

# U23F2/LEDN35DE

recessed luminaire • square

*application* : office, healthcare, education, horeca, retail, leisure

*housing*: lacquered sheet steel

*light source* : LED LP • 4000 K

*optics* : Diffuser • opal acrylic • medium wide-angle

*UGR classification* : <=22

*luminous flux*: 3600 lm

*luminous efficacy* : 124 lm/W



## Mechanical properties

*dimensions* : 596 mm x 596 mm x 14 mm

*ceiling modulation* : M600

*colour*: RAL9016-traffic white (textured)

*type* : individual luminaire

## Luminance

*luminous flux* : 3600 lm

*luminous efficacy* : 124 lm/W

*UGR classification*: <=22

*luminous area* : 0.28 m<sup>2</sup>

## Electrical properties

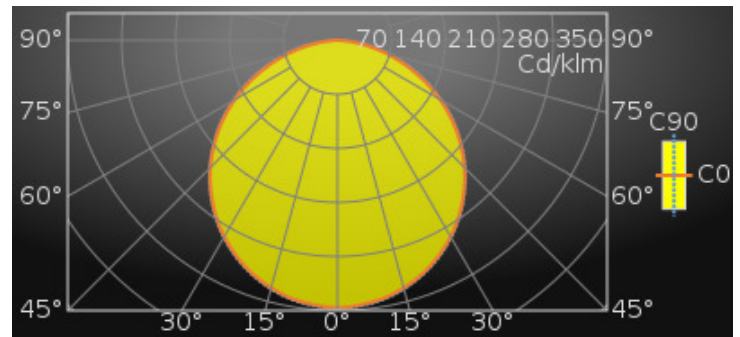
*driver*: DALI dimmable, with daylight sensor ELS

*power* : 29 W

*voltage* : 220-240V

*frequency* : 50-60Hz AC

*photobiological safety* : IEC/TR 62778: RG 0



Average Luminances (Cd/m<sup>2</sup>) for 3600lm

Gamma	C0	C30	C45	C60	C90
45°	4228	4223	4222	4225	4242
50°	4162	4158	4157	4160	4180
55°	4075	4071	4070	4075	4109
60°	3955	3955	3959	3969	3994
65°	3782	3794	3809	3823	3870
70°	3552	3578	3606	3634	3700
75°	3254	3307	3341	3387	3479
80°	2821	2931	3012	3059	3174
85°	2082	2203	2348	2481	1889

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## Classifications

CIE: 467 / 784 / 955 / 1000 / 1000

CIE FLUXCODE : 0.47 / 0.78 / 0.95 / 1.00 / 1.00

BZ: BZ5/1.25/BZ4/1.5/BZ5

CAE: Symmetrical

DIN: A40 (Nach Arbeitsblatt 7)

DIN\_U: Phi u = 1.00

DIN\_SU: Phi su = 0.54

UTE: 1.00 E + 0.00 T

Intensity for 3600lm

Gamma	C0	C45	C90
0°	1248.0	1248.0	1248.0
5°	1238.4	1238.8	1242.6
10°	1222.9	1222.6	1226.9
15°	1195.6	1196.2	1200.1
20°	1159.7	1159.1	1163.3
25°	1113.5	1112.7	1117.2
30°	1057.6	1057.5	1060.9
35°	993.2	992.6	996.7
40°	920.5	919.3	923.2
45°	839.7	838.6	842.6
50°	751.5	750.6	754.7
55°	656.6	655.7	662.1
60°	555.5	556.0	561.0
65°	449.0	452.2	459.4
70°	341.3	346.5	355.5
75°	236.6	242.9	252.9
80°	137.6	146.9	154.8
85°	51.0	57.5	46.2
90°	0.0	0.0	0.0

## UGR classification

Corrected Glare Ratings for a Total Lamp Flux of 3600lm (S = 0.25H)

Ceiling Walls Floor	Room Reflection Factors (%)									
	70	70	50	50	30	70	70	50	50	30
Room Dimensions	Viewed Crosswise					Viewed Endwise				
X = 2H Y = 2H	17.4	19.2	17.7	19.5	19.7	17.4	19.2	17.7	19.5	19.8
Y = 3H	18.9	20.6	19.3	20.9	21.2	19.0	20.7	19.3	20.9	21.3
Y = 4H	19.5	21.1	19.8	21.4	21.7	19.6	21.2	20.0	21.5	21.8
Y = 6H	19.9	21.3	20.3	21.7	22.0	20.1	21.6	20.5	21.9	22.2
Y = 8H	20.0	21.4	20.4	21.7	22.1	20.2	21.6	20.6	22.0	22.3
Y = 12H	20.0	21.4	20.4	21.7	22.1	20.3	21.6	20.7	22.0	22.3
X = 4H Y = 2H	18.0	19.6	18.4	19.9	20.2	18.1	19.6	18.4	19.9	20.3
Y = 3H	19.7	21.1	20.1	21.5	21.8	19.8	21.2	20.2	21.5	21.9
Y = 4H	20.5	21.7	20.9	22.0	22.4	20.6	21.8	21.0	22.2	22.6
Y = 6H	21.0	22.1	21.4	22.5	22.9	21.2	22.3	21.6	22.7	23.1
Y = 8H	21.1	22.2	21.6	22.6	23.0	21.4	22.4	21.8	22.8	23.2
Y = 12H	21.2	22.1	21.7	22.6	23.0	21.4	22.4	21.9	22.8	23.2
X = 8H Y = 4H	20.8	21.8	21.2	22.2	22.6	20.9	21.9	21.3	22.3	22.7
Y = 6H	21.4	22.3	21.9	22.7	23.2	21.6	22.5	22.1	22.9	23.4
Y = 8H	21.7	22.4	22.1	22.9	23.4	21.9	22.6	22.4	23.1	23.6
Y = 12H	21.8	22.4	22.3	22.9	23.5	22.0	22.7	22.5	23.2	23.7
X = 12H Y = 4H	20.8	21.7	21.2	22.1	22.6	20.9	21.8	21.4	22.3	22.7
Y = 6H	21.5	22.3	22.0	22.7	23.2	21.7	22.4	22.2	22.9	23.4
Y = 8H	21.8	22.4	22.3	22.9	23.4	22.0	22.6	22.5	23.1	23.6
<b>UGR Variations with Observer Position for Luminaire Spacings S</b>										
S = 1.0H	+0.1		-0.1		+0.1		-0.1			
S = 1.5H	+0.2		-0.3		+0.2		-0.3			
S = 2.0H	+0.4		-0.6		+0.4		-0.6			

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## Colour properties

Correlated Colour Temperature : 4000

Ra: 80

## Efficiency

Utilisation Factors according to IES (%)

	Room Reflection Factors (%)									
	Ceiling	Walls	Floor	1	2	3	4	5	6	7
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	103	99	97	96	94	92	92	90	89	83
2	89	83	79	83	79	76	80	76	74	69
3	77	71	65	73	67	63	70	66	62	58
4	69	61	55	65	58	54	62	57	53	50
5	61	53	47	58	51	46	56	50	46	43
6	55	47	41	52	45	40	51	45	40	37
7	50	42	36	48	41	36	46	40	35	33
8	46	38	32	44	37	32	43	36	32	29
9	42	34	29	40	33	29	39	33	28	26
10	39	31	26	37	31	26	36	30	26	24

Utilisation Factors according to LiTG (%)

	Room Reflection Factors (%)									
	Ceiling	Walls	Floor	1	2	3	4	5	6	7
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	47	38	45	37	45	37	43	36	36	29
0.80	58	49	55	47	55	47	53	46	45	38
1.00	67	57	62	54	63	55	60	53	52	45
1.25	77	67	70	63	72	64	68	62	61	54
1.50	84	74	76	69	78	71	73	67	66	60
2.00	93	84	83	77	86	79	80	75	73	67
2.50	99	92	88	83	91	86	85	80	79	73
3.00	105	98	92	87	96	91	88	85	83	78
4.00	110	104	95	91	100	96	92	89	87	82
5.00	114	109	98	95	104	100	94	92	90	86

## Available accessories

U23H2 recessed mounting frame for plaster-board and wooden ceilings M600

U23H4 surface mounted rim M600