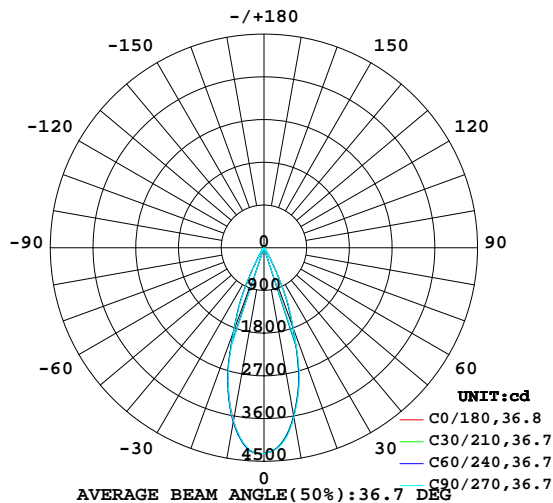


## LUMINAIRE PHOTOMETRIC TEST REPORT

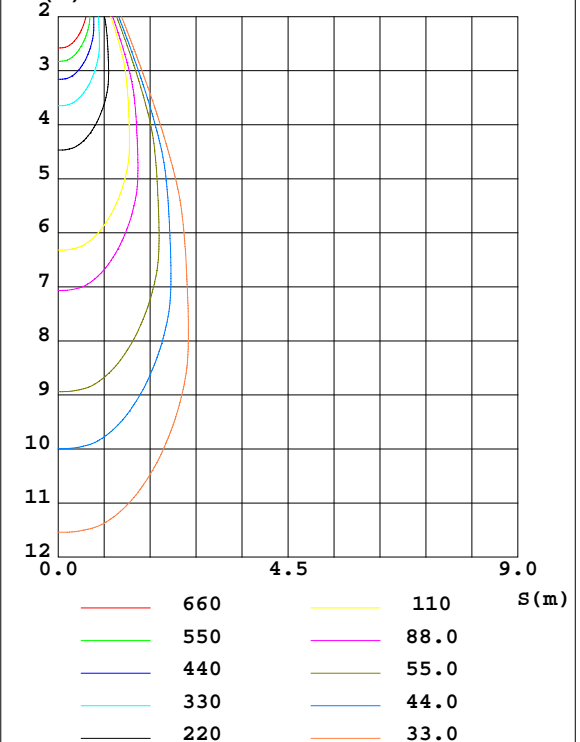
Test:U:225.2V I:0.1270A P:27.20W PF:0.9500 Freq:50.00Hz Lamp Flux:1706.51x1 lm					
NAME:		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:60		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 62.74 lm/W
MODEL	ALT70-27G30-40	I <sub>max</sub> (cd)	4344	S/MH(C0/180)	0.59	
NOMINAL POWER(W)	28	LOR(%)	100.0	S/MH(C90/270)	0.59	
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	1706.5	η UP,DN(C0-180)	0.0,50.7	
NOMINAL FLUX(lm)	1706.51	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,49.3	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.50	
TEST VOLTAGE(V)	225.1	η down(%)	100.0	CIBSE SHR MAX	0.60	

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:

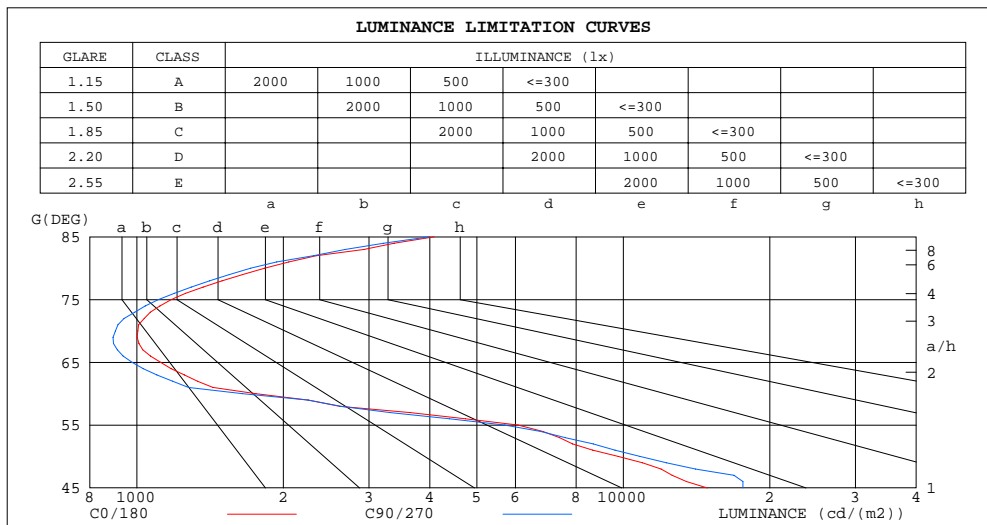
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	$\%lum, lamp$
10	3696	3756	3706	3653	3598	3575	3634	3650	0- 10	382.4	382.4	22.4,22.4
20	1885	1929	1843	1828	1783	1746	1819	1829	10- 20	773.8	1156	67.8,67.8
30	312.6	335.0	296.4	286.6	271.1	261.8	289.6	292.2	20- 30	436.7	1593	93.3,93.3
40	52.56	52.70	50.85	50.41	50.66	49.89	51.60	51.34	30- 40	77.84	1671	97.9,97.9
50	17.49	19.57	19.70	18.96	19.20	20.11	17.57	17.77	40- 50	24.18	1695	99.3,99.3
60	2.447	2.551	2.335	2.140	2.188	2.161	2.418	2.430	50- 60	8.374	1703	99.8,99.8
70	0.9576	0.9232	0.8748	0.8078	0.9565	1.006	0.9875	1.045	60- 70	1.357	1705	99.9,99.9
80	0.8859	0.8812	0.8428	0.8673	0.7100	0.7368	0.6940	0.7489	70- 80	0.8802	1706	99.9,99.9
90	1.200	1.181	1.180	1.202	0.6909	0.6783	0.6588	0.6621	80- 90	0.9282	1707	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:225.2V I:0.1270A P:27.20W PF:0.9500 Freq:50.00Hz Lamp Flux:1706.51x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	4083	3986
80	1830	1714
75	1177	1107
70	1005	903
65	1118	977
60	1756	1649
55	6072	5699
50	9763	10823
45	14879	17613

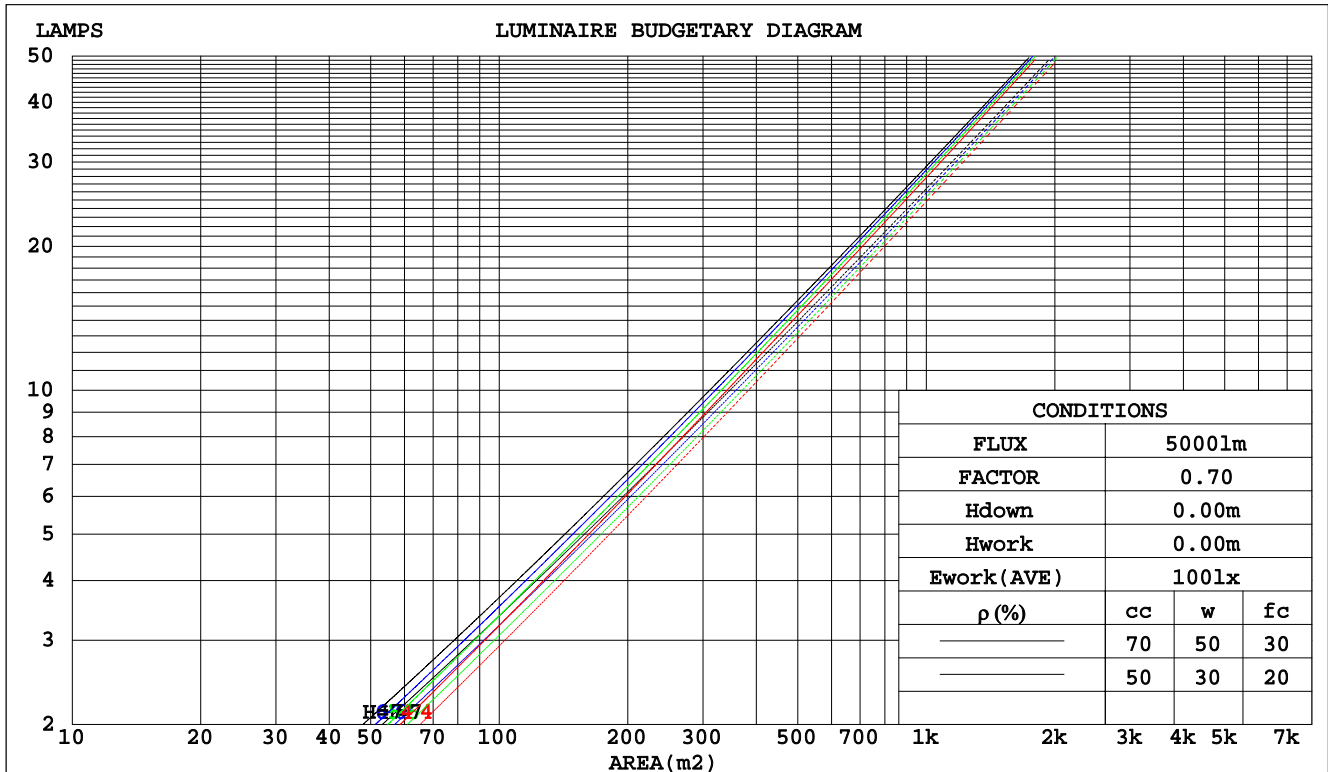
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

$\gamma$  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:225.2V I:0.1270A P:27.20W PF:0.9500 Freq:50.00Hz Lamp Flux:1706.51x1 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	1.12	1.10	1.08	1.10	1.08	1.07	1.06	1.05	1.03	1.02	1.01	1.00	.99	.98	.97	.96
2.0	1.06	1.03	1.00	1.05	1.02	.99	1.01	.99	.97	.99	.97	.95	.96	.94	.93	.91
3.0	1.01	.97	.94	.90	.96	.93	.97	.94	.92	.95	.92	.90	.93	.91	.89	.87
4.0	.96	.92	.89	.95	.91	.88	.93	.90	.87	.91	.88	.86	.90	.87	.85	.84
5.0	.92	.87	.84	.91	.87	.84	.89	.86	.83	.88	.85	.82	.86	.84	.82	.80
6.0	.88	.83	.80	.87	.83	.80	.86	.82	.79	.85	.81	.79	.84	.81	.78	.77
7.0	.85	.80	.76	.84	.79	.76	.83	.79	.76	.82	.78	.76	.81	.78	.75	.74
8.0	.81	.77	.73	.81	.76	.73	.80	.76	.73	.79	.75	.73	.78	.75	.72	.71
9.0	.78	.74	.70	.78	.73	.70	.77	.73	.70	.76	.72	.70	.75	.72	.70	.69
10.0	.75	.71	.68	.75	.71	.68	.74	.70	.68	.74	.70	.67	.73	.70	.67	.66



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:225.2V I:0.1270A P:27.20W PF:0.9500 Freq:50.00Hz Lamp Flux:1706.51x1 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	.150	.085	.027	.143	.081	.026	.130	.075	.024	.119	.069	.022	.108	.063	.020	
2.0	.140	.077	.024	.134	.074	.023	.124	.069	.021	.114	.064	.020	.106	.060	.019	
3.0	.131	.070	.021	.127	.068	.020	.118	.064	.019	.110	.060	.018	.103	.057	.018	
4.0	.124	.064	.019	.120	.063	.019	.113	.060	.018	.106	.057	.017	.099	.054	.016	
5.0	.117	.060	.017	.114	.059	.017	.108	.056	.017	.102	.054	.016	.096	.052	.015	
6.0	.112	.056	.016	.109	.055	.016	.103	.053	.015	.098	.051	.015	.093	.049	.015	
7.0	.107	.053	.015	.104	.052	.015	.099	.050	.014	.095	.049	.014	.091	.047	.014	
8.0	.102	.050	.014	.100	.049	.014	.096	.048	.014	.092	.046	.013	.088	.045	.013	
9.0	.098	.047	.013	.096	.047	.013	.092	.046	.013	.089	.044	.013	.085	.043	.012	
10.0	.094	.045	.013	.092	.045	.012	.089	.044	.012	.086	.043	.012	.083	.042	.012	

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	.169	.158	.147	.145	.135	.127	.099	.093	.088	.057	.054	.051	.018	.017	.016	
2.0	.152	.133	.116	.130	.114	.101	.089	.079	.070	.051	.046	.041	.017	.015	.013	
3.0	.138	.113	.094	.118	.098	.081	.081	.068	.057	.047	.040	.034	.015	.013	.011	
4.0	.126	.098	.077	.108	.085	.067	.074	.059	.047	.043	.035	.028	.014	.011	.009	
5.0	.116	.086	.064	.100	.074	.056	.069	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.108	.076	.054	.093	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.007	
7.0	.101	.068	.046	.087	.059	.040	.060	.042	.028	.035	.024	.017	.011	.008	.006	
8.0	.094	.062	.039	.081	.054	.034	.056	.038	.024	.033	.022	.015	.011	.007	.005	
9.0	.089	.056	.034	.077	.049	.030	.053	.034	.021	.031	.020	.013	.010	.007	.004	
10.0	.084	.052	.030	.073	.045	.026	.050	.032	.019	.029	.019	.011	.010	.006	.004	

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:225.2V I:0.1270A P:27.20W PF:0.9500 Freq:50.00Hz Lamp Flux:1706.51x1 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		11.1	11.9	11.3	12.0	12.2	10.9	11.6	11.1	11.8	11.9
	3H	11.0	11.7	11.2	11.8	12.0	10.7	11.4	11.0	11.6	11.8
	4H	10.9	11.6	11.2	11.8	12.0	10.7	11.3	10.9	11.5	11.7
	6H	10.8	11.5	11.1	11.7	11.9	10.6	11.2	10.9	11.4	11.7
	8H	10.8	11.4	11.1	11.7	11.9	10.6	11.2	10.9	11.4	11.7
	12H	10.8	11.4	11.1	11.7	11.9	10.6	11.1	10.9	11.4	11.7
4H	2H	10.9	11.6	11.2	11.8	12.0	10.7	11.3	10.9	11.5	11.7
	3H	10.8	11.3	11.1	11.6	11.9	10.5	11.1	10.8	11.3	11.6
	4H	10.7	11.2	11.0	11.5	11.8	10.4	11.0	10.8	11.2	11.5
	6H	10.6	11.1	11.0	11.4	11.8	10.4	10.8	10.7	11.2	11.5
	8H	10.6	11.0	11.0	11.4	11.8	10.4	10.8	10.8	11.1	11.5
	12H	10.7	11.1	11.1	11.4	11.8	10.4	10.8	10.8	11.2	11.6
8H	4H	10.5	11.0	10.9	11.3	11.7	10.3	10.7	10.7	11.1	11.4
	6H	10.5	10.9	10.9	11.2	11.7	10.3	10.6	10.7	11.0	11.4
	8H	10.5	10.8	11.0	11.3	11.7	10.3	10.6	10.7	11.0	11.4
	12H	10.6	10.9	11.1	11.3	11.8	10.4	10.7	10.9	11.1	11.6
12H	4H	10.5	10.9	10.9	11.3	11.6	10.2	10.6	10.7	11.0	11.4
	6H	10.5	10.8	10.9	11.2	11.6	10.2	10.5	10.7	10.9	11.4
	8H	10.5	10.8	11.0	11.2	11.7	10.3	10.5	10.7	11.0	11.4
Variations with the observer position at spacings:											
S = 1.0H	+ 2.9 / - 6.2					+ 2.9 / - 6.1					
1.5H	+ 4.1 / - 4.0					+ 3.7 / - 4.1					
2.0H	+ 4.2 / - 5.2					+ 4.8 / - 5.9					

CIE Pub.117, 1707 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 1.9$ )

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:225.2V I:0.1270A P:27.20W PF:0.9500 Freq:50.00Hz Lamp Flux:1706.51x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

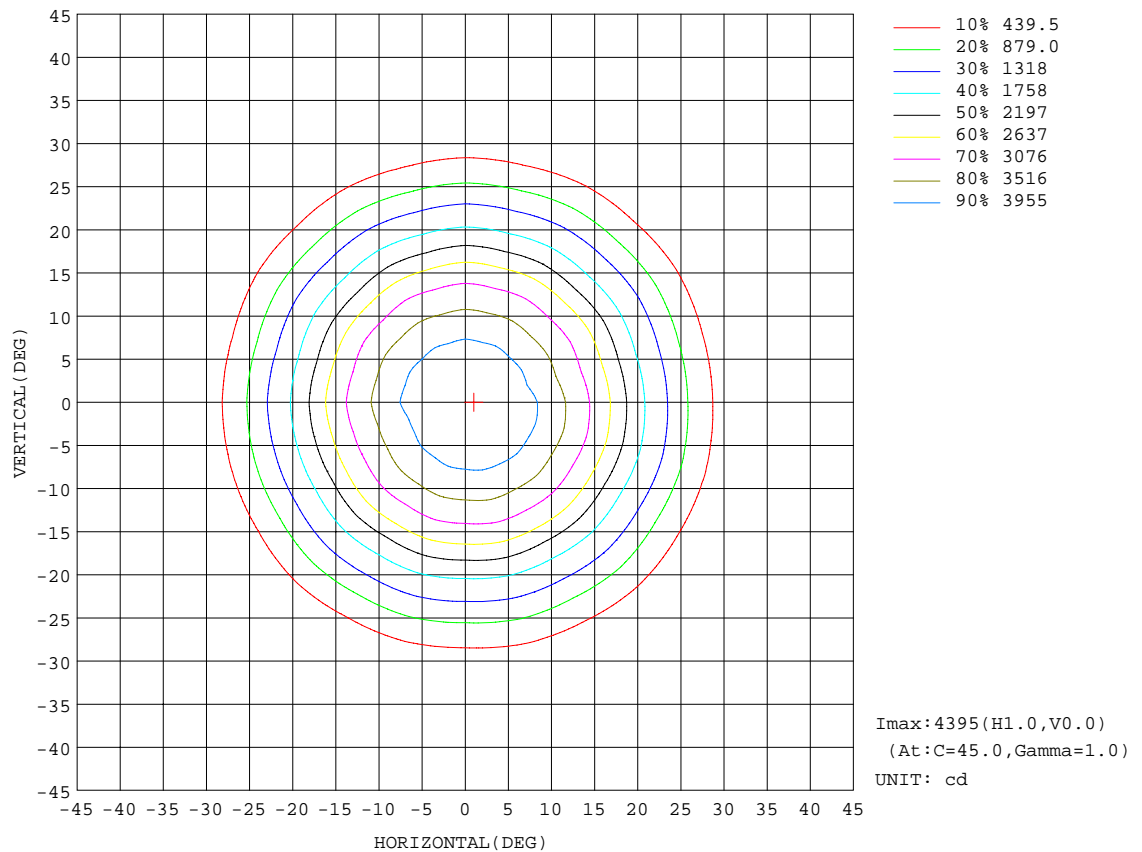
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	90	84	81	90	84	81	89	84	81	77
0.80	97	92	89	97	92	88	96	91	88	85
1.00	101	96	93	100	96	93	99	95	92	88
1.25	105	100	97	104	100	97	102	98	96	92
1.50	107	103	100	106	102	99	104	101	98	94
2.00	110	106	103	108	105	102	106	103	101	96
2.50	111	108	105	110	106	104	106	104	102	96
3.00	112	109	107	111	108	106	107	105	104	97
4.00	114	112	110	112	110	108	109	107	106	99
5.00	116	113	112	113	112	110	110	108	107	100
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:225.2V I:0.1270A P:27.20W PF:0.9500 Freq:50.00Hz Lamp Flux:1706.51x1 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

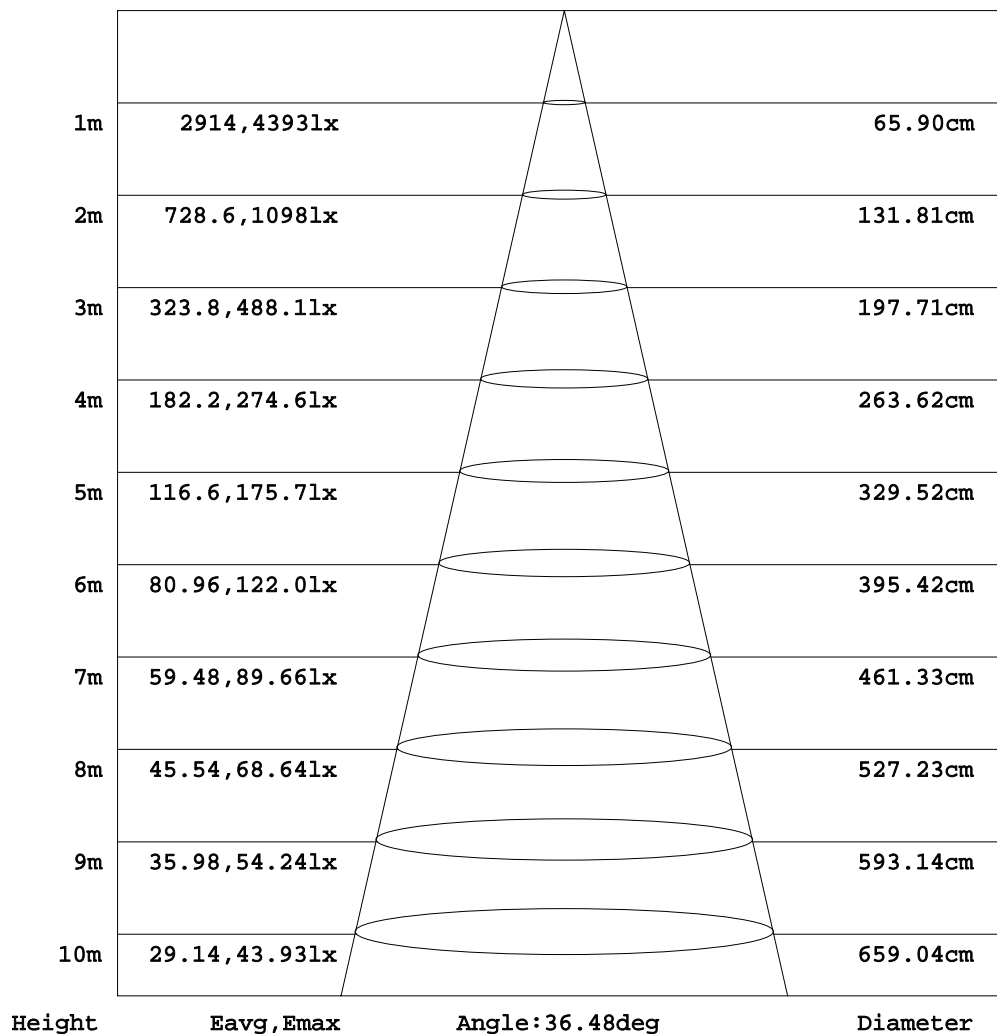
$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.0.362  
Humidity: 65.0%  
Test Distance: 7.240m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:225.2V I:0.1270A P:27.20W PF:0.9500 Freq:50.00Hz Lamp Flux:1706.51x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

Flux out:1086 lm



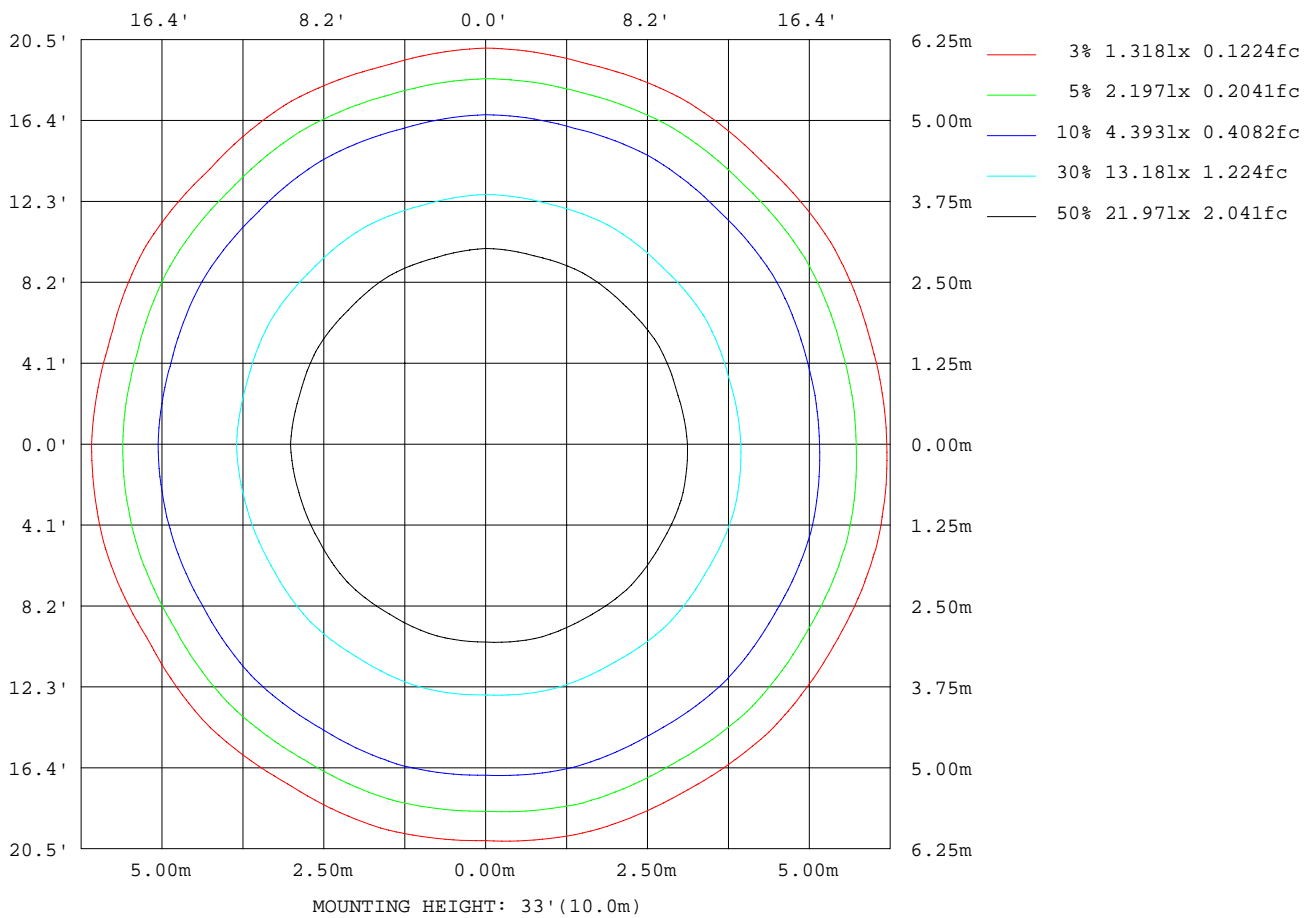
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:225.2V I:0.1270A P:27.20W PF:0.9500 Freq:50.00Hz Lamp Flux:1706.51x1 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

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:

## LED Avg.L Report

Test:U:225.2V I:0.1270A P:27.20W PF:0.9500 Freq:50.00Hz Lamp Flux:1706.51x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

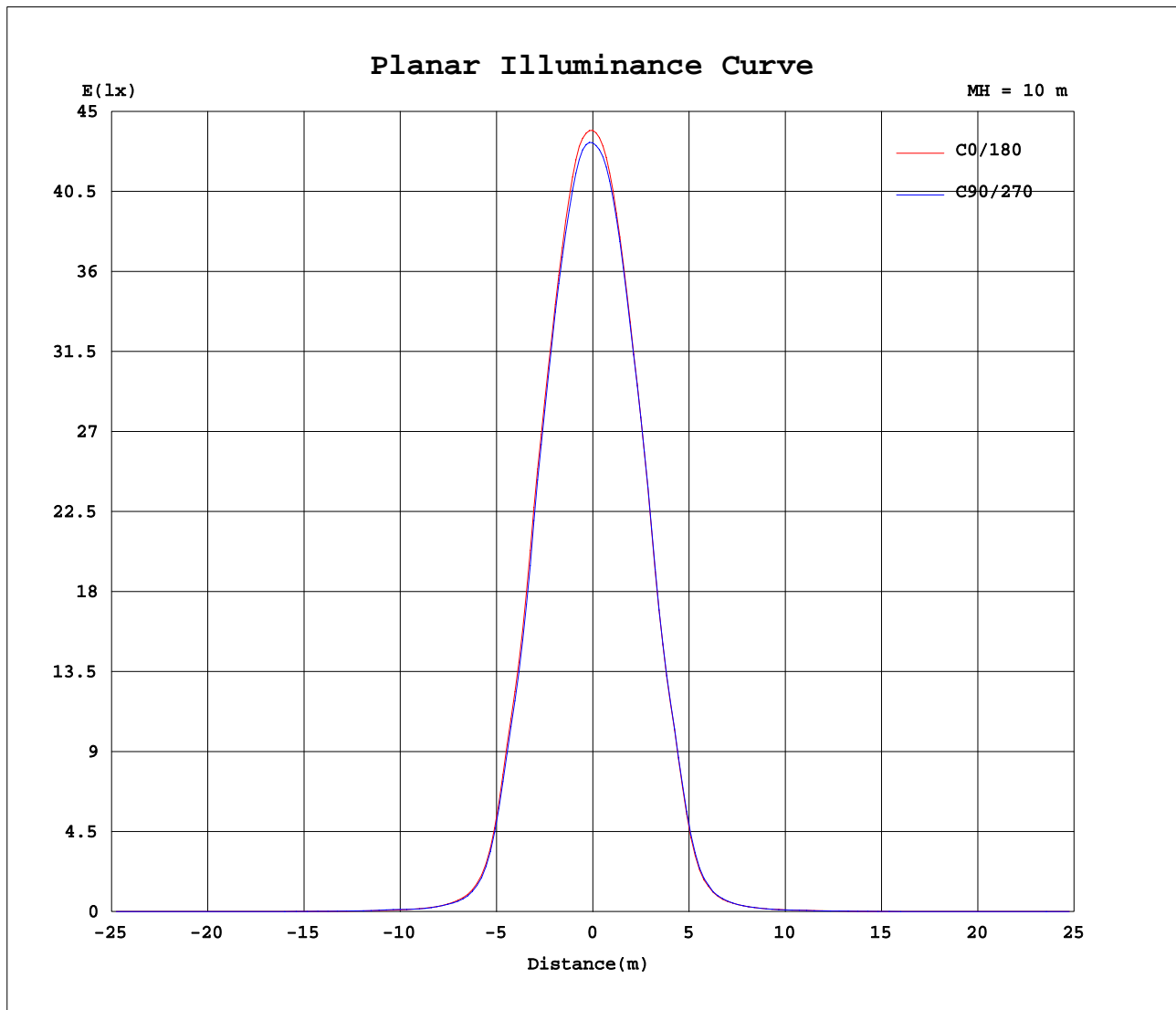
AvgL	cd/m2
L_0~180(65)av	1086
L_0~180(75)av	1113
L_0~180(85)av	3413
L_90~270(65)av	1066
L_90~270(75)av	1096
L_90~270(85)av	3343
L_45(65)av	1082
L_45(75)av	1126
L_45(85)av	3474

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:

```