

# LM-79

## Test Report

LM79-RUBY-5-3000K-CRI80-FLOOD

### General Discription

Item number	
Date and time	10-3-2017 15:45:42
CCT (Kelvin)	3040 K
Beam angle	63,8°
Luminous flux	1984 lm
Efficiency	97 lm/watt
Weighted energy	20,5 kWh/1000h
Power factor	0,89
CRI (RA)	81,9
Fidelity index Rf	Rf 83,2
Gammut index Rg	Rg 95,6

**NEW**



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Beam details	1m	2m	3m	4m	5m																			
Lux*	2068 lx	517 lx	230 lx	129 lx	83 lx																			
<i>*measured at center of beam</i>																								
Footcandles*	192,1 fcd	48,0 fcd	21,3 fcd	12,0 fcd	7,7 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					
2068lx	517lx	230lx	129lx	83lx	57lx	42lx	32lx	26lx	21lx	17lx	14lx	12lx	11lx	9lx	8lx	7lx	6lx	6lx	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					
192,1fcd	48fcd	21,3fcd	12fcd	7,7fcd	5,3fcd	3,9fcd	3fcd	2,4fcd	1,9fcd	1,6fcd	1,3fcd	1,1fcd	1fcd	0,9fcd	0,8fcd	0,7fcd	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°					
2068	2053	2038	2005	1972	1920	1855	1788	1706	1624	1552	1486	1417	1343	1269	1155	1030	884	692	500					
100%	99%	99%	97%	95%	93%	90%	86%	83%	79%	75%	72%	69%	65%	61%	56%	50%	43%	33%	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°					
2068	2053	2038	2005	1972	1920	1855	1788	1706	1624	1552	1486	1417	1343	1269	1155	1030	884	692	500					
100%	99%	99%	97%	95%	93%	90%	86%	83%	79%	75%	72%	69%	65%	61%	56%	50%	43%	33%	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°					
2068	2064	2040	2016	1969	1923	1857	1777	1697	1618	1539	1465	1394	1321	1241	1161	1029	878	722	553					
100%	100%	99%	98%	95%	93%	90%	86%	82%	78%	74%	71%	67%	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°					
2068	2064	2040	2016	1969	1923	1857	1777	1697	1618	1539	1465	1394	1321	1241	1161	1029	878	722	553					
100%	100%	99%	98%	95%	93%	90%	86%	82%	78%	74%	71%	67%	64%	60%	56%	50%	42%	35%	27%					
<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>				
63,8°					86,9°					{C_ANG}°					99,0%					94,6%				



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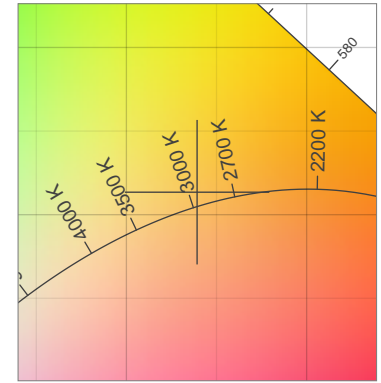
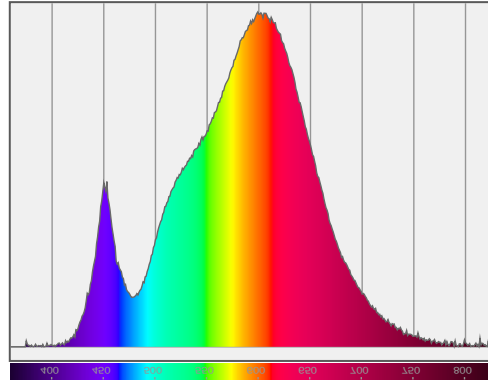
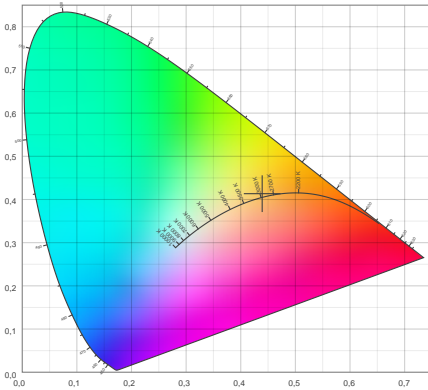
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### Color details



CIE 1931

x: 0,439



Spectra

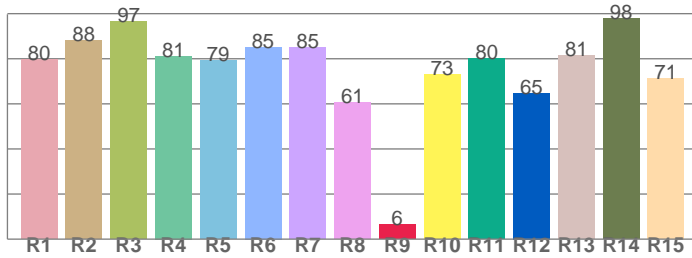
CIE 1931 ZOOM

3040 K

y: 0,413

$\Delta uv: 0,0034$

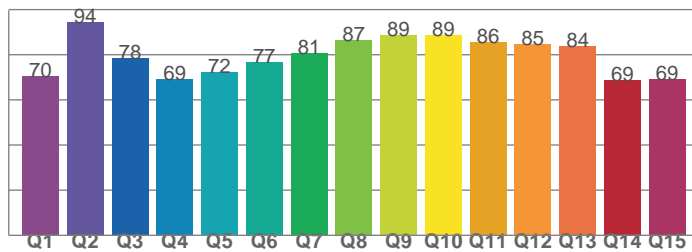
**CRI: 81,9 (R1-R8)**



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

R1	R2	R3	R4	R5	R6	R7	R8
79,6	88,2	96,5	81,2	79,1	85,2	85,1	60,5
R9	R10	R11	R12	R13	R14	R15	
6,4	73,0	80,1	64,8	81,3	97,9	71,4	

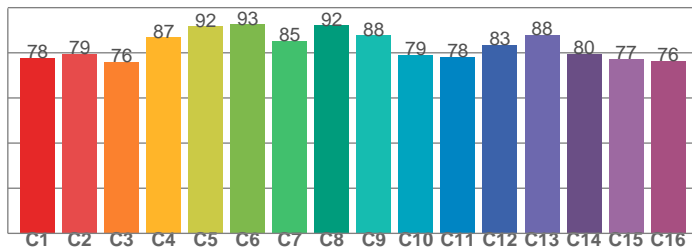
**CQS: 78,1**



*CQS values*

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
70,3	94,5	78,3	69,3	72,1	76,8	80,7	86,5
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
88,6	88,5	85,7	84,7	83,6	68,8	69,0	

**TM30: 83,2**



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

C1	C2	C3	C4	C5	C6	C7	C8
77,7	79,4	75,8	86,8	91,7	92,6	85,3	92,2
C9	C10	C11	C12	C13	C14	C15	
87,7	79,1	78,2	83,5	87,9	79,5	77,4	

### 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	$\Delta uv$
3040 K	81,9	6,4	83,2	95,6	78,1	0,439	0,413	0,248	0,350	0,0034



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### TM30 details

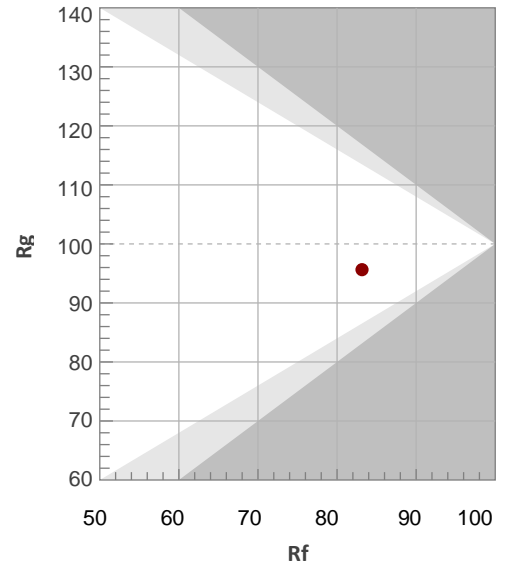
Rf 83,2

Fidelity index Rf

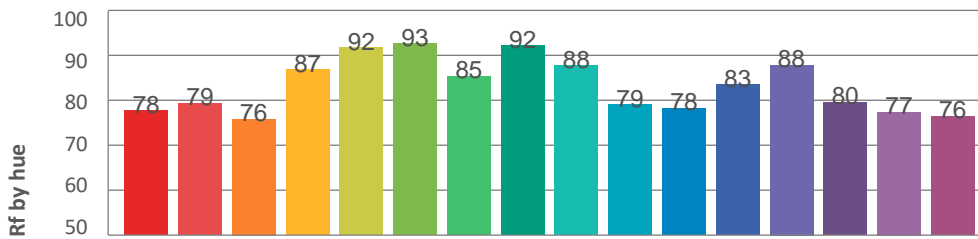
Rg 95,6

Gamut index Rg

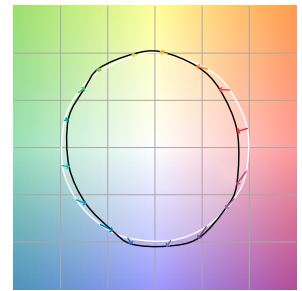
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	78	-11%	-1%
2	79	-9%	6%
3	76	-4%	11%
4	87	1%	7%
5	92	2%	5%
6	93	3%	-2%
7	85	-3%	-7%
8	92	-4%	-2%
9	88	-7%	2%
10	79	-6%	9%
11	78	-2%	14%
12	83	6%	5%
13	88	5%	-5%
14	80	5%	-14%
15	77	-2%	-13%
16	76	-7%	-15%



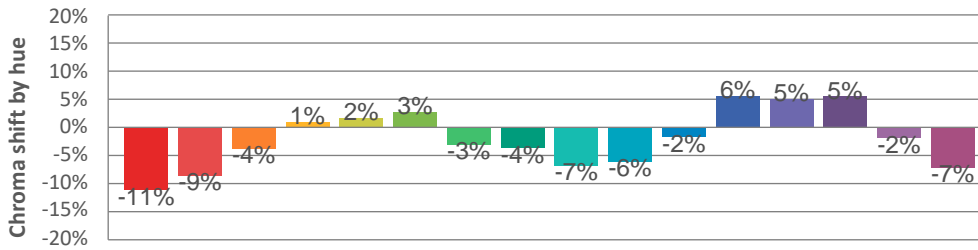
### Hue binH



### Color vector graphics



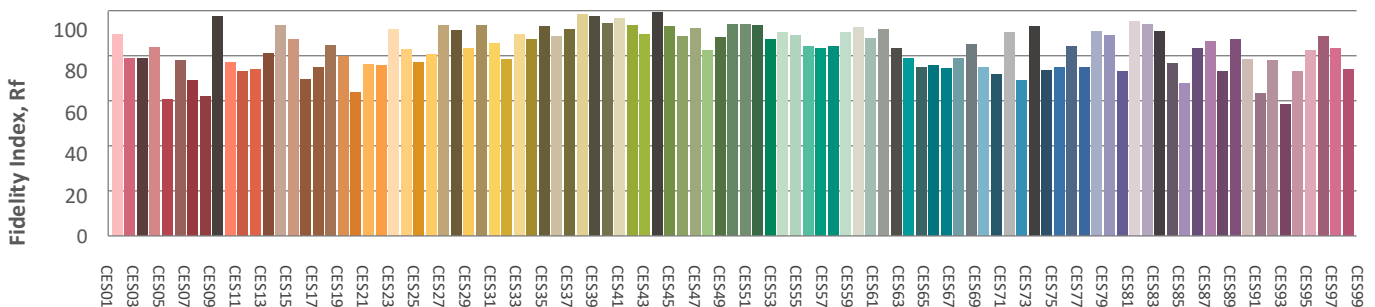
### Hue bin



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

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

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

Corrected glare indices referring to 1984lm total luminous flux



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