

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: P135708

Luminaire Tested: **LD6A20D010TE ERM6A20927 6LM111H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135708
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 ERM6A20927 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: 2022.9 lumens
Efficiency: N/A
Efficacy: 61.7 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

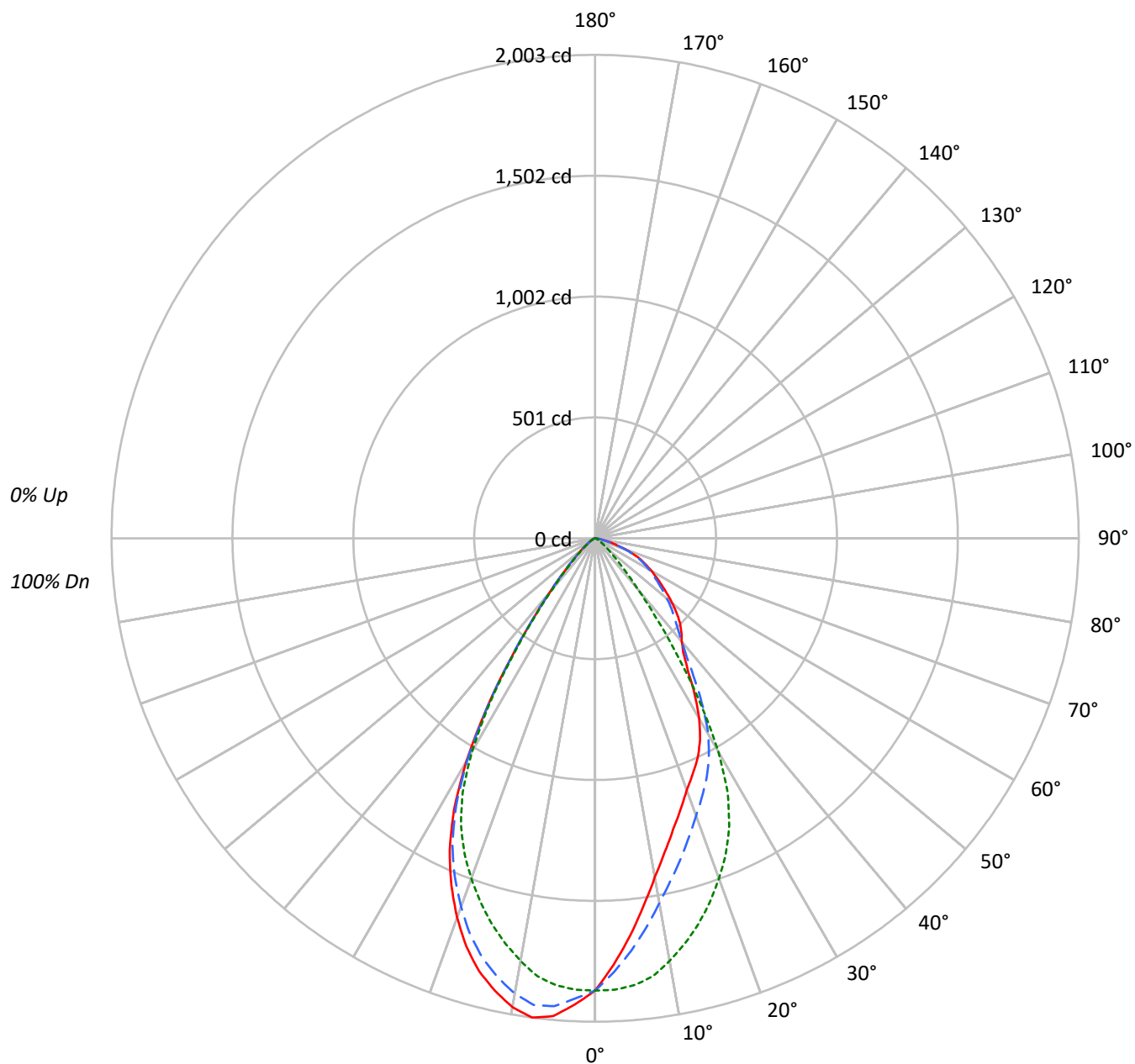
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P135708

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111H

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°	122267	122267	122267
5°	108327	121739	130161
10°	94415	117807	130659
15°	84340	111721	125405
20°	77016	104100	116048
25°	72316	94596	102593
30°	64847	76833	80275
35°	53282	47555	48774
40°	47514	23386	24690
45°	45846	11662	12465
50°	42243	6191	6638
55°	38172	3719	3970
60°	34969	2557	2557
65°	31955	2022	1683
70°	25770	1679	1240
75°	15931	1084	555
80°	9017	827	0
85°	4866	0	0



TEST NUMBER: P135708

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.9	8.5
10°-20°	446.3	22.1
20°-30°	568.0	28.1
30°-40°	407.0	20.1
40°-50°	203.0	10.0
50°-60°	122.9	6.1
60°-70°	75.1	3.7
70°-80°	25.9	1.3
80°-90°	2.8	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°	1186.2	58.6
0°-40°	1593.2	78.8
0°-60°	1919.1	94.9
0°-90°	2022.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2022.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1874	1874	1874	1874	1874	
5°	1654	1715	1859	1946	1988	151
15°	1249	1373	1654	1800	1857	352
25°	1005	1094	1314	1399	1425	458
35°	669	721	597	612	612	427
45°	497	464	126	140	135	380
55°	336	316	33	35	35	302
65°	207	200	13	11	11	202
75°	63	57	4	2	2	73
85°	6	4	0	0	0	9
90°	0	0	0	0	0	



TEST NUMBER: P135708

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111H

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1
2.5°	1767.4	1769.6	1773.9	1769.6	1771.7	1782.6	1778.3	1780.5	1787.0	1797.9	1791.4
5°	1654.1	1656.2	1667.2	1660.6	1664.9	1678.0	1678.0	1686.7	1699.8	1715.1	1715.1
7.5°	1536.3	1540.8	1551.6	1547.3	1553.8	1571.3	1573.4	1586.5	1603.9	1625.8	1636.6
10°	1425.2	1429.6	1440.4	1438.3	1447.0	1464.4	1473.2	1486.3	1508.0	1534.2	1547.3
12.5°	1331.6	1335.9	1344.6	1344.6	1355.5	1373.0	1381.6	1399.0	1420.9	1449.2	1466.6
15°	1248.7	1255.2	1264.0	1264.0	1274.8	1292.3	1303.2	1318.5	1342.4	1373.0	1392.5
17.5°	1176.8	1179.0	1187.7	1187.7	1198.6	1216.0	1226.9	1242.2	1266.2	1294.5	1316.2
20°	1109.3	1111.4	1120.1	1122.4	1131.0	1146.3	1157.2	1172.4	1194.3	1222.6	1242.2
22.5°	1057.0	1061.3	1067.9	1070.0	1074.4	1089.6	1102.7	1113.6	1133.2	1157.2	1176.8
25°	1004.6	1006.8	1013.4	1015.5	1022.0	1033.0	1041.7	1052.6	1070.0	1094.0	1109.3
27.5°	941.5	948.0	950.1	952.3	958.9	967.5	976.3	985.1	1000.3	1019.9	1033.0
30°	860.8	863.0	869.5	873.9	880.4	889.2	900.1	908.7	921.8	937.1	945.8
32.5°	767.1	769.3	775.8	780.2	791.1	799.7	808.5	815.0	823.7	832.5	832.5
35°	669.0	675.5	677.8	684.3	695.2	703.9	710.4	712.6	716.9	721.4	706.1
37.5°	599.3	603.6	608.0	612.4	621.1	627.6	631.9	631.9	629.8	625.5	605.8
40°	557.9	560.0	564.4	566.6	575.3	579.7	579.7	575.3	566.6	555.7	525.2
42.5°	529.6	531.7	533.9	536.1	540.5	542.6	540.5	531.7	520.8	505.6	470.7
45°	496.9	499.1	501.2	501.2	505.6	505.6	503.4	494.7	481.7	464.1	427.2
47.5°	457.7	459.8	462.0	464.1	466.3	466.3	464.1	455.5	442.4	427.2	387.9
50°	416.2	418.4	420.6	420.6	424.9	424.9	422.7	414.1	403.2	387.9	353.0
52.5°	374.8	377.0	377.0	381.3	381.3	381.3	379.2	370.5	361.8	350.8	318.2
55°	335.6	337.8	337.8	342.2	344.4	342.2	339.9	333.4	324.7	316.0	289.9
57.5°	300.8	302.9	302.9	305.1	307.3	305.1	302.9	298.5	294.2	285.5	263.7
60°	268.0	270.2	270.2	272.5	272.5	270.2	270.2	265.9	261.5	257.1	237.5
62.5°	237.5	237.5	237.5	239.7	239.7	237.5	237.5	233.2	231.0	228.8	213.5
65°	207.0	207.0	207.0	207.0	207.0	202.7	202.7	200.5	198.3	200.5	187.4
67.5°	172.1	172.1	170.0	170.0	170.0	165.6	165.6	165.6	163.5	165.6	154.7
70°	135.1	135.1	133.0	133.0	130.7	126.4	126.4	126.4	124.2	126.4	119.9
72.5°	95.9	98.1	93.7	93.7	91.6	87.1	89.3	87.1	89.3	89.3	85.0
75°	63.2	65.4	61.0	61.0	58.8	56.7	56.7	56.7	58.8	56.7	54.5
77.5°	39.2	41.4	39.2	39.2	37.1	34.9	34.9	34.9	34.9	34.9	32.7
80°	24.0	24.0	24.0	21.8	21.8	19.6	19.6	19.6	19.6	19.6	17.4
82.5°	13.1	13.1	13.1	13.1	13.1	10.9	10.9	10.9	10.9	10.9	8.8
85°	6.5	6.5	6.5	6.5	6.5	4.3	4.3	4.3	4.3	4.3	4.3
87.5°	2.2	2.2	2.2	2.2	2.2	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: P135708

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111H

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1
2.5°	1811.0	1819.7	1813.1	1839.3	1835.0	1854.5	1852.4	1871.9	1869.8	1871.9	1876.4
5°	1741.2	1758.6	1760.8	1793.6	1795.7	1826.2	1832.8	1858.9	1863.3	1871.9	1882.9
7.5°	1664.9	1691.1	1699.8	1736.9	1750.0	1782.6	1795.7	1830.5	1839.3	1854.5	1867.6
10°	1582.2	1612.7	1625.8	1669.3	1686.7	1723.8	1741.2	1778.3	1791.4	1808.8	1824.0
12.5°	1503.7	1536.3	1553.8	1599.6	1623.5	1660.6	1680.2	1719.4	1732.5	1754.3	1769.6
15°	1429.6	1464.4	1484.1	1529.9	1553.8	1595.2	1614.8	1654.1	1669.3	1691.1	1706.3
17.5°	1353.3	1388.2	1410.0	1453.5	1484.1	1518.9	1540.8	1579.9	1595.2	1614.8	1630.1
20°	1279.2	1314.1	1333.7	1377.3	1405.6	1440.4	1460.1	1499.4	1510.2	1529.9	1542.9
22.5°	1209.5	1242.2	1259.6	1305.4	1329.3	1359.9	1379.5	1414.3	1427.4	1442.7	1451.4
25°	1139.8	1168.1	1181.2	1220.4	1240.0	1268.3	1283.6	1314.1	1327.1	1340.2	1351.1
27.5°	1061.3	1076.5	1081.0	1111.4	1126.7	1152.9	1159.3	1187.7	1198.6	1207.3	1216.0
30°	963.2	965.4	952.3	967.5	974.1	993.7	993.7	1019.9	1028.6	1035.1	1043.9
32.5°	839.0	825.9	795.4	791.1	786.7	797.6	793.3	815.0	823.7	828.1	834.7
35°	701.7	673.4	623.3	603.6	590.5	588.4	581.9	597.1	603.6	608.0	612.4
37.5°	581.9	540.5	477.2	442.4	420.6	411.9	403.2	411.9	416.2	420.6	424.9
40°	494.7	442.4	368.3	324.7	294.2	281.1	270.2	274.6	278.9	283.3	285.5
42.5°	431.5	372.7	292.0	239.7	209.2	194.0	183.0	185.2	187.4	189.6	194.0
45°	383.6	320.4	237.5	180.9	150.4	135.1	126.4	126.4	128.6	130.7	133.0
47.5°	344.4	276.8	194.0	139.5	111.1	95.9	87.1	87.1	89.3	89.3	91.6
50°	307.3	239.7	159.0	109.0	82.8	69.7	63.2	61.0	63.2	63.2	65.4
52.5°	276.8	211.4	133.0	87.1	63.2	52.3	45.7	45.7	45.7	45.7	45.7
55°	248.5	185.2	111.1	69.7	50.2	41.4	34.9	32.7	32.7	32.7	32.7
57.5°	226.6	165.6	95.9	58.8	41.4	32.7	28.3	26.2	26.2	26.2	26.2
60°	204.9	146.0	82.8	47.9	32.7	28.3	24.0	19.6	19.6	19.6	19.6
62.5°	183.0	126.4	69.7	41.4	28.3	21.8	19.6	15.2	15.2	15.2	15.2
65°	159.0	109.0	58.8	32.7	21.8	17.4	15.2	13.1	13.1	10.9	10.9
67.5°	130.7	87.1	47.9	28.3	19.6	15.2	13.1	10.9	8.8	8.8	8.8
70°	100.2	65.4	37.1	21.8	15.2	13.1	8.8	8.8	6.5	6.5	6.5
72.5°	71.9	45.7	26.2	17.4	10.9	8.8	8.8	6.5	6.5	6.5	4.3
75°	45.7	30.5	17.4	10.9	8.8	6.5	6.5	4.3	4.3	4.3	4.3
77.5°	28.3	19.6	13.1	8.8	6.5	4.3	4.3	4.3	2.2	2.2	2.2
80°	15.2	10.9	6.5	4.3	4.3	2.2	2.2	2.2	2.2	2.2	2.2
82.5°	8.8	6.5	4.3	2.2	2.2	2.2	2.2	2.2	0.0	0.0	0.0
85°	4.3	2.2	2.2	2.2	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: P135708

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111H

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1	1874.1
2.5°	1889.5	1900.3	1893.8	1898.1	1917.8	1909.0	1924.3	1924.3	1941.7	1941.7	1928.6
5°	1902.5	1915.5	1917.8	1924.3	1950.4	1946.1	1963.5	1967.8	1987.5	1991.8	1980.9
7.5°	1893.8	1909.0	1915.5	1926.4	1952.6	1950.4	1970.0	1978.8	1996.2	2002.8	1994.0
10°	1852.4	1869.8	1878.5	1889.5	1917.8	1915.5	1937.4	1948.3	1963.5	1970.0	1963.5
12.5°	1797.9	1817.5	1826.2	1837.1	1865.5	1863.3	1885.0	1895.9	1909.0	1917.8	1911.2
15°	1736.9	1750.0	1765.2	1776.0	1802.2	1800.0	1821.9	1832.8	1843.6	1854.5	1848.0
17.5°	1658.4	1671.5	1686.7	1695.5	1721.7	1721.7	1739.1	1747.7	1763.0	1771.7	1763.0
20°	1569.1	1584.3	1595.2	1601.8	1625.8	1623.5	1641.0	1649.7	1662.7	1669.3	1662.7
22.5°	1475.4	1488.4	1497.1	1501.5	1521.1	1518.9	1532.0	1540.8	1551.6	1558.2	1551.6
25°	1368.5	1377.3	1383.8	1386.0	1403.5	1399.0	1416.5	1416.5	1425.2	1431.8	1425.2
27.5°	1231.2	1237.8	1242.2	1240.0	1253.1	1246.5	1261.8	1250.9	1268.3	1272.6	1266.2
30°	1054.8	1059.1	1063.4	1054.8	1063.4	1054.8	1067.9	1052.6	1067.9	1074.4	1067.9
32.5°	845.6	845.6	849.9	839.0	843.4	834.7	841.2	836.8	841.2	847.7	841.2
35°	621.1	621.1	625.5	618.9	621.1	612.4	616.7	612.4	614.5	618.9	616.7
37.5°	431.5	429.3	435.8	431.5	433.7	429.3	431.5	427.2	429.3	431.5	429.3
40°	292.0	292.0	296.4	294.2	296.4	294.2	296.4	294.2	294.2	294.2	292.0
42.5°	196.1	198.3	200.5	200.5	202.7	200.5	202.7	200.5	200.5	200.5	198.3
45°	135.1	135.1	137.3	137.3	139.5	139.5	139.5	137.3	137.3	137.3	137.3
47.5°	93.7	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	95.9	93.7
50°	65.4	67.6	67.6	67.6	67.6	67.6	67.6	65.4	65.4	65.4	65.4
52.5°	47.9	47.9	47.9	47.9	47.9	47.9	47.9	47.9	47.9	45.7	45.7
55°	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9	34.9
57.5°	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2	26.2
60°	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6	19.6
62.5°	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2	15.2
65°	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9	10.9
67.5°	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
70°	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
72.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
75°	4.3	4.3	4.3	4.3	4.3	2.2	2.2	2.2	2.2	2.2	2.2
77.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
80°	0.0	2.2	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: P135708

CATALOG NUMBER: LD6A20D010TE ERM6A20927 6LM111H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1874.1	1874.1	1874.1	1874.1
2.5°	1922.1	1939.5	1933.0	1933.0
5°	1974.4	1994.0	1989.7	1987.5
7.5°	1989.7	2007.1	2002.8	2002.8
10°	1959.2	1976.6	1972.3	1972.3
12.5°	1909.0	1924.3	1922.1	1919.9
15°	1845.8	1861.1	1858.9	1856.7
17.5°	1760.8	1778.3	1776.0	1773.9
20°	1658.4	1673.7	1673.7	1671.5
22.5°	1547.3	1558.2	1560.3	1556.0
25°	1420.9	1429.6	1429.6	1425.2
27.5°	1261.8	1268.3	1268.3	1266.2
30°	1065.6	1067.9	1070.0	1065.6
32.5°	836.8	836.8	841.2	836.8
35°	610.2	610.2	614.5	612.4
37.5°	424.9	424.9	427.2	424.9
40°	289.9	289.9	292.0	289.9
42.5°	198.3	196.1	198.3	198.3
45°	135.1	135.1	137.3	135.1
47.5°	93.7	93.7	93.7	93.7
50°	65.4	65.4	65.4	65.4
52.5°	45.7	45.7	45.7	45.7
55°	32.7	34.9	34.9	34.9
57.5°	24.0	26.2	26.2	26.2
60°	19.6	19.6	19.6	19.6
62.5°	15.2	15.2	15.2	15.2
65°	10.9	10.9	10.9	10.9
67.5°	8.8	8.8	8.8	8.8
70°	6.5	6.5	6.5	6.5
72.5°	4.3	4.3	4.3	4.3
75°	2.2	2.2	2.2	2.2
77.5°	2.2	2.2	2.2	2.2
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)