

# E4001/LED4N120DE

industrial luminaire • linear



*application* : Industry, Logistics

*housing*: lacquered aluminium

*light source* : LED LP • 4000 K

*optics* : narrow-angle

*UGR classification* : <=22

*luminous flux*: 12550 lm

*luminous efficacy* : 123 lm/W

*LLMF*: 98% @ 50khrs (Tq=25°C)



## Mechanical properties

*dimensions* : 4000 mm x 60 mm x 135 mm

*colour*: RAL9016-traffic white (textured)

*type* : intermediate luminaire

*IP*: IP20

## Luminance

*luminous flux* : 12550 lm

*luminous efficacy* : 123 lm/W

*UGR classification*: <=22

*luminous area* : 0.24 m<sup>2</sup>

## Electrical properties

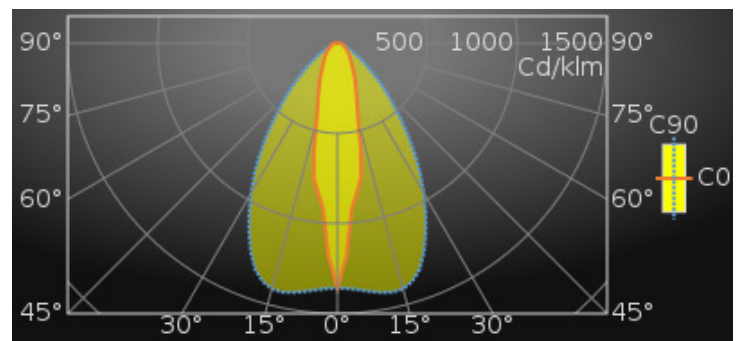
*driver*: DALI dimmable, with daylight sensor ELS

*power* : 102 W

*voltage* : 220-240V

*frequency* : 50-60Hz AC

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



Average Luminances (Cd/m<sup>2</sup>) for 12550lm

Gamma	C0	C30	C45	C60	C90
45°	4592	5254	6588	9839	28309
50°	3943	4410	5342	7604	20532
55°	3421	3755	4330	5822	15019
60°	3005	3270	3493	4518	10985
65°	2648	2872	2866	3651	8430
70°	2382	2520	2411	3061	6994
75°	2181	2216	2081	2565	6754
80°	2037	1954	1773	2071	6397
85°	1925	1707	1450	1639	5510

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## 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

## 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	99	10
60	98	12

Intensity for 12550lm

Gamma	C0	C45	C90	Gamma	C0	C45	C90
0°	17045.8	17045.8	17045.8	90°	222.5	103.0	4.8
5°	11587.3	13666.2	17231.1	95°	181.6	63.5	0.0
10°	9527.2	10208.3	17619.4	100°	140.7	31.9	0.0
15°	5603.5	8497.9	17711.2	105°	100.9	11.2	0.0
20°	3923.1	5764.2	16761.1	110°	63.7	2.7	0.0
25°	2946.5	4243.4	14590.0	115°	32.9	0.5	0.0
30°	2199.8	3263.0	12053.0	120°	10.6	0.0	0.0
35°	1725.5	2533.3	9411.4	125°	2.1	0.0	0.0
40°	1411.6	1957.3	6839.9	130°	0.5	0.0	0.0
45°	1168.9	1513.3	4804.2	135°	0.0	0.0	0.0
50°	970.8	1171.3	3167.4	140°	0.0	0.0	0.0
55°	807.3	897.0	2067.5	145°	0.0	0.0	0.0
60°	672.9	675.8	1318.2	150°	0.0	0.0	0.0
65°	556.6	511.2	855.1	155°	0.0	0.0	0.0
70°	464.2	390.1	574.1	160°	0.0	0.0	0.0
75°	388.2	299.8	419.6	165°	0.0	0.0	0.0
80°	325.6	222.0	266.6	170°	0.0	0.0	0.0
85°	270.3	152.9	115.2	175°	0.0	0.0	0.0
90°	222.5	103.0	4.8	180°	0.0	0.0	0.0

## UGR classification

Corrected Glare Ratings for a Total Lamp Flux of 12550lm (S = 0.25H)

Room Dimensions	Room Reflection Factors (%)													
	Ceiling	Walls	Floor	Viewed Crosswise		Viewed Endwise								
X = 2H Y = 2H	70	70	20	14.1	15.5	14.4	15.8	16.0	19.9	21.3	20.2	21.6	21.9	
Y = 3H	50	30	20	15.2	16.5	15.5	16.8	17.1	20.4	21.7	20.8	22.0	22.3	
Y = 4H	50	30	20	15.7	17.0	16.1	17.3	17.6	20.7	21.9	21.1	22.2	22.6	
Y = 6H	50	30	20	16.3	17.4	16.6	17.7	18.1	21.0	22.1	21.3	22.4	22.8	
Y = 8H	50	30	20	16.5	17.6	16.9	18.0	18.3	21.0	22.1	21.4	22.5	22.8	
Y = 12H	50	30	20	16.8	17.8	17.2	18.2	18.5	21.1	22.1	21.5	22.5	22.8	
X = 4H Y = 2H	70	70	20	14.6	15.8	15.0	16.1	16.4	19.8	21.0	20.1	21.3	21.6	
Y = 3H	50	30	20	15.9	17.0	16.3	17.3	17.7	20.4	21.5	20.8	21.8	22.2	
Y = 4H	50	30	20	16.6	17.5	17.0	17.9	18.3	20.8	21.7	21.2	22.1	22.5	
Y = 6H	50	30	20	17.3	18.1	17.8	18.5	19.0	21.2	22.0	21.6	22.4	22.8	
Y = 8H	50	30	20	17.7	18.4	18.1	18.8	19.3	21.3	22.1	21.7	22.5	22.9	
Y = 12H	50	30	20	18.0	18.7	18.5	19.1	19.6	21.4	22.1	21.9	22.5	23.0	
X = 8H Y = 4H	70	70	20	16.8	17.6	17.3	18.0	18.4	20.8	21.5	21.2	22.0	22.4	
Y = 6H	50	30	20	17.7	18.3	18.2	18.8	19.3	21.2	21.8	21.7	22.3	22.8	
Y = 8H	50	30	20	18.2	18.7	18.7	19.2	19.7	21.4	22.0	21.9	22.4	22.9	
Y = 12H	50	30	20	18.7	19.1	19.2	19.6	20.2	21.5	22.0	22.0	22.5	23.1	
X = 12H Y = 4H	70	70	20	16.8	17.5	17.3	18.0	18.4	20.8	21.5	21.2	21.9	22.4	
Y = 6H	50	30	20	17.7	18.3	18.2	18.8	19.3	21.2	21.8	21.7	22.2	22.7	
Y = 8H	50	30	20	18.3	18.8	18.8	19.2	19.8	21.4	21.9	21.9	22.4	22.9	
<b>UGR Variations with Observer Position for Luminaire Spacings S</b>														
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

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## 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	107	105	103	100	98	97	96	95	94	88
2	97	93	90	91	88	86	88	85	83	78
3	88	83	79	83	79	76	81	77	75	71
4	81	75	71	77	72	69	75	70	67	64
5	75	68	64	71	66	62	69	65	61	58
6	69	63	58	66	61	57	65	60	56	54
7	64	58	53	62	56	52	61	56	52	50
8	60	54	49	58	52	49	57	52	48	46
9	57	50	46	55	49	45	54	49	45	43
10	53	47	43	52	46	42	51	46	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	58	62	56	63	57	61	56	55	50
0.80	75	67	70	64	72	65	68	63	63	58
1.00	82	75	76	71	78	72	74	70	69	64
1.25	91	83	83	78	86	80	81	77	76	71
1.50	96	89	87	82	90	85	84	81	79	75
2.00	103	96	92	88	95	91	89	86	84	80
2.50	107	102	95	91	99	95	92	89	88	83
3.00	111	106	97	95	103	99	94	92	91	86
4.00	115	110	99	97	105	102	96	94	93	88
5.00	118	114	101	99	107	105	98	96	94	90