

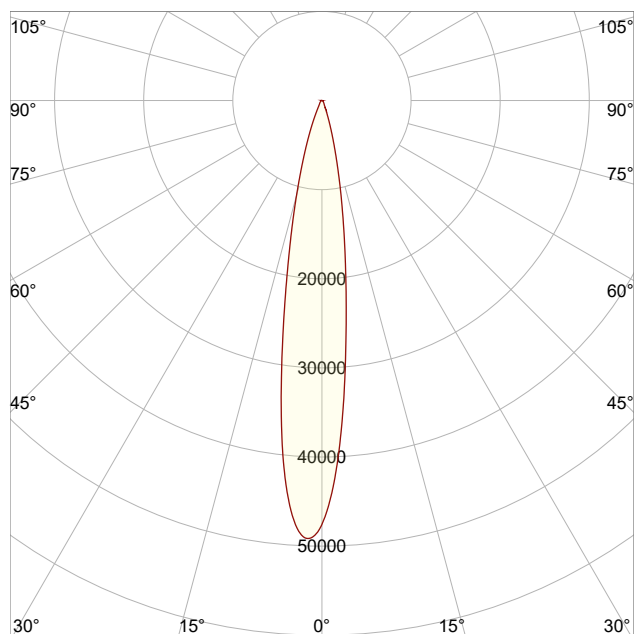
LM-79

Test Report

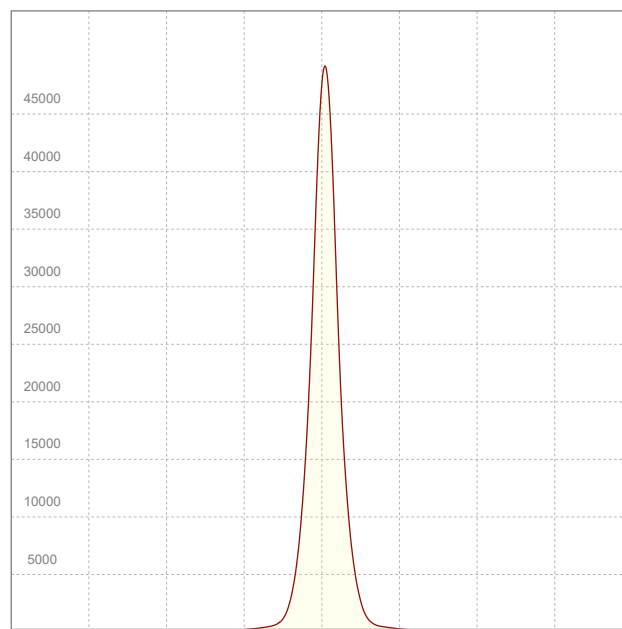
LM79-QUARTZ-2200K-CRI80-SPOT

General Discription

Item number	Q-BXX-2280-S
Date and time	5-1-2024 16:21:45
CCT (Kelvin)	2233 K
Beam angle	16,4°
Luminous flux	6685 lm
Efficiency	87 lm/watt
Weighted energy	77,1 kWh/1000h
Power factor	0,56
CRI (RA)	84,8
Fidelity index Rf	Rf 86,0
Gammut index Rg	Rg 99,5
Peak	49059 cd



Polar curve



Linear distribution diagram



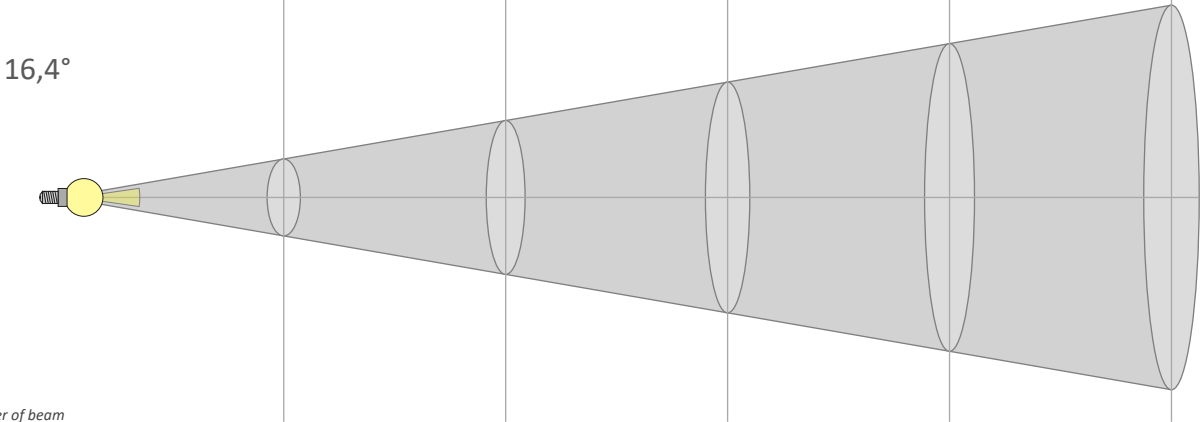
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Beam details	1m	2m	3m	4m	5m														
Lux*	47446 lx	11861 lx	5272 lx	2965 lx	1898 lx														
																			
*measured at center of beam																			
Footcandles*	4407,9 fcd	1102,0 fcd	489,8 fcd	275,5 fcd	176,3 fcd														
Beam width (meter)	0,3 m	0,6 m	0,9 m	1,2 m	1,4 m														
Beam width (Feet)	0,9 ft	1,9 ft	2,8 ft	3,8 ft	4,7 ft														
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
47446lx	11861lx	5272lx	2965lx	1898lx	1318lx	968lx	741lx	586lx	474lx	392lx	329lx	281lx	242lx	211lx	185lx	164lx	146lx	131lx	119lx
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
4407,9fcd	1102fcd	489,8fcd	275,5fcd	176,3fcd	122,4fcd	90fcd	68,9fcd	54,4fcd	44,1fcd	36,4fcd	30,6fcd	26,1fcd	22,5fcd	19,6fcd	17,2fcd	15,3fcd	13,6fcd	12,2fcd	11fcd
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°
47,4K	45,2K	42,2K	38,4K	34,3K	30,0K	25,9K	22,3K	19,1K	16,3K	13,8K	11,6K	9,7K	8,0K	6,6K	5,4K	4,4K	3,6K	2,9K	2,4K
100%	95%	89%	81%	72%	63%	55%	47%	40%	34%	29%	24%	20%	17%	14%	11%	9%	8%	6%	5%
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°
47,4K	45,2K	42,2K	38,4K	34,3K	30,0K	25,9K	22,3K	19,1K	16,3K	13,8K	11,6K	9,7K	8,0K	6,6K	5,4K	4,4K	3,6K	2,9K	2,4K
100%	95%	89%	81%	72%	63%	55%	47%	40%	34%	29%	24%	20%	17%	14%	11%	9%	8%	6%	5%
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°
47,4K	48,7K	49,1K	48,4K	46,7K	44,2K	41,0K	37,1K	32,8K	28,5K	24,5K	21,0K	17,9K	15,3K	13,0K	11,0K	9,2K	7,7K	6,5K	5,4K
100%	103%	103%	102%	99%	93%	86%	78%	69%	60%	52%	44%	38%	32%	27%	23%	19%	16%	14%	11%
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°
47,4K	48,7K	49,1K	48,4K	46,7K	44,2K	41,0K	37,1K	32,8K	28,5K	24,5K	21,0K	17,9K	15,3K	13,0K	11,0K	9,2K	7,7K	6,5K	5,4K
100%	103%	103%	102%	99%	93%	86%	78%	69%	60%	52%	44%	38%	32%	27%	23%	19%	16%	14%	11%
Beam angle 50%		Field angle 10%			Cutoff angle 2,5%			Intensity ratio in 120° cone				Intensity ratio in 90° cone							
16,4°		35°			48,6°			97,5%				94,1%							



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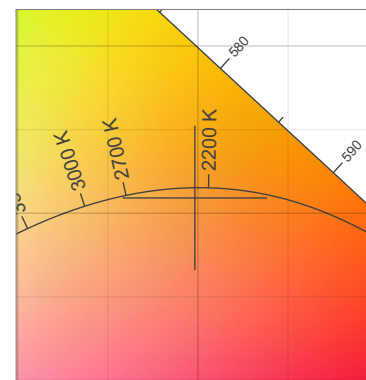
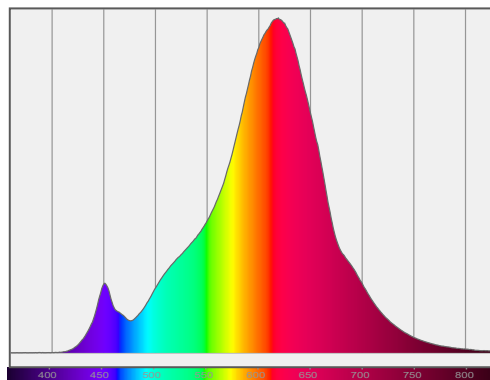
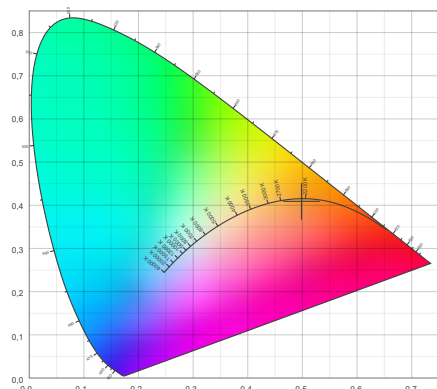
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Test Report

LM79-QUARTZ-2200K-CRI80-SPOT

Color details



CIE 1931

x: 0,498



Spectra

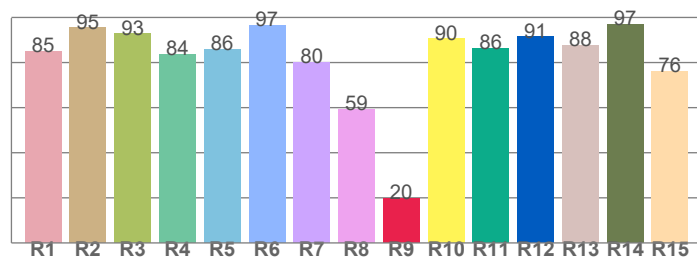
CIE 1931 ZOOM

2233 K

y: 0,409

Δuv : -0,0020

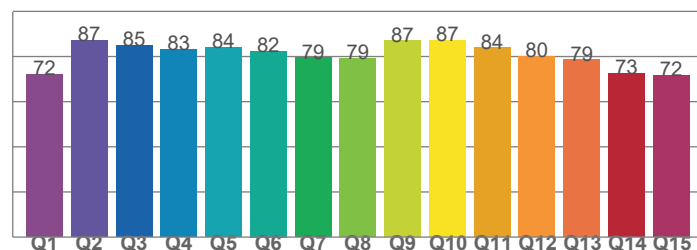
CRI: 84,8 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
85,0	95,4	92,8	83,8	86,0	96,5	80,0	59,3
R9	R10	R11	R12	R13	R14	R15	
19,7	90,5	86,3	91,4	87,8	97,1	76,1	

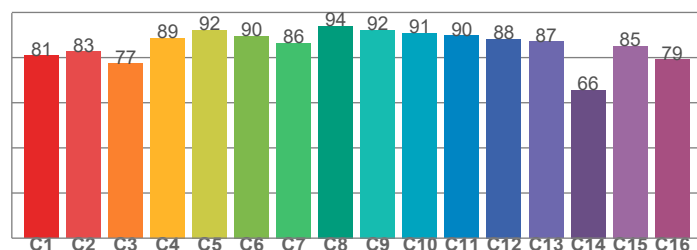
CQS: 79,8



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
72,2	87,1	84,9	83,1	84,0	82,5	79,5	79,1
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
86,9	87,1	83,8	80,0	78,5	72,6	71,8	

TM30: 86,0



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

C1	C2	C3	C4	C5	C6	C7	C8
80,8	82,7	77,4	88,7	92,3	89,5	86,5	94,0
C9	C10	C11	C12	C13	C14	C15	
92,2	90,9	89,7	88,3	87,0	65,7	85,1	

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
2233 K	84,8	19,7	86,0	99,5	79,8	0,498	0,409	0,288	0,355	-0,0020



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Test Report

LM79-QUARTZ-2200K-CRI80-SPOT

TM30 details

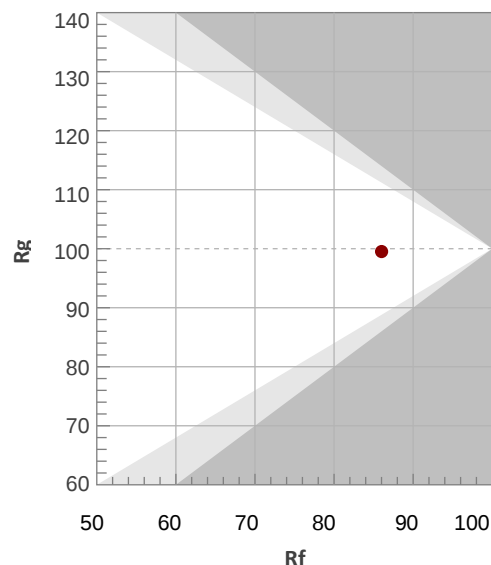
Rf 86,0

Fidelity index Rf

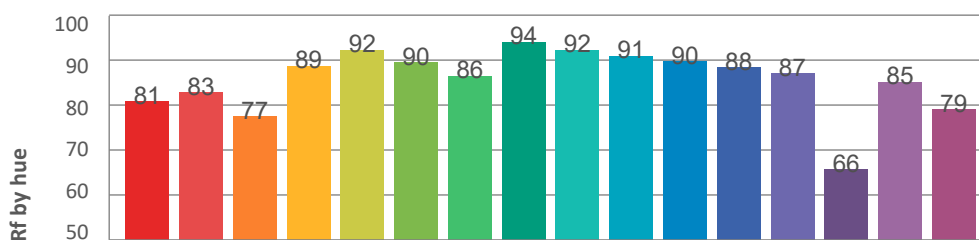
Rg 99,5

Gamut index Rg

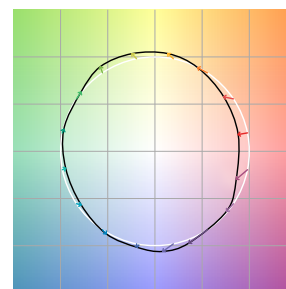
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	81	-10%	0%
2	83	-7%	7%
3	77	-1%	12%
4	89	4%	7%
5	92	6%	4%
6	90	7%	-2%
7	86	0%	-9%
8	94	-1%	-4%
9	92	-4%	-1%
10	91	-4%	4%
11	90	1%	6%
12	88	3%	2%
13	87	6%	-12%
14	66	1%	-24%
15	85	-2%	-11%
16	79	-10%	-12%



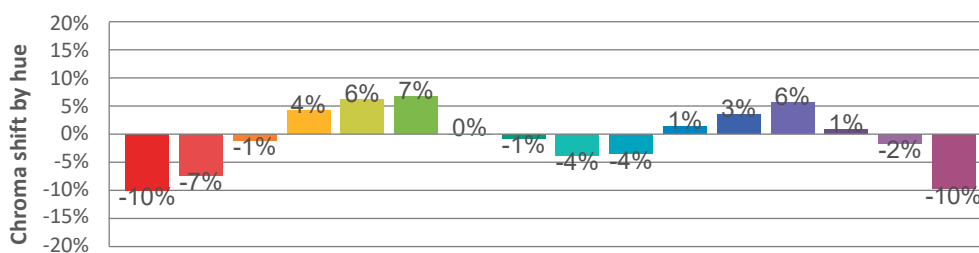
Hue binH



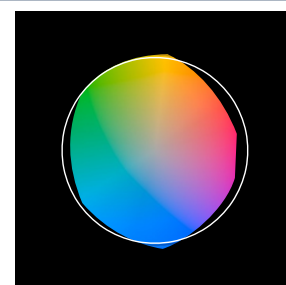
Color vector graphics



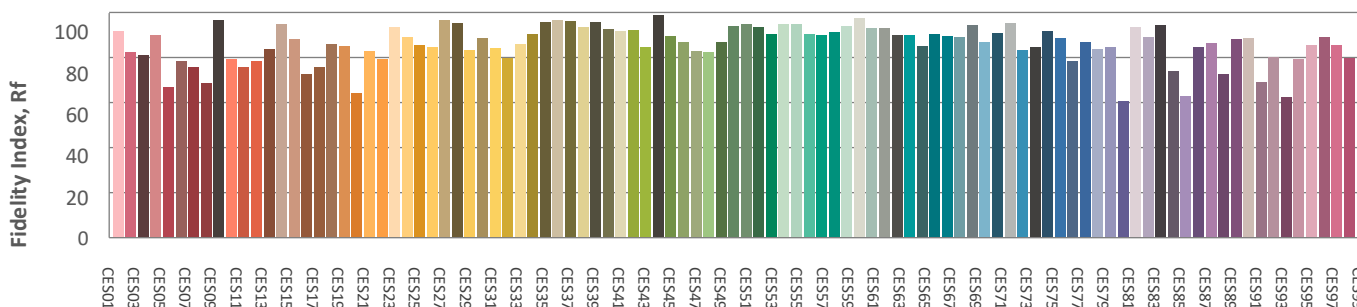
Hue bin



Color distortion graphics



Color Evaluation Sample



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