

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: P776338

Luminaire Tested: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776338
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B035-HCD61TRC)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD61TRC-4000lm-4000K
Description: 6 INCH ROUND SHALLOW-WIDE SPECULAR CLEAR TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT
Ballast/Driver: -

Summary

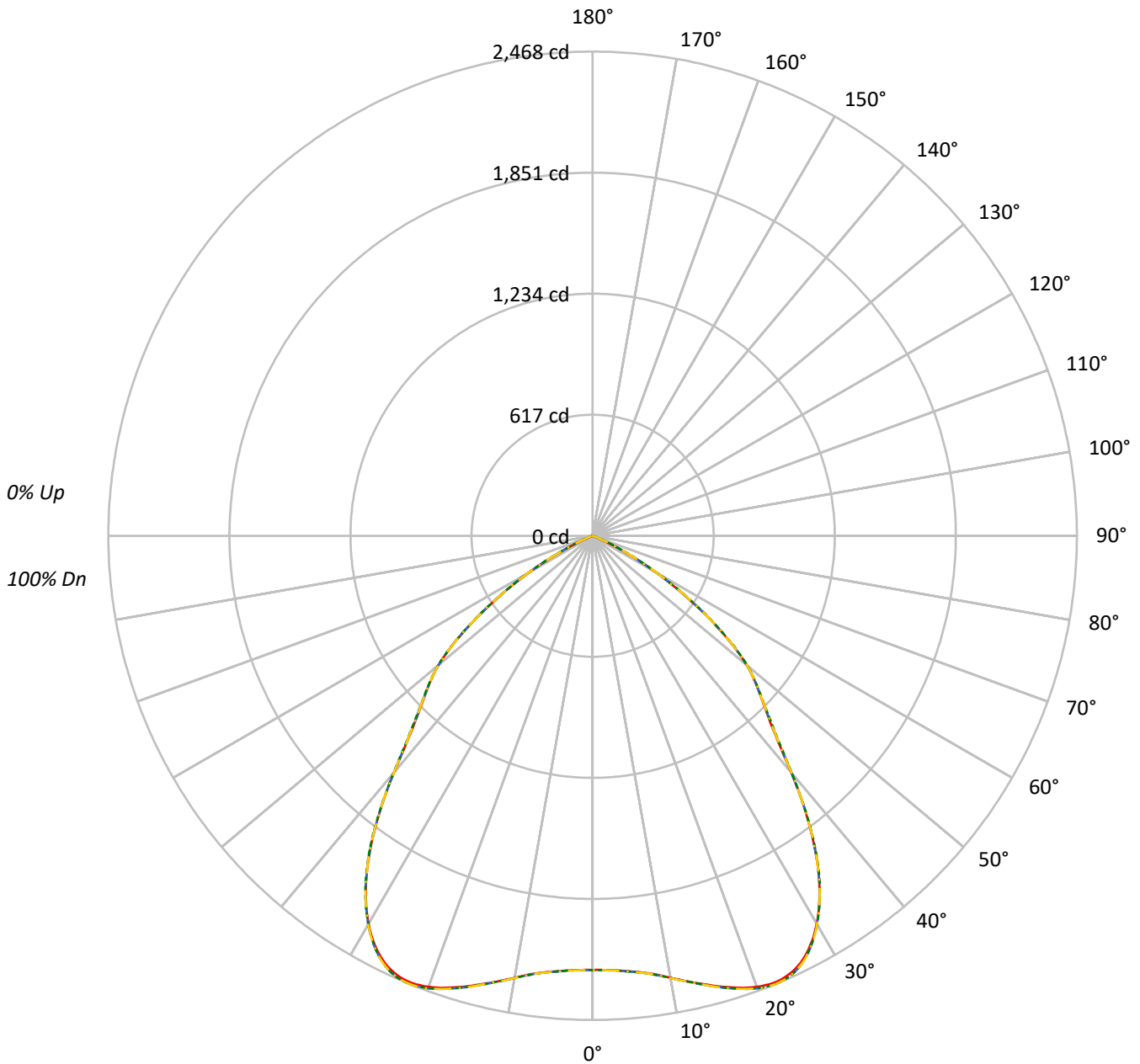
Lumens per Lamp: N/A
Luminaire Lumens: 4973.4 lumens
Efficiency: N/A
Efficacy: 129.2 lumens/watt
Spacing Criteria (0/90/45): 1.39 / 1.39 / 1.3
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

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: P776338
CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

Luminous Intensity Polar Plot





TEST NUMBER: P776338

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|---|--|--|--|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | 20 | | | | | | | | | |
| RC | 80 | | | | | | | | | 50 | | | | | | | | | 30 | | | | | | | | | 10 | | | | | | | | | 0 |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 | | | | | | | | | | | | | | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | | | | | | | | | | | | | | | | |
| 1 | 112 | 108 | 105 | 103 | 109 | 106 | 103 | 101 | 102 | 100 | 98 | 98 | 97 | 95 | 95 | 93 | 92 | 90 | | | | | | | | | | | | | | | | | | | |
| 2 | 104 | 98 | 93 | 88 | 102 | 96 | 91 | 87 | 93 | 89 | 85 | 90 | 86 | 84 | 87 | 84 | 82 | 80 | | | | | | | | | | | | | | | | | | | |
| 3 | 97 | 88 | 82 | 77 | 95 | 87 | 81 | 76 | 84 | 79 | 75 | 82 | 77 | 74 | 79 | 76 | 73 | 71 | | | | | | | | | | | | | | | | | | | |
| 4 | 90 | 80 | 73 | 67 | 88 | 79 | 72 | 67 | 76 | 71 | 66 | 74 | 69 | 65 | 72 | 68 | 64 | 63 | | | | | | | | | | | | | | | | | | | |
| 5 | 83 | 73 | 65 | 60 | 82 | 72 | 65 | 59 | 70 | 63 | 59 | 68 | 62 | 58 | 66 | 61 | 58 | 56 | | | | | | | | | | | | | | | | | | | |
| 6 | 78 | 66 | 59 | 53 | 76 | 65 | 58 | 53 | 64 | 57 | 52 | 62 | 56 | 52 | 61 | 56 | 52 | 50 | | | | | | | | | | | | | | | | | | | |
| 7 | 72 | 61 | 53 | 48 | 71 | 60 | 53 | 47 | 58 | 52 | 47 | 57 | 51 | 47 | 56 | 51 | 47 | 45 | | | | | | | | | | | | | | | | | | | |
| 8 | 68 | 56 | 48 | 43 | 66 | 55 | 48 | 43 | 54 | 47 | 43 | 53 | 47 | 42 | 52 | 46 | 42 | 40 | | | | | | | | | | | | | | | | | | | |
| 9 | 63 | 51 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 39 | 49 | 43 | 39 | 48 | 42 | 38 | 37 | | | | | | | | | | | | | | | | | | | |
| 10 | 60 | 48 | 40 | 36 | 58 | 47 | 40 | 36 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | 34 | | | | | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° | 270° |
|-----|--------|--------|--------|--------|
| 0° | 121333 | 121333 | 121333 | 121333 |
| 5° | 122661 | 122749 | 122661 | 122749 |
| 10° | 127352 | 127397 | 127352 | 127397 |
| 15° | 134740 | 134876 | 134740 | 134876 |
| 20° | 142731 | 143133 | 142731 | 143133 |
| 25° | 147474 | 148085 | 147474 | 148085 |
| 30° | 144592 | 144769 | 144592 | 144769 |
| 35° | 132749 | 133177 | 132749 | 133177 |
| 40° | 112532 | 112990 | 112532 | 112990 |
| 45° | 96390 | 96886 | 96390 | 96886 |
| 50° | 87434 | 87639 | 87434 | 87639 |
| 55° | 67324 | 68021 | 67324 | 68021 |
| 60° | 40567 | 41839 | 40567 | 41839 |
| 65° | 12699 | 16201 | 12699 | 16201 |
| 70° | 64 | 641 | 64 | 641 |
| 75° | 0 | 85 | 0 | 85 |
| 80° | 0 | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 96886 cd/sqm



TEST NUMBER: P776338

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 214.7 | 4.3 |
| 10°-20° | 675.9 | 13.6 |
| 20°-30° | 1117.4 | 22.5 |
| 30°-40° | 1226.5 | 24.7 |
| 40°-50° | 974.0 | 19.6 |
| 50°-60° | 627.3 | 12.6 |
| 60°-70° | 137.3 | 2.8 |
| 70°-80° | 0.4 | 0.0 |
| 80°-90° | 0.0 | 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° | 2008.0 | 40.4 |
| 0°-40° | 3234.4 | 65.0 |
| 0°-60° | 4835.7 | 97.2 |
| 0°-90° | 4973.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4973.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 90° | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 2213 | 2213 | 2213 | 2213 | 2213 | |
| 5° | 2229 | 2231 | 2229 | 2231 | 2229 | 215 |
| 15° | 2374 | 2376 | 2374 | 2376 | 2374 | 675 |
| 25° | 2438 | 2448 | 2438 | 2448 | 2438 | 1115 |
| 35° | 1984 | 1990 | 1984 | 1990 | 1984 | 1225 |
| 45° | 1243 | 1250 | 1243 | 1250 | 1243 | 972 |
| 55° | 704 | 712 | 704 | 712 | 704 | 624 |
| 65° | 98 | 125 | 98 | 125 | 98 | 125 |
| 75° | 0 | 0 | 0 | 0 | 0 | 0 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P776338

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2213.3 | 2213.3 | 2213.3 | 2213.3 | 2213.3 | 2213.3 | 2213.3 | 2213.3 | 2213.3 | 2213.3 | 2213.3 |
| 0.5° | 2212.5 | 2213.3 | 2213.7 | 2214.1 | 2213.7 | 2214.1 | 2213.7 | 2213.3 | 2212.5 | 2213.3 | 2213.7 |
| 1° | 2213.3 | 2213.7 | 2214.1 | 2214.5 | 2214.1 | 2214.5 | 2214.1 | 2213.7 | 2213.3 | 2213.7 | 2214.1 |
| 1.5° | 2214.1 | 2214.5 | 2214.9 | 2215.3 | 2214.9 | 2215.3 | 2214.9 | 2214.5 | 2214.1 | 2214.5 | 2214.9 |
| 2° | 2215.3 | 2215.7 | 2216.1 | 2216.1 | 2215.7 | 2216.1 | 2216.1 | 2215.7 | 2215.3 | 2215.7 | 2216.1 |
| 2.5° | 2216.5 | 2216.9 | 2217.7 | 2217.7 | 2217.3 | 2217.7 | 2217.7 | 2216.9 | 2216.5 | 2216.9 | 2217.7 |
| 3° | 2218.5 | 2218.9 | 2219.3 | 2219.3 | 2218.9 | 2219.3 | 2219.3 | 2218.9 | 2218.5 | 2218.9 | 2219.3 |
| 3.5° | 2220.5 | 2220.9 | 2221.7 | 2221.7 | 2221.3 | 2221.7 | 2221.7 | 2220.9 | 2220.5 | 2220.9 | 2221.7 |
| 4° | 2222.9 | 2223.3 | 2224.1 | 2224.6 | 2224.1 | 2224.6 | 2224.1 | 2223.3 | 2222.9 | 2223.3 | 2224.1 |
| 4.5° | 2225.8 | 2226.2 | 2227.0 | 2227.4 | 2227.0 | 2227.4 | 2227.0 | 2226.2 | 2225.8 | 2226.2 | 2227.0 |
| 5° | 2229.0 | 2229.4 | 2230.2 | 2230.6 | 2230.6 | 2230.6 | 2230.2 | 2229.4 | 2229.0 | 2229.4 | 2230.2 |
| 5.5° | 2232.2 | 2233.0 | 2233.8 | 2234.6 | 2234.2 | 2234.6 | 2233.8 | 2233.0 | 2232.2 | 2233.0 | 2233.8 |
| 6° | 2236.2 | 2236.6 | 2237.9 | 2238.7 | 2238.3 | 2238.7 | 2237.9 | 2236.6 | 2236.2 | 2236.6 | 2237.9 |
| 6.5° | 2240.7 | 2241.1 | 2242.3 | 2242.7 | 2242.3 | 2242.7 | 2242.3 | 2241.1 | 2240.7 | 2241.1 | 2242.3 |
| 7° | 2245.5 | 2245.9 | 2247.1 | 2247.5 | 2247.1 | 2247.5 | 2247.1 | 2245.9 | 2245.5 | 2245.9 | 2247.1 |
| 7.5° | 2251.1 | 2251.6 | 2252.8 | 2252.8 | 2252.8 | 2252.8 | 2252.8 | 2251.6 | 2251.1 | 2251.6 | 2252.8 |
| 8° | 2256.8 | 2257.6 | 2258.8 | 2259.2 | 2258.8 | 2259.2 | 2258.8 | 2257.6 | 2256.8 | 2257.6 | 2258.8 |
| 8.5° | 2263.6 | 2264.4 | 2266.1 | 2266.1 | 2265.7 | 2266.1 | 2266.1 | 2264.4 | 2263.6 | 2264.4 | 2266.1 |
| 9° | 2271.3 | 2272.1 | 2273.3 | 2273.7 | 2272.9 | 2273.7 | 2273.3 | 2272.1 | 2271.3 | 2272.1 | 2273.3 |
| 9.5° | 2279.4 | 2280.2 | 2281.4 | 2281.8 | 2280.6 | 2281.8 | 2281.4 | 2280.2 | 2279.4 | 2280.2 | 2281.4 |
| 10° | 2287.8 | 2288.6 | 2289.8 | 2289.8 | 2288.6 | 2289.8 | 2289.8 | 2288.6 | 2287.8 | 2288.6 | 2289.8 |
| 10.5° | 2296.3 | 2297.1 | 2297.9 | 2297.9 | 2297.1 | 2297.9 | 2297.9 | 2297.1 | 2296.3 | 2297.1 | 2297.9 |
| 11° | 2304.7 | 2306.0 | 2306.8 | 2306.4 | 2305.6 | 2306.4 | 2306.8 | 2306.0 | 2304.7 | 2306.0 | 2306.8 |
| 11.5° | 2313.6 | 2314.4 | 2315.2 | 2314.8 | 2314.0 | 2314.8 | 2315.2 | 2314.4 | 2313.6 | 2314.4 | 2315.2 |
| 12° | 2322.1 | 2322.9 | 2323.7 | 2323.7 | 2322.9 | 2323.7 | 2323.7 | 2322.9 | 2322.1 | 2322.9 | 2323.7 |
| 12.5° | 2330.5 | 2331.7 | 2332.6 | 2332.6 | 2331.7 | 2332.6 | 2332.6 | 2331.7 | 2330.5 | 2331.7 | 2332.6 |
| 13° | 2339.0 | 2340.6 | 2341.4 | 2341.4 | 2340.6 | 2341.4 | 2341.4 | 2340.6 | 2339.0 | 2340.6 | 2341.4 |
| 13.5° | 2347.9 | 2349.5 | 2350.7 | 2350.3 | 2349.5 | 2350.3 | 2350.7 | 2349.5 | 2347.9 | 2349.5 | 2350.7 |
| 14° | 2356.3 | 2358.3 | 2360.0 | 2360.0 | 2358.3 | 2360.0 | 2360.0 | 2358.3 | 2356.3 | 2358.3 | 2360.0 |
| 14.5° | 2365.2 | 2367.2 | 2368.8 | 2369.2 | 2367.6 | 2369.2 | 2368.8 | 2367.2 | 2365.2 | 2367.2 | 2368.8 |
| 15° | 2374.1 | 2376.1 | 2378.1 | 2378.5 | 2376.5 | 2378.5 | 2378.1 | 2376.1 | 2374.1 | 2376.1 | 2378.1 |
| 15.5° | 2382.5 | 2384.9 | 2387.4 | 2387.4 | 2385.3 | 2387.4 | 2387.4 | 2384.9 | 2382.5 | 2384.9 | 2387.4 |
| 16° | 2391.0 | 2393.8 | 2396.2 | 2396.2 | 2394.2 | 2396.2 | 2396.2 | 2393.8 | 2391.0 | 2393.8 | 2396.2 |
| 16.5° | 2399.0 | 2401.9 | 2404.7 | 2404.7 | 2402.7 | 2404.7 | 2404.7 | 2401.9 | 2399.0 | 2401.9 | 2404.7 |
| 17° | 2407.5 | 2410.3 | 2413.2 | 2413.2 | 2410.7 | 2413.2 | 2413.2 | 2410.3 | 2407.5 | 2410.3 | 2413.2 |
| 17.5° | 2415.2 | 2418.4 | 2421.2 | 2421.2 | 2418.8 | 2421.2 | 2421.2 | 2418.4 | 2415.2 | 2418.4 | 2421.2 |
| 18° | 2422.4 | 2426.1 | 2428.9 | 2428.9 | 2426.9 | 2428.9 | 2428.9 | 2426.1 | 2422.4 | 2426.1 | 2428.9 |
| 18.5° | 2429.3 | 2433.3 | 2436.1 | 2436.1 | 2434.1 | 2436.1 | 2436.1 | 2433.3 | 2429.3 | 2433.3 | 2436.1 |
| 19° | 2435.7 | 2439.8 | 2443.0 | 2442.6 | 2441.0 | 2442.6 | 2443.0 | 2439.8 | 2435.7 | 2439.8 | 2443.0 |
| 19.5° | 2441.4 | 2445.4 | 2449.4 | 2448.6 | 2447.4 | 2448.6 | 2449.4 | 2445.4 | 2441.4 | 2445.4 | 2449.4 |
| 20° | 2446.6 | 2450.6 | 2455.1 | 2453.9 | 2453.5 | 2453.9 | 2455.1 | 2450.6 | 2446.6 | 2450.6 | 2455.1 |
| 20.5° | 2451.0 | 2455.1 | 2459.5 | 2458.3 | 2458.3 | 2458.3 | 2459.5 | 2455.1 | 2451.0 | 2455.1 | 2459.5 |
| 21° | 2454.3 | 2458.3 | 2463.1 | 2461.5 | 2462.3 | 2461.5 | 2463.1 | 2458.3 | 2454.3 | 2458.3 | 2463.1 |



TEST NUMBER: P776338

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 22.5° | 2458.3 | 2461.9 | 2467.6 | 2465.5 | 2468.0 | 2465.5 | 2467.6 | 2461.9 | 2458.3 | 2461.9 | 2467.6 |
| 23° | 2457.5 | 2460.7 | 2466.8 | 2464.3 | 2467.2 | 2464.3 | 2466.8 | 2460.7 | 2457.5 | 2460.7 | 2466.8 |
| 23.5° | 2455.1 | 2458.3 | 2464.3 | 2461.5 | 2465.1 | 2461.5 | 2464.3 | 2458.3 | 2455.1 | 2458.3 | 2464.3 |
| 24° | 2451.0 | 2454.3 | 2460.3 | 2457.9 | 2461.1 | 2457.9 | 2460.3 | 2454.3 | 2451.0 | 2454.3 | 2460.3 |
| 24.5° | 2445.4 | 2448.6 | 2454.7 | 2452.6 | 2455.5 | 2452.6 | 2454.7 | 2448.6 | 2445.4 | 2448.6 | 2454.7 |
| 25° | 2438.1 | 2441.8 | 2447.4 | 2445.8 | 2448.2 | 2445.8 | 2447.4 | 2441.8 | 2438.1 | 2441.8 | 2447.4 |
| 25.5° | 2430.1 | 2433.3 | 2438.9 | 2437.7 | 2438.9 | 2437.7 | 2438.9 | 2433.3 | 2430.1 | 2433.3 | 2438.9 |
| 26° | 2420.0 | 2423.2 | 2428.5 | 2428.1 | 2428.5 | 2428.1 | 2428.5 | 2423.2 | 2420.0 | 2423.2 | 2428.5 |
| 26.5° | 2407.5 | 2411.1 | 2416.4 | 2416.8 | 2416.0 | 2416.8 | 2416.4 | 2411.1 | 2407.5 | 2411.1 | 2416.4 |
| 27° | 2394.6 | 2398.2 | 2402.7 | 2403.9 | 2401.9 | 2403.9 | 2402.7 | 2398.2 | 2394.6 | 2398.2 | 2402.7 |
| 27.5° | 2379.7 | 2383.3 | 2387.4 | 2389.4 | 2386.2 | 2389.4 | 2387.4 | 2383.3 | 2379.7 | 2383.3 | 2387.4 |
| 28° | 2363.2 | 2366.8 | 2370.0 | 2373.3 | 2368.8 | 2373.3 | 2370.0 | 2366.8 | 2363.2 | 2366.8 | 2370.0 |
| 28.5° | 2345.9 | 2348.7 | 2351.9 | 2355.9 | 2350.3 | 2355.9 | 2351.9 | 2348.7 | 2345.9 | 2348.7 | 2351.9 |
| 29° | 2326.5 | 2329.3 | 2331.7 | 2336.6 | 2330.5 | 2336.6 | 2331.7 | 2329.3 | 2326.5 | 2329.3 | 2331.7 |
| 29.5° | 2306.0 | 2308.4 | 2311.2 | 2315.2 | 2309.6 | 2315.2 | 2311.2 | 2308.4 | 2306.0 | 2308.4 | 2311.2 |
| 30° | 2284.2 | 2285.8 | 2287.8 | 2292.7 | 2287.0 | 2292.7 | 2287.8 | 2285.8 | 2284.2 | 2285.8 | 2287.8 |
| 30.5° | 2260.8 | 2261.6 | 2264.0 | 2268.9 | 2263.2 | 2268.9 | 2264.0 | 2261.6 | 2260.8 | 2261.6 | 2264.0 |
| 31° | 2235.4 | 2236.2 | 2238.7 | 2243.1 | 2238.3 | 2243.1 | 2238.7 | 2236.2 | 2235.4 | 2236.2 | 2238.7 |
| 31.5° | 2209.2 | 2209.2 | 2212.1 | 2215.7 | 2212.1 | 2215.7 | 2212.1 | 2209.2 | 2209.2 | 2209.2 | 2212.1 |
| 32° | 2181.4 | 2181.0 | 2183.4 | 2187.1 | 2184.7 | 2187.1 | 2183.4 | 2181.0 | 2181.4 | 2181.0 | 2183.4 |
| 32.5° | 2152.0 | 2151.2 | 2154.4 | 2156.8 | 2156.0 | 2156.8 | 2154.4 | 2151.2 | 2152.0 | 2151.2 | 2154.4 |
| 33° | 2121.4 | 2120.6 | 2123.4 | 2125.4 | 2125.8 | 2125.4 | 2123.4 | 2120.6 | 2121.4 | 2120.6 | 2123.4 |
| 33.5° | 2089.1 | 2087.5 | 2091.2 | 2092.4 | 2093.6 | 2092.4 | 2091.2 | 2087.5 | 2089.1 | 2087.5 | 2091.2 |
| 34° | 2055.7 | 2054.1 | 2057.3 | 2057.7 | 2060.9 | 2057.7 | 2057.3 | 2054.1 | 2055.7 | 2054.1 | 2057.3 |
| 34.5° | 2019.8 | 2019.8 | 2021.8 | 2022.2 | 2025.9 | 2022.2 | 2021.8 | 2019.8 | 2019.8 | 2019.8 | 2021.8 |
| 35° | 1983.6 | 1983.2 | 1985.2 | 1986.0 | 1990.0 | 1986.0 | 1985.2 | 1983.2 | 1983.6 | 1983.2 | 1985.2 |
| 35.5° | 1946.5 | 1946.5 | 1948.1 | 1948.9 | 1952.9 | 1948.9 | 1948.1 | 1946.5 | 1946.5 | 1946.5 | 1948.1 |
| 36° | 1908.6 | 1908.6 | 1909.8 | 1911.0 | 1913.8 | 1911.0 | 1909.8 | 1908.6 | 1908.6 | 1908.6 | 1909.8 |
| 36.5° | 1869.5 | 1869.9 | 1870.7 | 1871.5 | 1874.7 | 1871.5 | 1870.7 | 1869.9 | 1869.5 | 1869.9 | 1870.7 |
| 37° | 1828.8 | 1829.6 | 1830.0 | 1831.2 | 1833.6 | 1831.2 | 1830.0 | 1829.6 | 1828.8 | 1829.6 | 1830.0 |
| 37.5° | 1788.1 | 1788.5 | 1789.3 | 1790.5 | 1791.7 | 1790.5 | 1789.3 | 1788.5 | 1788.1 | 1788.5 | 1789.3 |
| 38° | 1746.6 | 1746.6 | 1747.8 | 1748.6 | 1749.8 | 1748.6 | 1747.8 | 1746.6 | 1746.6 | 1746.6 | 1747.8 |
| 38.5° | 1704.3 | 1704.3 | 1705.5 | 1706.3 | 1707.1 | 1706.3 | 1705.5 | 1704.3 | 1704.3 | 1704.3 | 1705.5 |
| 39° | 1661.2 | 1661.2 | 1662.8 | 1664.0 | 1664.4 | 1664.0 | 1662.8 | 1661.2 | 1661.2 | 1661.2 | 1662.8 |
| 39.5° | 1616.8 | 1617.2 | 1618.8 | 1621.3 | 1621.7 | 1621.3 | 1618.8 | 1617.2 | 1616.8 | 1617.2 | 1618.8 |
| 40° | 1572.5 | 1572.9 | 1575.7 | 1577.7 | 1578.9 | 1577.7 | 1575.7 | 1572.9 | 1572.5 | 1572.9 | 1575.7 |
| 40.5° | 1529.0 | 1529.8 | 1533.4 | 1537.0 | 1537.8 | 1537.0 | 1533.4 | 1529.8 | 1529.0 | 1529.8 | 1533.4 |
| 41° | 1487.9 | 1489.1 | 1492.7 | 1496.7 | 1498.3 | 1496.7 | 1492.7 | 1489.1 | 1487.9 | 1489.1 | 1492.7 |
| 41.5° | 1449.2 | 1450.8 | 1454.0 | 1458.0 | 1459.3 | 1458.0 | 1454.0 | 1450.8 | 1449.2 | 1450.8 | 1454.0 |
| 42° | 1413.7 | 1414.5 | 1417.7 | 1420.6 | 1423.0 | 1420.6 | 1417.7 | 1414.5 | 1413.7 | 1414.5 | 1417.7 |
| 42.5° | 1380.7 | 1381.1 | 1385.1 | 1387.9 | 1389.5 | 1387.9 | 1385.1 | 1381.1 | 1380.7 | 1381.1 | 1385.1 |
| 43° | 1348.4 | 1348.8 | 1353.3 | 1356.5 | 1360.1 | 1356.5 | 1353.3 | 1348.8 | 1348.4 | 1348.8 | 1353.3 |
| 43.5° | 1318.6 | 1319.8 | 1323.0 | 1326.3 | 1329.1 | 1326.3 | 1323.0 | 1319.8 | 1318.6 | 1319.8 | 1323.0 |



TEST NUMBER: P776338

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 45° | 1243.3 | 1243.3 | 1246.1 | 1247.3 | 1249.7 | 1247.3 | 1246.1 | 1243.3 | 1243.3 | 1243.3 | 1246.1 |
| 45.5° | 1220.3 | 1220.3 | 1223.1 | 1224.3 | 1225.5 | 1224.3 | 1223.1 | 1220.3 | 1220.3 | 1220.3 | 1223.1 |
| 46° | 1198.1 | 1198.5 | 1200.5 | 1202.1 | 1203.0 | 1202.1 | 1200.5 | 1198.5 | 1198.1 | 1198.5 | 1200.5 |
| 46.5° | 1176.8 | 1176.8 | 1178.8 | 1180.0 | 1181.6 | 1180.0 | 1178.8 | 1176.8 | 1176.8 | 1176.8 | 1178.8 |
| 47° | 1155.8 | 1155.8 | 1157.4 | 1159.0 | 1160.2 | 1159.0 | 1157.4 | 1155.8 | 1155.8 | 1155.8 | 1157.4 |
| 47.5° | 1134.8 | 1134.8 | 1136.9 | 1138.1 | 1138.5 | 1138.1 | 1136.9 | 1134.8 | 1134.8 | 1134.8 | 1136.9 |
| 48° | 1114.7 | 1114.3 | 1116.3 | 1117.5 | 1118.3 | 1117.5 | 1116.3 | 1114.3 | 1114.7 | 1114.3 | 1116.3 |
| 48.5° | 1093.7 | 1093.7 | 1095.3 | 1097.0 | 1097.4 | 1097.0 | 1095.3 | 1093.7 | 1093.7 | 1093.7 | 1095.3 |
| 49° | 1072.0 | 1072.4 | 1074.0 | 1075.2 | 1076.0 | 1075.2 | 1074.0 | 1072.4 | 1072.0 | 1072.4 | 1074.0 |
| 49.5° | 1049.8 | 1049.4 | 1051.4 | 1052.6 | 1053.0 | 1052.6 | 1051.4 | 1049.4 | 1049.8 | 1049.4 | 1051.4 |
| 50° | 1025.2 | 1025.2 | 1026.4 | 1027.6 | 1027.6 | 1027.6 | 1026.4 | 1025.2 | 1025.2 | 1025.2 | 1026.4 |
| 50.5° | 998.2 | 998.2 | 999.0 | 1000.6 | 1000.6 | 1000.6 | 999.0 | 998.2 | 998.2 | 998.2 | 999.0 |
| 51° | 969.6 | 969.2 | 970.4 | 971.6 | 972.8 | 971.6 | 970.4 | 969.2 | 969.6 | 969.2 | 970.4 |
| 51.5° | 939.4 | 939.0 | 940.6 | 942.2 | 942.6 | 942.2 | 940.6 | 939.0 | 939.4 | 939.0 | 940.6 |
| 52° | 908.0 | 908.4 | 909.6 | 910.8 | 911.6 | 910.8 | 909.6 | 908.4 | 908.0 | 908.4 | 909.6 |
| 52.5° | 875.7 | 875.3 | 877.3 | 878.9 | 879.3 | 878.9 | 877.3 | 875.3 | 875.7 | 875.3 | 877.3 |
| 53° | 841.9 | 842.3 | 844.3 | 846.3 | 845.9 | 846.3 | 844.3 | 842.3 | 841.9 | 842.3 | 844.3 |
| 53.5° | 808.0 | 808.4 | 810.8 | 812.4 | 813.3 | 812.4 | 810.8 | 808.4 | 808.0 | 808.4 | 810.8 |
| 54° | 773.4 | 774.2 | 776.6 | 778.2 | 778.6 | 778.2 | 776.6 | 774.2 | 773.4 | 774.2 | 776.6 |
| 54.5° | 739.1 | 739.1 | 742.3 | 744.3 | 745.1 | 744.3 | 742.3 | 739.1 | 739.1 | 739.1 | 742.3 |
| 55° | 704.4 | 704.8 | 708.5 | 710.1 | 711.7 | 710.1 | 708.5 | 704.8 | 704.4 | 704.8 | 708.5 |
| 55.5° | 669.0 | 669.8 | 673.4 | 675.8 | 677.4 | 675.8 | 673.4 | 669.8 | 669.0 | 669.8 | 673.4 |
| 56° | 633.9 | 635.1 | 639.2 | 641.2 | 643.2 | 641.2 | 639.2 | 635.1 | 633.9 | 635.1 | 639.2 |
| 56.5° | 599.3 | 600.5 | 604.5 | 606.9 | 608.9 | 606.9 | 604.5 | 600.5 | 599.3 | 600.5 | 604.5 |
| 57° | 564.6 | 566.6 | 570.2 | 573.1 | 575.1 | 573.1 | 570.2 | 566.6 | 564.6 | 566.6 | 570.2 |
| 57.5° | 530.7 | 532.8 | 536.4 | 539.6 | 541.6 | 539.6 | 536.4 | 532.8 | 530.7 | 532.8 | 536.4 |
| 58° | 497.3 | 498.9 | 502.9 | 507.0 | 508.6 | 507.0 | 502.9 | 498.9 | 497.3 | 498.9 | 502.9 |
| 58.5° | 463.9 | 466.3 | 470.3 | 475.1 | 476.3 | 475.1 | 470.3 | 466.3 | 463.9 | 466.3 | 470.3 |
| 59° | 431.6 | 434.4 | 437.7 | 442.9 | 444.1 | 442.9 | 437.7 | 434.4 | 431.6 | 434.4 | 437.7 |
| 59.5° | 400.6 | 402.6 | 406.2 | 411.5 | 412.7 | 411.5 | 406.2 | 402.6 | 400.6 | 402.6 | 406.2 |
| 60° | 370.0 | 371.6 | 375.2 | 380.0 | 381.6 | 380.0 | 375.2 | 371.6 | 370.0 | 371.6 | 375.2 |
| 60.5° | 339.3 | 340.9 | 344.6 | 349.4 | 351.8 | 349.4 | 344.6 | 340.9 | 339.3 | 340.9 | 344.6 |
| 61° | 309.5 | 311.1 | 315.5 | 320.0 | 322.4 | 320.0 | 315.5 | 311.1 | 309.5 | 311.1 | 315.5 |
| 61.5° | 279.3 | 282.5 | 286.9 | 291.4 | 295.0 | 291.4 | 286.9 | 282.5 | 279.3 | 282.5 | 286.9 |
| 62° | 250.7 | 254.7 | 259.1 | 264.0 | 267.6 | 264.0 | 259.1 | 254.7 | 250.7 | 254.7 | 259.1 |
| 62.5° | 222.1 | 227.3 | 232.1 | 237.0 | 241.0 | 237.0 | 232.1 | 227.3 | 222.1 | 227.3 | 232.1 |
| 63° | 194.2 | 201.5 | 205.9 | 210.8 | 215.2 | 210.8 | 205.9 | 201.5 | 194.2 | 201.5 | 205.9 |
| 63.5° | 167.6 | 176.9 | 181.8 | 186.2 | 191.0 | 186.2 | 181.8 | 176.9 | 167.6 | 176.9 | 181.8 |
| 64° | 141.9 | 153.9 | 159.6 | 163.6 | 168.5 | 163.6 | 159.6 | 153.9 | 141.9 | 153.9 | 159.6 |
| 64.5° | 118.9 | 133.0 | 138.2 | 141.9 | 146.7 | 141.9 | 138.2 | 133.0 | 118.9 | 133.0 | 138.2 |
| 65° | 97.9 | 112.8 | 118.1 | 121.3 | 124.9 | 121.3 | 118.1 | 112.8 | 97.9 | 112.8 | 118.1 |
| 65.5° | 78.2 | 95.1 | 99.5 | 101.2 | 104.4 | 101.2 | 99.5 | 95.1 | 78.2 | 95.1 | 99.5 |
| 66° | 61.3 | 79.0 | 82.2 | 84.6 | 86.2 | 84.6 | 82.2 | 79.0 | 61.3 | 79.0 | 82.2 |



TEST NUMBER: P776338

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|------|-------|------|-------|------|--------|------|--------|------|--------|------|
| 67.5° | 18.9 | 36.7 | 39.5 | 41.9 | 44.3 | 41.9 | 39.5 | 36.7 | 18.9 | 36.7 | 39.5 |
| 68° | 11.3 | 25.8 | 28.2 | 31.4 | 36.3 | 31.4 | 28.2 | 25.8 | 11.3 | 25.8 | 28.2 |
| 68.5° | 6.9 | 16.9 | 20.1 | 22.2 | 28.2 | 22.2 | 20.1 | 16.9 | 6.9 | 16.9 | 20.1 |
| 69° | 4.0 | 10.1 | 12.5 | 14.1 | 20.1 | 14.1 | 12.5 | 10.1 | 4.0 | 10.1 | 12.5 |
| 69.5° | 2.4 | 6.4 | 7.3 | 7.3 | 12.1 | 7.3 | 7.3 | 6.4 | 2.4 | 6.4 | 7.3 |
| 70° | 0.4 | 3.2 | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 3.2 | 0.4 | 3.2 | 4.0 |
| 70.5° | 0.4 | 1.2 | 2.4 | 2.4 | 1.6 | 2.4 | 2.4 | 1.2 | 0.4 | 1.2 | 2.4 |
| 71° | 0.4 | 0.4 | 1.2 | 1.2 | 0.4 | 1.2 | 1.2 | 0.4 | 0.4 | 0.4 | 1.2 |
| 71.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 72° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 72.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 73° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 73.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 74° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 74.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 75° | 0.0 | 0.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.4 |
| 75.5° | 0.0 | 0.0 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 76° | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 76.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 78° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 78.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 79° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 79.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 81° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 81.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 83° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 83.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 84° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 84.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 86° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 86.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 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 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 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: P776338
CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-----|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P776338

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 0° | 2213.3 | 2213.3 | 2213.3 | 2213.3 | 2213.3 | 2213.3 |
| 0.5° | 2214.1 | 2213.7 | 2214.1 | 2213.7 | 2213.3 | 2212.5 |
| 1° | 2214.5 | 2214.1 | 2214.5 | 2214.1 | 2213.7 | 2213.3 |
| 1.5° | 2215.3 | 2214.9 | 2215.3 | 2214.9 | 2214.5 | 2214.1 |
| 2° | 2216.1 | 2215.7 | 2216.1 | 2216.1 | 2215.7 | 2215.3 |
| 2.5° | 2217.7 | 2217.3 | 2217.7 | 2217.7 | 2216.9 | 2216.5 |
| 3° | 2219.3 | 2218.9 | 2219.3 | 2219.3 | 2218.9 | 2218.5 |
| 3.5° | 2221.7 | 2221.3 | 2221.7 | 2221.7 | 2220.9 | 2220.5 |
| 4° | 2224.6 | 2224.1 | 2224.6 | 2224.1 | 2223.3 | 2222.9 |
| 4.5° | 2227.4 | 2227.0 | 2227.4 | 2227.0 | 2226.2 | 2225.8 |
| 5° | 2230.6 | 2230.6 | 2230.6 | 2230.2 | 2229.4 | 2229.0 |
| 5.5° | 2234.6 | 2234.2 | 2234.6 | 2233.8 | 2233.0 | 2232.2 |
| 6° | 2238.7 | 2238.3 | 2238.7 | 2237.9 | 2236.6 | 2236.2 |
| 6.5° | 2242.7 | 2242.3 | 2242.7 | 2242.3 | 2241.1 | 2240.7 |
| 7° | 2247.5 | 2247.1 | 2247.5 | 2247.1 | 2245.9 | 2245.5 |
| 7.5° | 2252.8 | 2252.4 | 2252.8 | 2252.8 | 2251.6 | 2251.1 |
| 8° | 2259.2 | 2258.8 | 2259.2 | 2258.8 | 2257.6 | 2256.8 |
| 8.5° | 2266.1 | 2265.7 | 2266.1 | 2266.1 | 2264.4 | 2263.6 |
| 9° | 2273.7 | 2272.9 | 2273.7 | 2273.3 | 2272.1 | 2271.3 |
| 9.5° | 2281.8 | 2280.6 | 2281.8 | 2281.4 | 2280.2 | 2279.4 |
| 10° | 2289.8 | 2288.6 | 2289.8 | 2289.8 | 2288.6 | 2287.8 |
| 10.5° | 2297.9 | 2297.1 | 2297.9 | 2297.9 | 2297.1 | 2296.3 |
| 11° | 2306.4 | 2305.6 | 2306.4 | 2306.8 | 2306.0 | 2304.7 |
| 11.5° | 2314.8 | 2314.0 | 2314.8 | 2315.2 | 2314.4 | 2313.6 |
| 12° | 2323.7 | 2322.9 | 2323.7 | 2323.7 | 2322.9 | 2322.1 |
| 12.5° | 2332.6 | 2331.7 | 2332.6 | 2332.6 | 2331.7 | 2330.5 |
| 13° | 2341.4 | 2340.6 | 2341.4 | 2341.4 | 2340.6 | 2339.0 |
| 13.5° | 2350.3 | 2349.5 | 2350.3 | 2350.7 | 2349.5 | 2347.9 |
| 14° | 2360.0 | 2358.3 | 2360.0 | 2360.0 | 2358.3 | 2356.3 |
| 14.5° | 2369.2 | 2367.6 | 2369.2 | 2368.8 | 2367.2 | 2365.2 |
| 15° | 2378.5 | 2376.5 | 2378.5 | 2378.1 | 2376.1 | 2374.1 |
| 15.5° | 2387.4 | 2385.3 | 2387.4 | 2387.4 | 2384.9 | 2382.5 |
| 16° | 2396.2 | 2394.2 | 2396.2 | 2396.2 | 2393.8 | 2391.0 |
| 16.5° | 2404.7 | 2402.7 | 2404.7 | 2404.7 | 2401.9 | 2399.0 |
| 17° | 2413.2 | 2410.7 | 2413.2 | 2413.2 | 2410.3 | 2407.5 |
| 17.5° | 2421.2 | 2418.8 | 2421.2 | 2421.2 | 2418.4 | 2415.2 |
| 18° | 2428.9 | 2426.9 | 2428.9 | 2428.9 | 2426.1 | 2422.4 |
| 18.5° | 2436.1 | 2434.1 | 2436.1 | 2436.1 | 2433.3 | 2429.3 |
| 19° | 2442.6 | 2441.0 | 2442.6 | 2443.0 | 2439.8 | 2435.7 |
| 19.5° | 2448.6 | 2447.4 | 2448.6 | 2449.4 | 2445.4 | 2441.4 |
| 20° | 2453.9 | 2453.5 | 2453.9 | 2455.1 | 2450.6 | 2446.6 |
| 20.5° | 2458.3 | 2458.3 | 2458.3 | 2459.5 | 2455.1 | 2451.0 |
| 21° | 2461.5 | 2462.3 | 2461.5 | 2463.1 | 2458.3 | 2454.3 |



TEST NUMBER: P776338

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 22.5° | 2465.5 | 2468.0 | 2465.5 | 2467.6 | 2461.9 | 2458.3 |
| 23° | 2464.3 | 2467.2 | 2464.3 | 2466.8 | 2460.7 | 2457.5 |
| 23.5° | 2461.5 | 2465.1 | 2461.5 | 2464.3 | 2458.3 | 2455.1 |
| 24° | 2457.9 | 2461.1 | 2457.9 | 2460.3 | 2454.3 | 2451.0 |
| 24.5° | 2452.6 | 2455.5 | 2452.6 | 2454.7 | 2448.6 | 2445.4 |
| 25° | 2445.8 | 2448.2 | 2445.8 | 2447.4 | 2441.8 | 2438.1 |
| 25.5° | 2437.7 | 2438.9 | 2437.7 | 2438.9 | 2433.3 | 2430.1 |
| 26° | 2428.1 | 2428.5 | 2428.1 | 2428.5 | 2423.2 | 2420.0 |
| 26.5° | 2416.8 | 2416.0 | 2416.8 | 2416.4 | 2411.1 | 2407.5 |
| 27° | 2403.9 | 2401.9 | 2403.9 | 2402.7 | 2398.2 | 2394.6 |
| 27.5° | 2389.4 | 2386.2 | 2389.4 | 2387.4 | 2383.3 | 2379.7 |
| 28° | 2373.3 | 2368.8 | 2373.3 | 2370.0 | 2366.8 | 2363.2 |
| 28.5° | 2355.9 | 2350.3 | 2355.9 | 2351.9 | 2348.7 | 2345.9 |
| 29° | 2336.6 | 2330.5 | 2336.6 | 2331.7 | 2329.3 | 2326.5 |
| 29.5° | 2315.2 | 2309.6 | 2315.2 | 2311.2 | 2308.4 | 2306.0 |
| 30° | 2292.7 | 2287.0 | 2292.7 | 2287.8 | 2285.8 | 2284.2 |
| 30.5° | 2268.9 | 2263.2 | 2268.9 | 2264.0 | 2261.6 | 2260.8 |
| 31° | 2243.1 | 2238.3 | 2243.1 | 2238.7 | 2236.2 | 2235.4 |
| 31.5° | 2215.7 | 2212.1 | 2215.7 | 2212.1 | 2209.2 | 2209.2 |
| 32° | 2187.1 | 2184.7 | 2187.1 | 2183.4 | 2181.0 | 2181.4 |
| 32.5° | 2156.8 | 2156.0 | 2156.8 | 2154.4 | 2151.2 | 2152.0 |
| 33° | 2125.4 | 2125.8 | 2125.4 | 2123.4 | 2120.6 | 2121.4 |
| 33.5° | 2092.4 | 2093.6 | 2092.4 | 2091.2 | 2087.5 | 2089.1 |
| 34° | 2057.7 | 2060.9 | 2057.7 | 2057.3 | 2054.1 | 2055.7 |
| 34.5° | 2022.2 | 2025.9 | 2022.2 | 2021.8 | 2019.8 | 2019.8 |
| 35° | 1986.0 | 1990.0 | 1986.0 | 1985.2 | 1983.2 | 1983.6 |
| 35.5° | 1948.9 | 1952.9 | 1948.9 | 1948.1 | 1946.5 | 1946.5 |
| 36° | 1911.0 | 1913.8 | 1911.0 | 1909.8 | 1908.6 | 1908.6 |
| 36.5° | 1871.5 | 1874.7 | 1871.5 | 1870.7 | 1869.9 | 1869.5 |
| 37° | 1831.2 | 1833.6 | 1831.2 | 1830.0 | 1829.6 | 1828.8 |
| 37.5° | 1790.5 | 1791.7 | 1790.5 | 1789.3 | 1788.5 | 1788.1 |
| 38° | 1748.6 | 1749.8 | 1748.6 | 1747.8 | 1746.6 | 1746.6 |
| 38.5° | 1706.3 | 1707.1 | 1706.3 | 1705.5 | 1704.3 | 1704.3 |
| 39° | 1664.0 | 1664.4 | 1664.0 | 1662.8 | 1661.2 | 1661.2 |
| 39.5° | 1621.3 | 1621.7 | 1621.3 | 1618.8 | 1617.2 | 1616.8 |
| 40° | 1577.7 | 1578.9 | 1577.7 | 1575.7 | 1572.9 | 1572.5 |
| 40.5° | 1537.0 | 1537.8 | 1537.0 | 1533.4 | 1529.8 | 1529.0 |
| 41° | 1496.7 | 1498.3 | 1496.7 | 1492.7 | 1489.1 | 1487.9 |
| 41.5° | 1458.0 | 1459.3 | 1458.0 | 1454.0 | 1450.8 | 1449.2 |
| 42° | 1420.6 | 1423.0 | 1420.6 | 1417.7 | 1414.5 | 1413.7 |
| 42.5° | 1387.9 | 1389.5 | 1387.9 | 1385.1 | 1381.1 | 1380.7 |
| 43° | 1356.5 | 1360.1 | 1356.5 | 1353.3 | 1348.8 | 1348.4 |
| 43.5° | 1326.3 | 1329.1 | 1326.3 | 1323.0 | 1319.8 | 1318.6 |



TEST NUMBER: P776338

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 45° | 1247.3 | 1249.7 | 1247.3 | 1246.1 | 1243.3 | 1243.3 |
| 45.5° | 1224.3 | 1225.5 | 1224.3 | 1223.1 | 1220.3 | 1220.3 |
| 46° | 1202.1 | 1203.0 | 1202.1 | 1200.5 | 1198.5 | 1198.1 |
| 46.5° | 1180.0 | 1181.6 | 1180.0 | 1178.8 | 1176.8 | 1176.8 |
| 47° | 1159.0 | 1160.2 | 1159.0 | 1157.4 | 1155.8 | 1155.8 |
| 47.5° | 1138.1 | 1138.5 | 1138.1 | 1136.9 | 1134.8 | 1134.8 |
| 48° | 1117.5 | 1118.3 | 1117.5 | 1116.3 | 1114.3 | 1114.7 |
| 48.5° | 1097.0 | 1097.4 | 1097.0 | 1095.3 | 1093.7 | 1093.7 |
| 49° | 1075.2 | 1076.0 | 1075.2 | 1074.0 | 1072.4 | 1072.0 |
| 49.5° | 1052.6 | 1053.0 | 1052.6 | 1051.4 | 1049.4 | 1049.8 |
| 50° | 1027.6 | 1027.6 | 1027.6 | 1026.4 | 1025.2 | 1025.2 |
| 50.5° | 1000.6 | 1000.6 | 1000.6 | 999.0 | 998.2 | 998.2 |
| 51° | 971.6 | 972.8 | 971.6 | 970.4 | 969.2 | 969.6 |
| 51.5° | 942.2 | 942.6 | 942.2 | 940.6 | 939.0 | 939.4 |
| 52° | 910.8 | 911.6 | 910.8 | 909.6 | 908.4 | 908.0 |
| 52.5° | 878.9 | 879.3 | 878.9 | 877.3 | 875.3 | 875.7 |
| 53° | 846.3 | 845.9 | 846.3 | 844.3 | 842.3 | 841.9 |
| 53.5° | 812.4 | 813.3 | 812.4 | 810.8 | 808.4 | 808.0 |
| 54° | 778.2 | 778.6 | 778.2 | 776.6 | 774.2 | 773.4 |
| 54.5° | 744.3 | 745.1 | 744.3 | 742.3 | 739.1 | 739.1 |
| 55° | 710.1 | 711.7 | 710.1 | 708.5 | 704.8 | 704.4 |
| 55.5° | 675.8 | 677.4 | 675.8 | 673.4 | 669.8 | 669.0 |
| 56° | 641.2 | 643.2 | 641.2 | 639.2 | 635.1 | 633.9 |
| 56.5° | 606.9 | 608.9 | 606.9 | 604.5 | 600.5 | 599.3 |
| 57° | 573.1 | 575.1 | 573.1 | 570.2 | 566.6 | 564.6 |
| 57.5° | 539.6 | 541.6 | 539.6 | 536.4 | 532.8 | 530.7 |
| 58° | 507.0 | 508.6 | 507.0 | 502.9 | 498.9 | 497.3 |
| 58.5° | 475.1 | 476.3 | 475.1 | 470.3 | 466.3 | 463.9 |
| 59° | 442.9 | 444.1 | 442.9 | 437.7 | 434.4 | 431.6 |
| 59.5° | 411.5 | 412.7 | 411.5 | 406.2 | 402.6 | 400.6 |
| 60° | 380.0 | 381.6 | 380.0 | 375.2 | 371.6 | 370.0 |
| 60.5° | 349.4 | 351.8 | 349.4 | 344.6 | 340.9 | 339.3 |
| 61° | 320.0 | 322.4 | 320.0 | 315.5 | 311.1 | 309.5 |
| 61.5° | 291.4 | 295.0 | 291.4 | 286.9 | 282.5 | 279.3 |
| 62° | 264.0 | 267.6 | 264.0 | 259.1 | 254.7 | 250.7 |
| 62.5° | 237.0 | 241.0 | 237.0 | 232.1 | 227.3 | 222.1 |
| 63° | 210.8 | 215.2 | 210.8 | 205.9 | 201.5 | 194.2 |
| 63.5° | 186.2 | 191.0 | 186.2 | 181.8 | 176.9 | 167.6 |
| 64° | 163.6 | 168.5 | 163.6 | 159.6 | 153.9 | 141.9 |
| 64.5° | 141.9 | 146.7 | 141.9 | 138.2 | 133.0 | 118.9 |
| 65° | 121.3 | 124.9 | 121.3 | 118.1 | 112.8 | 97.9 |
| 65.5° | 101.2 | 104.4 | 101.2 | 99.5 | 95.1 | 78.2 |
| 66° | 84.6 | 86.2 | 84.6 | 82.2 | 79.0 | 61.3 |



TEST NUMBER: P776338

CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|------|--------|------|--------|------|
| 67.5° | 41.9 | 44.3 | 41.9 | 39.5 | 36.7 | 18.9 |
| 68° | 31.4 | 36.3 | 31.4 | 28.2 | 25.8 | 11.3 |
| 68.5° | 22.2 | 28.2 | 22.2 | 20.1 | 16.9 | 6.9 |
| 69° | 14.1 | 20.1 | 14.1 | 12.5 | 10.1 | 4.0 |
| 69.5° | 7.3 | 12.1 | 7.3 | 7.3 | 6.4 | 2.4 |
| 70° | 4.0 | 4.0 | 4.0 | 4.0 | 3.2 | 0.4 |
| 70.5° | 2.4 | 1.6 | 2.4 | 2.4 | 1.2 | 0.4 |
| 71° | 1.2 | 0.4 | 1.2 | 1.2 | 0.4 | 0.4 |
| 71.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 72° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 72.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 73° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 73.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 74° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 74.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 75° | 0.4 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 |
| 75.5° | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.0 |
| 76° | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 76.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 78° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 78.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 79° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 79.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 81° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 81.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 83° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 83.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 84° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 84.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 86° | 0.0 | 0.0 | 0.0 | 0.0 | 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: P776338
CATALOG NUMBER: HCDJBL3040CSD-HCD61TRC-4000lm-4000K

CANDELA DISTRIBUTION (continued):

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



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°

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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° | 2457.1 | 2460.7 | 2465.9 | 2463.9 | 2465.5 | 2463.9 | 2465.9 | 2460.7 | 2457.1 | 2460.7 | 2465.9 |
| 22° | 2458.3 | 2461.9 | 2467.6 | 2465.1 | 2467.2 | 2465.1 | 2467.6 | 2461.9 | 2458.3 | 2461.9 | 2467.6 |



| | | | | | | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 44° | 1291.6 | 1292.4 | 1295.6 | 1297.7 | 1300.9 | 1297.7 | 1295.6 | 1292.4 | 1291.6 | 1292.4 | 1295.6 |
| 44.5° | 1267.0 | 1267.4 | 1270.3 | 1271.9 | 1273.9 | 1271.9 | 1270.3 | 1267.4 | 1267.0 | 1267.4 | 1270.3 |



| | | | | | | | | | | | |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| 66.5° | 44.7 | 62.9 | 66.9 | 69.3 | 69.7 | 69.3 | 66.9 | 62.9 | 44.7 | 62.9 | 66.9 |
| 67° | 31.0 | 49.6 | 52.0 | 54.4 | 54.8 | 54.4 | 52.0 | 49.6 | 31.0 | 49.6 | 52.0 |



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

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Peachtree City, GA 30269

Scaled Data Report





| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| 21.5° | 2463.9 | 2465.5 | 2463.9 | 2465.9 | 2460.7 | 2457.1 |
| 22° | 2465.1 | 2467.2 | 2465.1 | 2467.6 | 2461.9 | 2458.3 |



| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| 44° | 1297.7 | 1300.9 | 1297.7 | 1295.6 | 1292.4 | 1291.6 |
| 44.5° | 1271.9 | 1273.9 | 1271.9 | 1270.3 | 1267.4 | 1267.0 |



| | | | | | | |
|-------|------|------|------|------|------|------|
| 66.5° | 69.3 | 69.7 | 69.3 | 66.9 | 62.9 | 44.7 |
| 67° | 54.4 | 54.8 | 54.4 | 52.0 | 49.6 | 31.0 |

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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



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

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(END OF REPORT)