

Light efficiency:

67 Lumen/Watt

Light quality:

CRI: 92.5

Color temperature:

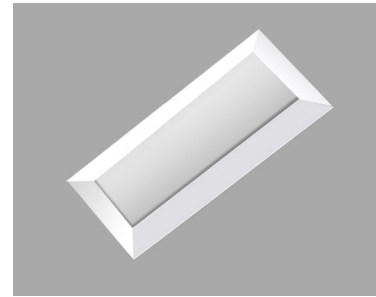
3020 K

Output: 2868 lm

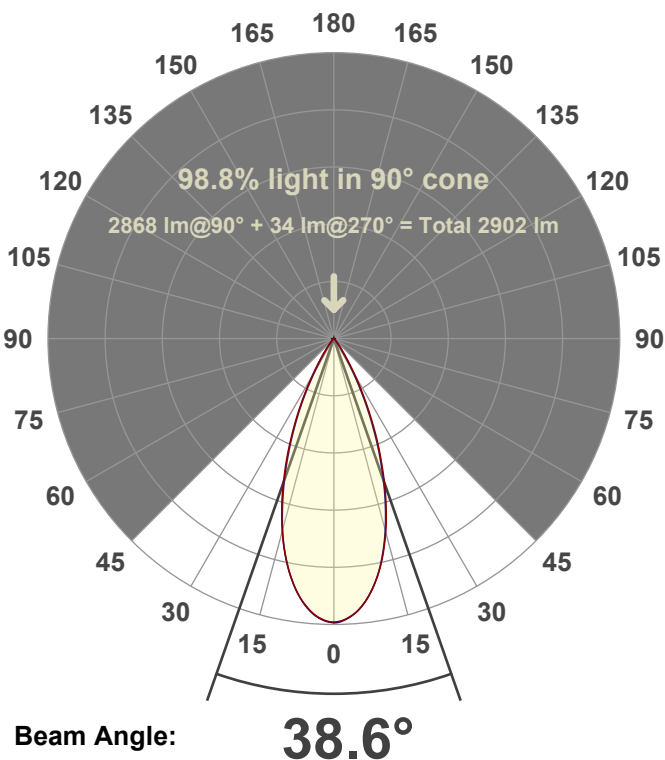
Peak: 6287 cd

Power: 43.0 W

PF: 0.99



*Variation due to source size, bezel geometry, or secondary optics



Product name:

CR4MD-TMHA-DR2-CZ20-40

Item number:

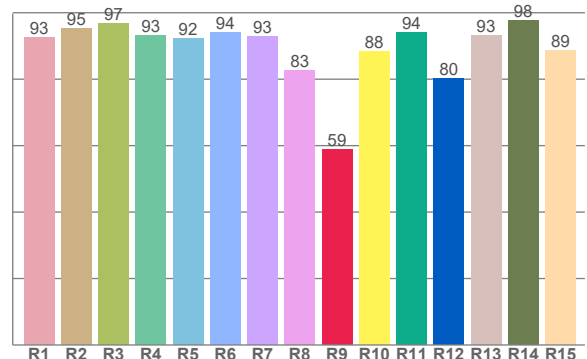
1009-2LEDZ-CZ20-FL

Date and time:

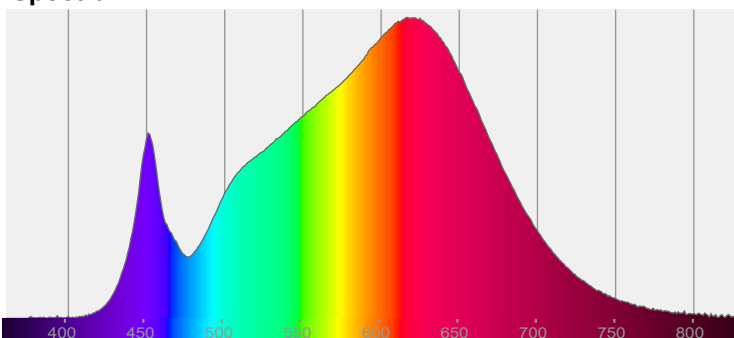
10/3/2024 3:59:13 PM

LUM: 2868

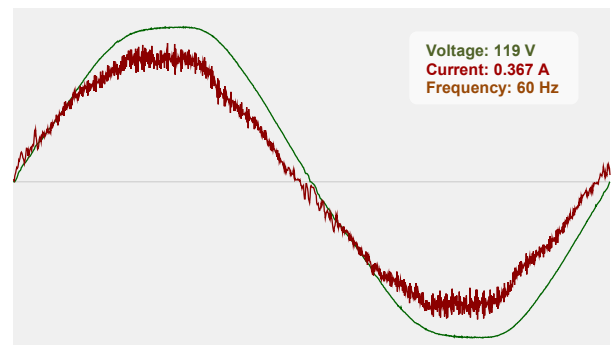
CRI: 92.5 (R1-R8)

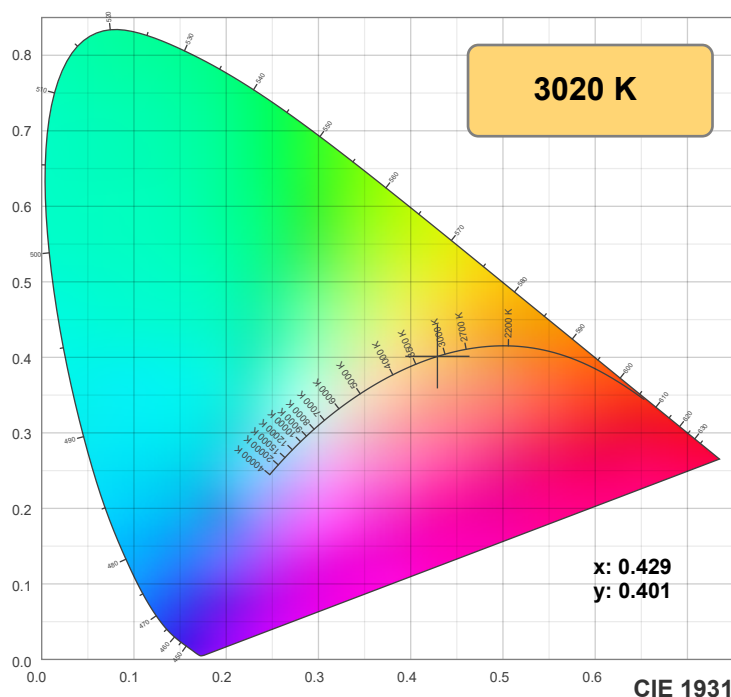
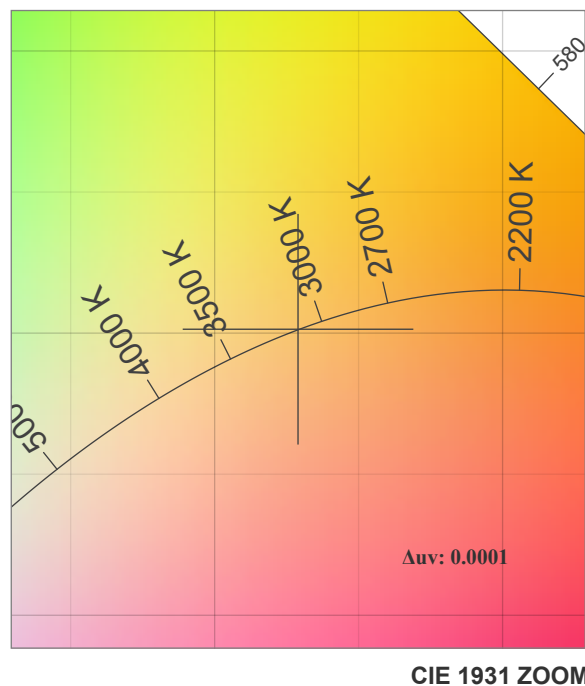


Spectra

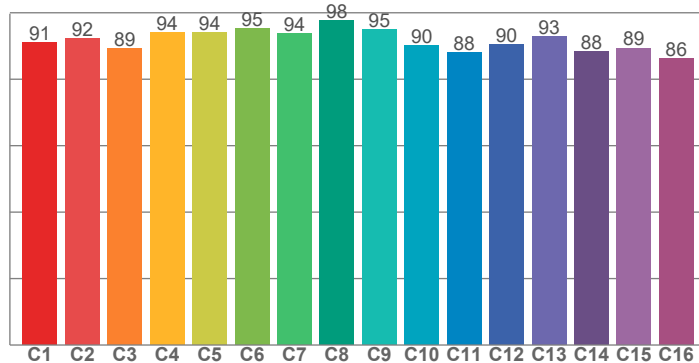


Power

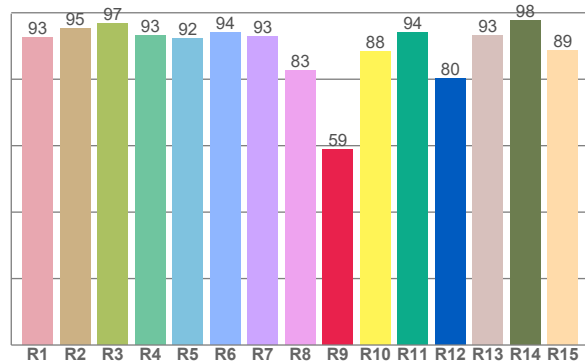




TM-30: 91.7



CRI: 92.5 (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
92.6	95.3	96.8	93.3	92.2	94.1	92.8	82.6	58.9	88.4	94.1	80.1	93.3	97.7	88.6

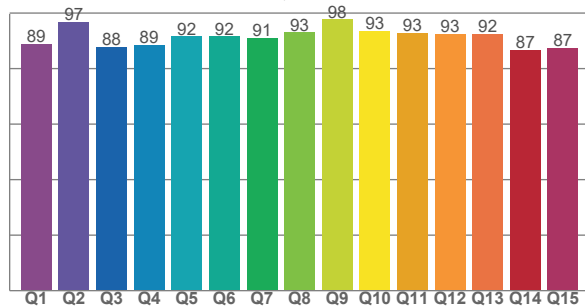
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
91.0	92.2	89.2	94.0	94.0	95.1	93.7	97.7	94.9	90.2	87.9	90.4	92.7	88.4	89.4	86.3

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
88.8	96.9	87.8	88.6	91.6	91.5	91.1	93.0	97.7	93.5	92.9	92.6	92.4	86.7	87.3

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 deviation from black body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
3020 K	92.5	58.9	91.7	100.1	90.8	0.429	0.401	0.247	0.346	0.0001

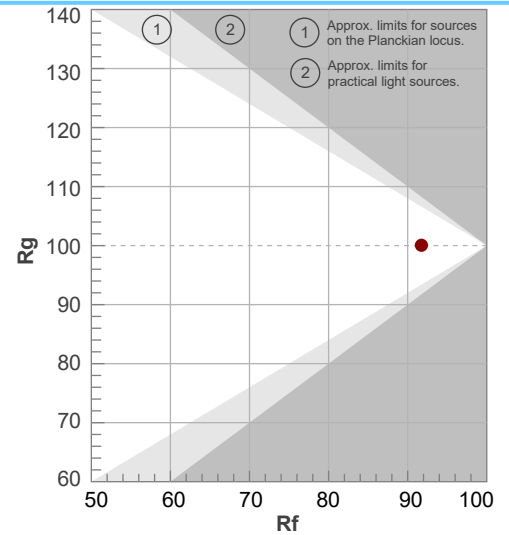
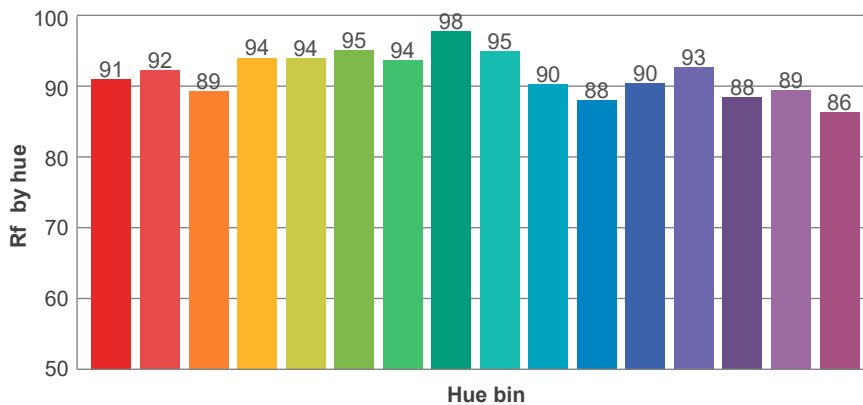
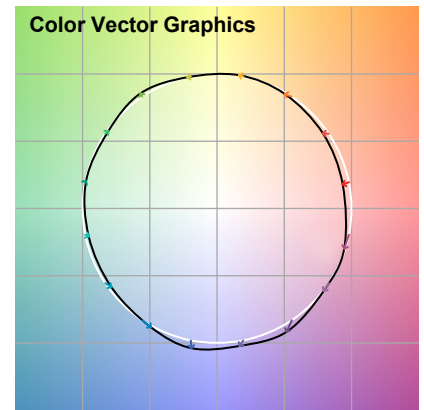
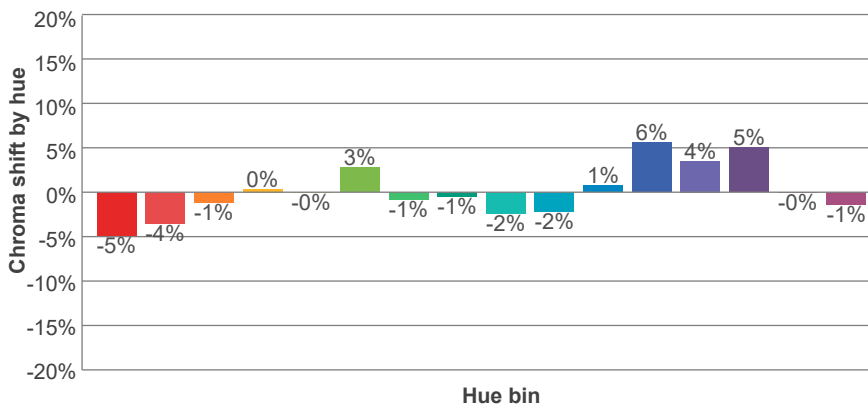
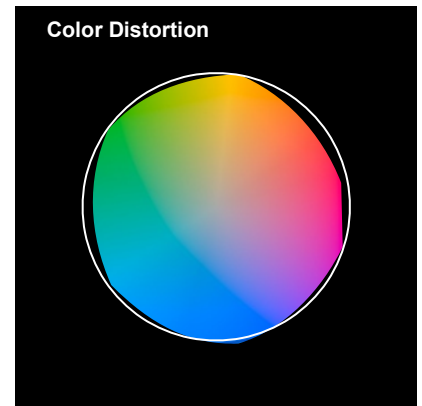
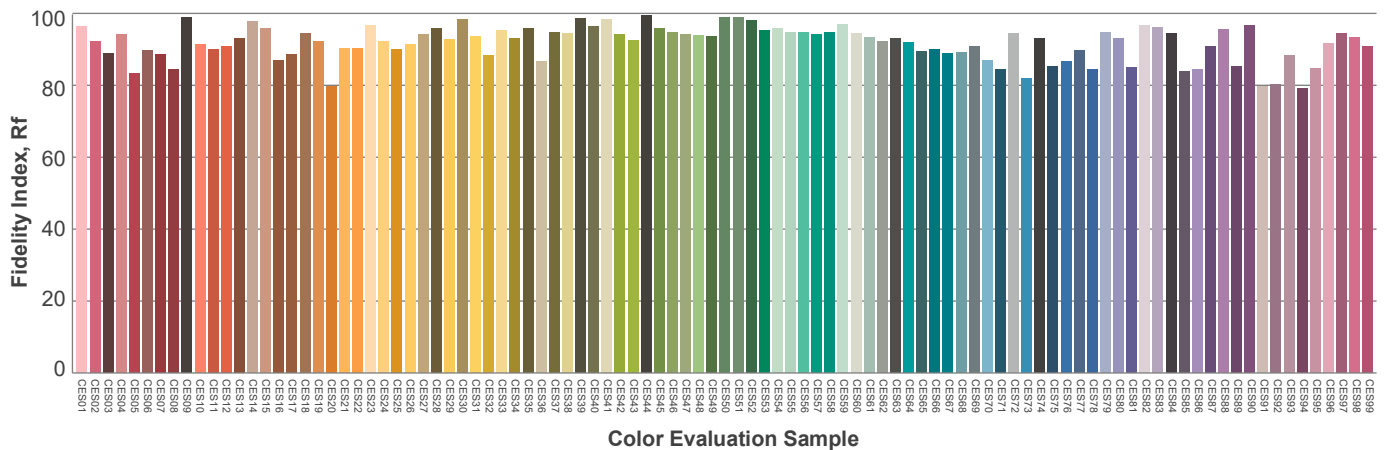
Rf 91.7

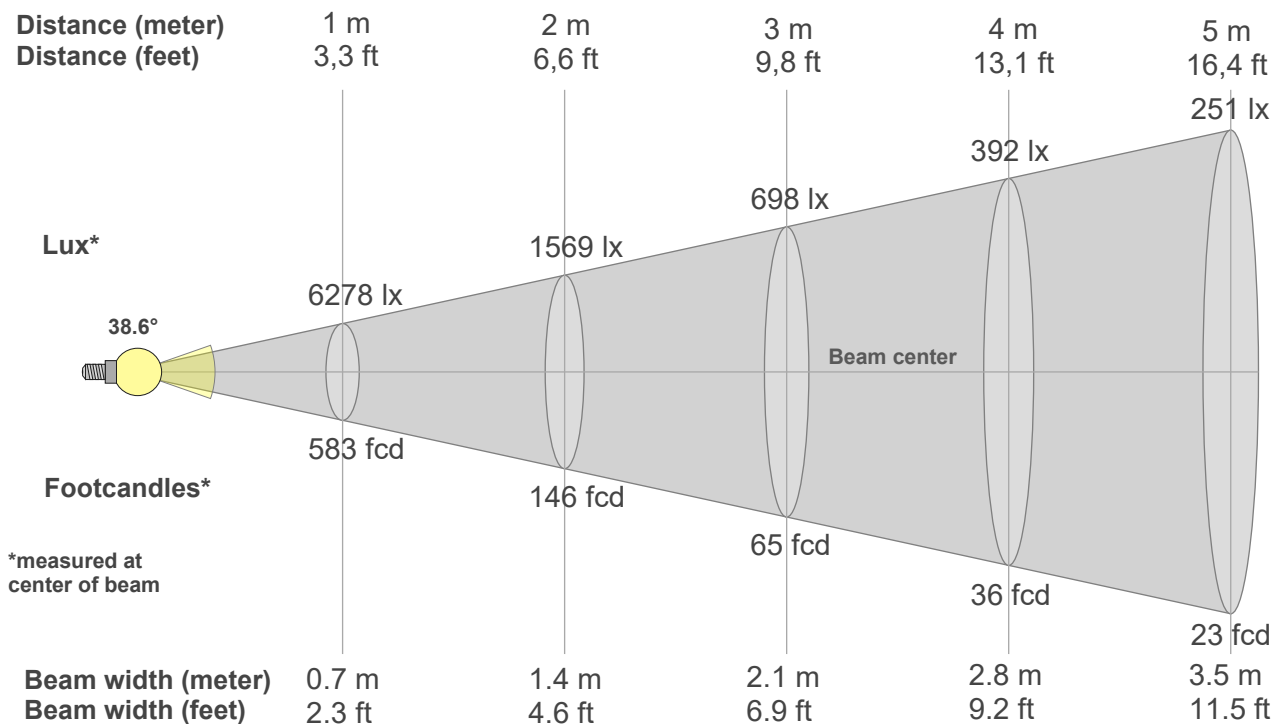
Fidelity index Rf

Rg 100.1

Gamut index Rg

Hue Bin	R _f	Shifts (%)	
		Chroma	Hue
1	91	-5%	-1%
2	92	-4%	3%
3	89	-1%	5%
4	94	0%	3%
5	94	-0%	3%
6	95	3%	-0%
7	94	-1%	-3%
8	98	-1%	-1%
9	95	-2%	2%
10	90	-2%	5%
11	88	1%	8%
12	90	6%	2%
13	93	4%	-4%
14	88	5%	-8%
15	89	-0%	-7%
16	86	-1%	-11%





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
6278lx	1569lx	698lx	392lx	251lx	174lx	128lx	98lx	78lx	63lx	52lx	44lx	37lx	32lx	28lx	25lx	22lx	19lx	17lx	16lx
583.2fcd	145.8fcd	64.8fcd	36.5fcd	23.3fcd	16.2fcd	11.9fcd	9.1fcd	7.2fcd	5.8fcd	4.8fcd	4.1fcd	3.5fcd	3fcd	2.6fcd	2.3fcd	2fcd	1.8fcd	1.6fcd	1.5fcd

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°
6278	6229	6120	5948	5708	5410	5057	4647	4200	3712	3201	2694	2197	1722	1292	926	627	410	267	173
100%	99%	97%	95%	91%	86%	81%	74%	67%	59%	51%	43%	35%	27%	21%	15%	10%	7%	4%	3%

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°
6278	6239	6124	5946	5705	5406	5041	4619	4151	3654	3131	2620	2105	1622	1170	785	492	295	175	103
100%	99%	98%	95%	91%	86%	80%	74%	66%	58%	50%	42%	34%	26%	19%	13%	8%	5%	3%	2%

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°
6278	6230	6119	5939	5704	5395	5031	4626	4175	3699	3198	2705	2216	1761	1337	971	674	448	297	197
100%	99%	97%	95%	91%	86%	80%	74%	67%	59%	51%	43%	35%	28%	21%	15%	11%	7%	5%	3%

Intensities in 270° c-plane

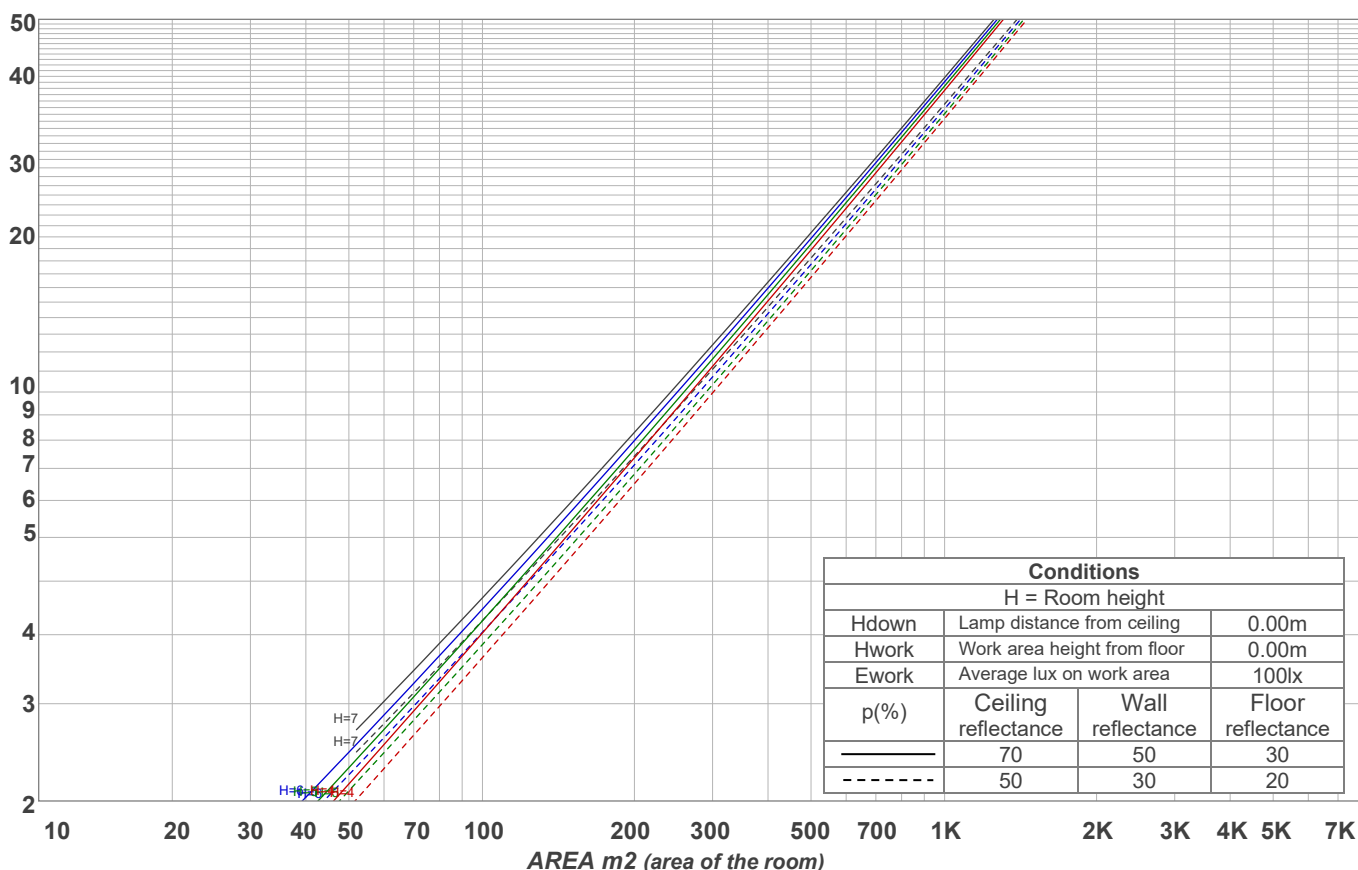
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
6278	6240	6131	5951	5701	5393	5035	4617	4139	3637	3131	2629	2138	1680	1235	845	535	326	199	121
100%	99%	98%	95%	91%	86%	80%	74%	66%	58%	50%	42%	34%	27%	20%	13%	9%	5%	3%	2%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
38.6°	63.3°	75.5°	100.0%	100.0%

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LAMPS (number of lamps)

Luminaire Budgetary Diagram



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	114	112	110	108	112	110	108	106	106	104	103	102	101	100	99	98	97	95
2	110	106	103	100	108	104	101	99	101	99	96	98	96	94	95	94	92	91
3	106	100	96	93	104	99	95	92	97	93	91	94	92	89	92	90	88	87
4	102	95	91	87	100	94	90	87	92	89	86	90	87	85	89	86	84	83
5	98	91	86	83	96	90	86	82	88	85	82	87	84	81	85	83	80	79
6	94	87	82	78	93	86	82	78	85	81	78	83	80	77	82	79	77	75
7	91	83	78	75	89	82	78	75	81	77	74	80	77	74	79	76	73	72
8	87	80	75	71	86	79	74	71	78	74	71	77	73	71	76	73	70	69
9	84	76	71	68	83	76	71	68	75	71	68	74	70	68	73	70	67	66
10	81	73	69	65	80	73	68	65	72	68	65	71	68	65	71	67	65	64

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
556 lm	1202 lm	873 lm	216 lm	21.4 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm
90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
0.000 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm	0.000 lm

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