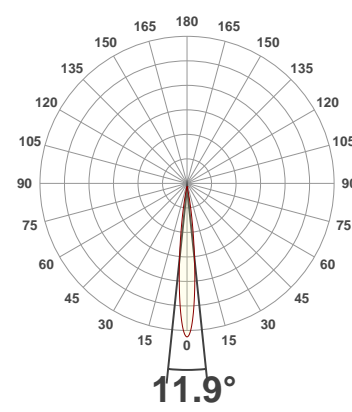
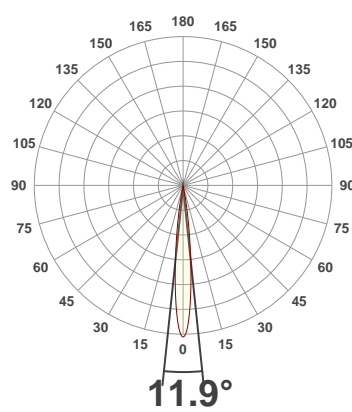




PRODUCT INFORMATION

SERIAL NUMBER:	LL-200325-0492
DATE OF MEASUREMENT:	25/03/2020
SIZE (dia. x h):	73 mm x 47 mm

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

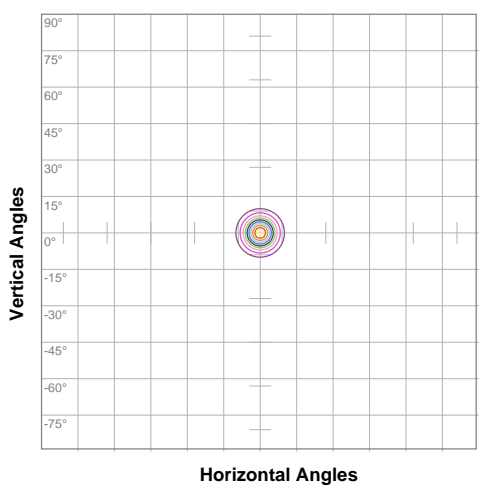


TOTAL LUMEN OUTPUT:	184 lm
EFFICACY:	23 lm/W
PEAK INTENSITY:	3424 cd
COLOR RENDERING INDEX (CRI):	94.4
COLOR TEMPERATURE (CCT):	3062K
FIDELITY INDEX (TM30Rf):	89.3
GAMUT INDEX (TM30Rg):	106.1

BEAM OUTPUT DATA

BEAM ANGLE (FWHM) C0/180:	11.9°
BEAM ANGLE (FWHM) C90/270:	11.9°
FIELD ANGLE (10%) C0/180:	22.2°
FIELD ANGLE (10%) C90/270:	22.2°
NUMBER OF PLANES MEASURED:	12

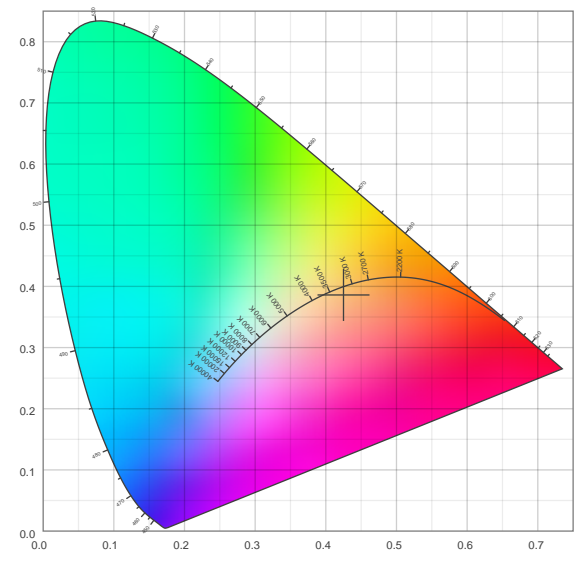
ISOCANDELA DIAGRAM



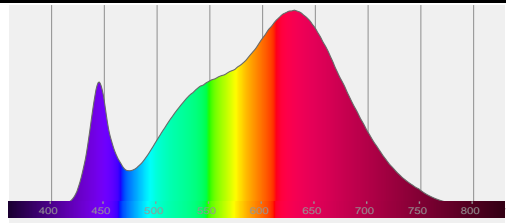
10%	342 cd
20%	685 cd
30%	1027 cd
40%	1370 cd
50%	1712 cd
60%	2054 cd
70%	2397 cd
80%	2739 cd
90%	3082 cd

INPUT POWER:	8.0 W
POWER FACTOR:	1.0
OPTICAL POWER:	0.681 mW
PEAK WAVELENGTH:	629 nm
DOMINANT WAVELENGTH:	586 nm

CIE 1931



SPECTRAL DISTRIBUTION



CIE 1931 ZOOM

x:	0.425
y:	0.386
u:	0.251
v:	0.341
Δuv:	-0.0057

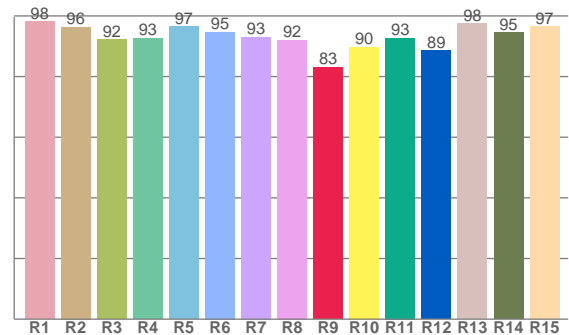
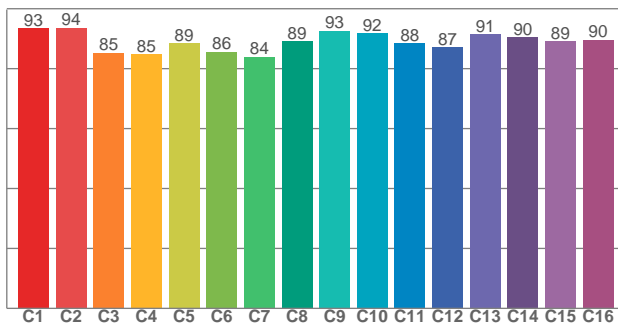
ZONAL LUMEN SUMMARY

0°-10° 145 lm	10°-20° 32.3 lm	20°-30° 4.72 lm	30°-40° 1.21 lm	40°-50° 0.391 lm	50°-60° 0.155 lm	60°-70° 0.118 lm	70°-80° 0.090 lm	80°-90° 0.072 lm
90°-100° 0.050 lm	100°-110° 0.046 lm	110°-120° 0.043 lm	120°-130° 0.039 lm	130°-140° 0.034 lm	140°-150° 0.027 lm	150°-160° 0.020 lm	160°-170° 0.012 lm	170°-180° 0.004 lm

COLOR DETAILS

TM30: 89.3

CRI: 94.4 (R1-R8)



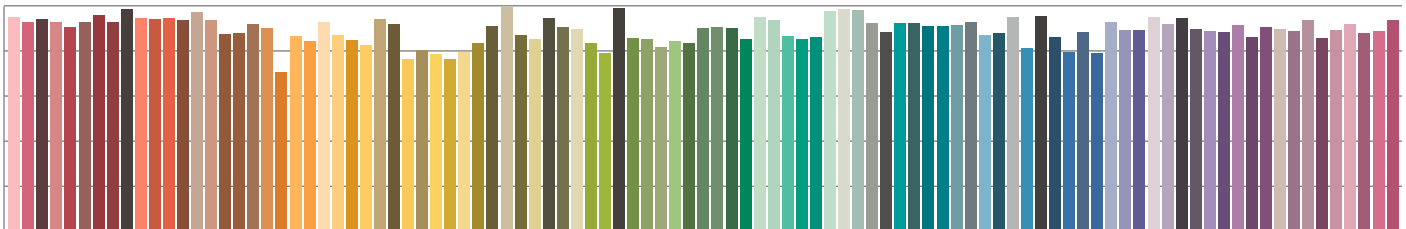
TM30 C values, 16 binned values out of total of 99 C values

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
93.4	93.6	85.3	84.8	88.6	85.6	83.9	89.0	92.6	91.8	88.4	87.0	91.4	90.4	89.2	89.6

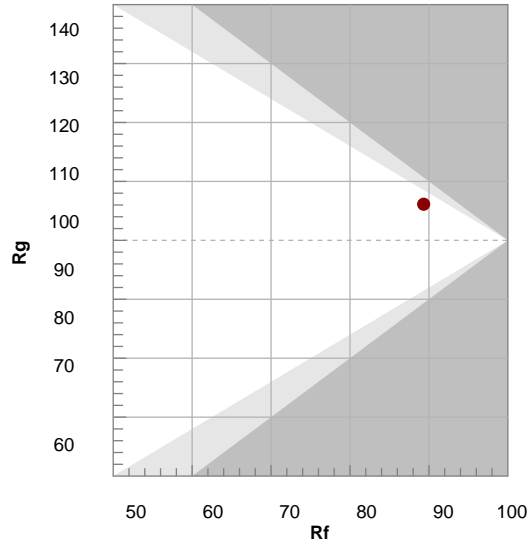
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
98.1	96.4	92.1	92.6	96.5	94.7	93.0	92.1	83.1	89.7	92.8	88.6	97.5	94.5	96.5

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	93	-2%	-3%
2	94	-2%	3%
3	85	1%	8%
4	85	6%	8%
5	89	8%	6%
6	86	10%	0%
7	84	7%	-8%
8	89	3%	-7%
9	93	-1%	-5%
10	92	-4%	0%
11	88	-2%	7%
12	87	4%	6%
13	91	6%	2%
14	90	8%	-2%
15	89	5%	-5%
16	90	3%	-8%

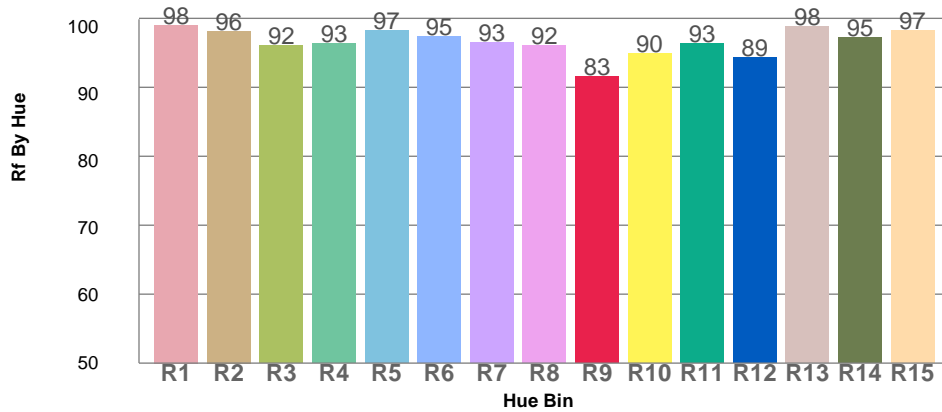


FIDELITY INDEX
R_f 89.3

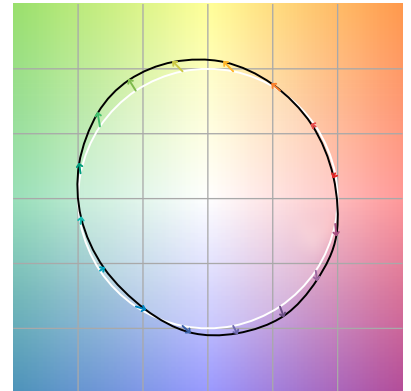
GAMUT INDEX
R_g 106.1

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

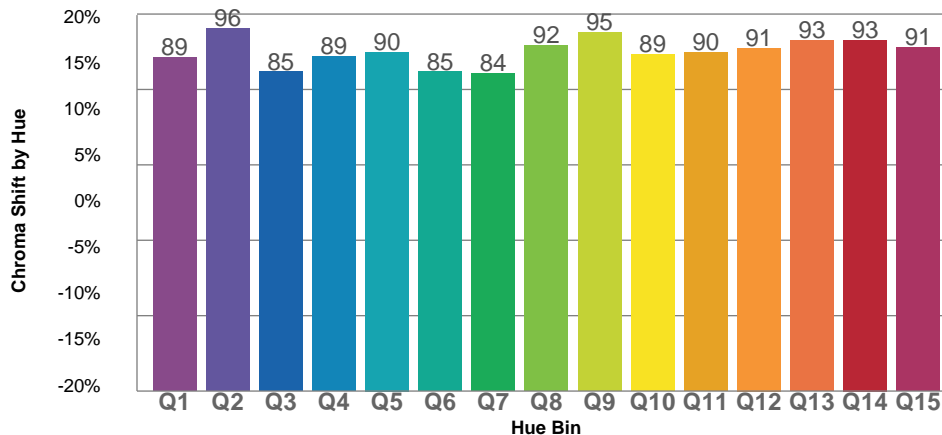
TM30 OVER 50



COLOR VECTOR GRAPHICS



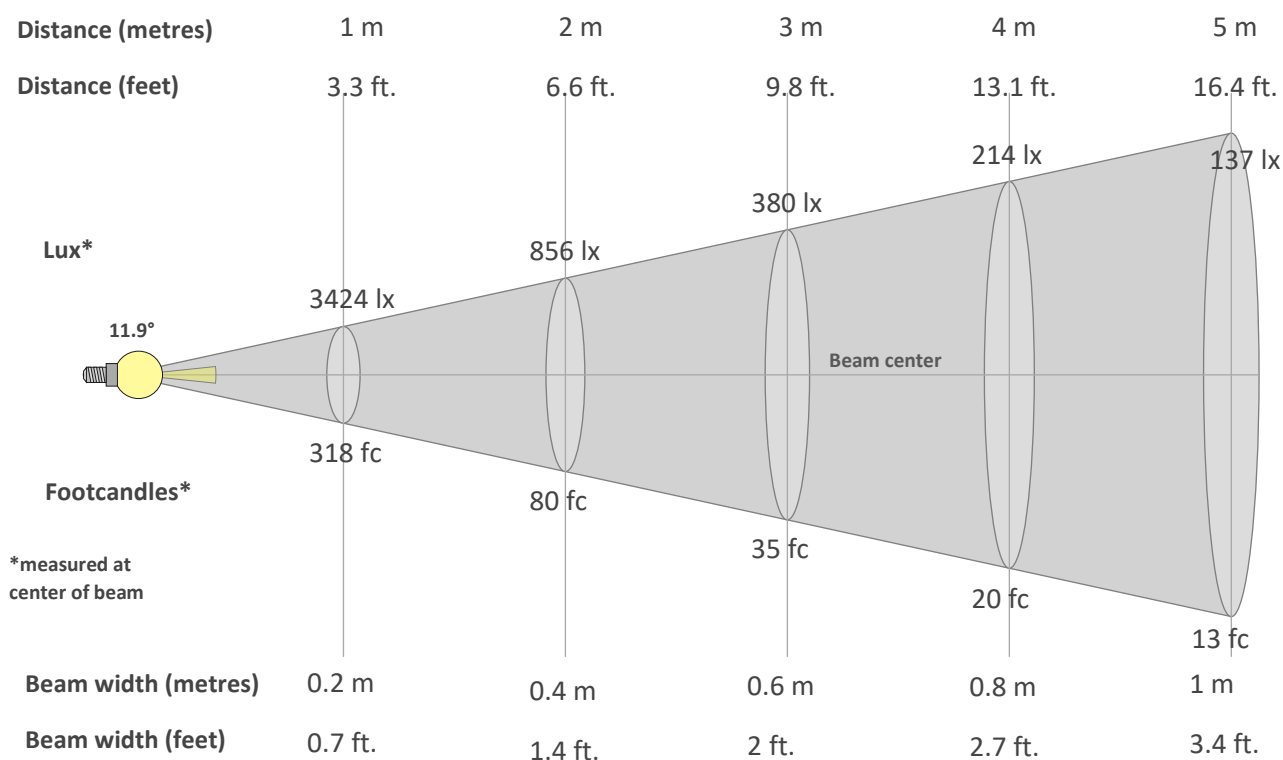
TM30 CHROMA SHIFT



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
3424lx	856lx	380lx	214lx	137lx	95lx	70lx	54lx	42lx	34lx	28lx	24lx	20lx	17lx	15lx	13lx	12lx	11lx	9lx	9lx
318.1fc	79.5fc	35.3fc	19.9fc	12.7fc	8.8fc	6.5fc	5fc	3.9fc	3.2fc	2.6fc	2.2fc	1.9fc	1.6fc	1.4fc	1.2fc	1.1fc	1fc	0.9fc	0.8fc

Intensity in 0° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
3424	3356	3161	2861	2493	2093	1692	1321	999	730	517	356	242	163	110	77	56	42	34	28
100%	98%	92%	84%	73%	61%	49%	39%	29%	21%	15%	10%	7%	5%	3%	2%	2%	1%	1%	1%

Intensity in 90° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
3424	3356	3161	2861	2493	2093	1692	1321	999	730	517	356	242	163	110	77	56	42	34	28
100%	98%	92%	84%	73%	61%	49%	39%	29%	21%	15%	10%	7%	5%	3%	2%	2%	1%	1%	1%

Intensity in 180° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
3424	3356	3161	2861	2493	2093	1692	1321	999	730	517	356	242	163	110	77	56	42	34	28
100%	98%	92%	84%	73%	61%	49%	39%	29%	21%	15%	10%	7%	5%	3%	2%	2%	1%	1%	1%

Intensity in 270° c-plane

0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
3424	3356	3161	2861	2493	2093	1692	1321	999	730	517	356	242	163	110	77	56	42	34	28
100%	98%	92%	84%	73%	61%	49%	39%	29%	21%	15%	10%	7%	5%	3%	2%	2%	1%	1%	1%