

filename : LED-X-APLED4-SATINE.LDT
 meas. number : 3204
 luminaire number : LED-X/APLED4/SATINE
 date / operator : 27-11-2013

default lamp type(s)

| no of lamps | lamp type | luminaire lumens | input wattage |
|-------------|----------------|------------------|---------------|
| 1 | 4x700mA Panels | 2470 lm | 29.8 W |

dimensions

| luminaire | | luminous area | |
|-----------|-----------|---------------|-----------|
| length | : 1125 mm | length | : 1120 mm |
| width | : 28 mm | width | : 25 mm |
| height | : 24 mm | height | : 5 mm |

coordinate system

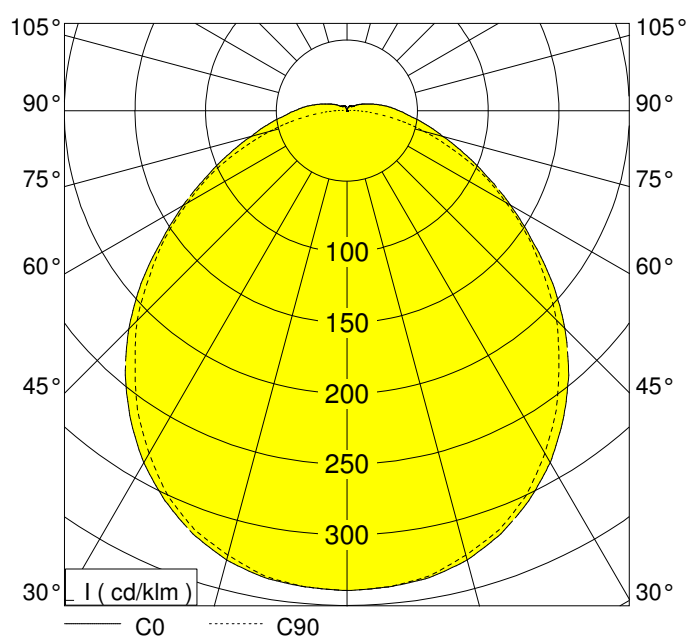
| | | | |
|---------------|----------------|-------------------|-----------|
| no of planes | : 24 | samples / plane | : 37 |
| first c-plane | : 0.0 ° | first gamma-angle | : 0.0 ° |
| step angle | : 15.0 ° | step angle | : 5.0 ° |
| last c-plane | : 345.0 ° | last gamma-angle | : 180.0 ° |
| symmetrics | : bi-symmetric | | |

performance

| | |
|--------------------|-----------|
| light output ratio | : 100.0 % |
| DFF | : 95.5 % |
| UFF | : 4.5 % |

classification

| | |
|-------------------------|----------------------------------|
| LiTG / DIN | : A41 |
| UTE | : 0.95D+0.05T 0.95E+0.05T |
| CIE | : 47 77 93 95 100 |
| BZ | : 4 4 4 4 5 5 5 5 |
| Ambient Temperature | : 25 degC |
| Input Voltage | : 240 V |
| Circuit Watts | : 29.8 W |
| Amps (running) | : 0.128 A |
| V.A. | : 30.72 VA |
| Power Factor | : 0.97 |
| CCT | : 3847K(measured):4000K(nominal) |
| Ballast/Driver Details: | : Harvard CL700-240-C |

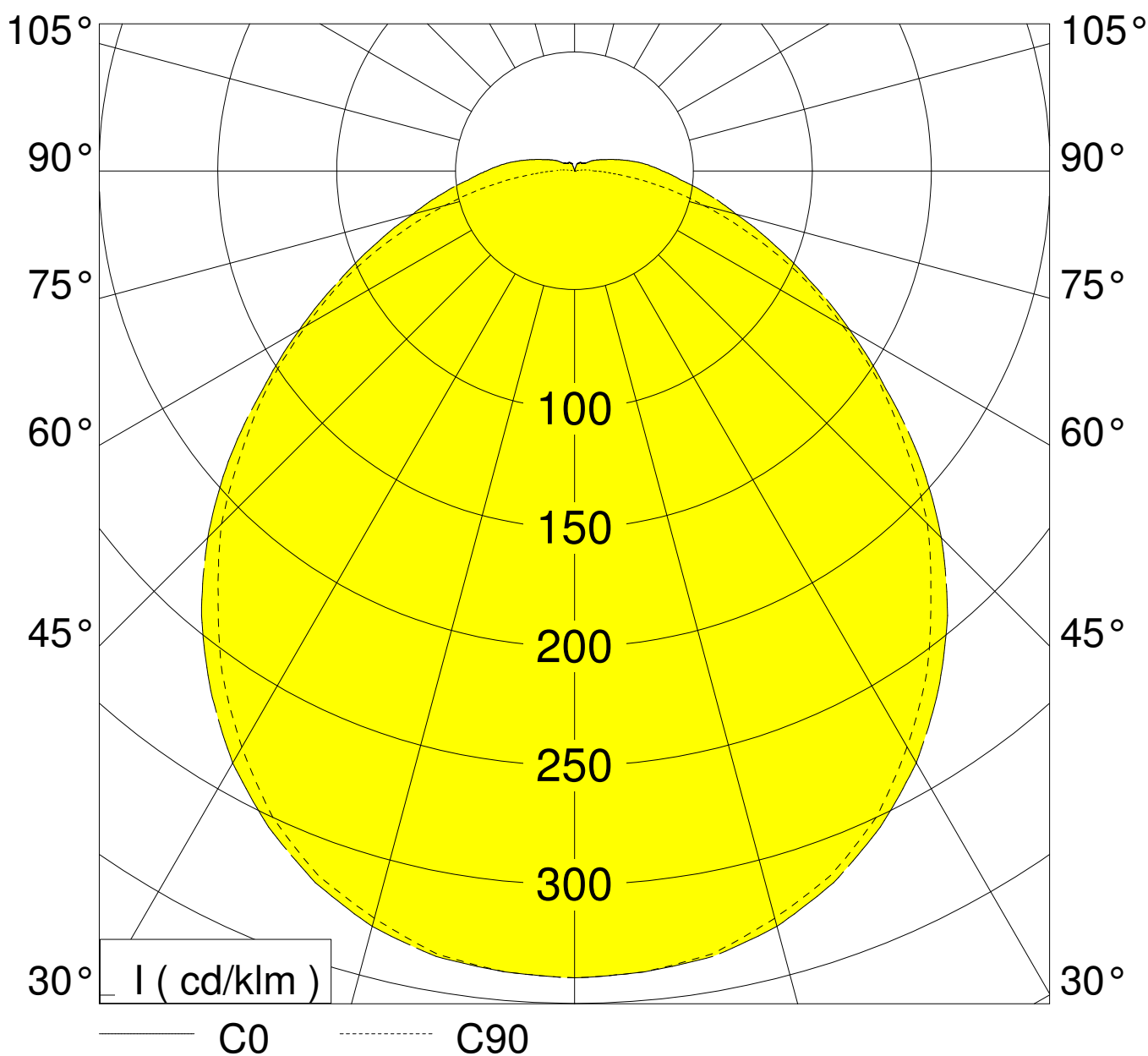


Measurements made are in absolute units
 The luminaire is treated as if it was a lamp as it
 is not possible to measure each LED separately
 - hence an LOR of 100%

The Light output ratio in real terms would be
 less than 100%. If it was possible to compare
 real LED lumens with the total output from the
 luminaire we could obtain an actual LOR

This also means that the total lumens emitted
 from the LED's would be greater than the 2470
 lumens measured.

In reality the LED lumens would approximate to
 this value divided by the actual Light Output



| | C 0.0 | C 15.0 | C 30.0 | C 45.0 | C 60.0 | C 75.0 | C 90.0 | C 105.0 |
|--------|----------|--------|--------|--------|--------|--------|--------|---------|
| 0.0° | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 |
| 5.0° | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 |
| 10.0° | 335.10 | 335.10 | 335.10 | 333.90 | 332.60 | 333.20 | 333.90 | 333.20 |
| 15.0° | 328.60 | 328.00 | 327.40 | 326.20 | 325.00 | 325.00 | 325.00 | 325.00 |
| 20.0° | 318.20 | 318.30 | 318.50 | 316.60 | 314.80 | 314.80 | 314.90 | 314.80 |
| 25.0° | 304.10 | 304.30 | 304.50 | 302.70 | 300.90 | 300.30 | 299.80 | 300.30 |
| 30.0° | 287.20 | 286.90 | 286.50 | 283.50 | 280.60 | 280.00 | 279.50 | 280.00 |
| 35.0° | 266.50 | 266.90 | 267.30 | 263.10 | 259.00 | 258.50 | 258.00 | 258.50 |
| 40.0° | 243.80 | 242.80 | 241.70 | 240.00 | 238.40 | 235.70 | 232.90 | 235.70 |
| 45.0° | 218.00 | 217.70 | 217.50 | 216.50 | 215.40 | 212.60 | 209.70 | 212.60 |
| 50.0° | 189.90 | 190.40 | 190.90 | 188.60 | 186.30 | 184.30 | 182.20 | 184.30 |
| 55.0° | 159.80 | 161.70 | 163.50 | 160.70 | 157.80 | 157.30 | 156.90 | 157.30 |
| 60.0° | 133.50 | 134.30 | 135.10 | 134.60 | 134.20 | 132.10 | 130.00 | 132.10 |
| 65.0° | 108.90 | 110.50 | 112.00 | 109.60 | 107.10 | 106.40 | 105.70 | 106.40 |
| 70.0° | 88.30 | 88.20 | 88.20 | 86.30 | 84.40 | 81.90 | 79.40 | 81.90 |
| 75.0° | 70.30 | 69.80 | 69.30 | 66.50 | 63.70 | 60.00 | 56.30 | 60.00 |
| 80.0° | 57.00 | 56.80 | 56.50 | 52.30 | 48.10 | 42.20 | 36.30 | 42.20 |
| 85.0° | 45.00 | 44.20 | 43.30 | 38.10 | 33.10 | 25.70 | 18.40 | 25.70 |
| 90.0° | 37.00 | 35.00 | 33.20 | 27.40 | 21.60 | 14.90 | 8.20 | 14.90 |
| 95.0° | 30.60 | 27.80 | 25.10 | 19.50 | 14.00 | 9.70 | 5.40 | 9.70 |
| 100.0° | 24.00 | 21.40 | 18.80 | 13.90 | 9.00 | 4.50 | 0.00 | 4.50 |
| 105.0° | 18.40 | 16.60 | 14.70 | 10.30 | 5.80 | 2.90 | 0.00 | 2.90 |
| 110.0° | 14.00 | 12.20 | 10.50 | 7.20 | 3.90 | 2.00 | 0.00 | 2.00 |
| 115.0° | 11.00 | 9.70 | 8.30 | 6.10 | 3.80 | 1.90 | 0.00 | 1.90 |
| 120.0° | 8.70 | 7.10 | 5.50 | 4.70 | 3.80 | 1.90 | 0.00 | 1.90 |
| 125.0° | 5.70 | 5.40 | 5.10 | 4.30 | 3.40 | 1.70 | 0.00 | 1.70 |
| 130.0° | 5.10 | 4.80 | 4.60 | 4.00 | 3.40 | 1.70 | 0.00 | 1.70 |
| 135.0° | 4.40 | 4.30 | 4.20 | 2.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 140.0° | 4.40 | 4.30 | 4.20 | 2.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 145.0° | 4.30 | 4.30 | 4.20 | 2.10 | 0.00 | 0.00 | 0.00 | 0.00 |
| 150.0° | 4.00 | 4.10 | 4.10 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 155.0° | 3.50 | 3.50 | 3.60 | 1.80 | 0.00 | 0.00 | 0.00 | 0.00 |
| 160.0° | 3.20 | 3.30 | 3.30 | 1.70 | 0.00 | 0.00 | 0.00 | 0.00 |
| 165.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 170.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 175.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 180.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | cd / klm | | | | | | | |

| | C 120.0 | C 135.0 | C 150.0 | C 165.0 | C 180.0 | C 195.0 | C 210.0 | C 225.0 |
|--------|----------|---------|---------|---------|---------|---------|---------|---------|
| 0.0° | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 |
| 5.0° | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 |
| 10.0° | 332.60 | 333.90 | 335.10 | 335.10 | 335.10 | 335.10 | 335.10 | 333.90 |
| 15.0° | 325.00 | 326.20 | 327.40 | 328.00 | 328.60 | 328.00 | 327.40 | 326.20 |
| 20.0° | 314.80 | 316.60 | 318.50 | 318.30 | 318.20 | 318.30 | 318.50 | 316.60 |
| 25.0° | 300.90 | 302.70 | 304.50 | 304.30 | 304.10 | 304.30 | 304.50 | 302.70 |
| 30.0° | 280.60 | 283.50 | 286.50 | 286.90 | 287.20 | 286.90 | 286.50 | 283.50 |
| 35.0° | 259.00 | 263.10 | 267.30 | 266.90 | 266.50 | 266.90 | 267.30 | 263.10 |
| 40.0° | 238.40 | 240.00 | 241.70 | 242.80 | 243.80 | 242.80 | 241.70 | 240.00 |
| 45.0° | 215.40 | 216.50 | 217.50 | 217.70 | 218.00 | 217.70 | 217.50 | 216.50 |
| 50.0° | 186.30 | 188.60 | 190.90 | 190.40 | 189.90 | 190.40 | 190.90 | 188.60 |
| 55.0° | 157.80 | 160.70 | 163.50 | 161.70 | 159.80 | 161.70 | 163.50 | 160.70 |
| 60.0° | 134.20 | 134.60 | 135.10 | 134.30 | 133.50 | 134.30 | 135.10 | 134.60 |
| 65.0° | 107.10 | 109.60 | 112.00 | 110.50 | 108.90 | 110.50 | 112.00 | 109.60 |
| 70.0° | 84.40 | 86.30 | 88.20 | 88.20 | 88.30 | 88.20 | 88.20 | 86.30 |
| 75.0° | 63.70 | 66.50 | 69.30 | 69.80 | 70.30 | 69.80 | 69.30 | 66.50 |
| 80.0° | 48.10 | 52.30 | 56.50 | 56.80 | 57.00 | 56.80 | 56.50 | 52.30 |
| 85.0° | 33.10 | 38.10 | 43.30 | 44.20 | 45.00 | 44.20 | 43.30 | 38.10 |
| 90.0° | 21.60 | 27.40 | 33.20 | 35.00 | 37.00 | 35.00 | 33.20 | 27.40 |
| 95.0° | 14.00 | 19.50 | 25.10 | 27.80 | 30.60 | 27.80 | 25.10 | 19.50 |
| 100.0° | 9.00 | 13.90 | 18.80 | 21.40 | 24.00 | 21.40 | 18.80 | 13.90 |
| 105.0° | 5.80 | 10.30 | 14.70 | 16.60 | 18.40 | 16.60 | 14.70 | 10.30 |
| 110.0° | 3.90 | 7.20 | 10.50 | 12.20 | 14.00 | 12.20 | 10.50 | 7.20 |
| 115.0° | 3.80 | 6.10 | 8.30 | 9.70 | 11.00 | 9.70 | 8.30 | 6.10 |
| 120.0° | 3.80 | 4.70 | 5.50 | 7.10 | 8.70 | 7.10 | 5.50 | 4.70 |
| 125.0° | 3.40 | 4.30 | 5.10 | 5.40 | 5.70 | 5.40 | 5.10 | 4.30 |
| 130.0° | 3.40 | 4.00 | 4.60 | 4.80 | 5.10 | 4.80 | 4.60 | 4.00 |
| 135.0° | 0.00 | 2.10 | 4.20 | 4.30 | 4.40 | 4.30 | 4.20 | 2.10 |
| 140.0° | 0.00 | 2.10 | 4.20 | 4.30 | 4.40 | 4.30 | 4.20 | 2.10 |
| 145.0° | 0.00 | 2.10 | 4.20 | 4.30 | 4.30 | 4.30 | 4.20 | 2.10 |
| 150.0° | 0.00 | 2.00 | 4.10 | 4.10 | 4.00 | 4.10 | 4.10 | 2.00 |
| 155.0° | 0.00 | 1.80 | 3.60 | 3.50 | 3.50 | 3.50 | 3.60 | 1.80 |
| 160.0° | 0.00 | 1.70 | 3.30 | 3.30 | 3.20 | 3.30 | 3.30 | 1.70 |
| 165.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 170.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 175.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 180.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | cd / klm | | | | | | | |

| | C 240.0 | C 255.0 | C 270.0 | C 285.0 | C 300.0 | C 315.0 | C 330.0 | C 345.0 |
|--------|----------|---------|---------|---------|---------|---------|---------|---------|
| 0.0° | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 | 339.00 |
| 5.0° | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 | 337.70 |
| 10.0° | 332.60 | 333.20 | 333.90 | 333.20 | 332.60 | 333.90 | 335.10 | 335.10 |
| 15.0° | 325.00 | 325.00 | 325.00 | 325.00 | 325.00 | 326.20 | 327.40 | 328.00 |
| 20.0° | 314.80 | 314.80 | 314.90 | 314.80 | 314.80 | 316.60 | 318.50 | 318.30 |
| 25.0° | 300.90 | 300.30 | 299.80 | 300.30 | 300.90 | 302.70 | 304.50 | 304.30 |
| 30.0° | 280.60 | 280.00 | 279.50 | 280.00 | 280.60 | 283.50 | 286.50 | 286.90 |
| 35.0° | 259.00 | 258.50 | 258.00 | 258.50 | 259.00 | 263.10 | 267.30 | 266.90 |
| 40.0° | 238.40 | 235.70 | 232.90 | 235.70 | 238.40 | 240.00 | 241.70 | 242.80 |
| 45.0° | 215.40 | 212.60 | 209.70 | 212.60 | 215.40 | 216.50 | 217.50 | 217.70 |
| 50.0° | 186.30 | 184.30 | 182.20 | 184.30 | 186.30 | 188.60 | 190.90 | 190.40 |
| 55.0° | 157.80 | 157.30 | 156.90 | 157.30 | 157.80 | 160.70 | 163.50 | 161.70 |
| 60.0° | 134.20 | 132.10 | 130.00 | 132.10 | 134.20 | 134.60 | 135.10 | 134.30 |
| 65.0° | 107.10 | 106.40 | 105.70 | 106.40 | 107.10 | 109.60 | 112.00 | 110.50 |
| 70.0° | 84.40 | 81.90 | 79.40 | 81.90 | 84.40 | 86.30 | 88.20 | 88.20 |
| 75.0° | 63.70 | 60.00 | 56.30 | 60.00 | 63.70 | 66.50 | 69.30 | 69.80 |
| 80.0° | 48.10 | 42.20 | 36.30 | 42.20 | 48.10 | 52.30 | 56.50 | 56.80 |
| 85.0° | 33.10 | 25.70 | 18.40 | 25.70 | 33.10 | 38.10 | 43.30 | 44.20 |
| 90.0° | 21.60 | 14.90 | 8.20 | 14.90 | 21.60 | 27.40 | 33.20 | 35.00 |
| 95.0° | 14.00 | 9.70 | 5.40 | 9.70 | 14.00 | 19.50 | 25.10 | 27.80 |
| 100.0° | 9.00 | 4.50 | 0.00 | 4.50 | 9.00 | 13.90 | 18.80 | 21.40 |
| 105.0° | 5.80 | 2.90 | 0.00 | 2.90 | 5.80 | 10.30 | 14.70 | 16.60 |
| 110.0° | 3.90 | 2.00 | 0.00 | 2.00 | 3.90 | 7.20 | 10.50 | 12.20 |
| 115.0° | 3.80 | 1.90 | 0.00 | 1.90 | 3.80 | 6.10 | 8.30 | 9.70 |
| 120.0° | 3.80 | 1.90 | 0.00 | 1.90 | 3.80 | 4.70 | 5.50 | 7.10 |
| 125.0° | 3.40 | 1.70 | 0.00 | 1.70 | 3.40 | 4.30 | 5.10 | 5.40 |
| 130.0° | 3.40 | 1.70 | 0.00 | 1.70 | 3.40 | 4.00 | 4.60 | 4.80 |
| 135.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.10 | 4.20 | 4.30 |
| 140.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.10 | 4.20 | 4.30 |
| 145.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.10 | 4.20 | 4.30 |
| 150.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 4.10 | 4.10 |
| 155.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.80 | 3.60 | 3.50 |
| 160.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.70 | 3.30 | 3.30 |
| 165.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 170.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 175.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 180.0° | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | cd / klm | | | | | | | |

| glare rating according to UGR | | | | | | | | | | | |
|--|------|---------------------------------|------|------|------|---------------------------------|----------------|------|------|------|------|
| ρ -ceiling | | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| ρ -walls | | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| ρ -workplane | | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| room dimensions X Y | | viewed crosswise | | | | | viewed endwise | | | | |
| 2H | 2H | 22.8 | 24.3 | 23.1 | 24.5 | 24.8 | 23.1 | 24.6 | 23.5 | 24.9 | 25.2 |
| | 3H | 23.7 | 24.8 | 24.0 | 25.1 | 25.3 | 24.1 | 25.3 | 24.4 | 25.5 | 25.8 |
| | 4H | 24.4 | 25.5 | 24.7 | 25.8 | 26.1 | 24.8 | 25.9 | 25.1 | 26.2 | 26.5 |
| | 6H | 25.0 | 26.1 | 25.4 | 26.4 | 26.7 | 25.3 | 26.4 | 25.7 | 26.7 | 27.0 |
| | 8H | 25.4 | 26.4 | 25.7 | 26.7 | 27.1 | 25.6 | 26.6 | 25.9 | 26.9 | 27.3 |
| | 12H | 25.7 | 26.7 | 26.1 | 27.1 | 27.4 | 25.8 | 26.8 | 26.2 | 27.2 | 27.5 |
| 4H | 2H | 23.0 | 24.1 | 23.3 | 24.4 | 24.7 | 23.3 | 24.4 | 23.6 | 24.7 | 25.0 |
| | 3H | 24.7 | 25.8 | 25.1 | 26.1 | 26.5 | 25.1 | 26.1 | 25.5 | 26.4 | 26.8 |
| | 4H | 25.6 | 26.6 | 26.0 | 27.0 | 27.4 | 25.9 | 27.0 | 26.4 | 27.3 | 27.7 |
| | 6H | 26.2 | 27.1 | 26.6 | 27.5 | 27.9 | 26.4 | 27.3 | 26.9 | 27.7 | 28.1 |
| | 8H | 26.6 | 27.4 | 27.1 | 27.9 | 28.3 | 26.7 | 27.5 | 27.2 | 28.0 | 28.4 |
| | 12H | 27.2 | 27.9 | 27.7 | 28.4 | 29.0 | 27.1 | 27.9 | 27.6 | 28.4 | 28.9 |
| 8H | 4H | 25.8 | 26.6 | 26.3 | 27.0 | 27.5 | 26.1 | 26.9 | 26.6 | 27.3 | 27.8 |
| | 6H | 27.1 | 27.8 | 27.6 | 28.3 | 28.9 | 27.2 | 28.0 | 27.8 | 28.5 | 29.0 |
| | 8H | 27.7 | 28.4 | 28.3 | 29.0 | 29.6 | 27.7 | 28.4 | 28.3 | 29.0 | 29.6 |
| | 12H | 28.1 | 28.7 | 28.7 | 29.3 | 29.9 | 28.0 | 28.6 | 28.6 | 29.1 | 29.8 |
| 12H | 4H | 26.0 | 26.8 | 26.5 | 27.3 | 27.8 | 26.3 | 27.1 | 26.8 | 27.6 | 28.1 |
| | 6H | 27.3 | 28.0 | 27.9 | 28.6 | 29.2 | 27.4 | 28.2 | 28.0 | 28.7 | 29.3 |
| | 8H | 27.8 | 28.4 | 28.4 | 29.0 | 29.6 | 27.8 | 28.4 | 28.4 | 29.0 | 29.6 |
| variation of observer position | | | | | | | | | | | |
| S = | 1.0H | +0.1/ -0.1 | | | | +0.1/ -0.1 | | | | | |
| | 1.5H | +0.2/ -0.3 | | | | +0.2/ -0.3 | | | | | |
| | 2.0H | +0.3/ -0.6 | | | | +0.3/ -0.5 | | | | | |
| standard-table | | BK07 | | | | | BK06 | | | | |
| correction for luminaire | | 10.6 | | | | | 10.3 | | | | |
| correct glare indices for a total flux of 2470lm | | | | | | | | | | | |

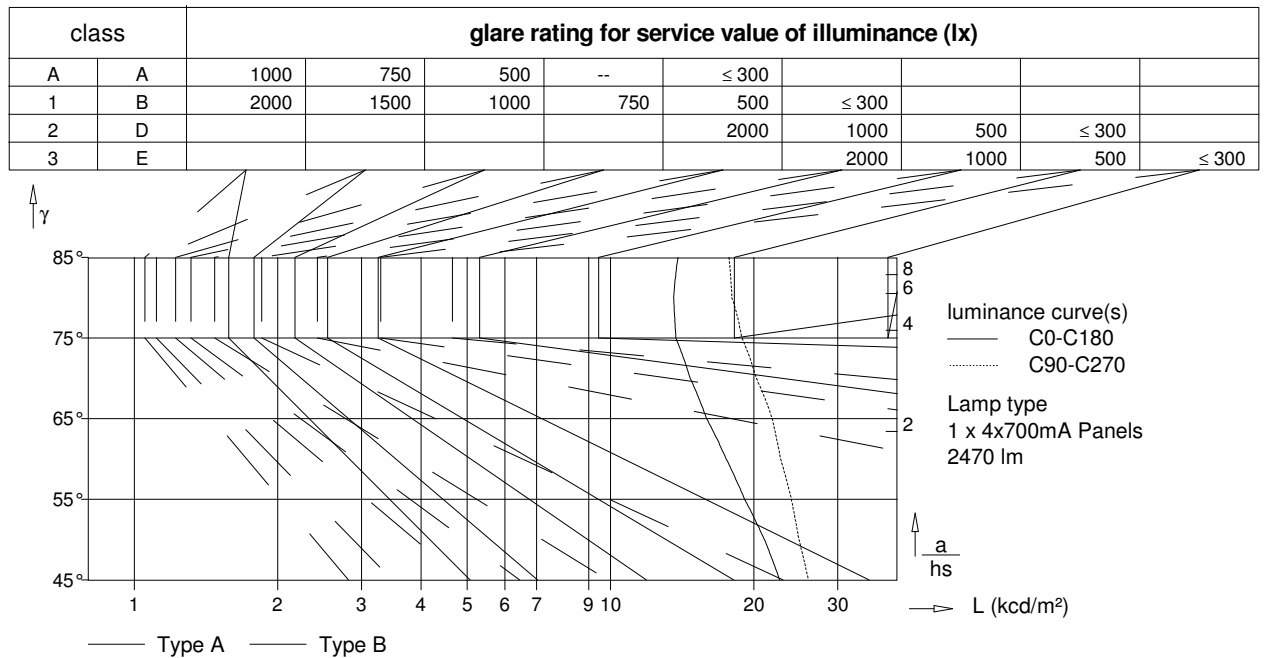


Tabelle der berechneten Leuchtdichten

| gamma | C 0 | C 90 | C 180 | C 270 |
|-------|---------|---------|---------|---------|
| 45° | 22663.6 | 26044.6 | 22663.6 | 26044.6 |
| 50° | 21045.2 | 24872.3 | 21045.2 | 24872.3 |
| 55° | 19116.5 | 23977.9 | 19116.5 | 23977.9 |
| 60° | 17493.3 | 22759.7 | 17493.3 | 22759.7 |
| 65° | 15908.0 | 21853.8 | 15908.0 | 21853.8 |
| 70° | 14698.0 | 20230.8 | 14698.0 | 20230.8 |
| 75° | 13719.9 | 18874.5 | 13719.9 | 18874.5 |
| 80° | 13567.4 | 17985.3 | 13567.4 | 17985.3 |
| 85° | 13860.7 | 17719.3 | 13860.7 | 17719.3 |

alle Werte in cd/m²

