

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: P776236

Luminaire Tested: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776236
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: HCDJBS3040CSD-HCD41TRC-4000lm-3000K
Description: 4 INCH ROUND SHALLOW-WIDE SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

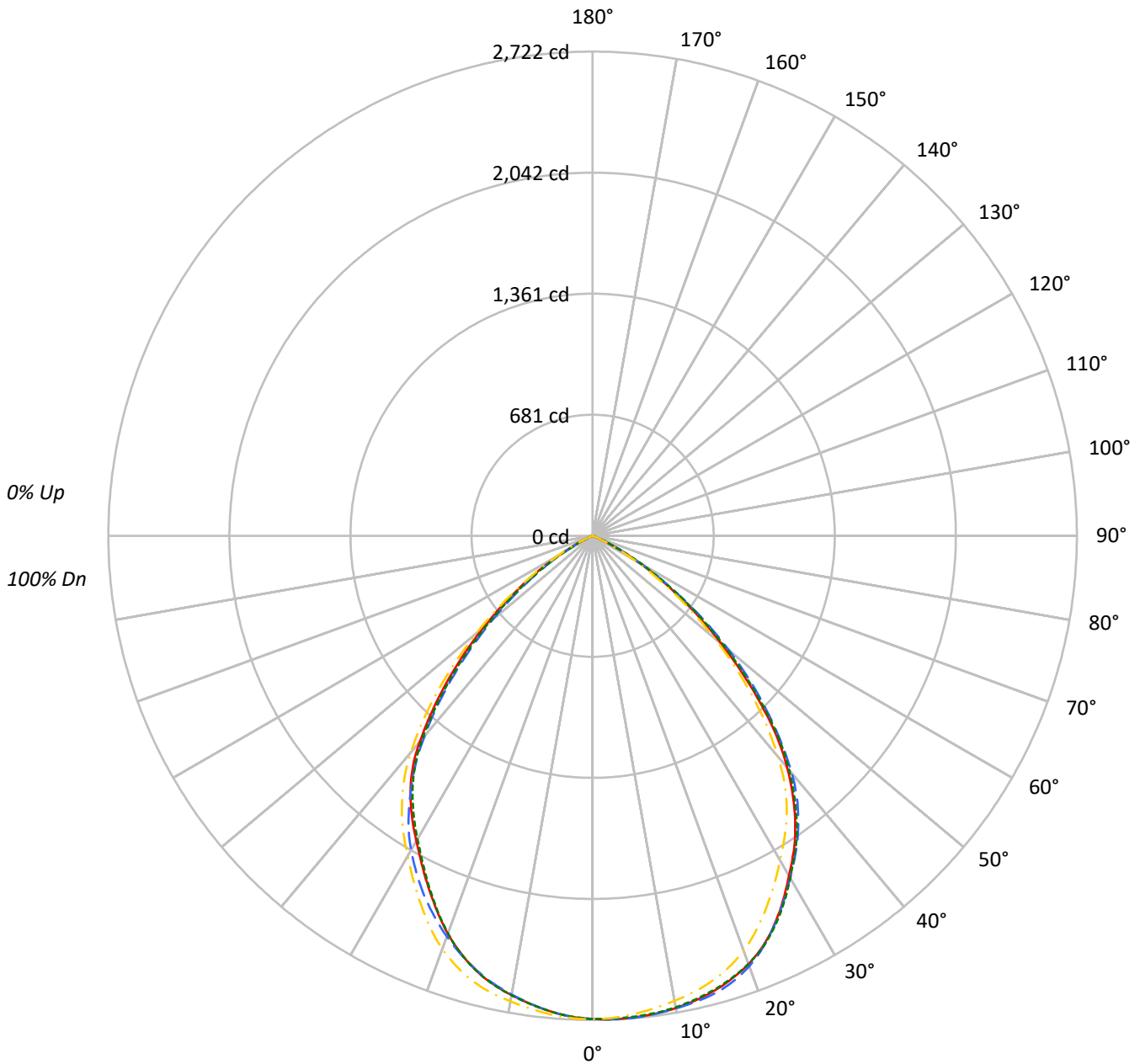
Lumens per Lamp: N/A
Luminaire Lumens: 4737.2 lumens
Efficiency: N/A
Efficacy: 123.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.16 / 1.22
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): 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: P776236
CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P776236

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | | | | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | | 0 | | |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 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° | 341909 | 341909 | 341909 | 341909 |
| 5° | 343366 | 342773 | 339210 | 339261 |
| 10° | 344525 | 343925 | 335069 | 335222 |
| 15° | 344941 | 344172 | 329632 | 329788 |
| 20° | 343133 | 343026 | 318799 | 318477 |
| 25° | 335222 | 336416 | 303020 | 302048 |
| 30° | 320878 | 322869 | 287978 | 286104 |
| 35° | 304933 | 307407 | 274191 | 271057 |
| 40° | 279498 | 282456 | 248153 | 244489 |
| 45° | 238100 | 242211 | 205280 | 199834 |
| 50° | 184784 | 189699 | 156356 | 149601 |
| 55° | 129673 | 134917 | 104660 | 97441 |
| 60° | 74730 | 79839 | 54015 | 47722 |
| 65° | 25997 | 29511 | 14681 | 11673 |
| 70° | 846 | 1877 | 846 | 736 |
| 75° | 778 | 972 | 778 | 778 |
| 80° | 580 | 870 | 580 | 580 |
| 85° | 0 | 578 | 0 | 578 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 245486 cd/sqm



TEST NUMBER: P776236

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 256.4 | 5.4 |
| 10°-20° | 729.1 | 15.4 |
| 20°-30° | 1058.0 | 22.3 |
| 30°-40° | 1173.4 | 24.8 |
| 40°-50° | 952.7 | 20.1 |
| 50°-60° | 478.3 | 10.1 |
| 60°-70° | 87.0 | 1.8 |
| 70°-80° | 1.8 | 0.0 |
| 80°-90° | 0.4 | 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° | 2043.6 | 43.1 |
| 0°-40° | 3216.9 | 67.9 |
| 0°-60° | 4648.0 | 98.1 |
| 0°-90° | 4737.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4737.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 90° | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 2717 | 2717 | 2717 | 2717 | 2717 | |
| 5° | 2718 | 2713 | 2685 | 2686 | 2718 | 259 |
| 15° | 2648 | 2642 | 2530 | 2531 | 2648 | 747 |
| 25° | 2414 | 2423 | 2182 | 2175 | 2414 | 1108 |
| 35° | 1985 | 2001 | 1785 | 1764 | 1985 | 1234 |
| 45° | 1338 | 1361 | 1153 | 1123 | 1338 | 1023 |
| 55° | 591 | 615 | 477 | 444 | 591 | 533 |
| 65° | 87 | 99 | 49 | 39 | 87 | 104 |
| 75° | 2 | 2 | 2 | 2 | 2 | 2 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: P776236

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2716.8 | 2716.8 | 2716.8 | 2716.8 | 2716.8 | 2716.8 | 2716.8 | 2716.8 | 2716.8 | 2716.8 | 2716.8 |
| 0.5° | 2718.0 | 2718.0 | 2718.4 | 2719.1 | 2716.0 | 2716.8 | 2717.2 | 2717.2 | 2715.2 | 2714.8 | 2715.6 |
| 1° | 2719.1 | 2719.1 | 2719.5 | 2719.9 | 2716.8 | 2716.4 | 2716.4 | 2716.4 | 2713.7 | 2712.9 | 2714.1 |
| 1.5° | 2719.9 | 2719.9 | 2720.7 | 2720.7 | 2717.2 | 2716.0 | 2715.2 | 2714.1 | 2711.7 | 2710.9 | 2712.1 |
| 2° | 2720.3 | 2720.7 | 2721.1 | 2721.1 | 2716.8 | 2715.2 | 2713.7 | 2711.3 | 2709.4 | 2708.2 | 2709.4 |
| 2.5° | 2720.3 | 2721.5 | 2721.9 | 2721.1 | 2716.4 | 2714.4 | 2712.1 | 2709.0 | 2706.6 | 2705.4 | 2706.6 |
| 3° | 2720.3 | 2721.5 | 2721.9 | 2721.1 | 2716.0 | 2713.3 | 2710.1 | 2705.8 | 2703.1 | 2701.9 | 2703.5 |
| 3.5° | 2720.3 | 2721.5 | 2721.9 | 2720.7 | 2716.0 | 2711.7 | 2707.4 | 2702.3 | 2698.8 | 2697.6 | 2699.6 |
| 4° | 2719.5 | 2721.1 | 2721.5 | 2720.7 | 2714.8 | 2710.5 | 2704.7 | 2698.8 | 2694.5 | 2693.7 | 2695.3 |
| 4.5° | 2718.8 | 2720.7 | 2721.1 | 2719.9 | 2714.1 | 2708.6 | 2701.9 | 2694.9 | 2689.8 | 2688.6 | 2690.2 |
| 5° | 2718.0 | 2719.5 | 2719.9 | 2719.1 | 2713.3 | 2707.0 | 2698.4 | 2690.2 | 2685.1 | 2683.5 | 2685.1 |
| 5.5° | 2716.4 | 2718.8 | 2718.8 | 2717.6 | 2712.1 | 2704.7 | 2694.9 | 2685.5 | 2679.2 | 2678.0 | 2679.6 |
| 6° | 2714.8 | 2717.2 | 2717.2 | 2716.4 | 2710.9 | 2702.3 | 2690.9 | 2680.4 | 2673.7 | 2672.5 | 2673.7 |
| 6.5° | 2713.7 | 2715.6 | 2715.2 | 2714.4 | 2709.4 | 2700.0 | 2687.0 | 2675.3 | 2668.2 | 2666.7 | 2667.8 |
| 7° | 2711.7 | 2713.7 | 2713.7 | 2712.5 | 2707.8 | 2696.8 | 2682.7 | 2669.8 | 2662.0 | 2660.4 | 2661.6 |
| 7.5° | 2710.1 | 2711.3 | 2711.3 | 2710.5 | 2705.4 | 2694.1 | 2678.4 | 2664.3 | 2655.7 | 2654.1 | 2654.5 |
| 8° | 2707.8 | 2708.6 | 2709.0 | 2708.2 | 2703.5 | 2690.9 | 2674.1 | 2658.8 | 2649.4 | 2647.5 | 2648.3 |
| 8.5° | 2705.0 | 2705.8 | 2706.2 | 2705.4 | 2701.1 | 2687.4 | 2669.8 | 2653.3 | 2642.8 | 2640.8 | 2640.8 |
| 9° | 2702.3 | 2703.1 | 2703.5 | 2702.3 | 2698.0 | 2683.9 | 2665.1 | 2647.1 | 2636.5 | 2634.2 | 2633.8 |
| 9.5° | 2699.2 | 2699.6 | 2700.7 | 2698.8 | 2694.9 | 2680.4 | 2660.0 | 2641.2 | 2629.5 | 2627.1 | 2626.7 |
| 10° | 2696.0 | 2696.0 | 2698.0 | 2695.3 | 2691.3 | 2676.1 | 2655.3 | 2634.9 | 2622.0 | 2620.5 | 2619.3 |
| 10.5° | 2692.1 | 2692.5 | 2695.3 | 2692.1 | 2687.8 | 2671.4 | 2649.8 | 2628.7 | 2615.0 | 2613.8 | 2611.8 |
| 11° | 2688.2 | 2688.6 | 2692.5 | 2688.2 | 2683.5 | 2666.3 | 2644.3 | 2622.0 | 2607.1 | 2606.4 | 2603.6 |
| 11.5° | 2683.9 | 2684.3 | 2689.0 | 2683.9 | 2678.8 | 2660.8 | 2638.9 | 2615.4 | 2599.3 | 2598.9 | 2595.4 |
| 12° | 2680.0 | 2680.4 | 2686.2 | 2679.6 | 2674.1 | 2655.7 | 2633.0 | 2608.7 | 2590.7 | 2591.1 | 2587.2 |
| 12.5° | 2675.3 | 2676.1 | 2682.7 | 2674.5 | 2669.4 | 2649.8 | 2627.1 | 2601.7 | 2582.1 | 2583.2 | 2578.5 |
| 13° | 2670.6 | 2671.8 | 2679.6 | 2669.4 | 2664.3 | 2643.9 | 2621.2 | 2594.6 | 2573.1 | 2574.6 | 2569.1 |
| 13.5° | 2665.1 | 2666.7 | 2675.7 | 2663.9 | 2658.8 | 2637.3 | 2614.6 | 2587.2 | 2563.3 | 2566.0 | 2559.4 |
| 14° | 2659.6 | 2661.2 | 2671.8 | 2658.4 | 2653.3 | 2631.0 | 2607.5 | 2578.9 | 2553.1 | 2557.0 | 2548.8 |
| 14.5° | 2654.1 | 2655.3 | 2667.1 | 2652.6 | 2647.5 | 2624.0 | 2600.1 | 2569.9 | 2542.1 | 2546.8 | 2538.2 |
| 15° | 2647.5 | 2649.4 | 2662.4 | 2645.9 | 2641.6 | 2616.5 | 2592.3 | 2560.9 | 2530.0 | 2536.6 | 2527.2 |
| 15.5° | 2640.8 | 2642.4 | 2656.5 | 2638.9 | 2635.3 | 2609.1 | 2584.0 | 2550.7 | 2517.5 | 2525.7 | 2515.5 |
| 16° | 2633.8 | 2634.5 | 2650.6 | 2631.0 | 2628.3 | 2600.9 | 2575.0 | 2540.6 | 2504.5 | 2513.5 | 2503.0 |
| 16.5° | 2625.9 | 2626.3 | 2643.2 | 2622.8 | 2621.2 | 2591.9 | 2565.2 | 2529.2 | 2490.8 | 2501.4 | 2491.2 |
| 17° | 2617.7 | 2617.7 | 2635.3 | 2613.8 | 2613.8 | 2582.9 | 2554.7 | 2517.8 | 2476.3 | 2488.9 | 2479.1 |
| 17.5° | 2609.1 | 2608.7 | 2626.7 | 2604.8 | 2606.0 | 2572.7 | 2543.7 | 2505.3 | 2461.8 | 2475.2 | 2466.1 |
| 18° | 2600.9 | 2599.3 | 2617.7 | 2595.0 | 2597.7 | 2562.9 | 2533.1 | 2491.6 | 2447.0 | 2461.1 | 2453.2 |
| 18.5° | 2591.9 | 2589.5 | 2607.9 | 2584.8 | 2589.1 | 2551.9 | 2521.0 | 2478.3 | 2431.3 | 2445.4 | 2439.5 |
| 19° | 2582.9 | 2579.3 | 2597.3 | 2574.6 | 2580.5 | 2541.3 | 2508.4 | 2463.8 | 2414.8 | 2430.1 | 2425.8 |
| 19.5° | 2573.1 | 2568.8 | 2586.4 | 2564.1 | 2571.1 | 2530.0 | 2495.1 | 2448.5 | 2398.0 | 2414.1 | 2411.7 |
| 20° | 2562.1 | 2557.4 | 2575.0 | 2552.7 | 2561.3 | 2517.8 | 2481.4 | 2432.9 | 2380.4 | 2397.2 | 2397.6 |
| 20.5° | 2551.1 | 2545.6 | 2562.1 | 2540.6 | 2550.3 | 2505.3 | 2466.9 | 2415.6 | 2362.8 | 2378.8 | 2382.3 |
| 21° | 2539.0 | 2533.1 | 2548.8 | 2528.4 | 2539.4 | 2492.0 | 2451.7 | 2398.0 | 2343.2 | 2360.4 | 2367.1 |

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CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 22.5° | 2498.7 | 2492.0 | 2504.1 | 2487.3 | 2501.8 | 2447.7 | 2401.9 | 2340.4 | 2284.0 | 2301.3 | 2319.3 |
| 23° | 2483.8 | 2477.1 | 2487.3 | 2472.8 | 2487.3 | 2432.1 | 2383.9 | 2320.8 | 2263.7 | 2280.5 | 2302.8 |
| 23.5° | 2467.3 | 2461.8 | 2470.5 | 2457.9 | 2472.0 | 2415.6 | 2365.9 | 2300.1 | 2243.3 | 2259.8 | 2286.8 |
| 24° | 2450.5 | 2446.2 | 2452.8 | 2442.6 | 2456.4 | 2398.8 | 2346.7 | 2279.3 | 2222.5 | 2239.0 | 2270.3 |
| 24.5° | 2432.9 | 2430.5 | 2435.2 | 2427.4 | 2439.9 | 2381.2 | 2327.9 | 2258.2 | 2202.6 | 2217.5 | 2253.5 |
| 25° | 2414.1 | 2414.4 | 2417.2 | 2412.1 | 2422.7 | 2364.3 | 2308.7 | 2237.0 | 2182.2 | 2196.3 | 2235.9 |
| 25.5° | 2395.7 | 2398.0 | 2398.8 | 2396.0 | 2404.7 | 2346.3 | 2289.5 | 2215.1 | 2161.8 | 2174.8 | 2217.8 |
| 26° | 2376.5 | 2381.6 | 2379.6 | 2380.0 | 2386.6 | 2328.3 | 2269.9 | 2194.7 | 2141.9 | 2153.6 | 2199.4 |
| 26.5° | 2356.9 | 2365.1 | 2360.8 | 2363.9 | 2367.8 | 2309.9 | 2250.0 | 2173.6 | 2121.5 | 2131.7 | 2180.6 |
| 27° | 2336.5 | 2348.3 | 2341.6 | 2347.1 | 2347.9 | 2290.7 | 2230.4 | 2152.4 | 2101.1 | 2109.8 | 2161.5 |
| 27.5° | 2315.4 | 2331.0 | 2322.0 | 2329.5 | 2327.9 | 2271.1 | 2210.4 | 2131.3 | 2080.4 | 2088.6 | 2141.5 |
| 28° | 2294.2 | 2313.0 | 2302.0 | 2311.8 | 2307.1 | 2251.5 | 2190.0 | 2110.1 | 2060.0 | 2067.5 | 2121.9 |
| 28.5° | 2272.7 | 2295.0 | 2281.7 | 2293.4 | 2285.6 | 2231.6 | 2169.7 | 2089.0 | 2040.4 | 2046.7 | 2101.5 |
| 29° | 2251.1 | 2276.2 | 2260.9 | 2274.6 | 2264.5 | 2211.2 | 2148.5 | 2068.2 | 2020.5 | 2026.3 | 2081.2 |
| 29.5° | 2230.0 | 2257.8 | 2241.3 | 2255.8 | 2243.3 | 2191.2 | 2128.2 | 2047.9 | 2000.9 | 2005.6 | 2060.8 |
| 30° | 2208.1 | 2239.4 | 2221.4 | 2236.3 | 2221.8 | 2170.9 | 2107.8 | 2027.5 | 1981.7 | 1985.2 | 2040.0 |
| 30.5° | 2186.9 | 2220.2 | 2201.0 | 2216.7 | 2199.4 | 2150.9 | 2087.4 | 2007.1 | 1962.9 | 1965.2 | 2019.7 |
| 31° | 2165.8 | 2200.6 | 2180.2 | 2197.1 | 2178.3 | 2131.3 | 2067.5 | 1988.0 | 1944.1 | 1945.7 | 1998.1 |
| 31.5° | 2145.4 | 2181.4 | 2161.1 | 2176.7 | 2157.5 | 2110.9 | 2047.5 | 1969.2 | 1924.9 | 1925.7 | 1975.4 |
| 32° | 2123.5 | 2161.8 | 2141.1 | 2157.1 | 2136.8 | 2091.0 | 2027.9 | 1950.0 | 1906.1 | 1906.5 | 1951.5 |
| 32.5° | 2103.5 | 2142.3 | 2121.9 | 2136.8 | 2115.6 | 2071.4 | 2008.3 | 1930.4 | 1887.7 | 1886.1 | 1926.9 |
| 33° | 2081.9 | 2121.1 | 2101.1 | 2116.4 | 2095.3 | 2051.4 | 1988.3 | 1910.8 | 1867.7 | 1865.4 | 1900.2 |
| 33.5° | 2059.2 | 2099.2 | 2081.2 | 2094.5 | 2072.9 | 2031.0 | 1967.2 | 1890.4 | 1847.4 | 1843.4 | 1872.8 |
| 34° | 2034.6 | 2074.9 | 2059.6 | 2071.0 | 2050.2 | 2008.7 | 1946.1 | 1870.1 | 1827.0 | 1821.9 | 1845.4 |
| 34.5° | 2009.9 | 2050.2 | 2036.9 | 2045.9 | 2025.9 | 1986.4 | 1924.1 | 1848.9 | 1805.8 | 1799.2 | 1816.8 |
| 35° | 1984.8 | 2024.0 | 2013.8 | 2020.1 | 2000.9 | 1962.1 | 1901.8 | 1827.4 | 1784.7 | 1776.5 | 1788.2 |
| 35.5° | 1959.0 | 1997.7 | 1991.1 | 1994.2 | 1975.4 | 1938.2 | 1878.7 | 1805.5 | 1762.8 | 1752.6 | 1759.6 |
| 36° | 1933.1 | 1970.7 | 1967.6 | 1966.4 | 1950.4 | 1913.5 | 1854.0 | 1783.1 | 1740.0 | 1728.7 | 1730.3 |
| 36.5° | 1906.9 | 1943.3 | 1942.9 | 1939.0 | 1922.2 | 1886.9 | 1829.0 | 1759.6 | 1716.6 | 1702.8 | 1700.5 |
| 37° | 1878.7 | 1914.7 | 1916.7 | 1910.4 | 1895.1 | 1859.5 | 1802.7 | 1735.0 | 1691.9 | 1677.0 | 1670.7 |
| 37.5° | 1850.9 | 1885.3 | 1891.2 | 1881.4 | 1866.5 | 1831.3 | 1776.1 | 1710.3 | 1666.4 | 1650.0 | 1640.6 |
| 38° | 1821.1 | 1854.8 | 1863.4 | 1851.7 | 1837.6 | 1802.7 | 1748.7 | 1682.9 | 1639.4 | 1619.8 | 1609.6 |
| 38.5° | 1791.7 | 1824.3 | 1834.4 | 1821.1 | 1808.6 | 1773.7 | 1718.5 | 1653.5 | 1610.4 | 1587.7 | 1576.3 |
| 39° | 1763.2 | 1794.1 | 1805.5 | 1791.0 | 1780.0 | 1743.6 | 1687.2 | 1623.3 | 1578.7 | 1554.8 | 1540.3 |
| 39.5° | 1732.2 | 1762.0 | 1774.1 | 1759.2 | 1749.8 | 1713.0 | 1655.5 | 1591.2 | 1545.4 | 1521.5 | 1505.1 |
| 40° | 1701.3 | 1728.7 | 1740.0 | 1726.3 | 1719.3 | 1680.5 | 1622.6 | 1558.3 | 1510.5 | 1486.7 | 1469.4 |
| 40.5° | 1668.4 | 1694.2 | 1705.6 | 1691.9 | 1687.2 | 1647.2 | 1588.5 | 1525.0 | 1475.7 | 1449.8 | 1433.0 |
| 41° | 1637.0 | 1659.4 | 1670.7 | 1657.0 | 1655.5 | 1613.2 | 1553.6 | 1490.6 | 1440.4 | 1413.4 | 1397.0 |
| 41.5° | 1603.0 | 1623.7 | 1634.7 | 1621.8 | 1622.2 | 1578.3 | 1519.2 | 1456.1 | 1404.4 | 1377.4 | 1359.8 |
| 42° | 1568.5 | 1588.1 | 1599.1 | 1586.9 | 1588.5 | 1542.3 | 1484.3 | 1420.9 | 1369.2 | 1339.4 | 1322.6 |
| 42.5° | 1531.3 | 1551.7 | 1563.4 | 1551.7 | 1552.5 | 1506.6 | 1448.7 | 1385.2 | 1333.1 | 1301.0 | 1284.6 |
| 43° | 1495.7 | 1515.6 | 1527.4 | 1515.2 | 1516.4 | 1471.0 | 1413.0 | 1349.2 | 1297.5 | 1263.4 | 1247.4 |
| 43.5° | 1457.3 | 1478.8 | 1490.6 | 1479.2 | 1477.7 | 1433.4 | 1376.2 | 1313.9 | 1261.5 | 1225.8 | 1209.4 |



TEST NUMBER: P776236

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 45° | 1337.8 | 1366.8 | 1379.3 | 1368.4 | 1360.9 | 1319.8 | 1264.6 | 1205.1 | 1153.4 | 1113.0 | 1096.2 |
| 45.5° | 1297.5 | 1329.2 | 1341.8 | 1332.7 | 1320.2 | 1280.7 | 1227.4 | 1170.2 | 1117.3 | 1076.2 | 1059.4 |
| 46° | 1257.2 | 1291.6 | 1304.2 | 1295.1 | 1279.9 | 1240.7 | 1189.4 | 1133.8 | 1080.9 | 1039.0 | 1021.4 |
| 46.5° | 1216.0 | 1253.2 | 1266.6 | 1256.4 | 1239.9 | 1201.5 | 1152.2 | 1098.2 | 1045.7 | 1003.0 | 984.2 |
| 47° | 1176.1 | 1214.9 | 1228.2 | 1217.2 | 1200.0 | 1162.4 | 1113.8 | 1061.7 | 1009.3 | 967.0 | 946.6 |
| 47.5° | 1136.5 | 1175.3 | 1189.8 | 1179.6 | 1160.0 | 1122.8 | 1076.2 | 1026.1 | 973.6 | 930.1 | 910.2 |
| 48° | 1097.0 | 1136.5 | 1152.2 | 1141.2 | 1121.7 | 1083.3 | 1038.2 | 989.7 | 938.4 | 894.9 | 873.4 |
| 48.5° | 1057.4 | 1097.8 | 1113.4 | 1102.5 | 1083.3 | 1043.7 | 1001.8 | 954.4 | 903.1 | 860.4 | 837.3 |
| 49° | 1020.2 | 1059.4 | 1075.8 | 1063.7 | 1044.9 | 1005.7 | 964.2 | 918.0 | 867.5 | 824.8 | 801.7 |
| 49.5° | 981.4 | 1021.0 | 1037.8 | 1025.3 | 1006.5 | 967.7 | 927.4 | 882.4 | 833.0 | 790.3 | 766.8 |
| 50° | 943.8 | 982.2 | 999.5 | 986.5 | 968.9 | 929.7 | 890.6 | 846.3 | 798.6 | 756.3 | 731.6 |
| 50.5° | 905.9 | 943.1 | 961.5 | 948.5 | 932.5 | 891.4 | 854.2 | 811.1 | 764.9 | 723.0 | 697.9 |
| 51° | 869.4 | 905.5 | 922.3 | 909.8 | 895.3 | 854.6 | 817.7 | 776.2 | 730.4 | 688.9 | 664.6 |
| 51.5° | 832.6 | 868.7 | 885.1 | 873.0 | 858.9 | 818.9 | 782.1 | 741.8 | 697.5 | 656.4 | 632.5 |
| 52° | 797.4 | 831.4 | 847.5 | 836.1 | 822.8 | 782.5 | 746.9 | 707.7 | 665.0 | 624.3 | 600.4 |
| 52.5° | 761.0 | 794.2 | 810.3 | 799.7 | 786.4 | 748.0 | 712.0 | 672.8 | 632.1 | 592.9 | 569.1 |
| 53° | 726.5 | 757.8 | 773.1 | 763.3 | 751.2 | 712.4 | 676.8 | 639.5 | 600.0 | 560.8 | 538.5 |
| 53.5° | 690.8 | 722.2 | 735.1 | 726.9 | 716.3 | 677.9 | 643.1 | 607.0 | 568.3 | 530.3 | 509.5 |
| 54° | 657.6 | 686.9 | 698.3 | 690.8 | 681.8 | 643.9 | 609.8 | 574.5 | 536.9 | 500.1 | 480.1 |
| 54.5° | 624.3 | 651.3 | 662.3 | 656.4 | 647.8 | 611.3 | 576.9 | 542.8 | 506.4 | 470.7 | 451.2 |
| 55° | 591.0 | 618.0 | 627.4 | 621.9 | 614.9 | 578.8 | 545.2 | 511.1 | 477.0 | 441.8 | 423.8 |
| 55.5° | 558.1 | 583.9 | 591.8 | 588.6 | 582.8 | 546.3 | 513.0 | 480.1 | 447.3 | 414.0 | 396.7 |
| 56° | 526.8 | 550.6 | 557.7 | 555.3 | 549.5 | 515.0 | 481.7 | 450.4 | 418.7 | 386.5 | 371.7 |
| 56.5° | 495.8 | 517.7 | 524.4 | 522.1 | 517.7 | 484.1 | 452.0 | 421.4 | 390.5 | 361.5 | 347.0 |
| 57° | 464.5 | 486.4 | 491.5 | 490.7 | 486.4 | 454.3 | 422.2 | 392.0 | 364.6 | 336.4 | 322.3 |
| 57.5° | 434.7 | 455.5 | 459.0 | 459.4 | 456.7 | 425.3 | 393.2 | 365.4 | 338.8 | 311.4 | 297.3 |
| 58° | 405.7 | 424.5 | 427.7 | 429.2 | 426.5 | 396.7 | 367.0 | 339.2 | 312.9 | 286.3 | 272.6 |
| 58.5° | 377.5 | 395.2 | 397.9 | 399.5 | 397.5 | 370.5 | 340.7 | 312.5 | 287.1 | 260.8 | 250.3 |
| 59° | 350.1 | 366.6 | 368.5 | 370.1 | 370.9 | 344.6 | 314.5 | 285.9 | 261.2 | 238.5 | 228.7 |
| 59.5° | 322.7 | 338.8 | 340.3 | 342.3 | 343.9 | 318.4 | 288.2 | 259.7 | 237.3 | 216.6 | 207.2 |
| 60° | 296.9 | 311.4 | 313.3 | 315.3 | 317.2 | 292.2 | 262.4 | 235.8 | 214.6 | 195.4 | 187.6 |
| 60.5° | 271.4 | 284.7 | 286.7 | 289.0 | 290.2 | 266.3 | 239.3 | 213.1 | 193.1 | 175.8 | 168.4 |
| 61° | 246.7 | 259.7 | 261.2 | 262.8 | 263.6 | 242.8 | 215.8 | 191.5 | 171.9 | 156.7 | 150.8 |
| 61.5° | 224.0 | 235.4 | 237.7 | 238.9 | 239.3 | 219.7 | 194.6 | 170.8 | 152.3 | 139.0 | 133.9 |
| 62° | 200.9 | 212.3 | 215.0 | 215.4 | 216.2 | 198.2 | 174.3 | 150.8 | 133.5 | 122.2 | 117.9 |
| 62.5° | 179.4 | 189.6 | 193.1 | 193.1 | 193.5 | 177.0 | 154.7 | 132.4 | 115.9 | 106.1 | 103.0 |
| 63° | 159.4 | 168.4 | 171.9 | 171.5 | 172.3 | 156.7 | 135.9 | 115.5 | 98.7 | 91.6 | 89.3 |
| 63.5° | 139.8 | 148.4 | 152.7 | 151.2 | 152.3 | 137.9 | 119.1 | 99.1 | 83.8 | 77.9 | 76.4 |
| 64° | 122.2 | 131.6 | 133.9 | 133.2 | 133.5 | 119.8 | 103.0 | 84.6 | 70.1 | 65.8 | 65.4 |
| 64.5° | 104.6 | 115.1 | 118.3 | 117.1 | 115.5 | 103.4 | 88.1 | 70.5 | 57.6 | 55.2 | 54.8 |
| 65° | 87.3 | 98.3 | 102.6 | 101.0 | 99.1 | 88.1 | 74.4 | 58.4 | 49.3 | 47.4 | 47.4 |
| 65.5° | 69.7 | 81.5 | 86.9 | 85.0 | 83.8 | 73.6 | 61.5 | 50.1 | 41.5 | 39.9 | 39.9 |
| 66° | 52.1 | 65.0 | 71.3 | 68.9 | 69.7 | 60.7 | 52.5 | 41.5 | 33.3 | 32.5 | 32.9 |



TEST NUMBER: P776236

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|------|-------|------|-------|------|--------|------|--------|------|--------|------|
| 67.5° | 17.6 | 31.3 | 36.8 | 35.2 | 39.6 | 33.7 | 26.2 | 16.1 | 11.7 | 12.5 | 12.9 |
| 68° | 14.5 | 23.1 | 27.4 | 26.6 | 30.5 | 24.7 | 17.2 | 11.7 | 7.4 | 8.6 | 8.6 |
| 68.5° | 11.4 | 16.4 | 19.6 | 19.2 | 21.9 | 15.7 | 11.7 | 7.8 | 4.3 | 5.5 | 5.5 |
| 69° | 8.2 | 13.7 | 13.3 | 13.3 | 12.9 | 10.6 | 7.8 | 5.1 | 2.7 | 3.5 | 3.5 |
| 69.5° | 5.1 | 11.0 | 10.6 | 10.6 | 8.2 | 6.7 | 4.3 | 3.1 | 2.3 | 2.3 | 2.3 |
| 70° | 2.3 | 8.2 | 7.8 | 7.8 | 5.1 | 3.5 | 2.7 | 2.3 | 2.3 | 2.3 | 2.3 |
| 70.5° | 2.0 | 5.1 | 5.1 | 5.1 | 3.1 | 2.3 | 2.3 | 2.0 | 2.0 | 2.3 | 2.3 |
| 71° | 2.0 | 2.3 | 2.7 | 2.7 | 2.3 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 2.3 |
| 71.5° | 2.0 | 2.3 | 2.3 | 2.3 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 72° | 2.0 | 2.0 | 2.3 | 2.3 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 72.5° | 2.0 | 2.0 | 2.3 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 73° | 2.0 | 2.0 | 2.3 | 2.3 | 2.0 | 2.0 | 2.0 | 1.6 | 2.0 | 2.0 | 2.0 |
| 73.5° | 1.6 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 2.0 | 2.0 |
| 74° | 1.6 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 1.6 | 2.0 |
| 74.5° | 1.6 | 2.0 | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 75° | 1.6 | 1.6 | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 75.5° | 1.6 | 1.6 | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 76° | 1.6 | 1.6 | 1.6 | 2.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 76.5° | 1.2 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.2 | 1.2 | 1.6 | 1.6 |
| 77° | 1.2 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.2 | 1.2 | 1.2 | 1.2 | 1.6 |
| 77.5° | 1.2 | 1.2 | 1.6 | 1.6 | 1.6 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 78° | 1.2 | 1.2 | 1.6 | 1.6 | 1.6 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 78.5° | 1.2 | 1.2 | 1.6 | 1.6 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 79° | 1.2 | 1.2 | 1.2 | 1.6 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 79.5° | 0.8 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 0.8 | 0.8 | 0.8 | 1.2 |
| 80° | 0.8 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 0.8 | 0.8 | 0.8 | 1.2 |
| 80.5° | 0.8 | 0.8 | 1.2 | 1.2 | 1.2 | 1.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 81° | 0.8 | 0.8 | 1.2 | 1.2 | 1.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 81.5° | 0.8 | 0.8 | 0.8 | 1.2 | 1.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82° | 0.8 | 0.8 | 0.8 | 1.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82.5° | 0.4 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 | 0.8 |
| 83° | 0.4 | 0.4 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 |
| 83.5° | 0.4 | 0.4 | 0.8 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 84° | 0.4 | 0.4 | 0.8 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 84.5° | 0.4 | 0.4 | 0.4 | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 |
| 85° | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 |
| 85.5° | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 |
| 86° | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 |
| 86.5° | 0.0 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87° | 0.0 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.4 | 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: P776236
CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

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 | 0.4 | 0.4 |



TEST NUMBER: P776236

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 0° | 2716.8 | 2716.8 | 2716.8 | 2716.8 | 2716.8 | 2716.8 |
| 0.5° | 2716.4 | 2714.4 | 2716.0 | 2717.2 | 2718.4 | 2718.0 |
| 1° | 2714.8 | 2712.9 | 2715.2 | 2717.2 | 2719.1 | 2719.1 |
| 1.5° | 2712.9 | 2710.9 | 2714.1 | 2717.2 | 2719.1 | 2719.9 |
| 2° | 2710.9 | 2708.6 | 2712.1 | 2716.0 | 2718.8 | 2720.3 |
| 2.5° | 2708.2 | 2705.8 | 2710.1 | 2714.4 | 2718.4 | 2720.3 |
| 3° | 2705.0 | 2702.7 | 2707.0 | 2712.5 | 2717.6 | 2720.3 |
| 3.5° | 2701.5 | 2699.2 | 2703.9 | 2710.1 | 2716.4 | 2720.3 |
| 4° | 2697.2 | 2694.9 | 2700.3 | 2707.8 | 2714.8 | 2719.5 |
| 4.5° | 2692.5 | 2690.6 | 2696.0 | 2704.7 | 2713.3 | 2718.8 |
| 5° | 2687.4 | 2685.5 | 2691.7 | 2701.1 | 2711.7 | 2718.0 |
| 5.5° | 2681.9 | 2680.0 | 2687.0 | 2697.6 | 2709.7 | 2716.4 |
| 6° | 2676.1 | 2674.5 | 2681.9 | 2693.7 | 2707.4 | 2714.8 |
| 6.5° | 2670.2 | 2668.6 | 2676.8 | 2689.8 | 2704.7 | 2713.7 |
| 7° | 2663.9 | 2662.7 | 2671.8 | 2685.9 | 2702.3 | 2711.7 |
| 7.5° | 2657.7 | 2656.5 | 2665.9 | 2681.5 | 2699.2 | 2710.1 |
| 8° | 2651.4 | 2650.2 | 2660.4 | 2677.2 | 2696.4 | 2707.8 |
| 8.5° | 2644.7 | 2643.9 | 2654.5 | 2672.9 | 2692.9 | 2705.0 |
| 9° | 2638.1 | 2637.3 | 2648.6 | 2668.2 | 2689.0 | 2702.3 |
| 9.5° | 2631.4 | 2630.2 | 2642.4 | 2663.1 | 2684.7 | 2699.2 |
| 10° | 2624.8 | 2623.2 | 2635.7 | 2658.0 | 2680.4 | 2696.0 |
| 10.5° | 2617.7 | 2616.1 | 2629.5 | 2653.0 | 2675.7 | 2692.1 |
| 11° | 2610.7 | 2608.7 | 2622.8 | 2647.9 | 2670.6 | 2688.2 |
| 11.5° | 2603.2 | 2600.5 | 2615.4 | 2642.4 | 2665.5 | 2683.9 |
| 12° | 2595.8 | 2592.6 | 2608.3 | 2636.9 | 2660.4 | 2680.0 |
| 12.5° | 2587.9 | 2583.6 | 2600.5 | 2630.6 | 2654.5 | 2675.3 |
| 13° | 2579.7 | 2574.6 | 2592.3 | 2624.8 | 2648.3 | 2670.6 |
| 13.5° | 2571.5 | 2564.4 | 2584.0 | 2617.7 | 2642.0 | 2665.1 |
| 14° | 2562.1 | 2553.9 | 2574.6 | 2610.3 | 2634.9 | 2659.6 |
| 14.5° | 2552.3 | 2542.9 | 2564.4 | 2602.4 | 2627.5 | 2654.1 |
| 15° | 2542.1 | 2531.2 | 2553.9 | 2593.4 | 2619.7 | 2647.5 |
| 15.5° | 2530.8 | 2518.6 | 2542.5 | 2584.0 | 2610.7 | 2640.8 |
| 16° | 2519.0 | 2505.3 | 2530.4 | 2574.2 | 2601.7 | 2633.8 |
| 16.5° | 2506.5 | 2491.6 | 2517.5 | 2563.7 | 2591.5 | 2625.9 |
| 17° | 2493.6 | 2477.1 | 2504.1 | 2552.3 | 2581.7 | 2617.7 |
| 17.5° | 2480.2 | 2462.2 | 2490.0 | 2540.2 | 2571.1 | 2609.1 |
| 18° | 2465.8 | 2446.6 | 2475.5 | 2528.0 | 2560.1 | 2600.9 |
| 18.5° | 2450.9 | 2430.5 | 2461.1 | 2514.7 | 2548.8 | 2591.9 |
| 19° | 2435.2 | 2414.1 | 2445.0 | 2501.0 | 2537.4 | 2582.9 |
| 19.5° | 2418.8 | 2396.4 | 2428.5 | 2486.5 | 2525.3 | 2573.1 |
| 20° | 2401.5 | 2378.0 | 2411.3 | 2471.2 | 2512.8 | 2562.1 |
| 20.5° | 2383.5 | 2359.6 | 2393.7 | 2455.6 | 2499.0 | 2551.1 |
| 21° | 2365.1 | 2340.0 | 2375.3 | 2438.7 | 2484.6 | 2539.0 |



TEST NUMBER: P776236

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 22.5° | 2305.6 | 2280.1 | 2316.9 | 2385.1 | 2439.1 | 2498.7 |
| 23° | 2284.8 | 2259.0 | 2296.2 | 2365.5 | 2422.7 | 2483.8 |
| 23.5° | 2263.7 | 2238.2 | 2276.2 | 2345.9 | 2406.2 | 2467.3 |
| 24° | 2242.5 | 2217.5 | 2255.4 | 2326.3 | 2388.6 | 2450.5 |
| 24.5° | 2220.6 | 2196.3 | 2234.7 | 2306.0 | 2370.6 | 2432.9 |
| 25° | 2199.0 | 2175.2 | 2213.9 | 2285.2 | 2352.2 | 2414.1 |
| 25.5° | 2177.5 | 2154.0 | 2193.6 | 2265.2 | 2334.6 | 2395.7 |
| 26° | 2155.2 | 2133.3 | 2172.0 | 2244.9 | 2315.8 | 2376.5 |
| 26.5° | 2132.9 | 2111.7 | 2151.3 | 2224.5 | 2296.6 | 2356.9 |
| 27° | 2110.9 | 2090.6 | 2130.1 | 2203.4 | 2277.4 | 2336.5 |
| 27.5° | 2089.4 | 2069.4 | 2109.4 | 2182.6 | 2257.8 | 2315.4 |
| 28° | 2067.8 | 2049.1 | 2087.8 | 2161.5 | 2237.4 | 2294.2 |
| 28.5° | 2046.7 | 2028.7 | 2067.8 | 2140.7 | 2217.5 | 2272.7 |
| 29° | 2025.2 | 2007.5 | 2047.5 | 2119.9 | 2196.7 | 2251.1 |
| 29.5° | 2004.4 | 1988.0 | 2027.1 | 2100.0 | 2176.3 | 2230.0 |
| 30° | 1984.4 | 1968.8 | 2006.8 | 2079.6 | 2156.0 | 2208.1 |
| 30.5° | 1964.8 | 1949.2 | 1987.6 | 2059.6 | 2136.4 | 2186.9 |
| 31° | 1944.9 | 1930.0 | 1968.4 | 2039.7 | 2116.8 | 2165.8 |
| 31.5° | 1924.5 | 1910.0 | 1948.4 | 2020.5 | 2096.4 | 2145.4 |
| 32° | 1904.9 | 1890.8 | 1928.8 | 1999.7 | 2076.1 | 2123.5 |
| 32.5° | 1885.0 | 1871.2 | 1909.2 | 1980.1 | 2056.1 | 2103.5 |
| 33° | 1863.4 | 1850.5 | 1888.9 | 1959.8 | 2035.7 | 2081.9 |
| 33.5° | 1841.5 | 1829.7 | 1867.7 | 1937.8 | 2013.8 | 2059.2 |
| 34° | 1819.6 | 1807.8 | 1846.6 | 1915.5 | 1990.3 | 2034.6 |
| 34.5° | 1797.2 | 1786.3 | 1824.3 | 1892.8 | 1965.6 | 2009.9 |
| 35° | 1773.7 | 1764.3 | 1801.9 | 1869.3 | 1941.0 | 1984.8 |
| 35.5° | 1750.6 | 1742.0 | 1779.6 | 1845.8 | 1915.5 | 1959.0 |
| 36° | 1725.6 | 1718.1 | 1756.9 | 1821.1 | 1889.7 | 1933.1 |
| 36.5° | 1700.1 | 1693.8 | 1733.0 | 1796.8 | 1862.6 | 1906.9 |
| 37° | 1672.7 | 1668.8 | 1707.5 | 1770.6 | 1834.8 | 1878.7 |
| 37.5° | 1646.1 | 1643.3 | 1682.1 | 1742.8 | 1805.8 | 1850.9 |
| 38° | 1617.1 | 1615.9 | 1655.5 | 1715.0 | 1776.5 | 1821.1 |
| 38.5° | 1585.4 | 1586.5 | 1626.9 | 1686.4 | 1747.1 | 1791.7 |
| 39° | 1552.5 | 1555.6 | 1596.3 | 1655.5 | 1716.6 | 1763.2 |
| 39.5° | 1519.2 | 1522.7 | 1563.8 | 1622.6 | 1685.6 | 1732.2 |
| 40° | 1482.7 | 1488.2 | 1530.1 | 1588.5 | 1653.1 | 1701.3 |
| 40.5° | 1446.3 | 1452.6 | 1496.1 | 1554.4 | 1619.8 | 1668.4 |
| 41° | 1409.1 | 1416.2 | 1461.2 | 1519.6 | 1584.6 | 1637.0 |
| 41.5° | 1372.3 | 1379.0 | 1425.2 | 1484.7 | 1548.5 | 1603.0 |
| 42° | 1334.3 | 1343.7 | 1390.3 | 1449.1 | 1514.1 | 1568.5 |
| 42.5° | 1296.3 | 1306.5 | 1354.3 | 1412.6 | 1478.0 | 1531.3 |
| 43° | 1258.3 | 1270.5 | 1318.6 | 1376.2 | 1441.6 | 1495.7 |
| 43.5° | 1221.5 | 1232.1 | 1282.2 | 1339.4 | 1403.2 | 1457.3 |



TEST NUMBER: P776236

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 45° | 1105.6 | 1122.8 | 1173.3 | 1227.4 | 1289.3 | 1337.8 |
| 45.5° | 1069.2 | 1085.6 | 1137.3 | 1190.2 | 1250.5 | 1297.5 |
| 46° | 1030.8 | 1049.6 | 1101.7 | 1153.0 | 1211.3 | 1257.2 |
| 46.5° | 993.6 | 1013.2 | 1064.9 | 1114.2 | 1171.4 | 1216.0 |
| 47° | 956.8 | 977.1 | 1028.8 | 1077.0 | 1132.2 | 1176.1 |
| 47.5° | 921.1 | 939.9 | 992.0 | 1039.4 | 1093.1 | 1136.5 |
| 48° | 884.7 | 904.7 | 955.6 | 1002.2 | 1053.9 | 1097.0 |
| 48.5° | 849.5 | 868.7 | 918.8 | 964.2 | 1014.3 | 1057.4 |
| 49° | 813.8 | 833.8 | 882.8 | 928.6 | 976.4 | 1020.2 |
| 49.5° | 780.9 | 798.9 | 846.7 | 891.0 | 938.0 | 981.4 |
| 50° | 745.3 | 764.1 | 811.1 | 854.2 | 900.0 | 943.8 |
| 50.5° | 711.6 | 729.2 | 774.7 | 817.7 | 861.6 | 905.9 |
| 51° | 677.9 | 695.5 | 740.2 | 782.1 | 824.8 | 869.4 |
| 51.5° | 645.0 | 662.3 | 705.3 | 746.1 | 788.4 | 832.6 |
| 52° | 613.3 | 629.8 | 671.3 | 711.6 | 753.1 | 797.4 |
| 52.5° | 581.2 | 597.6 | 636.8 | 676.4 | 717.1 | 761.0 |
| 53° | 549.9 | 565.1 | 603.9 | 641.9 | 682.6 | 726.5 |
| 53.5° | 519.3 | 533.8 | 571.0 | 607.0 | 648.6 | 690.8 |
| 54° | 489.5 | 503.3 | 538.5 | 574.1 | 614.9 | 657.6 |
| 54.5° | 459.8 | 473.5 | 507.2 | 542.0 | 582.4 | 624.3 |
| 55° | 431.6 | 444.1 | 476.2 | 509.1 | 549.9 | 591.0 |
| 55.5° | 403.8 | 414.7 | 445.3 | 477.0 | 518.5 | 558.1 |
| 56° | 376.8 | 386.9 | 415.5 | 447.3 | 487.6 | 526.8 |
| 56.5° | 351.3 | 359.5 | 386.5 | 417.5 | 457.8 | 495.8 |
| 57° | 326.2 | 332.9 | 358.3 | 388.1 | 428.5 | 464.5 |
| 57.5° | 301.2 | 306.3 | 330.2 | 359.5 | 399.1 | 434.7 |
| 58° | 276.1 | 282.0 | 304.7 | 332.1 | 371.7 | 405.7 |
| 58.5° | 253.0 | 257.3 | 278.5 | 305.9 | 345.4 | 377.5 |
| 59° | 230.7 | 233.8 | 253.8 | 280.4 | 319.2 | 350.1 |
| 59.5° | 209.1 | 211.5 | 229.9 | 256.1 | 294.1 | 322.7 |
| 60° | 188.8 | 189.6 | 207.2 | 231.8 | 269.8 | 296.9 |
| 60.5° | 169.6 | 169.2 | 185.6 | 210.3 | 245.6 | 271.4 |
| 61° | 150.8 | 149.2 | 164.9 | 188.8 | 222.5 | 246.7 |
| 61.5° | 133.5 | 132.8 | 145.3 | 168.8 | 200.9 | 224.0 |
| 62° | 117.1 | 117.1 | 130.0 | 149.2 | 179.8 | 200.9 |
| 62.5° | 101.8 | 101.4 | 114.4 | 133.2 | 159.4 | 179.4 |
| 63° | 88.1 | 85.8 | 99.1 | 117.9 | 140.6 | 159.4 |
| 63.5° | 75.2 | 69.7 | 83.4 | 102.6 | 124.9 | 139.8 |
| 64° | 63.8 | 58.0 | 68.1 | 87.3 | 109.7 | 122.2 |
| 64.5° | 53.7 | 48.2 | 56.4 | 72.1 | 94.4 | 104.6 |
| 65° | 46.6 | 39.2 | 46.2 | 60.3 | 78.7 | 87.3 |
| 65.5° | 39.2 | 31.7 | 37.2 | 49.3 | 63.4 | 69.7 |
| 66° | 31.7 | 25.1 | 29.4 | 39.6 | 51.3 | 52.1 |



TEST NUMBER: P776236

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|------|--------|------|--------|------|
| 67.5° | 12.5 | 11.7 | 12.9 | 17.6 | 23.1 | 17.6 |
| 68° | 8.6 | 9.0 | 10.2 | 12.5 | 16.4 | 14.5 |
| 68.5° | 5.5 | 6.3 | 7.4 | 9.8 | 13.3 | 11.4 |
| 69° | 3.5 | 3.1 | 5.1 | 7.0 | 10.6 | 8.2 |
| 69.5° | 2.3 | 2.3 | 2.3 | 4.7 | 7.8 | 5.1 |
| 70° | 2.3 | 2.0 | 2.0 | 2.0 | 4.7 | 2.3 |
| 70.5° | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 71° | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 71.5° | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 72° | 2.0 | 2.0 | 1.6 | 1.6 | 2.0 | 2.0 |
| 72.5° | 2.0 | 2.0 | 1.6 | 1.6 | 1.6 | 2.0 |
| 73° | 2.0 | 1.6 | 1.6 | 1.6 | 1.6 | 2.0 |
| 73.5° | 2.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 74° | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 74.5° | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 75° | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 75.5° | 1.6 | 1.6 | 1.2 | 1.2 | 1.2 | 1.6 |
| 76° | 1.6 | 1.6 | 1.2 | 1.2 | 1.2 | 1.6 |
| 76.5° | 1.6 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 77° | 1.6 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 77.5° | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 78° | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 78.5° | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |
| 79° | 1.2 | 1.2 | 1.2 | 0.8 | 0.8 | 1.2 |
| 79.5° | 1.2 | 1.2 | 0.8 | 0.8 | 0.8 | 0.8 |
| 80° | 1.2 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 80.5° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 81° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 81.5° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| 82° | 0.8 | 0.8 | 0.8 | 0.8 | 0.4 | 0.8 |
| 82.5° | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 |
| 83° | 0.8 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 |
| 83.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 84° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 84.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 85° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 |
| 85.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 |
| 86° | 0.4 | 0.4 | 0.4 | 0.4 | 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: P776236

CATALOG NUMBER: HCDJBL3040CSD-HCD41TRC-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-----|--------|------|--------|------|--------|------|
| 90° | 0.4 | 0.4 | 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° | 2526.1 | 2519.8 | 2534.3 | 2515.1 | 2527.6 | 2477.9 | 2435.6 | 2379.6 | 2323.6 | 2340.8 | 2351.4 |
| 22° | 2513.1 | 2506.1 | 2519.4 | 2501.8 | 2515.1 | 2463.4 | 2419.5 | 2360.4 | 2304.0 | 2321.2 | 2335.7 |



| | | | | | | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 44° | 1418.1 | 1442.0 | 1453.8 | 1442.8 | 1440.4 | 1395.0 | 1338.6 | 1277.1 | 1224.7 | 1187.8 | 1171.8 |
| 44.5° | 1376.2 | 1404.8 | 1416.6 | 1406.4 | 1399.3 | 1357.0 | 1301.8 | 1241.5 | 1189.0 | 1149.8 | 1134.2 |



| | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| 66.5° | 38.8 | 52.1 | 58.4 | 56.4 | 57.2 | 51.7 | 43.9 | 32.9 | 25.1 | 24.7 | 25.5 |
| 67° | 26.6 | 41.1 | 47.0 | 45.0 | 48.2 | 42.7 | 34.9 | 24.7 | 17.2 | 17.2 | 18.0 |



| | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 89° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |
| 89.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.4 |

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Peachtree City, GA 30269

Scaled Data Report





| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| 21.5° | 2345.9 | 2320.8 | 2356.5 | 2421.1 | 2470.1 | 2526.1 |
| 22° | 2325.5 | 2300.1 | 2336.9 | 2403.5 | 2454.8 | 2513.1 |



| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| 44° | 1181.2 | 1195.7 | 1245.4 | 1302.6 | 1365.6 | 1418.1 |
| 44.5° | 1143.2 | 1158.9 | 1209.4 | 1265.0 | 1328.0 | 1376.2 |



| | | | | | | |
|-------|------|------|------|------|------|------|
| 66.5° | 24.3 | 19.6 | 22.7 | 31.3 | 40.3 | 38.8 |
| 67° | 17.2 | 14.9 | 17.2 | 23.9 | 30.9 | 26.6 |

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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



| | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|
| 89° | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 89.5° | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |

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(END OF REPORT)