

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: P219530

Luminaire Tested: **LDSQ4B40D010 EU4B30508030 4LBSQLWWLI**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P219530  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35471)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LDSQ4B40D010 EU4B30508030 4LBSQLWWLI  
Description: PORTFOLIO 4 INCH SQUARE SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

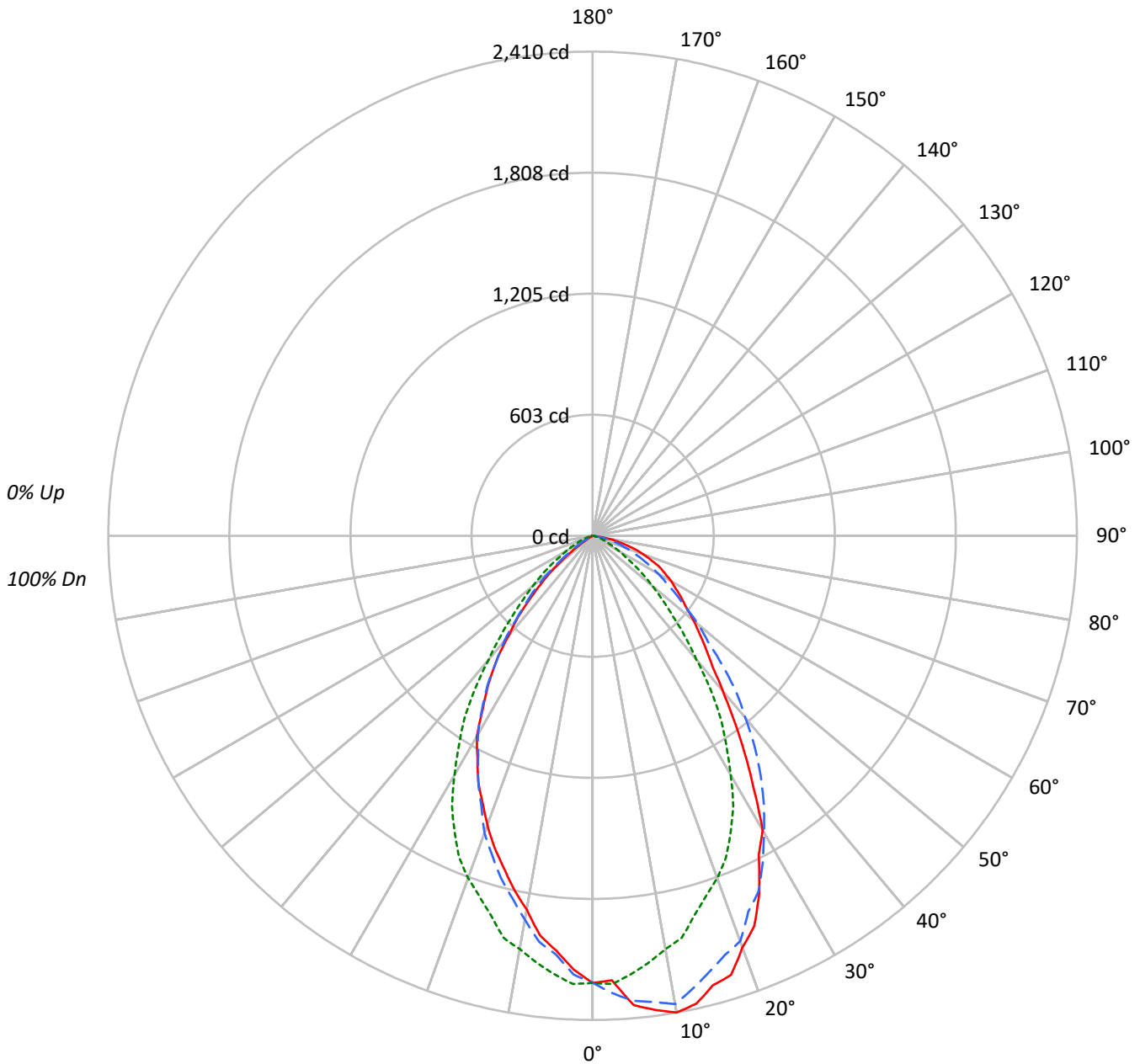
Lumens per Lamp: N/A  
Luminaire Lumens: 3189.8 lumens  
Efficiency: N/A  
Efficacy: 74.1 lumens/watt  
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.02  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	84	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	74	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	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53				53
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48				48
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44				44
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41				41
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38				38

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	215587	215587	215587
5°	228080	213036	201619
10°	237022	205524	185840
15°	232288	196163	171541
20°	224742	186783	157897
25°	209633	173697	144035
30°	189237	153721	128943
35°	155883	131591	106981
40°	127208	101574	82339
45°	109301	77132	59226
50°	98927	58717	37407
55°	91036	42359	13512
60°	87362	28946	2073
65°	84401	19576	619
70°	75570	13596	765
75°	61909	6999	0
80°	38717	2957	0
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	208.5	6.5
10°-20°	561.7	17.6
20°-30°	750.1	23.5
30°-40°	712.1	22.3
40°-50°	492.2	15.4
50°-60°	272.0	8.5
60°-70°	135.0	4.2
70°-80°	53.2	1.7
80°-90°	5.1	0.2
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°	1520.3	47.7
0°-40°	2232.4	70.0
0°-60°	2996.5	93.9
0°-90°	3189.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3189.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2225	2225	2225	2225	2225	
5°	2345	2324	2191	2092	2073	225
15°	2316	2247	1956	1764	1710	655
25°	1961	1953	1625	1348	1348	894
35°	1318	1457	1113	915	905	826
45°	798	915	563	462	432	622
55°	539	507	251	128	80	485
65°	368	267	85	3	3	357
75°	165	101	19	0	0	176
85°	0	3	0	0	0	15
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°	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4
2.5°	2214.7	2276.1	2281.4	2276.1	2284.1	2281.4	2294.7	2281.4	2297.4	2273.4	2278.7
5°	2345.4	2321.4	2372.1	2345.4	2345.4	2342.8	2334.8	2332.1	2342.8	2308.1	2324.1
7.5°	2380.1	2414.8	2460.2	2404.1	2406.8	2406.8	2390.8	2385.5	2385.5	2321.4	2340.1
10°	2409.5	2388.1	2412.1	2390.8	2409.5	2406.8	2417.5	2382.8	2406.8	2369.4	2366.8
12.5°	2385.5	2377.5	2409.5	2374.8	2364.1	2366.8	2353.4	2345.4	2353.4	2310.7	2308.1
15°	2316.1	2324.1	2372.1	2334.8	2329.4	2324.1	2308.1	2281.4	2302.7	2244.0	2246.7
17.5°	2292.1	2278.7	2286.7	2254.7	2262.7	2257.4	2254.7	2230.7	2225.4	2188.0	2188.0
20°	2180.0	2209.4	2209.4	2188.0	2188.0	2185.3	2150.6	2172.0	2148.0	2137.3	2148.0
22.5°	2102.6	2105.3	2105.3	2086.6	2089.3	2078.6	2059.9	2046.6	2059.9	2046.6	2025.2
25°	1961.2	1966.5	1998.6	1963.9	1958.5	1969.2	1953.2	1945.2	1942.5	1910.5	1953.2
27.5°	1790.4	1843.8	1841.1	1827.8	1843.8	1822.4	1814.4	1817.1	1825.1	1822.4	1833.1
30°	1691.7	1699.7	1707.7	1697.0	1699.7	1691.7	1691.7	1694.4	1715.7	1707.7	1705.0
32.5°	1491.6	1518.3	1539.6	1539.6	1542.3	1550.3	1547.6	1603.6	1617.0	1590.3	1585.0
35°	1318.1	1336.8	1355.5	1358.2	1392.9	1395.5	1398.2	1414.2	1451.6	1459.6	1456.9
37.5°	1152.7	1171.4	1176.7	1200.7	1219.4	1238.1	1259.4	1280.8	1312.8	1339.5	1326.1
40°	1005.9	1014.0	1027.3	1038.0	1075.3	1075.3	1086.0	1128.7	1163.4	1184.7	1182.1
42.5°	883.2	885.9	896.5	915.2	949.9	941.9	949.9	979.3	1030.0	1032.6	1062.0
45°	797.8	795.2	803.2	805.8	827.2	837.8	843.2	864.5	907.2	912.6	915.2
47.5°	720.4	717.8	731.1	736.5	744.5	755.1	755.1	757.8	773.8	787.1	776.5
50°	656.4	656.4	656.4	661.7	675.1	672.4	675.1	685.8	693.8	688.4	685.8
52.5°	587.0	597.7	605.7	608.4	611.0	611.0	613.7	608.4	605.7	597.7	581.7
55°	539.0	549.7	549.7	549.7	549.7	560.3	547.0	549.7	549.7	528.3	507.0
57.5°	491.0	501.6	509.6	499.0	509.6	499.0	493.6	491.0	485.6	464.3	432.3
60°	450.9	456.3	453.6	450.9	456.3	448.3	442.9	432.3	426.9	397.6	376.2
62.5°	405.6	408.2	410.9	405.6	400.2	397.6	386.9	370.9	360.2	336.2	317.5
65°	368.2	360.2	357.6	354.9	349.5	341.5	333.5	314.9	306.9	285.5	266.8
67.5°	312.2	309.5	314.9	306.9	293.5	293.5	285.5	269.5	250.8	237.5	218.8
70°	266.8	264.2	258.8	250.8	248.2	237.5	237.5	218.8	213.5	189.4	173.4
72.5°	218.8	218.8	210.8	202.8	194.8	189.4	186.8	173.4	165.4	152.1	138.8
75°	165.4	165.4	162.8	154.8	149.4	144.1	141.4	130.7	122.7	109.4	101.4
77.5°	117.4	117.4	106.7	101.4	104.1	98.7	93.4	90.7	88.1	80.0	69.4
80°	69.4	66.7	58.7	61.4	58.7	58.7	56.0	53.4	48.0	42.7	37.4
82.5°	18.7	21.3	21.3	21.3	24.0	18.7	18.7	18.7	21.3	21.3	13.3
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7	2.7
87.5°	2.7	5.3	10.7	10.7	10.7	10.7	10.7	8.0	8.0	8.0	5.3
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°	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4
2.5°	2252.0	2249.4	2252.0	2233.4	2276.1	2244.0	2238.7	2233.4	2252.0	2233.4	2206.7
5°	2300.1	2273.4	2265.4	2257.4	2281.4	2244.0	2236.0	2238.7	2225.4	2190.7	2193.3
7.5°	2316.1	2292.1	2268.1	2217.4	2238.7	2230.7	2209.4	2193.3	2172.0	2142.6	2137.3
10°	2321.4	2294.7	2260.0	2244.0	2212.0	2201.3	2193.3	2166.7	2140.0	2089.3	2075.9
12.5°	2305.4	2273.4	2230.7	2217.4	2193.3	2158.7	2140.0	2113.3	2089.3	2049.3	2019.9
15°	2236.0	2209.4	2196.0	2150.6	2140.0	2118.6	2081.3	2043.9	2009.2	1955.9	1939.9
17.5°	2156.0	2145.3	2132.0	2097.3	2094.6	2073.3	2038.6	2006.6	1961.2	1878.5	1851.8
20°	2073.3	2073.3	2030.6	2017.2	2043.9	2001.2	1974.5	1945.2	1851.8	1811.8	1763.7
22.5°	2011.9	1982.5	1958.5	1937.2	1939.9	1913.2	1875.8	1817.1	1782.4	1734.4	1678.4
25°	1891.8	1902.5	1849.1	1841.1	1849.1	1787.8	1769.1	1721.1	1670.4	1625.0	1582.3
27.5°	1817.1	1787.8	1753.1	1723.7	1723.7	1699.7	1646.3	1635.7	1558.3	1515.6	1462.2
30°	1705.0	1683.7	1654.3	1611.7	1606.3	1587.6	1544.9	1518.3	1438.2	1374.2	1344.8
32.5°	1563.6	1555.6	1531.6	1483.6	1467.6	1446.2	1392.9	1347.5	1310.1	1238.1	1203.4
35°	1462.2	1432.9	1382.2	1342.2	1328.8	1291.5	1248.8	1216.7	1176.7	1112.7	1067.3
37.5°	1310.1	1280.8	1232.8	1184.7	1184.7	1147.4	1088.7	1056.6	1000.6	963.3	925.9
40°	1176.7	1139.4	1091.3	1035.3	1027.3	973.9	949.9	896.5	861.9	803.2	797.8
42.5°	1027.3	992.6	949.9	907.2	875.2	848.5	787.1	747.1	709.8	680.4	672.4
45°	891.2	845.9	808.5	755.1	723.1	691.1	651.1	624.4	595.0	563.0	544.3
47.5°	773.8	736.5	683.1	635.1	603.0	587.0	541.7	512.3	488.3	467.0	453.6
50°	653.7	608.4	579.0	525.7	520.3	483.0	445.6	421.6	408.2	389.6	370.9
52.5°	563.0	520.3	480.3	440.3	418.9	405.6	370.9	346.9	328.2	314.9	304.2
55°	475.0	437.6	405.6	365.6	352.2	333.5	293.5	288.2	269.5	250.8	237.5
57.5°	408.2	373.6	336.2	309.5	285.5	272.2	240.1	218.8	208.1	192.1	178.8
60°	346.9	309.5	280.2	248.2	237.5	218.8	194.8	176.1	162.8	149.4	136.1
62.5°	290.8	258.8	226.8	200.1	184.1	173.4	154.8	138.8	125.4	114.7	104.1
65°	240.1	210.8	184.1	157.4	149.4	136.1	122.7	109.4	98.7	85.4	74.7
67.5°	197.5	170.8	144.1	125.4	117.4	112.1	96.1	82.7	74.7	66.7	56.0
70°	154.8	136.1	114.7	98.7	90.7	82.7	72.0	64.0	53.4	48.0	40.0
72.5°	120.1	104.1	85.4	72.0	66.7	61.4	50.7	42.7	37.4	32.0	26.7
75°	85.4	72.0	61.4	48.0	45.4	42.7	34.7	29.4	24.0	18.7	16.0
77.5°	58.7	48.0	37.4	32.0	29.4	24.0	21.3	16.0	13.3	10.7	8.0
80°	32.0	24.0	18.7	16.0	13.3	10.7	10.7	8.0	5.3	5.3	2.7
82.5°	10.7	8.0	5.3	2.7	2.7	2.7	2.7	2.7	2.7	0.0	2.7
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°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	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°	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4
2.5°	2222.7	2193.3	2201.3	2201.3	2196.0	2196.0	2190.7	2182.7	2185.3	2169.3	2134.6
5°	2198.7	2161.3	2156.0	2161.3	2140.0	2134.6	2124.0	2140.0	2091.9	2110.6	2089.3
7.5°	2129.3	2094.6	2086.6	2105.3	2078.6	2062.6	2059.9	2081.3	2038.6	2017.2	1993.2
10°	2051.9	2038.6	2014.6	2001.2	1993.2	1995.9	1974.5	1947.9	1939.9	1934.5	1913.2
12.5°	1982.5	1953.2	1931.8	1915.8	1910.5	1910.5	1875.8	1870.5	1846.5	1841.1	1809.1
15°	1899.8	1865.1	1851.8	1830.5	1811.8	1822.4	1782.4	1771.8	1763.7	1729.1	1734.4
17.5°	1827.8	1790.4	1758.4	1745.1	1729.1	1713.0	1675.7	1683.7	1665.0	1665.0	1617.0
20°	1734.4	1694.4	1670.4	1643.7	1643.7	1622.3	1595.6	1598.3	1574.3	1550.3	1507.6
22.5°	1635.7	1593.0	1563.6	1552.9	1526.3	1520.9	1488.9	1480.9	1448.9	1451.6	1414.2
25°	1531.6	1488.9	1448.9	1451.6	1427.5	1416.9	1398.2	1360.8	1347.5	1331.5	1320.8
27.5°	1408.9	1379.5	1344.8	1342.2	1296.8	1299.5	1275.4	1264.8	1232.8	1240.8	1216.7
30°	1296.8	1254.1	1222.1	1214.1	1195.4	1190.1	1152.7	1136.7	1142.0	1120.7	1107.3
32.5°	1182.1	1118.0	1104.7	1088.7	1078.0	1064.7	1038.0	1048.6	1024.6	1030.0	1008.6
35°	1030.0	1003.3	968.6	968.6	957.9	947.2	928.6	939.2	915.2	904.6	883.2
37.5°	901.9	877.9	843.2	853.9	835.2	819.2	803.2	805.8	784.5	781.8	760.5
40°	763.1	749.8	725.8	725.8	712.4	712.4	704.4	696.4	683.1	667.1	643.1
42.5°	632.4	621.7	611.0	613.7	595.0	611.0	589.7	603.0	560.3	557.7	541.7
45°	536.3	512.3	515.0	504.3	493.6	499.0	480.3	485.6	461.6	456.3	440.3
47.5°	434.9	426.9	410.9	405.6	405.6	397.6	389.6	386.9	376.2	362.9	341.5
50°	357.6	328.2	322.9	314.9	309.5	309.5	298.8	282.8	285.5	272.2	250.8
52.5°	280.2	256.2	245.5	242.8	232.1	226.8	213.5	202.8	194.8	189.4	176.1
55°	216.1	194.8	181.4	181.4	165.4	165.4	146.8	138.8	128.1	117.4	109.4
57.5°	162.8	152.1	138.8	128.1	122.7	109.4	98.7	85.4	77.4	61.4	50.7
60°	122.7	112.1	98.7	90.7	85.4	72.0	58.7	48.0	29.4	24.0	21.3
62.5°	90.7	80.0	66.7	61.4	56.0	45.4	32.0	16.0	8.0	8.0	8.0
65°	66.7	53.4	42.7	37.4	32.0	24.0	10.7	5.3	2.7	2.7	2.7
67.5°	45.4	34.7	24.0	21.3	16.0	8.0	2.7	2.7	2.7	2.7	2.7
70°	29.4	21.3	10.7	8.0	5.3	2.7	2.7	2.7	2.7	2.7	2.7
72.5°	18.7	10.7	5.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	10.7	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	5.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	2.7	0.0	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	2.7	2.7	2.7
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: P219530

CATALOG NUMBER: LDSQ4B40D010 EU4B30508030 4LBSQLWWLI

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4	2225.4
2.5°	2172.0	2153.3	2164.0	2140.0	2150.6	2169.3	2156.0	2161.3
5°	2097.3	2086.6	2073.3	2038.6	2065.3	2086.6	2075.9	2073.3
7.5°	2017.2	1979.9	1998.6	1987.9	1982.5	2003.9	1979.9	2006.6
10°	1934.5	1907.8	1905.2	1886.5	1886.5	1902.5	1905.2	1889.2
12.5°	1811.8	1798.4	1798.4	1795.8	1793.1	1809.1	1811.8	1803.8
15°	1723.7	1718.4	1705.0	1702.4	1686.4	1710.4	1713.0	1710.4
17.5°	1617.0	1619.7	1606.3	1606.3	1617.0	1625.0	1603.6	1625.0
20°	1544.9	1531.6	1526.3	1502.3	1515.6	1528.9	1528.9	1531.6
22.5°	1440.9	1419.5	1427.5	1414.2	1406.2	1424.9	1424.9	1432.9
25°	1323.5	1323.5	1328.8	1320.8	1326.1	1336.8	1328.8	1347.5
27.5°	1211.4	1222.1	1222.1	1211.4	1216.7	1248.8	1262.1	1240.8
30°	1107.3	1110.0	1118.0	1112.7	1128.7	1139.4	1136.7	1152.7
32.5°	989.9	1003.3	1008.6	1000.6	1005.9	1030.0	1016.6	1014.0
35°	899.2	875.2	872.5	875.2	885.9	891.2	885.9	904.6
37.5°	768.5	760.5	749.8	752.5	760.5	771.1	776.5	789.8
40°	643.1	632.4	632.4	629.7	621.7	651.1	651.1	651.1
42.5°	533.7	531.0	517.6	517.6	528.3	536.3	531.0	549.7
45°	437.6	426.9	418.9	418.9	426.9	426.9	434.9	432.3
47.5°	344.2	333.5	336.2	328.2	336.2	346.9	333.5	336.2
50°	258.8	258.8	253.5	258.8	256.2	258.8	253.5	248.2
52.5°	176.1	200.1	202.8	192.1	168.1	146.8	133.4	144.1
55°	101.4	90.7	90.7	88.1	82.7	80.0	72.0	80.0
57.5°	50.7	45.4	45.4	45.4	42.7	40.0	34.7	34.7
60°	21.3	18.7	18.7	16.0	13.3	10.7	8.0	10.7
62.5°	8.0	5.3	5.3	5.3	5.3	5.3	5.3	5.3
65°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
67.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
70°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	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
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)