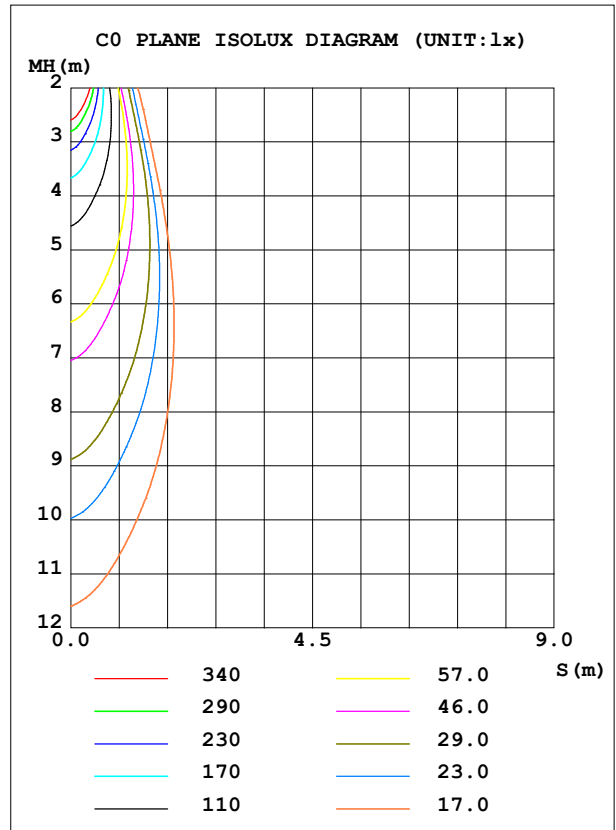
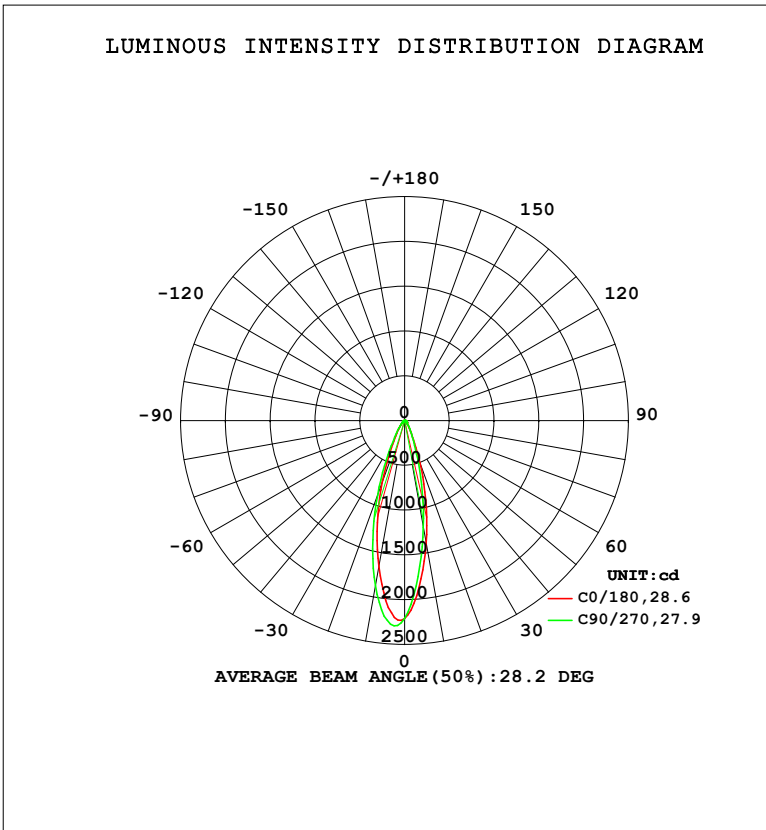


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:119.77V I:0.0897A P:9.0789W PF:0.8447 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:774.58x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	2302	S/MH (C0/180)	0.52
NOMINAL POWER (W)	9	LOR (%)	100.0	S/MH (C90/270)	0.58
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	774.58	$\eta$ UP, DN (C0-180)	0.0, 41.5
NOMINAL FLUX (lm)	774.58	CIE CLASS	DIRECT	$\eta$ UP, DN (C180-360)	0.0, 58.5
LAMPS INSIDE	1	$\eta$ up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	120	$\eta$ down (%)	100.0	CIBSE SHR MAX	0.50



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3 °C  
 Operators:  
 Test Date: 2022-12-19

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:

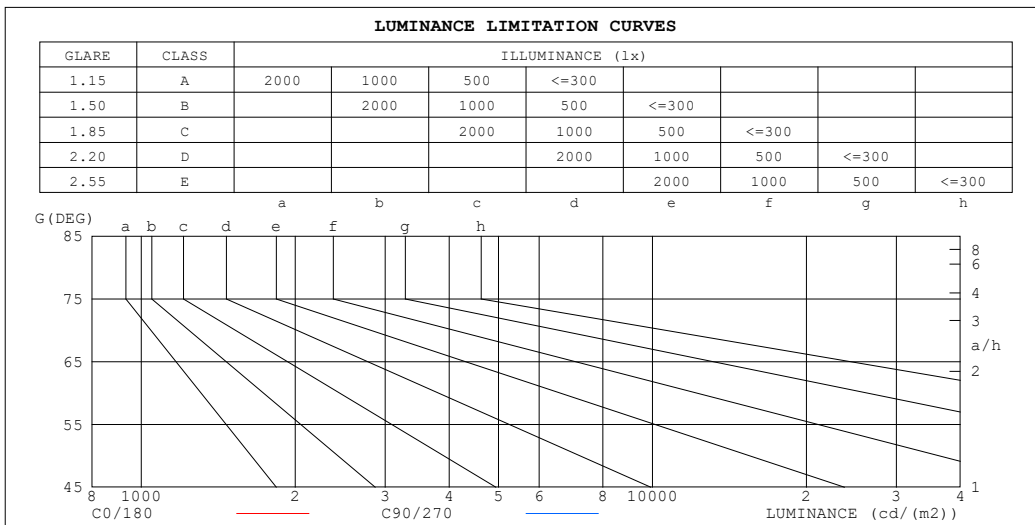
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	1396	1250	1212	1389	1662	1877	1873	1647	0- 10	175.1	175.1	22.6,22.6
20	509.2	408.2	395.4	509.5	732.9	903.9	886.7	676.6	10- 20	287.6	462.7	59.7,59.7
30	133.3	122.9	132.1	163.3	203.7	251.5	247.6	170.6	20- 30	157.8	620.5	80.1,80.1
40	48.41	47.42	52.05	62.81	74.71	81.46	78.55	59.91	30- 40	67.34	687.8	88.8,88.8
50	28.16	27.92	29.37	31.88	33.58	35.45	35.04	31.83	40- 50	33.61	721.4	93.1,93.1
60	20.18	20.28	20.71	21.62	21.82	23.52	23.72	22.06	50- 60	23.31	744.7	96.1,96.1
70	13.69	9.379	9.297	15.20	15.58	16.85	17.14	15.80	60- 70	18.14	762.8	98.5,98.5
80	4.641	1.320	1.300	4.740	7.211	5.265	5.556	6.693	70- 80	9.933	772.8	99.8,99.8
90	0.1064	0.0932	0.0945	0.1111	0.0726	0.0782	0.0813	0.0824	80- 90	1.799	774.6	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:2022-12-19

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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**

<b>Test:U:119.77V I:0.0897A P:9.0789W PF:0.8447 Freq:59.98Hz</b> <b>UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:774.58x1 lm</b>		
<b>NAME: FR-LED-4-S9W-5CCT-FG-WH</b>	<b>TYPE:</b>	<b>WEIGHT:</b>
<b>SPEC.: 3500K 90</b>	<b>DIM.:</b>	<b>SERIAL No.:</b>
<b>MFR.: LTS</b>	<b>SUR.:</b>	<b>Shielding Angle:</b>



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	125	13
80	249	67
75	331	172
70	373	242
65	381	356
60	376	369
55	385	377
50	408	407
45	464	469

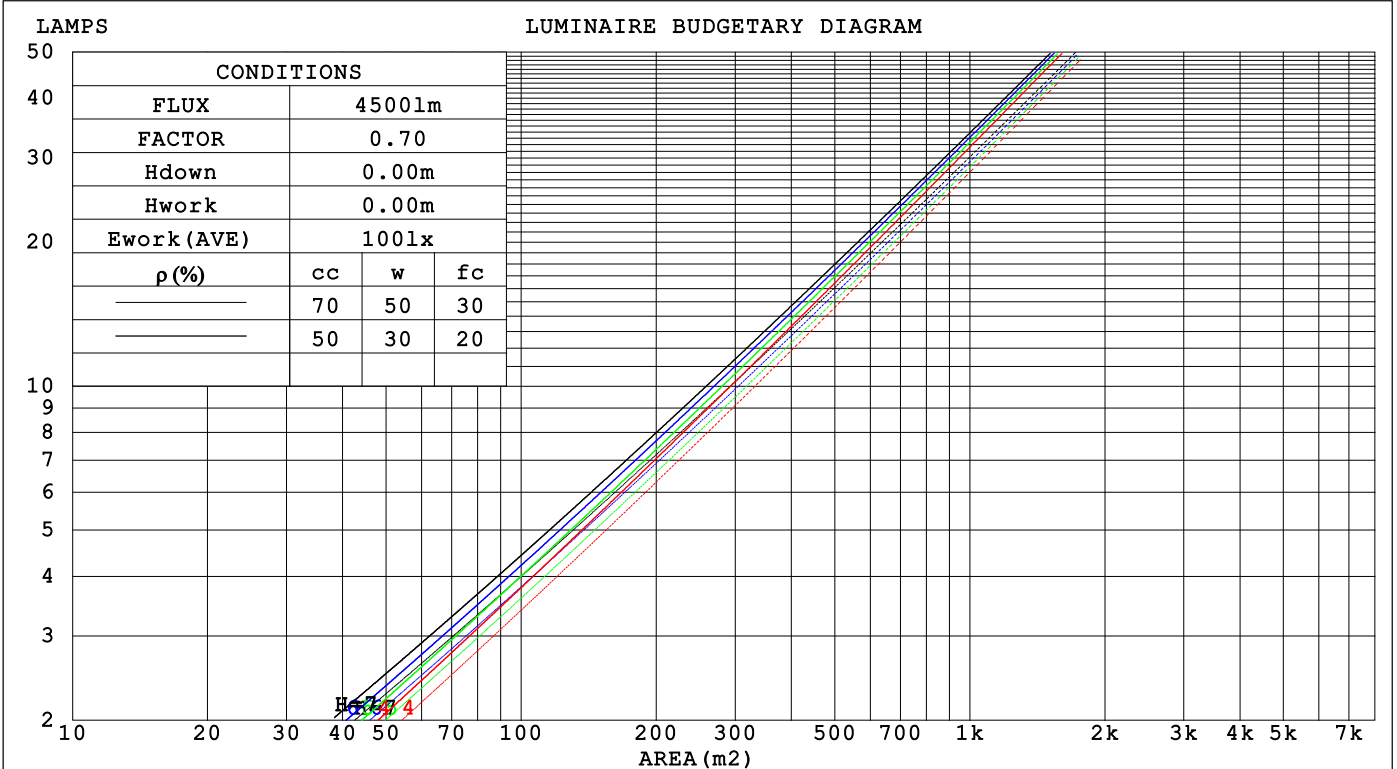
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2022-12-19

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:119.77V I:0.0897A P:9.0789W PF:0.8447 Freq:59.98Hz		
UTHdi:0.00% ITHdi:0.00% KDisp:0 Lamp Flux:774.58x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: LTS	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	1.11	1.09	1.06	1.09	1.07	1.05	1.05	1.03	1.01	1.01	.00	.98	.98	.97	.96	.94
2.0	1.04	.00	.97	1.02	.99	.96	.99	.96	.93	.96	.94	.91	.93	.91	.90	.88
3.0	.98	.93	.89	.96	.92	.88	.94	.90	.87	.91	.88	.86	.89	.87	.84	.83
4.0	.92	.87	.83	.91	.86	.83	.89	.85	.82	.87	.84	.81	.85	.82	.80	.78
5.0	.87	.82	.78	.87	.82	.78	.85	.80	.77	.83	.79	.77	.82	.78	.76	.74
6.0	.83	.78	.74	.82	.77	.74	.81	.77	.73	.80	.76	.73	.78	.75	.72	.71
7.0	.79	.74	.70	.79	.74	.70	.78	.73	.70	.76	.72	.69	.75	.72	.69	.68
8.0	.76	.71	.67	.76	.70	.67	.74	.70	.67	.74	.69	.66	.73	.69	.66	.65
9.0	.73	.68	.64	.72	.68	.64	.72	.67	.64	.71	.67	.64	.70	.66	.64	.62
10.0	.70	.65	.62	.70	.65	.62	.69	.65	.61	.68	.64	.61	.68	.64	.61	.60



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2022-12-19

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:119.77V I:0.0897A P:9.0789W PF:0.8447 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:774.58x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:

$\rho_{CC}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.174	.099	.031	.168	.096	.030	.155	.089	.028	.143	.083	.027	.133	.077	.025	
2.0	.164	.090	.028	.158	.087	.027	.148	.082	.026	.138	.077	.024	.129	.073	.023	
3.0	.153	.082	.024	.149	.080	.024	.140	.076	.023	.131	.072	.022	.124	.069	.021	
4.0	.144	.075	.022	.140	.073	.022	.132	.070	.021	.125	.067	.020	.118	.064	.020	
5.0	.135	.069	.020	.132	.068	.020	.125	.065	.019	.119	.063	.019	.113	.060	.018	
6.0	.127	.064	.018	.124	.063	.018	.119	.061	.018	.113	.059	.017	.108	.057	.017	
7.0	.121	.060	.017	.118	.059	.017	.113	.057	.016	.108	.055	.016	.104	.054	.016	
8.0	.115	.056	.016	.112	.055	.016	.108	.054	.015	.104	.052	.015	.100	.051	.015	
9.0	.109	.053	.015	.107	.052	.015	.103	.051	.014	.099	.050	.014	.096	.049	.014	
10.0	.104	.050	.014	.102	.049	.014	.099	.048	.014	.095	.047	.013	.092	.046	.013	

$\rho_{CC}$	80%			70%			50%			30%			10%			0
$\rho_w$	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
$\rho_{fc}$	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.171	.157	.145	.146	.135	.125	.100	.093	.086	.058	.054	.050	.018	.017	.016	
2.0	.155	.133	.113	.133	.114	.098	.091	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.142	.114	.091	.122	.098	.079	.084	.068	.055	.048	.040	.033	.016	.013	.011	
4.0	.131	.099	.074	.112	.085	.064	.077	.059	.045	.045	.035	.027	.014	.011	.009	
5.0	.121	.087	.061	.104	.075	.053	.072	.052	.038	.042	.031	.022	.013	.010	.007	
6.0	.113	.077	.052	.097	.067	.045	.067	.047	.032	.039	.028	.019	.013	.009	.006	
7.0	.106	.069	.044	.091	.060	.038	.063	.042	.027	.037	.025	.016	.012	.008	.005	
8.0	.100	.063	.038	.086	.055	.033	.059	.038	.023	.035	.023	.014	.011	.007	.005	
9.0	.094	.058	.033	.081	.050	.029	.056	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.089	.053	.029	.077	.046	.025	.053	.032	.018	.031	.019	.011	.010	.006	.004	

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2022-12-19

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:119.77V I:0.0897A P:9.0789W PF:0.8447 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:774.58x1 lm										
NAME: FR-LED-4-S9W-5CCT-FG-WH					TYPE:			WEIGHT:		
SPEC.: 3500K 90					DIM.:			SERIAL No.:		
MFR.: LTS					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	5.2	6.1	5.5	6.3	6.4	5.2	6.1	5.4	6.2	6.4
3H	6.7	7.5	7.0	7.7	7.9	6.1	6.9	6.4	7.1	7.3
4H	7.2	8.0	7.5	8.2	8.4	6.3	7.0	6.6	7.3	7.5
6H	7.5	8.2	7.8	8.5	8.7	6.3	7.0	6.6	7.2	7.5
8H	7.5	8.2	7.8	8.5	8.7	6.2	6.9	6.5	7.2	7.4
12H	7.5	8.2	7.9	8.5	8.7	6.2	6.9	6.5	7.1	7.4
4H 2H	5.8	6.5	6.0	6.7	7.0	5.7	6.5	6.0	6.7	6.9
3H	7.4	8.0	7.7	8.3	8.6	6.7	7.4	7.0	7.6	7.9
4H	7.9	8.5	8.3	8.8	9.1	6.9	7.5	7.2	7.8	8.1
6H	8.2	8.7	8.6	9.1	9.4	6.9	7.5	7.3	7.8	8.1
8H	8.2	8.7	8.6	9.1	9.5	6.9	7.4	7.3	7.7	8.1
12H	8.2	8.7	8.6	9.1	9.5	6.8	7.3	7.2	7.6	8.0
8H 4H	7.9	8.4	8.3	8.7	9.1	7.0	7.5	7.4	7.8	8.2
6H	8.2	8.6	8.6	9.0	9.4	7.0	7.4	7.4	7.8	8.2
8H	8.3	8.6	8.7	9.1	9.5	6.9	7.3	7.4	7.7	8.2
12H	8.3	8.6	8.7	9.0	9.5	6.9	7.2	7.3	7.6	8.1
12H 4H	7.8	8.3	8.3	8.7	9.1	6.9	7.4	7.3	7.8	8.1
6H	8.2	8.5	8.6	9.0	9.4	6.9	7.3	7.4	7.7	8.2
8H	8.2	8.5	8.7	9.0	9.4	6.9	7.2	7.4	7.6	8.1
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.3 / - 0.4					+ 0.5 / - 0.7				
1.5H	+ 0.4 / - 0.3					+ 0.8 / - 0.4				
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.9				

CIE Pub.117, 774.6 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.9)  
 Area: 0.111111 m2

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2022-12-19

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:

**UTILIZATION FACTORS TABLE**

Test:U:119.77V I:0.0897A P:9.0789W PF:0.8447 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:774.58x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:

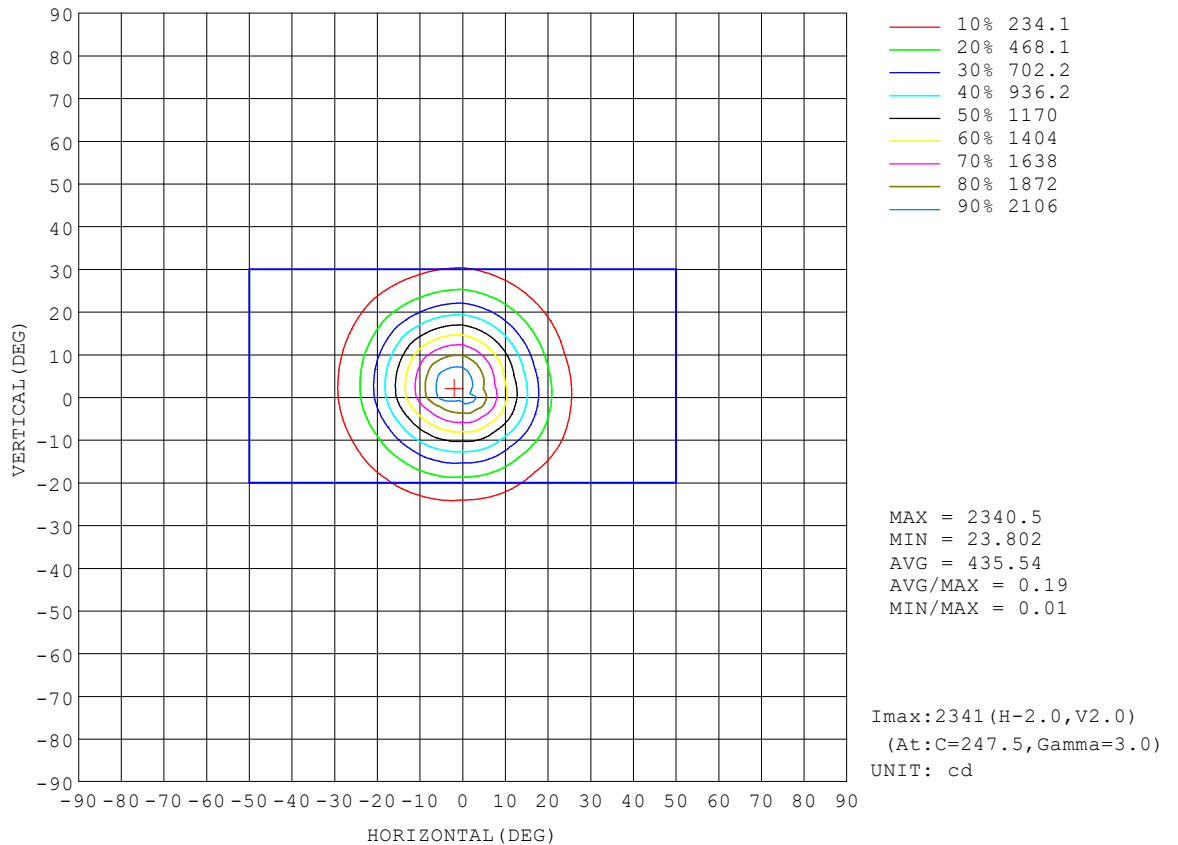
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	78	74	84	78	74	83	77	74	70
0.80	92	86	82	92	85	82	90	85	81	77
1.00	97	91	87	96	90	86	94	90	86	82
1.25	101	95	92	100	95	91	98	94	90	86
1.50	104	99	95	103	98	95	100	97	93	89
2.00	107	102	99	106	101	98	103	99	97	91
2.50	109	105	101	107	104	101	104	101	99	93
3.00	111	107	104	109	106	103	105	103	101	94
4.00	113	110	108	111	108	106	107	105	103	96
5.00	114	112	110	112	110	108	108	107	105	97
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: 2022-12-19

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  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:119.77V I:0.0897A P:9.0789W PF:0.8447 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:774.58x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:



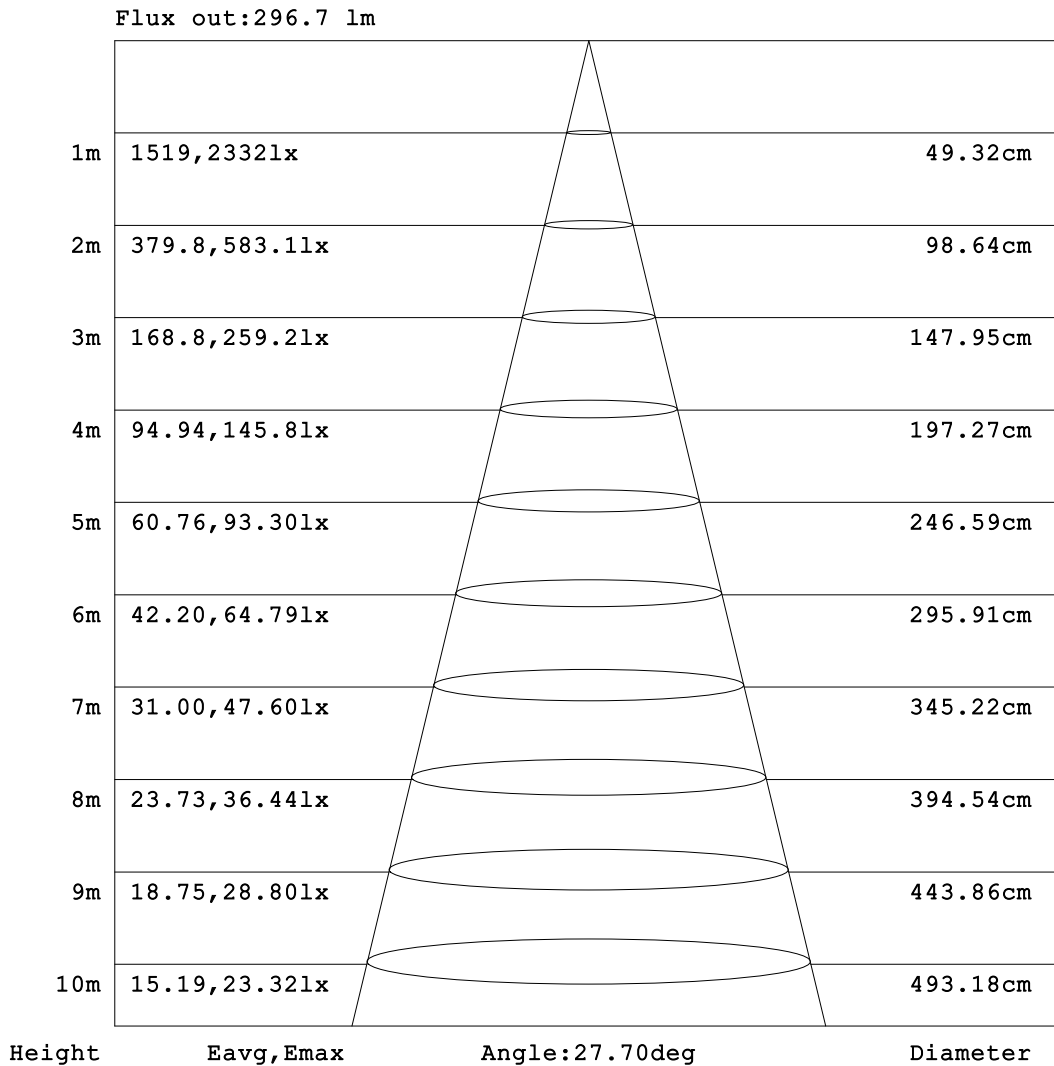
C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2022-12-19

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:119.77V I:0.0897A P:9.0789W PF:0.8447 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:774.58x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:



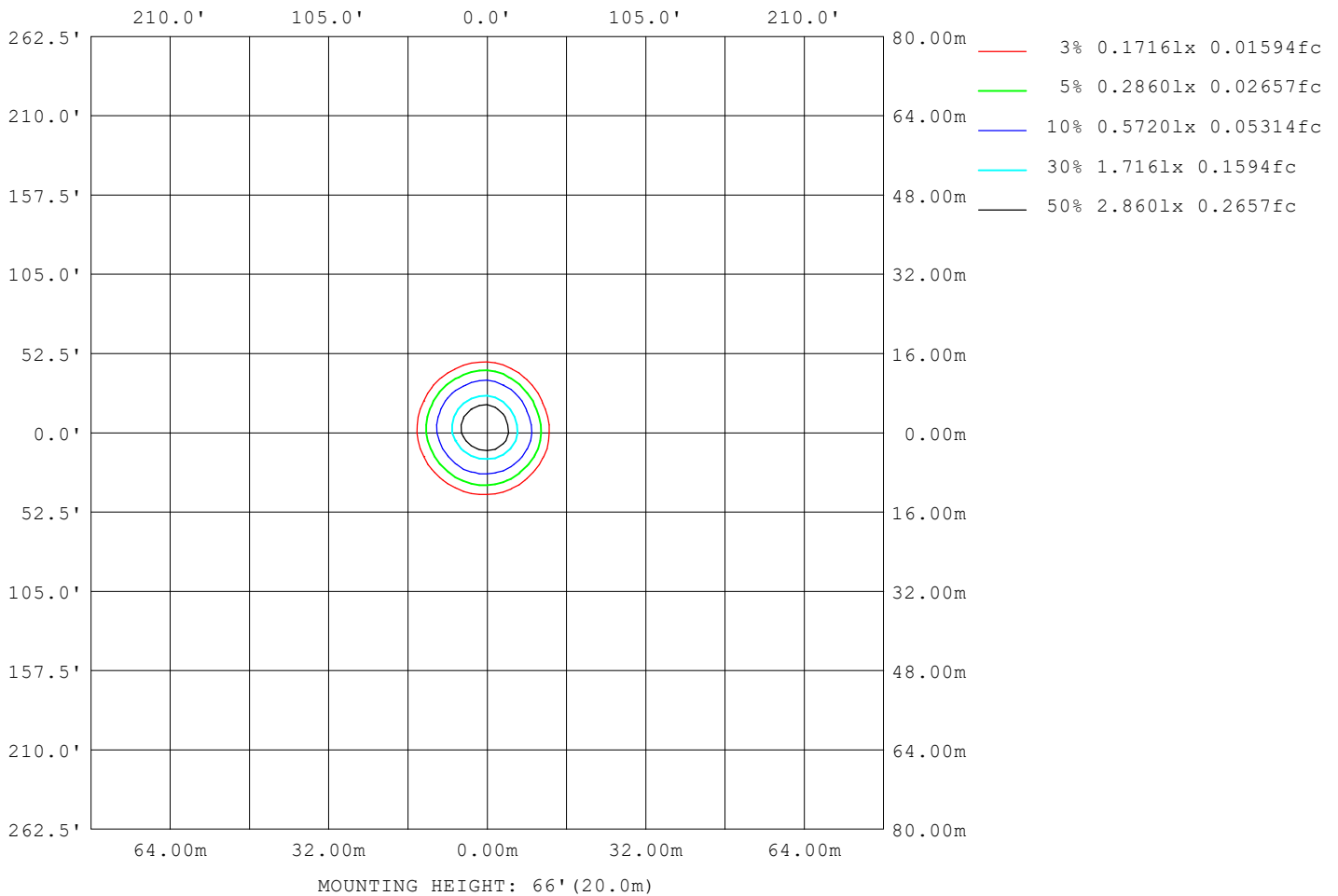
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3°C  
 Operators:  
 Test Date:2022-12-19

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:119.77V I:0.0897A P:9.0789W PF:0.8447 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:774.58x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:



C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature: 25.3 °C  
 Operators:  
 Test Date: 2022-12-19

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:119.77V I:0.0897A P:9.0789W PF:0.8447 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:774.58x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 3500K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:

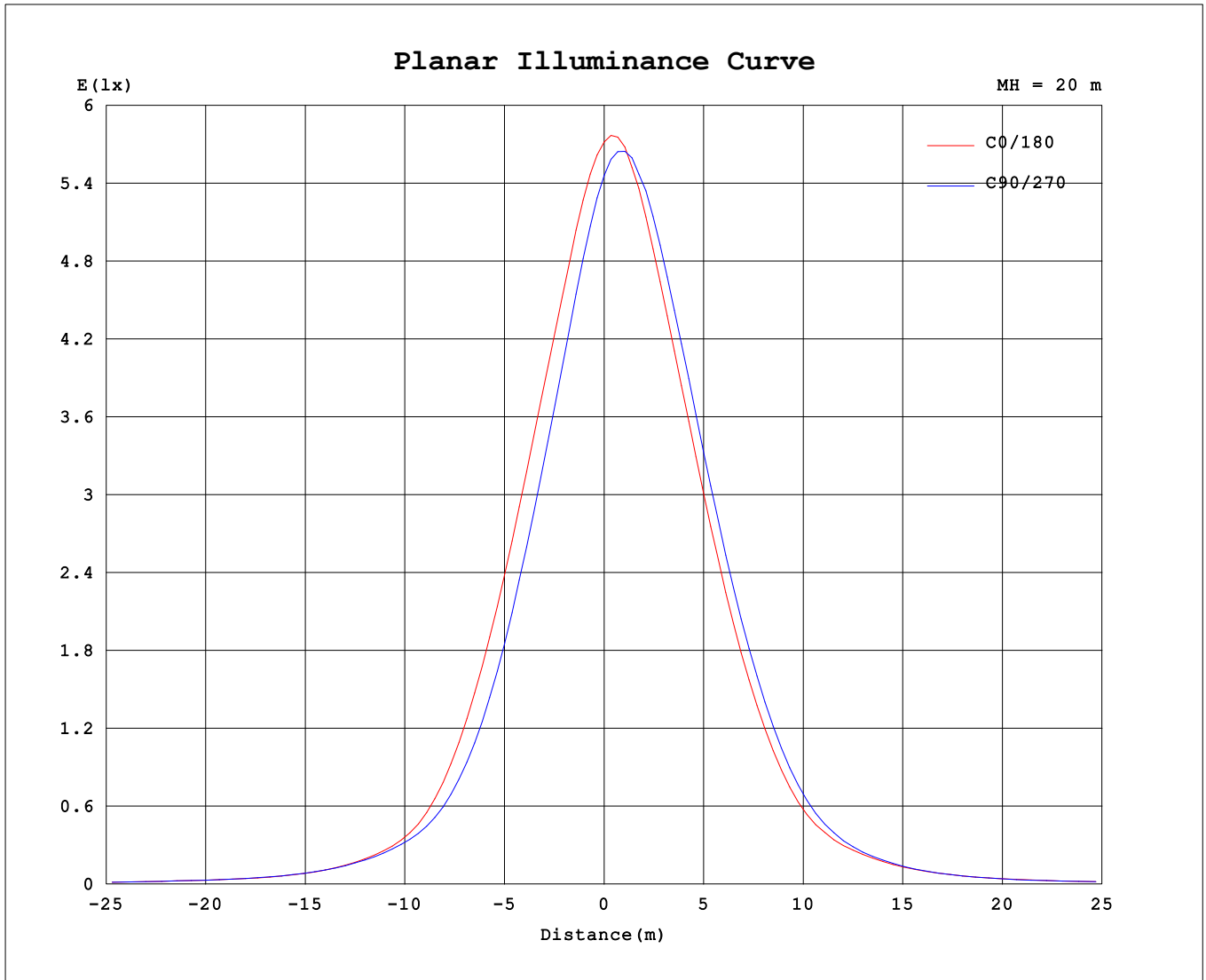
AvgL	cd/m2
L_0~180 (65) av	382
L_0~180 (75) av	362
L_0~180 (85) av	199
L_90~270 (65) av	395
L_90~270 (75) av	277
L_90~270 (85) av	103
L_45 (65) av	398
L_45 (75) av	325
L_45 (85) av	125

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 22.5DEG  
 Test Speed: HIGH  
 Temperature:25.3℃  
 Operators:  
 Test Date:2022-12-19

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: 2022-12-19

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:

