

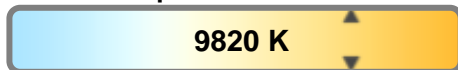
Light Efficiency:



Light Quality:



Color Temperature:



Output: 8559 lm
Peak: 423199 cd
Power: 649 W
PF: 1.0



Product Name:

Proteus Hybrid

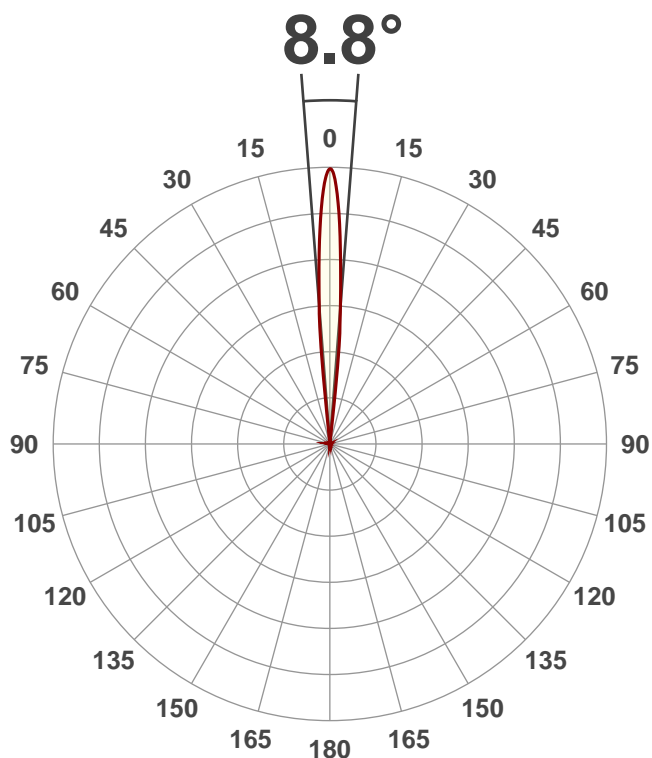
Test:

Spot CTB color wheel Zoom 50%

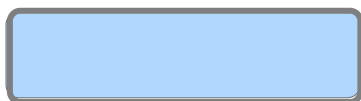
Date:

1/22/2018

Note:



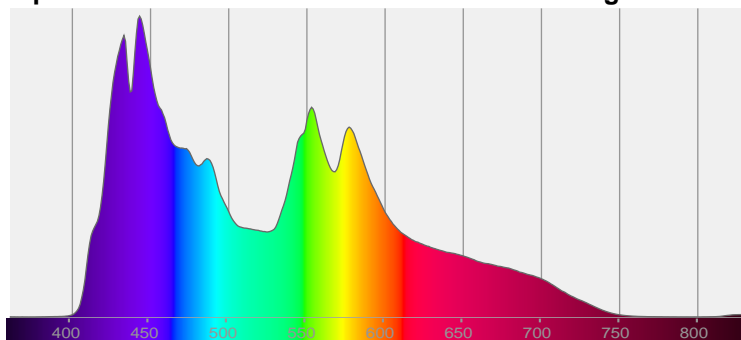
Beam Angle



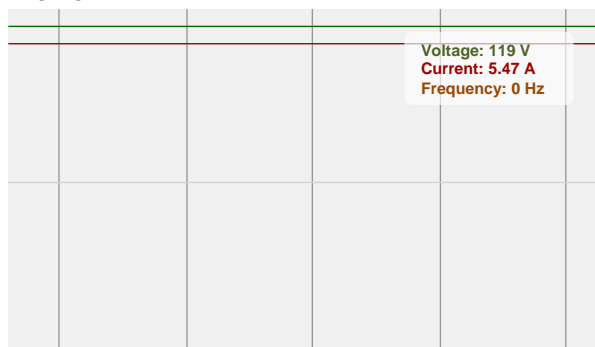
CIE 1931
x: 0.285
y: 0.282

Spectra

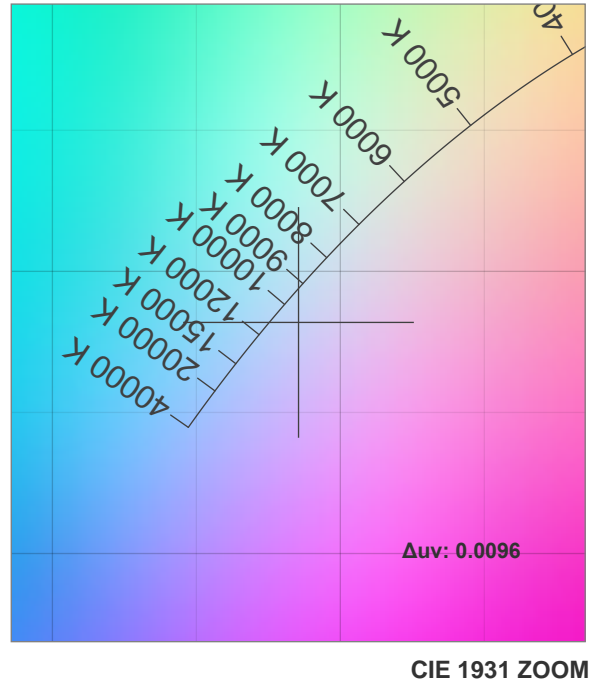
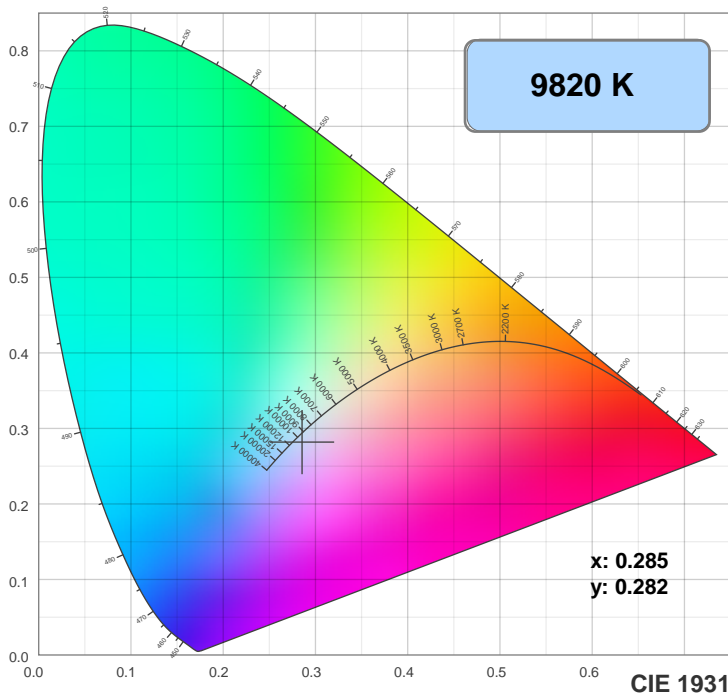
Dominant Wavelength: 462nm



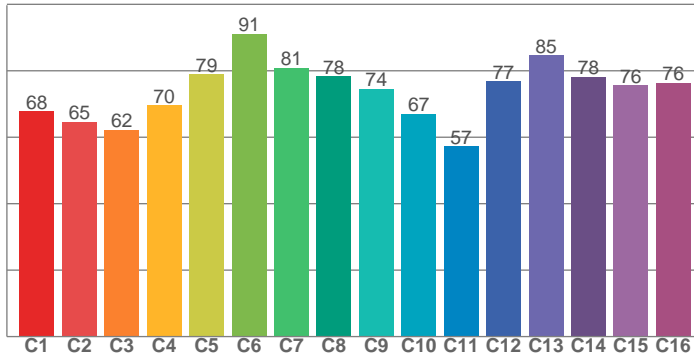
Power



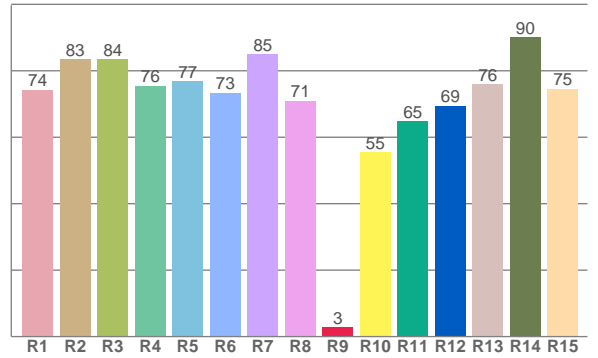
Color Details



TM30: 74.5



CRI: 77.9 (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
74.3	83.5	83.5	75.5	76.9	73.4	85.0	71.0	2.9	55.5	64.8	69.5	75.9	90.1	74.6

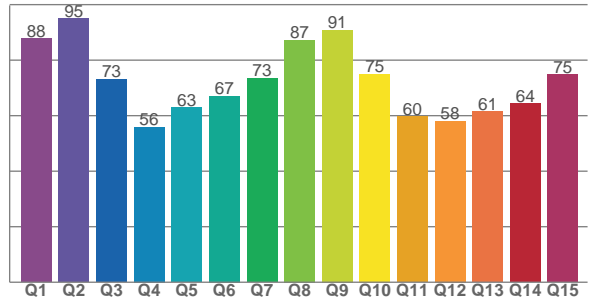
TM30 C Values, 16 binned values out of total of 99 C values

C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16
67.8	64.7	62.3	69.6	78.9	91.1	80.9	78.3	74.5	67.0	57.3	76.8	84.6	78.2	75.6	76.4

CQS Q Values

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
87.7	95.0	73.1	55.9	62.9	67.1	73.5	87.3	90.8	74.9	59.6	58.1	61.4	64.4	74.9

CQS: 69.8



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
9820 K	77.9	2.9	74.5	92.1	69.8	0.285	0.282	0.196	0.291	0.0096

TM30 Details

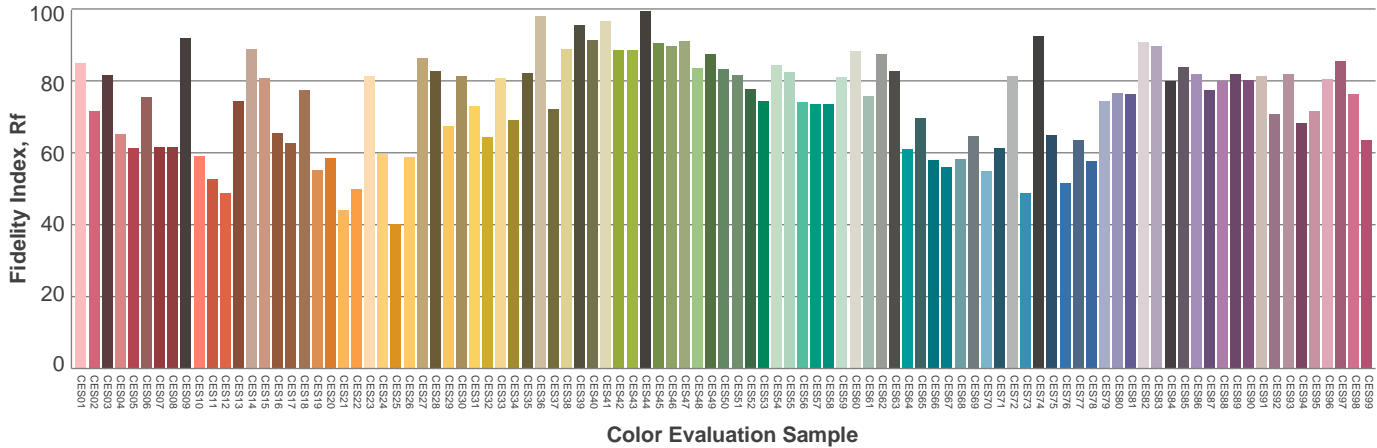
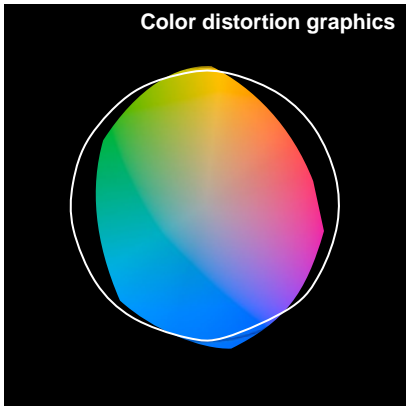
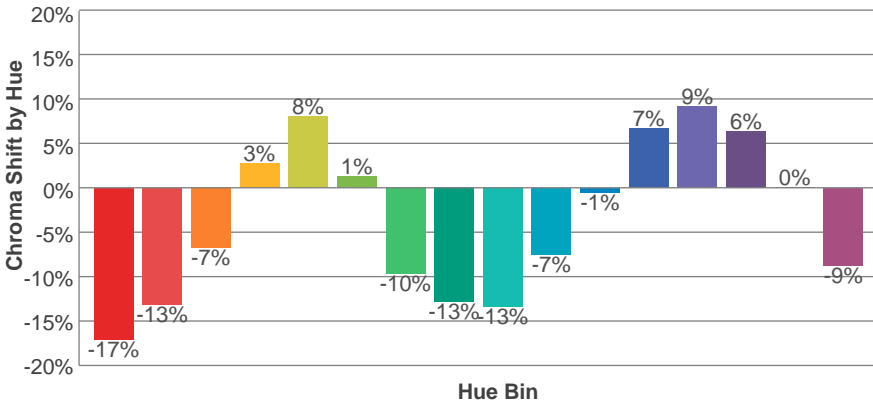
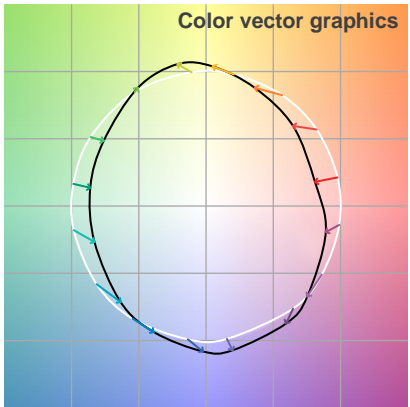
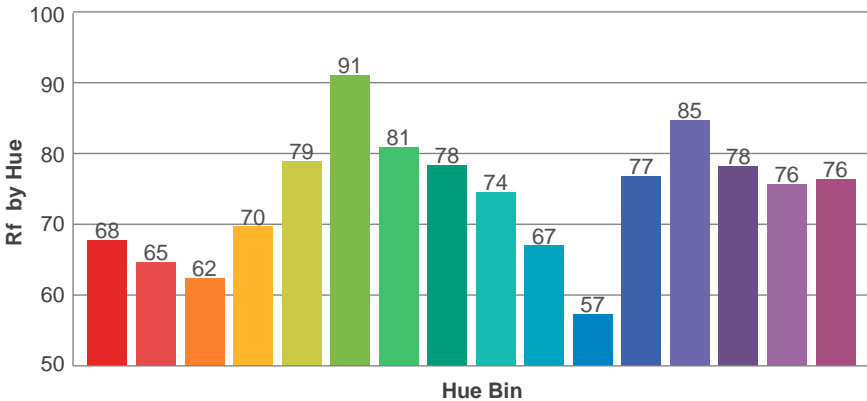
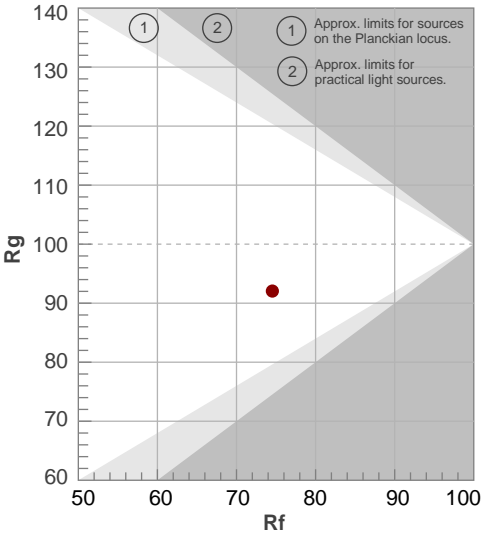
Rf 74.5

Fidelity Index Rf

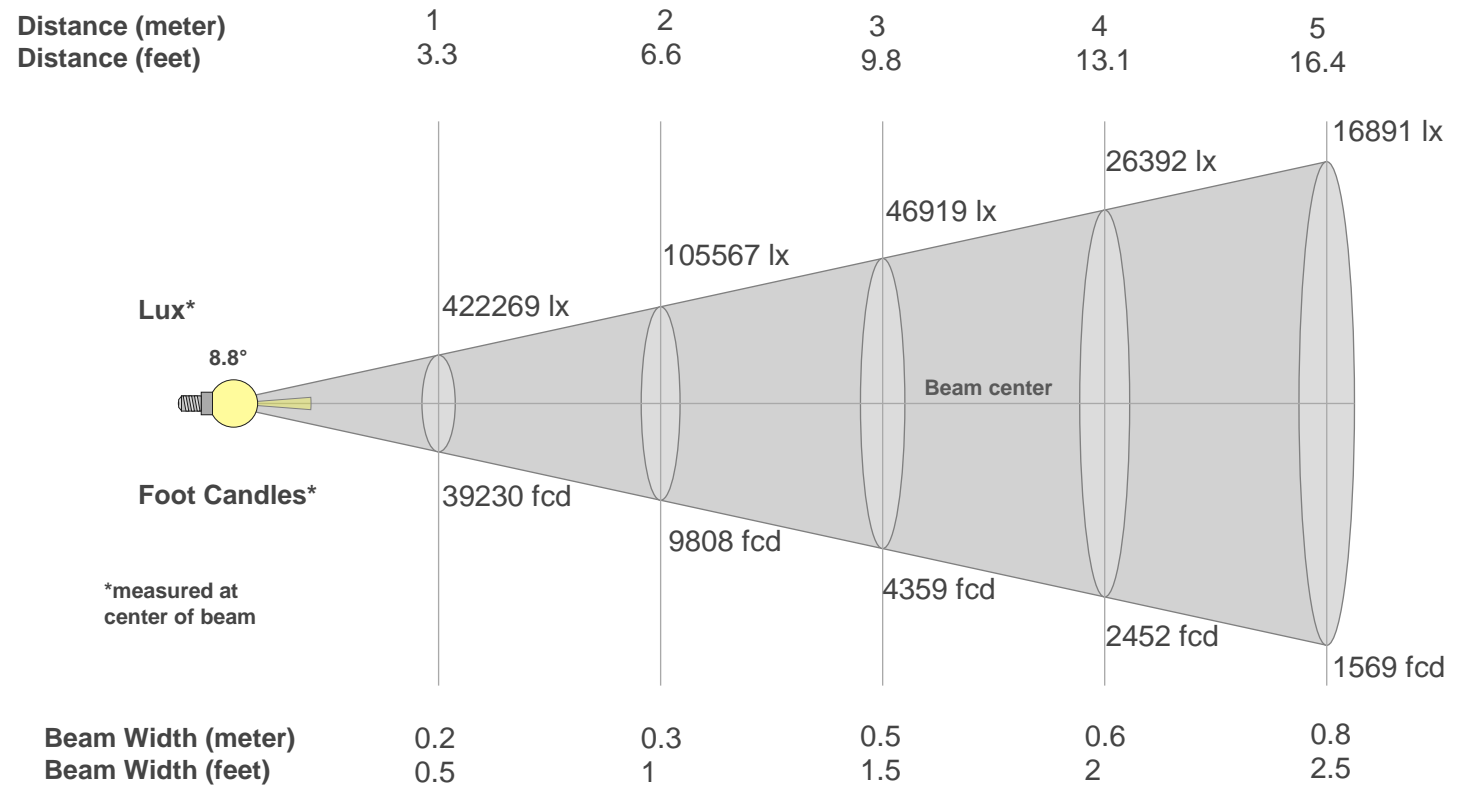
Rg 92.1

Gammut Index Rg

		Graphic shifts (%)	
Hue Bin	Rf	Chroma	Hue
1	68	-17%	0%
2	65	-13%	12%
3	62	-7%	20%
4	70	3%	17%
5	79	8%	9%
6	91	1%	-4%
7	81	-10%	-3%
8	78	-13%	0%
9	74	-13%	12%
10	67	-7%	21%
11	57	-1%	19%
12	77	7%	13%
13	85	9%	2%
14	78	6%	-11%
15	76	0%	-20%
16	76	-9%	-7%



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	422269	105567	46919	26392	16891	11730	8618	6598	5213	4223	3490	2932	2499	2154	1877	1649	1461	1303	1170	1056
Fcd	39230.1	9807.5	4358.9	2451.9	1569.2	1089.7	800.6	613	484.3	392.3	324.2	272.4	232.1	200.2	174.4	153.2	135.7	121.1	108.7	98.1

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°
422K	406K	366K	307K	239K	170K	13K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	1K	1K	1K
100%	96%	87%	73%	57%	40%	3%	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°	
422K	406K	366K	307K	239K	170K	13K	0K	0K	0K	0K	0K	0K	0K	0K	0K	0K	1K	1K	1K	
100%	96%	87%	73%	57%	40%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	

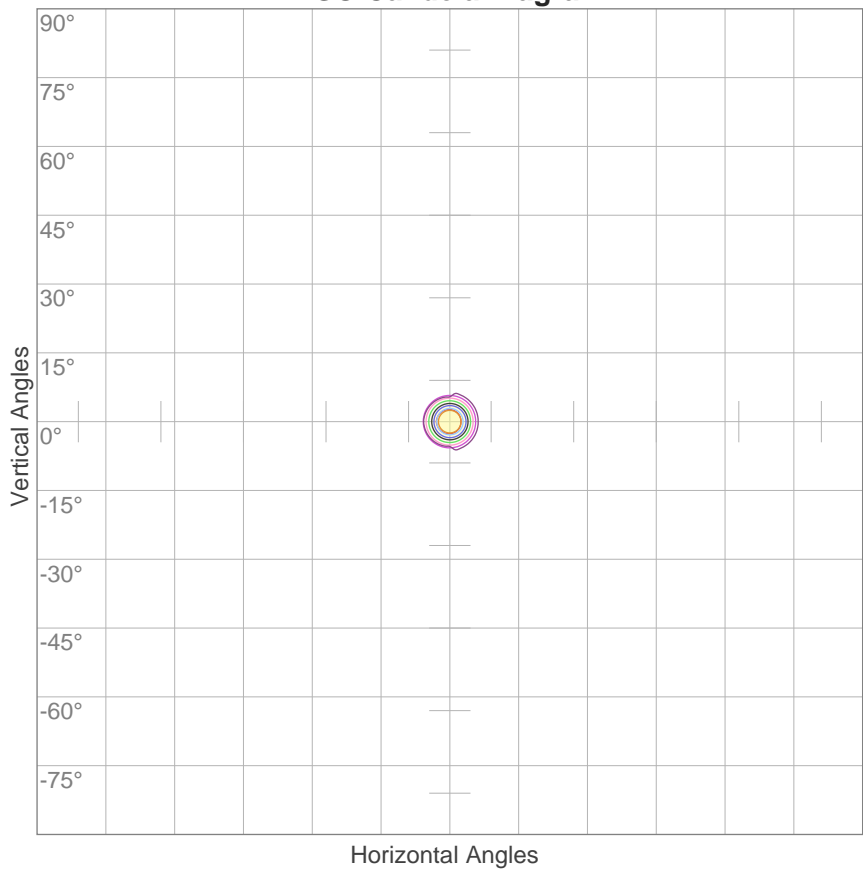
Intensities in 180° C-plane																			
0°	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°	13°	14°	15°	16°	17°	18°	19°
422K	409K	369K	307K	238K	175K	77K	0K	0K	0K	0K	0K	0K	0K	0K	0K	1K	1K	1K	1K
100%	97%	87%	73%	56%	41%	18%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

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°
422K	409K	369K	307K	238K	175K	77K	0K	0K	0K	0K	0K	0K	0K	0K	0K	1K	1K	1K	1K
100%	97%	87%	73%	56%	41%	18%	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
8.8°	12.1°	12.5°	98.8%	98.5%

ISO Diagrams

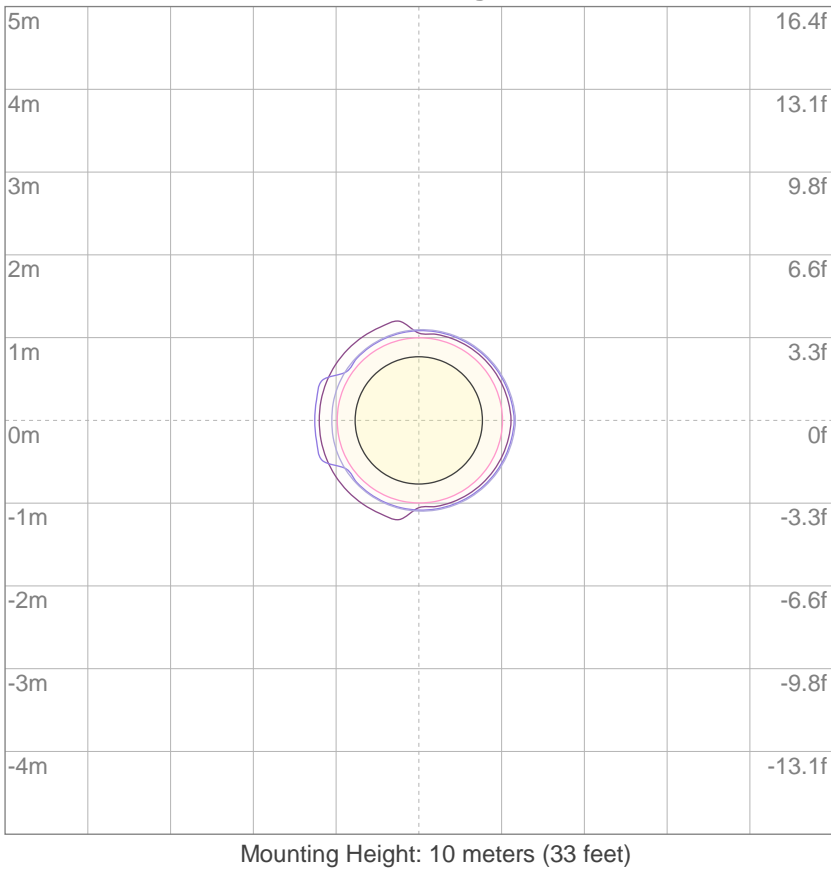
ISO Candela Diagram



10%	42227 cd
20%	84454 cd
30%	126681 cd
40%	168908 cd
50%	211134 cd
60%	253361 cd
70%	295588 cd
80%	337815 cd
90%	380042 cd

Conditions:
Number of c-planes: 2
Candela at center: 422269 cd

ISO Lux Diagram



3%	127 lx
5%	211 lx
10%	422 lx
30%	1267 lx
50%	2111 lx

Conditions:
Number of c-planes: 2
Lux at center: 4223 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	111	111	111	106	106	106	101	101	101	99
1	116	115	113	112	114	112	111	110	108	107	107	105	104	103	101	101	100	99
2	114	111	109	108	112	110	108	106	107	105	104	104	103	102	101	100	99	98
3	112	109	107	105	110	108	105	104	105	103	102	103	102	100	101	100	99	98
4	110	107	104	103	109	106	104	102	104	102	101	102	101	99	100	99	98	97
5	109	105	103	101	108	105	102	101	103	101	100	102	100	99	100	99	98	97
6	108	104	102	100	107	103	101	100	102	100	99	101	99	98	100	99	98	97
7	107	103	101	99	106	103	100	99	102	100	98	101	99	98	100	98	97	97
8	106	102	100	98	105	102	100	98	101	99	98	100	99	97	99	98	97	96
9	105	102	99	98	105	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	98	97	96

Zonal Lumen Summary

0°-10°	10°-20°	20°-30°	30°-40°	40°-50°	50°-60°	60°-70°	70°-80°	80°-90°
8028 lm	129 lm	160 lm	86.7 lm	38.5 lm	15.9 lm	6.64 lm	2.64 lm	1.64 lm

90°-100°	100°-110°	110°-120°	120°-130°	130°-140°	140°-150°	150°-160°	160°-170°	170°-180°
1.52 lm	1.48 lm	1.20 lm	9.70 lm	15.7 lm	24.0 lm	22.7 lm	13.3 lm	0.641 lm