

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: P837719

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-3LO-20-120-EDD**

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: P837719
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-LD4-3LO-20-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

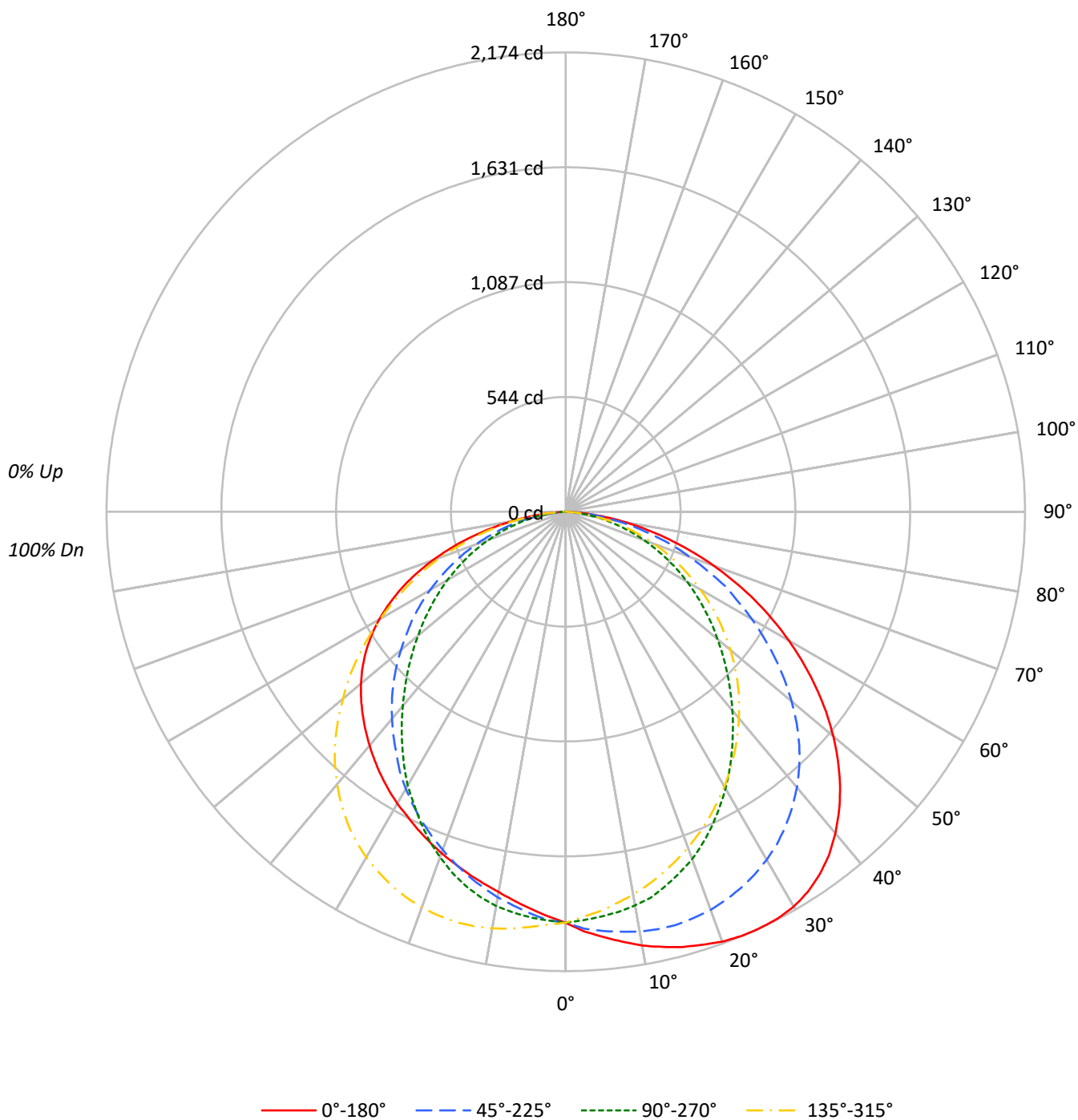
Lumens per Lamp: N/A
Luminaire Lumens: 5704.9 lumens
Efficiency: N/A
Efficacy: 81.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	5233	5233	5233	5233
5°	5454	5195	5097	5204
10°	5696	5168	4994	5176
15°	5940	5103	4945	5104
20°	6200	5010	4923	4981
25°	6456	4870	4922	4820
30°	6706	4700	4955	4648
35°	6884	4507	5005	4436
40°	6976	4313	5075	4216
45°	6989	4117	5173	4013
50°	6924	3929	5300	3824
55°	6780	3754	5418	3650
60°	6567	3571	5490	3479
65°	6273	3362	5461	3284
70°	5860	3116	5268	3058
75°	5272	2778	4834	2764
80°	4471	2326	4063	2362
85°	3109	1541	2578	1584

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.6	3.2
10°-20°	534.6	9.4
20°-30°	819.3	14.4
30°-40°	996.2	17.5
40°-50°	1035.6	18.2
50°-60°	935.5	16.4
60°-70°	711.2	12.5
70°-80°	396.5	7.0
80°-90°	91.3	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°	1538.5	27.0
0°-40°	2534.8	44.4
0°-60°	4505.9	79.0
0°-90°	5704.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5704.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1944	1944	1944	1944	1944	
5°	2019	1923	1887	1926	2019	195
15°	2132	1832	1775	1832	2132	605
25°	2174	1640	1658	1623	2174	1004
35°	2096	1372	1524	1350	2096	1309
45°	1836	1082	1359	1055	1836	1414
55°	1445	800	1155	778	1445	1290
65°	985	528	858	516	985	974
75°	507	267	465	266	507	539
85°	101	50	84	51	101	127
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°	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5
2.5°	1987.6	1958.6	1959.0	1984.4	1964.9	1974.4	1947.2	1957.7	1954.5	1956.7	1934.5
5°	2018.9	1987.6	1987.1	2008.9	1987.1	1991.2	1956.7	1963.6	1953.6	1947.2	1923.2
7.5°	2052.0	2020.7	2017.5	2036.6	2008.0	2004.8	1966.7	1966.7	1948.6	1932.7	1910.0
10°	2084.7	2052.5	2048.4	2062.9	2027.5	2017.1	1970.8	1963.6	1939.5	1915.9	1891.4
12.5°	2109.2	2076.5	2073.3	2082.4	2042.5	2023.4	1970.8	1956.7	1921.4	1888.3	1869.2
15°	2132.3	2098.7	2090.1	2094.6	2048.8	2023.4	1964.5	1942.7	1897.3	1853.8	1831.6
17.5°	2148.6	2116.4	2107.8	2107.3	2052.0	2015.7	1950.9	1920.9	1866.5	1813.9	1791.6
20°	2164.9	2132.7	2121.9	2113.7	2051.1	2005.3	1930.9	1890.5	1827.0	1768.1	1749.5
22.5°	2173.1	2140.0	2128.2	2116.0	2045.2	1986.2	1906.4	1855.1	1782.6	1712.3	1696.8
25°	2174.5	2140.4	2127.7	2110.1	2033.4	1963.6	1874.7	1812.5	1731.3	1653.3	1640.1
27.5°	2170.8	2133.6	2120.9	2099.6	2015.7	1935.9	1837.0	1764.0	1676.9	1590.7	1576.6
30°	2158.1	2120.5	2108.2	2080.6	1990.8	1901.9	1795.7	1710.0	1616.6	1524.9	1512.7
32.5°	2132.7	2096.0	2086.0	2058.4	1963.6	1862.4	1747.6	1651.9	1549.9	1462.3	1444.2
35°	2095.5	2058.8	2052.5	2023.4	1925.5	1815.2	1695.0	1588.4	1479.1	1389.8	1372.1
37.5°	2047.0	2016.2	2006.6	1978.1	1880.5	1761.7	1634.7	1519.5	1407.0	1310.8	1300.0
40°	1985.8	1956.7	1949.5	1924.1	1828.4	1702.3	1569.4	1448.3	1332.6	1243.3	1227.8
42.5°	1915.9	1888.7	1884.6	1858.3	1764.0	1636.5	1498.6	1374.4	1255.1	1168.9	1153.5
45°	1836.5	1810.2	1809.3	1784.4	1693.7	1563.5	1424.2	1299.5	1179.3	1090.0	1081.8
47.5°	1749.0	1725.4	1725.4	1702.3	1615.2	1483.2	1347.6	1221.5	1103.1	1024.2	1009.7
50°	1653.8	1631.5	1624.7	1613.4	1528.6	1395.7	1266.9	1145.3	1027.8	952.5	938.5
52.5°	1552.2	1533.1	1537.6	1516.8	1434.7	1304.5	1185.2	1059.6	952.1	883.6	869.5
55°	1445.1	1417.9	1422.0	1414.3	1336.7	1210.6	1093.6	988.8	877.7	813.3	800.1
57.5°	1334.0	1298.6	1313.1	1308.6	1232.4	1114.4	1009.7	908.5	803.7	744.3	731.6
60°	1220.1	1186.1	1201.1	1197.0	1125.3	1018.3	923.0	829.1	730.3	676.3	663.6
62.5°	1103.1	1071.8	1085.4	1082.2	1016.5	919.9	836.9	750.7	656.3	607.8	596.0
65°	985.2	955.2	967.5	965.2	904.4	831.0	748.4	669.5	581.9	539.8	528.0
67.5°	864.5	836.9	848.2	848.2	792.4	722.1	659.5	587.4	508.9	472.6	461.7
70°	744.8	718.9	728.9	728.0	680.8	623.7	569.7	505.3	435.0	405.0	396.0
72.5°	624.1	601.4	610.5	609.6	570.2	533.4	479.9	424.1	362.9	338.8	330.7
75°	507.1	485.8	494.4	493.5	461.3	426.8	391.0	344.7	292.1	275.3	267.2
77.5°	395.5	373.8	381.0	381.0	357.4	332.5	303.9	268.1	230.9	212.7	206.8
80°	288.5	278.0	274.4	274.9	259.0	242.7	228.2	193.7	166.5	154.2	150.1
82.5°	189.6	181.0	177.4	178.3	169.2	159.2	150.1	126.1	108.0	100.7	98.4
85°	100.7	94.3	91.2	93.4	91.6	86.2	81.6	65.3	54.0	51.3	49.9
87.5°	31.8	27.7	25.4	33.6	28.6	25.4	24.5	19.5	15.0	15.0	14.5
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°	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5
2.5°	1941.8	1941.8	1924.1	1920.0	1918.2	1920.5	1902.8	1899.6	1925.0	1916.4	1896.9
5°	1926.4	1925.5	1900.5	1896.0	1896.0	1893.2	1873.3	1868.8	1894.2	1886.9	1865.6
7.5°	1907.3	1904.6	1875.1	1871.9	1867.4	1865.6	1843.4	1840.2	1862.0	1857.4	1837.5
10°	1884.2	1881.5	1846.5	1844.3	1839.3	1835.6	1814.8	1812.5	1834.7	1827.5	1811.6
12.5°	1853.8	1848.8	1813.0	1810.7	1806.6	1805.3	1784.8	1783.9	1808.4	1801.2	1784.4
15°	1813.9	1809.8	1769.9	1770.8	1771.2	1771.2	1754.9	1754.0	1778.0	1774.9	1756.7
17.5°	1769.9	1764.4	1726.3	1729.1	1732.2	1735.9	1723.2	1725.4	1750.8	1746.7	1730.4
20°	1720.0	1714.5	1677.3	1685.1	1691.9	1699.1	1691.0	1697.3	1720.9	1719.1	1706.8
22.5°	1664.2	1658.7	1624.3	1636.1	1647.4	1661.0	1657.4	1664.6	1689.6	1689.1	1678.2
25°	1596.2	1597.5	1567.1	1581.6	1600.7	1619.7	1621.1	1632.9	1660.6	1657.8	1647.9
27.5°	1532.7	1534.5	1502.3	1526.8	1552.2	1576.6	1582.5	1598.9	1627.0	1624.7	1616.1
30°	1466.0	1468.2	1436.9	1470.5	1501.4	1531.3	1544.0	1566.2	1594.8	1594.8	1585.7
32.5°	1396.6	1400.7	1368.0	1412.9	1448.7	1483.7	1505.9	1529.0	1561.7	1560.8	1553.1
35°	1325.4	1329.9	1300.0	1357.1	1392.9	1435.6	1463.3	1494.1	1523.1	1523.6	1517.7
37.5°	1252.8	1258.2	1231.0	1293.6	1334.4	1384.8	1420.2	1451.0	1483.2	1485.0	1479.6
40°	1180.7	1186.6	1163.0	1223.3	1275.0	1331.3	1372.1	1408.4	1443.7	1444.7	1441.0
42.5°	1108.6	1114.9	1097.2	1156.2	1214.7	1275.0	1323.1	1364.4	1400.7	1402.9	1398.8
45°	1038.2	1043.7	1031.0	1095.4	1151.6	1217.4	1272.7	1319.5	1356.2	1359.4	1358.0
47.5°	968.4	973.4	962.0	1021.0	1085.9	1155.7	1219.7	1271.4	1310.4	1314.0	1313.1
50°	899.9	904.0	891.7	953.4	1017.8	1092.2	1158.9	1218.8	1262.3	1265.9	1265.5
52.5°	831.9	835.9	825.5	890.4	948.9	1027.4	1099.9	1164.8	1207.9	1213.3	1214.2
55°	766.1	767.9	759.7	821.9	878.6	960.7	1044.1	1107.2	1150.3	1154.8	1157.5
57.5°	700.3	700.8	694.0	753.4	807.8	891.7	979.3	1045.5	1086.3	1090.9	1094.9
60°	635.0	634.6	626.8	684.5	736.6	819.6	910.8	976.6	1016.0	1020.1	1025.5
62.5°	570.2	568.8	562.0	615.1	664.0	746.1	837.8	901.3	938.9	941.6	948.9
65°	505.7	504.4	498.0	547.0	591.5	669.9	759.7	820.1	854.1	857.7	856.4
67.5°	442.2	439.5	434.5	478.5	518.9	591.5	677.7	735.3	763.4	766.6	775.2
70°	378.7	375.6	364.2	410.9	446.3	511.2	591.5	642.7	666.3	669.5	668.1
72.5°	316.1	313.0	300.7	343.8	373.8	430.4	502.1	544.8	565.2	567.9	567.9
75°	255.4	253.6	245.8	278.5	303.4	349.7	410.5	445.9	461.7	464.9	464.0
77.5°	196.9	195.5	187.8	215.9	235.4	269.9	318.9	346.5	358.3	362.0	369.7
80°	141.1	140.6	128.4	156.0	164.6	193.7	229.5	250.8	257.2	262.2	267.6
82.5°	90.3	90.7	78.5	102.1	105.7	124.3	146.5	159.7	164.2	168.3	172.4
85°	44.0	45.8	39.0	54.0	54.4	64.0	73.5	78.5	80.3	83.5	87.1
87.5°	11.3	13.2	7.3	15.4	13.6	17.7	20.4	21.8	21.3	23.6	24.9
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5
2.5°	1903.2	1917.7	1910.5	1934.1	1943.1	1928.6	1954.0	1954.5	1936.3	1957.7	1969.4
5°	1873.7	1888.7	1884.2	1908.7	1920.0	1907.3	1938.2	1944.0	1926.4	1950.4	1969.4
7.5°	1843.8	1861.5	1855.6	1880.5	1894.2	1884.2	1917.3	1926.8	1913.2	1939.5	1964.9
10°	1818.0	1832.9	1826.6	1852.9	1864.7	1856.5	1889.2	1906.9	1894.2	1926.4	1956.7
12.5°	1792.6	1804.8	1797.5	1819.3	1830.7	1820.2	1860.1	1876.5	1867.4	1901.0	1940.0
15°	1759.9	1773.5	1763.5	1783.0	1791.6	1782.6	1815.2	1843.4	1832.0	1868.8	1911.8
17.5°	1734.9	1742.7	1729.1	1744.5	1749.5	1737.2	1770.3	1798.0	1789.8	1829.7	1879.6
20°	1707.3	1713.6	1694.6	1703.2	1702.7	1687.3	1717.7	1744.9	1739.5	1783.5	1840.2
22.5°	1676.4	1679.6	1657.4	1659.2	1658.3	1632.9	1660.1	1687.8	1685.5	1730.0	1793.5
25°	1643.8	1644.2	1615.7	1614.7	1604.8	1574.8	1598.9	1630.2	1623.4	1671.4	1738.1
27.5°	1611.6	1607.0	1572.6	1564.4	1548.5	1512.7	1534.0	1562.1	1558.1	1605.2	1679.2
30°	1577.1	1571.2	1529.0	1514.1	1490.9	1449.6	1467.3	1493.6	1495.9	1537.2	1614.7
32.5°	1544.4	1529.5	1482.8	1461.0	1432.0	1383.9	1393.4	1420.2	1423.8	1465.5	1545.4
35°	1502.3	1492.3	1434.7	1397.5	1368.9	1316.3	1326.3	1344.9	1350.3	1391.1	1472.3
37.5°	1462.3	1446.5	1385.2	1339.9	1303.1	1247.8	1250.5	1269.6	1275.0	1316.3	1396.6
40°	1421.1	1398.4	1332.6	1279.6	1237.4	1179.3	1176.1	1196.1	1200.2	1240.5	1313.1
42.5°	1377.1	1349.9	1275.9	1217.9	1169.3	1110.4	1104.0	1121.3	1125.8	1165.2	1236.5
45°	1332.6	1300.0	1217.9	1154.4	1101.3	1041.0	1034.6	1047.8	1054.6	1091.8	1160.3
47.5°	1285.4	1247.3	1158.0	1087.2	1032.4	972.0	964.3	977.5	982.9	1019.7	1084.5
50°	1236.0	1189.7	1096.3	1018.3	963.9	904.4	893.1	908.5	913.5	948.0	1011.5
52.5°	1181.6	1130.3	1030.5	948.9	894.5	837.8	824.2	839.1	845.0	878.6	937.1
55°	1124.0	1068.6	964.3	884.9	826.0	770.6	759.3	765.2	777.9	809.6	864.1
57.5°	1059.1	1004.2	894.5	813.7	757.0	704.0	694.4	699.9	711.7	742.5	791.5
60°	990.2	932.1	823.2	742.5	687.6	637.3	628.7	633.7	646.4	674.5	719.8
62.5°	922.1	856.8	749.8	669.5	619.6	572.9	570.6	568.8	580.6	607.8	647.7
65°	839.6	777.0	673.1	596.9	551.6	509.4	500.3	504.4	515.7	540.7	582.4
67.5°	751.1	694.4	594.6	524.3	484.0	446.3	438.6	440.4	452.2	474.0	510.3
70°	657.2	607.3	514.4	451.3	417.3	381.9	376.9	377.4	388.7	407.8	439.5
72.5°	558.8	513.9	433.2	379.2	351.1	325.7	321.1	315.7	326.1	342.5	369.7
75°	458.6	419.1	352.4	308.4	286.2	264.9	260.8	255.4	265.8	279.9	301.2
77.5°	357.4	325.7	274.0	239.9	222.7	206.8	203.2	197.3	207.7	218.2	235.0
80°	258.5	235.4	204.6	168.7	162.8	152.4	148.8	142.4	152.4	159.2	171.9
82.5°	166.9	151.5	133.8	108.9	108.0	100.2	98.4	91.2	100.2	104.3	113.8
85°	84.4	77.1	72.6	55.3	57.2	52.2	51.7	44.0	51.3	53.1	58.5
87.5°	24.0	25.4	22.7	13.6	17.2	16.3	16.3	11.8	16.3	16.3	18.6
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: P837719

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-3LO-20-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5	1944.5
2.5°	1946.3	1954.0	1955.8	1955.4	1960.4	1987.6	1978.5	1987.6
5°	1950.9	1968.1	1972.6	1979.0	1987.1	2018.0	2008.0	2018.9
7.5°	1953.6	1979.4	1989.4	2001.7	2014.8	2049.3	2041.1	2052.0
10°	1953.6	1987.1	2001.7	2022.1	2039.8	2079.7	2072.0	2084.7
12.5°	1945.4	1988.5	2008.9	2037.5	2060.2	2103.3	2100.1	2109.2
15°	1928.6	1981.7	2009.8	2046.6	2074.7	2122.8	2121.4	2132.3
17.5°	1905.9	1969.9	2003.9	2050.2	2085.6	2139.5	2142.7	2148.6
20°	1877.4	1947.7	1992.1	2048.8	2093.3	2152.7	2156.8	2164.9
22.5°	1839.7	1920.9	1974.4	2042.9	2094.2	2158.1	2165.4	2173.1
25°	1795.3	1888.7	1951.3	2031.6	2089.6	2157.7	2167.7	2174.5
27.5°	1744.5	1847.0	1921.8	2013.4	2076.9	2150.4	2162.7	2170.8
30°	1685.5	1802.5	1888.3	1989.9	2059.7	2136.8	2150.0	2158.1
32.5°	1624.7	1753.5	1848.3	1959.5	2034.8	2115.0	2126.4	2132.7
35°	1558.5	1694.1	1800.3	1920.5	2002.6	2080.1	2088.7	2095.5
37.5°	1486.4	1629.7	1745.4	1876.5	1957.2	2031.6	2039.3	2047.0
40°	1412.0	1562.1	1683.7	1822.5	1903.2	1972.2	1980.3	1985.8
42.5°	1337.2	1487.3	1617.9	1759.0	1839.3	1905.5	1910.5	1915.9
45°	1261.4	1409.7	1544.0	1688.7	1768.1	1830.2	1832.0	1836.5
47.5°	1184.3	1329.4	1462.8	1608.4	1686.9	1743.6	1745.4	1749.0
50°	1106.7	1249.2	1376.2	1521.8	1598.4	1658.3	1650.1	1653.8
52.5°	1030.5	1164.8	1294.5	1428.3	1504.1	1557.1	1559.4	1552.2
55°	955.7	1082.2	1201.5	1330.4	1402.5	1443.7	1442.4	1445.1
57.5°	879.9	998.8	1108.1	1226.0	1296.3	1335.3	1343.5	1334.0
60°	802.8	914.4	1012.4	1119.0	1187.0	1219.7	1229.2	1220.1
62.5°	726.2	828.7	917.6	1010.6	1073.6	1114.0	1113.1	1103.1
65°	649.5	742.5	821.9	900.8	955.7	996.1	994.2	985.2
67.5°	578.8	655.4	726.6	790.6	838.2	865.9	875.4	864.5
70°	500.8	567.0	629.6	680.8	720.3	745.2	754.3	744.8
72.5°	422.7	479.0	523.0	572.4	602.8	623.7	633.2	624.1
75°	345.6	391.9	427.7	466.3	487.6	505.3	516.2	507.1
77.5°	270.8	306.6	335.2	363.3	387.8	391.9	401.4	395.5
80°	199.6	225.4	246.3	264.9	282.6	284.4	292.1	288.5
82.5°	132.9	150.1	155.6	175.1	186.4	184.6	192.3	189.6
85°	70.3	80.7	90.3	96.2	102.5	96.6	103.4	100.7
87.5°	23.6	24.9	21.8	30.8	34.0	29.0	33.1	31.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)