

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: P135704

Luminaire Tested: **LD6A20D010TE ERM6A20827 6LM111H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135704
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23372)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD6A20D010TE ERM6A20827 6LM111H
Description: PORTFOLIO 6 INCH 50 DEGREE CUTOFF RECESSED SINGLE WALL WASH LUMINAIRE
SEMI-SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER
Light Source: (1) HIGH LUMEN LED 2700K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2194.0 lumens
Efficiency: N/A
Efficacy: 66.9 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 0.96 / 0.92
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

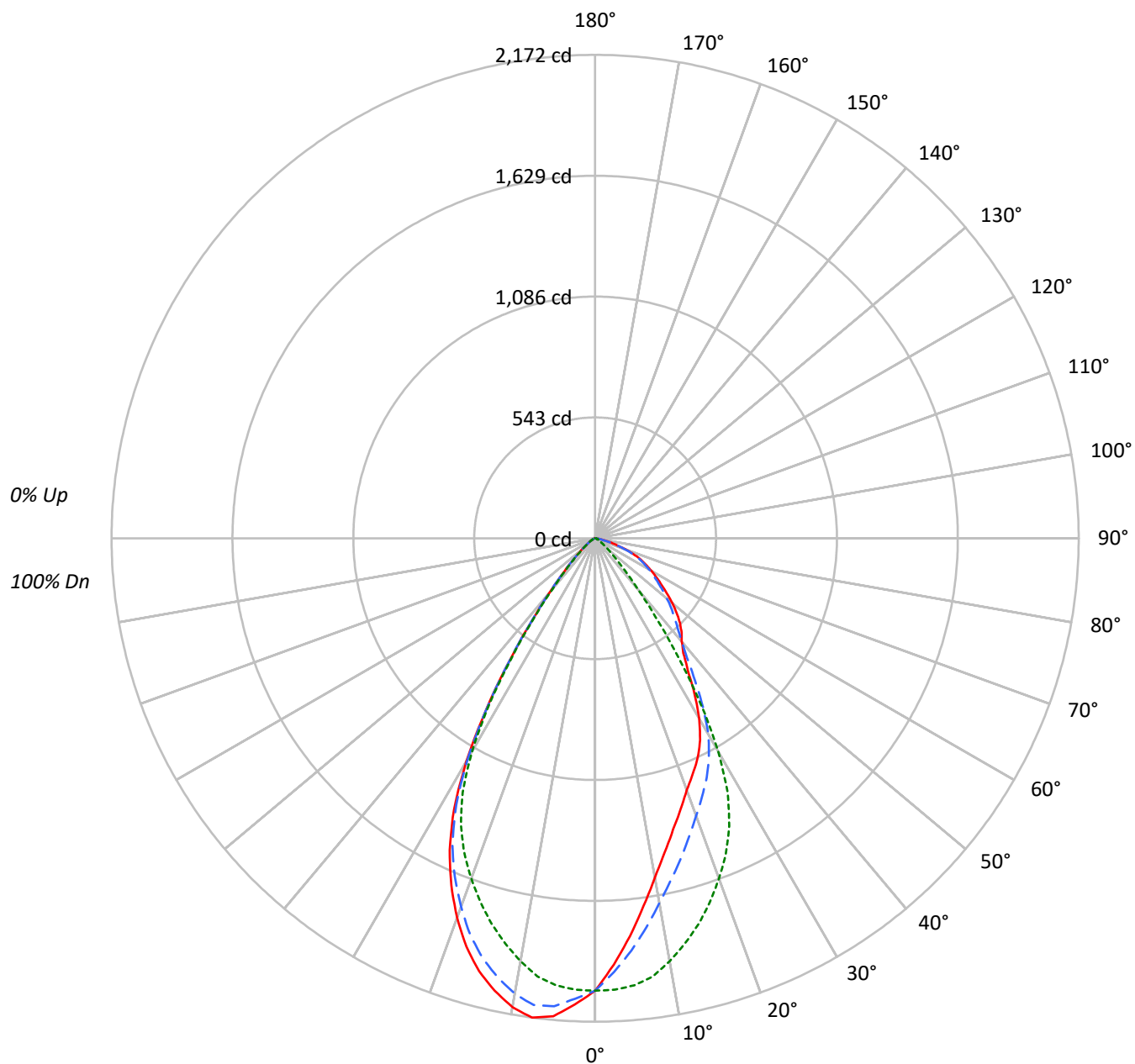
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	109	106	104	110	107	104	102	103	101	99		99	97	96		96
2	106	100	95	91	103	98	94	90	95	91	88		92	89	86		89
3	99	92	86	81	97	90	85	81	88	83	79		85	81	78		83
4	93	85	78	73	91	83	77	73	81	76	72		79	75	71		77
5	88	78	72	67	86	77	71	66	75	70	66		74	69	65		72
6	83	73	66	61	81	72	65	61	70	65	60		69	64	60		67
7	78	68	61	56	77	67	61	56	66	60	56		64	59	55		63
8	74	63	57	52	73	63	56	52	62	56	52		60	55	51		59
9	70	59	53	48	69	59	53	48	58	52	48		57	52	48		56
10	67	56	49	45	65	55	49	45	54	49	45		54	48	45		53

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	132615	132615	132615
5°	117489	132041	141170
10°	102405	127771	141709
15°	91472	121170	136016
20°	83528	112903	125865
25°	78435	102600	111275
30°	70331	83334	87070
35°	57790	51578	52900
40°	51534	25362	26776
45°	49721	12649	13517
50°	45815	6719	7196
55°	41403	4038	4300
60°	37931	2779	2779
65°	34657	2192	1822
70°	27945	1812	1354
75°	17267	1185	605
80°	9768	902	0
85°	5315	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.4	8.5
10°-20°	484.1	22.1
20°-30°	616.1	28.1
30°-40°	441.4	20.1
40°-50°	220.2	10.0
50°-60°	133.3	6.1
60°-70°	81.5	3.7
70°-80°	28.1	1.3
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°	1286.6	58.6
0°-40°	1728.0	78.8
0°-60°	2081.4	94.9
0°-90°	2194.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2194.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2033	2033	2033	2033	2033	
5°	1794	1860	2016	2111	2156	164
15°	1354	1489	1794	1952	2014	381
25°	1090	1186	1425	1517	1546	497
35°	726	782	648	664	664	463
45°	539	503	137	151	146	412
55°	364	343	36	38	38	328
65°	224	218	14	12	12	219
75°	68	62	5	2	2	79
85°	7	5	0	0	0	10
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°	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7
2.5°	1916.9	1919.3	1924.0	1919.3	1921.6	1933.4	1928.7	1931.1	1938.2	1950.0	1942.9
5°	1794.0	1796.3	1808.2	1801.1	1805.8	1820.0	1820.0	1829.4	1843.6	1860.2	1860.2
7.5°	1666.3	1671.1	1682.9	1678.2	1685.3	1704.2	1706.5	1720.7	1739.6	1763.3	1775.1
10°	1545.8	1550.5	1562.3	1560.0	1569.4	1588.3	1597.8	1612.0	1635.6	1664.0	1678.2
12.5°	1444.2	1448.9	1458.3	1458.3	1470.2	1489.1	1498.5	1517.4	1541.1	1571.8	1590.7
15°	1354.3	1361.4	1370.9	1370.9	1382.7	1401.6	1413.4	1430.0	1456.0	1489.1	1510.3
17.5°	1276.4	1278.7	1288.2	1288.2	1300.0	1318.9	1330.7	1347.3	1373.3	1404.0	1427.6
20°	1203.1	1205.4	1214.9	1217.3	1226.7	1243.3	1255.1	1271.6	1295.3	1326.0	1347.3
22.5°	1146.4	1151.1	1158.2	1160.5	1165.3	1181.8	1196.0	1207.8	1229.1	1255.1	1276.4
25°	1089.6	1092.0	1099.1	1101.4	1108.5	1120.4	1129.8	1141.6	1160.5	1186.5	1203.1
27.5°	1021.1	1028.2	1030.5	1032.9	1040.0	1049.4	1058.9	1068.4	1084.9	1106.2	1120.4
30°	933.6	936.0	943.1	947.8	954.9	964.4	976.2	985.6	999.8	1016.4	1025.8
32.5°	832.0	834.4	841.4	846.2	858.0	867.4	876.9	884.0	893.4	902.9	902.9
35°	725.6	732.7	735.1	742.2	754.0	763.4	770.5	772.9	777.6	782.4	765.8
37.5°	650.0	654.7	659.4	664.2	673.6	680.7	685.4	685.4	683.1	678.4	657.1
40°	605.1	607.4	612.2	614.5	624.0	628.7	628.7	624.0	614.5	602.7	569.6
42.5°	574.4	576.7	579.1	581.4	586.2	588.5	586.2	576.7	564.9	548.4	510.5
45°	538.9	541.3	543.6	543.6	548.4	548.4	546.0	536.5	522.4	503.4	463.3
47.5°	496.4	498.7	501.1	503.4	505.8	505.8	503.4	494.0	479.8	463.3	420.7
50°	451.4	453.8	456.2	456.2	460.9	460.9	458.5	449.1	437.3	420.7	382.9
52.5°	406.5	408.9	408.9	413.6	413.6	413.6	411.3	401.8	392.4	380.5	345.1
55°	364.0	366.4	366.4	371.1	373.5	371.1	368.7	361.6	352.2	342.7	314.4
57.5°	326.2	328.5	328.5	330.9	333.3	330.9	328.5	323.8	319.1	309.6	286.0
60°	290.7	293.1	293.1	295.5	295.5	293.1	293.1	288.4	283.6	278.9	257.6
62.5°	257.6	257.6	257.6	260.0	260.0	257.6	257.6	252.9	250.5	248.2	231.6
65°	224.5	224.5	224.5	224.5	224.5	219.8	219.8	217.5	215.1	217.5	203.3
67.5°	186.7	186.7	184.4	184.4	184.4	179.6	179.6	179.6	177.3	179.6	167.8
70°	146.5	146.5	144.2	144.2	141.8	137.1	137.1	137.1	134.7	137.1	130.0
72.5°	104.0	106.4	101.6	101.6	99.3	94.5	96.9	94.5	96.9	96.9	92.2
75°	68.5	70.9	66.2	66.2	63.8	61.5	61.5	61.5	63.8	61.5	59.1
77.5°	42.5	44.9	42.5	42.5	40.2	37.8	37.8	37.8	37.8	37.8	35.5
80°	26.0	26.0	26.0	23.6	23.6	21.3	21.3	21.3	21.3	21.3	18.9
82.5°	14.2	14.2	14.2	14.2	14.2	11.8	11.8	11.8	11.8	11.8	9.5
85°	7.1	7.1	7.1	7.1	7.1	4.7	4.7	4.7	4.7	4.7	4.7
87.5°	2.4	2.4	2.4	2.4	2.4	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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7
2.5°	1964.2	1973.6	1966.5	1994.9	1990.2	2011.4	2009.1	2030.3	2028.0	2030.3	2035.1
5°	1888.5	1907.4	1909.8	1945.3	1947.6	1980.7	1987.8	2016.2	2020.9	2030.3	2042.2
7.5°	1805.8	1834.2	1843.6	1883.8	1898.0	1933.4	1947.6	1985.4	1994.9	2011.4	2025.6
10°	1716.0	1749.1	1763.3	1810.5	1829.4	1869.6	1888.5	1928.7	1942.9	1961.8	1978.3
12.5°	1630.9	1666.3	1685.3	1734.9	1760.9	1801.1	1822.3	1864.9	1879.1	1902.7	1919.3
15°	1550.5	1588.3	1609.6	1659.3	1685.3	1730.2	1751.4	1794.0	1810.5	1834.2	1850.7
17.5°	1467.8	1505.6	1529.3	1576.5	1609.6	1647.4	1671.1	1713.6	1730.2	1751.4	1768.0
20°	1387.4	1425.3	1446.5	1493.8	1524.5	1562.3	1583.6	1626.2	1638.0	1659.3	1673.4
22.5°	1311.8	1347.3	1366.2	1415.8	1441.8	1474.9	1496.2	1534.0	1548.2	1564.7	1574.2
25°	1236.2	1266.9	1281.1	1323.6	1344.9	1375.6	1392.2	1425.3	1439.4	1453.6	1465.4
27.5°	1151.1	1167.6	1172.4	1205.4	1222.0	1250.4	1257.4	1288.2	1300.0	1309.4	1318.9
30°	1044.7	1047.1	1032.9	1049.4	1056.5	1077.8	1077.8	1106.2	1115.6	1122.7	1132.2
32.5°	910.0	895.8	862.7	858.0	853.3	865.1	860.4	884.0	893.4	898.2	905.3
35°	761.1	730.4	676.0	654.7	640.5	638.2	631.1	647.6	654.7	659.4	664.2
37.5°	631.1	586.2	517.6	479.8	456.2	446.7	437.3	446.7	451.4	456.2	460.9
40°	536.5	479.8	399.5	352.2	319.1	304.9	293.1	297.8	302.5	307.3	309.6
42.5°	468.0	404.2	316.7	260.0	226.9	210.4	198.5	200.9	203.3	205.6	210.4
45°	416.0	347.5	257.6	196.2	163.1	146.5	137.1	137.1	139.5	141.8	144.2
47.5°	373.5	300.2	210.4	151.3	120.5	104.0	94.5	94.5	96.9	96.9	99.3
50°	333.3	260.0	172.5	118.2	89.8	75.6	68.5	66.2	68.5	68.5	70.9
52.5°	300.2	229.3	144.2	94.5	68.5	56.7	49.6	49.6	49.6	49.6	49.6
55°	269.5	200.9	120.5	75.6	54.4	44.9	37.8	35.5	35.5	35.5	35.5
57.5°	245.8	179.6	104.0	63.8	44.9	35.5	30.7	28.4	28.4	28.4	28.4
60°	222.2	158.4	89.8	52.0	35.5	30.7	26.0	21.3	21.3	21.3	21.3
62.5°	198.5	137.1	75.6	44.9	30.7	23.6	21.3	16.5	16.5	16.5	16.5
65°	172.5	118.2	63.8	35.5	23.6	18.9	16.5	14.2	14.2	11.8	11.8
67.5°	141.8	94.5	52.0	30.7	21.3	16.5	14.2	11.8	9.5	9.5	9.5
70°	108.7	70.9	40.2	23.6	16.5	14.2	9.5	9.5	7.1	7.1	7.1
72.5°	78.0	49.6	28.4	18.9	11.8	9.5	9.5	7.1	7.1	7.1	4.7
75°	49.6	33.1	18.9	11.8	9.5	7.1	7.1	4.7	4.7	4.7	4.7
77.5°	30.7	21.3	14.2	9.5	7.1	4.7	4.7	4.7	2.4	2.4	2.4
80°	16.5	11.8	7.1	4.7	4.7	2.4	2.4	2.4	2.4	2.4	2.4
82.5°	9.5	7.1	4.7	2.4	2.4	2.4	2.4	2.4	0.0	0.0	0.0
85°	4.7	2.4	2.4	2.4	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°	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7	2032.7
2.5°	2049.3	2061.1	2054.0	2058.7	2080.0	2070.5	2087.1	2087.1	2106.0	2106.0	2091.8
5°	2063.4	2077.6	2080.0	2087.1	2115.4	2110.7	2129.6	2134.3	2155.6	2160.3	2148.5
7.5°	2054.0	2070.5	2077.6	2089.4	2117.8	2115.4	2136.7	2146.2	2165.1	2172.2	2162.7
10°	2009.1	2028.0	2037.4	2049.3	2080.0	2077.6	2101.3	2113.1	2129.6	2136.7	2129.6
12.5°	1950.0	1971.3	1980.7	1992.5	2023.3	2020.9	2044.5	2056.3	2070.5	2080.0	2072.9
15°	1883.8	1898.0	1914.5	1926.3	1954.7	1952.3	1976.0	1987.8	1999.6	2011.4	2004.3
17.5°	1798.7	1812.9	1829.4	1838.9	1867.3	1867.3	1886.2	1895.6	1912.2	1921.6	1912.2
20°	1701.8	1718.3	1730.2	1737.3	1763.3	1760.9	1779.8	1789.3	1803.4	1810.5	1803.4
22.5°	1600.2	1614.3	1623.8	1628.5	1649.8	1647.4	1661.6	1671.1	1682.9	1690.0	1682.9
25°	1484.3	1493.8	1500.9	1503.3	1522.2	1517.4	1536.3	1536.3	1545.8	1552.9	1545.8
27.5°	1335.4	1342.5	1347.3	1344.9	1359.1	1352.0	1368.5	1356.7	1375.6	1380.3	1373.3
30°	1144.0	1148.7	1153.4	1144.0	1153.4	1144.0	1158.2	1141.6	1158.2	1165.3	1158.2
32.5°	917.1	917.1	921.8	910.0	914.7	905.3	912.4	907.6	912.4	919.4	912.4
35°	673.6	673.6	678.4	671.3	673.6	664.2	668.9	664.2	666.5	671.3	668.9
37.5°	468.0	465.6	472.7	468.0	470.4	465.6	468.0	463.3	465.6	468.0	465.6
40°	316.7	316.7	321.5	319.1	321.5	319.1	321.5	319.1	319.1	319.1	316.7
42.5°	212.7	215.1	217.5	217.5	219.8	217.5	219.8	217.5	217.5	217.5	215.1
45°	146.5	146.5	148.9	148.9	151.3	151.3	151.3	148.9	148.9	148.9	148.9
47.5°	101.6	104.0	104.0	104.0	104.0	104.0	104.0	104.0	104.0	104.0	101.6
50°	70.9	73.3	73.3	73.3	73.3	73.3	73.3	70.9	70.9	70.9	70.9
52.5°	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	52.0	49.6	49.6
55°	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8
57.5°	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4
60°	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3
62.5°	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5
65°	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8	11.8
67.5°	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
70°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
72.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
75°	4.7	4.7	4.7	4.7	4.7	2.4	2.4	2.4	2.4	2.4	2.4
77.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
80°	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	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: P135704

CATALOG NUMBER: LD6A20D010TE ERM6A20827 6LM111H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2032.7	2032.7	2032.7	2032.7
2.5°	2084.7	2103.6	2096.5	2096.5
5°	2141.4	2162.7	2158.0	2155.6
7.5°	2158.0	2176.9	2172.2	2172.2
10°	2124.9	2143.8	2139.1	2139.1
12.5°	2070.5	2087.1	2084.7	2082.3
15°	2002.0	2018.5	2016.2	2013.8
17.5°	1909.8	1928.7	1926.3	1924.0
20°	1798.7	1815.3	1815.3	1812.9
22.5°	1678.2	1690.0	1692.3	1687.6
25°	1541.1	1550.5	1550.5	1545.8
27.5°	1368.5	1375.6	1375.6	1373.3
30°	1155.8	1158.2	1160.5	1155.8
32.5°	907.6	907.6	912.4	907.6
35°	661.8	661.8	666.5	664.2
37.5°	460.9	460.9	463.3	460.9
40°	314.4	314.4	316.7	314.4
42.5°	215.1	212.7	215.1	215.1
45°	146.5	146.5	148.9	146.5
47.5°	101.6	101.6	101.6	101.6
50°	70.9	70.9	70.9	70.9
52.5°	49.6	49.6	49.6	49.6
55°	35.5	37.8	37.8	37.8
57.5°	26.0	28.4	28.4	28.4
60°	21.3	21.3	21.3	21.3
62.5°	16.5	16.5	16.5	16.5
65°	11.8	11.8	11.8	11.8
67.5°	9.5	9.5	9.5	9.5
70°	7.1	7.1	7.1	7.1
72.5°	4.7	4.7	4.7	4.7
75°	2.4	2.4	2.4	2.4
77.5°	2.4	2.4	2.4	2.4
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)