

# LM-79

## Test Report

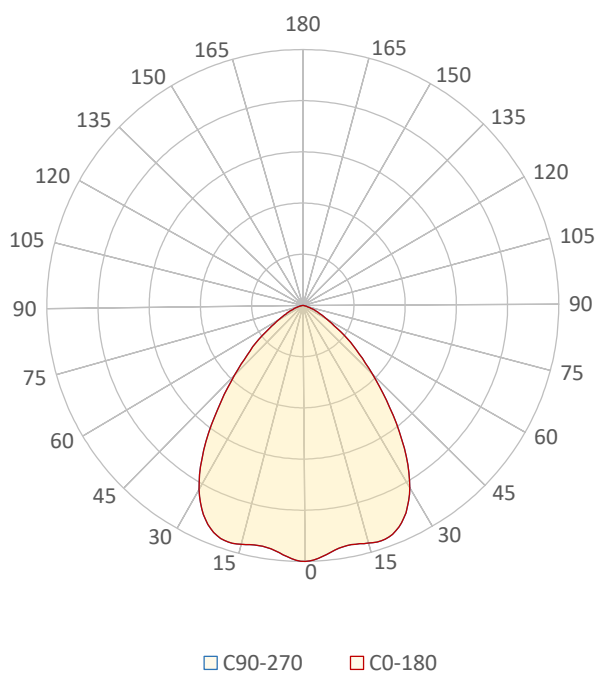
### LM79-QUARTZ-RGBA-80DEG [ALL]

#### General Discription

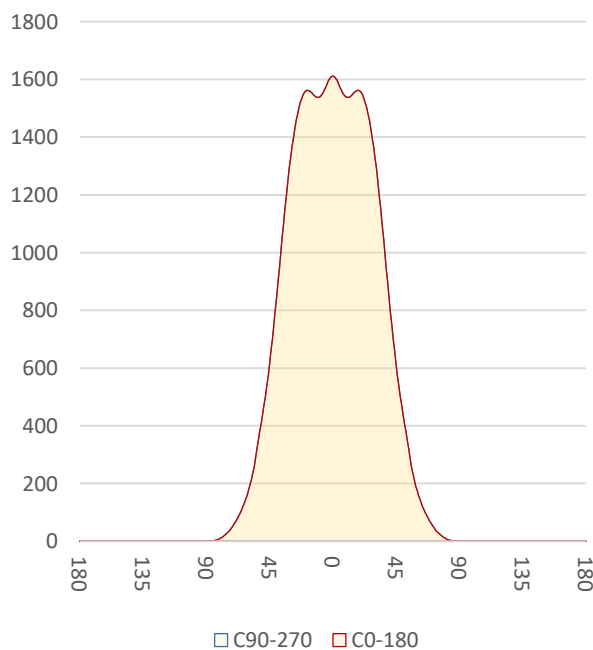
|                   |                    |
|-------------------|--------------------|
| Item number       | Q-XXX-CA70-F       |
| Date and time     | 15-4-2024 15:34:40 |
| CCT (Kelvin)      | 0 K                |
| Beam angle        | 81,6°              |
| Luminous flux     | 2837 lm            |
| Efficiency        | 38 lm/watt         |
| Weighted energy   | 74,9 kWh/1000h     |
| Power factor      | 0,57               |
| CRI (RA)          | 0,0                |
| Fidelity index Rf | Rf 0,0             |
| Gammut index Rg   | Rg 0,0             |
| Peak              | 1612 cd            |



Polar diagram



Cartesian diagram



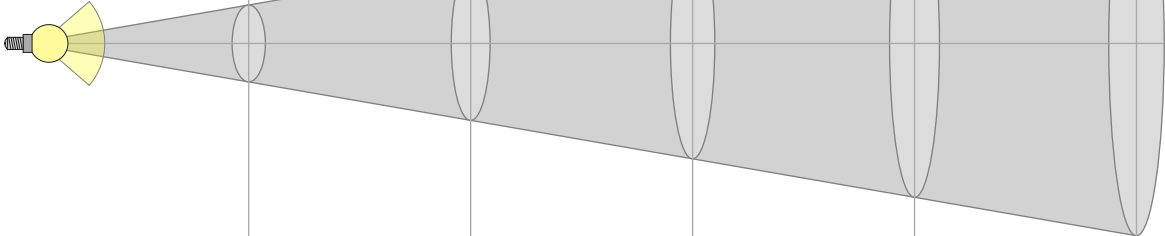
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| Beam details                                                                                                  |         | 1m        |        | 2m              |        | 3m       |        | 4m                |        | 5m      |        |                              |        |        |        |                             |        |        |        |
|---------------------------------------------------------------------------------------------------------------|---------|-----------|--------|-----------------|--------|----------|--------|-------------------|--------|---------|--------|------------------------------|--------|--------|--------|-----------------------------|--------|--------|--------|
| Lux*                                                                                                          |         | 1612 lx   |        | 403 lx          |        | 179 lx   |        | 101 lx            |        | 64 lx   |        |                              |        |        |        |                             |        |        |        |
| <div><div>81,6°</div></div> |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| *measured at center of beam                                                                                   |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| Footcandles*                                                                                                  |         | 149,8 fcd |        | 37,4 fcd        |        | 16,6 fcd |        | 9,4 fcd           |        | 6,0 fcd |        |                              |        |        |        |                             |        |        |        |
| Beam width (meter)                                                                                            |         | 1,7 m     |        | 3,5 m           |        | 5,2 m    |        | 6,9 m             |        | 8,6 m   |        |                              |        |        |        |                             |        |        |        |
| Beam width (Feet)                                                                                             |         | 5,7 ft    |        | 11,3 ft         |        | 17 ft    |        | 22,6 ft           |        | 28,3 ft |        |                              |        |        |        |                             |        |        |        |
| Beam intensities                                                                                              |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| 1m                                                                                                            | 2m      | 3m        | 4m     | 5m              | 6m     | 7m       | 8m     | 9m                | 10m    | 11m     | 12m    | 13m                          | 14m    | 15m    | 16m    | 17m                         | 18m    | 19m    | 20m    |
| 1612lx                                                                                                        | 403lx   | 179lx     | 101lx  | 64lx            | 45lx   | 33lx     | 25lx   | 20lx              | 16lx   | 13lx    | 11lx   | 10lx                         | 8lx    | 7lx    | 6lx    | 6lx                         | 5lx    | 4lx    | 4lx    |
| 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 |
| 149,8fcd                                                                                                      | 37,4fcd | 16,6fcd   | 9,4fcd | 6fcd            | 4,2fcd | 3,1fcd   | 2,3fcd | 1,8fcd            | 1,5fcd | 1,2fcd  | 1fcd   | 0,9fcd                       | 0,8fcd | 0,7fcd | 0,6fcd | 0,5fcd                      | 0,5fcd | 0,4fcd | 0,4fcd |
|                                                                                                               |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| Intensities in 0° c-plane                                                                                     |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| 0°                                                                                                            | 5°      | 10°       | 15°    | 20°             | 25°    | 30°      | 35°    | 40°               | 45°    | 50°     | 55°    | 60°                          | 65°    | 70°    | 75°    | 80°                         | 85°    | 90°    | 95°    |
| 1612                                                                                                          | 1575    | 1538      | 1553   | 1556            | 1482   | 1330     | 1104   | 845               | 615    | 439     | 287    | 176                          | 108    | 62     | 30     | 10                          | 2      | 1      | 0      |
| 100%                                                                                                          | 98%     | 95%       | 96%    | 97%             | 92%    | 83%      | 68%    | 52%               | 38%    | 27%     | 18%    | 11%                          | 7%     | 4%     | 2%     | 1%                          | 0%     | 0%     | 0%     |
|                                                                                                               |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| Intensities in 90° c-plane                                                                                    |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| 0°                                                                                                            | 5°      | 10°       | 15°    | 20°             | 25°    | 30°      | 35°    | 40°               | 45°    | 50°     | 55°    | 60°                          | 65°    | 70°    | 75°    | 80°                         | 85°    | 90°    | 95°    |
| 1612                                                                                                          | 1575    | 1538      | 1553   | 1556            | 1482   | 1330     | 1104   | 845               | 615    | 439     | 287    | 176                          | 108    | 62     | 30     | 10                          | 2      | 1      | 0      |
| 100%                                                                                                          | 98%     | 95%       | 96%    | 97%             | 92%    | 83%      | 68%    | 52%               | 38%    | 27%     | 18%    | 11%                          | 7%     | 4%     | 2%     | 1%                          | 0%     | 0%     | 0%     |
|                                                                                                               |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| Intensities in 180° c-plane                                                                                   |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| 0°                                                                                                            | 5°      | 10°       | 15°    | 20°             | 25°    | 30°      | 35°    | 40°               | 45°    | 50°     | 55°    | 60°                          | 65°    | 70°    | 75°    | 80°                         | 85°    | 90°    | 95°    |
| 1612                                                                                                          | 1575    | 1538      | 1553   | 1556            | 1482   | 1330     | 1104   | 845               | 615    | 439     | 287    | 176                          | 108    | 62     | 30     | 10                          | 2      | 1      | 0      |
| 100%                                                                                                          | 98%     | 95%       | 96%    | 97%             | 92%    | 83%      | 68%    | 52%               | 38%    | 27%     | 18%    | 11%                          | 7%     | 4%     | 2%     | 1%                          | 0%     | 0%     | 0%     |
|                                                                                                               |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| Intensities in 270° c-plane                                                                                   |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| 0°                                                                                                            | 5°      | 10°       | 15°    | 20°             | 25°    | 30°      | 35°    | 40°               | 45°    | 50°     | 55°    | 60°                          | 65°    | 70°    | 75°    | 80°                         | 85°    | 90°    | 95°    |
| 1612                                                                                                          | 1575    | 1538      | 1553   | 1556            | 1482   | 1330     | 1104   | 845               | 615    | 439     | 287    | 176                          | 108    | 62     | 30     | 10                          | 2      | 1      | 0      |
| 100%                                                                                                          | 98%     | 95%       | 96%    | 97%             | 92%    | 83%      | 68%    | 52%               | 38%    | 27%     | 18%    | 11%                          | 7%     | 4%     | 2%     | 1%                          | 0%     | 0%     | 0%     |
|                                                                                                               |         |           |        |                 |        |          |        |                   |        |         |        |                              |        |        |        |                             |        |        |        |
| Beam angle 50%                                                                                                |         |           |        | Field angle 10% |        |          |        | Cutoff angle 2,5% |        |         |        | Intensity ratio in 120° cone |        |        |        | Intensity ratio in 90° cone |        |        |        |
| 81,6°                                                                                                         |         |           |        | 121,8°          |        |          |        | 145,9°            |        |         |        | 94,8%                        |        |        |        | 78,2%                       |        |        |        |



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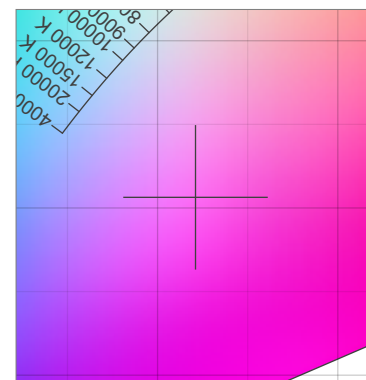
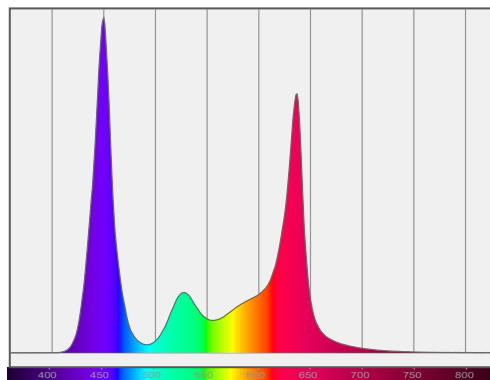
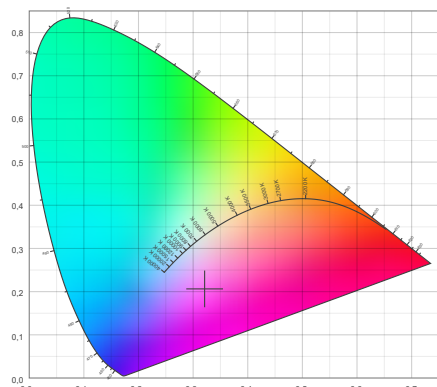
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# LM-79

## Test Report

### LM79-QUARTZ-RGBA-80DEG [ALL]

#### Color details



CIE 1931

x: 0,321



Spectra

CIE 1931 ZOOM

0 K

y: 0,206

$\Delta uv$ : 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 | R9 | R10 | R11 | R12 | R13 | R14 | R15 |

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 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 |     |

CQS: 0,0

CQS values

|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
| Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | Q15 |

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 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 |     |

TM30: 0,0

TM30 values, 16 binned values out of total of 99 values

|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|
|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
|    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |
| C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 | C12 | C13 | C14 | C15 |

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 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 |     |

#### 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 deviation 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                 | 0,321                     | 0,206                     | 0,266            | 0,256            | n/a                             |



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## TM30 details

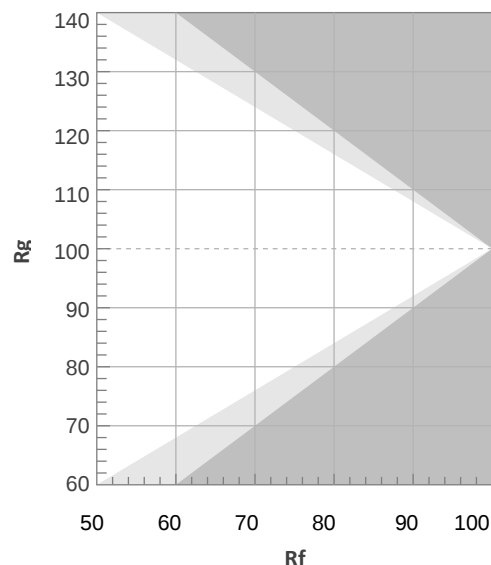
Rf 0,0

Fidelity index Rf

Rg 0,0

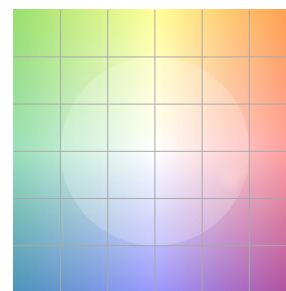
Gamut index Rg

| 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%  |



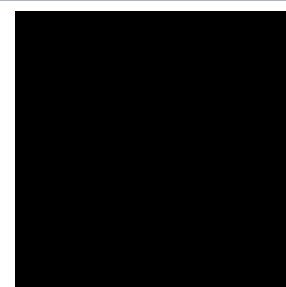
## Hue binH

## Color vector graphics

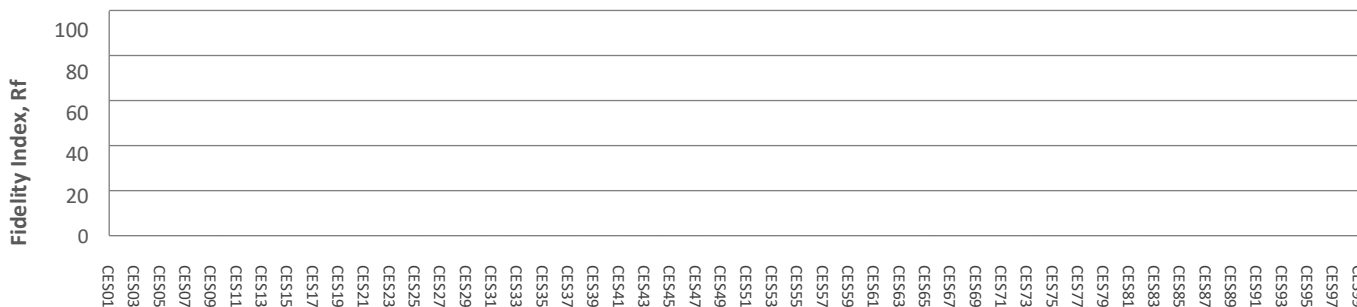


## Hue bin

## Color distortion graphics



## Color Evaluation Sample



# LM-79

## Test Report

### LM79-QUARTZ-RGBA-80DEG [ALL]

#### 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  | 19,5                                           | 20,5 | 19,7 | 20,7 | 20,9 | 19,5                                    | 20,5 | 19,7 | 20,7 | 20,9 |
|                                                                 | 3H  | 19,5                                           | 20,5 | 19,9 | 20,8 | 21,0 | 19,5                                    | 20,5 | 19,9 | 20,8 | 21,0 |
|                                                                 | 4H  | 19,5                                           | 20,5 | 19,9 | 20,7 | 21,0 | 19,5                                    | 20,5 | 19,9 | 20,7 | 21,0 |
|                                                                 | 6H  | 19,5                                           | 20,3 | 19,8 | 20,6 | 21,0 | 19,5                                    | 20,3 | 19,8 | 20,6 | 21,0 |
|                                                                 | 8H  | 19,5                                           | 20,3 | 19,8 | 20,6 | 21,0 | 19,5                                    | 20,3 | 19,8 | 20,6 | 21,0 |
|                                                                 | 12H | 19,4                                           | 20,2 | 19,8 | 20,5 | 21,0 | 19,4                                    | 20,2 | 19,8 | 20,5 | 21,0 |
| 4H                                                              | 2H  | 19,5                                           | 20,4 | 19,9 | 20,7 | 20,9 | 19,5                                    | 20,4 | 19,9 | 20,7 | 20,9 |
|                                                                 | 3H  | 19,7                                           | 20,4 | 20,0 | 20,8 | 21,2 | 19,7                                    | 20,4 | 20,0 | 20,8 | 21,2 |
|                                                                 | 4H  | 19,6                                           | 20,3 | 20,0 | 20,7 | 21,2 | 19,6                                    | 20,3 | 20,0 | 20,7 | 21,2 |
|                                                                 | 6H  | 19,6                                           | 20,2 | 20,1 | 20,6 | 20,9 | 19,6                                    | 20,2 | 20,1 | 20,6 | 20,9 |
|                                                                 | 8H  | 19,5                                           | 20,1 | 20,0 | 20,5 | 20,9 | 19,5                                    | 20,1 | 20,0 | 20,5 | 20,9 |
|                                                                 | 12H | 19,5                                           | 20,0 | 20,0 | 20,4 | 20,8 | 19,5                                    | 20,0 | 20,0 | 20,4 | 20,8 |
| 8H                                                              | 4H  | 19,5                                           | 20,1 | 20,0 | 20,5 | 20,9 | 19,5                                    | 20,1 | 20,0 | 20,5 | 20,9 |
|                                                                 | 6H  | 19,5                                           | 19,9 | 20,0 | 20,4 | 20,9 | 19,5                                    | 19,9 | 20,0 | 20,4 | 20,9 |
|                                                                 | 8H  | 19,5                                           | 19,9 | 20,0 | 20,4 | 21,0 | 19,5                                    | 19,9 | 20,0 | 20,4 | 21,0 |
|                                                                 | 12H | 19,4                                           | 19,8 | 20,0 | 20,3 | 20,9 | 19,4                                    | 19,8 | 20,0 | 20,3 | 20,9 |
| 12H                                                             | 4H  | 19,5                                           | 20,0 | 20,0 | 20,4 | 20,9 | 19,5                                    | 20,0 | 20,0 | 20,4 | 20,9 |
|                                                                 | 6H  | 19,5                                           | 19,9 | 20,0 | 20,4 | 21,0 | 19,5                                    | 19,9 | 20,0 | 20,4 | 21,0 |
|                                                                 | 8H  | 19,4                                           | 19,8 | 20,0 | 20,3 | 20,9 | 19,4                                    | 19,8 | 20,0 | 20,3 | 20,9 |
| Variation of the observer position for the luminaire distance S |     |                                                |      |      |      |      |                                         |      |      |      |      |
| S = 1.0H                                                        |     | 1,1 / -1,7                                     |      |      |      |      | 1,1 / -1,7                              |      |      |      |      |
| S = 1.5H                                                        |     | 2,5 / -3,9                                     |      |      |      |      | 2,5 / -3,9                              |      |      |      |      |
| S = 2.0H                                                        |     | 4,1 / -5,9                                     |      |      |      |      | 4,1 / -5,9                              |      |      |      |      |
| Standard table                                                  |     | n/a                                            |      |      |      |      | n/a                                     |      |      |      |      |
| Correction summand                                              |     | n/a                                            |      |      |      |      | n/a                                     |      |      |      |      |
| Corrected glare indices referring to 2837lm total luminous flux |     |                                                |      |      |      |      |                                         |      |      |      |      |



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