

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776320

Luminaire Tested: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776320
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B009)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K
Description: 4 INCH SQUARE MEDIUM LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3383.6 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.14 / 1.19
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

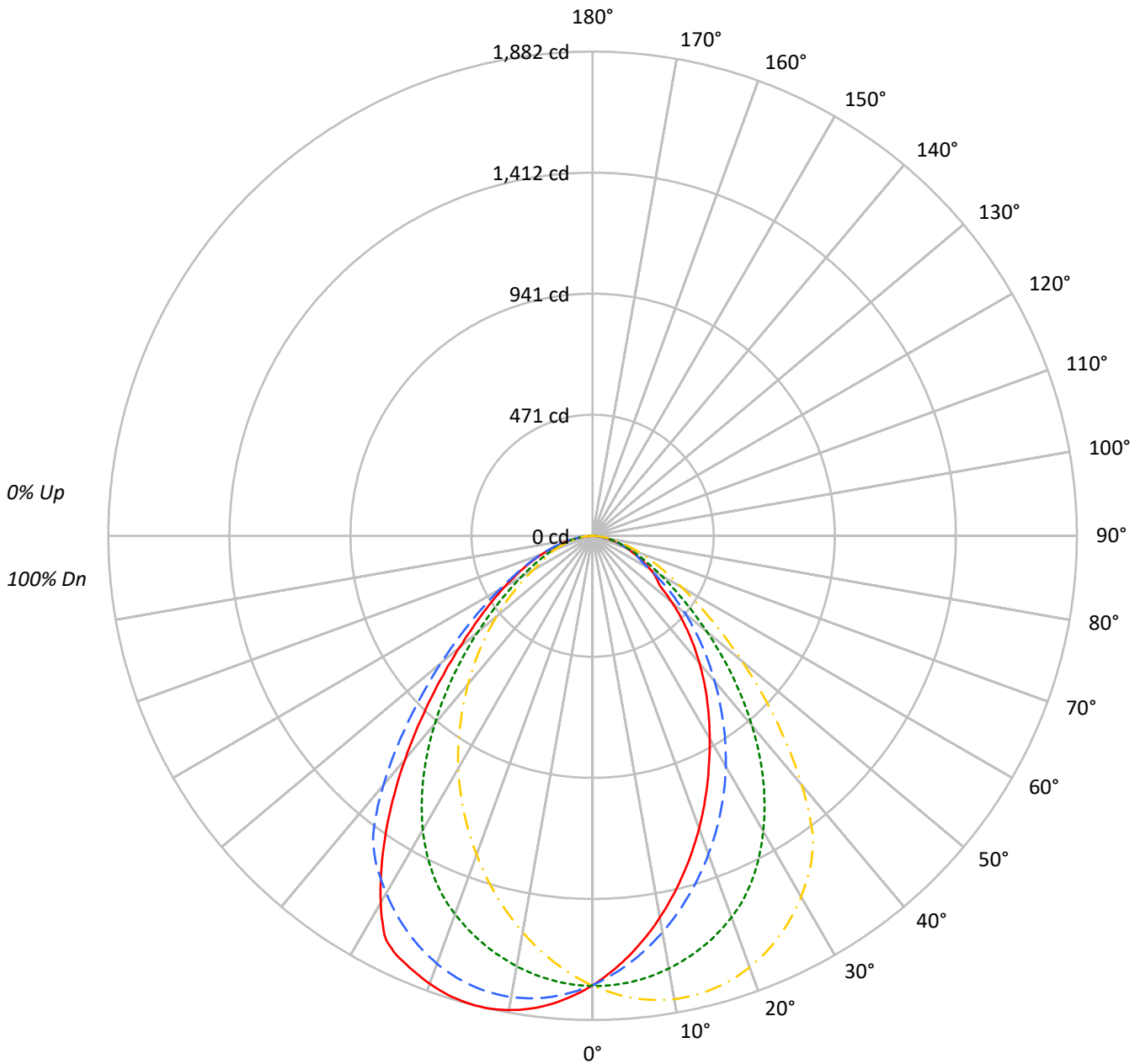
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100			100
1	111	107	103	100	108	104	101	98	100	98	95	96	94	92	93	91	89	88			88
2	102	95	89	84	100	93	88	83	90	85	81	87	83	80	84	81	78	76			76
3	94	85	78	72	92	84	77	72	81	75	71	78	73	69	76	72	68	66			66
4	87	77	69	63	85	75	68	63	73	67	62	71	65	61	69	64	60	58			58
5	81	70	62	56	79	68	61	55	66	60	55	65	59	54	63	58	54	52			52
6	75	63	55	50	74	62	55	49	61	54	49	59	53	49	58	52	48	46			46
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	42			42
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38			38
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34			34
10	58	46	38	34	57	45	38	34	44	38	33	43	37	33	43	37	33	32			32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	219910	219910	219910	219910
5°	206879	219878	230793	219297
10°	192492	218255	239251	217117
15°	177350	215472	244970	213818
20°	162051	211403	248112	209501
25°	146692	204207	249948	202833
30°	132269	192736	239311	191792
35°	118959	177463	214919	176157
40°	106079	158240	185856	156777
45°	92851	136296	157137	135477
50°	78844	113420	132431	114164
55°	68149	92987	113283	95422
60°	64838	77196	98742	80770
65°	58068	65156	87341	69741
70°	51993	56077	76977	61155
75°	45902	48333	66081	54119
80°	36165	40368	51167	47326
85°	17761	29312	24403	38843

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 225°
 Vertical Angle: 45°
 Luminance: 179135 cd/sqm



TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.3	4.9
10°-20°	459.6	13.6
20°-30°	663.7	19.6
30°-40°	714.1	21.1
40°-50°	592.6	17.5
50°-60°	398.7	11.8
60°-70°	241.3	7.1
70°-80°	122.0	3.6
80°-90°	27.4	0.8
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°	1287.6	38.1
0°-40°	2001.7	59.2
0°-60°	2992.9	88.5
0°-90°	3383.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3383.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1747	1747	1747	1747	1747	
5°	1638	1740	1827	1736	1638	152
15°	1361	1654	1880	1641	1361	381
25°	1056	1471	1800	1461	1056	485
35°	774	1155	1399	1147	774	484
45°	522	766	883	761	522	402
55°	311	424	516	435	311	284
65°	195	219	293	234	195	194
75°	94	99	136	111	94	100
85°	12	20	17	27	12	18
90°	0	0	0	0	0	



TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1747.4	1747.4	1747.4	1747.4	1747.4	1747.4	1747.4	1747.4	1747.4	1747.4	1747.4
0.5°	1737.1	1737.1	1739.0	1742.8	1750.1	1752.8	1755.1	1756.2	1756.2	1754.7	1752.4
1°	1727.1	1727.8	1732.1	1739.0	1750.1	1756.2	1761.6	1764.7	1765.5	1763.2	1758.5
1.5°	1716.7	1718.2	1724.8	1734.7	1749.7	1759.3	1767.8	1772.8	1774.3	1770.8	1764.3
2°	1706.3	1708.6	1717.1	1730.1	1749.0	1762.4	1773.5	1780.8	1782.7	1778.5	1770.4
2.5°	1695.2	1698.3	1709.0	1725.5	1748.2	1765.1	1779.3	1788.1	1790.8	1786.2	1775.8
3°	1684.5	1688.3	1701.4	1720.5	1747.0	1767.8	1784.7	1795.4	1798.9	1793.1	1780.8
3.5°	1672.9	1677.6	1692.9	1715.6	1745.9	1769.7	1789.6	1802.7	1806.1	1800.0	1785.8
4°	1661.4	1667.2	1684.1	1710.2	1744.0	1772.0	1794.6	1809.2	1813.4	1806.5	1790.4
4.5°	1649.5	1655.7	1675.2	1704.4	1742.4	1773.5	1799.2	1815.4	1820.4	1812.7	1794.2
5°	1637.6	1644.9	1666.4	1698.7	1740.5	1775.1	1803.5	1821.5	1826.9	1818.4	1798.5
5.5°	1625.0	1633.4	1656.8	1692.5	1738.2	1776.2	1807.3	1827.3	1833.0	1823.8	1801.9
6°	1612.7	1621.5	1647.6	1686.4	1735.9	1777.4	1810.8	1832.6	1838.8	1829.2	1805.4
6.5°	1600.4	1609.2	1638.0	1679.9	1733.2	1777.7	1814.2	1837.2	1844.2	1833.8	1808.5
7°	1587.3	1597.7	1628.0	1673.7	1730.1	1778.1	1817.3	1841.9	1849.5	1838.0	1811.1
7.5°	1573.9	1585.0	1617.7	1666.4	1727.1	1778.1	1820.0	1846.1	1854.1	1842.2	1813.4
8°	1561.2	1572.8	1607.7	1659.5	1723.6	1778.1	1822.3	1850.3	1858.4	1846.1	1815.4
8.5°	1547.8	1560.1	1597.3	1652.2	1719.8	1777.7	1824.2	1853.8	1862.6	1849.1	1816.9
9°	1534.0	1547.4	1586.6	1644.9	1715.9	1777.0	1826.1	1856.8	1866.0	1852.2	1818.4
9.5°	1520.2	1534.0	1575.4	1636.9	1712.1	1775.8	1827.6	1859.5	1869.1	1854.9	1819.6
10°	1506.3	1520.9	1564.7	1629.2	1707.9	1774.7	1828.8	1862.2	1872.2	1857.2	1820.4
10.5°	1492.1	1507.9	1553.6	1621.1	1703.3	1773.1	1829.6	1864.5	1874.5	1859.1	1821.1
11°	1478.3	1494.4	1542.4	1613.1	1698.7	1771.6	1830.0	1866.0	1876.8	1860.7	1821.1
11.5°	1464.1	1481.0	1530.9	1604.2	1693.7	1769.7	1830.0	1867.6	1878.3	1861.8	1820.7
12°	1449.1	1467.6	1519.0	1595.8	1688.7	1767.4	1830.0	1868.7	1879.9	1862.6	1820.4
12.5°	1434.9	1453.4	1507.5	1587.0	1683.3	1765.1	1829.6	1869.1	1881.0	1863.3	1819.6
13°	1420.7	1439.5	1495.6	1578.1	1677.9	1762.4	1828.4	1869.5	1881.4	1863.3	1818.4
13.5°	1405.8	1425.7	1483.7	1569.3	1672.2	1759.3	1827.3	1869.5	1881.8	1863.0	1816.9
14°	1391.2	1411.9	1471.0	1560.1	1666.4	1755.9	1825.7	1869.1	1881.8	1862.2	1815.0
14.5°	1376.2	1397.7	1458.7	1550.5	1660.3	1752.8	1824.2	1868.3	1881.0	1861.0	1812.7
15°	1361.2	1382.7	1446.5	1540.9	1653.8	1749.0	1821.9	1867.2	1880.2	1859.9	1810.4
15.5°	1346.3	1368.5	1434.2	1531.3	1647.2	1745.1	1819.6	1865.7	1879.1	1858.4	1807.7
16°	1331.3	1354.3	1421.5	1521.7	1640.7	1740.5	1816.9	1863.7	1877.6	1856.4	1804.6
16.5°	1316.7	1339.7	1408.5	1511.7	1633.8	1736.3	1813.8	1861.8	1875.6	1854.1	1801.2
17°	1301.3	1325.5	1395.8	1501.4	1626.5	1731.3	1810.8	1859.5	1873.3	1851.1	1797.7
17.5°	1286.4	1310.2	1382.7	1491.0	1618.8	1726.3	1806.9	1856.4	1870.6	1848.0	1793.5
18°	1271.0	1295.6	1370.1	1480.6	1611.1	1720.5	1803.1	1853.0	1867.6	1844.5	1789.3
18.5°	1256.1	1281.0	1357.0	1469.9	1603.5	1715.2	1798.9	1849.5	1864.1	1840.7	1784.7
19°	1240.7	1266.0	1343.6	1458.7	1595.4	1709.4	1794.2	1845.7	1860.7	1836.9	1780.0
19.5°	1225.0	1251.1	1330.5	1448.0	1587.0	1702.9	1789.3	1841.5	1856.8	1832.3	1775.1
20°	1210.0	1236.5	1316.7	1436.9	1578.5	1696.7	1784.3	1836.9	1852.6	1827.6	1769.7
20.5°	1194.6	1221.5	1303.7	1425.3	1569.7	1689.8	1778.9	1831.9	1848.0	1822.7	1763.5
21°	1179.3	1206.5	1290.2	1413.8	1560.5	1682.9	1773.1	1826.9	1843.4	1817.3	1757.8



TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	1133.2	1161.6	1249.1	1378.5	1530.1	1660.3	1754.3	1809.6	1827.6	1799.6	1737.8
23°	1117.5	1146.3	1234.9	1365.8	1519.4	1651.4	1747.4	1803.5	1822.3	1793.5	1730.9
23.5°	1102.5	1131.7	1221.5	1353.6	1507.5	1642.6	1740.1	1796.9	1816.5	1787.0	1723.6
24°	1087.1	1116.3	1207.3	1339.7	1495.6	1633.0	1732.1	1790.8	1811.1	1780.4	1715.9
24.5°	1071.4	1101.3	1193.5	1326.7	1483.3	1622.7	1724.4	1783.9	1805.8	1773.1	1707.9
25°	1056.4	1086.4	1178.9	1312.9	1470.6	1611.9	1716.3	1777.0	1800.0	1766.2	1699.8
25.5°	1041.5	1071.0	1165.1	1299.0	1458.0	1600.8	1708.3	1770.4	1792.3	1759.3	1691.0
26°	1026.5	1056.1	1150.9	1284.5	1444.5	1589.6	1699.4	1763.9	1783.9	1752.8	1682.5
26.5°	1011.5	1041.5	1136.7	1270.6	1430.7	1577.4	1690.6	1757.0	1775.1	1745.5	1673.3
27°	996.5	1026.1	1122.5	1256.1	1416.5	1564.7	1681.4	1749.7	1765.8	1738.2	1664.1
27.5°	982.0	1011.5	1108.3	1241.5	1401.9	1552.0	1672.2	1740.1	1751.3	1728.6	1654.9
28°	967.0	996.5	1093.7	1226.5	1387.3	1538.6	1662.6	1730.5	1731.3	1718.6	1645.3
28.5°	952.8	982.0	1079.5	1211.5	1372.4	1524.8	1652.6	1720.9	1710.9	1708.6	1635.3
29°	938.6	967.0	1064.5	1196.2	1357.4	1510.6	1642.2	1710.2	1692.1	1697.9	1625.0
29.5°	924.0	953.2	1049.9	1181.2	1341.7	1495.6	1631.5	1693.7	1669.5	1681.4	1614.6
30°	910.2	939.0	1034.9	1165.5	1326.3	1480.2	1620.7	1672.9	1646.8	1661.4	1604.2
30.5°	896.0	924.4	1020.0	1150.1	1309.8	1465.3	1609.2	1653.0	1624.2	1641.1	1593.5
31°	882.2	909.0	1005.0	1134.4	1294.1	1449.9	1597.3	1633.8	1601.2	1621.5	1582.7
31.5°	868.3	896.0	989.6	1118.6	1277.2	1433.4	1585.0	1611.1	1575.8	1599.6	1571.6
32°	854.5	881.8	974.7	1102.9	1260.7	1417.3	1573.1	1588.5	1551.6	1577.4	1560.5
32.5°	841.1	868.3	959.7	1087.1	1243.8	1400.4	1561.2	1565.5	1527.5	1555.5	1549.3
33°	827.6	854.5	944.7	1071.0	1226.5	1383.5	1548.6	1543.2	1502.1	1532.4	1537.8
33.5°	814.2	841.1	929.8	1055.3	1208.5	1366.2	1535.5	1519.0	1476.4	1509.4	1525.9
34°	801.2	827.6	914.4	1038.8	1191.6	1348.6	1521.7	1495.2	1450.3	1484.8	1512.5
34.5°	787.3	813.8	899.0	1022.7	1173.1	1329.8	1506.3	1470.3	1424.6	1461.4	1497.9
35°	774.3	799.6	884.1	1006.1	1155.1	1312.1	1491.0	1446.5	1398.9	1437.2	1482.5
35.5°	761.2	787.3	869.1	990.0	1136.7	1292.9	1474.5	1421.1	1372.4	1413.4	1467.6
36°	748.6	773.9	854.5	973.5	1117.5	1274.1	1457.6	1396.2	1345.5	1388.5	1451.8
36.5°	735.5	760.8	839.2	957.4	1098.7	1254.9	1436.9	1370.4	1319.8	1363.5	1432.6
37°	722.5	747.8	824.6	940.9	1080.2	1234.9	1412.7	1345.5	1292.9	1339.4	1409.2
37.5°	709.4	734.4	809.6	924.0	1060.7	1214.6	1388.5	1319.8	1265.6	1314.4	1386.6
38°	696.4	721.3	795.0	907.5	1041.1	1194.2	1365.1	1294.1	1238.0	1289.1	1363.5
38.5°	683.7	708.3	780.8	890.6	1021.5	1173.9	1340.9	1267.2	1212.7	1263.3	1340.5
39°	671.4	695.6	766.2	874.1	1002.3	1153.2	1315.2	1243.0	1186.2	1239.2	1315.2
39.5°	658.4	682.9	751.6	857.2	982.7	1132.1	1289.4	1216.5	1158.9	1214.2	1290.2
40°	645.7	669.5	737.4	840.3	963.2	1110.6	1263.7	1190.0	1131.3	1188.5	1264.5
40.5°	633.0	656.8	723.2	823.8	942.8	1089.4	1238.0	1163.9	1107.5	1162.4	1239.2
41°	620.3	644.1	709.4	806.9	923.2	1068.0	1211.5	1139.7	1081.8	1139.0	1213.8
41.5°	608.1	631.5	695.2	790.4	903.3	1046.5	1185.4	1114.0	1054.5	1114.0	1187.0
42°	595.4	618.8	681.4	773.5	883.7	1025.0	1158.9	1087.1	1029.6	1087.9	1161.2
42.5°	583.1	606.1	667.6	757.4	864.1	1002.7	1133.2	1063.0	1005.8	1064.1	1134.7
43°	570.8	593.5	653.7	740.9	844.1	981.2	1107.1	1038.8	980.8	1040.3	1109.4
43.5°	558.2	581.2	639.9	724.4	824.2	959.3	1081.0	1012.7	953.2	1015.4	1082.9



TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	521.7	544.0	599.6	675.6	765.8	893.7	1003.1	940.9	882.9	945.5	1006.5
45.5°	509.4	531.7	586.2	659.5	746.3	872.2	976.6	914.4	860.3	920.2	981.2
46°	497.9	519.8	573.1	643.8	727.1	850.7	950.9	891.8	839.9	896.4	955.9
46.5°	485.2	507.5	559.7	627.6	707.9	828.8	926.3	870.3	816.9	876.8	932.1
47°	473.3	495.2	546.6	612.3	688.7	807.3	901.3	846.1	791.9	853.7	907.1
47.5°	461.4	482.9	533.2	596.5	669.9	785.8	876.0	820.7	774.3	828.8	882.9
48°	449.9	471.0	520.9	581.2	651.1	764.7	850.7	801.9	755.1	809.2	858.7
48.5°	437.6	458.7	507.9	565.8	633.0	744.0	828.0	780.4	732.4	789.6	836.9
49°	426.1	447.2	495.2	551.3	615.0	723.2	804.6	756.2	712.5	767.0	813.4
49.5°	414.6	435.3	482.5	536.3	597.3	702.9	780.4	735.1	695.6	744.7	790.4
50°	402.7	423.4	469.9	521.3	579.3	681.8	757.0	716.3	676.4	727.1	767.4
50.5°	390.8	411.5	457.6	506.7	562.4	662.2	735.9	695.2	654.9	707.5	747.4
51°	379.7	400.0	445.3	492.9	545.5	641.8	713.2	672.6	640.3	684.1	725.5
51.5°	368.1	388.5	433.0	478.7	529.4	623.0	691.0	656.8	624.6	668.3	704.0
52°	357.0	377.0	421.1	464.9	512.9	603.1	671.4	638.4	604.2	650.7	683.3
52.5°	345.9	365.5	409.2	451.4	496.7	584.6	651.1	616.5	589.6	630.7	665.6
53°	335.5	353.9	397.7	438.0	481.4	565.5	629.6	600.8	575.4	611.9	644.1
53.5°	325.5	342.8	385.8	425.0	466.8	547.4	610.0	585.0	558.9	597.3	624.2
54°	319.4	332.1	374.3	411.9	451.8	529.0	591.6	566.6	542.8	579.7	606.5
54.5°	315.2	321.3	363.1	399.2	437.6	511.3	572.7	549.7	530.5	560.8	589.3
55°	310.6	311.3	352.0	387.3	423.8	494.4	553.6	535.9	516.3	547.8	570.1
55.5°	306.3	301.7	341.3	375.4	410.4	477.2	537.4	520.2	500.6	532.8	552.8
56°	301.3	296.7	330.1	363.9	397.3	461.0	519.8	503.6	489.4	514.8	536.7
56.5°	296.4	292.5	319.4	352.4	384.6	445.7	502.1	491.0	476.8	502.1	519.8
57°	291.7	287.9	309.0	341.3	372.0	430.3	486.8	476.8	462.2	489.1	502.9
57.5°	286.4	283.3	298.7	330.1	360.5	415.4	471.4	461.4	451.8	473.3	489.1
58°	281.4	278.3	289.1	319.8	348.6	401.5	454.9	450.3	440.3	460.7	473.3
58.5°	275.6	273.7	279.1	309.8	337.8	387.7	441.1	437.6	426.9	449.1	458.0
59°	269.5	268.3	269.5	299.8	327.4	374.7	426.9	423.0	415.7	435.3	444.5
59.5°	263.7	263.3	259.9	289.8	317.1	361.6	412.3	412.7	403.8	423.0	430.7
60°	257.6	258.0	251.1	280.6	306.7	349.3	399.2	401.2	392.3	412.3	416.1
60.5°	251.1	252.2	241.8	271.0	296.4	337.4	386.6	388.1	381.6	399.2	403.8
61°	244.9	246.5	233.4	262.6	286.0	326.3	373.1	378.1	370.4	387.7	391.6
61.5°	238.8	240.7	226.1	253.7	276.8	315.5	361.6	366.6	360.1	377.0	378.5
62°	232.2	234.5	218.8	245.3	267.9	304.4	350.1	354.7	349.7	365.1	367.0
62.5°	226.1	228.4	214.6	237.2	259.1	293.3	337.8	344.7	340.1	354.7	355.9
63°	220.0	222.6	210.0	229.2	250.3	283.7	327.4	334.4	330.9	344.7	343.6
63.5°	213.8	216.5	205.8	221.5	242.2	274.1	317.1	324.0	321.3	333.2	333.6
64°	207.3	210.7	201.5	214.2	234.2	264.9	307.1	314.0	312.1	323.6	323.6
64.5°	201.2	204.6	196.9	206.5	226.1	255.7	296.7	304.0	302.5	314.0	313.2
65°	195.0	198.8	192.3	199.6	218.8	247.2	286.4	294.1	293.3	304.4	303.3
65.5°	188.9	192.7	187.7	193.1	211.1	238.8	276.8	286.0	284.1	294.8	292.9
66°	182.7	186.9	183.1	186.2	203.8	230.3	267.6	276.0	275.2	285.6	283.3



TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	166.6	169.3	168.1	167.4	183.5	206.9	240.3	250.3	249.5	259.1	256.0
68°	161.2	163.9	162.8	161.6	177.0	199.6	231.9	241.8	241.5	250.3	247.2
68.5°	156.2	158.5	157.8	155.9	170.4	192.7	223.4	233.4	233.0	241.8	238.4
69°	151.2	153.2	153.2	150.1	164.3	185.8	215.0	225.3	225.3	233.4	229.9
69.5°	146.3	148.2	148.2	144.7	158.2	178.5	207.3	217.3	217.3	225.3	221.5
70°	141.3	143.2	142.8	139.7	152.4	172.0	199.2	209.2	209.2	217.3	213.8
70.5°	136.7	137.4	138.2	134.7	146.3	165.5	191.6	201.9	201.9	209.2	205.8
71°	132.1	133.2	133.6	130.1	140.9	159.3	184.3	193.9	194.2	201.9	198.1
71.5°	127.4	128.6	128.6	125.1	135.1	152.8	176.6	186.6	186.6	193.9	190.4
72°	122.5	124.0	123.6	120.5	129.8	146.6	169.3	178.9	178.9	186.2	183.1
72.5°	117.9	119.4	119.0	115.5	124.4	140.9	162.4	171.6	171.6	178.5	175.4
73°	113.2	114.8	114.0	111.3	119.4	134.7	155.5	164.7	164.3	171.6	168.5
73.5°	108.3	110.2	109.4	107.1	114.0	129.0	148.6	157.4	157.0	163.9	161.2
74°	103.6	105.2	104.4	103.3	109.0	123.6	141.7	150.1	149.7	156.6	154.3
74.5°	99.0	100.6	100.2	99.8	104.0	117.9	135.1	143.2	142.8	149.7	147.4
75°	94.4	96.0	96.0	96.0	99.4	112.5	128.6	136.7	135.9	142.8	140.9
75.5°	89.8	91.4	91.4	92.1	94.4	107.5	122.1	129.8	129.0	135.5	134.0
76°	85.2	86.8	86.8	87.9	89.8	102.1	116.3	122.8	122.1	129.0	127.4
76.5°	80.6	82.2	82.5	84.1	85.2	96.7	109.8	115.9	115.2	122.1	120.9
77°	76.4	77.5	78.3	80.2	81.0	91.7	104.0	109.8	109.0	115.5	114.8
77.5°	71.8	72.9	74.1	76.0	76.4	86.8	97.9	103.3	102.1	108.6	108.6
78°	67.6	68.3	69.9	72.2	72.2	81.8	92.1	97.1	95.6	102.5	102.5
78.5°	63.0	64.1	65.6	68.3	67.9	76.8	86.4	90.6	89.4	96.0	96.7
79°	58.7	59.5	61.8	64.1	63.7	72.2	81.0	84.5	82.9	89.4	90.6
79.5°	54.1	54.9	57.6	60.3	59.9	67.6	75.6	77.9	76.8	83.3	84.8
80°	49.9	50.3	53.4	56.4	55.7	63.0	70.2	71.8	70.6	77.2	79.5
80.5°	45.7	46.1	49.5	52.6	51.8	58.3	64.9	66.0	64.5	71.0	73.7
81°	41.5	41.5	45.7	48.8	48.0	54.1	59.9	59.9	58.3	64.9	68.3
81.5°	37.2	37.2	41.8	44.9	44.5	49.9	54.9	54.1	52.6	59.1	63.3
82°	33.0	33.0	38.4	41.5	40.7	45.7	49.9	49.1	46.8	53.4	58.0
82.5°	28.8	29.6	34.5	37.6	37.2	41.8	45.3	43.8	41.5	48.0	53.4
83°	25.0	25.7	31.1	34.2	33.8	37.6	41.1	39.2	36.1	42.6	48.4
83.5°	20.7	22.3	28.0	30.7	30.3	34.2	36.9	34.9	30.7	38.4	43.8
84°	16.9	19.2	24.6	26.9	26.9	30.3	33.0	30.3	25.3	33.8	39.5
84.5°	13.8	16.1	21.5	23.4	23.4	26.5	28.8	25.7	20.0	29.6	35.7
85°	12.3	13.8	18.4	20.0	20.3	22.6	25.0	21.1	16.9	25.3	31.5
85.5°	10.4	11.9	15.4	16.5	16.9	18.8	20.7	18.0	14.6	20.7	27.6
86°	8.4	9.6	12.7	13.1	13.8	15.4	17.3	15.0	12.3	17.7	23.4
86.5°	6.9	7.7	9.6	10.0	10.7	11.9	13.4	12.3	10.4	15.0	19.6
87°	5.0	5.4	6.9	6.9	7.7	8.4	10.0	9.2	8.1	12.3	15.7
87.5°	3.5	3.5	3.8	4.2	4.6	5.4	6.5	6.5	6.1	9.2	12.3
88°	1.9	1.5	1.5	1.2	1.9	2.7	3.5	4.2	4.2	6.5	8.8
88.5°	0.8	0.4	0.4	0.4	0.4	0.8	1.2	1.9	1.9	3.8	5.4



TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.0



TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1747.4	1747.4	1747.4	1747.4	1747.4	1747.4
0.5°	1750.1	1749.3	1745.1	1741.3	1738.6	1737.1
1°	1753.2	1749.0	1740.9	1734.0	1729.4	1727.1
1.5°	1756.2	1748.2	1736.7	1726.3	1719.8	1716.7
2°	1758.9	1747.0	1731.7	1719.0	1709.8	1706.3
2.5°	1761.2	1745.9	1726.7	1710.6	1699.4	1695.2
3°	1763.5	1744.3	1721.7	1702.5	1689.5	1684.5
3.5°	1765.5	1742.4	1716.3	1694.1	1679.1	1672.9
4°	1767.0	1740.5	1710.6	1685.6	1668.0	1661.4
4.5°	1768.1	1738.2	1704.8	1676.0	1656.8	1649.5
5°	1769.3	1735.9	1699.0	1667.2	1645.3	1637.6
5.5°	1770.1	1732.8	1692.9	1657.6	1634.2	1625.0
6°	1770.8	1730.1	1686.4	1648.0	1622.3	1612.7
6.5°	1771.2	1727.1	1679.5	1638.0	1610.4	1600.4
7°	1771.2	1723.6	1672.6	1628.8	1598.5	1587.3
7.5°	1770.8	1720.2	1665.7	1618.4	1586.2	1573.9
8°	1770.4	1716.3	1658.4	1608.1	1573.5	1561.2
8.5°	1769.7	1712.1	1651.1	1597.7	1560.9	1547.8
9°	1768.5	1707.9	1643.4	1587.0	1547.8	1534.0
9.5°	1767.4	1703.7	1635.3	1575.8	1535.1	1520.2
10°	1765.8	1699.0	1627.3	1564.7	1522.1	1506.3
10.5°	1763.9	1694.1	1619.2	1553.9	1509.0	1492.1
11°	1762.0	1689.1	1610.8	1542.4	1495.6	1478.3
11.5°	1759.7	1683.7	1602.3	1530.9	1481.8	1464.1
12°	1757.0	1677.9	1593.5	1519.4	1468.3	1449.1
12.5°	1754.3	1672.6	1584.7	1507.5	1454.5	1434.9
13°	1751.3	1666.8	1575.8	1495.6	1440.7	1420.7
13.5°	1747.4	1660.7	1566.6	1483.7	1426.9	1405.8
14°	1744.3	1654.5	1557.8	1471.8	1412.7	1391.2
14.5°	1740.5	1648.0	1548.2	1459.5	1398.5	1376.2
15°	1736.3	1641.1	1538.6	1446.8	1384.3	1361.2
15.5°	1732.1	1634.6	1529.0	1434.6	1369.7	1346.3
16°	1727.5	1627.6	1519.4	1421.9	1355.5	1331.3
16.5°	1722.8	1620.4	1509.4	1409.6	1341.3	1316.7
17°	1717.5	1613.1	1499.4	1396.9	1326.7	1301.3
17.5°	1712.1	1605.4	1489.1	1383.9	1312.1	1286.4
18°	1706.7	1597.7	1479.1	1370.8	1297.5	1271.0
18.5°	1701.0	1589.6	1468.3	1358.2	1282.5	1256.1
19°	1694.8	1581.2	1457.6	1344.7	1268.0	1240.7
19.5°	1688.7	1573.1	1446.8	1332.1	1253.7	1225.0
20°	1682.2	1564.3	1436.1	1319.0	1238.8	1210.0
20.5°	1674.9	1555.5	1425.0	1305.6	1224.2	1194.6
21°	1668.0	1546.3	1413.4	1292.1	1209.2	1179.3

TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1644.9	1517.5	1378.9	1252.2	1164.7	1133.2
23°	1636.9	1507.1	1366.6	1238.8	1149.3	1117.5
23.5°	1628.0	1496.4	1355.1	1225.3	1135.1	1102.5
24°	1619.2	1484.5	1342.8	1211.5	1120.2	1087.1
24.5°	1610.0	1473.3	1330.1	1198.1	1105.2	1071.4
25°	1600.4	1460.7	1317.1	1184.3	1089.8	1056.4
25.5°	1590.4	1448.4	1304.4	1170.4	1075.6	1041.5
26°	1579.7	1434.9	1291.0	1156.6	1060.7	1026.5
26.5°	1568.5	1421.9	1277.2	1142.8	1045.7	1011.5
27°	1557.0	1408.8	1263.3	1129.0	1031.1	996.5
27.5°	1544.7	1394.6	1249.1	1114.8	1016.5	982.0
28°	1531.7	1379.7	1234.6	1100.6	1001.5	967.0
28.5°	1518.6	1365.8	1220.4	1086.8	987.0	952.8
29°	1505.2	1350.9	1205.8	1072.9	972.7	938.6
29.5°	1491.0	1335.5	1191.2	1058.7	958.5	924.0
30°	1477.2	1319.8	1175.8	1044.2	944.3	910.2
30.5°	1462.6	1303.7	1161.2	1029.9	930.1	896.0
31°	1447.2	1287.1	1145.5	1015.4	915.9	882.2
31.5°	1431.1	1270.3	1130.1	1000.8	901.7	868.3
32°	1415.0	1253.7	1114.4	986.6	888.3	854.5
32.5°	1398.5	1236.5	1099.0	971.6	874.5	841.1
33°	1381.2	1218.4	1082.9	957.0	860.7	827.6
33.5°	1363.9	1200.8	1066.8	942.4	847.2	814.2
34°	1345.5	1183.1	1050.7	927.5	833.8	801.2
34.5°	1327.5	1164.7	1034.6	912.5	820.7	787.3
35°	1309.0	1146.6	1018.0	897.5	807.3	774.3
35.5°	1290.2	1127.5	1001.9	882.9	794.2	761.2
36°	1271.0	1109.4	985.4	868.7	780.8	748.6
36.5°	1251.1	1090.6	968.9	854.1	768.1	735.5
37°	1231.5	1071.0	952.4	839.5	755.1	722.5
37.5°	1211.5	1052.2	935.9	824.6	742.4	709.4
38°	1191.2	1032.3	919.4	810.0	729.0	696.4
38.5°	1170.4	1013.1	902.5	795.8	716.3	683.7
39°	1150.1	993.5	886.0	781.6	704.0	671.4
39.5°	1129.4	974.3	869.5	767.8	691.4	658.4
40°	1108.3	954.3	853.0	753.2	677.9	645.7
40.5°	1086.8	934.7	836.1	739.0	665.6	633.0
41°	1065.3	915.2	819.6	725.1	653.4	620.3
41.5°	1044.2	895.6	802.7	710.9	640.3	608.1
42°	1022.3	876.4	786.2	697.1	628.0	595.4
42.5°	1001.5	856.8	769.7	683.3	615.4	583.1
43°	979.7	837.2	753.6	669.5	603.5	570.8
43.5°	957.8	818.0	737.0	655.7	590.4	558.2

TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	894.1	761.2	689.1	615.4	554.3	521.7
45.5°	872.9	742.4	672.9	602.3	541.7	509.4
46°	851.4	724.0	658.0	589.3	530.1	497.9
46.5°	830.7	705.6	641.8	575.8	517.9	485.2
47°	809.6	687.5	626.5	562.8	506.0	473.3
47.5°	789.3	669.5	611.1	549.7	493.7	461.4
48°	768.5	651.8	596.5	537.0	482.2	449.9
48.5°	748.6	634.2	581.6	524.4	470.3	437.6
49°	728.2	617.3	566.6	511.7	458.4	426.1
49.5°	708.6	600.4	552.0	499.0	446.5	414.6
50°	688.7	583.1	538.2	486.4	434.9	402.7
50.5°	669.5	567.0	523.6	474.1	423.4	390.8
51°	650.7	550.9	509.8	461.8	411.5	379.7
51.5°	632.2	535.1	496.0	449.9	400.0	368.1
52°	613.4	519.8	482.5	437.6	388.9	357.0
52.5°	594.6	504.4	469.1	426.1	377.7	345.9
53°	576.6	489.8	456.4	414.2	366.2	335.5
53.5°	559.3	475.6	443.0	402.7	354.7	325.5
54°	541.7	461.4	430.3	391.2	344.0	319.4
54.5°	525.1	448.0	418.4	380.0	333.2	315.2
55°	509.0	434.9	406.1	368.9	322.8	310.6
55.5°	492.9	421.9	394.6	358.2	312.5	306.3
56°	477.5	409.6	382.7	347.4	302.9	301.3
56.5°	462.6	397.3	371.6	336.7	297.5	296.4
57°	448.4	385.4	360.5	326.3	293.3	291.7
57.5°	434.2	373.9	350.1	315.9	288.7	286.4
58°	420.7	362.8	339.7	306.0	284.1	281.4
58.5°	407.7	352.0	329.4	296.4	279.1	275.6
59°	394.6	341.7	319.4	286.8	274.1	269.5
59.5°	382.3	331.3	309.8	277.2	269.5	263.7
60°	370.4	320.9	300.2	267.9	264.1	257.6
60.5°	358.9	311.3	291.0	259.1	258.7	251.1
61°	347.8	301.7	281.8	250.3	253.4	244.9
61.5°	336.7	292.9	273.3	242.2	247.6	238.8
62°	326.7	283.7	264.9	234.2	241.5	232.2
62.5°	316.7	274.9	256.8	226.5	235.7	226.1
63°	306.7	266.4	248.4	219.6	229.9	220.0
63.5°	296.7	258.0	240.7	214.2	224.2	213.8
64°	286.8	249.5	232.6	210.0	218.0	207.3
64.5°	277.2	241.8	225.3	205.8	212.3	201.2
65°	268.3	234.2	218.0	201.5	206.5	195.0
65.5°	259.5	226.9	211.1	196.9	200.8	188.9
66°	251.1	219.2	204.2	192.3	194.6	182.7

TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	226.9	198.5	184.6	178.5	177.4	166.6
68°	218.8	191.6	178.5	173.5	171.6	161.2
68.5°	211.5	185.0	172.7	168.9	166.2	156.2
69°	204.2	178.5	166.6	163.9	160.8	151.2
69.5°	196.9	172.4	160.8	158.9	155.5	146.3
70°	190.0	166.2	155.5	153.9	150.5	141.3
70.5°	183.1	160.5	150.1	148.9	145.5	136.7
71°	176.6	154.3	144.3	144.0	140.5	132.1
71.5°	169.7	148.6	139.7	139.0	135.9	127.4
72°	163.5	142.8	134.7	134.4	130.9	122.5
72.5°	157.0	138.2	129.8	129.4	126.3	117.9
73°	150.9	132.8	125.1	124.8	121.3	113.2
73.5°	144.7	127.4	120.2	119.8	116.7	108.3
74°	139.0	121.7	115.5	115.2	111.7	103.6
74.5°	132.8	116.3	110.9	110.6	107.1	99.0
75°	127.1	111.3	106.7	106.0	102.1	94.4
75.5°	121.7	106.3	102.5	101.7	97.5	89.8
76°	115.9	101.3	98.7	97.1	92.5	85.2
76.5°	110.6	96.7	94.8	92.5	87.9	80.6
77°	105.2	91.7	91.0	88.3	83.3	76.4
77.5°	99.8	87.1	87.1	83.7	78.7	71.8
78°	94.8	82.5	82.9	79.5	74.1	67.6
78.5°	89.4	78.3	79.1	75.2	69.5	63.0
79°	84.5	73.7	74.9	71.0	64.9	58.7
79.5°	79.5	69.5	71.0	66.8	60.3	54.1
80°	74.5	65.3	66.8	62.6	55.7	49.9
80.5°	69.9	61.0	63.0	58.3	51.4	45.7
81°	65.3	56.8	58.7	54.5	46.8	41.5
81.5°	60.7	53.0	54.9	50.3	42.6	37.2
82°	56.0	49.1	51.1	46.4	38.8	33.0
82.5°	51.8	45.3	47.2	42.6	34.5	28.8
83°	47.6	41.5	43.4	39.2	30.7	25.0
83.5°	43.4	37.6	39.5	35.3	26.9	20.7
84°	39.2	34.2	36.1	31.9	23.4	16.9
84.5°	35.3	30.3	32.2	28.4	20.3	13.8
85°	31.5	26.9	28.4	25.0	17.3	12.3
85.5°	27.6	23.4	25.0	21.5	15.0	10.4
86°	23.8	20.3	21.1	18.4	12.7	8.4
86.5°	19.6	16.9	17.7	15.0	10.4	6.9
87°	16.1	13.8	14.2	11.9	8.1	5.0
87.5°	12.7	10.7	10.7	9.2	5.8	3.5
88°	9.2	7.7	7.7	6.1	3.8	1.9
88.5°	5.8	4.6	4.6	3.1	1.9	0.8



TEST NUMBER: P776320

CATALOG NUMBER: HCDJBL3040CSD-HCD4TQSH-HCD4TSQLWW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	0.4	0.0



Report Generated By 670245859 / DESKTOP-T8S5UU9

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





— 0°-180° - - 45°-225° - - - - 90°-270° - · - 135°-315°

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





21.5°	1163.5	1191.6	1276.4	1402.3	1550.9	1675.6	1767.0	1821.1	1838.4	1811.5	1751.3
22°	1148.6	1176.6	1262.6	1390.4	1540.9	1668.0	1760.9	1815.7	1833.0	1805.8	1745.1



44°	546.3	568.9	626.5	708.3	804.6	937.4	1053.7	986.6	931.7	989.3	1056.4
44.5°	534.0	556.6	613.1	691.7	785.0	915.9	1028.4	964.7	908.6	968.1	1031.1



66.5°	177.4	181.2	177.7	179.7	196.9	222.3	258.0	267.6	266.4	276.4	274.1
67°	171.6	175.0	172.7	173.5	190.0	214.6	249.1	258.7	258.0	267.9	264.5



89°	0.0	0.4	0.0	0.0	0.0	0.0	0.4	0.4	0.4	1.5	2.3
89.5°	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4	0.8

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





21.5°	1660.7	1537.1	1401.9	1279.1	1194.2	1163.5
22°	1653.0	1527.1	1390.4	1265.6	1179.3	1148.6



44°	936.3	799.2	720.9	642.2	578.9	546.3
44.5°	915.6	780.0	704.8	628.8	566.2	534.0

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



66.5°	242.6	212.3	197.7	188.1	188.9	177.4
67°	234.5	205.0	191.2	183.5	183.1	171.6

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



89°	2.7	1.5	1.5	1.2	0.4	0.0
89.5°	0.8	0.4	0.4	0.4	0.4	0.0

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)