

US3141/LEDN20D

recessed luminaire • square

application : Office, Healthcare, Education, Horeca, Retail, Leisure

housing: lacquered sheet steel

light source : low power LED • 4000 K

optics : Softlight • Closed lamp shielding • wide-angle

UGR classification : <=19

luminous flux: 2200 lm

luminous efficacy : 116 lm/W

LLMF: 98% @ 50khrs (Tq=25°C)



Mechanical properties

dimensions : 595 mm x 595 mm x 90 mm

cut-out size : 596 mm x 100 mm x 596 mm

ceiling modulation : M600

colour: specular white

type : individual luminaire

IP: IP20

Luminance

luminous flux : 2200 lm

luminous efficacy : 116 lm/W

luminance @ 65° : 3000 cd/m²

UGR classification: <=19

luminous area : 0.33 m²

Electrical properties

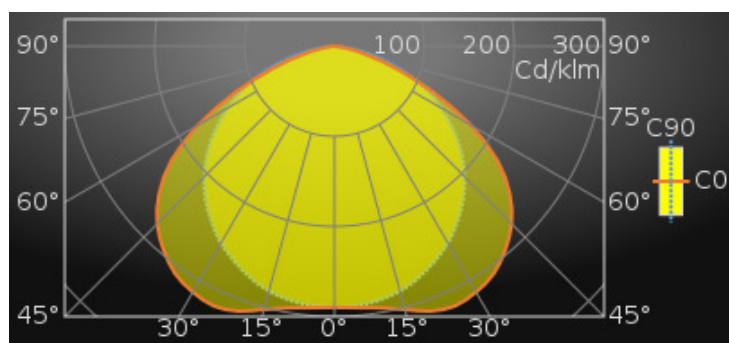
driver: DALI dimmable

power : 19 W

voltage : 220-240V

frequency : 50-60Hz AC

photobiological safety : EN 62471: RISK GROUP 0 UNLIMITED



Average Luminances (Cd/m²) for 2200lm

Gamma	C0	C30	C45	C60	C90
45°	2623	2576	2485	2320	1925
50°	2635	2613	2523	2372	1909
55°	2570	2589	2536	2406	1873
60°	2327	2470	2485	2396	1824
65°	1918	2125	2289	2305	1755
70°	1444	1641	1863	2081	1627
75°	987	1132	1318	1591	1432
80°	641	777	856	1002	1124
85°	287	377	470	617	839

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Classifications

CIE: 447 / 801 / 970 / 1000 / 1000

CIE FLUXCODE : 0.45 / 0.80 / 0.97 / 1.00 / 1.00

BZ: BZ10/0.8/BZ5/1.25/BZ4

CAE: CAE 1/65°/CAE 2

DIN: A40 (Nach Arbeitsblatt 7)

DIN_U: Phi u = 1.00

DIN_SU: Phi su = 0.54

UTE: 1.00 F + 0.00 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	98	10
60	98	12

Intensity for 2200lm

Gamma	C0	C45	C90
0°	637.5	637.5	637.5
5°	641.0	637.8	635.4
10°	648.7	638.4	629.9
15°	665.3	640.2	618.8
20°	688.2	645.8	601.9
25°	699.4	650.7	579.6
30°	693.1	646.9	555.4
35°	679.0	637.2	523.9
40°	650.0	614.4	490.4
45°	613.2	581.0	450.0
50°	560.0	536.3	405.6
55°	487.4	480.9	355.1
60°	384.7	410.8	301.5
65°	268.1	319.9	245.3
70°	163.3	210.7	184.0
75°	84.5	112.8	122.6
80°	36.8	49.1	64.5
85°	8.3	13.5	24.2
90°	0.0	0.0	0.0

UGR classification

Corrected Glare Ratings for a Total Lamp Flux of 2200lm (S = 0.25H)

Ceiling Walls Floor	Room Reflection Factors (%)									
	70	70	50	50	30	70	70	50	50	30
	50	30	50	30	30	50	30	50	30	30
	20	20	20	20	20	20	20	20	20	20
Room Dimensions	Viewed Crosswise					Viewed Endwise				
X = 2H Y = 2H	16.2	18.0	16.5	18.3	18.6	15.3	17.2	15.7	17.4	17.7
Y = 3H	17.1	18.7	17.4	19.0	19.3	16.8	18.5	17.1	18.8	19.1
Y = 4H	17.2	18.8	17.6	19.1	19.4	17.3	18.9	17.6	19.2	19.5
Y = 6H	17.2	18.7	17.6	19.0	19.4	17.5	19.0	17.9	19.3	19.7
Y = 8H	17.2	18.7	17.6	19.0	19.3	17.6	19.0	18.0	19.3	19.7
Y = 12H	17.2	18.6	17.6	18.9	19.3	17.6	19.0	18.0	19.3	19.7
X = 4H Y = 2H	16.8	18.4	17.2	18.7	19.0	16.2	17.8	16.5	18.1	18.4
Y = 3H	17.8	19.2	18.2	19.5	19.9	17.8	19.2	18.2	19.5	19.9
Y = 4H	18.0	19.2	18.4	19.6	20.0	18.4	19.6	18.8	20.0	20.4
Y = 6H	18.1	19.2	18.5	19.6	20.0	18.7	19.8	19.2	20.2	20.6
Y = 8H	18.1	19.1	18.6	19.5	20.0	18.8	19.8	19.3	20.2	20.7
Y = 12H	18.1	19.0	18.6	19.4	19.9	18.9	19.8	19.3	20.2	20.7
X = 8H Y = 4H	18.2	19.2	18.6	19.6	20.0	18.5	19.5	19.0	20.0	20.4
Y = 6H	18.4	19.2	18.8	19.6	20.1	19.0	19.8	19.4	20.2	20.7
Y = 8H	18.4	19.1	18.9	19.6	20.1	19.1	19.8	19.6	20.3	20.8
Y = 12H	18.4	19.0	18.9	19.5	20.0	19.2	19.8	19.7	20.3	20.8
X = 12H Y = 4H	18.2	19.1	18.6	19.5	20.0	18.5	19.4	19.0	19.9	20.3
Y = 6H	18.4	19.1	18.9	19.6	20.0	19.0	19.7	19.5	20.1	20.6
Y = 8H	18.4	19.0	18.9	19.5	20.0	19.1	19.7	19.6	20.2	20.7
UGR Variations with Observer Position for Luminaire Spacings S										
S = 1.0H	+0.1		-0.1		+0.1		-0.2			
S = 1.5H	+0.6		-0.6		+0.5		-0.6			
S = 2.0H	+1.1		-1.6		+0.8		-1.3			

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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	103	100	98	97	94	93	93	91	90	84
2	89	84	80	84	80	76	80	77	74	70
3	78	71	66	73	68	63	70	66	62	58
4	68	61	55	65	58	54	62	57	53	49
5	61	53	47	58	51	46	56	50	45	42
6	55	46	40	52	45	40	50	44	39	37
7	49	41	35	47	40	35	45	39	34	32
8	45	37	31	43	36	31	42	35	30	28
9	41	33	28	39	32	27	38	32	27	25
10	38	30	25	36	29	25	35	29	25	23

Utilisation Factors according to LiTG (%)

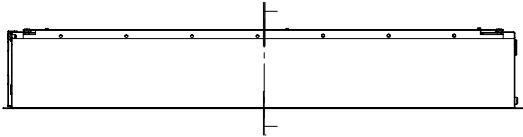
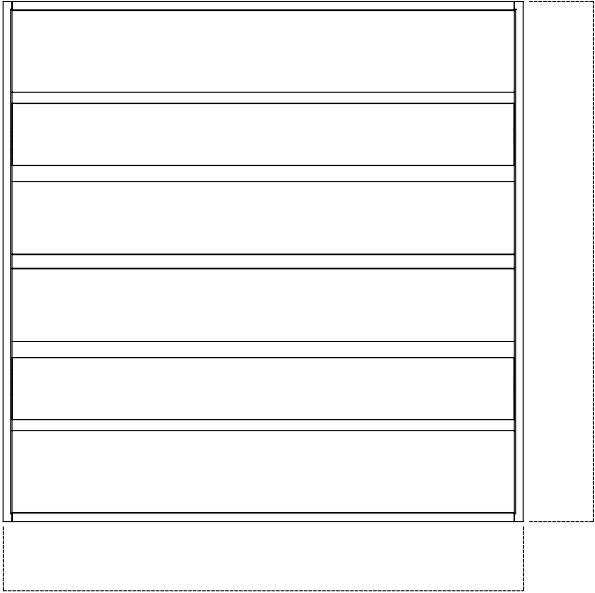
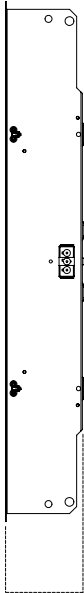
	Room Reflection Factors (%)									
	80	80	80	50	50	50	50	50	30	0
Ceiling	80	80	80	50	50	50	50	50	30	0
Walls	50	30	50	30	50	30	50	30	30	0
Floor	30	30	10	10	30	30	10	10	10	0
k = 0.60	46	36	43	35	43	35	42	35	34	27
0.80	57	48	54	46	54	46	52	45	44	37
1.00	66	57	62	54	62	54	59	52	52	45
1.25	77	67	70	63	72	64	67	61	60	54
1.50	84	75	76	69	78	71	73	67	66	60
2.00	93	84	83	77	86	80	80	75	74	68
2.50	100	92	88	83	92	86	85	81	79	74
3.00	105	99	92	88	97	92	89	85	84	79
4.00	111	105	96	92	101	97	92	89	88	83
5.00	115	110	98	95	104	101	95	93	91	86

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Available accessories

US01H010/600 *Mounting frame for plaster-board, wooden, ... ceiling*

Dimensional drawing



F-F