

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: P776838

Luminaire Tested: HCDJBS4050CSD-HCD8TSQMB-5000lm-4000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776838  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2312156B024-HCD8TSQMB)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBS4050CSD-HCD8TSQMB-5000lm-4000K  
Description: 8 INCH SQUARE MEDIUM MATTE BLACK TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 4000K CCT  
Ballast/Driver: -

**Summary**

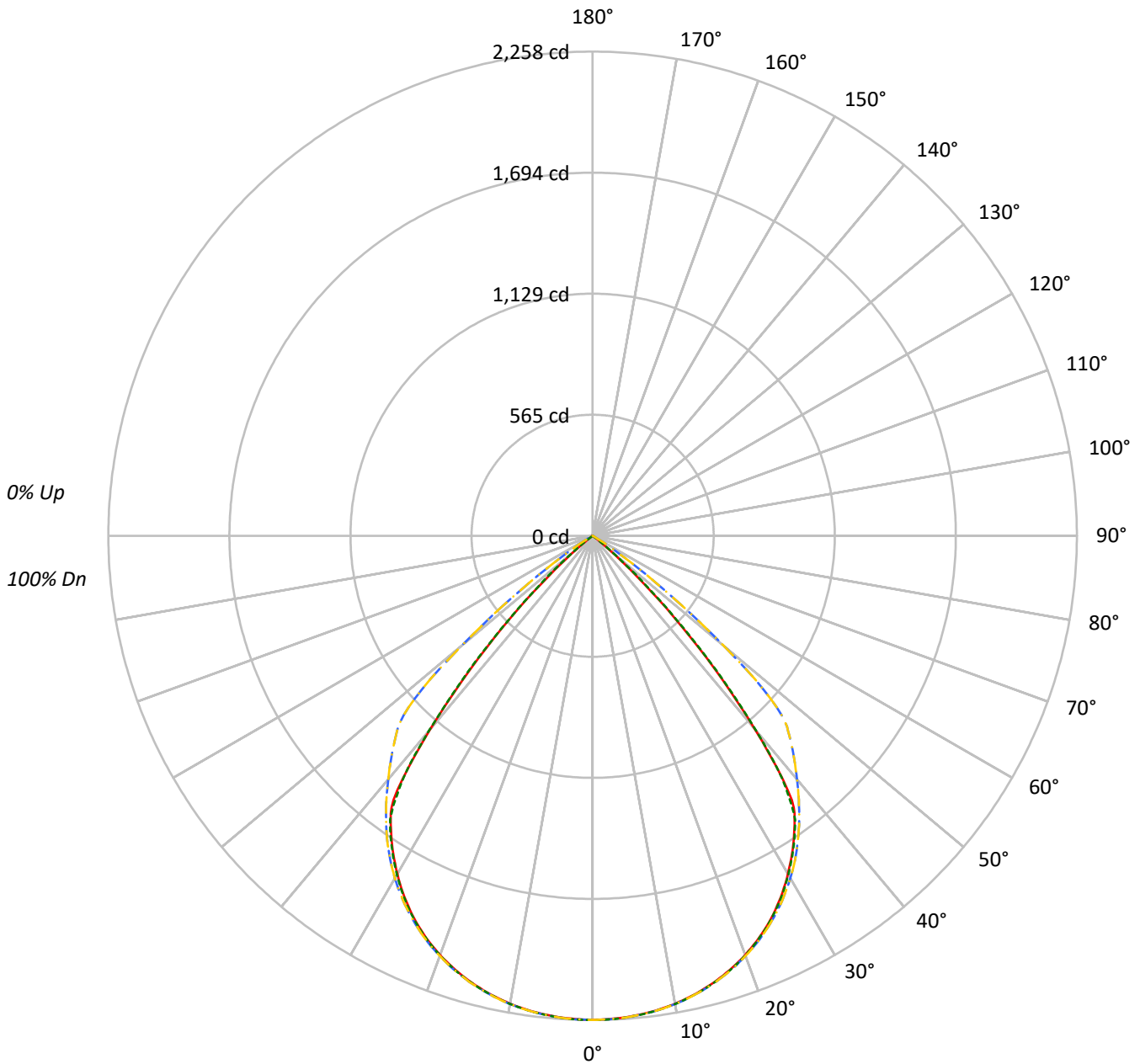
Lumens per Lamp: N/A  
Luminaire Lumens: 3508.5 lumens  
Efficiency: N/A  
Efficacy: 73.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.2 / 1.28  
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')

CIE Type: Direct  
Input Watts (W): 48  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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: P776838  
CATALOG NUMBER: HCDJBL54050CSD-HCD8TSQMB-5000lm-4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P776838

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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |    |     |  |  |  |    |  |  |  |  |  |  |  |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|-----|--|--|--|----|--|--|--|--|--|--|--|--|---|
| RF  | 20  |     |     |     |     |     |     |     |     | 20  |     |     |     |     |     |     |     |     | 20 |    |    |    |    |     |  |  |  | 20 |  |  |  |  |  |  |  |  |   |
| RC  | 80  |     |     |     |     |     |     |     |     | 50  |     |     |     |     |     |     |     |     | 30 |    |    |    |    |     |  |  |  | 10 |  |  |  |  |  |  |  |  | 0 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 | 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 | 104 | 110 | 107 | 105 | 103 | 103 | 101 | 100 | 100 | 98  | 97  | 96  | 95  | 94  | 92  |    |    |    |    |    | 92  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 2   | 106 | 101 | 96  | 92  | 104 | 99  | 95  | 91  | 96  | 92  | 89  | 92  | 90  | 87  | 90  | 87  | 85  | 84  |    |    |    |    |    | 84  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 3   | 100 | 92  | 87  | 82  | 98  | 91  | 86  | 81  | 88  | 84  | 80  | 86  | 82  | 79  | 83  | 80  | 77  | 76  |    |    |    |    |    | 76  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 4   | 93  | 85  | 78  | 73  | 91  | 84  | 78  | 73  | 81  | 76  | 72  | 79  | 75  | 71  | 77  | 74  | 70  | 69  |    |    |    |    |    | 69  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 5   | 88  | 78  | 71  | 66  | 86  | 77  | 71  | 66  | 75  | 70  | 65  | 73  | 68  | 65  | 72  | 67  | 64  | 62  |    |    |    |    |    | 62  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 6   | 82  | 72  | 65  | 60  | 81  | 71  | 64  | 60  | 69  | 64  | 59  | 68  | 63  | 59  | 67  | 62  | 58  | 57  |    |    |    |    |    | 57  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 7   | 77  | 66  | 59  | 55  | 76  | 66  | 59  | 54  | 64  | 58  | 54  | 63  | 58  | 54  | 62  | 57  | 53  | 52  |    |    |    |    |    | 52  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 8   | 72  | 62  | 55  | 50  | 71  | 61  | 54  | 50  | 60  | 54  | 50  | 59  | 53  | 49  | 58  | 53  | 49  | 47  |    |    |    |    |    | 47  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 9   | 68  | 57  | 50  | 46  | 67  | 57  | 50  | 46  | 56  | 50  | 45  | 55  | 49  | 45  | 54  | 49  | 45  | 44  |    |    |    |    |    | 44  |  |  |  |    |  |  |  |  |  |  |  |  |   |
| 10  | 64  | 53  | 47  | 42  | 63  | 53  | 46  | 42  | 52  | 46  | 42  | 51  | 46  | 42  | 50  | 45  | 42  | 40  |    |    |    |    |    | 40  |  |  |  |    |  |  |  |  |  |  |  |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 90°   | 180°  | 270°  |
|-----|-------|-------|-------|-------|
| 0°  | 54136 | 54136 | 54136 | 54136 |
| 5°  | 54078 | 54112 | 54078 | 54112 |
| 10° | 53946 | 53980 | 53946 | 53980 |
| 15° | 53635 | 53683 | 53635 | 53683 |
| 20° | 53084 | 53132 | 53084 | 53132 |
| 25° | 52089 | 52153 | 52089 | 52153 |
| 30° | 50422 | 50528 | 50422 | 50528 |
| 35° | 48045 | 48182 | 48045 | 48182 |
| 40° | 36823 | 37139 | 36823 | 37139 |
| 45° | 18261 | 18729 | 18261 | 18729 |
| 50° | 4014  | 4887  | 4014  | 4887  |
| 55° | 59    | 79    | 59    | 79    |
| 60° | 48    | 67    | 48    | 67    |
| 65° | 57    | 57    | 57    | 57    |
| 70° | 35    | 35    | 35    | 35    |
| 75° | 46    | 46    | 46    | 46    |
| 80° | 0     | 0     | 0     | 0     |
| 85° | 0     | 0     | 0     | 0     |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 43738 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 213.6  | 6.1       |
| 10°-20°   | 609.8  | 17.4      |
| 20°-30°   | 908.0  | 25.9      |
| 30°-40°   | 1027.1 | 29.3      |
| 40°-50°   | 655.5  | 18.7      |
| 50°-60°   | 93.0   | 2.7       |
| 60°-70°   | 1.0    | 0.0       |
| 70°-80°   | 0.4    | 0.0       |
| 80°-90°   | 0.0    | 0.0       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 1731.4 | 49.4      |
| 0°-40°    | 2758.6 | 78.6      |
| 0°-60°    | 3507.0 | 100.0     |
| 0°-90°    | 3508.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3508.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 90°  | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 2258 | 2258 | 2258 | 2258 | 2258 |      |
| 5°  | 2247 | 2248 | 2247 | 2248 | 2247 | 213  |
| 15° | 2161 | 2162 | 2161 | 2162 | 2161 | 609  |
| 25° | 1969 | 1971 | 1969 | 1971 | 1969 | 905  |
| 35° | 1641 | 1646 | 1641 | 1646 | 1641 | 996  |
| 45° | 538  | 552  | 538  | 552  | 538  | 430  |
| 55° | 1    | 2    | 1    | 2    | 1    | 13   |
| 65° | 1    | 1    | 1    | 1    | 1    | 1    |
| 75° | 0    | 0    | 0    | 0    | 0    | 0    |
| 85° | 0    | 0    | 0    | 0    | 0    | 0    |
| 90° | 0    | 0    | 0    | 0    | 0    |      |



TEST NUMBER: P776838

CATALOG NUMBER: HCDJBL54050CSD-HCD8TSQMB-5000lm-4000K

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   | 202.5° | 225°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 2257.7 | 2257.7 | 2257.7 | 2257.7 | 2257.7 | 2257.7 | 2257.7 | 2257.7 | 2257.7 | 2257.7 | 2257.7 |
| 0.5°  | 2256.7 | 2257.2 | 2257.7 | 2258.2 | 2258.2 | 2258.2 | 2257.7 | 2257.2 | 2256.7 | 2257.2 | 2257.7 |
| 1°    | 2256.3 | 2256.7 | 2257.2 | 2257.7 | 2257.7 | 2257.7 | 2257.2 | 2256.7 | 2256.3 | 2256.7 | 2257.2 |
| 1.5°  | 2255.8 | 2256.3 | 2256.7 | 2257.2 | 2257.2 | 2257.2 | 2256.7 | 2256.3 | 2255.8 | 2256.3 | 2256.7 |
| 2°    | 2255.3 | 2255.3 | 2256.3 | 2256.7 | 2256.3 | 2256.7 | 2256.3 | 2255.3 | 2255.3 | 2255.3 | 2256.3 |
| 2.5°  | 2254.3 | 2254.8 | 2255.3 | 2255.8 | 2255.8 | 2255.8 | 2255.3 | 2254.8 | 2254.3 | 2254.8 | 2255.3 |
| 3°    | 2253.4 | 2253.4 | 2254.3 | 2254.8 | 2254.3 | 2254.8 | 2254.3 | 2253.4 | 2253.4 | 2253.4 | 2254.3 |
| 3.5°  | 2252.0 | 2252.4 | 2252.9 | 2253.4 | 2253.4 | 2253.4 | 2252.9 | 2252.4 | 2252.0 | 2252.4 | 2252.9 |
| 4°    | 2250.5 | 2251.0 | 2251.5 | 2252.0 | 2251.5 | 2252.0 | 2251.5 | 2251.0 | 2250.5 | 2251.0 | 2251.5 |
| 4.5°  | 2248.6 | 2249.1 | 2249.6 | 2250.0 | 2250.0 | 2250.0 | 2249.6 | 2249.1 | 2248.6 | 2249.1 | 2249.6 |
| 5°    | 2246.7 | 2247.2 | 2248.1 | 2248.1 | 2248.1 | 2248.1 | 2248.1 | 2247.2 | 2246.7 | 2247.2 | 2248.1 |
| 5.5°  | 2244.8 | 2245.3 | 2245.7 | 2246.2 | 2245.7 | 2246.2 | 2245.7 | 2245.3 | 2244.8 | 2245.3 | 2245.7 |
| 6°    | 2242.4 | 2242.9 | 2243.3 | 2243.8 | 2243.8 | 2243.8 | 2243.3 | 2242.9 | 2242.4 | 2242.9 | 2243.3 |
| 6.5°  | 2240.0 | 2240.5 | 2241.0 | 2241.4 | 2241.0 | 2241.4 | 2241.0 | 2240.5 | 2240.0 | 2240.5 | 2241.0 |
| 7°    | 2237.1 | 2237.6 | 2238.6 | 2238.6 | 2238.6 | 2238.6 | 2238.6 | 2237.6 | 2237.1 | 2237.6 | 2238.6 |
| 7.5°  | 2234.3 | 2234.7 | 2235.2 | 2235.7 | 2235.2 | 2235.7 | 2235.2 | 2234.7 | 2234.3 | 2234.7 | 2235.2 |
| 8°    | 2230.9 | 2231.4 | 2232.3 | 2232.3 | 2232.3 | 2232.3 | 2232.3 | 2231.4 | 2230.9 | 2231.4 | 2232.3 |
| 8.5°  | 2227.6 | 2228.0 | 2229.0 | 2229.0 | 2228.5 | 2229.0 | 2229.0 | 2228.0 | 2227.6 | 2228.0 | 2229.0 |
| 9°    | 2223.7 | 2224.2 | 2225.2 | 2225.7 | 2225.2 | 2225.7 | 2225.2 | 2224.2 | 2223.7 | 2224.2 | 2225.2 |
| 9.5°  | 2219.9 | 2220.4 | 2221.3 | 2221.8 | 2220.9 | 2221.8 | 2221.3 | 2220.4 | 2219.9 | 2220.4 | 2221.3 |
| 10°   | 2215.6 | 2216.6 | 2217.5 | 2217.5 | 2217.0 | 2217.5 | 2217.5 | 2216.6 | 2215.6 | 2216.6 | 2217.5 |
| 10.5° | 2211.3 | 2212.3 | 2213.2 | 2213.2 | 2212.7 | 2213.2 | 2213.2 | 2212.3 | 2211.3 | 2212.3 | 2213.2 |
| 11°   | 2206.5 | 2207.5 | 2208.9 | 2208.4 | 2208.0 | 2208.4 | 2208.9 | 2207.5 | 2206.5 | 2207.5 | 2208.9 |
| 11.5° | 2201.7 | 2202.7 | 2204.1 | 2203.7 | 2203.2 | 2203.7 | 2204.1 | 2202.7 | 2201.7 | 2202.7 | 2204.1 |
| 12°   | 2196.5 | 2197.4 | 2198.9 | 2198.9 | 2197.9 | 2198.9 | 2198.9 | 2197.4 | 2196.5 | 2197.4 | 2198.9 |
| 12.5° | 2191.2 | 2192.2 | 2193.6 | 2193.6 | 2192.7 | 2193.6 | 2193.6 | 2192.2 | 2191.2 | 2192.2 | 2193.6 |
| 13°   | 2185.5 | 2186.9 | 2188.4 | 2188.4 | 2187.4 | 2188.4 | 2188.4 | 2186.9 | 2185.5 | 2186.9 | 2188.4 |
| 13.5° | 2179.7 | 2181.2 | 2182.6 | 2182.6 | 2181.7 | 2182.6 | 2182.6 | 2181.2 | 2179.7 | 2181.2 | 2182.6 |
| 14°   | 2173.5 | 2175.0 | 2176.4 | 2176.4 | 2175.4 | 2176.4 | 2176.4 | 2175.0 | 2173.5 | 2175.0 | 2176.4 |
| 14.5° | 2167.3 | 2168.7 | 2170.2 | 2170.2 | 2169.2 | 2170.2 | 2170.2 | 2168.7 | 2167.3 | 2168.7 | 2170.2 |
| 15°   | 2160.6 | 2162.0 | 2164.0 | 2163.5 | 2162.5 | 2163.5 | 2164.0 | 2162.0 | 2160.6 | 2162.0 | 2164.0 |
| 15.5° | 2153.9 | 2155.4 | 2157.3 | 2156.8 | 2155.8 | 2156.8 | 2157.3 | 2155.4 | 2153.9 | 2155.4 | 2157.3 |
| 16°   | 2146.7 | 2148.2 | 2150.1 | 2150.1 | 2148.7 | 2150.1 | 2150.1 | 2148.2 | 2146.7 | 2148.2 | 2150.1 |
| 16.5° | 2139.6 | 2141.0 | 2142.9 | 2142.9 | 2141.5 | 2142.9 | 2142.9 | 2141.0 | 2139.6 | 2141.0 | 2142.9 |
| 17°   | 2131.4 | 2133.4 | 2135.7 | 2135.3 | 2133.8 | 2135.3 | 2135.7 | 2133.4 | 2131.4 | 2133.4 | 2135.7 |
| 17.5° | 2123.8 | 2125.7 | 2127.6 | 2127.6 | 2126.2 | 2127.6 | 2127.6 | 2125.7 | 2123.8 | 2125.7 | 2127.6 |
| 18°   | 2115.7 | 2117.6 | 2120.0 | 2119.5 | 2117.6 | 2119.5 | 2120.0 | 2117.6 | 2115.7 | 2117.6 | 2120.0 |
| 18.5° | 2107.1 | 2109.4 | 2111.4 | 2110.9 | 2109.0 | 2110.9 | 2111.4 | 2109.4 | 2107.1 | 2109.4 | 2111.4 |
| 19°   | 2098.4 | 2100.8 | 2102.7 | 2102.3 | 2100.4 | 2102.3 | 2102.7 | 2100.8 | 2098.4 | 2100.8 | 2102.7 |
| 19.5° | 2089.4 | 2091.7 | 2094.1 | 2093.7 | 2091.7 | 2093.7 | 2094.1 | 2091.7 | 2089.4 | 2091.7 | 2094.1 |
| 20°   | 2080.3 | 2082.7 | 2085.1 | 2084.6 | 2082.2 | 2084.6 | 2085.1 | 2082.7 | 2080.3 | 2082.7 | 2085.1 |
| 20.5° | 2070.2 | 2073.1 | 2076.0 | 2075.0 | 2072.6 | 2075.0 | 2076.0 | 2073.1 | 2070.2 | 2073.1 | 2076.0 |
| 21°   | 2060.2 | 2063.5 | 2066.4 | 2065.4 | 2062.6 | 2065.4 | 2066.4 | 2063.5 | 2060.2 | 2063.5 | 2066.4 |



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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° | 2028.6 | 2032.5 | 2035.8 | 2034.4 | 2031.0 | 2034.4 | 2035.8 | 2032.5 | 2028.6 | 2032.5 | 2035.8 |
| 23°   | 2017.1 | 2021.5 | 2025.3 | 2023.4 | 2019.5 | 2023.4 | 2025.3 | 2021.5 | 2017.1 | 2021.5 | 2025.3 |
| 23.5° | 2005.7 | 2010.5 | 2014.3 | 2011.9 | 2008.1 | 2011.9 | 2014.3 | 2010.5 | 2005.7 | 2010.5 | 2014.3 |
| 24°   | 1994.2 | 1998.5 | 2002.8 | 2000.4 | 1996.1 | 2000.4 | 2002.8 | 1998.5 | 1994.2 | 1998.5 | 2002.8 |
| 24.5° | 1981.8 | 1986.5 | 1991.3 | 1988.5 | 1984.1 | 1988.5 | 1991.3 | 1986.5 | 1981.8 | 1986.5 | 1991.3 |
| 25°   | 1968.8 | 1974.6 | 1979.4 | 1976.0 | 1971.2 | 1976.0 | 1979.4 | 1974.6 | 1968.8 | 1974.6 | 1979.4 |
| 25.5° | 1955.5 | 1962.2 | 1967.4 | 1963.6 | 1958.3 | 1963.6 | 1967.4 | 1962.2 | 1955.5 | 1962.2 | 1967.4 |
| 26°   | 1942.5 | 1949.2 | 1955.0 | 1950.7 | 1945.4 | 1950.7 | 1955.0 | 1949.2 | 1942.5 | 1949.2 | 1955.0 |
| 26.5° | 1928.2 | 1935.8 | 1942.1 | 1937.3 | 1931.5 | 1937.3 | 1942.1 | 1935.8 | 1928.2 | 1935.8 | 1942.1 |
| 27°   | 1914.3 | 1922.0 | 1929.2 | 1923.4 | 1917.2 | 1923.4 | 1929.2 | 1922.0 | 1914.3 | 1922.0 | 1929.2 |
| 27.5° | 1900.0 | 1908.1 | 1915.8 | 1909.5 | 1902.9 | 1909.5 | 1915.8 | 1908.1 | 1900.0 | 1908.1 | 1915.8 |
| 28°   | 1884.7 | 1893.8 | 1901.9 | 1895.2 | 1888.0 | 1895.2 | 1901.9 | 1893.8 | 1884.7 | 1893.8 | 1901.9 |
| 28.5° | 1869.4 | 1878.9 | 1888.0 | 1880.9 | 1872.7 | 1880.9 | 1888.0 | 1878.9 | 1869.4 | 1878.9 | 1888.0 |
| 29°   | 1853.6 | 1863.6 | 1873.7 | 1865.6 | 1857.4 | 1865.6 | 1873.7 | 1863.6 | 1853.6 | 1863.6 | 1873.7 |
| 29.5° | 1837.8 | 1848.3 | 1858.9 | 1850.2 | 1841.2 | 1850.2 | 1858.9 | 1848.3 | 1837.8 | 1848.3 | 1858.9 |
| 30°   | 1821.1 | 1832.6 | 1844.0 | 1834.9 | 1824.9 | 1834.9 | 1844.0 | 1832.6 | 1821.1 | 1832.6 | 1844.0 |
| 30.5° | 1804.3 | 1816.8 | 1828.7 | 1818.7 | 1808.6 | 1818.7 | 1828.7 | 1816.8 | 1804.3 | 1816.8 | 1828.7 |
| 31°   | 1787.6 | 1800.0 | 1812.9 | 1802.4 | 1791.9 | 1802.4 | 1812.9 | 1800.0 | 1787.6 | 1800.0 | 1812.9 |
| 31.5° | 1770.4 | 1783.8 | 1797.2 | 1786.2 | 1774.2 | 1786.2 | 1797.2 | 1783.8 | 1770.4 | 1783.8 | 1797.2 |
| 32°   | 1753.2 | 1767.0 | 1780.9 | 1769.4 | 1757.0 | 1769.4 | 1780.9 | 1767.0 | 1753.2 | 1767.0 | 1780.9 |
| 32.5° | 1735.5 | 1749.8 | 1764.2 | 1752.2 | 1739.3 | 1752.2 | 1764.2 | 1749.8 | 1735.5 | 1749.8 | 1764.2 |
| 33°   | 1717.3 | 1732.6 | 1747.4 | 1735.0 | 1721.6 | 1735.0 | 1747.4 | 1732.6 | 1717.3 | 1732.6 | 1747.4 |
| 33.5° | 1698.7 | 1714.9 | 1729.7 | 1717.8 | 1703.4 | 1717.8 | 1729.7 | 1714.9 | 1698.7 | 1714.9 | 1729.7 |
| 34°   | 1679.5 | 1697.7 | 1712.0 | 1700.1 | 1684.8 | 1700.1 | 1712.0 | 1697.7 | 1679.5 | 1697.7 | 1712.0 |
| 34.5° | 1660.4 | 1679.5 | 1694.3 | 1681.9 | 1665.7 | 1681.9 | 1694.3 | 1679.5 | 1660.4 | 1679.5 | 1694.3 |
| 35°   | 1641.3 | 1661.3 | 1675.7 | 1663.7 | 1646.0 | 1663.7 | 1675.7 | 1661.3 | 1641.3 | 1661.3 | 1675.7 |
| 35.5° | 1621.2 | 1643.2 | 1657.5 | 1645.6 | 1626.0 | 1645.6 | 1657.5 | 1643.2 | 1621.2 | 1643.2 | 1657.5 |
| 36°   | 1601.1 | 1624.5 | 1638.9 | 1626.9 | 1593.9 | 1626.9 | 1638.9 | 1624.5 | 1601.1 | 1624.5 | 1638.9 |
| 36.5° | 1577.2 | 1604.9 | 1619.7 | 1607.8 | 1558.5 | 1607.8 | 1619.7 | 1604.9 | 1577.2 | 1604.9 | 1619.7 |
| 37°   | 1544.2 | 1585.3 | 1600.6 | 1588.7 | 1516.9 | 1588.7 | 1600.6 | 1585.3 | 1544.2 | 1585.3 | 1600.6 |
| 37.5° | 1494.0 | 1565.7 | 1581.0 | 1568.6 | 1476.8 | 1568.6 | 1581.0 | 1565.7 | 1494.0 | 1565.7 | 1581.0 |
| 38°   | 1439.5 | 1546.1 | 1561.4 | 1546.1 | 1430.8 | 1546.1 | 1561.4 | 1546.1 | 1439.5 | 1546.1 | 1561.4 |
| 38.5° | 1374.9 | 1525.1 | 1541.8 | 1514.1 | 1378.2 | 1514.1 | 1541.8 | 1525.1 | 1374.9 | 1525.1 | 1541.8 |
| 39°   | 1309.4 | 1497.3 | 1522.7 | 1476.8 | 1319.4 | 1476.8 | 1522.7 | 1497.3 | 1309.4 | 1497.3 | 1522.7 |
| 39.5° | 1242.9 | 1459.5 | 1502.6 | 1438.0 | 1253.9 | 1438.0 | 1502.6 | 1459.5 | 1242.9 | 1459.5 | 1502.6 |
| 40°   | 1176.4 | 1410.8 | 1482.5 | 1395.9 | 1186.5 | 1395.9 | 1482.5 | 1410.8 | 1176.4 | 1410.8 | 1482.5 |
| 40.5° | 1109.5 | 1353.9 | 1463.4 | 1348.6 | 1117.6 | 1348.6 | 1463.4 | 1353.9 | 1109.5 | 1353.9 | 1463.4 |
| 41°   | 1041.6 | 1292.2 | 1443.8 | 1296.0 | 1051.6 | 1296.0 | 1443.8 | 1292.2 | 1041.6 | 1292.2 | 1443.8 |
| 41.5° | 976.1  | 1230.0 | 1424.6 | 1238.1 | 986.6  | 1238.1 | 1424.6 | 1230.0 | 976.1  | 1230.0 | 1424.6 |
| 42°   | 909.6  | 1167.3 | 1405.5 | 1175.5 | 923.0  | 1175.5 | 1405.5 | 1167.3 | 909.6  | 1167.3 | 1405.5 |
| 42.5° | 845.5  | 1105.2 | 1386.4 | 1111.9 | 859.8  | 1111.9 | 1386.4 | 1105.2 | 845.5  | 1105.2 | 1386.4 |
| 43°   | 781.4  | 1041.6 | 1367.2 | 1047.3 | 795.8  | 1047.3 | 1367.2 | 1041.6 | 781.4  | 1041.6 | 1367.2 |
| 43.5° | 718.8  | 978.0  | 1347.6 | 985.1  | 732.2  | 985.1  | 1347.6 | 978.0  | 718.8  | 978.0  | 1347.6 |



TEST NUMBER: P776838

CATALOG NUMBER: HCDJBL54050CSD-HCD8TSQMB-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

|       | 0°    | 22.5° | 45°    | 67.5° | 90°   | 112.5° | 135°   | 157.5° | 180°  | 202.5° | 225°   |
|-------|-------|-------|--------|-------|-------|--------|--------|--------|-------|--------|--------|
| 45°   | 538.5 | 791.5 | 1289.8 | 803.4 | 552.3 | 803.4  | 1289.8 | 791.5  | 538.5 | 791.5  | 1289.8 |
| 45.5° | 481.6 | 731.7 | 1270.2 | 742.7 | 496.9 | 742.7  | 1270.2 | 731.7  | 481.6 | 731.7  | 1270.2 |
| 46°   | 428.0 | 672.9 | 1244.8 | 683.9 | 443.8 | 683.9  | 1244.8 | 672.9  | 428.0 | 672.9  | 1244.8 |
| 46.5° | 375.9 | 614.5 | 1215.2 | 626.0 | 392.1 | 626.0  | 1215.2 | 614.5  | 375.9 | 614.5  | 1215.2 |
| 47°   | 324.2 | 557.1 | 1173.6 | 569.1 | 346.7 | 569.1  | 1173.6 | 557.1  | 324.2 | 557.1  | 1173.6 |
| 47.5° | 275.0 | 501.2 | 1127.2 | 514.1 | 308.0 | 514.1  | 1127.2 | 501.2  | 275.0 | 501.2  | 1127.2 |
| 48°   | 231.9 | 448.6 | 1071.2 | 461.0 | 269.7 | 461.0  | 1071.2 | 448.6  | 231.9 | 448.6  | 1071.2 |
| 48.5° | 192.7 | 397.9 | 1010.0 | 410.3 | 231.5 | 410.3  | 1010.0 | 397.9  | 192.7 | 397.9  | 1010.0 |
| 49°   | 162.6 | 347.7 | 940.7  | 362.0 | 193.2 | 362.0  | 940.7  | 347.7  | 162.6 | 347.7  | 940.7  |
| 49.5° | 134.4 | 298.9 | 870.4  | 317.1 | 159.2 | 317.1  | 870.4  | 298.9  | 134.4 | 298.9  | 870.4  |
| 50°   | 107.6 | 253.0 | 797.7  | 277.8 | 131.0 | 277.8  | 797.7  | 253.0  | 107.6 | 253.0  | 797.7  |
| 50.5° | 85.6  | 211.9 | 726.4  | 241.0 | 103.3 | 241.0  | 726.4  | 211.9  | 85.6  | 211.9  | 726.4  |
| 51°   | 64.1  | 176.9 | 657.1  | 205.6 | 78.4  | 205.6  | 657.1  | 176.9  | 64.1  | 176.9  | 657.1  |
| 51.5° | 45.9  | 147.8 | 592.5  | 172.6 | 61.7  | 172.6  | 592.5  | 147.8  | 45.9  | 147.8  | 592.5  |
| 52°   | 27.7  | 120.0 | 529.4  | 142.5 | 49.3  | 142.5  | 529.4  | 120.0  | 27.7  | 120.0  | 529.4  |
| 52.5° | 10.0  | 96.6  | 468.7  | 115.3 | 36.8  | 115.3  | 468.7  | 96.6   | 10.0  | 96.6   | 468.7  |
| 53°   | 5.7   | 75.1  | 410.8  | 91.8  | 24.9  | 91.8   | 410.8  | 75.1   | 5.7   | 75.1   | 410.8  |
| 53.5° | 4.3   | 55.5  | 359.6  | 69.8  | 14.3  | 69.8   | 359.6  | 55.5   | 4.3   | 55.5   | 359.6  |
| 54°   | 2.9   | 38.3  | 311.3  | 51.2  | 3.8   | 51.2   | 311.3  | 38.3   | 2.9   | 38.3   | 311.3  |
| 54.5° | 1.4   | 21.0  | 266.4  | 38.3  | 1.9   | 38.3   | 266.4  | 21.0   | 1.4   | 21.0   | 266.4  |
| 55°   | 1.4   | 7.2   | 225.7  | 25.8  | 1.9   | 25.8   | 225.7  | 7.2    | 1.4   | 7.2    | 225.7  |
| 55.5° | 1.4   | 4.3   | 187.0  | 15.8  | 1.9   | 15.8   | 187.0  | 4.3    | 1.4   | 4.3    | 187.0  |
| 56°   | 1.4   | 3.3   | 153.0  | 9.6   | 1.4   | 9.6    | 153.0  | 3.3    | 1.4   | 3.3    | 153.0  |
| 56.5° | 1.4   | 1.9   | 126.3  | 3.8   | 1.4   | 3.8    | 126.3  | 1.9    | 1.4   | 1.9    | 126.3  |
| 57°   | 1.4   | 1.4   | 100.9  | 2.4   | 1.4   | 2.4    | 100.9  | 1.4    | 1.4   | 1.4    | 100.9  |
| 57.5° | 1.4   | 1.4   | 78.4   | 1.4   | 1.4   | 1.4    | 78.4   | 1.4    | 1.4   | 1.4    | 78.4   |
| 58°   | 1.4   | 1.4   | 58.3   | 1.4   | 1.4   | 1.4    | 58.3   | 1.4    | 1.4   | 1.4    | 58.3   |
| 58.5° | 1.0   | 1.0   | 42.1   | 1.4   | 1.4   | 1.4    | 42.1   | 1.0    | 1.0   | 1.0    | 42.1   |
| 59°   | 1.0   | 1.0   | 32.0   | 1.0   | 1.4   | 1.0    | 32.0   | 1.0    | 1.0   | 1.0    | 32.0   |
| 59.5° | 1.0   | 1.0   | 23.4   | 1.0   | 1.4   | 1.0    | 23.4   | 1.0    | 1.0   | 1.0    | 23.4   |
| 60°   | 1.0   | 1.0   | 15.3   | 1.0   | 1.4   | 1.0    | 15.3   | 1.0    | 1.0   | 1.0    | 15.3   |
| 60.5° | 1.0   | 1.0   | 9.1    | 1.0   | 1.0   | 1.0    | 9.1    | 1.0    | 1.0   | 1.0    | 9.1    |
| 61°   | 1.0   | 1.0   | 5.7    | 1.0   | 1.0   | 1.0    | 5.7    | 1.0    | 1.0   | 1.0    | 5.7    |
| 61.5° | 1.0   | 1.0   | 3.3    | 1.0   | 1.0   | 1.0    | 3.3    | 1.0    | 1.0   | 1.0    | 3.3    |
| 62°   | 1.0   | 1.0   | 1.4    | 1.0   | 1.0   | 1.0    | 1.4    | 1.0    | 1.0   | 1.0    | 1.4    |
| 62.5° | 1.0   | 1.0   | 1.0    | 1.0   | 1.0   | 1.0    | 1.0    | 1.0    | 1.0   | 1.0    | 1.0    |
| 63°   | 1.0   | 1.0   | 1.0    | 1.0   | 1.0   | 1.0    | 1.0    | 1.0    | 1.0   | 1.0    | 1.0    |
| 63.5° | 1.0   | 1.0   | 1.0    | 1.0   | 1.0   | 1.0    | 1.0    | 1.0    | 1.0   | 1.0    | 1.0    |
| 64°   | 1.0   | 1.0   | 1.0    | 1.0   | 1.0   | 1.0    | 1.0    | 1.0    | 1.0   | 1.0    | 1.0    |
| 64.5° | 1.0   | 1.0   | 1.0    | 1.0   | 1.0   | 1.0    | 1.0    | 1.0    | 1.0   | 1.0    | 1.0    |
| 65°   | 1.0   | 1.0   | 0.5    | 1.0   | 1.0   | 1.0    | 0.5    | 1.0    | 1.0   | 1.0    | 0.5    |
| 65.5° | 0.5   | 0.5   | 0.5    | 0.5   | 1.0   | 0.5    | 0.5    | 0.5    | 0.5   | 0.5    | 0.5    |
| 66°   | 0.5   | 0.5   | 0.5    | 0.5   | 1.0   | 0.5    | 0.5    | 0.5    | 0.5   | 0.5    | 0.5    |





TEST NUMBER: P776838

CATALOG NUMBER: HCDJBL54050CSD-HCD8TSQMB-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 67.5° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 68°   | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 68.5° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 69°   | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 69.5° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 70°   | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 70.5° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 71°   | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 71.5° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 72°   | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 72.5° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 73°   | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 73.5° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 74°   | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 74.5° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 75°   | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 75.5° | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 76°   | 0.5 | 0.5   | 0.5 | 0.5   | 0.5 | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 76.5° | 0.5 | 0.5   | 0.0 | 0.5   | 0.5 | 0.5    | 0.0  | 0.5    | 0.5  | 0.5    | 0.0  |
| 77°   | 0.5 | 0.5   | 0.0 | 0.5   | 0.5 | 0.5    | 0.0  | 0.5    | 0.5  | 0.5    | 0.0  |
| 77.5° | 0.0 | 0.5   | 0.0 | 0.5   | 0.5 | 0.5    | 0.0  | 0.5    | 0.0  | 0.5    | 0.0  |
| 78°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.5 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 78.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 79°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 79.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 80°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 80.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 81°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 81.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 82°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 82.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 83°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 83.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 84°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 84.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 85°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 85.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 86°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 86.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |



TEST NUMBER: P776838

CATALOG NUMBER: HCDJBL54050CSD-HCD8TSQMB-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

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



TEST NUMBER: P776838

CATALOG NUMBER: HCDJBL54050CSD-HCD8TSQMB-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°   | 292.5° | 315°   | 337.5° | 360°   |
|-------|--------|--------|--------|--------|--------|--------|
| 0°    | 2257.7 | 2257.7 | 2257.7 | 2257.7 | 2257.7 | 2257.7 |
| 0.5°  | 2258.2 | 2258.2 | 2258.2 | 2257.7 | 2257.2 | 2256.7 |
| 1°    | 2257.7 | 2257.7 | 2257.7 | 2257.2 | 2256.7 | 2256.3 |
| 1.5°  | 2257.2 | 2257.2 | 2257.2 | 2256.7 | 2256.3 | 2255.8 |
| 2°    | 2256.7 | 2256.3 | 2256.7 | 2256.3 | 2255.3 | 2255.3 |
| 2.5°  | 2255.8 | 2255.8 | 2255.8 | 2255.3 | 2254.8 | 2254.3 |
| 3°    | 2254.8 | 2254.3 | 2254.8 | 2254.3 | 2253.4 | 2253.4 |
| 3.5°  | 2253.4 | 2253.4 | 2253.4 | 2252.9 | 2252.4 | 2252.0 |
| 4°    | 2252.0 | 2251.5 | 2252.0 | 2251.5 | 2251.0 | 2250.5 |
| 4.5°  | 2250.0 | 2250.0 | 2250.0 | 2249.6 | 2249.1 | 2248.6 |
| 5°    | 2248.1 | 2248.1 | 2248.1 | 2248.1 | 2247.2 | 2246.7 |
| 5.5°  | 2246.2 | 2245.7 | 2246.2 | 2245.7 | 2245.3 | 2244.8 |
| 6°    | 2243.8 | 2243.8 | 2243.8 | 2243.3 | 2242.9 | 2242.4 |
| 6.5°  | 2241.4 | 2241.0 | 2241.4 | 2241.0 | 2240.5 | 2240.0 |
| 7°    | 2238.6 | 2238.6 | 2238.6 | 2238.6 | 2237.6 | 2237.1 |
| 7.5°  | 2235.7 | 2235.2 | 2235.7 | 2235.2 | 2234.7 | 2234.3 |
| 8°    | 2232.3 | 2232.3 | 2232.3 | 2232.3 | 2231.4 | 2230.9 |
| 8.5°  | 2229.0 | 2228.5 | 2229.0 | 2229.0 | 2228.0 | 2227.6 |
| 9°    | 2225.7 | 2225.2 | 2225.7 | 2225.2 | 2224.2 | 2223.7 |
| 9.5°  | 2221.8 | 2220.9 | 2221.8 | 2221.3 | 2220.4 | 2219.9 |
| 10°   | 2217.5 | 2217.0 | 2217.5 | 2217.5 | 2216.6 | 2215.6 |
| 10.5° | 2213.2 | 2212.7 | 2213.2 | 2213.2 | 2212.3 | 2211.3 |
| 11°   | 2208.4 | 2208.0 | 2208.4 | 2208.9 | 2207.5 | 2206.5 |
| 11.5° | 2203.7 | 2203.2 | 2203.7 | 2204.1 | 2202.7 | 2201.7 |
| 12°   | 2198.9 | 2197.9 | 2198.9 | 2198.9 | 2197.4 | 2196.5 |
| 12.5° | 2193.6 | 2192.7 | 2193.6 | 2193.6 | 2192.2 | 2191.2 |
| 13°   | 2188.4 | 2187.4 | 2188.4 | 2188.4 | 2186.9 | 2185.5 |
| 13.5° | 2182.6 | 2181.7 | 2182.6 | 2182.6 | 2181.2 | 2179.7 |
| 14°   | 2176.4 | 2175.4 | 2176.4 | 2176.4 | 2175.0 | 2173.5 |
| 14.5° | 2170.2 | 2169.2 | 2170.2 | 2170.2 | 2168.7 | 2167.3 |
| 15°   | 2163.5 | 2162.5 | 2163.5 | 2164.0 | 2162.0 | 2160.6 |
| 15.5° | 2156.8 | 2155.8 | 2156.8 | 2157.3 | 2155.4 | 2153.9 |
| 16°   | 2150.1 | 2148.7 | 2150.1 | 2150.1 | 2148.2 | 2146.7 |
| 16.5° | 2142.9 | 2141.5 | 2142.9 | 2142.9 | 2141.0 | 2139.6 |
| 17°   | 2135.3 | 2133.8 | 2135.3 | 2135.7 | 2133.4 | 2131.4 |
| 17.5° | 2127.6 | 2126.2 | 2127.6 | 2127.6 | 2125.7 | 2123.8 |
| 18°   | 2119.5 | 2117.6 | 2119.5 | 2120.0 | 2117.6 | 2115.7 |
| 18.5° | 2110.9 | 2109.0 | 2110.9 | 2111.4 | 2109.4 | 2107.1 |
| 19°   | 2102.3 | 2100.4 | 2102.3 | 2102.7 | 2100.8 | 2098.4 |
| 19.5° | 2093.7 | 2091.7 | 2093.7 | 2094.1 | 2091.7 | 2089.4 |
| 20°   | 2084.6 | 2082.2 | 2084.6 | 2085.1 | 2082.7 | 2080.3 |
| 20.5° | 2075.0 | 2072.6 | 2075.0 | 2076.0 | 2073.1 | 2070.2 |
| 21°   | 2065.4 | 2062.6 | 2065.4 | 2066.4 | 2063.5 | 2060.2 |



TEST NUMBER: P776838

CATALOG NUMBER: HCDJBL54050CSD-HCD8TSQMB-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°   | 292.5° | 315°   | 337.5° | 360°   |
|-------|--------|--------|--------|--------|--------|--------|
| 22.5° | 2034.4 | 2031.0 | 2034.4 | 2035.8 | 2032.5 | 2028.6 |
| 23°   | 2023.4 | 2019.5 | 2023.4 | 2025.3 | 2021.5 | 2017.1 |
| 23.5° | 2011.9 | 2008.1 | 2011.9 | 2014.3 | 2010.5 | 2005.7 |
| 24°   | 2000.4 | 1996.1 | 2000.4 | 2002.8 | 1998.5 | 1994.2 |
| 24.5° | 1988.5 | 1984.1 | 1988.5 | 1991.3 | 1986.5 | 1981.8 |
| 25°   | 1976.0 | 1971.2 | 1976.0 | 1979.4 | 1974.6 | 1968.8 |
| 25.5° | 1963.6 | 1958.3 | 1963.6 | 1967.4 | 1962.2 | 1955.5 |
| 26°   | 1950.7 | 1945.4 | 1950.7 | 1955.0 | 1949.2 | 1942.5 |
| 26.5° | 1937.3 | 1931.5 | 1937.3 | 1942.1 | 1935.8 | 1928.2 |
| 27°   | 1923.4 | 1917.2 | 1923.4 | 1929.2 | 1922.0 | 1914.3 |
| 27.5° | 1909.5 | 1902.9 | 1909.5 | 1915.8 | 1908.1 | 1900.0 |
| 28°   | 1895.2 | 1888.0 | 1895.2 | 1901.9 | 1893.8 | 1884.7 |
| 28.5° | 1880.9 | 1872.7 | 1880.9 | 1888.0 | 1878.9 | 1869.4 |
| 29°   | 1865.6 | 1857.4 | 1865.6 | 1873.7 | 1863.6 | 1853.6 |
| 29.5° | 1850.2 | 1841.2 | 1850.2 | 1858.9 | 1848.3 | 1837.8 |
| 30°   | 1834.9 | 1824.9 | 1834.9 | 1844.0 | 1832.6 | 1821.1 |
| 30.5° | 1818.7 | 1808.6 | 1818.7 | 1828.7 | 1816.8 | 1804.3 |
| 31°   | 1802.4 | 1791.9 | 1802.4 | 1812.9 | 1800.0 | 1787.6 |
| 31.5° | 1786.2 | 1774.2 | 1786.2 | 1797.2 | 1783.8 | 1770.4 |
| 32°   | 1769.4 | 1757.0 | 1769.4 | 1780.9 | 1767.0 | 1753.2 |
| 32.5° | 1752.2 | 1739.3 | 1752.2 | 1764.2 | 1749.8 | 1735.5 |
| 33°   | 1735.0 | 1721.6 | 1735.0 | 1747.4 | 1732.6 | 1717.3 |
| 33.5° | 1717.8 | 1703.4 | 1717.8 | 1729.7 | 1714.9 | 1698.7 |
| 34°   | 1700.1 | 1684.8 | 1700.1 | 1712.0 | 1697.7 | 1679.5 |
| 34.5° | 1681.9 | 1665.7 | 1681.9 | 1694.3 | 1679.5 | 1660.4 |
| 35°   | 1663.7 | 1646.0 | 1663.7 | 1675.7 | 1661.3 | 1641.3 |
| 35.5° | 1645.6 | 1626.0 | 1645.6 | 1657.5 | 1643.2 | 1621.2 |
| 36°   | 1626.9 | 1593.9 | 1626.9 | 1638.9 | 1624.5 | 1601.1 |
| 36.5° | 1607.8 | 1558.5 | 1607.8 | 1619.7 | 1604.9 | 1577.2 |
| 37°   | 1588.7 | 1516.9 | 1588.7 | 1600.6 | 1585.3 | 1544.2 |
| 37.5° | 1568.6 | 1476.8 | 1568.6 | 1581.0 | 1565.7 | 1494.0 |
| 38°   | 1546.1 | 1430.8 | 1546.1 | 1561.4 | 1546.1 | 1439.5 |
| 38.5° | 1514.1 | 1378.2 | 1514.1 | 1541.8 | 1525.1 | 1374.9 |
| 39°   | 1476.8 | 1319.4 | 1476.8 | 1522.7 | 1497.3 | 1309.4 |
| 39.5° | 1438.0 | 1253.9 | 1438.0 | 1502.6 | 1459.5 | 1242.9 |
| 40°   | 1395.9 | 1186.5 | 1395.9 | 1482.5 | 1410.8 | 1176.4 |
| 40.5° | 1348.6 | 1117.6 | 1348.6 | 1463.4 | 1353.9 | 1109.5 |
| 41°   | 1296.0 | 1051.6 | 1296.0 | 1443.8 | 1292.2 | 1041.6 |
| 41.5° | 1238.1 | 986.6  | 1238.1 | 1424.6 | 1230.0 | 976.1  |
| 42°   | 1175.5 | 923.0  | 1175.5 | 1405.5 | 1167.3 | 909.6  |
| 42.5° | 1111.9 | 859.8  | 1111.9 | 1386.4 | 1105.2 | 845.5  |
| 43°   | 1047.3 | 795.8  | 1047.3 | 1367.2 | 1041.6 | 781.4  |
| 43.5° | 985.1  | 732.2  | 985.1  | 1347.6 | 978.0  | 718.8  |



TEST NUMBER: P776838

CATALOG NUMBER: HCDJBL54050CSD-HCD8TSQMB-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°  | 292.5° | 315°   | 337.5° | 360°  |
|-------|--------|-------|--------|--------|--------|-------|
| 45°   | 803.4  | 552.3 | 803.4  | 1289.8 | 791.5  | 538.5 |
| 45.5° | 742.7  | 496.9 | 742.7  | 1270.2 | 731.7  | 481.6 |
| 46°   | 683.9  | 443.8 | 683.9  | 1244.8 | 672.9  | 428.0 |
| 46.5° | 626.0  | 392.1 | 626.0  | 1215.2 | 614.5  | 375.9 |
| 47°   | 569.1  | 346.7 | 569.1  | 1173.6 | 557.1  | 324.2 |
| 47.5° | 514.1  | 308.0 | 514.1  | 1127.2 | 501.2  | 275.0 |
| 48°   | 461.0  | 269.7 | 461.0  | 1071.2 | 448.6  | 231.9 |
| 48.5° | 410.3  | 231.5 | 410.3  | 1010.0 | 397.9  | 192.7 |
| 49°   | 362.0  | 193.2 | 362.0  | 940.7  | 347.7  | 162.6 |
| 49.5° | 317.1  | 159.2 | 317.1  | 870.4  | 298.9  | 134.4 |
| 50°   | 277.8  | 131.0 | 277.8  | 797.7  | 253.0  | 107.6 |
| 50.5° | 241.0  | 103.3 | 241.0  | 726.4  | 211.9  | 85.6  |
| 51°   | 205.6  | 78.4  | 205.6  | 657.1  | 176.9  | 64.1  |
| 51.5° | 172.6  | 61.7  | 172.6  | 592.5  | 147.8  | 45.9  |
| 52°   | 142.5  | 49.3  | 142.5  | 529.4  | 120.0  | 27.7  |
| 52.5° | 115.3  | 36.8  | 115.3  | 468.7  | 96.6   | 10.0  |
| 53°   | 91.8   | 24.9  | 91.8   | 410.8  | 75.1   | 5.7   |
| 53.5° | 69.8   | 14.3  | 69.8   | 359.6  | 55.5   | 4.3   |
| 54°   | 51.2   | 3.8   | 51.2   | 311.3  | 38.3   | 2.9   |
| 54.5° | 38.3   | 1.9   | 38.3   | 266.4  | 21.0   | 1.4   |
| 55°   | 25.8   | 1.9   | 25.8   | 225.7  | 7.2    | 1.4   |
| 55.5° | 15.8   | 1.9   | 15.8   | 187.0  | 4.3    | 1.4   |
| 56°   | 9.6    | 1.4   | 9.6    | 153.0  | 3.3    | 1.4   |
| 56.5° | 3.8    | 1.4   | 3.8    | 126.3  | 1.9    | 1.4   |
| 57°   | 2.4    | 1.4   | 2.4    | 100.9  | 1.4    | 1.4   |
| 57.5° | 1.4    | 1.4   | 1.4    | 78.4   | 1.4    | 1.4   |
| 58°   | 1.4    | 1.4   | 1.4    | 58.3   | 1.4    | 1.4   |
| 58.5° | 1.4    | 1.4   | 1.4    | 42.1   | 1.0    | 1.0   |
| 59°   | 1.0    | 1.4   | 1.0    | 32.0   | 1.0    | 1.0   |
| 59.5° | 1.0    | 1.4   | 1.0    | 23.4   | 1.0    | 1.0   |
| 60°   | 1.0    | 1.4   | 1.0    | 15.3   | 1.0    | 1.0   |
| 60.5° | 1.0    | 1.0   | 1.0    | 9.1    | 1.0    | 1.0   |
| 61°   | 1.0    | 1.0   | 1.0    | 5.7    | 1.0    | 1.0   |
| 61.5° | 1.0    | 1.0   | 1.0    | 3.3    | 1.0    | 1.0   |
| 62°   | 1.0    | 1.0   | 1.0    | 1.4    | 1.0    | 1.0   |
| 62.5° | 1.0    | 1.0   | 1.0    | 1.0    | 1.0    | 1.0   |
| 63°   | 1.0    | 1.0   | 1.0    | 1.0    | 1.0    | 1.0   |
| 63.5° | 1.0    | 1.0   | 1.0    | 1.0    | 1.0    | 1.0   |
| 64°   | 1.0    | 1.0   | 1.0    | 1.0    | 1.0    | 1.0   |
| 64.5° | 1.0    | 1.0   | 1.0    | 1.0    | 1.0    | 1.0   |
| 65°   | 1.0    | 1.0   | 1.0    | 0.5    | 1.0    | 1.0   |
| 65.5° | 0.5    | 1.0   | 0.5    | 0.5    | 0.5    | 0.5   |
| 66°   | 0.5    | 1.0   | 0.5    | 0.5    | 0.5    | 0.5   |



TEST NUMBER: P776838

CATALOG NUMBER: HCDJBL54050CSD-HCD8TSQMB-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|------|--------|------|--------|------|
| 67.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 68°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 68.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 69°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 69.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 70°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 70.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 71°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 71.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 72°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 72.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 73°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 73.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 74°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 74.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 75°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 75.5° | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 76°   | 0.5    | 0.5  | 0.5    | 0.5  | 0.5    | 0.5  |
| 76.5° | 0.5    | 0.5  | 0.5    | 0.0  | 0.5    | 0.5  |
| 77°   | 0.5    | 0.5  | 0.5    | 0.0  | 0.5    | 0.5  |
| 77.5° | 0.5    | 0.5  | 0.5    | 0.0  | 0.5    | 0.0  |
| 78°   | 0.0    | 0.5  | 0.0    | 0.0  | 0.0    | 0.0  |
| 78.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 79°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 79.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 80°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 80.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 81°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 81.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 82°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 82.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 83°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 83.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 84°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 84.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 85°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 85.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 86°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 86.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |



TEST NUMBER: P776838

CATALOG NUMBER: HCDJBL54050CSD-HCD8TSQMB-5000lm-4000K

**CANDELA DISTRIBUTION (continued):**

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



Report Generated By 670245859 / DESKTOP-T8S5UU9



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

Scaled Data Report





— 0°-180°    - - 45°-225°    - - - - 90°-270°    - · - · 135°-315°

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° | 2050.1 | 2053.5 | 2056.4 | 2055.4 | 2052.5 | 2055.4 | 2056.4 | 2053.5 | 2050.1 | 2053.5 | 2056.4 |
| 22°   | 2039.6 | 2043.0 | 2046.3 | 2044.9 | 2042.0 | 2044.9 | 2046.3 | 2043.0 | 2039.6 | 2043.0 | 2046.3 |



|       |       |       |        |       |       |       |        |       |       |       |        |
|-------|-------|-------|--------|-------|-------|-------|--------|-------|-------|-------|--------|
| 44°   | 656.6 | 915.3 | 1328.5 | 923.9 | 670.5 | 923.9 | 1328.5 | 915.3 | 656.6 | 915.3 | 1328.5 |
| 44.5° | 596.8 | 853.2 | 1309.4 | 863.2 | 610.7 | 863.2 | 1309.4 | 853.2 | 596.8 | 853.2 | 1309.4 |



|       |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 66.5° | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| 67°   | 0.5 | 0.5 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |



|       |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 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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|       |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|
| 21.5° | 2055.4 | 2052.5 | 2055.4 | 2056.4 | 2053.5 | 2050.1 |
| 22°   | 2044.9 | 2042.0 | 2044.9 | 2046.3 | 2043.0 | 2039.6 |



|       |       |       |       |        |       |       |
|-------|-------|-------|-------|--------|-------|-------|
| 44°   | 923.9 | 670.5 | 923.9 | 1328.5 | 915.3 | 656.6 |
| 44.5° | 863.2 | 610.7 | 863.2 | 1309.4 | 853.2 | 596.8 |

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Peachtree City, GA 30269

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|       |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|
| 66.5° | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 |
| 67°   | 0.5 | 1.0 | 0.5 | 0.5 | 0.5 | 0.5 |

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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)