

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



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: LUMARK

Report Number: P1449909

Luminaire Tested: **TWC60\_T3\_60W\_4000K**

Issue Date: 5/19/2026

**Test Information**

Test Method: LM-79-08  
Report Number: P1449909  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( )  
Test Lab: INNOVATION CENTER  
Issue Date: 5/19/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: TWC60\_T3\_60W\_4000K  
Description: Tapered Wall Cutoff Wall Mount Luminaire at, T3 distribution, 60W  
4000K settings  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9623 lumens  
Efficiency: N/A  
Efficacy: 170.9 lumens/watt  
Luminous Opening: Rectangular (W 0.67' x L: 0.42' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B3 - U0 - G2

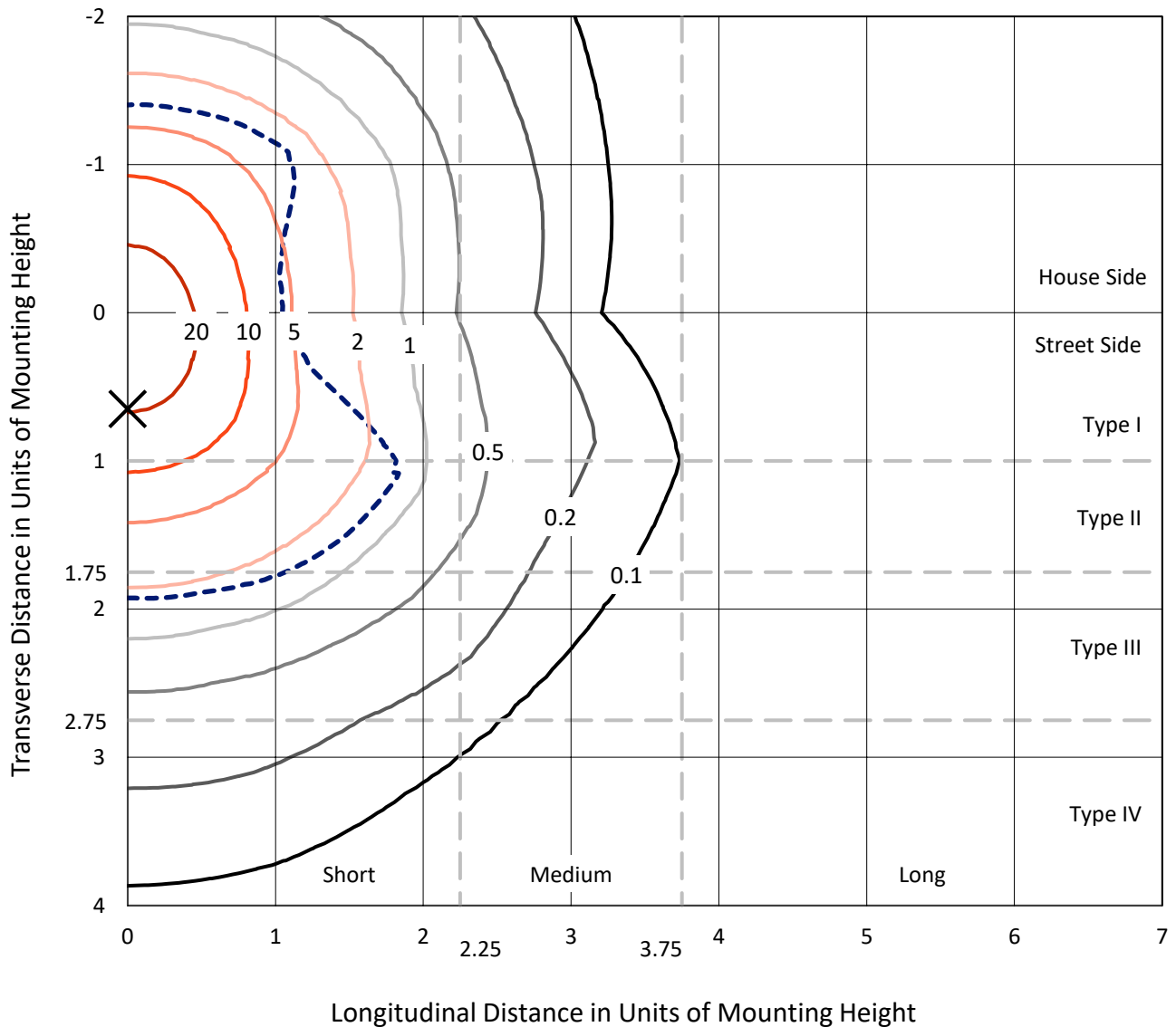
Input Watts (W): 56.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

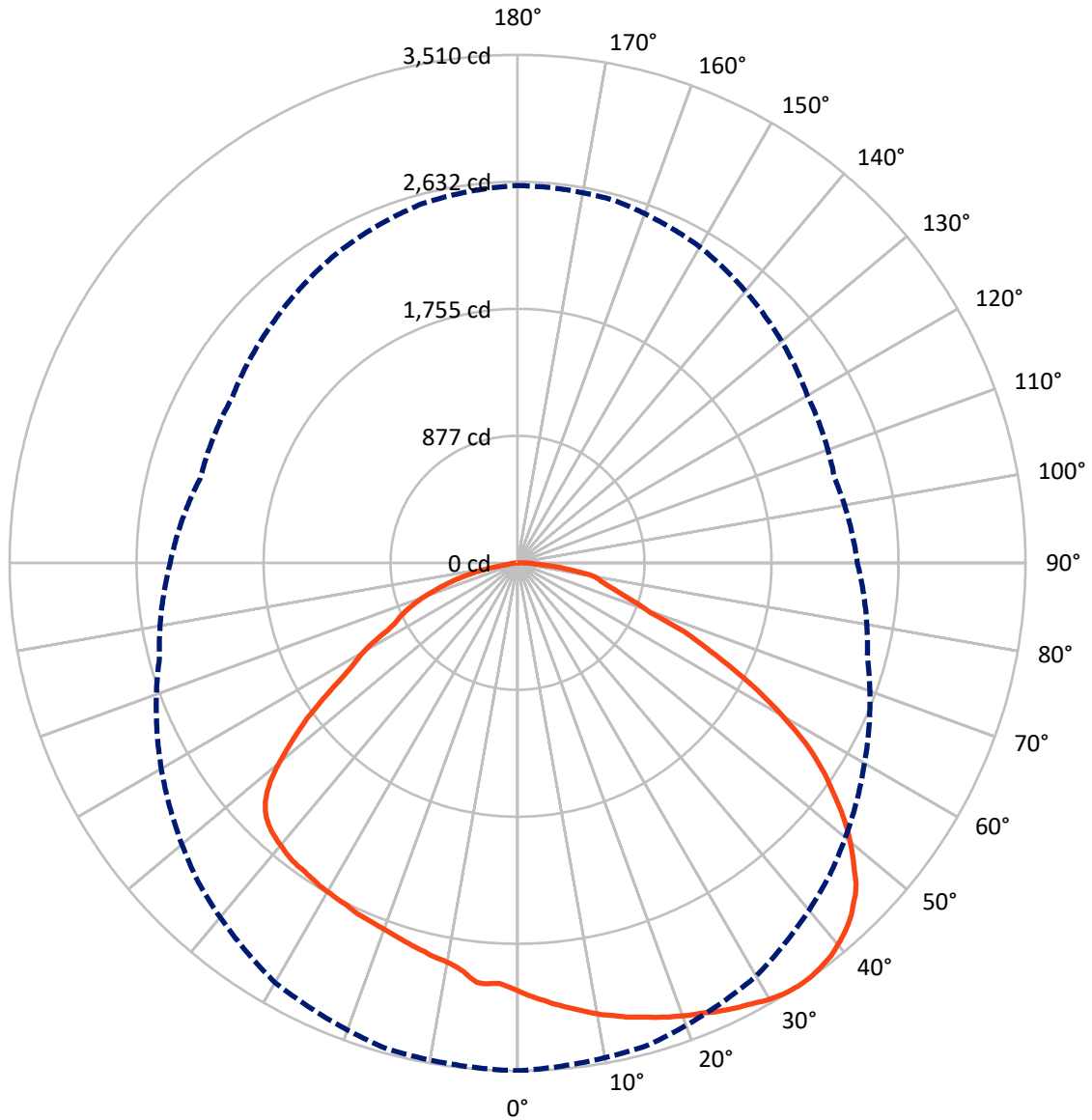
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 30.4 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral      - - - Horizontal Cone Through 33-Deg Vertical

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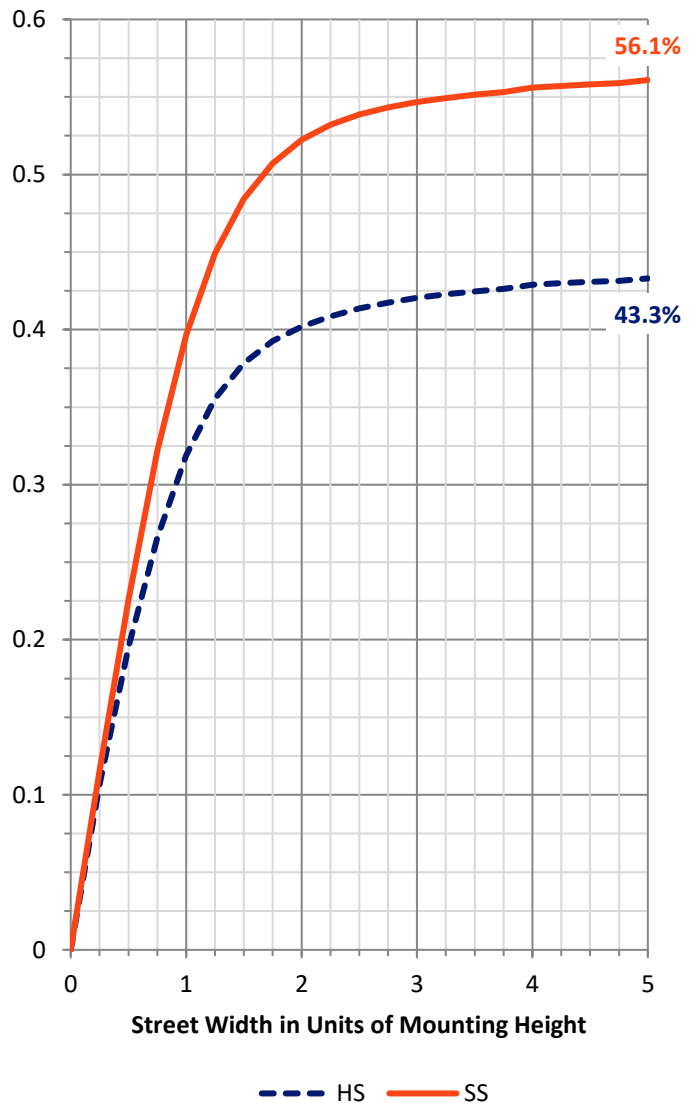
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 4191.2   | 0.0    | 4191.2 |
|                    | % Fixture | 43.6     | 0.0    | 43.6   |
| <b>Street Side</b> | Lumens    | 5431.8   | 0.0    | 5431.8 |
|                    | % Fixture | 56.4     | 0.0    | 56.4   |
| <b>Total</b>       | Lumens    | 9623.0   | 0.0    | 9623.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 283.3  | 2.9       |
| 10°-20°   | 828.4  | 8.6       |
| 20°-30°   | 1309.3 | 13.6      |
| 30°-40°   | 1682.3 | 17.5      |
| 40°-50°   | 1878.5 | 19.5      |
| 50°-60°   | 1739.7 | 18.1      |
| 60°-70°   | 1201.9 | 12.5      |
| 70°-80°   | 569.4  | 5.9       |
| 80°-90°   | 130.2  | 1.4       |
| 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°-90°    | 9623.0 | 100.0     |
| 0°-180°   | 9623.0 | 100.0     |

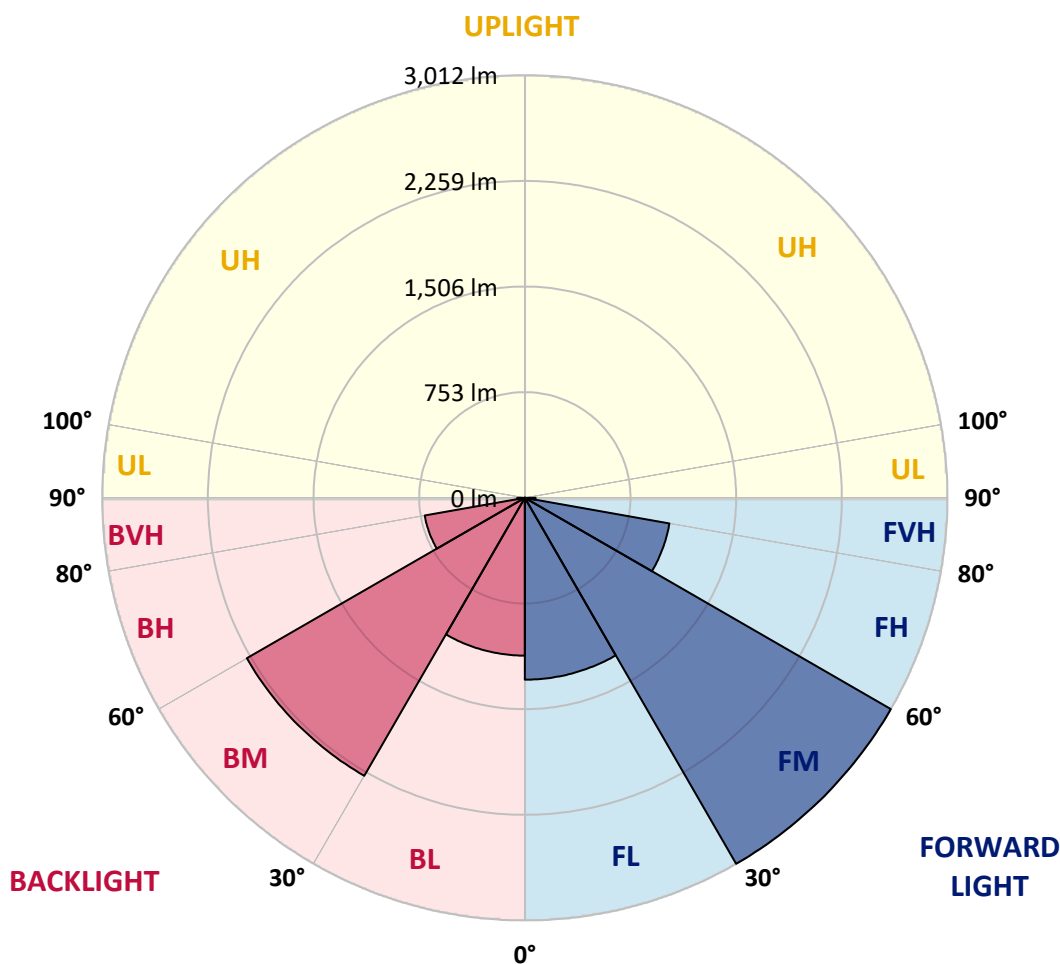


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 1296.2 | 13.5      |                         |      |         |
| FM (30°-60°)   | 3012.4 | 31.3      |                         |      |         |
| FH (60°-80°)   | 1046.6 | 10.9      |                         |      | G1/1800 |
| FVH (80°-90°)  | 76.6   | 0.8       |                         |      | G1/100  |
| BL (0°-30°)    | 1124.8 | 11.7      | B3/2500                 |      |         |
| BM (30°-60°)   | 2288.1 | 23.8      | B2/2500                 |      |         |
| BH (60°-80°)   | 724.7  | 7.5       | B2/1000                 |      | G2/1000 |
| BVH (80°-90°)  | 53.6   | 0.6       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G2**  
 Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|     | 0°     | 15°    | 30°    | 45°    | 60°    | 75°    | 90°    | 105°   | 120°   | 135°   | 150°   |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°  | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 |
| 1°  | 2990.1 | 2990.5 | 2985.7 | 2982.2 | 2980.2 | 2974.1 | 2963.2 | 2959.4 | 2954.9 | 2953.3 | 2945.1 |
| 2°  | 3011.7 | 3010.7 | 3005.5 | 2994.7 | 2988.9 | 2977.2 | 2962.8 | 2950.4 | 2939.7 | 2933.4 | 2930.5 |
| 3°  | 3030.0 | 3033.0 | 3021.4 | 3011.5 | 2995.6 | 2981.5 | 2958.7 | 2941.4 | 2929.2 | 2916.8 | 2913.1 |
| 4°  | 3054.2 | 3053.3 | 3039.6 | 3020.4 | 3005.3 | 2976.8 | 2953.0 | 2929.0 | 2915.9 | 2903.7 | 2909.0 |
| 5°  | 3072.7 | 3068.7 | 3056.8 | 3031.7 | 3006.0 | 2977.0 | 2946.5 | 2923.0 | 2905.6 | 2904.9 | 2913.0 |
| 6°  | 3093.5 | 3084.6 | 3070.0 | 3045.0 | 3015.0 | 2976.3 | 2934.4 | 2909.3 | 2896.3 | 2911.8 | 2917.1 |
| 7°  | 3111.6 | 3103.5 | 3085.0 | 3053.9 | 3016.9 | 2971.7 | 2926.3 | 2895.4 | 2895.1 | 2912.1 | 2902.6 |
| 8°  | 3133.9 | 3124.1 | 3097.3 | 3059.8 | 3019.7 | 2970.6 | 2917.2 | 2884.0 | 2894.5 | 2896.2 | 2871.6 |
| 9°  | 3153.5 | 3142.9 | 3113.7 | 3071.5 | 3019.1 | 2964.0 | 2906.0 | 2876.4 | 2894.4 | 2874.7 | 2835.8 |
| 10° | 3174.2 | 3160.2 | 3128.2 | 3081.0 | 3020.8 | 2959.0 | 2893.9 | 2867.4 | 2882.0 | 2836.5 | 2814.6 |
| 11° | 3190.3 | 3177.8 | 3141.5 | 3089.4 | 3022.6 | 2954.1 | 2883.4 | 2860.7 | 2863.5 | 2809.6 | 2800.5 |
| 12° | 3207.7 | 3192.6 | 3153.8 | 3092.6 | 3022.0 | 2942.8 | 2869.3 | 2854.7 | 2830.7 | 2788.5 | 2783.1 |
| 13° | 3228.2 | 3210.9 | 3168.1 | 3101.3 | 3020.5 | 2936.1 | 2853.5 | 2844.8 | 2796.4 | 2769.8 | 2769.6 |
| 14° | 3242.8 | 3225.2 | 3173.7 | 3106.5 | 3020.5 | 2928.2 | 2833.9 | 2835.4 | 2770.6 | 2754.9 | 2759.9 |
| 15° | 3257.9 | 3240.0 | 3183.9 | 3109.6 | 3017.7 | 2916.6 | 2817.6 | 2815.7 | 2746.9 | 2736.8 | 2745.1 |
| 16° | 3275.3 | 3250.6 | 3193.1 | 3112.2 | 3010.6 | 2908.0 | 2799.9 | 2798.4 | 2724.3 | 2722.0 | 2731.3 |
| 17° | 3292.0 | 3264.2 | 3199.8 | 3112.5 | 3007.5 | 2891.7 | 2784.2 | 2766.0 | 2704.3 | 2705.9 | 2716.7 |
| 18° | 3309.4 | 3277.1 | 3209.7 | 3108.1 | 3001.4 | 2881.4 | 2765.7 | 2732.1 | 2681.3 | 2687.5 | 2704.2 |
| 19° | 3323.6 | 3292.0 | 3215.2 | 3110.5 | 2995.2 | 2865.3 | 2748.5 | 2698.8 | 2661.6 | 2670.4 | 2689.9 |
| 20° | 3338.8 | 3305.5 | 3224.8 | 3111.8 | 2984.1 | 2849.3 | 2731.3 | 2667.3 | 2640.5 | 2655.6 | 2674.9 |
| 21° | 3352.2 | 3319.3 | 3233.6 | 3110.5 | 2976.3 | 2831.0 | 2716.6 | 2638.9 | 2617.0 | 2634.8 | 2663.3 |
| 22° | 3365.7 | 3328.0 | 3240.3 | 3110.0 | 2961.1 | 2812.1 | 2698.7 | 2612.5 | 2592.7 | 2617.5 | 2649.7 |
| 23° | 3385.3 | 3342.7 | 3243.5 | 3105.6 | 2950.6 | 2795.7 | 2681.9 | 2583.5 | 2570.8 | 2600.1 | 2635.7 |
| 24° | 3401.0 | 3356.2 | 3251.2 | 3103.7 | 2935.0 | 2772.2 | 2664.5 | 2555.0 | 2547.7 | 2580.5 | 2622.3 |
| 25° | 3416.3 | 3368.0 | 3257.2 | 3100.9 | 2921.6 | 2745.4 | 2638.0 | 2526.5 | 2522.8 | 2562.2 | 2611.6 |
| 26° | 3432.0 | 3379.6 | 3263.6 | 3095.3 | 2906.5 | 2720.8 | 2612.6 | 2498.9 | 2495.1 | 2543.3 | 2602.8 |
| 27° | 3442.4 | 3393.0 | 3268.2 | 3090.0 | 2892.3 | 2695.9 | 2585.0 | 2467.7 | 2472.3 | 2524.7 | 2589.6 |
| 28° | 3457.7 | 3404.6 | 3272.8 | 3083.3 | 2872.0 | 2666.6 | 2548.1 | 2435.2 | 2446.2 | 2509.6 | 2577.7 |
| 29° | 3476.7 | 3415.5 | 3276.8 | 3077.6 | 2854.5 | 2636.2 | 2509.2 | 2404.3 | 2422.1 | 2492.3 | 2565.5 |
| 30° | 3487.9 | 3426.0 | 3281.3 | 3069.0 | 2833.2 | 2604.5 | 2471.4 | 2369.6 | 2393.8 | 2470.4 | 2550.9 |
| 31° | 3499.2 | 3438.0 | 3287.0 | 3062.8 | 2814.7 | 2574.0 | 2428.4 | 2335.3 | 2366.0 | 2454.6 | 2541.8 |
| 32° | 3504.9 | 3446.6 | 3290.3 | 3057.0 | 2795.0 | 2537.4 | 2387.5 | 2302.9 | 2339.8 | 2435.8 | 2531.1 |
| 33° | 3509.6 | 3453.8 | 3297.3 | 3049.9 | 2768.1 | 2501.9 | 2347.6 | 2266.7 | 2312.3 | 2415.4 | 2519.5 |
| 34° | 3508.4 | 3454.6 | 3301.7 | 3039.0 | 2746.6 | 2467.1 | 2304.8 | 2228.0 | 2282.7 | 2395.6 | 2506.0 |
| 35° | 3505.3 | 3449.0 | 3298.9 | 3032.3 | 2723.5 | 2429.5 | 2263.2 | 2193.7 | 2256.0 | 2374.5 | 2493.9 |
| 36° | 3496.6 | 3448.6 | 3299.2 | 3024.7 | 2697.5 | 2388.6 | 2222.8 | 2158.7 | 2226.5 | 2358.1 | 2478.5 |
| 37° | 3485.0 | 3435.4 | 3295.3 | 3016.8 | 2674.2 | 2348.5 | 2178.0 | 2120.6 | 2200.1 | 2333.9 | 2464.6 |
| 38° | 3474.3 | 3427.5 | 3287.0 | 3008.7 | 2645.4 | 2310.1 | 2134.0 | 2081.8 | 2167.3 | 2312.4 | 2450.4 |
| 39° | 3454.3 | 3408.6 | 3280.4 | 3000.6 | 2623.2 | 2269.9 | 2088.4 | 2042.0 | 2137.9 | 2286.8 | 2439.4 |
| 40° | 3433.4 | 3386.6 | 3269.0 | 2989.2 | 2598.1 | 2228.2 | 2043.6 | 2003.8 | 2110.8 | 2264.6 | 2427.8 |
| 41° | 3411.4 | 3367.0 | 3255.2 | 2978.2 | 2569.2 | 2189.4 | 1999.9 | 1969.3 | 2077.5 | 2246.5 | 2414.6 |
| 42° | 3383.5 | 3346.7 | 3232.3 | 2966.8 | 2546.2 | 2144.6 | 1956.1 | 1934.8 | 2045.6 | 2228.3 | 2396.1 |
| 43° | 3351.7 | 3315.8 | 3209.9 | 2953.0 | 2524.2 | 2101.7 | 1912.3 | 1899.0 | 2012.4 | 2207.9 | 2382.3 |
| 44° | 3309.2 | 3280.4 | 3183.9 | 2940.9 | 2497.1 | 2058.9 | 1864.8 | 1859.4 | 1983.3 | 2180.9 | 2368.6 |



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**CANDELA DISTRIBUTION (continued):**

|     | 0°     | 15°    | 30°    | 45°    | 60°    | 75°    | 90°    | 105°   | 120°   | 135°   | 150°   |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 45° | 3272.3 | 3244.7 | 3158.4 | 2927.0 | 2472.3 | 2017.7 | 1815.6 | 1818.5 | 1954.2 | 2155.9 | 2353.0 |
| 46° | 3224.0 | 3200.0 | 3127.1 | 2910.2 | 2449.6 | 1977.5 | 1766.4 | 1778.3 | 1925.0 | 2134.6 | 2335.7 |
| 47° | 3159.1 | 3152.0 | 3090.3 | 2891.4 | 2425.3 | 1933.1 | 1714.7 | 1736.6 | 1894.5 | 2115.3 | 2310.4 |
| 48° | 3097.8 | 3096.3 | 3050.6 | 2866.9 | 2402.9 | 1887.1 | 1664.2 | 1693.6 | 1857.9 | 2091.2 | 2282.2 |
| 49° | 3032.6 | 3029.4 | 3007.0 | 2838.9 | 2380.9 | 1841.1 | 1614.0 | 1649.1 | 1823.9 | 2064.8 | 2254.6 |
| 50° | 2967.9 | 2968.0 | 2954.6 | 2809.3 | 2358.4 | 1792.7 | 1562.4 | 1601.3 | 1793.4 | 2037.6 | 2212.3 |
| 51° | 2897.1 | 2899.0 | 2896.0 | 2779.7 | 2337.8 | 1744.0 | 1511.3 | 1553.4 | 1761.8 | 2009.9 | 2160.4 |
| 52° | 2818.5 | 2827.9 | 2833.2 | 2744.2 | 2312.8 | 1693.8 | 1457.5 | 1509.0 | 1728.0 | 1982.1 | 2095.5 |
| 53° | 2733.9 | 2746.1 | 2769.8 | 2707.6 | 2289.9 | 1644.0 | 1406.5 | 1464.3 | 1691.8 | 1954.4 | 2011.6 |
| 54° | 2652.7 | 2663.0 | 2693.2 | 2660.5 | 2267.5 | 1593.4 | 1352.4 | 1418.7 | 1651.8 | 1926.5 | 1927.7 |
| 55° | 2576.4 | 2582.6 | 2613.6 | 2604.6 | 2234.1 | 1543.7 | 1299.8 | 1372.3 | 1612.9 | 1884.3 | 1843.8 |
| 56° | 2485.5 | 2501.0 | 2532.3 | 2546.2 | 2203.8 | 1493.6 | 1245.7 | 1325.3 | 1574.4 | 1826.2 | 1751.0 |
| 57° | 2392.9 | 2413.7 | 2443.5 | 2484.0 | 2171.4 | 1444.6 | 1189.1 | 1279.1 | 1535.2 | 1756.5 | 1651.3 |
| 58° | 2285.8 | 2319.0 | 2361.0 | 2413.3 | 2136.3 | 1394.1 | 1129.6 | 1231.1 | 1494.2 | 1673.1 | 1541.8 |
| 59° | 2170.3 | 2213.9 | 2269.2 | 2337.1 | 2098.5 | 1342.7 | 1075.7 | 1182.0 | 1450.5 | 1586.5 | 1441.0 |
| 60° | 2054.0 | 2096.5 | 2180.1 | 2247.7 | 2053.1 | 1291.8 | 1017.5 | 1129.5 | 1404.7 | 1497.9 | 1343.3 |
| 61° | 1938.0 | 1984.2 | 2078.4 | 2152.8 | 2001.1 | 1244.7 | 963.0  | 1075.7 | 1359.2 | 1401.7 | 1259.3 |
| 62° | 1816.5 | 1862.6 | 1963.8 | 2049.7 | 1947.4 | 1196.6 | 912.1  | 1025.2 | 1306.6 | 1308.0 | 1204.3 |
| 63° | 1689.4 | 1738.1 | 1851.8 | 1938.5 | 1890.0 | 1150.0 | 859.0  | 974.3  | 1245.8 | 1213.8 | 1148.0 |
| 64° | 1572.2 | 1607.9 | 1744.9 | 1827.3 | 1826.5 | 1106.4 | 807.7  | 921.7  | 1175.6 | 1123.9 | 1067.8 |
| 65° | 1454.2 | 1481.5 | 1632.9 | 1707.1 | 1750.2 | 1064.7 | 759.3  | 872.0  | 1098.1 | 1061.7 | 976.4  |
| 66° | 1354.8 | 1362.0 | 1513.8 | 1581.3 | 1663.3 | 1026.9 | 709.6  | 819.8  | 1017.0 | 1016.2 | 907.0  |
| 67° | 1248.4 | 1259.3 | 1389.4 | 1456.6 | 1566.3 | 992.1  | 659.2  | 769.6  | 929.9  | 957.9  | 862.1  |
| 68° | 1112.3 | 1140.6 | 1259.1 | 1352.2 | 1452.5 | 959.9  | 609.6  | 720.5  | 842.2  | 885.8  | 827.2  |
| 69° | 977.0  | 1002.6 | 1129.8 | 1276.8 | 1332.0 | 934.3  | 559.4  | 670.4  | 759.7  | 830.8  | 791.1  |
| 70° | 913.9  | 932.1  | 978.4  | 1199.3 | 1193.3 | 909.0  | 508.7  | 622.5  | 692.5  | 791.8  | 755.9  |
| 71° | 853.2  | 864.1  | 876.9  | 1093.4 | 1024.8 | 883.7  | 458.1  | 573.5  | 648.1  | 754.5  | 723.8  |
| 72° | 792.5  | 796.1  | 775.9  | 929.7  | 874.1  | 855.6  | 409.5  | 521.3  | 600.0  | 714.5  | 690.6  |
| 73° | 740.9  | 753.2  | 674.8  | 808.8  | 723.5  | 814.0  | 361.9  | 466.4  | 554.1  | 675.0  | 652.5  |
| 74° | 693.9  | 706.3  | 631.3  | 689.3  | 572.9  | 748.9  | 317.2  | 410.1  | 522.1  | 637.0  | 611.4  |
| 75° | 654.4  | 654.0  | 586.6  | 569.9  | 616.5  | 673.1  | 274.7  | 350.6  | 495.2  | 601.5  | 567.9  |
| 76° | 619.6  | 598.5  | 546.5  | 513.7  | 566.3  | 602.7  | 238.1  | 295.4  | 465.2  | 562.3  | 518.5  |
| 77° | 592.6  | 543.8  | 505.0  | 483.4  | 398.8  | 530.3  | 201.6  | 257.6  | 436.1  | 527.2  | 462.5  |
| 78° | 573.5  | 500.2  | 456.6  | 453.3  | 289.3  | 437.4  | 165.2  | 219.8  | 409.2  | 493.5  | 410.5  |
| 79° | 547.6  | 469.4  | 413.6  | 393.4  | 230.3  | 347.9  | 135.5  | 182.1  | 380.8  | 460.8  | 364.4  |
| 80° | 502.9  | 444.3  | 382.0  | 317.5  | 234.7  | 272.5  | 108.7  | 158.5  | 353.6  | 419.6  | 329.0  |
| 81° | 435.5  | 415.5  | 352.5  | 267.6  | 242.7  | 201.3  | 85.1   | 135.0  | 324.9  | 375.3  | 292.1  |
| 82° | 364.4  | 374.9  | 322.2  | 233.7  | 174.9  | 142.9  | 64.3   | 113.6  | 295.9  | 332.0  | 222.7  |
| 83° | 299.3  | 333.5  | 279.3  | 203.7  | 113.9  | 96.7   | 47.7   | 93.3   | 266.7  | 299.7  | 152.9  |
| 84° | 238.3  | 295.5  | 217.4  | 179.0  | 92.5   | 75.2   | 34.8   | 74.3   | 224.0  | 240.5  | 58.8   |
| 85° | 165.1  | 232.0  | 167.9  | 152.2  | 71.2   | 54.2   | 26.3   | 56.6   | 181.7  | 181.4  | 41.8   |
| 86° | 114.0  | 171.3  | 124.0  | 104.7  | 50.0   | 33.1   | 17.8   | 39.9   | 151.9  | 122.3  | 24.9   |
| 87° | 91.2   | 100.0  | 82.5   | 58.5   | 35.4   | 19.2   | 9.4    | 27.1   | 100.9  | 63.2   | 8.0    |
| 88° | 68.5   | 74.6   | 62.0   | 12.3   | 18.8   | 7.9    | 4.4    | 14.4   | 67.3   | 4.2    | 3.0    |
| 89° | 45.9   | 49.9   | 41.6   | 7.5    | 12.5   | 4.0    | 1.3    | 1.9    | 33.7   | 1.2    | 1.0    |



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**CANDELA DISTRIBUTION (continued):**

|      | 0°  | 15° | 30° | 45° | 60° | 75° | 90° | 105° | 120° | 135° | 150° |
|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 90°  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 91°  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 92°  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 93°  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 94°  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 95°  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 96°  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 97°  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 98°  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 99°  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 100° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 101° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 102° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 103° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 104° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 105° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 106° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 107° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 108° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 109° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 110° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 111° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 112° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 113° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 114° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 115° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 116° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 117° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 118° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 119° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 120° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 121° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 122° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 123° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 124° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 125° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 126° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 127° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 128° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 129° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 130° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 131° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 132° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 133° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 134° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |



REPORT NUMBER: P1449909  
 CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|      | 0°  | 15° | 30° | 45° | 60° | 75° | 90° | 105° | 120° | 135° | 150° |
|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 135° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 136° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 137° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 138° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 139° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 140° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 141° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 142° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 143° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 144° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 145° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 146° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 147° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 148° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 149° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 150° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 151° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 152° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 153° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 154° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 155° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 156° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 157° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 158° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 159° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 160° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 161° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 162° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 163° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 164° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 165° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 166° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 167° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 168° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 169° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 170° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 171° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 172° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 173° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 174° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 175° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 176° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 177° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 178° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |
| 179° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |



REPORT NUMBER: P1449909  
CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|      | 0°  | 15° | 30° | 45° | 60° | 75° | 90° | 105° | 120° | 135° | 150° |
|------|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|
| 180° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  |



REPORT NUMBER: P1449909

CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|     | 165°   | 180°   | 195°   | 210°   | 225°   | 240°   | 255°   | 270°   | 285°   | 300°   | 315°   |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°  | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 | 2967.6 |
| 1°  | 2945.5 | 2944.3 | 2945.2 | 2950.5 | 2954.2 | 2956.5 | 2962.7 | 2966.3 | 2973.5 | 2978.4 | 2982.7 |
| 2°  | 2925.8 | 2925.9 | 2930.4 | 2931.9 | 2937.6 | 2945.4 | 2957.7 | 2962.2 | 2975.5 | 2984.8 | 2997.7 |
| 3°  | 2910.4 | 2909.4 | 2912.1 | 2915.6 | 2921.3 | 2937.9 | 2949.1 | 2960.0 | 2979.8 | 2994.2 | 3013.4 |
| 4°  | 2910.1 | 2912.0 | 2911.9 | 2906.8 | 2909.2 | 2920.2 | 2938.2 | 2959.0 | 2980.5 | 3003.3 | 3024.0 |
| 5°  | 2916.8 | 2918.5 | 2915.3 | 2910.5 | 2902.6 | 2910.4 | 2928.9 | 2953.6 | 2982.3 | 3011.1 | 3035.2 |
| 6°  | 2913.4 | 2913.5 | 2916.1 | 2912.3 | 2903.7 | 2896.4 | 2918.3 | 2945.9 | 2982.3 | 3015.8 | 3048.0 |
| 7°  | 2891.9 | 2885.4 | 2896.2 | 2905.9 | 2905.1 | 2890.1 | 2908.8 | 2935.8 | 2978.4 | 3022.9 | 3059.5 |
| 8°  | 2850.5 | 2849.7 | 2856.8 | 2883.3 | 2900.1 | 2886.0 | 2897.5 | 2930.6 | 2980.5 | 3027.1 | 3070.6 |
| 9°  | 2828.0 | 2826.6 | 2826.9 | 2847.4 | 2882.6 | 2884.1 | 2881.7 | 2917.4 | 2977.0 | 3033.6 | 3082.6 |
| 10° | 2812.2 | 2808.0 | 2809.7 | 2819.5 | 2852.9 | 2879.4 | 2869.4 | 2907.2 | 2972.7 | 3035.0 | 3092.2 |
| 11° | 2796.4 | 2796.2 | 2796.6 | 2800.6 | 2819.1 | 2871.0 | 2854.9 | 2897.4 | 2967.0 | 3035.4 | 3100.7 |
| 12° | 2785.2 | 2786.8 | 2784.8 | 2781.4 | 2792.9 | 2853.8 | 2845.1 | 2883.9 | 2962.3 | 3040.9 | 3108.2 |
| 13° | 2774.5 | 2777.1 | 2775.4 | 2768.3 | 2772.5 | 2824.9 | 2834.8 | 2872.1 | 2952.7 | 3041.8 | 3118.0 |
| 14° | 2763.1 | 2761.5 | 2762.3 | 2756.1 | 2754.8 | 2790.6 | 2826.9 | 2852.9 | 2949.3 | 3041.0 | 3122.2 |
| 15° | 2751.5 | 2752.1 | 2749.9 | 2740.8 | 2735.1 | 2759.2 | 2815.9 | 2840.8 | 2940.3 | 3037.2 | 3126.4 |
| 16° | 2741.5 | 2740.8 | 2734.4 | 2722.2 | 2717.4 | 2732.0 | 2803.4 | 2822.6 | 2932.7 | 3036.5 | 3131.7 |
| 17° | 2731.0 | 2729.9 | 2725.9 | 2709.5 | 2697.6 | 2707.3 | 2785.3 | 2803.1 | 2920.6 | 3032.3 | 3136.5 |
| 18° | 2717.4 | 2719.0 | 2709.5 | 2693.7 | 2681.4 | 2684.1 | 2764.4 | 2787.5 | 2910.6 | 3029.8 | 3137.0 |
| 19° | 2706.2 | 2709.3 | 2699.3 | 2679.3 | 2659.7 | 2660.0 | 2738.3 | 2765.7 | 2897.5 | 3023.8 | 3139.8 |
| 20° | 2696.8 | 2698.6 | 2688.5 | 2663.5 | 2639.9 | 2637.7 | 2702.0 | 2746.4 | 2883.5 | 3018.9 | 3142.6 |
| 21° | 2686.9 | 2691.4 | 2676.3 | 2648.4 | 2621.7 | 2615.5 | 2670.4 | 2724.5 | 2869.4 | 3007.9 | 3142.7 |
| 22° | 2674.9 | 2682.7 | 2664.7 | 2635.2 | 2601.3 | 2587.3 | 2632.9 | 2705.7 | 2849.8 | 3000.4 | 3145.1 |
| 23° | 2670.7 | 2676.3 | 2655.7 | 2619.0 | 2581.9 | 2561.8 | 2601.9 | 2681.4 | 2831.1 | 2989.5 | 3145.8 |
| 24° | 2662.8 | 2670.3 | 2649.6 | 2603.7 | 2559.5 | 2533.7 | 2574.0 | 2659.9 | 2809.8 | 2977.2 | 3144.5 |
| 25° | 2651.2 | 2665.2 | 2640.7 | 2590.3 | 2539.5 | 2508.4 | 2541.1 | 2637.6 | 2788.9 | 2969.1 | 3142.1 |
| 26° | 2646.5 | 2654.4 | 2632.6 | 2577.7 | 2518.5 | 2482.7 | 2509.3 | 2616.9 | 2765.0 | 2957.8 | 3145.8 |
| 27° | 2634.2 | 2644.1 | 2620.6 | 2564.8 | 2497.4 | 2454.4 | 2478.8 | 2595.4 | 2741.2 | 2943.4 | 3139.5 |
| 28° | 2627.4 | 2639.6 | 2611.5 | 2552.2 | 2475.6 | 2426.4 | 2446.9 | 2575.9 | 2715.3 | 2929.0 | 3138.4 |
| 29° | 2617.1 | 2633.8 | 2598.2 | 2534.3 | 2455.1 | 2396.1 | 2412.5 | 2545.2 | 2685.5 | 2913.7 | 3135.3 |
| 30° | 2611.2 | 2626.0 | 2589.6 | 2522.3 | 2437.0 | 2368.4 | 2380.2 | 2513.8 | 2656.0 | 2897.7 | 3133.5 |
| 31° | 2609.7 | 2621.4 | 2584.1 | 2505.6 | 2417.2 | 2335.8 | 2341.8 | 2481.5 | 2626.0 | 2879.9 | 3129.6 |
| 32° | 2601.3 | 2616.6 | 2576.1 | 2491.3 | 2394.9 | 2306.7 | 2309.5 | 2443.9 | 2593.7 | 2860.7 | 3125.8 |
| 33° | 2592.0 | 2606.9 | 2566.7 | 2478.3 | 2372.1 | 2278.5 | 2268.4 | 2400.1 | 2562.4 | 2842.4 | 3120.1 |
| 34° | 2578.4 | 2600.4 | 2556.0 | 2463.9 | 2345.0 | 2248.5 | 2232.9 | 2351.7 | 2527.3 | 2821.2 | 3117.9 |
| 35° | 2567.6 | 2591.4 | 2545.3 | 2449.2 | 2323.7 | 2215.6 | 2193.3 | 2306.7 | 2495.2 | 2803.9 | 3116.9 |
| 36° | 2562.3 | 2587.9 | 2533.6 | 2435.1 | 2299.5 | 2183.5 | 2155.4 | 2261.2 | 2461.4 | 2783.3 | 3109.3 |
| 37° | 2559.0 | 2583.7 | 2526.8 | 2415.6 | 2276.4 | 2152.0 | 2114.5 | 2215.4 | 2425.1 | 2763.3 | 3108.3 |
| 38° | 2554.8 | 2575.7 | 2521.5 | 2400.4 | 2251.2 | 2120.1 | 2075.0 | 2170.6 | 2391.5 | 2744.4 | 3097.8 |
| 39° | 2542.6 | 2565.3 | 2513.1 | 2384.4 | 2227.4 | 2085.4 | 2035.1 | 2123.5 | 2355.0 | 2722.1 | 3088.6 |
| 40° | 2528.7 | 2552.4 | 2498.4 | 2369.7 | 2198.3 | 2051.5 | 1994.4 | 2078.6 | 2315.1 | 2703.4 | 3081.1 |
| 41° | 2520.5 | 2541.8 | 2484.3 | 2352.2 | 2172.9 | 2016.1 | 1953.7 | 2029.2 | 2278.1 | 2682.9 | 3070.6 |
| 42° | 2505.4 | 2528.3 | 2471.6 | 2332.4 | 2151.8 | 1985.8 | 1913.0 | 1984.4 | 2235.8 | 2662.9 | 3060.3 |
| 43° | 2493.4 | 2515.7 | 2459.5 | 2317.7 | 2127.9 | 1955.4 | 1872.1 | 1936.4 | 2195.0 | 2645.3 | 3046.2 |
| 44° | 2475.2 | 2496.9 | 2442.6 | 2303.2 | 2105.6 | 1924.9 | 1827.3 | 1885.1 | 2155.0 | 2628.1 | 3030.8 |



REPORT NUMBER: P1449909

CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|     | 165°   | 180°   | 195°   | 210°   | 225°   | 240°   | 255°   | 270°   | 285°   | 300°   | 315°   |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 45° | 2452.5 | 2474.6 | 2423.8 | 2284.9 | 2078.6 | 1883.8 | 1781.3 | 1833.1 | 2112.5 | 2611.5 | 3010.1 |
| 46° | 2427.1 | 2442.7 | 2398.9 | 2265.5 | 2050.0 | 1844.2 | 1739.4 | 1782.0 | 2068.9 | 2592.0 | 2985.3 |
| 47° | 2394.7 | 2402.3 | 2371.4 | 2246.6 | 2023.4 | 1806.8 | 1693.8 | 1729.6 | 2025.0 | 2574.6 | 2962.1 |
| 48° | 2347.0 | 2348.6 | 2329.4 | 2223.4 | 1999.5 | 1772.0 | 1650.6 | 1677.4 | 1984.3 | 2556.7 | 2931.8 |
| 49° | 2288.9 | 2280.6 | 2279.4 | 2199.4 | 1973.3 | 1735.6 | 1603.3 | 1625.2 | 1938.8 | 2536.3 | 2903.4 |
| 50° | 2213.1 | 2197.9 | 2217.3 | 2167.0 | 1947.1 | 1697.5 | 1556.2 | 1571.8 | 1896.7 | 2519.3 | 2868.6 |
| 51° | 2125.9 | 2101.0 | 2138.7 | 2131.6 | 1920.9 | 1659.2 | 1508.3 | 1521.0 | 1858.4 | 2499.1 | 2830.7 |
| 52° | 2032.6 | 2003.5 | 2049.0 | 2080.3 | 1887.9 | 1621.5 | 1458.9 | 1467.1 | 1817.6 | 2474.1 | 2784.2 |
| 53° | 1939.3 | 1906.0 | 1959.2 | 2010.3 | 1856.1 | 1587.1 | 1408.2 | 1411.1 | 1776.5 | 2442.9 | 2731.2 |
| 54° | 1845.7 | 1808.5 | 1869.3 | 1940.5 | 1825.2 | 1548.9 | 1357.9 | 1357.1 | 1738.1 | 2412.6 | 2672.8 |
| 55° | 1736.5 | 1695.4 | 1768.1 | 1870.2 | 1790.7 | 1506.1 | 1309.6 | 1299.7 | 1700.6 | 2382.3 | 2614.3 |
| 56° | 1624.7 | 1584.4 | 1656.1 | 1778.3 | 1754.6 | 1463.8 | 1261.7 | 1242.0 | 1664.4 | 2345.2 | 2546.6 |
| 57° | 1513.9 | 1476.2 | 1546.9 | 1686.6 | 1710.1 | 1418.1 | 1208.8 | 1185.0 | 1628.0 | 2302.2 | 2470.1 |
| 58° | 1410.3 | 1382.0 | 1439.4 | 1588.3 | 1654.4 | 1371.8 | 1156.0 | 1128.8 | 1591.7 | 2260.0 | 2390.0 |
| 59° | 1331.8 | 1315.1 | 1347.9 | 1484.8 | 1587.7 | 1328.0 | 1104.2 | 1074.0 | 1555.5 | 2206.2 | 2299.1 |
| 60° | 1271.9 | 1259.1 | 1278.2 | 1384.7 | 1507.3 | 1280.8 | 1052.7 | 1020.6 | 1521.3 | 2151.4 | 2203.8 |
| 61° | 1212.1 | 1192.8 | 1223.0 | 1285.0 | 1423.6 | 1235.1 | 1002.1 | 965.2  | 1480.8 | 2091.4 | 2107.7 |
| 62° | 1138.7 | 1109.9 | 1157.9 | 1207.3 | 1333.5 | 1188.1 | 949.5  | 912.7  | 1443.8 | 2025.6 | 2007.9 |
| 63° | 1042.4 | 1014.9 | 1069.3 | 1152.7 | 1236.2 | 1135.9 | 894.2  | 860.2  | 1404.7 | 1946.7 | 1903.2 |
| 64° | 963.9  | 954.6  | 977.5  | 1098.0 | 1142.4 | 1085.3 | 840.3  | 807.7  | 1367.7 | 1856.1 | 1789.0 |
| 65° | 921.7  | 919.6  | 922.0  | 1023.7 | 1051.1 | 1032.5 | 787.2  | 757.1  | 1332.9 | 1756.7 | 1666.3 |
| 66° | 887.1  | 884.7  | 884.2  | 936.6  | 972.2  | 970.6  | 733.2  | 704.3  | 1299.4 | 1647.3 | 1549.6 |
| 67° | 854.1  | 847.2  | 852.9  | 876.5  | 919.8  | 896.8  | 681.6  | 650.7  | 1263.1 | 1529.9 | 1453.0 |
| 68° | 815.9  | 805.4  | 817.4  | 830.9  | 877.1  | 817.4  | 630.4  | 596.6  | 1221.3 | 1396.8 | 1362.2 |
| 69° | 774.6  | 759.6  | 780.4  | 790.6  | 817.0  | 738.4  | 581.6  | 540.6  | 1166.9 | 1248.2 | 1270.0 |
| 70° | 731.5  | 712.0  | 742.6  | 751.3  | 763.6  | 655.5  | 533.2  | 486.8  | 1103.8 | 1078.6 | 1156.1 |
| 71° | 682.5  | 657.6  | 699.2  | 714.2  | 727.8  | 578.5  | 485.9  | 433.3  | 1025.2 | 932.2  | 1007.6 |
| 72° | 630.3  | 606.3  | 651.3  | 683.2  | 697.2  | 514.7  | 441.9  | 381.8  | 946.5  | 873.2  | 880.7  |
| 73° | 580.7  | 559.1  | 600.5  | 652.0  | 662.4  | 470.5  | 397.1  | 335.0  | 861.7  | 816.3  | 753.8  |
| 74° | 528.9  | 506.6  | 549.9  | 620.7  | 627.5  | 427.0  | 354.6  | 291.5  | 776.9  | 801.7  | 627.0  |
| 75° | 478.1  | 453.3  | 496.8  | 587.5  | 594.4  | 390.5  | 309.3  | 250.1  | 692.2  | 631.3  | 577.5  |
| 76° | 423.0  | 395.8  | 446.7  | 550.2  | 560.1  | 362.6  | 266.7  | 213.3  | 583.6  | 461.3  | 533.2  |
| 77° | 370.7  | 341.9  | 396.3  | 507.3  | 524.3  | 335.5  | 226.8  | 180.3  | 440.4  | 375.0  | 496.0  |
| 78° | 324.1  | 291.2  | 350.8  | 455.1  | 486.2  | 307.4  | 187.0  | 152.4  | 329.4  | 319.4  | 444.4  |
| 79° | 264.0  | 229.0  | 306.5  | 398.7  | 447.9  | 281.4  | 153.1  | 127.6  | 227.8  | 312.7  | 378.8  |
| 80° | 203.9  | 166.8  | 239.3  | 351.7  | 408.5  | 256.5  | 127.1  | 104.9  | 170.0  | 315.1  | 319.4  |
| 81° | 143.7  | 104.6  | 172.0  | 316.0  | 367.5  | 230.2  | 105.9  | 85.8   | 147.1  | 236.5  | 278.5  |
| 82° | 75.8   | 59.2   | 105.1  | 287.1  | 325.4  | 204.0  | 87.6   | 66.8   | 131.3  | 156.8  | 247.4  |
| 83° | 47.0   | 45.6   | 50.1   | 207.6  | 282.1  | 177.7  | 70.1   | 47.7   | 107.5  | 124.6  | 221.4  |
| 84° | 34.1   | 32.9   | 34.8   | 129.1  | 234.9  | 150.9  | 54.1   | 34.7   | 84.6   | 102.4  | 190.7  |
| 85° | 24.9   | 24.1   | 25.5   | 88.5   | 187.7  | 122.8  | 40.0   | 24.5   | 61.7   | 85.6   | 144.8  |
| 86° | 15.7   | 15.2   | 16.1   | 47.9   | 140.5  | 92.8   | 29.1   | 15.9   | 38.8   | 68.9   | 78.1   |
| 87° | 6.6    | 6.5    | 6.9    | 8.1    | 93.7   | 69.0   | 18.1   | 9.0    | 22.7   | 52.2   | 47.5   |
| 88° | 2.7    | 2.6    | 2.7    | 2.7    | 46.8   | 46.2   | 7.3    | 4.8    | 8.8    | 21.8   | 17.3   |
| 89° | 1.0    | 0.9    | 1.0    | 0.9    | 1.0    | 23.4   | 1.2    | 0.7    | 4.5    | 14.3   | 11.3   |



REPORT NUMBER: P1449909  
 CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|      | 165° | 180° | 195° | 210° | 225° | 240° | 255° | 270° | 285° | 300° | 315° |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 90°  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 91°  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 92°  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 93°  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 94°  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 95°  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 96°  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 97°  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 98°  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 99°  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 100° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 101° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 102° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 103° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 104° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 105° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 106° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 107° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 108° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 109° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 110° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 111° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 112° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 113° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 114° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 115° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 116° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 117° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 118° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 119° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 120° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 121° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 122° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 123° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 124° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 125° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 126° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 127° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 128° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 129° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 130° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 131° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 132° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 133° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 134° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |



REPORT NUMBER: P1449909  
 CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|      | 165° | 180° | 195° | 210° | 225° | 240° | 255° | 270° | 285° | 300° | 315° |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 135° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 136° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 137° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 138° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 139° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 140° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 141° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 142° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 143° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 144° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 145° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 146° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 147° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 148° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 149° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 150° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 151° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 152° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 153° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 154° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 155° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 156° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 157° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 158° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 159° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 160° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 161° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 162° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 163° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 164° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 165° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 166° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 167° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 168° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 169° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 170° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 171° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 172° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 173° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 174° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 175° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 176° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 177° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 178° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 179° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |



REPORT NUMBER: P1449909  
CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|      |      |      |      |      |      |      |      |      |      |      |      |
|------|------|------|------|------|------|------|------|------|------|------|------|
|      | 165° | 180° | 195° | 210° | 225° | 240° | 255° | 270° | 285° | 300° | 315° |
| 180° | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |



REPORT NUMBER: P1449909  
 CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|     | 330°   | 345°   | 360°   |
|-----|--------|--------|--------|
| 0°  | 2967.6 | 2967.6 | 2967.6 |
| 1°  | 2983.6 | 2987.5 | 2990.1 |
| 2°  | 3005.1 | 3011.0 | 3011.7 |
| 3°  | 3021.3 | 3032.4 | 3030.0 |
| 4°  | 3039.5 | 3048.1 | 3054.2 |
| 5°  | 3056.3 | 3069.1 | 3072.7 |
| 6°  | 3070.7 | 3090.7 | 3093.5 |
| 7°  | 3087.7 | 3105.5 | 3111.6 |
| 8°  | 3105.4 | 3126.9 | 3133.9 |
| 9°  | 3120.7 | 3148.2 | 3153.5 |
| 10° | 3137.3 | 3165.6 | 3174.2 |
| 11° | 3151.1 | 3183.0 | 3190.3 |
| 12° | 3164.3 | 3197.5 | 3207.7 |
| 13° | 3179.1 | 3213.0 | 3228.2 |
| 14° | 3186.3 | 3230.6 | 3242.8 |
| 15° | 3199.1 | 3244.5 | 3257.9 |
| 16° | 3209.9 | 3260.9 | 3275.3 |
| 17° | 3217.5 | 3272.2 | 3292.0 |
| 18° | 3230.2 | 3290.2 | 3309.4 |
| 19° | 3240.7 | 3302.5 | 3323.6 |
| 20° | 3247.0 | 3316.7 | 3338.8 |
| 21° | 3257.1 | 3330.4 | 3352.2 |
| 22° | 3266.1 | 3347.4 | 3365.7 |
| 23° | 3272.5 | 3360.9 | 3385.3 |
| 24° | 3280.9 | 3376.8 | 3401.0 |
| 25° | 3289.3 | 3388.1 | 3416.3 |
| 26° | 3299.9 | 3402.1 | 3432.0 |
| 27° | 3305.5 | 3415.9 | 3442.4 |
| 28° | 3312.9 | 3429.8 | 3457.7 |
| 29° | 3321.8 | 3438.3 | 3476.7 |
| 30° | 3327.9 | 3452.9 | 3487.9 |
| 31° | 3337.5 | 3463.2 | 3499.2 |
| 32° | 3343.9 | 3471.1 | 3504.9 |
| 33° | 3349.9 | 3477.8 | 3509.6 |
| 34° | 3353.3 | 3476.9 | 3508.4 |
| 35° | 3352.6 | 3472.6 | 3505.3 |
| 36° | 3349.5 | 3469.9 | 3496.6 |
| 37° | 3346.9 | 3457.4 | 3485.0 |
| 38° | 3337.1 | 3442.4 | 3474.3 |
| 39° | 3330.2 | 3423.5 | 3454.3 |
| 40° | 3312.2 | 3405.7 | 3433.4 |
| 41° | 3290.9 | 3382.0 | 3411.4 |
| 42° | 3269.5 | 3358.4 | 3383.5 |
| 43° | 3243.6 | 3330.8 | 3351.7 |
| 44° | 3219.7 | 3291.7 | 3309.2 |



REPORT NUMBER: P1449909  
 CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|     | 330°   | 345°   | 360°   |
|-----|--------|--------|--------|
| 45° | 3193.9 | 3250.7 | 3272.3 |
| 46° | 3156.6 | 3208.5 | 3224.0 |
| 47° | 3113.4 | 3154.7 | 3159.1 |
| 48° | 3071.0 | 3091.6 | 3097.8 |
| 49° | 3016.2 | 3026.3 | 3032.6 |
| 50° | 2960.0 | 2962.9 | 2967.9 |
| 51° | 2894.6 | 2891.2 | 2897.1 |
| 52° | 2827.7 | 2818.1 | 2818.5 |
| 53° | 2757.5 | 2736.7 | 2733.9 |
| 54° | 2678.2 | 2656.6 | 2652.7 |
| 55° | 2597.0 | 2574.7 | 2576.4 |
| 56° | 2511.0 | 2491.9 | 2485.5 |
| 57° | 2425.4 | 2402.5 | 2392.9 |
| 58° | 2341.0 | 2301.0 | 2285.8 |
| 59° | 2249.2 | 2186.6 | 2170.3 |
| 60° | 2149.5 | 2071.8 | 2054.0 |
| 61° | 2037.3 | 1955.1 | 1938.0 |
| 62° | 1921.8 | 1836.6 | 1816.5 |
| 63° | 1813.4 | 1709.9 | 1689.4 |
| 64° | 1700.9 | 1587.3 | 1572.2 |
| 65° | 1575.6 | 1464.3 | 1454.2 |
| 66° | 1451.7 | 1355.0 | 1354.8 |
| 67° | 1324.5 | 1252.7 | 1248.4 |
| 68° | 1194.2 | 1127.6 | 1112.3 |
| 69° | 1062.9 | 987.5  | 977.0  |
| 70° | 922.5  | 923.5  | 913.9  |
| 71° | 828.2  | 860.0  | 853.2  |
| 72° | 735.0  | 796.6  | 792.5  |
| 73° | 694.9  | 747.8  | 740.9  |
| 74° | 658.0  | 697.0  | 693.9  |
| 75° | 621.2  | 645.5  | 654.4  |
| 76° | 581.5  | 595.5  | 619.6  |
| 77° | 534.5  | 553.5  | 592.6  |
| 78° | 484.8  | 524.2  | 573.5  |
| 79° | 444.2  | 503.9  | 547.6  |
| 80° | 408.9  | 481.1  | 502.9  |
| 81° | 373.3  | 438.9  | 435.5  |
| 82° | 326.5  | 384.7  | 364.4  |
| 83° | 269.6  | 334.0  | 299.3  |
| 84° | 212.0  | 281.6  | 238.3  |
| 85° | 181.4  | 209.2  | 165.1  |
| 86° | 135.1  | 144.9  | 114.0  |
| 87° | 88.3   | 115.4  | 91.2   |
| 88° | 66.4   | 86.7   | 68.5   |
| 89° | 44.5   | 58.1   | 45.9   |



REPORT NUMBER: P1449909  
CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|      | 330° | 345° | 360° |
|------|------|------|------|
| 90°  | 0.0  | 0.0  | 0.0  |
| 91°  | 0.0  | 0.0  | 0.0  |
| 92°  | 0.0  | 0.0  | 0.0  |
| 93°  | 0.0  | 0.0  | 0.0  |
| 94°  | 0.0  | 0.0  | 0.0  |
| 95°  | 0.0  | 0.0  | 0.0  |
| 96°  | 0.0  | 0.0  | 0.0  |
| 97°  | 0.0  | 0.0  | 0.0  |
| 98°  | 0.0  | 0.0  | 0.0  |
| 99°  | 0.0  | 0.0  | 0.0  |
| 100° | 0.0  | 0.0  | 0.0  |
| 101° | 0.0  | 0.0  | 0.0  |
| 102° | 0.0  | 0.0  | 0.0  |
| 103° | 0.0  | 0.0  | 0.0  |
| 104° | 0.0  | 0.0  | 0.0  |
| 105° | 0.0  | 0.0  | 0.0  |
| 106° | 0.0  | 0.0  | 0.0  |
| 107° | 0.0  | 0.0  | 0.0  |
| 108° | 0.0  | 0.0  | 0.0  |
| 109° | 0.0  | 0.0  | 0.0  |
| 110° | 0.0  | 0.0  | 0.0  |
| 111° | 0.0  | 0.0  | 0.0  |
| 112° | 0.0  | 0.0  | 0.0  |
| 113° | 0.0  | 0.0  | 0.0  |
| 114° | 0.0  | 0.0  | 0.0  |
| 115° | 0.0  | 0.0  | 0.0  |
| 116° | 0.0  | 0.0  | 0.0  |
| 117° | 0.0  | 0.0  | 0.0  |
| 118° | 0.0  | 0.0  | 0.0  |
| 119° | 0.0  | 0.0  | 0.0  |
| 120° | 0.0  | 0.0  | 0.0  |
| 121° | 0.0  | 0.0  | 0.0  |
| 122° | 0.0  | 0.0  | 0.0  |
| 123° | 0.0  | 0.0  | 0.0  |
| 124° | 0.0  | 0.0  | 0.0  |
| 125° | 0.0  | 0.0  | 0.0  |
| 126° | 0.0  | 0.0  | 0.0  |
| 127° | 0.0  | 0.0  | 0.0  |
| 128° | 0.0  | 0.0  | 0.0  |
| 129° | 0.0  | 0.0  | 0.0  |
| 130° | 0.0  | 0.0  | 0.0  |
| 131° | 0.0  | 0.0  | 0.0  |
| 132° | 0.0  | 0.0  | 0.0  |
| 133° | 0.0  | 0.0  | 0.0  |
| 134° | 0.0  | 0.0  | 0.0  |



REPORT NUMBER: P1449909  
CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|      | 330° | 345° | 360° |
|------|------|------|------|
| 135° | 0.0  | 0.0  | 0.0  |
| 136° | 0.0  | 0.0  | 0.0  |
| 137° | 0.0  | 0.0  | 0.0  |
| 138° | 0.0  | 0.0  | 0.0  |
| 139° | 0.0  | 0.0  | 0.0  |
| 140° | 0.0  | 0.0  | 0.0  |
| 141° | 0.0  | 0.0  | 0.0  |
| 142° | 0.0  | 0.0  | 0.0  |
| 143° | 0.0  | 0.0  | 0.0  |
| 144° | 0.0  | 0.0  | 0.0  |
| 145° | 0.0  | 0.0  | 0.0  |
| 146° | 0.0  | 0.0  | 0.0  |
| 147° | 0.0  | 0.0  | 0.0  |
| 148° | 0.0  | 0.0  | 0.0  |
| 149° | 0.0  | 0.0  | 0.0  |
| 150° | 0.0  | 0.0  | 0.0  |
| 151° | 0.0  | 0.0  | 0.0  |
| 152° | 0.0  | 0.0  | 0.0  |
| 153° | 0.0  | 0.0  | 0.0  |
| 154° | 0.0  | 0.0  | 0.0  |
| 155° | 0.0  | 0.0  | 0.0  |
| 156° | 0.0  | 0.0  | 0.0  |
| 157° | 0.0  | 0.0  | 0.0  |
| 158° | 0.0  | 0.0  | 0.0  |
| 159° | 0.0  | 0.0  | 0.0  |
| 160° | 0.0  | 0.0  | 0.0  |
| 161° | 0.0  | 0.0  | 0.0  |
| 162° | 0.0  | 0.0  | 0.0  |
| 163° | 0.0  | 0.0  | 0.0  |
| 164° | 0.0  | 0.0  | 0.0  |
| 165° | 0.0  | 0.0  | 0.0  |
| 166° | 0.0  | 0.0  | 0.0  |
| 167° | 0.0  | 0.0  | 0.0  |
| 168° | 0.0  | 0.0  | 0.0  |
| 169° | 0.0  | 0.0  | 0.0  |
| 170° | 0.0  | 0.0  | 0.0  |
| 171° | 0.0  | 0.0  | 0.0  |
| 172° | 0.0  | 0.0  | 0.0  |
| 173° | 0.0  | 0.0  | 0.0  |
| 174° | 0.0  | 0.0  | 0.0  |
| 175° | 0.0  | 0.0  | 0.0  |
| 176° | 0.0  | 0.0  | 0.0  |
| 177° | 0.0  | 0.0  | 0.0  |
| 178° | 0.0  | 0.0  | 0.0  |
| 179° | 0.0  | 0.0  | 0.0  |

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

Scaled Data Report



REPORT NUMBER: P1449909  
CATALOG NUMBER: TWC60\_T3\_60W\_4000K

**CANDELA DISTRIBUTION (continued):**

|      | 330° | 345° | 360° |
|------|------|------|------|
| 180° | 0.0  | 0.0  | 0.0  |

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Lumark

Report Number: SP1-2601-659-2

Test Date: 02/12/2026

Luminaire Tested: MWP2460W34VDDKYYAD-T4-24W-4000K

Data in this report applies to families of products including ;MWP2460W34VDDKYYAD

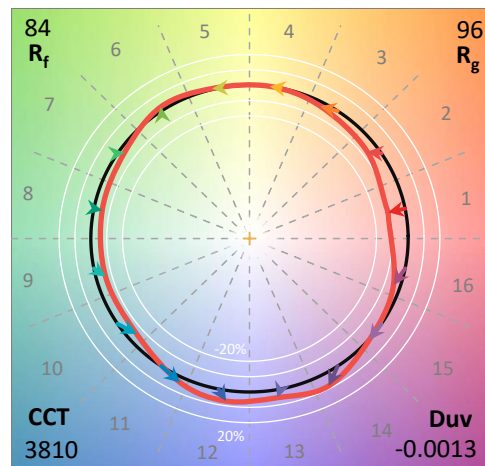
**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2601-659-2  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 02/16/2026  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: Lumark  
 Catalog Number: **MWP2460W34VDDKYYAD-T4-24W-4000K**  
 Description: Mester Wedge, at T4 beam setting, 24W output, 4000K

**Spectral Parameters**

CCT (K): 3810  
 CIE u': 0.2295  
 CIE v': 0.5035  
 Duv: -0.0013  
 CIE x: 0.3881  
 CIE y: 0.3785  
 CIE z: 0.2334  
 Peak Wavelength (nm): 453  
 Dominant Wavelength (nm): 580  
 Purity: 30.07368  
 Rf: 84.4  
 Rg: 96.5

|           |      |      |      |
|-----------|------|------|------|
| CRI (Ra): | 84.5 |      |      |
| R1:       | 83.7 | R9:  | 15.9 |
| R2:       | 90.7 | R10: | 77.2 |
| R3:       | 95.1 | R11: | 83.0 |
| R4:       | 83.6 | R12: | 62.4 |
| R5:       | 83.4 | R13: | 85.6 |
| R6:       | 86.7 | R14: | 97.4 |
| R7:       | 86.3 | R15: | 77.9 |
| R8:       | 66.5 |      |      |



**Test Conditions**

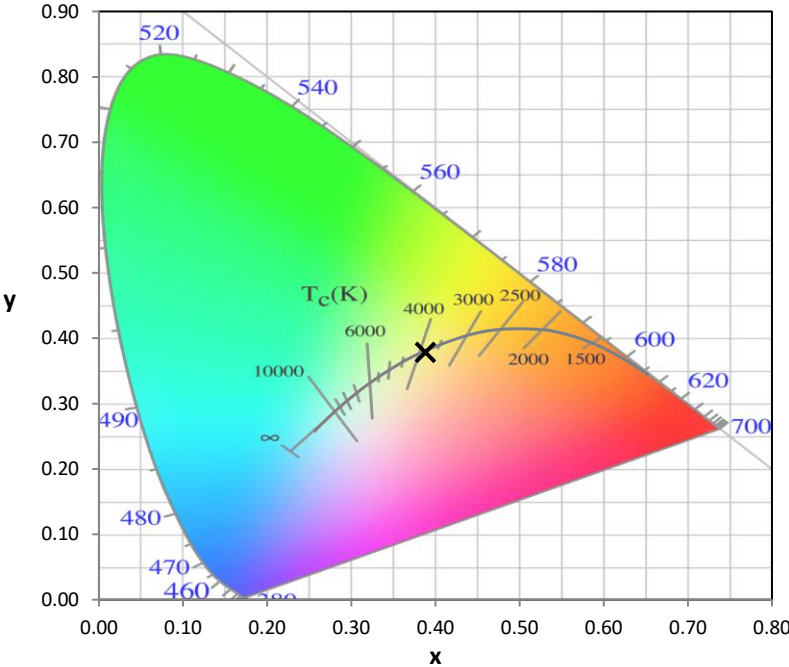
Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2601-659-2

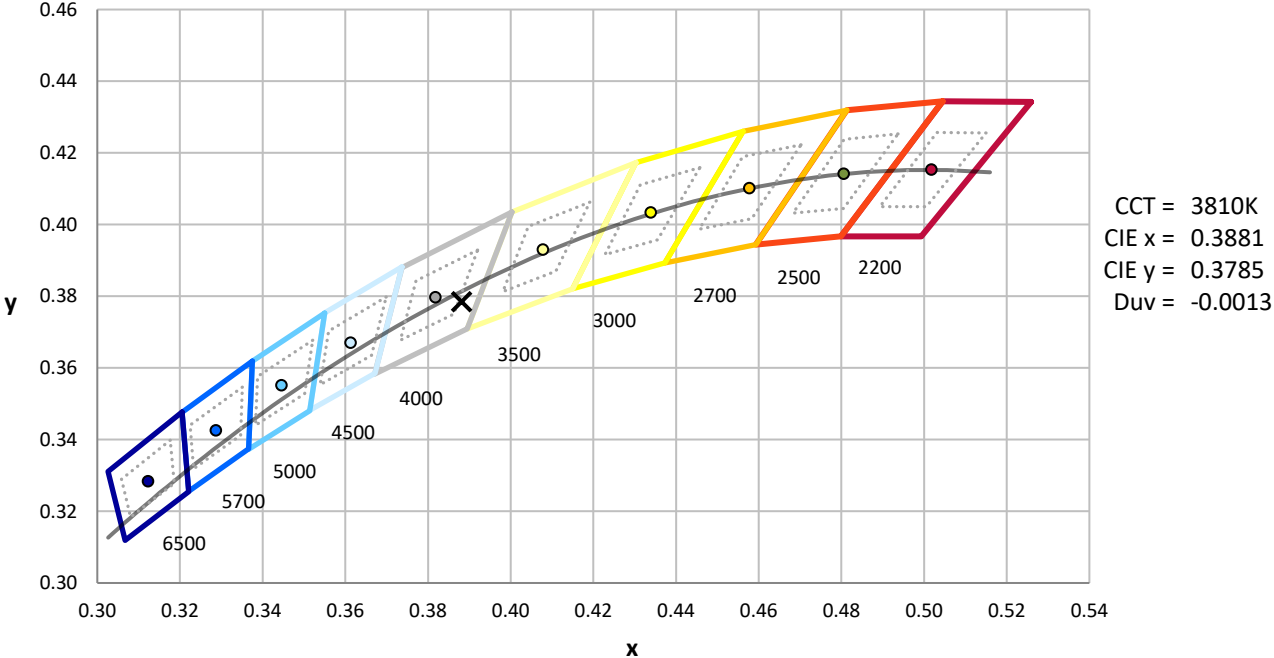
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | 76INCH SPHERE IN0058  | 12/16/2025       | 6/16/2026            |
| Power Meter                    | XITRON INXT2011004    | 10/21/2025       | 10/21/2026           |
| AC Power Source                | CHROMA 61603 IN0063   | 10/21/2025       | 10/21/2026           |
| DC Power Source                | AGILENT E3634A IN0208 | 10/21/2025       | 10/21/2026           |
| Sphere Thermometer             | ONSET IN0085          | 10/21/2025       | 10/21/2026           |
| Room Thermometer               | ONSET IN0046          | 10/21/2025       | 10/21/2026           |

REPORT NUMBER: SP1-2601-659-2

CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles

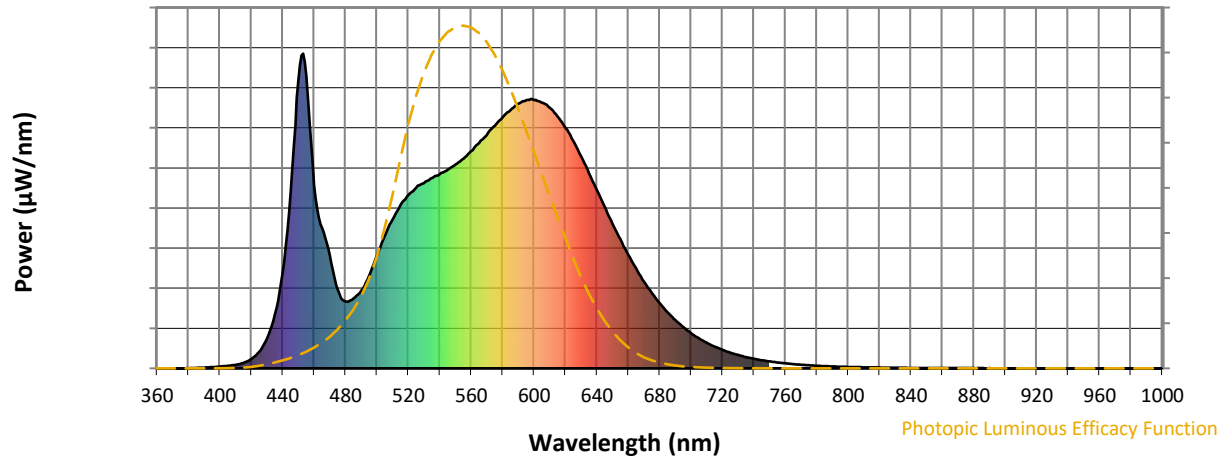


CCT = 3810K  
 CIE x = 0.3881  
 CIE y = 0.3785  
 Duv = -0.0013

Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2601-659-2

**Photopic Flux vs. Wavelength**

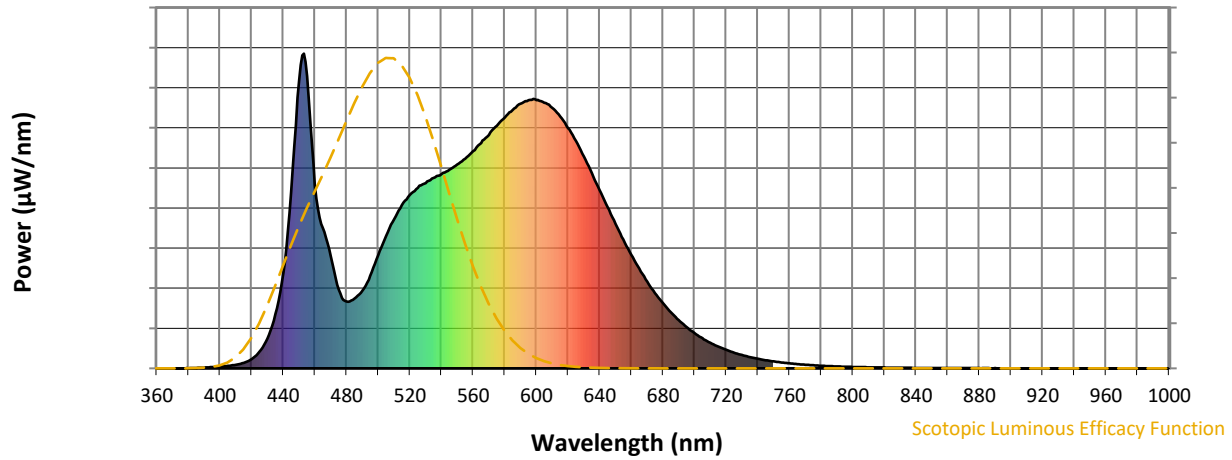


**Photopic Lumens: NR**

| $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) |
|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|
| 360               | 0                           | NR                      | 490               | 247                         | NR                      | 620               | 764                         | NR                      | 750               | 22                          | NR                      | 880               | 1                           | NR                      |
| 365               | 0                           | NR                      | 495               | 294                         | NR                      | 625               | 723                         | NR                      | 755               | 19                          | NR                      | 885               | 1                           | NR                      |
| 370               | 0                           | NR                      | 500               | 359                         | NR                      | 630               | 674                         | NR                      | 760               | 16                          | NR                      | 890               | 1                           | NR                      |
| 375               | 0                           | NR                      | 505               | 421                         | NR                      | 635               | 620                         | NR                      | 765               | 14                          | NR                      | 895               | 0                           | NR                      |
| 380               | 1                           | NR                      | 510               | 474                         | NR                      | 640               | 566                         | NR                      | 770               | 12                          | NR                      | 900               | 0                           | NR                      |
| 385               | 1                           | NR                      | 515               | 518                         | NR                      | 645               | 512                         | NR                      | 775               | 10                          | NR                      | 905               | 0                           | NR                      |
| 390               | 3                           | NR                      | 520               | 552                         | NR                      | 650               | 459                         | NR                      | 780               | 8                           | NR                      | 910               | 0                           | NR                      |
| 395               | 4                           | NR                      | 525               | 574                         | NR                      | 655               | 410                         | NR                      | 785               | 7                           | NR                      | 915               | 0                           | NR                      |
| 400               | 6                           | NR                      | 530               | 589                         | NR                      | 660               | 361                         | NR                      | 790               | 6                           | NR                      | 920               | 0                           | NR                      |
| 405               | 8                           | NR                      | 535               | 605                         | NR                      | 665               | 317                         | NR                      | 795               | 5                           | NR                      | 925               | 0                           | NR                      |
| 410               | 11                          | NR                      | 540               | 617                         | NR                      | 670               | 276                         | NR                      | 800               | 5                           | NR                      | 930               | 0                           | NR                      |
| 415               | 18                          | NR                      | 545               | 632                         | NR                      | 675               | 239                         | NR                      | 805               | 4                           | NR                      | 935               | 0                           | NR                      |
| 420               | 30                          | NR                      | 550               | 648                         | NR                      | 680               | 207                         | NR                      | 810               | 3                           | NR                      | 940               | 0                           | NR                      |
| 425               | 53                          | NR                      | 555               | 666                         | NR                      | 685               | 178                         | NR                      | 815               | 3                           | NR                      | 945               | 0                           | NR                      |
| 430               | 95                          | NR                      | 560               | 690                         | NR                      | 690               | 153                         | NR                      | 820               | 3                           | NR                      | 950               | 0                           | NR                      |
| 435               | 173                         | NR                      | 565               | 716                         | NR                      | 695               | 131                         | NR                      | 825               | 2                           | NR                      | 955               | 0                           | NR                      |
| 440               | 304                         | NR                      | 570               | 742                         | NR                      | 700               | 112                         | NR                      | 830               | 2                           | NR                      | 960               | 0                           | NR                      |
| 445               | 559                         | NR                      | 575               | 771                         | NR                      | 705               | 95                          | NR                      | 835               | 2                           | NR                      | 965               | 0                           | NR                      |
| 450               | 915                         | NR                      | 580               | 798                         | NR                      | 710               | 81                          | NR                      | 840               | 1                           | NR                      | 970               | 0                           | NR                      |
| 455               | 929                         | NR                      | 585               | 820                         | NR                      | 715               | 69                          | NR                      | 845               | 1                           | NR                      | 975               | 0                           | NR                      |
| 460               | 582                         | NR                      | 590               | 841                         | NR                      | 720               | 59                          | NR                      | 850               | 1                           | NR                      | 980               | 0                           | NR                      |
| 465               | 446                         | NR                      | 595               | 852                         | NR                      | 725               | 50                          | NR                      | 855               | 1                           | NR                      | 985               | 0                           | NR                      |
| 470               | 356                         | NR                      | 600               | 852                         | NR                      | 730               | 42                          | NR                      | 860               | 1                           | NR                      | 990               | 0                           | NR                      |
| 475               | 250                         | NR                      | 605               | 845                         | NR                      | 735               | 36                          | NR                      | 865               | 1                           | NR                      | 995               | 0                           | NR                      |
| 480               | 212                         | NR                      | 610               | 827                         | NR                      | 740               | 30                          | NR                      | 870               | 1                           | NR                      | 1000              | 0                           | NR                      |
| 485               | 221                         | NR                      | 615               | 801                         | NR                      | 745               | 26                          | NR                      | 875               | 1                           | NR                      |                   |                             |                         |

REPORT NUMBER: SP1-2601-659-2

**Scotopic Flux vs. Wavelength**



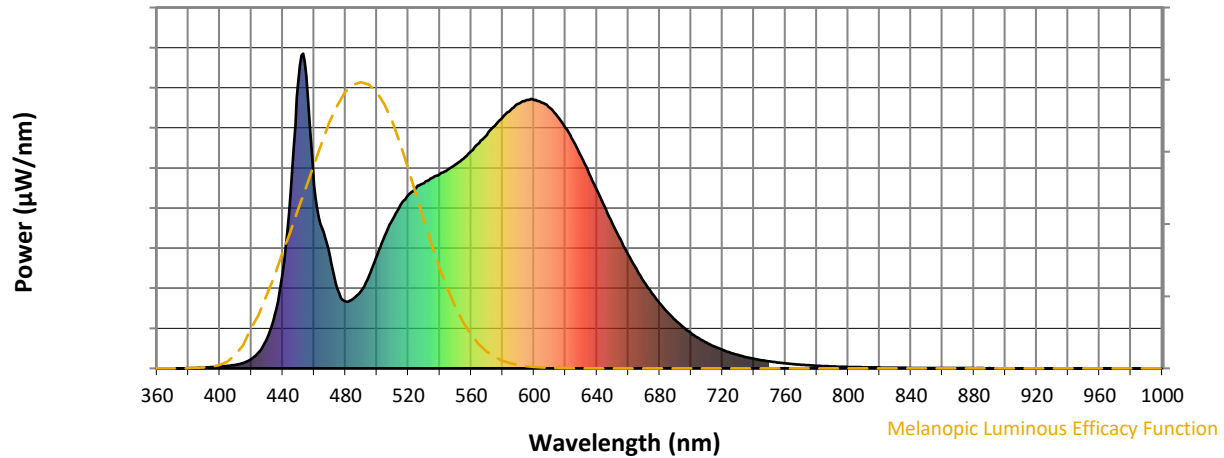
**Scotopic Lumens: NR**

**S/P: 1.64**

| $\lambda$ (nm) | Power W <sup>^</sup> /nm | Lumens ( $\phi$ /nm) | $\lambda$ (nm) | Power W <sup>^</sup> /nm | Lumens ( $\phi$ /nm) | $\lambda$ (nm) | Power W <sup>^</sup> /nm | Lumens ( $\phi$ /nm) | $\lambda$ (nm) | Power W <sup>^</sup> /nm | Lumens ( $\phi$ /nm) | $\lambda$ (nm) | Power W <sup>^</sup> /nm | Lumens ( $\phi$ /nm) |
|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|
| 360            | 0                        | NR                   | 490            | 247                      | NR                   | 620            | 764                      | NR                   | 750            | 22                       | NR                   | 880            | 1                        | NR                   |
| 365            | 0                        | NR                   | 495            | 294                      | NR                   | 625            | 723                      | NR                   | 755            | 19                       | NR                   | 885            | 1                        | NR                   |
| 370            | 0                        | NR                   | 500            | 359                      | NR                   | 630            | 674                      | NR                   | 760            | 16                       | NR                   | 890            | 1                        | NR                   |
| 375            | 0                        | NR                   | 505            | 421                      | NR                   | 635            | 620                      | NR                   | 765            | 14                       | NR                   | 895            | 0                        | NR                   |
| 380            | 1                        | NR                   | 510            | 474                      | NR                   | 640            | 566                      | NR                   | 770            | 12                       | NR                   | 900            | 0                        | NR                   |
| 385            | 1                        | NR                   | 515            | 518                      | NR                   | 645            | 512                      | NR                   | 775            | 10                       | NR                   | 905            | 0                        | NR                   |
| 390            | 3                        | NR                   | 520            | 552                      | NR                   | 650            | 459                      | NR                   | 780            | 8                        | NR                   | 910            | 0                        | NR                   |
| 395            | 4                        | NR                   | 525            | 574                      | NR                   | 655            | 410                      | NR                   | 785            | 7                        | NR                   | 915            | 0                        | NR                   |
| 400            | 6                        | NR                   | 530            | 589                      | NR                   | 660            | 361                      | NR                   | 790            | 6                        | NR                   | 920            | 0                        | NR                   |
| 405            | 8                        | NR                   | 535            | 605                      | NR                   | 665            | 317                      | NR                   | 795            | 5                        | NR                   | 925            | 0                        | NR                   |
| 410            | 11                       | NR                   | 540            | 617                      | NR                   | 670            | 276                      | NR                   | 800            | 5                        | NR                   | 930            | 0                        | NR                   |
| 415            | 18                       | NR                   | 545            | 632                      | NR                   | 675            | 239                      | NR                   | 805            | 4                        | NR                   | 935            | 0                        | NR                   |
| 420            | 30                       | NR                   | 550            | 648                      | NR                   | 680            | 207                      | NR                   | 810            | 3                        | NR                   | 940            | 0                        | NR                   |
| 425            | 53                       | NR                   | 555            | 666                      | NR                   | 685            | 178                      | NR                   | 815            | 3                        | NR                   | 945            | 0                        | NR                   |
| 430            | 95                       | NR                   | 560            | 690                      | NR                   | 690            | 153                      | NR                   | 820            | 3                        | NR                   | 950            | 0                        | NR                   |
| 435            | 173                      | NR                   | 565            | 716                      | NR                   | 695            | 131                      | NR                   | 825            | 2                        | NR                   | 955            | 0                        | NR                   |
| 440            | 304                      | NR                   | 570            | 742                      | NR                   | 700            | 112                      | NR                   | 830            | 2                        | NR                   | 960            | 0                        | NR                   |
| 445            | 559                      | NR                   | 575            | 771                      | NR                   | 705            | 95                       | NR                   | 835            | 2                        | NR                   | 965            | 0                        | NR                   |
| 450            | 915                      | NR                   | 580            | 798                      | NR                   | 710            | 81                       | NR                   | 840            | 1                        | NR                   | 970            | 0                        | NR                   |
| 455            | 929                      | NR                   | 585            | 820                      | NR                   | 715            | 69                       | NR                   | 845            | 1                        | NR                   | 975            | 0                        | NR                   |
| 460            | 582                      | NR                   | 590            | 841                      | NR                   | 720            | 59                       | NR                   | 850            | 1                        | NR                   | 980            | 0                        | NR                   |
| 465            | 446                      | NR                   | 595            | 852                      | NR                   | 725            | 50                       | NR                   | 855            | 1                        | NR                   | 985            | 0                        | NR                   |
| 470            | 356                      | NR                   | 600            | 852                      | NR                   | 730            | 42                       | NR                   | 860            | 1                        | NR                   | 990            | 0                        | NR                   |
| 475            | 250                      | NR                   | 605            | 845                      | NR                   | 735            | 36                       | NR                   | 865            | 1                        | NR                   | 995            | 0                        | NR                   |
| 480            | 212                      | NR                   | 610            | 827                      | NR                   | 740            | 30                       | NR                   | 870            | 1                        | NR                   | 1000           | 0                        | NR                   |
| 485            | 221                      | NR                   | 615            | 801                      | NR                   | 745            | 26                       | NR                   | 875            | 1                        | NR                   |                |                          |                      |

REPORT NUMBER: SP1-2601-659-2

Melanopic Flux vs. Wavelength



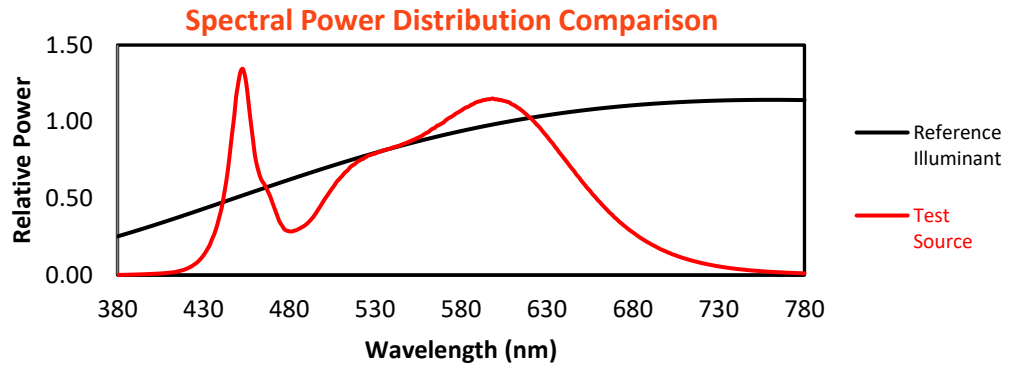
Melanopic Lumens: NR

M/P: 3.35

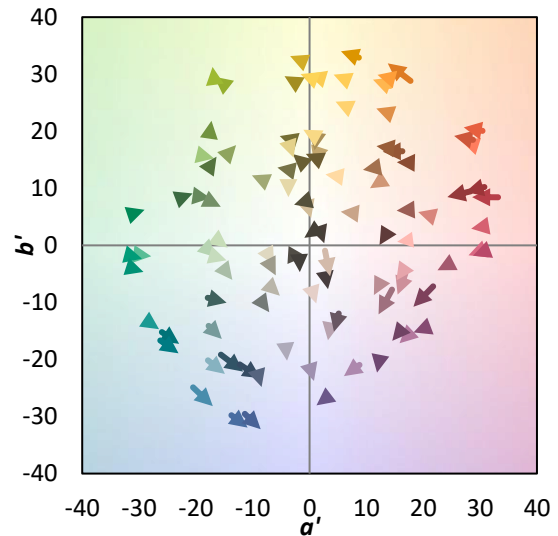
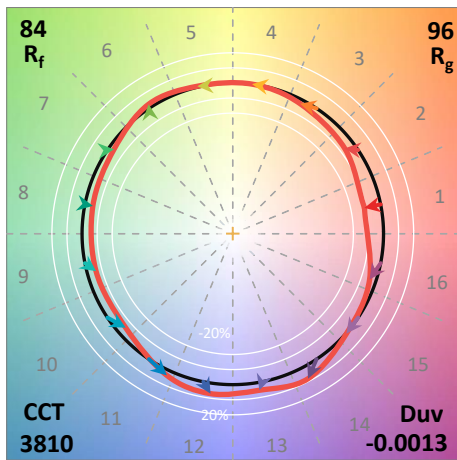
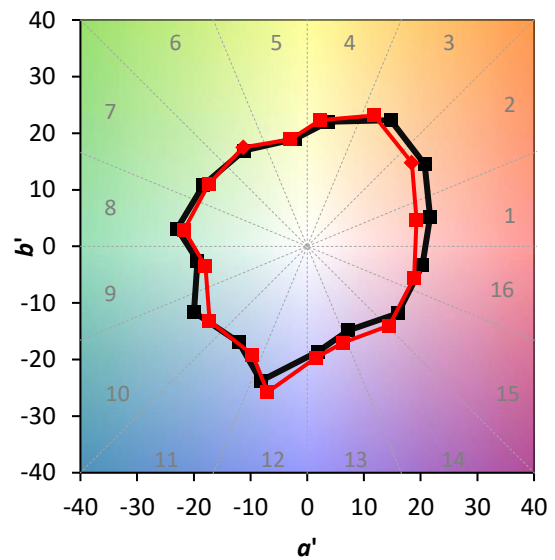
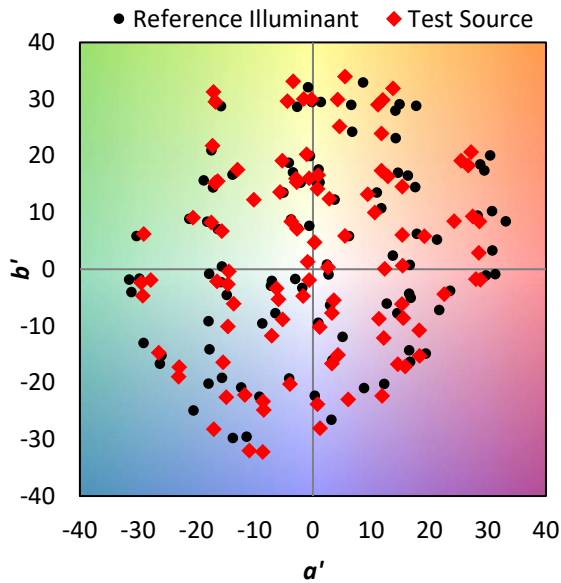
| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 247                      | NR            | 620    | 764                      | NR            | 750    | 22                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 294                      | NR            | 625    | 723                      | NR            | 755    | 19                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 359                      | NR            | 630    | 674                      | NR            | 760    | 16                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 421                      | NR            | 635    | 620                      | NR            | 765    | 14                       | NR            | 895    | 0                        | NR            |
| 380    | 1                        | NR            | 510    | 474                      | NR            | 640    | 566                      | NR            | 770    | 12                       | NR            | 900    | 0                        | NR            |
| 385    | 1                        | NR            | 515    | 518                      | NR            | 645    | 512                      | NR            | 775    | 10                       | NR            | 905    | 0                        | NR            |
| 390    | 3                        | NR            | 520    | 552                      | NR            | 650    | 459                      | NR            | 780    | 8                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 574                      | NR            | 655    | 410                      | NR            | 785    | 7                        | NR            | 915    | 0                        | NR            |
| 400    | 6                        | NR            | 530    | 589                      | NR            | 660    | 361                      | NR            | 790    | 6                        | NR            | 920    | 0                        | NR            |
| 405    | 8                        | NR            | 535    | 605                      | NR            | 665    | 317                      | NR            | 795    | 5                        | NR            | 925    | 0                        | NR            |
| 410    | 11                       | NR            | 540    | 617                      | NR            | 670    | 276                      | NR            | 800    | 5                        | NR            | 930    | 0                        | NR            |
| 415    | 18                       | NR            | 545    | 632                      | NR            | 675    | 239                      | NR            | 805    | 4                        | NR            | 935    | 0                        | NR            |
| 420    | 30                       | NR            | 550    | 648                      | NR            | 680    | 207                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 53                       | NR            | 555    | 666                      | NR            | 685    | 178                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 95                       | NR            | 560    | 690                      | NR            | 690    | 153                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 173                      | NR            | 565    | 716                      | NR            | 695    | 131                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 304                      | NR            | 570    | 742                      | NR            | 700    | 112                      | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 559                      | NR            | 575    | 771                      | NR            | 705    | 95                       | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 915                      | NR            | 580    | 798                      | NR            | 710    | 81                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 929                      | NR            | 585    | 820                      | NR            | 715    | 69                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 582                      | NR            | 590    | 841                      | NR            | 720    | 59                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 446                      | NR            | 595    | 852                      | NR            | 725    | 50                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 356                      | NR            | 600    | 852                      | NR            | 730    | 42                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 250                      | NR            | 605    | 845                      | NR            | 735    | 36                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 212                      | NR            | 610    | 827                      | NR            | 740    | 30                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 221                      | NR            | 615    | 801                      | NR            | 745    | 26                       | NR            | 875    | 1                        | NR            |        |                          |               |

**Summary**

$R_f = 84.4$   
 $R_g = 96.5$   
 CIE  $R_a = 84.5$   
 $R_9 = 15.9$

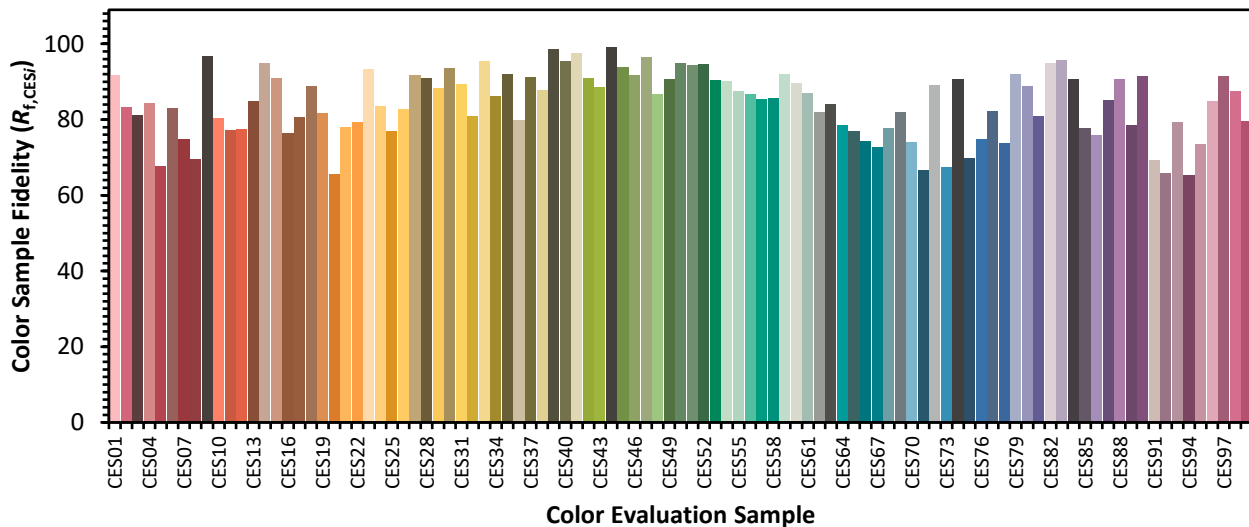


**Color Vector Graphics**

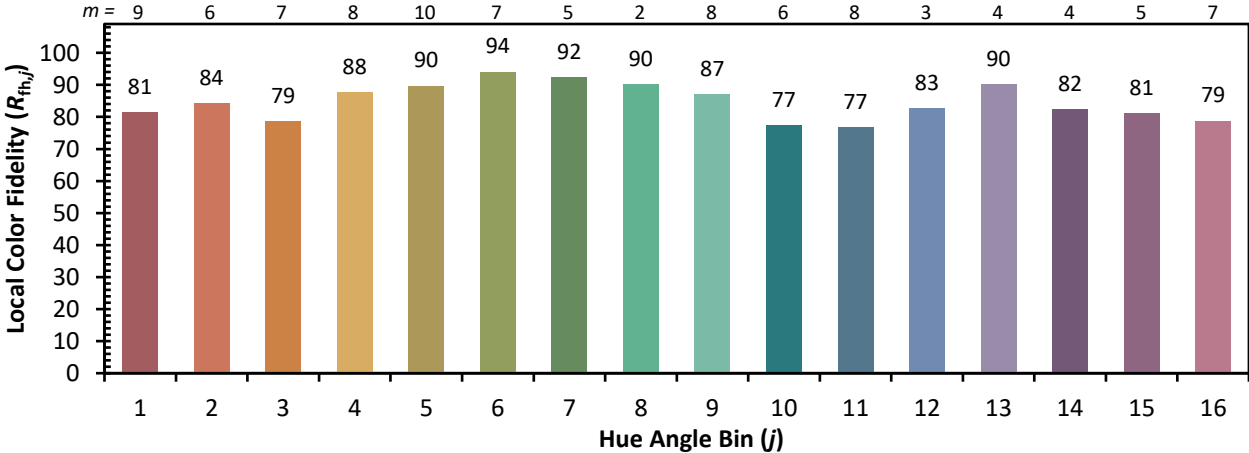
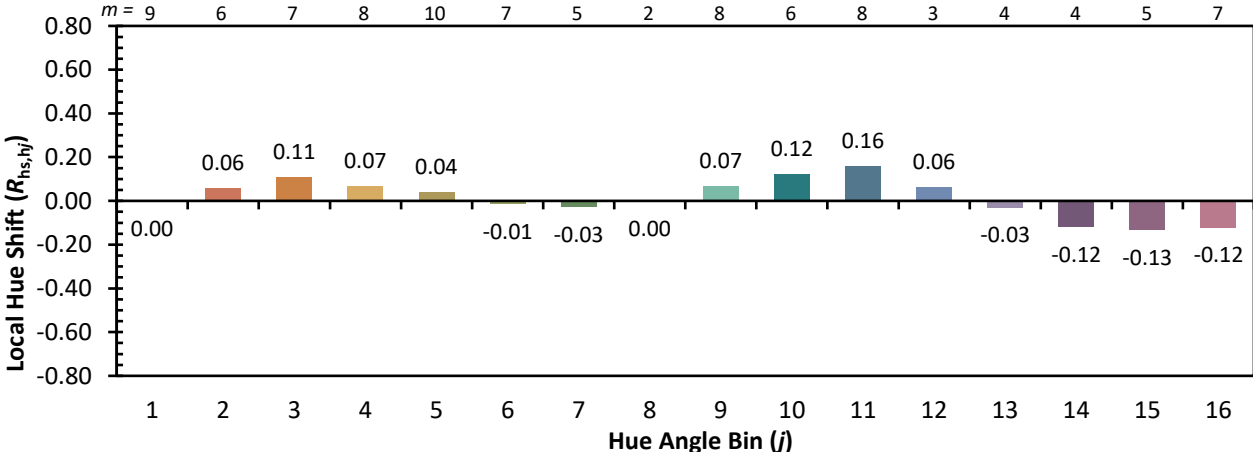
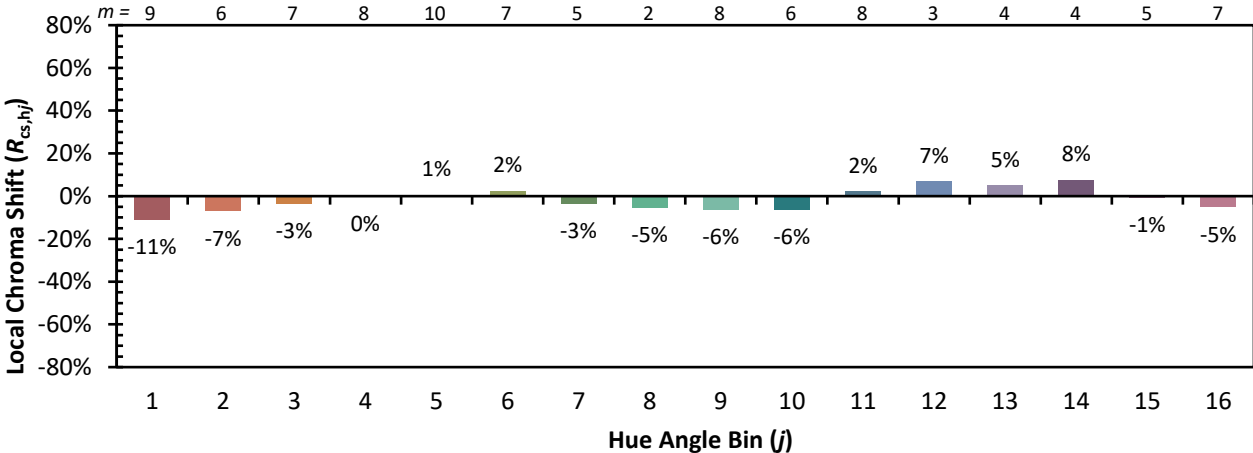


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

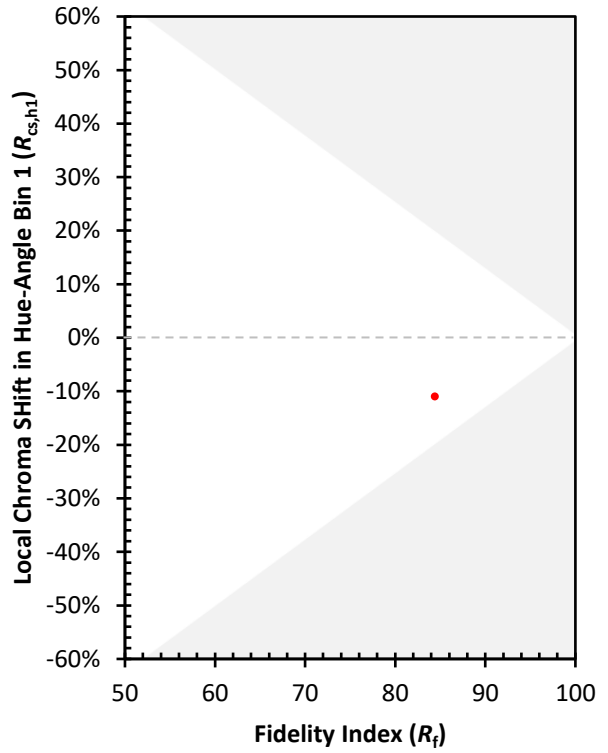
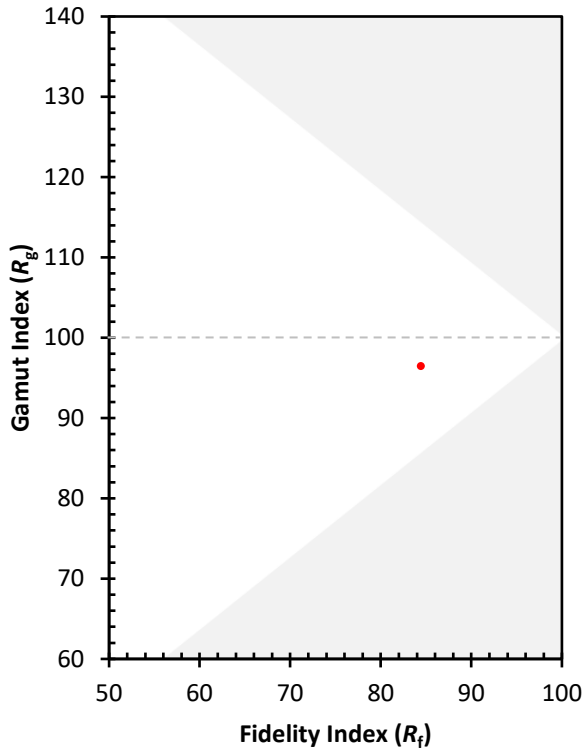
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 83 | CES51 = 94 | CES76 = 75 |
| CES02 = 62 | CES27 = 92 | CES52 = 95 | CES77 = 82 |
| CES03 = 31 | CES28 = 91 | CES53 = 90 | CES78 = 74 |
| CES04 = 70 | CES29 = 88 | CES54 = 90 | CES79 = 92 |
| CES05 = 48 | CES30 = 94 | CES55 = 88 | CES80 = 89 |
| CES06 = 51 | CES31 = 89 | CES56 = 87 | CES81 = 81 |
| CES07 = 41 | CES32 = 81 | CES57 = 86 | CES82 = 95 |
| CES08 = 40 | CES33 = 95 | CES58 = 86 | CES83 = 96 |
| CES09 = 29 | CES34 = 86 | CES59 = 92 | CES84 = 91 |
| CES10 = 75 | CES35 = 92 | CES60 = 90 | CES85 = 78 |
| CES11 = 57 | CES36 = 80 | CES61 = 87 | CES86 = 76 |
| CES12 = 63 | CES37 = 91 | CES62 = 82 | CES87 = 85 |
| CES13 = 43 | CES38 = 88 | CES63 = 84 | CES88 = 91 |
| CES14 = 74 | CES39 = 98 | CES64 = 79 | CES89 = 78 |
| CES15 = 71 | CES40 = 96 | CES65 = 77 | CES90 = 92 |
| CES16 = 47 | CES41 = 98 | CES66 = 74 | CES91 = 69 |
| CES17 = 49 | CES42 = 91 | CES67 = 73 | CES92 = 66 |
| CES18 = 56 | CES43 = 89 | CES68 = 78 | CES93 = 79 |
| CES19 = 71 | CES44 = 99 | CES69 = 82 | CES94 = 65 |
| CES20 = 65 | CES45 = 94 | CES70 = 74 | CES95 = 74 |
| CES21 = 86 | CES46 = 92 | CES71 = 67 | CES96 = 85 |
| CES22 = 78 | CES47 = 97 | CES72 = 89 | CES97 = 91 |
| CES23 = 91 | CES48 = 87 | CES73 = 68 | CES98 = 87 |
| CES24 = 90 | CES49 = 91 | CES74 = 91 | CES99 = 80 |
| CES25 = 71 | CES50 = 95 | CES75 = 70 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)