

LM-79

Test Report

LM79-REVO-2700K-CRI80-DEG12x46

General Discription

Item number	R-X-X-X-04-2
Date and time	22-4-2016 16:00:33
CCT (Kelvin)	2731 K
Beam angle	30,4°
Luminous flux	2046 lm
Efficiency	106 lm/watt
Weighted energy	19,2 kWh/1000h
Power factor	0,94
CRI (RA)	83,2
Fidelity index Rf	Rf 84,7
Gammut index Rg	Rg 95,8



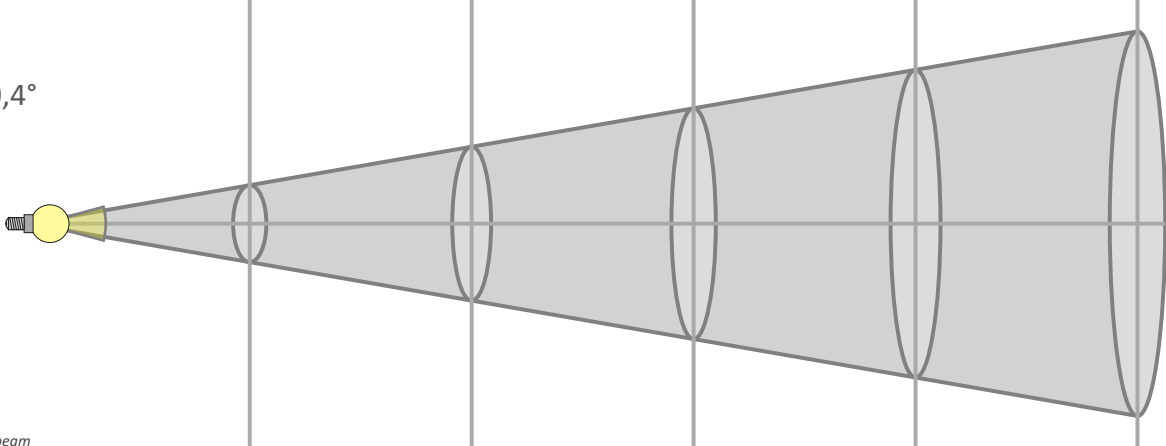
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Beam details				1m		2m		3m		4m		5m							
Lux*				5695 lx		1424 lx		633 lx		356 lx		228 lx							
30,4° 																			
*measured at center of beam																			
Footcandles*				529,1 fcd		132,3 fcd		58,8 fcd		33,1 fcd		21,2 fcd							
Beam width (meter)				0,5 m		1,1 m		1,6 m		2,2 m		2,7 m							
Beam width (Feet)				1,8 ft		3,6 ft		5,4 ft		7,1 ft		8,9 ft							
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
5695lx	1424lx	633lx	356lx	228lx	158lx	116lx	89lx	70lx	57lx	47lx	40lx	34lx	29lx	25lx	22lx	20lx	18lx	16lx	14lx
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
529,1fcd	132,3fcd	58,8fcd	33,1fcd	21,2fcd	14,7fcd	10,8fcd	8,3fcd	6,5fcd	5,3fcd	4,4fcd	3,7fcd	3,1fcd	2,7fcd	2,4fcd	2,1fcd	1,8fcd	1,6fcd	1,5fcd	1,3fcd
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°
5695	5661	5600	5426	5235	5012	4789	4563	4296	4002	3641	3258	2819	2373	1934	1520	1174	880	651	479
100%	99%	98%	95%	92%	88%	84%	80%	75%	70%	64%	57%	50%	42%	34%	27%	21%	15%	11%	8%
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°
5695	5281	4331	3152	2114	1371	866	548	349	224	147	99	72	56	47	40	33	29	25	22
100%	93%	76%	55%	37%	24%	15%	10%	6%	4%	3%	2%	1%	1%	1%	1%	1%	1%	0%	0%
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°
5695	5661	5600	5426	5235	5012	4789	4563	4296	4002	3641	3258	2819	2373	1934	1520	1174	880	651	479
100%	99%	98%	95%	92%	88%	84%	80%	75%	70%	64%	57%	50%	42%	34%	27%	21%	15%	11%	8%
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°
5695	5281	4331	3152	2114	1371	866	548	349	224	147	99	72	56	47	40	33	29	25	22
100%	93%	76%	55%	37%	24%	15%	10%	6%	4%	3%	2%	1%	1%	1%	1%	1%	1%	0%	0%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
30,4°				50,7°				65,6°				98,9%				96,7%			



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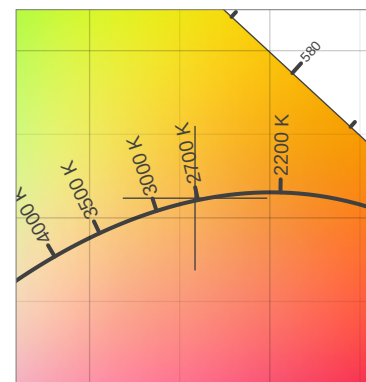
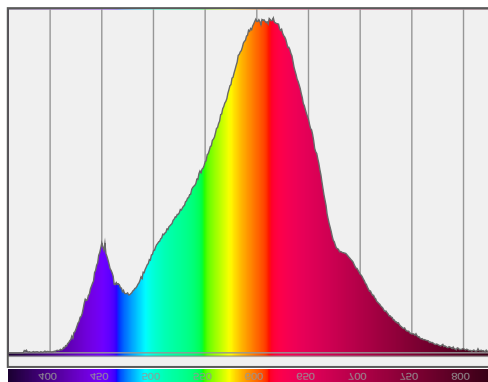
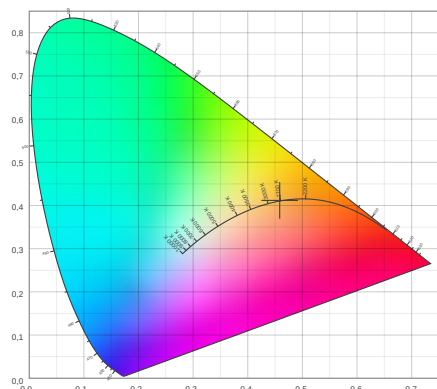
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Color details



CIE 1931

x: 0,458

2731 K

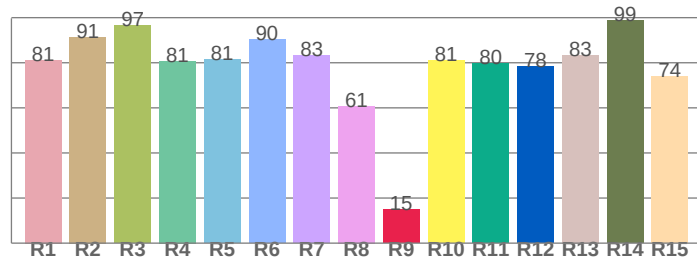
y: 0,412

Spectra

CIE 1931 ZOOM

Δuv : 0,0006

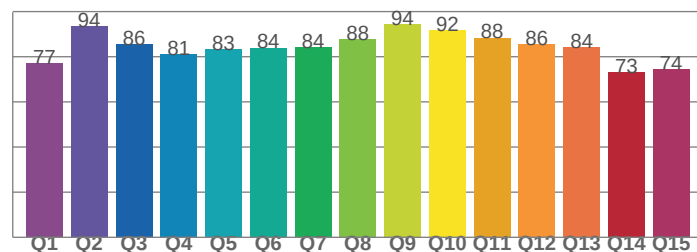
CRI: **83,2** (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
81,2	91,5	96,5	80,8	81,5	90,3	83,3	60,8
R9	R10	R11	R12	R13	R14	R15	
14,8	81,1	79,7	78,3	83,4	98,7	74,0	

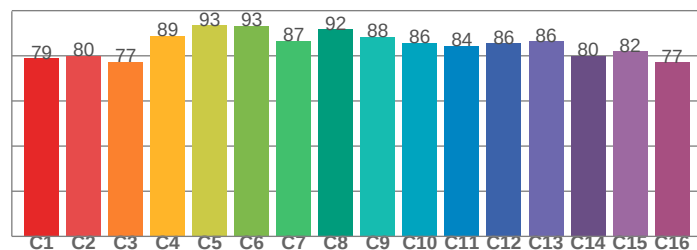
CQS: **83,2**



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
77,0	93,6	85,6	81,1	83,1	83,9	84,1	87,9
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,4	91,6	88,4	85,7	84,1	73,2	74,3	

TM30: **84,7**



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

C1	C2	C3	C4	C5	C6	C7	C8
78,8	79,9	77,2	88,8	93,5	93,4	86,6	91,7
C9	C10	C11	C12	C13	C14	C15	
88,5	85,6	84,2	85,5	86,3	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
2731 K	83,2	14,8	84,7	95,8	83,2	0,458	0,412	0,261	0,352	0,0006



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TM30 details

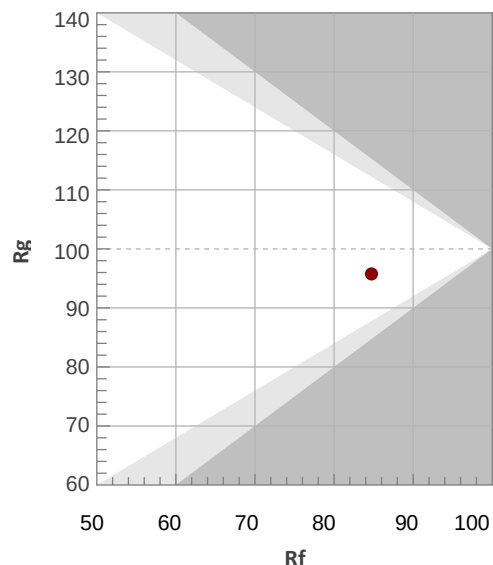
Rf 84,7

Fidelity index R_f

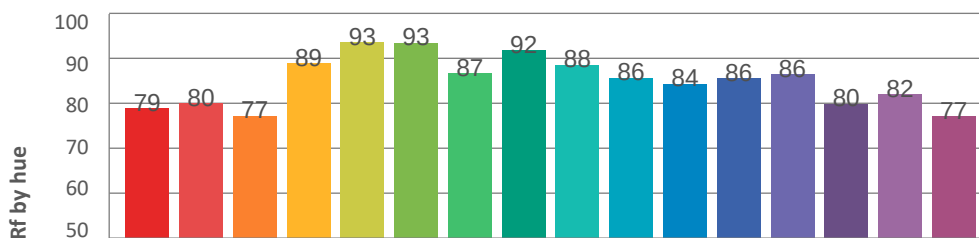
Rg 95,8

Gammut index Rg

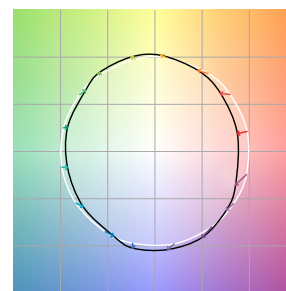
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	79	-11%	0%
2	80	-8%	7%
3	77	-3%	10%
4	89	1%	6%
5	93	3%	4%
6	93	2%	-2%
7	87	-3%	-7%
8	92	-4%	-1%
9	88	-6%	1%
10	86	-4%	7%
11	84	-1%	10%
12	86	5%	1%
13	86	5%	-8%
14	80	4%	-14%
15	82	-3%	-10%
16	77	-9%	-13%



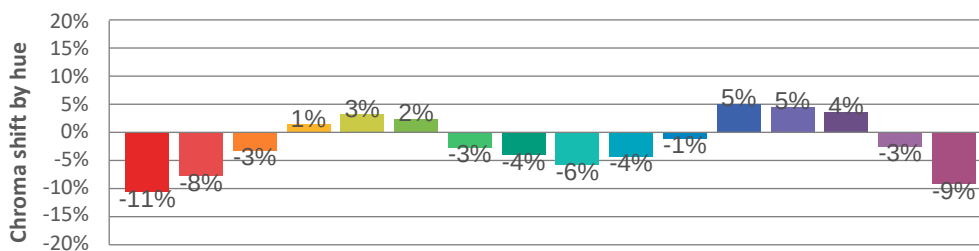
Hue binH



Color vector graphics



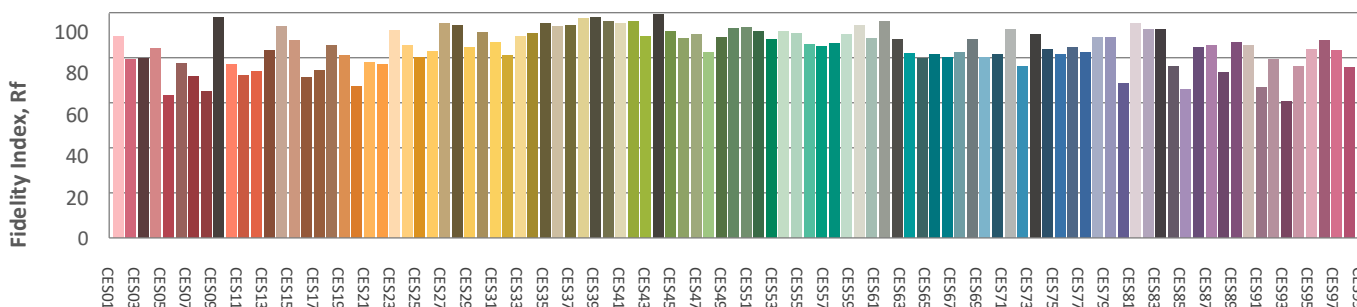
Hue bin



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	20,1	20,8	20,4	21,0	21,2	12,5	13,2	12,7	13,4	13,6
	3H	20,0	20,6	20,3	20,9	21,1	12,6	13,2	12,9	13,4	13,7
	4H	20,0	20,6	20,3	20,8	21,1	12,6	13,1	12,9	13,4	13,7
	6H	19,9	20,4	20,2	20,7	21,0	12,5	13,1	12,9	13,4	13,6
	8H	19,9	20,4	20,2	20,7	21,0	12,5	13,0	12,9	13,3	13,6
	12H	19,8	20,3	20,2	20,6	21,0	12,5	13,0	12,9	13,3	13,6
4H	2H	19,9	20,5	20,2	20,8	21,0	12,5	13,1	12,8	13,3	13,6
	3H	19,8	20,3	20,2	20,6	21,0	12,7	13,1	13,0	13,4	13,8
	4H	19,8	20,2	20,2	20,6	20,9	12,7	13,1	13,1	13,4	13,8
	6H	19,7	20,1	20,2	20,5	20,8	12,7	13,0	13,1	13,4	13,8
	8H	19,7	20,0	20,1	20,4	20,8	12,7	13,0	13,1	13,4	13,8
	12H	19,7	19,9	20,1	20,3	20,8	12,7	12,9	13,1	13,4	13,8
8H	4H	19,7	20,0	20,1	20,4	20,8	12,7	13,0	13,1	13,4	13,8
	6H	19,6	19,9	20,1	20,3	20,7	12,7	12,9	13,1	13,3	13,8
	8H	19,6	19,8	20,1	20,2	20,7	12,7	12,9	13,2	13,3	13,8
	12H	19,6	19,7	20,0	20,2	20,7	12,7	12,9	13,2	13,3	13,8
12H	4H	19,7	19,9	20,1	20,3	20,8	12,6	12,9	13,1	13,3	13,7
	6H	19,6	19,8	20,1	20,2	20,7	12,7	12,9	13,1	13,3	13,8
	8H	19,6	19,7	20,0	20,2	20,7	12,7	12,8	13,2	13,3	13,8

Variation of the observer position for the luminaire distance S

S = 1,0H	+5,5 / -7,9	+4,3 / -3,8
S = 1,5H	+8,2 / -9,1	+6,0 / -4,5
S = 2,0H	+10,2 / -10,0	+7,8 / -5,0
Standard table	BK00	BK01
Correction summand	1,5	-5,4

Corrected glare indices referring to 2046lm total luminous flux



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