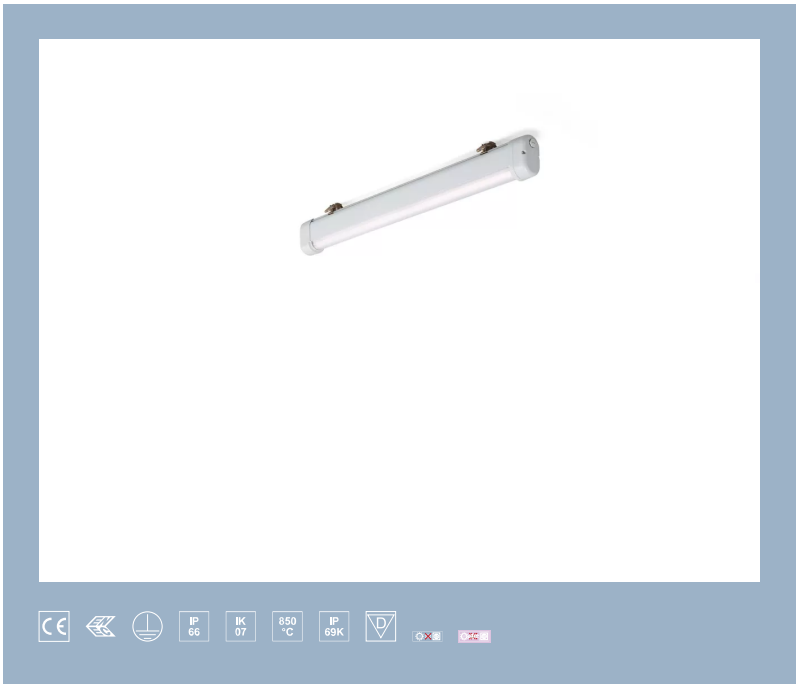
# E21/LED4N060S



**surface-mounted luminaire • linear**

Application : Harsh environments

housing: lacquered aluminium

light source : LED • 4000 K

optics : linear lens • polycarbonate (PC) • medium wide-angle

UGR classification : <=25

luminous flux: 5950 lm

luminous efficacy : 132 lm/W

LLMF: 97% @ 50khrs (Tq=25°C)

## Product information

### Mechanical properties

dimensions : 1120 mm x 80 mm x 135 mm

colour: RAL7035 - light grey

type : individual luminaire

IP: IP66, IP69K

IK: IK07

ambient temperature: -25°C - 35°C (Optional: -35°C - 60°C) •

### Electrical properties

driver: not dimmable

power : 45 W

voltage : 220-240V

frequency : 50-60Hz AC

photobiological safety : EN 62471: RISK GROUP 1 UNLIMITED

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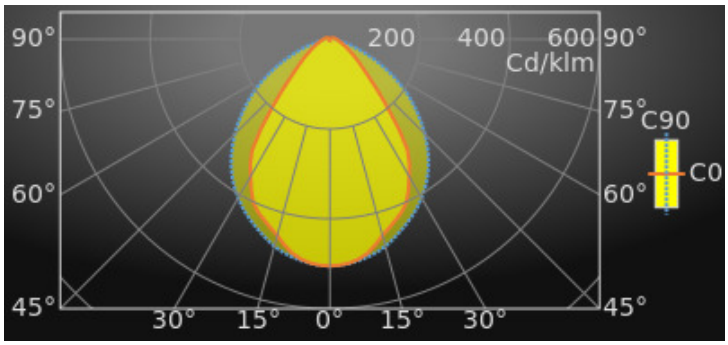
## Luminance

luminous flux : 5950 lm

luminous efficacy : 132 lm/W

UGR classification =: <=25

luminous area : 0.07 m²




Average Luminances (Cd/m²) for 5950lm

| Gamma | C0 | C30 | C45 | C60 | C90 |
|---|---|---|---|---|---|
| 45° | 11503 | 15722 | 22533 | 28582 | 38221 |
| 50° | 8293 | 10842 | 16171 | 24741 | 35665 |
| 55° | 6382 | 7985 | 11452 | 19626 | 32804 |
| 60° | 5014 | 6267 | 8459 | 14795 | 28864 |
| 65° | 4209 | 5018 | 6587 | 10870 | 23840 |
| 70° | 3476 | 4306 | 5438 | 8107 | 18583 |
| 75° | 3045 | 3755 | 4568 | 6198 | 13888 |
| 80° | 2850 | 3292 | 4025 | 4922 | 9725 |
| 85° | 2728 | 3041 | 3595 | 4018 | 4718 |

## Classifications

CIE: 607 / 867 / 954 / 983 / 1002

CIE FLUXCODE : 0.62 / 0.88 / 0.97 / 0.98 / 1.00

BZ: BZ2/1/BZ3/1.25/BZ2/1.5/BZ3

CAE: CAE 3/5°/CAE 2/55°/CAE 3

DIN: A50 (Nach Arbeitsblatt 7 und 8)

DIN_U: Phi u = 0.98

DIN_SU: Phi su = 0.64

UTE: 0.98 C + 0.02 T

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Lifetime Data (Tq=25.0°C)

| Time(khrs) | LLMF(%) | Cx(%) |
|---|---|---|
| 10 | 99 | 2 |
| 20 | 99 | 4 |
| 30 | 98 | 6 |
| 40 | 98 | 8 |
| 50 | 97 | 10 |
| 60 | 96 | 12 |

## Luminous intensities in cd

Intensity for 5950lm

| Gamma | C0 | C45 | C90 | Gamma | C0 | C45 | C90 |
|---|---|---|---|---|---|---|---|
| 0° | 3004.4 | 3004.4 | 3004.4 | 90° | 83.8 | 73.9 | 1.3 |
| 5° | 2975.8 | 2967.9 | 2981.2 | 95° | 70.8 | 54.2 | 0.1 |
| 10° | 2878.7 | 2926.1 | 2927.8 | 100° | 65.5 | 42.0 | 0.0 |
| 15° | 2691.1 | 2788.0 | 2839.9 | 105° | 57.3 | 31.6 | 0.1 |
| 20° | 2548.7 | 2603.3 | 2712.4 | 110° | 45.5 | 23.9 | 0.0 |
| 25° | 2392.8 | 2467.7 | 2580.7 | 115° | 35.3 | 18.0 | 0.0 |
| 30° | 2096.9 | 2329.6 | 2429.0 | 120° | 26.9 | 12.9 | 0.0 |
| 35° | 1791.7 | 2027.4 | 2247.5 | 125° | 19.2 | 8.5 | 0.0 |
| 40° | 1199.5 | 1773.9 | 2028.6 | 130° | 13.3 | 4.6 | 0.0 |
| 45° | 775.6 | 1381.7 | 1780.0 | 135° | 8.7 | 0.3 | 0.0 |
| 50° | 538.4 | 942.9 | 1509.9 | 140° | 4.4 | 0.0 | 0.0 |
| 55° | 395.3 | 628.2 | 1239.2 | 145° | 0.1 | 0.0 | 0.1 |
| 60° | 293.1 | 431.3 | 950.5 | 150° | 0.0 | 0.0 | 0.1 |
| 65° | 229.6 | 307.8 | 663.6 | 155° | 0.0 | 0.0 | 0.1 |
| 70° | 174.6 | 229.1 | 418.6 | 160° | 0.0 | 0.0 | 0.2 |
| 75° | 138.6 | 169.9 | 236.7 | 165° | 0.1 | 0.0 | 0.1 |
| 80° | 115.4 | 128.7 | 111.2 | 170° | 0.6 | 0.5 | 0.3 |
| 85° | 95.8 | 95.3 | 27.1 | 175° | 1.6 | 1.4 | 1.2 |
| 90° | 83.8 | 73.9 | 1.3 | 180° | 1.4 | 1.4 | 1.4 |

## UGR classification =

Corrected Glare Ratings for a Total Lamp Flux of 5950lm (S = 0.25H)

| | Room Reflection Factors (%) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ceiling | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| Walls | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| Floor | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| **Room Dimensions** | **Viewed Crosswise** | | | | | **Viewed Endwise** | | | | |
| X = 2H Y = 2H | 18.2 | 19.9 | 18.6 | 20.1 | 20.4 | 23.8 | 25.4 | 24.2 | 25.7 | 26.0 |
| Y = 3H | 18.6 | 20.1 | 18.9 | 20.4 | 20.7 | 24.7 | 26.2 | 25.1 | 26.5 | 26.8 |
| Y = 4H | 18.8 | 20.1 | 19.1 | 20.5 | 20.8 | 25.0 | 26.3 | 25.3 | 26.7 | 27.0 |
| Y = 6H | 18.9 | 20.2 | 19.3 | 20.6 | 20.9 | 25.1 | 26.3 | 25.5 | 26.7 | 27.0 |
| Y = 8H | 19.0 | 20.3 | 19.4 | 20.6 | 21.0 | 25.1 | 26.3 | 25.5 | 26.7 | 27.0 |
| Y = 12H | 19.1 | 20.3 | 19.6 | 20.7 | 21.1 | 25.0 | 26.2 | 25.5 | 26.6 | 27.0 |
| X = 4H Y = 2H | 18.8 | 20.2 | 19.2 | 20.5 | 20.9 | 23.7 | 25.1 | 24.1 | 25.4 | 25.8 |
| Y = 3H | 19.3 | 20.5 | 19.7 | 20.9 | 21.2 | 24.7 | 25.9 | 25.1 | 26.3 | 26.6 |
| Y = 4H | 19.6 | 20.6 | 20.0 | 21.0 | 21.4 | 25.1 | 26.1 | 25.5 | 26.5 | 26.9 |
| Y = 6H | 19.9 | 20.8 | 20.3 | 21.2 | 21.6 | 25.3 | 26.2 | 25.7 | 26.6 | 27.0 |
| Y = 8H | 20.0 | 20.9 | 20.5 | 21.3 | 21.8 | 25.3 | 26.2 | 25.8 | 26.6 | 27.1 |
| Y = 12H | 20.2 | 21.0 | 20.7 | 21.4 | 21.9 | 25.3 | 26.1 | 25.8 | 26.5 | 27.0 |
| X = 8H Y = 4H | 19.8 | 20.7 | 20.3 | 21.1 | 21.6 | 25.0 | 25.9 | 25.5 | 26.3 | 26.8 |
| Y = 6H | 20.3 | 21.0 | 20.8 | 21.5 | 21.9 | 25.3 | 26.0 | 25.8 | 26.5 | 27.0 |
| Y = 8H | 20.5 | 21.1 | 21.0 | 21.6 | 22.1 | 25.4 | 26.0 | 25.9 | 26.5 | 27.0 |
| Y = 12H | 20.8 | 21.3 | 21.3 | 21.8 | 22.4 | 25.4 | 26.0 | 25.9 | 26.5 | 27.0 |
| X = 12H Y = 4H | 19.9 | 20.7 | 20.4 | 21.1 | 21.6 | 25.0 | 25.8 | 25.5 | 26.2 | 26.7 |
| Y = 6H | 20.4 | 21.0 | 20.9 | 21.5 | 22.0 | 25.3 | 25.9 | 25.8 | 26.4 | 26.9 |
| Y = 8H | 20.6 | 21.2 | 21.2 | 21.7 | 22.2 | 25.4 | 25.9 | 25.9 | 26.4 | 27.0 |

| | UGR Variations with Observer Position for Luminaire Spacings S | | | |
|---|---|---|---|---|
| S = 1.0H | +1.0 | -1.0 | +0.2 | -0.3 |
| S = 1.5H | +1.4 | -1.5 | +0.7 | -0.9 |
| S = 2.0H | +2.2 | -1.9 | +1.9 | -2.0 |

## Colour properties

Correlated Colour Temperature : 4000

Ra: CRI (Ra) 80

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## Efficiency

Utilisation Factors according to IES (%)

| | Room Reflection Factors (%) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Ceiling | 80 | 80 | 80 | 50 | 50 | 50 | 30 | 30 | 30 | 0 |
| Walls | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| Floor | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 0 |
| RCR = 1 | 105 | 103 | 101 | 98 | 96 | 95 | 94 | 93 | 91 | 86 |
| 2 | 94 | 89 | 86 | 88 | 84 | 82 | 84 | 81 | 79 | 74 |
| 3 | 84 | 78 | 73 | 79 | 74 | 71 | 76 | 72 | 69 | 65 |
| 4 | 75 | 69 | 64 | 71 | 66 | 62 | 69 | 64 | 61 | 57 |
| 5 | 68 | 61 | 56 | 65 | 59 | 55 | 63 | 58 | 54 | 51 |
| 6 | 62 | 55 | 50 | 59 | 53 | 49 | 58 | 52 | 48 | 45 |
| 7 | 57 | 50 | 45 | 55 | 48 | 44 | 53 | 47 | 43 | 41 |
| 8 | 53 | 45 | 40 | 50 | 44 | 40 | 49 | 43 | 39 | 37 |
| 9 | 49 | 41 | 37 | 47 | 40 | 36 | 46 | 40 | 36 | 34 |
| 10 | 45 | 38 | 33 | 44 | 37 | 33 | 42 | 37 | 33 | 31 |

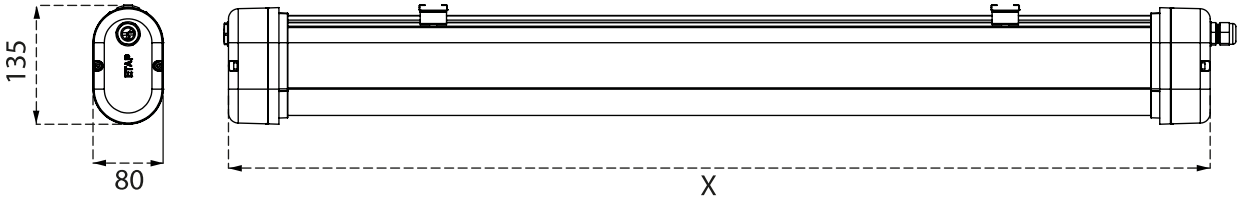
Utilisation Factors according to LiTG (%)

| | Room Reflection Factors (%) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Ceiling** | 80 | 80 | 80 | 50 | 50 | 50 | 50 | 50 | 30 | 0 |
| **Walls** | 50 | 30 | 50 | 30 | 50 | 30 | 50 | 30 | 30 | 0 |
| **Floor** | 30 | 30 | 10 | 10 | 30 | 30 | 10 | 10 | 10 | 0 |
| k = 0.60 | 55 | 47 | 52 | 46 | 53 | 46 | 51 | 45 | 44 | 38 |
| 0.80 | 67 | 58 | 62 | 56 | 63 | 56 | 60 | 55 | 54 | 48 |
| 1.00 | 75 | 66 | 70 | 63 | 71 | 64 | 67 | 62 | 61 | 55 |
| 1.25 | 85 | 76 | 77 | 72 | 79 | 73 | 75 | 70 | 69 | 63 |
| 1.50 | 91 | 83 | 82 | 77 | 85 | 79 | 79 | 75 | 74 | 68 |
| 2.00 | 98 | 91 | 88 | 83 | 91 | 86 | 85 | 81 | 79 | 74 |
| 2.50 | 104 | 98 | 92 | 88 | 96 | 91 | 89 | 85 | 84 | 79 |
| 3.00 | 109 | 103 | 95 | 92 | 100 | 96 | 92 | 89 | 87 | 83 |
| 4.00 | 113 | 108 | 98 | 95 | 103 | 99 | 94 | 92 | 90 | 85 |
| 5.00 | 117 | 112 | 100 | 98 | 106 | 103 | 96 | 94 | 92 | 88 |

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## Dimensional drawing




| | |
|---|---|
| E2*/LED2* | 620 mm |
| E2*/LED4* | 1120 mm |
| E2*/LED6* | 1620 mm |

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