

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: P837977

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-5LO-30-120-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: P837977
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-LD4-5LO-30-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

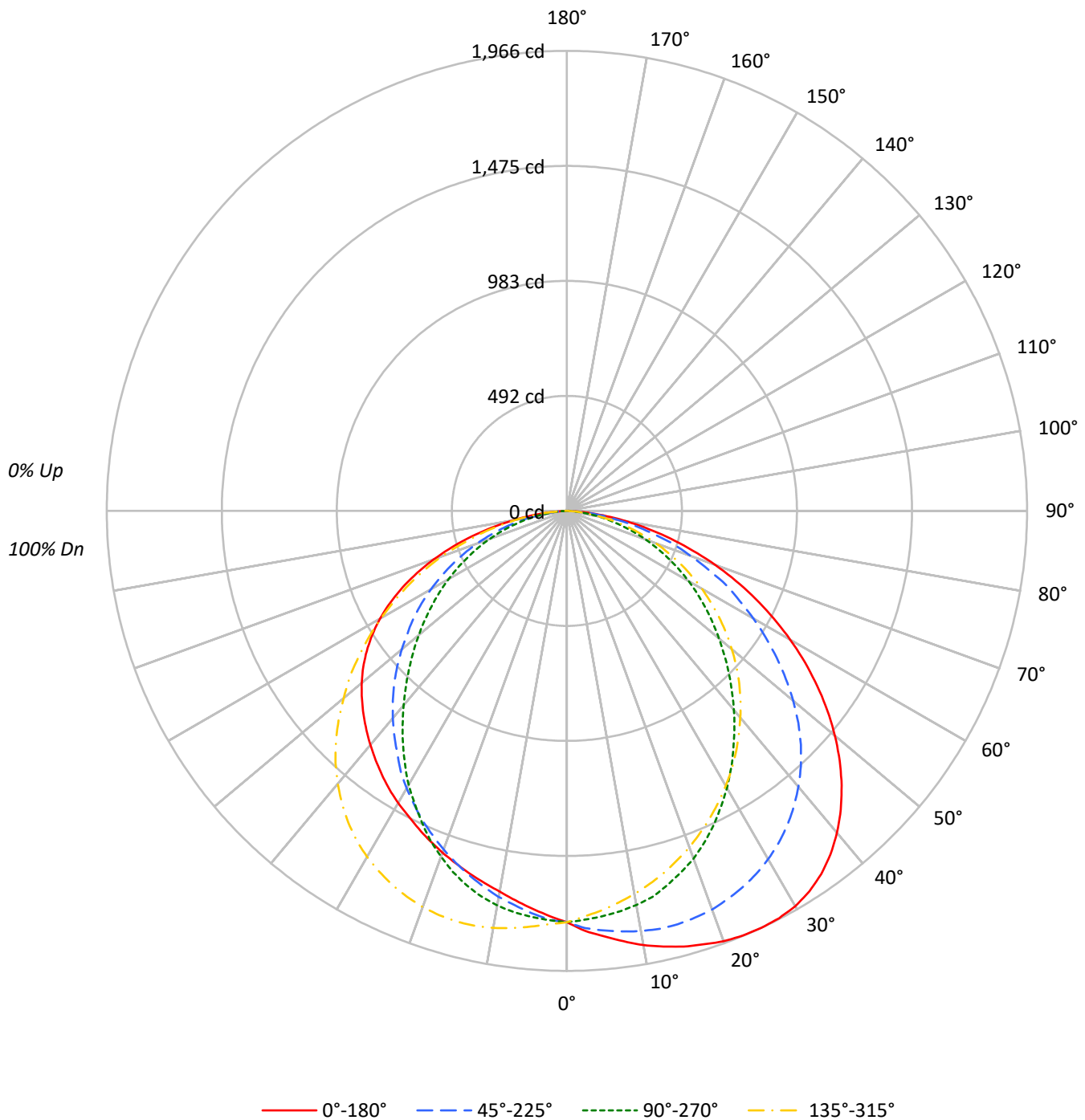
Lumens per Lamp: N/A
Luminaire Lumens: 5157.5 lumens
Efficiency: N/A
Efficacy: 88.2 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 58.5
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°	4730	4730	4730	4730
5°	4930	4697	4608	4704
10°	5150	4672	4514	4679
15°	5370	4613	4470	4614
20°	5605	4529	4450	4503
25°	5837	4403	4450	4358
30°	6063	4249	4480	4202
35°	6224	4075	4525	4010
40°	6306	3899	4588	3811
45°	6318	3722	4677	3628
50°	6259	3552	4791	3458
55°	6130	3393	4898	3300
60°	5937	3229	4963	3145
65°	5671	3039	4937	2968
70°	5297	2817	4762	2765
75°	4766	2511	4370	2498
80°	4042	2103	3673	2135
85°	2810	1392	2331	1430



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.9	3.2
10°-20°	483.3	9.4
20°-30°	740.7	14.4
30°-40°	900.6	17.5
40°-50°	936.3	18.2
50°-60°	845.7	16.4
60°-70°	643.0	12.5
70°-80°	358.4	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°	1390.9	27.0
0°-40°	2291.6	44.4
0°-60°	4073.6	79.0
0°-90°	5157.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5157.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1758	1758	1758	1758	1758	
5°	1825	1739	1706	1742	1825	176
15°	1928	1656	1605	1656	1928	547
25°	1966	1483	1499	1468	1966	908
35°	1894	1240	1377	1221	1894	1183
45°	1660	978	1229	953	1660	1278
55°	1306	723	1044	703	1306	1166
65°	891	477	775	466	891	880
75°	458	242	420	240	458	487
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°	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9
2.5°	1796.9	1770.6	1771.0	1794.0	1776.4	1785.0	1760.4	1769.8	1766.9	1769.0	1748.9
5°	1825.2	1796.9	1796.5	1816.2	1796.5	1800.2	1769.0	1775.1	1766.1	1760.4	1738.7
7.5°	1855.1	1826.8	1823.9	1841.2	1815.3	1812.5	1778.0	1778.0	1761.6	1747.3	1726.8
10°	1884.6	1855.5	1851.8	1865.0	1833.0	1823.5	1781.7	1775.1	1753.4	1732.1	1709.9
12.5°	1906.8	1877.3	1874.4	1882.6	1846.5	1829.3	1781.7	1769.0	1737.0	1707.1	1689.9
15°	1927.7	1897.3	1889.6	1893.7	1852.2	1829.3	1776.0	1756.3	1715.3	1675.9	1655.8
17.5°	1942.5	1913.3	1905.5	1905.1	1855.1	1822.3	1763.7	1736.6	1687.4	1639.8	1619.7
20°	1957.2	1928.1	1918.3	1910.9	1854.3	1812.9	1745.6	1709.1	1651.7	1598.4	1581.6
22.5°	1964.6	1934.7	1924.0	1912.9	1849.0	1795.7	1723.5	1677.1	1611.5	1548.0	1534.0
25°	1965.8	1935.1	1923.6	1907.6	1838.3	1775.1	1694.8	1638.6	1565.2	1494.7	1482.8
27.5°	1962.5	1928.9	1917.4	1898.2	1822.3	1750.1	1660.7	1594.7	1516.0	1438.1	1425.4
30°	1951.1	1917.0	1906.0	1880.9	1799.8	1719.4	1623.4	1545.9	1461.5	1378.6	1367.5
32.5°	1928.1	1894.9	1885.9	1860.9	1775.1	1683.7	1580.0	1493.4	1401.2	1322.0	1305.6
35°	1894.5	1861.3	1855.5	1829.3	1740.7	1641.1	1532.4	1436.0	1337.2	1256.4	1240.4
37.5°	1850.6	1822.7	1814.1	1788.3	1700.1	1592.7	1477.9	1373.7	1272.0	1185.1	1175.2
40°	1795.2	1769.0	1762.4	1739.5	1653.0	1539.0	1418.8	1309.3	1204.8	1124.0	1110.0
42.5°	1732.1	1707.5	1703.8	1680.0	1594.7	1479.5	1354.8	1242.5	1134.6	1056.7	1042.8
45°	1660.3	1636.5	1635.7	1613.2	1531.2	1413.5	1287.6	1174.8	1066.2	985.4	978.0
47.5°	1581.2	1559.9	1559.9	1539.0	1460.2	1340.9	1218.3	1104.3	997.3	925.9	912.8
50°	1495.1	1475.0	1468.8	1458.6	1381.9	1261.8	1145.3	1035.4	929.2	861.1	848.4
52.5°	1403.2	1386.0	1390.1	1371.2	1297.0	1179.3	1071.5	957.9	860.7	798.8	786.1
55°	1306.5	1281.8	1285.5	1278.6	1208.4	1094.4	988.7	893.9	793.5	735.2	723.3
57.5°	1206.0	1174.0	1187.1	1183.0	1114.1	1007.5	912.8	821.3	726.6	672.9	661.4
60°	1103.1	1072.3	1085.8	1082.1	1017.4	920.6	834.5	749.6	660.2	611.4	599.9
62.5°	997.3	969.0	981.3	978.4	918.9	831.6	756.6	678.6	593.4	549.5	538.8
65°	890.6	863.6	874.7	872.6	817.7	751.2	676.6	605.2	526.1	488.0	477.3
67.5°	781.6	756.6	766.8	766.8	716.4	652.8	596.2	531.0	460.1	427.3	417.4
70°	673.3	649.9	659.0	658.1	615.5	563.8	515.0	456.8	393.2	366.2	358.0
72.5°	564.2	543.7	551.9	551.1	515.4	482.2	433.8	383.4	328.0	306.3	298.9
75°	458.4	439.2	447.0	446.1	417.0	385.9	353.5	311.6	264.1	248.9	241.5
77.5°	357.6	337.9	344.5	344.5	323.1	300.6	274.7	242.3	208.7	192.3	187.0
80°	260.8	251.4	248.1	248.5	234.1	219.4	206.3	175.1	150.5	139.4	135.7
82.5°	171.4	163.6	160.3	161.2	153.0	143.9	135.7	114.0	97.6	91.0	89.0
85°	91.0	85.3	82.4	84.5	82.8	77.9	73.8	59.0	48.8	46.3	45.1
87.5°	28.7	25.0	23.0	30.3	25.8	23.0	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°	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9
2.5°	1755.5	1755.5	1739.5	1735.8	1734.1	1736.2	1720.2	1717.3	1740.3	1732.5	1714.9
5°	1741.5	1740.7	1718.2	1714.0	1714.0	1711.6	1693.5	1689.4	1712.4	1705.8	1686.6
7.5°	1724.3	1721.8	1695.2	1692.3	1688.2	1686.6	1666.5	1663.6	1683.3	1679.2	1661.2
10°	1703.4	1700.9	1669.4	1667.3	1662.8	1659.5	1640.6	1638.6	1658.7	1652.1	1637.8
12.5°	1675.9	1671.4	1639.0	1637.0	1633.3	1632.0	1613.6	1612.8	1634.9	1628.3	1613.2
15°	1639.8	1636.1	1600.1	1600.9	1601.3	1601.3	1586.5	1585.7	1607.4	1604.6	1588.2
17.5°	1600.1	1595.1	1560.7	1563.1	1566.0	1569.3	1557.8	1559.9	1582.8	1579.1	1564.4
20°	1554.9	1550.0	1516.4	1523.4	1529.5	1536.1	1528.7	1534.4	1555.8	1554.1	1543.1
22.5°	1504.5	1499.6	1468.4	1479.1	1489.3	1501.6	1498.4	1504.9	1527.5	1527.1	1517.2
25°	1443.0	1444.2	1416.8	1429.9	1447.1	1464.3	1465.6	1476.2	1501.2	1498.8	1489.7
27.5°	1385.6	1387.2	1358.1	1380.3	1403.2	1425.4	1430.7	1445.5	1470.9	1468.8	1461.0
30°	1325.3	1327.4	1299.1	1329.4	1357.3	1384.4	1395.8	1415.9	1441.8	1441.8	1433.6
32.5°	1262.6	1266.3	1236.7	1277.3	1309.7	1341.3	1361.4	1382.3	1411.8	1411.0	1404.0
35°	1198.2	1202.3	1175.2	1226.9	1259.3	1297.8	1322.9	1350.7	1377.0	1377.4	1372.1
37.5°	1132.6	1137.5	1112.9	1169.5	1206.4	1251.9	1283.9	1311.8	1340.9	1342.5	1337.6
40°	1067.4	1072.7	1051.4	1105.9	1152.7	1203.5	1240.4	1273.2	1305.2	1306.0	1302.8
42.5°	1002.2	1007.9	991.9	1045.2	1098.1	1152.7	1196.1	1233.5	1266.3	1268.3	1264.6
45°	938.6	943.5	932.1	990.3	1041.1	1100.6	1150.6	1192.9	1226.1	1228.9	1227.7
47.5°	875.5	880.0	869.7	923.0	981.7	1044.8	1102.7	1149.4	1184.7	1187.9	1187.1
50°	813.6	817.2	806.2	861.9	920.2	987.4	1047.7	1101.8	1141.2	1144.5	1144.1
52.5°	752.0	755.7	746.3	804.9	857.8	928.8	994.4	1053.0	1092.0	1096.9	1097.7
55°	692.6	694.2	686.9	743.0	794.3	868.5	944.0	1001.0	1039.9	1044.0	1046.5
57.5°	633.1	633.5	627.4	681.1	730.3	806.2	885.3	945.2	982.1	986.2	989.9
60°	574.1	573.7	566.7	618.8	665.9	741.0	823.4	882.9	918.5	922.2	927.1
62.5°	515.4	514.2	508.1	556.0	600.3	674.5	757.4	814.8	848.8	851.3	857.8
65°	457.2	456.0	450.2	494.5	534.7	605.7	686.9	741.4	772.1	775.4	774.2
67.5°	399.8	397.3	392.8	432.6	469.1	534.7	612.6	664.7	690.1	693.0	700.8
70°	342.4	339.5	329.3	371.5	403.5	462.1	534.7	581.1	602.4	605.2	604.0
72.5°	285.8	282.9	271.9	310.8	337.9	389.1	453.9	492.5	510.9	513.4	513.4
75°	230.9	229.2	222.3	251.8	274.3	316.2	371.1	403.1	417.4	420.3	419.5
77.5°	178.0	176.7	169.8	195.2	212.8	244.0	288.3	313.3	323.9	327.2	334.2
80°	127.5	127.1	116.0	141.1	148.9	175.1	207.5	226.8	232.5	237.0	241.9
82.5°	81.6	82.0	70.9	92.3	95.5	112.4	132.4	144.3	148.4	152.1	155.8
85°	39.8	41.4	35.3	48.8	49.2	57.8	66.4	70.9	72.6	75.5	78.7
87.5°	10.3	11.9	6.6	13.9	12.3	16.0	18.5	19.7	19.3	21.3	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°	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9
2.5°	1720.6	1733.7	1727.2	1748.5	1756.7	1743.6	1766.5	1766.9	1750.5	1769.8	1780.5
5°	1694.0	1707.5	1703.4	1725.5	1735.8	1724.3	1752.2	1757.5	1741.5	1763.3	1780.5
7.5°	1666.9	1682.9	1677.6	1700.1	1712.4	1703.4	1733.3	1741.9	1729.6	1753.4	1776.4
10°	1643.5	1657.1	1651.3	1675.1	1685.8	1678.4	1707.9	1723.9	1712.4	1741.5	1769.0
12.5°	1620.6	1631.6	1625.1	1644.7	1655.0	1645.6	1681.7	1696.4	1688.2	1718.6	1753.8
15°	1591.0	1603.3	1594.3	1611.9	1619.7	1611.5	1641.1	1666.5	1656.2	1689.4	1728.4
17.5°	1568.5	1575.4	1563.1	1577.1	1581.6	1570.5	1600.5	1625.5	1618.1	1654.2	1699.3
20°	1543.5	1549.2	1532.0	1539.8	1539.4	1525.4	1552.9	1577.5	1572.6	1612.4	1663.6
22.5°	1515.6	1518.5	1498.4	1500.0	1499.2	1476.2	1500.8	1525.8	1523.8	1564.0	1621.4
25°	1486.1	1486.5	1460.6	1459.8	1450.8	1423.7	1445.5	1473.8	1467.6	1511.1	1571.3
27.5°	1456.9	1452.8	1421.7	1414.3	1399.9	1367.5	1386.8	1412.2	1408.6	1451.2	1518.0
30°	1425.8	1420.4	1382.3	1368.8	1347.9	1310.6	1326.5	1350.3	1352.4	1389.7	1459.8
32.5°	1396.3	1382.7	1340.5	1320.8	1294.6	1251.1	1259.7	1283.9	1287.2	1324.9	1397.1
35°	1358.1	1349.1	1297.0	1263.4	1237.6	1190.0	1199.0	1215.8	1220.7	1257.7	1331.1
37.5°	1322.0	1307.7	1252.3	1211.3	1178.1	1128.1	1130.5	1147.8	1152.7	1190.0	1262.6
40°	1284.7	1264.2	1204.8	1156.8	1118.6	1066.2	1063.3	1081.3	1085.0	1121.5	1187.1
42.5°	1244.9	1220.3	1153.5	1101.0	1057.1	1003.8	998.1	1013.7	1017.8	1053.4	1117.8
45°	1204.8	1175.2	1101.0	1043.6	995.6	941.1	935.3	947.2	953.4	987.0	1048.9
47.5°	1162.1	1127.7	1046.9	982.9	933.3	878.8	871.8	883.7	888.6	921.8	980.5
50°	1117.4	1075.6	991.1	920.6	871.4	817.7	807.4	821.3	825.9	857.0	914.4
52.5°	1068.2	1021.9	931.7	857.8	808.6	757.4	745.1	758.6	763.9	794.3	847.2
55°	1016.1	966.1	871.8	800.0	746.7	696.7	686.4	691.8	703.3	732.0	781.2
57.5°	957.5	907.9	808.6	735.6	684.4	636.4	627.8	632.7	643.4	671.3	715.6
60°	895.2	842.7	744.3	671.3	621.7	576.1	568.3	572.9	584.3	609.8	650.8
62.5°	833.7	774.6	677.8	605.2	560.1	517.9	515.9	514.2	524.9	549.5	585.6
65°	759.0	702.4	608.5	539.6	498.6	460.5	452.3	456.0	466.2	488.8	526.5
67.5°	679.1	627.8	537.6	474.0	437.5	403.5	396.5	398.2	408.8	428.5	461.3
70°	594.2	549.1	465.0	408.0	377.3	345.3	340.8	341.2	351.4	368.6	397.3
72.5°	505.2	464.6	391.6	342.8	317.4	294.4	290.3	285.4	294.8	309.6	334.2
75°	414.6	378.9	318.6	278.8	258.7	239.5	235.8	230.9	240.3	253.0	272.3
77.5°	323.1	294.4	247.7	216.9	201.3	187.0	183.7	178.4	187.8	197.2	212.4
80°	233.7	212.8	184.9	152.5	147.2	137.8	134.5	128.8	137.8	143.9	155.4
82.5°	150.9	137.0	121.0	98.4	97.6	90.6	89.0	82.4	90.6	94.3	102.9
85°	76.3	69.7	65.6	50.0	51.7	47.2	46.7	39.8	46.3	48.0	52.9
87.5°	21.7	23.0	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: P837977

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-5LO-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9	1757.9
2.5°	1759.6	1766.5	1768.2	1767.8	1772.3	1796.9	1788.7	1796.9
5°	1763.7	1779.2	1783.3	1789.1	1796.5	1824.4	1815.3	1825.2
7.5°	1766.1	1789.5	1798.5	1809.6	1821.5	1852.7	1845.3	1855.1
10°	1766.1	1796.5	1809.6	1828.0	1844.0	1880.1	1873.2	1884.6
12.5°	1758.7	1797.7	1816.2	1842.0	1862.5	1901.4	1898.6	1906.8
15°	1743.6	1791.6	1817.0	1850.2	1875.6	1919.1	1917.8	1927.7
17.5°	1723.1	1780.9	1811.6	1853.5	1885.5	1934.3	1937.1	1942.5
20°	1697.2	1760.8	1801.0	1852.2	1892.4	1946.1	1949.8	1957.2
22.5°	1663.2	1736.6	1785.0	1846.9	1893.2	1951.1	1957.6	1964.6
25°	1623.0	1707.5	1764.1	1836.7	1889.1	1950.7	1959.7	1965.8
27.5°	1577.1	1669.8	1737.4	1820.3	1877.7	1944.1	1955.2	1962.5
30°	1523.8	1629.6	1707.1	1798.9	1862.1	1931.8	1943.7	1951.1
32.5°	1468.8	1585.3	1671.0	1771.5	1839.5	1912.1	1922.4	1928.1
35°	1409.0	1531.6	1627.5	1736.2	1810.4	1880.5	1888.3	1894.5
37.5°	1343.8	1473.3	1577.9	1696.4	1769.4	1836.7	1843.6	1850.6
40°	1276.5	1412.2	1522.1	1647.6	1720.6	1782.9	1790.3	1795.2
42.5°	1208.9	1344.6	1462.7	1590.2	1662.8	1722.7	1727.2	1732.1
45°	1140.4	1274.5	1395.8	1526.7	1598.4	1654.6	1656.2	1660.3
47.5°	1070.7	1201.9	1322.4	1454.1	1525.0	1576.3	1577.9	1581.2
50°	1000.5	1129.3	1244.1	1375.8	1445.1	1499.2	1491.8	1495.1
52.5°	931.7	1053.0	1170.3	1291.3	1359.8	1407.7	1409.8	1403.2
55°	864.0	978.4	1086.2	1202.7	1267.9	1305.2	1304.0	1306.5
57.5°	795.5	903.0	1001.8	1108.4	1172.0	1207.2	1214.6	1206.0
60°	725.8	826.7	915.3	1011.6	1073.1	1102.7	1111.3	1103.1
62.5°	656.5	749.2	829.6	913.6	970.6	1007.1	1006.3	997.3
65°	587.2	671.3	743.0	814.4	864.0	900.5	898.9	890.6
67.5°	523.2	592.5	656.9	714.7	757.8	782.8	791.4	781.6
70°	452.7	512.6	569.2	615.5	651.2	673.7	681.9	673.3
72.5°	382.2	433.0	472.8	517.5	545.0	563.8	572.4	564.2
75°	312.5	354.3	386.7	421.5	440.8	456.8	466.6	458.4
77.5°	244.8	277.2	303.0	328.5	350.6	354.3	362.9	357.6
80°	180.4	203.8	222.7	239.5	255.5	257.1	264.1	260.8
82.5°	120.1	135.7	140.7	158.3	168.5	166.9	173.9	171.4
85°	63.6	73.0	81.6	86.9	92.7	87.3	93.5	91.0
87.5°	21.3	22.6	19.7	27.9	30.8	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)