

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: P776652

Luminaire Tested: HCDJBS4050CSD-HCD61TRH-5000lm-3500K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776652
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-3500K
Description: 6 INCH ROUND SHALLOW-WIDE HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3500K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5609.4 lumens
Efficiency: N/A
Efficacy: 116.9 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

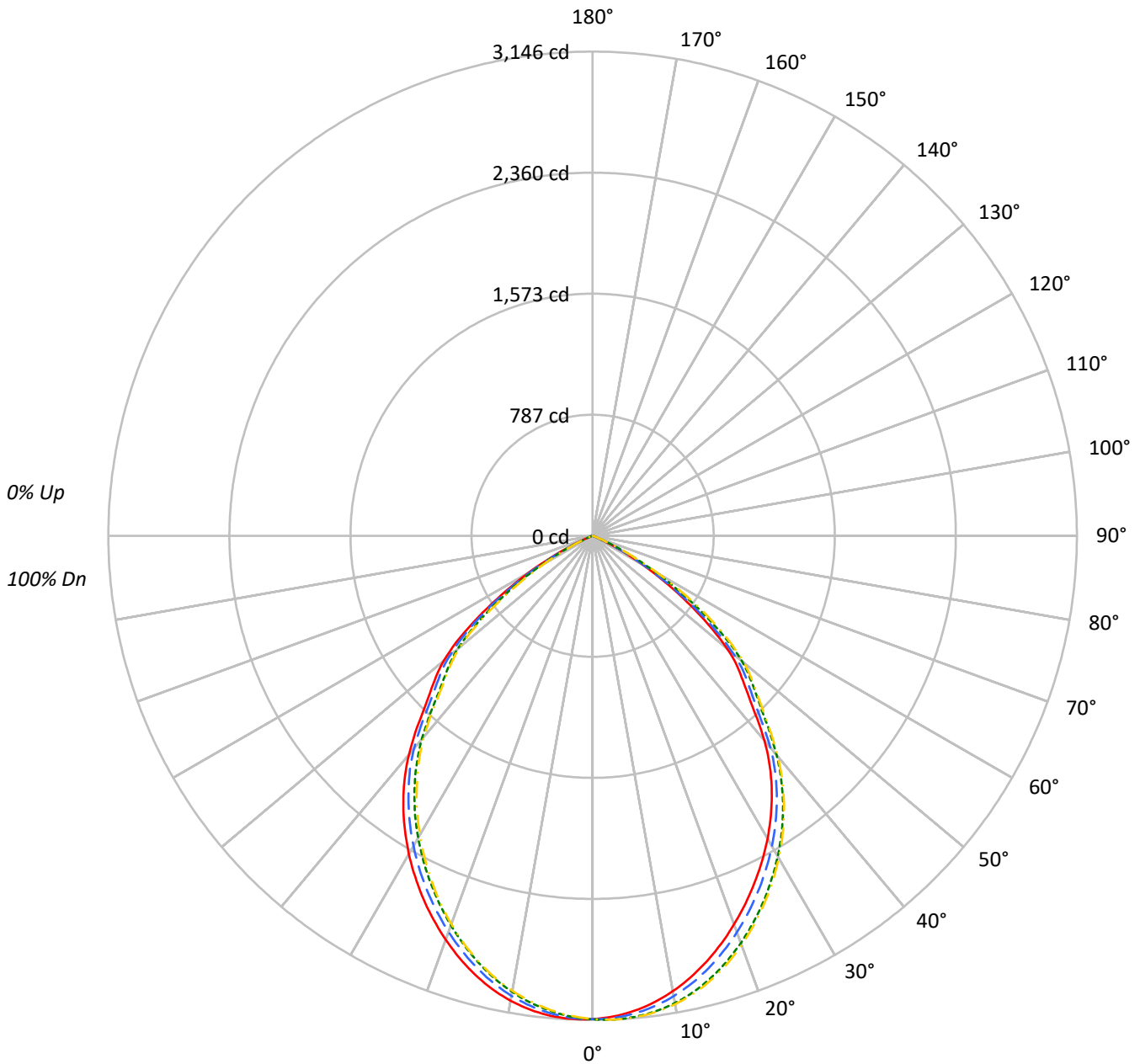
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	172190	172190	172190	172190
5°	170509	172666	172276	170614
10°	167254	171590	170772	167543
15°	162492	168730	167555	162895
20°	156738	164275	162875	157094
25°	150523	158683	157370	150607
30°	143877	152270	151106	143490
35°	135787	144219	143463	135031
40°	124240	133013	132813	123531
45°	109321	118501	118098	108554
50°	97242	107826	107425	97685
55°	71692	83008	83591	73632
60°	40962	51158	52397	43966
65°	11804	19211	18108	15358
70°	305	449	305	914
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: 119633 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.1	5.3
10°-20°	819.8	14.6
20°-30°	1172.9	20.9
30°-40°	1298.3	23.1
40°-50°	1140.7	20.3
50°-60°	726.3	12.9
60°-70°	154.6	2.8
70°-80°	1.2	0.0
80°-90°	0.7	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°	2287.8	40.8
0°-40°	3586.0	63.9
0°-60°	5452.9	97.2
0°-90°	5609.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5609.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3141	3141	3141	3141	3141	
5°	3098	3138	3131	3100	3098	293
15°	2863	2973	2952	2870	2863	805
25°	2488	2623	2602	2490	2488	1145
35°	2029	2155	2144	2018	2029	1263
45°	1410	1528	1523	1400	1410	1096
55°	750	868	875	770	750	668
65°	91	148	140	118	91	121
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°	3141.0	3141.0	3141.0	3141.0	3141.0	3141.0	3141.0	3141.0	3141.0	3141.0	3141.0
0.5°	3138.6	3140.0	3141.4	3141.0	3144.3	3143.8	3142.4	3141.9	3141.9	3141.9	3141.4
1°	3136.3	3138.1	3141.0	3141.0	3145.2	3145.2	3143.8	3143.3	3142.9	3141.9	3140.5
1.5°	3133.4	3136.3	3139.6	3141.0	3146.2	3146.6	3145.2	3144.3	3142.9	3141.4	3139.1
2°	3129.6	3133.4	3137.7	3140.0	3146.2	3147.1	3146.2	3144.7	3142.9	3140.0	3137.2
2.5°	3125.9	3130.1	3135.3	3138.6	3146.2	3147.6	3146.2	3144.7	3141.9	3138.6	3134.8
3°	3121.6	3126.3	3132.5	3137.2	3145.2	3147.1	3146.2	3143.8	3141.0	3136.7	3132.0
3.5°	3116.4	3122.1	3129.2	3134.8	3144.3	3146.2	3145.7	3142.9	3139.1	3133.9	3128.2
4°	3110.8	3117.4	3125.4	3132.0	3142.4	3145.2	3144.3	3141.4	3136.7	3131.1	3124.0
4.5°	3104.6	3112.2	3120.7	3128.2	3140.5	3143.8	3142.9	3139.6	3133.9	3127.3	3119.7
5°	3098.5	3106.1	3115.5	3124.5	3137.7	3141.4	3140.5	3136.7	3130.6	3123.0	3115.0
5.5°	3091.4	3099.5	3109.8	3120.2	3134.8	3138.6	3138.1	3133.9	3126.3	3118.3	3109.4
6°	3083.4	3092.4	3104.2	3115.5	3131.1	3135.8	3134.8	3130.1	3122.1	3112.7	3102.8
6.5°	3075.9	3084.8	3097.6	3109.8	3126.8	3132.0	3131.1	3125.9	3117.4	3107.0	3096.6
7°	3067.4	3076.8	3090.5	3103.7	3122.1	3127.8	3126.8	3121.2	3112.2	3100.9	3089.5
7.5°	3057.9	3068.3	3082.9	3097.1	3116.4	3123.0	3122.1	3116.0	3106.1	3093.8	3081.5
8°	3048.5	3058.9	3074.5	3090.0	3111.2	3117.9	3116.9	3109.8	3099.5	3086.7	3073.5
8.5°	3038.1	3049.4	3066.0	3082.9	3104.6	3112.2	3111.2	3103.7	3092.4	3078.7	3064.5
9°	3027.7	3039.1	3057.0	3074.5	3097.6	3105.6	3104.6	3096.6	3084.4	3070.2	3055.1
9.5°	3016.4	3028.7	3047.1	3066.0	3090.0	3099.0	3097.6	3089.5	3076.3	3061.2	3045.7
10°	3004.6	3016.9	3036.7	3057.0	3082.5	3091.4	3090.5	3081.5	3067.8	3051.8	3035.3
10.5°	2992.4	3005.1	3026.3	3047.1	3074.0	3083.4	3082.5	3073.0	3058.9	3041.9	3024.4
11°	2979.6	2993.3	3015.0	3036.7	3065.0	3074.9	3074.0	3063.6	3048.5	3031.5	3013.1
11.5°	2966.4	2980.6	3003.2	3025.9	3055.1	3065.5	3064.5	3054.2	3038.1	3020.2	3001.3
12°	2953.2	2967.4	2991.4	3014.5	3045.2	3056.1	3055.1	3043.8	3027.7	3008.4	2989.1
12.5°	2939.1	2954.2	2978.7	3003.2	3034.4	3045.7	3044.7	3033.4	3016.4	2996.6	2976.3
13°	2924.4	2940.5	2965.5	2990.9	3023.0	3035.3	3033.9	3022.1	3004.2	2983.9	2963.1
13.5°	2909.8	2925.8	2951.8	2978.2	3011.2	3024.0	3022.6	3010.3	2992.4	2971.1	2949.9
14°	2894.7	2911.2	2938.1	2964.5	2999.0	3012.2	3010.8	2998.0	2979.2	2957.5	2935.8
14.5°	2879.1	2895.7	2923.5	2951.8	2986.2	2999.4	2998.0	2985.3	2965.5	2943.8	2920.7
15°	2863.1	2880.1	2908.9	2937.2	2973.0	2986.7	2985.3	2971.6	2952.3	2929.1	2906.0
15.5°	2847.1	2864.5	2893.3	2923.0	2959.3	2973.0	2971.6	2957.9	2938.1	2914.5	2890.9
16°	2830.1	2848.0	2877.7	2907.0	2945.2	2959.8	2957.5	2943.8	2922.5	2899.4	2874.9
16.5°	2813.6	2831.5	2862.2	2892.8	2930.1	2945.2	2942.8	2929.1	2907.9	2883.9	2858.9
17°	2795.6	2814.5	2845.6	2876.8	2915.0	2930.6	2928.2	2914.1	2892.4	2868.3	2842.8
17.5°	2778.2	2797.5	2828.7	2860.3	2899.4	2914.5	2913.1	2898.0	2876.8	2851.8	2826.3
18°	2760.3	2780.1	2812.2	2843.3	2883.4	2899.0	2896.6	2882.0	2860.3	2835.3	2808.4
18.5°	2742.3	2762.1	2794.7	2827.2	2866.9	2882.4	2880.6	2865.9	2843.3	2818.3	2791.9
19°	2723.9	2744.7	2777.2	2809.8	2849.9	2865.9	2864.0	2848.9	2826.8	2801.3	2773.9
19.5°	2706.0	2726.8	2759.3	2792.8	2832.9	2848.9	2847.1	2832.4	2809.3	2783.8	2756.5
20°	2686.7	2707.9	2740.9	2774.4	2815.9	2831.5	2829.6	2815.0	2791.9	2765.9	2738.1
20.5°	2667.8	2689.0	2722.5	2756.0	2797.5	2814.0	2812.2	2797.1	2774.4	2748.0	2720.2
21°	2648.5	2670.6	2704.1	2738.1	2779.6	2795.6	2793.8	2779.1	2756.0	2729.6	2700.8



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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°	2589.5	2612.6	2646.6	2680.5	2723.0	2739.0	2737.6	2722.5	2700.3	2673.0	2643.7
23°	2570.1	2593.3	2626.8	2661.2	2703.2	2719.7	2718.3	2703.6	2681.0	2653.6	2623.4
23.5°	2549.9	2573.4	2606.9	2641.4	2683.8	2700.3	2698.5	2684.3	2661.2	2634.3	2604.1
24°	2529.6	2553.2	2586.2	2621.1	2664.5	2680.5	2679.1	2664.0	2641.8	2614.5	2583.8
24.5°	2509.3	2532.9	2566.4	2601.3	2644.2	2659.3	2658.8	2643.7	2621.6	2593.7	2564.0
25°	2488.5	2512.6	2545.6	2580.0	2623.4	2639.0	2638.1	2623.4	2601.7	2573.9	2543.3
25.5°	2468.2	2492.3	2525.3	2559.8	2602.7	2618.3	2617.3	2603.2	2581.5	2553.2	2523.0
26°	2447.0	2472.0	2504.6	2539.0	2581.9	2596.6	2596.1	2582.9	2560.7	2532.4	2501.7
26.5°	2425.8	2450.8	2482.9	2517.8	2560.7	2575.8	2575.3	2561.6	2539.5	2511.2	2481.0
27°	2405.0	2430.0	2461.6	2496.5	2539.5	2553.6	2554.1	2539.5	2518.7	2489.9	2459.7
27.5°	2383.3	2408.8	2440.4	2473.9	2517.3	2531.9	2532.4	2518.2	2497.5	2468.7	2438.0
28°	2361.6	2387.1	2418.2	2452.2	2495.6	2510.7	2509.8	2497.0	2475.8	2447.0	2415.9
28.5°	2339.5	2364.9	2396.1	2429.6	2473.0	2487.1	2487.1	2474.8	2454.1	2424.8	2394.6
29°	2317.3	2343.7	2373.9	2407.4	2450.8	2464.5	2464.9	2451.7	2431.9	2402.7	2372.5
29.5°	2295.1	2321.1	2351.7	2384.3	2428.1	2441.4	2442.3	2429.1	2409.7	2380.5	2350.3
30°	2272.9	2298.9	2329.1	2361.6	2405.5	2419.2	2418.7	2406.9	2387.1	2357.8	2327.2
30.5°	2249.3	2276.2	2306.0	2339.0	2381.0	2394.6	2394.6	2383.8	2363.5	2334.7	2304.1
31°	2225.8	2253.1	2282.8	2314.9	2357.8	2370.6	2371.5	2359.3	2340.9	2312.1	2281.4
31.5°	2202.6	2230.0	2258.8	2290.9	2333.3	2346.5	2347.0	2336.1	2316.8	2288.5	2258.3
32°	2179.1	2206.9	2235.2	2266.8	2309.3	2322.9	2322.5	2312.1	2293.7	2264.4	2234.7
32.5°	2155.0	2182.4	2211.1	2242.7	2284.7	2297.5	2297.0	2288.0	2269.6	2240.9	2210.2
33°	2130.5	2158.3	2186.6	2218.2	2259.7	2272.0	2272.9	2263.0	2245.1	2216.8	2186.1
33.5°	2105.9	2133.3	2162.1	2192.7	2233.8	2246.5	2247.0	2238.0	2219.6	2192.7	2162.1
34°	2080.5	2108.8	2137.1	2168.2	2208.3	2221.5	2221.0	2212.5	2194.6	2167.3	2137.1
34.5°	2055.0	2083.8	2111.6	2141.3	2182.4	2193.7	2194.6	2186.1	2169.1	2141.8	2112.1
35°	2029.0	2057.8	2086.1	2115.4	2155.0	2167.7	2168.2	2159.7	2143.7	2116.8	2086.1
35.5°	2002.1	2031.9	2060.2	2088.5	2128.6	2139.9	2140.8	2133.3	2116.8	2091.3	2060.2
36°	1975.3	2005.9	2033.3	2061.6	2101.2	2113.0	2113.5	2106.4	2090.8	2065.4	2035.2
36.5°	1947.4	1978.1	2006.4	2033.8	2073.9	2083.8	2085.6	2078.1	2063.5	2038.0	2008.7
37°	1920.1	1950.2	1979.0	2005.9	2044.1	2055.5	2056.4	2049.8	2036.6	2011.1	1981.4
37.5°	1891.8	1921.5	1950.7	1977.6	2015.4	2025.3	2026.7	2021.0	2007.8	1984.2	1954.0
38°	1862.0	1893.2	1921.9	1947.4	1985.6	1995.5	1997.4	1991.3	1978.6	1955.9	1927.6
38.5°	1832.3	1863.4	1892.2	1917.2	1955.0	1965.3	1967.2	1960.6	1949.8	1927.1	1897.9
39°	1801.2	1833.3	1861.6	1887.0	1923.8	1933.3	1935.6	1930.0	1920.1	1897.9	1868.2
39.5°	1769.1	1799.8	1829.0	1854.0	1891.3	1901.2	1903.5	1898.4	1888.9	1866.7	1836.6
40°	1736.1	1766.7	1795.0	1820.5	1858.7	1868.6	1870.5	1866.3	1855.9	1835.1	1806.8
40.5°	1700.2	1731.8	1760.6	1786.1	1823.8	1834.2	1837.5	1832.8	1822.9	1802.1	1772.4
41°	1665.8	1696.9	1725.7	1751.6	1789.9	1800.2	1802.6	1798.3	1789.4	1767.7	1738.0
41.5°	1631.8	1662.0	1690.8	1717.2	1755.9	1765.8	1769.1	1763.9	1754.5	1732.3	1703.0
42°	1597.4	1627.1	1655.9	1682.3	1721.4	1733.2	1736.1	1731.4	1721.0	1699.3	1671.0
42.5°	1559.6	1590.3	1619.5	1646.4	1687.0	1698.3	1702.1	1697.9	1687.0	1665.3	1635.6
43°	1525.7	1555.9	1585.6	1612.0	1651.6	1663.4	1667.2	1662.0	1651.6	1629.0	1600.7
43.5°	1494.1	1523.8	1553.5	1579.9	1618.6	1630.4	1633.7	1627.6	1615.3	1592.7	1564.4



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1410.1	1439.3	1467.6	1492.6	1528.5	1539.8	1543.1	1536.5	1523.3	1500.2	1473.3
45.5°	1383.7	1413.4	1441.7	1466.2	1501.1	1512.0	1515.3	1508.7	1495.5	1473.3	1445.9
46°	1359.1	1388.9	1416.2	1440.8	1474.7	1485.1	1488.4	1481.8	1469.1	1446.9	1420.0
46.5°	1334.6	1364.3	1391.2	1415.3	1448.8	1459.6	1462.9	1456.8	1443.6	1421.4	1394.5
47°	1310.5	1339.8	1367.2	1390.7	1423.3	1434.1	1437.4	1431.3	1418.1	1396.9	1370.5
47.5°	1286.5	1315.7	1342.6	1366.2	1398.3	1409.6	1412.9	1405.8	1393.1	1372.3	1345.9
48°	1262.0	1291.2	1317.1	1341.7	1373.3	1385.1	1387.9	1381.3	1369.0	1348.3	1321.9
48.5°	1234.6	1263.4	1290.7	1315.7	1348.8	1360.6	1363.9	1357.7	1344.5	1323.8	1297.8
49°	1204.9	1231.8	1259.6	1287.0	1321.9	1334.6	1338.9	1332.2	1318.1	1296.4	1271.4
49.5°	1174.7	1200.2	1228.5	1256.8	1293.6	1307.2	1311.0	1303.5	1289.3	1266.7	1241.2
50°	1140.2	1164.8	1193.1	1223.7	1264.3	1279.4	1283.2	1275.2	1259.6	1237.0	1211.5
50.5°	1103.9	1128.9	1158.2	1189.8	1232.2	1247.8	1251.1	1245.4	1228.5	1205.8	1178.5
51°	1066.6	1092.6	1120.0	1153.0	1197.8	1211.9	1217.1	1211.5	1195.4	1171.4	1144.5
51.5°	1028.9	1054.4	1082.2	1114.3	1161.5	1176.6	1183.2	1175.2	1161.0	1136.0	1109.1
52°	990.2	1015.2	1042.6	1073.7	1121.8	1139.8	1146.4	1138.8	1123.7	1099.2	1072.8
52.5°	951.1	975.6	1003.9	1032.7	1081.3	1102.0	1108.6	1101.1	1084.1	1060.5	1035.5
53°	911.0	935.5	961.9	989.7	1039.3	1062.9	1071.4	1061.5	1042.1	1019.9	997.8
53.5°	870.9	894.5	921.3	946.8	996.8	1023.7	1033.6	1022.8	1001.1	980.3	958.1
54°	830.3	853.4	878.4	902.9	953.9	982.2	994.0	980.3	959.1	938.8	918.0
54.5°	790.2	814.3	836.0	860.0	911.4	941.2	953.0	938.8	916.2	897.3	877.5
55°	750.1	772.7	792.6	816.6	868.5	901.1	913.3	898.2	874.6	855.8	837.8
55.5°	709.5	731.7	750.6	773.7	827.0	858.6	873.2	856.7	834.1	813.3	796.3
56°	669.9	690.2	708.1	729.8	784.1	816.1	830.8	813.3	792.1	770.4	755.3
56.5°	630.7	650.6	665.2	687.8	742.1	775.1	789.3	772.3	751.0	728.4	714.2
57°	592.1	609.5	622.7	645.8	700.1	731.7	747.3	731.2	710.0	687.4	674.1
57.5°	553.4	569.9	582.2	605.7	660.5	690.7	706.2	691.1	670.8	646.3	632.6
58°	515.6	530.3	542.5	565.2	620.4	648.7	663.8	650.1	630.7	605.3	593.0
58.5°	478.8	492.0	502.9	527.0	581.7	608.6	622.2	610.9	593.0	566.6	554.3
59°	442.5	453.4	464.2	488.7	542.5	568.0	580.7	570.8	553.8	528.4	515.2
59.5°	408.5	417.0	427.4	451.0	504.3	528.8	539.7	533.6	515.2	491.6	477.9
60°	373.6	379.8	391.1	415.1	466.6	489.7	500.1	493.9	477.9	457.1	442.5
60.5°	340.1	345.3	356.2	380.2	431.2	453.4	462.8	458.1	443.0	422.7	407.6
61°	308.1	311.4	321.7	344.9	396.3	417.0	425.5	422.7	408.1	388.3	372.7
61.5°	276.9	279.8	289.7	314.2	360.9	380.7	388.3	386.8	373.2	353.8	337.8
62°	246.3	248.1	259.5	282.1	325.5	344.4	351.0	351.0	338.3	319.4	302.9
62.5°	218.0	218.9	229.7	251.9	292.5	308.1	313.7	315.1	303.3	288.2	272.2
63°	190.1	190.6	202.4	223.6	260.9	275.0	280.2	282.1	267.5	258.5	242.5
63.5°	161.8	165.1	175.5	196.3	230.2	242.5	248.1	249.6	234.0	229.7	214.7
64°	138.2	144.4	154.7	169.8	201.4	212.8	218.0	219.4	201.4	201.9	188.2
64.5°	114.6	124.1	134.0	148.6	173.6	184.0	189.2	189.6	169.8	176.0	163.2
65°	91.0	104.3	113.2	127.4	148.1	156.6	162.3	162.3	139.6	150.5	140.1
65.5°	67.5	84.0	92.5	106.1	123.6	131.6	136.8	135.9	112.8	127.4	119.4
66°	49.5	63.7	71.7	84.9	101.0	108.0	113.2	111.3	87.7	105.2	98.6



TEST NUMBER: P776652

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	15.6	26.9	31.1	34.4	52.8	57.1	61.3	59.9	40.1	58.5	55.2
68°	12.3	18.4	21.7	23.1	39.2	42.5	45.8	45.3	24.1	44.8	42.9
68.5°	9.0	14.2	13.2	14.6	25.0	27.8	30.7	30.7	8.0	31.1	30.2
69°	5.7	10.4	10.4	11.3	11.3	13.7	15.6	16.0	3.8	17.9	17.9
69.5°	2.4	6.1	7.5	8.0	5.7	7.1	8.0	9.0	2.4	10.9	10.4
70°	1.9	2.4	4.7	4.7	2.8	3.3	3.8	4.2	1.9	5.7	5.7
70.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.4	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: P776652

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3500K

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: P776652

CATALOG NUMBER: HCDJBLS4050CSD-HCD61TRH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3141.0	3141.0	3141.0	3141.0	3141.0	3141.0
0.5°	3139.1	3140.5	3139.1	3137.2	3137.7	3138.6
1°	3137.7	3138.1	3136.3	3134.4	3134.8	3136.3
1.5°	3135.3	3134.8	3132.5	3130.6	3131.1	3133.4
2°	3132.9	3131.5	3128.7	3126.8	3127.8	3129.6
2.5°	3129.6	3127.3	3124.5	3122.1	3123.0	3125.9
3°	3125.9	3123.0	3119.7	3117.4	3118.3	3121.6
3.5°	3122.1	3117.9	3114.5	3112.2	3113.1	3116.4
4°	3117.4	3112.7	3108.9	3106.5	3107.5	3110.8
4.5°	3112.2	3106.5	3102.8	3099.9	3101.3	3104.6
5°	3106.5	3100.4	3096.6	3093.8	3094.7	3098.5
5.5°	3100.4	3093.3	3089.5	3086.2	3087.2	3091.4
6°	3093.8	3086.2	3082.0	3079.2	3079.6	3083.4
6.5°	3086.2	3078.7	3074.5	3071.1	3071.1	3075.9
7°	3078.7	3070.2	3066.0	3062.7	3063.1	3067.4
7.5°	3070.7	3061.2	3057.0	3053.7	3054.2	3057.9
8°	3061.7	3052.3	3047.6	3044.3	3044.3	3048.5
8.5°	3052.3	3042.4	3038.1	3034.4	3034.4	3038.1
9°	3042.4	3032.0	3027.7	3024.4	3023.5	3027.7
9.5°	3032.0	3021.1	3016.9	3013.6	3012.7	3016.4
10°	3021.1	3009.8	3005.6	3002.3	3000.9	3004.6
10.5°	3009.8	2998.0	2993.8	2990.5	2989.1	2992.4
11°	2997.6	2985.8	2981.5	2978.2	2976.3	2979.6
11.5°	2985.3	2972.6	2968.8	2965.5	2963.6	2966.4
12°	2973.0	2959.8	2955.6	2952.3	2949.9	2953.2
12.5°	2959.3	2945.7	2941.9	2938.6	2936.2	2939.1
13°	2945.7	2931.5	2928.2	2924.9	2921.6	2924.4
13.5°	2931.0	2916.4	2913.6	2909.8	2907.0	2909.8
14°	2916.4	2901.3	2898.5	2894.7	2891.9	2894.7
14.5°	2901.8	2886.2	2883.4	2879.6	2876.3	2879.1
15°	2885.7	2870.2	2867.3	2863.6	2859.8	2863.1
15.5°	2869.7	2854.1	2850.8	2847.5	2843.8	2847.1
16°	2853.7	2837.2	2833.9	2830.6	2827.2	2830.1
16.5°	2837.2	2820.2	2817.3	2814.0	2809.8	2813.6
17°	2820.6	2803.2	2799.9	2796.6	2792.8	2795.6
17.5°	2803.7	2785.3	2782.0	2778.7	2774.4	2778.2
18°	2785.7	2767.3	2764.0	2760.7	2756.5	2760.3
18.5°	2767.8	2748.9	2745.2	2742.3	2738.1	2742.3
19°	2749.4	2730.5	2726.8	2723.5	2719.7	2723.9
19.5°	2731.5	2712.1	2707.9	2704.6	2700.8	2706.0
20°	2713.1	2692.8	2688.1	2684.8	2681.5	2686.7
20.5°	2694.2	2673.5	2668.7	2665.4	2662.1	2667.8
21°	2675.3	2653.2	2648.9	2645.2	2642.3	2648.5



TEST NUMBER: P776652

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2616.8	2593.7	2587.6	2583.8	2582.4	2589.5
23°	2597.0	2573.0	2566.8	2561.6	2562.1	2570.1
23.5°	2577.2	2552.2	2545.6	2541.4	2541.4	2549.9
24°	2556.9	2531.5	2523.9	2519.2	2520.6	2529.6
24.5°	2536.2	2510.7	2502.7	2498.0	2498.9	2509.3
25°	2515.9	2489.9	2480.5	2475.3	2477.7	2488.5
25.5°	2495.1	2468.7	2458.8	2454.1	2456.9	2468.2
26°	2473.9	2447.0	2436.2	2430.5	2435.2	2447.0
26.5°	2452.7	2424.8	2414.5	2408.8	2413.5	2425.8
27°	2431.4	2403.1	2391.3	2385.7	2391.3	2405.0
27.5°	2410.2	2381.0	2368.7	2362.6	2368.7	2383.3
28°	2388.5	2358.3	2345.6	2339.5	2346.1	2361.6
28.5°	2366.3	2335.7	2322.5	2315.9	2323.4	2339.5
29°	2344.2	2313.0	2298.9	2291.8	2300.8	2317.3
29.5°	2322.0	2289.9	2275.3	2268.2	2277.2	2295.1
30°	2299.4	2266.8	2250.8	2244.6	2253.6	2272.9
30.5°	2276.2	2243.2	2226.7	2220.1	2230.0	2249.3
31°	2253.6	2219.2	2202.2	2195.1	2205.9	2225.8
31.5°	2229.5	2195.1	2177.6	2170.6	2181.4	2202.6
32°	2205.5	2171.0	2152.2	2145.6	2157.4	2179.1
32.5°	2181.9	2146.5	2127.2	2120.6	2132.3	2155.0
33°	2157.4	2121.0	2102.2	2095.6	2107.3	2130.5
33.5°	2132.8	2095.6	2076.7	2069.6	2082.3	2105.9
34°	2107.3	2070.1	2051.2	2043.7	2056.9	2080.5
34.5°	2081.9	2044.1	2024.3	2017.7	2030.9	2055.0
35°	2056.4	2017.7	1997.9	1991.3	2004.5	2029.0
35.5°	2030.4	1990.8	1972.0	1964.9	1978.1	2002.1
36°	2004.5	1963.5	1944.6	1938.0	1951.2	1975.3
36.5°	1977.1	1936.1	1917.7	1910.6	1924.3	1947.4
37°	1949.3	1907.8	1889.4	1883.3	1896.5	1920.1
37.5°	1921.5	1879.0	1861.1	1855.4	1868.2	1891.8
38°	1892.7	1850.2	1832.8	1826.6	1839.4	1862.0
38.5°	1863.4	1820.0	1803.1	1797.4	1809.7	1832.3
39°	1832.8	1789.9	1773.8	1768.2	1780.4	1801.2
39.5°	1802.6	1758.2	1742.2	1737.5	1747.9	1769.1
40°	1771.0	1726.2	1709.7	1704.9	1714.8	1736.1
40.5°	1737.5	1692.7	1676.2	1671.4	1680.4	1700.2
41°	1703.0	1658.2	1642.2	1637.0	1646.9	1665.8
41.5°	1668.6	1623.8	1607.8	1603.5	1612.0	1631.8
42°	1635.6	1591.2	1574.7	1569.5	1579.0	1597.4
42.5°	1601.6	1557.3	1540.3	1533.7	1542.7	1559.6
43°	1567.2	1521.9	1505.4	1500.2	1508.2	1525.7
43.5°	1531.8	1487.5	1471.4	1466.2	1475.2	1494.1



TEST NUMBER: P776652

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1440.8	1400.2	1385.1	1380.8	1390.3	1410.1
45.5°	1413.9	1373.3	1358.2	1354.9	1364.3	1383.7
46°	1388.4	1348.3	1333.7	1329.9	1339.8	1359.1
46.5°	1362.9	1324.2	1309.1	1305.8	1315.3	1334.6
47°	1339.8	1300.6	1285.1	1281.8	1291.2	1310.5
47.5°	1315.3	1275.6	1261.5	1257.7	1267.6	1286.5
48°	1291.7	1253.0	1237.9	1234.1	1243.6	1262.0
48.5°	1268.1	1228.0	1214.3	1209.6	1218.6	1234.6
49°	1242.1	1203.0	1188.4	1183.2	1190.7	1204.9
49.5°	1213.4	1173.7	1161.5	1155.8	1161.0	1174.7
50°	1183.6	1145.4	1132.2	1126.6	1129.4	1140.2
50.5°	1151.6	1112.4	1101.1	1093.5	1094.5	1103.9
51°	1116.7	1078.4	1066.2	1058.2	1058.6	1066.6
51.5°	1081.7	1041.6	1029.8	1019.9	1021.8	1028.9
52°	1046.4	1004.8	991.2	980.8	981.7	990.2
52.5°	1009.1	965.7	951.5	941.2	941.6	951.1
53°	971.4	927.0	911.4	900.1	901.1	911.0
53.5°	932.2	887.4	870.4	859.1	860.0	870.9
54°	893.5	848.2	829.8	818.0	819.0	830.3
54.5°	854.4	809.5	789.7	777.0	777.9	790.2
55°	816.1	770.4	748.7	735.5	737.4	750.1
55.5°	776.5	730.3	709.1	693.5	697.7	709.5
56°	736.4	691.6	669.0	652.9	658.1	669.9
56.5°	697.7	653.4	630.3	613.3	619.4	630.7
57°	657.6	615.6	590.6	573.7	580.3	592.1
57.5°	619.4	578.4	552.9	535.4	542.1	553.4
58°	581.2	541.6	516.1	498.6	504.8	515.6
58.5°	542.5	504.8	480.3	461.9	469.4	478.8
59°	504.8	469.4	445.3	426.9	432.6	442.5
59.5°	469.4	435.0	410.4	393.0	399.1	408.5
60°	434.5	401.0	376.9	360.0	366.1	373.6
60.5°	399.6	366.6	344.9	328.8	333.5	340.1
61°	364.7	334.5	313.2	299.1	301.5	308.1
61.5°	329.8	302.9	284.0	271.3	273.1	276.9
62°	297.2	271.7	255.2	243.0	244.4	246.3
62.5°	266.1	242.0	227.9	217.5	216.5	218.0
63°	235.9	213.7	201.9	192.5	190.1	190.1
63.5°	207.1	186.8	177.9	169.8	166.5	161.8
64°	179.7	160.9	157.6	151.0	147.2	138.2
64.5°	155.2	139.6	137.8	131.6	127.8	114.6
65°	131.1	118.4	117.9	112.8	108.0	91.0
65.5°	109.4	97.7	97.7	93.9	88.7	67.5
66°	89.6	76.4	77.8	75.0	68.9	49.5



TEST NUMBER: P776652

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	49.1	34.4	36.3	35.9	29.7	15.6
68°	37.7	24.5	26.4	25.5	20.8	12.3
68.5°	26.4	17.0	17.5	17.0	17.0	9.0
69°	15.1	13.2	13.7	13.2	13.2	5.7
69.5°	9.0	9.4	9.9	9.4	9.4	2.4
70°	4.7	5.7	5.7	5.7	5.7	1.9
70.5°	2.4	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	2.4	1.9	0.5
88.5°	0.5	0.9	2.4	2.8	2.4	0.5



TEST NUMBER: P776652

CATALOG NUMBER: HCDJBL54050CSD-HCD61TRH-5000lm-3500K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.5	1.9	3.3	2.4	3.3	0.5



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Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





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

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Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report





21.5°	2629.1	2651.3	2684.8	2718.7	2761.2	2776.8	2774.9	2760.3	2737.1	2711.2	2681.9
22°	2609.3	2631.9	2665.4	2700.3	2742.3	2758.4	2756.5	2741.4	2718.7	2692.3	2662.6



44°	1464.3	1494.5	1523.3	1549.7	1587.5	1599.3	1602.1	1595.5	1582.3	1559.2	1532.3
44.5°	1436.5	1466.2	1495.0	1520.5	1557.3	1568.6	1571.4	1565.8	1552.1	1529.0	1500.7



66.5°	35.9	49.1	56.1	63.7	80.7	86.3	91.5	89.2	71.7	85.4	80.7
67°	24.5	36.8	42.9	48.1	67.0	71.7	76.4	74.5	55.7	71.7	67.9



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°	2656.5	2633.4	2628.6	2624.9	2623.0	2629.1
22°	2636.2	2613.5	2608.4	2603.6	2602.2	2609.3



44°	1499.2	1456.8	1441.7	1436.0	1445.9	1464.3
44.5°	1469.1	1428.0	1412.4	1408.2	1417.6	1436.5



66.5°	72.2	59.9	62.7	60.4	54.3	35.9
67°	60.4	45.8	48.6	47.2	41.0	24.5



89°	0.5	1.4	2.4	3.3	2.4	0.5
89.5°	0.5	1.4	2.8	3.3	2.8	0.5

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Peachtree City, GA 30269

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(END OF REPORT)