

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: P776566

Luminaire Tested: HCDJBS4050CSD-HCD41TRMW-5000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776566
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-3000K
Description: 4 INCH ROUND SHALLOW-WIDE MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

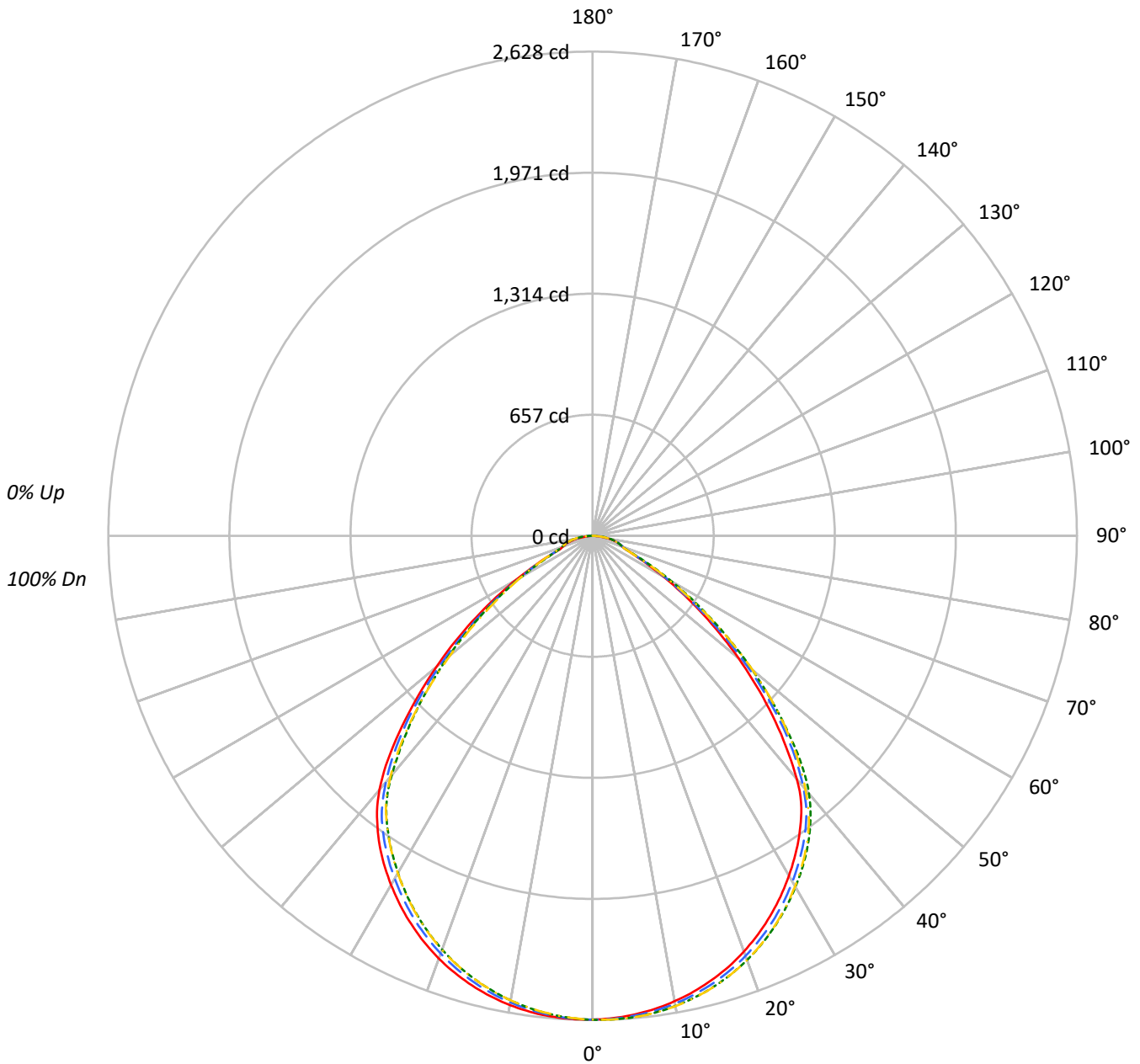
Lumens per Lamp: N/A
Luminaire Lumens: 5483.4 lumens
Efficiency: N/A
Efficacy: 114.2 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.22 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20										
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	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	92	90	88	88	88	88	88	88		
	2	103	96	90	85	100	94	89	84	90	86	82	87	84	81	84	81	79	77	77	77	77	77	77		
	3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67	67	67	67	67	67		
	4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59	59	59	59	59	59		
	5	81	70	62	56	79	69	62	56	67	60	55	65	59	55	63	58	54	52	52	52	52	52	52		
	6	76	64	56	50	74	63	55	50	61	54	49	60	54	49	58	53	49	47	47	47	47	47	47		
	7	71	58	50	45	69	57	50	45	56	49	44	55	49	44	53	48	44	42	42	42	42	42	42		
	8	66	54	46	40	64	53	45	40	52	45	40	50	44	40	49	44	40	38	38	38	38	38	38		
	9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34	34	34	34	34	34		
	10	58	46	38	33	57	45	38	33	44	38	33	43	37	33	43	37	33	31	31	31	31	31	31		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	330482	330482	330482	330482
5°	329508	331277	330860	329280
10°	327797	331184	330468	327209
15°	325306	330205	329306	324212
20°	321558	328160	326915	320004
25°	316364	324821	323141	314240
30°	309674	319876	317914	307044
35°	301123	313183	310618	298112
40°	283047	300001	295648	278398
45°	245681	266024	260329	242460
50°	202288	221122	216658	200565
55°	156222	172853	169496	156222
60°	111478	124113	121546	111956
65°	75697	81117	79032	75846
70°	63105	62774	63289	64467
75°	66421	66907	64185	70068
80°	61965	69068	56240	74141
85°	34222	63101	24114	71765

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 112.5°
 Vertical Angle: 45°
 Luminance: 270243 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.3	4.5
10°-20°	708.2	12.9
20°-30°	1059.5	19.3
30°-40°	1238.8	22.6
40°-50°	1095.6	20.0
50°-60°	666.8	12.2
60°-70°	277.8	5.1
70°-80°	144.2	2.6
80°-90°	44.1	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°	2016.0	36.8
0°-40°	3254.8	59.4
0°-60°	5017.3	91.5
0°-90°	5483.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5483.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2626	2626	2626	2626	2626	
5°	2608	2622	2619	2606	2608	248
15°	2497	2534	2528	2488	2497	704
25°	2278	2339	2327	2263	2278	1049
35°	1960	2038	2022	1940	1960	1220
45°	1380	1495	1463	1362	1380	1061
55°	712	788	772	712	712	641
65°	254	272	265	255	254	268
75°	137	138	132	144	137	141
85°	24	44	17	50	24	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2626.0	2626.0	2626.0	2626.0	2626.0	2626.0	2626.0	2626.0	2626.0	2626.0	2626.0
0.5°	2625.5	2626.0	2626.5	2625.5	2627.4	2627.8	2626.9	2626.5	2626.5	2626.5	2626.0
1°	2624.6	2625.5	2626.0	2626.0	2627.8	2628.3	2627.8	2626.9	2626.5	2626.5	2625.5
1.5°	2623.2	2624.6	2625.5	2626.0	2627.8	2628.8	2627.8	2626.9	2626.5	2626.0	2624.6
2°	2621.8	2623.2	2625.1	2625.5	2627.8	2628.8	2627.8	2626.9	2626.0	2625.1	2623.7
2.5°	2619.9	2621.8	2624.1	2625.1	2627.4	2628.8	2627.8	2626.5	2625.5	2624.1	2622.3
3°	2618.1	2620.4	2622.7	2624.1	2626.9	2628.3	2626.9	2626.0	2624.6	2623.2	2620.9
3.5°	2616.2	2618.5	2621.3	2623.2	2626.0	2627.8	2626.5	2625.1	2623.7	2621.3	2619.0
4°	2613.9	2616.2	2619.5	2621.8	2625.1	2626.9	2625.1	2623.7	2622.3	2619.9	2616.7
4.5°	2611.1	2613.9	2617.2	2619.9	2623.7	2625.5	2624.1	2622.3	2620.4	2618.1	2614.4
5°	2608.3	2611.6	2614.8	2618.1	2622.3	2624.1	2622.3	2620.9	2619.0	2615.8	2611.6
5.5°	2605.1	2608.3	2612.5	2616.2	2619.9	2622.7	2620.4	2618.5	2616.7	2613.0	2608.8
6°	2601.4	2605.5	2609.7	2613.9	2618.1	2620.4	2618.5	2616.7	2614.4	2610.6	2605.5
6.5°	2597.6	2601.8	2606.9	2611.1	2615.8	2618.5	2616.2	2614.4	2612.0	2607.9	2602.3
7°	2593.9	2598.1	2603.7	2608.3	2613.0	2615.8	2613.4	2611.6	2608.8	2604.6	2599.0
7.5°	2589.7	2594.4	2600.0	2605.1	2610.2	2613.4	2610.6	2608.8	2605.5	2600.9	2594.8
8°	2585.6	2590.2	2596.7	2601.8	2606.5	2610.2	2607.4	2605.5	2602.3	2597.2	2590.7
8.5°	2580.9	2586.0	2592.1	2598.1	2603.2	2607.4	2604.1	2601.8	2598.6	2593.5	2586.5
9°	2575.8	2581.4	2587.9	2594.4	2599.5	2603.7	2600.4	2598.1	2594.8	2588.8	2581.8
9.5°	2570.7	2576.3	2583.7	2589.7	2595.8	2600.0	2596.7	2594.4	2590.7	2584.6	2576.7
10°	2565.1	2571.1	2578.6	2585.6	2591.6	2595.8	2592.5	2590.2	2586.0	2580.0	2571.6
10.5°	2559.5	2566.0	2573.5	2580.4	2586.9	2591.6	2587.9	2585.6	2581.4	2574.9	2566.5
11°	2553.5	2560.0	2568.4	2575.8	2582.3	2586.9	2583.2	2580.4	2576.7	2569.3	2560.5
11.5°	2547.4	2554.4	2562.8	2570.7	2577.2	2582.3	2578.1	2575.8	2571.1	2563.7	2554.4
12°	2540.9	2547.9	2556.7	2564.6	2572.1	2577.2	2573.0	2570.7	2566.0	2558.1	2548.4
12.5°	2534.0	2541.4	2550.7	2559.1	2566.5	2572.1	2567.4	2564.6	2560.5	2552.1	2541.9
13°	2527.5	2534.9	2544.2	2553.0	2560.5	2566.5	2561.4	2559.1	2554.4	2545.6	2535.4
13.5°	2519.6	2527.9	2537.2	2547.0	2554.4	2560.5	2555.3	2553.0	2547.9	2539.1	2528.4
14°	2512.6	2520.9	2530.7	2540.5	2547.9	2554.4	2549.3	2546.5	2541.4	2532.1	2520.9
14.5°	2504.7	2513.5	2523.3	2533.5	2541.4	2547.9	2542.3	2539.5	2534.4	2525.1	2513.5
15°	2496.8	2505.6	2516.3	2526.5	2534.4	2541.4	2535.8	2533.0	2527.5	2517.7	2505.6
15.5°	2488.4	2497.2	2508.4	2518.6	2527.5	2534.0	2528.4	2525.6	2520.0	2510.3	2497.7
16°	2479.6	2488.9	2500.0	2511.2	2520.0	2527.0	2520.5	2518.2	2512.1	2501.9	2489.3
16.5°	2470.8	2480.5	2492.1	2503.3	2512.1	2519.1	2513.0	2510.3	2504.7	2494.0	2480.5
17°	2461.9	2471.7	2483.8	2494.9	2504.2	2511.2	2505.1	2501.9	2495.8	2485.6	2471.7
17.5°	2452.6	2462.4	2474.9	2487.0	2495.8	2503.3	2496.3	2493.5	2487.5	2476.3	2462.4
18°	2442.9	2453.1	2465.6	2478.2	2487.5	2494.5	2487.9	2485.2	2479.1	2467.5	2453.1
18.5°	2432.6	2443.3	2456.3	2468.9	2478.7	2485.6	2479.1	2476.3	2469.8	2458.2	2443.3
19°	2422.4	2433.6	2446.6	2459.6	2469.4	2476.8	2469.8	2467.0	2461.0	2448.9	2433.6
19.5°	2411.7	2423.3	2436.8	2450.3	2460.1	2467.5	2460.1	2457.7	2451.2	2438.7	2423.3
20°	2401.0	2412.7	2426.6	2440.5	2450.3	2458.2	2450.3	2447.5	2441.0	2428.9	2412.7
20.5°	2390.3	2402.0	2416.4	2430.3	2440.5	2448.0	2440.1	2437.3	2430.8	2418.2	2401.5
21°	2378.3	2390.8	2405.2	2420.1	2430.3	2438.2	2429.9	2427.1	2420.6	2407.5	2390.8



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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°	2342.9	2356.0	2371.8	2387.1	2398.2	2406.1	2396.9	2394.5	2387.6	2374.1	2356.0
23°	2330.4	2343.9	2359.7	2375.9	2387.1	2395.0	2385.2	2382.9	2375.9	2362.5	2343.4
23.5°	2317.8	2331.3	2347.6	2363.9	2375.5	2383.4	2373.6	2370.8	2364.3	2349.9	2331.3
24°	2304.8	2318.8	2335.5	2352.2	2363.4	2371.8	2361.5	2358.7	2352.2	2337.8	2318.8
24.5°	2291.8	2305.8	2323.0	2339.7	2351.3	2359.7	2349.4	2346.7	2339.7	2325.3	2305.8
25°	2278.3	2292.3	2309.9	2327.1	2339.2	2347.1	2336.4	2334.1	2327.1	2312.7	2292.7
25.5°	2264.9	2279.3	2296.9	2314.6	2326.7	2334.6	2323.9	2321.1	2314.6	2299.7	2279.3
26°	2250.4	2265.8	2283.4	2301.6	2313.7	2322.0	2310.9	2308.1	2301.6	2286.2	2265.3
26.5°	2237.0	2251.8	2270.0	2288.6	2300.2	2309.0	2297.4	2294.6	2287.6	2273.2	2251.8
27°	2222.6	2237.4	2256.0	2274.6	2287.2	2296.0	2283.4	2281.1	2274.2	2259.3	2237.9
27.5°	2207.7	2223.5	2242.5	2261.1	2273.2	2282.1	2270.0	2267.2	2260.7	2244.9	2223.5
28°	2192.8	2208.6	2227.7	2247.2	2259.3	2268.1	2255.6	2253.2	2246.3	2231.4	2208.6
28.5°	2177.5	2193.7	2213.3	2232.8	2245.8	2254.2	2241.2	2238.8	2231.9	2216.1	2193.7
29°	2162.6	2178.4	2198.4	2218.4	2230.9	2239.8	2226.3	2224.4	2217.4	2202.1	2178.9
29.5°	2146.8	2163.5	2183.5	2203.5	2216.5	2225.3	2211.4	2209.5	2202.6	2186.8	2164.0
30°	2131.0	2148.2	2168.2	2188.6	2201.2	2210.5	2196.5	2194.2	2187.7	2171.9	2148.2
30.5°	2114.7	2132.4	2152.8	2173.8	2186.3	2195.1	2181.2	2178.9	2172.4	2156.1	2132.4
31°	2098.5	2116.1	2137.5	2158.0	2171.0	2180.3	2165.4	2163.1	2156.6	2140.8	2116.6
31.5°	2082.2	2100.3	2121.2	2142.6	2155.2	2164.5	2149.6	2147.3	2140.8	2125.0	2101.3
32°	2065.9	2084.1	2105.0	2126.8	2139.4	2148.7	2133.3	2131.5	2125.0	2109.6	2084.5
32.5°	2048.7	2067.3	2089.2	2110.5	2124.0	2132.9	2117.1	2115.2	2108.7	2093.4	2067.8
33°	2032.0	2050.6	2072.4	2094.3	2107.3	2116.6	2100.3	2098.5	2092.4	2076.6	2051.1
33.5°	2014.8	2033.4	2055.7	2078.0	2090.6	2099.9	2083.6	2081.3	2075.2	2059.4	2033.9
34°	1996.7	2016.2	2038.0	2060.8	2073.8	2083.1	2065.5	2063.6	2057.6	2041.8	2016.2
34.5°	1979.0	1998.1	2020.8	2043.2	2056.6	2065.0	2048.3	2045.9	2039.9	2024.6	1998.5
35°	1960.0	1979.9	2002.7	2025.5	2038.5	2047.3	2029.7	2027.8	2021.8	2006.4	1980.4
35.5°	1941.4	1961.4	1984.1	2007.4	2020.4	2029.2	2011.6	2009.2	2003.7	1987.8	1961.8
36°	1922.3	1942.3	1965.5	1988.8	2002.3	2011.1	1992.0	1989.2	1984.1	1968.3	1942.3
36.5°	1902.3	1922.8	1946.0	1970.2	1982.7	1991.6	1971.6	1969.3	1963.7	1948.3	1922.3
37°	1881.9	1902.3	1925.6	1949.3	1962.3	1971.1	1951.1	1948.8	1943.2	1927.9	1901.9
37.5°	1860.0	1881.4	1905.1	1929.3	1941.8	1950.7	1928.8	1927.4	1922.3	1906.5	1878.2
38°	1837.3	1859.1	1884.2	1907.9	1920.5	1929.8	1904.7	1904.2	1900.5	1883.7	1853.5
38.5°	1811.7	1833.5	1859.1	1886.1	1898.6	1907.0	1878.6	1878.2	1876.8	1860.5	1828.4
39°	1784.7	1805.7	1832.1	1861.9	1875.4	1882.8	1851.7	1852.1	1852.1	1835.4	1801.0
39.5°	1755.0	1777.3	1805.7	1837.3	1851.2	1857.2	1824.7	1824.7	1826.6	1808.9	1774.1
40°	1722.9	1747.1	1777.8	1809.8	1826.1	1829.8	1796.4	1795.4	1799.6	1781.0	1744.8
40.5°	1689.9	1715.0	1748.0	1782.4	1799.1	1801.5	1768.0	1766.6	1770.8	1751.7	1717.3
41°	1656.5	1683.0	1718.3	1752.7	1770.8	1772.7	1739.7	1737.8	1740.1	1722.0	1686.2
41.5°	1623.0	1650.4	1687.1	1722.5	1740.1	1743.4	1709.9	1707.1	1708.5	1691.3	1656.0
42°	1587.7	1616.5	1656.0	1691.3	1708.5	1713.2	1680.2	1677.4	1676.0	1659.7	1624.4
42.5°	1553.7	1582.6	1623.9	1659.7	1675.1	1682.0	1649.0	1645.8	1642.1	1626.7	1592.3
43°	1519.4	1549.1	1591.4	1626.7	1640.7	1650.0	1617.9	1613.7	1607.2	1593.3	1558.9
43.5°	1485.0	1515.2	1556.5	1593.3	1604.4	1618.4	1586.3	1581.2	1570.9	1558.9	1526.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1380.4	1413.4	1452.4	1487.3	1494.7	1518.4	1486.8	1480.3	1462.7	1451.0	1422.7
45.5°	1345.5	1379.0	1416.6	1450.6	1457.1	1482.6	1453.8	1445.5	1425.9	1413.8	1387.8
46°	1311.1	1344.6	1380.4	1412.9	1419.0	1447.8	1418.5	1409.2	1389.7	1376.7	1351.1
46.5°	1276.3	1309.7	1344.1	1375.3	1382.2	1412.0	1383.6	1373.9	1353.4	1339.5	1314.9
47°	1240.5	1275.3	1307.9	1337.2	1346.0	1375.3	1348.8	1338.6	1318.1	1302.3	1279.1
47.5°	1205.6	1240.0	1270.2	1299.5	1309.3	1338.6	1314.4	1301.8	1282.8	1266.1	1243.3
48°	1170.8	1204.2	1234.4	1261.4	1273.0	1301.8	1278.1	1265.6	1247.0	1228.4	1206.1
48.5°	1135.9	1169.4	1197.3	1223.3	1237.2	1265.1	1243.3	1228.9	1211.7	1192.2	1170.8
49°	1101.5	1134.1	1161.0	1186.1	1201.0	1228.9	1206.1	1193.1	1176.8	1155.4	1134.1
49.5°	1067.1	1097.8	1124.8	1148.5	1164.7	1191.7	1169.4	1156.8	1141.5	1119.6	1098.3
50°	1033.2	1062.9	1088.0	1111.3	1129.4	1155.4	1133.6	1120.6	1106.6	1083.4	1062.5
50.5°	999.3	1027.2	1051.8	1074.1	1094.1	1119.2	1095.9	1085.3	1071.3	1048.5	1026.7
51°	965.3	992.3	1016.0	1037.8	1058.3	1082.5	1060.6	1050.4	1037.4	1014.1	991.8
51.5°	932.8	958.4	980.7	1001.6	1023.4	1048.1	1023.4	1015.1	1003.5	979.3	957.4
52°	899.8	924.0	945.4	966.7	989.0	1012.3	986.3	979.7	970.5	944.4	923.0
52.5°	867.7	890.0	910.5	931.9	954.2	976.5	950.9	945.4	936.1	911.0	888.2
53°	835.7	856.6	875.2	897.5	920.3	941.2	915.1	911.4	902.1	877.0	854.7
53.5°	804.1	823.6	841.2	863.6	885.9	907.2	880.3	877.0	868.7	845.0	821.7
54°	772.9	791.0	806.9	830.6	853.3	872.8	844.0	843.6	837.5	812.0	790.1
54.5°	742.2	758.1	774.3	797.6	820.8	839.4	810.1	811.0	805.0	780.4	758.5
55°	712.0	726.9	742.2	766.0	787.8	806.9	776.2	778.5	772.5	748.8	726.4
55.5°	682.8	696.2	709.7	734.3	755.7	773.9	742.7	746.4	740.9	718.5	695.8
56°	653.9	666.0	678.1	704.1	724.1	740.4	710.2	713.9	711.1	687.9	666.5
56.5°	625.1	635.8	648.4	673.9	693.4	708.8	678.1	683.2	680.0	658.6	637.2
57°	597.2	607.0	618.6	644.6	662.8	678.1	647.0	652.5	649.8	630.2	608.9
57.5°	569.8	578.2	589.3	615.4	633.0	647.0	616.8	622.8	620.5	602.4	580.5
58°	542.9	550.3	560.5	587.9	603.3	616.3	587.5	593.5	592.6	574.9	554.0
58.5°	516.8	523.3	533.6	560.1	575.9	587.0	558.7	563.8	563.8	548.4	528.0
59°	491.7	497.3	508.0	534.5	547.0	558.2	530.8	535.4	535.9	522.4	502.0
59.5°	467.1	471.7	482.4	507.5	519.6	529.8	503.4	508.5	508.9	496.8	477.8
60°	442.9	447.1	458.3	482.4	493.1	502.0	476.9	481.5	482.9	472.2	454.1
60.5°	420.2	423.4	434.6	457.8	467.6	475.5	452.2	455.0	457.3	448.5	430.8
61°	397.4	400.6	411.8	434.1	442.5	450.4	429.5	430.4	432.7	426.7	410.4
61.5°	376.0	379.3	390.4	410.4	419.7	427.1	406.2	407.6	409.9	404.8	390.4
62°	355.6	358.8	369.5	388.6	396.9	403.4	383.4	384.4	387.2	383.0	370.0
62.5°	336.0	338.8	349.5	366.7	374.6	380.2	360.7	361.1	364.4	361.1	349.5
63°	317.4	319.8	330.5	345.8	351.8	356.5	337.9	338.4	342.1	339.3	329.1
63.5°	300.2	302.1	312.3	325.8	329.1	333.2	317.0	317.9	322.1	319.8	310.9
64°	283.5	285.8	295.1	306.3	309.5	312.8	297.9	297.9	302.6	301.6	293.7
64.5°	267.7	270.0	278.9	288.6	290.5	293.7	280.3	280.3	284.0	284.0	277.9
65°	254.2	255.6	263.5	271.9	272.4	275.6	263.1	263.5	265.4	267.7	263.1
65.5°	241.2	242.6	249.6	256.1	255.6	258.4	247.3	247.7	247.7	252.8	249.1
66°	228.7	230.5	236.6	241.2	239.8	243.1	232.9	233.3	231.0	238.0	236.1



TEST NUMBER: P776566

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	198.5	200.8	203.6	205.0	202.2	205.4	197.5	199.4	194.3	203.1	204.5
68°	190.6	192.9	194.7	195.7	192.9	195.7	189.2	191.0	186.4	194.7	196.1
68.5°	183.1	186.4	187.3	187.3	185.0	187.3	182.7	184.1	181.7	187.3	188.7
69°	178.0	180.8	180.3	180.3	178.9	180.8	177.5	178.5	178.5	181.7	182.7
69.5°	174.8	175.7	175.2	174.8	173.8	175.2	173.8	174.8	175.2	177.1	178.5
70°	171.5	171.5	171.5	171.0	170.6	172.0	171.0	171.5	172.0	173.8	175.2
70.5°	168.2	168.7	169.6	168.2	167.8	169.2	168.2	168.2	168.7	170.6	172.4
71°	165.0	165.5	166.4	165.0	164.5	165.9	165.0	164.5	165.0	167.3	169.6
71.5°	162.2	162.2	163.6	162.2	161.7	163.1	161.7	161.3	161.7	163.6	166.4
72°	159.0	159.0	160.3	159.4	158.5	159.9	158.5	157.6	157.6	159.9	163.1
72.5°	156.2	156.2	157.1	156.6	155.2	156.6	155.2	153.8	153.8	156.2	159.9
73°	152.4	152.4	153.8	153.4	152.0	153.4	151.5	149.7	149.7	152.4	156.2
73.5°	148.7	148.7	150.6	149.7	148.7	149.7	147.8	145.5	145.5	148.3	152.4
74°	144.5	145.0	146.9	146.4	145.0	146.4	144.1	141.3	141.3	144.1	148.7
74.5°	140.4	140.8	143.2	143.2	141.3	142.7	140.4	137.1	136.6	139.9	145.0
75°	136.6	136.6	139.4	139.4	137.6	139.0	136.2	132.5	132.0	135.2	140.8
75.5°	132.0	132.5	135.7	135.7	133.9	135.2	132.0	127.8	127.3	130.6	136.6
76°	127.3	127.8	131.5	132.0	130.1	131.5	127.8	123.2	122.2	126.0	132.5
76.5°	123.2	123.6	127.3	127.8	126.0	127.3	123.2	118.5	117.6	120.8	128.3
77°	118.1	119.0	123.2	124.1	121.8	123.2	119.0	113.4	112.0	115.7	124.1
77.5°	112.9	113.9	119.0	119.9	117.6	119.0	114.3	108.3	106.4	110.2	119.0
78°	107.8	109.2	114.3	115.7	113.4	114.8	109.2	102.7	100.9	105.0	114.3
78.5°	102.7	104.1	109.7	111.5	108.8	110.2	104.6	97.1	95.3	99.5	109.2
79°	97.1	98.5	105.0	106.9	104.6	105.5	99.5	91.6	89.7	93.9	104.6
79.5°	91.6	93.4	100.4	102.3	99.9	101.3	94.3	86.0	83.7	87.8	99.5
80°	85.5	87.4	95.3	97.6	95.3	96.2	89.2	80.4	77.6	81.8	93.9
80.5°	79.9	81.8	90.2	93.0	90.2	91.6	84.1	74.4	71.6	76.2	88.8
81°	74.4	76.2	85.1	88.3	85.5	86.4	79.0	68.3	65.1	69.7	83.2
81.5°	67.9	70.2	79.9	83.2	80.4	81.3	73.4	62.3	59.0	63.7	77.6
82°	61.8	64.1	74.4	78.1	75.3	76.7	68.3	56.2	52.5	57.6	72.5
82.5°	55.8	58.1	69.3	73.0	70.2	71.1	63.2	50.7	46.5	51.1	66.9
83°	49.3	52.1	64.1	67.9	65.1	66.0	58.1	45.5	40.0	46.0	61.8
83.5°	42.8	46.0	59.0	62.7	60.0	60.9	53.0	40.4	33.9	40.9	56.2
84°	36.3	40.0	53.9	57.6	54.8	55.8	47.9	35.3	27.4	35.8	51.6
84.5°	29.7	34.4	48.8	52.1	49.3	50.2	42.8	30.7	20.9	30.2	46.5
85°	23.7	29.7	44.2	46.9	43.7	44.6	37.6	25.6	16.7	25.1	41.4
85.5°	18.1	26.0	39.0	41.4	38.1	39.0	32.1	21.8	14.4	22.3	36.7
86°	15.8	22.8	33.9	35.8	32.5	33.5	27.0	18.6	12.5	19.1	31.6
86.5°	13.5	19.1	28.4	30.2	27.0	27.9	21.8	15.3	10.2	16.3	26.5
87°	11.2	15.8	23.2	24.2	21.4	21.8	16.7	11.6	8.4	13.0	21.4
87.5°	8.4	12.5	17.7	18.6	15.8	16.3	11.2	8.4	6.0	10.2	16.3
88°	6.0	9.3	13.5	13.9	10.2	11.2	6.5	5.1	3.7	7.0	11.2
88.5°	4.2	6.0	9.3	9.3	5.6	6.0	2.3	2.3	2.3	4.2	6.5



TEST NUMBER: P776566
CATALOG NUMBER: HCDJBL4050CSD-HCD41TRMW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776566

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2626.0	2626.0	2626.0	2626.0	2626.0	2626.0
0.5°	2624.6	2626.0	2626.0	2625.5	2625.1	2625.5
1°	2623.7	2625.1	2624.1	2624.6	2624.1	2624.6
1.5°	2622.7	2623.7	2622.7	2622.7	2622.7	2623.2
2°	2620.9	2621.8	2620.9	2621.3	2620.9	2621.8
2.5°	2619.5	2619.9	2619.0	2619.5	2619.0	2619.9
3°	2617.6	2617.6	2616.2	2617.2	2616.7	2618.1
3.5°	2615.3	2615.3	2613.9	2614.8	2614.8	2616.2
4°	2613.0	2613.0	2610.6	2612.0	2612.0	2613.9
4.5°	2610.2	2609.7	2607.9	2609.3	2609.3	2611.1
5°	2606.9	2606.5	2604.6	2606.0	2606.0	2608.3
5.5°	2603.7	2603.2	2600.9	2602.3	2602.7	2605.1
6°	2600.4	2599.5	2596.7	2599.0	2599.0	2601.4
6.5°	2596.7	2595.8	2592.5	2594.8	2595.3	2597.6
7°	2593.0	2591.6	2588.3	2590.7	2591.1	2593.9
7.5°	2588.3	2586.9	2583.7	2586.0	2586.5	2589.7
8°	2584.2	2582.3	2578.6	2581.4	2582.3	2585.6
8.5°	2579.0	2576.7	2573.9	2576.7	2577.2	2580.9
9°	2574.4	2571.6	2568.4	2571.6	2572.5	2575.8
9.5°	2568.8	2566.0	2562.8	2566.0	2567.0	2570.7
10°	2563.2	2560.5	2556.7	2560.0	2561.4	2565.1
10.5°	2557.7	2554.4	2550.2	2554.4	2555.8	2559.5
11°	2551.2	2548.4	2543.7	2547.9	2549.8	2553.5
11.5°	2545.1	2541.9	2537.2	2541.4	2543.3	2547.4
12°	2538.6	2534.9	2530.2	2534.9	2536.3	2540.9
12.5°	2531.6	2527.5	2522.8	2527.9	2529.8	2534.0
13°	2524.7	2520.5	2515.4	2520.5	2522.3	2527.5
13.5°	2516.8	2512.6	2507.9	2513.0	2514.9	2519.6
14°	2509.3	2505.1	2500.0	2505.6	2507.0	2512.6
14.5°	2501.4	2496.8	2491.7	2497.2	2499.1	2504.7
15°	2493.1	2488.4	2482.8	2489.3	2491.2	2496.8
15.5°	2484.7	2480.0	2474.5	2480.5	2482.4	2488.4
16°	2475.9	2470.8	2465.2	2471.7	2473.5	2479.6
16.5°	2467.0	2461.9	2455.9	2462.4	2464.7	2470.8
17°	2457.7	2452.2	2446.1	2453.1	2455.4	2461.9
17.5°	2448.0	2442.4	2436.4	2443.3	2445.7	2452.6
18°	2438.2	2432.2	2425.7	2433.6	2435.9	2442.9
18.5°	2428.0	2421.9	2415.4	2423.3	2425.7	2432.6
19°	2417.8	2411.3	2404.8	2412.7	2415.0	2422.4
19.5°	2407.1	2400.6	2393.6	2402.0	2404.3	2411.7
20°	2396.4	2389.4	2382.4	2390.8	2393.6	2401.0
20.5°	2384.8	2377.8	2370.4	2379.2	2382.9	2390.3
21°	2373.1	2365.7	2358.3	2368.0	2371.3	2378.3



TEST NUMBER: P776566

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2337.4	2329.5	2321.1	2331.3	2335.0	2342.9
23°	2324.8	2316.9	2308.1	2318.8	2322.5	2330.4
23.5°	2312.3	2304.4	2295.1	2305.8	2309.5	2317.8
24°	2299.2	2290.4	2281.6	2292.3	2296.0	2304.8
24.5°	2285.8	2276.9	2268.1	2279.3	2283.0	2291.8
25°	2272.3	2263.0	2254.2	2265.3	2269.5	2278.3
25.5°	2258.3	2249.1	2239.3	2251.4	2255.6	2264.9
26°	2244.4	2234.6	2225.3	2237.4	2241.6	2250.4
26.5°	2230.0	2220.7	2210.9	2222.6	2227.2	2237.0
27°	2215.6	2205.8	2195.6	2208.2	2212.8	2222.6
27.5°	2201.2	2191.0	2180.7	2193.3	2197.9	2207.7
28°	2186.3	2175.2	2165.4	2177.9	2182.6	2192.8
28.5°	2171.0	2160.3	2149.6	2162.1	2167.7	2177.5
29°	2155.6	2144.9	2134.3	2146.3	2151.9	2162.6
29.5°	2139.8	2129.1	2117.5	2131.0	2136.1	2146.8
30°	2124.5	2112.9	2102.2	2114.7	2120.3	2131.0
30.5°	2108.2	2096.6	2085.5	2098.5	2104.0	2114.7
31°	2092.4	2080.3	2069.2	2082.7	2087.8	2098.5
31.5°	2076.2	2064.1	2051.5	2065.5	2071.0	2082.2
32°	2059.4	2046.9	2035.3	2048.7	2054.3	2065.9
32.5°	2042.7	2030.1	2018.1	2031.5	2037.6	2048.7
33°	2025.5	2012.9	2000.9	2014.3	2020.4	2032.0
33.5°	2008.3	1995.3	1982.7	1997.1	2003.2	2014.8
34°	1990.2	1977.6	1964.6	1979.0	1985.1	1996.7
34.5°	1972.0	1959.0	1946.5	1960.9	1966.9	1979.0
35°	1953.9	1940.4	1927.4	1941.8	1948.3	1960.0
35.5°	1934.9	1921.4	1907.9	1922.8	1929.3	1941.4
36°	1915.3	1901.9	1888.4	1904.2	1910.2	1922.3
36.5°	1895.4	1881.9	1868.4	1883.7	1889.8	1902.3
37°	1874.4	1861.0	1847.5	1863.3	1869.3	1881.9
37.5°	1850.7	1838.7	1825.2	1842.4	1848.4	1860.0
38°	1824.2	1814.0	1799.6	1820.5	1825.6	1837.3
38.5°	1797.3	1787.5	1771.7	1795.0	1798.7	1811.7
39°	1768.9	1758.7	1744.3	1766.6	1771.7	1784.7
39.5°	1739.7	1727.1	1714.6	1737.3	1742.9	1755.0
40°	1709.4	1694.6	1682.5	1706.7	1712.7	1722.9
40.5°	1678.8	1662.0	1650.4	1675.1	1680.2	1689.9
41°	1647.2	1629.0	1617.0	1643.0	1647.6	1656.5
41.5°	1614.6	1595.1	1583.0	1610.9	1613.7	1623.0
42°	1581.6	1562.6	1549.1	1577.5	1579.3	1587.7
42.5°	1548.6	1530.0	1513.8	1544.0	1544.5	1553.7
43°	1515.2	1497.0	1478.9	1510.1	1510.1	1519.4
43.5°	1482.2	1463.1	1443.1	1475.2	1474.3	1485.0



TEST NUMBER: P776566

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1381.8	1362.3	1338.6	1368.3	1366.9	1380.4
45.5°	1348.3	1328.3	1303.7	1332.0	1330.7	1345.5
46°	1314.9	1295.3	1269.3	1295.8	1294.9	1311.1
46.5°	1281.4	1260.5	1234.4	1260.5	1259.1	1276.3
47°	1246.5	1226.1	1200.5	1223.3	1223.3	1240.5
47.5°	1213.1	1192.2	1165.7	1187.0	1188.0	1205.6
48°	1179.1	1158.2	1131.7	1149.9	1153.1	1170.8
48.5°	1144.7	1123.8	1096.9	1115.0	1118.3	1135.9
49°	1109.9	1090.8	1064.3	1078.3	1083.9	1101.5
49.5°	1075.5	1057.8	1031.3	1043.4	1049.5	1067.1
50°	1041.1	1024.4	997.4	1007.6	1015.5	1033.2
50.5°	1007.2	991.4	964.4	973.7	981.6	999.3
51°	973.7	959.8	931.9	939.3	947.7	965.3
51.5°	939.8	927.2	899.8	906.3	914.2	932.8
52°	906.3	895.6	867.7	873.3	881.7	899.8
52.5°	873.3	864.0	835.7	842.2	849.6	867.7
53°	840.8	832.9	804.5	810.1	818.0	835.7
53.5°	808.7	802.2	774.3	779.0	786.4	804.1
54°	776.6	771.1	743.6	749.2	755.3	772.9
54.5°	745.5	741.3	714.4	719.9	725.1	742.2
55°	714.8	712.0	685.5	690.7	696.2	712.0
55.5°	684.6	682.8	657.2	663.2	667.4	682.8
56°	654.9	653.5	628.8	635.8	638.6	653.9
56.5°	626.1	625.6	601.9	609.3	611.2	625.1
57°	597.2	597.7	575.4	583.3	584.7	597.2
57.5°	569.4	570.7	549.4	557.7	558.7	569.8
58°	542.9	544.3	524.7	534.0	533.1	542.9
58.5°	516.4	518.7	500.6	510.3	509.4	516.8
59°	490.8	493.1	476.9	487.1	485.2	491.7
59.5°	465.7	468.5	454.6	464.8	462.9	467.1
60°	442.0	444.8	432.2	443.9	440.6	442.9
60.5°	421.1	421.6	410.9	422.9	419.7	420.2
61°	399.7	399.2	390.4	403.0	398.8	397.4
61.5°	378.3	377.9	371.4	383.4	379.3	376.0
62°	357.4	356.9	352.8	365.3	360.2	355.6
62.5°	336.0	337.4	334.6	347.7	342.1	336.0
63°	317.9	318.8	317.4	330.5	324.4	317.4
63.5°	301.2	300.7	301.2	314.2	308.1	300.2
64°	284.4	284.0	285.8	298.4	292.3	283.5
64.5°	269.1	268.6	271.4	283.5	277.5	267.7
65°	255.2	254.7	257.5	269.1	262.6	254.2
65.5°	242.1	242.1	244.5	256.1	250.5	241.2
66°	230.1	230.5	232.9	243.5	238.0	228.7



TEST NUMBER: P776566

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRMW-5000lm-3000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	201.7	203.6	203.1	211.0	206.8	198.5
68°	194.7	196.1	195.7	202.2	198.0	190.6
68.5°	188.2	189.6	188.7	194.3	190.6	183.1
69°	182.7	184.1	182.7	186.8	184.1	178.0
69.5°	178.0	178.9	177.5	180.8	178.5	174.8
70°	175.2	175.2	173.8	176.2	174.3	171.5
70.5°	172.4	172.4	171.0	172.9	170.6	168.2
71°	169.2	169.2	168.2	170.1	167.3	165.0
71.5°	166.4	166.4	165.5	166.9	164.5	162.2
72°	163.1	163.1	162.2	164.1	161.3	159.0
72.5°	159.9	160.3	159.0	160.8	158.0	156.2
73°	156.6	157.6	156.2	158.0	154.8	152.4
73.5°	153.4	154.3	152.9	155.2	151.1	148.7
74°	150.1	151.1	150.1	151.5	147.3	144.5
74.5°	146.4	147.8	146.4	147.8	143.2	140.4
75°	142.7	144.1	142.7	144.5	139.4	136.6
75.5°	139.0	140.4	139.0	140.4	134.8	132.0
76°	135.2	136.6	135.2	136.6	130.6	127.3
76.5°	131.1	132.5	131.5	132.5	126.0	123.2
77°	126.9	128.7	127.3	128.3	121.3	118.1
77.5°	122.7	124.6	123.6	124.1	116.7	112.9
78°	118.5	120.4	119.4	119.9	111.5	107.8
78.5°	113.9	116.2	114.8	115.3	106.4	102.7
79°	109.2	111.5	110.6	110.6	101.3	97.1
79.5°	104.6	106.9	106.0	105.5	95.7	91.6
80°	99.9	102.3	100.9	100.9	90.2	85.5
80.5°	94.8	97.1	96.2	95.7	84.6	79.9
81°	90.2	92.5	91.6	90.6	79.0	74.4
81.5°	85.1	87.4	86.4	85.5	73.0	67.9
82°	79.5	82.3	81.3	79.9	66.9	61.8
82.5°	74.4	77.2	76.2	74.8	60.9	55.8
83°	69.3	71.6	70.6	69.7	55.3	49.3
83.5°	63.7	66.5	65.5	64.6	49.3	42.8
84°	58.1	60.9	60.4	59.0	43.2	36.3
84.5°	52.5	55.3	54.8	53.9	37.6	29.7
85°	46.9	49.7	49.3	49.3	32.5	23.7
85.5°	41.4	44.2	43.7	44.2	28.4	18.1
86°	35.3	38.6	38.1	39.0	24.6	15.8
86.5°	29.7	32.5	32.1	33.9	21.4	13.5
87°	24.2	27.0	26.5	28.4	17.7	11.2
87.5°	18.1	20.9	20.5	23.2	14.4	8.4
88°	12.5	15.3	14.9	17.7	11.2	6.0
88.5°	7.4	11.6	11.2	13.5	7.9	4.2



TEST NUMBER: P776566

CATALOG NUMBER: HCDJBS4050CSD-HCD41TRMW-5000lm-3000K

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

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

Scaled Data Report



Report Generated By 670245859 / DESKTOP-T8S5UU9

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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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21.5°	2367.1	2379.2	2394.5	2409.4	2420.1	2427.5	2419.2	2416.4	2409.4	2396.4	2379.2
22°	2355.0	2368.0	2383.4	2398.2	2408.9	2416.8	2408.0	2405.7	2398.7	2385.2	2367.6



44°	1450.1	1481.7	1522.6	1558.9	1568.2	1585.4	1554.2	1548.6	1535.2	1523.5	1491.9
44.5°	1414.8	1447.3	1487.7	1523.1	1531.4	1551.9	1520.3	1514.2	1498.9	1488.2	1457.5



66.5°	217.5	219.4	224.5	228.2	225.4	229.1	219.4	220.8	217.1	225.0	224.5
67°	207.8	209.1	213.3	215.7	212.9	216.6	207.8	209.1	204.5	213.3	213.8



89°	2.3	2.8	4.6	5.1	0.9	1.4	0.0	0.5	0.5	1.4	2.8
89.5°	0.5	0.5	0.5	0.5	0.0	0.0	0.0	0.5	0.0	0.5	0.0

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21.5°	2361.5	2354.1	2346.2	2356.0	2359.2	2367.1
22°	2349.9	2342.0	2334.1	2343.9	2347.1	2355.0



44°	1448.2	1429.2	1408.3	1439.9	1438.0	1450.1
44.5°	1415.2	1395.7	1372.9	1404.1	1402.2	1414.8

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66.5°	219.8	220.8	222.2	231.9	226.3	217.5
67°	210.1	211.0	211.9	221.2	216.1	207.8

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89°	3.3	7.9	7.4	9.3	4.6	2.3
89.5°	0.0	4.2	4.2	5.1	1.9	0.5

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Scaled Data Report



(END OF REPORT)