

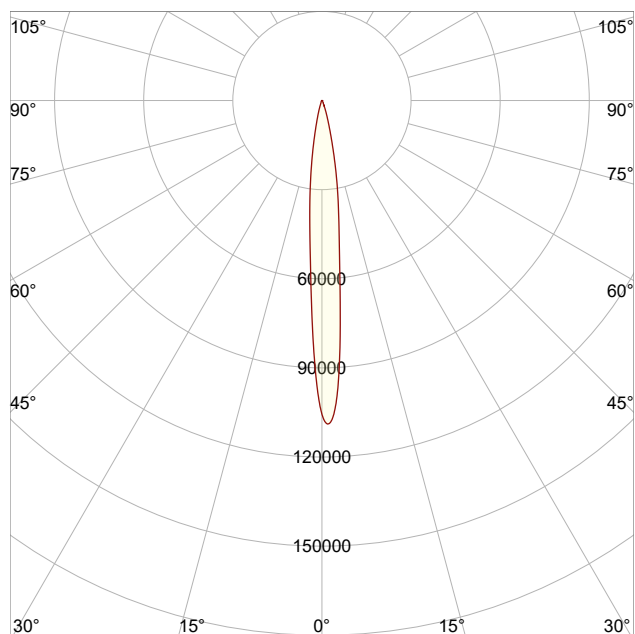
LM-79

Test Report

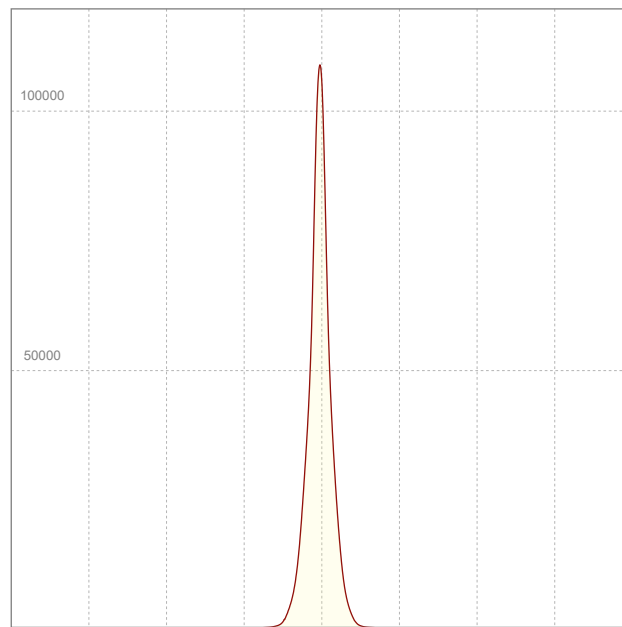
LM79-QUARTZ-3000K-CRI90-NARROW

General Discription

Item number	Q-X-X-3090-N
Date and time	5-1-2024 12:19:19
CCT (Kelvin)	3117 K
Beam angle	10,4°
Luminous flux	8095 lm
Efficiency	104 lm/watt
Weighted energy	77,6 kWh/1000h
Power factor	0,56
CRI (RA)	87,7
Fidelity index Rf	Rf 88,1
Gammut index Rg	Rg 99,0
Peak	108826 cd



Polar curve



Linear distribution diagram



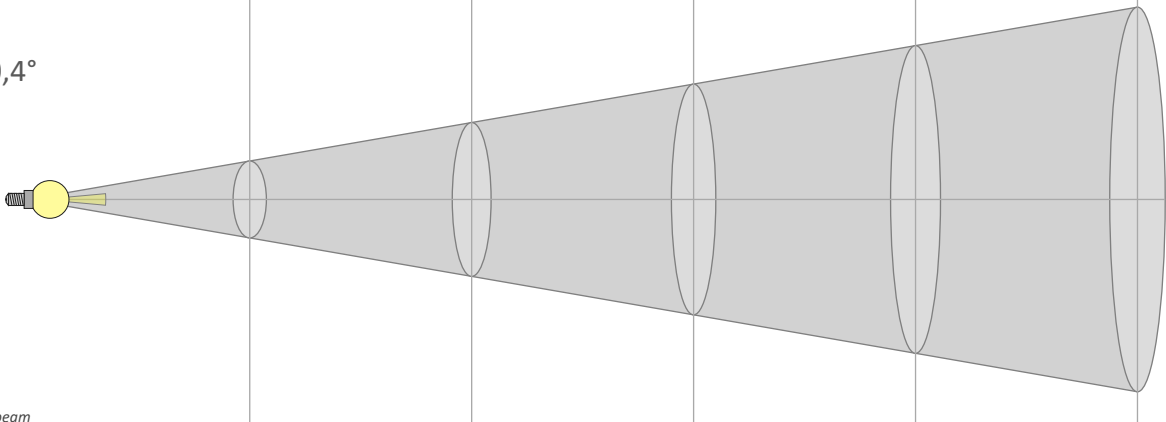
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Beam details					1m		2m		3m		4m		5m										
Lux*					105428 lx		26357 lx		11714 lx		6589 lx		4217 lx										
10,4° 																							
*measured at center of beam																							
Footcandles*					9794,5 fcd		2448,6 fcd		1088,3 fcd		612,2 fcd		391,8 fcd										
Beam width (meter)					0,2 m		0,4 m		0,5 m		0,7 m		0,9 m										
Beam width (Feet)					0,6 ft		1,2 ft		1,8 ft		2,4 ft		3 ft										
Beam intensities																							
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m				
105428 lx	26357 lx	11714 lx	6589 lx	4217 lx	2929 lx	2152 lx	1647 lx	1302 lx	1054 lx	871 lx	732 lx	624 lx	538 lx	469 lx	412 lx	365 lx	325 lx	292 lx	264 lx				
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				
9794,5 fcd	2448,6 fcd	1088,3 fcd	612,2 fcd	391,8 fcd	272,1 fcd	199,9 fcd	153 fcd	120,9 fcd	97,9 fcd	80,9 fcd	68 fcd	58 fcd	50 fcd	43,5 fcd	38,3 fcd	33,9 fcd	30,2 fcd	27,1 fcd	24,5 fcd				
Intensities in 0° c-plane																							
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°				
105K	109K	106K	99K	86K	71K	57K	48K	41K	35K	30K	25K	20K	16K	13K	10K	8K	6K	5K	4K				
100%	103%	101%	94%	81%	67%	54%	45%	39%	33%	28%	24%	19%	15%	12%	10%	8%	6%	5%	4%				
Intensities in 90° c-plane																							
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°				
105K	109K	106K	99K	86K	71K	57K	48K	41K	35K	30K	25K	20K	16K	13K	10K	8K	6K	5K	4K				
100%	103%	101%	94%	81%	67%	54%	45%	39%	33%	28%	24%	19%	15%	12%	10%	8%	6%	5%	4%				
Intensities in 180° c-plane																							
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°				
105K	96K	82K	68K	55K	46K	39K	33K	28K	23K	18K	14K	11K	9K	7K	5K	4K	3K	2K	2K				
100%	91%	78%	64%	52%	44%	37%	31%	26%	22%	17%	14%	11%	8%	6%	5%	4%	3%	2%	2%				
Intensities in 270° c-plane																							
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°				
105K	96K	82K	68K	55K	46K	39K	33K	28K	23K	18K	14K	11K	9K	7K	5K	4K	3K	2K	2K				
100%	91%	78%	64%	52%	44%	37%	31%	26%	22%	17%	14%	11%	8%	6%	5%	4%	3%	2%	2%				
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone			
10,4°					26,8°					38,3°					97,8%					94,9%			



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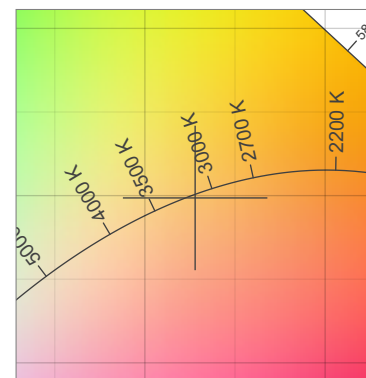
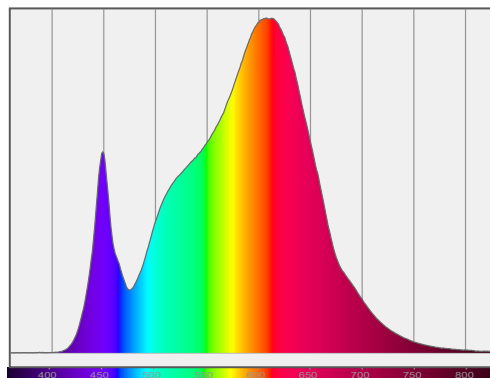
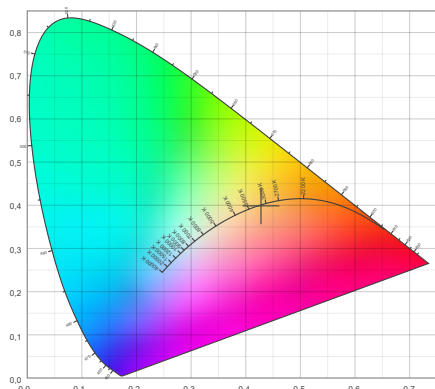
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Color details



CIE 1931

x: 0,428

3117 K

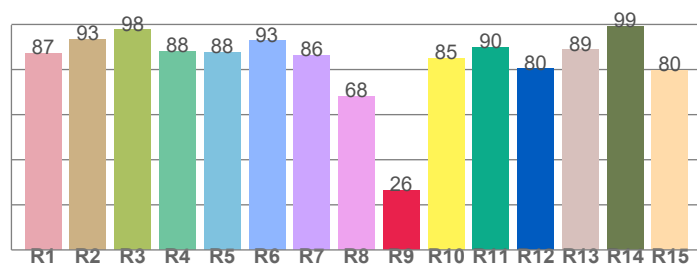
y: 0,399

Spectra

CIE 1931 ZOOM

Δuv : -0,0009

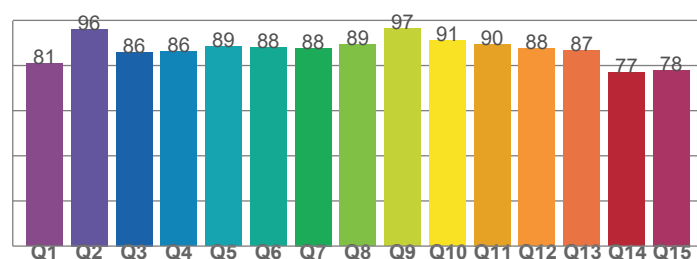
CRI: **87,7** (R1-R8)



CRI values, R1-R8 are used to calculate final CRI value

R1	R2	R3	R4	R5	R6	R7	R8
87,1	93,4	97,7	88,2	87,6	92,8	86,4	68,2
R9	R10	R11	R12	R13	R14	R15	
26,5	84,9	89,8	80,3	88,8	99,0	79,7	

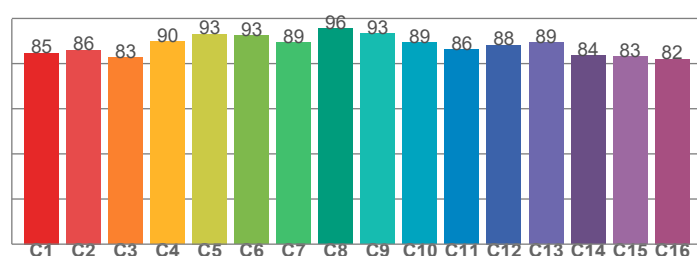
CQS: **86,1**



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
81,0	96,2	86,0	86,1	88,5	88,1	87,7	89,4
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,5	91,2	89,5	87,6	86,7	76,9	78,1	

TM30: **88,1**



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

C1	C2	C3	C4	C5	C6	C7	C8
84,8	86,0	82,6	89,9	93,1	92,5	89,2	95,7
C9	C10	C11	C12	C13	C14	C15	
93,4	89,3	86,3	88,2	89,3	83,6	83,0	

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
3117 K	87,7	26,5	88,1	99,0	86,1	0,428	0,399	0,247	0,345	-0,0009



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Test Report

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TM30 details

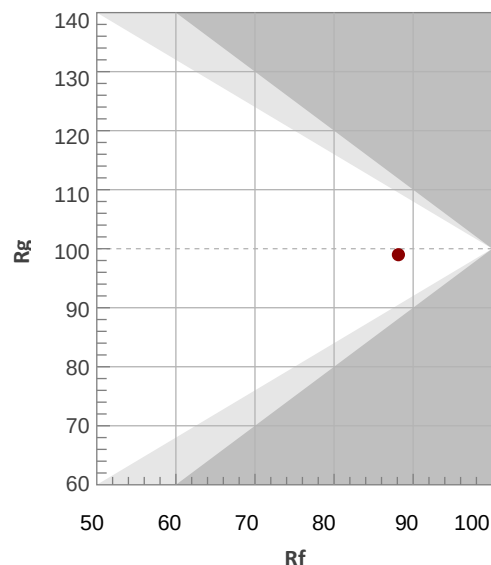
Rf 88,1

Fidelity index Rf

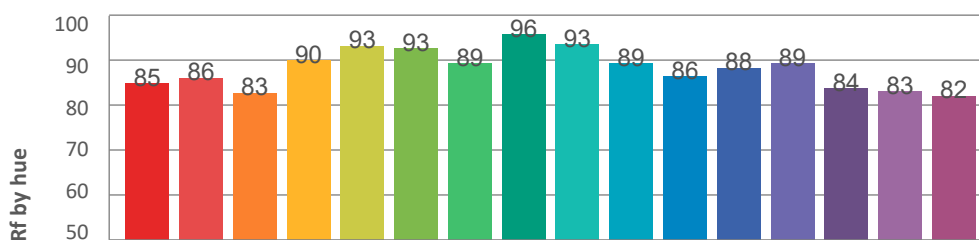
Rg 99,0

Gamut index Rg

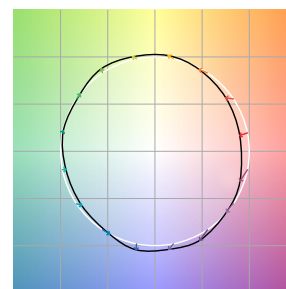
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	85	-9%	-1%
2	86	-6%	5%
3	83	-2%	9%
4	90	2%	6%
5	93	3%	4%
6	93	4%	-1%
7	89	0%	-6%
8	96	-1%	-2%
9	93	-4%	1%
10	89	-4%	5%
11	86	0%	9%
12	88	6%	1%
13	89	5%	-6%
14	84	5%	-13%
15	83	-1%	-11%
16	82	-5%	-13%



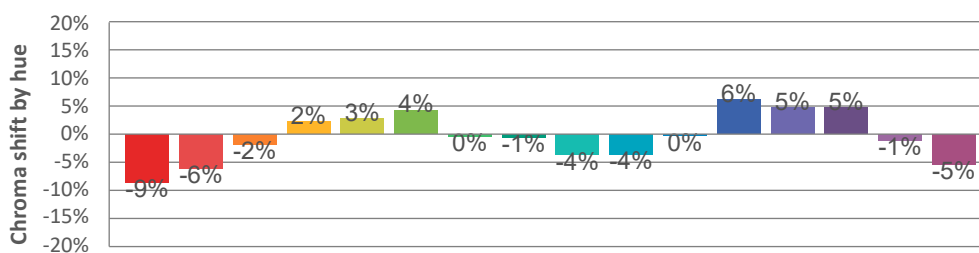
Hue binH



Color vector graphics



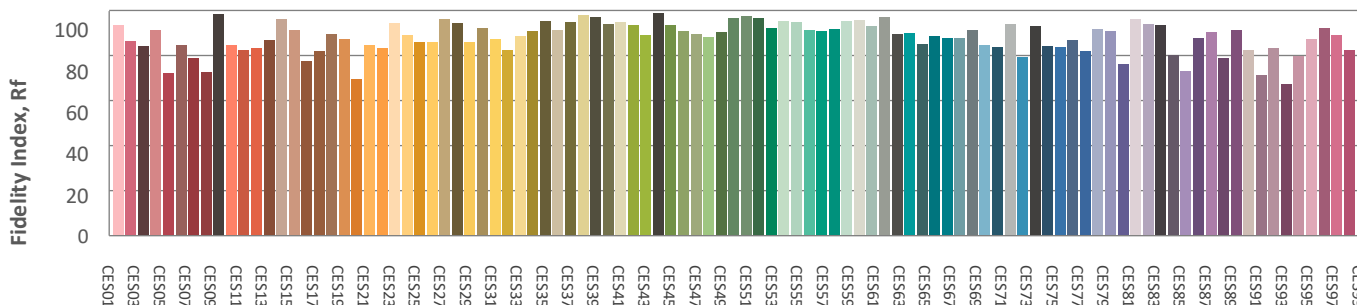
Hue bin



Color distortion graphics



Color Evaluation Sample



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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
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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
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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
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 8095lm total luminous flux										