

LM-79

Test Report

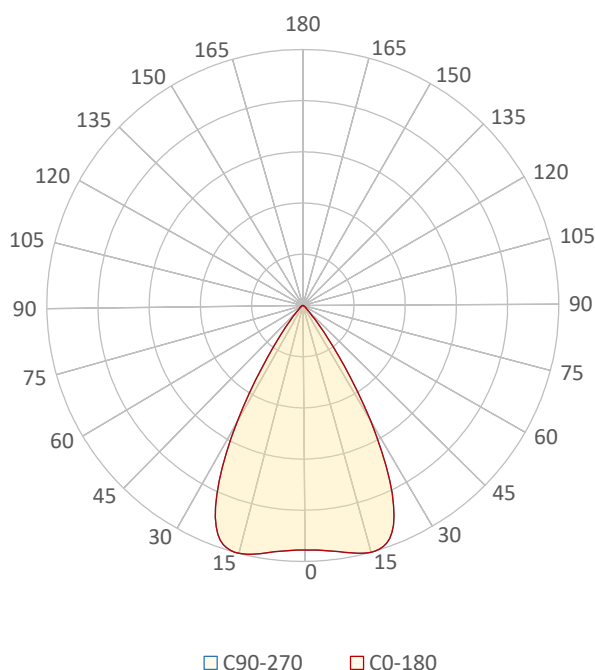
LM79-EMERALD-OFFICE-M4-3500K-CRI90

General Discription

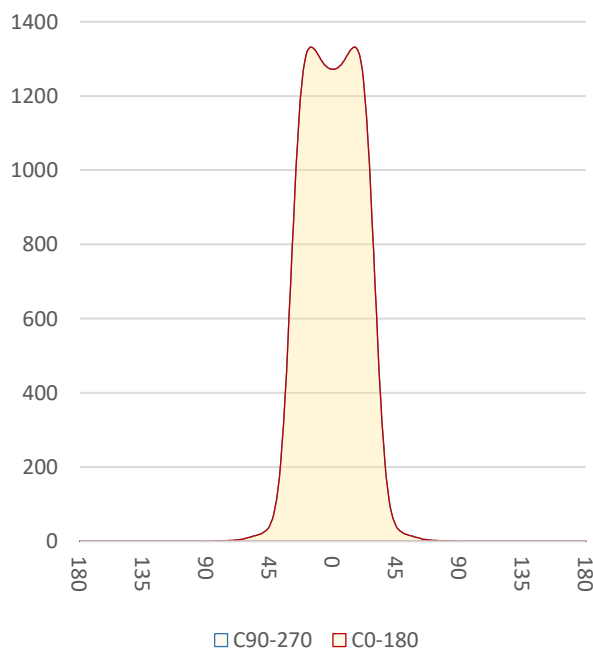
Item number	E-OM4-X-X-3590
Date and time	2-12-2022 13:39:28
CCT (Kelvin)	3337 K
Beam angle	60,8°
Luminous flux	1248 lm
Efficiency	95 lm/watt
Weighted energy	13,1 kWh/1000h
Power factor	0,9
CRI (RA)	93,8
Fidelity index Rf	Rf 91,3
Gammut index Rg	Rg 103,2
Peak	1332 cd



Polar diagram



Cartesian diagram



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Beam details		1m	2m	3m	4m	5m
Lux*		1272 lx	318 lx	141 lx	79 lx	51 lx

60,8°

*measured at center of beam

Footcandles*	118,2 fcd	29,5 fcd	13,1 fcd	7,4 fcd	4,7 fcd
Beam width (meter)	1,2 m	2,3 m	3,5 m	4,7 m	5,9 m
Beam width (Feet)	3,8 ft	7,7 ft	11,5 ft	15,4 ft	19,2 ft

Beam intensities																			
1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
1272lx	318lx	141lx	79lx	51lx	35lx	26lx	20lx	16lx	13lx	11lx	9lx	8lx	6lx	6lx	5lx	4lx	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
118,2fcd	29,5fcd	13,1fcd	7,4fcd	4,7fcd	3,3fcd	2,4fcd	1,8fcd	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°
1272	1273	1277	1285	1295	1308	1320	1329	1331	1322	1293	1235	1141	1015	864	697	533	384	264	175
100%	100%	100%	101%	102%	103%	104%	104%	105%	104%	102%	97%	90%	80%	68%	55%	42%	30%	21%	14%

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°
1272	1273	1277	1285	1295	1308	1320	1329	1331	1322	1293	1235	1141	1015	864	697	533	384	264	175
100%	100%	100%	101%	102%	103%	104%	104%	105%	104%	102%	97%	90%	80%	68%	55%	42%	30%	21%	14%

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°
1272	1273	1277	1285	1295	1308	1320	1329	1331	1322	1293	1235	1141	1015	864	697	533	384	264	175
100%	100%	100%	101%	102%	103%	104%	104%	105%	104%	102%	97%	90%	80%	68%	55%	42%	30%	21%	14%

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°
1272	1273	1277	1285	1295	1308	1320	1329	1331	1322	1293	1235	1141	1015	864	697	533	384	264	175
100%	100%	100%	101%	102%	103%	104%	104%	105%	104%	102%	97%	90%	80%	68%	55%	42%	30%	21%	14%

Beam angle 50%	Field angle 10%	Cutoff angle 2,5%	Intensity ratio in 120° cone	Intensity ratio in 90° cone
60,8°	78,5°	92,9°	99,3%	97,3%



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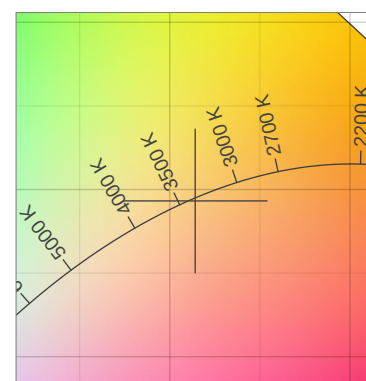
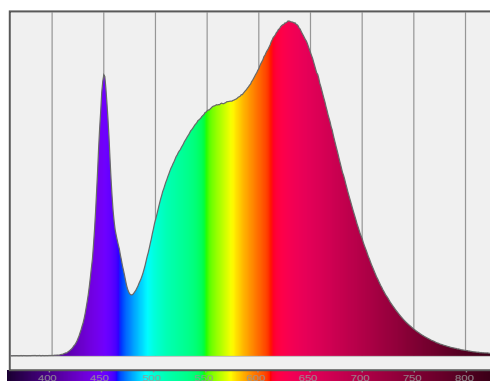
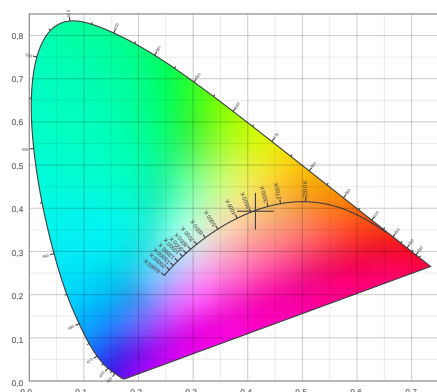
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Color details



CIE 1931

x: 0,414



Spectra

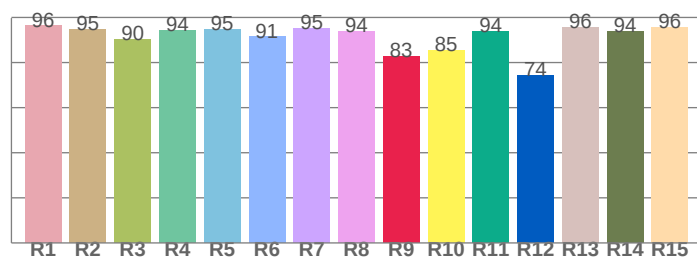
CIE 1931 ZOOM

3337 K

y: 0,393

$\Delta uv: -0,0008$

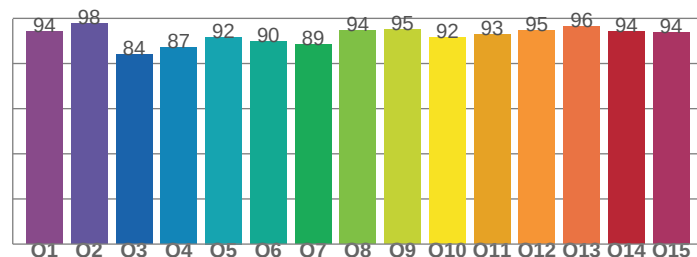
CRI: 93,8 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8
96,3	94,5	90,3	94,4	94,6	91,4	95,2	93,8
R9	R10	R11	R12	R13	R14	R15	
82,8	85,2	93,9	74,3	95,6	93,7	95,5	

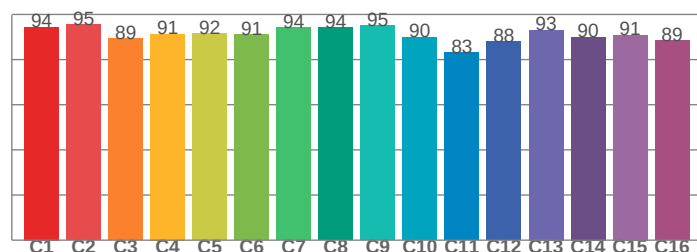
CQS: 91,5



CQS values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
94,1	97,7	84,0	87,2	91,8	89,7	88,6	94,5
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
95,1	91,7	92,7	94,7	96,3	94,2	93,9	

TM30: 91,3



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

C1	C2	C3	C4	C5	C6	C7	C8
94,4	95,5	89,2	91,3	91,6	91,2	94,2	94,3
C9	C10	C11	C12	C13	C14	C15	
95,1	89,9	83,2	88,0	93,1	90,0	91,0	

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
3337 K	93,8	82,8	91,3	103,2	91,5	0,414	0,393	0,240	0,342	-0,0008



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TM30 details

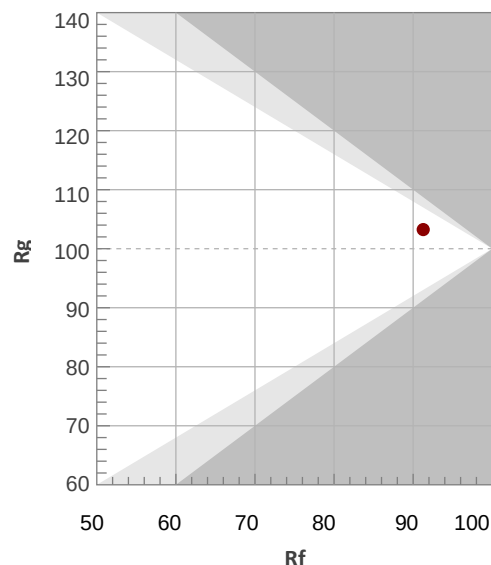
Rf 91,3

Fidelity index Rf

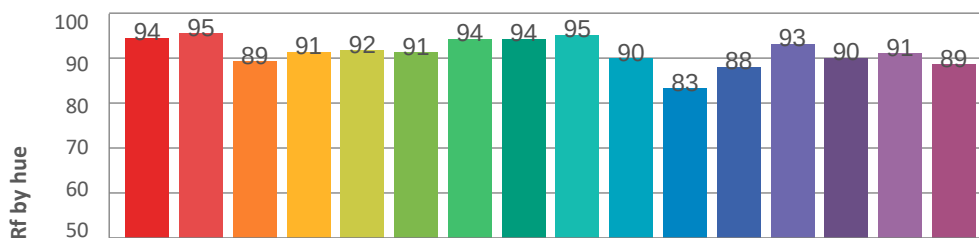
Rg 103,2

Gamut index Rg

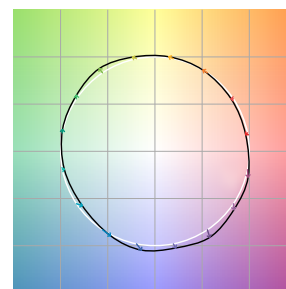
Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	94	-2%	-1%
2	95	-2%	1%
3	89	0%	5%
4	91	1%	5%
5	92	2%	4%
6	91	6%	0%
7	94	2%	-3%
8	94	1%	-4%
9	95	-2%	0%
10	90	-4%	5%
11	83	1%	11%
12	88	5%	6%
13	93	5%	2%
14	90	8%	-2%
15	91	4%	-5%
16	89	2%	-7%



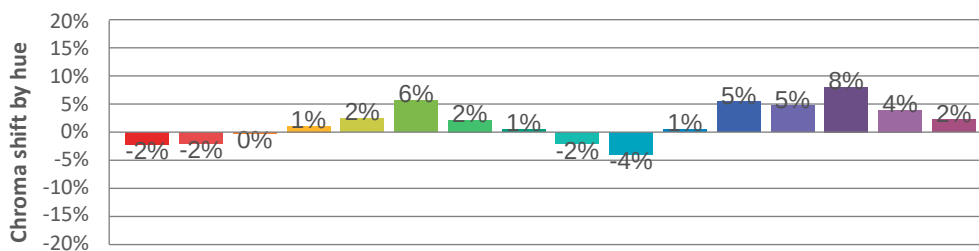
Hue binH



Color vector graphics



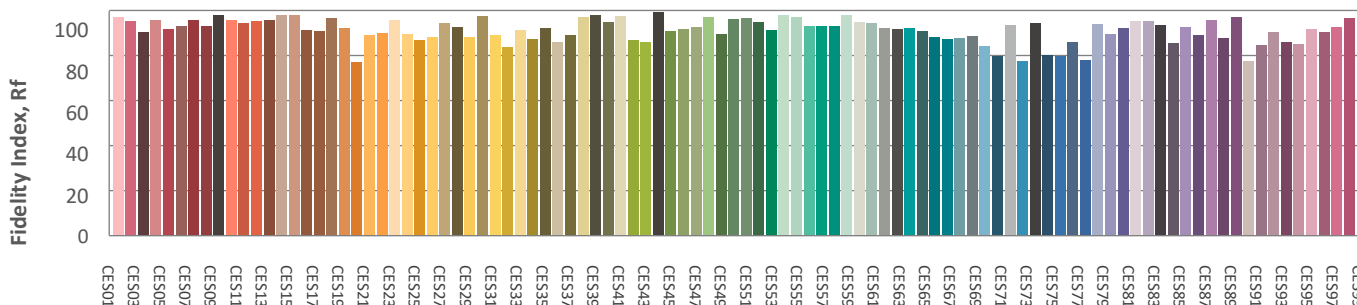
Hue bin



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	21,4	22,0	21,5	22,2	22,4	21,4	22,0	21,5	22,2	22,4
	3H	21,1	21,8	21,5	22,1	22,2	21,1	21,8	21,5	22,1	22,2
	4H	21,0	21,7	21,4	22,0	22,2	21,0	21,7	21,4	22,0	22,2
	6H	21,0	21,6	21,3	21,9	22,3	21,0	21,6	21,3	21,9	22,3
	8H	21,0	21,5	21,3	21,9	22,3	21,0	21,5	21,3	21,9	22,3
	12H	20,9	21,5	21,3	21,8	22,2	20,9	21,5	21,3	21,8	22,2
4H	2H	21,0	21,7	21,4	22,0	22,2	21,0	21,7	21,4	22,0	22,2
	3H	20,9	21,5	21,3	21,8	22,3	20,9	21,5	21,3	21,8	22,3
	4H	20,8	21,3	21,2	21,7	22,2	20,8	21,3	21,2	21,7	22,2
	6H	20,7	21,3	21,2	21,6	21,9	20,7	21,3	21,2	21,6	21,9
	8H	20,7	21,2	21,2	21,5	21,9	20,7	21,2	21,2	21,5	21,9
	12H	20,6	21,0	21,1	21,4	21,9	20,6	21,0	21,1	21,4	21,9
8H	4H	20,7	21,2	21,2	21,5	21,9	20,7	21,2	21,2	21,5	21,9
	6H	20,6	20,9	21,1	21,4	21,9	20,6	20,9	21,1	21,4	21,9
	8H	20,6	20,9	21,1	21,4	22,0	20,6	20,9	21,1	21,4	22,0
	12H	20,5	20,7	21,1	21,3	21,9	20,5	20,7	21,1	21,3	21,9
12H	4H	20,6	21,0	21,1	21,4	21,9	20,6	21,0	21,1	21,4	21,9
	6H	20,6	20,9	21,1	21,4	22,0	20,6	20,9	21,1	21,4	22,0
	8H	20,5	20,7	21,1	21,3	21,9	20,5	20,7	21,1	21,3	21,9
Variation of the observer position for the luminaire distance S											
S = 1.0H		6,1 / -11,5					6,1 / -11,5				
S = 1.5H		8,8 / -14,1					8,8 / -14,1				
S = 2.0H		10,8 / -16,6					10,8 / -16,6				
Standard table		n/a					n/a				
Correction summand		n/a					n/a				
Corrected glare indices referring to 1248lm total luminous flux											



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