

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: P776326

Luminaire Tested: HCDJBS3040CSD-HCD4TSQMB-4000lm-3000K

Issue Date: 2/7/2024

Test Information

Test Method: LM-79-2019
Report Number: P776326
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (A2312156B006-HCD4TSQMB)
Test Lab:
Issue Date: 2/7/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: HALO COMMERCIAL
Catalog Number: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K
Description: 4 INCH SQUARE MEDIUM MATTE BLACK TRIM
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT
Ballast/Driver: -

Summary

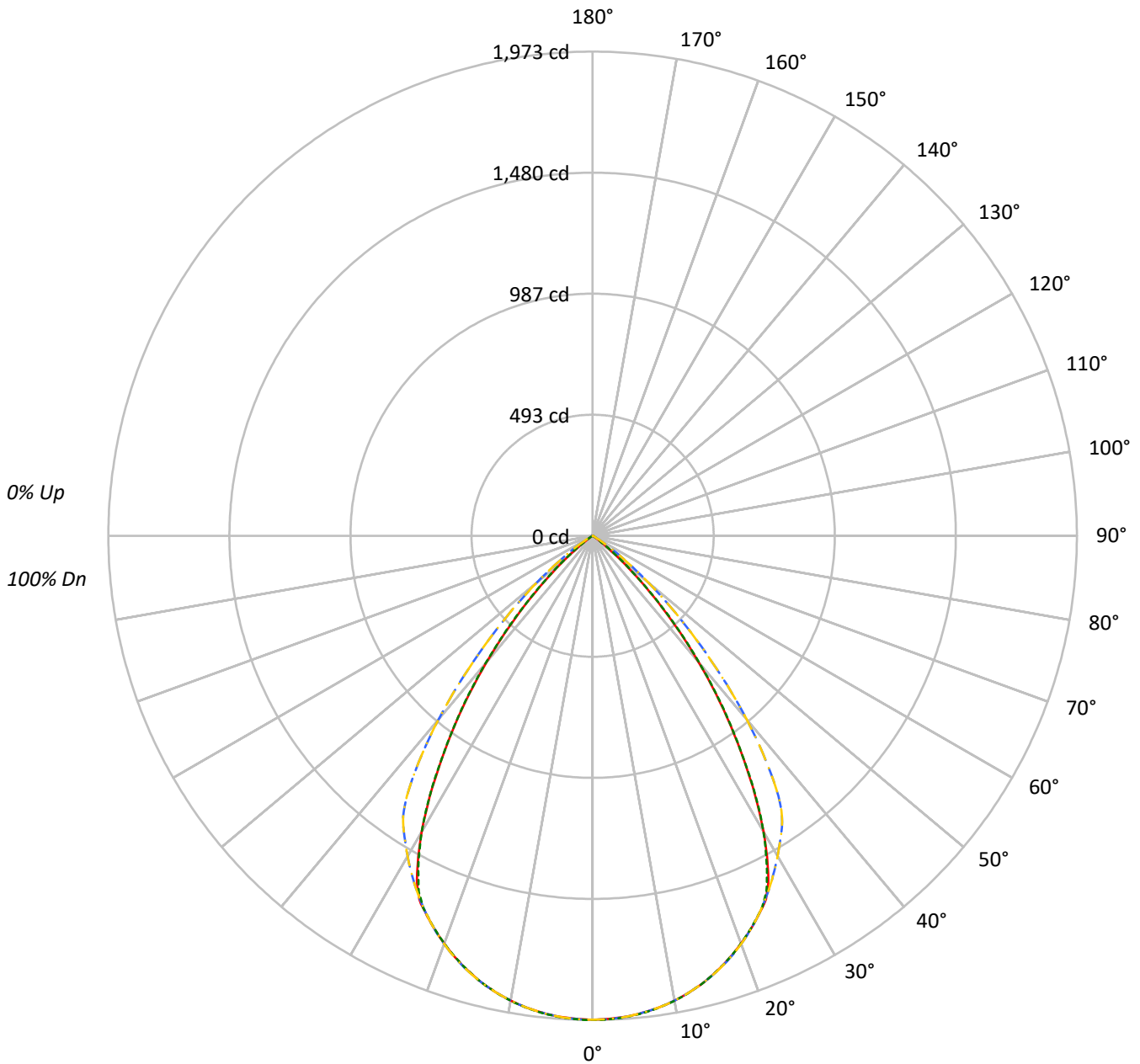
Lumens per Lamp: N/A
Luminaire Lumens: 2609.2 lumens
Efficiency: N/A
Efficacy: 67.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1.1 / 1.14
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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: P776326
CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

Luminous Intensity Polar Plot





TEST NUMBER: P776326

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

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 | 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 | 113 | 110 | 107 | 105 | 110 | 108 | 105 | 103 | 104 | 102 | 100 | 100 | 98 | 97 | 97 | 95 | 94 | 92 | | | | | 92 | | | |
| 2 | 107 | 101 | 97 | 93 | 104 | 100 | 96 | 92 | 96 | 93 | 90 | 93 | 91 | 88 | 90 | 88 | 86 | 85 | | | | | 85 | | | |
| 3 | 100 | 93 | 88 | 84 | 98 | 92 | 87 | 83 | 89 | 85 | 81 | 87 | 83 | 80 | 84 | 82 | 79 | 77 | | | | | 77 | | | |
| 4 | 95 | 86 | 80 | 75 | 93 | 85 | 79 | 75 | 83 | 78 | 74 | 81 | 77 | 73 | 79 | 75 | 72 | 71 | | | | | 71 | | | |
| 5 | 89 | 80 | 73 | 68 | 87 | 79 | 73 | 68 | 77 | 72 | 67 | 75 | 71 | 67 | 74 | 70 | 66 | 65 | | | | | 65 | | | |
| 6 | 84 | 74 | 67 | 62 | 82 | 73 | 67 | 62 | 71 | 66 | 62 | 70 | 65 | 61 | 69 | 64 | 61 | 59 | | | | | 59 | | | |
| 7 | 79 | 69 | 62 | 57 | 77 | 68 | 62 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 64 | 60 | 56 | 55 | | | | | 55 | | | |
| 8 | 74 | 64 | 57 | 53 | 73 | 63 | 57 | 53 | 62 | 56 | 52 | 61 | 56 | 52 | 60 | 55 | 52 | 50 | | | | | 50 | | | |
| 9 | 70 | 60 | 53 | 49 | 69 | 59 | 53 | 49 | 58 | 52 | 48 | 57 | 52 | 48 | 56 | 52 | 48 | 47 | | | | | 47 | | | |
| 10 | 67 | 56 | 49 | 45 | 65 | 55 | 49 | 45 | 54 | 49 | 45 | 54 | 48 | 45 | 53 | 48 | 45 | 43 | | | | | 43 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° | 270° |
|-----|--------|--------|--------|--------|
| 0° | 194917 | 194917 | 194917 | 194917 |
| 5° | 194461 | 194580 | 194461 | 194580 |
| 10° | 193016 | 193096 | 193016 | 193096 |
| 15° | 190270 | 190311 | 190270 | 190311 |
| 20° | 185989 | 185905 | 185989 | 185905 |
| 25° | 180429 | 179699 | 180429 | 179699 |
| 30° | 158908 | 158862 | 158908 | 158862 |
| 35° | 124103 | 124525 | 124103 | 124525 |
| 40° | 86617 | 87469 | 86617 | 87469 |
| 45° | 49162 | 50476 | 49162 | 50476 |
| 50° | 19544 | 20990 | 19544 | 20990 |
| 55° | 2895 | 3705 | 2895 | 3705 |
| 60° | 613 | 613 | 613 | 613 |
| 65° | 468 | 468 | 468 | 468 |
| 70° | 347 | 347 | 347 | 347 |
| 75° | 306 | 306 | 306 | 306 |
| 80° | 228 | 228 | 228 | 228 |
| 85° | 0 | 0 | 0 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 45°
 Vertical Angle: 45°
 Luminance: 83116 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 185.9 | 7.1 |
| 10°-20° | 523.5 | 20.1 |
| 20°-30° | 754.1 | 28.9 |
| 30°-40° | 711.7 | 27.3 |
| 40°-50° | 366.8 | 14.1 |
| 50°-60° | 64.1 | 2.5 |
| 60°-70° | 2.3 | 0.1 |
| 70°-80° | 0.7 | 0.0 |
| 80°-90° | 0.1 | 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° | 1463.5 | 56.1 |
| 0°-40° | 2175.2 | 83.4 |
| 0°-60° | 2606.1 | 99.9 |
| 0°-90° | 2609.2 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2609.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 90° | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0° | 1972 | 1972 | 1972 | 1972 | 1972 | |
| 5° | 1960 | 1961 | 1960 | 1961 | 1960 | 186 |
| 15° | 1859 | 1860 | 1859 | 1860 | 1859 | 523 |
| 25° | 1654 | 1648 | 1654 | 1648 | 1654 | 748 |
| 35° | 1028 | 1032 | 1028 | 1032 | 1028 | 638 |
| 45° | 352 | 361 | 352 | 361 | 352 | 278 |
| 55° | 17 | 22 | 17 | 22 | 17 | 30 |
| 65° | 2 | 2 | 2 | 2 | 2 | 2 |
| 75° | 1 | 1 | 1 | 1 | 1 | 1 |
| 85° | 0 | 0 | 0 | 0 | 0 | 0 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P776326

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1972.0 | 1972.0 | 1972.0 | 1972.0 | 1972.0 | 1972.0 | 1972.0 | 1972.0 | 1972.0 | 1972.0 | 1972.0 |
| 0.5° | 1971.6 | 1971.6 | 1971.6 | 1972.0 | 1973.2 | 1972.0 | 1971.6 | 1971.6 | 1971.6 | 1971.6 | 1971.6 |
| 1° | 1971.2 | 1971.2 | 1971.2 | 1971.6 | 1972.8 | 1971.6 | 1971.2 | 1971.2 | 1971.2 | 1971.2 | 1971.2 |
| 1.5° | 1970.5 | 1970.9 | 1970.9 | 1970.9 | 1972.0 | 1970.9 | 1970.9 | 1970.9 | 1970.5 | 1970.9 | 1970.9 |
| 2° | 1969.7 | 1969.7 | 1970.1 | 1970.1 | 1971.2 | 1970.1 | 1970.1 | 1969.7 | 1969.7 | 1969.7 | 1970.1 |
| 2.5° | 1968.5 | 1968.5 | 1968.9 | 1969.3 | 1970.1 | 1969.3 | 1968.9 | 1968.5 | 1968.5 | 1968.5 | 1968.9 |
| 3° | 1967.3 | 1967.3 | 1967.7 | 1967.7 | 1968.9 | 1967.7 | 1967.7 | 1967.3 | 1967.3 | 1967.3 | 1967.7 |
| 3.5° | 1965.8 | 1965.8 | 1966.2 | 1966.2 | 1967.3 | 1966.2 | 1966.2 | 1965.8 | 1965.8 | 1965.8 | 1966.2 |
| 4° | 1964.2 | 1964.2 | 1964.2 | 1964.6 | 1965.4 | 1964.6 | 1964.2 | 1964.2 | 1964.2 | 1964.2 | 1964.2 |
| 4.5° | 1962.3 | 1962.3 | 1962.3 | 1962.3 | 1963.4 | 1962.3 | 1962.3 | 1962.3 | 1962.3 | 1962.3 | 1962.3 |
| 5° | 1959.9 | 1959.9 | 1959.9 | 1959.9 | 1961.1 | 1959.9 | 1959.9 | 1959.9 | 1959.9 | 1959.9 | 1959.9 |
| 5.5° | 1957.2 | 1957.2 | 1957.6 | 1957.6 | 1958.3 | 1957.6 | 1957.6 | 1957.2 | 1957.2 | 1957.2 | 1957.6 |
| 6° | 1954.4 | 1954.4 | 1954.4 | 1954.8 | 1955.6 | 1954.8 | 1954.4 | 1954.4 | 1954.4 | 1954.4 | 1954.4 |
| 6.5° | 1951.3 | 1951.3 | 1951.7 | 1951.7 | 1952.5 | 1951.7 | 1951.7 | 1951.3 | 1951.3 | 1951.3 | 1951.7 |
| 7° | 1948.2 | 1948.2 | 1948.2 | 1948.6 | 1949.3 | 1948.6 | 1948.2 | 1948.2 | 1948.2 | 1948.2 | 1948.2 |
| 7.5° | 1944.6 | 1944.6 | 1944.6 | 1944.6 | 1945.8 | 1944.6 | 1944.6 | 1944.6 | 1944.6 | 1944.6 | 1944.6 |
| 8° | 1940.7 | 1940.7 | 1941.1 | 1941.1 | 1941.9 | 1941.1 | 1941.1 | 1940.7 | 1940.7 | 1940.7 | 1941.1 |
| 8.5° | 1936.8 | 1936.8 | 1936.8 | 1936.8 | 1937.6 | 1936.8 | 1936.8 | 1936.8 | 1936.8 | 1936.8 | 1936.8 |
| 9° | 1932.5 | 1932.5 | 1932.5 | 1932.5 | 1933.3 | 1932.5 | 1932.5 | 1932.5 | 1932.5 | 1932.5 | 1932.5 |
| 9.5° | 1927.8 | 1927.8 | 1927.8 | 1927.8 | 1928.6 | 1927.8 | 1927.8 | 1927.8 | 1927.8 | 1927.8 | 1927.8 |
| 10° | 1923.1 | 1923.1 | 1923.1 | 1923.1 | 1923.9 | 1923.1 | 1923.1 | 1923.1 | 1923.1 | 1923.1 | 1923.1 |
| 10.5° | 1918.0 | 1918.0 | 1918.0 | 1917.7 | 1918.8 | 1917.7 | 1918.0 | 1918.0 | 1918.0 | 1918.0 | 1918.0 |
| 11° | 1912.6 | 1912.6 | 1913.0 | 1912.6 | 1913.4 | 1912.6 | 1913.0 | 1912.6 | 1912.6 | 1912.6 | 1913.0 |
| 11.5° | 1907.1 | 1907.1 | 1907.1 | 1906.7 | 1907.5 | 1906.7 | 1907.1 | 1907.1 | 1907.1 | 1907.1 | 1907.1 |
| 12° | 1901.2 | 1901.2 | 1901.2 | 1900.8 | 1901.6 | 1900.8 | 1901.2 | 1901.2 | 1901.2 | 1901.2 | 1901.2 |
| 12.5° | 1894.6 | 1895.0 | 1895.0 | 1894.6 | 1895.0 | 1894.6 | 1895.0 | 1895.0 | 1894.6 | 1895.0 | 1895.0 |
| 13° | 1888.3 | 1888.7 | 1888.7 | 1887.9 | 1888.7 | 1887.9 | 1888.7 | 1888.7 | 1888.3 | 1888.7 | 1888.7 |
| 13.5° | 1881.7 | 1881.7 | 1882.1 | 1881.3 | 1882.1 | 1881.3 | 1882.1 | 1881.7 | 1881.7 | 1881.7 | 1882.1 |
| 14° | 1874.6 | 1875.0 | 1875.0 | 1874.2 | 1874.6 | 1874.2 | 1875.0 | 1875.0 | 1874.6 | 1875.0 | 1875.0 |
| 14.5° | 1867.2 | 1867.6 | 1868.0 | 1867.2 | 1867.2 | 1867.2 | 1868.0 | 1867.6 | 1867.2 | 1867.6 | 1868.0 |
| 15° | 1859.4 | 1860.1 | 1860.1 | 1859.4 | 1859.8 | 1859.4 | 1860.1 | 1860.1 | 1859.4 | 1860.1 | 1860.1 |
| 15.5° | 1851.5 | 1852.3 | 1852.3 | 1851.5 | 1851.5 | 1851.5 | 1852.3 | 1852.3 | 1851.5 | 1852.3 | 1852.3 |
| 16° | 1843.3 | 1844.1 | 1844.5 | 1843.3 | 1843.3 | 1843.3 | 1844.5 | 1844.1 | 1843.3 | 1844.1 | 1844.5 |
| 16.5° | 1835.1 | 1835.5 | 1836.3 | 1835.1 | 1834.7 | 1835.1 | 1836.3 | 1835.5 | 1835.1 | 1835.5 | 1836.3 |
| 17° | 1826.5 | 1826.9 | 1827.7 | 1826.1 | 1826.1 | 1826.1 | 1827.7 | 1826.9 | 1826.5 | 1826.9 | 1827.7 |
| 17.5° | 1817.1 | 1817.9 | 1818.7 | 1817.1 | 1817.1 | 1817.1 | 1818.7 | 1817.9 | 1817.1 | 1817.9 | 1818.7 |
| 18° | 1808.1 | 1808.5 | 1809.3 | 1808.1 | 1807.7 | 1808.1 | 1809.3 | 1808.5 | 1808.1 | 1808.5 | 1809.3 |
| 18.5° | 1798.7 | 1799.1 | 1799.9 | 1798.3 | 1797.9 | 1798.3 | 1799.9 | 1799.1 | 1798.7 | 1799.1 | 1799.9 |
| 19° | 1788.6 | 1789.3 | 1790.1 | 1788.6 | 1787.8 | 1788.6 | 1790.1 | 1789.3 | 1788.6 | 1789.3 | 1790.1 |
| 19.5° | 1778.8 | 1779.2 | 1780.0 | 1778.4 | 1778.0 | 1778.4 | 1780.0 | 1779.2 | 1778.8 | 1779.2 | 1780.0 |
| 20° | 1768.2 | 1769.0 | 1769.8 | 1767.8 | 1767.4 | 1767.8 | 1769.8 | 1769.0 | 1768.2 | 1769.0 | 1769.8 |
| 20.5° | 1758.0 | 1758.4 | 1759.2 | 1757.3 | 1756.9 | 1757.3 | 1759.2 | 1758.4 | 1758.0 | 1758.4 | 1759.2 |
| 21° | 1747.1 | 1747.5 | 1748.3 | 1746.3 | 1745.9 | 1746.3 | 1748.3 | 1747.5 | 1747.1 | 1747.5 | 1748.3 |



TEST NUMBER: P776326

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 22.5° | 1713.4 | 1713.4 | 1713.8 | 1712.3 | 1712.3 | 1712.3 | 1713.8 | 1713.4 | 1713.4 | 1713.4 | 1713.8 |
| 23° | 1701.7 | 1701.7 | 1701.7 | 1700.5 | 1700.1 | 1700.5 | 1701.7 | 1701.7 | 1701.7 | 1701.7 | 1701.7 |
| 23.5° | 1690.0 | 1690.0 | 1689.2 | 1688.4 | 1688.4 | 1688.4 | 1689.2 | 1690.0 | 1690.0 | 1690.0 | 1689.2 |
| 24° | 1677.8 | 1677.8 | 1676.7 | 1676.3 | 1677.1 | 1676.3 | 1676.7 | 1677.8 | 1677.8 | 1677.8 | 1676.7 |
| 24.5° | 1665.7 | 1665.3 | 1663.8 | 1663.8 | 1664.9 | 1663.8 | 1663.8 | 1665.3 | 1665.7 | 1665.3 | 1663.8 |
| 25° | 1654.4 | 1652.4 | 1650.5 | 1650.9 | 1647.7 | 1650.9 | 1650.5 | 1652.4 | 1654.4 | 1652.4 | 1650.5 |
| 25.5° | 1641.1 | 1639.9 | 1637.2 | 1638.3 | 1631.3 | 1638.3 | 1637.2 | 1639.9 | 1641.1 | 1639.9 | 1637.2 |
| 26° | 1618.8 | 1627.0 | 1623.5 | 1625.8 | 1614.9 | 1625.8 | 1623.5 | 1627.0 | 1618.8 | 1627.0 | 1623.5 |
| 26.5° | 1600.0 | 1614.1 | 1609.8 | 1612.5 | 1591.0 | 1612.5 | 1609.8 | 1614.1 | 1600.0 | 1614.1 | 1609.8 |
| 27° | 1577.3 | 1602.0 | 1595.7 | 1594.1 | 1563.2 | 1594.1 | 1595.7 | 1602.0 | 1577.3 | 1602.0 | 1595.7 |
| 27.5° | 1549.1 | 1585.1 | 1581.2 | 1577.3 | 1538.2 | 1577.3 | 1581.2 | 1585.1 | 1549.1 | 1585.1 | 1581.2 |
| 28° | 1519.4 | 1562.8 | 1566.7 | 1559.3 | 1510.4 | 1559.3 | 1566.7 | 1562.8 | 1519.4 | 1562.8 | 1566.7 |
| 28.5° | 1489.3 | 1543.7 | 1552.3 | 1533.9 | 1481.5 | 1533.9 | 1552.3 | 1543.7 | 1489.3 | 1543.7 | 1552.3 |
| 29° | 1457.6 | 1519.8 | 1537.4 | 1507.3 | 1453.3 | 1507.3 | 1537.4 | 1519.8 | 1457.6 | 1519.8 | 1537.4 |
| 29.5° | 1425.5 | 1491.6 | 1522.5 | 1481.5 | 1422.8 | 1481.5 | 1522.5 | 1491.6 | 1425.5 | 1491.6 | 1522.5 |
| 30° | 1392.3 | 1462.7 | 1507.3 | 1454.1 | 1391.9 | 1454.1 | 1507.3 | 1462.7 | 1392.3 | 1462.7 | 1507.3 |
| 30.5° | 1358.2 | 1432.2 | 1492.4 | 1425.5 | 1359.8 | 1425.5 | 1492.4 | 1432.2 | 1358.2 | 1432.2 | 1492.4 |
| 31° | 1323.0 | 1401.7 | 1477.2 | 1396.2 | 1326.9 | 1396.2 | 1477.2 | 1401.7 | 1323.0 | 1401.7 | 1477.2 |
| 31.5° | 1287.4 | 1370.0 | 1461.9 | 1366.8 | 1291.3 | 1366.8 | 1461.9 | 1370.0 | 1287.4 | 1370.0 | 1461.9 |
| 32° | 1251.1 | 1337.9 | 1446.7 | 1336.7 | 1255.0 | 1336.7 | 1446.7 | 1337.9 | 1251.1 | 1337.9 | 1446.7 |
| 32.5° | 1213.9 | 1304.6 | 1431.8 | 1305.8 | 1218.2 | 1305.8 | 1431.8 | 1304.6 | 1213.9 | 1304.6 | 1431.8 |
| 33° | 1176.7 | 1271.4 | 1416.5 | 1273.4 | 1181.8 | 1273.4 | 1416.5 | 1271.4 | 1176.7 | 1271.4 | 1416.5 |
| 33.5° | 1139.2 | 1236.6 | 1398.9 | 1240.1 | 1142.3 | 1240.1 | 1398.9 | 1236.6 | 1139.2 | 1236.6 | 1398.9 |
| 34° | 1102.4 | 1201.4 | 1380.1 | 1205.3 | 1104.7 | 1205.3 | 1380.1 | 1201.4 | 1102.4 | 1201.4 | 1380.1 |
| 34.5° | 1065.2 | 1165.8 | 1358.2 | 1169.3 | 1067.6 | 1169.3 | 1358.2 | 1165.8 | 1065.2 | 1165.8 | 1358.2 |
| 35° | 1028.5 | 1130.2 | 1331.6 | 1132.9 | 1032.0 | 1132.9 | 1331.6 | 1130.2 | 1028.5 | 1130.2 | 1331.6 |
| 35.5° | 992.5 | 1095.0 | 1303.1 | 1097.3 | 995.2 | 1097.3 | 1303.1 | 1095.0 | 992.5 | 1095.0 | 1303.1 |
| 36° | 956.9 | 1059.0 | 1271.4 | 1060.9 | 960.8 | 1060.9 | 1271.4 | 1059.0 | 956.9 | 1059.0 | 1271.4 |
| 36.5° | 920.9 | 1023.8 | 1237.4 | 1025.3 | 925.6 | 1025.3 | 1237.4 | 1023.8 | 920.9 | 1023.8 | 1237.4 |
| 37° | 885.3 | 988.6 | 1201.4 | 990.1 | 890.8 | 990.1 | 1201.4 | 988.6 | 885.3 | 988.6 | 1201.4 |
| 37.5° | 849.3 | 953.7 | 1165.0 | 956.1 | 855.6 | 956.1 | 1165.0 | 953.7 | 849.3 | 953.7 | 1165.0 |
| 38° | 813.3 | 918.9 | 1127.4 | 921.7 | 820.3 | 921.7 | 1127.4 | 918.9 | 813.3 | 918.9 | 1127.4 |
| 38.5° | 776.9 | 885.3 | 1090.3 | 888.4 | 784.4 | 888.4 | 1090.3 | 885.3 | 776.9 | 885.3 | 1090.3 |
| 39° | 741.7 | 851.2 | 1052.7 | 855.2 | 749.1 | 855.2 | 1052.7 | 851.2 | 741.7 | 851.2 | 1052.7 |
| 39.5° | 706.9 | 817.2 | 1014.8 | 822.3 | 712.8 | 822.3 | 1014.8 | 817.2 | 706.9 | 817.2 | 1014.8 |
| 40° | 671.3 | 782.8 | 976.0 | 788.7 | 677.9 | 788.7 | 976.0 | 782.8 | 671.3 | 782.8 | 976.0 |
| 40.5° | 636.5 | 748.8 | 936.9 | 754.6 | 642.7 | 754.6 | 936.9 | 748.8 | 636.5 | 748.8 | 936.9 |
| 41° | 602.8 | 715.1 | 897.8 | 721.0 | 608.7 | 721.0 | 897.8 | 715.1 | 602.8 | 715.1 | 897.8 |
| 41.5° | 569.2 | 681.5 | 858.3 | 687.3 | 575.5 | 687.3 | 858.3 | 681.5 | 569.2 | 681.5 | 858.3 |
| 42° | 536.7 | 648.6 | 818.8 | 653.7 | 543.4 | 653.7 | 818.8 | 648.6 | 536.7 | 648.6 | 818.8 |
| 42.5° | 504.6 | 615.7 | 780.0 | 621.2 | 511.7 | 621.2 | 780.0 | 615.7 | 504.6 | 615.7 | 780.0 |
| 43° | 473.0 | 583.7 | 741.3 | 588.4 | 480.4 | 588.4 | 741.3 | 583.7 | 473.0 | 583.7 | 741.3 |
| 43.5° | 441.3 | 552.0 | 703.4 | 557.5 | 449.9 | 557.5 | 703.4 | 552.0 | 441.3 | 552.0 | 703.4 |



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CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|
| 45° | 351.7 | 460.4 | 594.6 | 466.3 | 361.1 | 466.3 | 594.6 | 460.4 | 351.7 | 460.4 | 594.6 |
| 45.5° | 324.3 | 431.1 | 560.6 | 437.8 | 333.3 | 437.8 | 560.6 | 431.1 | 324.3 | 431.1 | 560.6 |
| 46° | 298.1 | 402.5 | 528.1 | 409.6 | 306.7 | 409.6 | 528.1 | 402.5 | 298.1 | 402.5 | 528.1 |
| 46.5° | 271.5 | 373.6 | 496.0 | 381.4 | 281.3 | 381.4 | 496.0 | 373.6 | 271.5 | 373.6 | 496.0 |
| 47° | 246.5 | 346.2 | 464.7 | 353.6 | 257.4 | 353.6 | 464.7 | 346.2 | 246.5 | 346.2 | 464.7 |
| 47.5° | 221.4 | 319.6 | 434.6 | 326.3 | 233.9 | 326.3 | 434.6 | 319.6 | 221.4 | 319.6 | 434.6 |
| 48° | 199.5 | 294.2 | 405.7 | 300.8 | 211.2 | 300.8 | 405.7 | 294.2 | 199.5 | 294.2 | 405.7 |
| 48.5° | 178.4 | 269.1 | 377.9 | 276.6 | 190.9 | 276.6 | 377.9 | 269.1 | 178.4 | 269.1 | 377.9 |
| 49° | 160.8 | 244.5 | 350.1 | 252.7 | 172.1 | 252.7 | 350.1 | 244.5 | 160.8 | 244.5 | 350.1 |
| 49.5° | 144.0 | 221.4 | 323.5 | 230.0 | 154.1 | 230.0 | 323.5 | 221.4 | 144.0 | 221.4 | 323.5 |
| 50° | 127.1 | 199.5 | 297.3 | 208.1 | 136.5 | 208.1 | 297.3 | 199.5 | 127.1 | 199.5 | 297.3 |
| 50.5° | 111.1 | 178.8 | 273.1 | 187.8 | 119.3 | 187.8 | 273.1 | 178.8 | 111.1 | 178.8 | 273.1 |
| 51° | 95.8 | 160.8 | 249.6 | 169.4 | 104.8 | 169.4 | 249.6 | 160.8 | 95.8 | 160.8 | 249.6 |
| 51.5° | 83.3 | 143.6 | 227.3 | 151.4 | 91.1 | 151.4 | 227.3 | 143.6 | 83.3 | 143.6 | 227.3 |
| 52° | 71.2 | 126.7 | 205.8 | 134.2 | 78.2 | 134.2 | 205.8 | 126.7 | 71.2 | 126.7 | 205.8 |
| 52.5° | 59.9 | 110.3 | 185.4 | 117.8 | 66.1 | 117.8 | 185.4 | 110.3 | 59.9 | 110.3 | 185.4 |
| 53° | 49.3 | 95.5 | 167.4 | 103.3 | 54.8 | 103.3 | 167.4 | 95.5 | 49.3 | 95.5 | 167.4 |
| 53.5° | 40.7 | 82.2 | 149.8 | 90.0 | 43.8 | 90.0 | 149.8 | 82.2 | 40.7 | 82.2 | 149.8 |
| 54° | 31.7 | 70.0 | 133.4 | 77.1 | 34.8 | 77.1 | 133.4 | 70.0 | 31.7 | 70.0 | 133.4 |
| 54.5° | 23.1 | 58.7 | 118.1 | 64.9 | 28.2 | 64.9 | 118.1 | 58.7 | 23.1 | 58.7 | 118.1 |
| 55° | 16.8 | 48.9 | 103.3 | 53.6 | 21.5 | 53.6 | 103.3 | 48.9 | 16.8 | 48.9 | 103.3 |
| 55.5° | 10.6 | 39.9 | 90.0 | 43.0 | 14.9 | 43.0 | 90.0 | 39.9 | 10.6 | 39.9 | 90.0 |
| 56° | 7.0 | 31.3 | 77.1 | 33.6 | 8.2 | 33.6 | 77.1 | 31.3 | 7.0 | 31.3 | 77.1 |
| 56.5° | 5.5 | 22.7 | 66.1 | 25.8 | 5.1 | 25.8 | 66.1 | 22.7 | 5.5 | 22.7 | 66.1 |
| 57° | 3.9 | 14.9 | 56.3 | 18.8 | 4.3 | 18.8 | 56.3 | 14.9 | 3.9 | 14.9 | 56.3 |
| 57.5° | 3.9 | 9.4 | 47.3 | 12.5 | 3.9 | 12.5 | 47.3 | 9.4 | 3.9 | 9.4 | 47.3 |
| 58° | 3.5 | 5.9 | 39.5 | 8.2 | 3.9 | 8.2 | 39.5 | 5.9 | 3.5 | 5.9 | 39.5 |
| 58.5° | 3.5 | 3.9 | 32.9 | 5.9 | 3.5 | 5.9 | 32.9 | 3.9 | 3.5 | 3.9 | 32.9 |
| 59° | 3.1 | 3.1 | 26.6 | 4.3 | 3.5 | 4.3 | 26.6 | 3.1 | 3.1 | 3.1 | 26.6 |
| 59.5° | 3.1 | 3.1 | 21.5 | 3.1 | 3.5 | 3.1 | 21.5 | 3.1 | 3.1 | 3.1 | 21.5 |
| 60° | 3.1 | 3.1 | 17.2 | 3.1 | 3.1 | 3.1 | 17.2 | 3.1 | 3.1 | 3.1 | 17.2 |
| 60.5° | 2.7 | 2.7 | 13.3 | 3.1 | 3.1 | 3.1 | 13.3 | 2.7 | 2.7 | 2.7 | 13.3 |
| 61° | 2.7 | 2.7 | 10.6 | 2.7 | 3.1 | 2.7 | 10.6 | 2.7 | 2.7 | 2.7 | 10.6 |
| 61.5° | 2.7 | 2.7 | 7.8 | 2.7 | 2.7 | 2.7 | 7.8 | 2.7 | 2.7 | 2.7 | 7.8 |
| 62° | 2.3 | 2.3 | 5.9 | 2.7 | 2.7 | 2.7 | 5.9 | 2.3 | 2.3 | 2.3 | 5.9 |
| 62.5° | 2.3 | 2.3 | 4.3 | 2.3 | 2.7 | 2.3 | 4.3 | 2.3 | 2.3 | 2.3 | 4.3 |
| 63° | 2.3 | 2.3 | 3.1 | 2.3 | 2.3 | 2.3 | 3.1 | 2.3 | 2.3 | 2.3 | 3.1 |
| 63.5° | 2.3 | 2.0 | 2.3 | 2.3 | 2.3 | 2.3 | 2.3 | 2.0 | 2.3 | 2.0 | 2.3 |
| 64° | 2.0 | 2.0 | 2.0 | 2.0 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 64.5° | 2.0 | 2.0 | 1.6 | 2.0 | 2.3 | 2.0 | 1.6 | 2.0 | 2.0 | 2.0 | 1.6 |
| 65° | 2.0 | 2.0 | 1.6 | 2.0 | 2.0 | 2.0 | 1.6 | 2.0 | 2.0 | 2.0 | 1.6 |
| 65.5° | 2.0 | 1.6 | 1.6 | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 2.0 | 1.6 | 1.6 |
| 66° | 2.0 | 1.6 | 1.2 | 1.6 | 2.0 | 1.6 | 1.2 | 1.6 | 2.0 | 1.6 | 1.2 |



TEST NUMBER: P776326

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 67.5° | 1.6 | 1.6 | 1.2 | 1.6 | 1.6 | 1.6 | 1.2 | 1.6 | 1.6 | 1.6 | 1.2 |
| 68° | 1.6 | 1.2 | 1.2 | 1.6 | 1.6 | 1.6 | 1.2 | 1.2 | 1.6 | 1.2 | 1.2 |
| 68.5° | 1.6 | 1.2 | 0.8 | 1.2 | 1.6 | 1.2 | 0.8 | 1.2 | 1.6 | 1.2 | 0.8 |
| 69° | 1.2 | 1.2 | 0.8 | 1.2 | 1.6 | 1.2 | 0.8 | 1.2 | 1.2 | 1.2 | 0.8 |
| 69.5° | 1.2 | 1.2 | 0.8 | 1.2 | 1.6 | 1.2 | 0.8 | 1.2 | 1.2 | 1.2 | 0.8 |
| 70° | 1.2 | 1.2 | 0.8 | 1.2 | 1.2 | 1.2 | 0.8 | 1.2 | 1.2 | 1.2 | 0.8 |
| 70.5° | 1.2 | 1.2 | 0.8 | 1.2 | 1.2 | 1.2 | 0.8 | 1.2 | 1.2 | 1.2 | 0.8 |
| 71° | 1.2 | 0.8 | 0.8 | 1.2 | 1.2 | 1.2 | 0.8 | 0.8 | 1.2 | 0.8 | 0.8 |
| 71.5° | 1.2 | 0.8 | 0.8 | 0.8 | 1.2 | 0.8 | 0.8 | 0.8 | 1.2 | 0.8 | 0.8 |
| 72° | 1.2 | 0.8 | 0.8 | 0.8 | 1.2 | 0.8 | 0.8 | 0.8 | 1.2 | 0.8 | 0.8 |
| 72.5° | 0.8 | 0.8 | 0.4 | 0.8 | 1.2 | 0.8 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 |
| 73° | 0.8 | 0.8 | 0.4 | 0.8 | 1.2 | 0.8 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 |
| 73.5° | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 |
| 74° | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 |
| 74.5° | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 |
| 75° | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 |
| 75.5° | 0.8 | 0.4 | 0.4 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.8 | 0.4 | 0.4 |
| 76° | 0.8 | 0.4 | 0.4 | 0.4 | 0.8 | 0.4 | 0.4 | 0.4 | 0.8 | 0.4 | 0.4 |
| 76.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 77° | 0.4 | 0.4 | 0.4 | 0.4 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 77.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 78° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 78.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 79° | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 |
| 79.5° | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 |
| 80° | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 |
| 80.5° | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 |
| 81° | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 |
| 81.5° | 0.4 | 0.0 | 0.0 | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 |
| 82° | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 83° | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 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: P776326
CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

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



TEST NUMBER: P776326

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 0° | 1972.0 | 1972.0 | 1972.0 | 1972.0 | 1972.0 | 1972.0 |
| 0.5° | 1972.0 | 1973.2 | 1972.0 | 1971.6 | 1971.6 | 1971.6 |
| 1° | 1971.6 | 1972.8 | 1971.6 | 1971.2 | 1971.2 | 1971.2 |
| 1.5° | 1970.9 | 1972.0 | 1970.9 | 1970.9 | 1970.9 | 1970.5 |
| 2° | 1970.1 | 1971.2 | 1970.1 | 1970.1 | 1969.7 | 1969.7 |
| 2.5° | 1969.3 | 1970.1 | 1969.3 | 1968.9 | 1968.5 | 1968.5 |
| 3° | 1967.7 | 1968.9 | 1967.7 | 1967.7 | 1967.3 | 1967.3 |
| 3.5° | 1966.2 | 1967.3 | 1966.2 | 1966.2 | 1965.8 | 1965.8 |
| 4° | 1964.6 | 1965.4 | 1964.6 | 1964.2 | 1964.2 | 1964.2 |
| 4.5° | 1962.3 | 1963.4 | 1962.3 | 1962.3 | 1962.3 | 1962.3 |
| 5° | 1959.9 | 1961.1 | 1959.9 | 1959.9 | 1959.9 | 1959.9 |
| 5.5° | 1957.6 | 1958.3 | 1957.6 | 1957.6 | 1957.2 | 1957.2 |
| 6° | 1954.8 | 1955.6 | 1954.8 | 1954.4 | 1954.4 | 1954.4 |
| 6.5° | 1951.7 | 1952.5 | 1951.7 | 1951.7 | 1951.3 | 1951.3 |
| 7° | 1948.6 | 1949.3 | 1948.6 | 1948.2 | 1948.2 | 1948.2 |
| 7.5° | 1944.6 | 1945.8 | 1944.6 | 1944.6 | 1944.6 | 1944.6 |
| 8° | 1941.1 | 1941.9 | 1941.1 | 1941.1 | 1940.7 | 1940.7 |
| 8.5° | 1936.8 | 1937.6 | 1936.8 | 1936.8 | 1936.8 | 1936.8 |
| 9° | 1932.5 | 1933.3 | 1932.5 | 1932.5 | 1932.5 | 1932.5 |
| 9.5° | 1927.8 | 1928.6 | 1927.8 | 1927.8 | 1927.8 | 1927.8 |
| 10° | 1923.1 | 1923.9 | 1923.1 | 1923.1 | 1923.1 | 1923.1 |
| 10.5° | 1917.7 | 1918.8 | 1917.7 | 1918.0 | 1918.0 | 1918.0 |
| 11° | 1912.6 | 1913.4 | 1912.6 | 1913.0 | 1912.6 | 1912.6 |
| 11.5° | 1906.7 | 1907.5 | 1906.7 | 1907.1 | 1907.1 | 1907.1 |
| 12° | 1900.8 | 1901.6 | 1900.8 | 1901.2 | 1901.2 | 1901.2 |
| 12.5° | 1894.6 | 1895.0 | 1894.6 | 1895.0 | 1895.0 | 1894.6 |
| 13° | 1887.9 | 1888.7 | 1887.9 | 1888.7 | 1888.7 | 1888.3 |
| 13.5° | 1881.3 | 1882.1 | 1881.3 | 1882.1 | 1881.7 | 1881.7 |
| 14° | 1874.2 | 1874.6 | 1874.2 | 1875.0 | 1875.0 | 1874.6 |
| 14.5° | 1867.2 | 1867.2 | 1867.2 | 1868.0 | 1867.6 | 1867.2 |
| 15° | 1859.4 | 1859.8 | 1859.4 | 1860.1 | 1860.1 | 1859.4 |
| 15.5° | 1851.5 | 1851.5 | 1851.5 | 1852.3 | 1852.3 | 1851.5 |
| 16° | 1843.3 | 1843.3 | 1843.3 | 1844.5 | 1844.1 | 1843.3 |
| 16.5° | 1835.1 | 1834.7 | 1835.1 | 1836.3 | 1835.5 | 1835.1 |
| 17° | 1826.1 | 1826.1 | 1826.1 | 1827.7 | 1826.9 | 1826.5 |
| 17.5° | 1817.1 | 1817.1 | 1817.1 | 1818.7 | 1817.9 | 1817.1 |
| 18° | 1808.1 | 1807.7 | 1808.1 | 1809.3 | 1808.5 | 1808.1 |
| 18.5° | 1798.3 | 1797.9 | 1798.3 | 1799.9 | 1799.1 | 1798.7 |
| 19° | 1788.6 | 1787.8 | 1788.6 | 1790.1 | 1789.3 | 1788.6 |
| 19.5° | 1778.4 | 1778.0 | 1778.4 | 1780.0 | 1779.2 | 1778.8 |
| 20° | 1767.8 | 1767.4 | 1767.8 | 1769.8 | 1769.0 | 1768.2 |
| 20.5° | 1757.3 | 1756.9 | 1757.3 | 1759.2 | 1758.4 | 1758.0 |
| 21° | 1746.3 | 1745.9 | 1746.3 | 1748.3 | 1747.5 | 1747.1 |



TEST NUMBER: P776326

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|--------|--------|--------|--------|--------|
| 22.5° | 1712.3 | 1712.3 | 1712.3 | 1713.8 | 1713.4 | 1713.4 |
| 23° | 1700.5 | 1700.1 | 1700.5 | 1701.7 | 1701.7 | 1701.7 |
| 23.5° | 1688.4 | 1688.4 | 1688.4 | 1689.2 | 1690.0 | 1690.0 |
| 24° | 1676.3 | 1677.1 | 1676.3 | 1676.7 | 1677.8 | 1677.8 |
| 24.5° | 1663.8 | 1664.9 | 1663.8 | 1663.8 | 1665.3 | 1665.7 |
| 25° | 1650.9 | 1647.7 | 1650.9 | 1650.5 | 1652.4 | 1654.4 |
| 25.5° | 1638.3 | 1631.3 | 1638.3 | 1637.2 | 1639.9 | 1641.1 |
| 26° | 1625.8 | 1614.9 | 1625.8 | 1623.5 | 1627.0 | 1618.8 |
| 26.5° | 1612.5 | 1591.0 | 1612.5 | 1609.8 | 1614.1 | 1600.0 |
| 27° | 1594.1 | 1563.2 | 1594.1 | 1595.7 | 1602.0 | 1577.3 |
| 27.5° | 1577.3 | 1538.2 | 1577.3 | 1581.2 | 1585.1 | 1549.1 |
| 28° | 1559.3 | 1510.4 | 1559.3 | 1566.7 | 1562.8 | 1519.4 |
| 28.5° | 1533.9 | 1481.5 | 1533.9 | 1552.3 | 1543.7 | 1489.3 |
| 29° | 1507.3 | 1453.3 | 1507.3 | 1537.4 | 1519.8 | 1457.6 |
| 29.5° | 1481.5 | 1422.8 | 1481.5 | 1522.5 | 1491.6 | 1425.5 |
| 30° | 1454.1 | 1391.9 | 1454.1 | 1507.3 | 1462.7 | 1392.3 |
| 30.5° | 1425.5 | 1359.8 | 1425.5 | 1492.4 | 1432.2 | 1358.2 |
| 31° | 1396.2 | 1326.9 | 1396.2 | 1477.2 | 1401.7 | 1323.0 |
| 31.5° | 1366.8 | 1291.3 | 1366.8 | 1461.9 | 1370.0 | 1287.4 |
| 32° | 1336.7 | 1255.0 | 1336.7 | 1446.7 | 1337.9 | 1251.1 |
| 32.5° | 1305.8 | 1218.2 | 1305.8 | 1431.8 | 1304.6 | 1213.9 |
| 33° | 1273.4 | 1181.8 | 1273.4 | 1416.5 | 1271.4 | 1176.7 |
| 33.5° | 1240.1 | 1142.3 | 1240.1 | 1398.9 | 1236.6 | 1139.2 |
| 34° | 1205.3 | 1104.7 | 1205.3 | 1380.1 | 1201.4 | 1102.4 |
| 34.5° | 1169.3 | 1067.6 | 1169.3 | 1358.2 | 1165.8 | 1065.2 |
| 35° | 1132.9 | 1032.0 | 1132.9 | 1331.6 | 1130.2 | 1028.5 |
| 35.5° | 1097.3 | 995.2 | 1097.3 | 1303.1 | 1095.0 | 992.5 |
| 36° | 1060.9 | 960.8 | 1060.9 | 1271.4 | 1059.0 | 956.9 |
| 36.5° | 1025.3 | 925.6 | 1025.3 | 1237.4 | 1023.8 | 920.9 |
| 37° | 990.1 | 890.8 | 990.1 | 1201.4 | 988.6 | 885.3 |
| 37.5° | 956.1 | 855.6 | 956.1 | 1165.0 | 953.7 | 849.3 |
| 38° | 921.7 | 820.3 | 921.7 | 1127.4 | 918.9 | 813.3 |
| 38.5° | 888.4 | 784.4 | 888.4 | 1090.3 | 885.3 | 776.9 |
| 39° | 855.2 | 749.1 | 855.2 | 1052.7 | 851.2 | 741.7 |
| 39.5° | 822.3 | 712.8 | 822.3 | 1014.8 | 817.2 | 706.9 |
| 40° | 788.7 | 677.9 | 788.7 | 976.0 | 782.8 | 671.3 |
| 40.5° | 754.6 | 642.7 | 754.6 | 936.9 | 748.8 | 636.5 |
| 41° | 721.0 | 608.7 | 721.0 | 897.8 | 715.1 | 602.8 |
| 41.5° | 687.3 | 575.5 | 687.3 | 858.3 | 681.5 | 569.2 |
| 42° | 653.7 | 543.4 | 653.7 | 818.8 | 648.6 | 536.7 |
| 42.5° | 621.2 | 511.7 | 621.2 | 780.0 | 615.7 | 504.6 |
| 43° | 588.4 | 480.4 | 588.4 | 741.3 | 583.7 | 473.0 |
| 43.5° | 557.5 | 449.9 | 557.5 | 703.4 | 552.0 | 441.3 |



TEST NUMBER: P776326

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|-------|--------|-------|--------|-------|
| 45° | 466.3 | 361.1 | 466.3 | 594.6 | 460.4 | 351.7 |
| 45.5° | 437.8 | 333.3 | 437.8 | 560.6 | 431.1 | 324.3 |
| 46° | 409.6 | 306.7 | 409.6 | 528.1 | 402.5 | 298.1 |
| 46.5° | 381.4 | 281.3 | 381.4 | 496.0 | 373.6 | 271.5 |
| 47° | 353.6 | 257.4 | 353.6 | 464.7 | 346.2 | 246.5 |
| 47.5° | 326.3 | 233.9 | 326.3 | 434.6 | 319.6 | 221.4 |
| 48° | 300.8 | 211.2 | 300.8 | 405.7 | 294.2 | 199.5 |
| 48.5° | 276.6 | 190.9 | 276.6 | 377.9 | 269.1 | 178.4 |
| 49° | 252.7 | 172.1 | 252.7 | 350.1 | 244.5 | 160.8 |
| 49.5° | 230.0 | 154.1 | 230.0 | 323.5 | 221.4 | 144.0 |
| 50° | 208.1 | 136.5 | 208.1 | 297.3 | 199.5 | 127.1 |
| 50.5° | 187.8 | 119.3 | 187.8 | 273.1 | 178.8 | 111.1 |
| 51° | 169.4 | 104.8 | 169.4 | 249.6 | 160.8 | 95.8 |
| 51.5° | 151.4 | 91.1 | 151.4 | 227.3 | 143.6 | 83.3 |
| 52° | 134.2 | 78.2 | 134.2 | 205.8 | 126.7 | 71.2 |
| 52.5° | 117.8 | 66.1 | 117.8 | 185.4 | 110.3 | 59.9 |
| 53° | 103.3 | 54.8 | 103.3 | 167.4 | 95.5 | 49.3 |
| 53.5° | 90.0 | 43.8 | 90.0 | 149.8 | 82.2 | 40.7 |
| 54° | 77.1 | 34.8 | 77.1 | 133.4 | 70.0 | 31.7 |
| 54.5° | 64.9 | 28.2 | 64.9 | 118.1 | 58.7 | 23.1 |
| 55° | 53.6 | 21.5 | 53.6 | 103.3 | 48.9 | 16.8 |
| 55.5° | 43.0 | 14.9 | 43.0 | 90.0 | 39.9 | 10.6 |
| 56° | 33.6 | 8.2 | 33.6 | 77.1 | 31.3 | 7.0 |
| 56.5° | 25.8 | 5.1 | 25.8 | 66.1 | 22.7 | 5.5 |
| 57° | 18.8 | 4.3 | 18.8 | 56.3 | 14.9 | 3.9 |
| 57.5° | 12.5 | 3.9 | 12.5 | 47.3 | 9.4 | 3.9 |
| 58° | 8.2 | 3.9 | 8.2 | 39.5 | 5.9 | 3.5 |
| 58.5° | 5.9 | 3.5 | 5.9 | 32.9 | 3.9 | 3.5 |
| 59° | 4.3 | 3.5 | 4.3 | 26.6 | 3.1 | 3.1 |
| 59.5° | 3.1 | 3.5 | 3.1 | 21.5 | 3.1 | 3.1 |
| 60° | 3.1 | 3.1 | 3.1 | 17.2 | 3.1 | 3.1 |
| 60.5° | 3.1 | 3.1 | 3.1 | 13.3 | 2.7 | 2.7 |
| 61° | 2.7 | 3.1 | 2.7 | 10.6 | 2.7 | 2.7 |
| 61.5° | 2.7 | 2.7 | 2.7 | 7.8 | 2.7 | 2.7 |
| 62° | 2.7 | 2.7 | 2.7 | 5.9 | 2.3 | 2.3 |
| 62.5° | 2.3 | 2.7 | 2.3 | 4.3 | 2.3 | 2.3 |
| 63° | 2.3 | 2.3 | 2.3 | 3.1 | 2.3 | 2.3 |
| 63.5° | 2.3 | 2.3 | 2.3 | 2.3 | 2.0 | 2.3 |
| 64° | 2.0 | 2.3 | 2.0 | 2.0 | 2.0 | 2.0 |
| 64.5° | 2.0 | 2.3 | 2.0 | 1.6 | 2.0 | 2.0 |
| 65° | 2.0 | 2.0 | 2.0 | 1.6 | 2.0 | 2.0 |
| 65.5° | 2.0 | 2.0 | 2.0 | 1.6 | 1.6 | 2.0 |
| 66° | 1.6 | 2.0 | 1.6 | 1.2 | 1.6 | 2.0 |



TEST NUMBER: P776326
 CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

CANDELA DISTRIBUTION (continued):

| | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|------|--------|------|--------|------|
| 67.5° | 1.6 | 1.6 | 1.6 | 1.2 | 1.6 | 1.6 |
| 68° | 1.6 | 1.6 | 1.6 | 1.2 | 1.2 | 1.6 |
| 68.5° | 1.2 | 1.6 | 1.2 | 0.8 | 1.2 | 1.6 |
| 69° | 1.2 | 1.6 | 1.2 | 0.8 | 1.2 | 1.2 |
| 69.5° | 1.2 | 1.6 | 1.2 | 0.8 | 1.2 | 1.2 |
| 70° | 1.2 | 1.2 | 1.2 | 0.8 | 1.2 | 1.2 |
| 70.5° | 1.2 | 1.2 | 1.2 | 0.8 | 1.2 | 1.2 |
| 71° | 1.2 | 1.2 | 1.2 | 0.8 | 0.8 | 1.2 |
| 71.5° | 0.8 | 1.2 | 0.8 | 0.8 | 0.8 | 1.2 |
| 72° | 0.8 | 1.2 | 0.8 | 0.8 | 0.8 | 1.2 |
| 72.5° | 0.8 | 1.2 | 0.8 | 0.4 | 0.8 | 0.8 |
| 73° | 0.8 | 1.2 | 0.8 | 0.4 | 0.8 | 0.8 |
| 73.5° | 0.8 | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 |
| 74° | 0.8 | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 |
| 74.5° | 0.8 | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 |
| 75° | 0.8 | 0.8 | 0.8 | 0.4 | 0.8 | 0.8 |
| 75.5° | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 | 0.8 |
| 76° | 0.4 | 0.8 | 0.4 | 0.4 | 0.4 | 0.8 |
| 76.5° | 0.4 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 |
| 77° | 0.4 | 0.8 | 0.4 | 0.4 | 0.4 | 0.4 |
| 77.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 78° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 78.5° | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| 79° | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 |
| 79.5° | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 |
| 80° | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 |
| 80.5° | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 |
| 81° | 0.4 | 0.4 | 0.4 | 0.0 | 0.4 | 0.4 |
| 81.5° | 0.4 | 0.4 | 0.4 | 0.0 | 0.0 | 0.4 |
| 82° | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 83° | 0.0 | 0.4 | 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: P776326

CATALOG NUMBER: HCDJBL3040CSD-HCD4TSQMB-4000lm-3000K

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° | 1736.1 | 1736.5 | 1736.9 | 1735.4 | 1735.0 | 1735.4 | 1736.9 | 1736.5 | 1736.1 | 1736.5 | 1736.9 |
| 22° | 1724.8 | 1725.2 | 1725.6 | 1723.6 | 1723.6 | 1723.6 | 1725.6 | 1725.2 | 1724.8 | 1725.2 | 1725.6 |



| | | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 44° | 410.8 | 520.7 | 665.8 | 526.2 | 419.4 | 526.2 | 665.8 | 520.7 | 410.8 | 520.7 | 665.8 |
| 44.5° | 381.0 | 490.6 | 629.8 | 496.0 | 389.6 | 496.0 | 629.8 | 490.6 | 381.0 | 490.6 | 629.8 |



| | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 66.5° | 1.6 | 1.6 | 1.2 | 1.6 | 2.0 | 1.6 | 1.2 | 1.6 | 1.6 | 1.6 | 1.2 |
| 67° | 1.6 | 1.6 | 1.2 | 1.6 | 1.6 | 1.6 | 1.2 | 1.6 | 1.6 | 1.6 | 1.2 |



| | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 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° | 1735.4 | 1735.0 | 1735.4 | 1736.9 | 1736.5 | 1736.1 |
| 22° | 1723.6 | 1723.6 | 1723.6 | 1725.6 | 1725.2 | 1724.8 |



| | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|
| 44° | 526.2 | 419.4 | 526.2 | 665.8 | 520.7 | 410.8 |
| 44.5° | 496.0 | 389.6 | 496.0 | 629.8 | 490.6 | 381.0 |

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Scaled Data Report



| | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|
| 66.5° | 1.6 | 2.0 | 1.6 | 1.2 | 1.6 | 1.6 |
| 67° | 1.6 | 1.6 | 1.6 | 1.2 | 1.6 | 1.6 |

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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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Scaled Data Report



(END OF REPORT)