

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: P837918

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-3STD-50-120-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: P837918
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2R-LD4-3STD-50-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

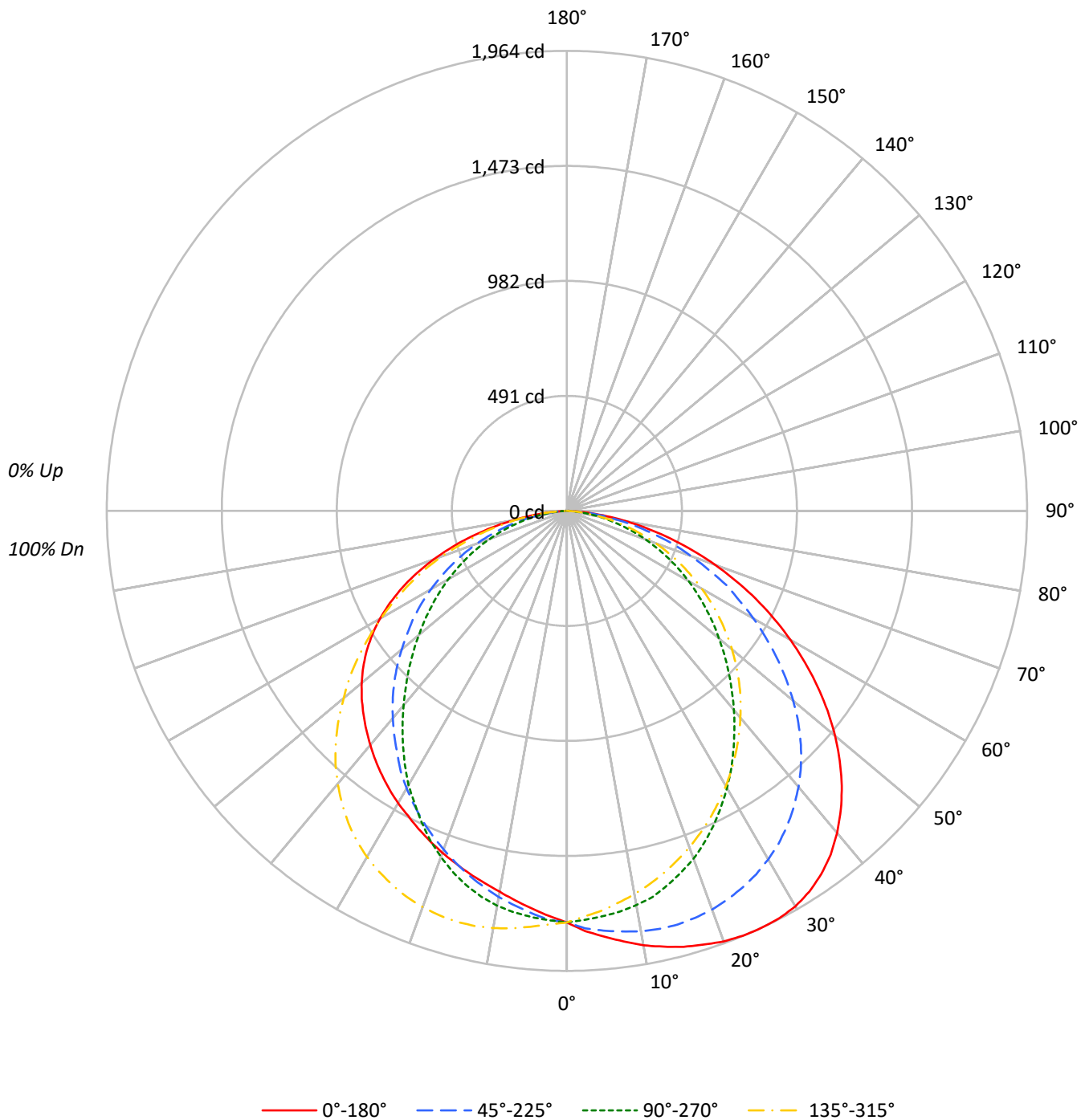
Lumens per Lamp: N/A
Luminaire Lumens: 5154.0 lumens
Efficiency: N/A
Efficacy: 103.1 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 50
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°	4727	4727	4727	4727
5°	4927	4693	4605	4701
10°	5146	4669	4511	4676
15°	5367	4610	4467	4611
20°	5601	4526	4448	4500
25°	5833	4400	4447	4355
30°	6058	4246	4477	4199
35°	6219	4072	4522	4007
40°	6302	3897	4585	3809
45°	6314	3719	4674	3626
50°	6255	3549	4788	3455
55°	6125	3392	4895	3297
60°	5933	3226	4960	3143
65°	5667	3037	4934	2967
70°	5294	2814	4759	2763
75°	4763	2510	4367	2496
80°	4038	2101	3671	2134
85°	2810	1392	2328	1430



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.8	3.2
10°-20°	483.0	9.4
20°-30°	740.2	14.4
30°-40°	900.0	17.5
40°-50°	935.6	18.2
50°-60°	845.2	16.4
60°-70°	642.5	12.5
70°-80°	358.2	7.0
80°-90°	82.5	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°	1390.0	27.0
0°-40°	2290.0	44.4
0°-60°	4070.8	79.0
0°-90°	5154.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5154.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1757	1757	1757	1757	1757	
5°	1824	1738	1705	1740	1824	176
15°	1926	1655	1604	1655	1926	546
25°	1964	1482	1498	1467	1964	907
35°	1893	1240	1376	1220	1893	1182
45°	1659	977	1228	953	1659	1277
55°	1306	723	1043	703	1306	1165
65°	890	477	775	466	890	880
75°	458	241	420	240	458	487
85°	91	45	75	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°	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7
2.5°	1795.7	1769.4	1769.9	1792.8	1775.2	1783.8	1759.2	1768.6	1765.8	1767.8	1747.7
5°	1823.9	1795.7	1795.3	1814.9	1795.3	1798.9	1767.8	1774.0	1764.9	1759.2	1737.5
7.5°	1853.9	1825.6	1822.7	1839.9	1814.1	1811.2	1776.8	1776.8	1760.4	1746.1	1725.6
10°	1883.4	1854.3	1850.6	1863.7	1831.7	1822.3	1780.5	1774.0	1752.2	1730.9	1708.8
12.5°	1905.5	1876.0	1873.1	1881.3	1845.3	1828.0	1780.5	1767.8	1735.8	1705.9	1688.7
15°	1926.4	1896.1	1888.3	1892.4	1851.0	1828.0	1774.8	1755.1	1714.1	1674.8	1654.7
17.5°	1941.1	1912.0	1904.3	1903.9	1853.9	1821.1	1762.5	1735.4	1686.3	1638.7	1618.6
20°	1955.9	1926.8	1917.0	1909.6	1853.0	1811.7	1744.4	1708.0	1650.6	1597.3	1580.5
22.5°	1963.3	1933.4	1922.7	1911.6	1847.7	1794.4	1722.3	1676.0	1610.4	1546.9	1533.0
25°	1964.5	1933.8	1922.3	1906.3	1837.1	1774.0	1693.6	1637.5	1564.1	1493.7	1481.8
27.5°	1961.2	1927.6	1916.1	1896.9	1821.1	1749.0	1659.6	1593.6	1515.0	1437.1	1424.4
30°	1949.7	1915.7	1904.7	1879.7	1798.5	1718.2	1622.3	1544.9	1460.5	1377.7	1366.6
32.5°	1926.8	1893.6	1884.6	1859.6	1774.0	1682.6	1578.9	1492.4	1400.2	1321.1	1304.8
35°	1893.2	1860.0	1854.3	1828.0	1739.5	1640.0	1531.4	1435.1	1336.3	1255.6	1239.6
37.5°	1849.4	1821.5	1812.9	1787.1	1699.0	1591.6	1476.9	1372.8	1271.1	1184.3	1174.4
40°	1794.0	1767.8	1761.2	1738.3	1651.8	1537.9	1417.9	1308.4	1203.9	1123.2	1109.3
42.5°	1730.9	1706.3	1702.7	1678.9	1593.6	1478.5	1353.9	1241.6	1133.9	1056.0	1042.1
45°	1659.2	1635.4	1634.6	1612.1	1530.1	1412.5	1286.7	1174.0	1065.4	984.7	977.3
47.5°	1580.1	1558.8	1558.8	1537.9	1459.2	1340.0	1217.5	1103.5	996.6	925.3	912.2
50°	1494.1	1474.0	1467.8	1457.6	1381.0	1260.9	1144.5	1034.7	928.6	860.5	847.8
52.5°	1402.3	1385.1	1389.2	1370.3	1296.1	1178.5	1070.8	957.3	860.1	798.3	785.6
55°	1305.6	1281.0	1284.7	1277.7	1207.6	1093.7	988.0	893.3	792.9	734.7	722.9
57.5°	1205.2	1173.2	1186.3	1182.2	1113.4	1006.8	912.2	820.8	726.1	672.5	661.0
60°	1102.3	1071.6	1085.1	1081.4	1016.7	920.0	833.9	749.1	659.8	611.0	599.5
62.5°	996.6	968.3	980.6	977.7	918.3	831.0	756.1	678.2	593.0	549.1	538.5
65°	890.0	863.0	874.1	872.0	817.1	750.7	676.1	604.8	525.8	487.6	477.0
67.5°	781.0	756.1	766.3	766.3	715.9	652.4	595.8	530.7	459.8	427.0	417.2
70°	672.9	649.5	658.5	657.7	615.1	563.5	514.7	456.5	393.0	365.9	357.7
72.5°	563.9	543.4	551.6	550.7	515.1	481.9	433.6	383.1	327.8	306.1	298.7
75°	458.1	438.9	446.7	445.8	416.7	385.6	353.2	311.4	263.9	248.7	241.4
77.5°	357.3	337.7	344.2	344.2	322.9	300.4	274.6	242.2	208.6	192.2	186.9
80°	260.6	251.2	247.9	248.3	234.0	219.2	206.1	175.0	150.4	139.3	135.6
82.5°	171.3	163.5	160.2	161.0	152.8	143.8	135.6	113.9	97.5	91.0	88.9
85°	91.0	85.2	82.4	84.4	82.8	77.9	73.8	59.0	48.8	46.3	45.1
87.5°	28.7	25.0	22.9	30.3	25.8	22.9	22.1	17.6	13.5	13.5	13.1
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°	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7
2.5°	1754.3	1754.3	1738.3	1734.6	1733.0	1735.0	1719.0	1716.2	1739.1	1731.3	1713.7
5°	1740.4	1739.5	1717.0	1712.9	1712.9	1710.4	1692.4	1688.3	1711.3	1704.7	1685.4
7.5°	1723.1	1720.7	1694.0	1691.2	1687.1	1685.4	1665.4	1662.5	1682.2	1678.1	1660.0
10°	1702.2	1699.8	1668.2	1666.2	1661.7	1658.4	1639.5	1637.5	1657.6	1651.0	1636.7
12.5°	1674.8	1670.3	1637.9	1635.9	1632.2	1630.9	1612.5	1611.7	1633.8	1627.2	1612.1
15°	1638.7	1635.0	1599.0	1599.8	1600.2	1600.2	1585.5	1584.6	1606.4	1603.5	1587.1
17.5°	1599.0	1594.1	1559.6	1562.1	1565.0	1568.2	1556.8	1558.8	1581.8	1578.1	1563.3
20°	1553.9	1549.0	1515.4	1522.3	1528.5	1535.0	1527.7	1533.4	1554.7	1553.1	1542.0
22.5°	1503.5	1498.6	1467.4	1478.1	1488.3	1500.6	1497.3	1503.9	1526.4	1526.0	1516.2
25°	1442.0	1443.3	1415.8	1428.9	1446.1	1463.3	1464.6	1475.2	1500.2	1497.8	1488.7
27.5°	1384.7	1386.3	1357.2	1379.3	1402.3	1424.4	1429.7	1444.5	1469.9	1467.8	1460.1
30°	1324.4	1326.5	1298.2	1328.5	1356.4	1383.4	1394.9	1415.0	1440.8	1440.8	1432.6
32.5°	1261.7	1265.4	1235.9	1276.5	1308.8	1340.4	1360.5	1381.4	1410.9	1410.1	1403.1
35°	1197.4	1201.5	1174.4	1226.1	1258.4	1297.0	1322.0	1349.8	1376.1	1376.5	1371.1
37.5°	1131.8	1136.7	1112.2	1168.7	1205.6	1251.1	1283.0	1310.9	1340.0	1341.6	1336.7
40°	1066.7	1072.0	1050.7	1105.2	1151.9	1202.7	1239.6	1272.4	1304.3	1305.2	1301.9
42.5°	1001.5	1007.2	991.3	1044.5	1097.4	1151.9	1195.3	1232.6	1265.4	1267.5	1263.8
45°	938.0	942.9	931.4	989.6	1040.4	1099.9	1149.9	1192.1	1225.3	1228.1	1226.9
47.5°	874.9	879.4	869.2	922.4	981.0	1044.1	1101.9	1148.6	1183.9	1187.1	1186.3
50°	813.0	816.7	805.6	861.4	919.6	986.8	1047.0	1101.1	1140.4	1143.7	1143.3
52.5°	751.5	755.2	745.8	804.4	857.3	928.2	993.7	1052.3	1091.3	1096.2	1097.0
55°	692.1	693.8	686.4	742.5	793.8	867.9	943.3	1000.3	1039.2	1043.3	1045.8
57.5°	632.7	633.1	627.0	680.7	729.8	805.6	884.7	944.6	981.4	985.5	989.2
60°	573.7	573.3	566.3	618.4	665.5	740.5	822.8	882.3	917.9	921.6	926.5
62.5°	515.1	513.9	507.7	555.7	599.9	674.1	756.9	814.2	848.3	850.7	857.3
65°	456.9	455.7	449.9	494.2	534.4	605.3	686.4	740.9	771.6	774.9	773.7
67.5°	399.5	397.1	392.6	432.3	468.8	534.4	612.2	664.3	689.7	692.5	700.3
70°	342.2	339.3	329.1	371.3	403.2	461.8	534.4	580.7	602.0	604.8	603.6
72.5°	285.6	282.8	271.7	310.6	337.7	388.9	453.6	492.1	510.6	513.0	513.0
75°	230.7	229.1	222.1	251.6	274.1	315.9	370.9	402.8	417.2	420.0	419.2
77.5°	177.8	176.6	169.7	195.1	212.7	243.8	288.1	313.1	323.7	327.0	334.0
80°	127.4	127.0	116.0	141.0	148.8	175.0	207.4	226.6	232.3	236.9	241.8
82.5°	81.5	82.0	70.9	92.2	95.5	112.3	132.4	144.2	148.3	152.0	155.7
85°	39.7	41.4	35.2	48.8	49.2	57.8	66.4	70.9	72.5	75.4	78.7
87.5°	10.2	11.9	6.6	13.9	12.3	16.0	18.4	19.7	19.3	21.3	22.5
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°	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7
2.5°	1719.5	1732.6	1726.0	1747.3	1755.5	1742.4	1765.3	1765.8	1749.4	1768.6	1779.3
5°	1692.8	1706.3	1702.2	1724.4	1734.6	1723.1	1751.0	1756.3	1740.4	1762.1	1779.3
7.5°	1665.8	1681.8	1676.4	1699.0	1711.3	1702.2	1732.2	1740.8	1728.5	1752.2	1775.2
10°	1642.4	1655.9	1650.2	1674.0	1684.6	1677.2	1706.7	1722.7	1711.3	1740.4	1767.8
12.5°	1619.5	1630.5	1624.0	1643.6	1653.9	1644.5	1680.5	1695.3	1687.1	1717.4	1752.6
15°	1590.0	1602.3	1593.2	1610.9	1618.6	1610.4	1640.0	1665.4	1655.1	1688.3	1727.2
17.5°	1567.4	1574.4	1562.1	1576.0	1580.5	1569.5	1599.4	1624.4	1617.0	1653.1	1698.1
20°	1542.4	1548.2	1531.0	1538.7	1538.3	1524.4	1551.8	1576.4	1571.5	1611.3	1662.5
22.5°	1514.6	1517.4	1497.3	1499.0	1498.2	1475.2	1499.8	1524.8	1522.8	1562.9	1620.3
25°	1485.1	1485.5	1459.6	1458.8	1449.8	1422.8	1444.5	1472.8	1466.6	1510.1	1570.3
27.5°	1456.0	1451.9	1420.7	1413.3	1399.0	1366.6	1385.9	1411.3	1407.6	1450.2	1517.0
30°	1424.8	1419.5	1381.4	1367.9	1347.0	1309.7	1325.6	1349.4	1351.5	1388.8	1458.8
32.5°	1395.3	1381.8	1339.6	1319.9	1293.7	1250.2	1258.9	1283.0	1286.3	1324.0	1396.1
35°	1357.2	1348.2	1296.1	1262.5	1236.7	1189.2	1198.2	1215.0	1219.9	1256.8	1330.2
37.5°	1321.1	1306.8	1251.5	1210.5	1177.3	1127.3	1129.8	1147.0	1151.9	1189.2	1261.7
40°	1283.9	1263.4	1203.9	1156.0	1117.9	1065.4	1062.6	1080.6	1084.3	1120.8	1186.3
42.5°	1244.1	1219.5	1152.7	1100.3	1056.4	1003.1	997.4	1013.0	1017.1	1052.7	1117.1
45°	1203.9	1174.4	1100.3	1042.9	995.0	940.5	934.7	946.6	952.7	986.3	1048.2
47.5°	1161.3	1126.9	1046.2	982.3	932.7	878.2	871.2	883.1	888.0	921.2	979.8
50°	1116.7	1074.9	990.4	920.0	870.8	817.1	806.9	820.8	825.3	856.4	913.8
52.5°	1067.5	1021.2	931.0	857.3	808.1	756.9	744.6	758.1	763.4	793.8	846.6
55°	1015.4	965.4	871.2	799.5	746.2	696.2	686.0	691.3	702.8	731.5	780.6
57.5°	956.8	907.3	808.1	735.2	683.9	636.0	627.4	632.3	643.0	670.8	715.1
60°	894.6	842.1	743.8	670.8	621.2	575.7	568.0	572.5	583.9	609.3	650.3
62.5°	833.1	774.1	677.4	604.8	559.8	517.6	515.5	513.9	524.5	549.1	585.2
65°	758.5	702.0	608.1	539.3	498.3	460.2	452.0	455.7	465.9	488.5	526.2
67.5°	678.6	627.4	537.2	473.7	437.2	403.2	396.3	397.9	408.6	428.2	461.0
70°	593.8	548.7	464.7	407.7	377.0	345.0	340.5	340.9	351.2	368.4	397.1
72.5°	504.9	464.3	391.3	342.6	317.2	294.2	290.1	285.2	294.6	309.4	334.0
75°	414.3	378.6	318.4	278.7	258.6	239.3	235.6	230.7	240.1	252.8	272.1
77.5°	322.9	294.2	247.5	216.8	201.2	186.9	183.6	178.3	187.7	197.1	212.3
80°	233.6	212.7	184.8	152.4	147.1	137.7	134.4	128.7	137.7	143.8	155.3
82.5°	150.8	136.9	120.9	98.3	97.5	90.6	88.9	82.4	90.6	94.3	102.9
85°	76.2	69.7	65.6	50.0	51.6	47.1	46.7	39.7	46.3	47.9	52.9
87.5°	21.7	22.9	20.5	12.3	15.6	14.8	14.8	10.7	14.8	14.8	16.8
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: P837918

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-3STD-50-120-EDD

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7	1756.7
2.5°	1758.4	1765.3	1767.0	1766.6	1771.1	1795.7	1787.5	1795.7
5°	1762.5	1778.1	1782.1	1787.9	1795.3	1823.1	1814.1	1823.9
7.5°	1764.9	1788.3	1797.3	1808.4	1820.3	1851.4	1844.0	1853.9
10°	1764.9	1795.3	1808.4	1826.8	1842.8	1878.9	1871.9	1883.4
12.5°	1757.6	1796.5	1814.9	1840.7	1861.2	1900.2	1897.3	1905.5
15°	1742.4	1790.3	1815.8	1848.9	1874.3	1917.8	1916.6	1926.4
17.5°	1721.9	1779.7	1810.4	1852.2	1884.2	1932.9	1935.8	1941.1
20°	1696.1	1759.6	1799.8	1851.0	1891.2	1944.8	1948.5	1955.9
22.5°	1662.1	1735.4	1783.8	1845.7	1892.0	1949.7	1956.3	1963.3
25°	1621.9	1706.3	1762.9	1835.4	1887.9	1949.3	1958.4	1964.5
27.5°	1576.0	1668.6	1736.3	1819.0	1876.4	1942.8	1953.8	1961.2
30°	1522.8	1628.5	1705.9	1797.7	1860.8	1930.5	1942.4	1949.7
32.5°	1467.8	1584.2	1669.9	1770.3	1838.3	1910.8	1921.1	1926.8
35°	1408.0	1530.5	1626.4	1735.0	1809.2	1879.3	1887.1	1893.2
37.5°	1342.9	1472.4	1576.8	1695.3	1768.2	1835.4	1842.4	1849.4
40°	1275.7	1411.3	1521.1	1646.5	1719.5	1781.7	1789.1	1794.0
42.5°	1208.0	1343.7	1461.7	1589.1	1661.7	1721.5	1726.0	1730.9
45°	1139.6	1273.6	1394.9	1525.6	1597.3	1653.5	1655.1	1659.2
47.5°	1069.9	1201.1	1321.6	1453.1	1524.0	1575.2	1576.8	1580.1
50°	999.9	1128.5	1243.3	1374.8	1444.1	1498.2	1490.8	1494.1
52.5°	931.0	1052.3	1169.5	1290.4	1358.8	1406.8	1408.8	1402.3
55°	863.4	977.7	1085.5	1201.9	1267.1	1304.3	1303.1	1305.6
57.5°	795.0	902.3	1001.1	1107.6	1171.2	1206.4	1213.8	1205.2
60°	725.3	826.1	914.6	1010.9	1072.4	1101.9	1110.5	1102.3
62.5°	656.1	748.7	829.0	913.0	970.0	1006.4	1005.6	996.6
65°	586.8	670.8	742.5	813.8	863.4	899.9	898.2	890.0
67.5°	522.9	592.1	656.5	714.3	757.3	782.3	790.9	781.0
70°	452.4	512.2	568.8	615.1	650.7	673.3	681.5	672.9
72.5°	381.9	432.7	472.5	517.1	544.6	563.5	572.1	563.9
75°	312.3	354.1	386.4	421.3	440.5	456.5	466.3	458.1
77.5°	244.6	277.0	302.8	328.2	350.4	354.1	362.7	357.3
80°	180.3	203.7	222.5	239.3	255.3	256.9	263.9	260.6
82.5°	120.1	135.6	140.6	158.2	168.4	166.8	173.7	171.3
85°	63.5	72.9	81.5	86.9	92.6	87.3	93.4	91.0
87.5°	21.3	22.5	19.7	27.9	30.7	26.2	29.9	28.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)