

LM-79

Test Report

LM79-RUBY-BRACKET-8-2700K-CRI80-SPOT-1210

General Discription

Item number	RU-38-X-X-01-1-X
Date and time	21-11-2016 10:36:57
CCT (Kelvin)	2711 K
Beam angle	16,5°
Luminous flux	5411 lm
Efficiency	95 lm/watt
Weighted energy	57,2 kWh/1000h
Power factor	0,98
CRI (RA)	81,2
Fidelity index Rf	Rf 82,1
Gammut index Rg	Rg 96,2
Peak	25633 cd



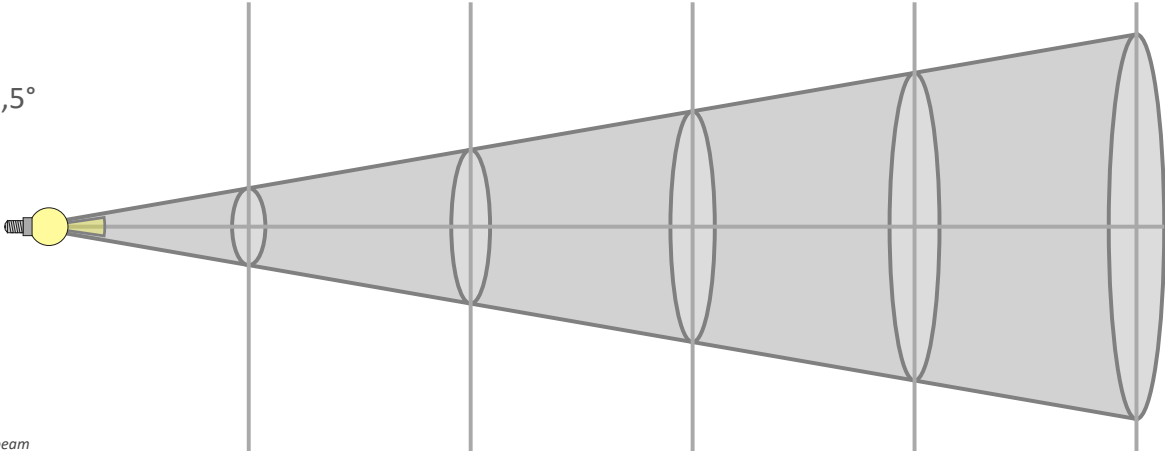
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Beam details					1m		2m		3m		4m		5m						
Lux*					25198 lx		6299 lx		2800 lx		1575 lx		1008 lx						
16,5° 																			
*measured at center of beam																			
Footcandles*					2341,0 fcd		585,2 fcd		260,1 fcd		146,3 fcd		93,6 fcd						
Beam width (meter)					0,3 m		0,6 m		0,9 m		1,2 m		1,5 m						
Beam width (Feet)					1 ft		1,9 ft		2,9 ft		3,8 ft		4,8 ft						
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
25198lx	6299lx	2800lx	1575lx	1008lx	700lx	514lx	394lx	311lx	252lx	208lx	175lx	149lx	129lx	112lx	98lx	87lx	78lx	70lx	63lx
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
2341fcd	585,2fcd	260,1fcd	146,3fcd	93,6fcd	65fcd	47,8fcd	36,6fcd	28,9fcd	23,4fcd	19,3fcd	16,3fcd	13,9fcd	11,9fcd	10,4fcd	9,1fcd	8,1fcd	7,2fcd	6,5fcd	5,9fcd
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°
25,2K	25,6K	21,9K	17,2K	13,0K	9,8K	6,6K	5,3K	4,2K	3,4K	3,0K	2,6K	2,4K	2,3K	2,2K	2,1K	2,0K	1,9K	1,8K	1,5K
100%	102%	87%	68%	52%	39%	26%	21%	17%	14%	12%	10%	10%	9%	9%	8%	8%	7%	7%	6%
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°
25,2K	24,8K	21,9K	17,8K	13,3K	9,1K	7,1K	5,2K	4,1K	3,5K	2,9K	2,7K	2,4K	2,3K	2,1K	2,0K	2,0K	1,9K	1,7K	1,5K
100%	98%	87%	71%	53%	36%	28%	21%	16%	14%	12%	11%	10%	9%	9%	8%	8%	8%	7%	6%
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°
25,2K	25,6K	21,9K	17,2K	13,0K	9,8K	6,6K	5,3K	4,2K	3,4K	3,0K	2,6K	2,4K	2,3K	2,2K	2,1K	2,0K	1,9K	1,8K	1,5K
100%	102%	87%	68%	52%	39%	26%	21%	17%	14%	12%	10%	10%	9%	9%	8%	8%	7%	7%	6%
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°
25,2K	24,8K	21,9K	17,8K	13,3K	9,1K	7,1K	5,2K	4,1K	3,5K	2,9K	2,7K	2,4K	2,3K	2,1K	2,0K	2,0K	1,9K	1,7K	1,5K
100%	98%	87%	71%	53%	36%	28%	21%	16%	14%	12%	11%	10%	9%	9%	8%	8%	8%	7%	6%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
16,5°				46,1°				85,5°				99,3%				97,7%			



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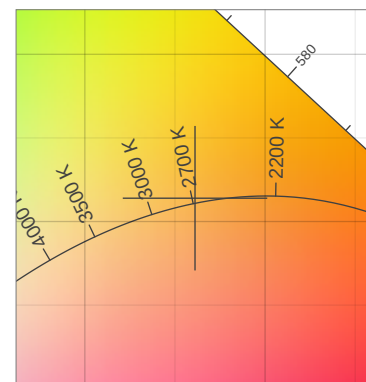
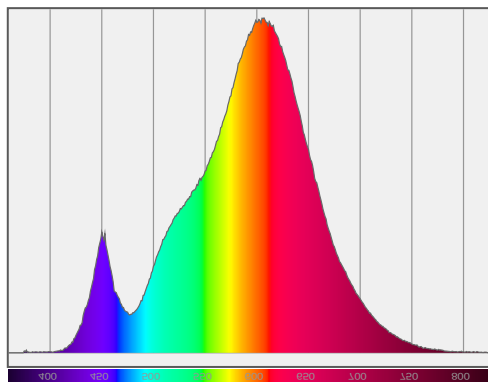
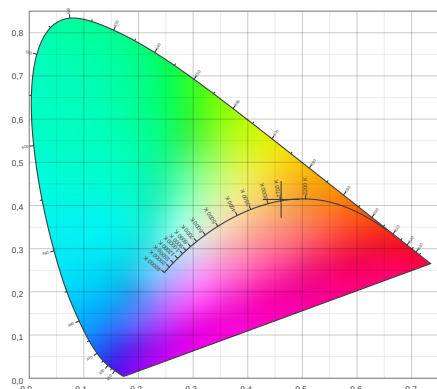
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Color details



CIE 1931

x: 0,461



Spectra

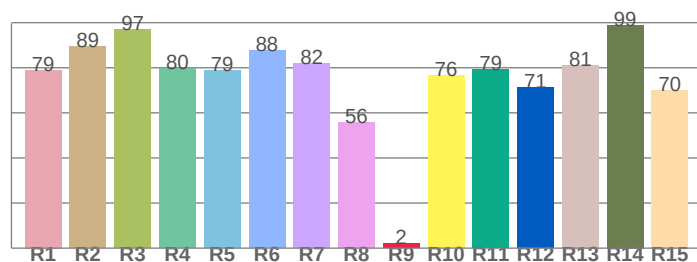
CIE 1931 ZOOM

2711 K

y: 0,414

Δuv : 0,0011

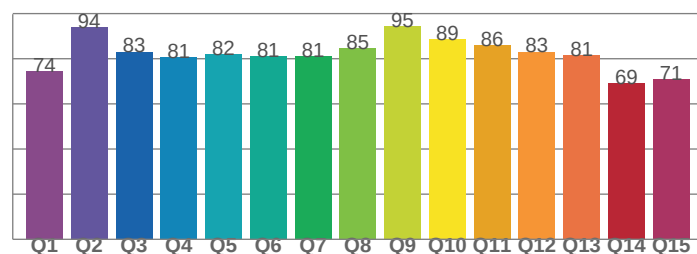
CRI: 81,2 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
79,0	89,4	97,1	79,6	78,9	87,8	81,9	55,9
R9	R10	R11	R12	R13	R14	R15	
2,0	76,4	79,1	71,1	81,3	98,9	70,2	

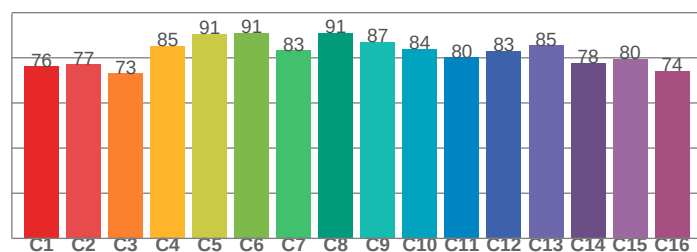
CQS: 80,8



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
74,5	94,0	83,1	80,5	81,9	81,1	81,2	84,6
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,6	88,7	86,0	83,1	81,4	68,9	70,7	

TM30: 82,1



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

C1	C2	C3	C4	C5	C6	C7	C8
76,2	77,1	73,0	85,3	90,6	91,0	83,3	91,0
C9	C10	C11	C12	C13	C14	C15	
87,0	84,0	80,2	83,0	85,4	77,7	79,5	

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
2711 K	81,2	2,0	82,1	96,2	80,8	0,461	0,414	0,262	0,353	0,0011



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TM30 details

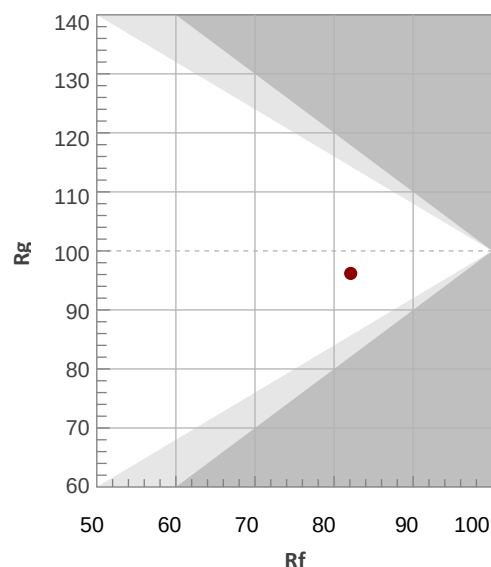
Rf 82,1

Fidelity index Rf

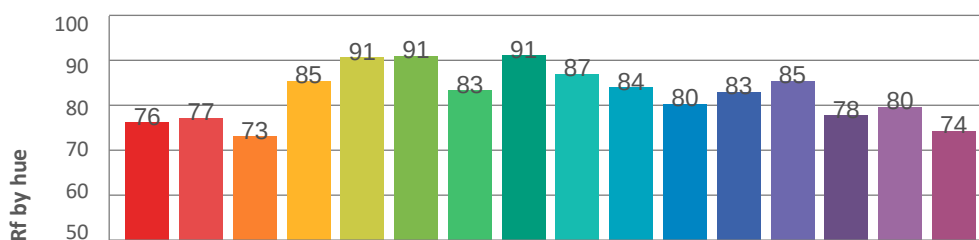
Rg 96,2

Gamut index Rg

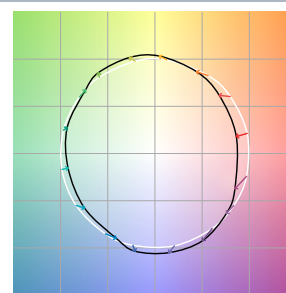
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	76	-12%	-1%
2	77	-9%	8%
3	73	-3%	12%
4	85	2%	8%
5	91	5%	5%
6	91	5%	-2%
7	83	-1%	-10%
8	91	-3%	-3%
9	87	-7%	0%
10	84	-6%	7%
11	80	-2%	12%
12	83	6%	3%
13	85	6%	-7%
14	78	5%	-15%
15	80	-2%	-11%
16	74	-9%	-15%



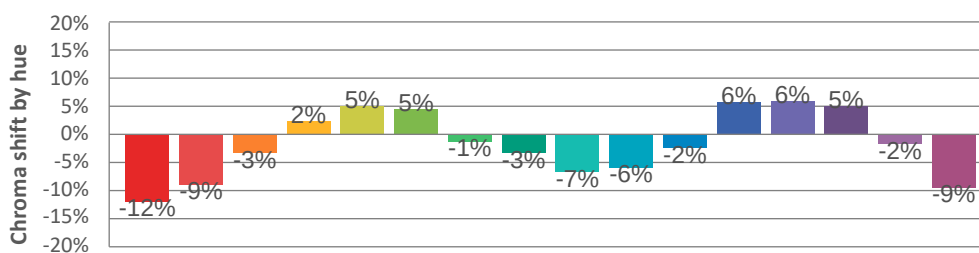
Hue binH



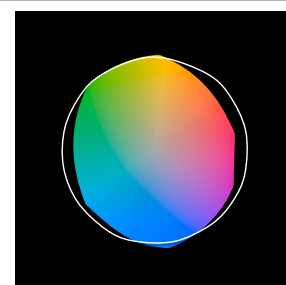
Color vector graphics



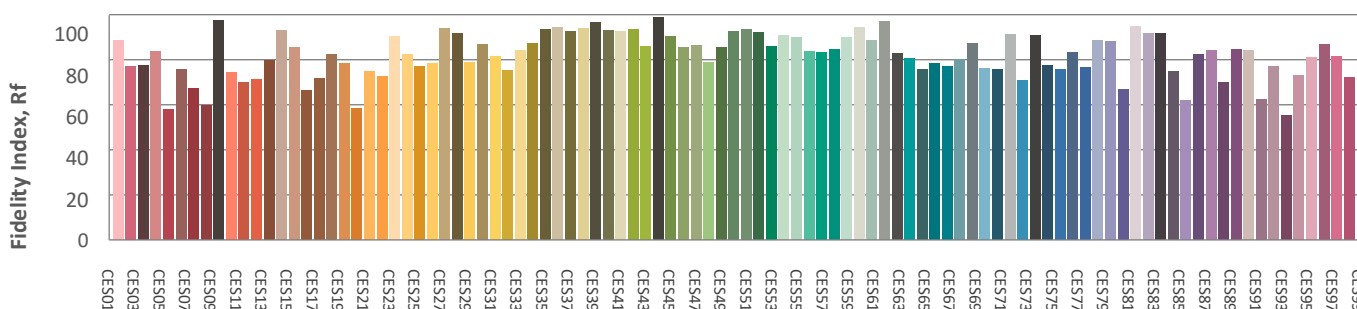
Hue bin



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				
2H	2H	22,3	23,0	22,5	23,2	23,4	22,3	23,0	22,5	23,2	23,4
	3H	22,1	22,8	22,4	23,0	23,2	22,1	22,8	22,4	23,0	23,2
	4H	22,1	22,6	22,4	22,9	23,2	22,1	22,6	22,4	22,9	23,2
	6H	22,0	22,5	22,3	22,8	23,1	22,0	22,5	22,3	22,8	23,1
	8H	21,9	22,5	22,3	22,8	23,1	21,9	22,5	22,3	22,8	23,1
	12H	21,9	22,4	22,3	22,7	23,0	21,9	22,4	22,3	22,7	23,0
4H	2H	22,1	22,6	22,4	22,9	23,2	22,1	22,6	22,4	22,9	23,2
	3H	21,9	22,4	22,3	22,7	23,0	21,9	22,4	22,3	22,7	23,0
	4H	21,8	22,3	22,2	22,6	22,9	21,8	22,3	22,2	22,6	22,9
	6H	21,8	22,1	22,2	22,5	22,9	21,8	22,1	22,2	22,5	22,9
	8H	21,7	22,0	22,1	22,4	22,8	21,7	22,0	22,1	22,4	22,8
	12H	21,7	22,0	22,1	22,4	22,8	21,7	22,0	22,1	22,4	22,8
8H	4H	21,7	22,0	22,1	22,4	22,8	21,7	22,0	22,1	22,4	22,8
	6H	21,6	21,9	22,1	22,3	22,8	21,6	21,9	22,1	22,3	22,8
	8H	21,6	21,8	22,1	22,2	22,7	21,6	21,8	22,1	22,2	22,7
	12H	21,5	21,7	22,0	22,2	22,7	21,5	21,7	22,0	22,2	22,7
12H	4H	21,7	21,9	22,1	22,4	22,8	21,7	21,9	22,1	22,4	22,8
	6H	21,6	21,8	22,1	22,2	22,7	21,6	21,8	22,1	22,2	22,7
	8H	21,5	21,7	22,0	22,2	22,7	21,5	21,7	22,0	22,2	22,7
Variation of the observer position for the luminaire distance S											
S = 1,0H		+3,9 / -16,2					+3,9 / -16,2				
S = 1,5H		+6,4 / -18,3					+6,4 / -18,3				
S = 2,0H		+8,4 / -19,4					+8,4 / -19,4				
Standard table		BK00					BK00				
Correction summand		3,6					3,6				
Corrected glare indices referring to 5411lm total luminous flux											



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