

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: P776554

Luminaire Tested: HCDJBS4050CSD-HCD41TRH-5000lm-5000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776554
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B029)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS4050CSD-HCD41TRH-5000lm-5000K
Description: 4 INCH ROUND SHALLOW-WIDE HAZE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

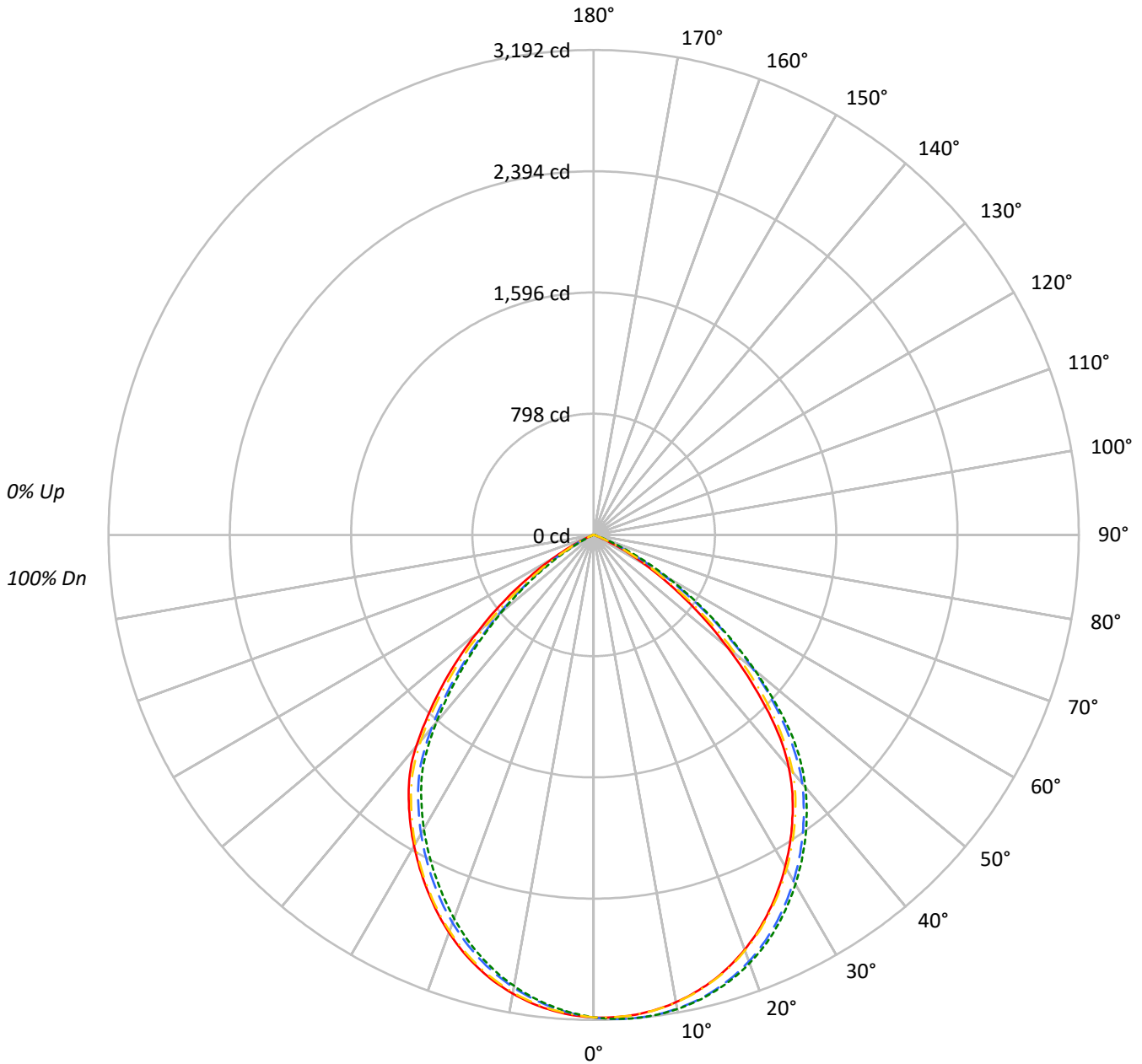
Lumens per Lamp: N/A
Luminaire Lumens: 5680.1 lumens
Efficiency: N/A
Efficacy: 118.3 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.15 / 1.22
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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	112	109	105	103	109	106	104	101	102	100	98	98	97	95	95	94	92	90	90	90	90	90	90		
	2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80	80	80	80	80	80		
	3	97	89	83	77	95	87	82	77	85	80	76	82	78	74	80	76	73	71	71	71	71	71	71		
	4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	63	63	63	63	63	63		
	5	84	73	66	60	82	72	65	60	70	64	60	69	63	59	67	62	58	57	57	57	57	57	57		
	6	78	67	60	54	77	66	59	54	65	58	53	63	57	53	62	57	53	51	51	51	51	51	51		
	7	73	62	54	49	72	61	54	49	59	53	48	58	52	48	57	52	48	46	46	46	46	46	46		
	8	69	57	49	44	67	56	49	44	55	48	44	54	48	44	53	47	43	42	42	42	42	42	42		
	9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38	38	38	38	38	38		
	10	60	49	42	37	59	48	41	37	47	41	37	46	41	36	46	40	36	35	35	35	35	35	35		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	399611	399611	399611	399611
5°	400392	403222	396905	393532
10°	399066	405022	391808	385239
15°	395545	404652	384041	374100
20°	389097	401780	372972	359713
25°	379226	395542	359008	342817
30°	366320	385865	343534	324628
35°	350132	373178	326043	303443
40°	328143	355973	298161	264417
45°	284641	325256	251377	212133
50°	225097	270715	196864	155220
55°	161707	209210	138274	98538
60°	98868	142613	79185	47294
65°	41482	76203	29630	14026
70°	9273	22335	8573	6071
75°	6370	8266	5884	4036
80°	4566	6305	4203	2826
85°	1444	5631	722	722

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 325256 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.2	5.3
10°-20°	841.9	14.8
20°-30°	1223.3	21.5
30°-40°	1370.4	24.1
40°-50°	1153.8	20.3
50°-60°	621.2	10.9
60°-70°	153.1	2.7
70°-80°	14.6	0.3
80°-90°	2.5	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°	2364.4	41.6
0°-40°	3734.8	65.8
0°-60°	5509.9	97.0
0°-90°	5680.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5680.1	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3175	3175	3175	3175	3175	
5°	3169	3192	3142	3115	3169	301
15°	3036	3106	2948	2871	3036	855
25°	2731	2848	2585	2469	2731	1256
35°	2279	2429	2122	1975	2279	1422
45°	1599	1828	1412	1192	1599	1222
55°	737	954	630	449	737	664
65°	139	256	100	47	139	156
75°	13	17	12	8	13	15
85°	1	4	0	0	1	2
90°	0	0	0	0	0	



TEST NUMBER: P776554

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3175.3	3175.3	3175.3	3175.3	3175.3	3175.3	3175.3	3175.3	3175.3	3175.3	3175.3
0.5°	3177.2	3179.1	3180.1	3179.1	3178.2	3176.2	3175.3	3174.3	3174.3	3174.3	3173.3
1°	3177.7	3181.6	3183.0	3182.5	3181.1	3179.1	3176.2	3173.8	3172.3	3170.9	3169.0
1.5°	3178.2	3183.0	3185.9	3185.5	3184.0	3181.1	3177.2	3173.3	3169.9	3167.0	3164.6
2°	3178.2	3184.5	3187.9	3187.9	3186.4	3182.5	3177.2	3171.9	3167.5	3163.1	3159.7
2.5°	3177.7	3185.5	3189.8	3189.8	3188.4	3183.5	3177.2	3169.9	3164.1	3158.8	3153.9
3°	3176.7	3185.9	3190.8	3191.3	3189.8	3184.5	3176.2	3168.0	3160.7	3153.9	3148.6
3.5°	3175.3	3185.9	3191.8	3192.7	3190.8	3184.5	3175.3	3165.6	3156.3	3148.1	3142.2
4°	3173.8	3185.5	3192.3	3193.2	3191.8	3184.5	3174.3	3162.6	3152.0	3142.7	3135.9
4.5°	3171.9	3184.5	3192.3	3193.7	3192.3	3184.0	3172.3	3159.2	3147.1	3136.9	3128.7
5°	3169.4	3183.5	3191.8	3194.2	3191.8	3183.0	3169.9	3155.4	3141.8	3130.1	3121.4
5.5°	3166.5	3182.1	3190.8	3193.7	3191.8	3181.6	3167.5	3151.5	3135.9	3123.3	3114.1
6°	3163.1	3180.1	3190.3	3192.7	3190.8	3180.1	3164.1	3146.6	3130.1	3116.0	3105.8
6.5°	3159.2	3177.7	3188.4	3191.3	3189.3	3177.7	3160.7	3141.8	3123.3	3108.3	3097.1
7°	3155.8	3174.8	3186.4	3189.8	3187.9	3175.3	3156.8	3136.4	3116.5	3100.5	3087.9
7.5°	3151.0	3171.9	3184.0	3187.9	3185.5	3172.3	3152.9	3130.6	3109.2	3091.8	3078.6
8°	3146.1	3168.5	3181.1	3185.5	3183.0	3169.0	3148.1	3124.3	3101.5	3082.5	3068.9
8.5°	3140.8	3164.1	3178.2	3182.5	3180.1	3165.6	3142.7	3117.5	3092.7	3072.8	3058.7
9°	3135.5	3159.7	3174.8	3179.1	3176.7	3161.2	3137.4	3110.2	3084.5	3063.1	3048.1
9.5°	3129.1	3154.9	3170.4	3175.7	3173.3	3156.8	3131.6	3102.9	3075.2	3053.4	3037.4
10°	3122.8	3150.0	3166.0	3171.4	3169.4	3152.0	3125.3	3095.2	3066.0	3042.7	3026.2
10.5°	3116.0	3144.2	3161.2	3167.0	3164.6	3146.6	3118.5	3086.4	3055.8	3031.6	3014.1
11°	3108.7	3138.4	3155.8	3162.2	3159.7	3140.8	3111.2	3077.7	3045.6	3020.4	3001.9
11.5°	3101.0	3131.6	3150.5	3156.8	3154.4	3134.5	3103.9	3068.4	3034.9	3008.2	2989.8
12°	3093.2	3124.8	3144.2	3151.0	3149.0	3127.7	3096.1	3059.2	3023.8	2996.1	2976.7
12.5°	3084.5	3117.5	3137.4	3144.7	3142.7	3120.9	3087.4	3048.5	3012.1	2984.0	2963.1
13°	3075.7	3109.7	3130.6	3138.4	3136.4	3113.6	3078.6	3038.3	3000.0	2970.9	2950.0
13.5°	3066.0	3101.5	3122.8	3131.1	3129.1	3105.8	3069.4	3027.7	2987.9	2956.8	2935.4
14°	3056.3	3092.7	3115.5	3123.8	3121.9	3098.1	3060.2	3016.5	2974.3	2943.2	2920.9
14.5°	3046.1	3084.0	3107.3	3115.5	3114.1	3089.3	3050.0	3004.4	2961.2	2928.6	2906.3
15°	3035.9	3074.8	3098.6	3107.3	3105.8	3080.1	3039.8	2991.7	2947.6	2914.5	2891.2
15.5°	3024.8	3064.6	3089.3	3098.6	3097.1	3070.9	3028.6	2979.1	2933.0	2898.5	2874.7
16°	3013.1	3054.4	3080.1	3089.8	3087.9	3060.7	3018.0	2966.5	2918.4	2883.0	2858.7
16.5°	3001.0	3043.7	3069.9	3080.1	3078.6	3050.5	3005.8	2952.4	2902.9	2867.4	2842.2
17°	2988.8	3032.0	3059.7	3069.9	3068.9	3039.8	2993.7	2938.3	2887.8	2850.9	2825.7
17.5°	2975.7	3020.9	3048.5	3059.2	3058.3	3028.6	2981.1	2924.3	2871.3	2833.9	2807.7
18°	2962.6	3008.7	3037.4	3048.1	3047.6	3017.0	2967.9	2909.7	2854.8	2816.5	2790.2
18.5°	2949.0	2996.1	3025.7	3036.4	3036.4	3005.3	2954.8	2894.1	2837.8	2798.5	2771.8
19°	2934.9	2983.0	3013.1	3024.8	3024.8	2992.7	2940.8	2878.6	2820.4	2780.1	2753.8
19.5°	2920.4	2969.4	3000.5	3012.1	3012.6	2980.1	2926.7	2862.1	2802.9	2762.1	2734.4
20°	2905.3	2955.3	2987.4	2999.0	3000.0	2966.5	2911.6	2845.6	2784.9	2743.6	2715.5
20.5°	2889.8	2941.2	2973.3	2985.9	2986.9	2952.9	2897.1	2828.6	2766.5	2723.7	2696.1
21°	2873.8	2926.2	2959.2	2972.3	2973.3	2938.3	2881.5	2811.6	2747.0	2704.3	2676.2



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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°	2823.3	2879.1	2913.6	2927.7	2930.1	2893.2	2832.0	2757.2	2688.8	2643.1	2614.5
23°	2806.3	2862.1	2897.5	2911.6	2915.0	2877.2	2815.0	2738.8	2668.9	2622.7	2593.6
23.5°	2787.8	2845.1	2881.0	2896.1	2899.0	2861.1	2797.0	2719.4	2648.0	2601.4	2571.8
24°	2769.4	2827.6	2864.0	2879.1	2882.5	2844.1	2779.1	2700.4	2627.6	2580.0	2549.9
24.5°	2750.4	2809.2	2846.6	2862.1	2865.5	2826.7	2760.6	2680.0	2606.7	2558.7	2528.1
25°	2731.0	2791.2	2828.6	2844.6	2848.5	2809.2	2742.2	2660.6	2585.4	2537.3	2506.2
25.5°	2711.6	2772.8	2810.6	2827.1	2831.5	2791.7	2723.2	2640.2	2564.0	2514.5	2483.9
26°	2691.7	2753.4	2791.7	2808.7	2813.1	2772.8	2704.3	2619.8	2543.1	2492.1	2461.1
26.5°	2671.3	2733.9	2773.3	2790.2	2794.1	2753.8	2684.4	2598.5	2520.8	2469.3	2438.3
27°	2651.4	2714.0	2753.8	2771.3	2775.7	2734.4	2664.5	2578.1	2498.5	2447.0	2414.9
27.5°	2630.0	2693.6	2733.9	2752.4	2756.3	2715.0	2643.6	2556.7	2476.6	2424.2	2391.6
28°	2608.7	2673.2	2713.5	2732.5	2736.8	2694.6	2623.7	2535.4	2454.3	2400.9	2368.3
28.5°	2587.3	2652.8	2693.1	2712.1	2716.9	2675.2	2602.8	2513.0	2431.5	2378.0	2344.1
29°	2565.5	2631.5	2672.3	2691.7	2696.5	2654.8	2581.5	2491.2	2409.1	2354.7	2320.3
29.5°	2543.1	2610.1	2651.4	2671.3	2676.2	2633.9	2559.6	2469.3	2386.3	2330.5	2296.5
30°	2520.8	2587.8	2629.5	2649.5	2655.3	2612.1	2538.8	2447.5	2364.0	2307.2	2271.7
30.5°	2498.5	2565.9	2608.2	2629.1	2633.9	2590.7	2516.4	2424.7	2340.2	2283.4	2247.0
31°	2475.2	2544.1	2585.8	2607.2	2612.6	2569.3	2494.1	2401.8	2316.9	2259.1	2221.7
31.5°	2452.3	2520.8	2564.0	2584.9	2590.2	2547.0	2471.3	2379.0	2293.6	2234.8	2196.5
32°	2428.5	2498.0	2540.7	2562.1	2567.9	2524.2	2449.4	2356.7	2270.3	2210.1	2170.7
32.5°	2405.2	2474.7	2518.4	2540.2	2545.6	2501.9	2426.1	2333.4	2246.5	2184.8	2144.5
33°	2380.0	2450.9	2495.1	2517.4	2522.7	2479.5	2403.3	2310.6	2221.7	2159.6	2118.8
33.5°	2356.2	2427.6	2471.3	2494.1	2499.4	2455.7	2380.0	2285.8	2197.0	2133.8	2091.6
34°	2330.5	2403.3	2447.0	2470.8	2476.6	2432.9	2356.2	2262.0	2172.2	2108.6	2064.9
34.5°	2305.7	2378.0	2423.7	2447.0	2452.3	2409.1	2332.4	2237.2	2147.4	2081.9	2038.2
35°	2279.0	2352.3	2398.9	2423.2	2429.0	2384.8	2307.6	2212.5	2122.2	2055.7	2010.0
35.5°	2254.7	2327.6	2373.7	2398.0	2404.8	2360.1	2282.4	2187.7	2096.4	2029.0	1981.4
36°	2228.0	2301.8	2347.9	2373.7	2380.0	2335.3	2257.6	2162.5	2070.2	2001.8	1953.7
36.5°	2201.8	2275.6	2323.2	2347.9	2354.3	2310.1	2231.9	2137.2	2044.0	1973.6	1923.1
37°	2173.6	2248.9	2297.0	2321.7	2328.0	2283.9	2205.7	2110.5	2016.8	1943.5	1889.6
37.5°	2147.9	2222.2	2270.7	2296.0	2302.3	2258.1	2180.0	2083.8	1988.7	1910.5	1854.2
38°	2118.3	2195.5	2243.6	2269.8	2276.6	2231.9	2152.8	2056.6	1958.1	1876.0	1816.8
38.5°	2089.2	2168.3	2217.3	2242.6	2249.9	2204.7	2125.1	2028.0	1925.5	1840.6	1778.0
39°	2058.6	2139.2	2190.6	2215.9	2223.2	2177.5	2097.4	1996.9	1891.1	1803.7	1738.6
39.5°	2029.4	2109.6	2162.5	2188.7	2196.0	2148.9	2068.3	1963.4	1854.7	1764.8	1699.3
40°	1997.4	2079.9	2133.3	2159.6	2166.8	2120.7	2036.7	1929.4	1814.9	1725.5	1659.5
40.5°	1963.9	2048.9	2103.2	2130.4	2138.2	2090.1	2003.2	1893.0	1775.5	1685.2	1617.7
41°	1929.4	2016.3	2072.2	2100.8	2108.6	2060.0	1968.8	1856.1	1736.2	1644.0	1576.5
41.5°	1893.5	1981.4	2038.2	2068.3	2078.0	2028.0	1933.8	1819.2	1696.4	1604.1	1536.2
42°	1856.6	1945.9	2003.2	2034.8	2046.4	1994.5	1896.9	1781.4	1655.6	1560.0	1493.0
42.5°	1817.3	1909.0	1967.3	2000.3	2013.4	1959.0	1860.0	1742.0	1614.8	1517.7	1450.7
43°	1775.5	1870.7	1930.9	1963.9	1979.4	1922.2	1822.1	1700.8	1575.0	1476.0	1407.0
43.5°	1732.3	1831.4	1894.0	1927.0	1943.0	1884.8	1783.3	1660.5	1535.2	1434.2	1365.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
45°	1599.3	1710.0	1778.9	1812.9	1827.5	1764.4	1662.4	1538.1	1412.4	1307.5	1235.6
45.5°	1553.2	1668.7	1740.6	1774.1	1784.7	1722.6	1620.6	1497.3	1372.5	1266.2	1192.4
46°	1507.0	1626.0	1700.3	1734.3	1742.5	1679.4	1578.4	1456.1	1330.8	1224.5	1148.7
46.5°	1461.9	1581.3	1660.0	1693.5	1698.8	1636.2	1535.7	1414.8	1290.0	1183.2	1106.5
47°	1416.2	1538.1	1619.7	1652.7	1653.7	1591.5	1491.5	1372.5	1249.2	1141.9	1063.8
47.5°	1371.1	1493.9	1576.9	1610.9	1609.0	1546.4	1447.8	1331.3	1208.4	1103.1	1021.5
48°	1325.5	1449.7	1535.2	1568.7	1562.9	1501.2	1403.6	1290.0	1166.7	1061.3	980.3
48.5°	1280.8	1405.1	1493.0	1526.0	1517.7	1455.6	1359.4	1248.7	1126.4	1021.0	940.4
49°	1237.1	1360.9	1451.7	1483.2	1472.1	1409.9	1314.8	1206.0	1086.1	980.7	899.2
49.5°	1192.4	1315.3	1408.0	1440.0	1427.4	1364.3	1270.6	1165.2	1046.3	941.9	859.8
50°	1149.7	1270.6	1364.8	1395.4	1382.7	1318.2	1225.4	1122.5	1005.5	903.1	820.5
50.5°	1105.0	1226.4	1321.1	1350.7	1340.0	1272.5	1180.8	1081.2	965.7	864.2	782.6
51°	1062.8	1182.7	1277.9	1307.0	1293.9	1227.9	1136.1	1038.5	926.8	826.3	745.3
51.5°	1020.1	1138.0	1233.2	1261.9	1250.2	1184.7	1092.9	998.7	888.5	789.0	709.8
52°	978.8	1095.8	1191.0	1219.1	1207.5	1141.0	1049.2	957.4	850.1	751.6	673.9
52.5°	936.6	1053.1	1146.3	1174.0	1165.7	1095.8	1006.5	916.2	811.8	714.7	639.4
53°	895.8	1010.4	1102.1	1130.3	1121.1	1052.6	963.3	875.4	774.4	678.7	604.5
53.5°	855.0	967.6	1057.4	1084.6	1077.8	1010.4	922.0	836.5	737.5	643.8	571.5
54°	815.2	925.9	1014.2	1041.9	1035.6	968.1	879.3	796.7	701.6	608.8	539.4
54.5°	775.4	885.6	971.0	998.2	995.8	926.4	839.5	756.9	665.2	574.8	507.8
55°	737.0	844.8	928.3	956.5	953.5	884.6	799.2	719.0	630.2	542.3	478.2
55.5°	698.2	804.5	885.6	912.8	911.8	844.8	760.3	681.7	595.2	509.8	450.6
56°	661.8	765.2	842.9	873.0	871.0	804.0	721.5	644.3	561.3	478.7	422.4
56.5°	624.4	726.8	801.6	831.2	832.2	764.7	683.1	607.4	527.8	449.6	394.2
57°	589.4	688.5	758.9	790.4	791.4	725.8	646.2	572.4	495.2	420.9	366.6
57.5°	554.0	650.6	719.0	749.1	752.1	688.5	610.3	537.9	463.2	391.8	338.4
58°	520.0	614.2	679.7	711.8	714.2	651.6	575.3	503.5	433.1	363.2	313.6
58.5°	487.0	578.7	640.9	672.4	675.4	615.6	541.3	470.9	403.0	334.0	289.9
59°	454.9	542.3	602.5	634.1	638.5	580.7	507.4	440.4	372.9	307.8	266.5
59.5°	423.9	507.8	565.1	595.7	602.5	546.2	474.8	409.3	342.8	283.1	244.2
60°	392.8	474.3	528.7	560.8	566.6	512.2	445.2	378.7	314.6	258.8	223.3
60.5°	363.2	440.8	493.3	524.8	531.6	480.2	415.6	348.1	287.9	236.0	202.5
61°	334.5	408.3	458.8	488.9	497.2	450.1	386.0	320.4	262.2	213.6	183.0
61.5°	307.3	377.7	426.3	455.4	465.1	420.5	356.4	294.2	237.4	193.2	165.1
62°	281.1	347.6	394.2	422.4	433.6	390.4	326.8	268.5	214.1	173.3	148.1
62.5°	254.9	318.5	362.7	389.9	402.0	360.7	300.0	244.2	190.8	154.9	131.6
63°	229.6	289.9	332.6	358.8	370.4	330.6	274.3	219.9	169.9	136.9	115.6
63.5°	204.9	262.7	303.9	327.7	338.9	303.9	250.0	198.1	150.0	120.9	101.5
64°	180.6	236.0	276.3	299.1	309.8	277.7	226.2	177.7	131.6	105.4	88.4
64.5°	159.7	210.2	250.0	270.9	282.1	252.0	204.9	158.3	115.1	91.3	75.7
65°	139.3	186.0	224.8	244.7	255.9	228.2	183.5	139.8	99.5	78.7	65.1
65.5°	119.0	165.1	200.5	219.5	230.1	204.9	164.1	122.8	84.5	67.0	57.3
66°	98.6	145.7	177.7	194.7	205.4	182.6	144.7	107.3	71.9	56.8	49.5



TEST NUMBER: P776554

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRH-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
67.5°	51.0	88.4	121.9	135.0	140.3	123.3	96.6	67.0	47.1	37.4	26.2
68°	40.8	74.3	102.9	117.0	121.4	106.3	82.5	56.8	40.3	30.6	22.8
68.5°	33.5	61.7	84.5	98.6	103.9	90.8	69.9	50.5	33.5	24.3	20.9
69°	29.1	51.0	69.9	80.1	87.4	76.7	59.2	44.7	26.7	21.8	19.4
69.5°	26.7	42.2	57.3	66.5	72.8	64.1	52.0	38.4	24.8	20.4	18.0
70°	25.2	35.0	46.6	54.9	60.7	56.3	45.2	32.0	23.3	18.9	17.0
70.5°	23.8	29.1	37.4	44.7	53.4	48.6	38.4	26.2	21.8	18.0	16.0
71°	22.3	24.8	30.6	36.4	46.1	40.8	31.6	23.8	20.4	17.0	14.6
71.5°	20.9	22.8	25.7	30.1	38.8	33.0	24.8	22.3	18.9	15.5	13.6
72°	19.4	21.4	22.8	25.2	31.6	25.2	22.8	20.9	18.0	14.6	13.1
72.5°	18.4	19.9	20.9	22.8	24.3	22.8	21.4	19.4	16.5	13.6	12.1
73°	17.5	18.4	19.4	21.4	22.3	21.4	19.9	18.4	15.5	12.6	11.2
73.5°	16.0	17.5	18.4	19.9	20.9	19.9	18.4	17.0	14.6	12.1	10.7
74°	15.1	16.5	17.5	18.4	19.4	18.4	17.5	16.0	13.6	11.2	9.7
74.5°	14.1	15.1	16.0	17.5	18.4	17.5	16.0	15.1	12.6	10.2	9.2
75°	13.1	14.1	15.1	16.0	17.0	16.0	15.1	14.1	12.1	9.7	8.3
75.5°	12.1	13.1	14.1	15.1	16.0	15.1	14.1	13.1	11.2	9.2	7.8
76°	11.7	12.6	13.1	14.1	15.1	14.1	13.1	12.1	10.2	8.3	7.3
76.5°	10.7	11.7	12.1	13.1	14.1	13.1	12.1	11.2	9.7	7.8	6.8
77°	10.2	10.7	11.7	12.1	13.1	12.1	11.7	10.7	9.2	7.3	6.3
77.5°	9.2	10.2	10.7	11.7	12.1	11.7	10.7	9.7	8.3	6.8	5.8
78°	8.7	9.7	10.2	10.7	11.2	10.7	9.7	9.2	7.8	6.3	5.3
78.5°	8.3	8.7	9.2	10.2	10.7	10.2	9.2	8.3	7.3	5.8	4.9
79°	7.3	8.3	8.7	9.2	9.7	9.2	8.7	7.8	6.8	5.3	4.4
79.5°	6.8	7.8	8.3	8.7	9.2	8.7	7.8	7.3	6.3	4.9	4.4
80°	6.3	6.8	7.3	8.3	8.7	8.3	7.3	6.8	5.8	4.4	3.9
80.5°	5.8	6.3	6.8	7.8	7.8	7.8	6.8	6.3	5.3	3.9	3.4
81°	5.3	5.8	6.3	7.3	7.3	6.8	6.3	5.8	4.9	3.4	2.9
81.5°	4.9	5.3	5.8	6.8	6.8	6.3	5.8	5.3	4.4	2.9	2.9
82°	3.9	4.9	5.3	6.3	6.3	5.8	5.3	4.9	3.9	2.4	2.4
82.5°	3.4	4.4	5.3	5.8	5.8	5.8	4.9	4.4	2.9	1.9	2.4
83°	2.9	3.9	4.9	5.3	5.3	5.3	4.9	3.9	2.4	1.9	1.9
83.5°	1.9	3.4	4.4	4.9	4.9	4.9	4.4	3.4	1.9	1.5	1.9
84°	1.5	2.9	3.9	4.4	4.9	4.4	3.9	2.9	1.5	1.0	1.5
84.5°	1.0	2.4	3.4	3.9	4.4	3.9	3.4	2.4	1.0	1.0	1.0
85°	1.0	1.9	3.4	3.9	3.9	3.9	3.4	1.9	0.5	1.0	1.0
85.5°	0.5	1.9	2.9	3.4	3.4	3.4	2.9	1.9	0.5	0.5	0.5
86°	0.5	1.5	2.9	2.9	3.4	2.9	2.4	1.5	0.5	0.5	0.5
86.5°	0.5	1.5	2.4	2.9	2.9	2.9	2.4	1.5	0.5	0.5	0.0
87°	0.5	1.5	1.9	2.4	2.4	2.4	1.9	1.0	0.0	0.0	0.0
87.5°	0.0	1.0	1.9	1.9	2.4	1.9	1.5	1.0	0.0	0.0	0.0
88°	0.0	0.5	1.5	1.9	1.9	1.9	1.5	0.5	0.0	0.0	0.0
88.5°	0.0	0.5	1.0	1.5	1.5	1.5	1.0	0.5	0.0	0.0	0.0



TEST NUMBER: P776554

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRH-5000lm-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	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.5



TEST NUMBER: P776554

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRH-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3175.3	3175.3	3175.3	3175.3	3175.3	3175.3
0.5°	3171.4	3169.9	3169.9	3171.9	3173.8	3177.2
1°	3167.0	3165.6	3166.5	3169.4	3173.3	3177.7
1.5°	3162.2	3160.7	3162.2	3166.5	3172.3	3178.2
2°	3156.8	3155.4	3157.8	3163.6	3170.4	3178.2
2.5°	3151.5	3150.0	3152.9	3159.7	3168.5	3177.7
3°	3145.2	3143.7	3148.1	3155.8	3166.0	3176.7
3.5°	3138.4	3137.4	3142.2	3151.5	3163.1	3175.3
4°	3131.6	3130.1	3136.4	3146.6	3159.7	3173.8
4.5°	3124.3	3122.8	3129.6	3141.3	3156.3	3171.9
5°	3116.5	3115.1	3122.8	3135.9	3152.4	3169.4
5.5°	3108.3	3106.8	3115.5	3130.1	3147.6	3166.5
6°	3099.5	3098.6	3107.8	3123.8	3142.7	3163.1
6.5°	3090.8	3089.8	3099.5	3117.0	3137.4	3159.2
7°	3081.6	3080.1	3090.8	3109.2	3132.1	3155.8
7.5°	3071.8	3070.4	3082.0	3101.5	3125.7	3151.0
8°	3061.7	3059.7	3072.3	3093.2	3119.9	3146.1
8.5°	3051.0	3049.5	3062.6	3085.0	3113.1	3140.8
9°	3040.3	3038.3	3051.9	3076.2	3105.8	3135.5
9.5°	3029.1	3026.7	3041.3	3066.5	3097.6	3129.1
10°	3017.5	3014.6	3030.1	3056.8	3089.8	3122.8
10.5°	3005.3	3002.4	3018.4	3047.1	3081.6	3116.0
11°	2992.7	2989.8	3006.8	3036.9	3072.8	3108.7
11.5°	2979.6	2976.7	2994.2	3025.7	3063.6	3101.0
12°	2966.5	2963.1	2981.5	3014.1	3053.9	3093.2
12.5°	2952.4	2948.5	2967.9	3001.9	3043.2	3084.5
13°	2938.3	2934.4	2953.9	2990.3	3033.0	3075.7
13.5°	2923.8	2919.4	2939.8	2977.2	3022.3	3066.0
14°	2908.7	2903.9	2925.2	2964.1	3011.2	3056.3
14.5°	2893.2	2888.3	2909.7	2950.5	2999.0	3046.1
15°	2877.2	2871.3	2894.1	2936.9	2986.9	3035.9
15.5°	2861.1	2854.3	2877.6	2922.3	2973.8	3024.8
16°	2844.1	2837.3	2861.6	2907.3	2960.7	3013.1
16.5°	2826.7	2819.9	2844.1	2892.2	2947.6	3001.0
17°	2809.2	2801.9	2827.1	2876.7	2934.0	2988.8
17.5°	2791.2	2783.5	2809.2	2860.6	2918.9	2975.7
18°	2773.3	2764.5	2791.2	2843.7	2904.3	2962.6
18.5°	2754.3	2745.1	2772.3	2826.7	2888.8	2949.0
19°	2735.4	2725.7	2753.4	2809.2	2873.3	2934.9
19.5°	2715.5	2706.3	2734.4	2791.7	2857.3	2920.4
20°	2695.6	2685.9	2715.0	2773.3	2840.7	2905.3
20.5°	2675.7	2665.0	2695.1	2754.8	2823.8	2889.8
21°	2655.3	2644.1	2674.2	2735.9	2806.3	2873.8



TEST NUMBER: P776554

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRH-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
22.5°	2592.2	2580.0	2612.6	2677.1	2752.4	2823.3
23°	2570.3	2558.2	2590.7	2657.2	2733.4	2806.3
23.5°	2548.9	2536.3	2569.8	2636.8	2714.5	2787.8
24°	2526.6	2514.0	2548.0	2615.5	2694.6	2769.4
24.5°	2504.3	2491.7	2526.1	2594.6	2675.2	2750.4
25°	2481.9	2468.8	2503.3	2573.2	2654.8	2731.0
25.5°	2458.6	2446.0	2481.5	2551.9	2634.4	2711.6
26°	2435.8	2423.7	2458.6	2530.0	2614.0	2691.7
26.5°	2412.5	2400.4	2436.3	2508.2	2593.1	2671.3
27°	2389.2	2377.6	2413.5	2485.8	2571.8	2651.4
27.5°	2365.9	2353.8	2390.7	2463.5	2550.4	2630.0
28°	2342.1	2330.0	2367.4	2440.7	2528.1	2608.7
28.5°	2317.8	2306.2	2343.6	2417.9	2506.2	2587.3
29°	2294.5	2282.9	2320.8	2394.6	2483.4	2565.5
29.5°	2270.3	2258.6	2297.0	2371.3	2461.1	2543.1
30°	2245.5	2233.9	2273.2	2347.9	2438.3	2520.8
30.5°	2220.3	2209.1	2248.9	2323.7	2414.5	2498.5
31°	2195.0	2184.3	2223.7	2299.9	2390.7	2475.2
31.5°	2169.8	2159.1	2198.9	2275.1	2367.4	2452.3
32°	2143.5	2133.8	2174.1	2250.4	2343.1	2428.5
32.5°	2118.3	2108.1	2148.9	2225.1	2318.8	2405.2
33°	2092.1	2081.9	2123.2	2200.3	2293.1	2380.0
33.5°	2065.9	2056.6	2097.9	2174.6	2267.8	2356.2
34°	2039.2	2029.9	2072.2	2148.9	2242.6	2330.5
34.5°	2012.0	2002.7	2045.0	2122.2	2215.9	2305.7
35°	1983.8	1975.1	2017.8	2096.4	2190.2	2279.0
35.5°	1956.1	1946.9	1990.6	2069.3	2163.5	2254.7
36°	1927.5	1916.3	1962.4	2042.1	2136.7	2228.0
36.5°	1895.0	1884.3	1931.9	2012.5	2109.6	2201.8
37°	1860.0	1848.8	1897.9	1983.3	2080.4	2173.6
37.5°	1824.1	1811.0	1862.4	1950.8	2050.8	2147.9
38°	1785.7	1772.1	1824.6	1916.3	2020.7	2118.3
38.5°	1746.9	1732.3	1785.7	1880.4	1989.6	2089.2
39°	1707.1	1692.5	1746.4	1844.0	1956.6	2058.6
39.5°	1666.3	1651.7	1706.1	1807.1	1921.7	2029.4
40°	1624.0	1609.5	1666.3	1768.2	1884.3	1997.4
40.5°	1583.3	1567.2	1625.0	1728.9	1847.4	1963.9
41°	1540.1	1525.5	1585.2	1689.1	1809.0	1929.4
41.5°	1497.8	1483.7	1543.9	1647.8	1770.2	1893.5
42°	1454.6	1442.5	1503.2	1606.6	1730.9	1856.6
42.5°	1412.4	1400.2	1462.4	1565.3	1689.1	1817.3
43°	1368.2	1358.0	1422.1	1522.6	1647.3	1775.5
43.5°	1325.9	1316.7	1380.8	1479.4	1604.1	1732.3

TEST NUMBER: P776554

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRH-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
45°	1198.2	1191.9	1255.5	1350.7	1472.6	1599.3
45.5°	1156.0	1150.7	1213.8	1306.0	1427.9	1553.2
46°	1114.3	1109.4	1170.6	1264.8	1382.7	1507.0
46.5°	1073.5	1068.1	1127.4	1221.1	1336.1	1461.9
47°	1031.2	1027.3	1086.6	1177.9	1290.5	1416.2
47.5°	990.9	987.1	1043.9	1133.7	1244.9	1371.1
48°	951.6	947.2	1003.6	1091.9	1199.7	1325.5
48.5°	911.8	907.9	962.3	1047.7	1153.6	1280.8
49°	872.5	869.6	921.5	1006.5	1109.4	1237.1
49.5°	833.1	830.7	882.2	963.7	1065.2	1192.4
50°	795.3	792.8	842.4	922.0	1020.6	1149.7
50.5°	757.4	755.0	803.0	877.8	976.9	1105.0
51°	721.0	718.6	763.7	839.5	934.6	1062.8
51.5°	685.5	682.6	726.3	798.2	892.9	1020.1
52°	649.1	647.2	688.9	758.4	852.1	978.8
52.5°	614.7	612.7	652.5	716.6	811.3	936.6
53°	580.7	578.2	616.1	680.2	771.5	895.8
53.5°	547.7	544.7	580.2	642.3	733.1	855.0
54°	515.6	512.2	545.2	604.0	694.8	815.2
54.5°	484.1	480.7	512.2	568.1	658.4	775.4
55°	455.9	449.1	479.2	533.1	621.9	737.0
55.5°	427.3	419.0	446.2	499.1	586.5	698.2
56°	399.1	388.9	415.1	466.1	552.0	661.8
56.5°	370.4	360.3	384.5	433.6	519.0	624.4
57°	341.8	332.6	355.4	402.5	486.0	589.4
57.5°	316.6	305.4	326.8	373.4	454.0	554.0
58°	292.3	279.7	299.1	344.7	422.9	520.0
58.5°	268.5	254.9	273.3	317.5	393.3	487.0
59°	246.6	231.6	248.1	290.8	364.1	454.9
59.5°	224.3	209.3	224.8	266.1	336.0	423.9
60°	203.4	187.9	202.5	242.8	308.8	392.8
60.5°	183.5	168.0	181.1	219.5	282.6	363.2
61°	165.6	151.0	163.6	197.6	257.3	334.5
61.5°	147.1	134.0	146.6	177.7	233.5	307.3
62°	130.6	117.5	129.6	161.2	211.2	281.1
62.5°	115.6	100.5	112.6	144.2	188.9	254.9
63°	101.5	86.9	95.6	127.7	168.0	229.6
63.5°	87.4	75.3	82.5	111.2	150.5	204.9
64°	75.3	64.1	70.9	94.7	133.5	180.6
64.5°	64.1	55.3	61.2	81.6	116.5	159.7
65°	57.3	47.1	52.4	69.9	99.5	139.3
65.5°	50.5	40.3	45.2	59.2	85.5	119.0
66°	43.7	34.0	38.4	50.0	72.3	98.6



TEST NUMBER: P776554

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRH-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
67.5°	23.8	22.8	24.8	29.6	42.2	51.0
68°	21.4	21.4	22.3	25.7	35.4	40.8
68.5°	19.9	19.9	20.9	22.8	29.6	33.5
69°	18.9	18.4	19.4	21.4	25.7	29.1
69.5°	17.5	17.5	18.4	19.9	23.3	26.7
70°	16.5	16.5	17.5	18.9	21.8	25.2
70.5°	15.5	15.5	16.0	17.5	20.4	23.8
71°	14.1	14.1	15.1	16.5	18.9	22.3
71.5°	13.1	13.1	14.1	15.5	18.0	20.9
72°	12.6	12.6	13.1	14.6	17.0	19.4
72.5°	11.7	11.7	12.1	13.6	15.5	18.4
73°	10.7	10.7	11.2	12.6	14.6	17.5
73.5°	10.2	10.2	10.7	11.7	13.6	16.0
74°	9.2	9.2	9.7	10.7	12.6	15.1
74.5°	8.7	8.7	9.2	10.2	11.7	14.1
75°	8.3	8.3	8.7	9.7	11.2	13.1
75.5°	7.8	7.8	8.3	8.7	10.2	12.1
76°	7.3	7.3	7.3	8.3	9.7	11.7
76.5°	6.8	6.8	6.8	7.8	8.7	10.7
77°	6.3	6.3	6.3	7.3	8.3	10.2
77.5°	5.8	5.8	5.8	6.8	7.8	9.2
78°	5.3	5.3	5.8	6.3	7.3	8.7
78.5°	4.9	4.9	5.3	5.8	6.3	8.3
79°	4.4	4.4	4.9	5.3	5.8	7.3
79.5°	4.4	4.4	4.4	4.9	5.3	6.8
80°	3.9	3.9	3.9	4.4	4.9	6.3
80.5°	3.4	3.4	3.9	3.9	4.4	5.8
81°	3.4	3.4	3.4	3.4	3.9	5.3
81.5°	2.9	2.9	2.9	3.4	3.4	4.9
82°	2.4	2.4	2.9	2.9	2.9	3.9
82.5°	2.4	2.4	2.4	2.4	2.4	3.4
83°	1.9	1.9	1.9	2.4	1.9	2.9
83.5°	1.9	1.5	1.9	1.9	1.9	1.9
84°	1.5	1.5	1.5	1.9	1.5	1.5
84.5°	1.0	1.0	1.0	1.5	1.5	1.0
85°	1.0	0.5	1.0	1.0	1.0	1.0
85.5°	0.5	0.5	0.5	1.0	1.0	0.5
86°	0.0	0.0	0.0	0.5	0.5	0.5
86.5°	0.0	0.0	0.0	0.0	0.5	0.5
87°	0.0	0.0	0.0	0.0	0.0	0.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0
88°	0.0	0.5	0.0	0.0	0.0	0.0
88.5°	0.5	0.5	0.5	0.0	0.0	0.0



TEST NUMBER: P776554

CATALOG NUMBER: HCDJBL4050CSD-HCD41TRH-5000lm-5000K

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
90°	0.0	0.0	0.0	0.0	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°	2857.3	2911.1	2944.6	2957.3	2959.7	2923.8	2865.0	2793.6	2728.1	2683.9	2655.8
22°	2840.7	2895.1	2929.6	2942.7	2944.6	2908.7	2848.5	2775.2	2708.7	2664.0	2635.4



44°	1688.6	1791.5	1856.6	1889.6	1905.6	1845.4	1744.0	1620.6	1493.9	1391.0	1321.1
44.5°	1644.9	1751.2	1818.3	1851.3	1867.8	1805.1	1703.2	1579.9	1453.1	1349.7	1277.9



66.5°	78.2	126.7	159.2	171.9	182.6	161.7	127.2	92.2	60.7	50.0	41.8
67°	63.1	107.3	140.3	153.4	160.7	141.8	111.2	78.7	53.9	43.7	34.0



89°	0.0	0.0	1.0	1.0	1.5	1.0	0.5	0.0	0.0	0.0	0.5
89.5°	0.0	0.0	0.5	0.5	1.0	0.5	0.5	0.0	0.0	0.0	0.5

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21.5°	2633.9	2623.2	2653.8	2716.9	2788.8	2857.3
22°	2613.0	2601.4	2633.4	2697.0	2770.3	2840.7



44°	1283.2	1275.4	1339.0	1436.6	1561.4	1688.6
44.5°	1241.0	1233.2	1296.3	1392.5	1518.2	1644.9

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66.5°	37.4	29.6	32.5	41.8	61.2	78.2
67°	30.6	25.2	28.2	35.0	51.0	63.1

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

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Scaled Data Report



(END OF REPORT)