

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: P776545

Luminaire Tested: HCDJBS4050CSD-HCD41TRC-5000lm-2700K

Issue Date: 2/13/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776545  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B028)  
Test Lab:  
Issue Date: 2/13/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL54050CSD-HCD41TRC-5000lm-2700K  
Description: 4 INCH ROUND SHALLOW-WIDE SPECULAR CLEAR TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT  
Ballast/Driver: -

**Summary**

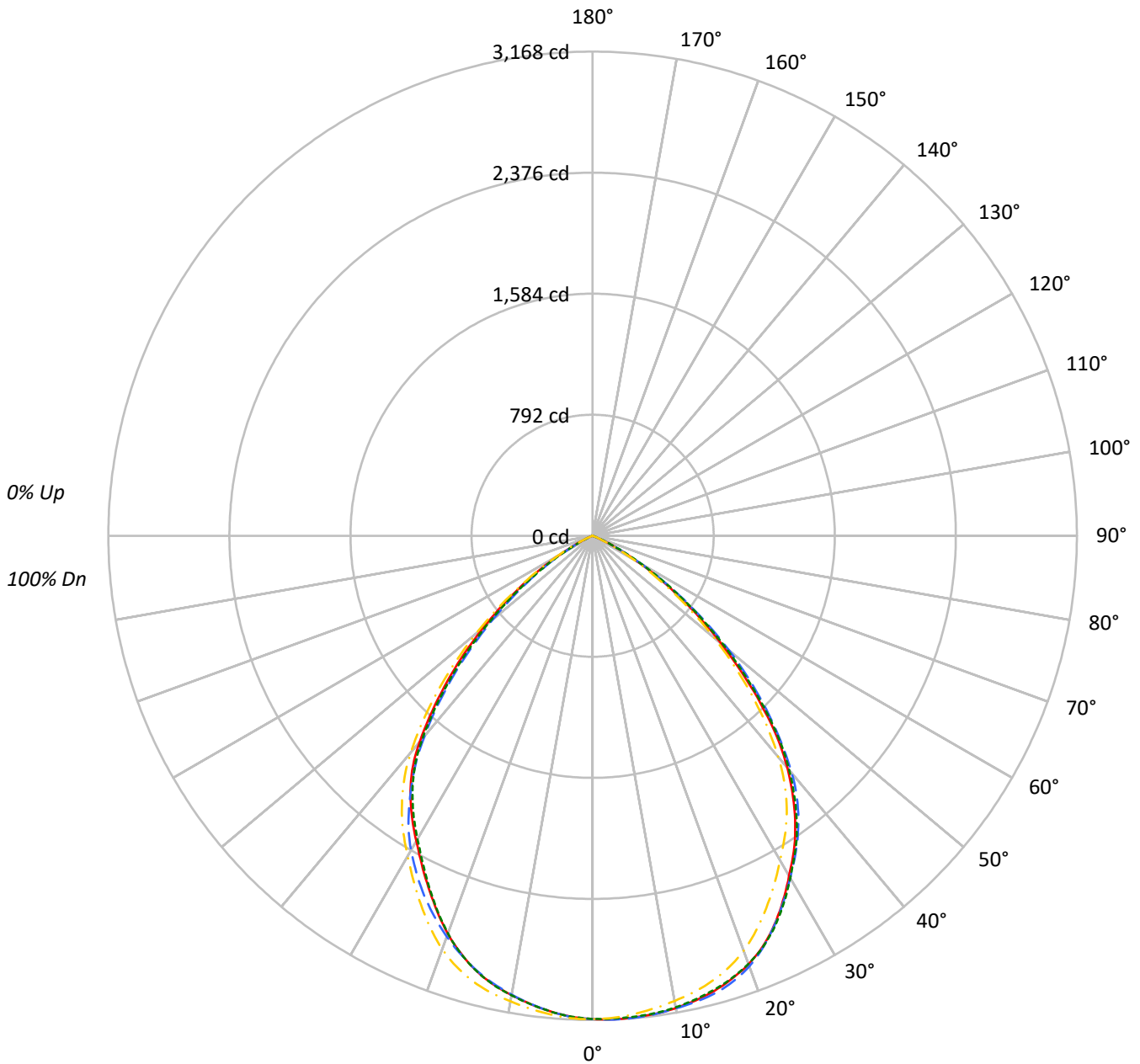
Lumens per Lamp: N/A  
Luminaire Lumens: 5514.1 lumens  
Efficiency: N/A  
Efficacy: 114.9 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.16 / 1.22  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

Input Watts (W): 48  
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



TEST NUMBER: P776545  
CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-2700K

### Luminous Intensity Polar Plot





TEST NUMBER: P776545

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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 |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 1   | 112 | 109 | 106 | 103 | 110 | 107 | 104 | 101 | 102 | 100 | 98  | 99  | 97  | 95  | 95  | 94  | 93  | 91  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 105 | 99  | 94  | 90  | 102 | 97  | 92  | 89  | 94  | 90  | 87  | 91  | 87  | 85  | 88  | 85  | 83  | 81  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 98  | 90  | 83  | 78  | 95  | 88  | 82  | 78  | 85  | 80  | 76  | 83  | 79  | 75  | 80  | 77  | 74  | 72  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 91  | 81  | 75  | 69  | 89  | 80  | 74  | 69  | 78  | 72  | 68  | 76  | 71  | 67  | 74  | 70  | 66  | 64  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 85  | 74  | 67  | 62  | 83  | 73  | 66  | 61  | 71  | 65  | 61  | 70  | 64  | 60  | 68  | 63  | 60  | 58  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 79  | 68  | 61  | 55  | 77  | 67  | 60  | 55  | 65  | 59  | 55  | 64  | 58  | 54  | 62  | 58  | 54  | 52  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 74  | 62  | 55  | 50  | 72  | 62  | 55  | 50  | 60  | 54  | 49  | 59  | 53  | 49  | 58  | 53  | 49  | 47  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 69  | 58  | 50  | 45  | 68  | 57  | 50  | 45  | 56  | 49  | 45  | 55  | 49  | 45  | 53  | 48  | 44  | 43  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 65  | 53  | 46  | 41  | 64  | 53  | 46  | 41  | 52  | 45  | 41  | 51  | 45  | 41  | 50  | 44  | 41  | 39  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 61  | 49  | 42  | 38  | 60  | 49  | 42  | 38  | 48  | 42  | 38  | 47  | 42  | 37  | 46  | 41  | 37  | 36  |    |    |   |  |  |  |  |  |  |    |  |  |  |  |  |  |  |  |   |

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

|     | 0°     | 90°    | 180°   | 270°   |
|-----|--------|--------|--------|--------|
| 0°  | 397987 | 397987 | 397987 | 397987 |
| 5°  | 399672 | 398990 | 394833 | 394897 |
| 10° | 401034 | 400332 | 390019 | 390198 |
| 15° | 401513 | 400614 | 383689 | 383871 |
| 20° | 399409 | 399289 | 371084 | 370709 |
| 25° | 390196 | 391585 | 352718 | 351579 |
| 30° | 373498 | 375809 | 335207 | 333027 |
| 35° | 354941 | 357814 | 319160 | 315519 |
| 40° | 325334 | 328784 | 288863 | 284591 |
| 45° | 277166 | 281936 | 238936 | 232618 |
| 50° | 215092 | 220809 | 181984 | 174133 |
| 55° | 150934 | 157033 | 121818 | 113436 |
| 60° | 86962  | 92953  | 62875  | 55525  |
| 65° | 30285  | 34335  | 17093  | 13579  |
| 70° | 993    | 2171   | 993    | 846    |
| 75° | 875    | 1118   | 875    | 875    |
| 80° | 652    | 1015   | 652    | 652    |
| 85° | 0      | 722    | 0      | 722    |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°

Vertical Angle: 45°

Luminance: 285762 cd/sqm



TEST NUMBER: P776545  
 CATALOG NUMBER: HCDJBL4050CSD-HCD41TRC-5000lm-2700K

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 298.5  | 5.4       |
| 10°-20°   | 848.7  | 15.4      |
| 20°-30°   | 1231.5 | 22.3      |
| 30°-40°   | 1365.8 | 24.8      |
| 40°-50°   | 1109.0 | 20.1      |
| 50°-60°   | 556.8  | 10.1      |
| 60°-70°   | 101.3  | 1.8       |
| 70°-80°   | 2.1    | 0.0       |
| 80°-90°   | 0.5    | 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°    | 2378.7 | 43.1      |
| 0°-40°    | 3744.5 | 67.9      |
| 0°-60°    | 5410.3 | 98.1      |
| 0°-90°    | 5514.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 5514.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 90°  | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 3162 | 3162 | 3162 | 3162 | 3162 |      |
| 5°  | 3164 | 3158 | 3125 | 3126 | 3164 | 301  |
| 15° | 3082 | 3075 | 2945 | 2946 | 3082 | 869  |
| 25° | 2810 | 2820 | 2540 | 2532 | 2810 | 1289 |
| 35° | 2310 | 2329 | 2077 | 2054 | 2310 | 1436 |
| 45° | 1557 | 1584 | 1342 | 1307 | 1557 | 1191 |
| 55° | 688  | 716  | 555  | 517  | 688  | 620  |
| 65° | 102  | 115  | 57   | 46   | 102  | 121  |
| 75° | 2    | 2    | 2    | 2    | 2    | 2    |
| 85° | 0    | 0    | 0    | 0    | 0    | 0    |
| 90° | 0    | 0    | 0    | 0    | 0    | 0    |



TEST NUMBER: P776545

CATALOG NUMBER: HCDJBL4050CSD-HCD41TRC-5000lm-2700K

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   | 202.5° | 225°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3162.4 | 3162.4 | 3162.4 | 3162.4 | 3162.4 | 3162.4 | 3162.4 | 3162.4 | 3162.4 | 3162.4 | 3162.4 |
| 0.5°  | 3163.7 | 3163.7 | 3164.2 | 3165.1 | 3161.5 | 3162.4 | 3162.8 | 3162.8 | 3160.5 | 3160.1 | 3161.0 |
| 1°    | 3165.1 | 3165.1 | 3165.6 | 3166.0 | 3162.4 | 3161.9 | 3161.9 | 3161.9 | 3158.7 | 3157.8 | 3159.2 |
| 1.5°  | 3166.0 | 3166.0 | 3166.9 | 3166.9 | 3162.8 | 3161.5 | 3160.5 | 3159.2 | 3156.4 | 3155.5 | 3156.9 |
| 2°    | 3166.5 | 3166.9 | 3167.4 | 3167.4 | 3162.4 | 3160.5 | 3158.7 | 3156.0 | 3153.7 | 3152.3 | 3153.7 |
| 2.5°  | 3166.5 | 3167.8 | 3168.3 | 3167.4 | 3161.9 | 3159.6 | 3156.9 | 3153.3 | 3150.5 | 3149.1 | 3150.5 |
| 3°    | 3166.5 | 3167.8 | 3168.3 | 3167.4 | 3161.5 | 3158.3 | 3154.6 | 3149.6 | 3146.4 | 3145.0 | 3146.9 |
| 3.5°  | 3166.5 | 3167.8 | 3168.3 | 3166.9 | 3161.5 | 3156.4 | 3151.4 | 3145.5 | 3141.4 | 3140.0 | 3142.3 |
| 4°    | 3165.6 | 3167.4 | 3167.8 | 3166.9 | 3160.1 | 3155.1 | 3148.2 | 3141.4 | 3136.4 | 3135.5 | 3137.3 |
| 4.5°  | 3164.6 | 3166.9 | 3167.4 | 3166.0 | 3159.2 | 3152.8 | 3145.0 | 3136.8 | 3130.9 | 3129.5 | 3131.4 |
| 5°    | 3163.7 | 3165.6 | 3166.0 | 3165.1 | 3158.3 | 3151.0 | 3140.9 | 3131.4 | 3125.4 | 3123.6 | 3125.4 |
| 5.5°  | 3161.9 | 3164.6 | 3164.6 | 3163.3 | 3156.9 | 3148.2 | 3136.8 | 3125.9 | 3118.6 | 3117.2 | 3119.1 |
| 6°    | 3160.1 | 3162.8 | 3162.8 | 3161.9 | 3155.5 | 3145.5 | 3132.3 | 3120.0 | 3112.2 | 3110.9 | 3112.2 |
| 6.5°  | 3158.7 | 3161.0 | 3160.5 | 3159.6 | 3153.7 | 3142.8 | 3127.7 | 3114.0 | 3105.8 | 3104.0 | 3105.4 |
| 7°    | 3156.4 | 3158.7 | 3158.7 | 3157.4 | 3151.9 | 3139.1 | 3122.7 | 3107.7 | 3098.5 | 3096.7 | 3098.1 |
| 7.5°  | 3154.6 | 3156.0 | 3156.0 | 3155.1 | 3149.1 | 3135.9 | 3117.7 | 3101.3 | 3091.3 | 3089.4 | 3089.9 |
| 8°    | 3151.9 | 3152.8 | 3153.3 | 3152.3 | 3146.9 | 3132.3 | 3112.7 | 3094.9 | 3084.0 | 3081.7 | 3082.6 |
| 8.5°  | 3148.7 | 3149.6 | 3150.1 | 3149.1 | 3144.1 | 3128.2 | 3107.7 | 3088.5 | 3076.2 | 3073.9 | 3073.9 |
| 9°    | 3145.5 | 3146.4 | 3146.9 | 3145.5 | 3140.5 | 3124.1 | 3102.2 | 3081.2 | 3068.9 | 3066.2 | 3065.7 |
| 9.5°  | 3141.9 | 3142.3 | 3143.7 | 3141.4 | 3136.8 | 3120.0 | 3096.3 | 3074.4 | 3060.7 | 3058.0 | 3057.5 |
| 10°   | 3138.2 | 3138.2 | 3140.5 | 3137.3 | 3132.7 | 3115.0 | 3090.8 | 3067.1 | 3052.0 | 3050.2 | 3048.9 |
| 10.5° | 3133.6 | 3134.1 | 3137.3 | 3133.6 | 3128.6 | 3109.5 | 3084.4 | 3059.8 | 3043.8 | 3042.5 | 3040.2 |
| 11°   | 3129.1 | 3129.5 | 3134.1 | 3129.1 | 3123.6 | 3103.6 | 3078.0 | 3052.0 | 3034.7 | 3033.8 | 3030.6 |
| 11.5° | 3124.1 | 3124.5 | 3130.0 | 3124.1 | 3118.1 | 3097.2 | 3071.7 | 3044.3 | 3025.6 | 3025.2 | 3021.0 |
| 12°   | 3119.5 | 3120.0 | 3126.8 | 3119.1 | 3112.7 | 3091.3 | 3064.8 | 3036.5 | 3015.6 | 3016.0 | 3011.5 |
| 12.5° | 3114.0 | 3115.0 | 3122.7 | 3113.1 | 3107.2 | 3084.4 | 3058.0 | 3028.3 | 3005.5 | 3006.9 | 3001.4 |
| 13°   | 3108.6 | 3109.9 | 3119.1 | 3107.2 | 3101.3 | 3077.6 | 3051.1 | 3020.1 | 2995.1 | 2996.9 | 2990.5 |
| 13.5° | 3102.2 | 3104.0 | 3114.5 | 3100.8 | 3094.9 | 3069.8 | 3043.4 | 3011.5 | 2983.7 | 2986.9 | 2979.1 |
| 14°   | 3095.8 | 3097.6 | 3109.9 | 3094.4 | 3088.5 | 3062.5 | 3035.2 | 3001.9 | 2971.8 | 2976.4 | 2966.8 |
| 14.5° | 3089.4 | 3090.8 | 3104.5 | 3087.6 | 3081.7 | 3054.3 | 3026.5 | 2991.4 | 2959.1 | 2964.5 | 2954.5 |
| 15°   | 3081.7 | 3084.0 | 3099.0 | 3079.9 | 3074.8 | 3045.7 | 3017.4 | 2980.9 | 2944.9 | 2952.7 | 2941.7 |
| 15.5° | 3073.9 | 3075.8 | 3092.2 | 3071.7 | 3067.5 | 3037.0 | 3007.8 | 2969.1 | 2930.3 | 2939.9 | 2928.1 |
| 16°   | 3065.7 | 3066.6 | 3085.3 | 3062.5 | 3059.3 | 3027.4 | 2997.3 | 2957.2 | 2915.3 | 2925.8 | 2913.5 |
| 16.5° | 3056.6 | 3057.1 | 3076.7 | 3053.0 | 3051.1 | 3016.9 | 2985.9 | 2944.0 | 2899.3 | 2911.6 | 2899.8 |
| 17°   | 3047.0 | 3047.0 | 3067.5 | 3042.5 | 3042.5 | 3006.5 | 2973.6 | 2930.8 | 2882.5 | 2897.1 | 2885.7 |
| 17.5° | 3037.0 | 3036.5 | 3057.5 | 3032.0 | 3033.4 | 2994.6 | 2960.9 | 2916.2 | 2865.6 | 2881.1 | 2870.6 |
| 18°   | 3027.4 | 3025.6 | 3047.0 | 3020.6 | 3023.8 | 2983.2 | 2948.6 | 2900.2 | 2848.3 | 2864.7 | 2855.6 |
| 18.5° | 3016.9 | 3014.2 | 3035.6 | 3008.7 | 3013.8 | 2970.4 | 2934.4 | 2884.7 | 2830.0 | 2846.5 | 2839.6 |
| 19°   | 3006.5 | 3002.4 | 3023.3 | 2996.9 | 3003.7 | 2958.1 | 2919.8 | 2867.9 | 2810.9 | 2828.7 | 2823.7 |
| 19.5° | 2995.1 | 2990.1 | 3010.6 | 2984.6 | 2992.8 | 2944.9 | 2904.3 | 2850.1 | 2791.3 | 2810.0 | 2807.2 |
| 20°   | 2982.3 | 2976.8 | 2997.3 | 2971.4 | 2981.4 | 2930.8 | 2888.4 | 2831.9 | 2770.8 | 2790.4 | 2790.8 |
| 20.5° | 2969.5 | 2963.2 | 2982.3 | 2957.2 | 2968.6 | 2916.2 | 2871.5 | 2811.8 | 2750.3 | 2769.0 | 2773.1 |
| 21°   | 2955.4 | 2948.6 | 2966.8 | 2943.1 | 2955.9 | 2900.7 | 2853.7 | 2791.3 | 2727.5 | 2747.5 | 2755.3 |



TEST NUMBER: P776545

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   | 202.5° | 225°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 22.5° | 2908.4 | 2900.7 | 2914.8 | 2895.2 | 2912.1 | 2849.2 | 2795.8 | 2724.3 | 2658.6 | 2678.7 | 2699.7 |
| 23°   | 2891.1 | 2883.4 | 2895.2 | 2878.4 | 2895.2 | 2831.0 | 2774.9 | 2701.5 | 2634.9 | 2654.5 | 2680.5 |
| 23.5° | 2872.0 | 2865.6 | 2875.6 | 2861.0 | 2877.5 | 2811.8 | 2753.9 | 2677.3 | 2611.2 | 2630.4 | 2661.8 |
| 24°   | 2852.4 | 2847.4 | 2855.1 | 2843.3 | 2859.2 | 2792.2 | 2731.6 | 2653.2 | 2587.1 | 2606.2 | 2642.7 |
| 24.5° | 2831.9 | 2829.1 | 2834.6 | 2825.5 | 2840.1 | 2771.7 | 2709.7 | 2628.5 | 2563.8 | 2581.1 | 2623.1 |
| 25°   | 2810.0 | 2810.4 | 2813.6 | 2807.7 | 2820.0 | 2752.1 | 2687.4 | 2603.9 | 2540.1 | 2556.5 | 2602.6 |
| 25.5° | 2788.6 | 2791.3 | 2792.2 | 2789.0 | 2799.0 | 2731.1 | 2665.0 | 2578.4 | 2516.4 | 2531.4 | 2581.6 |
| 26°   | 2766.2 | 2772.1 | 2769.9 | 2770.3 | 2778.1 | 2710.1 | 2642.2 | 2554.7 | 2493.2 | 2506.8 | 2560.2 |
| 26.5° | 2743.4 | 2753.0 | 2748.0 | 2751.6 | 2756.2 | 2688.7 | 2619.0 | 2530.1 | 2469.4 | 2481.3 | 2538.3 |
| 27°   | 2719.7 | 2733.4 | 2725.6 | 2732.0 | 2732.9 | 2666.4 | 2596.2 | 2505.5 | 2445.7 | 2455.8 | 2515.9 |
| 27.5° | 2695.1 | 2713.3 | 2702.9 | 2711.5 | 2709.7 | 2643.6 | 2572.9 | 2480.8 | 2421.6 | 2431.2 | 2492.7 |
| 28°   | 2670.5 | 2692.4 | 2679.6 | 2691.0 | 2685.5 | 2620.8 | 2549.2 | 2456.2 | 2397.9 | 2406.5 | 2469.9 |
| 28.5° | 2645.4 | 2671.4 | 2655.9 | 2669.6 | 2660.5 | 2597.5 | 2525.5 | 2431.6 | 2375.1 | 2382.4 | 2446.2 |
| 29°   | 2620.3 | 2649.5 | 2631.7 | 2647.7 | 2635.8 | 2573.8 | 2500.9 | 2407.4 | 2351.8 | 2358.7 | 2422.5 |
| 29.5° | 2595.7 | 2628.1 | 2608.9 | 2625.8 | 2611.2 | 2550.6 | 2477.2 | 2383.7 | 2329.0 | 2334.5 | 2398.8 |
| 30°   | 2570.2 | 2606.7 | 2585.7 | 2603.0 | 2586.1 | 2526.9 | 2453.5 | 2360.0 | 2306.7 | 2310.8 | 2374.6 |
| 30.5° | 2545.6 | 2584.3 | 2562.0 | 2580.2 | 2560.2 | 2503.6 | 2429.8 | 2336.3 | 2284.8 | 2287.6 | 2350.9 |
| 31°   | 2521.0 | 2561.5 | 2537.8 | 2557.4 | 2535.5 | 2480.8 | 2406.5 | 2314.0 | 2262.9 | 2264.8 | 2325.8 |
| 31.5° | 2497.3 | 2539.2 | 2515.5 | 2533.7 | 2511.4 | 2457.1 | 2383.3 | 2292.1 | 2240.6 | 2241.5 | 2299.4 |
| 32°   | 2471.7 | 2516.4 | 2492.2 | 2510.9 | 2487.2 | 2433.9 | 2360.5 | 2269.8 | 2218.7 | 2219.2 | 2271.6 |
| 32.5° | 2448.5 | 2493.6 | 2469.9 | 2487.2 | 2462.6 | 2411.1 | 2337.7 | 2247.0 | 2197.3 | 2195.5 | 2242.9 |
| 33°   | 2423.4 | 2469.0 | 2445.7 | 2463.5 | 2438.9 | 2387.8 | 2314.5 | 2224.2 | 2174.0 | 2171.3 | 2211.9 |
| 33.5° | 2397.0 | 2443.5 | 2422.5 | 2438.0 | 2412.9 | 2364.1 | 2289.8 | 2200.5 | 2150.3 | 2145.8 | 2180.0 |
| 34°   | 2368.2 | 2415.2 | 2397.4 | 2410.6 | 2386.5 | 2338.2 | 2265.2 | 2176.8 | 2126.6 | 2120.7 | 2148.1 |
| 34.5° | 2339.5 | 2386.5 | 2371.0 | 2381.5 | 2358.2 | 2312.2 | 2239.7 | 2152.2 | 2102.0 | 2094.3 | 2114.8 |
| 35°   | 2310.3 | 2355.9 | 2344.1 | 2351.4 | 2329.0 | 2283.9 | 2213.7 | 2127.1 | 2077.4 | 2067.8 | 2081.5 |
| 35.5° | 2280.3 | 2325.4 | 2317.6 | 2321.3 | 2299.4 | 2256.1 | 2186.8 | 2101.6 | 2051.9 | 2040.0 | 2048.2 |
| 36°   | 2250.2 | 2293.9 | 2290.3 | 2288.9 | 2270.2 | 2227.4 | 2158.1 | 2075.6 | 2025.4 | 2012.2 | 2014.0 |
| 36.5° | 2219.6 | 2262.0 | 2261.6 | 2257.0 | 2237.4 | 2196.4 | 2128.9 | 2048.2 | 1998.1 | 1982.1 | 1979.4 |
| 37°   | 2186.8 | 2228.7 | 2231.0 | 2223.7 | 2206.0 | 2164.5 | 2098.4 | 2019.5 | 1969.4 | 1952.0 | 1944.7 |
| 37.5° | 2154.4 | 2194.6 | 2201.4 | 2190.0 | 2172.7 | 2131.6 | 2067.4 | 1990.8 | 1939.7 | 1920.6 | 1909.6 |
| 38°   | 2119.8 | 2159.0 | 2169.0 | 2155.4 | 2138.9 | 2098.4 | 2035.5 | 1958.9 | 1908.3 | 1885.5 | 1873.6 |
| 38.5° | 2085.6 | 2123.4 | 2135.3 | 2119.8 | 2105.2 | 2064.6 | 2000.4 | 1924.7 | 1874.5 | 1848.1 | 1834.9 |
| 39°   | 2052.3 | 2088.3 | 2101.6 | 2084.7 | 2071.9 | 2029.5 | 1963.9 | 1889.6 | 1837.6 | 1809.8 | 1792.9 |
| 39.5° | 2016.3 | 2051.0 | 2065.1 | 2047.8 | 2036.8 | 1994.0 | 1927.0 | 1852.2 | 1798.9 | 1771.1 | 1751.9 |
| 40°   | 1980.3 | 2012.2 | 2025.4 | 2009.5 | 2001.3 | 1956.1 | 1888.7 | 1813.9 | 1758.3 | 1730.5 | 1710.4 |
| 40.5° | 1942.0 | 1972.1 | 1985.3 | 1969.4 | 1963.9 | 1917.4 | 1849.0 | 1775.2 | 1717.7 | 1687.6 | 1668.0 |
| 41°   | 1905.5 | 1931.5 | 1944.7 | 1928.8 | 1927.0 | 1877.7 | 1808.4 | 1735.0 | 1676.7 | 1645.2 | 1626.1 |
| 41.5° | 1865.9 | 1890.0 | 1902.8 | 1887.8 | 1888.2 | 1837.2 | 1768.3 | 1694.9 | 1634.7 | 1603.3 | 1582.8 |
| 42°   | 1825.8 | 1848.6 | 1861.3 | 1847.2 | 1849.0 | 1795.2 | 1727.7 | 1653.9 | 1593.7 | 1559.1 | 1539.5 |
| 42.5° | 1782.5 | 1806.2 | 1819.8 | 1806.2 | 1807.1 | 1753.7 | 1686.3 | 1612.4 | 1551.8 | 1514.4 | 1495.3 |
| 43°   | 1741.0 | 1764.2 | 1777.9 | 1763.8 | 1765.1 | 1712.2 | 1644.8 | 1570.5 | 1510.3 | 1470.6 | 1451.9 |
| 43.5° | 1696.3 | 1721.4 | 1735.0 | 1721.8 | 1720.0 | 1668.5 | 1601.9 | 1529.4 | 1468.4 | 1426.9 | 1407.7 |



TEST NUMBER: P776545

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   | 202.5° | 225°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 45°   | 1557.3 | 1591.0 | 1605.6 | 1592.8 | 1584.1 | 1536.3 | 1472.0 | 1402.7 | 1342.5 | 1295.6 | 1276.0 |
| 45.5° | 1510.3 | 1547.2 | 1561.8 | 1551.3 | 1536.7 | 1490.7 | 1428.7 | 1362.1 | 1300.6 | 1252.7 | 1233.1 |
| 46°   | 1463.3 | 1503.5 | 1518.0 | 1507.6 | 1489.8 | 1444.2 | 1384.5 | 1319.7 | 1258.2 | 1209.4 | 1188.9 |
| 46.5° | 1415.5 | 1458.8 | 1474.3 | 1462.4 | 1443.3 | 1398.6 | 1341.2 | 1278.3 | 1217.2 | 1167.5 | 1145.6 |
| 47°   | 1369.0 | 1414.1 | 1429.6 | 1416.8 | 1396.8 | 1353.0 | 1296.5 | 1235.9 | 1174.8 | 1125.5 | 1101.8 |
| 47.5° | 1322.9 | 1368.1 | 1384.9 | 1373.1 | 1350.3 | 1307.0 | 1252.7 | 1194.4 | 1133.3 | 1082.7 | 1059.4 |
| 48°   | 1276.9 | 1322.9 | 1341.2 | 1328.4 | 1305.6 | 1260.9 | 1208.5 | 1152.0 | 1092.3 | 1041.7 | 1016.6 |
| 48.5° | 1230.8 | 1277.8 | 1296.0 | 1283.3 | 1260.9 | 1214.9 | 1166.1 | 1111.0 | 1051.2 | 1001.5 | 974.6  |
| 49°   | 1187.5 | 1233.1 | 1252.3 | 1238.1 | 1216.3 | 1170.7 | 1122.4 | 1068.6 | 1009.8 | 960.1  | 933.2  |
| 49.5° | 1142.4 | 1188.5 | 1208.1 | 1193.5 | 1171.6 | 1126.5 | 1079.5 | 1027.1 | 969.6  | 919.9  | 892.6  |
| 50°   | 1098.6 | 1143.3 | 1163.4 | 1148.3 | 1127.8 | 1082.2 | 1036.6 | 985.1  | 929.5  | 880.3  | 851.6  |
| 50.5° | 1054.4 | 1097.7 | 1119.2 | 1104.1 | 1085.4 | 1037.6 | 994.3  | 944.1  | 890.3  | 841.5  | 812.4  |
| 51°   | 1012.0 | 1054.0 | 1073.6 | 1059.0 | 1042.1 | 994.7  | 951.9  | 903.5  | 850.2  | 801.9  | 773.6  |
| 51.5° | 969.2  | 1011.1 | 1030.3 | 1016.1 | 999.7  | 953.2  | 910.4  | 863.4  | 811.9  | 764.0  | 736.2  |
| 52°   | 928.2  | 967.8  | 986.5  | 973.3  | 957.8  | 910.8  | 869.3  | 823.8  | 774.1  | 726.7  | 698.8  |
| 52.5° | 885.8  | 924.5  | 943.2  | 930.9  | 915.4  | 870.7  | 828.8  | 783.2  | 735.8  | 690.2  | 662.4  |
| 53°   | 845.6  | 882.1  | 899.9  | 888.5  | 874.4  | 829.2  | 787.7  | 744.4  | 698.4  | 652.8  | 626.8  |
| 53.5° | 804.2  | 840.6  | 855.7  | 846.1  | 833.8  | 789.1  | 748.5  | 706.6  | 661.5  | 617.2  | 593.1  |
| 54°   | 765.4  | 799.6  | 812.8  | 804.2  | 793.7  | 749.5  | 709.8  | 668.8  | 625.0  | 582.1  | 558.9  |
| 54.5° | 726.7  | 758.1  | 770.9  | 764.0  | 754.0  | 711.6  | 671.5  | 631.8  | 589.4  | 548.0  | 525.2  |
| 55°   | 687.9  | 719.4  | 730.3  | 723.9  | 715.7  | 673.8  | 634.6  | 594.9  | 555.2  | 514.2  | 493.3  |
| 55.5° | 649.6  | 679.7  | 688.8  | 685.2  | 678.3  | 635.9  | 597.2  | 558.9  | 520.6  | 481.9  | 461.8  |
| 56°   | 613.1  | 641.0  | 649.2  | 646.4  | 639.6  | 599.5  | 560.7  | 524.3  | 487.3  | 449.9  | 432.6  |
| 56.5° | 577.1  | 602.7  | 610.4  | 607.7  | 602.7  | 563.5  | 526.1  | 490.5  | 454.5  | 420.8  | 403.9  |
| 57°   | 540.7  | 566.2  | 572.1  | 571.2  | 566.2  | 528.8  | 491.4  | 456.3  | 424.4  | 391.6  | 375.2  |
| 57.5° | 506.0  | 530.2  | 534.3  | 534.7  | 531.5  | 495.1  | 457.7  | 425.3  | 394.3  | 362.4  | 346.0  |
| 58°   | 472.3  | 494.2  | 497.8  | 499.6  | 496.4  | 461.8  | 427.2  | 394.8  | 364.2  | 333.2  | 317.3  |
| 58.5° | 439.5  | 460.0  | 463.2  | 465.0  | 462.7  | 431.3  | 396.6  | 363.8  | 334.2  | 303.6  | 291.3  |
| 59°   | 407.5  | 426.7  | 429.0  | 430.8  | 431.7  | 401.2  | 366.1  | 332.8  | 304.1  | 277.6  | 266.2  |
| 59.5° | 375.6  | 394.3  | 396.2  | 398.4  | 400.3  | 370.6  | 335.5  | 302.2  | 276.3  | 252.1  | 241.2  |
| 60°   | 345.5  | 362.4  | 364.7  | 367.0  | 369.3  | 340.1  | 305.4  | 274.4  | 249.8  | 227.5  | 218.4  |
| 60.5° | 315.9  | 331.4  | 333.7  | 336.4  | 337.8  | 310.0  | 278.5  | 248.0  | 224.7  | 204.7  | 196.0  |
| 61°   | 287.2  | 302.2  | 304.1  | 305.9  | 306.8  | 282.6  | 251.2  | 222.9  | 200.1  | 182.3  | 175.5  |
| 61.5° | 260.8  | 274.0  | 276.7  | 278.1  | 278.5  | 255.7  | 226.6  | 198.8  | 177.3  | 161.8  | 155.9  |
| 62°   | 233.9  | 247.1  | 250.3  | 250.7  | 251.6  | 230.7  | 202.9  | 175.5  | 155.5  | 142.2  | 137.2  |
| 62.5° | 208.8  | 220.6  | 224.7  | 224.7  | 225.2  | 206.1  | 180.1  | 154.1  | 134.9  | 123.5  | 119.9  |
| 63°   | 185.5  | 196.0  | 200.1  | 199.7  | 200.6  | 182.3  | 158.2  | 134.5  | 114.9  | 106.7  | 103.9  |
| 63.5° | 162.7  | 172.8  | 177.8  | 176.0  | 177.3  | 160.5  | 138.6  | 115.3  | 97.6   | 90.7   | 88.9   |
| 64°   | 142.2  | 153.2  | 155.9  | 155.0  | 155.5  | 139.5  | 119.9  | 98.5   | 81.6   | 76.6   | 76.1   |
| 64.5° | 121.7  | 134.0  | 137.7  | 136.3  | 134.5  | 120.3  | 102.6  | 82.1   | 67.0   | 64.3   | 63.8   |
| 65°   | 101.7  | 114.4  | 119.4  | 117.6  | 115.3  | 102.6  | 86.6   | 67.9   | 57.4   | 55.2   | 55.2   |
| 65.5° | 81.1   | 94.8   | 101.2  | 98.9   | 97.6   | 85.7   | 71.6   | 58.4   | 48.3   | 46.5   | 46.5   |
| 66°   | 60.6   | 75.7   | 83.0   | 80.2   | 81.1   | 70.7   | 61.1   | 48.3   | 38.7   | 37.8   | 38.3   |





TEST NUMBER: P776545  
 CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

|       | 0°   | 22.5° | 45°  | 67.5° | 90°  | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|------|-------|------|-------|------|--------|------|--------|------|--------|------|
| 67.5° | 20.5 | 36.5  | 42.9 | 41.0  | 46.0 | 39.2   | 30.5 | 18.7   | 13.7 | 14.6   | 15.0 |
| 68°   | 16.9 | 26.9  | 31.9 | 31.0  | 35.6 | 28.7   | 20.1 | 13.7   | 8.7  | 10.0   | 10.0 |
| 68.5° | 13.2 | 19.1  | 22.8 | 22.3  | 25.5 | 18.2   | 13.7 | 9.1    | 5.0  | 6.4    | 6.4  |
| 69°   | 9.6  | 16.0  | 15.5 | 15.5  | 15.0 | 12.3   | 9.1  | 5.9    | 3.2  | 4.1    | 4.1  |
| 69.5° | 5.9  | 12.8  | 12.3 | 12.3  | 9.6  | 7.7    | 5.0  | 3.6    | 2.7  | 2.7    | 2.7  |
| 70°   | 2.7  | 9.6   | 9.1  | 9.1   | 5.9  | 4.1    | 3.2  | 2.7    | 2.7  | 2.7    | 2.7  |
| 70.5° | 2.3  | 5.9   | 5.9  | 5.9   | 3.6  | 2.7    | 2.7  | 2.3    | 2.3  | 2.7    | 2.7  |
| 71°   | 2.3  | 2.7   | 3.2  | 3.2   | 2.7  | 2.7    | 2.3  | 2.3    | 2.3  | 2.3    | 2.7  |
| 71.5° | 2.3  | 2.7   | 2.7  | 2.7   | 2.7  | 2.3    | 2.3  | 2.3    | 2.3  | 2.3    | 2.3  |
| 72°   | 2.3  | 2.3   | 2.7  | 2.7   | 2.7  | 2.3    | 2.3  | 2.3    | 2.3  | 2.3    | 2.3  |
| 72.5° | 2.3  | 2.3   | 2.7  | 2.7   | 2.3  | 2.3    | 2.3  | 2.3    | 2.3  | 2.3    | 2.3  |
| 73°   | 2.3  | 2.3   | 2.7  | 2.7   | 2.3  | 2.3    | 2.3  | 1.8    | 2.3  | 2.3    | 2.3  |
| 73.5° | 1.8  | 2.3   | 2.3  | 2.3   | 2.3  | 2.3    | 1.8  | 1.8    | 1.8  | 2.3    | 2.3  |
| 74°   | 1.8  | 2.3   | 2.3  | 2.3   | 2.3  | 2.3    | 1.8  | 1.8    | 1.8  | 1.8    | 2.3  |
| 74.5° | 1.8  | 2.3   | 2.3  | 2.3   | 2.3  | 1.8    | 1.8  | 1.8    | 1.8  | 1.8    | 1.8  |
| 75°   | 1.8  | 1.8   | 2.3  | 2.3   | 2.3  | 1.8    | 1.8  | 1.8    | 1.8  | 1.8    | 1.8  |
| 75.5° | 1.8  | 1.8   | 2.3  | 2.3   | 1.8  | 1.8    | 1.8  | 1.8    | 1.8  | 1.8    | 1.8  |
| 76°   | 1.8  | 1.8   | 1.8  | 2.3   | 1.8  | 1.8    | 1.8  | 1.8    | 1.8  | 1.8    | 1.8  |
| 76.5° | 1.4  | 1.8   | 1.8  | 1.8   | 1.8  | 1.8    | 1.8  | 1.4    | 1.4  | 1.8    | 1.8  |
| 77°   | 1.4  | 1.8   | 1.8  | 1.8   | 1.8  | 1.8    | 1.4  | 1.4    | 1.4  | 1.4    | 1.8  |
| 77.5° | 1.4  | 1.4   | 1.8  | 1.8   | 1.8  | 1.4    | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  |
| 78°   | 1.4  | 1.4   | 1.8  | 1.8   | 1.8  | 1.4    | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  |
| 78.5° | 1.4  | 1.4   | 1.8  | 1.8   | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  |
| 79°   | 1.4  | 1.4   | 1.4  | 1.8   | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  |
| 79.5° | 0.9  | 1.4   | 1.4  | 1.4   | 1.4  | 1.4    | 1.4  | 0.9    | 0.9  | 0.9    | 1.4  |
| 80°   | 0.9  | 1.4   | 1.4  | 1.4   | 1.4  | 1.4    | 1.4  | 0.9    | 0.9  | 0.9    | 1.4  |
| 80.5° | 0.9  | 0.9   | 1.4  | 1.4   | 1.4  | 1.4    | 0.9  | 0.9    | 0.9  | 0.9    | 0.9  |
| 81°   | 0.9  | 0.9   | 1.4  | 1.4   | 1.4  | 0.9    | 0.9  | 0.9    | 0.9  | 0.9    | 0.9  |
| 81.5° | 0.9  | 0.9   | 0.9  | 1.4   | 1.4  | 0.9    | 0.9  | 0.9    | 0.9  | 0.9    | 0.9  |
| 82°   | 0.9  | 0.9   | 0.9  | 1.4   | 0.9  | 0.9    | 0.9  | 0.9    | 0.9  | 0.9    | 0.9  |
| 82.5° | 0.5  | 0.9   | 0.9  | 0.9   | 0.9  | 0.9    | 0.9  | 0.5    | 0.5  | 0.5    | 0.9  |
| 83°   | 0.5  | 0.5   | 0.9  | 0.9   | 0.9  | 0.9    | 0.9  | 0.5    | 0.5  | 0.5    | 0.5  |
| 83.5° | 0.5  | 0.5   | 0.9  | 0.9   | 0.9  | 0.9    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 84°   | 0.5  | 0.5   | 0.9  | 0.9   | 0.9  | 0.9    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 84.5° | 0.5  | 0.5   | 0.5  | 0.9   | 0.9  | 0.5    | 0.5  | 0.5    | 0.0  | 0.5    | 0.5  |
| 85°   | 0.0  | 0.5   | 0.5  | 0.5   | 0.5  | 0.5    | 0.5  | 0.5    | 0.0  | 0.5    | 0.5  |
| 85.5° | 0.0  | 0.5   | 0.5  | 0.5   | 0.5  | 0.5    | 0.5  | 0.0    | 0.0  | 0.0    | 0.5  |
| 86°   | 0.0  | 0.5   | 0.5  | 0.5   | 0.5  | 0.5    | 0.5  | 0.0    | 0.0  | 0.0    | 0.5  |
| 86.5° | 0.0  | 0.0   | 0.5  | 0.5   | 0.5  | 0.5    | 0.5  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87°   | 0.0  | 0.0   | 0.5  | 0.5   | 0.5  | 0.5    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87.5° | 0.0  | 0.0   | 0.0  | 0.5   | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88°   | 0.0  | 0.0   | 0.0  | 0.0   | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88.5° | 0.0  | 0.0   | 0.0  | 0.0   | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |



TEST NUMBER: P776545  
CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-2700K

**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  | 0.5    | 0.5  |



TEST NUMBER: P776545

CATALOG NUMBER: HCDJBL4050CSD-HCD41TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°   | 292.5° | 315°   | 337.5° | 360°   |
|-------|--------|--------|--------|--------|--------|--------|
| 0°    | 3162.4 | 3162.4 | 3162.4 | 3162.4 | 3162.4 | 3162.4 |
| 0.5°  | 3161.9 | 3159.6 | 3161.5 | 3162.8 | 3164.2 | 3163.7 |
| 1°    | 3160.1 | 3157.8 | 3160.5 | 3162.8 | 3165.1 | 3165.1 |
| 1.5°  | 3157.8 | 3155.5 | 3159.2 | 3162.8 | 3165.1 | 3166.0 |
| 2°    | 3155.5 | 3152.8 | 3156.9 | 3161.5 | 3164.6 | 3166.5 |
| 2.5°  | 3152.3 | 3149.6 | 3154.6 | 3159.6 | 3164.2 | 3166.5 |
| 3°    | 3148.7 | 3146.0 | 3151.0 | 3157.4 | 3163.3 | 3166.5 |
| 3.5°  | 3144.6 | 3141.9 | 3147.3 | 3154.6 | 3161.9 | 3166.5 |
| 4°    | 3139.6 | 3136.8 | 3143.2 | 3151.9 | 3160.1 | 3165.6 |
| 4.5°  | 3134.1 | 3131.8 | 3138.2 | 3148.2 | 3158.3 | 3164.6 |
| 5°    | 3128.2 | 3125.9 | 3133.2 | 3144.1 | 3156.4 | 3163.7 |
| 5.5°  | 3121.8 | 3119.5 | 3127.7 | 3140.0 | 3154.2 | 3161.9 |
| 6°    | 3115.0 | 3113.1 | 3121.8 | 3135.5 | 3151.4 | 3160.1 |
| 6.5°  | 3108.1 | 3106.3 | 3115.9 | 3130.9 | 3148.2 | 3158.7 |
| 7°    | 3100.8 | 3099.5 | 3109.9 | 3126.4 | 3145.5 | 3156.4 |
| 7.5°  | 3093.5 | 3092.2 | 3103.1 | 3121.3 | 3141.9 | 3154.6 |
| 8°    | 3086.2 | 3084.9 | 3096.7 | 3116.3 | 3138.7 | 3151.9 |
| 8.5°  | 3078.5 | 3077.6 | 3089.9 | 3111.3 | 3134.6 | 3148.7 |
| 9°    | 3070.7 | 3069.8 | 3083.0 | 3105.8 | 3130.0 | 3145.5 |
| 9.5°  | 3063.0 | 3061.6 | 3075.8 | 3099.9 | 3125.0 | 3141.9 |
| 10°   | 3055.2 | 3053.4 | 3068.0 | 3094.0 | 3120.0 | 3138.2 |
| 10.5° | 3047.0 | 3045.2 | 3060.7 | 3088.1 | 3114.5 | 3133.6 |
| 11°   | 3038.8 | 3036.5 | 3053.0 | 3082.1 | 3108.6 | 3129.1 |
| 11.5° | 3030.2 | 3027.0 | 3044.3 | 3075.8 | 3102.7 | 3124.1 |
| 12°   | 3021.5 | 3017.9 | 3036.1 | 3069.4 | 3096.7 | 3119.5 |
| 12.5° | 3012.4 | 3007.4 | 3027.0 | 3062.1 | 3089.9 | 3114.0 |
| 13°   | 3002.8 | 2996.9 | 3017.4 | 3055.2 | 3082.6 | 3108.6 |
| 13.5° | 2993.2 | 2985.0 | 3007.8 | 3047.0 | 3075.3 | 3102.2 |
| 14°   | 2982.3 | 2972.7 | 2996.9 | 3038.4 | 3067.1 | 3095.8 |
| 14.5° | 2970.9 | 2960.0 | 2985.0 | 3029.3 | 3058.4 | 3089.4 |
| 15°   | 2959.1 | 2946.3 | 2972.7 | 3018.8 | 3049.3 | 3081.7 |
| 15.5° | 2945.8 | 2931.7 | 2959.5 | 3007.8 | 3038.8 | 3073.9 |
| 16°   | 2932.2 | 2916.2 | 2945.4 | 2996.4 | 3028.3 | 3065.7 |
| 16.5° | 2917.6 | 2900.2 | 2930.3 | 2984.1 | 3016.5 | 3056.6 |
| 17°   | 2902.5 | 2883.4 | 2914.8 | 2970.9 | 3005.1 | 3047.0 |
| 17.5° | 2887.0 | 2866.1 | 2898.4 | 2956.8 | 2992.8 | 3037.0 |
| 18°   | 2870.2 | 2847.8 | 2881.6 | 2942.6 | 2980.0 | 3027.4 |
| 18.5° | 2852.8 | 2829.1 | 2864.7 | 2927.1 | 2966.8 | 3016.9 |
| 19°   | 2834.6 | 2810.0 | 2846.0 | 2911.2 | 2953.6 | 3006.5 |
| 19.5° | 2815.5 | 2789.5 | 2826.8 | 2894.3 | 2939.4 | 2995.1 |
| 20°   | 2795.4 | 2768.0 | 2806.8 | 2876.5 | 2924.9 | 2982.3 |
| 20.5° | 2774.4 | 2746.6 | 2786.3 | 2858.3 | 2908.9 | 2969.5 |
| 21°   | 2753.0 | 2723.8 | 2764.9 | 2838.7 | 2892.0 | 2955.4 |

TEST NUMBER: P776545

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°   | 292.5° | 315°   | 337.5° | 360°   |
|-------|--------|--------|--------|--------|--------|--------|
| 22.5° | 2683.7 | 2654.1 | 2696.9 | 2776.2 | 2839.2 | 2908.4 |
| 23°   | 2659.5 | 2629.5 | 2672.8 | 2753.5 | 2820.0 | 2891.1 |
| 23.5° | 2634.9 | 2605.3 | 2649.5 | 2730.7 | 2800.9 | 2872.0 |
| 24°   | 2610.3 | 2581.1 | 2625.4 | 2707.9 | 2780.4 | 2852.4 |
| 24.5° | 2584.8 | 2556.5 | 2601.2 | 2684.2 | 2759.4 | 2831.9 |
| 25°   | 2559.7 | 2531.9 | 2577.0 | 2660.0 | 2738.0 | 2810.0 |
| 25.5° | 2534.6 | 2507.3 | 2553.3 | 2636.8 | 2717.4 | 2788.6 |
| 26°   | 2508.7 | 2483.1 | 2528.3 | 2613.0 | 2695.6 | 2766.2 |
| 26.5° | 2482.7 | 2458.1 | 2504.1 | 2589.3 | 2673.2 | 2743.4 |
| 27°   | 2457.1 | 2433.4 | 2479.5 | 2564.7 | 2650.9 | 2719.7 |
| 27.5° | 2432.1 | 2408.8 | 2455.3 | 2540.6 | 2628.1 | 2695.1 |
| 28°   | 2407.0 | 2385.1 | 2430.2 | 2515.9 | 2604.4 | 2670.5 |
| 28.5° | 2382.4 | 2361.4 | 2407.0 | 2491.8 | 2581.1 | 2645.4 |
| 29°   | 2357.3 | 2336.8 | 2383.3 | 2467.6 | 2557.0 | 2620.3 |
| 29.5° | 2333.1 | 2314.0 | 2359.6 | 2444.4 | 2533.3 | 2595.7 |
| 30°   | 2309.9 | 2291.7 | 2335.9 | 2420.7 | 2509.6 | 2570.2 |
| 30.5° | 2287.1 | 2268.9 | 2313.5 | 2397.4 | 2486.8 | 2545.6 |
| 31°   | 2263.8 | 2246.5 | 2291.2 | 2374.2 | 2464.0 | 2521.0 |
| 31.5° | 2240.1 | 2223.3 | 2268.0 | 2351.8 | 2440.3 | 2497.3 |
| 32°   | 2217.4 | 2200.9 | 2245.2 | 2327.7 | 2416.6 | 2471.7 |
| 32.5° | 2194.1 | 2178.1 | 2222.4 | 2304.9 | 2393.3 | 2448.5 |
| 33°   | 2169.0 | 2154.0 | 2198.7 | 2281.2 | 2369.6 | 2423.4 |
| 33.5° | 2143.5 | 2129.8 | 2174.0 | 2255.6 | 2344.1 | 2397.0 |
| 34°   | 2118.0 | 2104.3 | 2149.4 | 2229.7 | 2316.7 | 2368.2 |
| 34.5° | 2092.0 | 2079.2 | 2123.4 | 2203.2 | 2288.0 | 2339.5 |
| 35°   | 2064.6 | 2053.7 | 2097.5 | 2175.9 | 2259.3 | 2310.3 |
| 35.5° | 2037.7 | 2027.7 | 2071.5 | 2148.5 | 2229.7 | 2280.3 |
| 36°   | 2008.6 | 1999.9 | 2045.0 | 2119.8 | 2199.6 | 2250.2 |
| 36.5° | 1978.9 | 1971.6 | 2017.2 | 2091.5 | 2168.1 | 2219.6 |
| 37°   | 1947.0 | 1942.5 | 1987.6 | 2061.0 | 2135.8 | 2186.8 |
| 37.5° | 1916.0 | 1912.8 | 1958.0 | 2028.6 | 2102.0 | 2154.4 |
| 38°   | 1882.3 | 1880.9 | 1927.0 | 1996.3 | 2067.8 | 2119.8 |
| 38.5° | 1845.4 | 1846.7 | 1893.7 | 1963.0 | 2033.6 | 2085.6 |
| 39°   | 1807.1 | 1810.7 | 1858.1 | 1927.0 | 1998.1 | 2052.3 |
| 39.5° | 1768.3 | 1772.4 | 1820.3 | 1888.7 | 1962.1 | 2016.3 |
| 40°   | 1725.9 | 1732.3 | 1781.1 | 1849.0 | 1924.2 | 1980.3 |
| 40.5° | 1683.5 | 1690.8 | 1741.4 | 1809.3 | 1885.5 | 1942.0 |
| 41°   | 1640.2 | 1648.4 | 1700.9 | 1768.8 | 1844.4 | 1905.5 |
| 41.5° | 1597.4 | 1605.1 | 1658.9 | 1728.2 | 1802.5 | 1865.9 |
| 42°   | 1553.1 | 1564.1 | 1618.3 | 1686.7 | 1762.4 | 1825.8 |
| 42.5° | 1508.9 | 1520.8 | 1576.4 | 1644.3 | 1720.5 | 1782.5 |
| 43°   | 1464.7 | 1478.8 | 1534.9 | 1601.9 | 1678.1 | 1741.0 |
| 43.5° | 1421.9 | 1434.2 | 1492.5 | 1559.1 | 1633.4 | 1696.3 |

TEST NUMBER: P776545

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°   | 292.5° | 315°   | 337.5° | 360°   |
|-------|--------|--------|--------|--------|--------|--------|
| 45°   | 1286.9 | 1307.0 | 1365.8 | 1428.7 | 1500.7 | 1557.3 |
| 45.5° | 1244.5 | 1263.7 | 1323.8 | 1385.4 | 1455.6 | 1510.3 |
| 46°   | 1199.8 | 1221.7 | 1282.4 | 1342.1 | 1410.0 | 1463.3 |
| 46.5° | 1156.5 | 1179.3 | 1239.5 | 1296.9 | 1363.5 | 1415.5 |
| 47°   | 1113.7 | 1137.4 | 1197.6 | 1253.6 | 1317.9 | 1369.0 |
| 47.5° | 1072.2 | 1094.1 | 1154.7 | 1209.9 | 1272.3 | 1322.9 |
| 48°   | 1029.8 | 1053.1 | 1112.3 | 1166.6 | 1226.7 | 1276.9 |
| 48.5° | 988.8  | 1011.1 | 1069.5 | 1122.4 | 1180.7 | 1230.8 |
| 49°   | 947.3  | 970.5  | 1027.5 | 1080.9 | 1136.5 | 1187.5 |
| 49.5° | 909.0  | 930.0  | 985.6  | 1037.1 | 1091.8 | 1142.4 |
| 50°   | 867.5  | 889.4  | 944.1  | 994.3  | 1047.6 | 1098.6 |
| 50.5° | 828.3  | 848.8  | 901.7  | 951.9  | 1002.9 | 1054.4 |
| 51°   | 789.1  | 809.6  | 861.6  | 910.4  | 960.1  | 1012.0 |
| 51.5° | 750.8  | 770.9  | 821.0  | 868.4  | 917.7  | 969.2  |
| 52°   | 713.9  | 733.0  | 781.4  | 828.3  | 876.6  | 928.2  |
| 52.5° | 676.5  | 695.7  | 741.2  | 787.3  | 834.7  | 885.8  |
| 53°   | 640.0  | 657.8  | 703.0  | 747.2  | 794.6  | 845.6  |
| 53.5° | 604.5  | 621.4  | 664.7  | 706.6  | 754.9  | 804.2  |
| 54°   | 569.8  | 585.8  | 626.8  | 668.3  | 715.7  | 765.4  |
| 54.5° | 535.2  | 551.1  | 590.4  | 630.9  | 677.9  | 726.7  |
| 55°   | 502.4  | 517.0  | 554.3  | 592.6  | 640.0  | 687.9  |
| 55.5° | 470.0  | 482.8  | 518.3  | 555.2  | 603.6  | 649.6  |
| 56°   | 438.5  | 450.4  | 483.7  | 520.6  | 567.6  | 613.1  |
| 56.5° | 408.9  | 418.5  | 449.9  | 486.0  | 532.9  | 577.1  |
| 57°   | 379.7  | 387.5  | 417.1  | 451.8  | 498.7  | 540.7  |
| 57.5° | 350.6  | 356.5  | 384.3  | 418.5  | 464.5  | 506.0  |
| 58°   | 321.4  | 328.2  | 354.7  | 386.6  | 432.6  | 472.3  |
| 58.5° | 294.5  | 299.5  | 324.1  | 356.0  | 402.1  | 439.5  |
| 59°   | 268.5  | 272.2  | 295.4  | 326.4  | 371.5  | 407.5  |
| 59.5° | 243.4  | 246.2  | 267.6  | 298.1  | 342.4  | 375.6  |
| 60°   | 219.7  | 220.6  | 241.2  | 269.9  | 314.1  | 345.5  |
| 60.5° | 197.4  | 196.9  | 216.1  | 244.8  | 285.8  | 315.9  |
| 61°   | 175.5  | 173.7  | 191.9  | 219.7  | 258.9  | 287.2  |
| 61.5° | 155.5  | 154.5  | 169.1  | 196.5  | 233.9  | 260.8  |
| 62°   | 136.3  | 136.3  | 151.3  | 173.7  | 209.2  | 233.9  |
| 62.5° | 118.5  | 118.1  | 133.1  | 155.0  | 185.5  | 208.8  |
| 63°   | 102.6  | 99.8   | 115.3  | 137.2  | 163.7  | 185.5  |
| 63.5° | 87.5   | 81.1   | 97.1   | 119.4  | 145.4  | 162.7  |
| 64°   | 74.3   | 67.5   | 79.3   | 101.7  | 127.6  | 142.2  |
| 64.5° | 62.5   | 56.1   | 65.6   | 83.9   | 109.9  | 121.7  |
| 65°   | 54.2   | 45.6   | 53.8   | 70.2   | 91.6   | 101.7  |
| 65.5° | 45.6   | 36.9   | 43.3   | 57.4   | 73.9   | 81.1   |
| 66°   | 36.9   | 29.2   | 34.2   | 46.0   | 59.7   | 60.6   |



TEST NUMBER: P776545

CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|------|--------|------|--------|------|
| 67.5° | 14.6   | 13.7 | 15.0   | 20.5 | 26.9   | 20.5 |
| 68°   | 10.0   | 10.5 | 11.9   | 14.6 | 19.1   | 16.9 |
| 68.5° | 6.4    | 7.3  | 8.7    | 11.4 | 15.5   | 13.2 |
| 69°   | 4.1    | 3.6  | 5.9    | 8.2  | 12.3   | 9.6  |
| 69.5° | 2.7    | 2.7  | 2.7    | 5.5  | 9.1    | 5.9  |
| 70°   | 2.7    | 2.3  | 2.3    | 2.3  | 5.5    | 2.7  |
| 70.5° | 2.7    | 2.3  | 2.3    | 2.3  | 2.3    | 2.3  |
| 71°   | 2.3    | 2.3  | 2.3    | 2.3  | 2.3    | 2.3  |
| 71.5° | 2.3    | 2.3  | 2.3    | 2.3  | 2.3    | 2.3  |
| 72°   | 2.3    | 2.3  | 1.8    | 1.8  | 2.3    | 2.3  |
| 72.5° | 2.3    | 2.3  | 1.8    | 1.8  | 1.8    | 2.3  |
| 73°   | 2.3    | 1.8  | 1.8    | 1.8  | 1.8    | 2.3  |
| 73.5° | 2.3    | 1.8  | 1.8    | 1.8  | 1.8    | 1.8  |
| 74°   | 1.8    | 1.8  | 1.8    | 1.8  | 1.8    | 1.8  |
| 74.5° | 1.8    | 1.8  | 1.8    | 1.8  | 1.8    | 1.8  |
| 75°   | 1.8    | 1.8  | 1.8    | 1.8  | 1.8    | 1.8  |
| 75.5° | 1.8    | 1.8  | 1.4    | 1.4  | 1.4    | 1.8  |
| 76°   | 1.8    | 1.8  | 1.4    | 1.4  | 1.4    | 1.8  |
| 76.5° | 1.8    | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  |
| 77°   | 1.8    | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  |
| 77.5° | 1.4    | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  |
| 78°   | 1.4    | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  |
| 78.5° | 1.4    | 1.4  | 1.4    | 1.4  | 1.4    | 1.4  |
| 79°   | 1.4    | 1.4  | 1.4    | 0.9  | 0.9    | 1.4  |
| 79.5° | 1.4    | 1.4  | 0.9    | 0.9  | 0.9    | 0.9  |
| 80°   | 1.4    | 0.9  | 0.9    | 0.9  | 0.9    | 0.9  |
| 80.5° | 0.9    | 0.9  | 0.9    | 0.9  | 0.9    | 0.9  |
| 81°   | 0.9    | 0.9  | 0.9    | 0.9  | 0.9    | 0.9  |
| 81.5° | 0.9    | 0.9  | 0.9    | 0.9  | 0.9    | 0.9  |
| 82°   | 0.9    | 0.9  | 0.9    | 0.9  | 0.5    | 0.9  |
| 82.5° | 0.9    | 0.9  | 0.9    | 0.5  | 0.5    | 0.5  |
| 83°   | 0.9    | 0.9  | 0.5    | 0.5  | 0.5    | 0.5  |
| 83.5° | 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  |
| 84.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 85°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.0  |
| 85.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.0    | 0.0  |
| 86°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.0    | 0.0  |
| 86.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |



TEST NUMBER: P776545  
CATALOG NUMBER: HCDJBL54050CSD-HCD41TRC-5000lm-2700K

**CANDELA DISTRIBUTION (continued):**

|     | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-----|--------|------|--------|------|--------|------|
| 90° | 0.5    | 0.5  | 0.0    | 0.0  | 0.0    | 0.0  |



Report Generated By 670245859 / DESKTOP-T8S5UU9



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

Scaled Data Report





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

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

Scaled Data Report



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1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report





|       |        |        |        |        |        |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 21.5° | 2940.4 | 2933.1 | 2949.9 | 2927.6 | 2942.2 | 2884.3 | 2835.1 | 2769.9 | 2704.7 | 2724.7 | 2737.0 |
| 22°   | 2925.3 | 2917.1 | 2932.6 | 2912.1 | 2927.6 | 2867.4 | 2816.4 | 2747.5 | 2681.9 | 2701.9 | 2718.8 |



|       |        |        |        |        |        |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 44°   | 1650.7 | 1678.5 | 1692.2 | 1679.4 | 1676.7 | 1623.8 | 1558.2 | 1486.6 | 1425.5 | 1382.7 | 1364.0 |
| 44.5° | 1601.9 | 1635.2 | 1648.9 | 1637.0 | 1628.8 | 1579.6 | 1515.3 | 1445.1 | 1384.0 | 1338.4 | 1320.2 |



|       |      |      |      |      |      |      |      |      |      |      |      |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| 66.5° | 45.1 | 60.6 | 67.9 | 65.6 | 66.6 | 60.2 | 51.1 | 38.3 | 29.2 | 28.7 | 29.6 |
| 67°   | 31.0 | 47.9 | 54.7 | 52.4 | 56.1 | 49.7 | 40.6 | 28.7 | 20.1 | 20.1 | 21.0 |



|       |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 89°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 |
| 89.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 0.5 |



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Scaled Data Report



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Peachtree City, GA 30269

Scaled Data Report



|       |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|
| 21.5° | 2730.7 | 2701.5 | 2743.0 | 2818.2 | 2875.2 | 2940.4 |
| 22°   | 2707.0 | 2677.3 | 2720.2 | 2797.7 | 2857.4 | 2925.3 |



|       |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|
| 44°   | 1374.9 | 1391.8 | 1449.7 | 1516.2 | 1589.6 | 1650.7 |
| 44.5° | 1330.7 | 1348.9 | 1407.7 | 1472.5 | 1545.9 | 1601.9 |

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1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



|       |      |      |      |      |      |      |
|-------|------|------|------|------|------|------|
| 66.5° | 28.3 | 22.8 | 26.4 | 36.5 | 47.0 | 45.1 |
| 67°   | 20.1 | 17.3 | 20.1 | 27.8 | 36.0 | 31.0 |

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

Scaled Data Report



|       |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|
| 89°   | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 89.5° | 0.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |

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Cooper Lighting Solutions Photometric Lab  
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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)