

LM-79

Test Report

LM79-REVO-INGROUND-3000K-CRI80-DEG30

General Discription

Item number	R-I-2-03-3
Date and time	22-4-2016 10:53:56
CCT (Kelvin)	2995 K
Beam angle	29,3°
Luminous flux	1417 lm
Efficiency	74 lm/watt
Weighted energy	19,2 kWh/1000h
Power factor	0,94
CRI (RA)	83,3
Fidelity index Rf	Rf 84,4
Gammut index Rg	Rg 96,6



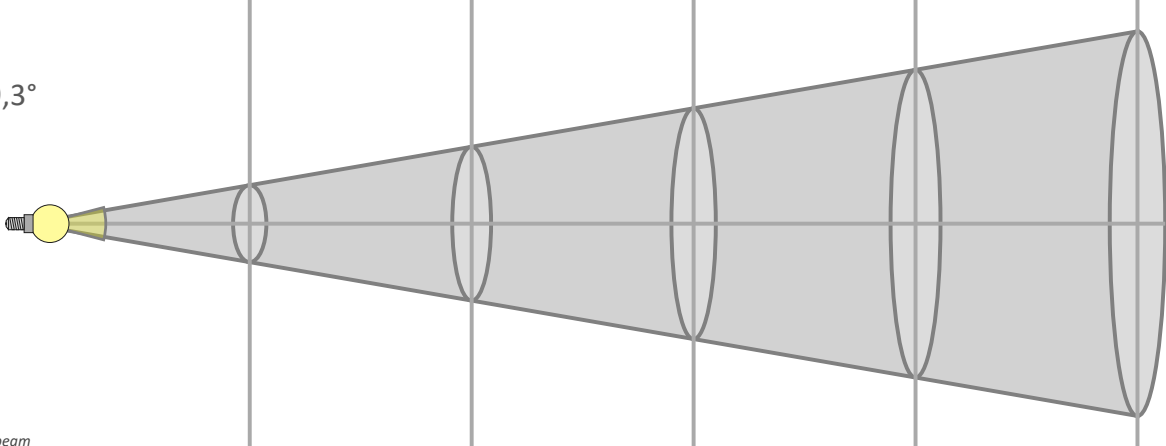
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Beam details					1m		2m		3m		4m		5m											
Lux*					4634 lx		1159 lx		515 lx		290 lx		185 lx											
29,3° 																								
*measured at center of beam																								
Footcandles*					430,5 fcd		107,6 fcd		47,8 fcd		26,9 fcd		17,2 fcd											
Beam width (meter)					0,5 m		1 m		1,6 m		2,1 m		2,6 m											
Beam width (Feet)					1,7 ft		3,4 ft		5,1 ft		6,9 ft		8,6 ft											
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
4634lx	1159lx	515lx	290lx	185lx	129lx	95lx	72lx	57lx	46lx	38lx	32lx	27lx	24lx	21lx	18lx	16lx	14lx	13lx	12lx					
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					
430,5fcd	107,6fcd	47,8fcd	26,9fcd	17,2fcd	12fcd	8,8fcd	6,7fcd	5,3fcd	4,3fcd	3,6fcd	3fcd	2,5fcd	2,2fcd	1,9fcd	1,7fcd	1,5fcd	1,3fcd	1,2fcd	1,1fcd					
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°					
4634	4596	4396	4125	3731	3306	2849	2411	1976	1579	1209	912	658	478	331	238	167	122	89	67					
100%	99%	95%	89%	81%	71%	61%	52%	43%	34%	26%	20%	14%	10%	7%	5%	4%	3%	2%	1%					
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°					
4634	4578	4393	4108	3730	3317	2893	2484	2088	1708	1347	1026	753	544	385	275	196	142	104	79					
100%	99%	95%	89%	80%	72%	62%	54%	45%	37%	29%	22%	16%	12%	8%	6%	4%	3%	2%	2%					
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°					
4634	4596	4396	4125	3731	3306	2849	2411	1976	1579	1209	912	658	478	331	238	167	122	89	67					
100%	99%	95%	89%	81%	71%	61%	52%	43%	34%	26%	20%	14%	10%	7%	5%	4%	3%	2%	1%					
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°					
4634	4578	4393	4108	3730	3317	2893	2484	2088	1708	1347	1026	753	544	385	275	196	142	104	79					
100%	99%	95%	89%	80%	72%	62%	54%	45%	37%	29%	22%	16%	12%	8%	6%	4%	3%	2%	2%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
29,3°					53,1°					{C_ANG}°					98,4%					96,5%				



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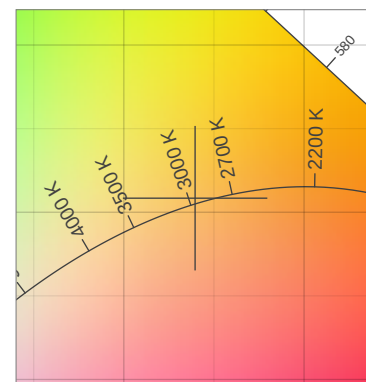
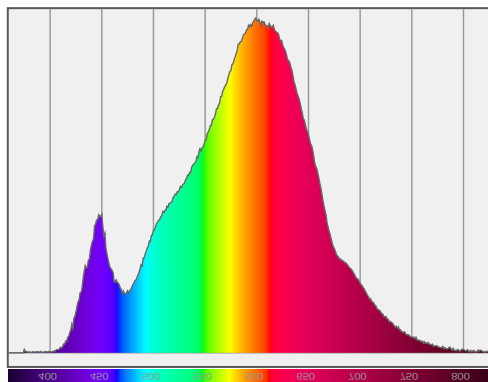
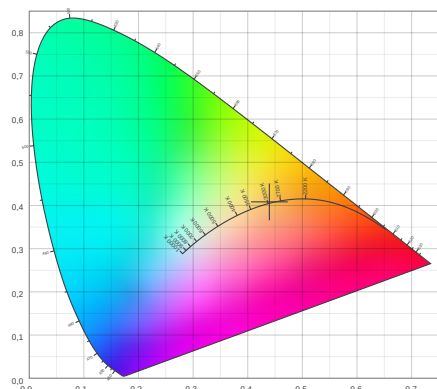
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Color details



CIE 1931

x: 0,440



Spectra

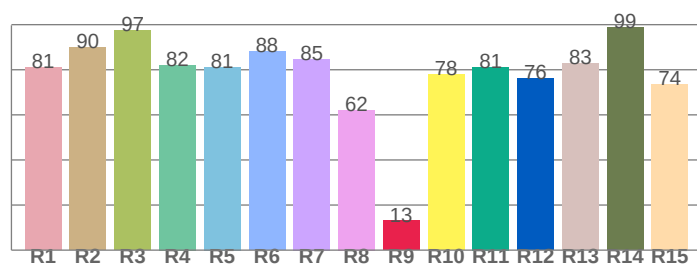
CIE 1931 ZOOM

2995 K

y: 0,408

Δuv : 0,0014

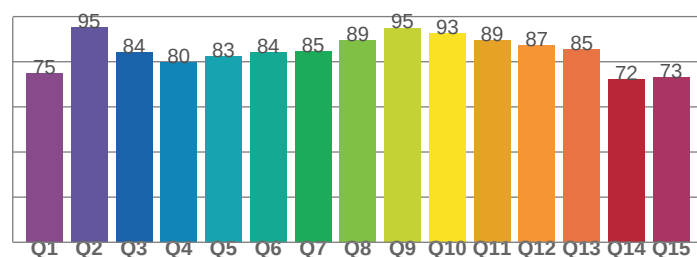
CRI: 83,3 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
80,9	90,0	97,5	82,1	81,3	88,1	84,8	62,2
R9	R10	R11	R12	R13	R14	R15	
13,0	77,8	81,2	76,1	82,7	98,8	73,5	

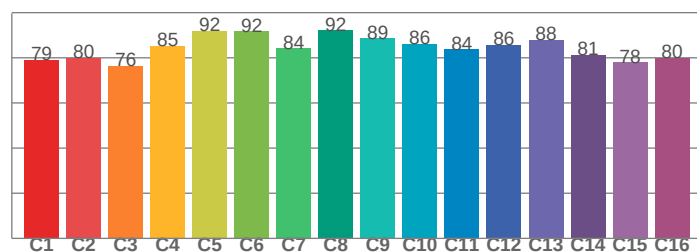
CQS: 82,9



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
74,9	95,1	84,2	79,7	82,5	84,0	84,6	89,3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
95,1	92,8	89,4	87,1	85,4	72,4	73,1	

TM30: 84,4



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

C1	C2	C3	C4	C5	C6	C7	C8
79,1	80,0	76,3	85,3	91,8	91,7	84,2	92,1
C9	C10	C11	C12	C13	C14	C15	
88,5	86,1	83,7	85,6	88,0	81,3	78,0	

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
2995 K	83,3	13,0	84,4	96,6	82,9	0,440	0,408	0,250	0,349	0,0014



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TM30 details

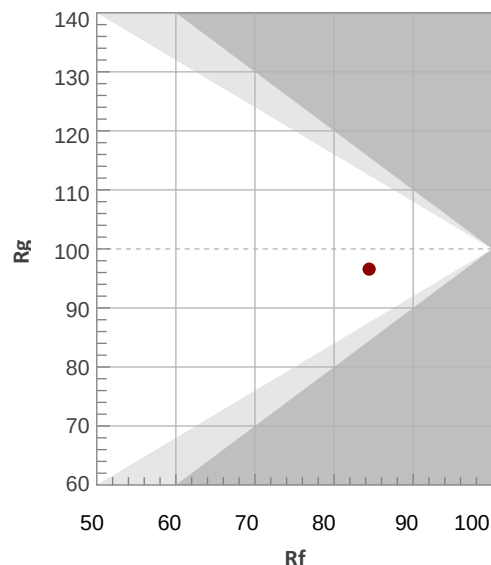
Rf 84,4

Fidelity index Rf

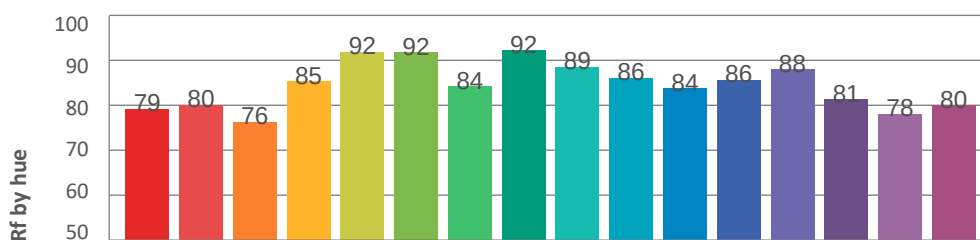
Rg 96,6

Gamut index Rg

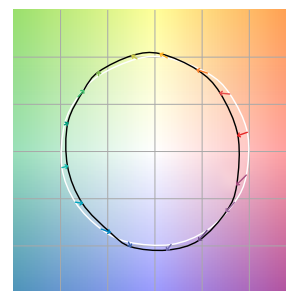
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-11%	-1%
2	80	-8%	7%
3	76	-3%	11%
4	85	3%	8%
5	92	4%	4%
6	92	4%	-3%
7	84	-1%	-9%
8	92	-3%	-3%
9	89	-6%	0%
10	86	-6%	5%
11	84	-2%	10%
12	86	4%	3%
13	88	5%	-6%
14	81	4%	-13%
15	78	-2%	-13%
16	80	-8%	-12%



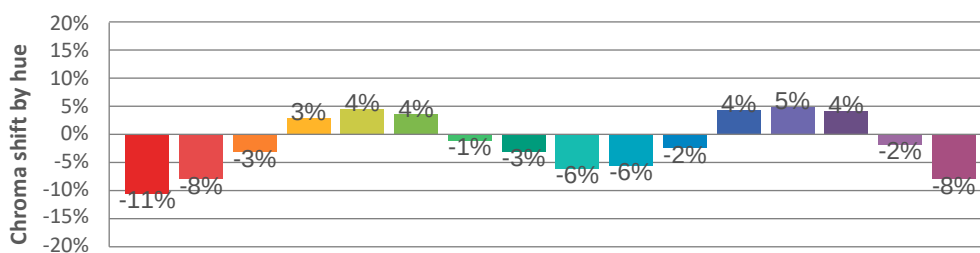
Hue binH



Color vector graphics



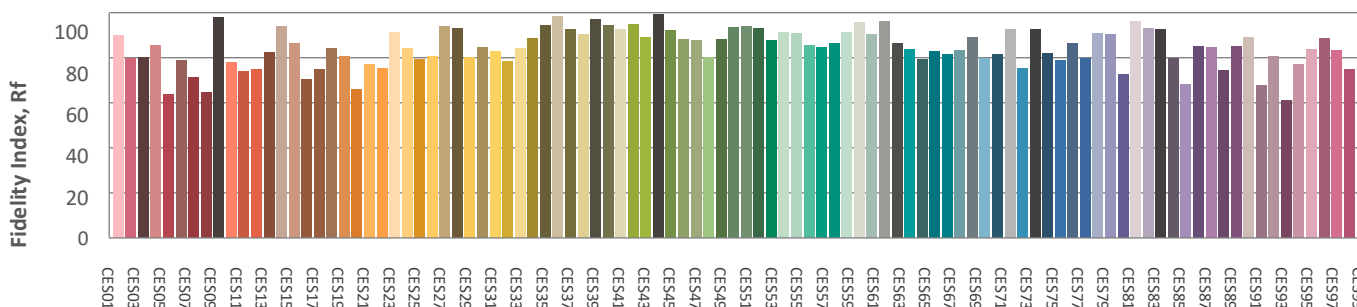
Hue bin



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	11,5	12,1	11,7	12,3	12,5	11,8	12,5	12,1	12,7	12,9
	3H	11,9	12,5	12,2	12,7	13,0	12,2	12,8	12,4	13,0	13,3
	4H	12,0	12,6	12,3	12,8	13,1	12,2	12,8	12,6	13,1	13,3
	6H	12,0	12,6	12,4	12,8	13,1	12,3	12,8	12,6	13,1	13,4
	8H	12,0	12,5	12,4	12,8	13,1	12,3	12,8	12,6	13,1	13,4
	12H	12,0	12,5	12,3	12,8	13,1	12,3	12,7	12,6	13,0	13,4
4H	2H	11,6	12,2	12,0	12,5	12,7	11,9	12,5	12,3	12,8	13,1
	3H	12,2	12,6	12,5	13,0	13,3	12,4	12,9	12,8	13,2	13,5
	4H	12,4	12,8	12,7	13,1	13,5	12,6	13,0	12,9	13,3	13,7
	6H	12,4	12,8	12,8	13,1	13,5	12,6	13,0	13,0	13,4	13,7
	8H	12,4	12,7	12,8	13,1	13,5	12,6	12,9	13,1	13,3	13,7
	12H	12,4	12,7	12,8	13,1	13,5	12,6	12,9	13,1	13,3	13,7
8H	4H	12,4	12,7	12,8	13,1	13,5	12,6	12,9	13,0	13,3	13,7
	6H	12,5	12,7	12,9	13,1	13,6	12,7	12,9	13,1	13,3	13,8
	8H	12,5	12,7	12,9	13,1	13,6	12,7	12,9	13,2	13,3	13,8
	12H	12,5	12,6	13,0	13,1	13,6	12,7	12,8	13,2	13,3	13,8
12H	4H	12,3	12,6	12,8	13,0	13,5	12,5	12,8	13,0	13,2	13,6
	6H	12,4	12,6	12,9	13,1	13,5	12,7	12,8	13,1	13,3	13,8
	8H	12,4	12,6	12,9	13,1	13,6	12,7	12,8	13,2	13,3	13,8
Variation of the observer position for the luminaire distance S											
S = 1,0H		+2,5 / -1,5					+2,9 / -1,7				
S = 1,5H		+4,6 / -1,9					+5,1 / -2,4				
S = 2,0H		+6,3 / -2,9					+6,8 / -3,1				
Standard table		BK02					BK02				
Correction summand		-5,5					-5,2				
Corrected glare indices referring to 1417lm total luminous flux											

