

# LM-79

## Test Report

### LM79-REVO-COMPACT-TRACK-4000K-CRI80- DEG12x46

#### General Discription

|                   |                   |
|-------------------|-------------------|
| Item number       | RC-X-X-02-2       |
| Date and time     | 5-8-2016 10:48:54 |
| CCT (Kelvin)      | 3846 K            |
| Beam angle        | 30,4°             |
| Luminous flux     | 1095 lm           |
| Efficiency        | 108 lm/watt       |
| Weighted energy   | 10,2 kWh/1000h    |
| Power factor      | 0,95              |
| CRI (RA)          | 83,2              |
| Fidelity index Rf | Rf 84,1           |
| Gammut index Rg   | Rg 97,2           |



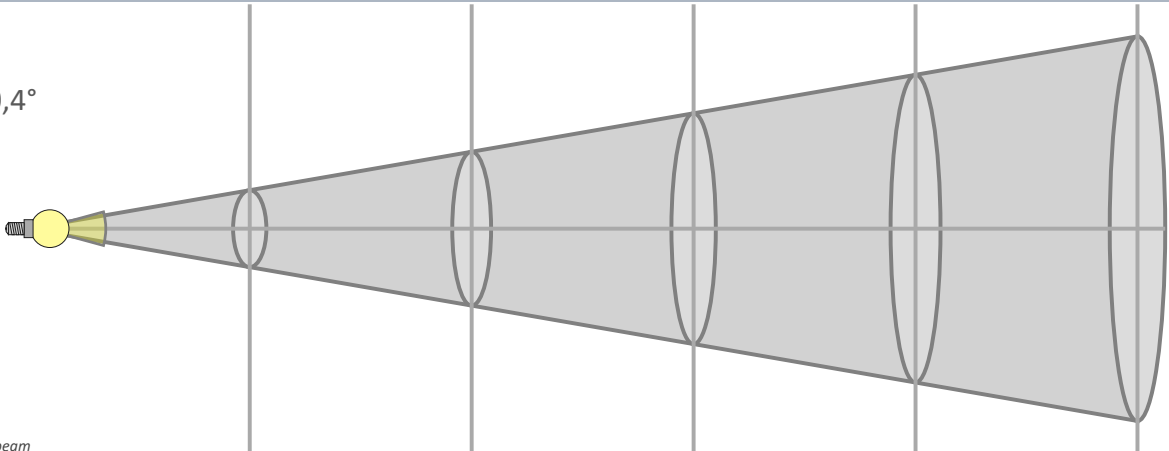
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| Beam details                                                                                                  |         |       |         |         | 1m              |        | 2m       |        | 3m       |                   | 4m       |        | 5m       |                              |        |        |        |                             |        |  |  |
|---------------------------------------------------------------------------------------------------------------|---------|-------|---------|---------|-----------------|--------|----------|--------|----------|-------------------|----------|--------|----------|------------------------------|--------|--------|--------|-----------------------------|--------|--|--|
| Lux*                                                                                                          |         |       |         |         | 3005 lx         |        | 751 lx   |        | 334 lx   |                   | 188 lx   |        | 120 lx   |                              |        |        |        |                             |        |  |  |
| <div><div>30,4°</div></div> |         |       |         |         |                 |        |          |        |          |                   |          |        |          |                              |        |        |        |                             |        |  |  |
| *measured at center of beam                                                                                   |         |       |         |         |                 |        |          |        |          |                   |          |        |          |                              |        |        |        |                             |        |  |  |
| Footcandles*                                                                                                  |         |       |         |         | 279,2 fcd       |        | 69,8 fcd |        | 31,0 fcd |                   | 17,4 fcd |        | 11,2 fcd |                              |        |        |        |                             |        |  |  |
| Beam width (meter)                                                                                            |         |       |         |         | 0,5 m           |        | 1,1 m    |        | 1,6 m    |                   | 2,2 m    |        | 2,7 m    |                              |        |        |        |                             |        |  |  |
| Beam width (Feet)                                                                                             |         |       |         |         | 1,8 ft          |        | 3,6 ft   |        | 5,4 ft   |                   | 7,1 ft   |        | 8,9 ft   |                              |        |        |        |                             |        |  |  |
| Beam intensities                                                                                              |         |       |         |         |                 |        |          |        |          |                   |          |        |          |                              |        |        |        |                             |        |  |  |
| 1m                                                                                                            | 2m      | 3m    | 4m      | 5m      | 6m              | 7m     | 8m       | 9m     | 10m      | 11m               | 12m      | 13m    | 14m      | 15m                          | 16m    | 17m    | 18m    | 19m                         | 20m    |  |  |
| 3005lx                                                                                                        | 751lx   | 334lx | 188lx   | 120lx   | 83lx            | 61lx   | 47lx     | 37lx   | 30lx     | 25lx              | 21lx     | 18lx   | 15lx     | 13lx                         | 12lx   | 10lx   | 9lx    | 8lx                         | 8lx    |  |  |
| 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 |  |  |
| 279,2fcd                                                                                                      | 69,8fcd | 31fcd | 17,4fcd | 11,2fcd | 7,8fcd          | 5,7fcd | 4,4fcd   | 3,4fcd | 2,8fcd   | 2,3fcd            | 1,9fcd   | 1,7fcd | 1,4fcd   | 1,2fcd                       | 1,1fcd | 1fcd   | 0,9fcd | 0,8fcd                      | 0,7fcd |  |  |
| Intensities in 0° c-plane                                                                                     |         |       |         |         |                 |        |          |        |          |                   |          |        |          |                              |        |        |        |                             |        |  |  |
| 0°                                                                                                            | 2°      | 4°    | 6°      | 8°      | 10°             | 12°    | 14°      | 16°    | 18°      | 20°               | 22°      | 24°    | 26°      | 28°                          | 30°    | 32°    | 34°    | 36°                         | 38°    |  |  |
| 3005                                                                                                          | 3005    | 2972  | 2933    | 2867    | 2761            | 2654   | 2476     | 2294   | 2088     | 1861              | 1634     | 1399   | 1163     | 955                          | 760    | 582    | 459    | 335                         | 259    |  |  |
| 100%                                                                                                          | 100%    | 99%   | 98%     | 95%     | 92%             | 88%    | 82%      | 76%    | 69%      | 62%               | 54%      | 47%    | 39%      | 32%                          | 25%    | 19%    | 15%    | 11%                         | 9%     |  |  |
| Intensities in 90° c-plane                                                                                    |         |       |         |         |                 |        |          |        |          |                   |          |        |          |                              |        |        |        |                             |        |  |  |
| 0°                                                                                                            | 2°      | 4°    | 6°      | 8°      | 10°             | 12°    | 14°      | 16°    | 18°      | 20°               | 22°      | 24°    | 26°      | 28°                          | 30°    | 32°    | 34°    | 36°                         | 38°    |  |  |
| 3005                                                                                                          | 2969    | 2505  | 1872    | 1326    | 963             | 626    | 438      | 300    | 204      | 143               | 95       | 70     | 46       | 37                           | 31     | 26     | 23     | 20                          | 18     |  |  |
| 100%                                                                                                          | 99%     | 83%   | 62%     | 44%     | 32%             | 21%    | 15%      | 10%    | 7%       | 5%                | 3%       | 2%     | 2%       | 1%                           | 1%     | 1%     | 1%     | 1%                          | 1%     |  |  |
| Intensities in 180° c-plane                                                                                   |         |       |         |         |                 |        |          |        |          |                   |          |        |          |                              |        |        |        |                             |        |  |  |
| 0°                                                                                                            | 2°      | 4°    | 6°      | 8°      | 10°             | 12°    | 14°      | 16°    | 18°      | 20°               | 22°      | 24°    | 26°      | 28°                          | 30°    | 32°    | 34°    | 36°                         | 38°    |  |  |
| 3005                                                                                                          | 3005    | 2972  | 2933    | 2867    | 2761            | 2654   | 2476     | 2294   | 2088     | 1861              | 1634     | 1399   | 1163     | 955                          | 760    | 582    | 459    | 335                         | 259    |  |  |
| 100%                                                                                                          | 100%    | 99%   | 98%     | 95%     | 92%             | 88%    | 82%      | 76%    | 69%      | 62%               | 54%      | 47%    | 39%      | 32%                          | 25%    | 19%    | 15%    | 11%                         | 9%     |  |  |
| Intensities in 270° c-plane                                                                                   |         |       |         |         |                 |        |          |        |          |                   |          |        |          |                              |        |        |        |                             |        |  |  |
| 0°                                                                                                            | 2°      | 4°    | 6°      | 8°      | 10°             | 12°    | 14°      | 16°    | 18°      | 20°               | 22°      | 24°    | 26°      | 28°                          | 30°    | 32°    | 34°    | 36°                         | 38°    |  |  |
| 3005                                                                                                          | 2969    | 2505  | 1872    | 1326    | 963             | 626    | 438      | 300    | 204      | 143               | 95       | 70     | 46       | 37                           | 31     | 26     | 23     | 20                          | 18     |  |  |
| 100%                                                                                                          | 99%     | 83%   | 62%     | 44%     | 32%             | 21%    | 15%      | 10%    | 7%       | 5%                | 3%       | 2%     | 2%       | 1%                           | 1%     | 1%     | 1%     | 1%                          | 1%     |  |  |
| Beam angle 50%                                                                                                |         |       |         |         | Field angle 10% |        |          |        |          | Cutoff angle 2,5% |          |        |          | Intensity ratio in 120° cone |        |        |        | Intensity ratio in 90° cone |        |  |  |
| 30,4°                                                                                                         |         |       |         |         | 52,8°           |        |          |        |          | {C_ANG}°          |          |        |          | 98,6%                        |        |        |        | 96,1%                       |        |  |  |



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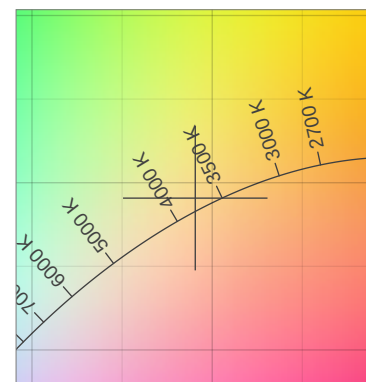
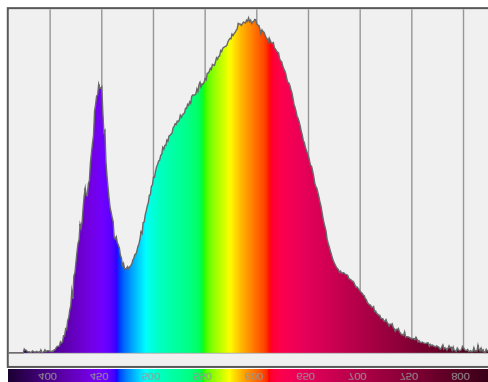
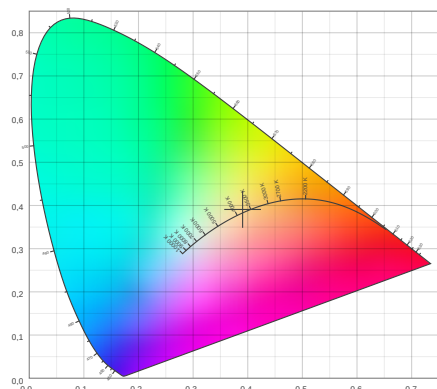
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# LM79-REVO-COMPACT-TRACK-4000K-CRI80- DEG12x46

### Color details



CIE 1931

x: 0,391

3846 K

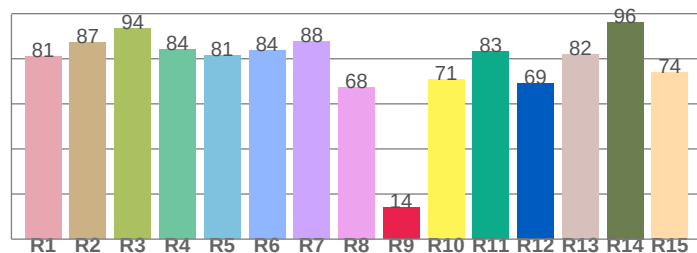
y: 0,391

Spectra

CIE 1931 ZOOM

$\Delta uv$ : 0,0036

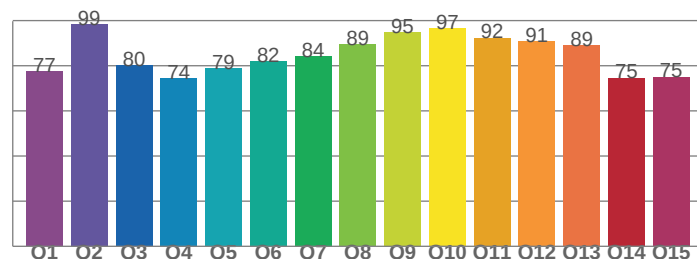
CRI: **83,2** (R1-R8)



CRI values, R1-R8 are used to calculate final CRI value

| R1   | R2   | R3   | R4   | R5   | R6   | R7   | R8   |
|------|------|------|------|------|------|------|------|
| 81,0 | 87,2 | 93,5 | 84,0 | 81,3 | 83,7 | 87,7 | 67,5 |
| R9   | R10  | R11  | R12  | R13  | R14  | R15  |      |
| 14,1 | 70,9 | 83,4 | 69,0 | 82,0 | 96,3 | 73,9 |      |

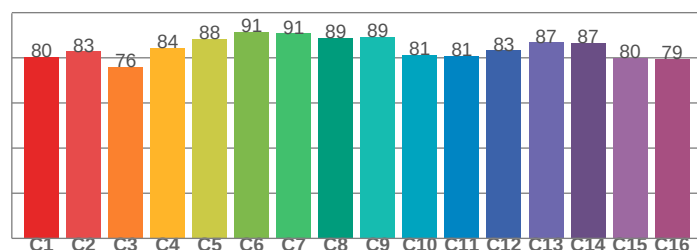
CQS: **83,2**



CQS values

| Q1   | Q2   | Q3   | Q4   | Q5   | Q6   | Q7   | Q8   |
|------|------|------|------|------|------|------|------|
| 77,4 | 98,5 | 80,1 | 74,4 | 78,7 | 82,0 | 84,3 | 89,4 |
| Q9   | Q10  | Q11  | Q12  | Q13  | Q14  | Q15  |      |
| 94,8 | 96,6 | 92,4 | 91,0 | 89,2 | 74,7 | 75,1 |      |

TM30: **84,1**



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

| C1   | C2   | C3   | C4   | C5   | C6   | C7   | C8   |
|------|------|------|------|------|------|------|------|
| 80,3 | 82,9 | 75,9 | 84,3 | 88,3 | 91,4 | 90,8 | 88,7 |
| C9   | C10  | C11  | C12  | C13  | C14  | C15  |      |
| 89,2 | 81,3 | 80,9 | 83,3 | 86,8 | 86,7 | 79,9 |      |

### 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                | $\Delta uv$                     |
| 3846 K            | 83,2                  | 14,1          | 84,1           | 97,2        | 83,2                | 0,391                     | 0,391                     | 0,226            | 0,339            | 0,0036                          |



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# Test Report

LM79-REVO-COMPACT-TRACK-4000K-CRI80-  
DEG12x46

## TM30 details

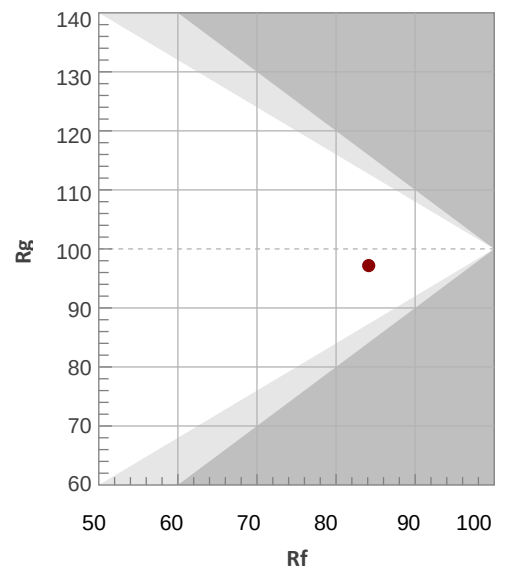
Rf 84,1

*Fidelity index  $R_f$*

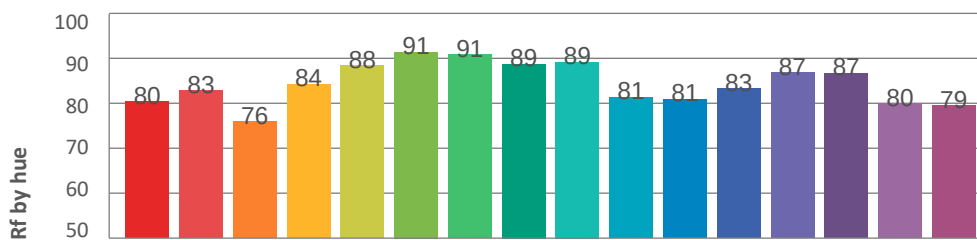
Rg 97,2

*Gammut index Rg*

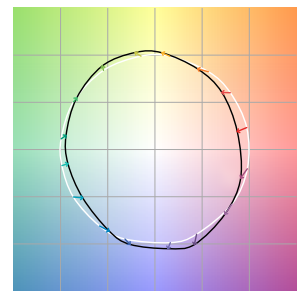
|         |                | Graphic shifts (%) |      |
|---------|----------------|--------------------|------|
| Hue Bin | R <sub>f</sub> | Chroma             | Hue  |
| 1       | 80             | -11%               | -2%  |
| 2       | 83             | -7%                | 5%   |
| 3       | 76             | -4%                | 11%  |
| 4       | 84             | 2%                 | 9%   |
| 5       | 88             | 5%                 | 5%   |
| 6       | 91             | 5%                 | -2%  |
| 7       | 91             | -1%                | -5%  |
| 8       | 89             | -4%                | -5%  |
| 9       | 89             | -7%                | -1%  |
| 10      | 81             | -8%                | 6%   |
| 11      | 81             | -1%                | 11%  |
| 12      | 83             | 5%                 | 6%   |
| 13      | 87             | 6%                 | -4%  |
| 14      | 87             | 8%                 | -8%  |
| 15      | 80             | 0%                 | -13% |
| 16      | 79             | -5%                | -11% |



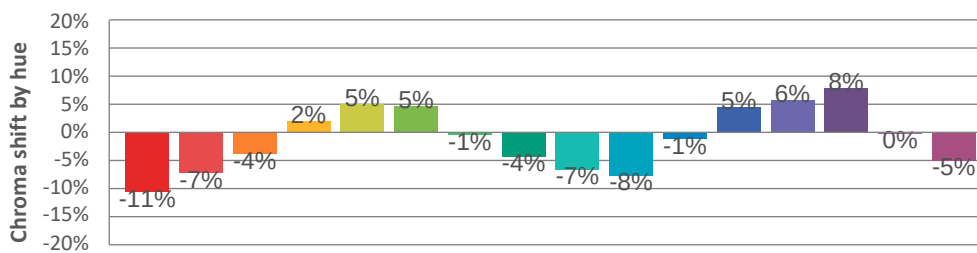
## Hue binH



## Color vector graphics



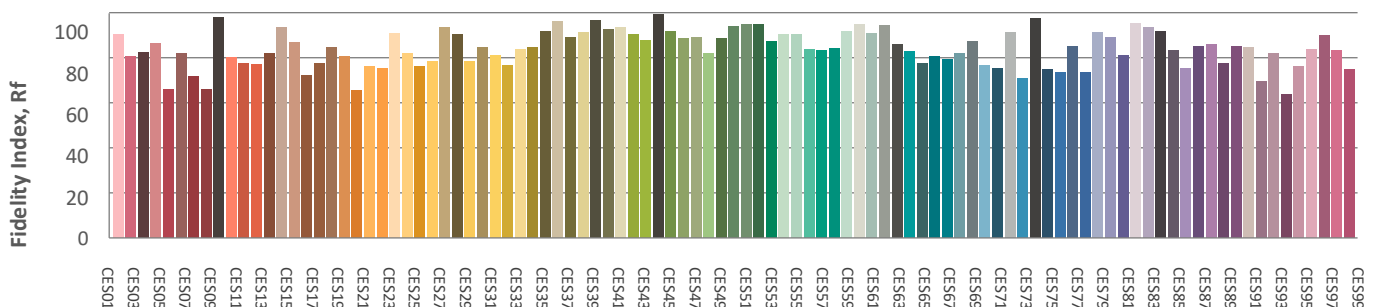
## Hue bin



## Color distortion graphics



### Color Evaluation Sample



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# LM-79

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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  | 21,1                                           | 21,7 | 21,3 | 21,9 | 22,2 | 14,2                                    | 14,9 | 14,4 | 15,1 | 15,3 |
|                  | 3H  | 21,0                                           | 21,6 | 21,3 | 21,9 | 22,1 | 14,3                                    | 15,0 | 14,6 | 15,2 | 15,5 |
|                  | 4H  | 21,0                                           | 21,5 | 21,3 | 21,8 | 22,1 | 14,4                                    | 15,0 | 14,7 | 15,2 | 15,5 |
|                  | 6H  | 20,9                                           | 21,4 | 21,2 | 21,7 | 22,0 | 14,4                                    | 15,0 | 14,7 | 15,2 | 15,5 |
|                  | 8H  | 20,9                                           | 21,4 | 21,2 | 21,7 | 22,0 | 14,4                                    | 14,9 | 14,8 | 15,2 | 15,5 |
|                  | 12H | 20,8                                           | 21,3 | 21,2 | 21,6 | 22,0 | 14,4                                    | 14,9 | 14,8 | 15,2 | 15,6 |
| 4H               | 2H  | 20,9                                           | 21,5 | 21,2 | 21,7 | 22,0 | 14,3                                    | 14,9 | 14,6 | 15,1 | 15,4 |
|                  | 3H  | 20,8                                           | 21,3 | 21,2 | 21,6 | 22,0 | 14,5                                    | 15,0 | 14,9 | 15,3 | 15,6 |
|                  | 4H  | 20,8                                           | 21,2 | 21,2 | 21,6 | 21,9 | 14,6                                    | 15,0 | 15,0 | 15,4 | 15,7 |
|                  | 6H  | 20,8                                           | 21,1 | 21,2 | 21,5 | 21,9 | 14,7                                    | 15,0 | 15,1 | 15,4 | 15,8 |
|                  | 8H  | 20,7                                           | 21,1 | 21,2 | 21,4 | 21,9 | 14,7                                    | 15,0 | 15,2 | 15,4 | 15,8 |
|                  | 12H | 20,7                                           | 21,0 | 21,2 | 21,4 | 21,8 | 14,8                                    | 15,0 | 15,2 | 15,5 | 15,9 |
| 8H               | 4H  | 20,7                                           | 21,0 | 21,1 | 21,4 | 21,8 | 14,6                                    | 14,9 | 15,1 | 15,3 | 15,7 |
|                  | 6H  | 20,7                                           | 20,9 | 21,1 | 21,3 | 21,8 | 14,8                                    | 15,0 | 15,2 | 15,4 | 15,9 |
|                  | 8H  | 20,7                                           | 20,8 | 21,1 | 21,3 | 21,8 | 14,8                                    | 15,0 | 15,3 | 15,5 | 15,9 |
|                  | 12H | 20,6                                           | 20,8 | 21,1 | 21,2 | 21,7 | 14,9                                    | 15,1 | 15,4 | 15,5 | 16,0 |
| 12H              | 4H  | 20,7                                           | 20,9 | 21,1 | 21,4 | 21,8 | 14,6                                    | 14,9 | 15,0 | 15,3 | 15,7 |
|                  | 6H  | 20,6                                           | 20,8 | 21,1 | 21,3 | 21,8 | 14,7                                    | 14,9 | 15,2 | 15,4 | 15,9 |
|                  | 8H  | 20,6                                           | 20,8 | 21,1 | 21,2 | 21,7 | 14,8                                    | 15,0 | 15,3 | 15,5 | 16,0 |

#### Variation of the observer position for the luminaire distance S

|                    |             |             |
|--------------------|-------------|-------------|
| S = 1,0H           | +5,1 / -6,5 | +3,5 / -2,6 |
| S = 1,5H           | +7,8 / -7,5 | +5,0 / -3,2 |
| S = 2,0H           | +9,8 / -8,2 | +6,8 / -3,9 |
| Standard table     | BK00        | BK01        |
| Correction summand | 2,6         | -3,3        |

Corrected glare indices referring to 1095lm total luminous flux



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