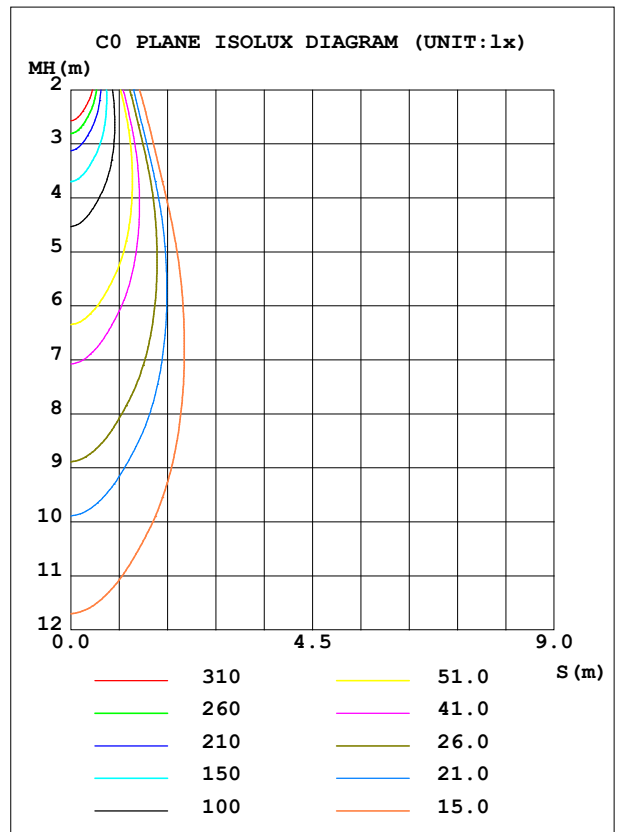
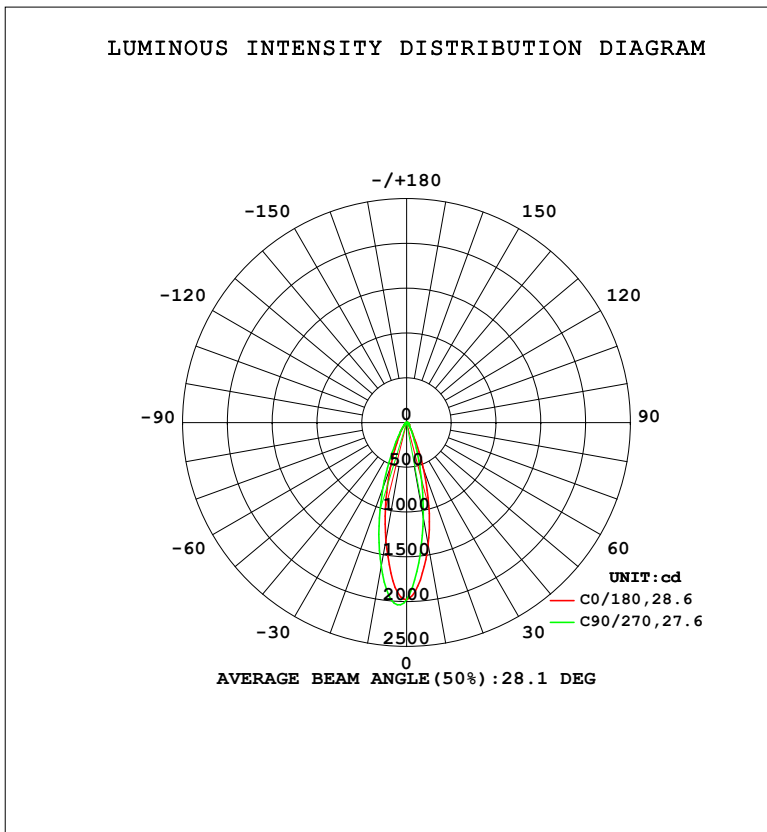


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:119.76V I:0.0891A P:9.0274W PF:0.8459 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:682.4x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA			
MODEL		Imax (cd)	2038	S/MH (C0/180)	0.47
NOMINAL POWER (W)	9	LOR (%)	100.0	S/MH (C90/270)	0.57
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	682.40	η UP, DN (C0-180)	0.0,43.2
NOMINAL FLUX (lm)	682.4	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0,56.8
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	0.50
TEST VOLTAGE (V)	120	η 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

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:

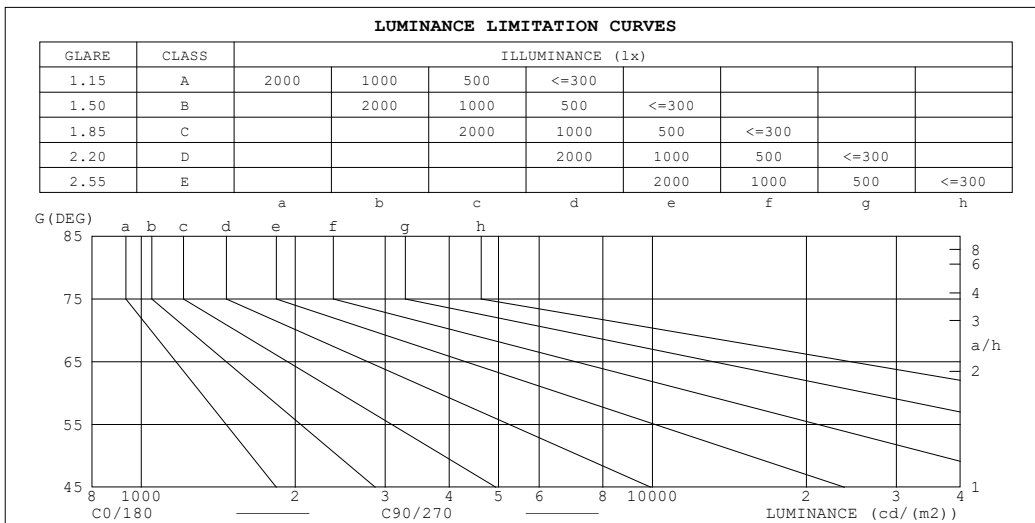
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	1391	1207	1078	1206	1337	1549	1634	1540	0- 10	156.1	156.1	22.9,22.9
20	560.0	392.7	345.1	445.6	536.3	692.4	773.4	618.6	10- 20	253.5	409.6	60,60
30	130.1	112.5	116.3	142.8	164.2	203.3	211.6	150.6	20- 30	136.2	545.8	80,80
40	45.19	43.06	45.99	55.95	64.23	71.87	69.92	53.28	30- 40	59.22	605.0	88.7,88.7
50	26.03	25.26	25.95	28.30	29.95	31.56	31.22	28.23	40- 50	30.07	635.1	93.1,93.1
60	18.26	18.08	18.16	19.08	19.37	20.47	20.84	19.38	50- 60	20.72	655.8	96.1,96.1
70	12.26	8.685	8.340	13.46	14.05	14.88	15.02	13.76	60- 70	16.05	671.9	98.5,98.5
80	4.413	1.328	1.194	4.194	6.565	4.610	4.869	5.860	70- 80	8.892	680.8	99.8,99.8
90	0.0981	0.0848	0.0861	0.0998	0.0630	0.0738	0.0718	0.0730	80- 90	1.618	682.4	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

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:119.76V I:0.0891A P:9.0274W PF:0.8459 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:682.4x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	135	12
80	238	61
75	301	156
70	335	217
65	344	316
60	342	324
55	354	332
50	379	360
45	433	416

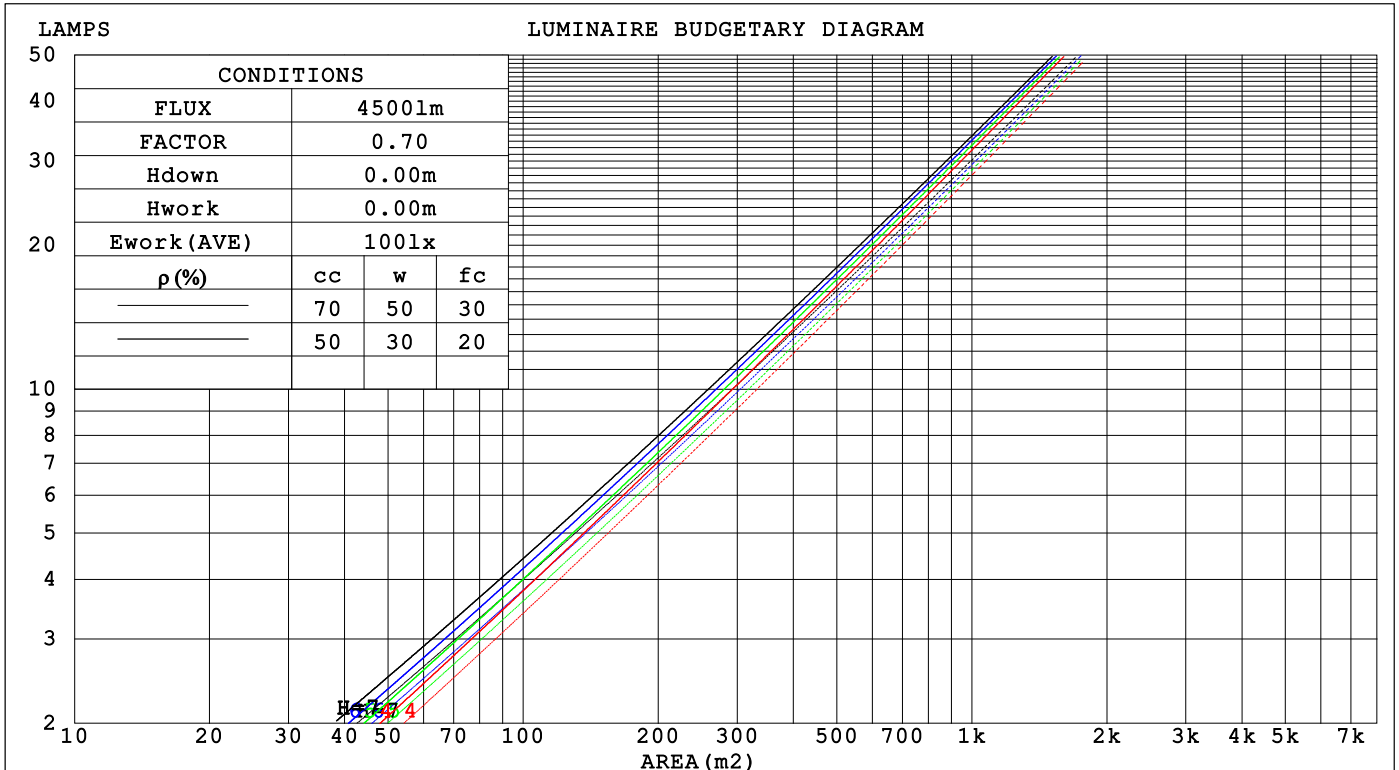
C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25.3 °C
 Operators:
 Test Date: 2022-12-19

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:119.76V I:0.0891A P:9.0274W PF:0.8459 Freq:59.98Hz		
UTHdi:0.00% ITHdi:0.00% KDisp:0 Lamp Flux:682.4x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 2700K 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	.81	.77	.83	.79	.77	.82	.78	.76	.75
6.0	.83	.78	.74	.82	.77	.74	.81	.77	.73	.80	.76	.73	.78	.75	.72	.71
7.0	.80	.74	.70	.79	.74	.70	.78	.73	.70	.77	.73	.70	.75	.72	.69	.68
8.0	.76	.71	.67	.76	.71	.67	.75	.70	.67	.74	.70	.67	.73	.69	.66	.65
9.0	.73	.68	.64	.73	.68	.64	.72	.67	.64	.71	.67	.64	.70	.66	.64	.62
10.0	.70	.65	.62	.70	.65	.62	.69	.65	.62	.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:119.76V I:0.0891A P:9.0274W PF:0.8459 Freq:59.98Hz		
UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:682.4x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: LTS	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	.174	.099	.031	.168	.096	.030	.155	.089	.028	.144	.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	.068	.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	.114	.056	.016	.112	.055	.016	.108	.054	.015	.103	.052	.015	.099	.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	

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	.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

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:119.76V I:0.0891A P:9.0274W PF:0.8459 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:682.4x1 lm										
NAME: FR-LED-4-S9W-5CCT-FG-WH					TYPE:			WEIGHT:		
SPEC.: 2700K 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	5.5	6.4	5.7	6.5	6.7	5.3	6.1	5.5	6.3	6.4
3H	6.9	7.7	7.2	7.9	8.1	6.2	7.0	6.5	7.2	7.4
4H	7.4	8.2	7.7	8.4	8.6	6.4	7.1	6.6	7.3	7.6
6H	7.7	8.4	8.0	8.7	8.9	6.4	7.1	6.7	7.3	7.6
8H	7.8	8.5	8.1	8.7	9.0	6.3	7.0	6.6	7.3	7.5
12H	7.8	8.5	8.1	8.7	9.0	6.3	7.0	6.6	7.2	7.5
4H 2H	6.0	6.7	6.3	7.0	7.2	5.8	6.6	6.1	6.8	7.0
3H	7.5	8.2	7.9	8.5	8.7	6.8	7.5	7.1	7.7	8.0
4H	8.1	8.7	8.5	9.0	9.3	7.0	7.6	7.4	7.9	8.2
6H	8.4	9.0	8.8	9.3	9.7	7.0	7.6	7.4	7.9	8.3
8H	8.5	9.0	8.9	9.3	9.7	7.0	7.5	7.4	7.8	8.2
12H	8.5	9.0	8.9	9.3	9.7	6.9	7.4	7.3	7.8	8.2
8H 4H	8.1	8.6	8.5	9.0	9.3	7.1	7.6	7.5	7.9	8.3
6H	8.5	8.9	8.9	9.3	9.7	7.1	7.5	7.5	7.9	8.3
8H	8.5	8.9	9.0	9.3	9.8	7.1	7.4	7.5	7.9	8.3
12H	8.5	8.9	9.0	9.3	9.8	7.0	7.3	7.5	7.8	8.2
12H 4H	8.1	8.5	8.5	8.9	9.3	7.1	7.5	7.5	7.9	8.3
6H	8.4	8.8	8.9	9.2	9.6	7.1	7.5	7.5	7.9	8.3
8H	8.5	8.8	9.0	9.2	9.7	7.0	7.3	7.5	7.8	8.3
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 0.3 / - 0.4					+ 0.5 / - 0.7				
1.5H	+ 0.5 / - 0.3					+ 0.8 / - 0.5				
2.0H	+ 0.4 / - 0.4					+ 0.3 / - 0.8				

CIE Pub.117, 682.4 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -1.3)
 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:2022-12-19	Remarks:

UTILIZATION FACTORS TABLE

Test:U:119.76V I:0.0891A P:9.0274W PF:0.8459 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:682.4x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:

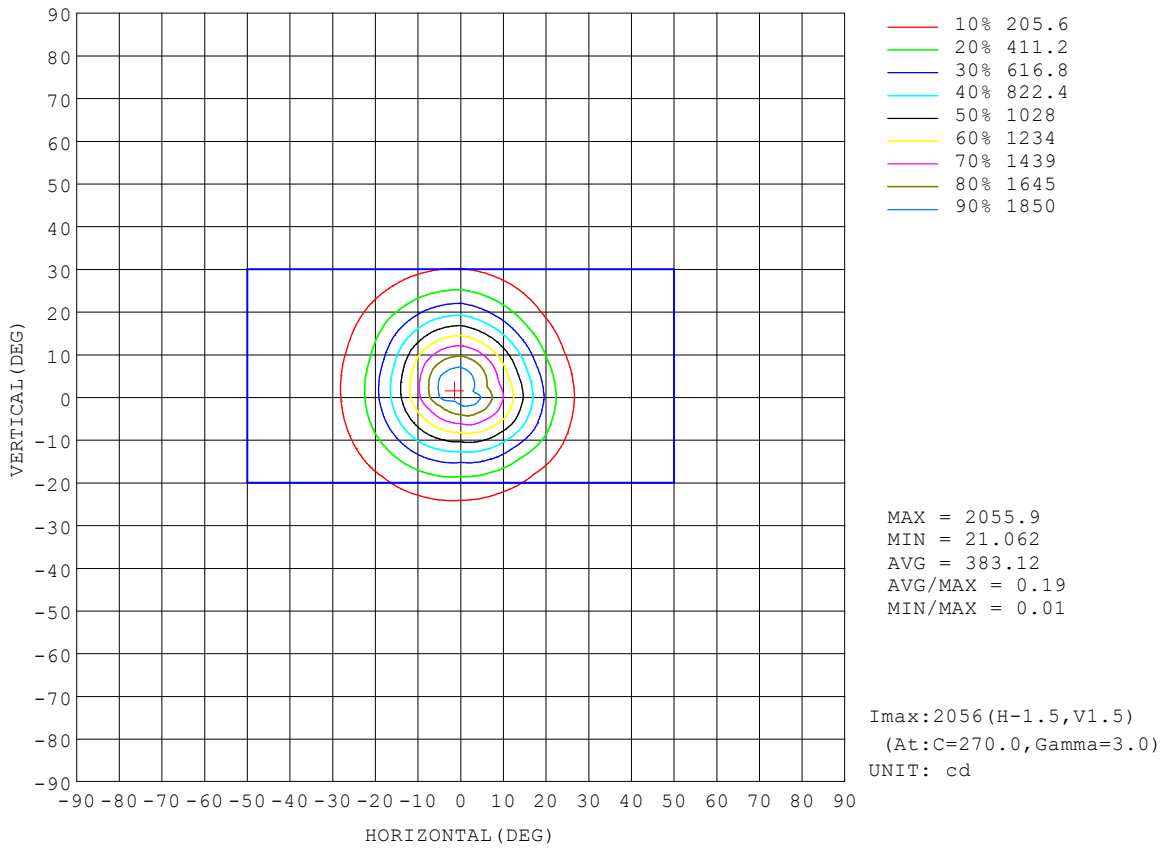
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	78	74	84	78	74	83	77	73	70
0.80	92	86	82	91	85	82	90	85	81	77
1.00	97	91	87	96	90	86	94	90	86	82
1.25	101	95	91	100	95	91	98	94	90	86
1.50	104	99	95	103	98	95	100	96	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	92
3.00	111	107	104	109	106	103	105	103	101	94
4.00	113	110	107	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

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:119.76V I:0.0891A P:9.0274W PF:0.8459 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:682.4x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:

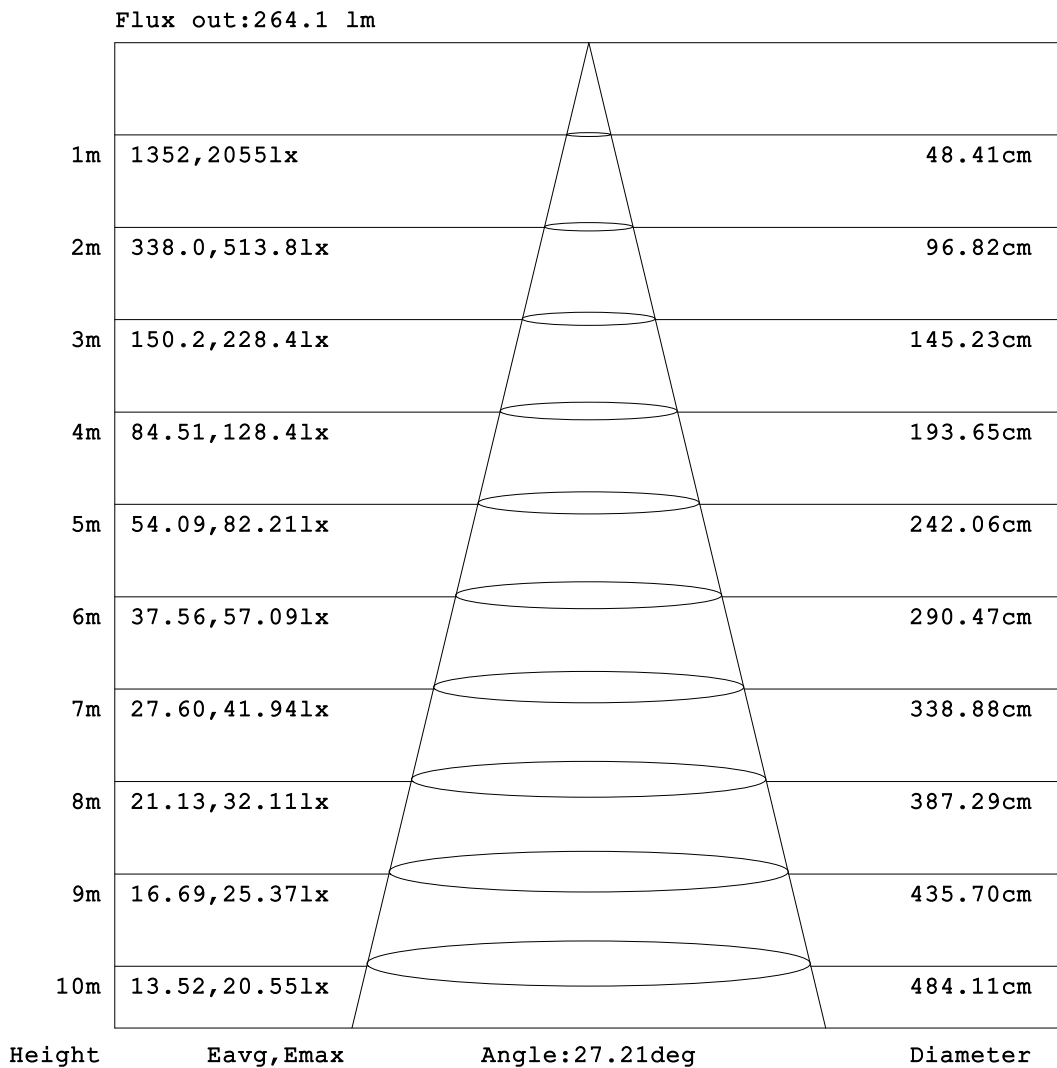


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25.3°C
 Operators:
 Test Date:2022-12-19

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:119.76V I:0.0891A P:9.0274W PF:0.8459 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:682.4x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:



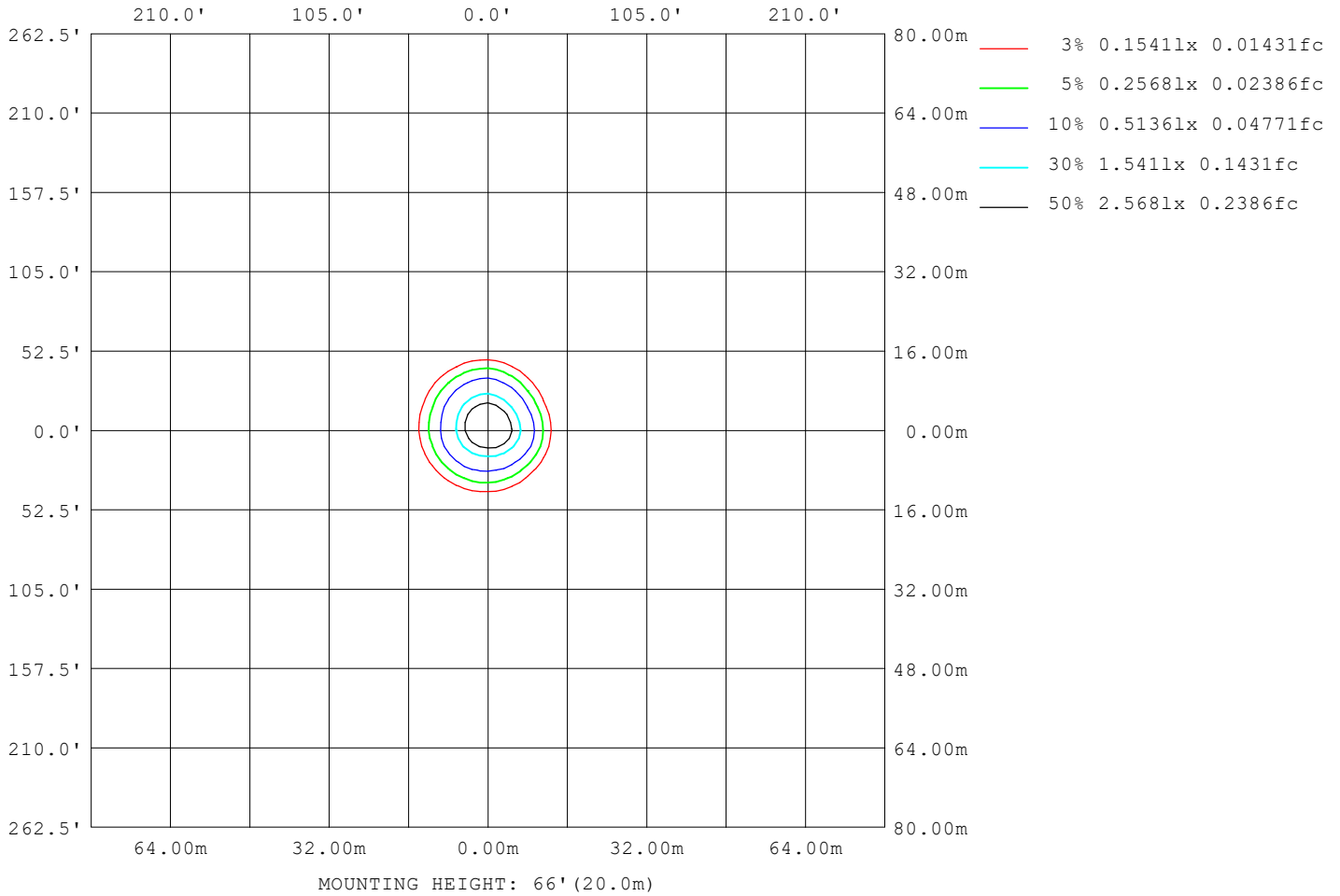
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:119.76V I:0.0891A P:9.0274W PF:0.8459 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:682.4x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 2700K 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:119.76V I:0.0891A P:9.0274W PF:0.8459 Freq:59.98Hz UTHDi:0.00% ITHDi:0.00% KDisp:0 Lamp Flux:682.4x1 lm		
NAME: FR-LED-4-S9W-5CCT-FG-WH	TYPE:	WEIGHT:
SPEC.: 2700K 90	DIM.:	SERIAL No.:
MFR.: LTS	SUR.:	Shielding Angle:

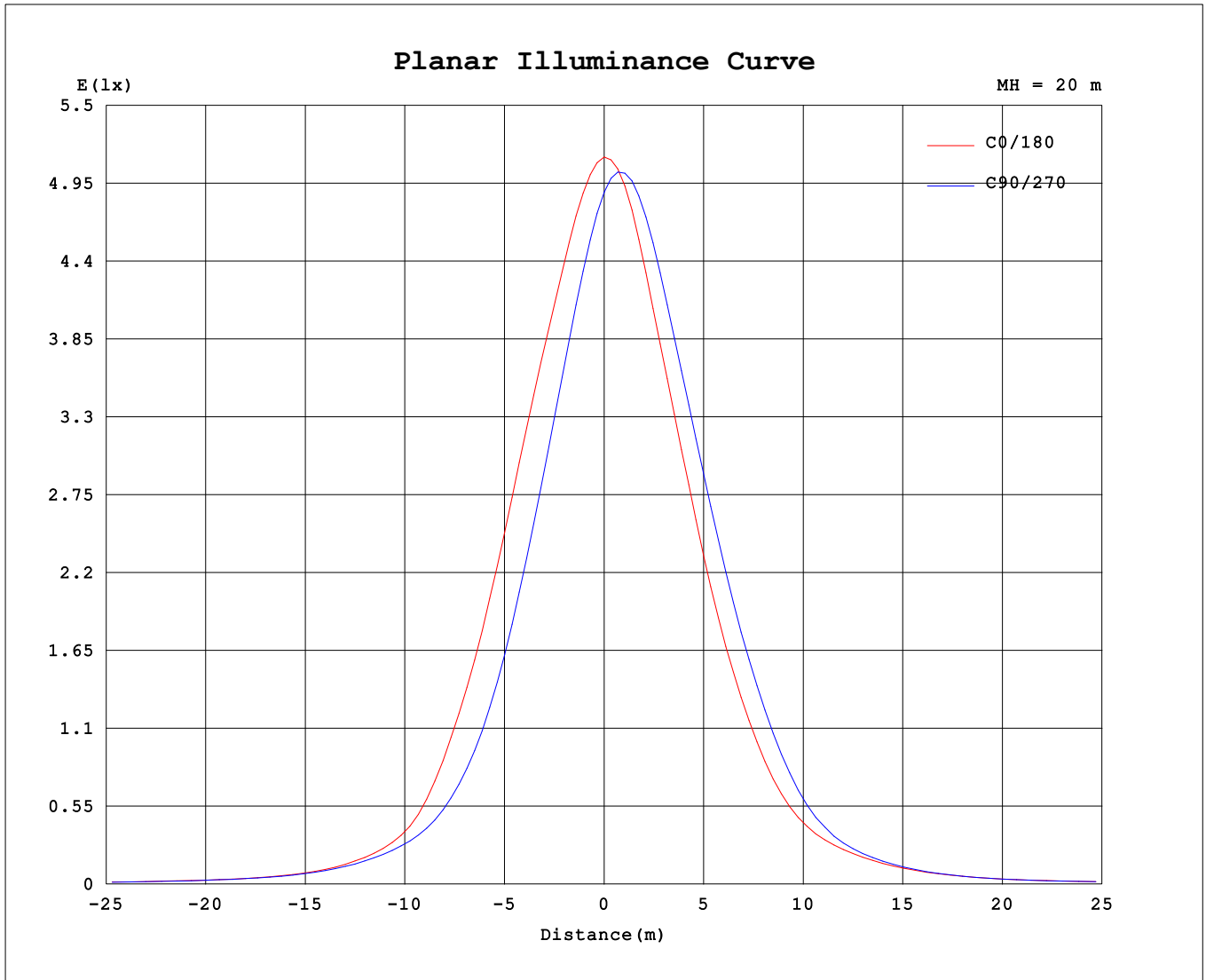
AvgL	cd/m2
L_0~180 (65) av	344
L_0~180 (75) av	328
L_0~180 (85) av	190
L_90~270 (65) av	348
L_90~270 (75) av	248
L_90~270 (85) av	91
L_45 (65) av	351
L_45 (75) av	291
L_45 (85) av	111

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:

