

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: P776319

Luminaire Tested: HCDJBL3040CSD-HCD4TSQH-4000lm-5000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776319  
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-5000K  
Description: 4 INCH SQUARE MEDIUM HAZE TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

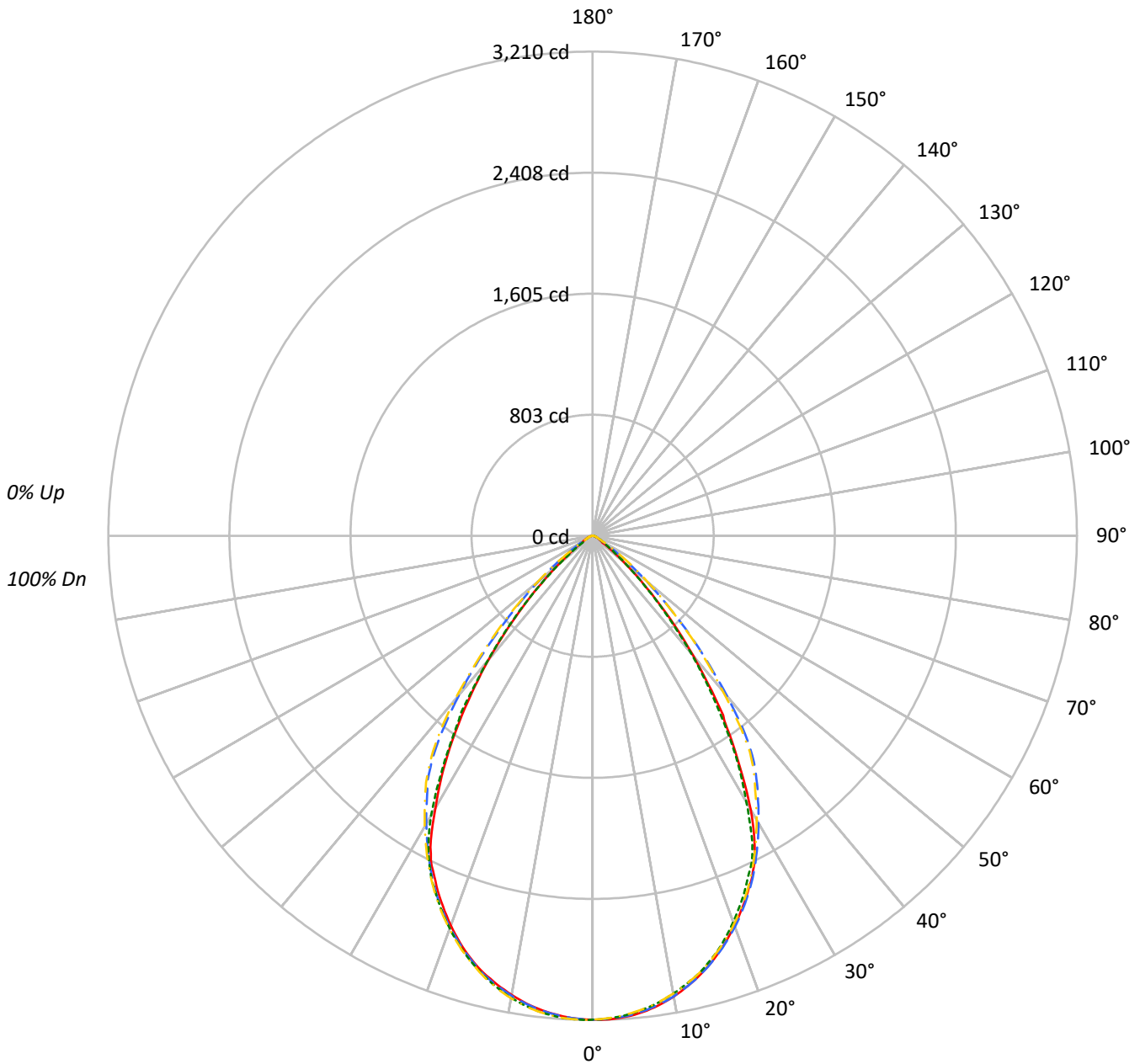
Lumens per Lamp: N/A  
Luminaire Lumens: 4107.2 lumens  
Efficiency: N/A  
Efficacy: 106.7 lumens/watt  
Spacing Criteria (0/90/45): 1.05 / 1.05 / 1.09  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct

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					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			
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°	317115	317115	317115	317115
5°	316253	314874	315281	316541
10°	311208	309321	310184	312111
15°	302403	300765	302362	303743
20°	289334	286631	289166	291406
25°	272793	268245	271102	275116
30°	238961	232752	237979	244233
35°	187512	183518	191168	193738
40°	133416	130565	138526	139906
45°	81550	79495	86470	86988
50°	40042	41303	44578	43133
55°	15010	20714	21834	16767
60°	10912	13818	13976	11070
65°	8607	10899	11086	8887
70°	6849	8757	8872	7196
75°	5308	6874	6874	5919
80°	3472	5351	5123	4668
85°	1361	4196	2268	3289

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 315°  
 Vertical Angle: 45°  
 Luminance: 125107 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	301.0	7.3
10°-20°	829.7	20.2
20°-30°	1141.8	27.8
30°-40°	1049.0	25.5
40°-50°	567.3	13.8
50°-60°	152.9	3.7
60°-70°	43.6	1.1
70°-80°	18.3	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°	2272.5	55.3
0°-40°	3321.5	80.9
0°-60°	4041.7	98.4
0°-90°	4107.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4107.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3208	3208	3208	3208	3208	
5°	3187	3174	3178	3190	3187	302
15°	2955	2939	2955	2968	2955	829
25°	2501	2460	2486	2523	2501	1135
35°	1554	1521	1584	1606	1554	966
45°	583	569	619	622	583	460
55°	87	120	127	97	87	102
65°	37	47	47	38	37	37
75°	14	18	18	16	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°	3208.3	3208.3	3208.3	3208.3	3208.3	3208.3	3208.3	3208.3	3208.3	3208.3	3208.3
0.5°	3209.9	3208.7	3207.4	3206.2	3208.3	3206.2	3207.0	3207.4	3208.7	3208.7	3207.0
1°	3209.9	3207.8	3206.2	3205.4	3206.6	3204.6	3205.0	3205.4	3207.0	3207.8	3206.2
1.5°	3208.7	3206.2	3205.8	3203.3	3203.8	3201.3	3202.5	3202.9	3205.4	3205.8	3204.2
2°	3207.8	3205.0	3203.3	3201.3	3200.5	3198.8	3199.3	3200.1	3202.1	3203.8	3202.1
2.5°	3205.8	3202.9	3201.3	3198.4	3197.2	3195.2	3196.0	3196.4	3199.7	3200.9	3199.7
3°	3203.3	3199.3	3198.4	3195.6	3193.9	3191.1	3191.9	3192.7	3196.4	3198.4	3196.4
3.5°	3200.1	3196.0	3194.8	3191.9	3189.9	3186.6	3187.0	3188.2	3192.3	3194.8	3193.1
4°	3196.4	3191.9	3191.9	3187.8	3184.9	3182.1	3182.1	3183.7	3187.4	3191.1	3189.0
4.5°	3192.3	3187.0	3186.6	3183.3	3179.2	3176.0	3176.8	3178.4	3182.9	3187.0	3184.1
5°	3187.4	3181.7	3181.7	3177.6	3173.5	3170.2	3170.6	3172.7	3177.6	3181.3	3178.8
5.5°	3181.3	3176.0	3176.4	3171.9	3167.0	3163.3	3164.1	3166.1	3171.5	3176.4	3173.1
6°	3175.5	3169.0	3169.8	3165.3	3160.0	3155.9	3157.1	3159.6	3164.5	3169.8	3166.5
6.5°	3168.6	3162.1	3163.3	3158.8	3152.2	3148.2	3149.4	3151.8	3157.6	3163.7	3160.0
7°	3160.8	3153.9	3155.5	3150.6	3144.1	3139.6	3141.6	3144.5	3149.8	3156.3	3152.6
7.5°	3152.6	3145.7	3147.7	3143.2	3135.1	3131.0	3132.6	3135.9	3141.2	3148.6	3144.5
8°	3144.1	3136.7	3140.0	3133.4	3125.7	3120.8	3123.2	3126.1	3132.6	3140.0	3135.9
8.5°	3134.2	3127.3	3130.6	3123.6	3115.0	3111.4	3113.8	3116.7	3122.8	3130.6	3126.9
9°	3124.0	3117.5	3120.8	3113.8	3104.8	3100.3	3103.2	3106.4	3112.6	3120.8	3117.5
9.5°	3113.0	3105.6	3110.9	3103.6	3093.4	3089.3	3092.1	3095.4	3101.5	3110.9	3106.9
10°	3100.7	3094.2	3099.5	3091.7	3081.9	3077.8	3081.1	3084.4	3090.5	3100.3	3096.2
10.5°	3088.9	3081.5	3088.0	3079.9	3070.1	3066.0	3069.7	3072.5	3078.6	3089.3	3084.4
11°	3076.2	3068.8	3077.0	3067.6	3057.8	3053.7	3057.4	3060.2	3066.8	3077.4	3072.5
11.5°	3063.1	3055.7	3063.1	3054.9	3044.3	3040.2	3043.9	3048.8	3054.9	3065.2	3059.8
12°	3048.8	3041.4	3050.0	3041.0	3030.8	3027.1	3030.8	3035.3	3041.4	3053.3	3051.3
12.5°	3034.9	3026.7	3035.3	3027.1	3017.3	3013.6	3017.3	3022.2	3027.9	3039.4	3037.4
13°	3020.2	3012.0	3021.4	3012.4	3004.2	3000.1	3003.8	3008.7	3014.5	3025.9	3023.5
13.5°	3005.1	2996.1	3006.3	2997.3	2990.3	2986.7	2990.3	2995.6	3001.0	3012.4	3009.5
14°	2989.1	2980.5	2989.9	2981.7	2974.0	2969.9	2974.8	2979.3	2987.5	2998.9	2996.1
14.5°	2971.9	2962.9	2973.2	2965.8	2956.8	2953.1	2958.0	2962.5	2971.5	2985.4	2976.8
15°	2955.2	2945.8	2956.8	2949.4	2939.2	2936.4	2940.5	2946.2	2954.8	2969.1	2960.1
15.5°	2937.2	2928.2	2939.6	2931.5	2921.2	2918.0	2922.5	2928.2	2937.2	2952.3	2942.5
16°	2919.2	2909.8	2920.8	2913.1	2902.8	2900.0	2904.1	2910.6	2919.2	2934.7	2924.9
16.5°	2899.6	2891.8	2902.0	2894.7	2883.2	2880.4	2885.7	2891.8	2901.2	2916.3	2906.5
17°	2880.4	2871.4	2883.6	2875.9	2863.2	2861.1	2866.5	2873.0	2882.4	2897.9	2887.3
17.5°	2860.3	2851.7	2863.6	2855.8	2842.3	2841.1	2846.4	2852.6	2861.5	2879.1	2867.7
18°	2839.5	2830.9	2844.0	2835.0	2819.4	2819.8	2826.4	2832.5	2839.9	2859.5	2848.1
18.5°	2817.0	2809.2	2822.7	2814.5	2796.5	2797.8	2805.1	2811.3	2818.2	2838.7	2827.6
19°	2795.7	2787.1	2802.3	2792.9	2772.8	2774.9	2783.9	2789.2	2795.7	2817.0	2806.4
19.5°	2773.2	2765.1	2780.6	2769.6	2749.5	2751.6	2762.2	2766.7	2772.8	2794.5	2784.7
20°	2750.7	2742.2	2758.9	2745.8	2725.0	2727.0	2740.1	2743.4	2749.1	2771.6	2763.0
20.5°	2727.0	2718.9	2736.4	2721.7	2700.5	2702.5	2716.8	2719.3	2725.0	2748.3	2739.7
21°	2702.9	2694.3	2712.3	2696.8	2675.1	2677.6	2693.5	2694.7	2700.5	2723.8	2716.8



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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°	2629.3	2619.5	2639.9	2619.1	2598.2	2600.3	2620.3	2617.9	2624.0	2648.1	2644.9
23°	2601.9	2593.7	2614.6	2591.7	2570.9	2573.3	2595.4	2590.5	2598.2	2622.0	2619.5
23.5°	2576.6	2568.0	2588.0	2565.9	2542.2	2547.1	2568.8	2563.9	2570.9	2595.4	2592.9
24°	2550.4	2540.6	2562.3	2538.1	2512.8	2519.3	2541.8	2536.9	2543.1	2568.8	2565.9
24.5°	2526.7	2513.6	2534.9	2511.2	2485.4	2490.7	2513.2	2509.5	2514.0	2541.4	2538.1
25°	2501.3	2485.0	2506.7	2481.3	2459.6	2461.3	2485.0	2481.3	2485.8	2513.2	2510.3
25.5°	2468.2	2458.4	2477.6	2451.9	2433.9	2431.4	2455.6	2452.3	2459.2	2483.8	2481.7
26°	2438.4	2432.7	2447.4	2421.2	2408.1	2402.4	2426.1	2422.8	2434.3	2454.3	2453.1
26.5°	2406.1	2407.3	2418.4	2392.2	2370.5	2375.0	2395.5	2392.6	2403.6	2424.5	2422.8
27°	2367.7	2373.8	2388.1	2364.0	2330.9	2348.8	2364.8	2363.6	2363.6	2397.1	2392.6
27.5°	2327.6	2341.5	2357.4	2337.8	2293.7	2321.9	2333.7	2335.4	2328.4	2371.3	2361.9
28°	2285.5	2307.1	2325.5	2311.2	2242.5	2290.8	2302.2	2308.8	2285.1	2343.1	2330.9
28.5°	2241.3	2271.2	2294.9	2281.8	2190.6	2248.7	2270.8	2278.1	2235.6	2303.1	2300.2
29°	2195.5	2231.9	2262.6	2241.3	2140.7	2213.9	2239.3	2238.9	2185.7	2266.7	2268.3
29.5°	2145.2	2191.0	2231.9	2203.7	2089.6	2171.0	2206.2	2202.9	2134.6	2229.9	2237.2
30°	2093.7	2146.5	2200.4	2163.6	2039.3	2120.3	2174.3	2162.4	2085.1	2182.4	2205.3
30.5°	2039.3	2103.5	2168.1	2114.6	1990.3	2069.6	2141.2	2113.8	2034.4	2131.7	2173.5
31°	1984.6	2054.1	2135.4	2063.5	1941.6	2020.5	2107.6	2065.9	1986.6	2082.7	2140.7
31.5°	1929.0	2005.8	2102.7	2013.6	1892.6	1970.3	2073.7	2015.6	1938.8	2032.4	2107.2
32°	1872.1	1952.3	2069.6	1964.1	1844.7	1921.6	2041.0	1966.6	1890.5	1983.7	2074.9
32.5°	1817.3	1901.2	2038.9	1914.2	1794.0	1874.2	2007.5	1917.5	1841.5	1935.1	2041.8
33°	1763.8	1846.8	2009.1	1866.0	1742.9	1827.6	1976.0	1870.9	1792.8	1887.3	2010.7
33.5°	1710.6	1791.6	1977.2	1818.2	1687.7	1779.7	1945.3	1822.7	1743.3	1839.0	1983.3
34°	1658.7	1738.4	1940.8	1770.7	1633.8	1732.3	1915.5	1776.9	1691.8	1791.6	1955.1
34.5°	1606.4	1684.9	1909.3	1722.5	1576.5	1682.8	1884.0	1729.4	1637.9	1743.7	1913.8
35°	1554.0	1631.3	1877.0	1673.8	1520.9	1635.8	1849.2	1684.1	1584.3	1695.5	1872.1
35.5°	1502.9	1580.6	1842.3	1624.0	1464.9	1583.5	1810.8	1635.8	1530.7	1645.6	1836.1
36°	1471.5	1530.3	1801.4	1573.7	1412.2	1531.6	1772.0	1588.8	1476.8	1595.7	1791.6
36.5°	1414.2	1481.3	1754.4	1521.7	1358.6	1478.8	1722.5	1538.9	1423.2	1544.6	1742.1
37°	1355.7	1431.8	1710.2	1469.0	1307.5	1426.1	1673.0	1489.0	1368.8	1492.3	1691.4
37.5°	1297.3	1381.9	1662.8	1417.9	1257.2	1372.1	1619.9	1438.7	1317.7	1439.2	1640.3
38°	1238.8	1332.4	1607.6	1366.8	1208.2	1320.6	1562.2	1388.0	1267.8	1388.0	1588.4
38.5°	1186.5	1283.0	1550.4	1316.1	1158.7	1270.7	1505.0	1336.5	1218.4	1335.3	1536.5
39°	1134.6	1233.1	1494.8	1265.0	1111.3	1222.1	1447.7	1286.2	1168.9	1285.4	1483.3
39.5°	1083.9	1182.4	1439.6	1213.9	1061.4	1176.3	1393.0	1236.8	1120.7	1236.0	1430.6
40°	1034.0	1132.5	1384.4	1165.2	1011.9	1128.0	1339.0	1189.3	1073.6	1187.3	1377.4
40.5°	986.1	1081.8	1329.2	1118.2	962.0	1081.8	1287.1	1140.7	1024.6	1139.1	1325.1
41°	938.3	1033.6	1273.6	1072.0	914.2	1036.8	1236.4	1094.9	975.9	1092.4	1271.1
41.5°	890.9	986.1	1218.4	1026.2	865.1	992.3	1186.5	1049.9	926.5	1047.1	1218.8
42°	845.1	940.4	1165.6	979.6	818.9	945.3	1137.8	1005.0	879.0	1000.9	1165.2
42.5°	799.3	894.6	1114.1	934.6	774.0	899.1	1090.8	960.8	832.8	955.5	1112.9
43°	754.7	850.4	1063.0	889.3	730.2	854.1	1044.2	915.8	787.9	909.3	1059.7
43.5°	708.9	807.5	1013.1	844.3	687.3	810.3	997.6	871.7	743.7	863.9	1009.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	583.4	681.6	866.8	713.9	568.7	682.4	858.6	742.5	618.6	733.1	861.0
45.5°	544.2	640.3	818.9	673.4	530.7	643.9	814.0	700.4	579.3	691.8	815.2
46°	506.6	601.0	773.1	633.3	493.5	605.1	769.5	660.7	541.3	651.7	769.5
46.5°	469.8	562.6	728.6	595.7	458.7	567.9	726.9	621.5	504.5	613.3	725.7
47°	435.0	525.8	684.8	558.9	425.6	531.5	686.1	583.8	468.1	575.3	684.0
47.5°	402.7	489.8	642.7	522.5	394.5	496.3	646.4	546.2	434.2	537.6	643.1
48°	371.2	455.5	602.6	486.9	368.4	462.0	609.6	510.7	401.9	502.9	603.5
48.5°	341.8	423.2	564.2	453.0	342.2	429.3	572.8	476.7	373.7	468.1	565.0
49°	313.6	392.1	527.4	421.5	316.0	398.2	538.0	442.8	345.9	435.0	529.9
49.5°	286.2	362.2	492.7	390.5	290.3	371.2	504.9	410.9	317.7	403.1	492.7
50°	260.4	333.6	458.7	360.2	268.6	344.3	473.0	383.5	289.9	374.9	458.3
50.5°	236.7	305.8	425.2	331.2	248.6	317.3	442.8	356.1	267.4	346.3	426.4
51°	214.6	280.1	394.1	305.0	231.4	290.3	412.1	328.3	246.5	317.7	396.6
51.5°	194.2	255.9	364.3	280.5	215.1	268.2	385.5	300.9	227.7	289.5	368.8
52°	175.0	233.0	336.5	257.6	199.5	247.8	359.8	273.5	210.1	265.3	341.4
52.5°	157.4	211.0	309.1	237.1	184.8	229.0	333.6	250.6	194.6	243.7	314.0
53°	141.1	190.5	284.2	218.3	170.9	211.8	307.5	229.8	179.5	224.1	286.6
53.5°	127.6	172.1	260.4	201.6	158.2	196.2	281.3	211.0	165.6	206.1	261.7
54°	114.1	155.0	238.4	185.6	145.1	181.9	259.2	193.8	152.1	189.7	239.6
54.5°	100.6	138.6	217.1	170.9	132.5	168.0	238.4	177.9	139.0	174.2	219.1
55°	87.1	123.5	198.7	157.8	120.2	155.0	218.7	163.5	126.7	160.3	199.5
55.5°	78.1	112.4	180.7	144.7	109.2	142.7	200.3	150.0	114.5	147.2	181.5
56°	74.8	101.8	164.4	134.1	99.4	130.4	183.2	137.0	103.8	134.5	164.8
56.5°	72.0	90.8	149.2	123.1	92.4	118.6	167.2	125.1	95.3	122.7	149.6
57°	69.5	80.1	138.2	112.0	88.3	107.1	152.5	113.7	89.1	110.8	135.3
57.5°	66.6	69.1	126.7	101.0	85.0	96.9	139.0	102.6	85.9	99.8	122.7
58°	64.2	66.6	115.7	91.6	81.8	87.5	126.3	92.0	82.6	90.4	111.2
58.5°	61.7	64.2	104.7	83.4	78.9	80.5	115.3	83.4	79.3	83.0	100.6
59°	59.3	61.7	93.6	77.3	75.6	76.9	104.7	76.9	76.5	78.1	91.6
59.5°	57.2	59.3	85.4	74.0	72.8	73.6	95.7	73.2	73.6	75.2	83.8
60°	55.2	57.2	78.5	70.7	69.9	70.7	87.5	70.3	70.7	72.4	76.9
60.5°	52.7	55.2	72.0	68.3	67.1	68.3	80.1	67.5	67.9	69.5	70.3
61°	50.7	52.7	66.6	65.4	64.6	65.4	73.6	64.6	65.4	66.6	65.4
61.5°	49.1	51.1	61.7	63.0	62.1	63.0	67.9	62.1	63.0	64.2	60.5
62°	47.0	49.1	57.6	60.1	59.7	60.5	63.0	59.7	60.1	61.7	56.4
62.5°	45.0	47.0	53.6	58.1	57.2	58.1	58.9	57.2	58.1	59.3	52.7
63°	43.3	45.4	50.3	55.6	54.8	55.6	54.8	55.2	55.6	56.8	49.9
63.5°	41.7	43.3	47.4	53.2	52.7	53.6	51.5	52.7	53.6	54.8	47.0
64°	40.1	41.7	45.4	51.1	50.7	51.5	48.2	50.7	51.1	52.3	45.0
64.5°	38.4	40.1	43.7	49.1	48.7	49.5	45.8	48.7	49.1	50.3	42.9
65°	36.8	38.8	41.7	47.0	46.6	47.4	43.7	46.6	47.4	48.2	41.3
65.5°	35.6	37.2	40.1	45.4	44.6	45.4	42.1	44.6	45.4	46.2	39.7
66°	33.9	35.6	38.8	43.3	42.5	43.7	40.5	42.9	43.3	44.6	38.0





TEST NUMBER: P776319

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	29.8	31.5	34.3	38.0	37.6	38.4	36.0	37.6	38.0	39.2	33.5
68°	28.6	30.3	32.7	36.4	36.0	36.8	34.3	36.0	36.4	37.6	32.3
68.5°	27.4	28.6	31.5	35.2	34.3	35.2	33.1	34.3	34.8	36.0	31.1
69°	26.2	27.4	30.3	33.5	33.1	33.9	31.5	33.1	33.5	34.3	29.8
69.5°	24.9	26.2	29.0	32.3	31.5	32.3	30.3	31.5	31.9	32.7	28.6
70°	23.7	24.9	27.8	30.7	30.3	31.1	29.0	30.3	30.7	31.5	27.0
70.5°	22.5	24.1	26.6	29.4	28.6	29.8	27.4	28.6	29.0	29.8	26.2
71°	21.7	22.9	25.3	28.2	27.4	28.2	26.2	27.4	27.8	28.6	24.9
71.5°	20.4	21.7	24.1	26.6	26.2	27.0	24.9	26.2	26.2	27.0	23.7
72°	19.6	20.9	22.9	25.8	24.9	25.8	24.1	24.9	24.9	25.8	22.5
72.5°	18.4	19.6	22.1	24.5	23.7	24.5	22.9	23.7	23.7	24.5	21.7
73°	17.6	18.8	20.9	23.3	22.5	23.3	21.7	22.5	22.5	23.3	20.4
73.5°	16.4	17.6	19.6	22.1	21.3	22.1	20.9	21.3	21.3	22.1	19.6
74°	15.5	16.8	18.8	20.9	20.4	21.3	19.6	20.0	20.4	21.3	18.8
74.5°	14.7	15.9	18.0	20.0	19.2	20.0	18.8	19.2	19.2	20.0	17.6
75°	13.9	14.7	16.8	18.8	18.0	19.2	17.6	18.0	18.0	18.8	16.8
75.5°	13.1	13.9	15.9	18.0	17.2	18.0	16.8	17.2	17.2	18.0	15.9
76°	11.9	13.1	15.1	17.2	16.4	17.2	15.9	15.9	15.9	16.8	15.1
76.5°	11.0	12.3	14.3	15.9	15.1	16.4	15.1	15.1	15.1	15.9	13.9
77°	10.6	11.4	13.5	15.1	14.3	15.1	14.3	13.9	13.9	14.7	13.1
77.5°	9.8	10.6	12.7	14.3	13.5	14.3	13.5	13.1	13.1	13.9	12.3
78°	9.0	9.8	11.9	13.5	12.7	13.5	12.7	12.3	12.3	13.1	11.4
78.5°	8.2	9.0	11.0	12.7	11.9	12.7	11.9	11.4	11.4	11.9	11.0
79°	7.8	8.2	10.2	11.9	11.0	11.9	11.0	10.6	10.6	11.0	10.2
79.5°	7.0	7.4	9.8	11.0	10.2	11.0	10.2	9.8	9.8	10.2	9.4
80°	6.1	7.0	9.0	10.2	9.4	10.2	9.8	9.0	9.0	9.4	8.6
80.5°	5.7	6.1	8.2	9.4	9.0	9.4	9.0	8.2	8.2	8.6	8.2
81°	4.9	5.3	7.8	8.6	8.2	8.6	8.2	7.4	7.4	7.8	7.4
81.5°	4.5	4.9	7.0	7.8	7.4	8.2	7.8	6.5	6.5	7.0	7.0
82°	4.1	4.1	6.5	7.4	7.0	7.4	7.0	6.1	6.1	6.1	6.1
82.5°	3.3	3.7	5.7	6.5	6.1	7.0	6.5	5.3	5.3	5.3	5.7
83°	2.9	3.3	5.3	6.1	5.7	6.1	5.7	4.9	4.5	4.9	4.9
83.5°	2.0	2.5	4.5	5.3	5.3	5.7	5.3	4.1	4.1	4.1	4.5
84°	1.6	2.0	4.1	4.9	4.5	4.9	4.9	3.7	3.3	3.7	4.1
84.5°	1.6	1.6	3.7	4.1	4.1	4.5	4.1	3.3	2.9	2.9	3.7
85°	1.2	1.6	3.3	3.7	3.7	4.1	3.7	2.5	2.0	2.5	3.3
85.5°	0.8	1.2	2.9	3.3	2.9	3.3	3.3	2.0	1.6	2.0	2.5
86°	0.8	0.8	2.0	2.5	2.5	2.9	2.9	1.6	1.6	1.6	2.0
86.5°	0.8	0.8	1.6	2.0	2.0	2.5	2.5	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: P776319

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-5000K

**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: P776319

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3208.3	<i>3208.3</i>	3208.3	3208.3	3208.3	3208.3
0.5°	<i>3207.4</i>	<i>3210.3</i>	<i>3208.7</i>	<i>3209.5</i>	<i>3208.7</i>	<i>3209.9</i>
1°	3207.0	<i>3209.9</i>	3208.7	3209.5	3208.7	3209.9
1.5°	3205.8	<i>3209.9</i>	3208.7	3209.1	3208.7	3208.7
2°	3204.2	<i>3208.7</i>	3208.3	3208.3	3207.8	3207.8
2.5°	3202.1	<i>3207.8</i>	3206.6	3207.8	3206.2	3205.8
3°	3199.3	<i>3205.8</i>	3204.6	3205.4	3204.2	3203.3
3.5°	3196.0	<i>3202.5</i>	3202.1	3202.9	3201.3	3200.1
4°	3191.9	<i>3198.8</i>	3198.8	3199.7	3198.4	3196.4
4.5°	3187.4	<i>3194.8</i>	3195.2	3196.0	3194.4	3192.3
5°	3182.5	<i>3190.3</i>	3190.7	3191.5	3189.9	3187.4
5.5°	3176.8	<i>3185.4</i>	3185.8	3186.2	3184.5	3181.3
6°	3170.6	<i>3179.2</i>	3180.0	3180.9	3178.8	3175.5
6.5°	3163.7	<i>3172.7</i>	3173.9	3174.3	3172.3	3168.6
7°	3156.3	<i>3165.7</i>	3167.0	3167.8	3165.3	3160.8
7.5°	3148.2	<i>3158.4</i>	3160.0	3160.0	3157.6	3152.6
8°	3139.2	<i>3149.4</i>	3151.4	3152.2	3149.0	3144.1
8.5°	3130.2	<i>3140.8</i>	3142.8	3143.2	3140.0	3134.2
9°	3120.8	<i>3130.6</i>	3133.8	3134.2	3129.8	3124.0
9.5°	3110.1	<i>3119.9</i>	3123.2	3124.0	3120.3	3113.0
10°	3099.1	<i>3109.7</i>	3112.2	3113.8	3108.9	3100.7
10.5°	3087.2	<i>3098.3</i>	3101.1	3102.4	3097.5	3088.9
11°	3075.8	<i>3085.6</i>	3088.9	3090.1	3085.2	3076.2
11.5°	3063.1	<i>3073.3</i>	3076.2	3077.8	3072.5	3063.1
12°	3050.0	<i>3059.4</i>	3063.1	3064.7	3058.2	3048.8
12.5°	3035.3	<i>3045.9</i>	3049.2	3050.4	3044.7	3034.9
13°	3021.0	<i>3031.6</i>	3035.3	3036.9	3030.4	3020.2
13.5°	3006.7	<i>3016.9</i>	3020.6	3021.4	3014.9	3005.1
14°	2992.0	<i>3001.8</i>	3005.5	3005.1	2999.3	2989.1
14.5°	2980.5	<i>2985.4</i>	2989.5	2988.3	2983.0	2971.9
15°	2963.8	<i>2968.3</i>	2973.2	2971.5	2966.2	2955.2
15.5°	2946.2	<i>2951.5</i>	2954.8	2954.4	2948.6	2937.2
16°	2928.2	<i>2933.5</i>	2937.6	2937.2	2930.6	2919.2
16.5°	2909.8	<i>2915.1</i>	2919.6	2918.4	2912.7	2899.6
17°	2890.6	<i>2895.5</i>	2900.8	2899.2	2893.8	2880.4
17.5°	2870.9	<i>2876.3</i>	2881.2	2879.9	2873.8	2860.3
18°	2850.5	<i>2855.4</i>	2861.1	2859.9	2853.8	2839.5
18.5°	2829.7	<i>2835.0</i>	2840.7	2838.7	2832.1	2817.0
19°	2808.8	<i>2813.7</i>	2819.4	2818.2	2810.4	2795.7
19.5°	2786.3	<i>2792.5</i>	2797.4	2796.5	2788.8	2773.2
20°	2763.8	<i>2770.4</i>	2775.7	2774.9	2766.3	2750.7
20.5°	2740.9	<i>2747.1</i>	2752.8	2752.0	2743.0	2727.0
21°	2717.2	<i>2723.8</i>	2728.7	2729.1	2718.4	2702.9

TEST NUMBER: P776319

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2643.6	2650.2	2655.5	2656.7	2644.4	2629.3
23°	2618.7	2624.8	2629.7	2631.4	2618.7	2601.9
23.5°	2592.5	2598.7	2604.0	2605.2	2592.5	2576.6
24°	2565.1	2571.7	2577.4	2578.6	2566.4	2550.4
24.5°	2538.6	2545.9	2550.4	2551.2	2539.4	2526.7
25°	2511.6	2522.6	2522.2	2523.8	2511.6	2501.3
25.5°	2483.0	2490.7	2494.0	2495.6	2483.0	2468.2
26°	2453.9	2460.1	2467.4	2466.2	2456.0	2438.4
26.5°	2429.0	2429.0	2442.5	2437.6	2430.6	2406.1
27°	2401.2	2392.6	2408.9	2408.5	2404.9	2367.7
27.5°	2366.4	2356.6	2377.9	2378.3	2371.7	2327.6
28°	2335.8	2317.8	2345.6	2347.2	2338.6	2285.5
28.5°	2301.8	2276.9	2310.0	2317.4	2306.3	2241.3
29°	2266.7	2232.7	2274.0	2287.1	2269.9	2195.5
29.5°	2228.2	2188.2	2234.8	2256.0	2231.9	2145.2
30°	2189.4	2139.9	2194.3	2225.0	2191.4	2093.7
30.5°	2147.7	2088.8	2152.6	2193.5	2147.7	2039.3
31°	2104.8	2034.4	2106.8	2161.6	2103.1	1984.6
31.5°	2059.4	1982.9	2059.8	2129.3	2055.7	1929.0
32°	2013.2	1927.3	2011.5	2097.4	2007.5	1872.1
32.5°	1963.3	1870.9	1960.4	2068.8	1956.8	1817.3
33°	1911.8	1817.3	1906.9	2037.3	1903.6	1763.8
33.5°	1859.0	1763.4	1853.3	2003.8	1850.0	1710.6
34°	1806.7	1710.6	1799.8	1973.9	1796.5	1658.7
34.5°	1752.3	1656.7	1747.0	1938.8	1742.9	1606.4
35°	1700.0	1605.6	1693.5	1899.1	1689.4	1554.0
35.5°	1648.5	1554.5	1640.7	1860.3	1638.3	1502.9
36°	1597.4	1503.8	1590.4	1821.0	1588.0	1471.5
36.5°	1545.9	1474.3	1540.5	1777.3	1537.7	1414.2
37°	1496.4	1416.7	1490.7	1731.9	1488.6	1355.7
37.5°	1447.3	1357.4	1440.8	1684.9	1439.2	1297.3
38°	1398.7	1298.1	1390.9	1635.4	1390.1	1238.8
38.5°	1349.2	1238.8	1341.0	1585.1	1340.6	1186.5
39°	1299.7	1187.7	1291.2	1532.0	1291.2	1134.6
39.5°	1250.3	1135.4	1241.3	1479.6	1242.1	1083.9
40°	1200.4	1084.3	1190.2	1423.6	1190.6	1034.0
40.5°	1150.5	1034.8	1139.1	1367.2	1140.7	986.1
41°	1100.6	987.4	1089.6	1311.2	1092.0	938.3
41.5°	1052.4	938.3	1040.5	1255.2	1043.8	890.9
42°	1005.4	892.1	993.5	1199.2	997.2	845.1
42.5°	958.8	846.7	946.5	1145.2	950.6	799.3
43°	913.4	798.9	901.5	1092.4	905.6	754.7
43.5°	868.8	753.1	856.5	1040.9	860.6	708.9

TEST NUMBER: P776319

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
45°	742.1	622.3	725.7	895.0	733.1	583.4
45.5°	701.2	581.4	683.2	849.6	691.8	544.2
46°	660.7	541.7	642.3	804.6	651.7	506.6
46.5°	620.2	503.7	600.6	759.2	611.6	469.8
47°	581.8	467.3	562.2	715.5	574.0	435.0
47.5°	544.2	431.7	524.1	672.6	536.4	402.7
48°	507.8	397.8	487.3	632.1	500.4	371.2
48.5°	473.0	366.3	452.6	590.8	464.9	341.8
49°	439.1	336.1	419.1	551.9	432.6	313.6
49.5°	407.6	307.9	386.0	514.3	400.3	286.2
50°	378.6	280.5	355.7	477.5	368.4	260.4
50.5°	349.6	254.3	326.7	443.2	338.9	236.7
51°	320.5	230.6	298.1	410.1	311.1	214.6
51.5°	291.9	208.9	272.3	378.2	284.6	194.2
52°	265.8	188.9	248.2	348.3	259.6	175.0
52.5°	241.6	169.7	224.5	319.7	235.5	157.4
53°	218.7	152.1	203.2	292.7	212.6	141.1
53.5°	197.1	138.6	182.8	267.8	191.8	127.6
54°	176.6	124.7	164.4	242.4	172.5	114.1
54.5°	158.6	110.8	147.6	220.4	155.0	100.6
55°	141.9	97.3	133.7	199.5	140.6	87.1
55.5°	126.7	83.4	120.2	179.5	126.7	78.1
56°	111.6	76.9	106.3	161.1	112.8	74.8
56.5°	98.1	73.6	92.8	143.9	98.9	72.0
57°	86.3	70.7	78.9	132.1	85.0	69.5
57.5°	76.0	67.9	71.1	120.6	74.8	66.6
58°	68.3	65.4	68.3	108.8	68.3	64.2
58.5°	65.4	63.0	65.8	96.9	65.4	61.7
59°	62.6	60.5	63.4	85.4	63.0	59.3
59.5°	60.5	58.5	60.9	77.7	60.5	57.2
60°	58.1	56.0	58.5	71.1	58.5	55.2
60.5°	56.0	54.0	56.4	65.4	56.0	52.7
61°	54.0	51.9	54.4	60.5	54.0	50.7
61.5°	51.9	49.9	52.3	56.0	51.9	49.1
62°	49.9	48.2	50.3	52.3	49.9	47.0
62.5°	47.8	46.2	48.2	49.1	48.2	45.0
63°	46.2	44.6	46.6	46.2	46.2	43.3
63.5°	44.6	42.9	44.6	44.2	44.2	41.7
64°	42.5	41.3	42.9	42.5	42.5	40.1
64.5°	41.3	39.7	41.3	40.9	40.9	38.4
65°	39.7	38.0	39.7	39.2	39.2	36.8
65.5°	38.0	36.4	38.4	37.6	37.6	35.6
66°	36.4	35.2	36.8	36.4	36.4	33.9



TEST NUMBER: P776319

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	32.7	31.1	32.7	32.3	31.9	29.8
68°	31.1	29.8	31.1	30.7	30.7	28.6
68.5°	29.8	28.6	29.8	29.4	29.4	27.4
69°	28.6	27.4	28.6	28.2	28.2	26.2
69.5°	27.4	26.2	27.4	27.0	27.0	24.9
70°	26.2	24.9	26.6	25.8	25.8	23.7
70.5°	25.3	24.1	25.3	24.9	24.5	22.5
71°	24.1	22.9	24.1	23.7	23.3	21.7
71.5°	22.9	22.1	22.9	22.5	22.1	20.4
72°	22.1	20.9	22.1	21.7	21.3	19.6
72.5°	21.3	20.0	20.9	20.4	20.0	18.4
73°	20.0	18.8	20.0	19.6	18.8	17.6
73.5°	19.2	18.0	19.2	18.8	18.0	16.4
74°	18.4	17.2	18.0	17.6	17.2	15.5
74.5°	17.6	16.4	17.2	16.8	15.9	14.7
75°	16.4	15.5	16.4	15.9	15.1	13.9
75.5°	15.5	14.7	15.5	15.1	14.3	13.1
76°	14.7	13.9	14.7	14.3	13.5	11.9
76.5°	13.9	13.1	13.9	13.5	12.7	11.0
77°	13.1	12.3	13.1	12.3	11.9	10.6
77.5°	12.3	11.4	12.3	11.9	10.6	9.8
78°	11.4	10.6	11.4	11.0	9.8	9.0
78.5°	11.0	10.2	10.6	10.2	9.4	8.2
79°	10.2	9.4	9.8	9.4	8.6	7.8
79.5°	9.4	8.6	9.4	8.6	7.8	7.0
80°	8.6	8.2	8.6	8.2	7.0	6.1
80.5°	8.2	7.8	8.2	7.4	6.1	5.7
81°	7.4	7.0	7.4	7.0	5.7	4.9
81.5°	7.0	6.5	6.5	6.1	4.9	4.5
82°	6.1	5.7	6.1	5.7	4.1	4.1
82.5°	5.7	5.3	5.7	4.9	3.7	3.3
83°	5.3	4.9	4.9	4.5	3.3	2.9
83.5°	4.5	4.5	4.5	4.1	2.9	2.0
84°	4.1	4.1	4.1	3.7	2.0	1.6
84.5°	3.7	3.7	3.3	3.3	1.6	1.6
85°	3.3	2.9	2.9	2.5	1.6	1.2
85.5°	2.5	2.5	2.5	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: P776319

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQH-4000lm-5000K

**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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Scaled Data Report





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

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Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report





21.5°	2678.8	2669.4	2688.6	2671.0	2650.2	2651.8	2669.8	2669.4	2675.1	2698.8	2693.1
22°	2654.3	2644.9	2664.5	2645.3	2624.8	2626.5	2644.9	2643.6	2649.8	2673.5	2669.8



44°	665.6	765.0	963.7	799.3	646.8	765.4	950.2	827.9	699.5	819.7	958.3
44.5°	623.9	722.8	915.0	755.1	606.7	724.1	904.0	784.6	658.7	776.0	908.9



66.5°	32.7	34.3	37.2	41.7	40.9	41.7	38.8	40.9	41.7	42.5	36.4
67°	31.1	32.7	35.6	39.7	39.2	40.1	37.2	39.2	39.7	40.9	35.2



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°	2692.7	2699.2	2705.0	2705.4	2694.3	2678.8
22°	2668.6	2675.1	2680.4	2681.2	2669.8	2654.3



44°	825.9	709.4	812.0	991.1	817.7	665.6
44.5°	784.2	665.2	768.6	942.0	774.8	623.9



66.5°	35.2	33.5	35.2	34.8	34.8	32.7
67°	33.9	32.3	33.9	33.5	33.1	31.1



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)