

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: P251560

Luminaire Tested: **LD4B40D010 EU4B30508050 4LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251560
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-10)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B40D010 EU4B30508050 4LBSW1LI
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3904.0 lumens
Efficiency: N/A
Efficacy: 90.7 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.19
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

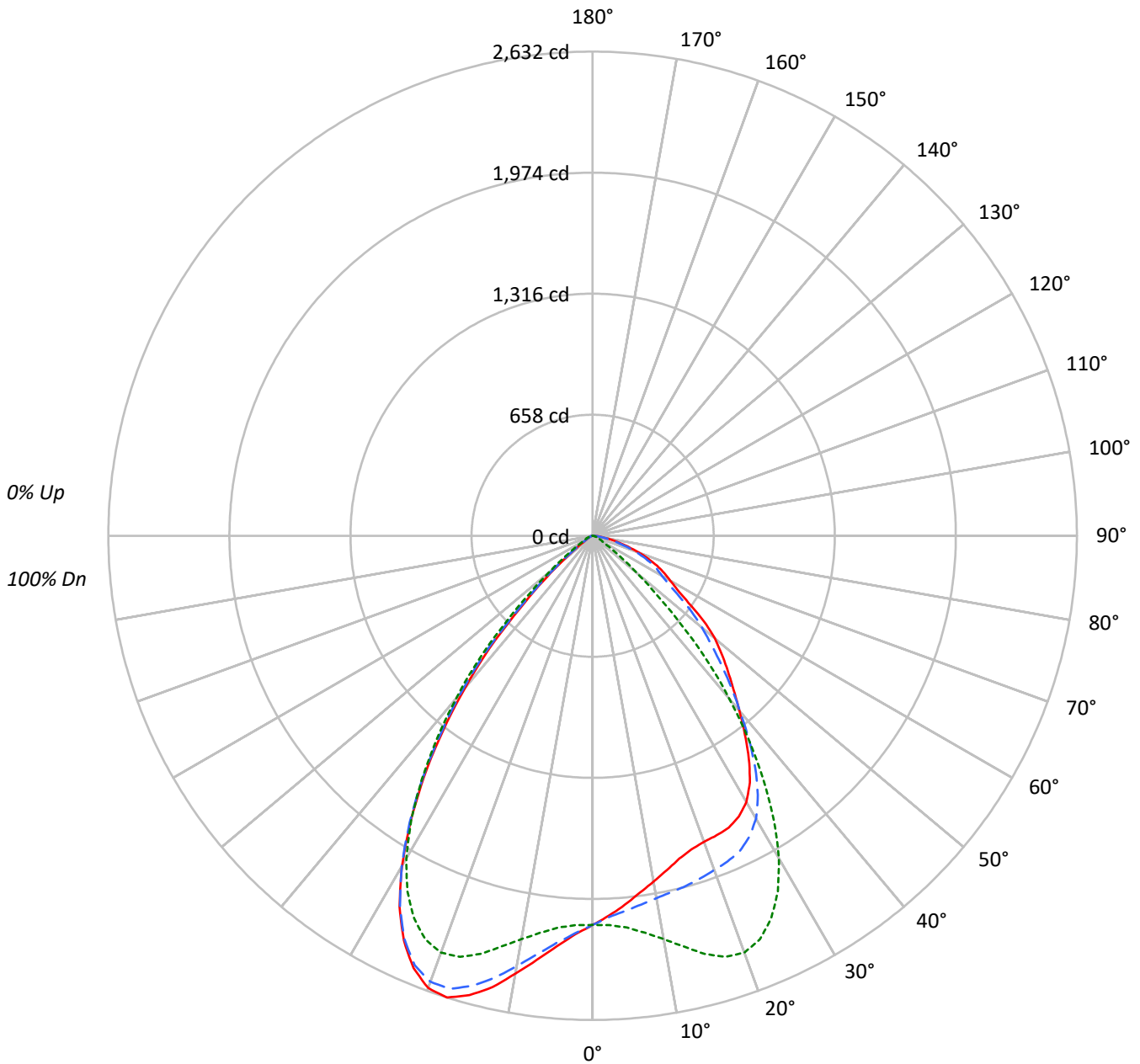
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20	
RC	80				70				50				30				10				0	
RW	70	50	30	10	70	50	30	10	50	30	10	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	102	102	102	100				100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90				90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80				80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72				72
4	91	81	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64				64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58				58
6	79	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53				53
7	75	63	56	51	73	62	55	51	61	55	50	60	54	50	58	53	50	48				48
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44				44
9	66	54	47	42	65	54	47	42	53	46	42	52	46	42	51	46	42	40				40
10	62	51	44	39	61	50	43	39	49	43	39	48	43	39	47	42	39	37				37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	206182	206182	206182
5°	196972	209132	219130
10°	188858	220288	239150
15°	183358	237418	260826
20°	183603	250062	271261
25°	188290	246799	261058
30°	188035	227816	233105
35°	176118	192548	189919
40°	157769	146866	137031
45°	143133	93267	76508
50°	131483	47320	32658
55°	107929	21120	10789
60°	94749	11851	5925
65°	89175	8924	4451
70°	76338	7095	3932
75°	58252	5196	3125
80°	41868	3087	1571
85°	30862	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.5	5.3
10°-20°	640.4	16.4
20°-30°	990.9	25.4
30°-40°	976.3	25.0
40°-50°	599.5	15.4
50°-60°	266.6	6.8
60°-70°	148.9	3.8
70°-80°	64.4	1.7
80°-90°	11.5	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°	1836.8	47.0
0°-40°	2813.1	72.1
0°-60°	3679.2	94.2
0°-90°	3904.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3904.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2116	2116	2116	2116	2116	
5°	2013	2046	2138	2220	2240	189
15°	1817	1969	2353	2533	2585	516
25°	1751	1892	2295	2419	2428	803
35°	1480	1541	1618	1613	1596	919
45°	1038	986	677	591	555	804
55°	635	574	124	72	64	584
65°	387	348	39	22	19	379
75°	155	133	14	8	8	170
85°	28	22	0	0	0	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6
2.5°	2065.9	2065.9	2065.9	2065.9	2071.4	2063.1	2071.4	2071.4	2079.7	2082.4	2074.1
5°	2013.4	2010.6	2013.4	2013.4	2018.9	2016.1	2024.4	2030.0	2041.0	2046.5	2046.5
7.5°	1958.1	1958.1	1958.1	1963.7	1972.0	1969.2	1977.5	1985.8	2002.3	2013.4	2021.7
10°	1908.4	1905.7	1914.0	1916.7	1925.0	1925.0	1938.8	1947.1	1966.4	1988.5	1999.6
12.5°	1861.5	1858.7	1864.2	1872.5	1886.3	1886.3	1897.4	1911.2	1938.8	1963.7	1983.0
15°	1817.3	1820.1	1828.3	1833.9	1850.4	1850.4	1864.2	1880.8	1911.2	1941.6	1969.2
17.5°	1786.9	1789.7	1795.2	1803.5	1820.1	1820.1	1833.9	1853.2	1886.3	1919.5	1952.6
20°	1770.3	1773.1	1778.6	1786.9	1800.7	1803.5	1814.5	1836.6	1867.0	1902.9	1933.3
22.5°	1762.1	1767.6	1773.1	1778.6	1792.4	1792.4	1806.2	1822.8	1853.2	1889.1	1916.7
25°	1751.0	1756.5	1759.3	1767.6	1778.6	1778.6	1786.9	1806.2	1833.9	1864.2	1891.9
27.5°	1720.6	1726.1	1728.9	1737.2	1748.2	1745.5	1756.5	1770.3	1795.2	1822.8	1844.9
30°	1670.9	1673.7	1679.2	1682.0	1690.2	1690.2	1698.5	1712.3	1728.9	1753.8	1775.9
32.5°	1590.8	1596.3	1599.1	1601.9	1610.2	1607.4	1610.2	1618.4	1635.0	1657.1	1670.9
35°	1480.3	1491.4	1491.4	1496.9	1499.7	1496.9	1496.9	1508.0	1516.2	1532.8	1541.1
37.5°	1358.8	1367.1	1364.3	1369.9	1372.6	1364.3	1369.9	1372.6	1383.7	1392.0	1394.7
40°	1240.1	1242.8	1242.8	1242.8	1242.8	1240.1	1242.8	1245.6	1253.9	1253.9	1245.6
42.5°	1132.4	1135.1	1135.1	1129.6	1135.1	1132.4	1132.4	1132.4	1132.4	1121.3	1113.0
45°	1038.5	1041.2	1041.2	1038.5	1038.5	1032.9	1030.2	1027.4	1019.1	1005.3	986.0
47.5°	950.1	955.6	958.4	952.8	950.1	944.5	944.5	928.0	916.9	900.4	872.7
50°	867.2	872.7	872.7	867.2	867.2	858.9	850.6	845.1	828.6	809.2	776.1
52.5°	762.3	770.6	770.6	767.8	767.8	756.7	754.0	742.9	729.1	707.0	679.4
55°	635.2	646.3	643.5	640.7	635.2	635.2	635.2	626.9	618.7	602.1	574.5
57.5°	544.1	546.8	546.8	544.1	544.1	538.6	538.6	530.3	527.5	510.9	488.8
60°	486.1	486.1	488.8	486.1	483.3	480.6	477.8	472.3	464.0	452.9	436.4
62.5°	439.1	441.9	441.9	439.1	436.4	433.6	430.8	425.3	419.8	411.5	394.9
65°	386.7	392.2	389.4	386.7	383.9	381.1	381.1	375.6	370.1	364.6	348.0
67.5°	328.7	331.4	334.2	328.7	328.7	325.9	325.9	320.4	317.6	306.6	295.5
70°	267.9	270.7	270.7	267.9	267.9	265.1	265.1	262.4	259.6	251.3	240.3
72.5°	209.9	212.7	209.9	207.1	207.1	207.1	204.4	201.6	198.9	193.3	185.0
75°	154.7	154.7	157.4	154.7	151.9	151.9	149.1	149.1	143.6	140.9	132.6
77.5°	110.5	113.2	110.5	110.5	107.7	104.9	104.9	102.2	102.2	99.4	93.9
80°	74.6	74.6	77.3	74.6	71.8	74.6	71.8	69.0	69.0	66.3	60.8
82.5°	47.0	49.7	47.0	47.0	47.0	47.0	47.0	44.2	44.2	41.4	38.7
85°	27.6	27.6	27.6	27.6	27.6	27.6	27.6	24.9	24.9	24.9	22.1
87.5°	13.8	13.8	11.0	11.0	13.8	13.8	13.8	11.0	11.0	11.0	11.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6
2.5°	2085.2	2088.0	2093.5	2101.8	2101.8	2096.2	2110.0	2110.0	2115.6	2118.3	2129.4
5°	2063.1	2068.6	2079.7	2093.5	2096.2	2093.5	2112.8	2121.1	2129.4	2137.7	2154.2
7.5°	2043.8	2054.8	2074.1	2093.5	2101.8	2101.8	2132.1	2143.2	2159.8	2176.3	2195.7
10°	2032.7	2049.3	2076.9	2107.3	2115.6	2123.9	2159.8	2181.9	2203.9	2226.0	2253.7
12.5°	2018.9	2049.3	2085.2	2123.9	2140.4	2151.5	2201.2	2228.8	2259.2	2286.8	2322.7
15°	2016.1	2052.0	2099.0	2148.7	2170.8	2187.4	2242.6	2281.3	2317.2	2353.1	2389.0
17.5°	2005.1	2049.3	2107.3	2162.5	2190.1	2212.2	2275.8	2322.7	2364.1	2400.0	2441.5
20°	1991.3	2041.0	2104.5	2165.3	2195.7	2217.8	2286.8	2331.0	2377.9	2411.1	2449.8
22.5°	1972.0	2021.7	2085.2	2145.9	2173.6	2192.9	2261.9	2300.6	2342.0	2375.2	2411.1
25°	1938.8	1985.8	2041.0	2090.7	2118.3	2134.9	2195.7	2231.6	2261.9	2295.1	2328.2
27.5°	1891.9	1927.8	1974.7	2010.6	2027.2	2043.8	2093.5	2123.9	2151.5	2179.1	2201.2
30°	1809.0	1836.6	1869.8	1900.1	1916.7	1919.5	1966.4	1983.0	2005.1	2024.4	2041.0
32.5°	1698.5	1720.6	1740.0	1756.5	1767.6	1770.3	1806.2	1811.8	1833.9	1833.9	1858.7
35°	1557.7	1568.7	1582.5	1582.5	1590.8	1582.5	1607.4	1612.9	1615.7	1618.4	1637.8
37.5°	1397.5	1403.0	1411.3	1394.7	1394.7	1386.4	1394.7	1400.3	1389.2	1389.2	1403.0
40°	1245.6	1234.5	1223.5	1206.9	1198.6	1182.1	1182.1	1168.3	1160.0	1154.4	1157.2
42.5°	1099.2	1074.4	1049.5	1013.6	997.0	980.5	963.9	944.5	939.0	925.2	916.9
45°	958.4	922.5	889.3	831.3	798.2	781.6	745.7	707.0	682.2	676.7	654.6
47.5°	839.6	787.1	731.9	662.8	629.7	599.3	546.8	513.7	480.6	464.0	450.2
50°	734.6	687.7	615.9	541.3	499.9	469.5	411.5	372.8	336.9	312.1	295.5
52.5°	643.5	591.0	524.7	439.1	397.7	364.6	301.0	256.9	226.5	201.6	182.3
55°	541.3	499.9	433.6	353.5	312.1	273.4	218.2	171.2	140.9	124.3	110.5
57.5°	466.8	430.8	367.3	290.0	251.3	215.4	160.2	121.5	96.7	80.1	71.8
60°	417.0	383.9	328.7	254.1	218.2	185.0	132.6	96.7	74.6	60.8	55.2
62.5°	375.6	342.5	292.8	223.7	193.3	160.2	113.2	80.1	60.8	49.7	41.4
65°	328.7	298.3	254.1	193.3	165.7	138.1	96.7	66.3	49.7	38.7	33.1
67.5°	278.9	251.3	212.7	160.2	138.1	116.0	77.3	55.2	41.4	33.1	27.6
70°	226.5	204.4	168.5	129.8	110.5	91.1	63.5	44.2	30.4	24.9	22.1
72.5°	174.0	154.7	129.8	99.4	82.9	69.0	47.0	33.1	24.9	19.3	16.6
75°	124.3	110.5	91.1	71.8	60.8	49.7	35.9	24.9	16.6	13.8	11.0
77.5°	85.6	77.3	63.5	49.7	41.4	35.9	24.9	16.6	13.8	11.0	8.3
80°	55.2	49.7	41.4	30.4	24.9	22.1	13.8	11.0	8.3	5.5	5.5
82.5°	33.1	30.4	24.9	16.6	13.8	11.0	8.3	5.5	5.5	2.8	2.8
85°	19.3	16.6	11.0	8.3	8.3	5.5	5.5	2.8	2.8	0.0	0.0
87.5°	8.3	5.5	5.5	2.8	2.8	2.8	2.8	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6
2.5°	2123.9	2137.7	2134.9	2143.2	2140.4	2140.4	2154.2	2148.7	2162.5	2162.5	2165.3
5°	2154.2	2173.6	2173.6	2187.4	2184.6	2190.1	2203.9	2203.9	2220.5	2226.0	2226.0
7.5°	2198.4	2223.3	2228.8	2242.6	2245.4	2256.4	2267.5	2270.2	2292.3	2297.8	2300.6
10°	2259.2	2289.6	2297.8	2311.7	2317.2	2328.2	2342.0	2347.6	2375.2	2377.9	2389.0
12.5°	2333.8	2366.9	2375.2	2391.8	2394.5	2408.3	2427.7	2433.2	2460.8	2469.1	2477.4
15°	2405.6	2435.9	2449.8	2466.3	2469.1	2485.7	2502.2	2507.7	2532.6	2543.7	2551.9
17.5°	2455.3	2491.2	2499.5	2521.6	2521.6	2535.4	2551.9	2557.5	2582.3	2590.6	2596.1
20°	2466.3	2499.5	2510.5	2527.1	2529.8	2538.1	2551.9	2557.5	2579.6	2582.3	2590.6
22.5°	2424.9	2458.0	2463.6	2480.1	2482.9	2491.2	2502.2	2499.5	2527.1	2524.3	2527.1
25°	2336.5	2366.9	2366.9	2386.2	2383.5	2391.8	2397.3	2394.5	2419.4	2419.4	2419.4
27.5°	2209.5	2237.1	2239.9	2253.7	2245.4	2248.1	2253.7	2250.9	2267.5	2267.5	2267.5
30°	2052.0	2074.1	2065.9	2076.9	2071.4	2076.9	2071.4	2068.6	2074.1	2079.7	2076.9
32.5°	1856.0	1872.5	1872.5	1875.3	1875.3	1858.7	1853.2	1853.2	1850.4	1847.7	1847.7
35°	1629.5	1643.3	1637.8	1637.8	1635.0	1618.4	1610.2	1604.6	1612.9	1596.3	1607.4
37.5°	1397.5	1400.3	1392.0	1389.2	1375.4	1375.4	1361.6	1350.5	1356.1	1353.3	1342.3
40°	1143.4	1154.4	1137.9	1132.4	1140.6	1129.6	1115.8	1102.0	1113.0	1099.2	1104.7
42.5°	894.8	892.1	886.6	886.6	886.6	870.0	867.2	864.5	867.2	856.2	847.9
45°	646.3	638.0	629.7	629.7	618.7	613.1	613.1	604.8	591.0	591.0	574.5
47.5°	436.4	417.0	411.5	408.8	403.2	403.2	397.7	392.2	389.4	375.6	375.6
50°	284.5	265.1	259.6	256.9	259.6	254.1	248.6	243.0	237.5	234.8	229.2
52.5°	171.2	162.9	157.4	154.7	149.1	146.4	143.6	138.1	135.3	135.3	132.6
55°	102.2	93.9	82.9	82.9	82.9	80.1	77.3	74.6	71.8	71.8	69.0
57.5°	63.5	58.0	52.5	49.7	49.7	49.7	47.0	47.0	47.0	47.0	44.2
60°	47.0	41.4	38.7	38.7	38.7	35.9	35.9	35.9	35.9	33.1	33.1
62.5°	35.9	33.1	30.4	30.4	27.6	27.6	27.6	27.6	27.6	27.6	24.9
65°	30.4	24.9	24.9	22.1	22.1	22.1	22.1	22.1	22.1	22.1	22.1
67.5°	22.1	19.3	19.3	19.3	19.3	16.6	16.6	16.6	16.6	16.6	16.6
70°	16.6	16.6	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
72.5°	13.8	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
75°	11.0	11.0	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
77.5°	8.3	8.3	8.3	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
80°	5.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	2.8	2.8	2.8	2.8	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: P251560

CATALOG NUMBER: LD4B40D010 EU4B30508050 4LBSW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6	2115.6
2.5°	2165.3	2179.1	2165.3	2165.3	2173.6	2170.8	2176.3	2168.0
5°	2228.8	2248.1	2234.3	2231.6	2245.4	2242.6	2245.4	2239.9
7.5°	2306.1	2325.5	2311.7	2311.7	2325.5	2322.7	2331.0	2325.5
10°	2394.5	2416.6	2397.3	2400.0	2419.4	2416.6	2416.6	2416.6
12.5°	2485.7	2507.7	2496.7	2496.7	2510.5	2513.3	2516.0	2513.3
15°	2560.2	2582.3	2568.5	2568.5	2587.8	2585.1	2587.8	2585.1
17.5°	2604.4	2626.5	2609.9	2609.9	2626.5	2626.5	2629.3	2632.0
20°	2593.4	2618.2	2604.4	2598.9	2618.2	2618.2	2615.5	2615.5
22.5°	2529.8	2551.9	2540.9	2535.4	2549.2	2543.7	2540.9	2543.7
25°	2419.4	2441.5	2419.4	2419.4	2430.4	2427.7	2430.4	2427.7
27.5°	2270.2	2286.8	2264.7	2261.9	2273.0	2267.5	2264.7	2273.0
30°	2071.4	2088.0	2076.9	2068.6	2082.4	2074.1	2068.6	2071.4
32.5°	1844.9	1856.0	1850.4	1836.6	1844.9	1839.4	1836.6	1839.4
35°	1596.3	1610.2	1588.1	1585.3	1599.1	1588.1	1582.5	1596.3
37.5°	1339.5	1356.1	1336.7	1339.5	1331.2	1334.0	1328.4	1336.7
40°	1096.5	1093.7	1088.2	1085.4	1088.2	1079.9	1085.4	1077.1
42.5°	834.1	839.6	836.8	834.1	836.8	825.8	820.3	831.3
45°	580.0	577.2	571.7	566.2	566.2	563.4	563.4	555.1
47.5°	372.8	370.1	359.0	361.8	367.3	361.8	353.5	364.6
50°	226.5	223.7	223.7	220.9	226.5	220.9	215.4	215.4
52.5°	127.0	127.0	124.3	124.3	124.3	124.3	121.5	118.8
55°	69.0	66.3	66.3	66.3	63.5	63.5	63.5	63.5
57.5°	44.2	44.2	44.2	44.2	44.2	44.2	41.4	41.4
60°	33.1	33.1	33.1	33.1	30.4	33.1	30.4	30.4
62.5°	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9
65°	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3
67.5°	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
70°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
72.5°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
75°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3
77.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	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
87.5°	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



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)