

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: P135587

Luminaire Tested: **LD6A20D010TE ERM6A20840 6LM111LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135587
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: LD6A20D010TE ERM6A20840 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 4000K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2594.0 lumens
Efficiency: N/A
Efficacy: 79.1 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

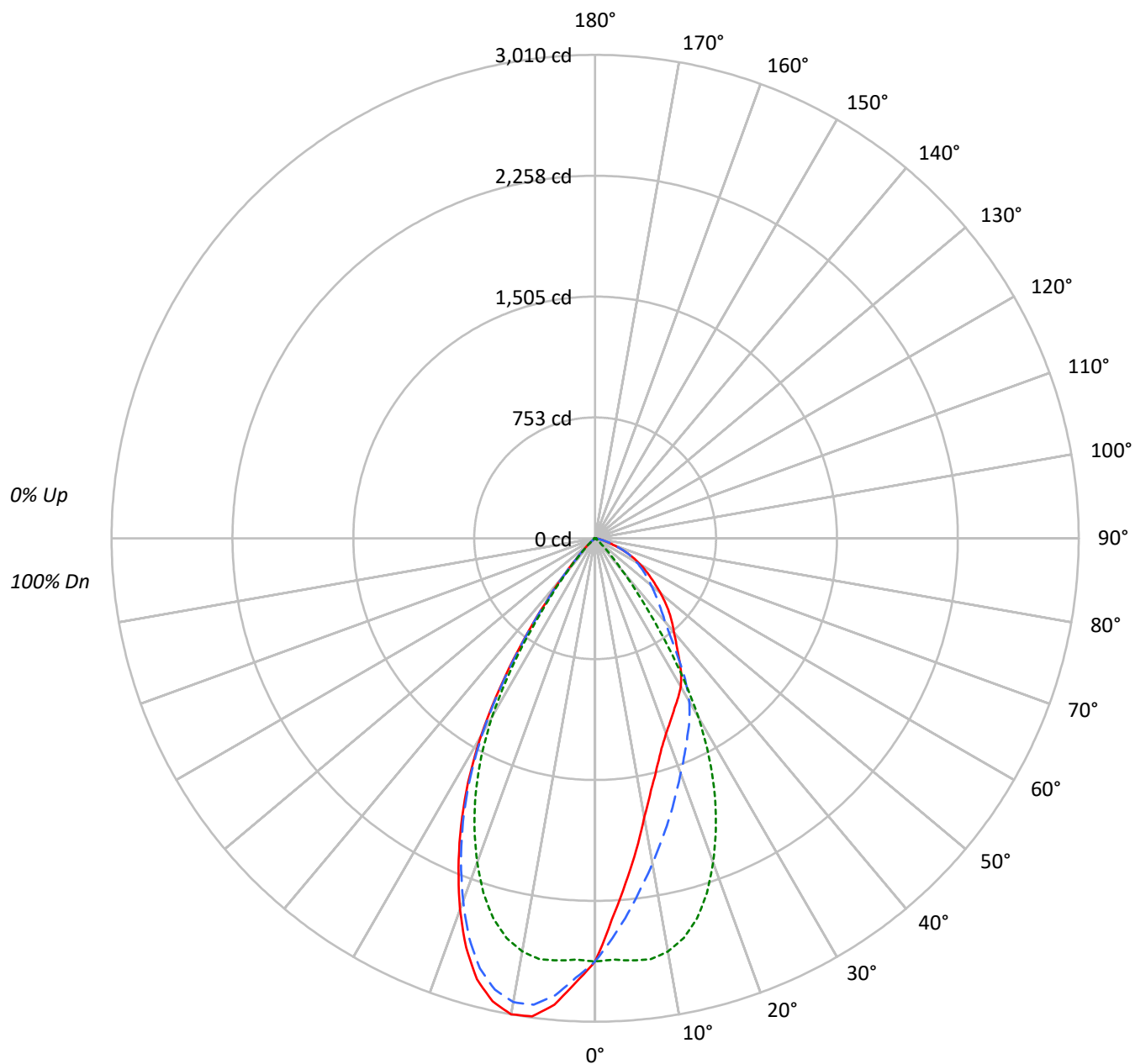
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					0
RW	70	50	30	10	70	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			100
1	113	110	107	104	110	107	105	103		103	101	100			100	98	97			92
2	106	101	96	93	104	99	95	91		96	92	89			93	90	87			84
3	100	93	87	83	98	92	86	82		89	85	81			86	83	80			77
4	95	86	80	75	93	85	79	75		83	78	74			81	76	73			71
5	89	80	74	69	88	79	73	69		77	72	68			75	71	67			65
6	84	75	68	63	83	74	68	63		72	67	63			71	66	62			60
7	80	70	63	59	78	69	63	59		68	62	58			67	62	58			56
8	76	65	59	55	74	65	59	54		64	58	54			63	58	54			52
9	72	62	55	51	71	61	55	51		60	55	51			59	54	50			49
10	68	58	52	48	67	58	52	48		57	51	48			56	51	47			46

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	171909	171909	171909
5°	141255	172801	190909
10°	116767	173024	199384
15°	100010	165444	191955
20°	89673	149006	170681
25°	84115	126881	142293
30°	80366	96766	107117
35°	72468	54843	62091
40°	65032	22339	26282
45°	60082	7732	8885
50°	53955	2720	2893
55°	47681	1627	1422
60°	42132	1396	1161
65°	34703	1096	834
70°	23138	1030	687
75°	12604	907	454
80°	6688	2029	0
85°	2695	2695	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	245.3	9.5
10°-20°	638.2	24.6
20°-30°	753.9	29.1
30°-40°	502.4	19.4
40°-50°	217.9	8.4
50°-60°	130.7	5.0
60°-70°	78.4	3.0
70°-80°	24.1	0.9
80°-90°	3.0	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°	1637.4	63.1
0°-40°	2139.8	82.5
0°-60°	2488.5	95.9
0°-90°	2594.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2594.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2635	2635	2635	2635	2635	
5°	2157	2344	2639	2856	2915	195
15°	1481	1795	2450	2772	2842	417
25°	1168	1359	1763	1946	1977	540
35°	910	896	689	765	780	569
45°	651	551	84	96	96	501
55°	419	373	14	12	12	377
65°	225	223	7	5	5	221
75°	50	55	4	2	2	60
85°	4	5	4	0	0	6
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°	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0
2.5°	2378.1	2419.1	2437.0	2449.5	2403.1	2453.0	2437.0	2460.2	2467.3	2490.5	2511.9
5°	2156.9	2196.1	2215.8	2230.0	2194.4	2251.4	2249.7	2280.0	2305.0	2344.2	2371.0
7.5°	1958.9	1976.7	1996.3	2016.0	1999.9	2051.6	2060.6	2103.4	2140.8	2194.4	2244.3
10°	1762.6	1780.5	1800.1	1821.5	1814.4	1866.1	1885.7	1933.9	1983.8	2055.2	2108.7
12.5°	1605.6	1623.5	1641.3	1662.7	1659.1	1710.9	1735.9	1787.6	1848.3	1919.6	1980.3
15°	1480.7	1496.8	1514.6	1528.9	1532.5	1580.7	1607.4	1657.4	1721.6	1794.7	1857.2
17.5°	1371.9	1389.8	1405.8	1418.3	1421.9	1466.5	1493.2	1537.8	1600.3	1669.9	1730.5
20°	1291.6	1307.7	1322.0	1334.5	1334.5	1373.7	1396.9	1437.9	1493.2	1557.5	1609.2
22.5°	1227.4	1241.7	1254.2	1264.9	1264.9	1298.8	1318.4	1352.3	1400.5	1454.0	1496.8
25°	1168.5	1182.8	1193.5	1202.4	1200.7	1232.8	1248.8	1273.8	1314.8	1359.4	1391.5
27.5°	1118.6	1132.9	1141.8	1154.3	1147.1	1173.9	1186.4	1207.8	1239.9	1272.0	1289.9
30°	1066.8	1081.1	1090.0	1100.7	1093.6	1116.8	1123.9	1134.6	1156.1	1172.1	1173.9
32.5°	995.5	1008.0	1016.9	1022.2	1013.3	1031.2	1031.2	1033.0	1040.1	1041.9	1027.6
35°	909.9	918.8	925.9	927.7	917.0	927.7	925.9	913.4	909.9	895.6	867.0
37.5°	829.6	840.3	843.8	843.8	829.6	834.9	827.8	808.2	793.9	768.9	729.7
40°	763.6	772.5	774.3	772.5	758.2	760.0	749.3	726.1	706.5	676.1	626.2
42.5°	708.3	715.4	717.2	715.4	701.1	701.1	690.4	665.4	642.3	608.4	556.6
45°	651.2	658.3	661.9	658.3	645.8	645.8	633.3	610.1	586.9	551.3	499.5
47.5°	592.3	597.6	601.2	599.4	586.9	586.9	576.2	553.0	533.4	501.3	451.4
50°	531.6	538.8	542.3	540.6	529.9	529.9	520.9	499.5	483.5	454.9	410.3
52.5°	472.8	481.7	483.5	479.9	472.8	471.0	465.6	446.0	433.5	413.9	371.1
55°	419.2	426.4	426.4	426.4	417.5	415.7	412.1	396.1	388.9	372.9	337.2
57.5°	371.1	376.4	374.6	372.9	369.3	365.7	362.2	349.7	346.1	335.4	305.1
60°	322.9	328.3	326.5	324.7	321.1	317.6	314.0	305.1	305.1	297.9	273.0
62.5°	276.5	280.1	278.3	276.5	276.5	273.0	271.2	264.0	265.8	262.3	240.8
65°	224.8	230.1	228.4	228.4	230.1	230.1	228.4	224.8	224.8	223.0	205.2
67.5°	171.3	176.6	174.8	176.6	182.0	183.8	183.8	182.0	182.0	178.4	162.3
70°	121.3	124.9	124.9	126.7	132.0	133.8	139.2	133.8	133.8	130.2	117.7
72.5°	80.3	82.1	83.8	87.4	89.2	91.0	94.6	94.6	92.8	87.4	78.5
75°	50.0	51.7	51.7	53.5	55.3	57.1	60.7	58.9	57.1	55.3	48.2
77.5°	30.3	30.3	32.1	32.1	33.9	35.7	35.7	35.7	33.9	32.1	28.5
80°	17.8	17.8	17.8	19.6	19.6	19.6	19.6	19.6	19.6	17.8	16.1
82.5°	8.9	8.9	8.9	10.7	10.7	10.7	10.7	10.7	10.7	8.9	8.9
85°	3.6	3.6	3.6	5.4	5.4	5.4	5.4	5.4	5.4	5.4	3.6
87.5°	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	1.8	1.8	1.8
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°	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0
2.5°	2533.3	2533.3	2528.0	2560.1	2601.1	2594.0	2595.8	2626.1	2638.6	2660.0	2679.6
5°	2417.4	2437.0	2451.3	2503.0	2561.9	2572.6	2592.2	2638.6	2667.1	2702.8	2736.7
7.5°	2301.4	2342.4	2376.3	2444.1	2520.8	2549.4	2585.1	2643.9	2681.4	2729.6	2775.9
10°	2181.9	2239.0	2288.9	2371.0	2460.2	2501.2	2545.8	2611.8	2661.8	2713.5	2765.2
12.5°	2062.3	2131.9	2194.4	2285.3	2379.9	2429.8	2479.8	2549.4	2602.9	2656.4	2709.9
15°	1944.6	2019.5	2085.5	2181.9	2278.2	2329.9	2379.9	2449.5	2506.6	2556.5	2610.0
17.5°	1814.4	1898.2	1958.9	2049.8	2142.6	2194.4	2249.7	2313.9	2363.8	2406.7	2458.4
20°	1687.7	1766.2	1821.5	1905.3	1989.2	2037.4	2089.1	2146.2	2190.8	2228.3	2276.4
22.5°	1564.6	1634.2	1685.9	1762.6	1826.8	1867.9	1912.5	1962.4	2001.7	2032.0	2074.8
25°	1445.1	1500.4	1539.6	1600.3	1652.0	1684.1	1721.6	1762.6	1796.5	1821.5	1860.7
27.5°	1325.5	1363.0	1377.3	1414.7	1446.8	1482.5	1502.2	1534.3	1564.6	1584.2	1618.1
30°	1188.2	1200.7	1188.2	1198.9	1207.8	1223.8	1247.0	1284.5	1298.8	1311.3	1345.2
32.5°	1016.9	1008.0	966.9	950.9	940.2	956.2	959.8	988.4	997.3	1008.0	1034.7
35°	836.7	804.6	738.6	697.6	672.6	674.4	658.3	688.6	694.0	704.7	724.3
37.5°	683.3	631.5	545.9	488.8	451.4	442.4	422.8	440.7	442.4	449.6	463.8
40°	570.9	497.7	401.4	333.6	292.6	274.7	255.1	262.3	262.3	267.6	276.5
42.5°	492.4	413.9	305.1	231.9	187.3	165.9	149.9	149.9	149.9	151.6	157.0
45°	433.5	346.1	237.3	162.3	121.3	99.9	83.8	83.8	82.1	82.1	85.6
47.5°	385.4	297.9	187.3	119.5	78.5	58.9	48.2	44.6	42.8	44.6	46.4
50°	346.1	260.5	155.2	91.0	55.3	39.2	30.3	26.8	25.0	25.0	25.0
52.5°	312.2	230.1	130.2	73.1	42.8	28.5	21.4	17.8	16.1	16.1	16.1
55°	283.7	203.4	112.4	60.7	35.7	25.0	17.8	14.3	12.5	12.5	12.5
57.5°	255.1	180.2	96.3	51.7	30.3	21.4	16.1	12.5	10.7	10.7	10.7
60°	226.6	157.0	83.8	42.8	25.0	17.8	14.3	10.7	8.9	8.9	8.9
62.5°	198.0	133.8	69.6	35.7	21.4	16.1	10.7	8.9	8.9	7.1	7.1
65°	164.1	108.8	57.1	30.3	17.8	12.5	10.7	7.1	7.1	7.1	7.1
67.5°	128.5	83.8	42.8	23.2	14.3	10.7	8.9	7.1	5.4	5.4	5.4
70°	91.0	58.9	32.1	17.8	12.5	8.9	7.1	5.4	5.4	5.4	3.6
72.5°	60.7	39.2	23.2	14.3	10.7	7.1	5.4	5.4	3.6	3.6	3.6
75°	39.2	25.0	16.1	10.7	7.1	7.1	5.4	3.6	3.6	3.6	1.8
77.5°	23.2	16.1	10.7	7.1	5.4	5.4	5.4	5.4	5.4	3.6	1.8
80°	12.5	8.9	7.1	5.4	3.6	5.4	5.4	5.4	5.4	3.6	1.8
82.5°	7.1	5.4	3.6	3.6	3.6	3.6	3.6	5.4	5.4	3.6	1.8
85°	3.6	3.6	1.8	1.8	1.8	3.6	3.6	3.6	3.6	1.8	1.8
87.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3.6	3.6	1.8	1.8
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°	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0	2635.0
2.5°	2695.7	2706.4	2709.9	2715.3	2745.6	2738.5	2765.2	2765.2	2786.7	2774.2	2786.7
5°	2765.2	2788.4	2799.1	2813.4	2856.2	2856.2	2888.3	2893.7	2922.2	2913.3	2925.8
7.5°	2809.8	2838.4	2852.7	2875.9	2922.2	2929.4	2959.7	2968.6	3002.5	2997.2	3004.3
10°	2800.9	2831.3	2849.1	2874.1	2922.2	2932.9	2959.7	2975.8	3007.9	3000.7	3004.3
12.5°	2745.6	2774.2	2793.8	2817.0	2866.9	2879.4	2902.6	2920.5	2950.8	2945.4	2945.4
15°	2642.1	2674.3	2690.3	2709.9	2758.1	2772.4	2790.2	2804.5	2838.4	2834.8	2829.5
17.5°	2486.9	2517.3	2529.8	2545.8	2592.2	2608.3	2622.5	2633.2	2665.3	2663.6	2654.6
20°	2297.8	2324.6	2335.3	2346.0	2387.0	2403.1	2413.8	2424.5	2451.3	2451.3	2438.8
22.5°	2090.9	2114.1	2121.2	2130.1	2165.8	2181.9	2187.2	2196.1	2221.1	2221.1	2205.1
25°	1871.4	1891.1	1894.6	1901.8	1932.1	1946.4	1948.2	1953.5	1978.5	1978.5	1962.4
27.5°	1625.3	1641.3	1644.9	1648.4	1675.2	1689.5	1687.7	1707.3	1714.5	1718.0	1698.4
30°	1348.7	1375.5	1361.2	1377.3	1386.2	1400.5	1395.1	1414.7	1420.1	1425.4	1400.5
32.5°	1038.3	1063.3	1047.2	1063.3	1066.8	1081.1	1074.0	1091.8	1095.4	1100.7	1077.6
35°	727.9	747.5	733.2	738.6	751.1	765.3	756.4	772.5	776.1	777.8	760.0
37.5°	467.4	481.7	485.3	490.6	490.6	501.3	504.9	504.9	506.7	508.4	494.2
40°	280.1	290.8	292.6	290.8	296.1	305.1	306.9	305.1	306.9	308.6	299.7
42.5°	158.8	165.9	167.7	167.7	171.3	176.6	176.6	174.8	176.6	176.6	171.3
45°	87.4	91.0	92.8	91.0	92.8	96.3	96.3	96.3	96.3	96.3	94.6
47.5°	46.4	48.2	48.2	50.0	48.2	50.0	50.0	50.0	51.7	51.7	50.0
50°	25.0	26.8	26.8	26.8	26.8	28.5	28.5	28.5	28.5	28.5	26.8
52.5°	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1	16.1
55°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
57.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
60°	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
62.5°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
65°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
67.5°	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
70°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
72.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
75°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
77.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
80°	1.8	1.8	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	1.8	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: P135587

CATALOG NUMBER: LD6A20D010TE ERM6A20840 6LM111LI

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2635.0	2635.0	2635.0	2635.0
2.5°	2792.0	2788.4	2768.8	
5°	2934.7	2932.9	2915.1	
7.5°	3013.2	3015.0	3002.5	
10°	3016.8	3032.9	3016.8	3009.7
12.5°	2957.9	2956.1	2952.6	
15°	2845.5	2840.2	2842.0	
17.5°	2672.5	2665.3	2670.7	
20°	2454.8	2447.7	2458.4	
22.5°	2221.1	2224.7	2222.9	
25°	1976.7	1966.0	1976.7	
27.5°	1709.1	1714.5	1712.7	
30°	1413.0	1404.0	1421.9	
32.5°	1088.3	1082.9	1099.0	
35°	765.3	765.3	779.6	
37.5°	497.7	497.7	508.4	
40°	301.5	301.5	308.6	
42.5°	171.3	173.1	176.6	
45°	96.3	94.6	96.3	
47.5°	51.7	50.0	51.7	
50°	28.5	26.8	28.5	
52.5°	16.1	16.1	16.1	
55°	12.5	12.5	12.5	
57.5°	10.7	10.7	10.7	
60°	8.9	8.9	8.9	
62.5°	7.1	7.1	7.1	
65°	5.4	5.4	5.4	
67.5°	5.4	5.4	5.4	
70°	3.6	3.6	3.6	
72.5°	3.6	3.6	3.6	
75°	1.8	1.8	1.8	
77.5°	1.8	1.8	1.8	
80°	0.0	0.0	0.0	
82.5°	0.0	0.0	0.0	
85°	0.0	0.0	0.0	
87.5°	0.0	0.0	0.0	
90°	0.0	0.0	0.0	



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)