

LM-79

Test Report

LM79-HYLO-COMPACT-UPANDDOWN-3000K-CRI80-DEG54

General Discription

Item number HC-1-X-03-03-4-4

Date and time 29-2-2016 16:11:36

CCT (Kelvin) 3001 K

Beam angle 59,9°

Luminous flux 491 lm

Efficiency 62 lm/watt

Weighted energy 8,0 kWh/1000h

Power factor 0,44

CRI (RA) 82,9

Fidelity index Rf Rf 82,9

Gammut index Rg Rg 97,3



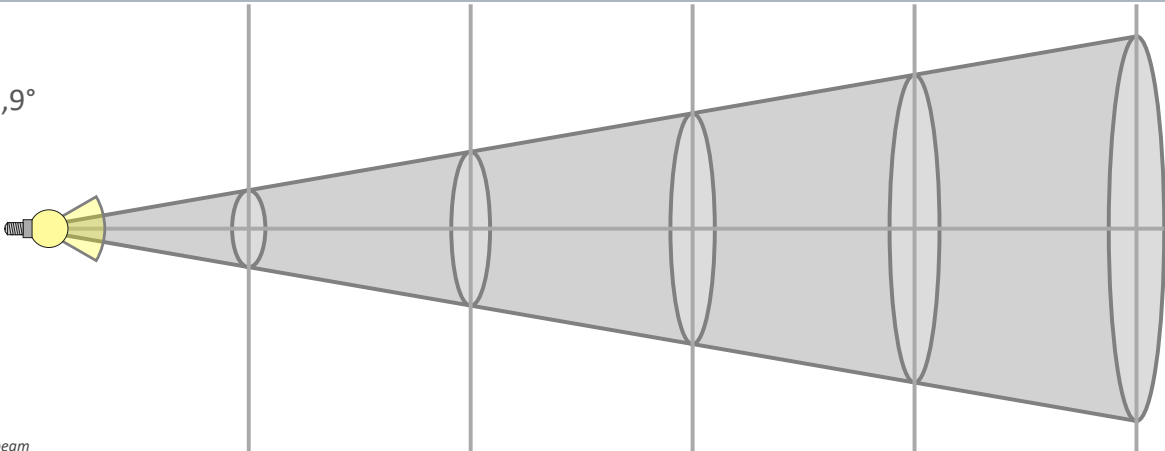
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Beam details				1m		2m		3m		4m		5m							
Lux*				455 lx		114 lx		51 lx		28 lx		18 lx							
59,9° 																			
*measured at center of beam																			
Footcandles*				42,2 fcd		10,6 fcd		4,7 fcd		2,6 fcd		1,7 fcd							
Beam width (meter)				1,2 m		2,3 m		3,5 m		4,6 m		5,8 m							
Beam width (Feet)				3,8 ft		7,6 ft		11,3 ft		15,1 ft		18,9 ft							
Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
455lx	114lx	51lx	28lx	18lx	13lx	9lx	7lx	6lx	5lx	4lx	3lx	3lx	2lx	2lx	2lx	2lx	1lx	1lx	1lx
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
42,2fcd	10,6fcd	4,7fcd	2,6fcd	1,7fcd	1,2fcd	0,9fcd	0,7fcd	0,5fcd	0,4fcd	0,3fcd	0,3fcd	0,2fcd	0,2fcd	0,2fcd	0,2fcd	0,1fcd	0,1fcd	0,1fcd	0,1fcd
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°
455	456	460	466	473	479	481	477	469	450	427	394	358	318	277	236	198	161	131	102
100%	100%	101%	103%	104%	105%	106%	105%	103%	99%	94%	87%	79%	70%	61%	52%	44%	35%	29%	23%
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°
455	455	459	464	470	475	477	475	466	452	429	399	364	324	282	240	200	165	131	104
100%	100%	101%	102%	103%	105%	105%	104%	103%	99%	94%	88%	80%	71%	62%	53%	44%	36%	29%	23%
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°
455	456	460	466	473	479	481	477	469	450	427	394	358	318	277	236	198	161	131	102
100%	100%	101%	103%	104%	105%	106%	105%	103%	99%	94%	87%	79%	70%	61%	52%	44%	35%	29%	23%
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°
455	455	459	464	470	475	477	475	466	452	429	399	364	324	282	240	200	165	131	104
100%	100%	101%	102%	103%	105%	105%	104%	103%	99%	94%	88%	80%	71%	62%	53%	44%	36%	29%	23%
Beam angle 50%				Field angle 10%				Cutoff angle 2,5%				Intensity ratio in 120° cone				Intensity ratio in 90° cone			
59,9°				88,6°				{C_ANG}°				96,2%				90,5%			



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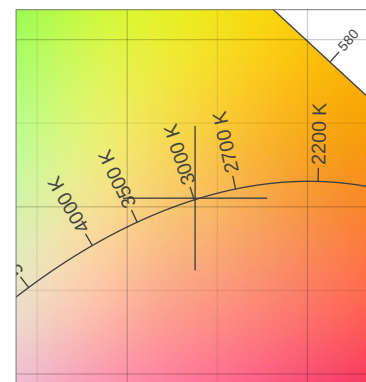
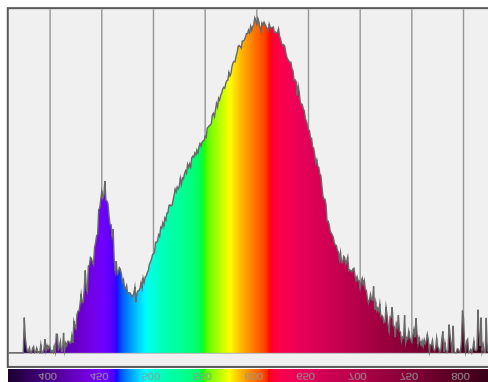
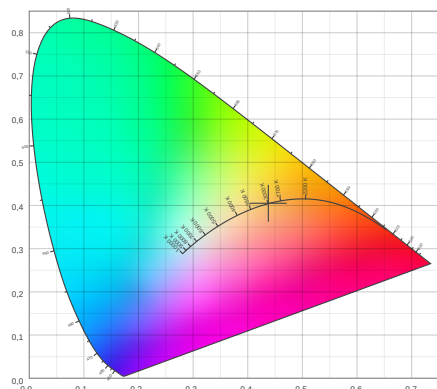
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Color details



CIE 1931

x: 0,438



Spectra

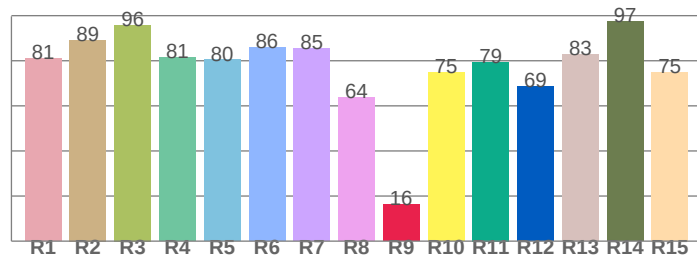
CIE 1931 ZOOM

3001 K

y: 0,405

Δuv : 0,0004

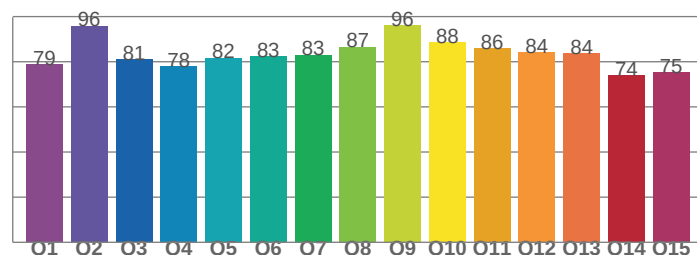
CRI: 82,9 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
81,0	89,2	95,9	81,3	80,4	85,9	85,5	63,8
R9	R10	R11	R12	R13	R14	R15	
16,2	74,7	79,5	68,5	82,6	97,5	74,7	

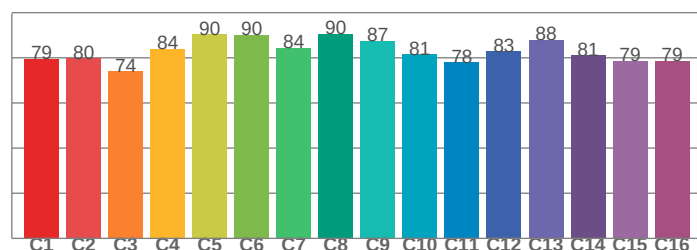
CQS: 82,5



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
78,7	96,0	81,0	78,1	81,8	82,5	83,1	86,7
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
96,3	88,5	85,8	84,4	83,9	73,9	75,3	

TM30: 82,9



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

C1	C2	C3	C4	C5	C6	C7	C8
79,4	79,6	74,0	84,0	90,4	90,2	84,3	90,5
C9	C10	C11	C12	C13	C14	C15	
87,3	81,4	78,0	82,8	88,0	81,1	78,6	

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
3001 K	82,9	16,2	82,9	97,3	82,5	0,438	0,405	0,251	0,348	0,0004



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TM30 details

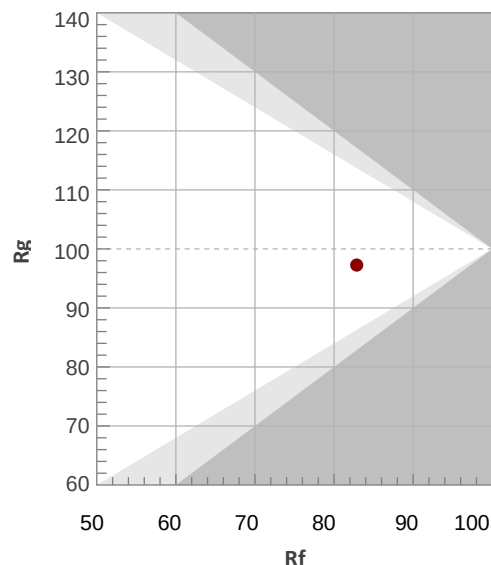
Rf 82,9

Fidelity index Rf

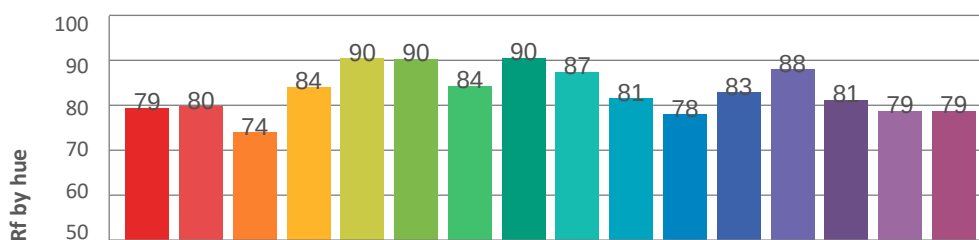
Rg 97,3

Gamut index Rg

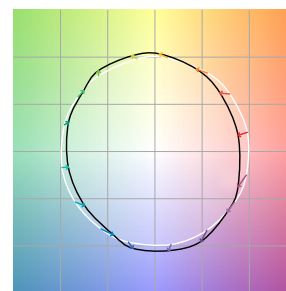
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-10%	-1%
2	80	-8%	7%
3	74	-3%	12%
4	84	3%	9%
5	90	4%	5%
6	90	5%	-3%
7	84	-1%	-9%
8	90	-4%	-4%
9	87	-7%	1%
10	81	-6%	9%
11	78	-2%	14%
12	83	6%	6%
13	88	6%	-4%
14	81	6%	-12%
15	79	-1%	-12%
16	79	-6%	-14%



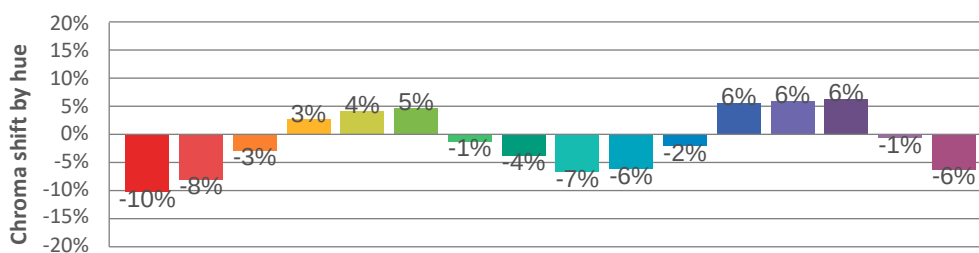
Hue binH



Color vector graphics



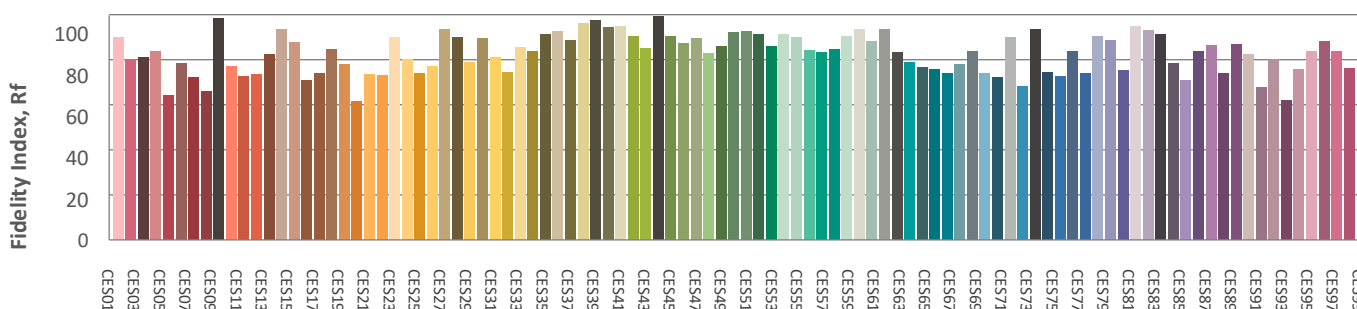
Hue bin



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	19,2	20,0	19,5	20,2	20,4	19,2	20,0	19,5	20,2	20,4
	3H	19,3	20,0	19,6	20,2	20,5	19,3	20,0	19,6	20,2	20,5
	4H	19,3	19,9	19,6	20,2	20,5	19,3	19,9	19,6	20,2	20,5
	6H	19,3	19,9	19,6	20,2	20,5	19,3	19,9	19,6	20,2	20,5
	8H	19,2	19,8	19,6	20,1	20,5	19,3	19,9	19,7	20,2	20,5
	12H	19,2	19,8	19,6	20,1	20,5	19,3	19,8	19,7	20,2	20,5
4H	2H	19,2	19,8	19,5	20,1	20,4	19,2	19,8	19,5	20,1	20,4
	3H	19,3	19,8	19,6	20,1	20,5	19,3	19,8	19,7	20,2	20,5
	4H	19,3	19,8	19,7	20,1	20,5	19,3	19,8	19,7	20,2	20,5
	6H	19,3	19,7	19,8	20,1	20,5	19,4	19,8	19,8	20,1	20,6
	8H	19,3	19,7	19,8	20,1	20,5	19,4	19,7	19,8	20,2	20,6
	12H	19,4	19,7	19,8	20,1	20,6	19,4	19,7	19,9	20,2	20,6
8H	4H	19,2	19,6	19,7	20,0	20,4	19,3	19,6	19,7	20,0	20,5
	6H	19,3	19,6	19,8	20,0	20,5	19,3	19,6	19,8	20,1	20,5
	8H	19,3	19,6	19,8	20,0	20,5	19,4	19,6	19,9	20,1	20,6
	12H	19,4	19,6	19,9	20,1	20,6	19,5	19,7	20,0	20,2	20,7
12H	4H	19,2	19,5	19,7	20,0	20,4	19,3	19,6	19,7	20,0	20,4
	6H	19,3	19,5	19,8	20,0	20,5	19,3	19,6	19,8	20,0	20,5
	8H	19,3	19,5	19,8	20,0	20,5	19,4	19,6	19,9	20,1	20,6

Variation of the observer position for the luminaire distance S

S = 1,0H	+3,1 / -3,1	+3,1 / -3,0
S = 1,5H	+5,4 / -4,0	+5,4 / -3,9
S = 2,0H	+7,3 / -5,0	+7,3 / -4,8
Standard table	BK01	BK01
Correction summand	1,4	1,4

Corrected glare indices referring to 491lm total luminous flux



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