

LM-79

Test Report

LM79-REVO-INGROUND-2700K-CRI80-DEG8

General Discription

Item number	R-I-2-04-5
Date and time	22-4-2016 15:45:24
CCT (Kelvin)	2709 K
Beam angle	10,9°
Luminous flux	1389 lm
Efficiency	72 lm/watt
Weighted energy	19,3 kWh/1000h
Power factor	0,94
CRI (RA)	83,3
Fidelity index Rf	Rf 84,8
Gammut index Rg	Rg 95,9



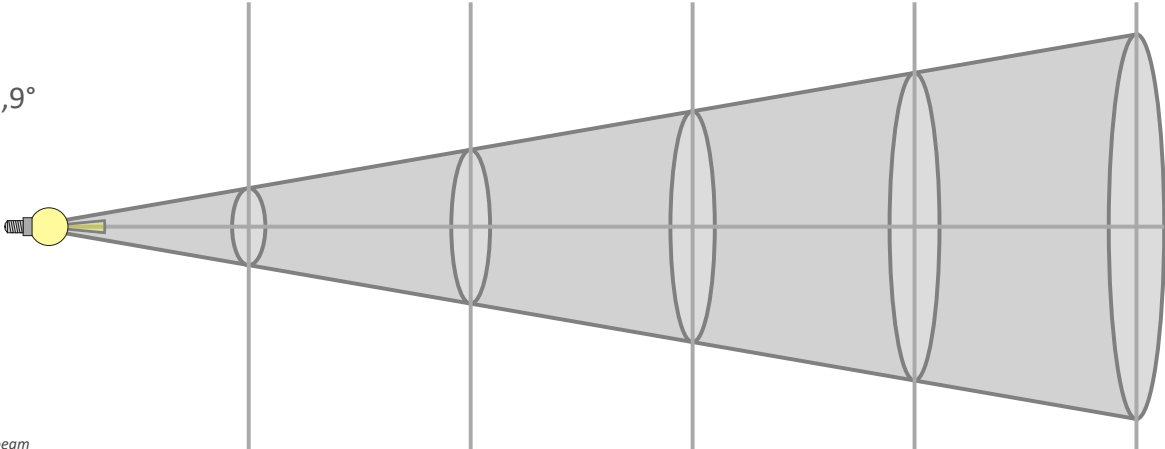
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Beam details					1m		2m		3m		4m		5m											
Lux*					27479 lx		6870 lx		3053 lx		1717 lx		1099 lx											
10,9° 																								
*measured at center of beam																								
Footcandles*					2552,9 fcd		638,2 fcd		283,7 fcd		159,6 fcd		102,1 fcd											
Beam width (meter)					0,2 m		0,4 m		0,6 m		0,8 m		1 m											
Beam width (Feet)					0,6 ft		1,2 ft		1,9 ft		2,5 ft		3,1 ft											
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
27479lx	6870lx	3053lx	1717lx	1099lx	763lx	561lx	429lx	339lx	275lx	227lx	191lx	163lx	140lx	122lx	107lx	95lx	85lx	76lx	69lx					
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					
2552,9fcd	638,2fcd	283,7fcd	159,6fcd	102,1fcd	70,9fcd	52,1fcd	39,9fcd	31,5fcd	25,5fcd	21,1fcd	17,7fcd	15,1fcd	13fcd	11,3fcd	10fcd	8,8fcd	7,9fcd	7,1fcd	6,4fcd					
Intensities in 0° c-plane																								
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°					
27,5K	25,6K	23,4K	21,2K	18,6K	15,2K	11,7K	8,3K	6,3K	5,0K	3,7K	2,4K	2,0K	1,5K	1,1K	0,8K	0,7K	0,5K	0,4K	0,3K					
100%	93%	85%	77%	68%	55%	43%	30%	23%	18%	13%	9%	7%	6%	4%	3%	2%	2%	1%	1%					
Intensities in 90° c-plane																								
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°					
27,5K	25,9K	23,7K	21,5K	18,7K	15,3K	11,8K	8,4K	6,3K	5,0K	3,7K	2,5K	1,9K	1,5K	1,0K	0,7K	0,6K	0,4K	0,3K	0,2K					
100%	94%	86%	78%	68%	56%	43%	31%	23%	18%	13%	9%	7%	5%	4%	2%	2%	2%	1%	1%					
Intensities in 180° c-plane																								
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°					
27,5K	25,6K	23,4K	21,2K	18,6K	15,2K	11,7K	8,3K	6,3K	5,0K	3,7K	2,4K	2,0K	1,5K	1,1K	0,8K	0,7K	0,5K	0,4K	0,3K					
100%	93%	85%	77%	68%	55%	43%	30%	23%	18%	13%	9%	7%	6%	4%	3%	2%	2%	1%	1%					
Intensities in 270° c-plane																								
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°					
27,5K	25,9K	23,7K	21,5K	18,7K	15,3K	11,8K	8,4K	6,3K	5,0K	3,7K	2,5K	1,9K	1,5K	1,0K	0,7K	0,6K	0,4K	0,3K	0,2K					
100%	94%	86%	78%	68%	56%	43%	31%	23%	18%	13%	9%	7%	5%	4%	2%	2%	2%	1%	1%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
10,9°					21,5°					{C_ANG}°					98,8%					98,1%				



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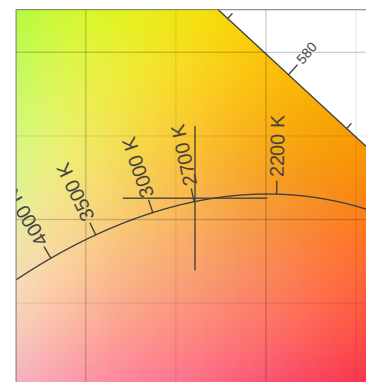
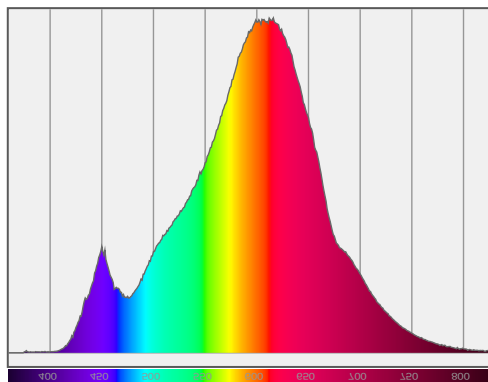
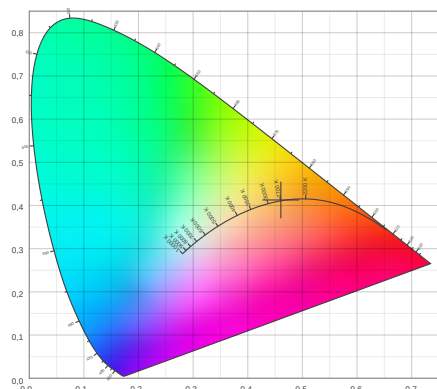
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Color details



CIE 1931

x: 0,461



Spectra

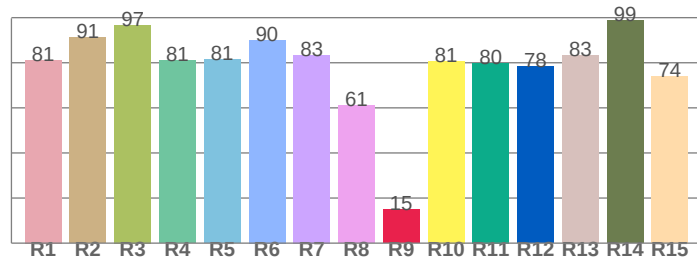
CIE 1931 ZOOM

2709 K

y: 0,413

Δuv : 0,0007

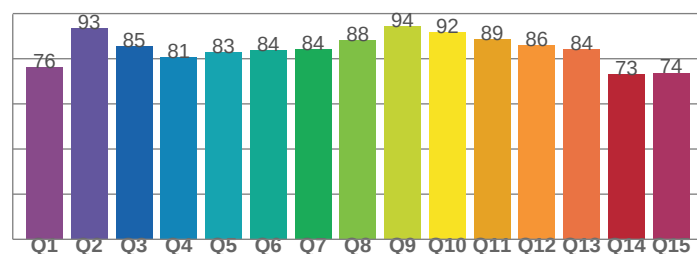
CRI: 83,3 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
81,2	91,3	96,8	80,9	81,4	90,1	83,5	60,9
R9	R10	R11	R12	R13	R14	R15	
14,9	80,7	79,9	78,4	83,3	98,8	73,9	

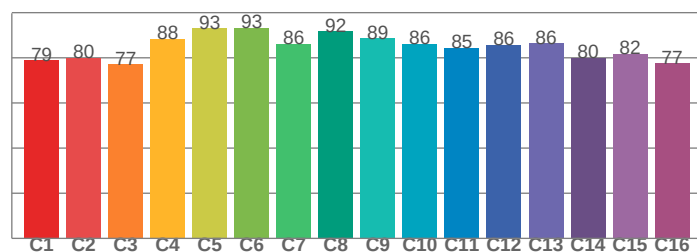
CQS: 83,0



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
76,1	93,5	85,4	80,7	82,8	83,9	84,1	88,3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,4	91,9	88,7	86,1	84,3	73,0	73,8	

TM30: 84,8



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

C1	C2	C3	C4	C5	C6	C7	C8
78,9	79,9	77,0	88,4	93,0	93,2	86,3	91,7
C9	C10	C11	C12	C13	C14	C15	
88,6	86,2	84,5	85,6	86,4	80,1	81,7	

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
2709 K	83,3	14,9	84,8	95,9	83,0	0,461	0,413	0,262	0,352	0,0007



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TM30 details

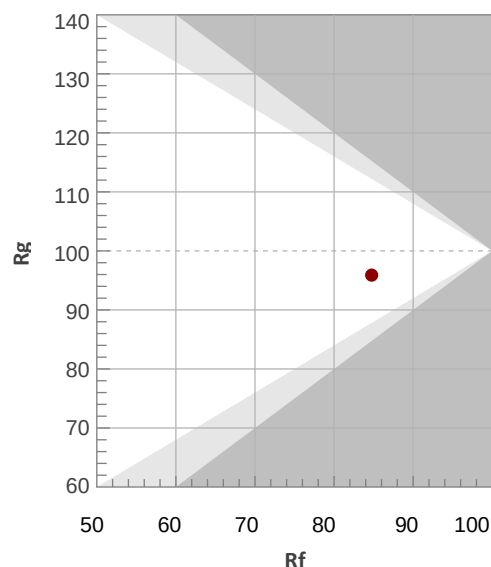
Rf 84,8

Fidelity index R_f

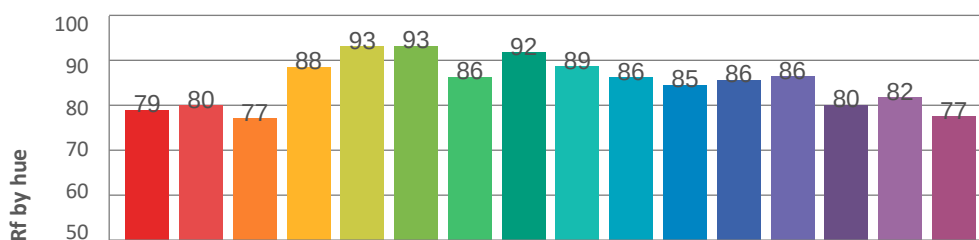
Rg 95,9

Gammut index Rg

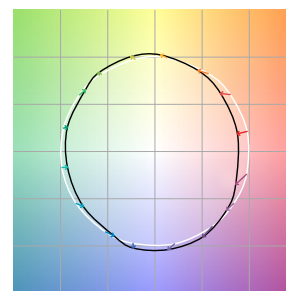
		Graphic shifts (%)	
Hue Bin	R_f	Chroma	Hue
1	79	-11%	-1%
2	80	-8%	7%
3	77	-3%	11%
4	88	2%	7%
5	93	4%	4%
6	93	3%	-2%
7	86	-2%	-8%
8	92	-4%	-2%
9	89	-6%	1%
10	86	-5%	7%
11	85	-1%	10%
12	86	5%	1%
13	86	5%	-8%
14	80	4%	-14%
15	82	-2%	-10%
16	77	-9%	-13%



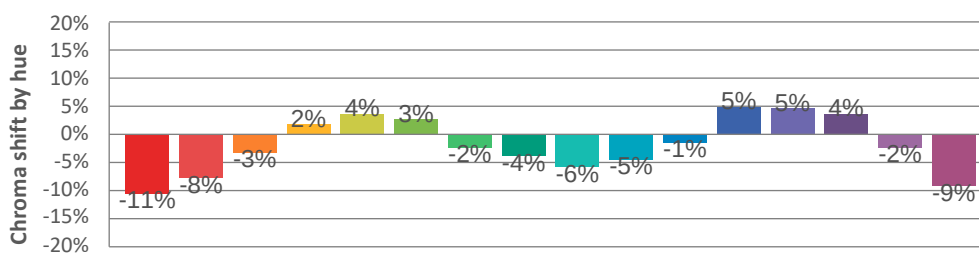
Hue binH



Color vector graphics



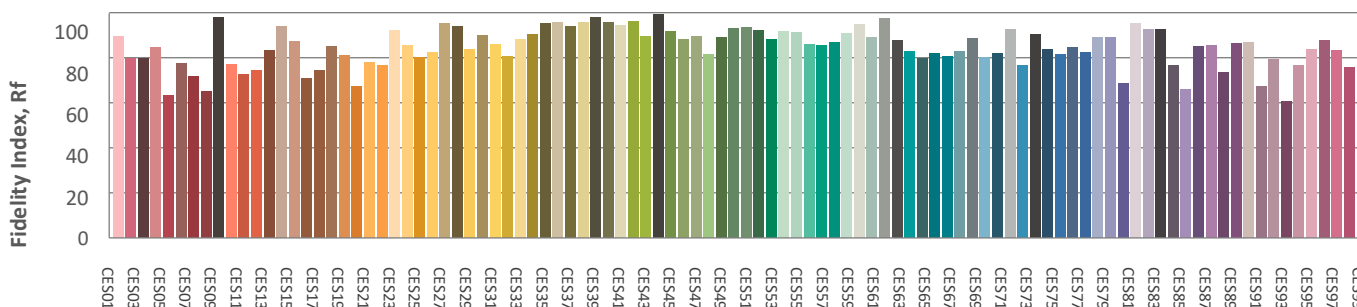
Hue bin



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	3,1	3,7	3,3	3,9	4,1	2,4	3,0	2,6	3,2	3,4
	3H	3,8	4,3	4,0	4,6	4,8	3,2	3,8	3,5	4,1	4,3
	4H	4,2	4,8	4,5	5,0	5,3	3,9	4,4	4,2	4,7	5,0
	6H	4,7	5,2	5,0	5,5	5,8	4,6	5,1	5,0	5,4	5,7
	8H	4,9	5,4	5,3	5,7	6,0	4,9	5,4	5,2	5,7	6,0
	12H	5,5	6,0	5,9	6,3	6,6	5,2	5,7	5,6	6,0	6,3
4H	2H	3,4	3,9	3,7	4,2	4,4	2,8	3,3	3,1	3,6	3,8
	3H	4,2	4,7	4,6	5,0	5,3	3,8	4,3	4,2	4,6	4,9
	4H	4,9	5,3	5,3	5,6	6,0	4,7	5,1	5,1	5,4	5,8
	6H	5,5	5,9	6,0	6,2	6,6	5,6	6,0	6,1	6,3	6,7
	8H	5,9	6,2	6,3	6,6	7,0	6,0	6,3	6,4	6,7	7,1
	12H	6,7	7,0	7,1	7,4	7,8	6,4	6,7	6,9	7,1	7,5
8H	4H	5,2	5,5	5,6	5,9	6,3	5,0	5,3	5,5	5,7	6,1
	6H	6,0	6,2	6,5	6,7	7,1	6,1	6,4	6,6	6,8	7,2
	8H	6,6	6,7	7,0	7,2	7,7	6,6	6,8	7,1	7,2	7,7
	12H	7,6	7,8	8,1	8,2	8,7	7,3	7,4	7,8	7,9	8,4
12H	4H	5,2	5,5	5,7	5,9	6,3	5,1	5,3	5,5	5,7	6,2
	6H	6,1	6,3	6,6	6,8	7,2	6,2	6,4	6,7	6,9	7,3
	8H	6,8	6,9	7,3	7,4	7,9	6,8	6,9	7,3	7,4	7,9
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,6 / -0,4					+0,6 / -0,4				
S = 1,5H		+1,3 / -0,6					+1,3 / -0,6				
S = 2,0H		+2,3 / -1,3					+2,3 / -1,0				
Standard table		BK06					BK06				
Correction summand		-10,5					-11,0				
Corrected glare indices referring to 1389lm total luminous flux											

