PHOTOMETRIC TEST REPORT

MALLON LED MATT NICKEL 4000K

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LIGHT EFFICIENCY:

48 Lumen/Watt

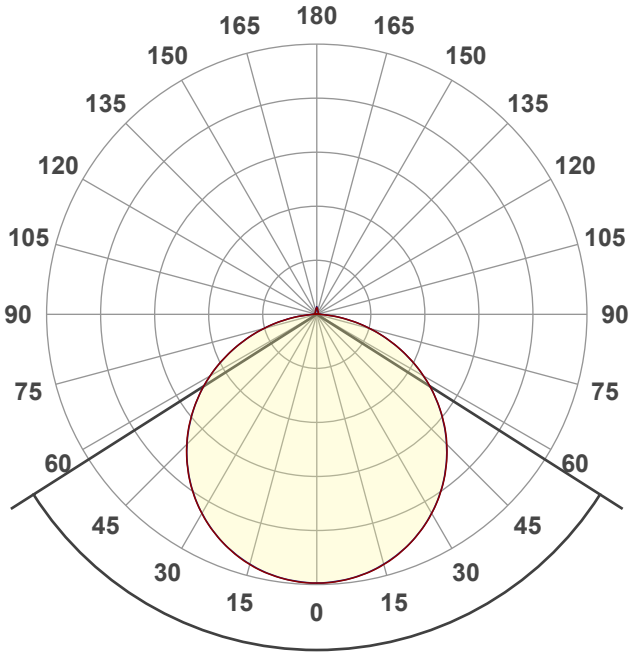
LIGHT QUALITY:

CRI: 92.1

COLOR TEMPERATURE:

3846 K

OUTPUT:	733 lm
PEAK:	244 cd
POWER:	15.2 W
PF:	0.97



115.1°

CIE 1931
x: 0.387
y: 0.380

Tracking number: n/a

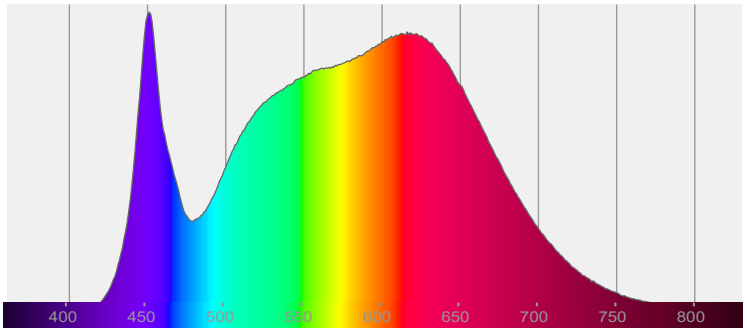
Product name:
Mallon LED Matt Nickel 4000K

Item number:
1125015

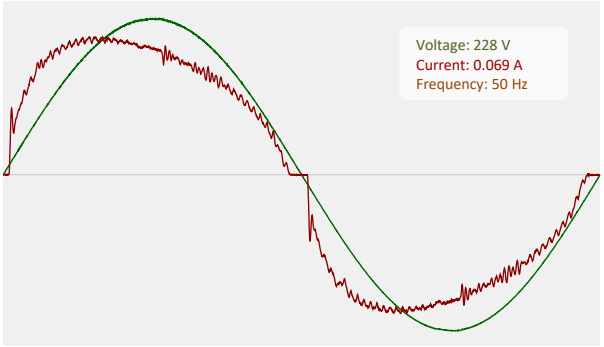
Date and time:
08/12/2021 11:25:49

Description:
IP44 LED Bathroom Ceiling Light

SPECTRA



POWER



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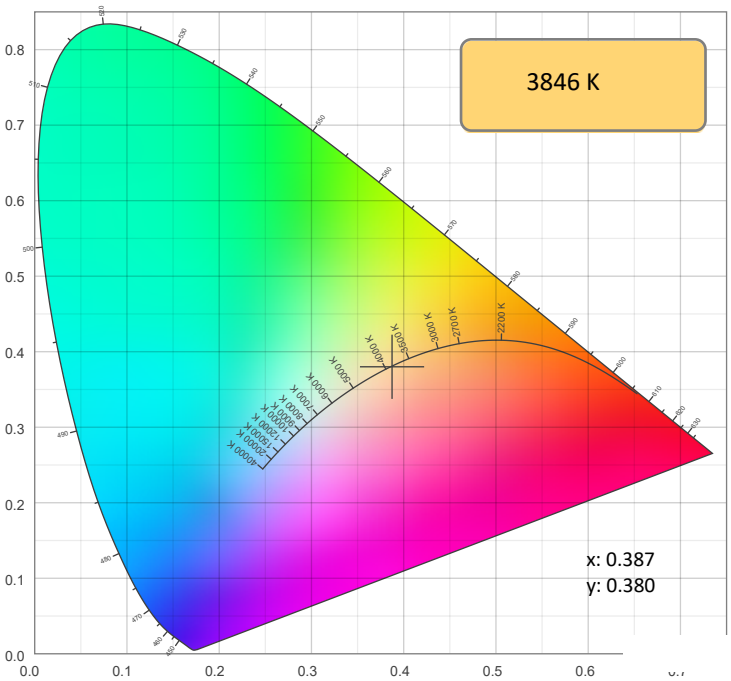
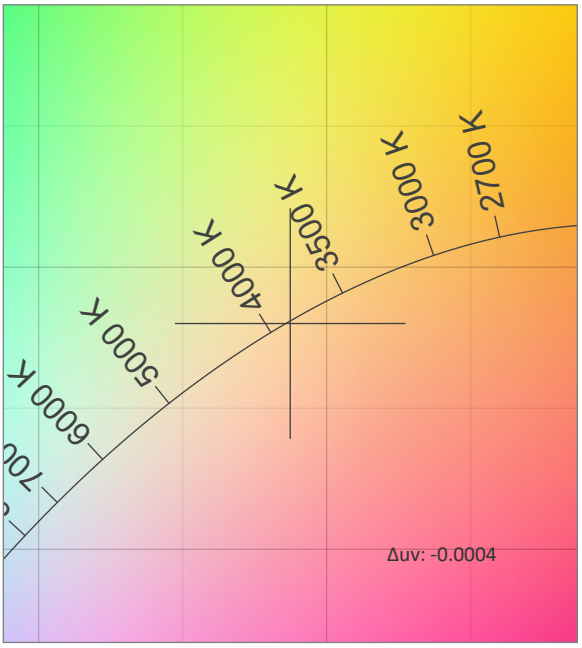
COLOR DETAILS

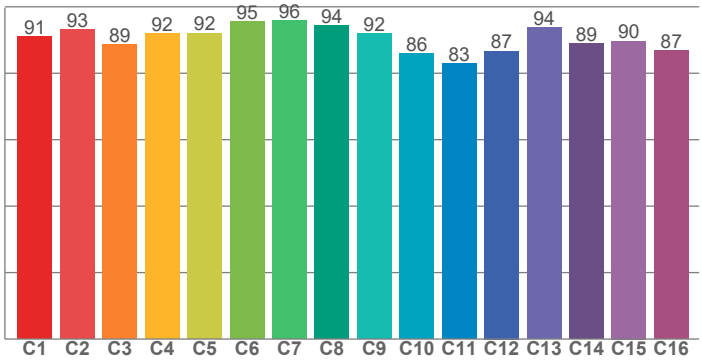


CIE 1931

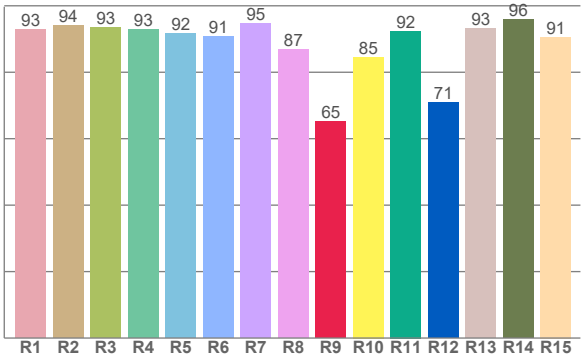


CIE 1931 ZOOM

TM30: 90.4



CRI: 92.1 (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
92.8	94.1	93.5	92.9	91.6	90.7	94.6	86.8	65.2	84.6	92.4	71.0	93.1	95.8	90.6

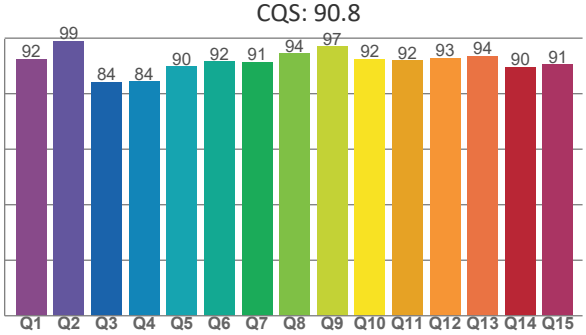
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
91.1	93.1	88.7	91.9	92.1	95.5	95.9	94.2	91.9	85.9	83.0	86.7	93.7	88.9	89.7	86.9

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
92.4	99.0	84.1	84.4	89.8	91.6	91.5	94.5	97.0	92.4	91.9	92.8	93.6	89.5	90.5

CQS: 90.8



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 diviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3846 K	92.1	65.2	90.4	99.9	90.8	0.387	0.380	0.228	0.336	-0.0004

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TM30 DETAILS

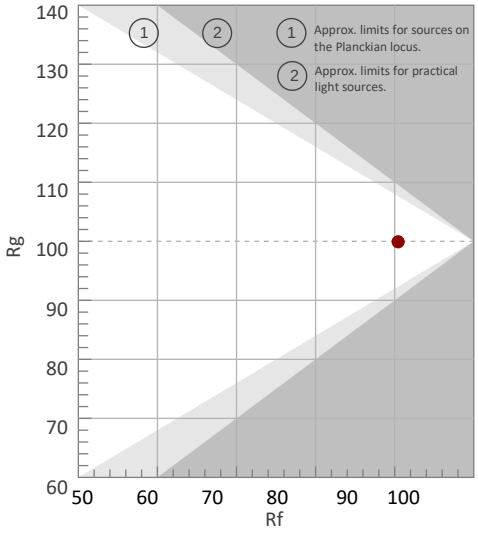
Rf 90.4

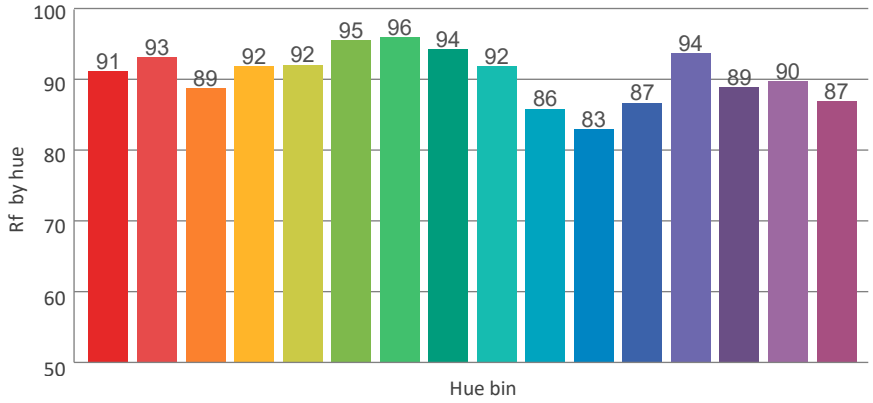
Fidelity index Rf

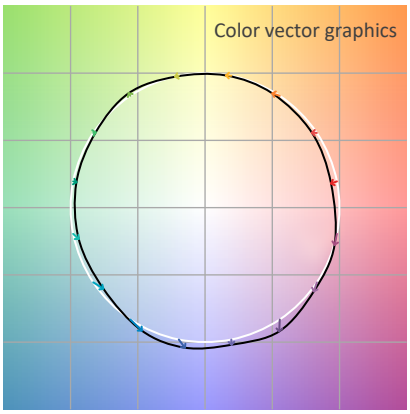
Rg 99.9

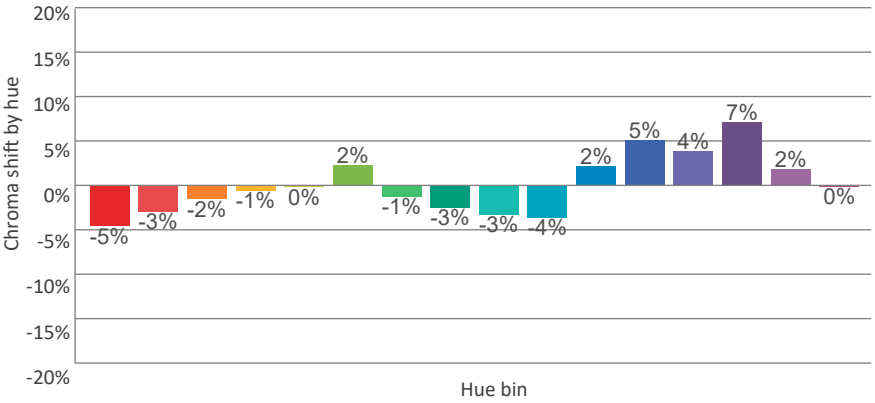
Gammut index Rg

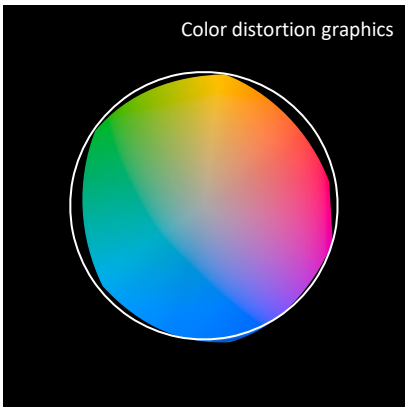
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	91	-5%	-1%
2	93	-3%	2%
3	89	-2%	6%
4	92	-1%	4%
5	92	0%	3%
6	95	2%	0%
7	96	-1%	-1%
8	94	-3%	0%
9	92	-3%	4%
10	86	-4%	8%
11	83	2%	12%
12	87	5%	6%
13	94	4%	-1%
14	89	7%	-5%
15	90	2%	-7%
16	87	0%	-8%

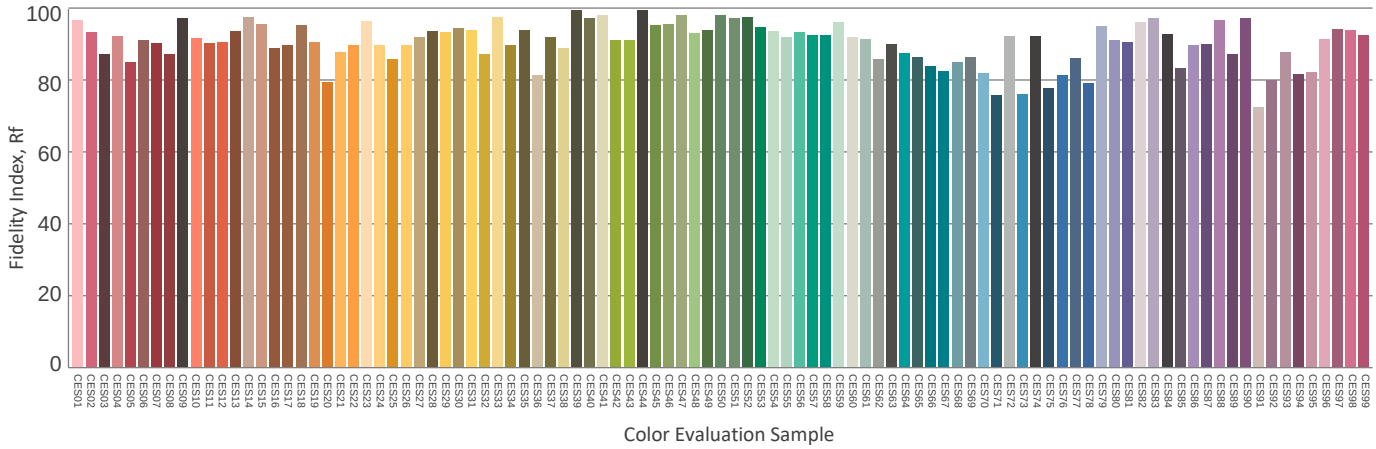












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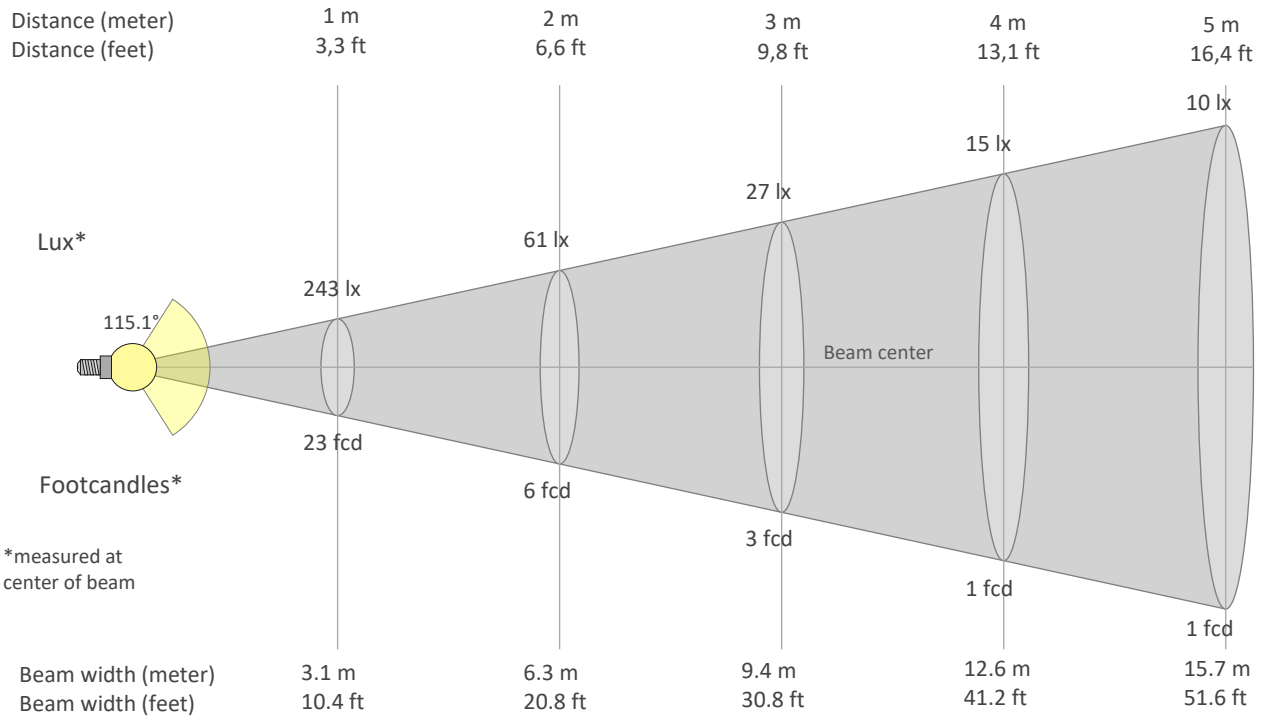
BEAM DETAILS



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
243lx	61lx	27lx	15lx	10lx	7lx	5lx	4lx	3lx	2lx	2lx	2lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx	1lx
22.6fcd	5.6fcd	2.5fcd	1.4fcd	0.9fcd	0.6fcd	0.5fcd	0.4fcd	0.3fcd	0.2fcd	0.2fcd	0.2fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd	0.1fcd

Intensities in 0° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
243	243	240	235	228	219	209	197	183	167	150	132	112	92	71	50	30	13	3	1
100%	100%	99%	97%	94%	90%	86%	81%	75%	69%	62%	54%	46%	38%	29%	21%	12%	5%	1%	0%

Intensities in 90° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
243	243	240	235	228	219	209	196	182	167	150	131	112	91	71	50	30	13	3	1
100%	100%	99%	97%	94%	90%	86%	81%	75%	69%	62%	54%	46%	38%	29%	21%	12%	5%	1%	0%

Intensities in 180° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
243	243	240	235	228	219	209	197	183	167	150	132	112	92	71	50	30	13	3	1
100%	100%	99%	97%	94%	90%	86%	81%	75%	69%	62%	54%	46%	38%	29%	21%	12%	5%	1%	0%

Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
243	243	240	235	228	219	209	196	182	167	150	131	112	91	71	50	30	13	3	1
100%	100%	99%	97%	94%	90%	86%	81%	75%	69%	62%	54%	46%	38%	29%	21%	12%	5%	1%	0%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
115.1°	164.4°	225.7°	76.2%	51.5%

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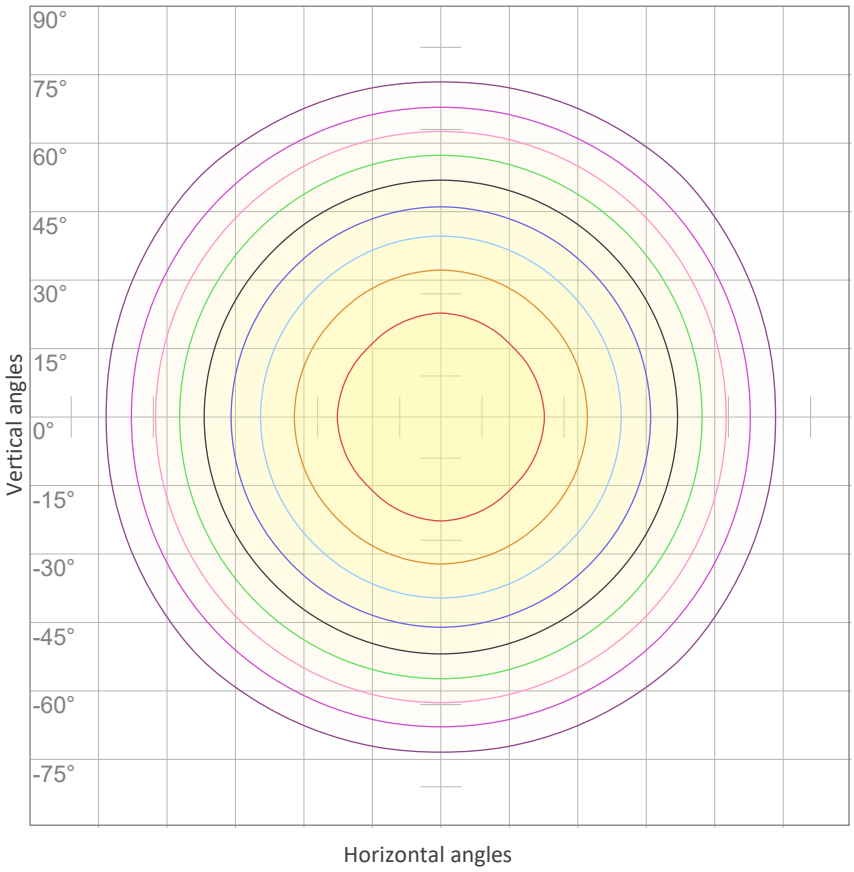
ISO DIAGRAMS

ISO CANDELA DIAGRAM



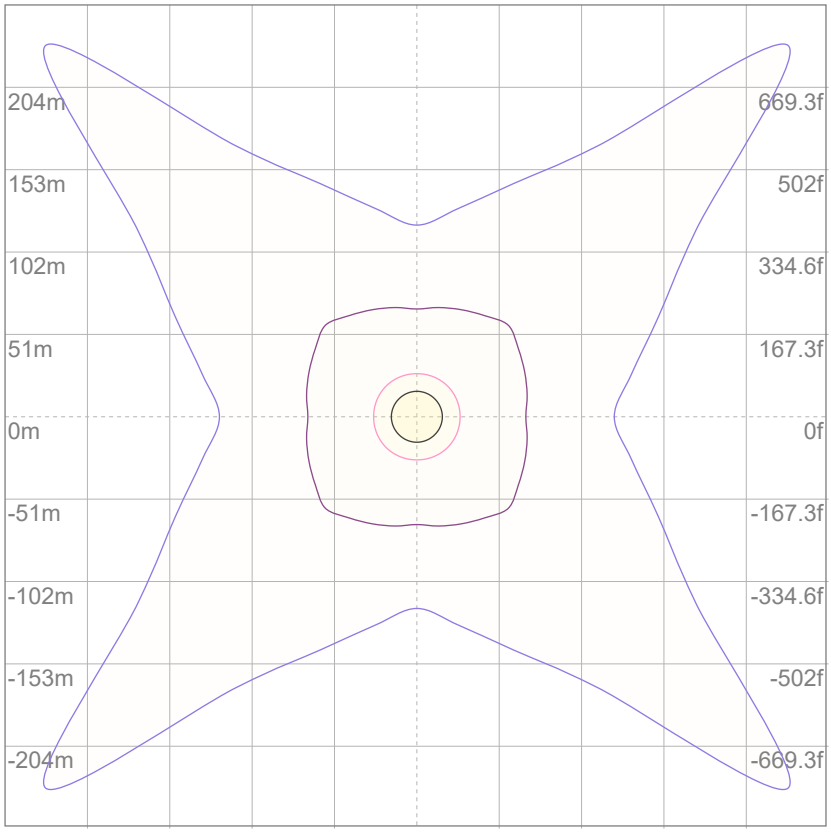
10%	24 cd
20%	49 cd
30%	73 cd
40%	97 cd
50%	122 cd
60%	146 cd
70%	170 cd
80%	195 cd
90%	219 cd

Conditions:

Number of c-planes: 8

Candela at center: 243 cd

ISO LUX DIAGRAM



Mounting height: 10 meters (33 feet)

3%	73.0m lx
5%	0.122 lx
10%	0.243 lx
30%	0.730 lx
50%	{LUX_10M50} lx

Conditions:

Number of c-planes: 8

Lux at center: 2.43 lx

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

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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	20.0	21.3	20.3	21.6	21.9	20.0	21.3	20.3	21.6	21.8
	3H	20.9	22.1	21.3	22.5	22.7	20.9	22.1	21.3	22.4	22.7
	4H	21.2	22.4	21.6	22.7	23.0	21.2	22.4	21.6	22.7	23.0
	6H	21.4	22.5	21.7	22.8	23.2	21.4	22.4	21.7	22.8	23.2
	8H	21.4	22.4	21.8	22.8	23.2	21.4	22.4	21.8	22.8	23.2
	12H	21.4	22.4	21.8	22.8	23.2	21.4	22.4	21.8	22.7	23.2
4H	2H	20.4	21.6	20.8	21.9	22.2	20.4	21.6	20.8	21.9	22.2
	3H	21.5	22.5	21.9	22.9	23.4	21.5	22.5	21.9	22.9	23.4
	4H	21.9	22.8	22.3	23.2	23.8	21.8	22.8	22.3	23.2	23.8
	6H	22.1	23.0	22.6	23.4	23.8	22.1	23.0	22.6	23.3	23.7
	8H	22.1	22.9	22.7	23.3	23.8	22.1	22.9	22.6	23.3	23.7
	12H	22.1	22.8	22.7	23.3	23.8	22.1	22.8	22.6	23.2	23.8
8H	4H	22.0	22.8	22.5	23.2	23.6	22.0	22.8	22.5	23.2	23.6
	6H	22.3	22.9	22.8	23.4	24.0	22.3	22.9	22.8	23.4	24.0
	8H	22.4	23.0	23.0	23.5	24.2	22.4	23.0	23.0	23.5	24.2
	12H	22.5	22.9	23.1	23.5	24.1	22.5	22.9	23.1	23.4	24.1
12H	4H	22.0	22.6	22.5	23.1	23.6	22.0	22.6	22.5	23.1	23.6
	6H	22.3	22.9	22.9	23.4	24.1	22.3	22.9	22.9	23.4	24.1
	8H	22.5	22.9	23.1	23.4	24.1	22.4	22.9	23.0	23.4	24.1
Variation of the observer position for the luminaire distance S											
S = 1.0H		0.2 / -0.3					0.2 / -0.3				
S = 1.5H		0.4 / -0.7					0.4 / -0.7				
S = 2.0H		0.9 / -1.3					0.9 / -1.3				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 733 lm total luminous flux											

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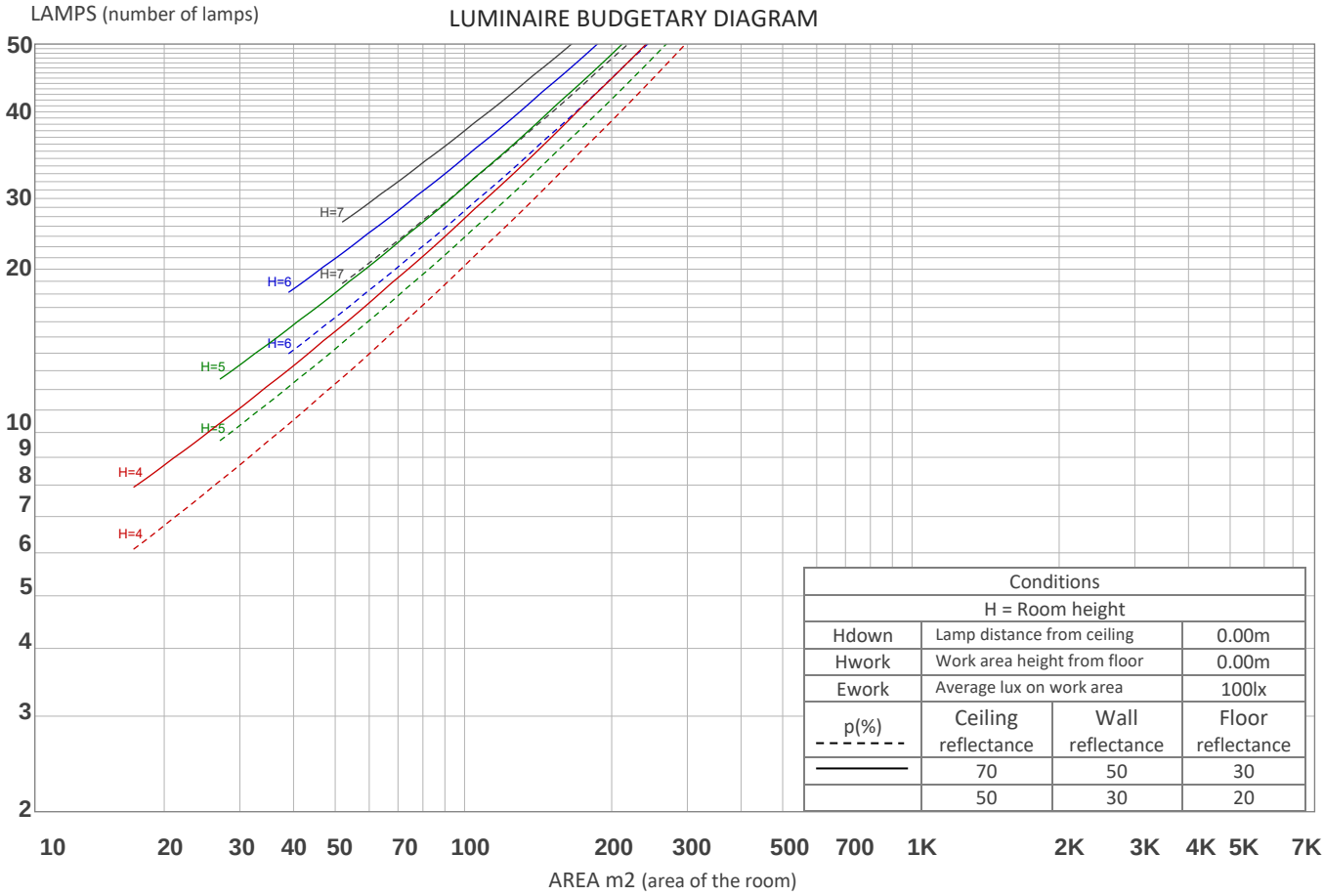
LIGHT PLANNING

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	110	110	110	105	105	105	100	100	100	98
1	108	103	99	95	105	101	97	93	96	93	90	92	89	87	88	86	84	81
2	98	90	83	77	95	87	81	76	84	78	74	80	76	72	77	73	70	67
3	89	78	70	63	86	77	69	63	73	67	61	70	65	60	68	63	59	57
4	82	69	60	54	79	68	60	53	65	58	52	63	56	51	60	55	50	48
5	75	62	53	46	73	61	52	46	58	51	45	56	49	44	54	48	44	41
6	69	56	47	40	67	55	46	40	53	45	39	51	44	39	49	43	38	36
7	64	50	41	35	62	49	41	35	48	40	35	46	39	34	45	39	34	32
8	60	46	37	31	58	45	37	31	44	36	31	42	36	31	41	35	30	28
9	56	42	34	28	54	41	33	28	40	33	28	39	32	28	38	32	27	25
10	52	39	31	26	51	38	31	25	37	30	25	36	30	25	35	29	25	23

LUMINAIRE BUDGETARY DIAGRAM



ZONAL LUMEN SUMMARY

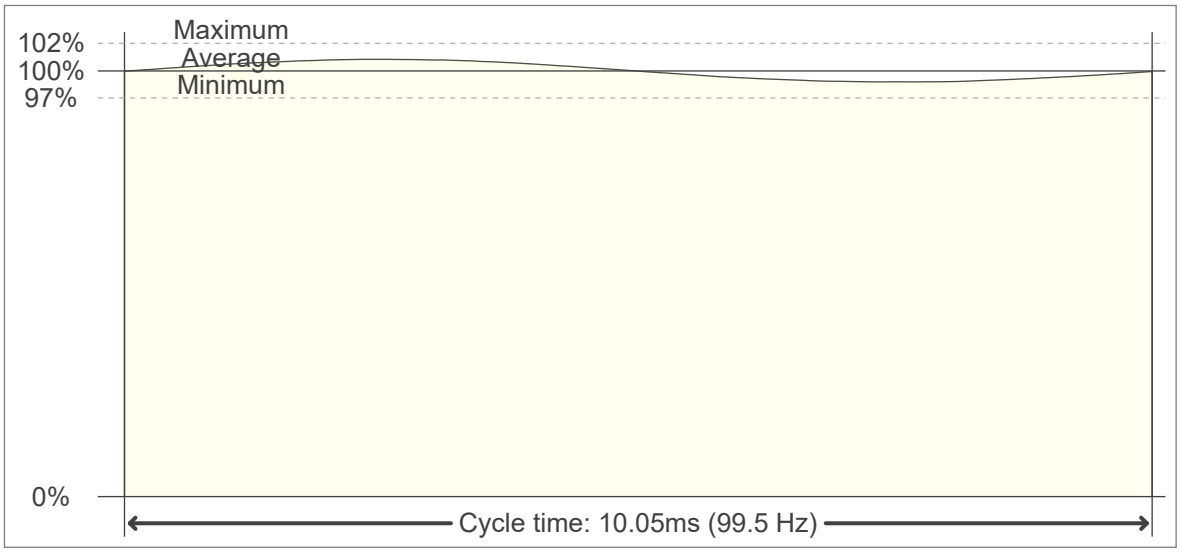
0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
23.0 lm	66.2 lm	101 lm	123 lm	128 lm	117 lm	90.7 lm	53.7 lm	17.8 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
2.44 lm	1.24 lm	1.42 lm	1.53 lm	1.57 lm	1.47 lm	1.29 lm	0.985 lm	0.464 lm

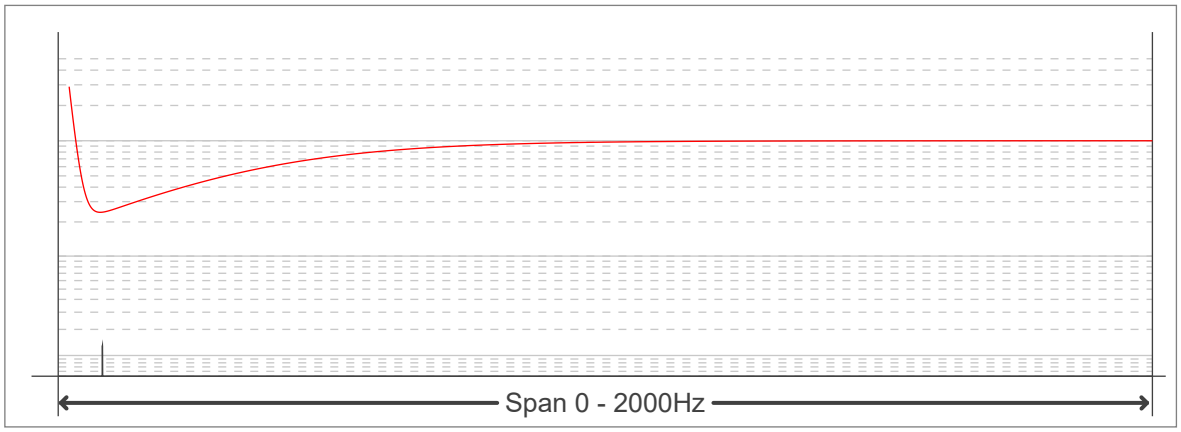
FLICKER

FLICKER CURVE (COMPLETE SAMPLED FLICKER

FLICKER FRAME (FRAME OF ONE FLICKER PERIOD)



FLICKER FFT (FREQUENCY SCOPE OF FLICKER CURVE)



FLICKER RESULTS:

Flicker frequency:	99.5 Hz
Flicker index:	0.01
Flicker percentage:	2.85 %
SVM: (Visual flicker)	0.1

FLICKER CONDITIONS:

Sample rate:	20000 samples/second