

LM-79

Test Report

LM79-REVO-3000K-CRI80-DEG12

General Discription

Item number	R-X-X-X-03-1
Date and time	22-4-2016 10:55:04
CCT (Kelvin)	2990 K
Beam angle	14,8°
Luminous flux	1463 lm
Efficiency	76 lm/watt
Weighted energy	19,2 kWh/1000h
Power factor	0,94
CRI (RA)	83,3
Fidelity index Rf	Rf 84,5
Gammut index Rg	Rg 96,4



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Beam details	1m	2m	3m	4m	5m																			
Lux*	16215 lx	4054 lx	1802 lx	1013 lx	649 lx																			
<i>*measured at center of beam</i>																								
Footcandles*	1506,5 fcd	376,6 fcd	167,4 fcd	94,2 fcd	60,3 fcd																			
Beam width (meter)	0,3 m	0,5 m	0,8 m	1 m	1,3 m																			
Beam width (Feet)	0,9 ft	1,7 ft	2,6 ft	3,4 ft	4,3 ft																			
Beam intensities																								
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m					
16215lx	4054lx	1802lx	1013lx	649lx	450lx	331lx	253lx	200lx	162lx	134lx	113lx	96lx	83lx	72lx	63lx	56lx	50lx	45lx	41lx					
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					
1506,5fcd	376,6fcd	167,4fcd	94,2fcd	60,3fcd	41,8fcd	30,7fcd	23,5fcd	18,6fcd	15,1fcd	12,5fcd	10,5fcd	8,9fcd	7,7fcd	6,7fcd	5,9fcd	5,2fcd	4,6fcd	4,2fcd	3,8fcd					
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°					
16,2K	15,9K	15,1K	14,3K	13,1K	11,6K	10,1K	8,6K	7,1K	5,9K	4,7K	3,7K	2,9K	2,3K	1,8K	1,4K	1,1K	0,9K	0,7K	0,5K					
100%	98%	93%	88%	81%	72%	62%	53%	44%	37%	29%	23%	18%	14%	11%	8%	7%	5%	4%	3%					
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°					
16,2K	16,2K	15,6K	14,5K	13,2K	11,9K	10,4K	8,9K	7,4K	6,0K	4,8K	3,9K	3,0K	2,3K	1,8K	1,4K	1,1K	0,8K	0,7K	0,5K					
100%	100%	96%	90%	82%	73%	64%	55%	45%	37%	30%	24%	18%	14%	11%	9%	7%	5%	4%	3%					
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°					
16,2K	15,9K	15,1K	14,3K	13,1K	11,6K	10,1K	8,6K	7,1K	5,9K	4,7K	3,7K	2,9K	2,3K	1,8K	1,4K	1,1K	0,9K	0,7K	0,5K					
100%	98%	93%	88%	81%	72%	62%	53%	44%	37%	29%	23%	18%	14%	11%	8%	7%	5%	4%	3%					
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°					
16,2K	16,2K	15,6K	14,5K	13,2K	11,9K	10,4K	8,9K	7,4K	6,0K	4,8K	3,9K	3,0K	2,3K	1,8K	1,4K	1,1K	0,8K	0,7K	0,5K					
100%	100%	96%	90%	82%	73%	64%	55%	45%	37%	30%	24%	18%	14%	11%	9%	7%	5%	4%	3%					
Beam angle 50%					Field angle 10%					Cutoff angle 2,5%					Intensity ratio in 120° cone					Intensity ratio in 90° cone				
14,8°					28,9°					40,1°					98,8%					97,8%				



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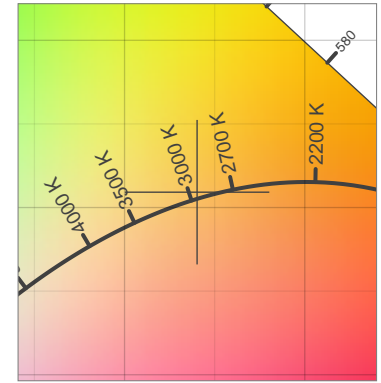
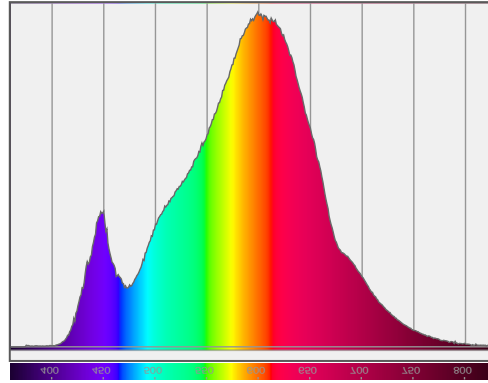
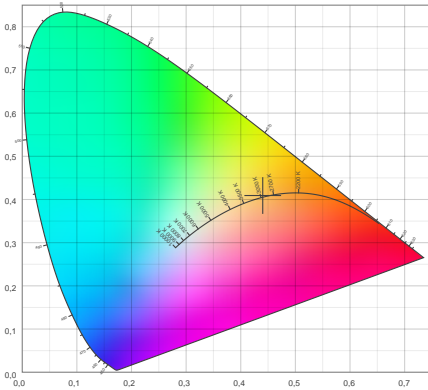
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Color details



CIE 1931

x: 0,440



Spectra

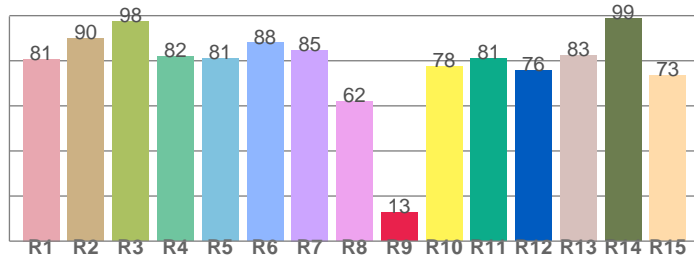
CIE 1931 ZOOM

2990 K

y: 0,409

Δuv : 0,0016

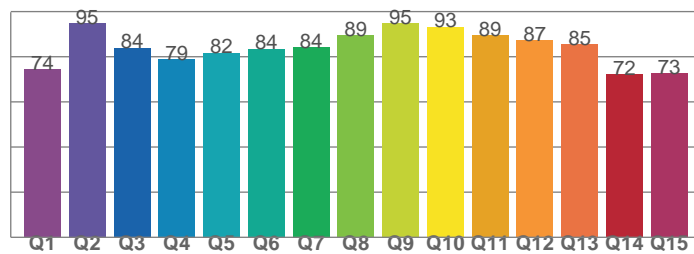
CRI: **83,3** (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
80,8	89,9	97,5	81,9	81,1	88,0	84,8	62,0
R9	R10	R11	R12	R13	R14	R15	
12,6	77,6	81,0	75,7	82,6	98,8	73,3	

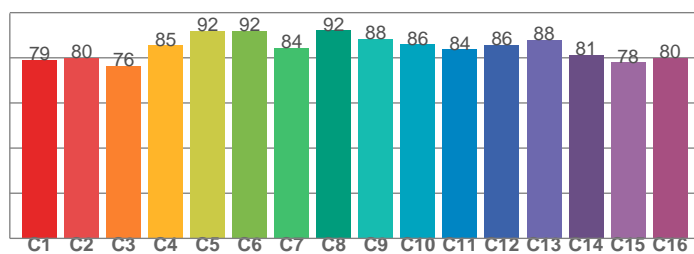
CQS: **82,6**



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
74,3	95,0	84,0	78,9	81,7	83,5	84,3	89,3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
94,9	93,2	89,4	87,2	85,4	72,1	72,6	

TM30: **84,5**



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

C1	C2	C3	C4	C5	C6	C7	C8
79,0	79,9	76,4	85,5	92,0	91,9	84,3	92,1
C9	C10	C11	C12	C13	C14	C15	
88,5	86,0	83,7	85,7	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
2990 K	83,3	12,6	84,5	96,4	82,6	0,440	0,409	0,251	0,349	0,0016



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TM30 details

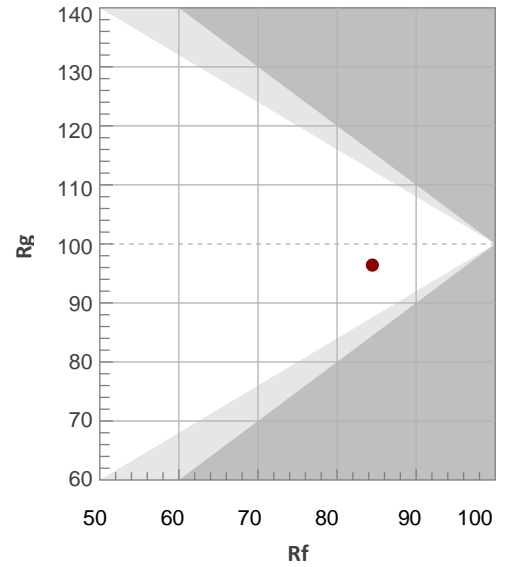
Rf 84,5

Fidelity index Rf

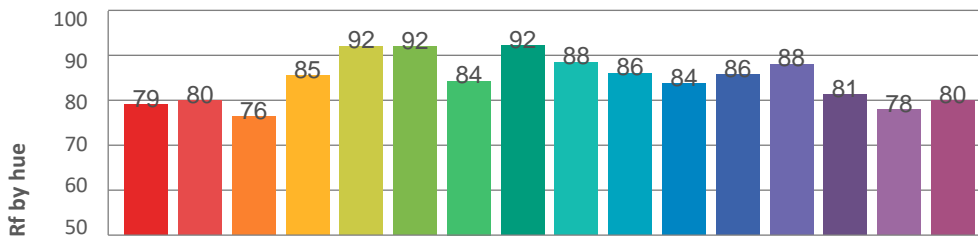
Rg 96,4

Gamut index Rg

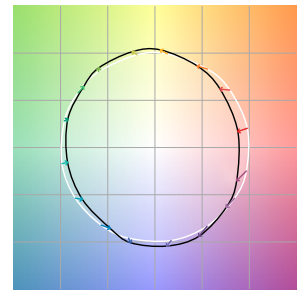
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-11%	-1%
2	80	-8%	7%
3	76	-3%	11%
4	85	3%	8%
5	92	4%	4%
6	92	3%	-3%
7	84	-1%	-9%
8	92	-3%	-3%
9	88	-6%	0%
10	86	-6%	5%
11	84	-2%	10%
12	86	4%	3%
13	88	5%	-6%
14	81	4%	-13%
15	78	-2%	-13%
16	80	-8%	-12%



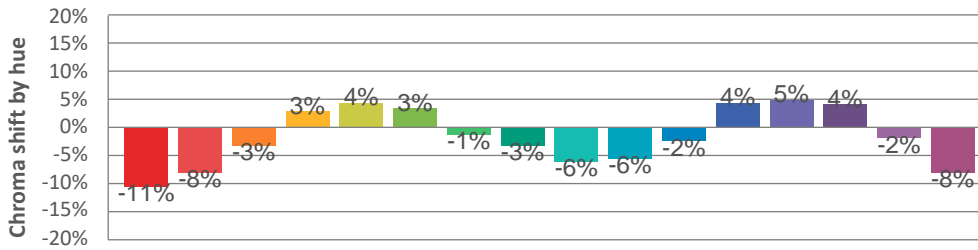
Hue binH



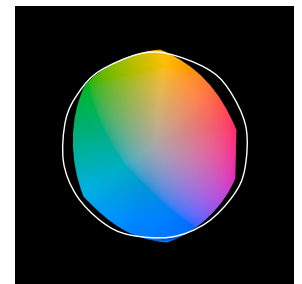
Color vector graphics



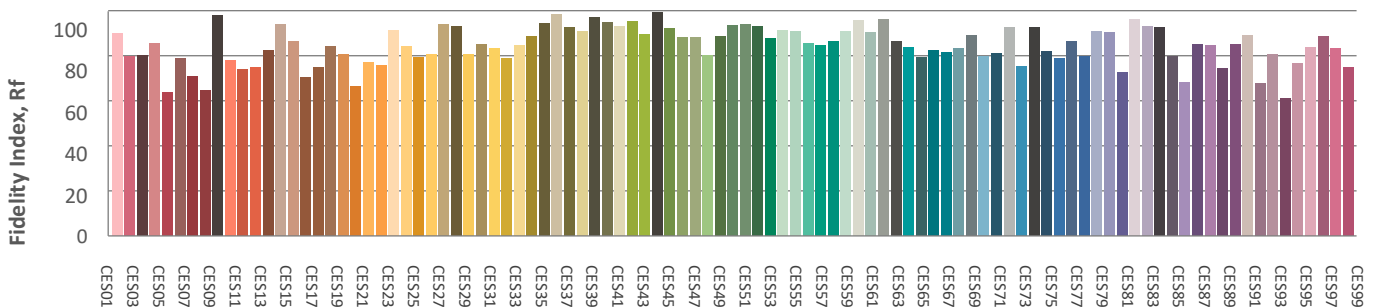
Hue bin



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	5,7	6,4	6,0	6,6	6,8	6,1	6,7	6,3	6,9	7,1
	3H	6,6	7,2	6,9	7,4	7,6	6,9	7,5	7,2	7,7	7,9
	4H	7,0	7,5	7,3	7,8	8,1	7,2	7,7	7,5	8,0	8,3
	6H	7,2	7,7	7,5	8,0	8,3	7,4	8,0	7,8	8,3	8,5
	8H	7,3	7,8	7,6	8,1	8,4	7,5	8,0	7,9	8,3	8,6
	12H	7,3	7,8	7,7	8,1	8,4	7,7	8,2	8,1	8,5	8,8
4H	2H	6,2	6,7	6,5	7,0	7,2	6,4	7,0	6,7	7,2	7,5
	3H	7,1	7,6	7,5	7,9	8,2	7,4	7,8	7,7	8,1	8,5
	4H	7,7	8,1	8,0	8,4	8,8	7,8	8,2	8,2	8,6	8,9
	6H	7,9	8,3	8,4	8,7	9,0	8,2	8,5	8,6	8,9	9,3
	8H	8,1	8,4	8,5	8,8	9,2	8,3	8,6	8,8	9,0	9,4
	12H	8,2	8,5	8,7	8,9	9,3	8,6	8,8	9,0	9,3	9,7
8H	4H	7,8	8,1	8,2	8,5	8,9	8,0	8,3	8,4	8,7	9,1
	6H	8,2	8,4	8,7	8,9	9,3	8,4	8,7	8,9	9,1	9,5
	8H	8,5	8,6	8,9	9,1	9,6	8,7	8,8	9,1	9,3	9,8
	12H	8,6	8,8	9,1	9,3	9,8	9,0	9,2	9,5	9,7	10,2
12H	4H	7,8	8,1	8,3	8,5	8,9	8,0	8,2	8,4	8,6	9,1
	6H	8,2	8,4	8,7	8,9	9,4	8,5	8,7	8,9	9,1	9,6
	8H	8,5	8,7	9,0	9,1	9,6	8,7	8,9	9,2	9,3	9,8

Variation of the observer position for the luminaire distance S

S = 1,0H	+0,6 / -0,4	+0,5 / -0,4
S = 1,5H	+1,3 / -1,0	+1,4 / -0,9
S = 2,0H	+2,3 / -1,5	+2,2 / -1,2
Standard table	BK04	BK04
Correction summand	-9,3	-9,0

Corrected glare indices referring to 1463lm total luminous flux

