

# LM-79

## Test Report

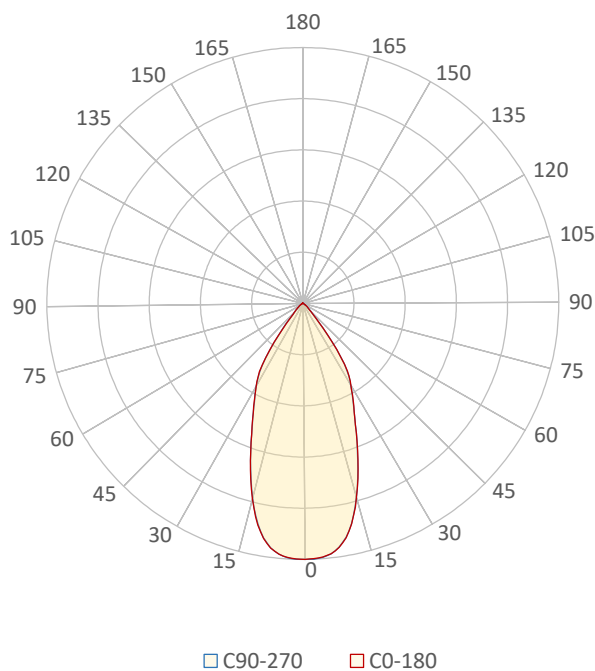
### LM79-RUBY-8-4000K-CRI80-MEDIUM

#### General Description

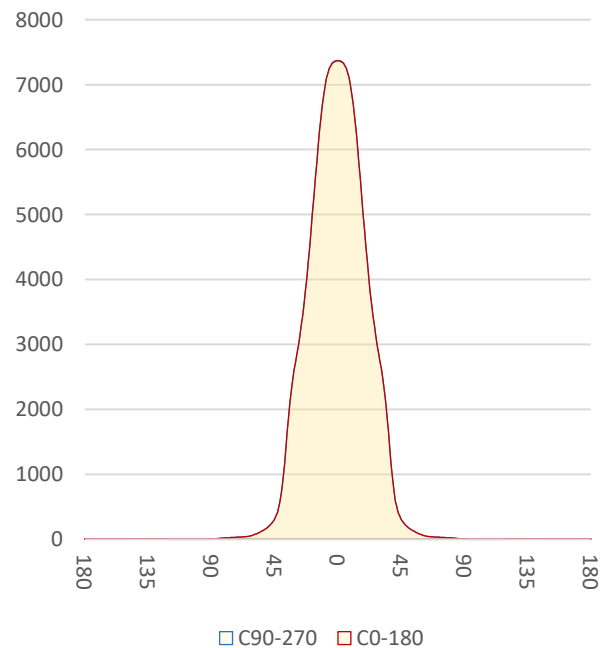
Item number	RU-38-X-X-03-2-X
Date and time	10-6-2020 14:23:57
CCT (Kelvin)	3970 K
Beam angle	47,2°
Luminous flux	5474 lm
Efficiency	97 lm/watt
Weighted energy	56,6 kWh/1000h
Power factor	0,97
CRI (RA)	83,3
Fidelity index Rf	Rf 84,3
Gammut index Rg	Rg 94,0
Peak	7377 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m																			
Lux*	7371 lx	1843 lx	819 lx	461 lx	295 lx																			
*measured at center of beam																								
Footcandles*	684,8 fcd	171,2 fcd	76,1 fcd	42,8 fcd	27,4 fcd																			
Beam width (meter)	0,9 m	1,8 m	2,6 m	3,5 m	4,4 m																			
Beam width (Feet)	2,9 ft	5,7 ft	8,6 ft	11,5 ft	14,4 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					
7371lx	1843lx	819lx	461lx	295lx	205lx	150lx	115lx	91lx	74lx	61lx	51lx	44lx	38lx	33lx	29lx	26lx	23lx	20lx	18lx					
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					
684,8fcd	171,2fcd	76,1fcd	42,8fcd	27,4fcd	19fcd	14fcd	10,7fcd	8,5fcd	6,8fcd	5,7fcd	4,8fcd	4,1fcd	3,5fcd	3fcd	2,7fcd	2,4fcd	2,1fcd	1,9fcd	1,7fcd					
<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°					
7371	7357	7330	7257	7110	6868	6512	6059	5548	5026	4514	4024	3617	3287	2994	2743	2497	2155	1656	1120					
100%	100%	99%	98%	96%	93%	88%	82%	75%	68%	61%	55%	49%	45%	41%	37%	34%	29%	22%	15%					
<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°					
7371	7370	7338	7257	7102	6855	6500	6045	5535	5012	4501	4022	3607	3272	2982	2725	2476	2134	1646	1119					
100%	100%	100%	98%	96%	93%	88%	82%	75%	68%	61%	55%	49%	44%	40%	37%	34%	29%	22%	15%					
<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°					
7371	7357	7330	7257	7110	6868	6512	6059	5548	5026	4514	4024	3617	3287	2994	2743	2497	2155	1656	1120					
100%	100%	99%	98%	96%	93%	88%	82%	75%	68%	61%	55%	49%	45%	41%	37%	34%	29%	22%	15%					
<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°					
7371	7370	7338	7257	7102	6855	6500	6045	5535	5012	4501	4022	3607	3272	2982	2725	2476	2134	1646	1119					
100%	100%	100%	98%	96%	93%	88%	82%	75%	68%	61%	55%	49%	44%	40%	37%	34%	29%	22%	15%					
<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>				
47,3°					79,7°					99,8°					98,0%					94,4%				



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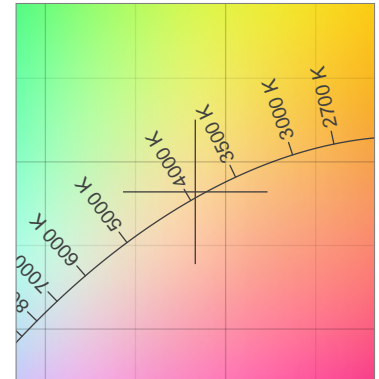
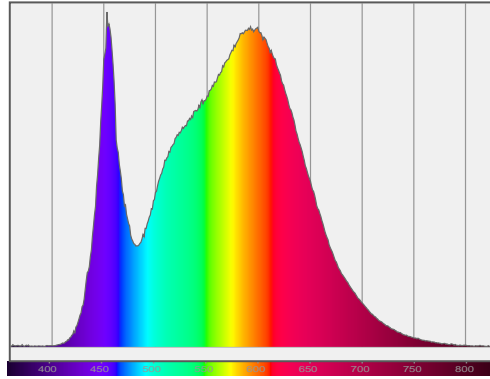
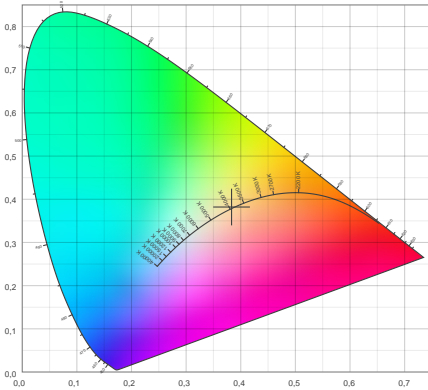
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### Color details



CIE 1931

x: 0,383



Spectra

CIE 1931 ZOOM

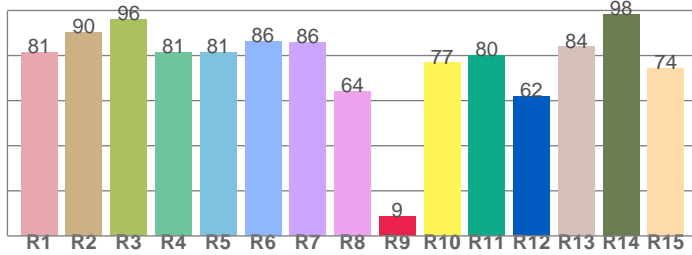
3970 K

y: 0,382

$\Delta uv$ : 0,0017

**CRI: 83,3 (R1-R8)**

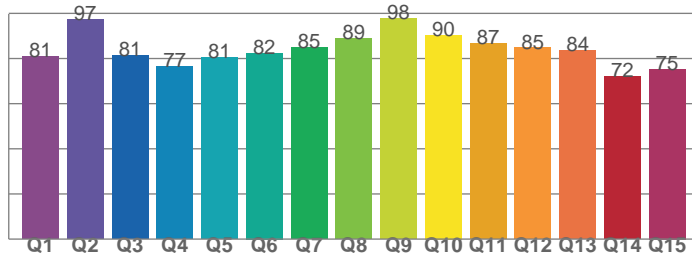
*CRI values, R1-R8 are used to calculate final CRI value*



R1	R2	R3	R4	R5	R6	R7	R8
81,4	90,3	96,0	81,3	81,3	86,4	85,9	64,2
R9	R10	R11	R12	R13	R14	R15	
8,7	76,7	80,3	62,1	83,9	98,2	74,3	

**CQS: 82,7**

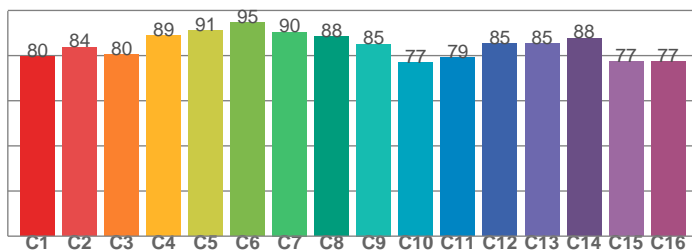
*CQS values*



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
80,8	97,4	81,3	76,6	80,6	82,4	84,8	88,9
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,6	90,4	86,6	84,7	83,7	72,0	75,4	

**TM30: 84,3**

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



C1	C2	C3	C4	C5	C6	C7	C8
79,7	83,7	80,4	88,9	91,1	94,7	90,4	88,5
C9	C10	C11	C12	C13	C14	C15	
85,1	77,0	79,1	85,3	85,4	87,7	77,3	

### 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	$\Delta uv$
3970 K	83,3	8,7	84,3	94,0	82,7	0,383	0,382	0,225	0,336	0,0017



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### TM30 details

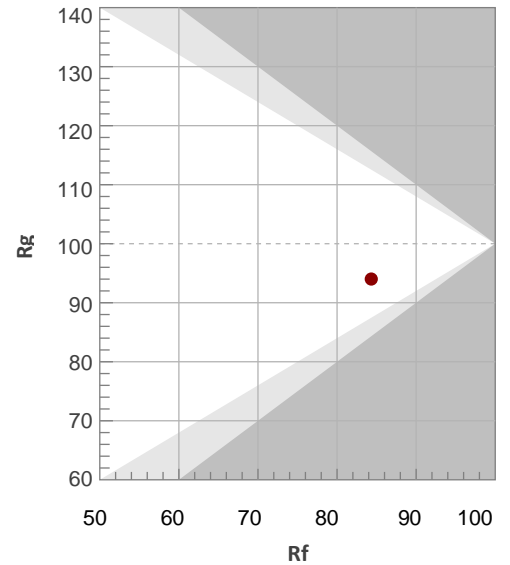
Rf 84,3

Fidelity index Rf

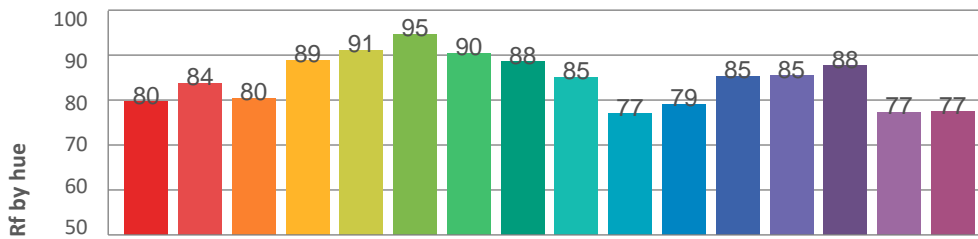
Rg 94,0

Gamut index Rg

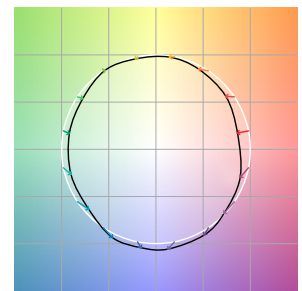
Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	80	-12%	0%
2	84	-7%	6%
3	80	-4%	9%
4	89	-1%	5%
5	91	-2%	3%
6	95	0%	-2%
7	90	-6%	-2%
8	88	-7%	1%
9	85	-7%	9%
10	77	-6%	13%
11	79	3%	13%
12	85	5%	5%
13	85	6%	-8%
14	88	4%	-8%
15	77	-2%	-16%
16	77	-7%	-12%



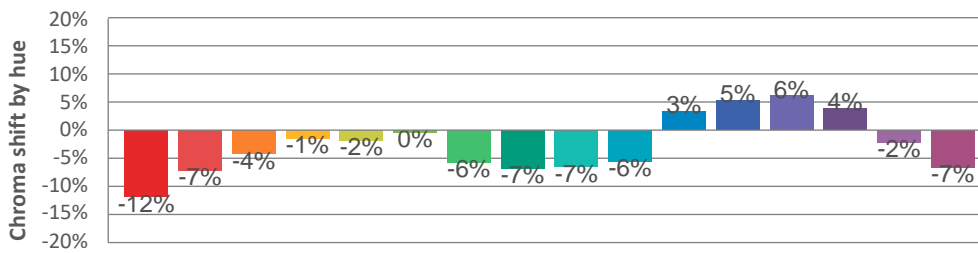
### Hue binH



### Color vector graphics



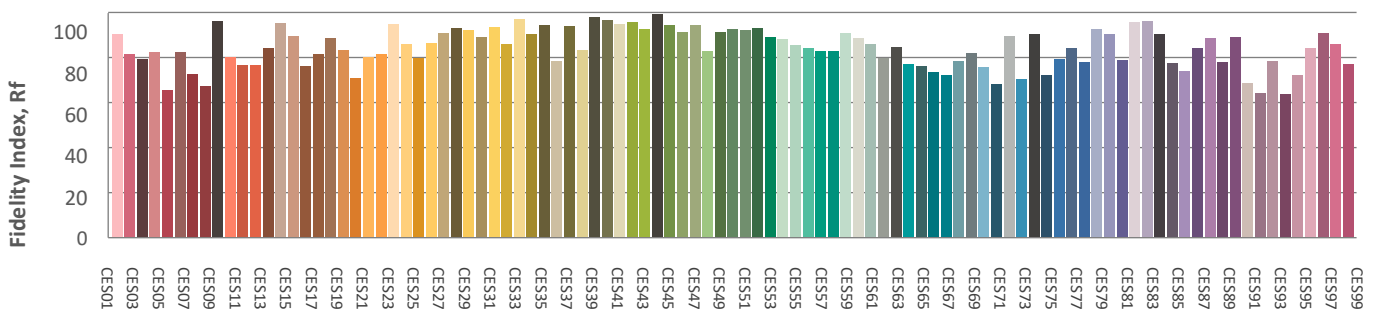
### Hue bin



### Color distortion graphics



### Color Evaluation Sample



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