

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: P776569

Luminaire Tested: HCDJBS4050CSD-HCD41TRMW-5000lm-5000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776569
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B030)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD41TRMW-5000lm-5000K
Description: 4 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

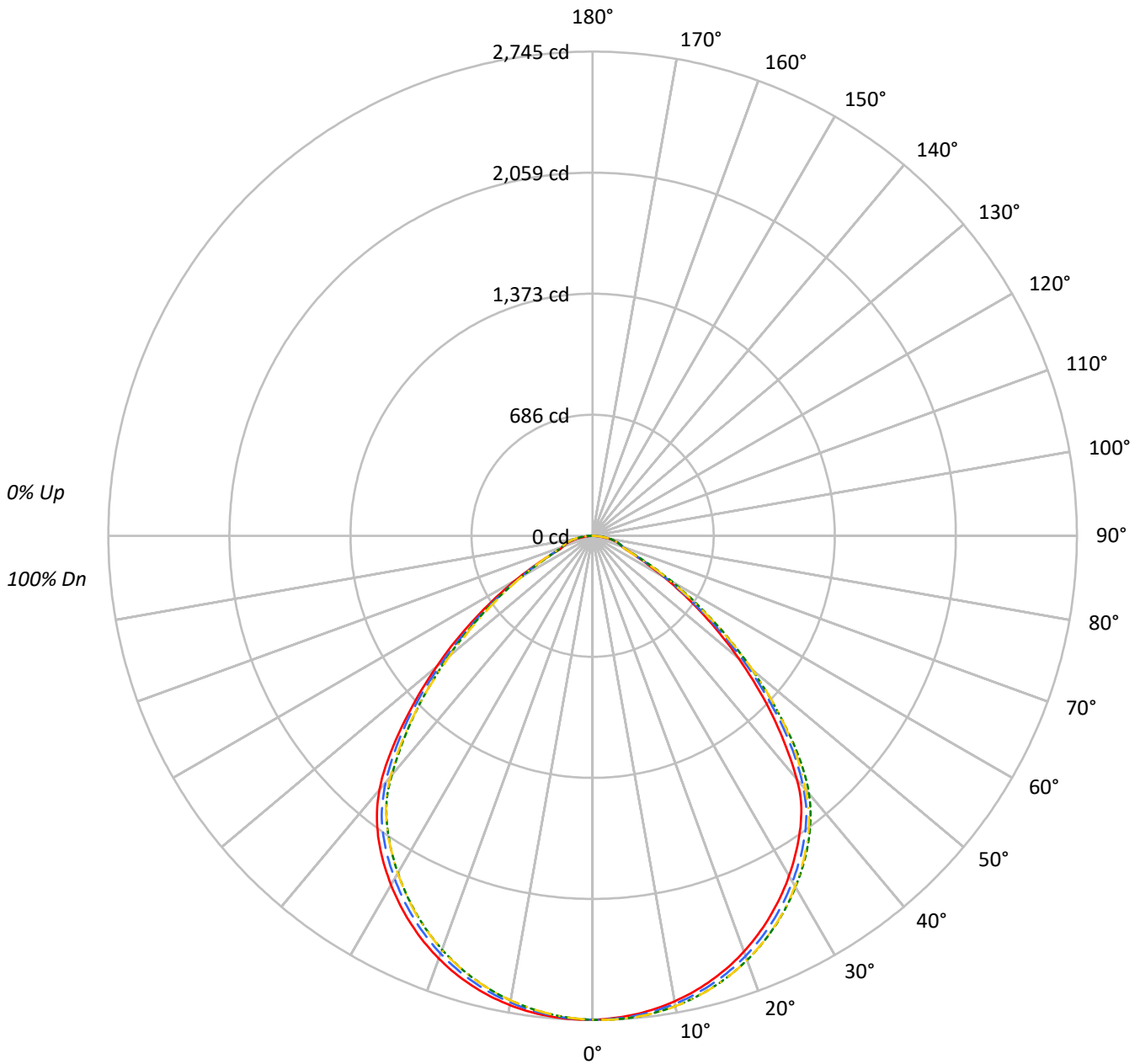
Lumens per Lamp: N/A
Luminaire Lumens: 5728.6 lumens
Efficiency: N/A
Efficacy: 119.3 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.22 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): 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: P776569
CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P776569

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

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	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	105	102	99	101	98	96	97	95	93	93	92	90	88					88			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	81	84	81	79	77					77			
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67					67			
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59					59			
5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52					52			
6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47					47			
7	71	58	50	45	69	57	50	45	56	49	44	55	49	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	60	49	42	37	48	41	36	47	41	36	46	40	36	34					34			
10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	43	37	33	31					31			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	345256	345256	345256	345256
5°	344251	346082	345653	343998
10°	342455	345995	345241	341829
15°	339847	344980	344029	338713
20°	335941	342839	341539	334321
25°	330514	339346	337596	328293
30°	323523	334175	332126	320777
35°	314581	327195	324506	311447
40°	295713	313423	308873	290834
45°	256663	277931	271969	253299
50°	211333	231010	226350	209532
55°	163221	180576	177066	163221
60°	116461	129676	126982	116965
65°	79092	84720	82576	79241
70°	65938	65571	66122	67374
75°	69436	69874	67053	73180
80°	64719	72112	58776	77402
85°	35810	65845	25269	75086

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
 Vertical Angle: 45°
 Luminance: 282327 cd/sqm



TEST NUMBER: P776569

CATALOG NUMBER: HCDJBL4050CSD-HCD41TRMW-5000lm-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	259.4	4.5
10°-20°	739.9	12.9
20°-30°	1106.9	19.3
30°-40°	1294.2	22.6
40°-50°	1144.6	20.0
50°-60°	696.6	12.2
60°-70°	290.2	5.1
70°-80°	150.6	2.6
80°-90°	46.1	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°	2106.2	36.8
0°-40°	3400.4	59.4
0°-60°	5241.6	91.5
0°-90°	5728.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5728.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2743	2743	2743	2743	2743	
5°	2725	2740	2736	2723	2725	259
15°	2608	2648	2640	2600	2608	735
25°	2380	2444	2431	2364	2380	1096
35°	2048	2130	2112	2027	2048	1275
45°	1442	1562	1528	1423	1442	1108
55°	744	823	807	744	744	670
65°	266	284	277	266	266	280
75°	143	144	138	150	143	147
85°	25	46	18	52	25	37
90°	0	0	0	0	0	



TEST NUMBER: P776569

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2743.4	2743.4	2743.4	2743.4	2743.4	2743.4	2743.4	2743.4	2743.4	2743.4	2743.4
0.5°	2742.9	2743.4	2743.9	2742.9	2744.9	2745.4	2744.4	2743.9	2743.9	2743.9	2743.4
1°	2742.0	2742.9	2743.4	2743.4	2745.4	2745.8	2745.4	2744.4	2743.9	2743.9	2742.9
1.5°	2740.5	2742.0	2742.9	2743.4	2745.4	2746.3	2745.4	2744.4	2743.9	2743.4	2742.0
2°	2739.0	2740.5	2742.4	2742.9	2745.4	2746.3	2745.4	2744.4	2743.4	2742.4	2741.0
2.5°	2737.1	2739.0	2741.5	2742.4	2744.9	2746.3	2745.4	2743.9	2742.9	2741.5	2739.5
3°	2735.2	2737.6	2740.0	2741.5	2744.4	2745.8	2744.4	2743.4	2742.0	2740.5	2738.1
3.5°	2733.2	2735.6	2738.6	2740.5	2743.4	2745.4	2743.9	2742.4	2741.0	2738.6	2736.1
4°	2730.8	2733.2	2736.6	2739.0	2742.4	2744.4	2742.4	2741.0	2739.5	2737.1	2733.7
4.5°	2727.9	2730.8	2734.2	2737.1	2741.0	2742.9	2741.5	2739.5	2737.6	2735.2	2731.3
5°	2725.0	2728.4	2731.8	2735.2	2739.5	2741.5	2739.5	2738.1	2736.1	2732.7	2728.4
5.5°	2721.6	2725.0	2729.3	2733.2	2737.1	2740.0	2737.6	2735.6	2733.7	2729.8	2725.4
6°	2717.7	2722.0	2726.4	2730.8	2735.2	2737.6	2735.6	2733.7	2731.3	2727.4	2722.0
6.5°	2713.8	2718.2	2723.5	2727.9	2732.7	2735.6	2733.2	2731.3	2728.8	2724.5	2718.6
7°	2709.9	2714.3	2720.1	2725.0	2729.8	2732.7	2730.3	2728.4	2725.4	2721.1	2715.2
7.5°	2705.5	2710.4	2716.2	2721.6	2726.9	2730.3	2727.4	2725.4	2722.0	2717.2	2710.9
8°	2701.2	2706.0	2712.8	2718.2	2723.0	2726.9	2724.0	2722.0	2718.6	2713.3	2706.5
8.5°	2696.3	2701.6	2708.0	2714.3	2719.6	2724.0	2720.6	2718.2	2714.8	2709.4	2702.1
9°	2691.0	2696.8	2703.6	2710.4	2715.7	2720.1	2716.7	2714.3	2710.9	2704.6	2697.3
9.5°	2685.6	2691.5	2699.2	2705.5	2711.8	2716.2	2712.8	2710.4	2706.5	2700.2	2691.9
10°	2679.8	2686.1	2693.9	2701.2	2707.5	2711.8	2708.4	2706.0	2701.6	2695.3	2686.6
10.5°	2674.0	2680.8	2688.5	2695.8	2702.6	2707.5	2703.6	2701.2	2696.8	2690.0	2681.3
11°	2667.7	2674.5	2683.2	2691.0	2697.8	2702.6	2698.7	2695.8	2691.9	2684.2	2674.9
11.5°	2661.3	2668.6	2677.4	2685.6	2692.4	2697.8	2693.4	2691.0	2686.1	2678.3	2668.6
12°	2654.6	2661.8	2671.1	2679.3	2687.1	2692.4	2688.1	2685.6	2680.8	2672.5	2662.3
12.5°	2647.3	2655.0	2664.7	2673.5	2681.3	2687.1	2682.2	2679.3	2674.9	2666.2	2655.5
13°	2640.5	2648.2	2657.9	2667.2	2674.9	2681.3	2675.9	2673.5	2668.6	2659.4	2648.7
13.5°	2632.2	2641.0	2650.7	2660.9	2668.6	2674.9	2669.6	2667.2	2661.8	2652.6	2641.4
14°	2624.9	2633.7	2643.9	2654.1	2661.8	2668.6	2663.3	2660.4	2655.0	2645.3	2633.7
14.5°	2616.7	2625.9	2636.1	2646.8	2655.0	2661.8	2656.0	2653.1	2647.8	2638.0	2625.9
15°	2608.4	2617.6	2628.8	2639.5	2647.8	2655.0	2649.2	2646.3	2640.5	2630.3	2617.6
15.5°	2599.7	2608.9	2620.6	2631.2	2640.5	2647.3	2641.4	2638.5	2632.7	2622.5	2609.4
16°	2590.5	2600.2	2611.8	2623.5	2632.7	2640.0	2633.2	2630.8	2624.4	2613.8	2600.7
16.5°	2581.2	2591.4	2603.6	2615.2	2624.4	2631.7	2625.4	2622.5	2616.7	2605.5	2591.4
17°	2572.0	2582.2	2594.8	2606.5	2616.2	2623.5	2617.2	2613.8	2607.5	2596.8	2582.2
17.5°	2562.3	2572.5	2585.6	2598.2	2607.5	2615.2	2607.9	2605.0	2598.7	2587.1	2572.5
18°	2552.1	2562.8	2575.9	2589.0	2598.7	2606.0	2599.2	2596.3	2590.0	2577.8	2562.8
18.5°	2541.4	2552.6	2566.2	2579.3	2589.5	2596.8	2590.0	2587.1	2580.3	2568.1	2552.6
19°	2530.7	2542.4	2556.0	2569.6	2579.8	2587.5	2580.3	2577.3	2571.0	2558.4	2542.4
19.5°	2519.6	2531.7	2545.8	2559.9	2570.1	2577.8	2570.1	2567.6	2560.8	2547.7	2531.7
20°	2508.4	2520.5	2535.1	2549.7	2559.9	2568.1	2559.9	2557.0	2550.2	2537.5	2520.5
20.5°	2497.2	2509.4	2524.4	2539.0	2549.7	2557.4	2549.2	2546.3	2539.5	2526.4	2508.9
21°	2484.6	2497.7	2512.8	2528.3	2539.0	2547.2	2538.5	2535.6	2528.8	2515.2	2497.7



TEST NUMBER: P776569

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2447.7	2461.3	2477.8	2493.8	2505.5	2513.7	2504.0	2501.6	2494.3	2480.2	2461.3
23°	2434.6	2448.7	2465.2	2482.2	2493.8	2502.1	2491.9	2489.5	2482.2	2468.1	2448.2
23.5°	2421.5	2435.6	2452.6	2469.6	2481.7	2489.9	2479.7	2476.8	2470.0	2455.0	2435.6
24°	2407.9	2422.5	2439.9	2457.4	2469.1	2477.8	2467.1	2464.2	2457.4	2442.4	2422.5
24.5°	2394.3	2408.9	2426.8	2444.3	2456.4	2465.2	2454.5	2451.6	2444.3	2429.3	2408.9
25°	2380.2	2394.8	2413.2	2431.2	2443.8	2452.1	2440.9	2438.5	2431.2	2416.1	2395.3
25.5°	2366.1	2381.2	2399.6	2418.1	2430.7	2439.0	2427.8	2424.9	2418.1	2402.5	2381.2
26°	2351.1	2367.1	2385.6	2404.5	2417.1	2425.9	2414.2	2411.3	2404.5	2388.5	2366.6
26.5°	2337.0	2352.5	2371.5	2390.9	2403.0	2412.3	2400.1	2397.2	2389.9	2374.9	2352.5
27°	2321.9	2337.5	2356.9	2376.3	2389.4	2398.7	2385.6	2383.1	2375.8	2360.3	2338.0
27.5°	2306.4	2322.9	2342.8	2362.2	2374.9	2384.1	2371.5	2368.6	2361.8	2345.2	2322.9
28°	2290.9	2307.4	2327.3	2347.7	2360.3	2369.5	2356.4	2354.0	2346.7	2331.2	2307.4
28.5°	2274.8	2291.8	2312.2	2332.6	2346.2	2355.0	2341.4	2338.9	2331.7	2315.1	2291.8
29°	2259.3	2275.8	2296.7	2317.6	2330.7	2339.9	2325.8	2323.9	2316.6	2300.6	2276.3
29.5°	2242.8	2260.3	2281.2	2302.0	2315.6	2324.9	2310.3	2308.3	2301.1	2284.6	2260.8
30°	2226.3	2244.3	2265.1	2286.5	2299.6	2309.3	2294.8	2292.3	2285.5	2269.0	2244.3
30.5°	2209.3	2227.7	2249.1	2271.0	2284.1	2293.3	2278.7	2276.3	2269.5	2252.5	2227.7
31°	2192.3	2210.7	2233.1	2254.5	2268.0	2277.8	2262.2	2259.8	2253.0	2236.5	2211.2
31.5°	2175.3	2194.2	2216.1	2238.4	2251.5	2261.2	2245.7	2243.3	2236.5	2220.0	2195.2
32°	2158.3	2177.2	2199.1	2221.9	2235.0	2244.7	2228.7	2226.8	2220.0	2204.0	2177.7
32.5°	2140.3	2159.8	2182.6	2204.9	2219.0	2228.2	2211.7	2209.8	2203.0	2187.0	2160.3
33°	2122.9	2142.3	2165.1	2187.9	2201.5	2211.2	2194.2	2192.3	2186.0	2169.5	2142.8
33.5°	2104.9	2124.3	2147.6	2170.9	2184.0	2193.8	2176.8	2174.3	2168.0	2151.5	2124.8
34°	2086.0	2106.4	2129.2	2153.0	2166.6	2176.3	2157.8	2155.9	2149.6	2133.1	2106.4
34.5°	2067.5	2087.4	2111.2	2134.5	2148.6	2157.3	2139.9	2137.4	2131.1	2115.1	2087.9
35°	2047.6	2068.5	2092.3	2116.1	2129.7	2138.9	2120.4	2118.5	2112.2	2096.2	2069.0
35.5°	2028.2	2049.1	2072.9	2097.1	2110.7	2120.0	2101.5	2099.1	2093.2	2076.7	2049.5
36°	2008.3	2029.2	2053.4	2077.7	2091.8	2101.0	2081.1	2078.2	2072.9	2056.3	2029.2
36.5°	1987.4	2008.8	2033.0	2058.3	2071.4	2080.6	2059.7	2057.3	2051.5	2035.5	2008.3
37°	1966.0	1987.4	2011.7	2036.4	2050.0	2059.3	2038.4	2035.9	2030.1	2014.1	1986.9
37.5°	1943.2	1965.5	1990.3	2015.6	2028.7	2037.9	2015.1	2013.6	2008.3	1991.8	1962.1
38°	1919.4	1942.2	1968.5	1993.2	2006.3	2016.0	1989.8	1989.3	1985.5	1968.0	1936.4
38.5°	1892.7	1915.5	1942.2	1970.4	1983.5	1992.2	1962.6	1962.1	1960.7	1943.7	1910.2
39°	1864.5	1886.4	1914.1	1945.1	1959.2	1967.0	1934.5	1935.0	1935.0	1917.5	1881.5
39.5°	1833.5	1856.8	1886.4	1919.4	1934.0	1940.3	1906.3	1906.3	1908.2	1889.8	1853.4
40°	1800.0	1825.2	1857.3	1890.8	1907.8	1911.6	1876.7	1875.7	1880.1	1860.7	1822.8
40.5°	1765.5	1791.7	1826.2	1862.1	1879.6	1882.0	1847.1	1845.6	1850.0	1830.1	1794.1
41°	1730.5	1758.2	1795.1	1831.0	1850.0	1851.9	1817.4	1815.5	1817.9	1799.0	1761.6
41.5°	1695.6	1724.2	1762.6	1799.5	1817.9	1821.3	1786.4	1783.5	1784.9	1766.9	1730.0
42°	1658.7	1688.8	1730.0	1766.9	1784.9	1789.8	1755.3	1752.4	1750.9	1733.9	1697.0
42.5°	1623.2	1653.3	1696.5	1733.9	1750.0	1757.2	1722.8	1719.4	1715.5	1699.5	1663.5
43°	1587.3	1618.4	1662.6	1699.5	1714.0	1723.7	1690.2	1685.9	1679.1	1664.5	1628.6
43.5°	1551.4	1582.9	1626.1	1664.5	1676.1	1690.7	1657.2	1651.9	1641.2	1628.6	1594.6



TEST NUMBER: P776569

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1442.1	1476.6	1517.4	1553.8	1561.6	1586.3	1553.3	1546.5	1528.1	1515.9	1486.3
45.5°	1405.7	1440.7	1480.0	1515.4	1522.2	1548.9	1518.8	1510.1	1489.7	1477.1	1449.9
46°	1369.8	1404.7	1442.1	1476.1	1482.4	1512.5	1481.9	1472.2	1451.8	1438.2	1411.5
46.5°	1333.3	1368.3	1404.2	1436.8	1444.1	1475.1	1445.5	1435.3	1413.9	1399.4	1373.6
47°	1296.0	1332.4	1366.4	1397.0	1406.2	1436.8	1409.1	1398.4	1377.0	1360.5	1336.3
47.5°	1259.5	1295.5	1327.0	1357.6	1367.8	1398.4	1373.2	1360.1	1340.1	1322.7	1298.9
48°	1223.1	1258.1	1289.6	1317.8	1329.9	1360.1	1335.3	1322.2	1302.8	1283.3	1260.0
48.5°	1186.7	1221.7	1250.8	1278.0	1292.6	1321.7	1298.9	1283.8	1265.9	1245.5	1223.1
49°	1150.8	1184.8	1212.9	1239.1	1254.7	1283.8	1260.0	1246.4	1229.4	1207.1	1184.8
49.5°	1114.8	1146.9	1175.1	1199.8	1216.8	1245.0	1221.7	1208.6	1192.5	1169.7	1147.4
50°	1079.4	1110.5	1136.7	1161.0	1179.9	1207.1	1184.3	1170.7	1156.1	1131.8	1110.0
50.5°	1044.0	1073.1	1098.8	1122.1	1143.0	1169.2	1144.9	1133.8	1119.2	1095.4	1072.6
51°	1008.5	1036.7	1061.4	1084.3	1105.6	1130.9	1108.0	1097.4	1083.8	1059.5	1036.2
51.5°	974.5	1001.2	1024.5	1046.4	1069.2	1094.9	1069.2	1060.5	1048.3	1023.1	1000.3
52°	940.0	965.3	987.6	1010.0	1033.3	1057.5	1030.4	1023.6	1013.8	986.7	964.3
52.5°	906.5	929.8	951.2	973.5	996.9	1020.2	993.5	987.6	977.9	951.7	927.9
53°	873.0	894.9	914.3	937.6	961.4	983.3	956.1	952.2	942.5	916.2	892.9
53.5°	840.0	860.4	878.9	902.2	925.5	947.8	919.6	916.2	907.5	882.7	858.5
54°	807.5	826.4	842.9	867.7	891.5	911.9	881.8	881.3	875.0	848.3	825.5
54.5°	775.4	791.9	808.9	833.2	857.5	876.9	846.3	847.3	841.0	815.3	792.4
55°	743.9	759.4	775.4	800.2	823.0	842.9	810.9	813.3	807.0	782.2	758.9
55.5°	713.3	727.4	741.4	767.2	789.5	808.5	775.9	779.8	774.0	750.7	726.9
56°	683.2	695.8	708.4	735.6	756.5	773.5	741.9	745.8	742.9	718.6	696.3
56.5°	653.1	664.2	677.4	704.1	724.5	740.5	708.4	713.8	710.4	688.0	665.7
57°	623.9	634.1	646.3	673.5	692.4	708.4	675.9	681.7	678.8	658.4	636.1
57.5°	595.3	604.0	615.7	642.9	661.3	675.9	644.3	650.6	648.2	629.3	606.5
58°	567.1	574.9	585.6	614.2	630.3	643.9	613.7	620.1	619.1	600.6	578.8
58.5°	539.9	546.7	557.4	585.1	601.6	613.3	583.6	589.0	589.0	573.0	551.6
59°	513.7	519.5	530.7	558.4	571.5	583.2	554.5	559.4	559.8	545.8	524.4
59.5°	488.0	492.8	504.0	530.2	542.9	553.5	525.9	531.2	531.7	519.1	499.2
60°	462.7	467.1	478.8	504.0	515.2	524.4	498.2	503.0	504.5	493.3	474.4
60.5°	438.9	442.3	454.0	478.3	488.5	496.7	472.4	475.4	477.8	468.6	450.1
61°	415.2	418.6	430.2	453.5	462.3	470.5	448.7	449.6	452.1	445.7	428.7
61.5°	392.8	396.2	407.9	428.7	438.5	446.2	424.4	425.8	428.3	422.9	407.9
62°	371.5	374.9	386.0	405.9	414.7	421.5	400.6	401.6	404.5	400.1	386.5
62.5°	351.1	354.0	365.1	383.1	391.4	397.2	376.8	377.3	380.7	377.3	365.1
63°	331.6	334.1	345.2	361.3	367.6	372.4	353.0	353.5	357.4	354.5	343.8
63.5°	313.7	315.6	326.3	340.4	343.8	348.1	331.2	332.1	336.5	334.1	324.8
64°	296.2	298.6	308.3	320.0	323.4	326.8	311.2	311.2	316.1	315.1	306.9
64.5°	279.7	282.1	291.3	301.5	303.5	306.9	292.8	292.8	296.7	296.7	290.4
65°	265.6	267.1	275.3	284.1	284.5	287.9	274.8	275.3	277.3	279.7	274.8
65.5°	252.0	253.5	260.7	267.5	267.1	270.0	258.3	258.8	258.8	264.1	260.3
66°	238.9	240.8	247.1	252.0	250.5	253.9	243.3	243.8	241.3	248.6	246.7



TEST NUMBER: P776569

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	207.3	209.8	212.7	214.1	211.2	214.6	206.4	208.3	203.0	212.2	213.6
68°	199.1	201.5	203.4	204.4	201.5	204.4	197.6	199.6	194.7	203.4	204.9
68.5°	191.3	194.7	195.7	195.7	193.3	195.7	190.8	192.3	189.9	195.7	197.1
69°	186.0	188.9	188.4	188.4	186.9	188.9	185.5	186.5	186.5	189.9	190.8
69.5°	182.6	183.5	183.1	182.6	181.6	183.1	181.6	182.6	183.1	185.0	186.5
70°	179.2	179.2	179.2	178.7	178.2	179.7	178.7	179.2	179.7	181.6	183.1
70.5°	175.8	176.3	177.2	175.8	175.3	176.7	175.8	175.8	176.3	178.2	180.1
71°	172.4	172.9	173.8	172.4	171.9	173.3	172.4	171.9	172.4	174.8	177.2
71.5°	169.5	169.5	170.9	169.5	169.0	170.4	169.0	168.5	169.0	170.9	173.8
72°	166.1	166.1	167.5	166.5	165.6	167.0	165.6	164.6	164.6	167.0	170.4
72.5°	163.1	163.1	164.1	163.6	162.2	163.6	162.2	160.7	160.7	163.1	167.0
73°	159.3	159.3	160.7	160.2	158.8	160.2	158.3	156.3	156.3	159.3	163.1
73.5°	155.4	155.4	157.3	156.3	155.4	156.3	154.4	152.0	152.0	154.9	159.3
74°	151.0	151.5	153.4	153.0	151.5	153.0	150.5	147.6	147.6	150.5	155.4
74.5°	146.6	147.1	149.6	149.6	147.6	149.1	146.6	143.2	142.8	146.2	151.5
75°	142.8	142.8	145.7	145.7	143.7	145.2	142.3	138.4	137.9	141.3	147.1
75.5°	137.9	138.4	141.8	141.8	139.8	141.3	137.9	133.5	133.0	136.4	142.8
76°	133.0	133.5	137.4	137.9	136.0	137.4	133.5	128.7	127.7	131.6	138.4
76.5°	128.7	129.2	133.0	133.5	131.6	133.0	128.7	123.8	122.8	126.2	134.0
77°	123.3	124.3	128.7	129.6	127.2	128.7	124.3	118.5	117.0	120.9	129.6
77.5°	118.0	119.0	124.3	125.3	122.8	124.3	119.4	113.1	111.2	115.1	124.3
78°	112.6	114.1	119.4	120.9	118.5	119.9	114.1	107.3	105.4	109.7	119.4
78.5°	107.3	108.8	114.6	116.5	113.6	115.1	109.3	101.5	99.5	103.9	114.1
79°	101.5	102.9	109.7	111.7	109.3	110.2	103.9	95.7	93.7	98.1	109.3
79.5°	95.7	97.6	104.9	106.8	104.4	105.9	98.6	89.8	87.4	91.8	103.9
80°	89.3	91.3	99.5	102.0	99.5	100.5	93.2	84.0	81.1	85.5	98.1
80.5°	83.5	85.5	94.2	97.1	94.2	95.7	87.9	77.7	74.8	79.6	92.7
81°	77.7	79.6	88.9	92.3	89.3	90.3	82.5	71.4	68.0	72.8	86.9
81.5°	70.9	73.3	83.5	86.9	84.0	85.0	76.7	65.1	61.7	66.5	81.1
82°	64.6	67.0	77.7	81.6	78.7	80.1	71.4	58.8	54.9	60.2	75.7
82.5°	58.3	60.7	72.3	76.2	73.3	74.3	66.0	52.9	48.6	53.4	69.9
83°	51.5	54.4	67.0	70.9	68.0	68.9	60.7	47.6	41.8	48.1	64.6
83.5°	44.7	48.1	61.7	65.6	62.6	63.6	55.4	42.2	35.4	42.7	58.8
84°	37.9	41.8	56.3	60.2	57.3	58.3	50.0	36.9	28.6	37.4	53.9
84.5°	31.1	35.9	51.0	54.4	51.5	52.4	44.7	32.0	21.9	31.6	48.6
85°	24.8	31.1	46.1	49.0	45.6	46.6	39.3	26.7	17.5	26.2	43.2
85.5°	18.9	27.2	40.8	43.2	39.8	40.8	33.5	22.8	15.1	23.3	38.4
86°	16.5	23.8	35.4	37.4	34.0	35.0	28.2	19.4	13.1	19.9	33.0
86.5°	14.1	19.9	29.6	31.6	28.2	29.1	22.8	16.0	10.7	17.0	27.7
87°	11.7	16.5	24.3	25.2	22.3	22.8	17.5	12.1	8.7	13.6	22.3
87.5°	8.7	13.1	18.5	19.4	16.5	17.0	11.7	8.7	6.3	10.7	17.0
88°	6.3	9.7	14.1	14.6	10.7	11.7	6.8	5.3	3.9	7.3	11.7
88.5°	4.4	6.3	9.7	9.7	5.8	6.3	2.4	2.4	2.4	4.4	6.8



TEST NUMBER: P776569
CATALOG NUMBER: HCDJBL4050CSD-HCD41TRMW-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.0	0.5	0.5	0.5	0.0	0.0	0.0	0.5	0.0	0.5	0.0



TEST NUMBER: P776569

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2743.4	2743.4	2743.4	2743.4	2743.4	2743.4
0.5°	2742.0	2743.4	2743.4	2742.9	2742.4	2742.9
1°	2741.0	2742.4	2741.5	2742.0	2741.5	2742.0
1.5°	2740.0	2741.0	2740.0	2740.0	2740.0	2740.5
2°	2738.1	2739.0	2738.1	2738.6	2738.1	2739.0
2.5°	2736.6	2737.1	2736.1	2736.6	2736.1	2737.1
3°	2734.7	2734.7	2733.2	2734.2	2733.7	2735.2
3.5°	2732.2	2732.2	2730.8	2731.8	2731.8	2733.2
4°	2729.8	2729.8	2727.4	2728.8	2728.8	2730.8
4.5°	2726.9	2726.4	2724.5	2725.9	2725.9	2727.9
5°	2723.5	2723.0	2721.1	2722.5	2722.5	2725.0
5.5°	2720.1	2719.6	2717.2	2718.6	2719.1	2721.6
6°	2716.7	2715.7	2712.8	2715.2	2715.2	2717.7
6.5°	2712.8	2711.8	2708.4	2710.9	2711.4	2713.8
7°	2708.9	2707.5	2704.1	2706.5	2707.0	2709.9
7.5°	2704.1	2702.6	2699.2	2701.6	2702.1	2705.5
8°	2699.7	2697.8	2693.9	2696.8	2697.8	2701.2
8.5°	2694.4	2691.9	2689.0	2691.9	2692.4	2696.3
9°	2689.5	2686.6	2683.2	2686.6	2687.6	2691.0
9.5°	2683.7	2680.8	2677.4	2680.8	2681.7	2685.6
10°	2677.9	2674.9	2671.1	2674.5	2675.9	2679.8
10.5°	2672.0	2668.6	2664.3	2668.6	2670.1	2674.0
11°	2665.2	2662.3	2657.5	2661.8	2663.8	2667.7
11.5°	2658.9	2655.5	2650.7	2655.0	2657.0	2661.3
12°	2652.1	2648.2	2643.4	2648.2	2649.7	2654.6
12.5°	2644.8	2640.5	2635.6	2641.0	2642.9	2647.3
13°	2637.6	2633.2	2627.8	2633.2	2635.1	2640.5
13.5°	2629.3	2624.9	2620.1	2625.4	2627.4	2632.2
14°	2621.5	2617.2	2611.8	2617.6	2619.1	2624.9
14.5°	2613.3	2608.4	2603.1	2608.9	2610.9	2616.7
15°	2604.5	2599.7	2593.9	2600.7	2602.6	2608.4
15.5°	2595.8	2590.9	2585.1	2591.4	2593.4	2599.7
16°	2586.6	2581.2	2575.4	2582.2	2584.1	2590.5
16.5°	2577.3	2572.0	2565.7	2572.5	2574.9	2581.2
17°	2567.6	2561.8	2555.5	2562.8	2565.2	2572.0
17.5°	2557.4	2551.6	2545.3	2552.6	2555.0	2562.3
18°	2547.2	2540.9	2534.1	2542.4	2544.8	2552.1
18.5°	2536.6	2530.2	2523.4	2531.7	2534.1	2541.4
19°	2525.9	2519.1	2512.3	2520.5	2523.0	2530.7
19.5°	2514.7	2507.9	2500.6	2509.4	2511.8	2519.6
20°	2503.5	2496.3	2489.0	2497.7	2500.6	2508.4
20.5°	2491.4	2484.1	2476.4	2485.6	2489.5	2497.2
21°	2479.3	2471.5	2463.7	2473.9	2477.3	2484.6



TEST NUMBER: P776569

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2441.9	2433.6	2424.9	2435.6	2439.4	2447.7
23°	2428.8	2420.5	2411.3	2422.5	2426.3	2434.6
23.5°	2415.7	2407.4	2397.7	2408.9	2412.7	2421.5
24°	2402.1	2392.8	2383.6	2394.8	2398.7	2407.9
24.5°	2388.0	2378.8	2369.5	2381.2	2385.1	2394.3
25°	2373.9	2364.2	2355.0	2366.6	2371.0	2380.2
25.5°	2359.3	2349.6	2339.4	2352.0	2356.4	2366.1
26°	2344.8	2334.6	2324.9	2337.5	2341.9	2351.1
26.5°	2329.7	2320.0	2309.8	2321.9	2326.8	2337.0
27°	2314.7	2304.5	2293.8	2306.9	2311.7	2321.9
27.5°	2299.6	2288.9	2278.2	2291.4	2296.2	2306.4
28°	2284.1	2272.4	2262.2	2275.3	2280.2	2290.9
28.5°	2268.0	2256.9	2245.7	2258.8	2264.6	2274.8
29°	2252.0	2240.9	2229.7	2242.3	2248.1	2259.3
29.5°	2235.5	2224.3	2212.2	2226.3	2231.6	2242.8
30°	2219.5	2207.4	2196.2	2209.3	2215.1	2226.3
30.5°	2202.5	2190.4	2178.7	2192.3	2198.1	2209.3
31°	2186.0	2173.4	2161.7	2175.8	2181.1	2192.3
31.5°	2169.0	2156.4	2143.3	2157.8	2163.7	2175.3
32°	2151.5	2138.4	2126.3	2140.3	2146.2	2158.3
32.5°	2134.0	2120.9	2108.3	2122.4	2128.7	2140.3
33°	2116.1	2103.0	2090.3	2104.4	2110.7	2122.9
33.5°	2098.1	2084.5	2071.4	2086.4	2092.8	2104.9
34°	2079.2	2066.1	2052.5	2067.5	2073.8	2086.0
34.5°	2060.2	2046.6	2033.5	2048.6	2054.9	2067.5
35°	2041.3	2027.2	2013.6	2028.7	2035.5	2047.6
35.5°	2021.4	2007.3	1993.2	2008.8	2015.6	2028.2
36°	2001.0	1986.9	1972.8	1989.3	1995.6	2008.3
36.5°	1980.1	1966.0	1951.9	1968.0	1974.3	1987.4
37°	1958.3	1944.2	1930.1	1946.6	1952.9	1966.0
37.5°	1933.5	1920.9	1906.8	1924.8	1931.1	1943.2
38°	1905.8	1895.1	1880.1	1901.9	1907.3	1919.4
38.5°	1877.7	1867.5	1851.0	1875.2	1879.1	1892.7
39°	1848.0	1837.4	1822.3	1845.6	1851.0	1864.5
39.5°	1817.4	1804.3	1791.2	1815.0	1820.8	1833.5
40°	1785.9	1770.3	1757.7	1783.0	1789.3	1800.0
40.5°	1753.8	1736.4	1724.2	1750.0	1755.3	1765.5
41°	1720.8	1701.9	1689.3	1716.5	1721.3	1730.5
41.5°	1686.8	1666.4	1653.8	1682.9	1685.9	1695.6
42°	1652.4	1632.4	1618.4	1648.0	1649.9	1658.7
42.5°	1617.9	1598.5	1581.5	1613.0	1613.5	1623.2
43°	1582.9	1564.0	1545.0	1577.6	1577.6	1587.3
43.5°	1548.4	1528.5	1507.7	1541.2	1540.2	1551.4



TEST NUMBER: P776569

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1443.6	1423.2	1398.4	1429.5	1428.0	1442.1
45.5°	1408.6	1387.7	1362.0	1391.6	1390.2	1405.7
46°	1373.6	1353.3	1326.1	1353.7	1352.8	1369.8
46.5°	1338.7	1316.8	1289.6	1316.8	1315.4	1333.3
47°	1302.3	1280.9	1254.2	1278.0	1278.0	1296.0
47.5°	1267.3	1245.5	1217.8	1240.1	1241.1	1259.5
48°	1231.9	1210.0	1182.3	1201.3	1204.7	1223.1
48.5°	1195.9	1174.1	1145.9	1164.9	1168.3	1186.7
49°	1159.5	1139.6	1111.9	1126.5	1132.3	1150.8
49.5°	1123.6	1105.1	1077.5	1090.1	1096.4	1114.8
50°	1087.7	1070.2	1042.0	1052.7	1060.9	1079.4
50.5°	1052.2	1035.7	1007.5	1017.2	1025.5	1044.0
51°	1017.2	1002.7	973.5	981.3	990.1	1008.5
51.5°	981.8	968.7	940.0	946.8	955.1	974.5
52°	946.8	935.7	906.5	912.4	921.1	940.0
52.5°	912.4	902.7	873.0	879.8	887.6	906.5
53°	878.4	870.1	840.5	846.3	854.6	873.0
53.5°	844.9	838.1	808.9	813.8	821.6	840.0
54°	811.4	805.5	776.9	782.7	789.0	807.5
54.5°	778.8	774.5	746.3	752.1	757.5	775.4
55°	746.8	743.9	716.2	721.5	727.4	743.9
55.5°	715.2	713.3	686.6	692.9	697.3	713.3
56°	684.2	682.7	657.0	664.2	667.2	683.2
56.5°	654.0	653.6	628.8	636.6	638.5	653.1
57°	623.9	624.4	601.1	609.4	610.8	623.9
57.5°	594.8	596.3	573.9	582.7	583.6	595.3
58°	567.1	568.6	548.2	557.9	556.9	567.1
58.5°	539.5	541.9	522.9	533.1	532.2	539.9
59°	512.8	515.2	498.2	508.9	506.9	513.7
59.5°	486.5	489.4	474.9	485.6	483.6	488.0
60°	461.8	464.7	451.6	463.7	460.3	462.7
60.5°	439.9	440.4	429.2	441.9	438.5	438.9
61°	417.6	417.1	407.9	421.0	416.6	415.2
61.5°	395.2	394.8	388.0	400.6	396.2	392.8
62°	373.4	372.9	368.5	381.6	376.3	371.5
62.5°	351.1	352.5	349.6	363.2	357.4	351.1
63°	332.1	333.1	331.6	345.2	338.9	331.6
63.5°	314.6	314.2	314.6	328.2	321.9	313.7
64°	297.2	296.7	298.6	311.7	305.4	296.2
64.5°	281.1	280.7	283.6	296.2	289.9	279.7
65°	266.6	266.1	269.0	281.1	274.3	265.6
65.5°	253.0	253.0	255.4	267.5	261.7	252.0
66°	240.4	240.8	243.3	254.4	248.6	238.9

TEST NUMBER: P776569

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	210.7	212.7	212.2	220.4	216.1	207.3
68°	203.4	204.9	204.4	211.2	206.8	199.1
68.5°	196.7	198.1	197.1	203.0	199.1	191.3
69°	190.8	192.3	190.8	195.2	192.3	186.0
69.5°	186.0	186.9	185.5	188.9	186.5	182.6
70°	183.1	183.1	181.6	184.0	182.1	179.2
70.5°	180.1	180.1	178.7	180.6	178.2	175.8
71°	176.7	176.7	175.8	177.7	174.8	172.4
71.5°	173.8	173.8	172.9	174.3	171.9	169.5
72°	170.4	170.4	169.5	171.4	168.5	166.1
72.5°	167.0	167.5	166.1	168.0	165.1	163.1
73°	163.6	164.6	163.1	165.1	161.7	159.3
73.5°	160.2	161.2	159.7	162.2	157.8	155.4
74°	156.8	157.8	156.8	158.3	153.9	151.0
74.5°	153.0	154.4	153.0	154.4	149.6	146.6
75°	149.1	150.5	149.1	151.0	145.7	142.8
75.5°	145.2	146.6	145.2	146.6	140.8	137.9
76°	141.3	142.8	141.3	142.8	136.4	133.0
76.5°	136.9	138.4	137.4	138.4	131.6	128.7
77°	132.6	134.5	133.0	134.0	126.7	123.3
77.5°	128.2	130.1	129.2	129.6	121.9	118.0
78°	123.8	125.8	124.8	125.3	116.5	112.6
78.5°	119.0	121.4	119.9	120.4	111.2	107.3
79°	114.1	116.5	115.6	115.6	105.9	101.5
79.5°	109.3	111.7	110.7	110.2	100.0	95.7
80°	104.4	106.8	105.4	105.4	94.2	89.3
80.5°	99.1	101.5	100.5	100.0	88.4	83.5
81°	94.2	96.6	95.7	94.7	82.5	77.7
81.5°	88.9	91.3	90.3	89.3	76.2	70.9
82°	83.0	85.9	85.0	83.5	69.9	64.6
82.5°	77.7	80.6	79.6	78.2	63.6	58.3
83°	72.3	74.8	73.8	72.8	57.8	51.5
83.5°	66.5	69.4	68.5	67.5	51.5	44.7
84°	60.7	63.6	63.1	61.7	45.2	37.9
84.5°	54.9	57.8	57.3	56.3	39.3	31.1
85°	49.0	52.0	51.5	51.5	34.0	24.8
85.5°	43.2	46.1	45.6	46.1	29.6	18.9
86°	36.9	40.3	39.8	40.8	25.7	16.5
86.5°	31.1	34.0	33.5	35.4	22.3	14.1
87°	25.2	28.2	27.7	29.6	18.5	11.7
87.5°	18.9	21.9	21.4	24.3	15.1	8.7
88°	13.1	16.0	15.5	18.5	11.7	6.3
88.5°	7.8	12.1	11.7	14.1	8.3	4.4



TEST NUMBER: P776569
CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.5	0.5	0.5	0.5	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°	2473.0	2485.6	2501.6	2517.1	2528.3	2536.1	2527.3	2524.4	2517.1	2503.5	2485.6
22°	2460.3	2473.9	2489.9	2505.5	2516.7	2524.9	2515.7	2513.3	2506.0	2491.9	2473.4



44°	1514.9	1548.0	1590.7	1628.6	1638.3	1656.2	1623.7	1617.9	1603.8	1591.7	1558.6
44.5°	1478.0	1512.0	1554.3	1591.2	1599.9	1621.3	1588.3	1582.0	1565.9	1554.8	1522.7



66.5°	227.2	229.2	234.5	238.4	235.5	239.4	229.2	230.6	226.8	235.0	234.5
67°	217.0	218.5	222.9	225.3	222.4	226.3	217.0	218.5	213.6	222.9	223.4



89°	2.4	2.9	4.9	5.3	1.0	1.5	0.0	0.5	0.5	1.5	2.9
89.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5	0.0	0.5	0.0

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

Scaled Data Report





21.5°	2467.1	2459.4	2451.1	2461.3	2464.7	2473.0
22°	2455.0	2446.7	2438.5	2448.7	2452.1	2460.3



44°	1513.0	1493.1	1471.2	1504.3	1502.3	1514.9
44.5°	1478.5	1458.1	1434.3	1466.9	1464.9	1478.0



66.5°	229.7	230.6	232.1	242.3	236.5	227.2
67°	219.5	220.4	221.4	231.1	225.8	217.0



89°	3.4	8.3	7.8	9.7	4.9	2.4
89.5°	0.0	4.4	4.4	5.3	1.9	0.5

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

Scaled Data Report



(END OF REPORT)