

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: P837788

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-2LO-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: P837788
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-LD4-2LO-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

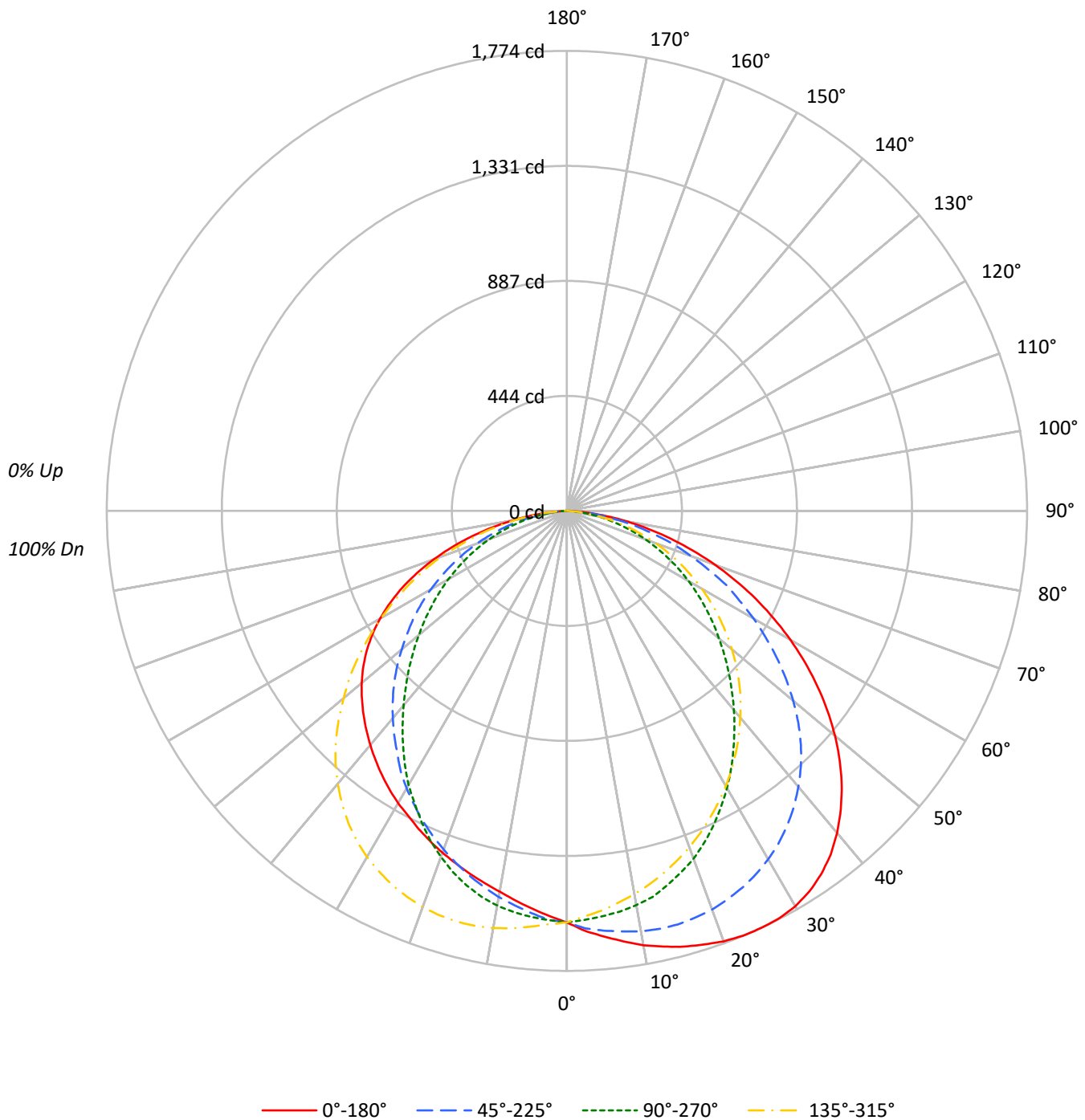
Lumens per Lamp: N/A
Luminaire Lumens: 4654.7 lumens
Efficiency: N/A
Efficacy: 99.5 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	4270	4270	4270	4270
5°	4450	4239	4159	4246
10°	4648	4217	4074	4223
15°	4847	4163	4034	4164
20°	5058	4088	4017	4064
25°	5268	3973	4016	3933
30°	5472	3835	4043	3792
35°	5617	3678	4084	3619
40°	5691	3519	4141	3440
45°	5703	3359	4221	3275
50°	5649	3206	4324	3121
55°	5532	3063	4420	2978
60°	5358	2914	4479	2838
65°	5118	2743	4456	2679
70°	4781	2542	4297	2496
75°	4302	2267	3944	2255
80°	3648	1898	3315	1926
85°	2538	1257	2103	1291

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.6	3.2
10°-20°	436.2	9.4
20°-30°	668.5	14.4
30°-40°	812.8	17.5
40°-50°	845.0	18.2
50°-60°	763.3	16.4
60°-70°	580.3	12.5
70°-80°	323.5	7.0
80°-90°	74.5	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°	1255.3	27.0
0°-40°	2068.2	44.4
0°-60°	3676.5	79.0
0°-90°	4654.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4654.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1587	1587	1587	1587	1587	
5°	1647	1569	1540	1572	1647	159
15°	1740	1494	1448	1495	1740	493
25°	1774	1338	1353	1324	1774	819
35°	1710	1120	1243	1102	1710	1068
45°	1498	883	1109	860	1498	1154
55°	1179	653	942	635	1179	1053
65°	804	431	700	421	804	794
75°	414	218	379	217	414	440
85°	82	41	68	42	82	103
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°	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6
2.5°	1621.7	1598.0	1598.4	1619.1	1603.2	1611.0	1588.8	1597.3	1594.7	1596.6	1578.4
5°	1647.3	1621.7	1621.3	1639.1	1621.3	1624.7	1596.6	1602.1	1594.0	1588.8	1569.2
7.5°	1674.3	1648.7	1646.1	1661.7	1638.4	1635.8	1604.7	1604.7	1589.9	1576.9	1558.4
10°	1700.9	1674.6	1671.3	1683.2	1654.3	1645.8	1608.0	1602.1	1582.5	1563.2	1543.3
12.5°	1720.9	1694.3	1691.7	1699.1	1666.5	1651.0	1608.0	1596.6	1567.7	1540.7	1525.1
15°	1739.8	1712.4	1705.4	1709.1	1671.7	1651.0	1602.8	1585.1	1548.1	1512.5	1494.4
17.5°	1753.1	1726.8	1719.8	1719.4	1674.3	1644.7	1591.7	1567.3	1522.9	1480.0	1461.8
20°	1766.4	1740.1	1731.3	1724.6	1673.5	1636.2	1575.5	1542.5	1490.7	1442.6	1427.4
22.5°	1773.1	1746.1	1736.4	1726.5	1668.7	1620.6	1555.5	1513.7	1454.4	1397.1	1384.5
25°	1774.2	1746.4	1736.1	1721.6	1659.1	1602.1	1529.6	1478.9	1412.6	1349.0	1338.2
27.5°	1771.2	1740.9	1730.5	1713.1	1644.7	1579.5	1498.8	1439.3	1368.2	1297.9	1286.4
30°	1760.9	1730.2	1720.2	1697.6	1624.3	1551.8	1465.2	1395.2	1319.0	1244.2	1234.2
32.5°	1740.1	1710.2	1702.0	1679.5	1602.1	1519.6	1425.9	1347.9	1264.6	1193.2	1178.4
35°	1709.8	1679.8	1674.6	1651.0	1571.0	1481.1	1383.0	1296.0	1206.9	1133.9	1119.5
37.5°	1670.2	1645.0	1637.3	1613.9	1534.4	1437.4	1333.8	1239.8	1148.0	1069.5	1060.7
40°	1620.2	1596.6	1590.6	1569.9	1491.8	1388.9	1280.5	1181.7	1087.3	1014.4	1001.8
42.5°	1563.2	1541.0	1537.7	1516.2	1439.3	1335.3	1222.8	1121.4	1024.0	953.7	941.1
45°	1498.5	1477.0	1476.3	1455.9	1381.9	1275.7	1162.1	1060.3	962.2	889.3	882.7
47.5°	1427.1	1407.8	1407.8	1388.9	1317.9	1210.2	1099.5	996.6	900.0	835.7	823.8
50°	1349.3	1331.2	1325.6	1316.4	1247.2	1138.8	1033.7	934.5	838.6	777.2	765.7
52.5°	1266.4	1250.9	1254.6	1237.6	1170.6	1064.4	967.0	864.5	776.8	720.9	709.5
55°	1179.1	1156.9	1160.2	1153.9	1090.6	987.8	892.3	806.8	716.1	663.6	652.8
57.5°	1088.4	1059.6	1071.4	1067.7	1005.5	909.3	823.8	741.3	655.8	607.3	596.9
60°	995.5	967.8	980.0	976.7	918.2	830.8	753.1	676.5	595.8	551.8	541.4
62.5°	900.0	874.5	885.6	883.0	829.4	750.5	682.8	612.5	535.5	495.9	486.3
65°	803.8	779.4	789.4	787.5	738.0	678.0	610.6	546.2	474.8	440.4	430.8
67.5°	705.4	682.8	692.1	692.1	646.5	589.2	538.1	479.3	415.2	385.6	376.7
70°	607.7	586.6	594.7	594.0	555.5	508.9	464.8	412.3	354.9	330.5	323.1
72.5°	509.2	490.7	498.1	497.4	465.2	435.2	391.6	346.0	296.1	276.5	269.8
75°	413.8	396.4	403.4	402.7	376.4	348.3	319.0	281.3	238.3	224.6	218.0
77.5°	322.7	305.0	310.9	310.9	291.6	271.3	248.0	218.7	188.4	173.6	168.8
80°	235.4	226.9	223.9	224.3	211.3	198.0	186.2	158.0	135.8	125.8	122.5
82.5°	154.7	147.7	144.7	145.4	138.0	129.9	122.5	102.9	88.1	82.2	80.3
85°	82.2	77.0	74.4	76.2	74.8	70.3	66.6	53.3	44.0	41.8	40.7
87.5°	25.9	22.6	20.7	27.4	23.3	20.7	20.0	15.9	12.2	12.2	11.8
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°	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6
2.5°	1584.3	1584.3	1569.9	1566.6	1565.1	1566.9	1552.5	1549.9	1570.6	1563.6	1547.7
5°	1571.8	1571.0	1550.7	1547.0	1547.0	1544.7	1528.5	1524.8	1545.5	1539.6	1522.2
7.5°	1556.2	1554.0	1529.9	1527.3	1523.6	1522.2	1504.0	1501.4	1519.2	1515.5	1499.2
10°	1537.3	1535.1	1506.6	1504.8	1500.7	1497.7	1480.7	1478.9	1497.0	1491.1	1478.1
12.5°	1512.5	1508.5	1479.2	1477.4	1474.1	1472.9	1456.3	1455.5	1475.5	1469.6	1455.9
15°	1480.0	1476.6	1444.1	1444.8	1445.2	1445.2	1431.9	1431.1	1450.7	1448.1	1433.3
17.5°	1444.1	1439.6	1408.5	1410.8	1413.4	1416.3	1406.0	1407.8	1428.5	1425.2	1411.9
20°	1403.4	1398.9	1368.6	1374.9	1380.4	1386.3	1379.7	1384.9	1404.1	1402.6	1392.6
22.5°	1357.8	1353.4	1325.3	1334.9	1344.2	1355.3	1352.3	1358.2	1378.6	1378.2	1369.3
25°	1302.3	1303.4	1278.6	1290.5	1306.0	1321.6	1322.7	1332.3	1354.9	1352.7	1344.5
27.5°	1250.5	1252.0	1225.7	1245.7	1266.4	1286.4	1291.2	1304.6	1327.5	1325.6	1318.6
30°	1196.1	1198.0	1172.4	1199.8	1225.0	1249.4	1259.8	1277.9	1301.2	1301.2	1293.8
32.5°	1139.5	1142.8	1116.2	1152.8	1182.1	1210.6	1228.7	1247.6	1274.2	1273.5	1267.2
35°	1081.4	1085.1	1060.7	1107.3	1136.5	1171.3	1193.9	1219.1	1242.7	1243.1	1238.3
37.5°	1022.2	1026.6	1004.4	1055.5	1088.8	1129.9	1158.7	1183.9	1210.2	1211.7	1207.2
40°	963.3	968.1	948.9	998.1	1040.3	1086.2	1119.5	1149.1	1178.0	1178.7	1175.8
42.5°	904.5	909.7	895.2	943.3	991.1	1040.3	1079.5	1113.2	1142.8	1144.7	1141.3
45°	847.1	851.6	841.2	893.8	939.6	993.3	1038.5	1076.6	1106.6	1109.1	1108.0
47.5°	790.1	794.2	785.0	833.1	886.0	943.0	995.2	1037.4	1069.2	1072.1	1071.4
50°	734.3	737.6	727.6	777.9	830.5	891.2	945.6	994.4	1029.9	1032.9	1032.5
52.5°	678.7	682.1	673.6	726.5	774.2	838.2	897.5	950.4	985.5	990.0	990.7
55°	625.1	626.6	619.9	670.6	716.9	783.8	851.9	903.4	938.5	942.2	944.5
57.5°	571.4	571.8	566.2	614.7	659.1	727.6	799.0	853.0	886.4	890.1	893.4
60°	518.1	517.8	511.5	558.5	601.0	668.7	743.1	796.8	829.0	832.3	836.8
62.5°	465.2	464.1	458.5	501.8	541.8	608.8	683.5	735.4	766.1	768.3	774.2
65°	412.6	411.5	406.4	446.3	482.6	546.6	619.9	669.1	696.9	699.8	698.7
67.5°	360.8	358.6	354.5	390.4	423.4	482.6	552.9	599.9	622.9	625.4	632.5
70°	309.0	306.4	297.2	335.3	364.2	417.1	482.6	524.4	543.7	546.2	545.1
72.5°	257.9	255.4	245.4	280.5	305.0	351.2	409.7	444.5	461.1	463.3	463.3
75°	208.4	206.9	200.6	227.2	247.6	285.3	334.9	363.8	376.7	379.3	378.6
77.5°	160.6	159.5	153.2	176.2	192.1	220.2	260.2	282.7	292.4	295.3	301.6
80°	115.1	114.7	104.7	127.3	134.3	158.0	187.3	204.7	209.8	213.9	218.4
82.5°	73.6	74.0	64.0	83.3	86.2	101.4	119.5	130.3	134.0	137.3	140.6
85°	35.9	37.4	31.8	44.0	44.4	52.2	60.0	64.0	65.5	68.1	71.1
87.5°	9.3	10.7	5.9	12.6	11.1	14.4	16.7	17.8	17.4	19.2	20.4
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°	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6
2.5°	1552.9	1564.7	1558.8	1578.0	1585.4	1573.6	1594.3	1594.7	1579.9	1597.3	1606.9
5°	1528.8	1541.0	1537.3	1557.3	1566.6	1556.2	1581.4	1586.2	1571.8	1591.4	1606.9
7.5°	1504.4	1518.8	1514.0	1534.4	1545.5	1537.3	1564.4	1572.1	1561.0	1582.5	1603.2
10°	1483.3	1495.5	1490.3	1511.8	1521.4	1514.8	1541.4	1555.8	1545.5	1571.8	1596.6
12.5°	1462.6	1472.6	1466.7	1484.4	1493.7	1485.2	1517.7	1531.0	1523.6	1551.0	1582.9
15°	1435.9	1447.0	1438.9	1454.8	1461.8	1454.4	1481.1	1504.0	1494.8	1524.8	1559.9
17.5°	1415.6	1421.9	1410.8	1423.4	1427.4	1417.4	1444.4	1467.0	1460.4	1492.9	1533.6
20°	1393.0	1398.2	1382.6	1389.7	1389.3	1376.7	1401.5	1423.7	1419.3	1455.2	1501.4
22.5°	1367.8	1370.4	1352.3	1353.8	1353.0	1332.3	1354.5	1377.1	1375.2	1411.5	1463.3
25°	1341.2	1341.6	1318.2	1317.5	1309.4	1284.9	1304.6	1330.1	1324.5	1363.8	1418.2
27.5°	1314.9	1311.2	1283.1	1276.4	1263.5	1234.2	1251.6	1274.6	1271.2	1309.7	1370.1
30°	1286.8	1282.0	1247.6	1235.3	1216.5	1182.8	1197.2	1218.7	1220.5	1254.2	1317.5
32.5°	1260.1	1247.9	1209.8	1192.0	1168.4	1129.1	1136.9	1158.7	1161.7	1195.7	1260.9
35°	1225.7	1217.6	1170.6	1140.2	1116.9	1074.0	1082.1	1097.3	1101.7	1135.1	1201.3
37.5°	1193.2	1180.2	1130.2	1093.2	1063.3	1018.1	1020.3	1035.9	1040.3	1074.0	1139.5
40°	1159.5	1141.0	1087.3	1044.0	1009.6	962.2	959.6	975.9	979.2	1012.2	1071.4
42.5°	1123.6	1101.4	1041.1	993.7	954.1	906.0	900.8	914.9	918.6	950.8	1008.9
45°	1087.3	1060.7	993.7	941.9	898.6	849.3	844.2	854.9	860.5	890.8	946.7
47.5°	1048.8	1017.7	944.8	887.1	842.3	793.1	786.8	797.5	802.0	832.0	884.9
50°	1008.5	970.7	894.5	830.8	786.4	738.0	728.7	741.3	745.4	773.5	825.3
52.5°	964.1	922.3	840.8	774.2	729.8	683.5	672.4	684.7	689.5	716.9	764.6
55°	917.1	871.9	786.8	722.0	673.9	628.8	619.5	624.3	634.7	660.6	705.0
57.5°	864.2	819.4	729.8	663.9	617.7	574.4	566.6	571.0	580.7	605.8	645.8
60°	807.9	760.5	671.7	605.8	561.1	520.0	512.9	517.0	527.4	550.3	587.3
62.5°	752.4	699.1	611.8	546.2	505.5	467.4	465.6	464.1	473.7	495.9	528.5
65°	685.0	634.0	549.2	487.0	450.0	415.6	408.2	411.5	420.8	441.1	475.2
67.5°	612.9	566.6	485.2	427.8	394.9	364.2	357.9	359.4	369.0	386.7	416.3
70°	536.3	495.5	419.7	368.2	340.5	311.6	307.5	307.9	317.2	332.7	358.6
72.5°	455.9	419.3	353.4	309.4	286.4	265.7	262.0	257.6	266.1	279.4	301.6
75°	374.2	342.0	287.6	251.7	233.5	216.1	212.8	208.4	216.9	228.3	245.7
77.5°	291.6	265.7	223.5	195.8	181.7	168.8	165.8	161.0	169.5	178.0	191.7
80°	210.9	192.1	166.9	137.7	132.9	124.3	121.4	116.2	124.3	129.9	140.3
82.5°	136.2	123.6	109.2	88.8	88.1	81.8	80.3	74.4	81.8	85.1	92.9
85°	68.8	62.9	59.2	45.2	46.6	42.6	42.2	35.9	41.8	43.3	47.7
87.5°	19.6	20.7	18.5	11.1	14.1	13.3	13.3	9.6	13.3	13.3	15.2
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: P837788

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

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6	1586.6
2.5°	1588.0	1594.3	1595.8	1595.4	1599.5	1621.7	1614.3	1621.7
5°	1591.7	1605.8	1609.5	1614.7	1621.3	1646.5	1638.4	1647.3
7.5°	1594.0	1615.1	1623.2	1633.2	1643.9	1672.0	1665.4	1674.3
10°	1594.0	1621.3	1633.2	1649.8	1664.3	1696.8	1690.6	1700.9
12.5°	1587.3	1622.5	1639.1	1662.4	1680.9	1716.1	1713.5	1720.9
15°	1573.6	1616.9	1639.9	1669.8	1692.8	1732.0	1730.9	1739.8
17.5°	1555.1	1607.3	1635.0	1672.8	1701.7	1745.7	1748.3	1753.1
20°	1531.8	1589.1	1625.4	1671.7	1707.9	1756.4	1759.8	1766.4
22.5°	1501.1	1567.3	1611.0	1666.9	1708.7	1760.9	1766.8	1773.1
25°	1464.8	1541.0	1592.1	1657.6	1705.0	1760.5	1768.6	1774.2
27.5°	1423.4	1507.0	1568.1	1642.8	1694.6	1754.6	1764.6	1771.2
30°	1375.2	1470.7	1540.7	1623.6	1680.6	1743.5	1754.2	1760.9
32.5°	1325.6	1430.8	1508.1	1598.8	1660.2	1725.7	1735.0	1740.1
35°	1271.6	1382.3	1468.9	1566.9	1633.9	1697.2	1704.2	1709.8
37.5°	1212.8	1329.7	1424.1	1531.0	1596.9	1657.6	1663.9	1670.2
40°	1152.1	1274.6	1373.8	1487.0	1552.9	1609.1	1615.8	1620.2
42.5°	1091.0	1213.5	1320.1	1435.2	1500.7	1554.7	1558.8	1563.2
45°	1029.2	1150.2	1259.8	1377.8	1442.6	1493.3	1494.8	1498.5
47.5°	966.3	1084.7	1193.5	1312.3	1376.3	1422.6	1424.1	1427.1
50°	903.0	1019.2	1122.8	1241.6	1304.2	1353.0	1346.4	1349.3
52.5°	840.8	950.4	1056.2	1165.4	1227.2	1270.5	1272.4	1266.4
55°	779.8	883.0	980.4	1085.5	1144.3	1178.0	1176.9	1179.1
57.5°	718.0	814.9	904.1	1000.3	1057.7	1089.5	1096.2	1088.4
60°	655.1	746.1	826.0	913.0	968.5	995.2	1002.9	995.5
62.5°	592.5	676.1	748.7	824.6	876.0	908.9	908.2	900.0
65°	530.0	605.8	670.6	735.0	779.8	812.7	811.2	803.8
67.5°	472.2	534.8	592.9	645.1	683.9	706.5	714.3	705.4
70°	408.6	462.6	513.7	555.5	587.7	608.1	615.5	607.7
72.5°	344.9	390.8	426.7	467.0	491.8	508.9	516.6	509.2
75°	282.0	319.8	349.0	380.4	397.8	412.3	421.2	413.8
77.5°	220.9	250.2	273.5	296.4	316.4	319.8	327.5	322.7
80°	162.8	183.9	201.0	216.1	230.6	232.0	238.3	235.4
82.5°	108.4	122.5	126.9	142.9	152.1	150.6	156.9	154.7
85°	57.4	65.9	73.6	78.5	83.6	78.8	84.4	82.2
87.5°	19.2	20.4	17.8	25.2	27.8	23.7	27.0	25.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)