

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: P776318

Luminaire Tested: HCDJBL3040CSD-HCD4TSQH-4000lm-4000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776318  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2310613A001)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL3040CSD-HCD4TSQH-4000lm-4000K  
Description: 4 INCH SQUARE MEDIUM HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

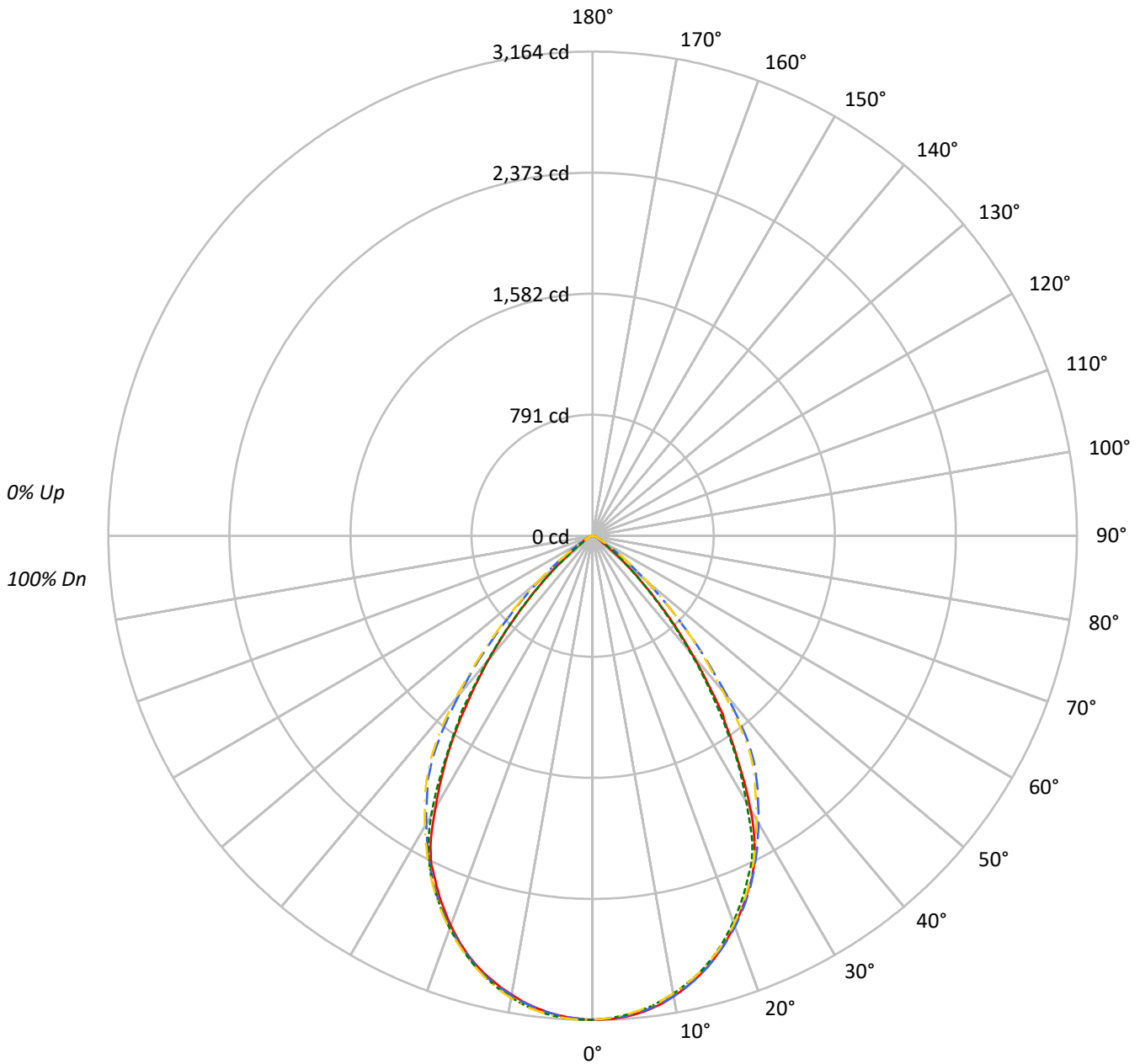
Lumens per Lamp: N/A  
Luminaire Lumens: 4047.2 lumens  
Efficiency: N/A  
Efficacy: 105.1 lumens/watt  
Spacing Criteria (0/90/45): 1.05 / 1.05 / 1.09  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 38.5  
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									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				100															
1	113	110	107	104	110	107	105	103	103	101	100	100	98	97	96	95	94	92				92															
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	88	85	84				84															
3	100	93	87	82	98	91	86	82	88	84	80	86	82	79	84	81	78	76				76															
4	94	85	79	74	92	84	78	74	82	77	73	80	76	72	78	74	71	70				70															
5	88	79	72	67	87	78	72	67	76	71	66	74	70	66	73	69	65	64				64															
6	83	73	66	61	82	72	66	61	71	65	61	69	64	60	68	63	60	58				58															
7	78	68	61	56	77	67	61	56	66	60	56	65	59	56	63	59	55	54				54															
8	74	63	56	52	73	63	56	52	61	56	51	60	55	51	59	55	51	49				49															
9	70	59	52	48	69	58	52	48	57	52	48	57	51	47	56	51	47	46				46															
10	66	55	49	44	65	55	49	44	54	48	44	53	48	44	52	47	44	43				43															

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

	0°	90°	180°	270°
0°	312480	312480	312480	312480
5°	311639	310280	310677	311917
10°	306671	304805	305658	307555
15°	297992	296375	297941	299302
20°	285116	282445	284948	287146
25°	268823	264340	267143	271102
30°	235479	229362	234509	240673
35°	184785	180839	188381	190903
40°	131468	128655	136513	137868
45°	80362	78335	85212	85716
50°	39458	40703	43917	42502
55°	14786	20403	21524	16526
60°	10754	13620	13779	10912
65°	8490	10735	10922	8771
70°	6762	8612	8728	7109
75°	5232	6760	6760	5843
80°	3415	5294	5066	4611
85°	1361	4083	2268	3175

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 315°  
 Vertical Angle: 45°  
 Luminance: 123275 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	296.6	7.3
10°-20°	817.6	20.2
20°-30°	1125.2	27.8
30°-40°	1033.7	25.5
40°-50°	559.0	13.8
50°-60°	150.6	3.7
60°-70°	43.0	1.1
70°-80°	18.0	0.4
80°-90°	3.5	0.1
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°	2239.3	55.3
0°-40°	3273.1	80.9
0°-60°	3982.7	98.4
0°-90°	4047.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4047.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3161	3161	3161	3161	3161	
5°	3141	3127	3131	3144	3141	297
15°	2912	2896	2912	2925	2912	817
25°	2465	2424	2450	2486	2465	1119
35°	1531	1499	1561	1582	1531	952
45°	575	560	610	613	575	454
55°	86	118	125	96	86	100
65°	36	46	47	38	36	37
75°	14	18	18	15	14	15
85°	1	4	2	3	1	2
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°	3161.4	3161.4	3161.4	3161.4	3161.4	3161.4	3161.4	3161.4	3161.4	3161.4	3161.4
0.5°	3163.0	3161.8	3160.6	3159.4	3161.4	3159.4	3160.2	3160.6	3161.8	3161.8	3160.2
1°	3163.0	3161.0	3159.4	3158.6	3159.8	3157.8	3158.2	3158.6	3160.2	3161.0	3159.4
1.5°	3161.8	3159.4	3159.0	3156.6	3157.0	3154.6	3155.8	3156.2	3158.6	3159.0	3157.4
2°	3161.0	3158.2	3156.6	3154.6	3153.8	3152.2	3152.6	3153.4	3155.4	3157.0	3155.4
2.5°	3159.0	3156.2	3154.6	3151.8	3150.6	3148.5	3149.4	3149.8	3153.0	3154.2	3153.0
3°	3156.6	3152.6	3151.8	3148.9	3147.3	3144.5	3145.3	3146.1	3149.8	3151.8	3149.8
3.5°	3153.4	3149.4	3148.1	3145.3	3143.3	3140.1	3140.5	3141.7	3145.7	3148.1	3146.5
4°	3149.8	3145.3	3145.3	3141.3	3138.5	3135.7	3135.7	3137.3	3140.9	3144.5	3142.5
4.5°	3145.7	3140.5	3140.1	3136.9	3132.8	3129.6	3130.4	3132.0	3136.5	3140.5	3137.7
5°	3140.9	3135.3	3135.3	3131.2	3127.2	3124.0	3124.4	3126.4	3131.2	3134.8	3132.4
5.5°	3134.8	3129.6	3130.0	3125.6	3120.7	3117.1	3117.9	3119.9	3125.2	3130.0	3126.8
6°	3129.2	3122.8	3123.6	3119.1	3113.9	3109.9	3111.1	3113.5	3118.3	3123.6	3120.3
6.5°	3122.4	3115.9	3117.1	3112.7	3106.2	3102.2	3103.4	3105.8	3111.5	3117.5	3113.9
7°	3114.7	3107.9	3109.5	3104.6	3098.2	3093.8	3095.8	3098.6	3103.8	3110.3	3106.6
7.5°	3106.6	3099.8	3101.8	3097.4	3089.3	3085.3	3086.9	3090.1	3095.4	3102.6	3098.6
8°	3098.2	3090.9	3094.2	3087.7	3080.1	3075.2	3077.6	3080.5	3086.9	3094.2	3090.1
8.5°	3088.5	3081.7	3084.9	3078.0	3069.6	3066.0	3068.4	3071.2	3077.2	3084.9	3081.3
9°	3078.4	3072.0	3075.2	3068.4	3059.5	3055.1	3057.9	3061.1	3067.2	3075.2	3072.0
9.5°	3067.6	3060.3	3065.6	3058.3	3048.2	3044.2	3047.0	3050.2	3056.3	3065.6	3061.5
10°	3055.5	3049.0	3054.3	3046.6	3036.9	3032.9	3036.1	3039.4	3045.4	3055.1	3051.0
10.5°	3043.8	3036.5	3043.0	3034.9	3025.3	3021.2	3024.9	3027.7	3033.7	3044.2	3039.4
11°	3031.3	3024.1	3032.1	3022.8	3013.2	3009.1	3012.8	3015.6	3022.0	3032.5	3027.7
11.5°	3018.4	3011.2	3018.4	3010.4	2999.9	2995.9	2999.5	3004.3	3010.4	3020.4	3015.2
12°	3004.3	2997.1	3005.5	2996.7	2986.6	2983.0	2986.6	2991.0	2997.1	3008.7	3006.7
12.5°	2990.6	2982.6	2991.0	2983.0	2973.3	2969.7	2973.3	2978.1	2983.8	2995.0	2993.0
13°	2976.1	2968.1	2977.3	2968.5	2960.4	2956.4	2960.0	2964.8	2970.5	2981.8	2979.3
13.5°	2961.2	2952.3	2962.4	2953.5	2946.7	2943.1	2946.7	2951.9	2957.2	2968.5	2965.6
14°	2945.5	2937.0	2946.3	2938.2	2930.6	2926.6	2931.4	2935.8	2943.9	2955.2	2952.3
14.5°	2928.6	2919.7	2929.8	2922.5	2913.7	2910.0	2914.9	2919.3	2928.2	2941.9	2933.4
15°	2912.1	2902.8	2913.7	2906.4	2896.3	2893.5	2897.5	2903.2	2911.6	2925.8	2916.9
15.5°	2894.3	2885.5	2896.7	2888.7	2878.6	2875.4	2879.8	2885.5	2894.3	2909.2	2899.6
16°	2876.6	2867.3	2878.2	2870.6	2860.5	2857.7	2861.7	2868.1	2876.6	2891.9	2882.2
16.5°	2857.3	2849.6	2859.7	2852.4	2841.1	2838.3	2843.6	2849.6	2858.9	2873.8	2864.1
17°	2838.3	2829.5	2841.5	2833.9	2821.4	2819.4	2824.6	2831.1	2840.3	2855.6	2845.2
17.5°	2818.6	2810.1	2821.8	2814.2	2800.9	2799.6	2804.9	2810.9	2819.8	2837.1	2825.8
18°	2798.0	2789.6	2802.5	2793.6	2778.3	2778.7	2785.1	2791.2	2798.4	2817.8	2806.5
18.5°	2775.9	2768.2	2781.5	2773.5	2755.7	2756.9	2764.2	2770.2	2777.1	2797.2	2786.4
19°	2754.9	2746.5	2761.4	2752.1	2732.4	2734.4	2743.2	2748.5	2754.9	2775.9	2765.4
19.5°	2732.8	2724.7	2740.0	2729.1	2709.4	2711.4	2721.9	2726.3	2732.4	2753.7	2744.0
20°	2710.6	2702.1	2718.7	2705.8	2685.2	2687.2	2700.1	2703.4	2709.0	2731.2	2722.7
20.5°	2687.2	2679.2	2696.5	2682.0	2661.1	2663.1	2677.2	2679.6	2685.2	2708.2	2699.7
21°	2663.5	2655.0	2672.7	2657.4	2636.1	2638.5	2654.2	2655.4	2661.1	2684.0	2677.2



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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°	2591.0	2581.3	2601.4	2580.9	2560.3	2562.3	2582.1	2579.7	2585.7	2609.5	2606.3
23°	2564.0	2555.9	2576.4	2553.9	2533.3	2535.8	2557.5	2552.7	2560.3	2583.7	2581.3
23.5°	2539.0	2530.5	2550.3	2528.5	2505.1	2510.0	2531.3	2526.5	2533.3	2557.5	2555.1
24°	2513.2	2503.5	2524.9	2501.1	2476.1	2482.6	2504.7	2499.9	2505.9	2531.3	2528.5
24.5°	2489.8	2476.9	2497.9	2474.5	2449.1	2454.4	2476.5	2472.9	2477.3	2504.3	2501.1
25°	2464.9	2448.7	2470.1	2445.1	2423.8	2425.4	2448.7	2445.1	2449.5	2476.5	2473.7
25.5°	2432.2	2422.5	2441.5	2416.1	2398.4	2396.0	2419.7	2416.5	2423.4	2447.5	2445.5
26°	2402.8	2397.2	2411.7	2385.9	2373.0	2367.4	2390.7	2387.5	2398.8	2418.5	2417.3
26.5°	2371.0	2372.2	2383.1	2357.3	2335.9	2340.4	2360.5	2357.7	2368.6	2389.1	2387.5
27°	2333.1	2339.2	2353.3	2329.5	2296.8	2314.6	2330.3	2329.1	2329.1	2362.1	2357.7
27.5°	2293.6	2307.3	2323.0	2303.7	2260.2	2288.0	2299.7	2301.3	2294.4	2336.7	2327.5
28°	2252.1	2273.5	2291.6	2277.5	2209.8	2257.4	2268.6	2275.1	2251.7	2308.9	2296.8
28.5°	2208.6	2238.0	2261.4	2248.5	2158.7	2215.9	2237.6	2244.9	2203.0	2269.5	2266.6
29°	2163.5	2199.3	2229.6	2208.6	2109.5	2181.6	2206.6	2206.2	2153.8	2233.6	2235.2
29.5°	2113.9	2159.1	2199.3	2171.5	2059.1	2139.3	2174.0	2170.7	2103.5	2197.3	2204.6
30°	2063.2	2115.1	2168.3	2132.1	2009.6	2089.4	2142.5	2130.9	2054.7	2150.6	2173.2
30.5°	2009.6	2072.8	2136.5	2083.7	1961.2	2039.4	2109.9	2082.9	2004.8	2100.6	2141.7
31°	1955.6	2024.1	2104.3	2033.4	1913.3	1991.1	2076.9	2035.8	1957.6	2052.3	2109.5
31.5°	1900.8	1976.6	2072.0	1984.2	1865.0	1941.5	2043.4	1986.2	1910.5	2002.7	2076.5
32°	1844.8	1923.8	2039.4	1935.5	1817.8	1893.6	2011.2	1937.9	1862.9	1954.8	2044.6
32.5°	1790.8	1873.4	2009.2	1886.3	1767.9	1846.8	1978.2	1889.5	1814.6	1906.9	2012.0
33°	1738.0	1819.8	1979.8	1838.8	1717.5	1800.9	1947.1	1843.6	1766.7	1859.7	1981.4
33.5°	1685.7	1765.4	1948.4	1791.6	1663.1	1753.8	1916.9	1796.1	1717.9	1812.2	1954.4
34°	1634.5	1713.1	1912.5	1744.9	1609.9	1707.0	1887.5	1750.9	1667.1	1765.4	1926.6
34.5°	1582.9	1660.3	1881.5	1697.4	1553.5	1658.3	1856.5	1704.2	1614.0	1718.3	1885.9
35°	1531.4	1607.5	1849.6	1649.4	1498.7	1611.9	1822.2	1659.5	1561.2	1670.8	1844.8
35.5°	1481.0	1557.6	1815.4	1600.3	1443.5	1560.4	1784.4	1611.9	1508.4	1621.6	1809.4
36°	1450.0	1508.0	1775.1	1550.7	1391.6	1509.2	1746.1	1565.6	1455.2	1572.5	1765.4
36.5°	1393.6	1459.7	1728.8	1499.5	1338.8	1457.2	1697.4	1516.5	1402.4	1522.1	1716.7
37°	1336.0	1410.9	1685.3	1447.6	1288.4	1405.3	1648.6	1467.3	1348.9	1470.5	1666.7
37.5°	1278.4	1361.8	1638.5	1397.2	1238.9	1352.1	1596.2	1417.8	1298.5	1418.2	1616.4
38°	1220.7	1313.0	1584.1	1346.8	1190.5	1301.3	1539.4	1367.8	1249.3	1367.8	1565.2
38.5°	1169.2	1264.3	1527.7	1296.9	1141.8	1252.2	1483.0	1317.0	1200.6	1315.8	1514.0
39°	1118.0	1215.1	1472.9	1246.5	1095.0	1204.2	1426.6	1267.5	1151.8	1266.7	1461.7
39.5°	1068.0	1165.1	1418.6	1196.2	1045.9	1159.1	1372.6	1218.7	1104.3	1217.9	1409.7
40°	1018.9	1116.0	1364.2	1148.2	997.1	1111.6	1319.4	1172.0	1058.0	1170.0	1357.3
40.5°	971.8	1066.0	1309.8	1101.9	948.0	1066.0	1268.3	1124.0	1009.6	1122.4	1305.8
41°	924.6	1018.5	1255.0	1056.4	900.9	1021.7	1218.3	1078.9	961.7	1076.5	1252.6
41.5°	877.9	971.8	1200.6	1011.2	852.5	977.8	1169.2	1034.6	912.9	1031.8	1201.0
42°	832.8	926.6	1148.6	965.3	807.0	931.5	1121.2	990.3	866.2	986.3	1148.2
42.5°	787.6	881.5	1097.9	921.0	762.7	885.9	1074.9	946.8	820.7	941.5	1096.7
43°	743.7	838.0	1047.5	876.3	719.6	841.6	1029.0	902.5	776.4	896.0	1044.3
43.5°	698.6	795.7	998.3	832.0	677.2	798.5	983.0	859.0	732.8	851.3	994.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	574.9	671.6	854.1	703.4	560.4	672.4	846.1	731.6	609.6	722.4	848.5
45.5°	536.2	630.9	807.0	663.6	522.9	634.5	802.1	690.1	570.9	681.7	803.4
46°	499.2	592.2	761.9	624.1	486.3	596.3	758.2	651.1	533.4	642.2	758.2
46.5°	462.9	554.4	717.9	587.0	452.0	559.6	716.3	612.4	497.2	604.3	715.1
47°	428.7	518.1	674.8	550.7	419.4	523.8	676.0	575.3	461.3	566.9	674.0
47.5°	396.8	482.7	633.3	514.9	388.8	489.1	637.0	538.3	427.9	529.8	633.7
48°	365.8	448.8	593.9	479.8	363.0	455.3	600.7	503.2	396.0	495.5	594.7
48.5°	336.8	417.0	556.0	446.4	337.2	423.0	564.4	469.8	368.2	461.3	556.8
49°	309.0	386.4	519.7	415.4	311.4	392.4	530.2	436.3	340.8	428.7	522.1
49.5°	282.0	357.0	485.5	384.8	286.0	365.8	497.6	404.9	313.0	397.2	485.5
50°	256.6	328.8	452.0	354.9	264.7	339.2	466.1	377.9	285.6	369.4	451.6
50.5°	233.3	301.4	419.0	326.3	245.0	312.6	436.3	350.9	263.5	341.2	420.2
51°	211.5	276.0	388.4	300.6	228.0	286.0	406.1	323.5	242.9	313.0	390.8
51.5°	191.4	252.2	359.0	276.4	211.9	264.3	379.9	296.5	224.4	285.2	363.4
52°	172.4	229.6	331.6	253.8	196.6	244.1	354.5	269.5	207.1	261.5	336.4
52.5°	155.1	207.9	304.6	233.7	182.1	225.6	328.8	247.0	191.8	240.1	309.4
53°	139.0	187.7	280.0	215.1	168.4	208.7	303.0	226.4	176.9	220.8	282.4
53.5°	125.7	169.6	256.6	198.6	155.9	193.4	277.2	207.9	163.2	203.1	257.8
54°	112.4	152.7	234.9	182.9	143.0	179.3	255.4	191.0	149.9	186.9	236.1
54.5°	99.1	136.6	213.9	168.4	130.5	165.6	234.9	175.3	137.0	171.6	215.9
55°	85.8	121.7	195.8	155.5	118.4	152.7	215.5	161.2	124.9	157.9	196.6
55.5°	77.0	110.8	178.1	142.6	107.6	140.6	197.4	147.9	112.8	145.0	178.9
56°	73.7	100.3	162.0	132.1	97.9	128.5	180.5	135.0	102.3	132.5	162.4
56.5°	70.9	89.4	147.1	121.3	91.1	116.8	164.8	123.3	93.9	120.9	147.5
57°	68.5	79.0	136.2	110.4	87.0	105.6	150.3	112.0	87.8	109.2	133.4
57.5°	65.7	68.1	124.9	99.5	83.8	95.5	137.0	101.1	84.6	98.3	120.9
58°	63.3	65.7	114.0	90.2	80.6	86.2	124.5	90.6	81.4	89.0	109.6
58.5°	60.8	63.3	103.1	82.2	77.8	79.4	113.6	82.2	78.2	81.8	99.1
59°	58.4	60.8	92.3	76.1	74.5	75.7	103.1	75.7	75.3	77.0	90.2
59.5°	56.4	58.4	84.2	72.9	71.7	72.5	94.3	72.1	72.5	74.1	82.6
60°	54.4	56.4	77.4	69.7	68.9	69.7	86.2	69.3	69.7	71.3	75.7
60.5°	52.0	54.4	70.9	67.3	66.1	67.3	79.0	66.5	66.9	68.5	69.3
61°	50.0	52.0	65.7	64.5	63.7	64.5	72.5	63.7	64.5	65.7	64.5
61.5°	48.3	50.4	60.8	62.0	61.2	62.0	66.9	61.2	62.0	63.3	59.6
62°	46.3	48.3	56.8	59.2	58.8	59.6	62.0	58.8	59.2	60.8	55.6
62.5°	44.3	46.3	52.8	57.2	56.4	57.2	58.0	56.4	57.2	58.4	52.0
63°	42.7	44.7	49.6	54.8	54.0	54.8	54.0	54.4	54.8	56.0	49.2
63.5°	41.1	42.7	46.7	52.4	52.0	52.8	50.8	52.0	52.8	54.0	46.3
64°	39.5	41.1	44.7	50.4	50.0	50.8	47.5	50.0	50.4	51.6	44.3
64.5°	37.9	39.5	43.1	48.3	47.9	48.7	45.1	47.9	48.3	49.6	42.3
65°	36.3	38.3	41.1	46.3	45.9	46.7	43.1	45.9	46.7	47.5	40.7
65.5°	35.1	36.7	39.5	44.7	43.9	44.7	41.5	43.9	44.7	45.5	39.1
66°	33.4	35.1	38.3	42.7	41.9	43.1	39.9	42.3	42.7	43.9	37.5





TEST NUMBER: P776318

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	29.4	31.0	33.8	37.5	37.1	37.9	35.5	37.1	37.5	38.7	33.0
68°	28.2	29.8	32.2	35.9	35.5	36.3	33.8	35.5	35.9	37.1	31.8
68.5°	27.0	28.2	31.0	34.6	33.8	34.6	32.6	33.8	34.2	35.5	30.6
69°	25.8	27.0	29.8	33.0	32.6	33.4	31.0	32.6	33.0	33.8	29.4
69.5°	24.6	25.8	28.6	31.8	31.0	31.8	29.8	31.0	31.4	32.2	28.2
70°	23.4	24.6	27.4	30.2	29.8	30.6	28.6	29.8	30.2	31.0	26.6
70.5°	22.2	23.8	26.2	29.0	28.2	29.4	27.0	28.2	28.6	29.4	25.8
71°	21.4	22.6	25.0	27.8	27.0	27.8	25.8	27.0	27.4	28.2	24.6
71.5°	20.1	21.4	23.8	26.2	25.8	26.6	24.6	25.8	25.8	26.6	23.4
72°	19.3	20.5	22.6	25.4	24.6	25.4	23.8	24.6	24.6	25.4	22.2
72.5°	18.1	19.3	21.8	24.2	23.4	24.2	22.6	23.4	23.4	24.2	21.4
73°	17.3	18.5	20.5	23.0	22.2	23.0	21.4	22.2	22.2	23.0	20.1
73.5°	16.1	17.3	19.3	21.8	21.0	21.8	20.5	21.0	21.0	21.8	19.3
74°	15.3	16.5	18.5	20.5	20.1	21.0	19.3	19.7	20.1	21.0	18.5
74.5°	14.5	15.7	17.7	19.7	18.9	19.7	18.5	18.9	18.9	19.7	17.3
75°	13.7	14.5	16.5	18.5	17.7	18.9	17.3	17.7	17.7	18.5	16.5
75.5°	12.9	13.7	15.7	17.7	16.9	17.7	16.5	16.9	16.9	17.7	15.7
76°	11.7	12.9	14.9	16.9	16.1	16.9	15.7	15.7	15.7	16.5	14.9
76.5°	10.9	12.1	14.1	15.7	14.9	16.1	14.9	14.9	14.9	15.7	13.7
77°	10.5	11.3	13.3	14.9	14.1	14.9	14.1	13.7	13.7	14.5	12.9
77.5°	9.7	10.5	12.5	14.1	13.3	14.1	13.3	12.9	12.9	13.7	12.1
78°	8.9	9.7	11.7	13.3	12.5	13.3	12.5	12.1	12.1	12.9	11.3
78.5°	8.1	8.9	10.9	12.5	11.7	12.5	11.7	11.3	11.3	11.7	10.9
79°	7.7	8.1	10.1	11.7	10.9	11.7	10.9	10.5	10.5	10.9	10.1
79.5°	6.8	7.3	9.7	10.9	10.1	10.9	10.1	9.7	9.7	10.1	9.3
80°	6.0	6.8	8.9	10.1	9.3	10.1	9.7	8.9	8.9	9.3	8.5
80.5°	5.6	6.0	8.1	9.3	8.9	9.3	8.9	8.1	8.1	8.5	8.1
81°	4.8	5.2	7.7	8.5	8.1	8.5	8.1	7.3	7.3	7.7	7.3
81.5°	4.4	4.8	6.8	7.7	7.3	8.1	7.7	6.4	6.4	6.8	6.8
82°	4.0	4.0	6.4	7.3	6.8	7.3	6.8	6.0	6.0	6.0	6.0
82.5°	3.2	3.6	5.6	6.4	6.0	6.8	6.4	5.2	5.2	5.2	5.6
83°	2.8	3.2	5.2	6.0	5.6	6.0	5.6	4.8	4.4	4.8	4.8
83.5°	2.0	2.4	4.4	5.2	5.2	5.6	5.2	4.0	4.0	4.0	4.4
84°	1.6	2.0	4.0	4.8	4.4	4.8	4.8	3.6	3.2	3.6	4.0
84.5°	1.6	1.6	3.6	4.0	4.0	4.4	4.0	3.2	2.8	2.8	3.6
85°	1.2	1.6	3.2	3.6	3.6	4.0	3.6	2.4	2.0	2.4	3.2
85.5°	0.8	1.2	2.8	3.2	2.8	3.2	3.2	2.0	1.6	2.0	2.4
86°	0.8	0.8	2.0	2.4	2.4	2.8	2.8	1.6	1.6	1.6	2.0
86.5°	0.8	0.8	1.6	2.0	2.0	2.4	2.4	1.6	1.2	1.2	1.6
87°	0.4	0.4	1.2	1.6	1.6	1.6	2.0	1.2	1.2	1.2	1.2
87.5°	0.0	0.4	0.8	1.2	1.2	1.2	1.6	0.8	0.8	0.8	0.8
88°	0.0	0.0	0.4	0.8	0.8	0.8	1.2	0.8	0.8	0.8	0.4
88.5°	0.0	0.0	0.0	0.4	0.4	0.4	0.8	0.4	0.4	0.4	0.4



TEST NUMBER: P776318

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-4000K

**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: P776318

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3161.4	<i>3161.4</i>	3161.4	3161.4	3161.4	3161.4
0.5°	<i>3160.6</i>	<i>3163.5</i>	<i>3161.8</i>	<i>3162.6</i>	<i>3161.8</i>	<i>3163.0</i>
1°	3160.2	<i>3163.0</i>	3161.8	3162.6	3161.8	3163.0
1.5°	3159.0	<i>3163.0</i>	3161.8	3162.2	3161.8	3161.8
2°	3157.4	<i>3161.8</i>	3161.4	3161.4	3161.0	3161.0
2.5°	3155.4	<i>3161.0</i>	3159.8	3161.0	3159.4	3159.0
3°	3152.6	<i>3159.0</i>	3157.8	3158.6	3157.4	3156.6
3.5°	3149.4	<i>3155.8</i>	3155.4	3156.2	3154.6	3153.4
4°	3145.3	<i>3152.2</i>	3152.2	3153.0	3151.8	3149.8
4.5°	3140.9	<i>3148.1</i>	3148.5	3149.4	3147.7	3145.7
5°	3136.1	<i>3143.7</i>	3144.1	3144.9	3143.3	3140.9
5.5°	3130.4	<i>3138.9</i>	3139.3	3139.7	3138.1	3134.8
6°	3124.4	<i>3132.8</i>	3133.6	3134.4	3132.4	3129.2
6.5°	3117.5	<i>3126.4</i>	3127.6	3128.0	3126.0	3122.4
7°	3110.3	<i>3119.5</i>	3120.7	3121.6	3119.1	3114.7
7.5°	3102.2	<i>3112.3</i>	3113.9	3113.9	3111.5	3106.6
8°	3093.4	<i>3103.4</i>	3105.4	3106.2	3103.0	3098.2
8.5°	3084.5	<i>3095.0</i>	3097.0	3097.4	3094.2	3088.5
9°	3075.2	<i>3084.9</i>	3088.1	3088.5	3084.1	3078.4
9.5°	3064.7	<i>3074.4</i>	3077.6	3078.4	3074.8	3067.6
10°	3053.9	<i>3064.3</i>	3066.8	3068.4	3063.5	3055.5
10.5°	3042.2	<i>3053.1</i>	3055.9	3057.1	3052.3	3043.8
11°	3030.9	<i>3040.6</i>	3043.8	3045.0	3040.2	3031.3
11.5°	3018.4	<i>3028.5</i>	3031.3	3032.9	3027.7	3018.4
12°	3005.5	<i>3014.8</i>	3018.4	3020.0	3013.6	3004.3
12.5°	2991.0	<i>3001.5</i>	3004.7	3005.9	3000.3	2990.6
13°	2976.9	<i>2987.4</i>	2991.0	2992.6	2986.2	2976.1
13.5°	2962.8	<i>2972.9</i>	2976.5	2977.3	2970.9	2961.2
14°	2948.3	<i>2958.0</i>	2961.6	2961.2	2955.6	2945.5
14.5°	2937.0	<i>2941.9</i>	2945.9	2944.7	2939.4	2928.6
15°	2920.5	<i>2924.9</i>	2929.8	2928.2	2922.9	2912.1
15.5°	2903.2	<i>2908.4</i>	2911.6	2911.2	2905.6	2894.3
16°	2885.5	<i>2890.7</i>	2894.7	2894.3	2887.9	2876.6
16.5°	2867.3	<i>2872.6</i>	2877.0	2875.8	2870.2	2857.3
17°	2848.4	<i>2853.2</i>	2858.5	2856.9	2851.6	2838.3
17.5°	2829.1	<i>2834.3</i>	2839.1	2837.9	2831.9	2818.6
18°	2808.9	<i>2813.7</i>	2819.4	2818.2	2812.1	2798.0
18.5°	2788.4	<i>2793.6</i>	2799.2	2797.2	2790.8	2775.9
19°	2767.8	<i>2772.7</i>	2778.3	2777.1	2769.4	2754.9
19.5°	2745.7	<i>2751.7</i>	2756.5	2755.7	2748.1	2732.8
20°	2723.5	<i>2729.9</i>	2735.2	2734.4	2725.9	2710.6
20.5°	2700.9	<i>2707.0</i>	2712.6	2711.8	2703.0	2687.2
21°	2677.6	<i>2684.0</i>	2688.9	2689.3	2678.8	2663.5

TEST NUMBER: P776318

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2605.1	2611.5	2616.7	2617.9	2605.9	2591.0
23°	2580.5	2586.5	2591.4	2593.0	2580.5	2564.0
23.5°	2554.7	2560.7	2566.0	2567.2	2554.7	2539.0
24°	2527.7	2534.1	2539.8	2541.0	2528.9	2513.2
24.5°	2501.5	2508.8	2513.2	2514.0	2502.3	2489.8
25°	2474.9	2485.8	2485.4	2487.0	2474.9	2464.9
25.5°	2446.7	2454.4	2457.6	2459.2	2446.7	2432.2
26°	2418.1	2424.2	2431.4	2430.2	2420.1	2402.8
26.5°	2393.5	2393.5	2406.8	2402.0	2395.2	2371.0
27°	2366.1	2357.7	2373.8	2373.4	2369.8	2333.1
27.5°	2331.9	2322.2	2343.2	2343.6	2337.1	2293.6
28°	2301.7	2284.0	2311.4	2313.0	2304.5	2252.1
28.5°	2268.2	2243.7	2276.3	2283.6	2272.7	2208.6
29°	2233.6	2200.2	2240.8	2253.7	2236.8	2163.5
29.5°	2195.7	2156.2	2202.2	2223.1	2199.3	2113.9
30°	2157.4	2108.7	2162.3	2192.5	2159.5	2063.2
30.5°	2116.4	2058.3	2121.2	2161.5	2116.4	2009.6
31°	2074.1	2004.8	2076.1	2130.1	2072.4	1955.6
31.5°	2029.3	1954.0	2029.7	2098.2	2025.7	1900.8
32°	1983.8	1899.2	1982.2	2066.8	1978.2	1844.8
32.5°	1934.7	1843.6	1931.8	2038.6	1928.2	1790.8
33°	1883.9	1790.8	1879.1	2007.6	1875.8	1738.0
33.5°	1831.9	1737.6	1826.3	1974.5	1823.1	1685.7
34°	1780.3	1685.7	1773.5	1945.1	1770.3	1634.5
34.5°	1726.8	1632.5	1721.5	1910.5	1717.5	1582.9
35°	1675.2	1582.1	1668.7	1871.4	1664.7	1531.4
35.5°	1624.4	1531.8	1616.8	1833.1	1614.4	1481.0
36°	1574.1	1481.8	1567.2	1794.4	1564.8	1450.0
36.5°	1523.3	1452.8	1518.1	1751.3	1515.3	1393.6
37°	1474.6	1396.0	1468.9	1706.6	1466.9	1336.0
37.5°	1426.2	1337.6	1419.8	1660.3	1418.2	1278.4
38°	1378.3	1279.2	1370.6	1611.5	1369.8	1220.7
38.5°	1329.5	1220.7	1321.5	1562.0	1321.1	1169.2
39°	1280.8	1170.4	1272.3	1509.6	1272.3	1118.0
39.5°	1232.0	1118.8	1223.2	1458.0	1224.0	1068.0
40°	1182.9	1068.5	1172.8	1402.8	1173.2	1018.9
40.5°	1133.7	1019.7	1122.4	1347.2	1124.0	971.8
41°	1084.6	973.0	1073.7	1292.1	1076.1	924.6
41.5°	1037.0	924.6	1025.3	1236.9	1028.6	877.9
42°	990.7	879.1	979.0	1181.7	982.6	832.8
42.5°	944.8	834.4	932.7	1128.5	936.7	787.6
43°	900.0	787.2	888.4	1076.5	892.4	743.7
43.5°	856.1	742.1	844.0	1025.7	848.1	698.6



TEST NUMBER: P776318

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	731.2	613.2	715.1	881.9	722.4	574.9
45.5°	690.9	572.9	673.2	837.2	681.7	536.2
46°	651.1	533.8	632.9	792.9	642.2	499.2
46.5°	611.2	496.4	591.8	748.2	602.7	462.9
47°	573.3	460.5	554.0	705.0	565.7	428.7
47.5°	536.2	425.4	516.5	662.7	528.6	396.8
48°	500.4	392.0	480.2	622.9	493.1	365.8
48.5°	466.1	361.0	446.0	582.2	458.1	336.8
49°	432.7	331.2	413.0	543.9	426.3	309.0
49.5°	401.7	303.4	380.3	506.8	394.4	282.0
50°	373.1	276.4	350.5	470.6	363.0	256.6
50.5°	344.5	250.6	321.9	436.7	334.0	233.3
51°	315.9	227.2	293.7	404.1	306.6	211.5
51.5°	287.7	205.9	268.3	372.7	280.4	191.4
52°	261.9	186.1	244.6	343.3	255.8	172.4
52.5°	238.1	167.2	221.2	315.1	232.1	155.1
53°	215.5	149.9	200.2	288.5	209.5	139.0
53.5°	194.2	136.6	180.1	263.9	189.0	125.7
54°	174.0	122.9	162.0	238.9	170.0	112.4
54.5°	156.3	109.2	145.4	217.2	152.7	99.1
55°	139.8	95.9	131.7	196.6	138.6	85.8
55.5°	124.9	82.2	118.4	176.9	124.9	77.0
56°	110.0	75.7	104.8	158.7	111.2	73.7
56.5°	96.7	72.5	91.5	141.8	97.5	70.9
57°	85.0	69.7	77.8	130.1	83.8	68.5
57.5°	74.9	66.9	70.1	118.9	73.7	65.7
58°	67.3	64.5	67.3	107.2	67.3	63.3
58.5°	64.5	62.0	64.9	95.5	64.5	60.8
59°	61.6	59.6	62.4	84.2	62.0	58.4
59.5°	59.6	57.6	60.0	76.5	59.6	56.4
60°	57.2	55.2	57.6	70.1	57.6	54.4
60.5°	55.2	53.2	55.6	64.5	55.2	52.0
61°	53.2	51.2	53.6	59.6	53.2	50.0
61.5°	51.2	49.2	51.6	55.2	51.2	48.3
62°	49.2	47.5	49.6	51.6	49.2	46.3
62.5°	47.1	45.5	47.5	48.3	47.5	44.3
63°	45.5	43.9	45.9	45.5	45.5	42.7
63.5°	43.9	42.3	43.9	43.5	43.5	41.1
64°	41.9	40.7	42.3	41.9	41.9	39.5
64.5°	40.7	39.1	40.7	40.3	40.3	37.9
65°	39.1	37.5	39.1	38.7	38.7	36.3
65.5°	37.5	35.9	37.9	37.1	37.1	35.1
66°	35.9	34.6	36.3	35.9	35.9	33.4



TEST NUMBER: P776318  
 CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-4000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	32.2	30.6	32.2	31.8	31.4	29.4
68°	30.6	29.4	30.6	30.2	30.2	28.2
68.5°	29.4	28.2	29.4	29.0	29.0	27.0
69°	28.2	27.0	28.2	27.8	27.8	25.8
69.5°	27.0	25.8	27.0	26.6	26.6	24.6
70°	25.8	24.6	26.2	25.4	25.4	23.4
70.5°	25.0	23.8	25.0	24.6	24.2	22.2
71°	23.8	22.6	23.8	23.4	23.0	21.4
71.5°	22.6	21.8	22.6	22.2	21.8	20.1
72°	21.8	20.5	21.8	21.4	21.0	19.3
72.5°	21.0	19.7	20.5	20.1	19.7	18.1
73°	19.7	18.5	19.7	19.3	18.5	17.3
73.5°	18.9	17.7	18.9	18.5	17.7	16.1
74°	18.1	16.9	17.7	17.3	16.9	15.3
74.5°	17.3	16.1	16.9	16.5	15.7	14.5
75°	16.1	15.3	16.1	15.7	14.9	13.7
75.5°	15.3	14.5	15.3	14.9	14.1	12.9
76°	14.5	13.7	14.5	14.1	13.3	11.7
76.5°	13.7	12.9	13.7	13.3	12.5	10.9
77°	12.9	12.1	12.9	12.1	11.7	10.5
77.5°	12.1	11.3	12.1	11.7	10.5	9.7
78°	11.3	10.5	11.3	10.9	9.7	8.9
78.5°	10.9	10.1	10.5	10.1	9.3	8.1
79°	10.1	9.3	9.7	9.3	8.5	7.7
79.5°	9.3	8.5	9.3	8.5	7.7	6.8
80°	8.5	8.1	8.5	8.1	6.8	6.0
80.5°	8.1	7.7	8.1	7.3	6.0	5.6
81°	7.3	6.8	7.3	6.8	5.6	4.8
81.5°	6.8	6.4	6.4	6.0	4.8	4.4
82°	6.0	5.6	6.0	5.6	4.0	4.0
82.5°	5.6	5.2	5.6	4.8	3.6	3.2
83°	5.2	4.8	4.8	4.4	3.2	2.8
83.5°	4.4	4.4	4.4	4.0	2.8	2.0
84°	4.0	4.0	4.0	3.6	2.0	1.6
84.5°	3.6	3.6	3.2	3.2	1.6	1.6
85°	3.2	2.8	2.8	2.4	1.6	1.2
85.5°	2.4	2.4	2.4	2.0	1.2	0.8
86°	2.0	2.0	2.0	1.6	0.8	0.8
86.5°	1.6	1.6	1.6	1.2	0.8	0.8
87°	1.2	1.2	1.2	0.8	0.4	0.4
87.5°	0.8	0.8	0.8	0.4	0.4	0.0
88°	0.4	0.4	0.4	0.4	0.0	0.0
88.5°	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P776318

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-4000K

**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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Peachtree City, GA 30269

Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	2639.7	2630.4	2649.4	2632.0	2611.5	2613.1	2630.8	2630.4	2636.1	2659.4	2653.8
22°	2615.5	2606.3	2625.6	2606.7	2586.5	2588.1	2606.3	2605.1	2611.1	2634.5	2630.8



44°	655.9	753.8	949.6	787.6	637.4	754.2	936.3	815.8	689.3	807.8	944.4
44.5°	614.8	712.3	901.7	744.1	597.9	713.5	890.8	773.1	649.0	764.7	895.6



66.5°	32.2	33.8	36.7	41.1	40.3	41.1	38.3	40.3	41.1	41.9	35.9
67°	30.6	32.2	35.1	39.1	38.7	39.5	36.7	38.7	39.1	40.3	34.6



89°	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
89.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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21.5°	2653.4	2659.8	2665.5	2665.9	2655.0	2639.7
22°	2629.6	2636.1	2641.3	2642.1	2630.8	2615.5



44°	813.8	699.0	800.1	976.6	805.8	655.9
44.5°	772.7	655.5	757.4	928.2	763.5	614.8



66.5°	34.6	33.0	34.6	34.2	34.2	32.2
67°	33.4	31.8	33.4	33.0	32.6	30.6



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

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Scaled Data Report



(END OF REPORT)