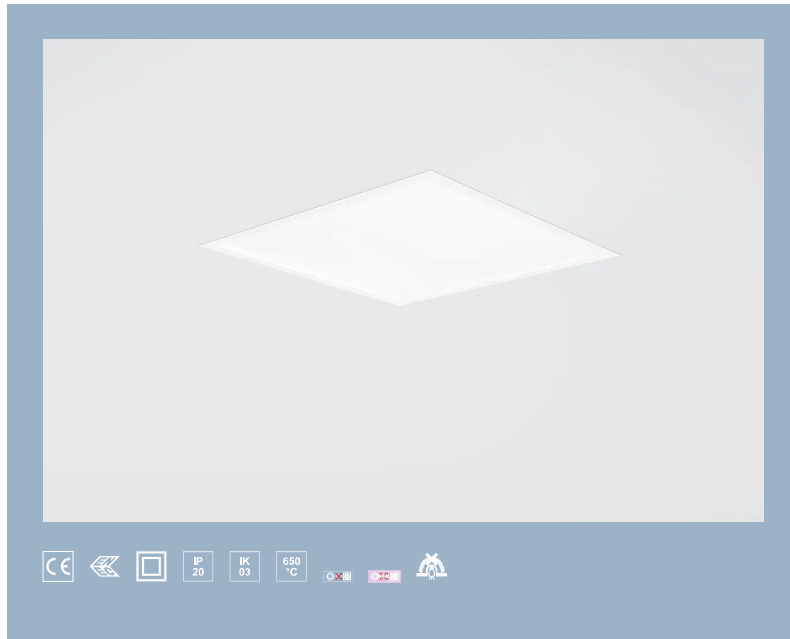


U23I2R1/WLD



recessed luminaire • square

Application : Education ? Classrooms, Toilet, Technical space, Education ? Canteen, Offices ? Desk, Healthcare ? Corridor, Healthcare ? Patient rooms

housing: lacquered sheet steel

light source : LED • K

optics : diffuser • acrylic (PMMA) microprism with diffuser foil • wide-angle

UGR classification : <=19

luminous flux: 3400 lm

luminous efficacy : 119 lm/W

LLMF: 90% @ 50khrs (Tq=25°C)

Product information

Mechanical properties

dimensions : 595 mm x 595 mm x 21 mm

cut-out size : 595 mm x 595 mm x 21.5 mm

shape : module 600

colour: RAL9016 - traffic white

type : individual luminaire

IP: IP20

IK: IK03

ambient temperature: -20°C - 35°C •

Electrical properties

driver: DALI dimmable

power : 28.5 W

voltage : 220-240V

frequency : 50-60Hz AC/DC

photobiological safety : EN 62471: RISK GROUP 0 UNLIMITED

Luminance

luminous flux : 3400 lm

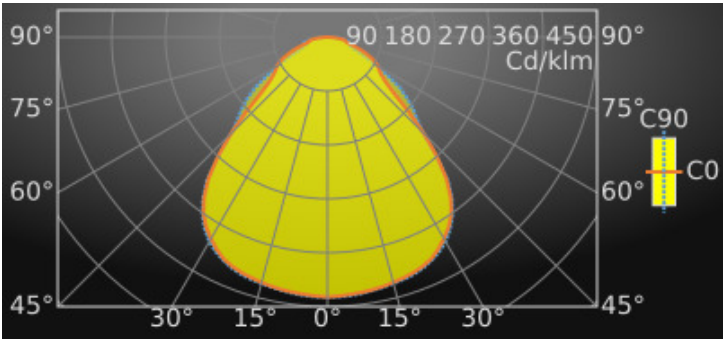
luminous efficacy : 119 lm/W

luminance @ 65° = : 3000 cd/m²

UGR classification =: <=19

luminous area : 0.3 m²

Average Luminances (Cd/m²) for 3400lm					
Gamma	C0	C30	C45	C60	C90
45°	3695	3765	3567	3535	3648
50°	2561	3466	2934	2333	3343
55°	2200	3134	2568	2012	2957
60°	2235	2350	2450	2087	2122
65°	2162	1628	2213	2005	1446
70°	1824	1399	2002	1624	1322
75°	1479	1901	1905	1322	1954
80°	1936	2194	1837	1834	2096
85°	1875	1935	1729	1716	1999



Classifications

CIE: 601 / 867 / 968 / 1000 / 1000

CIE FLUXCODE : 0.60 / 0.87 / 0.97 / 1.00 / 1.00

BZ: BZ3

CAE: Symmetrical

DIN: A50 (Nach Arbeitsblatt 7)

DIN_U: Phi u = 1.00

DIN_SU: Phi su = 0.62

UTE: 1.00 D + 0.00 T

Lifetime Data (Tq=25.0°C)

Time(hrs)	LLMF(%)	Cx(%)
10000	97	2
20000	95	4
30000	93	6
40000	91	8
50000	90	9
60000	88	11
70000	86*	13
80000	84*	15
90000	82*	17
100000	81*	18

Luminous intensities in cd

Intensity for 3400lm

Gamma	C0	C45	C90
0°	1474.4	1474.4	1474.4
5°	1466.5	1472.2	1473.6
10°	1456.8	1459.4	1460.5
15°	1441.4	1445.3	1447.2
20°	1422.5	1432.9	1432.6
25°	1389.4	1388.4	1398.2
30°	1320.9	1327.5	1339.8
35°	1225.4	1229.2	1235.2
40°	1050.7	1053.6	1063.2
45°	773.2	746.5	763.3
50°	487.2	558.2	635.8
55°	373.5	435.9	502.0
60°	330.7	362.5	314.0
65°	270.5	276.8	180.8
70°	184.7	202.6	133.8
75°	113.3	145.9	149.7
80°	99.5	94.4	107.7
85°	48.4	44.6	51.6
90°	1.1	1.3	2.1

Colour properties

Ra: CRI (Ra) 80

UGR classification =

Corrected Glare Ratings for a Total Lamp Flux of 3400lm (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	15.5	17.2	15.8	17.4	17.7	15.1	16.7	15.4	17.0	17.3
Y = 3H	16.4	17.9	16.7	18.2	18.5	15.9	17.4	16.2	17.7	18.0
Y = 4H	16.8	18.2	17.1	18.5	18.8	16.4	17.9	16.8	18.2	18.5
Y = 6H	17.1	18.5	17.5	18.8	19.1	17.0	18.3	17.3	18.6	19.0
Y = 8H	17.3	18.6	17.7	18.9	19.3	17.2	18.5	17.6	18.8	19.1
Y = 12H	17.4	18.7	17.8	19.0	19.4	17.3	18.6	17.7	18.9	19.2
X = 4H Y = 2H	15.8	17.2	16.1	17.5	17.8	15.5	16.9	15.8	17.2	17.5
Y = 3H	16.8	18.1	17.2	18.4	18.8	16.5	17.7	16.9	18.1	18.4
Y = 4H	17.4	18.5	17.8	18.9	19.3	17.1	18.2	17.6	18.6	19.0
Y = 6H	18.0	19.0	18.4	19.4	19.8	17.9	18.8	18.3	19.2	19.6
Y = 8H	18.2	19.1	18.7	19.5	20.0	18.1	19.0	18.6	19.4	19.9
Y = 12H	18.4	19.2	18.9	19.7	20.1	18.3	19.2	18.8	19.6	20.0
X = 8H Y = 4H	17.7	18.6	18.1	19.0	19.4	17.4	18.3	17.8	18.7	19.1
Y = 6H	18.5	19.2	18.9	19.7	20.1	18.2	19.0	18.7	19.4	19.9
Y = 8H	18.8	19.5	19.3	19.9	20.4	18.6	19.3	19.1	19.7	20.2
Y = 12H	19.1	19.7	19.6	20.1	20.7	18.9	19.5	19.4	20.0	20.5
X = 12H Y = 4H	17.7	18.5	18.2	18.9	19.4	17.4	18.3	17.9	18.7	19.1
Y = 6H	18.5	19.2	19.0	19.7	20.2	18.3	19.0	18.8	19.5	19.9
Y = 8H	18.9	19.5	19.4	20.0	20.5	18.8	19.3	19.2	19.8	20.3
	UGR Variations with Observer Position for Luminaire Spacings S									
S = 1.0H	+0.3		-0.4			+0.3		-0.3		
S = 1.5H	+0.5		-0.7			+0.4		-0.8		
S = 2.0H	+1.0		-1.1			+0.8		-1.3		

Efficiency

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	105	102	100	99	97	95	95	93	92	86
2	93	88	85	88	84	81	84	81	79	74
3	83	77	72	78	74	70	76	72	68	65
4	74	67	62	71	65	61	68	64	60	57
5	67	60	55	64	58	54	62	57	53	50
6	61	54	48	58	52	48	57	51	47	44
7	56	48	43	54	47	43	52	46	42	40
8	51	44	39	49	43	38	48	42	38	36
9	48	40	35	46	39	35	45	39	35	33
10	44	37	32	43	36	32	42	36	32	30

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	54	45	51	44	51	44	49	43	43	37
0.80	65	57	61	54	62	55	59	53	53	47
1.00	74	65	68	62	70	63	66	60	60	53
1.25	83	75	76	70	78	72	74	69	68	62
1.50	90	81	81	76	84	78	79	74	73	67
2.00	98	90	87	82	91	85	84	80	79	74
2.50	104	97	92	87	96	91	89	85	84	79
3.00	108	103	95	91	100	96	92	89	88	83
4.00	113	108	98	95	103	100	94	92	90	86
5.00	116	112	100	97	106	103	97	95	93	89

Available accessories

U23R1H2 *Recessed mounting frame for plaster-board and wooden ceilings M600*

U23R2H4 *Surface-mounted frame, M600*



Dimensional drawing

