

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: P837942

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-5STD-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: P837942
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-LD4-5STD-20-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

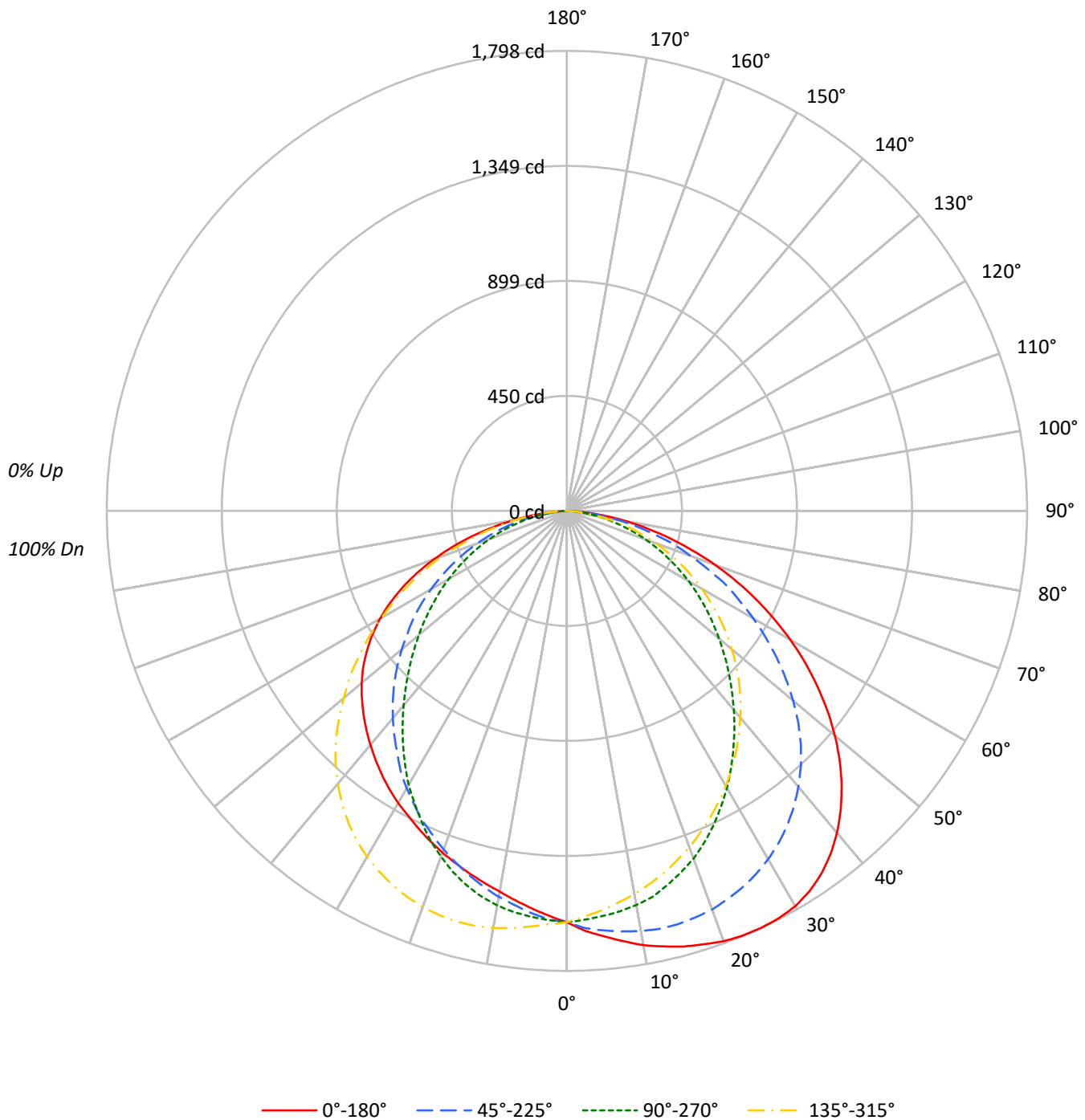
Lumens per Lamp: N/A
Luminaire Lumens: 4716.3 lumens
Efficiency: N/A
Efficacy: 56.7 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 83.2
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°	4326	4326	4326	4326
5°	4508	4295	4214	4302
10°	4709	4273	4128	4279
15°	4911	4218	4088	4220
20°	5125	4142	4070	4118
25°	5338	4026	4070	3985
30°	5544	3886	4097	3843
35°	5691	3726	4138	3667
40°	5767	3566	4195	3485
45°	5778	3403	4277	3318
50°	5724	3248	4382	3162
55°	5605	3103	4479	3017
60°	5429	2953	4539	2876
65°	5186	2779	4515	2715
70°	4844	2576	4355	2529
75°	4358	2297	3997	2284
80°	3696	1923	3358	1953
85°	2569	1272	2130	1309

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.6	3.2
10°-20°	442.0	9.4
20°-30°	677.3	14.4
30°-40°	823.6	17.5
40°-50°	856.2	18.2
50°-60°	773.4	16.4
60°-70°	588.0	12.5
70°-80°	327.8	7.0
80°-90°	75.5	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°	1271.9	27.0
0°-40°	2095.5	44.4
0°-60°	3725.1	79.0
0°-90°	4716.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4716.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1608	1608	1608	1608	1608	
5°	1669	1590	1560	1593	1669	161
15°	1763	1514	1467	1515	1763	500
25°	1798	1356	1371	1342	1798	830
35°	1732	1134	1260	1116	1732	1082
45°	1518	894	1124	872	1518	1169
55°	1195	662	955	643	1195	1066
65°	814	436	709	426	814	805
75°	419	221	384	220	419	445
85°	83	41	69	42	83	105
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°	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6
2.5°	1643.2	1619.2	1619.6	1640.6	1624.4	1632.3	1609.8	1618.4	1615.8	1617.7	1599.3
5°	1669.0	1643.2	1642.8	1660.8	1642.8	1646.2	1617.7	1623.3	1615.1	1609.8	1589.9
7.5°	1696.4	1670.5	1667.9	1683.7	1660.0	1657.4	1625.9	1625.9	1610.9	1597.8	1579.1
10°	1723.4	1696.8	1693.4	1705.4	1676.2	1667.5	1629.3	1623.3	1603.4	1583.9	1563.7
12.5°	1743.7	1716.7	1714.0	1721.5	1688.5	1672.8	1629.3	1617.7	1588.4	1561.1	1545.3
15°	1762.8	1735.0	1727.9	1731.7	1693.8	1672.8	1624.1	1606.1	1568.6	1532.6	1514.2
17.5°	1776.3	1749.7	1742.5	1742.2	1696.4	1666.4	1612.8	1588.1	1543.1	1499.6	1481.2
20°	1789.8	1763.2	1754.2	1747.4	1695.7	1657.8	1596.3	1562.9	1510.4	1461.7	1446.3
22.5°	1796.5	1769.2	1759.4	1749.3	1690.8	1642.1	1576.1	1533.7	1473.7	1415.6	1402.8
25°	1797.7	1769.5	1759.0	1744.4	1681.0	1623.3	1549.8	1498.4	1431.3	1366.8	1355.9
27.5°	1794.7	1763.9	1753.4	1735.8	1666.4	1600.4	1518.7	1458.3	1386.3	1315.1	1303.4
30°	1784.2	1753.0	1742.9	1720.0	1645.8	1572.3	1484.6	1413.7	1336.4	1260.7	1250.6
32.5°	1763.2	1732.8	1724.5	1701.7	1623.3	1539.7	1444.8	1365.7	1281.3	1208.9	1193.9
35°	1732.4	1702.0	1696.8	1672.8	1591.8	1500.7	1401.3	1313.2	1222.8	1148.9	1134.3
37.5°	1692.3	1666.8	1658.9	1635.3	1554.7	1456.4	1351.4	1256.2	1163.2	1083.7	1074.7
40°	1641.7	1617.7	1611.7	1590.7	1511.6	1407.3	1297.4	1197.3	1101.7	1027.8	1015.1
42.5°	1583.9	1561.4	1558.1	1536.3	1458.3	1352.9	1238.9	1136.2	1037.6	966.3	953.6
45°	1518.3	1496.6	1495.8	1475.2	1400.2	1292.6	1177.4	1074.3	975.0	901.1	894.3
47.5°	1445.9	1426.4	1426.4	1407.3	1335.3	1226.2	1114.1	1009.8	912.0	846.7	834.7
50°	1367.2	1348.8	1343.2	1333.8	1263.7	1153.8	1047.3	946.8	849.7	787.5	775.8
52.5°	1283.2	1267.4	1271.2	1253.9	1186.1	1078.5	979.8	876.0	787.1	730.5	718.8
55°	1194.7	1172.2	1175.6	1169.2	1105.1	1000.8	904.1	817.5	725.6	672.3	661.5
57.5°	1102.8	1073.6	1085.6	1081.8	1018.8	921.3	834.7	751.1	664.5	615.3	604.8
60°	1008.7	980.6	993.0	989.6	930.3	841.8	763.1	685.5	603.7	559.1	548.6
62.5°	912.0	886.1	897.3	894.7	840.3	760.5	691.8	620.6	542.6	502.5	492.7
65°	814.5	789.7	799.8	798.0	747.7	687.0	618.7	553.5	481.1	446.2	436.5
67.5°	714.7	691.8	701.2	701.2	655.1	597.0	545.2	485.6	420.7	390.7	381.7
70°	615.7	594.3	602.6	601.8	562.8	515.6	471.0	417.7	359.6	334.9	327.4
72.5°	516.0	497.2	504.7	504.0	471.4	441.0	396.7	350.6	300.0	280.1	273.4
75°	419.2	401.6	408.7	408.0	381.4	352.9	323.2	285.0	241.5	227.6	220.9
77.5°	327.0	309.0	315.0	315.0	295.5	274.9	251.2	221.6	190.9	175.9	171.0
80°	238.5	229.9	226.9	227.2	214.1	200.6	188.6	160.1	137.6	127.5	124.1
82.5°	156.7	149.6	146.6	147.4	139.9	131.6	124.1	104.2	89.2	83.2	81.4
85°	83.2	78.0	75.4	77.2	75.7	71.2	67.5	54.0	44.6	42.4	41.2
87.5°	26.2	22.9	21.0	27.7	23.6	21.0	20.2	16.1	12.4	12.4	12.0
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°	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6
2.5°	1605.3	1605.3	1590.7	1587.3	1585.8	1587.7	1573.1	1570.4	1591.4	1584.3	1568.2
5°	1592.6	1591.8	1571.2	1567.4	1567.4	1565.2	1548.7	1544.9	1565.9	1559.9	1542.3
7.5°	1576.8	1574.6	1550.2	1547.6	1543.8	1542.3	1523.9	1521.3	1539.3	1535.6	1519.1
10°	1557.7	1555.4	1526.6	1524.7	1520.6	1517.6	1500.3	1498.4	1516.8	1510.8	1497.7
12.5°	1532.6	1528.4	1498.8	1496.9	1493.6	1492.4	1475.6	1474.8	1495.1	1489.1	1475.2
15°	1499.6	1496.2	1463.2	1463.9	1464.3	1464.3	1450.8	1450.1	1469.9	1467.3	1452.3
17.5°	1463.2	1458.7	1427.2	1429.4	1432.1	1435.1	1424.6	1426.4	1447.4	1444.1	1430.6
20°	1421.9	1417.4	1386.7	1393.1	1398.7	1404.7	1397.9	1403.2	1422.7	1421.2	1411.1
22.5°	1375.8	1371.3	1342.8	1352.6	1361.9	1373.2	1370.2	1376.2	1396.8	1396.4	1387.4
25°	1319.6	1320.7	1295.6	1307.6	1323.3	1339.1	1340.2	1349.9	1372.8	1370.6	1362.3
27.5°	1267.1	1268.6	1241.9	1262.2	1283.2	1303.4	1308.3	1321.8	1345.1	1343.2	1336.1
30°	1211.9	1213.8	1187.9	1215.7	1241.2	1265.9	1276.4	1294.8	1318.4	1318.4	1310.9
32.5°	1154.6	1157.9	1130.9	1168.1	1197.7	1226.6	1244.9	1264.1	1291.1	1290.3	1283.9
35°	1095.7	1099.5	1074.7	1121.9	1151.6	1186.8	1209.7	1235.2	1259.2	1259.6	1254.7
37.5°	1035.7	1040.2	1017.7	1069.5	1103.2	1144.8	1174.1	1199.6	1226.2	1227.7	1223.2
40°	976.1	981.0	961.5	1011.3	1054.1	1100.6	1134.3	1164.3	1193.6	1194.3	1191.3
42.5°	916.5	921.7	907.1	955.8	1004.2	1054.1	1093.8	1127.9	1157.9	1159.8	1156.4
45°	858.3	862.8	852.3	905.6	952.1	1006.5	1052.2	1090.8	1121.2	1123.8	1122.7
47.5°	800.6	804.7	795.3	844.1	897.7	955.5	1008.3	1051.1	1083.3	1086.3	1085.6
50°	744.0	747.3	737.2	788.2	841.5	903.0	958.1	1007.6	1043.6	1046.6	1046.2
52.5°	687.7	691.1	682.5	736.1	784.5	849.3	909.3	963.0	998.6	1003.1	1003.8
55°	633.3	634.8	628.1	679.5	726.3	794.2	863.2	915.3	951.0	954.7	957.0
57.5°	579.0	579.3	573.7	622.8	667.8	737.2	809.6	864.3	898.1	901.8	905.2
60°	525.0	524.6	518.2	565.8	609.0	677.6	753.0	807.3	840.0	843.3	847.8
62.5°	471.4	470.2	464.6	508.5	549.0	616.8	692.6	745.1	776.2	778.5	784.5
65°	418.1	417.0	411.7	452.2	489.0	553.8	628.1	678.0	706.1	709.1	708.0
67.5°	365.6	363.4	359.2	395.6	429.0	489.0	560.2	607.8	631.1	633.7	640.8
70°	313.1	310.5	301.1	339.7	369.0	422.6	489.0	531.4	550.9	553.5	552.3
72.5°	261.4	258.7	248.6	284.2	309.0	355.9	415.1	450.4	467.2	469.5	469.5
75°	211.1	209.6	203.2	230.2	250.9	289.1	339.4	368.6	381.7	384.4	383.6
77.5°	162.7	161.6	155.2	178.5	194.6	223.1	263.6	286.5	296.2	299.2	305.6
80°	116.6	116.2	106.1	129.0	136.1	160.1	189.7	207.4	212.6	216.7	221.2
82.5°	74.6	75.0	64.9	84.4	87.4	102.7	121.1	132.0	135.7	139.1	142.5
85°	36.4	37.9	32.2	44.6	45.0	52.9	60.7	64.9	66.4	69.0	72.0
87.5°	9.4	10.9	6.0	12.7	11.2	14.6	16.9	18.0	17.6	19.5	20.6
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°	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6
2.5°	1573.4	1585.4	1579.4	1598.9	1606.4	1594.4	1615.4	1615.8	1600.8	1618.4	1628.2
5°	1549.1	1561.4	1557.7	1577.9	1587.3	1576.8	1602.3	1607.2	1592.6	1612.4	1628.2
7.5°	1524.3	1538.9	1534.1	1554.7	1565.9	1557.7	1585.1	1592.9	1581.7	1603.4	1624.4
10°	1502.9	1515.3	1510.1	1531.8	1541.6	1534.8	1561.8	1576.4	1565.9	1592.6	1617.7
12.5°	1481.9	1492.1	1486.1	1504.1	1513.4	1504.8	1537.8	1551.3	1543.8	1571.6	1603.8
15°	1454.9	1466.2	1457.9	1474.1	1481.2	1473.7	1500.7	1523.9	1514.6	1544.9	1580.6
17.5°	1434.3	1440.7	1429.4	1442.2	1446.3	1436.2	1463.6	1486.4	1479.7	1512.7	1553.9
20°	1411.4	1416.7	1400.9	1408.1	1407.7	1394.9	1420.1	1442.6	1438.1	1474.4	1521.3
22.5°	1385.9	1388.6	1370.2	1371.7	1370.9	1349.9	1372.4	1395.3	1393.4	1430.2	1482.7
25°	1358.9	1359.3	1335.7	1334.9	1326.7	1301.9	1321.8	1347.7	1342.1	1381.8	1436.9
27.5°	1332.3	1328.6	1300.1	1293.3	1280.2	1250.6	1268.2	1291.4	1288.1	1327.1	1388.2
30°	1303.8	1298.9	1264.1	1251.7	1232.6	1198.4	1213.1	1234.8	1236.7	1270.8	1334.9
32.5°	1276.8	1264.4	1225.8	1207.8	1183.8	1144.1	1151.9	1174.1	1177.1	1211.6	1277.6
35°	1241.9	1233.7	1186.1	1155.3	1131.7	1088.2	1096.5	1111.8	1116.3	1150.1	1217.2
37.5°	1208.9	1195.8	1145.2	1107.7	1077.3	1031.6	1033.8	1049.6	1054.1	1088.2	1154.6
40°	1174.8	1156.1	1101.7	1057.8	1023.0	975.0	972.3	988.8	992.2	1025.6	1085.6
42.5°	1138.4	1115.9	1054.8	1006.8	966.7	918.0	912.7	927.0	930.7	963.3	1022.2
45°	1101.7	1074.7	1006.8	954.3	910.5	860.6	855.3	866.2	871.8	902.6	959.2
47.5°	1062.7	1031.2	957.3	898.8	853.5	803.6	797.2	808.1	812.6	843.0	896.6
50°	1021.8	983.6	906.3	841.8	796.8	747.7	738.3	751.1	755.2	783.7	836.2
52.5°	976.8	934.5	852.0	784.5	739.5	692.6	681.3	693.7	698.6	726.3	774.7
55°	929.2	883.5	797.2	731.6	682.8	637.1	627.7	632.6	643.1	669.3	714.3
57.5°	875.6	830.2	739.5	672.7	625.8	582.0	574.1	578.6	588.3	613.8	654.3
60°	818.6	770.6	680.6	613.8	568.5	526.9	519.7	523.9	534.4	557.6	595.1
62.5°	762.3	708.3	619.8	553.5	512.2	473.6	471.7	470.2	480.0	502.5	535.5
65°	694.1	642.3	556.5	493.5	456.0	421.1	413.6	417.0	426.4	447.0	481.5
67.5°	621.0	574.1	491.6	433.5	400.1	369.0	362.6	364.1	373.9	391.9	421.9
70°	543.4	502.1	425.2	373.1	345.0	315.7	311.6	312.0	321.4	337.1	363.4
72.5°	462.0	424.9	358.1	313.5	290.2	269.2	265.5	261.0	269.6	283.1	305.6
75°	379.1	346.5	291.4	255.0	236.6	219.0	215.6	211.1	219.7	231.4	249.0
77.5°	295.5	269.2	226.5	198.4	184.1	171.0	168.0	163.1	171.7	180.4	194.2
80°	213.7	194.6	169.1	139.5	134.6	126.0	123.0	117.7	126.0	131.6	142.1
82.5°	138.0	125.2	110.6	90.0	89.2	82.9	81.4	75.4	82.9	86.2	94.1
85°	69.7	63.7	60.0	45.7	47.2	43.1	42.7	36.4	42.4	43.9	48.4
87.5°	19.9	21.0	18.7	11.2	14.2	13.5	13.5	9.7	13.5	13.5	15.4
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: P837942

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-5STD-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6	1607.6
2.5°	1609.1	1615.4	1616.9	1616.6	1620.7	1643.2	1635.7	1643.2
5°	1612.8	1627.1	1630.8	1636.1	1642.8	1668.3	1660.0	1669.0
7.5°	1615.1	1636.4	1644.7	1654.8	1665.7	1694.2	1687.4	1696.4
10°	1615.1	1642.8	1654.8	1671.7	1686.3	1719.3	1712.9	1723.4
12.5°	1608.3	1643.9	1660.8	1684.4	1703.2	1738.8	1736.2	1743.7
15°	1594.4	1638.3	1661.5	1691.9	1715.2	1754.9	1753.8	1762.8
17.5°	1575.7	1628.6	1656.7	1694.9	1724.2	1768.8	1771.4	1776.3
20°	1552.1	1610.2	1646.9	1693.8	1730.5	1779.7	1783.0	1789.8
22.5°	1520.9	1588.1	1632.3	1688.9	1731.3	1784.2	1790.2	1796.5
25°	1484.2	1561.4	1613.2	1679.5	1727.5	1783.8	1792.0	1797.7
27.5°	1442.2	1526.9	1588.8	1664.5	1717.0	1777.8	1787.9	1794.7
30°	1393.4	1490.2	1561.1	1645.1	1702.8	1766.5	1777.4	1784.2
32.5°	1343.2	1449.7	1528.1	1619.9	1682.2	1748.5	1757.9	1763.2
35°	1288.4	1400.6	1488.3	1587.7	1655.5	1719.7	1726.8	1732.4
37.5°	1228.8	1347.3	1442.9	1551.3	1618.1	1679.5	1685.9	1692.3
40°	1167.3	1291.4	1391.9	1506.7	1573.4	1630.4	1637.2	1641.7
42.5°	1105.4	1229.6	1337.6	1454.2	1520.6	1575.3	1579.4	1583.9
45°	1042.8	1165.4	1276.4	1396.1	1461.7	1513.1	1514.6	1518.3
47.5°	979.1	1099.1	1209.3	1329.7	1394.6	1441.4	1442.9	1445.9
50°	915.0	1032.7	1137.7	1258.1	1321.4	1370.9	1364.2	1367.2
52.5°	852.0	963.0	1070.2	1180.8	1243.4	1287.3	1289.2	1283.2
55°	790.1	894.7	993.3	1099.8	1159.4	1193.6	1192.4	1194.7
57.5°	727.5	825.7	916.1	1013.6	1071.7	1103.9	1110.7	1102.8
60°	663.7	756.0	837.0	925.1	981.3	1008.3	1016.2	1008.7
62.5°	600.3	685.1	758.6	835.5	887.6	921.0	920.2	912.0
65°	537.0	613.8	679.5	744.7	790.1	823.5	822.0	814.5
67.5°	478.5	541.9	600.7	653.6	693.0	715.8	723.7	714.7
70°	414.0	468.7	520.5	562.8	595.5	616.1	623.6	615.7
72.5°	349.5	396.0	432.4	473.2	498.4	515.6	523.5	516.0
75°	285.7	324.0	353.6	385.5	403.1	417.7	426.7	419.2
77.5°	223.9	253.5	277.1	300.4	320.6	324.0	331.9	327.0
80°	165.0	186.4	203.6	219.0	233.6	235.1	241.5	238.5
82.5°	109.9	124.1	128.6	144.7	154.1	152.6	159.0	156.7
85°	58.1	66.7	74.6	79.5	84.7	79.9	85.5	83.2
87.5°	19.5	20.6	18.0	25.5	28.1	24.0	27.4	26.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)