

# LM-79

## Test Report

LM79-RUBY-5-4000K-CRI80-FLOOD

### General Discription

Item number	
Date and time	10-3-2017 16:05:46
CCT (Kelvin)	3818 K
Beam angle	63,7°
Luminous flux	2194 lm
Efficiency	107 lm/watt
Weighted energy	20,6 kWh/1000h
Power factor	0,89
CRI (RA)	82,6
Fidelity index Rf	Rf 82,8
Gammut index Rg	Rg 97,5

**NEW**



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Beam details	1m	2m	3m	4m	5m														
Lux*	2305 lx	576 lx	256 lx	144 lx	92 lx														
*measured at center of beam																			
Footcandles*	214,2 fcd	53,5 fcd	23,8 fcd	13,4 fcd	8,6 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
2305lx	576lx	256lx	144lx	92lx	64lx	47lx	36lx	28lx	23lx	19lx	16lx	14lx	12lx	10lx	9lx	8lx	7lx	6lx	6lx
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
214,2fcd	53,5fcd	23,8fcd	13,4fcd	8,6fcd	5,9fcd	4,4fcd	3,3fcd	2,6fcd	2,1fcd	1,8fcd	1,5fcd	1,3fcd	1,1fcd	1fcd	0,8fcd	0,7fcd	0,7fcd	0,6fcd	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°
2305	2292	2278	2236	2184	2125	2046	1967	1883	1798	1713	1638	1563	1480	1393	1299	1143	987	803	597
100%	99%	99%	97%	95%	92%	89%	85%	82%	78%	74%	71%	68%	64%	60%	56%	50%	43%	35%	26%
<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°
2305	2292	2278	2236	2184	2125	2046	1967	1883	1798	1713	1638	1563	1480	1393	1299	1143	987	803	597
100%	99%	99%	97%	95%	92%	89%	85%	82%	78%	74%	71%	68%	64%	60%	56%	50%	43%	35%	26%
<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°
2305	2286	2257	2225	2182	2140	2064	1973	1883	1797	1710	1631	1554	1476	1383	1291	1141	953	766	586
100%	99%	98%	97%	95%	93%	90%	86%	82%	78%	74%	71%	67%	64%	60%	56%	49%	41%	33%	25%
<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°
2305	2286	2257	2225	2182	2140	2064	1973	1883	1797	1710	1631	1554	1476	1383	1291	1141	953	766	586
100%	99%	98%	97%	95%	93%	90%	86%	82%	78%	74%	71%	67%	64%	60%	56%	49%	41%	33%	25%
Beam angle 50%		Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
63,7°		87,3°				{C_ANG}°				99,0%				94,7%					



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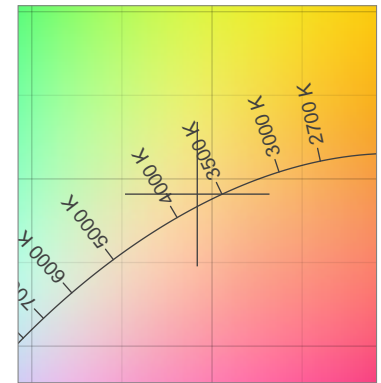
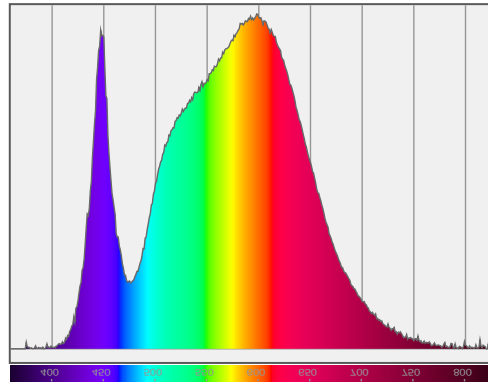
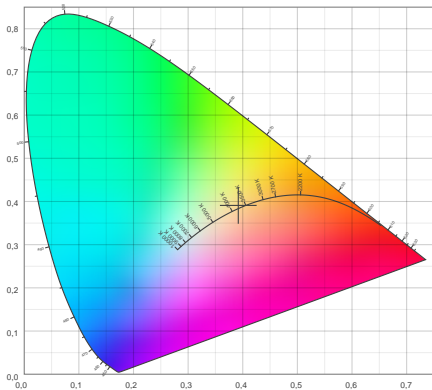
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### Color details



CIE 1931

x: 0,392



Spectra

CIE 1931 ZOOM

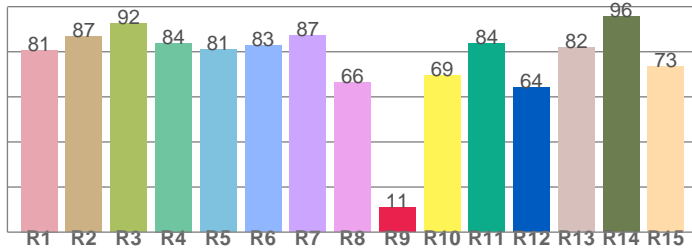
3818 K

y: 0,391

$\Delta uv$ : 0,0033

**CRI: 82,6 (R1-R8)**

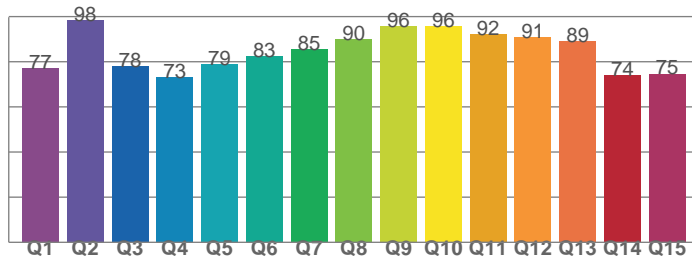
*CRI values, R1-R8 are used to calculate final CRI value*



R1	R2	R3	R4	R5	R6	R7	R8
80,8	86,6	92,5	83,9	80,9	82,7	87,2	66,4
R9	R10	R11	R12	R13	R14	R15	
10,9	69,4	83,7	64,1	81,8	95,7	73,4	

**CQS: 82,8**

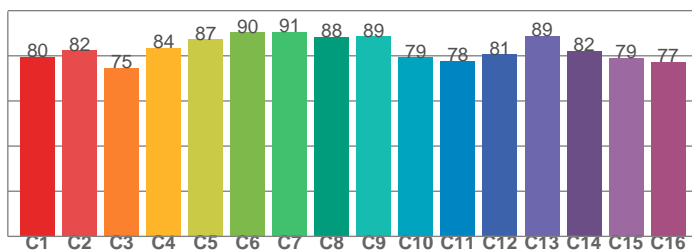
*CQS values*



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
77,3	98,4	77,8	73,2	78,9	82,6	85,4	90,0
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
95,9	95,6	92,0	90,7	89,1	73,8	74,7	

**TM30: 82,8**

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



C1	C2	C3	C4	C5	C6	C7	C8
79,6	82,4	74,5	83,5	87,2	90,3	90,6	88,5
C9	C10	C11	C12	C13	C14	C15	
88,5	79,3	77,7	80,5	88,7	82,2	78,9	

### 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	$\Delta uv$
3818 K	82,6	10,9	82,8	97,5	82,8	0,392	0,391	0,227	0,340	0,0033



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### TM30 details

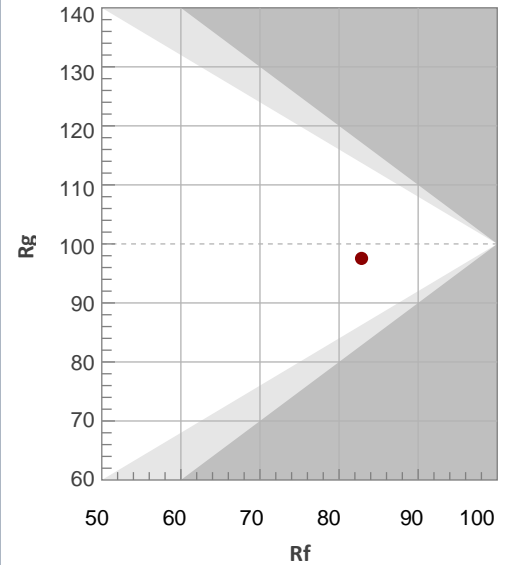
Rf 82,8

Fidelity index Rf

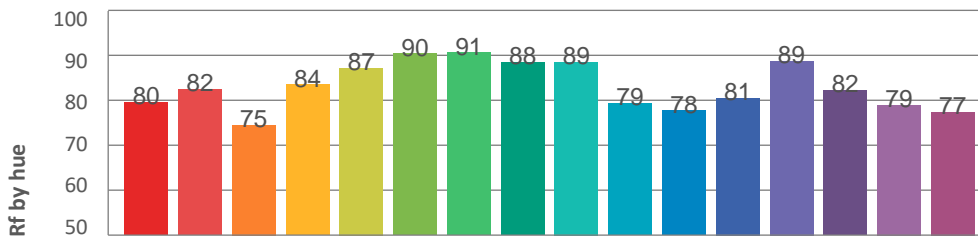
Rg 97,5

Gamut index Rg

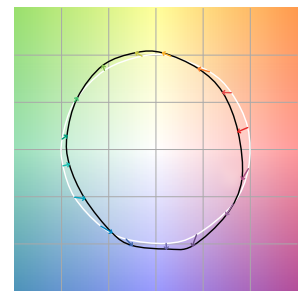
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	80	-11%	-2%
2	82	-7%	5%
3	75	-4%	12%
4	84	2%	9%
5	87	5%	6%
6	90	5%	-1%
7	91	0%	-6%
8	88	-4%	-5%
9	89	-7%	0%
10	79	-8%	7%
11	78	-1%	14%
12	81	5%	8%
13	89	6%	-1%
14	82	7%	-10%
15	79	0%	-13%
16	77	-4%	-12%



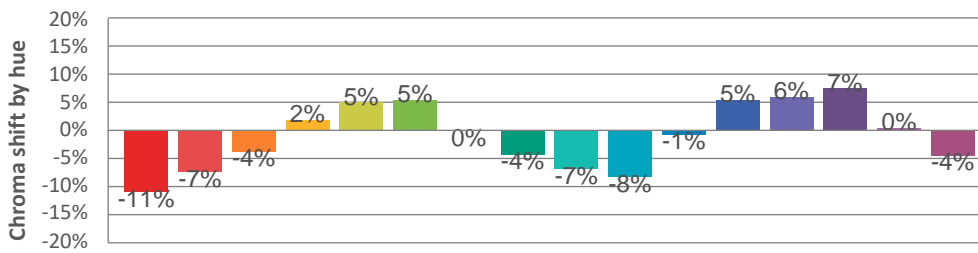
### Hue binH



### Color vector graphics



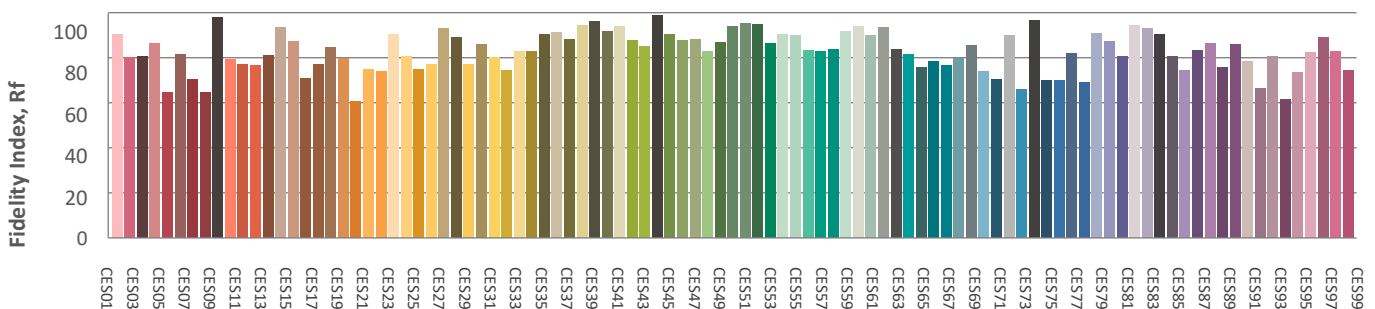
### Hue bin



### 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	20,6	21,3	20,9	21,6	21,8	20,5	21,2	20,8	21,5	21,7
	3H	20,5	21,1	20,8	21,4	21,6	20,4	21,0	20,7	21,3	21,5
	4H	20,4	21,0	20,7	21,3	21,6	20,3	20,9	20,6	21,2	21,5
	6H	20,3	20,9	20,7	21,2	21,5	20,3	20,8	20,6	21,1	21,4
	8H	20,3	20,8	20,7	21,1	21,5	20,2	20,7	20,6	21,0	21,4
	12H	20,3	20,8	20,6	21,1	21,4	20,2	20,7	20,5	21,0	21,3
4H	2H	20,4	21,0	20,8	21,3	21,6	20,3	20,9	20,7	21,2	21,5
	3H	20,3	20,8	20,6	21,1	21,4	20,2	20,7	20,6	21,0	21,3
	4H	20,2	20,7	20,6	21,0	21,4	20,1	20,6	20,5	20,9	21,3
	6H	20,1	20,5	20,6	20,9	21,3	20,0	20,4	20,5	20,8	21,2
	8H	20,1	20,4	20,5	20,8	21,2	20,0	20,3	20,4	20,7	21,1
	12H	20,1	20,3	20,5	20,8	21,2	20,0	20,3	20,4	20,7	21,1
8H	4H	20,1	20,4	20,5	20,8	21,2	20,0	20,3	20,4	20,7	21,1
	6H	20,0	20,3	20,5	20,7	21,2	19,9	20,2	20,4	20,6	21,1
	8H	20,0	20,2	20,4	20,6	21,1	19,9	20,1	20,4	20,5	21,0
	12H	19,9	20,1	20,4	20,6	21,1	19,8	20,0	20,3	20,5	21,0
12H	4H	20,1	20,3	20,5	20,8	21,2	20,0	20,2	20,4	20,7	21,1
	6H	20,0	20,2	20,4	20,6	21,1	19,9	20,1	20,4	20,5	21,0
	8H	19,9	20,1	20,4	20,6	21,1	19,8	20,0	20,3	20,5	21,0
Variation of the observer position for the luminaire distance S											
S = 1,0H	+4,4 / -8,7					+4,5 / -8,8					
S = 1,5H	+7,2 / -15,8					+7,2 / -15,3					
S = 2,0H	+9,2 / -20,2					+9,2 / -19,8					
Standard table	BK00					BK00					
Correction summand	2,0					1,9					
Corrected glare indices referring to 2194lm total luminous flux											

