

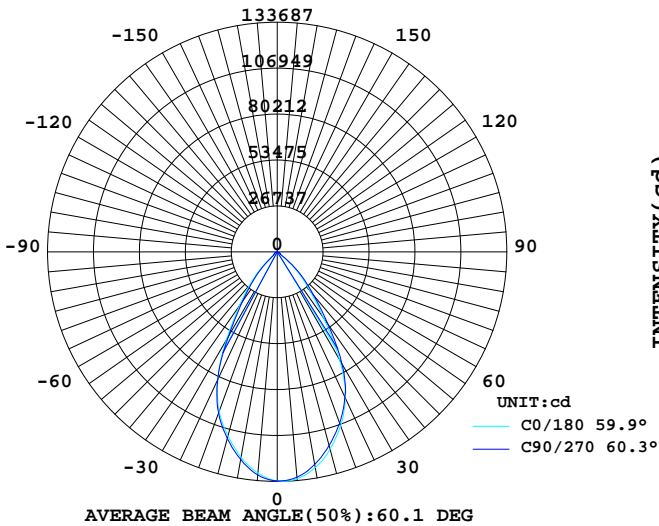
LUMINAIRE PHOTOMETRIC TEST REPORT

Report number:

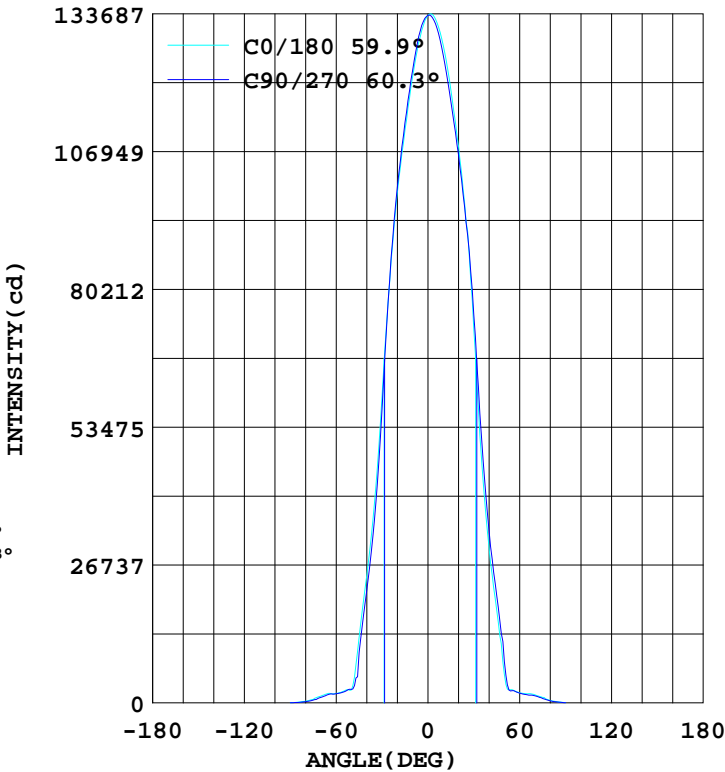
| | | |
|---------------------------------|-------------------------|-------------|
| MANUFACTURER: ILUMEN GMBH | Address: | |
| NAME: Kroos | TYPE:IL-SL13-N80040-060 | WEIGHT: |
| SPECIFICATION:5050LED 4000K 60° | DIMENSION: | SERIAL No.: |

| | | | | | |
|------------------|----------|--------------------|----------|------------------|-------|
| DATA OF LAMP | | Imax(cd) | 133687 | S/MH(C0/180) | 0.86 |
| MODEL | | EFFICIENCY(%) | 100.0 | S/MH(C90/270) | 0.84 |
| NOMINAL POWER(W) | 800 | TOTAL FLUX(lm) | 128000 | Voltage(V) | 230.6 |
| RATED VOLTAGE(V) | 230 | EFFICIENCY(lm/W) | 160.0 | Current(A) | 3.469 |
| NOMINAL FLUX(lm) | 128000.0 | η up(%) | 0.0 | Power(W) | 800.0 |
| LAMPS QUANTITY | 1 | η down(%) | 100.0 | Power Factor(PF) | 1.000 |
| TEST VOLTAGE(V) | 230.6 | Effective Flux(lm) | 128000.1 | EEI | 0.094 |

LUMINOUS INTENSITY DISTRIBUTION



LUMINOUS INTENSITY DISTRIBUTION



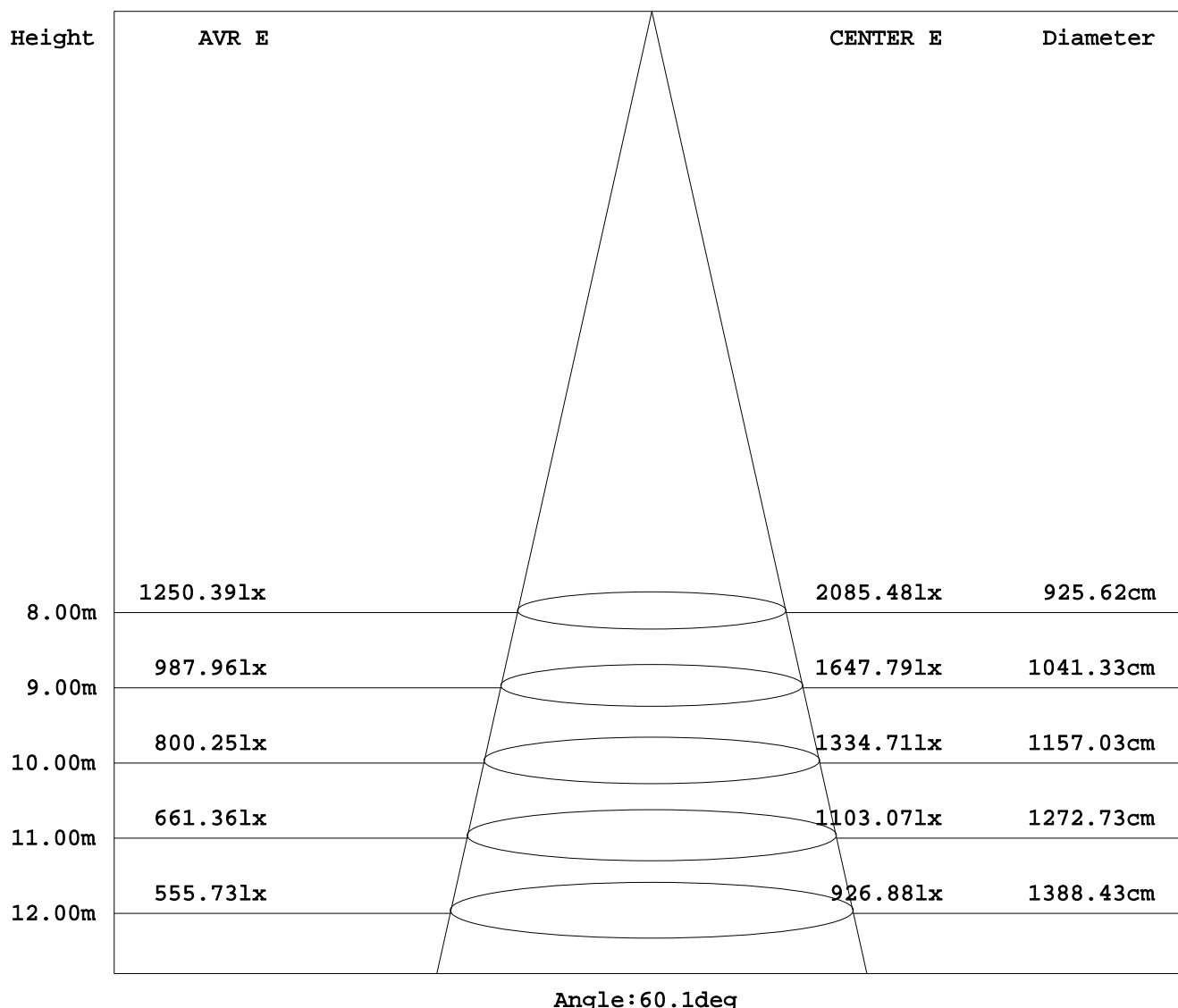
Test System:
 Temperature:25.3DEG
 Operators:
 Test Date:2025.02.20

Test Set: 5.0deg/s C-Gamma (TYPE C)
 Humidity:65.0%
 Test Distance:10.000 m
 Remarks:

AVERAGE AND CENTER E Figure

Report number:

| | | |
|---------------------------------|-------------------------|-------------|
| MANUFACTURER: ILUMEN GMBH | Address: | |
| NAME: Kroos | TYPE:IL-SL13-N80040-060 | WEIGHT: |
| SPECIFICATION:5050LED 4000K 60° | DIMENSION: | SERIAL No.: |



Test System:
 Temperature:25.3DEG
 Operators:
 Test Date:2025.02.20

Test Set: 5.0deg/s C-Gamma (TYPE C)
 Humidity:65.0%
 Test Distance:10.000 m
 Remarks:

ZONAL FLUX DIAGRAM

Report number:

| | | |
|---------------------------------|-------------------------|-------------|
| MANUFACTURER: ILUMEN GMBH | Address: | |
| NAME: Kroos | TYPE:IL-SL13-N80040-060 | WEIGHT: |
| SPECIFICATION:5050LED 4000K 60° | DIMENSION: | SERIAL No.: |

| γ | C0 | C45 | C90 | C135 | C180 | C225 | C270 | C315 | γ | zone | total |
|-------|---------------------------|-------|-------|-------|-------|-------|-------|-------|---------|---------|--------|
| 5.0 | 1293 | 1297 | 1304 | 1306 | 1326 | 1323 | 1317 | 1312 | 0- 5 | 3160 | 3160 |
| 10.0 | 1214 | 1219 | 1227 | 1236 | 1276 | 1269 | 1257 | 1249 | 5- 10 | 9131 | 12291 |
| 15.0 | 1111 | 1118 | 1125 | 1135 | 1189 | 1182 | 1167 | 1155 | 10- 15 | 14171 | 26462 |
| 20.0 | 987.9 | 991.4 | 998.6 | 1009 | 1079 | 1076 | 1063 | 1048 | 15- 20 | 17951 | 44413 |
| 25.0 | 817.6 | 819.5 | 821.2 | 837.8 | 933.8 | 939.0 | 931.7 | 910.1 | 20- 25 | 20061 | 64473 |
| 30.0 | 594.7 | 570.8 | 569.7 | 582.0 | 726.6 | 736.5 | 753.7 | 722.6 | 25- 30 | 19487 | 83960 |
| 35.0 | 385.0 | 359.1 | 352.9 | 361.6 | 475.7 | 510.8 | 517.2 | 493.4 | 30- 35 | 15859 | 99819 |
| 40.0 | 245.6 | 222.1 | 217.2 | 223.6 | 299.6 | 324.5 | 332.6 | 320.2 | 35- 40 | 11561 | 111380 |
| 45.0 | 127.8 | 116.7 | 98.16 | 117.0 | 178.7 | 199.7 | 206.8 | 198.5 | 40- 45 | 7848 | 119228 |
| 50.0 | 25.35 | 25.20 | 26.16 | 25.70 | 55.80 | 75.08 | 80.46 | 50.44 | 45- 50 | 3824 | 123053 |
| 55.0 | 22.67 | 20.94 | 21.35 | 21.25 | 25.46 | 26.11 | 23.60 | 25.70 | 50- 55 | 1295 | 124347 |
| 60.0 | 18.39 | 16.64 | 17.77 | 17.31 | 19.67 | 20.12 | 18.86 | 19.55 | 55- 60 | 965.8 | 125313 |
| 65.0 | 18.41 | 14.84 | 16.33 | 15.38 | 17.60 | 16.75 | 15.63 | 16.20 | 60- 65 | 843.1 | 126156 |
| 70.0 | 13.21 | 11.17 | 10.69 | 11.73 | 15.70 | 14.42 | 13.96 | 13.92 | 65- 70 | 754.1 | 126910 |
| 75.0 | 6.549 | 7.106 | 5.382 | 7.640 | 10.56 | 11.08 | 8.588 | 10.74 | 70- 75 | 568.4 | 127479 |
| 80.0 | 3.302 | 2.334 | 2.431 | 2.694 | 4.782 | 6.603 | 4.040 | 6.316 | 75- 80 | 330.9 | 127810 |
| 85.0 | 1.350 | 0.628 | 0.818 | 0.694 | 2.167 | 2.226 | 1.553 | 2.095 | 80- 85 | 142.0 | 127952 |
| 90.0 | 0.563 | 0.327 | 0.538 | 0.332 | 0.550 | 0.709 | 0.379 | 0.647 | 85- 90 | 48.34 | 128000 |
| 95.0 | | | | | | | | | 90- 95 | | |
| 100.0 | | | | | | | | | 95-100 | | |
| 105.0 | | | | | | | | | 100-105 | | |
| 110.0 | | | | | | | | | 105-110 | | |
| 115.0 | | | | | | | | | 110-115 | | |
| 120.0 | | | | | | | | | 115-120 | | |
| 125.0 | | | | | | | | | 120-125 | | |
| 130.0 | | | | | | | | | 125-130 | | |
| 135.0 | | | | | | | | | 130-135 | | |
| 140.0 | | | | | | | | | 135-140 | | |
| 145.0 | | | | | | | | | 140-145 | | |
| 150.0 | | | | | | | | | 145-150 | | |
| 155.0 | | | | | | | | | 150-155 | | |
| 160.0 | | | | | | | | | 155-160 | | |
| 165.0 | | | | | | | | | 160-165 | | |
| 170.0 | | | | | | | | | 165-170 | | |
| 175.0 | | | | | | | | | 170-175 | | |
| 180.0 | | | | | | | | | 175-180 | | |
| DEG | LUMINOUS INTENSITY:×100cd | | | | | | | | | UNIT:lm | |

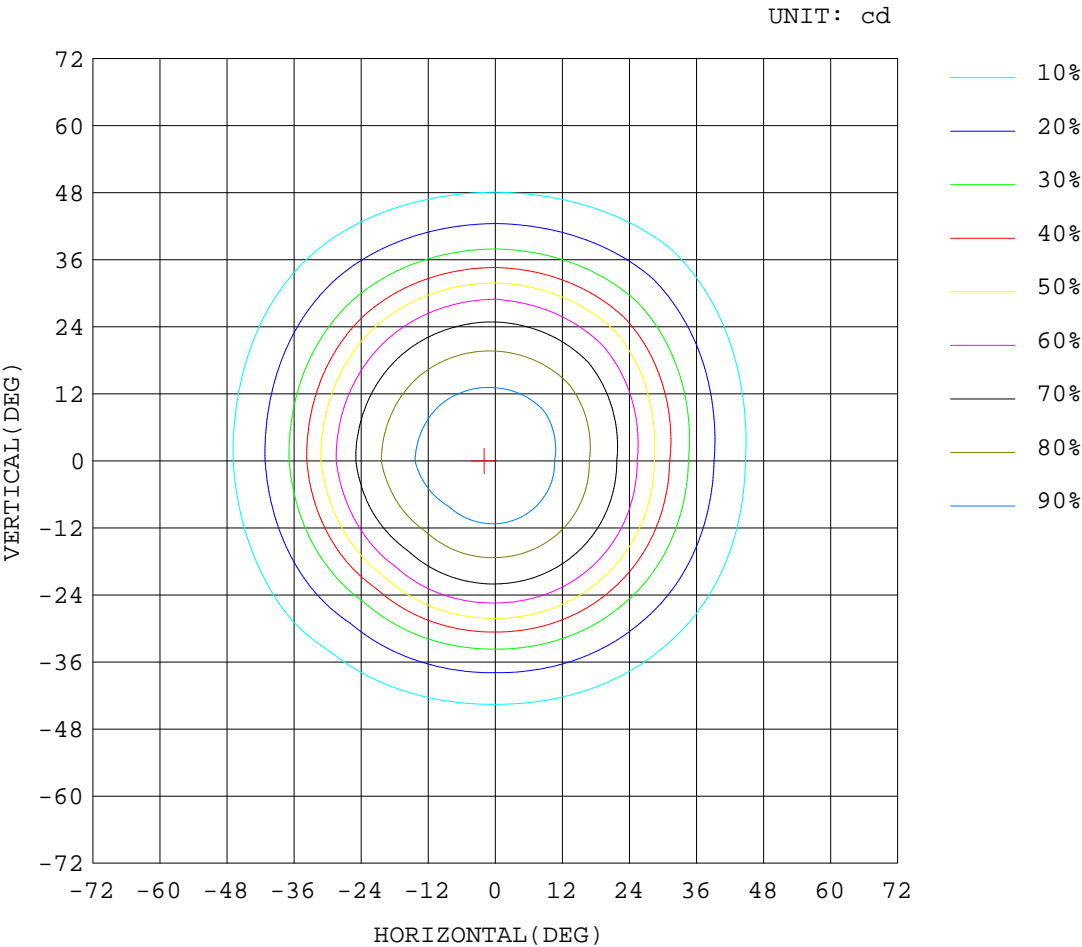
Test System:
 Temperature:25.3DEG
 Operators:
 Test Date:2025.02.20

Test Set: 5.0deg/s C-Gamma (TYPE C)
 Humidity:65.0%
 Test Distance:10.000 m
 Remarks:

ISOCANDELA DIAGRAM

Report number:

| | | |
|---------------------------------|-------------------------|-------------|
| MANUFACTURER: ILUMEN GMBH | Address: | |
| NAME: Kroos | TYPE:IL-SL13-N80040-060 | WEIGHT: |
| SPECIFICATION:5050LED 4000K 60° | DIMENSION: | SERIAL No.: |



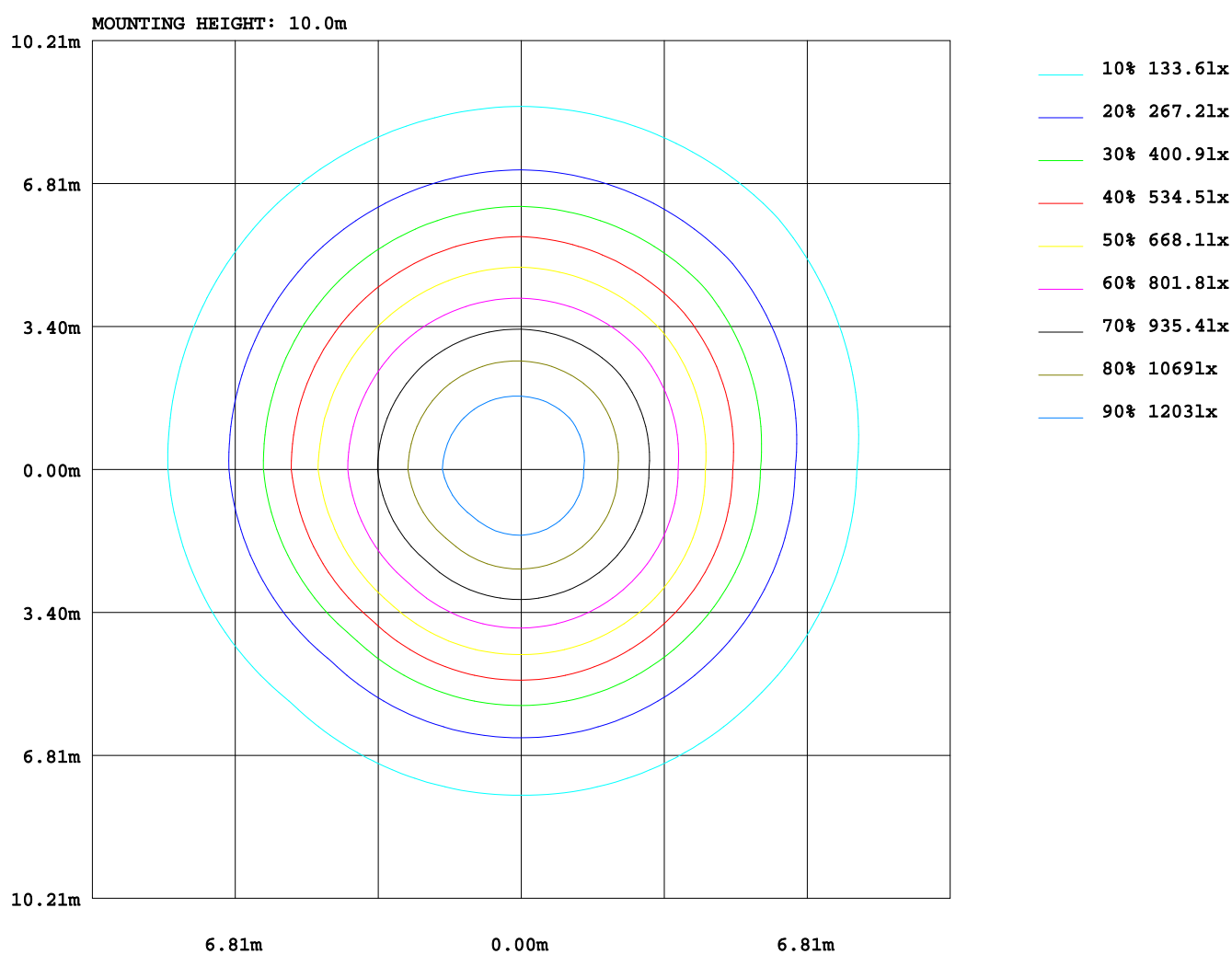
Test System:
Temperature:25.3DEG
Operators:
Test Date:2025.02.20

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:10.000 m
Remarks:

ISOLUX DIAGRAM

Report number:

| | | |
|---------------------------------|-------------------------|-------------|
| MANUFACTURER: ILUMEN GMBH | Address: | |
| NAME: Kroos | TYPE:IL-SL13-N80040-060 | WEIGHT: |
| SPECIFICATION:5050LED 4000K 60° | DIMENSION: | SERIAL No.: |



Test System:
Temperature:25.3DEG
Operators:
Test Date:2025.02.20

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:10.000 m
Remarks:

Uncorrected UGR Table

Report number:

| | | | | |
|---------------------------------|-------------------------|--|-------------|--|
| MANUFACTURER: ILUMEN GMBH | Address: | | | |
| NAME: Kroos | TYPE:IL-SL13-N80040-060 | | WEIGHT: | |
| SPECIFICATION:5050LED 4000K 60° | DIMENSION: | | SERIAL No.: | |

| | | | | | | | | | | |
|-----------------|------------------|------|------|------|------|----------------|------|------|------|------|
| ceiling/cavity | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| walls | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| working 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 | 23.0 | 24.0 | 23.2 | 24.1 | 24.3 | 22.5 | 23.6 | 22.8 | 23.7 | 23.9 |
| 3H | 23.1 | 24.0 | 23.3 | 24.2 | 24.4 | 22.6 | 23.5 | 22.9 | 23.7 | 24.0 |
| 4H | 23.1 | 24.0 | 23.4 | 24.2 | 24.4 | 22.6 | 23.5 | 22.9 | 23.7 | 23.9 |
| 6H | 23.1 | 23.9 | 23.4 | 24.1 | 24.4 | 22.5 | 23.4 | 22.8 | 23.6 | 23.9 |
| 8H | 23.0 | 23.8 | 23.3 | 24.1 | 24.3 | 22.5 | 23.3 | 22.8 | 23.6 | 23.8 |
| 12H | 23.0 | 23.8 | 23.3 | 24.0 | 24.3 | 22.5 | 23.2 | 22.8 | 23.5 | 23.8 |
| 4H 2H | 22.8 | 23.7 | 23.1 | 23.9 | 24.1 | 22.4 | 23.3 | 22.7 | 23.5 | 23.7 |
| 3H | 23.0 | 23.8 | 23.3 | 24.0 | 24.3 | 22.6 | 23.3 | 22.9 | 23.6 | 23.9 |
| 4H | 23.1 | 23.8 | 23.4 | 24.1 | 24.4 | 22.6 | 23.3 | 22.9 | 23.6 | 23.9 |
| 6H | 23.1 | 23.7 | 23.4 | 24.0 | 24.3 | 22.5 | 23.1 | 22.9 | 23.5 | 23.8 |
| 8H | 23.0 | 23.6 | 23.4 | 23.9 | 24.3 | 22.5 | 23.1 | 22.9 | 23.4 | 23.8 |
| 12H | 23.0 | 23.5 | 23.4 | 23.9 | 24.3 | 22.5 | 23.0 | 22.9 | 23.4 | 23.7 |
| 8H 4H | 23.0 | 23.6 | 23.4 | 23.9 | 24.3 | 22.5 | 23.1 | 22.9 | 23.4 | 23.8 |
| 6H | 23.0 | 23.5 | 23.4 | 23.8 | 24.3 | 22.5 | 23.0 | 22.9 | 23.3 | 23.8 |
| 8H | 23.0 | 23.4 | 23.4 | 23.8 | 24.2 | 22.5 | 22.9 | 22.9 | 23.3 | 23.7 |
| 12H | 23.0 | 23.3 | 23.4 | 23.7 | 24.2 | 22.4 | 22.8 | 22.9 | 23.2 | 23.7 |
| 12H 4H | 22.9 | 23.5 | 23.4 | 23.8 | 24.2 | 22.5 | 23.0 | 22.9 | 23.4 | 23.7 |
| 6H | 22.9 | 23.4 | 23.4 | 23.8 | 24.2 | 22.5 | 22.9 | 22.9 | 23.3 | 23.7 |
| 8H | 22.9 | 23.3 | 23.4 | 23.7 | 24.2 | 22.4 | 22.8 | 22.9 | 23.2 | 23.7 |

Variations with the observer position at spacings:

| | | |
|----------|---------------|---------------|
| S = 1.0H | + 2.3 / - 4.7 | + 2.2 / - 4.8 |
| 1.5H | + 4.3 / - 4.7 | + 4.3 / - 4.5 |
| 2.0H | + 5.7 / - 1.9 | + 5.1 / - 1.2 |

CIE Pub.117 Corrected 128000 lm Total Lamp Luminous Flux.(8log(F/F0) = 16.9)

Test System:
Temperature:25.3DEG
Operators:
Test Date:2025.02.20

Test Set: 5.0deg/s C-Gamma (TYPE C)
Humidity:65.0%
Test Distance:10.000 m
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Report number:

| | | |
|---|---------------------------------|--------------------|
| MANUFACTURER: ILUMEN GMBH | Address: | |
| NAME: Kroos | TYPE: IL-SL13-N80040-060 | WEIGHT: |
| SPECIFICATION: 5050LED 4000K 60° | DIMENSION: | SERIAL No.: |

UNIT: ×100cd

| C (DEG) γ (DEG) | 0 | 45 | 90 | 135 | 180 | 225 | 270 | 315 |
|--------------------|------|------|------|------|------|------|------|------|
| 0.0 | 1334 | 1334 | 1334 | 1334 | 1334 | 1334 | 1334 | 1334 |
| 5.0 | 1293 | 1297 | 1304 | 1306 | 1326 | 1323 | 1317 | 1312 |
| 10.0 | 1214 | 1219 | 1227 | 1236 | 1276 | 1269 | 1257 | 1249 |
| 15.0 | 1111 | 1118 | 1125 | 1135 | 1189 | 1182 | 1167 | 1155 |
| 20.0 | 988 | 991 | 999 | 1009 | 1079 | 1076 | 1063 | 1048 |
| 25.0 | 818 | 820 | 821 | 838 | 934 | 939 | 932 | 910 |
| 30.0 | 595 | 571 | 570 | 582 | 727 | 737 | 754 | 723 |
| 35.0 | 385 | 359 | 353 | 362 | 476 | 511 | 517 | 493 |
| 40.0 | 246 | 222 | 217 | 224 | 300 | 325 | 333 | 320 |
| 45.0 | 128 | 117 | 98.1 | 117 | 179 | 200 | 207 | 199 |
| 50.0 | 25.3 | 25.2 | 26.1 | 25.7 | 55.8 | 75.0 | 80.4 | 50.4 |
| 55.0 | 22.6 | 20.9 | 21.3 | 21.2 | 25.4 | 26.1 | 23.6 | 25.7 |
| 60.0 | 18.3 | 16.6 | 17.7 | 17.3 | 19.6 | 20.1 | 18.8 | 19.5 |
| 65.0 | 18.4 | 14.8 | 16.3 | 15.3 | 17.6 | 16.7 | 15.6 | 16.2 |
| 70.0 | 13.2 | 11.1 | 10.6 | 11.7 | 15.7 | 14.4 | 13.9 | 13.9 |
| 75.0 | 6.54 | 7.10 | 5.38 | 7.64 | 10.5 | 11.0 | 8.58 | 10.7 |
| 80.0 | 3.30 | 2.33 | 2.43 | 2.69 | 4.78 | 6.60 | 4.04 | 6.31 |
| 85.0 | 1.35 | 0.63 | 0.82 | 0.69 | 2.16 | 2.22 | 1.55 | 2.09 |
| 90.0 | 0.56 | 0.33 | 0.54 | 0.33 | 0.55 | 0.71 | 0.38 | 0.65 |

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