

LM-79

Test Report

LM79-REVO-INGROUND-3000K-CRI80-DEG54

General Discription

Item number	R-I-2-03-4
Date and time	22-4-2016 10:53:44
CCT (Kelvin)	3002 K
Beam angle	59,5°
Luminous flux	1335 lm
Efficiency	69 lm/watt
Weighted energy	19,2 kWh/1000h
Power factor	0,94
CRI (RA)	83,2
Fidelity index Rf	Rf 84,3
Gammut index Rg	Rg 96,5



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Beam details	1m	2m	3m	4m	5m														
Lux*	1316 lx	329 lx	146 lx	82 lx	53 lx														
*measured at center of beam																			
Footcandles*	122,2 fcd	30,6 fcd	13,6 fcd	7,6 fcd	4,9 fcd														
Beam width (meter)	1,1 m	2,3 m	3,4 m	4,6 m	5,7 m														
Beam width (Feet)	3,7 ft	7,5 ft	11,2 ft	15 ft	18,7 ft														
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
1316lx	329lx	146lx	82lx	53lx	37lx	27lx	21lx	16lx	13lx	11lx	9lx	8lx	7lx	6lx	5lx	5lx	4lx	4lx	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
122,2fcd	30,6fcd	13,6fcd	7,6fcd	4,9fcd	3,4fcd	2,5fcd	1,9fcd	1,5fcd	1,2fcd	1fcd	0,8fcd	0,7fcd	0,6fcd	0,5fcd	0,5fcd	0,4fcd	0,4fcd	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°
1316	1319	1328	1339	1350	1354	1353	1333	1302	1248	1178	1087	983	870	757	644	541	441	360	284
100%	100%	101%	102%	103%	103%	103%	101%	99%	95%	90%	83%	75%	66%	58%	49%	41%	34%	27%	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°
1316	1318	1324	1332	1339	1342	1339	1322	1293	1246	1185	1105	1011	905	791	675	563	456	363	282
100%	100%	101%	101%	102%	102%	102%	101%	98%	95%	90%	84%	77%	69%	60%	51%	43%	35%	28%	21%
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°
1316	1319	1328	1339	1350	1354	1353	1333	1302	1248	1178	1087	983	870	757	644	541	441	360	284
100%	100%	101%	102%	103%	103%	103%	101%	99%	95%	90%	83%	75%	66%	58%	49%	41%	34%	27%	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°
1316	1318	1324	1332	1339	1342	1339	1322	1293	1246	1185	1105	1011	905	791	675	563	456	363	282
100%	100%	101%	101%	102%	102%	102%	101%	98%	95%	90%	84%	77%	69%	60%	51%	43%	35%	28%	21%
Beam angle 50%		Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone					
59,5°		87,6°				{C_ANG}°				97,7%				92,5%					



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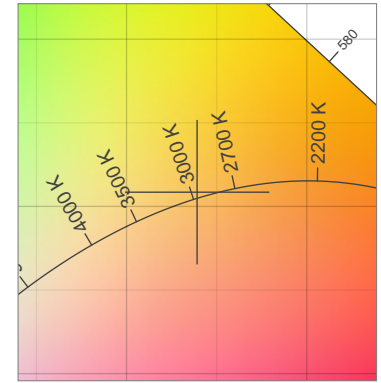
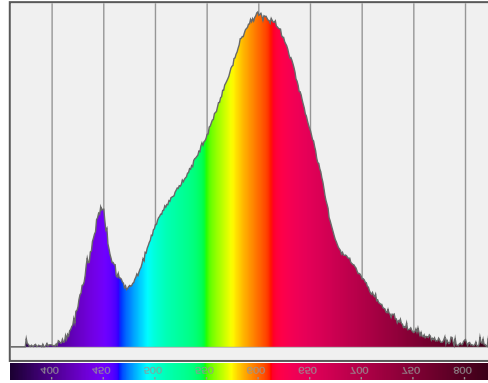
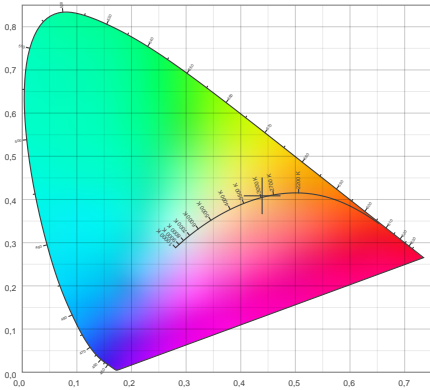
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Color details



CIE 1931

x: 0,439



Spectra

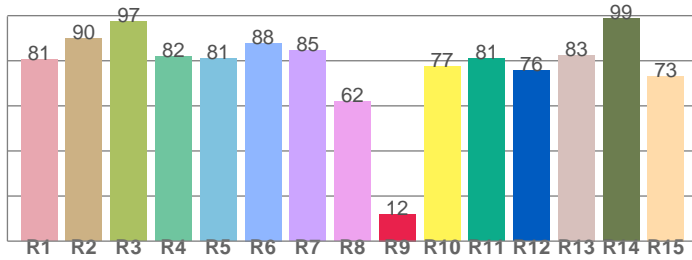
CIE 1931 ZOOM

3002 K

y: 0,409

Δuv : 0,0015

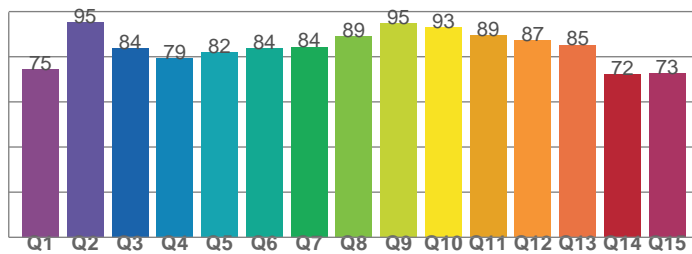
CRI: **83,2** (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
80,7	89,8	97,5	81,9	81,0	87,8	84,7	61,9
R9	R10	R11	R12	R13	R14	R15	
12,1	77,4	80,9	75,6	82,5	98,8	73,2	

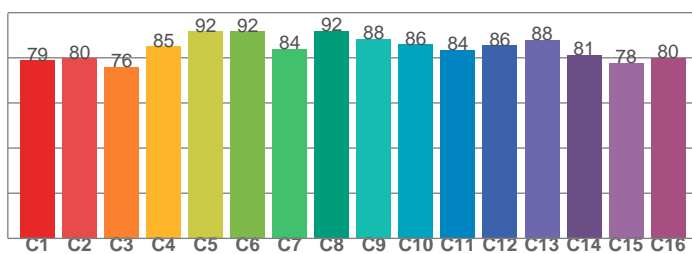
CQS: **82,7**



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
74,6	95,2	83,9	79,3	82,1	83,7	84,4	89,2
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
95,0	92,9	89,4	87,1	85,3	72,1	72,8	

TM30: **84,3**



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

C1	C2	C3	C4	C5	C6	C7	C8
78,9	79,8	76,1	85,1	91,7	91,7	84,0	92,0
C9	C10	C11	C12	C13	C14	C15	
88,3	85,9	83,5	85,5	88,0	81,2	77,8	

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
3002 K	83,2	12,1	84,3	96,5	82,7	0,439	0,409	0,250	0,349	0,0015



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TM30 details

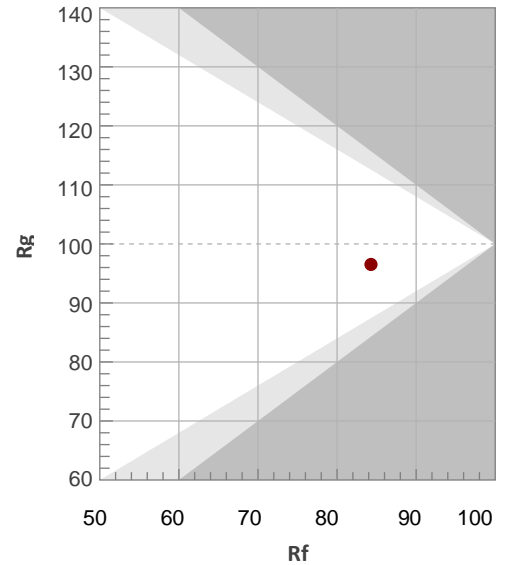
Rf 84,3

Fidelity index Rf

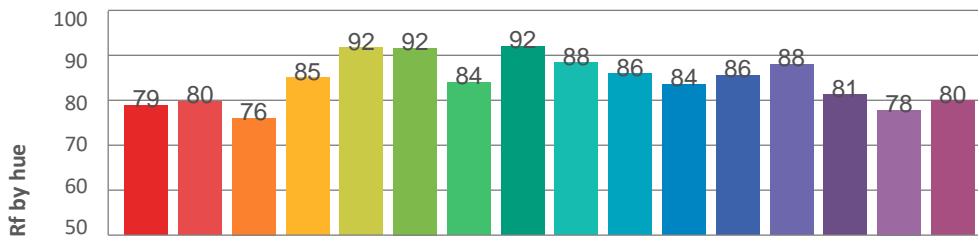
Rg 96,5

Gamut index Rg

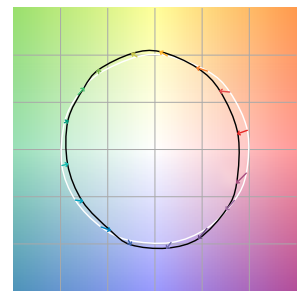
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-11%	-2%
2	80	-8%	7%
3	76	-3%	11%
4	85	3%	8%
5	92	5%	4%
6	92	4%	-3%
7	84	-1%	-9%
8	92	-3%	-3%
9	88	-6%	0%
10	86	-6%	5%
11	84	-3%	10%
12	86	4%	3%
13	88	5%	-6%
14	81	4%	-13%
15	78	-2%	-13%
16	80	-8%	-12%



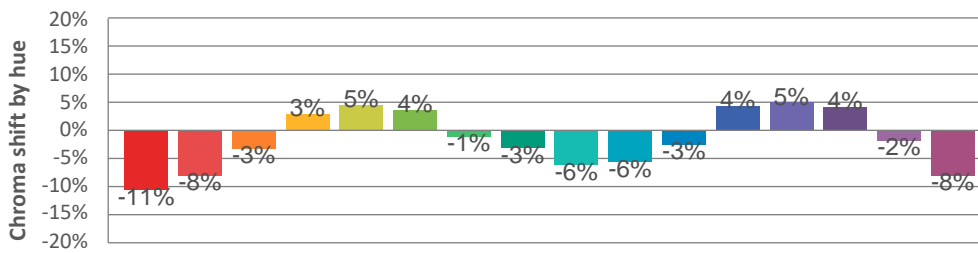
Hue binH



Color vector graphics



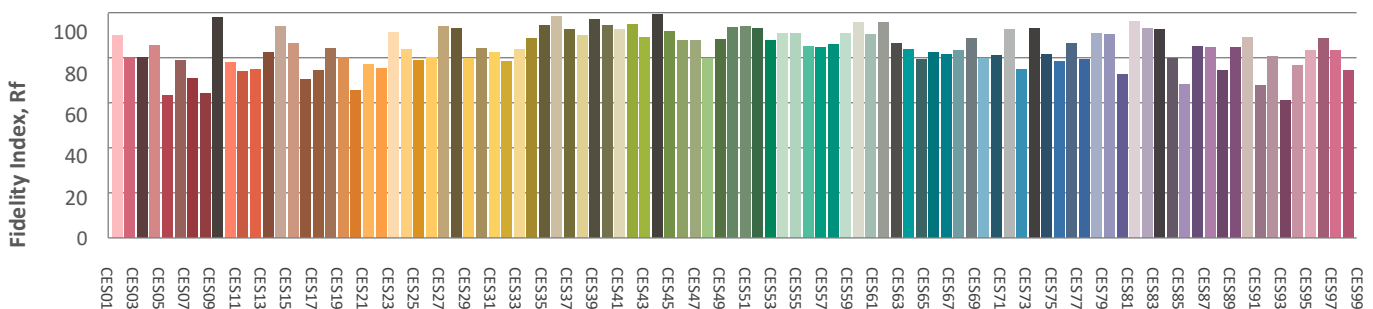
Hue bin



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	19,3	20,0	19,6	20,2	20,5	19,3	20,1	19,6	20,3	20,5
	3H	19,3	20,0	19,6	20,2	20,4	19,3	20,0	19,6	20,2	20,5
	4H	19,2	19,9	19,6	20,1	20,4	19,3	19,9	19,6	20,2	20,4
	6H	19,2	19,8	19,5	20,1	20,4	19,2	19,8	19,6	20,1	20,4
	8H	19,2	19,7	19,5	20,0	20,3	19,2	19,8	19,5	20,1	20,4
	12H	19,1	19,7	19,5	20,0	20,3	19,2	19,7	19,5	20,0	20,3
4H	2H	19,2	19,8	19,5	20,1	20,4	19,2	19,9	19,5	20,1	20,4
	3H	19,2	19,7	19,6	20,1	20,4	19,2	19,8	19,6	20,1	20,4
	4H	19,2	19,6	19,6	20,0	20,4	19,2	19,7	19,6	20,0	20,4
	6H	19,2	19,5	19,6	19,9	20,3	19,2	19,6	19,6	19,9	20,3
	8H	19,1	19,5	19,6	19,9	20,3	19,2	19,5	19,6	19,9	20,3
	12H	19,1	19,4	19,5	19,8	20,2	19,1	19,4	19,6	19,9	20,3
8H	4H	19,1	19,4	19,5	19,8	20,3	19,1	19,5	19,6	19,9	20,3
	6H	19,1	19,3	19,5	19,8	20,2	19,1	19,4	19,6	19,8	20,3
	8H	19,0	19,3	19,5	19,7	20,2	19,1	19,3	19,6	19,8	20,2
	12H	19,0	19,2	19,5	19,7	20,2	19,1	19,2	19,6	19,7	20,2
12H	4H	19,1	19,4	19,5	19,8	20,2	19,1	19,4	19,6	19,8	20,3
	6H	19,0	19,3	19,5	19,7	20,2	19,1	19,3	19,5	19,7	20,2
	8H	19,0	19,2	19,5	19,7	20,2	19,0	19,2	19,5	19,7	20,2
Variation of the observer position for the luminaire distance S											
S = 1,0H	+3,5 / -4,3					+3,6 / -4,3					
S = 1,5H	+6,0 / -5,8					+6,2 / -5,7					
S = 2,0H	+8,0 / -7,1					+8,1 / -6,9					
Standard table	BK00					BK00					
Correction summand	0,9					0,9					
Corrected glare indices referring to 1335lm total luminous flux											

