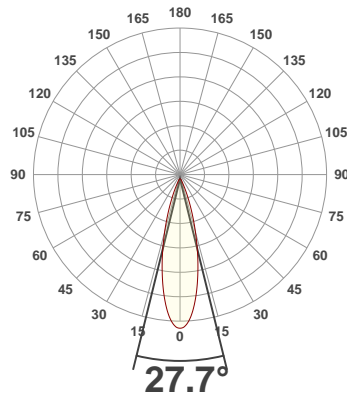
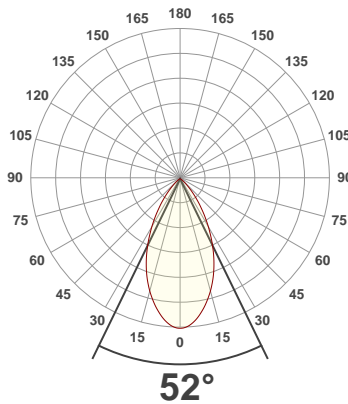




**PRODUCT INFORMATION**

SERIAL NUMBER:	LL-201204-1553
DATE OF MEASUREMENT:	2020-12-04
SIZE (dia. x h):	73 mm x 47 mm

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

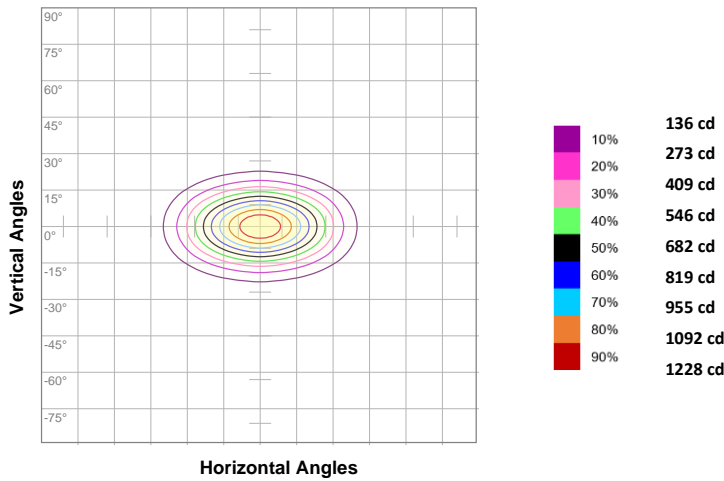


TOTAL LUMEN OUTPUT:	668 lm
EFFICACY:	66 lm/W
PEAK INTENSITY:	1366 cd
COLOR RENDERING INDEX (CRI):	80.2
COLOR TEMPERATURE (CCT):	3004K
FIDELITY INDEX (TM30Rf):	81.6
GAMUT INDEX (TM30Rg):	97.8

**BEAM OUTPUT DATA**

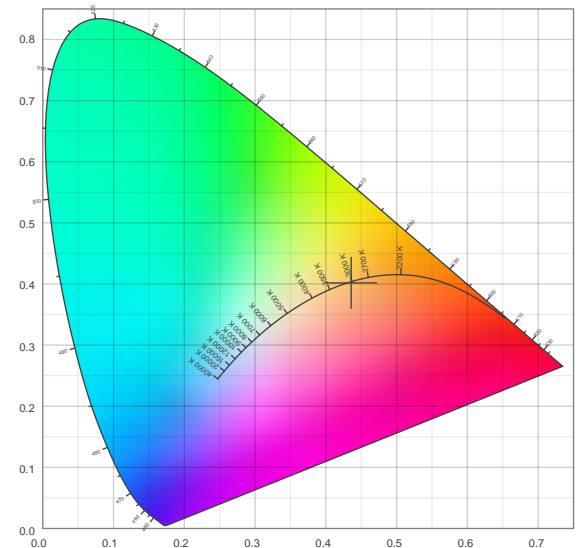
BEAM ANGLE (FWHM)   C0/180:	52°
BEAM ANGLE (FWHM)   C90/270:	27.7°
FIELD ANGLE (10%)   C0/180:	88.6°
FIELD ANGLE (10%)   C90/270:	50.7°
NUMBER OF PLANES MEASURED:	24

**ISOCANDELA DIAGRAM**

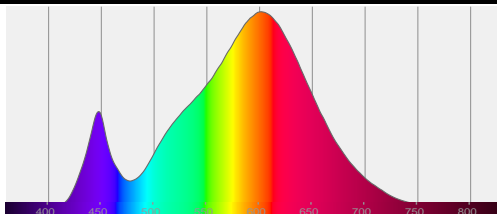


INPUT POWER:	10.1 W
POWER FACTOR:	1.0
OPTICAL POWER:	2.03 mW
PEAK WAVELENGTH:	601 nm
DOMINANT WAVELENGTH:	584 nm

**CIE 1931**



**SPECTRAL DISTRIBUTION | CIE 1931 ZOOM**



x: 0.436  
y: 0.402  
u: 0.251  
v: 0.347  
Δuv: -0.0008

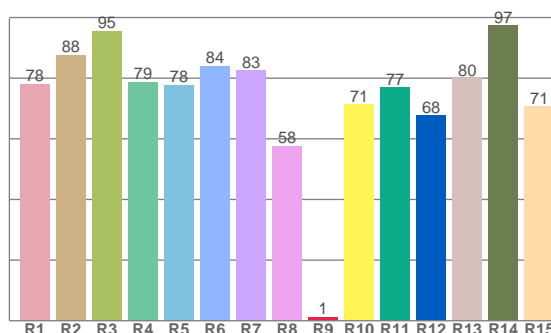
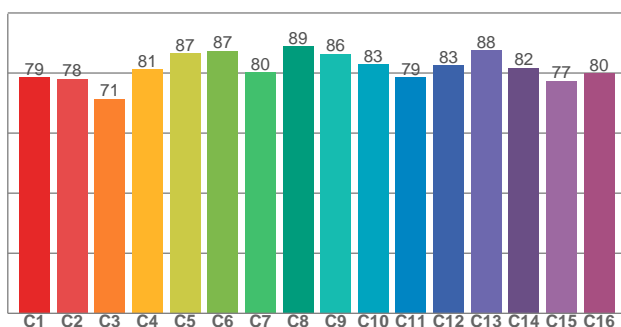
### ZONAL LUMEN SUMMARY

0°-10° 115 lm	10°-20° 224 lm	20°-30° 172 lm	30°-40° 88.7 lm	40°-50° 37.2 lm	50°-60° 16.0 lm	60°-70° 8.59 lm	70°-80° 4.23 lm	80°-90° 1.00 lm
90°-100° 0.083 lm	100°-110° 0.055 lm	110°-120° 0.037 lm	120°-130° 0.028 lm	130°-140° 0.020 lm	140°-150° 0.014 lm	150°-160° 0.010 lm	160°-170° 0.006 lm	170°-180° 0.002 lm

### COLOR DETAILS

TM30: 81.6

CRI: 80.2 (R1-R8)



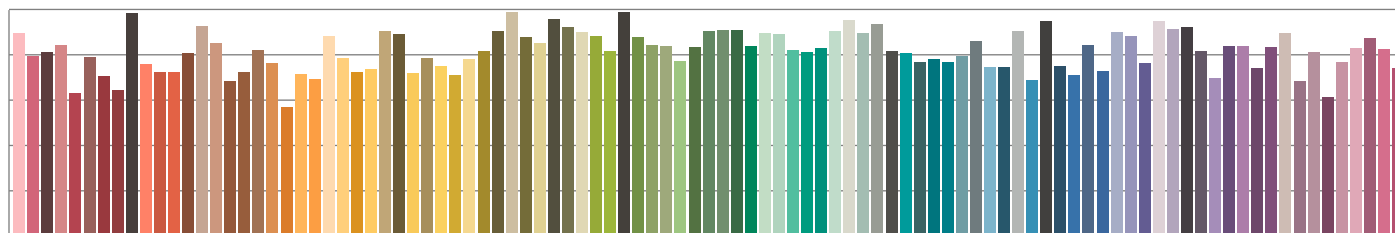
TM30 C values, 16 binned values out of total of 99 C values

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
78.6	78.1	71.4	81.3	86.7	87.4	80.2	88.9	86.4	82.8	78.6	82.5	87.7	81.7	77.4	79.8

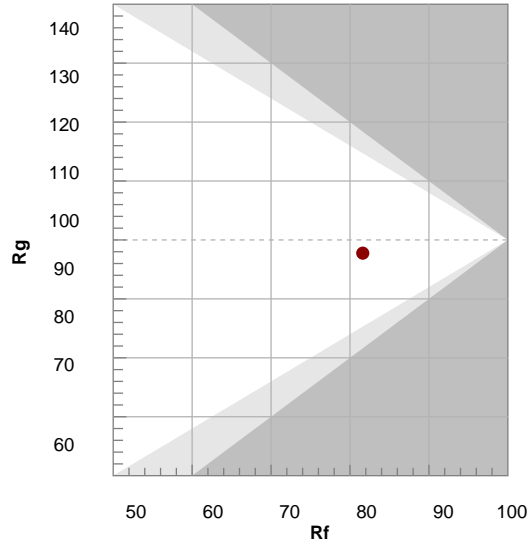
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
78.0	87.5	95.5	78.7	77.7	83.9	82.6	57.5	1.3	71.3	76.9	67.6	79.9	97.4	70.6

### TM30 COLOR EVALUATION SAMPLE



TM30 DETAILS

Hue Bin	R <sub>f</sub>	Graphic shifts (%)	
		Chroma	Hue
1	79	-12%	-2%
2	78	-9%	8%
3	71	-3%	15%
4	81	5%	12%
5	87	9%	7%
6	87	7%	-4%
7	80	1%	-13%
8	89	-3%	-6%
9	86	-8%	-2%
10	83	-8%	7%
11	79	-4%	14%
12	83	5%	7%
13	88	7%	-3%
14	82	7%	-13%
15	77	0%	-15%
16	80	-8%	-14%



FIDELITY INDEX

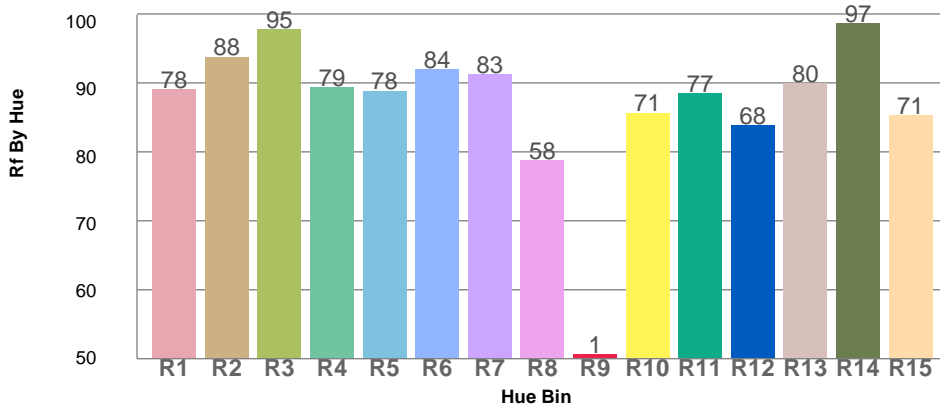
**R<sub>f</sub> 81.6**

GAMUT INDEX

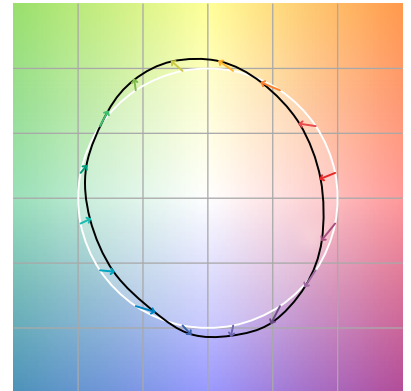
**R<sub>g</sub> 97.8**

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

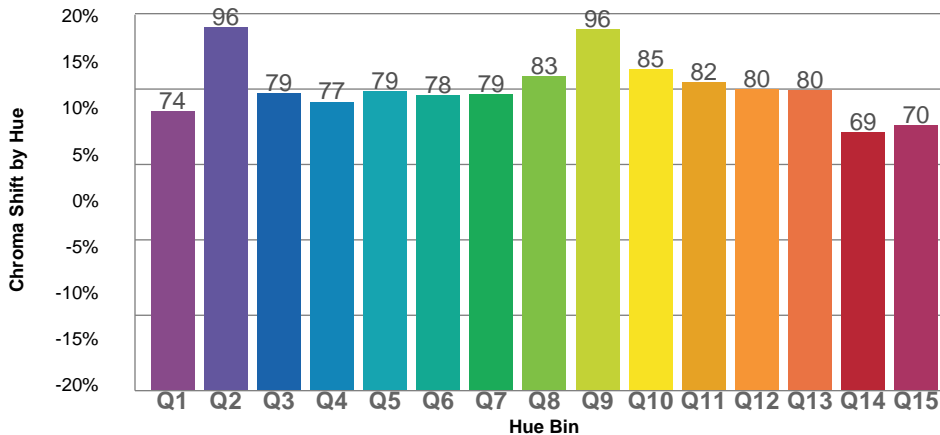
TM30 OVER 50



COLOR VECTOR GRAPHICS



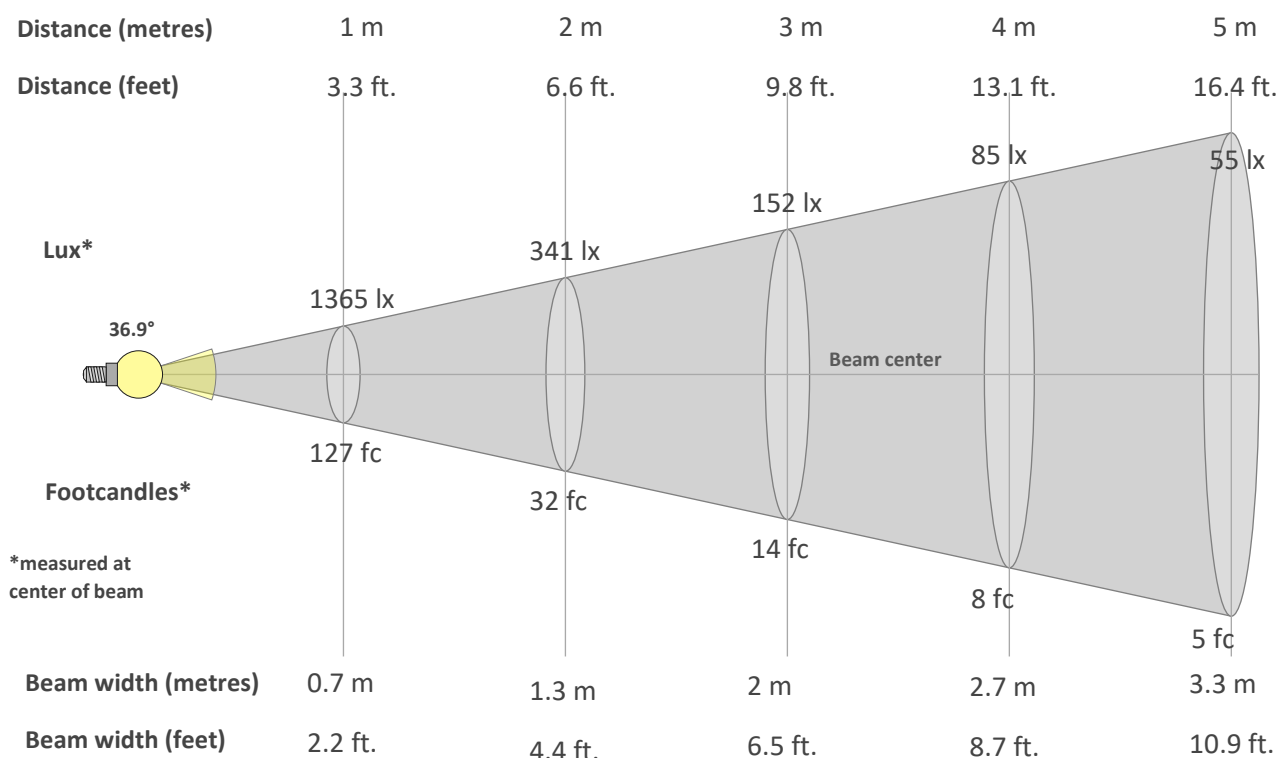
TM30 CHROMA SHIFT



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
1365lx	341lx	152lx	85lx	55lx	38lx	28lx	21lx	17lx	14lx	11lx	9lx	8lx	7lx	6lx	5lx	5lx	4lx	4lx	3lx
126.8fc	31.7fc	14.1fc	7.9fc	5.1fc	3.5fc	2.6fc	2fc	1.6fc	1.3fc	1fc	0.9fc	0.8fc	0.6fc	0.6fc	0.5fc	0.4fc	0.4fc	0.4fc	0.3fc

**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°
1365	1357	1336	1303	1260	1211	1156	1098	1037	972	903	831	757	681	607	534	463	396	332	278
100%	99%	98%	95%	92%	89%	85%	80%	76%	71%	66%	61%	55%	50%	44%	39%	34%	29%	24%	20%

**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°
1365	1344	1284	1191	1074	942	806	670	540	422	320	236	170	122	88	64	49	39	32	27
100%	98%	94%	87%	79%	69%	59%	49%	40%	31%	23%	17%	12%	9%	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°
1365	1357	1336	1303	1260	1211	1156	1098	1037	972	903	831	757	681	607	534	463	396	332	278
100%	99%	98%	95%	92%	89%	85%	80%	76%	71%	66%	61%	55%	50%	44%	39%	34%	29%	24%	20%

**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°
1365	1344	1284	1191	1074	942	806	670	540	422	320	236	170	122	88	64	49	39	32	27
100%	98%	94%	87%	79%	69%	59%	49%	40%	31%	23%	17%	12%	9%	6%	5%	4%	3%	2%	2%