

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: P837773

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-3LO-20-120-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: P837773
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-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

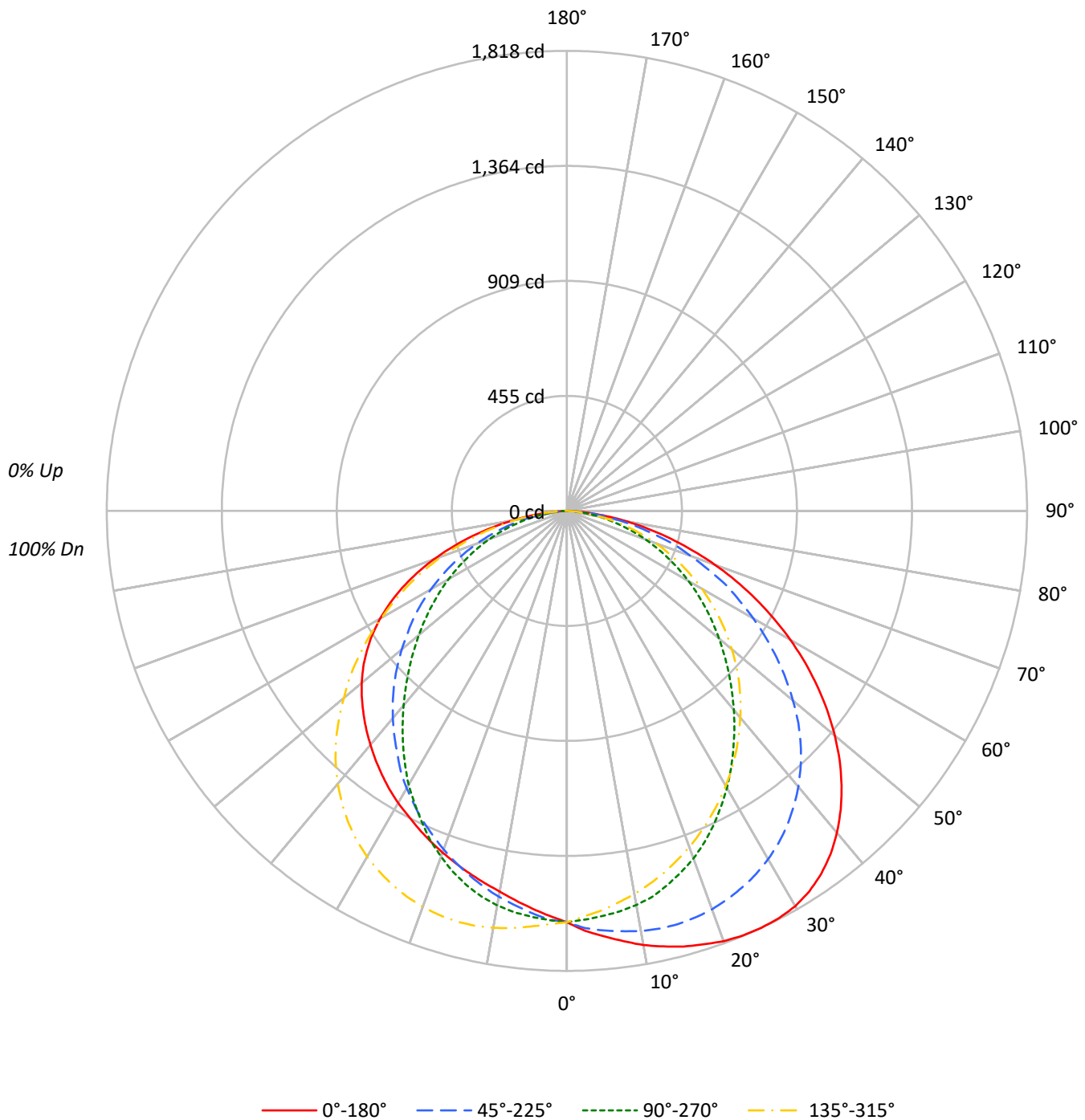
Lumens per Lamp: N/A
Luminaire Lumens: 4768.3 lumens
Efficiency: N/A
Efficacy: 67.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	4374	4374	4374	4374
5°	4558	4342	4260	4349
10°	4761	4320	4174	4326
15°	4965	4265	4133	4266
20°	5182	4187	4115	4164
25°	5396	4070	4114	4029
30°	5605	3929	4142	3885
35°	5754	3767	4183	3708
40°	5831	3605	4242	3524
45°	5842	3441	4324	3354
50°	5786	3284	4430	3196
55°	5667	3138	4528	3050
60°	5489	2985	4589	2907
65°	5243	2810	4565	2745
70°	4898	2604	4403	2556
75°	4406	2322	4040	2310
80°	3736	1945	3395	1974
85°	2600	1288	2155	1321

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	154.3	3.2
10°-20°	446.8	9.4
20°-30°	684.8	14.4
30°-40°	832.7	17.5
40°-50°	865.6	18.2
50°-60°	781.9	16.4
60°-70°	594.4	12.5
70°-80°	331.4	7.0
80°-90°	76.3	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°	1285.9	27.0
0°-40°	2118.6	44.4
0°-60°	3766.1	79.0
0°-90°	4768.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4768.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1625	1625	1625	1625	1625	
5°	1687	1607	1577	1610	1687	163
15°	1782	1531	1484	1531	1782	505
25°	1818	1371	1386	1357	1818	839
35°	1752	1147	1273	1129	1752	1094
45°	1535	904	1136	881	1535	1182
55°	1208	669	965	650	1208	1078
65°	823	441	717	431	823	814
75°	424	223	389	222	424	450
85°	84	42	70	43	84	106
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°	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3
2.5°	1661.3	1637.0	1637.4	1658.6	1642.3	1650.3	1627.5	1636.2	1633.6	1635.5	1616.9
5°	1687.4	1661.3	1660.9	1679.1	1660.9	1664.3	1635.5	1641.2	1632.8	1627.5	1607.4
7.5°	1715.1	1688.9	1686.3	1702.2	1678.3	1675.7	1643.8	1643.8	1628.7	1615.4	1596.4
10°	1742.4	1715.5	1712.1	1724.2	1694.6	1685.9	1647.2	1641.2	1621.1	1601.4	1580.9
12.5°	1762.9	1735.6	1732.9	1740.5	1707.1	1691.2	1647.2	1635.5	1605.9	1578.2	1562.3
15°	1782.2	1754.2	1747.0	1750.7	1712.5	1691.2	1641.9	1623.7	1585.8	1549.4	1530.9
17.5°	1795.9	1768.9	1761.7	1761.4	1715.1	1684.8	1630.6	1605.5	1560.0	1516.1	1497.5
20°	1809.5	1782.6	1773.5	1766.7	1714.3	1676.1	1613.9	1580.1	1527.1	1477.8	1462.2
22.5°	1816.3	1788.7	1778.8	1768.6	1709.4	1660.1	1593.4	1550.6	1489.9	1431.1	1418.3
25°	1817.5	1789.0	1778.4	1763.6	1699.6	1641.2	1566.9	1514.9	1447.1	1381.9	1370.9
27.5°	1814.4	1783.3	1772.7	1754.9	1684.8	1618.1	1535.4	1474.4	1401.6	1329.5	1317.8
30°	1803.8	1772.4	1762.1	1739.0	1663.9	1589.6	1500.9	1429.3	1351.2	1274.6	1264.3
32.5°	1782.6	1751.9	1743.5	1720.4	1641.2	1556.6	1460.7	1380.7	1295.4	1222.3	1207.1
35°	1751.5	1720.8	1715.5	1691.2	1609.3	1517.2	1416.7	1327.7	1236.3	1161.6	1146.8
37.5°	1710.9	1685.2	1677.2	1653.3	1571.8	1472.5	1366.3	1270.0	1176.0	1095.6	1086.5
40°	1659.8	1635.5	1629.4	1608.2	1528.2	1422.8	1311.7	1210.5	1113.8	1039.1	1026.3
42.5°	1601.4	1578.6	1575.2	1553.2	1474.4	1367.8	1252.6	1148.7	1049.0	977.0	964.1
45°	1535.0	1513.0	1512.3	1491.4	1415.6	1306.8	1190.4	1086.2	985.7	911.0	904.2
47.5°	1461.9	1442.1	1442.1	1422.8	1350.0	1239.7	1126.3	1020.9	922.0	856.0	843.9
50°	1382.2	1363.7	1358.0	1348.5	1277.6	1166.5	1058.9	957.3	859.1	796.1	784.4
52.5°	1297.3	1281.4	1285.2	1267.8	1199.1	1090.3	990.6	885.6	795.8	738.5	726.8
55°	1207.9	1185.1	1188.5	1182.1	1117.2	1011.9	914.0	826.5	733.6	679.7	668.8
57.5°	1115.0	1085.4	1097.5	1093.7	1030.0	931.5	843.9	759.4	671.8	622.1	611.5
60°	1019.8	991.4	1003.9	1000.5	940.6	851.1	771.5	693.0	610.4	565.3	554.6
62.5°	922.0	895.8	907.2	904.6	849.6	768.8	699.5	627.4	548.6	508.0	498.2
65°	823.4	798.4	808.6	806.8	756.0	694.5	625.5	559.6	486.4	451.1	441.3
67.5°	722.6	699.5	708.9	708.9	662.3	603.5	551.2	491.0	425.4	395.0	385.9
70°	622.5	600.9	609.2	608.5	569.0	521.3	476.2	422.3	363.6	338.5	331.0
72.5°	521.7	502.7	510.3	509.5	476.5	445.8	401.1	354.5	303.3	283.2	276.4
75°	423.8	406.0	413.2	412.5	385.6	356.7	326.8	288.1	244.1	230.1	223.3
77.5°	330.6	312.4	318.5	318.5	298.7	277.9	254.0	224.1	193.0	177.8	172.9
80°	241.1	232.4	229.4	229.7	216.5	202.8	190.7	161.9	139.1	128.9	125.5
82.5°	158.5	151.3	148.2	149.0	141.4	133.1	125.5	105.4	90.2	84.2	82.3
85°	84.2	78.9	76.2	78.1	76.6	72.0	68.2	54.6	45.1	42.8	41.7
87.5°	26.5	23.1	21.2	28.1	23.9	21.2	20.5	16.3	12.5	12.5	12.1
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3
2.5°	1623.0	1623.0	1608.2	1604.8	1603.3	1605.2	1590.4	1587.7	1609.0	1601.8	1585.4
5°	1610.1	1609.3	1588.5	1584.7	1584.7	1582.4	1565.7	1561.9	1583.2	1577.1	1559.3
7.5°	1594.2	1591.9	1567.3	1564.6	1560.8	1559.3	1540.7	1538.1	1556.3	1552.5	1535.8
10°	1574.8	1572.6	1543.4	1541.5	1537.3	1534.3	1516.8	1514.9	1533.5	1527.4	1514.2
12.5°	1549.4	1545.3	1515.3	1513.4	1510.0	1508.9	1491.8	1491.0	1511.5	1505.5	1491.4
15°	1516.1	1512.7	1479.3	1480.1	1480.4	1480.4	1466.8	1466.0	1486.1	1483.5	1468.3
17.5°	1479.3	1474.7	1442.9	1445.2	1447.8	1450.9	1440.2	1442.1	1463.4	1460.0	1446.3
20°	1437.6	1433.0	1402.0	1408.4	1414.1	1420.2	1413.3	1418.6	1438.4	1436.8	1426.6
22.5°	1391.0	1386.4	1357.6	1367.5	1376.9	1388.3	1385.3	1391.3	1412.2	1411.8	1402.7
25°	1334.1	1335.2	1309.8	1322.0	1337.9	1353.8	1354.9	1364.8	1387.9	1385.7	1377.3
27.5°	1281.0	1282.5	1255.6	1276.1	1297.3	1317.8	1322.7	1336.4	1359.9	1358.0	1350.8
30°	1225.3	1227.2	1201.0	1229.1	1254.9	1279.9	1290.5	1309.1	1333.0	1333.0	1325.4
32.5°	1167.3	1170.7	1143.4	1180.9	1210.9	1240.1	1258.7	1278.0	1305.3	1304.5	1298.1
35°	1107.8	1111.6	1086.5	1134.3	1164.3	1199.9	1223.0	1248.8	1273.1	1273.4	1268.5
37.5°	1047.1	1051.7	1028.9	1081.2	1115.3	1157.4	1187.0	1212.8	1239.7	1241.2	1236.7
40°	986.8	991.8	972.0	1022.5	1065.7	1112.7	1146.8	1177.1	1206.7	1207.5	1204.4
42.5°	926.6	931.9	917.1	966.4	1015.3	1065.7	1105.9	1140.4	1170.7	1172.6	1169.2
45°	867.8	872.3	861.7	915.6	962.6	1017.5	1063.8	1102.8	1133.5	1136.2	1135.1
47.5°	809.4	813.6	804.1	853.4	907.6	966.0	1019.4	1062.7	1095.3	1098.3	1097.5
50°	752.2	755.6	745.3	796.9	850.7	912.9	968.6	1018.7	1055.1	1058.1	1057.7
52.5°	695.3	698.7	690.0	744.2	793.1	858.7	919.3	973.6	1009.6	1014.1	1014.9
55°	640.3	641.8	635.0	687.0	734.3	803.0	872.7	925.4	961.4	965.2	967.5
57.5°	585.3	585.7	580.0	629.7	675.2	745.3	818.5	873.9	908.0	911.8	915.2
60°	530.8	530.4	523.9	572.1	615.7	685.1	761.3	816.2	849.2	852.6	857.2
62.5°	476.5	475.4	469.7	514.1	555.0	623.6	700.2	753.3	784.8	787.0	793.1
65°	422.7	421.6	416.3	457.2	494.4	559.9	635.0	685.4	713.9	716.9	715.8
67.5°	369.6	367.4	363.2	400.0	433.7	494.4	566.4	614.5	638.0	640.7	647.9
70°	316.6	313.9	304.4	343.5	373.0	427.3	494.4	537.2	556.9	559.6	558.4
72.5°	264.2	261.6	251.4	287.4	312.4	359.8	419.7	455.3	472.4	474.6	474.6
75°	213.4	211.9	205.5	232.8	253.6	292.3	343.1	372.7	385.9	388.6	387.8
77.5°	164.5	163.4	157.0	180.5	196.8	225.6	266.5	289.6	299.5	302.5	309.0
80°	117.9	117.5	107.3	130.4	137.6	161.9	191.8	209.6	215.0	219.1	223.7
82.5°	75.4	75.8	65.6	85.3	88.3	103.9	122.5	133.4	137.2	140.7	144.1
85°	36.8	38.3	32.6	45.1	45.5	53.5	61.4	65.6	67.1	69.8	72.8
87.5°	9.5	11.0	6.1	12.9	11.4	14.8	17.1	18.2	17.8	19.7	20.9
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°	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3
2.5°	1590.8	1602.9	1596.8	1616.5	1624.1	1612.0	1633.2	1633.6	1618.4	1636.2	1646.1
5°	1566.1	1578.6	1574.8	1595.3	1604.8	1594.2	1619.9	1624.9	1610.1	1630.2	1646.1
7.5°	1541.1	1555.9	1550.9	1571.8	1583.2	1574.8	1602.5	1610.5	1599.1	1621.1	1642.3
10°	1519.5	1532.0	1526.7	1548.7	1558.5	1551.7	1579.0	1593.8	1583.2	1610.1	1635.5
12.5°	1498.3	1508.5	1502.4	1520.6	1530.1	1521.4	1554.7	1568.4	1560.8	1588.9	1621.5
15°	1471.0	1482.3	1474.0	1490.3	1497.5	1489.9	1517.2	1540.7	1531.2	1561.9	1598.0
17.5°	1450.1	1456.6	1445.2	1458.1	1462.2	1452.0	1479.7	1502.8	1496.0	1529.3	1571.0
20°	1427.0	1432.3	1416.4	1423.6	1423.2	1410.3	1435.7	1458.4	1453.9	1490.7	1538.1
22.5°	1401.2	1403.9	1385.3	1386.8	1386.0	1364.8	1387.6	1410.7	1408.8	1445.9	1499.0
25°	1373.9	1374.3	1350.4	1349.6	1341.3	1316.3	1336.4	1362.5	1356.8	1397.0	1452.8
27.5°	1347.0	1343.2	1314.4	1307.6	1294.3	1264.3	1282.2	1305.7	1302.3	1341.7	1403.5
30°	1318.2	1313.2	1278.0	1265.5	1246.1	1211.6	1226.4	1248.4	1250.3	1284.8	1349.6
32.5°	1290.9	1278.4	1239.3	1221.1	1196.9	1156.7	1164.6	1187.0	1190.0	1224.9	1291.6
35°	1255.6	1247.3	1199.1	1168.0	1144.2	1100.2	1108.5	1124.1	1128.6	1162.7	1230.6
37.5°	1222.3	1209.0	1157.8	1119.9	1089.2	1042.9	1045.2	1061.1	1065.7	1100.2	1167.3
40°	1187.8	1168.8	1113.8	1069.5	1034.2	985.7	983.0	999.7	1003.1	1036.9	1097.5
42.5°	1151.0	1128.2	1066.4	1017.9	977.4	928.1	922.8	937.2	941.0	973.9	1033.5
45°	1113.8	1086.5	1017.9	964.8	920.5	870.1	864.8	875.7	881.4	912.5	969.8
47.5°	1074.4	1042.6	967.9	908.7	862.9	812.4	806.0	817.0	821.5	852.2	906.5
50°	1033.1	994.4	916.3	851.1	805.6	756.0	746.5	759.4	763.5	792.3	845.4
52.5°	987.6	944.7	861.3	793.1	747.6	700.2	688.8	701.4	706.3	734.3	783.2
55°	939.4	893.2	806.0	739.6	690.4	644.1	634.6	639.6	650.2	676.7	722.2
57.5°	885.2	839.4	747.6	680.1	632.7	588.4	580.4	585.0	594.8	620.6	661.6
60°	827.6	779.1	688.1	620.6	574.7	532.7	525.4	529.6	540.2	563.7	601.7
62.5°	770.7	716.1	626.7	559.6	517.9	478.8	476.9	475.4	485.3	508.0	541.4
65°	701.7	649.4	562.6	498.9	461.0	425.7	418.2	421.6	431.1	451.9	486.8
67.5°	627.8	580.4	497.0	438.3	404.5	373.0	366.6	368.1	378.0	396.2	426.5
70°	549.3	507.6	429.9	377.2	348.8	319.2	315.0	315.4	324.9	340.8	367.4
72.5°	467.1	429.5	362.1	316.9	293.4	272.2	268.4	263.9	272.6	286.2	309.0
75°	383.3	350.3	294.6	257.8	239.2	221.4	218.0	213.4	222.2	233.9	251.7
77.5°	298.7	272.2	229.0	200.6	186.1	172.9	169.8	164.9	173.6	182.4	196.4
80°	216.1	196.8	171.0	141.0	136.1	127.4	124.3	119.0	127.4	133.1	143.7
82.5°	139.5	126.6	111.8	91.0	90.2	83.8	82.3	76.2	83.8	87.2	95.2
85°	70.5	64.4	60.7	46.3	47.8	43.6	43.2	36.8	42.8	44.4	48.9
87.5°	20.1	21.2	19.0	11.4	14.4	13.6	13.6	9.9	13.6	13.6	15.5
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: P837773

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-3LO-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3	1625.3
2.5°	1626.8	1633.2	1634.7	1634.4	1638.5	1661.3	1653.7	1661.3
5°	1630.6	1645.0	1648.8	1654.1	1660.9	1686.7	1678.3	1687.4
7.5°	1632.8	1654.4	1662.8	1673.0	1684.0	1712.8	1706.0	1715.1
10°	1632.8	1660.9	1673.0	1690.1	1704.9	1738.2	1731.8	1742.4
12.5°	1626.0	1662.0	1679.1	1703.0	1721.9	1757.9	1755.3	1762.9
15°	1612.0	1656.3	1679.8	1710.6	1734.1	1774.2	1773.1	1782.2
17.5°	1593.0	1646.5	1674.9	1713.6	1743.2	1788.3	1790.9	1795.9
20°	1569.1	1627.9	1665.1	1712.5	1749.6	1799.3	1802.7	1809.5
22.5°	1537.7	1605.5	1650.3	1707.5	1750.4	1803.8	1809.9	1816.3
25°	1500.5	1578.6	1630.9	1698.0	1746.6	1803.4	1811.8	1817.5
27.5°	1458.1	1543.7	1606.3	1682.9	1736.0	1797.4	1807.6	1814.4
30°	1408.8	1506.6	1578.2	1663.2	1721.5	1786.0	1797.0	1803.8
32.5°	1358.0	1465.6	1544.9	1637.8	1700.7	1767.8	1777.3	1782.6
35°	1302.6	1416.0	1504.7	1605.2	1673.8	1738.6	1745.8	1751.5
37.5°	1242.4	1362.2	1458.8	1568.4	1635.9	1698.0	1704.5	1710.9
40°	1180.2	1305.7	1407.3	1523.3	1590.8	1648.4	1655.2	1659.8
42.5°	1117.6	1243.1	1352.3	1470.2	1537.3	1592.7	1596.8	1601.4
45°	1054.3	1178.3	1290.5	1411.4	1477.8	1529.7	1531.2	1535.0
47.5°	989.9	1111.2	1222.6	1344.3	1409.9	1457.3	1458.8	1461.9
50°	925.0	1044.1	1150.2	1271.9	1336.0	1386.0	1379.2	1382.2
52.5°	861.3	973.6	1082.0	1193.8	1257.1	1301.5	1303.4	1297.3
55°	798.8	904.6	1004.3	1111.9	1172.2	1206.7	1205.6	1207.9
57.5°	735.5	834.8	926.2	1024.7	1083.5	1116.1	1122.9	1115.0
60°	671.0	764.3	846.2	935.3	992.1	1019.4	1027.4	1019.8
62.5°	607.0	692.6	766.9	844.7	897.4	931.1	930.3	922.0
65°	542.9	620.6	687.0	752.9	798.8	832.5	831.0	823.4
67.5°	483.7	547.8	607.3	660.8	700.6	723.7	731.7	722.6
70°	418.5	473.9	526.2	569.0	602.0	622.9	630.5	622.5
72.5°	353.3	400.3	437.1	478.4	503.8	521.3	529.2	521.7
75°	288.9	327.6	357.5	389.7	407.5	422.3	431.4	423.8
77.5°	226.3	256.3	280.2	303.7	324.1	327.6	335.5	330.6
80°	166.8	188.4	205.9	221.4	236.2	237.7	244.1	241.1
82.5°	111.1	125.5	130.0	146.3	155.8	154.3	160.7	158.5
85°	58.8	67.5	75.4	80.4	85.7	80.8	86.4	84.2
87.5°	19.7	20.9	18.2	25.8	28.4	24.3	27.7	26.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)