

PHOTOMETRIC TEST REPORT

MINIMA PRO SQUARE FIXED IP65
- MATT WHITE - 4001123

astro

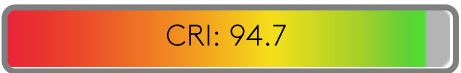
MINIMA PRO SQUARE FIXED IP65 - MATT

astro

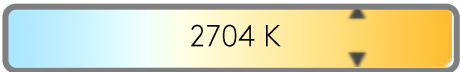
LIGHT EFFICIENCY:



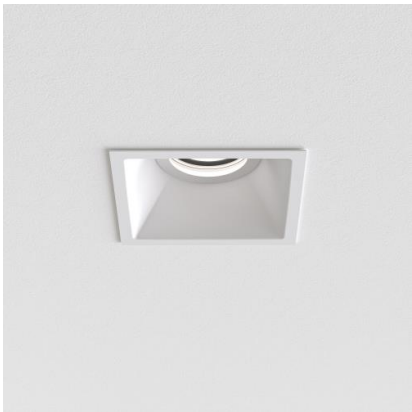
LIGHT QUALITY:



COLOR TEMPERATURE:



OUTPUT: 857 lm
PEAK: 2949 cd
POWER: 11.7 W
PF: 0.95



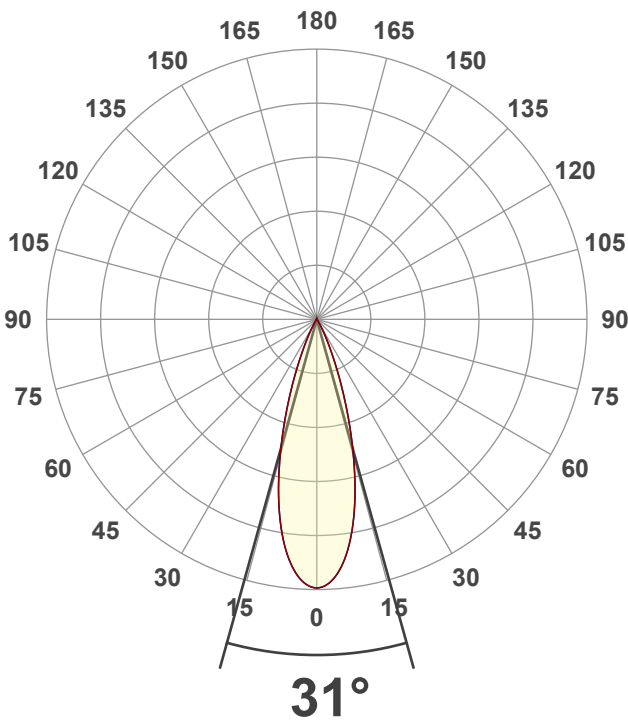
Tracking number: [n/a](#)

Product name:
Minima Pro Square Fixed IP65 - Matt
White - 4001123

Item number:
MSF-MW-HQ27G1-30G1-X-D1

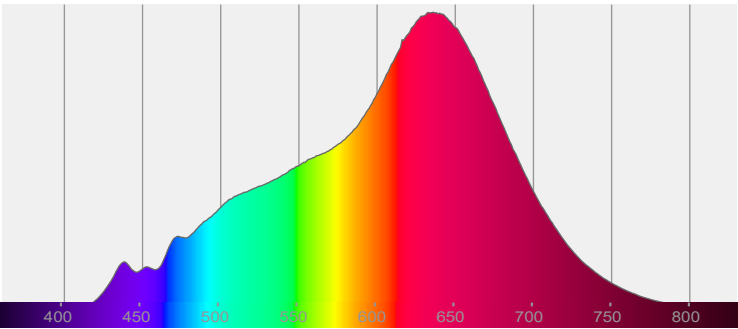
Date and time:
03/02/2025 14:35:24

Description:
IP65 LED Downlight

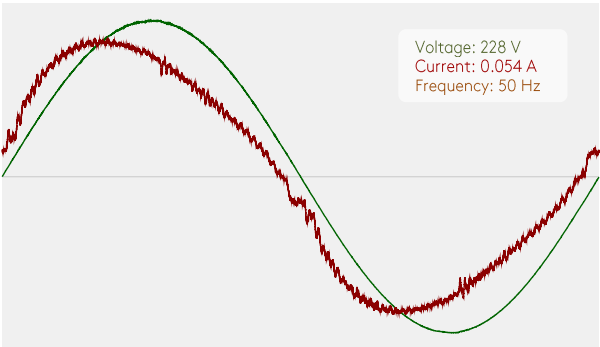


CIE 1931
x: 0.460
y: 0.411

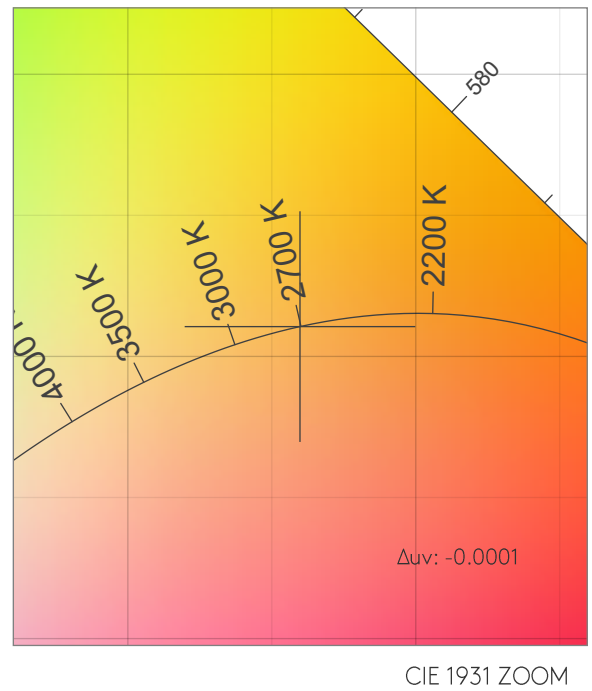
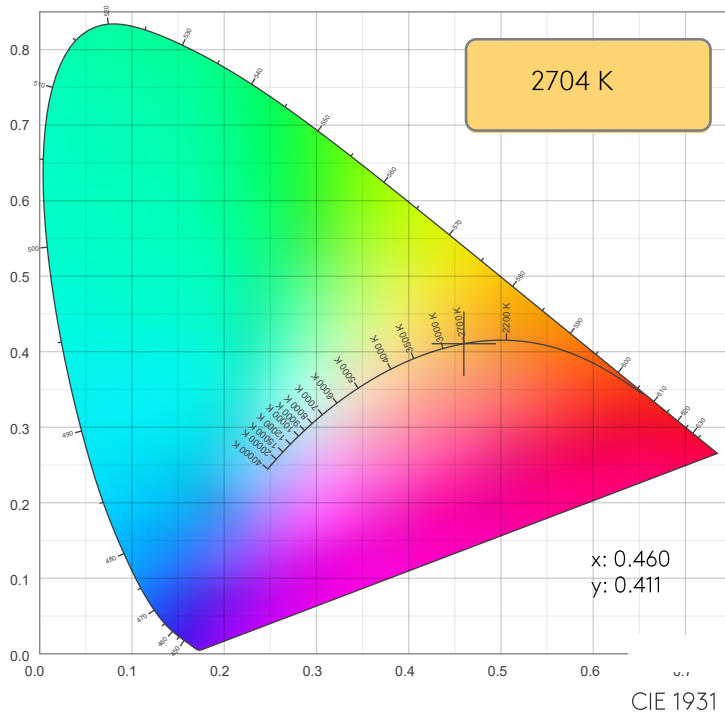
SPECTRA



POWER

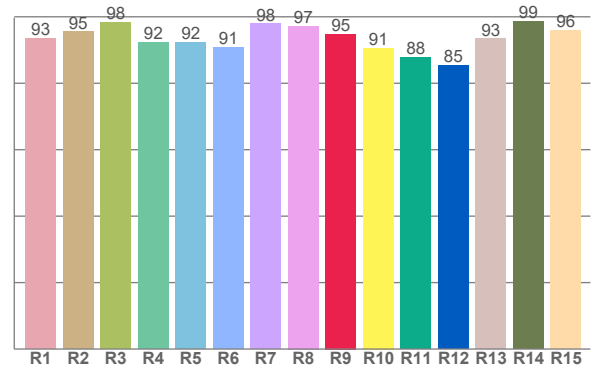
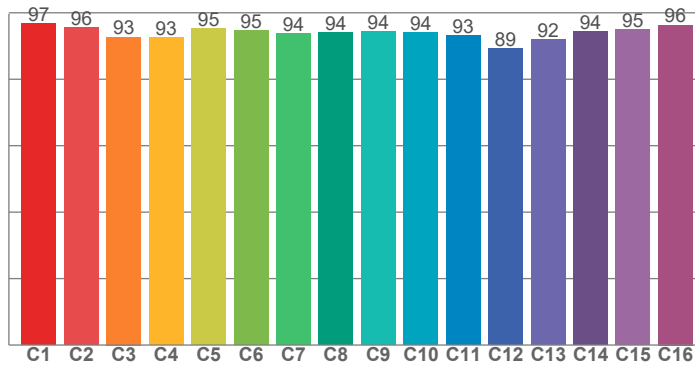


COLOR DETAILS



TM30: 94.2

CRI: 94.7 (R1-R8)



CRI R values, only R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
93.4	95.5	98.3	92.3	92.3	90.8	97.8	97.2	94.8	90.6	87.8	85.4	93.3	98.6	96.0

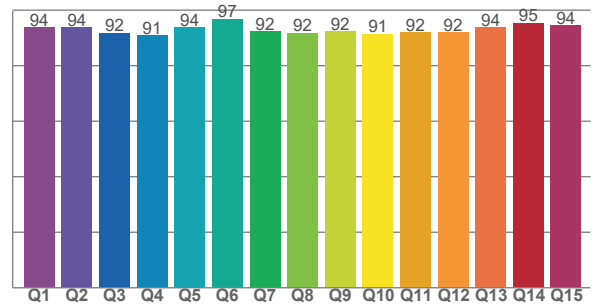
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
96.8	95.7	92.7	92.6	95.4	94.6	93.8	93.9	94.4	94.0	93.2	89.2	91.9	94.4	94.9	96.3

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
93.8	93.8	91.7	91.0	93.8	96.8	92.4	91.8	92.2	91.3	92.0	92.0	93.7	95.4	94.4

CQS: 92.8



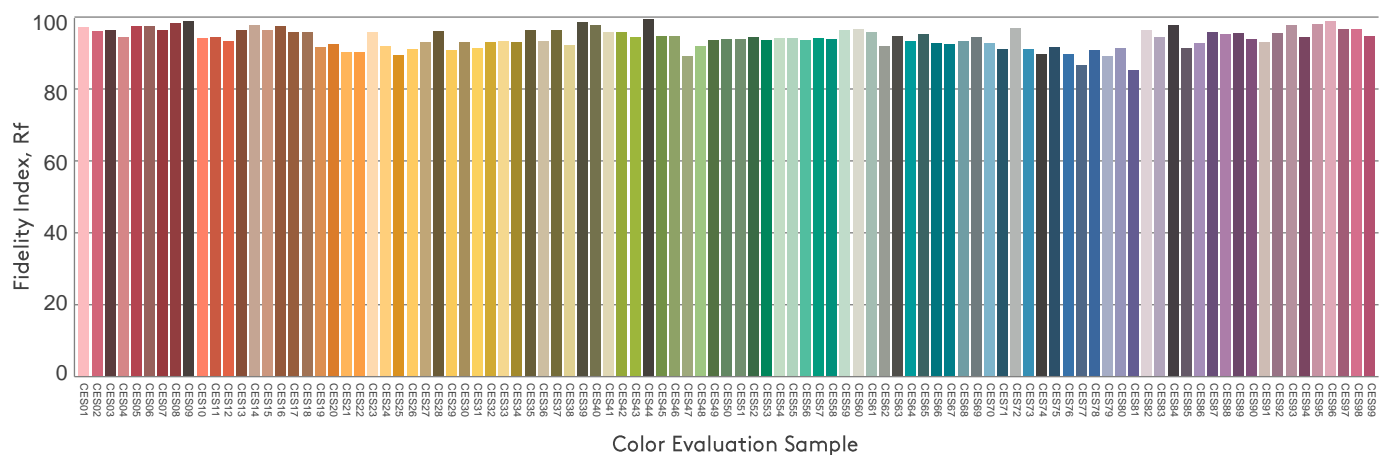
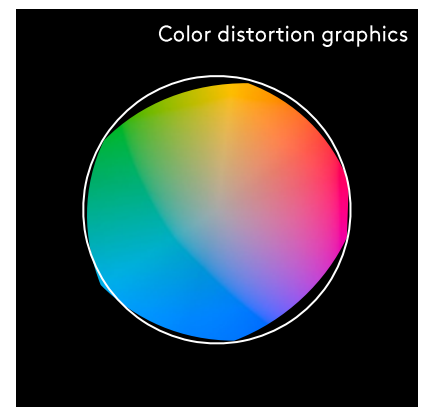
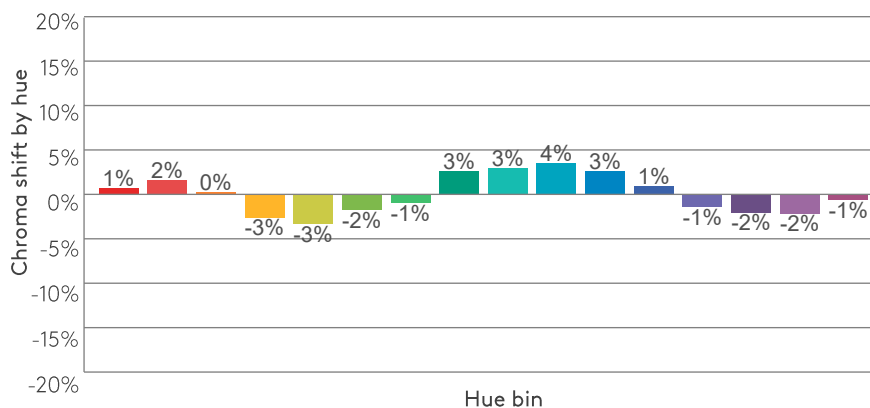
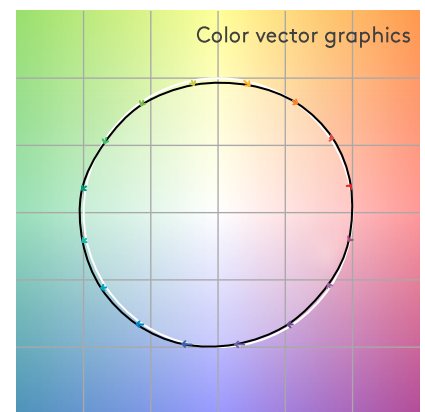
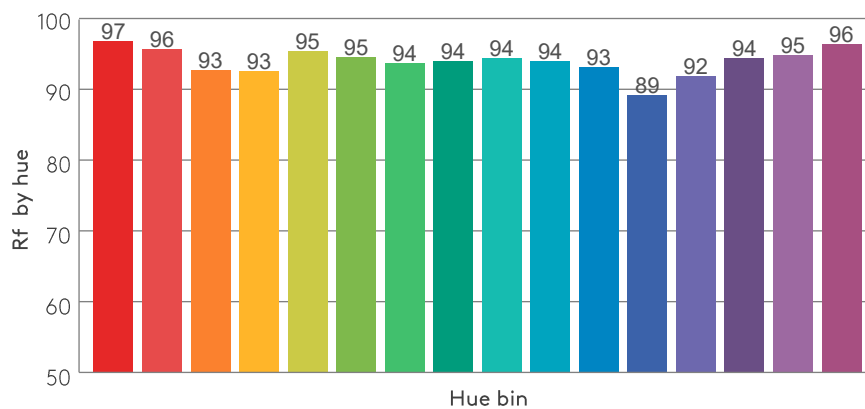
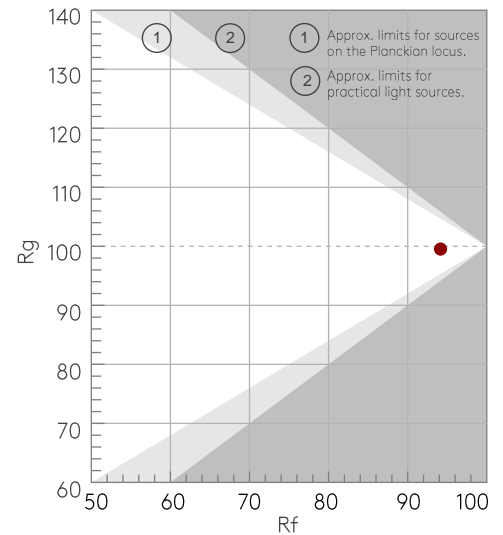
COLOR PARAMETERS

Color temperature	Color rendering index	Red component	Color fidelity	Color gamut	Color quality scale	Color coordinate cie 1931	Color coordinate cie 1931	Color coordinate	Color coordinate	Color deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2704 K	94.7	94.8	94.2	99.5	92.8	0.460	0.411	0.262	0.352	-0.0001

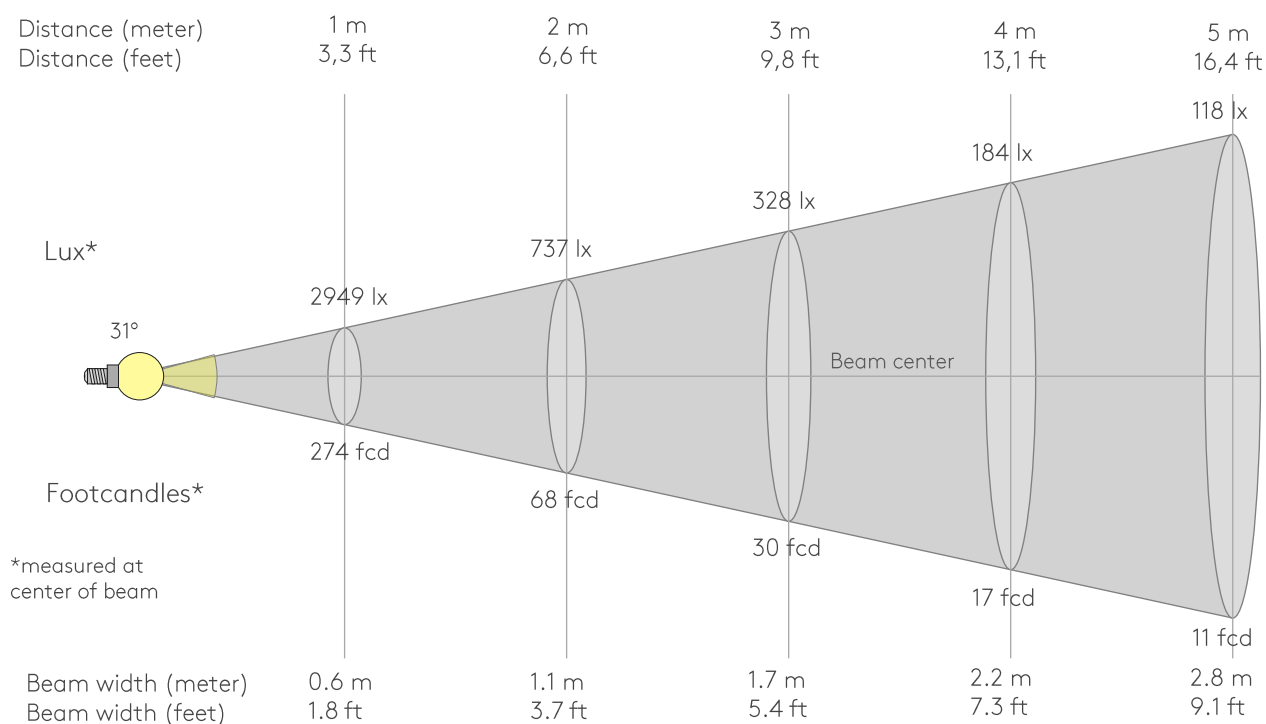
Rf 94.2
Fidelity index Rf

Rg 99.5
Gammut index Rg

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	97	1%	1%
2	96	2%	-2%
3	93	0%	-4%
4	93	-3%	-4%
5	95	-3%	-1%
6	95	-2%	3%
7	94	-1%	4%
8	94	3%	3%
9	94	3%	2%
10	94	4%	-2%
11	93	3%	-4%
12	89	1%	-7%
13	92	-1%	-6%
14	94	-2%	-3%
15	95	-2%	1%
16	96	-1%	-1%



BEAM DETAILS



Beam intensities from 1-20m

1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
3.3ft	6.6ft	9.8ft	13.1ft	16.4ft	19.7ft	23ft	26.2ft	29.5ft	32.8ft	36.1ft	39.4ft	42.7ft	45.9ft	49.2ft	52.5ft	55.8ft	59.1ft	62.3ft	65.6ft
2949lx	737lx	328lx	184lx	118lx	82lx	60lx	46lx	36lx	29lx	24lx	20lx	17lx	15lx	13lx	12lx	10lx	9lx	8lx	7lx
274fcd	68.5fcd	30.4fcd	17.1fcd	11fcd	7.6fcd	5.6fcd	4.3fcd	3.4fcd	2.7fcd	2.3fcd	1.9fcd	1.6fcd	1.4fcd	1.2fcd	1.1fcd	0.9fcd	0.8fcd	0.8fcd	0.7fcd

Intensities in 0° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
2949	2920	2838	2702	2517	2284	2013	1711	1400	1098	821	582	392	252	153	90	54	34	23	16
100%	99%	96%	92%	85%	77%	68%	58%	47%	37%	28%	20%	13%	9%	5%	3%	2%	1%	1%	1%

Intensities in 90° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
2949	2920	2838	2702	2517	2284	2013	1711	1400	1098	821	582	392	252	153	90	54	34	23	16
100%	99%	96%	92%	85%	77%	68%	58%	47%	37%	28%	20%	13%	9%	5%	3%	2%	1%	1%	1%

Intensities in 180° c-plane

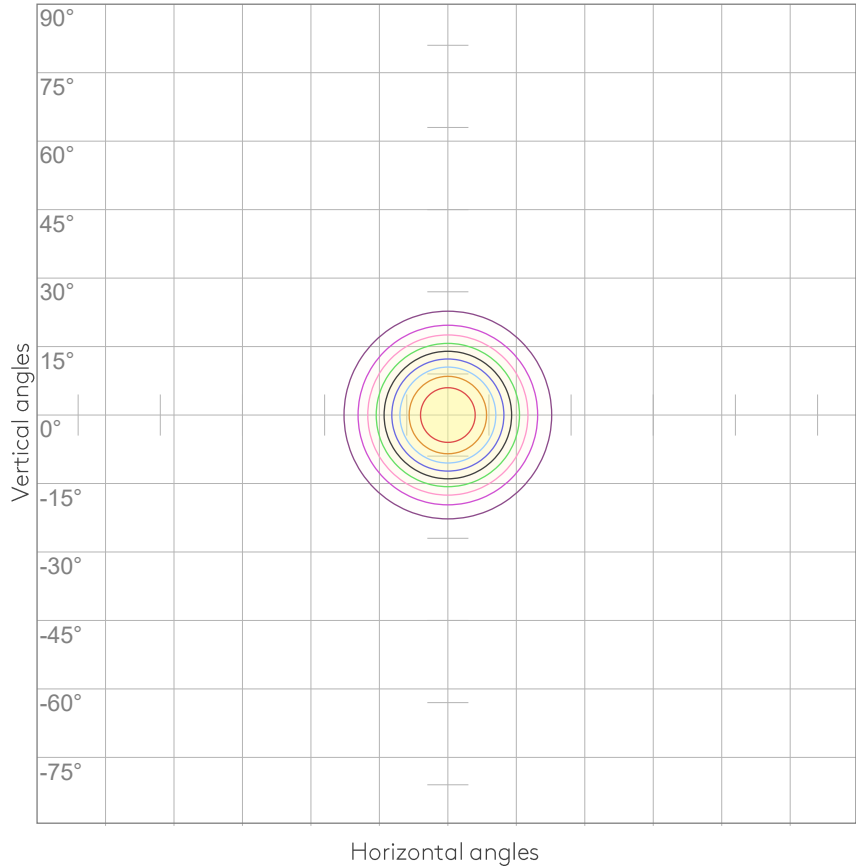
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
2949	2920	2838	2702	2517	2284	2013	1711	1400	1098	821	582	392	252	153	90	54	34	23	16
100%	99%	96%	92%	85%	77%	68%	58%	47%	37%	28%	20%	13%	9%	5%	3%	2%	1%	1%	1%

Intensities in 270° c-plane

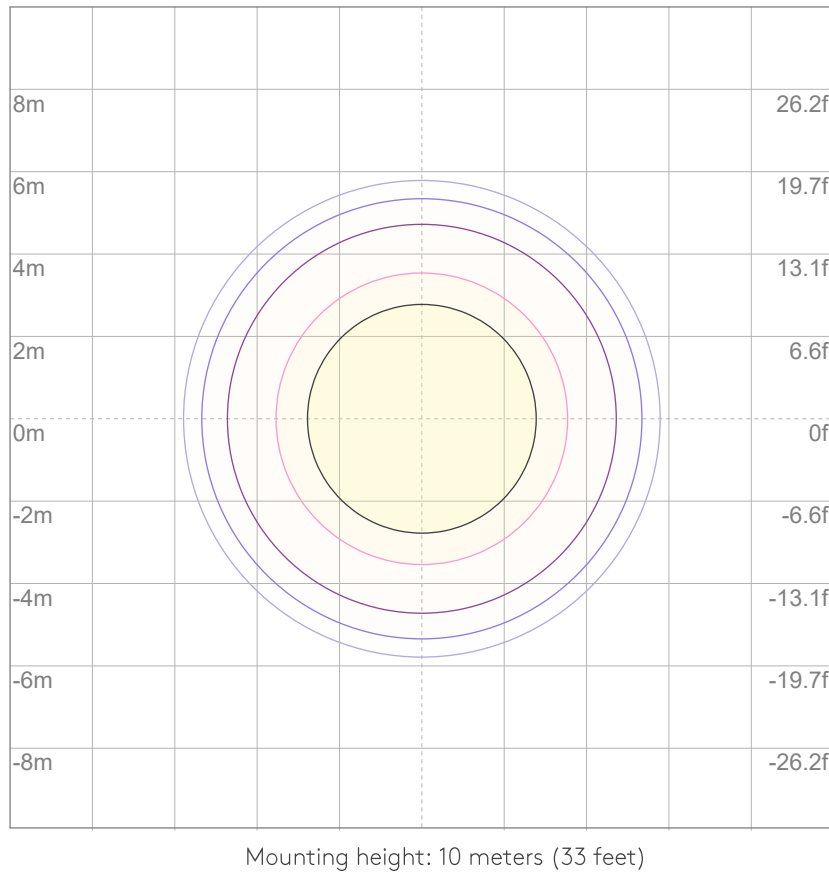
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
2949	2920	2838	2702	2517	2284	2013	1711	1400	1098	821	582	392	252	153	90	54	34	23	16
100%	99%	96%	92%	85%	77%	68%	58%	47%	37%	28%	20%	13%	9%	5%	3%	2%	1%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
31°	50.6°	61.6°	99.7%	99.1%

ISO CANDELA DIAGRAM



ISO LUX DIAGRAM



UGR

GLARE EVALUATION ACCORDING TO UGR

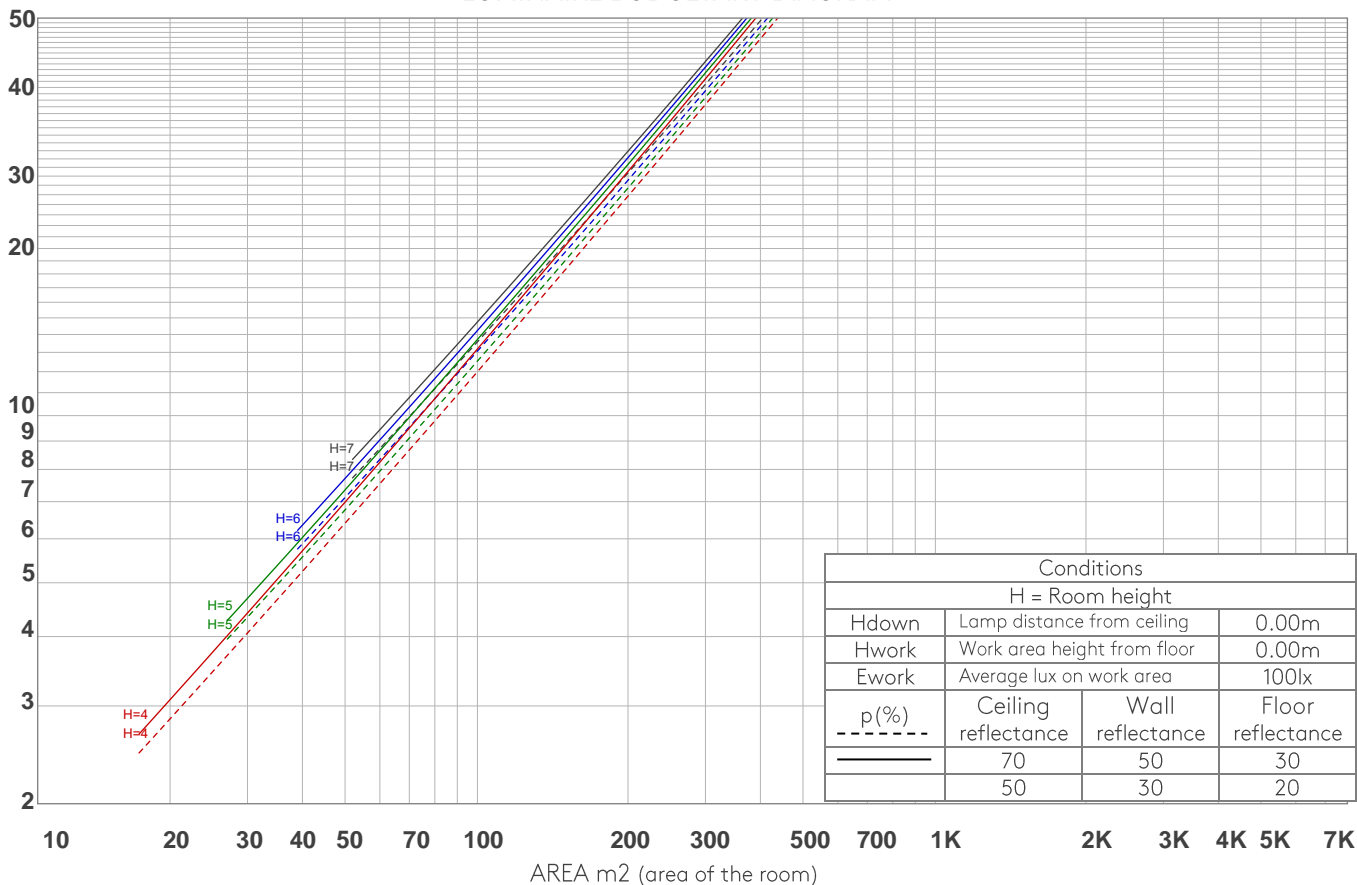
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	8.9	9.3	8.9	9.5	9.7	8.9	9.3	8.9	9.5	9.7
	3H	8.6	9.2	9.0	9.4	9.5	8.6	9.2	9.0	9.4	9.5
	4H	8.5	9.1	8.9	9.3	9.5	8.5	9.1	8.9	9.3	9.5
	6H	8.5	9.0	8.8	9.3	9.6	8.5	9.0	8.8	9.3	9.6
	8H	8.5	8.9	8.8	9.3	9.6	8.5	8.9	8.8	9.3	9.6
	12H	8.4	8.9	8.8	9.2	9.6	8.4	8.9	8.8	9.2	9.6
4H	2H	8.5	9.1	8.9	9.3	9.5	8.5	9.1	8.9	9.3	9.5
	3H	8.5	8.9	8.8	9.3	9.7	8.5	8.9	8.8	9.3	9.7
	4H	8.4	8.8	8.8	9.2	9.7	8.4	8.8	8.8	9.2	9.7
	6H	8.3	8.8	8.8	9.1	9.4	8.3	8.8	8.8	9.1	9.4
	8H	8.2	8.7	8.8	9.0	9.4	8.2	8.7	8.8	9.0	9.4
	12H	8.2	8.5	8.7	8.9	9.4	8.2	8.5	8.7	8.9	9.4
8H	4H	8.2	8.7	8.7	9.0	9.4	8.2	8.7	8.7	9.0	9.4
	6H	8.2	8.4	8.7	8.9	9.4	8.2	8.4	8.7	8.9	9.4
	8H	8.2	8.4	8.7	8.9	9.5	8.2	8.4	8.7	8.9	9.5
	12H	8.1	8.3	8.7	8.8	9.4	8.1	8.3	8.7	8.8	9.4
12H	4H	8.2	8.5	8.7	8.9	9.3	8.2	8.5	8.7	8.9	9.3
	6H	8.2	8.4	8.7	8.9	9.5	8.2	8.4	8.7	8.9	9.5
	8H	8.1	8.3	8.7	8.8	9.4	8.1	8.3	8.7	8.8	9.4
Variation of the observer position for the luminaire distance S											
S = 1.0H		5.2 / -5.8					5.2 / -5.8				
S = 1.5H		7.8 / -8.1					7.8 / -8.1				
S = 2.0H		9.7 / -9.9					9.7 / -9.9				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 857 lm total luminous flux											

COEFFICIENTS OF UTILIZATION

Ceiling reflectance	80				70				50			30			10			0
Wall reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Floor reflectance	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
RCR	(RCR: Room Cavity Ratio) Room Values are expressed as percentage of Lumens delivered to the task surface																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	115	113	111	109	112	111	109	107	107	105	104	103	102	101	99	99	98	96
2	111	107	104	102	109	106	103	100	102	100	98	100	98	96	97	95	94	93
3	107	102	99	96	105	101	98	95	99	96	94	96	94	92	94	92	91	89
4	104	98	94	91	102	97	93	91	95	92	90	93	91	88	92	89	88	86
5	101	94	90	87	99	94	90	87	92	89	86	90	88	85	89	87	85	83
6	97	91	87	84	96	90	86	83	89	85	83	88	85	82	86	84	82	81
7	94	88	83	80	93	87	83	80	86	82	80	85	82	79	84	81	79	78
8	92	85	81	78	91	84	80	78	83	80	77	83	79	77	82	79	77	76
9	89	82	78	75	88	82	78	75	81	77	75	80	77	75	79	76	74	73
10	87	80	76	73	86	79	75	73	79	75	72	78	75	72	77	74	72	71

LAMPS (number of lamps)

LUMINAIRE BUDGETARY DIAGRAM



ZONAL LUMEN SUMMARY

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
249 lm	418 lm	158 lm	21.2 lm	6.13 lm	2.32 lm	0.783 lm	0.234 lm	0.078 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.055 lm	0.047 lm	0.046 lm	0.068 lm	0.159 lm	0.330 lm	0.463 lm	0.339 lm	0.083 lm

FLICKER

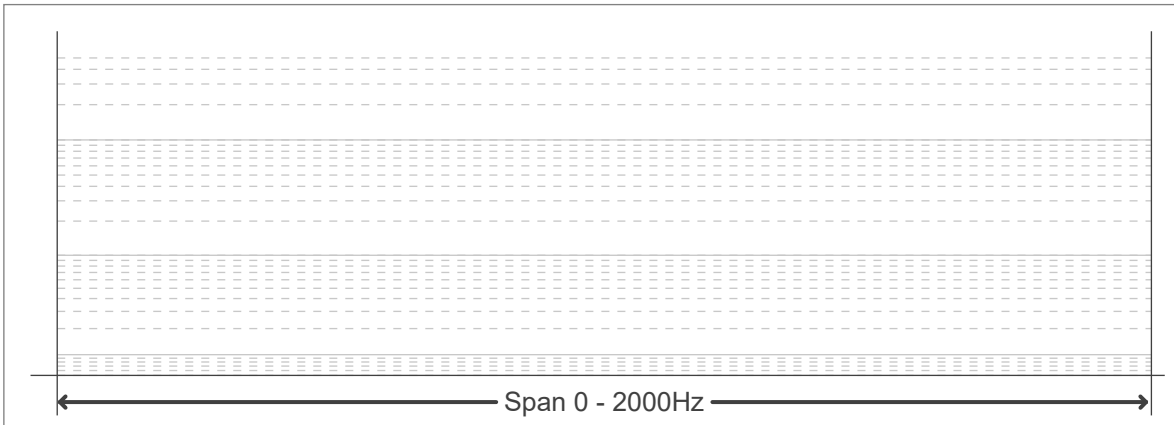
FLICKER CURVE (COMPLETE SAMPLED)



FLICKER FRAME (FRAME OF ONE FLICKER)



FLICKER FFT (FREQUENCY SCOPE OF FLICKER)



FLICKER RESULTS:

Flicker frequency:	n/a Hz
Flicker index:	n/a
Flicker percentage:	n/a %
SVM: (Visual flicker)	n/a

FLICKER CONDITIONS:

Sample rate:	n/a samples/second
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