

LM-79

Test Report

LM79-REVO-2700K-CRI80-DEG54

General Description

Item number	R-X-X-X-04-4
Date and time	22-4-2016 15:57:37
CCT (Kelvin)	2734 K
Beam angle	60,4°
Luminous flux	1222 lm
Efficiency	64 lm/watt
Weighted energy	19,2 kWh/1000h
Power factor	0,94
CRI (RA)	83,2
Fidelity index Rf	Rf 84,6
Gammut index Rg	Rg 95,8



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Beam details	1m	2m	3m	4m	5m																			
Lux*	1189 lx	297 lx	132 lx	74 lx	48 lx																			
*measured at center of beam																								
Footcandles*	110,5 fcd	27,6 fcd	12,3 fcd	6,9 fcd	4,4 fcd																			
Beam width (meter)	1,2 m	2,3 m	3,5 m	4,7 m	5,8 m																			
Beam width (Feet)	3,8 ft	7,6 ft	11,4 ft	15,3 ft	19,1 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
1189lx	297lx	132lx	74lx	48lx	33lx	24lx	19lx	15lx	12lx	10lx	8lx	7lx	6lx	5lx	5lx	4lx	4lx	3lx	3lx					
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					
110,5fcd	27,6fcd	12,3fcd	6,9fcd	4,4fcd	3,1fcd	2,3fcd	1,7fcd	1,4fcd	1,1fcd	0,9fcd	0,8fcd	0,7fcd	0,6fcd	0,5fcd	0,4fcd	0,4fcd	0,3fcd	0,3fcd	0,3fcd					
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°					
1189	1192	1198	1208	1217	1222	1221	1211	1186	1152	1094	1027	938	842	734	626	522	424	337	263					
100%	100%	101%	102%	102%	103%	103%	102%	100%	97%	92%	86%	79%	71%	62%	53%	44%	36%	28%	22%					
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°					
1189	1192	1197	1205	1212	1216	1211	1198	1170	1130	1073	1002	916	821	717	612	510	414	328	256					
100%	100%	101%	101%	102%	102%	102%	101%	98%	95%	90%	84%	77%	69%	60%	51%	43%	35%	28%	22%					
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°					
1189	1192	1198	1208	1217	1222	1221	1211	1186	1152	1094	1027	938	842	734	626	522	424	337	263					
100%	100%	101%	102%	102%	103%	103%	102%	100%	97%	92%	86%	79%	71%	62%	53%	44%	36%	28%	22%					
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°					
1189	1192	1197	1205	1212	1216	1211	1198	1170	1130	1073	1002	916	821	717	612	510	414	328	256					
100%	100%	101%	101%	102%	102%	102%	101%	98%	95%	90%	84%	77%	69%	60%	51%	43%	35%	28%	22%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
60,4°					87,3°					111,2°					97,8%					92,8%				



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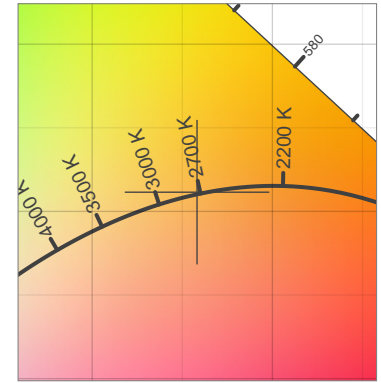
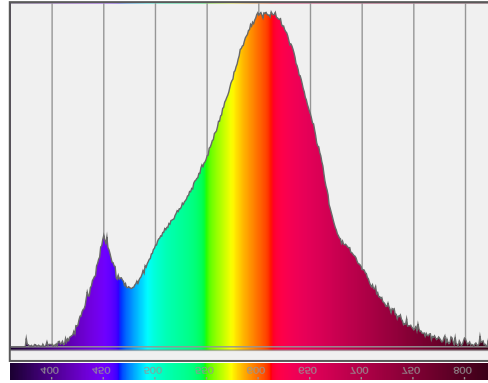
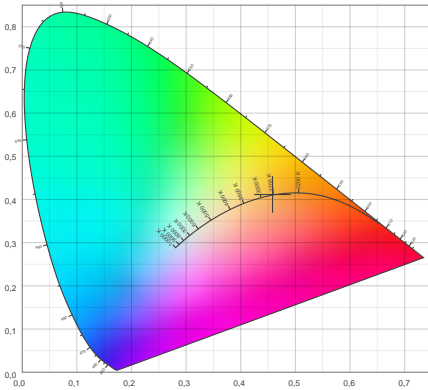
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Color details



CIE 1931

x: 0,458



Spectra

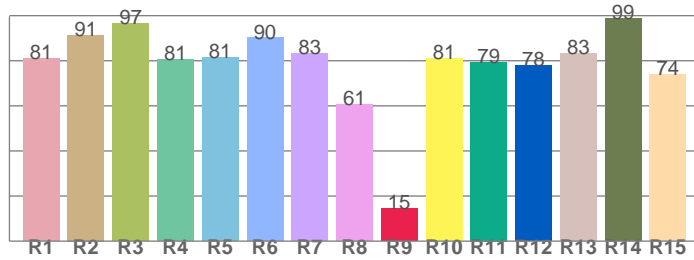
CIE 1931 ZOOM

2734 K

y: 0,411

Δuv : 0,0005

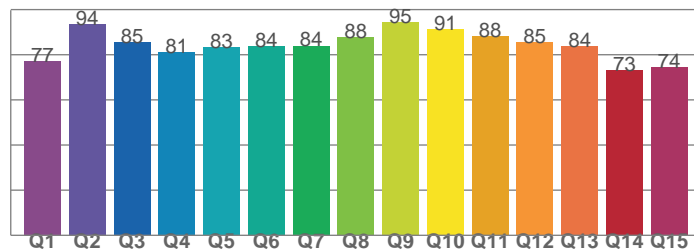
CRI: **83,2** (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
81,1	91,4	96,5	80,7	81,3	90,2	83,3	60,7
R9	R10	R11	R12	R13	R14	R15	
14,5	80,9	79,5	78,0	83,3	98,7	73,9	

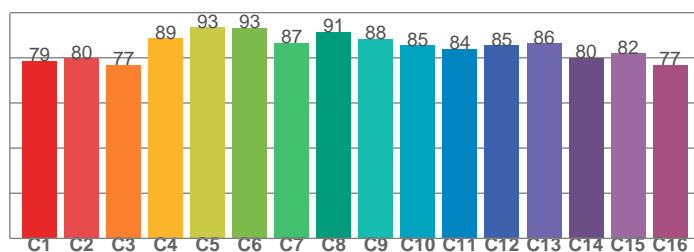
CQS: **83,1**



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
77,1	93,7	85,5	81,1	83,1	83,9	84,0	87,7
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,5	91,3	88,0	85,4	83,8	73,2	74,3	

TM30: **84,6**



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

C1	C2	C3	C4	C5	C6	C7	C8
78,7	79,7	76,9	88,6	93,4	93,3	86,5	91,5
C9	C10	C11	C12	C13	C14	C15	
88,3	85,4	83,9	85,5	86,4	79,8	81,9	

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	Δuv
2734 K	83,2	14,5	84,6	95,8	83,1	0,458	0,411	0,261	0,352	0,0005



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TM30 details

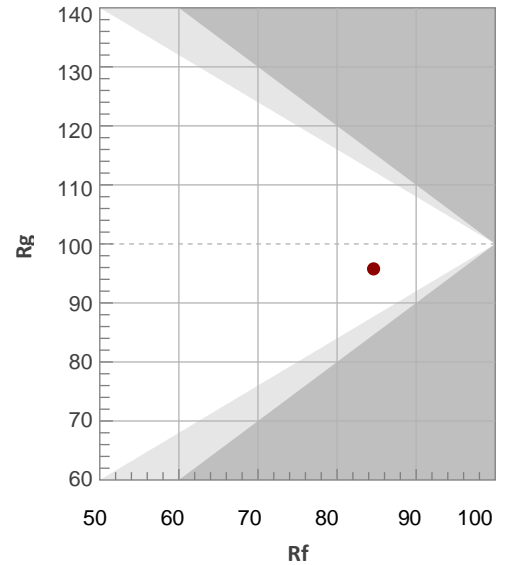
Rf 84,6

Fidelity index Rf

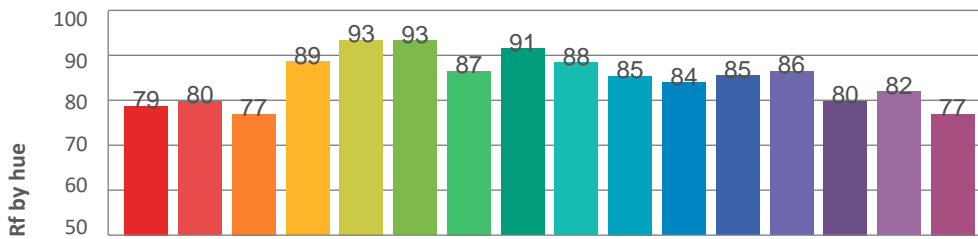
Rg 95,8

Gamut index Rg

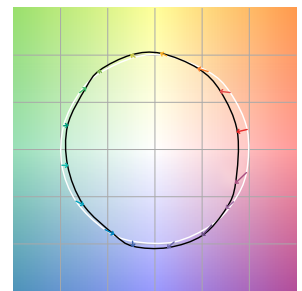
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-11%	0%
2	80	-8%	7%
3	77	-3%	11%
4	89	1%	6%
5	93	3%	4%
6	93	2%	-2%
7	87	-3%	-7%
8	91	-4%	-1%
9	88	-6%	1%
10	85	-4%	7%
11	84	-1%	10%
12	85	5%	2%
13	86	5%	-8%
14	80	4%	-14%
15	82	-3%	-10%
16	77	-9%	-13%



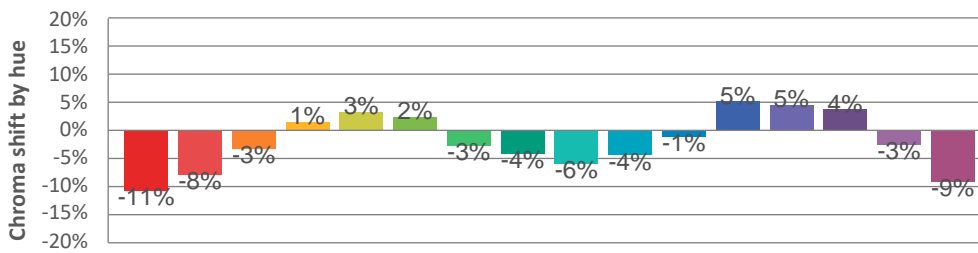
Hue binH



Color vector graphics



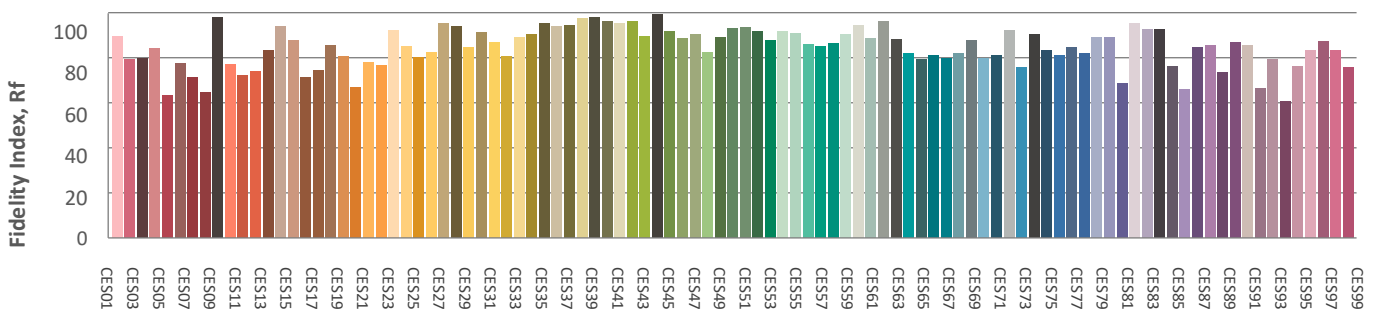
Hue bin



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	19,0	19,7	19,2	19,9	20,1	18,9	19,6	19,2	19,8	20,0
	3H	18,9	19,6	19,2	19,9	20,1	18,9	19,5	19,2	19,8	20,0
	4H	18,9	19,5	19,2	19,8	20,1	18,8	19,5	19,1	19,7	20,0
	6H	18,9	19,4	19,2	19,7	20,0	18,8	19,4	19,1	19,6	19,9
	8H	18,8	19,4	19,2	19,7	20,0	18,7	19,3	19,1	19,6	19,9
	12H	18,8	19,3	19,2	19,6	20,0	18,7	19,2	19,1	19,6	19,9
4H	2H	18,9	19,5	19,2	19,8	20,0	18,8	19,4	19,1	19,7	19,9
	3H	18,9	19,4	19,2	19,7	20,0	18,8	19,3	19,1	19,6	19,9
	4H	18,8	19,3	19,2	19,6	20,0	18,8	19,2	19,1	19,6	19,9
	6H	18,8	19,2	19,2	19,6	20,0	18,7	19,1	19,1	19,5	19,9
	8H	18,8	19,1	19,2	19,5	19,9	18,7	19,0	19,1	19,4	19,8
	12H	18,8	19,1	19,2	19,5	19,9	18,7	19,0	19,1	19,4	19,8
8H	4H	18,8	19,1	19,2	19,5	19,9	18,7	19,0	19,1	19,4	19,8
	6H	18,7	19,0	19,2	19,4	19,9	18,6	18,9	19,1	19,3	19,8
	8H	18,7	18,9	19,2	19,4	19,9	18,6	18,8	19,1	19,3	19,8
	12H	18,7	18,9	19,2	19,3	19,8	18,6	18,8	19,1	19,2	19,8
12H	4H	18,7	19,0	19,2	19,4	19,9	18,6	18,9	19,1	19,3	19,8
	6H	18,7	18,9	19,2	19,4	19,8	18,6	18,8	19,1	19,3	19,8
	8H	18,7	18,8	19,2	19,3	19,8	18,6	18,8	19,1	19,2	19,7
Variation of the observer position for the luminaire distance S											
S = 1,0H	+3,8 / -4,6					+3,7 / -4,6					
S = 1,5H	+6,3 / -6,1					+6,3 / -6,1					
S = 2,0H	+8,3 / -7,2					+8,3 / -7,1					
Standard table	BK00					BK00					
Correction summand	0,5					0,5					
Corrected glare indices referring to 1222lm total luminous flux											

