

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: P837771

Luminaire Tested: **ORLG-12-4-INS-ASY2R-LD4-2STD-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: P837771
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-LD4-2STD-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

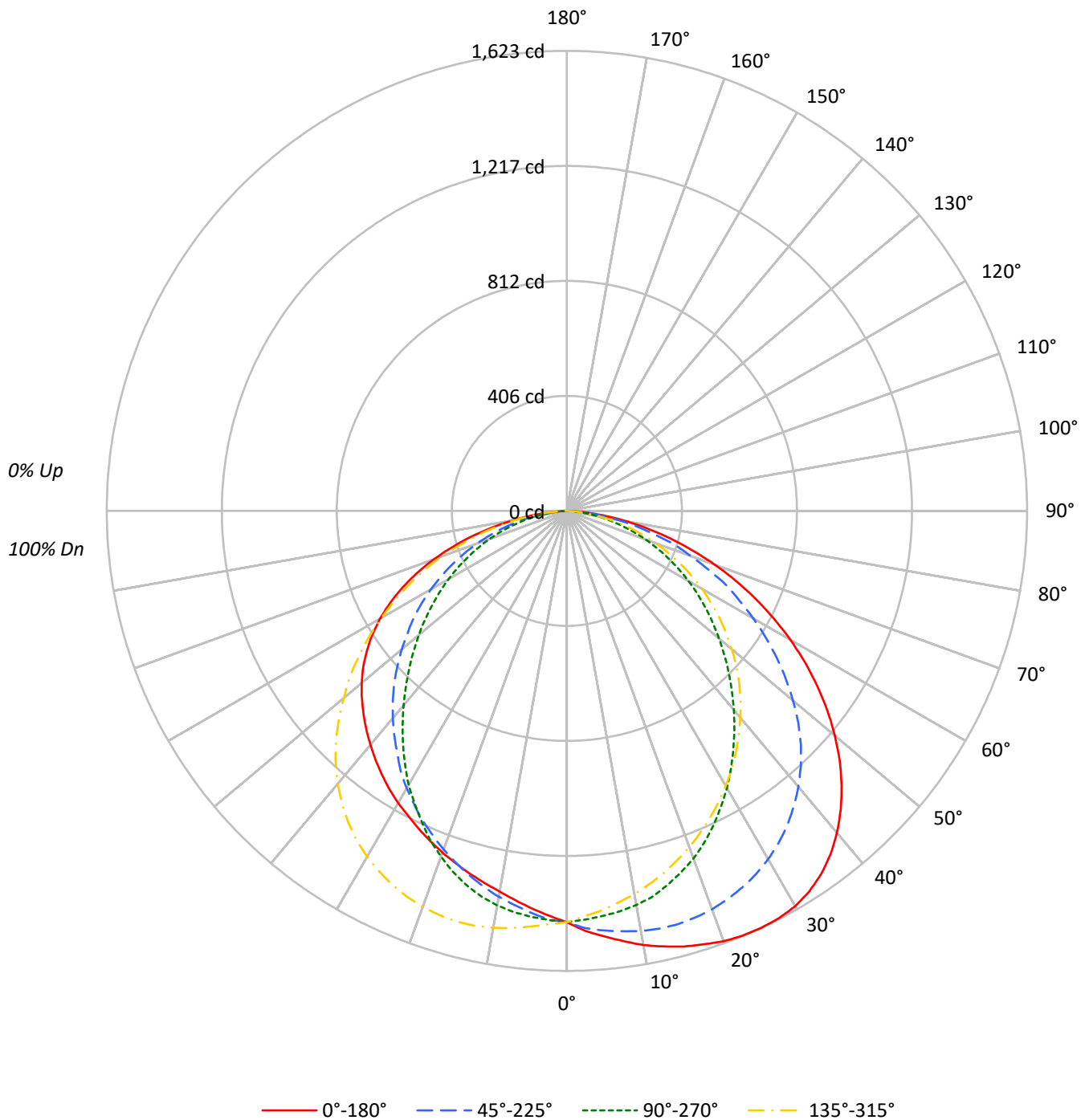
Lumens per Lamp: N/A
Luminaire Lumens: 4256.9 lumens
Efficiency: N/A
Efficacy: 63.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	3905	3905	3905	3905
5°	4069	3877	3803	3883
10°	4250	3857	3726	3862
15°	4433	3807	3690	3808
20°	4626	3738	3674	3717
25°	4818	3634	3673	3597
30°	5004	3507	3698	3468
35°	5137	3363	3735	3310
40°	5205	3218	3787	3146
45°	5215	3072	3860	2995
50°	5166	2932	3954	2854
55°	5059	2801	4043	2723
60°	4900	2665	4097	2596
65°	4681	2509	4075	2450
70°	4372	2325	3931	2282
75°	3934	2073	3607	2062
80°	3336	1736	3031	1762
85°	2319	1149	1924	1179

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.8	3.2
10°-20°	398.9	9.4
20°-30°	611.4	14.4
30°-40°	743.4	17.5
40°-50°	772.8	18.2
50°-60°	698.1	16.4
60°-70°	530.7	12.5
70°-80°	295.9	7.0
80°-90°	68.1	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°	1148.0	27.0
0°-40°	1891.4	44.4
0°-60°	3362.2	79.0
0°-90°	4256.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4256.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1451	1451	1451	1451	1451	
5°	1506	1435	1408	1437	1506	145
15°	1591	1367	1324	1367	1591	451
25°	1623	1224	1237	1211	1623	749
35°	1564	1024	1137	1008	1564	977
45°	1370	807	1014	787	1370	1055
55°	1078	597	862	580	1078	963
65°	735	394	640	385	735	726
75°	378	199	347	198	378	402
85°	75	37	62	38	75	95
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°	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0
2.5°	1483.1	1461.5	1461.8	1480.7	1466.2	1473.3	1453.0	1460.8	1458.4	1460.1	1443.5
5°	1506.5	1483.1	1482.8	1499.0	1482.8	1485.8	1460.1	1465.2	1457.7	1453.0	1435.1
7.5°	1531.2	1507.8	1505.5	1519.7	1498.3	1496.0	1467.5	1467.5	1454.0	1442.2	1425.2
10°	1555.5	1531.5	1528.5	1539.3	1512.9	1505.1	1470.6	1465.2	1447.2	1429.6	1411.4
12.5°	1573.8	1549.5	1547.1	1553.9	1524.1	1509.9	1470.6	1460.1	1433.7	1409.0	1394.8
15°	1591.1	1566.0	1559.6	1563.0	1528.8	1509.9	1465.9	1449.6	1415.8	1383.3	1366.7
17.5°	1603.3	1579.2	1572.8	1572.5	1531.2	1504.1	1455.7	1433.4	1392.8	1353.5	1336.9
20°	1615.5	1591.4	1583.3	1577.2	1530.5	1496.3	1440.8	1410.7	1363.3	1319.3	1305.4
22.5°	1621.5	1596.8	1588.0	1578.9	1526.1	1482.1	1422.5	1384.3	1330.1	1277.7	1266.2
25°	1622.6	1597.2	1587.7	1574.5	1517.3	1465.2	1398.8	1352.5	1291.9	1233.7	1223.9
27.5°	1619.9	1592.1	1582.6	1566.7	1504.1	1444.5	1370.8	1316.3	1251.3	1187.0	1176.5
30°	1610.4	1582.3	1573.1	1552.5	1485.5	1419.2	1340.0	1276.0	1206.3	1137.9	1128.8
32.5°	1591.4	1564.0	1556.6	1535.9	1465.2	1389.7	1304.1	1232.7	1156.5	1091.2	1077.6
35°	1563.7	1536.3	1531.5	1509.9	1436.7	1354.5	1264.8	1185.3	1103.7	1037.0	1023.8
37.5°	1527.5	1504.4	1497.3	1476.0	1403.2	1314.6	1219.8	1133.8	1049.9	978.1	970.0
40°	1481.8	1460.1	1454.7	1435.7	1364.3	1270.2	1171.1	1080.7	994.4	927.7	916.2
42.5°	1429.6	1409.3	1406.3	1386.7	1316.3	1221.2	1118.3	1025.5	936.5	872.2	860.7
45°	1370.4	1350.8	1350.1	1331.5	1263.8	1166.7	1062.8	969.7	880.0	813.3	807.2
47.5°	1305.1	1287.5	1287.5	1270.2	1205.2	1106.8	1005.6	911.5	823.1	764.2	753.4
50°	1234.0	1217.4	1212.4	1203.9	1140.6	1041.4	945.3	854.6	766.9	710.8	700.3
52.5°	1158.2	1144.0	1147.4	1131.8	1070.5	973.4	884.4	790.6	710.4	659.3	648.8
55°	1078.3	1058.0	1061.1	1055.3	997.4	903.3	816.0	737.8	654.9	606.9	597.0
57.5°	995.4	969.0	979.8	976.4	919.6	831.6	753.4	677.9	599.7	555.4	545.9
60°	910.4	885.1	896.2	893.2	839.7	759.8	688.8	618.7	544.9	504.6	495.2
62.5°	823.1	799.8	809.9	807.6	758.5	686.4	624.5	560.1	489.7	453.5	444.7
65°	735.1	712.8	721.9	720.2	674.9	620.1	558.5	499.6	434.2	402.8	394.0
67.5°	645.1	624.5	632.9	632.9	591.3	538.8	492.1	438.3	379.7	352.7	344.5
70°	555.7	536.5	543.9	543.2	508.0	465.4	425.1	377.0	324.6	302.2	295.5
72.5°	465.7	448.8	455.6	454.9	425.4	398.0	358.1	316.5	270.8	252.8	246.7
75°	378.4	362.5	368.9	368.2	344.2	318.5	291.7	257.2	218.0	205.4	199.4
77.5°	295.1	278.9	284.3	284.3	266.7	248.1	226.8	200.0	172.3	158.7	154.3
80°	215.3	207.5	204.8	205.1	193.3	181.1	170.2	144.5	124.2	115.1	112.0
82.5°	141.5	135.0	132.3	133.0	126.2	118.8	112.0	94.1	80.6	75.1	73.4
85°	75.1	70.4	68.0	69.7	68.4	64.3	60.9	48.7	40.3	38.2	37.2
87.5°	23.7	20.6	19.0	25.0	21.3	19.0	18.3	14.6	11.2	11.2	10.8
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°	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0
2.5°	1448.9	1448.9	1435.7	1432.7	1431.3	1433.0	1419.8	1417.5	1436.4	1430.0	1415.4
5°	1437.4	1436.7	1418.1	1414.8	1414.8	1412.7	1397.8	1394.4	1413.4	1408.0	1392.1
7.5°	1423.2	1421.2	1399.2	1396.8	1393.4	1392.1	1375.5	1373.1	1389.4	1386.0	1371.1
10°	1406.0	1403.9	1377.9	1376.2	1372.4	1369.7	1354.2	1352.5	1369.1	1363.6	1351.8
12.5°	1383.3	1379.6	1352.8	1351.1	1348.1	1347.1	1331.8	1331.2	1349.4	1344.0	1331.5
15°	1353.5	1350.4	1320.7	1321.3	1321.7	1321.7	1309.5	1308.8	1326.8	1324.4	1310.8
17.5°	1320.7	1316.6	1288.2	1290.2	1292.6	1295.3	1285.8	1287.5	1306.4	1303.4	1291.2
20°	1283.4	1279.4	1251.6	1257.4	1262.4	1267.9	1261.8	1266.5	1284.1	1282.8	1273.6
22.5°	1241.8	1237.7	1212.0	1220.8	1229.3	1239.4	1236.7	1242.1	1260.8	1260.4	1252.3
25°	1191.0	1192.0	1169.4	1180.2	1194.4	1208.6	1209.6	1218.4	1239.1	1237.1	1229.6
27.5°	1143.6	1145.0	1121.0	1139.2	1158.2	1176.5	1180.9	1193.1	1214.0	1212.4	1205.9
30°	1093.9	1095.6	1072.2	1097.3	1120.3	1142.6	1152.1	1168.7	1190.0	1190.0	1183.2
32.5°	1042.1	1045.2	1020.8	1054.3	1081.0	1107.1	1123.7	1140.9	1165.3	1164.6	1158.9
35°	989.0	992.4	970.0	1012.7	1039.4	1071.2	1091.9	1114.9	1136.5	1136.9	1132.5
37.5°	934.8	938.9	918.6	965.3	995.7	1033.3	1059.7	1082.7	1106.8	1108.1	1104.0
40°	881.0	885.4	867.8	912.8	951.4	993.4	1023.8	1050.9	1077.3	1078.0	1075.3
42.5°	827.2	831.9	818.7	862.7	906.4	951.4	987.3	1018.1	1045.2	1046.8	1043.8
45°	774.7	778.8	769.3	817.4	859.3	908.4	949.7	984.6	1012.0	1014.4	1013.3
47.5°	722.6	726.3	717.9	761.9	810.3	862.4	910.1	948.7	977.8	980.5	979.8
50°	671.5	674.5	665.4	711.4	759.5	815.0	864.8	909.4	941.9	944.6	944.3
52.5°	620.7	623.8	616.0	664.4	708.1	766.6	820.8	869.2	901.3	905.4	906.0
55°	571.7	573.0	566.9	613.3	655.6	716.9	779.1	826.2	858.3	861.7	863.7
57.5°	522.6	522.9	517.8	562.2	602.8	665.4	730.7	780.1	810.6	814.0	817.0
60°	473.8	473.5	467.7	510.7	549.7	611.6	679.6	728.7	758.1	761.2	765.3
62.5°	425.4	424.4	419.3	458.9	495.5	556.8	625.1	672.5	700.6	702.6	708.1
65°	377.4	376.4	371.6	408.2	441.3	499.9	566.9	611.9	637.3	640.0	639.0
67.5°	330.0	328.0	324.2	357.1	387.2	441.3	505.7	548.6	569.6	572.0	578.4
70°	282.6	280.2	271.8	306.6	333.0	381.4	441.3	479.6	497.2	499.6	498.5
72.5°	235.9	233.5	224.4	256.6	278.9	321.2	374.7	406.5	421.7	423.7	423.7
75°	190.6	189.2	183.4	207.8	226.4	261.0	306.3	332.7	344.5	346.9	346.2
77.5°	146.9	145.9	140.1	161.1	175.7	201.4	237.9	258.6	267.4	270.1	275.8
80°	105.3	104.9	95.8	116.4	122.9	144.5	171.3	187.2	191.9	195.6	199.7
82.5°	67.4	67.7	58.6	76.2	78.9	92.7	109.3	119.1	122.5	125.6	128.6
85°	32.8	34.2	29.1	40.3	40.6	47.7	54.8	58.6	59.9	62.3	65.0
87.5°	8.5	9.8	5.4	11.5	10.2	13.2	15.2	16.2	15.9	17.6	18.6
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°	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0
2.5°	1420.2	1431.0	1425.6	1443.2	1449.9	1439.1	1458.1	1458.4	1444.9	1460.8	1469.6
5°	1398.2	1409.3	1406.0	1424.2	1432.7	1423.2	1446.2	1450.6	1437.4	1455.4	1469.6
7.5°	1375.8	1389.0	1384.6	1403.2	1413.4	1406.0	1430.7	1437.8	1427.6	1447.2	1466.2
10°	1356.5	1367.7	1363.0	1382.6	1391.4	1385.3	1409.7	1422.9	1413.4	1437.4	1460.1
12.5°	1337.6	1346.7	1341.3	1357.6	1366.0	1358.2	1388.0	1400.2	1393.4	1418.5	1447.6
15°	1313.2	1323.4	1315.9	1330.5	1336.9	1330.1	1354.5	1375.5	1367.0	1394.4	1426.6
17.5°	1294.6	1300.4	1290.2	1301.7	1305.4	1296.3	1321.0	1341.6	1335.6	1365.3	1402.6
20°	1274.0	1278.7	1264.5	1270.9	1270.6	1259.1	1281.7	1302.0	1298.0	1330.8	1373.1
22.5°	1250.9	1253.3	1236.7	1238.1	1237.4	1218.4	1238.8	1259.4	1257.7	1290.9	1338.3
25°	1226.6	1226.9	1205.6	1204.9	1197.5	1175.1	1193.1	1216.4	1211.3	1247.2	1297.0
27.5°	1202.5	1199.2	1173.4	1167.3	1155.5	1128.8	1144.7	1165.6	1162.6	1197.8	1253.0
30°	1176.8	1172.4	1140.9	1129.8	1112.5	1081.7	1094.9	1114.5	1116.2	1147.0	1204.9
32.5°	1152.4	1141.3	1106.4	1090.2	1068.5	1032.6	1039.7	1059.7	1062.4	1093.6	1153.1
35°	1121.0	1113.5	1070.5	1042.8	1021.5	982.2	989.6	1003.5	1007.6	1038.0	1098.6
37.5°	1091.2	1079.3	1033.6	999.8	972.4	931.1	933.1	947.3	951.4	982.2	1042.1
40°	1060.4	1043.5	994.4	954.8	923.3	880.0	877.6	892.5	895.6	925.7	979.8
42.5°	1027.6	1007.2	952.1	908.8	872.5	828.5	823.8	836.7	840.1	869.5	922.6
45°	994.4	970.0	908.8	861.4	821.8	776.8	772.0	781.8	786.9	814.7	865.8
47.5°	959.2	930.8	864.1	811.3	770.3	725.3	719.6	729.4	733.4	760.9	809.3
50°	922.3	887.8	818.1	759.8	719.2	674.9	666.4	677.9	681.7	707.4	754.8
52.5°	881.7	843.4	769.0	708.1	667.4	625.1	615.0	626.1	630.5	655.6	699.3
55°	838.7	797.4	719.6	660.3	616.3	575.0	566.6	571.0	580.5	604.1	644.8
57.5°	790.3	749.3	667.4	607.2	564.9	525.3	518.2	522.2	531.0	554.1	590.6
60°	738.9	695.5	614.3	554.1	513.1	475.5	469.1	472.8	482.3	503.3	537.1
62.5°	688.1	639.3	559.5	499.6	462.3	427.5	425.8	424.4	433.2	453.5	483.3
65°	626.5	579.8	502.3	445.4	411.6	380.1	373.3	376.4	384.8	403.4	434.6
67.5°	560.5	518.2	443.7	391.3	361.1	333.0	327.3	328.6	337.4	353.7	380.8
70°	490.4	453.2	383.8	336.8	311.4	285.0	281.3	281.6	290.1	304.3	328.0
72.5°	417.0	383.5	323.2	283.0	262.0	243.0	239.6	235.6	243.4	255.5	275.8
75°	342.2	312.7	263.0	230.2	213.6	197.7	194.6	190.6	198.3	208.8	224.7
77.5°	266.7	243.0	204.4	179.0	166.2	154.3	151.6	147.2	155.0	162.8	175.3
80°	192.9	175.7	152.6	125.9	121.5	113.7	111.0	106.3	113.7	118.8	128.3
82.5°	124.6	113.0	99.8	81.2	80.6	74.8	73.4	68.0	74.8	77.8	85.0
85°	63.0	57.5	54.2	41.3	42.6	38.9	38.6	32.8	38.2	39.6	43.7
87.5°	17.9	19.0	16.9	10.2	12.9	12.2	12.2	8.8	12.2	12.2	13.9
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: P837771

CATALOG NUMBER: ORLG-12-4-INS-ASY2R-LD4-2STD-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0	1451.0
2.5°	1452.3	1458.1	1459.4	1459.1	1462.8	1483.1	1476.3	1483.1
5°	1455.7	1468.6	1471.9	1476.7	1482.8	1505.8	1498.3	1506.5
7.5°	1457.7	1477.0	1484.5	1493.6	1503.4	1529.1	1523.1	1531.2
10°	1457.7	1482.8	1493.6	1508.8	1522.0	1551.8	1546.1	1555.5
12.5°	1451.6	1483.8	1499.0	1520.3	1537.3	1569.4	1567.1	1573.8
15°	1439.1	1478.7	1499.7	1527.1	1548.1	1584.0	1583.0	1591.1
17.5°	1422.2	1469.9	1495.3	1529.8	1556.2	1596.5	1598.9	1603.3
20°	1400.9	1453.3	1486.5	1528.8	1562.0	1606.3	1609.4	1615.5
22.5°	1372.8	1433.4	1473.3	1524.4	1562.7	1610.4	1615.8	1621.5
25°	1339.6	1409.3	1456.0	1515.9	1559.3	1610.0	1617.5	1622.6
27.5°	1301.7	1378.2	1434.0	1502.4	1549.8	1604.6	1613.8	1619.9
30°	1257.7	1345.0	1409.0	1484.8	1536.9	1594.5	1604.3	1610.4
32.5°	1212.4	1308.5	1379.2	1462.1	1518.3	1578.2	1586.7	1591.4
35°	1162.9	1264.1	1343.3	1433.0	1494.3	1552.2	1558.6	1563.7
37.5°	1109.1	1216.1	1302.4	1400.2	1460.4	1515.9	1521.7	1527.5
40°	1053.6	1165.6	1256.4	1359.9	1420.2	1471.6	1477.7	1481.8
42.5°	997.8	1109.8	1207.3	1312.5	1372.4	1421.9	1425.6	1429.6
45°	941.2	1051.9	1152.1	1260.1	1319.3	1365.7	1367.0	1370.4
47.5°	883.7	992.0	1091.5	1200.2	1258.7	1301.0	1302.4	1305.1
50°	825.8	932.1	1026.9	1135.5	1192.7	1237.4	1231.3	1234.0
52.5°	769.0	869.2	966.0	1065.8	1122.3	1161.9	1163.6	1158.2
55°	713.1	807.6	896.6	992.7	1046.5	1077.3	1076.3	1078.3
57.5°	656.6	745.3	826.9	914.8	967.3	996.4	1002.5	995.4
60°	599.1	682.3	755.4	835.0	885.7	910.1	917.2	910.4
62.5°	541.9	618.4	684.7	754.1	801.1	831.3	830.6	823.1
65°	484.7	554.1	613.3	672.2	713.1	743.3	741.9	735.1
67.5°	431.9	489.1	542.2	589.9	625.5	646.1	653.2	645.1
70°	373.7	423.1	469.8	508.0	537.5	556.1	562.9	555.7
72.5°	315.4	357.4	390.2	427.1	449.8	465.4	472.5	465.7
75°	257.9	292.4	319.2	347.9	363.8	377.0	385.2	378.4
77.5°	202.1	228.8	250.1	271.1	289.4	292.4	299.5	295.1
80°	148.9	168.2	183.8	197.7	210.9	212.2	218.0	215.3
82.5°	99.2	112.0	116.1	130.6	139.1	137.8	143.5	141.5
85°	52.5	60.2	67.4	71.8	76.5	72.1	77.2	75.1
87.5°	17.6	18.6	16.2	23.0	25.4	21.7	24.7	23.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)