

PHOTOMETRIC TEST REPORT

MINIMA PRO ROUND
ADJUSTABLE - MATT WHITE -
4000547

astro

MINIMA PRO ROUND ADJUSTABLE - MATT

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LIGHT EFFICIENCY:

68 Lumen/Watt

LIGHT QUALITY:

CRI: 94.7

COLOR TEMPERATURE:

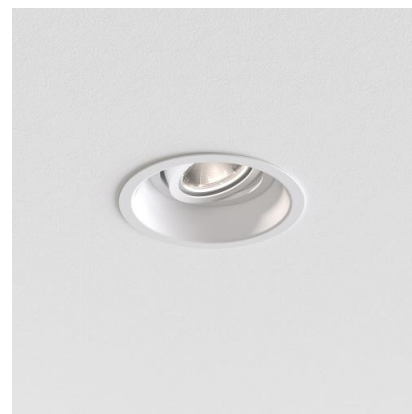
2706 K

OUTPUT: 808 lm

PEAK: 3003 cd

POWER: 11.9 W

PF: 0.95



Tracking number: [n/a](#)

Product name:

Minima Pro Round Adjustable - Matt
White - 4000547

Item number:

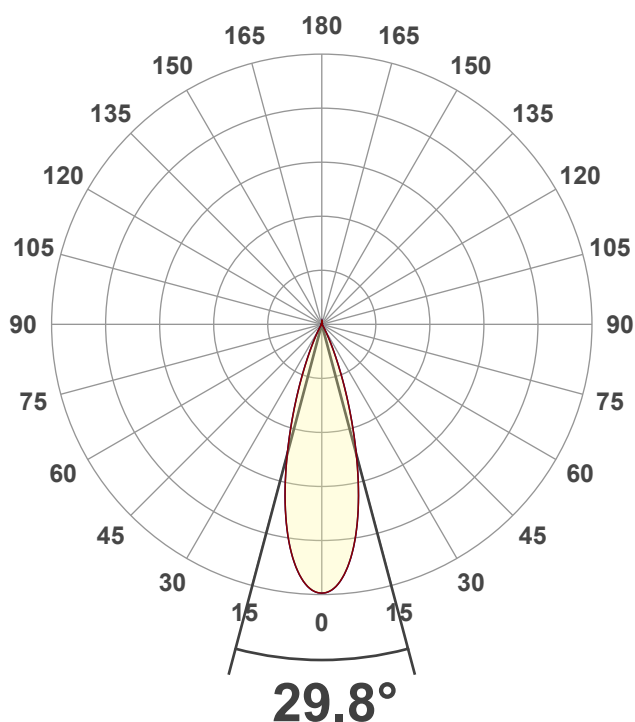
MRA-MW-HQ27G1-30G1-X-D1

Date and time:

17/01/2025 15:48:20

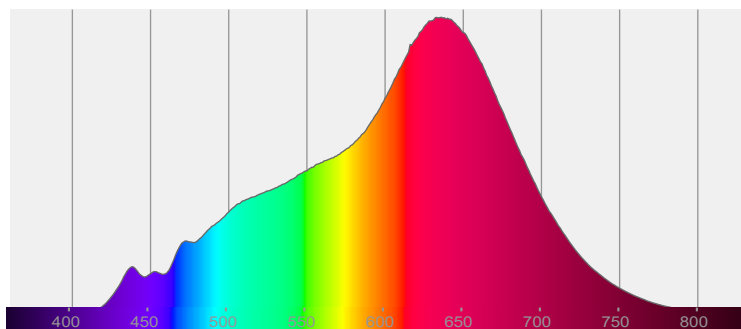
Description:

IP20 LED Downlight

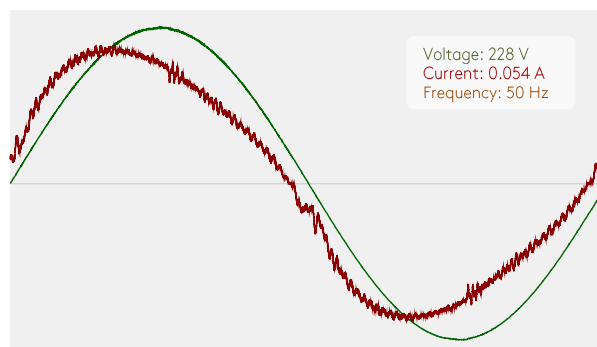


CIE 1931
x: 0.460
y: 0.410

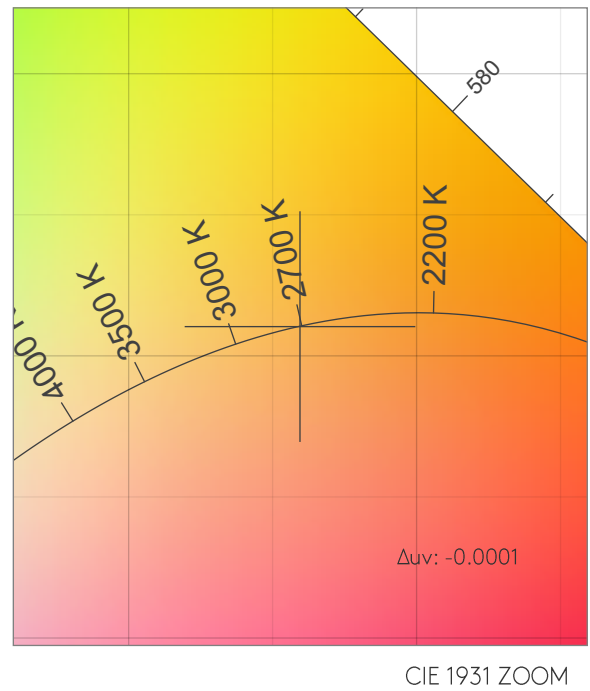
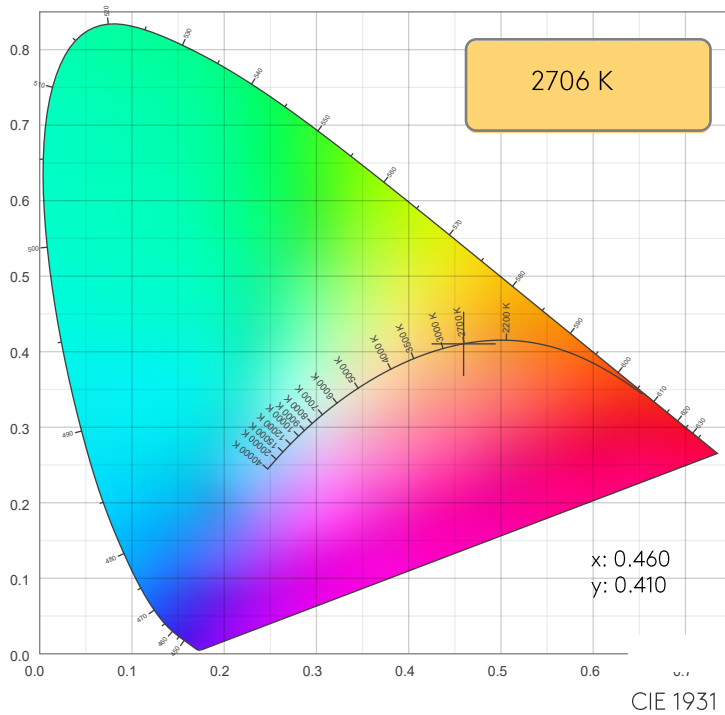
SPECTRA



POWER

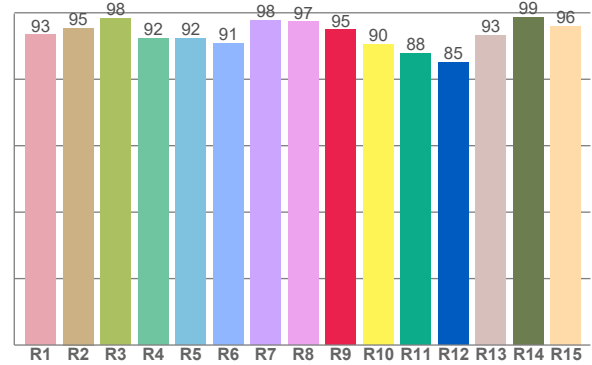
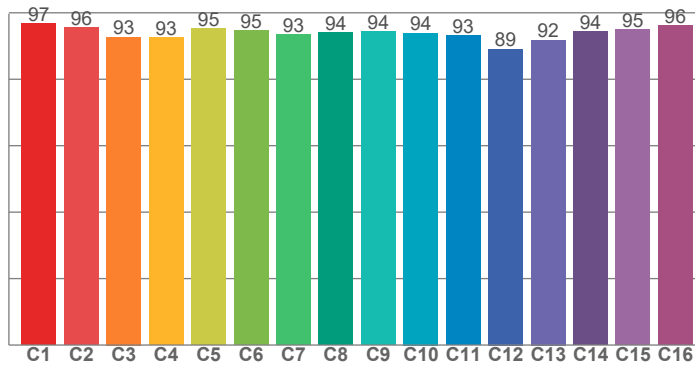


COLOR DETAILS



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	92.3	92.2	90.7	97.8	97.3	94.8	90.4	87.7	85.2	93.3	98.6	95.9

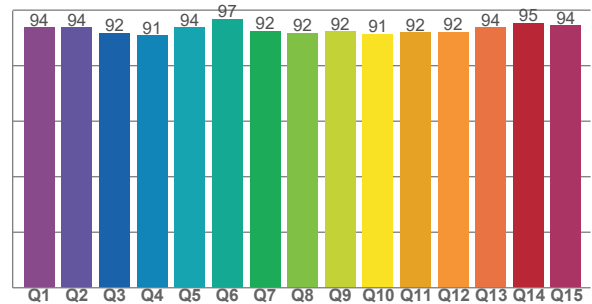
TM30 C values, 16 binned values out of total of 99 C values

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	94.7	93.4	93.9	94.3	93.9	93.1	89.1	91.8	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	90.9	93.8	96.8	92.4	91.9	92.3	91.4	92.0	92.1	93.8	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
2706 K	94.7	94.8	94.1	99.5	92.8	0.460	0.410	0.262	0.351	-0.0001

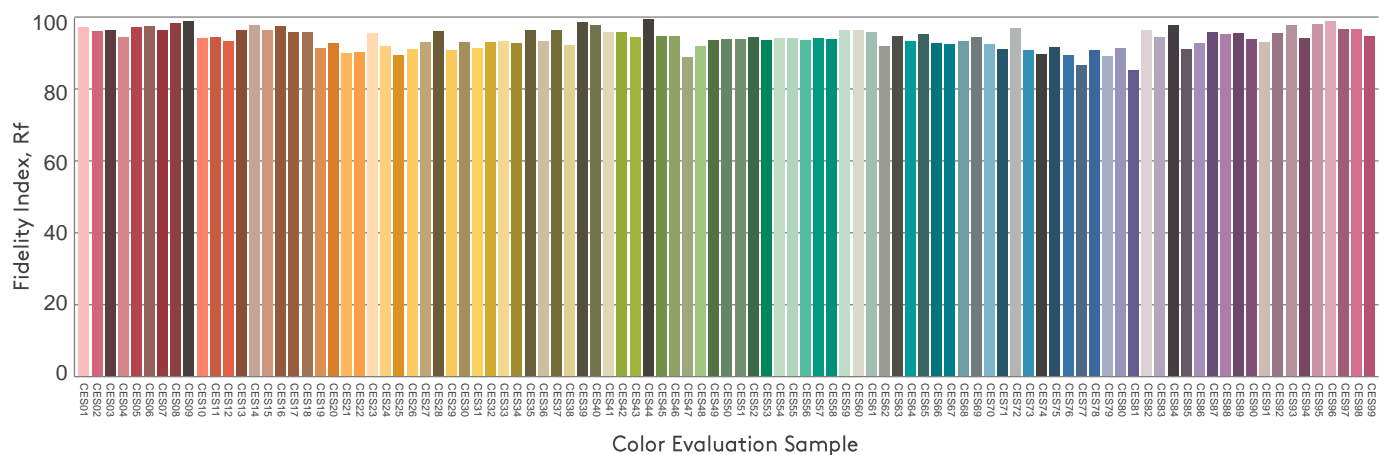
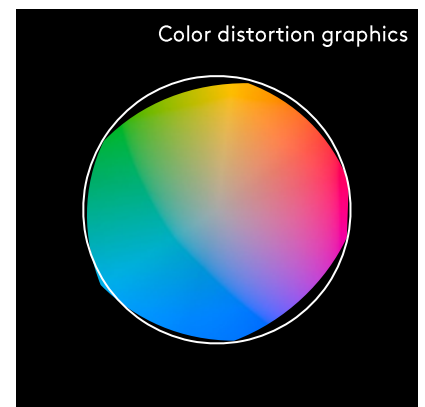
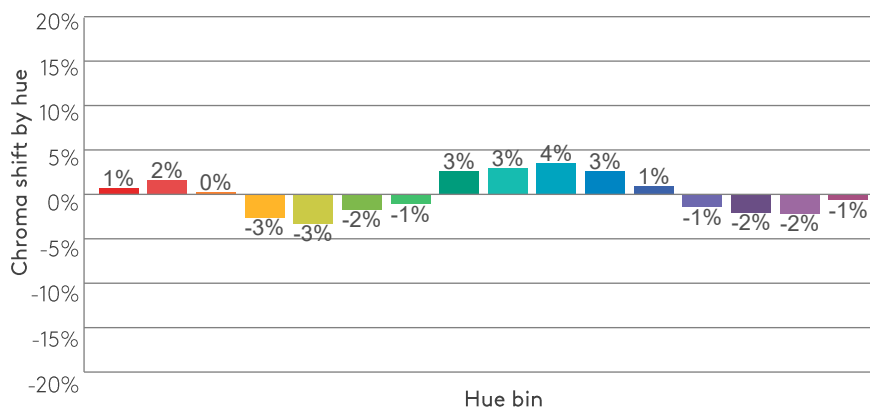
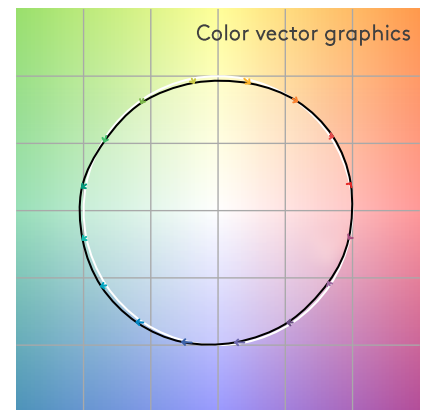
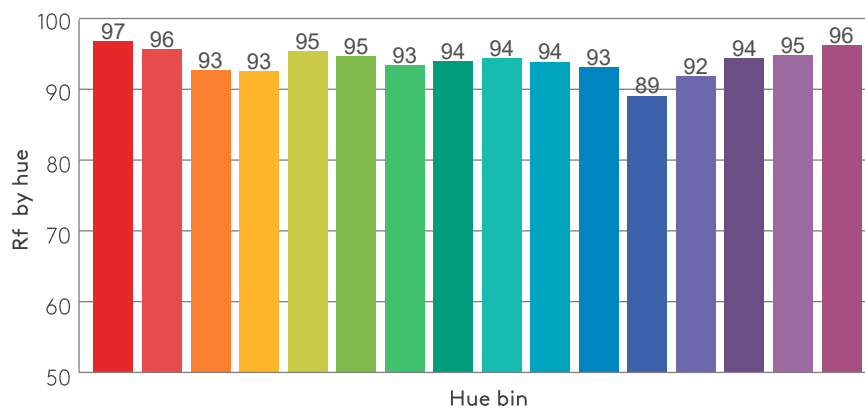
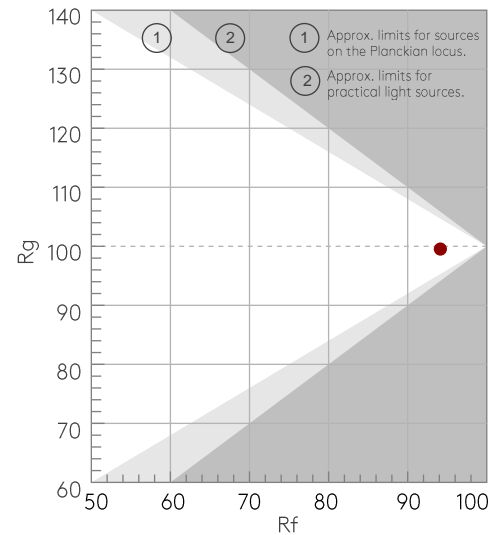
MINIMA PRO ROUND ADJUSTABLE - MATT TM30 DETAILS

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Rf 94.1
Fidelity index Rf

Rg 99.5
Gammut index Rg

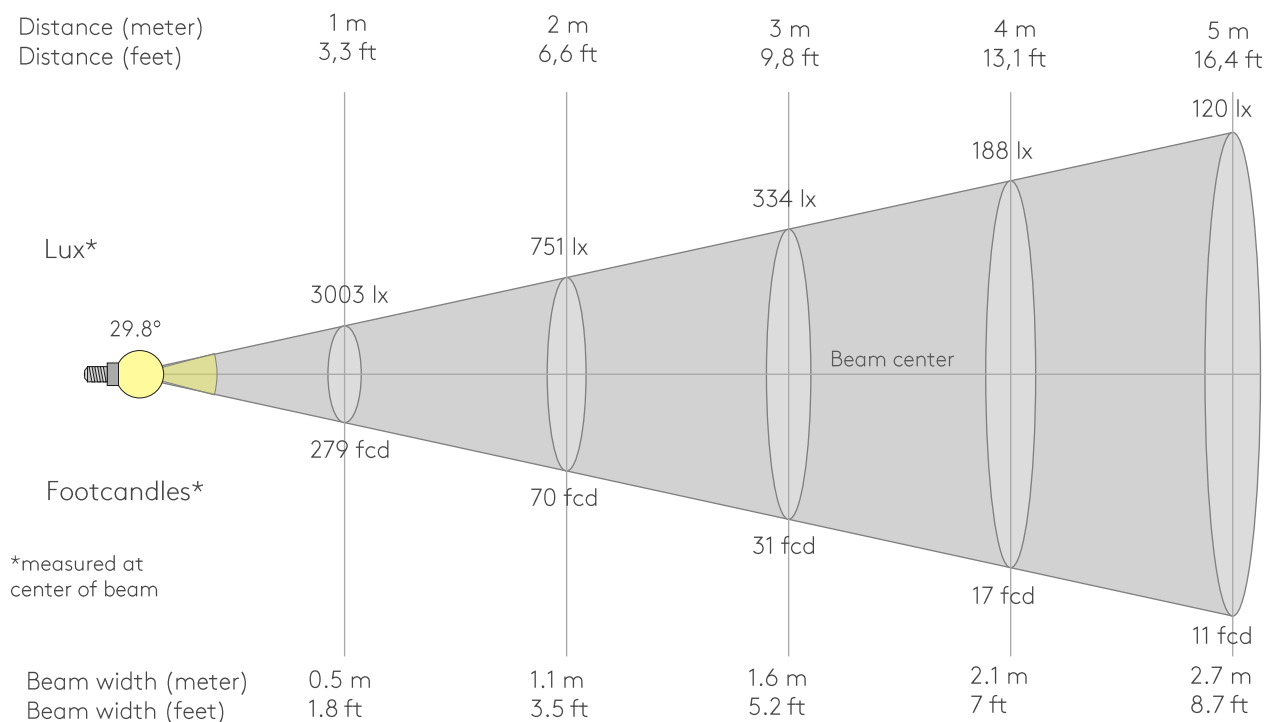
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	97	1%	1%
2	96	2%	-2%
3	93	0%	-4%
4	93	-3%	-4%
5	95	-3%	-1%
6	95	-2%	3%
7	93	-1%	4%
8	94	3%	3%
9	94	3%	2%
10	94	4%	-2%
11	93	3%	-4%
12	89	1%	-7%
13	92	-1%	-7%
14	94	-2%	-3%
15	95	-2%	1%
16	96	-1%	-1%



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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
3003lx	751lx	334lx	188lx	120lx	83lx	61lx	47lx	37lx	30lx	25lx	21lx	18lx	15lx	13lx	12lx	10lx	9lx	8lx	8lx
279fcd	69.7fcd	31fcd	17.4fcd	11.2fcd	7.7fcd	5.7fcd	4.4fcd	3.4fcd	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°
3003	2975	2884	2733	2528	2271	1973	1648	1320	1008	731	500	324	200	118	70	44	29	19	13
100%	99%	96%	91%	84%	76%	66%	55%	44%	34%	24%	17%	11%	7%	4%	2%	1%	1%	1%	0%

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°
3003	2975	2884	2733	2528	2271	1973	1648	1320	1008	731	500	324	200	118	70	44	29	19	13
100%	99%	96%	91%	84%	76%	66%	55%	44%	34%	24%	17%	11%	7%	4%	2%	1%	1%	1%	0%

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°
3003	2975	2884	2733	2528	2271	1973	1648	1320	1008	731	500	324	200	118	70	44	29	19	13
100%	99%	96%	91%	84%	76%	66%	55%	44%	34%	24%	17%	11%	7%	4%	2%	1%	1%	1%	0%

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°
3003	2975	2884	2733	2528	2271	1973	1648	1320	1008	731	500	324	200	118	70	44	29	19	13
100%	99%	96%	91%	84%	76%	66%	55%	44%	34%	24%	17%	11%	7%	4%	2%	1%	1%	1%	0%

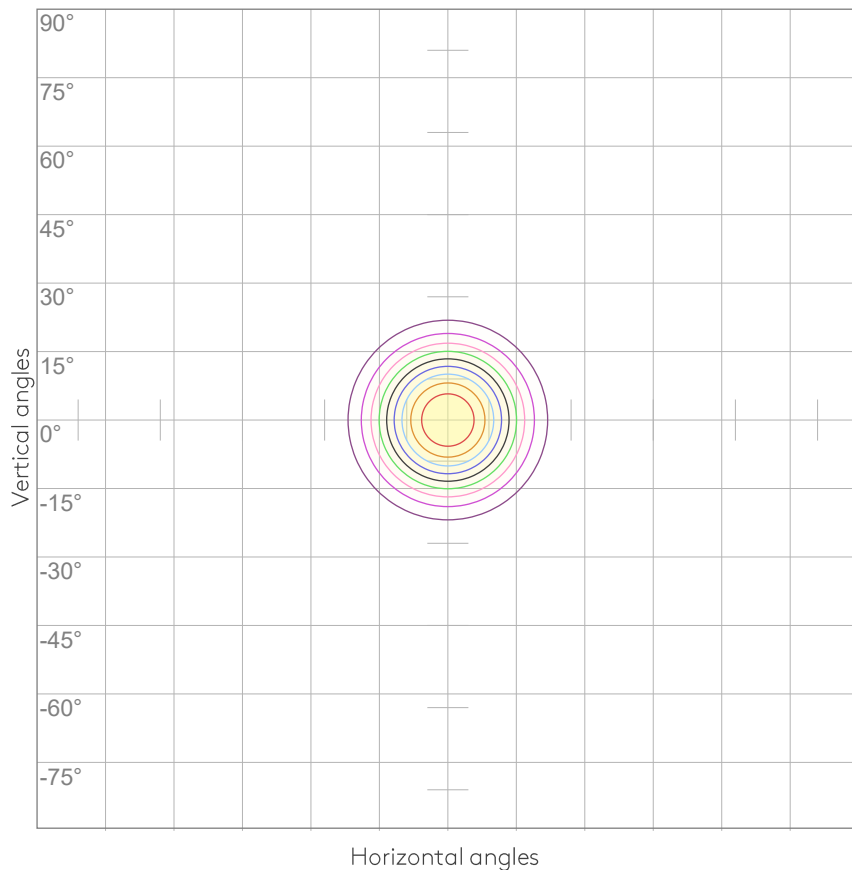
Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
29.8°	48.6°	59.4°	99.5%	99.0%

MINIMA PRO ROUND ADJUSTABLE - MATT

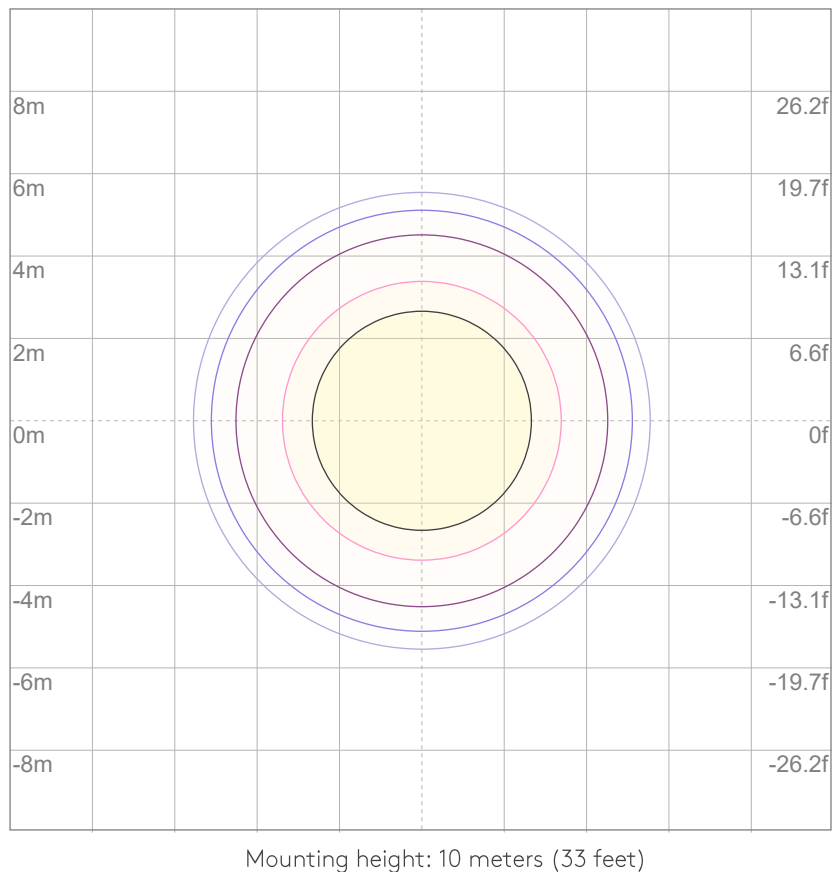
ISO DIAGRAMS

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ISO CANDELA DIAGRAM



ISO LUX DIAGRAM



UGR

GLARE EVALUATION ACCORDING TO UGR

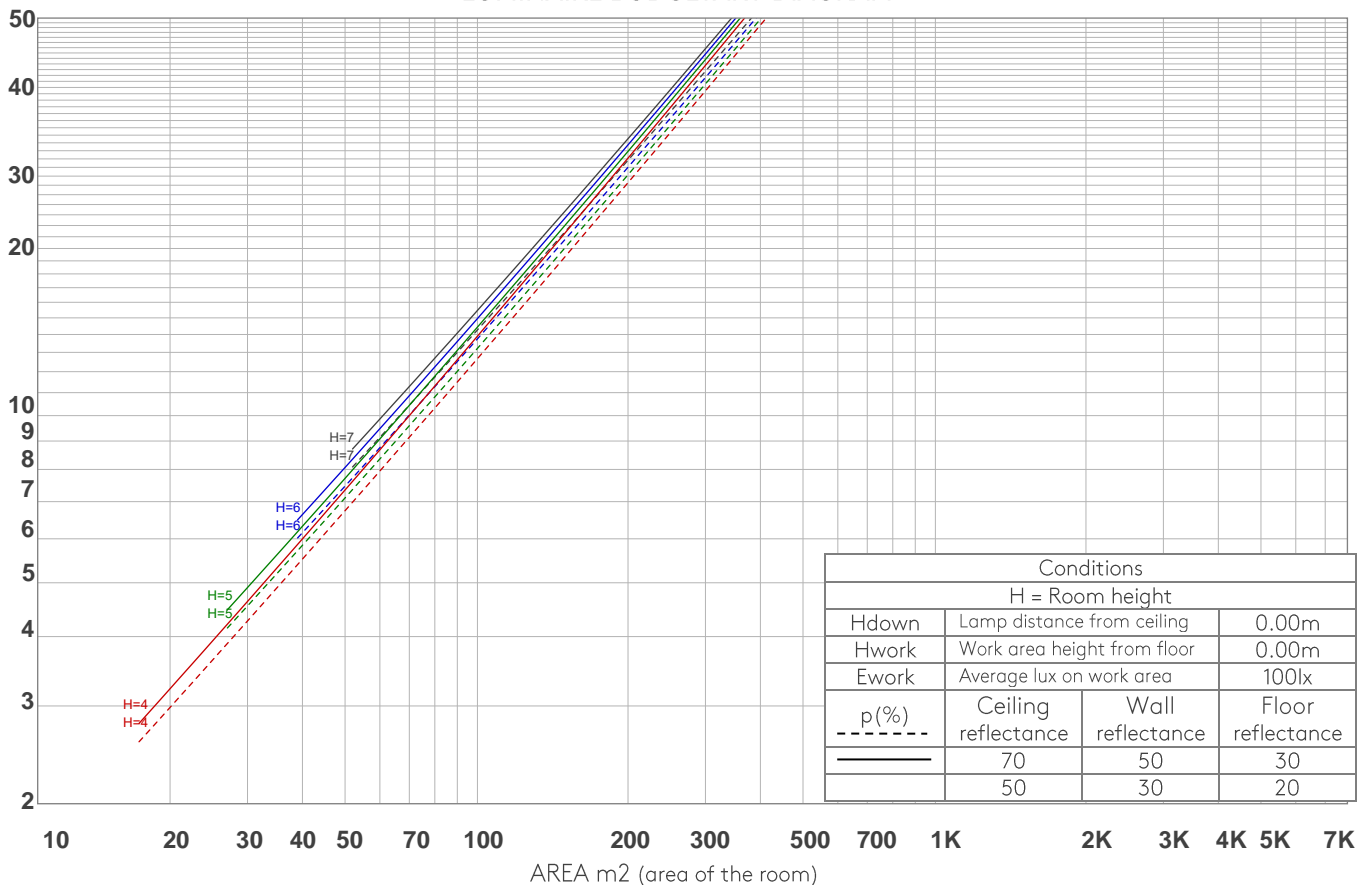
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H 2H		7.8	8.2	7.9	8.4	8.6	7.8	8.2	7.9	8.4	8.6
	3H	7.6	8.2	8.0	8.4	8.5	7.6	8.2	8.0	8.4	8.5
	4H	7.6	8.1	8.0	8.3	8.6	7.6	8.1	8.0	8.3	8.6
	6H	7.6	8.0	7.9	8.3	8.7	7.6	8.0	7.9	8.3	8.7
	8H	7.6	8.0	7.9	8.3	8.7	7.6	8.0	7.9	8.3	8.7
	12H	7.5	7.9	7.9	8.3	8.7	7.5	7.9	7.9	8.3	8.7
4H 2H		7.5	8.1	7.9	8.3	8.5	7.5	8.1	7.9	8.3	8.5
	3H	7.6	8.0	7.9	8.3	8.8	7.6	8.0	7.9	8.3	8.8
	4H	7.5	7.9	7.9	8.3	8.8	7.5	7.9	7.9	8.3	8.8
	6H	7.4	7.9	7.9	8.2	8.6	7.4	7.9	7.9	8.2	8.6
	8H	7.4	7.8	7.9	8.2	8.5	7.4	7.8	7.9	8.2	8.5
	12H	7.4	7.7	7.9	8.1	8.6	7.4	7.7	7.9	8.1	8.6
8H 4H		7.4	7.8	7.9	8.1	8.5	7.4	7.8	7.9	8.1	8.5
	6H	7.4	7.6	7.9	8.1	8.6	7.4	7.6	7.9	8.1	8.6
	8H	7.4	7.6	7.9	8.1	8.8	7.4	7.6	7.9	8.1	8.8
	12H	7.4	7.6	8.0	8.1	8.7	7.4	7.6	8.0	8.1	8.7
12H 4H		7.3	7.6	7.8	8.0	8.5	7.3	7.6	7.8	8.0	8.5
	6H	7.4	7.6	7.9	8.1	8.7	7.4	7.6	7.9	8.1	8.7
	8H	7.4	7.5	8.0	8.0	8.6	7.4	7.5	8.0	8.0	8.6
Variation of the observer position for the luminaire distance S											
S = 1.0H		4.8 / -3.7					4.8 / -3.7				
S = 1.5H		7.3 / -4.7					7.3 / -4.7				
S = 2.0H		9.2 / -6.0					9.2 / -6.0				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 808 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	101	103	100	98	100	98	96	97	96	94	93
3	107	103	99	96	106	101	98	95	99	96	94	97	94	92	94	93	91	90
4	104	99	95	92	103	98	94	91	96	92	90	94	91	89	92	90	88	87
5	101	95	91	88	100	94	90	87	92	89	87	91	88	86	90	87	85	84
6	98	92	87	84	97	91	87	84	90	86	84	88	85	83	87	85	83	81
7	95	89	84	81	94	88	84	81	87	83	81	86	83	80	85	82	80	79
8	92	86	82	79	91	85	81	79	84	81	78	83	80	78	83	80	78	77
9	90	83	79	76	89	83	79	76	82	78	76	81	78	76	80	78	75	74
10	88	81	77	74	87	80	77	74	80	76	74	79	76	74	78	75	73	72

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°
252 lm	398 lm	131 lm	17.1 lm	4.55 lm	2.28 lm	0.966 lm	0.289 lm	0.191 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.145 lm	0.156 lm	0.160 lm	0.193 lm	0.300 lm	0.478 lm	0.582 lm	0.397 lm	0.100 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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