

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: P135710

Luminaire Tested: **LD6A20D010TE ERM6A20935 6LM111H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135710
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 ERM6A20935 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 3500K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2172.2 lumens
Efficiency: N/A
Efficacy: 66.2 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

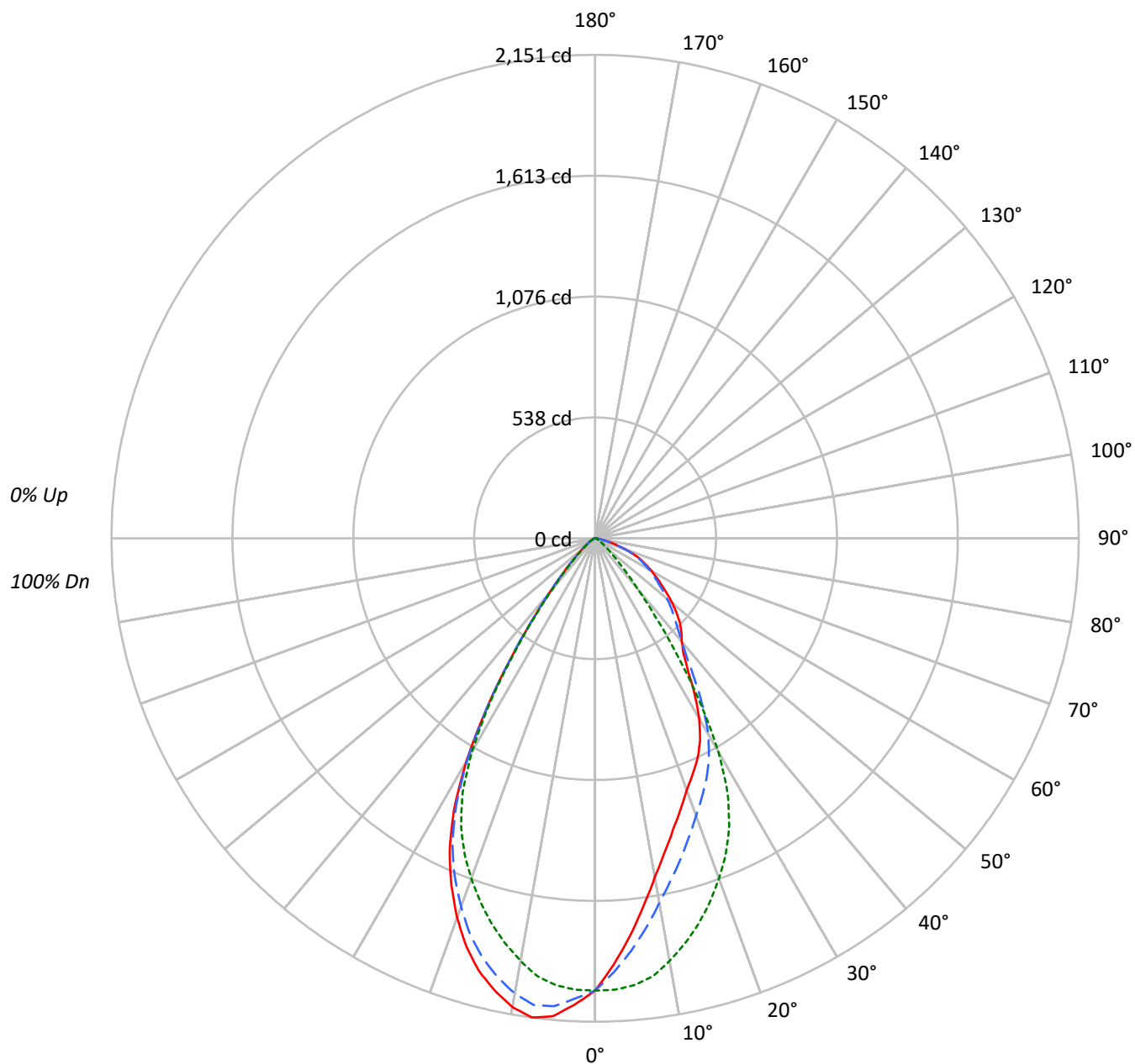
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	131297	131297	131297
5°	116316	130724	139768
10°	101385	126505	140298
15°	90574	119961	134665
20°	82695	111778	124616
25°	77657	101578	110166
30°	69638	82505	86204
35°	57216	51068	52374
40°	51023	25115	26512
45°	49232	12520	13388
50°	45369	6658	7125
55°	40993	3992	4254
60°	37553	2740	2740
65°	34317	2161	1806
70°	27678	1793	1335
75°	17116	1185	580
80°	9656	864	0
85°	5240	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.6	8.5
10°-20°	479.3	22.1
20°-30°	609.9	28.1
30°-40°	437.0	20.1
40°-50°	218.0	10.0
50°-60°	131.9	6.1
60°-70°	80.7	3.7
70°-80°	27.8	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°	1273.8	58.6
0°-40°	1710.8	78.8
0°-60°	2060.8	94.9
0°-90°	2172.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2172.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2012	2012	2012	2012	2012	
5°	1776	1842	1996	2090	2134	162
15°	1341	1474	1776	1933	1994	377
25°	1079	1175	1411	1502	1530	492
35°	718	775	641	658	658	459
45°	534	498	136	150	145	408
55°	360	339	35	37	37	325
65°	222	215	14	12	12	217
75°	68	61	5	2	2	78
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°	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5
2.5°	1897.8	1900.2	1904.9	1900.2	1902.5	1914.3	1909.6	1912.0	1919.0	1930.7	1923.6
5°	1776.1	1778.5	1790.2	1783.2	1787.9	1802.0	1802.0	1811.3	1825.3	1841.7	1841.7
7.5°	1649.8	1654.5	1666.2	1661.5	1668.5	1687.3	1689.6	1703.7	1722.4	1745.7	1757.4
10°	1530.4	1535.1	1546.8	1544.5	1553.8	1572.6	1582.0	1596.0	1619.4	1647.4	1661.5
12.5°	1429.8	1434.5	1443.9	1443.9	1455.6	1474.3	1483.7	1502.4	1525.8	1556.2	1575.0
15°	1341.0	1348.0	1357.3	1357.3	1369.0	1387.7	1399.4	1415.8	1441.5	1474.3	1495.4
17.5°	1263.7	1266.0	1275.4	1275.4	1287.1	1305.8	1317.5	1333.9	1359.7	1390.1	1413.4
20°	1191.1	1193.4	1202.8	1205.1	1214.6	1231.0	1242.7	1259.0	1282.4	1312.8	1333.9
22.5°	1135.0	1139.7	1146.7	1149.0	1153.7	1170.1	1184.1	1195.8	1216.9	1242.7	1263.7
25°	1078.8	1081.1	1088.1	1090.5	1097.5	1109.3	1118.6	1130.3	1149.0	1174.7	1191.1
27.5°	1011.0	1018.0	1020.3	1022.7	1029.7	1039.0	1048.4	1057.7	1074.1	1095.2	1109.3
30°	924.4	926.7	933.7	938.4	945.4	954.8	966.5	975.8	989.9	1006.3	1015.7
32.5°	823.7	826.1	833.1	837.8	849.4	858.8	868.2	875.3	884.6	894.0	894.0
35°	718.4	725.4	727.8	734.8	746.5	755.9	762.9	765.3	769.9	774.6	758.3
37.5°	643.6	648.3	652.9	657.6	667.0	674.0	678.7	678.7	676.3	671.6	650.6
40°	599.1	601.4	606.1	608.4	617.8	622.4	622.4	617.8	608.4	596.7	564.0
42.5°	568.7	571.0	573.3	575.7	580.4	582.7	580.4	571.0	559.3	542.9	505.4
45°	533.6	535.9	538.3	538.3	542.9	542.9	540.6	531.3	517.1	498.4	458.7
47.5°	491.4	493.7	496.1	498.4	500.8	500.8	498.4	489.1	475.0	458.7	416.6
50°	447.0	449.3	451.7	451.7	456.3	456.3	454.0	444.6	433.0	416.6	379.1
52.5°	402.5	404.9	404.9	409.6	409.6	409.6	407.2	397.8	388.4	376.7	341.7
55°	360.4	362.7	362.7	367.4	369.7	367.4	365.0	358.0	348.7	339.3	311.3
57.5°	323.0	325.3	325.3	327.6	330.0	327.6	325.3	320.6	315.9	306.6	283.1
60°	287.8	290.2	290.2	292.6	292.6	290.2	290.2	285.5	280.8	276.1	255.1
62.5°	255.1	255.1	255.1	257.4	257.4	255.1	255.1	250.4	248.0	245.7	229.3
65°	222.3	222.3	222.3	222.3	222.3	217.6	217.6	215.3	213.0	215.3	201.3
67.5°	184.9	184.9	182.6	182.6	182.6	177.9	177.9	177.9	175.5	177.9	166.1
70°	145.1	145.1	142.7	142.7	140.4	135.7	135.7	135.7	133.4	135.7	128.7
72.5°	103.0	105.3	100.6	100.6	98.3	93.6	96.0	93.6	96.0	96.0	91.3
75°	67.9	70.2	65.6	65.6	63.2	60.9	60.9	60.9	63.2	60.9	58.5
77.5°	42.1	44.4	42.1	42.1	39.7	37.4	37.4	37.4	37.4	37.4	35.1
80°	25.7	25.7	25.7	23.4	23.4	21.0	21.0	21.0	21.0	21.0	18.7
82.5°	14.0	14.0	14.0	14.0	14.0	11.7	11.7	11.7	11.7	11.7	9.4
85°	7.0	7.0	7.0	7.0	7.0	4.7	4.7	4.7	4.7	4.7	4.7
87.5°	2.3	2.3	2.3	2.3	2.3	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°	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5
2.5°	1944.7	1954.0	1947.0	1975.1	1970.4	1991.5	1989.1	2010.2	2007.8	2010.2	2014.8
5°	1869.8	1888.5	1890.8	1926.0	1928.3	1961.1	1968.1	1996.1	2000.8	2010.2	2021.9
7.5°	1787.9	1816.0	1825.3	1865.1	1879.1	1914.3	1928.3	1965.7	1975.1	1991.5	2005.5
10°	1699.0	1731.7	1745.7	1792.6	1811.3	1851.1	1869.8	1909.6	1923.6	1942.4	1958.7
12.5°	1614.7	1649.8	1668.5	1717.7	1743.4	1783.2	1804.3	1846.4	1860.4	1883.8	1900.2
15°	1535.1	1572.6	1593.7	1642.8	1668.5	1713.0	1734.1	1776.1	1792.6	1816.0	1832.4
17.5°	1453.3	1490.7	1514.1	1560.9	1593.7	1631.1	1654.5	1696.6	1713.0	1734.1	1750.4
20°	1373.7	1411.1	1432.1	1479.0	1509.4	1546.8	1568.0	1610.0	1621.7	1642.8	1656.8
22.5°	1298.8	1333.9	1352.6	1401.7	1427.5	1460.3	1481.3	1518.8	1532.8	1549.1	1558.5
25°	1223.9	1254.3	1268.4	1310.5	1331.6	1362.0	1378.4	1411.1	1425.1	1439.2	1450.9
27.5°	1139.7	1156.0	1160.7	1193.4	1209.8	1238.0	1245.0	1275.4	1287.1	1296.4	1305.8
30°	1034.4	1036.7	1022.7	1039.0	1046.0	1067.1	1067.1	1095.2	1104.6	1111.6	1121.0
32.5°	901.0	887.0	854.1	849.4	844.8	856.5	851.8	875.3	884.6	889.3	896.3
35°	753.6	723.1	669.3	648.3	634.2	631.8	624.8	641.2	648.3	652.9	657.6
37.5°	624.8	580.4	512.5	475.0	451.7	442.3	433.0	442.3	447.0	451.7	456.3
40°	531.3	475.0	395.4	348.7	315.9	301.9	290.2	294.9	299.6	304.3	306.6
42.5°	463.4	400.1	313.6	257.4	224.7	208.3	196.6	198.9	201.3	203.6	208.3
45°	411.9	344.0	255.1	194.3	161.4	145.1	135.7	135.7	138.1	140.4	142.7
47.5°	369.7	297.2	208.3	149.7	119.3	103.0	93.6	93.6	96.0	96.0	98.3
50°	330.0	257.4	170.8	117.0	88.9	74.9	67.9	65.6	67.9	67.9	70.2
52.5°	297.2	227.0	142.7	93.6	67.9	56.1	49.1	49.1	49.1	49.1	49.1
55°	266.7	198.9	119.3	74.9	53.8	44.4	37.4	35.1	35.1	35.1	35.1
57.5°	243.4	177.9	103.0	63.2	44.4	35.1	30.4	28.1	28.1	28.1	28.1
60°	220.0	156.8	88.9	51.4	35.1	30.4	25.7	21.0	21.0	21.0	21.0
62.5°	196.6	135.7	74.9	44.4	30.4	23.4	21.0	16.4	16.4	16.4	16.4
65°	170.8	117.0	63.2	35.1	23.4	18.7	16.4	14.0	14.0	11.7	11.7
67.5°	140.4	93.6	51.4	30.4	21.0	16.4	14.0	11.7	9.4	9.4	9.4
70°	107.7	70.2	39.7	23.4	16.4	14.0	9.4	9.4	7.0	7.0	7.0
72.5°	77.3	49.1	28.1	18.7	11.7	9.4	9.4	7.0	7.0	7.0	4.7
75°	49.1	32.7	18.7	11.7	9.4	7.0	7.0	4.7	4.7	4.7	4.7
77.5°	30.4	21.0	14.0	9.4	7.0	4.7	4.7	4.7	2.3	2.3	2.3
80°	16.4	11.7	7.0	4.7	4.7	2.3	2.3	2.3	2.3	2.3	2.3
82.5°	9.4	7.0	4.7	2.3	2.3	2.3	2.3	2.3	0.0	0.0	0.0
85°	4.7	2.3	2.3	2.3	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°	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5	2012.5
2.5°	2029.0	2040.7	2033.6	2038.3	2059.4	2050.0	2066.4	2066.4	2085.1	2085.1	2071.1
5°	2043.0	2057.0	2059.4	2066.4	2094.4	2089.8	2108.5	2113.1	2134.2	2138.9	2127.2
7.5°	2033.6	2050.0	2057.0	2068.7	2096.8	2094.4	2115.5	2124.8	2143.6	2150.6	2141.3
10°	1989.1	2007.8	2017.2	2029.0	2059.4	2057.0	2080.4	2092.1	2108.5	2115.5	2108.5
12.5°	1930.7	1951.7	1961.1	1972.7	2003.1	2000.8	2024.3	2036.0	2050.0	2059.4	2052.3
15°	1865.1	1879.1	1895.5	1907.2	1935.3	1933.0	1956.4	1968.1	1979.8	1991.5	1984.4
17.5°	1780.8	1794.9	1811.3	1820.7	1848.7	1848.7	1867.4	1876.8	1893.2	1902.5	1893.2
20°	1685.0	1701.3	1713.0	1720.0	1745.7	1743.4	1762.1	1771.5	1785.5	1792.6	1785.5
22.5°	1584.3	1598.3	1607.7	1612.4	1633.4	1631.1	1645.1	1654.5	1666.2	1673.2	1666.2
25°	1469.6	1479.0	1486.0	1488.4	1507.1	1502.4	1521.1	1521.1	1530.4	1537.5	1530.4
27.5°	1322.1	1329.2	1333.9	1331.6	1345.6	1338.6	1355.0	1343.3	1362.0	1366.7	1359.7
30°	1132.7	1137.3	1142.0	1132.7	1142.0	1132.7	1146.7	1130.3	1146.7	1153.7	1146.7
32.5°	908.0	908.0	912.7	901.0	905.7	896.3	903.3	898.6	903.3	910.3	903.3
35°	667.0	667.0	671.6	664.6	667.0	657.6	662.3	657.6	660.0	664.6	662.3
37.5°	463.4	461.0	468.0	463.4	465.7	461.0	463.4	458.7	461.0	463.4	461.0
40°	313.6	313.6	318.3	315.9	318.3	315.9	318.3	315.9	315.9	315.9	313.6
42.5°	210.6	213.0	215.3	215.3	217.6	215.3	217.6	215.3	215.3	215.3	213.0
45°	145.1	145.1	147.4	147.4	149.7	149.7	149.7	147.4	147.4	147.4	147.4
47.5°	100.6	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	103.0	100.6
50°	70.2	72.6	72.6	72.6	72.6	72.6	72.6	70.2	70.2	70.2	70.2
52.5°	51.4	51.4	51.4	51.4	51.4	51.4	51.4	51.4	51.4	49.1	49.1
55°	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4	37.4
57.5°	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1	28.1
60°	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0	21.0
62.5°	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4	16.4
65°	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7	11.7
67.5°	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4
70°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
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	2.3	2.3	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
80°	0.0	2.3	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



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CATALOG NUMBER: LD6A20D010TE ERM6A20935 6LM111H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	2012.5	2012.5	2012.5	2012.5
2.5°	2064.0	2075.7	2075.7	2075.7
5°	2120.2	2136.6	2136.6	2134.2
7.5°	2136.6	2155.3	2150.6	2150.6
10°	2103.8	2117.8	2117.8	2117.8
12.5°	2050.0	2064.0	2064.0	2061.7
15°	1982.1	1996.1	1996.1	1993.8
17.5°	1890.8	1907.2	1907.2	1904.9
20°	1780.8	1797.3	1797.3	1794.9
22.5°	1661.5	1675.6	1675.6	1670.8
25°	1525.8	1535.1	1535.1	1530.4
27.5°	1355.0	1362.0	1362.0	1359.7
30°	1144.3	1149.0	1149.0	1144.3
32.5°	898.6	903.3	903.3	898.6
35°	655.3	660.0	660.0	657.6
37.5°	456.3	458.7	458.7	456.3
40°	311.3	313.6	313.6	311.3
42.5°	213.0	213.0	213.0	213.0
45°	145.1	147.4	147.4	145.1
47.5°	100.6	100.6	100.6	100.6
50°	70.2	70.2	70.2	70.2
52.5°	49.1	49.1	49.1	49.1
55°	35.1	37.4	37.4	37.4
57.5°	25.7	28.1	28.1	28.1
60°	21.0	21.0	21.0	21.0
62.5°	16.4	16.4	16.4	16.4
65°	11.7	11.7	11.7	11.7
67.5°	9.4	9.4	9.4	9.4
70°	7.0	7.0	7.0	7.0
72.5°	4.7	4.7	4.7	4.7
75°	2.3	2.3	2.3	2.3
77.5°	2.3	2.3	2.3	2.3
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)