

PHOTOMETRIC TEST REPORT

MINIMA PRO ROUND
ADJUSTABLE - MATT WHITE -
4000499

astro

MINIMA PRO ROUND ADJUSTABLE - MATT

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LIGHT EFFICIENCY:

106 Lumen/Watt

LIGHT QUALITY:

CRI: 95.6

COLOR TEMPERATURE:

3007 K

OUTPUT: 1258 lm

PEAK: 4510 cd

POWER: 11.8 W

PF: 0.95



Tracking number: [n/a](#)

Product name:

Minima Pro Round Adjustable - Matt
White - 4000499

Item number:

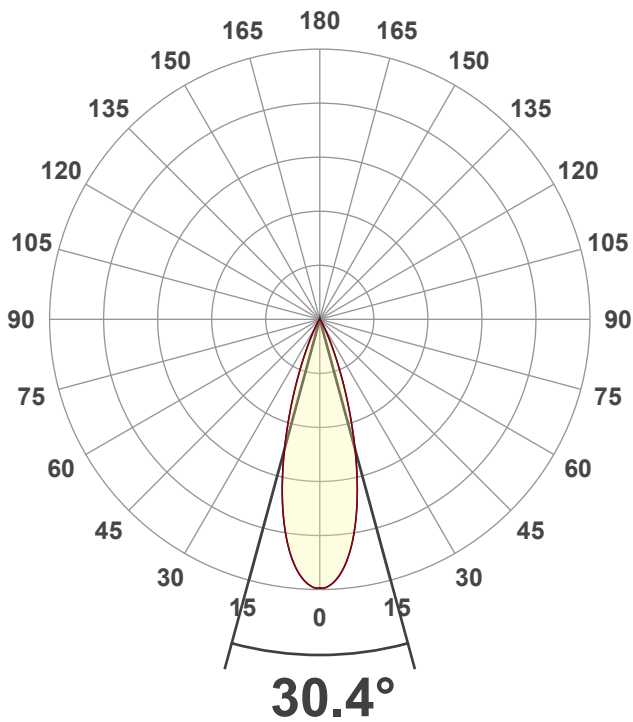
MRA-MW-HE30G1-30G1-X-D1

Date and time:

17/01/2025 15:16:36

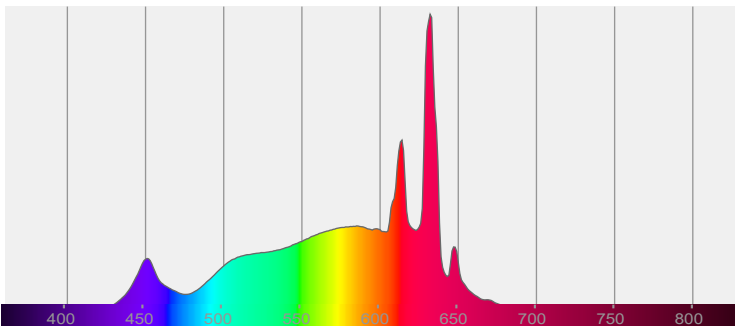
Description:

IP20 LED Downlight

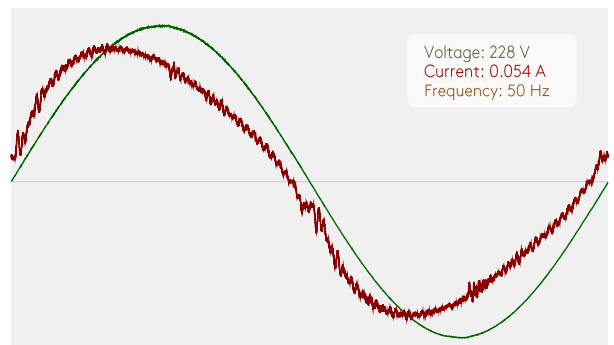


CIE 1931
x: 0.439
y: 0.408

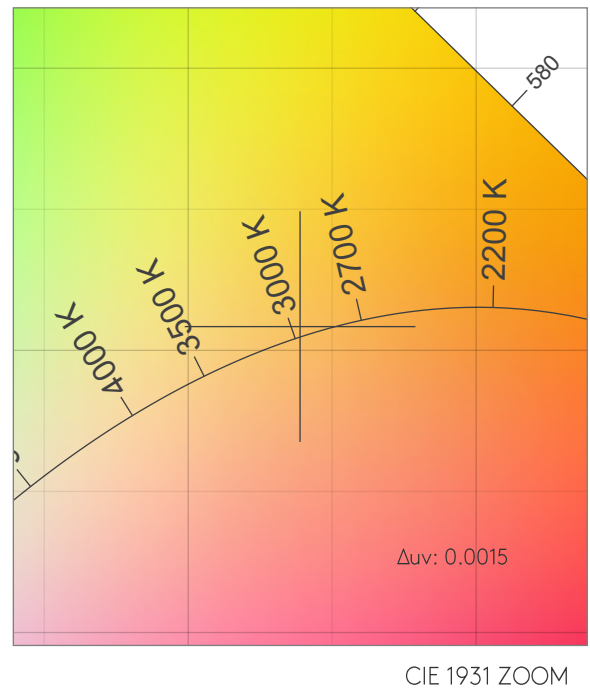
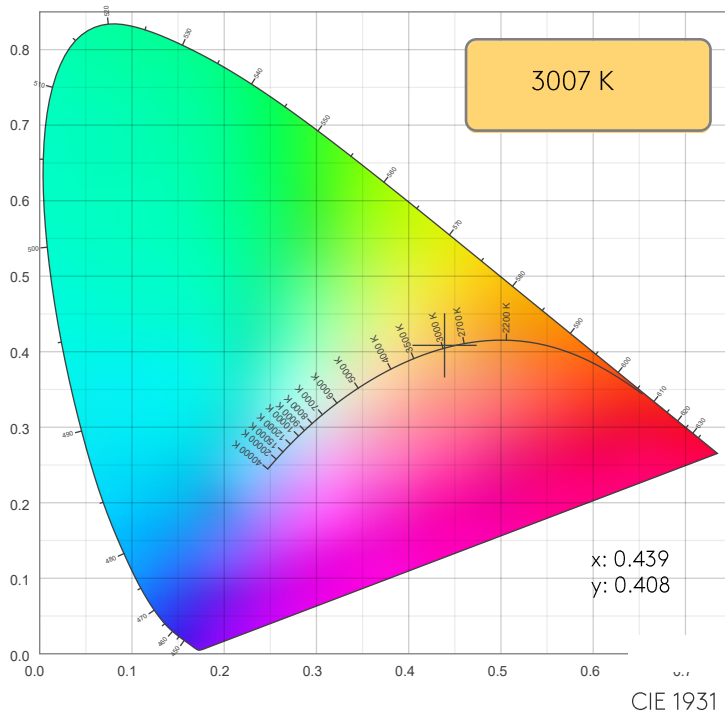
SPECTRA



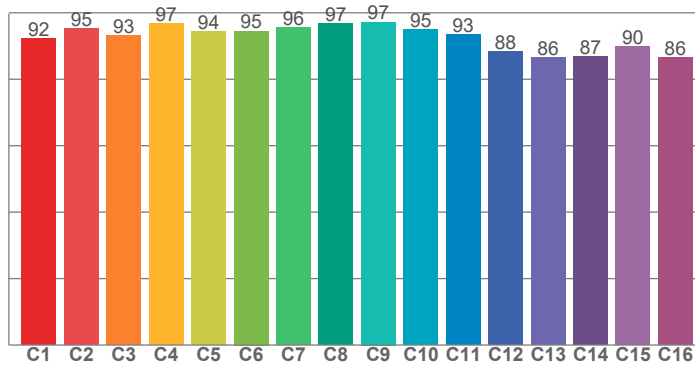
POWER



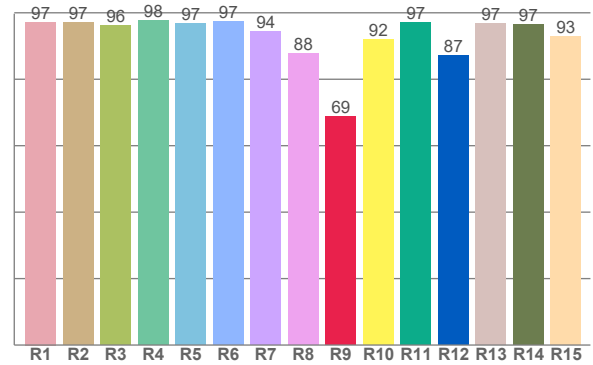
COLOR DETAILS



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
97.2	97.2	96.2	97.8	96.8	97.5	94.5	87.7	68.8	92.0	97.1	87.1	96.7	96.5	92.8

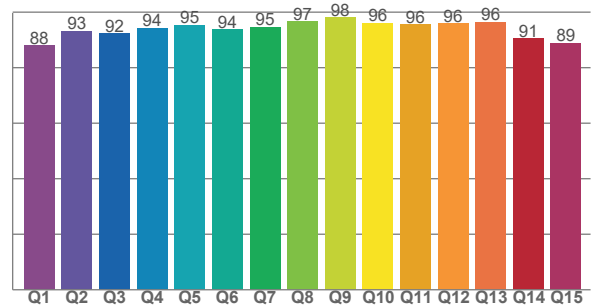
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
92.3	95.4	93.1	96.7	94.5	94.5	95.7	96.8	97.2	95.0	93.5	88.3	86.5	86.8	90.0	86.5

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	94.7	96.6	98.0	96.2	95.6	96.0	96.4	90.6	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	Δuv
3007 K	95.6	68.8	93.1	100.1	93.2	0.439	0.408	0.250	0.349	0.0015

MINIMA PRO ROUND ADJUSTABLE - MATT

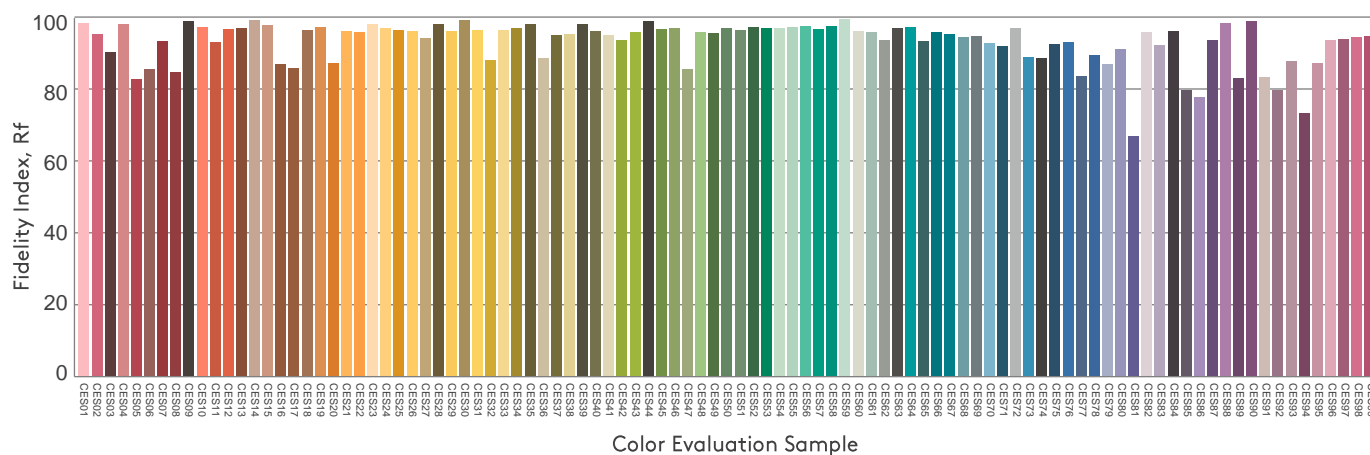
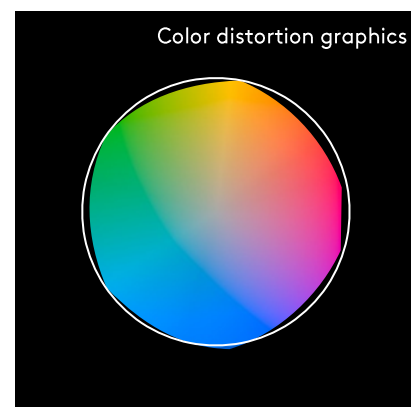
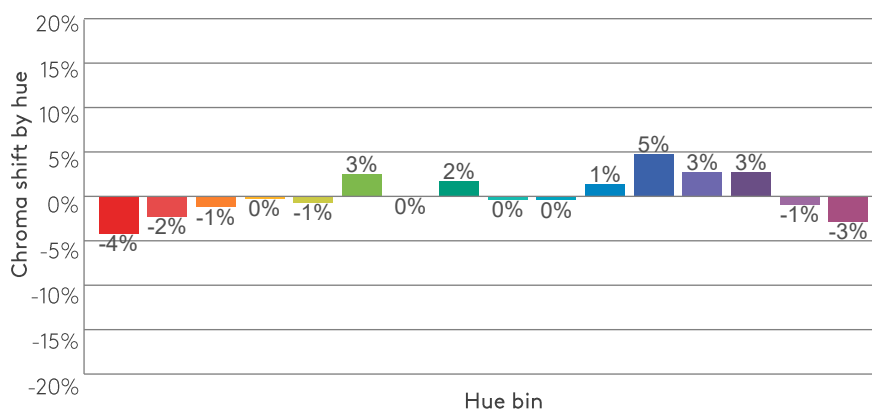
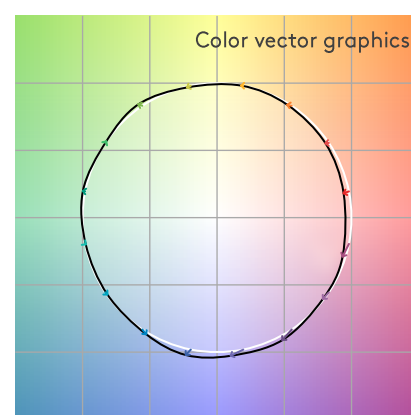
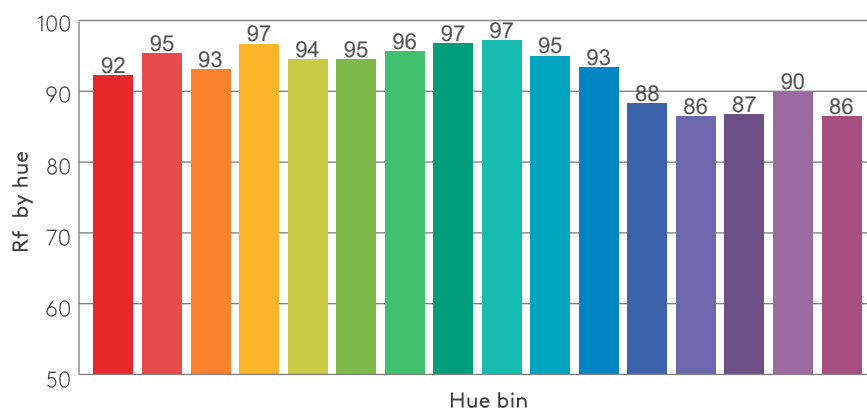
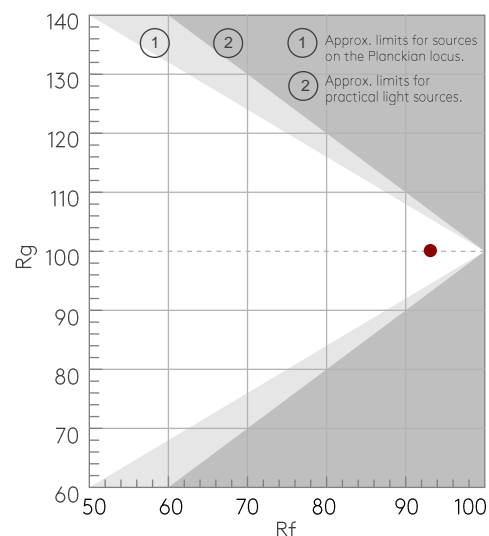
TM30 DETAILS

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Rf 93.1
Fidelity index Rf

Rg 100.1
Gammut index Rg

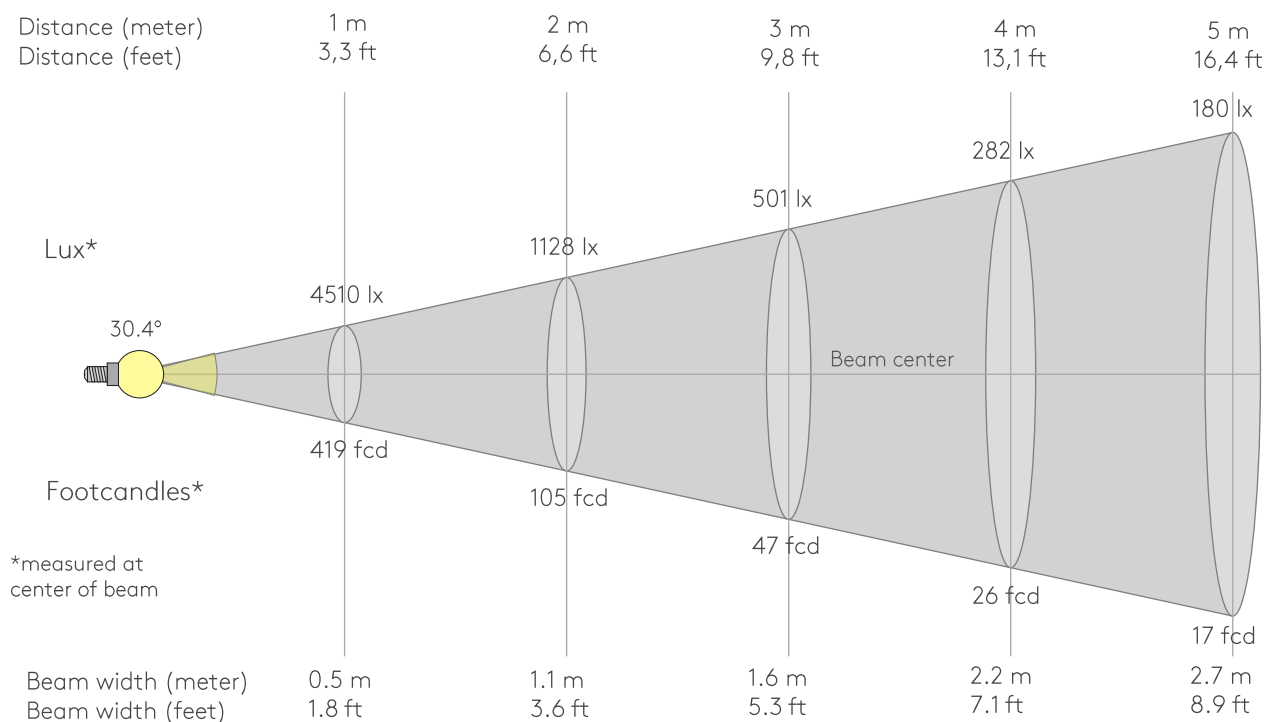
Hue Bin	Rf	Graphic shifts (%)	
		Chroma	Hue
1	92	-4%	-1%
2	95	-2%	1%
3	93	-1%	3%
4	97	0%	2%
5	94	-1%	3%
6	95	3%	2%
7	96	0%	-1%
8	97	2%	0%
9	97	0%	0%
10	95	0%	2%
11	93	1%	4%
12	88	5%	-3%
13	86	3%	-10%
14	87	3%	-10%
15	90	-1%	-6%
16	86	-3%	-10%



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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
4510lx	1128lx	501lx	282lx	180lx	125lx	92lx	70lx	56lx	45lx	37lx	31lx	27lx	23lx	20lx	18lx	16lx	14lx	12lx	11lx
419fcd	104.8fcd	46.6fcd	26.2fcd	16.8fcd	11.6fcd	8.6fcd	6.5fcd	5.2fcd	4.2fcd	3.5fcd	2.9fcd	2.5fcd	2.1fcd	1.9fcd	1.6fcd	1.4fcd	1.3fcd	1.2fcd	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°
4510	4477	4347	4131	3833	3459	3027	2551	2063	1594	1171	812	531	330	193	114	73	50	34	23
100%	99%	96%	92%	85%	77%	67%	57%	46%	35%	26%	18%	12%	7%	4%	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°
4510	4477	4347	4131	3833	3459	3027	2551	2063	1594	1171	812	531	330	193	114	73	50	34	23
100%	99%	96%	92%	85%	77%	67%	57%	46%	35%	26%	18%	12%	7%	4%	3%	2%	1%	1%	1%

Intensities in 180° c-plane

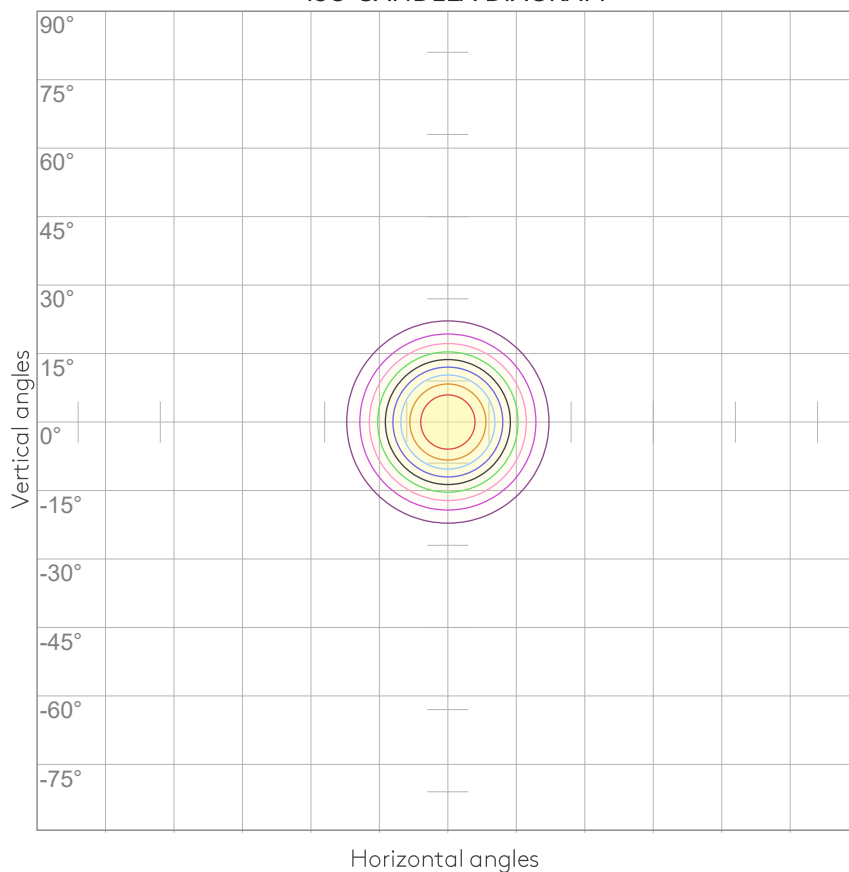
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
4510	4477	4347	4131	3833	3459	3027	2551	2063	1594	1171	812	531	330	193	114	73	50	34	23
100%	99%	96%	92%	85%	77%	67%	57%	46%	35%	26%	18%	12%	7%	4%	3%	2%	1%	1%	1%

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°
4510	4477	4347	4131	3833	3459	3027	2551	2063	1594	1171	812	531	330	193	114	73	50	34	23
100%	99%	96%	92%	85%	77%	67%	57%	46%	35%	26%	18%	12%	7%	4%	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°	49.5°	60.1°	99.6%	99.1%

ISO CANDELA DIAGRAM



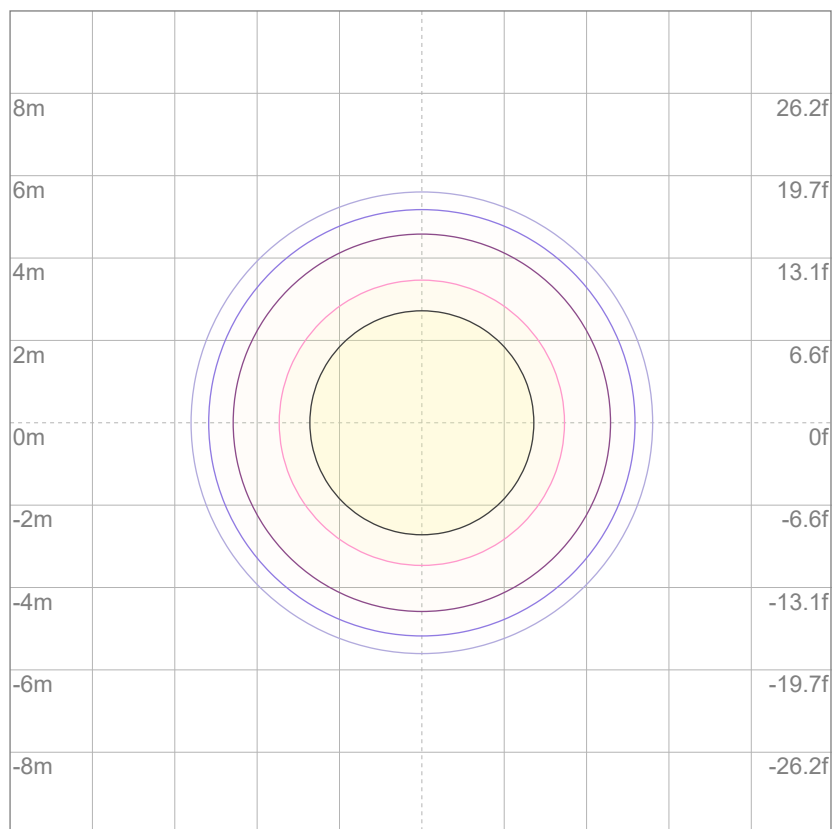
10%	451 cd
20%	902 cd
30%	1353 cd
40%	1804 cd
50%	2255 cd
60%	2706 cd
70%	3157 cd
80%	3608 cd
90%	4059 cd

Conditions:

Number of c-planes: 8

Candela at center: 4510 cd

ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	1.35 lx
5%	2.26 lx
10%	4.51 lx
30%	13.5 lx
50%	{LUX_10M50} lx

Conditions:

Number of c-planes: 8

Lux at center: 45.1 lx

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

UGR

GLARE EVALUATION ACCORDING TO UGR

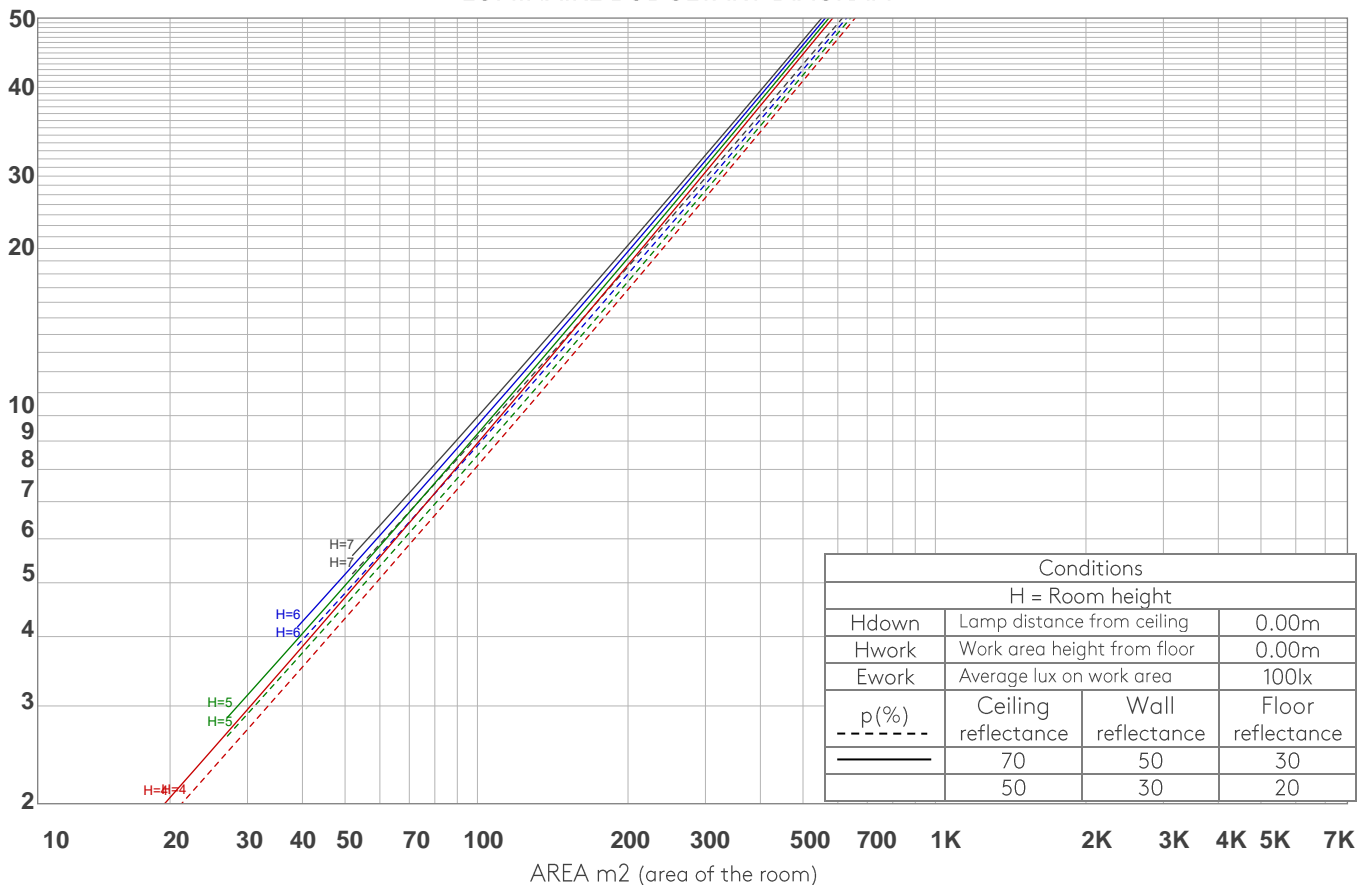
p Ceiling		70	70	50	50	30	70	70	50	50	30
p Walls		50	30	50	30	30	50	30	50	30	30
p Floor		20	20	20	20	20	20	20	20	20	20
Room size X Y		Viewing direction at right angles to lamp axis					Viewing direction parallel to lamp axis				
2H	2H	9.6	10.0	9.7	10.2	10.4	9.6	10.0	9.7	10.2	10.4
	3H	9.3	9.9	9.7	10.1	10.3	9.3	9.9	9.7	10.1	10.3
	4H	9.3	9.8	9.7	10.1	10.3	9.3	9.8	9.7	10.1	10.3
	6H	9.3	9.7	9.6	10.0	10.4	9.3	9.7	9.6	10.0	10.4
	8H	9.3	9.7	9.6	10.0	10.4	9.3	9.7	9.6	10.0	10.4
	12H	9.2	9.6	9.6	10.0	10.4	9.2	9.6	9.6	10.0	10.4
4H	2H	9.3	9.9	9.7	10.1	10.3	9.3	9.9	9.7	10.1	10.3
	3H	9.3	9.7	9.6	10.0	10.5	9.3	9.7	9.6	10.0	10.5
	4H	9.1	9.5	9.5	10.0	10.5	9.1	9.5	9.5	10.0	10.5
	6H	9.1	9.5	9.6	9.8	10.2	9.1	9.5	9.6	9.8	10.2
	8H	9.0	9.4	9.5	9.8	10.1	9.0	9.4	9.5	9.8	10.1
	12H	9.0	9.3	9.5	9.7	10.2	9.0	9.3	9.5	9.7	10.2
8H	4H	9.0	9.4	9.5	9.7	10.1	9.0	9.4	9.5	9.7	10.1
	6H	9.0	9.2	9.5	9.7	10.2	9.0	9.2	9.5	9.7	10.2
	8H	9.0	9.2	9.5	9.7	10.3	9.0	9.2	9.5	9.7	10.3
	12H	8.9	9.1	9.5	9.6	10.2	8.9	9.1	9.5	9.6	10.2
12H	4H	8.9	9.2	9.4	9.6	10.1	8.9	9.2	9.4	9.6	10.1
	6H	9.0	9.1	9.5	9.7	10.3	9.0	9.1	9.5	9.7	10.3
	8H	8.9	9.1	9.5	9.6	10.2	8.9	9.1	9.5	9.6	10.2
Variation of the observer position for the luminaire distance S											
S = 1.0H		5.2 / -5.3					5.2 / -5.3				
S = 1.5H		7.8 / -6.9					7.8 / -6.9				
S = 2.0H		9.7 / -9.1					9.7 / -9.1				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 1258 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	91	102	97	94	91	95	92	90	94	91	89	92	90	88	87
5	101	95	91	88	99	94	90	87	92	89	86	91	88	86	89	87	85	84
6	98	91	87	84	97	91	87	84	89	86	83	88	85	83	87	84	82	81
7	95	88	84	81	94	88	84	81	87	83	80	86	82	80	85	82	80	79
8	92	85	81	78	91	85	81	78	84	80	78	83	80	78	82	79	77	76
9	90	83	79	76	89	82	78	76	82	78	75	81	78	75	80	77	75	74
10	87	80	76	74	86	80	76	73	79	76	73	79	75	73	78	75	73	72

LAMPS (number of lamps)

LUMINAIRE BUDGETARY DIAGRAM



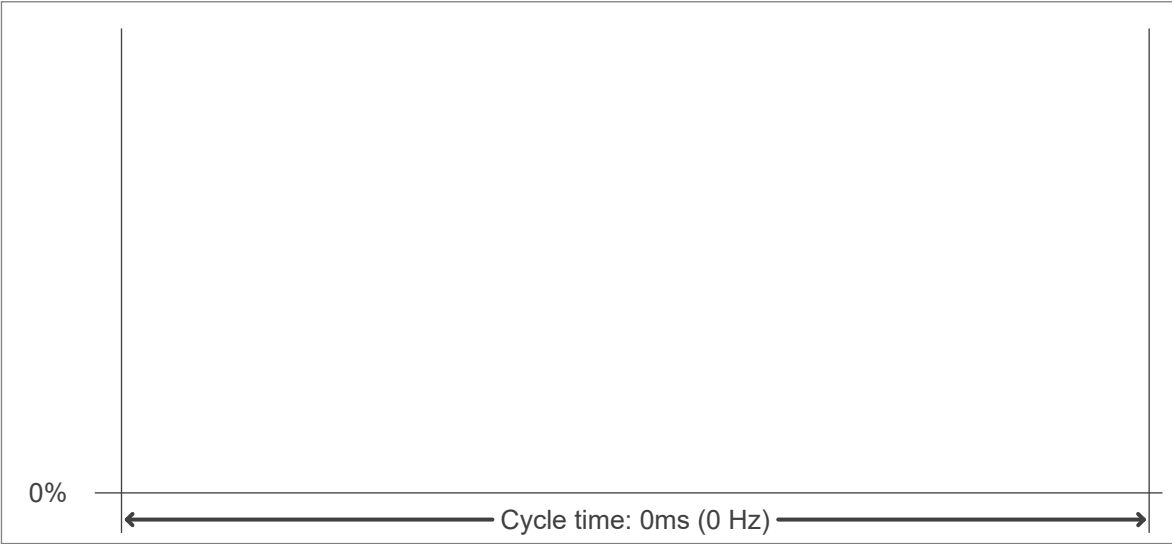
ZONAL LUMEN SUMMARY

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
380 lm	619 lm	215 lm	29.3 lm	7.12 lm	3.25 lm	1.18 lm	0.300 lm	0.184 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.164 lm	0.152 lm	0.169 lm	0.213 lm	0.355 lm	0.614 lm	0.791 lm	0.547 lm	0.130 lm

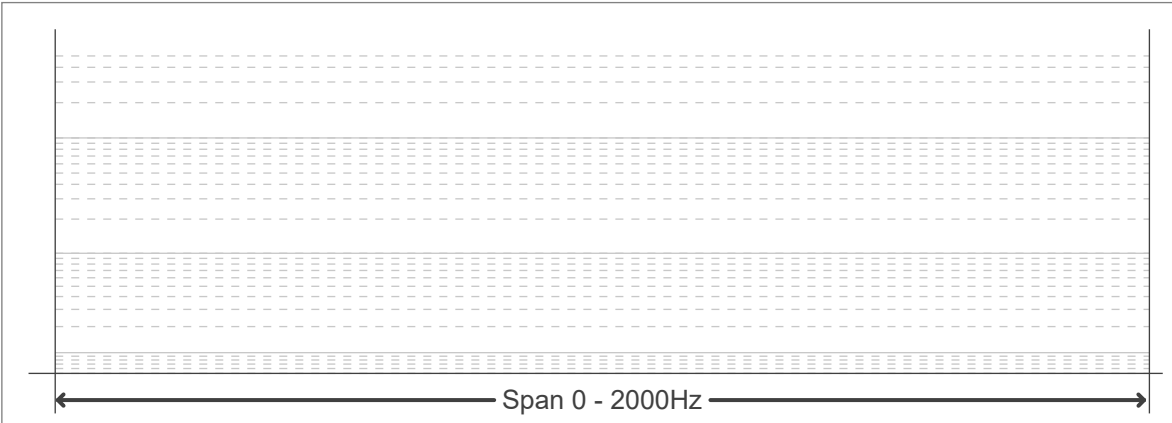
FLICKER CURVE (COMPLETE SAMPLED)



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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