

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: P776295

Luminaire Tested: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776295  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B004)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K  
Description: 4 INCH ROUND MEDIUM LENSED WALLWASH KIT  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

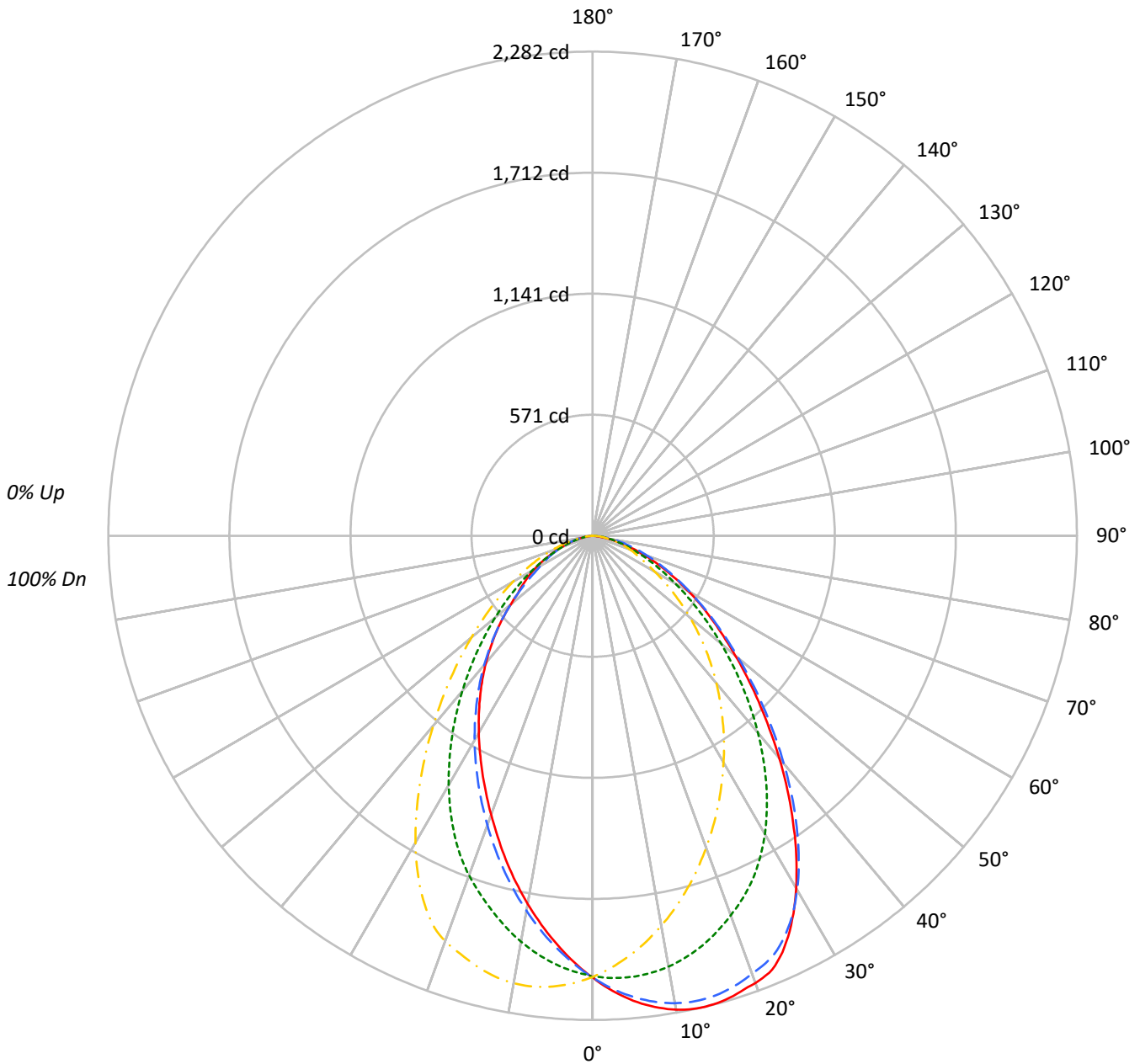
Lumens per Lamp: N/A  
Luminaire Lumens: 3905.3 lumens  
Efficiency: N/A  
Efficacy: 101.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1.09 / 1.15  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

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: P776295  
CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

### Luminous Intensity Polar Plot





TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									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	90	88				88															
2	102	95	89	84	100	93	88	83	90	85	82	87	83	80	84	81	78	76				76															
3	94	85	78	73	92	84	77	72	81	75	71	78	73	69	76	72	68	66				66															
4	87	77	69	63	85	76	68	63	73	67	62	71	66	61	69	64	60	58				58															
5	81	70	62	56	79	69	61	55	67	60	55	65	59	54	63	58	54	52				52															
6	75	63	55	50	74	63	55	49	61	54	49	59	53	49	58	52	48	46				46															
7	70	58	50	45	69	57	50	44	56	49	44	54	48	44	53	48	44	42				42															
8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38				38															
9	62	49	42	37	61	49	42	37	48	41	37	47	41	36	46	40	36	35				35															
10	58	46	39	34	57	45	38	34	45	38	34	44	38	33	43	37	33	32				32															

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	261780	261780	261780	261780
5°	277877	263664	244159	255946
10°	289818	263467	225143	248260
15°	296942	260461	205831	238351
20°	300344	254929	187256	228090
25°	297007	247948	170798	214566
30°	278794	235882	155854	197038
35°	253036	219052	142004	177340
40°	224775	199032	128438	156958
45°	196898	177089	114280	136492
50°	171647	154574	98931	117140
55°	150144	133030	88379	99504
60°	130959	113290	80040	83212
65°	111044	95947	68848	68372
70°	91291	80399	56666	55120
75°	70214	67199	45950	43325
80°	44789	55950	32541	32034
85°	13284	48806	12707	15017

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 22.5°  
 Vertical Angle: 45°  
 Luminance: 203590 cd/sqm



TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	195.2	5.0
10°-20°	540.8	13.8
20°-30°	766.2	19.6
30°-40°	800.6	20.5
40°-50°	673.9	17.3
50°-60°	478.5	12.3
60°-70°	290.3	7.4
70°-80°	133.1	3.4
80°-90°	26.8	0.7
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°	1502.2	38.5
0°-40°	2302.8	59.0
0°-60°	3455.2	88.5
0°-90°	3905.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3905.3	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2080	2080	2080	2080	2080	
5°	2200	2087	1933	2026	2200	212
15°	2279	1999	1580	1829	2279	643
25°	2139	1786	1230	1545	2139	976
35°	1647	1426	924	1154	1647	1027
45°	1106	995	642	767	1106	855
55°	684	606	403	454	684	615
65°	373	322	231	230	373	372
75°	144	138	94	89	144	156
85°	9	34	9	10	9	18
90°	0	2	0	0	0	



TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2080.1	2080.1	2080.1	2080.1	2080.1	2080.1	2080.1	2080.1	2080.1	2080.1	2080.1
0.5°	2096.3	2096.3	2094.0	2089.4	2078.2	2074.0	2071.3	2069.4	2069.4	2069.0	2070.5
1°	2109.7	2109.3	2104.7	2096.7	2080.5	2071.3	2063.6	2057.5	2055.2	2054.4	2058.3
1.5°	2122.4	2122.4	2115.9	2104.0	2082.8	2067.9	2054.8	2045.2	2041.0	2040.2	2045.6
2°	2134.7	2134.7	2126.6	2110.5	2084.8	2064.4	2046.0	2032.5	2026.0	2025.2	2032.5
2.5°	2146.6	2147.0	2136.6	2117.0	2086.3	2060.2	2037.1	2019.5	2011.0	2010.3	2019.1
3°	2157.7	2158.5	2146.6	2122.8	2087.1	2056.0	2027.9	2006.4	1996.1	1994.9	2006.0
3.5°	2168.9	2169.6	2155.8	2128.1	2087.8	2051.0	2017.9	1993.0	1980.7	1979.2	1992.6
4°	2179.6	2180.8	2164.6	2133.5	2087.8	2046.0	2008.0	1979.2	1964.6	1963.4	1978.4
4.5°	2189.6	2191.1	2173.1	2138.5	2087.8	2040.2	1997.6	1964.9	1948.4	1948.1	1964.2
5°	2199.6	2201.1	2181.1	2142.7	2087.1	2034.5	1986.8	1950.7	1932.7	1931.5	1950.0
5.5°	2208.4	2210.7	2188.8	2146.6	2086.7	2028.3	1976.1	1936.1	1916.2	1914.6	1935.4
6°	2217.2	2219.9	2196.1	2150.4	2085.1	2021.8	1964.6	1921.6	1899.7	1898.1	1920.4
6.5°	2225.3	2228.4	2202.6	2153.5	2083.6	2015.3	1953.4	1907.0	1883.2	1881.6	1905.4
7°	2233.0	2236.4	2209.2	2156.2	2081.7	2008.0	1941.9	1891.6	1865.9	1865.1	1890.5
7.5°	2240.3	2244.1	2214.9	2158.5	2079.0	2000.3	1929.6	1876.2	1849.0	1847.8	1874.7
8°	2246.8	2251.0	2220.3	2160.0	2076.3	1992.6	1917.3	1860.9	1831.7	1830.5	1859.0
8.5°	2252.6	2257.6	2225.3	2161.6	2073.2	1984.1	1904.7	1845.1	1814.4	1813.3	1843.2
9°	2258.3	2263.7	2229.9	2162.7	2069.8	1976.1	1892.4	1829.4	1796.8	1795.6	1827.5
9.5°	2263.3	2269.1	2233.7	2163.5	2065.9	1967.3	1878.9	1813.3	1779.1	1778.3	1811.3
10°	2267.9	2274.1	2237.2	2163.5	2061.7	1958.0	1865.9	1797.1	1761.8	1760.3	1794.8
10.5°	2271.8	2278.3	2239.9	2163.1	2057.1	1948.4	1852.0	1781.0	1743.8	1742.2	1778.3
11°	2274.8	2282.1	2242.6	2162.7	2052.1	1938.8	1839.4	1764.1	1725.7	1724.6	1761.8
11.5°	2277.5	2285.2	2244.1	2161.2	2046.7	1929.2	1824.8	1747.6	1708.0	1706.9	1745.3
12°	2279.4	2287.9	2245.7	2159.6	2041.0	1918.9	1810.6	1730.7	1689.6	1688.5	1728.4
12.5°	2281.0	2289.8	2246.4	2157.7	2034.8	1908.5	1796.0	1714.2	1671.6	1670.4	1711.1
13°	2281.8	2291.4	2246.8	2155.0	2028.3	1897.7	1782.2	1696.9	1653.5	1652.0	1694.6
13.5°	2282.1	2292.1	2246.4	2152.0	2021.4	1886.6	1767.6	1680.4	1635.1	1633.9	1677.3
14°	2281.4	2292.5	2245.7	2148.5	2014.5	1875.1	1752.6	1662.7	1616.7	1615.1	1660.0
14.5°	2280.6	2292.1	2244.1	2144.7	2006.4	1863.6	1737.6	1645.5	1598.6	1596.7	1642.8
15°	2279.1	2291.0	2242.2	2140.1	1999.1	1852.0	1722.3	1627.8	1579.8	1578.6	1625.1
15.5°	2276.8	2289.4	2239.9	2135.4	1990.7	1839.8	1707.3	1610.5	1561.4	1560.2	1607.8
16°	2274.5	2287.1	2236.8	2130.1	1981.8	1827.5	1691.9	1593.2	1542.9	1541.4	1590.5
16.5°	2271.0	2284.4	2233.4	2124.3	1973.0	1814.8	1676.2	1576.0	1524.9	1523.0	1573.3
17°	2267.5	2281.4	2229.1	2118.2	1963.8	1802.5	1660.8	1558.3	1506.1	1504.5	1555.6
17.5°	2263.3	2277.9	2224.9	2111.6	1953.8	1789.1	1644.7	1540.6	1487.6	1486.5	1538.3
18°	2259.1	2273.7	2219.9	2104.7	1944.2	1776.0	1628.9	1523.0	1469.6	1467.7	1520.7
18.5°	2254.1	2269.1	2214.5	2097.4	1934.2	1762.6	1612.8	1504.9	1451.5	1449.6	1503.0
19°	2249.9	2264.1	2208.8	2090.1	1924.2	1749.5	1597.5	1487.2	1433.5	1431.2	1485.7
19.5°	2246.4	2259.5	2203.0	2082.1	1913.9	1736.1	1580.6	1470.0	1416.2	1413.5	1468.0
20°	2242.6	2255.6	2196.9	2074.0	1903.5	1722.6	1564.4	1452.3	1398.2	1395.5	1450.8
20.5°	2238.4	2251.4	2191.1	2066.3	1892.8	1708.8	1548.3	1434.6	1381.3	1378.2	1433.1
21°	2233.4	2246.8	2185.7	2058.6	1882.0	1695.0	1532.2	1417.7	1363.6	1360.5	1415.8



TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2212.2	2228.8	2165.8	2033.3	1848.6	1653.1	1482.6	1366.7	1312.9	1309.1	1364.0
23°	2200.3	2219.9	2157.7	2024.1	1836.7	1638.9	1466.5	1350.2	1295.6	1292.2	1346.7
23.5°	2186.9	2209.6	2148.9	2014.1	1824.4	1624.3	1449.6	1333.3	1279.5	1276.0	1329.8
24°	2172.7	2196.9	2137.4	2003.0	1811.7	1609.7	1433.1	1316.7	1263.0	1258.8	1312.5
24.5°	2156.9	2182.3	2124.7	1991.4	1798.7	1594.4	1416.2	1300.6	1246.5	1241.9	1295.6
25°	2138.9	2167.7	2111.3	1978.4	1785.6	1579.0	1400.1	1283.7	1230.0	1225.7	1278.7
25.5°	2120.5	2152.3	2096.7	1964.6	1771.0	1563.7	1383.6	1268.0	1214.2	1209.6	1261.8
26°	2102.0	2135.1	2081.3	1950.0	1756.8	1547.9	1367.1	1251.5	1198.1	1193.5	1244.9
26.5°	2081.7	2115.9	2065.2	1934.2	1741.1	1531.8	1349.8	1235.7	1182.0	1177.0	1228.0
27°	2060.2	2097.4	2048.3	1917.7	1725.7	1516.0	1333.3	1219.2	1165.8	1161.2	1211.1
27.5°	2037.5	2077.5	2029.8	1900.8	1709.2	1499.5	1316.7	1203.5	1150.5	1145.5	1195.0
28°	2016.0	2056.0	2010.6	1882.8	1693.1	1483.0	1300.2	1187.3	1134.3	1129.7	1178.1
28.5°	1991.8	2034.1	1991.1	1864.7	1675.8	1466.5	1283.3	1172.0	1119.4	1114.0	1161.6
29°	1967.6	2011.8	1970.7	1845.5	1658.5	1449.2	1266.8	1156.2	1103.6	1098.3	1145.1
29.5°	1943.1	1988.4	1949.2	1826.3	1640.5	1432.7	1250.7	1140.5	1087.9	1082.9	1128.6
30°	1918.5	1964.6	1927.3	1806.4	1623.2	1415.1	1233.8	1125.1	1072.5	1067.5	1112.5
30.5°	1892.0	1940.0	1904.7	1785.6	1604.4	1397.4	1217.3	1109.8	1057.5	1052.2	1095.9
31°	1865.9	1914.6	1881.2	1764.9	1585.6	1380.1	1200.8	1094.0	1042.2	1036.8	1079.4
31.5°	1839.4	1888.5	1857.4	1743.0	1566.4	1362.1	1184.3	1078.3	1027.6	1021.1	1062.9
32°	1812.5	1862.8	1833.2	1721.1	1547.5	1344.4	1167.8	1062.9	1012.2	1006.1	1047.2
32.5°	1785.2	1836.3	1807.9	1699.2	1527.6	1326.7	1151.6	1047.9	997.6	991.1	1030.7
33°	1758.4	1809.4	1782.9	1676.9	1507.6	1308.3	1134.7	1032.6	982.7	976.1	1014.5
33.5°	1731.1	1781.8	1757.2	1653.5	1487.6	1290.3	1118.6	1017.6	968.1	961.2	998.0
34°	1703.4	1754.9	1731.1	1630.1	1467.3	1271.8	1101.7	1002.6	953.5	946.2	982.3
34.5°	1674.6	1726.1	1703.4	1606.7	1446.5	1253.4	1085.6	987.3	938.9	931.2	966.2
35°	1647.0	1698.4	1676.9	1582.5	1425.8	1235.0	1069.1	972.3	924.3	916.6	950.0
35.5°	1619.3	1670.0	1650.1	1558.3	1405.1	1216.9	1052.9	957.3	910.5	902.0	934.3
36°	1591.7	1642.8	1622.8	1533.7	1383.9	1198.5	1036.4	942.7	895.5	887.0	918.9
36.5°	1563.3	1614.4	1595.2	1509.1	1362.8	1179.3	1020.3	927.8	881.7	872.5	902.8
37°	1534.5	1585.2	1568.3	1484.2	1341.3	1160.8	1003.8	912.8	866.7	857.9	887.0
37.5°	1507.2	1556.8	1540.6	1459.2	1319.8	1142.8	987.7	898.2	852.9	843.3	871.7
38°	1479.2	1528.3	1513.0	1433.9	1298.3	1123.6	971.1	883.6	838.3	829.1	855.9
38.5°	1451.2	1499.5	1484.6	1408.5	1276.8	1105.2	955.8	869.0	824.1	814.5	840.2
39°	1422.7	1471.9	1457.7	1383.2	1255.3	1086.3	939.3	854.0	810.2	800.3	825.2
39.5°	1395.9	1443.5	1429.6	1357.8	1233.4	1067.9	923.5	839.4	796.4	785.7	809.5
40°	1368.2	1414.7	1402.4	1332.5	1211.5	1048.7	907.4	824.8	781.8	771.5	794.5
40.5°	1340.2	1386.3	1374.3	1307.1	1189.6	1030.3	891.3	809.9	767.6	756.9	778.8
41°	1312.9	1359.0	1347.9	1281.4	1167.8	1011.5	875.5	795.7	753.8	742.3	764.2
41.5°	1286.4	1331.3	1320.2	1256.5	1146.6	993.0	859.8	781.1	740.0	728.1	748.8
42°	1259.9	1303.3	1293.7	1231.5	1124.4	974.2	843.7	766.5	725.8	714.2	733.8
42.5°	1233.0	1275.7	1266.8	1206.2	1102.9	956.2	827.9	752.3	711.6	700.0	719.2
43°	1207.3	1249.5	1239.9	1182.0	1081.4	937.7	812.6	738.1	697.7	685.8	704.3
43.5°	1182.0	1222.7	1213.5	1156.6	1059.5	919.3	796.4	723.5	683.9	671.6	688.9



TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1106.3	1143.9	1136.3	1084.0	995.0	864.4	750.3	680.5	642.1	629.8	645.5
45.5°	1082.1	1118.6	1110.9	1059.5	973.8	846.3	734.6	665.9	628.6	615.9	630.9
46°	1057.5	1093.3	1086.0	1036.0	952.7	828.3	719.2	652.0	614.8	602.1	616.3
46.5°	1033.0	1068.7	1061.8	1012.6	932.0	810.6	703.9	637.8	601.0	587.9	602.1
47°	1010.3	1044.5	1036.8	989.6	910.5	792.6	688.5	623.6	587.1	574.5	588.7
47.5°	987.3	1019.9	1012.6	966.2	889.7	774.9	673.5	609.8	572.9	560.6	573.7
48°	963.8	995.7	989.2	943.5	869.4	757.6	658.2	596.0	559.9	547.2	559.9
48.5°	941.6	973.4	966.2	921.6	849.4	740.4	643.6	581.8	546.1	533.4	546.1
49°	920.5	950.4	943.5	899.7	829.1	722.7	628.6	568.3	532.2	520.3	533.0
49.5°	898.6	927.4	920.8	877.8	809.1	706.2	613.6	554.5	518.8	506.9	518.8
50°	876.7	905.1	898.2	856.7	789.5	688.9	599.0	540.7	505.3	493.8	505.7
50.5°	856.7	884.0	876.3	834.8	769.9	672.0	584.5	526.9	491.5	480.8	492.3
51°	836.0	862.9	854.4	814.5	751.1	655.5	569.9	513.4	478.5	467.3	479.2
51.5°	815.2	841.0	833.7	793.7	732.3	639.0	555.7	500.0	465.8	455.0	466.2
52°	796.0	821.0	813.3	773.8	713.1	622.9	541.4	486.9	452.4	442.8	453.5
52.5°	777.2	801.4	792.6	754.2	694.7	606.3	527.2	473.5	440.5	430.1	440.5
53°	757.3	780.7	772.6	734.2	676.6	590.6	513.4	460.4	433.9	417.8	428.2
53.5°	738.1	761.5	753.0	715.0	658.6	574.9	499.2	447.7	427.0	406.3	415.9
54°	720.8	742.7	733.4	696.2	640.5	559.1	485.8	435.1	419.3	399.4	404.0
54.5°	702.7	724.2	714.6	677.8	623.2	543.7	472.3	422.8	410.9	392.1	392.1
55°	684.3	705.8	696.2	659.3	606.3	528.8	459.3	410.9	402.8	384.4	380.5
55.5°	668.2	687.8	678.2	641.7	589.4	513.8	446.2	398.6	394.0	376.3	369.4
56°	650.9	670.1	660.1	623.6	572.5	499.2	433.2	389.8	385.5	368.3	358.3
56.5°	633.6	652.8	642.8	606.7	556.0	484.6	420.1	382.9	377.1	359.8	347.5
57°	617.1	635.5	625.5	589.8	540.3	470.4	407.8	375.2	368.3	351.7	337.2
57.5°	601.0	619.4	608.6	573.3	524.5	456.2	395.5	367.5	359.8	343.7	327.9
58°	583.7	602.9	592.1	556.8	509.2	442.8	383.6	359.4	351.7	335.6	318.7
58.5°	567.9	586.4	576.0	541.1	493.8	429.3	372.1	351.4	343.3	327.6	309.5
59°	551.4	570.6	559.9	525.3	478.9	415.9	360.6	342.9	334.9	319.9	300.3
59.5°	535.3	554.5	544.5	510.0	464.3	402.8	349.1	334.9	326.4	312.2	291.1
60°	520.3	538.8	529.2	494.6	450.1	390.1	337.9	327.2	318.0	304.1	284.2
60.5°	503.4	523.4	514.2	480.0	435.8	377.9	327.9	319.1	309.5	296.5	277.3
61°	488.8	506.9	498.8	465.4	422.4	365.6	318.0	311.0	301.1	288.4	270.3
61.5°	473.5	492.7	485.0	451.6	408.6	353.3	308.0	303.4	292.6	280.7	263.4
62°	458.9	477.7	470.8	437.4	395.5	342.1	298.0	295.3	283.8	273.0	256.5
62.5°	443.9	462.7	456.6	423.9	382.5	331.0	288.0	286.9	274.9	265.0	249.6
63°	428.9	448.5	442.8	410.1	369.8	320.3	278.4	278.8	266.1	256.9	242.7
63.5°	414.7	433.9	429.3	397.1	357.1	309.1	270.0	270.3	257.3	249.2	235.8
64°	400.1	420.1	416.3	384.0	344.8	298.4	261.9	262.3	248.5	241.2	229.6
64.5°	386.7	405.9	403.2	371.7	333.7	287.2	255.0	254.2	239.6	233.1	223.1
65°	372.9	392.8	390.5	359.4	322.2	277.6	248.5	246.5	231.2	225.4	216.6
65.5°	359.8	379.0	377.9	347.5	310.7	267.7	241.9	238.1	222.7	217.3	210.1
66°	346.0	366.3	365.6	335.6	299.5	257.3	235.0	230.4	214.3	209.7	203.9





TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	308.0	327.9	329.5	301.4	267.3	230.4	215.4	207.0	189.7	187.0	185.1
68°	295.3	315.7	318.0	290.7	256.5	221.6	208.9	199.3	182.0	179.3	178.9
68.5°	283.0	303.7	306.8	279.6	246.9	213.1	202.8	192.0	174.7	172.4	172.8
69°	271.5	291.8	295.7	269.2	237.3	205.1	196.2	184.3	167.4	165.1	166.7
69.5°	259.6	279.9	284.2	258.8	227.7	197.0	189.7	177.0	160.9	158.6	160.5
70°	248.1	268.8	273.8	249.2	218.5	189.3	183.6	169.7	154.0	152.1	154.4
70.5°	236.5	257.7	263.4	238.9	209.3	182.0	177.4	163.2	147.5	145.5	148.2
71°	225.4	246.5	253.1	229.6	200.8	174.7	171.3	156.3	141.3	139.4	142.5
71.5°	214.7	235.8	242.3	220.0	192.0	167.8	165.1	149.8	135.2	133.2	136.3
72°	204.3	225.0	232.7	210.8	183.9	160.9	159.0	143.6	129.0	127.1	130.6
72.5°	193.5	215.0	222.7	202.0	175.5	154.4	152.8	137.5	122.9	121.3	124.8
73°	183.2	205.1	213.1	192.8	167.8	148.2	147.1	131.3	117.1	115.6	119.0
73.5°	173.2	194.7	203.5	184.3	159.7	141.7	140.9	125.6	111.4	109.8	113.3
74°	163.2	185.5	194.3	176.3	152.4	135.6	135.2	119.8	105.6	104.1	107.9
74.5°	153.6	175.9	185.5	167.8	145.2	129.8	129.8	114.0	100.2	98.7	102.9
75°	144.4	166.7	176.3	159.7	138.2	124.0	123.6	108.7	94.5	92.9	97.5
75.5°	135.6	157.4	167.4	152.1	131.3	118.3	118.3	103.3	89.1	87.6	92.5
76°	126.7	149.0	159.0	144.4	124.8	112.9	112.5	97.5	84.1	82.2	87.6
76.5°	118.3	140.2	150.5	137.1	118.3	107.5	107.5	92.2	78.7	77.2	82.6
77°	109.4	132.1	142.5	130.2	112.1	102.5	102.1	87.2	73.7	71.8	77.6
77.5°	101.0	124.4	134.8	122.9	105.6	97.5	97.2	82.2	68.7	66.8	73.0
78°	92.9	116.4	127.5	116.0	99.8	92.5	91.8	76.8	63.7	61.8	68.0
78.5°	84.5	108.3	119.8	109.1	93.7	87.9	87.2	71.8	58.8	56.8	63.4
79°	76.8	100.6	112.1	102.5	88.3	83.7	82.2	66.8	54.1	52.2	58.8
79.5°	69.1	93.3	104.8	96.0	82.6	79.1	77.2	62.2	49.5	47.6	54.1
80°	61.8	86.0	97.5	89.9	77.2	74.9	72.6	57.2	44.9	43.0	49.9
80.5°	54.5	78.7	91.0	83.7	72.2	70.7	68.0	52.6	40.3	38.8	45.7
81°	47.6	72.2	84.5	78.0	67.2	66.4	63.4	48.0	36.1	34.9	41.9
81.5°	40.7	65.7	77.6	72.2	62.6	62.2	59.1	43.8	31.9	31.1	37.6
82°	33.8	59.5	71.4	66.8	58.0	58.0	54.5	39.2	27.6	27.3	34.2
82.5°	27.6	53.4	65.7	61.4	53.4	53.8	50.3	35.7	23.4	23.4	30.7
83°	21.5	47.6	59.9	56.4	49.2	49.9	46.1	31.9	19.2	19.6	27.3
83.5°	15.7	42.2	54.5	51.5	44.9	46.1	42.2	28.0	15.4	16.9	23.8
84°	13.8	37.2	49.2	46.5	41.1	41.9	38.4	24.6	12.3	14.6	20.4
84.5°	11.5	33.0	44.2	41.9	37.2	38.4	34.9	20.7	10.0	12.7	17.3
85°	9.2	29.2	39.2	37.2	33.8	34.6	31.1	18.4	8.8	10.8	14.2
85.5°	6.9	25.3	34.6	33.0	30.0	31.1	27.6	16.1	7.3	8.8	11.1
86°	5.0	21.9	30.0	28.8	26.5	27.3	24.2	13.8	6.1	6.9	8.4
86.5°	3.8	18.4	25.3	24.6	22.7	23.4	20.4	11.5	5.0	5.4	5.4
87°	2.7	15.0	21.1	20.7	19.2	20.0	17.3	9.6	3.8	3.5	2.7
87.5°	1.9	11.5	16.9	16.9	16.1	16.5	13.8	7.3	2.3	1.9	0.8
88°	0.8	8.4	13.1	13.4	13.1	13.4	10.8	5.4	1.2	0.8	0.4
88.5°	0.4	5.4	10.0	10.4	10.0	10.0	7.7	3.1	0.4	0.4	0.0



TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-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	0.4	1.2	1.9	1.5	0.8	0.4	0.0	0.4	0.0



TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2080.1	2080.1	2080.1	2080.1	2080.1	2080.1
0.5°	2073.2	2071.7	2078.6	2085.9	2092.1	2096.3
1°	2064.8	2068.2	2080.5	2092.8	2102.8	2109.7
1.5°	2056.0	2064.4	2081.7	2099.0	2113.2	2122.4
2°	2046.7	2059.4	2082.5	2105.1	2123.5	2134.7
2.5°	2037.1	2055.2	2083.2	2110.9	2132.8	2146.6
3°	2027.5	2050.2	2083.2	2115.9	2142.0	2157.7
3.5°	2017.2	2044.8	2083.2	2120.9	2150.8	2168.9
4°	2006.8	2039.1	2082.5	2125.1	2158.9	2179.6
4.5°	1996.4	2032.5	2081.3	2128.9	2166.9	2189.6
5°	1984.9	2026.0	2080.1	2132.4	2174.2	2199.6
5.5°	1973.8	2019.5	2078.2	2135.4	2181.5	2208.4
6°	1962.3	2012.2	2076.3	2137.7	2187.7	2217.2
6.5°	1950.7	2004.5	2073.2	2140.1	2193.8	2225.3
7°	1938.5	1996.8	2070.5	2141.6	2198.8	2233.0
7.5°	1926.2	1988.4	2067.1	2142.7	2203.8	2240.3
8°	1913.5	1979.9	2062.9	2143.5	2208.0	2246.8
8.5°	1900.4	1970.7	2058.6	2143.5	2211.9	2252.6
9°	1887.4	1961.9	2054.0	2143.5	2215.3	2258.3
9.5°	1874.3	1952.3	2049.0	2142.7	2218.0	2263.3
10°	1860.9	1942.7	2043.7	2141.2	2220.3	2267.9
10.5°	1847.1	1932.3	2037.9	2139.7	2222.2	2271.8
11°	1832.8	1922.3	2031.4	2137.4	2223.4	2274.8
11.5°	1818.6	1911.2	2024.5	2134.7	2223.8	2277.5
12°	1804.4	1900.4	2017.6	2131.2	2223.8	2279.4
12.5°	1789.8	1888.9	2009.9	2127.4	2223.0	2281.0
13°	1775.6	1877.4	2002.2	2123.2	2221.8	2281.8
13.5°	1761.0	1865.5	1994.1	2118.5	2219.9	2282.1
14°	1745.7	1854.0	1985.7	2113.6	2217.6	2281.4
14.5°	1730.3	1841.7	1976.9	2108.2	2214.9	2280.6
15°	1715.3	1829.4	1968.0	2102.0	2211.5	2279.1
15.5°	1700.4	1817.1	1958.8	2095.5	2207.6	2276.8
16°	1685.0	1805.2	1949.6	2089.0	2203.4	2274.5
16.5°	1669.6	1792.5	1940.0	2082.5	2198.8	2271.0
17°	1655.1	1780.2	1930.8	2075.2	2193.8	2267.5
17.5°	1639.3	1768.0	1921.6	2067.9	2188.4	2263.3
18°	1623.6	1755.3	1912.3	2061.7	2182.7	2259.1
18.5°	1607.8	1742.6	1902.4	2055.2	2178.1	2254.1
19°	1592.5	1729.6	1893.1	2048.3	2173.8	2249.9
19.5°	1577.1	1716.9	1882.4	2040.6	2169.2	2246.4
20°	1561.7	1703.1	1871.3	2032.5	2163.5	2242.6
20.5°	1546.0	1689.2	1860.1	2024.1	2157.3	2238.4
21°	1529.9	1674.6	1847.8	2014.5	2150.4	2233.4

TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	1481.1	1629.7	1805.6	1976.5	2120.1	2212.2
23°	1464.2	1614.0	1789.8	1960.7	2106.3	2200.3
23.5°	1447.7	1597.5	1772.9	1944.6	2091.3	2186.9
24°	1430.8	1580.2	1755.7	1927.3	2075.2	2172.7
24.5°	1414.3	1562.9	1736.8	1908.5	2058.3	2156.9
25°	1397.0	1545.2	1718.8	1889.7	2039.8	2138.9
25.5°	1379.7	1527.2	1700.0	1870.9	2019.9	2120.5
26°	1362.1	1508.8	1680.4	1850.9	1999.9	2102.0
26.5°	1344.4	1490.7	1660.4	1829.8	1979.2	2081.7
27°	1327.1	1472.3	1640.5	1809.0	1956.9	2060.2
27.5°	1309.1	1453.1	1620.1	1786.8	1933.5	2037.5
28°	1291.0	1433.5	1599.4	1763.7	1910.0	2016.0
28.5°	1273.0	1415.1	1578.3	1741.1	1886.6	1991.8
29°	1254.9	1395.1	1556.8	1718.0	1862.4	1967.6
29.5°	1236.9	1375.9	1535.6	1693.5	1837.1	1943.1
30°	1218.4	1355.9	1514.1	1669.6	1812.5	1918.5
30.5°	1200.0	1336.3	1491.5	1644.7	1786.0	1892.0
31°	1181.6	1316.4	1469.6	1620.1	1760.3	1865.9
31.5°	1163.5	1296.4	1446.9	1595.5	1733.8	1839.4
32°	1145.5	1275.7	1423.9	1569.4	1707.3	1812.5
32.5°	1126.7	1256.1	1401.6	1544.5	1680.0	1785.2
33°	1108.6	1235.3	1378.6	1519.1	1653.9	1758.4
33.5°	1090.6	1215.8	1355.9	1493.8	1627.0	1731.1
34°	1072.9	1195.0	1332.1	1468.4	1600.1	1703.4
34.5°	1054.5	1175.1	1309.1	1442.3	1572.9	1674.6
35°	1036.0	1154.3	1285.6	1417.0	1546.0	1647.0
35.5°	1018.0	1134.7	1263.0	1391.6	1518.7	1619.3
36°	1000.3	1115.1	1239.6	1366.3	1492.6	1591.7
36.5°	982.3	1094.4	1216.5	1341.3	1465.4	1563.3
37°	964.6	1074.1	1193.9	1316.0	1438.9	1534.5
37.5°	946.6	1054.5	1170.4	1291.0	1411.2	1507.2
38°	929.3	1034.5	1147.8	1266.1	1384.7	1479.2
38.5°	911.6	1014.5	1125.1	1241.9	1358.6	1451.2
39°	894.7	994.6	1102.5	1217.3	1331.7	1422.7
39.5°	877.1	975.0	1080.6	1193.1	1306.4	1395.9
40°	859.4	955.4	1057.5	1168.5	1279.9	1368.2
40.5°	842.5	935.8	1036.4	1145.1	1254.5	1340.2
41°	825.6	916.2	1014.5	1120.9	1227.7	1312.9
41.5°	808.7	896.6	993.0	1098.3	1203.5	1286.4
42°	791.8	877.8	971.5	1075.2	1178.9	1259.9
42.5°	775.3	859.0	950.8	1052.6	1153.9	1233.0
43°	758.4	840.2	930.1	1029.5	1128.6	1207.3
43.5°	742.3	821.8	909.3	1007.6	1105.2	1182.0

TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	693.5	766.9	849.4	942.7	1033.7	1106.3
45.5°	677.4	749.2	830.2	921.6	1011.8	1082.1
46°	662.0	731.5	811.0	900.5	989.6	1057.5
46.5°	646.3	713.9	791.8	880.5	967.3	1033.0
47°	630.2	697.0	773.4	860.2	944.3	1010.3
47.5°	615.2	679.7	755.0	840.2	923.1	987.3
48°	600.2	662.8	736.9	820.2	902.4	963.8
48.5°	585.2	646.3	718.9	801.4	881.7	941.6
49°	570.6	630.2	701.2	782.6	860.6	920.5
49.5°	555.7	614.4	683.9	764.2	841.0	898.6
50°	541.1	598.3	667.0	745.0	820.6	876.7
50.5°	526.9	582.9	649.7	727.3	801.0	856.7
51°	512.6	567.6	633.6	709.3	781.4	836.0
51.5°	499.2	552.6	617.1	692.0	763.4	815.2
52°	485.4	538.0	601.3	675.1	744.6	796.0
52.5°	471.9	523.4	585.2	657.4	726.2	777.2
53°	458.5	508.8	570.2	640.9	708.5	757.3
53.5°	445.8	494.6	554.5	624.4	690.8	738.1
54°	433.2	480.8	539.5	608.3	673.2	720.8
54.5°	420.1	466.6	524.2	592.5	656.6	702.7
55°	407.8	453.5	510.3	576.8	639.8	684.3
55.5°	395.9	440.1	496.1	561.4	623.2	668.2
56°	384.0	427.0	481.9	546.4	606.7	650.9
56.5°	372.1	414.3	468.1	531.5	591.4	633.6
57°	360.6	401.7	454.7	516.9	575.6	617.1
57.5°	349.8	389.0	440.8	502.3	560.3	601.0
58°	338.7	377.5	427.8	488.5	545.7	583.7
58.5°	328.3	365.2	414.7	474.6	530.7	567.9
59°	318.3	353.7	402.1	461.2	516.1	551.4
59.5°	308.0	342.1	389.8	447.4	501.5	535.3
60°	297.6	330.6	377.5	433.9	486.9	520.3
60.5°	287.2	319.5	365.2	421.3	472.7	503.4
61°	277.6	308.7	353.7	408.6	458.5	488.8
61.5°	268.0	298.0	341.8	395.9	444.3	473.5
62°	259.2	287.6	330.6	383.6	430.5	458.9
62.5°	250.4	277.6	319.1	371.3	416.3	443.9
63°	241.2	267.7	308.4	359.4	402.8	428.9
63.5°	232.7	257.7	297.2	347.9	389.4	414.7
64°	224.6	248.1	286.9	336.4	376.3	400.1
64.5°	216.6	238.9	276.5	324.9	363.7	386.7
65°	208.9	229.6	266.5	314.1	350.6	372.9
65.5°	201.2	220.4	256.1	302.6	338.3	359.8
66°	193.5	212.0	246.5	291.8	325.6	346.0

TEST NUMBER: P776295

CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-4000lm-2700K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	172.8	187.0	218.1	260.7	290.3	308.0
68°	166.3	179.3	209.3	250.8	278.8	295.3
68.5°	160.1	171.3	200.4	240.4	267.7	283.0
69°	154.0	164.0	192.0	230.8	256.5	271.5
69.5°	147.8	156.7	183.6	221.2	245.8	259.6
70°	142.5	149.8	175.5	212.0	234.6	248.1
70.5°	137.1	142.8	167.4	202.4	224.3	236.5
71°	132.1	138.2	159.7	193.5	213.9	225.4
71.5°	126.7	131.7	152.1	184.7	203.9	214.7
72°	121.7	125.2	144.8	175.9	194.3	204.3
72.5°	116.7	118.3	136.7	167.4	184.7	193.5
73°	112.1	111.7	130.2	159.0	175.1	183.2
73.5°	107.1	106.0	123.6	150.9	165.9	173.2
74°	102.5	100.2	117.1	142.8	157.1	163.2
74.5°	97.9	94.8	110.6	135.6	148.2	153.6
75°	92.9	89.1	104.4	127.9	140.2	144.4
75.5°	88.7	84.1	98.3	120.6	132.1	135.6
76°	84.1	79.1	92.2	112.9	124.4	126.7
76.5°	79.5	74.1	86.0	105.6	116.4	118.3
77°	74.9	69.5	80.6	98.7	108.7	109.4
77.5°	70.7	64.9	74.9	92.2	100.6	101.0
78°	66.4	60.7	69.9	85.6	93.7	92.9
78.5°	62.2	56.4	64.5	79.1	86.4	84.5
79°	58.0	52.2	59.5	73.3	79.5	76.8
79.5°	53.8	48.0	54.9	67.2	73.0	69.1
80°	49.5	44.2	49.9	61.4	66.4	61.8
80.5°	45.7	40.3	45.7	56.1	60.7	54.5
81°	41.9	36.5	41.5	50.7	54.9	47.6
81.5°	38.0	33.0	36.9	45.7	49.2	40.7
82°	34.2	29.6	33.0	40.7	43.8	33.8
82.5°	30.7	26.1	29.2	36.1	39.2	27.6
83°	26.9	22.7	25.3	31.9	34.2	21.5
83.5°	23.4	19.2	21.5	27.6	30.0	15.7
84°	19.6	16.1	18.0	23.4	26.1	13.8
84.5°	16.1	13.1	14.6	19.6	22.7	11.5
85°	12.7	10.4	11.5	15.7	19.2	9.2
85.5°	9.6	7.7	8.4	12.7	15.7	6.9
86°	6.5	5.0	5.8	9.6	12.7	5.0
86.5°	3.5	1.9	2.7	6.5	10.0	3.8
87°	1.2	0.4	0.8	3.5	6.9	2.7
87.5°	0.4	0.0	0.4	0.8	3.8	1.9
88°	0.0	0.0	0.0	0.0	0.8	0.8
88.5°	0.0	0.0	0.0	0.0	0.4	0.4



TEST NUMBER: P776295  
CATALOG NUMBER: HCDJBL3040CSD-HCD4TRH-HCD4TRLWW-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°	2227.6	2241.4	2179.6	2050.6	1871.3	1681.2	1515.7	1400.5	1346.7	1343.2	1398.2
22°	2221.1	2235.7	2173.1	2042.1	1859.7	1667.0	1498.8	1383.6	1329.8	1326.0	1380.9



44°	1155.9	1195.8	1188.1	1132.0	1037.6	900.5	781.1	708.9	669.7	657.8	674.3
44.5°	1130.5	1168.9	1162.0	1107.9	1016.1	882.4	765.7	694.7	655.9	643.6	660.1



66.5°	333.3	353.3	353.3	324.1	288.0	248.1	228.5	222.7	205.8	202.0	197.4
67°	320.3	340.2	341.4	312.2	277.6	239.2	222.0	214.7	197.8	194.3	191.2



89°	0.0	2.3	6.9	7.3	6.9	6.9	4.6	1.5	0.0	0.4	0.0
89.5°	0.0	0.4	3.8	4.2	4.2	3.8	2.3	0.4	0.0	0.4	0.0



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

Scaled Data Report





21.5°	1513.7	1660.0	1835.2	2003.3	2142.4	2227.6
22°	1497.6	1645.5	1820.9	1991.1	2132.0	2221.1



44°	725.8	802.6	889.0	985.4	1081.7	1155.9
44.5°	709.6	784.5	869.0	964.2	1058.3	1130.5



66.5°	186.6	203.5	236.9	281.5	313.7	333.3
67°	179.7	195.1	227.3	270.7	301.8	320.3

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

Scaled Data Report



89°	0.0	0.0	0.0	0.0	0.4	0.0
89.5°	0.0	0.0	0.0	0.0	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)