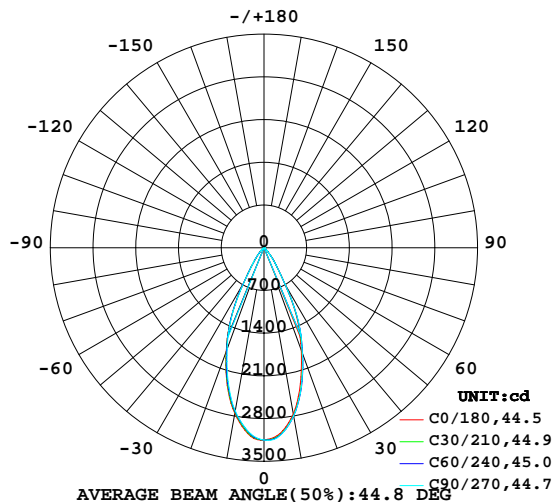


## LUMINAIRE PHOTOMETRIC TEST REPORT

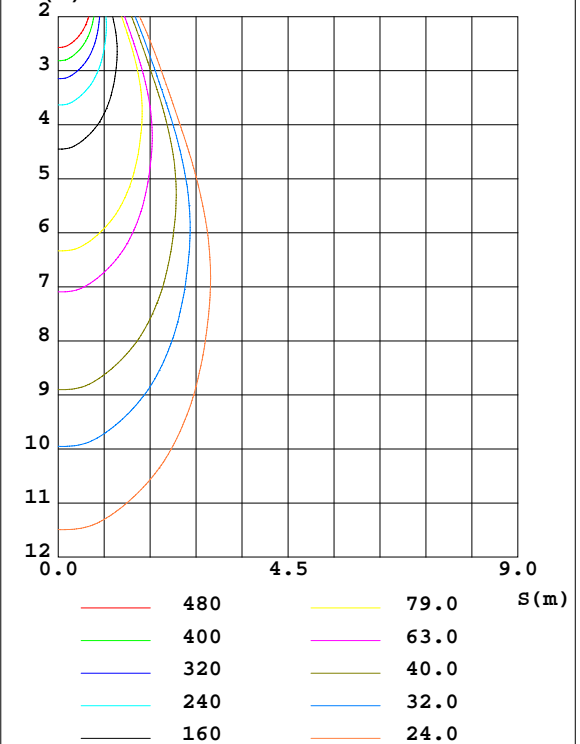
Test:U:225.1V I:0.1120A P:23.60W PF:0.9310 Freq:50.00Hz Lamp Flux:1817.84x1 lm					
NAME:		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:60		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 77.03 lm/W
MODEL	ALR70-24G30-45	I <sub>max</sub> (cd)	3158	S/MH(C0/180)	0.70	
NOMINAL POWER(W)	24	LOR(%)	100.0	S/MH(C90/270)	0.72	
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	1817.8	η UP,DN(C0-180)	0.0,49.6	
NOMINAL FLUX(lm)	1817.84	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,50.4	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75	
TEST VOLTAGE(V)	225.1	η down(%)	100.0	CIBSE SHR MAX	0.75	

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-06-16

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

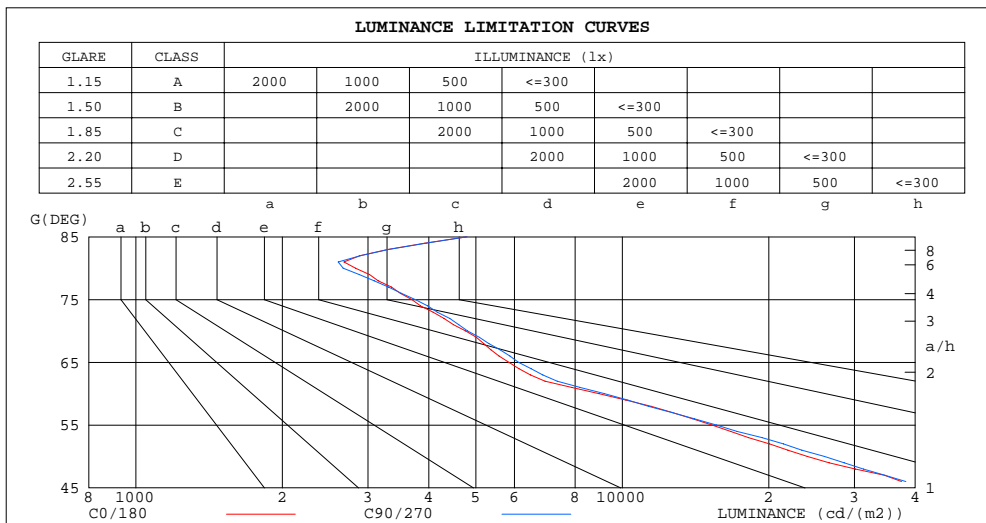
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\%lum, lamp$
10	2758	2749	2714	2720	2765	2782	2796	2767	0- 10	281.7	281.7	15.5,15.5
20	1813	1814	1766	1742	1788	1831	1842	1796	10- 20	638.3	920.0	50.6,50.6
30	691.2	720.6	675.9	670.8	693.0	674.5	692.9	682.0	20- 30	572.8	1493	82.1,82.1
40	163.9	171.1	172.5	177.2	180.3	171.7	173.7	160.6	30- 40	221.7	1714	94.3,94.3
50	43.34	45.21	47.33	46.10	43.03	41.84	43.33	42.75	40- 50	68.86	1783	98.1,98.1
60	12.58	13.05	13.01	12.70	12.45	12.29	12.70	12.42	50- 60	22.97	1806	99.4,99.4
70	4.577	4.769	4.653	4.901	4.785	4.440	4.427	4.429	60- 70	7.444	1814	99.8,99.8
80	1.380	1.367	1.311	1.281	1.087	1.085	1.076	1.119	70- 80	2.892	1817	99.9,99.9
90	1.459	1.466	1.438	1.443	0.9884	0.9852	0.9953	0.9879	80- 90	1.183	1818	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:25.3DEG  
 Operators:AE  
 Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:225.1V I:0.1120A P:23.60W PF:0.9310 Freq:50.00Hz Lamp Flux:1817.84x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	4797	4782
80	2828	2669
75	3691	3751
70	4762	4807
65	5845	6115
60	8955	9194
55	15288	15618
50	23992	26021
45	41091	42497

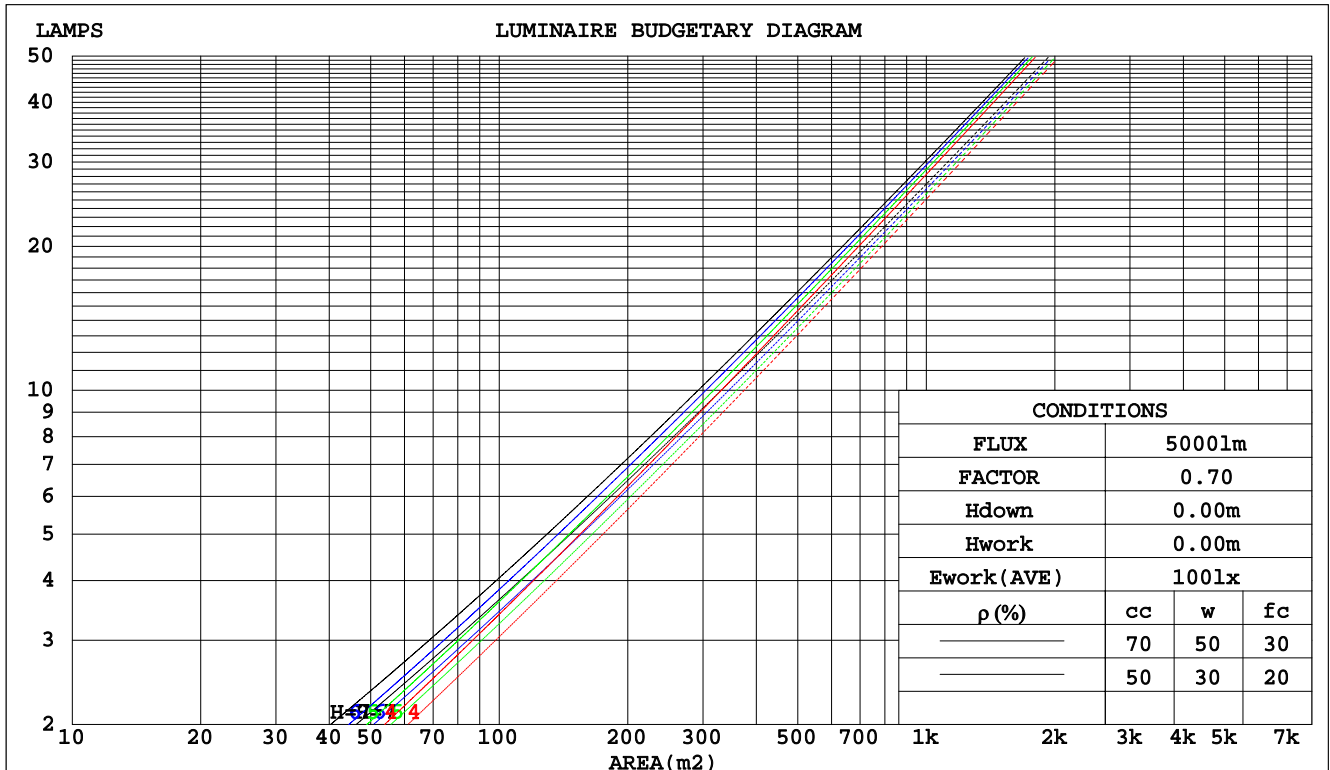
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:225.1V I:0.1120A P:23.60W PF:0.9310 Freq:50.00Hz Lamp Flux:1817.84x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	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	1.07	1.09	1.07	1.05	1.05	1.04	1.02	1.01	1.00	.99	.98	.97	.96	.94
2.0	1.04	1.01	.97	1.03	.99	.96	.99	.97	.94	.97	.94	.92	.94	.92	.90	.89
3.0	.98	.94	.90	.97	.93	.89	.94	.91	.88	.92	.89	.86	.90	.87	.85	.84
4.0	.92	.87	.84	.91	.87	.83	.89	.85	.82	.87	.84	.81	.85	.83	.80	.79
5.0	.87	.82	.78	.86	.81	.78	.85	.80	.77	.83	.79	.76	.82	.78	.76	.74
6.0	.83	.77	.73	.82	.77	.73	.81	.76	.73	.79	.75	.72	.78	.74	.72	.70
7.0	.79	.73	.69	.78	.73	.69	.77	.72	.69	.76	.71	.68	.74	.71	.68	.67
8.0	.75	.69	.66	.74	.69	.65	.73	.68	.65	.72	.68	.65	.71	.67	.65	.63
9.0	.71	.66	.62	.71	.66	.62	.70	.65	.62	.69	.65	.62	.68	.64	.61	.60
10.0	.68	.63	.59	.68	.62	.59	.67	.62	.59	.66	.62	.59	.65	.61	.59	.57



C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-06-16

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:225.1V I:0.1120A P:23.60W PF:0.9310 Freq:50.00Hz Lamp Flux:1817.84x1 lm									
NAME:				TYPE:			WEIGHT:		
SPEC.:				DIM.:			SERIAL No.:		
MFR.:				SUR.:60			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	.167	.095	.030	.160	.091	.029	.148	.085	.027	.136	.078	.025	.125	.073	.023	
2.0	.158	.087	.027	.153	.084	.026	.142	.079	.025	.133	.074	.023	.124	.070	.022	
3.0	.150	.080	.024	.145	.078	.023	.136	.074	.022	.128	.070	.022	.120	.067	.021	
4.0	.142	.074	.022	.138	.072	.021	.131	.069	.021	.124	.066	.020	.117	.064	.019	
5.0	.135	.069	.020	.132	.068	.020	.125	.065	.019	.119	.063	.019	.113	.061	.018	
6.0	.129	.065	.019	.126	.064	.018	.120	.062	.018	.115	.060	.018	.110	.058	.017	
7.0	.123	.061	.017	.120	.060	.017	.115	.058	.017	.111	.057	.016	.106	.055	.016	
8.0	.118	.058	.016	.115	.057	.016	.111	.055	.016	.107	.054	.016	.103	.053	.015	
9.0	.113	.055	.015	.111	.054	.015	.107	.053	.015	.103	.052	.015	.099	.050	.015	
10.0	.108	.052	.014	.107	.051	.014	.103	.050	.014	.099	.049	.014	.096	.048	.014	

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	.170	.157	.146	.146	.135	.125	.100	.093	.087	.057	.054	.050	.018	.017	.016	
2.0	.154	.133	.114	.132	.114	.099	.091	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.141	.113	.091	.121	.098	.079	.083	.068	.056	.048	.040	.033	.015	.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	.114	.077	.051	.098	.067	.045	.067	.047	.032	.039	.028	.019	.013	.009	.006	
7.0	.107	.070	.044	.092	.060	.038	.064	.042	.027	.037	.025	.016	.012	.008	.005	
8.0	.101	.063	.037	.087	.055	.033	.060	.039	.023	.035	.023	.014	.011	.007	.005	
9.0	.096	.058	.032	.083	.050	.028	.057	.035	.020	.033	.021	.012	.011	.007	.004	
10.0	.091	.053	.028	.079	.046	.025	.055	.033	.018	.032	.019	.011	.010	.006	.003	

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:225.1V I:0.1120A P:23.60W PF:0.9310 Freq:50.00Hz Lamp Flux:1817.84x1 lm												
NAME:					TYPE:			WEIGHT:				
SPEC.:					DIM.:			SERIAL No.:				
MFR.:					SUR.:60			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	2H	17.6	18.4	17.8	18.6	18.8	17.5	18.4	17.7	18.6	18.7	
	3H	17.5	18.3	17.7	18.5	18.7	17.4	18.2	17.7	18.4	18.6	
	4H	17.4	18.2	17.7	18.4	18.6	17.3	18.1	17.6	18.3	18.5	
	6H	17.3	18.0	17.6	18.3	18.5	17.3	18.0	17.6	18.2	18.5	
	8H	17.3	18.0	17.6	18.2	18.5	17.2	17.9	17.5	18.2	18.4	
	12H	17.2	17.9	17.6	18.2	18.4	17.2	17.9	17.5	18.1	18.4	
	4H	2H	17.4	18.1	17.7	18.4	18.6	17.3	18.1	17.6	18.3	18.5
		3H	17.3	17.9	17.6	18.2	18.5	17.2	17.9	17.5	18.1	18.4
		4H	17.2	17.8	17.6	18.1	18.4	17.2	17.8	17.5	18.1	18.4
		6H	17.1	17.7	17.5	18.0	18.3	17.1	17.6	17.5	17.9	18.3
		8H	17.1	17.6	17.5	17.9	18.3	17.0	17.5	17.4	17.9	18.2
		12H	17.1	17.5	17.5	17.9	18.3	17.0	17.5	17.4	17.8	18.2
8H	4H	17.1	17.6	17.5	17.9	18.3	17.0	17.5	17.4	17.9	18.2	
	6H	17.0	17.4	17.4	17.8	18.2	17.0	17.4	17.4	17.8	18.2	
	8H	17.0	17.3	17.4	17.7	18.2	16.9	17.3	17.4	17.7	18.1	
	12H	16.9	17.2	17.4	17.7	18.2	16.9	17.2	17.4	17.6	18.1	
12H	4H	17.0	17.5	17.4	17.8	18.2	17.0	17.4	17.4	17.8	18.2	
	6H	17.0	17.3	17.4	17.7	18.2	16.9	17.3	17.4	17.7	18.1	
	8H	16.9	17.2	17.4	17.7	18.1	16.9	17.2	17.3	17.6	18.1	
Variations with the observer position at spacings:												
S = 1.0H		+ 2.8 / - 6.2					+ 2.8 / - 6.2					
1.5H		+ 4.5 / - 4.6					+ 4.4 / - 4.8					
2.0H		+ 4.4 / - 4.7					+ 4.5 / - 5.0					

CIE Pub.117, 1818 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 2.1$ )

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## UTILIZATION FACTORS TABLE

Test:U:225.1V I:0.1120A P:23.60W PF:0.9310 Freq:50.00Hz Lamp Flux:1817.84x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

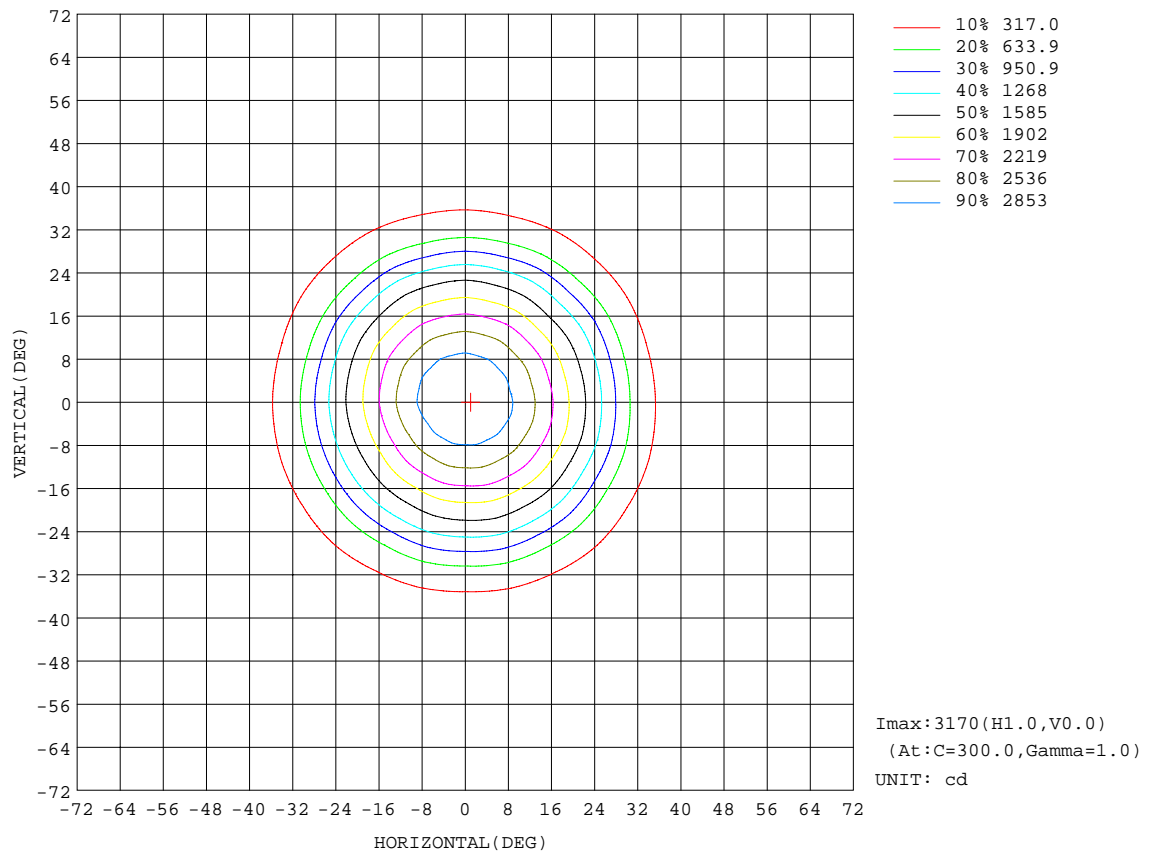
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	78	87	82	78	87	81	78	74
0.80	95	90	86	95	89	86	94	89	85	82
1.00	100	94	91	99	94	90	97	94	90	86
1.25	104	99	95	103	98	95	101	97	94	90
1.50	106	102	98	105	101	98	103	99	97	92
2.00	109	105	102	107	104	101	105	102	99	94
2.50	110	107	104	109	106	103	106	103	101	95
3.00	112	109	106	110	107	105	107	105	103	96
4.00	114	111	109	112	110	108	108	106	105	98
5.00	115	113	111	113	111	110	109	108	106	99
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:25.3DEG  
Operators:AE  
Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

Test:U:225.1V I:0.1120A P:23.60W PF:0.9310 Freq:50.00Hz Lamp Flux:1817.84x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: AE  
Test Date: 2020-06-16

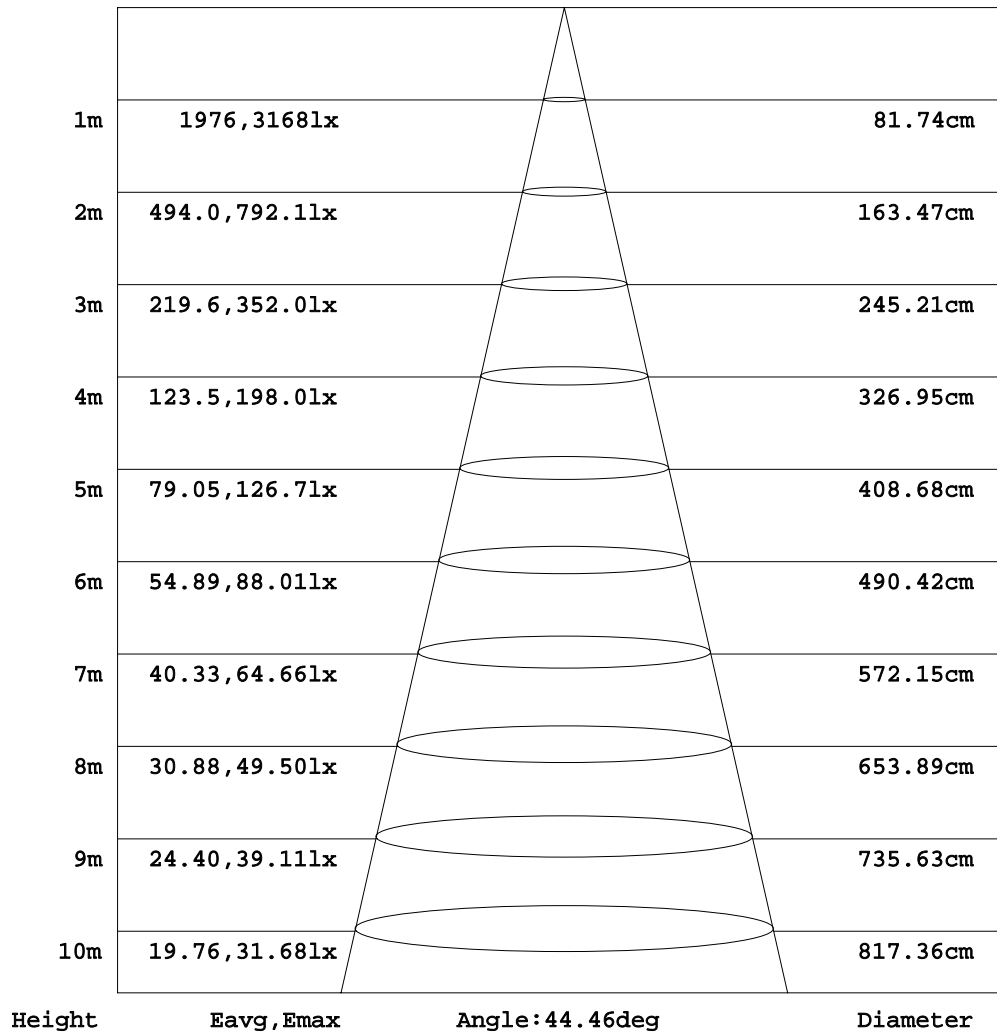
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 7.240m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:225.1V I:0.1120A P:23.60W PF:0.9310 Freq:50.00Hz Lamp Flux:1817.84x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

Flux out:1119 lm



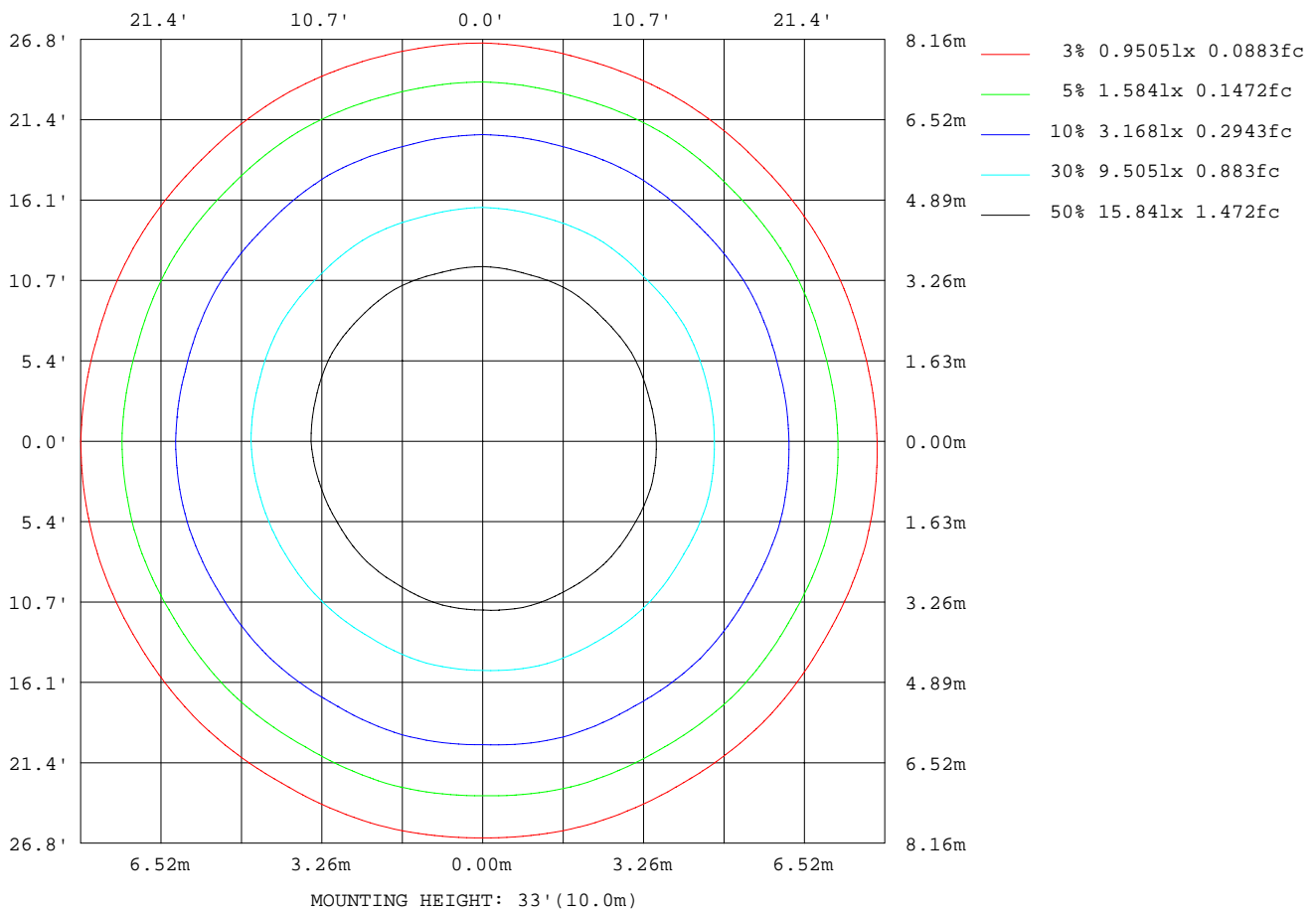
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

γ Range: 0 - 90DEG  
γ Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## ISOLUX DIAGRAM

Test:U:225.1V I:0.1120A P:23.60W PF:0.9310 Freq:50.00Hz Lamp Flux:1817.84x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: AE  
Test Date: 2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 7.240m [K=1.0000]  
Remarks:

## LED Avg.L Report

Test:U:225.1V I:0.1120A P:23.60W PF:0.9310 Freq:50.00Hz Lamp Flux:1817.84x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

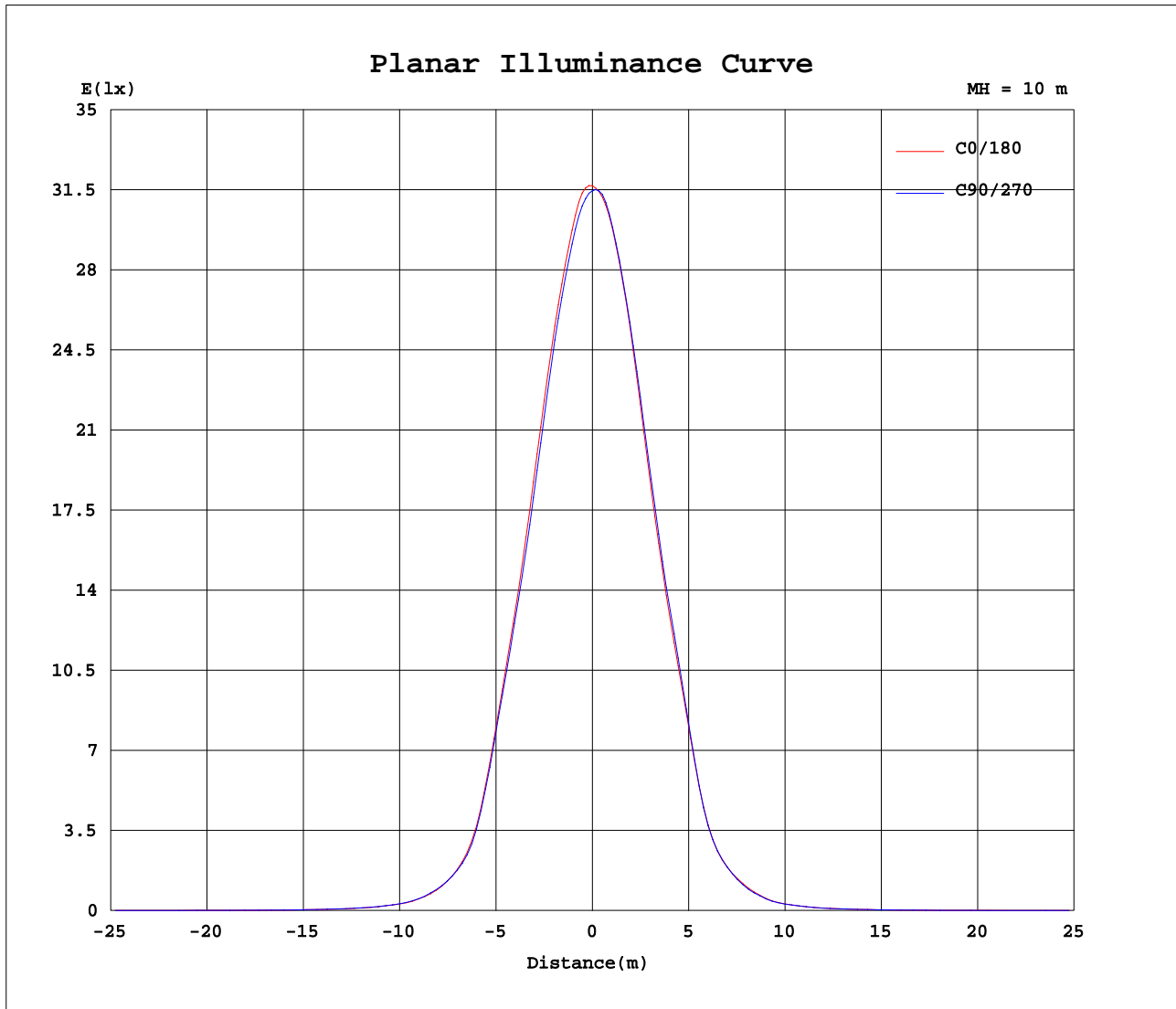
AvgL	cd/m2
L_0~180(65)av	5919
L_0~180(75)av	3636
L_0~180(85)av	4179
L_90~270(65)av	5927
L_90~270(75)av	3596
L_90~270(85)av	4200
L_45(65)av	5948
L_45(75)av	3623
L_45(85)av	4249

Standard: GB/T 29293-2012

C Range: 0 - 360DEG  
 C Interval: 15.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:AE  
 Test Date:2020-06-16

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## Planar Illuminance Curve



C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: AE  
Test Date: 2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 7.240m [K=1.0000]  
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

```

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.362
Humidity:65.0%
Test Distance:7.240m [K=1.0000]
Remarks:

```