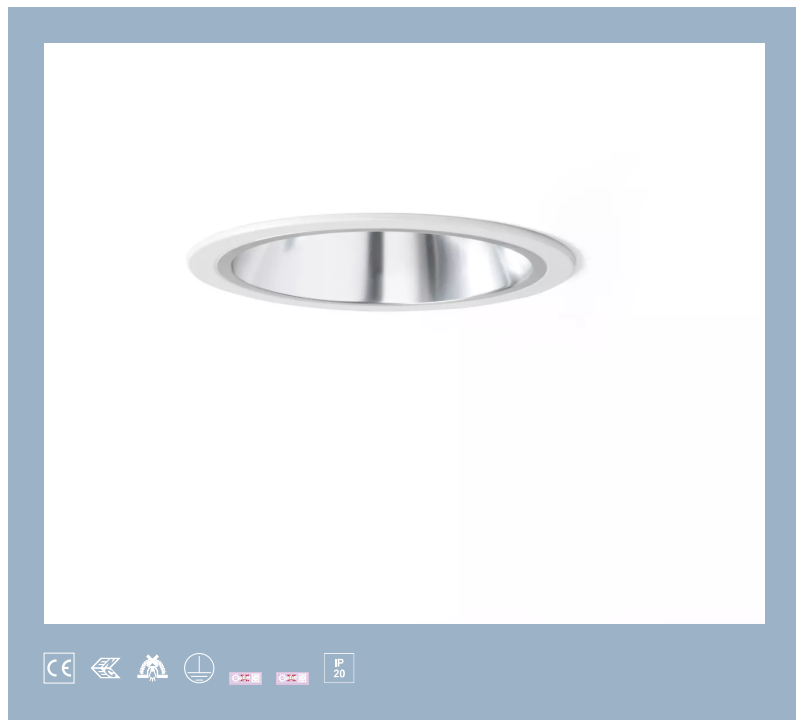


# D11R1/LEDN20DEX3



## inbouwarmatuur • rond

**Toepassing :** Algemene kantoorruimten, Auditoria, Algemene onderwijsruimten

**behuizing:** gegoten aluminium

**lichtbron :** led • 4000 K

**optiek :** reflector • Aluminium, gesatineerd • breedstralend

**UGR classificatie :** <=22

**lichtstroom:** 2350 lm

**efficiëntie :** 118 lm/W

**LLMF:** 98% @ 50khrs (Tq=25°C)

## Product information

### Mechanische eigenschappen

**afmetingen :** 220 mm x 120 mm

**inbouwmaat :** 205 mm x 120 mm

**kleur:** RAL9003 - signaalwit

**boord:** opliggende boord

**type :** individueel armatuur

**IP:** IP20

### Elektrische uitrusting

**driver:** DALI driver aangestuurd door geïntegreerde sensor

**opgenomen vermogen :** 20 W

**spanning :** 230-240V

**frequentie :** 50Hz AC

**fotobiologische veiligheid :** EN 62471: RISK GROUP 1 UNLIMITED

## Luminantie

lichtstroom : 2350 lm

efficiëntie : 118 lm/W

luminantie @ 65° = : 1000 cd/m²

UGR classificatie =: <=22

lichtgevende oppervlakte : 0.02 m²

Average Luminances (Cd/m²) for 2350lm

| Gamma | C0    | C30   | C45   | C60   | C90   |
|-------|-------|-------|-------|-------|-------|
| 45°   | 46512 | 46512 | 46512 | 46512 | 46512 |
| 50°   | 18177 | 18177 | 18177 | 18177 | 18177 |
| 55°   | 4182  | 4182  | 4182  | 4182  | 4182  |
| 60°   | 75    | 75    | 75    | 75    | 75    |
| 65°   | 8     | 8     | 8     | 8     | 8     |
| 70°   | 0     | 0     | 0     | 0     | 0     |
| 75°   | 0     | 0     | 0     | 0     | 0     |
| 80°   | 0     | 0     | 0     | 0     | 0     |
| 85°   | 0     | 0     | 0     | 0     | 0     |



## Classificaties

CIE: 746 / 1000 / 1000 / 1000 / 1000

CIE FLUXCODE : 0.75 / 1.00 / 1.00 / 1.00 / 1.00

BZ: BZ2/3/BZ1/4/BZ2

CAE: Symmetrical

DIN: A60 (Nach Arbeitsblatt 7)

DIN\_U: Phi u = 1.00

DIN\_SU: Phi su = 0.72

UTE: 1.00 B + 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    |

## Lichtsterkten in cd

Intensity for 2350lm

| Gamma | C0     | C45    | C90    |
|-------|--------|--------|--------|
| 0°    | 1271.7 | 1271.7 | 1271.7 |
| 5°    | 1246.2 | 1246.2 | 1246.2 |
| 10°   | 1201.3 | 1201.3 | 1201.3 |
| 15°   | 1135.3 | 1135.3 | 1135.3 |
| 20°   | 1052.4 | 1052.4 | 1052.4 |
| 25°   | 959.5  | 959.5  | 959.5  |
| 30°   | 946.0  | 946.0  | 946.0  |
| 35°   | 1281.8 | 1281.8 | 1281.8 |
| 40°   | 1360.9 | 1360.9 | 1360.9 |
| 45°   | 773.1  | 773.1  | 773.1  |
| 50°   | 274.7  | 274.7  | 274.7  |
| 55°   | 56.4   | 56.4   | 56.4   |
| 60°   | 0.9    | 0.9    | 0.9    |
| 65°   | 0.1    | 0.1    | 0.1    |
| 70°   | 0.0    | 0.0    | 0.0    |
| 75°   | 0.0    | 0.0    | 0.0    |
| 80°   | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    |

## UGR classificatie =

Corrected Glare Ratings for a Total Lamp Flux of 2350lm (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   | 22.6                                                           | 24.2 | 22.9  | 24.4 | 24.7 | 22.6           | 24.2 | 22.9  | 24.4 | 24.7 |
| Y = 3H          | 22.4                                                           | 23.8 | 22.8  | 24.1 | 24.4 | 22.4           | 23.8 | 22.8  | 24.1 | 24.4 |
| Y = 4H          | 22.3                                                           | 23.6 | 22.7  | 23.9 | 24.2 | 22.3           | 23.6 | 22.7  | 23.9 | 24.2 |
| Y = 6H          | 22.3                                                           | 23.5 | 22.6  | 23.8 | 24.1 | 22.3           | 23.5 | 22.6  | 23.8 | 24.1 |
| Y = 8H          | 22.2                                                           | 23.4 | 22.6  | 23.7 | 24.0 | 22.2           | 23.4 | 22.6  | 23.7 | 24.0 |
| Y = 12H         | 22.2                                                           | 23.3 | 22.6  | 23.6 | 24.0 | 22.2           | 23.3 | 22.6  | 23.6 | 24.0 |
| X = 4H Y = 2H   | 22.4                                                           | 23.7 | 22.7  | 23.9 | 24.2 | 22.4           | 23.7 | 22.7  | 23.9 | 24.2 |
| Y = 3H          | 22.2                                                           | 23.3 | 22.6  | 23.6 | 24.0 | 22.2           | 23.3 | 22.6  | 23.6 | 24.0 |
| Y = 4H          | 22.1                                                           | 23.1 | 22.5  | 23.4 | 23.8 | 22.1           | 23.1 | 22.5  | 23.4 | 23.8 |
| Y = 6H          | 22.1                                                           | 22.9 | 22.5  | 23.3 | 23.7 | 22.1           | 22.9 | 22.5  | 23.3 | 23.7 |
| Y = 8H          | 22.0                                                           | 22.8 | 22.5  | 23.2 | 23.6 | 22.0           | 22.8 | 22.5  | 23.2 | 23.6 |
| Y = 12H         | 22.0                                                           | 22.7 | 22.4  | 23.1 | 23.6 | 22.0           | 22.7 | 22.4  | 23.1 | 23.6 |
| X = 8H Y = 4H   | 22.0                                                           | 22.8 | 22.5  | 23.2 | 23.6 | 22.0           | 22.8 | 22.5  | 23.2 | 23.6 |
| Y = 6H          | 22.0                                                           | 22.6 | 22.4  | 23.0 | 23.5 | 22.0           | 22.6 | 22.4  | 23.0 | 23.5 |
| Y = 8H          | 21.9                                                           | 22.5 | 22.4  | 22.9 | 23.4 | 21.9           | 22.5 | 22.4  | 22.9 | 23.4 |
| Y = 12H         | 21.9                                                           | 22.4 | 22.4  | 22.9 | 23.4 | 21.9           | 22.4 | 22.4  | 22.9 | 23.4 |
| X = 12H Y = 4H  | 22.0                                                           | 22.7 | 22.4  | 23.1 | 23.6 | 22.0           | 22.7 | 22.4  | 23.1 | 23.6 |
| Y = 6H          | 21.9                                                           | 22.5 | 22.4  | 22.9 | 23.4 | 21.9           | 22.5 | 22.4  | 22.9 | 23.4 |
| Y = 8H          | 21.9                                                           | 22.4 | 22.4  | 22.9 | 23.4 | 21.9           | 22.4 | 22.4  | 22.9 | 23.4 |
|                 | UGR Variations with Observer Position for Luminaire Spacings S |      |       |      |      |                |      |       |      |      |
| S = 1.0H        | +2.9                                                           |      | -13.9 |      |      | +2.9           |      | -13.9 |      |      |
| S = 1.5H        | +5.6                                                           |      | +0.0  |      |      | +5.6           |      | +0.0  |      |      |
| S = 2.0H        | +7.6                                                           |      | +0.0  |      |      | +7.6           |      | +0.0  |      |      |

## Kleureigenschappen

Correlated Colour Temperature : 4000

Ra: CRI (Ra) 80

Rendement

| 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                                  | 109                         | 107 | 105 | 103 | 101 | 100 | 99 | 98 | 97 | 91 |
| 2                                        | 99                          | 95  | 93  | 94  | 91  | 89  | 91 | 88 | 86 | 82 |
| 3                                        | 90                          | 85  | 81  | 86  | 82  | 79  | 83 | 80 | 77 | 73 |
| 4                                        | 82                          | 76  | 72  | 78  | 73  | 70  | 76 | 72 | 69 | 66 |
| 5                                        | 75                          | 68  | 64  | 71  | 66  | 62  | 70 | 65 | 62 | 59 |
| 6                                        | 68                          | 61  | 57  | 65  | 60  | 56  | 64 | 59 | 55 | 53 |
| 7                                        | 62                          | 56  | 51  | 60  | 54  | 50  | 59 | 54 | 50 | 47 |
| 8                                        | 57                          | 50  | 46  | 55  | 49  | 45  | 54 | 49 | 45 | 43 |
| 9                                        | 53                          | 46  | 41  | 51  | 45  | 41  | 50 | 45 | 41 | 39 |
| 10                                       | 49                          | 42  | 38  | 48  | 42  | 37  | 47 | 41 | 37 | 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                                      | 73                          | 65  | 69  | 63  | 70  | 64  | 67  | 62 | 61 | 56 |
| 1.00                                      | 82                          | 74  | 76  | 70  | 78  | 72  | 74  | 69 | 68 | 63 |
| 1.25                                      | 91                          | 84  | 83  | 78  | 86  | 81  | 81  | 77 | 76 | 72 |
| 1.50                                      | 97                          | 90  | 88  | 84  | 91  | 86  | 86  | 82 | 81 | 77 |
| 2.00                                      | 104                         | 97  | 93  | 89  | 97  | 92  | 90  | 87 | 86 | 82 |
| 2.50                                      | 109                         | 104 | 96  | 93  | 101 | 97  | 94  | 91 | 90 | 86 |
| 3.00                                      | 113                         | 109 | 99  | 97  | 105 | 102 | 97  | 95 | 93 | 90 |
| 4.00                                      | 117                         | 113 | 101 | 99  | 107 | 104 | 98  | 96 | 95 | 91 |
| 5.00                                      | 120                         | 116 | 103 | 101 | 109 | 107 | 100 | 98 | 97 | 93 |

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