

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: P776274

Luminaire Tested: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

Issue Date: 2/13/2024

Test Information

Test Method: LM-79-2019
Report Number: P776274
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B054)
Test Lab:
Issue Date: 2/13/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBS3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K
Description: 4 INCH ROUND NARROW LENSED WALLWASH KIT
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4000.9 lumens
Efficiency: N/A
Efficacy: 103.9 lumens/watt
Spacing Criteria (0/90/45): 1.05 / 1.01 / 1.07
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

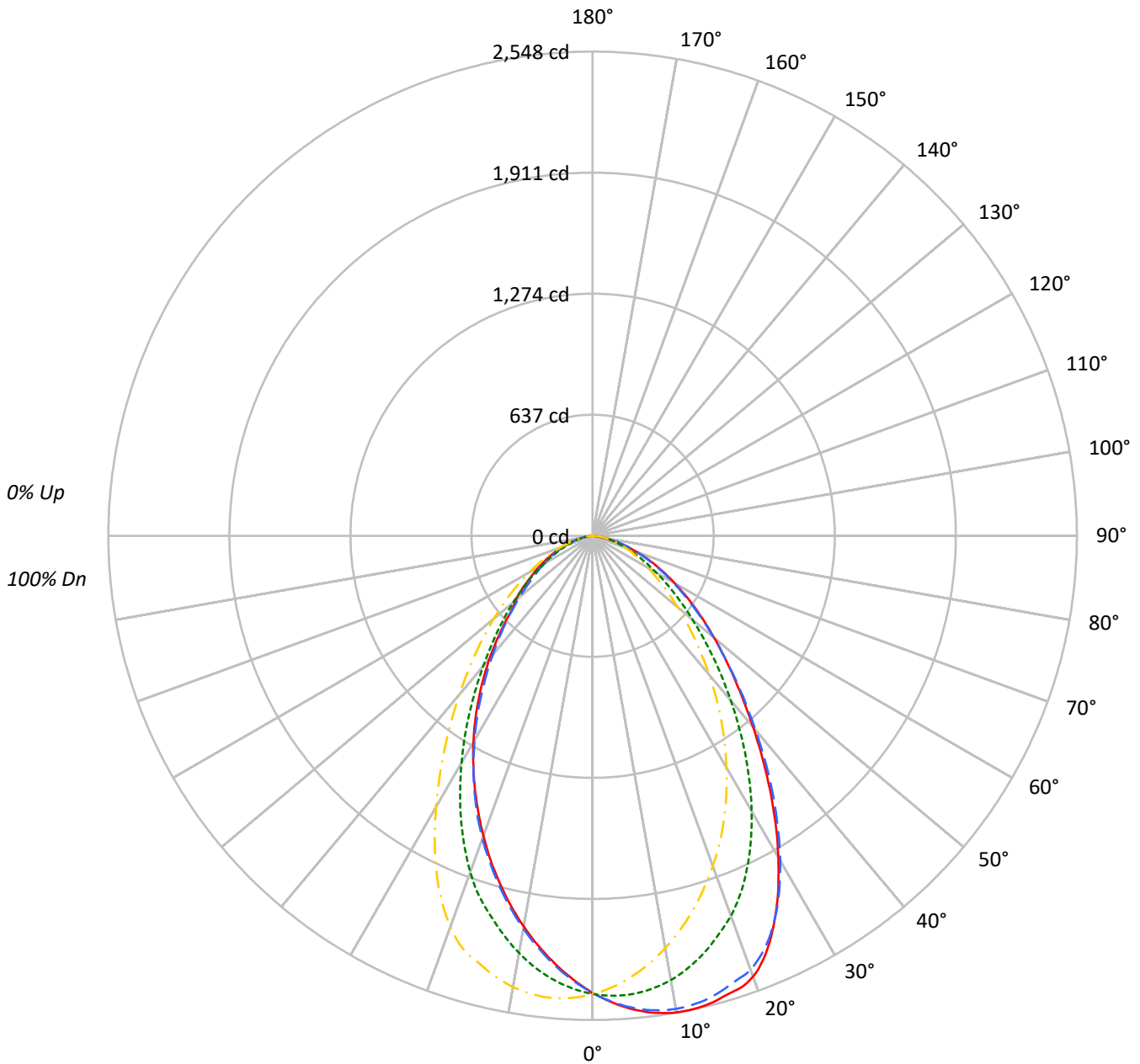
Input Watts (W): 38.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|-----|
| RF | 20 | | | | 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 | | | | 100 |
| 1 | 111 | 107 | 104 | 100 | 108 | 105 | 102 | 99 | 101 | 98 | 96 | 97 | 95 | 93 | 93 | 92 | 90 | 88 | | | | 88 |
| 2 | 103 | 96 | 90 | 86 | 100 | 94 | 89 | 85 | 91 | 86 | 83 | 88 | 84 | 81 | 85 | 82 | 79 | 77 | | | | 77 |
| 3 | 95 | 86 | 79 | 74 | 93 | 85 | 78 | 73 | 82 | 77 | 72 | 79 | 75 | 71 | 77 | 73 | 70 | 68 | | | | 68 |
| 4 | 88 | 78 | 71 | 65 | 86 | 77 | 70 | 64 | 74 | 68 | 64 | 72 | 67 | 63 | 70 | 66 | 62 | 60 | | | | 60 |
| 5 | 82 | 71 | 63 | 57 | 80 | 70 | 63 | 57 | 68 | 62 | 57 | 66 | 60 | 56 | 64 | 59 | 56 | 54 | | | | 54 |
| 6 | 77 | 65 | 57 | 51 | 75 | 64 | 57 | 51 | 62 | 56 | 51 | 61 | 55 | 50 | 59 | 54 | 50 | 48 | | | | 48 |
| 7 | 72 | 60 | 52 | 47 | 70 | 59 | 52 | 46 | 58 | 51 | 46 | 56 | 50 | 46 | 55 | 50 | 45 | 44 | | | | 44 |
| 8 | 67 | 55 | 48 | 42 | 66 | 55 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 51 | 46 | 42 | 40 | | | | 40 |
| 9 | 63 | 51 | 44 | 39 | 62 | 51 | 44 | 39 | 50 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 36 | | | | 36 |
| 10 | 60 | 48 | 40 | 36 | 58 | 47 | 40 | 36 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | 34 | | | | 34 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° | 270° |
|-----|--------|--------|--------|--------|
| 0° | 303185 | 303185 | 303185 | 303185 |
| 5° | 316231 | 305796 | 285760 | 296346 |
| 10° | 325471 | 303325 | 266751 | 284885 |
| 15° | 329710 | 295887 | 246403 | 269894 |
| 20° | 330584 | 285036 | 225023 | 252077 |
| 25° | 313365 | 267375 | 203513 | 227633 |
| 30° | 284026 | 243046 | 182259 | 200438 |
| 35° | 249594 | 214996 | 160532 | 172854 |
| 40° | 215657 | 185774 | 138427 | 147150 |
| 45° | 186842 | 158330 | 116932 | 125226 |
| 50° | 163443 | 134389 | 103258 | 106528 |
| 55° | 143605 | 114270 | 91758 | 90157 |
| 60° | 125648 | 97131 | 80871 | 75535 |
| 65° | 108841 | 82546 | 71230 | 62803 |
| 70° | 88899 | 69655 | 60161 | 51735 |
| 75° | 66616 | 59030 | 48722 | 42936 |
| 80° | 40006 | 51529 | 34643 | 34063 |
| 85° | 15306 | 47795 | 12418 | 20071 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 191790 cd/sqm



TEST NUMBER: P776274

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 225.2 | 5.6 |
| 10°-20° | 615.9 | 15.4 |
| 20°-30° | 834.3 | 20.9 |
| 30°-40° | 811.0 | 20.3 |
| 40°-50° | 642.0 | 16.0 |
| 50°-60° | 449.5 | 11.2 |
| 60°-70° | 272.6 | 6.8 |
| 70°-80° | 124.9 | 3.1 |
| 80°-90° | 25.4 | 0.6 |
| 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° | 1675.4 | 41.9 |
| 0°-40° | 2486.4 | 62.1 |
| 0°-60° | 3578.0 | 89.4 |
| 0°-90° | 4000.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4000.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 90° | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 2409 | 2409 | 2409 | 2409 | 2409 | |
| 5° | 2503 | 2421 | 2262 | 2346 | 2503 | 240 |
| 15° | 2531 | 2271 | 1891 | 2072 | 2531 | 714 |
| 25° | 2257 | 1926 | 1466 | 1639 | 2257 | 1030 |
| 35° | 1625 | 1399 | 1045 | 1125 | 1625 | 1014 |
| 45° | 1050 | 890 | 657 | 704 | 1050 | 814 |
| 55° | 654 | 521 | 418 | 411 | 654 | 588 |
| 65° | 366 | 277 | 239 | 211 | 366 | 362 |
| 75° | 137 | 121 | 100 | 88 | 137 | 148 |
| 85° | 11 | 33 | 9 | 14 | 11 | 18 |
| 90° | 0 | 4 | 0 | 0 | 0 | |



TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2409.1 | 2409.1 | 2409.1 | 2409.1 | 2409.1 | 2409.1 | 2409.1 | 2409.1 | 2409.1 | 2409.1 | 2409.1 |
| 0.5° | 2416.5 | 2417.7 | 2416.9 | 2415.7 | 2414.5 | 2410.0 | 2406.7 | 2405.5 | 2392.0 | 2391.6 | 2394.0 |
| 1° | 2428.0 | 2429.6 | 2428.4 | 2423.5 | 2417.3 | 2407.9 | 2400.2 | 2394.8 | 2378.9 | 2378.9 | 2382.2 |
| 1.5° | 2439.0 | 2441.0 | 2437.8 | 2430.0 | 2419.8 | 2405.9 | 2393.2 | 2384.6 | 2365.4 | 2364.6 | 2369.5 |
| 2° | 2449.6 | 2452.5 | 2447.2 | 2436.9 | 2421.4 | 2402.6 | 2385.8 | 2373.2 | 2351.9 | 2350.3 | 2356.0 |
| 2.5° | 2459.8 | 2463.5 | 2456.6 | 2443.1 | 2423.0 | 2399.3 | 2377.7 | 2362.1 | 2337.6 | 2336.0 | 2342.5 |
| 3° | 2469.7 | 2473.3 | 2465.6 | 2448.4 | 2423.5 | 2394.8 | 2369.1 | 2349.5 | 2322.9 | 2321.3 | 2329.0 |
| 3.5° | 2479.1 | 2483.1 | 2473.3 | 2453.3 | 2423.9 | 2390.3 | 2360.1 | 2337.6 | 2308.2 | 2305.7 | 2314.7 |
| 4° | 2487.6 | 2492.1 | 2481.1 | 2457.4 | 2423.0 | 2385.0 | 2350.7 | 2324.5 | 2293.5 | 2290.2 | 2300.4 |
| 4.5° | 2495.8 | 2500.7 | 2488.0 | 2461.1 | 2422.2 | 2379.7 | 2340.9 | 2311.0 | 2277.5 | 2274.2 | 2285.3 |
| 5° | 2503.2 | 2509.3 | 2494.6 | 2464.3 | 2420.6 | 2373.2 | 2330.2 | 2297.5 | 2262.0 | 2257.9 | 2270.6 |
| 5.5° | 2510.1 | 2517.1 | 2500.7 | 2466.8 | 2418.6 | 2366.6 | 2319.6 | 2283.6 | 2245.2 | 2241.1 | 2254.2 |
| 6° | 2516.7 | 2524.0 | 2506.0 | 2469.2 | 2415.7 | 2358.9 | 2307.8 | 2268.9 | 2229.3 | 2224.0 | 2238.7 |
| 6.5° | 2522.4 | 2530.6 | 2510.9 | 2470.9 | 2412.4 | 2351.5 | 2296.3 | 2254.2 | 2212.5 | 2207.2 | 2221.9 |
| 7° | 2527.7 | 2536.3 | 2515.0 | 2471.7 | 2408.7 | 2342.9 | 2284.1 | 2239.5 | 2195.3 | 2189.6 | 2204.7 |
| 7.5° | 2532.6 | 2541.6 | 2518.7 | 2471.7 | 2403.8 | 2334.3 | 2271.8 | 2224.0 | 2178.2 | 2171.6 | 2188.0 |
| 8° | 2536.3 | 2546.1 | 2522.0 | 2471.7 | 2398.9 | 2324.9 | 2258.7 | 2208.0 | 2160.6 | 2153.2 | 2170.8 |
| 8.5° | 2540.0 | 2550.2 | 2524.4 | 2470.9 | 2393.6 | 2315.5 | 2245.2 | 2191.7 | 2142.6 | 2135.7 | 2153.6 |
| 9° | 2542.8 | 2553.9 | 2526.5 | 2469.2 | 2387.5 | 2304.9 | 2231.3 | 2175.7 | 2124.6 | 2116.8 | 2135.7 |
| 9.5° | 2545.3 | 2556.7 | 2527.3 | 2466.8 | 2380.9 | 2294.3 | 2217.4 | 2159.0 | 2105.8 | 2098.0 | 2117.3 |
| 10° | 2546.9 | 2558.8 | 2528.1 | 2463.9 | 2373.6 | 2282.8 | 2203.1 | 2142.6 | 2087.4 | 2079.2 | 2098.9 |
| 10.5° | 2547.7 | 2560.4 | 2527.7 | 2460.7 | 2365.8 | 2271.4 | 2188.0 | 2125.0 | 2068.6 | 2060.0 | 2080.5 |
| 11° | 2548.1 | 2561.2 | 2527.3 | 2457.0 | 2357.2 | 2259.1 | 2172.4 | 2107.4 | 2049.8 | 2040.8 | 2061.7 |
| 11.5° | 2548.1 | 2561.6 | 2526.1 | 2452.1 | 2348.2 | 2246.8 | 2157.3 | 2089.9 | 2030.6 | 2021.2 | 2042.4 |
| 12° | 2547.3 | 2561.6 | 2524.0 | 2447.2 | 2338.8 | 2233.8 | 2141.4 | 2072.3 | 2011.4 | 2001.6 | 2022.8 |
| 12.5° | 2546.1 | 2560.8 | 2521.6 | 2441.4 | 2328.6 | 2219.9 | 2125.0 | 2053.9 | 1991.7 | 1981.1 | 2003.6 |
| 13° | 2544.1 | 2559.2 | 2518.3 | 2435.3 | 2318.4 | 2206.4 | 2108.7 | 2035.5 | 1972.1 | 1961.5 | 1984.4 |
| 13.5° | 2541.2 | 2557.5 | 2515.0 | 2428.4 | 2307.4 | 2192.5 | 2091.9 | 2016.7 | 1952.1 | 1941.1 | 1964.4 |
| 14° | 2538.3 | 2554.3 | 2510.5 | 2420.2 | 2295.9 | 2177.3 | 2074.3 | 1997.9 | 1932.1 | 1920.2 | 1944.3 |
| 14.5° | 2534.7 | 2551.0 | 2505.6 | 2412.0 | 2283.6 | 2162.2 | 2056.7 | 1978.7 | 1911.6 | 1900.2 | 1923.9 |
| 15° | 2530.6 | 2547.3 | 2499.9 | 2403.4 | 2271.0 | 2146.3 | 2039.2 | 1959.5 | 1891.2 | 1878.9 | 1903.4 |
| 15.5° | 2525.3 | 2542.4 | 2493.8 | 2394.4 | 2258.3 | 2130.7 | 2021.2 | 1939.8 | 1870.7 | 1858.5 | 1882.6 |
| 16° | 2519.5 | 2537.5 | 2486.8 | 2384.6 | 2244.4 | 2114.4 | 2002.4 | 1920.2 | 1850.3 | 1837.6 | 1862.2 |
| 16.5° | 2515.0 | 2531.8 | 2479.5 | 2374.4 | 2230.5 | 2098.0 | 1984.0 | 1900.2 | 1829.4 | 1816.8 | 1841.3 |
| 17° | 2511.4 | 2526.5 | 2472.1 | 2363.8 | 2215.8 | 2080.9 | 1965.6 | 1880.5 | 1808.6 | 1794.7 | 1820.9 |
| 17.5° | 2508.1 | 2522.8 | 2464.3 | 2351.9 | 2201.5 | 2063.7 | 1946.4 | 1860.1 | 1787.3 | 1773.4 | 1800.0 |
| 18° | 2504.8 | 2519.5 | 2458.2 | 2341.3 | 2186.8 | 2046.1 | 1926.7 | 1839.7 | 1766.1 | 1752.2 | 1778.8 |
| 18.5° | 2498.7 | 2515.8 | 2452.5 | 2330.7 | 2172.4 | 2028.9 | 1907.5 | 1819.2 | 1744.8 | 1730.9 | 1757.9 |
| 19° | 2490.9 | 2510.5 | 2446.8 | 2320.8 | 2158.1 | 2011.4 | 1887.9 | 1798.8 | 1723.6 | 1709.7 | 1737.9 |
| 19.5° | 2480.3 | 2502.4 | 2439.4 | 2310.6 | 2143.8 | 1994.2 | 1869.1 | 1778.3 | 1701.9 | 1688.4 | 1717.0 |
| 20° | 2468.4 | 2492.5 | 2429.6 | 2299.2 | 2128.3 | 1975.8 | 1848.7 | 1757.9 | 1680.2 | 1666.7 | 1695.8 |
| 20.5° | 2454.9 | 2480.7 | 2417.7 | 2285.7 | 2111.1 | 1957.8 | 1829.4 | 1736.6 | 1658.6 | 1645.1 | 1674.1 |
| 21° | 2439.0 | 2467.6 | 2403.8 | 2271.8 | 2092.7 | 1937.8 | 1808.6 | 1715.4 | 1637.7 | 1623.8 | 1652.0 |



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CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 22.5° | 2380.9 | 2417.7 | 2356.4 | 2219.5 | 2035.5 | 1876.9 | 1746.9 | 1652.0 | 1572.7 | 1559.2 | 1586.2 |
| 23° | 2358.0 | 2397.7 | 2338.4 | 2201.1 | 2014.2 | 1855.6 | 1725.2 | 1630.4 | 1551.0 | 1538.0 | 1563.7 |
| 23.5° | 2334.3 | 2376.9 | 2318.8 | 2181.4 | 1993.4 | 1834.4 | 1703.9 | 1609.1 | 1530.2 | 1516.3 | 1540.8 |
| 24° | 2309.8 | 2354.4 | 2298.8 | 2160.6 | 1971.3 | 1811.5 | 1681.9 | 1587.8 | 1508.5 | 1495.0 | 1518.3 |
| 24.5° | 2283.6 | 2330.2 | 2276.7 | 2138.5 | 1948.8 | 1789.0 | 1659.8 | 1565.8 | 1486.9 | 1473.4 | 1495.9 |
| 25° | 2256.7 | 2304.9 | 2253.8 | 2116.0 | 1925.5 | 1766.1 | 1636.9 | 1544.1 | 1465.6 | 1452.1 | 1473.4 |
| 25.5° | 2229.3 | 2278.3 | 2229.3 | 2093.1 | 1902.2 | 1742.8 | 1614.8 | 1522.4 | 1444.3 | 1430.0 | 1450.1 |
| 26° | 2201.1 | 2251.3 | 2204.3 | 2069.0 | 1878.5 | 1719.5 | 1592.7 | 1500.8 | 1423.5 | 1408.0 | 1427.2 |
| 26.5° | 2171.6 | 2224.0 | 2178.6 | 2044.9 | 1854.0 | 1695.4 | 1569.9 | 1478.7 | 1401.8 | 1386.7 | 1404.3 |
| 27° | 2142.6 | 2194.9 | 2151.6 | 2019.5 | 1828.6 | 1671.2 | 1547.0 | 1456.6 | 1381.0 | 1365.0 | 1381.4 |
| 27.5° | 2112.8 | 2165.5 | 2123.8 | 1993.8 | 1803.7 | 1647.5 | 1523.7 | 1434.9 | 1359.3 | 1343.4 | 1358.1 |
| 28° | 2081.3 | 2134.8 | 2094.4 | 1966.8 | 1777.9 | 1623.8 | 1500.8 | 1413.3 | 1338.5 | 1321.7 | 1334.8 |
| 28.5° | 2050.2 | 2103.8 | 2064.1 | 1939.8 | 1752.6 | 1598.9 | 1477.9 | 1390.8 | 1317.6 | 1300.0 | 1311.9 |
| 29° | 2018.7 | 2072.7 | 2034.7 | 1912.4 | 1726.0 | 1573.9 | 1454.6 | 1368.7 | 1296.8 | 1278.4 | 1289.0 |
| 29.5° | 1986.4 | 2041.2 | 2004.8 | 1883.8 | 1699.4 | 1549.8 | 1431.7 | 1347.0 | 1275.5 | 1257.1 | 1266.1 |
| 30° | 1954.5 | 2008.5 | 1973.8 | 1856.0 | 1672.5 | 1524.9 | 1408.0 | 1325.4 | 1254.2 | 1235.4 | 1242.8 |
| 30.5° | 1921.8 | 1976.2 | 1941.9 | 1827.0 | 1645.5 | 1499.5 | 1384.7 | 1303.3 | 1233.0 | 1214.2 | 1220.3 |
| 31° | 1888.7 | 1943.1 | 1910.0 | 1797.2 | 1619.3 | 1475.0 | 1361.8 | 1281.2 | 1212.1 | 1192.5 | 1197.8 |
| 31.5° | 1856.4 | 1909.6 | 1878.1 | 1767.7 | 1591.5 | 1449.7 | 1338.5 | 1259.6 | 1191.3 | 1170.8 | 1175.8 |
| 32° | 1822.9 | 1875.6 | 1845.4 | 1737.1 | 1564.1 | 1425.1 | 1315.6 | 1237.9 | 1170.4 | 1150.0 | 1153.3 |
| 32.5° | 1789.4 | 1841.7 | 1812.7 | 1706.8 | 1536.7 | 1400.2 | 1291.9 | 1216.2 | 1149.2 | 1128.7 | 1130.4 |
| 33° | 1756.3 | 1808.2 | 1780.4 | 1676.6 | 1508.9 | 1374.8 | 1269.0 | 1195.0 | 1128.3 | 1107.5 | 1107.9 |
| 33.5° | 1722.7 | 1774.7 | 1748.9 | 1645.9 | 1482.0 | 1349.9 | 1246.1 | 1172.5 | 1107.5 | 1086.2 | 1086.6 |
| 34° | 1690.0 | 1740.7 | 1715.8 | 1614.8 | 1454.2 | 1324.2 | 1223.2 | 1151.2 | 1086.6 | 1065.0 | 1064.1 |
| 34.5° | 1657.3 | 1706.4 | 1682.7 | 1584.2 | 1426.4 | 1299.2 | 1200.3 | 1130.0 | 1065.4 | 1044.1 | 1042.5 |
| 35° | 1624.6 | 1672.9 | 1649.6 | 1553.5 | 1399.4 | 1274.7 | 1177.0 | 1108.7 | 1044.9 | 1023.7 | 1020.4 |
| 35.5° | 1591.9 | 1639.8 | 1616.9 | 1523.2 | 1371.6 | 1249.7 | 1154.9 | 1087.0 | 1024.5 | 1003.2 | 999.6 |
| 36° | 1558.8 | 1606.6 | 1584.6 | 1493.0 | 1344.2 | 1224.8 | 1132.4 | 1066.2 | 1003.6 | 982.8 | 978.3 |
| 36.5° | 1527.3 | 1573.9 | 1552.3 | 1462.3 | 1316.4 | 1199.9 | 1109.5 | 1045.3 | 983.2 | 962.4 | 957.4 |
| 37° | 1495.0 | 1540.4 | 1520.0 | 1432.9 | 1290.2 | 1176.2 | 1086.6 | 1024.5 | 962.4 | 941.9 | 936.6 |
| 37.5° | 1464.0 | 1507.7 | 1488.5 | 1403.1 | 1262.4 | 1151.2 | 1064.1 | 1003.6 | 942.7 | 922.3 | 916.2 |
| 38° | 1432.5 | 1475.8 | 1455.8 | 1372.4 | 1236.3 | 1127.1 | 1042.5 | 983.6 | 922.3 | 902.3 | 895.7 |
| 38.5° | 1402.2 | 1443.9 | 1424.7 | 1343.8 | 1209.7 | 1103.0 | 1019.6 | 962.8 | 902.3 | 882.2 | 876.5 |
| 39° | 1372.0 | 1412.5 | 1393.2 | 1313.9 | 1183.5 | 1079.7 | 997.5 | 942.7 | 882.6 | 862.6 | 856.5 |
| 39.5° | 1342.5 | 1381.8 | 1363.8 | 1286.1 | 1156.5 | 1055.6 | 975.4 | 922.3 | 862.6 | 843.4 | 836.8 |
| 40° | 1312.7 | 1351.5 | 1333.1 | 1256.3 | 1130.8 | 1031.8 | 954.2 | 902.3 | 842.6 | 823.8 | 817.6 |
| 40.5° | 1284.5 | 1322.1 | 1303.3 | 1229.3 | 1105.4 | 1007.7 | 932.5 | 881.4 | 823.4 | 804.5 | 799.2 |
| 41° | 1256.3 | 1291.9 | 1273.9 | 1201.1 | 1079.7 | 985.7 | 911.7 | 861.8 | 804.1 | 785.7 | 780.4 |
| 41.5° | 1228.1 | 1264.1 | 1245.3 | 1173.3 | 1054.3 | 961.9 | 890.8 | 841.8 | 784.9 | 766.9 | 762.4 |
| 42° | 1201.1 | 1235.4 | 1216.6 | 1145.5 | 1030.2 | 939.5 | 870.4 | 822.9 | 765.7 | 748.9 | 745.3 |
| 42.5° | 1174.9 | 1207.6 | 1189.2 | 1120.2 | 1006.1 | 917.8 | 849.9 | 803.3 | 747.3 | 731.4 | 728.1 |
| 43° | 1148.8 | 1181.1 | 1162.3 | 1094.0 | 982.0 | 896.1 | 830.3 | 784.5 | 728.5 | 713.8 | 710.5 |
| 43.5° | 1123.4 | 1154.5 | 1134.9 | 1068.2 | 958.3 | 874.5 | 810.3 | 765.3 | 710.1 | 697.0 | 693.4 |



TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|-------|-------|--------|-------|--------|-------|--------|-------|
| 45° | 1049.8 | 1077.6 | 1057.6 | 993.0 | 889.6 | 812.7 | 753.0 | 711.7 | 657.0 | 649.2 | 644.7 |
| 45.5° | 1026.1 | 1053.5 | 1032.7 | 968.9 | 867.5 | 792.7 | 735.0 | 695.0 | 639.8 | 634.1 | 629.2 |
| 46° | 1003.2 | 1029.8 | 1008.5 | 945.6 | 845.8 | 773.5 | 717.1 | 678.2 | 623.4 | 618.5 | 613.6 |
| 46.5° | 980.7 | 1006.1 | 984.4 | 922.3 | 824.6 | 753.9 | 699.9 | 661.5 | 607.5 | 603.4 | 598.1 |
| 47° | 958.7 | 982.8 | 961.5 | 899.4 | 803.3 | 734.6 | 682.3 | 645.1 | 592.4 | 589.1 | 583.0 |
| 47.5° | 937.4 | 960.3 | 938.2 | 877.3 | 782.9 | 716.2 | 665.1 | 629.2 | 578.1 | 575.2 | 568.3 |
| 48° | 915.7 | 937.8 | 915.3 | 854.4 | 762.4 | 697.4 | 648.4 | 613.6 | 565.4 | 561.3 | 554.4 |
| 48.5° | 894.5 | 916.6 | 893.7 | 833.6 | 742.8 | 679.9 | 631.6 | 598.1 | 554.4 | 547.8 | 540.0 |
| 49° | 874.5 | 895.3 | 872.0 | 812.7 | 723.6 | 662.3 | 615.7 | 583.4 | 544.5 | 534.7 | 526.6 |
| 49.5° | 854.4 | 874.5 | 851.2 | 792.3 | 704.8 | 645.1 | 599.3 | 568.7 | 535.5 | 522.5 | 513.1 |
| 50° | 834.8 | 854.4 | 830.7 | 771.8 | 686.4 | 628.3 | 583.8 | 554.4 | 527.4 | 511.0 | 500.0 |
| 50.5° | 815.6 | 834.0 | 809.9 | 751.8 | 668.0 | 611.6 | 568.7 | 540.5 | 519.2 | 499.6 | 486.5 |
| 51° | 796.4 | 814.4 | 789.8 | 732.6 | 650.0 | 595.6 | 553.5 | 527.0 | 509.8 | 489.4 | 474.2 |
| 51.5° | 777.6 | 795.1 | 770.6 | 713.8 | 633.3 | 580.1 | 539.2 | 513.9 | 498.8 | 479.9 | 462.4 |
| 52° | 759.2 | 775.9 | 751.4 | 694.6 | 616.1 | 564.6 | 524.5 | 501.2 | 486.5 | 468.9 | 450.1 |
| 52.5° | 741.2 | 757.1 | 732.6 | 676.6 | 599.3 | 549.4 | 510.6 | 488.9 | 474.6 | 457.9 | 438.2 |
| 53° | 723.6 | 739.1 | 713.8 | 659.0 | 583.0 | 534.3 | 496.7 | 477.5 | 463.2 | 446.8 | 426.8 |
| 53.5° | 705.6 | 720.7 | 695.8 | 641.0 | 567.0 | 519.6 | 483.2 | 465.6 | 451.3 | 435.8 | 415.4 |
| 54° | 688.4 | 703.2 | 677.8 | 623.9 | 551.5 | 505.3 | 470.1 | 455.0 | 439.9 | 425.2 | 404.3 |
| 54.5° | 671.3 | 685.2 | 659.8 | 607.1 | 535.5 | 491.4 | 457.1 | 445.2 | 429.3 | 414.5 | 393.7 |
| 55° | 654.5 | 668.4 | 643.5 | 590.3 | 520.8 | 477.9 | 444.8 | 435.0 | 418.2 | 404.7 | 383.5 |
| 55.5° | 637.8 | 651.2 | 626.3 | 574.4 | 506.1 | 464.0 | 432.5 | 424.8 | 408.0 | 393.7 | 373.2 |
| 56° | 621.4 | 634.5 | 609.5 | 558.0 | 491.8 | 450.5 | 420.3 | 414.1 | 397.4 | 383.5 | 363.4 |
| 56.5° | 605.5 | 618.1 | 593.2 | 542.5 | 477.9 | 437.8 | 408.4 | 403.9 | 387.1 | 374.1 | 354.4 |
| 57° | 589.9 | 602.2 | 577.2 | 527.4 | 463.6 | 424.8 | 397.0 | 393.7 | 376.9 | 364.7 | 345.4 |
| 57.5° | 573.6 | 585.8 | 561.7 | 512.2 | 450.1 | 412.5 | 385.9 | 383.9 | 367.5 | 354.9 | 336.9 |
| 58° | 558.4 | 569.9 | 545.8 | 497.5 | 436.6 | 400.2 | 375.3 | 374.1 | 357.7 | 345.9 | 327.9 |
| 58.5° | 543.3 | 554.4 | 530.6 | 482.8 | 424.4 | 388.4 | 364.7 | 364.3 | 348.7 | 336.9 | 319.3 |
| 59° | 528.2 | 539.6 | 515.9 | 468.5 | 411.3 | 376.5 | 354.4 | 354.9 | 339.3 | 327.9 | 310.3 |
| 59.5° | 513.5 | 523.7 | 500.8 | 454.6 | 398.6 | 365.1 | 345.0 | 345.9 | 330.3 | 318.9 | 302.1 |
| 60° | 499.2 | 509.8 | 486.5 | 441.1 | 385.9 | 354.0 | 335.6 | 336.9 | 321.3 | 309.9 | 293.9 |
| 60.5° | 484.9 | 495.1 | 472.2 | 427.2 | 374.5 | 343.8 | 326.2 | 327.9 | 312.3 | 301.3 | 285.8 |
| 61° | 470.5 | 480.8 | 458.3 | 414.5 | 362.6 | 333.2 | 316.8 | 318.9 | 303.7 | 293.1 | 277.6 |
| 61.5° | 456.6 | 466.0 | 444.0 | 401.5 | 351.6 | 322.6 | 307.4 | 309.9 | 295.2 | 284.5 | 269.8 |
| 62° | 443.2 | 453.0 | 430.9 | 388.8 | 340.5 | 311.9 | 299.3 | 301.3 | 287.0 | 276.4 | 262.1 |
| 62.5° | 430.1 | 439.1 | 417.8 | 376.5 | 329.5 | 301.7 | 290.7 | 293.1 | 278.4 | 268.2 | 254.3 |
| 63° | 416.6 | 425.6 | 404.3 | 364.3 | 318.5 | 291.9 | 282.5 | 284.5 | 270.6 | 260.8 | 246.5 |
| 63.5° | 403.5 | 412.1 | 391.6 | 352.4 | 307.4 | 282.5 | 274.3 | 276.4 | 262.5 | 252.6 | 239.2 |
| 64° | 390.8 | 399.0 | 379.0 | 340.5 | 296.8 | 273.1 | 267.0 | 268.2 | 254.7 | 245.3 | 231.8 |
| 64.5° | 378.2 | 386.3 | 366.7 | 329.1 | 287.0 | 264.1 | 259.2 | 260.4 | 246.9 | 237.5 | 224.8 |
| 65° | 365.5 | 374.1 | 354.4 | 317.6 | 277.2 | 255.1 | 251.8 | 253.1 | 239.2 | 230.2 | 217.5 |
| 65.5° | 352.8 | 361.0 | 342.2 | 307.0 | 267.4 | 246.5 | 244.1 | 245.3 | 231.0 | 222.8 | 210.5 |
| 66° | 339.7 | 349.1 | 330.7 | 296.4 | 258.0 | 237.9 | 237.1 | 237.5 | 223.2 | 215.4 | 204.0 |



TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 67.5° | 302.1 | 312.7 | 296.4 | 264.9 | 231.0 | 214.2 | 215.4 | 215.4 | 199.9 | 193.8 | 184.0 |
| 68° | 289.8 | 300.9 | 285.4 | 255.1 | 222.4 | 206.5 | 208.9 | 208.1 | 192.6 | 186.8 | 177.4 |
| 68.5° | 277.2 | 289.0 | 274.7 | 245.7 | 213.8 | 199.1 | 202.0 | 200.7 | 185.2 | 179.5 | 171.3 |
| 69° | 265.3 | 277.2 | 264.5 | 235.9 | 205.6 | 191.7 | 195.4 | 193.8 | 177.8 | 172.9 | 165.2 |
| 69.5° | 253.5 | 265.7 | 254.3 | 226.9 | 197.5 | 185.2 | 188.5 | 186.4 | 170.5 | 166.0 | 159.0 |
| 70° | 241.6 | 254.3 | 244.1 | 217.5 | 189.3 | 178.2 | 182.3 | 179.5 | 163.5 | 159.4 | 152.9 |
| 70.5° | 230.6 | 243.2 | 234.3 | 208.5 | 181.5 | 171.7 | 175.8 | 172.9 | 157.0 | 152.9 | 147.2 |
| 71° | 219.1 | 232.6 | 224.4 | 199.9 | 174.2 | 165.6 | 169.7 | 166.0 | 150.0 | 145.9 | 141.0 |
| 71.5° | 208.1 | 221.6 | 215.0 | 191.3 | 166.8 | 159.4 | 163.5 | 159.4 | 143.5 | 139.8 | 135.3 |
| 72° | 197.0 | 211.4 | 206.0 | 183.1 | 159.8 | 153.3 | 157.4 | 152.9 | 137.0 | 133.7 | 129.6 |
| 72.5° | 186.8 | 201.5 | 196.6 | 175.4 | 152.9 | 147.6 | 151.7 | 146.4 | 130.4 | 127.1 | 123.9 |
| 73° | 176.6 | 191.3 | 187.6 | 167.6 | 146.4 | 141.5 | 145.5 | 140.2 | 123.9 | 121.4 | 118.6 |
| 73.5° | 166.0 | 181.9 | 179.1 | 159.4 | 139.8 | 136.1 | 139.8 | 133.7 | 117.7 | 115.3 | 113.2 |
| 74° | 156.2 | 172.1 | 170.1 | 152.1 | 133.7 | 130.8 | 134.1 | 128.0 | 111.6 | 109.2 | 107.9 |
| 74.5° | 145.9 | 162.7 | 161.9 | 146.8 | 127.6 | 125.5 | 128.8 | 121.8 | 105.9 | 103.4 | 102.2 |
| 75° | 137.0 | 153.7 | 153.7 | 139.8 | 121.4 | 120.2 | 123.1 | 116.1 | 100.2 | 97.7 | 97.3 |
| 75.5° | 128.0 | 144.7 | 145.1 | 132.9 | 115.7 | 115.3 | 117.7 | 110.4 | 94.4 | 92.4 | 92.0 |
| 76° | 119.0 | 137.0 | 137.8 | 125.5 | 110.4 | 110.4 | 112.4 | 104.7 | 88.7 | 86.7 | 87.1 |
| 76.5° | 110.0 | 128.8 | 130.4 | 118.6 | 104.7 | 105.5 | 107.1 | 98.9 | 83.0 | 81.4 | 82.2 |
| 77° | 101.4 | 120.6 | 123.5 | 112.0 | 99.8 | 100.6 | 101.8 | 93.6 | 77.7 | 76.0 | 77.3 |
| 77.5° | 92.8 | 112.4 | 116.1 | 105.9 | 94.4 | 96.1 | 96.5 | 88.3 | 72.4 | 71.1 | 72.8 |
| 78° | 84.6 | 104.7 | 108.7 | 100.2 | 89.5 | 91.6 | 92.0 | 83.0 | 67.5 | 65.8 | 68.3 |
| 78.5° | 76.9 | 97.7 | 101.8 | 94.4 | 84.6 | 86.7 | 86.7 | 77.7 | 62.1 | 60.9 | 63.4 |
| 79° | 69.1 | 90.3 | 95.3 | 88.7 | 79.7 | 82.2 | 82.2 | 72.4 | 57.2 | 56.0 | 58.9 |
| 79.5° | 62.1 | 83.4 | 88.7 | 83.0 | 75.2 | 78.1 | 77.3 | 67.5 | 52.3 | 51.5 | 54.8 |
| 80° | 55.2 | 76.4 | 82.2 | 77.7 | 71.1 | 73.6 | 72.8 | 62.5 | 47.8 | 46.6 | 50.3 |
| 80.5° | 49.1 | 70.3 | 76.0 | 72.8 | 66.6 | 69.5 | 68.3 | 58.1 | 42.9 | 42.1 | 46.2 |
| 81° | 42.9 | 64.2 | 70.3 | 67.9 | 62.5 | 65.4 | 63.8 | 53.1 | 38.8 | 38.0 | 42.1 |
| 81.5° | 37.2 | 58.5 | 64.6 | 63.0 | 58.5 | 61.3 | 59.3 | 48.6 | 34.3 | 33.9 | 38.4 |
| 82° | 31.5 | 52.7 | 58.9 | 58.5 | 54.4 | 57.2 | 55.2 | 44.2 | 30.3 | 29.8 | 34.7 |
| 82.5° | 26.2 | 47.0 | 53.6 | 54.0 | 50.7 | 53.1 | 50.7 | 40.1 | 25.8 | 25.8 | 31.1 |
| 83° | 21.7 | 41.7 | 48.6 | 49.5 | 47.0 | 49.5 | 46.6 | 36.0 | 21.3 | 21.7 | 27.4 |
| 83.5° | 17.6 | 36.8 | 43.7 | 45.4 | 43.3 | 45.8 | 42.9 | 31.9 | 17.6 | 18.4 | 23.7 |
| 84° | 14.3 | 31.5 | 39.2 | 41.3 | 39.7 | 41.7 | 39.2 | 27.8 | 13.9 | 15.5 | 20.4 |
| 84.5° | 12.3 | 27.0 | 34.7 | 37.6 | 36.4 | 38.4 | 35.6 | 23.7 | 10.6 | 13.1 | 17.6 |
| 85° | 10.6 | 22.5 | 30.7 | 33.9 | 33.1 | 34.7 | 32.3 | 20.4 | 8.6 | 11.0 | 14.3 |
| 85.5° | 8.6 | 18.4 | 27.0 | 30.3 | 29.8 | 31.5 | 28.6 | 17.6 | 7.4 | 9.0 | 11.4 |
| 86° | 6.9 | 14.7 | 23.3 | 27.0 | 26.6 | 27.8 | 24.9 | 15.1 | 6.1 | 7.4 | 8.2 |
| 86.5° | 5.7 | 12.3 | 20.0 | 23.3 | 23.3 | 24.1 | 21.7 | 13.1 | 4.9 | 5.3 | 5.7 |
| 87° | 4.9 | 9.8 | 16.8 | 20.4 | 20.4 | 20.8 | 18.4 | 10.6 | 3.7 | 3.7 | 3.3 |
| 87.5° | 3.7 | 7.4 | 14.3 | 17.6 | 17.6 | 17.6 | 15.1 | 8.6 | 2.5 | 2.0 | 1.2 |
| 88° | 2.9 | 4.9 | 11.9 | 14.7 | 14.3 | 14.7 | 12.3 | 6.5 | 1.6 | 0.8 | 0.4 |
| 88.5° | 2.0 | 3.3 | 9.0 | 11.9 | 11.4 | 11.4 | 9.4 | 4.5 | 0.4 | 0.4 | 0.0 |



TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-----|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 90° | 0.0 | 0.8 | 2.5 | 4.5 | 3.7 | 3.3 | 1.6 | 0.4 | 0.0 | 0.4 | 0.0 |



TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 0° | 2409.1 | 2409.1 | 2409.1 | 2409.1 | 2409.1 | 2409.1 |
| 0.5° | 2398.1 | 2407.1 | 2411.6 | 2418.1 | 2424.3 | 2416.5 |
| 1° | 2389.1 | 2402.2 | 2412.0 | 2422.6 | 2432.9 | 2428.0 |
| 1.5° | 2379.3 | 2396.9 | 2411.6 | 2427.1 | 2441.0 | 2439.0 |
| 2° | 2369.5 | 2391.6 | 2410.4 | 2430.8 | 2448.8 | 2449.6 |
| 2.5° | 2358.9 | 2385.0 | 2409.1 | 2434.1 | 2456.2 | 2459.8 |
| 3° | 2347.8 | 2378.5 | 2406.7 | 2436.5 | 2462.7 | 2469.7 |
| 3.5° | 2336.0 | 2371.1 | 2404.2 | 2439.0 | 2468.8 | 2479.1 |
| 4° | 2324.1 | 2363.4 | 2400.6 | 2440.2 | 2473.7 | 2487.6 |
| 4.5° | 2311.8 | 2354.8 | 2396.9 | 2441.0 | 2478.6 | 2495.8 |
| 5° | 2298.8 | 2345.8 | 2392.4 | 2441.4 | 2483.6 | 2503.2 |
| 5.5° | 2285.3 | 2336.8 | 2387.1 | 2441.0 | 2487.2 | 2510.1 |
| 6° | 2271.8 | 2326.6 | 2381.8 | 2440.2 | 2490.1 | 2516.7 |
| 6.5° | 2257.9 | 2315.9 | 2375.6 | 2438.6 | 2492.5 | 2522.4 |
| 7° | 2242.8 | 2304.9 | 2368.7 | 2436.1 | 2494.6 | 2527.7 |
| 7.5° | 2228.0 | 2293.5 | 2361.3 | 2433.3 | 2496.2 | 2532.6 |
| 8° | 2212.9 | 2282.0 | 2353.5 | 2430.0 | 2496.6 | 2536.3 |
| 8.5° | 2197.0 | 2269.3 | 2345.0 | 2426.3 | 2496.6 | 2540.0 |
| 9° | 2181.0 | 2256.3 | 2336.0 | 2421.8 | 2496.2 | 2542.8 |
| 9.5° | 2164.3 | 2242.8 | 2326.6 | 2416.5 | 2495.4 | 2545.3 |
| 10° | 2147.5 | 2229.3 | 2316.8 | 2410.8 | 2493.8 | 2546.9 |
| 10.5° | 2130.3 | 2215.0 | 2306.5 | 2404.7 | 2491.7 | 2547.7 |
| 11° | 2113.2 | 2200.7 | 2295.1 | 2397.7 | 2488.9 | 2548.1 |
| 11.5° | 2095.6 | 2185.5 | 2283.2 | 2390.3 | 2485.2 | 2548.1 |
| 12° | 2077.6 | 2169.6 | 2271.8 | 2382.6 | 2481.1 | 2547.3 |
| 12.5° | 2059.6 | 2154.0 | 2259.5 | 2374.0 | 2476.6 | 2546.1 |
| 13° | 2041.2 | 2138.1 | 2246.4 | 2365.0 | 2471.7 | 2544.1 |
| 13.5° | 2022.0 | 2121.8 | 2232.9 | 2356.0 | 2466.0 | 2541.2 |
| 14° | 2002.8 | 2104.6 | 2219.0 | 2345.4 | 2459.4 | 2538.3 |
| 14.5° | 1983.6 | 2088.2 | 2206.0 | 2335.2 | 2453.3 | 2534.7 |
| 15° | 1965.2 | 2071.5 | 2192.1 | 2325.3 | 2445.5 | 2530.6 |
| 15.5° | 1946.0 | 2055.1 | 2179.4 | 2316.8 | 2439.4 | 2525.3 |
| 16° | 1927.2 | 2038.4 | 2166.7 | 2309.0 | 2434.5 | 2519.5 |
| 16.5° | 1907.9 | 2022.0 | 2154.0 | 2300.0 | 2429.6 | 2515.0 |
| 17° | 1888.7 | 2005.2 | 2139.3 | 2289.4 | 2423.9 | 2511.4 |
| 17.5° | 1869.1 | 1987.3 | 2122.6 | 2275.9 | 2416.1 | 2508.1 |
| 18° | 1849.5 | 1968.0 | 2104.6 | 2261.6 | 2405.1 | 2504.8 |
| 18.5° | 1829.0 | 1948.0 | 2085.4 | 2245.2 | 2392.0 | 2498.7 |
| 19° | 1807.8 | 1926.3 | 2065.3 | 2228.0 | 2377.3 | 2490.9 |
| 19.5° | 1786.1 | 1904.7 | 2044.9 | 2209.2 | 2362.1 | 2480.3 |
| 20° | 1764.0 | 1882.2 | 2024.0 | 2189.6 | 2344.6 | 2468.4 |
| 20.5° | 1741.1 | 1860.1 | 2001.6 | 2169.2 | 2326.6 | 2454.9 |
| 21° | 1718.7 | 1836.4 | 1978.7 | 2147.1 | 2306.5 | 2439.0 |

TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 22.5° | 1648.3 | 1764.9 | 1907.9 | 2077.2 | 2239.5 | 2380.9 |
| 23° | 1624.6 | 1740.3 | 1883.0 | 2052.7 | 2214.6 | 2358.0 |
| 23.5° | 1600.1 | 1715.4 | 1857.2 | 2026.5 | 2188.8 | 2334.3 |
| 24° | 1576.0 | 1690.0 | 1831.9 | 2000.3 | 2161.4 | 2309.8 |
| 24.5° | 1551.5 | 1664.7 | 1805.3 | 1972.5 | 2134.0 | 2283.6 |
| 25° | 1527.3 | 1639.3 | 1778.8 | 1944.7 | 2105.0 | 2256.7 |
| 25.5° | 1502.8 | 1614.0 | 1751.4 | 1916.5 | 2076.4 | 2229.3 |
| 26° | 1478.3 | 1588.2 | 1724.0 | 1887.5 | 2046.5 | 2201.1 |
| 26.5° | 1454.2 | 1562.1 | 1697.4 | 1858.5 | 2017.1 | 2171.6 |
| 27° | 1429.6 | 1535.9 | 1669.2 | 1828.6 | 1986.8 | 2142.6 |
| 27.5° | 1405.1 | 1509.8 | 1641.4 | 1798.8 | 1955.4 | 2112.8 |
| 28° | 1380.6 | 1483.6 | 1612.4 | 1768.1 | 1923.9 | 2081.3 |
| 28.5° | 1356.4 | 1457.0 | 1584.6 | 1737.9 | 1893.2 | 2050.2 |
| 29° | 1331.9 | 1431.7 | 1556.8 | 1707.6 | 1862.2 | 2018.7 |
| 29.5° | 1307.4 | 1405.5 | 1528.2 | 1676.6 | 1830.3 | 1986.4 |
| 30° | 1283.3 | 1379.3 | 1499.5 | 1647.5 | 1798.4 | 1954.5 |
| 30.5° | 1259.2 | 1353.2 | 1470.9 | 1616.9 | 1766.5 | 1921.8 |
| 31° | 1235.0 | 1327.8 | 1442.7 | 1586.2 | 1735.4 | 1888.7 |
| 31.5° | 1211.3 | 1301.7 | 1414.9 | 1556.4 | 1703.9 | 1856.4 |
| 32° | 1186.8 | 1275.9 | 1386.7 | 1526.5 | 1671.6 | 1822.9 |
| 32.5° | 1163.9 | 1250.6 | 1358.9 | 1496.3 | 1640.2 | 1789.4 |
| 33° | 1140.2 | 1224.8 | 1331.1 | 1468.1 | 1608.7 | 1756.3 |
| 33.5° | 1116.5 | 1199.5 | 1304.1 | 1438.6 | 1577.2 | 1722.7 |
| 34° | 1093.6 | 1174.5 | 1276.7 | 1409.6 | 1547.4 | 1690.0 |
| 34.5° | 1070.7 | 1149.6 | 1250.2 | 1381.0 | 1515.9 | 1657.3 |
| 35° | 1047.8 | 1125.1 | 1223.6 | 1352.8 | 1485.6 | 1624.6 |
| 35.5° | 1025.3 | 1100.1 | 1197.0 | 1324.6 | 1455.4 | 1591.9 |
| 36° | 1003.2 | 1076.8 | 1172.1 | 1298.0 | 1425.9 | 1558.8 |
| 36.5° | 981.2 | 1052.7 | 1146.3 | 1269.4 | 1396.9 | 1527.3 |
| 37° | 959.1 | 1029.4 | 1122.2 | 1243.2 | 1367.1 | 1495.0 |
| 37.5° | 938.2 | 1005.7 | 1096.9 | 1216.6 | 1338.5 | 1464.0 |
| 38° | 917.0 | 983.2 | 1072.7 | 1190.9 | 1309.8 | 1432.5 |
| 38.5° | 896.5 | 960.7 | 1048.6 | 1164.3 | 1281.6 | 1402.2 |
| 39° | 876.5 | 938.6 | 1025.3 | 1139.8 | 1255.1 | 1372.0 |
| 39.5° | 855.7 | 916.6 | 1002.4 | 1114.8 | 1227.7 | 1342.5 |
| 40° | 835.6 | 895.7 | 979.1 | 1090.3 | 1200.7 | 1312.7 |
| 40.5° | 816.4 | 874.5 | 957.0 | 1065.4 | 1174.5 | 1284.5 |
| 41° | 797.2 | 854.4 | 935.0 | 1042.1 | 1148.8 | 1256.3 |
| 41.5° | 778.0 | 834.0 | 913.7 | 1018.4 | 1123.4 | 1228.1 |
| 42° | 760.0 | 814.4 | 892.4 | 995.9 | 1098.5 | 1201.1 |
| 42.5° | 741.6 | 794.7 | 871.2 | 973.4 | 1074.0 | 1174.9 |
| 43° | 724.0 | 776.3 | 850.7 | 951.3 | 1049.8 | 1148.8 |
| 43.5° | 706.4 | 757.1 | 830.3 | 929.2 | 1026.5 | 1123.4 |

TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|-------|--------|--------|
| 45° | 656.6 | 703.6 | 771.8 | 866.3 | 958.7 | 1049.8 |
| 45.5° | 640.6 | 686.0 | 753.4 | 845.8 | 937.0 | 1026.1 |
| 46° | 624.7 | 669.2 | 734.6 | 825.8 | 915.7 | 1003.2 |
| 46.5° | 609.1 | 652.5 | 717.1 | 806.2 | 894.5 | 980.7 |
| 47° | 593.6 | 636.1 | 698.7 | 786.6 | 874.0 | 958.7 |
| 47.5° | 578.9 | 620.2 | 681.5 | 767.8 | 853.6 | 937.4 |
| 48° | 564.2 | 604.6 | 664.3 | 748.9 | 834.0 | 915.7 |
| 48.5° | 549.9 | 589.1 | 647.2 | 730.6 | 814.4 | 894.5 |
| 49° | 535.1 | 574.0 | 630.8 | 713.0 | 795.6 | 874.5 |
| 49.5° | 521.2 | 558.9 | 614.4 | 695.4 | 776.7 | 854.4 |
| 50° | 507.7 | 544.1 | 598.1 | 677.4 | 757.9 | 834.8 |
| 50.5° | 494.3 | 529.8 | 582.6 | 660.2 | 740.0 | 815.6 |
| 51° | 481.2 | 515.5 | 567.0 | 643.9 | 722.0 | 796.4 |
| 51.5° | 468.1 | 501.2 | 551.9 | 627.1 | 704.8 | 777.6 |
| 52° | 455.0 | 488.1 | 536.8 | 611.2 | 686.8 | 759.2 |
| 52.5° | 442.3 | 474.6 | 522.5 | 595.2 | 670.0 | 741.2 |
| 53° | 430.1 | 461.6 | 507.7 | 579.3 | 653.3 | 723.6 |
| 53.5° | 417.8 | 448.5 | 493.8 | 564.2 | 636.5 | 705.6 |
| 54° | 406.0 | 435.4 | 479.9 | 548.6 | 620.2 | 688.4 |
| 54.5° | 394.5 | 423.1 | 466.5 | 533.5 | 604.6 | 671.3 |
| 55° | 383.1 | 410.9 | 453.0 | 518.8 | 588.3 | 654.5 |
| 55.5° | 371.6 | 399.0 | 439.9 | 504.5 | 573.2 | 637.8 |
| 56° | 361.0 | 387.1 | 426.4 | 490.2 | 557.6 | 621.4 |
| 56.5° | 350.8 | 375.7 | 414.1 | 476.3 | 542.5 | 605.5 |
| 57° | 340.5 | 363.8 | 401.5 | 462.4 | 527.4 | 589.9 |
| 57.5° | 330.3 | 353.2 | 389.2 | 448.9 | 512.7 | 573.6 |
| 58° | 320.1 | 341.8 | 377.3 | 435.4 | 497.9 | 558.4 |
| 58.5° | 309.9 | 331.1 | 365.9 | 422.7 | 484.0 | 543.3 |
| 59° | 300.5 | 320.5 | 354.0 | 409.6 | 469.7 | 528.2 |
| 59.5° | 291.1 | 310.3 | 343.0 | 397.0 | 456.2 | 513.5 |
| 60° | 282.5 | 300.1 | 331.5 | 384.7 | 442.3 | 499.2 |
| 60.5° | 273.5 | 290.3 | 320.9 | 372.4 | 429.3 | 484.9 |
| 61° | 264.9 | 280.9 | 309.9 | 360.6 | 415.4 | 470.5 |
| 61.5° | 256.3 | 271.0 | 299.7 | 348.7 | 403.1 | 456.6 |
| 62° | 248.2 | 261.6 | 289.4 | 336.9 | 390.4 | 443.2 |
| 62.5° | 240.0 | 252.6 | 279.2 | 325.8 | 377.7 | 430.1 |
| 63° | 232.2 | 244.1 | 269.4 | 314.4 | 365.1 | 416.6 |
| 63.5° | 224.4 | 235.5 | 260.0 | 303.7 | 353.2 | 403.5 |
| 64° | 217.1 | 226.9 | 250.2 | 292.7 | 341.4 | 390.8 |
| 64.5° | 210.1 | 218.7 | 241.2 | 282.1 | 329.5 | 378.2 |
| 65° | 203.2 | 210.9 | 232.2 | 271.9 | 318.1 | 365.5 |
| 65.5° | 196.6 | 202.8 | 223.6 | 261.6 | 307.0 | 352.8 |
| 66° | 190.1 | 195.0 | 214.6 | 251.4 | 296.0 | 339.7 |

TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|-------|--------|-------|
| 67.5° | 171.3 | 173.3 | 189.7 | 222.8 | 262.5 | 302.1 |
| 68° | 165.6 | 166.4 | 181.9 | 213.8 | 251.8 | 289.8 |
| 68.5° | 159.4 | 159.8 | 174.6 | 204.8 | 241.2 | 277.2 |
| 69° | 153.7 | 153.3 | 167.2 | 195.8 | 230.6 | 265.3 |
| 69.5° | 148.0 | 146.4 | 159.4 | 187.6 | 220.4 | 253.5 |
| 70° | 142.3 | 140.6 | 152.5 | 179.5 | 210.5 | 241.6 |
| 70.5° | 137.0 | 135.3 | 145.9 | 171.3 | 200.7 | 230.6 |
| 71° | 131.6 | 129.6 | 139.8 | 163.1 | 190.9 | 219.1 |
| 71.5° | 125.9 | 123.9 | 133.3 | 155.3 | 181.5 | 208.1 |
| 72° | 121.0 | 118.6 | 126.7 | 148.0 | 172.1 | 197.0 |
| 72.5° | 116.1 | 113.2 | 120.2 | 140.6 | 163.1 | 186.8 |
| 73° | 110.4 | 107.9 | 114.5 | 133.7 | 154.5 | 176.6 |
| 73.5° | 105.5 | 103.0 | 108.3 | 126.3 | 145.1 | 166.0 |
| 74° | 100.6 | 98.1 | 102.6 | 119.4 | 137.4 | 156.2 |
| 74.5° | 96.1 | 93.2 | 97.3 | 112.4 | 129.6 | 145.9 |
| 75° | 91.2 | 88.3 | 92.0 | 105.9 | 121.8 | 137.0 |
| 75.5° | 86.7 | 83.8 | 86.7 | 99.3 | 114.1 | 128.0 |
| 76° | 82.2 | 79.3 | 81.8 | 92.8 | 106.7 | 119.0 |
| 76.5° | 77.7 | 74.8 | 76.4 | 87.1 | 99.3 | 110.0 |
| 77° | 73.2 | 70.7 | 72.0 | 80.9 | 92.4 | 101.4 |
| 77.5° | 69.1 | 66.6 | 67.0 | 75.2 | 85.4 | 92.8 |
| 78° | 64.6 | 62.5 | 62.5 | 69.9 | 78.9 | 84.6 |
| 78.5° | 60.5 | 58.5 | 58.5 | 64.2 | 72.4 | 76.9 |
| 79° | 56.4 | 54.8 | 54.4 | 59.3 | 66.2 | 69.1 |
| 79.5° | 52.3 | 50.7 | 49.9 | 54.0 | 60.1 | 62.1 |
| 80° | 48.2 | 47.0 | 46.2 | 49.5 | 54.4 | 55.2 |
| 80.5° | 44.6 | 43.7 | 42.1 | 45.0 | 48.6 | 49.1 |
| 81° | 40.9 | 40.1 | 38.8 | 40.5 | 43.3 | 42.9 |
| 81.5° | 37.2 | 36.4 | 35.2 | 36.0 | 38.0 | 37.2 |
| 82° | 33.5 | 33.1 | 31.5 | 32.3 | 33.1 | 31.5 |
| 82.5° | 29.8 | 29.8 | 28.2 | 28.6 | 28.2 | 26.2 |
| 83° | 26.6 | 26.6 | 24.9 | 24.9 | 23.7 | 21.7 |
| 83.5° | 22.9 | 22.9 | 21.7 | 21.7 | 20.0 | 17.6 |
| 84° | 19.6 | 20.0 | 18.8 | 18.4 | 16.4 | 14.3 |
| 84.5° | 16.4 | 16.8 | 15.9 | 15.5 | 13.9 | 12.3 |
| 85° | 13.1 | 13.9 | 13.5 | 13.1 | 11.0 | 10.6 |
| 85.5° | 9.8 | 11.4 | 10.6 | 10.6 | 8.6 | 8.6 |
| 86° | 6.9 | 8.6 | 8.2 | 8.2 | 6.1 | 6.9 |
| 86.5° | 4.1 | 5.7 | 5.3 | 5.7 | 4.5 | 5.7 |
| 87° | 2.0 | 2.9 | 3.3 | 4.1 | 3.3 | 4.9 |
| 87.5° | 0.4 | 0.8 | 1.2 | 2.0 | 2.0 | 3.7 |
| 88° | 0.0 | 0.0 | 0.0 | 0.4 | 1.2 | 2.9 |
| 88.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 2.0 |



TEST NUMBER: P776274

CATALOG NUMBER: HCDJBL3040CSD-HCD42TRH-HCD42TRLWW-4000lm-5000K

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°

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

Scaled Data Report



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

Scaled Data Report





| | | | | | | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 21.5° | 2420.6 | 2452.5 | 2389.5 | 2255.4 | 2074.3 | 1917.8 | 1788.6 | 1694.5 | 1616.0 | 1601.7 | 1630.8 |
| 22° | 2401.0 | 2436.1 | 2373.6 | 2237.9 | 2055.1 | 1897.7 | 1767.7 | 1673.3 | 1594.4 | 1580.5 | 1608.3 |



| | | | | | | | | | | | |
|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| 44° | 1098.1 | 1127.9 | 1108.3 | 1041.3 | 935.4 | 853.6 | 791.1 | 747.3 | 692.1 | 681.1 | 677.4 |
| 44.5° | 1073.5 | 1102.6 | 1083.4 | 1017.5 | 912.5 | 832.8 | 771.8 | 728.9 | 675.0 | 665.6 | 661.1 |



| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 66.5° | 327.1 | 337.3 | 318.9 | 285.4 | 248.6 | 229.8 | 229.8 | 230.6 | 215.4 | 208.1 | 197.0 |
| 67° | 314.4 | 324.6 | 307.8 | 275.1 | 239.6 | 222.0 | 222.4 | 222.8 | 207.7 | 201.1 | 190.5 |



| | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 89° | 1.2 | 2.5 | 6.5 | 9.4 | 8.6 | 8.6 | 6.5 | 2.9 | 0.0 | 0.4 | 0.0 |
| 89.5° | 0.4 | 1.6 | 4.1 | 6.9 | 6.1 | 5.7 | 3.7 | 1.2 | 0.0 | 0.4 | 0.0 |

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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| 21.5° | 1695.8 | 1812.7 | 1955.8 | 2125.0 | 2285.7 | 2420.6 |
| 22° | 1672.5 | 1789.4 | 1932.1 | 2101.7 | 2262.8 | 2401.0 |



| | | | | | | |
|-------|-------|-------|-------|-------|--------|--------|
| 44° | 689.7 | 738.7 | 810.7 | 907.6 | 1003.2 | 1098.1 |
| 44.5° | 672.9 | 720.7 | 791.5 | 886.7 | 980.7 | 1073.5 |



| | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|
| 66.5° | 183.6 | 187.6 | 206.0 | 241.6 | 284.5 | 327.1 |
| 67° | 177.4 | 180.3 | 197.9 | 232.2 | 273.5 | 314.4 |

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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report



| | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|
| 89° | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 1.2 |
| 89.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 |

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(END OF REPORT)