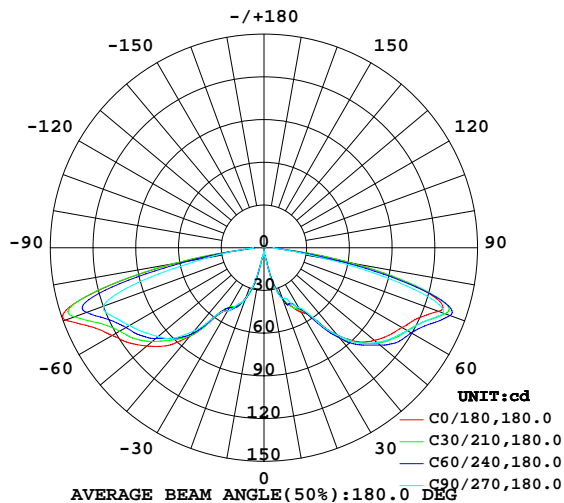


## LUMINAIRE PHOTOMETRIC TEST REPORT

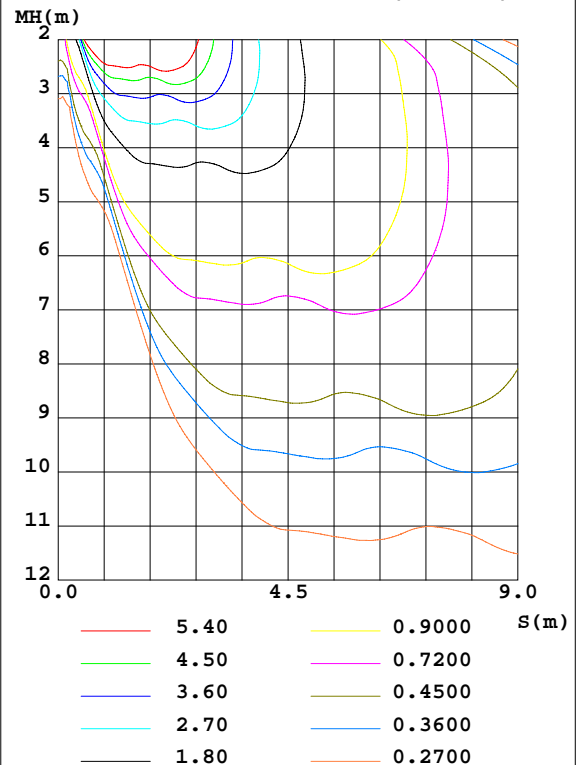
Test:U:229.71V I:0.0533A P:11.722W PF:0.9576 Freq:49.99Hz Lamp Flux:497.625x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A1353121-12	SUR.:3.14*0.087*0.087	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 42.45 lm/W			
MODEL		Imax(cd)	149.6	S/MH(C0/180)	7.01
NOMINAL POWER(W)	12	LOR(%)	100.0	S/MH(C90/270)	6.38
RATED VOLTAGE(V)	230.0	TOTAL FLUX(lm)	497.63	$\eta$ UP,DN(C0-180)	0.0,50.8
NOMINAL FLUX(lm)	497.625	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.0,49.2
LAMPS INSIDE	1	$\eta$ up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230.0	$\eta$ down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:  
Test Date:2023-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

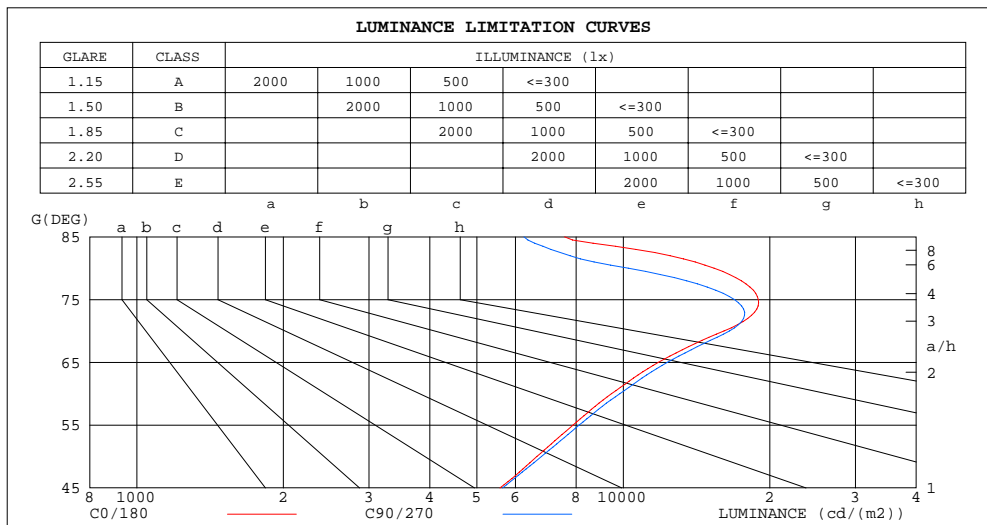
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	7.631	7.926	9.193	8.472	7.590	6.994	6.483	7.067	0- 10	0.5157	0.5157	0.10,0.10
20	38.42	38.63	38.06	37.17	38.95	37.37	38.03	37.07	10- 20	7.393	7.909	1.59,1.59
30	52.33	49.82	48.62	48.45	51.16	48.37	51.36	49.50	20- 30	20.77	28.68	5.76,5.76
40	79.95	82.71	80.09	84.77	81.29	79.71	76.22	79.50	30- 40	39.60	68.28	13.7,13.7
50	101.2	105.3	103.4	107.6	107.4	100.9	97.15	97.19	40- 50	72.03	140.3	28.2,28.2
60	112.1	117.9	116.5	121.6	123.2	114.5	109.2	107.2	50- 60	98.42	238.7	48,48
70	130.6	137.2	134.0	143.7	148.6	137.3	119.7	125.8	60- 70	123.1	361.9	72.7,72.7
80	63.26	58.43	42.13	54.56	63.65	59.25	39.62	58.06	70- 80	113.6	475.4	95.5,95.5
90	7.466	7.328	6.495	7.062	7.354	7.337	7.234	7.367	80- 90	22.18	497.6	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: 30.0DEG  
 Test Speed: LOW  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2023-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
 Humidity:65.0%  
 Test Distance:11.700m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:229.71V I:0.0533A P:11.722W PF:0.9576 Freq:49.99Hz Lamp Flux:497.625x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A1353121-12	SUR.:3.14*0.087*0.087	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	7576	6246
80	15372	10237
75	18938	16919
70	16107	16528
65	11804	12315
60	9458	9835
55	7881	8114
50	6644	6788
45	5576	5643

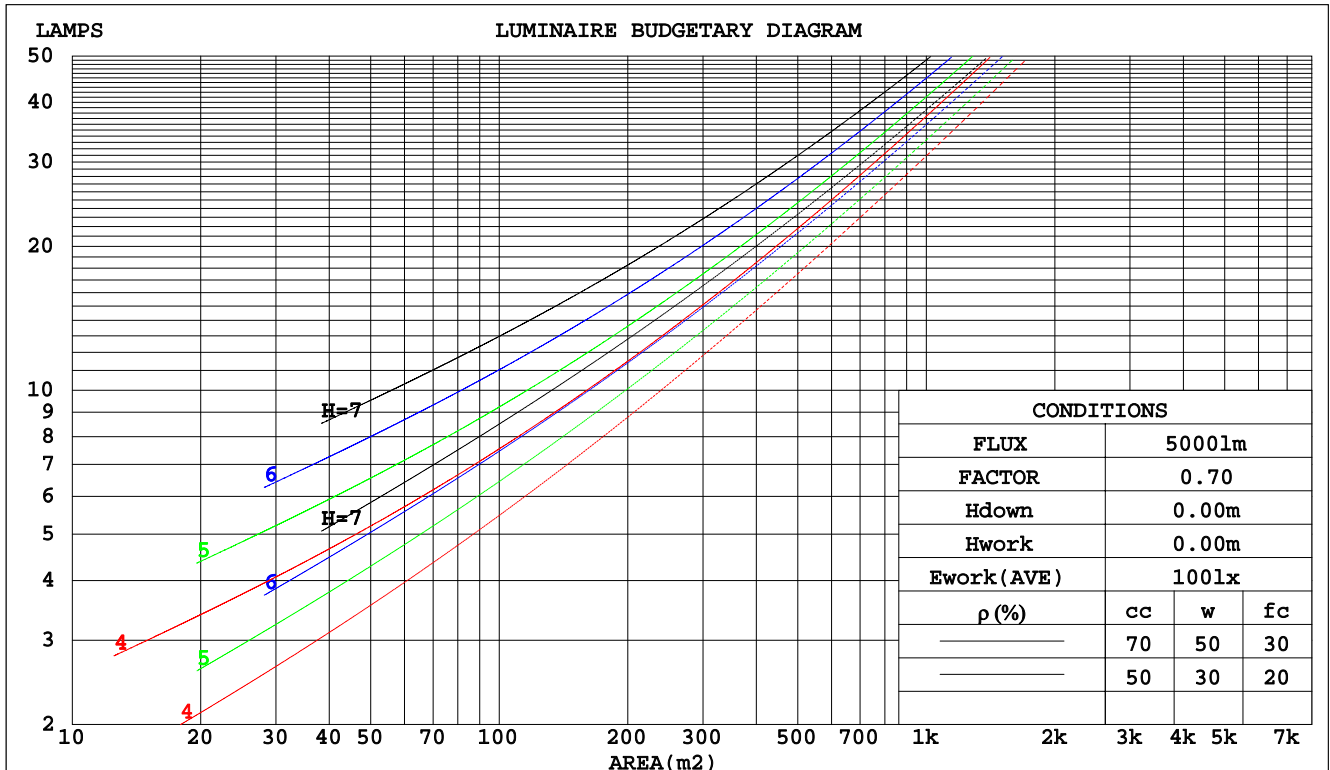
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:  
Test Date:2023-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:229.71V I:0.0533A P:11.722W PF:0.9576 Freq:49.99Hz Lamp Flux:497.625x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A1353121-12	SUR.:3.14*0.087*0.087	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															



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: LOW  
 Temperature:25.3DEG  
 Operators:  
 Test Date:2023-04-09

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
 Humidity:65.0%  
 Test Distance:11.700m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:229.71V I:0.0533A P:11.722W PF:0.9576 Freq:49.99Hz Lamp Flux:497.625x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A1353121-12	SUR.:3.14*0.087*0.087	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						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.461	.262	.083	.453	.259	.082	.439	.252	.080	.426	.246	.079	.415	.240	.077		
2.0	.416	.228	.070	.409	.225	.069	.396	.220	.068	.385	.216	.068	.374	.211	.067		
3.0	.369	.197	.059	.363	.195	.059	.352	.191	.058	.341	.187	.057	.331	.183	.057		
4.0	.329	.171	.050	.323	.169	.050	.313	.166	.050	.303	.163	.049	.294	.160	.049		
5.0	.295	.150	.044	.290	.149	.043	.281	.146	.043	.272	.144	.043	.264	.141	.042		
6.0	.266	.134	.038	.262	.132	.038	.254	.130	.038	.246	.128	.038	.239	.126	.037		
7.0	.243	.120	.034	.239	.119	.034	.231	.117	.034	.225	.115	.034	.218	.113	.033		
8.0	.222	.109	.031	.219	.108	.030	.213	.106	.030	.206	.105	.030	.201	.103	.030		
9.0	.205	.099	.028	.202	.099	.028	.196	.097	.028	.191	.096	.027	.186	.094	.027		
10.0	.190	.091	.025	.188	.091	.025	.182	.089	.025	.178	.088	.025	.173	.087	.025		

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						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.191	.155	.122	.163	.133	.105	.112	.091	.073	.064	.053	.042	.021	.017	.014	
2.0	.189	.131	.083	.162	.113	.072	.111	.078	.050	.064	.045	.029	.021	.015	.010	
3.0	.184	.115	.060	.157	.099	.052	.108	.069	.037	.062	.040	.022	.020	.013	.007	
4.0	.176	.103	.046	.151	.089	.040	.104	.062	.028	.060	.036	.017	.019	.012	.006	
5.0	.168	.093	.038	.145	.081	.033	.100	.056	.023	.058	.033	.014	.019	.011	.005	
6.0	.160	.085	.032	.138	.074	.027	.095	.052	.019	.055	.030	.012	.018	.010	.004	
7.0	.152	.079	.027	.131	.068	.024	.090	.048	.017	.052	.028	.010	.017	.009	.003	
8.0	.144	.073	.024	.124	.063	.021	.086	.044	.015	.050	.026	.009	.016	.009	.003	
9.0	.137	.068	.022	.118	.059	.019	.082	.041	.013	.048	.024	.008	.015	.008	.003	
10.0	.130	.064	.020	.112	.055	.017	.078	.039	.012	.045	.023	.007	.015	.008	.002	

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:  
Test Date:2023-04-09

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:229.71V I:0.0533A P:11.722W PF:0.9576 Freq:49.99Hz Lamp Flux:497.625x1 lm											
NAME:					TYPE:			WEIGHT:			
SPEC.:					DIM.: 180*180*97			SERIAL No.:			
MFR.: A1353121-12					SUR.:3.14*0.087*0.087			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	21.3	23.3	21.6	23.5	23.8	21.5	23.5	21.8	23.7	24.0	
	3H	25.2	27.0	25.5	27.3	27.6	25.4	27.2	25.7	27.5	27.8
	4H	27.0	28.8	27.4	29.1	29.4	27.0	28.7	27.3	29.0	29.3
	6H	28.0	29.7	28.4	30.0	30.3	27.6	29.3	28.0	29.6	29.9
	8H	28.2	29.8	28.6	30.2	30.5	27.7	29.3	28.0	29.6	29.9
	12H	28.2	29.8	28.6	30.1	30.5	27.7	29.2	28.0	29.6	29.9
4H	2H	22.7	24.5	23.0	24.7	25.0	22.8	24.6	23.2	24.9	25.2
	3H	26.6	28.2	27.0	28.6	28.9	26.8	28.4	27.2	28.7	29.0
	4H	28.5	29.9	28.9	30.3	30.6	28.4	29.9	28.8	30.2	30.6
	6H	29.5	30.8	29.9	31.2	31.6	29.1	30.4	29.5	30.8	31.2
	8H	29.7	31.0	30.2	31.4	31.8	29.2	30.4	29.6	30.8	31.2
	12H	29.8	30.9	30.2	31.3	31.8	29.2	30.4	29.7	30.8	31.2
8H	4H	29.1	30.3	29.5	30.7	31.1	29.0	30.2	29.4	30.6	31.0
	6H	30.2	31.3	30.7	31.7	32.1	29.8	30.9	30.3	31.3	31.7
	8H	30.5	31.4	30.9	31.9	32.3	29.9	30.9	30.4	31.3	31.8
	12H	30.6	31.4	31.1	31.9	32.3	30.0	30.8	30.5	31.3	31.8
12H	4H	29.1	30.2	29.5	30.6	31.1	29.0	30.2	29.5	30.6	31.0
	6H	30.3	31.2	30.7	31.6	32.1	29.9	30.8	30.3	31.3	31.7
	8H	30.6	31.4	31.0	31.8	32.3	30.0	30.9	30.5	31.3	31.8
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1					
1.5H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117, 497.6 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = -2.4)

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:  
Test Date:2023-04-09

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:229.71V I:0.0533A P:11.722W PF:0.9576 Freq:49.99Hz Lamp Flux:497.625x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A1353121-12	SUR.:3.14*0.087*0.087	Shielding Angle:

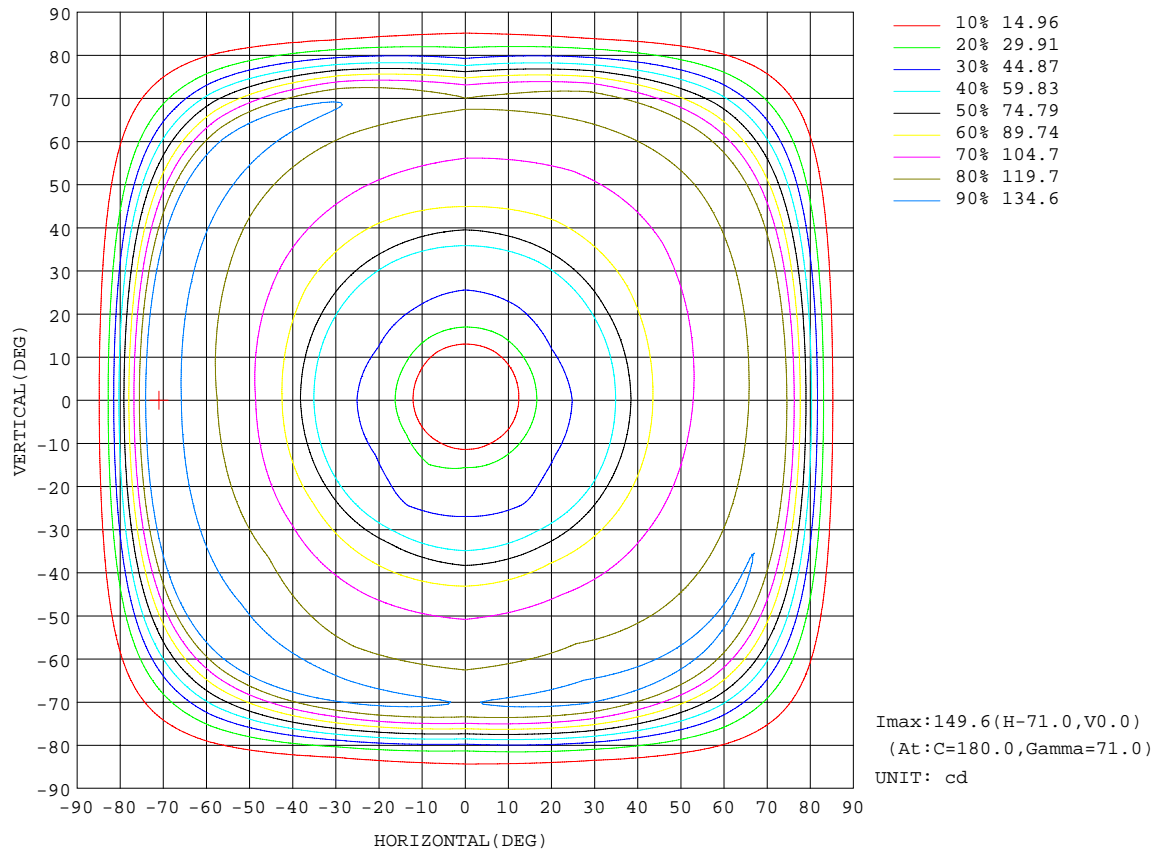
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	41	27	18	40	26	18	39	26	17	9
0.80	50	35	25	49	34	25	47	33	25	15
1.00	58	43	33	57	42	33	54	45	32	23
1.25	66	51	41	65	51	41	61	49	40	30
1.50	73	58	48	70	57	47	67	55	46	36
2.00	82	69	59	80	68	59	75	65	57	47
2.50	88	76	67	85	75	66	81	72	64	54
3.00	93	82	74	90	81	73	85	77	71	60
4.00	99	90	83	96	88	82	91	85	79	69
5.00	103	96	89	100	93	88	95	90	85	74
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:  
Test Date:2023-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

# ISOCANDELA DIAGRAM

Test:U:229.71V I:0.0533A P:11.722W PF:0.9576 Freq:49.99Hz Lamp Flux:497.625x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A1353121-12	SUR.:3.14*0.087*0.087	Shielding Angle:



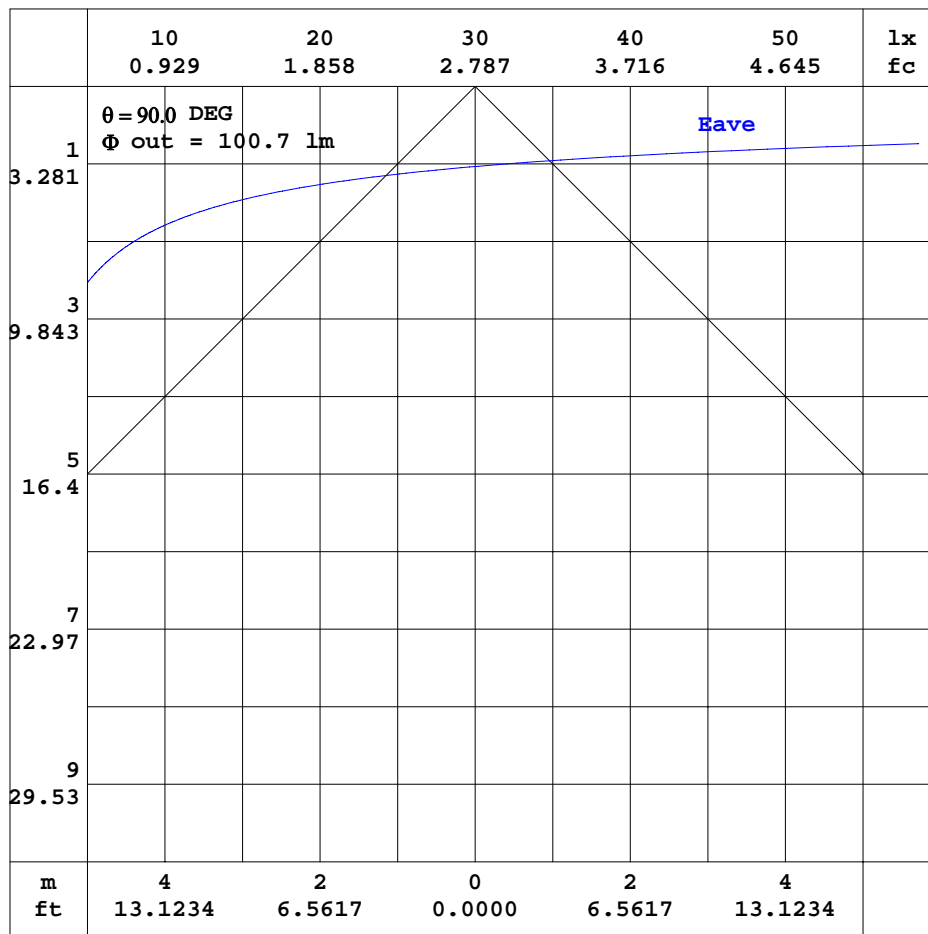
C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:  
Test Date:2023-04-09

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:



### AAI CURVES

Test:U:229.71V I:0.0533A P:11.722W PF:0.9576 Freq:49.99Hz Lamp Flux:497.625x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A1353121-12	SUR.:3.14*0.087*0.087	Shielding Angle:



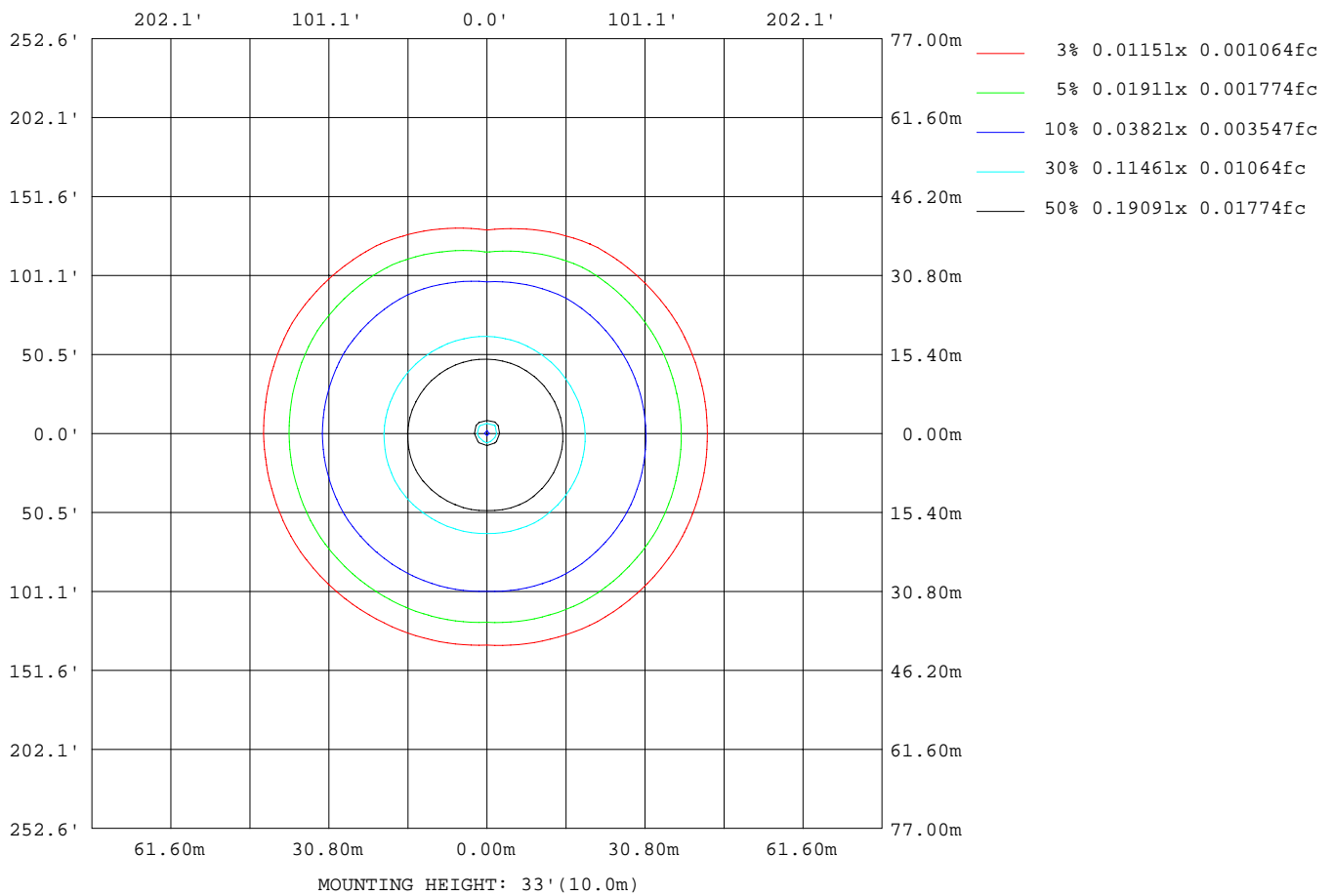
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:  
Test Date:2023-04-09

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

ISOLUX DIAGRAM

Test:U:229.71V I:0.0533A P:11.722W PF:0.9576 Freq:49.99Hz Lamp Flux:497.625x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A1353121-12	SUR.:3.14*0.087*0.087	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:  
Test Date:2023-04-09

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

### LED Avg.L Report

Test:U:229.71V I:0.0533A P:11.722W PF:0.9576 Freq:49.99Hz Lamp Flux:497.625x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.: 180*180*97	SERIAL No.:
MFR.: A1353121-12	SUR.:3.14*0.087*0.087	Shielding Angle:

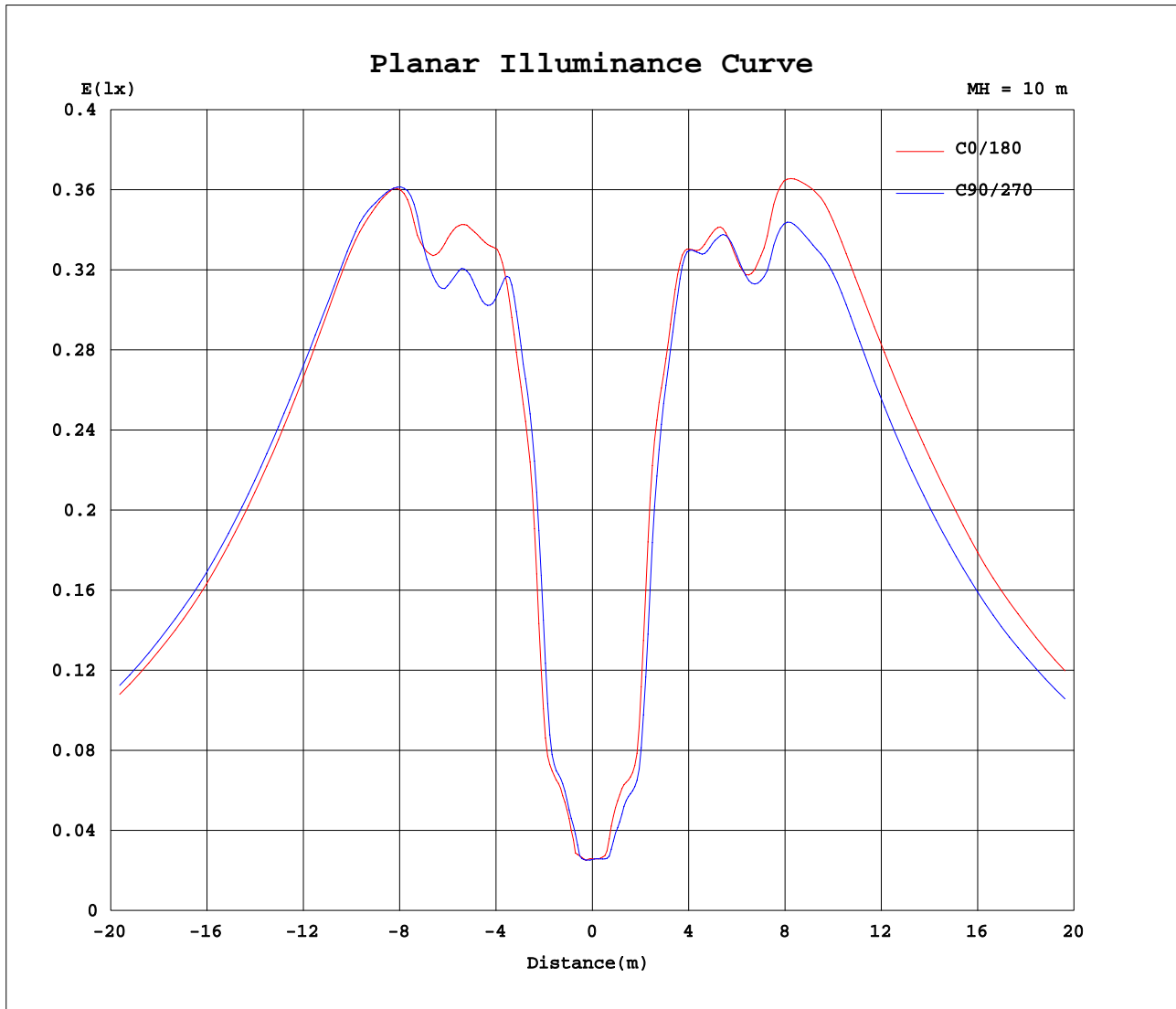
AvgL	cd/m2
L_0~180(65)av	12508
L_0~180(75)av	19726
L_0~180(85)av	7297
L_90~270(65)av	11936
L_90~270(75)av	15553
L_90~270(85)av	6841
L_45(65)av	12312
L_45(75)av	19272
L_45(85)av	6451

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: LOW  
Temperature:25.3DEG  
Operators:  
Test Date:2023-04-09

γ Range: 0 - 90DEG  
γ Interval: 0.5DEG  
Test System:EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
Humidity:65.0%  
Test Distance:11.700m [K=1.0000]  
Remarks:

### Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: LOW  
 Temperature: 25.3DEG  
 Operators:  
 Test Date: 2023-04-09

γ Range: 0 - 90DEG  
 γ Interval: 0.5DEG  
 Test System: EVERFINE GO-2000A\_V1 SYSTEM V2.0.406.10  
 Humidity: 65.0%  
 Test Distance: 11.700m [K=1.0000]  
 Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 0.5DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.406.10
Humidity:65.0%
Test Distance:11.700m [K=1.0000]
Remarks:

```