

# U3111/LEDN430D



**luminária de encastrar • linear**

**aplicação :** Espaços de trabalho, Salas de aulas

**base:** aço lacada

**fonte de luz :** LED • 4000 K

**óptica :** Shielded lens • polycarbonate (PC) with aluminium thin film • extensiva média

**classificação UGR :** <=19

**fluxo luminoso:** 2950 lm

**fluxo luminoso específico :** 148 lm/W

**LLMF:** 98% @ 50khrs (Tq=25°C)

## Product information

### Medidas

**dimensões :** 1196 mm x 296 mm x 58 mm

**medida encastrável :** 1196 mm x 296 mm x 70 mm

**módulo do tecto :** M300

**cor:** RAL9003 - branco (texturado)

**tipo :** luminária individual

**IP:** IP20

### Equipamento eléctrico

**driver:** DALI regulável

**potência :** 20 W

**tensão :** 220-240V

**frequência :** 50-60Hz AC

**segurança fotobiológica :** EN 62471: RISK GROUP 1 UNLIMITED

## Luminance

fluxo luminoso : 2950 lm

fluxo luminoso específico : 148 lm/W

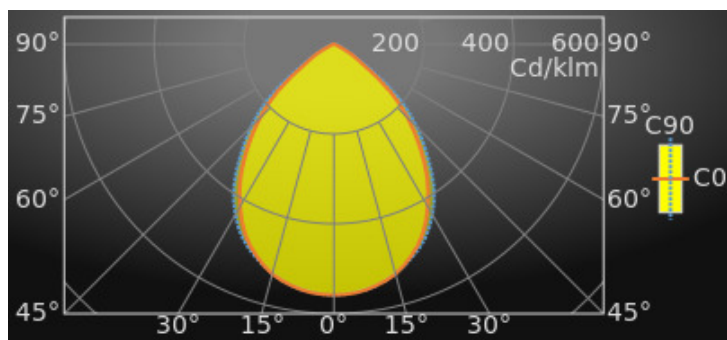
luminância @ 65° = : 3000 cd/m²

classificação UGR =: <=19

área luminosa : 0.12 m²

Average Luminances (Cd/m²) for 2950lm

| Gamma | C0   | C30  | C45  | C60  | C90  |
|-------|------|------|------|------|------|
| 45°   | 8149 | 9288 | 9792 | 9463 | 9153 |
| 50°   | 6287 | 7838 | 8445 | 8181 | 7456 |
| 55°   | 3549 | 5641 | 6998 | 6611 | 4607 |
| 60°   | 2216 | 3454 | 4837 | 3660 | 2193 |
| 65°   | 675  | 1366 | 2186 | 1738 | 1515 |
| 70°   | 390  | 495  | 727  | 1079 | 985  |
| 75°   | 282  | 324  | 398  | 615  | 810  |
| 80°   | 78   | 165  | 230  | 333  | 645  |
| 85°   | 1    | 0    | 11   | 66   | 456  |



## Classificações

CIE: 681 / 963 / 997 / 1000 / 1000

CIE FLUXCODE : 0.68 / 0.96 / 1.00 / 1.00 / 1.00

BZ: BZ2

CAE: Symmetrical

DIN: A50 (Nach Arbeitsblatt 7)

DIN\_U: Phi u = 1.00

DIN\_SU: Phi su = 0.70

UTE: 1.00 C + 0.00 T

Lifetime Data (Tq=25.0°C)

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

## Intensidades luminosas em cd

Intensity for 2950lm

| Gamma | C0     | C45    | C90    |
|-------|--------|--------|--------|
| 0°    | 1647.8 | 1647.8 | 1647.8 |
| 5°    | 1639.1 | 1634.8 | 1633.5 |
| 10°   | 1609.8 | 1607.9 | 1608.2 |
| 15°   | 1562.1 | 1559.7 | 1557.4 |
| 20°   | 1481.6 | 1490.8 | 1492.1 |
| 25°   | 1377.4 | 1405.1 | 1411.4 |
| 30°   | 1230.6 | 1284.6 | 1293.1 |
| 35°   | 1064.8 | 1151.4 | 1143.8 |
| 40°   | 875.3  | 985.8  | 953.4  |
| 45°   | 684.5  | 822.5  | 768.9  |
| 50°   | 480.1  | 644.9  | 569.4  |
| 55°   | 241.8  | 476.9  | 313.9  |
| 60°   | 131.6  | 287.3  | 130.3  |
| 65°   | 33.9   | 109.7  | 76.0   |
| 70°   | 15.8   | 29.5   | 40.0   |
| 75°   | 8.7    | 12.2   | 24.9   |
| 80°   | 1.6    | 4.7    | 13.3   |
| 85°   | 0.0    | 0.1    | 4.7    |
| 90°   | 0.0    | 0.0    | 0.0    |

## classificação UGR =

Corrected Glare Ratings for a Total Lamp Flux of 2950lm (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   | 17.2                                                           | 18.8 | 17.5  | 19.1 | 19.3 | 17.7           | 19.3 | 18.0 | 19.5 | 19.8 |
| Y = 3H          | 17.1                                                           | 18.5 | 17.4  | 18.8 | 19.1 | 17.6           | 19.0 | 17.9 | 19.3 | 19.6 |
| Y = 4H          | 17.0                                                           | 18.3 | 17.3  | 18.6 | 18.9 | 17.5           | 18.9 | 17.9 | 19.2 | 19.5 |
| Y = 6H          | 16.9                                                           | 18.1 | 17.3  | 18.4 | 18.8 | 17.5           | 18.7 | 17.9 | 19.0 | 19.4 |
| Y = 8H          | 16.9                                                           | 18.0 | 17.2  | 18.4 | 18.7 | 17.5           | 18.6 | 17.8 | 19.0 | 19.3 |
| Y = 12H         | 16.8                                                           | 18.0 | 17.2  | 18.3 | 18.6 | 17.4           | 18.6 | 17.8 | 18.9 | 19.2 |
| X = 4H Y = 2H   | 17.4                                                           | 18.7 | 17.7  | 19.0 | 19.3 | 17.7           | 19.1 | 18.1 | 19.4 | 19.7 |
| Y = 3H          | 17.2                                                           | 18.4 | 17.6  | 18.7 | 19.0 | 17.7           | 18.9 | 18.1 | 19.2 | 19.5 |
| Y = 4H          | 17.2                                                           | 18.2 | 17.6  | 18.5 | 18.9 | 17.7           | 18.7 | 18.1 | 19.0 | 19.4 |
| Y = 6H          | 17.1                                                           | 18.0 | 17.5  | 18.4 | 18.8 | 17.7           | 18.5 | 18.1 | 18.9 | 19.3 |
| Y = 8H          | 17.1                                                           | 17.9 | 17.5  | 18.3 | 18.7 | 17.7           | 18.4 | 18.1 | 18.8 | 19.3 |
| Y = 12H         | 17.0                                                           | 17.8 | 17.5  | 18.2 | 18.6 | 17.6           | 18.3 | 18.1 | 18.8 | 19.2 |
| X = 8H Y = 4H   | 17.1                                                           | 17.9 | 17.5  | 18.3 | 18.7 | 17.6           | 18.4 | 18.0 | 18.8 | 19.2 |
| Y = 6H          | 17.0                                                           | 17.7 | 17.5  | 18.1 | 18.6 | 17.6           | 18.2 | 18.1 | 18.7 | 19.1 |
| Y = 8H          | 17.0                                                           | 17.6 | 17.5  | 18.0 | 18.5 | 17.6           | 18.1 | 18.1 | 18.6 | 19.1 |
| Y = 12H         | 17.0                                                           | 17.5 | 17.5  | 17.9 | 18.5 | 17.6           | 18.0 | 18.0 | 18.5 | 19.0 |
| X = 12H Y = 4H  | 17.1                                                           | 17.8 | 17.5  | 18.2 | 18.6 | 17.6           | 18.3 | 18.0 | 18.7 | 19.2 |
| Y = 6H          | 17.0                                                           | 17.6 | 17.5  | 18.0 | 18.5 | 17.6           | 18.1 | 18.0 | 18.6 | 19.1 |
| Y = 8H          | 17.0                                                           | 17.5 | 17.5  | 17.9 | 18.5 | 17.5           | 18.0 | 18.0 | 18.5 | 19.0 |
|                 | UGR Variations with Observer Position for Luminaire Spacings S |      |       |      |      |                |      |      |      |      |
| S = 1.0H        | +1.0                                                           |      | -2.3  |      |      | +0.7           |      | -1.4 |      |      |
| S = 1.5H        | +2.2                                                           |      | -7.4  |      |      | +2.1           |      | -6.4 |      |      |
| S = 2.0H        | +3.6                                                           |      | -14.2 |      |      | +3.3           |      | -8.1 |      |      |

## Colour properties

Correlated Colour Temperature : 4000

Ra: CRI (Ra) 80

Eficiência

| 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                                  | 108                         | 106 | 104 | 102 | 100 | 99 | 98 | 97 | 96 | 90 |
| 2                                        | 97                          | 93  | 90  | 92  | 89  | 87 | 89 | 86 | 84 | 80 |
| 3                                        | 88                          | 83  | 79  | 83  | 79  | 76 | 81 | 77 | 75 | 71 |
| 4                                        | 80                          | 74  | 69  | 76  | 71  | 67 | 74 | 70 | 66 | 63 |
| 5                                        | 72                          | 66  | 61  | 69  | 64  | 60 | 67 | 63 | 59 | 56 |
| 6                                        | 66                          | 59  | 54  | 64  | 58  | 54 | 62 | 57 | 53 | 50 |
| 7                                        | 61                          | 54  | 49  | 59  | 53  | 48 | 57 | 52 | 48 | 46 |
| 8                                        | 56                          | 49  | 44  | 54  | 48  | 44 | 53 | 47 | 43 | 41 |
| 9                                        | 52                          | 45  | 40  | 50  | 44  | 40 | 49 | 44 | 40 | 38 |
| 10                                       | 48                          | 41  | 37  | 47  | 41  | 37 | 46 | 40 | 36 | 35 |

| 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                                  | 59                          | 51  | 56  | 50  | 57  | 50  | 55 | 49 | 49 | 43 |
| 0.80                                      | 71                          | 63  | 67  | 60  | 68  | 61  | 65 | 60 | 59 | 54 |
| 1.00                                      | 80                          | 72  | 74  | 68  | 76  | 69  | 72 | 67 | 66 | 61 |
| 1.25                                      | 90                          | 82  | 82  | 77  | 85  | 79  | 80 | 76 | 75 | 70 |
| 1.50                                      | 95                          | 88  | 87  | 82  | 90  | 84  | 84 | 80 | 79 | 75 |
| 2.00                                      | 103                         | 96  | 92  | 88  | 96  | 91  | 89 | 86 | 85 | 80 |
| 2.50                                      | 108                         | 102 | 96  | 92  | 100 | 96  | 93 | 90 | 89 | 85 |
| 3.00                                      | 112                         | 108 | 98  | 96  | 104 | 101 | 96 | 94 | 92 | 88 |
| 4.00                                      | 116                         | 112 | 100 | 98  | 107 | 104 | 97 | 96 | 94 | 90 |
| 5.00                                      | 119                         | 115 | 102 | 100 | 109 | 106 | 99 | 98 | 96 | 93 |



Esboço

