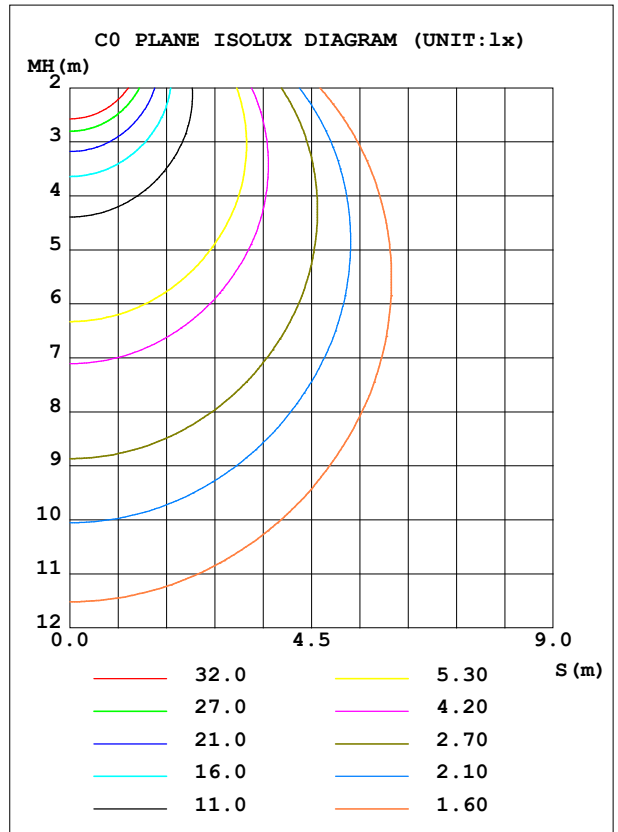
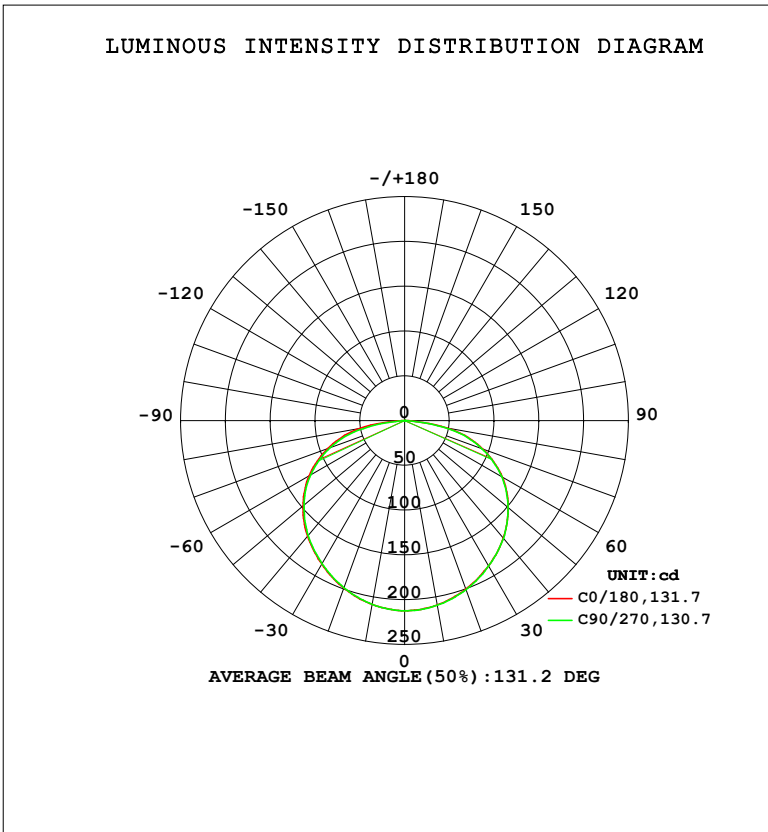


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:119.86V I:0.1274A P:11.073W PF:0.7254 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:726.813x1 lm		
NAME: DS-LED-4-S12W-5CCT-WH-SQ	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: Light by Lotus	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	212.6	S/MH (C0/180)	1.30
NOMINAL POWER (W)	12	LOR (%)	100.0	S/MH (C90/270)	1.30
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	726.81	η UP, DN (C0-180)	0.0, 50.5
NOMINAL FLUX (lm)	726.813	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.5
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	120	η down (%)	100.0	CIBSE SHR MAX	1.55



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators:
 Test Date: 2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.090m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

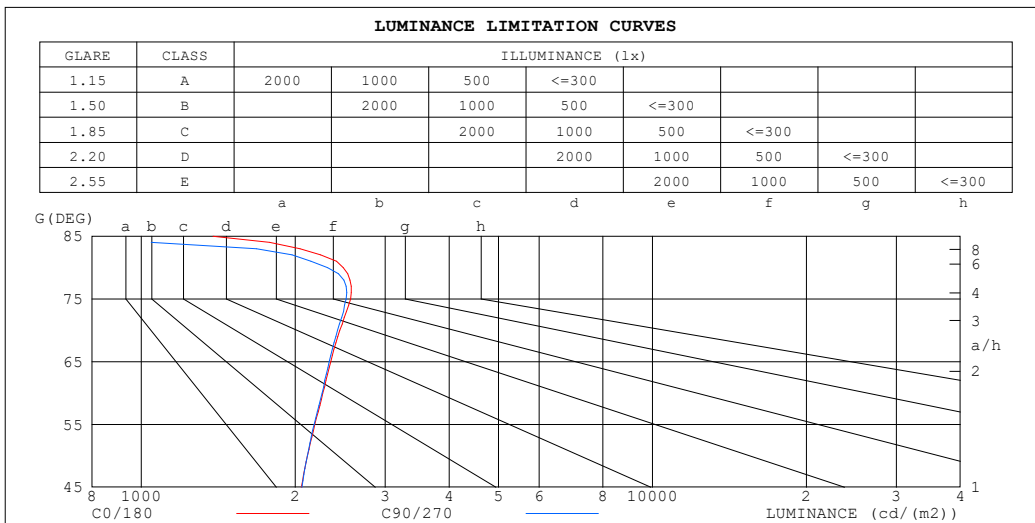
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	209.1	209.7	209.3	208.9	208.4	208.1	208.4	208.9	0- 10	20.11	20.11	2.77,2.77
20	200.2	201.4	200.7	200.0	198.9	198.3	198.5	199.9	10- 20	57.91	78.01	10.7,10.7
30	187.2	189.1	187.6	186.7	185.0	184.5	184.4	187.1	20- 30	89.36	167.4	23,23
40	171.4	173.9	171.7	171.2	168.6	168.7	167.6	171.0	30- 40	112.2	279.5	38.5,38.5
50	151.0	153.2	150.9	150.6	148.2	147.9	146.6	149.8	40- 50	124.2	403.8	55.6,55.6
60	125.8	126.5	125.4	124.3	123.3	121.5	121.2	122.8	50- 60	123.3	527.0	72.5,72.5
70	92.95	93.15	91.93	91.63	91.26	89.51	88.42	89.36	60- 70	107.4	634.4	87.3,87.3
80	47.91	44.46	44.64	49.36	50.67	41.77	40.32	47.28	70- 80	75.04	709.4	97.6,97.6
90	0.5554	0.4599	0.4571	0.5436	0.3667	0.2772	0.2741	0.3434	80- 90	17.40	726.8	100,100
100									90-100			
110									100-110			
120									110-120			
130									120-130			
140									130-140			
150									140-150			
160									150-160			
170									160-170			
180									170-180			
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3 °C
 Operators:
 Test Date:2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:119.86V I:0.1274A P:11.073W PF:0.7254 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:726.813x1 lm		
NAME: DS-LED-4-S12W-5CCT-WH-SQ	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: Light by Lotus	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	1380	391
80	2482	2315
75	2565	2515
70	2445	2420
65	2347	2331
60	2264	2259
55	2183	2179
50	2114	2113
45	2057	2060

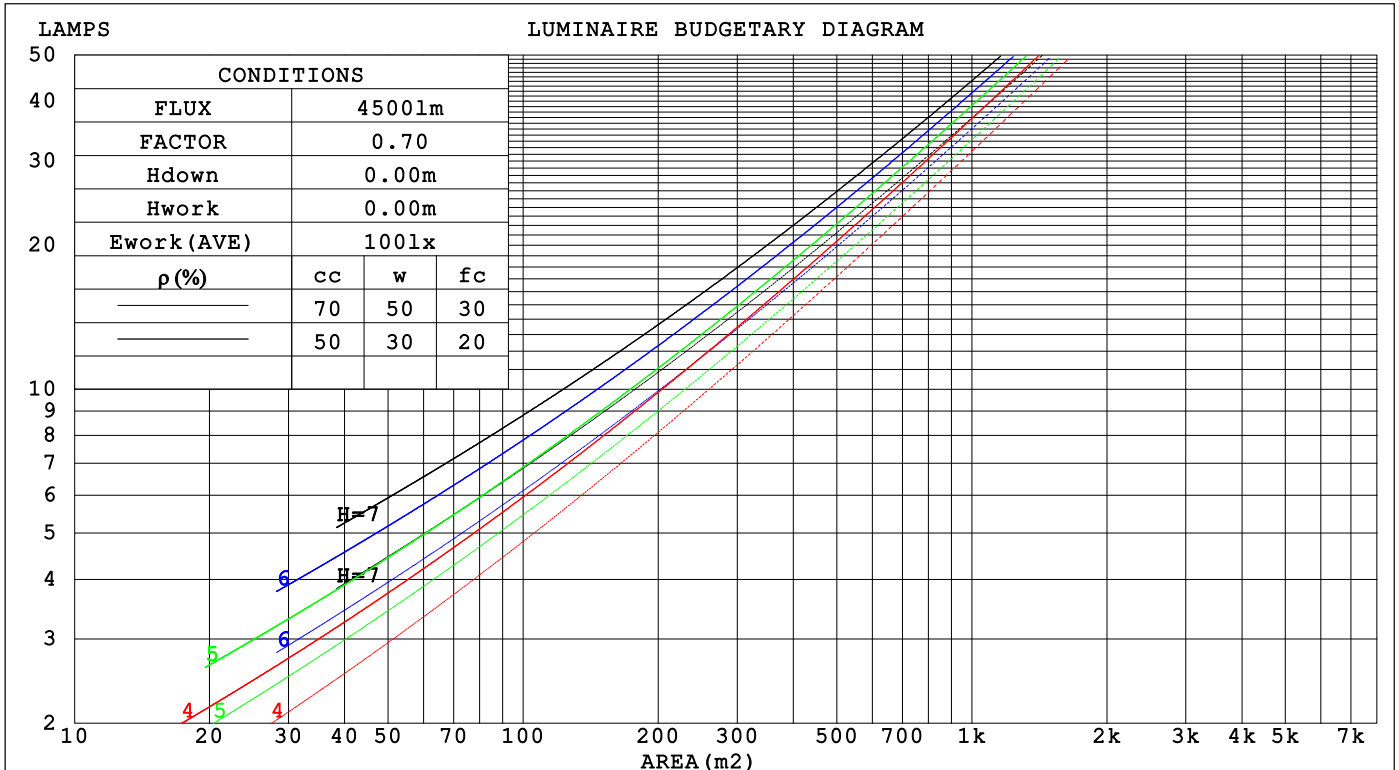
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:119.86V I:0.1274A P:11.073W PF:0.7254 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:726.813x1 lm		
NAME: DS-LED-4-S12W-5CCT-WH-SQ	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: Light by Lotus	SUR.:	Shielding Angle:

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1.0	1.02	.98	.93	.90	.96	.92	.96	.92	.89	.92	.89	.86	.88	.86	.83	.81
2.0	.88	.80	.74	.86	.79	.73	.82	.76	.71	.79	.74	.70	.76	.72	.68	.66
3.0	.76	.67	.60	.75	.66	.60	.72	.64	.59	.69	.63	.58	.66	.61	.57	.54
4.0	.67	.58	.50	.66	.57	.50	.63	.55	.49	.61	.54	.49	.58	.53	.48	.46
5.0	.59	.50	.43	.58	.49	.43	.56	.48	.42	.54	.47	.42	.52	.46	.41	.39
6.0	.53	.44	.37	.52	.43	.37	.50	.42	.36	.49	.41	.36	.47	.41	.36	.34
7.0	.48	.39	.32	.47	.38	.32	.46	.38	.32	.44	.37	.32	.43	.36	.31	.29
8.0	.44	.35	.29	.43	.34	.29	.42	.34	.28	.40	.33	.28	.39	.33	.28	.26
9.0	.40	.31	.26	.39	.31	.26	.38	.31	.25	.37	.30	.25	.36	.30	.25	.23
10.0	.37	.29	.23	.36	.28	.23	.35	.28	.23	.34	.28	.23	.33	.27	.23	.21



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:119.86V I:0.1274A P:11.073W PF:0.7254 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:726.813x1 lm		
NAME: DS-LED-4-S12W-5CCT-WH-SQ	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: Light by Lotus	SUR.:	Shielding Angle:

ρ_{CC}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.341	.194	.061	.333	.190	.060	.320	.184	.059	.308	.177	.057	.296	.172	.055	
2.0	.317	.174	.053	.311	.171	.053	.299	.166	.052	.288	.161	.051	.277	.157	.049	
3.0	.290	.154	.046	.284	.152	.046	.274	.148	.045	.264	.145	.044	.255	.141	.044	
4.0	.265	.138	.041	.260	.136	.040	.251	.133	.040	.242	.130	.039	.234	.127	.039	
5.0	.243	.124	.036	.239	.123	.036	.231	.120	.035	.223	.118	.035	.215	.115	.035	
6.0	.224	.112	.032	.220	.111	.032	.213	.109	.032	.206	.107	.031	.199	.105	.031	
7.0	.208	.103	.029	.204	.102	.029	.197	.100	.029	.191	.098	.029	.185	.096	.028	
8.0	.193	.094	.027	.190	.093	.026	.184	.092	.026	.178	.090	.026	.173	.089	.026	
9.0	.180	.087	.024	.177	.086	.024	.172	.085	.024	.167	.084	.024	.162	.082	.024	
10.0	.169	.081	.022	.166	.080	.022	.162	.079	.022	.157	.078	.022	.153	.077	.022	

ρ_{CC}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0																
1.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
2.0	.182	.156	.132	.156	.134	.114	.107	.092	.079	.061	.053	.046	.020	.017	.015	
3.0	.176	.132	.095	.150	.113	.082	.103	.078	.057	.059	.046	.034	.019	.015	.011	
4.0	.168	.114	.071	.144	.099	.062	.099	.069	.043	.057	.040	.026	.018	.013	.008	
5.0	.161	.101	.056	.138	.088	.049	.095	.061	.034	.055	.036	.020	.018	.012	.007	
6.0	.153	.091	.045	.132	.079	.039	.091	.055	.028	.053	.032	.016	.017	.011	.005	
7.0	.146	.083	.038	.125	.072	.033	.086	.050	.023	.050	.030	.014	.016	.010	.005	
8.0	.139	.076	.032	.119	.066	.028	.082	.046	.020	.048	.027	.012	.015	.009	.004	
9.0	.132	.070	.028	.114	.061	.024	.079	.043	.017	.046	.025	.010	.015	.008	.003	
10.0	.126	.065	.024	.108	.057	.021	.075	.040	.015	.044	.024	.009	.014	.008	.003	
10.0	.120	.061	.022	.103	.053	.019	.072	.037	.014	.042	.022	.008	.014	.007	.003	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:119.86V I:0.1274A P:11.073W PF:0.7254 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:726.813x1 lm		
NAME: DS-LED-4-S12W-5CCT-WH-SQ	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: Light by Lotus	SUR.:	Shielding Angle:

ceiling/cavity	0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
walls	0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

Room dimensions	Viewed crosswise					Viewed endwise				
x = 2H y = 2H	17.0	18.6	17.3	18.8	19.0	17.1	18.7	17.3	18.9	19.1
3H	19.1	20.6	19.4	20.9	21.1	19.1	20.6	19.4	20.8	21.1
4H	20.1	21.5	20.4	21.8	22.0	20.0	21.5	20.3	21.7	22.0
6H	20.9	22.2	21.2	22.5	22.8	20.7	22.1	21.1	22.4	22.6
8H	21.1	22.4	21.4	22.7	23.0	20.9	22.2	21.3	22.5	22.8
12H	21.1	22.4	21.5	22.7	23.0	20.9	22.2	21.3	22.5	22.8
4H 2H	17.8	19.2	18.1	19.5	19.8	17.8	19.3	18.2	19.5	19.8
3H	20.1	21.4	20.5	21.7	22.0	20.1	21.3	20.4	21.6	21.9
4H	21.2	22.4	21.6	22.7	23.0	21.1	22.3	21.5	22.6	23.0
6H	22.1	23.2	22.5	23.5	23.9	22.0	23.0	22.4	23.4	23.7
8H	22.4	23.3	22.8	23.7	24.1	22.2	23.2	22.6	23.5	23.9
12H	22.5	23.3	22.9	23.7	24.1	22.2	23.1	22.6	23.5	23.9
8H 4H	21.6	22.6	22.1	23.0	23.4	21.6	22.5	22.0	22.9	23.3
6H	22.7	23.5	23.1	23.9	24.3	22.5	23.4	23.0	23.8	24.2
8H	23.0	23.7	23.5	24.1	24.6	22.8	23.6	23.3	24.0	24.4
12H	23.1	23.7	23.6	24.2	24.7	22.9	23.5	23.3	23.9	24.4
12H 4H	21.7	22.6	22.1	22.9	23.4	21.6	22.5	22.0	22.9	23.3
6H	22.8	23.5	23.2	23.9	24.4	22.6	23.3	23.1	23.8	24.2
8H	23.1	23.7	23.6	24.2	24.6	22.9	23.6	23.4	24.0	24.5

Variations with the observer position at spacings(CIE Pub.117):		
S = 1.0H	+ 0.1 / - 0.1	+ 0.1 / - 0.1
1.5H	+ 0.2 / - 0.3	+ 0.2 / - 0.3
2.0H	+ 0.1 / - 0.4	+ 0.1 / - 0.4

CIE Pub.117, 726.8 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.1)
 Area: 0.111111 m2

C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 22.5DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
Temperature:25.3°C	Humidity:65.0%
Operators:	Test Distance:3.090m [K=1.0000]
Test Date:2022-12-28	Remarks:

UTILIZATION FACTORS TABLE

Test:U:119.86V I:0.1274A P:11.073W PF:0.7254 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:726.813x1 lm		
NAME: DS-LED-4-S12W-5CCT-WH-SQ	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: Light by Lotus	SUR.:	Shielding Angle:

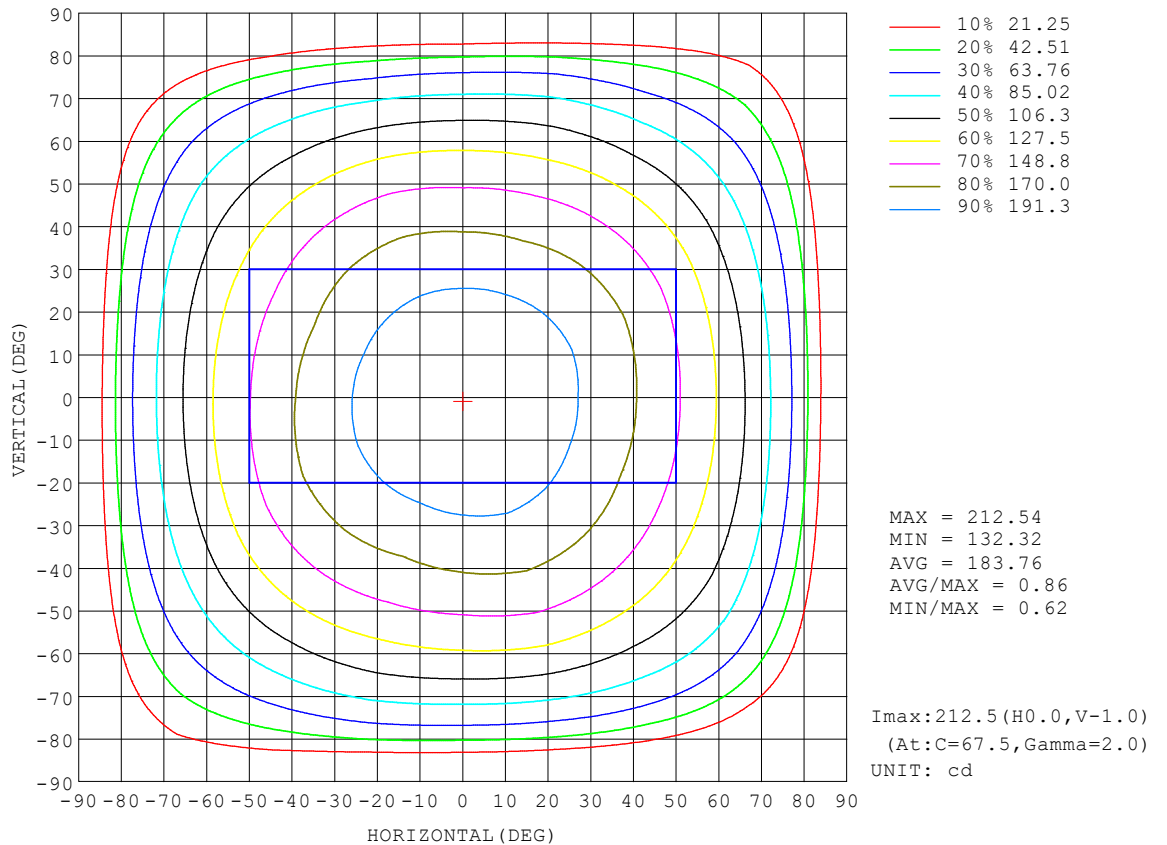
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	54	42	35	53	42	35	52	41	34	28
0.80	64	52	44	63	51	44	61	50	43	36
1.00	72	60	53	71	60	52	69	62	52	44
1.25	80	68	61	78	68	60	75	66	59	51
1.50	85	74	66	83	73	66	80	71	65	57
2.00	92	83	76	90	82	75	87	79	73	65
2.50	97	88	81	94	87	81	91	84	79	70
3.00	100	93	87	98	91	86	94	88	83	74
4.00	105	98	93	102	97	92	98	93	89	80
5.00	107	102	98	105	100	96	100	96	93	84
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:119.86V I:0.1274A P:11.073W PF:0.7254 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:726.813x1 lm		
NAME: DS-LED-4-S12W-5CCT-WH-SQ	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: Light by Lotus	SUR.:	Shielding Angle:

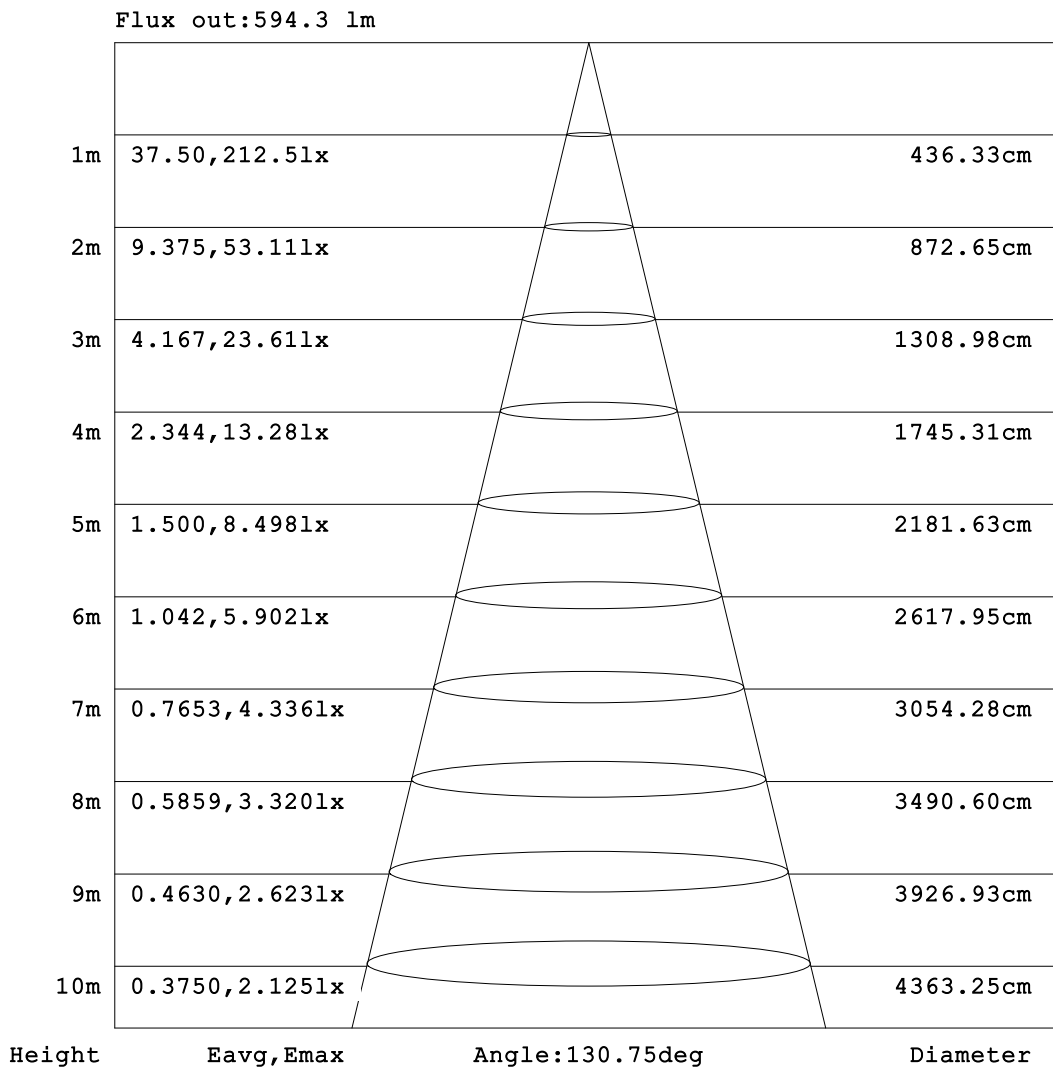


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

AAI Figure

Test:U:119.86V I:0.1274A P:11.073W PF:0.7254 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:726.813x1 lm		
NAME: DS-LED-4-S12W-5CCT-WH-SQ	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: Light by Lotus	SUR.:	Shielding Angle:



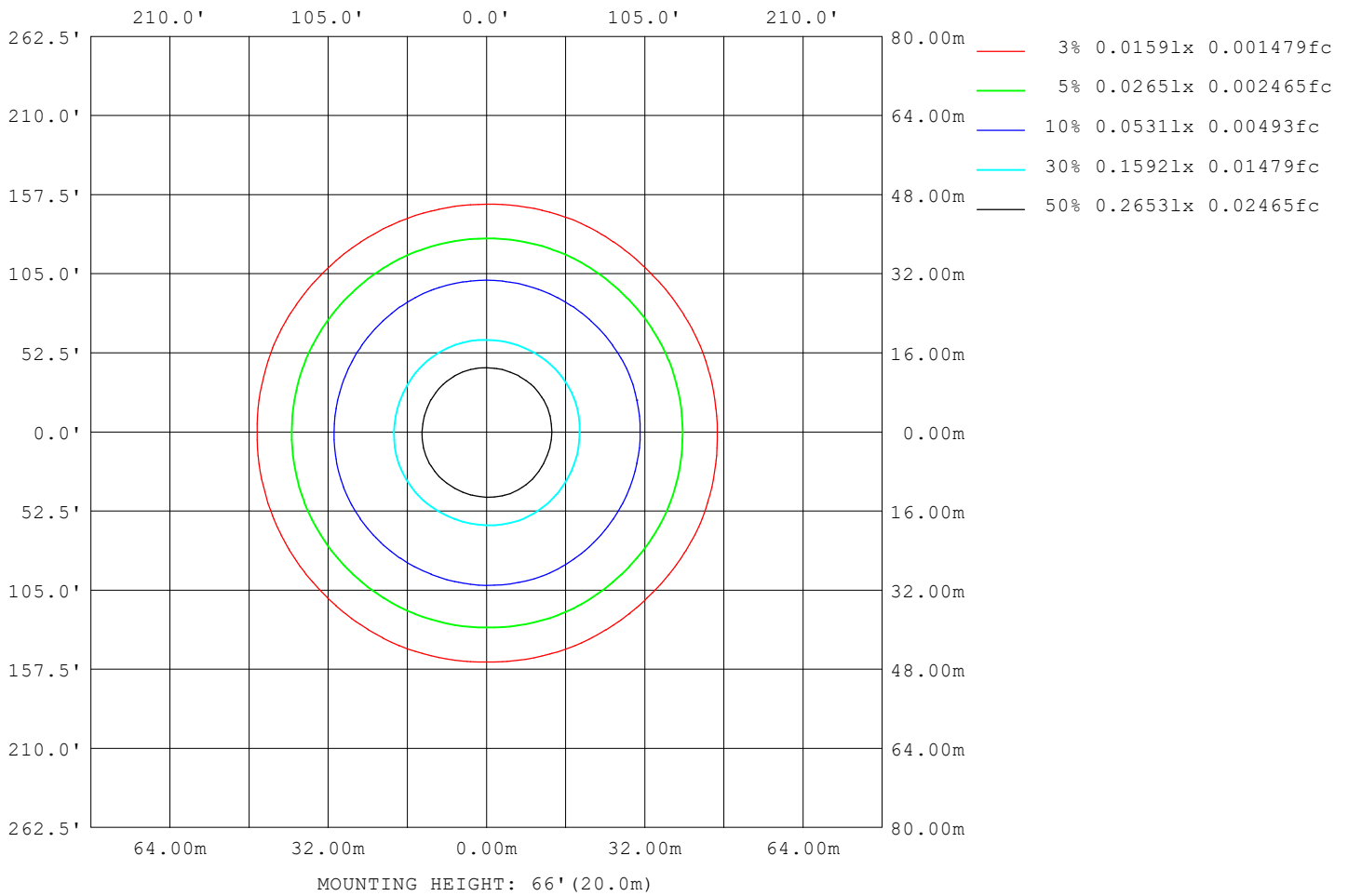
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators:
 Test Date: 2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.090m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:119.86V I:0.1274A P:11.073W PF:0.7254 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:726.813x1 lm		
NAME: DS-LED-4-S12W-5CCT-WH-SQ	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: Light by Lotus	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:119.86V I:0.1274A P:11.073W PF:0.7254 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:726.813x1 lm		
NAME: DS-LED-4-S12W-5CCT-WH-SQ	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: Light by Lotus	SUR.:	Shielding Angle:

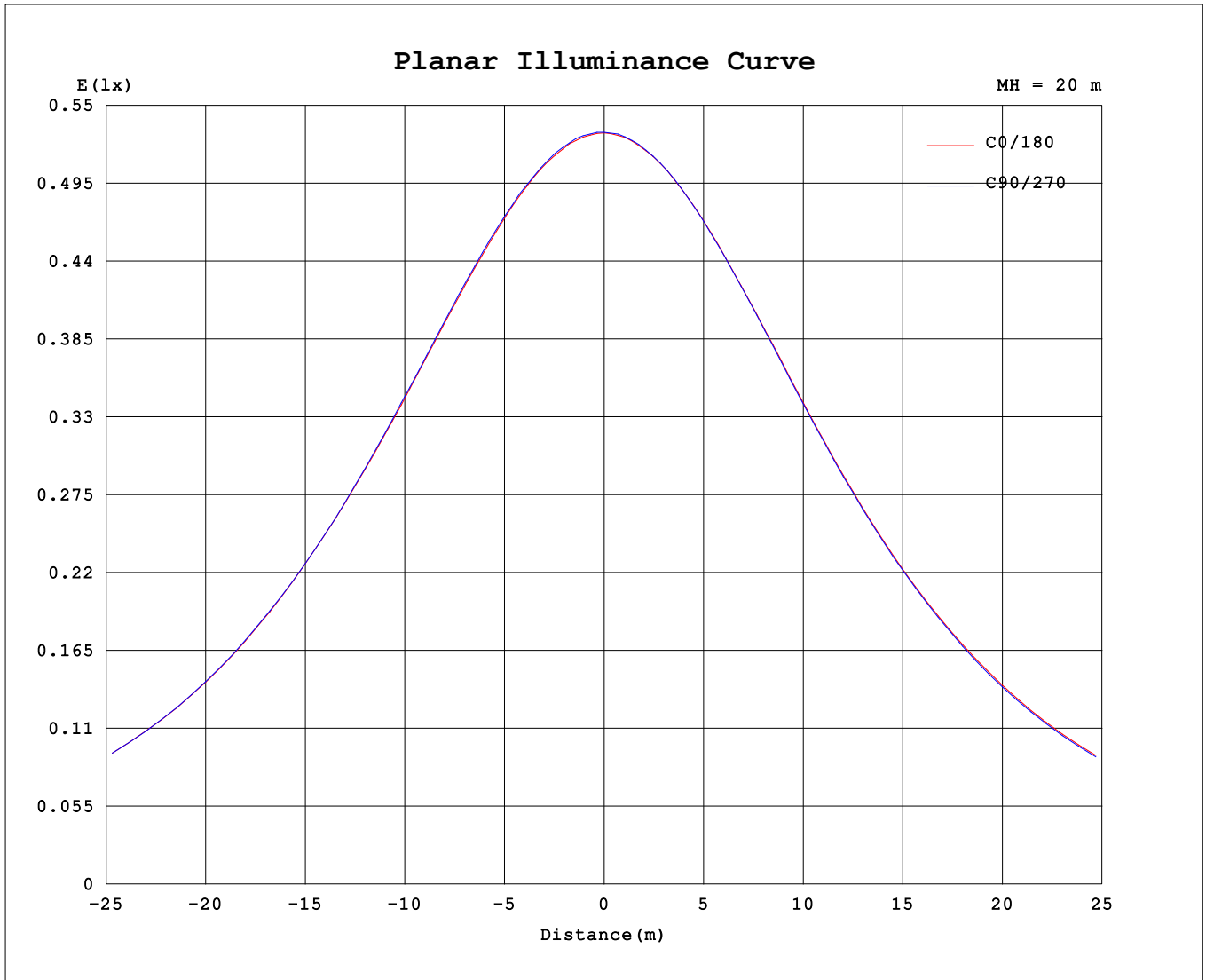
AvgL	cd/m2
L_0~180 (65) av	2323
L_0~180 (75) av	2555
L_0~180 (85) av	1598
L_90~270 (65) av	2290
L_90~270 (75) av	2449
L_90~270 (85) av	363
L_45 (65) av	2297
L_45 (75) av	2490
L_45 (85) av	1132

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3℃
 Operators:
 Test Date:2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity:65.0%
 Test Distance:3.090m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators:
 Test Date: 2022-12-28

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-SPEX500_V1 SYSTEM V2.00.460
 Humidity: 65.0%
 Test Distance: 3.090m [K=1.0000]
 Remarks:

