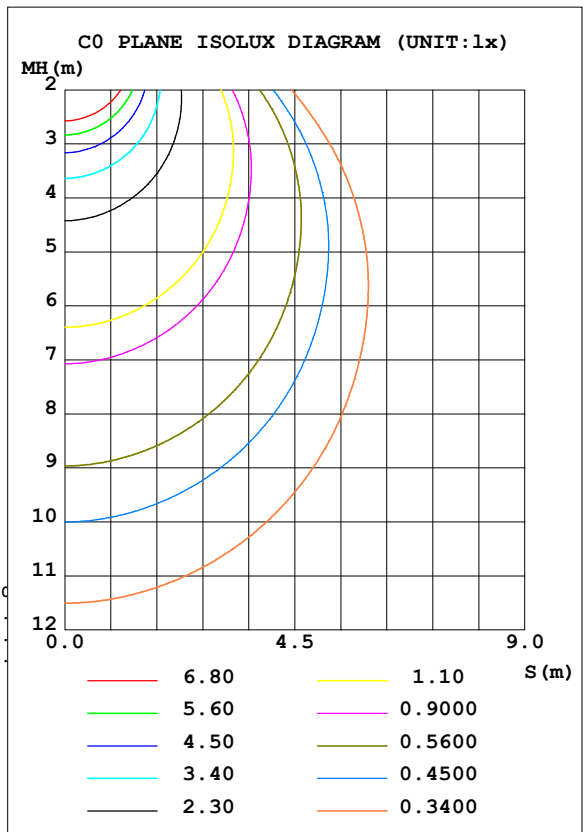
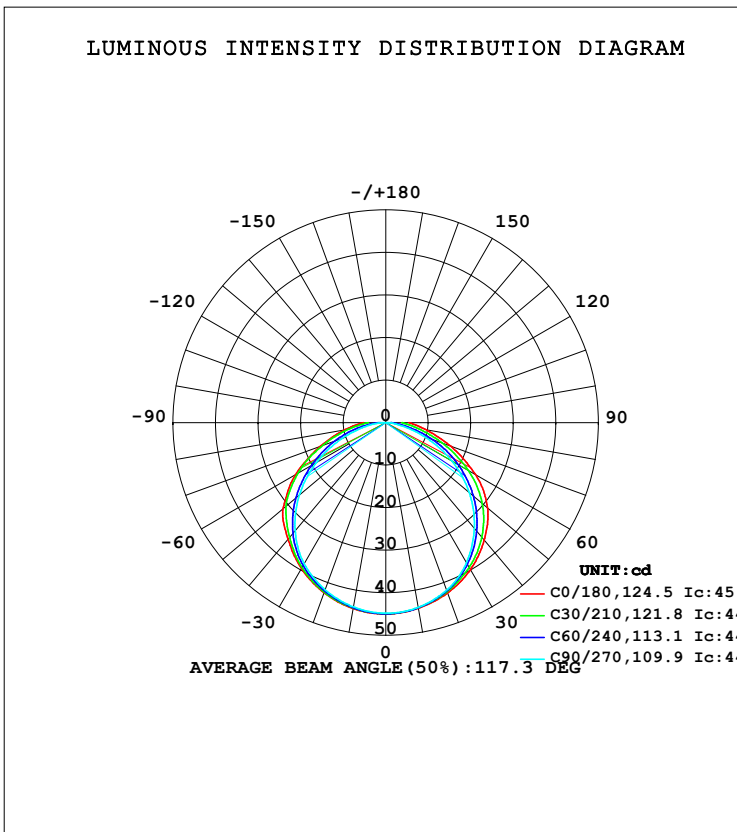


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.40V I:0.0968A P:11.396W PF:0.9781 Freq:59.98Hz Lamp Flux:138.381x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

DATA OF LAMP		PHOTOMETRIC DATA Eff: 12.14 lm/W			
MODEL	HF7111-AB-WHT	I <sub>max</sub> (cd)	45.02	S/MH (C0/180)	1.31
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.27
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	138.38	η UP, DN (C0-180)	0.0,49.1
NOMINAL FLUX (lm)	138.381	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0,50.9
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE (V)	120.407	η down (%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 24.5DEG  
 Operators: Dingmin Zhang  
 Test Date: 2025-12-04

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity: 60%  
 Test Distance: 9.480m [K=1.0000]  
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

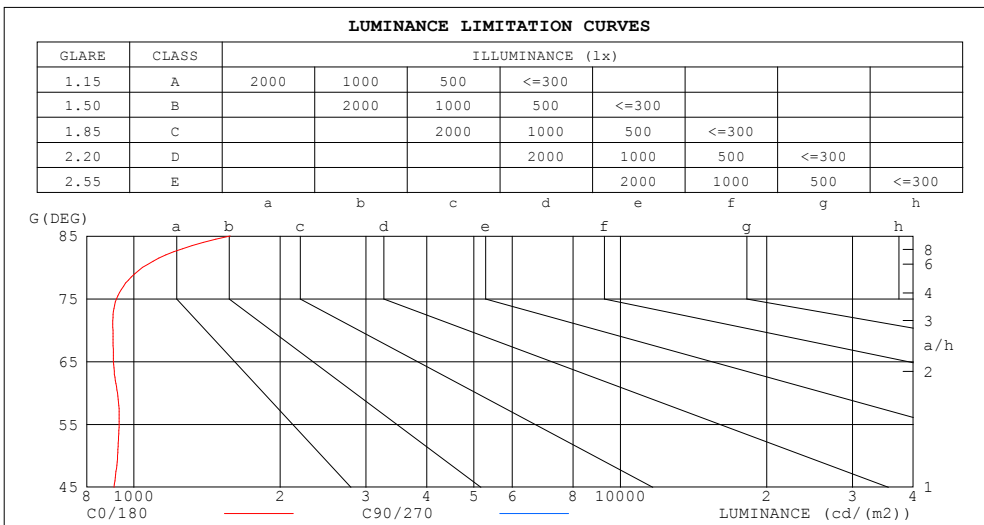
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum,lamp
10	44.29	44.15	44.07	44.04	44.38	44.15	43.98	43.93	0- 10	4.247	4.247	3.07,3.07
20	42.59	42.06	41.92	41.97	42.53	42.20	41.78	42.08	10- 20	12.23	16.48	11.9,11.9
30	39.86	38.81	37.98	38.65	39.61	39.03	38.35	39.15	20- 30	18.78	35.25	25.5,25.5
40	36.02	34.17	32.40	33.82	35.78	34.63	33.15	35.05	30- 40	23.05	58.30	42.1,42.1
50	31.26	28.12	25.67	28.22	31.58	28.96	26.55	29.64	40- 50	24.47	82.77	59.8,59.8
60	24.31	21.04	17.86	21.10	24.55	22.11	18.89	22.92	50- 60	22.64	105.4	76.2,76.2
70	16.27	12.94	9.656	13.31	16.42	14.73	10.91	15.07	60- 70	17.47	122.9	88.8,88.8
80	9.507	5.947	3.082	6.712	9.740	7.554	4.239	7.490	70- 80	10.64	133.5	96.5,96.5
90	5.484	2.418	0.1261	2.586	5.221	2.666	0.1641	2.780	80- 90	4.861	138.4	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: 15.0DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:Dingmin Zhang  
 Test Date:2025-12-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:9.480m [K=1.0000]  
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:120.40V I:0.0968A P:11.396W PF:0.9781 Freq:59.98Hz Lamp Flux:138.381x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--



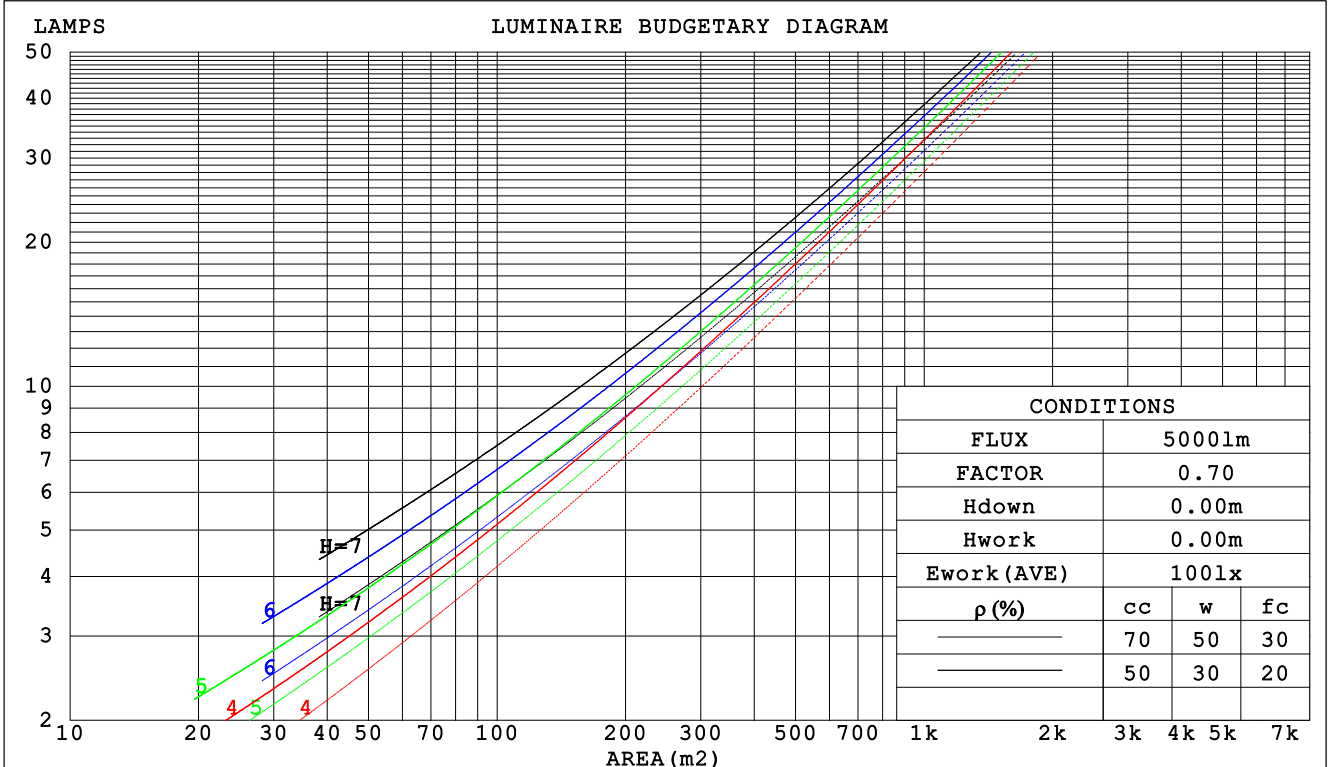
C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 24.5DEG  
 Operators: Dingmin Zhang  
 Test Date: 2025-12-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity: 60%  
 Test Distance: 9.480m [K=1.0000]  
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.40V I:0.0968A P:11.396W PF:0.9781 Freq:59.98Hz Lamp Flux:138.381x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

ρcc	80%			70%			50%			30%			10%			0
	ρw	ρfc	RCR	ρw	ρfc	RCR	ρw	ρfc	RCR	ρw	ρfc	RCR	ρw	ρfc	RCR	
	50%	20%	RCR:Room Cavity Ratio	50%	20%	RCR	50%	20%	RCR	50%	20%	RCR	50%	20%	RCR	
	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	1.03	.98	.94	1.00	.96	.92	.96	.93	.89	.92	.89	.87	.89	.86	.84	.82
2.0	.89	.82	.76	.87	.80	.75	.84	.78	.73	.80	.76	.71	.77	.73	.70	.68
3.0	.78	.69	.63	.76	.68	.62	.73	.66	.61	.70	.65	.60	.68	.63	.59	.56
4.0	.69	.60	.53	.67	.59	.52	.65	.57	.52	.63	.56	.51	.60	.55	.50	.48
5.0	.61	.52	.45	.60	.51	.45	.58	.50	.44	.56	.49	.44	.54	.48	.43	.41
6.0	.55	.46	.39	.54	.45	.39	.52	.45	.39	.51	.44	.38	.49	.43	.38	.36
7.0	.50	.41	.35	.49	.41	.34	.47	.40	.34	.46	.39	.34	.45	.38	.34	.32
8.0	.45	.37	.31	.45	.36	.31	.43	.36	.30	.42	.35	.30	.41	.35	.30	.28
9.0	.42	.33	.28	.41	.33	.28	.40	.33	.27	.39	.32	.27	.38	.32	.27	.25
10.0	.38	.30	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.35	.29	.25	.23



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:Dingmin Zhang  
 Test Date:2025-12-04

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:9.480m [K=1.0000]  
 Remarks:

WEC AND CCEC

Test:U:120.40V I:0.0968A P:11.396W PF:0.9781 Freq:59.98Hz Lamp Flux:138.381x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

ρ <sub>cc</sub>	80%			70%			50%			30%			10%			0
ρ <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ <sub>fc</sub>	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)									
0.0																
1.0	.332	.189	.060	.325	.185	.059	.312	.179	.057	.299	.173	.055	.288	.167	.054	
2.0	.305	.167	.051	.299	.165	.051	.287	.160	.050	.276	.155	.049	.266	.151	.047	
3.0	.280	.149	.045	.274	.147	.044	.263	.143	.043	.254	.139	.043	.245	.136	.042	
4.0	.256	.133	.039	.251	.132	.039	.242	.128	.038	.233	.125	.038	.225	.123	.037	
5.0	.236	.120	.035	.232	.119	.035	.223	.116	.034	.216	.114	.034	.208	.111	.033	
6.0	.218	.109	.031	.214	.108	.031	.207	.106	.031	.200	.104	.031	.194	.102	.030	
7.0	.202	.100	.028	.199	.099	.028	.193	.097	.028	.186	.096	.028	.181	.094	.028	
8.0	.189	.092	.026	.186	.091	.026	.180	.090	.026	.174	.088	.025	.169	.087	.025	
9.0	.177	.085	.024	.174	.085	.024	.169	.083	.024	.164	.082	.023	.159	.081	.023	
10.0	.166	.080	.022	.163	.079	.022	.159	.078	.022	.154	.077	.022	.150	.075	.022	

ρ <sub>cc</sub>	80%			70%			50%			30%			10%			0
ρ <sub>w</sub>	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ <sub>fc</sub>	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	.182	.156	.133	.156	.134	.114	.106	.092	.079	.061	.053	.046	.020	.017	.015	
2.0	.174	.132	.096	.149	.113	.083	.102	.079	.058	.059	.046	.034	.019	.015	.011	
3.0	.166	.114	.073	.143	.099	.063	.098	.069	.044	.057	.040	.026	.018	.013	.009	
4.0	.159	.101	.057	.136	.087	.050	.094	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.151	.091	.046	.130	.079	.040	.089	.055	.028	.052	.032	.017	.017	.011	.006	
6.0	.144	.082	.038	.124	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.137	.076	.033	.118	.066	.028	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.028	.112	.061	.025	.078	.043	.018	.045	.025	.010	.015	.008	.003	
9.0	.124	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.118	.061	.022	.102	.053	.019	.071	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:Dingmin Zhang  
 Test Date:2025-12-04

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:9.480m [K=1.0000]  
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:120.40V I:0.0968A P:11.396W PF:0.9781 Freq:59.98Hz Lamp Flux:138.381x1 lm										
NAME:					TYPE:			WEIGHT:--		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					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	12.7	14.3	13.0	14.5	14.7	11.5	13.1	11.8	13.3	13.5
3H	14.5	15.9	14.8	16.2	16.4	12.7	14.2	13.0	14.4	14.6
4H	15.3	16.7	15.6	16.9	17.2	13.1	14.5	13.4	14.7	15.0
6H	16.1	17.4	16.4	17.7	17.9	13.3	14.6	13.6	14.9	15.2
8H	16.5	17.7	16.8	18.0	18.3	13.3	14.6	13.7	14.9	15.2
12H	17.0	18.2	17.3	18.5	18.8	13.3	14.5	13.7	14.8	15.1
4H 2H	13.2	14.6	13.5	14.8	15.1	12.3	13.6	12.6	13.9	14.2
3H	15.2	16.4	15.5	16.7	17.0	13.7	14.9	14.0	15.2	15.5
4H	16.1	17.2	16.5	17.5	17.9	14.2	15.3	14.5	15.6	15.9
6H	17.1	18.1	17.5	18.4	18.8	14.5	15.5	14.9	15.8	16.2
8H	17.6	18.5	18.0	18.9	19.3	14.5	15.5	14.9	15.8	16.2
12H	18.2	19.0	18.6	19.4	19.8	14.6	15.4	15.0	15.8	16.2
8H 4H	16.3	17.2	16.7	17.6	18.0	14.6	15.5	15.0	15.9	16.2
6H	17.4	18.2	17.9	18.6	19.1	15.0	15.8	15.5	16.2	16.6
8H	18.1	18.8	18.6	19.2	19.7	15.2	15.8	15.6	16.3	16.7
12H	18.9	19.5	19.4	20.0	20.5	15.2	15.8	15.7	16.3	16.7
12H 4H	16.3	17.1	16.7	17.5	17.9	14.6	15.5	15.1	15.9	16.3
6H	17.5	18.2	17.9	18.6	19.1	15.2	15.9	15.6	16.3	16.8
8H	18.2	18.8	18.7	19.3	19.7	15.4	16.0	15.9	16.4	16.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117, 138.4 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -6.9)

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:Dingmin Zhang  
 Test Date:2025-12-04

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:9.480m [K=1.0000]  
 Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:120.40V I:0.0968A P:11.396W PF:0.9781 Freq:59.98Hz Lamp Flux:138.381x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

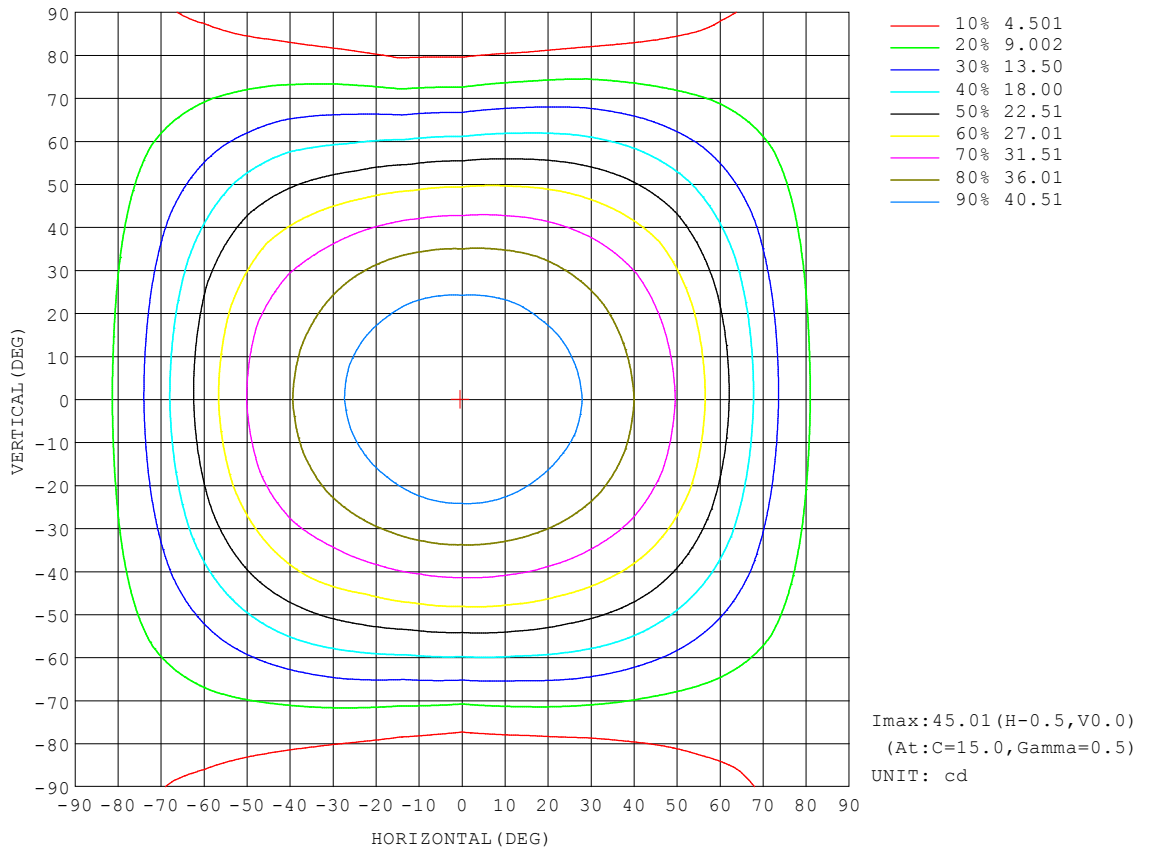
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	56	44	37	55	44	37	54	43	37	30
0.80	66	54	47	65	54	46	63	53	46	39
1.00	75	63	55	73	62	55	71	64	55	47
1.25	82	71	63	80	70	63	77	69	62	55
1.50	87	76	69	85	75	69	82	74	68	60
2.00	94	85	78	92	83	77	88	81	76	68
2.50	98	89	83	96	88	82	92	85	80	72
3.00	101	94	88	99	92	87	95	89	85	76
4.00	105	99	94	103	97	93	98	94	90	81
5.00	108	103	98	105	101	97	101	97	94	84
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:Dingmin Zhang  
 Test Date:2025-12-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:9.480m [K=1.0000]  
 Remarks:

ISOCANDELA DIAGRAM

Test:U:120.40V I:0.0968A P:11.396W PF:0.9781 Freq:59.98Hz Lamp Flux:138.381x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

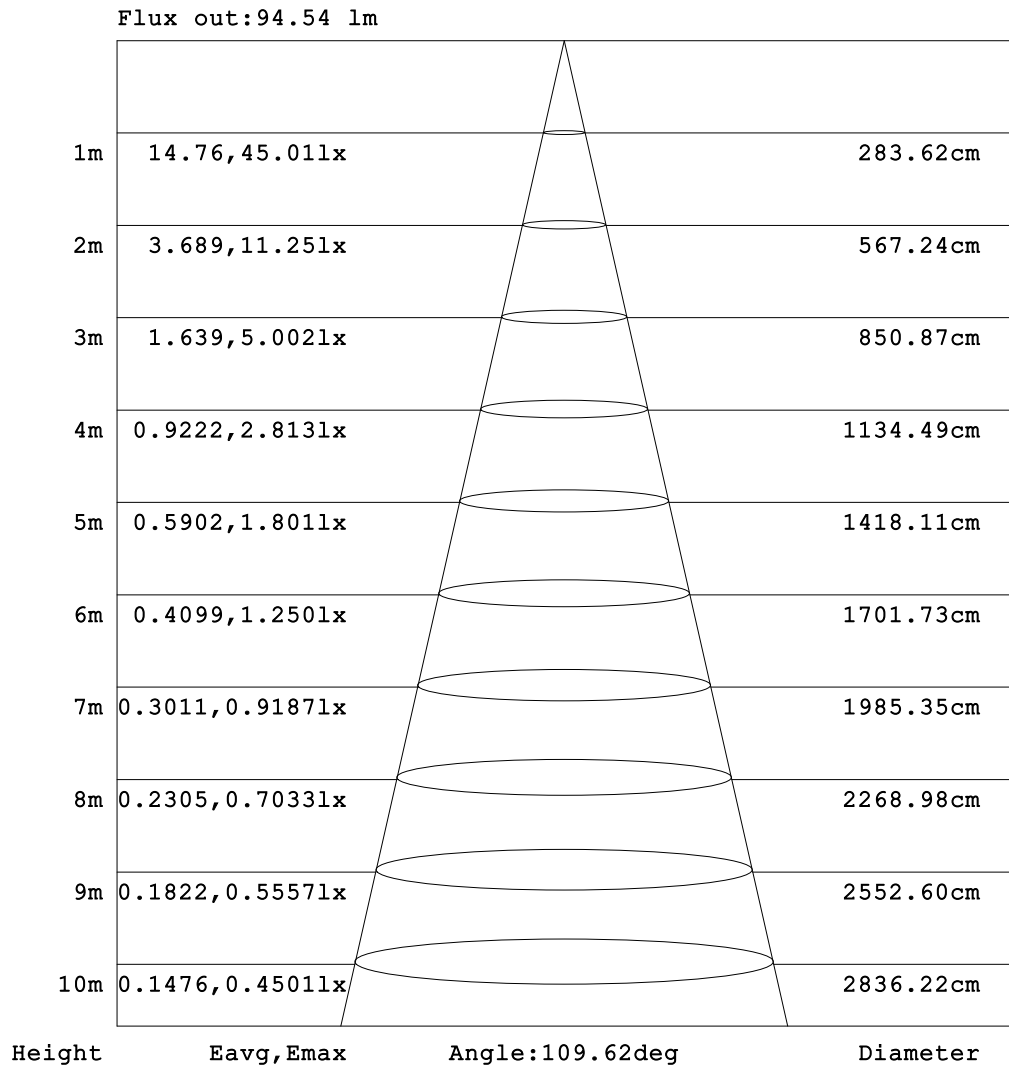


C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 24.5DEG  
 Operators: Dingmin Zhang  
 Test Date: 2025-12-04

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity: 60%  
 Test Distance: 9.480m [K=1.0000]  
 Remarks:

**AAI Figure**

Test:U:120.40V I:0.0968A P:11.396W PF:0.9781 Freq:59.98Hz Lamp Flux:138.381x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--



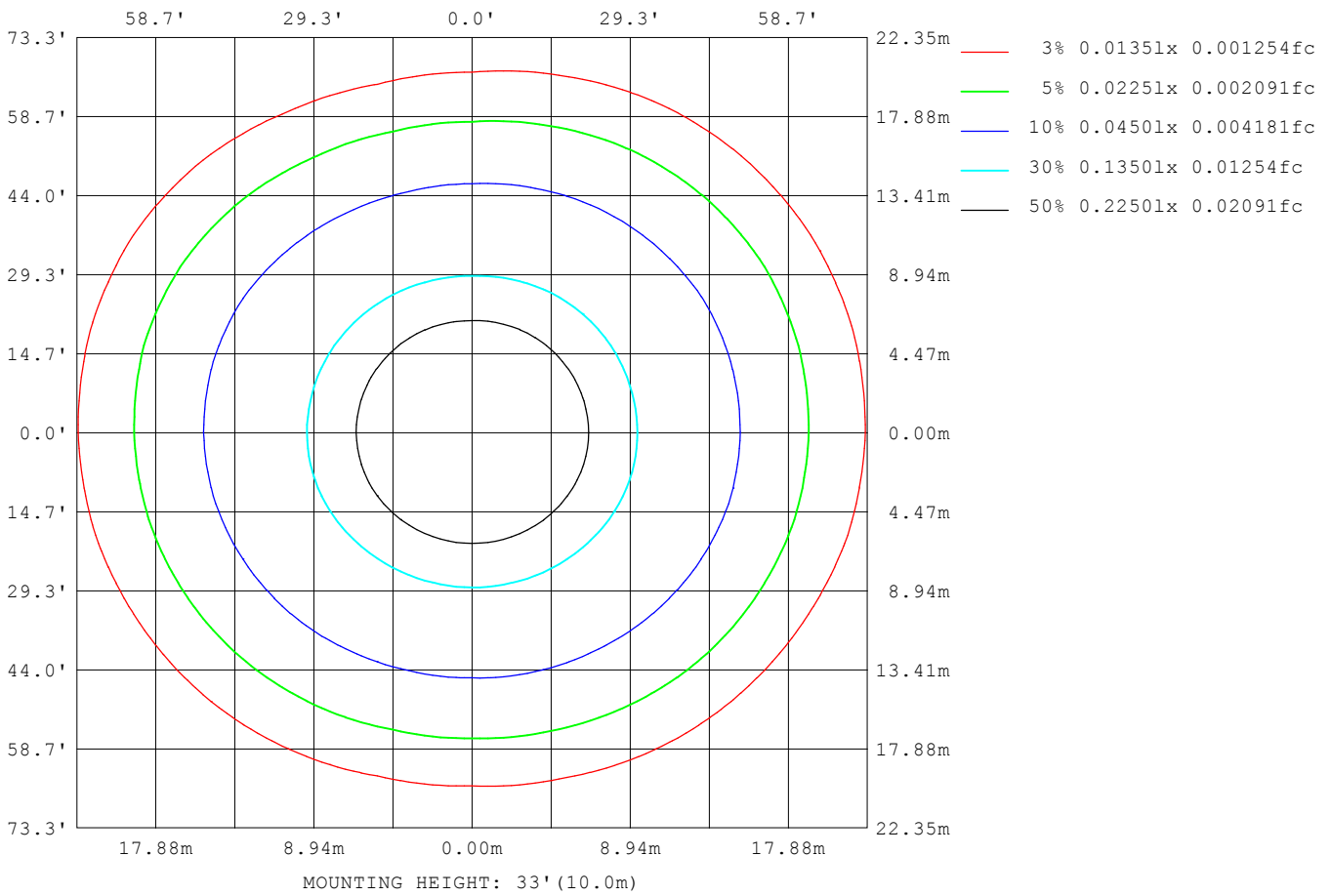
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:Dingmin Zhang  
 Test Date:2025-12-04

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:9.480m [K=1.0000]  
 Remarks:

ISOLUX DIAGRAM

Test:U:120.40V I:0.0968A P:11.396W PF:0.9781 Freq:59.98Hz Lamp Flux:138.381x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:Dingmin Zhang  
 Test Date:2025-12-04

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:9.480m [K=1.0000]  
 Remarks:

LED Avg.L Report

Test:U:120.40V I:0.0968A P:11.396W PF:0.9781 Freq:59.98Hz Lamp Flux:138.381x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

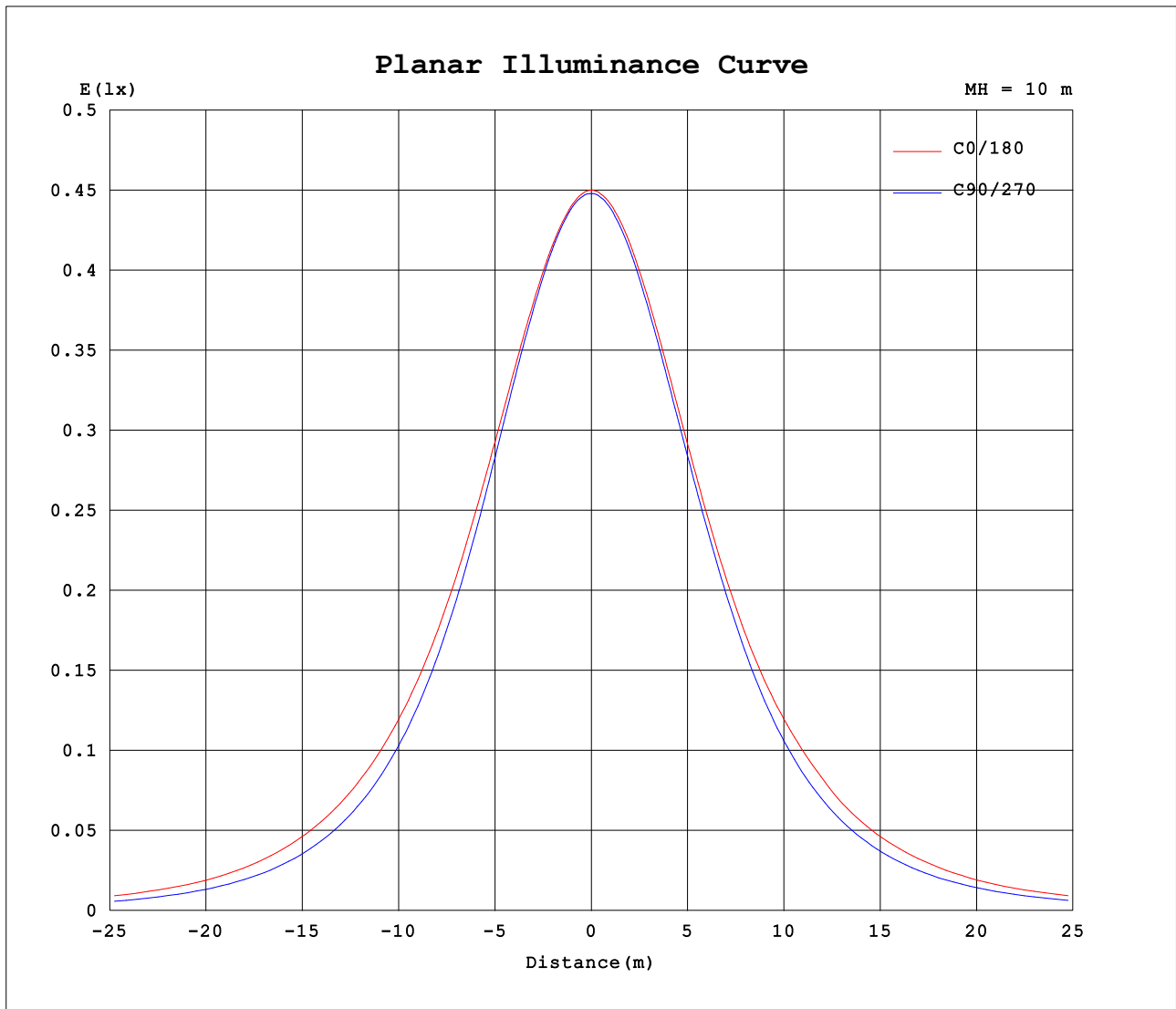
AvgL	cd/m2
L_0~180 (65) av	911
L_0~180 (75) av	933
L_0~180 (85) av	1574
L_90~270 (65) av	644
L_90~270 (75) av	488
L_90~270 (85) av	327
L_45 (65) av	809
L_45 (75) av	750
L_45 (85) av	954

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:24.5DEG  
 Operators:Dingmin Zhang  
 Test Date:2025-12-04

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity:60%  
 Test Distance:9.480m [K=1.0000]  
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature: 24.5DEG  
 Operators: Dingmin Zhang  
 Test Date: 2025-12-04

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System: EVERFINE GO-2000 SYSTEM V2.0.366  
 Humidity: 60%  
 Test Distance: 9.480m [K=1.0000]  
 Remarks:



