

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: P837742

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-1HI-35-120-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: P837742
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-LD4-1HI-35-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

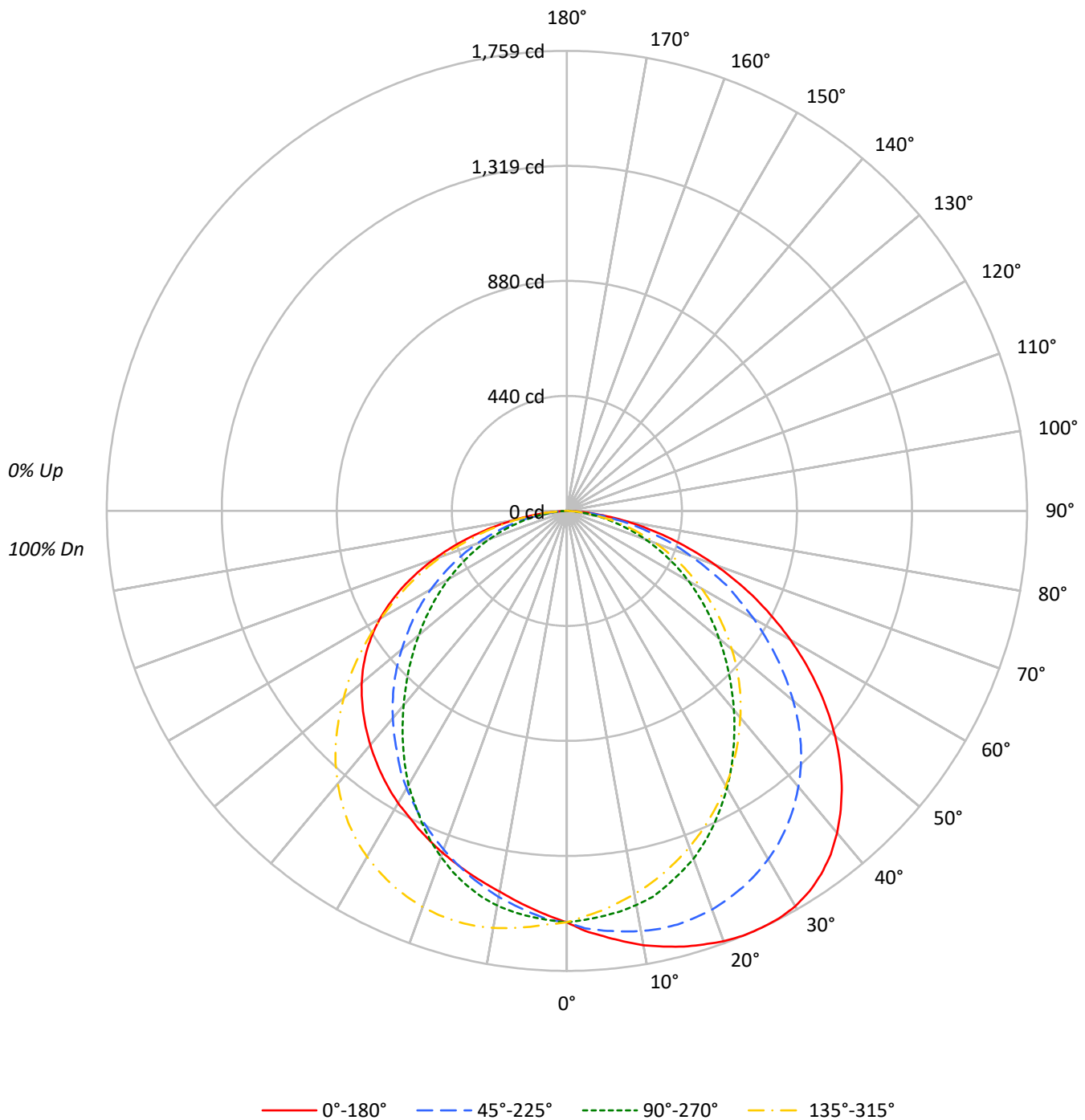
Lumens per Lamp: N/A
Luminaire Lumens: 4615.3 lumens
Efficiency: N/A
Efficacy: 104.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	4233	4233	4233	4233
5°	4412	4203	4123	4210
10°	4608	4181	4040	4187
15°	4806	4128	4000	4129
20°	5015	4053	3983	4030
25°	5223	3940	3982	3899
30°	5425	3803	4009	3760
35°	5569	3646	4049	3589
40°	5643	3489	4105	3411
45°	5654	3331	4185	3247
50°	5601	3178	4288	3094
55°	5485	3037	4383	2952
60°	5313	2889	4442	2814
65°	5075	2720	4418	2656
70°	4740	2520	4261	2474
75°	4265	2247	3910	2235
80°	3617	1883	3287	1911
85°	2516	1247	2084	1281

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.4	3.2
10°-20°	432.5	9.4
20°-30°	662.8	14.4
30°-40°	806.0	17.5
40°-50°	837.8	18.2
50°-60°	756.8	16.4
60°-70°	575.4	12.5
70°-80°	320.8	7.0
80°-90°	73.9	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°	1244.7	27.0
0°-40°	2050.6	44.4
0°-60°	3645.3	79.0
0°-90°	4615.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4615.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1573	1573	1573	1573	1573	
5°	1633	1556	1526	1558	1633	157
15°	1725	1482	1436	1482	1725	489
25°	1759	1327	1341	1313	1759	813
35°	1695	1110	1233	1092	1695	1059
45°	1486	875	1100	853	1486	1144
55°	1169	647	934	629	1169	1044
65°	797	427	694	417	797	788
75°	410	216	376	215	410	436
85°	82	40	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°	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1
2.5°	1608.0	1584.5	1584.9	1605.4	1589.6	1597.3	1575.3	1583.8	1581.2	1583.0	1565.0
5°	1633.3	1608.0	1607.6	1625.2	1607.6	1610.9	1583.0	1588.5	1580.4	1575.3	1555.9
7.5°	1660.1	1634.8	1632.2	1647.6	1624.5	1621.9	1591.1	1591.1	1576.4	1563.6	1545.2
10°	1686.5	1660.4	1657.1	1668.9	1640.3	1631.8	1594.4	1588.5	1569.1	1550.0	1530.2
12.5°	1706.3	1679.9	1677.3	1684.7	1652.4	1637.0	1594.4	1583.0	1554.4	1527.6	1512.2
15°	1725.0	1697.9	1690.9	1694.6	1657.5	1637.0	1589.3	1571.6	1534.9	1499.7	1481.7
17.5°	1738.2	1712.2	1705.2	1704.8	1660.1	1630.7	1578.2	1554.0	1510.0	1467.4	1449.4
20°	1751.4	1725.4	1716.6	1710.0	1659.3	1622.3	1562.1	1529.4	1478.1	1430.4	1415.3
22.5°	1758.1	1731.3	1721.7	1711.8	1654.6	1606.9	1542.3	1500.8	1442.1	1385.2	1372.8
25°	1759.2	1731.6	1721.4	1707.0	1645.0	1588.5	1516.6	1466.3	1400.6	1337.5	1326.9
27.5°	1756.2	1726.1	1715.9	1698.6	1630.7	1566.1	1486.1	1427.1	1356.6	1286.9	1275.5
30°	1745.9	1715.5	1705.6	1683.2	1610.5	1538.6	1452.8	1383.4	1307.8	1233.7	1223.8
32.5°	1725.4	1695.7	1687.6	1665.2	1588.5	1506.7	1413.9	1336.4	1253.9	1183.0	1168.4
35°	1695.3	1665.6	1660.4	1637.0	1557.7	1468.5	1371.3	1285.1	1196.6	1124.3	1110.0
37.5°	1656.0	1631.1	1623.4	1600.3	1521.4	1425.2	1322.5	1229.3	1138.3	1060.5	1051.7
40°	1606.5	1583.0	1577.1	1556.6	1479.2	1377.2	1269.6	1171.7	1078.1	1005.8	993.3
42.5°	1550.0	1528.0	1524.7	1503.4	1427.1	1324.0	1212.4	1111.9	1015.3	945.6	933.2
45°	1485.8	1464.5	1463.8	1443.6	1370.2	1264.9	1152.2	1051.3	954.1	881.8	875.2
47.5°	1415.0	1395.9	1395.9	1377.2	1306.7	1199.9	1090.2	988.2	892.4	828.6	816.8
50°	1337.9	1319.9	1314.4	1305.2	1236.6	1129.1	1024.9	926.5	831.5	770.6	759.2
52.5°	1255.7	1240.3	1244.0	1227.1	1160.7	1055.3	958.8	857.2	770.2	714.8	703.4
55°	1169.1	1147.1	1150.4	1144.1	1081.4	979.4	884.7	799.9	710.0	657.9	647.3
57.5°	1079.2	1050.6	1062.3	1058.6	997.0	901.6	816.8	735.0	650.2	602.2	591.9
60°	987.1	959.6	971.7	968.4	910.4	823.8	746.7	670.8	590.8	547.1	536.8
62.5°	892.4	867.1	878.1	875.5	822.3	744.2	677.0	607.3	531.0	491.7	482.2
65°	797.0	772.8	782.7	780.9	731.7	672.3	605.5	541.6	470.8	436.7	427.1
67.5°	699.4	677.0	686.2	686.2	641.1	584.2	533.5	475.2	411.7	382.4	373.6
70°	602.5	581.6	589.7	589.0	550.8	504.6	460.9	408.8	351.9	327.7	320.3
72.5°	504.9	486.6	493.9	493.2	461.3	431.5	388.2	343.1	293.6	274.1	267.5
75°	410.2	393.0	400.0	399.2	373.2	345.3	316.3	278.9	236.3	222.7	216.1
77.5°	320.0	302.4	308.2	308.2	289.2	269.0	245.9	216.9	186.8	172.1	167.3
80°	233.4	224.9	222.0	222.4	209.5	196.3	184.6	156.7	134.7	124.8	121.5
82.5°	153.4	146.4	143.5	144.2	136.9	128.8	121.5	102.0	87.3	81.5	79.6
85°	81.5	76.3	73.8	75.6	74.1	69.7	66.1	52.8	43.7	41.5	40.4
87.5°	25.7	22.4	20.5	27.2	23.1	20.5	19.8	15.8	12.1	12.1	11.7
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°	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1
2.5°	1570.9	1570.9	1556.6	1553.3	1551.8	1553.7	1539.4	1536.8	1557.3	1550.4	1534.6
5°	1558.4	1557.7	1537.5	1533.8	1533.8	1531.6	1515.5	1511.8	1532.4	1526.5	1509.3
7.5°	1543.0	1540.8	1517.0	1514.4	1510.7	1509.3	1491.3	1488.7	1506.3	1502.7	1486.5
10°	1524.3	1522.1	1493.8	1492.0	1488.0	1485.0	1468.2	1466.3	1484.3	1478.4	1465.6
12.5°	1499.7	1495.7	1466.7	1464.9	1461.6	1460.5	1443.9	1443.2	1463.0	1457.2	1443.6
15°	1467.4	1464.1	1431.8	1432.6	1432.9	1432.9	1419.7	1419.0	1438.4	1435.9	1421.2
17.5°	1431.8	1427.4	1396.6	1398.8	1401.4	1404.3	1394.0	1395.9	1416.4	1413.1	1399.9
20°	1391.5	1387.1	1357.0	1363.2	1368.7	1374.6	1368.0	1373.1	1392.2	1390.7	1380.8
22.5°	1346.3	1341.9	1314.0	1323.6	1332.8	1343.8	1340.8	1346.7	1366.9	1366.5	1357.7
25°	1291.3	1292.4	1267.8	1279.6	1295.0	1310.4	1311.5	1321.0	1343.4	1341.2	1333.1
27.5°	1239.9	1241.4	1215.3	1235.1	1255.7	1275.5	1280.3	1293.5	1316.2	1314.4	1307.4
30°	1186.0	1187.8	1162.5	1189.6	1214.6	1238.8	1249.1	1267.1	1290.2	1290.2	1282.9
32.5°	1129.8	1133.1	1106.7	1143.0	1172.0	1200.3	1218.3	1237.0	1263.4	1262.7	1256.4
35°	1072.2	1075.9	1051.7	1097.9	1126.9	1161.4	1183.8	1208.7	1232.2	1232.6	1227.8
37.5°	1013.5	1017.9	995.9	1046.5	1079.6	1120.3	1148.9	1173.9	1199.9	1201.4	1197.0
40°	955.2	959.9	940.9	989.7	1031.5	1077.0	1110.0	1139.4	1168.0	1168.7	1165.8
42.5°	896.8	902.0	887.6	935.4	982.7	1031.5	1070.4	1103.8	1133.1	1135.0	1131.7
45°	839.9	844.3	834.1	886.2	931.7	984.9	1029.7	1067.5	1097.2	1099.7	1098.6
47.5°	783.4	787.5	778.3	826.0	878.5	935.0	986.7	1028.6	1060.1	1063.1	1062.3
50°	728.0	731.3	721.4	771.3	823.4	883.6	937.6	986.0	1021.2	1024.2	1023.8
52.5°	673.0	676.3	667.8	720.3	767.7	831.1	889.9	942.3	977.2	981.6	982.3
55°	619.8	621.2	614.6	664.9	710.8	777.2	844.7	895.7	930.6	934.3	936.5
57.5°	566.6	566.9	561.4	609.5	653.5	721.4	792.2	845.8	878.8	882.5	885.8
60°	513.7	513.4	507.1	553.7	595.9	663.1	736.8	790.0	822.0	825.3	829.7
62.5°	461.3	460.2	454.6	497.6	537.2	603.6	677.8	729.1	759.6	761.8	767.7
65°	409.1	408.0	402.9	442.5	478.5	542.0	614.6	663.4	691.0	693.9	692.8
67.5°	357.8	355.6	351.5	387.1	419.8	478.5	548.2	594.8	617.6	620.1	627.1
70°	306.4	303.8	294.7	332.5	361.1	413.6	478.5	520.0	539.0	541.6	540.5
72.5°	255.8	253.2	243.3	278.1	302.4	348.2	406.2	440.7	457.2	459.4	459.4
75°	206.6	205.1	198.9	225.3	245.5	282.9	332.1	360.7	373.6	376.1	375.4
77.5°	159.3	158.2	151.9	174.7	190.4	218.3	258.0	280.3	289.9	292.8	299.1
80°	114.1	113.8	103.8	126.2	133.2	156.7	185.7	202.9	208.1	212.1	216.5
82.5°	73.0	73.4	63.5	82.6	85.5	100.5	118.5	129.2	132.8	136.1	139.4
85°	35.6	37.1	31.6	43.7	44.0	51.7	59.4	63.5	64.9	67.5	70.5
87.5°	9.2	10.6	5.9	12.5	11.0	14.3	16.5	17.6	17.2	19.1	20.2
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°	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1
2.5°	1539.7	1551.5	1545.6	1564.7	1572.0	1560.3	1580.8	1581.2	1566.5	1583.8	1593.3
5°	1515.9	1528.0	1524.3	1544.1	1553.3	1543.0	1568.0	1572.7	1558.4	1577.9	1593.3
7.5°	1491.6	1506.0	1501.2	1521.4	1532.4	1524.3	1551.1	1558.8	1547.8	1569.1	1589.6
10°	1470.7	1482.8	1477.7	1499.0	1508.5	1501.9	1528.3	1542.7	1532.4	1558.4	1583.0
12.5°	1450.2	1460.1	1454.2	1471.8	1481.0	1472.6	1504.9	1518.1	1510.7	1537.9	1569.4
15°	1423.8	1434.8	1426.7	1442.5	1449.4	1442.1	1468.5	1491.3	1482.1	1511.8	1546.7
17.5°	1403.6	1409.8	1398.8	1411.3	1415.3	1405.4	1432.2	1454.6	1448.0	1480.3	1520.6
20°	1381.2	1386.3	1370.9	1377.9	1377.5	1365.0	1389.6	1411.7	1407.2	1442.8	1488.7
22.5°	1356.2	1358.8	1340.8	1342.3	1341.6	1321.0	1343.0	1365.4	1363.6	1399.5	1450.9
25°	1329.8	1330.2	1307.1	1306.3	1298.3	1274.0	1293.5	1318.8	1313.3	1352.2	1406.1
27.5°	1303.8	1300.1	1272.2	1265.6	1252.8	1223.8	1241.0	1263.8	1260.5	1298.6	1358.4
30°	1275.9	1271.1	1237.0	1224.9	1206.2	1172.8	1187.1	1208.4	1210.2	1243.6	1306.3
32.5°	1249.5	1237.4	1199.6	1181.9	1158.5	1119.6	1127.3	1148.9	1151.9	1185.6	1250.2
35°	1215.3	1207.3	1160.7	1130.6	1107.5	1064.9	1073.0	1088.0	1092.4	1125.4	1191.1
37.5°	1183.0	1170.2	1120.7	1084.0	1054.2	1009.5	1011.7	1027.1	1031.5	1064.9	1129.8
40°	1149.7	1131.3	1078.1	1035.2	1001.0	954.1	951.5	967.6	970.9	1003.6	1062.3
42.5°	1114.1	1092.0	1032.2	985.3	946.0	898.3	893.2	907.1	910.8	942.7	1000.3
45°	1078.1	1051.7	985.3	933.9	891.0	842.1	837.0	847.7	853.2	883.2	938.7
47.5°	1039.9	1009.1	936.8	879.6	835.2	786.4	780.1	790.8	795.2	824.9	877.4
50°	999.9	962.5	886.9	823.8	779.8	731.7	722.5	735.0	739.0	766.9	818.3
52.5°	955.9	914.4	833.7	767.7	723.6	677.8	666.7	678.9	683.6	710.8	758.1
55°	909.3	864.5	780.1	715.9	668.2	623.4	614.3	619.0	629.3	655.0	699.0
57.5°	856.8	812.4	723.6	658.3	612.4	569.5	561.8	566.2	575.7	600.7	640.3
60°	801.0	754.1	666.0	600.7	556.3	515.6	508.6	512.6	522.9	545.7	582.3
62.5°	746.0	693.2	606.6	541.6	501.3	463.5	461.6	460.2	469.7	491.7	524.0
65°	679.2	628.6	544.6	482.9	446.2	412.1	404.7	408.0	417.2	437.4	471.2
67.5°	607.7	561.8	481.1	424.2	391.5	361.1	354.8	356.3	365.8	383.5	412.8
70°	531.7	491.3	416.1	365.1	337.6	309.0	304.9	305.3	314.5	329.9	355.6
72.5°	452.1	415.8	350.4	306.8	284.0	263.5	259.8	255.4	263.8	277.0	299.1
75°	371.0	339.1	285.1	249.5	231.5	214.3	211.0	206.6	215.0	226.4	243.7
77.5°	289.2	263.5	221.6	194.1	180.2	167.3	164.4	159.6	168.1	176.5	190.1
80°	209.2	190.4	165.5	136.5	131.7	123.3	120.4	115.2	123.3	128.8	139.1
82.5°	135.0	122.6	108.2	88.1	87.3	81.1	79.6	73.8	81.1	84.4	92.1
85°	68.3	62.4	58.7	44.8	46.2	42.2	41.8	35.6	41.5	42.9	47.3
87.5°	19.4	20.5	18.3	11.0	13.9	13.2	13.2	9.5	13.2	13.2	15.0
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: P837742

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-1HI-35-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1	1573.1
2.5°	1574.6	1580.8	1582.3	1581.9	1586.0	1608.0	1600.6	1608.0
5°	1578.2	1592.2	1595.9	1601.0	1607.6	1632.6	1624.5	1633.3
7.5°	1580.4	1601.4	1609.4	1619.3	1630.0	1657.9	1651.3	1660.1
10°	1580.4	1607.6	1619.3	1635.9	1650.2	1682.5	1676.2	1686.5
12.5°	1573.8	1608.7	1625.2	1648.3	1666.7	1701.5	1699.0	1706.3
15°	1560.3	1603.2	1626.0	1655.7	1678.4	1717.3	1716.2	1725.0
17.5°	1541.9	1593.7	1621.2	1658.6	1687.2	1730.9	1733.5	1738.2
20°	1518.8	1575.7	1611.6	1657.5	1693.5	1741.5	1744.8	1751.4
22.5°	1488.3	1554.0	1597.3	1652.7	1694.2	1745.9	1751.8	1758.1
25°	1452.4	1528.0	1578.6	1643.6	1690.5	1745.6	1753.6	1759.2
27.5°	1411.3	1494.2	1554.8	1628.9	1680.3	1739.7	1749.6	1756.2
30°	1363.6	1458.3	1527.6	1609.8	1666.3	1728.7	1739.3	1745.9
32.5°	1314.4	1418.6	1495.3	1585.2	1646.1	1711.1	1720.3	1725.4
35°	1260.8	1370.6	1456.4	1553.7	1620.1	1682.8	1689.8	1695.3
37.5°	1202.5	1318.4	1412.0	1518.1	1583.4	1643.6	1649.8	1656.0
40°	1142.3	1263.8	1362.1	1474.4	1539.7	1595.5	1602.1	1606.5
42.5°	1081.8	1203.2	1308.9	1423.0	1488.0	1541.6	1545.6	1550.0
45°	1020.5	1140.5	1249.1	1366.2	1430.4	1480.6	1482.1	1485.8
47.5°	958.1	1075.5	1183.4	1301.2	1364.7	1410.6	1412.0	1415.0
50°	895.4	1010.6	1113.3	1231.1	1293.1	1341.6	1335.0	1337.9
52.5°	833.7	942.3	1047.3	1155.5	1216.8	1259.7	1261.6	1255.7
55°	773.2	875.5	972.0	1076.3	1134.6	1168.0	1166.9	1169.1
57.5°	711.9	808.0	896.5	991.9	1048.7	1080.3	1086.9	1079.2
60°	649.5	739.8	819.0	905.3	960.3	986.7	994.4	987.1
62.5°	587.5	670.4	742.3	817.6	868.6	901.2	900.5	892.4
65°	525.5	600.7	664.9	728.8	773.2	805.8	804.4	797.0
67.5°	468.2	530.2	587.9	639.6	678.1	700.5	708.2	699.4
70°	405.1	458.7	509.3	550.8	582.7	602.9	610.2	602.5
72.5°	342.0	387.5	423.1	463.1	487.7	504.6	512.3	504.9
75°	279.6	317.0	346.0	377.2	394.5	408.8	417.6	410.2
77.5°	219.1	248.1	271.2	293.9	313.7	317.0	324.7	320.0
80°	161.5	182.4	199.3	214.3	228.6	230.1	236.3	233.4
82.5°	107.5	121.5	125.9	141.6	150.8	149.3	155.6	153.4
85°	56.9	65.3	73.0	77.8	82.9	78.2	83.7	81.5
87.5°	19.1	20.2	17.6	25.0	27.5	23.5	26.8	25.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)