

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: P776656

Luminaire Tested: HCDJBS4050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776656
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B041)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K
Description: 6 INCH ROUND SHALLOW-WIDE LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5627.3 lumens
Efficiency: N/A
Efficacy: 117.2 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.16 / 1.25
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

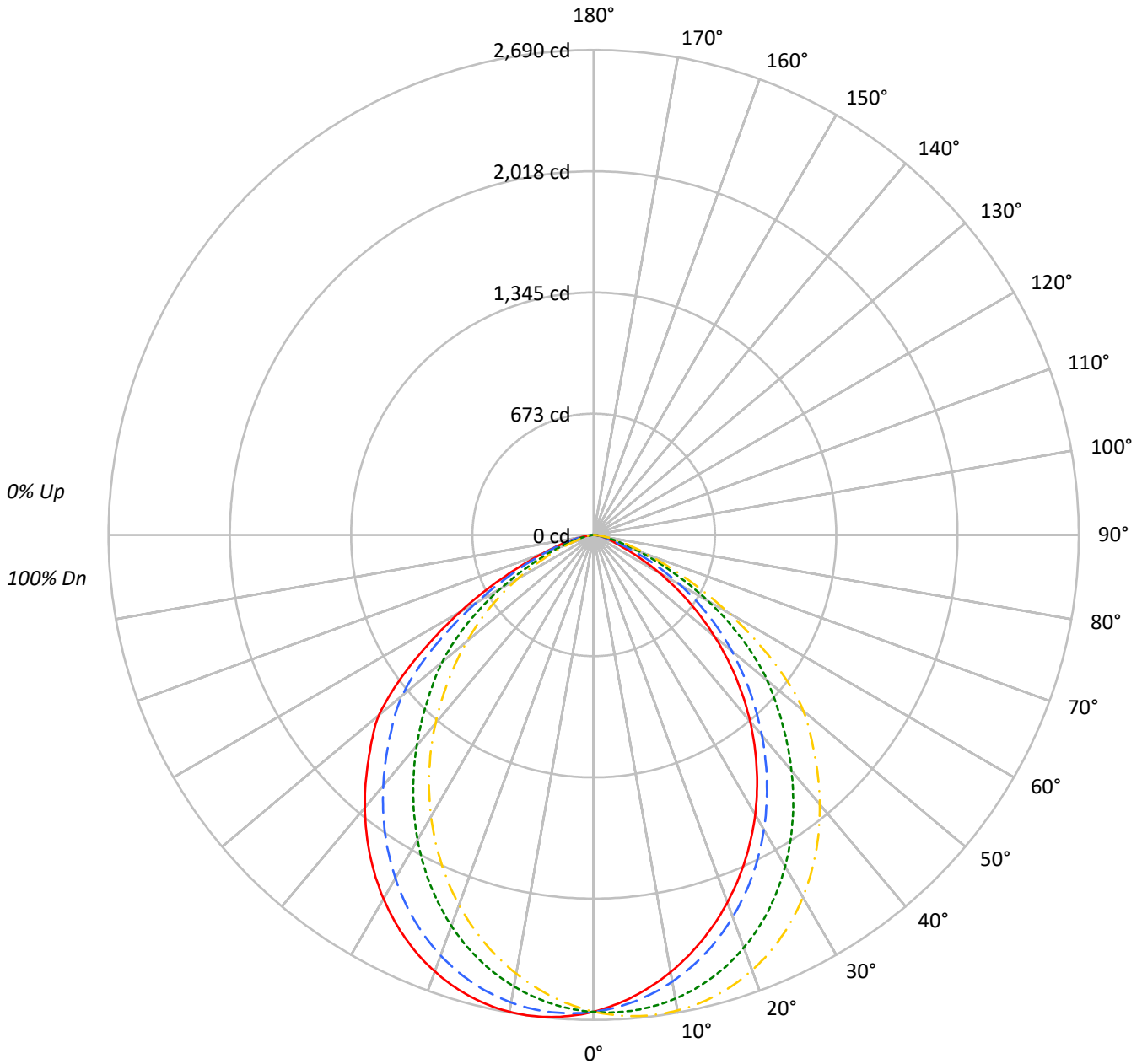
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	111	107	103	100	108	105	101	99	100	98	95	97	94	93	93	91	90	88								
2	102	95	89	84	100	93	88	83	90	85	82	87	83	80	84	81	78	76								
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66								
4	87	76	68	62	85	75	68	62	72	66	61	70	65	60	68	63	60	58								
5	80	69	61	55	78	68	60	54	66	59	54	64	58	53	62	57	53	51								
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45								
7	69	57	49	43	68	56	48	43	55	48	43	53	47	42	52	46	42	40								
8	65	52	44	39	63	51	44	39	50	43	38	49	43	38	48	42	38	36								
9	61	48	40	35	59	47	40	35	46	40	35	45	39	35	44	39	35	33								
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	144988	144988	144988	144988
5°	141349	145619	147716	143732
10°	137010	145366	149530	141592
15°	132072	144252	150392	138559
20°	126542	142101	150309	134593
25°	120328	138849	149386	129576
30°	113366	134394	147510	123633
35°	105457	128780	144761	116747
40°	96517	122150	141229	109183
45°	86335	114679	136975	101212
50°	74650	107135	132456	93430
55°	61322	95911	115934	81479
60°	46356	80125	93830	65357
65°	30431	61472	70202	48215
70°	20180	43036	48470	32473
75°	16140	27747	33656	20567
80°	11870	17016	20236	12186
85°	6416	9938	4403	6982

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 157.5°
 Vertical Angle: 45°
 Luminance: 137914 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	249.1	4.4
10°-20°	701.1	12.5
20°-30°	1023.1	18.2
30°-40°	1157.9	20.6
40°-50°	1095.6	19.5
50°-60°	831.8	14.8
60°-70°	416.7	7.4
70°-80°	132.0	2.3
80°-90°	20.0	0.4
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°	1973.3	35.1
0°-40°	3131.2	55.6
0°-60°	5058.6	89.9
0°-90°	5627.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5627.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2645	2645	2645	2645	2645	
5°	2569	2646	2684	2612	2569	242
15°	2327	2542	2650	2441	2327	654
25°	1989	2296	2470	2142	1989	914
35°	1576	1924	2163	1744	1576	983
45°	1114	1479	1767	1306	1114	857
55°	642	1004	1213	852	642	574
65°	235	474	541	372	235	244
75°	76	131	159	97	76	82
85°	10	16	7	11	10	14
90°	0	0	0	0	0	



TEST NUMBER: P776656

CATALOG NUMBER: HCDJBL34050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2644.8	2644.8	2644.8	2644.8	2644.8	2644.8	2644.8	2644.8	2644.8	2644.8	2644.8
0.5°	2638.3	2640.2	2642.1	2643.4	2647.6	2648.1	2649.0	2649.5	2649.9	2649.9	2648.1
1°	2631.8	2635.1	2638.3	2642.5	2649.0	2651.3	2653.7	2655.1	2655.1	2654.1	2650.4
1.5°	2625.3	2629.5	2634.6	2640.7	2649.9	2654.6	2658.3	2660.2	2660.2	2657.8	2652.7
2°	2618.4	2623.5	2630.4	2638.8	2650.4	2656.9	2662.0	2664.8	2664.4	2661.6	2654.1
2.5°	2610.5	2617.0	2625.8	2636.5	2650.4	2659.2	2665.7	2669.0	2669.0	2664.8	2656.0
3°	2603.0	2610.5	2620.7	2633.7	2650.4	2661.1	2669.5	2673.2	2672.2	2667.1	2656.9
3.5°	2595.1	2603.5	2615.6	2630.4	2649.9	2663.0	2672.2	2676.9	2676.0	2669.5	2657.4
4°	2586.3	2596.1	2610.0	2627.2	2649.0	2663.9	2675.0	2680.1	2679.2	2671.8	2657.8
4.5°	2577.9	2588.2	2604.0	2623.5	2648.1	2664.8	2677.4	2683.4	2682.0	2673.2	2657.8
5°	2568.6	2580.3	2597.5	2619.3	2646.2	2665.3	2679.2	2685.7	2684.3	2674.6	2657.4
5.5°	2559.4	2571.4	2590.9	2614.6	2644.4	2665.7	2680.6	2688.0	2686.2	2675.5	2656.9
6°	2549.6	2562.6	2583.5	2610.0	2642.1	2665.3	2682.0	2689.9	2687.6	2676.0	2655.5
6.5°	2539.8	2553.8	2576.5	2604.9	2639.7	2664.8	2682.9	2691.3	2689.0	2676.0	2654.1
7°	2529.6	2544.5	2568.6	2599.3	2636.5	2663.9	2683.4	2692.2	2689.4	2676.0	2652.3
7.5°	2518.9	2534.7	2560.8	2593.3	2633.2	2662.5	2683.4	2692.7	2689.9	2675.0	2649.9
8°	2507.8	2524.5	2552.4	2586.8	2629.5	2661.1	2683.4	2693.2	2689.9	2674.1	2647.6
8.5°	2496.6	2514.3	2543.6	2580.3	2625.8	2659.2	2682.9	2693.2	2689.4	2672.7	2644.4
9°	2485.5	2504.1	2534.3	2573.3	2621.1	2657.4	2681.5	2692.7	2689.0	2671.3	2641.1
9.5°	2473.4	2492.9	2525.0	2566.3	2616.5	2654.6	2680.6	2691.8	2687.6	2669.0	2637.9
10°	2461.3	2481.8	2515.7	2558.4	2611.4	2651.8	2678.8	2690.4	2686.2	2666.7	2633.7
10.5°	2449.3	2470.2	2505.5	2550.5	2606.3	2648.1	2676.9	2689.0	2684.3	2663.4	2629.5
11°	2436.7	2458.5	2494.8	2542.2	2600.2	2644.4	2674.6	2687.1	2681.5	2660.6	2624.9
11.5°	2423.7	2446.5	2484.1	2533.3	2594.2	2640.7	2671.8	2684.3	2679.2	2656.9	2619.8
12°	2410.7	2433.9	2473.4	2524.0	2587.7	2636.0	2668.5	2682.0	2676.0	2653.2	2614.6
12.5°	2397.2	2421.4	2461.8	2515.2	2581.2	2631.4	2664.8	2678.8	2672.7	2649.0	2608.6
13°	2383.7	2408.4	2450.2	2505.0	2573.8	2626.3	2661.1	2675.0	2669.0	2644.4	2602.6
13.5°	2369.8	2395.4	2438.1	2495.2	2566.3	2621.1	2656.9	2671.3	2664.4	2639.3	2596.5
14°	2355.9	2381.9	2426.0	2485.0	2558.4	2615.1	2652.3	2667.1	2660.2	2633.7	2589.6
14.5°	2341.5	2368.4	2413.5	2474.3	2550.1	2609.1	2647.2	2662.5	2655.1	2628.1	2582.6
15°	2327.1	2354.0	2400.5	2462.7	2541.7	2602.1	2642.1	2657.4	2649.9	2622.1	2575.2
15.5°	2312.2	2339.6	2387.0	2451.6	2532.4	2595.6	2636.5	2652.3	2644.4	2615.6	2567.3
16°	2297.3	2325.2	2374.0	2439.5	2523.1	2588.2	2630.4	2646.2	2637.9	2608.6	2558.9
16.5°	2282.0	2310.3	2360.1	2427.9	2513.8	2580.7	2623.9	2640.2	2631.8	2601.6	2550.5
17°	2266.2	2295.5	2345.7	2414.9	2504.1	2572.8	2617.4	2634.2	2624.9	2594.2	2541.7
17.5°	2250.9	2280.1	2331.2	2402.3	2493.4	2564.5	2610.0	2627.2	2617.9	2586.3	2532.9
18°	2234.6	2264.4	2316.8	2389.3	2482.2	2556.1	2602.6	2619.8	2610.0	2577.9	2523.1
18.5°	2218.8	2249.0	2301.5	2375.8	2471.6	2546.8	2594.7	2612.3	2602.6	2569.1	2513.4
19°	2202.1	2232.8	2286.6	2361.9	2459.9	2537.5	2586.3	2604.4	2594.2	2560.3	2503.1
19.5°	2185.4	2217.0	2270.9	2347.5	2448.3	2527.8	2577.9	2596.1	2585.4	2551.5	2492.5
20°	2169.1	2200.2	2255.5	2333.6	2435.8	2517.5	2569.6	2587.2	2576.5	2541.7	2481.8
20.5°	2151.5	2183.5	2239.3	2318.7	2423.2	2506.9	2560.3	2578.4	2567.3	2531.5	2470.2
21°	2134.3	2166.3	2223.0	2303.8	2410.7	2496.6	2550.5	2569.1	2558.0	2521.3	2459.0



TEST NUMBER: P776656

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
22.5°	2081.8	2114.3	2172.4	2256.5	2370.3	2461.8	2519.4	2539.4	2527.3	2488.7	2422.8
23°	2063.7	2096.2	2155.2	2240.2	2355.9	2449.7	2508.7	2528.7	2516.2	2477.1	2409.8
23.5°	2045.5	2078.5	2138.0	2223.5	2341.5	2437.2	2497.6	2517.5	2505.0	2465.0	2396.8
24°	2027.0	2060.4	2119.9	2206.7	2326.6	2424.2	2485.5	2506.4	2493.9	2452.5	2383.3
24.5°	2007.9	2041.8	2101.3	2189.1	2311.3	2410.7	2473.4	2494.8	2481.3	2440.0	2369.3
25°	1989.3	2022.8	2083.2	2171.9	2295.5	2397.7	2461.3	2482.7	2469.7	2427.4	2355.4
25.5°	1970.3	2004.2	2065.0	2154.2	2279.7	2383.3	2448.8	2470.6	2456.7	2414.4	2341.0
26°	1951.2	1985.1	2046.5	2136.1	2263.9	2368.9	2435.8	2458.1	2444.1	2400.5	2326.6
26.5°	1931.7	1966.1	2026.5	2117.5	2247.2	2354.5	2422.3	2444.6	2430.7	2387.0	2311.7
27°	1912.2	1946.6	2007.9	2099.4	2230.0	2339.6	2408.4	2431.6	2417.7	2372.6	2296.4
27.5°	1892.2	1926.6	1988.4	2080.4	2213.2	2324.3	2394.9	2418.1	2403.7	2358.7	2281.1
28°	1872.2	1906.6	1968.9	2061.3	2195.6	2308.5	2380.5	2404.2	2389.3	2344.3	2264.8
28.5°	1852.3	1886.6	1948.4	2041.8	2177.9	2292.7	2365.6	2389.8	2374.9	2328.9	2249.0
29°	1832.3	1867.1	1928.5	2022.8	2160.3	2276.9	2350.8	2375.8	2360.1	2313.6	2232.8
29.5°	1811.9	1846.7	1908.5	2003.3	2141.7	2259.7	2335.9	2360.5	2345.2	2298.3	2216.0
30°	1790.9	1825.8	1888.5	1983.3	2123.1	2243.4	2320.1	2345.7	2330.3	2282.5	2198.8
30.5°	1770.0	1805.3	1867.1	1962.8	2104.5	2225.8	2303.8	2330.3	2315.0	2266.2	2181.7
31°	1749.1	1784.4	1846.7	1942.9	2085.5	2208.1	2287.6	2315.0	2299.2	2249.9	2164.5
31.5°	1728.2	1763.5	1825.3	1922.0	2066.0	2190.0	2271.3	2298.7	2282.5	2233.2	2146.3
32°	1706.9	1742.6	1804.4	1901.1	2046.0	2172.8	2254.6	2282.5	2266.7	2216.5	2128.7
32.5°	1685.5	1721.3	1783.0	1880.6	2026.5	2154.2	2237.9	2265.7	2250.4	2199.3	2110.6
33°	1663.7	1699.4	1762.1	1859.7	2007.0	2135.2	2220.2	2249.0	2233.2	2182.1	2092.5
33.5°	1642.3	1678.1	1740.3	1837.9	1986.5	2116.6	2202.6	2232.3	2216.0	2164.5	2074.3
34°	1620.4	1656.7	1718.9	1817.0	1966.1	2097.6	2184.4	2215.1	2198.4	2146.3	2054.8
34.5°	1598.1	1634.8	1696.6	1795.1	1944.7	2077.6	2166.3	2197.0	2180.7	2128.2	2035.8
35°	1575.8	1612.5	1675.3	1773.3	1924.3	2058.1	2148.2	2179.3	2163.1	2110.1	2016.7
35.5°	1554.0	1590.7	1652.5	1751.9	1903.4	2038.6	2129.2	2161.2	2145.4	2092.0	1997.7
36°	1531.7	1568.4	1631.1	1730.1	1882.0	2018.1	2110.6	2143.1	2127.3	2072.9	1977.7
36.5°	1509.4	1546.1	1608.8	1707.8	1860.6	1997.7	2091.5	2124.5	2108.3	2054.8	1958.2
37°	1486.6	1523.3	1585.6	1685.5	1838.8	1977.2	2072.0	2105.5	2089.7	2035.3	1938.2
37.5°	1463.9	1501.0	1563.8	1663.2	1817.0	1956.3	2052.0	2086.4	2070.6	2016.3	1917.8
38°	1440.7	1478.3	1541.5	1640.9	1795.6	1935.4	2032.5	2067.4	2051.6	1996.3	1897.3
38.5°	1418.4	1456.0	1518.7	1618.6	1773.3	1914.1	2012.1	2047.9	2032.5	1977.2	1877.8
39°	1396.1	1432.8	1496.4	1595.8	1751.5	1892.7	1992.1	2028.3	2012.5	1957.3	1856.9
39.5°	1372.4	1410.5	1473.6	1573.5	1729.6	1871.3	1971.7	2008.4	1993.5	1937.3	1836.5
40°	1348.7	1387.2	1451.3	1550.8	1706.9	1849.5	1950.8	1988.4	1973.5	1917.3	1815.1
40.5°	1325.9	1364.0	1427.6	1528.0	1683.6	1828.1	1929.9	1967.9	1953.1	1897.3	1794.7
41°	1302.7	1340.8	1405.3	1505.2	1661.3	1805.3	1908.5	1947.5	1933.1	1876.4	1773.3
41.5°	1279.0	1318.0	1382.1	1482.0	1639.5	1783.5	1887.6	1927.1	1913.1	1856.5	1752.4
42°	1255.3	1294.3	1359.4	1459.7	1615.8	1761.2	1866.2	1906.2	1892.2	1835.5	1731.0
42.5°	1232.1	1271.5	1337.1	1436.9	1594.0	1739.4	1844.8	1885.3	1871.8	1815.1	1709.6
43°	1208.8	1248.3	1313.8	1414.2	1570.7	1717.1	1823.0	1864.3	1850.9	1793.7	1688.3
43.5°	1185.1	1225.1	1291.1	1391.4	1548.4	1694.8	1801.6	1843.4	1830.4	1772.8	1666.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1113.6	1154.9	1222.3	1323.1	1479.2	1627.0	1735.2	1778.9	1766.8	1709.6	1602.3
45.5°	1089.9	1132.2	1200.5	1300.8	1457.8	1604.2	1713.4	1757.5	1745.9	1688.3	1581.0
46°	1066.2	1108.5	1177.2	1278.1	1434.2	1581.0	1691.1	1736.1	1724.5	1667.8	1560.1
46.5°	1041.6	1085.7	1154.9	1255.8	1411.4	1559.1	1669.7	1715.2	1704.5	1647.4	1539.6
47°	1017.4	1062.0	1132.2	1233.5	1388.6	1536.8	1648.3	1694.3	1684.6	1627.4	1519.2
47.5°	994.2	1038.8	1109.9	1211.2	1367.3	1515.0	1627.4	1674.3	1664.1	1607.0	1498.3
48°	970.5	1016.0	1087.1	1188.9	1344.5	1493.6	1606.0	1653.9	1644.1	1587.0	1478.3
48.5°	946.8	992.8	1064.8	1167.5	1323.1	1472.2	1585.6	1633.5	1623.7	1566.1	1456.9
49°	922.7	970.0	1042.5	1145.6	1300.8	1449.9	1563.8	1612.1	1602.3	1543.8	1435.1
49.5°	899.4	947.3	1020.7	1123.8	1278.5	1428.1	1541.9	1590.7	1579.6	1520.1	1410.9
50°	875.3	924.0	998.8	1101.0	1256.2	1405.3	1518.2	1565.6	1553.1	1494.1	1386.8
50.5°	851.6	901.3	976.1	1079.7	1233.9	1380.7	1492.2	1538.7	1525.2	1464.8	1359.4
51°	826.9	879.0	954.2	1056.9	1210.2	1354.7	1465.3	1508.9	1492.2	1434.2	1331.9
51.5°	804.2	856.2	932.4	1034.1	1185.6	1329.2	1436.9	1477.8	1460.6	1402.6	1301.7
52°	780.5	833.5	910.1	1011.4	1161.4	1301.3	1406.3	1444.4	1427.6	1369.6	1270.6
52.5°	757.3	811.2	888.3	987.7	1135.4	1272.9	1374.7	1410.0	1392.3	1335.2	1238.6
53°	734.0	788.9	866.0	964.5	1108.9	1244.1	1341.7	1375.1	1358.4	1300.8	1207.0
53.5°	710.8	766.6	843.2	940.8	1083.4	1214.4	1308.2	1340.3	1321.7	1265.5	1174.0
54°	687.1	744.3	820.9	916.1	1056.4	1183.7	1275.3	1305.5	1285.0	1230.2	1141.5
54.5°	664.3	722.0	798.6	892.9	1030.9	1154.0	1240.9	1269.2	1248.8	1194.9	1108.5
55°	641.6	700.1	776.3	869.7	1003.5	1123.3	1207.0	1233.9	1213.0	1159.6	1076.0
55.5°	618.4	678.3	753.1	845.5	977.0	1092.7	1171.7	1198.1	1175.8	1123.3	1042.0
56°	596.5	656.0	730.8	821.4	949.6	1060.6	1137.3	1161.9	1138.7	1086.6	1009.1
56.5°	573.8	633.7	708.5	797.2	922.7	1029.0	1102.0	1125.7	1102.9	1051.3	975.6
57°	551.5	611.8	685.7	773.1	894.8	997.4	1068.1	1089.0	1066.2	1016.5	943.1
57.5°	529.2	590.0	663.0	748.9	868.3	966.3	1032.8	1053.2	1030.4	980.3	909.6
58°	507.8	568.6	641.1	724.7	840.4	934.3	999.8	1017.4	995.6	945.0	877.1
58.5°	486.4	546.8	618.4	701.0	813.0	903.1	964.9	982.1	959.8	910.6	845.1
59°	464.6	525.9	596.5	676.4	785.1	871.5	930.5	946.8	924.5	877.1	812.5
59.5°	443.7	504.5	574.2	652.7	758.7	840.4	897.1	911.5	889.7	842.7	780.5
60°	422.8	483.6	552.8	629.5	730.8	809.8	863.6	877.1	855.8	809.8	750.3
60.5°	401.9	462.3	531.0	605.8	703.8	778.6	829.7	843.2	822.3	777.2	719.2
61°	381.4	442.3	509.2	582.1	676.4	748.9	797.2	809.8	788.9	746.1	689.4
61.5°	361.9	421.8	488.3	558.9	650.4	719.6	765.2	776.3	756.3	715.0	660.6
62°	341.9	401.9	467.8	536.1	623.5	690.8	734.5	744.3	724.3	684.8	632.3
62.5°	322.4	381.9	446.5	513.4	597.9	661.6	701.5	711.7	692.7	655.1	604.0
63°	303.8	362.8	426.0	490.6	571.9	632.3	670.8	680.1	662.5	625.3	576.5
63.5°	285.7	343.3	405.6	468.3	546.8	605.3	640.7	649.5	630.9	597.4	550.5
64°	267.6	324.7	385.1	446.0	521.7	577.0	612.3	619.7	599.8	571.4	525.4
64.5°	250.9	306.6	365.2	424.2	497.6	550.1	583.0	590.0	570.0	544.5	500.8
65°	234.6	289.0	345.6	402.8	473.9	524.0	554.7	562.1	541.2	518.9	476.7
65.5°	218.4	270.8	326.1	382.3	451.1	498.5	527.8	534.3	511.5	493.4	453.9
66°	203.5	254.1	306.6	361.0	428.3	472.9	501.7	506.9	483.6	469.2	431.6



TEST NUMBER: P776656

CATALOG NUMBER: HCDJBL34050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	164.5	204.9	251.8	302.0	364.2	404.6	427.9	431.6	408.8	402.8	371.7
68°	156.1	189.5	234.6	283.9	342.9	383.3	406.5	409.3	386.5	381.4	351.7
68.5°	147.3	175.1	217.9	265.3	323.8	361.9	385.1	387.5	363.8	360.0	331.7
69°	138.9	163.5	202.1	248.1	304.8	340.5	363.8	365.6	341.0	339.1	314.1
69.5°	130.1	152.4	186.8	230.4	286.2	320.1	341.9	343.8	321.0	320.1	296.4
70°	125.9	141.2	172.8	215.1	268.5	301.5	322.9	325.2	302.4	302.0	279.7
70.5°	121.3	129.6	161.7	199.8	251.8	283.9	305.2	307.1	284.8	285.3	264.3
71°	116.1	118.5	150.5	184.9	236.0	266.7	287.6	289.4	268.1	268.5	249.0
71.5°	111.0	113.4	138.9	171.4	220.2	249.9	270.4	272.2	251.8	252.7	234.1
72°	105.5	108.7	127.8	160.3	205.3	235.1	254.6	256.9	236.5	237.4	220.2
72.5°	100.3	104.1	116.6	149.1	190.9	219.7	239.7	241.6	222.1	223.5	206.7
73°	95.2	99.0	107.8	138.0	177.9	205.8	225.3	227.6	208.1	209.1	193.7
73.5°	90.1	94.3	99.9	126.4	165.4	192.3	210.9	213.7	195.6	196.5	181.6
74°	85.5	89.7	92.9	115.2	153.3	179.8	198.4	200.7	182.6	184.0	170.0
74.5°	80.4	85.0	86.9	106.4	141.7	167.2	185.8	188.2	170.5	171.9	158.9
75°	76.2	80.4	81.3	98.0	131.0	155.6	174.2	176.1	158.9	160.7	147.7
75.5°	71.5	76.2	76.7	90.1	121.3	144.9	162.6	164.9	147.7	149.6	137.5
76°	67.4	71.5	72.0	83.2	111.5	134.3	151.5	153.8	136.6	138.9	127.8
76.5°	63.2	67.4	68.3	76.2	102.7	124.5	141.2	143.1	126.4	129.2	118.5
77°	59.0	63.2	64.1	70.2	94.3	115.2	131.0	133.3	116.1	119.4	109.6
77.5°	55.3	59.5	60.4	64.6	86.4	106.4	121.7	123.6	106.9	110.1	101.3
78°	51.1	55.3	56.7	59.5	79.0	98.0	112.4	114.3	97.6	101.3	92.9
78.5°	47.9	51.6	53.0	54.4	72.0	89.7	103.6	105.5	88.3	93.4	85.0
79°	44.1	47.9	49.7	49.7	65.5	82.2	95.2	96.6	79.9	85.0	77.6
79.5°	40.9	44.1	46.5	45.5	59.5	74.8	87.3	88.7	72.0	77.6	70.6
80°	37.6	40.9	43.2	41.8	53.9	67.8	79.4	80.8	64.1	70.2	63.6
80.5°	34.4	37.6	40.0	38.1	48.8	61.3	72.0	73.4	56.2	63.2	57.1
81°	31.1	34.4	36.7	34.8	44.1	55.3	65.0	66.4	49.7	56.7	51.1
81.5°	28.3	31.6	33.9	32.1	40.0	49.7	58.1	59.5	43.7	50.6	46.0
82°	25.6	28.3	31.1	29.3	35.8	44.6	51.6	53.4	37.2	45.5	40.9
82.5°	22.8	25.6	28.3	26.5	31.6	40.0	46.5	47.9	30.7	40.4	35.8
83°	20.0	22.8	25.6	24.2	27.4	35.3	41.3	42.7	24.6	35.3	30.7
83.5°	17.2	20.0	22.8	21.8	24.2	30.7	36.2	37.6	19.5	29.7	25.6
84°	14.9	17.2	20.4	19.5	20.9	26.0	30.7	32.1	14.4	24.6	21.8
84.5°	12.5	14.9	18.1	17.2	18.1	22.3	25.6	26.9	10.2	20.4	18.1
85°	10.2	12.5	15.8	15.3	15.8	18.6	21.4	21.8	7.0	16.7	14.9
85.5°	7.9	10.2	13.9	13.5	13.5	15.8	17.7	17.7	4.6	13.0	11.6
86°	6.0	8.4	11.6	11.6	11.1	12.5	14.4	13.5	3.3	9.8	8.8
86.5°	5.1	6.5	9.3	9.3	9.3	10.2	11.1	10.2	2.8	7.0	6.5
87°	3.7	5.1	7.4	7.4	7.4	7.9	8.4	7.4	1.9	4.6	4.6
87.5°	2.8	3.7	5.6	5.6	6.0	6.0	6.0	5.1	1.4	2.8	2.8
88°	1.9	2.8	3.7	4.2	4.6	4.2	3.7	2.8	0.9	1.4	1.4
88.5°	0.9	1.4	2.3	2.3	2.8	2.3	1.9	1.4	0.5	0.5	0.5



TEST NUMBER: P776656

CATALOG NUMBER: HCDJBS4050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K

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: P776656

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2644.8	2644.8	2644.8	2644.8	2644.8	2644.8
0.5°	2645.3	2644.4	2640.7	2638.3	2637.4	2638.3
1°	2645.8	2642.1	2636.0	2632.8	2630.9	2631.8
1.5°	2645.3	2639.3	2631.8	2626.3	2623.9	2625.3
2°	2645.3	2636.5	2626.7	2619.8	2616.5	2618.4
2.5°	2644.4	2633.2	2621.1	2613.2	2609.1	2610.5
3°	2643.4	2629.5	2615.6	2605.8	2601.2	2603.0
3.5°	2642.1	2625.3	2609.5	2598.4	2593.3	2595.1
4°	2640.2	2621.1	2603.5	2590.5	2584.9	2586.3
4.5°	2637.9	2616.5	2597.0	2582.1	2575.6	2577.9
5°	2635.5	2611.9	2590.0	2573.8	2566.3	2568.6
5.5°	2632.8	2606.3	2582.6	2564.9	2557.0	2559.4
6°	2629.5	2600.7	2574.7	2555.6	2547.3	2549.6
6.5°	2625.8	2594.7	2566.8	2546.3	2537.1	2539.8
7°	2622.1	2588.6	2558.9	2536.6	2526.4	2529.6
7.5°	2617.4	2581.7	2550.1	2526.4	2515.7	2518.9
8°	2613.2	2574.7	2541.2	2516.2	2505.0	2507.8
8.5°	2608.1	2567.7	2531.5	2505.5	2493.4	2496.6
9°	2603.0	2559.8	2522.2	2494.8	2481.8	2485.5
9.5°	2597.5	2551.5	2512.0	2483.2	2469.7	2473.4
10°	2591.4	2543.6	2501.7	2471.6	2457.6	2461.3
10.5°	2584.9	2534.7	2491.1	2459.9	2445.5	2449.3
11°	2578.4	2525.9	2480.4	2447.9	2433.0	2436.7
11.5°	2571.4	2516.2	2469.2	2435.3	2420.0	2423.7
12°	2564.5	2506.4	2457.6	2422.8	2406.5	2410.7
12.5°	2556.6	2496.6	2445.5	2409.3	2393.0	2397.2
13°	2548.7	2486.4	2433.5	2396.3	2379.6	2383.7
13.5°	2540.3	2475.3	2421.4	2382.8	2365.2	2369.8
14°	2531.5	2464.6	2408.4	2369.3	2351.2	2355.9
14.5°	2522.7	2453.0	2395.4	2355.4	2336.8	2341.5
15°	2512.9	2441.4	2382.4	2341.0	2322.0	2327.1
15.5°	2503.1	2429.7	2368.4	2326.1	2307.1	2312.2
16°	2493.4	2417.2	2354.5	2311.3	2292.2	2297.3
16.5°	2483.2	2404.7	2340.1	2296.4	2276.4	2282.0
17°	2472.5	2391.6	2325.7	2281.1	2261.1	2266.2
17.5°	2461.3	2378.6	2310.8	2265.3	2244.8	2250.9
18°	2449.7	2364.7	2295.9	2249.5	2229.0	2234.6
18.5°	2438.1	2350.8	2280.1	2233.2	2212.8	2218.8
19°	2426.0	2336.4	2264.8	2217.0	2196.1	2202.1
19.5°	2413.5	2322.0	2249.0	2200.2	2179.3	2185.4
20°	2400.9	2307.1	2232.8	2184.0	2162.6	2169.1
20.5°	2387.9	2292.2	2216.0	2166.8	2145.4	2151.5
21°	2374.5	2276.4	2199.3	2149.1	2127.8	2134.3

TEST NUMBER: P776656

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2332.6	2228.6	2147.3	2096.2	2074.8	2081.8
23°	2317.8	2211.4	2129.6	2078.1	2056.7	2063.7
23.5°	2303.4	2195.1	2112.0	2059.9	2038.6	2045.5
24°	2288.0	2177.5	2093.4	2041.4	2019.5	2027.0
24.5°	2272.2	2160.3	2075.3	2022.8	2000.5	2007.9
25°	2256.5	2142.2	2056.2	2003.7	1981.9	1989.3
25.5°	2240.2	2124.5	2037.6	1984.2	1962.8	1970.3
26°	2223.9	2106.9	2018.1	1964.7	1943.3	1951.2
26.5°	2206.7	2087.8	1999.5	1945.7	1923.8	1931.7
27°	2190.0	2068.8	1979.6	1926.1	1904.3	1912.2
27.5°	2173.3	2050.2	1960.1	1906.2	1884.3	1892.2
28°	2155.6	2031.1	1939.6	1885.7	1863.9	1872.2
28.5°	2138.4	2012.1	1920.1	1865.7	1844.4	1852.3
29°	2119.9	1992.1	1899.7	1845.3	1823.5	1832.3
29.5°	2101.7	1972.6	1879.2	1824.9	1803.0	1811.9
30°	2083.2	1953.1	1858.8	1804.0	1782.1	1790.9
30.5°	2065.0	1932.6	1837.9	1783.0	1761.7	1770.0
31°	2046.0	1912.2	1816.5	1762.1	1740.3	1749.1
31.5°	2026.5	1891.8	1796.1	1740.8	1719.4	1728.2
32°	2007.0	1870.9	1774.7	1719.4	1697.6	1706.9
32.5°	1987.9	1850.4	1753.3	1698.0	1676.7	1685.5
33°	1967.9	1830.0	1731.9	1676.7	1654.8	1663.7
33.5°	1948.0	1808.6	1710.6	1654.8	1633.5	1642.3
34°	1928.0	1787.2	1688.7	1633.0	1611.6	1620.4
34.5°	1907.6	1765.9	1666.4	1611.2	1589.8	1598.1
35°	1887.1	1744.5	1644.6	1588.9	1567.0	1575.8
35.5°	1866.7	1722.7	1623.2	1566.6	1545.6	1554.0
36°	1846.2	1701.7	1600.9	1544.7	1523.3	1531.7
36.5°	1825.3	1679.4	1579.1	1522.4	1500.6	1509.4
37°	1804.0	1657.6	1556.3	1499.7	1478.3	1486.6
37.5°	1783.0	1636.2	1534.5	1477.4	1456.0	1463.9
38°	1761.7	1613.9	1511.7	1454.6	1433.2	1440.7
38.5°	1740.3	1591.6	1489.9	1432.3	1410.5	1418.4
39°	1718.9	1570.3	1467.6	1410.0	1387.7	1396.1
39.5°	1697.6	1548.0	1445.3	1387.2	1364.9	1372.4
40°	1675.7	1525.7	1422.5	1364.0	1341.7	1348.7
40.5°	1654.4	1503.8	1400.2	1341.7	1318.9	1325.9
41°	1632.5	1481.1	1377.9	1318.9	1295.2	1302.7
41.5°	1610.7	1459.2	1355.2	1296.2	1272.0	1279.0
42°	1588.9	1437.4	1332.9	1273.4	1249.2	1255.3
42.5°	1567.0	1415.6	1311.0	1250.6	1226.0	1232.1
43°	1545.6	1393.7	1288.7	1227.9	1202.8	1208.8
43.5°	1523.3	1371.0	1266.9	1205.1	1179.6	1185.1

TEST NUMBER: P776656

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1458.3	1305.5	1200.0	1137.3	1109.9	1113.6
45.5°	1436.5	1283.6	1178.2	1114.5	1086.2	1089.9
46°	1415.1	1262.7	1156.8	1092.7	1063.0	1066.2
46.5°	1394.2	1241.8	1135.4	1069.9	1039.7	1041.6
47°	1373.3	1220.9	1113.6	1047.6	1016.5	1017.4
47.5°	1352.4	1199.5	1092.2	1025.3	993.7	994.2
48°	1332.4	1180.0	1071.3	1003.0	970.5	970.5
48.5°	1312.0	1159.1	1049.9	981.2	946.8	946.8
49°	1290.6	1138.2	1029.5	959.8	924.0	922.7
49.5°	1267.8	1117.3	1009.1	938.0	901.3	899.4
50°	1244.6	1095.5	988.2	916.1	878.1	875.3
50.5°	1220.0	1072.7	966.3	894.8	855.8	851.6
51°	1194.9	1049.9	945.4	873.4	832.5	826.9
51.5°	1168.9	1026.3	924.0	852.0	810.2	804.2
52°	1142.4	1002.6	902.2	831.1	787.9	780.5
52.5°	1114.5	977.9	879.9	809.3	765.2	757.3
53°	1087.1	953.3	857.6	787.9	743.3	734.0
53.5°	1057.8	928.2	835.3	766.1	721.0	710.8
54°	1028.6	903.1	812.5	745.2	699.2	687.1
54.5°	999.3	878.1	789.8	723.3	677.4	664.3
55°	970.5	852.5	766.6	701.5	656.0	641.6
55.5°	940.3	826.0	743.8	679.7	633.7	618.4
56°	910.6	800.5	720.6	658.3	612.3	596.5
56.5°	881.3	774.9	697.8	636.5	590.9	573.8
57°	852.0	748.9	674.1	615.1	569.6	551.5
57.5°	822.3	722.9	650.9	592.8	548.2	529.2
58°	793.5	697.3	628.1	571.9	527.8	507.8
58.5°	765.2	671.8	605.3	550.1	506.4	486.4
59°	735.9	646.2	582.6	528.7	485.5	464.6
59.5°	708.0	620.7	559.8	507.8	465.0	443.7
60°	680.1	596.1	537.5	486.9	444.6	422.8
60.5°	652.7	571.4	515.2	466.0	424.2	401.9
61°	625.3	547.3	493.4	445.5	404.2	381.4
61.5°	598.8	524.0	471.5	425.6	384.7	361.9
62°	573.8	500.8	450.2	405.6	365.6	341.9
62.5°	547.7	478.1	429.3	385.6	346.6	322.4
63°	522.6	455.3	408.8	366.1	328.0	303.8
63.5°	498.0	433.9	388.4	347.0	309.4	285.7
64°	474.3	412.5	368.4	328.0	291.8	267.6
64.5°	451.6	392.1	348.9	309.4	274.1	250.9
65°	429.3	371.7	329.8	291.3	257.8	234.6
65.5°	408.4	352.1	311.3	273.2	241.1	218.4
66°	387.9	332.6	292.7	256.0	225.3	203.5



TEST NUMBER: P776656

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	328.5	279.2	241.6	206.7	180.7	164.5
68°	310.3	262.5	225.3	192.3	167.7	156.1
68.5°	293.1	246.7	210.5	177.9	157.5	147.3
69°	276.4	231.4	195.1	164.0	147.7	138.9
69.5°	260.6	217.0	181.2	153.3	138.0	130.1
70°	245.3	202.6	168.6	142.6	127.8	125.9
70.5°	230.9	189.1	158.0	131.9	118.0	121.3
71°	216.5	176.5	147.3	121.3	113.4	116.1
71.5°	203.5	164.0	136.6	112.9	109.2	111.0
72°	190.5	153.8	125.9	105.5	104.5	105.5
72.5°	178.4	143.6	115.2	98.5	99.4	100.3
73°	166.3	133.3	106.4	92.0	94.3	95.2
73.5°	155.2	122.6	98.5	86.4	89.7	90.1
74°	144.5	113.8	91.1	81.8	85.0	85.5
74.5°	134.7	105.0	84.1	77.6	80.4	80.4
75°	125.0	97.1	78.0	73.9	76.2	76.2
75.5°	115.7	89.2	72.0	69.7	71.5	71.5
76°	106.9	82.2	66.9	66.0	67.4	67.4
76.5°	99.0	75.3	61.8	62.3	63.2	63.2
77°	91.1	68.8	57.1	58.5	59.5	59.0
77.5°	83.6	63.2	53.0	54.8	55.7	55.3
78°	76.2	57.1	48.8	51.6	52.0	51.1
78.5°	69.7	52.0	45.1	48.3	48.3	47.9
79°	63.2	47.4	41.8	45.1	44.6	44.1
79.5°	57.6	42.7	38.6	41.8	41.3	40.9
80°	52.0	38.6	35.8	38.6	38.1	37.6
80.5°	46.5	34.8	33.4	35.8	34.8	34.4
81°	42.3	31.1	30.7	33.0	31.6	31.1
81.5°	38.1	27.9	28.3	30.2	28.8	28.3
82°	33.4	25.1	25.6	27.4	25.6	25.6
82.5°	29.3	22.3	23.2	24.6	22.8	22.8
83°	24.6	19.5	20.9	22.3	20.0	20.0
83.5°	21.4	17.2	18.6	20.0	17.2	17.2
84°	18.1	14.9	16.7	17.7	15.3	14.9
84.5°	15.3	13.0	14.4	15.3	13.0	12.5
85°	12.5	11.1	12.5	13.0	10.7	10.2
85.5°	10.2	8.8	10.2	11.1	8.4	7.9
86°	7.9	7.4	8.4	8.8	7.0	6.0
86.5°	6.0	5.6	6.5	7.0	5.6	5.1
87°	4.2	4.2	4.6	5.1	4.2	3.7
87.5°	2.8	2.3	2.8	3.3	2.8	2.8
88°	1.9	0.9	1.4	1.9	1.9	1.9
88.5°	0.5	0.5	0.5	0.5	0.9	0.9



TEST NUMBER: P776656

CATALOG NUMBER: HCDJBS4050CSD-HCD61TRH-HCD61TRLWW-5000lm-3000K

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



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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°	2117.1	2149.1	2206.3	2288.0	2397.2	2485.0	2540.3	2559.8	2548.2	2511.0	2446.9
22°	2099.4	2131.9	2189.6	2272.2	2384.2	2473.4	2530.6	2549.6	2537.5	2499.4	2434.9



44°	1160.5	1201.4	1268.3	1368.6	1525.2	1671.5	1779.3	1821.6	1809.1	1751.9	1645.5
44.5°	1137.3	1178.2	1245.5	1346.3	1502.4	1649.2	1757.5	1800.2	1788.2	1731.0	1624.2



66.5°	189.1	237.4	288.0	341.0	407.0	448.8	476.2	480.8	456.7	445.1	411.6
67°	175.6	221.1	269.9	321.0	385.6	426.0	452.0	455.8	431.6	423.7	391.6



89°	0.5	0.5	0.9	0.9	1.9	1.4	0.9	0.5	0.0	0.0	0.0
89.5°	0.0	0.5	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0

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21.5°	2361.0	2260.6	2182.6	2131.5	2110.1	2117.1
22°	2346.6	2244.8	2164.9	2114.3	2092.5	2099.4



44°	1501.5	1349.1	1244.1	1182.3	1155.9	1160.5
44.5°	1479.2	1327.3	1222.3	1159.6	1133.1	1137.3

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66.5°	367.0	314.5	275.0	238.3	210.0	189.1
67°	346.6	295.9	257.8	223.0	195.1	175.6

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89°	0.0	0.0	0.0	0.0	0.5	0.5
89.5°	0.0	0.0	0.0	0.0	0.0	0.0

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Scaled Data Report



(END OF REPORT)