# Appendix

Table 1. Colorimetric, photometric, and other quantitative properties of CIE 1964 10-degree (*V*10(λ)) lighting conditions

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CIE 1964 10-degree luminous efficiency function** | | | | | | | | | | | | | | |
| **Target  *T*cp (K)** | **Target  *E*v,1924 (lx)** | ***E*v,1924  (lx)** | ***E*v,1964\_10  (lx)** | ***E*gap (lx)** | **Measured  *T*cp (K)** | ***u*'** | ***v*'** | ***D*uv** | **(lx)** | **(lx)** | **(lx)** | **(lx)** | **(lx)** | ***L*v  (cd/m2)** |
| **2700 K** | **50** | 50.02 | 56.51 | 4.92 | 2706.9 | 0.2622 | 0.5273 | 0.0001 | 10.69 | 45.53 | 53.71 | 52.95 | 52.52 | 8.14 |
| 49.92 | 51.59 | 2701.1 | 0.2625 | 0.527 | 0.0002 | 14.72 | 38.27 | 50.23 | 22.51 | 16.90 | 7.95 |
| **100** | 100 | 110.13 | 6.83 | 2696.6 | 0.2626 | 0.5277 | 0.0002 | 22.67 | 86.10 | 105.76 | 85.03 | 82.07 | 16.27 |
| 99.94 | 103.31 | 2703.2 | 0.2625 | 0.5273 | 0.0007 | 30.58 | 76.25 | 100.73 | 42.75 | 31.82 | 15.41 |
| **300** | 299.96 | 319.11 | 7.64 | 2701.2 | 0.2622 | 0.5274 | 0.0008 | 74.66 | 242.06 | 308.84 | 183.36 | 163.73 | 47.47 |
| 300 | 311.47 | 2709.9 | 0.2622 | 0.5275 | 0.0004 | 92.75 | 230.73 | 303.28 | 136.62 | 104.16 | 46.98 |
| **4000 K** | **50** | 49.95 | 58.38 | 6.12 | 3996.9 | 0.2255 | 0.5017 | 0.0005 | 24.30 | 52.07 | 53.54 | 68.91 | 72.21 | 7.83 |
| 50.04 | 52.26 | 3996.7 | 0.2249 | 0.5021 | 0 | 30.42 | 42.94 | 49.18 | 30.45 | 25.12 | 7.73 |
| **100** | 99.92 | 113.11 | 8.53 | 4008 | 0.225 | 0.5014 | 0.0005 | 50.89 | 98.10 | 104.79 | 112.49 | 115.27 | 15.98 |
| 100.12 | 104.58 | 3999.4 | 0.2253 | 0.5013 | 0.0004 | 62.71 | 85.81 | 98.49 | 60.36 | 49.79 | 15.41 |
| **300** | 299.8 | 326.71 | 12.40 | 4007.6 | 0.2247 | 0.502 | 0.0003 | 162.99 | 275.93 | 305.14 | 257.74 | 250.76 | 47.28 |
| 299.82 | 314.31 | 4006.3 | 0.2247 | 0.502 | 0.0005 | 188.44 | 258.54 | 295.81 | 187.39 | 157.27 | 46.75 |
| **6000 K** | **50** | 50.09 | 60.29 | 7.37 | 6000 | 0.2034 | 0.471 | 0.0001 | 41.15 | 57.25 | 54.01 | 82.00 | 89.38 | 7.77 |
| 50.06 | 52.92 | 6007.3 | 0.203 | 0.4714 | 0.0004 | 55.73 | 46.21 | 48.78 | 35.90 | 31.32 | 7.77 |
| **100** | 100.03 | 116.2 | 10.47 | 6008.8 | 0.2033 | 0.471 | 0 | 85.44 | 107.78 | 105.08 | 137.37 | 147.17 | 15.63 |
| 99.97 | 105.73 | 5996.9 | 0.2035 | 0.471 | 0.0001 | 107.56 | 92.38 | 97.43 | 72.75 | 64.06 | 15.46 |
| **300** | 300.16 | 330.30 | 11.50 | 5996.9 | 0.2031 | 0.4714 | 0.0003 | 279.39 | 296.82 | 301.83 | 300.02 | 300.21 | 46.75 |
| 299.97 | 318.8 | 5999.4 | 0.2033 | 0.4712 | 0.0002 | 297.33 | 280.35 | 293.20 | 234.85 | 213.19 | 46.38 |

Table 2. Colorimetric, photometric, and other quantitative properties of CIE 2015 2-degree (*V*F(λ)) lighting conditions

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CIE 2015 2-degree luminous efficiency function** | | | | | | | | | | | | | | |
| **Target  *T*cp (K)** | **Target  *E*v,1924 (lx)** | ***E*v,1924  (lx)** | ***E*v,1964\_10  (lx)** | ***E*gap (lx)** | **Measured  *T*cp (K)** | ***u*'** | ***v*'** | ***D*uv** | **(lx)** | **(lx)** | **(lx)** | **(lx)** | **(lx)** | ***L*v  (cd/m2)** |
| **2700 K** | **50** | 50.12 | 53.93 | 1.57 | 2700.3 | 0.2625 | 0.5271 | 0.0001 | 11.32 | 43.90 | 53.88 | 44.42 | 44.05 | 7.88 |
| 50.08 | 52.36 | 2701.2 | 0.2625 | 0.5271 | 0.0001 | 14.36 | 39.31 | 50.15 | 28.69 | 22.66 | 7.76 |
| **100** | 99.86 | 106.83 | 1.88 | 2708 | 0.2621 | 0.5273 | 0.0001 | 23.06 | 85.93 | 105.77 | 83.75 | 81.19 | 15.71 |
| 100.2 | 104.95 | 2698.3 | 0.2625 | 0.5271 | 0.0001 | 29.43 | 77.19 | 100.72 | 47.53 | 35.99 | 15.50 |
| **300** | 299.91 | 317.43 | 2.32 | 2706.6 | 0.2622 | 0.5271 | 0.0001 | 79.53 | 241.28 | 309.39 | 178.06 | 158.99 | 47.17 |
| 300.21 | 315.11 | 2705 | 0.2623 | 0.527 | 0.0001 | 88.74 | 231.62 | 303.08 | 141.27 | 108.90 | 46.52 |
| **4000 K** | **50** | 49.97 | 53.94 | 1.69 | 4003.5 | 0.2251 | 0.5014 | 0.0001 | 24.85 | 50.11 | 53.50 | 58.87 | 61.98 | 7.75 |
| 50.03 | 52.25 | 3999.2 | 0.2253 | 0.5011 | 0.0004 | 29.87 | 44.60 | 49.20 | 40.82 | 35.47 | 7.79 |
| **100** | 99.87 | 107.06 | 2.75 | 3998.8 | 0.2251 | 0.5017 | 0.0001 | 50.70 | 97.50 | 104.91 | 109.07 | 112.20 | 15.76 |
| 99.94 | 104.31 | 3999.5 | 0.2251 | 0.5016 | 0 | 60.27 | 86.82 | 98.17 | 67.67 | 57.37 | 15.46 |
| **300** | 299.84 | 317.68 | 3.81 | 4005.8 | 0.2248 | 0.5019 | 0.0003 | 172.16 | 273.99 | 305.23 | 247.09 | 239.17 | 47.23 |
| 300.06 | 313.87 | 4004.9 | 0.225 | 0.5015 | 0 | 182.84 | 259.59 | 296.01 | 193.73 | 163.90 | 46.51 |
| **6000 K** | **50** | 50.06 | 54.38 | 1.89 | 6001.5 | 0.2033 | 0.4711 | 0 | 41.87 | 55.28 | 53.83 | 72.44 | 79.50 | 7.84 |
| 50.15 | 52.49 | 6005.4 | 0.2036 | 0.4707 | 0.0003 | 49.01 | 48.75 | 48.97 | 50.91 | 46.97 | 7.77 |
| **100** | 100.05 | 107.89 | 3.08 | 6009.6 | 0.2036 | 0.4706 | 0.0004 | 86.11 | 107.12 | 105.43 | 133.11 | 143.59 | 15.65 |
| 100.2 | 104.80 | 5997.7 | 0.2034 | 0.4711 | 0 | 98.62 | 95.14 | 97.67 | 88.29 | 80.53 | 15.46 |
| **300** | 299.7 | 317.61 | 3.18 | 6005.2 | 0.2031 | 0.4713 | 0.0003 | 287.68 | 295.32 | 301.61 | 293.90 | 292.70 | 46.84 |
| 300.24 | 314.43 | 5990.8 | 0.2034 | 0.4712 | 0 | 297.76 | 281.02 | 293.42 | 238.09 | 216.28 | 46.26 |

Table 3. Colorimetric, photometric, and other quantitative properties of CIE 2015 10-degree (*V*F,10(λ)) lighting conditions

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CIE 2015 10-degree luminous efficiency function** | | | | | | | | | | | | | | |
| **Target  *T*cp (K)** | **Target  *E*v,1924 (lx)** | ***E*v,1924  (lx)** | ***E*v,1964\_10  (lx)** | ***E*gap (lx)** | **Measured  *T*cp (K)** | ***u*'** | ***v*'** | ***D*uv** | **(lx)** | **(lx)** | **(lx)** | **(lx)** | **(lx)** | ***L*v  (cd/m2)** |
| **2700 K** | **50** | 50.03 | 57.26 | 5.10 | 2699.3 | 0.2625 | 0.5275 | 0.0001 | 10.60 | 45.44 | 53.79 | 52.44 | 52.08 | 8.242 |
| 50.05 | 52.16 | 2697.7 | 0.2627 | 0.5271 | 0.0002 | 14.75 | 38.34 | 50.38 | 22.43 | 16.85 | 8.329 |
| **100** | 99.97 | 111.34 | 7.11 | 2702.9 | 0.2624 | 0.5272 | 0 | 23.15 | 85.92 | 105.69 | 84.12 | 81.24 | 16.46 |
| 100.02 | 104.23 | 2699.6 | 0.2625 | 0.5273 | 0 | 29.56 | 76.39 | 100.76 | 43.27 | 32.18 | 16.63 |
| **300** | 299.75 | 321.89 | 8.18 | 2704.1 | 0.2623 | 0.5273 | 0 | 78.11 | 241.59 | 308.63 | 181.96 | 162.52 | 50.57 |
| 299.8 | 313.71 | 2704.9 | 0.2623 | 0.5271 | 0 | 88.96 | 230.91 | 302.83 | 138.83 | 106.35 | 50.09 |
| **4000 K** | **50** | 50.02 | 59.39 | 6.49 | 4009.9 | 0.225 | 0.5013 | 0.0001 | 24.32 | 51.92 | 53.63 | 67.64 | 70.92 | 8.04 |
| 50.1 | 52.90 | 4002.4 | 0.225 | 0.5017 | 0.0001 | 30.76 | 43.00 | 49.24 | 30.52 | 25.19 | 7.98 |
| **100** | 99.97 | 114.75 | 9.31 | 3999.2 | 0.225 | 0.502 | 0.0003 | 50.42 | 97.86 | 104.72 | 111.32 | 113.85 | 16.22 |
| 99.84 | 105.44 | 4000.9 | 0.2252 | 0.5014 | 0.0001 | 61.81 | 85.67 | 98.15 | 60.79 | 50.16 | 15.87 |
| **300** | 299.83 | 330.95 | 12.97 | 4003.1 | 0.2251 | 0.5015 | 0 | 165.28 | 275.00 | 305.31 | 253.67 | 246.62 | 48.84 |
| 299.76 | 317.98 | 4004.4 | 0.225 | 0.5017 | 0.0001 | 189.17 | 258.54 | 295.91 | 187.98 | 158.08 | 47.89 |
| **6000 K** | **50** | 49.99 | 61.25 | 7.69 | 5994.7 | 0.2035 | 0.4711 | 0.0001 | 41.26 | 56.64 | 53.91 | 79.32 | 86.65 | 8.17 |
| 49.96 | 53.56 | 5991.6 | 0.2036 | 0.471 | 0.0002 | 55.79 | 46.06 | 48.71 | 35.77 | 31.22 | 8.289 |
| **100** | 99.92 | 118.13 | 10.95 | 6005.5 | 0.2033 | 0.471 | 0 | 85.57 | 107.13 | 104.93 | 134.64 | 144.23 | 16.45 |
| 99.92 | 107.18 | 6008 | 0.2036 | 0.4707 | 0.0003 | 107.53 | 92.33 | 97.40 | 72.78 | 64.16 | 16.56 |
| **300** | 300 | 335.09 | 11.01 | 6002.9 | 0.2032 | 0.4712 | 0.0002 | 281.24 | 295.46 | 301.45 | 294.40 | 293.56 | 49.76 |
| 300.27 | 324.08 | 5993.1 | 0.2034 | 0.4712 | 0.0001 | 299.40 | 280.94 | 293.72 | 236.50 | 214.97 | 49.7 |