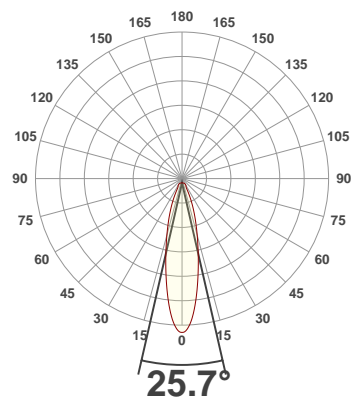
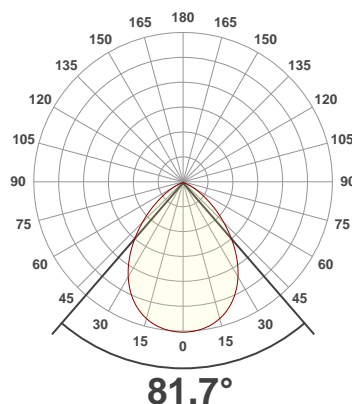




PRODUCT INFORMATION

SERIAL NUMBER:	LL-200715-1124
DATE OF MEASUREMENT:	2020-07-15
SIZE (l x w. x h):	297 mm x 34.9 mm x 34.4 mm

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

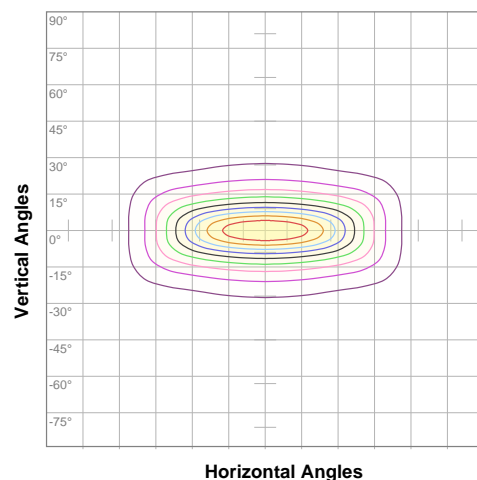


TOTAL LUMEN OUTPUT:	499 lm
EFFICACY:	107 lm/W
PEAK INTENSITY:	592 cd
COLOR RENDERING INDEX (CRI):	84.1
COLOR TEMPERATURE (CCT):	4070K
FIDELITY INDEX (TM30Rf):	83.9
GAMUT INDEX (TM30Rg):	94.9

BEAM OUTPUT DATA

BEAM ANGLE (FWHM) C0/180:	81.7°
BEAM ANGLE (FWHM) C90/270:	25.7°
FIELD ANGLE (10%) C0/180:	124.8°
FIELD ANGLE (10%) C90/270:	61.5°
NUMBER OF PLANES MEASURED:	24

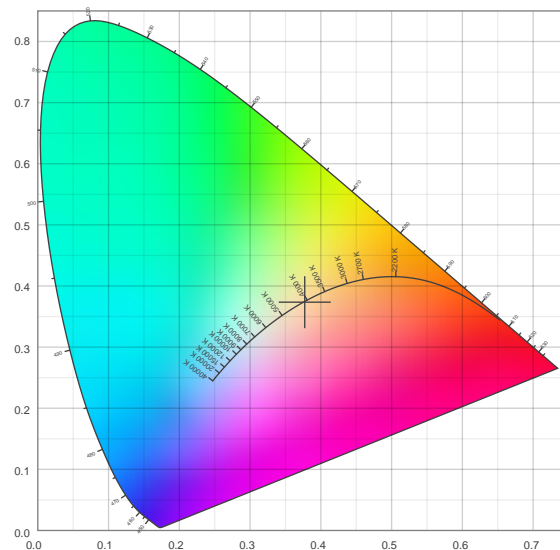
ISOCANDELA DIAGRAM



10%	59 cd
20%	118 cd
30%	177 cd
40%	237 cd
50%	296 cd
60%	355 cd
70%	414 cd
80%	473 cd
90%	532 cd

INPUT POWER:	4.7 W
POWER FACTOR:	1.0
OPTICAL POWER:	1.54 mW
PEAK WAVELENGTH:	453 nm
DOMINANT WAVELENGTH:	582 nm

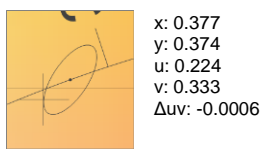
CIE 1931



SPECTRAL DISTRIBUTION



CIE 1931 ZOOM



x: 0.377
y: 0.374
u: 0.224
v: 0.333
 $\Delta u_v: -0.0006$

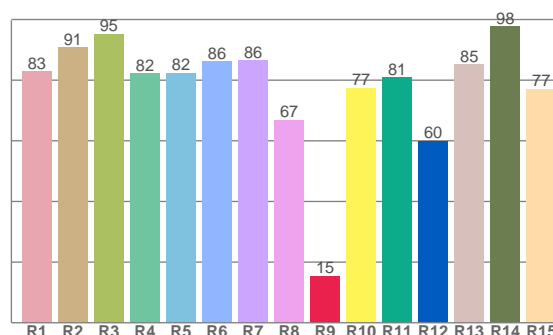
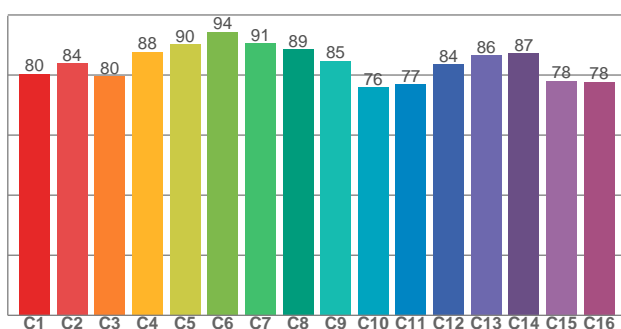
ZONAL LUMEN SUMMARY

0°-10° 49.0 lm	10°-20° 103 lm	20°-30° 107 lm	30°-40° 88.8 lm	40°-50° 65.3 lm	50°-60° 43.2 lm	60°-70° 25.1 lm	70°-80° 12.3 lm	80°-90° 4.02 lm
90°-100° 0.406 lm	100°-110° 0.370 lm	110°-120° 0.327 lm	120°-130° 0.268 lm	130°-140° 0.135 lm	140°-150° 0.090 lm	150°-160° 0.066 lm	160°-170° 0.041 lm	170°-180° 0.072 lm

COLOR DETAILS

TM30: 83.9

CRI: 84.1 (R1-R8)



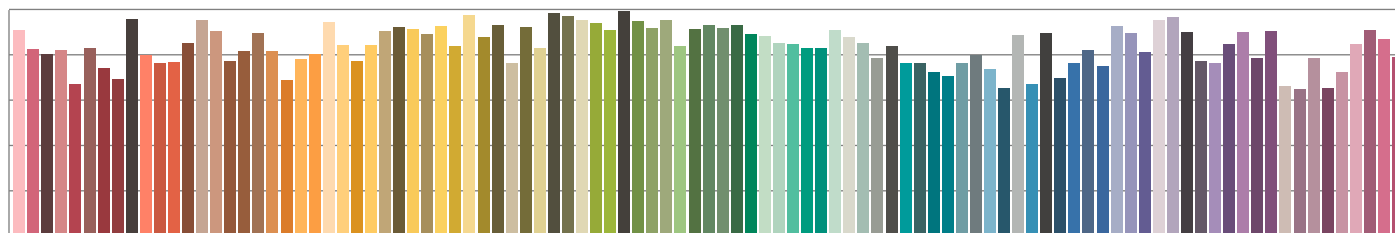
TM30 C values, 16 binned values out of total of 99 C values

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
80.4	83.8	79.5	87.8	90.1	94.3	90.6	88.6	84.7	75.8	76.8	83.6	86.5	87.2	78.1	77.8

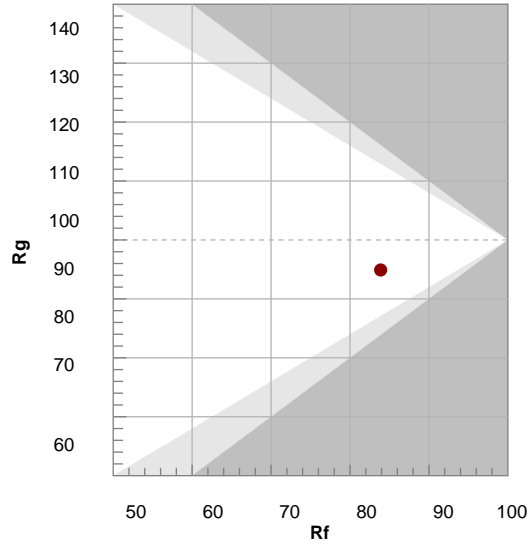
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
82.8	90.8	95.3	82.1	82.3	86.1	86.4	66.8	15.4	77.3	80.9	59.9	85.1	97.7	77.0

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R _f	Graphic shifts (%)	
		Chroma	Hue
1	80	-11%	0%
2	84	-7%	6%
3	80	-4%	10%
4	88	-1%	6%
5	90	-1%	3%
6	94	0%	-2%
7	91	-5%	-2%
8	89	-7%	1%
9	85	-7%	9%
10	76	-6%	14%
11	77	4%	15%
12	84	6%	6%
13	86	8%	-6%
14	87	3%	-7%
15	78	-1%	-16%
16	78	-6%	-12%



FIDELITY INDEX

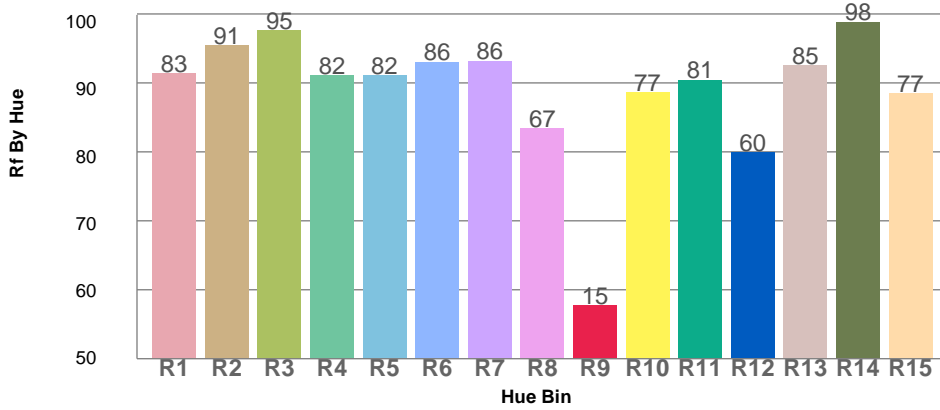
R_f 83.9

GAMUT INDEX

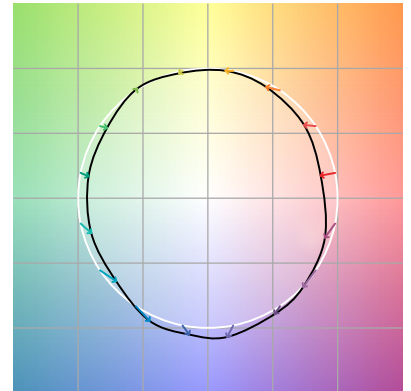
R_g 94.9

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

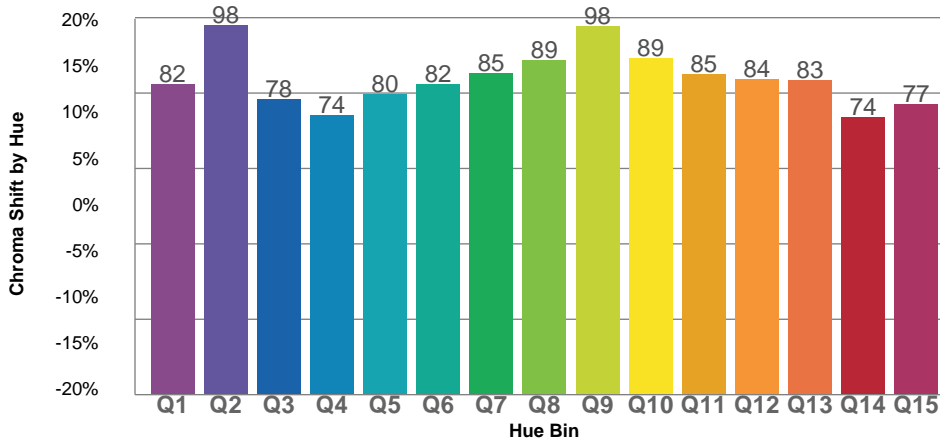
TM30 OVER 50



COLOR VECTOR GRAPHICS



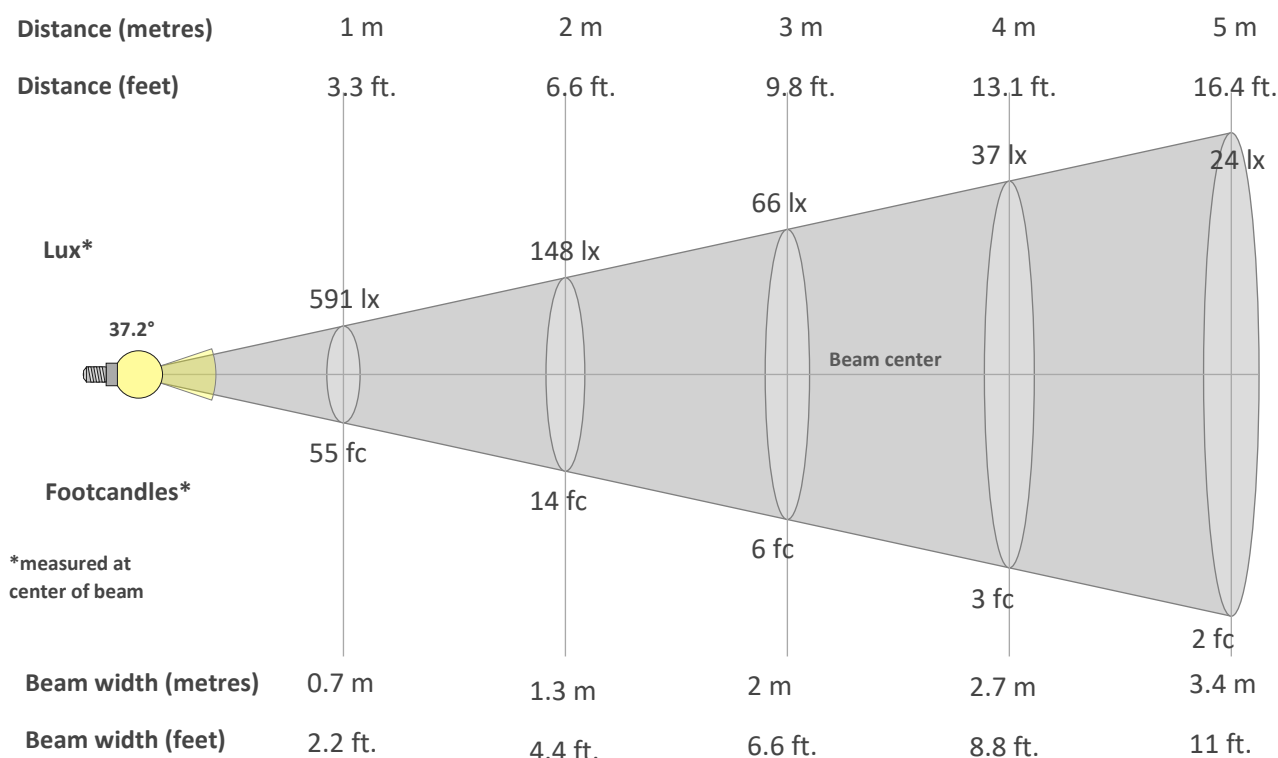
TM30 CHROMA SHIFT



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
591lx	148lx	66lx	37lx	24lx	16lx	12lx	9lx	7lx	6lx	5lx	4lx	3lx	3lx	3lx	2lx	2lx	2lx	2lx	1lx
54.9fc	13.7fc	6.1fc	3.4fc	2.2fc	1.5fc	1.1fc	0.9fc	0.7fc	0.5fc	0.5fc	0.4fc	0.3fc	0.3fc	0.2fc	0.2fc	0.2fc	0.2fc	0.2fc	0.1fc

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°
591	591	589	586	582	577	571	562	553	542	528	514	497	479	458	436	413	388	362	335
100%	100%	100%	99%	98%	98%	97%	95%	93%	92%	89%	87%	84%	81%	78%	74%	70%	66%	61%	57%

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°
591	579	544	492	433	373	317	268	226	190	160	134	112	93	77	63	53	44	37	32
100%	98%	92%	83%	73%	63%	54%	45%	38%	32%	27%	23%	19%	16%	13%	11%	9%	7%	6%	5%

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°
591	591	589	586	582	577	571	562	553	542	528	514	497	479	458	436	413	388	362	335
100%	100%	100%	99%	98%	98%	97%	95%	93%	92%	89%	87%	84%	81%	78%	74%	70%	66%	61%	57%

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°
591	579	544	492	433	373	317	268	226	190	160	134	112	93	77	63	53	44	37	32
100%	98%	92%	83%	73%	63%	54%	45%	38%	32%	27%	23%	19%	16%	13%	11%	9%	7%	6%	5%