

# PHOTOMETRIC TEST REPORT

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MINIMA PRO SQUARE FIXED IP65  
- MATT WHITE - 4001075

astro

MINIMA PRO SQUARE FIXED IP65 - MATT

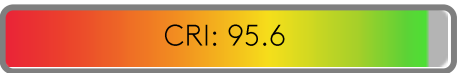
astro

LIGHT EFFICIENCY:



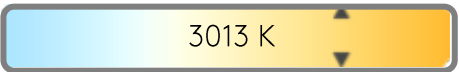
OUTPUT: 1273 lm

LIGHT QUALITY:



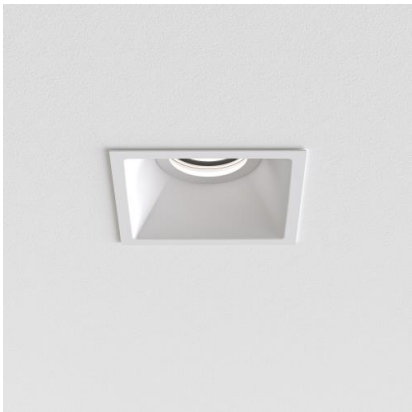
PEAK: 4281 cd

COLOR TEMPERATURE:



POWER: 11.9 W

PF: 0.95



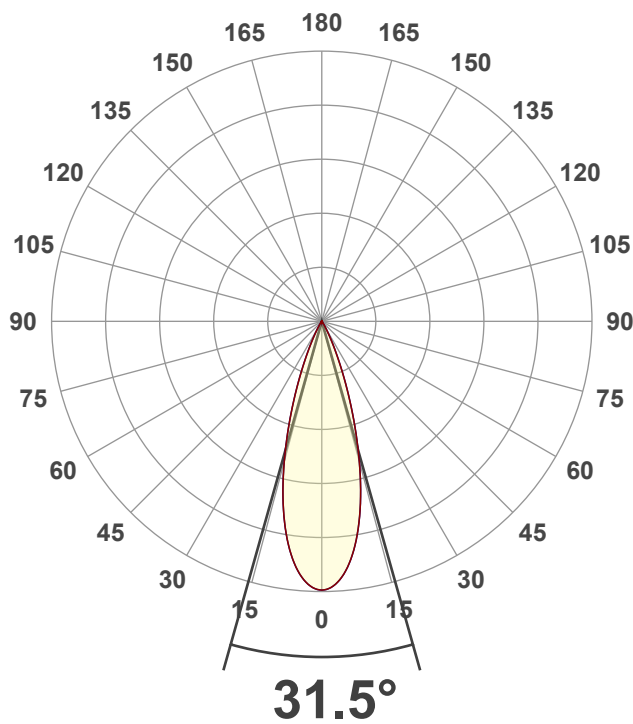
Tracking number: [n/a](#)

Product name:  
Minima Pro Square Fixed IP65 - Matt  
White - 4001075

Item number:  
MSF-MW-HE30G1-30G1-X-D1

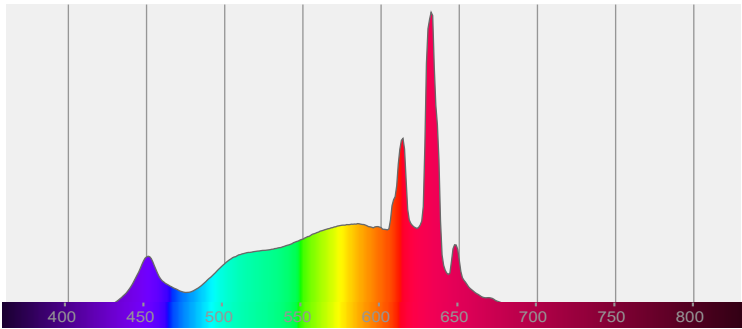
Date and time:  
03/02/2025 13:25:52

Description:  
IP65 LED Downlight

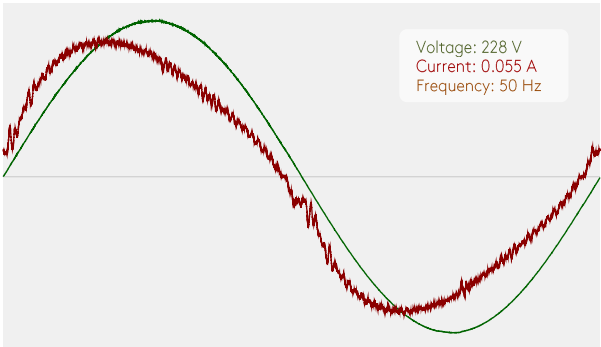


CIE 1931  
x: 0.439  
y: 0.409

SPECTRA

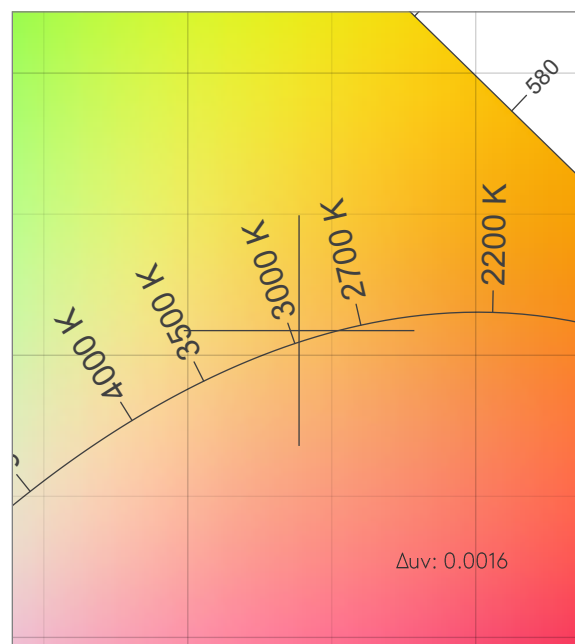
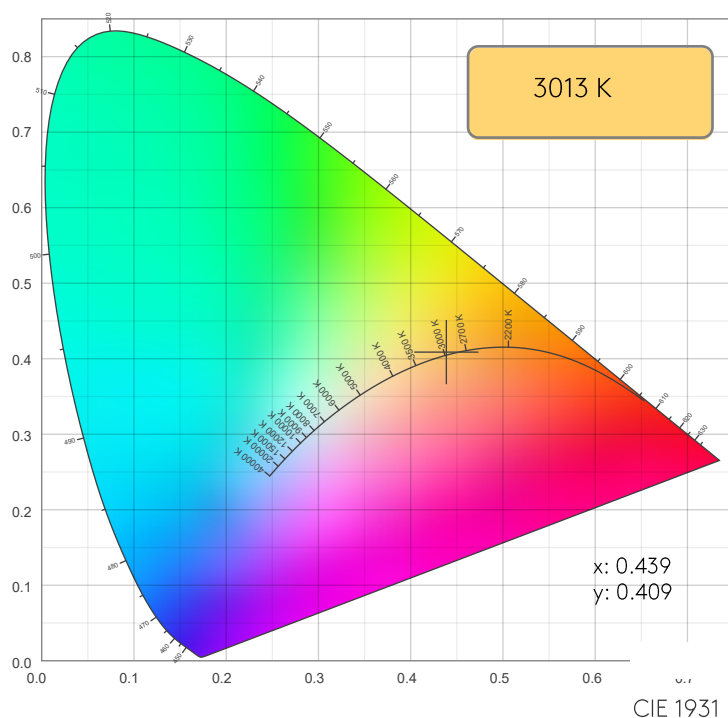


POWER



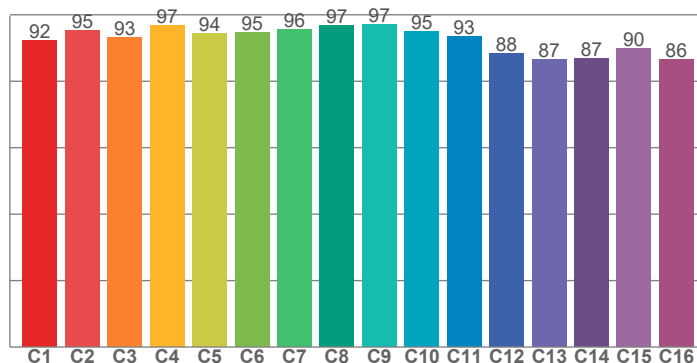
Voltage: 228 V  
Current: 0.055 A  
Frequency: 50 Hz

## COLOR DETAILS

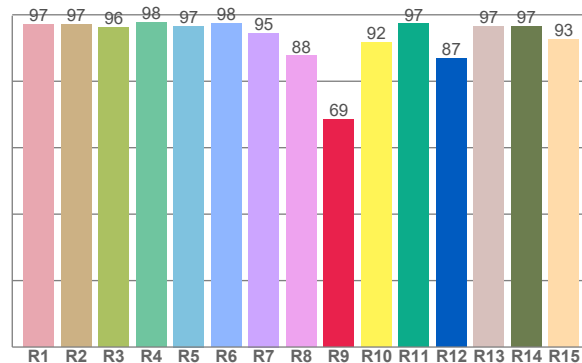


CIE 1931 ZOOM

TM30: 93.1



CRI: 95.6 (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
97.1	97.1	96.2	97.8	96.6	97.5	94.5	87.7	68.6	91.8	97.3	86.8	96.6	96.5	92.7

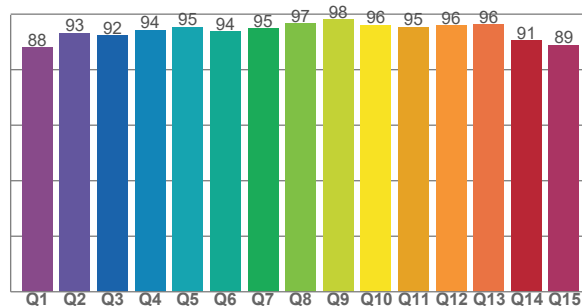
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
92.3	95.3	93.1	96.7	94.5	94.6	95.7	96.9	97.2	95.0	93.4	88.4	86.5	86.8	89.9	86.4

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
88.0	93.2	92.4	94.3	95.3	93.8	94.8	96.7	98.0	96.1	95.4	95.8	96.3	90.5	88.9

CQS: 93.2



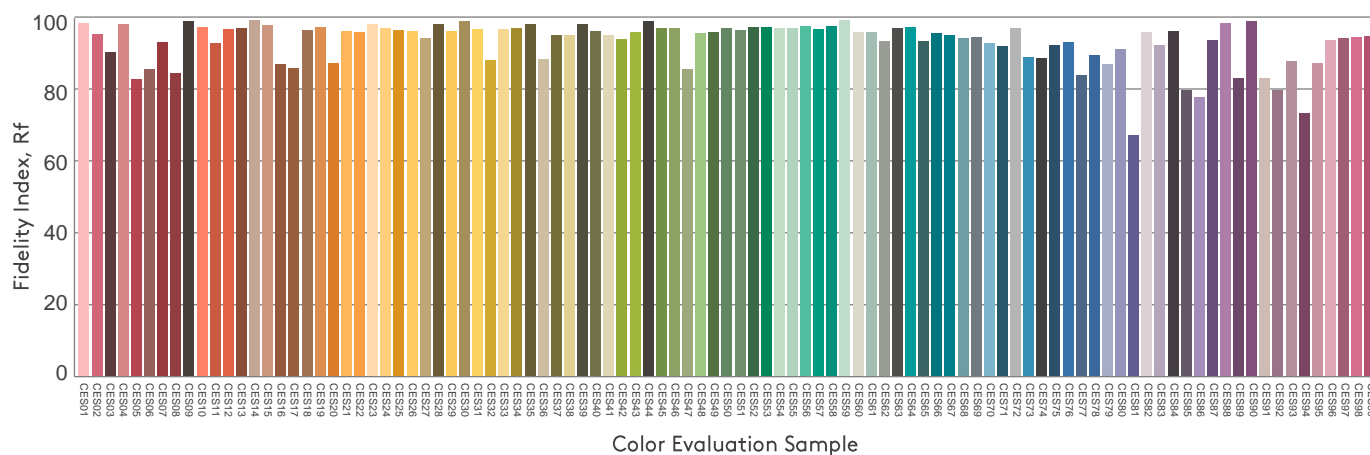
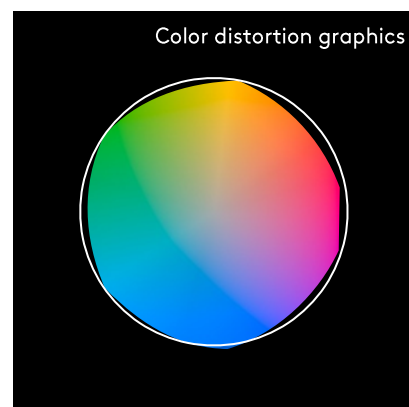
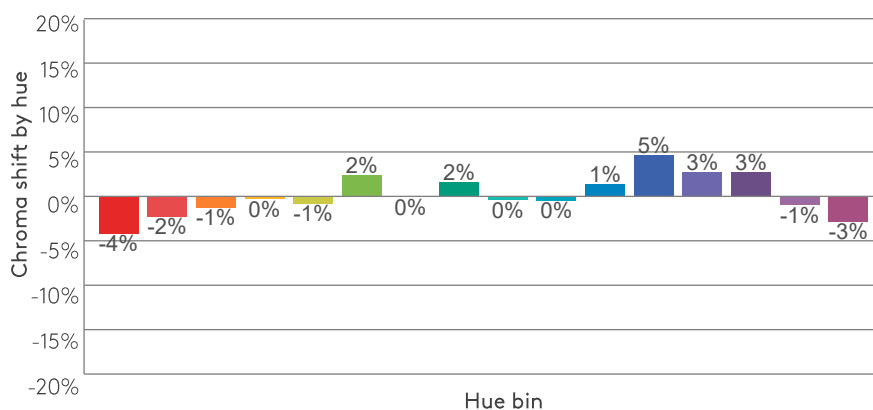
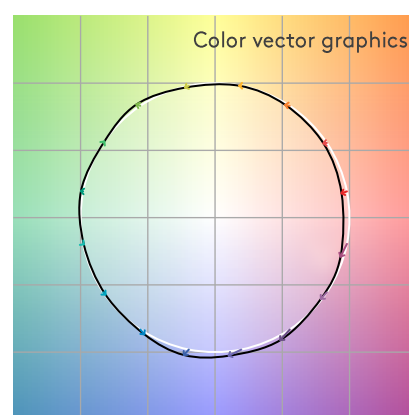
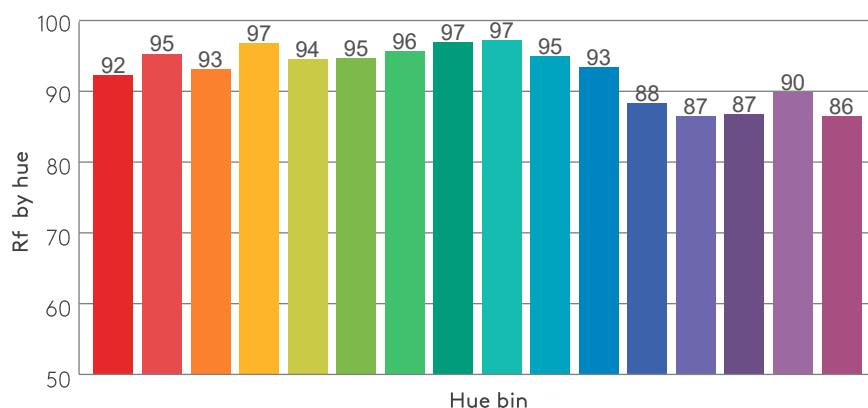
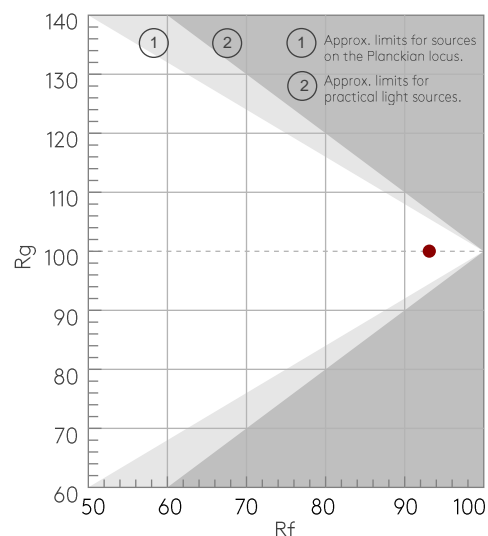
## COLOR PARAMETERS

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	$\Delta uv$
3013 K	95.6	68.6	93.1	100.0	93.2	0.439	0.409	0.250	0.349	0.0016

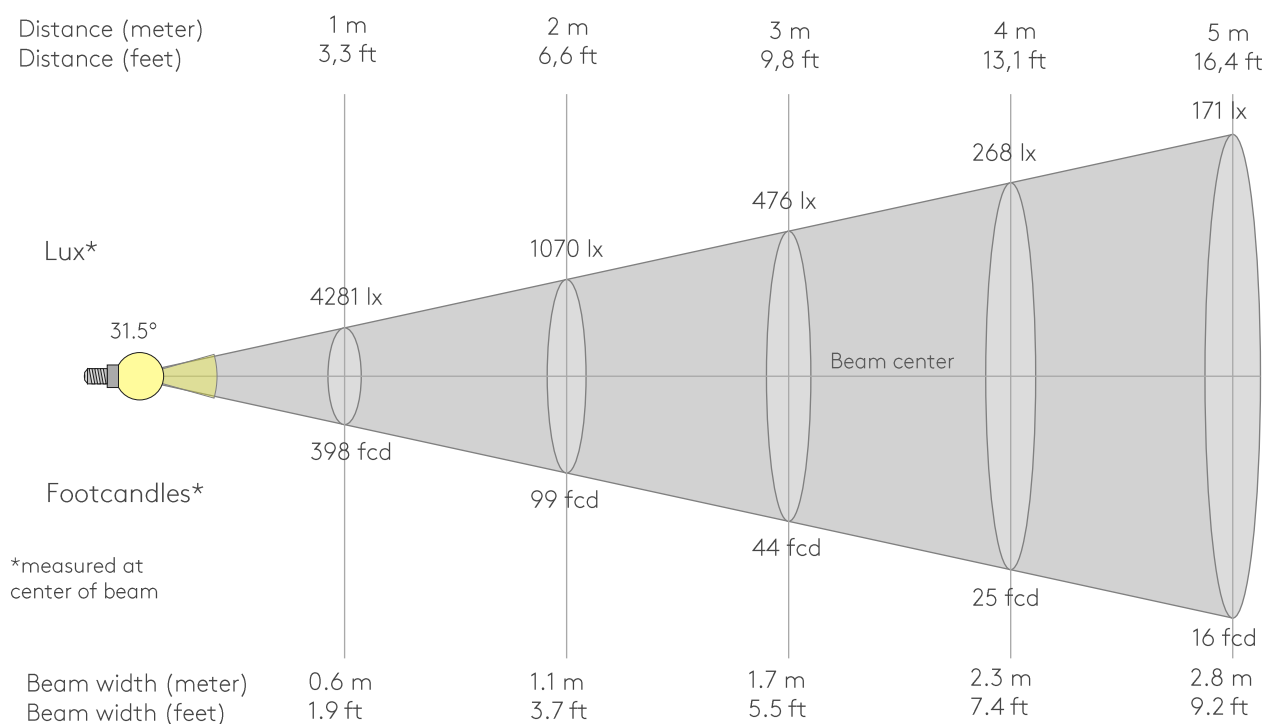
Rf 93.1  
Fidelity index Rf

Rg 100.0  
Gammut index Rg

Hue Bin	Rf	Graphic shifts (%)	
		Chroma	Hue
1	92	-4%	-1%
2	95	-2%	1%
3	93	-1%	3%
4	97	0%	1%
5	94	-1%	3%
6	95	2%	2%
7	96	0%	-1%
8	97	2%	0%
9	97	0%	0%
10	95	0%	2%
11	93	1%	4%
12	88	5%	-3%
13	87	3%	-10%
14	87	3%	-10%
15	90	-1%	-7%
16	86	-3%	-10%



## 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
4281lx	1070lx	476lx	268lx	171lx	119lx	87lx	67lx	53lx	43lx	35lx	30lx	25lx	22lx	19lx	17lx	15lx	13lx	12lx	11lx
397.7fcd	99.4fcd	44.2fcd	24.9fcd	15.9fcd	11fcd	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°
4281	4241	4125	3935	3673	3345	2960	2532	2083	1643	1237	885	600	389	237	139	84	53	36	26
100%	99%	96%	92%	86%	78%	69%	59%	49%	38%	29%	21%	14%	9%	6%	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°
4281	4241	4125	3935	3673	3345	2960	2532	2083	1643	1237	885	600	389	237	139	84	53	36	26
100%	99%	96%	92%	86%	78%	69%	59%	49%	38%	29%	21%	14%	9%	6%	3%	2%	1%	1%	1%

Intensities in 180° c-plane

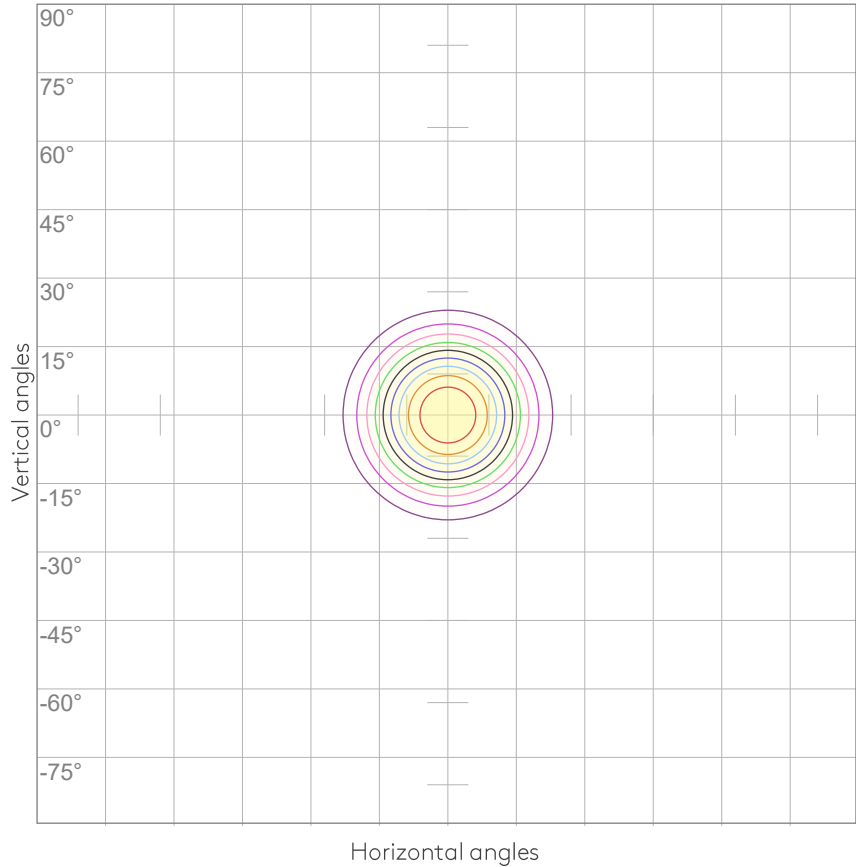
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
4281	4241	4125	3935	3673	3345	2960	2532	2083	1643	1237	885	600	389	237	139	84	53	36	26
100%	99%	96%	92%	86%	78%	69%	59%	49%	38%	29%	21%	14%	9%	6%	3%	2%	1%	1%	1%

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°
4281	4241	4125	3935	3673	3345	2960	2532	2083	1643	1237	885	600	389	237	139	84	53	36	26
100%	99%	96%	92%	86%	78%	69%	59%	49%	38%	29%	21%	14%	9%	6%	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
31.5°	51.1°	62°	99.6%	99.1%

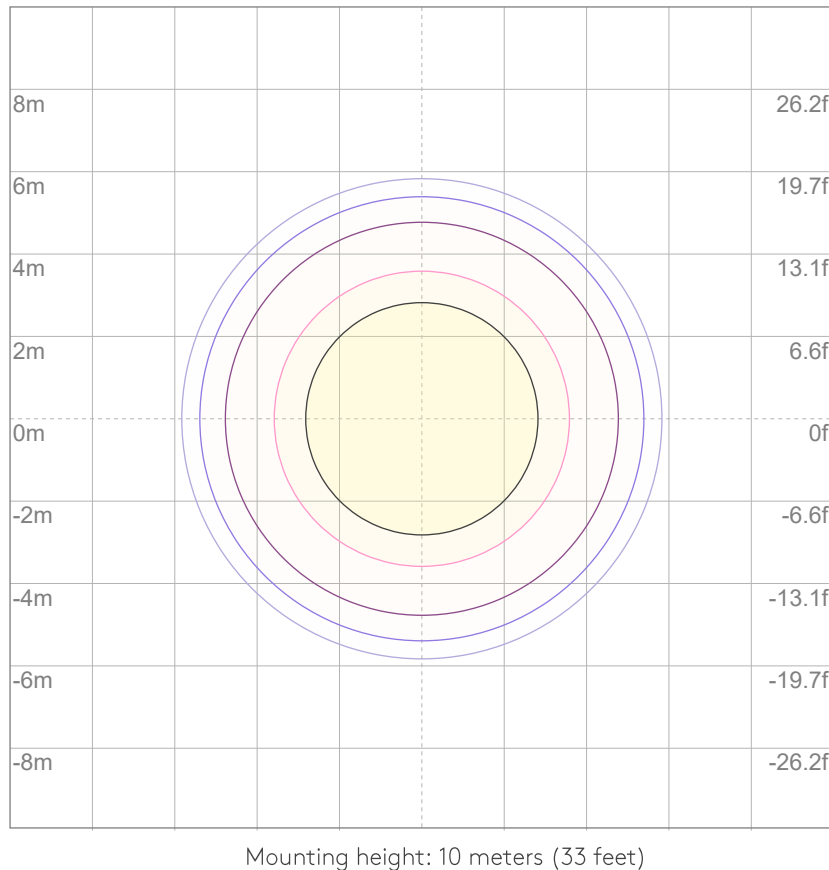
ISO CANDELA DIAGRAM



10%	428 cd
20%	856 cd
30%	1284 cd
40%	1712 cd
50%	2140 cd
60%	2568 cd
70%	2996 cd
80%	3424 cd
90%	3853 cd

Conditions:  
Number of c-planes: 8  
Candela at center: 4281 cd

ISO LUX DIAGRAM



3%	1.28 lx
5%	2.14 lx
10%	4.28 lx
30%	12.8 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

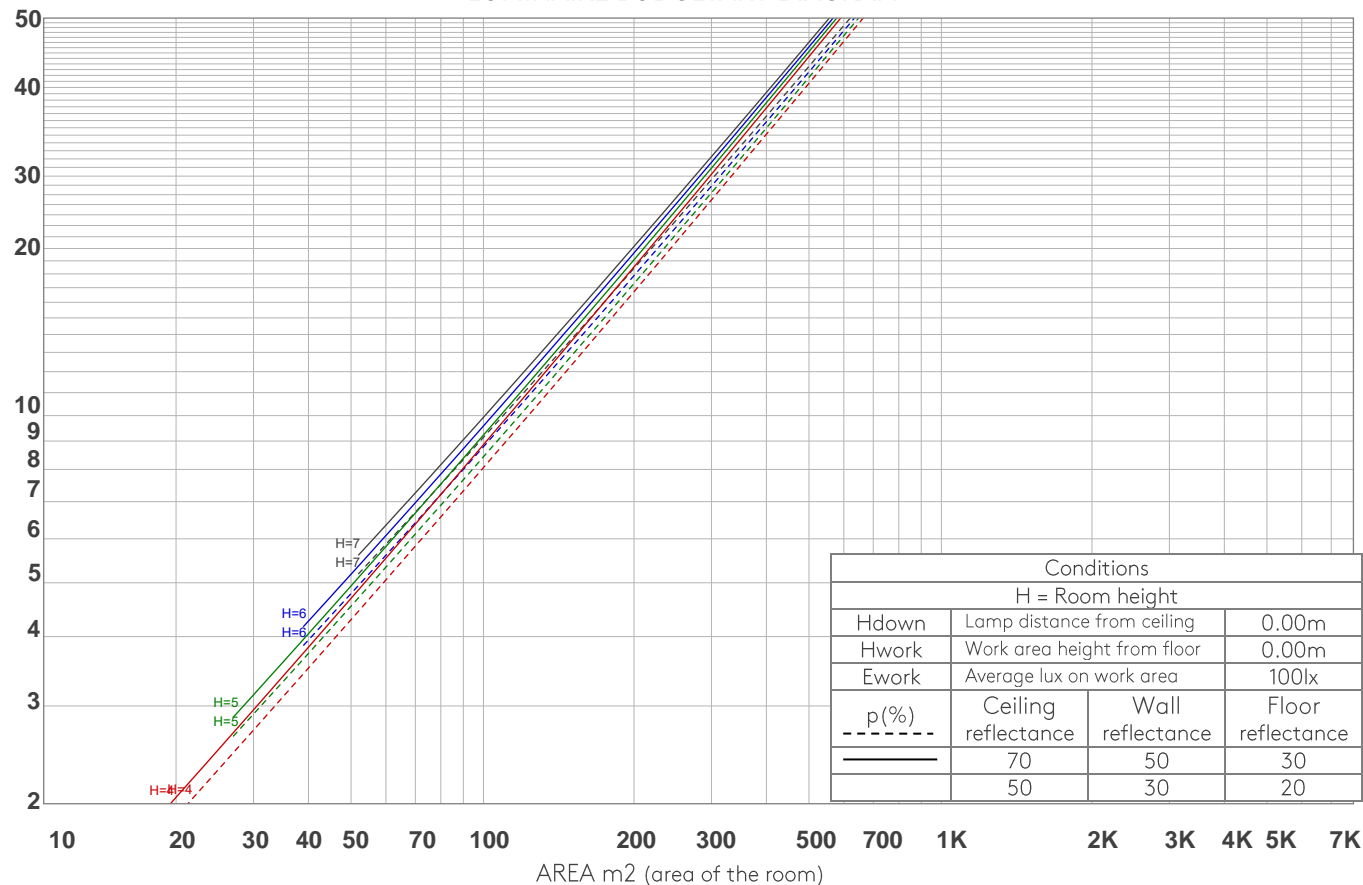
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X      Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	10.4	10.8	10.5	11.0	11.2	10.4	10.8	10.5	11.0	11.2
	3H	10.2	10.7	10.5	10.9	11.1	10.2	10.7	10.5	10.9	11.1
	4H	10.1	10.7	10.5	10.9	11.1	10.1	10.7	10.5	10.9	11.1
	6H	10.1	10.6	10.4	10.9	11.2	10.1	10.6	10.4	10.9	11.2
	8H	10.1	10.5	10.4	10.9	11.2	10.1	10.5	10.4	10.9	11.2
	12H	10.0	10.5	10.4	10.8	11.2	10.0	10.5	10.4	10.8	11.2
4H	2H	10.1	10.7	10.5	10.9	11.1	10.1	10.7	10.5	10.9	11.1
	3H	10.1	10.5	10.4	10.8	11.3	10.1	10.5	10.4	10.8	11.3
	4H	10.0	10.3	10.4	10.8	11.3	10.0	10.3	10.4	10.8	11.3
	6H	9.9	10.4	10.4	10.7	11.0	9.9	10.4	10.4	10.7	11.0
	8H	9.9	10.3	10.4	10.6	11.0	9.9	10.3	10.4	10.6	11.0
	12H	9.8	10.1	10.3	10.5	11.0	9.8	10.1	10.3	10.5	11.0
8H	4H	9.8	10.2	10.3	10.6	10.9	9.8	10.2	10.3	10.6	10.9
	6H	9.8	10.1	10.3	10.5	11.1	9.8	10.1	10.3	10.5	11.1
	8H	9.8	10.0	10.4	10.6	11.2	9.8	10.0	10.4	10.6	11.2
	12H	9.8	10.0	10.4	10.5	11.1	9.8	10.0	10.4	10.5	11.1
12H	4H	9.8	10.1	10.3	10.5	10.9	9.8	10.1	10.3	10.5	10.9
	6H	9.8	10.0	10.3	10.5	11.2	9.8	10.0	10.3	10.5	11.2
	8H	9.8	9.9	10.4	10.5	11.1	9.8	9.9	10.4	10.5	11.1
Variation of the observer position for the luminaire distance S											
S = 1.0H		5.1 / -5.3					5.1 / -5.3				
S = 1.5H		7.7 / -6.8					7.7 / -6.8				
S = 2.0H		9.6 / -8.2					9.6 / -8.2				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 1273 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	110	109	107	106	105	104	103	102	101	99	99	98	96
2	111	107	104	101	109	105	103	100	102	100	98	99	98	96	97	95	94	93
3	107	102	99	96	105	101	98	95	99	96	93	96	94	92	94	92	91	89
4	104	98	94	91	102	97	93	90	95	92	89	93	90	88	91	89	87	86
5	100	94	90	87	99	93	89	86	92	88	86	90	87	85	89	86	84	83
6	97	91	86	83	96	90	86	83	89	85	83	87	84	82	86	84	81	80
7	94	88	83	80	93	87	83	80	86	82	80	85	82	79	84	81	79	78
8	92	85	80	77	91	84	80	77	83	80	77	82	79	77	81	79	76	75
9	89	82	78	75	88	82	77	75	81	77	74	80	77	74	79	76	74	73
10	86	79	75	72	86	79	75	72	78	75	72	78	74	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°
364 lm	620 lm	240 lm	32.4 lm	9.00 lm	3.51 lm	1.25 lm	0.449 lm	0.209 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.189 lm	0.170 lm	0.180 lm	0.184 lm	0.284 lm	0.543 lm	0.717 lm	0.515 lm	0.126 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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