

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: P135946

Luminaire Tested: **LD6A20D010TE ERM6A20835 6LM121H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135946
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 ERM6A20835 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: 2385.0 lumens
Efficiency: N/A
Efficacy: 72.7 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

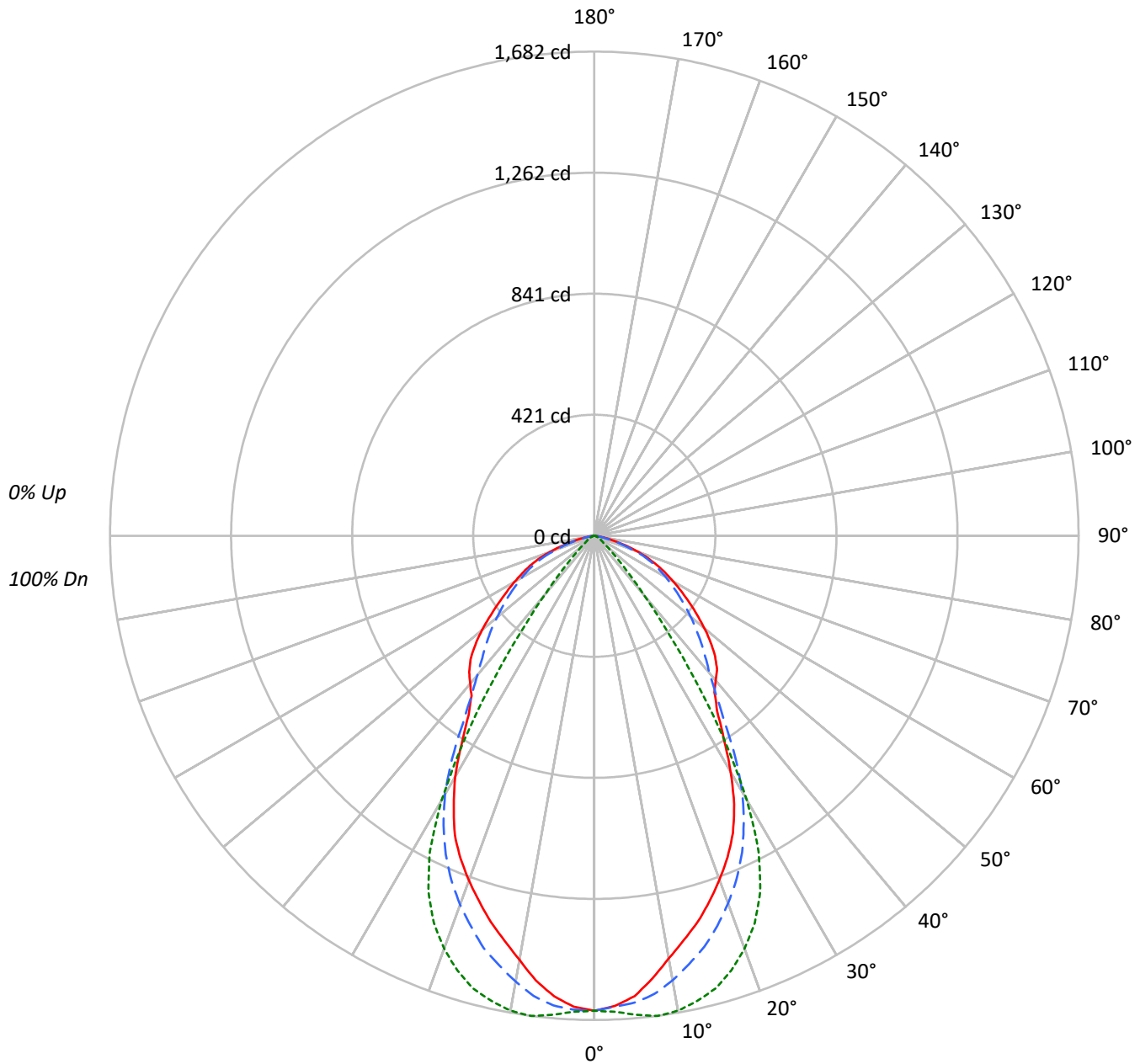
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	107654	107654	107654
5°	105131	109375	105131
10°	98748	110964	99079
15°	93775	109938	93775
20°	88256	105912	88430
25°	81998	98152	82538
30°	71356	79808	72855
35°	59160	48240	60553
40°	55835	22501	57104
45°	54731	10583	56115
50°	50596	5562	51611
55°	45645	3685	45930
60°	41310	2923	41637
65°	36941	2316	38099
70°	30425	1908	31379
75°	20115	1260	20115
80°	11234	939	11234
85°	7486	0	5614



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.9	6.5
10°-20°	417.6	17.5
20°-30°	558.2	23.4
30°-40°	461.5	19.4
40°-50°	331.2	13.9
50°-60°	243.4	10.2
60°-70°	157.1	6.6
70°-80°	55.7	2.3
80°-90°	6.5	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°	1129.6	47.4
0°-40°	1591.2	66.7
0°-60°	2165.7	90.8
0°-90°	2385.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2385.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1650	1650	1650	1650	1650	
5°	1605	1628	1670	1638	1605	149
15°	1388	1478	1628	1483	1388	389
25°	1139	1214	1364	1221	1147	517
35°	743	788	606	795	760	478
45°	593	524	115	531	608	453
55°	401	356	32	361	404	360
65°	239	222	15	224	247	236
75°	80	65	5	65	80	90
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°	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1
2.5°	1635.2	1622.7	1632.7	1622.7	1625.2	1635.2	1637.7	1642.6	1645.1	1637.7	1637.7
5°	1605.3	1592.8	1605.3	1595.3	1600.3	1612.7	1615.2	1625.2	1630.2	1627.7	1632.7
7.5°	1550.4	1540.4	1552.9	1545.4	1552.9	1570.4	1577.8	1590.3	1600.3	1605.3	1612.7
10°	1490.6	1480.6	1493.1	1485.6	1498.1	1518.0	1525.5	1540.4	1555.4	1567.9	1580.3
12.5°	1438.2	1428.3	1435.8	1433.3	1445.7	1463.2	1475.6	1493.1	1510.5	1523.0	1540.4
15°	1388.4	1378.4	1388.4	1383.4	1393.4	1413.3	1425.8	1443.2	1463.2	1478.1	1498.1
17.5°	1331.1	1321.1	1328.6	1326.1	1336.0	1353.5	1366.0	1383.4	1403.3	1420.8	1440.7
20°	1271.2	1261.3	1268.7	1263.8	1273.7	1293.7	1303.6	1323.6	1341.0	1358.5	1375.9
22.5°	1208.9	1199.0	1208.9	1201.4	1216.4	1228.9	1238.8	1258.8	1273.7	1291.2	1306.1
25°	1139.1	1129.2	1136.6	1131.7	1141.6	1156.6	1164.1	1184.0	1196.5	1213.9	1228.9
27.5°	1051.9	1039.4	1054.4	1044.4	1056.9	1069.3	1076.8	1094.3	1109.2	1124.2	1136.6
30°	947.2	937.2	952.2	944.7	959.7	969.6	979.6	997.0	1009.5	1027.0	1029.5
32.5°	837.5	832.5	845.0	840.0	855.0	864.9	872.4	889.9	899.8	909.8	902.3
35°	742.8	737.8	750.3	747.8	760.3	767.7	775.2	785.2	785.2	787.7	767.7
37.5°	685.5	683.0	692.9	690.5	700.4	707.9	707.9	710.4	705.4	692.9	663.0
40°	655.6	653.1	660.5	658.1	665.5	668.0	665.5	660.5	645.6	620.7	580.8
42.5°	630.6	625.6	630.6	628.1	633.1	635.6	628.1	620.7	600.7	570.8	523.5
45°	593.2	588.3	595.7	590.8	595.7	595.7	588.3	578.3	555.9	523.5	473.6
47.5°	548.4	543.4	550.9	545.9	550.9	550.9	543.4	533.4	511.0	478.6	428.7
50°	498.5	493.5	498.5	496.0	501.0	503.5	493.5	486.1	466.1	436.2	386.4
52.5°	448.7	443.7	448.7	448.7	451.2	451.2	443.7	438.7	421.3	393.8	349.0
55°	401.3	396.3	403.8	401.3	403.8	403.8	396.3	391.3	378.9	356.4	314.1
57.5°	356.4	354.0	358.9	356.4	356.4	356.4	351.5	349.0	339.0	319.1	284.2
60°	316.6	311.6	314.1	314.1	314.1	316.6	311.6	309.1	301.6	286.7	254.2
62.5°	276.7	274.2	276.7	274.2	274.2	276.7	274.2	271.7	266.7	254.2	226.8
65°	239.3	234.3	239.3	236.8	236.8	236.8	234.3	234.3	229.3	221.8	196.9
67.5°	199.4	196.9	199.4	196.9	194.4	194.4	191.9	191.9	189.4	184.5	162.0
70°	159.5	154.5	157.0	152.1	154.5	149.6	149.6	147.1	144.6	142.1	124.6
72.5°	117.2	114.7	114.7	109.7	109.7	107.2	104.7	104.7	102.2	102.2	89.7
75°	79.8	79.8	77.3	72.3	74.8	69.8	69.8	69.8	67.3	64.8	57.3
77.5°	52.3	49.9	49.9	47.4	47.4	42.4	44.9	42.4	42.4	39.9	34.9
80°	29.9	29.9	29.9	27.4	27.4	24.9	24.9	24.9	22.4	22.4	19.9
82.5°	17.4	17.4	17.4	15.0	15.0	15.0	15.0	12.5	12.5	12.5	10.0
85°	10.0	7.5	7.5	7.5	7.5	7.5	7.5	5.0	5.0	5.0	5.0
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°	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1
2.5°	1647.6	1645.1	1642.6	1652.6	1655.1	1647.6	1647.6	1655.1	1660.1	1647.6	1645.1
5°	1645.1	1647.6	1647.6	1660.1	1667.6	1662.6	1662.6	1670.1	1675.0	1660.1	1655.1
7.5°	1632.7	1640.1	1645.1	1662.6	1675.0	1672.6	1675.0	1682.5	1685.0	1670.1	1662.6
10°	1605.3	1615.2	1625.2	1647.6	1662.6	1665.1	1667.6	1675.0	1680.0	1660.1	1650.1
12.5°	1567.9	1582.8	1597.8	1622.7	1640.1	1642.6	1650.1	1655.1	1657.6	1640.1	1627.7
15°	1525.5	1545.4	1560.4	1587.8	1607.7	1612.7	1620.2	1627.7	1627.7	1607.7	1595.3
17.5°	1473.1	1490.6	1510.5	1537.9	1560.4	1565.4	1575.3	1582.8	1582.8	1562.9	1545.4
20°	1408.3	1428.3	1445.7	1475.6	1500.6	1508.0	1518.0	1525.5	1525.5	1508.0	1485.6
22.5°	1341.0	1361.0	1378.4	1405.8	1430.8	1438.2	1445.7	1455.7	1453.2	1438.2	1418.3
25°	1261.3	1278.7	1291.2	1318.6	1338.5	1346.0	1356.0	1363.5	1361.0	1346.0	1328.6
27.5°	1164.1	1176.5	1179.0	1196.5	1213.9	1221.4	1228.9	1236.3	1233.8	1221.4	1206.4
30°	1051.9	1049.4	1036.9	1036.9	1044.4	1049.4	1054.4	1059.4	1056.9	1049.4	1039.4
32.5°	909.8	892.4	860.0	842.5	835.0	835.0	835.0	840.0	837.5	835.0	835.0
35°	757.8	720.4	670.5	633.1	613.2	605.7	600.7	605.7	603.2	605.7	615.7
37.5°	633.1	578.3	511.0	461.1	428.7	413.8	403.8	406.3	406.3	413.8	431.2
40°	540.9	471.1	396.3	334.0	296.6	276.7	264.2	264.2	266.7	276.7	299.1
42.5°	471.1	393.8	311.6	251.8	206.9	186.9	174.5	172.0	174.5	186.9	209.4
45°	416.3	334.0	251.8	186.9	149.6	127.1	117.2	114.7	117.2	129.6	149.6
47.5°	368.9	286.7	209.4	144.6	107.2	89.7	79.8	77.3	82.3	92.2	109.7
50°	329.0	249.3	172.0	114.7	82.3	64.8	57.3	54.8	57.3	67.3	82.3
52.5°	291.6	216.9	144.6	89.7	62.3	49.9	42.4	39.9	42.4	49.9	64.8
55°	261.7	191.9	124.6	74.8	49.9	39.9	34.9	32.4	34.9	39.9	52.3
57.5°	234.3	169.5	107.2	62.3	42.4	32.4	27.4	27.4	27.4	32.4	42.4
60°	209.4	149.6	92.2	52.3	34.9	27.4	22.4	22.4	22.4	27.4	34.9
62.5°	186.9	132.1	79.8	44.9	29.9	22.4	19.9	19.9	19.9	22.4	29.9
65°	159.5	112.2	67.3	37.4	24.9	19.9	17.4	15.0	17.4	19.9	24.9
67.5°	132.1	92.2	54.8	29.9	19.9	15.0	12.5	12.5	12.5	15.0	19.9
70°	102.2	72.3	42.4	22.4	15.0	12.5	10.0	10.0	10.0	12.5	15.0
72.5°	69.8	49.9	29.9	17.4	12.5	10.0	7.5	7.5	7.5	10.0	12.5
75°	44.9	32.4	19.9	12.5	7.5	7.5	5.0	5.0	5.0	7.5	7.5
77.5°	27.4	19.9	12.5	7.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0
80°	15.0	12.5	7.5	5.0	5.0	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	7.5	7.5	5.0	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°	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1	1650.1
2.5°	1645.1	1650.1	1652.6	1642.6	1645.1	1647.6	1632.7	1635.2	1627.7	1642.6	1635.2
5°	1652.6	1655.1	1657.6	1642.6	1640.1	1637.7	1620.2	1617.7	1607.7	1620.2	1612.7
7.5°	1655.1	1650.1	1650.1	1627.7	1620.2	1612.7	1590.3	1582.8	1570.4	1575.3	1565.4
10°	1642.6	1632.7	1625.2	1597.8	1585.3	1572.8	1545.4	1535.5	1518.0	1520.5	1508.0
12.5°	1615.2	1602.8	1590.3	1560.4	1545.4	1528.0	1500.6	1485.6	1468.2	1468.2	1453.2
15°	1580.3	1565.4	1550.4	1520.5	1500.6	1483.1	1450.7	1435.8	1418.3	1415.8	1403.3
17.5°	1530.5	1513.0	1498.1	1463.2	1443.2	1423.3	1393.4	1375.9	1358.5	1358.5	1343.5
20°	1470.6	1450.7	1433.3	1400.9	1380.9	1363.5	1328.6	1313.6	1298.7	1296.2	1283.7
22.5°	1400.9	1380.9	1366.0	1336.0	1313.6	1296.2	1266.3	1253.8	1238.8	1236.3	1221.4
25°	1313.6	1296.2	1281.2	1256.3	1236.3	1221.4	1194.0	1179.0	1169.0	1169.0	1156.6
27.5°	1196.5	1181.5	1179.0	1159.1	1144.1	1134.1	1111.7	1101.7	1089.3	1089.3	1074.3
30°	1039.4	1041.9	1051.9	1046.9	1041.9	1036.9	1017.0	1014.5	999.5	997.0	979.6
32.5°	847.5	864.9	892.4	907.3	914.8	919.8	914.8	909.8	897.3	894.9	874.9
35°	643.1	678.0	722.9	752.8	777.7	795.1	802.6	802.6	797.6	795.1	777.7
37.5°	466.1	518.5	578.3	628.1	668.0	700.4	715.4	725.4	725.4	725.4	717.9
40°	341.5	403.8	473.6	538.4	588.3	630.6	653.1	670.5	675.5	683.0	678.0
42.5°	254.2	321.5	396.3	471.1	528.4	575.8	605.7	625.6	638.1	645.6	645.6
45°	194.4	261.7	339.0	418.8	478.6	530.9	560.8	583.3	595.7	605.7	605.7
47.5°	149.6	214.4	291.6	371.4	433.7	486.1	516.0	535.9	548.4	558.3	558.3
50°	117.2	177.0	251.8	329.0	391.3	441.2	468.6	488.6	498.5	506.0	508.5
52.5°	94.7	149.6	221.8	296.6	354.0	398.8	421.3	438.7	448.7	453.7	456.2
55°	77.3	129.6	196.9	264.2	319.1	361.4	381.4	393.8	401.3	406.3	406.3
57.5°	64.8	112.2	174.5	239.3	291.6	324.0	341.5	351.5	356.4	361.4	361.4
60°	54.8	97.2	154.5	214.4	261.7	291.6	304.1	311.6	316.6	319.1	319.1
62.5°	47.4	82.3	134.6	189.4	231.8	259.2	269.2	274.2	276.7	276.7	279.2
65°	39.9	69.8	114.7	164.5	199.4	224.3	231.8	234.3	234.3	236.8	239.3
67.5°	29.9	54.8	92.2	134.6	164.5	184.5	191.9	191.9	191.9	191.9	194.4
70°	24.9	42.4	69.8	102.2	127.1	142.1	147.1	147.1	147.1	147.1	149.6
72.5°	17.4	29.9	49.9	72.3	92.2	102.2	102.2	104.7	102.2	102.2	107.2
75°	12.5	19.9	32.4	47.4	57.3	64.8	67.3	67.3	67.3	67.3	69.8
77.5°	7.5	12.5	19.9	27.4	37.4	39.9	42.4	42.4	42.4	42.4	44.9
80°	5.0	7.5	12.5	17.4	19.9	22.4	24.9	24.9	24.9	24.9	24.9
82.5°	2.5	5.0	7.5	7.5	10.0	12.5	12.5	12.5	12.5	12.5	15.0
85°	0.0	2.5	2.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	7.5
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: P135946

CATALOG NUMBER: LD6A20D010TE ERM6A20835 6LM121H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1650.1	1650.1	1650.1	1650.1
2.5°	1620.2	1637.7	1625.2	1637.7
5°	1595.3	1610.2	1595.3	1605.3
7.5°	1545.4	1557.9	1542.9	1557.9
10°	1485.6	1498.1	1483.1	1495.6
12.5°	1430.8	1440.7	1425.8	1440.7
15°	1380.9	1390.9	1375.9	1388.4
17.5°	1323.6	1331.1	1318.6	1331.1
20°	1263.8	1271.2	1261.3	1273.7
22.5°	1203.9	1213.9	1201.4	1213.9
25°	1136.6	1144.1	1131.7	1146.6
27.5°	1056.9	1061.9	1049.4	1056.9
30°	959.7	962.2	952.2	967.1
32.5°	857.5	857.5	842.5	857.5
35°	762.7	760.3	750.3	760.3
37.5°	702.9	702.9	695.4	700.4
40°	668.0	670.5	660.5	670.5
42.5°	638.1	643.1	635.6	643.1
45°	600.7	605.7	598.2	608.2
47.5°	553.4	558.3	553.4	560.8
50°	501.0	506.0	501.0	508.5
52.5°	448.7	453.7	448.7	453.7
55°	401.3	403.8	398.8	403.8
57.5°	356.4	358.9	354.0	358.9
60°	314.1	319.1	314.1	319.1
62.5°	276.7	279.2	279.2	281.7
65°	236.8	246.8	244.3	246.8
67.5°	196.9	204.4	204.4	206.9
70°	152.1	157.0	162.0	164.5
72.5°	107.2	114.7	117.2	119.6
75°	69.8	77.3	77.3	79.8
77.5°	44.9	49.9	49.9	49.9
80°	27.4	29.9	27.4	29.9
82.5°	15.0	15.0	15.0	17.4
85°	7.5	7.5	7.5	7.5
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)