

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: P838129

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1HI-50-120-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: P838129
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2R-LD4-1HI-50-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

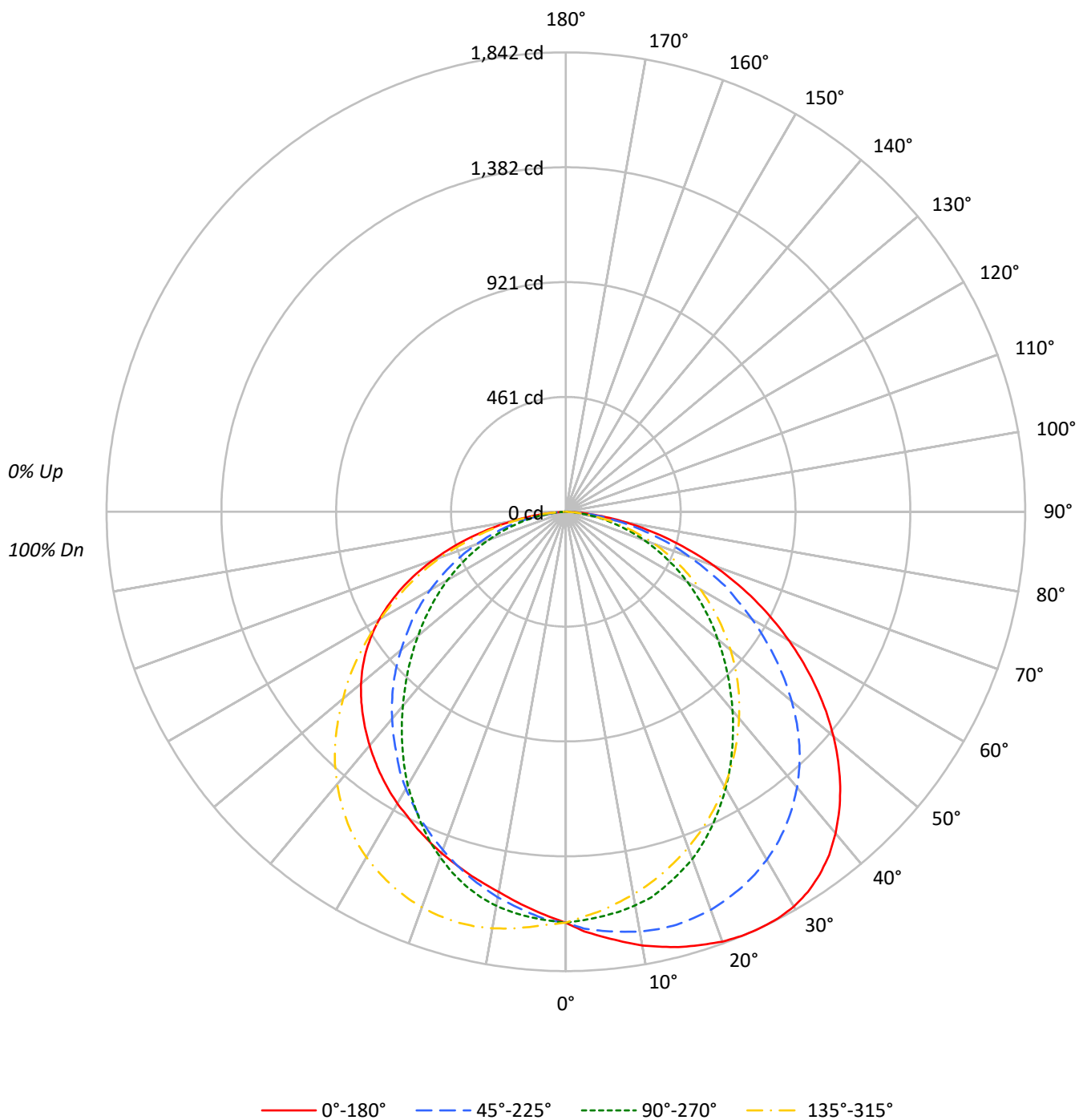
Lumens per Lamp: N/A
Luminaire Lumens: 4833.5 lumens
Efficiency: N/A
Efficacy: 109.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 44
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°	2217	2217	2217	2217
5°	2310	2201	2159	2204
10°	2413	2189	2115	2193
15°	2517	2162	2095	2162
20°	2626	2122	2085	2110
25°	2735	2063	2085	2042
30°	2841	1991	2099	1969
35°	2916	1909	2120	1879
40°	2955	1827	2150	1786
45°	2961	1744	2191	1700
50°	2933	1664	2245	1620
55°	2872	1590	2295	1546
60°	2782	1513	2326	1474
65°	2657	1424	2314	1391
70°	2482	1320	2231	1295
75°	2233	1177	2048	1171
80°	1894	986	1721	1000
85°	1317	653	1091	670

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.4	3.2
10°-20°	452.9	9.4
20°-30°	694.2	14.4
30°-40°	844.1	17.5
40°-50°	877.5	18.2
50°-60°	792.6	16.4
60°-70°	602.6	12.5
70°-80°	335.9	7.0
80°-90°	77.3	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°	1303.5	27.0
0°-40°	2147.6	44.4
0°-60°	3817.6	79.0
0°-90°	4833.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4833.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1648	1648	1648	1648	1648	
5°	1710	1629	1599	1632	1710	165
15°	1807	1552	1504	1552	1807	512
25°	1842	1390	1405	1375	1842	851
35°	1776	1162	1291	1144	1776	1109
45°	1556	917	1152	894	1556	1198
55°	1224	678	978	659	1224	1093
65°	835	447	727	437	835	825
75°	430	226	394	225	430	456
85°	85	42	71	43	85	107
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°	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5
2.5°	1684.0	1659.4	1659.8	1681.3	1664.8	1672.8	1649.8	1658.6	1655.9	1657.9	1639.0
5°	1710.5	1684.0	1683.6	1702.1	1683.6	1687.1	1657.9	1663.6	1655.2	1649.8	1629.4
7.5°	1738.6	1712.0	1709.4	1725.5	1701.3	1698.6	1666.3	1666.3	1650.9	1637.5	1618.3
10°	1766.2	1738.9	1735.5	1747.8	1717.8	1709.0	1669.8	1663.6	1643.3	1623.3	1602.5
12.5°	1787.0	1759.3	1756.6	1764.3	1730.5	1714.4	1669.8	1657.9	1627.9	1599.8	1583.7
15°	1806.6	1778.1	1770.8	1774.7	1735.9	1714.4	1664.4	1645.9	1607.5	1570.6	1551.8
17.5°	1820.4	1793.1	1785.8	1785.4	1738.6	1707.8	1652.9	1627.5	1581.4	1536.8	1518.0
20°	1834.3	1807.0	1797.7	1790.8	1737.8	1699.0	1636.0	1601.8	1548.0	1498.0	1482.2
22.5°	1841.2	1813.1	1803.1	1792.8	1732.8	1682.8	1615.2	1571.8	1510.3	1450.7	1437.7
25°	1842.3	1813.5	1802.7	1787.8	1722.8	1663.6	1588.3	1535.7	1466.9	1400.8	1389.6
27.5°	1839.3	1807.7	1797.0	1778.9	1707.8	1640.2	1556.4	1494.5	1420.7	1347.7	1335.8
30°	1828.5	1796.6	1786.2	1762.8	1686.7	1611.4	1521.4	1448.8	1369.6	1292.0	1281.6
32.5°	1807.0	1775.8	1767.4	1743.9	1663.6	1577.9	1480.7	1399.6	1313.1	1239.0	1223.6
35°	1775.5	1744.3	1738.9	1714.4	1631.3	1538.0	1436.1	1345.8	1253.2	1177.5	1162.5
37.5°	1734.3	1708.2	1700.1	1675.9	1593.3	1492.6	1385.0	1287.4	1192.1	1110.6	1101.4
40°	1682.5	1657.9	1651.7	1630.2	1549.1	1442.3	1329.7	1227.1	1129.1	1053.4	1040.3
42.5°	1623.3	1600.2	1596.8	1574.5	1494.5	1386.5	1269.7	1164.4	1063.4	990.3	977.3
45°	1556.0	1533.7	1533.0	1511.8	1435.0	1324.7	1206.7	1101.0	999.2	923.5	916.6
47.5°	1481.9	1461.9	1461.9	1442.3	1368.5	1256.7	1141.7	1034.9	934.6	867.7	855.4
50°	1401.2	1382.3	1376.6	1366.9	1295.1	1182.5	1073.3	970.4	870.8	807.0	795.1
52.5°	1315.1	1298.9	1302.8	1285.1	1215.5	1105.2	1004.2	897.7	806.6	748.6	736.7
55°	1224.4	1201.3	1204.8	1198.2	1132.5	1025.7	926.5	837.8	743.6	689.0	677.9
57.5°	1130.2	1100.2	1112.5	1108.7	1044.1	944.2	855.4	769.7	681.0	630.6	619.9
60°	1033.8	1004.9	1017.6	1014.2	953.4	862.7	782.0	702.5	618.7	573.0	562.2
62.5°	934.6	908.1	919.6	916.9	861.2	779.4	709.0	636.0	556.1	515.0	505.0
65°	834.7	809.3	819.7	817.8	766.3	704.0	634.1	567.2	493.1	457.3	447.3
67.5°	732.5	709.0	718.6	718.6	671.4	611.8	558.8	497.7	431.2	400.4	391.2
70°	631.0	609.1	617.6	616.8	576.8	528.4	482.7	428.1	368.5	343.2	335.5
72.5°	528.8	509.6	517.3	516.5	483.1	451.9	406.6	359.3	307.4	287.1	280.2
75°	429.6	411.6	418.9	418.1	390.8	361.6	331.3	292.1	247.5	233.3	226.4
77.5°	335.1	316.7	322.8	322.8	302.8	281.7	257.5	227.1	195.6	180.2	175.2
80°	244.4	235.6	232.5	232.9	219.4	205.6	193.3	164.1	141.0	130.7	127.2
82.5°	160.6	153.3	150.3	151.0	143.3	134.9	127.2	106.8	91.5	85.3	83.4
85°	85.3	79.9	77.2	79.2	77.6	73.0	69.2	55.3	45.7	43.4	42.3
87.5°	26.9	23.4	21.5	28.4	24.2	21.5	20.8	16.5	12.7	12.7	12.3
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°	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5
2.5°	1645.2	1645.2	1630.2	1626.7	1625.2	1627.1	1612.1	1609.4	1631.0	1623.7	1607.1
5°	1632.1	1631.3	1610.2	1606.4	1606.4	1604.1	1587.2	1583.3	1604.8	1598.7	1580.6
7.5°	1616.0	1613.7	1588.7	1586.0	1582.2	1580.6	1561.8	1559.1	1577.5	1573.7	1556.8
10°	1596.4	1594.1	1564.5	1562.6	1558.3	1555.3	1537.6	1535.7	1554.5	1548.3	1534.9
12.5°	1570.6	1566.4	1536.0	1534.1	1530.7	1529.5	1512.2	1511.4	1532.2	1526.0	1511.8
15°	1536.8	1533.3	1499.5	1500.3	1500.7	1500.7	1486.8	1486.1	1506.4	1503.8	1488.4
17.5°	1499.5	1494.9	1462.6	1464.9	1467.6	1470.7	1459.9	1461.9	1483.4	1479.9	1466.1
20°	1457.3	1452.6	1421.1	1427.7	1433.4	1439.6	1432.7	1438.0	1458.0	1456.5	1446.1
22.5°	1410.0	1405.4	1376.2	1386.2	1395.8	1407.3	1404.2	1410.4	1431.5	1431.1	1421.9
25°	1352.3	1353.5	1327.7	1340.0	1356.2	1372.3	1373.5	1383.5	1406.9	1404.6	1396.2
27.5°	1298.5	1300.1	1272.8	1293.5	1315.1	1335.8	1340.8	1354.7	1378.5	1376.6	1369.3
30°	1242.1	1244.0	1217.5	1245.9	1272.0	1297.4	1308.2	1327.0	1351.2	1351.2	1343.5
32.5°	1183.3	1186.7	1159.0	1197.1	1227.4	1257.0	1275.9	1295.5	1323.1	1322.4	1315.8
35°	1122.9	1126.8	1101.4	1149.8	1180.2	1216.3	1239.7	1265.9	1290.5	1290.9	1285.9
37.5°	1061.4	1066.0	1043.0	1096.0	1130.6	1173.3	1203.2	1229.4	1256.7	1258.2	1253.6
40°	1000.3	1005.3	985.3	1036.5	1080.3	1127.9	1162.5	1193.2	1223.2	1224.0	1220.9
42.5°	939.2	944.6	929.6	979.6	1029.2	1080.3	1121.0	1156.0	1186.7	1188.6	1185.2
45°	879.7	884.3	873.5	928.1	975.7	1031.5	1078.3	1117.9	1149.1	1151.7	1150.6
47.5°	820.5	824.7	815.1	865.1	920.0	979.2	1033.4	1077.2	1110.2	1113.3	1112.5
50°	762.4	765.9	755.5	807.8	862.4	925.4	981.9	1032.6	1069.5	1072.6	1072.2
52.5°	704.8	708.3	699.4	754.4	804.0	870.4	931.9	986.9	1023.4	1028.0	1028.8
55°	649.1	650.6	643.7	696.3	744.4	813.9	884.7	938.1	974.6	978.4	980.7
57.5°	593.4	593.7	588.0	638.3	684.4	755.5	829.7	885.8	920.4	924.2	927.7
60°	538.0	537.6	531.1	579.9	624.1	694.4	771.7	827.4	860.8	864.3	868.9
62.5°	483.1	481.9	476.1	521.1	562.6	632.2	709.8	763.6	795.5	797.8	804.0
65°	428.5	427.3	422.0	463.5	501.1	567.6	643.7	694.8	723.6	726.7	725.6
67.5°	374.7	372.4	368.2	405.4	439.6	501.1	574.1	622.9	646.8	649.5	656.8
70°	320.9	318.2	308.6	348.2	378.1	433.1	501.1	544.6	564.5	567.2	566.1
72.5°	267.9	265.2	254.8	291.3	316.7	364.7	425.4	461.5	478.8	481.1	481.1
75°	216.4	214.8	208.3	236.0	257.1	296.3	347.8	377.8	391.2	393.9	393.1
77.5°	166.8	165.6	159.1	182.9	199.5	228.7	270.2	293.6	303.6	306.7	313.2
80°	119.5	119.1	108.8	132.2	139.5	164.1	194.5	212.5	217.9	222.1	226.7
82.5°	76.5	76.9	66.5	86.5	89.5	105.3	124.1	135.3	139.1	142.6	146.0
85°	37.3	38.8	33.0	45.7	46.1	54.2	62.3	66.5	68.0	70.7	73.8
87.5°	9.6	11.1	6.1	13.1	11.5	15.0	17.3	18.4	18.1	20.0	21.1
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°	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5
2.5°	1612.5	1624.8	1618.7	1638.6	1646.3	1634.0	1655.6	1655.9	1640.6	1658.6	1668.6
5°	1587.5	1600.2	1596.4	1617.1	1626.7	1616.0	1642.1	1647.1	1632.1	1652.5	1668.6
7.5°	1562.2	1577.2	1572.2	1593.3	1604.8	1596.4	1624.4	1632.5	1621.0	1643.3	1664.8
10°	1540.3	1552.9	1547.6	1569.9	1579.8	1572.9	1600.6	1615.6	1604.8	1632.1	1657.9
12.5°	1518.7	1529.1	1523.0	1541.4	1551.0	1542.2	1576.0	1589.8	1582.2	1610.6	1643.6
15°	1491.1	1502.6	1494.2	1510.7	1518.0	1510.3	1538.0	1561.8	1552.2	1583.3	1619.8
17.5°	1469.9	1476.5	1464.9	1478.0	1482.2	1471.9	1499.9	1523.4	1516.4	1550.3	1592.5
20°	1446.5	1451.9	1435.7	1443.0	1442.7	1429.6	1455.3	1478.4	1473.8	1511.1	1559.1
22.5°	1420.4	1423.1	1404.2	1405.8	1405.0	1383.5	1406.5	1430.0	1428.1	1465.7	1519.5
25°	1392.7	1393.1	1368.9	1368.1	1359.6	1334.3	1354.7	1381.2	1375.4	1416.1	1472.6
27.5°	1365.4	1361.6	1332.4	1325.4	1312.0	1281.6	1299.7	1323.5	1320.1	1360.0	1422.7
30°	1336.2	1331.2	1295.5	1282.8	1263.2	1228.2	1243.2	1265.5	1267.4	1302.4	1368.1
32.5°	1308.5	1295.9	1256.3	1237.8	1213.2	1172.5	1180.6	1203.2	1206.3	1241.7	1309.3
35°	1272.8	1264.3	1215.5	1184.0	1159.8	1115.2	1123.7	1139.4	1144.1	1178.6	1247.4
37.5°	1239.0	1225.5	1173.6	1135.2	1104.1	1057.2	1059.5	1075.7	1080.3	1115.2	1183.3
40°	1204.0	1184.8	1129.1	1084.1	1048.4	999.2	996.5	1013.4	1016.9	1051.1	1112.5
42.5°	1166.7	1143.7	1081.0	1031.8	990.7	940.8	935.4	950.0	953.8	987.3	1047.6
45°	1129.1	1101.4	1031.8	978.0	933.1	882.0	876.6	887.7	893.5	925.0	983.0
47.5°	1089.1	1056.8	981.1	921.2	874.7	823.6	817.0	828.2	832.8	863.9	918.9
50°	1047.2	1008.0	928.8	862.7	816.6	766.3	756.7	769.7	774.0	803.2	857.0
52.5°	1001.1	957.7	873.1	804.0	757.8	709.8	698.3	711.0	715.9	744.4	794.0
55°	952.3	905.4	817.0	749.8	699.8	652.9	643.3	648.3	659.1	686.0	732.1
57.5°	897.3	850.8	757.8	689.4	641.4	596.4	588.4	593.0	603.0	629.1	670.6
60°	838.9	789.7	697.5	629.1	582.6	539.9	532.6	536.9	547.6	571.5	609.9
62.5°	781.3	725.9	635.2	567.2	525.0	485.4	483.4	481.9	491.9	515.0	548.8
65°	711.3	658.3	570.3	505.7	467.3	431.6	423.9	427.3	436.9	458.1	493.4
67.5°	636.4	588.4	503.8	444.2	410.0	378.1	371.6	373.2	383.1	401.6	432.3
70°	556.8	514.6	435.8	382.4	353.6	323.6	319.4	319.7	329.3	345.5	372.4
72.5°	473.5	435.4	367.0	321.3	297.4	275.9	272.1	267.5	276.3	290.1	313.2
75°	388.5	355.1	298.6	261.3	242.5	224.4	221.0	216.4	225.2	237.1	255.2
77.5°	302.8	275.9	232.1	203.3	188.7	175.2	172.2	167.2	176.0	184.8	199.1
80°	219.0	199.5	173.3	143.0	138.0	129.1	126.0	120.7	129.1	134.9	145.6
82.5°	141.4	128.4	113.4	92.2	91.5	84.9	83.4	77.2	84.9	88.4	96.5
85°	71.5	65.3	61.5	46.9	48.4	44.2	43.8	37.3	43.4	45.0	49.6
87.5°	20.4	21.5	19.2	11.5	14.6	13.8	13.8	10.0	13.8	13.8	15.8
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: P838129

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1HI-50-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5	1647.5
2.5°	1649.0	1655.6	1657.1	1656.7	1660.9	1684.0	1676.3	1684.0
5°	1652.9	1667.5	1671.3	1676.7	1683.6	1709.7	1701.3	1710.5
7.5°	1655.2	1677.1	1685.5	1695.9	1707.1	1736.3	1729.3	1738.6
10°	1655.2	1683.6	1695.9	1713.2	1728.2	1762.0	1755.5	1766.2
12.5°	1648.3	1684.8	1702.1	1726.3	1745.5	1782.0	1779.3	1787.0
15°	1634.0	1679.0	1702.8	1734.0	1757.8	1798.5	1797.4	1806.6
17.5°	1614.8	1669.0	1697.8	1737.0	1767.0	1812.7	1815.4	1820.4
20°	1590.6	1650.2	1687.8	1735.9	1773.5	1823.9	1827.3	1834.3
22.5°	1558.7	1627.5	1672.8	1730.9	1774.3	1828.5	1834.6	1841.2
25°	1521.1	1600.2	1653.2	1721.3	1770.5	1828.1	1836.6	1842.3
27.5°	1478.0	1564.9	1628.3	1705.9	1759.7	1822.0	1832.3	1839.3
30°	1428.1	1527.2	1599.8	1685.9	1745.1	1810.4	1821.6	1828.5
32.5°	1376.6	1485.7	1566.0	1660.2	1724.0	1792.0	1801.6	1807.0
35°	1320.4	1435.4	1525.3	1627.1	1696.7	1762.4	1769.7	1775.5
37.5°	1259.3	1380.8	1478.8	1589.8	1658.2	1721.3	1727.8	1734.3
40°	1196.3	1323.5	1426.5	1544.1	1612.5	1670.9	1677.8	1682.5
42.5°	1132.9	1260.1	1370.8	1490.3	1558.3	1614.4	1618.7	1623.3
45°	1068.7	1194.4	1308.2	1430.7	1498.0	1550.6	1552.2	1556.0
47.5°	1003.4	1126.4	1239.4	1362.7	1429.2	1477.2	1478.8	1481.9
50°	937.7	1058.4	1166.0	1289.3	1354.3	1405.0	1398.1	1401.2
52.5°	873.1	986.9	1096.8	1210.2	1274.3	1319.3	1321.2	1315.1
55°	809.7	916.9	1018.0	1127.1	1188.2	1223.2	1222.1	1224.4
57.5°	745.5	846.2	938.8	1038.8	1098.3	1131.4	1138.3	1130.2
60°	680.2	774.7	857.8	948.1	1005.7	1033.4	1041.4	1033.8
62.5°	615.3	702.1	777.4	856.2	909.6	943.8	943.1	934.6
65°	550.3	629.1	696.3	763.2	809.7	843.9	842.4	834.7
67.5°	490.4	555.3	615.6	669.8	710.2	733.6	741.7	732.5
70°	424.3	480.4	533.4	576.8	610.3	631.4	639.1	631.0
72.5°	358.2	405.8	443.1	485.0	510.7	528.4	536.5	528.8
75°	292.8	332.0	362.4	395.1	413.1	428.1	437.3	429.6
77.5°	229.4	259.8	284.0	307.8	328.6	332.0	340.1	335.1
80°	169.1	191.0	208.7	224.4	239.4	241.0	247.5	244.4
82.5°	112.6	127.2	131.8	148.3	157.9	156.4	162.9	160.6
85°	59.6	68.4	76.5	81.5	86.9	81.9	87.6	85.3
87.5°	20.0	21.1	18.4	26.1	28.8	24.6	28.1	26.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)