

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: P837973

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-3HI-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: P837973
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-LD4-3HI-30-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

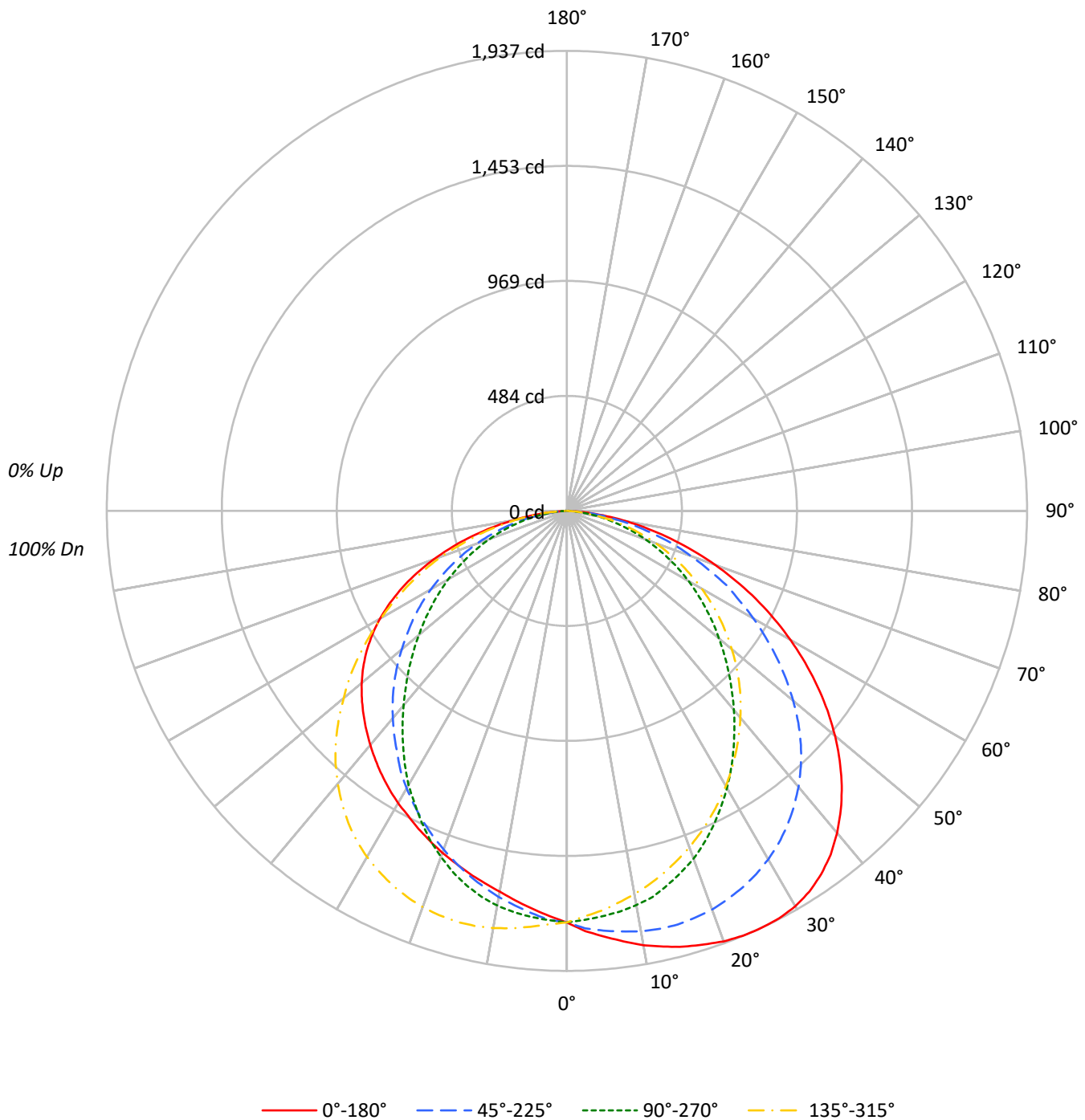
Lumens per Lamp: N/A
Luminaire Lumens: 5082.8 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 66
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°	4662	4662	4662	4662
5°	4859	4629	4541	4636
10°	5075	4605	4449	4611
15°	5293	4546	4405	4547
20°	5524	4464	4386	4438
25°	5752	4339	4386	4294
30°	5975	4188	4415	4141
35°	6133	4016	4459	3952
40°	6215	3843	4521	3756
45°	6227	3668	4609	3576
50°	6168	3500	4722	3407
55°	6040	3345	4827	3252
60°	5851	3182	4892	3099
65°	5589	2995	4866	2926
70°	5221	2776	4693	2725
75°	4697	2475	4306	2462
80°	3983	2073	3620	2104
85°	2770	1374	2297	1411



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.5	3.2
10°-20°	476.3	9.4
20°-30°	730.0	14.4
30°-40°	887.6	17.5
40°-50°	922.7	18.2
50°-60°	833.5	16.4
60°-70°	633.7	12.5
70°-80°	353.3	7.0
80°-90°	81.3	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°	1370.8	27.0
0°-40°	2258.4	44.4
0°-60°	4014.6	79.0
0°-90°	5082.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5082.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1732	1732	1732	1732	1732	
5°	1799	1714	1681	1716	1799	173
15°	1900	1632	1581	1632	1900	539
25°	1937	1461	1477	1446	1937	895
35°	1867	1222	1357	1203	1867	1166
45°	1636	964	1211	940	1636	1260
55°	1288	713	1029	693	1288	1149
65°	878	470	764	460	878	867
75°	452	238	414	237	452	480
85°	90	44	74	46	90	113
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°	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5
2.5°	1770.9	1745.0	1745.4	1768.0	1750.7	1759.1	1734.9	1744.2	1741.4	1743.4	1723.6
5°	1798.7	1770.9	1770.5	1789.9	1770.5	1774.1	1743.4	1749.4	1740.5	1734.9	1713.5
7.5°	1828.2	1800.4	1797.5	1814.5	1789.0	1786.2	1752.3	1752.3	1736.1	1722.0	1701.8
10°	1857.3	1828.6	1825.0	1837.9	1806.4	1797.1	1755.9	1749.4	1728.0	1707.0	1685.2
12.5°	1879.2	1850.1	1847.2	1855.3	1819.8	1802.8	1755.9	1743.4	1711.9	1682.4	1665.4
15°	1899.8	1869.9	1862.2	1866.2	1825.4	1802.8	1750.2	1730.9	1690.4	1651.6	1631.8
17.5°	1914.3	1885.6	1878.0	1877.5	1828.2	1795.9	1738.1	1711.5	1663.0	1616.1	1596.3
20°	1928.9	1900.2	1890.5	1883.2	1827.4	1786.6	1720.3	1684.4	1627.8	1575.3	1558.7
22.5°	1936.1	1906.6	1896.1	1885.2	1822.2	1769.6	1698.5	1652.9	1588.2	1525.6	1511.8
25°	1937.4	1907.0	1895.7	1880.0	1811.7	1749.4	1670.2	1614.9	1542.5	1473.0	1461.3
27.5°	1934.1	1901.0	1889.7	1870.7	1795.9	1724.8	1636.7	1571.6	1494.0	1417.3	1404.7
30°	1922.8	1889.3	1878.4	1853.7	1773.7	1694.5	1599.9	1523.5	1440.3	1358.7	1347.7
32.5°	1900.2	1867.4	1858.6	1833.9	1749.4	1659.3	1557.1	1471.8	1380.9	1302.9	1286.7
35°	1867.0	1834.3	1828.6	1802.8	1715.5	1617.3	1510.2	1415.2	1317.8	1238.2	1222.5
37.5°	1823.8	1796.3	1787.8	1762.4	1675.5	1569.6	1456.5	1353.8	1253.6	1167.9	1158.2
40°	1769.2	1743.4	1736.9	1714.3	1629.0	1516.7	1398.3	1290.4	1187.3	1107.7	1094.0
42.5°	1707.0	1682.8	1679.1	1655.7	1571.6	1458.1	1335.2	1224.5	1118.2	1041.4	1027.7
45°	1636.3	1612.8	1612.0	1589.8	1509.0	1393.0	1268.9	1157.8	1050.7	971.1	963.8
47.5°	1558.3	1537.3	1537.3	1516.7	1439.1	1321.5	1200.6	1088.3	982.8	912.5	899.6
50°	1473.4	1453.6	1447.6	1437.5	1361.9	1243.5	1128.7	1020.4	915.7	848.7	836.1
52.5°	1382.9	1365.9	1370.0	1351.4	1278.2	1162.3	1056.0	944.0	848.3	787.2	774.7
55°	1287.5	1263.3	1266.9	1260.0	1190.9	1078.6	974.3	881.0	782.0	724.6	712.9
57.5°	1188.5	1157.0	1169.9	1165.9	1098.0	992.9	899.6	809.5	716.1	663.2	651.8
60°	1087.1	1056.8	1070.1	1066.5	1002.6	907.3	822.4	738.7	650.6	602.5	591.2
62.5°	982.8	954.9	967.1	964.2	905.6	819.6	745.6	668.8	584.8	541.5	531.0
65°	877.8	851.1	862.0	860.0	805.8	740.3	666.8	596.5	518.5	480.9	470.4
67.5°	770.3	745.6	755.7	755.7	706.0	643.4	587.6	523.3	453.4	421.1	411.4
70°	663.6	640.5	649.4	648.6	606.6	555.7	507.6	450.2	387.6	360.9	352.8
72.5°	556.1	535.9	543.9	543.1	508.0	475.2	427.6	377.9	323.3	301.9	294.6
75°	451.8	432.8	440.5	439.7	411.0	380.3	348.4	307.1	260.3	245.3	238.0
77.5°	352.4	333.0	339.5	339.5	318.4	296.2	270.8	238.8	205.7	189.5	184.3
80°	257.0	247.7	244.5	244.9	230.8	216.2	203.3	172.6	148.3	137.4	133.8
82.5°	168.9	161.2	158.0	158.8	150.7	141.8	133.8	112.3	96.2	89.7	87.7
85°	89.7	84.1	81.2	83.2	81.6	76.8	72.7	58.2	48.1	45.7	44.5
87.5°	28.3	24.7	22.6	29.9	25.5	22.6	21.8	17.4	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°	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5
2.5°	1730.0	1730.0	1714.3	1710.6	1709.0	1711.0	1695.3	1692.5	1715.1	1707.4	1690.0
5°	1716.3	1715.5	1693.3	1689.2	1689.2	1686.8	1669.0	1665.0	1687.6	1681.1	1662.1
7.5°	1699.3	1696.9	1670.6	1667.8	1663.8	1662.1	1642.3	1639.5	1658.9	1654.9	1637.1
10°	1678.7	1676.3	1645.2	1643.2	1638.7	1635.5	1616.9	1614.9	1634.7	1628.2	1614.1
12.5°	1651.6	1647.2	1615.3	1613.3	1609.6	1608.4	1590.2	1589.4	1611.2	1604.8	1589.8
15°	1616.1	1612.4	1576.9	1577.7	1578.1	1578.1	1563.5	1562.7	1584.2	1581.3	1565.2
17.5°	1576.9	1572.0	1538.1	1540.5	1543.3	1546.6	1535.3	1537.3	1559.9	1556.3	1541.7
20°	1532.4	1527.6	1494.4	1501.3	1507.4	1513.8	1506.6	1512.2	1533.2	1531.6	1520.7
22.5°	1482.7	1477.9	1447.2	1457.7	1467.8	1479.9	1476.7	1483.1	1505.4	1504.9	1495.2
25°	1422.1	1423.3	1396.2	1409.2	1426.1	1443.1	1444.3	1454.8	1479.5	1477.1	1468.2
27.5°	1365.5	1367.1	1338.4	1360.3	1382.9	1404.7	1410.0	1424.5	1449.6	1447.6	1439.9
30°	1306.1	1308.1	1280.3	1310.2	1337.6	1364.3	1375.6	1395.4	1420.9	1420.9	1412.8
32.5°	1244.3	1247.9	1218.8	1258.8	1290.8	1321.9	1341.7	1362.3	1391.4	1390.6	1383.7
35°	1180.8	1184.9	1158.2	1209.1	1241.1	1279.0	1303.7	1331.2	1357.0	1357.4	1352.2
37.5°	1116.2	1121.0	1096.8	1152.6	1188.9	1233.8	1265.3	1292.8	1321.5	1323.1	1318.2
40°	1051.9	1057.2	1036.2	1089.9	1136.0	1186.1	1222.5	1254.8	1286.3	1287.1	1283.9
42.5°	987.7	993.3	977.6	1030.1	1082.2	1136.0	1178.8	1215.6	1247.9	1249.9	1246.3
45°	925.0	929.9	918.6	976.0	1026.1	1084.7	1134.0	1175.6	1208.3	1211.2	1209.9
47.5°	862.8	867.2	857.1	909.7	967.5	1029.7	1086.7	1132.8	1167.5	1170.7	1169.9
50°	801.8	805.4	794.5	849.5	906.8	973.1	1032.5	1085.9	1124.7	1127.9	1127.5
52.5°	741.2	744.8	735.5	793.3	845.4	915.3	980.0	1037.8	1076.2	1081.0	1081.8
55°	682.6	684.2	676.9	732.3	782.8	855.9	930.3	986.5	1024.9	1028.9	1031.3
57.5°	624.0	624.4	618.3	671.2	719.7	794.5	872.5	931.5	967.9	971.9	975.5
60°	565.8	565.4	558.5	609.8	656.3	730.2	811.5	870.1	905.2	908.9	913.7
62.5°	508.0	506.8	500.7	548.0	591.6	664.8	746.4	803.0	836.5	839.0	845.4
65°	450.6	449.4	443.7	487.4	527.0	596.9	676.9	730.7	761.0	764.2	763.0
67.5°	394.0	391.6	387.1	426.3	462.3	527.0	603.8	655.1	680.1	683.0	690.6
70°	337.4	334.6	324.5	366.1	397.7	455.4	527.0	572.6	593.7	596.5	595.3
72.5°	281.7	278.8	267.9	306.3	333.0	383.5	447.4	485.3	503.5	506.0	506.0
75°	227.5	225.9	219.0	248.1	270.4	311.6	365.7	397.3	411.4	414.2	413.4
77.5°	175.4	174.2	167.3	192.4	209.7	240.5	284.1	308.7	319.3	322.5	329.4
80°	125.7	125.3	114.4	139.0	146.7	172.6	204.5	223.5	229.1	233.6	238.4
82.5°	80.4	80.8	69.9	90.9	94.2	110.7	130.5	142.3	146.3	149.9	153.6
85°	39.2	40.8	34.8	48.1	48.5	57.0	65.5	69.9	71.5	74.4	77.6
87.5°	10.1	11.7	6.5	13.7	12.1	15.8	18.2	19.4	19.0	21.0	22.2
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°	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5
2.5°	1695.7	1708.6	1702.2	1723.2	1731.3	1718.3	1741.0	1741.4	1725.2	1744.2	1754.7
5°	1669.4	1682.8	1678.7	1700.5	1710.6	1699.3	1726.8	1732.1	1716.3	1737.7	1754.7
7.5°	1642.8	1658.5	1653.3	1675.5	1687.6	1678.7	1708.2	1716.7	1704.6	1728.0	1750.7
10°	1619.7	1633.1	1627.4	1650.8	1661.3	1654.1	1683.2	1698.9	1687.6	1716.3	1743.4
12.5°	1597.1	1608.0	1601.5	1620.9	1631.0	1621.7	1657.3	1671.8	1663.8	1693.7	1728.4
15°	1568.0	1580.1	1571.2	1588.6	1596.3	1588.2	1617.3	1642.3	1632.2	1665.0	1703.4
17.5°	1545.8	1552.6	1540.5	1554.2	1558.7	1547.8	1577.3	1601.9	1594.7	1630.2	1674.7
20°	1521.1	1526.8	1509.8	1517.5	1517.1	1503.3	1530.4	1554.7	1549.8	1589.0	1639.5
22.5°	1493.6	1496.5	1476.7	1478.3	1477.5	1454.8	1479.1	1503.7	1501.7	1541.3	1597.9
25°	1464.5	1464.9	1439.5	1438.7	1429.8	1403.1	1424.5	1452.4	1446.3	1489.2	1548.6
27.5°	1435.8	1431.8	1401.1	1393.8	1379.7	1347.7	1366.7	1391.8	1388.2	1430.2	1496.1
30°	1405.1	1399.9	1362.3	1349.0	1328.3	1291.6	1307.3	1330.8	1332.8	1369.6	1438.7
32.5°	1376.0	1362.7	1321.1	1301.7	1275.8	1233.0	1241.5	1265.3	1268.5	1305.7	1376.8
35°	1338.4	1329.6	1278.2	1245.1	1219.6	1172.8	1181.6	1198.2	1203.1	1239.4	1311.8
37.5°	1302.9	1288.7	1234.2	1193.8	1161.0	1111.7	1114.2	1131.1	1136.0	1172.8	1244.3
40°	1266.1	1245.9	1187.3	1140.0	1102.4	1050.7	1047.9	1065.7	1069.3	1105.3	1169.9
42.5°	1226.9	1202.7	1136.8	1085.1	1041.8	989.3	983.6	999.0	1003.0	1038.2	1101.6
45°	1187.3	1158.2	1085.1	1028.5	981.2	927.5	921.8	933.5	939.6	972.7	1033.7
47.5°	1145.3	1111.3	1031.7	968.7	919.8	866.0	859.2	870.9	875.7	908.5	966.3
50°	1101.2	1060.0	976.8	907.3	858.8	805.8	795.7	809.5	813.9	844.6	901.2
52.5°	1052.7	1007.1	918.2	845.4	796.9	746.4	734.3	747.6	752.9	782.8	834.9
55°	1001.4	952.1	859.2	788.4	735.9	686.6	676.5	681.8	693.1	721.4	769.9
57.5°	943.6	894.7	796.9	725.0	674.5	627.2	618.7	623.6	634.1	661.5	705.2
60°	882.2	830.5	733.5	661.5	612.6	567.8	560.1	564.6	575.9	600.9	641.3
62.5°	821.6	763.4	668.0	596.5	552.0	510.4	508.4	506.8	517.3	541.5	577.1
65°	748.0	692.3	599.7	531.8	491.4	453.8	445.7	449.4	459.5	481.7	518.9
67.5°	669.2	618.7	529.8	467.2	431.2	397.7	390.8	392.4	402.9	422.3	454.6
70°	585.6	541.1	458.3	402.1	371.8	340.3	335.8	336.2	346.3	363.3	391.6
72.5°	497.9	457.9	385.9	337.8	312.8	290.2	286.1	281.3	290.6	305.1	329.4
75°	408.6	373.4	314.0	274.8	255.0	236.0	232.4	227.5	236.8	249.3	268.3
77.5°	318.4	290.2	244.1	213.8	198.4	184.3	181.0	175.8	185.1	194.4	209.3
80°	230.3	209.7	182.3	150.3	145.1	135.8	132.6	126.9	135.8	141.8	153.2
82.5°	148.7	135.0	119.2	97.0	96.2	89.3	87.7	81.2	89.3	92.9	101.4
85°	75.2	68.7	64.7	49.3	50.9	46.5	46.1	39.2	45.7	47.3	52.1
87.5°	21.4	22.6	20.2	12.1	15.4	14.5	14.5	10.5	14.5	14.5	16.6
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: P837973

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-3HI-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5	1732.5
2.5°	1734.1	1741.0	1742.6	1742.2	1746.6	1770.9	1762.8	1770.9
5°	1738.1	1753.5	1757.5	1763.2	1770.5	1797.9	1789.0	1798.7
7.5°	1740.5	1763.6	1772.5	1783.4	1795.1	1825.8	1818.5	1828.2
10°	1740.5	1770.5	1783.4	1801.6	1817.3	1852.9	1846.0	1857.3
12.5°	1733.3	1771.7	1789.9	1815.3	1835.5	1873.9	1871.1	1879.2
15°	1718.3	1765.6	1790.7	1823.4	1848.4	1891.3	1890.1	1899.8
17.5°	1698.1	1755.1	1785.4	1826.6	1858.1	1906.2	1909.1	1914.3
20°	1672.7	1735.3	1774.9	1825.4	1865.0	1918.0	1921.6	1928.9
22.5°	1639.1	1711.5	1759.1	1820.2	1865.8	1922.8	1929.3	1936.1
25°	1599.5	1682.8	1738.5	1810.1	1861.8	1922.4	1931.3	1937.4
27.5°	1554.2	1645.6	1712.3	1793.9	1850.5	1915.9	1926.8	1934.1
30°	1501.7	1606.0	1682.4	1772.9	1835.1	1903.8	1915.5	1922.8
32.5°	1447.6	1562.3	1646.8	1745.8	1812.9	1884.4	1894.5	1900.2
35°	1388.6	1509.4	1604.0	1711.0	1784.2	1853.3	1861.0	1867.0
37.5°	1324.3	1452.0	1555.1	1671.8	1743.8	1810.1	1816.9	1823.8
40°	1258.0	1391.8	1500.1	1623.8	1695.7	1757.1	1764.4	1769.2
42.5°	1191.3	1325.1	1441.5	1567.2	1638.7	1697.7	1702.2	1707.0
45°	1123.9	1256.0	1375.6	1504.5	1575.3	1630.6	1632.2	1636.3
47.5°	1055.2	1184.5	1303.3	1433.0	1502.9	1553.4	1555.1	1558.3
50°	986.1	1112.9	1226.1	1355.8	1424.1	1477.5	1470.2	1473.4
52.5°	918.2	1037.8	1153.4	1272.6	1340.1	1387.3	1389.4	1382.9
55°	851.5	964.2	1070.5	1185.3	1249.5	1286.3	1285.1	1287.5
57.5°	784.0	889.9	987.3	1092.3	1155.0	1189.7	1197.0	1188.5
60°	715.3	814.7	902.0	997.0	1057.6	1086.7	1095.2	1087.1
62.5°	647.0	738.3	817.5	900.4	956.6	992.5	991.7	982.8
65°	578.7	661.5	732.3	802.6	851.5	887.4	885.8	877.8
67.5°	515.7	584.0	647.4	704.4	746.8	771.5	780.0	770.3
70°	446.1	505.2	560.9	606.6	641.7	664.0	672.1	663.6
72.5°	376.6	426.8	466.0	510.0	537.1	555.7	564.2	556.1
75°	307.9	349.2	381.1	415.4	434.4	450.2	459.9	451.8
77.5°	241.3	273.2	298.6	323.7	345.5	349.2	357.6	352.4
80°	177.8	200.8	219.4	236.0	251.8	253.4	260.3	257.0
82.5°	118.4	133.8	138.6	156.0	166.1	164.5	171.3	168.9
85°	62.6	71.9	80.4	85.7	91.3	86.1	92.1	89.7
87.5°	21.0	22.2	19.4	27.5	30.3	25.9	29.5	28.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)