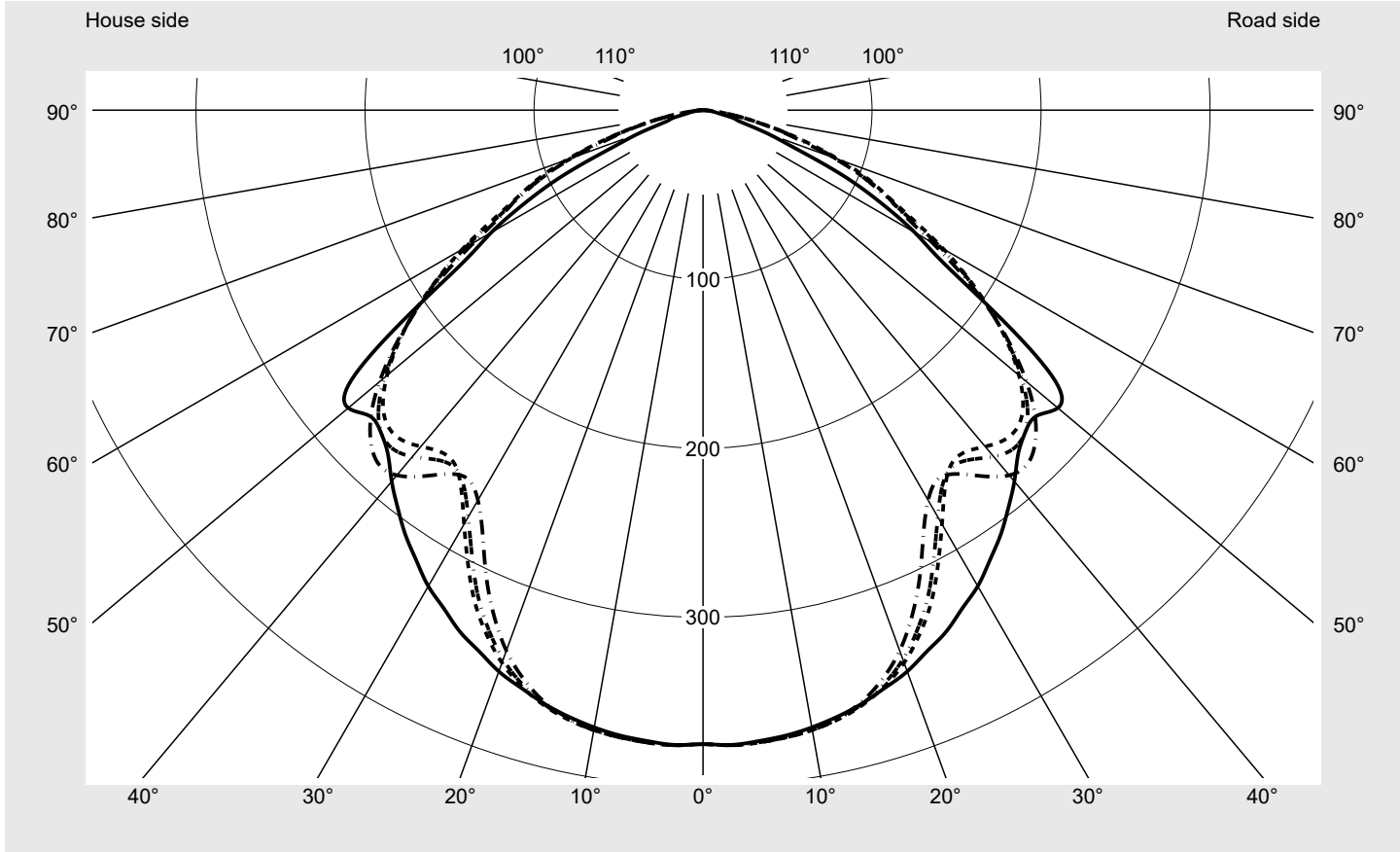


# Photometric test report

|                                   |   |   |
|-----------------------------------|---|---|
| <b>Family</b><br>Tunnellight TL-L | <b>Order number: 5WD7A8P0G2C5</b><br><b>EAN: 4069025065506</b>                              | <b>LP number</b><br>59482_210                       |
| <b>Version</b>                    | refurbishment insert for tunnel luminaire,<br>luminaire insert Retrofit                     | <b>serial</b><br><b>documentation</b><br>09.04.2024 |
| <b>Optic</b>                      | symmetric extremely wide distribution   |   |
| <b>Cover</b>                      | enclosure of PMMA   |   |
| <b>Lamps</b>                      | LED 4000 K   CRI ≥ 80   |   |
| <b>Controlgear</b>                | ECG-DALI  |   |
| <b>Rated values</b>               | Net luminous flux = 9800 lm<br>Power consumption = 63.4 W<br>Luminous efficacy = 154.6 lm/W |   |



**Luminous intensity in cd/klm** C180-0 C245-65 C250-70 C270-90 **Imax: 376 cd/klm**



**Luminaire output ratios**

|                |        |
|----------------|--------|
| Eta            | 100.0% |
| Eta 0° - 90°   | 100.0% |
| Eta 90° - 180° | 0.0%   |

**Luminous intensity class acc. to EN13201-2**

|           |      |
|-----------|------|
| Class:    | G6   |
| Imax 70°  | 89.5 |
| Imax 80°  | 20.7 |
| Imax 90°  | 0.0  |
| Imax >90° | 0.0  |
| Imax >95° | 0.0  |

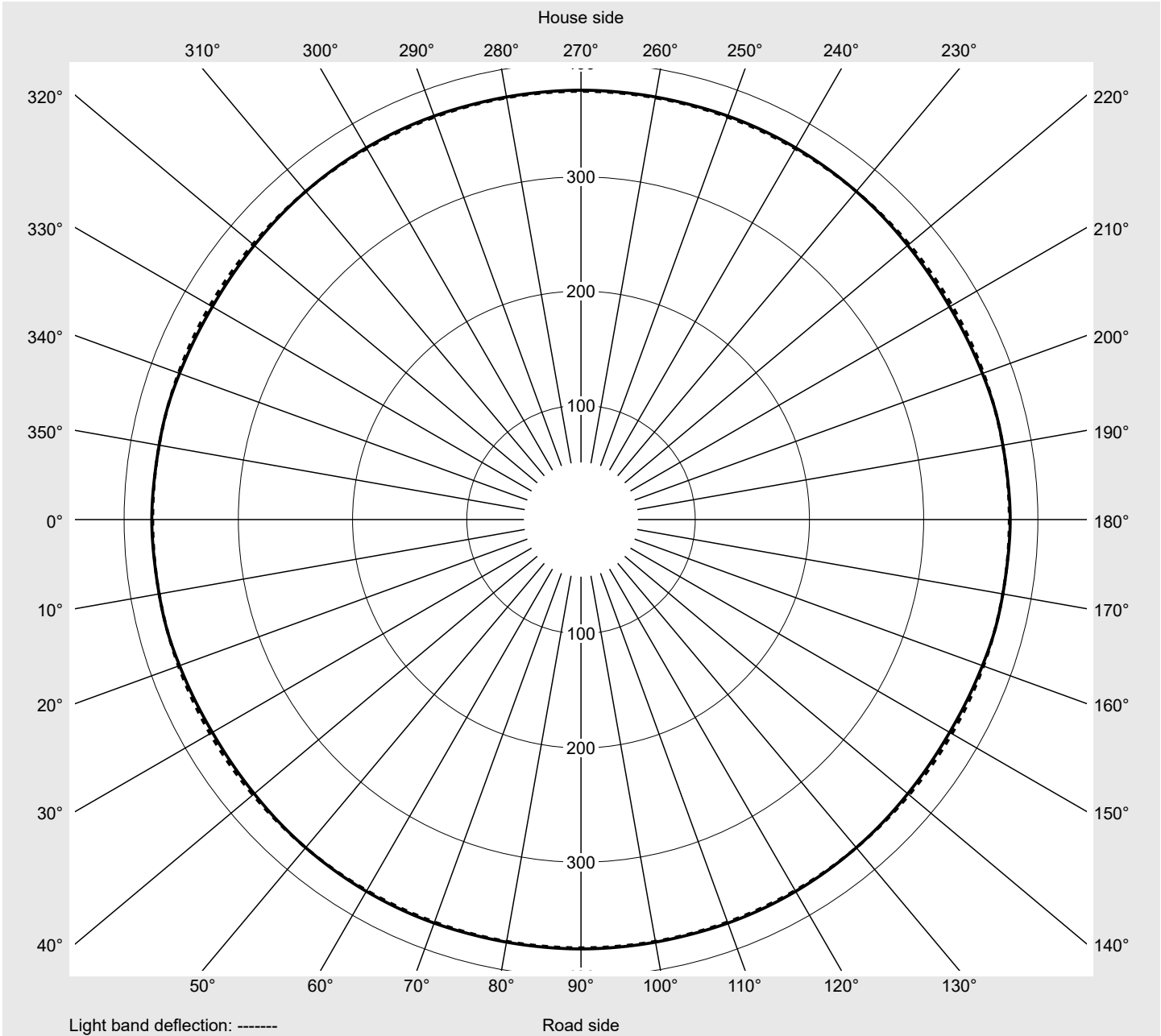
**Measurement conditions**

DIN EN 13032 and DIN 5032

**Photometric test report**

|  |  |                                      |
|--|--|--------------------------------------|
| <b>Family</b><br><b>Tunnellight TL-L</b> | <b>Order number: 5WD7A8P0G2C5</b><br><b>EAN: 4069025065506</b> | <b>LP number</b><br><b>59482_210</b> |
|--|--|--------------------------------------|

**Envelope curve in cd/klm** KMK 2.5°  KMK 0°  siteco



## Photometric test report

|   |  |                                   |
|---|--|-----------------------------------|
| Family<br><b>Tunnellight TL-L</b>               | Order number: <b>5WD7A8P0G2C5</b><br>EAN: <b>4069025065506</b> | LP number<br><b>59482_210</b>     |
| <b>Table of values for luminous intensities</b> |  | <b>Maximum luminous intensity</b> |
|   |  | <b>siteco</b>                     |

| C-planes                     | 0°<br>180° | 5°                   | 10°                  | 15°                  | 20°                  | 25°                  | 30°                  | 35°                  | 40°                  | 45°                  |
|------------------------------|------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                              |            | 175°<br>185°<br>355° | 170°<br>190°<br>350° | 165°<br>195°<br>345° | 160°<br>200°<br>340° | 155°<br>205°<br>335° | 150°<br>210°<br>330° | 145°<br>215°<br>325° | 140°<br>220°<br>320° | 135°<br>225°<br>315° |
| Luminous intensity in cd/klm |            |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| γ                            |            |                      |                      |                      |                      |                      |                      |                      |                      |                      |
| 0,0°                         | 375.0      | 375.0                | 375.0                | 375.0                | 375.0                | 375.0                | 375.0                | 375.0                | 375.0                | 375.0                |
| 2,5°                         | 375.8      | 375.3                | 375.0                | 375.1                | 374.0                | 373.2                | 372.7                | 372.9                | 373.4                | 374.3                |
| 5,0°                         | 374.6      | 374.3                | 374.2                | 374.3                | 373.2                | 372.4                | 371.9                | 372.2                | 372.8                | 373.6                |
| 7,5°                         | 373.1      | 373.0                | 373.0                | 373.1                | 372.0                | 371.2                | 370.7                | 371.0                | 371.5                | 372.4                |
| 10,0°                        | 370.7      | 370.9                | 371.1                | 371.3                | 370.3                | 369.5                | 368.9                | 369.2                | 369.8                | 370.6                |
| 12,5°                        | 367.4      | 367.9                | 368.2                | 368.4                | 367.5                | 366.8                | 366.2                | 366.5                | 367.1                | 367.9                |
| 15,0°                        | 363.4      | 364.1                | 364.6                | 364.8                | 364.0                | 363.3                | 362.7                | 362.9                | 363.5                | 364.3                |
| 17,5°                        | 358.2      | 359.5                | 360.2                | 360.4                | 359.7                | 359.0                | 358.2                | 358.3                | 358.6                | 359.0                |
| 20,0°                        | 353.3      | 354.3                | 355.1                | 355.6                | 354.8                | 354.0                | 353.3                | 353.0                | 352.8                | 352.6                |
| 22,5°                        | 346.4      | 348.4                | 349.5                | 349.8                | 349.1                | 348.1                | 347.0                | 346.1                | 345.2                | 344.2                |
| 25,0°                        | 340.4      | 342.0                | 343.1                | 343.6                | 342.7                | 341.4                | 339.7                | 337.9                | 335.9                | 333.8                |
| 27,5°                        | 332.2      | 334.7                | 336.1                | 336.2                | 335.0                | 333.2                | 330.7                | 327.6                | 324.3                | 320.7                |
| 30,0°                        | 325.1      | 327.2                | 328.4                | 328.4                | 326.8                | 324.3                | 320.8                | 316.3                | 311.4                | 306.1                |
| 32,5°                        | 315.8      | 318.6                | 319.9                | 319.6                | 317.4                | 313.9                | 309.2                | 303.2                | 296.5                | 289.1                |
| 35,0°                        | 306.9      | 309.2                | 310.1                | 309.5                | 306.4                | 301.8                | 295.6                | 287.6                | 279.1                | 270.1                |
| 37,5°                        | 296.7      | 299.3                | 299.9                | 298.5                | 294.4                | 288.6                | 281.2                | 271.3                | 261.6                | 252.2                |
| 40,0°                        | 286.6      | 288.7                | 288.7                | 286.6                | 281.1                | 273.8                | 264.6                | 253.3                | 243.9                | 236.5                |
| 42,5°                        | 276.0      | 278.8                | 278.4                | 274.6                | 267.5                | 258.4                | 247.5                | 236.0                | 228.9                | 226.3                |
| 45,0°                        | 269.6      | 271.0                | 268.8                | 263.1                | 253.8                | 242.6                | 229.6                | 220.3                | 217.7                | 221.9                |
| 47,5°                        | 267.7      | 268.7                | 264.7                | 255.7                | 242.9                | 229.1                | 214.3                | 209.2                | 211.5                | 221.1                |
| 50,0°                        | 274.0      | 274.7                | 268.5                | 255.4                | 236.9                | 219.6                | 203.3                | 203.3                | 208.7                | 219.7                |
| 52,5°                        | 262.3      | 264.7                | 261.3                | 251.9                | 233.3                | 216.3                | 201.1                | 203.5                | 208.1                | 214.9                |
| 55,0°                        | 216.1      | 216.5                | 215.4                | 212.7                | 205.8                | 203.6                | 205.9                | 208.7                | 209.2                | 207.5                |
| 57,5°                        | 169.7      | 171.3                | 169.4                | 164.0                | 162.7                | 170.6                | 187.8                | 203.8                | 208.0                | 200.2                |
| 60,0°                        | 144.6      | 144.2                | 140.7                | 134.0                | 132.9                | 139.8                | 154.8                | 173.9                | 186.6                | 192.7                |
| 62,5°                        | 118.5      | 119.6                | 117.3                | 111.8                | 112.8                | 118.6                | 129.4                | 139.1                | 150.0                | 162.1                |
| 65,0°                        | 91.1       | 90.1                 | 88.7                 | 87.0                 | 91.8                 | 99.3                 | 109.8                | 115.5                | 120.4                | 124.2                |
| 67,5°                        | 59.4       | 60.9                 | 61.1                 | 60.1                 | 65.2                 | 73.0                 | 83.3                 | 91.9                 | 96.6                 | 97.5                 |
| 70,0°                        | 41.2       | 40.7                 | 40.7                 | 41.1                 | 44.7                 | 50.1                 | 57.1                 | 64.8                 | 71.4                 | 76.8                 |
| 72,5°                        | 24.0       | 24.8                 | 25.3                 | 25.5                 | 28.3                 | 32.4                 | 37.8                 | 44.0                 | 49.5                 | 54.2                 |
| 75,0°                        | 19.1       | 19.3                 | 19.5                 | 19.8                 | 20.8                 | 22.2                 | 24.0                 | 29.0                 | 33.7                 | 38.1                 |
| 77,5°                        | 11.3       | 11.9                 | 12.4                 | 12.9                 | 14.3                 | 15.7                 | 17.0                 | 20.3                 | 23.0                 | 25.4                 |
| 80,0°                        | 7.9        | 7.8                  | 7.8                  | 7.9                  | 8.3                  | 8.9                  | 9.7                  | 11.6                 | 14.1                 | 17.2                 |
| 82,5°                        | 4.9        | 4.9                  | 4.9                  | 4.9                  | 5.1                  | 5.5                  | 5.9                  | 6.9                  | 8.1                  | 9.6                  |
| 85,0°                        | 2.8        | 2.7                  | 2.7                  | 2.8                  | 2.8                  | 2.9                  | 3.1                  | 3.4                  | 3.9                  | 4.6                  |
| 87,5°                        | 1.0        | 1.0                  | 1.0                  | 1.0                  | 1.0                  | 1.1                  | 1.1                  | 1.2                  | 1.4                  | 1.6                  |
| 90,0°                        | 0.0        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  |

## Photometric test report

|   |  |                                   |
|---|--|-----------------------------------|
| Family<br><b>Tunnellight TL-L</b>               | Order number: <b>5WD7A8P0G2C5</b><br>EAN: <b>4069025065506</b> | LP number<br><b>59482_210</b>     |
| <b>Table of values for luminous intensities</b> |  | <b>Maximum luminous intensity</b> |
|   |  | <b>siteco</b>                     |

| C-planes<br>$\gamma$         | 50°                  | 55°                  | 60°                  | 65°                  | 70°                  | 75°                  | 80°                  | 85°                 | 90°   | Phi-zone                | Total<br>Phi-zone |
|------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|-------|-------------------------|-------------------|
|                              | 130°<br>230°<br>310° | 125°<br>235°<br>305° | 120°<br>240°<br>300° | 115°<br>245°<br>295° | 110°<br>250°<br>290° | 105°<br>255°<br>285° | 100°<br>260°<br>280° | 95°<br>265°<br>275° |       |                         |                   |
| Luminous intensity in cd/klm |                      |                      |                      |                      |                      |                      |                      |                     |       | Luminous flux in lm/klm |                   |
| 0,0°                         | 375.0                | 375.0                | 375.0                | 375.0                | 375.0                | 375.0                | 375.0                | 375.0               | 375.0 | 0.6                     | 0.6               |
| 2,5°                         | 375.0                | 375.5                | 375.9                | 376.0                | 376.0                | 375.7                | 375.7                | 375.8               | 375.9 | 4.5                     | 5.0               |
| 5,0°                         | 374.3                | 374.9                | 375.3                | 375.5                | 375.5                | 375.2                | 375.2                | 375.3               | 375.5 | 8.9                     | 14.0              |
| 7,5°                         | 373.1                | 373.6                | 374.1                | 374.2                | 374.2                | 374.0                | 374.0                | 374.1               | 374.2 | 13.3                    | 27.3              |
| 10,0°                        | 371.3                | 371.9                | 372.3                | 372.3                | 372.2                | 372.0                | 372.0                | 372.1               | 372.2 | 17.7                    | 45.0              |
| 12,5°                        | 368.5                | 369.0                | 369.3                | 369.1                | 368.9                | 368.4                | 368.3                | 368.3               | 368.4 | 21.8                    | 66.8              |
| 15,0°                        | 364.6                | 364.8                | 364.9                | 364.3                | 363.6                | 362.9                | 362.6                | 362.4               | 362.4 | 25.8                    | 92.6              |
| 17,5°                        | 359.0                | 358.8                | 358.4                | 357.2                | 355.9                | 354.6                | 353.7                | 353.1               | 352.9 | 29.5                    | 122.1             |
| 20,0°                        | 352.0                | 351.0                | 349.9                | 347.8                | 345.7                | 343.5                | 341.9                | 340.8               | 340.2 | 32.8                    | 155.0             |
| 22,5°                        | 342.4                | 340.5                | 338.2                | 335.2                | 332.0                | 328.7                | 326.1                | 324.3               | 323.4 | 35.7                    | 190.7             |
| 25,0°                        | 330.8                | 327.7                | 324.2                | 320.1                | 315.7                | 311.2                | 307.6                | 305.1               | 303.7 | 38.1                    | 228.8             |
| 27,5°                        | 316.3                | 311.6                | 306.7                | 301.4                | 296.2                | 291.0                | 286.9                | 284.1               | 282.4 | 39.9                    | 268.8             |
| 30,0°                        | 300.0                | 293.9                | 288.0                | 282.8                | 277.9                | 273.3                | 269.9                | 267.6               | 266.4 | 41.4                    | 310.2             |
| 32,5°                        | 281.8                | 275.3                | 269.6                | 266.2                | 263.5                | 261.5                | 260.2                | 259.3               | 258.8 | 42.7                    | 352.8             |
| 35,0°                        | 263.2                | 258.2                | 255.1                | 255.9                | 257.4                | 259.6                | 261.2                | 262.2               | 262.7 | 43.9                    | 396.7             |
| 37,5°                        | 248.0                | 247.0                | 249.1                | 254.9                | 260.5                | 265.9                | 269.6                | 271.9               | 272.9 | 45.4                    | 442.2             |
| 40,0°                        | 238.2                | 242.9                | 250.7                | 259.7                | 267.5                | 274.0                | 278.0                | 280.7               | 281.9 | 46.9                    | 489.1             |
| 42,5°                        | 234.5                | 244.1                | 255.2                | 264.3                | 271.7                | 277.4                | 280.9                | 283.1               | 284.0 | 48.2                    | 537.3             |
| 45,0°                        | 234.4                | 246.0                | 256.9                | 263.9                | 269.3                | 273.2                | 275.8                | 277.3               | 277.9 | 49.1                    | 586.4             |
| 47,5°                        | 233.6                | 244.0                | 252.3                | 256.9                | 260.3                | 262.8                | 264.8                | 265.9               | 266.3 | 49.7                    | 636.1             |
| 50,0°                        | 229.0                | 236.3                | 241.5                | 244.0                | 245.9                | 247.2                | 248.7                | 249.6               | 249.8 | 50.1                    | 686.2             |
| 52,5°                        | 219.7                | 223.6                | 226.4                | 227.7                | 228.5                | 228.8                | 229.7                | 230.2               | 230.2 | 49.7                    | 735.9             |
| 55,0°                        | 207.5                | 207.8                | 208.6                | 208.5                | 208.4                | 208.1                | 208.4                | 208.3               | 207.9 | 46.9                    | 782.9             |
| 57,5°                        | 193.7                | 189.6                | 188.0                | 187.0                | 186.0                | 185.2                | 184.7                | 183.9               | 182.8 | 42.5                    | 825.4             |
| 60,0°                        | 180.4                | 171.8                | 166.8                | 164.4                | 162.2                | 160.3                | 159.2                | 157.9               | 156.4 | 37.9                    | 863.3             |
| 62,5°                        | 160.1                | 154.2                | 144.4                | 140.0                | 136.9                | 135.2                | 135.0                | 134.6               | 134.0 | 32.8                    | 896.1             |
| 65,0°                        | 131.8                | 132.2                | 125.5                | 120.3                | 117.7                | 117.6                | 118.7                | 119.4               | 119.6 | 27.8                    | 923.9             |
| 67,5°                        | 102.8                | 107.4                | 111.4                | 104.9                | 101.3                | 100.6                | 101.2                | 101.7               | 101.9 | 22.5                    | 946.4             |
| 70,0°                        | 80.8                 | 85.1                 | 89.5                 | 85.9                 | 83.2                 | 81.4                 | 81.6                 | 81.7                | 81.7  | 17.4                    | 963.9             |
| 72,5°                        | 60.0                 | 63.5                 | 64.8                 | 66.4                 | 65.4                 | 61.8                 | 61.8                 | 61.8                | 61.7  | 12.6                    | 976.5             |
| 75,0°                        | 41.4                 | 44.7                 | 48.1                 | 48.6                 | 48.1                 | 46.6                 | 46.4                 | 46.4                | 46.4  | 9.3                     | 985.8             |
| 77,5°                        | 27.7                 | 29.8                 | 31.8                 | 33.0                 | 33.5                 | 33.1                 | 32.4                 | 32.0                | 32.0  | 6.4                     | 992.1             |
| 80,0°                        | 18.0                 | 18.9                 | 19.8                 | 20.4                 | 20.7                 | 20.7                 | 20.3                 | 20.1                | 20.1  | 4.0                     | 996.1             |
| 82,5°                        | 10.0                 | 10.8                 | 11.8                 | 11.9                 | 11.9                 | 11.8                 | 11.5                 | 11.4                | 11.3  | 2.3                     | 998.5             |
| 85,0°                        | 4.7                  | 5.0                  | 5.3                  | 5.5                  | 5.6                  | 5.4                  | 5.3                  | 5.2                 | 5.1   | 1.1                     | 999.6             |
| 87,5°                        | 1.6                  | 1.7                  | 1.8                  | 1.8                  | 1.8                  | 1.8                  | 1.7                  | 1.7                 | 1.7   | 0.4                     | 1000.0            |
| 90,0°                        | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                  | 0.0                 | 0.0   | 0.0                     | 1000.0            |

## Photometric test report

|                                   |  |                               |
|-----------------------------------|--|-------------------------------|
| Family<br><b>Tunnellight TL-L</b> | Order number: <b>5WD7A8P0G2C5</b><br>EAN: <b>4069025065506</b> | LP number<br><b>59482_210</b> |
|-----------------------------------|--|-------------------------------|

|                             |                                 |               |
|-----------------------------|---------------------------------|---------------|
| <b>Dimming levels table</b> | environmental temperature: 25°C | <b>siteco</b> |
|-----------------------------|---------------------------------|---------------|

| Luminous flux % | Dimming level linear | Dimming level logarithmic | Luminous flux [lm] | Power consumption [W] |
|-----------------|----------------------|---------------------------|--------------------|-----------------------|
| 100             | 254                  | 254                       | 9800               | 63.4                  |
| 95              | 240                  | 252                       | 9301               | 59.9                  |
| 90              | 227                  | 250                       | 8828               | 56.6                  |
| 85              | 213                  | 248                       | 8320               | 53.2                  |
| 80              | 200                  | 245                       | 7840               | 50.1                  |
| 75              | 187                  | 243                       | 7359               | 46.9                  |
| 70              | 174                  | 240                       | 6871               | 43.8                  |
| 65              | 161                  | 237                       | 6382               | 40.7                  |
| 60              | 148                  | 234                       | 5889               | 37.6                  |
| 55              | 135                  | 231                       | 5391               | 34.5                  |
| 50              | 122                  | 227                       | 4890               | 31.4                  |
| 45              | 110                  | 223                       | 4423               | 28.5                  |
| 40              | 97                   | 219                       | 3915               | 25.6                  |
| 35              | 85                   | 214                       | 3441               | 22.8                  |
| 30              | 72                   | 208                       | 2927               | 19.7                  |
| 25              | 60                   | 201                       | 2446               | 16.9                  |
| 20              | 48                   | 193                       | 1964               | 14.2                  |
| 15              | 36                   | 182                       | 1477               | 11.4                  |
| 13              | 31                   | 177                       | 1275               | 10.2                  |

|                             |                                 |
|-----------------------------|---------------------------------|
| <b>Dimming levels table</b> | environmental temperature: 10°C |
|-----------------------------|---------------------------------|

| Luminous flux % | Dimming level linear | Dimming level logarithmic | Luminous flux [lm] | Power consumption [W] |
|-----------------|----------------------|---------------------------|--------------------|-----------------------|
| 100             | 254                  | 254                       | 9930               | 63.5                  |
| 95              | 240                  | 252                       | 9422               | 60.0                  |
| 90              | 227                  | 250                       | 8941               | 56.7                  |
| 85              | 213                  | 248                       | 8424               | 53.3                  |
| 80              | 200                  | 245                       | 7937               | 50.2                  |
| 75              | 187                  | 243                       | 7448               | 47.0                  |
| 70              | 174                  | 240                       | 6953               | 43.9                  |
| 65              | 161                  | 237                       | 6457               | 40.7                  |
| 60              | 148                  | 234                       | 5958               | 37.7                  |
| 55              | 135                  | 231                       | 5453               | 34.6                  |
| 50              | 122                  | 227                       | 4946               | 31.5                  |
| 45              | 110                  | 223                       | 4473               | 28.6                  |
| 40              | 97                   | 219                       | 3959               | 25.6                  |
| 35              | 85                   | 214                       | 3479               | 22.8                  |
| 30              | 73                   | 208                       | 2999               | 20.0                  |
| 25              | 60                   | 201                       | 2472               | 17.0                  |
| 20              | 48                   | 193                       | 1985               | 14.2                  |
| 15              | 36                   | 182                       | 1493               | 11.4                  |
| 13              | 31                   | 177                       | 1289               | 10.2                  |

**Photometric test report**

|                                   |  |                                      |
|-----------------------------------|--|--------------------------------------|
| <b>Family</b><br>Tunnellight TL-L | <b>Order number: 5WD7A8P0G2C5</b><br><b>EAN: 4069025065506</b> | <b>LP number</b><br><b>59482_210</b> |
|-----------------------------------|--|--------------------------------------|

**Luminousfluxs table**



| Temperature<br>°C | Luminous flux<br>lm | Power consumption<br>W |
|-------------------|---------------------|------------------------|
| 25.0              | 9800.0              | 63.4                   |
| 10.0              | 9930.0              | 63.5                   |