

# R3115/LEDN220DX1

suspended luminaire • linear

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

*housing*: lacquered sheet steel

*light source* : low power LED • 4000 K

*optics* : Shielded lens • Polycarbonate (PC) with aluminium thin film  
• medium wide-angle

*UGR classification* : <=16

*luminous flux*: 2200 lm

*luminous efficacy* : 138 lm/W

*LLMF*: 98% @ 50khrs (Tq=25°C)



## Mechanical properties

*dimensions* : 1300 mm x 180 mm x 35 mm

*ceiling modulation* : non modular

*colour*: RAL9003 - white (textured)

*type* : in-line mounting: intermediate luminaire

*IP*: IP20

## Electrical properties

*driver*: DALI dimmable

*power* : 15.9 W

*voltage* : 220-240V

*frequency* : 50-60Hz AC

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

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## Luminance

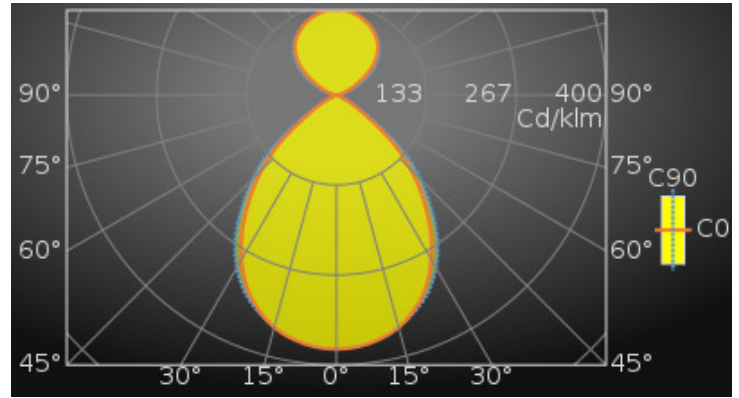
*luminous flux* : 2200 lm

*luminous efficacy* : 138 lm/W

*luminance @ 65°* : 3000 cd/m<sup>2</sup>

*UGR classification*: <=16

*luminous area* : 0.06 m<sup>2</sup>



Average Luminances (Cd/m<sup>2</sup>) for 2200lm

Gamma	C0	C30	C45	C60	C90
45°	8181	9326	9833	9500	9190
50°	6302	7862	8474	8205	7476
55°	3542	5641	7007	6609	4598
60°	2199	3427	4810	3622	2172
65°	648	1324	2129	1700	1499
70°	380	470	684	1051	964
75°	269	310	377	583	787
80°	60	144	205	296	603
85°	0	0	0	31	378

## Classifications

*CIE*: 459 / 648 / 671 / 672 / 1000

*CIE FLUXCODE* : 0.68 / 0.96 / 1.00 / 0.67 / 1.00

*BZ*: BZ2

*CAE*: Symmetrical

*DIN*: B52 (Nach Arbeitsblatt 7 und 8)

*DIN\_U*: Phi u = 0.67

*DIN\_SU*: Phi su = 0.70

*UTE*: 0.67 C + 0.33 T

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## Luminous intensities in cd

Lifetime Data (Tq=25.0°C)

Time(khrs)	LLMF(%)	Cx(%)
10	100	1
20	99	2
30	99	3
40	99	4
50	98	5
60	98	6

Intensity for 2200lm

Gamma	C0	C45	C90	Gamma	C0	C45	C90
0°	827.7	827.7	827.7	90°	0.1	0.2	0.7
5°	823.4	821.2	820.6	95°	1.8	2.5	4.3
10°	808.6	807.7	807.8	100°	6.7	9.4	13.3
15°	784.7	783.5	782.3	105°	15.8	20.8	28.0
20°	744.3	748.9	749.5	110°	30.9	39.3	50.1
25°	691.9	705.8	708.9	115°	54.7	66.5	78.5
30°	618.1	645.3	649.5	120°	87.7	100.5	112.9
35°	534.8	578.4	574.5	125°	124.4	135.8	147.2
40°	439.6	495.1	478.8	130°	159.3	165.3	174.6
45°	343.6	413.0	386.0	135°	187.6	189.0	197.2
50°	240.6	323.5	285.5	140°	210.8	209.0	215.0
55°	120.7	238.7	156.7	145°	227.3	227.1	230.1
60°	65.3	142.9	64.5	150°	240.6	239.6	242.6
65°	16.3	53.4	37.6	155°	252.4	251.7	252.9
70°	7.7	13.9	19.6	160°	261.1	260.9	261.0
75°	4.1	5.8	12.1	165°	268.8	270.9	270.4
80°	0.6	2.1	6.2	170°	275.2	273.4	274.8
85°	0.0	0.0	2.0	175°	278.0	278.4	278.2
90°	0.1	0.2	0.7	180°	274.9	274.9	274.9

## 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
<b>Room Dimensions</b>	<b>Viewed Crosswise</b>					<b>Viewed Endwise</b>				
X = 2H Y = 2H	15.2	16.3	15.9	17.0	17.7	15.6	16.7	16.3	17.5	18.1
Y = 3H	15.0	15.9	15.7	16.7	17.4	15.5	16.5	16.2	17.2	17.9
Y = 4H	14.8	15.7	15.6	16.5	17.2	15.4	16.3	16.2	17.1	17.8
Y = 6H	14.7	15.5	15.5	16.3	17.0	15.3	16.1	16.1	16.9	17.6
Y = 8H	14.7	15.4	15.4	16.2	17.0	15.2	16.0	16.0	16.8	17.5
Y = 12H	14.6	15.3	15.4	16.1	16.9	15.2	15.9	16.0	16.7	17.5
X = 4H Y = 2H	15.2	16.1	16.0	16.9	17.6	15.6	16.5	16.4	17.3	18.0
Y = 3H	15.0	15.7	15.8	16.5	17.3	15.5	16.2	16.3	17.0	17.8
Y = 4H	14.9	15.5	15.7	16.3	17.1	15.4	16.0	16.2	16.8	17.6
Y = 6H	14.7	15.3	15.6	16.1	16.9	15.3	15.9	16.1	16.7	17.5
Y = 8H	14.7	15.2	15.5	16.0	16.8	15.2	15.8	16.1	16.6	17.4
Y = 12H	14.6	15.1	15.5	15.9	16.7	15.2	15.6	16.0	16.5	17.3
X = 8H Y = 4H	14.7	15.2	15.5	16.0	16.8	15.2	15.7	16.0	16.6	17.4
Y = 6H	14.6	15.0	15.4	15.9	16.7	15.1	15.5	16.0	16.4	17.2
Y = 8H	14.5	14.9	15.4	15.7	16.6	15.1	15.4	15.9	16.3	17.2
Y = 12H	14.4	14.7	15.3	15.6	16.5	15.0	15.3	15.9	16.2	17.1
X = 12H Y = 4H	14.6	15.1	15.5	15.9	16.8	15.1	15.6	16.0	16.5	17.3
Y = 6H	14.5	14.9	15.4	15.7	16.6	15.0	15.4	15.9	16.3	17.1
Y = 8H	14.4	14.7	15.3	15.6	16.5	15.0	15.3	15.9	16.2	17.1
<b>UGR Variations with Observer Position for Luminaire Spacings S</b>										
S = 1.0H	+1.1		-2.3			+0.7		-1.5		
S = 1.5H	+2.3		-7.5			+2.1		-6.6		
S = 2.0H	+3.6		-14.7			+3.3		-8.3		

## Colour properties

Correlated Colour Temperature : 4000

Ra: 80

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## 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	101	99	97	85	83	82	75	74	73	61
2	91	87	84	76	74	72	68	66	65	54
3	81	76	73	69	66	63	62	59	57	48
4	73	67	63	63	58	55	56	53	50	42
5	66	60	55	57	52	49	51	48	45	38
6	60	53	49	52	47	43	47	43	40	34
7	55	48	43	48	42	39	43	39	36	31
8	50	43	39	44	39	35	40	36	32	28
9	46	39	35	40	35	32	37	33	30	25
10	43	36	31	37	32	29	34	30	27	23

Utilisation Factors according to LiTG (%)

	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	50	30	50	30	50	30	30	0
Floor	30	30	10	10	30	30	10	10	10	0
k = 0.60	51	43	49	42	45	39	43	38	36	29
0.80	62	54	58	52	54	48	52	47	44	36
1.00	70	62	65	59	61	55	58	53	49	41
1.25	79	72	73	67	68	63	64	60	56	47
1.50	85	78	77	72	73	68	68	64	60	50
2.00	92	86	83	78	78	74	72	69	64	54
2.50	98	92	86	83	82	78	76	73	67	57
3.00	102	97	89	86	85	82	78	76	70	59
4.00	106	102	92	89	88	85	80	78	72	61
5.00	109	105	94	92	90	88	82	80	73	62

## Available accessories

R3H1201/150-5X1 *Suspension set with ceiling cap (RAL9003-white) - in-line assembly - 5 pole - max. 1 m*

R3H1101/150-5 *Suspension set for minimalist mounting - in-line assembly - 5 pole - max. 1 m*

R3H1120-X1 *Coupling piece 180 mm*

R3H1130-X1 *Coupling piece 260 mm*

## Dimensional drawing

