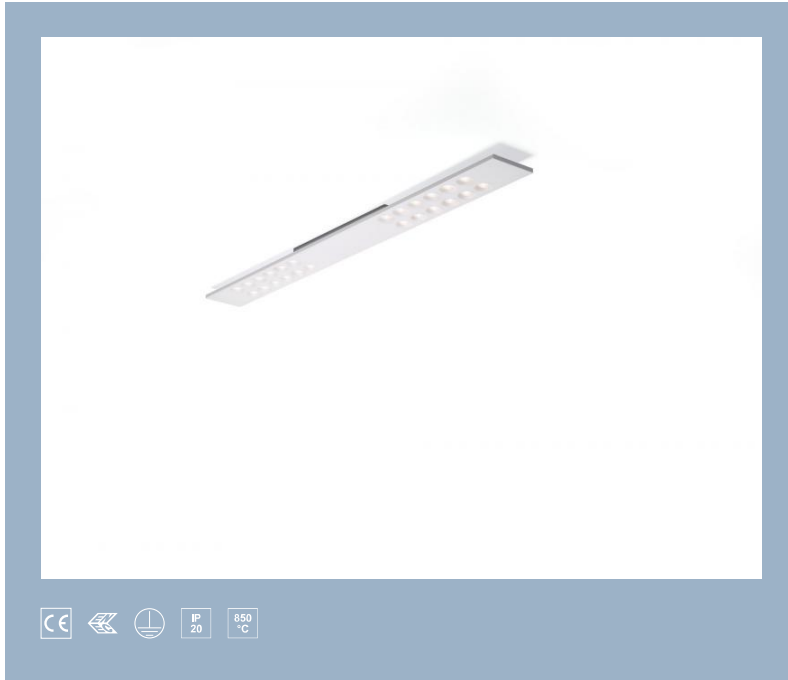


R710R1/LEDN2430DEX1



surface-mounted luminaire • linear

application : Office, Healthcare, Education, Horeca, Retail, Leisure

housing: lacquered sheet steel

light source : high power LED • 4000 K

optics : LED+LENS™ • polycarbonate (PC) lens and cup • medium wide-angle

UGR classification : <=16

luminous flux: 3100 lm

luminous efficacy : 135 lm/W

LLMF: 98% @ 50khrs (Tq=25°C)

Product information

Mechanical properties

colour: RAL9003 - white (textured)

type : individual luminaire

IP: IP20

Electrical properties

driver: DALI dimmable, with daylight sensor ELS

power : 23 W

voltage : 220-240V

frequency : 50-60Hz AC

photobiological safety : EN 62471: RISK GROUP 1 UNLIMITED

Luminance

luminous flux : 3100 lm

luminous efficacy : 135 lm/W

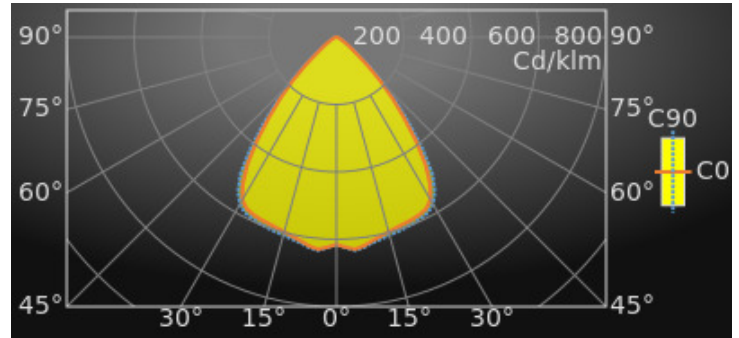
luminance @ 65° : 1000 cd/m²

UGR classification <=16

luminous area : 0.12 m²

Average Luminances (Cd/m²) for 3100lm

| Gamma | C0 | C30 | C45 | C60 | C90 |
|-------|------|------|------|------|------|
| 45° | 6868 | 7278 | 6836 | 7359 | 7366 |
| 50° | 3378 | 3587 | 3357 | 3689 | 3930 |
| 55° | 1816 | 1790 | 1715 | 1878 | 1979 |
| 60° | 1060 | 1107 | 1046 | 1132 | 1132 |
| 65° | 747 | 783 | 731 | 781 | 811 |
| 70° | 593 | 613 | 585 | 614 | 640 |
| 75° | 502 | 519 | 496 | 537 | 539 |
| 80° | 423 | 456 | 421 | 462 | 497 |
| 85° | 290 | 362 | 290 | 364 | 410 |



Classifications

CIE: 818 / 980 / 997 / 1000 / 1000

CIE FLUXCODE : 0.82 / 0.98 / 1.00 / 1.00 / 1.00

BZ: BZ1

CAE: Symmetrical

DIN: A60 (Nach Arbeitsblatt 7)

DIN_U: Phi u = 1.00

DIN_SU: Phi su = 0.75

UTE: 1.00 B + 0.00 T



Luminous intensities in cd

Lifetime Data (Tq=25.0°C)

| Time(khrs) | LLMF(%) | Cx(%) |
|------------|---------|-------|
| 10 | 100 | 2 |
| 20 | 99 | 4 |
| 30 | 99 | 6 |
| 40 | 99 | 8 |
| 50 | 98 | 10 |
| 60 | 98 | 12 |

Intensity for 3100lm

| Gamma | C0 | C45 | C90 |
|-------|--------|--------|--------|
| 0° | 1908.5 | 1908.5 | 1908.5 |
| 5° | 1958.9 | 1957.6 | 1967.6 |
| 10° | 1902.7 | 1911.7 | 1920.2 |
| 15° | 1854.4 | 1870.2 | 1886.6 |
| 20° | 1824.3 | 1837.7 | 1864.7 |
| 25° | 1801.9 | 1818.1 | 1839.2 |
| 30° | 1727.2 | 1776.6 | 1776.2 |
| 35° | 1425.3 | 1497.5 | 1538.8 |
| 40° | 958.6 | 990.3 | 1043.5 |
| 45° | 571.1 | 568.4 | 612.6 |
| 50° | 255.3 | 253.8 | 297.1 |
| 55° | 122.5 | 115.7 | 133.5 |
| 60° | 62.3 | 61.5 | 66.6 |
| 65° | 37.1 | 36.3 | 40.3 |
| 70° | 23.8 | 23.5 | 25.7 |
| 75° | 15.3 | 15.1 | 16.4 |
| 80° | 8.6 | 8.6 | 10.2 |
| 85° | 3.0 | 3.0 | 4.2 |
| 90° | 0.5 | 0.7 | 1.1 |

UGR classification

Corrected Glare Ratings for a Total Lamp Flux of 3100lm (S = 0.25H)

| Ceiling Walls Floor | Room Reflection Factors (%) | | | | | | | | | |
|---|-----------------------------|------|------|------|------|----------------|------|------|------|------|
| | 70 | 70 | 50 | 50 | 30 | 70 | 70 | 50 | 50 | 30 |
| | 50 | 30 | 50 | 30 | 30 | 50 | 30 | 50 | 30 | 30 |
| | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| Room Dimensions | Viewed Crosswise | | | | | Viewed Endwise | | | | |
| X = 2H Y = 2H | 15.4 | 17.0 | 15.7 | 17.2 | 17.5 | 15.5 | 17.0 | 15.8 | 17.3 | 17.5 |
| Y = 3H | 15.3 | 16.7 | 15.7 | 16.9 | 17.2 | 15.4 | 16.7 | 15.7 | 17.0 | 17.3 |
| Y = 4H | 15.3 | 16.5 | 15.6 | 16.8 | 17.1 | 15.3 | 16.6 | 15.7 | 16.9 | 17.2 |
| Y = 6H | 15.2 | 16.4 | 15.6 | 16.7 | 17.0 | 15.3 | 16.4 | 15.6 | 16.7 | 17.0 |
| Y = 8H | 15.2 | 16.3 | 15.6 | 16.6 | 16.9 | 15.3 | 16.3 | 15.6 | 16.7 | 17.0 |
| Y = 12H | 15.2 | 16.2 | 15.5 | 16.5 | 16.9 | 15.2 | 16.3 | 15.6 | 16.6 | 16.9 |
| X = 4H Y = 2H | 15.3 | 16.5 | 15.6 | 16.8 | 17.1 | 15.3 | 16.5 | 15.7 | 16.8 | 17.1 |
| Y = 3H | 15.2 | 16.2 | 15.6 | 16.6 | 16.9 | 15.2 | 16.3 | 15.6 | 16.6 | 16.9 |
| Y = 4H | 15.2 | 16.1 | 15.6 | 16.4 | 16.8 | 15.2 | 16.1 | 15.6 | 16.5 | 16.8 |
| Y = 6H | 15.1 | 15.9 | 15.5 | 16.3 | 16.7 | 15.2 | 16.0 | 15.6 | 16.4 | 16.8 |
| Y = 8H | 15.1 | 15.8 | 15.5 | 16.2 | 16.7 | 15.2 | 15.9 | 15.6 | 16.3 | 16.7 |
| Y = 12H | 15.1 | 15.7 | 15.5 | 16.2 | 16.6 | 15.1 | 15.8 | 15.6 | 16.2 | 16.7 |
| X = 8H Y = 4H | 15.1 | 15.8 | 15.5 | 16.2 | 16.6 | 15.1 | 15.9 | 15.6 | 16.3 | 16.7 |
| Y = 6H | 15.1 | 15.7 | 15.5 | 16.1 | 16.6 | 15.1 | 15.7 | 15.6 | 16.2 | 16.6 |
| Y = 8H | 15.0 | 15.6 | 15.5 | 16.0 | 16.5 | 15.1 | 15.6 | 15.6 | 16.1 | 16.6 |
| Y = 12H | 15.0 | 15.5 | 15.5 | 16.0 | 16.5 | 15.1 | 15.5 | 15.6 | 16.0 | 16.5 |
| X = 12H Y = 4H | 15.0 | 15.7 | 15.5 | 16.1 | 16.6 | 15.1 | 15.8 | 15.5 | 16.2 | 16.6 |
| Y = 6H | 15.0 | 15.6 | 15.5 | 16.0 | 16.5 | 15.1 | 15.6 | 15.5 | 16.1 | 16.6 |
| Y = 8H | 15.0 | 15.5 | 15.5 | 16.0 | 16.5 | 15.1 | 15.5 | 15.5 | 16.0 | 16.5 |
| UGR Variations with Observer Position for Luminaire Spacings S | | | | | | | | | | |
| S = 1.0H | +2.6 | | -5.6 | | +2.5 | | -5.8 | | | |
| S = 1.5H | +4.7 | | -7.7 | | +4.7 | | -7.6 | | | |
| S = 2.0H | +6.6 | | -8.6 | | +6.7 | | -8.6 | | | |



Colour properties

Correlated Colour Temperature : 4000

Ra: 80

Efficiency

Utilisation Factors according to IES (%)

| | Room Reflection Factors (%) | | | | | | | | | |
|---------|-----------------------------|-----|-----|-----|-----|-----|----|----|----|----|
| | 80 | 80 | 80 | 50 | 50 | 50 | 30 | 30 | 30 | 0 |
| 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 | 109 | 107 | 106 | 103 | 101 | 100 | 99 | 98 | 97 | 91 |
| 2 | 100 | 96 | 93 | 94 | 92 | 90 | 91 | 89 | 87 | 83 |
| 3 | 91 | 86 | 83 | 87 | 83 | 80 | 84 | 81 | 79 | 75 |
| 4 | 84 | 78 | 74 | 80 | 76 | 72 | 78 | 74 | 71 | 68 |
| 5 | 77 | 71 | 66 | 74 | 69 | 65 | 72 | 68 | 64 | 62 |
| 6 | 71 | 64 | 60 | 68 | 63 | 59 | 67 | 62 | 59 | 56 |
| 7 | 66 | 59 | 54 | 63 | 58 | 54 | 62 | 57 | 53 | 51 |
| 8 | 61 | 54 | 50 | 59 | 53 | 49 | 58 | 53 | 49 | 47 |
| 9 | 57 | 50 | 46 | 55 | 49 | 45 | 54 | 49 | 45 | 43 |
| 10 | 53 | 46 | 42 | 51 | 46 | 42 | 50 | 45 | 42 | 40 |

Utilisation Factors according to LiTG (%)

| | Room Reflection Factors (%) | | | | | | | | | |
|----------|-----------------------------|-----|-----|-----|-----|-----|-----|----|----|----|
| | 80 | 80 | 80 | 50 | 50 | 50 | 50 | 50 | 30 | 0 |
| 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 | 65 | 57 | 62 | 56 | 63 | 56 | 60 | 55 | 55 | 50 |
| 0.80 | 77 | 69 | 72 | 66 | 74 | 68 | 70 | 66 | 65 | 60 |
| 1.00 | 84 | 77 | 78 | 73 | 81 | 75 | 76 | 72 | 71 | 67 |
| 1.25 | 94 | 87 | 86 | 82 | 89 | 84 | 84 | 80 | 80 | 75 |
| 1.50 | 99 | 93 | 90 | 86 | 94 | 89 | 88 | 84 | 84 | 79 |
| 2.00 | 106 | 100 | 94 | 91 | 99 | 95 | 92 | 89 | 88 | 84 |
| 2.50 | 111 | 105 | 98 | 95 | 103 | 99 | 95 | 93 | 92 | 88 |
| 3.00 | 115 | 110 | 100 | 98 | 106 | 103 | 98 | 96 | 95 | 91 |
| 4.00 | 118 | 114 | 102 | 100 | 108 | 105 | 99 | 97 | 96 | 92 |
| 5.00 | 120 | 117 | 103 | 102 | 110 | 108 | 100 | 99 | 98 | 94 |

Dimensional drawing

