

LM-79

Test Report

LM79-REVO-INGROUND-3000K-CRI80-DEG8

General Discription

Item number	R-I-2-03-5
Date and time	22-4-2016 10:54:09
CCT (Kelvin)	2980 K
Beam angle	10,9°
Luminous flux	1536 lm
Efficiency	80 lm/watt
Weighted energy	19,3 kWh/1000h
Power factor	0,95
CRI (RA)	83,2
Fidelity index Rf	Rf 84,4
Gammut index Rg	Rg 96,4



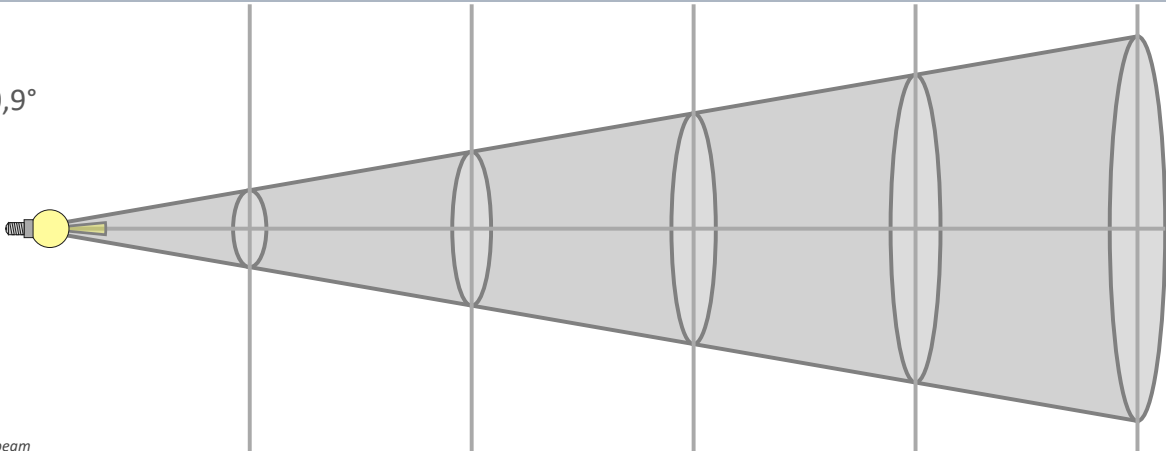
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Beam details					1m		2m		3m		4m		5m							
Lux*					30688 lx		7672 lx		3410 lx		1918 lx		1228 lx							
10,9° 																				
*measured at center of beam																				
Footcandles*					2851,0 fcd		712,8 fcd		316,8 fcd		178,2 fcd		114,0 fcd							
Beam width (meter)					0,2 m		0,4 m		0,6 m		0,8 m		1 m							
Beam width (Feet)					0,6 ft		1,3 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	
30688lx	7672lx	3410lx	1918lx	1228lx	852lx	626lx	480lx	379lx	307lx	254lx	213lx	182lx	157lx	136lx	120lx	106lx	95lx	85lx	77lx	
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	
2851fcd	712,8fcd	316,8fcd	178,2fcd	114fcd	79,2fcd	58,2fcd	44,5fcd	35,2fcd	28,5fcd	23,6fcd	19,8fcd	16,9fcd	14,5fcd	12,7fcd	11,1fcd	9,9fcd	8,8fcd	7,9fcd	7,1fcd	
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°	
30,7K	28,6K	26,2K	23,8K	20,9K	17,0K	13,1K	9,2K	6,8K	5,4K	3,9K	2,5K	2,0K	1,5K	1,1K	0,7K	0,6K	0,5K	0,4K	0,3K	
100%	93%	85%	77%	68%	55%	43%	30%	22%	18%	13%	8%	6%	5%	4%	2%	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°	
30,7K	30,2K	27,8K	25,2K	21,2K	17,3K	13,4K	9,9K	7,2K	5,5K	3,9K	2,9K	2,1K	1,6K	1,1K	0,8K	0,6K	0,4K	0,3K	0,3K	
100%	98%	90%	82%	69%	56%	44%	32%	24%	18%	13%	9%	7%	5%	3%	3%	2%	1%	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°	
30,7K	28,6K	26,2K	23,8K	20,9K	17,0K	13,1K	9,2K	6,8K	5,4K	3,9K	2,5K	2,0K	1,5K	1,1K	0,7K	0,6K	0,5K	0,4K	0,3K	
100%	93%	85%	77%	68%	55%	43%	30%	22%	18%	13%	8%	6%	5%	4%	2%	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°	
30,7K	30,2K	27,8K	25,2K	21,2K	17,3K	13,4K	9,9K	7,2K	5,5K	3,9K	2,9K	2,1K	1,6K	1,1K	0,8K	0,6K	0,4K	0,3K	0,3K	
100%	98%	90%	82%	69%	56%	44%	32%	24%	18%	13%	9%	7%	5%	3%	3%	2%	1%	1%	1%	
Beam angle 50%					Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
10,9°					21,4°				{C_ANG}°				98,8%				98,0%			



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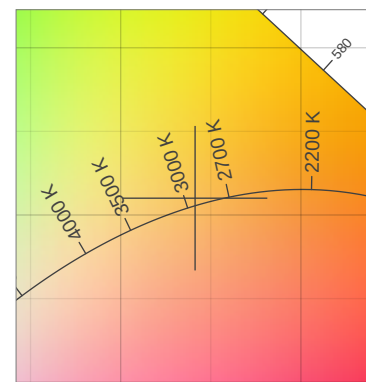
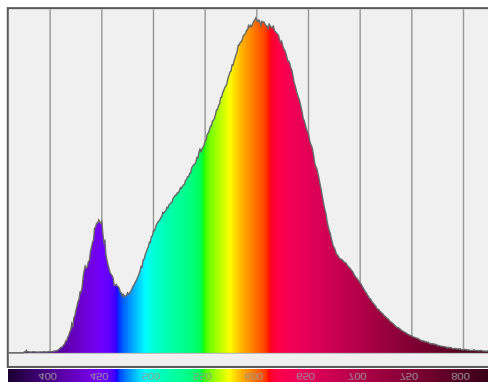
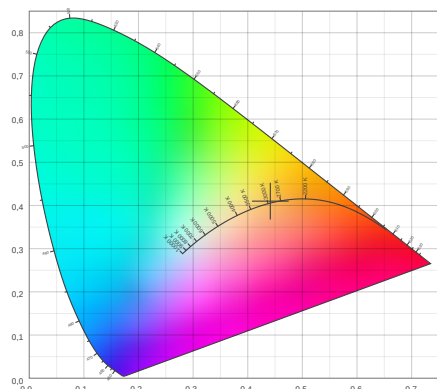
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Color details



CIE 1931

x: 0,441

2980 K

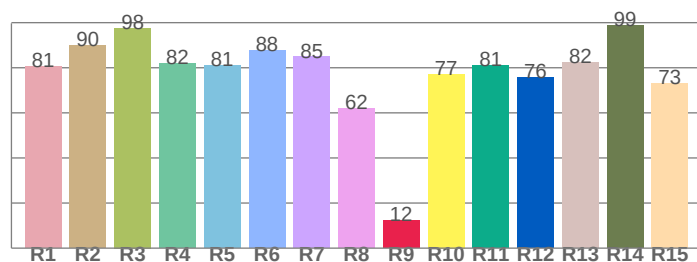
y: 0,410

Spectra

CIE 1931 ZOOM

Δuv : 0,0018

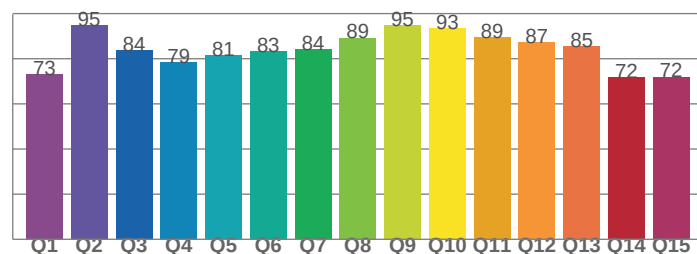
CRI: 83,2 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
80,7	89,8	97,6	82,0	81,0	87,8	84,8	61,9
R9	R10	R11	R12	R13	R14	R15	
12,3	77,3	81,1	75,7	82,5	98,8	73,1	

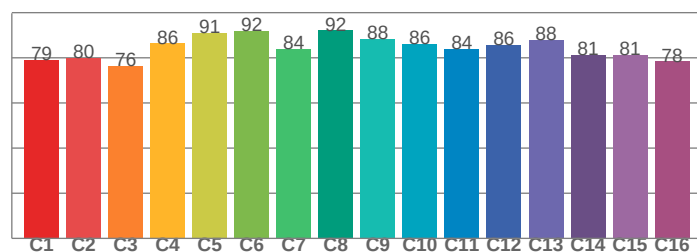
CQS: 82,3



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
73,3	94,9	83,9	78,6	81,4	83,3	84,0	89,3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,7	93,5	89,3	87,2	85,4	71,7	72,0	

TM30: 84,4



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

C1	C2	C3	C4	C5	C6	C7	C8
78,9	79,9	76,3	86,4	90,9	91,8	83,9	92,1
C9	C10	C11	C12	C13	C14	C15	
88,4	86,1	83,9	85,7	88,0	81,4	81,1	

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
2980 K	83,2	12,3	84,4	96,4	82,3	0,441	0,410	0,251	0,350	0,0018



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TM30 details

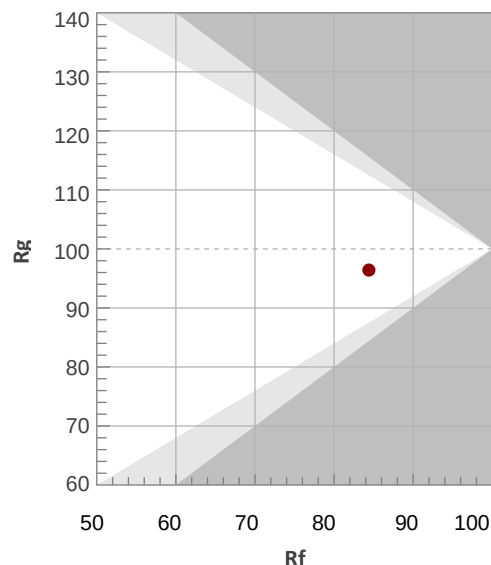
Rf 84,4

Fidelity index Rf

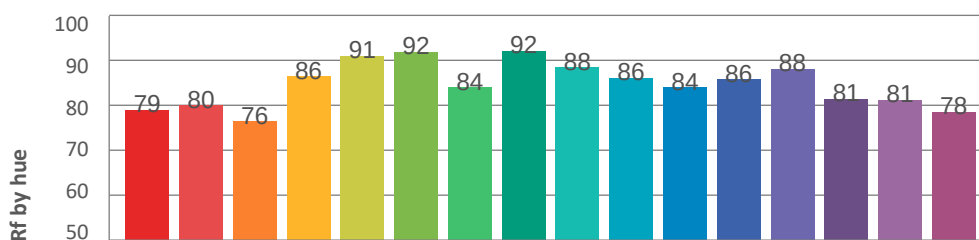
Rg 96,4

Gamut index Rg

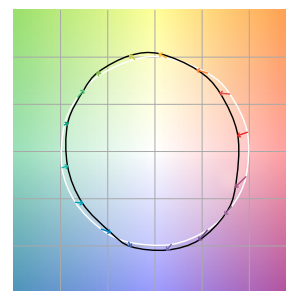
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-11%	-2%
2	80	-8%	7%
3	76	-3%	11%
4	86	3%	8%
5	91	5%	4%
6	92	4%	-3%
7	84	-1%	-9%
8	92	-3%	-3%
9	88	-6%	-1%
10	86	-6%	5%
11	84	-3%	9%
12	86	4%	3%
13	88	5%	-6%
14	81	4%	-13%
15	81	-1%	-10%
16	78	-9%	-13%



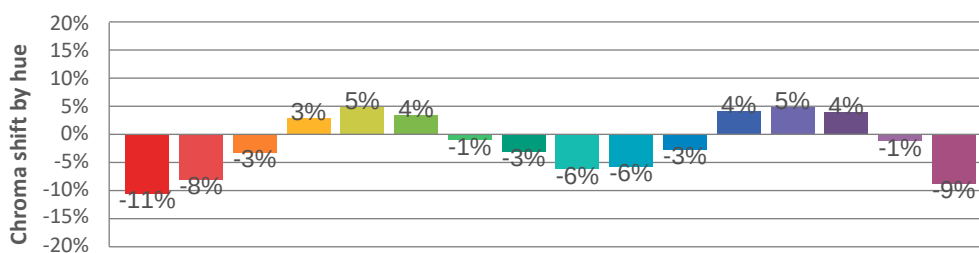
Hue binH



Color vector graphics



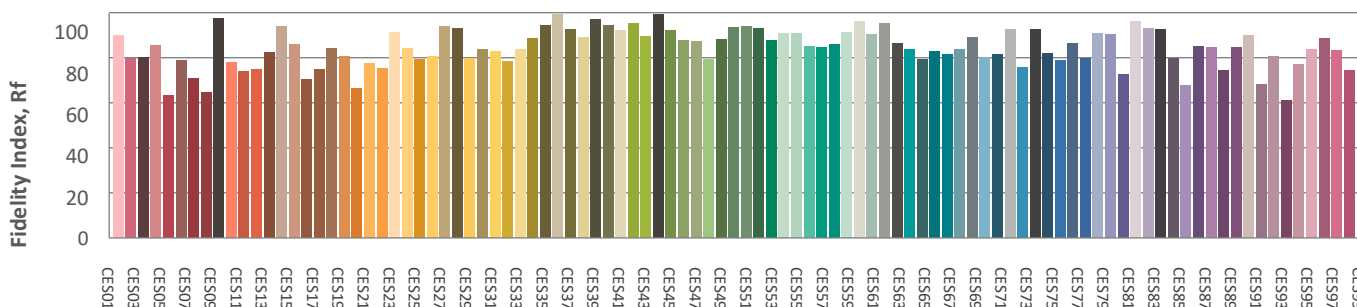
Hue bin



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	3,5	4,1	3,7	4,3	4,5	3,8	4,4	4,0	4,6	4,8
	3H	4,4	5,0	4,7	5,3	5,5	4,6	5,2	4,9	5,4	5,7
	4H	4,9	5,5	5,2	5,7	6,0	5,0	5,6	5,3	5,8	6,1
	6H	5,7	6,2	6,0	6,5	6,8	5,5	6,1	5,9	6,3	6,6
	8H	6,1	6,5	6,4	6,8	7,2	5,8	6,3	6,1	6,6	6,9
	12H	6,3	6,8	6,7	7,1	7,4	6,0	6,5	6,4	6,8	7,1
4H	2H	3,8	4,4	4,1	4,6	4,9	4,0	4,6	4,4	4,9	5,1
	3H	5,0	5,5	5,4	5,8	6,1	5,1	5,6	5,5	5,9	6,2
	4H	5,7	6,1	6,0	6,4	6,8	5,7	6,1	6,1	6,5	6,8
	6H	6,7	7,0	7,1	7,4	7,8	6,5	6,8	6,9	7,2	7,6
	8H	7,2	7,5	7,6	7,9	8,3	6,8	7,1	7,2	7,5	7,9
	12H	7,5	7,8	8,0	8,2	8,6	7,1	7,4	7,5	7,8	8,2
8H	4H	6,0	6,3	6,4	6,7	7,1	6,0	6,3	6,4	6,7	7,1
	6H	7,2	7,5	7,7	7,9	8,3	7,0	7,2	7,5	7,7	8,1
	8H	7,8	8,0	8,3	8,5	8,9	7,5	7,6	7,9	8,1	8,6
	12H	8,3	8,5	8,8	8,9	9,4	7,9	8,0	8,4	8,5	9,0
12H	4H	6,0	6,3	6,5	6,7	7,1	6,1	6,3	6,5	6,7	7,2
	6H	7,4	7,5	7,8	8,0	8,5	7,1	7,3	7,6	7,8	8,3
	8H	8,0	8,1	8,5	8,6	9,1	7,7	7,8	8,1	8,3	8,8

Variation of the observer position for the luminaire distance S

S = 1,0H	+0,5 / -0,3	+0,6 / -0,4
S = 1,5H	+1,2 / -0,6	+1,4 / -0,8
S = 2,0H	+2,0 / -0,7	+2,5 / -1,1
Standard table	BK06	BK05
Correction summand	-9,9	-10,4

Corrected glare indices referring to 1536lm total luminous flux

