

PHOTOMETRIC TEST REPORT

MINIMA PRO ROUND
ADJUSTABLE - MATT WHITE -
4000531

astro

MINIMA PRO ROUND ADJUSTABLE - MATT

astro

LIGHT EFFICIENCY:

67 Lumen/Watt

LIGHT QUALITY:

CRI: 94.8

COLOR TEMPERATURE:

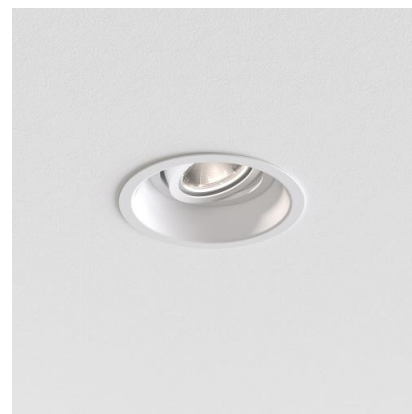
2711 K

OUTPUT: 800 lm

PEAK: 4284 cd

POWER: 11.9 W

PF: 0.95



Tracking number: [n/a](#)

Product name:

Minima Pro Round Adjustable - Matt
White - 4000531

Item number:

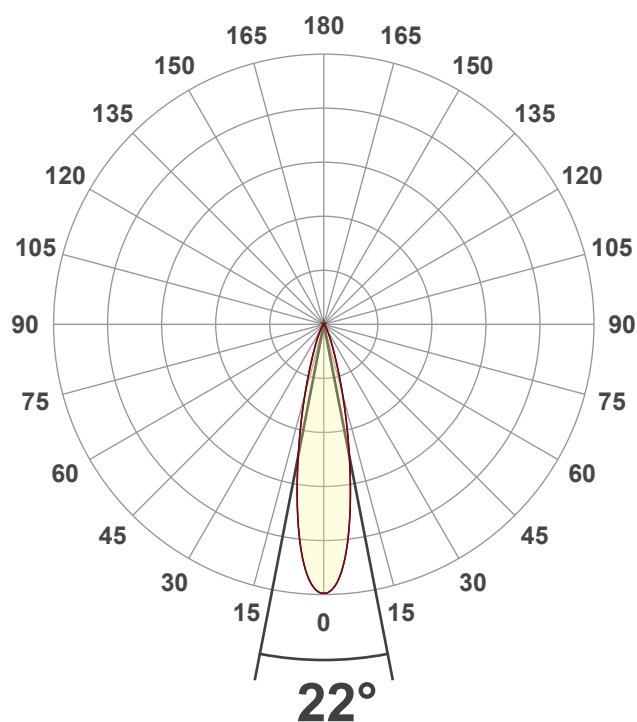
MRA-MW-HQ27G1-15G1-X-D1

Date and time:

17/01/2025 15:43:26

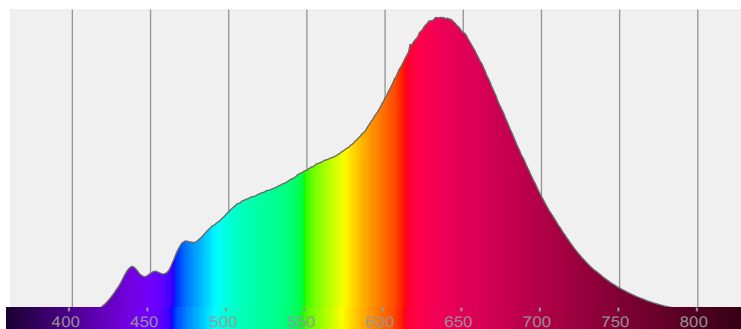
Description:

IP20 LED Downlight

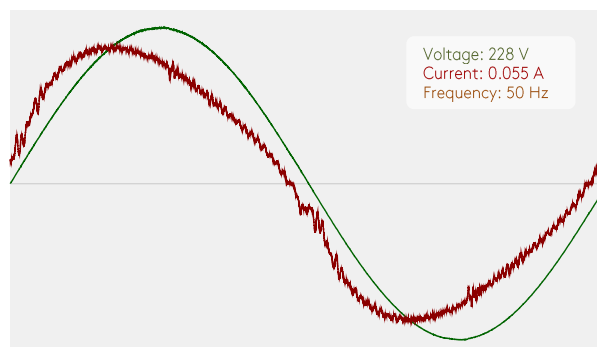


CIE 1931
x: 0.459
y: 0.410

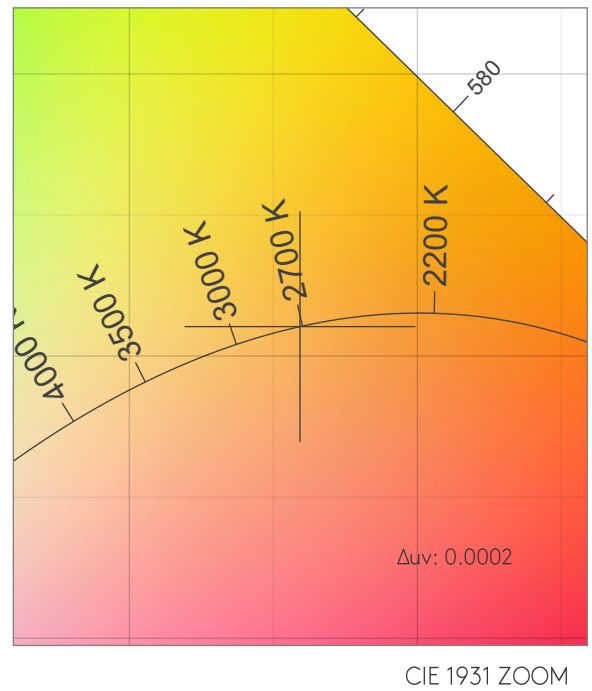
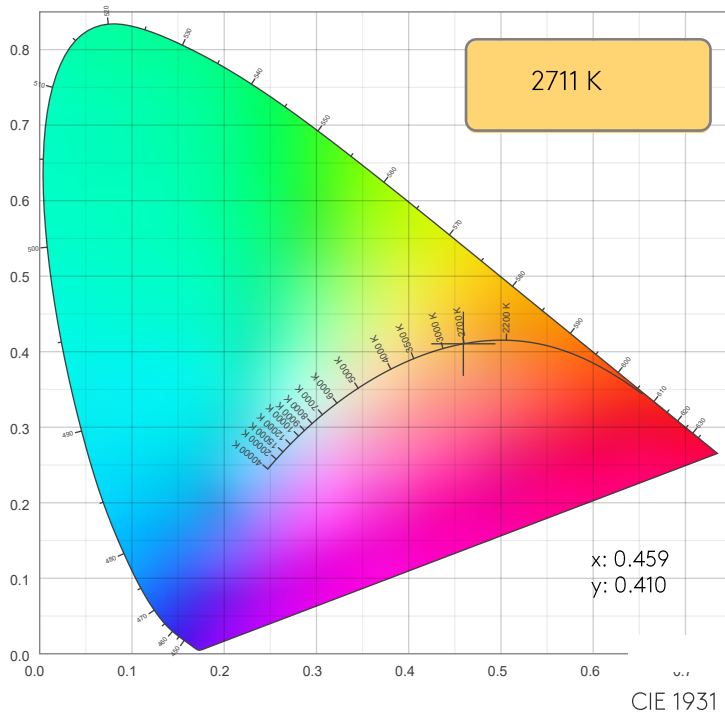
SPECTRA



POWER

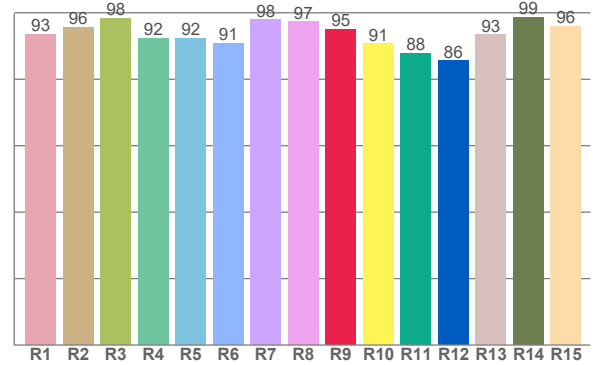
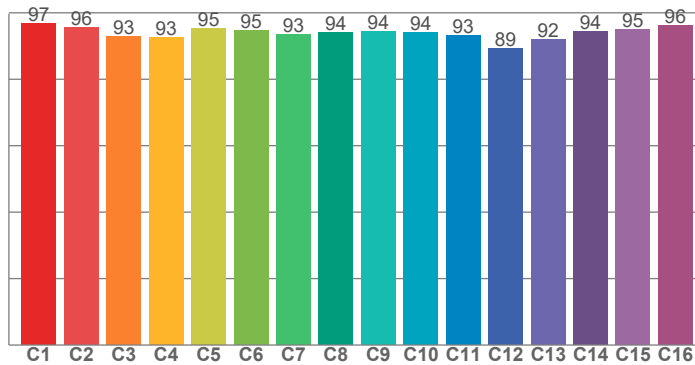


COLOR DETAILS



TM30: 94.2

CRI: 94.8 (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	98.4	92.3	92.3	90.9	97.9	97.3	94.9	90.7	87.8	85.5	93.4	98.6	96.0

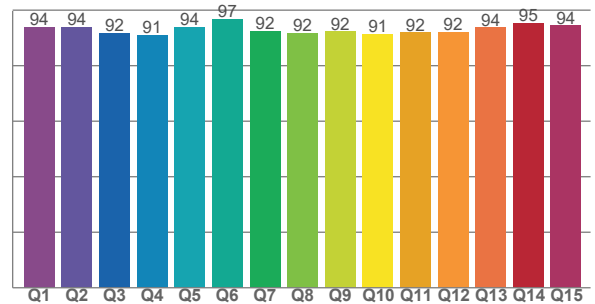
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
96.8	95.7	92.8	92.7	95.4	94.7	93.5	94.0	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
93.9	93.8	91.8	91.0	93.9	96.8	92.5	91.8	92.3	91.4	92.0	92.1	93.8	95.4	94.5

CQS: 92.9



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
2711 K	94.8	94.9	94.2	99.5	92.9	0.459	0.410	0.262	0.351	0.0002

MINIMA PRO ROUND ADJUSTABLE - MATT

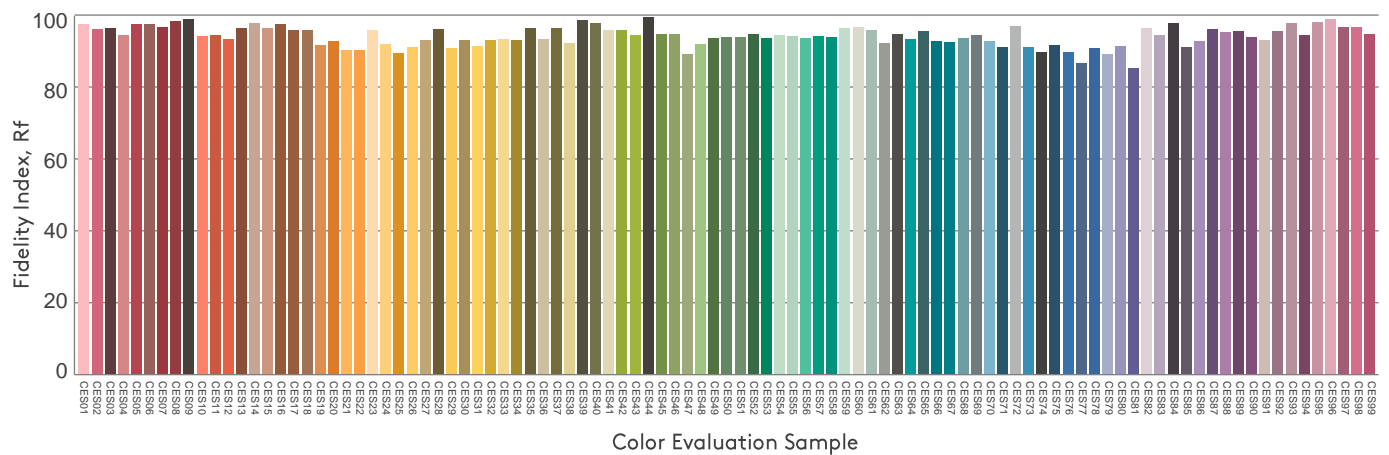
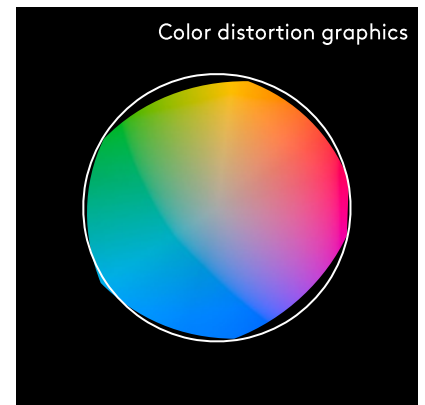
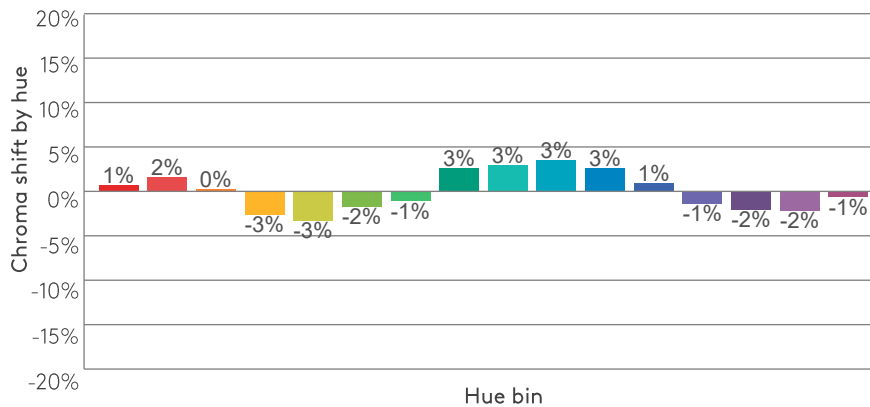
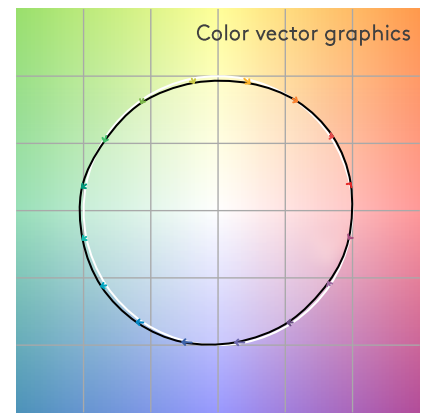
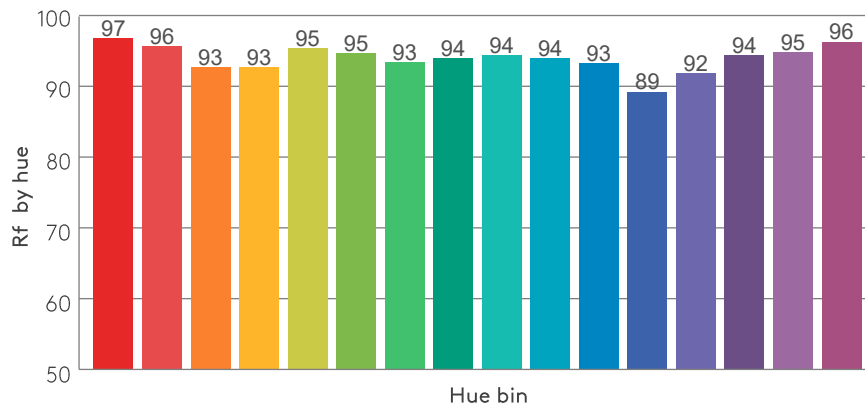
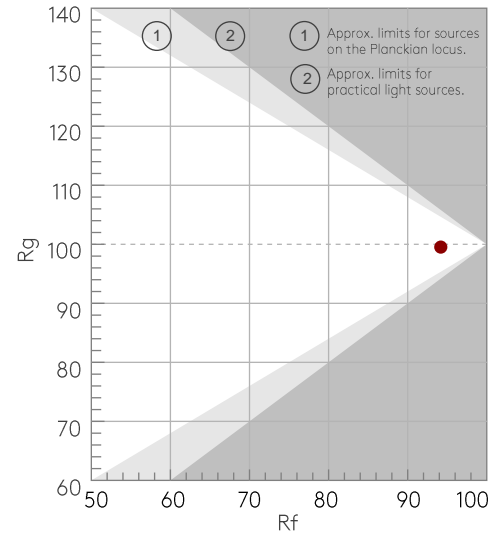
TM30 DETAILS

astro

Rf 94.2
Fidelity index Rf

Rg 99.5
Gammut index Rg

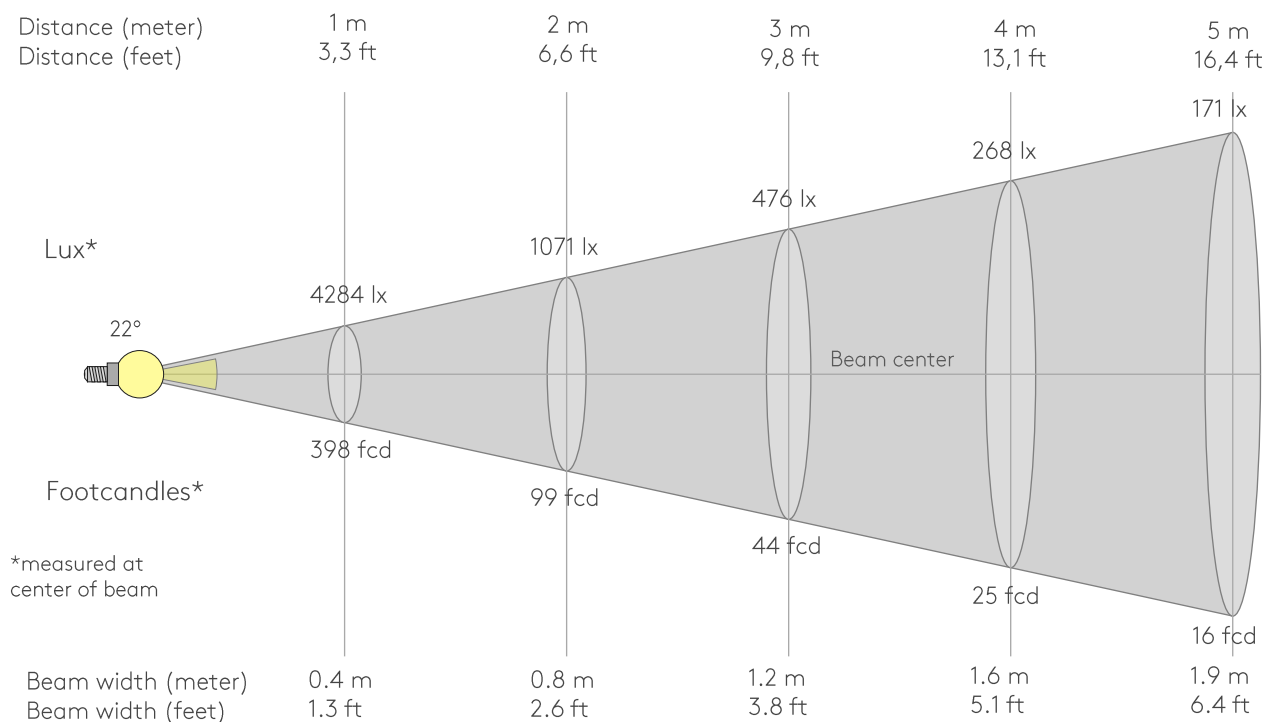
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	97	1%	1%
2	96	2%	-2%
3	93	0%	-4%
4	93	-3%	-4%
5	95	-3%	-1%
6	95	-2%	3%
7	93	-1%	4%
8	94	3%	3%
9	94	3%	2%
10	94	3%	-2%
11	93	3%	-4%
12	89	1%	-7%
13	92	-1%	-6%
14	94	-2%	-3%
15	95	-2%	1%
16	96	-1%	-1%



MINIMA PRO ROUND ADJUSTABLE - MATT

astro

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
4284lx	1071lx	476lx	268lx	171lx	119lx	87lx	67lx	53lx	43lx	35lx	30lx	25lx	22lx	19lx	17lx	15lx	13lx	12lx	11lx
398fcd	99.5fcd	44.2fcd	24.9fcd	15.9fcd	11.1fcd	8.1fcd	6.2fcd	4.9fcd	4fcd	3.3fcd	2.8fcd	2.4fcd	2fcd	1.8fcd	1.6fcd	1.4fcd	1.2fcd	1.1fcd	1fcd

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°
4284	4211	3966	3550	3008	2421	1865	1376	975	681	481	346	252	185	137	102	78	59	47	36
100%	98%	93%	83%	70%	57%	44%	32%	23%	16%	11%	8%	6%	4%	3%	2%	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°
4284	4211	3966	3550	3008	2421	1865	1376	975	681	481	346	252	185	137	102	78	59	47	36
100%	98%	93%	83%	70%	57%	44%	32%	23%	16%	11%	8%	6%	4%	3%	2%	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°
4284	4211	3966	3550	3008	2421	1865	1376	975	681	481	346	252	185	137	102	78	59	47	36
100%	98%	93%	83%	70%	57%	44%	32%	23%	16%	11%	8%	6%	4%	3%	2%	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°
4284	4211	3966	3550	3008	2421	1865	1376	975	681	481	346	252	185	137	102	78	59	47	36
100%	98%	93%	83%	70%	57%	44%	32%	23%	16%	11%	8%	6%	4%	3%	2%	2%	1%	1%	1%

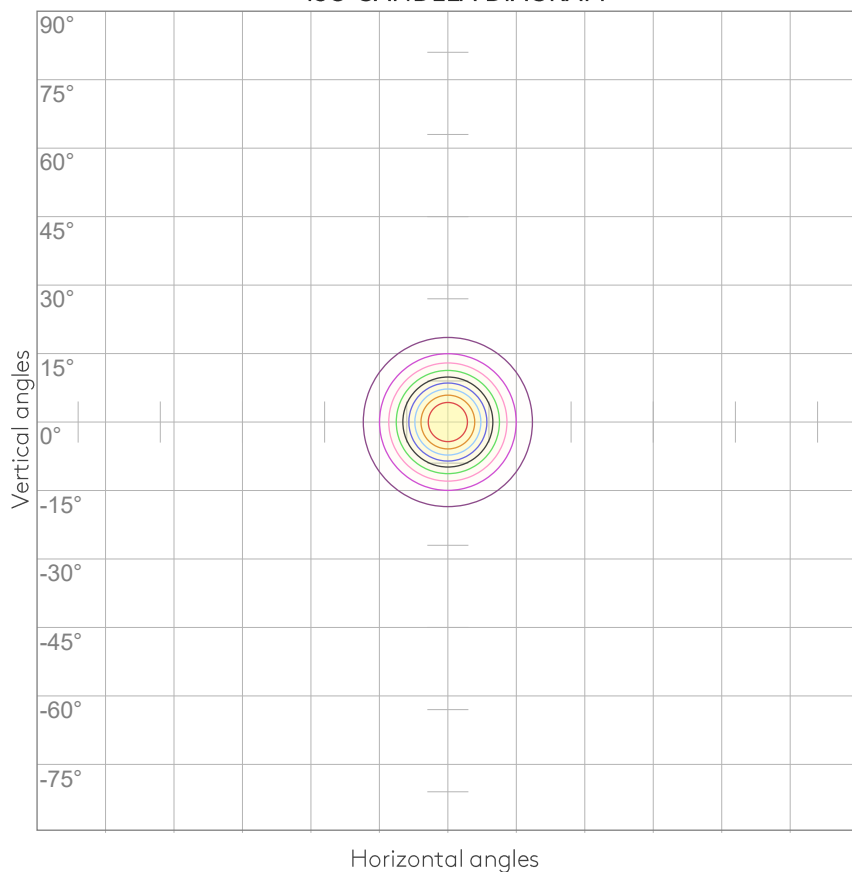
Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
22°	41.4°	59.3°	99.6%	98.7%

MINIMA PRO ROUND ADJUSTABLE - MATT

ISO DIAGRAMS

astro

ISO CANDELA DIAGRAM



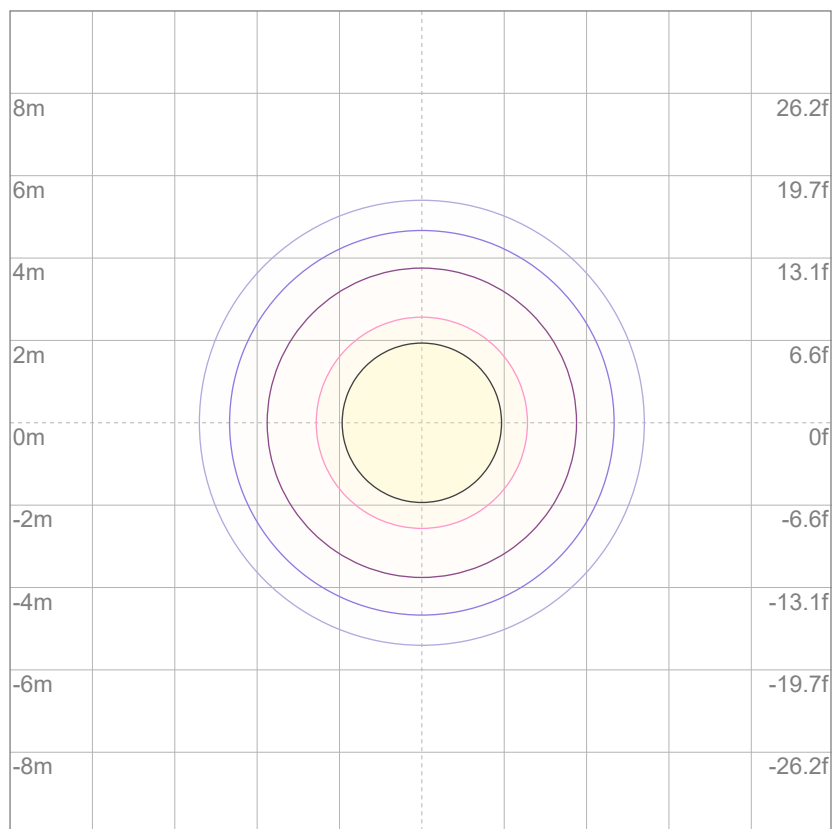
10%	428 cd
20%	857 cd
30%	1285 cd
40%	1713 cd
50%	2142 cd
60%	2570 cd
70%	2999 cd
80%	3427 cd
90%	3855 cd

Conditions:

Number of c-planes: 8

Candela at center: 4284 cd

ISO LUX DIAGRAM



3%	1.29 lx
5%	2.14 lx
10%	4.28 lx
30%	12.9 lx
50%	{LUX_10M50} lx

Conditions:

Number of c-planes: 8

Lux at center: 42.8 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	10.4	10.8	10.5	11.0	11.2	10.4	10.8	10.5	11.0	11.2
	3H	10.1	10.7	10.5	10.9	11.0	10.1	10.7	10.5	10.9	11.0
	4H	10.0	10.6	10.4	10.8	11.0	10.0	10.6	10.4	10.8	11.0
	6H	10.0	10.5	10.3	10.8	11.1	10.0	10.5	10.3	10.8	11.1
	8H	10.0	10.4	10.3	10.7	11.1	10.0	10.4	10.3	10.7	11.1
	12H	9.9	10.3	10.3	10.7	11.1	9.9	10.3	10.3	10.7	11.1
4H	2H	10.1	10.6	10.4	10.8	11.0	10.1	10.6	10.4	10.8	11.0
	3H	10.0	10.4	10.3	10.7	11.1	10.0	10.4	10.3	10.7	11.1
	4H	9.8	10.2	10.2	10.6	11.1	9.8	10.2	10.2	10.6	11.1
	6H	9.7	10.2	10.2	10.5	10.9	9.7	10.2	10.2	10.5	10.9
	8H	9.7	10.1	10.2	10.4	10.8	9.7	10.1	10.2	10.4	10.8
	12H	9.6	9.9	10.1	10.3	10.8	9.6	9.9	10.1	10.3	10.8
8H	4H	9.7	10.1	10.2	10.4	10.8	9.7	10.1	10.2	10.4	10.8
	6H	9.6	9.9	10.1	10.3	10.8	9.6	9.9	10.1	10.3	10.8
	8H	9.6	9.8	10.1	10.3	10.9	9.6	9.8	10.1	10.3	10.9
	12H	9.5	9.7	10.1	10.2	10.8	9.5	9.7	10.1	10.2	10.8
12H	4H	9.6	9.9	10.1	10.3	10.8	9.6	9.9	10.1	10.3	10.8
	6H	9.6	9.8	10.1	10.3	10.9	9.6	9.8	10.1	10.3	10.9
	8H	9.5	9.7	10.1	10.2	10.8	9.5	9.7	10.1	10.2	10.8
Variation of the observer position for the luminaire distance S											
S = 1.0H		5.0 / -9.1					5.0 / -9.1				
S = 1.5H		7.5 / -12.4					7.5 / -12.4				
S = 2.0H		9.5 / -16.0					9.5 / -16.0				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 800 lm total luminous flux											

MINIMA PRO ROUND ADJUSTABLE - MATT

LIGHT PLANNING

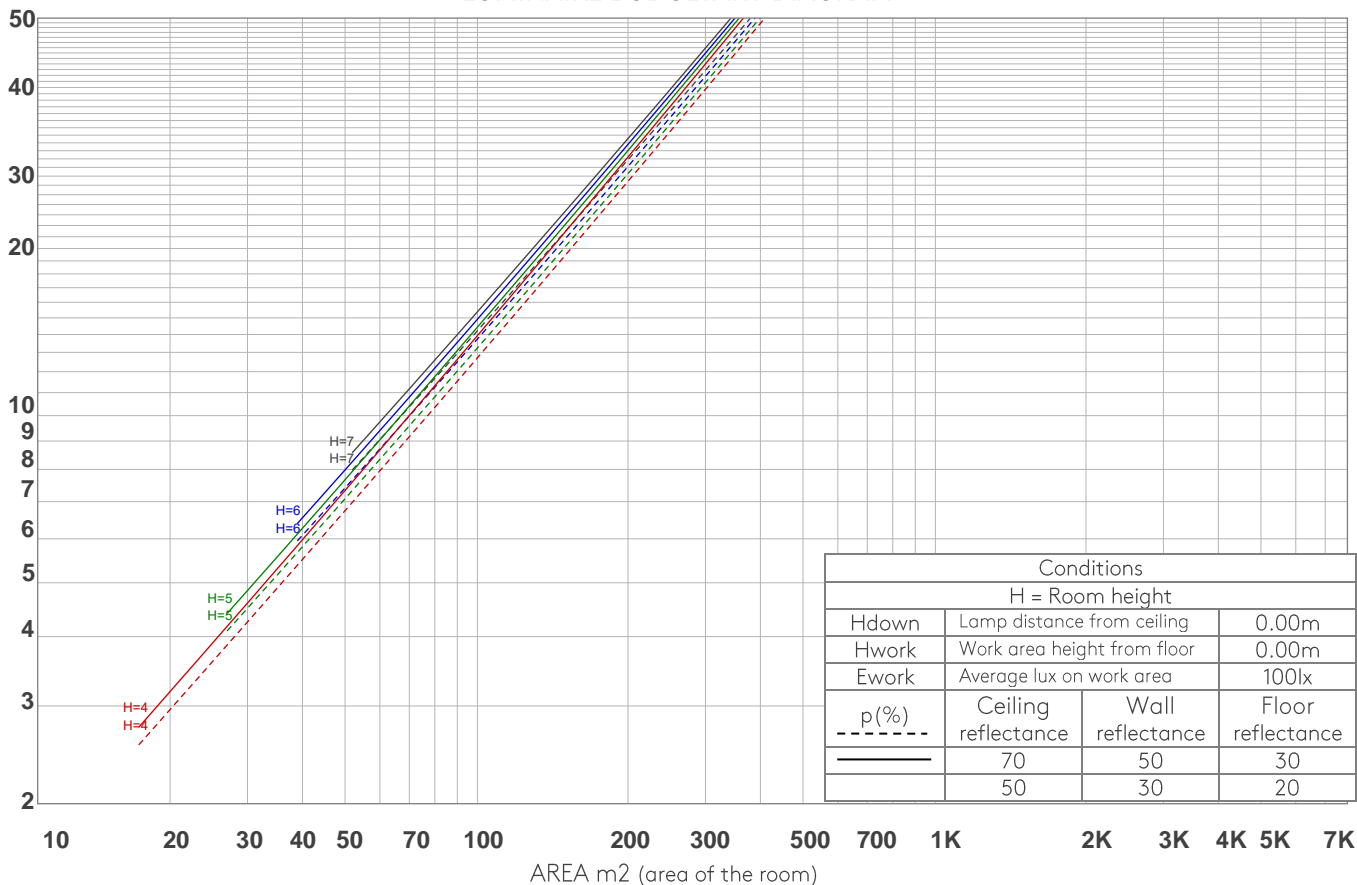
astro

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	113	111	109	108	107	105	104	103	102	101	100	99	98	97
2	111	108	105	102	109	106	103	101	103	101	99	100	98	97	97	96	95	93
3	108	103	100	97	106	102	99	96	99	97	95	97	95	93	95	93	92	90
4	105	99	95	92	103	98	95	92	96	93	91	94	92	90	93	91	89	88
5	102	96	92	89	100	95	91	88	93	90	88	92	89	87	90	88	86	85
6	99	93	88	86	97	92	88	85	91	87	85	89	86	84	88	86	84	83
7	96	90	86	83	95	89	85	83	88	85	82	87	84	82	86	83	81	80
8	94	87	83	80	93	87	83	80	86	82	80	85	82	79	84	81	79	78
9	91	85	81	78	90	84	80	78	83	80	78	83	80	77	82	79	77	76
10	89	82	79	76	88	82	78	76	81	78	76	81	78	75	80	77	75	74

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°
316 lm	327 lm	106 lm	34.4 lm	11.1 lm	3.43 lm	0.990 lm	0.244 lm	0.108 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.065 lm	0.063 lm	0.073 lm	0.098 lm	0.206 lm	0.373 lm	0.483 lm	0.370 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
--------------	--------------------