

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: P838237

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1HI-50-120-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: P838237
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-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

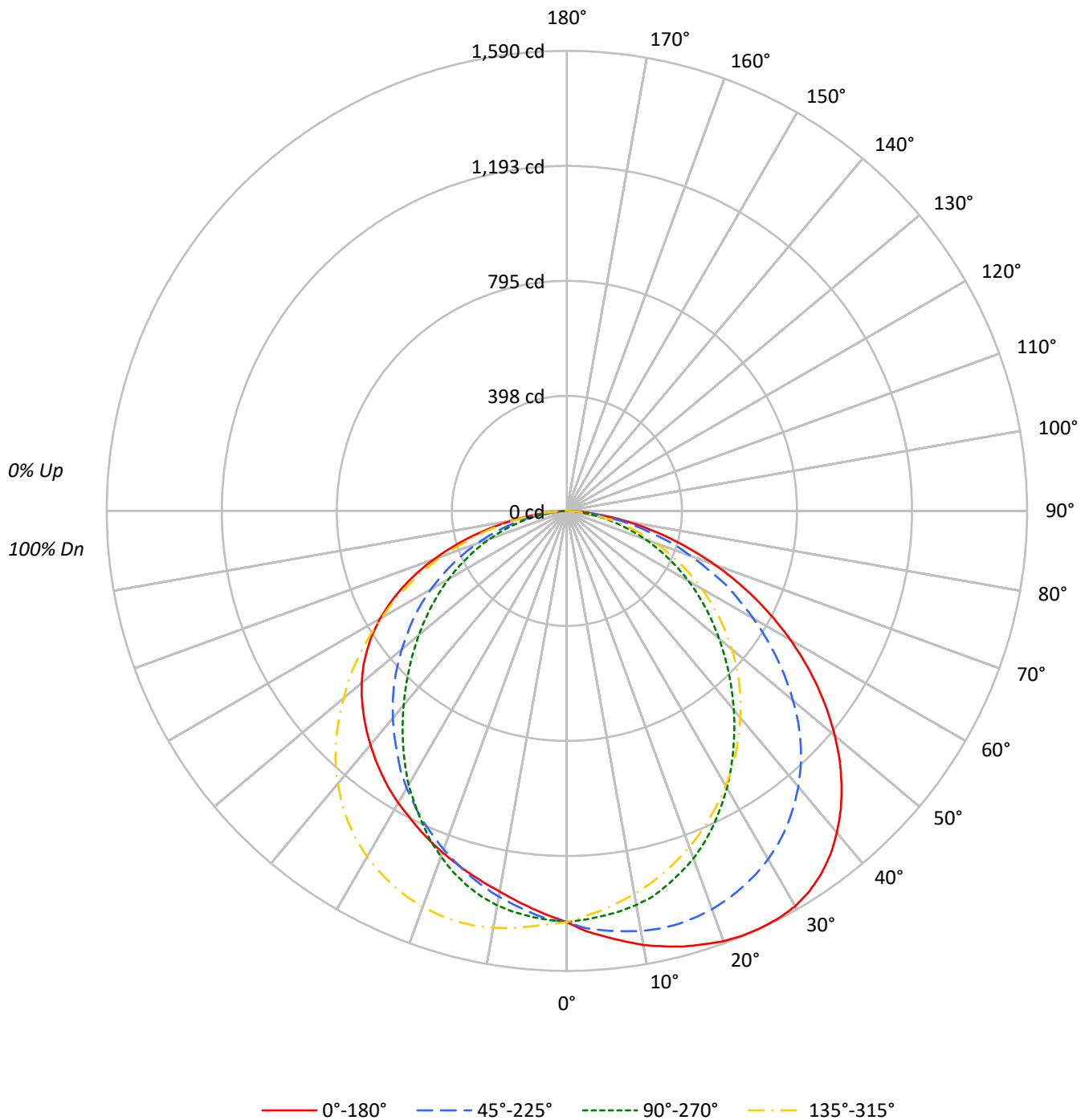
Lumens per Lamp: N/A
Luminaire Lumens: 4170.1 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1912	1912	1912	1912
5°	1993	1899	1863	1902
10°	2082	1889	1825	1892
15°	2171	1865	1807	1865
20°	2266	1831	1799	1821
25°	2360	1780	1799	1762
30°	2451	1718	1811	1699
35°	2516	1647	1829	1621
40°	2549	1576	1855	1541
45°	2555	1505	1891	1467
50°	2530	1436	1937	1398
55°	2478	1372	1980	1334
60°	2400	1305	2007	1271
65°	2293	1229	1996	1200
70°	2142	1138	1925	1118
75°	1927	1015	1766	1010
80°	1634	850	1485	863
85°	1136	563	942	579

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.9	3.2
10°-20°	390.8	9.4
20°-30°	598.9	14.4
30°-40°	728.2	17.5
40°-50°	757.0	18.2
50°-60°	683.8	16.4
60°-70°	519.9	12.5
70°-80°	289.8	7.0
80°-90°	66.7	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°	1124.6	27.0
0°-40°	1852.8	44.4
0°-60°	3293.6	79.0
0°-90°	4170.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4170.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1421	1421	1421	1421	1421	
5°	1476	1406	1379	1408	1476	142
15°	1559	1339	1297	1339	1559	442
25°	1590	1199	1212	1187	1590	734
35°	1532	1003	1114	987	1532	957
45°	1342	791	994	771	1342	1034
55°	1056	585	844	569	1056	943
65°	720	386	627	377	720	712
75°	371	195	340	194	371	394
85°	74	36	61	38	74	93
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°	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4
2.5°	1452.9	1431.6	1432.0	1450.5	1436.3	1443.2	1423.3	1431.0	1428.7	1430.3	1414.1
5°	1475.7	1452.9	1452.5	1468.4	1452.5	1455.5	1430.3	1435.3	1428.0	1423.3	1405.8
7.5°	1499.9	1477.1	1474.7	1488.7	1467.8	1465.5	1437.6	1437.6	1424.3	1412.7	1396.2
10°	1523.8	1500.3	1497.3	1507.9	1482.0	1474.4	1440.6	1435.3	1417.7	1400.5	1382.6
12.5°	1541.7	1517.8	1515.5	1522.2	1493.0	1479.0	1440.6	1430.3	1404.5	1380.2	1366.3
15°	1558.6	1534.1	1527.8	1531.1	1497.6	1479.0	1435.9	1420.0	1386.9	1355.0	1338.8
17.5°	1570.6	1547.0	1540.7	1540.4	1499.9	1473.4	1426.0	1404.1	1364.3	1325.9	1309.6
20°	1582.5	1559.0	1551.0	1545.0	1499.3	1465.8	1411.4	1381.9	1335.5	1292.4	1278.8
22.5°	1588.5	1564.3	1555.6	1546.7	1495.0	1451.9	1393.5	1356.0	1303.0	1251.6	1240.3
25°	1589.5	1564.6	1555.3	1542.4	1486.3	1435.3	1370.3	1324.9	1265.5	1208.5	1198.9
27.5°	1586.8	1559.6	1550.3	1534.8	1473.4	1415.1	1342.8	1289.4	1225.7	1162.8	1152.5
30°	1577.5	1550.0	1541.1	1520.8	1455.2	1390.2	1312.6	1249.9	1181.6	1114.7	1105.7
32.5°	1559.0	1532.1	1524.8	1504.6	1435.3	1361.3	1277.5	1207.5	1132.9	1068.9	1055.7
35°	1531.8	1504.9	1500.3	1479.0	1407.4	1326.9	1239.0	1161.1	1081.2	1015.9	1002.9
37.5°	1496.3	1473.7	1466.8	1445.9	1374.6	1287.7	1194.9	1110.7	1028.5	958.2	950.2
40°	1451.5	1430.3	1425.0	1406.4	1336.5	1244.3	1147.2	1058.6	974.1	908.8	897.5
42.5°	1400.5	1380.6	1377.6	1358.4	1289.4	1196.2	1095.4	1004.6	917.4	854.4	843.1
45°	1342.5	1323.2	1322.6	1304.3	1238.0	1142.9	1041.1	949.9	862.0	796.7	790.7
47.5°	1278.5	1261.2	1261.2	1244.3	1180.7	1084.2	985.0	892.9	806.3	748.6	738.0
50°	1208.8	1192.6	1187.6	1179.3	1117.3	1020.2	926.0	837.2	751.3	696.3	686.0
52.5°	1134.6	1120.6	1124.0	1108.7	1048.7	953.5	866.3	774.5	695.9	645.9	635.6
55°	1056.3	1036.4	1039.4	1033.8	977.1	884.9	799.4	722.8	641.6	594.5	584.9
57.5°	975.1	949.2	959.8	956.5	900.8	814.6	738.0	664.1	587.5	544.1	534.8
60°	891.9	867.0	877.9	875.0	822.6	744.3	674.7	606.1	533.8	494.3	485.1
62.5°	806.3	783.5	793.4	791.1	743.0	672.4	611.7	548.7	479.8	444.3	435.7
65°	720.1	698.2	707.2	705.5	661.1	607.4	547.1	489.4	425.4	394.5	385.9
67.5°	631.9	611.7	620.0	620.0	579.2	527.8	482.1	429.4	372.0	345.5	337.5
70°	544.4	525.5	532.8	532.1	497.7	455.9	416.4	369.3	318.0	296.1	289.4
72.5°	456.2	439.6	446.3	445.6	416.8	389.9	350.8	310.0	265.2	247.7	241.7
75°	370.7	355.1	361.4	360.7	337.2	312.0	285.8	252.0	213.5	201.3	195.3
77.5°	289.1	273.2	278.5	278.5	261.3	243.0	222.1	195.9	168.8	155.5	151.2
80°	210.9	203.2	200.6	200.9	189.3	177.4	166.8	141.6	121.7	112.7	109.7
82.5°	138.6	132.3	129.6	130.3	123.7	116.4	109.7	92.2	78.9	73.6	71.9
85°	73.6	69.0	66.6	68.3	67.0	63.0	59.7	47.7	39.5	37.5	36.5
87.5°	23.2	20.2	18.6	24.5	20.9	18.6	17.9	14.3	10.9	10.9	10.6
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4
2.5°	1419.4	1419.4	1406.4	1403.5	1402.1	1403.8	1390.9	1388.5	1407.1	1400.8	1386.5
5°	1408.1	1407.4	1389.2	1385.9	1385.9	1383.9	1369.3	1366.0	1384.6	1379.3	1363.7
7.5°	1394.2	1392.2	1370.6	1368.3	1365.0	1363.7	1347.4	1345.1	1361.0	1357.7	1343.1
10°	1377.3	1375.3	1349.7	1348.1	1344.4	1341.8	1326.5	1324.9	1341.1	1335.8	1324.2
12.5°	1355.0	1351.4	1325.2	1323.6	1320.6	1319.6	1304.7	1304.0	1321.9	1316.6	1304.3
15°	1325.9	1322.9	1293.7	1294.4	1294.7	1294.7	1282.8	1282.1	1299.7	1297.4	1284.1
17.5°	1293.7	1289.7	1261.9	1263.9	1266.2	1268.8	1259.6	1261.2	1279.8	1276.8	1264.9
20°	1257.2	1253.3	1226.1	1231.7	1236.7	1242.0	1236.0	1240.7	1257.9	1256.6	1247.6
22.5°	1216.5	1212.5	1187.3	1195.9	1204.2	1214.1	1211.5	1216.8	1235.0	1234.7	1226.7
25°	1166.7	1167.7	1145.5	1156.1	1170.0	1184.0	1185.0	1193.6	1213.8	1211.8	1204.5
27.5°	1120.3	1121.6	1098.1	1116.0	1134.6	1152.5	1156.8	1168.7	1189.3	1187.6	1181.3
30°	1071.6	1073.2	1050.4	1074.9	1097.4	1119.3	1128.6	1144.8	1165.7	1165.7	1159.1
32.5°	1020.8	1023.8	1000.0	1032.8	1059.0	1084.5	1100.8	1117.7	1141.5	1140.9	1135.2
35°	968.8	972.1	950.2	992.0	1018.2	1049.4	1069.6	1092.1	1113.3	1113.7	1109.4
37.5°	915.7	919.7	899.8	945.6	975.4	1012.2	1038.1	1060.6	1084.2	1085.5	1081.5
40°	863.0	867.3	850.1	894.2	932.0	973.1	1002.9	1029.5	1055.3	1056.0	1053.3
42.5°	810.3	815.0	802.0	845.1	887.9	932.0	967.1	997.3	1023.8	1025.5	1022.5
45°	758.9	762.9	753.6	800.7	841.8	889.9	930.3	964.5	991.3	993.7	992.7
47.5°	707.9	711.5	703.2	746.3	793.7	844.8	891.5	929.3	957.9	960.5	959.8
50°	657.8	660.8	651.8	696.9	744.0	798.4	847.1	890.9	922.7	925.4	925.0
52.5°	608.1	611.0	603.4	650.8	693.6	751.0	804.0	851.4	882.9	886.9	887.6
55°	560.0	561.3	555.3	600.8	642.2	702.2	763.2	809.3	840.8	844.1	846.1
57.5°	511.9	512.2	507.3	550.7	590.5	651.8	715.8	764.2	794.1	797.4	800.4
60°	464.2	463.8	458.2	500.3	538.4	599.1	665.8	713.8	742.7	745.7	749.6
62.5°	416.8	415.8	410.8	449.6	485.4	545.4	612.4	658.8	686.3	688.3	693.6
65°	369.7	368.7	364.0	399.9	432.3	489.7	555.3	599.4	624.3	627.0	626.0
67.5°	323.3	321.3	317.6	349.8	379.3	432.3	495.3	537.4	558.0	560.3	566.6
70°	276.8	274.5	266.2	300.4	326.2	373.7	432.3	469.8	487.0	489.4	488.4
72.5°	231.1	228.8	219.8	251.3	273.2	314.6	367.0	398.2	413.1	415.1	415.1
75°	186.7	185.3	179.7	203.6	221.8	255.6	300.1	325.9	337.5	339.8	339.2
77.5°	143.9	142.9	137.3	157.8	172.1	197.3	233.1	253.3	261.9	264.6	270.2
80°	103.1	102.8	93.8	114.1	120.4	141.6	167.8	183.3	188.0	191.6	195.6
82.5°	66.0	66.3	57.4	74.6	77.3	90.8	107.1	116.7	120.0	123.0	126.0
85°	32.2	33.5	28.5	39.5	39.8	46.7	53.7	57.4	58.7	61.0	63.7
87.5°	8.3	9.6	5.3	11.3	9.9	12.9	14.9	15.9	15.6	17.2	18.2
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°	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4
2.5°	1391.2	1401.8	1396.5	1413.7	1420.4	1409.8	1428.3	1428.7	1415.4	1431.0	1439.6
5°	1369.6	1380.6	1377.3	1395.2	1403.5	1394.2	1416.7	1421.0	1408.1	1425.7	1439.6
7.5°	1347.8	1360.7	1356.4	1374.6	1384.6	1377.3	1401.5	1408.4	1398.5	1417.7	1436.3
10°	1328.9	1339.8	1335.2	1354.4	1363.0	1357.0	1380.9	1393.8	1384.6	1408.1	1430.3
12.5°	1310.3	1319.2	1313.9	1329.9	1338.1	1330.5	1359.7	1371.6	1365.0	1389.5	1418.0
15°	1286.4	1296.4	1289.1	1303.3	1309.6	1303.0	1326.9	1347.4	1339.1	1366.0	1397.5
17.5°	1268.2	1273.8	1263.9	1275.1	1278.8	1269.8	1294.0	1314.3	1308.3	1337.5	1373.9
20°	1248.0	1252.6	1238.7	1245.0	1244.6	1233.4	1255.6	1275.5	1271.5	1303.7	1345.1
22.5°	1225.4	1227.7	1211.5	1212.8	1212.2	1193.6	1213.5	1233.7	1232.0	1264.5	1311.0
25°	1201.5	1201.9	1181.0	1180.3	1173.0	1151.1	1168.7	1191.6	1186.6	1221.8	1270.5
27.5°	1178.0	1174.7	1149.5	1143.5	1131.9	1105.7	1121.3	1141.9	1138.9	1173.4	1227.4
30°	1152.8	1148.5	1117.7	1106.7	1089.8	1059.6	1072.6	1091.8	1093.5	1123.6	1180.3
32.5°	1128.9	1118.0	1083.8	1067.9	1046.7	1011.6	1018.5	1038.1	1040.7	1071.2	1129.6
35°	1098.1	1090.8	1048.7	1021.5	1000.6	962.2	969.5	983.0	987.0	1016.9	1076.2
37.5°	1068.9	1057.3	1012.6	979.4	952.5	912.1	914.1	928.0	932.0	962.2	1020.8
40°	1038.7	1022.2	974.1	935.3	904.5	862.0	859.7	874.3	877.3	906.8	959.8
42.5°	1006.6	986.7	932.7	890.2	854.7	811.6	807.0	819.6	822.9	851.8	903.8
45°	974.1	950.2	890.2	843.8	805.0	760.9	756.3	765.9	770.9	798.0	848.1
47.5°	939.6	911.8	846.5	794.7	754.6	710.5	704.9	714.5	718.5	745.3	792.7
50°	903.5	869.7	801.4	744.3	704.5	661.1	652.8	664.1	667.7	692.9	739.4
52.5°	863.7	826.2	753.3	693.6	653.8	612.4	602.4	613.4	617.7	642.2	685.0
55°	821.6	781.1	704.9	646.9	603.8	563.3	555.0	559.3	568.6	591.8	631.6
57.5°	774.2	734.1	653.8	594.8	553.4	514.6	507.6	511.6	520.2	542.7	578.6
60°	723.8	681.3	601.8	542.7	502.6	465.8	459.5	463.2	472.5	493.0	526.2
62.5°	674.0	626.3	548.1	489.4	452.9	418.7	417.1	415.8	424.4	444.3	473.5
65°	613.7	567.9	492.0	436.3	403.2	372.3	365.7	368.7	377.0	395.2	425.7
67.5°	549.0	507.6	434.7	383.3	353.8	326.2	320.6	321.9	330.6	346.5	373.0
70°	480.4	443.9	376.0	329.9	305.0	279.2	275.5	275.9	284.1	298.1	321.3
72.5°	408.5	375.6	316.6	277.2	256.6	238.1	234.7	230.8	238.4	250.3	270.2
75°	335.2	306.4	257.6	225.5	209.2	193.6	190.6	186.7	194.3	204.6	220.2
77.5°	261.3	238.1	200.3	175.4	162.8	151.2	148.5	144.2	151.9	159.5	171.7
80°	189.0	172.1	149.5	123.3	119.0	111.4	108.7	104.1	111.4	116.4	125.7
82.5°	122.0	110.7	97.8	79.6	78.9	73.3	71.9	66.6	73.3	76.3	83.2
85°	61.7	56.4	53.0	40.4	41.8	38.1	37.8	32.2	37.5	38.8	42.8
87.5°	17.6	18.6	16.6	9.9	12.6	11.9	11.9	8.6	11.9	11.9	13.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P838237

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1HI-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4
2.5°	1422.7	1428.3	1429.6	1429.3	1433.0	1452.9	1446.2	1452.9
5°	1426.0	1438.6	1441.9	1446.6	1452.5	1475.1	1467.8	1475.7
7.5°	1428.0	1446.9	1454.2	1463.1	1472.8	1497.9	1492.0	1499.9
10°	1428.0	1452.5	1463.1	1478.1	1491.0	1520.2	1514.5	1523.8
12.5°	1422.0	1453.5	1468.4	1489.3	1505.9	1537.4	1535.1	1541.7
15°	1409.8	1448.5	1469.1	1496.0	1516.5	1551.7	1550.7	1558.6
17.5°	1393.2	1439.9	1464.8	1498.6	1524.5	1563.9	1566.2	1570.6
20°	1372.3	1423.7	1456.2	1497.6	1530.1	1573.5	1576.5	1582.5
22.5°	1344.8	1404.1	1443.2	1493.3	1530.8	1577.5	1582.8	1588.5
25°	1312.3	1380.6	1426.3	1485.0	1527.5	1577.2	1584.5	1589.5
27.5°	1275.1	1350.1	1404.8	1471.8	1518.2	1571.9	1580.8	1586.8
30°	1232.0	1317.6	1380.2	1454.5	1505.6	1561.9	1571.6	1577.5
32.5°	1187.6	1281.8	1351.1	1432.3	1487.3	1546.0	1554.3	1559.0
35°	1139.2	1238.3	1315.9	1403.8	1463.8	1520.5	1526.8	1531.8
37.5°	1086.5	1191.3	1275.8	1371.6	1430.6	1485.0	1490.7	1496.3
40°	1032.1	1141.9	1230.7	1332.2	1391.2	1441.6	1447.6	1451.5
42.5°	977.4	1087.2	1182.6	1285.8	1344.4	1392.8	1396.5	1400.5
45°	922.0	1030.5	1128.6	1234.4	1292.4	1337.8	1339.1	1342.5
47.5°	865.7	971.8	1069.3	1175.7	1233.0	1274.5	1275.8	1278.5
50°	809.0	913.1	1005.9	1112.4	1168.4	1212.2	1206.2	1208.8
52.5°	753.3	851.4	946.2	1044.1	1099.4	1138.2	1139.9	1134.6
55°	698.6	791.1	878.3	972.4	1025.2	1055.3	1054.3	1056.3
57.5°	643.2	730.1	810.0	896.2	947.6	976.1	982.1	975.1
60°	586.8	668.4	740.0	817.9	867.7	891.5	898.5	891.9
62.5°	530.8	605.7	670.7	738.7	784.8	814.3	813.6	806.3
65°	474.8	542.7	600.8	658.5	698.6	728.1	726.8	720.1
67.5°	423.1	479.1	531.1	577.9	612.7	632.9	639.9	631.9
70°	366.0	414.4	460.2	497.7	526.5	544.7	551.4	544.4
72.5°	309.0	350.1	382.3	418.4	440.6	455.9	462.8	456.2
75°	252.6	286.5	312.7	340.8	356.4	369.3	377.3	370.7
77.5°	197.9	224.1	245.0	265.6	283.5	286.5	293.4	289.1
80°	145.9	164.8	180.0	193.6	206.6	207.9	213.5	210.9
82.5°	97.1	109.7	113.7	128.0	136.3	134.9	140.6	138.6
85°	51.4	59.0	66.0	70.3	74.9	70.6	75.6	73.6
87.5°	17.2	18.2	15.9	22.5	24.9	21.2	24.2	23.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)