

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: P838041

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-2STD-20-120-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: P838041
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-LD4-2STD-20-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

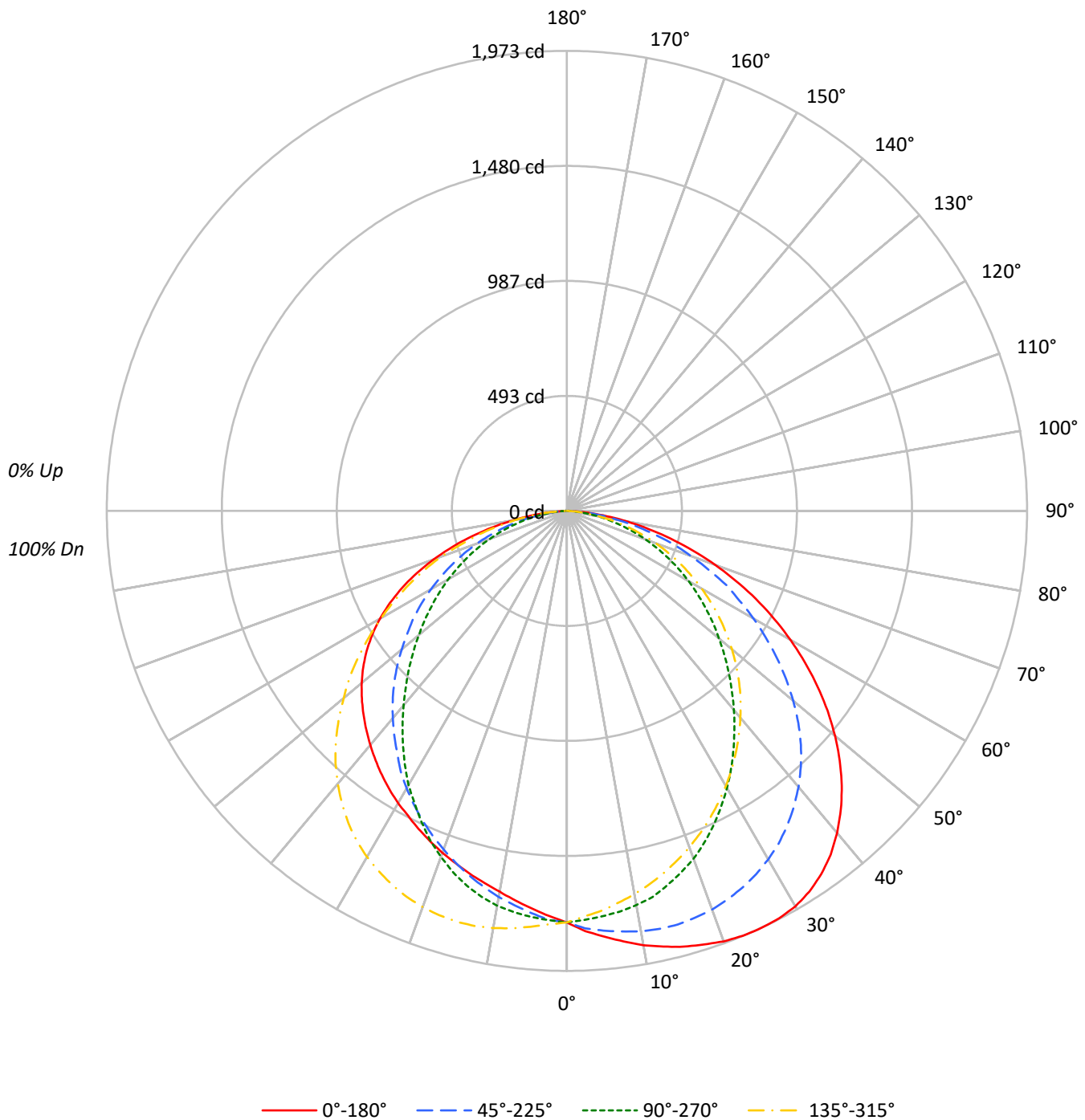
Lumens per Lamp: N/A
Luminaire Lumens: 5177.4 lumens
Efficiency: N/A
Efficacy: 77.7 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2374	2374	2374	2374
5°	2475	2357	2313	2361
10°	2585	2345	2266	2349
15°	2696	2315	2244	2316
20°	2813	2273	2234	2260
25°	2930	2210	2234	2187
30°	3043	2133	2249	2109
35°	3124	2045	2271	2013
40°	3165	1957	2303	1913
45°	3171	1868	2347	1821
50°	3141	1783	2405	1735
55°	3077	1703	2458	1656
60°	2980	1621	2491	1579
65°	2847	1526	2478	1490
70°	2659	1414	2390	1388
75°	2392	1261	2193	1254
80°	2029	1056	1843	1072
85°	1411	699	1169	718

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.5	3.2
10°-20°	485.2	9.4
20°-30°	743.6	14.4
30°-40°	904.1	17.5
40°-50°	939.9	18.2
50°-60°	849.0	16.4
60°-70°	645.5	12.5
70°-80°	359.8	7.0
80°-90°	82.8	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°	1396.3	27.0
0°-40°	2300.4	44.4
0°-60°	4089.3	79.0
0°-90°	5177.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5177.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1765	1765	1765	1765	1765	
5°	1832	1745	1712	1748	1832	177
15°	1935	1662	1611	1663	1935	549
25°	1973	1488	1505	1473	1973	911
35°	1902	1245	1383	1226	1902	1188
45°	1667	982	1234	957	1667	1283
55°	1312	726	1048	706	1312	1171
65°	894	479	778	468	894	884
75°	460	242	422	241	460	489
85°	91	45	76	46	91	115
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°	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7
2.5°	1803.8	1777.5	1777.9	1800.9	1783.2	1791.9	1767.2	1776.6	1773.8	1775.8	1755.7
5°	1832.2	1803.8	1803.4	1823.2	1803.4	1807.1	1775.8	1782.0	1772.9	1767.2	1745.4
7.5°	1862.3	1833.9	1831.0	1848.3	1822.3	1819.5	1784.9	1784.9	1768.4	1754.0	1733.4
10°	1891.9	1862.7	1859.0	1872.1	1840.0	1830.6	1788.6	1782.0	1760.2	1738.8	1716.5
12.5°	1914.1	1884.5	1881.6	1889.8	1853.6	1836.3	1788.6	1775.8	1743.7	1713.7	1696.4
15°	1935.1	1904.7	1896.8	1901.0	1859.4	1836.3	1782.8	1763.1	1721.9	1682.4	1662.2
17.5°	1949.9	1920.7	1912.9	1912.5	1862.3	1829.3	1770.5	1743.3	1693.9	1646.2	1626.0
20°	1964.8	1935.5	1925.7	1918.3	1861.4	1819.9	1752.4	1715.7	1658.1	1604.6	1587.7
22.5°	1972.2	1942.1	1931.4	1920.3	1856.1	1802.6	1730.1	1683.6	1617.8	1553.9	1540.0
25°	1973.4	1942.5	1931.0	1915.0	1845.4	1782.0	1701.3	1644.9	1571.2	1500.4	1488.5
27.5°	1970.1	1936.4	1924.8	1905.5	1829.3	1756.9	1667.1	1600.9	1521.8	1443.6	1430.9
30°	1958.6	1924.4	1913.3	1888.2	1806.7	1726.0	1629.7	1551.9	1467.1	1383.9	1372.8
32.5°	1935.5	1902.2	1893.1	1868.0	1782.0	1690.2	1586.1	1499.2	1406.6	1327.1	1310.7
35°	1901.8	1868.4	1862.7	1836.3	1747.4	1647.4	1538.3	1441.6	1342.4	1261.3	1245.2
37.5°	1857.7	1829.7	1821.1	1795.2	1706.7	1598.8	1483.6	1379.0	1276.9	1189.6	1179.8
40°	1802.2	1775.8	1769.2	1746.2	1659.3	1544.9	1424.3	1314.4	1209.4	1128.3	1114.3
42.5°	1738.8	1714.1	1710.4	1686.5	1600.9	1485.2	1360.1	1247.3	1139.0	1060.8	1046.8
45°	1666.7	1642.9	1642.0	1619.4	1537.1	1418.9	1292.6	1179.4	1070.3	989.2	981.8
47.5°	1587.3	1565.9	1565.9	1544.9	1465.9	1346.1	1223.0	1108.6	1001.1	929.5	916.3
50°	1500.8	1480.7	1474.5	1464.2	1387.2	1266.6	1149.7	1039.4	932.8	864.4	851.7
52.5°	1408.6	1391.3	1395.5	1376.5	1302.0	1183.9	1075.6	961.6	864.0	801.9	789.1
55°	1311.5	1286.8	1290.5	1283.5	1213.1	1098.7	992.5	897.4	796.5	738.1	726.1
57.5°	1210.6	1178.5	1191.7	1187.6	1118.4	1011.4	916.3	824.5	729.4	675.5	664.0
60°	1107.3	1076.4	1090.0	1086.3	1021.3	924.1	837.7	752.5	662.7	613.8	602.2
62.5°	1001.1	972.7	985.1	982.2	922.5	834.8	759.5	681.3	595.6	551.6	540.9
65°	894.1	866.9	878.0	876.0	820.8	754.1	679.2	607.6	528.1	489.9	479.2
67.5°	784.6	759.5	769.8	769.8	719.1	655.3	598.5	533.1	461.9	428.9	419.1
70°	675.9	652.5	661.5	660.7	617.9	566.0	517.0	458.6	394.8	367.6	359.4
72.5°	566.4	545.8	554.1	553.2	517.4	484.1	435.5	384.9	329.3	307.5	300.1
75°	460.2	440.9	448.7	447.9	418.6	387.4	354.8	312.8	265.1	249.9	242.5
77.5°	359.0	339.2	345.8	345.8	324.4	301.7	275.8	243.3	209.5	193.1	187.7
80°	261.8	252.3	249.0	249.5	235.0	220.2	207.1	175.8	151.1	140.0	136.3
82.5°	172.1	164.2	161.0	161.8	153.5	144.5	136.3	114.4	98.0	91.4	89.3
85°	91.4	85.6	82.7	84.8	83.2	78.2	74.1	59.3	49.0	46.5	45.3
87.5°	28.8	25.1	23.1	30.5	25.9	23.1	22.2	17.7	13.6	13.6	13.2
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7
2.5°	1762.2	1762.2	1746.2	1742.5	1740.8	1742.9	1726.8	1724.0	1747.0	1739.2	1721.5
5°	1748.2	1747.4	1724.8	1720.7	1720.7	1718.2	1700.1	1696.0	1719.0	1712.4	1693.1
7.5°	1731.0	1728.5	1701.7	1698.8	1694.7	1693.1	1672.9	1670.0	1689.8	1685.7	1667.6
10°	1710.0	1707.5	1675.8	1673.7	1669.2	1665.9	1647.0	1644.9	1665.1	1658.5	1644.1
12.5°	1682.4	1677.9	1645.3	1643.3	1639.6	1638.3	1619.8	1619.0	1641.2	1634.6	1619.4
15°	1646.2	1642.5	1606.2	1607.0	1607.5	1607.5	1592.6	1591.8	1613.6	1610.8	1594.3
17.5°	1606.2	1601.3	1566.7	1569.2	1572.1	1575.4	1563.8	1565.9	1588.9	1585.2	1570.4
20°	1560.9	1556.0	1522.3	1529.2	1535.4	1542.0	1534.6	1540.4	1561.8	1560.1	1549.0
22.5°	1510.3	1505.4	1474.1	1484.8	1495.1	1507.4	1504.1	1510.7	1533.4	1533.0	1523.1
25°	1448.6	1449.8	1422.2	1435.4	1452.7	1470.0	1471.2	1481.9	1507.0	1504.6	1495.5
27.5°	1390.9	1392.6	1363.4	1385.6	1408.6	1430.9	1436.2	1451.0	1476.6	1474.5	1466.7
30°	1330.4	1332.5	1304.1	1334.5	1362.5	1389.7	1401.2	1421.4	1447.3	1447.3	1439.1
32.5°	1267.4	1271.1	1241.5	1282.3	1314.8	1346.5	1366.7	1387.6	1417.3	1416.5	1409.5
35°	1202.8	1206.9	1179.8	1231.6	1264.2	1302.8	1328.0	1355.9	1382.3	1382.7	1377.4
37.5°	1137.0	1141.9	1117.2	1174.0	1211.0	1256.7	1288.9	1316.8	1346.1	1347.7	1342.8
40°	1071.5	1076.9	1055.4	1110.2	1157.1	1208.2	1245.2	1278.1	1310.3	1311.1	1307.8
42.5°	1006.1	1011.8	995.8	1049.3	1102.4	1157.1	1200.8	1238.2	1271.1	1273.2	1269.5
45°	942.2	947.2	935.7	994.1	1045.2	1104.8	1155.1	1197.5	1230.8	1233.7	1232.5
47.5°	878.9	883.4	873.1	926.6	985.5	1048.9	1106.9	1153.8	1189.2	1192.5	1191.7
50°	816.7	820.4	809.3	865.3	923.7	991.2	1051.7	1106.1	1145.6	1148.9	1148.5
52.5°	755.0	758.7	749.2	808.1	861.2	932.4	998.2	1057.1	1096.2	1101.1	1102.0
55°	695.3	696.9	689.5	745.9	797.3	871.9	947.6	1004.8	1043.9	1048.0	1050.5
57.5°	635.6	636.0	629.8	683.7	733.1	809.3	888.7	948.8	985.9	990.0	993.7
60°	576.3	575.9	568.9	621.2	668.5	743.8	826.6	886.3	922.1	925.8	930.7
62.5°	517.4	516.2	510.0	558.2	602.6	677.2	760.3	817.9	852.1	854.6	861.2
65°	459.0	457.7	452.0	496.4	536.8	608.0	689.5	744.2	775.1	778.4	777.2
67.5°	401.4	398.9	394.4	434.3	470.9	536.8	615.0	667.3	692.8	695.7	703.5
70°	343.7	340.8	330.5	372.9	405.1	463.9	536.8	583.3	604.7	607.6	606.3
72.5°	286.9	284.0	272.9	312.0	339.2	390.6	455.7	494.4	512.9	515.4	515.4
75°	231.8	230.1	223.1	252.7	275.4	317.4	372.5	404.6	419.1	421.9	421.1
77.5°	178.7	177.4	170.4	195.9	213.6	244.9	289.4	314.5	325.2	328.5	335.5
80°	128.0	127.6	116.5	141.6	149.4	175.8	208.3	227.6	233.4	237.9	242.9
82.5°	81.9	82.3	71.2	92.6	95.9	112.8	133.0	144.9	149.0	152.7	156.4
85°	39.9	41.6	35.4	49.0	49.4	58.0	66.7	71.2	72.9	75.7	79.0
87.5°	10.3	11.9	6.6	14.0	12.3	16.1	18.5	19.8	19.3	21.4	22.6
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°	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7
2.5°	1727.2	1740.4	1733.8	1755.2	1763.5	1750.3	1773.4	1773.8	1757.3	1776.6	1787.3
5°	1700.5	1714.1	1710.0	1732.2	1742.5	1731.0	1758.9	1764.3	1748.2	1770.1	1787.3
7.5°	1673.3	1689.4	1684.0	1706.7	1719.0	1710.0	1740.0	1748.7	1736.3	1760.2	1783.2
10°	1649.9	1663.4	1657.7	1681.6	1692.3	1684.8	1714.5	1730.5	1719.0	1748.2	1775.8
12.5°	1626.8	1637.9	1631.3	1651.1	1661.4	1651.9	1688.1	1703.0	1694.7	1725.2	1760.6
15°	1597.2	1609.5	1600.5	1618.2	1626.0	1617.8	1647.4	1672.9	1662.6	1696.0	1735.1
17.5°	1574.5	1581.5	1569.2	1583.2	1587.7	1576.6	1606.6	1631.7	1624.3	1660.6	1705.8
20°	1549.4	1555.2	1537.9	1545.7	1545.3	1531.3	1558.9	1583.6	1578.6	1618.6	1670.0
22.5°	1521.4	1524.3	1504.1	1505.8	1505.0	1481.9	1506.6	1531.7	1529.7	1570.0	1627.6
25°	1491.8	1492.2	1466.3	1465.4	1456.4	1429.2	1451.0	1479.4	1473.3	1516.9	1577.4
27.5°	1462.6	1458.4	1427.2	1419.8	1405.3	1372.8	1392.2	1417.7	1414.0	1456.8	1523.9
30°	1431.3	1425.9	1387.6	1374.1	1353.1	1315.6	1331.7	1355.5	1357.6	1395.1	1465.4
32.5°	1401.6	1388.1	1345.7	1325.9	1299.6	1255.9	1264.6	1288.9	1292.1	1330.0	1402.5
35°	1363.4	1354.3	1302.0	1268.3	1242.3	1194.6	1203.6	1220.5	1225.5	1262.5	1336.2
37.5°	1327.1	1312.7	1257.2	1216.0	1182.6	1132.4	1134.9	1152.2	1157.1	1194.6	1267.4
40°	1289.7	1269.1	1209.4	1161.2	1123.0	1070.3	1067.4	1085.5	1089.2	1125.8	1191.7
42.5°	1249.7	1225.0	1157.9	1105.3	1061.2	1007.7	1001.9	1017.6	1021.7	1057.5	1122.1
45°	1209.4	1179.8	1105.3	1047.6	999.5	944.7	939.0	950.9	957.1	990.8	1053.0
47.5°	1166.6	1132.0	1050.9	986.7	936.9	882.1	875.2	887.1	892.0	925.4	984.2
50°	1121.7	1079.7	994.9	924.1	874.7	820.8	810.5	824.5	829.0	860.3	918.0
52.5°	1072.3	1025.8	935.2	861.2	811.8	760.3	748.0	761.5	766.9	797.3	850.5
55°	1020.0	969.8	875.2	803.1	749.6	699.4	689.1	694.4	706.0	734.8	784.2
57.5°	961.2	911.4	811.8	738.5	687.0	638.9	630.2	635.2	645.9	673.9	718.3
60°	898.6	845.9	747.1	673.9	624.0	578.4	570.5	575.1	586.6	612.1	653.3
62.5°	836.9	777.6	680.4	607.6	562.3	519.9	517.8	516.2	526.9	551.6	587.8
65°	761.9	705.1	610.9	541.7	500.6	462.3	454.0	457.7	468.0	490.7	528.5
67.5°	681.7	630.2	539.7	475.9	439.2	405.1	398.1	399.7	410.4	430.2	463.1
70°	596.5	551.2	466.8	409.6	378.7	346.6	342.1	342.5	352.8	370.1	398.9
72.5°	507.1	466.4	393.1	344.1	318.6	295.6	291.4	286.5	296.0	310.8	335.5
75°	416.2	380.4	319.8	279.9	259.7	240.4	236.7	231.8	241.2	254.0	273.3
77.5°	324.4	295.6	248.6	217.8	202.1	187.7	184.4	179.1	188.5	198.0	213.2
80°	234.6	213.6	185.7	153.1	147.8	138.3	135.0	129.3	138.3	144.5	156.0
82.5°	151.5	137.5	121.4	98.8	98.0	91.0	89.3	82.7	91.0	94.7	103.3
85°	76.6	70.0	65.9	50.2	51.9	47.3	46.9	39.9	46.5	48.2	53.1
87.5°	21.8	23.1	20.6	12.3	15.6	14.8	14.8	10.7	14.8	14.8	16.9
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: P838041

CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-2STD-20-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7	1764.7
2.5°	1766.4	1773.4	1775.0	1774.6	1779.1	1803.8	1795.6	1803.8
5°	1770.5	1786.1	1790.2	1796.0	1803.4	1831.4	1822.3	1832.2
7.5°	1772.9	1796.4	1805.5	1816.6	1828.5	1859.8	1852.4	1862.3
10°	1772.9	1803.4	1816.6	1835.1	1851.2	1887.4	1880.4	1891.9
12.5°	1765.5	1804.6	1823.2	1849.1	1869.7	1908.8	1905.9	1914.1
15°	1750.3	1798.5	1824.0	1857.3	1882.8	1926.5	1925.2	1935.1
17.5°	1729.7	1787.8	1818.6	1860.6	1892.7	1941.7	1944.6	1949.9
20°	1703.8	1767.6	1807.9	1859.4	1899.7	1953.7	1957.4	1964.8
22.5°	1669.6	1743.3	1791.9	1854.0	1900.5	1958.6	1965.2	1972.2
25°	1629.3	1714.1	1770.9	1843.7	1896.4	1958.2	1967.2	1973.4
27.5°	1583.2	1676.2	1744.1	1827.3	1884.9	1951.6	1962.7	1970.1
30°	1529.7	1635.9	1713.7	1805.9	1869.3	1939.2	1951.2	1958.6
32.5°	1474.5	1591.4	1677.4	1778.3	1846.6	1919.5	1929.8	1935.5
35°	1414.4	1537.5	1633.8	1742.9	1817.4	1887.8	1895.6	1901.8
37.5°	1348.9	1479.0	1584.0	1703.0	1776.2	1843.7	1850.7	1857.7
40°	1281.4	1417.7	1528.0	1654.0	1727.2	1789.8	1797.2	1802.2
42.5°	1213.5	1349.8	1468.3	1596.3	1669.2	1729.3	1733.8	1738.8
45°	1144.8	1279.4	1401.2	1532.5	1604.6	1661.0	1662.6	1666.7
47.5°	1074.8	1206.5	1327.5	1459.7	1530.9	1582.4	1584.0	1587.3
50°	1004.4	1133.7	1248.9	1381.1	1450.6	1505.0	1497.6	1500.8
52.5°	935.2	1057.1	1174.8	1296.3	1365.0	1413.2	1415.2	1408.6
55°	867.3	982.2	1090.4	1207.3	1272.8	1310.3	1309.0	1311.5
57.5°	798.6	906.4	1005.6	1112.7	1176.5	1211.9	1219.3	1210.6
60°	728.6	829.9	918.8	1015.5	1077.3	1106.9	1115.5	1107.3
62.5°	659.0	752.1	832.8	917.1	974.4	1011.0	1010.2	1001.1
65°	589.5	673.9	745.9	817.5	867.3	904.0	902.3	894.1
67.5°	525.3	594.8	659.4	717.5	760.7	785.8	794.5	784.6
70°	454.5	514.6	571.4	617.9	653.7	676.3	684.6	675.9
72.5°	383.7	434.7	474.6	519.5	547.1	566.0	574.7	566.4
75°	313.7	355.7	388.2	423.2	442.5	458.6	468.4	460.2
77.5°	245.8	278.3	304.2	329.7	352.0	355.7	364.3	359.0
80°	181.1	204.6	223.5	240.4	256.5	258.1	265.1	261.8
82.5°	120.6	136.3	141.2	158.9	169.2	167.5	174.5	172.1
85°	63.8	73.3	81.9	87.3	93.0	87.7	93.9	91.4
87.5°	21.4	22.6	19.8	28.0	30.9	26.3	30.0	28.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)