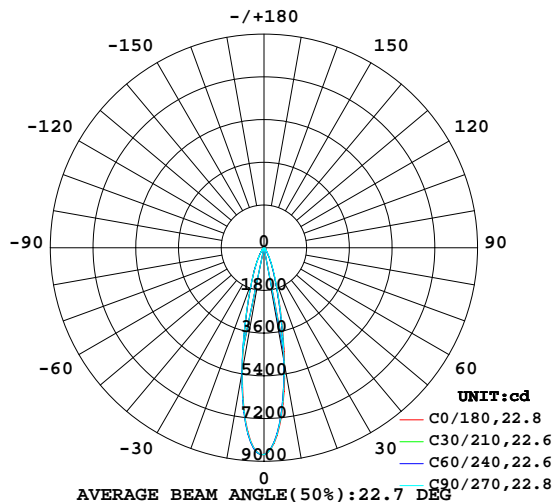


## LUMINAIRE PHOTOMETRIC TEST REPORT

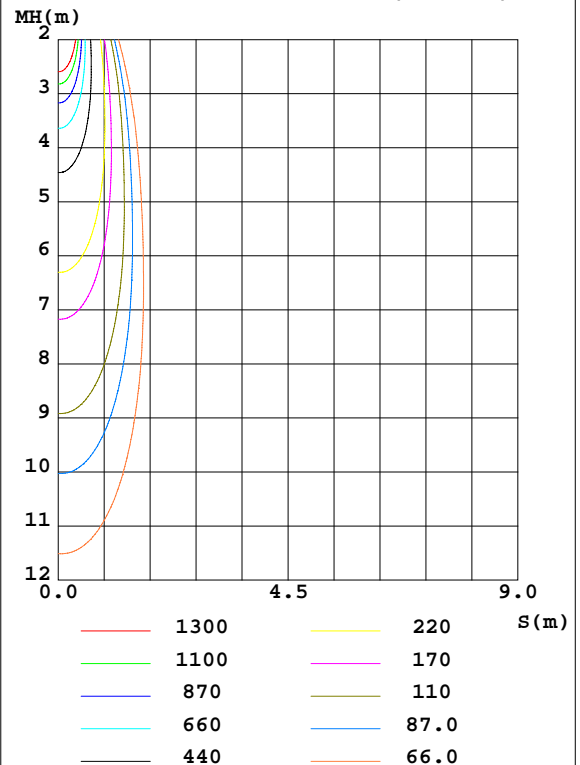
Test:U:225.2V I:0.1280A P:27.50W PF:0.9500 Freq:50.00Hz Lamp Flux:2036.94x1 lm					
NAME:		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:60		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 74.07 lm/W
MODEL	ALT70-27G30-24	I <sub>max</sub> (cd)	8732	S/MH(C0/180)	0.38	
NOMINAL POWER(W)	28	LOR(%)	100.0	S/MH(C90/270)	0.37	
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	2036.9	η UP,DN(C0-180)	0.0,51.9	
NOMINAL FLUX(lm)	2036.94	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,48.1	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)	225.1	η down(%)	100.0	CIBSE SHR MAX	1.00	

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 V2.0.265  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## ZONAL FLUX DIAGRAM

## ZONAL FLUX DIAGRAM:

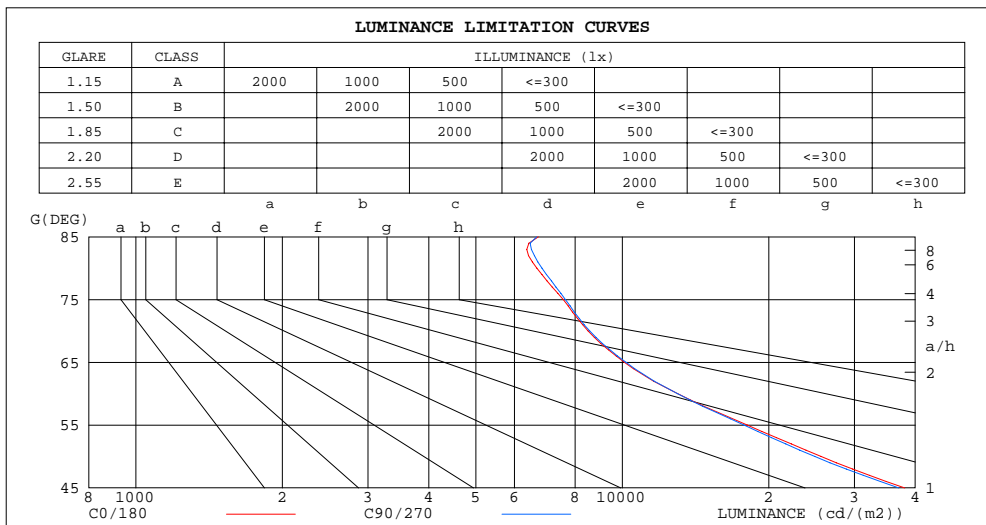
$\gamma$	C0	C45	C90	C135	C180	C225	C270	C315	$\gamma$	$\Phi$ zone	$\Phi$ total	%lum, lamp
10	5248	5456	5345	5268	5006	4701	4881	5020	0- 10	647.3	647.3	31.8,31.8
20	1504	1556	1502	1471	1332	1246	1366	1428	10- 20	773.8	1421	69.8,69.8
30	442.2	457.4	434.0	417.0	375.4	358.9	401.0	424.4	20- 30	365.1	1786	87.7,87.7
40	133.3	134.0	128.7	125.2	114.7	109.5	121.5	131.7	30- 40	146.3	1933	94.9,94.9
50	46.37	46.43	45.19	44.34	41.17	39.77	44.18	47.25	40- 50	58.37	1991	97.7,97.7
60	18.31	18.65	18.36	18.10	17.14	16.50	17.90	18.82	50- 60	25.96	2017	99,99
70	8.193	8.218	8.283	8.467	8.102	7.801	8.386	8.627	60- 70	12.24	2029	99.6,99.6
80	3.265	3.330	3.356	3.449	3.115	2.992	3.010	3.096	70- 80	5.907	2035	99.9,99.9
90	1.743	1.741	1.750	1.814	1.073	1.072	1.061	1.066	80- 90	1.961	2037	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 V2.0.265  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## LUMINANCE LIMITATION CURVES

Test:U:225.2V I:0.1280A P:27.50W PF:0.9500 Freq:50.00Hz Lamp Flux:2036.94x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	6717	6670
80	6675	6835
75	7562	7637
70	8505	8566
65	10101	10173
60	12998	12987
55	18058	17794
50	25610	24868
45	38062	37009

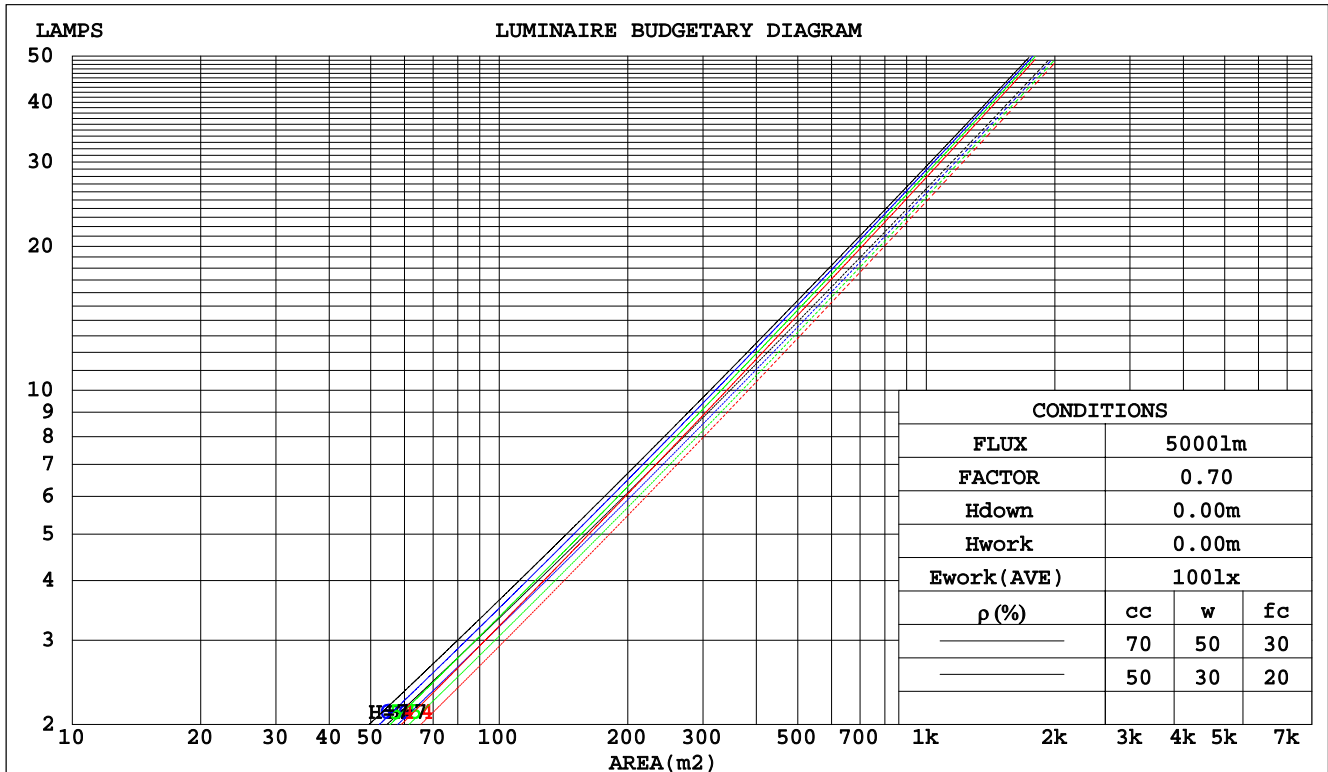
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:225.2V I:0.1280A P:27.50W PF:0.9500 Freq:50.00Hz Lamp Flux:2036.94x1 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	.98	.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	.89	.86	.90	.87	.85	.84
5.0	.92	.88	.84	.91	.87	.84	.90	.86	.83	.88	.85	.83	.87	.84	.82	.81
6.0	.89	.84	.81	.88	.84	.80	.87	.83	.80	.85	.82	.79	.84	.81	.79	.78
7.0	.85	.81	.77	.85	.80	.77	.84	.80	.77	.82	.79	.76	.81	.78	.76	.75
8.0	.82	.78	.75	.82	.77	.74	.81	.77	.74	.80	.76	.74	.79	.76	.74	.72
9.0	.79	.75	.72	.79	.75	.72	.78	.74	.72	.77	.74	.71	.77	.74	.71	.70
10.0	.77	.73	.70	.77	.72	.69	.76	.72	.69	.75	.72	.69	.75	.71	.69	.68



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 V2.0.265  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

## WEC AND CCEC

Test:U:225.2V I:0.1280A P:27.50W PF:0.9500 Freq:50.00Hz Lamp Flux:2036.94x1 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	.082	.026	.131	.075	.024	.120	.069	.022	.109	.063	.020	
2.0	.140	.077	.024	.135	.074	.023	.125	.069	.022	.115	.065	.020	.106	.060	.019	
3.0	.131	.070	.021	.127	.068	.020	.118	.064	.019	.110	.060	.019	.103	.057	.018	
4.0	.123	.064	.019	.120	.063	.018	.112	.059	.018	.105	.057	.017	.099	.054	.016	
5.0	.116	.059	.017	.113	.058	.017	.107	.056	.016	.101	.053	.016	.095	.051	.015	
6.0	.110	.055	.016	.107	.054	.016	.102	.052	.015	.097	.050	.015	.092	.048	.014	
7.0	.105	.052	.015	.102	.051	.014	.097	.049	.014	.093	.048	.014	.089	.046	.014	
8.0	.100	.049	.014	.097	.048	.014	.093	.047	.013	.089	.045	.013	.086	.044	.013	
9.0	.095	.046	.013	.093	.045	.013	.089	.044	.013	.086	.043	.012	.083	.042	.012	
10.0	.091	.044	.012	.089	.043	.012	.086	.042	.012	.083	.041	.012	.080	.040	.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	.087	.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	.099	.074	.056	.068	.052	.039	.040	.031	.023	.013	.010	.008	
6.0	.107	.076	.054	.092	.066	.047	.064	.046	.033	.037	.027	.020	.012	.009	.007	
7.0	.100	.068	.046	.086	.059	.040	.059	.041	.028	.034	.024	.017	.011	.008	.006	
8.0	.093	.062	.040	.080	.053	.035	.056	.037	.025	.032	.022	.015	.010	.007	.005	
9.0	.088	.056	.035	.076	.049	.030	.052	.034	.021	.031	.020	.013	.010	.007	.004	
10.0	.083	.051	.030	.072	.045	.026	.050	.031	.019	.029	.019	.011	.009	.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 V2.0.265  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

Test:U:225.2V I:0.1280A P:27.50W PF:0.9500 Freq:50.00Hz Lamp Flux:2036.94x1 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	15.4	16.2	15.7	16.3	16.5	15.3	16.0	15.5	16.2	16.3	
	3H	15.5	16.2	15.8	16.4	16.6	15.4	16.1	15.6	16.3	16.5
	4H	15.6	16.2	15.8	16.4	16.6	15.4	16.1	15.7	16.3	16.5
	6H	15.6	16.2	15.9	16.4	16.7	15.4	16.1	15.7	16.3	16.5
	8H	15.6	16.1	15.9	16.4	16.6	15.4	16.0	15.7	16.3	16.5
	12H	15.5	16.1	15.9	16.4	16.6	15.4	16.0	15.7	16.2	16.5
4H	2H	15.4	16.0	15.6	16.2	16.5	15.2	15.9	15.5	16.1	16.3
	3H	15.5	16.1	15.8	16.4	16.6	15.4	16.0	15.7	16.2	16.5
	4H	15.6	16.1	15.9	16.4	16.7	15.5	16.0	15.8	16.3	16.6
	6H	15.6	16.1	16.0	16.4	16.8	15.5	16.0	15.9	16.3	16.7
	8H	15.7	16.1	16.0	16.4	16.8	15.5	16.0	15.9	16.3	16.7
	12H	15.7	16.0	16.1	16.4	16.8	15.5	15.9	15.9	16.3	16.7
8H	4H	15.5	16.0	15.9	16.3	16.7	15.4	15.8	15.8	16.2	16.6
	6H	15.6	16.0	16.1	16.4	16.8	15.5	15.9	15.9	16.3	16.7
	8H	15.7	16.0	16.1	16.4	16.8	15.6	15.9	16.0	16.3	16.7
	12H	15.7	16.0	16.1	16.4	16.9	15.6	15.9	16.0	16.3	16.8
12H	4H	15.5	15.9	15.9	16.3	16.6	15.4	15.8	15.8	16.1	16.5
	6H	15.6	15.9	16.0	16.3	16.8	15.5	15.8	15.9	16.2	16.7
	8H	15.6	15.9	16.1	16.4	16.8	15.5	15.8	16.0	16.3	16.7
Variations with the observer position at spacings:											
S = 1.0H	+ 1.8 / - 2.7					+ 1.7 / - 2.6					
1.5H	+ 3.0 / - 2.2					+ 2.9 / - 2.0					
2.0H	+ 2.8 / - 2.1					+ 2.7 / - 2.0					

CIE Pub.117, 2037 lm Total Lamp Luminous Flux Correct ( $8\log(F/F_0) = 2.5$ )

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 V2.0.265  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

Test:U:225.2V I:0.1280A P:27.50W PF:0.9500 Freq:50.00Hz Lamp Flux:2036.94x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

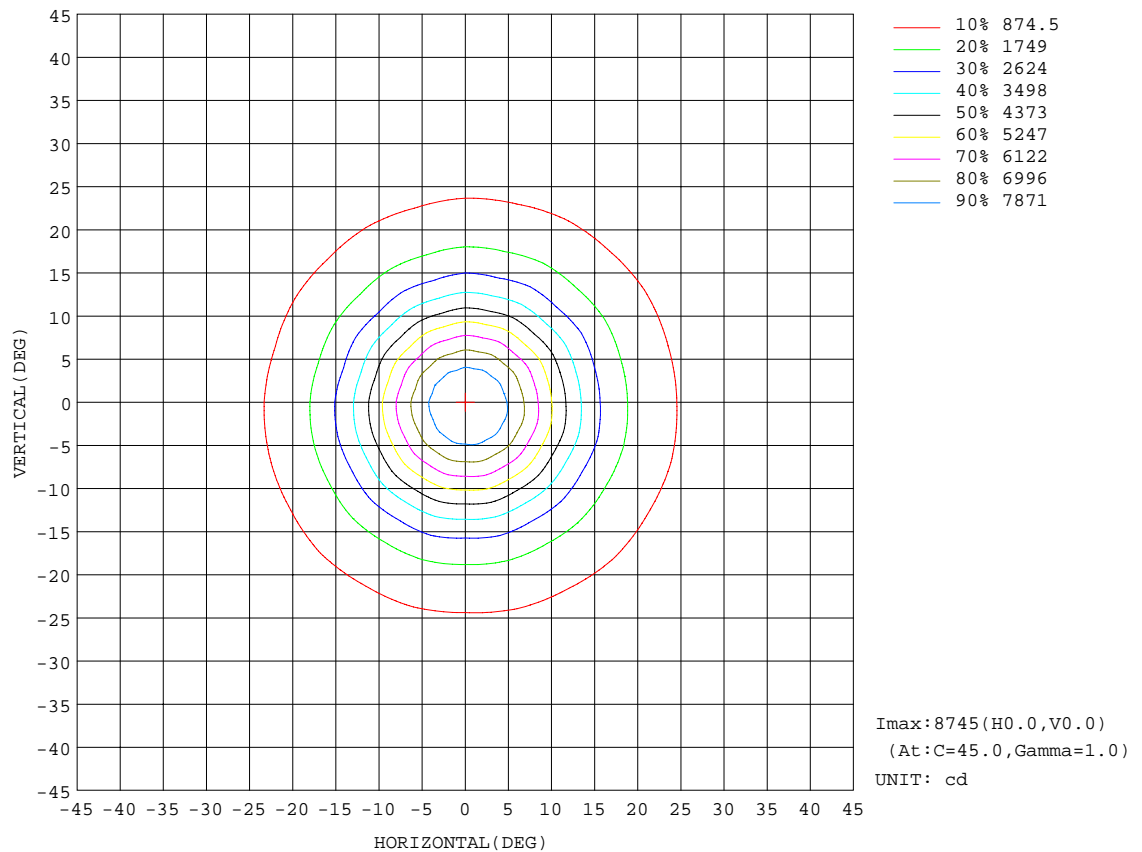
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	88	82	79	88	82	78	87	82	78	75
0.80	96	90	86	95	90	86	94	89	86	82
1.00	100	94	91	99	94	91	97	94	90	86
1.25	104	99	95	103	98	95	101	97	94	90
1.50	106	102	99	105	101	98	103	100	97	93
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	107	105	98
5.00	115	113	111	113	111	110	109	108	107	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 V2.0.265  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:

## ISOCANDELA DIAGRAM

Test:U:225.2V I:0.1280A P:27.50W PF:0.9500 Freq:50.00Hz Lamp Flux:2036.94x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



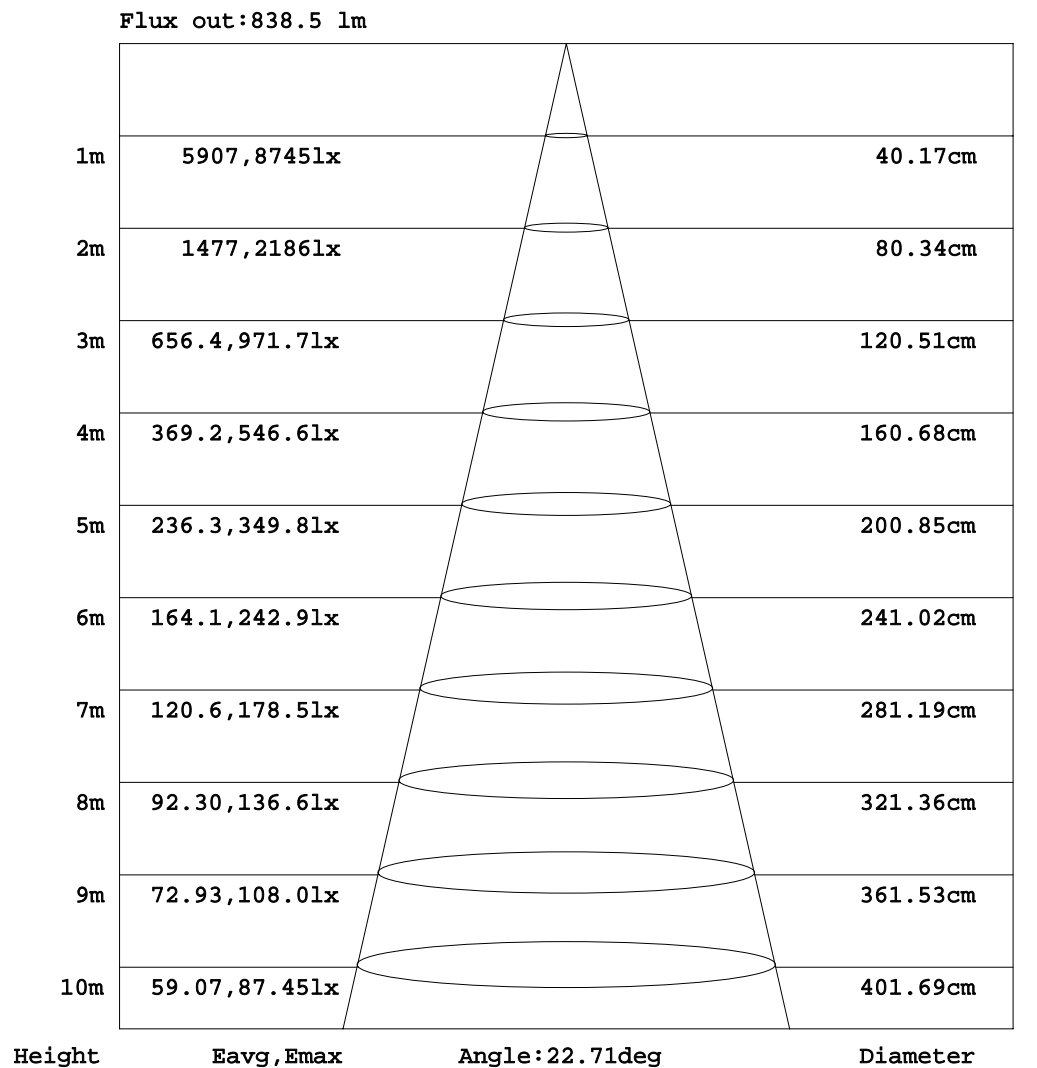
C Range: 0 - 360DEG  
C Interval: 15.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:AE  
Test Date:2020-06-16

$\gamma$  Range: 0 - 90DEG  
 $\gamma$  Interval: 1.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
Humidity:65.0%  
Test Distance:7.240m [K=1.0000]  
Remarks:



### AAI Figure

Test:U:225.2V I:0.1280A P:27.50W PF:0.9500 Freq:50.00Hz Lamp Flux:2036.94x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:



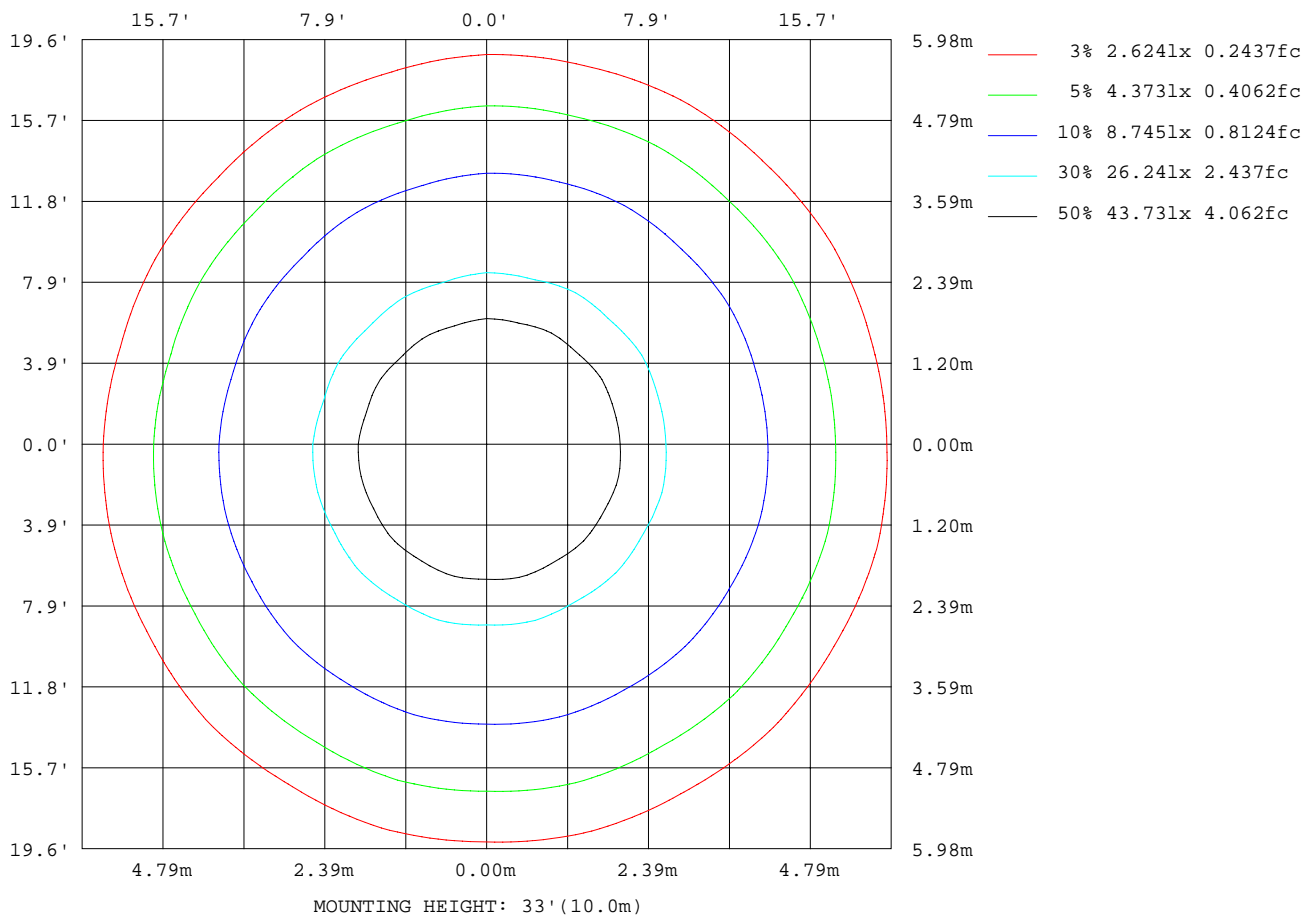
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

γ Range: 0 - 90DEG  
 γ Interval: 1.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.265  
 Humidity:65.0%  
 Test Distance:7.240m [K=1.0000]  
 Remarks:

### ISOLUX DIAGRAM

Test:U:225.2V I:0.1280A P:27.50W PF:0.9500 Freq:50.00Hz Lamp Flux:2036.94x1 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 V2.0.265  
 Humidity: 65.0%  
 Test Distance: 7.240m [K=1.0000]  
 Remarks:

## LED Avg.L Report

Test:U:225.2V I:0.1280A P:27.50W PF:0.9500 Freq:50.00Hz Lamp Flux:2036.94x1 lm		
NAME:	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:60	Shielding Angle:

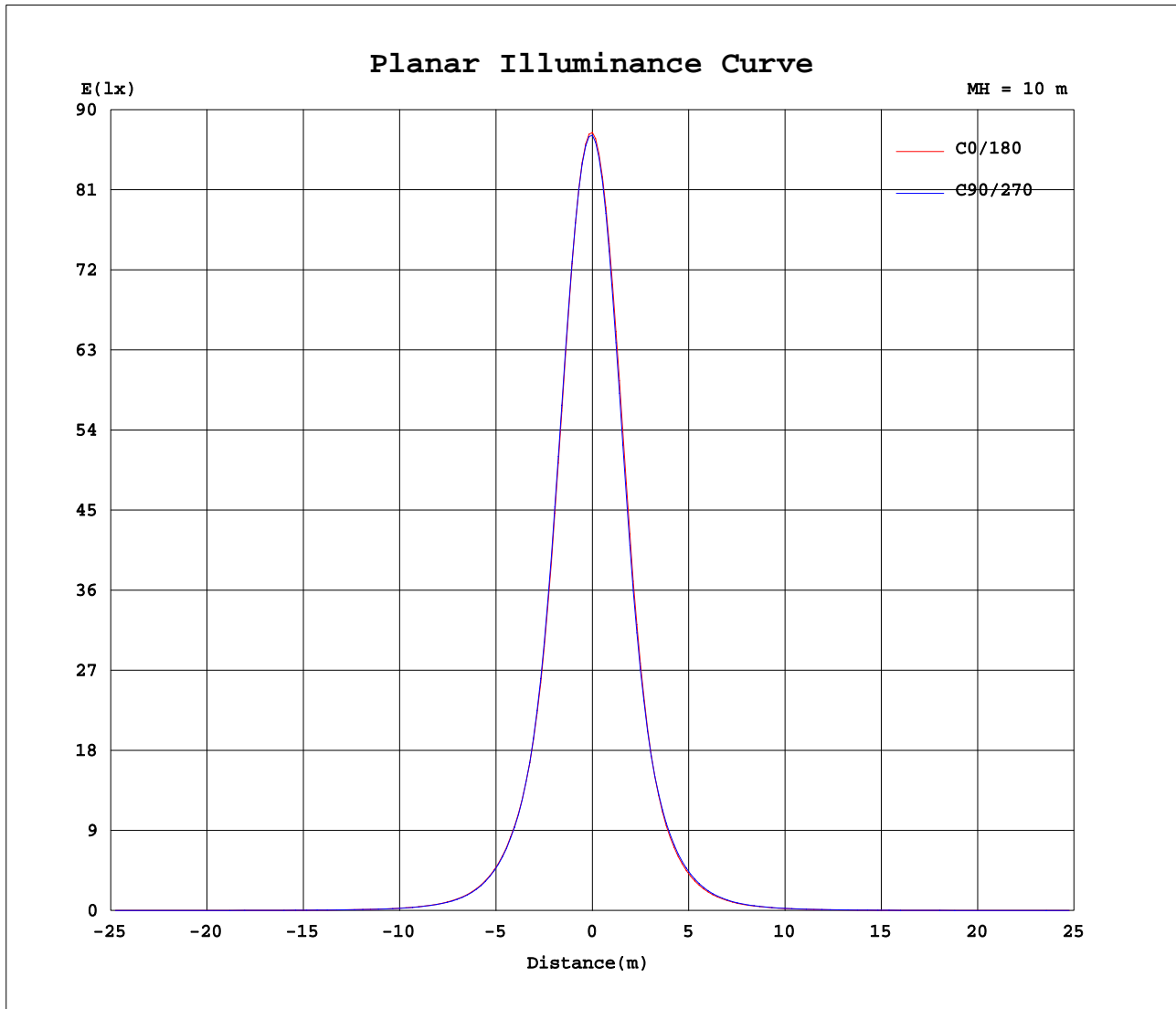
AvgL	cd/m2
L_0~180(65)av	9875
L_0~180(75)av	7525
L_0~180(85)av	5619
L_90~270(65)av	10148
L_90~270(75)av	7561
L_90~270(85)av	5585
L_45(65)av	10073
L_45(75)av	7577
L_45(85)av	5656

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 V2.0.265  
 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 V2.0.265  
Humidity: 65.0%  
Test Distance: 7.240m [K=1.0000]  
Remarks:

```

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γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.265
Humidity:65.0%
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Remarks:

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