

# LM-79

## Test Report

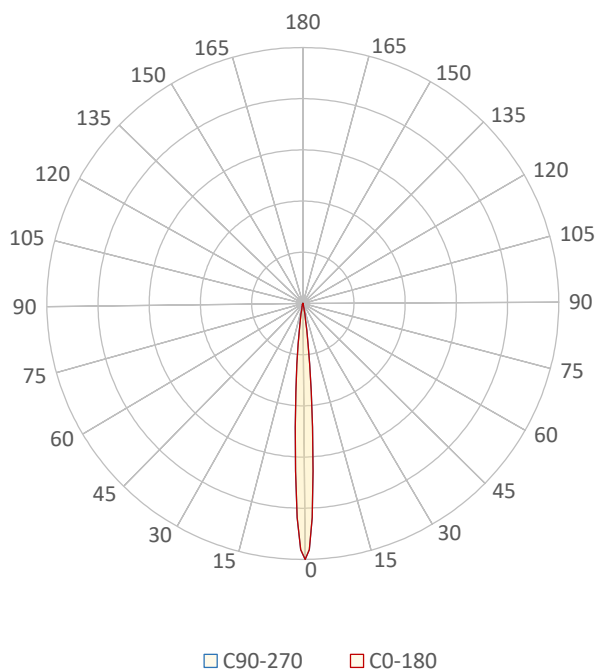
### LM79-QUARTZ-RGBW-8DEG [ALL]

#### General Discription

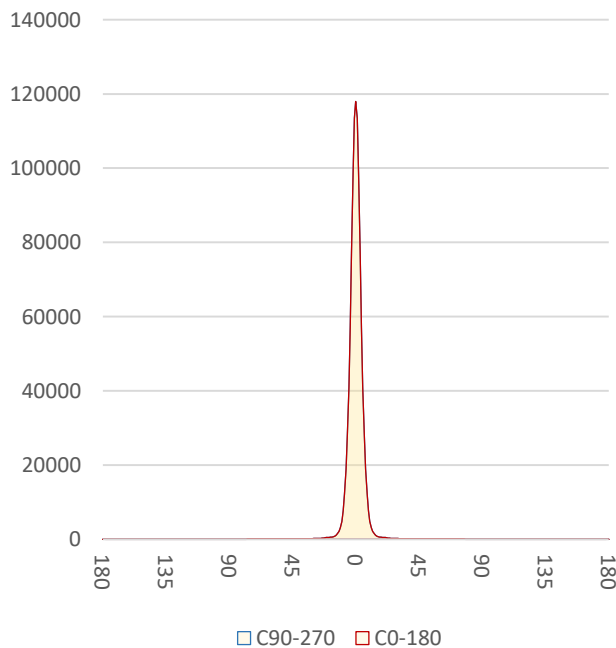
|                   |                    |
|-------------------|--------------------|
| Item number       | Q-XXX-C370-N       |
| Date and time     | 16-4-2024 12:11:42 |
| CCT (Kelvin)      | 0 K                |
| Beam angle        | 7,8°               |
| Luminous flux     | 3657 lm            |
| Efficiency        | 47 lm/watt         |
| Weighted energy   | 78,1 kWh/1000h     |
| Power factor      | 0,58               |
| CRI (RA)          | 0,0                |
| Fidelity index Rf | Rf 0,0             |
| Gammut index Rg   | Rg 0,0             |
| Peak              | 117972 cd          |



Polar diagram



Cartesian diagram



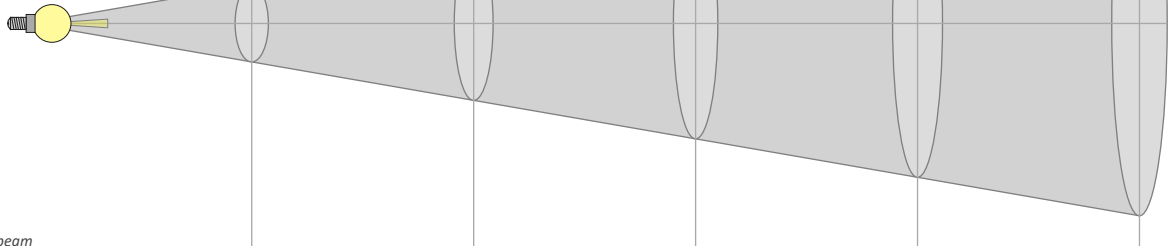
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info@cls-led.com  
www.cls-led.com

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| Beam details                                                                                                                       |         |           |        | 1m              |          | 2m         |          | 3m                |          | 4m        |         | 5m                           |         |         |         |                             |         |         |         |
|------------------------------------------------------------------------------------------------------------------------------------|---------|-----------|--------|-----------------|----------|------------|----------|-------------------|----------|-----------|---------|------------------------------|---------|---------|---------|-----------------------------|---------|---------|---------|
| Lux*                                                                                                                               |         |           |        | 117972 lx       |          | 29493 lx   |          | 13108 lx          |          | 7373 lx   |         | 4719 lx                      |         |         |         |                             |         |         |         |
| <div><div><div>7,8°</div><div></div></div></div> |         |           |        |                 |          |            |          |                   |          |           |         |                              |         |         |         |                             |         |         |         |
| <small>*measured at center of beam</small>                                                                                         |         |           |        |                 |          |            |          |                   |          |           |         |                              |         |         |         |                             |         |         |         |
| Footcandles*                                                                                                                       |         |           |        | 10960,0 fcd     |          | 2740,0 fcd |          | 1217,8 fcd        |          | 685,0 fcd |         | 438,4 fcd                    |         |         |         |                             |         |         |         |
| Beam width (meter)                                                                                                                 |         |           |        | 0,1 m           |          | 0,3 m      |          | 0,4 m             |          | 0,5 m     |         | 0,7 m                        |         |         |         |                             |         |         |         |
| Beam width (Feet)                                                                                                                  |         |           |        | 0,4 ft          |          | 0,9 ft     |          | 1,3 ft            |          | 1,8 ft    |         | 2,2 ft                       |         |         |         |                             |         |         |         |
| Beam intensities                                                                                                                   |         |           |        |                 |          |            |          |                   |          |           |         |                              |         |         |         |                             |         |         |         |
| 1m                                                                                                                                 | 2m      | 3m        | 4m     | 5m              | 6m       | 7m         | 8m       | 9m                | 10m      | 11m       | 12m     | 13m                          | 14m     | 15m     | 16m     | 17m                         | 18m     | 19m     | 20m     |
| 117972lx                                                                                                                           | 29493lx | 13108lx   | 7373lx | 4719lx          | 3277lx   | 2408lx     | 1843lx   | 1456lx            | 1180lx   | 975lx     | 819lx   | 698lx                        | 602lx   | 524lx   | 461lx   | 408lx                       | 364lx   | 327lx   | 295lx   |
| 3,3ft                                                                                                                              | 6,6ft   | 9,8ft     | 13,1ft | 16,4ft          | 19,7ft   | 23ft       | 26,2ft   | 29,5ft            | 32,8ft   | 36,1ft    | 39,4ft  | 42,7ft                       | 45,9ft  | 49,2ft  | 52,5ft  | 55,8ft                      | 59,1ft  | 62,3ft  | 65,6ft  |
| 10960fcd                                                                                                                           | 2740fcd | 1217,8fcd | 685fcd | 438,4fcd        | 304,4fcd | 223,7fcd   | 171,2fcd | 135,3fcd          | 109,6fcd | 90,6fcd   | 76,1fcd | 64,9fcd                      | 55,9fcd | 48,7fcd | 42,8fcd | 37,9fcd                     | 33,8fcd | 30,4fcd | 27,4fcd |
| Intensities in 0° c-plane                                                                                                          |         |           |        |                 |          |            |          |                   |          |           |         |                              |         |         |         |                             |         |         |         |
| 0°                                                                                                                                 | 1°      | 2°        | 3°     | 4°              | 5°       | 6°         | 7°       | 8°                | 9°       | 10°       | 11°     | 12°                          | 13°     | 14°     | 15°     | 16°                         | 17°     | 18°     | 19°     |
| 118K                                                                                                                               | 114K    | 99K       | 77K    | 57K             | 41K      | 28K        | 19K      | 12K               | 8K       | 5K        | 3K      | 2K                           | 2K      | 1K      | 1K      | 1K                          | 1K      | 1K      | 1K      |
| 100%                                                                                                                               | 96%     | 84%       | 66%    | 48%             | 35%      | 24%        | 16%      | 10%               | 6%       | 4%        | 3%      | 2%                           | 1%      | 1%      | 1%      | 1%                          | 1%      | 0%      | 0%      |
| Intensities in 90° c-plane                                                                                                         |         |           |        |                 |          |            |          |                   |          |           |         |                              |         |         |         |                             |         |         |         |
| 0°                                                                                                                                 | 1°      | 2°        | 3°     | 4°              | 5°       | 6°         | 7°       | 8°                | 9°       | 10°       | 11°     | 12°                          | 13°     | 14°     | 15°     | 16°                         | 17°     | 18°     | 19°     |
| 118K                                                                                                                               | 114K    | 99K       | 77K    | 57K             | 41K      | 28K        | 19K      | 12K               | 8K       | 5K        | 3K      | 2K                           | 2K      | 1K      | 1K      | 1K                          | 1K      | 1K      | 1K      |
| 100%                                                                                                                               | 96%     | 84%       | 66%    | 48%             | 35%      | 24%        | 16%      | 10%               | 6%       | 4%        | 3%      | 2%                           | 1%      | 1%      | 1%      | 1%                          | 1%      | 0%      | 0%      |
| Intensities in 180° c-plane                                                                                                        |         |           |        |                 |          |            |          |                   |          |           |         |                              |         |         |         |                             |         |         |         |
| 0°                                                                                                                                 | 1°      | 2°        | 3°     | 4°              | 5°       | 6°         | 7°       | 8°                | 9°       | 10°       | 11°     | 12°                          | 13°     | 14°     | 15°     | 16°                         | 17°     | 18°     | 19°     |
| 118K                                                                                                                               | 114K    | 99K       | 77K    | 57K             | 41K      | 28K        | 19K      | 12K               | 8K       | 5K        | 3K      | 2K                           | 2K      | 1K      | 1K      | 1K                          | 1K      | 1K      | 1K      |
| 100%                                                                                                                               | 96%     | 84%       | 66%    | 48%             | 35%      | 24%        | 16%      | 10%               | 6%       | 4%        | 3%      | 2%                           | 1%      | 1%      | 1%      | 1%                          | 1%      | 0%      | 0%      |
| Intensities in 270° c-plane                                                                                                        |         |           |        |                 |          |            |          |                   |          |           |         |                              |         |         |         |                             |         |         |         |
| 0°                                                                                                                                 | 1°      | 2°        | 3°     | 4°              | 5°       | 6°         | 7°       | 8°                | 9°       | 10°       | 11°     | 12°                          | 13°     | 14°     | 15°     | 16°                         | 17°     | 18°     | 19°     |
| 118K                                                                                                                               | 114K    | 99K       | 77K    | 57K             | 41K      | 28K        | 19K      | 12K               | 8K       | 5K        | 3K      | 2K                           | 2K      | 1K      | 1K      | 1K                          | 1K      | 1K      | 1K      |
| 100%                                                                                                                               | 96%     | 84%       | 66%    | 48%             | 35%      | 24%        | 16%      | 10%               | 6%       | 4%        | 3%      | 2%                           | 1%      | 1%      | 1%      | 1%                          | 1%      | 0%      | 0%      |
| Beam angle 50%                                                                                                                     |         |           |        | Field angle 10% |          |            |          | Cutoff angle 2,5% |          |           |         | Intensity ratio in 120° cone |         |         |         | Intensity ratio in 90° cone |         |         |         |
| 7,8°                                                                                                                               |         |           |        | 16,1°           |          |            |          | 22,3°             |          |           |         | 95,9%                        |         |         |         | 93,7%                       |         |         |         |



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 info@cls-led.com  
 www.cls-led.com

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# LM-79

## Test Report

### LM79-QUARTZ-RGBW-8DEG [ALL]



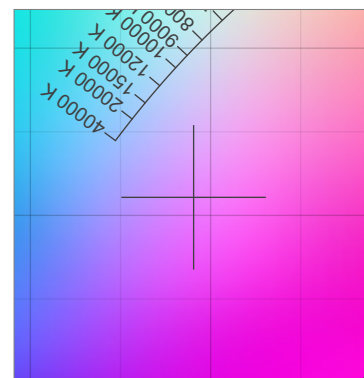
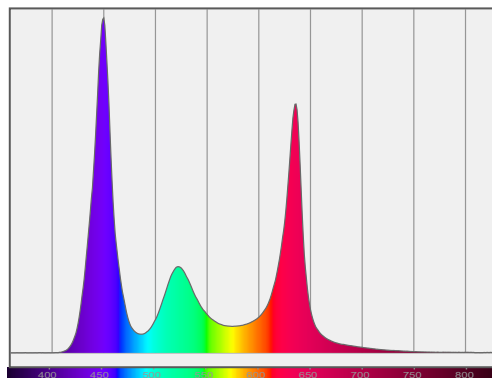
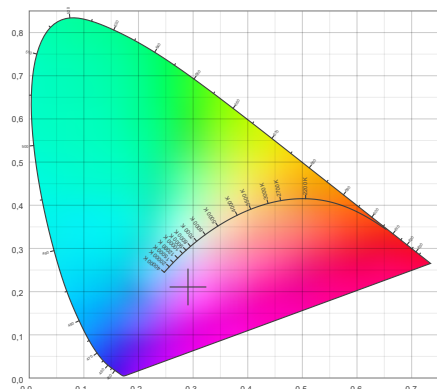
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info@cls-led.com  
www.cls-led.com

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# Test Report

## LM79-QUARTZ-RGBW-8DEG [ALL]

## Color details



|                 |          |                                                                                   |         |                      |
|-----------------|----------|-----------------------------------------------------------------------------------|---------|----------------------|
| <i>CIE 1931</i> | x: 0,291 |  | Spectra | <i>CIE 1931 ZOOM</i> |
| 0 K             | y: 0,211 |                                                                                   |         | $\Delta uv$ : n/a    |

| CRI: 0,0 (R1-R8) |  |  |  |  |  |  |  |  |  |  |  |  |  |  | CRI values, R1-R8 are used to calculate final CRI value |     |     |     |     |     |     |     |
|------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|
|                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | R1                                                      | R2  | R3  | R4  | R5  | R6  | R7  | R8  |
|                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0,0                                                     | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
|                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | R9                                                      | R10 | R11 | R12 | R13 | R14 | R15 |     |
|                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0,0                                                     | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |     |
|                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | R1                                                      | R2  | R3  | R4  | R5  | R6  | R7  | R8  |

| CQS: 0,0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  | CQS values |     |     |     |     |     |     |     |
|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|------------|-----|-----|-----|-----|-----|-----|-----|
|          |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Q1         | Q2  | Q3  | Q4  | Q5  | Q6  | Q7  | Q8  |
|          |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0,0        | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
|          |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Q9         | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |     |
|          |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0,0        | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |     |
|          |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Q16        | Q17 | Q18 | Q19 | Q20 | Q21 | Q22 |     |

| TM30: 0,0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | TM30 values, 16 binned values out of total of 99 values |     |     |     |     |     |     |     |
|-----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|---------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|
|           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | C1                                                      | C2  | C3  | C4  | C5  | C6  | C7  | C8  |
|           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0,0                                                     | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |
|           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | C9                                                      | C10 | C11 | C12 | C13 | C14 | C15 |     |
|           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0,0                                                     | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 | 0,0 |     |
|           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | C1                                                      | C2  | C3  | C4  | C5  | C6  | C7  | C8  |

## Color parameters

| Color temperature | Color rendering index | Red component | Color fidelity | Color gamut | Color quality scale | Color coordinate cie 1931 | Color coordinate cie 1931 | Color coordinate | Color coordinate | Color diviation from black body |
|-------------------|-----------------------|---------------|----------------|-------------|---------------------|---------------------------|---------------------------|------------------|------------------|---------------------------------|
| CCT               | CRI                   | CRI R9        | TM30 Rf        | TM30 Rg     | CQS                 | x                         | y                         | u                | v                | $\Delta uv$                     |
| 0 K               | 0,0                   | 0,0           | 0,0            | 0,0         | 0,0                 | 0,291                     | 0,211                     | 0,235            | 0,256            | n/a                             |



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info@cls-led.com  
www.cls-led.com

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LM-79

Test Report

LM79-QUARTZ-RGBW-8DEG [ALL]

## TM30 details

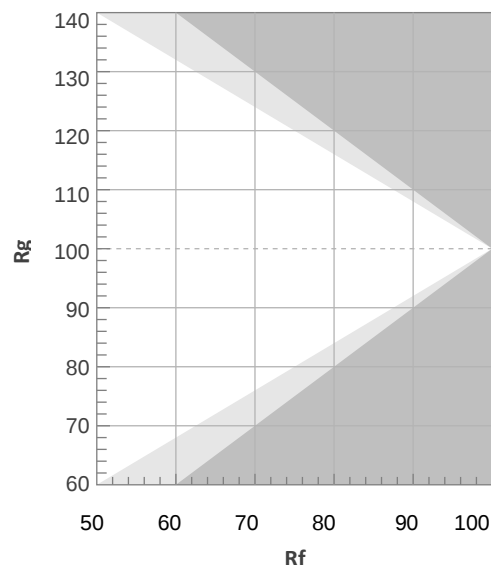
Rf 0,0

Fidelity index Rf

Rg 0,0

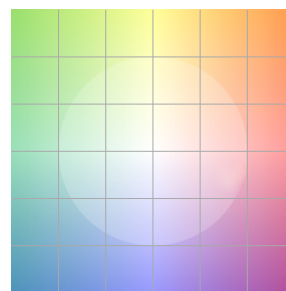
Gammut index Rg

| Hue Bin | R <sub>f</sub> | Graphic shifts (%) |     |
|---------|----------------|--------------------|-----|
|         |                | Chroma             | Hue |
| 1       | 0              | 0%                 | 0%  |
| 2       | 0              | 0%                 | 0%  |
| 3       | 0              | 0%                 | 0%  |
| 4       | 0              | 0%                 | 0%  |
| 5       | 0              | 0%                 | 0%  |
| 6       | 0              | 0%                 | 0%  |
| 7       | 0              | 0%                 | 0%  |
| 8       | 0              | 0%                 | 0%  |
| 9       | 0              | 0%                 | 0%  |
| 10      | 0              | 0%                 | 0%  |
| 11      | 0              | 0%                 | 0%  |
| 12      | 0              | 0%                 | 0%  |
| 13      | 0              | 0%                 | 0%  |
| 14      | 0              | 0%                 | 0%  |
| 15      | 0              | 0%                 | 0%  |
| 16      | 0              | 0%                 | 0%  |



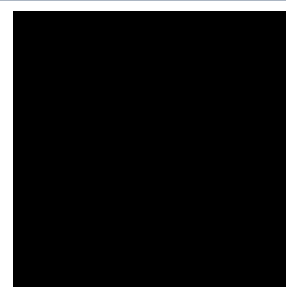
## Hue binH

## Color vector graphics

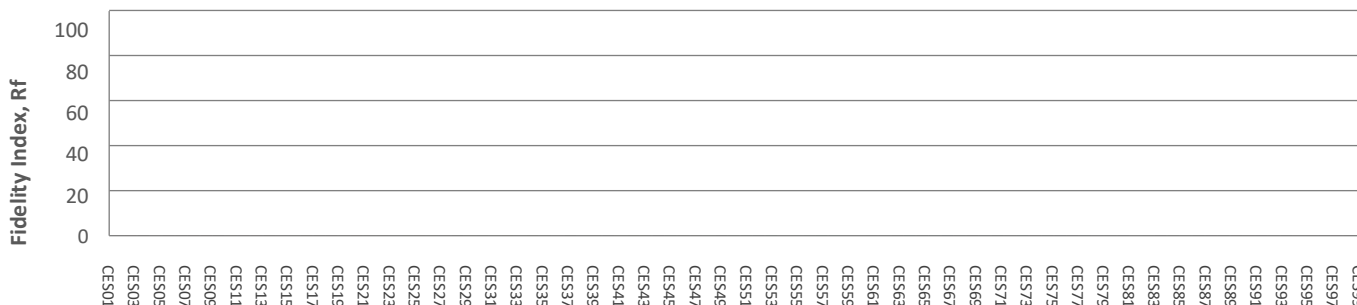


## Hue bin

## Color distortion graphics



## Color Evaluation Sample



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info@cls-led.com  
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## Glare Evaluation According to UGR

|                                                                 |     |                                                |      |      |      |      |                                         |      |      |      |      |
|-----------------------------------------------------------------|-----|------------------------------------------------|------|------|------|------|-----------------------------------------|------|------|------|------|
| p Ceiling                                                       |     | 70                                             | 70   | 50   | 50   | 30   | 70                                      | 70   | 50   | 50   | 30   |
| p Walls                                                         |     | 50                                             | 30   | 50   | 30   | 30   | 50                                      | 30   | 50   | 30   | 30   |
| p Floor                                                         |     | 20                                             | 20   | 20   | 20   | 20   | 20                                      | 20   | 20   | 20   | 20   |
| Room size<br>X      Y                                           |     | Viewing direction at right angles to lamp axis |      |      |      |      | Viewing direction parallel to lamp axis |      |      |      |      |
| 2H                                                              | 2H  | 6,9                                            | 7,2  | 6,9  | 7,4  | 7,5  | 6,9                                     | 7,2  | 6,9  | 7,4  | 7,5  |
|                                                                 | 3H  | 8,2                                            | 8,7  | 8,6  | 8,9  | 9,1  | 8,2                                     | 8,7  | 8,6  | 8,9  | 9,1  |
|                                                                 | 4H  | 8,9                                            | 9,4  | 9,3  | 9,6  | 9,8  | 8,9                                     | 9,4  | 9,3  | 9,6  | 9,8  |
|                                                                 | 6H  | 9,7                                            | 10,1 | 10,0 | 10,4 | 10,8 | 9,7                                     | 10,1 | 10,0 | 10,4 | 10,8 |
|                                                                 | 8H  | 10,1                                           | 10,5 | 10,4 | 10,8 | 11,2 | 10,1                                    | 10,5 | 10,4 | 10,8 | 11,2 |
|                                                                 | 12H | 10,5                                           | 10,9 | 10,9 | 11,2 | 11,7 | 10,5                                    | 10,9 | 10,9 | 11,2 | 11,7 |
| 4H                                                              | 2H  | 7,3                                            | 7,8  | 7,7  | 8,0  | 8,2  | 7,3                                     | 7,8  | 7,7  | 8,0  | 8,2  |
|                                                                 | 3H  | 9,0                                            | 9,4  | 9,4  | 9,8  | 10,2 | 9,0                                     | 9,4  | 9,4  | 9,8  | 10,2 |
|                                                                 | 4H  | 9,8                                            | 10,2 | 10,2 | 10,6 | 11,1 | 9,8                                     | 10,2 | 10,2 | 10,6 | 11,1 |
|                                                                 | 6H  | 10,7                                           | 11,2 | 11,2 | 11,5 | 11,8 | 10,7                                    | 11,2 | 11,2 | 11,5 | 11,8 |
|                                                                 | 8H  | 11,2                                           | 11,6 | 11,7 | 11,9 | 12,3 | 11,2                                    | 11,6 | 11,7 | 11,9 | 12,3 |
|                                                                 | 12H | 11,7                                           | 12,0 | 12,2 | 12,4 | 12,8 | 11,7                                    | 12,0 | 12,2 | 12,4 | 12,8 |
| 8H                                                              | 4H  | 10,1                                           | 10,5 | 10,6 | 10,9 | 11,2 | 10,1                                    | 10,5 | 10,6 | 10,9 | 11,2 |
|                                                                 | 6H  | 11,2                                           | 11,5 | 11,7 | 11,9 | 12,5 | 11,2                                    | 11,5 | 11,7 | 11,9 | 12,5 |
|                                                                 | 8H  | 11,9                                           | 12,1 | 12,4 | 12,6 | 13,3 | 11,9                                    | 12,1 | 12,4 | 12,6 | 13,3 |
|                                                                 | 12H | 12,6                                           | 12,7 | 13,2 | 13,2 | 13,8 | 12,6                                    | 12,7 | 13,2 | 13,2 | 13,8 |
| 12H                                                             | 4H  | 10,1                                           | 10,4 | 10,6 | 10,8 | 11,3 | 10,1                                    | 10,4 | 10,6 | 10,8 | 11,3 |
|                                                                 | 6H  | 11,4                                           | 11,6 | 11,9 | 12,1 | 12,7 | 11,4                                    | 11,6 | 11,9 | 12,1 | 12,7 |
|                                                                 | 8H  | 12,1                                           | 12,3 | 12,7 | 12,8 | 13,4 | 12,1                                    | 12,3 | 12,7 | 12,8 | 13,4 |
| Variation of the observer position for the luminaire distance S |     |                                                |      |      |      |      |                                         |      |      |      |      |
| S = 1.0H                                                        |     | 0,1 / -0,1                                     |      |      |      |      | 0,1 / -0,1                              |      |      |      |      |
| S = 1.5H                                                        |     | 0,3 / -0,2                                     |      |      |      |      | 0,3 / -0,2                              |      |      |      |      |
| S = 2.0H                                                        |     | 0,6 / -0,3                                     |      |      |      |      | 0,6 / -0,3                              |      |      |      |      |
| Standard table                                                  |     | n/a                                            |      |      |      |      | n/a                                     |      |      |      |      |
| Correction summand                                              |     | n/a                                            |      |      |      |      | n/a                                     |      |      |      |      |
| Corrected glare indices referring to 3657lm total luminous flux |     |                                                |      |      |      |      |                                         |      |      |      |      |