



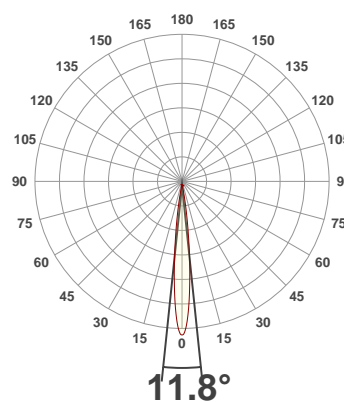
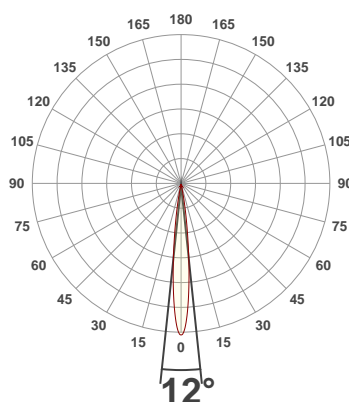
**PRODUCT INFORMATION**

SERIAL NUMBER:	LL-200325-0496
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**

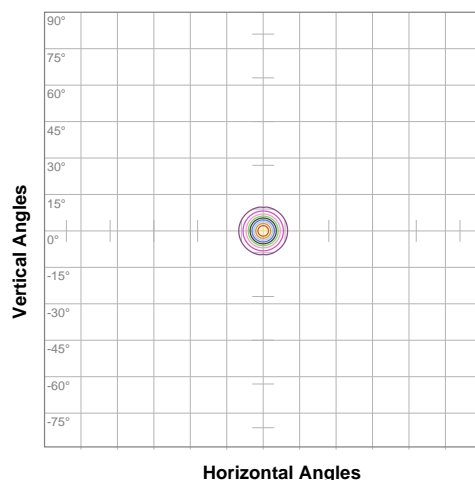


TOTAL LUMEN OUTPUT:	232 lm
EFFICACY:	31 lm/W
PEAK INTENSITY:	4380 cd
COLOR RENDERING INDEX (CRI):	82.9
COLOR TEMPERATURE (CCT):	5213K
FIDELITY INDEX (TM30rf):	77.8
GAMUT INDEX (TM30Rg):	104.6

**BEAM OUTPUT DATA**

BEAM ANGLE (FWHM)   C0/180:	12°
BEAM ANGLE (FWHM)   C90/270:	11.8°
FIELD ANGLE (10%)   C0/180:	22.4°
FIELD ANGLE (10%)   C90/270:	22°
NUMBER OF PLANES MEASURED:	12

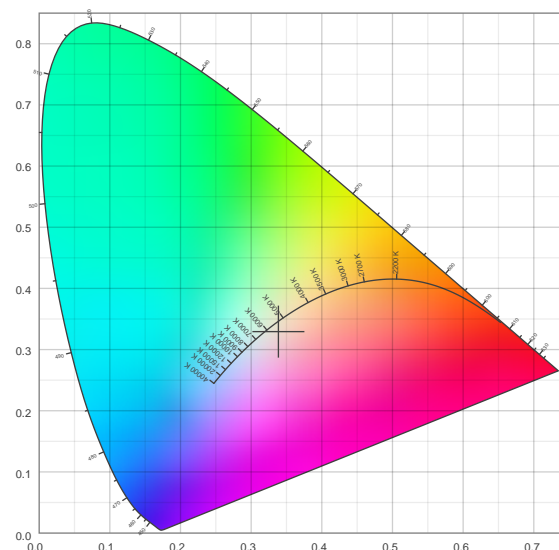
**ISOCANDELA DIAGRAM**



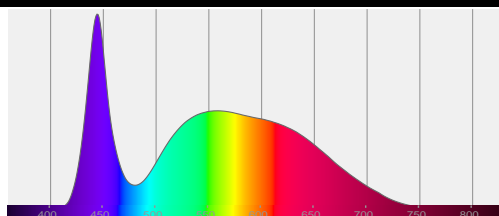
10%	438 cd
20%	875 cd
30%	1313 cd
40%	1750 cd
50%	2188 cd
60%	2625 cd
70%	3063 cd
80%	3500 cd
90%	3938 cd

INPUT POWER:	7.5 W
POWER FACTOR:	1.0
OPTICAL POWER:	0.809 mW
PEAK WAVELENGTH:	444 nm
DOMINANT WAVELENGTH:	610 nm

**CIE 1931**



**SPECTRAL DISTRIBUTION**



**CIE 1931 ZOOM**

x:	0.339
y:	0.329
u:	0.216
v:	0.315
Δuv:	-0.0122

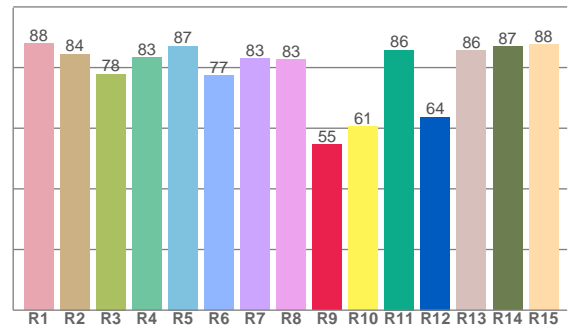
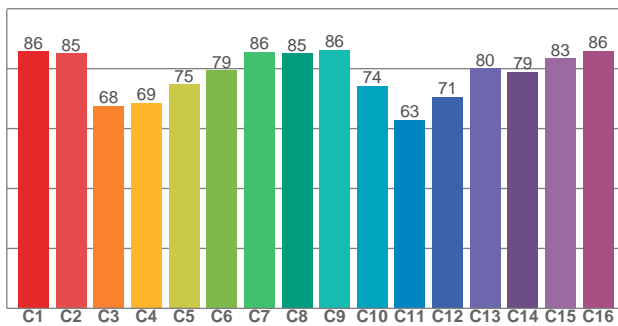
ZONAL LUMEN SUMMARY

0°-10° 184 lm	10°-20° 40.8 lm	20°-30° 5.54 lm	30°-40° 1.20 lm	40°-50° 0.337 lm	50°-60° 0.136 lm	60°-70° 0.087 lm	70°-80° 0.061 lm	80°-90° 0.049 lm
90°-100° 0.018 lm	100°-110° 0.005 lm	110°-120° 0.004 lm	120°-130° 0.004 lm	130°-140° 0.003 lm	140°-150° 0.003 lm	150°-160° 0.002 lm	160°-170° 0.001 lm	170°-180° 0.000 lm

COLOR DETAILS

TM30: 77.8

CRI: 82.9 (R1-R8)



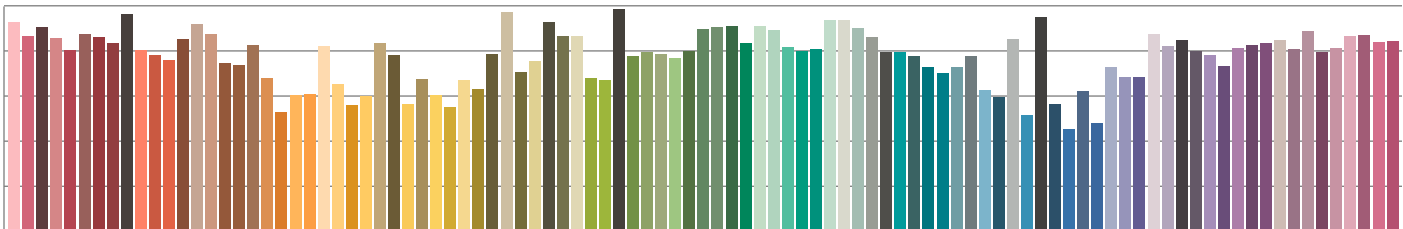
TM30 C values, 16 binned values out of total of 99 C values

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
85.7	85.0	67.5	68.6	74.8	79.4	85.6	85.1	86.3	74.3	62.9	70.6	80.1	78.9	83.4	85.9

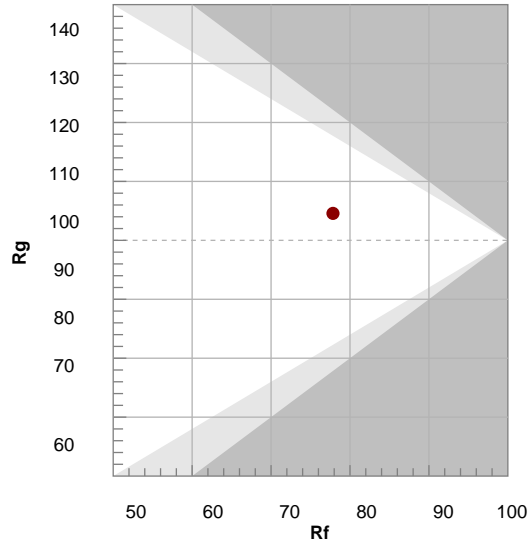
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
88.0	84.4	77.9	83.3	87.1	77.4	82.9	82.6	54.5	60.5	85.8	63.7	85.6	86.9	87.5

TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	86	-7%	-3%
2	85	-7%	7%
3	68	-2%	18%
4	69	6%	19%
5	75	14%	13%
6	79	14%	1%
7	86	7%	-7%
8	85	-2%	-8%
9	86	-11%	-2%
10	74	-10%	12%
11	63	-4%	23%
12	71	4%	20%
13	80	12%	13%
14	79	12%	3%
15	83	12%	-9%
16	86	2%	-9%



FIDELITY INDEX

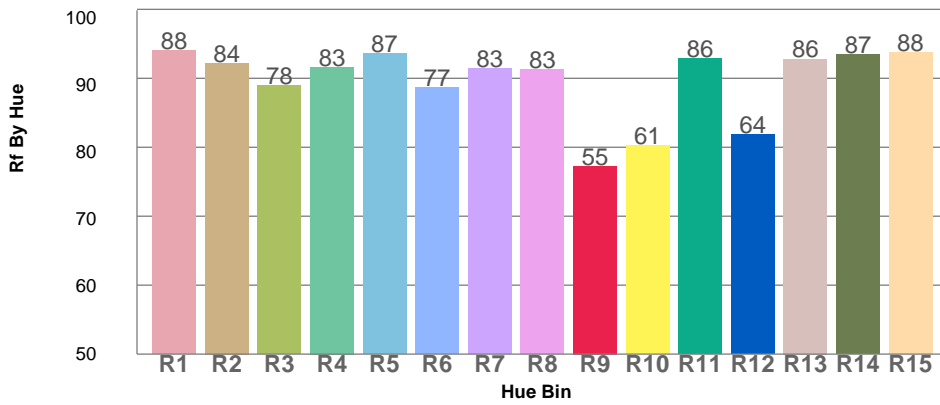
**R<sub>f</sub> 77.8**

GAMUT INDEX

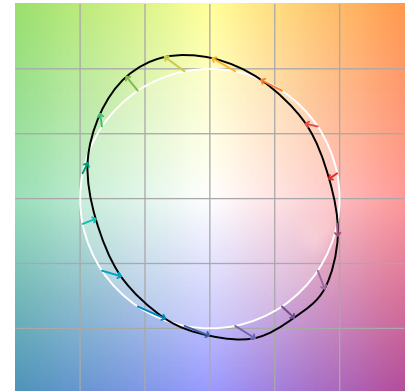
**R<sub>g</sub> 104.6**

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

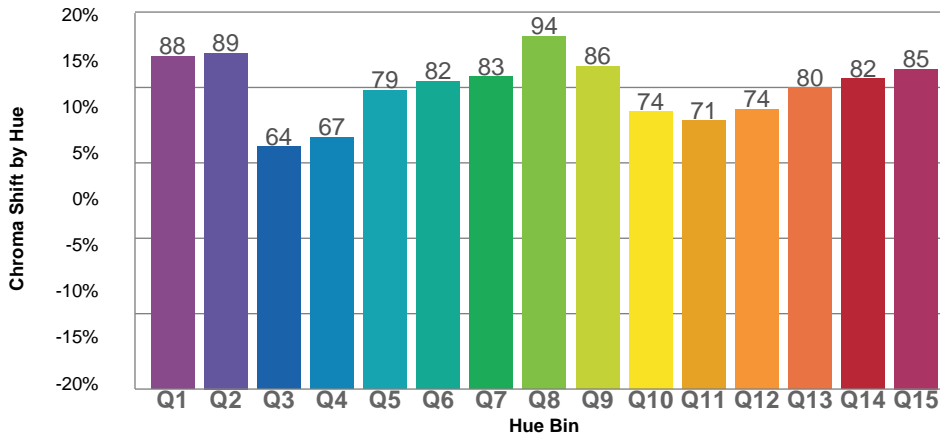
TM30 OVER 50



COLOR VECTOR GRAPHICS



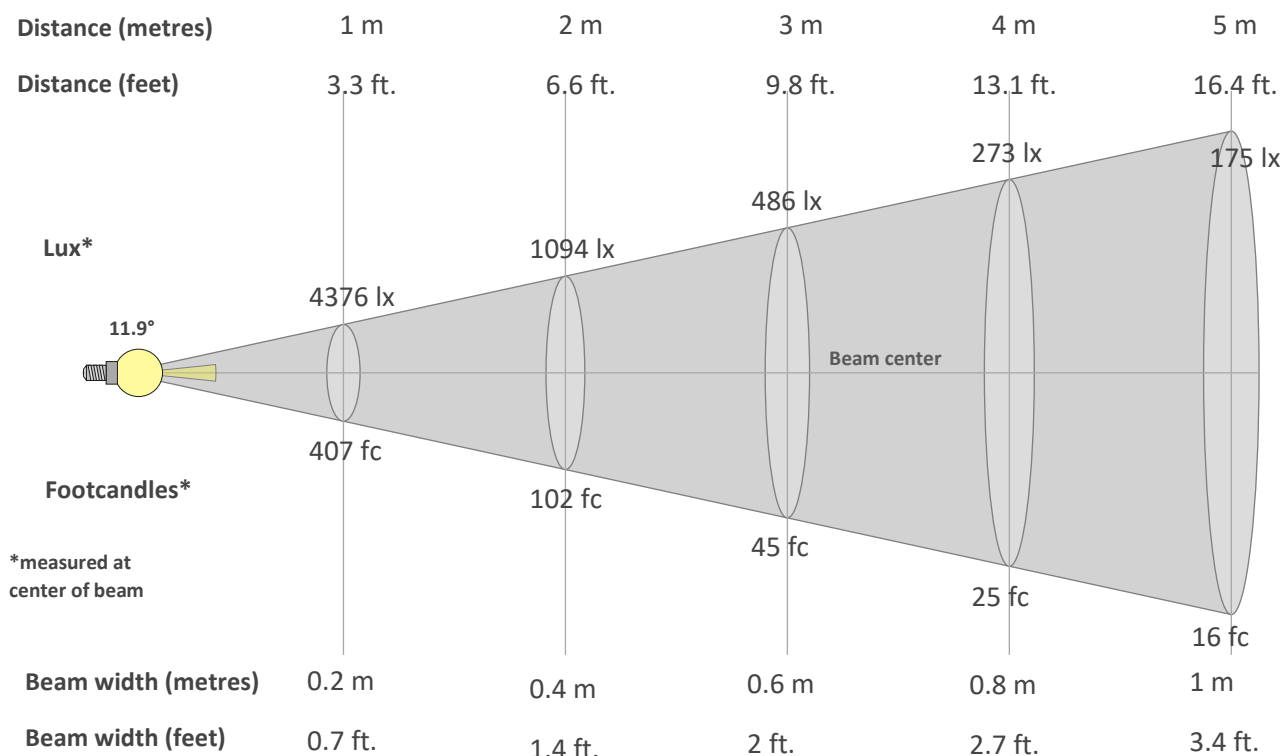
TM30 CHROMA SHIFT



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
4376lx	1094lx	486lx	273lx	175lx	122lx	89lx	68lx	54lx	44lx	36lx	30lx	26lx	22lx	19lx	17lx	15lx	14lx	12lx	11lx
406.5fc	101.6fc	45.2fc	25.4fc	16.3fc	11.3fc	8.3fc	6.4fc	5fc	4.1fc	3.4fc	2.8fc	2.4fc	2.1fc	1.8fc	1.6fc	1.4fc	1.3fc	1.1fc	1fc

**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°
4376	4291	4042	3658	3190	2685	2173	1700	1291	950	675	469	322	219	150	105	76	57	45	35
100%	98%	92%	84%	73%	61%	50%	39%	29%	22%	15%	11%	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°
4376	4290	4038	3649	3172	2654	2141	1664	1250	908	638	437	294	196	132	91	67	51	41	32
100%	98%	92%	83%	72%	61%	49%	38%	29%	21%	15%	10%	7%	4%	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°
4376	4291	4042	3658	3190	2685	2173	1700	1291	950	675	469	322	219	150	105	76	57	45	35
100%	98%	92%	84%	73%	61%	50%	39%	29%	22%	15%	11%	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°
4376	4290	4038	3649	3172	2654	2141	1664	1250	908	638	437	294	196	132	91	67	51	41	32
100%	98%	92%	83%	72%	61%	49%	38%	29%	21%	15%	10%	7%	4%	3%	2%	2%	1%	1%	1%