

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



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: P776651

Luminaire Tested: HCDJBS4050CSD-HCD61TRH-5000lm-3000K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776651  
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: HCDJBS4050CSD-HCD61TRH-5000lm-3000K  
Description: 6 INCH ROUND SHALLOW-WIDE HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

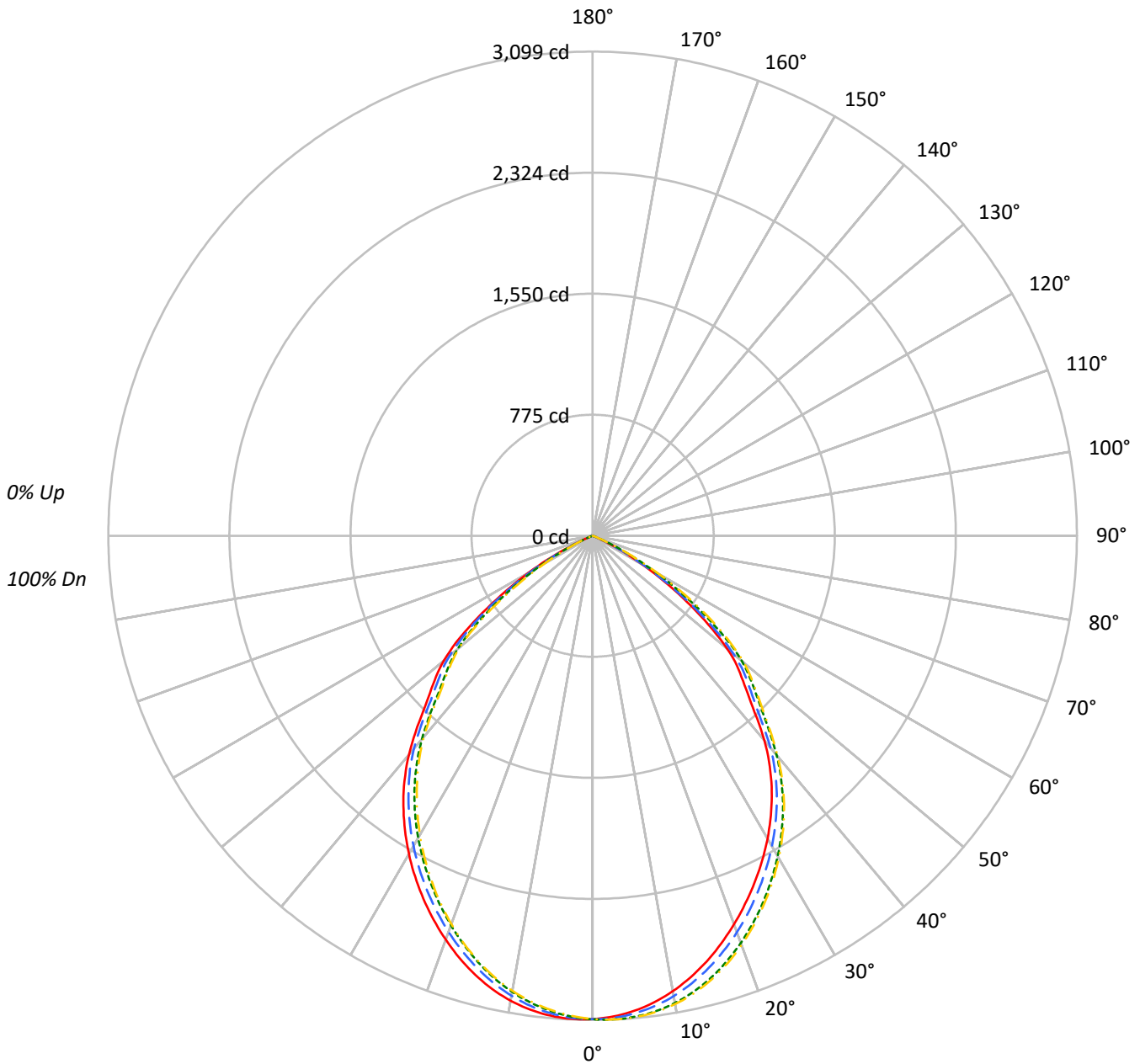
Lumens per Lamp: N/A  
Luminaire Lumens: 5525.2 lumens  
Efficiency: N/A  
Efficacy: 115.1 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.12 / 1.2  
Luminous Opening: Circular (Dia: 0.5' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
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



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### Luminous Intensity Polar Plot





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**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	100	100	100	100	100		
	1	112	108	105	103	109	106	103	101	102	100	98	98	97	95	95	93	92	90	90	90	90	90	90		
	2	104	98	93	89	102	96	91	87	93	89	86	90	87	84	87	84	82	80	80	80	80	80	80		
	3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71	71	71	71	71	71		
	4	90	80	73	68	88	79	72	67	77	71	66	74	70	65	72	68	65	63	63	63	63	63	63		
	5	84	73	65	60	82	72	65	60	70	64	59	68	63	58	66	62	58	56	56	56	56	56	56		
	6	78	67	59	53	76	66	58	53	64	58	53	62	57	52	61	56	52	50	50	50	50	50	50		
	7	73	61	53	48	71	60	53	48	59	52	48	57	52	47	56	51	47	45	45	45	45	45	45		
	8	68	56	49	43	67	55	48	43	54	48	43	53	47	43	52	47	43	41	41	41	41	41	41		
	9	64	52	45	40	63	51	44	39	50	44	39	49	43	39	48	43	39	37	37	37	37	37	37		
	10	60	48	41	36	59	48	41	36	47	40	36	46	40	36	45	40	36	34	34	34	34	34	34		

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

	0°	90°	180°	270°
0°	169603	169603	169603	169603
5°	167950	170074	169689	168049
10°	164743	169013	168211	165027
15°	160052	166198	165035	160449
20°	154381	161807	160425	154737
25°	148267	156305	155011	148351
30°	141718	149985	148839	141338
35°	133752	142051	141308	133003
40°	122372	131017	130817	121671
45°	107678	116718	116322	106926
50°	95784	106205	105813	96219
55°	70612	81765	82339	72523
60°	40348	50391	51608	43308
65°	11635	18926	17836	15125
70°	305	449	305	898
75°	191	191	191	191
80°	158	158	158	158
85°	314	0	0	314

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 135°  
 Vertical Angle: 45°  
 Luminance: 117842 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	290.7	5.3
10°-20°	807.5	14.6
20°-30°	1155.3	20.9
30°-40°	1278.8	23.1
40°-50°	1123.5	20.3
50°-60°	715.4	12.9
60°-70°	152.3	2.8
70°-80°	1.2	0.0
80°-90°	0.6	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°	2253.4	40.8
0°-40°	3532.2	63.9
0°-60°	5371.1	97.2
0°-90°	5525.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5525.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3094	3094	3094	3094	3094	
5°	3052	3091	3084	3054	3052	288
15°	2820	2928	2908	2827	2820	793
25°	2451	2584	2563	2453	2451	1127
35°	1999	2123	2112	1987	1999	1244
45°	1389	1506	1500	1379	1389	1080
55°	739	856	862	759	739	658
65°	90	146	138	117	90	119
75°	1	1	1	1	1	1
85°	0	0	0	0	0	1
90°	0	0	0	2	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°	3093.8	3093.8	3093.8	3093.8	3093.8	3093.8	3093.8	3093.8	3093.8	3093.8	3093.8
0.5°	3091.5	3092.9	3094.3	3093.8	3097.1	3096.6	3095.2	3094.7	3094.7	3094.7	3094.3
1°	3089.2	3091.0	3093.8	3093.8	3098.0	3098.0	3096.6	3096.1	3095.7	3094.7	3093.3
1.5°	3086.4	3089.2	3092.4	3093.8	3098.9	3099.4	3098.0	3097.1	3095.7	3094.3	3091.9
2°	3082.7	3086.4	3090.6	3092.9	3098.9	3099.8	3098.9	3097.5	3095.7	3092.9	3090.1
2.5°	3078.9	3083.1	3088.2	3091.5	3098.9	3100.3	3098.9	3097.5	3094.7	3091.5	3087.8
3°	3074.8	3079.4	3085.4	3090.1	3098.0	3099.8	3098.9	3096.6	3093.8	3089.6	3085.0
3.5°	3069.6	3075.2	3082.2	3087.8	3097.1	3098.9	3098.5	3095.7	3091.9	3086.8	3081.3
4°	3064.1	3070.6	3078.5	3085.0	3095.2	3098.0	3097.1	3094.3	3089.6	3084.0	3077.1
4.5°	3058.0	3065.5	3073.8	3081.3	3093.3	3096.6	3095.7	3092.4	3086.8	3080.3	3072.9
5°	3052.0	3059.4	3068.7	3077.5	3090.6	3094.3	3093.3	3089.6	3083.6	3076.1	3068.2
5.5°	3045.0	3052.9	3063.1	3073.4	3087.8	3091.5	3091.0	3086.8	3079.4	3071.5	3062.7
6°	3037.1	3045.9	3057.6	3068.7	3084.0	3088.7	3087.8	3083.1	3075.2	3065.9	3056.2
6.5°	3029.7	3038.5	3051.1	3063.1	3079.9	3085.0	3084.0	3078.9	3070.6	3060.4	3050.1
7°	3021.3	3030.6	3044.1	3057.1	3075.2	3080.8	3079.9	3074.3	3065.5	3054.3	3043.2
7.5°	3012.0	3022.2	3036.7	3050.6	3069.6	3076.1	3075.2	3069.2	3059.4	3047.3	3035.3
8°	3002.7	3013.0	3028.3	3043.6	3064.5	3071.0	3070.1	3063.1	3052.9	3040.4	3027.4
8.5°	2992.5	3003.7	3019.9	3036.7	3058.0	3065.5	3064.5	3057.1	3045.9	3032.5	3018.5
9°	2982.3	2993.4	3011.1	3028.3	3051.1	3059.0	3058.0	3050.1	3038.0	3024.1	3009.2
9.5°	2971.1	2983.2	3001.3	3019.9	3043.6	3052.5	3051.1	3043.2	3030.1	3015.3	2999.9
10°	2959.5	2971.6	2991.1	3011.1	3036.2	3045.0	3044.1	3035.3	3021.8	3006.0	2989.7
10.5°	2947.4	2960.0	2980.9	3001.3	3027.8	3037.1	3036.2	3026.9	3013.0	2996.2	2979.0
11°	2934.9	2948.4	2969.7	2991.1	3019.0	3028.8	3027.8	3017.6	3002.7	2986.0	2967.9
11.5°	2921.9	2935.8	2958.1	2980.4	3009.2	3019.5	3018.5	3008.3	2992.5	2974.8	2956.3
12°	2908.9	2922.8	2946.5	2969.3	2999.5	3010.2	3009.2	2998.1	2982.3	2963.2	2944.2
12.5°	2894.9	2909.8	2934.0	2958.1	2988.8	2999.9	2999.0	2987.9	2971.1	2951.6	2931.6
13°	2880.5	2896.3	2920.9	2946.0	2977.6	2989.7	2988.3	2976.7	2959.1	2939.1	2918.6
13.5°	2866.1	2881.9	2907.5	2933.5	2966.0	2978.6	2977.2	2965.1	2947.4	2926.5	2905.6
14°	2851.2	2867.5	2894.0	2920.0	2953.9	2967.0	2965.6	2953.0	2934.4	2913.0	2891.7
14.5°	2835.9	2852.2	2879.6	2907.5	2941.4	2954.4	2953.0	2940.5	2920.9	2899.6	2876.8
15°	2820.1	2836.8	2865.2	2893.1	2928.4	2941.9	2940.5	2927.0	2907.9	2885.2	2862.4
15.5°	2804.3	2821.5	2849.9	2879.1	2914.9	2928.4	2927.0	2913.5	2894.0	2870.8	2847.5
16°	2787.6	2805.2	2834.5	2863.3	2901.0	2915.4	2913.0	2899.6	2878.7	2855.9	2831.7
16.5°	2771.3	2789.0	2819.2	2849.4	2886.1	2901.0	2898.6	2885.2	2864.3	2840.6	2815.9
17°	2753.7	2772.3	2802.9	2833.6	2871.2	2886.6	2884.2	2870.3	2848.9	2825.2	2800.1
17.5°	2736.5	2755.5	2786.2	2817.3	2855.9	2870.8	2869.4	2854.5	2833.6	2809.0	2783.9
18°	2718.8	2738.3	2769.9	2800.6	2840.1	2855.4	2853.1	2838.7	2817.3	2792.7	2766.2
18.5°	2701.2	2720.7	2752.7	2784.8	2823.8	2839.2	2837.3	2822.9	2800.6	2776.0	2749.9
19°	2683.0	2703.5	2735.5	2767.6	2807.1	2822.9	2821.0	2806.2	2784.3	2759.2	2732.3
19.5°	2665.4	2685.8	2717.9	2750.9	2790.4	2806.2	2804.3	2789.9	2767.1	2742.0	2715.1
20°	2646.3	2667.2	2699.8	2732.8	2773.6	2789.0	2787.1	2772.7	2749.9	2724.4	2697.0
20.5°	2627.7	2648.6	2681.6	2714.6	2755.5	2771.8	2769.9	2755.1	2732.8	2706.7	2679.3
21°	2608.7	2630.5	2663.5	2697.0	2737.9	2753.7	2751.8	2737.4	2714.6	2688.6	2660.3



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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°	2550.6	2573.4	2606.8	2640.3	2682.1	2697.9	2696.5	2681.6	2659.8	2632.8	2604.0
23°	2531.5	2554.3	2587.3	2621.2	2662.6	2678.9	2677.5	2663.1	2640.7	2613.8	2584.1
23.5°	2511.6	2534.8	2567.8	2601.7	2643.5	2659.8	2657.9	2644.0	2621.2	2594.7	2565.0
24°	2491.6	2514.8	2547.3	2581.7	2624.5	2640.3	2638.9	2624.0	2602.2	2575.2	2545.0
24.5°	2471.6	2494.8	2527.8	2562.2	2604.5	2619.4	2618.9	2604.0	2582.2	2554.8	2525.5
25°	2451.2	2474.9	2507.4	2541.3	2584.1	2599.4	2598.5	2584.1	2562.7	2535.3	2505.1
25.5°	2431.2	2454.9	2487.4	2521.3	2563.6	2578.9	2578.0	2564.1	2542.7	2514.8	2485.1
26°	2410.3	2434.9	2467.0	2500.9	2543.2	2557.6	2557.1	2544.1	2522.3	2494.4	2464.2
26.5°	2389.4	2414.0	2445.6	2480.0	2522.3	2537.1	2536.7	2523.2	2501.3	2473.5	2443.7
27°	2368.9	2393.5	2424.7	2459.1	2501.3	2515.3	2515.8	2501.3	2480.9	2452.6	2422.8
27.5°	2347.5	2372.6	2403.8	2436.8	2479.5	2493.9	2494.4	2480.4	2460.0	2431.6	2401.4
28°	2326.2	2351.3	2381.9	2415.4	2458.1	2473.0	2472.1	2459.5	2438.6	2410.3	2379.6
28.5°	2304.3	2329.4	2360.1	2393.1	2435.8	2449.8	2449.8	2437.7	2417.2	2388.4	2358.7
29°	2282.5	2308.5	2338.2	2371.2	2414.0	2427.5	2427.9	2414.9	2395.4	2366.6	2336.9
29.5°	2260.6	2286.2	2316.4	2348.5	2391.7	2404.7	2405.6	2392.6	2373.6	2344.8	2315.0
30°	2238.8	2264.4	2294.1	2326.2	2369.4	2382.9	2382.4	2370.8	2351.3	2322.4	2292.2
30.5°	2215.6	2242.1	2271.3	2303.9	2345.2	2358.7	2358.7	2348.0	2328.0	2299.7	2269.5
31°	2192.3	2219.3	2248.6	2280.2	2322.4	2335.0	2335.9	2323.8	2305.7	2277.4	2247.2
31.5°	2169.6	2196.5	2224.9	2256.5	2298.3	2311.3	2311.8	2301.1	2282.0	2254.1	2224.4
32°	2146.3	2173.8	2201.6	2232.8	2274.6	2288.1	2287.6	2277.4	2259.3	2230.4	2201.2
32.5°	2122.6	2149.6	2177.9	2209.1	2250.4	2263.0	2262.5	2253.7	2235.6	2207.2	2177.0
33°	2098.5	2125.9	2153.8	2184.9	2225.8	2237.9	2238.8	2229.0	2211.4	2183.5	2153.3
33.5°	2074.3	2101.3	2129.6	2159.8	2200.2	2212.8	2213.2	2204.4	2186.3	2159.8	2129.6
34°	2049.2	2077.1	2105.0	2135.6	2175.1	2188.2	2187.7	2179.3	2161.7	2134.7	2105.0
34.5°	2024.1	2052.5	2079.9	2109.2	2149.6	2160.7	2161.7	2153.3	2136.6	2109.6	2080.4
35°	1998.6	2026.9	2054.8	2083.6	2122.6	2135.2	2135.6	2127.3	2111.5	2085.0	2054.8
35.5°	1972.1	2001.4	2029.2	2057.1	2096.6	2107.8	2108.7	2101.3	2085.0	2059.9	2029.2
36°	1945.6	1975.8	2002.7	2030.6	2069.7	2081.3	2081.7	2074.8	2059.4	2034.3	2004.6
36.5°	1918.2	1948.4	1976.3	2003.2	2042.7	2052.5	2054.3	2046.9	2032.5	2007.4	1978.6
37°	1891.2	1921.0	1949.3	1975.8	2013.4	2024.6	2025.5	2019.0	2006.0	1980.9	1951.6
37.5°	1863.3	1892.6	1921.4	1947.9	1985.1	1994.9	1996.2	1990.7	1977.7	1954.4	1924.7
38°	1834.1	1864.7	1893.1	1918.2	1955.8	1965.6	1967.4	1961.4	1948.8	1926.5	1898.7
38.5°	1804.8	1835.5	1863.8	1888.4	1925.6	1935.8	1937.7	1931.2	1920.5	1898.2	1869.4
39°	1774.1	1805.7	1833.6	1858.7	1894.9	1904.2	1906.6	1901.0	1891.2	1869.4	1840.1
39.5°	1742.5	1772.7	1801.5	1826.2	1862.9	1872.6	1875.0	1869.9	1860.6	1838.7	1809.0
40°	1710.0	1740.2	1768.1	1793.2	1830.8	1840.6	1842.4	1838.3	1828.0	1807.6	1779.7
40.5°	1674.7	1705.8	1734.2	1759.3	1796.4	1806.7	1809.9	1805.3	1795.5	1775.1	1745.8
41°	1640.8	1671.4	1699.8	1725.3	1763.0	1773.2	1775.5	1771.3	1762.5	1741.1	1711.9
41.5°	1607.3	1637.1	1665.4	1691.4	1729.5	1739.3	1742.5	1737.4	1728.1	1706.3	1677.5
42°	1573.4	1602.7	1631.0	1657.0	1695.6	1707.2	1710.0	1705.4	1695.1	1673.8	1645.9
42.5°	1536.2	1566.4	1595.2	1621.7	1661.7	1672.8	1676.5	1672.4	1661.7	1640.3	1611.0
43°	1502.8	1532.5	1561.8	1587.8	1626.8	1638.4	1642.2	1637.1	1626.8	1604.5	1576.6
43.5°	1471.6	1500.9	1530.2	1556.2	1594.3	1605.9	1609.2	1603.1	1591.0	1568.7	1540.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1388.9	1417.7	1445.6	1470.2	1505.5	1516.7	1520.0	1513.4	1500.4	1477.7	1451.2
45.5°	1362.9	1392.2	1420.0	1444.2	1478.6	1489.3	1492.5	1486.0	1473.0	1451.2	1424.2
46°	1338.7	1368.0	1395.0	1419.1	1452.6	1462.8	1466.0	1459.5	1447.0	1425.2	1398.7
46.5°	1314.6	1343.8	1370.3	1394.0	1427.0	1437.7	1441.0	1434.9	1421.9	1400.1	1373.6
47°	1290.9	1319.7	1346.6	1369.9	1401.9	1412.6	1415.9	1409.8	1396.8	1375.9	1349.9
47.5°	1267.2	1296.0	1322.5	1345.7	1377.3	1388.4	1391.7	1384.7	1372.2	1351.7	1325.7
48°	1243.0	1271.8	1297.4	1321.5	1352.7	1364.3	1367.1	1360.6	1348.5	1328.0	1302.0
48.5°	1216.1	1244.4	1271.4	1296.0	1328.5	1340.1	1343.4	1337.3	1324.3	1303.9	1278.3
49°	1186.8	1213.3	1240.7	1267.6	1302.0	1314.6	1318.7	1312.2	1298.3	1276.9	1252.3
49.5°	1157.0	1182.1	1210.0	1237.9	1274.1	1287.6	1291.3	1283.9	1270.0	1247.7	1222.6
50°	1123.1	1147.3	1175.2	1205.4	1245.3	1260.2	1263.9	1256.0	1240.7	1218.4	1193.3
50.5°	1087.3	1112.0	1140.8	1171.9	1213.7	1229.1	1232.3	1226.7	1210.0	1187.7	1160.8
51°	1050.6	1076.2	1103.1	1135.7	1179.8	1193.8	1198.9	1193.3	1177.5	1153.8	1127.3
51.5°	1013.5	1038.5	1066.0	1097.6	1144.0	1158.9	1165.4	1157.5	1143.6	1118.9	1092.5
52°	975.4	1000.0	1026.9	1057.6	1105.0	1122.7	1129.2	1121.7	1106.9	1082.7	1056.7
52.5°	936.8	960.9	988.8	1017.2	1065.0	1085.5	1092.0	1084.6	1067.8	1044.6	1020.0
53°	897.3	921.5	947.5	974.9	1023.7	1046.9	1055.3	1045.5	1026.5	1004.6	982.8
53.5°	857.8	881.0	907.5	932.6	981.9	1008.3	1018.1	1007.4	986.0	965.6	943.8
54°	817.8	840.6	865.2	889.4	939.6	967.5	979.1	965.6	944.7	924.7	904.3
54.5°	778.3	802.0	823.4	847.1	897.8	927.0	938.6	924.7	902.4	883.8	864.3
55°	738.8	761.1	780.7	804.4	855.5	887.5	899.6	884.7	861.5	842.9	825.3
55.5°	698.9	720.7	739.3	762.1	814.6	845.7	860.1	843.8	821.5	801.1	784.4
56°	659.8	679.8	697.5	718.9	772.3	803.9	818.3	801.1	780.2	758.8	743.9
56.5°	621.3	640.8	655.2	677.5	730.9	763.5	777.4	760.7	739.8	717.5	703.5
57°	583.2	600.4	613.4	636.1	689.6	720.7	736.0	720.2	699.3	677.0	664.0
57.5°	545.1	561.3	573.4	596.6	650.5	680.3	695.6	680.7	660.8	636.6	623.1
58°	507.9	522.3	534.4	556.7	611.0	638.9	653.8	640.3	621.3	596.2	584.1
58.5°	471.6	484.7	495.3	519.0	572.9	599.4	612.9	601.8	584.1	558.1	546.0
59°	435.9	446.6	457.2	481.4	534.4	559.5	572.0	562.3	545.5	520.4	507.4
59.5°	402.4	410.8	421.0	444.2	496.7	520.9	531.6	525.5	507.4	484.2	470.7
60°	368.0	374.1	385.2	408.9	459.6	482.3	492.6	486.5	470.7	450.3	435.9
60.5°	335.0	340.1	350.8	374.5	424.7	446.6	455.8	451.2	436.3	416.3	401.5
61°	303.4	306.7	316.9	339.7	390.3	410.8	419.1	416.3	401.9	382.4	367.1
61.5°	272.8	275.6	285.3	309.5	355.5	375.0	382.4	381.0	367.6	348.5	332.7
62°	242.6	244.4	255.6	277.9	320.6	339.2	345.7	345.7	333.2	314.6	298.3
62.5°	214.7	215.6	226.3	248.1	288.1	303.4	309.0	310.4	298.8	283.9	268.1
63°	187.3	187.7	199.3	220.3	257.0	270.9	276.0	277.9	263.5	254.6	238.8
63.5°	159.4	162.6	172.9	193.3	226.8	238.8	244.4	245.8	230.5	226.3	211.4
64°	136.1	142.2	152.4	167.3	198.4	209.6	214.7	216.1	198.4	198.9	185.4
64.5°	112.9	122.2	132.0	146.4	171.0	181.2	186.3	186.8	167.3	173.3	160.8
65°	89.7	102.7	111.5	125.5	145.9	154.3	159.8	159.8	137.5	148.2	138.0
65.5°	66.4	82.7	91.1	104.6	121.7	129.6	134.8	133.8	111.1	125.5	117.6
66°	48.8	62.7	70.6	83.6	99.4	106.4	111.5	109.7	86.4	103.6	97.1





TEST NUMBER: P776651

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	15.3	26.5	30.7	33.9	52.0	56.2	60.4	59.0	39.5	57.6	54.4
68°	12.1	18.1	21.4	22.8	38.6	41.8	45.1	44.6	23.7	44.1	42.3
68.5°	8.8	13.9	13.0	14.4	24.6	27.4	30.2	30.2	7.9	30.7	29.7
69°	5.6	10.2	10.2	11.2	11.2	13.5	15.3	15.8	3.7	17.7	17.7
69.5°	2.3	6.0	7.4	7.9	5.6	7.0	7.9	8.8	2.3	10.7	10.2
70°	1.9	2.3	4.6	4.6	2.8	3.3	3.7	4.2	1.9	5.6	5.6
70.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.3	1.9	2.8	2.8
71°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
71.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.9	1.9	1.9
72°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.9	1.9
72.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
73°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
73.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
74°	0.9	0.9	1.4	0.9	0.9	0.9	0.9	0.9	0.9	1.4	1.4
74.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.4
75°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
75.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
76°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
76.5°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
77°	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.5	0.5	0.5	0.5	0.5	0.9	0.9
78°	0.9	0.5	0.9	0.5	0.5	0.5	0.5	0.5	0.5	0.9	0.9
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	0.5	0.5	0.5
80.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
81°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
81.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
82.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
83°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
83.5°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
84°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.5	0.5
84.5°	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.5	0.5
85°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5
85.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5
86°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5
86.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5
87°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5
87.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5
88°	0.5	0.9	0.9	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5
88.5°	0.5	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.5	0.5



TEST NUMBER: P776651

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
90°	0.5	1.4	1.4	0.9	0.5	0.0	0.0	0.5	0.0	0.9	0.5



TEST NUMBER: P776651

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3093.8	3093.8	3093.8	3093.8	3093.8	3093.8
0.5°	3091.9	3093.3	3091.9	3090.1	3090.6	3091.5
1°	3090.6	3091.0	3089.2	3087.3	3087.8	3089.2
1.5°	3088.2	3087.8	3085.4	3083.6	3084.0	3086.4
2°	3085.9	3084.5	3081.7	3079.9	3080.8	3082.7
2.5°	3082.7	3080.3	3077.5	3075.2	3076.1	3078.9
3°	3078.9	3076.1	3072.9	3070.6	3071.5	3074.8
3.5°	3075.2	3071.0	3067.8	3065.5	3066.4	3069.6
4°	3070.6	3065.9	3062.2	3059.9	3060.8	3064.1
4.5°	3065.5	3059.9	3056.2	3053.4	3054.8	3058.0
5°	3059.9	3053.8	3050.1	3047.3	3048.3	3052.0
5.5°	3053.8	3046.9	3043.2	3039.9	3040.8	3045.0
6°	3047.3	3039.9	3035.7	3032.9	3033.4	3037.1
6.5°	3039.9	3032.5	3028.3	3025.0	3025.0	3029.7
7°	3032.5	3024.1	3019.9	3016.7	3017.1	3021.3
7.5°	3024.6	3015.3	3011.1	3007.8	3008.3	3012.0
8°	3015.7	3006.4	3001.8	2998.5	2998.5	3002.7
8.5°	3006.4	2996.7	2992.5	2988.8	2988.8	2992.5
9°	2996.7	2986.5	2982.3	2979.0	2978.1	2982.3
9.5°	2986.5	2975.8	2971.6	2968.3	2967.4	2971.1
10°	2975.8	2964.6	2960.4	2957.2	2955.8	2959.5
10.5°	2964.6	2953.0	2948.8	2945.6	2944.2	2947.4
11°	2952.5	2940.9	2936.7	2933.5	2931.6	2934.9
11.5°	2940.5	2927.9	2924.2	2920.9	2919.1	2921.9
12°	2928.4	2915.4	2911.2	2907.9	2905.6	2908.9
12.5°	2914.9	2901.4	2897.7	2894.5	2892.1	2894.9
13°	2901.4	2887.5	2884.2	2881.0	2877.7	2880.5
13.5°	2887.0	2872.6	2869.8	2866.1	2863.3	2866.1
14°	2872.6	2857.8	2855.0	2851.2	2848.5	2851.2
14.5°	2858.2	2842.9	2840.1	2836.4	2833.1	2835.9
15°	2842.4	2827.1	2824.3	2820.6	2816.9	2820.1
15.5°	2826.6	2811.3	2808.0	2804.8	2801.1	2804.3
16°	2810.8	2794.6	2791.3	2788.1	2784.8	2787.6
16.5°	2794.6	2777.8	2775.0	2771.8	2767.6	2771.3
17°	2778.3	2761.1	2757.8	2754.6	2750.9	2753.7
17.5°	2761.6	2743.4	2740.2	2736.9	2732.8	2736.5
18°	2743.9	2725.8	2722.5	2719.3	2715.1	2718.8
18.5°	2726.2	2707.7	2703.9	2701.2	2697.0	2701.2
19°	2708.1	2689.5	2685.8	2682.6	2678.9	2683.0
19.5°	2690.5	2671.4	2667.2	2664.0	2660.3	2665.4
20°	2672.3	2652.4	2647.7	2644.5	2641.2	2646.3
20.5°	2653.8	2633.3	2628.7	2625.4	2622.2	2627.7
21°	2635.2	2613.3	2609.2	2605.4	2602.6	2608.7



TEST NUMBER: P776651

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2577.6	2554.8	2548.7	2545.0	2543.6	2550.6
23°	2558.0	2534.3	2528.3	2523.2	2523.7	2531.5
23.5°	2538.5	2513.9	2507.4	2503.2	2503.2	2511.6
24°	2518.5	2493.4	2486.0	2481.4	2482.8	2491.6
24.5°	2498.1	2473.0	2465.1	2460.5	2461.4	2471.6
25°	2478.1	2452.6	2443.3	2438.2	2440.5	2451.2
25.5°	2457.7	2431.6	2421.9	2417.2	2420.0	2431.2
26°	2436.8	2410.3	2399.6	2394.0	2398.7	2410.3
26.5°	2415.8	2388.4	2378.2	2372.6	2377.3	2389.4
27°	2394.9	2367.1	2355.4	2349.9	2355.4	2368.9
27.5°	2374.0	2345.2	2333.1	2327.1	2333.1	2347.5
28°	2352.6	2322.9	2310.4	2304.3	2310.8	2326.2
28.5°	2330.8	2300.6	2287.6	2281.1	2288.5	2304.3
29°	2309.0	2278.3	2264.4	2257.4	2266.2	2282.5
29.5°	2287.1	2255.5	2241.1	2234.2	2243.0	2260.6
30°	2264.8	2232.8	2217.0	2210.9	2219.8	2238.8
30.5°	2242.1	2209.5	2193.3	2186.8	2196.5	2215.6
31°	2219.8	2185.8	2169.1	2162.1	2172.8	2192.3
31.5°	2196.1	2162.1	2144.9	2138.0	2148.7	2169.6
32°	2172.4	2138.4	2119.8	2113.3	2125.0	2146.3
32.5°	2149.1	2114.3	2095.2	2088.7	2100.3	2122.6
33°	2125.0	2089.2	2070.6	2064.1	2075.7	2098.5
33.5°	2100.8	2064.1	2045.5	2038.5	2051.1	2074.3
34°	2075.7	2039.0	2020.4	2013.0	2026.0	2049.2
34.5°	2050.6	2013.4	1993.9	1987.4	2000.4	2024.1
35°	2025.5	1987.4	1967.9	1961.4	1974.4	1998.6
35.5°	2000.0	1960.9	1942.3	1935.4	1948.4	1972.1
36°	1974.4	1934.0	1915.4	1908.9	1921.9	1945.6
36.5°	1947.5	1907.0	1888.9	1881.9	1895.4	1918.2
37°	1920.0	1879.1	1861.0	1855.0	1868.0	1891.2
37.5°	1892.6	1850.8	1833.1	1827.6	1840.1	1863.3
38°	1864.3	1822.5	1805.3	1799.2	1811.8	1834.1
38.5°	1835.5	1792.7	1776.0	1770.4	1782.5	1804.8
39°	1805.3	1763.0	1747.2	1741.6	1753.7	1774.1
39.5°	1775.5	1731.8	1716.0	1711.4	1721.6	1742.5
40°	1744.4	1700.2	1684.0	1679.3	1689.1	1710.0
40.5°	1711.4	1667.3	1651.0	1646.3	1655.2	1674.7
41°	1677.5	1633.3	1617.5	1612.4	1622.2	1640.8
41.5°	1643.6	1599.4	1583.6	1579.4	1587.8	1607.3
42°	1611.0	1567.3	1551.1	1546.0	1555.3	1573.4
42.5°	1577.6	1533.9	1517.2	1510.7	1519.5	1536.2
43°	1543.7	1499.0	1482.8	1477.7	1485.6	1502.8
43.5°	1508.8	1465.1	1449.3	1444.2	1453.0	1471.6

TEST NUMBER: P776651

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1419.1	1379.2	1364.3	1360.1	1369.4	1388.9
45.5°	1392.6	1352.7	1337.8	1334.5	1343.8	1362.9
46°	1367.5	1328.0	1313.6	1309.9	1319.7	1338.7
46.5°	1342.4	1304.3	1289.5	1286.2	1295.5	1314.6
47°	1319.7	1281.1	1265.8	1262.5	1271.8	1290.9
47.5°	1295.5	1256.5	1242.5	1238.8	1248.6	1267.2
48°	1272.3	1234.2	1219.3	1215.6	1224.9	1243.0
48.5°	1249.0	1209.5	1196.1	1191.4	1200.3	1216.1
49°	1223.5	1184.9	1170.5	1165.4	1172.8	1186.8
49.5°	1195.1	1156.1	1144.0	1138.5	1143.6	1157.0
50°	1165.9	1128.2	1115.2	1109.6	1112.4	1123.1
50.5°	1134.3	1095.7	1084.6	1077.1	1078.0	1087.3
51°	1099.9	1062.2	1050.2	1042.3	1042.7	1050.6
51.5°	1065.5	1026.0	1014.4	1004.6	1006.5	1013.5
52°	1030.6	989.8	976.3	966.1	967.0	975.4
52.5°	993.9	951.2	937.2	927.0	927.5	936.8
53°	956.8	913.1	897.8	886.6	887.5	897.3
53.5°	918.2	874.1	857.3	846.2	847.1	857.8
54°	880.1	835.5	817.4	805.7	806.7	817.8
54.5°	841.5	797.4	777.9	765.3	766.2	778.3
55°	803.9	758.8	737.4	724.4	726.3	738.8
55.5°	764.9	719.3	698.4	683.1	687.3	698.9
56°	725.4	681.2	658.9	643.1	648.2	659.8
56.5°	687.3	643.6	620.8	604.1	610.1	621.3
57°	647.8	606.4	581.8	565.0	571.6	583.2
57.5°	610.1	569.7	544.6	527.4	533.9	545.1
58°	572.5	533.4	508.4	491.2	497.2	507.9
58.5°	534.4	497.2	473.0	454.9	462.4	471.6
59°	497.2	462.4	438.7	420.5	426.1	435.9
59.5°	462.4	428.4	404.3	387.1	393.1	402.4
60°	428.0	395.0	371.3	354.5	360.6	368.0
60.5°	393.6	361.1	339.7	323.9	328.5	335.0
61°	359.2	329.5	308.5	294.6	296.9	303.4
61.5°	324.8	298.3	279.7	267.2	269.0	272.8
62°	292.7	267.7	251.4	239.3	240.7	242.6
62.5°	262.1	238.4	224.4	214.2	213.3	214.7
63°	232.3	210.5	198.9	189.6	187.3	187.3
63.5°	204.0	184.0	175.2	167.3	164.0	159.4
64°	177.0	158.5	155.2	148.7	145.0	136.1
64.5°	152.9	137.5	135.7	129.6	125.9	112.9
65°	129.2	116.6	116.2	111.1	106.4	89.7
65.5°	107.8	96.2	96.2	92.5	87.4	66.4
66°	88.3	75.3	76.7	73.9	67.8	48.8



TEST NUMBER: P776651

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	48.3	33.9	35.8	35.3	29.3	15.3
68°	37.2	24.2	26.0	25.1	20.4	12.1
68.5°	26.0	16.7	17.2	16.7	16.7	8.8
69°	14.9	13.0	13.5	13.0	13.0	5.6
69.5°	8.8	9.3	9.8	9.3	9.3	2.3
70°	4.6	5.6	5.6	5.6	5.6	1.9
70.5°	2.3	1.9	1.9	1.9	1.9	1.9
71°	1.9	1.9	1.9	1.9	1.9	1.9
71.5°	1.9	1.4	1.4	1.4	1.4	1.4
72°	1.4	1.4	1.4	1.4	1.4	1.4
72.5°	1.4	1.4	1.4	1.4	1.4	1.4
73°	1.4	1.4	1.4	1.4	1.4	1.4
73.5°	1.4	1.4	1.4	1.4	1.4	1.4
74°	1.4	1.4	1.4	1.4	0.9	0.9
74.5°	0.9	0.9	0.9	0.9	0.9	0.9
75°	0.9	0.9	0.9	0.9	0.9	0.9
75.5°	0.9	0.9	0.9	0.9	0.9	0.9
76°	0.9	0.9	0.9	0.9	0.9	0.9
76.5°	0.9	0.9	0.9	0.9	0.9	0.9
77°	0.9	0.9	0.9	0.9	0.9	0.9
77.5°	0.9	0.9	0.9	0.9	0.9	0.9
78°	0.9	0.9	0.9	0.9	0.9	0.9
78.5°	0.5	0.9	0.9	0.9	0.9	0.5
79°	0.5	0.5	0.9	0.9	0.9	0.5
79.5°	0.5	0.5	0.9	0.9	0.5	0.5
80°	0.5	0.5	0.9	0.9	0.5	0.5
80.5°	0.5	0.5	0.9	0.9	0.5	0.5
81°	0.5	0.5	0.9	0.9	0.5	0.5
81.5°	0.5	0.5	0.9	0.9	0.5	0.5
82°	0.5	0.5	0.9	0.9	0.5	0.5
82.5°	0.5	0.5	0.9	0.9	0.5	0.5
83°	0.5	0.5	0.9	0.9	0.5	0.5
83.5°	0.5	0.5	0.9	0.9	0.5	0.5
84°	0.5	0.5	0.9	0.9	0.5	0.5
84.5°	0.5	0.5	0.9	0.9	0.5	0.5
85°	0.5	0.5	0.9	0.9	0.9	0.5
85.5°	0.5	0.5	0.9	0.9	0.9	0.5
86°	0.5	0.5	0.9	0.9	0.9	0.5
86.5°	0.5	0.5	0.9	1.4	0.9	0.5
87°	0.5	0.5	1.4	1.4	1.4	0.5
87.5°	0.5	0.9	1.4	1.9	1.4	0.5
88°	0.5	0.9	1.9	2.3	1.9	0.5
88.5°	0.5	0.9	2.3	2.8	2.3	0.5



TEST NUMBER: P776651

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.5	1.9	3.3	2.3	3.3	0.5



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Scaled Data Report





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

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Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	2589.6	2611.5	2644.5	2677.9	2719.7	2735.1	2733.2	2718.8	2696.0	2670.5	2641.7
22°	2570.1	2592.4	2625.4	2659.8	2701.2	2717.0	2715.1	2700.2	2677.9	2651.9	2622.6



44°	1442.4	1472.1	1500.4	1526.5	1563.6	1575.2	1578.0	1571.5	1558.5	1535.8	1509.3
44.5°	1414.9	1444.2	1472.6	1497.6	1533.9	1545.0	1547.8	1542.3	1528.8	1506.0	1478.1



66.5°	35.3	48.3	55.3	62.7	79.5	85.0	90.1	87.8	70.6	84.1	79.5
67°	24.2	36.2	42.3	47.4	66.0	70.6	75.3	73.4	54.8	70.6	66.9



89°	0.5	0.9	1.4	0.9	0.0	0.0	0.0	0.5	0.0	0.5	0.5
89.5°	0.5	1.4	1.4	0.9	0.5	0.0	0.0	0.5	0.0	0.5	0.5



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21.5°	2616.6	2593.8	2589.2	2585.5	2583.6	2589.6
22°	2596.6	2574.3	2569.2	2564.5	2563.1	2570.1



44°	1476.7	1434.9	1420.0	1414.5	1424.2	1442.4
44.5°	1447.0	1406.6	1391.2	1387.1	1396.3	1414.9



66.5°	71.1	59.0	61.8	59.5	53.4	35.3
67°	59.5	45.1	47.9	46.5	40.4	24.2



89°	0.5	1.4	2.3	3.3	2.3	0.5
89.5°	0.5	1.4	2.8	3.3	2.8	0.5

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(END OF REPORT)