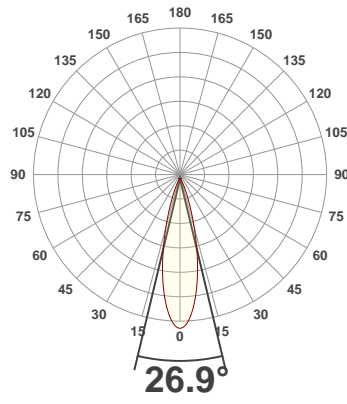
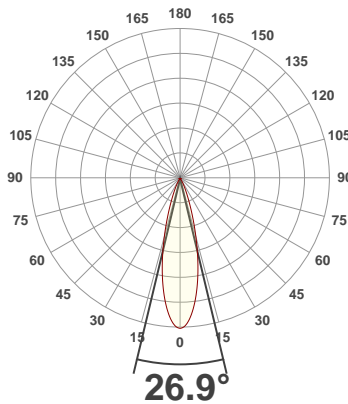




PRODUCT INFORMATION

SERIAL NUMBER:	LL-200402-0586
DATE OF MEASUREMENT:	2020-04-02
SIZE (dia. x h):	72 mm x 47 mm

ANGULAR DISTRIBUTION AT C0/180 | ANGULAR DISTRIBUTION AT C90/270 | LIGHT OUTPUT DATA

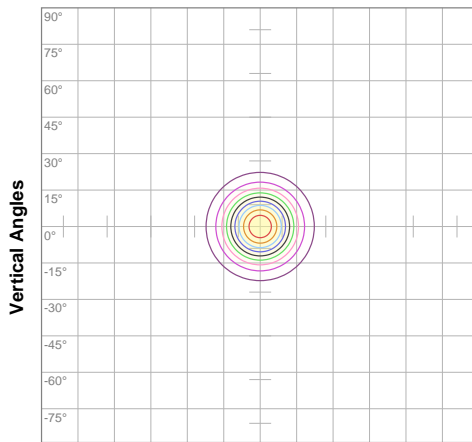


TOTAL LUMEN OUTPUT:	510 lm
EFFICACY:	51 lm/W
PEAK INTENSITY:	1852 cd
COLOR RENDERING INDEX (CRI):	80.5
COLOR TEMPERATURE (CCT):	3021K
FIDELITY INDEX (TM30Rf):	81.4
GAMUT INDEX (TM30Rg):	98.4

BEAM OUTPUT DATA

BEAM ANGLE (FWHM) C0/180:	26.9°
BEAM ANGLE (FWHM) C90/270:	26.9°
FIELD ANGLE (10%) C0/180:	49.8°
FIELD ANGLE (10%) C90/270:	49.8°
NUMBER OF PLANES MEASURED:	12

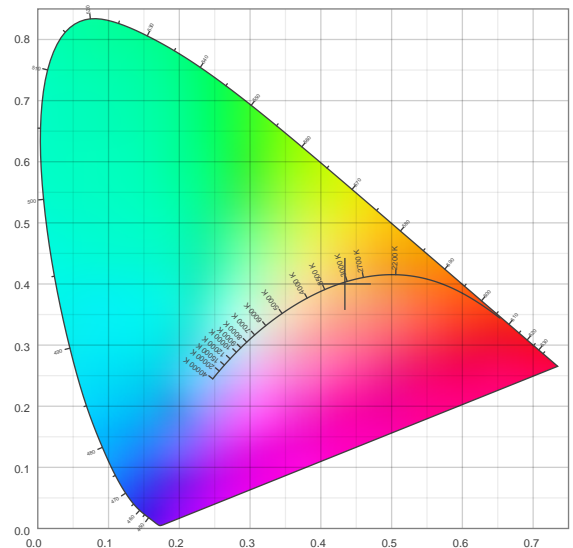
ISOCANDELA DIAGRAM



10%	185 cd
20%	370 cd
30%	556 cd
40%	741 cd
50%	926 cd
60%	1111 cd
70%	1296 cd
80%	1481 cd
90%	1667 cd

INPUT POWER:	9.9 W
POWER FACTOR:	1.0
OPTICAL POWER:	1.56 mW
PEAK WAVELENGTH:	601 nm
DOMINANT WAVELENGTH:	584 nm

CIE 1931



SPECTRAL DISTRIBUTION



CIE 1931 ZOOM

x:	0.434
y:	0.400
u:	0.250
v:	0.346
Δuv :	-0.0012

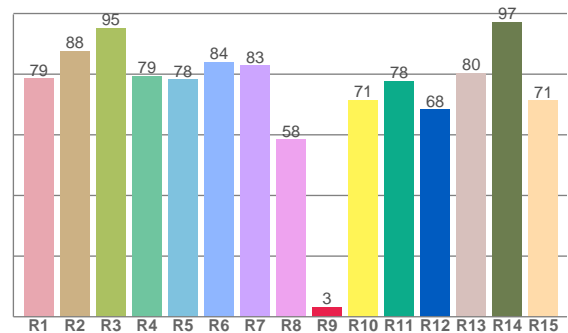
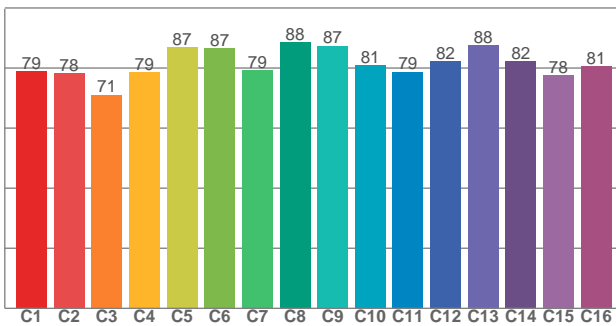
ZONAL LUMEN SUMMARY

0°-10° 146 lm	10°-20° 211 lm	20°-30° 88.6 lm	30°-40° 32.0 lm	40°-50° 15.3 lm	50°-60° 9.05 lm	60°-70° 5.37 lm	70°-80° 2.05 lm	80°-90° 0.182 lm
90°-100° 0.002 lm	100°-110° 0.000 lm	110°-120° 0.000 lm	120°-130° 0.000 lm	130°-140° 0.000 lm	140°-150° 0.000 lm	150°-160° 0.000 lm	160°-170° 0.000 lm	170°-180° 0.000 lm

COLOR DETAILS

TM30: 81.4

CRI: 80.5 (R1-R8)



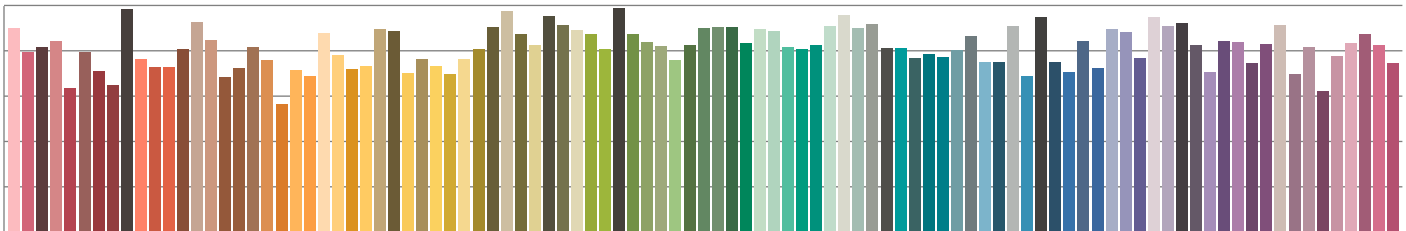
TM30 C values, 16 binned values out of total of 99 C values

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

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
79.0	78.3	71.1	78.5	87.0	86.5	79.3	88.5	87.3	80.9	78.8	82.3	87.6	82.2	77.6	80.5

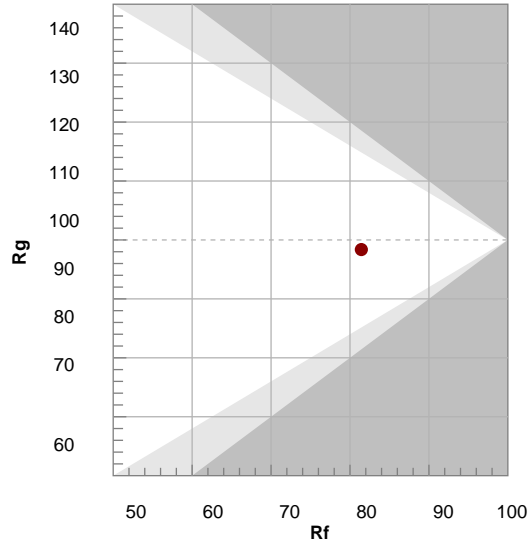
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
78.6	87.6	95.1	79.3	78.2	84.0	82.8	58.5	3.2	71.4	77.8	68.3	80.3	97.1	71.2

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	79	-12%	-3%
2	78	-9%	8%
3	71	-3%	15%
4	79	6%	13%
5	87	9%	7%
6	87	8%	-3%
7	79	2%	-13%
8	88	-3%	-7%
9	87	-8%	-3%
10	81	-8%	6%
11	79	-5%	14%
12	82	5%	8%
13	88	8%	-3%
14	82	7%	-12%
15	78	0%	-15%
16	81	-7%	-14%



FIDELITY INDEX

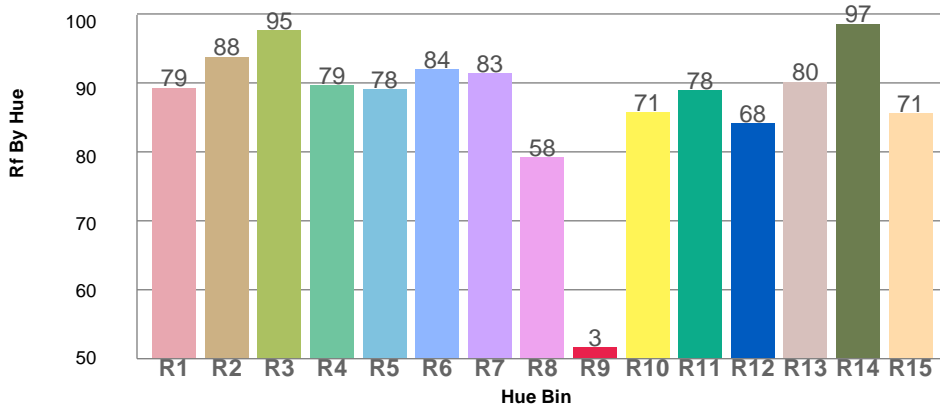
R_f 81.4

GAMUT INDEX

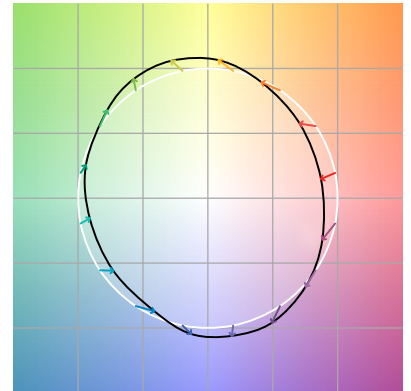
R_g 98.4

Approx. limits for sources on the Planckian locus.
 Approx. limits for practical light sources.

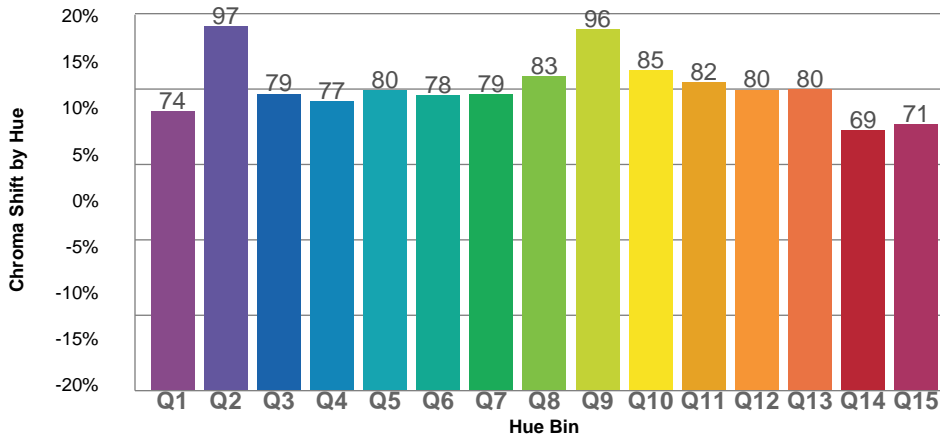
TM30 OVER 50



COLOR VECTOR GRAPHICS



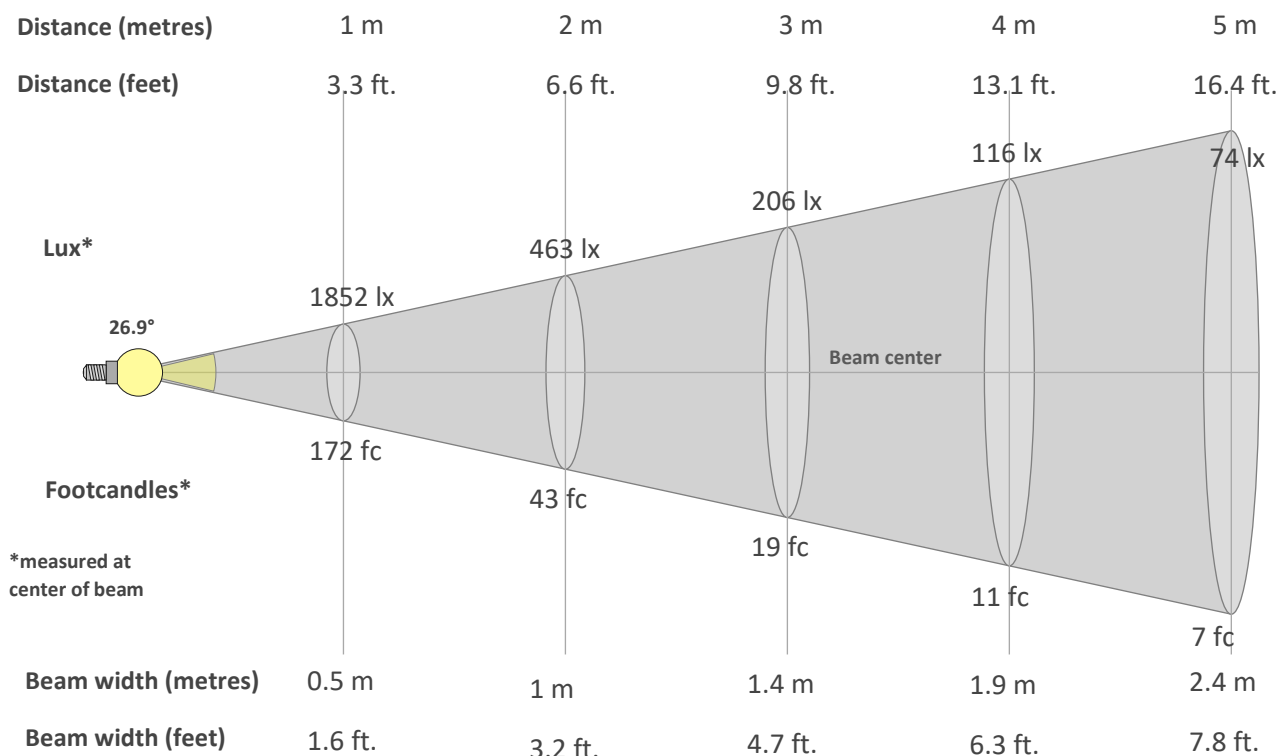
TM30 CHROMA SHIFT



COLOR DISTORTION GRAPHICS



BEAM DETAILS



Beam intensity from 1-20m

1m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m	13m	14m	15m	16m	17m	18m	19m	20m
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
1852lx	463lx	206lx	116lx	74lx	51lx	38lx	29lx	23lx	19lx	15lx	13lx	11lx	9lx	8lx	7lx	6lx	6lx	5lx	5lx
172fc	43fc	19.1fc	10.8fc	6.9fc	4.8fc	3.5fc	2.7fc	2.1fc	1.7fc	1.4fc	1.2fc	1fc	0.9fc	0.8fc	0.7fc	0.6fc	0.5fc	0.5fc	0.4fc

Intensity in 0° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1852	1820	1733	1604	1444	1262	1068	872	686	522	389	286	211	157	118	90	69	54	43	35
100%	98%	94%	87%	78%	68%	58%	47%	37%	28%	21%	15%	11%	8%	6%	5%	4%	3%	2%	2%

Intensity in 90° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1852	1820	1733	1604	1444	1262	1068	872	686	522	389	286	211	157	118	90	69	54	43	35
100%	98%	94%	87%	78%	68%	58%	47%	37%	28%	21%	15%	11%	8%	6%	5%	4%	3%	2%	2%

Intensity in 180° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1852	1820	1733	1604	1444	1262	1068	872	686	522	389	286	211	157	118	90	69	54	43	35
100%	98%	94%	87%	78%	68%	58%	47%	37%	28%	21%	15%	11%	8%	6%	5%	4%	3%	2%	2%

Intensity in 270° c-plane

0°	2°	4°	6°	8°	10°	12°	14°	16°	18°	20°	22°	24°	26°	28°	30°	32°	34°	36°	38°
1852	1820	1733	1604	1444	1262	1068	872	686	522	389	286	211	157	118	90	69	54	43	35
100%	98%	94%	87%	78%	68%	58%	47%	37%	28%	21%	15%	11%	8%	6%	5%	4%	3%	2%	2%