

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: P776530

Luminaire Tested: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776530
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2310613A001)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K
Description: 8 INCH SQUARE MEDIUM MATTE WHITE TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 2700K CCT
Ballast/Driver: -

Summary

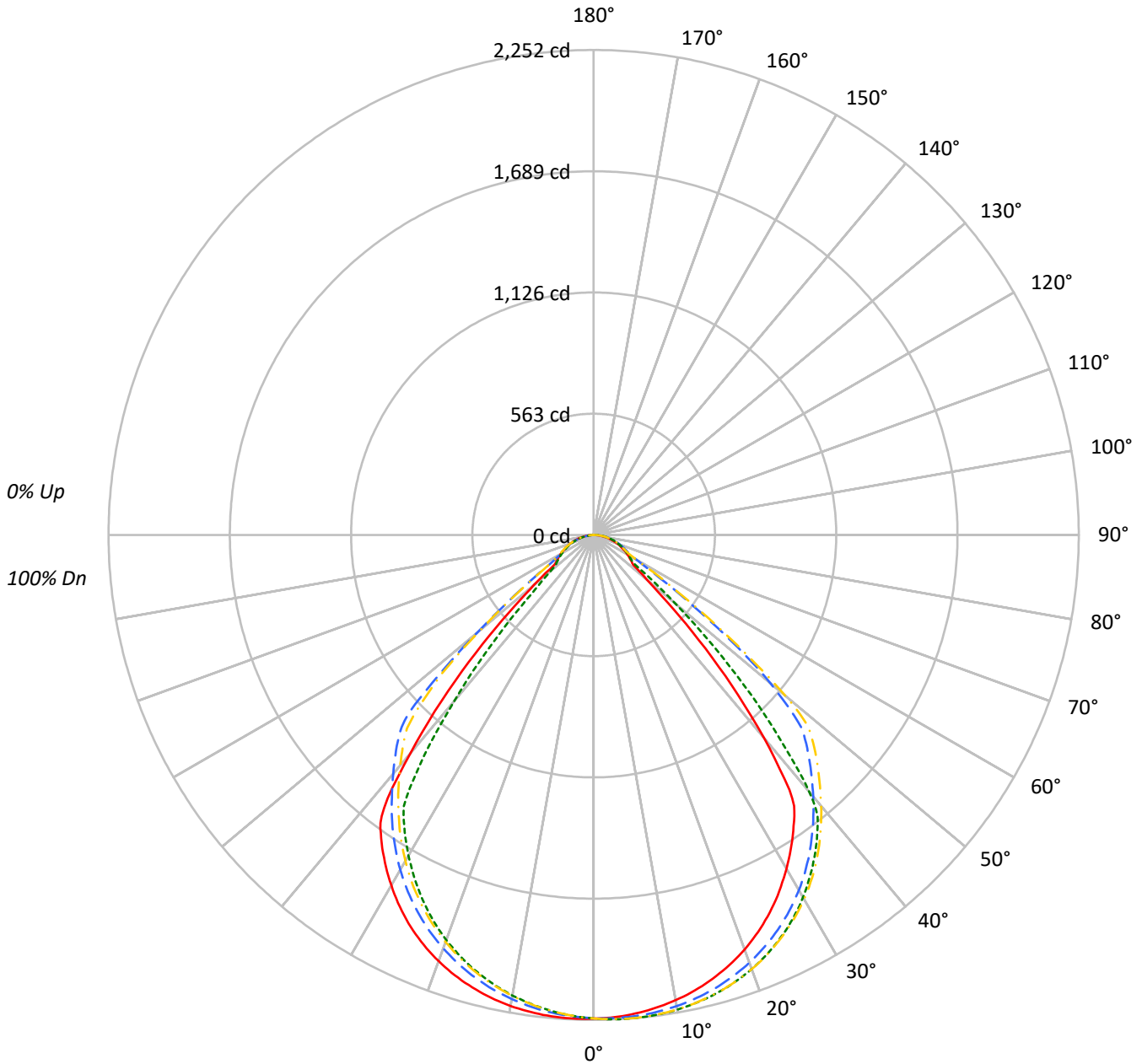
Lumens per Lamp: N/A
Luminaire Lumens: 4066.4 lumens
Efficiency: N/A
Efficacy: 105.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.29
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')
CIE Type: Direct

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: P776530
CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P776530

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|--|--|--|--|---|
| RF | 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 | 111 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 91 | 89 | | | | | | | | |
| 2 | 104 | 97 | 92 | 88 | 101 | 96 | 91 | 87 | 92 | 88 | 85 | 89 | 86 | 83 | 86 | 84 | 81 | 79 | | | | | | | | |
| 3 | 97 | 88 | 82 | 77 | 94 | 87 | 81 | 76 | 84 | 79 | 75 | 81 | 77 | 73 | 79 | 75 | 72 | 70 | | | | | | | | |
| 4 | 90 | 80 | 73 | 68 | 88 | 79 | 72 | 67 | 77 | 71 | 66 | 75 | 70 | 66 | 73 | 68 | 65 | 63 | | | | | | | | |
| 5 | 84 | 73 | 66 | 60 | 82 | 72 | 65 | 60 | 70 | 64 | 59 | 68 | 63 | 59 | 67 | 62 | 58 | 56 | | | | | | | | |
| 6 | 78 | 67 | 60 | 54 | 77 | 66 | 59 | 54 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 57 | 53 | 51 | | | | | | | | |
| 7 | 73 | 62 | 54 | 49 | 72 | 61 | 54 | 49 | 60 | 53 | 48 | 58 | 52 | 48 | 57 | 52 | 48 | 46 | | | | | | | | |
| 8 | 69 | 57 | 50 | 44 | 67 | 56 | 49 | 44 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 42 | | | | | | | | |
| 9 | 65 | 53 | 45 | 41 | 63 | 52 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 49 | 44 | 40 | 38 | | | | | | | | |
| 10 | 61 | 49 | 42 | 37 | 60 | 49 | 42 | 37 | 48 | 41 | 37 | 47 | 41 | 37 | 46 | 41 | 37 | 35 | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° | 270° |
|-----|-------|-------|-------|-------|
| 0° | 53836 | 53836 | 53836 | 53836 |
| 5° | 53693 | 54201 | 54016 | 53423 |
| 10° | 53415 | 54489 | 54080 | 52875 |
| 15° | 52965 | 54698 | 54003 | 52106 |
| 20° | 52280 | 54737 | 53729 | 51065 |
| 25° | 51168 | 54489 | 53139 | 49576 |
| 30° | 49564 | 53825 | 52009 | 47590 |
| 35° | 47471 | 52547 | 50334 | 45009 |
| 40° | 38460 | 48743 | 41465 | 31577 |
| 45° | 23422 | 33534 | 26311 | 17359 |
| 50° | 12012 | 18294 | 13426 | 9807 |
| 55° | 8967 | 9369 | 8741 | 8390 |
| 60° | 8666 | 8925 | 8431 | 8081 |
| 65° | 8380 | 8772 | 8165 | 7796 |
| 70° | 8126 | 8665 | 7880 | 7453 |
| 75° | 7717 | 8672 | 7541 | 6930 |
| 80° | 6946 | 8796 | 6946 | 5993 |
| 85° | 4952 | 9409 | 5502 | 3494 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 135°

Vertical Angle: 45°

Luminance: 49554 cd/sqm



TEST NUMBER: P776530

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 212.5 | 5.2 |
| 10°-20° | 607.2 | 14.9 |
| 20°-30° | 907.8 | 22.3 |
| 30°-40° | 1041.7 | 25.6 |
| 40°-50° | 756.4 | 18.6 |
| 50°-60° | 277.2 | 6.8 |
| 60°-70° | 148.6 | 3.7 |
| 70°-80° | 89.9 | 2.2 |
| 80°-90° | 25.2 | 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° | 1727.5 | 42.5 |
| 0°-40° | 2769.1 | 68.1 |
| 0°-60° | 3802.8 | 93.5 |
| 0°-90° | 4066.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4066.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 90° | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 2245 | 2245 | 2245 | 2245 | 2245 | |
| 5° | 2231 | 2252 | 2244 | 2220 | 2231 | 212 |
| 15° | 2134 | 2203 | 2175 | 2099 | 2134 | 601 |
| 25° | 1934 | 2060 | 2008 | 1874 | 1934 | 889 |
| 35° | 1622 | 1795 | 1720 | 1538 | 1622 | 990 |
| 45° | 691 | 989 | 776 | 512 | 691 | 545 |
| 55° | 214 | 224 | 209 | 201 | 214 | 201 |
| 65° | 148 | 155 | 144 | 137 | 148 | 146 |
| 75° | 83 | 94 | 81 | 75 | 83 | 88 |
| 85° | 18 | 34 | 20 | 13 | 18 | 22 |
| 90° | 0 | 5 | 0 | 0 | 0 | |



TEST NUMBER: P776530

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2245.2 | 2245.2 | 2245.2 | 2245.2 | 2245.2 | 2245.2 | 2245.2 | 2245.2 | 2245.2 | 2245.2 | 2245.2 |
| 0.5° | 2246.0 | 2246.4 | 2245.2 | 2244.9 | 2246.8 | 2246.8 | 2246.8 | 2247.5 | 2247.5 | 2246.4 | 2243.3 |
| 1° | 2245.2 | 2246.0 | 2245.6 | 2246.0 | 2248.3 | 2247.9 | 2247.9 | 2248.3 | 2247.9 | 2246.0 | 2242.2 |
| 1.5° | 2244.1 | 2245.6 | 2246.0 | 2246.8 | 2249.5 | 2249.1 | 2249.1 | 2249.1 | 2247.9 | 2245.6 | 2241.0 |
| 2° | 2242.9 | 2244.9 | 2246.0 | 2247.2 | 2250.2 | 2250.2 | 2249.8 | 2249.5 | 2247.9 | 2245.2 | 2239.9 |
| 2.5° | 2241.0 | 2244.1 | 2246.0 | 2247.9 | 2251.0 | 2251.0 | 2250.6 | 2249.5 | 2247.9 | 2244.5 | 2237.9 |
| 3° | 2239.5 | 2242.9 | 2245.6 | 2248.3 | 2251.8 | 2251.8 | 2251.0 | 2249.5 | 2247.5 | 2243.7 | 2236.4 |
| 3.5° | 2237.9 | 2241.8 | 2245.2 | 2248.3 | 2251.8 | 2252.1 | 2251.4 | 2249.8 | 2247.2 | 2242.6 | 2234.1 |
| 4° | 2235.6 | 2240.3 | 2244.9 | 2248.3 | 2251.8 | 2252.1 | 2251.8 | 2249.5 | 2246.4 | 2241.0 | 2231.8 |
| 4.5° | 2233.3 | 2238.7 | 2243.7 | 2247.5 | 2251.8 | 2252.1 | 2251.4 | 2249.1 | 2245.2 | 2239.5 | 2229.5 |
| 5° | 2230.7 | 2236.8 | 2242.9 | 2247.2 | 2251.8 | 2252.1 | 2251.4 | 2248.3 | 2244.1 | 2237.6 | 2226.8 |
| 5.5° | 2228.0 | 2234.9 | 2241.4 | 2246.4 | 2251.4 | 2251.4 | 2250.6 | 2247.5 | 2242.6 | 2235.3 | 2224.1 |
| 6° | 2224.9 | 2232.6 | 2240.3 | 2245.6 | 2250.6 | 2251.0 | 2249.8 | 2246.4 | 2241.0 | 2233.3 | 2221.1 |
| 6.5° | 2222.2 | 2229.9 | 2238.3 | 2244.5 | 2249.8 | 2250.2 | 2249.1 | 2245.2 | 2239.1 | 2231.0 | 2218.0 |
| 7° | 2218.8 | 2227.2 | 2236.8 | 2243.3 | 2248.7 | 2249.5 | 2247.9 | 2243.7 | 2237.2 | 2228.4 | 2214.2 |
| 7.5° | 2214.9 | 2224.5 | 2234.5 | 2241.8 | 2247.5 | 2248.7 | 2246.8 | 2242.2 | 2234.9 | 2225.7 | 2210.7 |
| 8° | 2211.1 | 2221.4 | 2232.6 | 2240.3 | 2246.0 | 2247.2 | 2245.2 | 2240.3 | 2232.6 | 2222.6 | 2206.5 |
| 8.5° | 2207.2 | 2218.0 | 2229.9 | 2237.9 | 2244.5 | 2245.6 | 2243.7 | 2238.3 | 2229.9 | 2219.1 | 2202.3 |
| 9° | 2203.0 | 2214.5 | 2227.2 | 2236.0 | 2242.6 | 2244.1 | 2241.8 | 2236.0 | 2227.2 | 2215.7 | 2198.0 |
| 9.5° | 2198.4 | 2210.7 | 2224.5 | 2233.7 | 2240.6 | 2241.8 | 2239.9 | 2233.7 | 2224.1 | 2211.9 | 2193.4 |
| 10° | 2193.8 | 2206.5 | 2221.8 | 2231.4 | 2237.9 | 2239.9 | 2237.2 | 2230.7 | 2221.1 | 2208.0 | 2188.8 |
| 10.5° | 2188.8 | 2202.3 | 2218.4 | 2228.7 | 2235.6 | 2237.6 | 2234.9 | 2227.6 | 2217.2 | 2204.2 | 2183.5 |
| 11° | 2183.8 | 2198.0 | 2214.9 | 2225.7 | 2233.0 | 2235.3 | 2232.2 | 2224.5 | 2213.4 | 2199.6 | 2178.1 |
| 11.5° | 2178.5 | 2193.4 | 2210.7 | 2222.6 | 2230.3 | 2232.2 | 2229.1 | 2221.1 | 2209.6 | 2195.4 | 2172.7 |
| 12° | 2172.7 | 2188.4 | 2207.2 | 2219.1 | 2227.2 | 2229.1 | 2226.1 | 2217.6 | 2205.7 | 2190.4 | 2167.3 |
| 12.5° | 2166.6 | 2183.5 | 2203.0 | 2215.7 | 2223.7 | 2226.1 | 2223.0 | 2214.2 | 2201.1 | 2185.0 | 2161.2 |
| 13° | 2160.8 | 2177.7 | 2198.8 | 2211.9 | 2220.3 | 2222.6 | 2219.1 | 2209.9 | 2196.5 | 2179.6 | 2155.1 |
| 13.5° | 2154.3 | 2172.3 | 2194.2 | 2208.0 | 2216.5 | 2219.1 | 2215.3 | 2205.7 | 2191.5 | 2174.2 | 2148.5 |
| 14° | 2147.8 | 2166.2 | 2189.6 | 2203.8 | 2212.2 | 2214.9 | 2211.5 | 2201.1 | 2186.5 | 2168.5 | 2141.6 |
| 14.5° | 2140.9 | 2160.4 | 2184.6 | 2199.6 | 2208.0 | 2211.1 | 2207.2 | 2196.5 | 2181.2 | 2162.7 | 2134.7 |
| 15° | 2133.6 | 2153.9 | 2179.2 | 2194.6 | 2203.4 | 2206.9 | 2202.6 | 2191.5 | 2175.4 | 2156.2 | 2127.8 |
| 15.5° | 2126.3 | 2147.4 | 2173.9 | 2189.6 | 2198.8 | 2201.9 | 2198.4 | 2186.5 | 2169.6 | 2150.1 | 2120.5 |
| 16° | 2118.6 | 2140.1 | 2168.1 | 2184.6 | 2193.8 | 2197.3 | 2193.4 | 2181.2 | 2163.5 | 2143.2 | 2112.8 |
| 16.5° | 2110.9 | 2133.6 | 2162.0 | 2179.2 | 2188.8 | 2192.3 | 2188.1 | 2175.4 | 2157.4 | 2136.3 | 2104.8 |
| 17° | 2102.9 | 2126.3 | 2155.8 | 2173.5 | 2183.1 | 2186.9 | 2182.7 | 2169.6 | 2150.8 | 2129.4 | 2096.7 |
| 17.5° | 2094.4 | 2118.6 | 2149.7 | 2167.7 | 2177.3 | 2181.5 | 2176.9 | 2163.5 | 2143.9 | 2122.1 | 2088.3 |
| 18° | 2086.0 | 2110.9 | 2142.8 | 2161.6 | 2171.6 | 2175.8 | 2171.6 | 2156.6 | 2136.6 | 2114.4 | 2079.8 |
| 18.5° | 2076.8 | 2102.9 | 2135.9 | 2155.4 | 2165.4 | 2169.6 | 2165.4 | 2150.5 | 2129.4 | 2106.3 | 2070.6 |
| 19° | 2067.6 | 2094.4 | 2129.0 | 2148.5 | 2158.9 | 2163.5 | 2158.9 | 2143.2 | 2121.7 | 2098.3 | 2061.4 |
| 19.5° | 2058.4 | 2085.6 | 2121.3 | 2141.6 | 2152.0 | 2157.0 | 2152.4 | 2136.6 | 2114.0 | 2089.8 | 2052.2 |
| 20° | 2048.8 | 2076.8 | 2113.6 | 2134.7 | 2145.1 | 2150.5 | 2145.5 | 2128.6 | 2105.6 | 2081.4 | 2042.6 |
| 20.5° | 2038.4 | 2067.6 | 2105.9 | 2127.4 | 2137.8 | 2143.2 | 2138.6 | 2121.3 | 2097.1 | 2072.6 | 2032.6 |
| 21° | 2028.0 | 2058.4 | 2097.9 | 2119.8 | 2130.5 | 2136.3 | 2130.9 | 2113.2 | 2088.7 | 2063.0 | 2022.3 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 22.5° | 1995.0 | 2028.4 | 2071.4 | 2095.2 | 2105.9 | 2112.5 | 2107.5 | 2087.9 | 2061.0 | 2033.8 | 1990.8 |
| 23° | 1983.5 | 2017.7 | 2062.2 | 2086.8 | 2097.5 | 2104.0 | 2099.4 | 2079.1 | 2051.1 | 2023.4 | 1979.7 |
| 23.5° | 1971.6 | 2006.9 | 2053.0 | 2077.5 | 2088.3 | 2095.6 | 2090.6 | 2069.9 | 2040.7 | 2012.7 | 1968.2 |
| 24° | 1959.4 | 1995.4 | 2043.0 | 2068.3 | 2079.5 | 2086.8 | 2081.4 | 2059.9 | 2030.7 | 2002.0 | 1956.7 |
| 24.5° | 1947.1 | 1983.9 | 2033.0 | 2059.1 | 2069.9 | 2077.5 | 2072.6 | 2050.3 | 2019.6 | 1990.8 | 1944.4 |
| 25° | 1934.0 | 1972.0 | 2022.7 | 2048.8 | 2059.5 | 2068.0 | 2063.0 | 2040.3 | 2008.5 | 1979.3 | 1932.5 |
| 25.5° | 1921.0 | 1959.7 | 2012.3 | 2038.8 | 2049.9 | 2058.0 | 2053.4 | 2030.0 | 1997.3 | 1967.4 | 1919.8 |
| 26° | 1907.9 | 1947.5 | 2001.2 | 2028.4 | 2039.2 | 2048.4 | 2043.4 | 2019.2 | 1985.4 | 1955.5 | 1907.2 |
| 26.5° | 1894.1 | 1934.8 | 1990.4 | 2017.7 | 2028.4 | 2038.0 | 2033.0 | 2007.7 | 1973.2 | 1942.9 | 1894.1 |
| 27° | 1880.3 | 1921.7 | 1979.3 | 2006.9 | 2017.3 | 2026.5 | 2022.7 | 1996.2 | 1960.5 | 1930.2 | 1880.7 |
| 27.5° | 1865.3 | 1908.3 | 1967.4 | 1995.8 | 2005.8 | 2015.8 | 2011.9 | 1984.7 | 1947.8 | 1917.1 | 1867.3 |
| 28° | 1851.1 | 1894.9 | 1955.1 | 1983.9 | 1993.9 | 2004.6 | 2000.8 | 1972.8 | 1934.8 | 1903.7 | 1853.8 |
| 28.5° | 1835.4 | 1881.1 | 1943.2 | 1972.4 | 1981.6 | 1992.7 | 1989.3 | 1960.1 | 1921.4 | 1889.9 | 1839.2 |
| 29° | 1821.2 | 1866.9 | 1930.6 | 1959.7 | 1970.1 | 1980.5 | 1977.8 | 1947.8 | 1907.2 | 1876.1 | 1825.0 |
| 29.5° | 1805.1 | 1852.3 | 1917.9 | 1947.5 | 1956.3 | 1968.2 | 1965.9 | 1934.4 | 1893.4 | 1861.1 | 1810.1 |
| 30° | 1790.1 | 1837.3 | 1904.9 | 1934.8 | 1944.0 | 1955.5 | 1953.2 | 1921.4 | 1878.4 | 1846.9 | 1795.5 |
| 30.5° | 1773.6 | 1822.4 | 1891.8 | 1921.7 | 1929.4 | 1942.5 | 1940.9 | 1907.6 | 1864.2 | 1832.0 | 1779.8 |
| 31° | 1758.3 | 1807.4 | 1878.0 | 1907.9 | 1916.8 | 1929.4 | 1927.9 | 1893.7 | 1849.2 | 1816.6 | 1764.4 |
| 31.5° | 1741.8 | 1791.3 | 1863.8 | 1894.5 | 1901.4 | 1915.2 | 1914.8 | 1879.5 | 1834.3 | 1801.3 | 1748.7 |
| 32° | 1725.7 | 1775.5 | 1849.6 | 1880.3 | 1886.8 | 1901.8 | 1901.0 | 1865.0 | 1818.9 | 1785.9 | 1732.6 |
| 32.5° | 1708.4 | 1759.8 | 1835.0 | 1865.7 | 1872.2 | 1887.2 | 1887.2 | 1850.4 | 1803.2 | 1770.2 | 1715.7 |
| 33° | 1692.3 | 1744.1 | 1819.7 | 1851.1 | 1857.7 | 1873.0 | 1873.0 | 1835.4 | 1787.1 | 1754.4 | 1699.2 |
| 33.5° | 1675.0 | 1727.6 | 1805.1 | 1836.6 | 1841.9 | 1858.0 | 1858.4 | 1820.4 | 1770.9 | 1738.7 | 1682.3 |
| 34° | 1657.7 | 1711.5 | 1789.4 | 1821.2 | 1826.2 | 1842.7 | 1843.5 | 1804.7 | 1754.4 | 1722.6 | 1665.0 |
| 34.5° | 1638.9 | 1694.6 | 1773.6 | 1805.9 | 1810.5 | 1827.4 | 1828.5 | 1789.4 | 1736.8 | 1706.1 | 1647.8 |
| 35° | 1621.7 | 1677.7 | 1757.5 | 1790.1 | 1795.1 | 1812.4 | 1813.2 | 1773.6 | 1719.5 | 1689.2 | 1630.1 |
| 35.5° | 1603.6 | 1660.4 | 1741.4 | 1774.4 | 1777.8 | 1796.7 | 1797.0 | 1757.9 | 1701.9 | 1671.9 | 1612.5 |
| 36° | 1584.8 | 1643.2 | 1724.5 | 1758.3 | 1761.3 | 1780.5 | 1780.9 | 1741.4 | 1683.8 | 1654.7 | 1594.4 |
| 36.5° | 1565.3 | 1625.1 | 1708.0 | 1742.5 | 1743.7 | 1764.8 | 1764.4 | 1724.5 | 1663.9 | 1637.0 | 1576.0 |
| 37° | 1532.3 | 1607.1 | 1691.1 | 1726.0 | 1726.0 | 1747.9 | 1747.9 | 1707.2 | 1634.7 | 1618.6 | 1558.0 |
| 37.5° | 1492.7 | 1589.1 | 1673.9 | 1709.2 | 1708.0 | 1731.0 | 1730.6 | 1690.0 | 1598.3 | 1600.6 | 1539.2 |
| 38° | 1439.8 | 1570.2 | 1656.6 | 1692.3 | 1689.6 | 1713.4 | 1713.8 | 1671.9 | 1553.0 | 1581.0 | 1520.7 |
| 38.5° | 1386.8 | 1551.1 | 1638.6 | 1675.0 | 1668.9 | 1696.1 | 1696.1 | 1654.3 | 1499.6 | 1559.1 | 1502.7 |
| 39° | 1335.4 | 1522.3 | 1620.9 | 1657.7 | 1639.3 | 1678.1 | 1678.8 | 1635.9 | 1443.2 | 1523.4 | 1484.3 |
| 39.5° | 1283.2 | 1483.9 | 1603.2 | 1639.7 | 1602.9 | 1659.7 | 1660.8 | 1615.1 | 1384.1 | 1483.9 | 1465.9 |
| 40° | 1228.7 | 1433.6 | 1585.2 | 1621.3 | 1557.2 | 1640.9 | 1642.4 | 1581.4 | 1324.7 | 1436.7 | 1447.8 |
| 40.5° | 1171.9 | 1381.1 | 1567.2 | 1602.5 | 1505.4 | 1620.5 | 1624.0 | 1547.2 | 1268.2 | 1384.1 | 1430.2 |
| 41° | 1114.0 | 1330.8 | 1548.8 | 1583.7 | 1446.7 | 1588.7 | 1606.3 | 1502.3 | 1214.1 | 1331.9 | 1412.1 |
| 41.5° | 1056.8 | 1280.1 | 1530.7 | 1563.3 | 1387.2 | 1553.4 | 1587.9 | 1452.4 | 1158.9 | 1273.2 | 1394.1 |
| 42° | 1002.3 | 1227.2 | 1512.3 | 1536.1 | 1327.3 | 1510.4 | 1569.9 | 1398.3 | 1103.2 | 1219.5 | 1375.7 |
| 42.5° | 950.5 | 1171.9 | 1493.9 | 1500.8 | 1270.5 | 1459.3 | 1551.8 | 1341.5 | 1045.7 | 1167.3 | 1357.7 |
| 43° | 897.2 | 1117.1 | 1475.8 | 1459.0 | 1215.3 | 1404.1 | 1533.4 | 1286.3 | 988.9 | 1117.8 | 1339.2 |
| 43.5° | 844.2 | 1061.8 | 1457.0 | 1411.8 | 1159.6 | 1345.8 | 1515.8 | 1232.6 | 932.5 | 1063.3 | 1320.4 |



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CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-------|-------|--------|--------|-------|--------|--------|--------|-------|--------|--------|
| 45° | 690.7 | 901.8 | 1401.8 | 1249.4 | 988.9 | 1178.5 | 1461.3 | 1072.5 | 775.9 | 905.6 | 1261.3 |
| 45.5° | 642.0 | 851.1 | 1383.0 | 1195.3 | 931.3 | 1125.1 | 1442.5 | 1017.7 | 724.1 | 850.7 | 1230.3 |
| 46° | 596.3 | 800.1 | 1363.8 | 1144.3 | 878.0 | 1070.6 | 1423.7 | 963.2 | 675.0 | 802.0 | 1193.4 |
| 46.5° | 551.4 | 748.3 | 1344.6 | 1093.3 | 825.8 | 1014.2 | 1404.9 | 907.9 | 626.3 | 751.7 | 1142.0 |
| 47° | 507.7 | 698.0 | 1324.7 | 1040.7 | 773.6 | 957.8 | 1385.7 | 855.7 | 579.8 | 706.5 | 1078.7 |
| 47.5° | 468.2 | 650.0 | 1289.4 | 987.7 | 722.2 | 902.5 | 1365.7 | 805.1 | 534.9 | 657.0 | 1015.4 |
| 48° | 430.2 | 603.6 | 1252.5 | 934.8 | 671.2 | 850.7 | 1345.0 | 756.0 | 495.0 | 612.4 | 950.5 |
| 48.5° | 396.4 | 559.1 | 1206.5 | 881.4 | 622.8 | 799.7 | 1313.1 | 705.7 | 455.5 | 567.2 | 888.0 |
| 49° | 367.6 | 515.4 | 1161.2 | 832.3 | 576.0 | 748.3 | 1269.0 | 657.0 | 419.4 | 523.4 | 827.7 |
| 49.5° | 343.1 | 474.7 | 1115.1 | 781.3 | 531.9 | 698.4 | 1220.3 | 609.8 | 385.3 | 483.9 | 768.2 |
| 50° | 322.0 | 435.5 | 1070.6 | 735.2 | 490.4 | 648.5 | 1160.8 | 564.1 | 359.9 | 447.1 | 709.5 |
| 50.5° | 304.3 | 399.9 | 1022.3 | 687.7 | 452.0 | 600.5 | 1097.5 | 521.1 | 335.0 | 410.6 | 653.9 |
| 51° | 287.8 | 368.4 | 966.2 | 640.5 | 415.2 | 554.9 | 1030.7 | 478.9 | 310.1 | 377.2 | 602.1 |
| 51.5° | 271.3 | 343.1 | 909.5 | 592.9 | 381.8 | 511.1 | 963.6 | 440.9 | 285.1 | 350.7 | 553.7 |
| 52° | 255.2 | 320.8 | 850.0 | 549.9 | 355.3 | 470.1 | 898.3 | 405.2 | 260.2 | 324.3 | 506.9 |
| 52.5° | 241.0 | 302.0 | 789.0 | 507.3 | 328.5 | 431.7 | 834.2 | 377.6 | 240.6 | 298.2 | 464.3 |
| 53° | 230.6 | 284.7 | 729.9 | 468.2 | 302.0 | 395.6 | 775.1 | 350.0 | 226.8 | 271.7 | 425.6 |
| 53.5° | 225.6 | 269.0 | 672.7 | 429.8 | 275.5 | 368.4 | 718.7 | 322.3 | 220.6 | 250.6 | 389.9 |
| 54° | 221.4 | 252.9 | 618.6 | 396.0 | 255.6 | 341.1 | 663.5 | 294.7 | 216.4 | 231.8 | 363.0 |
| 54.5° | 218.0 | 237.5 | 566.4 | 362.2 | 236.8 | 313.9 | 609.4 | 267.1 | 212.6 | 218.0 | 336.5 |
| 55° | 214.5 | 225.3 | 520.3 | 333.1 | 224.1 | 286.7 | 557.6 | 247.5 | 209.1 | 211.8 | 310.4 |
| 55.5° | 210.7 | 218.0 | 476.6 | 306.2 | 218.3 | 259.4 | 508.8 | 228.7 | 205.3 | 207.6 | 284.0 |
| 56° | 207.2 | 213.7 | 434.0 | 282.0 | 214.5 | 239.1 | 463.6 | 214.1 | 201.8 | 204.1 | 257.9 |
| 56.5° | 203.8 | 210.3 | 395.6 | 259.8 | 210.7 | 221.4 | 424.4 | 208.0 | 198.4 | 200.3 | 240.6 |
| 57° | 200.3 | 206.4 | 361.5 | 239.5 | 206.8 | 210.7 | 392.2 | 203.8 | 194.9 | 196.9 | 226.0 |
| 57.5° | 196.9 | 203.0 | 330.4 | 221.4 | 203.4 | 206.1 | 359.9 | 200.3 | 191.9 | 193.4 | 213.7 |
| 58° | 193.8 | 199.5 | 302.8 | 209.9 | 199.9 | 202.6 | 327.3 | 196.5 | 188.4 | 189.9 | 203.8 |
| 58.5° | 190.3 | 196.1 | 279.0 | 205.3 | 196.5 | 198.8 | 295.1 | 193.4 | 185.3 | 186.9 | 195.3 |
| 59° | 187.3 | 192.6 | 257.9 | 201.5 | 193.0 | 195.3 | 263.2 | 189.9 | 181.9 | 183.4 | 188.0 |
| 59.5° | 183.8 | 189.6 | 241.0 | 197.6 | 189.6 | 191.9 | 241.8 | 186.5 | 178.8 | 180.4 | 181.9 |
| 60° | 180.7 | 186.1 | 226.8 | 194.2 | 186.1 | 188.4 | 224.9 | 183.4 | 175.8 | 177.3 | 176.5 |
| 60.5° | 177.3 | 183.0 | 215.3 | 190.7 | 182.7 | 185.0 | 211.8 | 180.0 | 172.7 | 174.2 | 172.3 |
| 61° | 174.2 | 180.0 | 205.7 | 187.3 | 179.6 | 181.5 | 200.3 | 176.9 | 169.6 | 171.1 | 168.8 |
| 61.5° | 170.8 | 176.9 | 196.9 | 184.2 | 176.5 | 178.4 | 191.9 | 173.8 | 166.2 | 168.1 | 165.4 |
| 62° | 167.7 | 173.4 | 189.6 | 180.7 | 173.4 | 175.4 | 184.2 | 170.8 | 163.1 | 165.0 | 161.6 |
| 62.5° | 164.2 | 170.4 | 183.0 | 177.7 | 170.4 | 172.3 | 178.1 | 167.7 | 159.6 | 161.9 | 158.1 |
| 63° | 160.8 | 167.3 | 178.1 | 174.2 | 166.9 | 169.2 | 172.3 | 164.6 | 156.6 | 158.5 | 154.6 |
| 63.5° | 157.7 | 164.2 | 174.2 | 171.1 | 163.9 | 166.2 | 168.1 | 161.6 | 153.5 | 155.4 | 151.6 |
| 64° | 154.3 | 161.2 | 170.4 | 168.1 | 160.8 | 163.1 | 164.2 | 158.5 | 150.0 | 152.0 | 148.1 |
| 64.5° | 151.2 | 157.7 | 166.9 | 164.6 | 157.7 | 160.0 | 160.8 | 155.4 | 147.0 | 148.9 | 144.7 |
| 65° | 147.7 | 154.6 | 163.5 | 161.6 | 154.6 | 156.9 | 157.3 | 152.3 | 143.9 | 145.8 | 141.2 |
| 65.5° | 144.3 | 151.6 | 159.6 | 158.5 | 151.2 | 153.9 | 153.9 | 149.3 | 140.4 | 142.4 | 138.1 |
| 66° | 141.2 | 148.1 | 156.2 | 155.4 | 148.1 | 150.8 | 150.4 | 145.8 | 137.4 | 139.3 | 134.7 |



TEST NUMBER: P776530

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 67.5° | 131.6 | 140.1 | 146.2 | 145.8 | 138.9 | 141.6 | 140.4 | 136.2 | 128.2 | 129.7 | 124.7 |
| 68° | 128.6 | 136.6 | 142.7 | 142.4 | 135.8 | 138.5 | 137.0 | 133.2 | 125.1 | 126.2 | 121.3 |
| 68.5° | 125.5 | 133.2 | 138.5 | 138.9 | 132.8 | 135.1 | 133.9 | 130.1 | 122.0 | 123.2 | 117.8 |
| 69° | 122.4 | 129.3 | 135.5 | 135.8 | 129.7 | 132.0 | 130.5 | 126.6 | 119.0 | 119.7 | 114.7 |
| 69.5° | 119.0 | 125.9 | 132.4 | 132.8 | 126.6 | 128.9 | 127.4 | 123.6 | 115.9 | 116.7 | 111.3 |
| 70° | 115.9 | 122.8 | 128.9 | 130.1 | 123.6 | 125.9 | 123.9 | 120.5 | 112.4 | 113.6 | 107.8 |
| 70.5° | 112.4 | 119.3 | 125.9 | 127.0 | 120.9 | 122.8 | 120.9 | 117.4 | 109.4 | 110.1 | 104.8 |
| 71° | 109.4 | 116.3 | 122.4 | 123.6 | 117.8 | 119.7 | 117.4 | 114.0 | 106.3 | 107.1 | 101.3 |
| 71.5° | 105.9 | 113.2 | 119.3 | 120.5 | 114.7 | 116.7 | 114.4 | 110.9 | 103.2 | 104.0 | 97.9 |
| 72° | 102.8 | 109.7 | 115.9 | 117.4 | 111.7 | 113.6 | 110.9 | 107.8 | 100.2 | 100.5 | 94.8 |
| 72.5° | 99.4 | 106.3 | 112.4 | 114.4 | 109.0 | 110.5 | 107.8 | 104.8 | 97.1 | 97.5 | 91.3 |
| 73° | 96.3 | 103.2 | 109.0 | 110.9 | 105.9 | 107.4 | 104.4 | 101.3 | 94.0 | 94.4 | 88.3 |
| 73.5° | 92.9 | 99.8 | 105.9 | 107.8 | 102.8 | 104.4 | 101.3 | 98.2 | 90.9 | 90.9 | 84.8 |
| 74° | 89.8 | 96.7 | 102.5 | 104.8 | 99.8 | 101.3 | 98.2 | 95.2 | 87.9 | 87.9 | 81.4 |
| 74.5° | 86.3 | 93.2 | 99.0 | 101.7 | 96.7 | 98.2 | 94.8 | 92.1 | 84.4 | 84.4 | 78.3 |
| 75° | 83.3 | 90.2 | 95.9 | 98.6 | 93.6 | 95.2 | 91.7 | 88.6 | 81.4 | 81.4 | 74.8 |
| 75.5° | 79.8 | 86.7 | 92.5 | 95.6 | 90.9 | 92.1 | 88.6 | 85.6 | 78.3 | 77.9 | 71.4 |
| 76° | 76.4 | 83.3 | 89.0 | 92.1 | 87.9 | 89.0 | 85.2 | 82.1 | 75.2 | 74.4 | 68.3 |
| 76.5° | 73.3 | 79.8 | 86.0 | 89.0 | 84.8 | 86.0 | 82.1 | 79.0 | 72.1 | 71.4 | 64.9 |
| 77° | 69.8 | 76.7 | 82.5 | 86.0 | 81.7 | 82.9 | 79.0 | 76.0 | 68.7 | 68.3 | 61.8 |
| 77.5° | 66.8 | 73.3 | 79.0 | 82.5 | 78.7 | 79.8 | 75.6 | 72.5 | 65.6 | 64.9 | 58.3 |
| 78° | 63.3 | 69.8 | 76.0 | 79.4 | 75.6 | 76.7 | 72.5 | 69.5 | 62.5 | 61.8 | 55.3 |
| 78.5° | 60.2 | 66.8 | 72.5 | 76.4 | 72.5 | 73.7 | 69.5 | 66.0 | 59.5 | 58.3 | 51.8 |
| 79° | 56.8 | 63.3 | 69.5 | 72.9 | 69.8 | 70.6 | 66.0 | 62.9 | 56.4 | 55.3 | 48.7 |
| 79.5° | 53.7 | 59.9 | 66.0 | 69.8 | 66.8 | 67.5 | 62.9 | 59.9 | 53.3 | 51.8 | 45.3 |
| 80° | 50.3 | 56.8 | 62.5 | 66.8 | 63.7 | 64.1 | 59.9 | 56.4 | 50.3 | 48.7 | 42.2 |
| 80.5° | 47.2 | 53.3 | 59.5 | 63.3 | 60.6 | 61.4 | 56.8 | 53.3 | 47.2 | 45.3 | 39.1 |
| 81° | 44.1 | 49.9 | 56.4 | 60.2 | 57.9 | 58.3 | 53.7 | 50.3 | 44.1 | 42.2 | 35.7 |
| 81.5° | 40.7 | 46.4 | 53.0 | 57.2 | 54.9 | 54.9 | 50.3 | 47.2 | 41.1 | 38.8 | 32.6 |
| 82° | 37.6 | 43.4 | 49.5 | 53.7 | 51.8 | 52.2 | 47.2 | 43.7 | 38.0 | 35.7 | 29.5 |
| 82.5° | 34.2 | 39.9 | 46.4 | 50.7 | 48.7 | 48.7 | 44.1 | 40.7 | 34.9 | 32.2 | 26.1 |
| 83° | 31.1 | 36.8 | 43.4 | 47.6 | 46.0 | 45.7 | 41.1 | 37.6 | 31.9 | 29.2 | 23.0 |
| 83.5° | 27.6 | 33.4 | 39.9 | 44.5 | 43.0 | 42.6 | 38.0 | 34.2 | 28.8 | 25.7 | 20.3 |
| 84° | 24.6 | 29.9 | 36.8 | 41.4 | 39.9 | 39.5 | 34.9 | 31.1 | 25.7 | 22.6 | 17.7 |
| 84.5° | 21.5 | 26.9 | 33.4 | 38.0 | 37.2 | 36.5 | 31.9 | 28.0 | 22.6 | 19.6 | 15.0 |
| 85° | 18.0 | 23.4 | 30.3 | 34.9 | 34.2 | 33.8 | 28.8 | 24.6 | 20.0 | 16.1 | 12.3 |
| 85.5° | 15.0 | 20.3 | 27.2 | 31.9 | 31.1 | 30.7 | 25.7 | 21.5 | 16.9 | 13.0 | 9.6 |
| 86° | 12.7 | 16.9 | 23.8 | 28.8 | 28.4 | 27.6 | 22.6 | 18.4 | 14.2 | 10.4 | 7.3 |
| 86.5° | 10.0 | 13.4 | 21.1 | 26.1 | 25.3 | 24.6 | 20.0 | 15.0 | 11.1 | 8.1 | 4.6 |
| 87° | 7.7 | 11.1 | 18.4 | 23.0 | 22.3 | 21.5 | 17.3 | 12.3 | 8.4 | 6.1 | 2.3 |
| 87.5° | 5.4 | 8.8 | 15.7 | 20.0 | 19.6 | 18.8 | 14.6 | 10.0 | 6.5 | 4.2 | 0.4 |
| 88° | 3.1 | 6.5 | 13.4 | 17.3 | 16.5 | 15.7 | 12.3 | 7.7 | 4.6 | 2.3 | 0.0 |
| 88.5° | 1.2 | 4.2 | 10.7 | 14.2 | 13.8 | 13.0 | 9.6 | 5.8 | 2.7 | 0.4 | 0.0 |



TEST NUMBER: P776530
CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-----|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 90° | 0.0 | 0.0 | 3.1 | 5.8 | 5.4 | 4.6 | 2.3 | 0.4 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P776530

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 0° | 2245.2 | 2245.2 | 2245.2 | 2245.2 | 2245.2 | 2245.2 |
| 0.5° | 2242.2 | 2243.7 | 2243.3 | 2243.7 | 2244.9 | 2246.0 |
| 1° | 2240.6 | 2241.8 | 2241.0 | 2241.8 | 2243.3 | 2245.2 |
| 1.5° | 2238.7 | 2239.9 | 2238.7 | 2239.5 | 2241.8 | 2244.1 |
| 2° | 2236.8 | 2237.6 | 2236.4 | 2237.6 | 2239.9 | 2242.9 |
| 2.5° | 2234.5 | 2234.9 | 2234.1 | 2234.9 | 2237.6 | 2241.0 |
| 3° | 2232.2 | 2232.6 | 2231.0 | 2232.6 | 2235.3 | 2239.5 |
| 3.5° | 2229.5 | 2229.5 | 2228.4 | 2229.5 | 2233.0 | 2237.9 |
| 4° | 2226.8 | 2226.4 | 2224.9 | 2226.4 | 2230.3 | 2235.6 |
| 4.5° | 2223.7 | 2223.0 | 2221.8 | 2223.4 | 2227.6 | 2233.3 |
| 5° | 2220.7 | 2219.5 | 2218.0 | 2219.5 | 2224.1 | 2230.7 |
| 5.5° | 2217.2 | 2215.7 | 2214.2 | 2216.1 | 2221.1 | 2228.0 |
| 6° | 2213.4 | 2211.9 | 2209.9 | 2212.2 | 2217.6 | 2224.9 |
| 6.5° | 2209.6 | 2207.6 | 2205.7 | 2208.0 | 2214.2 | 2222.2 |
| 7° | 2205.3 | 2203.0 | 2201.1 | 2203.8 | 2209.9 | 2218.8 |
| 7.5° | 2201.1 | 2198.4 | 2196.1 | 2199.2 | 2206.1 | 2214.9 |
| 8° | 2196.5 | 2193.4 | 2191.1 | 2194.6 | 2201.5 | 2211.1 |
| 8.5° | 2191.5 | 2188.4 | 2186.1 | 2189.6 | 2196.9 | 2207.2 |
| 9° | 2186.5 | 2182.7 | 2180.8 | 2184.2 | 2192.3 | 2203.0 |
| 9.5° | 2181.2 | 2177.3 | 2175.0 | 2178.9 | 2187.3 | 2198.4 |
| 10° | 2175.8 | 2171.6 | 2168.9 | 2173.1 | 2181.9 | 2193.8 |
| 10.5° | 2169.6 | 2165.4 | 2162.7 | 2167.3 | 2176.5 | 2188.8 |
| 11° | 2163.9 | 2158.9 | 2156.6 | 2161.2 | 2170.8 | 2183.8 |
| 11.5° | 2157.4 | 2152.4 | 2150.1 | 2155.1 | 2165.0 | 2178.5 |
| 12° | 2151.2 | 2145.5 | 2142.8 | 2148.2 | 2158.5 | 2172.7 |
| 12.5° | 2144.3 | 2138.2 | 2135.9 | 2141.6 | 2152.0 | 2166.6 |
| 13° | 2137.4 | 2130.9 | 2128.2 | 2134.3 | 2145.9 | 2160.8 |
| 13.5° | 2130.1 | 2123.2 | 2120.9 | 2127.4 | 2138.9 | 2154.3 |
| 14° | 2122.8 | 2115.5 | 2112.8 | 2119.8 | 2131.7 | 2147.8 |
| 14.5° | 2115.2 | 2107.5 | 2104.8 | 2112.1 | 2124.4 | 2140.9 |
| 15° | 2107.1 | 2099.0 | 2096.0 | 2104.0 | 2116.7 | 2133.6 |
| 15.5° | 2099.0 | 2090.6 | 2087.9 | 2096.0 | 2108.6 | 2126.3 |
| 16° | 2090.6 | 2081.4 | 2079.1 | 2087.1 | 2101.0 | 2118.6 |
| 16.5° | 2082.2 | 2072.6 | 2069.9 | 2078.7 | 2092.5 | 2110.9 |
| 17° | 2072.9 | 2063.3 | 2060.3 | 2069.5 | 2084.1 | 2102.9 |
| 17.5° | 2063.7 | 2053.4 | 2050.7 | 2060.7 | 2075.2 | 2094.4 |
| 18° | 2054.5 | 2043.4 | 2041.1 | 2051.1 | 2066.0 | 2086.0 |
| 18.5° | 2044.5 | 2033.0 | 2031.1 | 2041.1 | 2056.8 | 2076.8 |
| 19° | 2034.6 | 2022.7 | 2020.0 | 2031.5 | 2047.2 | 2067.6 |
| 19.5° | 2024.6 | 2012.3 | 2009.6 | 2021.1 | 2037.6 | 2058.4 |
| 20° | 2014.2 | 2001.2 | 1998.9 | 2010.8 | 2027.3 | 2048.8 |
| 20.5° | 2003.1 | 1989.7 | 1987.8 | 2000.4 | 2016.9 | 2038.4 |
| 21° | 1992.4 | 1978.2 | 1976.2 | 1988.9 | 2006.2 | 2028.0 |

TEST NUMBER: P776530

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 22.5° | 1957.4 | 1941.3 | 1940.2 | 1954.8 | 1972.4 | 1995.0 |
| 23° | 1945.5 | 1928.3 | 1927.5 | 1942.9 | 1960.9 | 1983.5 |
| 23.5° | 1932.9 | 1915.6 | 1914.8 | 1931.0 | 1949.0 | 1971.6 |
| 24° | 1920.2 | 1901.8 | 1901.8 | 1918.3 | 1936.7 | 1959.4 |
| 24.5° | 1907.2 | 1888.0 | 1888.0 | 1905.6 | 1924.1 | 1947.1 |
| 25° | 1893.7 | 1873.8 | 1874.2 | 1892.6 | 1911.4 | 1934.0 |
| 25.5° | 1880.3 | 1859.6 | 1860.4 | 1879.5 | 1898.0 | 1921.0 |
| 26° | 1866.1 | 1845.0 | 1846.2 | 1865.7 | 1884.9 | 1907.9 |
| 26.5° | 1851.9 | 1830.4 | 1831.6 | 1851.9 | 1871.1 | 1894.1 |
| 27° | 1837.7 | 1815.1 | 1816.6 | 1838.1 | 1857.3 | 1880.3 |
| 27.5° | 1822.7 | 1799.3 | 1801.6 | 1823.9 | 1842.7 | 1865.3 |
| 28° | 1807.8 | 1783.6 | 1785.9 | 1808.9 | 1828.1 | 1851.1 |
| 28.5° | 1792.4 | 1767.5 | 1770.6 | 1794.3 | 1813.5 | 1835.4 |
| 29° | 1777.1 | 1751.4 | 1754.8 | 1779.0 | 1799.0 | 1821.2 |
| 29.5° | 1761.3 | 1735.3 | 1738.7 | 1763.7 | 1783.2 | 1805.1 |
| 30° | 1745.2 | 1718.8 | 1722.2 | 1748.3 | 1767.9 | 1790.1 |
| 30.5° | 1729.1 | 1701.9 | 1706.1 | 1732.2 | 1752.1 | 1773.6 |
| 31° | 1713.0 | 1685.0 | 1689.6 | 1716.5 | 1736.0 | 1758.3 |
| 31.5° | 1696.5 | 1667.7 | 1672.3 | 1699.9 | 1719.9 | 1741.8 |
| 32° | 1680.0 | 1650.1 | 1655.4 | 1683.4 | 1703.4 | 1725.7 |
| 32.5° | 1663.5 | 1632.4 | 1638.9 | 1666.2 | 1686.9 | 1708.4 |
| 33° | 1646.2 | 1614.4 | 1621.7 | 1649.7 | 1670.4 | 1692.3 |
| 33.5° | 1629.0 | 1596.0 | 1603.6 | 1632.4 | 1653.1 | 1675.0 |
| 34° | 1611.3 | 1577.5 | 1586.4 | 1615.1 | 1637.0 | 1657.7 |
| 34.5° | 1594.0 | 1558.0 | 1567.9 | 1596.7 | 1619.7 | 1638.9 |
| 35° | 1576.0 | 1537.6 | 1549.9 | 1579.5 | 1602.5 | 1621.7 |
| 35.5° | 1558.0 | 1497.0 | 1531.1 | 1561.8 | 1585.2 | 1603.6 |
| 36° | 1539.5 | 1450.5 | 1512.7 | 1543.4 | 1567.6 | 1584.8 |
| 36.5° | 1520.7 | 1398.3 | 1492.3 | 1525.4 | 1549.1 | 1565.3 |
| 37° | 1500.8 | 1346.1 | 1464.0 | 1507.3 | 1531.1 | 1532.3 |
| 37.5° | 1477.4 | 1292.4 | 1423.7 | 1488.9 | 1512.7 | 1492.7 |
| 38° | 1437.9 | 1237.2 | 1374.2 | 1470.5 | 1493.9 | 1439.8 |
| 38.5° | 1390.3 | 1180.4 | 1323.1 | 1452.1 | 1475.5 | 1386.8 |
| 39° | 1340.0 | 1122.0 | 1275.2 | 1434.0 | 1455.5 | 1335.4 |
| 39.5° | 1289.4 | 1063.3 | 1223.4 | 1415.6 | 1424.0 | 1283.2 |
| 40° | 1238.7 | 1008.8 | 1170.4 | 1397.6 | 1386.1 | 1228.7 |
| 40.5° | 1185.4 | 954.7 | 1114.8 | 1378.8 | 1336.9 | 1171.9 |
| 41° | 1130.5 | 902.5 | 1060.6 | 1360.3 | 1287.8 | 1114.0 |
| 41.5° | 1074.5 | 848.8 | 1006.5 | 1341.9 | 1240.2 | 1056.8 |
| 42° | 1020.0 | 797.4 | 954.0 | 1323.9 | 1191.1 | 1002.3 |
| 42.5° | 966.2 | 744.4 | 903.7 | 1305.5 | 1142.0 | 950.5 |
| 43° | 914.1 | 694.2 | 855.3 | 1287.1 | 1090.2 | 897.2 |
| 43.5° | 863.8 | 645.8 | 805.1 | 1267.9 | 1037.6 | 844.2 |

TEST NUMBER: P776530

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|--------|--------|-------|
| 45° | 713.4 | 511.9 | 657.7 | 1176.9 | 885.3 | 690.7 |
| 45.5° | 665.0 | 470.1 | 612.1 | 1133.9 | 837.7 | 642.0 |
| 46° | 618.2 | 432.1 | 568.7 | 1089.8 | 789.3 | 596.3 |
| 46.5° | 573.3 | 398.3 | 525.7 | 1048.0 | 741.0 | 551.4 |
| 47° | 529.9 | 370.3 | 483.9 | 1004.6 | 692.6 | 507.7 |
| 47.5° | 488.5 | 346.5 | 445.5 | 960.1 | 646.6 | 468.2 |
| 48° | 447.8 | 326.9 | 409.8 | 906.4 | 602.1 | 430.2 |
| 48.5° | 412.1 | 309.7 | 379.1 | 850.7 | 559.1 | 396.4 |
| 49° | 379.1 | 293.9 | 353.0 | 792.0 | 516.9 | 367.6 |
| 49.5° | 358.0 | 278.2 | 330.4 | 736.8 | 477.8 | 343.1 |
| 50° | 337.7 | 262.9 | 311.6 | 684.2 | 438.6 | 322.0 |
| 50.5° | 317.3 | 247.1 | 295.1 | 634.7 | 403.3 | 304.3 |
| 51° | 296.6 | 234.8 | 279.7 | 586.0 | 371.1 | 287.8 |
| 51.5° | 276.3 | 226.8 | 264.4 | 542.2 | 343.8 | 271.3 |
| 52° | 260.6 | 222.2 | 249.0 | 500.0 | 320.0 | 255.2 |
| 52.5° | 245.6 | 218.3 | 234.5 | 458.6 | 299.7 | 241.0 |
| 53° | 230.6 | 214.9 | 223.3 | 421.3 | 282.0 | 230.6 |
| 53.5° | 218.7 | 211.4 | 218.0 | 387.6 | 265.9 | 225.6 |
| 54° | 212.2 | 207.6 | 213.7 | 355.3 | 249.8 | 221.4 |
| 54.5° | 208.4 | 204.1 | 210.3 | 328.9 | 234.8 | 218.0 |
| 55° | 204.5 | 200.7 | 206.4 | 303.2 | 222.2 | 214.5 |
| 55.5° | 201.1 | 197.2 | 203.0 | 280.9 | 214.5 | 210.7 |
| 56° | 197.6 | 194.2 | 199.5 | 260.6 | 210.7 | 207.2 |
| 56.5° | 194.2 | 190.7 | 196.1 | 244.8 | 206.8 | 203.8 |
| 57° | 191.1 | 187.6 | 192.6 | 230.6 | 203.4 | 200.3 |
| 57.5° | 187.6 | 184.2 | 189.6 | 219.1 | 199.9 | 196.9 |
| 58° | 184.6 | 181.1 | 186.5 | 209.1 | 196.5 | 193.8 |
| 58.5° | 181.5 | 178.1 | 183.0 | 201.1 | 193.0 | 190.3 |
| 59° | 178.1 | 175.0 | 180.0 | 193.4 | 189.9 | 187.3 |
| 59.5° | 175.0 | 171.9 | 176.9 | 186.9 | 186.5 | 183.8 |
| 60° | 171.9 | 168.5 | 173.4 | 181.9 | 183.0 | 180.7 |
| 60.5° | 168.8 | 165.4 | 170.8 | 178.1 | 180.0 | 177.3 |
| 61° | 165.8 | 162.3 | 167.7 | 174.6 | 176.5 | 174.2 |
| 61.5° | 162.3 | 159.3 | 164.6 | 171.1 | 173.4 | 170.8 |
| 62° | 159.3 | 155.8 | 161.2 | 167.3 | 170.0 | 167.7 |
| 62.5° | 156.2 | 152.7 | 158.1 | 163.9 | 166.9 | 164.2 |
| 63° | 152.7 | 149.7 | 155.0 | 160.4 | 163.5 | 160.8 |
| 63.5° | 149.7 | 146.2 | 151.6 | 156.9 | 160.0 | 157.7 |
| 64° | 146.6 | 143.1 | 148.5 | 153.5 | 156.6 | 154.3 |
| 64.5° | 143.1 | 140.4 | 145.1 | 150.0 | 153.1 | 151.2 |
| 65° | 140.1 | 137.4 | 142.0 | 146.6 | 150.0 | 147.7 |
| 65.5° | 136.6 | 134.3 | 138.1 | 143.5 | 146.6 | 144.3 |
| 66° | 133.5 | 131.2 | 135.5 | 140.1 | 143.1 | 141.2 |



TEST NUMBER: P776530

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|-------|--------|-------|
| 67.5° | 123.9 | 121.6 | 126.6 | 129.7 | 133.2 | 131.6 |
| 68° | 120.9 | 118.6 | 123.2 | 126.6 | 129.7 | 128.6 |
| 68.5° | 117.4 | 115.5 | 120.1 | 123.2 | 126.2 | 125.5 |
| 69° | 114.4 | 112.4 | 117.0 | 119.7 | 123.2 | 122.4 |
| 69.5° | 110.9 | 109.4 | 113.6 | 116.3 | 119.7 | 119.0 |
| 70° | 107.8 | 106.3 | 110.5 | 112.8 | 116.3 | 115.9 |
| 70.5° | 104.8 | 103.2 | 107.1 | 109.4 | 112.8 | 112.4 |
| 71° | 101.7 | 100.2 | 104.0 | 105.9 | 109.7 | 109.4 |
| 71.5° | 98.2 | 97.1 | 100.9 | 102.5 | 106.3 | 105.9 |
| 72° | 95.2 | 93.6 | 97.5 | 99.0 | 102.8 | 102.8 |
| 72.5° | 91.7 | 90.6 | 94.0 | 95.6 | 99.4 | 99.4 |
| 73° | 88.6 | 87.5 | 90.9 | 92.5 | 95.9 | 96.3 |
| 73.5° | 85.2 | 84.0 | 87.5 | 89.0 | 92.5 | 92.9 |
| 74° | 82.1 | 81.0 | 84.4 | 85.6 | 89.4 | 89.8 |
| 74.5° | 78.7 | 77.9 | 81.0 | 82.1 | 86.0 | 86.3 |
| 75° | 75.6 | 74.8 | 77.5 | 78.7 | 82.5 | 83.3 |
| 75.5° | 72.1 | 71.4 | 74.4 | 75.2 | 78.7 | 79.8 |
| 76° | 69.1 | 68.3 | 71.0 | 71.8 | 75.6 | 76.4 |
| 76.5° | 65.6 | 65.2 | 67.9 | 68.3 | 72.1 | 73.3 |
| 77° | 62.5 | 62.2 | 64.5 | 65.2 | 68.7 | 69.8 |
| 77.5° | 59.1 | 59.1 | 61.4 | 61.8 | 65.2 | 66.8 |
| 78° | 56.0 | 56.0 | 57.9 | 58.3 | 61.8 | 63.3 |
| 78.5° | 52.6 | 52.6 | 54.9 | 54.9 | 58.3 | 60.2 |
| 79° | 49.5 | 49.5 | 51.4 | 51.4 | 54.9 | 56.8 |
| 79.5° | 46.0 | 46.4 | 48.0 | 48.0 | 51.4 | 53.7 |
| 80° | 43.0 | 43.4 | 44.9 | 44.9 | 48.0 | 50.3 |
| 80.5° | 39.5 | 40.3 | 41.4 | 41.4 | 44.5 | 47.2 |
| 81° | 36.5 | 37.2 | 38.4 | 38.0 | 41.1 | 44.1 |
| 81.5° | 33.4 | 34.2 | 35.3 | 34.9 | 37.6 | 40.7 |
| 82° | 30.3 | 31.1 | 31.9 | 31.9 | 34.2 | 37.6 |
| 82.5° | 27.2 | 27.6 | 28.8 | 28.8 | 31.1 | 34.2 |
| 83° | 23.8 | 24.6 | 25.7 | 25.7 | 27.6 | 31.1 |
| 83.5° | 20.7 | 21.5 | 22.3 | 22.6 | 23.8 | 27.6 |
| 84° | 17.7 | 18.4 | 19.2 | 20.0 | 20.7 | 24.6 |
| 84.5° | 15.0 | 15.7 | 16.1 | 16.9 | 17.3 | 21.5 |
| 85° | 11.9 | 12.7 | 13.0 | 14.2 | 14.6 | 18.0 |
| 85.5° | 8.8 | 9.6 | 10.4 | 11.5 | 12.3 | 15.0 |
| 86° | 5.8 | 6.9 | 7.3 | 8.8 | 10.0 | 12.7 |
| 86.5° | 3.1 | 3.8 | 4.2 | 6.1 | 7.3 | 10.0 |
| 87° | 0.8 | 1.2 | 1.5 | 3.1 | 5.0 | 7.7 |
| 87.5° | 0.0 | 0.0 | 0.4 | 1.2 | 3.1 | 5.4 |
| 88° | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 3.1 |
| 88.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 |



TEST NUMBER: P776530
CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQMW-4000lm-2700K

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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1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report





| | | | | | | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 21.5° | 2017.3 | 2048.8 | 2089.1 | 2112.1 | 2122.4 | 2128.6 | 2123.6 | 2105.2 | 2079.8 | 2053.4 | 2012.3 |
| 22° | 2006.2 | 2038.8 | 2080.6 | 2103.6 | 2114.4 | 2120.9 | 2115.9 | 2096.7 | 2070.6 | 2043.4 | 2001.6 |



| | | | | | | | | | | | |
|-------|-------|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|
| 44° | 792.0 | 1006.9 | 1438.2 | 1358.4 | 1102.9 | 1288.2 | 1497.7 | 1180.4 | 878.4 | 1010.4 | 1301.6 |
| 44.5° | 740.6 | 953.6 | 1419.4 | 1303.9 | 1046.1 | 1231.8 | 1479.7 | 1125.9 | 825.8 | 954.7 | 1282.8 |



| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 66.5° | 138.1 | 145.1 | 152.7 | 152.0 | 145.1 | 147.7 | 147.0 | 142.7 | 134.3 | 135.8 | 131.2 |
| 67° | 135.1 | 141.6 | 149.3 | 148.9 | 142.0 | 144.7 | 143.9 | 139.7 | 131.2 | 132.8 | 128.2 |



| | | | | | | | | | | | |
|-------|-----|-----|-----|------|------|------|-----|-----|-----|-----|-----|
| 89° | 0.0 | 2.3 | 8.1 | 11.5 | 10.7 | 10.0 | 7.3 | 3.5 | 1.2 | 0.0 | 0.0 |
| 89.5° | 0.0 | 0.4 | 5.8 | 8.4 | 8.1 | 7.3 | 4.6 | 1.5 | 0.0 | 0.0 | 0.0 |

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1121 Highway 74 South
Peachtree City, GA 30269

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| | | | | | | |
|-------|--------|--------|--------|--------|--------|--------|
| 21.5° | 1980.8 | 1965.9 | 1964.7 | 1977.8 | 1995.4 | 2017.3 |
| 22° | 1969.3 | 1953.6 | 1952.1 | 1966.6 | 1984.3 | 2006.2 |



| | | | | | | |
|-------|-------|-------|-------|--------|-------|-------|
| 44° | 814.3 | 600.2 | 754.8 | 1247.5 | 985.8 | 792.0 |
| 44.5° | 764.0 | 554.1 | 704.9 | 1213.4 | 934.8 | 740.6 |



| | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|
| 66.5° | 130.5 | 128.2 | 132.4 | 136.6 | 139.7 | 138.1 |
| 67° | 127.4 | 125.1 | 129.3 | 133.2 | 136.2 | 135.1 |

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Cooper Lighting Solutions Photometric Lab
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 |

Signify Classified - Internal
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Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)