

# LM-79

## Test Report

LM79-RUBY-BRACKET-6-2700K-CRI80-MEDIUM

### General Description

Item number	RU-36-X-X-01-2-X
Date and time	18-11-2016 14:20:19
CCT (Kelvin)	2667 K
Beam angle	49,5°
Luminous flux	2621 lm
Efficiency	91 lm/watt
Weighted energy	28,7 kWh/1000h
Power factor	0,99
CRI (RA)	81,9
Fidelity index Rf	Rf 82,1
Gammut index Rg	Rg 97,1
Peak	3394 cd



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Beam details	1m	2m	3m	4m	5m																			
<b>Lux*</b>	3394 lx	849 lx	377 lx	212 lx	136 lx																			
<i>*measured at center of beam</i>																								
<b>Footcandles*</b>	315,3 fcd	78,8 fcd	35,0 fcd	19,7 fcd	12,6 fcd																			
<b>Beam width (meter)</b>	0,9 m	1,8 m	2,8 m	3,7 m	4,6 m																			
<b>Beam width (Feet)</b>	3 ft	6,1 ft	9,1 ft	12,1 ft	15,1 ft																			
<b>Beam intensities</b>																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
3394lx	849lx	377lx	212lx	136lx	94lx	69lx	53lx	42lx	34lx	28lx	24lx	20lx	17lx	15lx	13lx	12lx	10lx	9lx	8lx					
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					
315,3fcd	78,8fcd	35fcd	19,7fcd	12,6fcd	8,8fcd	6,4fcd	4,9fcd	3,9fcd	3,2fcd	2,6fcd	2,2fcd	1,9fcd	1,6fcd	1,4fcd	1,2fcd	1,1fcd	1fcd	0,9fcd	0,8fcd					
<b>Intensities in 0° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3394	3394	3391	3386	3353	3268	3184	2964	2737	2489	2223	1964	1770	1576	1423	1290	1152	998	845	652					
100%	100%	100%	100%	99%	96%	94%	87%	81%	73%	66%	58%	52%	46%	42%	38%	34%	29%	25%	19%					
<b>Intensities in 90° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3394	3394	3391	3386	3353	3268	3184	2964	2737	2489	2223	1964	1770	1576	1423	1290	1152	998	845	652					
100%	100%	100%	100%	99%	96%	94%	87%	81%	73%	66%	58%	52%	46%	42%	38%	34%	29%	25%	19%					
<b>Intensities in 180° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3394	3394	3391	3386	3353	3268	3184	2964	2737	2489	2223	1964	1770	1576	1423	1290	1152	998	845	652					
100%	100%	100%	100%	99%	96%	94%	87%	81%	73%	66%	58%	52%	46%	42%	38%	34%	29%	25%	19%					
<b>Intensities in 270° c-plane</b>																								
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°					
3394	3394	3391	3386	3353	3268	3184	2964	2737	2489	2223	1964	1770	1576	1423	1290	1152	998	845	652					
100%	100%	100%	100%	99%	96%	94%	87%	81%	73%	66%	58%	52%	46%	42%	38%	34%	29%	25%	19%					
<b>Beam angle 50%</b>					<b>Field angle 10%</b>					<b>Cutoff angle 2,5%</b>					<b>Intensity ratio in 120° cone</b>					<b>Intensity ratio in 90° cone</b>				
49,5°					82,2°					96,2°					99,1%					96,7%				



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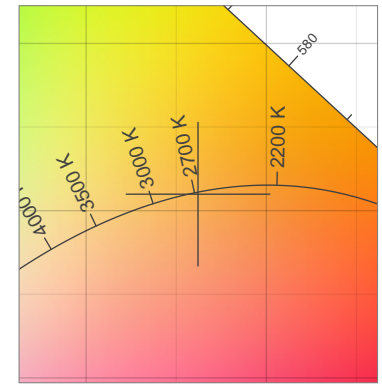
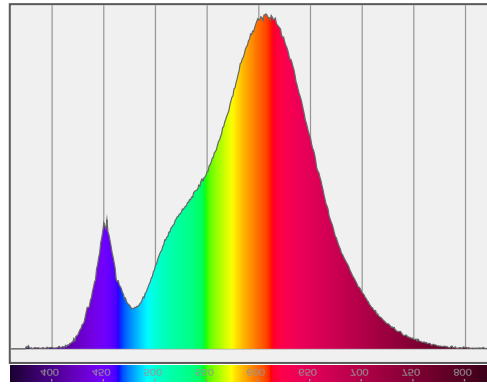
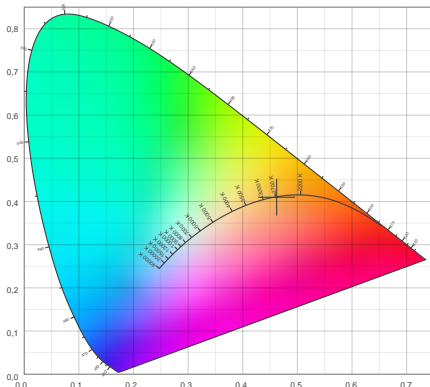
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### Color details



CIE 1931

x: 0,462



Spectra

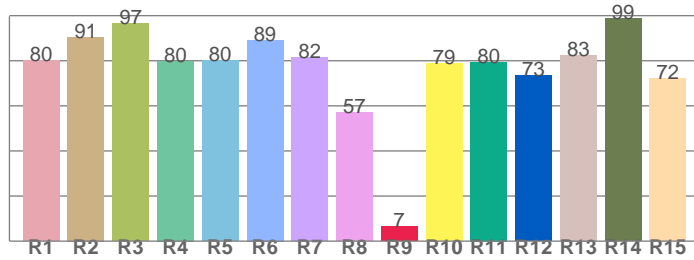
CIE 1931 ZOOM

2667 K

y: 0,410

$\Delta uv$ : 0,0005

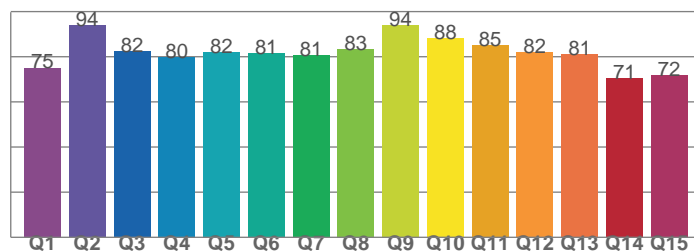
CRI: 81,9 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
80,2	90,6	96,5	79,9	80,1	89,3	81,6	57,1
R9	R10	R11	R12	R13	R14	R15	
6,6	78,9	79,5	73,5	82,6	98,8	72,0	

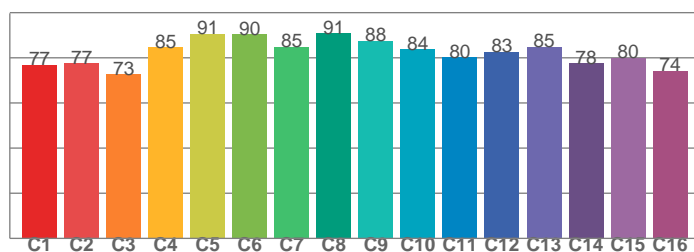
CQS: 80,8



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
75,1	93,8	82,4	79,9	82,1	81,5	80,6	83,3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,1	88,2	85,1	82,1	81,2	70,5	71,8	

TM30: 82,1



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

C1	C2	C3	C4	C5	C6	C7	C8
77,0	77,5	72,7	84,6	90,6	90,3	84,9	90,7
C9	C10	C11	C12	C13	C14	C15	
87,5	83,7	80,1	82,6	84,9	77,5	80,0	

### 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	$\Delta uv$
2667 K	81,9	6,6	82,1	97,1	80,8	0,462	0,410	0,264	0,352	0,0005



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### TM30 details

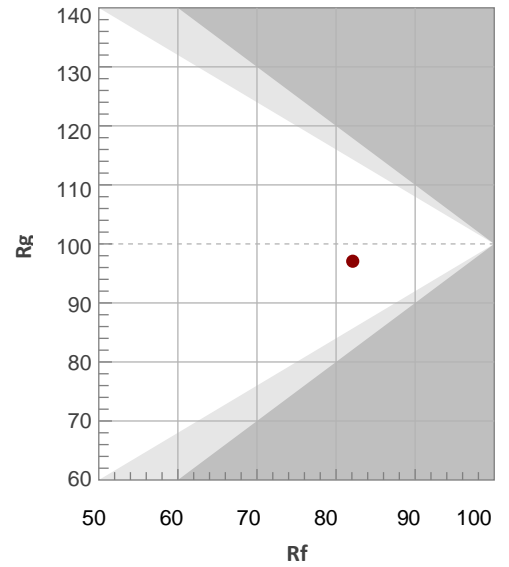
Rf 82,1

### Fidelity index Rf

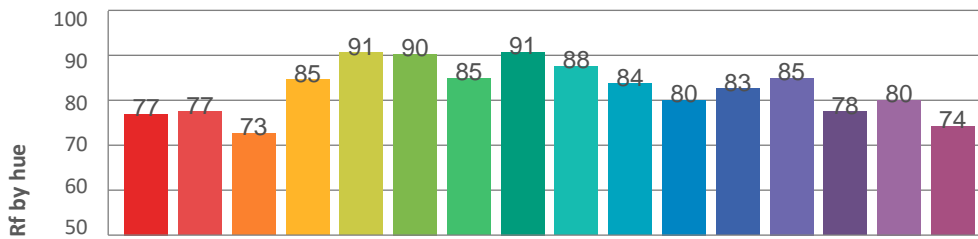
Rg 97,1

### Gamut index Rg

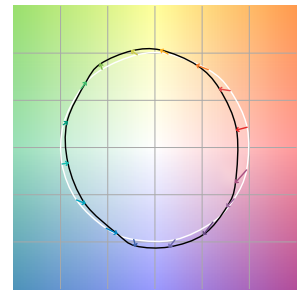
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	77	-12%	-1%
2	77	-9%	8%
3	73	-3%	13%
4	85	3%	8%
5	91	5%	5%
6	90	6%	-1%
7	85	0%	-8%
8	91	-3%	-4%
9	88	-6%	0%
10	84	-5%	8%
11	80	-2%	12%
12	83	6%	3%
13	85	6%	-8%
14	78	5%	-15%
15	80	-2%	-11%
16	74	-9%	-15%



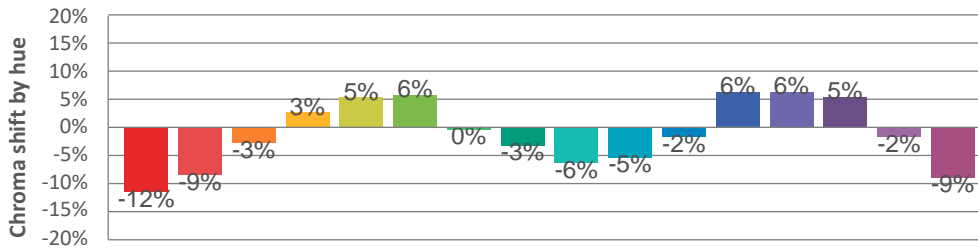
### Hue binH



### Color vector graphics



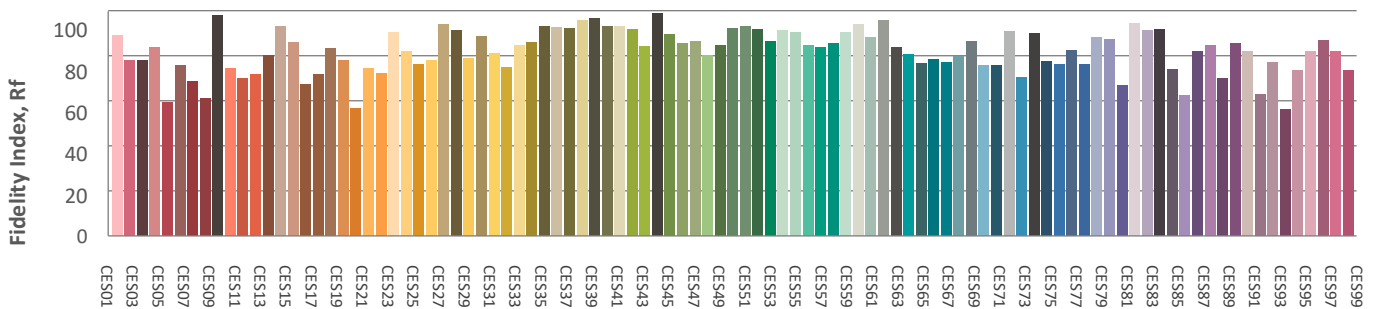
### Hue bin



### 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	19,9	20,6	20,2	20,8	21,0	19,9	20,6	20,2	20,8	21,0
	3H	19,8	20,4	20,1	20,7	20,9	19,8	20,4	20,1	20,7	20,9
	4H	19,7	20,3	20,0	20,6	20,8	19,7	20,3	20,0	20,6	20,8
	6H	19,7	20,2	20,0	20,5	20,8	19,7	20,2	20,0	20,5	20,8
	8H	19,6	20,1	20,0	20,4	20,7	19,6	20,1	20,0	20,4	20,7
	12H	19,6	20,1	19,9	20,4	20,7	19,6	20,1	19,9	20,4	20,7
4H	2H	19,7	20,3	20,0	20,6	20,8	19,7	20,3	20,0	20,6	20,8
	3H	19,6	20,1	19,9	20,4	20,7	19,6	20,1	19,9	20,4	20,7
	4H	19,5	19,9	19,9	20,3	20,6	19,5	19,9	19,9	20,3	20,6
	6H	19,4	19,8	19,8	20,2	20,6	19,4	19,8	19,8	20,2	20,6
	8H	19,4	19,7	19,8	20,1	20,5	19,4	19,7	19,8	20,1	20,5
	12H	19,4	19,6	19,8	20,0	20,5	19,4	19,6	19,8	20,0	20,5
8H	4H	19,4	19,7	19,8	20,1	20,5	19,4	19,7	19,8	20,1	20,5
	6H	19,3	19,5	19,8	20,0	20,4	19,3	19,5	19,8	20,0	20,4
	8H	19,3	19,5	19,7	19,9	20,4	19,3	19,5	19,7	19,9	20,4
	12H	19,2	19,4	19,7	19,9	20,4	19,2	19,4	19,7	19,9	20,4
12H	4H	19,4	19,6	19,8	20,0	20,5	19,4	19,6	19,8	20,0	20,5
	6H	19,3	19,5	19,7	19,9	20,4	19,3	19,5	19,7	19,9	20,4
	8H	19,2	19,4	19,7	19,8	20,4	19,2	19,4	19,7	19,8	20,4
Variation of the observer position for the luminaire distance S											
S = 1,0H	+4,6 / -11,2					+4,6 / -11,2					
S = 1,5H	+7,3 / -15,1					+7,3 / -15,1					
S = 2,0H	+9,3 / -18,1					+9,3 / -18,1					
Standard table	BK00					BK00					
Correction summand	1,3					1,3					
Corrected glare indices referring to 2621lm total luminous flux											



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