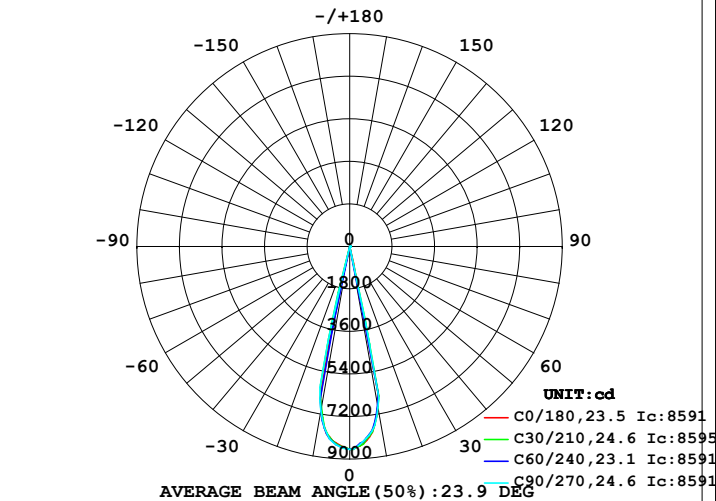


LUMINAIRE PHOTOMETRIC TEST REPORT

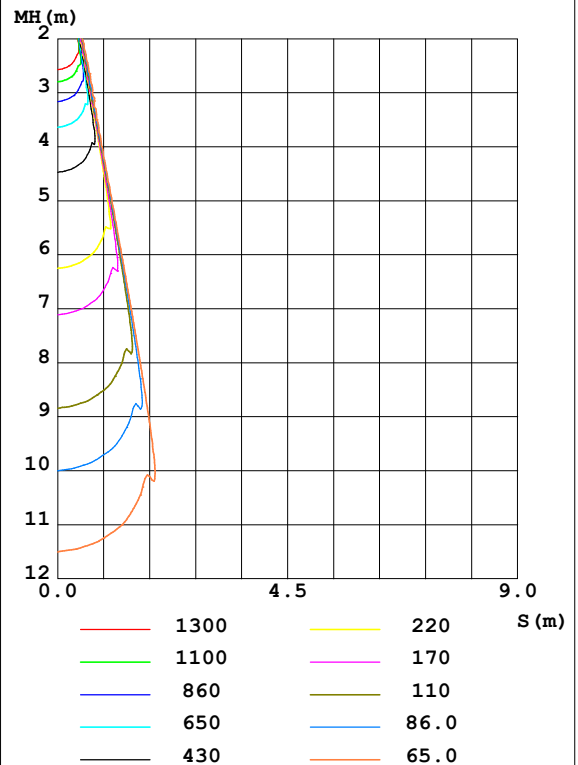
Test:U:224.9V I:0.1300A P:28.10W PF:0.9560 Freq:50.00Hz Lamp Flux:1099.77x1 lm					
NAME: ALT85F-28G40-Z1-Max			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:54		Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 39.14 lm/W
MODEL	4000K CRI90	I _{max} (cd)	8595	S/MH(C0/180)	0.33	
NOMINAL POWER(W)	28	LOR(%)	100.0	S/MH(C90/270)	0.35	
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	1099.8	η UP,DN(C0-180)	0.0,45.9	
NOMINAL FLUX(lm)	1099.77	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,54.1	
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.00	
TEST VOLTAGE(V)	225.4	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: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ZR
 Test Date:2021-06-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:8.402m [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
10	6885	6838	6935	6953	7004	6986	7069	7119	0- 10	750.4	750.4	68.2, 68.2
20	1.941	1.949	1.979	2.064	15.58	15.47	15.52	15.52	10- 20	319.9	1070	97.3, 97.3
30	0.5034	0.4871	0.4635	0.5037	24.22	24.23	24.23	24.21	20- 30	5.177	1075	97.8, 97.8
40	0.4214	0.3765	0.3371	0.3634	16.49	16.58	16.58	16.49	30- 40	6.907	1082	98.4, 98.4
50	0.3576	0.3870	0.3958	0.3850	9.776	9.765	9.755	9.759	40- 50	4.720	1087	98.8, 98.8
60	0.9997	1.011	1.012	1.010	6.803	6.828	6.832	6.806	50- 60	4.149	1091	99.2, 99.2
70	1.347	1.362	1.386	1.361	4.489	4.519	4.544	4.506	60- 70	3.340	1095	99.5, 99.5
80	1.500	1.474	1.455	1.473	3.337	3.365	3.379	3.356	70- 80	2.820	1097	99.8, 99.8
90	1.474	1.464	1.465	1.469	2.300	2.317	2.329	2.319	80- 90	2.354	1100	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		

Conical surface Flux(90deg): 1085 lm

%lum = 98.7%

%lamp = 98.7%

Conical surface Flux(120deg): 1091.3 lm

%lum = 99.2%

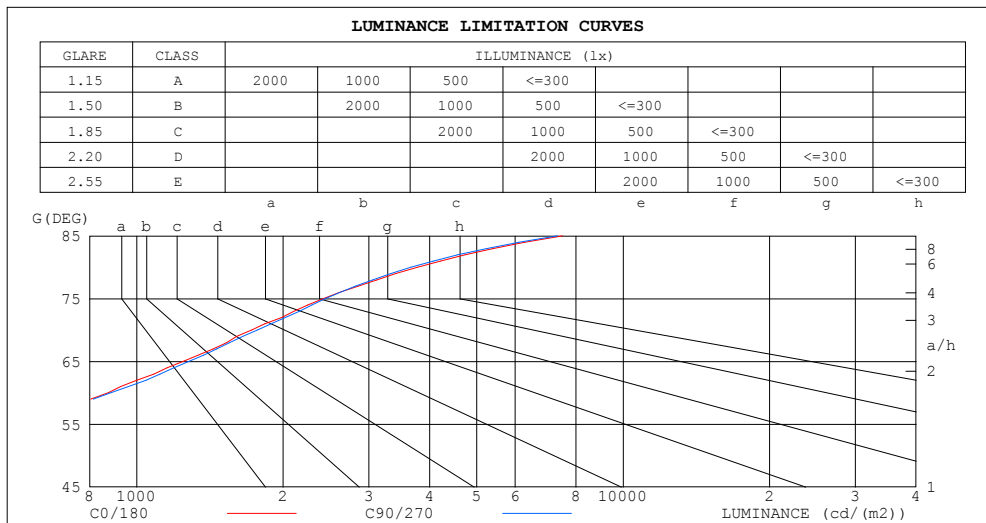
%lamp = 99.2%

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ZR
 Test Date:2021-06-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:8.402m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:224.9V I:0.1300A P:28.10W PF:0.9560 Freq:50.00Hz Lamp Flux:1099.77x1 lm		
NAME: ALT85F-28G40-Z1-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:54	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	7508	7329
80	3778	3660
75	2419	2443
70	1723	1771
65	1247	1281
60	874	885
55	506	534
50	243	269
45	156	160

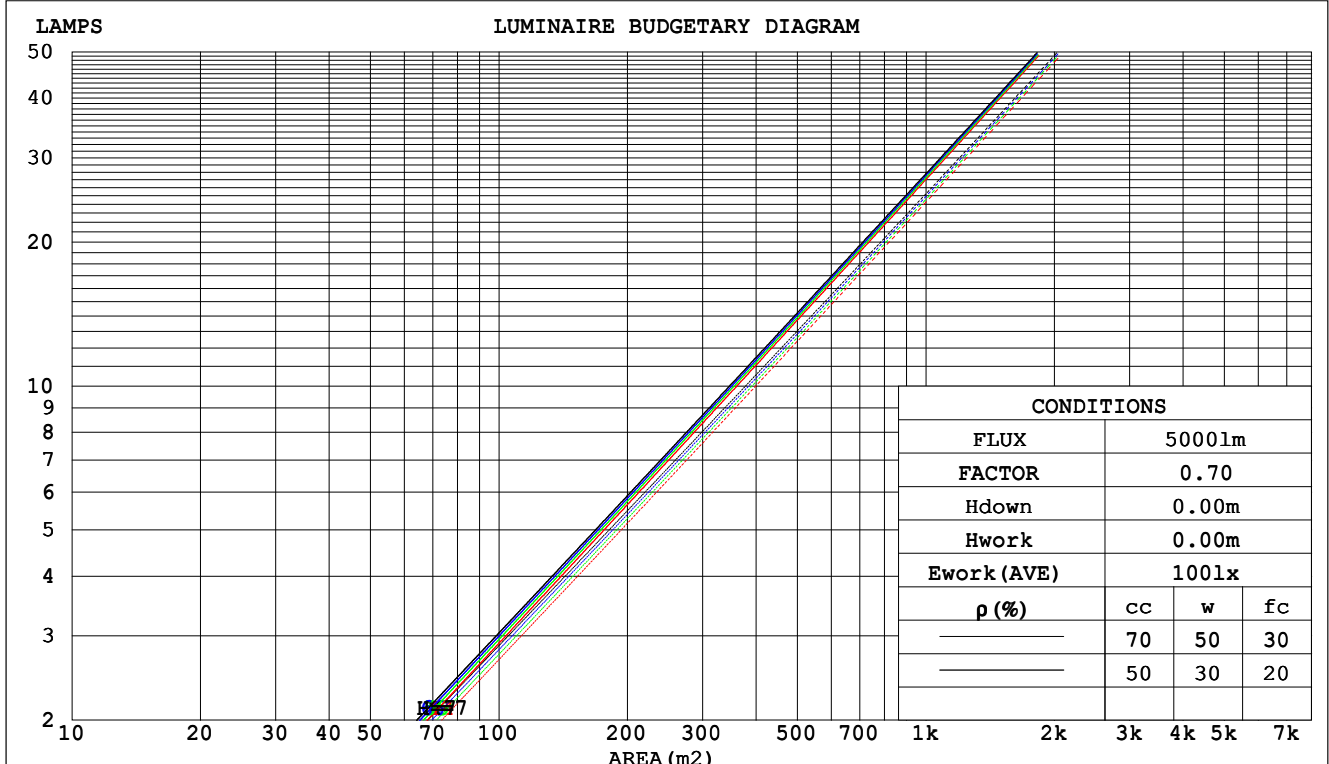
C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-06-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:224.9V I:0.1300A P:28.10W PF:0.9560 Freq:50.00Hz Lamp Flux:1099.77x1 lm		
NAME: ALT85F-28G40-Z1-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:54	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	.00
1.0	1.14	1.12	1.11	1.12	1.11	1.09	1.08	1.07	1.06	1.04	1.04	1.03	1.01	1.00	.00	.98
2.0	1.10	1.08	1.06	1.08	1.06	1.04	1.05	1.04	1.02	1.03	1.01	1.00	1.00	.99	.98	.97
3.0	1.07	1.04	1.02	1.06	1.03	1.01	1.03	1.01	.99	1.01	.99	.98	.99	.98	.97	.95
4.0	1.04	1.01	.99	1.03	1.00	.98	1.01	.99	.97	.00	.98	.96	.98	.96	.95	.94
5.0	1.02	.99	.97	1.01	.98	.96	.00	.97	.95	.98	.96	.95	.97	.95	.94	.93
6.0	1.00	.97	.95	.99	.97	.94	.98	.96	.94	.97	.95	.93	.96	.94	.93	.92
7.0	.98	.95	.93	.98	.95	.93	.97	.94	.93	.96	.94	.92	.95	.93	.92	.91
8.0	.97	.94	.92	.96	.94	.92	.96	.93	.91	.95	.93	.91	.94	.92	.91	.90
9.0	.96	.93	.91	.95	.92	.91	.94	.92	.90	.94	.92	.90	.93	.91	.90	.89
10.0	.94	.91	.90	.94	.91	.90	.93	.91	.89	.93	.91	.89	.92	.90	.89	.88



C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ZR
 Test Date:2021-06-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
 Humidity:65.0%
 Test Distance:8.402m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:224.9V I:0.1300A P:28.10W PF:0.9560 Freq:50.00Hz Lamp Flux:1099.77x1 lm					
NAME: ALT85F-28G40-Z1-Max			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:54		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	.115	.066	.021	.109	.062	.020	.096	.055	.018	.085	.049	.016	.075	.043	.014			
2.0	.103	.057	.017	.098	.054	.017	.088	.049	.015	.079	.044	.014	.070	.040	.013			
3.0	.094	.050	.015	.089	.048	.014	.081	.044	.013	.073	.040	.012	.066	.037	.011			
4.0	.086	.044	.013	.082	.043	.013	.075	.040	.012	.069	.037	.011	.063	.034	.010			
5.0	.079	.040	.012	.076	.039	.011	.070	.037	.011	.065	.034	.010	.060	.032	.010			
6.0	.073	.037	.011	.071	.036	.010	.066	.034	.010	.061	.032	.009	.057	.030	.009			
7.0	.068	.034	.010	.066	.033	.009	.062	.031	.009	.058	.030	.009	.055	.028	.008			
8.0	.064	.031	.009	.062	.031	.009	.059	.029	.008	.055	.028	.008	.052	.027	.008			
9.0	.060	.029	.008	.059	.029	.008	.056	.028	.008	.053	.027	.008	.050	.025	.007			
10.0	.057	.027	.008	.056	.027	.008	.053	.026	.007	.051	.025	.007	.048	.024	.007			

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	.167	.158	.150	.143	.135	.129	.098	.093	.089	.056	.054	.052	.018	.017	.017	
2.0	.147	.133	.121	.126	.114	.104	.086	.079	.073	.050	.046	.043	.016	.015	.014	
3.0	.130	.113	.099	.112	.098	.086	.077	.068	.060	.044	.040	.036	.014	.013	.012	
4.0	.117	.097	.083	.100	.084	.072	.069	.059	.051	.040	.034	.030	.013	.011	.010	
5.0	.105	.085	.070	.090	.073	.061	.062	.051	.043	.036	.030	.025	.012	.010	.008	
6.0	.095	.074	.059	.081	.064	.052	.056	.045	.037	.033	.026	.022	.011	.009	.007	
7.0	.086	.065	.051	.074	.057	.044	.051	.040	.031	.030	.023	.019	.010	.008	.006	
8.0	.079	.058	.044	.068	.051	.039	.047	.036	.027	.027	.021	.016	.009	.007	.005	
9.0	.073	.052	.039	.062	.045	.034	.043	.032	.024	.025	.019	.014	.008	.006	.005	
10.0	.067	.047	.034	.058	.041	.030	.040	.029	.021	.023	.017	.013	.008	.006	.004	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-06-26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:224.9V I:0.1300A P:28.10W PF:0.9560 Freq:50.00Hz Lamp Flux:1099.77x1 lm										
NAME: ALT85F-28G40-Z1-Max					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:54			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	-6.8	-6.3	-6.6	-6.2	-6.1	-6.8	-6.3	-6.6	-6.2	-6.0
3H	-1.6	-1.1	-1.3	-0.9	-0.8	-1.5	-1.0	-1.3	-0.9	-0.7
4H	0.9	1.4	1.2	1.6	1.8	1.0	1.4	1.2	1.6	1.8
6H	3.5	3.9	3.8	4.2	4.4	3.5	3.9	3.7	4.1	4.3
8H	4.9	5.3	5.1	5.5	5.7	4.8	5.2	5.1	5.4	5.7
12H	6.3	6.7	6.6	7.0	7.2	6.2	6.6	6.5	6.9	7.1
4H 2H	-4.8	-4.3	-4.5	-4.1	-3.9	-4.7	-4.3	-4.5	-4.1	-3.9
3H	0.2	0.5	0.5	0.8	1.1	0.2	0.6	0.5	0.8	1.1
4H	2.7	3.0	3.0	3.3	3.6	2.7	3.0	3.0	3.3	3.6
6H	5.3	5.6	5.6	5.9	6.3	5.2	5.6	5.6	5.9	6.2
8H	6.7	7.0	7.0	7.3	7.7	6.6	6.9	7.0	7.2	7.6
12H	8.2	8.5	8.6	8.8	9.2	8.1	8.4	8.5	8.7	9.1
8H 4H	3.6	4.0	4.0	4.3	4.7	3.6	4.0	4.0	4.3	4.7
6H	6.4	6.7	6.8	7.1	7.5	6.4	6.7	6.8	7.1	7.5
8H	8.0	8.2	8.4	8.6	9.0	7.9	8.1	8.4	8.6	9.0
12H	9.7	9.9	10.1	10.3	10.8	9.6	9.8	10.1	10.2	10.7
12H 4H	3.9	4.2	4.3	4.6	5.0	3.9	4.2	4.3	4.6	4.9
6H	6.8	7.0	7.2	7.4	7.9	6.8	7.0	7.2	7.4	7.9
8H	8.4	8.6	8.9	9.1	9.5	8.4	8.6	8.9	9.0	9.5
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.1				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.3 / - 0.4					+ 0.3 / - 0.4				

CIE Pub.117, 1100 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 0.3)

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-06-26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:224.9V I:0.1300A P:28.10W PF:0.9560 Freq:50.00Hz Lamp Flux:1099.77x1 lm		
NAME: ALT85F-28G40-Z1-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:54	Shielding Angle:

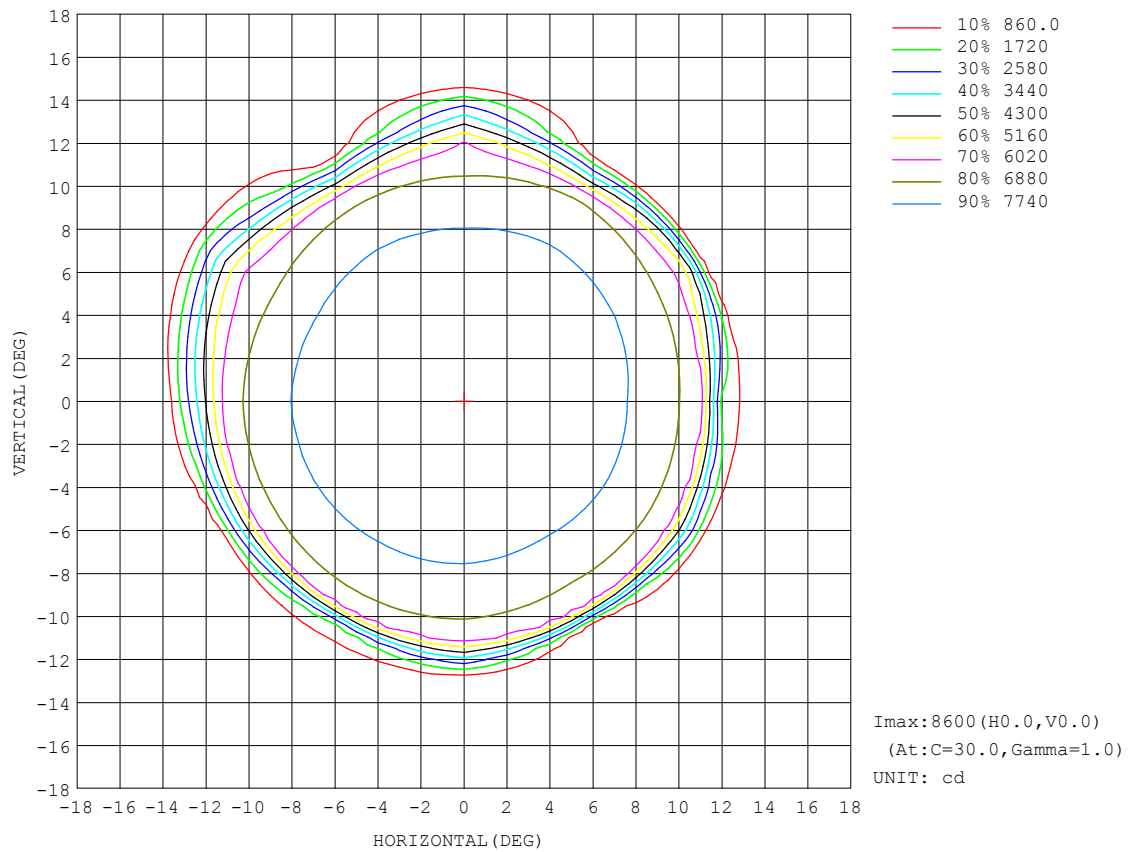
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	81	90	85	81	89	84	81	78
0.80	98	92	89	97	92	89	96	91	88	85
1.00	101	96	93	101	96	93	99	95	92	89
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	105	103	100	95
2.50	111	108	105	109	106	104	106	104	102	96
3.00	112	109	107	111	108	106	107	105	103	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: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-06-26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

Test:U:224.9V I:0.1300A P:28.10W PF:0.9560 Freq:50.00Hz Lamp Flux:1099.77x1 lm		
NAME: ALT85F-28G40-Z1-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:54	Shielding Angle:

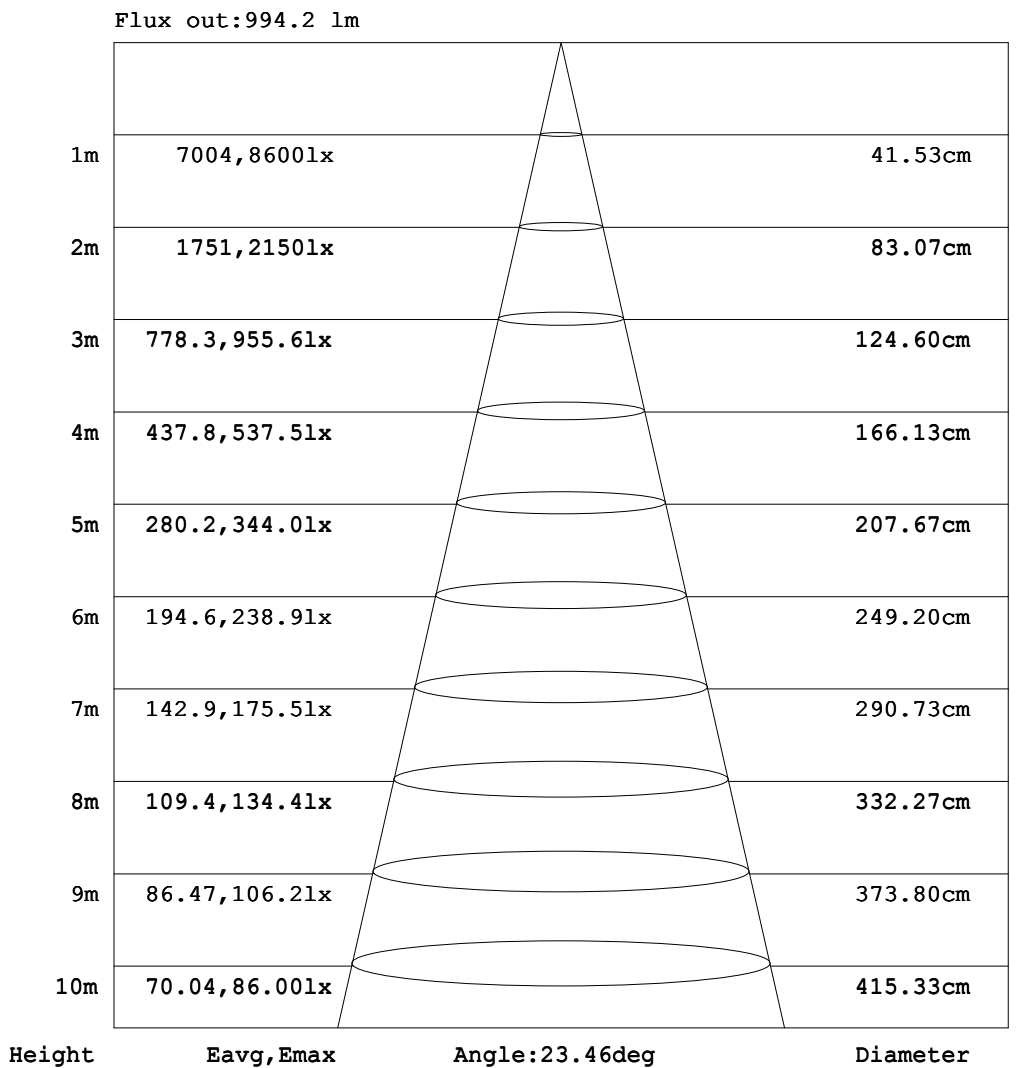


C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-06-26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

AAI Figure

Test:U:224.9V I:0.1300A P:28.10W PF:0.9560 Freq:50.00Hz Lamp Flux:1099.77x1 lm		
NAME: ALT85F-28G40-Z1-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:54	Shielding Angle:



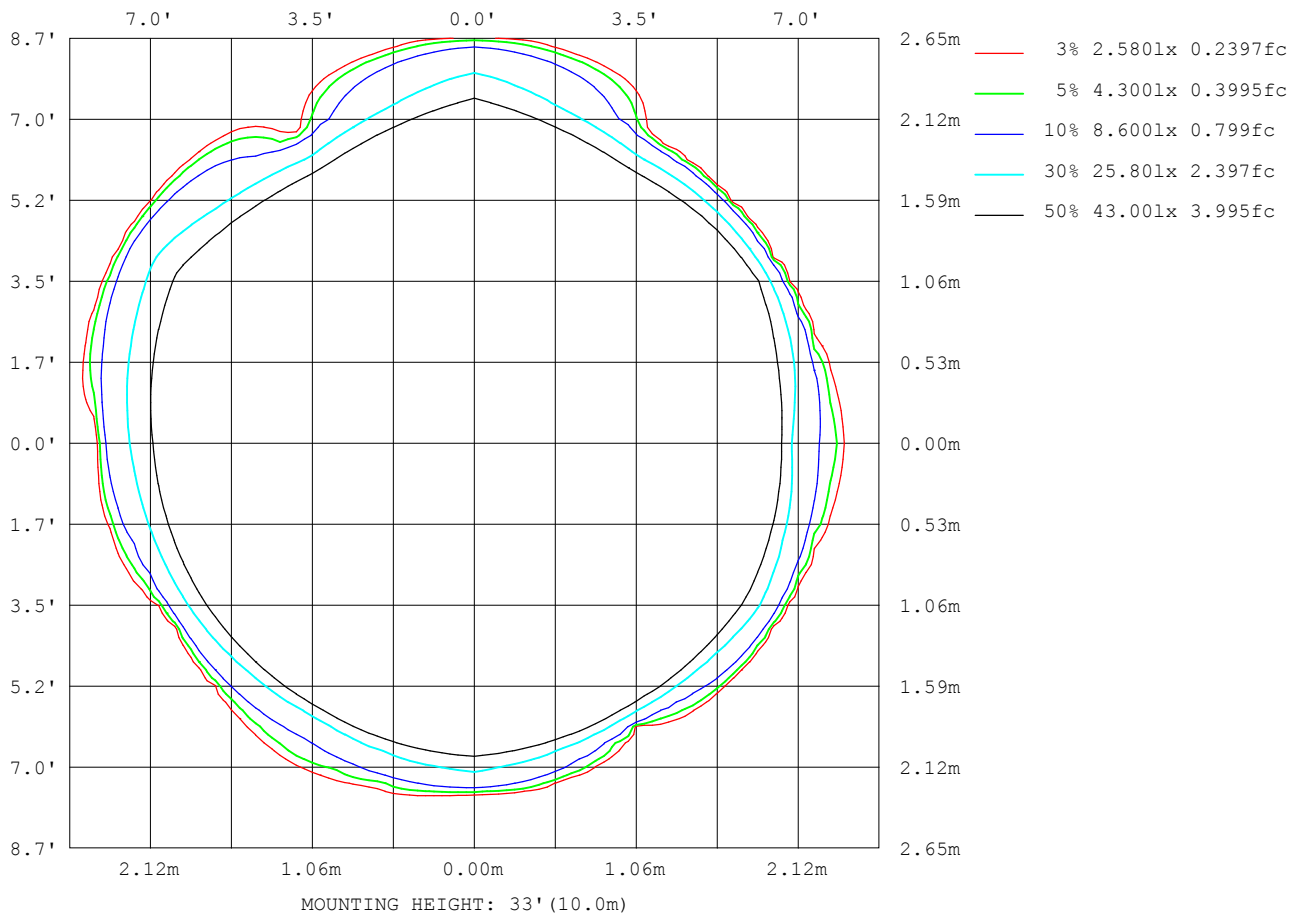
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-06-26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:224.9V I:0.1300A P:28.10W PF:0.9560 Freq:50.00Hz Lamp Flux:1099.77x1 lm		
NAME: ALT85F-28G40-Z1-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:54	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-06-26

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:224.9V I:0.1300A P:28.10W PF:0.9560 Freq:50.00Hz Lamp Flux:1099.77x1 lm		
NAME: ALT85F-28G40-Z1-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:54	Shielding Angle:

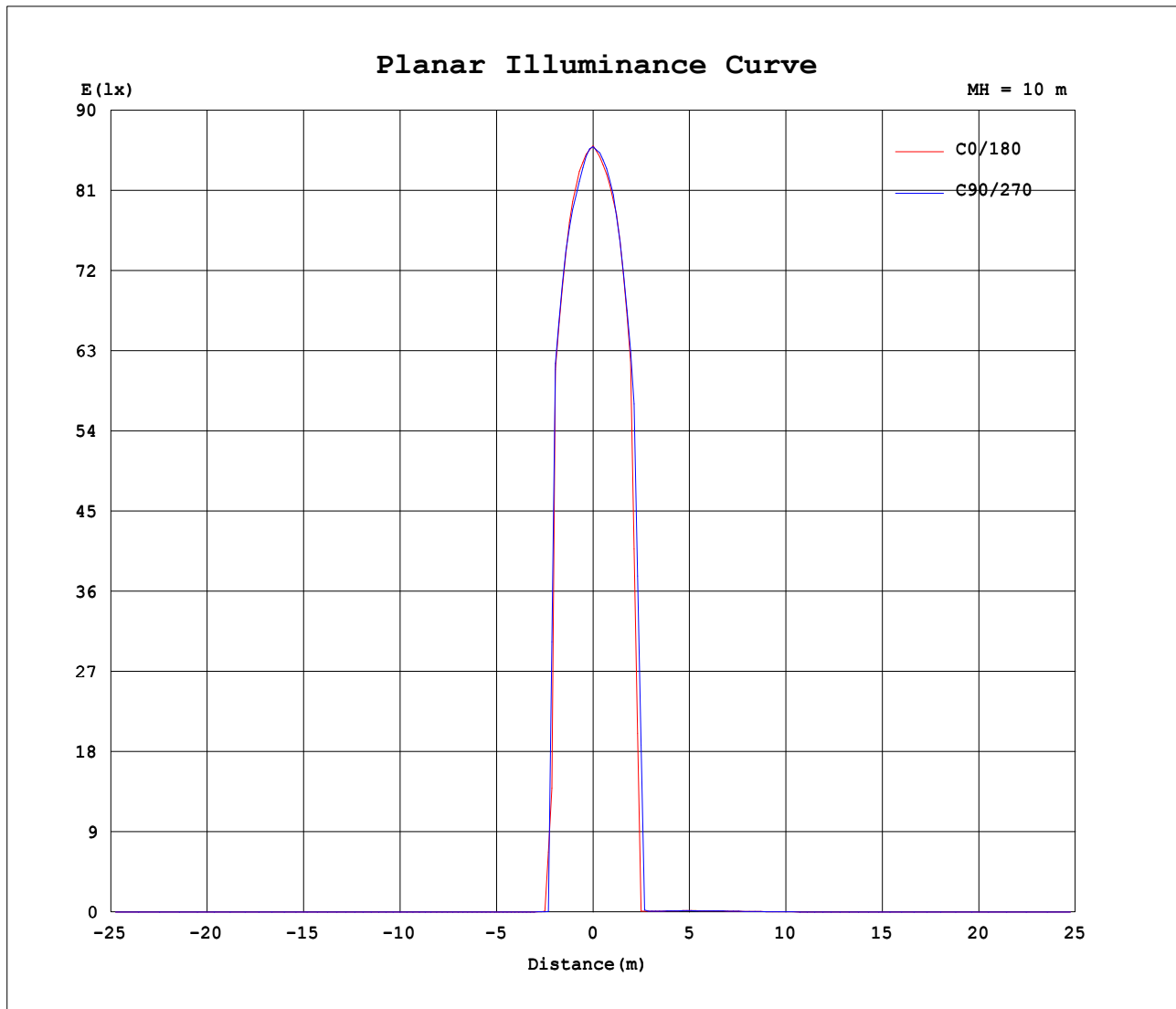
AvgL	cd/m2
L_0~180 (65) av	3432
L_0~180 (75) av	4446
L_0~180 (85) av	10895
L_90~270 (65) av	3471
L_90~270 (75) av	4514
L_90~270 (85) av	10878
L_45 (65) av	3455
L_45 (75) av	4487
L_45 (85) av	10813

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-06-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ZR
Test Date: 2021-06-26

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity: 65.0%
Test Distance: 8.402m [K=1.0000]
Remarks:

```

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.354
Humidity:65.0%
Test Distance:8.402m [K=1.0000]
Remarks:

```