

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: P837836

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-6LO-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: P837836
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2R-LD4-6LO-20-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

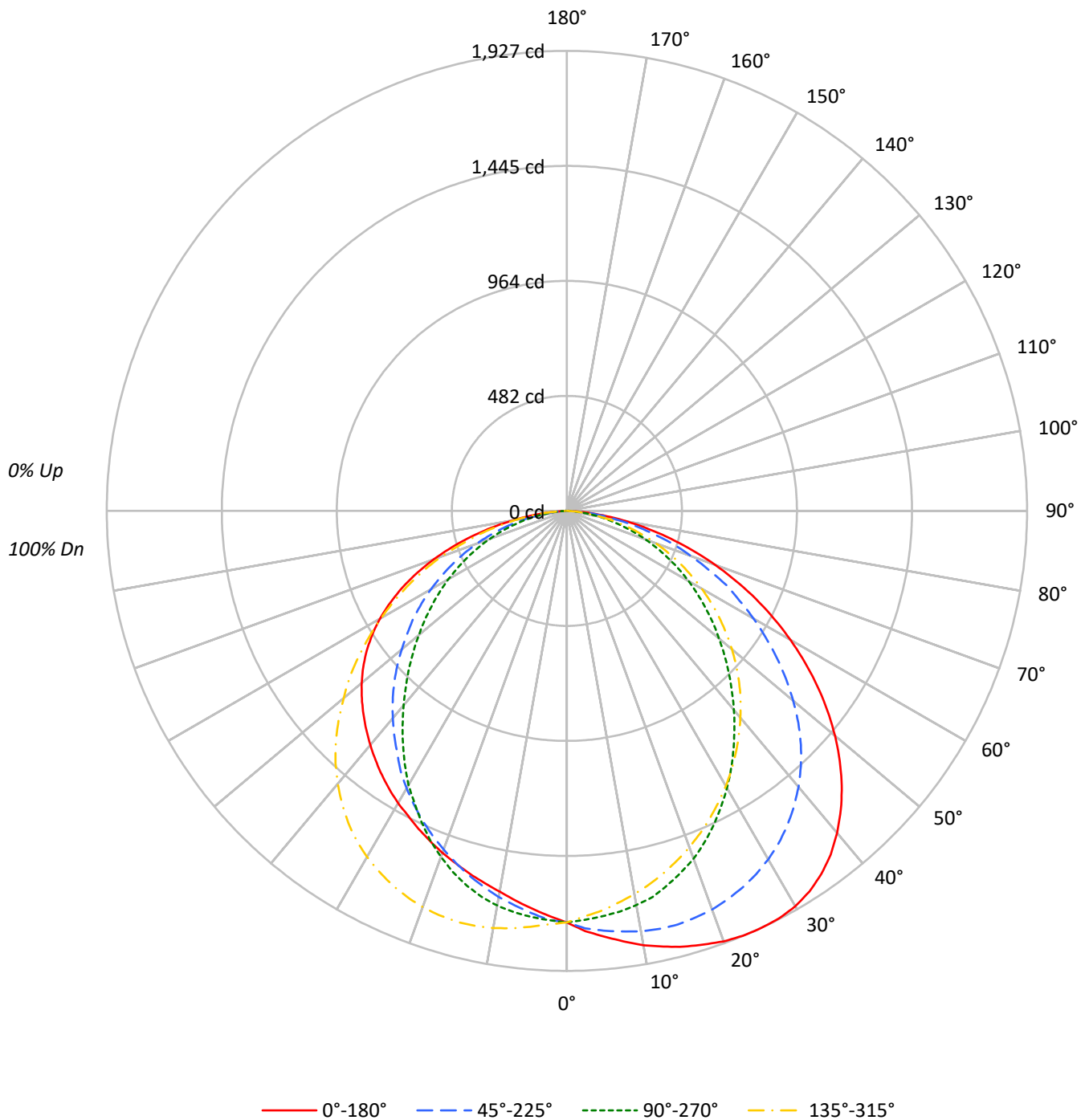
Lumens per Lamp: N/A
Luminaire Lumens: 5056.5 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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°	4638	4638	4638	4638
5°	4834	4605	4518	4612
10°	5049	4581	4426	4588
15°	5265	4523	4383	4524
20°	5495	4440	4363	4415
25°	5722	4316	4363	4272
30°	5944	4166	4392	4120
35°	6102	3995	4436	3932
40°	6183	3823	4498	3737
45°	6195	3649	4585	3557
50°	6136	3482	4698	3390
55°	6009	3327	4802	3235
60°	5821	3166	4866	3083
65°	5560	2980	4840	2911
70°	5194	2762	4669	2710
75°	4674	2462	4285	2450
80°	3963	2063	3601	2094
85°	2757	1365	2285	1402

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.6	3.2
10°-20°	473.8	9.4
20°-30°	726.2	14.4
30°-40°	883.0	17.5
40°-50°	917.9	18.2
50°-60°	829.2	16.4
60°-70°	630.4	12.5
70°-80°	351.4	7.0
80°-90°	80.9	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°	1363.7	27.0
0°-40°	2246.7	44.4
0°-60°	3993.8	79.0
0°-90°	5056.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5056.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1724	1724	1724	1724	1724	
5°	1789	1705	1672	1707	1789	173
15°	1890	1623	1573	1624	1890	536
25°	1927	1454	1469	1439	1927	890
35°	1857	1216	1350	1197	1857	1160
45°	1628	959	1205	935	1628	1253
55°	1281	709	1024	690	1281	1143
65°	873	468	760	457	873	863
75°	450	237	412	236	450	477
85°	89	44	74	45	89	112
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°	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5
2.5°	1761.7	1736.0	1736.4	1758.9	1741.6	1750.0	1725.9	1735.2	1732.3	1734.4	1714.7
5°	1789.4	1761.7	1761.3	1780.6	1761.3	1764.9	1734.4	1740.4	1731.5	1725.9	1704.6
7.5°	1818.8	1791.0	1788.2	1805.1	1779.8	1777.0	1743.2	1743.2	1727.1	1713.1	1692.9
10°	1847.7	1819.2	1815.6	1828.4	1797.1	1787.8	1746.8	1740.4	1719.1	1698.2	1676.5
12.5°	1869.4	1840.5	1837.7	1845.7	1810.3	1793.5	1746.8	1734.4	1703.0	1673.7	1656.8
15°	1889.9	1860.2	1852.6	1856.6	1816.0	1793.5	1741.2	1721.9	1681.7	1643.1	1623.4
17.5°	1904.4	1875.9	1868.2	1867.8	1818.8	1786.6	1729.1	1702.6	1654.4	1607.7	1588.0
20°	1918.9	1890.3	1880.7	1873.5	1818.0	1777.4	1711.4	1675.7	1619.4	1567.1	1550.6
22.5°	1926.1	1896.8	1886.3	1875.5	1812.8	1760.5	1689.7	1644.3	1580.0	1517.7	1504.0
25°	1927.3	1897.2	1885.9	1870.2	1802.3	1740.4	1661.6	1606.5	1534.5	1465.4	1453.7
27.5°	1924.1	1891.1	1879.9	1861.0	1786.6	1715.9	1628.2	1563.5	1486.3	1409.9	1397.5
30°	1912.9	1879.5	1868.6	1844.1	1764.5	1685.7	1591.6	1515.7	1432.8	1351.6	1340.8
32.5°	1890.3	1857.8	1848.9	1824.4	1740.4	1650.7	1549.0	1464.2	1373.7	1296.1	1280.1
35°	1857.4	1824.8	1819.2	1793.5	1706.6	1608.9	1502.4	1407.9	1311.0	1231.8	1216.1
37.5°	1814.4	1787.0	1778.6	1753.3	1666.8	1561.5	1448.9	1346.8	1247.1	1161.9	1152.2
40°	1760.1	1734.4	1727.9	1705.4	1620.6	1508.8	1391.0	1283.7	1181.2	1102.0	1088.3
42.5°	1698.2	1674.1	1670.4	1647.1	1563.5	1450.5	1328.3	1218.2	1112.4	1036.0	1022.4
45°	1627.8	1604.5	1603.7	1581.6	1501.2	1385.8	1262.4	1151.8	1045.3	966.1	958.8
47.5°	1550.2	1529.3	1529.3	1508.8	1431.6	1314.6	1194.4	1082.7	977.7	907.8	894.9
50°	1465.8	1446.1	1440.1	1430.0	1354.8	1237.0	1122.9	1015.1	911.0	844.3	831.8
52.5°	1375.7	1358.9	1362.9	1344.4	1271.6	1156.2	1050.5	939.1	843.9	783.2	770.7
55°	1280.9	1256.7	1260.4	1253.5	1184.8	1073.0	969.3	876.4	777.9	720.8	709.2
57.5°	1182.4	1151.0	1163.9	1159.9	1092.3	987.8	894.9	805.3	712.4	659.7	648.5
60°	1081.5	1051.3	1064.6	1061.0	997.4	902.6	818.1	734.9	647.3	599.4	588.2
62.5°	977.7	950.0	962.1	959.2	900.9	815.3	741.7	665.4	581.7	538.7	528.3
65°	873.2	846.7	857.5	855.5	801.6	736.5	663.3	593.4	515.8	478.4	468.0
67.5°	766.3	741.7	751.8	751.8	702.3	640.0	584.6	520.6	451.1	418.9	409.3
70°	660.1	637.2	646.1	645.3	603.4	552.8	504.9	447.9	385.5	359.0	351.0
72.5°	553.2	533.1	541.1	540.3	505.4	472.8	425.3	375.9	321.6	300.3	293.1
75°	449.5	430.6	438.2	437.4	408.9	378.3	346.5	305.5	258.9	244.0	236.8
77.5°	350.6	331.3	337.7	337.7	316.8	294.7	269.4	237.6	204.6	188.6	183.3
80°	255.7	246.4	243.2	243.6	229.6	215.1	202.2	171.7	147.5	136.7	133.1
82.5°	168.0	160.4	157.2	158.0	150.0	141.1	133.1	111.8	95.7	89.3	87.2
85°	89.3	83.6	80.8	82.8	81.2	76.4	72.4	57.9	47.8	45.4	44.2
87.5°	28.1	24.5	22.5	29.8	25.3	22.5	21.7	17.3	13.3	13.3	12.9
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°	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5
2.5°	1721.1	1721.1	1705.4	1701.8	1700.2	1702.2	1686.5	1683.7	1706.2	1698.6	1681.3
5°	1707.4	1706.6	1684.5	1680.5	1680.5	1678.1	1660.4	1656.4	1678.9	1672.4	1653.6
7.5°	1690.5	1688.1	1662.0	1659.2	1655.2	1653.6	1633.9	1631.0	1650.3	1646.3	1628.6
10°	1670.0	1667.6	1636.7	1634.7	1630.2	1627.0	1608.5	1606.5	1626.2	1619.8	1605.7
12.5°	1643.1	1638.7	1606.9	1604.9	1601.3	1600.1	1582.0	1581.2	1602.9	1596.5	1581.6
15°	1607.7	1604.1	1568.7	1569.5	1569.9	1569.9	1555.5	1554.7	1576.0	1573.1	1557.1
17.5°	1568.7	1563.9	1530.1	1532.5	1535.4	1538.6	1527.3	1529.3	1551.8	1548.2	1533.7
20°	1524.5	1519.7	1486.7	1493.5	1499.6	1506.0	1498.8	1504.4	1525.3	1523.7	1512.8
22.5°	1475.0	1470.2	1439.7	1450.1	1460.2	1472.2	1469.0	1475.5	1497.6	1497.2	1487.5
25°	1414.7	1416.0	1389.0	1401.9	1418.8	1435.6	1436.9	1447.3	1471.8	1469.4	1460.6
27.5°	1358.5	1360.1	1331.5	1353.2	1375.7	1397.5	1402.7	1417.2	1442.1	1440.1	1432.4
30°	1299.4	1301.4	1273.6	1303.4	1330.7	1357.3	1368.5	1388.2	1413.5	1413.5	1405.5
32.5°	1237.9	1241.5	1212.5	1252.3	1284.1	1315.0	1334.7	1355.2	1384.2	1383.4	1376.6
35°	1174.7	1178.8	1152.2	1202.9	1234.6	1272.4	1296.9	1324.3	1350.0	1350.4	1345.2
37.5°	1110.4	1115.2	1091.1	1146.6	1182.8	1227.4	1258.8	1286.1	1314.6	1316.2	1311.4
40°	1046.5	1051.7	1030.8	1084.3	1130.1	1180.0	1216.1	1248.3	1279.7	1280.5	1277.2
42.5°	982.6	988.2	972.5	1024.8	1076.6	1130.1	1172.7	1209.3	1241.5	1243.5	1239.9
45°	920.2	925.1	913.8	970.9	1020.8	1079.0	1128.1	1169.5	1202.1	1204.9	1203.7
47.5°	858.3	862.8	852.7	905.0	962.5	1024.4	1081.1	1126.9	1161.5	1164.7	1163.9
50°	797.6	801.2	790.4	845.1	902.2	968.1	1027.2	1080.3	1118.8	1122.1	1121.7
52.5°	737.3	740.9	731.7	789.2	841.0	910.6	974.9	1032.4	1070.6	1075.4	1076.2
55°	679.0	680.6	673.4	728.5	778.7	851.5	925.5	981.4	1019.5	1023.6	1026.0
57.5°	620.7	621.1	615.1	667.8	716.0	790.4	868.0	926.7	962.9	966.9	970.5
60°	562.8	562.4	555.6	606.7	652.9	726.5	807.3	865.6	900.5	904.2	909.0
62.5°	505.4	504.1	498.1	545.2	588.6	661.3	742.5	798.8	832.2	834.6	841.0
65°	448.3	447.1	441.4	484.8	524.2	593.8	673.4	726.9	757.0	760.2	759.0
67.5°	392.0	389.6	385.1	424.1	459.9	524.2	600.6	651.7	676.6	679.4	687.1
70°	335.7	332.9	322.8	364.2	395.6	453.1	524.2	569.7	590.6	593.4	592.2
72.5°	280.2	277.4	266.5	304.7	331.3	381.5	445.0	482.8	500.9	503.3	503.3
75°	226.3	224.7	217.9	246.8	269.0	310.0	363.8	395.2	409.3	412.1	411.3
77.5°	174.5	173.3	166.4	191.4	208.7	239.2	282.6	307.2	317.6	320.8	327.7
80°	125.0	124.6	113.8	138.3	145.9	171.7	203.4	222.3	228.0	232.4	237.2
82.5°	80.0	80.4	69.6	90.5	93.7	110.2	129.9	141.5	145.5	149.2	152.8
85°	39.0	40.6	34.6	47.8	48.2	56.7	65.1	69.6	71.2	74.0	77.2
87.5°	10.1	11.7	6.4	13.7	12.1	15.7	18.1	19.3	18.9	20.9	22.1
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°	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5
2.5°	1686.9	1699.8	1693.4	1714.3	1722.3	1709.4	1731.9	1732.3	1716.3	1735.2	1745.6
5°	1660.8	1674.1	1670.0	1691.7	1701.8	1690.5	1717.9	1723.1	1707.4	1728.7	1745.6
7.5°	1634.3	1649.9	1644.7	1666.8	1678.9	1670.0	1699.4	1707.8	1695.8	1719.1	1741.6
10°	1611.3	1624.6	1619.0	1642.3	1652.7	1645.5	1674.5	1690.1	1678.9	1707.4	1734.4
12.5°	1588.8	1599.7	1593.2	1612.5	1622.6	1613.3	1648.7	1663.2	1655.2	1684.9	1719.5
15°	1559.9	1571.9	1563.1	1580.4	1588.0	1580.0	1608.9	1633.9	1623.8	1656.4	1694.6
17.5°	1537.8	1544.6	1532.5	1546.2	1550.6	1539.8	1569.1	1593.6	1586.4	1621.8	1666.0
20°	1513.2	1518.9	1502.0	1509.6	1509.2	1495.6	1522.5	1546.6	1541.8	1580.8	1631.0
22.5°	1485.9	1488.7	1469.0	1470.6	1469.8	1447.3	1471.4	1496.0	1493.9	1533.3	1589.6
25°	1457.0	1457.4	1432.0	1431.2	1422.4	1395.8	1417.2	1444.9	1438.9	1481.5	1540.6
27.5°	1428.4	1424.4	1393.8	1386.6	1372.5	1340.8	1359.7	1384.6	1381.0	1422.8	1488.3
30°	1397.9	1392.6	1355.2	1342.0	1321.5	1284.9	1300.6	1323.9	1325.9	1362.5	1431.2
32.5°	1368.9	1355.6	1314.2	1294.9	1269.2	1226.6	1235.0	1258.8	1262.0	1299.0	1369.7
35°	1331.5	1322.7	1271.6	1238.7	1213.3	1166.7	1175.5	1192.0	1196.8	1233.0	1305.0
37.5°	1296.1	1282.1	1227.8	1187.6	1155.0	1106.0	1108.4	1125.3	1130.1	1166.7	1237.9
40°	1259.6	1239.5	1181.2	1134.1	1096.7	1045.3	1042.5	1060.2	1063.8	1099.6	1163.9
42.5°	1220.6	1196.4	1130.9	1079.5	1036.4	984.2	978.5	993.8	997.8	1032.8	1095.9
45°	1181.2	1152.2	1079.5	1023.2	976.1	922.7	917.0	928.7	934.7	967.7	1028.4
47.5°	1139.4	1105.6	1026.4	963.7	915.0	861.6	854.7	866.4	871.2	903.8	961.3
50°	1095.5	1054.5	971.7	902.6	854.3	801.6	791.6	805.3	809.7	840.2	896.5
52.5°	1047.3	1001.9	913.4	841.0	792.8	742.5	730.5	743.8	749.0	778.7	830.6
55°	996.2	947.2	854.7	784.4	732.1	683.0	673.0	678.2	689.5	717.6	765.9
57.5°	938.7	890.1	792.8	721.2	671.0	624.0	615.5	620.3	630.8	658.1	701.5
60°	877.6	826.2	729.7	658.1	609.5	564.9	557.2	561.6	572.9	597.8	638.0
62.5°	817.3	759.4	664.6	593.4	549.2	507.8	505.8	504.1	514.6	538.7	574.1
65°	744.2	688.7	596.6	529.1	488.9	451.5	443.4	447.1	457.1	479.2	516.2
67.5°	665.8	615.5	527.1	464.7	429.0	395.6	388.8	390.4	400.8	420.1	452.3
70°	582.5	538.3	455.9	400.0	369.9	338.5	334.1	334.5	344.5	361.4	389.6
72.5°	495.3	455.5	383.9	336.1	311.2	288.7	284.6	279.8	289.1	303.5	327.7
75°	406.5	371.5	312.4	273.4	253.7	234.8	231.2	226.3	235.6	248.1	266.9
77.5°	316.8	288.7	242.8	212.7	197.4	183.3	180.1	174.9	184.1	193.4	208.3
80°	229.2	208.7	181.3	149.6	144.3	135.1	131.9	126.2	135.1	141.1	152.4
82.5°	147.9	134.3	118.6	96.5	95.7	88.8	87.2	80.8	88.8	92.5	100.9
85°	74.8	68.3	64.3	49.0	50.7	46.2	45.8	39.0	45.4	47.0	51.9
87.5°	21.3	22.5	20.1	12.1	15.3	14.5	14.5	10.5	14.5	14.5	16.5
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: P837836

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-6LO-20-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5	1723.5
2.5°	1725.1	1731.9	1733.6	1733.2	1737.6	1761.7	1753.7	1761.7
5°	1729.1	1744.4	1748.4	1754.1	1761.3	1788.6	1779.8	1789.4
7.5°	1731.5	1754.5	1763.3	1774.2	1785.8	1816.4	1809.1	1818.8
10°	1731.5	1761.3	1774.2	1792.3	1807.9	1843.3	1836.5	1847.7
12.5°	1724.3	1762.5	1780.6	1805.9	1826.0	1864.2	1861.4	1869.4
15°	1709.4	1756.5	1781.4	1814.0	1838.9	1881.5	1880.3	1889.9
17.5°	1689.3	1746.0	1776.2	1817.2	1848.5	1896.4	1899.2	1904.4
20°	1664.0	1726.3	1765.7	1816.0	1855.4	1908.0	1911.7	1918.9
22.5°	1630.6	1702.6	1750.0	1810.7	1856.2	1912.9	1919.3	1926.1
25°	1591.2	1674.1	1729.5	1800.7	1852.2	1912.5	1921.3	1927.3
27.5°	1546.2	1637.1	1703.4	1784.6	1840.9	1906.0	1916.9	1924.1
30°	1493.9	1597.7	1673.7	1763.7	1825.6	1894.0	1905.6	1912.9
32.5°	1440.1	1554.2	1638.3	1736.8	1803.5	1874.7	1884.7	1890.3
35°	1381.4	1501.6	1595.7	1702.2	1775.0	1843.7	1851.3	1857.4
37.5°	1317.5	1444.5	1547.0	1663.2	1734.8	1800.7	1807.5	1814.4
40°	1251.5	1384.6	1492.3	1615.4	1686.9	1748.0	1755.3	1760.1
42.5°	1185.2	1318.3	1434.0	1559.1	1630.2	1688.9	1693.4	1698.2
45°	1118.0	1249.5	1368.5	1496.8	1567.1	1622.2	1623.8	1627.8
47.5°	1049.7	1178.4	1296.5	1425.6	1495.2	1545.4	1547.0	1550.2
50°	981.0	1107.2	1219.8	1348.8	1416.8	1469.8	1462.6	1465.8
52.5°	913.4	1032.4	1147.4	1266.0	1333.1	1380.2	1382.2	1375.7
55°	847.1	959.2	1065.0	1179.2	1243.1	1279.7	1278.5	1280.9
57.5°	779.9	885.3	982.2	1086.7	1149.0	1183.6	1190.8	1182.4
60°	711.6	810.5	897.3	991.8	1052.1	1081.1	1089.5	1081.5
62.5°	643.7	734.5	813.3	895.7	951.6	987.4	986.6	977.7
65°	575.7	658.1	728.5	798.4	847.1	882.9	881.3	873.2
67.5°	513.0	580.9	644.1	700.7	743.0	767.5	775.9	766.3
70°	443.8	502.5	558.0	603.4	638.4	660.5	668.6	660.1
72.5°	374.7	424.5	463.5	507.4	534.3	552.8	561.2	553.2
75°	306.3	347.4	379.1	413.3	432.2	447.9	457.5	449.5
77.5°	240.0	271.8	297.1	322.0	343.7	347.4	355.8	350.6
80°	176.9	199.8	218.3	234.8	250.5	252.1	258.9	255.7
82.5°	117.8	133.1	137.9	155.2	165.2	163.6	170.5	168.0
85°	62.3	71.6	80.0	85.2	90.9	85.6	91.7	89.3
87.5°	20.9	22.1	19.3	27.3	30.2	25.7	29.3	28.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)