

LM-79

Test Report

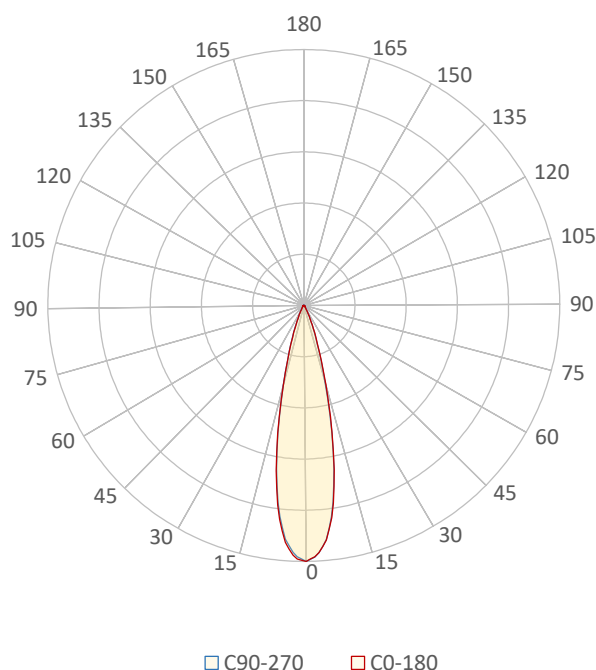
LM79-CLS-KRYPTON-RGBW30-90-SPOT [W]

General Discription

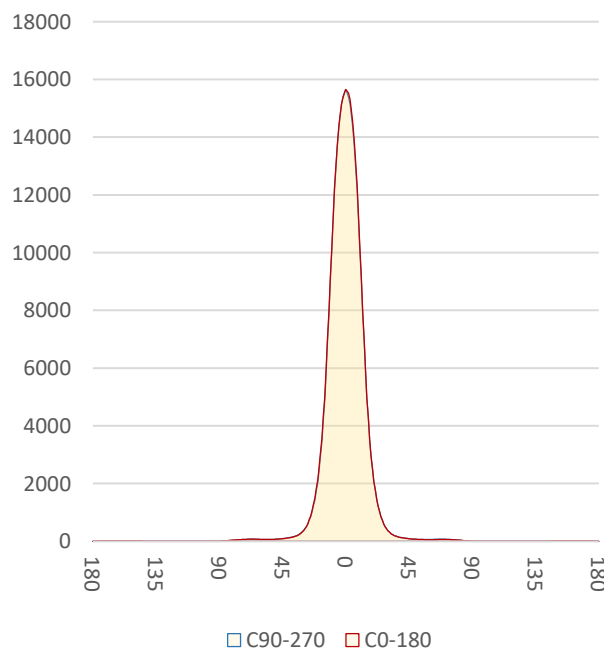
Item number	
Date and time	16-12-2019 16:07:19
CCT (Kelvin)	3032 K
Beam angle	24,1°
Luminous flux	3475 lm
Efficiency	87 lm/watt
Weighted energy	39,7 kWh/1000h
Power factor	0,8
CRI (RA)	91,9
Fidelity index Rf	Rf 91,9
Gammut index Rg	Rg 98,9
Peak	15741 cd



Polar diagram



Cartesian diagram



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Beam details	1m	2m	3m	4m	5m
Lux*	15653 lx	3913 lx	1739 lx	978 lx	626 lx

*measured at center of beam

Footcandles*	1454,3 fcd	363,6 fcd	161,6 fcd	90,9 fcd	58,2 fcd
Beam width (meter)	0,4 m	0,9 m	1,3 m	1,7 m	2,1 m
Beam width (Feet)	1,4 ft	2,8 ft	4,2 ft	5,6 ft	7 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
15653lx	3913lx	1739lx	978lx	626lx	435lx	319lx	245lx	193lx	157lx	129lx	109lx	93lx	80lx	70lx	61lx	54lx	48lx	43lx	39lx
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
1454,3fcd	363,6fcd	161,6fcd	90,9fcd	58,2fcd	40,4fcd	29,7fcd	22,7fcd	18fcd	14,5fcd	12fcd	10,1fcd	8,6fcd	7,4fcd	6,5fcd	5,7fcd	5fcd	4,5fcd	4fcd	3,6fcd

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°
15,7K	15,5K	14,9K	13,8K	12,3K	10,2K	8,0K	5,9K	4,3K	3,0K	2,1K	1,5K	1,0K	0,7K	0,5K	0,4K	0,3K	0,2K	0,2K	0,1K
100%	99%	95%	88%	78%	65%	51%	38%	27%	19%	14%	9%	7%	5%	3%	2%	2%	1%	1%	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°
15,7K	15,4K	14,8K	13,8K	12,3K	10,1K	7,9K	5,8K	4,1K	2,8K	2,0K	1,4K	1,0K	0,7K	0,5K	0,4K	0,3K	0,2K	0,2K	0,1K
100%	99%	95%	88%	78%	65%	50%	37%	26%	18%	13%	9%	6%	5%	3%	2%	2%	1%	1%	1%

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°
15,7K	15,5K	15,0K	13,9K	12,4K	10,3K	8,0K	5,9K	4,2K	2,9K	2,0K	1,4K	1,0K	0,7K	0,5K	0,4K	0,3K	0,2K	0,2K	0,1K
100%	99%	96%	89%	79%	66%	51%	38%	27%	18%	13%	9%	6%	5%	3%	2%	2%	1%	1%	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°
15,7K	15,4K	14,9K	13,8K	12,2K	10,1K	7,9K	5,8K	4,1K	2,9K	2,1K	1,4K	1,0K	0,7K	0,5K	0,4K	0,3K	0,2K	0,2K	0,1K
100%	99%	95%	88%	78%	65%	50%	37%	26%	19%	13%	9%	6%	5%	3%	2%	2%	1%	1%	1%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
24,2°	43,1°	59,1°	95,3%	92,7%



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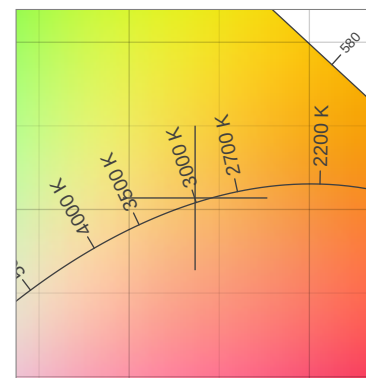
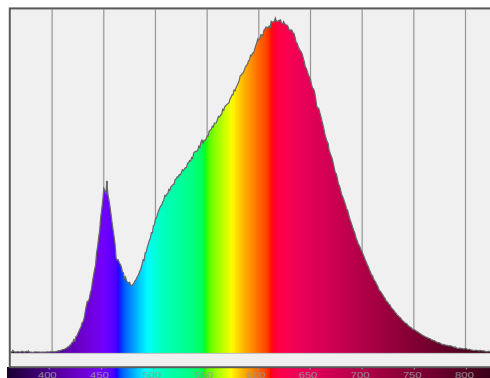
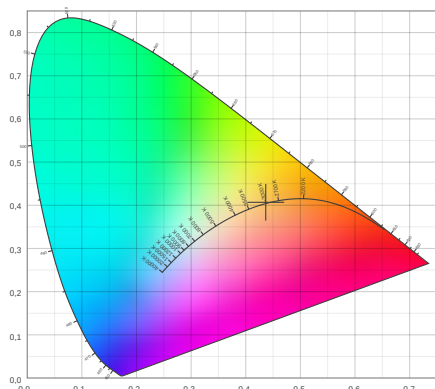
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Color details



CIE 1931

x: 0,437



Spectra

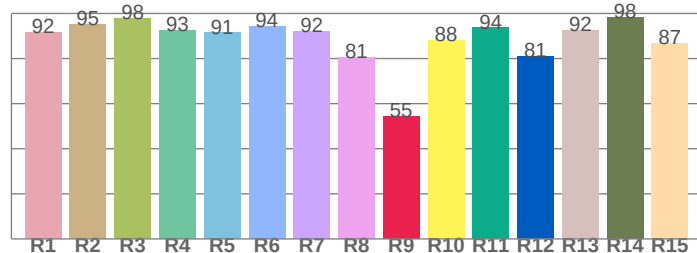
CIE 1931 ZOOM

3032 K

y: 0,407

Δuv : 0,0012

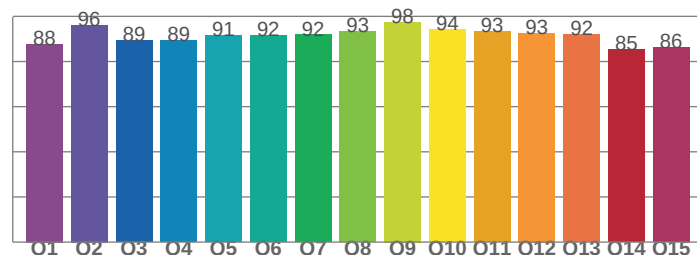
CRI: 91,9 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
91,6	95,0	97,6	92,6	91,4	94,2	92,2	80,5
R9	R10	R11	R12	R13	R14	R15	
54,5	88,0	93,6	81,0	92,4	98,1	86,9	

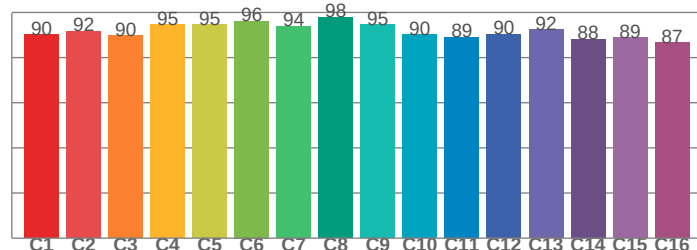
CQS: 90,7



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
87,8	96,2	89,2	89,2	91,5	91,6	91,8	93,3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
97,5	94,1	93,4	92,7	92,0	85,3	86,1	

TM30: 91,9



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

C1	C2	C3	C4	C5	C6	C7	C8
90,2	91,7	89,8	94,8	94,6	96,2	93,9	97,9
C9	C10	C11	C12	C13	C14	C15	
94,7	90,3	89,1	90,4	92,5	88,2	88,9	

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
3032 K	91,9	54,5	91,9	98,9	90,7	0,437	0,407	0,249	0,348	0,0012



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TM30 details

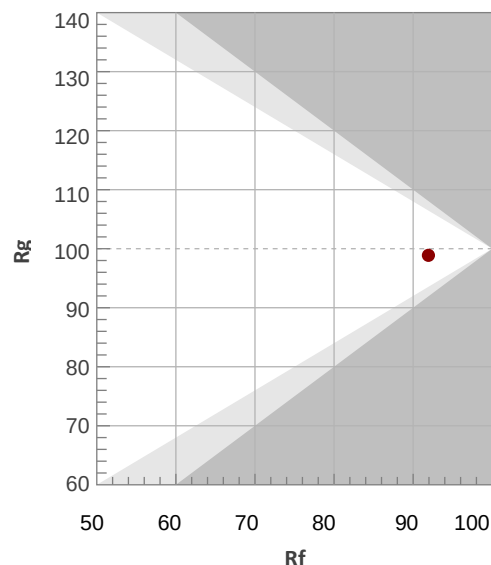
Rf 91,9

Fidelity index Rf

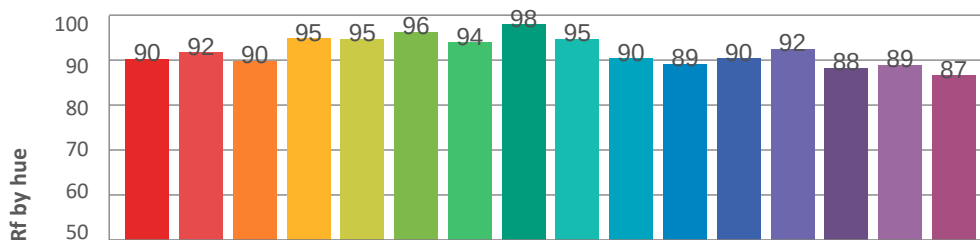
Rg 98,9

Gamut index Rg

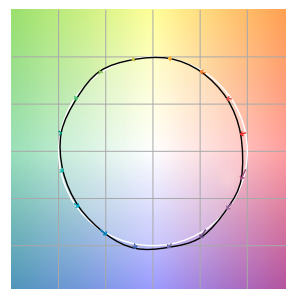
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	90	-5%	0%
2	92	-4%	3%
3	90	-2%	5%
4	95	0%	3%
5	95	-1%	2%
6	96	2%	0%
7	94	-2%	-3%
8	98	-1%	0%
9	95	-3%	2%
10	90	-2%	5%
11	89	1%	8%
12	90	4%	2%
13	92	3%	-4%
14	88	4%	-9%
15	89	-1%	-7%
16	87	-3%	-10%



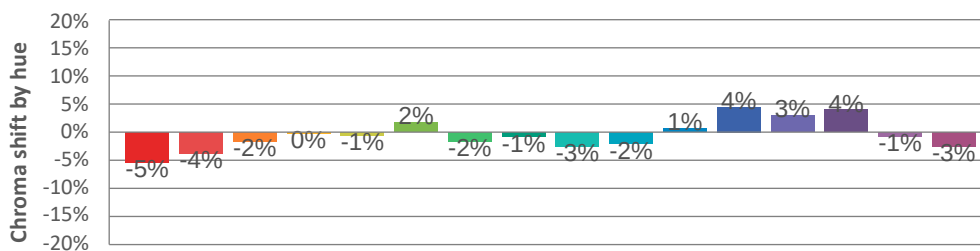
Hue binH



Color vector graphics



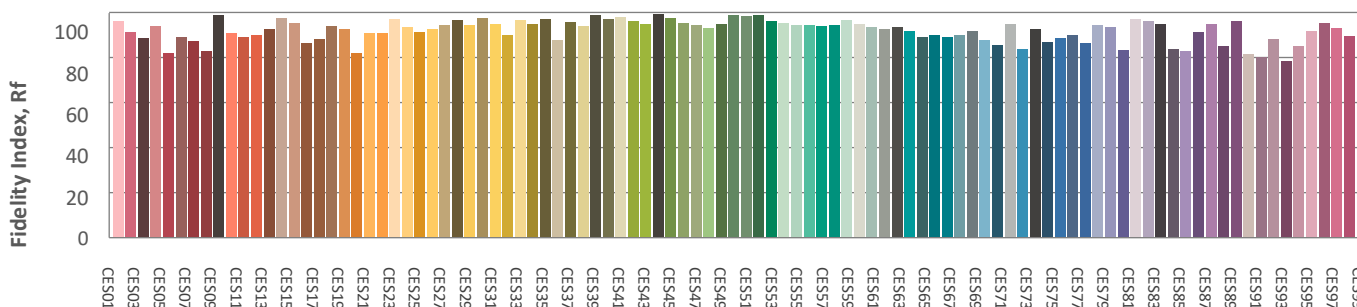
Hue bin



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	3,0	3,7	3,3	3,9	4,1	3,0	3,7	3,3	3,9	4,1
	3H	2,9	3,5	3,1	3,8	4,0	2,9	3,5	3,1	3,8	4,0
	4H	2,8	3,4	3,1	3,7	3,9	2,8	3,4	3,1	3,7	3,9
	6H	2,7	3,3	3,0	3,6	3,9	2,7	3,3	3,0	3,6	3,9
	8H	2,7	3,2	3,0	3,5	3,8	2,7	3,2	3,0	3,5	3,8
	12H	2,6	3,2	3,0	3,5	3,8	2,6	3,2	3,0	3,5	3,8
4H	2H	2,8	3,4	3,1	3,7	3,9	2,8	3,4	3,1	3,7	3,9
	3H	2,6	3,2	3,0	3,5	3,8	2,6	3,2	3,0	3,5	3,8
	4H	2,6	3,0	2,9	3,4	3,7	2,6	3,0	2,9	3,4	3,7
	6H	2,5	2,9	2,9	3,2	3,6	2,5	2,9	2,9	3,2	3,6
	8H	2,4	2,8	2,9	3,2	3,6	2,4	2,8	2,9	3,2	3,6
	12H	2,4	2,7	2,8	3,1	3,5	2,4	2,7	2,8	3,1	3,5
8H	4H	2,4	2,8	2,9	3,2	3,6	2,4	2,8	2,9	3,2	3,6
	6H	2,4	2,6	2,8	3,0	3,5	2,4	2,6	2,8	3,0	3,5
	8H	2,3	2,5	2,8	3,0	3,5	2,3	2,5	2,8	3,0	3,5
	12H	2,3	2,4	2,8	2,9	3,4	2,3	2,4	2,8	2,9	3,4
12H	4H	2,4	2,7	2,8	3,1	3,5	2,4	2,7	2,8	3,1	3,5
	6H	2,3	2,5	2,8	3,0	3,5	2,3	2,5	2,8	3,0	3,5
	8H	2,3	2,4	2,8	2,9	3,4	2,3	2,4	2,8	2,9	3,4
Variation of the observer position for the luminaire distance S											
S = 1,0H		+0,0 / 0,0					+0,0 / 0,0				
S = 1,5H		+0,0 / 0,0					+0,0 / 0,0				
S = 2,0H		+0,0 / 0,0					+0,0 / 0,0				
Standard table		BK00					BK00				
Correction summand		-15,7					-15,7				
Corrected glare indices referring to 3475lm total luminous flux											



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