

Light Efficiency:



Light Quality:



Color Temperature:



Output: 6341 lm

Peak: 309637 cd

Power: 648 W

PF: 1.0



Product Name:

Proteus Hybrid

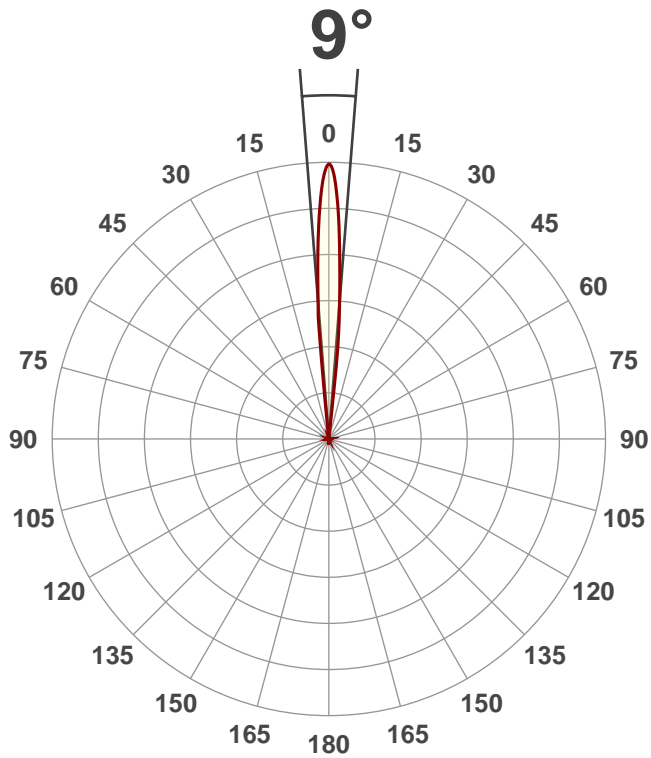
Test:

Spot CTO color wheel Zoom 50%

Date:

1/22/2018

Note:



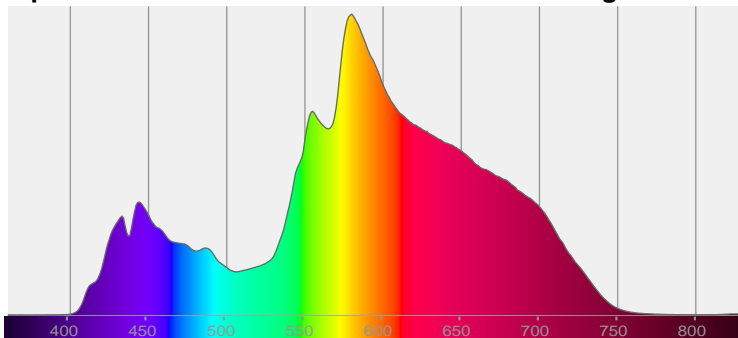
Beam Angle



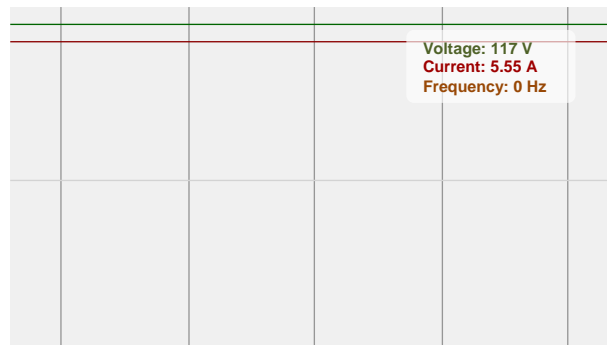
CIE 1931
x: 0.435
y: 0.379

Spectra

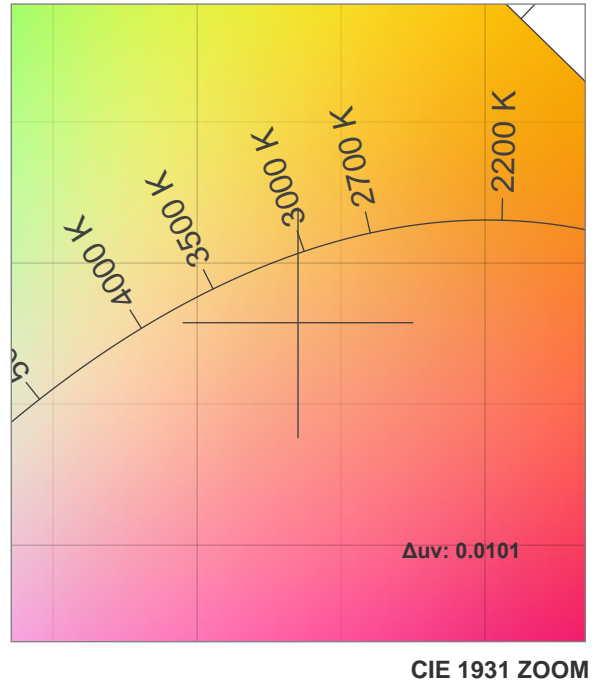
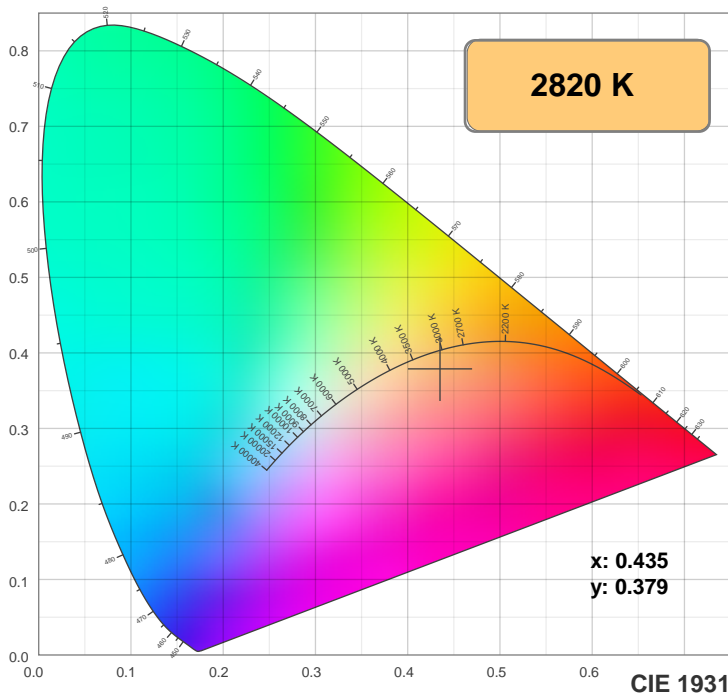
Dominant Wavelength: 589nm



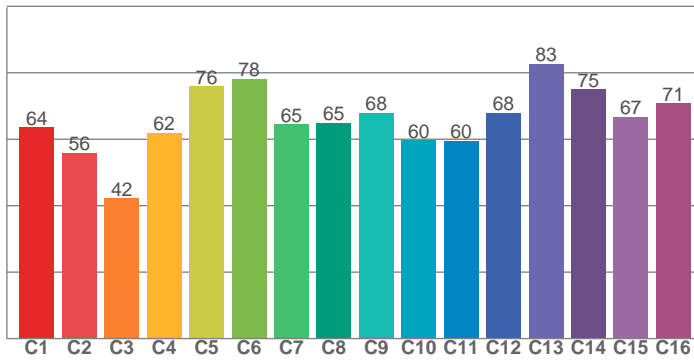
Power



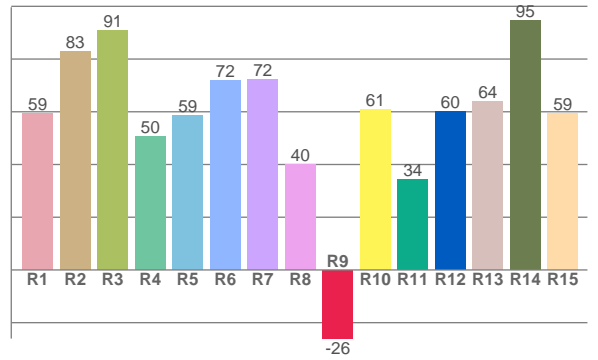
Color Details



TM30: 65.3



CRI: 65.8 (R1-R8)



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

R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
59.3	82.8	90.8	50.5	58.7	72.0	72.1	40.1	-26.0	60.8	34.5	60.1	63.9	94.8	59.4

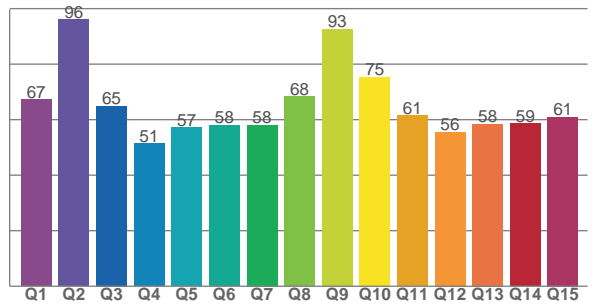
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
63.6	55.8	42.3	61.9	75.9	78.2	64.5	64.9	68.0	59.7	59.5	68.0	82.7	75.0	66.7	70.8

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
67.2	96.1	65.0	51.3	57.1	58.0	58.1	68.3	92.7	75.4	61.5	55.5	58.4	58.6	61.0

CQS: 63.2



Color Parameters

Color Temperature	Color Rendering Index	Red Component	Color Fidelity	Color Gamut	Color Quality Scale	Color Coordinate CIE 1931	Color Coordinate CIE 1931	Color Coordinate	Color Coordinate	Color Deviation from Black Body
CCT	CRI	CRI R9	TM30 Rf	TM30 Rg	CQS	x	y	u	v	Δuv
2820 K	65.8	-26.0	65.3	91.9	63.2	0.435	0.379	0.261	0.340	0.0101

TM30 Details

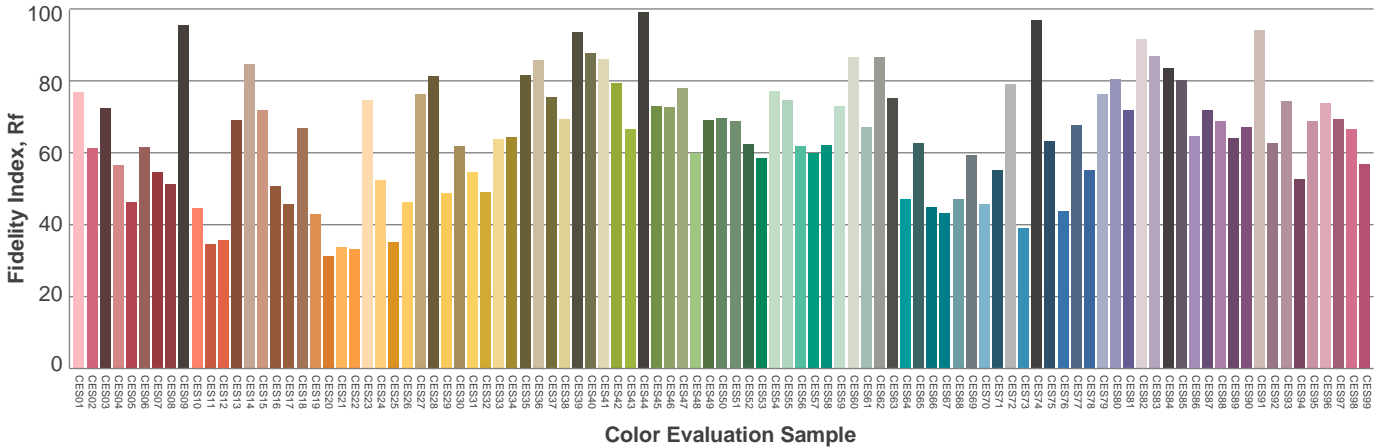
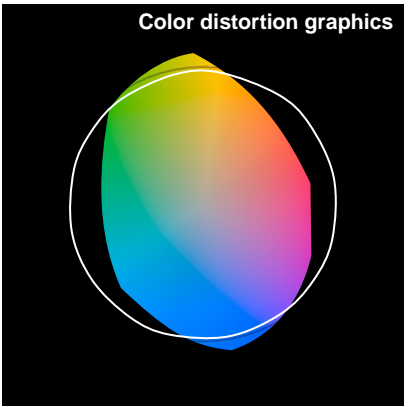
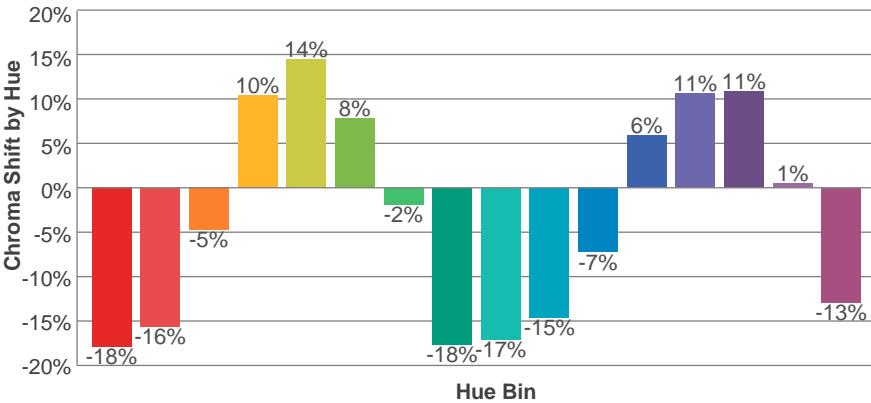
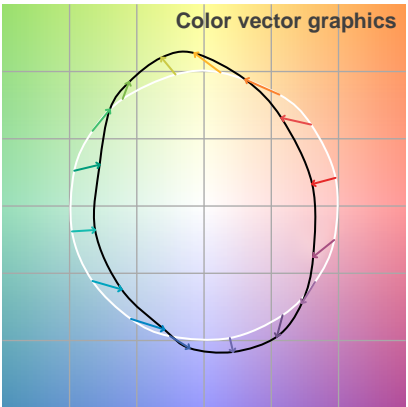
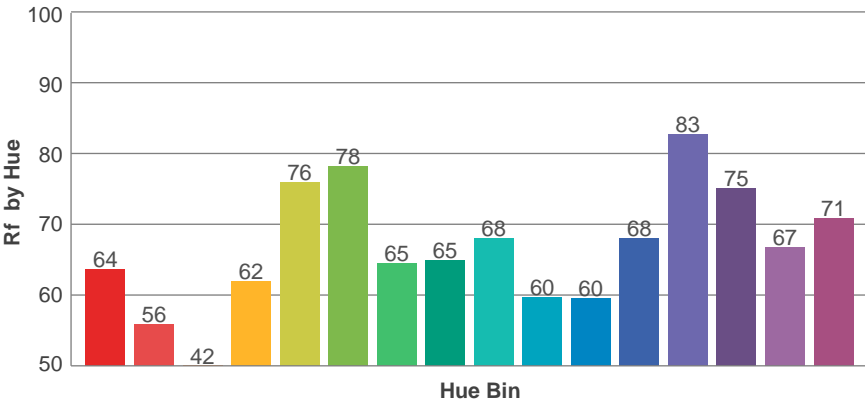
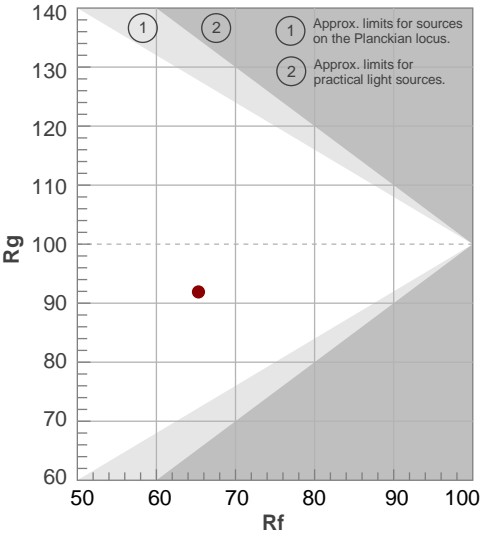
Rf 65.3

Fidelity Index Rf

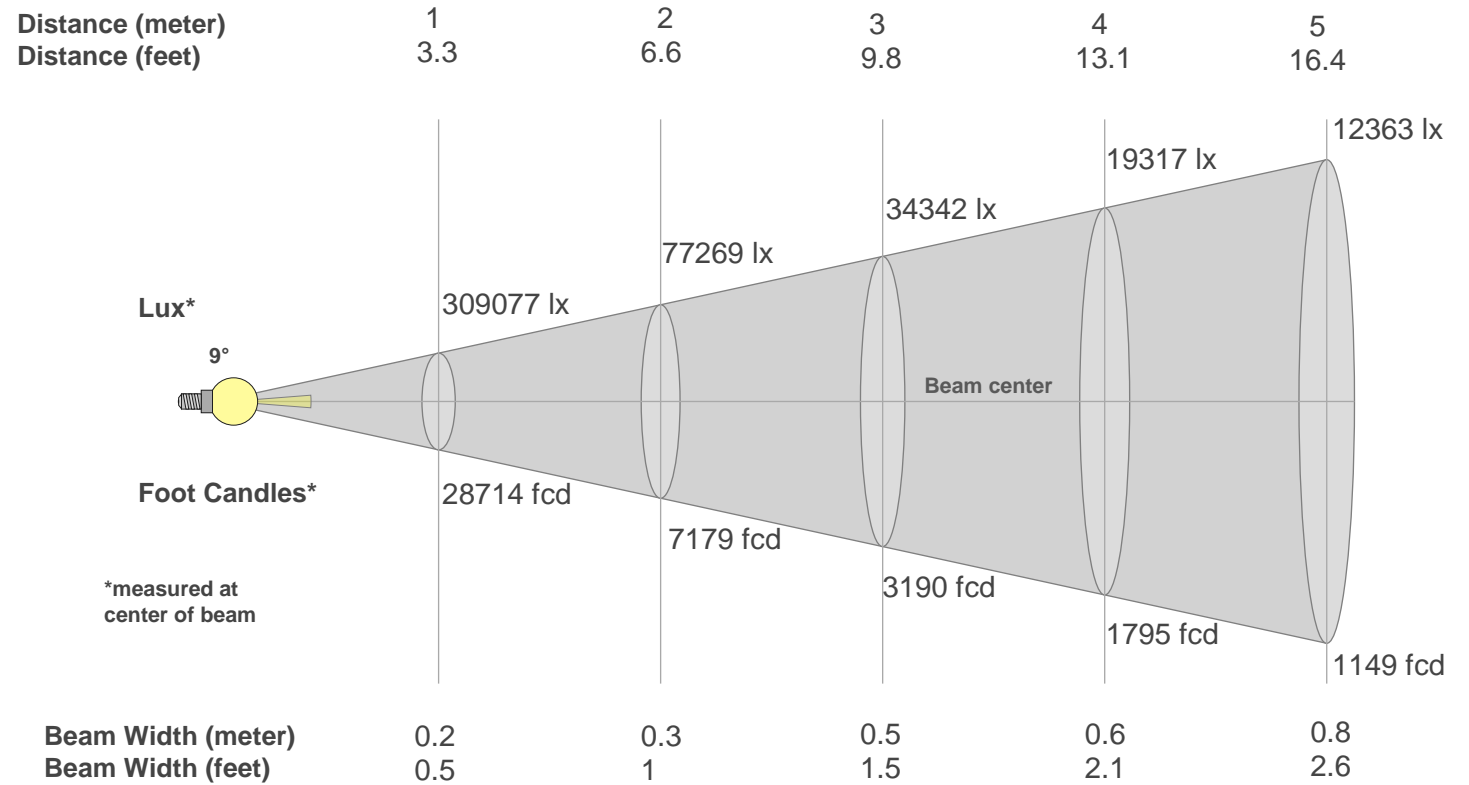
Rg 91.9

Gammut Index Rg

		Graphic shifts (%)	
Hue Bin	Rf	Chroma	Hue
1	64	-18%	-1%
2	56	-16%	16%
3	42	-5%	27%
4	62	10%	22%
5	76	14%	8%
6	78	8%	-11%
7	65	-2%	-20%
8	65	-18%	-8%
9	68	-17%	2%
10	60	-15%	17%
11	60	-7%	25%
12	68	6%	16%
13	83	11%	0%
14	75	11%	-12%
15	67	1%	-18%
16	71	-13%	-15%



Beam Details



Beam Intensities from 1-20m																				
M	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ft	3.3	6.6	9.8	13.1	16.4	19.7	23	26.2	29.5	32.8	36.1	39.4	42.7	45.9	49.2	52.5	55.8	59.1	62.3	65.6
Lx	309077	77269	34342	19317	12363	8585	6308	4829	3816	3091	2554	2146	1829	1577	1374	1207	1069	954	856	773
Fcd	28714.2	7178.6	3190.5	1794.6	1148.6	797.6	586	448.7	354.5	287.1	237.3	199.4	169.9	146.5	127.6	112.2	99.4	88.6	79.5	71.8

Intensities in 0° C-plane																				
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°	
309K	298K	269K	228K	178K	131K	19K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	
100%	96%	87%	74%	58%	43%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

Intensities in 90° C-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
309K	298K	269K	228K	178K	131K	19K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K
100%	96%	87%	74%	58%	43%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

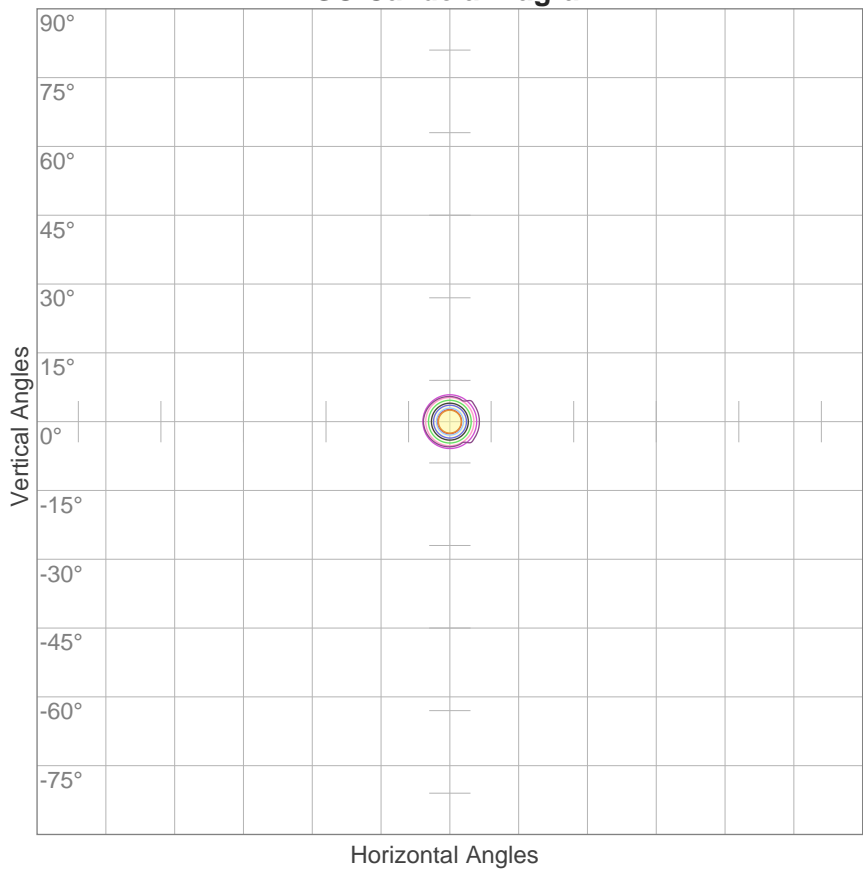
Intensities in 180° C-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
309K	299K	270K	226K	177K	132K	60K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K
100%	97%	87%	73%	57%	43%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Intensities in 270° C-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
309K	299K	270K	226K	177K	132K	60K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K
100%	97%	87%	73%	57%	43%	19%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

Beam Angle 50%	Field Angle 10%	Cutoff Angle 2,5%	Intensity Ratio in 120° Cone	Intensity Ratio in 90° Cone
9°	12.1°	12.5°	98.7%	98.3%

ISO Diagrams

ISO Candela Diagram



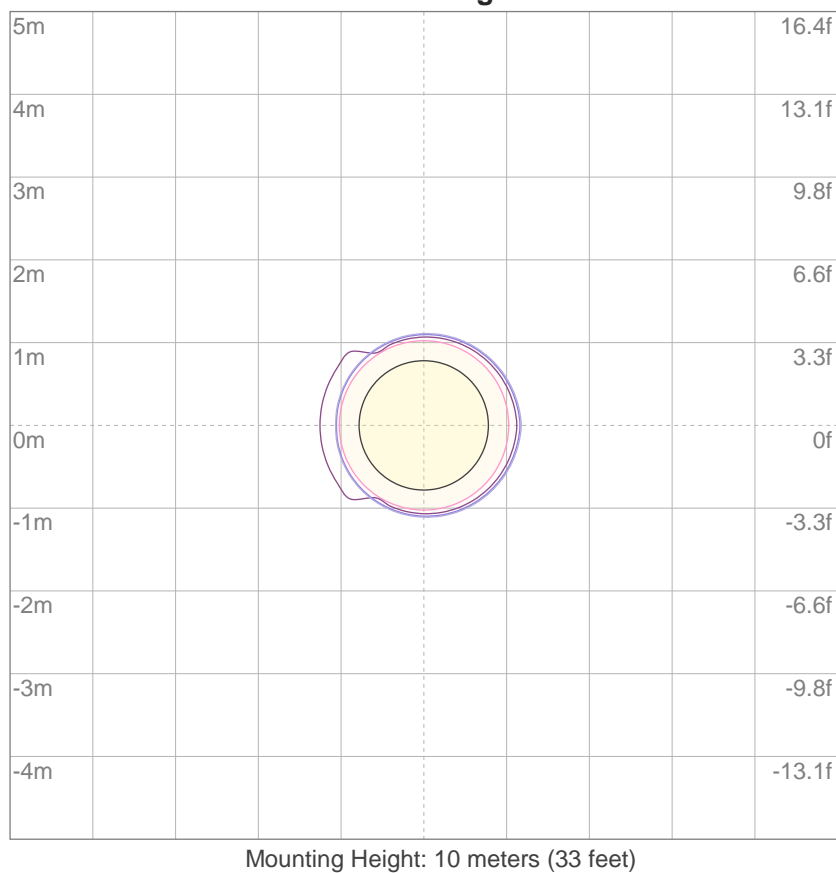
10%	30908 cd
20%	61815 cd
30%	92723 cd
40%	123631 cd
50%	154539 cd
60%	185446 cd
70%	216354 cd
80%	247262 cd
90%	278169 cd

Conditions:

Number of c-planes: 2

Candela at center: 309077 cd

ISO Lux Diagram



3%	92.7 lx
5%	155 lx
10%	309 lx
30%	927 lx
50%	1545 lx

Conditions:

Number of c-planes: 2

Lux at center: 3091 lx

*Lux distribution on a surface
when lamp is mounted at 10
meters from the surface.*

Light Planning

Coefficients of Utilization

Ceiling Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Floor Reflectance	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	0
RCR	(RCR: Room Cavity Ratio) Room Values are expressed as percentage of Lumens delivered to the task surface																	
0	119	119	119	119	116	116	116	116	110	110	110	106	106	106	101	101	101	99
1	116	115	113	112	114	112	111	110	108	107	107	104	104	103	101	100	100	98
2	114	111	109	108	112	110	108	106	106	105	104	104	102	102	101	100	99	98
3	112	109	106	105	110	108	105	104	105	103	102	103	101	100	101	100	99	98
4	110	107	104	102	109	106	104	102	104	102	101	102	101	99	100	99	98	97
5	109	105	103	101	108	105	102	100	103	101	100	101	100	99	100	99	98	97
6	108	104	102	100	107	103	101	99	102	100	99	101	99	98	100	99	97	97
7	107	103	101	99	106	103	100	99	101	100	98	101	99	98	100	98	97	97
8	106	102	100	98	105	102	100	98	101	99	98	100	98	97	99	98	97	96
9	105	101	99	98	104	101	99	98	100	99	97	100	98	97	99	98	97	96
10	104	101	99	97	104	101	99	97	100	98	97	99	98	97	99	97	96	96

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
5946 lm	92.9 lm	116 lm	63.0 lm	27.3 lm	12.2 lm	4.98 lm	2.67 lm	1.85 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1.24 lm	0.991 lm	1.36 lm	7.47 lm	15.3 lm	18.4 lm	17.9 lm	10.4 lm	0.722 lm