

Light efficiency:

64 Lumen/Watt

Light quality:

CRI: 92.6

Color temperature:

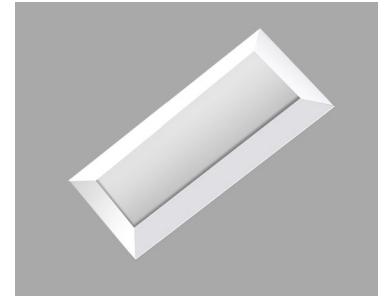
3017 K

Output: 2762 lm

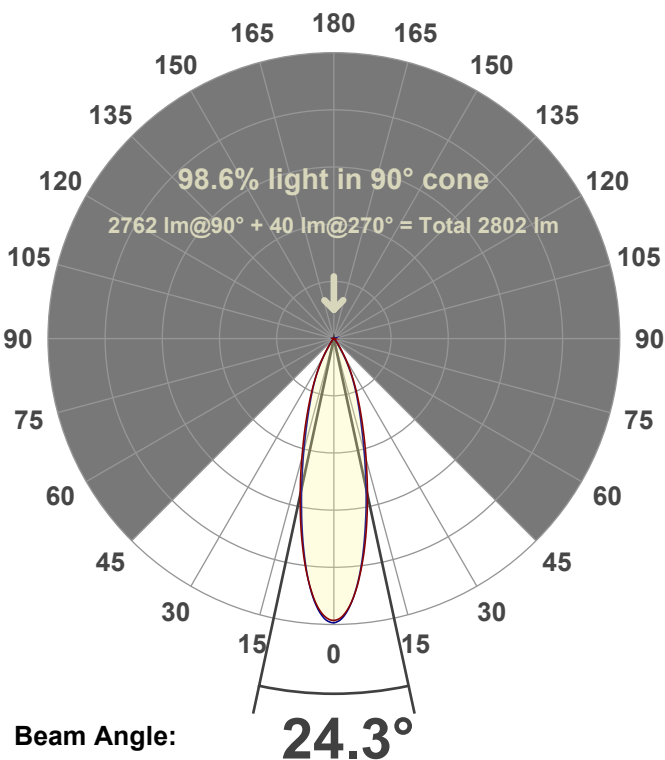
Peak: 9583 cd

Power: 43.4 W

PF: 0.99



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



Product name:

CR4MD-TMHA-DR2-CZ20-24

Item number:

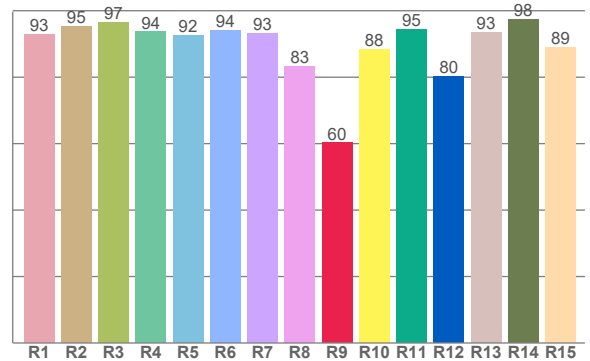
1009-2 LEDZ-CZ20-NF

Date and time:

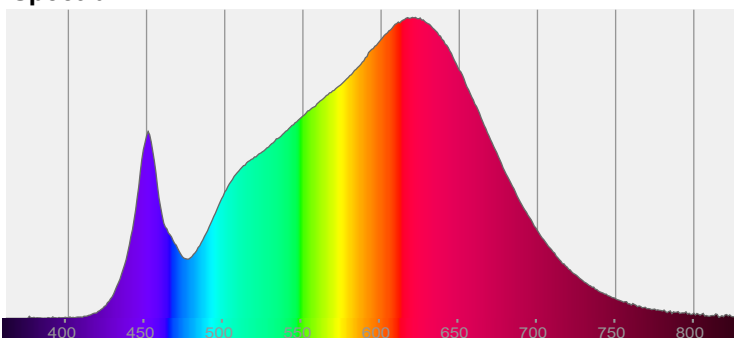
10/3/2024 4:42:16 PM

LUM: 2762

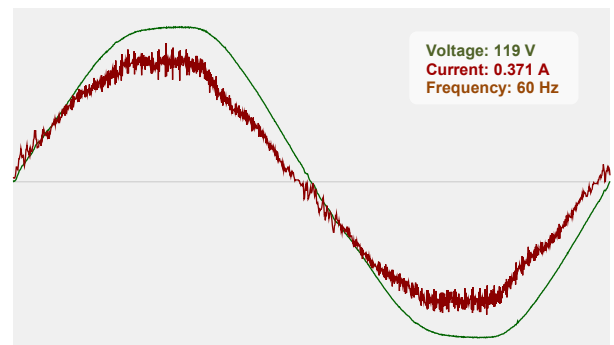
CRI: 92.6 (R1-R8)

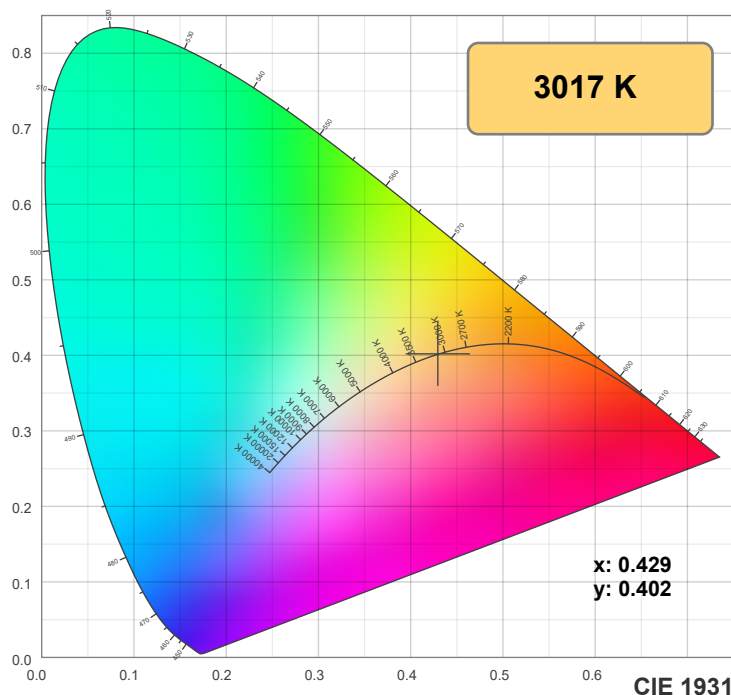
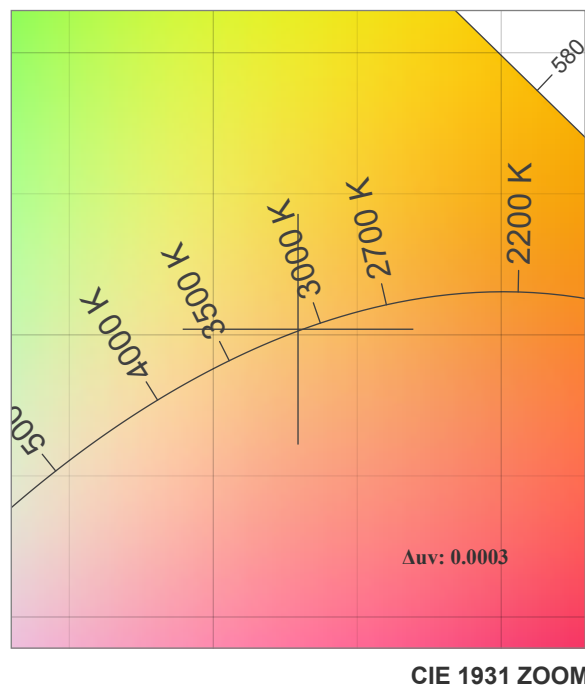


Spectra

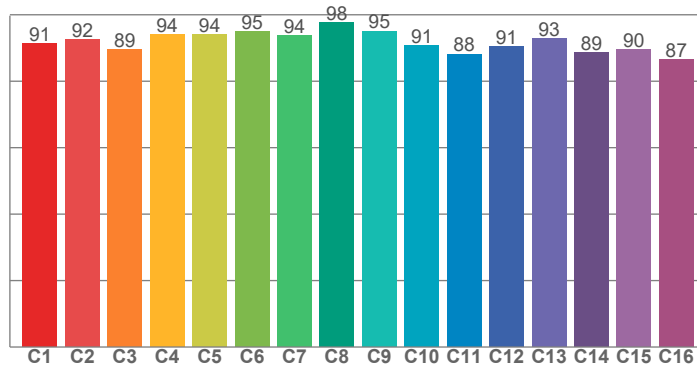


Power

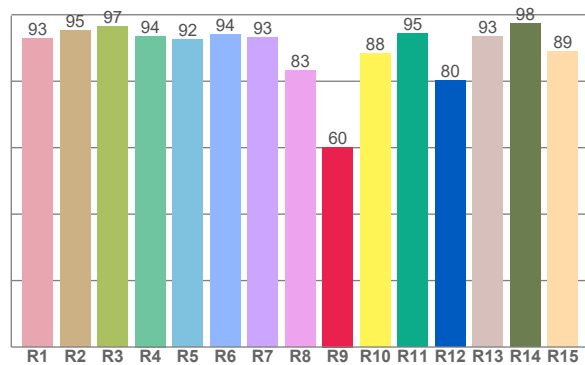




TM-30: 91.9



CRI: 92.6 (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
92.8	95.3	96.6	93.6	92.4	94.0	93.1	83.2	60.2	88.3	94.5	80.4	93.4	97.5	88.9

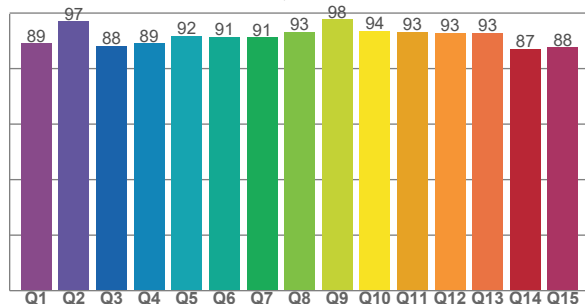
TM30 C values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
91.3	92.5	89.4	94.0	94.0	95.0	93.8	97.7	95.1	90.8	88.2	90.5	92.8	88.6	89.6	86.5

CQS Q values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
89.0	96.9	88.0	89.0	91.9	91.5	91.2	93.2	97.7	93.6	93.2	92.9	92.7	87.1	87.6

CQS: 91.0



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
3017 K	92.6	60.2	91.9	100.3	91.0	0.429	0.402	0.247	0.346	0.0003

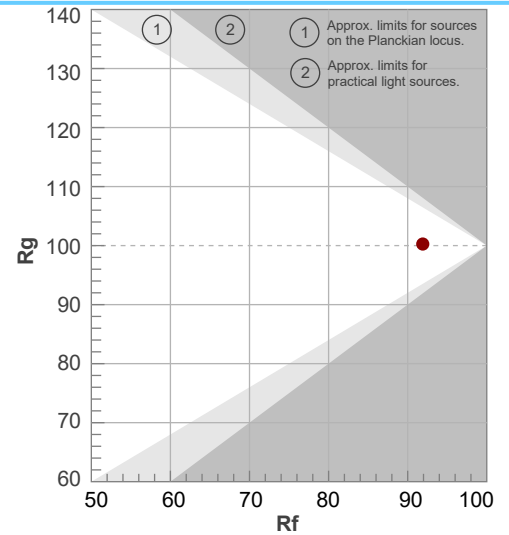
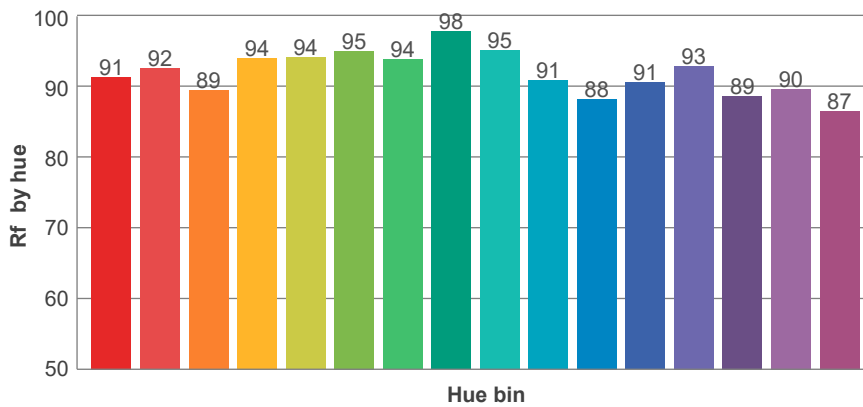
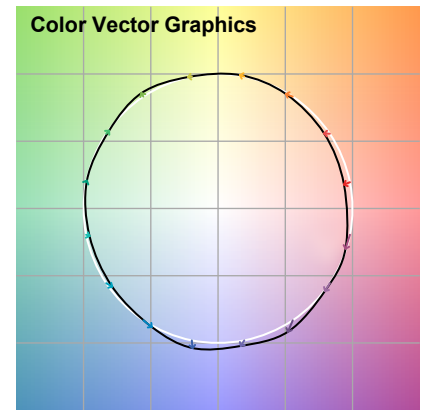
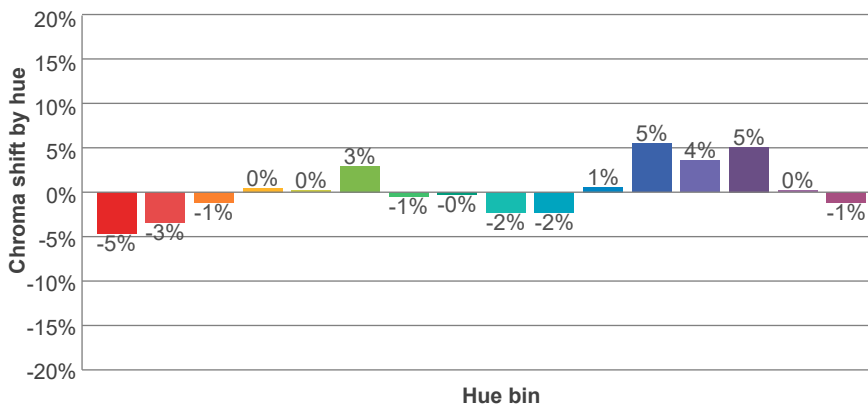
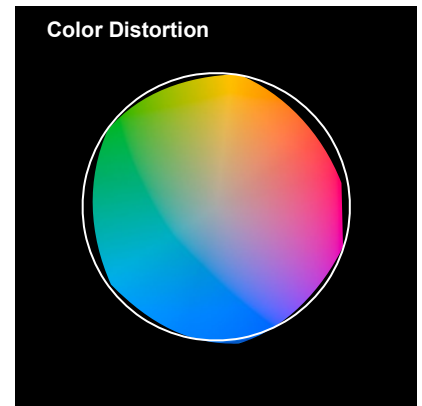
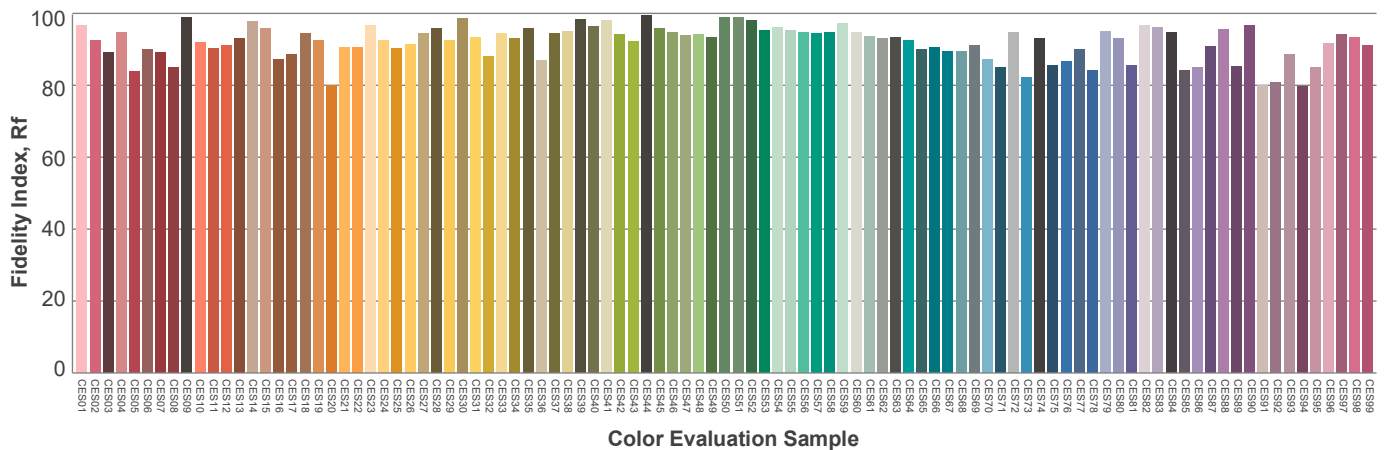
Rf 91.9

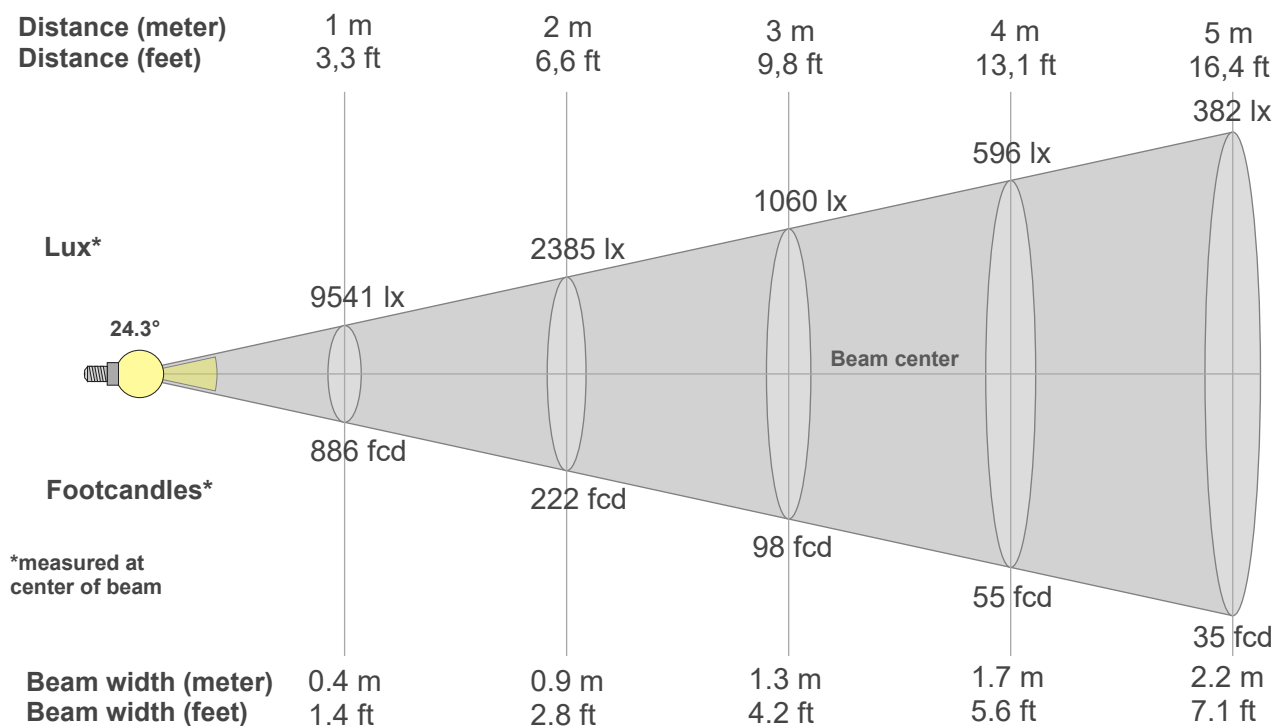
Fidelity index Rf

Rg 100.3

Gamut index Rg

Hue Bin	R _f	Shifts (%)	
		Chroma	Hue
1	91	-5%	-1%
2	92	-3%	3%
3	89	-1%	5%
4	94	0%	3%
5	94	0%	3%
6	95	3%	-0%
7	94	-1%	-3%
8	98	-0%	-1%
9	95	-2%	1%
10	91	-2%	5%
11	88	1%	8%
12	91	5%	2%
13	93	4%	-3%
14	89	5%	-8%
15	90	0%	-7%
16	87	-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
9541lx	2385lx	1060lx	596lx	382lx	265lx	195lx	149lx	118lx	95lx	79lx	66lx	56lx	49lx	42lx	37lx	33lx	29lx	26lx	24lx
886.4fcd	221.6fcd	98.5fcd	55.4fcd	35.5fcd	24.6fcd	18.1fcd	13.9fcd	10.9fcd	8.9fcd	7.3fcd	6.2fcd	5.2fcd	4.5fcd	3.9fcd	3.5fcd	3.1fcd	2.7fcd	2.5fcd	2.2fcd

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°
9541	9328	8853	8143	7293	6367	5455	4588	3843	3178	2627	2158	1759	1397	1080	803	564	384	261	179
100%	98%	93%	85%	76%	67%	57%	48%	40%	33%	28%	23%	18%	15%	11%	8%	6%	4%	3%	2%

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°
9541	9380	8859	8097	7171	6181	5222	4340	3577	2956	2446	2028	1650	1305	977	685	449	285	182	118
100%	98%	93%	85%	75%	65%	55%	45%	37%	31%	26%	21%	17%	14%	10%	7%	5%	3%	2%	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°
9541	9355	8910	8206	7353	6412	5465	4587	3785	3123	2554	2082	1676	1315	1002	730	513	349	238	164
100%	98%	93%	86%	77%	67%	57%	48%	40%	33%	27%	22%	18%	14%	11%	8%	5%	4%	2%	2%

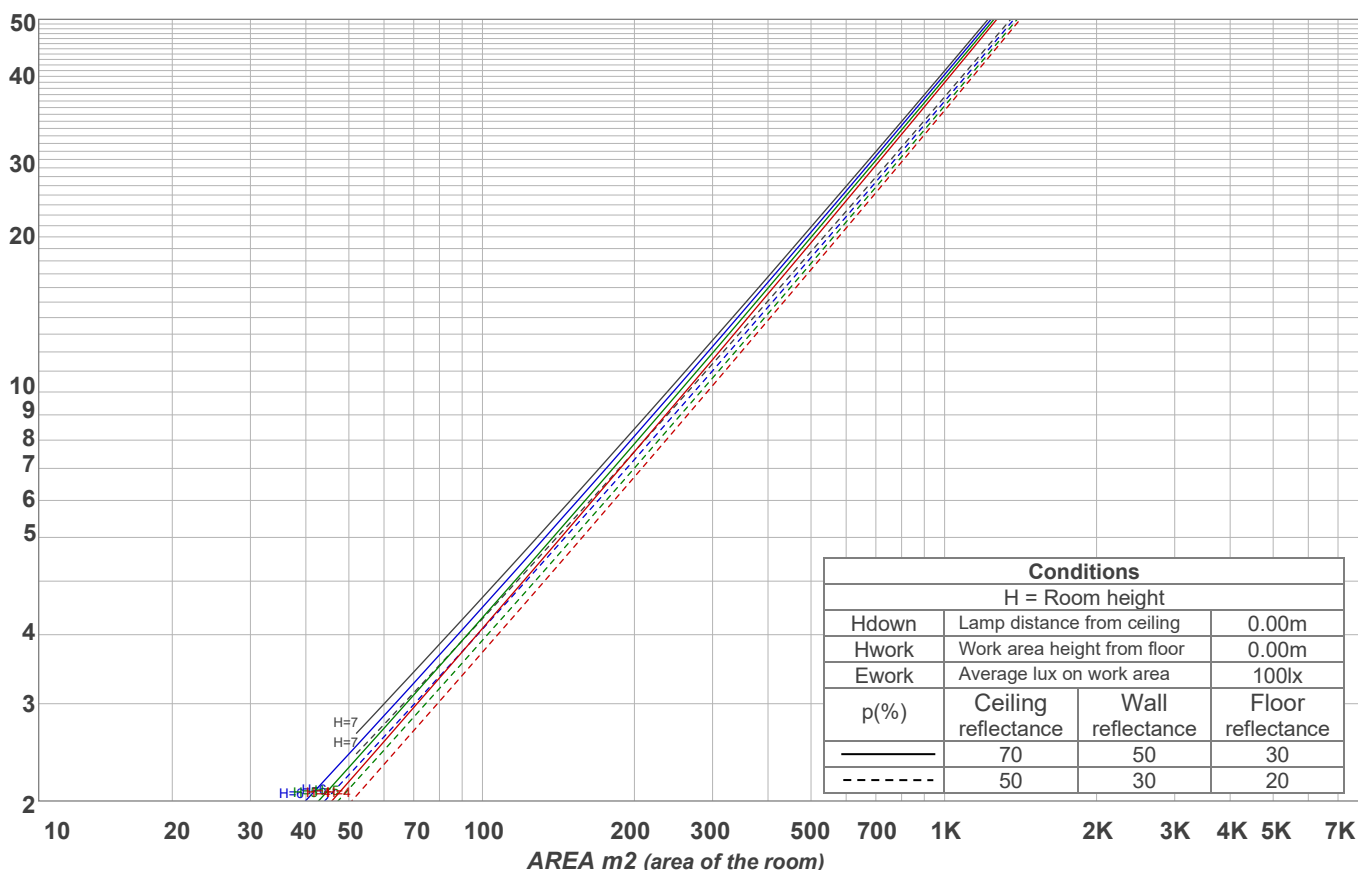
Intensities in 270° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
9541	9434	8954	8204	7251	6234	5235	4317	3532	2890	2379	1969	1610	1278	959	672	437	278	179	116
100%	99%	94%	86%	76%	65%	55%	45%	37%	30%	25%	21%	17%	13%	10%	7%	5%	3%	2%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
24.3°	56.7°	70.9°	100.0%	100.0%

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	115	112	110	109	112	110	108	107	106	105	104	103	102	101	99	98	98	96
2	111	107	103	101	108	105	102	100	102	99	97	99	97	95	96	95	93	92
3	107	101	98	94	105	100	97	94	98	95	92	95	93	91	93	91	90	88
4	103	97	93	89	101	96	92	89	94	90	88	92	89	87	90	88	86	85
5	99	93	88	85	98	92	88	85	90	87	84	89	86	83	87	85	82	81
6	96	89	84	81	95	88	84	81	87	83	80	86	82	80	84	82	79	78
7	93	85	81	78	91	85	81	77	84	80	77	83	79	77	82	79	76	75
8	90	82	78	75	89	82	77	74	81	77	74	80	76	74	79	76	74	73
9	87	79	75	72	86	79	75	72	78	74	71	77	74	71	77	73	71	70
10	84	77	72	69	83	76	72	69	76	72	69	75	71	69	74	71	69	68

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
742 lm	1125 lm	683 lm	189 lm	23.4 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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