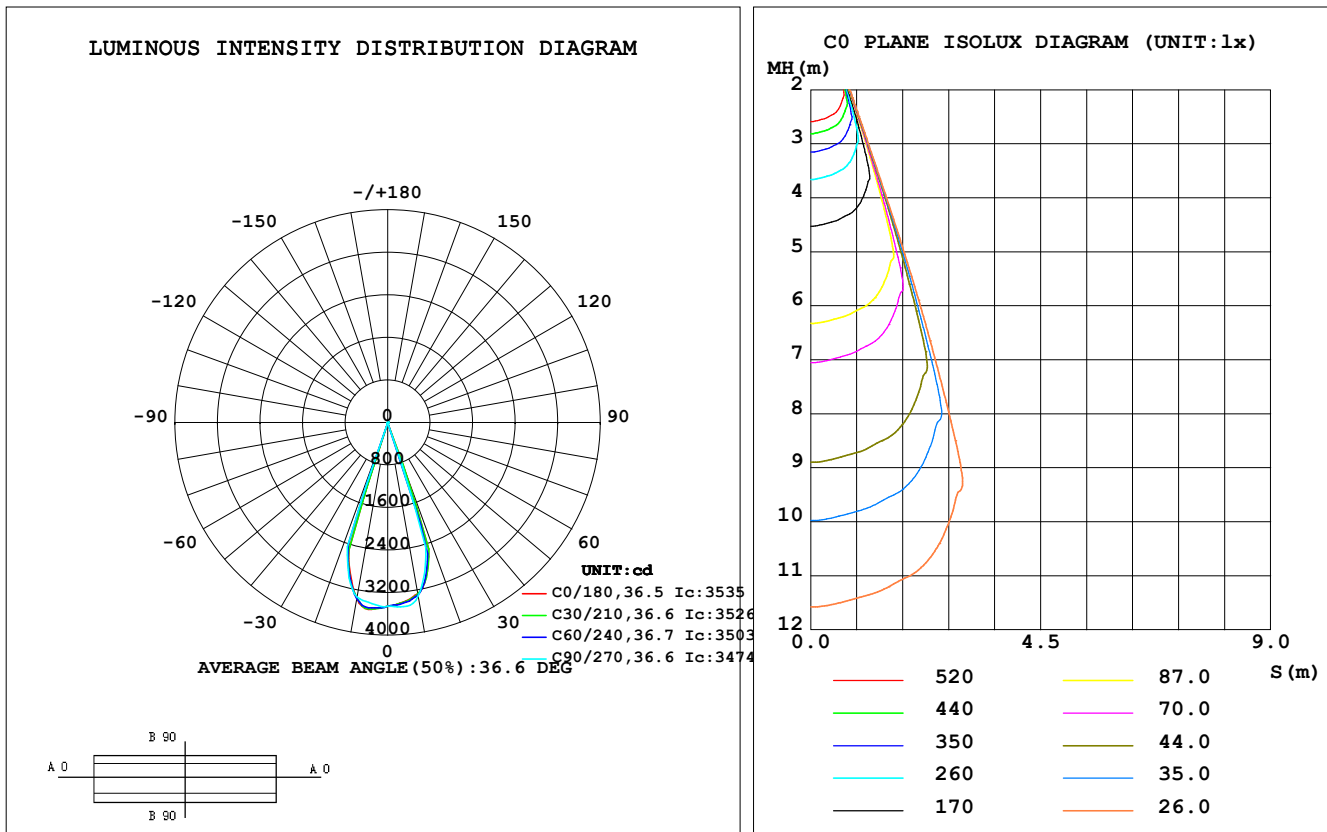


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:224.8V I:0.1310A P:28.10W PF:0.9540 Freq:50.00Hz Lamp Flux:1032.74x1 lm		
NAME: ALT85F-28H30-Z2-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 36.75 lm/W			
MODEL	3000K CRI90	I _{max} (cd)	3535	S/MH (C0/180)	0.46
NOMINAL POWER (W)	28	LOR (%)	100.0	S/MH (C90/270)	0.49
RATED VOLTAGE (V)	226	TOTAL FLUX (lm)	1032.7	η UP, DN (C0-180)	0.0, 47.9
NOMINAL FLUX (lm)	1032.74	CIE CLASS	DIRECT	η UP, DN (C180-360)	0.0, 52.1
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



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	3272	3281	3312	3314	3360	3341	3330	3339	0- 10	326.2	326.2	31.6, 31.6
20	845.6	5.657	14.46	4.611	15.46	807.2	17.29	36.81	10- 20	677.7	1004	97.2, 97.2
30	1.301	0.9967	0.8519	0.7978	15.54	15.45	15.49	15.74	20- 30	7.553	1011	97.9, 97.9
40	0.4244	0.3674	0.3223	0.3015	15.00	15.09	15.36	15.47	30- 40	5.113	1017	98.4, 98.4
50	0.4334	0.3886	0.3557	0.3598	8.777	8.921	9.295	9.352	40- 50	4.869	1021	98.9, 98.9
60	0.6433	0.6778	0.6704	0.6934	6.403	6.482	6.659	6.714	50- 60	3.597	1025	99.3, 99.3
70	1.020	1.071	1.045	1.090	4.232	4.312	4.380	4.429	60- 70	3.089	1028	99.6, 99.6
80	1.193	1.239	1.188	1.233	2.971	3.025	3.039	3.111	70- 80	2.538	1031	99.8, 99.8
90	1.235	1.244	1.251	1.264	2.151	2.184	2.196	2.238	80- 90	2.090	1033	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): 1019.2 lm

%lum = 98.7%

%lamp = 98.7%

Conical surface Flux(120deg): 1025 lm

%lum = 99.3%

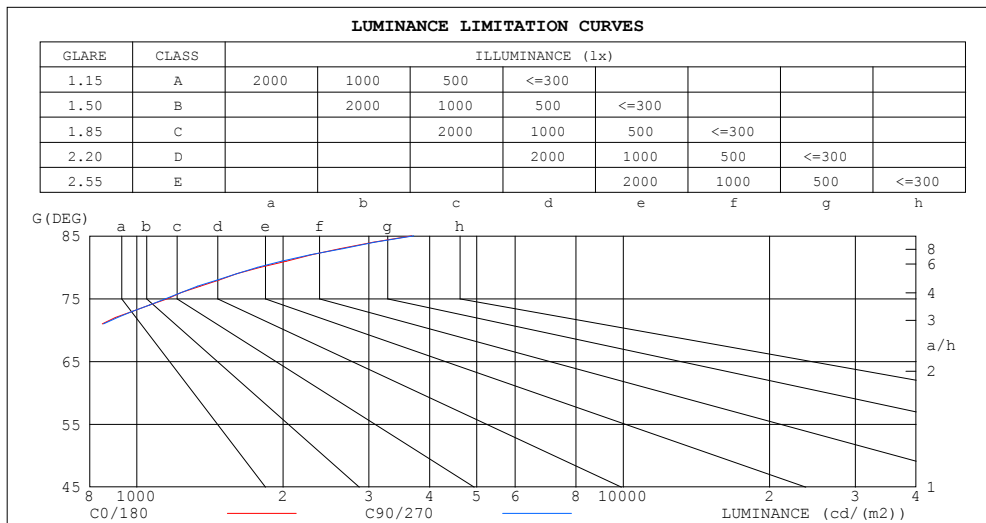
%lamp = 99.3%

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:0.1310A P:28.10W PF:0.9540 Freq:50.00Hz Lamp Flux:1032.74x1 lm		
NAME: ALT85F-28H30-Z2-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:



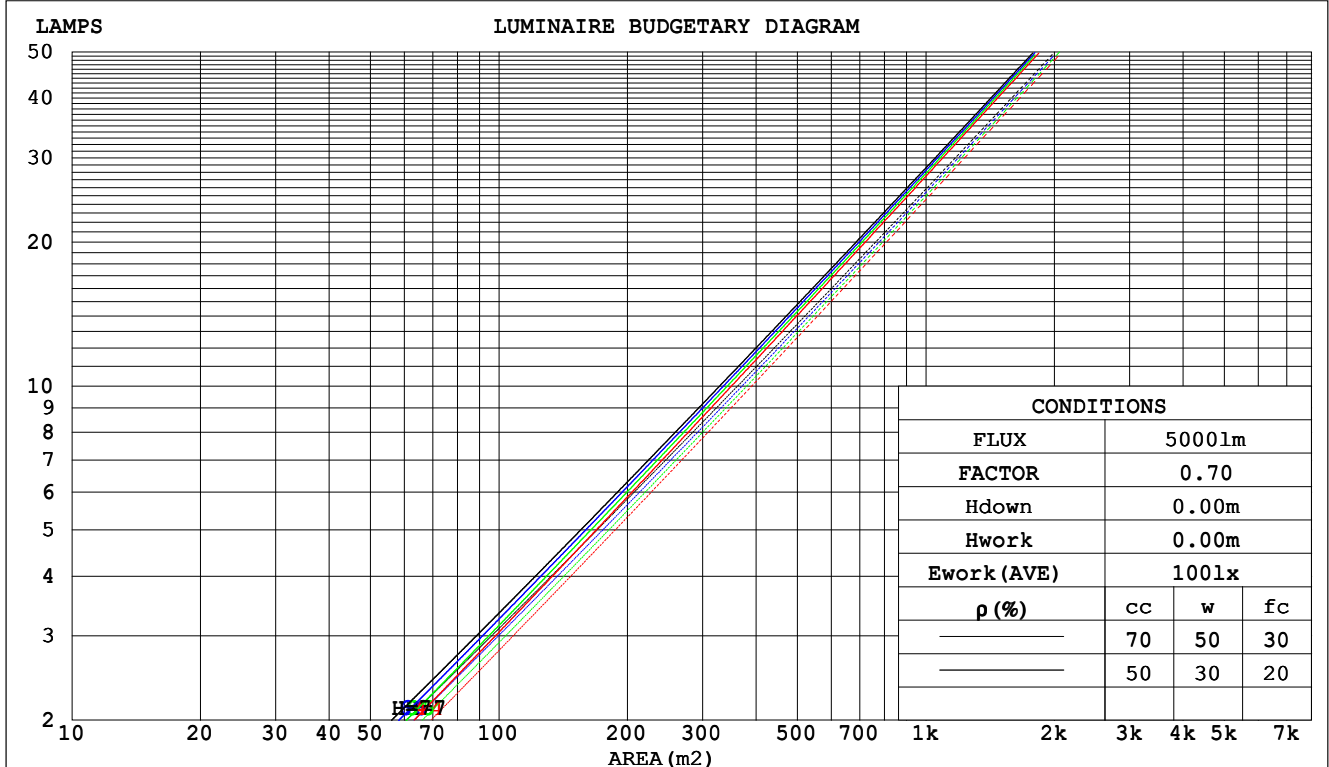
C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-05-21

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:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:224.8V I:0.1310A P:28.10W PF:0.9540 Freq:50.00Hz Lamp Flux:1032.74x1 lm		
NAME: ALT85F-28H30-Z2-Max	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	.00
1.0	1.13	1.11	1.09	1.11	1.09	1.08	1.07	1.06	1.04	1.03	1.02	1.01	.00	.99	.98	.97
2.0	1.08	1.05	1.03	1.06	1.04	1.02	1.03	1.01	.99	1.00	.99	.97	.98	.97	.95	.94
3.0	1.04	1.00	.98	1.03	.99	.97	1.00	.97	.95	.98	.96	.94	.96	.94	.93	.91
4.0	1.00	.96	.94	.99	.96	.93	.97	.94	.92	.95	.93	.91	.94	.92	.90	.89
5.0	.97	.93	.90	.96	.92	.90	.94	.91	.89	.93	.90	.88	.92	.89	.88	.86
6.0	.94	.90	.87	.93	.90	.87	.92	.89	.86	.91	.88	.86	.90	.87	.85	.84
7.0	.91	.87	.85	.91	.87	.84	.90	.86	.84	.89	.86	.84	.88	.85	.83	.82
8.0	.89	.85	.82	.88	.85	.82	.87	.84	.82	.86	.84	.81	.86	.83	.81	.80
9.0	.86	.83	.80	.86	.82	.80	.85	.82	.80	.84	.82	.79	.84	.81	.79	.78
10.0	.84	.80	.78	.84	.80	.78	.83	.80	.78	.83	.80	.78	.82	.79	.77	.76



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:0.1310A P:28.10W PF:0.9540 Freq:50.00Hz Lamp Flux:1032.74x1 lm					
NAME: ALT85F-28H30-Z2-Max			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	.135	.077	.024	.128	.073	.023	.116	.066	.021	.104	.060	.019	.094	.054	.018	
2.0	.123	.067	.021	.117	.065	.020	.107	.060	.019	.098	.055	.017	.089	.050	.016	
3.0	.113	.060	.018	.109	.058	.018	.100	.054	.017	.093	.051	.016	.085	.047	.015	
4.0	.105	.055	.016	.102	.053	.016	.095	.050	.015	.088	.047	.014	.082	.044	.014	
5.0	.099	.050	.015	.096	.049	.014	.090	.047	.014	.084	.044	.013	.079	.042	.013	
6.0	.093	.047	.013	.090	.046	.013	.085	.044	.013	.080	.042	.012	.076	.040	.012	
7.0	.088	.044	.012	.086	.043	.012	.081	.041	.012	.077	.040	.012	.073	.038	.011	
8.0	.084	.041	.012	.082	.040	.011	.078	.039	.011	.074	.038	.011	.071	.036	.011	
9.0	.080	.039	.011	.078	.038	.011	.075	.037	.011	.072	.036	.010	.069	.035	.010	
10.0	.077	.037	.010	.075	.036	.010	.072	.035	.010	.069	.034	.010	.067	.034	.010	

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	.168	.158	.148	.144	.135	.128	.098	.093	.088	.057	.054	.051	.018	.017	.017	
2.0	.150	.133	.118	.128	.114	.102	.088	.079	.071	.051	.046	.042	.016	.015	.014	
3.0	.134	.113	.096	.115	.098	.084	.079	.068	.059	.046	.040	.035	.015	.013	.011	
4.0	.121	.098	.080	.104	.084	.069	.072	.059	.049	.041	.034	.029	.013	.011	.009	
5.0	.111	.085	.067	.095	.074	.058	.065	.052	.041	.038	.030	.024	.012	.010	.008	
6.0	.101	.075	.056	.087	.065	.049	.060	.046	.035	.035	.027	.021	.011	.009	.007	
7.0	.094	.067	.048	.081	.058	.042	.056	.041	.030	.032	.024	.018	.010	.008	.006	
8.0	.087	.060	.042	.075	.052	.036	.052	.037	.026	.030	.022	.015	.010	.007	.005	
9.0	.081	.054	.036	.070	.047	.032	.049	.033	.022	.028	.020	.013	.009	.006	.004	
10.0	.076	.050	.032	.066	.043	.028	.046	.030	.020	.027	.018	.012	.009	.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:0.1310A P:28.10W PF:0.9540 Freq:50.00Hz Lamp Flux:1032.74x1 lm											
NAME: ALT85F-28H30-Z2-Max					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	2H	-10.8	-10.2	-10.6	-10.1	-9.9	-10.6	-10.0	-10.4	-9.9	-9.7
	3H	-5.0	-4.4	-4.7	-4.2	-4.0	-4.9	-4.3	-4.7	-4.1	-3.9
	4H	-2.2	-1.7	-2.0	-1.5	-1.3	-2.2	-1.6	-1.9	-1.4	-1.2
	6H	0.5	1.0	0.8	1.3	1.5	0.5	1.0	0.8	1.2	1.5
	8H	1.9	2.4	2.2	2.7	2.9	1.9	2.4	2.2	2.7	2.9
	12H	3.5	3.9	3.8	4.2	4.5	3.5	3.9	3.8	4.2	4.5
4H	2H	-8.6	-8.1	-8.4	-7.9	-7.7	-8.5	-8.0	-8.3	-7.8	-7.6
	3H	-3.2	-2.8	-2.9	-2.5	-2.2	-3.2	-2.7	-2.9	-2.4	-2.2
	4H	-0.5	-0.0	-0.2	0.2	0.5	-0.5	-0.0	-0.1	0.3	0.6
	6H	2.3	2.7	2.7	3.0	3.4	2.3	2.7	2.7	3.0	3.4
	8H	3.8	4.1	4.2	4.5	4.8	3.8	4.1	4.2	4.5	4.9
	12H	5.4	5.7	5.8	6.1	6.5	5.4	5.7	5.8	6.1	6.5
8H	4H	0.6	0.9	0.9	1.3	1.6	0.6	0.9	1.0	1.3	1.7
	6H	3.5	3.8	3.9	4.2	4.6	3.5	3.8	3.9	4.2	4.6
	8H	5.1	5.4	5.6	5.8	6.3	5.1	5.4	5.6	5.8	6.3
	12H	6.9	7.1	7.4	7.6	8.1	6.9	7.2	7.4	7.6	8.1
12H	4H	0.9	1.2	1.3	1.6	2.0	0.9	1.2	1.3	1.6	2.0
	6H	3.9	4.2	4.4	4.6	5.0	3.9	4.2	4.4	4.6	5.0
	8H	5.6	5.9	6.1	6.3	6.8	5.6	5.9	6.1	6.3	6.8
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, 1033 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:0.1310A P:28.10W PF:0.9540 Freq:50.00Hz Lamp Flux:1032.74x1 lm		
NAME: ALT85F-28H30-Z2-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:

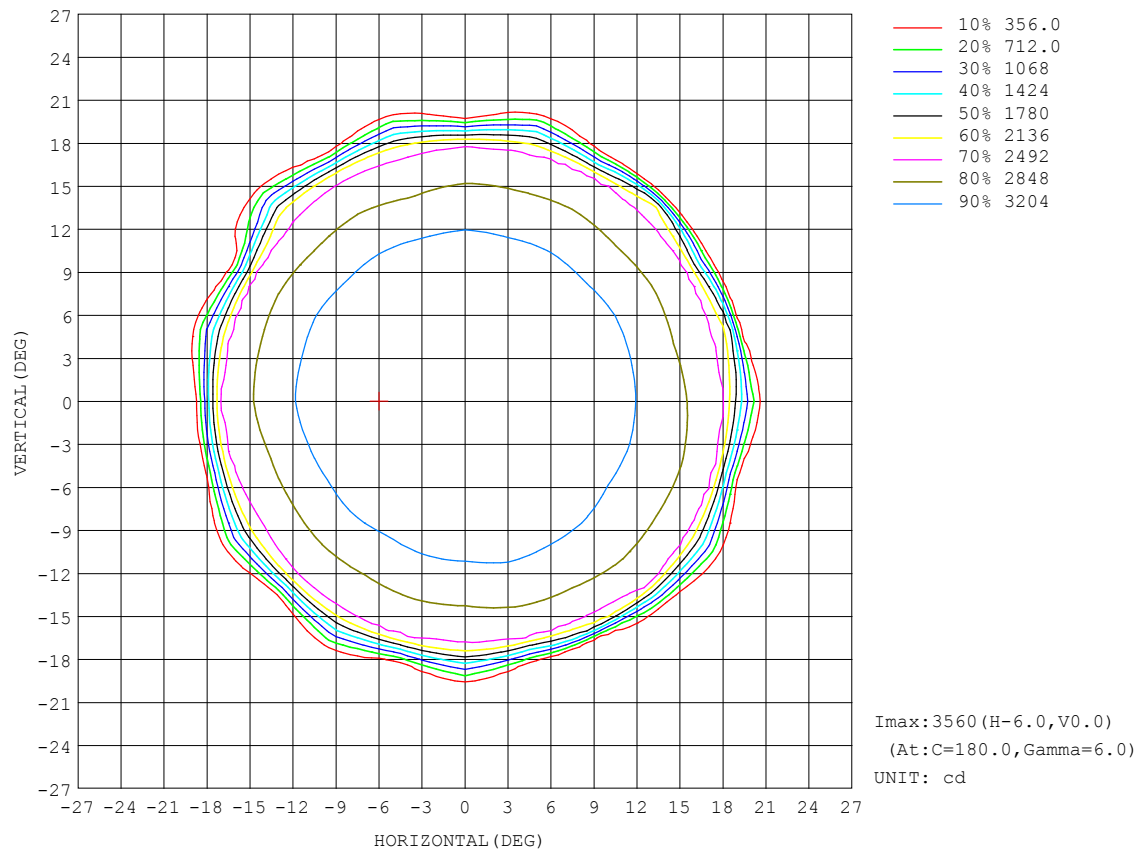
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	91	85	81	90	85	81	89	84	81	78
0.80	98	92	89	97	92	89	96	91	88	85
1.00	101	96	93	101	96	93	99	96	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: 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:0.1310A P:28.10W PF:0.9540 Freq:50.00Hz Lamp Flux:1032.74x1 lm		
NAME: ALT85F-28H30-Z2-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:

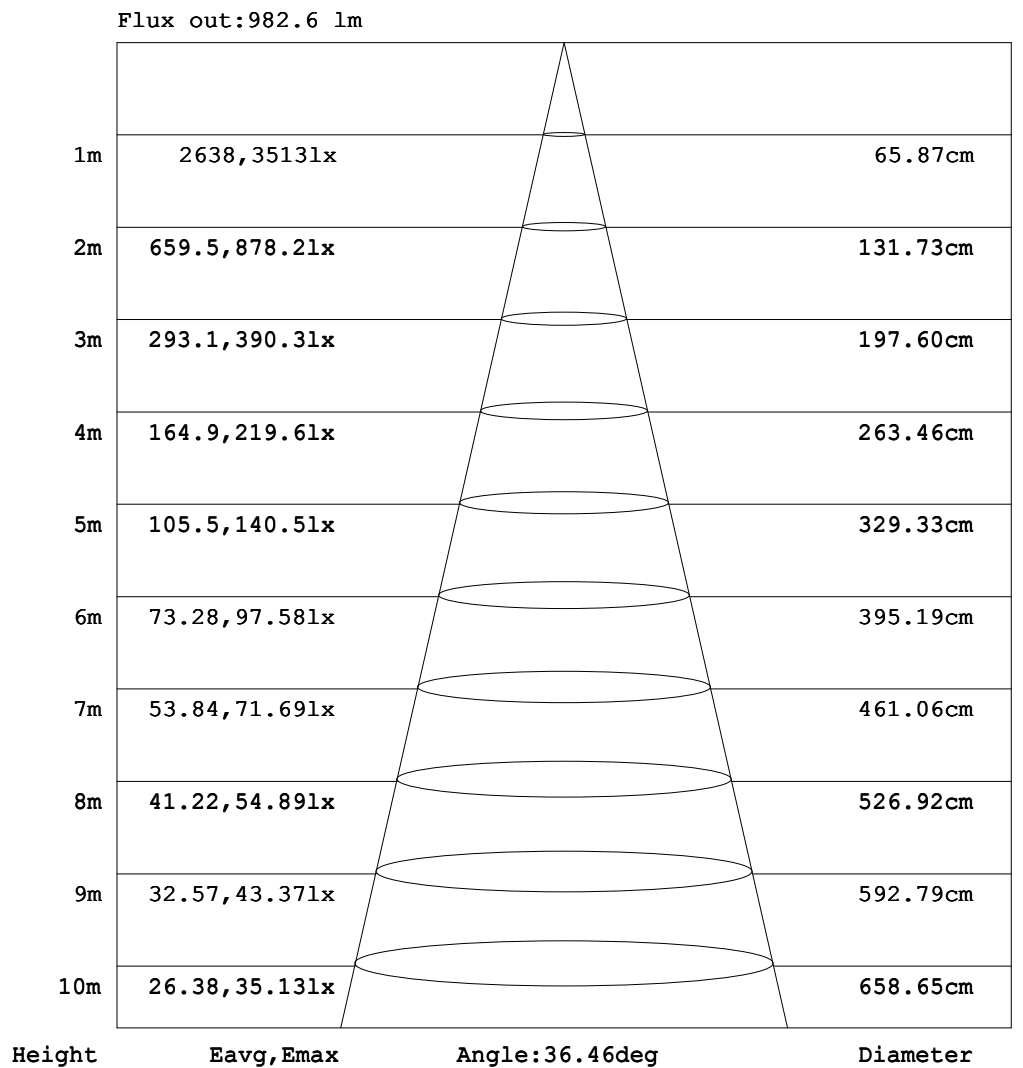


C Range: 0 - 360DEG
C Interval: 15.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:ZR
Test Date:2021-05-21

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:0.1310A P:28.10W PF:0.9540 Freq:50.00Hz Lamp Flux:1032.74x1 lm		
NAME: ALT85F-28H30-Z2-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:



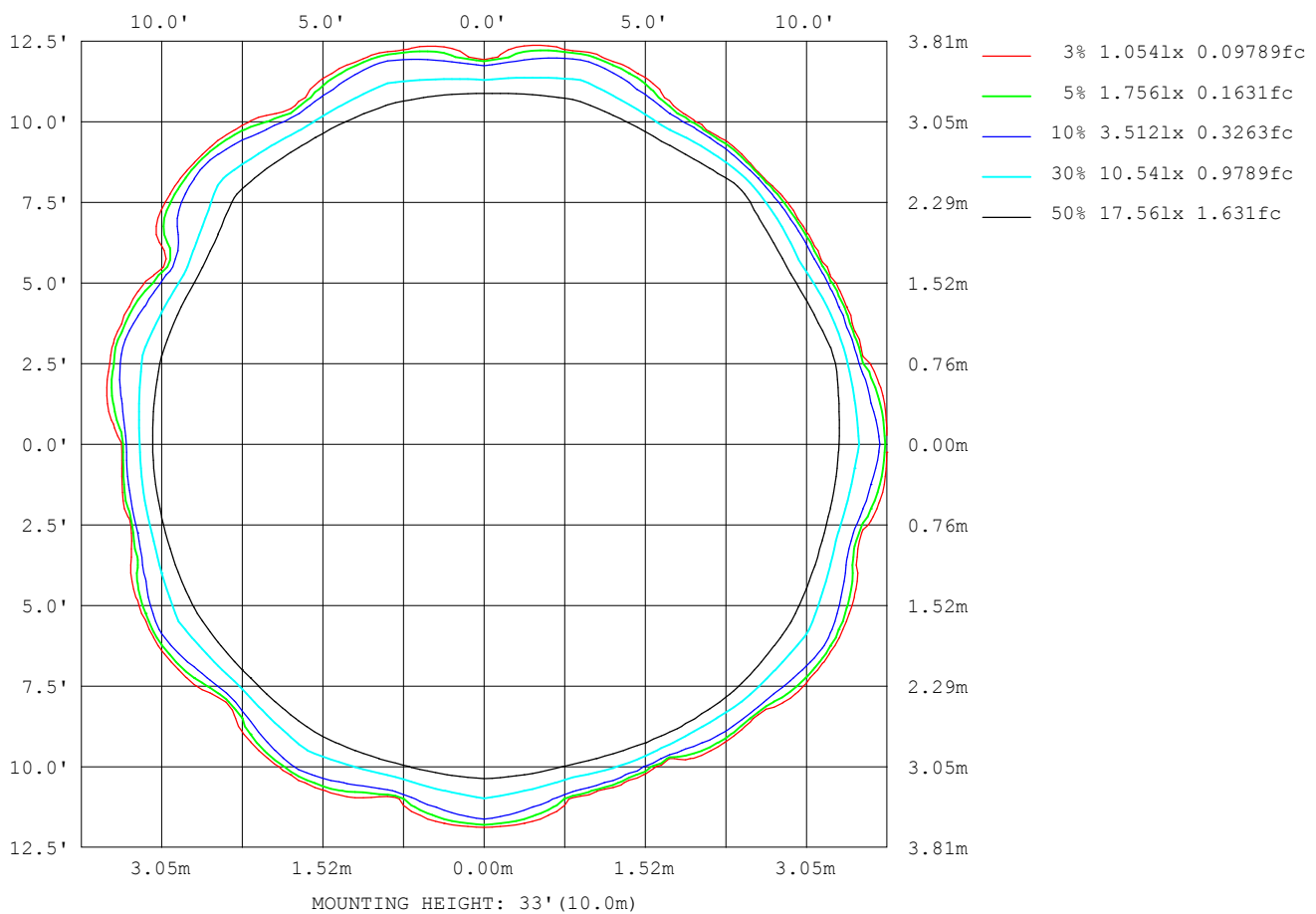
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.1310A P:28.10W PF:0.9540 Freq:50.00Hz Lamp Flux:1032.74x1 lm		
NAME: ALT85F-28H30-Z2-Max	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:0.1310A P:28.10W PF:0.9540 Freq:50.00Hz Lamp Flux:1032.74x1 lm		
NAME: ALT85F-28H30-Z2-Max	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:70	Shielding Angle:

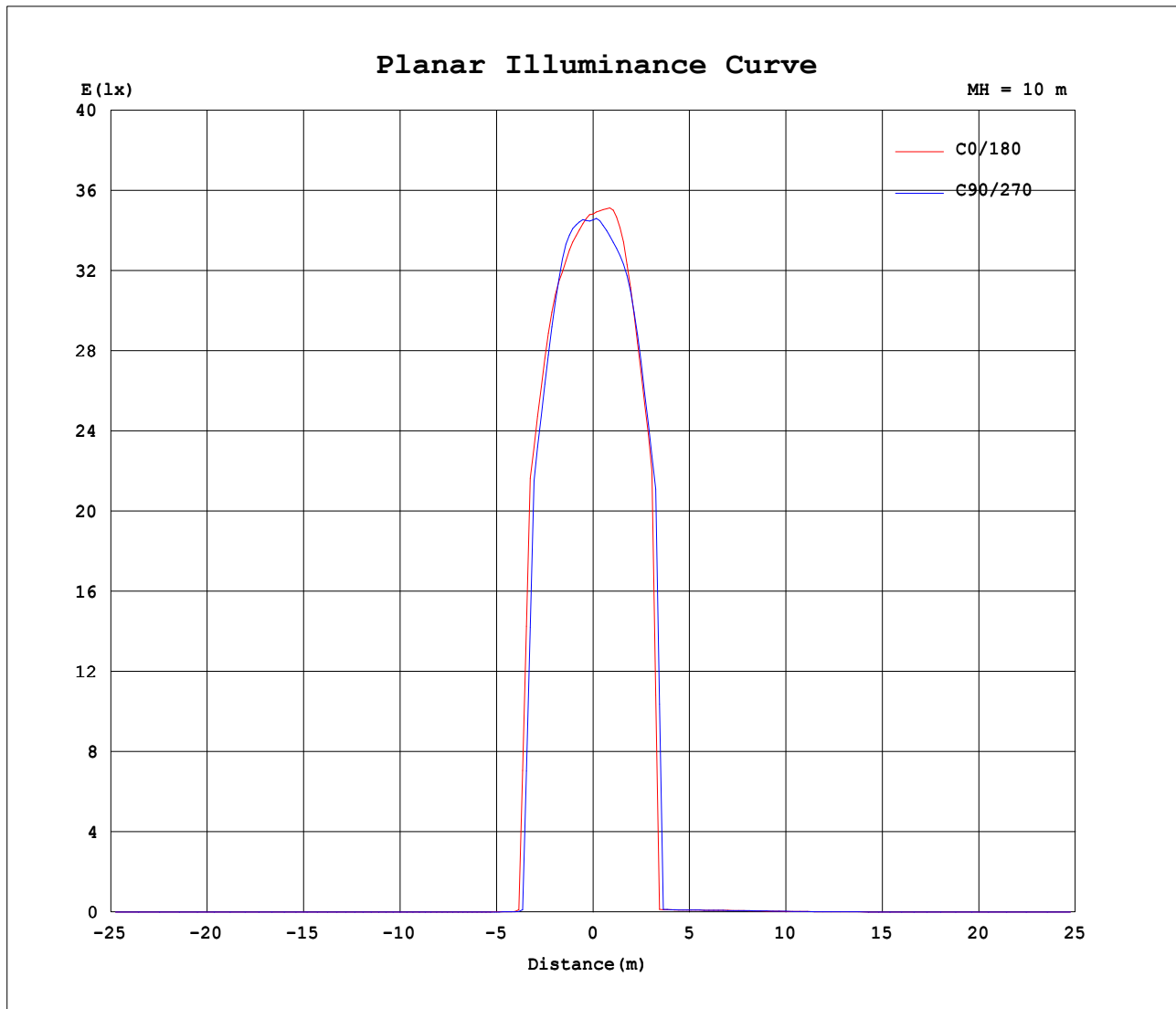
AvgL	cd/m2
L_0~180 (65) av	1842
L_0~180 (75) av	2341
L_0~180 (85) av	5532
L_90~270 (65) av	1926
L_90~270 (75) av	2427
L_90~270 (85) av	5713
L_45 (65) av	1909
L_45 (75) av	2422
L_45 (85) av	5746

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:

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