

PHOTOMETRIC TEST REPORT

MINIMA PRO SQUARE
ADJUSTABLE - MATT WHITE -
4001411

astro

MINIMA PRO SQUARE ADJUSTABLE - MATT

astro

LIGHT EFFICIENCY:



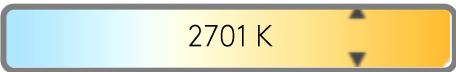
OUTPUT: 850 lm

LIGHT QUALITY:



PEAK: 3011 cd

COLOR TEMPERATURE:



POWER: 11.7 W

PF: 0.95



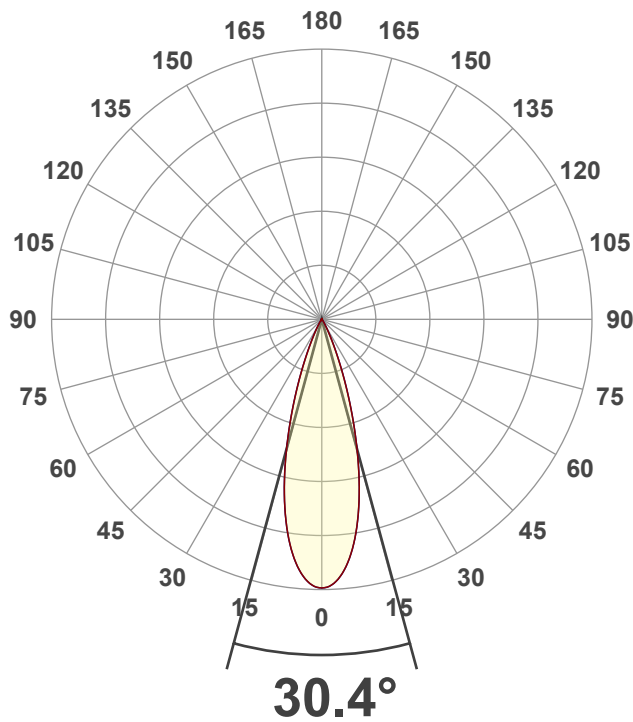
Tracking number: [n/a](#)

Product name:
Minima Pro Square Adjustable - Matt
White - 4001411

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

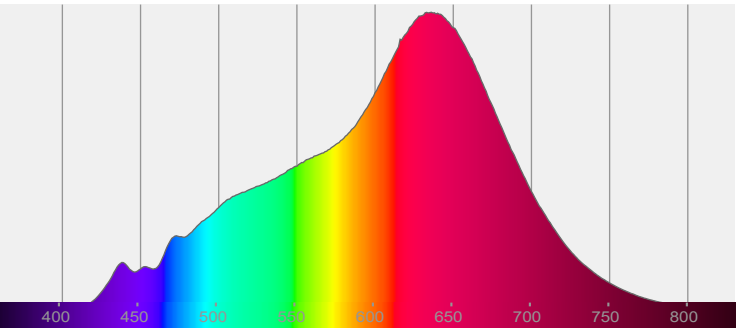
Date and time:
04/02/2025 15:45:21

Description:

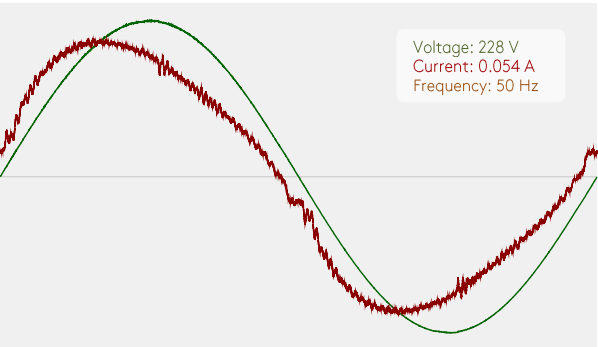


CIE 1931
x: 0.460
y: 0.410

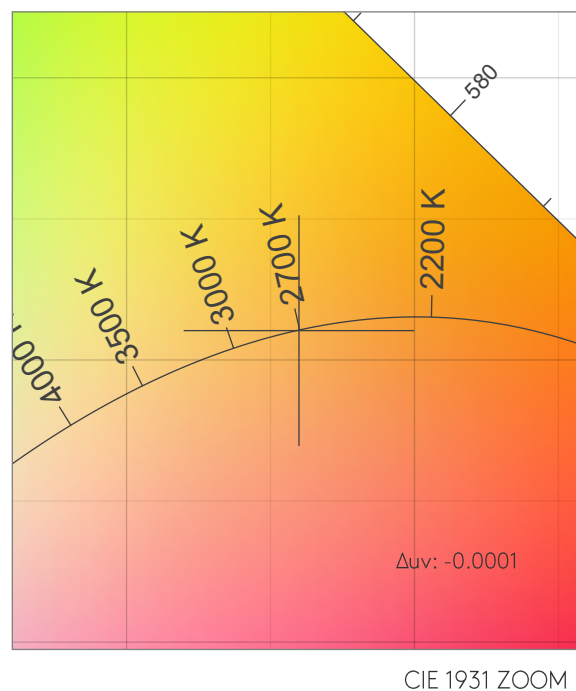
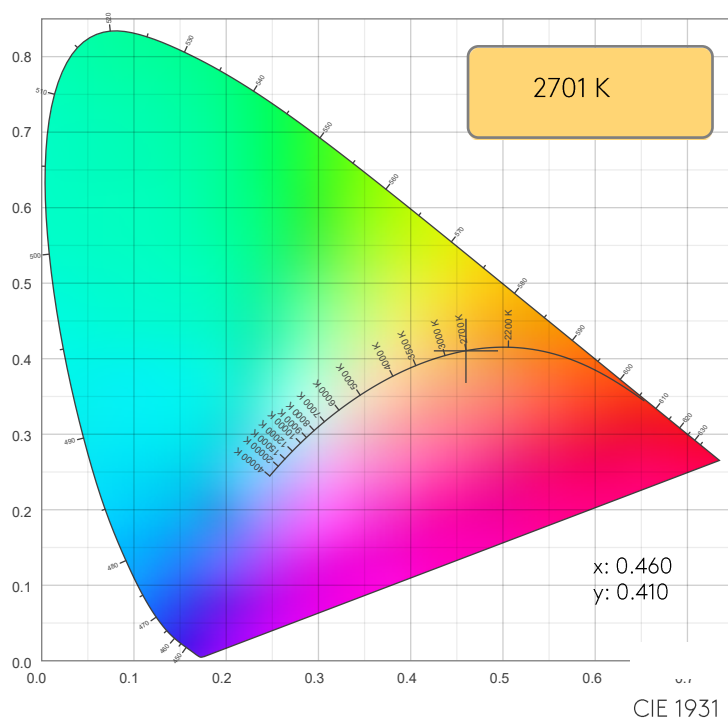
SPECTRA



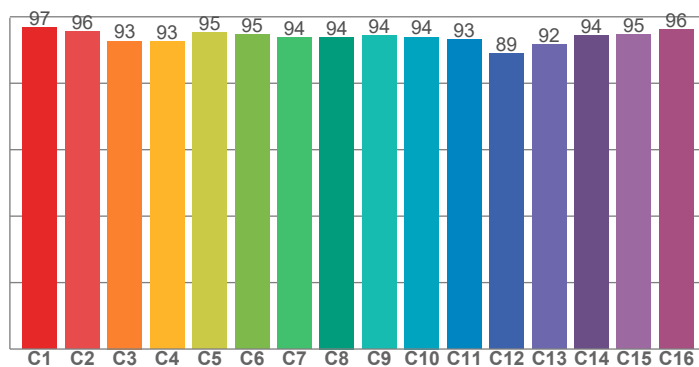
POWER



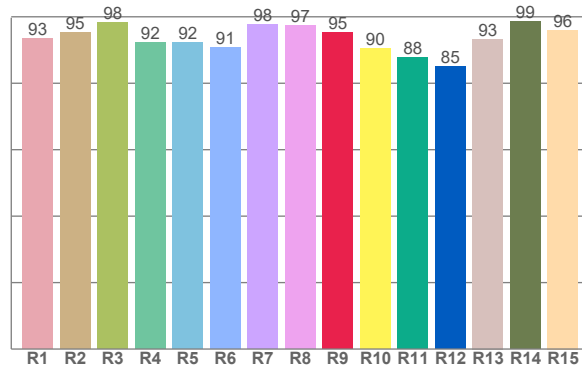
COLOR DETAILS



TM30: 94.1



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	95.4	98.3	92.4	92.3	90.7	97.7	97.4	95.2	90.4	87.8	85.1	93.3	98.6	96.0

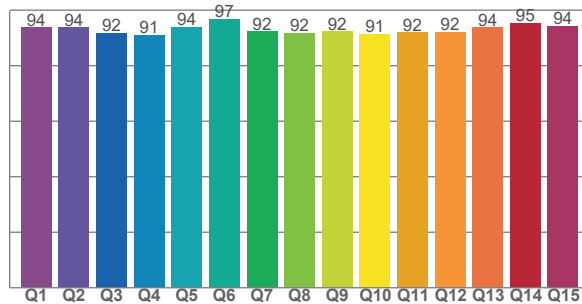
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
96.7	95.7	92.7	92.5	95.3	94.6	93.7	93.9	94.3	93.9	93.1	89.0	91.7	94.3	94.8	96.2

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
93.7	93.7	91.7	91.0	93.9	96.7	92.4	91.8	92.3	91.4	92.0	92.1	93.8	95.3	94.3

CQS: 92.8



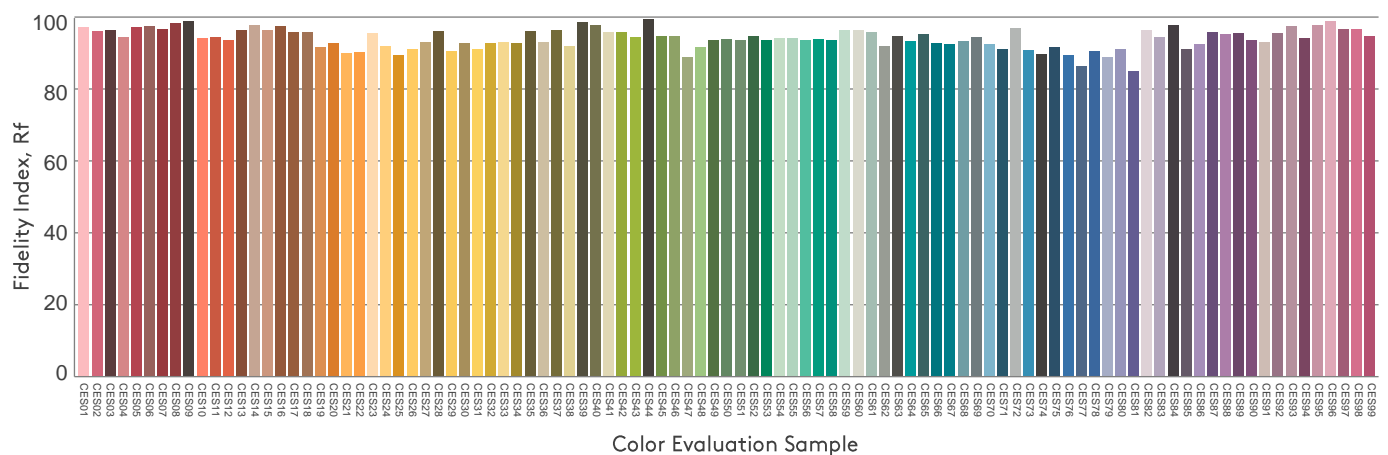
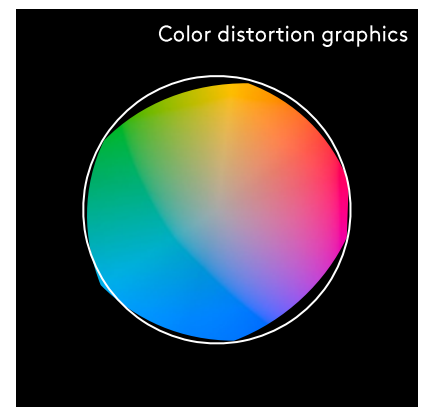
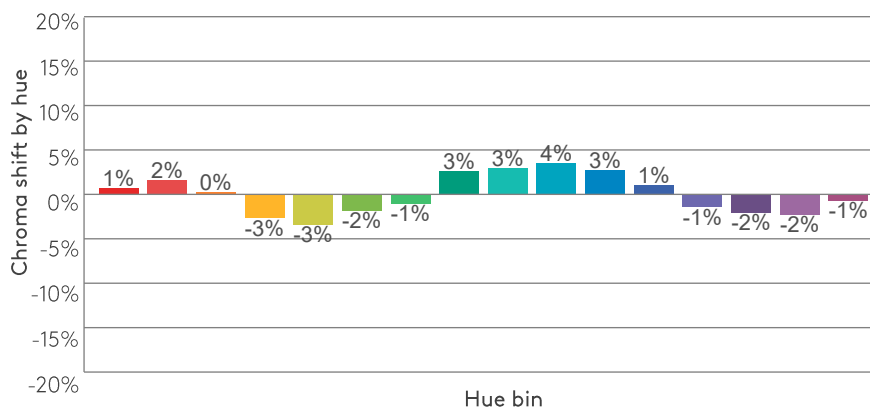
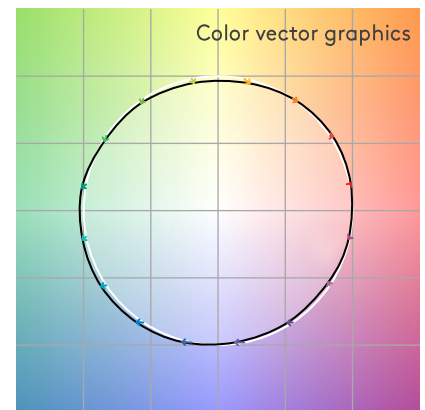
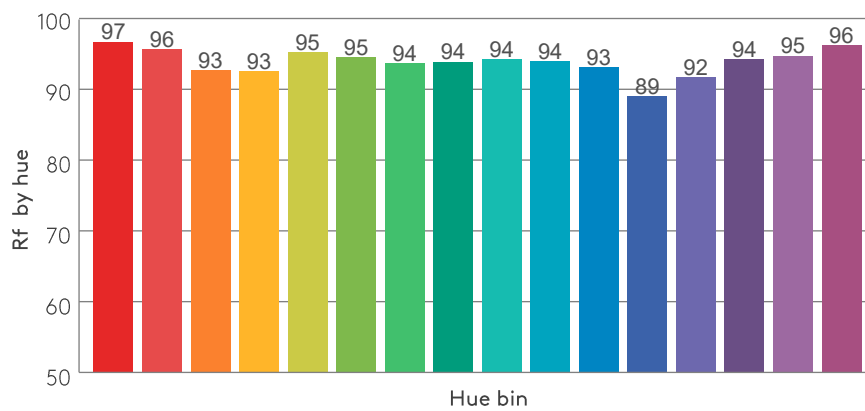
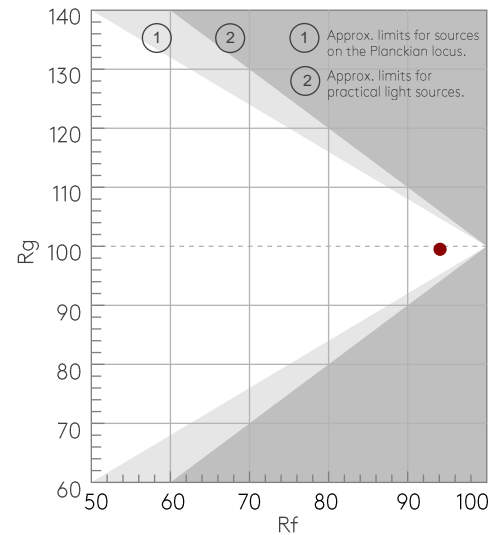
COLOR PARAMETERS

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
2701 K	94.7	95.2	94.1	99.5	92.8	0.460	0.410	0.263	0.352	-0.0001

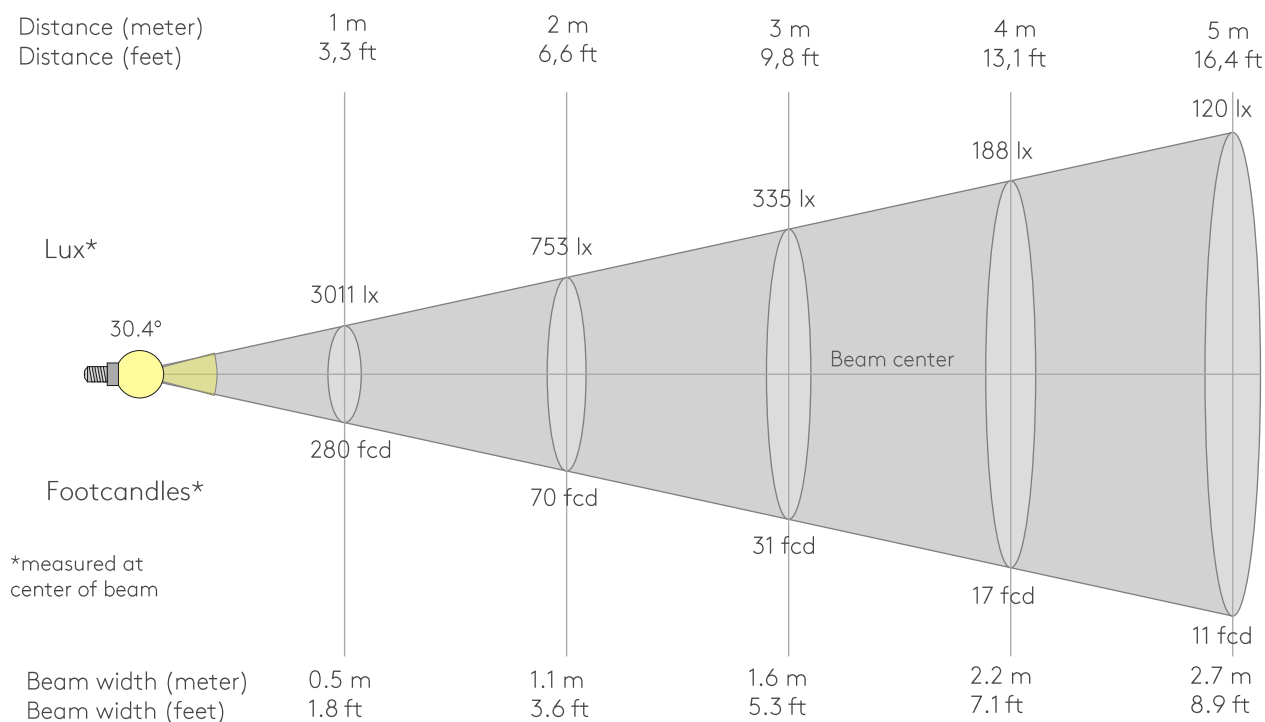
Rf 94.1
Fidelity index Rf

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%	-5%
5	95	-3%	-1%
6	95	-2%	3%
7	94	-1%	4%
8	94	3%	3%
9	94	3%	2%
10	94	4%	-1%
11	93	3%	-4%
12	89	1%	-7%
13	92	-1%	-7%
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
3011lx	753lx	335lx	188lx	120lx	84lx	61lx	47lx	37lx	30lx	25lx	21lx	18lx	15lx	13lx	12lx	10lx	9lx	8lx	8lx
279.7fcd	69.9fcd	31.1fcd	17.5fcd	11.2fcd	7.8fcd	5.7fcd	4.4fcd	3.5fcd	2.8fcd	2.3fcd	1.9fcd	1.7fcd	1.4fcd	1.2fcd	1.1fcd	1fcd	0.9fcd	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°
3011	2983	2895	2750	2552	2304	2016	1702	1377	1066	785	549	364	232	143	89	59	41	29	21
100%	99%	96%	91%	85%	77%	67%	57%	46%	35%	26%	18%	12%	8%	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°
3011	2983	2895	2750	2552	2304	2016	1702	1377	1066	785	549	364	232	143	89	59	41	29	21
100%	99%	96%	91%	85%	77%	67%	57%	46%	35%	26%	18%	12%	8%	5%	3%	2%	1%	1%	1%

Intensities in 180° c-plane

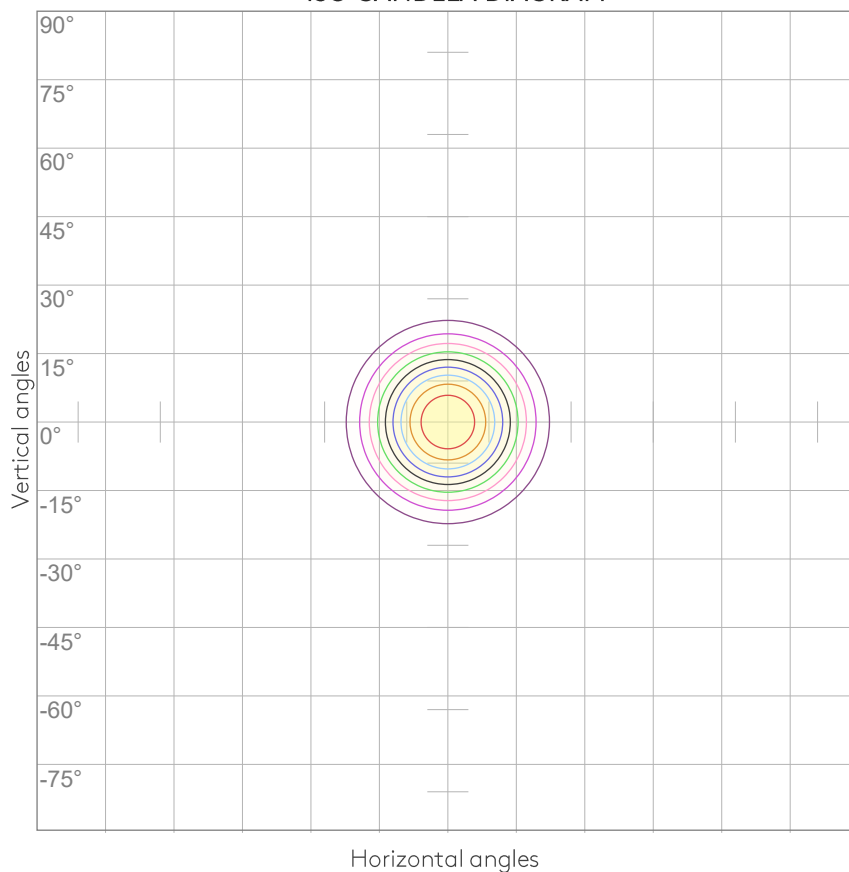
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
3011	2983	2895	2750	2552	2304	2016	1702	1377	1066	785	549	364	232	143	89	59	41	29	21
100%	99%	96%	91%	85%	77%	67%	57%	46%	35%	26%	18%	12%	8%	5%	3%	2%	1%	1%	1%

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°
3011	2983	2895	2750	2552	2304	2016	1702	1377	1066	785	549	364	232	143	89	59	41	29	21
100%	99%	96%	91%	85%	77%	67%	57%	46%	35%	26%	18%	12%	8%	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
30.4°	49.8°	61.6°	99.7%	99.1%

ISO CANDELA DIAGRAM



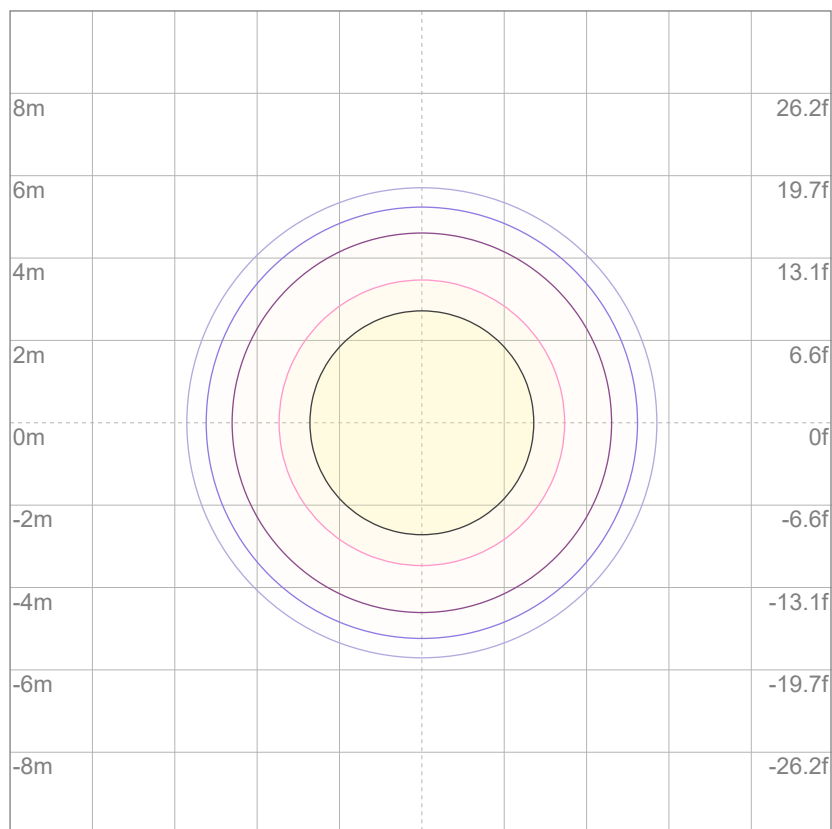
10%	301 cd
20%	602 cd
30%	903 cd
40%	1204 cd
50%	1506 cd
60%	1807 cd
70%	2108 cd
80%	2409 cd
90%	2710 cd

Conditions:

Number of c-planes: 8

Candela at center: 3011 cd

ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	0.903 lx
5%	1.51 lx
10%	3.01 lx
30%	9.03 lx
50%	{LUX_10M50} lx

Conditions:

Number of c-planes: 8

Lux at center: 30.1 lx

Lux distribution on a surface when lamp is mounted at 10 meters from the surface.

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	9.8	10.2	9.9	10.4	10.6	9.8	10.2	9.9	10.4	10.6
	3H	9.5	10.1	9.9	10.3	10.5	9.5	10.1	9.9	10.3	10.5
	4H	9.4	10.0	9.8	10.2	10.5	9.4	10.0	9.8	10.2	10.5
	6H	9.5	9.9	9.7	10.2	10.5	9.5	9.9	9.7	10.2	10.5
	8H	9.4	9.8	9.7	10.2	10.5	9.4	9.8	9.7	10.2	10.5
	12H	9.3	9.8	9.7	10.1	10.5	9.3	9.8	9.7	10.1	10.5
4H	2H	9.5	10.0	9.9	10.3	10.5	9.5	10.0	9.9	10.3	10.5
	3H	9.4	9.8	9.8	10.2	10.6	9.4	9.8	9.8	10.2	10.6
	4H	9.3	9.7	9.7	10.1	10.6	9.3	9.7	9.7	10.1	10.6
	6H	9.2	9.7	9.7	10.0	10.3	9.2	9.7	9.7	10.0	10.3
	8H	9.1	9.6	9.7	9.9	10.3	9.1	9.6	9.7	9.9	10.3
	12H	9.1	9.4	9.6	9.8	10.3	9.1	9.4	9.6	9.8	10.3
8H	4H	9.1	9.6	9.7	9.9	10.3	9.1	9.6	9.7	9.9	10.3
	6H	9.1	9.3	9.6	9.8	10.3	9.1	9.3	9.6	9.8	10.3
	8H	9.1	9.3	9.6	9.8	10.4	9.1	9.3	9.6	9.8	10.4
	12H	9.0	9.2	9.6	9.7	10.3	9.0	9.2	9.6	9.7	10.3
12H	4H	9.1	9.4	9.6	9.8	10.3	9.1	9.4	9.6	9.8	10.3
	6H	9.1	9.3	9.6	9.8	10.4	9.1	9.3	9.6	9.8	10.4
	8H	9.0	9.2	9.6	9.7	10.3	9.0	9.2	9.6	9.7	10.3
Variation of the observer position for the luminaire distance S											
S = 1.0H		5.1 / -5.9					5.1 / -5.9				
S = 1.5H		7.7 / -8.2					7.7 / -8.2				
S = 2.0H		9.6 / -11.2					9.6 / -11.2				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 850 lm total luminous flux											

MINIMA PRO SQUARE ADJUSTABLE - MATT

LIGHT PLANNING

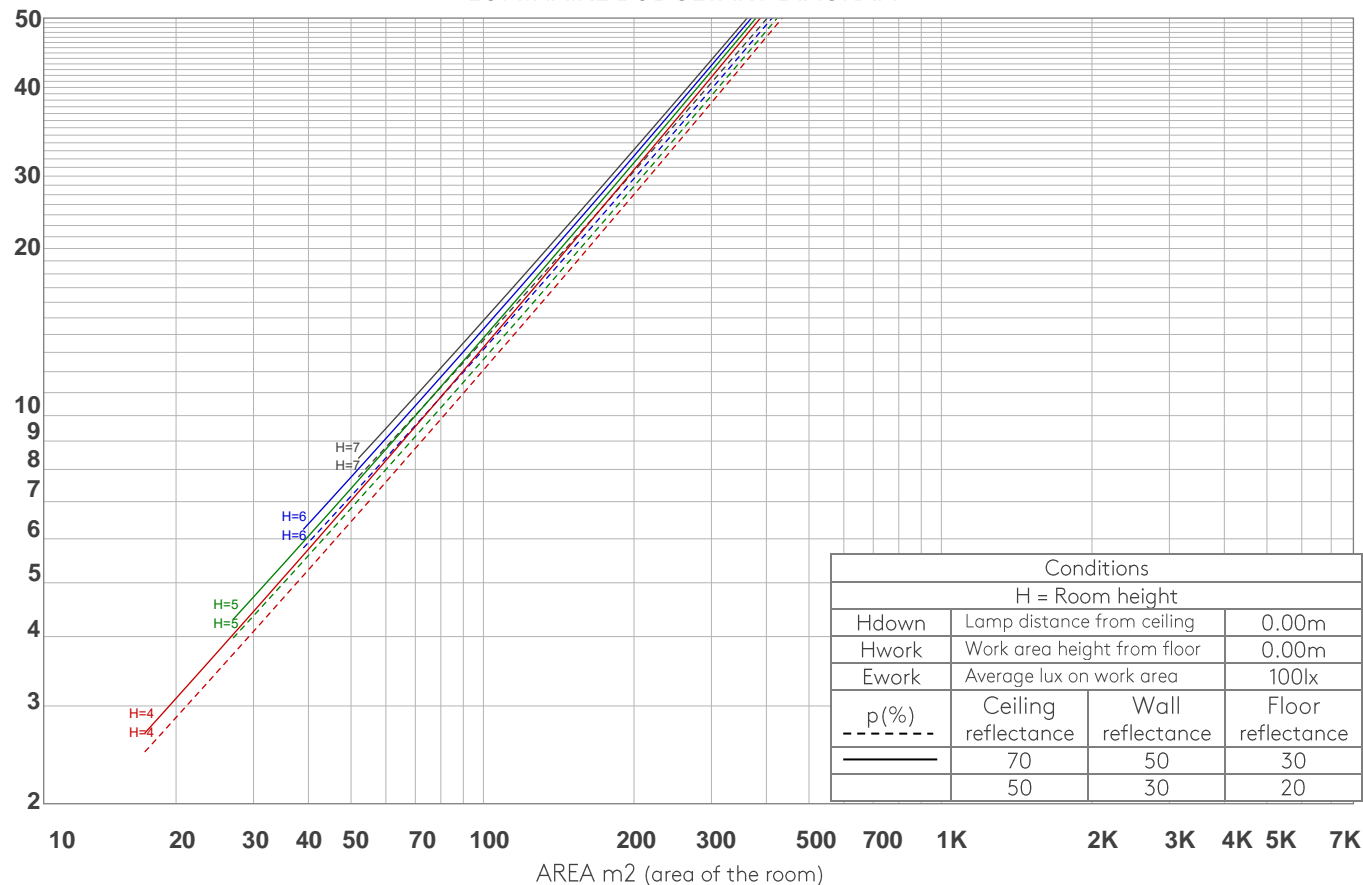
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COEFFICIENTS OF UTILIZATION

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	103	99	96	105	101	98	95	99	96	94	96	94	92	94	92	91	89
4	104	98	94	91	102	97	94	91	95	92	90	93	91	89	92	89	88	86
5	101	95	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	86	83	88	85	82	87	84	82	81
7	95	88	84	81	93	87	83	80	86	83	80	85	82	80	84	81	79	78
8	92	85	81	78	91	85	80	78	84	80	77	83	79	77	82	79	77	76
9	89	82	78	75	88	82	78	75	81	77	75	80	77	75	80	77	75	74
10	87	80	76	73	86	79	76	73	79	75	73	78	75	73	78	75	72	71

LAMPS (number of lamps)

LUMINAIRE BUDGETARY DIAGRAM



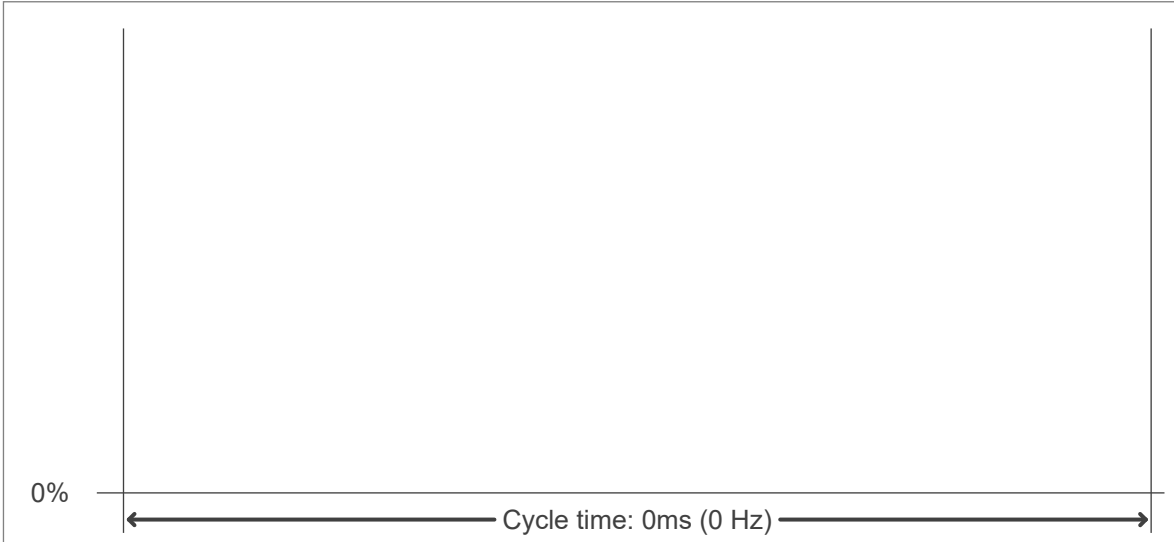
ZONAL LUMEN SUMMARY

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
253 lm	413 lm	148 lm	24.1 lm	6.72 lm	2.74 lm	0.980 lm	0.182 lm	0.057 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.042 lm	0.041 lm	0.042 lm	0.065 lm	0.141 lm	0.299 lm	0.415 lm	0.296 lm	0.067 lm

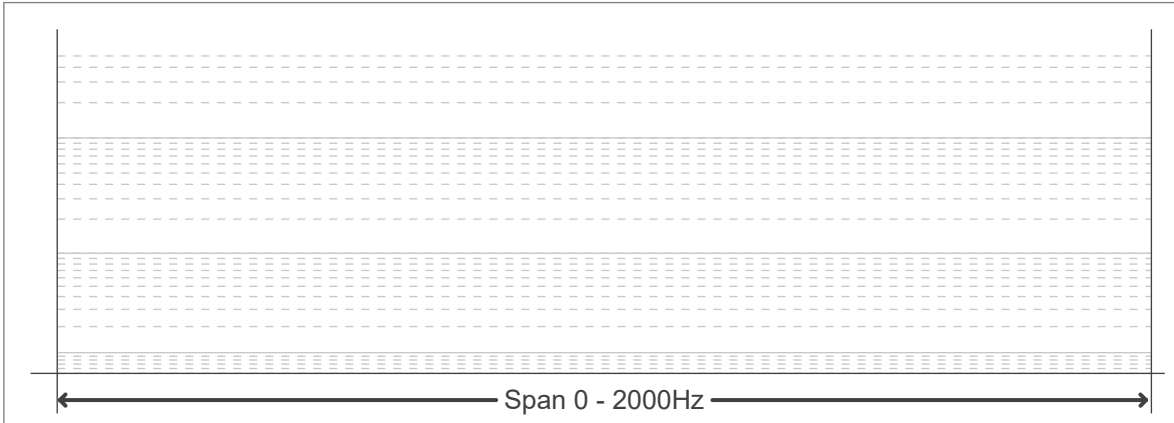
FLICKER CURVE (COMPLETE SAMPLED)



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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