

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: P776344

Luminaire Tested: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776344  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B036)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL3040CSD-HCD61TRH-4000lm-5000K  
Description: 6 INCH ROUND SHALLOW-WIDE HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4863.2 lumens  
Efficiency: N/A  
Efficacy: 126.3 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.12 / 1.2  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

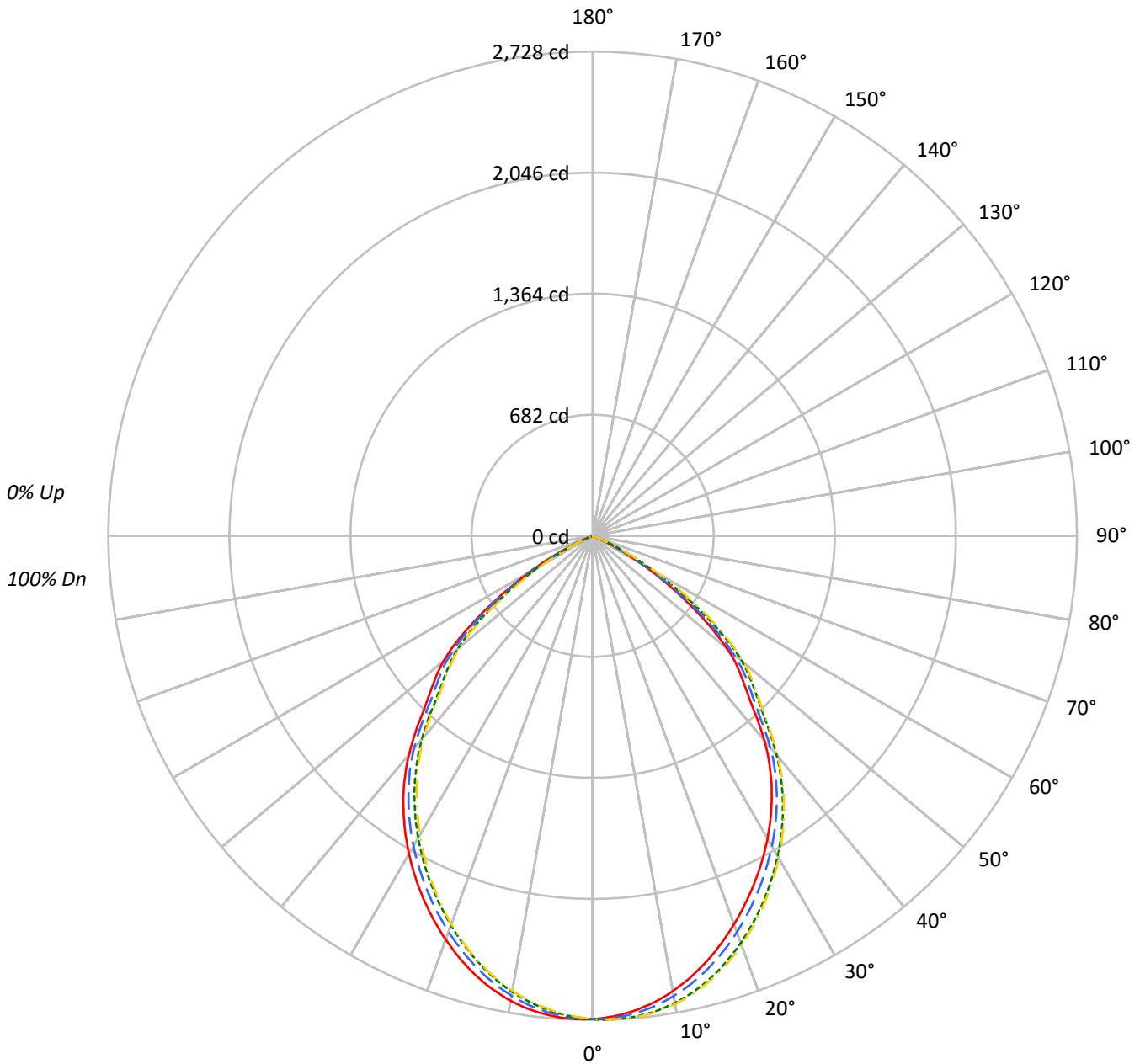
Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

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

RF	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	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	103	109	106	103	101	102	100	98	98	97	95	95	93	92	90								
2	104	98	93	89	102	96	91	87	93	89	86	90	87	84	87	84	82	80								
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71								
4	90	80	73	68	88	79	72	67	77	71	66	74	70	65	72	68	65	63								
5	84	73	65	60	82	72	65	60	70	64	59	68	63	58	66	62	58	56								
6	78	67	59	53	76	66	58	53	64	58	53	62	57	52	61	56	52	50								
7	73	61	53	48	71	60	53	48	59	52	48	57	52	47	56	51	47	45								
8	68	56	49	43	67	55	48	43	54	48	43	53	47	43	52	47	43	41								
9	64	52	45	40	63	51	44	39	50	44	39	49	43	39	48	43	39	37								
10	60	48	41	36	59	48	41	36	47	40	36	46	40	36	45	40	36	34								

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

	0°	90°	180°	270°
0°	149281	149281	149281	149281
5°	147826	149697	149356	147919
10°	145004	148761	148054	145254
15°	140875	146283	145262	141227
20°	135888	142422	141208	136197
25°	130501	137579	136435	130574
30°	124741	132014	131001	124399
35°	117724	125032	124377	117069
40°	107709	115323	115144	107094
45°	94777	102739	102390	94111
50°	84313	93481	93131	84697
55°	62153	71969	72475	63835
60°	35513	44350	45424	38122
65°	10235	16655	15709	13322
70°	256	401	256	785
75°	169	169	169	169
80°	126	126	126	126
85°	252	0	0	252

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 135°  
 Vertical Angle: 45°  
 Luminance: 103716 cd/sqm



TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	255.8	5.3
10°-20°	710.7	14.6
20°-30°	1016.9	20.9
30°-40°	1125.6	23.1
40°-50°	988.9	20.3
50°-60°	629.6	12.9
60°-70°	134.0	2.8
70°-80°	1.1	0.0
80°-90°	0.5	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°	1983.4	40.8
0°-40°	3109.0	63.9
0°-60°	4727.5	97.2
0°-90°	4863.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4863.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2723	2723	2723	2723	2723	
5°	2686	2720	2714	2688	2686	254
15°	2482	2578	2560	2488	2482	698
25°	2158	2274	2256	2159	2158	992
35°	1759	1868	1858	1749	1759	1095
45°	1222	1325	1321	1214	1222	950
55°	650	753	758	668	650	579
65°	79	128	121	103	79	105
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	2	0	



TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2723.1	2723.1	2723.1	2723.1	2723.1	2723.1	2723.1	2723.1	2723.1	2723.1	2723.1
0.5°	2721.1	2722.3	2723.5	2723.1	2726.0	2725.6	2724.4	2723.9	2723.9	2723.9	2723.5
1°	2719.0	2720.7	2723.1	2723.1	2726.8	2726.8	2725.6	2725.2	2724.8	2723.9	2722.7
1.5°	2716.6	2719.0	2721.9	2723.1	2727.6	2728.0	2726.8	2726.0	2724.8	2723.5	2721.5
2°	2713.3	2716.6	2720.3	2722.3	2727.6	2728.4	2727.6	2726.4	2724.8	2722.3	2719.9
2.5°	2710.0	2713.7	2718.2	2721.1	2727.6	2728.9	2727.6	2726.4	2723.9	2721.1	2717.8
3°	2706.4	2710.4	2715.8	2719.9	2726.8	2728.4	2727.6	2725.6	2723.1	2719.4	2715.4
3.5°	2701.9	2706.8	2712.9	2717.8	2726.0	2727.6	2727.2	2724.8	2721.5	2717.0	2712.1
4°	2696.9	2702.7	2709.6	2715.4	2724.4	2726.8	2726.0	2723.5	2719.4	2714.5	2708.4
4.5°	2691.6	2698.2	2705.5	2712.1	2722.7	2725.6	2724.8	2721.9	2717.0	2711.3	2704.7
5°	2686.3	2692.9	2701.0	2708.8	2720.3	2723.5	2722.7	2719.4	2714.1	2707.6	2700.6
5.5°	2680.2	2687.1	2696.1	2705.1	2717.8	2721.1	2720.7	2717.0	2710.4	2703.5	2695.7
6°	2673.2	2681.0	2691.2	2701.0	2714.5	2718.6	2717.8	2713.7	2706.8	2698.6	2690.0
6.5°	2666.7	2674.5	2685.5	2696.1	2710.9	2715.4	2714.5	2710.0	2702.7	2693.7	2684.7
7°	2659.3	2667.5	2679.4	2690.8	2706.8	2711.7	2710.9	2705.9	2698.2	2688.4	2678.5
7.5°	2651.1	2660.1	2672.8	2685.1	2701.9	2707.6	2706.8	2701.4	2692.9	2682.2	2671.6
8°	2643.0	2652.0	2665.5	2679.0	2697.4	2703.1	2702.3	2696.1	2687.1	2676.1	2664.6
8.5°	2634.0	2643.8	2658.1	2672.8	2691.6	2698.2	2697.4	2690.8	2681.0	2669.1	2656.9
9°	2625.0	2634.8	2650.3	2665.5	2685.5	2692.4	2691.6	2684.7	2674.0	2661.8	2648.7
9.5°	2615.1	2625.8	2641.7	2658.1	2679.0	2686.7	2685.5	2678.5	2667.1	2654.0	2640.5
10°	2604.9	2615.6	2632.7	2650.3	2672.4	2680.2	2679.4	2671.6	2659.7	2645.8	2631.5
10.5°	2594.3	2605.3	2623.7	2641.7	2665.0	2673.2	2672.4	2664.2	2652.0	2637.2	2622.1
11°	2583.2	2595.1	2613.9	2632.7	2657.3	2665.9	2665.0	2656.0	2643.0	2628.2	2612.3
11.5°	2571.8	2584.1	2603.7	2623.3	2648.7	2657.7	2656.9	2647.9	2634.0	2618.4	2602.1
12°	2560.3	2572.6	2593.5	2613.5	2640.1	2649.5	2648.7	2638.9	2625.0	2608.2	2591.4
12.5°	2548.1	2561.2	2582.4	2603.7	2630.7	2640.5	2639.7	2629.9	2615.1	2598.0	2580.4
13°	2535.4	2549.3	2571.0	2593.1	2620.9	2631.5	2630.3	2620.1	2604.5	2586.9	2568.9
13.5°	2522.7	2536.6	2559.1	2582.0	2610.6	2621.7	2620.5	2609.8	2594.3	2575.9	2557.5
14°	2509.6	2523.9	2547.3	2570.2	2600.0	2611.5	2610.2	2599.2	2582.8	2564.0	2545.2
14.5°	2496.1	2510.4	2534.6	2559.1	2589.0	2600.4	2599.2	2588.2	2571.0	2552.2	2532.1
15°	2482.2	2496.9	2521.9	2546.4	2577.5	2589.4	2588.2	2576.3	2559.5	2539.5	2519.4
15.5°	2468.3	2483.5	2508.4	2534.2	2565.7	2577.5	2576.3	2564.4	2547.3	2526.8	2506.4
16°	2453.6	2469.1	2494.9	2520.3	2553.4	2566.1	2564.0	2552.2	2533.8	2513.7	2492.4
16.5°	2439.3	2454.8	2481.4	2508.0	2540.3	2553.4	2551.3	2539.5	2521.1	2500.2	2478.5
17°	2423.7	2440.1	2467.1	2494.1	2527.2	2540.7	2538.7	2526.4	2507.6	2486.7	2464.6
17.5°	2408.6	2425.4	2452.4	2479.8	2513.7	2526.8	2525.6	2512.5	2494.1	2472.4	2450.3
18°	2393.1	2410.2	2438.1	2465.0	2499.8	2513.3	2511.3	2498.6	2479.8	2458.1	2434.8
18.5°	2377.5	2394.7	2422.9	2451.1	2485.5	2499.0	2497.4	2484.7	2465.0	2443.4	2420.5
19°	2361.6	2379.6	2407.8	2436.0	2470.8	2484.7	2483.0	2470.0	2450.7	2428.6	2404.9
19.5°	2346.0	2364.0	2392.2	2421.3	2456.0	2470.0	2468.3	2455.6	2435.6	2413.5	2389.8
20°	2329.3	2347.7	2376.3	2405.3	2441.3	2454.8	2453.2	2440.5	2420.5	2398.0	2373.8
20.5°	2312.9	2331.3	2360.3	2389.4	2425.4	2439.7	2438.1	2425.0	2405.3	2382.4	2358.3
21°	2296.1	2315.4	2344.4	2373.8	2409.8	2423.7	2422.1	2409.4	2389.4	2366.5	2341.5



TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2245.0	2265.0	2294.5	2323.9	2360.8	2374.7	2373.4	2360.3	2341.1	2317.4	2292.0
23°	2228.2	2248.3	2277.3	2307.2	2343.6	2357.9	2356.7	2344.0	2324.3	2300.6	2274.5
23.5°	2210.6	2231.1	2260.1	2290.0	2326.8	2341.1	2339.5	2327.2	2307.2	2283.9	2257.7
24°	2193.1	2213.5	2242.1	2272.4	2310.0	2323.9	2322.7	2309.6	2290.4	2266.7	2240.1
24.5°	2175.5	2195.9	2225.0	2255.2	2292.4	2305.5	2305.1	2292.0	2272.8	2248.7	2222.9
25°	2157.5	2178.3	2207.0	2236.8	2274.5	2287.9	2287.1	2274.5	2255.6	2231.5	2204.9
25.5°	2139.9	2160.7	2189.4	2219.2	2256.5	2270.0	2269.1	2256.9	2238.1	2213.5	2187.3
26°	2121.5	2143.2	2171.4	2201.2	2238.5	2251.1	2250.7	2239.3	2220.1	2195.5	2168.9
26.5°	2103.1	2124.8	2152.6	2182.8	2220.1	2233.1	2232.7	2220.9	2201.6	2177.1	2150.9
27°	2085.1	2106.8	2134.2	2164.4	2201.6	2213.9	2214.3	2201.6	2183.7	2158.7	2132.5
27.5°	2066.3	2088.4	2115.8	2144.8	2182.4	2195.1	2195.5	2183.2	2165.2	2140.3	2113.7
28°	2047.5	2069.5	2096.5	2126.0	2163.6	2176.7	2175.9	2164.8	2146.4	2121.5	2094.5
28.5°	2028.2	2050.3	2077.3	2106.4	2144.0	2156.3	2156.3	2145.6	2127.6	2102.3	2076.1
29°	2009.0	2031.9	2058.1	2087.1	2124.8	2136.6	2137.0	2125.6	2108.4	2083.0	2056.9
29.5°	1989.8	2012.3	2038.9	2067.1	2105.1	2116.6	2117.4	2105.9	2089.2	2063.8	2037.6
30°	1970.6	1993.1	2019.2	2047.5	2085.5	2097.4	2096.9	2086.7	2069.5	2044.2	2017.6
30.5°	1950.1	1973.4	1999.2	2027.8	2064.2	2076.1	2076.1	2066.7	2049.1	2024.1	1997.6
31°	1929.7	1953.4	1979.2	2007.0	2044.2	2055.2	2056.0	2045.4	2029.5	2004.5	1977.9
31.5°	1909.6	1933.3	1958.3	1986.1	2022.9	2034.4	2034.8	2025.4	2008.6	1984.1	1957.9
32°	1889.2	1913.3	1937.8	1965.2	2002.1	2013.9	2013.5	2004.5	1988.6	1963.2	1937.4
32.5°	1868.3	1892.0	1917.0	1944.4	1980.8	1991.8	1991.4	1983.7	1967.7	1942.8	1916.2
33°	1847.0	1871.2	1895.7	1923.1	1959.1	1969.7	1970.6	1962.0	1946.4	1921.9	1895.3
33.5°	1825.8	1849.5	1874.4	1901.0	1936.6	1947.7	1948.1	1940.3	1924.3	1901.0	1874.4
34°	1803.7	1828.2	1852.8	1879.8	1914.5	1926.0	1925.6	1918.2	1902.7	1878.9	1852.8
34.5°	1781.6	1806.6	1830.7	1856.5	1892.0	1901.9	1902.7	1895.3	1880.6	1856.9	1831.1
35°	1759.1	1784.1	1808.6	1834.0	1868.3	1879.4	1879.8	1872.4	1858.5	1835.2	1808.6
35.5°	1735.8	1761.6	1786.1	1810.6	1845.4	1855.2	1856.0	1849.5	1835.2	1813.1	1786.1
36°	1712.5	1739.1	1762.8	1787.3	1821.7	1831.9	1832.3	1826.2	1812.7	1790.6	1764.4
36.5°	1688.4	1714.9	1739.5	1763.2	1798.0	1806.6	1808.2	1801.6	1789.0	1766.9	1741.5
37°	1664.6	1690.8	1715.8	1739.1	1772.2	1782.0	1782.8	1777.1	1765.7	1743.6	1717.8
37.5°	1640.1	1665.9	1691.2	1714.5	1747.2	1755.8	1757.1	1752.2	1740.7	1720.3	1694.1
38°	1614.3	1641.3	1666.3	1688.4	1721.5	1730.1	1731.7	1726.4	1715.3	1695.7	1671.2
38.5°	1588.6	1615.6	1640.5	1662.2	1694.9	1703.9	1705.5	1699.8	1690.4	1670.8	1645.4
39°	1561.6	1589.4	1613.9	1636.0	1667.9	1676.1	1678.1	1673.2	1664.6	1645.4	1619.6
39.5°	1533.8	1560.3	1585.7	1607.4	1639.7	1648.3	1650.3	1645.8	1637.6	1618.4	1592.2
40°	1505.1	1531.7	1556.2	1578.3	1611.5	1620.1	1621.7	1618.0	1609.0	1591.0	1566.5
40.5°	1474.0	1501.4	1526.4	1548.5	1581.2	1590.2	1593.1	1589.0	1580.4	1562.4	1536.6
41°	1444.2	1471.2	1496.1	1518.6	1551.7	1560.7	1562.8	1559.1	1551.3	1532.5	1506.8
41.5°	1414.7	1440.9	1465.9	1488.8	1522.3	1530.9	1533.8	1529.3	1521.1	1501.8	1476.5
42°	1384.9	1410.6	1435.6	1458.5	1492.4	1502.7	1505.1	1501.0	1492.0	1473.2	1448.7
42.5°	1352.2	1378.7	1404.1	1427.4	1462.6	1472.4	1475.7	1472.0	1462.6	1443.8	1418.0
43°	1322.7	1348.9	1374.7	1397.6	1431.9	1442.1	1445.4	1440.9	1431.9	1412.3	1387.7
43.5°	1295.3	1321.1	1346.8	1369.7	1403.3	1413.5	1416.4	1411.1	1400.4	1380.8	1356.2



TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1222.5	1247.9	1272.4	1294.1	1325.2	1335.0	1337.8	1332.1	1320.7	1300.6	1277.3
45.5°	1199.6	1225.4	1249.9	1271.2	1301.4	1310.8	1313.7	1308.0	1296.5	1277.3	1253.6
46°	1178.3	1204.1	1227.8	1249.1	1278.5	1287.5	1290.4	1284.7	1273.6	1254.4	1231.1
46.5°	1157.1	1182.8	1206.1	1227.0	1256.0	1265.4	1268.3	1263.0	1251.5	1232.3	1209.0
47°	1136.2	1161.6	1185.3	1205.7	1234.0	1243.4	1246.2	1240.9	1229.5	1211.1	1188.1
47.5°	1115.3	1140.7	1164.0	1184.5	1212.3	1222.1	1225.0	1218.8	1207.8	1189.8	1166.9
48°	1094.1	1119.4	1141.9	1163.2	1190.6	1200.8	1203.3	1197.6	1186.9	1168.9	1146.0
48.5°	1070.4	1095.3	1119.0	1140.7	1169.3	1179.6	1182.4	1177.1	1165.7	1147.7	1125.2
49°	1044.6	1067.9	1092.0	1115.8	1146.0	1157.1	1160.7	1155.0	1142.7	1123.9	1102.3
49.5°	1018.4	1040.5	1065.0	1089.6	1121.5	1133.3	1136.6	1130.1	1117.8	1098.2	1076.1
50°	988.6	1009.8	1034.4	1060.9	1096.1	1109.2	1112.5	1105.5	1092.0	1072.4	1050.3
50.5°	957.1	978.7	1004.1	1031.5	1068.3	1081.8	1084.7	1079.8	1065.0	1045.4	1021.7
51°	924.7	947.2	971.0	999.6	1038.5	1050.7	1055.2	1050.3	1036.4	1015.5	992.2
51.5°	892.0	914.1	938.2	966.1	1007.0	1020.0	1025.8	1018.8	1006.6	984.9	961.6
52°	858.5	880.2	903.9	930.9	972.6	988.1	993.9	987.3	974.2	953.0	930.1
52.5°	824.5	845.8	870.4	895.3	937.4	955.4	961.2	954.6	939.9	919.4	897.8
53°	789.8	811.0	834.0	858.1	901.0	921.5	928.8	920.3	903.5	884.3	865.0
53.5°	755.0	775.5	798.8	820.9	864.2	887.5	896.1	886.7	867.9	849.9	830.7
54°	719.8	739.9	761.6	782.8	827.0	851.5	861.8	849.9	831.5	813.9	795.9
54.5°	685.1	705.9	724.7	745.6	790.2	816.0	826.2	813.9	794.3	777.9	760.7
55°	650.3	669.9	687.1	708.0	753.0	781.2	791.8	778.7	758.3	741.9	726.4
55.5°	615.1	634.4	650.7	670.8	717.0	744.4	757.1	742.7	723.1	705.1	690.4
56°	580.8	598.4	613.9	632.7	679.8	707.6	720.2	705.1	686.7	667.9	654.8
56.5°	546.8	564.0	576.7	596.3	643.4	672.0	684.3	669.5	651.1	631.5	619.2
57°	513.3	528.4	539.9	559.9	607.0	634.4	647.9	634.0	615.5	595.9	584.5
57.5°	479.8	494.1	504.7	525.2	572.6	598.8	612.3	599.2	581.6	560.3	548.5
58°	447.0	459.7	470.4	490.0	537.8	562.4	575.5	563.6	546.8	524.7	514.1
58.5°	415.1	426.6	436.0	456.9	504.3	527.6	539.5	529.7	514.1	491.2	480.6
59°	383.6	393.0	402.5	423.7	470.4	492.4	503.5	494.9	480.2	458.1	446.6
59.5°	354.2	361.6	370.6	391.0	437.2	458.5	467.9	462.6	446.6	426.2	414.3
60°	323.9	329.2	339.1	359.9	404.5	424.5	433.5	428.2	414.3	396.3	383.6
60.5°	294.9	299.4	308.8	329.7	373.8	393.0	401.2	397.1	384.1	366.5	353.4
61°	267.1	269.9	278.9	299.0	343.6	361.6	368.9	366.5	353.8	336.6	323.1
61.5°	240.1	242.5	251.1	272.4	312.9	330.1	336.6	335.4	323.5	306.8	292.8
62°	213.5	215.1	225.0	244.6	282.2	298.6	304.3	304.3	293.3	276.9	262.6
62.5°	189.0	189.8	199.2	218.4	253.6	267.1	272.0	273.2	263.0	249.9	236.0
63°	164.8	165.2	175.5	193.9	226.2	238.4	242.9	244.6	231.9	224.1	210.2
63.5°	140.3	143.2	152.1	170.1	199.6	210.2	215.1	216.4	202.9	199.2	186.1
64°	119.8	125.2	134.2	147.2	174.6	184.5	189.0	190.2	174.6	175.1	163.2
64.5°	99.4	107.6	116.2	128.8	150.5	159.5	164.0	164.4	147.2	152.6	141.5
65°	78.9	90.4	98.2	110.4	128.4	135.8	140.7	140.7	121.1	130.5	121.5
65.5°	58.5	72.8	80.2	92.0	107.2	114.1	118.6	117.8	97.8	110.4	103.5
66°	42.9	55.2	62.2	73.6	87.5	93.7	98.2	96.5	76.1	91.2	85.5





TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	13.5	23.3	27.0	29.9	45.8	49.5	53.2	51.9	34.8	50.7	47.9
68°	10.6	16.0	18.8	20.0	33.9	36.8	39.7	39.3	20.9	38.9	37.2
68.5°	7.8	12.3	11.5	12.7	21.7	24.1	26.6	26.6	7.0	27.0	26.2
69°	4.9	9.0	9.0	9.8	9.8	11.9	13.5	13.9	3.3	15.5	15.5
69.5°	2.0	5.3	6.5	7.0	4.9	6.1	7.0	7.8	2.0	9.4	9.0
70°	1.6	2.0	4.1	4.1	2.5	2.9	3.3	3.7	1.6	4.9	4.9
70.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.0	1.6	2.5	2.5
71°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
71.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.6	1.6	1.6
72°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.6	1.6
72.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
73°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
73.5°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
74°	0.8	0.8	1.2	0.8	0.8	0.8	0.8	0.8	0.8	1.2	1.2
74.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.2
75°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
75.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
76°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
76.5°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.4	0.4	0.4	0.4	0.4	0.8	0.8
78°	0.8	0.4	0.8	0.4	0.4	0.4	0.4	0.4	0.4	0.8	0.8
78.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
79°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
79.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
80°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
80.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
81°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
81.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
82.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
83.5°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
84°	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.4	0.4
84.5°	0.4	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.4	0.4
85°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
85.5°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
86°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
86.5°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
87°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
87.5°	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
88°	0.4	0.8	0.8	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.4
88.5°	0.4	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.4	0.4



TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.4	1.2	1.2	0.8	0.4	0.0	0.0	0.4	0.0	0.8	0.4



TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2723.1	2723.1	2723.1	2723.1	2723.1	2723.1
0.5°	2721.5	2722.7	2721.5	2719.9	2720.3	2721.1
1°	2720.3	2720.7	2719.0	2717.4	2717.8	2719.0
1.5°	2718.2	2717.8	2715.8	2714.1	2714.5	2716.6
2°	2716.2	2714.9	2712.5	2710.9	2711.7	2713.3
2.5°	2713.3	2711.3	2708.8	2706.8	2707.6	2710.0
3°	2710.0	2707.6	2704.7	2702.7	2703.5	2706.4
3.5°	2706.8	2703.1	2700.2	2698.2	2699.0	2701.9
4°	2702.7	2698.6	2695.3	2693.3	2694.1	2696.9
4.5°	2698.2	2693.3	2690.0	2687.5	2688.8	2691.6
5°	2693.3	2688.0	2684.7	2682.2	2683.0	2686.3
5.5°	2688.0	2681.8	2678.5	2675.7	2676.5	2680.2
6°	2682.2	2675.7	2672.0	2669.5	2670.0	2673.2
6.5°	2675.7	2669.1	2665.5	2662.6	2662.6	2666.7
7°	2669.1	2661.8	2658.1	2655.2	2655.6	2659.3
7.5°	2662.2	2654.0	2650.3	2647.5	2647.9	2651.1
8°	2654.4	2646.2	2642.1	2639.3	2639.3	2643.0
8.5°	2646.2	2637.6	2634.0	2630.7	2630.7	2634.0
9°	2637.6	2628.6	2625.0	2622.1	2621.3	2625.0
9.5°	2628.6	2619.2	2615.6	2612.7	2611.9	2615.1
10°	2619.2	2609.4	2605.7	2602.9	2601.7	2604.9
10.5°	2609.4	2599.2	2595.5	2592.7	2591.4	2594.3
11°	2598.8	2588.6	2584.9	2582.0	2580.4	2583.2
11.5°	2588.2	2577.1	2573.8	2571.0	2569.3	2571.8
12°	2577.5	2566.1	2562.4	2559.5	2557.5	2560.3
12.5°	2565.7	2553.8	2550.5	2547.7	2545.6	2548.1
13°	2553.8	2541.5	2538.7	2535.8	2532.9	2535.4
13.5°	2541.1	2528.4	2526.0	2522.7	2520.3	2522.7
14°	2528.4	2515.4	2512.9	2509.6	2507.2	2509.6
14.5°	2515.8	2502.3	2499.8	2496.5	2493.7	2496.1
15°	2501.9	2488.4	2485.9	2482.6	2479.4	2482.2
15.5°	2487.9	2474.5	2471.6	2468.7	2465.5	2468.3
16°	2474.0	2459.7	2456.9	2454.0	2451.1	2453.6
16.5°	2459.7	2445.0	2442.6	2439.7	2436.0	2439.3
17°	2445.4	2430.3	2427.4	2424.6	2421.3	2423.7
17.5°	2430.7	2414.7	2411.9	2409.0	2405.3	2408.6
18°	2415.1	2399.2	2396.3	2393.5	2389.8	2393.1
18.5°	2399.6	2383.2	2380.0	2377.5	2373.8	2377.5
19°	2383.7	2367.3	2364.0	2361.2	2357.9	2361.6
19.5°	2368.1	2351.3	2347.7	2344.8	2341.5	2346.0
20°	2352.2	2334.6	2330.5	2327.6	2324.8	2329.3
20.5°	2335.8	2317.8	2313.7	2310.9	2308.0	2312.9
21°	2319.4	2300.2	2296.5	2293.3	2290.8	2296.1

TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2268.7	2248.7	2243.4	2240.1	2238.9	2245.0
23°	2251.5	2230.7	2225.4	2220.9	2221.3	2228.2
23.5°	2234.4	2212.7	2207.0	2203.3	2203.3	2210.6
24°	2216.8	2194.7	2188.2	2184.1	2185.3	2193.1
24.5°	2198.8	2176.7	2169.7	2165.7	2166.5	2175.5
25°	2181.2	2158.7	2150.5	2146.0	2148.1	2157.5
25.5°	2163.2	2140.3	2131.7	2127.6	2130.1	2139.9
26°	2144.8	2121.5	2112.1	2107.2	2111.3	2121.5
26.5°	2126.4	2102.3	2093.3	2088.4	2092.4	2103.1
27°	2108.0	2083.4	2073.2	2068.3	2073.2	2085.1
27.5°	2089.6	2064.2	2053.6	2048.3	2053.6	2066.3
28°	2070.8	2044.6	2033.6	2028.2	2034.0	2047.5
28.5°	2051.5	2025.0	2013.5	2007.8	2014.3	2028.2
29°	2032.3	2005.3	1993.1	1986.9	1994.7	2009.0
29.5°	2013.1	1985.3	1972.6	1966.5	1974.2	1989.8
30°	1993.5	1965.2	1951.3	1946.0	1953.8	1970.6
30.5°	1973.4	1944.8	1930.5	1924.8	1933.3	1950.1
31°	1953.8	1923.9	1909.2	1903.1	1912.5	1929.7
31.5°	1932.9	1903.1	1887.9	1881.8	1891.2	1909.6
32°	1912.1	1882.2	1865.9	1860.1	1870.4	1889.2
32.5°	1891.6	1861.0	1844.2	1838.5	1848.7	1868.3
33°	1870.4	1838.9	1822.5	1816.8	1827.0	1847.0
33.5°	1849.1	1816.8	1800.4	1794.3	1805.3	1825.8
34°	1827.0	1794.7	1778.3	1771.8	1783.2	1803.7
34.5°	1804.9	1772.2	1755.0	1749.3	1760.7	1781.6
35°	1782.8	1749.3	1732.1	1726.4	1737.8	1759.1
35.5°	1760.3	1726.0	1709.6	1703.5	1714.9	1735.8
36°	1737.8	1702.3	1685.9	1680.2	1691.6	1712.5
36.5°	1714.1	1678.5	1662.6	1656.5	1668.3	1688.4
37°	1690.0	1654.0	1638.0	1632.7	1644.2	1664.6
37.5°	1665.9	1629.0	1613.5	1608.6	1619.6	1640.1
38°	1640.9	1604.1	1589.0	1583.6	1594.7	1614.3
38.5°	1615.6	1577.9	1563.2	1558.3	1568.9	1588.6
39°	1589.0	1551.7	1537.8	1532.9	1543.6	1561.6
39.5°	1562.8	1524.3	1510.4	1506.3	1515.3	1533.8
40°	1535.4	1496.5	1482.2	1478.1	1486.7	1505.1
40.5°	1506.3	1467.5	1453.2	1449.1	1456.9	1474.0
41°	1476.5	1437.6	1423.7	1419.2	1427.8	1444.2
41.5°	1446.6	1407.8	1393.9	1390.2	1397.6	1414.7
42°	1418.0	1379.6	1365.2	1360.7	1368.9	1384.9
42.5°	1388.6	1350.1	1335.4	1329.7	1337.4	1352.2
43°	1358.7	1319.4	1305.1	1300.6	1307.6	1322.7
43.5°	1328.0	1289.6	1275.7	1271.2	1278.9	1295.3

TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1249.1	1213.9	1200.8	1197.1	1205.3	1222.5
45.5°	1225.8	1190.6	1177.5	1174.6	1182.8	1199.6
46°	1203.7	1168.9	1156.2	1153.0	1161.6	1178.3
46.5°	1181.6	1148.1	1135.0	1132.1	1140.3	1157.1
47°	1161.6	1127.6	1114.1	1111.3	1119.4	1136.2
47.5°	1140.3	1105.9	1093.7	1090.4	1099.0	1115.3
48°	1119.8	1086.3	1073.2	1069.9	1078.1	1094.1
48.5°	1099.4	1064.6	1052.8	1048.7	1056.4	1070.4
49°	1076.9	1043.0	1030.3	1025.8	1032.3	1044.6
49.5°	1051.9	1017.6	1007.0	1002.1	1006.6	1018.4
50°	1026.2	993.1	981.6	976.7	979.1	988.6
50.5°	998.4	964.4	954.6	948.1	948.9	957.1
51°	968.1	935.0	924.3	917.4	917.8	924.7
51.5°	937.8	903.1	892.8	884.3	885.9	892.0
52°	907.2	871.2	859.3	850.3	851.1	858.5
52.5°	874.9	837.2	825.0	816.0	816.4	824.5
53°	842.1	803.7	790.2	780.4	781.2	789.8
53.5°	808.2	769.3	754.6	744.8	745.6	755.0
54°	774.6	735.4	719.4	709.2	710.0	719.8
54.5°	740.7	701.8	684.7	673.6	674.4	685.1
55°	707.6	667.9	649.1	637.6	639.3	650.3
55.5°	673.2	633.1	614.7	601.2	604.9	615.1
56°	638.4	599.6	580.0	566.1	570.6	580.8
56.5°	604.9	566.5	546.4	531.7	537.0	546.8
57°	570.1	533.7	512.1	497.3	503.1	513.3
57.5°	537.0	501.4	479.3	464.2	469.9	479.8
58°	503.9	469.5	447.4	432.3	437.6	447.0
58.5°	470.4	437.6	416.4	400.4	407.0	415.1
59°	437.6	407.0	386.1	370.1	375.1	383.6
59.5°	407.0	377.1	355.8	340.7	346.0	354.2
60°	376.7	347.7	326.8	312.1	317.4	323.9
60.5°	346.4	317.8	299.0	285.1	289.2	294.9
61°	316.2	290.0	271.6	259.3	261.4	267.1
61.5°	285.9	262.6	246.2	235.2	236.8	240.1
62°	257.7	235.6	221.3	210.6	211.9	213.5
62.5°	230.7	209.8	197.5	188.5	187.7	189.0
63°	204.5	185.3	175.1	166.9	164.8	164.8
63.5°	179.6	162.0	154.2	147.2	144.4	140.3
64°	155.8	139.5	136.6	130.9	127.6	119.8
64.5°	134.6	121.1	119.4	114.1	110.8	99.4
65°	113.7	102.7	102.3	97.8	93.7	78.9
65.5°	94.9	84.7	84.7	81.4	76.9	58.5
66°	77.7	66.3	67.5	65.0	59.7	42.9



TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	42.5	29.9	31.5	31.1	25.8	13.5
68°	32.7	21.3	22.9	22.1	18.0	10.6
68.5°	22.9	14.7	15.1	14.7	14.7	7.8
69°	13.1	11.5	11.9	11.5	11.5	4.9
69.5°	7.8	8.2	8.6	8.2	8.2	2.0
70°	4.1	4.9	4.9	4.9	4.9	1.6
70.5°	2.0	1.6	1.6	1.6	1.6	1.6
71°	1.6	1.6	1.6	1.6	1.6	1.6
71.5°	1.6	1.2	1.2	1.2	1.2	1.2
72°	1.2	1.2	1.2	1.2	1.2	1.2
72.5°	1.2	1.2	1.2	1.2	1.2	1.2
73°	1.2	1.2	1.2	1.2	1.2	1.2
73.5°	1.2	1.2	1.2	1.2	1.2	1.2
74°	1.2	1.2	1.2	1.2	0.8	0.8
74.5°	0.8	0.8	0.8	0.8	0.8	0.8
75°	0.8	0.8	0.8	0.8	0.8	0.8
75.5°	0.8	0.8	0.8	0.8	0.8	0.8
76°	0.8	0.8	0.8	0.8	0.8	0.8
76.5°	0.8	0.8	0.8	0.8	0.8	0.8
77°	0.8	0.8	0.8	0.8	0.8	0.8
77.5°	0.8	0.8	0.8	0.8	0.8	0.8
78°	0.8	0.8	0.8	0.8	0.8	0.8
78.5°	0.4	0.8	0.8	0.8	0.8	0.4
79°	0.4	0.4	0.8	0.8	0.8	0.4
79.5°	0.4	0.4	0.8	0.8	0.4	0.4
80°	0.4	0.4	0.8	0.8	0.4	0.4
80.5°	0.4	0.4	0.8	0.8	0.4	0.4
81°	0.4	0.4	0.8	0.8	0.4	0.4
81.5°	0.4	0.4	0.8	0.8	0.4	0.4
82°	0.4	0.4	0.8	0.8	0.4	0.4
82.5°	0.4	0.4	0.8	0.8	0.4	0.4
83°	0.4	0.4	0.8	0.8	0.4	0.4
83.5°	0.4	0.4	0.8	0.8	0.4	0.4
84°	0.4	0.4	0.8	0.8	0.4	0.4
84.5°	0.4	0.4	0.8	0.8	0.4	0.4
85°	0.4	0.4	0.8	0.8	0.8	0.4
85.5°	0.4	0.4	0.8	0.8	0.8	0.4
86°	0.4	0.4	0.8	0.8	0.8	0.4
86.5°	0.4	0.4	0.8	1.2	0.8	0.4
87°	0.4	0.4	1.2	1.2	1.2	0.4
87.5°	0.4	0.8	1.2	1.6	1.2	0.4
88°	0.4	0.8	1.6	2.0	1.6	0.4
88.5°	0.4	0.8	2.0	2.5	2.0	0.4



TEST NUMBER: P776344

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.4	1.6	2.9	2.0	2.9	0.4



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°	2279.4	2298.6	2327.6	2357.1	2393.9	2407.4	2405.7	2393.1	2373.0	2350.5	2325.2
22°	2262.2	2281.8	2310.9	2341.1	2377.5	2391.4	2389.8	2376.7	2357.1	2334.2	2308.4



44°	1269.5	1295.7	1320.7	1343.6	1376.3	1386.5	1389.0	1383.2	1371.8	1351.7	1328.4
44.5°	1245.4	1271.2	1296.1	1318.2	1350.1	1359.9	1362.4	1357.5	1345.6	1325.6	1301.0



66.5°	31.1	42.5	48.7	55.2	69.9	74.8	79.3	77.3	62.2	74.0	69.9
67°	21.3	31.9	37.2	41.7	58.1	62.2	66.3	64.6	48.3	62.2	58.9



89°	0.4	0.8	1.2	0.8	0.0	0.0	0.0	0.4	0.0	0.4	0.4
89.5°	0.4	1.2	1.2	0.8	0.4	0.0	0.0	0.4	0.0	0.4	0.4



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

Scaled Data Report





21.5°	2303.1	2283.0	2279.0	2275.7	2274.0	2279.4
22°	2285.5	2265.9	2261.4	2257.3	2256.0	2262.2



44°	1299.8	1263.0	1249.9	1245.0	1253.6	1269.5
44.5°	1273.6	1238.0	1224.5	1220.9	1229.0	1245.4

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

Scaled Data Report



66.5°	62.6	51.9	54.4	52.4	47.0	31.1
67°	52.4	39.7	42.1	40.9	35.6	21.3



89°	0.4	1.2	2.0	2.9	2.0	0.4
89.5°	0.4	1.2	2.5	2.9	2.5	0.4

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

Scaled Data Report



(END OF REPORT)