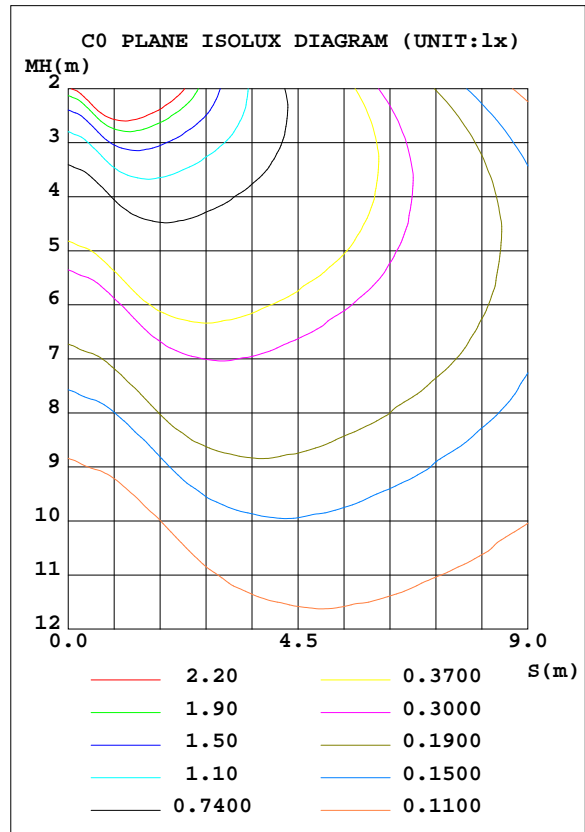
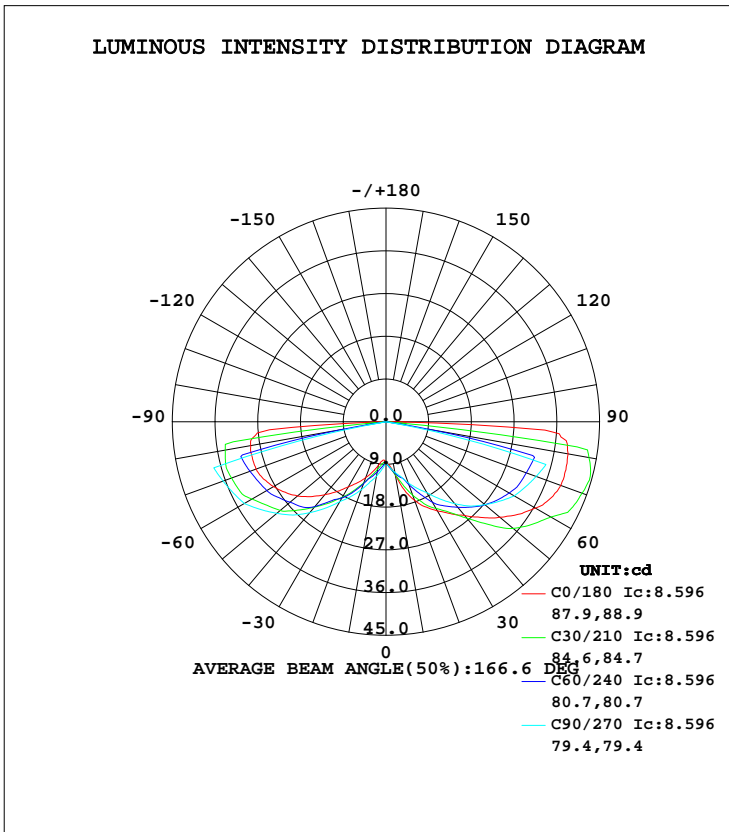


**LUMINAIRE PHOTOMETRIC TEST REPORT**

Test:U:120.2V I:0.0365A P:3.821W PF:0.8704 Lamp Flux:235x1 lm		
NAME: 490915	TYPE:490915	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 46.44 lm/W			
MODEL	490915	Imax(cd)	45.52	S/MH(C0/180)	3.05
NOMINAL POWER(W)	4	LOR(%)	75.5	S/MH(C90/270)	3.33
RATED VOLTAGE(V)	120	TOTAL FLUX(lm)	150.99	η UP, DN(C0-180)	0.0,36.6
NOMINAL FLUX(lm)	200	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,38.9
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	2.00
TEST VOLTAGE(V)	120	η down(%)	75.5	CIBSE SHR MAX	0.00



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:20DEG  
 Operators:Y  
 Test Date:2024-12-26

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:8.750m [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
5	9.317	9.771	9.703	8.979	8.175	9.204	10.12	10.34	0- 5	0.2187	0.2187	0.14,0.11
10	11.38	11.17	10.81	10.00	9.360	10.44	11.64	12.32	5- 10	0.7349	0.9535	0.63,0.48
15	14.80	12.68	11.92	11.29	10.91	11.78	13.16	14.94	10- 15	1.415	2.369	1.57,1.18
20	17.59	14.57	13.69	12.49	12.54	13.35	15.24	17.11	15- 20	2.275	4.643	3.08,2.32
25	19.82	17.62	15.46	14.08	14.16	15.77	17.32	19.42	20- 25	3.330	7.973	5.28,3.99
30	21.69	19.72	17.24	16.64	15.87	18.45	19.41	22.54	25- 30	4.589	12.56	8.32,6.28
35	23.61	21.56	19.88	19.58	17.94	20.75	22.21	25.25	30- 35	6.010	18.57	12.3,9.29
40	25.79	24.13	22.52	21.56	20.09	22.96	25.01	27.82	35- 40	7.610	26.18	17.3,13.1
45	28.53	26.90	25.16	24.00	22.34	24.88	27.81	30.89	40- 45	9.379	35.56	23.6,17.8
50	31.29	29.29	27.19	26.11	24.35	26.77	30.02	33.80	45- 50	11.21	46.77	31,23.4
55	34.00	31.54	29.21	27.74	25.90	28.15	32.24	36.05	50- 55	12.97	59.74	39.6,29.9
60	36.37	33.16	31.23	29.05	27.33	29.09	34.46	37.66	55- 60	14.62	74.37	49.3,37.2
65	38.22	34.20	32.45	30.31	28.52	29.72	35.50	39.19	60- 65	16.08	90.45	59.9,45.2
70	39.20	35.04	33.67	30.76	29.13	30.03	36.53	39.97	65- 70	17.22	107.7	71.3,53.8
75	39.23	35.40	34.89	30.57	29.16	29.77	37.57	40.28	70- 75	18.06	125.7	83.3,62.9
80	38.98	28.52	0	24.45	28.95	23.54	0	32.36	75- 80	15.68	141.4	93.7,70.7
85	37.00	0	0	0	27.21	0	0	0	80- 85	7.618	149.0	98.7,74.5
90	0.0470	0	0	0	0.0000	0	0	0	85- 90	1.957	151.0	100,75.5
95									90- 95			
100									95-100			
105									100-105			
110									105-110			
115									110-115			
120									115-120			
125									120-125			
130									125-130			
135									130-135			
140									135-140			
145									140-145			
150									145-150			
155									150-155			
160									155-160			
165									160-165			
170									165-170			
175									170-175			
180									175-180			
DEG	LUMINOUS INTENSITY:cd								UNIT:lm			

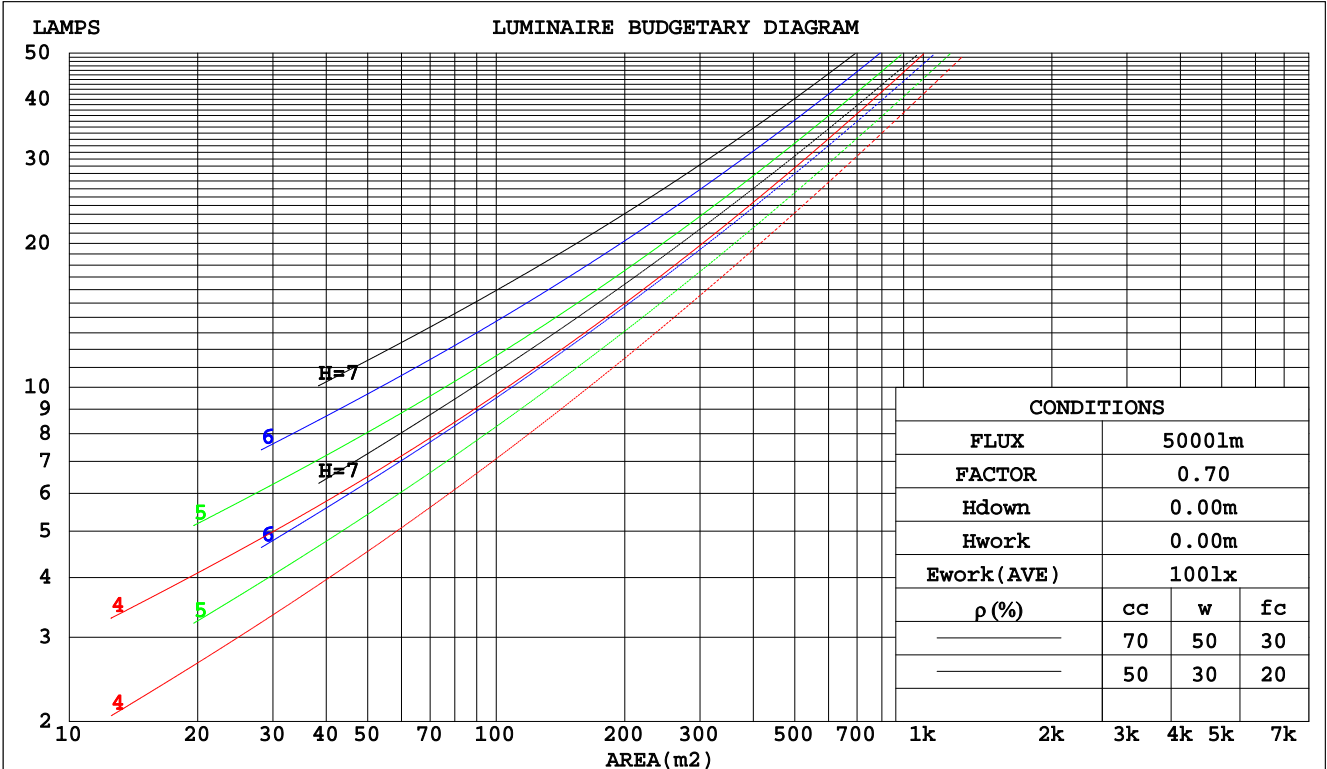
C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:20DEG  
Operators:Y  
Test Date:2024-12-26

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
Humidity:65.0%  
Test Distance:8.750m [K=1.0000]  
Remarks:

**CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM**

Test:U:120.2V I:0.0365A P:3.821W PF:0.8704 Lamp Flux:235x1 lm		
NAME: 490915	TYPE:490915	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

pcc	80%			70%			50%			30%			10%			0
	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pw																
pfc																
RCR	RCR:Room Cavity Ratio															
	Coefficients of Utilization(CU)															
0.0	.90	.90	.90	.88	.88	.88	.84	.84	.84	.80	.80	.80	.77	.77	.77	.75
1.0	.72	.67	.63	.70	.66	.62	.67	.63	.60	.64	.61	.58	.61	.58	.56	.54
2.0	.59	.51	.45	.57	.50	.45	.54	.48	.43	.51	.47	.42	.49	.45	.41	.39
3.0	.49	.40	.34	.47	.40	.33	.45	.38	.33	.43	.37	.32	.40	.35	.31	.29
4.0	.41	.33	.26	.40	.32	.26	.38	.31	.25	.36	.30	.25	.34	.29	.24	.22
5.0	.36	.27	.21	.35	.27	.21	.33	.26	.20	.31	.25	.20	.30	.24	.20	.18
6.0	.31	.23	.17	.31	.23	.17	.29	.22	.17	.28	.21	.16	.26	.21	.16	.14
7.0	.28	.20	.14	.27	.20	.14	.26	.19	.14	.25	.18	.14	.23	.18	.14	.12
8.0	.25	.17	.12	.24	.17	.12	.23	.17	.12	.22	.16	.12	.21	.16	.12	.10
9.0	.23	.15	.10	.22	.15	.10	.21	.15	.10	.20	.14	.10	.19	.14	.10	.08
10.0	.21	.14	.09	.20	.14	.09	.19	.13	.09	.19	.13	.09	.18	.13	.09	.07



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:20DEG  
 Operators:Y  
 Test Date:2024-12-26

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:8.750m [K=1.0000]  
 Remarks:

**WEC AND CCEC**

Test:U:120.2V I:0.0365A P:3.821W PF:0.8704 Lamp Flux:235x1 lm		
NAME: 490915	TYPE:490915	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

ρcc	80%			70%			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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.353	.201	.064	.348	.198	.063	.337	.193	.062	.327	.189	.061	.318	.185	.060	
2.0	.313	.171	.053	.307	.169	.052	.298	.166	.051	.289	.162	.051	.281	.159	.050	
3.0	.275	.147	.044	.271	.145	.044	.262	.142	.043	.254	.139	.043	.247	.137	.042	
4.0	.244	.127	.037	.240	.126	.037	.232	.123	.037	.225	.121	.036	.219	.119	.036	
5.0	.219	.111	.032	.215	.110	.032	.208	.108	.032	.202	.106	.032	.196	.105	.031	
6.0	.198	.099	.028	.194	.098	.028	.188	.096	.028	.183	.095	.028	.177	.093	.028	
7.0	.180	.089	.025	.177	.088	.025	.172	.087	.025	.167	.085	.025	.162	.084	.025	
8.0	.165	.081	.023	.163	.080	.023	.158	.079	.023	.153	.078	.022	.149	.076	.022	
9.0	.152	.074	.021	.150	.073	.021	.146	.072	.020	.142	.071	.020	.138	.070	.020	
10.0	.142	.068	.019	.140	.067	.019	.136	.066	.019	.132	.066	.019	.128	.065	.019	

ρcc	80%			70%			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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.144	.144	.144	.123	.123	.123	.084	.084	.084	.048	.048	.048	.015	.015	.015	
1.0	.144	.117	.092	.124	.100	.079	.085	.069	.055	.049	.040	.032	.016	.013	.010	
2.0	.142	.099	.063	.122	.085	.054	.084	.059	.038	.048	.034	.022	.015	.011	.007	
3.0	.138	.087	.046	.118	.075	.040	.081	.052	.028	.047	.030	.016	.015	.010	.005	
4.0	.132	.077	.036	.113	.067	.031	.078	.047	.022	.045	.027	.013	.015	.009	.004	
5.0	.126	.070	.029	.108	.061	.025	.075	.042	.018	.043	.025	.011	.014	.008	.003	
6.0	.120	.064	.024	.103	.056	.021	.071	.039	.015	.041	.023	.009	.013	.007	.003	
7.0	.114	.059	.021	.098	.051	.018	.067	.036	.013	.039	.021	.008	.013	.007	.003	
8.0	.108	.055	.018	.093	.048	.016	.064	.033	.011	.037	.020	.007	.012	.006	.002	
9.0	.102	.051	.017	.088	.044	.014	.061	.031	.010	.036	.018	.006	.011	.006	.002	
10.0	.097	.048	.015	.084	.041	.013	.058	.029	.009	.034	.017	.006	.011	.006	.002	

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:20DEG  
 Operators:Y  
 Test Date:2024-12-26

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:8.750m [K=1.0000]  
 Remarks:

**UGR(Unified Glare Rating) Table**

Test:U:120.2V I:0.0365A P:3.821W PF:0.8704 Lamp Flux:235x1 lm										
NAME: 490915					TYPE:490915			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:			PROTECTION 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	10.0	12.0	10.3	12.2	12.4	9.4	11.3	9.7	11.5	11.8
3H	13.4	15.2	13.7	15.4	15.7	13.2	15.0	13.5	15.3	15.5
4H	15.1	16.9	15.5	17.1	17.4	15.2	17.0	15.6	17.2	17.5
6H	17.1	18.7	17.4	19.0	19.3	15.6	17.2	15.9	17.5	17.8
8H	18.2	19.8	18.6	20.1	20.5	15.5	17.1	15.9	17.4	17.7
12H	19.5	21.1	19.9	21.4	21.7	15.4	17.0	15.8	17.3	17.6
4H 2H	11.2	12.9	11.5	13.2	13.5	10.6	12.4	11.0	12.6	12.9
3H	15.0	16.6	15.4	16.9	17.2	14.3	15.9	14.7	16.2	16.5
4H	17.0	18.5	17.4	18.8	19.2	16.5	18.0	16.9	18.3	18.7
6H	19.0	20.4	19.5	20.7	21.1	16.9	18.3	17.4	18.6	19.0
8H	20.1	21.3	20.5	21.7	22.1	16.9	18.1	17.3	18.5	18.9
12H	21.4	22.5	21.8	22.9	23.3	16.9	18.0	17.3	18.4	18.8
8H 4H	17.8	19.1	18.3	19.5	19.9	17.4	18.6	17.8	19.0	19.4
6H	20.4	21.4	20.8	21.9	22.3	17.8	18.9	18.3	19.3	19.7
8H	21.7	22.7	22.2	23.1	23.6	17.8	18.7	18.3	19.2	19.6
12H	23.1	24.0	23.6	24.4	24.9	17.8	18.6	18.3	19.1	19.5
12H 4H	17.9	19.0	18.3	19.4	19.8	17.7	18.9	18.2	19.3	19.7
6H	20.4	21.4	20.9	21.8	22.3	18.2	19.2	18.7	19.6	20.0
8H	21.8	22.7	22.3	23.1	23.6	18.2	19.0	18.7	19.5	19.9
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2				
1.5H	+ 0.2 / - 0.2					+ 0.5 / - 0.6				
2.0H	+ 0.3 / - 0.3					+ 0.7 / - 1.1				

CIE Pub.117 Corrected 200.0 lm Total Lamp Luminous Flux. (8log(F/F0) = -5.6)

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:20DEG  
Operators:Y  
Test Date:2024-12-26

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
Humidity:65.0%  
Test Distance:8.750m [K=1.0000]  
Remarks:

**UTILIZATION FACTORS TABLE**

Test:U:120.2V I:0.0365A P:3.821W PF:0.8704 Lamp Flux:235x1 lm		
NAME: 490915	TYPE:490915	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

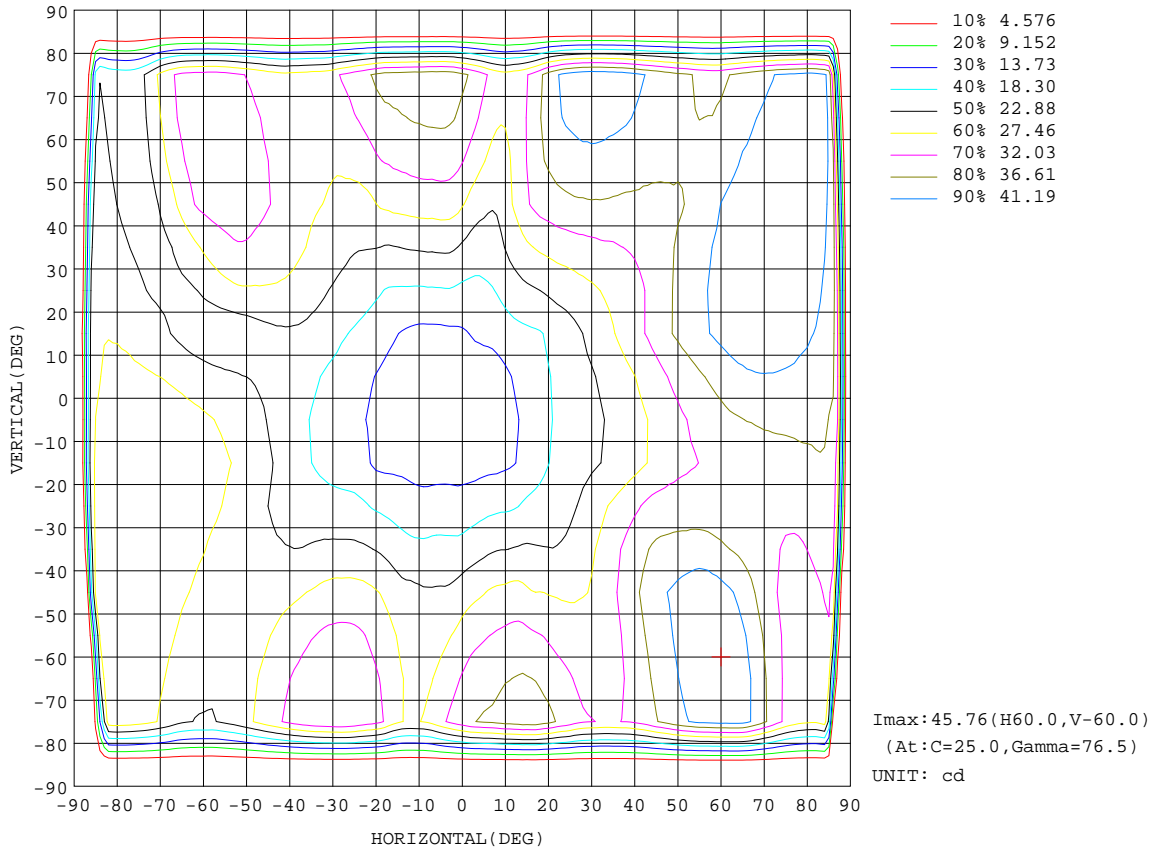
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	33	22	15	32	22	15	31	21	15	9
0.80	39	28	21	38	28	21	37	27	20	14
1.00	45	34	27	44	34	26	42	35	26	19
1.25	51	40	33	50	39	32	47	38	32	24
1.50	56	45	37	54	44	37	51	43	36	29
2.00	62	53	45	61	52	45	57	50	44	36
2.50	67	58	51	65	57	50	61	54	49	41
3.00	70	62	56	68	61	55	65	59	54	46
4.00	75	68	63	72	67	62	69	64	60	52
5.00	77	72	67	75	70	66	71	67	64	56
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:20DEG  
 Operators:Y  
 Test Date:2024-12-26

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:8.750m [K=1.0000]  
 Remarks:

**ISOCANDELA DIAGRAM**

Test:U:120.2V I:0.0365A P:3.821W PF:0.8704 Lamp Flux:235x1 lm		
NAME: 490915	TYPE:490915	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:20DEG  
Operators:Y  
Test Date:2024-12-26

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
Humidity:65.0%  
Test Distance:8.750m [K=1.0000]  
Remarks:

AAI CURVES

Test:U:120.2V I:0.0365A P:3.821W PF:0.8704 Lamp Flux:235x1 lm		
NAME: 490915	TYPE:490915	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

	2	4	6	8	10	lx
	0.1858	0.3716	0.5574	0.7432	0.929	fc
1	$\theta = 176.8\text{DEG}$ $\Phi \text{ out} = 150.9 \text{ lm}$					
3.281						
3						
9.843						
5						
16.4						
7						
22.97						
9						
29.53						
m	4	2	0	2	4	
ft	13.1234	6.5617	0.0000	6.5617	13.1234	

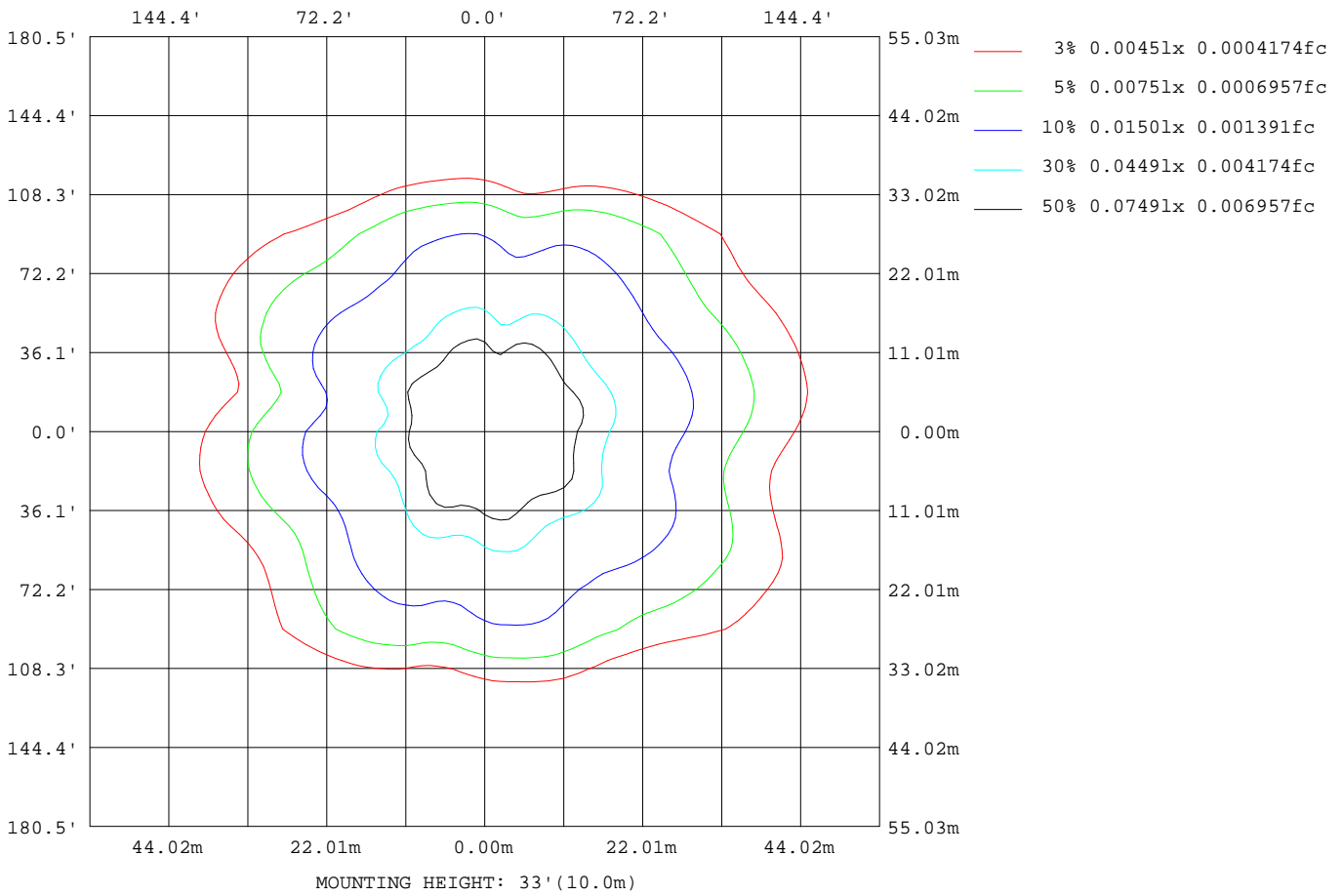
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature:20DEG  
 Operators:Y  
 Test Date:2024-12-26

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity:65.0%  
 Test Distance:8.750m [K=1.0000]  
 Remarks:

**ISOLUX DIAGRAM**

Test:U:120.2V I:0.0365A P:3.821W PF:0.8704 Lamp Flux:235x1 lm		
NAME: 490915	TYPE:490915	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:



C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:20DEG  
Operators:Y  
Test Date:2024-12-26

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
Humidity:65.0%  
Test Distance:8.750m [K=1.0000]  
Remarks:

**LED Avg.L Report**

Test:U:120.2V I:0.0365A P:3.821W PF:0.8704 Lamp Flux:235x1 lm		
NAME: 490915	TYPE:490915	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	PROTECTION ANGLE:

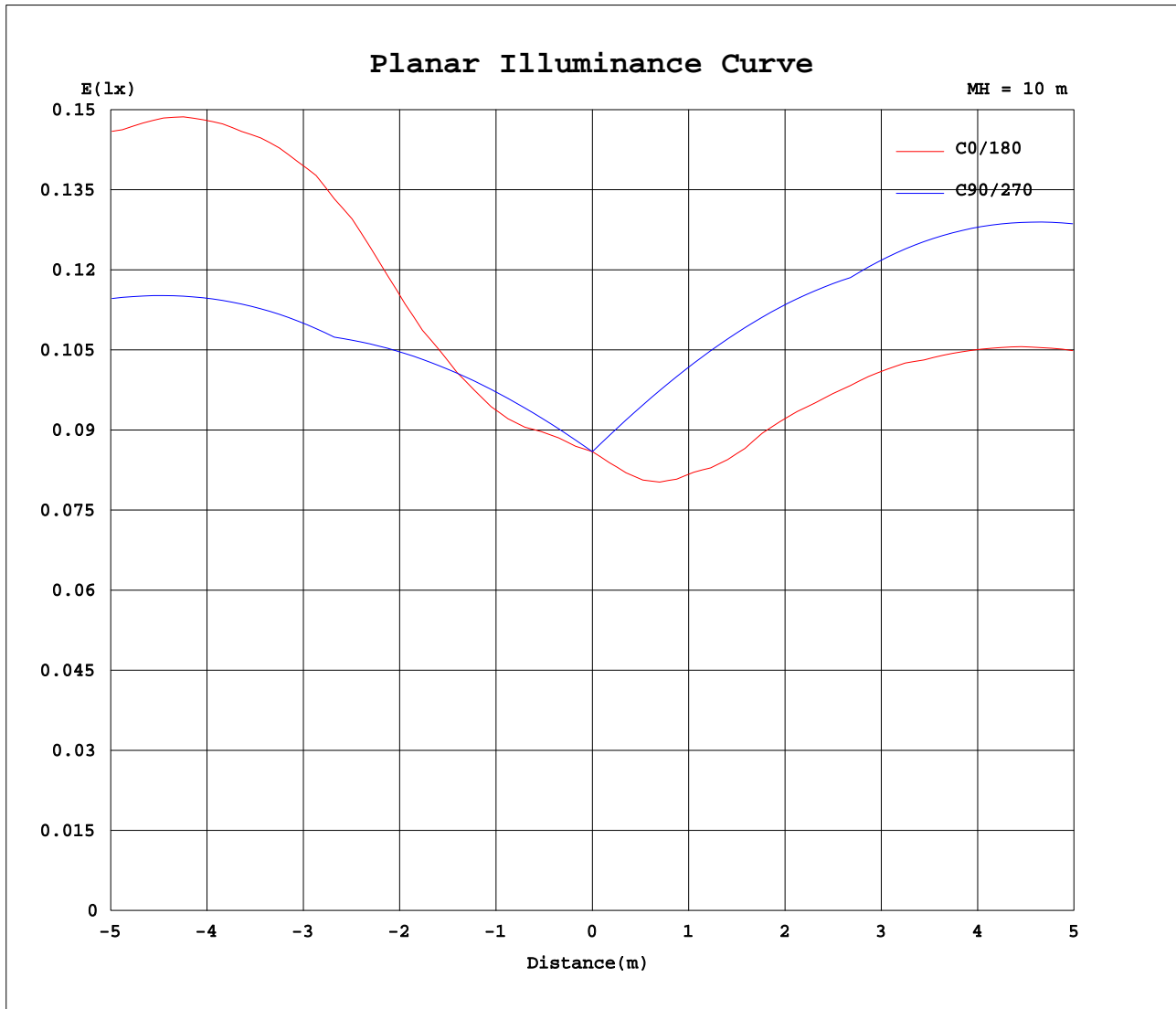
AvgL	cd/m2
L_0~180(65)av	395
L_0~180(75)av	661
L_0~180(85)av	1842
L_90~270(65)av	402
L_90~270(75)av	700
L_90~270(85)av	0
L_45(65)av	395
L_45(75)av	657
L_45(85)av	0

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 5.0DEG  
Test Speed: HIGH  
Temperature:20DEG  
Operators:Y  
Test Date:2024-12-26

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
Humidity:65.0%  
Test Distance:8.750m [K=1.0000]  
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 5.0DEG  
 Test Speed: HIGH  
 Temperature: 20DEG  
 Operators: Y  
 Test Date: 2024-12-26

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.291  
 Humidity: 65.0%  
 Test Distance: 8.750m [K=1.0000]  
 Remarks:







