**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

# Goniophotometer Test Report

## Product Info

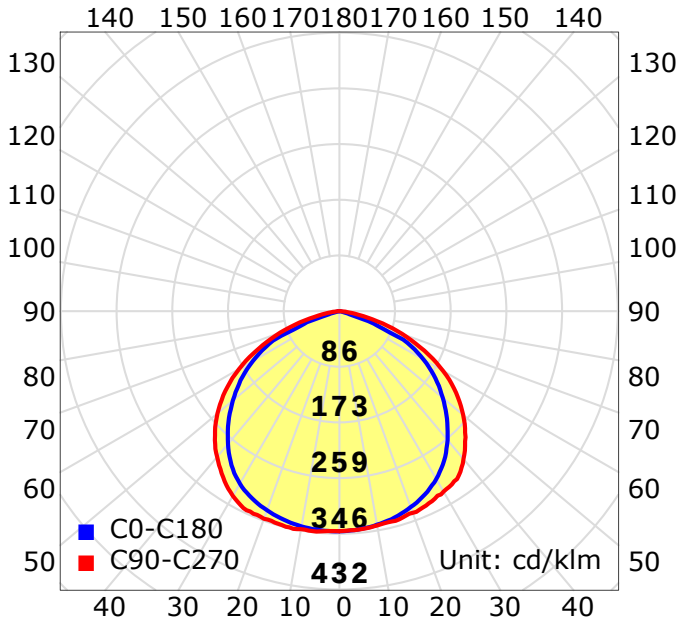
Luminaire Category : **Linear 1500 Growth 160W**
Lamp Category : **LED**
Manufacturer : **INDUSTRIAL LIGHTING**
Number of Lamps : **1** Lumens per Lamp : **10092 lm**
Luminous Length : **1500 mm** Luminous Width : **70 mm** Luminous Height : **0 mm**

## Electric Parameters

Voltage : **229.00 V** Current : **0.7060 A** Power : **161.00 W** Power Factor : **0.99** Frequency : **49.99 Hz**

## Photometric Parameters

CIE Class : **Direct**
Total Rated Lamp Lumens : **10091.5 lm**
Measurement Flux : **10091.5 lm**
Efficiency : **100.00 %**
Upward Ratio : **0.00 %**
Downward Ratio : **100.00 %**
Maximum Intensity : **345.85 cd/klm**
Position Of Maximum Intensity : **C265° γ11°**
Central Intensity : **341.66 cd/klm**
S/MH(C0-C180,C90-C270) : **1.32, 1.42**
Luminaire Efficacy Rating (LER) : **63**
Energy Efficiency Class : **G (EU 2019/2015 ☐TM:61lm/W)**
Conical Flux (90°) : **5661.89 lm (56.1%)**
Conical Flux (120°) : **8419.34 lm (83.4%)**
Beam Angle (C0-C180,C90-C270) : **114.5 °, 122.6 °**
Beam Angle (C45-C225,C135-C315) : **116.0 °, 116.0 °**
Field Angle (C0-C180,C90-C270) : **143.2 °, 156.3 °**
Field Angle (C45-C225,C135-C315) : **150.5 °, 150.5 °**



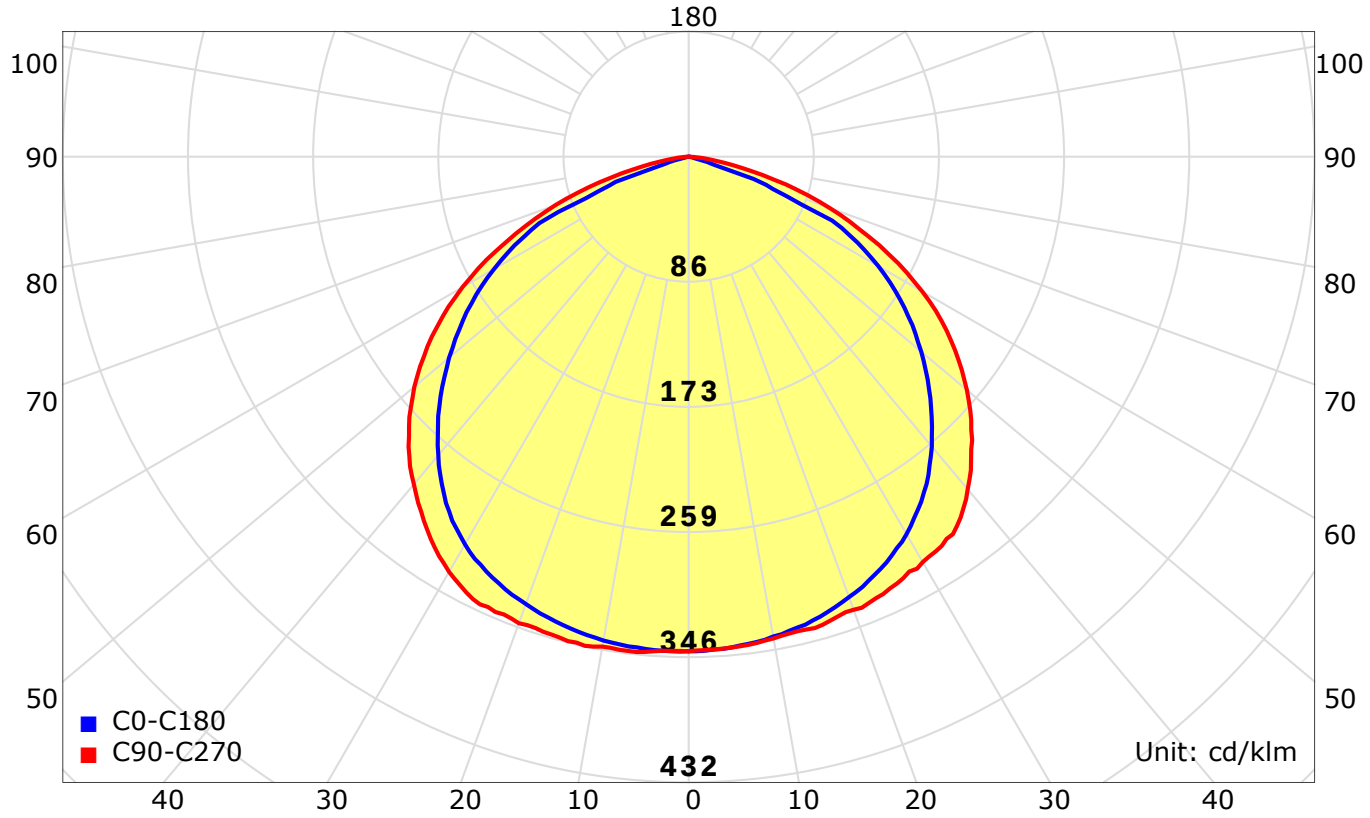

Average Beam Angle (50%): 117.5°

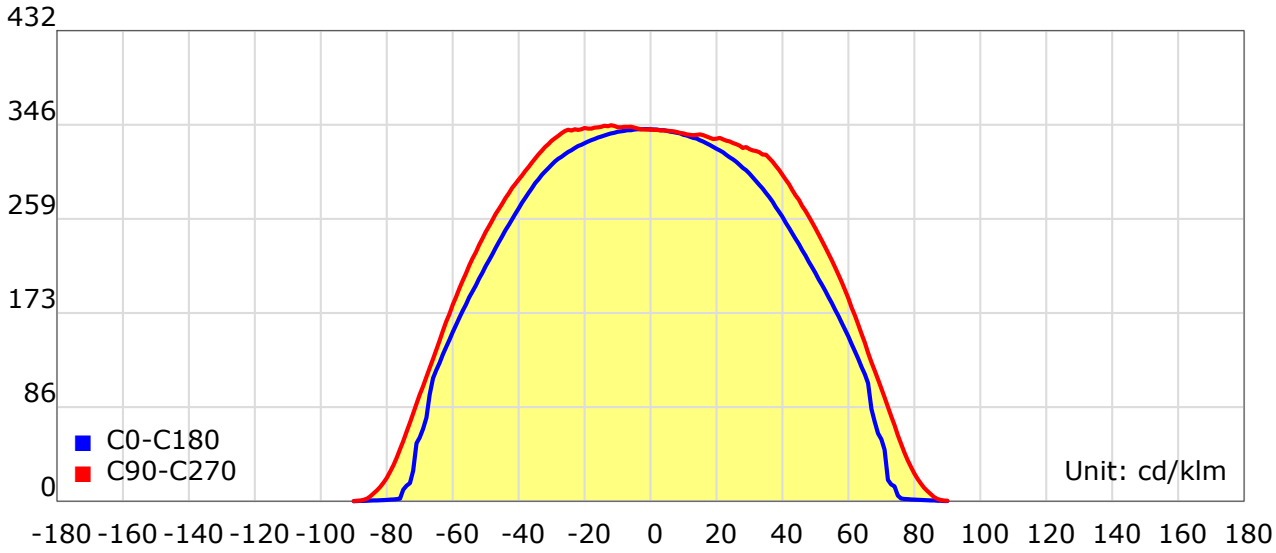
Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



# Light Distribution Curve



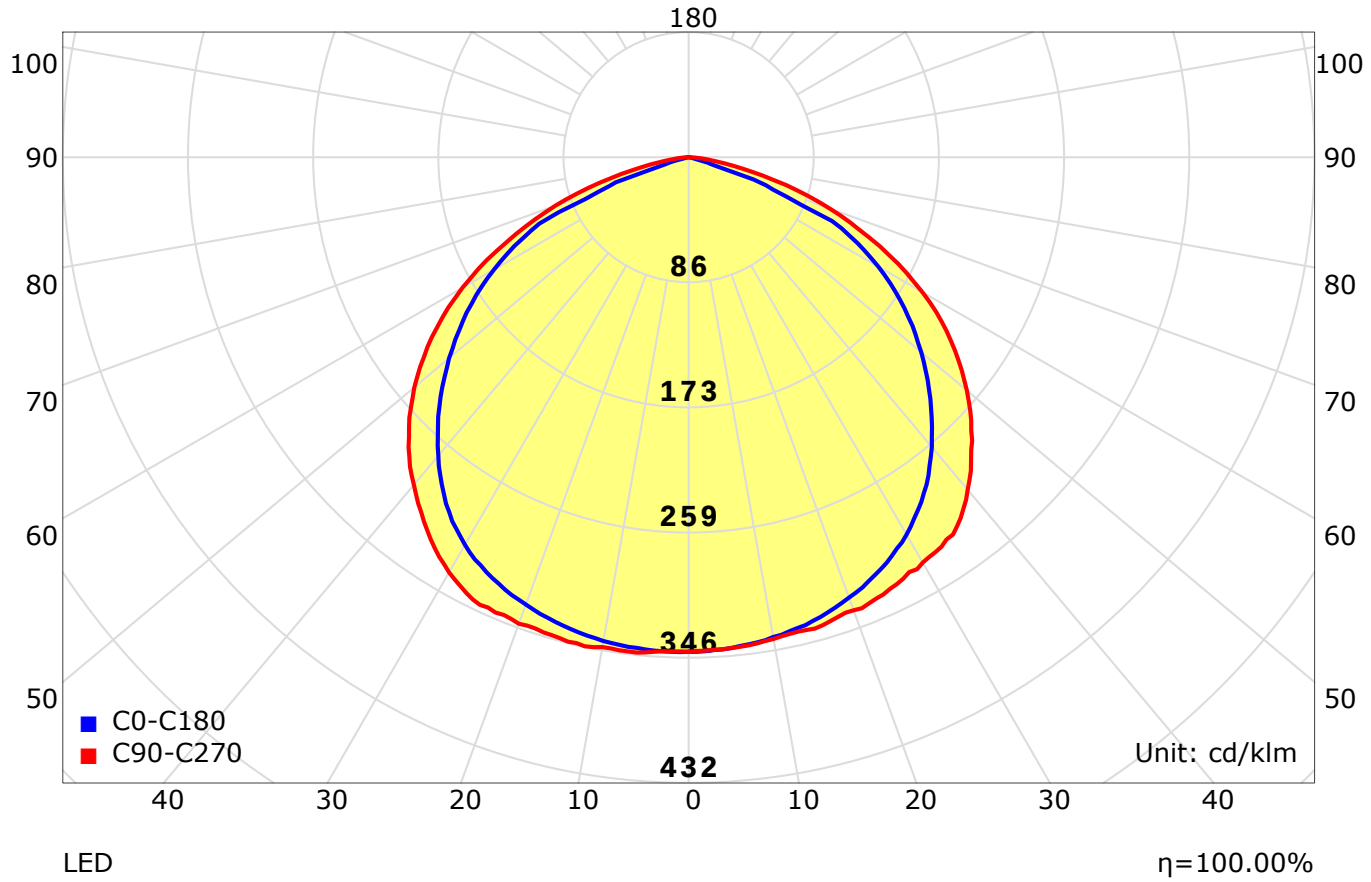




Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



# Light Distribution Curve (cd/klm)



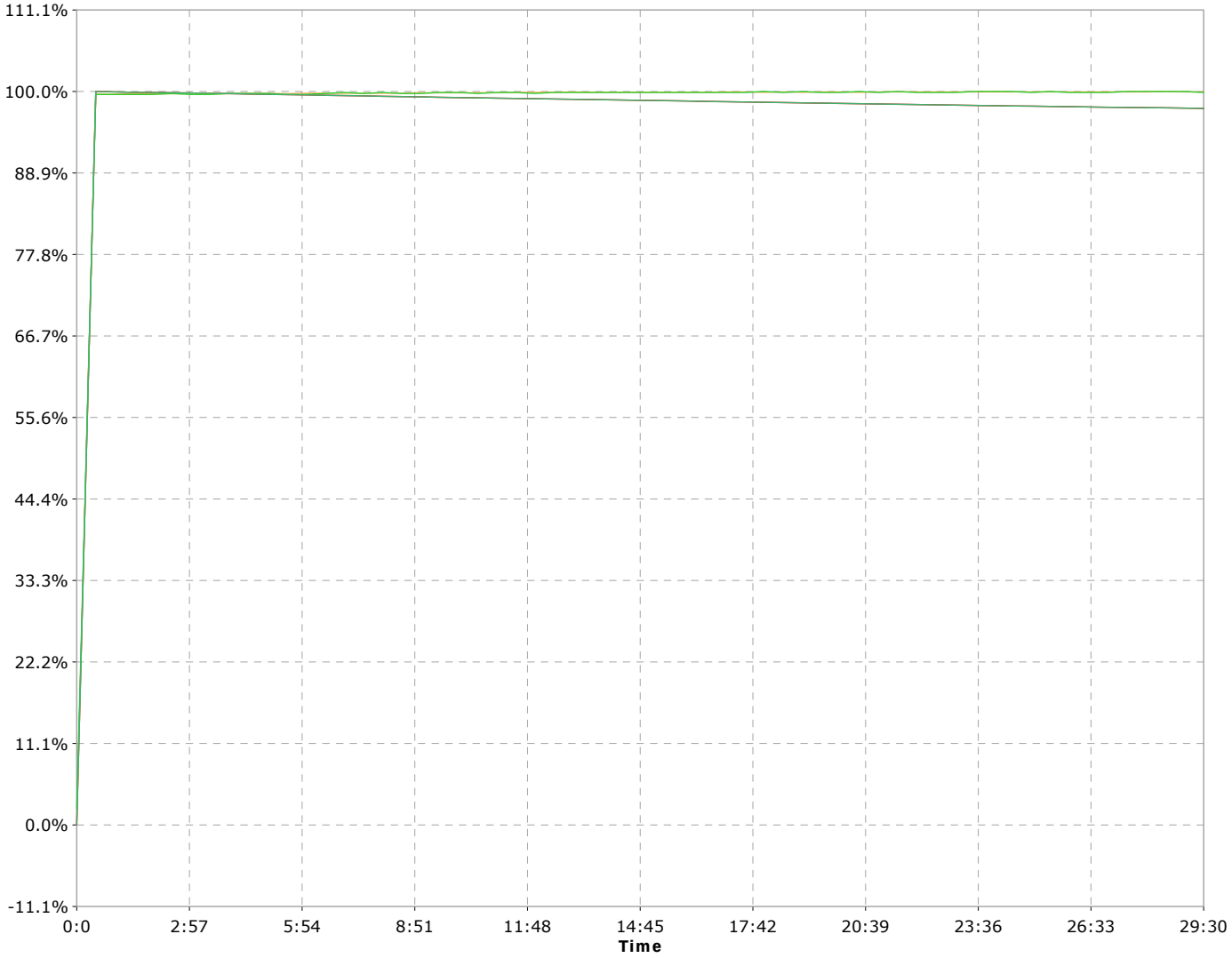

LED η=100.00%

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



# Warmup Log




Stable time: 29:30 Uptime: 0:30

| Parameters | Maximum | Minimum | Change |
|---|---|---|---|
| Luminous intensity ,cd | 3329.13 | 0.00 | 3329.13 |
| Power ,W | 161.00 | 0.69 | 160.31 |
| Current ,A | 0.7060 | 0.0150 | 0.6910 |
| Illumination ,lx | 50.277 | 0.000 | 50.277 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

# UGR

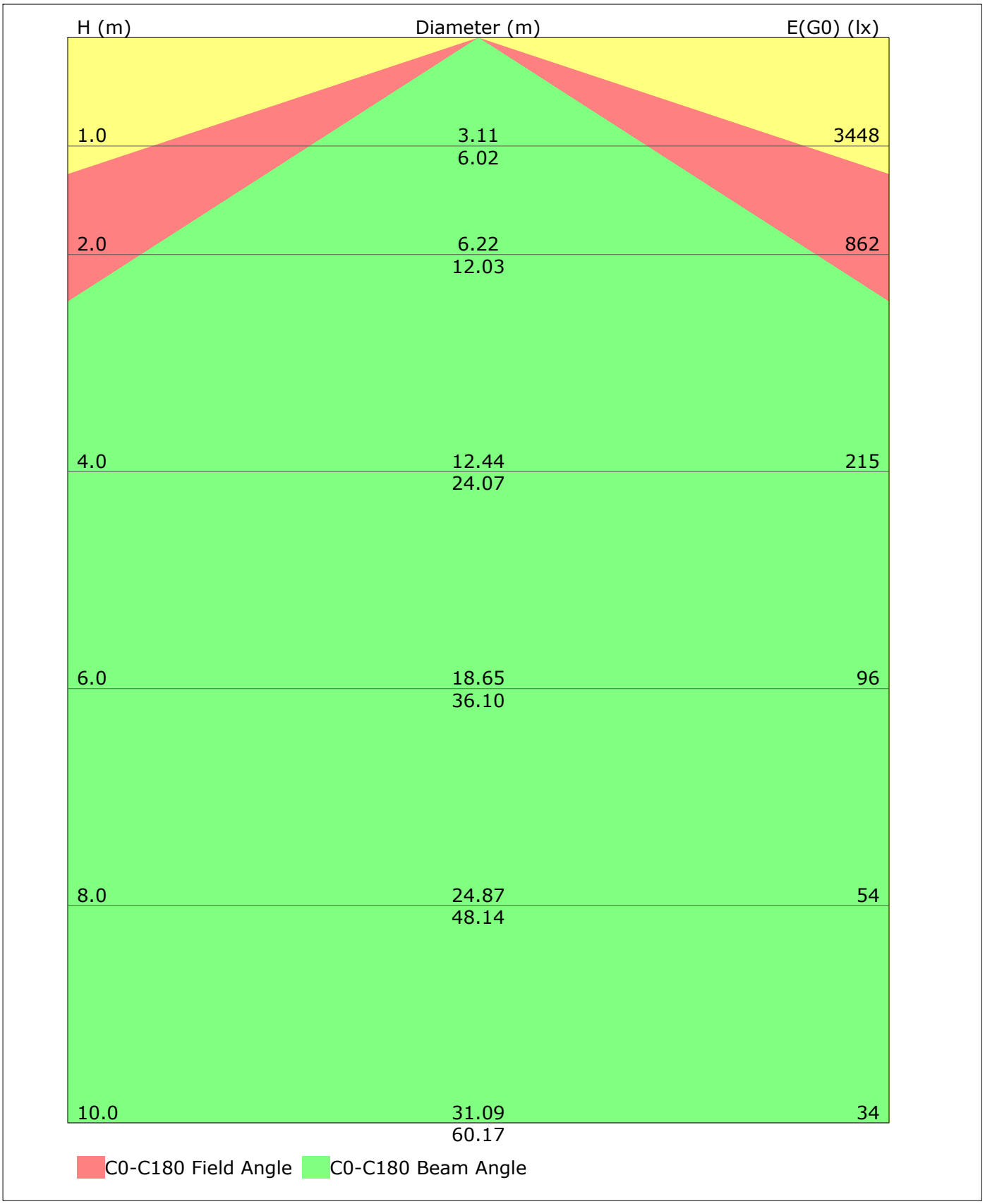
| Reflectance | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ceiling (cavity) | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H Y=2H | 24.0 | 25.6 | 24.4 | 25.9 | 26.2 | 25.3 | 26.9 | 25.6 | 27.2 | 27.5 |
| 3H | 24.8 | 26.3 | 25.2 | 26.6 | 27.0 | 26.9 | 28.3 | 27.3 | 28.6 | 29.0 |
| 4H | 24.8 | 26.1 | 25.2 | 26.5 | 26.9 | 27.4 | 28.7 | 27.8 | 29.1 | 29.4 |
| 6H | 24.7 | 26.0 | 25.1 | 26.3 | 26.7 | 27.6 | 28.8 | 28.0 | 29.2 | 29.6 |
| 8H | 24.7 | 25.9 | 25.1 | 26.3 | 26.7 | 27.6 | 28.8 | 28.0 | 29.2 | 29.6 |
| 12H | 24.7 | 25.8 | 25.1 | 26.2 | 26.6 | 27.6 | 28.7 | 28.0 | 29.1 | 29.5 |
| X=4H Y=2H | 24.6 | 25.9 | 25.0 | 26.3 | 26.7 | 25.7 | 27.0 | 26.1 | 27.4 | 27.8 |
| 3H | 25.5 | 26.6 | 25.9 | 27.0 | 27.4 | 27.4 | 28.6 | 27.8 | 29.0 | 29.4 |
| 4H | 25.5 | 26.5 | 25.9 | 26.9 | 27.3 | 28.0 | 29.0 | 28.4 | 29.4 | 29.8 |
| 6H | 25.4 | 26.3 | 25.9 | 26.7 | 27.2 | 28.2 | 29.1 | 28.7 | 29.5 | 30.0 |
| 8H | 25.4 | 26.2 | 25.9 | 26.6 | 27.1 | 28.3 | 29.1 | 28.7 | 29.5 | 30.0 |
| 12H | 25.4 | 26.1 | 25.8 | 26.6 | 27.0 | 28.3 | 29.0 | 28.8 | 29.5 | 29.9 |
| X=8H Y=4H | 25.6 | 26.4 | 26.0 | 26.8 | 27.3 | 28.0 | 28.8 | 28.5 | 29.3 | 29.7 |
| 6H | 25.5 | 26.2 | 26.0 | 26.7 | 27.1 | 28.3 | 28.9 | 28.8 | 29.4 | 29.9 |
| 8H | 25.5 | 26.1 | 26.0 | 26.6 | 27.1 | 28.3 | 28.9 | 28.8 | 29.4 | 29.9 |
| 12H | 25.4 | 26.0 | 25.9 | 26.5 | 27.0 | 28.3 | 28.9 | 28.8 | 29.4 | 29.9 |
| X=12H Y=4H | 25.6 | 26.3 | 26.0 | 26.8 | 27.2 | 28.0 | 28.7 | 28.5 | 29.2 | 29.7 |
| 6H | 25.5 | 26.1 | 26.0 | 26.5 | 27.1 | 28.3 | 28.8 | 28.8 | 29.3 | 29.8 |
| 8H | 25.5 | 26.0 | 26.0 | 26.5 | 27.0 | 28.3 | 28.8 | 28.8 | 29.3 | 29.9 |

Calculate in accordance with CIE 190:2010. The table is corrected with 10092lm (8log(F/F0) = 8.0).

| Reflectance | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ceiling (cavity) | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H Y=2H | 24.4 | 25.8 | 24.7 | 26.0 | 26.3 | 25.4 | 26.7 | 25.7 | 27.0 | 27.2 |
| 3H | 25.2 | 26.5 | 25.6 | 26.7 | 27.0 | 26.8 | 28.0 | 27.1 | 28.3 | 28.5 |
| 4H | 25.2 | 26.3 | 25.5 | 26.6 | 26.9 | 27.2 | 28.3 | 27.5 | 28.6 | 28.9 |
| 6H | 25.1 | 26.2 | 25.5 | 26.5 | 26.8 | 27.3 | 28.4 | 27.7 | 28.7 | 29.0 |
| 8H | 25.1 | 26.1 | 25.4 | 26.4 | 26.7 | 27.3 | 28.4 | 27.7 | 28.7 | 29.0 |
| 12H | 25.0 | 26.0 | 25.4 | 26.3 | 26.7 | 27.3 | 28.3 | 27.7 | 28.6 | 29.0 |
| X=4H Y=2H | 25.1 | 26.2 | 25.4 | 26.5 | 26.8 | 25.8 | 27.0 | 26.2 | 27.3 | 27.6 |
| 3H | 26.0 | 27.0 | 26.3 | 27.3 | 27.6 | 27.3 | 28.3 | 27.7 | 28.6 | 29.0 |
| 4H | 25.9 | 26.8 | 26.3 | 27.2 | 27.5 | 27.8 | 28.7 | 28.2 | 29.0 | 29.4 |
| 6H | 25.9 | 26.6 | 26.3 | 27.0 | 27.4 | 28.0 | 28.7 | 28.4 | 29.1 | 29.5 |
| 8H | 25.8 | 26.5 | 26.3 | 26.9 | 27.3 | 28.0 | 28.7 | 28.4 | 29.1 | 29.5 |
| 12H | 25.8 | 26.4 | 26.2 | 26.8 | 27.3 | 28.0 | 28.6 | 28.4 | 29.0 | 29.5 |
| X=8H Y=4H | 26.0 | 26.7 | 26.4 | 27.1 | 27.5 | 27.8 | 28.5 | 28.2 | 28.9 | 29.3 |
| 6H | 25.9 | 26.5 | 26.4 | 26.9 | 27.4 | 28.0 | 28.6 | 28.5 | 29.0 | 29.5 |
| 8H | 25.9 | 26.4 | 26.4 | 26.9 | 27.3 | 28.0 | 28.5 | 28.5 | 29.0 | 29.5 |
| 12H | 25.9 | 26.3 | 26.4 | 26.8 | 27.3 | 28.0 | 28.5 | 28.5 | 28.9 | 29.4 |
| X=12H Y=4H | 26.0 | 26.6 | 26.4 | 27.0 | 27.5 | 27.8 | 28.4 | 28.2 | 28.8 | 29.2 |
| 6H | 25.9 | 26.4 | 26.4 | 26.9 | 27.4 | 28.0 | 28.5 | 28.5 | 28.9 | 29.4 |
| 8H | 25.9 | 26.3 | 26.4 | 26.8 | 27.3 | 28.0 | 28.4 | 28.5 | 28.9 | 29.4 |
| Variations with the observer position at spacings | | | | | | | | | | |
| S=1.0H | +0.3/-0.5 | | | | | +0.2/-0.2 | | | | |
| S=1.5H | +0.3/-0.6 | | | | | +0.3/-0.5 | | | | |
| S=2.0H | +1.0/-1.9 | | | | | +0.9/-1.2 | | | | |

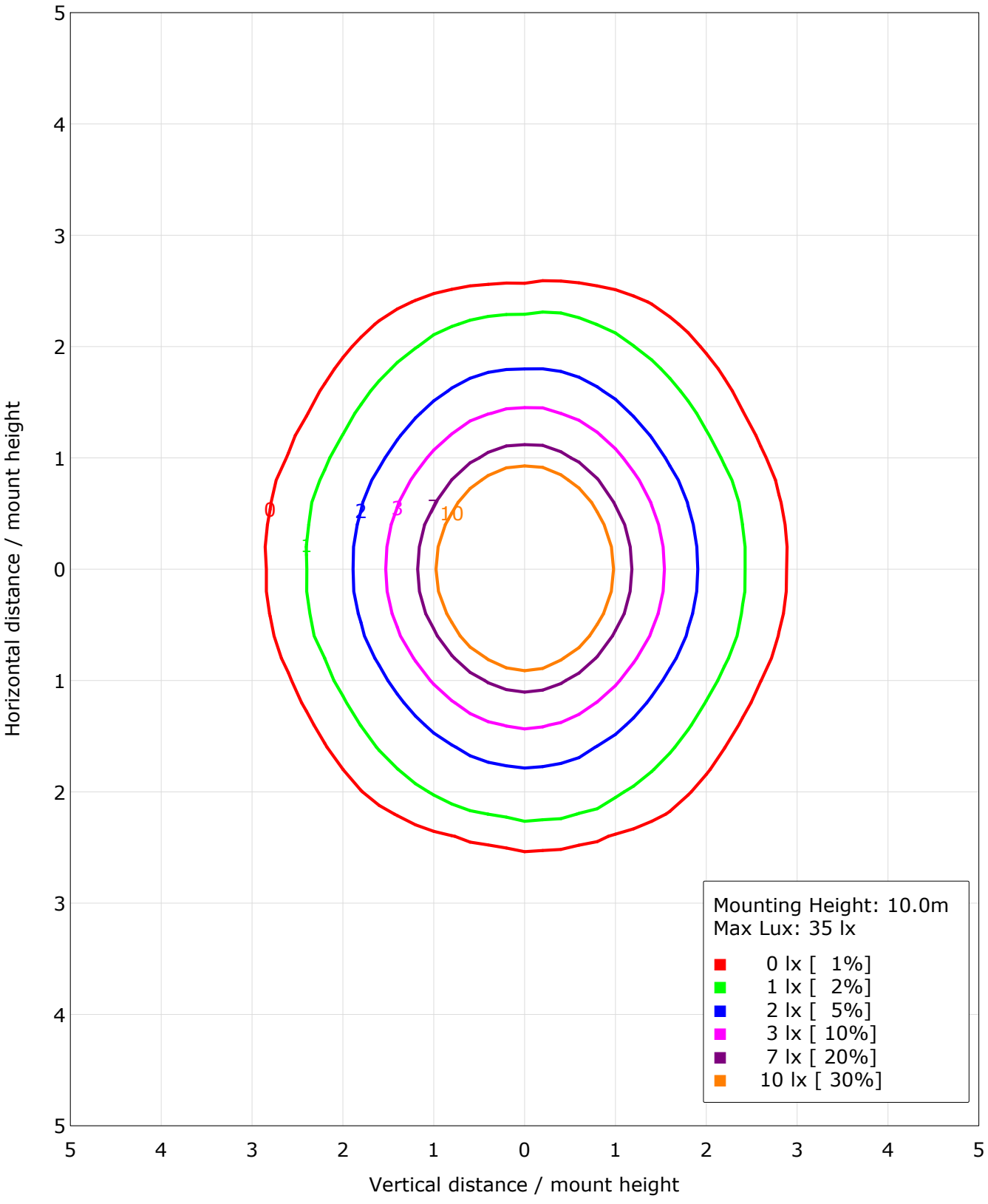
Calculate in accordance with CIE Pub.117. The table is corrected with 10092lm (8log(F/F0) = 8.0).

## Lux-Distance



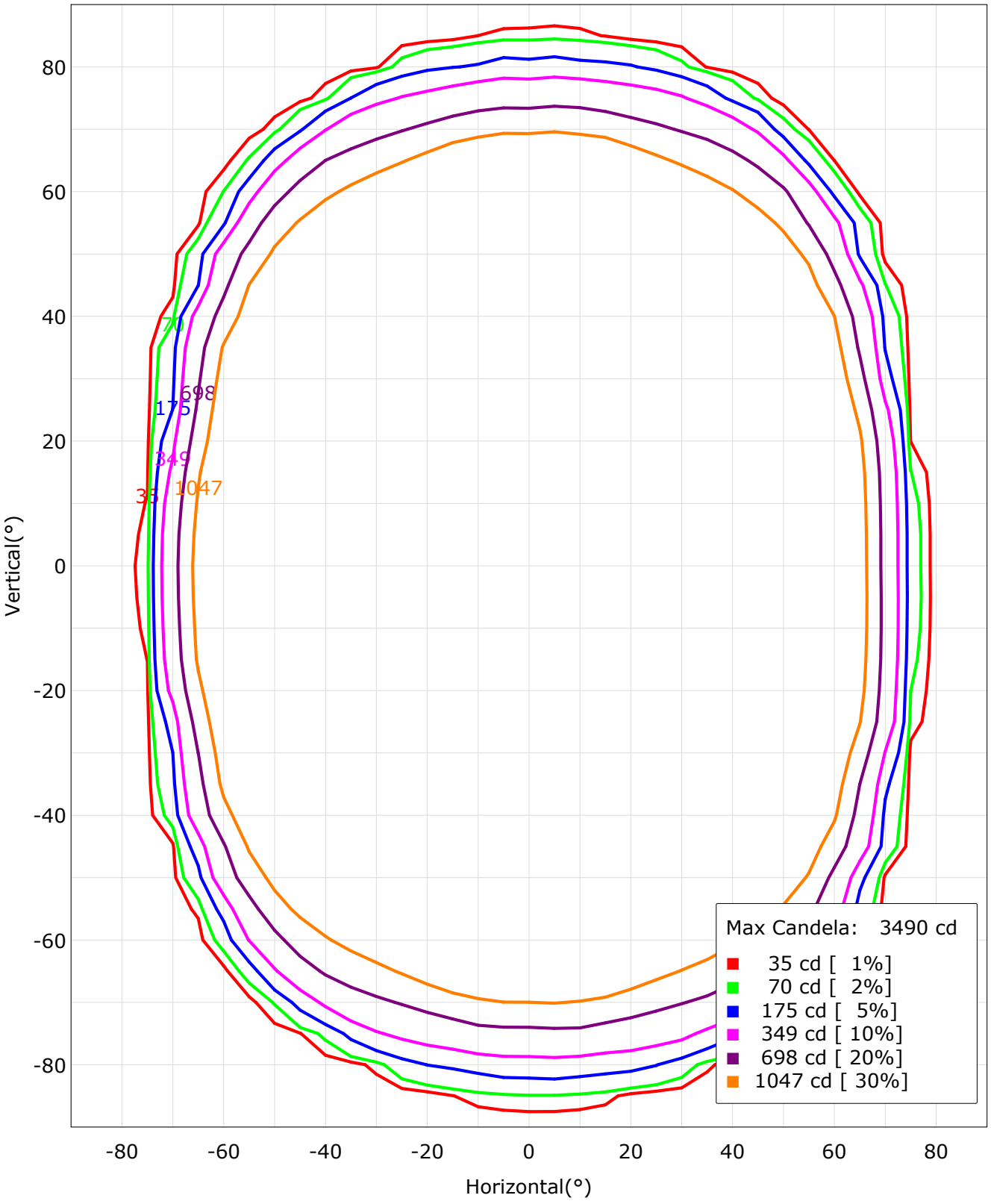

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

# IsoLux



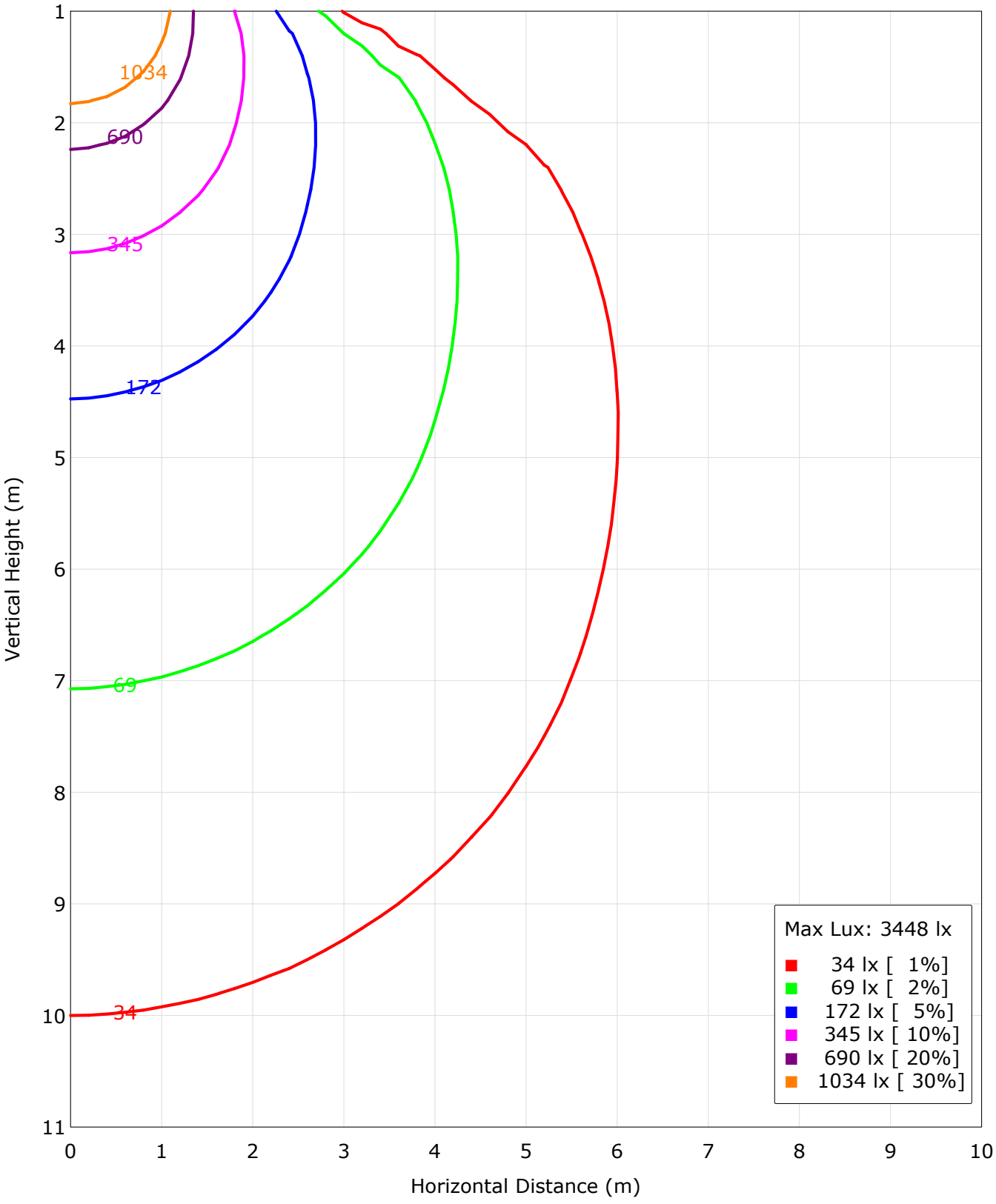

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

## IsoCandela




Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

# Vertical IsoLux Plot

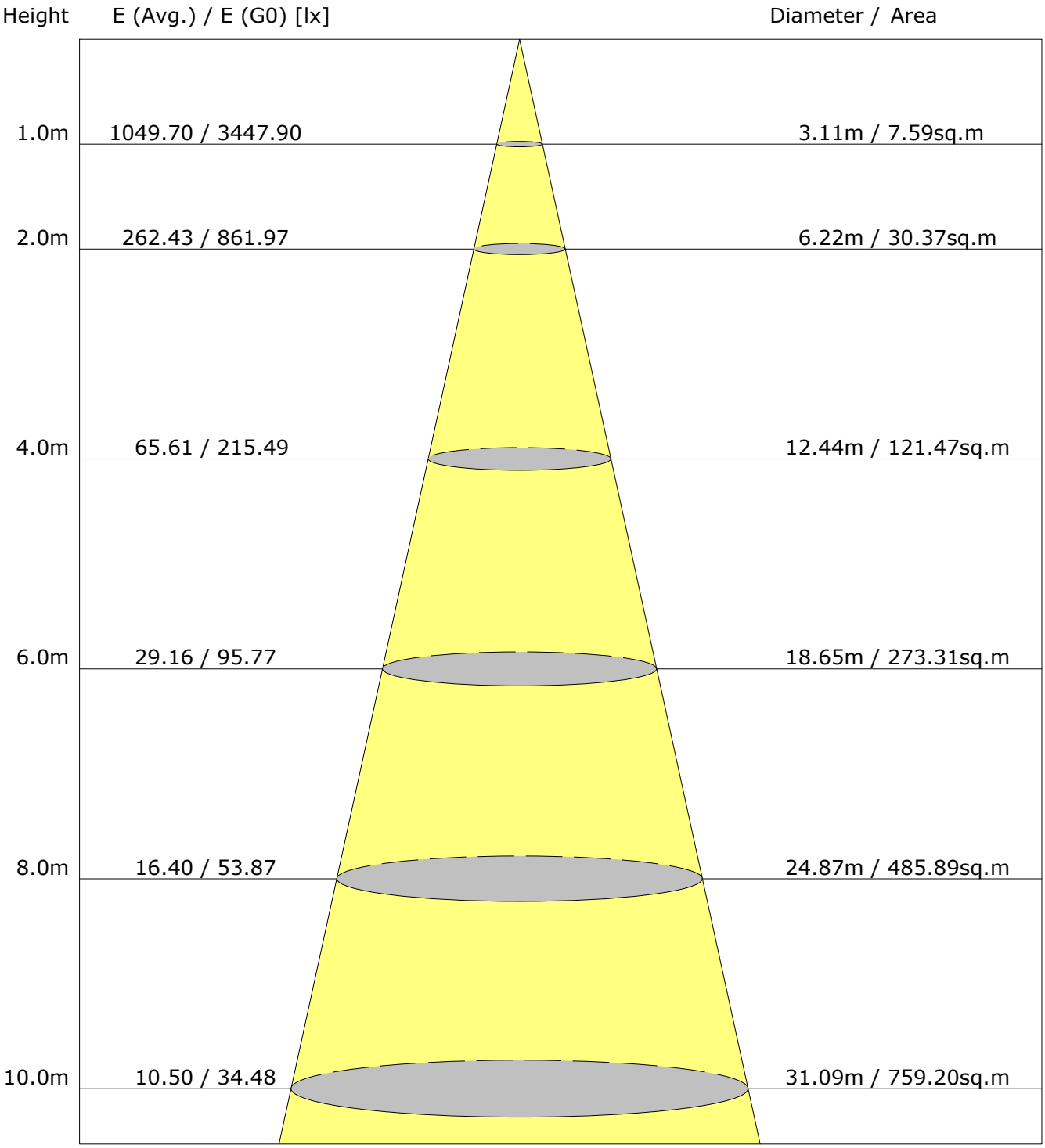



Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



## Average Illuminance Effective Figure




Beam Angle: 114.5° Flux Out: 7969.30lm

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

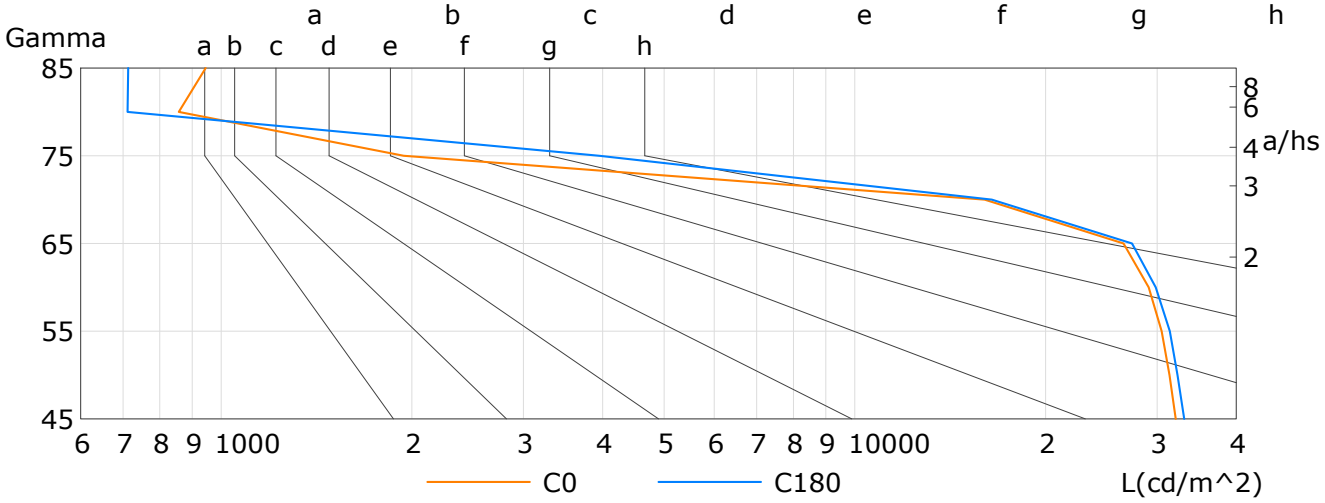
**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365

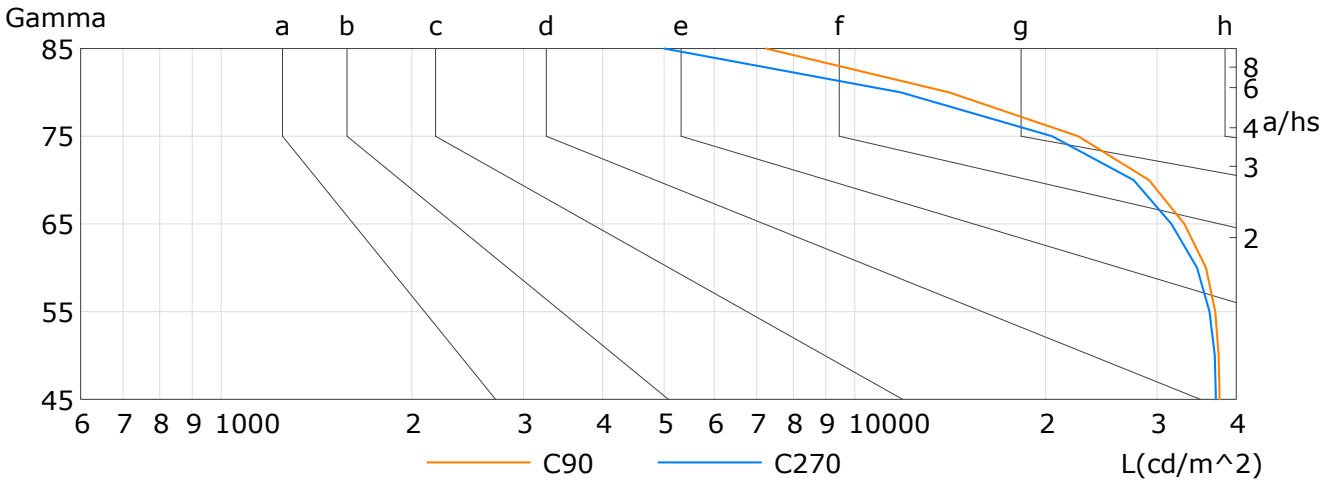


# Luminance Limit Curve

| (cd/m^2) | G45 | G50 | G55 | G60 | G65 | G70 | G75 | G80 | G85 |
|---|---|---|---|---|---|---|---|---|---|
| C0 | 32099 | 31368 | 30500 | 29092 | 26551 | 16023 | 1941 | 857 | 945 |
| C90 | 37643 | 37507 | 37063 | 35828 | 33128 | 29127 | 22526 | 14096 | 7240 |
| C180 | 33097 | 32307 | 31410 | 29848 | 27382 | 16446 | 3949 | 712 | 713 |
| C270 | 37145 | 36989 | 36281 | 34682 | 31597 | 27545 | 20486 | 11820 | 5001 |

| Dazzle | Quality | Illuminance (lx) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1.15 | A | 2000 | 1000 | 500 | <=300 | | | | |
| 1.50 | B | | 2000 | 1000 | 500 | <=300 | | | |
| 1.85 | C | | | 2000 | 1000 | 500 | <=300 | | |
| 2.20 | D | | | | 2000 | 1000 | 500 | <=300 | |
| 2.55 | E | | | | | 2000 | 1000 | 500 | <=300 |




Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

# TM5 UF Table

| Utilisation Factors UF (F) | | | | | | SHR NOM = 1.50 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Room Reflectance | | | Room Index(RI) | | | | | | | |
| C | W | F | 0.75 | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |
| 0.70 | 0.50 | 0.20 | 0.61 | 0.70 | 0.78 | 0.83 | 0.91 | 0.95 | 0.99 | 1.03 | 1.05 |
| | 0.30 | | 0.54 | 0.63 | 0.71 | 0.77 | 0.85 | 0.90 | 0.94 | 0.99 | 1.02 |
| | 0.20 | | 0.49 | 0.58 | 0.66 | 0.72 | 0.80 | 0.86 | 0.90 | 0.96 | 1.00 |
| 0.50 | 0.50 | 0.20 | 0.60 | 0.68 | 0.76 | 0.81 | 0.88 | 0.92 | 0.95 | 0.99 | 1.01 |
| | 0.30 | | 0.53 | 0.62 | 0.70 | 0.75 | 0.83 | 0.88 | 0.91 | 0.96 | 0.99 |
| | 0.20 | | 0.49 | 0.57 | 0.65 | 0.71 | 0.79 | 0.84 | 0.88 | 0.93 | 0.96 |
| 0.30 | 0.50 | 0.20 | 0.59 | 0.66 | 0.74 | 0.78 | 0.85 | 0.89 | 0.92 | 0.95 | 0.97 |
| | 0.30 | | 0.53 | 0.61 | 0.68 | 0.74 | 0.81 | 0.85 | 0.89 | 0.93 | 0.95 |
| | 0.20 | | 0.48 | 0.56 | 0.64 | 0.70 | 0.77 | 0.82 | 0.86 | 0.91 | 0.94 |
| 0.00 | 0.00 | 0.00 | 0.46 | 0.54 | 0.62 | 0.67 | 0.74 | 0.79 | 0.82 | 0.86 | 0.89 |

| Utilisation Factors UF (W) | | | | | | SHR NOM = 1.50 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Room Reflectance | | | Room Index(RI) | | | | | | | |
| C | W | F | 0.75 | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |
| 0.70 | 0.50 | 0.20 | 0.92 | 0.77 | 0.65 | 0.55 | 0.43 | 0.36 | 0.30 | 0.23 | 0.19 |
| | 0.30 | | 0.77 | 0.66 | 0.56 | 0.49 | 0.39 | 0.33 | 0.28 | 0.22 | 0.18 |
| | 0.20 | | 0.66 | 0.58 | 0.50 | 0.44 | 0.36 | 0.30 | 0.26 | 0.21 | 0.17 |
| 0.50 | 0.50 | 0.20 | 0.89 | 0.74 | 0.62 | 0.53 | 0.41 | 0.37 | 0.29 | 0.22 | 0.18 |
| | 0.30 | | 0.75 | 0.65 | 0.55 | 0.47 | 0.38 | 0.31 | 0.27 | 0.21 | 0.17 |
| | 0.20 | | 0.65 | 0.57 | 0.49 | 0.43 | 0.35 | 0.29 | 0.25 | 0.20 | 0.16 |
| 0.30 | 0.50 | 0.20 | 0.86 | 0.71 | 0.59 | 0.51 | 0.39 | 0.32 | 0.27 | 0.21 | 0.17 |
| | 0.30 | | 0.74 | 0.63 | 0.53 | 0.46 | 0.36 | 0.30 | 0.26 | 0.20 | 0.16 |
| | 0.20 | | 0.65 | 0.56 | 0.48 | 0.42 | 0.34 | 0.28 | 0.24 | 0.19 | 0.16 |
| 0.00 | 0.00 | 0.00 | 0.54 | 0.46 | 0.38 | 0.33 | 0.26 | 0.21 | 0.18 | 0.14 | 0.11 |

| Utilisation Factors UF (C) | | | | | | SHR NOM = 1.50 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Room Reflectance | | | Room Index(RI) | | | | | | | |
| C | W | F | 0.75 | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |
| 0.70 | 0.50 | 0.20 | 0.16 | 0.17 | 0.18 | 0.19 | 0.19 | 0.20 | 0.20 | 0.21 | 0.21 |
| | 0.30 | | 0.09 | 0.11 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| | 0.20 | | 0.05 | 0.06 | 0.08 | 0.09 | 0.11 | 0.13 | 0.14 | 0.16 | 0.17 |
| 0.50 | 0.50 | 0.20 | 0.15 | 0.17 | 0.17 | 0.18 | 0.19 | 0.19 | 0.20 | 0.20 | 0.21 |
| | 0.30 | | 0.09 | 0.11 | 0.12 | 0.13 | 0.15 | 0.16 | 0.17 | 0.18 | 0.19 |
| | 0.20 | | 0.05 | 0.06 | 0.08 | 0.09 | 0.11 | 0.13 | 0.14 | 0.16 | 0.17 |
| 0.30 | 0.50 | 0.20 | 0.15 | 0.16 | 0.17 | 0.17 | 0.18 | 0.19 | 0.19 | 0.19 | 0.20 |
| | 0.30 | | 0.09 | 0.11 | 0.12 | 0.13 | 0.14 | 0.15 | 0.16 | 0.17 | 0.18 |
| | 0.20 | | 0.05 | 0.06 | 0.08 | 0.09 | 0.11 | 0.12 | 0.14 | 0.15 | 0.16 |
| 0.00 | 0.00 | 0.00 | NA | NA | NA | NA | NA | NA | NA | NA | NA |

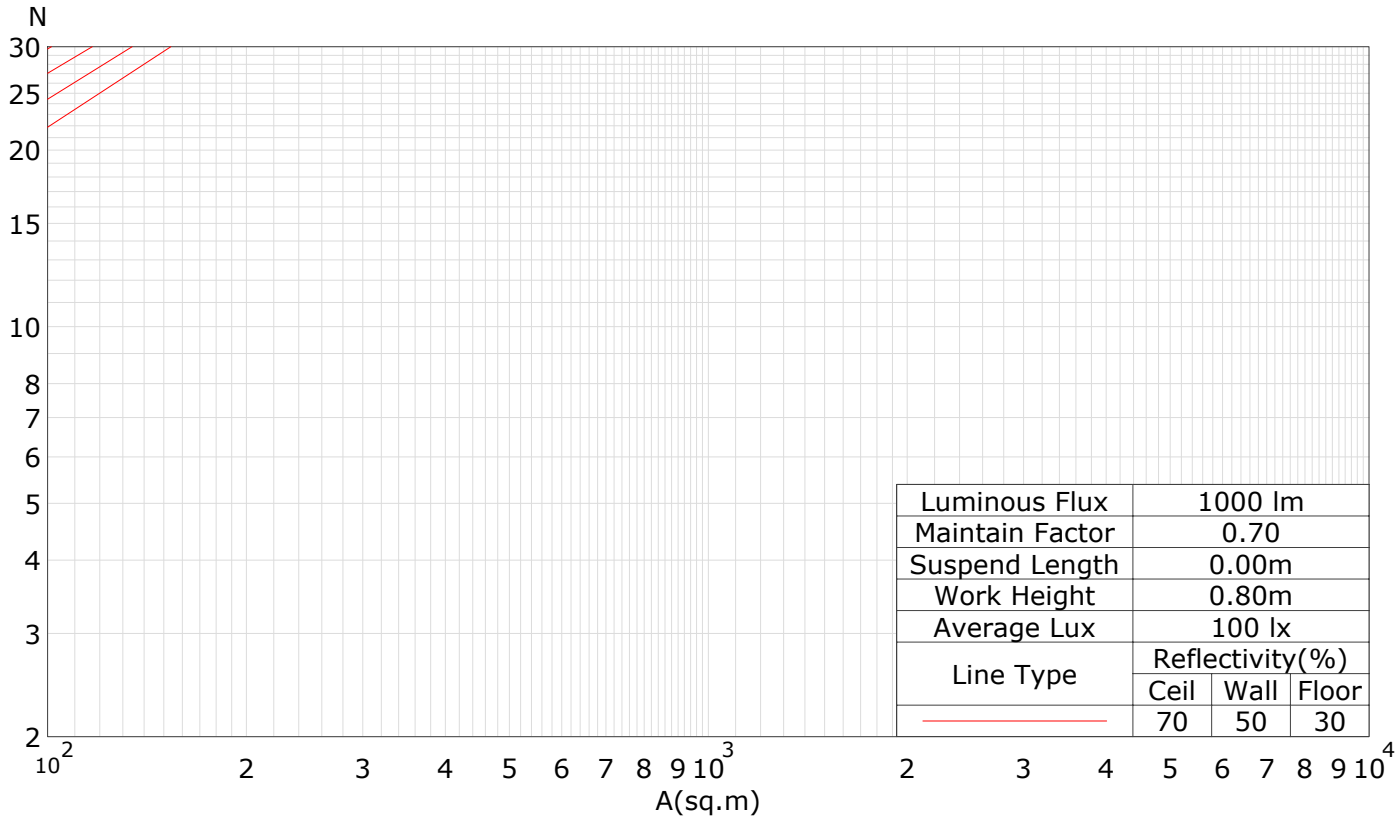
Rating: 161W Photometrically tested without ceiling board.
Multiply UF values by service correction factors
Calculate in accordance with CIBSE Technical Memorandum No.5/1980

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

# Indoor CU, Curves of Luminaires vs Lighting Area

| RC | 0.8 | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RW | 0.7 | 0.5 | 0.3 | 0.1 | 0.7 | 0.5 | 0.3 | 0.1 | 0.5 | 0.3 | 0.1 | 0.5 | 0.3 | 0.1 | 0.5 | 0.3 | 0.1 | 0 |
| RCR | RF = 0.2 | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 110 | 105 | 102 | 98 | 107 | 103 | 100 | 96 | 99 | 96 | 93 | 95 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 100 | 92 | 86 | 81 | 98 | 91 | 85 | 80 | 87 | 82 | 78 | 84 | 80 | 76 | 81 | 77 | 74 | 72 |
| 3 | 91 | 81 | 73 | 67 | 89 | 80 | 72 | 67 | 77 | 71 | 65 | 74 | 69 | 64 | 71 | 67 | 63 | 61 |
| 4 | 84 | 72 | 63 | 57 | 81 | 71 | 63 | 56 | 68 | 61 | 56 | 66 | 60 | 55 | 64 | 59 | 54 | 52 |
| 5 | 77 | 64 | 55 | 49 | 75 | 63 | 55 | 49 | 61 | 54 | 48 | 59 | 53 | 48 | 57 | 52 | 47 | 45 |
| 6 | 71 | 58 | 49 | 43 | 69 | 57 | 48 | 42 | 55 | 48 | 42 | 53 | 47 | 42 | 52 | 46 | 41 | 39 |
| 7 | 66 | 52 | 44 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 35 |
| 8 | 61 | 48 | 39 | 33 | 59 | 47 | 39 | 33 | 46 | 38 | 33 | 44 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 35 | 30 | 56 | 43 | 35 | 30 | 42 | 35 | 30 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 40 | 32 | 27 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 27 | 25 |

Spacing Criteria: 1.32 (0-180), 1.42 (90-270), 1.45 (Diagonal)




Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

## Zonal Flux

| Gamma<br>° | Imean<br>cd/klm | Zonal Flux<br>lm | Sum Zonal Flux<br>lm | Rel Zonal Flux<br>% | Sum Rel Zonal Flux<br>% |
|---|---|---|---|---|---|
| 0.0-1.0 | 341.6 | 3.3 | 3.3 | 0.03 | 0.03 |
| 1.0-2.0 | 341.6 | 9.9 | 13.2 | 0.10 | 0.13 |
| 2.0-3.0 | 341.5 | 16.5 | 29.7 | 0.16 | 0.29 |
| 3.0-4.0 | 341.3 | 23.1 | 52.7 | 0.23 | 0.52 |
| 4.0-5.0 | 341.1 | 29.6 | 82.4 | 0.29 | 0.82 |
| 5.0-6.0 | 340.9 | 36.2 | 118.5 | 0.36 | 1.17 |
| 6.0-7.0 | 340.6 | 42.7 | 161.2 | 0.42 | 1.60 |
| 7.0-8.0 | 340.3 | 49.1 | 210.3 | 0.49 | 2.08 |
| 8.0-9.0 | 339.8 | 55.6 | 265.9 | 0.55 | 2.64 |
| 9.0-10.0 | 339.3 | 62.0 | 327.9 | 0.61 | 3.25 |
| 10.0-11.0 | 338.8 | 68.3 | 396.2 | 0.68 | 3.93 |
| 11.0-12.0 | 338.3 | 74.6 | 470.9 | 0.74 | 4.67 |
| 12.0-13.0 | 337.6 | 80.9 | 551.7 | 0.80 | 5.47 |
| 13.0-14.0 | 336.9 | 87.0 | 638.8 | 0.86 | 6.33 |
| 14.0-15.0 | 336.1 | 93.1 | 731.9 | 0.92 | 7.25 |
| 15.0-16.0 | 335.2 | 99.1 | 831.0 | 0.98 | 8.23 |
| 16.0-17.0 | 334.2 | 105.0 | 936.0 | 1.04 | 9.28 |
| 17.0-18.0 | 333.1 | 110.9 | 1046.9 | 1.10 | 10.37 |
| 18.0-19.0 | 332.0 | 116.6 | 1163.5 | 1.16 | 11.53 |
| 19.0-20.0 | 330.9 | 122.2 | 1285.7 | 1.21 | 12.74 |
| 20.0-21.0 | 329.7 | 127.8 | 1413.5 | 1.27 | 14.01 |
| 21.0-22.0 | 328.3 | 133.2 | 1546.6 | 1.32 | 15.33 |
| 22.0-23.0 | 326.8 | 138.4 | 1685.0 | 1.37 | 16.70 |
| 23.0-24.0 | 325.2 | 143.5 | 1828.6 | 1.42 | 18.12 |
| 24.0-25.0 | 323.6 | 148.5 | 1977.0 | 1.47 | 19.59 |
| 25.0-26.0 | 321.8 | 153.3 | 2130.4 | 1.52 | 21.11 |
| 26.0-27.0 | 319.8 | 157.9 | 2288.3 | 1.56 | 22.68 |
| 27.0-28.0 | 317.7 | 162.4 | 2450.6 | 1.61 | 24.28 |
| 28.0-29.0 | 315.6 | 166.6 | 2617.3 | 1.65 | 25.94 |
| 29.0-30.0 | 313.3 | 170.7 | 2788.0 | 1.69 | 27.63 |
| 30.0-31.0 | 310.8 | 174.6 | 2962.6 | 1.73 | 29.36 |
| 31.0-32.0 | 308.2 | 178.2 | 3140.8 | 1.77 | 31.12 |
| 32.0-33.0 | 305.4 | 181.6 | 3322.4 | 1.80 | 32.92 |
| 33.0-34.0 | 302.5 | 184.8 | 3507.2 | 1.83 | 34.75 |
| 34.0-35.0 | 299.3 | 187.6 | 3694.8 | 1.86 | 36.61 |
| 35.0-36.0 | 296.0 | 190.2 | 3885.0 | 1.88 | 38.50 |
| 36.0-37.0 | 292.4 | 192.5 | 4077.5 | 1.91 | 40.40 |
| 37.0-38.0 | 288.6 | 194.4 | 4271.9 | 1.93 | 42.33 |
| 38.0-39.0 | 284.7 | 196.1 | 4468.0 | 1.94 | 44.27 |
| 39.0-40.0 | 280.5 | 197.4 | 4665.4 | 1.96 | 46.23 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Zonal Flux

| Gamma<br>° | Imean<br>cd/klm | Zonal Flux<br>lm | Sum Zonal Flux<br>lm | Rel Zonal Flux<br>% | Sum Rel Zonal Flux<br>% |
|---|---|---|---|---|---|
| 40.0-41.0 | 276.1 | 198.4 | 4863.8 | 1.97 | 48.20 |
| 41.0-42.0 | 271.7 | 199.3 | 5063.1 | 1.97 | 50.17 |
| 42.0-43.0 | 267.0 | 199.6 | 5262.7 | 1.98 | 52.15 |
| 43.0-44.0 | 262.1 | 199.7 | 5462.4 | 1.98 | 54.13 |
| 44.0-45.0 | 257.2 | 199.5 | 5661.9 | 1.98 | 56.11 |
| 45.0-46.0 | 252.0 | 198.9 | 5860.8 | 1.97 | 58.08 |
| 46.0-47.0 | 246.9 | 198.2 | 6059.0 | 1.96 | 60.04 |
| 47.0-48.0 | 241.5 | 197.0 | 6256.0 | 1.95 | 61.99 |
| 48.0-49.0 | 235.9 | 195.5 | 6451.6 | 1.94 | 63.93 |
| 49.0-50.0 | 230.5 | 193.9 | 6645.5 | 1.92 | 65.85 |
| 50.0-51.0 | 224.6 | 191.8 | 6837.3 | 1.90 | 67.75 |
| 51.0-52.0 | 218.7 | 189.4 | 7026.6 | 1.88 | 69.63 |
| 52.0-53.0 | 212.7 | 186.7 | 7213.4 | 1.85 | 71.48 |
| 53.0-54.0 | 206.5 | 183.7 | 7397.0 | 1.82 | 73.30 |
| 54.0-55.0 | 200.3 | 180.5 | 7577.5 | 1.79 | 75.09 |
| 55.0-56.0 | 193.9 | 176.8 | 7754.3 | 1.75 | 76.84 |
| 56.0-57.0 | 187.3 | 172.8 | 7927.1 | 1.71 | 78.55 |
| 57.0-58.0 | 180.9 | 168.8 | 8095.9 | 1.67 | 80.23 |
| 58.0-59.0 | 174.0 | 164.2 | 8260.1 | 1.63 | 81.85 |
| 59.0-60.0 | 167.0 | 159.2 | 8419.3 | 1.58 | 83.43 |
| 60.0-61.0 | 159.8 | 153.9 | 8573.3 | 1.53 | 84.96 |
| 61.0-62.0 | 152.5 | 148.3 | 8721.6 | 1.47 | 86.43 |
| 62.0-63.0 | 145.4 | 142.7 | 8864.3 | 1.41 | 87.84 |
| 63.0-64.0 | 137.8 | 136.4 | 9000.8 | 1.35 | 89.19 |
| 64.0-65.0 | 130.0 | 129.9 | 9130.7 | 1.29 | 90.48 |
| 65.0-66.0 | 122.4 | 123.2 | 9253.9 | 1.22 | 91.70 |
| 66.0-67.0 | 113.6 | 115.3 | 9369.2 | 1.14 | 92.84 |
| 67.0-68.0 | 104.0 | 106.4 | 9475.6 | 1.05 | 93.90 |
| 68.0-69.0 | 94.2 | 97.0 | 9572.6 | 0.96 | 94.86 |
| 69.0-70.0 | 84.8 | 87.9 | 9660.5 | 0.87 | 95.73 |
| 70.0-71.0 | 75.9 | 79.2 | 9739.7 | 0.78 | 96.51 |
| 71.0-72.0 | 65.9 | 69.2 | 9808.8 | 0.69 | 97.20 |
| 72.0-73.0 | 55.4 | 58.4 | 9867.3 | 0.58 | 97.78 |
| 73.0-74.0 | 46.3 | 49.1 | 9916.4 | 0.49 | 98.27 |
| 74.0-75.0 | 38.1 | 40.6 | 9957.0 | 0.40 | 98.67 |
| 75.0-76.0 | 30.5 | 32.6 | 9989.7 | 0.32 | 98.99 |
| 76.0-77.0 | 23.9 | 25.7 | 10015.4 | 0.25 | 99.25 |
| 77.0-78.0 | 18.5 | 19.9 | 10035.3 | 0.20 | 99.44 |
| 78.0-79.0 | 14.2 | 15.5 | 10050.8 | 0.15 | 99.60 |
| 79.0-80.0 | 10.7 | 11.7 | 10062.5 | 0.12 | 99.71 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

## Zonal Flux

| Gamma<br>° | Imean<br>cd/klm | Zonal Flux<br>lm | Sum Zonal Flux<br>lm | Rel Zonal Flux<br>% | Sum Rel Zonal Flux<br>% |
|---|---|---|---|---|---|
| 80.0-81.0 | 7.9 | 8.7 | 10071.1 | 0.09 | 99.80 |
| 81.0-82.0 | 5.8 | 6.4 | 10077.5 | 0.06 | 99.86 |
| 82.0-83.0 | 4.2 | 4.6 | 10082.1 | 0.05 | 99.91 |
| 83.0-84.0 | 3.0 | 3.3 | 10085.4 | 0.03 | 99.94 |
| 84.0-85.0 | 2.0 | 2.2 | 10087.6 | 0.02 | 99.96 |
| 85.0-86.0 | 1.3 | 1.5 | 10089.1 | 0.01 | 99.98 |
| 86.0-87.0 | 0.9 | 1.0 | 10090.1 | 0.01 | 99.99 |
| 87.0-88.0 | 0.6 | 0.7 | 10090.7 | 0.01 | 99.99 |
| 88.0-89.0 | 0.4 | 0.4 | 10091.2 | 0.00 | 100.00 |
| 89.0-90.0 | 0.3 | 0.3 | 10091.5 | 0.00 | 100.00 |

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



## Light Distribution Data

Unit: cd/klm

| G\C | C0.0 | C5.0 | C10.0 | C15.0 | C20.0 | C25.0 | C30.0 | C35.0 |
|---|---|---|---|---|---|---|---|---|
| G0.0 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 |
| G1.0 | 341.7 | 341.4 | 341.2 | 341.3 | 341.4 | 341.3 | 341.3 | 341.1 |
| G2.0 | 341.5 | 341.2 | 341.0 | 341.0 | 341.4 | 341.2 | 341.2 | 341.1 |
| G3.0 | 341.0 | 340.9 | 341.1 | 340.5 | 341.3 | 340.9 | 340.8 | 341.1 |
| G4.0 | 340.9 | 340.5 | 340.1 | 340.3 | 340.5 | 340.5 | 341.0 | 340.1 |
| G5.0 | 340.3 | 340.2 | 340.0 | 340.0 | 340.5 | 340.6 | 340.3 | 340.3 |
| G6.0 | 339.6 | 339.5 | 339.8 | 339.7 | 339.6 | 340.0 | 340.1 | 339.5 |
| G7.0 | 339.1 | 338.8 | 339.1 | 338.9 | 339.3 | 339.4 | 339.2 | 339.1 |
| G8.0 | 338.6 | 338.1 | 338.3 | 338.0 | 338.3 | 338.7 | 338.8 | 338.9 |
| G9.0 | 337.9 | 337.4 | 337.8 | 337.4 | 337.5 | 338.2 | 338.1 | 338.0 |
| G10.0 | 336.7 | 336.7 | 336.8 | 336.8 | 337.0 | 337.2 | 337.4 | 337.4 |
| G11.0 | 336.1 | 335.8 | 336.0 | 335.6 | 336.0 | 336.4 | 336.3 | 336.5 |
| G12.0 | 334.9 | 335.1 | 335.1 | 334.9 | 335.0 | 335.6 | 335.6 | 335.6 |
| G13.0 | 333.9 | 333.7 | 334.1 | 334.0 | 333.9 | 334.5 | 334.4 | 334.7 |
| G14.0 | 333.3 | 332.4 | 333.2 | 332.4 | 332.9 | 333.1 | 333.1 | 333.5 |
| G15.0 | 331.7 | 331.0 | 331.9 | 331.2 | 331.6 | 332.1 | 331.8 | 332.4 |
| G16.0 | 330.5 | 329.9 | 330.2 | 330.1 | 330.1 | 330.2 | 330.3 | 331.1 |
| G17.0 | 328.8 | 328.4 | 329.0 | 328.4 | 328.9 | 329.0 | 328.9 | 329.7 |
| G18.0 | 327.3 | 326.6 | 327.3 | 327.4 | 327.5 | 327.9 | 327.8 | 328.3 |
| G19.0 | 325.6 | 325.1 | 326.0 | 325.7 | 326.3 | 326.1 | 325.8 | 326.7 |
| G20.0 | 323.8 | 323.3 | 324.3 | 324.2 | 324.4 | 324.6 | 323.8 | 325.2 |
| G21.0 | 322.4 | 321.7 | 322.8 | 322.3 | 322.7 | 322.7 | 322.5 | 323.8 |
| G22.0 | 320.6 | 319.9 | 320.5 | 320.9 | 320.9 | 320.6 | 320.1 | 321.8 |
| G23.0 | 318.3 | 317.6 | 319.0 | 319.0 | 319.1 | 318.8 | 318.2 | 319.9 |
| G24.0 | 316.1 | 315.1 | 316.9 | 316.9 | 317.0 | 316.7 | 316.0 | 317.7 |
| G25.0 | 314.1 | 313.2 | 314.5 | 314.6 | 315.0 | 314.6 | 313.5 | 315.7 |
| G26.0 | 311.9 | 311.1 | 312.5 | 313.0 | 313.1 | 312.0 | 311.5 | 314.1 |
| G27.0 | 309.2 | 308.6 | 310.0 | 310.4 | 310.6 | 309.6 | 308.8 | 311.2 |
| G28.0 | 306.4 | 305.7 | 307.3 | 308.2 | 308.0 | 307.3 | 306.3 | 309.0 |
| G29.0 | 304.2 | 302.8 | 304.7 | 305.1 | 305.5 | 304.2 | 303.8 | 306.3 |
| G30.0 | 301.1 | 300.0 | 301.9 | 302.3 | 302.7 | 301.4 | 300.8 | 303.7 |
| G31.0 | 297.8 | 296.7 | 298.9 | 299.6 | 300.2 | 298.4 | 297.6 | 301.1 |
| G32.0 | 294.1 | 293.3 | 295.2 | 295.9 | 296.8 | 295.6 | 294.6 | 297.9 |
| G33.0 | 290.8 | 289.9 | 292.0 | 292.5 | 293.4 | 291.9 | 291.7 | 295.0 |
| G34.0 | 287.4 | 286.3 | 288.4 | 289.2 | 290.3 | 288.7 | 288.4 | 292.0 |
| G35.0 | 283.3 | 282.4 | 284.4 | 285.3 | 286.6 | 284.8 | 284.4 | 288.7 |
| G36.0 | 279.7 | 278.7 | 280.9 | 281.0 | 282.7 | 281.1 | 280.9 | 284.9 |
| G37.0 | 275.3 | 274.2 | 276.5 | 276.9 | 279.3 | 276.7 | 277.1 | 281.1 |
| G38.0 | 270.3 | 269.4 | 271.8 | 272.6 | 275.2 | 272.8 | 273.0 | 277.2 |
| G39.0 | 266.0 | 265.0 | 266.9 | 267.5 | 270.5 | 268.3 | 269.1 | 273.0 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Light Distribution Data

Unit: cd/klm

| G\C | C0.0 | C5.0 | C10.0 | C15.0 | C20.0 | C25.0 | C30.0 | C35.0 |
|---|---|---|---|---|---|---|---|---|
| G40.0 | 261.4 | 260.0 | 262.2 | 262.7 | 265.4 | 263.4 | 264.7 | 268.6 |
| G41.0 | 256.1 | 255.2 | 257.3 | 257.9 | 261.2 | 258.6 | 260.0 | 264.8 |
| G42.0 | 251.3 | 250.4 | 252.6 | 252.8 | 256.3 | 253.3 | 254.6 | 259.9 |
| G43.0 | 246.2 | 244.9 | 247.1 | 247.4 | 250.6 | 248.2 | 249.4 | 254.6 |
| G44.0 | 241.1 | 240.0 | 242.2 | 242.4 | 245.3 | 242.7 | 244.4 | 249.5 |
| G45.0 | 236.2 | 234.7 | 237.3 | 236.7 | 240.4 | 237.2 | 239.1 | 243.8 |
| G46.0 | 230.8 | 229.8 | 231.7 | 231.8 | 234.7 | 231.9 | 233.4 | 238.4 |
| G47.0 | 225.8 | 224.7 | 226.8 | 226.3 | 229.7 | 226.7 | 227.7 | 232.9 |
| G48.0 | 220.2 | 219.1 | 221.2 | 220.6 | 223.6 | 221.0 | 221.9 | 226.5 |
| G49.0 | 215.1 | 214.1 | 215.9 | 215.7 | 218.5 | 215.2 | 216.8 | 221.2 |
| G50.0 | 209.8 | 208.7 | 210.5 | 210.3 | 213.2 | 209.6 | 210.9 | 215.8 |
| G51.0 | 204.0 | 203.0 | 204.5 | 204.4 | 207.3 | 203.7 | 204.9 | 209.3 |
| G52.0 | 198.9 | 197.9 | 199.1 | 198.8 | 201.7 | 198.3 | 199.4 | 203.3 |
| G53.0 | 193.6 | 191.6 | 193.8 | 193.1 | 196.0 | 191.9 | 193.6 | 197.1 |
| G54.0 | 187.5 | 186.4 | 187.6 | 187.1 | 189.9 | 186.1 | 187.2 | 191.0 |
| G55.0 | 182.0 | 180.9 | 182.1 | 181.6 | 184.1 | 180.5 | 181.5 | 185.0 |
| G56.0 | 175.9 | 174.8 | 175.8 | 175.5 | 178.1 | 174.0 | 174.8 | 178.5 |
| G57.0 | 170.2 | 169.0 | 170.2 | 169.6 | 171.9 | 168.4 | 169.0 | 172.1 |
| G58.0 | 164.0 | 162.9 | 164.1 | 163.6 | 166.0 | 162.8 | 163.1 | 165.4 |
| G59.0 | 157.7 | 156.3 | 157.4 | 157.3 | 159.3 | 155.7 | 156.2 | 158.4 |
| G60.0 | 151.3 | 149.9 | 150.8 | 150.8 | 152.7 | 149.5 | 150.1 | 151.8 |
| G61.0 | 144.4 | 143.0 | 144.1 | 144.0 | 145.7 | 142.5 | 143.3 | 144.5 |
| G62.0 | 137.7 | 136.6 | 137.8 | 137.3 | 139.3 | 135.9 | 136.4 | 138.1 |
| G63.0 | 131.1 | 130.0 | 131.0 | 130.5 | 132.6 | 129.4 | 129.8 | 131.6 |
| G64.0 | 123.5 | 122.3 | 123.1 | 122.9 | 125.0 | 122.2 | 122.4 | 124.3 |
| G65.0 | 116.8 | 115.6 | 116.6 | 115.9 | 117.8 | 115.0 | 115.8 | 116.9 |
| G66.0 | 108.5 | 105.7 | 109.7 | 108.5 | 110.6 | 107.2 | 108.8 | 109.4 |
| G67.0 | 84.8 | 83.9 | 89.2 | 94.7 | 102.5 | 100.4 | 100.6 | 102.6 |
| G68.0 | 73.3 | 72.6 | 74.6 | 74.7 | 83.8 | 90.5 | 93.7 | 94.8 |
| G69.0 | 62.4 | 62.0 | 63.6 | 65.0 | 68.8 | 69.3 | 83.1 | 87.2 |
| G70.0 | 57.0 | 56.6 | 57.0 | 57.0 | 58.6 | 60.6 | 64.1 | 78.0 |
| G71.0 | 47.4 | 46.5 | 50.8 | 51.4 | 52.5 | 51.8 | 55.0 | 59.0 |
| G72.0 | 19.6 | 18.7 | 22.6 | 27.4 | 40.0 | 45.9 | 46.5 | 49.5 |
| G73.0 | 15.5 | 15.4 | 15.6 | 15.8 | 17.1 | 25.9 | 41.2 | 42.0 |
| G74.0 | 13.7 | 13.4 | 13.6 | 13.4 | 13.8 | 13.6 | 19.3 | 34.0 |
| G75.0 | 5.2 | 4.2 | 6.9 | 9.5 | 11.7 | 11.5 | 11.8 | 13.5 |
| G76.0 | 2.6 | 2.6 | 2.7 | 2.8 | 3.2 | 6.8 | 9.7 | 10.0 |
| G77.0 | 2.2 | 2.2 | 2.2 | 2.2 | 2.4 | 2.5 | 3.1 | 7.9 |
| G78.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.2 | 2.5 |
| G79.0 | 1.7 | 1.7 | 1.8 | 1.7 | 1.8 | 1.8 | 1.8 | 1.9 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

## Light Distribution Data

Unit: cd/klm

| G\C | C0.0 | C5.0 | C10.0 | C15.0 | C20.0 | C25.0 | C30.0 | C35.0 |
|---|---|---|---|---|---|---|---|---|
| G80.0 | 1.5 | 1.5 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| G81.0 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| G82.0 | 1.2 | 1.2 | 1.3 | 1.2 | 1.3 | 1.2 | 1.2 | 1.2 |
| G83.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| G84.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.9 | 0.9 |
| G85.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 |
| G86.0 | 0.7 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| G87.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 |
| G88.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| G89.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 |
| G90.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 |

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Light Distribution Data

Unit: cd/klm

| G\C | C40.0 | C45.0 | C50.0 | C55.0 | C60.0 | C65.0 | C70.0 | C75.0 |
|---|---|---|---|---|---|---|---|---|
| G0.0 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 |
| G1.0 | 341.7 | 341.8 | 341.6 | 341.8 | 341.4 | 341.4 | 341.5 | 341.2 |
| G2.0 | 341.3 | 341.6 | 341.7 | 341.8 | 340.9 | 341.3 | 341.7 | 340.5 |
| G3.0 | 341.6 | 341.3 | 341.5 | 341.3 | 340.6 | 341.1 | 341.0 | 340.0 |
| G4.0 | 341.2 | 340.7 | 341.1 | 341.2 | 340.2 | 340.5 | 341.3 | 339.9 |
| G5.0 | 340.5 | 340.8 | 340.7 | 340.8 | 339.6 | 339.9 | 340.5 | 339.3 |
| G6.0 | 339.8 | 340.1 | 340.8 | 340.1 | 339.4 | 339.5 | 340.0 | 339.3 |
| G7.0 | 339.8 | 339.9 | 340.0 | 339.7 | 339.2 | 339.4 | 339.7 | 338.7 |
| G8.0 | 339.2 | 339.0 | 339.4 | 338.9 | 338.6 | 339.2 | 339.7 | 338.5 |
| G9.0 | 338.5 | 338.6 | 339.0 | 338.8 | 338.6 | 338.3 | 338.4 | 338.7 |
| G10.0 | 338.0 | 337.7 | 338.0 | 337.9 | 338.3 | 338.2 | 338.0 | 338.2 |
| G11.0 | 337.0 | 337.0 | 337.6 | 337.4 | 337.9 | 338.1 | 337.6 | 338.2 |
| G12.0 | 336.0 | 336.3 | 336.5 | 336.4 | 337.6 | 337.4 | 336.8 | 338.0 |
| G13.0 | 335.1 | 335.2 | 335.6 | 335.5 | 337.4 | 336.7 | 336.5 | 337.4 |
| G14.0 | 334.3 | 334.3 | 334.7 | 334.4 | 336.7 | 335.6 | 336.3 | 336.6 |
| G15.0 | 333.0 | 333.7 | 333.7 | 333.9 | 335.6 | 335.7 | 335.6 | 335.6 |
| G16.0 | 331.5 | 332.4 | 332.5 | 332.4 | 334.4 | 335.4 | 334.2 | 335.3 |
| G17.0 | 330.5 | 330.8 | 331.1 | 331.7 | 333.2 | 334.3 | 333.1 | 334.7 |
| G18.0 | 329.2 | 329.7 | 330.1 | 330.0 | 332.2 | 334.0 | 332.3 | 334.0 |
| G19.0 | 327.5 | 328.0 | 328.7 | 328.5 | 330.8 | 333.5 | 332.7 | 332.7 |
| G20.0 | 326.0 | 326.3 | 327.1 | 327.1 | 329.4 | 333.0 | 332.0 | 332.0 |
| G21.0 | 324.7 | 324.5 | 325.7 | 325.7 | 327.9 | 331.5 | 331.6 | 331.2 |
| G22.0 | 322.4 | 323.1 | 323.7 | 324.0 | 326.3 | 331.0 | 330.2 | 329.7 |
| G23.0 | 320.4 | 321.1 | 322.1 | 322.2 | 324.4 | 331.2 | 329.5 | 328.0 |
| G24.0 | 318.6 | 319.4 | 319.9 | 320.4 | 322.7 | 330.0 | 328.9 | 328.9 |
| G25.0 | 316.9 | 317.5 | 318.2 | 318.5 | 321.0 | 328.1 | 328.4 | 327.9 |
| G26.0 | 314.3 | 315.6 | 316.1 | 316.5 | 318.9 | 326.1 | 327.7 | 326.7 |
| G27.0 | 312.3 | 313.2 | 313.9 | 314.2 | 316.8 | 323.8 | 326.2 | 325.8 |
| G28.0 | 310.2 | 310.5 | 312.0 | 312.1 | 314.6 | 321.9 | 325.9 | 325.0 |
| G29.0 | 307.4 | 308.0 | 309.8 | 309.7 | 312.2 | 319.4 | 324.6 | 324.5 |
| G30.0 | 305.0 | 305.9 | 306.6 | 307.2 | 309.7 | 316.9 | 321.9 | 322.2 |
| G31.0 | 302.4 | 303.0 | 304.2 | 304.9 | 307.1 | 314.5 | 319.5 | 322.6 |
| G32.0 | 299.7 | 300.0 | 301.2 | 301.8 | 304.4 | 311.5 | 316.5 | 320.7 |
| G33.0 | 296.6 | 297.3 | 298.8 | 299.0 | 301.7 | 309.0 | 314.1 | 318.1 |
| G34.0 | 293.2 | 294.3 | 295.3 | 296.4 | 299.0 | 306.5 | 311.7 | 315.1 |
| G35.0 | 289.9 | 291.4 | 292.5 | 293.0 | 296.1 | 303.3 | 307.9 | 312.2 |
| G36.0 | 286.9 | 287.6 | 289.2 | 290.2 | 292.8 | 300.3 | 305.2 | 309.1 |
| G37.0 | 283.4 | 284.1 | 285.8 | 286.6 | 289.9 | 296.5 | 302.1 | 305.8 |
| G38.0 | 279.2 | 280.9 | 282.2 | 283.3 | 286.1 | 293.4 | 298.4 | 302.0 |
| G39.0 | 275.5 | 277.3 | 278.5 | 279.9 | 282.9 | 289.9 | 294.8 | 298.4 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Light Distribution Data

Unit: cd/klm

| G\C | C40.0 | C45.0 | C50.0 | C55.0 | C60.0 | C65.0 | C70.0 | C75.0 |
|---|---|---|---|---|---|---|---|---|
| G40.0 | 270.7 | 272.8 | 274.8 | 275.8 | 278.7 | 285.9 | 291.1 | 294.2 |
| G41.0 | 267.1 | 268.7 | 271.1 | 271.9 | 275.2 | 281.6 | 287.0 | 290.1 |
| G42.0 | 262.6 | 264.2 | 267.1 | 268.3 | 271.3 | 277.6 | 282.3 | 285.8 |
| G43.0 | 258.1 | 259.7 | 262.2 | 263.5 | 266.4 | 272.9 | 277.5 | 280.5 |
| G44.0 | 253.1 | 255.1 | 258.0 | 259.5 | 261.9 | 268.2 | 272.3 | 275.7 |
| G45.0 | 247.8 | 250.1 | 253.2 | 254.4 | 257.1 | 262.7 | 268.0 | 270.6 |
| G46.0 | 241.3 | 245.1 | 247.7 | 249.4 | 252.0 | 257.7 | 262.5 | 266.0 |
| G47.0 | 236.3 | 239.5 | 242.7 | 244.2 | 247.2 | 252.9 | 257.6 | 261.5 |
| G48.0 | 230.1 | 233.1 | 236.9 | 237.9 | 241.8 | 247.1 | 252.5 | 255.8 |
| G49.0 | 224.7 | 227.2 | 230.8 | 232.8 | 236.4 | 242.4 | 247.6 | 250.9 |
| G50.0 | 218.4 | 221.1 | 224.4 | 226.5 | 231.1 | 237.6 | 242.3 | 245.6 |
| G51.0 | 212.1 | 214.2 | 217.3 | 220.7 | 224.9 | 231.8 | 236.3 | 239.8 |
| G52.0 | 206.4 | 207.6 | 210.5 | 215.3 | 219.1 | 226.7 | 231.0 | 234.3 |
| G53.0 | 199.6 | 200.2 | 204.2 | 208.2 | 213.5 | 220.6 | 225.6 | 228.3 |
| G54.0 | 192.8 | 194.2 | 197.3 | 201.3 | 207.4 | 214.3 | 219.1 | 221.8 |
| G55.0 | 186.6 | 187.6 | 191.0 | 194.6 | 201.4 | 208.4 | 212.7 | 216.0 |
| G56.0 | 179.9 | 180.7 | 183.7 | 187.1 | 194.3 | 201.0 | 206.4 | 208.9 |
| G57.0 | 173.0 | 174.6 | 177.4 | 180.3 | 186.7 | 194.6 | 200.2 | 202.6 |
| G58.0 | 166.7 | 168.2 | 171.0 | 173.3 | 179.4 | 187.7 | 193.7 | 196.1 |
| G59.0 | 159.7 | 161.3 | 163.9 | 166.0 | 171.3 | 180.0 | 186.2 | 188.6 |
| G60.0 | 153.0 | 154.3 | 156.7 | 159.2 | 163.6 | 172.9 | 179.3 | 181.5 |
| G61.0 | 146.0 | 147.2 | 149.5 | 151.2 | 155.6 | 163.9 | 171.2 | 172.9 |
| G62.0 | 139.5 | 140.6 | 142.6 | 144.2 | 148.5 | 155.7 | 162.5 | 165.4 |
| G63.0 | 132.8 | 133.4 | 135.2 | 137.0 | 140.5 | 147.1 | 155.1 | 158.2 |
| G64.0 | 125.4 | 126.1 | 127.7 | 128.6 | 132.1 | 137.7 | 146.0 | 149.6 |
| G65.0 | 118.6 | 119.1 | 120.3 | 121.1 | 124.4 | 129.3 | 137.8 | 141.9 |
| G66.0 | 111.3 | 111.2 | 113.1 | 112.8 | 116.8 | 120.5 | 129.3 | 133.2 |
| G67.0 | 103.4 | 104.1 | 105.0 | 105.5 | 108.5 | 112.5 | 118.8 | 124.7 |
| G68.0 | 96.5 | 96.6 | 97.7 | 98.2 | 100.7 | 103.9 | 109.1 | 116.3 |
| G69.0 | 88.5 | 88.5 | 89.5 | 90.4 | 91.7 | 95.3 | 100.0 | 107.5 |
| G70.0 | 80.6 | 81.2 | 82.4 | 82.8 | 84.4 | 88.0 | 92.2 | 98.6 |
| G71.0 | 73.4 | 73.9 | 75.1 | 75.2 | 77.3 | 80.1 | 83.9 | 89.8 |
| G72.0 | 55.6 | 65.7 | 66.8 | 67.7 | 69.4 | 71.5 | 75.4 | 80.3 |
| G73.0 | 45.8 | 54.4 | 59.8 | 60.5 | 62.3 | 64.3 | 68.1 | 70.7 |
| G74.0 | 37.8 | 41.0 | 52.7 | 52.9 | 55.1 | 56.5 | 60.4 | 61.9 |
| G75.0 | 31.3 | 32.9 | 38.5 | 46.2 | 48.0 | 49.8 | 52.1 | 54.2 |
| G76.0 | 12.5 | 27.4 | 30.6 | 38.8 | 41.7 | 42.9 | 44.4 | 46.5 |
| G77.0 | 8.6 | 10.3 | 23.6 | 27.3 | 34.2 | 35.9 | 37.5 | 39.3 |
| G78.0 | 6.4 | 7.2 | 12.8 | 20.7 | 27.6 | 29.9 | 31.7 | 32.6 |
| G79.0 | 2.2 | 4.9 | 6.2 | 14.8 | 19.3 | 24.6 | 25.7 | 26.6 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

## Light Distribution Data

Unit: cd/klm

| G\C | C40.0 | C45.0 | C50.0 | C55.0 | C60.0 | C65.0 | C70.0 | C75.0 |
|---|---|---|---|---|---|---|---|---|
| G80.0 | 1.7 | 1.9 | 4.2 | 5.3 | 13.5 | 18.0 | 20.4 | 21.0 |
| G81.0 | 1.5 | 1.5 | 1.8 | 3.8 | 5.6 | 12.1 | 15.9 | 16.6 |
| G82.0 | 1.3 | 1.3 | 1.4 | 1.5 | 3.4 | 7.1 | 11.8 | 12.6 |
| G83.0 | 1.1 | 1.1 | 1.2 | 1.2 | 1.5 | 2.9 | 7.3 | 9.4 |
| G84.0 | 0.9 | 1.0 | 1.0 | 1.0 | 1.1 | 1.4 | 3.4 | 6.5 |
| G85.0 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 | 1.6 | 3.7 |
| G86.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 1.0 | 1.6 |
| G87.0 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.8 | 0.9 |
| G88.0 | 0.5 | 0.5 | 0.4 | 0.5 | 0.4 | 0.4 | 0.5 | 0.6 |
| G89.0 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | 0.4 | 0.5 |
| G90.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



## Light Distribution Data

Unit: cd/klm

| G\C | C80.0 | C85.0 | C90.0 | C95.0 | C100.0 | C105.0 | C110.0 | C115.0 |
|---|---|---|---|---|---|---|---|---|
| G0.0 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 |
| G1.0 | 341.4 | 341.9 | 341.2 | 341.1 | 341.5 | 341.6 | 341.3 | 341.5 |
| G2.0 | 340.9 | 341.4 | 341.2 | 341.1 | 341.5 | 341.7 | 341.4 | 341.5 |
| G3.0 | 340.8 | 341.2 | 340.8 | 340.4 | 341.7 | 341.3 | 341.0 | 341.1 |
| G4.0 | 340.3 | 340.9 | 340.7 | 340.3 | 341.4 | 341.1 | 340.8 | 341.1 |
| G5.0 | 339.9 | 340.4 | 340.5 | 339.9 | 341.1 | 340.7 | 340.8 | 340.9 |
| G6.0 | 339.7 | 340.0 | 340.1 | 339.5 | 340.7 | 340.8 | 340.3 | 340.5 |
| G7.0 | 338.9 | 339.4 | 339.9 | 339.5 | 340.1 | 340.3 | 340.2 | 340.5 |
| G8.0 | 338.9 | 338.9 | 339.3 | 338.9 | 339.7 | 340.2 | 339.5 | 340.3 |
| G9.0 | 338.4 | 338.7 | 338.4 | 338.4 | 339.3 | 339.2 | 339.4 | 340.2 |
| G10.0 | 337.9 | 338.3 | 338.0 | 338.7 | 338.9 | 338.9 | 338.5 | 339.4 |
| G11.0 | 338.1 | 337.7 | 337.2 | 338.5 | 337.7 | 338.3 | 338.5 | 338.7 |
| G12.0 | 336.8 | 337.7 | 336.7 | 338.5 | 337.2 | 338.1 | 337.9 | 338.9 |
| G13.0 | 336.4 | 337.1 | 336.4 | 338.1 | 336.2 | 337.8 | 337.3 | 338.4 |
| G14.0 | 335.7 | 337.0 | 336.6 | 337.4 | 335.9 | 337.3 | 336.5 | 338.5 |
| G15.0 | 334.6 | 337.1 | 337.1 | 337.0 | 336.3 | 336.5 | 336.2 | 338.0 |
| G16.0 | 334.4 | 336.2 | 336.4 | 335.7 | 336.7 | 335.5 | 336.6 | 337.1 |
| G17.0 | 334.8 | 335.2 | 335.2 | 334.9 | 336.0 | 334.5 | 336.0 | 336.4 |
| G18.0 | 334.7 | 333.8 | 334.0 | 334.1 | 335.2 | 334.0 | 335.4 | 336.0 |
| G19.0 | 333.5 | 333.1 | 332.9 | 335.2 | 334.4 | 333.2 | 334.5 | 336.5 |
| G20.0 | 332.5 | 334.0 | 333.2 | 334.8 | 333.9 | 332.0 | 333.9 | 335.7 |
| G21.0 | 332.0 | 333.9 | 333.8 | 333.6 | 332.4 | 331.1 | 334.0 | 334.2 |
| G22.0 | 330.5 | 332.1 | 332.5 | 332.9 | 331.0 | 331.6 | 332.9 | 332.9 |
| G23.0 | 329.1 | 331.0 | 331.4 | 331.9 | 330.8 | 330.7 | 332.8 | 331.4 |
| G24.0 | 328.6 | 330.5 | 330.7 | 329.9 | 329.5 | 329.5 | 331.9 | 329.6 |
| G25.0 | 327.0 | 328.9 | 329.1 | 329.2 | 328.3 | 329.0 | 331.2 | 328.1 |
| G26.0 | 324.8 | 327.9 | 328.2 | 327.8 | 328.2 | 328.3 | 331.0 | 326.1 |
| G27.0 | 325.9 | 326.1 | 326.8 | 326.0 | 327.2 | 327.8 | 329.8 | 324.0 |
| G28.0 | 324.7 | 325.0 | 324.6 | 326.9 | 326.0 | 326.9 | 327.8 | 321.5 |
| G29.0 | 323.2 | 325.0 | 325.5 | 325.2 | 325.4 | 325.7 | 325.6 | 319.9 |
| G30.0 | 322.4 | 322.9 | 323.5 | 324.2 | 325.1 | 325.8 | 322.9 | 317.5 |
| G31.0 | 321.6 | 322.1 | 322.4 | 323.4 | 323.1 | 323.7 | 320.7 | 315.0 |
| G32.0 | 320.4 | 322.1 | 321.8 | 322.5 | 323.0 | 320.8 | 318.1 | 312.7 |
| G33.0 | 320.5 | 320.2 | 320.8 | 320.7 | 321.4 | 318.2 | 315.5 | 309.7 |
| G34.0 | 318.3 | 319.2 | 318.6 | 320.7 | 318.8 | 315.1 | 313.1 | 307.1 |
| G35.0 | 314.8 | 317.6 | 318.4 | 317.8 | 315.5 | 312.2 | 309.7 | 304.1 |
| G36.0 | 312.0 | 314.8 | 315.4 | 314.7 | 312.5 | 309.2 | 306.7 | 301.0 |
| G37.0 | 308.4 | 311.4 | 312.1 | 311.3 | 308.9 | 305.1 | 303.4 | 297.8 |
| G38.0 | 304.8 | 307.9 | 308.3 | 307.5 | 305.2 | 302.4 | 300.2 | 294.3 |
| G39.0 | 301.2 | 303.9 | 304.5 | 303.8 | 302.1 | 298.9 | 296.7 | 291.2 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

## Light Distribution Data

Unit: cd/klm

| G\C | C80.0 | C85.0 | C90.0 | C95.0 | C100.0 | C105.0 | C110.0 | C115.0 |
|---|---|---|---|---|---|---|---|---|
| G40.0 | 296.9 | 299.6 | 299.9 | 299.0 | 297.5 | 294.7 | 292.5 | 287.6 |
| G41.0 | 292.5 | 295.3 | 295.7 | 295.3 | 293.3 | 290.3 | 288.6 | 283.8 |
| G42.0 | 288.2 | 290.5 | 291.4 | 290.5 | 288.9 | 286.3 | 284.1 | 279.7 |
| G43.0 | 283.3 | 285.8 | 286.1 | 285.6 | 284.0 | 281.3 | 279.6 | 275.5 |
| G44.0 | 278.5 | 281.0 | 281.1 | 280.6 | 279.0 | 276.7 | 274.8 | 270.8 |
| G45.0 | 274.2 | 275.9 | 277.0 | 275.5 | 274.4 | 271.4 | 270.2 | 265.6 |
| G46.0 | 269.2 | 271.4 | 271.4 | 271.3 | 270.0 | 266.8 | 264.7 | 261.1 |
| G47.0 | 264.4 | 266.8 | 266.9 | 266.4 | 264.9 | 262.1 | 259.8 | 255.8 |
| G48.0 | 259.0 | 261.3 | 261.8 | 260.7 | 259.6 | 256.6 | 254.8 | 250.3 |
| G49.0 | 254.2 | 256.1 | 256.3 | 255.9 | 254.9 | 252.0 | 250.0 | 245.9 |
| G50.0 | 248.7 | 250.9 | 250.9 | 250.3 | 249.4 | 246.5 | 244.8 | 240.7 |
| G51.0 | 242.8 | 244.8 | 245.1 | 244.4 | 243.7 | 240.7 | 239.2 | 235.3 |
| G52.0 | 237.3 | 239.6 | 239.4 | 238.6 | 238.4 | 235.4 | 233.8 | 230.0 |
| G53.0 | 231.8 | 233.6 | 233.6 | 232.4 | 232.6 | 229.2 | 228.0 | 223.7 |
| G54.0 | 225.2 | 227.5 | 227.5 | 226.3 | 225.9 | 223.3 | 221.9 | 218.0 |
| G55.0 | 219.2 | 221.7 | 221.2 | 220.4 | 220.1 | 217.1 | 215.9 | 212.0 |
| G56.0 | 212.6 | 214.2 | 214.9 | 213.9 | 213.5 | 210.5 | 209.5 | 205.5 |
| G57.0 | 206.0 | 207.9 | 208.2 | 207.6 | 207.2 | 204.2 | 203.0 | 199.2 |
| G58.0 | 199.2 | 201.5 | 201.5 | 200.8 | 200.5 | 197.6 | 196.6 | 192.3 |
| G59.0 | 191.7 | 193.7 | 194.0 | 193.4 | 193.0 | 190.4 | 189.2 | 184.9 |
| G60.0 | 184.3 | 185.9 | 186.4 | 185.9 | 185.8 | 183.6 | 183.0 | 177.9 |
| G61.0 | 175.8 | 178.2 | 178.1 | 178.0 | 177.6 | 175.3 | 174.6 | 169.0 |
| G62.0 | 168.0 | 170.5 | 170.6 | 170.7 | 170.4 | 168.0 | 167.3 | 161.3 |
| G63.0 | 160.9 | 163.1 | 162.6 | 163.0 | 163.0 | 161.0 | 160.2 | 153.5 |
| G64.0 | 151.8 | 154.6 | 153.9 | 154.5 | 154.0 | 153.0 | 151.2 | 143.2 |
| G65.0 | 144.1 | 146.5 | 145.7 | 146.8 | 146.5 | 145.5 | 143.8 | 135.2 |
| G66.0 | 135.4 | 137.1 | 136.5 | 137.8 | 138.6 | 137.4 | 134.8 | 126.9 |
| G67.0 | 126.5 | 129.3 | 127.8 | 129.6 | 129.3 | 128.8 | 125.6 | 118.7 |
| G68.0 | 118.6 | 121.4 | 120.3 | 122.1 | 121.5 | 120.8 | 116.3 | 110.8 |
| G69.0 | 110.1 | 112.4 | 112.0 | 113.9 | 112.9 | 113.0 | 106.5 | 101.9 |
| G70.0 | 101.9 | 104.3 | 103.7 | 105.6 | 105.0 | 104.4 | 98.6 | 94.0 |
| G71.0 | 93.8 | 96.1 | 95.5 | 97.6 | 96.6 | 95.7 | 90.2 | 86.7 |
| G72.0 | 85.3 | 87.1 | 86.7 | 88.8 | 88.3 | 85.8 | 81.5 | 78.6 |
| G73.0 | 77.5 | 79.1 | 78.3 | 80.4 | 80.3 | 76.7 | 73.6 | 70.5 |
| G74.0 | 70.0 | 69.7 | 70.1 | 71.6 | 72.9 | 66.9 | 66.3 | 62.7 |
| G75.0 | 61.0 | 61.1 | 60.7 | 62.7 | 64.2 | 59.1 | 58.0 | 55.6 |
| G76.0 | 52.5 | 52.7 | 52.8 | 54.6 | 56.3 | 50.9 | 50.6 | 49.0 |
| G77.0 | 44.0 | 44.6 | 44.8 | 46.1 | 47.8 | 43.3 | 42.5 | 41.2 |
| G78.0 | 36.2 | 37.7 | 37.9 | 39.3 | 39.8 | 36.7 | 36.1 | 35.2 |
| G79.0 | 29.0 | 31.3 | 31.6 | 32.6 | 32.0 | 30.7 | 30.4 | 29.4 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Light Distribution Data

Unit: cd/klm

| G\C | C80.0 | C85.0 | C90.0 | C95.0 | C100.0 | C105.0 | C110.0 | C115.0 |
|---|---|---|---|---|---|---|---|---|
| G80.0 | 22.8 | 25.4 | 25.5 | 26.7 | 25.2 | 24.3 | 24.3 | 23.8 |
| G81.0 | 18.2 | 21.1 | 20.6 | 21.7 | 20.1 | 19.5 | 19.6 | 17.7 |
| G82.0 | 14.1 | 16.9 | 16.2 | 17.2 | 15.7 | 15.0 | 15.4 | 11.5 |
| G83.0 | 10.4 | 13.3 | 12.5 | 14.0 | 11.8 | 11.3 | 10.3 | 7.9 |
| G84.0 | 7.6 | 9.5 | 9.4 | 10.2 | 8.6 | 8.3 | 6.8 | 2.8 |
| G85.0 | 5.3 | 6.1 | 6.6 | 6.6 | 6.1 | 5.1 | 2.6 | 1.1 |
| G86.0 | 3.3 | 4.0 | 3.9 | 4.5 | 4.1 | 3.1 | 1.3 | 0.8 |
| G87.0 | 1.7 | 2.3 | 2.2 | 2.7 | 2.4 | 1.3 | 0.8 | 0.6 |
| G88.0 | 0.8 | 1.2 | 1.2 | 1.5 | 1.0 | 0.7 | 0.6 | 0.5 |
| G89.0 | 0.5 | 0.7 | 0.7 | 0.8 | 0.6 | 0.5 | 0.4 | 0.3 |
| G90.0 | 0.4 | 0.4 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 |

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Light Distribution Data

Unit: cd/klm

| G\C | C120.0 | C125.0 | C130.0 | C135.0 | C140.0 | C145.0 | C150.0 | C155.0 |
|---|---|---|---|---|---|---|---|---|
| G0.0 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 |
| G1.0 | 342.0 | 341.8 | 342.1 | 341.7 | 341.8 | 341.6 | 341.9 | 341.3 |
| G2.0 | 341.8 | 341.5 | 342.3 | 341.6 | 341.4 | 341.8 | 341.8 | 341.7 |
| G3.0 | 341.5 | 341.7 | 341.8 | 341.6 | 341.5 | 341.8 | 341.8 | 341.8 |
| G4.0 | 341.6 | 341.6 | 341.9 | 341.3 | 341.7 | 341.5 | 341.9 | 341.3 |
| G5.0 | 341.3 | 341.5 | 341.8 | 341.6 | 341.4 | 341.5 | 341.4 | 341.3 |
| G6.0 | 341.3 | 341.5 | 341.7 | 341.0 | 341.7 | 340.9 | 341.3 | 341.0 |
| G7.0 | 340.8 | 341.3 | 341.2 | 340.8 | 340.9 | 340.7 | 340.8 | 340.7 |
| G8.0 | 340.4 | 340.8 | 340.7 | 340.2 | 340.2 | 340.3 | 340.3 | 340.6 |
| G9.0 | 339.9 | 339.9 | 340.4 | 340.3 | 340.0 | 339.9 | 339.9 | 340.2 |
| G10.0 | 339.2 | 339.3 | 339.8 | 339.4 | 339.5 | 339.3 | 339.5 | 339.6 |
| G11.0 | 338.6 | 338.9 | 338.9 | 338.6 | 339.3 | 338.5 | 339.2 | 338.9 |
| G12.0 | 338.1 | 338.2 | 338.3 | 338.0 | 338.6 | 338.1 | 338.4 | 338.1 |
| G13.0 | 337.3 | 337.4 | 337.4 | 337.6 | 337.5 | 337.3 | 337.9 | 337.7 |
| G14.0 | 336.8 | 336.7 | 336.9 | 336.6 | 336.5 | 336.7 | 336.7 | 336.6 |
| G15.0 | 335.6 | 335.8 | 336.3 | 335.7 | 335.8 | 335.4 | 335.9 | 335.9 |
| G16.0 | 334.4 | 334.9 | 335.0 | 334.5 | 334.6 | 334.4 | 334.9 | 334.7 |
| G17.0 | 333.5 | 333.7 | 334.2 | 333.6 | 333.7 | 333.6 | 334.3 | 333.5 |
| G18.0 | 332.6 | 332.3 | 332.9 | 332.1 | 332.6 | 332.5 | 332.6 | 332.2 |
| G19.0 | 331.1 | 331.1 | 332.1 | 331.1 | 331.2 | 331.1 | 331.5 | 330.9 |
| G20.0 | 330.3 | 330.5 | 330.5 | 329.6 | 330.2 | 329.8 | 330.1 | 329.7 |
| G21.0 | 329.1 | 328.6 | 328.8 | 328.8 | 328.7 | 328.3 | 328.9 | 328.5 |
| G22.0 | 327.3 | 327.0 | 327.9 | 327.0 | 327.2 | 326.9 | 327.1 | 327.1 |
| G23.0 | 325.7 | 325.6 | 326.4 | 325.5 | 325.4 | 325.6 | 326.0 | 325.0 |
| G24.0 | 323.9 | 323.9 | 324.3 | 323.5 | 324.1 | 323.5 | 324.3 | 323.6 |
| G25.0 | 322.4 | 322.2 | 322.4 | 322.0 | 322.4 | 321.8 | 322.2 | 321.8 |
| G26.0 | 320.4 | 320.4 | 320.9 | 320.3 | 320.7 | 320.3 | 320.3 | 319.7 |
| G27.0 | 318.2 | 318.2 | 318.6 | 318.5 | 318.8 | 318.5 | 318.3 | 317.9 |
| G28.0 | 316.4 | 316.3 | 317.0 | 316.1 | 316.3 | 316.4 | 316.4 | 315.8 |
| G29.0 | 314.5 | 314.1 | 314.6 | 313.8 | 314.4 | 314.2 | 314.1 | 313.6 |
| G30.0 | 311.9 | 311.9 | 312.4 | 311.6 | 312.0 | 312.0 | 311.8 | 311.1 |
| G31.0 | 309.7 | 309.7 | 310.1 | 309.7 | 309.6 | 309.5 | 309.6 | 308.8 |
| G32.0 | 306.9 | 307.1 | 307.1 | 306.9 | 307.2 | 306.9 | 306.9 | 306.0 |
| G33.0 | 304.2 | 304.3 | 304.5 | 304.8 | 304.7 | 304.3 | 304.6 | 303.1 |
| G34.0 | 301.6 | 301.9 | 302.3 | 301.7 | 301.8 | 301.6 | 301.1 | 300.0 |
| G35.0 | 298.7 | 298.8 | 299.0 | 298.9 | 299.3 | 298.3 | 297.6 | 296.8 |
| G36.0 | 296.1 | 295.9 | 296.6 | 295.5 | 296.1 | 294.9 | 294.7 | 293.4 |
| G37.0 | 293.0 | 292.8 | 293.6 | 292.6 | 293.0 | 291.1 | 291.2 | 289.0 |
| G38.0 | 289.6 | 289.7 | 290.2 | 289.4 | 288.9 | 287.9 | 286.8 | 285.5 |
| G39.0 | 286.5 | 286.6 | 287.0 | 285.8 | 285.7 | 284.5 | 283.2 | 281.2 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



## Light Distribution Data

Unit: cd/klm

| G\C | C120.0 | C125.0 | C130.0 | C135.0 | C140.0 | C145.0 | C150.0 | C155.0 |
|---|---|---|---|---|---|---|---|---|
| G40.0 | 282.3 | 282.9 | 283.3 | 281.8 | 281.4 | 279.5 | 278.7 | 276.2 |
| G41.0 | 279.1 | 279.1 | 279.5 | 278.3 | 278.0 | 275.8 | 273.6 | 271.5 |
| G42.0 | 275.5 | 275.7 | 275.8 | 274.4 | 273.4 | 271.1 | 268.9 | 267.2 |
| G43.0 | 271.5 | 271.7 | 271.1 | 269.8 | 268.6 | 265.6 | 263.8 | 261.7 |
| G44.0 | 267.2 | 267.6 | 267.3 | 265.2 | 263.7 | 261.0 | 258.7 | 256.2 |
| G45.0 | 262.2 | 262.7 | 262.7 | 260.4 | 258.2 | 255.1 | 253.4 | 250.9 |
| G46.0 | 257.4 | 257.8 | 257.9 | 255.5 | 252.8 | 249.5 | 247.5 | 245.5 |
| G47.0 | 252.6 | 252.8 | 252.7 | 249.5 | 247.4 | 244.3 | 242.0 | 240.4 |
| G48.0 | 246.9 | 246.7 | 247.1 | 243.7 | 241.1 | 238.0 | 235.9 | 234.5 |
| G49.0 | 241.8 | 242.0 | 241.4 | 238.0 | 235.2 | 232.3 | 230.7 | 229.2 |
| G50.0 | 236.5 | 235.7 | 234.5 | 231.4 | 229.2 | 226.5 | 224.9 | 223.7 |
| G51.0 | 230.6 | 229.7 | 227.5 | 224.5 | 222.5 | 220.1 | 218.6 | 217.2 |
| G52.0 | 225.4 | 223.6 | 220.8 | 217.9 | 216.6 | 214.6 | 212.8 | 211.3 |
| G53.0 | 220.3 | 216.2 | 213.8 | 210.7 | 210.2 | 207.8 | 206.8 | 204.8 |
| G54.0 | 213.3 | 209.7 | 206.6 | 203.9 | 203.5 | 201.8 | 200.1 | 198.8 |
| G55.0 | 207.5 | 203.4 | 200.1 | 197.3 | 197.1 | 195.5 | 193.9 | 193.1 |
| G56.0 | 200.3 | 195.4 | 192.8 | 190.2 | 189.8 | 188.6 | 187.6 | 186.2 |
| G57.0 | 193.0 | 188.5 | 186.1 | 183.8 | 183.0 | 182.1 | 181.3 | 180.4 |
| G58.0 | 185.9 | 181.6 | 179.3 | 177.1 | 176.0 | 175.4 | 174.6 | 174.2 |
| G59.0 | 178.2 | 173.9 | 172.3 | 169.9 | 168.9 | 168.1 | 168.0 | 167.7 |
| G60.0 | 170.3 | 166.8 | 165.5 | 162.7 | 161.8 | 161.2 | 161.8 | 161.4 |
| G61.0 | 162.0 | 159.3 | 157.8 | 155.4 | 154.2 | 153.8 | 154.4 | 154.1 |
| G62.0 | 154.7 | 152.2 | 150.7 | 148.5 | 147.4 | 146.8 | 147.7 | 147.8 |
| G63.0 | 147.6 | 145.1 | 143.8 | 141.2 | 141.1 | 140.2 | 141.2 | 140.8 |
| G64.0 | 139.1 | 137.0 | 135.7 | 133.8 | 133.5 | 132.7 | 133.6 | 133.2 |
| G65.0 | 131.4 | 129.7 | 128.5 | 126.9 | 126.6 | 126.0 | 126.2 | 126.3 |
| G66.0 | 124.0 | 121.4 | 121.2 | 119.0 | 119.8 | 118.1 | 119.1 | 118.8 |
| G67.0 | 115.3 | 113.3 | 113.0 | 112.1 | 112.0 | 110.9 | 111.3 | 111.4 |
| G68.0 | 108.1 | 106.0 | 105.9 | 105.1 | 104.8 | 104.0 | 104.1 | 104.1 |
| G69.0 | 99.7 | 98.3 | 98.0 | 97.3 | 97.1 | 96.1 | 96.1 | 96.3 |
| G70.0 | 91.2 | 90.7 | 90.9 | 89.7 | 90.1 | 88.8 | 88.4 | 81.2 |
| G71.0 | 84.1 | 83.2 | 83.5 | 82.6 | 82.6 | 81.6 | 73.9 | 63.2 |
| G72.0 | 76.5 | 75.6 | 75.8 | 74.8 | 74.6 | 66.5 | 56.1 | 54.0 |
| G73.0 | 69.1 | 68.4 | 68.5 | 67.7 | 64.1 | 50.7 | 48.5 | 48.0 |
| G74.0 | 62.2 | 60.9 | 61.7 | 58.8 | 46.7 | 43.5 | 42.9 | 36.3 |
| G75.0 | 55.0 | 53.8 | 53.8 | 42.1 | 39.6 | 37.7 | 29.8 | 15.2 |
| G76.0 | 48.2 | 47.4 | 44.1 | 34.8 | 33.8 | 23.2 | 13.1 | 12.7 |
| G77.0 | 41.3 | 40.2 | 30.6 | 28.7 | 19.7 | 11.0 | 10.8 | 10.2 |
| G78.0 | 34.6 | 27.4 | 25.5 | 17.7 | 9.6 | 8.9 | 7.2 | 2.4 |
| G79.0 | 28.7 | 21.7 | 19.5 | 8.1 | 7.7 | 3.3 | 2.2 | 1.9 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Light Distribution Data

Unit: cd/klm

| G\C | C120.0 | C125.0 | C130.0 | C135.0 | C140.0 | C145.0 | C150.0 | C155.0 |
|---|---|---|---|---|---|---|---|---|
| G80.0 | 17.9 | 16.9 | 6.7 | 6.3 | 2.2 | 1.8 | 1.7 | 1.6 |
| G81.0 | 14.2 | 5.5 | 5.2 | 1.9 | 1.6 | 1.5 | 1.5 | 1.4 |
| G82.0 | 7.0 | 4.2 | 1.8 | 1.4 | 1.4 | 1.3 | 1.3 | 1.2 |
| G83.0 | 3.5 | 1.5 | 1.3 | 1.2 | 1.1 | 1.1 | 1.1 | 1.0 |
| G84.0 | 1.4 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 0.9 | 0.9 |
| G85.0 | 1.0 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| G86.0 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| G87.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 |
| G88.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 |
| G89.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| G90.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 |

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Light Distribution Data

Unit: cd/klm

| G\C | C160.0 | C165.0 | C170.0 | C175.0 | C180.0 | C185.0 | C190.0 | C195.0 |
|---|---|---|---|---|---|---|---|---|
| G0.0 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 |
| G1.0 | 341.8 | 342.1 | 341.4 | 341.9 | 341.9 | 341.7 | 341.7 | 341.4 |
| G2.0 | 342.0 | 342.1 | 342.0 | 342.0 | 341.9 | 341.9 | 341.4 | 341.7 |
| G3.0 | 341.8 | 342.1 | 341.5 | 342.1 | 341.8 | 341.7 | 341.4 | 341.7 |
| G4.0 | 342.1 | 341.6 | 341.5 | 341.8 | 341.8 | 341.4 | 341.4 | 341.6 |
| G5.0 | 341.5 | 341.7 | 341.3 | 341.4 | 341.5 | 341.7 | 341.2 | 341.6 |
| G6.0 | 340.9 | 341.7 | 340.9 | 341.1 | 340.9 | 340.9 | 341.0 | 340.9 |
| G7.0 | 340.7 | 341.2 | 340.6 | 341.1 | 340.9 | 341.0 | 341.1 | 341.2 |
| G8.0 | 340.4 | 340.8 | 340.3 | 340.5 | 340.4 | 340.5 | 340.6 | 340.5 |
| G9.0 | 339.6 | 340.2 | 339.9 | 339.8 | 339.9 | 339.6 | 339.9 | 339.9 |
| G10.0 | 339.0 | 340.2 | 339.3 | 339.9 | 339.4 | 339.4 | 339.4 | 339.3 |
| G11.0 | 338.6 | 339.0 | 339.1 | 339.0 | 338.6 | 338.8 | 338.3 | 338.6 |
| G12.0 | 337.6 | 338.3 | 338.3 | 338.4 | 338.0 | 337.9 | 338.1 | 338.0 |
| G13.0 | 336.8 | 337.7 | 337.5 | 337.5 | 337.1 | 337.1 | 337.2 | 338.2 |
| G14.0 | 336.2 | 336.7 | 336.9 | 336.6 | 336.1 | 336.2 | 336.5 | 336.5 |
| G15.0 | 335.2 | 335.8 | 336.0 | 335.5 | 335.1 | 335.6 | 335.7 | 335.6 |
| G16.0 | 334.0 | 334.4 | 334.6 | 334.4 | 334.1 | 334.3 | 334.6 | 335.1 |
| G17.0 | 333.3 | 333.5 | 333.6 | 333.3 | 332.8 | 333.2 | 333.4 | 333.6 |
| G18.0 | 331.7 | 332.2 | 332.5 | 332.0 | 331.9 | 332.0 | 332.4 | 332.3 |
| G19.0 | 330.9 | 330.9 | 331.4 | 330.6 | 330.4 | 330.6 | 331.3 | 331.0 |
| G20.0 | 329.4 | 330.2 | 330.5 | 329.6 | 329.0 | 329.1 | 329.5 | 329.9 |
| G21.0 | 328.2 | 328.4 | 328.9 | 327.9 | 327.6 | 327.9 | 328.5 | 328.3 |
| G22.0 | 326.1 | 326.8 | 327.7 | 326.5 | 326.3 | 326.1 | 327.0 | 326.7 |
| G23.0 | 325.0 | 325.3 | 326.7 | 325.0 | 324.6 | 324.8 | 325.8 | 325.2 |
| G24.0 | 323.3 | 323.4 | 324.2 | 323.2 | 322.6 | 323.0 | 323.6 | 323.4 |
| G25.0 | 321.4 | 321.8 | 322.8 | 321.3 | 320.9 | 321.3 | 322.0 | 321.6 |
| G26.0 | 319.6 | 319.9 | 321.1 | 319.3 | 318.9 | 319.3 | 320.2 | 319.7 |
| G27.0 | 317.4 | 317.9 | 319.1 | 317.5 | 316.5 | 316.8 | 318.0 | 317.4 |
| G28.0 | 315.5 | 315.5 | 317.0 | 315.4 | 314.7 | 314.7 | 316.0 | 315.1 |
| G29.0 | 313.0 | 313.2 | 315.0 | 312.7 | 312.2 | 312.3 | 313.6 | 313.1 |
| G30.0 | 311.0 | 310.7 | 312.0 | 310.0 | 309.1 | 309.2 | 310.8 | 310.3 |
| G31.0 | 308.1 | 308.4 | 309.6 | 307.3 | 306.0 | 306.2 | 307.9 | 307.5 |
| G32.0 | 305.2 | 304.7 | 306.1 | 304.0 | 302.9 | 303.4 | 304.8 | 303.8 |
| G33.0 | 302.1 | 302.2 | 303.9 | 300.7 | 300.0 | 300.1 | 301.9 | 301.1 |
| G34.0 | 299.1 | 298.8 | 300.3 | 297.5 | 295.8 | 296.4 | 298.2 | 298.0 |
| G35.0 | 295.5 | 294.9 | 296.6 | 293.2 | 292.3 | 292.5 | 294.6 | 293.6 |
| G36.0 | 291.9 | 291.4 | 293.0 | 289.4 | 287.8 | 288.4 | 290.4 | 290.1 |
| G37.0 | 288.3 | 286.8 | 288.7 | 284.7 | 283.3 | 284.2 | 285.8 | 286.2 |
| G38.0 | 283.5 | 282.4 | 283.9 | 280.6 | 278.9 | 279.7 | 281.6 | 281.3 |
| G39.0 | 279.3 | 278.1 | 280.0 | 276.3 | 274.4 | 275.3 | 277.2 | 276.7 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

## Light Distribution Data

Unit: cd/klm

| G\C | C160.0 | C165.0 | C170.0 | C175.0 | C180.0 | C185.0 | C190.0 | C195.0 |
|---|---|---|---|---|---|---|---|---|
| G40.0 | 274.4 | 273.6 | 274.9 | 270.8 | 269.1 | 269.6 | 272.2 | 271.7 |
| G41.0 | 269.8 | 268.5 | 270.0 | 266.3 | 264.3 | 265.1 | 267.2 | 267.0 |
| G42.0 | 264.8 | 264.0 | 265.4 | 261.2 | 259.0 | 259.6 | 262.6 | 261.8 |
| G43.0 | 259.9 | 258.1 | 259.6 | 255.9 | 254.0 | 254.6 | 256.9 | 256.4 |
| G44.0 | 254.3 | 253.0 | 255.2 | 250.8 | 249.2 | 249.6 | 252.0 | 251.4 |
| G45.0 | 249.1 | 247.7 | 249.7 | 245.5 | 243.5 | 244.6 | 246.5 | 246.5 |
| G46.0 | 243.7 | 242.6 | 244.2 | 240.3 | 238.4 | 238.8 | 241.6 | 241.0 |
| G47.0 | 238.7 | 237.3 | 238.9 | 234.9 | 232.7 | 233.6 | 236.0 | 235.6 |
| G48.0 | 233.0 | 231.5 | 233.3 | 228.9 | 227.0 | 227.6 | 230.1 | 229.8 |
| G49.0 | 227.4 | 225.9 | 227.4 | 223.7 | 221.3 | 221.7 | 224.6 | 224.1 |
| G50.0 | 221.7 | 220.3 | 221.9 | 218.1 | 216.1 | 216.5 | 219.0 | 218.3 |
| G51.0 | 215.4 | 214.4 | 216.0 | 212.1 | 210.0 | 210.7 | 213.1 | 212.5 |
| G52.0 | 209.7 | 208.7 | 210.5 | 206.9 | 204.6 | 204.9 | 207.3 | 206.8 |
| G53.0 | 204.1 | 202.3 | 204.7 | 200.5 | 198.4 | 199.4 | 201.0 | 200.9 |
| G54.0 | 197.6 | 196.8 | 198.5 | 195.1 | 192.8 | 193.2 | 195.2 | 194.6 |
| G55.0 | 191.9 | 191.2 | 192.7 | 189.7 | 187.5 | 187.5 | 189.5 | 188.8 |
| G56.0 | 185.6 | 184.9 | 186.2 | 183.3 | 180.8 | 181.3 | 183.1 | 182.6 |
| G57.0 | 179.6 | 179.1 | 180.4 | 177.4 | 175.0 | 175.3 | 177.1 | 176.5 |
| G58.0 | 173.5 | 173.1 | 174.3 | 171.4 | 168.7 | 169.3 | 171.0 | 170.8 |
| G59.0 | 167.1 | 166.6 | 167.7 | 164.9 | 162.0 | 162.5 | 164.2 | 164.1 |
| G60.0 | 160.8 | 159.8 | 161.1 | 158.2 | 155.3 | 156.1 | 157.7 | 157.7 |
| G61.0 | 153.5 | 152.8 | 154.0 | 151.3 | 148.5 | 149.8 | 150.7 | 151.0 |
| G62.0 | 147.1 | 146.6 | 147.7 | 144.9 | 141.7 | 142.4 | 143.8 | 144.0 |
| G63.0 | 140.8 | 140.0 | 140.9 | 138.4 | 135.0 | 135.6 | 137.1 | 137.0 |
| G64.0 | 132.9 | 132.5 | 133.5 | 130.8 | 127.2 | 128.2 | 129.3 | 129.7 |
| G65.0 | 126.3 | 125.6 | 126.2 | 123.8 | 120.4 | 120.8 | 122.3 | 122.3 |
| G66.0 | 119.2 | 117.8 | 119.3 | 116.3 | 113.0 | 114.0 | 115.0 | 115.3 |
| G67.0 | 111.1 | 110.5 | 111.6 | 108.9 | 97.8 | 101.1 | 105.3 | 107.4 |
| G68.0 | 104.0 | 101.7 | 97.2 | 89.3 | 76.8 | 79.6 | 83.4 | 92.9 |
| G69.0 | 90.3 | 78.6 | 75.9 | 73.6 | 66.6 | 68.4 | 68.8 | 73.4 |
| G70.0 | 70.3 | 66.0 | 65.0 | 62.7 | 58.5 | 59.7 | 60.8 | 62.3 |
| G71.0 | 59.7 | 58.6 | 58.2 | 56.8 | 53.4 | 54.0 | 55.0 | 55.6 |
| G72.0 | 52.8 | 52.3 | 52.1 | 47.8 | 28.0 | 34.7 | 39.1 | 49.2 |
| G73.0 | 47.1 | 36.2 | 27.8 | 20.7 | 16.6 | 17.1 | 17.7 | 24.7 |
| G74.0 | 23.6 | 16.1 | 16.2 | 15.6 | 14.3 | 14.9 | 15.1 | 15.5 |
| G75.0 | 14.2 | 13.9 | 13.8 | 13.3 | 10.6 | 12.4 | 12.6 | 12.9 |
| G76.0 | 11.9 | 11.8 | 10.6 | 6.2 | 2.5 | 2.6 | 2.9 | 7.7 |
| G77.0 | 5.5 | 2.5 | 2.4 | 2.2 | 1.9 | 2.0 | 2.1 | 2.2 |
| G78.0 | 2.1 | 2.0 | 1.9 | 1.8 | 1.7 | 1.7 | 1.7 | 1.8 |
| G79.0 | 1.7 | 1.7 | 1.7 | 1.6 | 1.5 | 1.5 | 1.5 | 1.6 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

## Light Distribution Data

Unit: cd/klm

| G\C | C160.0 | C165.0 | C170.0 | C175.0 | C180.0 | C185.0 | C190.0 | C195.0 |
|---|---|---|---|---|---|---|---|---|
| G80.0 | 1.5 | 1.5 | 1.4 | 1.4 | 1.3 | 1.3 | 1.3 | 1.4 |
| G81.0 | 1.3 | 1.3 | 1.3 | 1.3 | 1.1 | 1.1 | 1.2 | 1.2 |
| G82.0 | 1.2 | 1.1 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 1.0 |
| G83.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.9 | 0.9 | 0.9 | 0.9 |
| G84.0 | 0.9 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 |
| G85.0 | 0.8 | 0.8 | 0.8 | 0.8 | 0.6 | 0.7 | 0.7 | 0.7 |
| G86.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 | 0.5 |
| G87.0 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 |
| G88.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 0.3 |
| G89.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.1 | 0.2 | 0.1 |
| G90.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Light Distribution Data

Unit: cd/klm

| G\C | C200.0 | C205.0 | C210.0 | C215.0 | C220.0 | C225.0 | C230.0 | C235.0 |
|---|---|---|---|---|---|---|---|---|
| G0.0 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 |
| G1.0 | 342.1 | 341.5 | 341.9 | 341.8 | 342.0 | 341.9 | 341.9 | 341.6 |
| G2.0 | 341.8 | 341.6 | 341.8 | 341.4 | 341.8 | 341.7 | 342.0 | 341.9 |
| G3.0 | 341.2 | 341.2 | 341.4 | 341.2 | 342.0 | 341.9 | 341.6 | 341.6 |
| G4.0 | 341.3 | 341.0 | 341.6 | 341.1 | 341.7 | 341.7 | 341.8 | 341.4 |
| G5.0 | 341.2 | 340.7 | 341.5 | 341.3 | 341.3 | 341.3 | 341.3 | 341.4 |
| G6.0 | 340.3 | 340.6 | 341.3 | 341.0 | 341.0 | 341.2 | 341.2 | 341.2 |
| G7.0 | 340.1 | 340.2 | 340.8 | 340.6 | 340.8 | 341.2 | 341.2 | 340.8 |
| G8.0 | 339.7 | 339.9 | 340.0 | 340.2 | 340.5 | 340.5 | 340.2 | 340.6 |
| G9.0 | 339.3 | 339.4 | 340.3 | 339.5 | 339.9 | 340.0 | 340.0 | 339.5 |
| G10.0 | 338.6 | 339.2 | 339.7 | 339.5 | 339.4 | 339.4 | 339.5 | 339.3 |
| G11.0 | 337.9 | 338.5 | 339.0 | 338.5 | 338.9 | 338.7 | 338.8 | 338.6 |
| G12.0 | 336.9 | 338.1 | 338.3 | 337.6 | 338.1 | 338.4 | 338.3 | 338.2 |
| G13.0 | 335.7 | 337.1 | 337.4 | 337.0 | 337.7 | 337.6 | 337.7 | 337.5 |
| G14.0 | 334.6 | 336.4 | 336.4 | 336.3 | 336.4 | 336.8 | 336.6 | 336.4 |
| G15.0 | 334.0 | 335.4 | 335.6 | 335.4 | 335.6 | 335.9 | 335.8 | 335.2 |
| G16.0 | 332.9 | 334.6 | 334.7 | 334.4 | 334.7 | 334.5 | 334.3 | 334.5 |
| G17.0 | 331.9 | 333.5 | 333.4 | 333.2 | 333.6 | 333.6 | 333.5 | 333.5 |
| G18.0 | 330.6 | 332.4 | 332.3 | 332.0 | 332.1 | 332.7 | 332.4 | 332.3 |
| G19.0 | 329.2 | 330.8 | 331.1 | 330.8 | 331.0 | 331.0 | 331.2 | 330.7 |
| G20.0 | 328.2 | 329.7 | 329.7 | 329.1 | 329.7 | 329.5 | 329.8 | 329.9 |
| G21.0 | 326.8 | 328.0 | 328.2 | 328.3 | 328.2 | 328.4 | 328.3 | 328.1 |
| G22.0 | 325.0 | 326.2 | 326.9 | 326.7 | 326.9 | 326.7 | 326.9 | 326.3 |
| G23.0 | 323.4 | 324.7 | 324.9 | 324.8 | 325.0 | 325.2 | 325.0 | 324.9 |
| G24.0 | 321.9 | 322.6 | 323.2 | 323.2 | 323.1 | 323.7 | 323.3 | 323.4 |
| G25.0 | 320.1 | 320.7 | 321.2 | 321.2 | 321.3 | 321.7 | 321.7 | 321.2 |
| G26.0 | 318.5 | 318.6 | 319.6 | 319.6 | 319.9 | 319.6 | 320.0 | 319.5 |
| G27.0 | 316.4 | 316.1 | 317.4 | 317.4 | 317.8 | 317.8 | 317.4 | 317.1 |
| G28.0 | 314.1 | 314.4 | 315.1 | 315.2 | 315.2 | 315.5 | 315.5 | 315.2 |
| G29.0 | 312.1 | 312.2 | 313.2 | 313.3 | 313.1 | 313.8 | 313.4 | 313.0 |
| G30.0 | 309.6 | 309.7 | 310.8 | 310.7 | 310.7 | 310.8 | 311.1 | 310.7 |
| G31.0 | 306.9 | 307.3 | 308.2 | 308.5 | 308.4 | 308.6 | 308.8 | 308.5 |
| G32.0 | 303.7 | 304.1 | 305.3 | 305.8 | 306.2 | 306.0 | 305.8 | 305.8 |
| G33.0 | 300.9 | 301.6 | 302.7 | 303.1 | 303.0 | 303.5 | 303.7 | 303.3 |
| G34.0 | 297.8 | 298.3 | 299.7 | 300.5 | 300.6 | 300.8 | 300.7 | 300.5 |
| G35.0 | 294.1 | 295.0 | 296.3 | 297.1 | 297.6 | 298.2 | 297.9 | 297.6 |
| G36.0 | 290.1 | 291.5 | 293.0 | 293.8 | 294.8 | 294.9 | 295.1 | 295.1 |
| G37.0 | 286.4 | 287.4 | 289.3 | 290.6 | 290.9 | 292.1 | 291.7 | 291.5 |
| G38.0 | 282.0 | 283.4 | 284.9 | 286.4 | 287.6 | 288.8 | 288.4 | 288.2 |
| G39.0 | 277.3 | 278.8 | 281.4 | 283.1 | 283.8 | 284.9 | 285.2 | 284.9 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



## Light Distribution Data

Unit: cd/klm

| G\C | C200.0 | C205.0 | C210.0 | C215.0 | C220.0 | C225.0 | C230.0 | C235.0 |
|---|---|---|---|---|---|---|---|---|
| G40.0 | 272.6 | 273.3 | 276.5 | 278.1 | 279.9 | 281.0 | 281.5 | 280.6 |
| G41.0 | 267.7 | 268.9 | 271.4 | 274.1 | 275.3 | 277.0 | 277.2 | 276.8 |
| G42.0 | 262.8 | 264.1 | 266.6 | 269.5 | 271.0 | 273.0 | 272.8 | 273.0 |
| G43.0 | 257.9 | 258.8 | 261.3 | 263.7 | 266.1 | 268.3 | 268.3 | 268.0 |
| G44.0 | 252.3 | 253.6 | 256.1 | 258.9 | 261.0 | 263.1 | 263.4 | 263.9 |
| G45.0 | 246.8 | 248.2 | 250.1 | 253.3 | 254.9 | 258.3 | 258.3 | 259.1 |
| G46.0 | 241.7 | 242.8 | 244.7 | 247.4 | 249.7 | 252.4 | 253.7 | 254.0 |
| G47.0 | 236.8 | 237.8 | 239.0 | 242.1 | 244.0 | 246.4 | 248.1 | 249.5 |
| G48.0 | 230.4 | 231.8 | 232.8 | 235.6 | 237.0 | 239.9 | 242.3 | 244.2 |
| G49.0 | 225.2 | 226.7 | 226.9 | 229.9 | 230.9 | 234.0 | 236.5 | 239.2 |
| G50.0 | 219.2 | 220.7 | 221.5 | 223.9 | 224.5 | 227.4 | 229.8 | 233.6 |
| G51.0 | 212.8 | 214.3 | 214.7 | 217.5 | 217.9 | 220.6 | 223.6 | 227.7 |
| G52.0 | 207.3 | 208.5 | 208.9 | 211.2 | 211.5 | 214.3 | 217.3 | 221.5 |
| G53.0 | 200.8 | 202.8 | 202.5 | 204.8 | 204.9 | 207.9 | 209.5 | 214.6 |
| G54.0 | 195.0 | 196.4 | 196.3 | 198.1 | 198.6 | 200.8 | 203.2 | 207.7 |
| G55.0 | 189.0 | 190.6 | 190.5 | 191.5 | 192.3 | 194.3 | 196.5 | 200.9 |
| G56.0 | 182.9 | 184.1 | 183.4 | 184.1 | 185.1 | 187.5 | 188.9 | 192.7 |
| G57.0 | 176.7 | 178.2 | 177.3 | 178.0 | 178.6 | 181.0 | 182.5 | 185.7 |
| G58.0 | 171.2 | 172.4 | 170.6 | 171.5 | 172.2 | 174.3 | 175.6 | 178.8 |
| G59.0 | 164.2 | 165.6 | 163.7 | 164.2 | 164.6 | 167.1 | 168.1 | 170.7 |
| G60.0 | 157.9 | 159.3 | 157.0 | 157.9 | 158.2 | 160.1 | 161.1 | 164.0 |
| G61.0 | 150.7 | 152.7 | 150.0 | 151.4 | 150.7 | 153.3 | 153.4 | 156.5 |
| G62.0 | 144.3 | 145.7 | 143.3 | 144.3 | 144.2 | 145.6 | 146.6 | 149.0 |
| G63.0 | 137.0 | 138.5 | 136.6 | 137.5 | 137.4 | 138.7 | 139.1 | 141.3 |
| G64.0 | 129.8 | 131.1 | 129.1 | 130.1 | 130.0 | 130.9 | 131.5 | 133.3 |
| G65.0 | 122.7 | 124.1 | 122.3 | 122.9 | 122.9 | 124.0 | 123.7 | 125.8 |
| G66.0 | 115.5 | 116.7 | 115.0 | 115.7 | 115.6 | 116.9 | 116.3 | 118.5 |
| G67.0 | 107.6 | 109.0 | 107.5 | 108.3 | 107.9 | 109.2 | 108.6 | 110.0 |
| G68.0 | 100.0 | 101.4 | 99.8 | 101.0 | 100.9 | 101.7 | 101.5 | 103.0 |
| G69.0 | 78.3 | 93.4 | 91.8 | 93.7 | 92.8 | 94.3 | 93.6 | 95.3 |
| G70.0 | 63.8 | 71.5 | 81.9 | 85.3 | 85.6 | 86.7 | 86.6 | 86.9 |
| G71.0 | 56.2 | 59.1 | 63.0 | 77.9 | 78.0 | 79.5 | 79.0 | 80.1 |
| G72.0 | 49.6 | 51.3 | 51.4 | 58.1 | 69.8 | 71.7 | 71.0 | 72.2 |
| G73.0 | 35.2 | 45.7 | 45.4 | 46.9 | 54.2 | 63.9 | 64.3 | 65.2 |
| G74.0 | 15.3 | 26.8 | 39.5 | 40.9 | 41.9 | 54.5 | 57.1 | 58.0 |
| G75.0 | 13.0 | 13.8 | 16.5 | 34.8 | 35.8 | 37.6 | 49.3 | 51.0 |
| G76.0 | 10.8 | 11.5 | 11.7 | 14.3 | 29.5 | 32.2 | 34.1 | 44.2 |
| G77.0 | 2.4 | 6.3 | 9.3 | 10.0 | 10.7 | 26.3 | 27.4 | 35.8 |
| G78.0 | 1.9 | 2.1 | 2.5 | 7.8 | 8.6 | 11.0 | 22.6 | 23.9 |
| G79.0 | 1.6 | 1.7 | 1.8 | 2.2 | 5.6 | 7.4 | 9.6 | 19.5 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

## Light Distribution Data

Unit: cd/klm

| G\C | C200.0 | C205.0 | C210.0 | C215.0 | C220.0 | C225.0 | C230.0 | C235.0 |
|---|---|---|---|---|---|---|---|---|
| G80.0 | 1.4 | 1.5 | 1.5 | 1.6 | 1.8 | 4.3 | 5.8 | 10.8 |
| G81.0 | 1.2 | 1.3 | 1.3 | 1.4 | 1.4 | 1.6 | 2.8 | 4.9 |
| G82.0 | 1.0 | 1.1 | 1.1 | 1.2 | 1.2 | 1.3 | 1.4 | 2.9 |
| G83.0 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 1.1 | 1.2 |
| G84.0 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 | 1.0 |
| G85.0 | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 |
| G86.0 | 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| G87.0 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| G88.0 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| G89.0 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| G90.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |

## Light Distribution Data

Unit: cd/klm

| G\C | C240.0 | C245.0 | C250.0 | C255.0 | C260.0 | C265.0 | C270.0 | C275.0 |
|---|---|---|---|---|---|---|---|---|
| G0.0 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 |
| G1.0 | 342.1 | 341.9 | 342.0 | 342.4 | 342.1 | 341.5 | 341.6 | 341.6 |
| G2.0 | 342.3 | 342.6 | 341.9 | 342.8 | 342.3 | 341.8 | 341.7 | 342.3 |
| G3.0 | 343.0 | 342.3 | 342.1 | 343.6 | 342.3 | 342.7 | 341.9 | 343.1 |
| G4.0 | 343.1 | 342.6 | 342.8 | 343.3 | 342.5 | 343.2 | 342.6 | 343.4 |
| G5.0 | 342.8 | 342.9 | 342.9 | 343.5 | 342.0 | 343.8 | 343.4 | 344.1 |
| G6.0 | 342.7 | 343.3 | 342.8 | 343.4 | 342.3 | 344.6 | 344.1 | 343.5 |
| G7.0 | 342.3 | 343.2 | 343.2 | 343.7 | 343.0 | 344.5 | 344.0 | 343.4 |
| G8.0 | 341.8 | 343.5 | 342.9 | 343.7 | 344.2 | 344.3 | 344.1 | 343.1 |
| G9.0 | 341.1 | 343.9 | 342.5 | 343.5 | 344.5 | 344.0 | 343.6 | 343.8 |
| G10.0 | 340.7 | 344.3 | 343.7 | 343.0 | 344.0 | 344.4 | 343.7 | 345.0 |
| G11.0 | 339.9 | 343.9 | 344.1 | 343.0 | 344.0 | 345.8 | 344.9 | 345.1 |
| G12.0 | 339.7 | 343.9 | 343.6 | 343.3 | 344.4 | 345.6 | 345.5 | 344.4 |
| G13.0 | 338.7 | 344.0 | 343.6 | 342.7 | 343.4 | 345.0 | 344.6 | 344.8 |
| G14.0 | 337.6 | 344.7 | 343.8 | 342.5 | 342.9 | 345.3 | 345.0 | 344.1 |
| G15.0 | 336.8 | 344.2 | 343.8 | 343.4 | 343.0 | 344.9 | 344.1 | 343.9 |
| G16.0 | 336.0 | 342.8 | 343.7 | 343.2 | 342.0 | 343.9 | 343.6 | 343.4 |
| G17.0 | 334.5 | 341.9 | 343.0 | 342.7 | 342.3 | 343.8 | 343.3 | 342.5 |
| G18.0 | 333.5 | 340.4 | 343.3 | 342.7 | 342.8 | 343.0 | 342.4 | 342.4 |
| G19.0 | 332.3 | 339.4 | 343.5 | 342.7 | 342.0 | 343.0 | 342.3 | 343.0 |
| G20.0 | 330.9 | 337.9 | 342.2 | 342.4 | 341.8 | 343.3 | 343.1 | 342.1 |
| G21.0 | 329.5 | 336.7 | 340.7 | 341.6 | 342.0 | 342.7 | 341.8 | 341.6 |
| G22.0 | 328.0 | 335.0 | 338.9 | 342.5 | 341.8 | 341.7 | 341.2 | 341.9 |
| G23.0 | 326.4 | 333.4 | 337.4 | 340.9 | 340.9 | 342.3 | 341.8 | 341.3 |
| G24.0 | 324.5 | 331.6 | 335.4 | 339.1 | 341.5 | 341.5 | 340.6 | 340.5 |
| G25.0 | 322.9 | 329.6 | 333.4 | 337.2 | 339.3 | 342.2 | 341.3 | 340.8 |
| G26.0 | 320.9 | 327.8 | 331.9 | 335.2 | 337.5 | 340.8 | 340.1 | 338.9 |
| G27.0 | 318.9 | 326.0 | 329.6 | 333.3 | 335.3 | 338.1 | 338.1 | 336.2 |
| G28.0 | 316.6 | 323.3 | 327.8 | 331.2 | 333.0 | 336.1 | 335.8 | 334.6 |
| G29.0 | 314.6 | 321.3 | 325.1 | 328.8 | 330.6 | 333.9 | 333.6 | 332.6 |
| G30.0 | 312.4 | 319.0 | 322.8 | 326.4 | 328.2 | 331.5 | 331.2 | 329.6 |
| G31.0 | 309.9 | 316.5 | 320.8 | 324.1 | 325.5 | 328.6 | 328.1 | 327.2 |
| G32.0 | 307.1 | 313.8 | 317.8 | 321.0 | 322.4 | 325.6 | 325.5 | 323.8 |
| G33.0 | 304.9 | 311.5 | 314.7 | 318.0 | 319.7 | 322.8 | 322.2 | 321.0 |
| G34.0 | 301.7 | 308.4 | 311.4 | 314.9 | 316.4 | 318.8 | 318.7 | 317.9 |
| G35.0 | 298.7 | 305.1 | 308.3 | 311.0 | 312.8 | 315.8 | 314.9 | 314.4 |
| G36.0 | 296.0 | 301.8 | 304.9 | 308.0 | 309.0 | 311.6 | 311.2 | 310.5 |
| G37.0 | 292.2 | 298.2 | 300.9 | 304.3 | 304.8 | 308.0 | 307.1 | 306.9 |
| G38.0 | 288.8 | 294.6 | 297.2 | 300.0 | 301.3 | 304.0 | 303.5 | 302.8 |
| G39.0 | 285.0 | 290.3 | 293.5 | 296.2 | 297.5 | 300.2 | 299.4 | 299.1 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



## Light Distribution Data

Unit: cd/klm

| G\C | C240.0 | C245.0 | C250.0 | C255.0 | C260.0 | C265.0 | C270.0 | C275.0 |
|---|---|---|---|---|---|---|---|---|
| G40.0 | 281.0 | 286.3 | 289.0 | 291.9 | 293.5 | 296.3 | 295.4 | 295.0 |
| G41.0 | 277.1 | 282.1 | 285.3 | 288.3 | 289.6 | 292.3 | 291.7 | 291.4 |
| G42.0 | 272.7 | 278.0 | 281.5 | 284.4 | 285.3 | 288.4 | 287.8 | 287.1 |
| G43.0 | 268.5 | 273.7 | 276.9 | 280.2 | 281.1 | 283.5 | 283.0 | 282.8 |
| G44.0 | 264.2 | 269.7 | 272.5 | 275.5 | 276.8 | 279.4 | 278.5 | 278.2 |
| G45.0 | 259.5 | 265.7 | 268.0 | 271.5 | 271.8 | 274.6 | 273.3 | 273.7 |
| G46.0 | 255.3 | 260.6 | 263.4 | 265.9 | 267.3 | 269.2 | 268.5 | 268.8 |
| G47.0 | 251.0 | 256.2 | 258.9 | 261.6 | 262.1 | 264.1 | 263.9 | 263.9 |
| G48.0 | 245.5 | 250.8 | 253.4 | 256.1 | 257.0 | 258.7 | 258.3 | 258.1 |
| G49.0 | 240.5 | 245.9 | 248.4 | 250.9 | 251.5 | 253.5 | 252.7 | 253.4 |
| G50.0 | 235.4 | 240.8 | 243.0 | 245.4 | 246.5 | 248.5 | 247.4 | 248.1 |
| G51.0 | 229.3 | 235.2 | 236.7 | 239.5 | 240.4 | 241.8 | 241.3 | 242.0 |
| G52.0 | 224.0 | 229.5 | 231.4 | 233.9 | 234.6 | 236.0 | 235.5 | 236.2 |
| G53.0 | 217.3 | 223.6 | 224.9 | 228.0 | 228.4 | 230.3 | 228.9 | 230.0 |
| G54.0 | 211.1 | 216.9 | 218.9 | 221.7 | 222.1 | 223.7 | 223.1 | 223.8 |
| G55.0 | 205.1 | 211.0 | 213.1 | 214.9 | 216.1 | 217.5 | 216.5 | 217.3 |
| G56.0 | 197.3 | 203.7 | 206.2 | 208.2 | 209.3 | 210.0 | 209.3 | 210.2 |
| G57.0 | 189.5 | 197.4 | 199.8 | 201.5 | 202.5 | 203.7 | 202.6 | 203.7 |
| G58.0 | 182.9 | 190.4 | 193.3 | 194.9 | 195.7 | 196.6 | 195.7 | 196.3 |
| G59.0 | 174.3 | 183.3 | 185.5 | 186.9 | 187.5 | 188.8 | 187.7 | 188.4 |
| G60.0 | 166.5 | 175.7 | 178.3 | 179.9 | 180.4 | 181.7 | 180.4 | 181.6 |
| G61.0 | 158.6 | 167.0 | 170.1 | 172.6 | 172.5 | 174.8 | 172.1 | 174.2 |
| G62.0 | 150.6 | 157.9 | 162.9 | 165.0 | 165.4 | 166.4 | 164.9 | 166.3 |
| G63.0 | 142.7 | 150.4 | 155.8 | 157.6 | 157.6 | 159.1 | 156.7 | 158.5 |
| G64.0 | 134.8 | 140.5 | 147.2 | 149.9 | 148.6 | 150.0 | 147.6 | 149.4 |
| G65.0 | 127.1 | 132.5 | 139.0 | 142.1 | 140.5 | 142.0 | 138.9 | 141.0 |
| G66.0 | 119.8 | 124.2 | 129.5 | 134.0 | 132.6 | 133.9 | 130.7 | 133.2 |
| G67.0 | 111.3 | 115.4 | 120.1 | 125.5 | 124.1 | 125.6 | 122.4 | 124.5 |
| G68.0 | 103.5 | 107.2 | 111.0 | 117.3 | 116.1 | 117.8 | 114.3 | 116.9 |
| G69.0 | 94.8 | 99.7 | 101.9 | 110.2 | 107.3 | 109.8 | 105.7 | 108.3 |
| G70.0 | 87.6 | 91.3 | 93.7 | 100.5 | 99.7 | 101.2 | 98.0 | 99.1 |
| G71.0 | 80.2 | 83.8 | 85.6 | 92.0 | 91.5 | 93.2 | 89.6 | 91.2 |
| G72.0 | 72.3 | 75.1 | 77.0 | 82.0 | 83.3 | 84.5 | 80.6 | 82.4 |
| G73.0 | 65.1 | 67.8 | 69.2 | 73.0 | 75.4 | 76.4 | 72.3 | 74.0 |
| G74.0 | 58.4 | 60.3 | 62.0 | 63.9 | 67.7 | 68.0 | 63.9 | 65.6 |
| G75.0 | 50.9 | 52.9 | 53.5 | 55.3 | 58.8 | 58.4 | 55.2 | 56.2 |
| G76.0 | 44.2 | 45.9 | 45.8 | 47.5 | 51.1 | 51.0 | 47.8 | 48.1 |
| G77.0 | 37.0 | 38.7 | 38.4 | 40.2 | 42.6 | 42.5 | 39.9 | 40.4 |
| G78.0 | 31.0 | 32.6 | 32.3 | 33.7 | 35.1 | 35.6 | 33.2 | 33.7 |
| G79.0 | 22.0 | 27.1 | 26.6 | 27.7 | 27.7 | 29.2 | 27.2 | 28.2 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

## Light Distribution Data

Unit: cd/klm

| G\C | C240.0 | C245.0 | C250.0 | C255.0 | C260.0 | C265.0 | C270.0 | C275.0 |
|---|---|---|---|---|---|---|---|---|
| G80.0 | 15.6 | 21.2 | 21.2 | 21.5 | 21.5 | 23.4 | 21.4 | 23.0 |
| G81.0 | 11.4 | 14.2 | 16.6 | 17.0 | 16.8 | 19.0 | 17.1 | 18.6 |
| G82.0 | 3.8 | 10.2 | 12.1 | 12.9 | 12.7 | 15.0 | 13.1 | 14.7 |
| G83.0 | 2.2 | 3.7 | 7.6 | 9.4 | 9.4 | 11.7 | 10.1 | 10.1 |
| G84.0 | 1.0 | 2.2 | 4.7 | 6.6 | 6.8 | 8.2 | 7.2 | 6.8 |
| G85.0 | 0.8 | 0.8 | 1.8 | 3.7 | 4.6 | 5.0 | 4.5 | 4.4 |
| G86.0 | 0.6 | 0.6 | 0.8 | 1.5 | 2.8 | 3.1 | 2.4 | 2.6 |
| G87.0 | 0.5 | 0.5 | 0.6 | 0.7 | 1.4 | 1.7 | 1.4 | 1.4 |
| G88.0 | 0.4 | 0.3 | 0.5 | 0.5 | 0.6 | 0.8 | 0.7 | 0.7 |
| G89.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 | 0.3 |
| G90.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |

## Light Distribution Data

Unit: cd/klm

| G\C | C280.0 | C285.0 | C290.0 | C295.0 | C300.0 | C305.0 | C310.0 | C315.0 |
|---|---|---|---|---|---|---|---|---|
| G0.0 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 |
| G1.0 | 341.7 | 341.6 | 341.3 | 341.7 | 341.5 | 341.4 | 341.8 | 341.2 |
| G2.0 | 341.7 | 341.8 | 341.4 | 341.4 | 341.2 | 341.4 | 341.5 | 340.9 |
| G3.0 | 341.9 | 342.0 | 341.3 | 341.9 | 340.9 | 340.9 | 341.0 | 340.6 |
| G4.0 | 341.5 | 342.0 | 341.1 | 342.0 | 340.7 | 340.7 | 340.8 | 340.1 |
| G5.0 | 342.0 | 342.4 | 341.5 | 342.5 | 340.4 | 340.0 | 340.5 | 339.9 |
| G6.0 | 343.1 | 342.1 | 341.7 | 342.7 | 339.8 | 340.0 | 339.6 | 339.6 |
| G7.0 | 343.8 | 341.8 | 342.5 | 342.3 | 338.9 | 339.1 | 339.6 | 339.2 |
| G8.0 | 343.8 | 341.6 | 342.3 | 342.6 | 338.5 | 338.9 | 338.7 | 337.9 |
| G9.0 | 343.1 | 341.7 | 342.5 | 342.8 | 338.1 | 338.2 | 338.0 | 337.4 |
| G10.0 | 343.0 | 341.8 | 342.5 | 343.2 | 337.6 | 337.3 | 337.7 | 336.9 |
| G11.0 | 343.6 | 341.2 | 342.6 | 343.0 | 336.8 | 336.6 | 336.8 | 336.0 |
| G12.0 | 343.0 | 340.7 | 342.6 | 342.3 | 335.6 | 335.7 | 335.9 | 335.1 |
| G13.0 | 342.5 | 341.7 | 342.7 | 341.4 | 334.9 | 335.0 | 335.0 | 334.1 |
| G14.0 | 342.3 | 342.1 | 342.9 | 340.3 | 333.8 | 333.9 | 333.8 | 333.7 |
| G15.0 | 342.0 | 341.4 | 342.4 | 339.4 | 333.0 | 332.8 | 332.6 | 332.1 |
| G16.0 | 341.2 | 341.1 | 342.7 | 338.1 | 331.6 | 332.3 | 331.7 | 330.9 |
| G17.0 | 342.7 | 341.4 | 342.9 | 337.1 | 330.4 | 330.7 | 330.3 | 329.8 |
| G18.0 | 341.5 | 341.6 | 341.8 | 335.7 | 329.3 | 329.5 | 329.1 | 328.3 |
| G19.0 | 341.3 | 340.7 | 340.4 | 334.5 | 327.8 | 327.9 | 327.4 | 326.8 |
| G20.0 | 341.2 | 340.3 | 339.0 | 332.9 | 326.5 | 326.2 | 326.3 | 325.3 |
| G21.0 | 341.6 | 341.0 | 337.8 | 331.5 | 325.2 | 324.6 | 324.3 | 323.9 |
| G22.0 | 340.2 | 339.3 | 336.0 | 329.6 | 323.4 | 323.0 | 323.0 | 322.2 |
| G23.0 | 340.8 | 337.6 | 334.0 | 328.2 | 321.6 | 321.3 | 320.9 | 320.1 |
| G24.0 | 339.7 | 336.3 | 331.9 | 326.4 | 319.7 | 319.3 | 318.9 | 318.2 |
| G25.0 | 338.0 | 333.9 | 329.9 | 324.4 | 317.9 | 317.1 | 316.9 | 316.3 |
| G26.0 | 335.9 | 332.2 | 328.4 | 322.2 | 315.8 | 315.2 | 314.9 | 313.8 |
| G27.0 | 333.7 | 330.0 | 326.1 | 320.0 | 313.5 | 313.1 | 312.9 | 311.4 |
| G28.0 | 331.5 | 327.4 | 323.4 | 317.7 | 311.2 | 311.0 | 310.2 | 309.2 |
| G29.0 | 329.2 | 325.2 | 321.7 | 315.8 | 309.1 | 308.7 | 307.3 | 307.0 |
| G30.0 | 326.8 | 323.0 | 318.8 | 313.2 | 306.5 | 306.3 | 305.3 | 304.0 |
| G31.0 | 324.4 | 320.2 | 316.7 | 310.5 | 304.1 | 303.7 | 302.6 | 301.5 |
| G32.0 | 321.1 | 317.3 | 313.8 | 307.7 | 301.7 | 300.9 | 299.5 | 298.2 |
| G33.0 | 318.1 | 314.7 | 310.6 | 305.2 | 298.8 | 297.8 | 296.8 | 295.8 |
| G34.0 | 314.6 | 311.7 | 307.8 | 302.0 | 295.7 | 295.4 | 294.1 | 292.7 |
| G35.0 | 311.1 | 308.1 | 304.4 | 298.9 | 292.6 | 291.7 | 290.6 | 289.2 |
| G36.0 | 307.7 | 304.0 | 300.5 | 295.5 | 289.1 | 288.8 | 287.5 | 286.5 |
| G37.0 | 303.6 | 300.6 | 296.8 | 292.0 | 285.9 | 285.3 | 284.0 | 282.8 |
| G38.0 | 299.7 | 296.6 | 293.1 | 287.9 | 282.0 | 281.7 | 280.0 | 279.2 |
| G39.0 | 296.3 | 292.8 | 289.2 | 284.0 | 278.1 | 278.1 | 276.6 | 275.4 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



## Light Distribution Data

Unit: cd/klm

| G\C | C280.0 | C285.0 | C290.0 | C295.0 | C300.0 | C305.0 | C310.0 | C315.0 |
|---|---|---|---|---|---|---|---|---|
| G40.0 | 292.2 | 288.5 | 285.0 | 279.7 | 273.6 | 273.5 | 272.9 | 271.2 |
| G41.0 | 288.0 | 285.0 | 280.6 | 275.7 | 269.6 | 269.2 | 268.4 | 267.1 |
| G42.0 | 284.3 | 280.8 | 276.5 | 271.2 | 265.6 | 265.0 | 263.9 | 262.5 |
| G43.0 | 279.8 | 276.3 | 272.2 | 267.2 | 260.7 | 260.3 | 258.9 | 257.4 |
| G44.0 | 275.3 | 271.9 | 268.3 | 262.8 | 256.3 | 256.0 | 254.0 | 252.7 |
| G45.0 | 270.5 | 267.7 | 263.2 | 258.8 | 251.8 | 251.0 | 248.2 | 247.4 |
| G46.0 | 266.0 | 262.6 | 258.5 | 253.9 | 247.2 | 245.8 | 243.0 | 241.4 |
| G47.0 | 261.1 | 257.8 | 253.9 | 249.1 | 242.7 | 241.1 | 238.1 | 235.2 |
| G48.0 | 255.6 | 252.4 | 248.4 | 243.9 | 237.5 | 235.3 | 232.4 | 228.8 |
| G49.0 | 250.3 | 247.5 | 243.5 | 238.7 | 232.4 | 230.3 | 226.5 | 223.0 |
| G50.0 | 245.3 | 242.1 | 238.2 | 233.8 | 227.2 | 224.7 | 220.2 | 216.6 |
| G51.0 | 239.2 | 236.1 | 232.5 | 227.8 | 220.9 | 218.6 | 213.5 | 210.0 |
| G52.0 | 233.4 | 230.3 | 227.0 | 222.6 | 215.4 | 212.5 | 207.2 | 204.2 |
| G53.0 | 226.9 | 224.7 | 220.7 | 216.5 | 209.0 | 206.0 | 200.2 | 198.1 |
| G54.0 | 220.9 | 218.2 | 214.3 | 210.4 | 202.7 | 198.4 | 193.4 | 190.9 |
| G55.0 | 214.7 | 211.6 | 208.6 | 203.8 | 196.4 | 191.9 | 187.3 | 185.0 |
| G56.0 | 207.3 | 204.8 | 201.6 | 196.6 | 189.1 | 184.3 | 180.2 | 177.9 |
| G57.0 | 200.5 | 197.7 | 195.2 | 189.9 | 181.7 | 177.5 | 173.8 | 171.6 |
| G58.0 | 193.5 | 191.4 | 188.7 | 183.2 | 174.6 | 170.9 | 167.3 | 165.4 |
| G59.0 | 185.6 | 183.4 | 180.7 | 175.4 | 165.9 | 163.2 | 159.8 | 158.3 |
| G60.0 | 178.4 | 176.1 | 173.1 | 167.3 | 158.6 | 156.3 | 153.2 | 151.3 |
| G61.0 | 170.2 | 168.7 | 164.3 | 158.9 | 150.3 | 149.0 | 145.4 | 144.8 |
| G62.0 | 163.1 | 161.0 | 156.8 | 149.9 | 142.5 | 141.2 | 138.4 | 137.2 |
| G63.0 | 154.9 | 153.3 | 148.8 | 141.4 | 135.1 | 133.5 | 131.0 | 130.5 |
| G64.0 | 145.7 | 144.9 | 139.6 | 132.3 | 126.4 | 125.3 | 123.0 | 122.7 |
| G65.0 | 137.6 | 136.7 | 130.9 | 124.2 | 119.3 | 117.6 | 115.8 | 116.0 |
| G66.0 | 129.5 | 128.7 | 121.3 | 116.3 | 111.5 | 110.4 | 108.3 | 108.5 |
| G67.0 | 121.2 | 119.9 | 111.7 | 107.1 | 102.8 | 102.2 | 100.5 | 100.5 |
| G68.0 | 112.9 | 111.9 | 103.1 | 99.6 | 94.7 | 94.9 | 93.2 | 92.9 |
| G69.0 | 104.2 | 103.0 | 94.2 | 91.9 | 86.9 | 87.1 | 85.2 | 85.7 |
| G70.0 | 96.1 | 93.2 | 86.3 | 83.7 | 79.6 | 79.1 | 77.7 | 77.9 |
| G71.0 | 88.6 | 84.7 | 78.7 | 75.6 | 72.5 | 72.2 | 70.5 | 69.9 |
| G72.0 | 80.0 | 74.5 | 70.2 | 67.7 | 64.4 | 64.5 | 62.4 | 61.0 |
| G73.0 | 72.8 | 66.2 | 62.8 | 60.3 | 57.7 | 57.3 | 55.2 | 44.8 |
| G74.0 | 64.3 | 58.5 | 54.9 | 53.5 | 50.8 | 50.1 | 43.8 | 37.1 |
| G75.0 | 54.4 | 49.7 | 46.8 | 46.0 | 43.5 | 42.8 | 33.0 | 29.6 |
| G76.0 | 46.5 | 42.7 | 39.9 | 38.9 | 36.7 | 31.2 | 25.8 | 18.7 |
| G77.0 | 37.9 | 35.6 | 33.3 | 32.5 | 30.0 | 23.4 | 16.8 | 8.0 |
| G78.0 | 30.4 | 28.9 | 27.6 | 26.8 | 20.6 | 17.9 | 6.8 | 6.3 |
| G79.0 | 24.7 | 23.6 | 22.3 | 21.4 | 15.1 | 6.4 | 5.2 | 2.2 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 γ (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Light Distribution Data

Unit: cd/klm

| G\C | C280.0 | C285.0 | C290.0 | C295.0 | C300.0 | C305.0 | C310.0 | C315.0 |
|---|---|---|---|---|---|---|---|---|
| G80.0 | 19.2 | 18.2 | 17.1 | 13.9 | 6.9 | 4.3 | 1.9 | 1.6 |
| G81.0 | 15.1 | 14.3 | 12.8 | 9.6 | 3.6 | 1.8 | 1.4 | 1.3 |
| G82.0 | 10.9 | 10.6 | 7.9 | 3.3 | 1.5 | 1.3 | 1.2 | 1.2 |
| G83.0 | 8.1 | 7.4 | 4.0 | 1.7 | 1.1 | 1.1 | 1.0 | 0.9 |
| G84.0 | 5.7 | 4.3 | 1.9 | 1.0 | 0.9 | 0.8 | 0.8 | 0.8 |
| G85.0 | 3.6 | 1.7 | 0.9 | 0.7 | 0.6 | 0.7 | 0.7 | 0.7 |
| G86.0 | 1.9 | 0.9 | 0.7 | 0.5 | 0.6 | 0.6 | 0.5 | 0.5 |
| G87.0 | 0.8 | 0.6 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |
| G88.0 | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| G89.0 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| G90.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**Report No. :** 3 **Test Time :** 2026-05-04 12:55:42 

## Light Distribution Data

Unit: cd/klm

| G\C | C320.0 | C325.0 | C330.0 | C335.0 | C340.0 | C345.0 | C350.0 | C355.0 |
|---|---|---|---|---|---|---|---|---|
| G0.0 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 | 341.7 |
| G1.0 | 341.0 | 341.0 | 341.8 | 341.3 | 341.3 | 341.5 | 341.0 | 341.8 |
| G2.0 | 340.8 | 340.9 | 341.2 | 340.6 | 341.0 | 341.2 | 340.8 | 341.4 |
| G3.0 | 340.9 | 340.6 | 340.7 | 340.5 | 340.8 | 341.0 | 340.4 | 341.1 |
| G4.0 | 340.7 | 340.1 | 340.4 | 340.1 | 340.2 | 340.3 | 340.2 | 340.4 |
| G5.0 | 340.1 | 339.8 | 339.7 | 339.9 | 339.3 | 340.1 | 340.2 | 340.3 |
| G6.0 | 339.7 | 339.5 | 339.3 | 339.2 | 338.9 | 339.6 | 339.4 | 339.8 |
| G7.0 | 339.4 | 338.8 | 339.0 | 338.6 | 338.4 | 338.8 | 338.7 | 339.1 |
| G8.0 | 338.3 | 338.3 | 338.1 | 338.1 | 338.0 | 338.8 | 338.3 | 338.2 |
| G9.0 | 337.5 | 337.5 | 337.6 | 337.0 | 337.4 | 337.2 | 337.2 | 337.3 |
| G10.0 | 337.1 | 336.8 | 337.0 | 336.2 | 336.6 | 336.4 | 337.1 | 336.6 |
| G11.0 | 336.0 | 336.0 | 335.7 | 335.7 | 335.1 | 335.8 | 335.6 | 335.3 |
| G12.0 | 335.1 | 334.9 | 334.7 | 334.4 | 334.7 | 334.7 | 334.9 | 334.7 |
| G13.0 | 334.6 | 334.2 | 333.5 | 334.1 | 333.5 | 333.7 | 333.5 | 333.5 |
| G14.0 | 333.2 | 333.3 | 333.0 | 332.7 | 332.5 | 332.3 | 332.8 | 332.4 |
| G15.0 | 332.2 | 331.6 | 331.2 | 331.5 | 331.2 | 331.2 | 331.1 | 330.7 |
| G16.0 | 330.7 | 330.4 | 329.9 | 330.1 | 329.4 | 329.9 | 330.1 | 329.7 |
| G17.0 | 329.4 | 329.3 | 328.6 | 329.0 | 328.6 | 328.2 | 329.0 | 328.2 |
| G18.0 | 328.0 | 327.7 | 326.8 | 327.3 | 327.1 | 327.2 | 327.4 | 326.6 |
| G19.0 | 326.4 | 326.2 | 325.1 | 326.1 | 324.9 | 325.4 | 325.2 | 324.7 |
| G20.0 | 324.8 | 324.7 | 323.1 | 324.2 | 323.9 | 323.3 | 323.6 | 323.3 |
| G21.0 | 323.5 | 323.0 | 321.5 | 322.6 | 322.0 | 321.8 | 321.9 | 321.7 |
| G22.0 | 321.2 | 321.2 | 319.6 | 320.2 | 319.8 | 319.6 | 320.5 | 319.1 |
| G23.0 | 319.5 | 319.0 | 316.7 | 318.6 | 318.2 | 317.7 | 318.0 | 317.2 |
| G24.0 | 317.4 | 317.3 | 314.8 | 316.5 | 316.0 | 315.7 | 315.6 | 315.1 |
| G25.0 | 315.4 | 315.1 | 312.8 | 314.3 | 313.8 | 313.6 | 313.5 | 313.0 |
| G26.0 | 313.0 | 312.8 | 310.2 | 312.1 | 311.7 | 311.4 | 311.6 | 310.6 |
| G27.0 | 310.9 | 310.3 | 307.6 | 309.0 | 309.0 | 308.6 | 308.6 | 307.7 |
| G28.0 | 308.6 | 308.1 | 304.6 | 306.6 | 306.8 | 305.9 | 306.0 | 305.2 |
| G29.0 | 306.0 | 305.5 | 302.5 | 303.6 | 304.0 | 303.4 | 303.6 | 302.4 |
| G30.0 | 303.0 | 302.4 | 299.3 | 301.0 | 300.9 | 300.4 | 300.4 | 299.6 |
| G31.0 | 300.6 | 300.1 | 296.5 | 297.8 | 298.6 | 297.8 | 296.8 | 296.1 |
| G32.0 | 297.7 | 296.6 | 293.3 | 294.9 | 294.7 | 293.6 | 293.8 | 292.7 |
| G33.0 | 294.4 | 293.6 | 290.3 | 291.1 | 291.6 | 290.4 | 289.9 | 289.0 |
| G34.0 | 291.3 | 290.9 | 286.8 | 287.9 | 288.1 | 286.6 | 286.6 | 285.6 |
| G35.0 | 287.9 | 286.8 | 282.8 | 283.7 | 284.1 | 282.5 | 282.6 | 281.7 |
| G36.0 | 284.9 | 283.6 | 279.0 | 279.9 | 280.3 | 279.1 | 279.1 | 277.7 |
| G37.0 | 280.5 | 279.6 | 274.7 | 276.1 | 276.5 | 275.0 | 274.5 | 273.5 |
| G38.0 | 277.3 | 275.7 | 270.9 | 272.0 | 272.8 | 269.8 | 269.5 | 268.1 |
| G39.0 | 273.3 | 272.1 | 267.1 | 267.6 | 267.4 | 264.7 | 265.4 | 264.1 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



## Light Distribution Data

Unit: cd/klm

| G\C | C320.0 | C325.0 | C330.0 | C335.0 | C340.0 | C345.0 | C350.0 | C355.0 |
|---|---|---|---|---|---|---|---|---|
| G40.0 | 268.8 | 267.2 | 262.2 | 261.7 | 262.4 | 259.7 | 260.4 | 258.6 |
| G41.0 | 264.1 | 263.1 | 257.2 | 256.8 | 257.8 | 255.3 | 255.4 | 253.7 |
| G42.0 | 260.3 | 258.4 | 252.0 | 252.0 | 252.8 | 250.3 | 250.4 | 248.8 |
| G43.0 | 255.1 | 252.4 | 246.8 | 246.6 | 247.3 | 244.6 | 245.3 | 243.2 |
| G44.0 | 249.9 | 247.4 | 241.7 | 241.0 | 242.3 | 239.4 | 240.3 | 238.6 |
| G45.0 | 243.4 | 242.2 | 235.4 | 235.8 | 236.5 | 234.5 | 234.7 | 233.5 |
| G46.0 | 238.5 | 236.2 | 230.3 | 229.9 | 231.5 | 229.0 | 229.7 | 227.9 |
| G47.0 | 232.5 | 230.7 | 224.9 | 224.8 | 225.9 | 223.2 | 224.5 | 222.8 |
| G48.0 | 226.1 | 224.4 | 219.0 | 218.7 | 220.3 | 217.8 | 218.6 | 217.3 |
| G49.0 | 219.7 | 218.7 | 213.5 | 213.2 | 214.6 | 212.4 | 213.9 | 212.0 |
| G50.0 | 213.9 | 212.9 | 208.0 | 208.3 | 209.6 | 207.4 | 208.3 | 207.1 |
| G51.0 | 207.2 | 206.3 | 201.8 | 201.9 | 203.6 | 201.3 | 202.3 | 201.3 |
| G52.0 | 201.1 | 200.2 | 196.3 | 196.1 | 197.8 | 196.1 | 196.9 | 195.8 |
| G53.0 | 194.2 | 194.1 | 190.1 | 190.3 | 191.7 | 190.8 | 190.6 | 190.4 |
| G54.0 | 187.9 | 187.3 | 183.9 | 184.3 | 185.8 | 184.8 | 185.3 | 184.5 |
| G55.0 | 182.3 | 181.2 | 178.1 | 178.3 | 180.2 | 179.3 | 179.5 | 178.8 |
| G56.0 | 175.2 | 174.1 | 171.2 | 172.0 | 173.4 | 172.9 | 173.4 | 172.6 |
| G57.0 | 169.2 | 168.1 | 165.2 | 165.9 | 167.5 | 167.1 | 167.1 | 166.4 |
| G58.0 | 162.9 | 161.7 | 159.2 | 160.2 | 161.5 | 160.8 | 161.2 | 160.8 |
| G59.0 | 155.8 | 155.2 | 152.5 | 153.7 | 154.6 | 154.2 | 154.6 | 154.0 |
| G60.0 | 149.4 | 149.0 | 146.1 | 147.1 | 148.3 | 147.7 | 147.9 | 147.5 |
| G61.0 | 142.1 | 142.5 | 139.4 | 140.6 | 140.8 | 141.3 | 141.0 | 140.9 |
| G62.0 | 135.3 | 135.1 | 132.6 | 133.5 | 134.5 | 134.3 | 134.1 | 133.7 |
| G63.0 | 128.8 | 128.6 | 125.8 | 126.7 | 127.5 | 127.6 | 126.9 | 126.6 |
| G64.0 | 121.0 | 120.7 | 118.2 | 119.3 | 119.6 | 119.8 | 119.7 | 119.6 |
| G65.0 | 114.2 | 114.1 | 111.6 | 111.9 | 112.5 | 112.6 | 112.5 | 112.4 |
| G66.0 | 106.9 | 106.9 | 104.2 | 105.0 | 105.3 | 105.4 | 99.2 | 99.1 |
| G67.0 | 99.3 | 99.1 | 96.6 | 97.1 | 90.9 | 83.9 | 77.7 | 77.5 |
| G68.0 | 91.7 | 91.4 | 89.0 | 81.7 | 72.1 | 71.8 | 68.5 | 67.9 |
| G69.0 | 83.3 | 83.9 | 69.8 | 65.9 | 62.1 | 61.1 | 59.0 | 60.3 |
| G70.0 | 75.7 | 68.0 | 58.7 | 55.4 | 54.3 | 54.9 | 54.0 | 54.4 |
| G71.0 | 63.2 | 54.7 | 49.3 | 49.2 | 49.2 | 44.7 | 33.5 | 32.8 |
| G72.0 | 48.7 | 44.8 | 42.8 | 39.2 | 22.4 | 18.0 | 16.5 | 16.7 |
| G73.0 | 40.1 | 38.7 | 26.1 | 15.7 | 14.7 | 14.4 | 14.2 | 14.4 |
| G74.0 | 33.9 | 23.2 | 12.6 | 12.5 | 12.5 | 12.6 | 12.4 | 12.5 |
| G75.0 | 16.7 | 11.0 | 10.3 | 10.6 | 6.0 | 3.5 | 2.9 | 2.9 |
| G76.0 | 9.4 | 9.0 | 6.0 | 2.9 | 2.6 | 2.5 | 2.4 | 2.4 |
| G77.0 | 7.4 | 3.0 | 2.3 | 2.2 | 2.1 | 2.0 | 2.0 | 2.1 |
| G78.0 | 2.4 | 2.1 | 1.9 | 1.9 | 1.8 | 1.8 | 1.8 | 1.8 |
| G79.0 | 1.8 | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |

Test Type : Type C Test Distance : 8.137 m C Plane (°): 0.0-360.0:5.0 (°) : 0.0-90.0:1.0
Test Device : Lisun LSG-1700B Temperature : 21.5°C Humidity : 42.0%
Test Lab : Light Lab TU-Gabrovo
Test By : Eng. Ivaylo Stoyanov Review By :

**TU-Gabrovo Technical Park - ISO17025 accredited**
for Photometric and Colorimetric measurements
E-mail: lightlab@tugab.bg
Phone:+359 879 003365



## Light Distribution Data

Unit: cd/klm

| G\C | C320.0 | C325.0 | C330.0 | C335.0 | C340.0 | C345.0 | C350.0 | C355.0 |
|---|---|---|---|---|---|---|---|---|
| G80.0 | 1.5 | 1.5 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 | 1.4 |
| G81.0 | 1.3 | 1.3 | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 1.3 |
| G82.0 | 1.1 | 1.1 | 1.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.2 |
| G83.0 | 0.9 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 |
| G84.0 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.9 | 0.9 |
| G85.0 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.8 |
| G86.0 | 0.5 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 |
| G87.0 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 |
| G88.0 | 0.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 |
| G89.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.2 |
| G90.0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 |