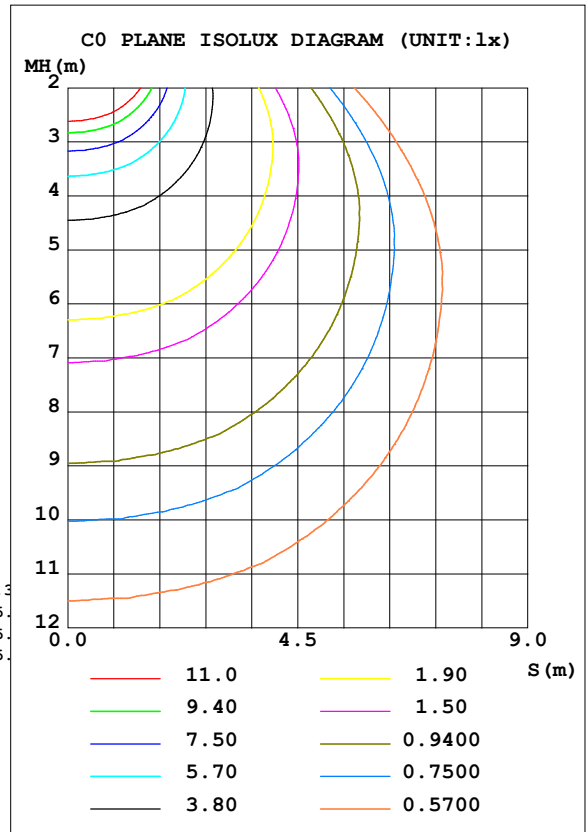
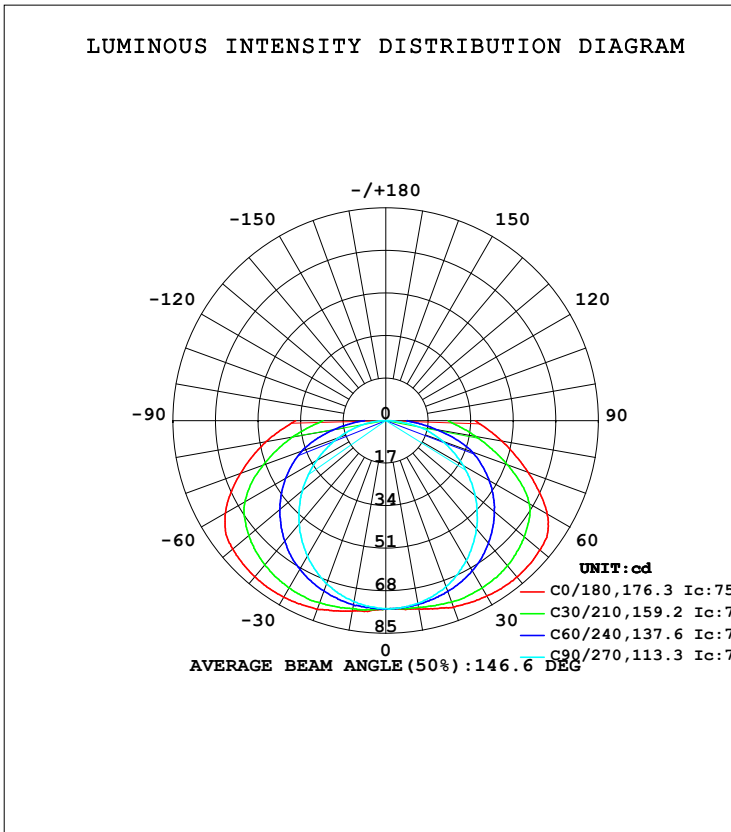


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:120.43V I:0.0639A P:7.1669W PF:0.9315 Freq:0Hz Lamp Flux:326.70lx1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

DATA OF LAMP		PHOTOMETRIC DATA Eff: 45.58 lm/W			
MODEL	HF2954-AB	I _{max} (cd)	81.70	S/MH (C0/180)	1.64
NOMINAL POWER (W)		LOR (%)	100.0	S/MH (C90/270)	1.24
RATED VOLTAGE (V)	120	TOTAL FLUX (lm)	326.70	η UP, DN (C0-180)	0.0, 50.4
NOMINAL FLUX (lm)	326.701	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 49.6
LAMPS INSIDE	1	η up (%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE (V)	120.407	η down (%)	100.0	CIBSE SHR MAX	1.55



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:

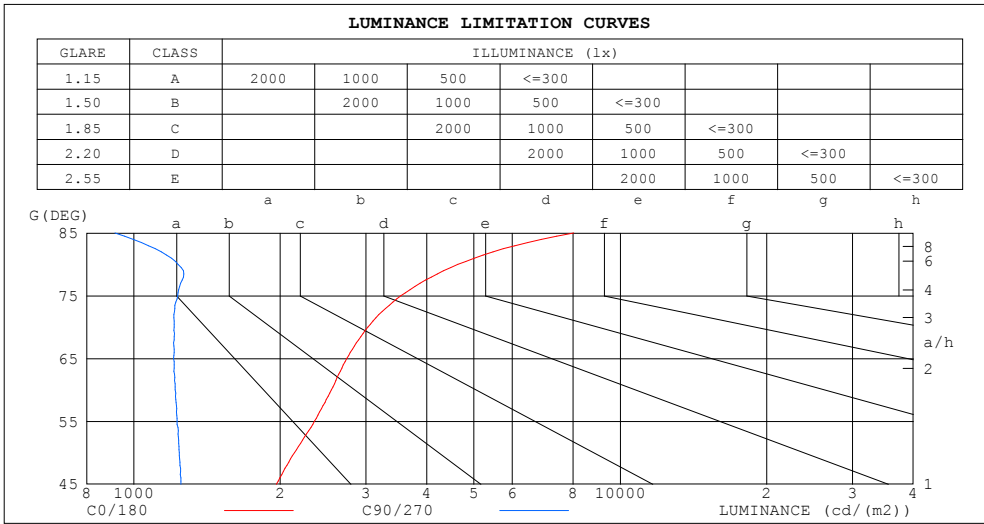
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum,lamp
10	76.29	75.11	74.17	75.80	77.24	75.47	73.37	74.76	0- 10	7.186	7.186	2.2,2.2
20	79.28	74.86	70.58	76.01	80.18	75.02	69.29	74.36	10- 20	21.31	28.49	8.72,8.72
30	80.85	73.39	64.44	74.61	81.50	73.07	62.60	72.95	20- 30	34.27	62.77	19.2,19.2
40	81.59	69.99	56.39	71.26	81.41	69.20	53.86	70.03	30- 40	44.76	107.5	32.9,32.9
50	80.48	64.64	46.67	66.00	79.86	63.59	43.48	65.18	40- 50	51.69	159.2	48.7,48.7
60	74.50	57.25	35.59	58.94	73.97	56.09	31.99	58.29	50- 60	54.12	213.3	65.3,65.3
70	60.56	44.86	24.24	46.58	61.78	44.47	20.14	45.65	60- 70	49.84	263.2	80.6,80.6
80	47.10	28.58	12.53	30.94	48.55	29.52	8.966	29.54	70- 80	38.79	302.0	92.4,92.4
90	35.82	16.85	0.4103	18.01	35.99	16.87	0.4403	16.90	80- 90	24.74	326.7	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

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:

LUMINANCE LIMITATION CURVES

Test:U:120.43V I:0.0639A P:7.1669W PF:0.9315 Freq:0Hz Lamp Flux:326.701x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	8022	915
80	4637	1233
75	3538	1232
70	3027	1212
65	2741	1208
60	2547	1217
55	2350	1227
50	2140	1241
45	1963	1249

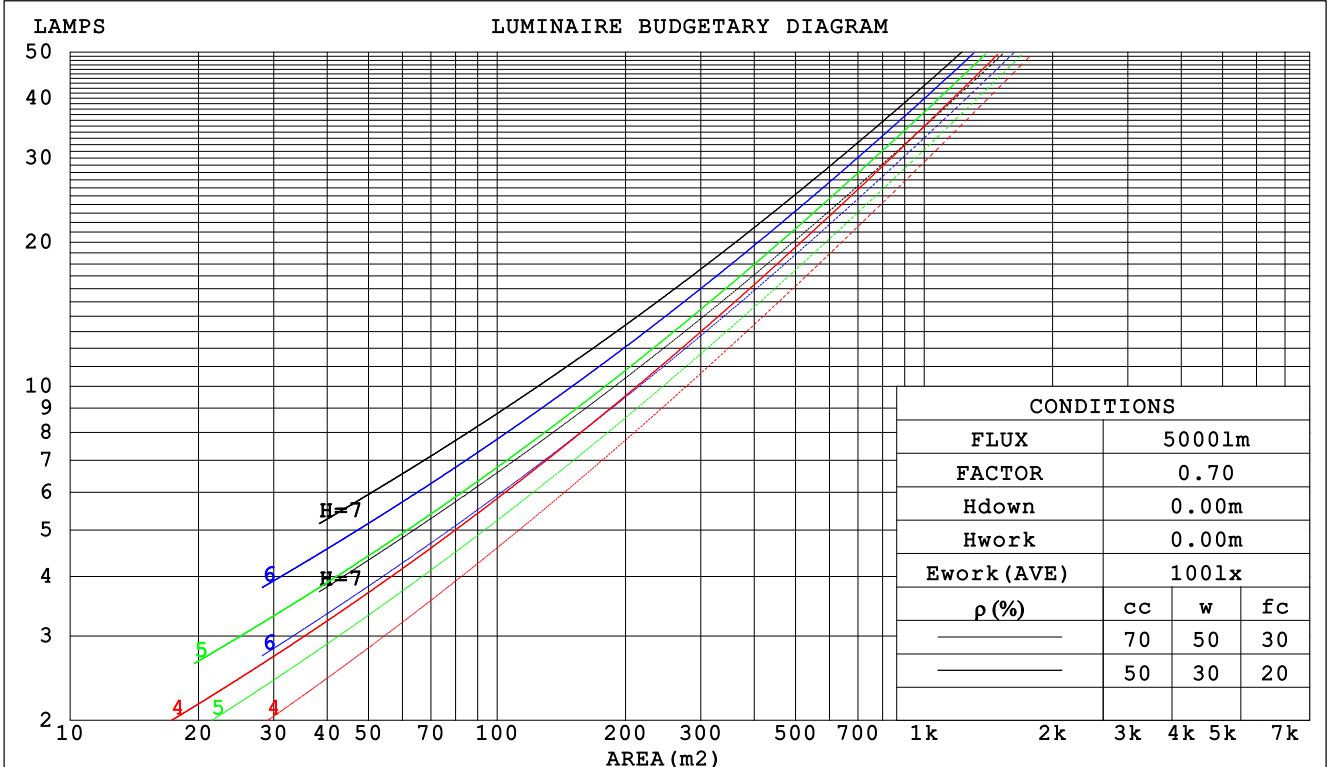
C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:24.5DEG
 Operators:Dingmin Zhang
 Test Date:2025-12-04

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:120.43V I:0.0639A P:7.1669W PF:0.9315 Freq:0Hz Lamp Flux:326.701x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

ρcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.99	.93	.88	.97	.91	.87	.92	.88	.84	.88	.85	.81	.84	.81	.79	.76
2.0	.84	.76	.69	.82	.74	.68	.78	.72	.66	.75	.69	.65	.72	.67	.63	.61
3.0	.72	.63	.55	.71	.62	.55	.68	.60	.54	.65	.58	.53	.62	.56	.52	.49
4.0	.63	.53	.45	.62	.52	.45	.59	.51	.44	.57	.50	.44	.54	.48	.43	.41
5.0	.56	.46	.38	.55	.45	.38	.52	.44	.38	.50	.43	.37	.48	.42	.37	.34
6.0	.50	.40	.33	.49	.40	.33	.47	.39	.32	.45	.38	.32	.44	.37	.32	.29
7.0	.45	.35	.29	.44	.35	.28	.42	.34	.28	.41	.34	.28	.39	.33	.28	.26
8.0	.41	.32	.25	.40	.31	.25	.39	.31	.25	.37	.30	.25	.36	.29	.25	.22
9.0	.37	.28	.22	.37	.28	.22	.35	.28	.22	.34	.27	.22	.33	.27	.22	.20
10.0	.34	.26	.20	.34	.26	.20	.33	.25	.20	.32	.25	.20	.31	.24	.20	.18



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:120.43V I:0.0639A P:7.1669W PF:0.9315 Freq:0Hz Lamp Flux:326.701x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	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	.405	.230	.073	.397	.227	.072	.384	.220	.070	.371	.214	.069	.359	.208	.067	
2.0	.354	.194	.060	.347	.191	.059	.335	.186	.058	.324	.182	.057	.313	.177	.056	
3.0	.315	.168	.050	.309	.166	.050	.298	.162	.049	.288	.158	.048	.279	.154	.048	
4.0	.283	.147	.043	.278	.146	.043	.268	.142	.043	.259	.139	.042	.251	.136	.042	
5.0	.257	.131	.038	.252	.130	.038	.244	.127	.037	.236	.124	.037	.228	.122	.037	
6.0	.235	.118	.034	.231	.117	.034	.223	.114	.033	.216	.112	.033	.209	.110	.033	
7.0	.216	.107	.030	.213	.106	.030	.206	.104	.030	.199	.102	.030	.193	.101	.030	
8.0	.200	.098	.027	.197	.097	.027	.191	.095	.027	.185	.094	.027	.180	.092	.027	
9.0	.186	.090	.025	.183	.089	.025	.178	.088	.025	.173	.087	.025	.168	.085	.025	
10.0	.174	.083	.023	.171	.083	.023	.166	.082	.023	.162	.080	.023	.157	.079	.023	

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	.187	.155	.127	.160	.133	.109	.109	.092	.076	.063	.053	.044	.020	.017	.014	
2.0	.181	.132	.090	.155	.113	.078	.106	.078	.055	.061	.046	.032	.020	.015	.010	
3.0	.173	.115	.068	.148	.099	.059	.102	.069	.041	.059	.040	.024	.019	.013	.008	
4.0	.165	.102	.053	.142	.088	.046	.098	.061	.033	.056	.036	.019	.018	.012	.006	
5.0	.157	.092	.043	.135	.079	.038	.093	.055	.027	.054	.033	.016	.017	.011	.005	
6.0	.149	.083	.036	.128	.072	.031	.089	.051	.022	.051	.030	.013	.017	.010	.004	
7.0	.142	.077	.031	.122	.066	.027	.084	.047	.019	.049	.027	.011	.016	.009	.004	
8.0	.135	.071	.027	.116	.061	.023	.080	.043	.017	.047	.025	.010	.015	.008	.003	
9.0	.128	.066	.024	.110	.057	.021	.077	.040	.015	.045	.024	.009	.014	.008	.003	
10.0	.122	.062	.021	.105	.053	.019	.073	.038	.013	.043	.022	.008	.014	.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:120.43V I:0.0639A P:7.1669W PF:0.9315 Freq:0Hz Lamp Flux:326.701x1 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	16.5	18.2	16.8	18.5	18.7	13.4	15.1	13.7	15.3	15.5
3H	19.1	20.7	19.4	20.9	21.2	15.0	16.6	15.4	16.9	17.1
4H	20.4	22.0	20.8	22.2	22.5	15.8	17.3	16.1	17.5	17.8
6H	21.9	23.3	22.2	23.6	23.9	16.4	17.8	16.7	18.1	18.4
8H	22.6	24.0	23.0	24.3	24.6	16.5	17.9	16.9	18.2	18.5
12H	23.5	24.9	23.9	25.2	25.5	16.6	18.0	17.0	18.3	18.6
4H 2H	17.1	18.6	17.4	18.9	19.1	14.9	16.4	15.2	16.7	16.9
3H	19.9	21.2	20.2	21.5	21.9	16.7	18.1	17.1	18.4	18.7
4H	21.4	22.6	21.8	23.0	23.3	17.6	18.8	18.0	19.1	19.5
6H	23.0	24.2	23.5	24.5	24.9	18.2	19.4	18.6	19.7	20.1
8H	24.0	25.0	24.4	25.4	25.8	18.4	19.5	18.9	19.9	20.3
12H	25.0	26.0	25.4	26.4	26.8	18.5	19.5	19.0	19.9	20.3
8H 4H	21.7	22.7	22.1	23.1	23.5	18.6	19.6	19.0	20.0	20.4
6H	23.6	24.5	24.0	24.9	25.3	19.5	20.4	19.9	20.8	21.2
8H	24.7	25.5	25.2	26.0	26.4	19.8	20.6	20.3	21.0	21.5
12H	26.0	26.7	26.5	27.2	27.7	20.0	20.7	20.5	21.1	21.6
12H 4H	21.7	22.7	22.1	23.1	23.5	18.8	19.8	19.3	20.2	20.6
6H	23.7	24.5	24.1	24.9	25.4	19.9	20.7	20.4	21.2	21.6
8H	24.9	25.6	25.4	26.0	26.5	20.4	21.1	20.9	21.5	22.0
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.2				
2.0H	+ 0.3 / - 0.4					+ 0.2 / - 0.4				

CIE Pub.117, 326.7 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -3.9)

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:120.43V I:0.0639A P:7.1669W PF:0.9315 Freq:0Hz Lamp Flux:326.701x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

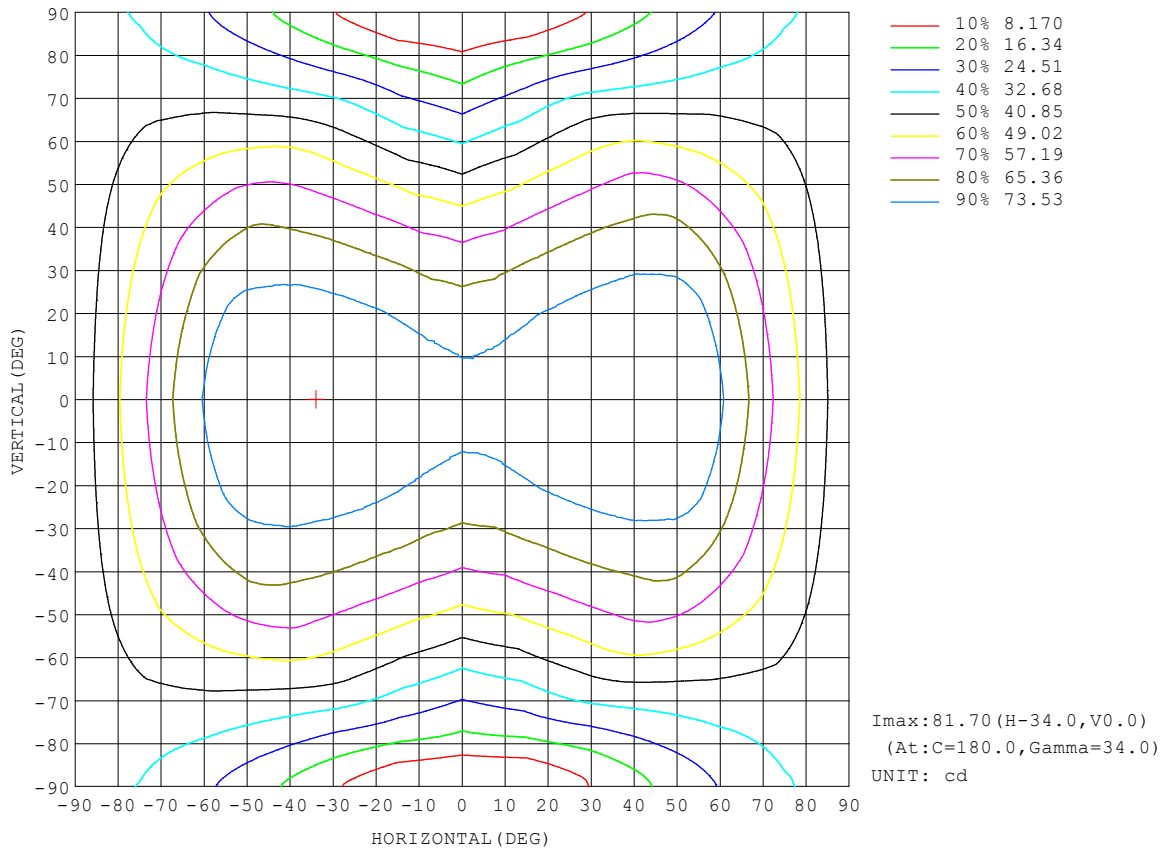
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	51	38	31	50	38	31	49	38	31	23
0.80	61	48	39	60	47	39	58	46	39	31
1.00	69	56	48	68	55	47	65	57	47	39
1.25	76	64	55	74	63	55	72	61	54	46
1.50	81	70	61	80	69	61	76	67	60	51
2.00	89	78	70	87	77	70	83	75	68	59
2.50	93	84	76	91	82	75	87	79	73	64
3.00	97	88	81	95	87	80	90	84	78	69
4.00	102	95	89	99	93	87	95	89	84	75
5.00	105	99	93	102	97	92	97	93	89	78
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

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:

ISOCANDELA DIAGRAM

Test:U:120.43V I:0.0639A P:7.1669W PF:0.9315 Freq:0Hz Lamp Flux:326.701x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

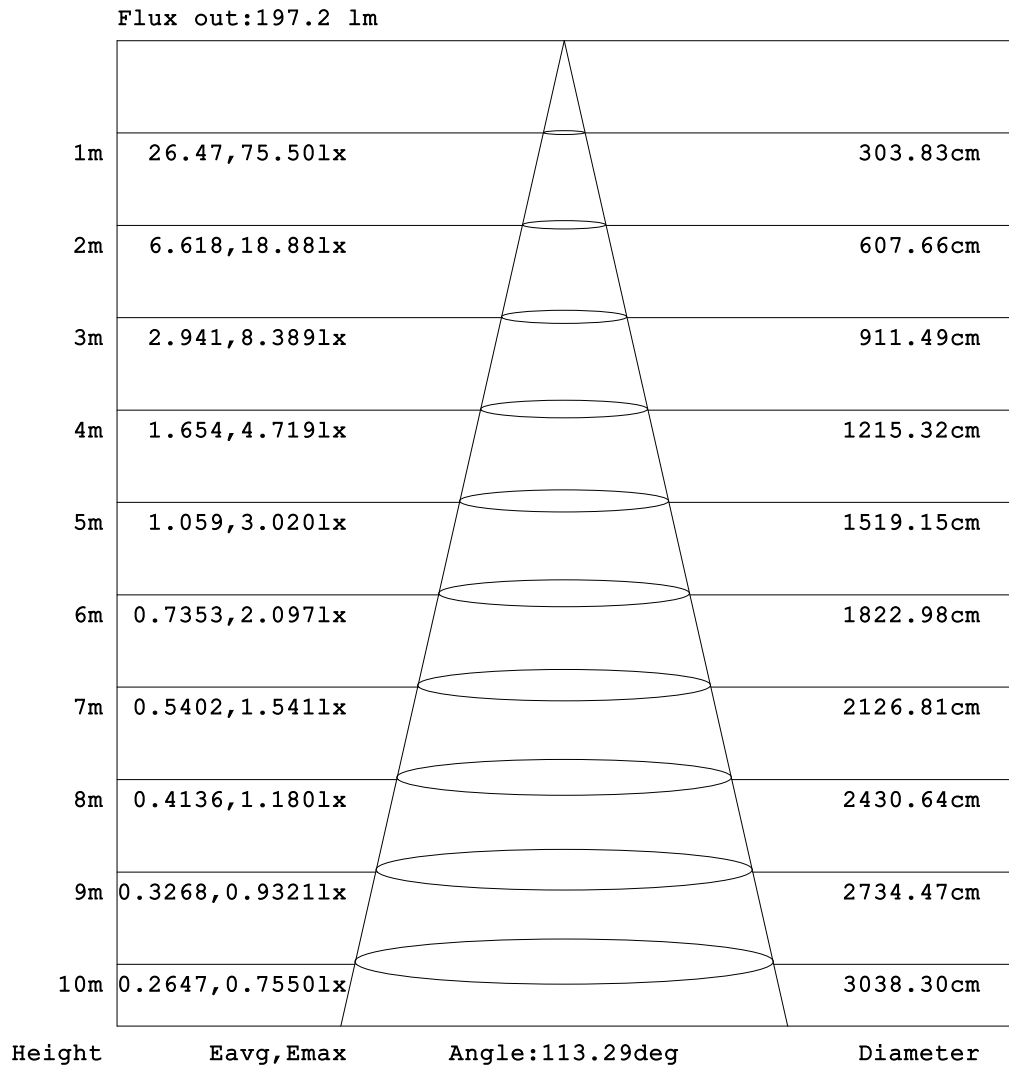


C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:24.5DEG
 Operators:Dingmin Zhang
 Test Date:2025-12-04

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:120.43V I:0.0639A P:7.1669W PF:0.9315 Freq:0Hz Lamp Flux:326.701x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--



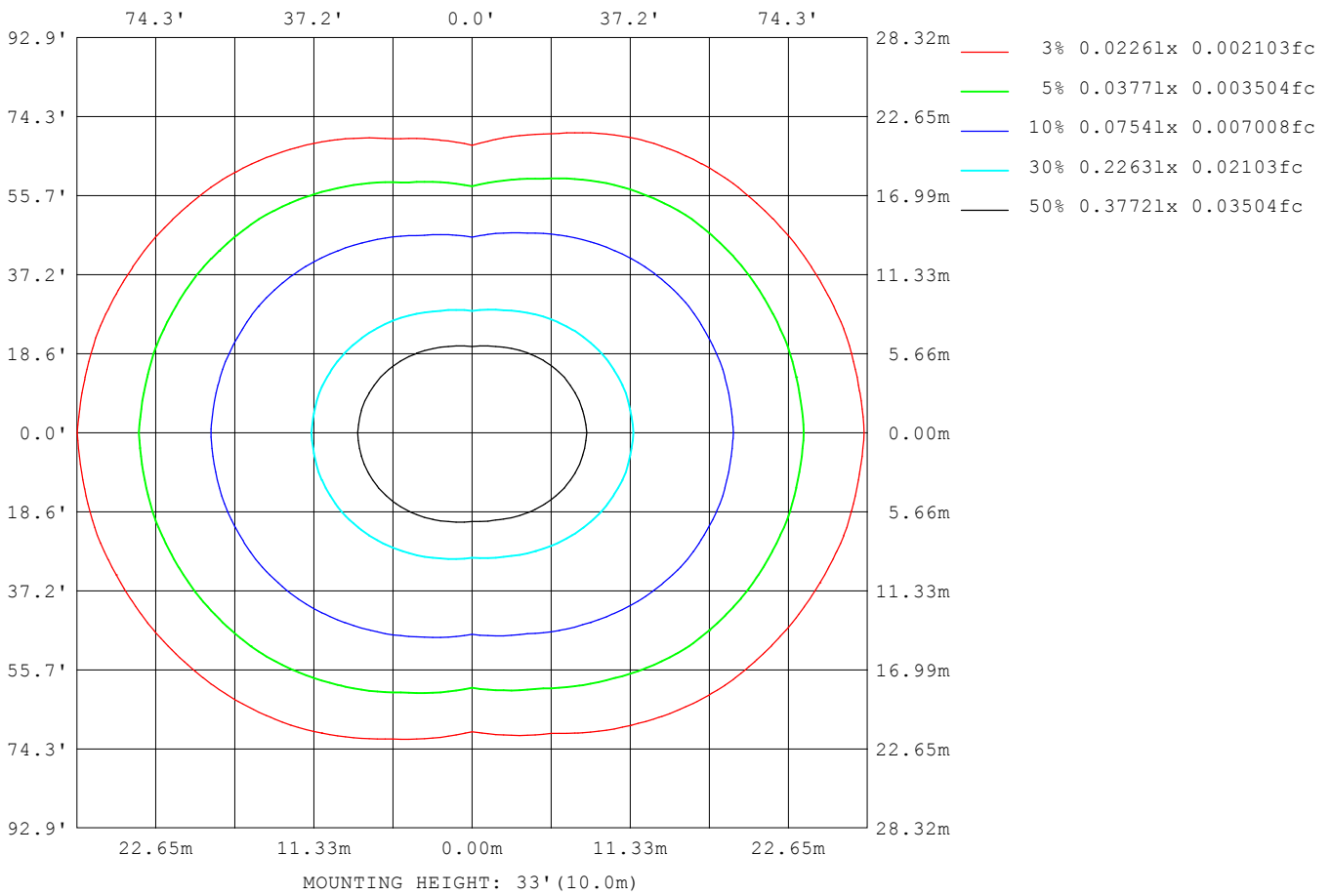
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:120.43V I:0.0639A P:7.1669W PF:0.9315 Freq:0Hz Lamp Flux:326.701x1 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:120.43V I:0.0639A P:7.1669W PF:0.9315 Freq:0Hz Lamp Flux:326.701x1 lm		
NAME:	TYPE:	WEIGHT:--
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:--

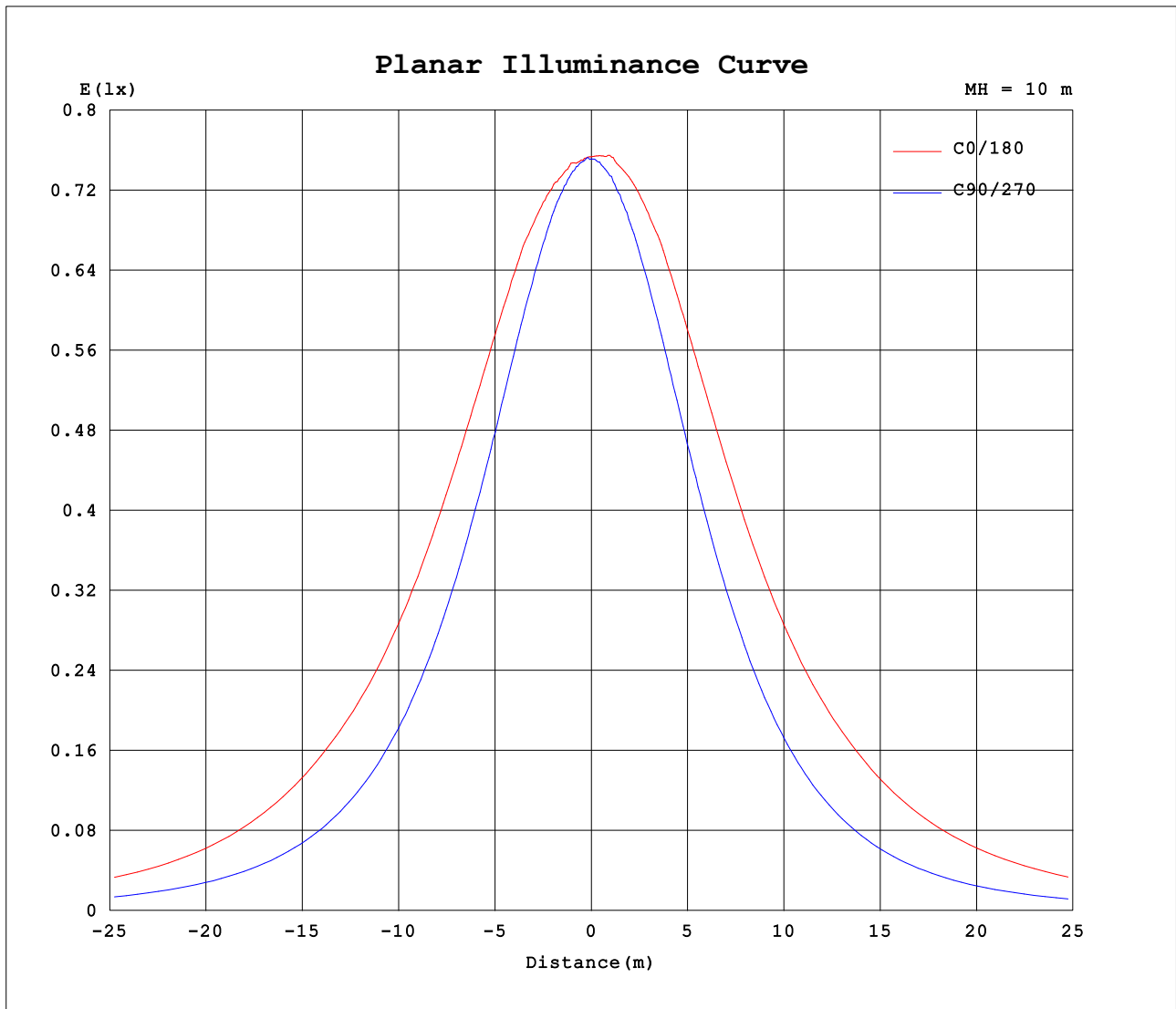
AvgL	cd/m2
L_0~180 (65) av	2752
L_0~180 (75) av	3591
L_0~180 (85) av	8120
L_90~270 (65) av	1130
L_90~270 (75) av	1092
L_90~270 (85) av	836
L_45 (65) av	2126
L_45 (75) av	2464
L_45 (85) av	4432

Standard: GB/T 29293-2012

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

