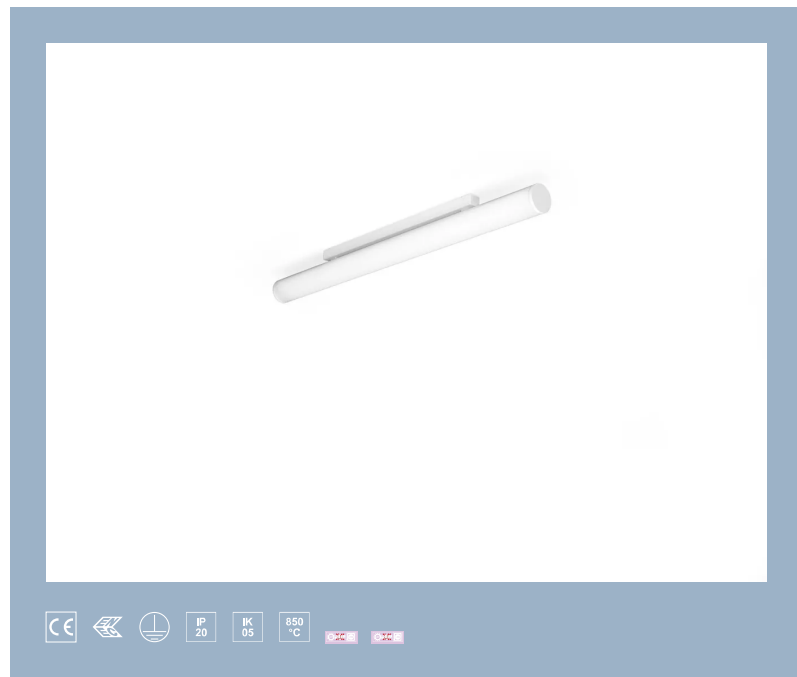


R820R1/LEDN45S



surface-mounted luminaire • linear

Application : General office area's, General education area's, General healthcare area's

light source : LED • 4000 K

optics : HaloOptics diffuser • polycarbonate (PC) HaloOptics® • wide-angle

UGR classification : <=25

luminous flux: 4500 lm

luminous efficacy : 115 lm/W

LLMF: 94% @ 50khrs (Tq=25°C)

Product information

Mechanical properties

dimensions : 1162 mm x 80 mm x 121 mm

colour: RAL9003 - white (textured)

type : individual luminaire

IP: IP20

IK: IK05

Electrical properties

driver: not dimmable

power : 39 W

voltage : 220-240V

frequency : 50-60Hz AC

photobiological safety : EN 62471: RISK GROUP 0
UNLIMITED

Luminance

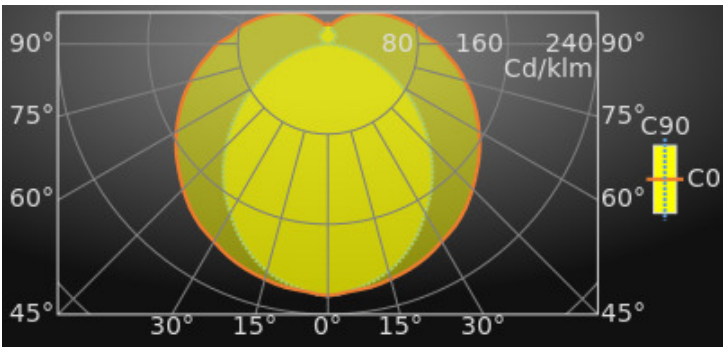
luminous flux : 4500 lm

luminous efficacy : 115 lm/W

UGR classification =: <=25

luminous area : 0.09 m²

Average Luminances (Cd/m²) for 4500lm					
Gamma	C0	C30	C45	C60	C90
45°	6360	6345	6378	6609	8816
50°	6086	6037	6035	6182	8405
55°	5859	5765	5693	5764	7965
60°	5640	5497	5387	5367	7455
65°	5453	5279	5116	4990	6906
70°	5293	5078	4891	4670	6293
75°	5128	4913	4702	4402	5525
80°	5019	4802	4554	4186	4628
85°	4891	4677	4429	4051	3249



Classifications

CIE: 300 / 522 / 679 / 788 / 1000

CIE FLUXCODE : 0.38 / 0.66 / 0.86 / 0.79 / 1.00

BZ: BZ10/1.25/BZ5/1.5/BZ10

CAE: CAE 4/5°/CAE 3/25°/CAE 2/75°/CAE 3

DIN: B30 (Nach Arbeitsblatt 7 und 8)

DIN_U: Phi u = 0.79

DIN_SU: Phi su = 0.45

UTE: 0.79 H + 0.21 T



Lifetime Data (Tq=25.0°C)

Time(khrs)	LLMF(%)	Cx(%)
10	99	2
20	98	4
30	97	6
40	95	8
50	94	10
60	93	12

Luminous intensities in cd

Intensity for 4500lm

Gamma	C0	C45	C90	Gamma	C0	C45	C90
0°	1004.9	1004.9	1004.9	90°	441.4	287.2	5.4
5°	992.2	990.4	989.8	95°	387.8	247.9	4.9
10°	986.0	977.3	969.1	100°	365.9	231.1	8.0
15°	972.4	956.8	939.4	105°	330.5	208.2	12.6
20°	957.2	928.3	896.3	110°	299.6	188.0	18.4
25°	937.4	890.6	842.8	115°	268.8	170.5	24.7
30°	910.7	849.2	780.2	120°	242.3	155.5	30.6
35°	887.3	804.3	719.0	125°	218.3	142.5	35.5
40°	856.4	754.6	651.3	130°	197.2	131.1	41.6
45°	818.6	702.2	574.5	135°	178.2	120.0	47.4
50°	779.4	651.2	497.9	140°	160.3	110.8	50.8
55°	740.9	597.2	421.1	145°	141.6	102.8	53.2
60°	698.8	544.7	343.5	150°	125.6	94.4	52.4
65°	656.4	493.9	269.0	155°	110.4	87.2	53.6
70°	613.8	446.2	198.4	160°	97.6	80.0	52.1
75°	567.5	400.7	131.8	165°	87.1	73.7	61.8
80°	524.5	357.8	74.1	170°	78.0	72.9	71.8
85°	477.1	315.9	26.1	175°	77.9	77.5	78.2
90°	441.4	287.2	5.4	180°	81.9	81.9	81.9

UGR classification =

Corrected Glare Ratings for a Total Lamp Flux of 4500lm (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	17.8	19.3	18.4	19.9	20.4	16.6	18.0	17.2	18.6	19.2
Y = 3H	19.9	21.2	20.5	21.8	22.4	17.8	19.1	18.4	19.8	20.4
Y = 4H	20.9	22.2	21.6	22.8	23.4	18.3	19.5	18.9	20.2	20.8
Y = 6H	21.9	23.1	22.6	23.8	24.4	18.5	19.7	19.2	20.4	21.0
Y = 8H	22.4	23.5	23.1	24.2	24.8	18.6	19.7	19.3	20.4	21.0
Y = 12H	22.9	24.0	23.5	24.6	25.3	18.6	19.7	19.3	20.4	21.0
X = 4H Y = 2H	18.3	19.6	19.0	20.2	20.8	17.3	18.6	18.0	19.2	19.8
Y = 3H	20.6	21.7	21.3	22.4	23.0	18.8	19.9	19.5	20.6	21.3
Y = 4H	21.8	22.8	22.5	23.5	24.2	19.5	20.4	20.1	21.1	21.8
Y = 6H	23.0	23.9	23.8	24.7	25.3	19.9	20.8	20.6	21.5	22.2
Y = 8H	23.6	24.5	24.3	25.2	25.9	20.0	20.8	20.7	21.6	22.3
Y = 12H	24.2	25.0	24.9	25.7	26.4	20.1	20.8	20.8	21.6	22.3
X = 8H Y = 4H	22.1	22.9	22.8	23.7	24.4	20.1	20.9	20.8	21.7	22.4
Y = 6H	23.6	24.3	24.3	25.0	25.8	20.8	21.5	21.6	22.3	23.0
Y = 8H	24.3	24.9	25.1	25.7	26.5	21.1	21.7	21.9	22.5	23.3
Y = 12H	25.1	25.6	25.8	26.4	27.2	21.3	21.8	22.1	22.6	23.4
X = 12H Y = 4H	22.1	22.9	22.8	23.6	24.3	20.3	21.0	21.0	21.8	22.5
Y = 6H	23.6	24.3	24.4	25.0	25.8	21.1	21.8	21.9	22.5	23.3
Y = 8H	24.5	25.0	25.2	25.8	26.6	21.5	22.1	22.3	22.9	23.6
	UGR Variations with Observer Position for Luminaire Spacings S									
S = 1.0H	+0.1		-0.1			+0.1		-0.1		
S = 1.5H	+0.2		-0.2			+0.1		-0.2		
S = 2.0H	+0.2		-0.3			+0.3		-0.4		

Colour properties

Correlated Colour Temperature : 4000

Ra: CRI (Ra) 80

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	94	90	88	81	79	77	74	72	70	60
2	81	75	70	69	65	62	63	59	56	48
3	70	63	58	60	55	51	55	50	47	39
4	62	54	48	53	47	43	48	43	39	33
5	55	47	41	48	41	37	43	38	34	28
6	50	41	35	43	36	32	39	34	29	24
7	45	36	31	39	32	28	36	30	26	22
8	41	33	27	36	29	25	33	27	23	19
9	37	29	24	33	26	22	30	25	21	17
10	34	27	22	30	24	20	28	22	19	15

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	41	32	39	31	36	29	35	28	26	19
0.80	51	41	48	39	44	37	42	36	33	25
1.00	59	49	55	46	51	43	48	42	39	30
1.25	67	57	62	54	58	51	55	49	45	36
1.50	74	64	67	59	63	56	59	54	50	40
2.00	82	73	74	67	70	64	65	60	56	46
2.50	89	80	79	72	76	70	70	65	61	51
3.00	94	86	82	77	80	74	74	69	65	54
4.00	100	93	86	82	84	80	77	74	68	58
5.00	104	98	89	85	88	84	80	77	72	61

Dimensional drawing

