

LM-79

Test Report

LM79-RUBY-5-2700K-CRI80-MEDIUM

General Description

Item number	
Date and time	10-3-2017 15:37:28
CCT (Kelvin)	2659 K
Beam angle	45,5°
Luminous flux	1868 lm
Efficiency	91 lm/watt
Weighted energy	20,5 kWh/1000h
Power factor	0,89
CRI (RA)	82,1
Fidelity index Rf	Rf 82,3
Gammut index Rg	Rg 97,1

NEW



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Beam details	1m	2m	3m	4m	5m														
Lux*	2691 lx	673 lx	299 lx	168 lx	108 lx														
<i>*measured at center of beam</i>																			
Footcandles*	250,0 fcd	62,5 fcd	27,8 fcd	15,6 fcd	10,0 fcd														
Beam width (meter)	0,8 m	1,7 m	2,5 m	3,4 m	4,2 m														
Beam width (Feet)	2,7 ft	5,5 ft	8,2 ft	11 ft	13,7 ft														
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
2691lx	673lx	299lx	168lx	108lx	75lx	55lx	42lx	33lx	27lx	22lx	19lx	16lx	14lx	12lx	11lx	9lx	8lx	7lx	7lx
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
250fcd	62,5fcd	27,8fcd	15,6fcd	10fcd	6,9fcd	5,1fcd	3,9fcd	3,1fcd	2,5fcd	2,1fcd	1,7fcd	1,5fcd	1,3fcd	1,1fcd	1fcd	0,9fcd	0,8fcd	0,7fcd	0,6fcd
Intensities in 0° c-plane																			
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
2691	2678	2660	2621	2537	2454	2293	2122	1940	1746	1552	1401	1250	1128	1030	932	835	738	577	385
100%	100%	99%	97%	94%	91%	85%	79%	72%	65%	58%	52%	46%	42%	38%	35%	31%	27%	21%	14%
Intensities in 90° c-plane																			
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
2691	2678	2660	2621	2537	2454	2293	2122	1940	1746	1552	1401	1250	1128	1030	932	835	738	577	385
100%	100%	99%	97%	94%	91%	85%	79%	72%	65%	58%	52%	46%	42%	38%	35%	31%	27%	21%	14%
Intensities in 180° c-plane																			
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
2691	2686	2681	2630	2567	2471	2313	2155	1958	1757	1573	1406	1242	1134	1027	932	845	750	605	461
100%	100%	100%	98%	95%	92%	86%	80%	73%	65%	58%	52%	46%	42%	38%	35%	31%	28%	22%	17%
Intensities in 270° c-plane																			
0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
2691	2686	2681	2630	2567	2471	2313	2155	1958	1757	1573	1406	1242	1134	1027	932	845	750	605	461
100%	100%	100%	98%	95%	92%	86%	80%	73%	65%	58%	52%	46%	42%	38%	35%	31%	28%	22%	17%
Beam angle 50%		Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
45,5°		80,2°				{C_ANG}°				99,2%				96,9%					



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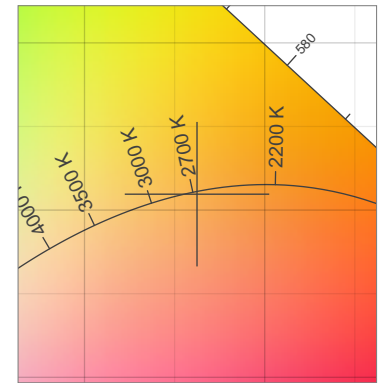
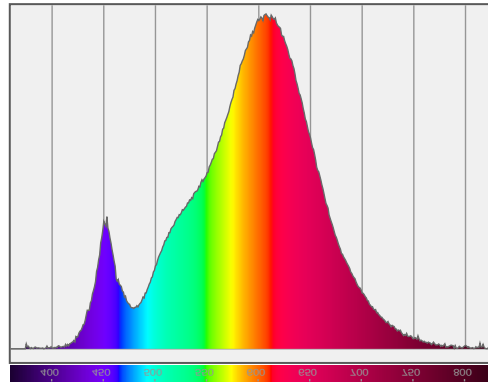
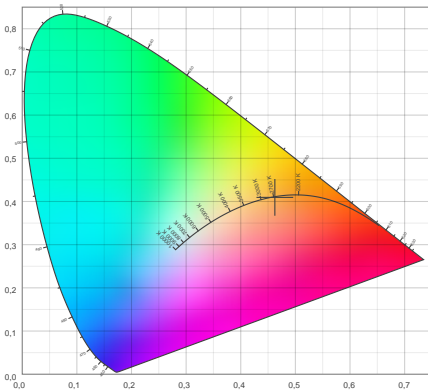
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Color details



CIE 1931

x: 0,462



Spectra

CIE 1931 ZOOM

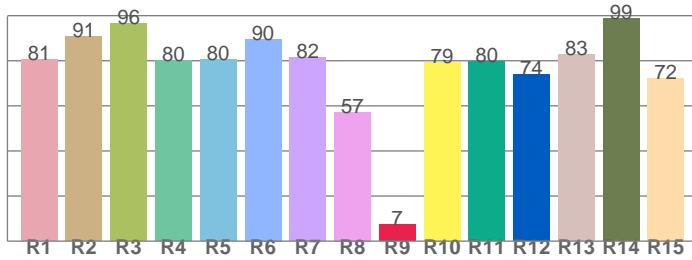
2659 K

y: 0,410

Δuv : 0,0006

CRI: 82,1 (R1-R8)

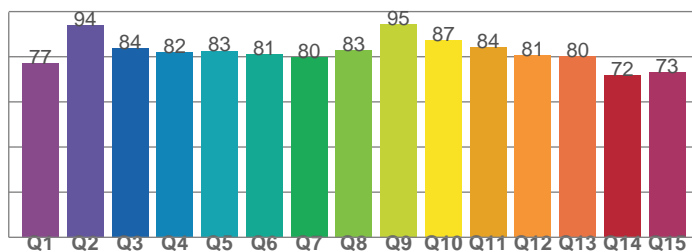
CRI values, R1-R8 are used to calculate final CRI value



R1	R2	R3	R4	R5	R6	R7	R8
80,5	90,8	96,4	80,1	80,4	89,6	81,6	57,3
R9	R10	R11	R12	R13	R14	R15	
7,4	79,5	79,7	73,8	82,9	98,8	72,3	

CQS: 81,1

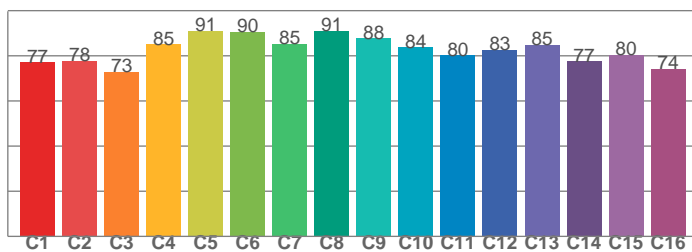
CQS values



Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
77,0	93,9	83,9	81,8	82,7	81,0	79,8	83,0
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,5	87,3	84,1	80,8	80,1	71,6	73,2	

TM30: 82,3

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



C1	C2	C3	C4	C5	C6	C7	C8
77,1	77,7	73,0	85,0	90,9	90,5	85,2	90,9
C9	C10	C11	C12	C13	C14	C15	
87,7	83,6	80,2	82,6	84,9	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	Δuv
2659 K	82,1	7,4	82,3	97,1	81,1	0,462	0,410	0,265	0,352	0,0006



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TM30 details

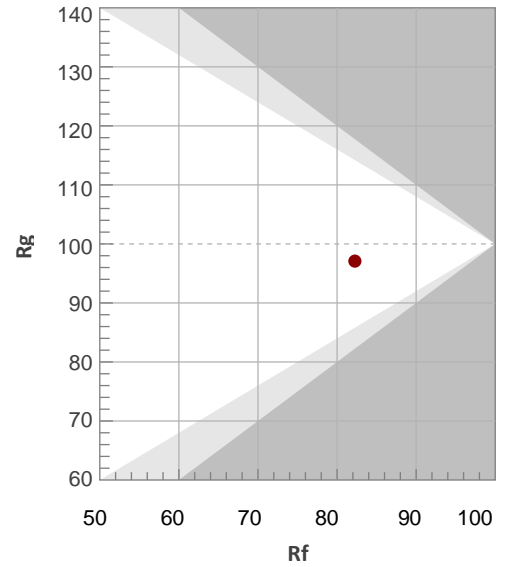
Rf 82,3

Fidelity index Rf

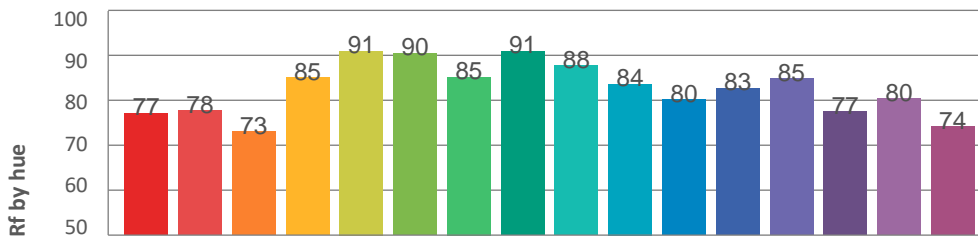
Rg 97,1

Gamut index Rg

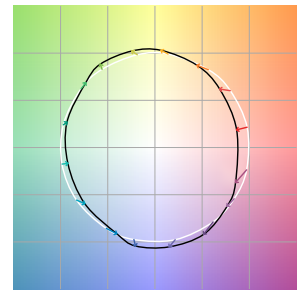
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	77	-11%	-1%
2	78	-8%	8%
3	73	-3%	13%
4	85	2%	8%
5	91	5%	5%
6	90	6%	-1%
7	85	-1%	-8%
8	91	-3%	-3%
9	88	-6%	1%
10	84	-5%	8%
11	80	-1%	12%
12	83	6%	3%
13	85	6%	-8%
14	77	5%	-16%
15	80	-2%	-11%
16	74	-9%	-16%



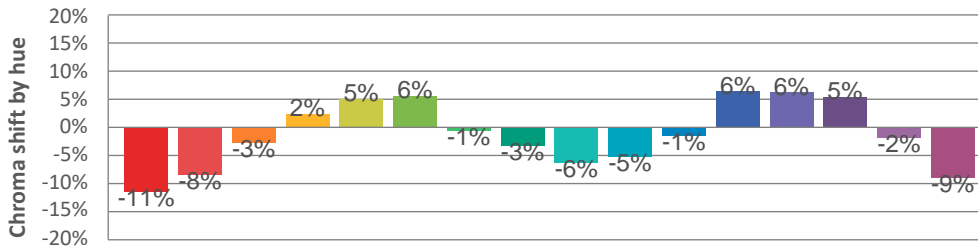
Hue binH



Color vector graphics



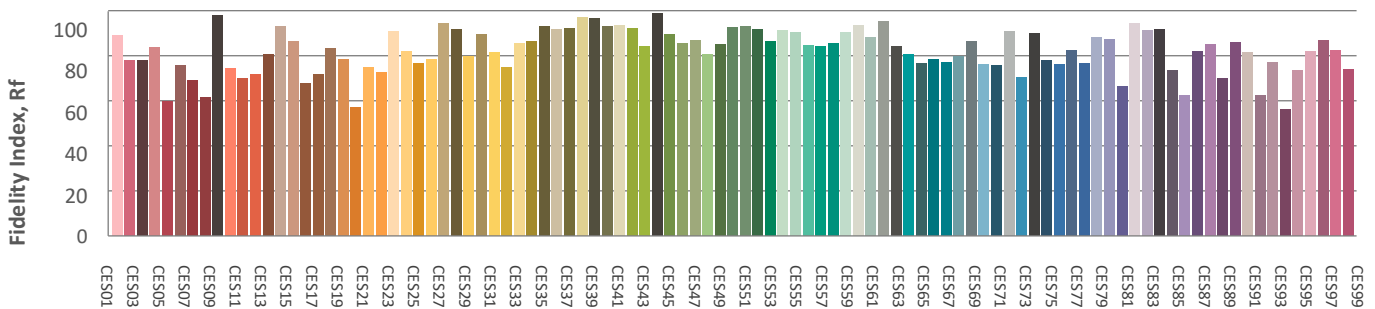
Hue bin



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	18,4	19,1	18,7	19,3	19,5	18,6	19,3	18,9	19,5	19,7
	3H	18,3	18,9	18,6	19,1	19,4	18,5	19,1	18,7	19,3	19,6
	4H	18,2	18,8	18,5	19,1	19,3	18,4	19,0	18,7	19,2	19,5
	6H	18,1	18,7	18,5	19,0	19,3	18,3	18,8	18,6	19,1	19,4
	8H	18,1	18,6	18,4	18,9	19,2	18,3	18,8	18,6	19,1	19,4
	12H	18,1	18,6	18,4	18,9	19,2	18,2	18,7	18,6	19,0	19,4
4H	2H	18,2	18,8	18,5	19,1	19,3	18,4	19,0	18,7	19,2	19,5
	3H	18,1	18,5	18,4	18,9	19,2	18,2	18,7	18,6	19,0	19,4
	4H	18,0	18,4	18,4	18,8	19,1	18,2	18,6	18,6	18,9	19,3
	6H	17,9	18,3	18,3	18,6	19,0	18,1	18,4	18,5	18,8	19,2
	8H	17,9	18,2	18,3	18,6	19,0	18,1	18,4	18,5	18,8	19,2
	12H	17,9	18,1	18,3	18,5	19,0	18,0	18,3	18,5	18,7	19,1
8H	4H	17,9	18,2	18,3	18,6	19,0	18,1	18,4	18,5	18,7	19,2
	6H	17,8	18,0	18,3	18,5	18,9	18,0	18,2	18,4	18,6	19,1
	8H	17,8	17,9	18,2	18,4	18,9	17,9	18,1	18,4	18,6	19,0
	12H	17,7	17,9	18,2	18,3	18,8	17,9	18,0	18,4	18,5	19,0
12H	4H	17,8	18,1	18,3	18,5	18,9	18,0	18,3	18,5	18,7	19,1
	6H	17,8	17,9	18,2	18,4	18,9	17,9	18,1	18,4	18,6	19,0
	8H	17,7	17,9	18,2	18,3	18,8	17,9	18,0	18,4	18,5	19,0
Variation of the observer position for the luminaire distance S											
S = 1,0H	+5,0 / -11,9					+4,9 / -12,1					
S = 1,5H	+7,8 / -16,5					+7,8 / -17,6					
S = 2,0H	+9,8 / -17,4					+9,8 / -18,9					
Standard table	BK00					BK00					
Correction summand	-0,2					-0,1					
Corrected glare indices referring to 1868lm total luminous flux											



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