

# LM-79

## Test Report

LM79-RUBY-5-2700K-CRI80-FLOOD

### General Description

Item number		
Date and time	10-3-2017 15:32:37	
CCT (Kelvin)	2650 K	
Beam angle	63,8°	
Luminous flux	1894 lm	
Efficiency	92 lm/watt	
Weighted energy	20,6 kWh/1000h	
Power factor	0,89	
CRI (RA)	82,1	
Fidelity index Rf	Rf 82,2	
Gammut index Rg	Rg 97,1	



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Beam details	1m	2m	3m	4m	5m														
Lux*	1966 lx	492 lx	218 lx	123 lx	79 lx														
*measured at center of beam																			
Footcandles*	182,7 fcd	45,7 fcd	20,3 fcd	11,4 fcd	7,3 fcd														
Beam width (meter)	1,2 m	2,5 m	3,7 m	5 m	6,2 m														
Beam width (Feet)	4,1 ft	8,2 ft	12,2 ft	16,3 ft	20,4 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
1966lx	492lx	218lx	123lx	79lx	55lx	40lx	31lx	24lx	20lx	16lx	14lx	12lx	10lx	9lx	8lx	7lx	6lx	5lx	5lx
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
182,7fcd	45,7fcd	20,3fcd	11,4fcd	7,3fcd	5,1fcd	3,7fcd	2,9fcd	2,3fcd	1,8fcd	1,5fcd	1,3fcd	1,1fcd	0,9fcd	0,8fcd	0,7fcd	0,6fcd	0,6fcd	0,5fcd	0,5fcd
<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°
1966	1949	1933	1905	1877	1834	1776	1717	1637	1556	1485	1417	1350	1279	1208	1101	980	843	661	478
100%	99%	98%	97%	95%	93%	90%	87%	83%	79%	76%	72%	69%	65%	61%	56%	50%	43%	34%	24%
<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°
1966	1949	1933	1905	1877	1834	1776	1717	1637	1556	1485	1417	1350	1279	1208	1101	980	843	661	478
100%	99%	98%	97%	95%	93%	90%	87%	83%	79%	76%	72%	69%	65%	61%	56%	50%	43%	34%	24%
<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°
1966	1965	1949	1932	1893	1854	1791	1715	1637	1558	1479	1406	1336	1264	1186	1108	978	835	685	523
100%	100%	99%	98%	96%	94%	91%	87%	83%	79%	75%	72%	68%	64%	60%	56%	50%	42%	35%	27%
<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°
1966	1965	1949	1932	1893	1854	1791	1715	1637	1558	1479	1406	1336	1264	1186	1108	978	835	685	523
100%	100%	99%	98%	96%	94%	91%	87%	83%	79%	75%	72%	68%	64%	60%	56%	50%	42%	35%	27%
Beam angle 50%		Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
63,8°		87°				{C_ANG}°				99,1%				94,7%					



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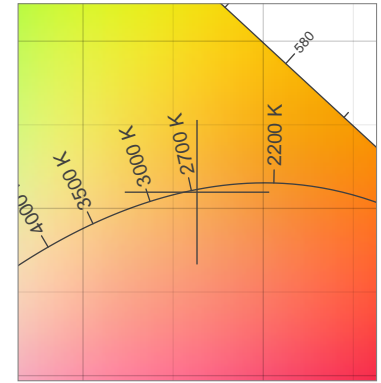
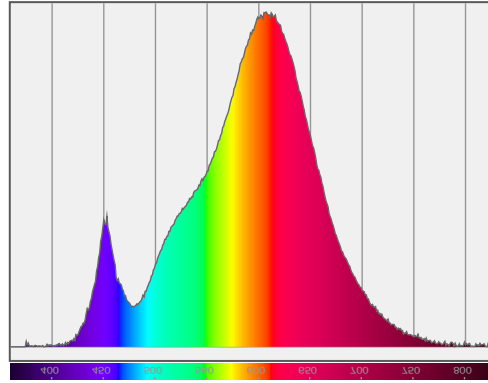
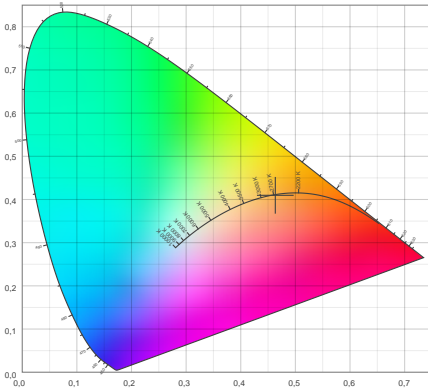
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### LM79-RUBY-5-2700K-CRI80-FLOOD

#### Color details



CIE 1931

x: 0,463



Spectra

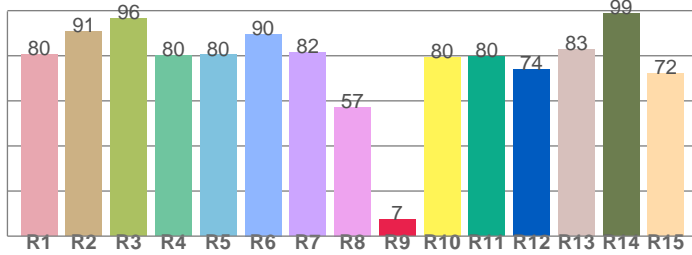
CIE 1931 ZOOM

2650 K

y: 0,410

$\Delta uv$ : 0,0006

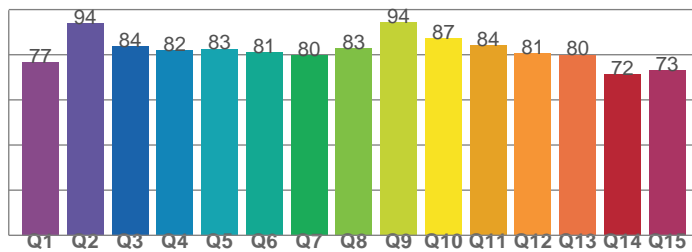
CRI: **82,1** (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
80,5	90,8	96,4	80,0	80,4	89,7	81,5	57,2
R9	R10	R11	R12	R13	R14	R15	
7,4	79,5	79,7	73,9	82,9	98,8	72,3	

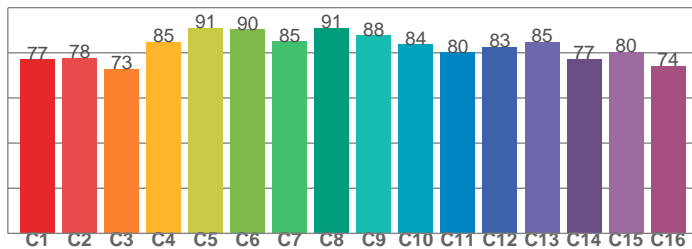
CQS: **81,1**



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
76,8	93,8	83,9	81,9	82,7	81,0	79,8	83,0
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,5	87,3	84,0	80,8	80,0	71,5	73,1	

TM30: **82,2**



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

C1	C2	C3	C4	C5	C6	C7	C8
77,1	77,6	72,9	84,9	90,9	90,4	85,1	90,9
C9	C10	C11	C12	C13	C14	C15	
87,7	83,7	80,2	82,6	84,8	77,4	80,3	

#### 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	$\Delta uv$
2650 K	82,1	7,4	82,2	97,1	81,1	0,463	0,410	0,265	0,352	0,0006



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### TM30 details

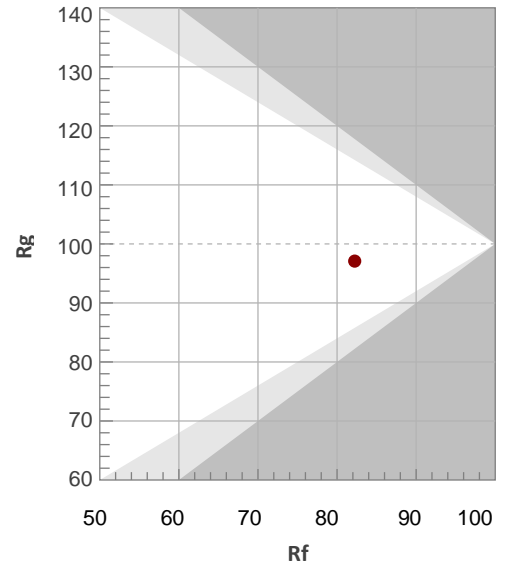
Rf 82,2

Fidelity index Rf

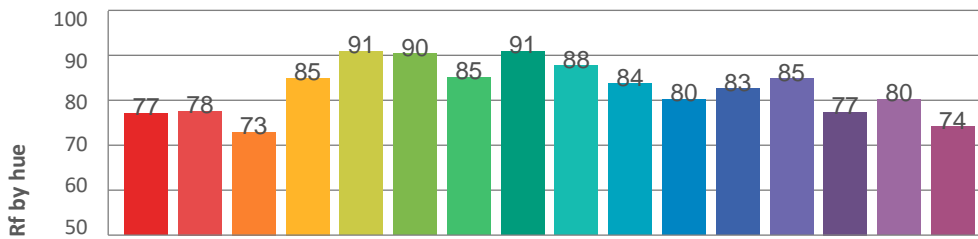
Rg 97,1

Gamut index Rg

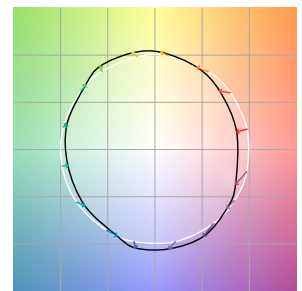
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	77	-11%	-1%
2	78	-8%	8%
3	73	-3%	13%
4	85	2%	8%
5	91	5%	5%
6	90	6%	-1%
7	85	-1%	-8%
8	91	-3%	-4%
9	88	-6%	1%
10	84	-5%	8%
11	80	-2%	12%
12	83	6%	3%
13	85	6%	-8%
14	77	5%	-16%
15	80	-2%	-11%
16	74	-9%	-15%



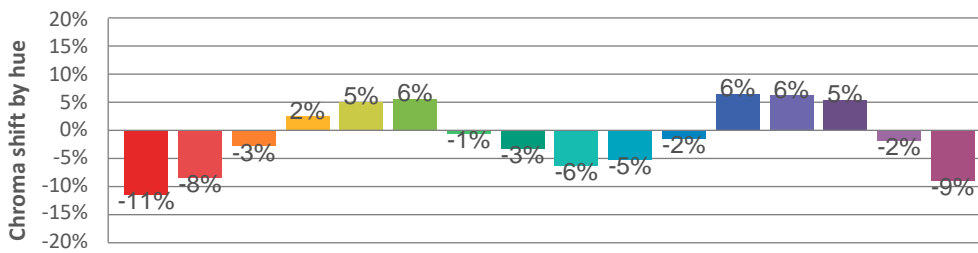
### Hue binH



### Color vector graphics



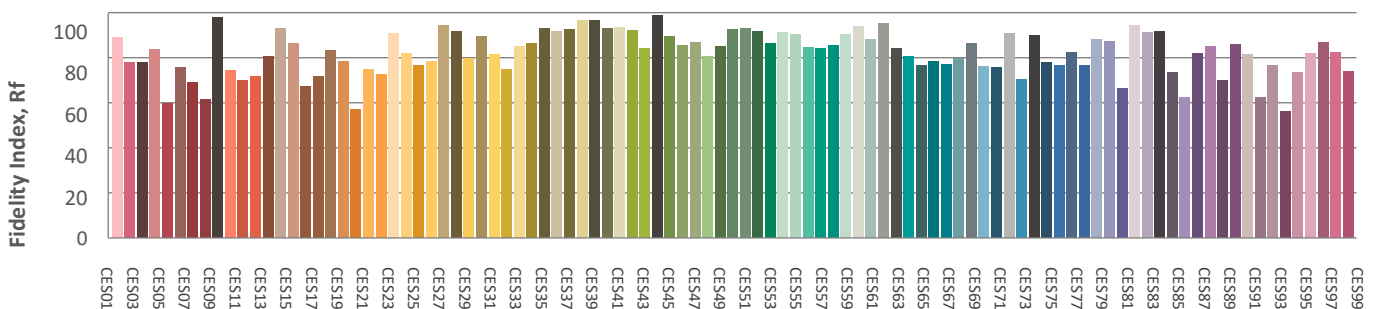
### Hue bin



### 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	20,0	20,7	20,2	20,9	21,1	20,1	20,8	20,3	21,0	21,2
	3H	19,9	20,5	20,1	20,7	21,0	19,9	20,6	20,2	20,8	21,1
	4H	19,8	20,4	20,1	20,6	20,9	19,8	20,5	20,2	20,7	21,0
	6H	19,7	20,3	20,0	20,6	20,8	19,8	20,3	20,1	20,6	20,9
	8H	19,7	20,2	20,0	20,5	20,8	19,7	20,3	20,1	20,6	20,9
	12H	19,6	20,1	20,0	20,5	20,8	19,7	20,2	20,1	20,5	20,8
4H	2H	19,8	20,4	20,1	20,7	20,9	19,9	20,5	20,2	20,7	21,0
	3H	19,7	20,2	20,0	20,5	20,8	19,7	20,2	20,1	20,5	20,9
	4H	19,6	20,0	20,0	20,4	20,7	19,6	20,1	20,0	20,4	20,8
	6H	19,5	19,9	19,9	20,2	20,6	19,6	19,9	20,0	20,3	20,7
	8H	19,5	19,8	19,9	20,2	20,6	19,5	19,9	20,0	20,2	20,7
	12H	19,4	19,7	19,9	20,1	20,6	19,5	19,8	19,9	20,2	20,6
8H	4H	19,5	19,8	19,9	20,2	20,6	19,5	19,8	20,0	20,2	20,7
	6H	19,4	19,6	19,8	20,1	20,5	19,4	19,7	19,9	20,1	20,6
	8H	19,3	19,5	19,8	20,0	20,5	19,4	19,6	19,9	20,1	20,5
	12H	19,3	19,5	19,8	19,9	20,4	19,3	19,5	19,8	20,0	20,5
12H	4H	19,4	19,7	19,9	20,1	20,5	19,5	19,8	19,9	20,2	20,6
	6H	19,3	19,5	19,8	20,0	20,5	19,4	19,6	19,9	20,1	20,5
	8H	19,3	19,5	19,8	19,9	20,4	19,3	19,5	19,8	20,0	20,5

### Variation of the observer position for the luminaire distance S

S = 1,0H	+4,6 / -8,7	+4,5 / -8,6
S = 1,5H	+7,3 / -16,6	+7,2 / -15,9
S = 2,0H	+9,3 / -20,2	+9,2 / -20,3
Standard table	BK00	BK00
Correction summand	1,3	1,4

Corrected glare indices referring to 1894lm total luminous flux



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