PHOTOMETRIC TEST REPORT

BEAM ONE LED

astro

LIGHT EFFICIENCY:

4 Lumen/Watt

LIGHT QUALITY:

CRI: 84.7

COLOR TEMPERATURE:

3088 K

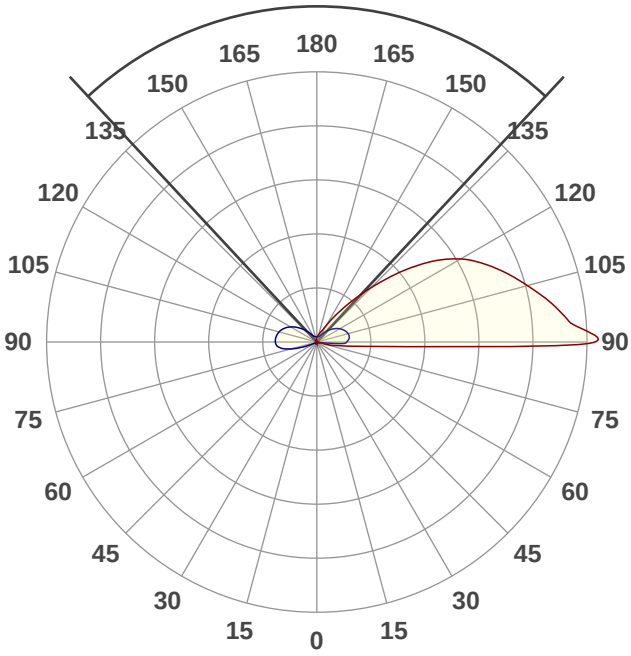
OUTPUT: 14.2 lm

PEAK: 9.45 cd

POWER: 3.2 W

PF: 0.45

85.9°



CIE 1931
x: 0.437
y: 0.414

Tracking number: n/a

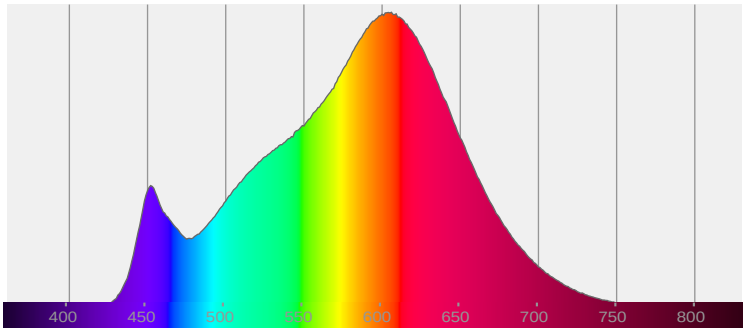
Product name:
Beam One LED

Item number:
1202004

Date and time:
12/05/2021 12:05:01

Description:
IP67 LED Outdoor Ground Light

SPECTRA



POWER

BEAM ONE LED

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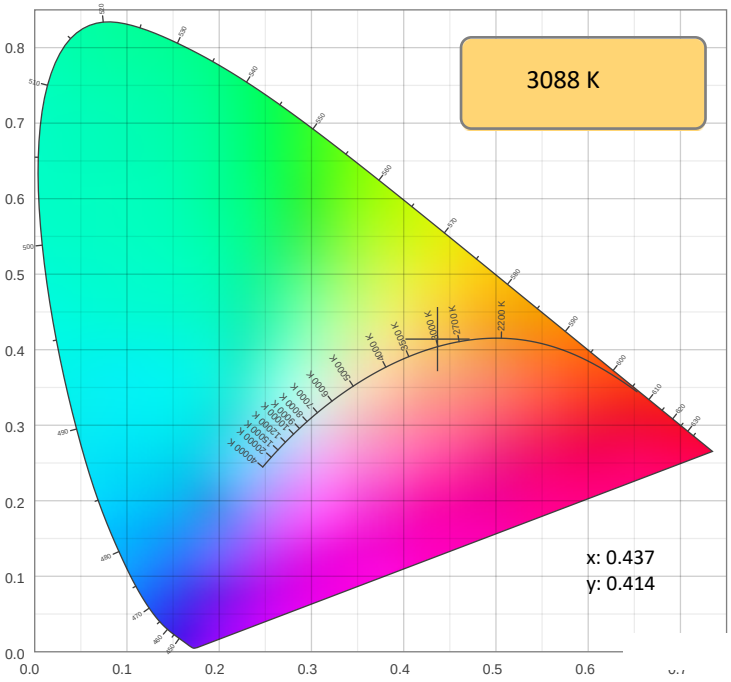
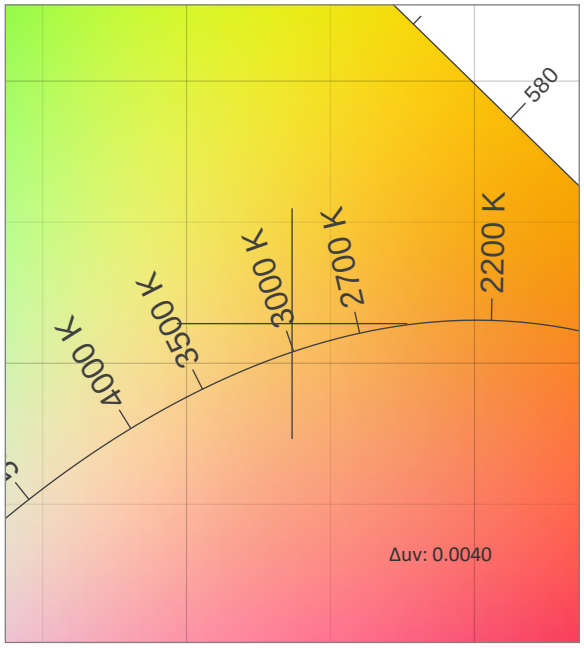
COLOR DETAILS

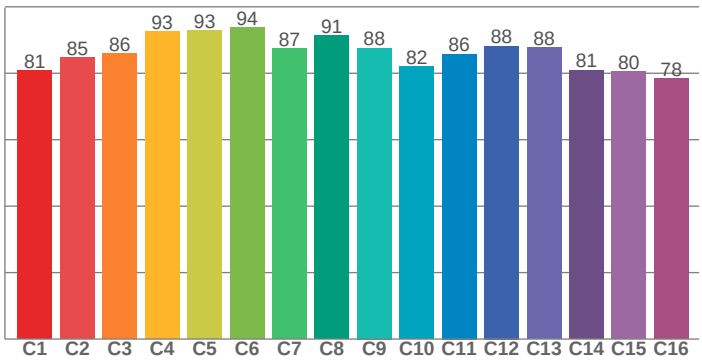


CIE 1931

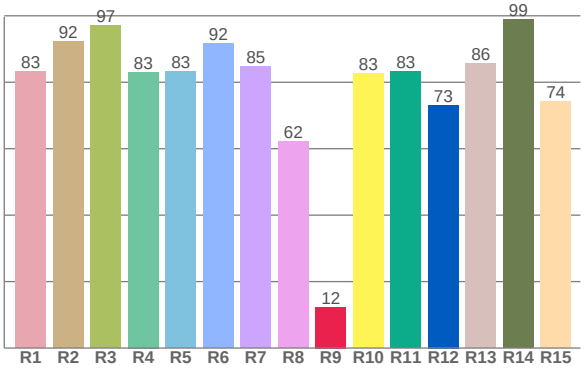


CIE 1931 ZOOM

TM30: 86.5



CRI: 84.7 (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
83.2	92.4	97.0	83.1	83.2	91.7	84.6	62.1	12.3	82.6	83.2	73.1	85.5	98.8	74.1

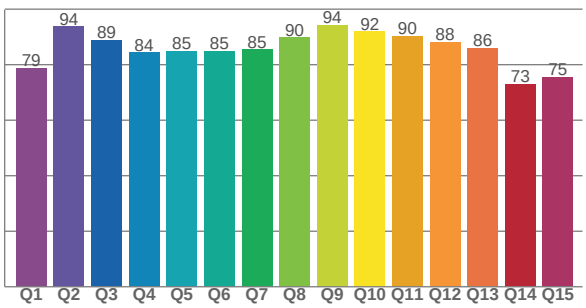
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
80.7	84.6	85.9	92.6	92.7	93.8	87.4	91.4	87.6	82.0	85.8	88.2	87.8	80.9	80.5	78.5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
78.8	93.8	88.9	84.4	85.0	84.9	85.4	89.8	94.2	92.0	90.2	88.2	86.0	72.9	75.5

CQS: 84.6



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
3088 K	84.7	12.3	86.5	93.1	84.6	0.437	0.414	0.246	0.350	0.0040

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TM30 DETAILS

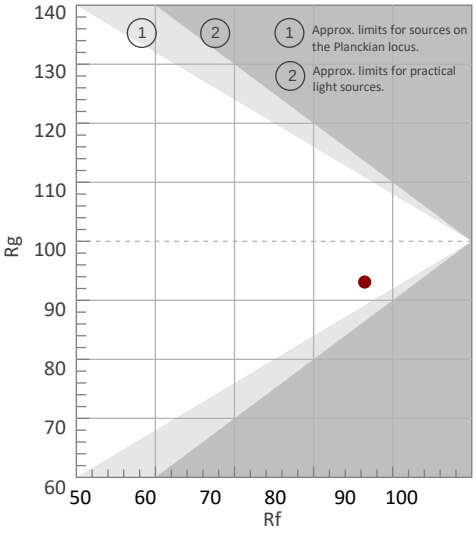
Rf 86.5

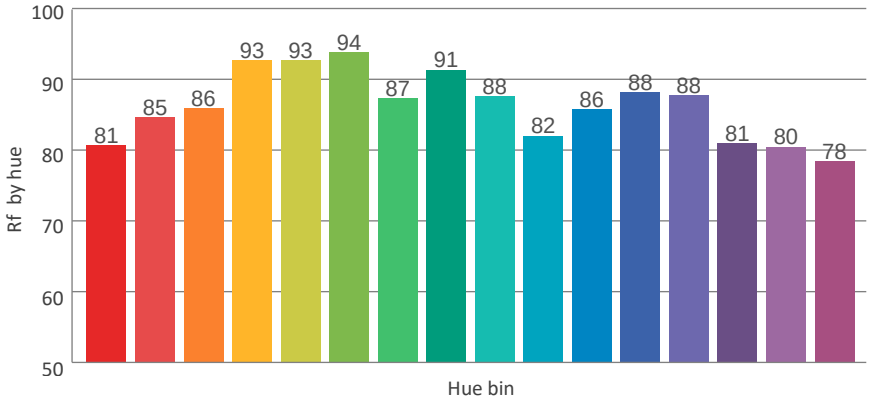
Fidelity index Rf

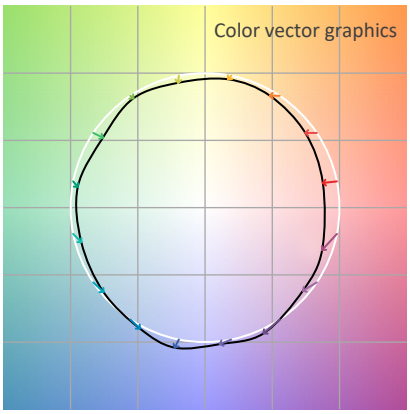
Rg 93.1

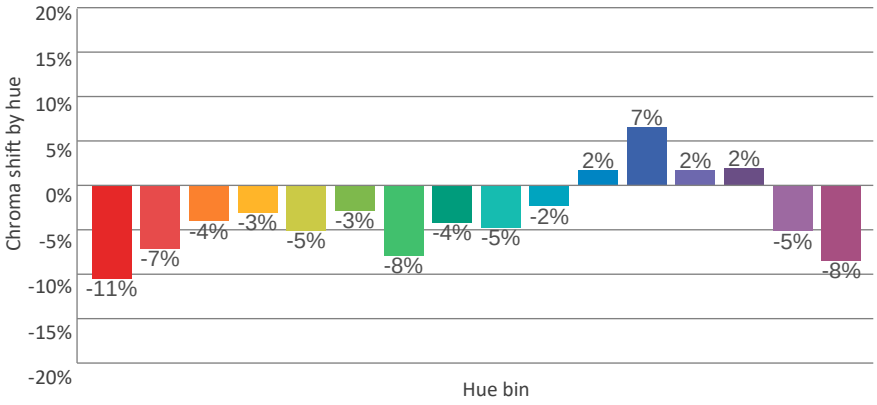
Gammut index Rg

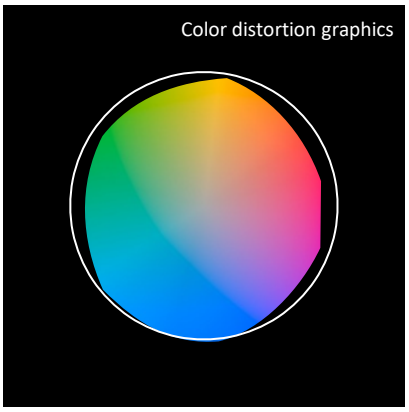
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	81	-11%	1%
2	85	-7%	5%
3	86	-4%	6%
4	93	-3%	2%
5	93	-5%	1%
6	94	-3%	-1%
7	87	-8%	-1%
8	91	-4%	3%
9	88	-5%	7%
10	82	-2%	10%
11	86	2%	10%
12	88	7%	-2%
13	88	2%	-9%
14	81	2%	-16%
15	80	-5%	-11%
16	78	-8%	-14%

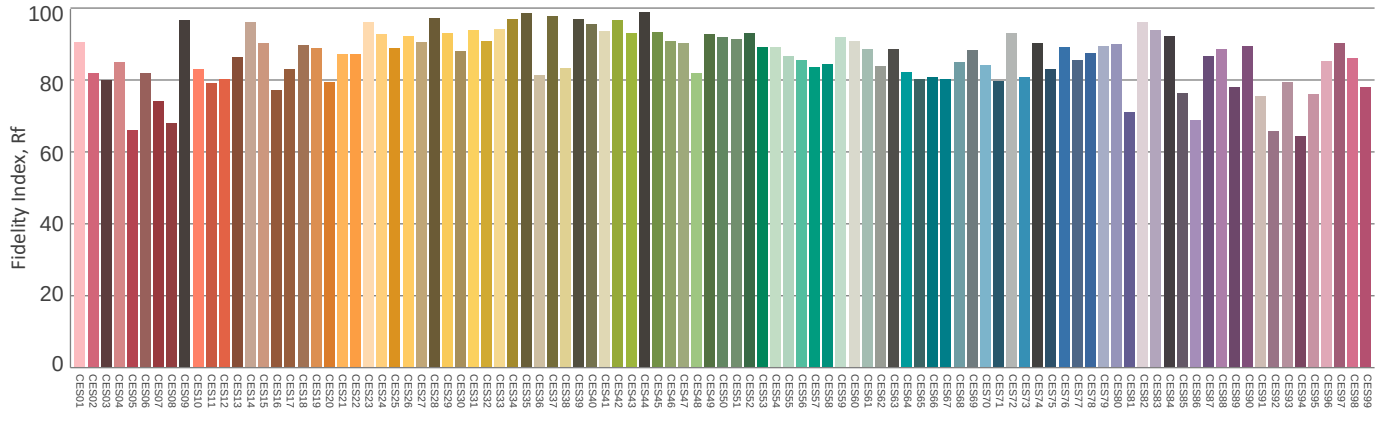












BEAM ONE LED

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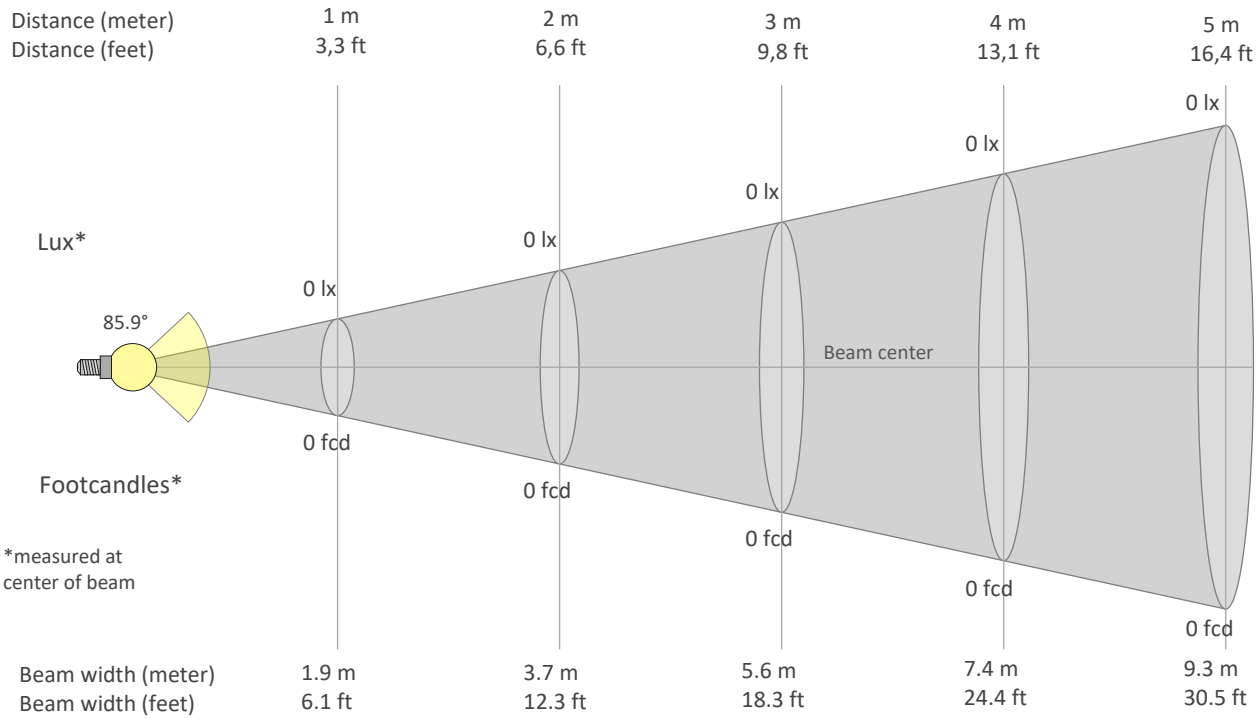
BEAM DETAILS



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
0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx	0lx
0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd	0fcd

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°
0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.20	2.22	9.41	8.88
100%	148%	177%	140%	219%	204%	139%	183%	184%	182%	162%	165%	218%	119%	170%	530%	7203%	80446	34033	32090

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°
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.67	1.03	1.13
100%	67%	71%	74%	71%	84%	106%	84%	79%	82%	94%	95%	74%	82%	115%	102%	4364%	24373%	37136%	40681%

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°
0.003	0.007	0.003	0.003	0.004	0.006	0.005	0.005	0.008	0.008	0.006	0.006	0.006	0.007	0.007	0.006	0.010	0.010	0.008	0.011
100%	271%	123%	114%	140%	210%	179%	168%	291%	280%	210%	214%	235%	244%	269%	225%	349%	348%	287%	386%

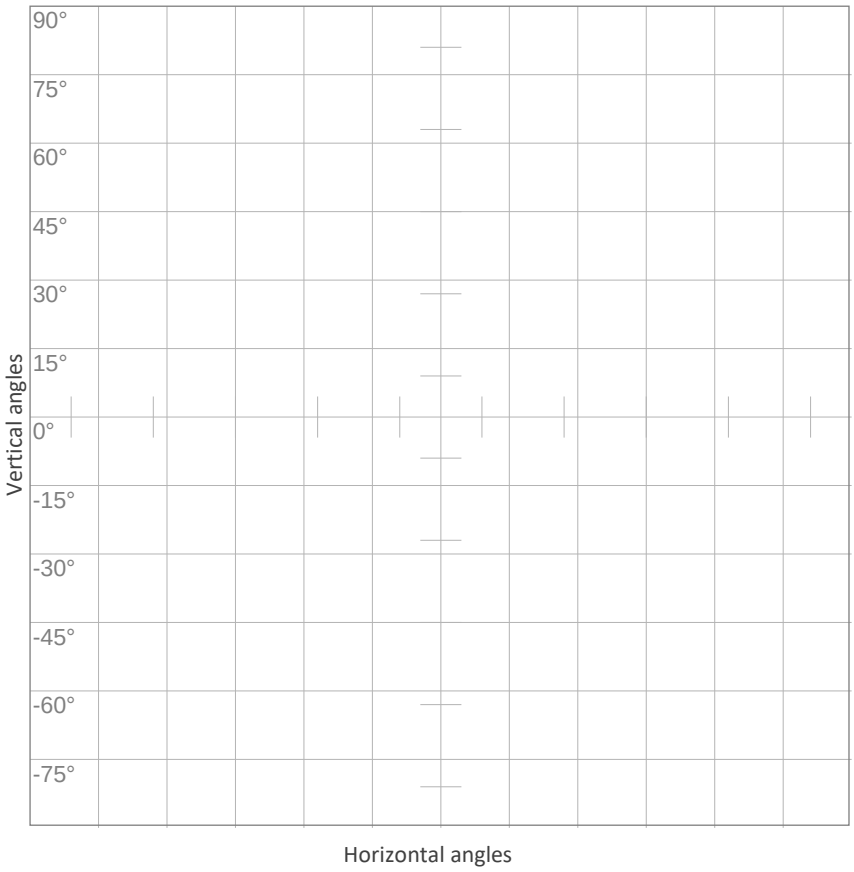
Intensities in 270° c-plane

0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.17	0.52	0.93	1.25	1.41	1.45	1.45
100%	79%	84%	60%	59%	64%	84%	81%	115%	103%	109%	222%	1155%	6215%	18745%	33525%	45161%	50886%	52598%	52525%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
85.9°	106.4°	129.3°	21.0%	5.8%

ISO DIAGRAMS

ISO CANDELA DIAGRAM



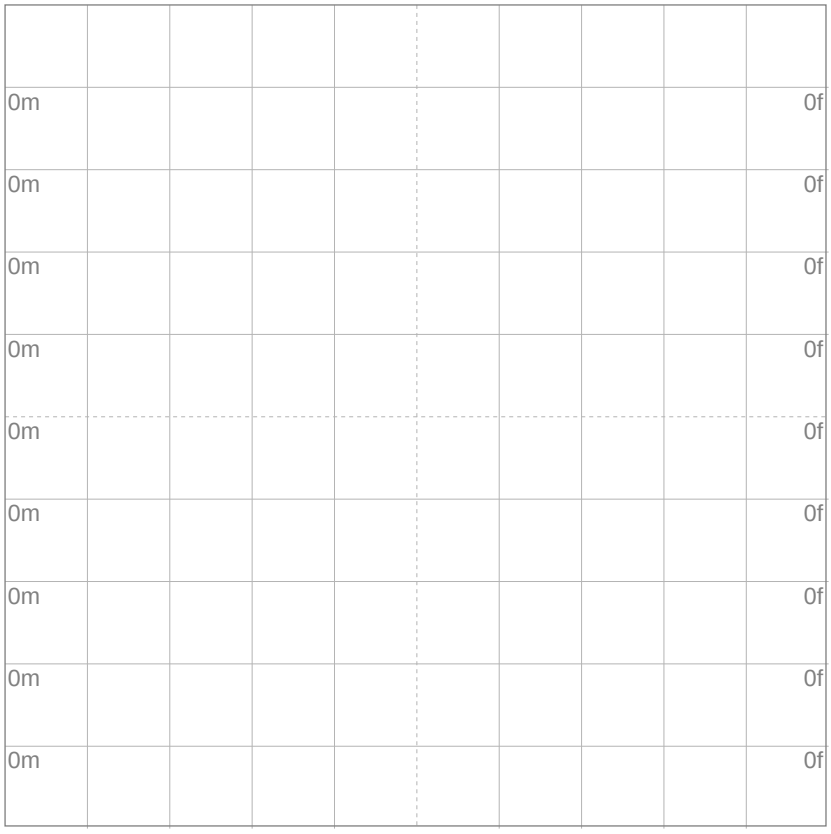
10%	0 cd
20%	0 cd
30%	0 cd
40%	0 cd
50%	0 cd
60%	0 cd
70%	0 cd
80%	0 cd
90%	0 cd

Conditions:

Number of c-planes: 8

Candela at center: 0 cd

ISO LUX DIAGRAM



3%	1u lx
5%	1u lx
10%	3u lx
30%	8u lx
50%	{LUX_10M50} lx

Conditions:

Number of c-planes: 8

Lux at center: 28u 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				
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
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n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Variation of the observer position for the luminaire distance S										
n/a	n/a					n/a				
n/a	n/a					n/a				
n/a	n/a					n/a				
Standard table	n/a					n/a				
Correction summand	n/a					n/a				
Corrected glare indices referring to 14.2 lm total luminous flux										

UGR data could not be calculated due to missing/wrong symmetry. Goto Edit->Photometric->Corrections and select Correct asymmetry.

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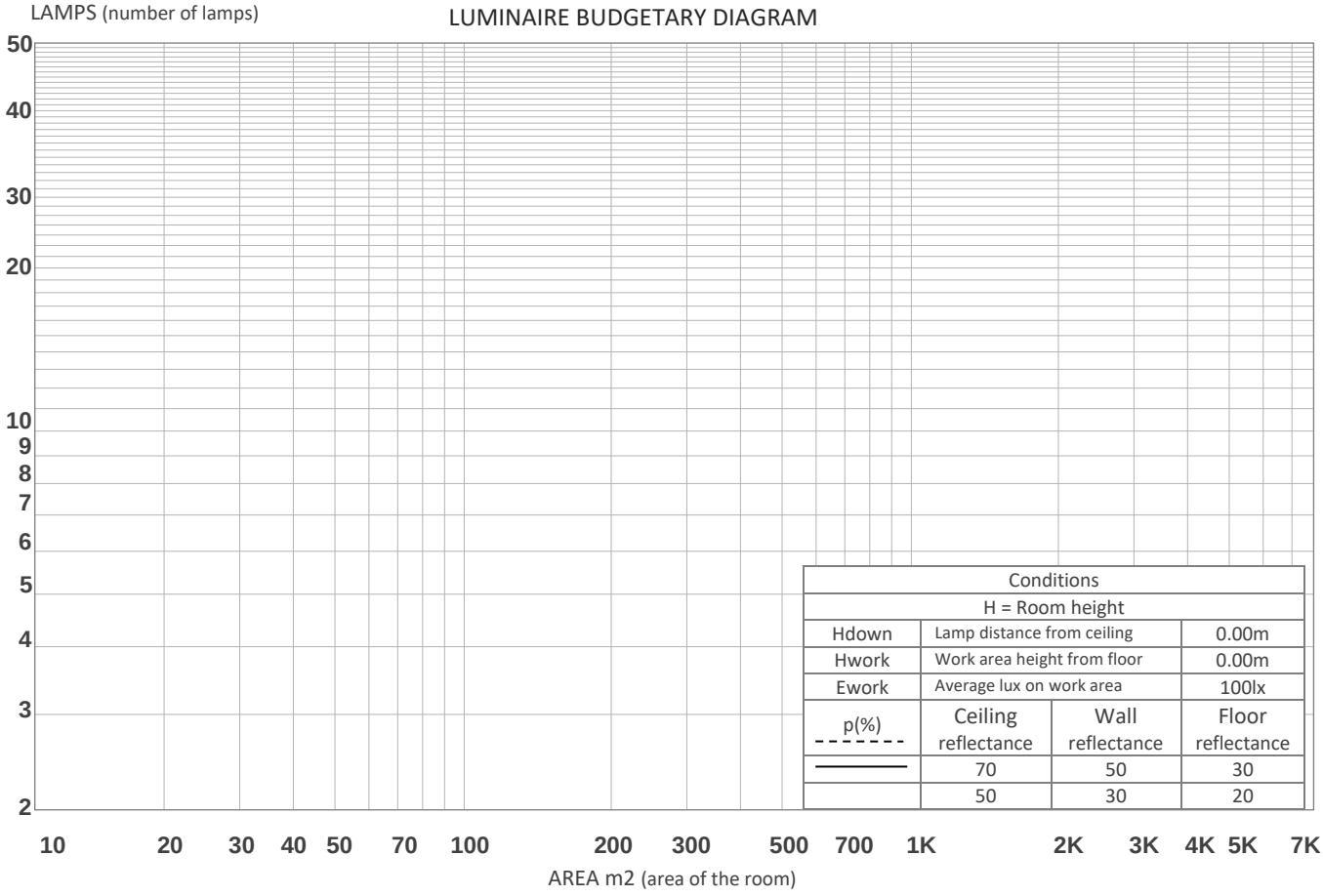
LIGHT PLANNING

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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19
1	85	78	72	67	74	68	63	58	49	45	41	31	28	26	15	13	11	4
2	76	67	59	52	66	58	51	46	41	37	32	26	23	20	12	10	8	1
3	69	58	50	43	60	51	43	37	36	31	27	23	19	16	10	8	6	0
4	63	51	43	36	55	45	37	31	32	27	22	20	16	14	9	7	5	0
5	58	45	37	30	50	40	32	26	28	23	19	18	14	11	8	6	4	0
6	53	41	32	26	46	35	28	23	25	20	16	16	13	10	8	5	4	0
7	49	36	28	22	42	32	25	20	23	18	14	15	11	9	7	5	3	0
8	45	33	25	20	39	29	22	17	21	16	12	13	10	8	6	4	3	0
9	42	30	22	17	37	26	19	15	19	14	11	12	9	7	6	4	2	0
10	39	27	20	15	34	24	17	13	17	13	9	11	8	6	6	4	2	0

LUMINAIRE BUDGETARY DIAGRAM



ZONAL LUMEN SUMMARY

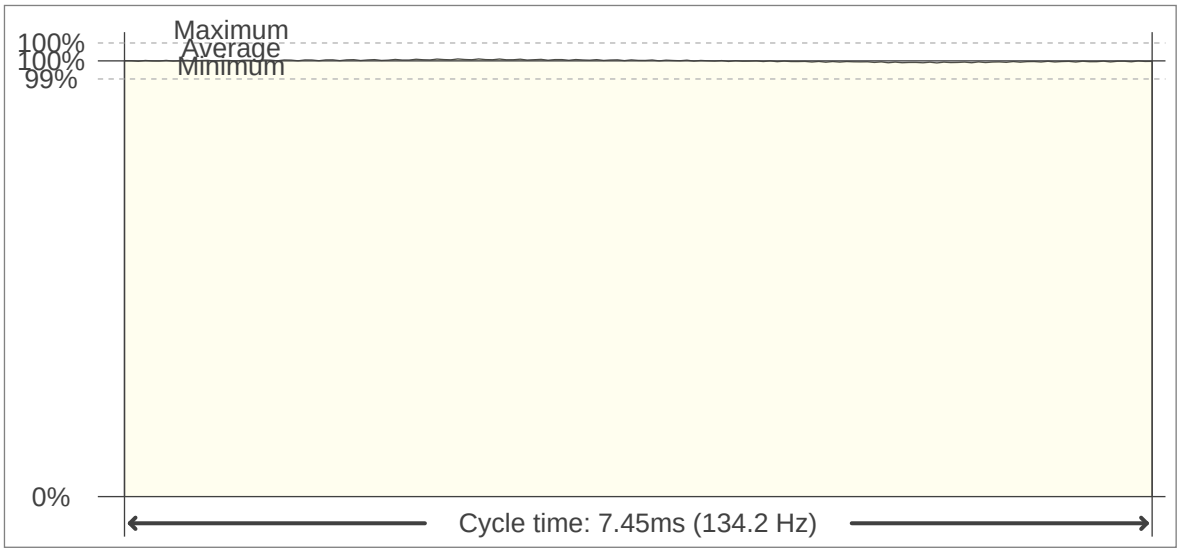
0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
0.000 lm	0.001 lm	0.002 lm	0.002 lm	0.003 lm	0.004 lm	0.030 lm	0.387 lm	2.28 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
3.26 lm	2.90 lm	2.36 lm	1.66 lm	0.841 lm	0.317 lm	0.113 lm	0.052 lm	0.015 lm

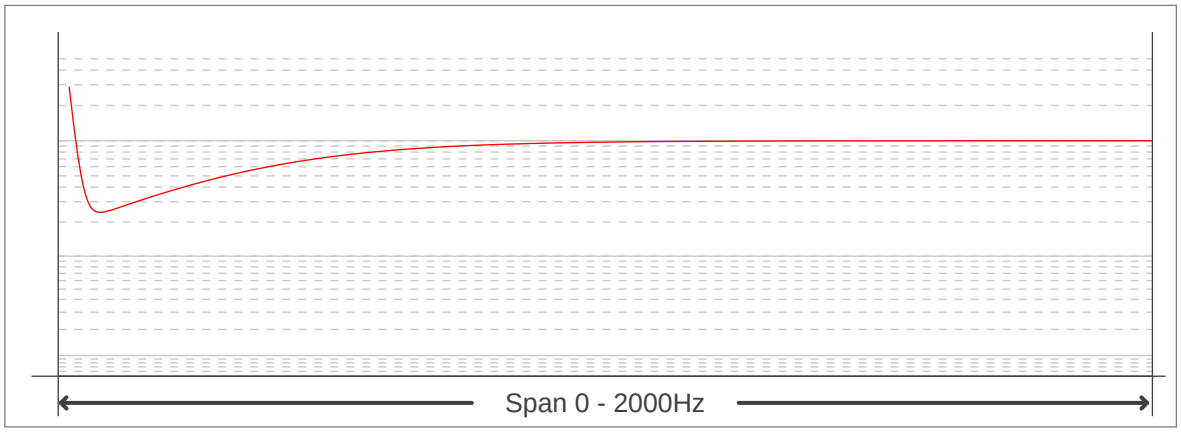
FLICKER

FLICKER CURVE (COMPLETE SAMPLED FLICKER

FLICKER FRAME (FRAME OF ONE FLICKER PERIOD)



FLICKER FFT (FREQUENCY SCOPE OF FLICKER CURVE)



FLICKER RESULTS:

Flicker frequency:	134.23 Hz
Flicker index:	0
Flicker percentage:	0.51 %
SVM: (Visual flicker)	0.01

FLICKER CONDITIONS:

Sample rate:	20000 samples/second