

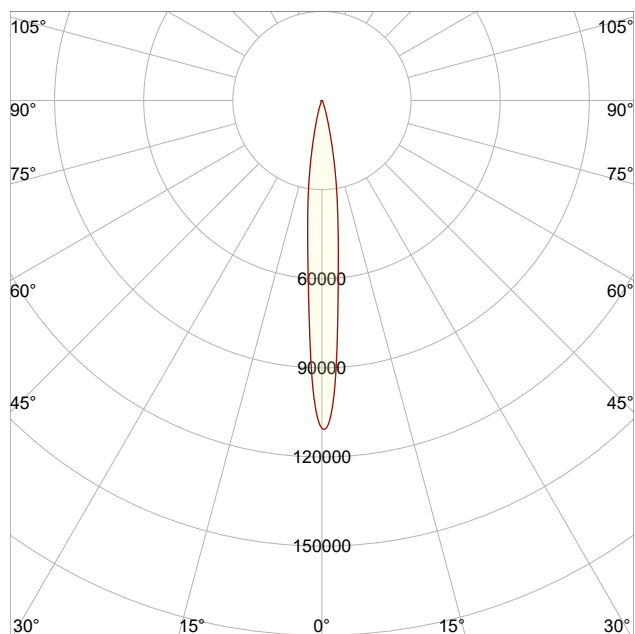
LM-79

Test Report

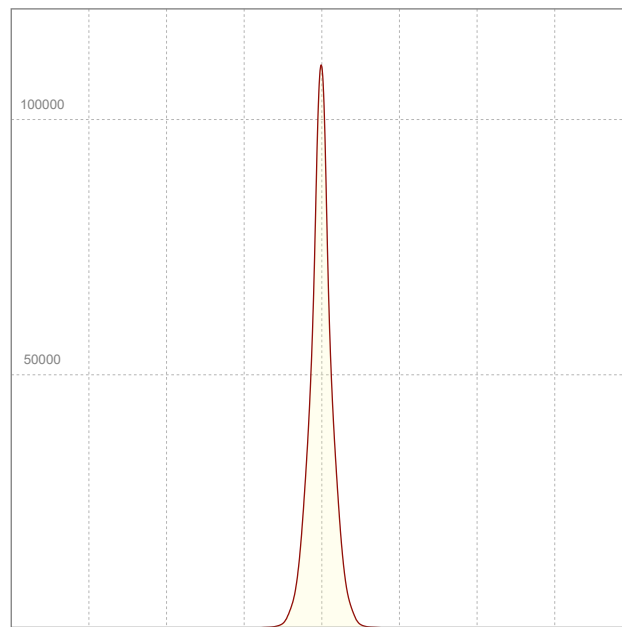
LM79-QUARTZ-4000K-CRI80-NARROW

General Discription

Item number	Q-BXX-4080-N
Date and time	5-1-2024 14:19:41
CCT (Kelvin)	4065 K
Beam angle	10,6°
Luminous flux	8350 lm
Efficiency	107 lm/watt
Weighted energy	77,8 kWh/1000h
Power factor	0,57
CRI (RA)	87,8
Fidelity index Rf	Rf 87,3
Gammut index Rg	Rg 99,6
Peak	110610 cd



Polar curve



Linear distribution diagram



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Beam details					1m		2m		3m		4m		5m										
Lux*					110118 lx		27530 lx		12235 lx		6882 lx		4405 lx										
10,6°																							
*measured at center of beam																							
Footcandles*					10230,3 fcd		2557,6 fcd		1136,7 fcd		639,4 fcd		409,2 fcd										
Beam width (meter)					0,2 m		0,4 m		0,6 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				
110118 lx	27530 lx	12235 lx	6882 lx	4405 lx	3059 lx	2247 lx	1721 lx	1359 lx	1101 lx	910 lx	765 lx	652 lx	562 lx	489 lx	430 lx	381 lx	340 lx	305 lx	275 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				
10230,3 fcd	2557,6 fcd	1136,7 fcd	639,4 fcd	409,2 fcd	284,2 fcd	208,8 fcd	159,8 fcd	126,3 fcd	102,3 fcd	84,5 fcd	71 fcd	60,5 fcd	52,2 fcd	45,5 fcd	40 fcd	35,4 fcd	31,6 fcd	28,3 fcd	25,6 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°				
110K	109K	103K	90K	76K	63K	53K	45K	38K	32K	27K	22K	18K	14K	11K	8K	7K	5K	4K	3K				
100%	99%	93%	82%	69%	57%	48%	41%	34%	29%	24%	20%	16%	13%	10%	8%	6%	5%	4%	3%				
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°				
110K	109K	103K	90K	76K	63K	53K	45K	38K	32K	27K	22K	18K	14K	11K	8K	7K	5K	4K	3K				
100%	99%	93%	82%	69%	57%	48%	41%	34%	29%	24%	20%	16%	13%	10%	8%	6%	5%	4%	3%				
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°				
110K	105K	94K	79K	65K	54K	46K	39K	33K	28K	23K	18K	15K	11K	9K	7K	6K	5K	4K	3K				
100%	95%	85%	71%	59%	49%	42%	36%	30%	25%	21%	17%	13%	10%	8%	6%	5%	4%	3%	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°				
110K	105K	94K	79K	65K	54K	46K	39K	33K	28K	23K	18K	15K	11K	9K	7K	6K	5K	4K	3K				
100%	95%	85%	71%	59%	49%	42%	36%	30%	25%	21%	17%	13%	10%	8%	6%	5%	4%	3%	2%				
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone			
10,6°					27,1°					38,7°					97,7%					94,6%			



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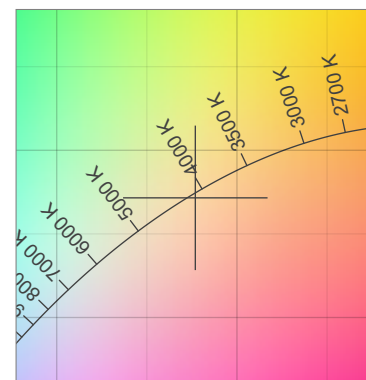
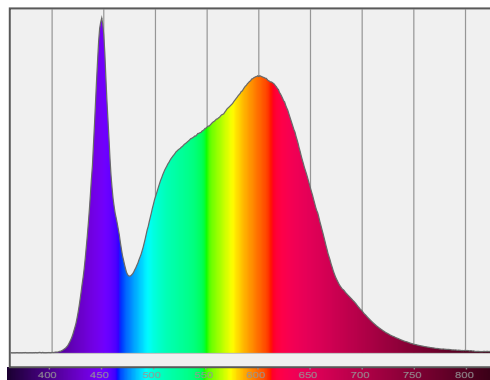
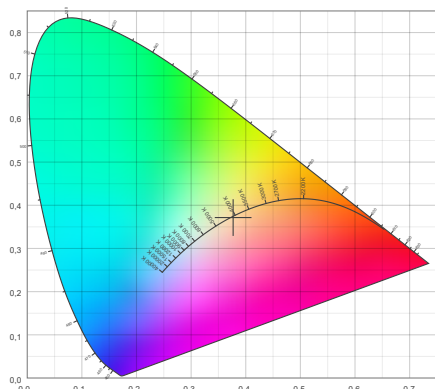
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Color details



CIE 1931

x: 0,377

4065 K

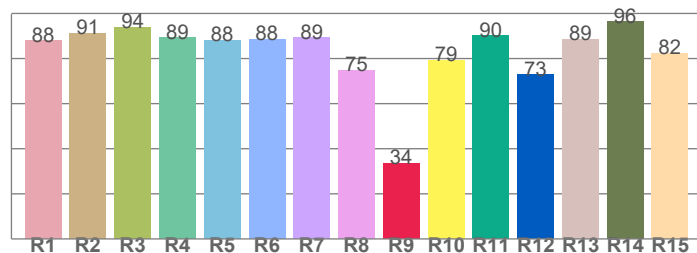
y: 0,372

Spectra

CIE 1931 ZOOM

 $\Delta uv: -0,0014$

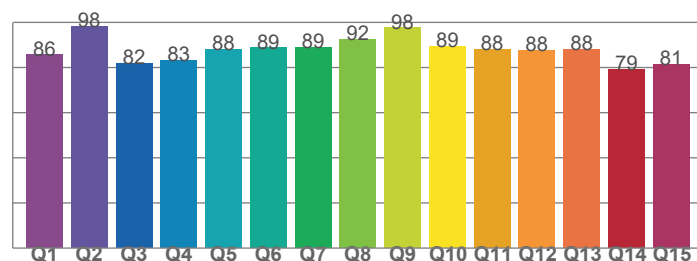
CRI: 87,8 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
87,9	91,3	93,7	89,2	88,0	88,4	89,2	74,9
R9	R10	R11	R12	R13	R14	R15	
33,5	79,3	90,1	72,8	88,7	96,3	82,4	

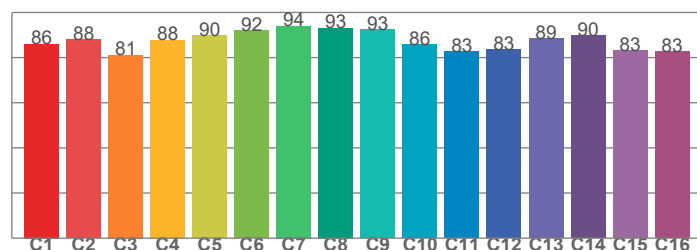
CQS: 86,8



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
85,7	98,4	81,9	83,1	88,1	88,7	88,9	92,3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,5	89,4	88,1	87,7	87,9	79,2	81,4	

TM30: 87,3



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

C1	C2	C3	C4	C5	C6	C7	C8
86,0	88,1	81,2	87,8	89,7	91,9	94,0	93,1
C9	C10	C11	C12	C13	C14	C15	
92,5	85,7	82,6	83,4	88,5	89,7	83,2	

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
4065 K	87,8	33,5	87,3	99,6	86,8	0,377	0,372	0,225	0,332	-0,0014



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Test Report

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TM30 details

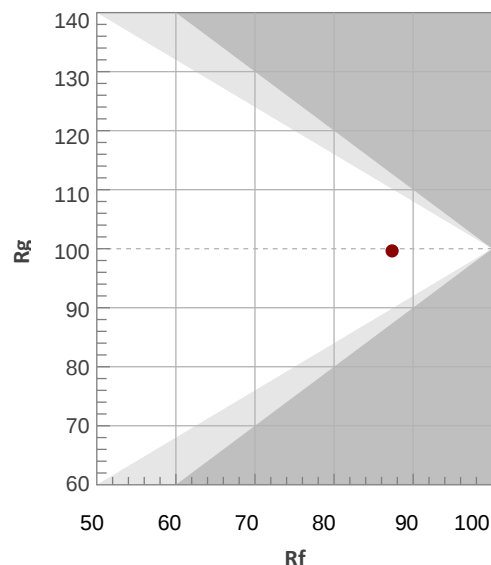
Rf 87,3

Fidelity index Rf

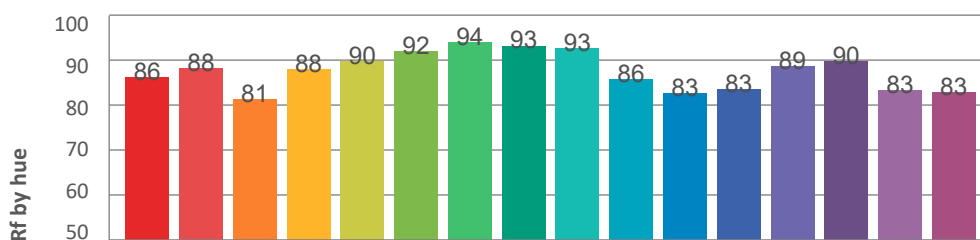
Rg 99,6

Gamut index Rg

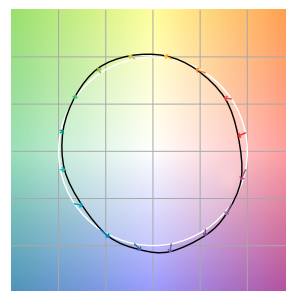
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	86	-8%	-2%
2	88	-5%	4%
3	81	-2%	10%
4	88	2%	7%
5	90	4%	5%
6	92	5%	0%
7	94	1%	-4%
8	93	-2%	-3%
9	93	-4%	1%
10	86	-6%	6%
11	83	1%	11%
12	83	5%	7%
13	89	8%	-3%
14	90	5%	-3%
15	83	1%	-13%
16	83	-3%	-11%



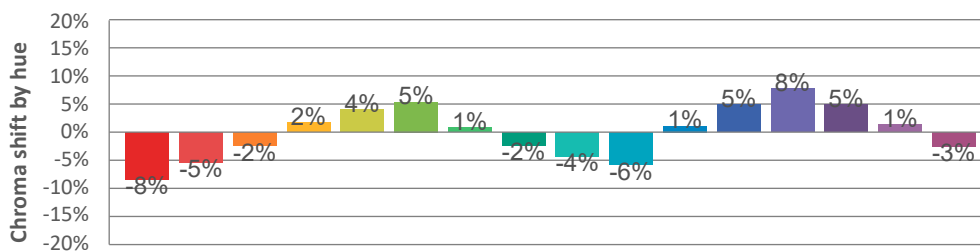
Hue binH



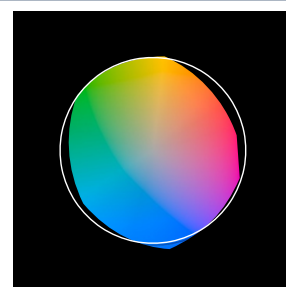
Color vector graphics



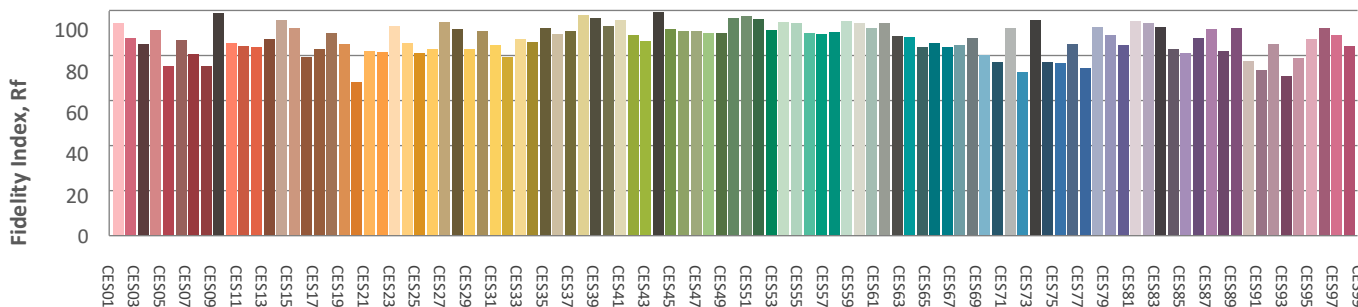
Hue bin



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
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	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 8350lm total luminous flux										