

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: P838057

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1HI-27-120-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: P838057
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-27-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

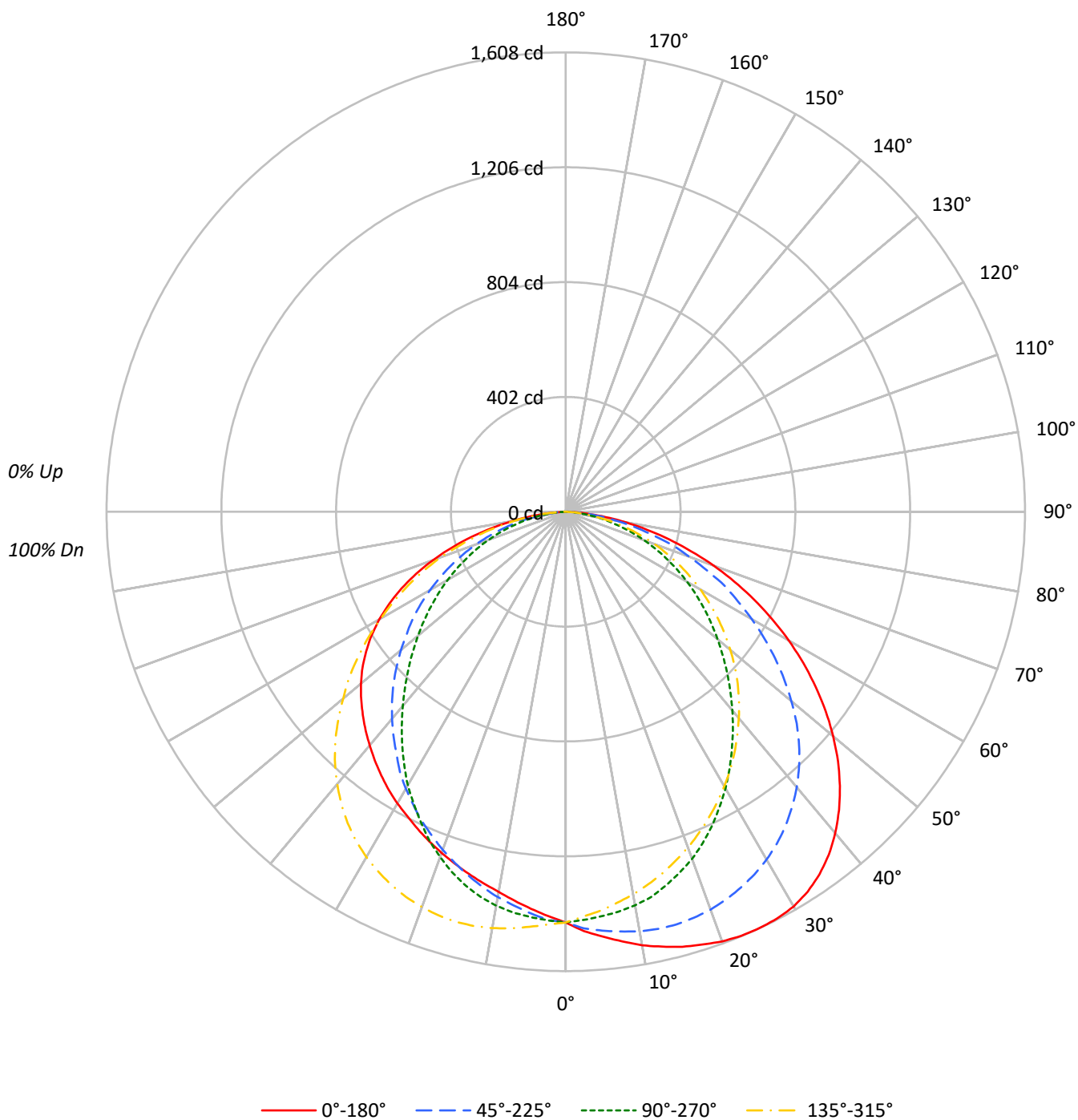
Lumens per Lamp: N/A
Luminaire Lumens: 4217.5 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1934	1934	1934	1934
5°	2016	1920	1884	1923
10°	2106	1910	1846	1913
15°	2196	1886	1828	1887
20°	2292	1852	1820	1841
25°	2386	1800	1820	1782
30°	2479	1737	1832	1718
35°	2545	1666	1850	1640
40°	2578	1594	1876	1558
45°	2583	1522	1912	1483
50°	2559	1452	1959	1414
55°	2506	1388	2003	1349
60°	2427	1320	2029	1286
65°	2319	1243	2019	1214
70°	2166	1151	1947	1131
75°	1949	1027	1787	1022
80°	1653	860	1502	873
85°	1149	570	953	585

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.5	3.2
10°-20°	395.2	9.4
20°-30°	605.7	14.4
30°-40°	736.5	17.5
40°-50°	765.6	18.2
50°-60°	691.6	16.4
60°-70°	525.8	12.5
70°-80°	293.1	7.0
80°-90°	67.5	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°	1137.4	27.0
0°-40°	1873.9	44.4
0°-60°	3331.1	79.0
0°-90°	4217.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4217.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1438	1438	1438	1438	1438	
5°	1492	1422	1395	1424	1492	144
15°	1576	1354	1312	1354	1576	447
25°	1608	1212	1226	1200	1608	742
35°	1549	1014	1126	998	1549	968
45°	1358	800	1005	780	1358	1045
55°	1068	592	854	575	1068	954
65°	728	390	634	381	728	720
75°	375	198	344	196	375	398
85°	74	37	62	38	74	94
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°	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5
2.5°	1469.4	1447.9	1448.2	1467.0	1452.6	1459.6	1439.5	1447.2	1444.9	1446.6	1430.1
5°	1492.5	1469.4	1469.0	1485.1	1469.0	1472.0	1446.6	1451.6	1444.2	1439.5	1421.8
7.5°	1517.0	1493.8	1491.5	1505.6	1484.5	1482.1	1453.9	1453.9	1440.5	1428.8	1412.0
10°	1541.1	1517.3	1514.3	1525.0	1498.9	1491.2	1457.0	1451.6	1433.8	1416.4	1398.3
12.5°	1559.2	1535.1	1532.7	1539.4	1509.9	1495.9	1457.0	1446.6	1420.4	1395.9	1381.8
15°	1576.3	1551.5	1545.1	1548.5	1514.6	1495.9	1452.3	1436.2	1402.6	1370.4	1354.0
17.5°	1588.4	1564.6	1558.2	1557.9	1517.0	1490.2	1442.2	1420.1	1379.8	1340.9	1324.5
20°	1600.5	1576.7	1568.6	1562.6	1516.3	1482.4	1427.5	1397.6	1350.7	1307.1	1293.3
22.5°	1606.5	1582.0	1573.3	1564.3	1512.0	1468.4	1409.3	1371.5	1317.8	1265.8	1254.4
25°	1607.5	1582.4	1573.0	1559.9	1503.2	1451.6	1385.9	1339.9	1279.9	1222.2	1212.5
27.5°	1604.8	1577.3	1568.0	1552.2	1490.2	1431.1	1358.0	1304.1	1239.7	1176.0	1165.6
30°	1595.4	1567.6	1558.6	1538.1	1471.7	1406.0	1327.5	1264.2	1195.1	1127.3	1118.3
32.5°	1576.7	1549.5	1542.1	1521.7	1451.6	1376.8	1292.0	1221.2	1145.8	1081.1	1067.7
35°	1549.2	1522.0	1517.3	1495.9	1423.4	1341.9	1253.1	1174.3	1093.5	1027.4	1014.3
37.5°	1513.3	1490.5	1483.5	1462.3	1390.2	1302.4	1208.5	1123.3	1040.2	969.1	961.0
40°	1468.0	1446.6	1441.2	1422.4	1351.7	1258.5	1160.2	1070.7	985.2	919.1	907.7
42.5°	1416.4	1396.3	1393.2	1373.8	1304.1	1209.8	1107.9	1016.0	927.8	864.1	852.7
45°	1357.7	1338.3	1337.6	1319.1	1252.1	1155.8	1052.9	960.7	871.8	805.8	799.7
47.5°	1293.0	1275.6	1275.6	1258.5	1194.1	1096.5	996.2	903.0	815.5	757.1	746.4
50°	1222.6	1206.1	1201.1	1192.7	1130.0	1031.8	936.5	846.7	759.8	704.2	693.8
52.5°	1147.5	1133.4	1136.7	1121.3	1060.6	964.4	876.2	783.3	703.8	653.2	642.8
55°	1068.3	1048.2	1051.2	1045.5	988.2	895.0	808.5	731.0	648.8	601.2	591.5
57.5°	986.2	960.0	970.7	967.4	911.1	823.9	746.4	671.6	594.2	550.3	540.9
60°	902.0	876.9	887.9	884.9	831.9	752.8	682.4	613.0	539.9	500.0	490.6
62.5°	815.5	792.4	802.4	800.1	751.4	680.0	618.7	555.0	485.2	449.3	440.6
65°	728.3	706.2	715.2	713.6	668.6	614.3	553.3	494.9	430.2	399.0	390.3
67.5°	639.1	618.7	627.0	627.0	585.8	533.8	487.6	434.2	376.2	349.4	341.4
70°	550.6	531.5	538.9	538.2	503.3	461.1	421.2	373.5	321.6	299.4	292.7
72.5°	461.4	444.6	451.3	450.7	421.5	394.3	354.8	313.5	268.3	250.5	244.4
75°	374.9	359.1	365.5	364.8	341.0	315.5	289.0	254.8	215.9	203.5	197.5
77.5°	292.4	276.3	281.7	281.7	264.2	245.8	224.7	198.2	170.7	157.3	152.9
80°	213.3	205.6	202.9	203.2	191.5	179.4	168.7	143.2	123.1	114.0	111.0
82.5°	140.2	133.8	131.1	131.8	125.1	117.7	111.0	93.2	79.8	74.4	72.8
85°	74.4	69.7	67.4	69.1	67.7	63.7	60.4	48.3	39.9	37.9	36.9
87.5°	23.5	20.5	18.8	24.8	21.1	18.8	18.1	14.4	11.1	11.1	10.7
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°	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5
2.5°	1435.5	1435.5	1422.4	1419.4	1418.1	1419.7	1406.7	1404.3	1423.1	1416.7	1402.3
5°	1424.1	1423.4	1405.0	1401.6	1401.6	1399.6	1384.9	1381.5	1400.3	1394.9	1379.2
7.5°	1410.0	1408.0	1386.2	1383.9	1380.5	1379.2	1362.7	1360.4	1376.5	1373.1	1358.4
10°	1392.9	1390.9	1365.1	1363.4	1359.7	1357.0	1341.6	1339.9	1356.4	1351.0	1339.3
12.5°	1370.4	1366.8	1340.3	1338.6	1335.6	1334.6	1319.5	1318.8	1336.9	1331.6	1319.1
15°	1340.9	1337.9	1308.4	1309.1	1309.4	1309.4	1297.3	1296.7	1314.4	1312.1	1298.7
17.5°	1308.4	1304.4	1276.2	1278.2	1280.6	1283.3	1273.9	1275.6	1294.3	1291.3	1279.2
20°	1271.5	1267.5	1240.0	1245.7	1250.7	1256.1	1250.1	1254.8	1272.2	1270.9	1261.8
22.5°	1230.3	1226.3	1200.8	1209.5	1217.9	1227.9	1225.3	1230.6	1249.1	1248.7	1240.7
25°	1180.0	1181.0	1158.5	1169.3	1183.3	1197.4	1198.4	1207.1	1227.6	1225.6	1218.2
27.5°	1133.0	1134.4	1110.6	1128.7	1147.5	1165.6	1169.9	1182.0	1202.8	1201.1	1194.7
30°	1083.8	1085.4	1062.3	1087.1	1109.9	1132.0	1141.4	1157.9	1179.0	1179.0	1172.3
32.5°	1032.4	1035.5	1011.3	1044.5	1071.0	1096.8	1113.3	1130.4	1154.5	1153.8	1148.1
35°	979.8	983.2	961.0	1003.3	1029.8	1061.3	1081.7	1104.5	1126.0	1126.3	1122.0
37.5°	926.2	930.2	910.1	956.3	986.5	1023.7	1049.9	1072.7	1096.5	1097.8	1093.8
40°	872.8	877.2	859.8	904.4	942.6	984.2	1014.3	1041.2	1067.3	1068.0	1065.3
42.5°	819.5	824.2	811.1	854.7	898.0	942.6	978.1	1008.6	1035.5	1037.1	1034.1
45°	767.5	771.6	762.2	809.8	851.4	900.0	940.9	975.4	1002.6	1005.0	1003.9
47.5°	715.9	719.6	711.2	754.8	802.8	854.4	901.7	939.9	968.7	971.4	970.7
50°	665.3	668.3	659.2	704.8	752.5	807.4	856.7	901.0	933.2	935.9	935.5
52.5°	615.0	618.0	610.3	658.2	701.5	759.5	813.1	861.1	893.0	897.0	897.6
55°	566.4	567.7	561.7	607.6	649.5	710.2	771.9	818.5	850.4	853.7	855.7
57.5°	517.7	518.1	513.0	557.0	597.2	659.2	724.0	772.9	803.1	806.4	809.5
60°	469.4	469.1	463.4	506.0	544.6	605.9	673.3	721.9	751.1	754.1	758.2
62.5°	421.5	420.5	415.5	454.7	490.9	551.6	619.3	666.3	694.1	696.1	701.5
65°	373.9	372.9	368.2	404.4	437.3	495.3	561.7	606.3	631.4	634.1	633.1
67.5°	326.9	324.9	321.2	353.8	383.6	437.3	501.0	543.6	564.3	566.7	573.1
70°	280.0	277.6	269.3	303.8	330.0	377.9	437.3	475.1	492.6	494.9	493.9
72.5°	233.7	231.4	222.3	254.2	276.3	318.2	371.2	402.7	417.8	419.8	419.8
75°	188.8	187.4	181.7	205.9	224.3	258.5	303.5	329.6	341.4	343.7	343.0
77.5°	145.5	144.5	138.8	159.6	174.0	199.5	235.7	256.2	264.9	267.6	273.3
80°	104.3	103.9	94.9	115.3	121.7	143.2	169.7	185.4	190.1	193.8	197.8
82.5°	66.7	67.1	58.0	75.4	78.1	91.9	108.3	118.0	121.4	124.4	127.4
85°	32.5	33.9	28.8	39.9	40.2	47.3	54.3	58.0	59.4	61.7	64.4
87.5°	8.4	9.7	5.4	11.4	10.1	13.1	15.1	16.1	15.8	17.4	18.4
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°	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5
2.5°	1407.0	1417.7	1412.4	1429.8	1436.5	1425.8	1444.6	1444.9	1431.5	1447.2	1456.0
5°	1385.2	1396.3	1392.9	1411.0	1419.4	1410.0	1432.8	1437.2	1424.1	1441.9	1456.0
7.5°	1363.1	1376.1	1371.8	1390.2	1400.3	1392.9	1417.4	1424.4	1414.4	1433.8	1452.6
10°	1344.0	1355.0	1350.3	1369.8	1378.5	1372.5	1396.6	1409.7	1400.3	1424.1	1446.6
12.5°	1325.2	1334.2	1328.9	1345.0	1353.3	1345.6	1375.1	1387.2	1380.5	1405.3	1434.2
15°	1301.0	1311.1	1303.7	1318.1	1324.5	1317.8	1341.9	1362.7	1354.4	1381.5	1413.4
17.5°	1282.6	1288.3	1278.2	1289.6	1293.3	1284.3	1308.7	1329.2	1323.2	1352.7	1389.6
20°	1262.1	1266.8	1252.8	1259.1	1258.8	1247.4	1269.9	1290.0	1285.9	1318.5	1360.4
22.5°	1239.3	1241.7	1225.3	1226.6	1225.9	1207.1	1227.3	1247.7	1246.0	1278.9	1325.9
25°	1215.2	1215.5	1194.4	1193.7	1186.4	1164.2	1182.0	1205.1	1200.1	1235.6	1284.9
27.5°	1191.4	1188.0	1162.6	1156.5	1144.8	1118.3	1134.0	1154.8	1151.8	1186.7	1241.4
30°	1165.9	1161.5	1130.4	1119.3	1102.2	1071.7	1084.8	1104.2	1105.9	1136.4	1193.7
32.5°	1141.8	1130.7	1096.2	1080.1	1058.6	1023.1	1030.1	1049.9	1052.6	1083.4	1142.4
35°	1110.6	1103.2	1060.6	1033.1	1012.0	973.1	980.5	994.2	998.2	1028.4	1088.4
37.5°	1081.1	1069.3	1024.1	990.5	963.4	922.5	924.5	938.6	942.6	973.1	1032.4
40°	1050.6	1033.8	985.2	945.9	914.7	871.8	869.5	884.2	887.3	917.1	970.7
42.5°	1018.0	997.9	943.3	900.3	864.5	820.9	816.2	828.9	832.3	861.4	914.1
45°	985.2	961.0	900.3	853.4	814.2	769.6	764.9	774.6	779.6	807.1	857.7
47.5°	950.3	922.1	856.1	803.8	763.2	718.6	712.9	722.6	726.6	753.8	801.7
50°	913.7	879.5	810.5	752.8	712.6	668.6	660.2	671.6	675.3	700.8	747.8
52.5°	873.5	835.6	761.8	701.5	661.2	619.3	609.3	620.3	624.7	649.5	692.8
55°	830.9	790.0	712.9	654.2	610.6	569.7	561.3	565.7	575.1	598.5	638.8
57.5°	783.0	742.4	661.2	601.6	559.6	520.4	513.4	517.4	526.1	548.9	585.1
60°	732.0	689.1	608.6	548.9	508.3	471.1	464.8	468.4	477.8	498.6	532.2
62.5°	681.7	633.4	554.3	494.9	458.0	423.5	421.8	420.5	429.2	449.3	478.8
65°	620.7	574.4	497.6	441.3	407.7	376.6	369.9	372.9	381.3	399.7	430.5
67.5°	555.3	513.4	439.6	387.6	357.8	330.0	324.3	325.6	334.3	350.4	377.2
70°	485.9	449.0	380.3	333.6	308.5	282.3	278.6	279.0	287.4	301.5	324.9
72.5°	413.1	379.9	320.2	280.3	259.5	240.8	237.4	233.4	241.1	253.2	273.3
75°	339.0	309.8	260.5	228.0	211.6	195.8	192.8	188.8	196.5	206.9	222.7
77.5°	264.2	240.8	202.5	177.4	164.6	152.9	150.2	145.9	153.6	161.3	173.7
80°	191.1	174.0	151.2	124.7	120.4	112.7	110.0	105.3	112.7	117.7	127.1
82.5°	123.4	112.0	98.9	80.5	79.8	74.1	72.8	67.4	74.1	77.1	84.2
85°	62.4	57.0	53.7	40.9	42.3	38.6	38.2	32.5	37.9	39.2	43.3
87.5°	17.8	18.8	16.8	10.1	12.7	12.1	12.1	8.7	12.1	12.1	13.7
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: P838057

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1HI-27-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5	1437.5
2.5°	1438.9	1444.6	1445.9	1445.6	1449.2	1469.4	1462.7	1469.4
5°	1442.2	1454.9	1458.3	1463.0	1469.0	1491.8	1484.5	1492.5
7.5°	1444.2	1463.3	1470.7	1479.8	1489.5	1515.0	1508.9	1517.0
10°	1444.2	1469.0	1479.8	1494.9	1507.9	1537.4	1531.7	1541.1
12.5°	1438.2	1470.0	1485.1	1506.3	1523.0	1554.9	1552.5	1559.2
15°	1425.8	1465.0	1485.8	1513.0	1533.7	1569.3	1568.3	1576.3
17.5°	1409.0	1456.3	1481.4	1515.6	1541.8	1581.7	1584.0	1588.4
20°	1387.9	1439.9	1472.7	1514.6	1547.5	1591.4	1594.4	1600.5
22.5°	1360.1	1420.1	1459.6	1510.3	1548.2	1595.4	1600.8	1606.5
25°	1327.2	1396.3	1442.5	1501.9	1544.8	1595.1	1602.5	1607.5
27.5°	1289.6	1365.4	1420.7	1488.5	1535.4	1589.7	1598.8	1604.8
30°	1246.0	1332.6	1395.9	1471.0	1522.7	1579.7	1589.4	1595.4
32.5°	1201.1	1296.3	1366.4	1448.6	1504.2	1563.6	1572.0	1576.7
35°	1152.2	1252.4	1330.9	1419.7	1480.4	1537.8	1544.1	1549.2
37.5°	1098.8	1204.8	1290.3	1387.2	1446.9	1501.9	1507.6	1513.3
40°	1043.8	1154.8	1244.7	1347.3	1407.0	1458.0	1464.0	1468.0
42.5°	988.5	1099.5	1196.1	1300.4	1359.7	1408.7	1412.4	1416.4
45°	932.5	1042.2	1141.4	1248.4	1307.1	1353.0	1354.4	1357.7
47.5°	875.5	982.8	1081.4	1189.0	1247.1	1289.0	1290.3	1293.0
50°	818.2	923.5	1017.4	1125.0	1181.7	1225.9	1219.9	1222.6
52.5°	761.8	861.1	957.0	1055.9	1111.9	1151.1	1152.8	1147.5
55°	706.5	800.1	888.3	983.5	1036.8	1067.3	1066.3	1068.3
57.5°	650.5	738.4	819.2	906.4	958.3	987.2	993.2	986.2
60°	593.5	676.0	748.4	827.2	877.5	901.7	908.7	902.0
62.5°	536.8	612.6	678.4	747.1	793.7	823.5	822.9	815.5
65°	480.2	548.9	607.6	665.9	706.5	736.4	735.0	728.3
67.5°	427.9	484.5	537.2	584.5	619.7	640.1	647.2	639.1
70°	370.2	419.1	465.4	503.3	532.5	550.9	557.6	550.6
72.5°	312.5	354.1	386.6	423.2	445.6	461.1	468.1	461.4
75°	255.5	289.7	316.2	344.7	360.5	373.5	381.6	374.9
77.5°	200.2	226.7	247.8	268.6	286.7	289.7	296.8	292.4
80°	147.5	166.7	182.1	195.8	208.9	210.2	215.9	213.3
82.5°	98.2	111.0	115.0	129.4	137.8	136.5	142.2	140.2
85°	52.0	59.7	66.7	71.1	75.8	71.4	76.5	74.4
87.5°	17.4	18.4	16.1	22.8	25.1	21.5	24.5	23.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)