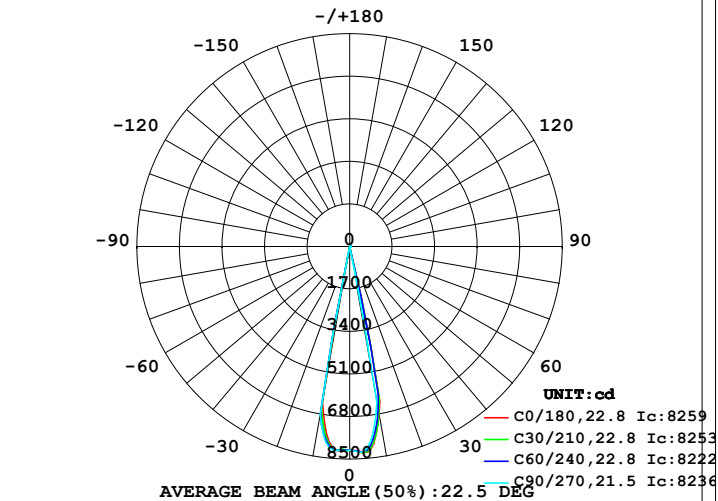


LUMINAIRE PHOTOMETRIC TEST REPORT

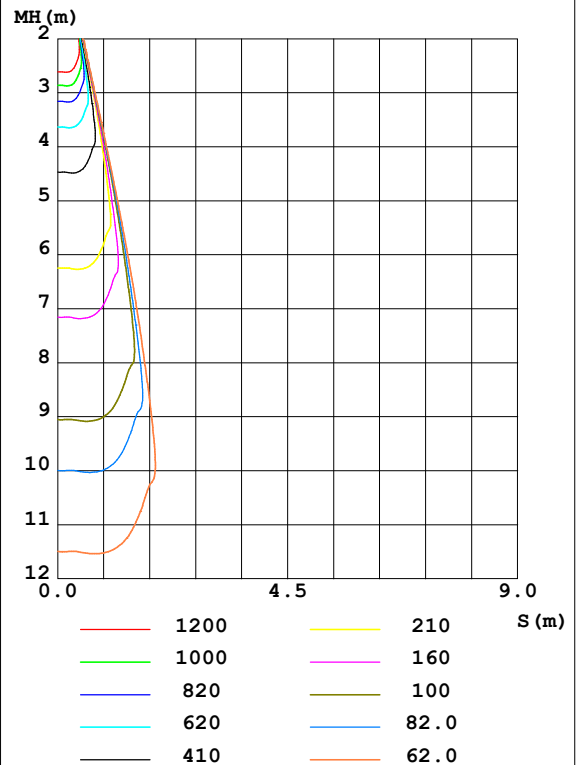
Test:U:224.8V I:0.1300A P:28.00W PF:0.9530 Freq:50.00Hz Lamp Flux:961.731x1 lm					
NAME: ALT85F-28H30-Z2-Min		TYPE:		WEIGHT:	
SPEC.:		DIM.:		SERIAL No.:	
MFR.:		SUR.:70		Shielding Angle:	

DATA OF LAMP		PHOTOMETRIC DATA				Eff: 34.35 lm/W
MODEL	3000K CRI90	I _{max} (cd)	8276	S/MH(C0/180)	0.28	
NOMINAL POWER(W)	28	LOR(%)	100.0	S/MH(C90/270)	0.29	
RATED VOLTAGE(V)	226	TOTAL FLUX(lm)	961.73	η UP,DN(C0-180)	0.0,48.1	
NOMINAL FLUX(lm)	961.731	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,51.9	
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:ZR
 Test Date:2021-05-21

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	6776	6760	6330	6200	6296	6576	6826	6854	0- 10	726.0	726.0	75.5, 75.5
20	2.566	2.130	1.817	1.826	14.67	14.90	14.20	14.14	10- 20	208.3	934.3	97.1, 97.1
30	1.625	1.326	1.229	1.157	22.65	22.94	23.31	23.35	20- 30	5.084	939.3	97.7, 97.7
40	1.190	0.9836	0.9236	0.8504	13.89	14.20	14.97	15.25	30- 40	6.562	945.9	98.4, 98.4
50	0.9482	0.8318	0.8058	0.7930	9.044	9.089	9.183	9.225	40- 50	4.488	950.4	98.8, 98.8
60	1.168	1.163	1.134	1.168	5.919	6.018	6.205	6.306	50- 60	3.944	954.3	99.2, 99.2
70	1.257	1.228	1.241	1.253	3.850	3.922	3.981	4.054	60- 70	3.054	957.4	99.5, 99.5
80	1.221	1.183	1.219	1.169	2.740	2.806	2.790	2.843	70- 80	2.409	959.8	99.8, 99.8
90	1.174	1.168	1.176	1.157	1.845	1.879	1.873	1.950	80- 90	1.930	961.7	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): 948.32 lm

%lum = 98.6%

%lamp = 98.6%

Conical surface Flux(120deg): 954.34 lm

%lum = 99.2%

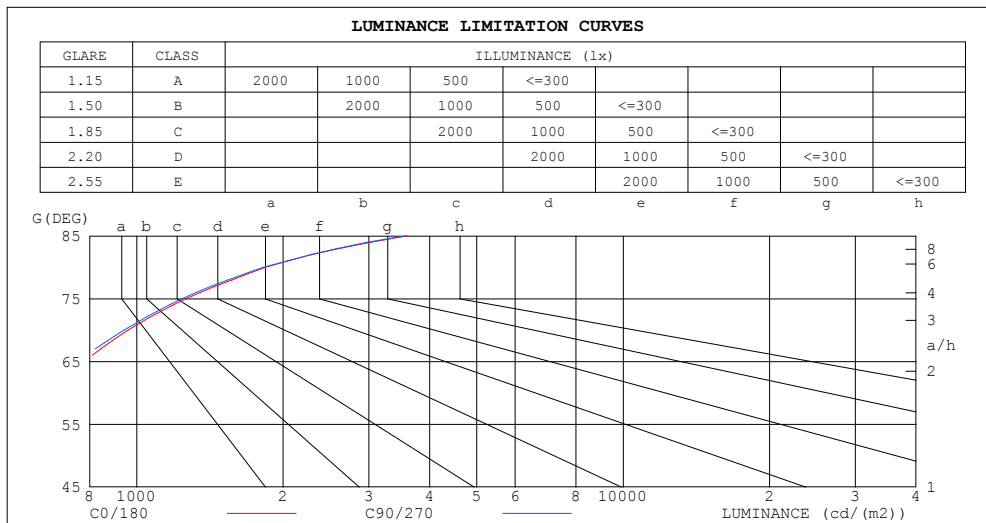
%lamp = 99.2%

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ZR
 Test Date:2021-05-21

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:224.8V I:0.1300A P:28.00W PF:0.9530 Freq:50.00Hz Lamp Flux:961.731x1 lm		
NAME: ALT85F-28H30-Z2-Min	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	3600	3568
80	1838	1823
75	1263	1240
70	961	942
65	781	758
60	611	589
55	463	453
50	386	326
45	353	275

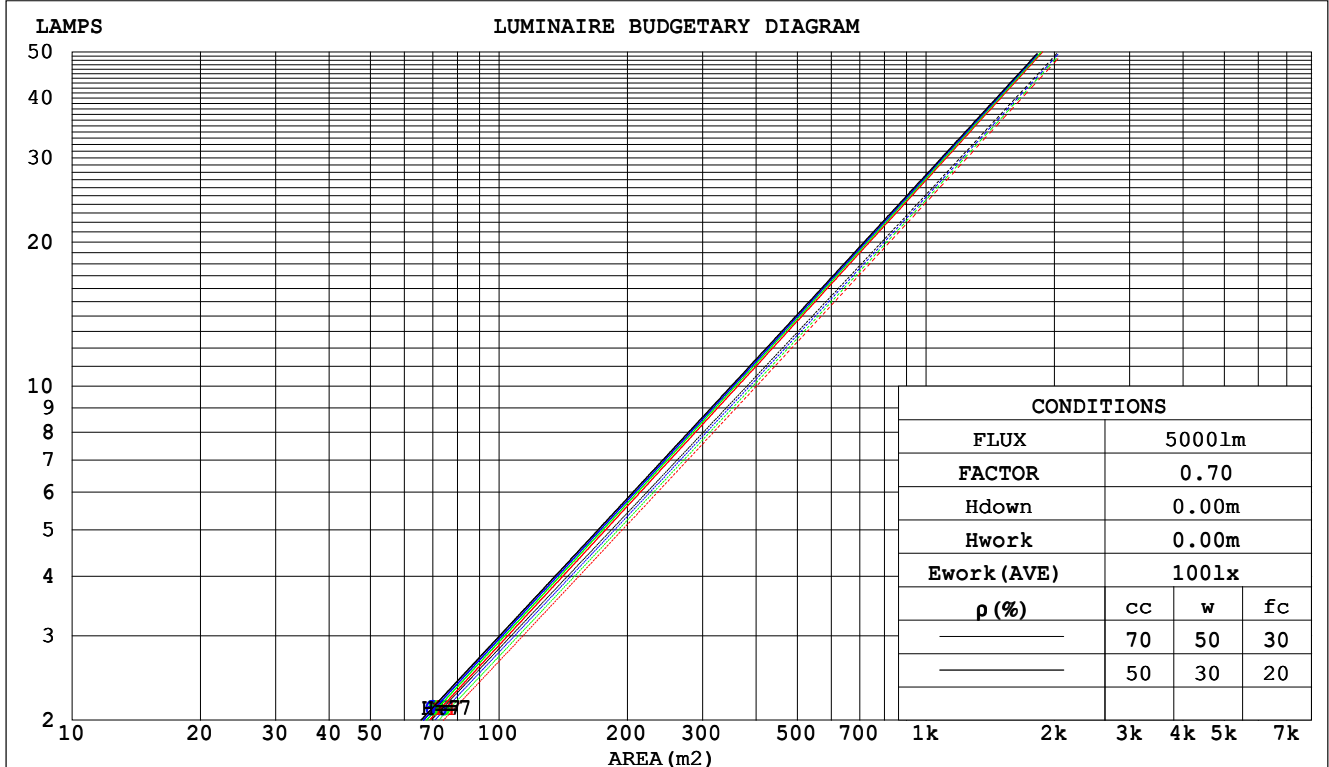
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-05-21

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:224.8V I:0.1300A P:28.00W PF:0.9530 Freq:50.00Hz Lamp Flux:961.731x1 lm		
NAME: ALT85F-28H30-Z2-Min	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	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	1.14	1.13	1.11	1.12	1.11	1.10	1.08	1.07	1.06	1.05	1.04	1.03	1.01	1.01	1.00	.99
2.0	1.10	1.08	1.06	1.09	1.07	1.05	1.06	1.04	1.03	1.03	1.02	1.01	1.00	.99	.99	.97
3.0	1.07	1.05	1.03	1.06	1.04	1.02	1.04	1.02	1.00	1.02	1.00	.99	.00	.98	.97	.96
4.0	1.05	1.02	.00	1.04	1.01	.99	1.02	1.00	.98	1.00	.99	.97	.99	.97	.96	.95
5.0	1.03	1.00	.98	1.02	.00	.97	1.01	.98	.97	.99	.97	.96	.98	.96	.95	.94
6.0	1.01	.98	.96	1.01	.98	.96	.99	.97	.95	.98	.96	.95	.97	.96	.94	.93
7.0	.00	.97	.95	.99	.97	.95	.98	.96	.94	.97	.95	.94	.97	.95	.93	.93
8.0	.98	.96	.94	.98	.95	.94	.97	.95	.93	.96	.94	.93	.96	.94	.93	.92
9.0	.97	.95	.93	.97	.94	.93	.96	.94	.92	.96	.94	.92	.95	.93	.92	.91
10.0	.96	.94	.92	.96	.93	.92	.95	.93	.92	.95	.93	.91	.94	.93	.91	.91



C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ZR
 Test Date:2021-05-21

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:224.8V I:0.1300A P:28.00W PF:0.9530 Freq:50.00Hz Lamp Flux:961.731x1 lm					
NAME: ALT85F-28H30-Z2-Min			TYPE:		WEIGHT:
SPEC.:			DIM.:		SERIAL No.:
MFR.:			SUR.:70		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	.111	.063	.020	.105	.060	.019	.093	.053	.017	.081	.047	.015	.071	.041	.013	
2.0	.099	.054	.017	.094	.052	.016	.084	.047	.015	.075	.042	.013	.066	.038	.012	
3.0	.090	.048	.014	.085	.046	.014	.077	.042	.013	.070	.038	.012	.063	.035	.011	
4.0	.082	.042	.012	.078	.041	.012	.071	.038	.011	.065	.035	.011	.059	.032	.010	
5.0	.075	.038	.011	.072	.037	.011	.066	.035	.010	.061	.032	.010	.056	.030	.009	
6.0	.069	.035	.010	.067	.034	.010	.062	.032	.009	.058	.030	.009	.054	.028	.008	
7.0	.065	.032	.009	.062	.031	.009	.058	.030	.008	.055	.028	.008	.051	.026	.008	
8.0	.060	.029	.008	.059	.029	.008	.055	.028	.008	.052	.026	.008	.049	.025	.007	
9.0	.057	.027	.008	.055	.027	.008	.052	.026	.007	.049	.025	.007	.047	.024	.007	
10.0	.053	.026	.007	.052	.025	.007	.049	.024	.007	.047	.023	.007	.045	.022	.006	

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	.136	.129	.097	.093	.089	.056	.054	.052	.018	.017	.017	
2.0	.147	.133	.121	.126	.114	.105	.086	.079	.073	.050	.046	.043	.016	.015	.014	
3.0	.130	.113	.100	.111	.098	.087	.076	.068	.061	.044	.040	.036	.014	.013	.012	
4.0	.116	.097	.083	.099	.084	.072	.068	.059	.051	.039	.034	.030	.013	.011	.010	
5.0	.104	.084	.070	.089	.073	.061	.061	.051	.043	.036	.030	.026	.011	.010	.008	
6.0	.093	.074	.060	.080	.064	.052	.055	.045	.037	.032	.026	.022	.010	.009	.007	
7.0	.085	.065	.052	.073	.057	.045	.050	.040	.032	.029	.023	.019	.009	.008	.006	
8.0	.077	.058	.045	.067	.050	.039	.046	.035	.028	.027	.021	.016	.009	.007	.005	
9.0	.071	.052	.039	.061	.045	.034	.042	.032	.024	.025	.019	.014	.008	.006	.005	
10.0	.065	.047	.034	.056	.041	.030	.039	.029	.021	.023	.017	.013	.007	.006	.004	

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-05-21

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:224.8V I:0.1300A P:28.00W PF:0.9530 Freq:50.00Hz Lamp Flux:961.731x1 lm											
NAME: ALT85F-28H30-Z2-Min					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					SUR.:70			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		-6.2	-5.8	-6.0	-5.6	-5.5	-6.5	-6.0	-6.3	-5.9	-5.7
	3H	-2.4	-1.9	-2.2	-1.8	-1.6	-2.5	-2.1	-2.3	-1.9	-1.7
	4H	-0.4	0.0	-0.1	0.2	0.4	-0.5	-0.1	-0.2	0.1	0.3
	6H	1.7	2.1	2.0	2.4	2.6	1.6	2.0	1.9	2.3	2.5
	8H	2.9	3.3	3.2	3.5	3.8	2.8	3.2	3.1	3.5	3.7
	12H	4.2	4.6	4.5	4.9	5.1	4.2	4.5	4.4	4.8	5.0
4H	2H	-4.8	-4.3	-4.5	-4.2	-4.0	-4.9	-4.5	-4.7	-4.3	-4.1
	3H	-0.9	-0.5	-0.6	-0.3	-0.0	-1.0	-0.6	-0.7	-0.4	-0.1
	4H	1.2	1.5	1.5	1.8	2.1	1.1	1.4	1.4	1.7	2.0
	6H	3.4	3.7	3.7	4.0	4.4	3.3	3.6	3.7	3.9	4.3
	8H	4.6	4.9	5.0	5.2	5.6	4.5	4.8	4.9	5.2	5.5
	12H	6.0	6.3	6.4	6.6	7.0	5.9	6.2	6.3	6.6	7.0
8H	4H	2.0	2.3	2.4	2.6	3.0	1.9	2.2	2.3	2.5	2.9
	6H	4.5	4.7	4.9	5.1	5.5	4.4	4.6	4.8	5.0	5.4
	8H	5.8	6.1	6.3	6.5	6.9	5.8	6.0	6.2	6.4	6.9
	12H	7.4	7.6	7.9	8.1	8.5	7.4	7.6	7.8	8.0	8.5
12H	4H	2.2	2.5	2.6	2.8	3.2	2.1	2.4	2.5	2.8	3.2
	6H	4.8	5.0	5.2	5.4	5.9	4.7	4.9	5.2	5.4	5.8
	8H	6.3	6.5	6.7	6.9	7.4	6.2	6.4	6.7	6.9	7.3
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 / - 0.2					
2.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.4					

CIE Pub.117, 961.7 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.1)

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-05-21

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:224.8V I:0.1300A P:28.00W PF:0.9530 Freq:50.00Hz Lamp Flux:961.731x1 lm		
NAME: ALT85F-28H30-Z2-Min	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:

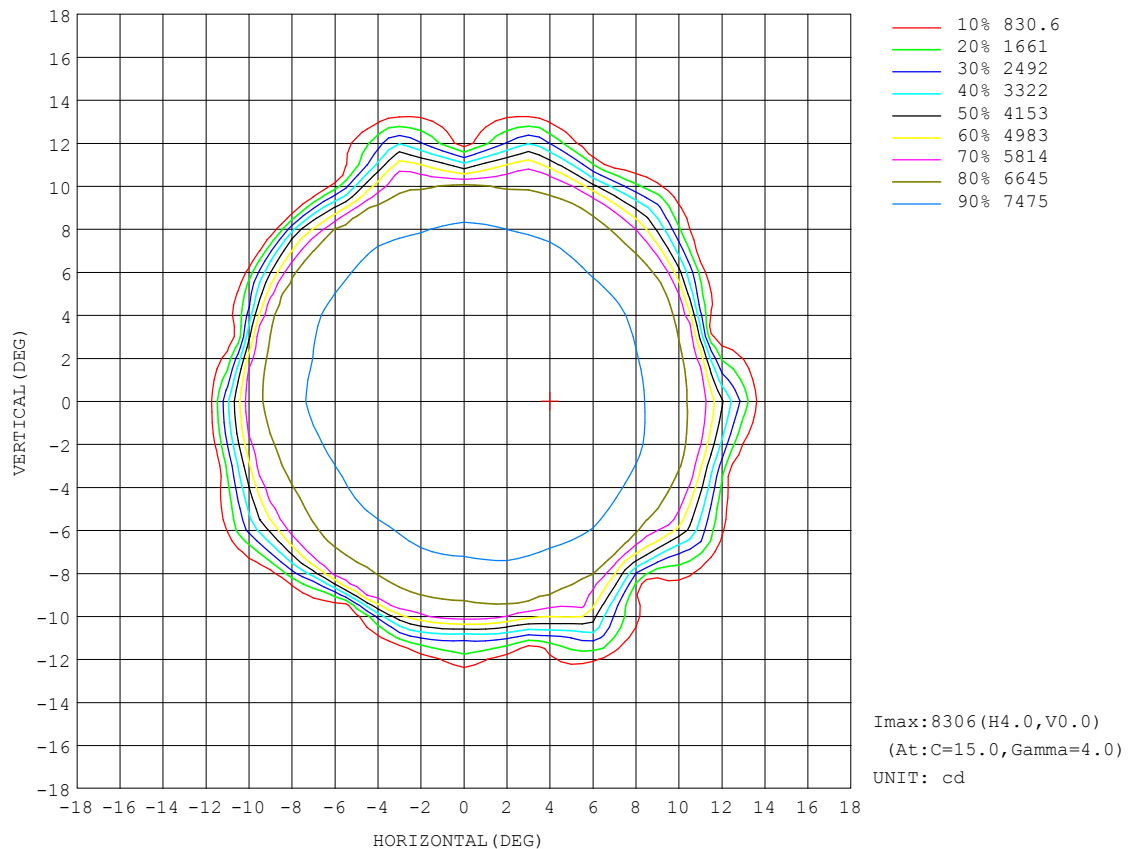
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	81	90	85	81	89	84	81	78
0.80	98	92	89	97	92	89	96	91	88	85
1.00	101	96	93	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	109	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: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-05-21

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:224.8V I:0.1300A P:28.00W PF:0.9530 Freq:50.00Hz Lamp Flux:961.731x1 lm		
NAME: ALT85F-28H30-Z2-Min	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:

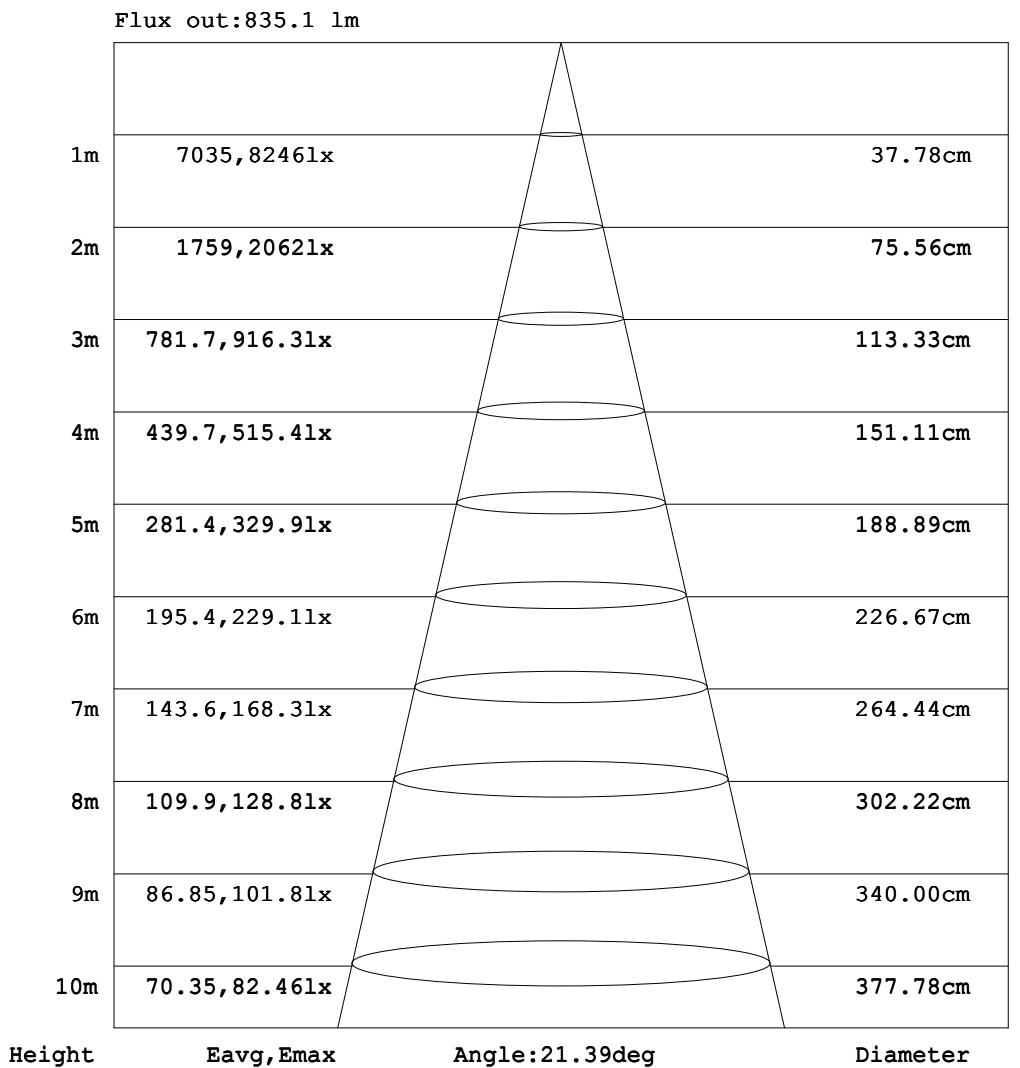


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-05-21

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:224.8V I:0.1300A P:28.00W PF:0.9530 Freq:50.00Hz Lamp Flux:961.73lx1 lm		
NAME: ALT85F-28H30-Z2-Min	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:



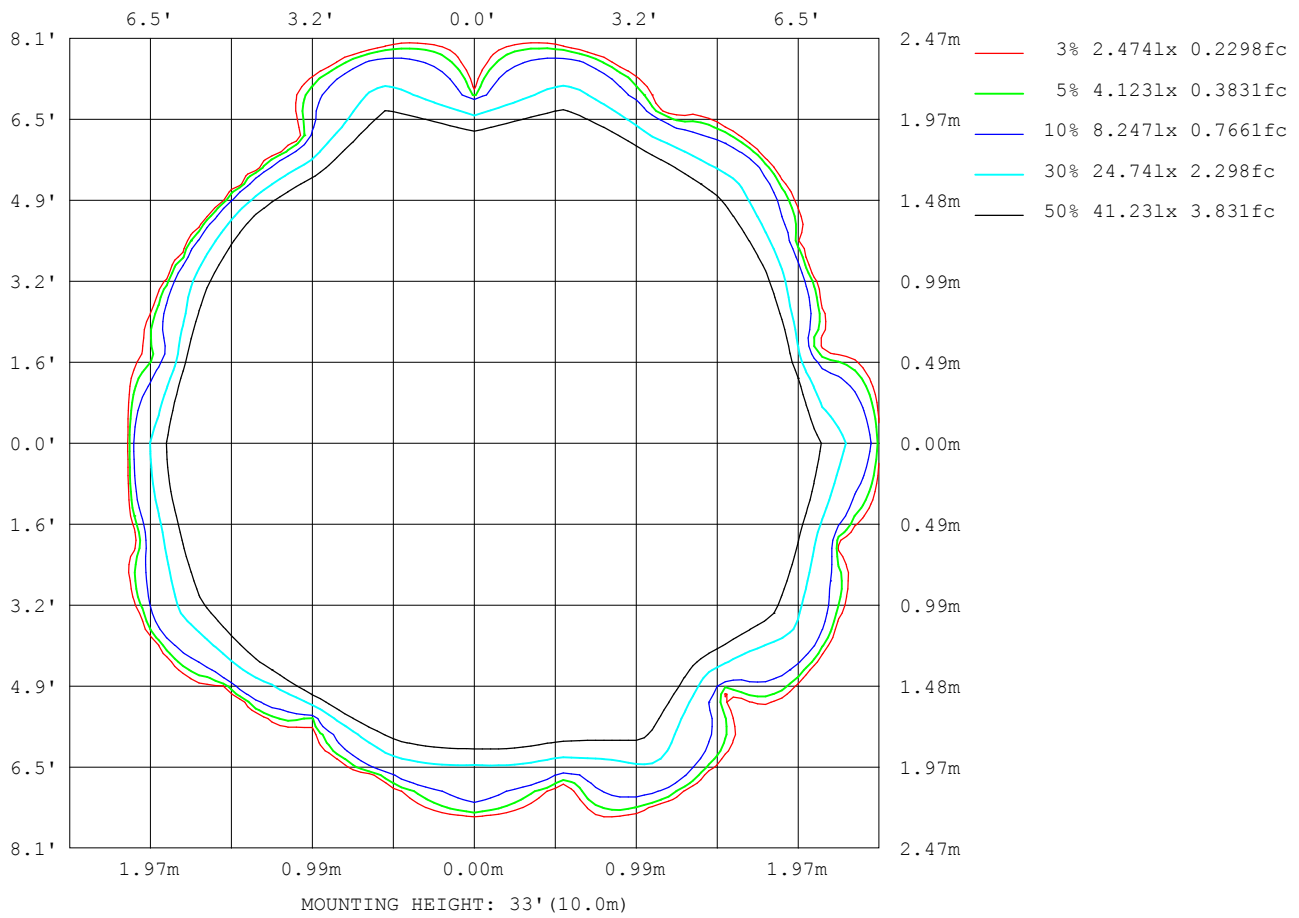
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-05-21

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:224.8V I:0.1300A P:28.00W PF:0.9530 Freq:50.00Hz Lamp Flux:961.731x1 lm		
NAME: ALT85F-28H30-Z2-Min	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-05-21

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:224.8V I:0.1300A P:28.00W PF:0.9530 Freq:50.00Hz Lamp Flux:961.731x1 lm		
NAME: ALT85F-28H30-Z2-Min	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:

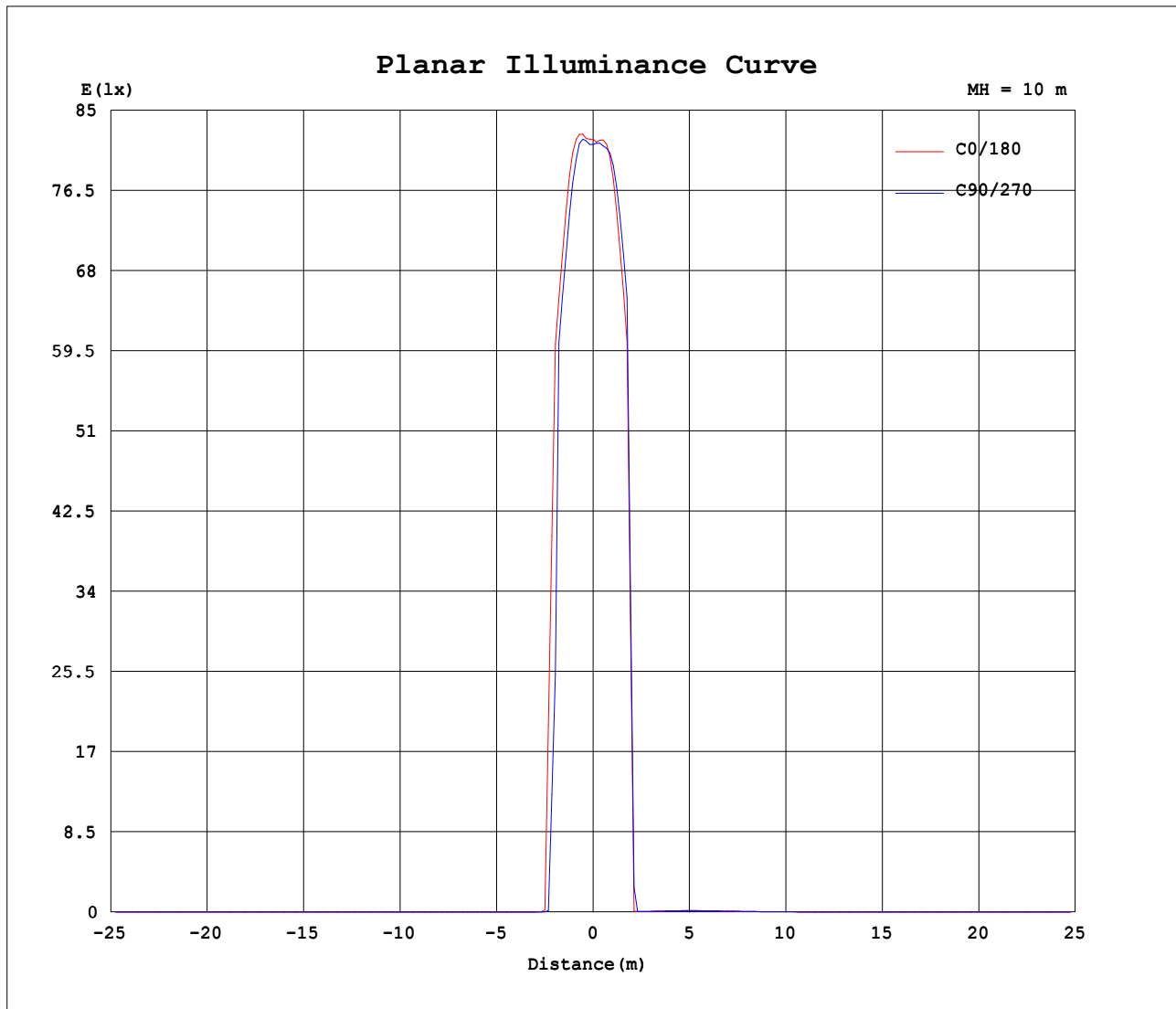
AvgL	cd/m2
L_0~180 (65) av	1841
L_0~180 (75) av	2256
L_0~180 (85) av	5249
L_90~270 (65) av	1896
L_90~270 (75) av	2281
L_90~270 (85) av	5284
L_45 (65) av	1886
L_45 (75) av	2282
L_45 (85) av	5303

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 15.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:ZR
 Test Date:2021-05-21

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: 15.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: ZR
Test Date: 2021-05-21

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:

```

```

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:

```