1680.8	1665.5	1668.1	1660.4	1675.7	1668.1
5°	1685.9	1688.4	1691.0	1675.7	1673.2	1670.6	1652.8	1650.3	1640.1	1652.8	1645.2
7.5°	1688.4	1683.3	1683.3	1660.4	1652.8	1645.2	1622.3	1614.7	1602.0	1607.0	1596.9
10°	1675.7	1665.5	1657.9	1629.9	1617.2	1604.5	1576.5	1566.4	1548.6	1551.1	1538.4
12.5°	1647.7	1635.0	1622.3	1591.8	1576.5	1558.7	1530.8	1515.5	1497.7	1497.7	1482.4
15°	1612.1	1596.9	1581.6	1551.1	1530.8	1513.0	1479.9	1464.6	1446.8	1444.3	1431.6
17.5°	1561.3	1543.5	1528.2	1492.6	1472.3	1451.9	1421.4	1403.6	1385.8	1385.8	1370.6
20°	1500.2	1479.9	1462.1	1429.0	1408.7	1390.9	1355.3	1340.1	1324.8	1322.3	1309.5
22.5°	1429.0	1408.7	1393.4	1362.9	1340.1	1322.3	1291.7	1279.0	1263.8	1261.2	1246.0
25°	1340.1	1322.3	1307.0	1281.6	1261.2	1246.0	1218.0	1202.7	1192.6	1192.6	1179.9
27.5°	1220.5	1205.3	1202.7	1182.4	1167.1	1157.0	1134.1	1123.9	1111.2	1111.2	1095.9
30°	1060.3	1062.9	1073.1	1068.0	1062.9	1057.8	1037.5	1034.9	1019.7	1017.1	999.3
32.5°	864.5	882.3	910.3	925.6	933.2	938.3	933.2	928.1	915.4	912.9	892.5
35°	656.0	691.6	737.4	767.9	793.4	811.2	818.8	818.8	813.7	811.2	793.4
37.5°	475.5	528.9	589.9	640.8	681.5	714.5	729.8	740.0	740.0	740.0	732.3
40°	348.4	411.9	483.1	549.2	600.1	643.3	666.2	684.0	689.1	696.7	691.6
42.5°	259.4	328.0	404.3	480.6	539.1	587.4	617.9	638.2	651.0	658.6	658.6
45°	198.3	267.0	345.8	427.2	488.2	541.6	572.1	595.0	607.7	617.9	617.9
47.5°	152.6	218.7	297.5	378.9	442.4	495.8	526.4	546.7	559.4	569.6	569.6
50°	119.5	180.5	256.8	335.6	399.2	450.1	478.0	498.4	508.6	516.2	518.7
52.5°	96.6	152.6	226.3	302.6	361.1	406.8	429.7	447.5	457.7	462.8	465.3
55°	78.8	132.2	200.9	269.5	325.5	368.7	389.0	401.8	409.4	414.5	414.5
57.5°	66.1	114.4	178.0	244.1	297.5	330.6	348.4	358.5	363.6	368.7	368.7
60°	55.9	99.2	157.7	218.7	267.0	297.5	310.2	317.8	322.9	325.5	325.5
62.5°	48.3	83.9	137.3	193.3	236.5	264.5	274.6	279.7	282.2	282.2	284.8
65°	40.7	71.2	117.0	167.8	203.4	228.9	236.5	239.0	239.0	241.6	244.1
67.5°	30.5	55.9	94.1	137.3	167.8	188.2	195.8	195.8	195.8	195.8	198.3
70°	25.4	43.2	71.2	104.3	129.7	144.9	150.0	150.0	150.0	150.0	152.6
72.5°	17.8	30.5	50.9	73.7	94.1	104.3	104.3	106.8	104.3	104.3	109.3
75°	12.7	20.3	33.1	48.3	58.5	66.1	68.7	68.7	68.7	68.7	71.2
77.5°	7.6	12.7	20.3	28.0	38.1	40.7	43.2	43.2	43.2	43.2	45.8
80°	5.1	7.6	12.7	17.8	20.3	22.9	25.4	25.4	25.4	25.4	25.4
82.5°	2.5	5.1	7.6	7.6	10.2	12.7	12.7	12.7	12.7	12.7	15.3
85°	0.0	2.5	2.5	5.1	5.1	5.1	5.1	5.1	5.1	5.1	7.6
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: P135947

CATALOG NUMBER: LD6A20D010TE ERM6A20840 6LM121H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1683.3	1683.3	1683.3	1683.3
2.5°	1652.8	1670.6	1657.9	1670.6
5°	1627.4	1642.6	1627.4	1637.6
7.5°	1576.5	1589.2	1574.0	1589.2
10°	1515.5	1528.2	1513.0	1525.7
12.5°	1459.6	1469.7	1454.5	1469.7
15°	1408.7	1418.9	1403.6	1416.3
17.5°	1350.2	1357.9	1345.1	1357.9
20°	1289.2	1296.8	1286.7	1299.4
22.5°	1228.2	1238.3	1225.6	1238.3
25°	1159.5	1167.1	1154.4	1169.7
27.5°	1078.1	1083.2	1070.5	1078.1
30°	979.0	981.5	971.3	986.6
32.5°	874.7	874.7	859.5	874.7
35°	778.1	775.6	765.4	775.6
37.5°	717.1	717.1	709.4	714.5
40°	681.5	684.0	673.8	684.0
42.5°	651.0	656.0	648.4	656.0
45°	612.8	617.9	610.3	620.4
47.5°	564.5	569.6	564.5	572.1
50°	511.1	516.2	511.1	518.7
52.5°	457.7	462.8	457.7	462.8
55°	409.4	411.9	406.8	411.9
57.5°	363.6	366.2	361.1	366.2
60°	320.4	325.5	320.4	325.5
62.5°	282.2	284.8	284.8	287.3
65°	241.6	251.7	249.2	251.7
67.5°	200.9	208.5	208.5	211.1
70°	155.1	160.2	165.3	167.8
72.5°	109.3	117.0	119.5	122.1
75°	71.2	78.8	78.8	81.4
77.5°	45.8	50.9	50.9	50.9
80°	28.0	30.5	28.0	30.5
82.5°	15.3	15.3	15.3	17.8
85°	7.6	7.6	7.6	7.6
87.5°	2.5	2.5	2.5	2.5
90°	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)