

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: P776664

Luminaire Tested: HCDJBS4050CSD-HCD61TRMB-5000lm-5000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776664  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B038)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD61TRMB-5000lm-5000K  
Description: 6 INCH ROUND SHALLOW-WIDE MATTE BLACK TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

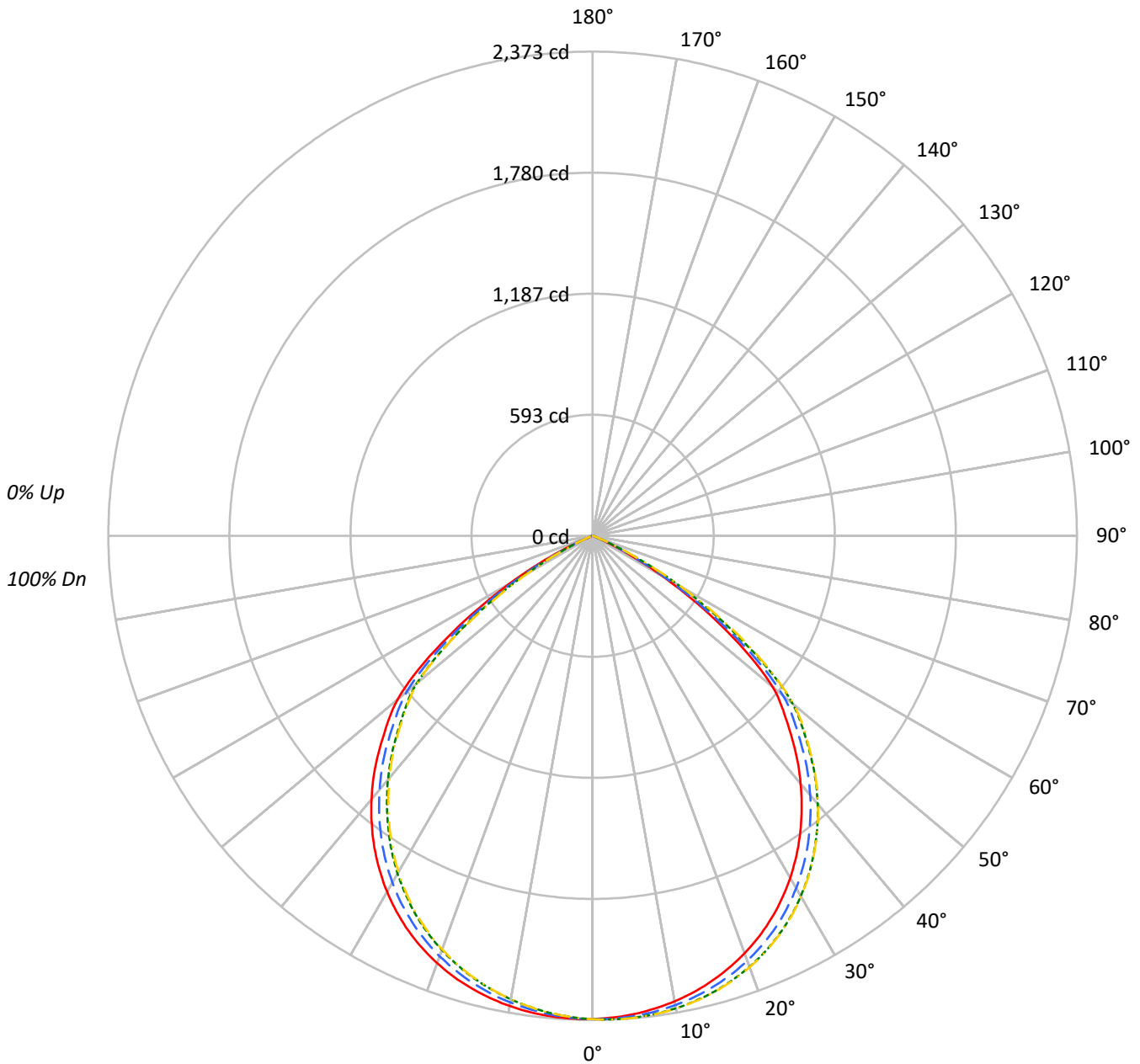
Lumens per Lamp: N/A  
Luminaire Lumens: 4957.4 lumens  
Efficiency: N/A  
Efficacy: 103.3 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.24 / 1.32  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
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



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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	0
RW	70	50	30	10	70	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
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90
2	104	97	92	88	101	96	91	87	92	88	85	89	86	83	86	83	81	79
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	71	69
4	89	79	72	66	87	78	71	65	75	69	65	73	68	64	71	67	63	61
5	82	71	64	58	81	70	63	58	68	62	57	66	61	56	65	60	56	54
6	77	65	57	51	75	64	57	51	62	56	51	61	55	50	59	54	50	48
7	71	59	51	46	70	58	51	46	57	50	45	56	50	45	54	49	45	43
8	67	54	47	41	65	54	46	41	52	46	41	51	45	41	50	45	40	39
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32

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

	0°	90°	180°	270°
0°	129880	129880	129880	129880
5°	129468	130426	130079	129226
10°	128939	130909	130264	128421
15°	128179	131181	130302	127435
20°	127032	131133	130001	126040
25°	125251	130532	129183	123957
30°	122563	129140	127513	121000
35°	118695	126618	124771	116874
40°	113484	122759	120640	111573
45°	106492	116803	114438	104499
50°	98155	108994	106308	95877
55°	74177	85961	83132	71911
60°	43001	53746	51673	42146
65°	13218	20404	18705	14295
70°	240	385	240	240
75°	106	212	106	106
80°	158	158	0	158
85°	0	0	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 112.5°

Vertical Angle: 45°

Luminance: 117221 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	224.2	4.5
10°-20°	642.7	13.0
20°-30°	968.2	19.5
30°-40°	1135.6	22.9
40°-50°	1099.7	22.2
50°-60°	731.6	14.8
60°-70°	154.3	3.1
70°-80°	0.9	0.0
80°-90°	0.0	0.0
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°	1835.2	37.0
0°-40°	2970.8	59.9
0°-60°	4802.2	96.9
0°-90°	4957.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4957.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2369	2369	2369	2369	2369	
5°	2353	2370	2364	2348	2353	223
15°	2258	2311	2296	2245	2258	637
25°	2071	2158	2136	2049	2071	953
35°	1774	1892	1864	1746	1774	1107
45°	1374	1507	1476	1348	1374	1059
55°	776	899	870	752	776	688
65°	102	157	144	110	102	129
75°	0	1	0	0	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2369.2	2369.2	2369.2	2369.2	2369.2	2369.2	2369.2	2369.2	2369.2	2369.2	2369.2
0.5°	2367.7	2367.7	2369.2	2370.6	2370.1	2370.6	2370.6	2370.1	2368.7	2368.2	2368.7
1°	2366.8	2367.7	2369.2	2371.1	2371.1	2371.6	2371.6	2370.6	2369.2	2367.7	2367.7
1.5°	2365.8	2366.8	2369.2	2370.6	2371.6	2372.1	2372.1	2371.1	2369.2	2367.7	2367.2
2°	2364.3	2365.8	2368.7	2370.6	2372.1	2373.1	2373.1	2371.1	2369.2	2366.8	2366.3
2.5°	2362.9	2364.8	2367.7	2370.6	2372.1	2373.1	2373.1	2371.1	2368.7	2366.3	2364.8
3°	2360.9	2363.8	2367.2	2370.1	2372.1	2373.1	2373.1	2371.1	2368.2	2365.3	2363.4
3.5°	2359.5	2362.4	2366.3	2369.7	2371.6	2373.1	2373.1	2371.1	2367.2	2363.8	2361.4
4°	2357.0	2360.4	2365.3	2368.7	2371.6	2372.6	2372.6	2370.1	2366.3	2362.9	2360.0
4.5°	2355.1	2359.0	2363.8	2367.7	2370.6	2372.1	2372.1	2369.7	2365.3	2361.4	2358.0
5°	2352.7	2357.0	2361.9	2366.8	2370.1	2371.6	2371.1	2368.7	2363.8	2359.5	2355.6
5.5°	2350.2	2354.6	2360.4	2365.8	2369.2	2370.6	2370.1	2367.2	2362.4	2357.5	2353.2
6°	2346.9	2352.2	2359.0	2364.3	2367.7	2369.7	2369.2	2365.8	2360.9	2355.1	2350.2
6.5°	2343.9	2349.8	2356.6	2362.4	2366.8	2368.2	2367.7	2364.3	2359.0	2353.2	2347.3
7°	2340.5	2346.9	2354.1	2360.4	2364.8	2366.8	2366.3	2362.4	2357.0	2350.2	2344.4
7.5°	2337.1	2343.9	2351.7	2358.5	2363.4	2365.3	2364.8	2360.4	2354.1	2347.8	2341.5
8°	2333.7	2341.0	2348.8	2356.1	2361.4	2363.4	2362.9	2358.5	2352.2	2344.9	2338.1
8.5°	2329.4	2337.6	2345.9	2353.6	2359.0	2361.4	2360.9	2356.1	2349.3	2341.5	2334.2
9°	2325.5	2333.7	2342.5	2350.7	2357.0	2359.0	2358.5	2353.6	2346.4	2338.6	2330.8
9.5°	2321.1	2329.9	2339.1	2347.8	2354.1	2356.6	2356.1	2350.7	2343.5	2334.7	2326.5
10°	2316.3	2326.0	2335.7	2344.4	2351.7	2353.6	2353.2	2348.3	2340.1	2330.8	2322.6
10.5°	2311.9	2321.6	2331.8	2341.0	2348.3	2350.7	2350.2	2344.9	2336.7	2326.9	2318.2
11°	2306.6	2317.2	2327.9	2337.6	2345.4	2347.8	2346.9	2341.5	2333.3	2323.1	2313.4
11.5°	2301.7	2312.4	2323.6	2333.3	2342.0	2344.4	2343.5	2337.6	2328.9	2318.7	2309.0
12°	2295.9	2307.5	2319.2	2329.4	2338.1	2341.0	2340.1	2334.2	2325.0	2314.3	2303.7
12.5°	2290.5	2302.2	2314.3	2325.0	2334.2	2337.1	2336.2	2330.3	2321.1	2309.5	2298.8
13°	2284.2	2296.9	2309.5	2320.6	2329.9	2333.3	2331.8	2326.0	2316.3	2304.6	2293.0
13.5°	2278.4	2291.0	2304.6	2315.8	2326.0	2328.9	2327.9	2321.6	2311.4	2299.3	2287.1
14°	2272.1	2285.2	2298.8	2310.9	2321.1	2324.5	2323.1	2316.8	2306.6	2293.9	2281.3
14.5°	2265.3	2279.4	2293.5	2306.1	2316.3	2319.7	2318.2	2311.9	2301.2	2288.1	2275.5
15°	2258.5	2272.6	2287.6	2300.3	2311.4	2314.8	2313.4	2306.6	2295.9	2282.3	2269.2
15.5°	2251.2	2266.3	2281.8	2294.9	2306.1	2309.5	2308.5	2301.7	2290.1	2276.5	2262.9
16°	2244.4	2259.5	2275.5	2289.1	2300.7	2304.1	2302.7	2295.9	2284.2	2270.2	2255.6
16.5°	2236.7	2252.2	2268.7	2283.3	2294.9	2298.3	2296.9	2290.1	2278.4	2263.4	2248.3
17°	2228.9	2244.9	2261.9	2276.5	2289.1	2292.5	2291.0	2283.8	2272.1	2256.6	2241.0
17.5°	2221.1	2237.6	2255.1	2269.7	2282.8	2286.7	2285.2	2277.9	2265.3	2249.3	2233.3
18°	2212.9	2230.4	2247.8	2262.9	2276.0	2279.9	2278.4	2270.6	2258.5	2242.0	2225.5
18.5°	2204.1	2222.1	2240.6	2256.1	2269.7	2273.1	2271.6	2263.8	2251.2	2234.7	2217.7
19°	2195.4	2213.4	2232.3	2248.8	2262.4	2266.3	2264.8	2256.6	2243.9	2227.0	2209.5
19.5°	2186.7	2205.1	2224.5	2241.0	2255.6	2259.5	2257.5	2249.3	2236.2	2219.2	2201.2
20°	2177.5	2196.9	2216.3	2233.3	2247.8	2251.7	2250.3	2242.0	2228.4	2210.9	2193.0
20.5°	2167.7	2187.6	2207.5	2225.5	2240.1	2243.9	2242.5	2233.8	2220.6	2202.2	2183.3
21°	2158.5	2177.9	2199.3	2217.3	2231.8	2236.2	2234.2	2226.0	2212.4	2193.5	2174.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2127.5	2149.3	2171.1	2190.1	2206.6	2210.5	2208.5	2199.8	2185.2	2165.8	2144.9
23°	2116.8	2139.1	2161.4	2180.8	2197.4	2201.7	2199.3	2190.6	2176.0	2155.6	2134.3
23.5°	2105.6	2128.4	2151.7	2171.1	2188.1	2192.5	2190.6	2181.3	2166.8	2145.4	2124.1
24°	2094.4	2117.7	2141.0	2161.4	2178.4	2182.8	2180.4	2171.1	2156.6	2135.2	2113.4
24.5°	2082.3	2106.1	2130.4	2150.8	2168.7	2173.1	2170.7	2161.4	2146.4	2124.5	2102.2
25°	2070.7	2094.4	2119.2	2140.1	2158.0	2162.4	2160.0	2151.2	2135.7	2113.9	2090.6
25.5°	2058.5	2083.3	2108.0	2129.4	2147.8	2152.2	2149.8	2140.6	2125.0	2102.2	2078.9
26°	2046.4	2071.2	2096.9	2118.2	2137.2	2141.0	2139.1	2129.4	2113.9	2090.6	2067.3
26.5°	2033.3	2059.0	2084.7	2107.1	2126.0	2130.4	2127.9	2118.2	2102.7	2078.9	2054.6
27°	2020.7	2046.4	2072.6	2095.4	2114.3	2119.2	2116.3	2107.1	2090.6	2066.8	2042.5
27.5°	2007.1	2033.3	2060.0	2083.3	2103.2	2107.6	2105.1	2095.4	2078.9	2054.6	2029.9
28°	1993.5	2020.2	2047.4	2070.7	2091.1	2094.9	2093.0	2083.3	2066.3	2041.5	2016.8
28.5°	1979.4	2007.1	2034.7	2058.5	2078.4	2083.3	2080.9	2071.2	2053.7	2028.9	2003.7
29°	1965.3	1993.0	2021.2	2045.9	2065.8	2070.2	2068.2	2058.5	2041.5	2015.8	1990.1
29.5°	1951.3	1979.4	2007.6	2032.8	2053.7	2057.6	2055.1	2045.4	2028.0	2002.7	1976.0
30°	1936.2	1964.9	1994.0	2019.2	2040.1	2044.5	2042.0	2032.3	2014.4	1988.1	1961.9
30.5°	1921.2	1950.8	1979.9	2005.1	2026.5	2030.9	2028.9	2019.2	2000.8	1974.1	1947.9
31°	1906.1	1935.7	1965.3	1991.1	2012.9	2016.8	2014.8	2005.1	1986.7	1960.0	1932.8
31.5°	1890.1	1920.7	1950.8	1977.0	1998.8	2002.7	2000.3	1991.1	1972.1	1945.4	1918.3
32°	1874.6	1905.1	1935.7	1962.9	1984.3	1988.6	1986.2	1976.5	1957.6	1930.4	1902.7
32.5°	1858.1	1889.6	1920.2	1947.4	1969.7	1973.6	1972.1	1962.4	1943.0	1915.3	1887.2
33°	1842.0	1873.6	1905.1	1932.3	1955.1	1959.0	1957.1	1946.9	1928.0	1899.8	1871.7
33.5°	1825.5	1857.6	1889.1	1916.8	1939.6	1943.5	1941.6	1931.4	1912.4	1884.3	1855.6
34°	1808.6	1841.1	1873.1	1901.3	1924.1	1928.4	1926.0	1916.3	1896.4	1868.3	1839.1
34.5°	1791.1	1824.6	1856.6	1884.8	1908.1	1912.4	1910.5	1900.3	1880.4	1851.8	1822.6
35°	1773.6	1807.6	1839.6	1868.7	1892.0	1895.9	1894.0	1884.3	1864.4	1834.8	1805.6
35.5°	1756.1	1790.1	1823.1	1851.8	1875.5	1879.9	1877.5	1867.8	1847.4	1818.3	1788.7
36°	1737.7	1772.2	1805.6	1835.3	1859.0	1862.9	1861.0	1851.3	1830.4	1801.8	1771.2
36.5°	1720.2	1754.7	1788.2	1817.8	1842.0	1846.4	1844.5	1834.3	1813.4	1784.3	1753.7
37°	1701.3	1736.7	1770.2	1799.8	1825.1	1828.9	1827.0	1817.3	1795.9	1766.3	1735.7
37.5°	1682.4	1718.3	1752.3	1782.3	1807.1	1811.5	1809.0	1799.8	1778.0	1748.9	1718.3
38°	1662.9	1699.8	1733.8	1763.9	1789.6	1793.5	1791.6	1781.4	1760.5	1729.9	1699.8
38.5°	1644.5	1680.9	1715.8	1745.5	1771.7	1775.5	1774.1	1763.4	1742.1	1712.4	1680.9
39°	1625.6	1662.5	1696.9	1727.5	1753.2	1757.1	1755.6	1745.5	1723.1	1693.5	1662.5
39.5°	1605.7	1643.0	1677.5	1708.1	1734.3	1738.7	1736.7	1726.5	1704.7	1674.6	1643.0
40°	1585.8	1623.1	1658.6	1688.7	1715.4	1719.7	1717.8	1708.1	1685.8	1655.2	1624.1
40.5°	1565.9	1603.7	1638.7	1669.2	1695.9	1700.8	1698.9	1688.2	1666.3	1636.2	1604.7
41°	1545.5	1583.3	1618.8	1648.9	1676.5	1681.4	1679.4	1668.8	1646.9	1616.3	1584.8
41.5°	1524.6	1562.9	1598.4	1629.4	1656.1	1661.5	1660.0	1648.9	1626.5	1596.4	1564.9
42°	1504.2	1542.1	1578.0	1608.6	1636.2	1641.6	1639.6	1629.0	1606.6	1576.1	1544.5
42.5°	1483.3	1522.2	1557.1	1587.7	1615.9	1621.2	1619.7	1608.1	1585.8	1556.2	1524.1
43°	1461.5	1500.8	1535.8	1566.3	1595.0	1599.8	1598.9	1587.2	1564.9	1534.3	1503.2
43.5°	1440.1	1478.5	1514.4	1544.5	1573.1	1579.0	1577.5	1565.9	1543.5	1513.0	1481.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1373.6	1412.0	1446.9	1477.0	1506.6	1512.0	1511.5	1498.9	1476.1	1446.0	1414.9
45.5°	1351.3	1389.2	1424.6	1454.2	1483.8	1490.1	1489.2	1476.1	1453.3	1423.2	1392.1
46°	1329.5	1367.3	1402.3	1431.9	1461.5	1468.3	1466.8	1454.2	1430.9	1400.3	1370.3
46.5°	1308.1	1346.0	1380.4	1410.1	1439.7	1447.4	1446.0	1432.4	1408.1	1378.5	1347.9
47°	1287.2	1324.6	1359.1	1388.2	1417.8	1425.6	1424.6	1410.5	1386.3	1356.2	1326.1
47.5°	1266.4	1303.8	1337.7	1366.9	1396.5	1404.2	1403.3	1389.2	1364.9	1334.8	1305.2
48°	1245.5	1282.4	1315.9	1345.0	1375.1	1383.4	1382.4	1368.3	1343.6	1313.5	1284.3
48.5°	1225.1	1261.0	1295.0	1323.7	1353.7	1363.5	1361.5	1347.0	1321.7	1292.6	1263.5
49°	1202.8	1238.2	1270.7	1299.4	1330.0	1339.7	1338.2	1323.7	1298.4	1268.8	1239.7
49.5°	1178.5	1214.0	1245.5	1273.2	1304.7	1313.9	1312.5	1297.9	1272.7	1243.1	1214.9
50°	1150.9	1187.3	1217.8	1244.0	1278.0	1287.2	1286.3	1271.2	1246.5	1216.9	1187.7
50.5°	1120.3	1154.3	1187.3	1214.4	1248.4	1256.7	1254.2	1241.1	1217.4	1186.3	1157.2
51°	1086.8	1120.3	1153.3	1181.4	1215.9	1223.7	1221.7	1209.6	1185.3	1153.3	1123.7
51.5°	1050.9	1084.4	1116.9	1146.5	1181.4	1188.7	1187.7	1174.2	1151.8	1119.3	1088.2
52°	1012.5	1047.5	1079.5	1108.6	1144.1	1153.3	1152.3	1138.2	1114.9	1082.9	1052.8
52.5°	975.1	1009.6	1040.7	1067.4	1105.7	1117.4	1116.4	1100.9	1075.6	1045.0	1015.9
53°	936.3	969.8	1000.4	1025.6	1065.9	1078.5	1078.5	1062.5	1035.3	1006.2	978.1
53.5°	897.0	930.0	959.6	983.4	1024.7	1040.7	1041.2	1022.2	993.6	966.4	939.2
54°	856.7	889.7	916.9	940.2	982.9	1001.4	1001.8	981.9	952.3	926.1	898.9
54.5°	816.9	849.4	874.2	897.0	940.7	961.1	962.0	940.2	910.1	883.4	859.6
55°	776.1	808.2	831.0	853.3	899.4	921.8	922.7	898.9	869.8	842.6	819.8
55.5°	735.4	765.9	787.8	810.1	857.2	879.0	881.5	856.2	827.6	799.9	778.6
56°	695.6	725.2	744.1	765.9	814.0	837.3	839.7	815.0	786.8	757.2	738.8
56.5°	655.8	683.9	700.9	725.2	771.8	795.1	797.5	772.7	744.1	715.5	698.0
57°	615.0	642.7	657.7	682.5	730.0	752.8	755.7	732.0	704.3	673.2	657.7
57.5°	576.2	601.4	616.0	640.7	688.8	710.1	713.5	690.7	663.0	632.9	617.4
58°	537.8	561.1	574.2	600.4	647.5	667.9	671.3	649.9	623.7	591.7	577.6
58.5°	500.4	520.8	533.0	560.6	607.2	626.2	629.5	610.1	584.9	552.4	538.8
59°	463.5	481.5	494.1	521.8	567.4	584.4	587.8	571.3	546.1	513.5	500.9
59.5°	426.7	441.7	455.8	483.4	528.6	544.1	545.6	532.0	507.2	476.2	464.0
60°	392.2	404.3	419.4	445.6	490.2	504.3	504.8	493.6	471.3	441.2	427.6
60.5°	357.2	367.4	382.5	408.7	454.3	466.5	467.4	457.2	435.4	406.3	391.2
61°	323.3	332.0	347.5	373.3	418.4	429.1	429.6	420.8	400.0	371.3	355.3
61.5°	290.3	298.0	314.5	339.3	382.5	391.2	391.7	384.4	364.0	336.4	318.9
62°	258.7	266.0	281.5	305.8	346.6	353.8	353.8	348.0	328.1	304.3	287.3
62.5°	228.6	235.4	250.9	273.8	310.6	316.5	316.0	311.6	295.1	272.8	255.8
63°	200.0	205.8	220.9	244.2	276.7	281.5	281.0	277.6	263.6	243.2	226.2
63.5°	171.8	178.6	193.2	214.5	244.6	249.0	248.5	245.6	233.5	214.5	198.5
64°	148.5	156.8	166.5	186.9	214.1	217.5	217.5	214.5	202.9	187.4	172.8
64.5°	125.2	135.4	145.1	162.6	184.9	187.8	187.4	184.4	173.3	162.1	148.0
65°	101.9	113.6	123.3	139.8	157.3	159.7	159.7	156.8	144.2	137.4	125.7
65.5°	79.1	92.2	101.4	116.5	130.6	134.0	134.0	130.1	116.5	114.6	104.8
66°	55.8	70.4	80.1	93.7	106.3	109.2	109.2	105.3	90.8	93.2	85.4





TEST NUMBER: P776664

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	18.0	30.1	34.9	38.3	55.3	57.3	57.3	54.4	40.8	49.0	45.1
68°	13.6	20.9	24.3	25.7	40.8	42.2	42.2	40.3	24.3	36.9	31.6
68.5°	9.7	17.0	15.0	16.0	26.2	27.2	27.2	25.7	7.8	24.3	18.4
69°	5.3	13.1	11.6	12.1	12.1	12.6	12.1	12.1	2.4	11.6	10.7
69.5°	1.5	9.2	8.3	8.7	5.8	5.8	5.8	5.8	1.5	5.8	5.3
70°	1.5	5.3	4.9	4.9	2.4	2.4	2.4	2.4	1.5	2.4	2.4
70.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
71°	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
71.5°	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.0	1.0	1.0	1.0
72°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
73°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
73.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
74°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
74.5°	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	0.5	1.0	1.0
75°	0.5	0.5	0.5	0.5	1.0	1.0	1.0	0.5	0.5	0.5	0.5
75.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
76°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.5	0.5
80.5°	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5
81°	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776664

CATALOG NUMBER: HCDJBL4050CSD-HCD61TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P776664

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2369.2	2369.2	2369.2	2369.2	2369.2	2369.2
0.5°	2368.7	2368.2	2368.2	2368.7	2368.2	2367.7
1°	2367.7	2366.8	2366.8	2367.2	2367.2	2366.8
1.5°	2366.8	2365.3	2364.8	2365.8	2365.8	2365.8
2°	2365.3	2363.4	2362.9	2363.8	2363.8	2364.3
2.5°	2363.8	2360.9	2360.9	2361.4	2361.9	2362.9
3°	2361.9	2359.0	2358.5	2359.5	2360.0	2360.9
3.5°	2360.0	2356.6	2356.1	2357.0	2358.0	2359.5
4°	2357.5	2354.1	2353.2	2354.1	2355.6	2357.0
4.5°	2355.1	2351.2	2350.2	2351.2	2352.7	2355.1
5°	2352.7	2348.3	2347.3	2348.3	2349.8	2352.7
5.5°	2349.8	2344.9	2343.9	2344.9	2346.9	2350.2
6°	2346.9	2341.5	2340.5	2341.5	2343.5	2346.9
6.5°	2343.5	2338.1	2336.7	2337.6	2340.5	2343.9
7°	2340.1	2334.2	2332.8	2334.2	2336.7	2340.5
7.5°	2336.7	2329.9	2328.9	2329.9	2332.8	2337.1
8°	2332.8	2326.0	2324.0	2325.5	2328.9	2333.7
8.5°	2328.4	2321.6	2319.7	2321.1	2324.5	2329.4
9°	2324.5	2316.8	2314.8	2316.3	2319.7	2325.5
9.5°	2319.7	2312.4	2310.4	2311.4	2315.3	2321.1
10°	2315.3	2307.0	2305.1	2306.6	2310.4	2316.3
10.5°	2310.4	2301.7	2299.8	2301.2	2305.1	2311.9
11°	2305.6	2296.4	2293.9	2295.9	2299.8	2306.6
11.5°	2300.3	2291.0	2288.1	2289.6	2294.4	2301.7
12°	2294.9	2284.7	2282.3	2283.8	2288.6	2295.9
12.5°	2289.1	2278.9	2276.0	2277.4	2282.8	2290.5
13°	2283.3	2272.6	2269.7	2271.1	2276.5	2284.2
13.5°	2277.0	2266.3	2262.9	2264.3	2269.7	2278.4
14°	2271.1	2259.5	2256.1	2257.5	2263.4	2272.1
14.5°	2264.3	2252.2	2249.3	2250.7	2256.1	2265.3
15°	2257.5	2245.4	2241.5	2243.5	2249.3	2258.5
15.5°	2250.7	2237.6	2233.8	2235.7	2241.5	2251.2
16°	2243.0	2230.4	2226.0	2227.9	2234.2	2244.4
16.5°	2236.2	2222.1	2218.2	2220.2	2226.5	2236.7
17°	2228.4	2213.9	2210.0	2211.4	2218.2	2228.9
17.5°	2220.2	2205.6	2201.2	2203.2	2210.0	2221.1
18°	2212.4	2196.9	2192.5	2194.4	2201.2	2212.9
18.5°	2203.7	2188.1	2183.3	2185.2	2192.5	2204.1
19°	2194.9	2179.4	2174.1	2176.0	2183.3	2195.4
19.5°	2186.2	2170.2	2164.3	2166.3	2174.5	2186.7
20°	2177.0	2160.5	2154.6	2156.6	2164.8	2177.5
20.5°	2167.7	2150.3	2144.4	2146.4	2154.6	2167.7
21°	2158.0	2140.1	2134.3	2135.7	2144.4	2158.5



TEST NUMBER: P776664

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2127.0	2108.0	2101.2	2103.2	2112.4	2127.5
23°	2116.8	2096.9	2089.6	2091.5	2101.2	2116.8
23.5°	2105.6	2085.7	2078.4	2079.9	2090.1	2105.6
24°	2094.4	2074.1	2066.3	2067.8	2077.9	2094.4
24.5°	2082.8	2061.4	2054.2	2055.6	2065.8	2082.3
25°	2071.2	2049.3	2041.5	2043.0	2053.7	2070.7
25.5°	2059.0	2037.2	2028.4	2030.4	2041.1	2058.5
26°	2046.9	2024.1	2015.3	2017.3	2028.4	2046.4
26.5°	2033.8	2010.5	2001.7	2003.7	2014.8	2033.3
27°	2020.7	1996.9	1988.6	1990.1	2001.7	2020.7
27.5°	2008.1	1983.8	1975.0	1976.0	1988.1	2007.1
28°	1994.5	1969.7	1960.5	1961.9	1974.1	1993.5
28.5°	1980.4	1955.1	1945.9	1947.4	1959.5	1979.4
29°	1966.8	1941.1	1931.4	1933.3	1945.4	1965.3
29.5°	1952.7	1926.0	1916.3	1917.8	1930.9	1951.3
30°	1937.7	1911.5	1901.3	1902.7	1915.3	1936.2
30.5°	1923.1	1895.9	1885.2	1886.7	1900.3	1921.2
31°	1908.1	1879.9	1869.7	1871.2	1884.3	1906.1
31.5°	1892.5	1864.4	1853.2	1854.7	1868.3	1890.1
32°	1876.5	1848.4	1837.2	1838.6	1852.2	1874.6
32.5°	1861.0	1831.9	1820.7	1821.7	1836.2	1858.1
33°	1844.5	1815.4	1803.7	1805.2	1819.2	1842.0
33.5°	1828.5	1798.8	1786.7	1788.7	1802.2	1825.5
34°	1811.5	1781.9	1769.7	1770.7	1785.3	1808.6
34.5°	1795.0	1763.9	1751.8	1753.2	1767.8	1791.1
35°	1777.0	1746.4	1733.8	1735.7	1749.8	1773.6
35.5°	1760.0	1728.5	1716.3	1717.8	1731.9	1756.1
36°	1742.5	1711.0	1698.4	1699.8	1714.4	1737.7
36.5°	1725.1	1692.5	1680.4	1681.4	1696.4	1720.2
37°	1706.6	1674.1	1662.0	1662.9	1677.5	1701.3
37.5°	1688.2	1655.7	1642.6	1644.5	1659.1	1682.4
38°	1669.7	1636.7	1624.1	1625.6	1639.6	1662.9
38.5°	1650.3	1617.8	1605.2	1606.6	1620.7	1644.5
39°	1631.9	1598.4	1586.2	1587.2	1601.8	1625.6
39.5°	1612.5	1579.5	1566.8	1568.3	1582.4	1605.7
40°	1593.0	1559.1	1547.4	1548.4	1562.0	1585.8
40.5°	1573.6	1539.7	1527.5	1529.0	1542.1	1565.9
41°	1553.2	1519.3	1507.6	1509.1	1522.2	1545.5
41.5°	1533.3	1498.9	1486.7	1488.7	1501.8	1524.6
42°	1513.0	1478.5	1466.8	1468.3	1481.4	1504.2
42.5°	1492.6	1457.6	1446.5	1447.4	1460.5	1483.3
43°	1471.7	1436.3	1424.6	1426.6	1438.7	1461.5
43.5°	1449.9	1414.4	1403.3	1404.7	1416.8	1440.1



TEST NUMBER: P776664

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1383.8	1347.9	1337.7	1338.7	1350.3	1373.6
45.5°	1361.5	1326.1	1315.4	1316.9	1328.0	1351.3
46°	1339.7	1304.2	1293.6	1295.0	1306.7	1329.5
46.5°	1317.3	1283.4	1272.7	1273.7	1285.3	1308.1
47°	1296.5	1262.5	1252.3	1253.3	1264.0	1287.2
47.5°	1275.6	1241.6	1231.4	1232.9	1243.1	1266.4
48°	1255.2	1221.2	1210.6	1212.5	1222.7	1245.5
48.5°	1234.3	1200.4	1190.2	1191.1	1201.8	1225.1
49°	1212.0	1177.6	1167.4	1168.8	1180.0	1202.8
49.5°	1187.7	1152.8	1143.6	1145.0	1155.7	1178.5
50°	1161.0	1124.2	1115.4	1118.3	1129.5	1150.9
50.5°	1129.5	1092.1	1084.4	1087.8	1097.9	1120.3
51°	1096.0	1057.7	1050.4	1053.3	1064.9	1086.8
51.5°	1060.6	1022.7	1014.5	1016.9	1030.0	1050.9
52°	1025.1	985.3	977.1	979.5	992.1	1012.5
52.5°	987.8	947.5	939.2	940.7	952.8	975.1
53°	950.4	908.2	898.9	900.4	913.5	936.3
53.5°	911.6	869.8	858.7	860.6	873.7	897.0
54°	874.2	831.0	818.4	819.8	832.9	856.7
54.5°	834.4	791.7	779.0	779.5	793.1	816.9
55°	796.0	752.4	738.3	738.8	752.4	776.1
55.5°	755.7	714.5	698.5	697.5	712.1	735.4
56°	717.4	676.1	658.7	656.2	672.7	695.6
56.5°	677.6	638.3	619.8	616.9	633.9	655.8
57°	638.8	599.5	581.0	577.1	594.6	615.0
57.5°	600.4	562.6	542.7	538.8	556.3	576.2
58°	562.6	525.7	505.8	501.9	518.9	537.8
58.5°	524.7	489.8	469.4	464.5	481.0	500.4
59°	487.3	453.8	433.9	429.1	446.1	463.5
59.5°	451.9	418.4	400.0	394.6	411.1	426.7
60°	416.0	384.4	365.5	361.6	376.7	392.2
60.5°	380.5	350.9	333.5	329.6	343.7	357.2
61°	345.1	317.9	302.4	299.0	311.6	323.3
61.5°	312.6	287.3	273.3	269.9	280.6	290.3
62°	280.6	256.8	245.1	243.2	250.9	258.7
62.5°	249.5	227.2	218.4	216.5	222.3	228.6
63°	219.4	200.0	193.2	191.7	194.6	200.0
63.5°	191.2	173.8	168.4	167.5	168.9	171.8
64°	164.5	152.4	148.5	147.6	148.0	148.5
64.5°	139.8	131.1	128.6	128.1	127.2	125.2
65°	117.0	110.2	108.7	108.2	106.3	101.9
65.5°	96.1	88.8	88.8	88.8	85.4	79.1
66°	76.2	68.0	71.8	72.8	68.0	55.8



TEST NUMBER: P776664

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	39.8	28.2	32.0	33.0	28.6	18.0
68°	27.7	19.4	22.3	22.8	19.9	13.6
68.5°	16.0	15.0	14.1	14.6	15.0	9.7
69°	9.7	10.7	10.7	11.2	10.7	5.3
69.5°	4.9	5.8	7.8	7.8	5.8	1.5
70°	2.4	1.5	4.4	4.4	1.5	1.5
70.5°	1.5	1.5	1.5	1.5	1.5	1.5
71°	1.0	1.0	1.0	1.0	1.0	1.0
71.5°	1.0	1.0	1.0	1.0	1.0	1.0
72°	1.0	1.0	1.0	1.0	1.0	1.0
72.5°	1.0	1.0	1.0	1.0	1.0	1.0
73°	1.0	1.0	1.0	1.0	1.0	1.0
73.5°	1.0	1.0	1.0	1.0	1.0	1.0
74°	1.0	1.0	1.0	1.0	1.0	1.0
74.5°	1.0	0.5	0.5	0.5	0.5	0.5
75°	0.5	0.5	0.5	0.5	0.5	0.5
75.5°	0.5	0.5	0.5	0.5	0.5	0.5
76°	0.5	0.5	0.5	0.5	0.5	0.5
76.5°	0.5	0.5	0.5	0.5	0.5	0.5
77°	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.5	0.5	0.5	0.5	0.5	0.5
78°	0.5	0.5	0.5	0.5	0.5	0.5
78.5°	0.5	0.5	0.5	0.5	0.5	0.5
79°	0.5	0.5	0.5	0.5	0.5	0.5
79.5°	0.5	0.5	0.5	0.5	0.5	0.5
80°	0.5	0.5	0.5	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.5	0.0	0.0
81°	0.0	0.0	0.0	0.0	0.0	0.0
81.5°	0.0	0.0	0.0	0.0	0.0	0.0
82°	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0
83°	0.0	0.0	0.0	0.0	0.0	0.0
83.5°	0.0	0.0	0.0	0.0	0.0	0.0
84°	0.0	0.0	0.0	0.0	0.0	0.0
84.5°	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0
85.5°	0.0	0.0	0.0	0.0	0.0	0.0
86°	0.0	0.0	0.0	0.0	0.0	0.0
86.5°	0.0	0.0	0.0	0.0	0.0	0.0
87°	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.0	0.0	0.0	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776664

CATALOG NUMBER: HCDJBS4050CSD-HCD61TRMB-5000lm-5000K

**CANDELA DISTRIBUTION (continued):**

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

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

Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





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

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Scaled Data Report



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Scaled Data Report





21.5°	2147.8	2168.7	2190.1	2208.5	2224.0	2227.9	2226.0	2217.7	2203.7	2184.2	2164.8
22°	2138.1	2159.0	2180.8	2199.8	2215.3	2219.7	2217.3	2208.5	2194.9	2175.0	2155.1



44°	1417.8	1456.2	1491.1	1522.7	1550.8	1556.6	1555.7	1543.5	1520.7	1491.1	1459.6
44.5°	1395.5	1434.3	1469.3	1499.8	1529.0	1535.8	1532.9	1521.7	1498.4	1468.8	1437.2



66.5°	40.3	54.8	63.1	70.9	84.5	87.4	87.4	83.0	74.3	74.3	71.8
67°	27.7	41.3	48.1	53.4	69.9	72.3	72.3	68.4	57.8	61.6	58.7



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	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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21.5°	2147.8	2129.9	2123.6	2125.0	2134.3	2147.8
22°	2137.6	2119.2	2112.9	2114.3	2123.6	2138.1



44°	1428.0	1392.1	1381.4	1382.4	1395.0	1417.8
44.5°	1406.2	1370.3	1359.6	1360.5	1372.7	1395.5



66.5°	64.1	51.9	57.3	57.3	52.9	40.3
67°	51.9	38.8	43.7	44.2	39.8	27.7

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Peachtree City, GA 30269

Scaled Data Report



89°	0.0	0.0	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)