

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P837789

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-2STD-30-120-EDD-90**

Issue Date: 5/21/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P837789
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2R-LD4-2STD-30-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

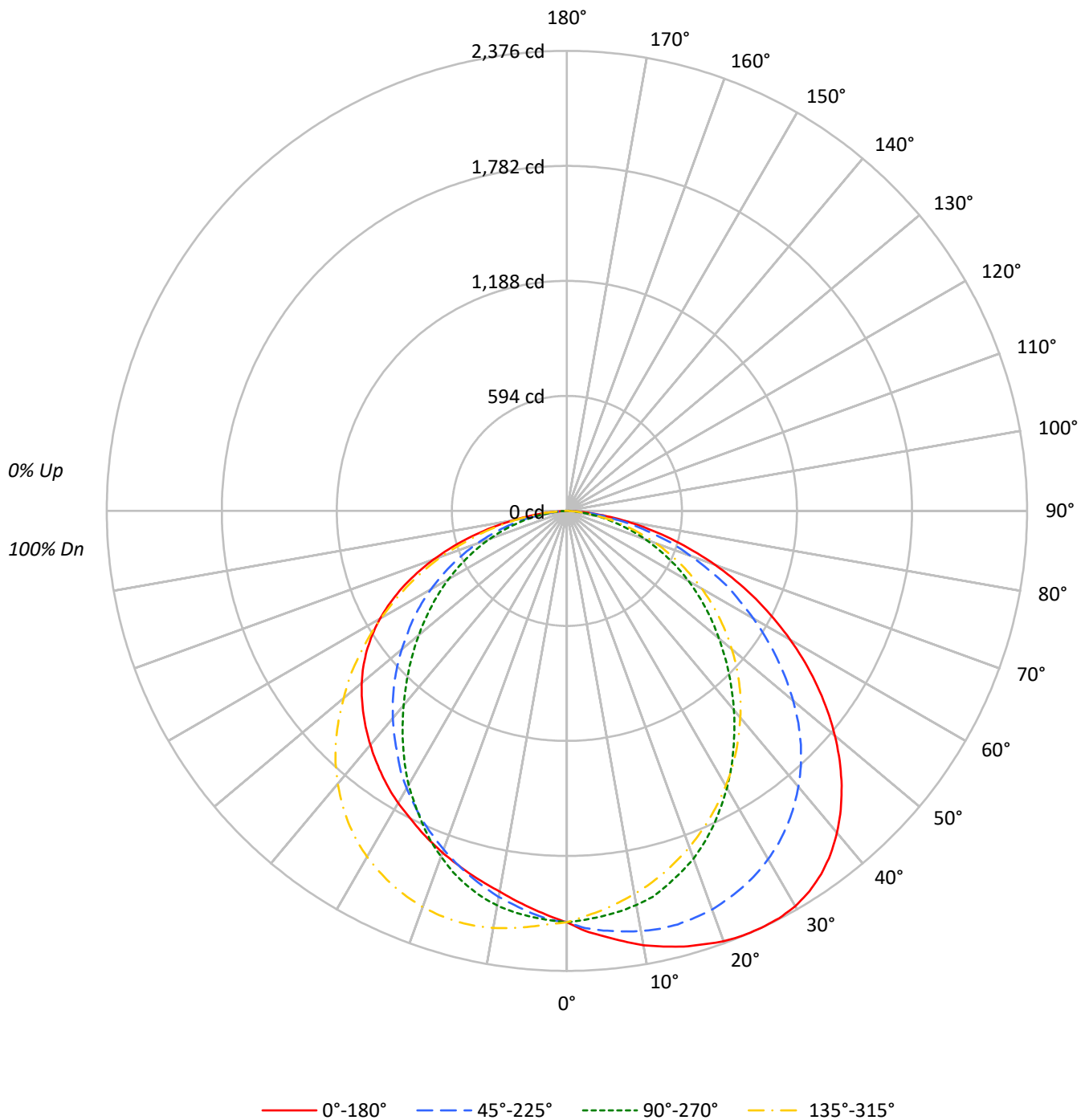
Lumens per Lamp: N/A
Luminaire Lumens: 6233.4 lumens
Efficiency: N/A
Efficacy: 93.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
Input Voltage (V): 120
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
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84		
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	5717	5717	5717	5717
5°	5959	5676	5569	5686
10°	6224	5647	5456	5655
15°	6491	5575	5403	5577
20°	6774	5474	5379	5443
25°	7054	5321	5378	5266
30°	7327	5136	5414	5079
35°	7522	4925	5469	4847
40°	7622	4713	5545	4607
45°	7637	4498	5652	4385
50°	7564	4293	5791	4178
55°	7408	4101	5920	3988
60°	7175	3902	5999	3801
65°	6854	3673	5968	3588
70°	6403	3404	5755	3341
75°	5761	3035	5282	3019
80°	4885	2541	4440	2580
85°	3396	1683	2816	1729

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.7	3.2
10°-20°	584.1	9.4
20°-30°	895.2	14.4
30°-40°	1088.5	17.5
40°-50°	1131.6	18.2
50°-60°	1022.2	16.4
60°-70°	777.1	12.5
70°-80°	433.2	7.0
80°-90°	99.7	1.6
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°	1681.1	27.0
0°-40°	2769.6	44.4
0°-60°	4923.3	79.0
0°-90°	6233.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6233.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2125	2125	2125	2125	2125	
5°	2206	2101	2062	2105	2206	213
15°	2330	2001	1939	2002	2330	661
25°	2376	1792	1811	1774	2376	1097
35°	2290	1499	1665	1475	2290	1430
45°	2007	1182	1485	1152	2007	1545
55°	1579	874	1262	850	1579	1410
65°	1076	577	937	564	1076	1064
75°	554	292	508	290	554	589
85°	110	54	91	56	110	139
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6
2.5°	2171.7	2140.0	2140.5	2168.2	2146.9	2157.3	2127.6	2139.0	2135.5	2138.0	2113.7
5°	2205.9	2171.7	2171.2	2195.0	2171.2	2175.7	2138.0	2145.4	2134.5	2127.6	2101.3
7.5°	2242.1	2207.9	2204.4	2225.2	2194.0	2190.5	2148.9	2148.9	2129.1	2111.7	2087.0
10°	2277.8	2242.6	2238.1	2254.0	2215.3	2203.9	2153.4	2145.4	2119.2	2093.4	2066.6
12.5°	2304.5	2268.8	2265.4	2275.3	2231.7	2210.9	2153.4	2138.0	2099.4	2063.2	2042.4
15°	2329.8	2293.1	2283.7	2288.7	2238.6	2210.9	2146.4	2122.6	2073.1	2025.5	2001.2
17.5°	2347.6	2312.5	2303.0	2302.5	2242.1	2202.4	2131.6	2098.9	2039.4	1981.9	1957.6
20°	2365.5	2330.3	2318.4	2309.5	2241.1	2191.0	2109.8	2065.7	1996.3	1931.8	1911.5
22.5°	2374.4	2338.2	2325.3	2312.0	2234.7	2170.2	2083.0	2027.0	1947.7	1870.9	1854.0
25°	2375.9	2338.7	2324.8	2305.5	2221.8	2145.4	2048.3	1980.4	1891.7	1806.5	1792.1
27.5°	2371.9	2331.3	2317.4	2294.1	2202.4	2115.2	2007.2	1927.4	1832.2	1738.1	1722.7
30°	2358.1	2316.9	2303.5	2273.3	2175.2	2078.0	1962.1	1868.4	1766.3	1666.2	1652.8
32.5°	2330.3	2290.2	2279.3	2249.0	2145.4	2034.9	1909.5	1805.0	1693.5	1597.8	1578.0
35°	2289.7	2249.5	2242.6	2210.9	2103.8	1983.4	1852.0	1735.6	1616.1	1518.5	1499.2
37.5°	2236.6	2202.9	2192.5	2161.3	2054.7	1924.9	1786.1	1660.3	1537.3	1432.3	1420.4
40°	2169.7	2138.0	2130.1	2102.3	1997.8	1860.0	1714.8	1582.4	1456.1	1358.4	1341.6
42.5°	2093.4	2063.7	2059.2	2030.5	1927.4	1788.1	1637.5	1501.7	1371.3	1277.2	1260.3
45°	2006.7	1977.9	1976.9	1949.7	1850.6	1708.3	1556.2	1419.9	1288.6	1190.9	1182.0
47.5°	1911.0	1885.3	1885.3	1860.0	1764.8	1620.6	1472.4	1334.6	1205.3	1119.1	1103.2
50°	1806.9	1782.7	1775.2	1762.8	1670.2	1525.0	1384.2	1251.4	1123.0	1040.8	1025.4
52.5°	1695.9	1675.1	1680.1	1657.3	1567.6	1425.3	1295.0	1157.7	1040.3	965.4	950.1
55°	1579.0	1549.2	1553.7	1545.3	1460.5	1322.8	1194.9	1080.4	959.0	888.6	874.2
57.5°	1457.6	1418.9	1434.8	1429.8	1346.5	1217.7	1103.2	992.7	878.2	813.3	799.4
60°	1333.2	1296.0	1312.3	1307.9	1229.6	1112.6	1008.5	906.0	797.9	738.9	725.1
62.5°	1205.3	1171.1	1186.0	1182.5	1110.6	1005.1	914.4	820.2	717.1	664.1	651.2
65°	1076.4	1043.7	1057.1	1054.6	988.2	907.9	817.7	731.5	635.9	589.8	576.9
67.5°	944.6	914.4	926.8	926.8	865.8	789.0	720.6	641.8	556.1	516.4	504.5
70°	813.8	785.5	796.4	795.4	743.9	681.4	622.5	552.1	475.3	442.6	432.7
72.5°	681.9	657.2	667.1	666.1	623.0	582.8	524.3	463.4	396.5	370.2	361.3
75°	554.1	530.8	540.2	539.2	504.0	466.4	427.2	376.7	319.2	300.8	291.9
77.5°	432.2	408.4	416.3	416.3	390.5	363.3	332.1	292.9	252.3	232.4	226.0
80°	315.2	303.8	299.8	300.3	283.0	265.1	249.3	211.6	181.9	168.5	164.0
82.5°	207.2	197.7	193.8	194.8	184.9	174.0	164.0	137.8	118.0	110.0	107.5
85°	110.0	103.1	99.6	102.1	100.1	94.2	89.2	71.4	59.0	56.0	54.5
87.5°	34.7	30.2	27.8	36.7	31.2	27.8	26.8	21.3	16.4	16.4	15.9
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6
2.5°	2121.7	2121.7	2102.3	2097.9	2095.9	2098.4	2079.0	2075.6	2103.3	2093.9	2072.6
5°	2104.8	2103.8	2076.6	2071.6	2071.6	2068.6	2046.8	2041.9	2069.6	2061.7	2038.4
7.5°	2084.0	2081.0	2048.8	2045.3	2040.4	2038.4	2014.1	2010.6	2034.4	2029.5	2007.7
10°	2058.7	2055.7	2017.6	2015.1	2009.6	2005.7	1982.9	1980.4	2004.7	1996.8	1979.4
12.5°	2025.5	2020.1	1980.9	1978.4	1974.0	1972.5	1950.2	1949.2	1975.9	1968.0	1949.7
15°	1981.9	1977.4	1933.8	1934.8	1935.3	1935.3	1917.5	1916.5	1942.7	1939.3	1919.5
17.5°	1933.8	1927.9	1886.2	1889.2	1892.7	1896.7	1882.8	1885.3	1913.0	1908.5	1890.7
20°	1879.3	1873.4	1832.7	1841.1	1848.6	1856.5	1847.6	1854.5	1880.3	1878.3	1864.9
22.5°	1818.3	1812.4	1774.7	1787.6	1800.0	1814.9	1810.9	1818.8	1846.1	1845.6	1833.7
25°	1744.0	1745.5	1712.3	1728.1	1749.0	1769.8	1771.3	1784.2	1814.4	1811.4	1800.5
27.5°	1674.6	1676.6	1641.4	1668.2	1695.9	1722.7	1729.1	1747.0	1777.7	1775.2	1765.8
30°	1601.8	1604.2	1570.1	1606.7	1640.4	1673.1	1687.0	1711.3	1742.5	1742.5	1732.6
32.5°	1525.9	1530.4	1494.7	1543.8	1582.9	1621.1	1645.4	1670.7	1706.3	1705.4	1696.9
35°	1448.1	1453.1	1420.4	1482.8	1522.0	1568.6	1598.8	1632.5	1664.2	1664.7	1658.3
37.5°	1368.8	1374.8	1345.1	1413.4	1458.0	1513.1	1551.7	1585.4	1620.6	1622.6	1616.6
40°	1290.0	1296.5	1270.7	1336.6	1393.1	1454.6	1499.2	1538.8	1577.5	1578.5	1574.5
42.5°	1211.2	1218.2	1198.9	1263.3	1327.2	1393.1	1445.7	1490.8	1530.4	1532.9	1528.4
45°	1134.4	1140.4	1126.5	1196.9	1258.3	1330.2	1390.6	1441.7	1481.8	1485.3	1483.8
47.5°	1058.1	1063.6	1051.2	1115.6	1186.5	1262.8	1332.7	1389.2	1431.8	1435.7	1434.8
50°	983.3	987.7	974.3	1041.7	1112.1	1193.4	1266.3	1331.7	1379.2	1383.2	1382.7
52.5°	908.9	913.4	902.0	972.9	1036.8	1122.5	1201.8	1272.7	1319.8	1325.7	1326.7
55°	837.1	839.0	830.1	898.0	960.0	1049.7	1140.9	1209.8	1256.8	1261.8	1264.8
57.5°	765.2	765.7	758.3	823.2	882.7	974.3	1070.0	1142.4	1187.0	1191.9	1196.4
60°	693.8	693.3	684.9	747.9	804.9	895.5	995.2	1067.0	1110.1	1114.6	1120.5
62.5°	623.0	621.5	614.0	672.0	725.6	815.3	915.4	984.8	1025.9	1028.9	1036.8
65°	552.6	551.1	544.2	597.7	646.3	732.0	830.1	896.0	933.2	937.2	935.7
67.5°	483.2	480.2	474.8	522.9	567.0	646.3	740.4	803.4	834.1	837.6	847.0
70°	413.8	410.4	398.0	449.0	487.7	558.5	646.3	702.3	728.0	731.5	730.0
72.5°	345.4	342.0	328.6	375.7	408.4	470.3	548.6	595.2	617.5	620.5	620.5
75°	279.0	277.0	268.6	304.3	331.6	382.1	448.5	487.2	504.5	508.0	507.0
77.5°	215.1	213.6	205.2	235.9	257.2	294.9	348.4	378.6	391.5	395.5	403.9
80°	154.1	153.6	140.3	170.5	179.9	211.6	250.8	274.1	281.0	286.5	292.4
82.5°	98.6	99.1	85.7	111.5	115.5	135.8	160.1	174.5	179.4	183.9	188.3
85°	48.1	50.1	42.6	59.0	59.5	69.9	80.3	85.7	87.7	91.2	95.2
87.5°	12.4	14.4	7.9	16.9	14.9	19.3	22.3	23.8	23.3	25.8	27.3
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6
2.5°	2079.5	2095.4	2087.5	2113.2	2123.1	2107.3	2135.0	2135.5	2115.7	2139.0	2151.9
5°	2047.3	2063.7	2058.7	2085.5	2097.9	2084.0	2117.7	2124.1	2104.8	2131.1	2151.9
7.5°	2014.6	2033.9	2027.5	2054.7	2069.6	2058.7	2094.9	2105.3	2090.4	2119.2	2146.9
10°	1986.4	2002.7	1995.8	2024.5	2037.4	2028.5	2064.2	2083.5	2069.6	2104.8	2138.0
12.5°	1958.6	1972.0	1964.1	1987.8	2000.2	1988.8	2032.4	2050.3	2040.4	2077.1	2119.7
15°	1922.9	1937.8	1926.9	1948.2	1957.6	1947.7	1983.4	2014.1	2001.7	2041.9	2088.9
17.5°	1895.7	1904.1	1889.2	1906.1	1911.5	1898.1	1934.3	1964.5	1955.6	1999.2	2053.8
20°	1865.4	1872.4	1851.6	1861.0	1860.5	1843.6	1876.8	1906.6	1900.6	1948.7	2010.6
22.5°	1831.7	1835.2	1810.9	1812.9	1811.9	1784.2	1813.9	1844.1	1841.6	1890.2	1959.6
25°	1796.0	1796.5	1765.3	1764.3	1753.4	1720.7	1747.0	1781.2	1773.7	1826.3	1899.1
27.5°	1760.9	1755.9	1718.2	1709.3	1692.0	1652.8	1676.1	1706.8	1702.4	1753.9	1834.7
30°	1723.2	1716.8	1670.7	1654.3	1629.0	1583.9	1603.3	1632.0	1634.5	1679.6	1764.3
32.5°	1687.5	1671.2	1620.1	1596.3	1564.6	1512.1	1522.5	1551.7	1555.7	1601.3	1688.5
35°	1641.4	1630.5	1567.6	1526.9	1495.7	1438.2	1449.1	1469.4	1475.4	1520.0	1608.7
37.5°	1597.8	1580.5	1513.6	1464.0	1423.9	1363.4	1366.4	1387.2	1393.1	1438.2	1525.9
40°	1552.7	1527.9	1456.1	1398.1	1352.0	1288.6	1285.1	1306.9	1311.4	1355.5	1434.8
42.5°	1504.6	1474.9	1394.1	1330.7	1277.7	1213.2	1206.3	1225.1	1230.1	1273.2	1351.0
45°	1456.1	1420.4	1330.7	1261.3	1203.3	1137.4	1130.5	1144.8	1152.3	1192.9	1267.7
47.5°	1404.5	1362.9	1265.3	1187.9	1128.0	1062.1	1053.6	1068.0	1074.0	1114.1	1185.0
50°	1350.5	1300.0	1197.9	1112.6	1053.1	988.2	975.8	992.7	998.1	1035.8	1105.2
52.5°	1291.0	1235.0	1126.0	1036.8	977.3	915.4	900.5	916.9	923.3	960.0	1023.9
55°	1228.1	1167.6	1053.6	966.9	902.5	842.0	829.6	836.1	850.0	884.6	944.1
57.5°	1157.2	1097.3	977.3	889.1	827.2	769.2	758.8	764.7	777.6	811.3	864.8
60°	1081.9	1018.5	899.5	811.3	751.3	696.3	686.9	692.4	706.2	737.0	786.5
62.5°	1007.6	936.2	819.2	731.5	677.0	625.9	623.5	621.5	634.4	664.1	707.7
65°	917.4	849.0	735.5	652.2	602.6	556.6	546.6	551.1	563.5	590.8	636.3
67.5°	820.7	758.8	649.7	572.9	528.8	487.7	479.2	481.2	494.1	517.9	557.5
70°	718.1	663.6	562.0	493.1	455.9	417.3	411.8	412.3	424.7	445.5	480.2
72.5°	610.6	561.5	473.3	414.3	383.6	355.8	350.9	344.9	356.3	374.2	403.9
75°	501.0	457.9	385.1	337.0	312.7	289.4	285.0	279.0	290.4	305.8	329.1
77.5°	390.5	355.8	299.3	262.2	243.3	226.0	222.0	215.6	227.0	238.4	256.7
80°	282.5	257.2	223.5	184.4	177.9	166.5	162.6	155.6	166.5	174.0	187.8
82.5°	182.4	165.5	146.2	118.9	118.0	109.5	107.5	99.6	109.5	114.0	124.4
85°	92.2	84.3	79.3	60.5	62.4	57.0	56.5	48.1	56.0	58.0	63.9
87.5°	26.3	27.8	24.8	14.9	18.8	17.8	17.8	12.9	17.8	17.8	20.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P837789

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-2STD-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6	2124.6
2.5°	2126.6	2135.0	2137.0	2136.5	2142.0	2171.7	2161.8	2171.7
5°	2131.6	2150.4	2155.4	2162.3	2171.2	2204.9	2194.0	2205.9
7.5°	2134.5	2162.8	2173.7	2187.1	2201.4	2239.1	2230.2	2242.1
10°	2134.5	2171.2	2187.1	2209.4	2228.7	2272.3	2263.9	2277.8
12.5°	2125.6	2172.7	2195.0	2226.2	2251.0	2298.1	2294.6	2304.5
15°	2107.3	2165.3	2196.0	2236.1	2266.9	2319.4	2317.9	2329.8
17.5°	2082.5	2152.4	2189.6	2240.1	2278.8	2337.7	2341.2	2347.6
20°	2051.3	2128.1	2176.7	2238.6	2287.2	2352.1	2356.6	2365.5
22.5°	2010.1	2098.9	2157.3	2232.2	2288.2	2358.1	2366.0	2374.4
25°	1961.6	2063.7	2132.1	2219.8	2283.2	2357.6	2368.5	2375.9
27.5°	1906.1	2018.1	2099.8	2200.0	2269.3	2349.6	2363.0	2371.9
30°	1841.6	1969.5	2063.2	2174.2	2250.5	2334.8	2349.1	2358.1
32.5°	1775.2	1916.0	2019.6	2141.0	2223.3	2311.0	2323.4	2330.3
35°	1702.9	1851.1	1967.0	2098.4	2188.1	2272.8	2282.2	2289.7
37.5°	1624.1	1780.7	1907.1	2050.3	2138.5	2219.8	2228.2	2236.6
40°	1542.8	1706.8	1839.7	1991.3	2079.5	2154.9	2163.8	2169.7
42.5°	1461.0	1625.1	1767.8	1921.9	2009.6	2082.0	2087.5	2093.4
45°	1378.3	1540.3	1687.0	1845.1	1931.8	1999.7	2001.7	2006.7
47.5°	1294.0	1452.6	1598.3	1757.4	1843.1	1905.1	1907.1	1911.0
50°	1209.3	1364.9	1503.6	1662.7	1746.5	1811.9	1803.0	1806.9
52.5°	1126.0	1272.7	1414.4	1560.6	1643.4	1701.4	1703.9	1695.9
55°	1044.2	1182.5	1312.8	1453.6	1532.4	1577.5	1576.0	1579.0
57.5°	961.5	1091.3	1210.7	1339.6	1416.4	1459.0	1468.0	1457.6
60°	877.2	999.1	1106.2	1222.6	1297.0	1332.7	1343.1	1333.2
62.5°	793.5	905.5	1002.6	1104.2	1173.1	1217.2	1216.2	1205.3
65°	709.7	811.3	898.0	984.3	1044.2	1088.3	1086.4	1076.4
67.5°	632.4	716.1	793.9	863.8	915.9	946.1	956.5	944.6
70°	547.1	619.5	687.9	743.9	787.0	814.3	824.2	813.8
72.5°	461.9	523.4	571.4	625.4	658.6	681.4	691.9	681.9
75°	377.6	428.2	467.3	509.5	532.8	552.1	564.0	554.1
77.5°	295.9	335.0	366.2	397.0	423.7	428.2	438.6	432.2
80°	218.1	246.3	269.1	289.4	308.8	310.7	319.2	315.2
82.5°	145.2	164.0	170.0	191.3	203.7	201.7	210.1	207.2
85°	76.8	88.2	98.6	105.1	112.0	105.6	113.0	110.0
87.5°	25.8	27.3	23.8	33.7	37.2	31.7	36.2	34.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)