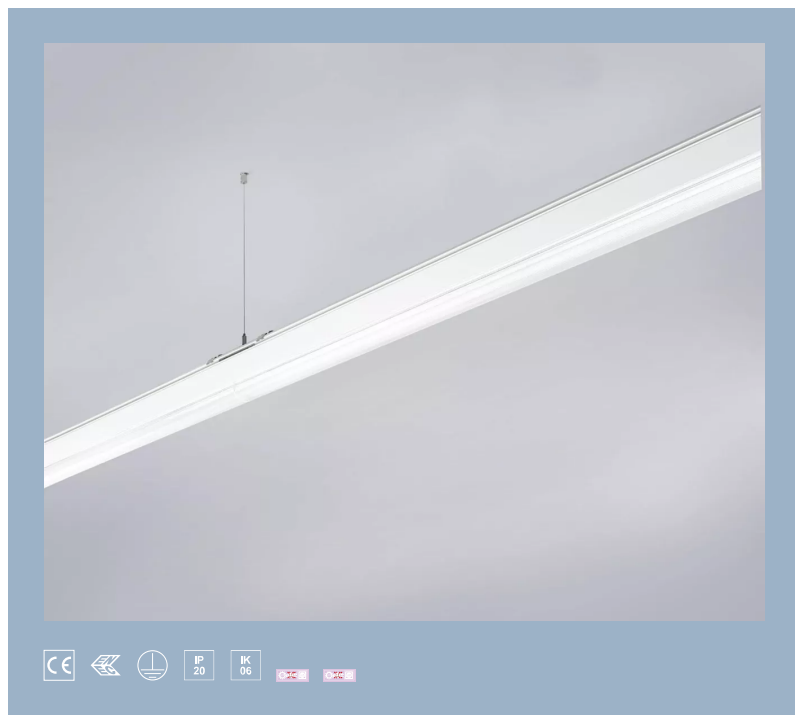


# E4001/LED2N060DE



**industrial luminaire • linear**

**Application :** Production sites

**housing:** lacquered aluminium

**light source :** LED • 4000 K

**optics :** DUAL?LENS • polycarbonate (PC) • narrow-angle

**UGR classification :** <=22

**luminous flux:** 6200 lm

**luminous efficacy :** 122 lm/W

**LLMF:** 96% @ 50khrs (Tq=25°C)

## Product information

### Mechanical properties

**dimensions :** 2000 mm x 60 mm x 135 mm

**colour:** RAL9016 - traffic white (textured)

**type :** in-line mounting: intermediate luminaire

**IP:** IP20

**IK:** IK06

### Electrical properties

**driver:** DALI driver controlled by integrated sensor

**power :** 51 W

**voltage :** 220-240V

**frequency :** 50-60Hz AC

**photobiological safety :** EN 62471: RISK GROUP 1  
UNLIMITED

Luminance

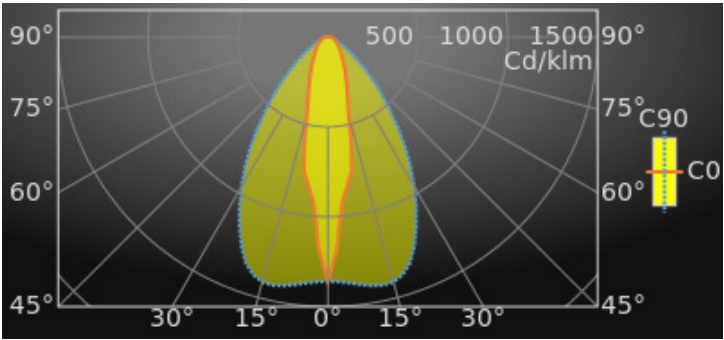
luminous flux : 6200 lm

luminous efficacy : 122 lm/W

UGR classification =: <=22

luminous area : 0.12 m²

| Average Luminances (Cd/m²) for 6200lm |      |      |      |      |       |
|---------------------------------------|------|------|------|------|-------|
| Gamma                                 | C0   | C30  | C45  | C60  | C90   |
| 45°                                   | 4537 | 5191 | 6509 | 9721 | 27971 |
| 50°                                   | 3896 | 4357 | 5278 | 7513 | 20286 |
| 55°                                   | 3380 | 3710 | 4278 | 5753 | 14840 |
| 60°                                   | 2969 | 3231 | 3451 | 4464 | 10853 |
| 65°                                   | 2616 | 2838 | 2832 | 3607 | 8329  |
| 70°                                   | 2354 | 2490 | 2382 | 3024 | 6910  |
| 75°                                   | 2155 | 2189 | 2056 | 2535 | 6674  |
| 80°                                   | 2012 | 1931 | 1751 | 2047 | 6321  |
| 85°                                   | 1902 | 1687 | 1433 | 1619 | 5444  |



Classifications

CIE: 710 / 894 / 961 / 989 / 1000

CIE FLUXCODE : 0.72 / 0.90 / 0.97 / 0.99 / 1.00

BZ: BZ1/0.8/BZ2

CAE: CAE 1/15°/CAE 2/25°/CAE 4/75°/CAE 3

DIN: A60 (Nach Arbeitsblatt 7 und 8)

DIN\_U: Phi u = 0.99

DIN\_SU: Phi su = 0.72

UTE: 0.99 B + 0.01 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         | 97      | 8     |
| 50         | 97      | 10    |
| 60         | 96      | 12    |

#### Luminous intensities in cd

##### Intensity for 6200lm

| Gamma | C0     | C45    | C90    | Gamma | C0    | C45  | C90 |
|-------|--------|--------|--------|-------|-------|------|-----|
| 0°    | 8421.0 | 8421.0 | 8421.0 | 90°   | 109.9 | 50.9 | 2.4 |
| 5°    | 5724.4 | 6751.4 | 8512.6 | 95°   | 89.7  | 31.4 | 0.0 |
| 10°   | 4706.7 | 5043.1 | 8704.4 | 100°  | 69.5  | 15.7 | 0.0 |
| 15°   | 2768.3 | 4198.2 | 8749.8 | 105°  | 49.9  | 5.5  | 0.0 |
| 20°   | 1938.1 | 2847.6 | 8280.4 | 110°  | 31.5  | 1.3  | 0.0 |
| 25°   | 1455.6 | 2096.3 | 7207.8 | 115°  | 16.3  | 0.3  | 0.0 |
| 30°   | 1086.7 | 1612.0 | 5954.5 | 120°  | 5.3   | 0.0  | 0.0 |
| 35°   | 852.4  | 1251.5 | 4649.5 | 125°  | 1.1   | 0.0  | 0.0 |
| 40°   | 697.4  | 967.0  | 3379.1 | 130°  | 0.3   | 0.0  | 0.0 |
| 45°   | 577.5  | 747.6  | 2373.4 | 135°  | 0.0   | 0.0  | 0.0 |
| 50°   | 479.6  | 578.7  | 1564.8 | 140°  | 0.0   | 0.0  | 0.0 |
| 55°   | 398.8  | 443.1  | 1021.4 | 145°  | 0.0   | 0.0  | 0.0 |
| 60°   | 332.4  | 333.9  | 651.2  | 150°  | 0.0   | 0.0  | 0.0 |
| 65°   | 275.0  | 252.5  | 422.4  | 155°  | 0.0   | 0.0  | 0.0 |
| 70°   | 229.3  | 192.7  | 283.6  | 160°  | 0.0   | 0.0  | 0.0 |
| 75°   | 191.8  | 148.1  | 207.3  | 165°  | 0.0   | 0.0  | 0.0 |
| 80°   | 160.8  | 109.7  | 131.7  | 170°  | 0.0   | 0.0  | 0.0 |
| 85°   | 133.5  | 75.6   | 56.9   | 175°  | 0.0   | 0.0  | 0.0 |
| 90°   | 109.9  | 50.9   | 2.4    | 180°  | 0.0   | 0.0  | 0.0 |

#### UGR classification =

Corrected Glare Ratings for a Total Lamp Flux of 6200lm (S = 0.25H)

|                                                                | Room Reflection Factors (%) |       |       |      |      |                |      |      |      |      |
|----------------------------------------------------------------|-----------------------------|-------|-------|------|------|----------------|------|------|------|------|
|                                                                | Ceiling                     | Walls | Floor | 70   | 70   | 50             | 50   | 30   | 30   | 70   |
|                                                                | 50                          | 30    | 50    | 30   | 30   | 50             | 30   | 50   | 30   | 50   |
|                                                                | 20                          | 20    | 20    | 20   | 20   | 20             | 20   | 20   | 20   | 20   |
| Room Dimensions                                                | Viewed Crosswise            |       |       |      |      | Viewed Endwise |      |      |      |      |
| X = 2H Y = 2H                                                  | 14.0                        | 15.5  | 14.3  | 15.7 | 16.0 | 19.9           | 21.3 | 20.2 | 21.6 | 21.8 |
| Y = 3H                                                         | 15.1                        | 16.4  | 15.5  | 16.7 | 17.0 | 20.4           | 21.7 | 20.7 | 22.0 | 22.3 |
| Y = 4H                                                         | 15.7                        | 16.9  | 16.0  | 17.2 | 17.5 | 20.7           | 21.9 | 21.0 | 22.2 | 22.5 |
| Y = 6H                                                         | 16.2                        | 17.4  | 16.6  | 17.7 | 18.0 | 20.9           | 22.1 | 21.3 | 22.4 | 22.7 |
| Y = 8H                                                         | 16.5                        | 17.6  | 16.9  | 17.9 | 18.3 | 21.0           | 22.1 | 21.4 | 22.4 | 22.8 |
| Y = 12H                                                        | 16.7                        | 17.8  | 17.1  | 18.1 | 18.5 | 21.1           | 22.1 | 21.4 | 22.4 | 22.8 |
| X = 4H Y = 2H                                                  | 14.5                        | 15.8  | 14.9  | 16.1 | 16.4 | 19.7           | 21.0 | 20.1 | 21.3 | 21.6 |
| Y = 3H                                                         | 15.9                        | 16.9  | 16.3  | 17.3 | 17.6 | 20.4           | 21.4 | 20.8 | 21.8 | 22.1 |
| Y = 4H                                                         | 16.6                        | 17.5  | 17.0  | 17.9 | 18.3 | 20.8           | 21.7 | 21.2 | 22.1 | 22.4 |
| Y = 6H                                                         | 17.3                        | 18.1  | 17.7  | 18.5 | 18.9 | 21.1           | 21.9 | 21.6 | 22.3 | 22.8 |
| Y = 8H                                                         | 17.6                        | 18.4  | 18.1  | 18.8 | 19.2 | 21.3           | 22.0 | 21.7 | 22.4 | 22.9 |
| Y = 12H                                                        | 18.0                        | 18.7  | 18.4  | 19.1 | 19.6 | 21.3           | 22.0 | 21.8 | 22.5 | 22.9 |
| X = 8H Y = 4H                                                  | 16.8                        | 17.6  | 17.2  | 18.0 | 18.4 | 20.7           | 21.5 | 21.2 | 21.9 | 22.4 |
| Y = 6H                                                         | 17.7                        | 18.3  | 18.1  | 18.8 | 19.2 | 21.2           | 21.8 | 21.6 | 22.3 | 22.7 |
| Y = 8H                                                         | 18.1                        | 18.7  | 18.6  | 19.2 | 19.7 | 21.3           | 21.9 | 21.8 | 22.4 | 22.9 |
| Y = 12H                                                        | 18.6                        | 19.1  | 19.1  | 19.6 | 20.1 | 21.5           | 22.0 | 22.0 | 22.5 | 23.0 |
| X = 12H Y = 4H                                                 | 16.8                        | 17.5  | 17.3  | 17.9 | 18.4 | 20.7           | 21.4 | 21.2 | 21.9 | 22.3 |
| Y = 6H                                                         | 17.7                        | 18.3  | 18.2  | 18.7 | 19.2 | 21.2           | 21.7 | 21.6 | 22.2 | 22.7 |
| Y = 8H                                                         | 18.2                        | 18.7  | 18.7  | 19.2 | 19.7 | 21.4           | 21.9 | 21.9 | 22.3 | 22.9 |
| UGR Variations with Observer Position for Luminaire Spacings S |                             |       |       |      |      |                |      |      |      |      |
| S = 1.0H                                                       | +0.3                        |       | -0.3  |      | +1.0 |                | -0.9 |      |      |      |
| S = 1.5H                                                       | +0.4                        |       | -0.6  |      | +2.6 |                | -1.7 |      |      |      |
| S = 2.0H                                                       | +0.4                        |       | -0.9  |      | +4.0 |                | -2.4 |      |      |      |

#### Colour properties

Correlated Colour Temperature : 4000

Ra: CRI (Ra) 80

Efficiency

| Utilisation Factors according to IES (%) |                             |     |     |     |    |    |    |    |    |    | Utilisation Factors according to LiTG (%) |                             |     |     |    |     |     |    |    |    |    |
|------------------------------------------|-----------------------------|-----|-----|-----|----|----|----|----|----|----|-------------------------------------------|-----------------------------|-----|-----|----|-----|-----|----|----|----|----|
|                                          | Room Reflection Factors (%) |     |     |     |    |    |    |    |    |    |                                           | Room Reflection Factors (%) |     |     |    |     |     |    |    |    |    |
| Ceiling                                  | 80                          | 80  | 80  | 50  | 50 | 50 | 30 | 30 | 30 | 0  | Ceiling                                   | 80                          | 80  | 80  | 50 | 50  | 50  | 50 | 30 | 0  |    |
| Walls                                    | 50                          | 30  | 10  | 50  | 30 | 10 | 50 | 30 | 10 | 0  | Walls                                     | 50                          | 30  | 50  | 30 | 50  | 30  | 50 | 30 | 30 | 0  |
| Floor                                    | 20                          | 20  | 20  | 20  | 20 | 20 | 20 | 20 | 20 | 0  | Floor                                     | 30                          | 30  | 10  | 10 | 30  | 30  | 10 | 10 | 10 | 0  |
| RCR = 1                                  | 107                         | 105 | 103 | 100 | 98 | 97 | 96 | 95 | 94 | 88 | k = 0.60                                  | 65                          | 58  | 62  | 56 | 63  | 57  | 61 | 56 | 55 | 50 |
| 2                                        | 97                          | 93  | 90  | 91  | 88 | 86 | 88 | 85 | 83 | 78 | 0.80                                      | 75                          | 67  | 70  | 64 | 72  | 65  | 68 | 63 | 63 | 58 |
| 3                                        | 88                          | 83  | 79  | 83  | 79 | 76 | 81 | 77 | 75 | 71 | 1.00                                      | 82                          | 75  | 76  | 71 | 78  | 72  | 74 | 70 | 69 | 64 |
| 4                                        | 81                          | 75  | 71  | 77  | 72 | 69 | 75 | 70 | 67 | 64 | 1.25                                      | 91                          | 83  | 83  | 78 | 86  | 80  | 81 | 77 | 76 | 71 |
| 5                                        | 75                          | 68  | 64  | 71  | 66 | 62 | 69 | 65 | 61 | 58 | 1.50                                      | 96                          | 89  | 87  | 82 | 90  | 85  | 84 | 81 | 79 | 75 |
| 6                                        | 69                          | 63  | 58  | 66  | 61 | 57 | 65 | 60 | 56 | 54 | 2.00                                      | 103                         | 96  | 92  | 88 | 95  | 91  | 89 | 86 | 84 | 80 |
| 7                                        | 64                          | 58  | 53  | 62  | 56 | 52 | 61 | 56 | 52 | 50 | 2.50                                      | 107                         | 102 | 95  | 91 | 99  | 95  | 92 | 89 | 88 | 83 |
| 8                                        | 60                          | 54  | 49  | 58  | 52 | 49 | 57 | 52 | 48 | 46 | 3.00                                      | 111                         | 106 | 97  | 95 | 103 | 99  | 94 | 92 | 91 | 86 |
| 9                                        | 57                          | 50  | 46  | 55  | 49 | 45 | 54 | 49 | 45 | 43 | 4.00                                      | 115                         | 110 | 99  | 97 | 105 | 102 | 96 | 94 | 93 | 88 |
| 10                                       | 53                          | 47  | 43  | 52  | 46 | 42 | 51 | 46 | 42 | 40 | 5.00                                      | 118                         | 114 | 101 | 99 | 107 | 105 | 98 | 96 | 94 | 90 |

Available accessories

|         |                                                |
|---------|------------------------------------------------|
| E7H301  | Connector (1 per line), 5 or 7 pole, per piece |
| E4H1000 | Line end piece, per piece                      |
| E4H111  | Single mounting bracket for ceiling mounting   |
| E4H112  | Double mounting bracket for ceiling mounting   |
| E4H121  | Single mounting bracket for threaded rod       |
| E4H122  | Double mounting bracket for threaded rod       |
| E4H131  | Single mounting bracket for chain              |
| E4H141  | Single mounting bracket for steel wire         |
| E4H142  | Double mounting bracket for steel wire         |
| E4H132  | Double mounting bracket for chain              |
| E4H103  | Alignment bracket                              |



