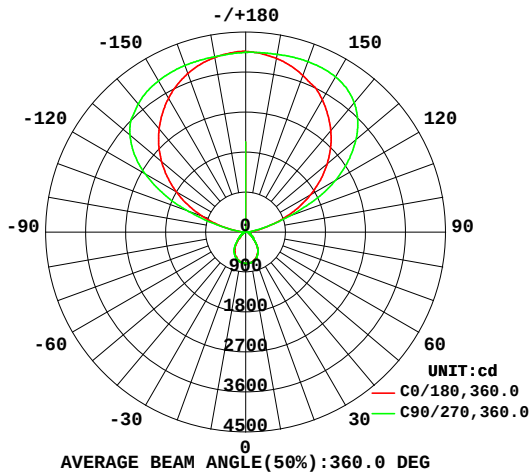


LUMINAIRE PHOTOMETRIC TEST REPORT

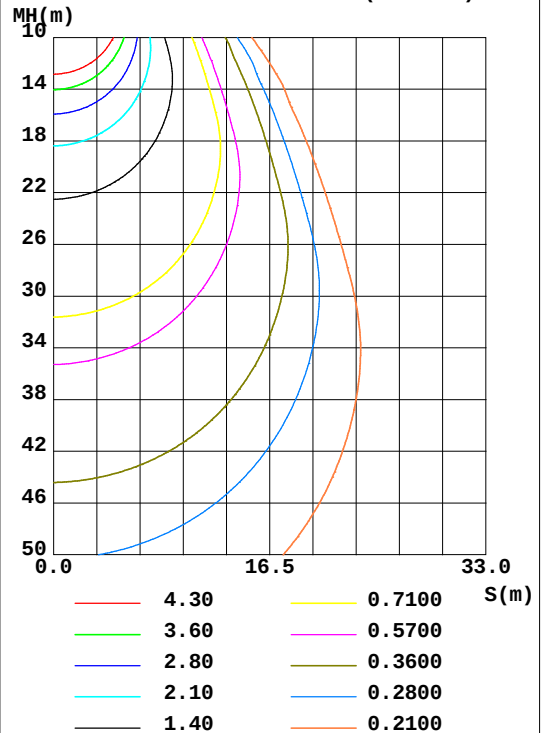
Test:U:220.7V I:0.4470A P:97.30W PF:0.9840 Lamp Flux:14419.2x1 lm		
NAME: UNF-20210015-CDA 上下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 148.19 lm/W			
MODEL		I _{max} (cd)	4085	S/MH(C0/180)	1.15
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.17
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	14419	η UP, DN(C0-180)	45.7, 4.5
NOMINAL FLUX(lm)	14419.2	CIE CLASS	INDIRECT	η UP, DN(C180-360)	45.0, 4.7
LAMPS INSIDE	1	η up(%)	90.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.0	η down(%)	9.3	CIBSE SHR MAX	1.25

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT: lx)



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System: EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity: 65.0%
Test Distance: 9.460m [K=1.0571]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	ϕ zone	ϕ total	%lum, lamp
5	702.7	702.5	703.5	705.7	708.7	709.2	708.8	705.6	0- 5	16.92	16.92	0.12, 0.12
10	686.0	686.5	690.1	693.8	698.4	700.8	700.9	693.3	5- 10	50.07	67.00	0.46, 0.46
15	658.6	660.4	667.1	672.1	678.1	682.6	684.0	670.7	10- 15	81.03	148.0	1.03, 1.03
20	618.7	621.4	632.1	638.3	646.2	652.1	654.9	634.9	15- 20	108.0	256.0	1.78, 1.78
25	566.8	569.0	583.7	590.7	601.9	606.8	611.6	584.9	20- 25	128.7	384.7	2.67, 2.67
30	503.5	508.4	522.3	531.8	546.1	548.6	554.4	524.7	25- 30	141.7	526.4	3.65, 3.65
35	427.4	443.1	449.7	468.3	479.6	485.1	485.2	459.8	30- 35	146.2	672.6	4.66, 4.66
40	321.6	359.5	352.5	397.3	395.5	416.2	397.5	380.7	35- 40	140.9	813.6	5.64, 5.64
45	239.3	245.1	259.9	293.6	295.7	312.8	297.4	261.2	40- 45	121.3	934.8	6.48, 6.48
50	181.0	161.8	195.5	187.5	220.2	200.2	222.9	175.1	45- 50	93.02	1028	7.13, 7.13
55	138.7	109.2	151.6	123.5	167.2	135.4	169.0	117.7	50- 55	71.05	1099	7.62, 7.62
60	105.2	85.25	113.3	88.72	127.8	93.61	125.4	88.23	55- 60	54.67	1154	8, 8
65	95.43	79.89	95.64	81.55	99.42	82.93	98.52	84.17	60- 65	45.80	1199	8.32, 8.32
70	84.64	69.66	83.37	77.40	91.59	82.19	87.94	76.59	65- 70	43.46	1243	8.62, 8.62
75	69.42	53.06	67.45	58.52	80.28	65.10	74.47	58.31	70- 75	38.39	1281	8.89, 8.89
80	46.33	35.51	45.42	42.68	62.47	46.84	54.44	39.86	75- 80	30.01	1311	9.09, 9.09
85	15.86	13.17	18.11	22.84	34.78	27.39	27.09	18.51	80- 85	18.86	1330	9.22, 9.22
90	6.719	10.97	9.352	6.166	4.742	6.921	4.852	6.869	85- 90	5.738	1336	9.26, 9.26
95	82.44	148.4	69.60	93.09	53.36	38.03	30.19	75.03	90- 95	15.17	1351	9.37, 9.37
100	299.1	529.5	308.2	425.3	238.4	309.3	184.2	301.3	95-100	104.6	1456	10.1, 10.1
105	632.6	1064	728.5	916.7	535.6	773.0	488.0	890.6	100-105	290.6	1746	12.1, 12.1
110	1019	1590	1368	1442	911.0	1341	1037	1475	105-110	535.9	2282	15.8, 15.8
115	1418	2052	2035	1926	1304	1868	1703	2002	110-115	787.8	3070	21.3, 21.3
120	1794	2426	2608	2307	1691	2314	2337	2443	115-120	991.3	4061	28.2, 28.2
125	2148	2740	3060	2629	2058	2686	2829	2810	120-125	1134	5195	36, 36
130	2472	3004	3402	2903	2397	2993	3241	3116	125-130	1218	6412	44.5, 44.5
135	2771	3227	3628	3138	2708	3246	3568	3365	130-135	1249	7662	53.1, 53.1
140	3034	3415	3765	3338	2982	3451	3803	3565	135-140	1232	8893	61.7, 61.7
145	3268	3575	3868	3506	3225	3618	3956	3685	140-145	1173	10066	69.8, 69.8
150	3478	3704	3932	3647	3447	3712	4040	3806	145-150	1078	11145	77.3, 77.3
155	3657	3808	3971	3762	3625	3816	4077	3901	150-155	957.0	12102	83.9, 83.9
160	3803	3886	3994	3853	3756	3897	4084	3969	155-160	811.7	12913	89.6, 89.6
165	3916	3942	4004	3925	3882	3955	4079	4015	160-165	649.0	13562	94.1, 94.1
170	3994	3982	4009	3977	3972	3993	4063	4042	165-170	472.8	14035	97.3, 97.3
175	4048	4017	4027	4021	4033	4019	4054	4058	170-175	287.5	14323	99.3, 99.3
180	4068	4068	4068	4068	4068	4068	4068	4068	175-180	96.63	14419	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT: lm		

Conical surface Flux(90deg): 934.82 lm

%lum = 6.5%

%lamp = 6.5%

Conical surface Flux(120deg): 1153.6 lm

%lum = 8.0%

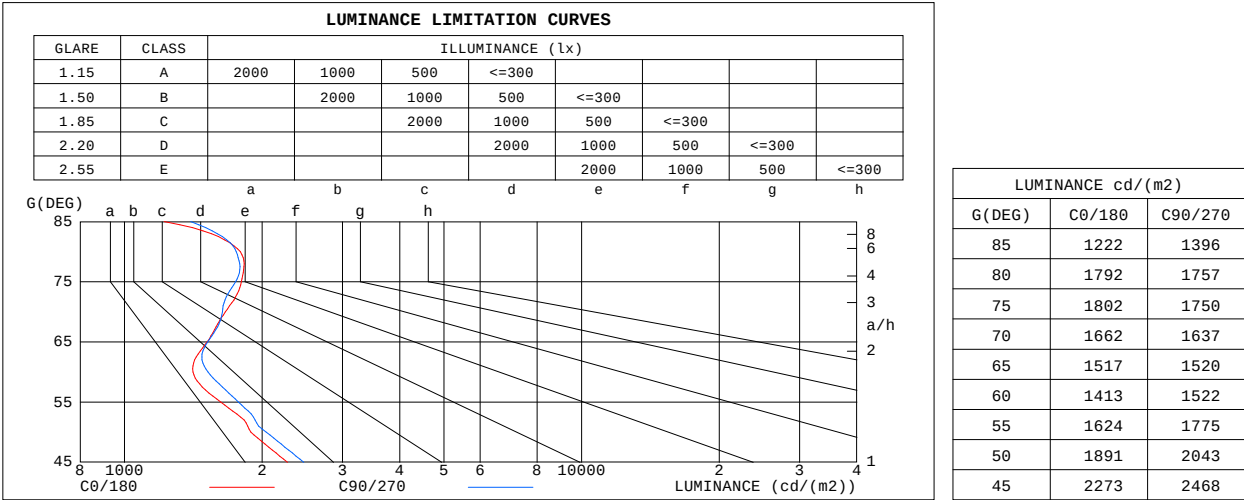
%lamp = 8.0%

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000_V1 SYSTEM V2.0.295T
 Humidity: 65.0%
 Test Distance: 9.460m [K=1.0571]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.7V I:0.4470A P:97.30W PF:0.9840 Lamp Flux:14419.2x1 lm		
NAME: UNF-20210015-CDA 上下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



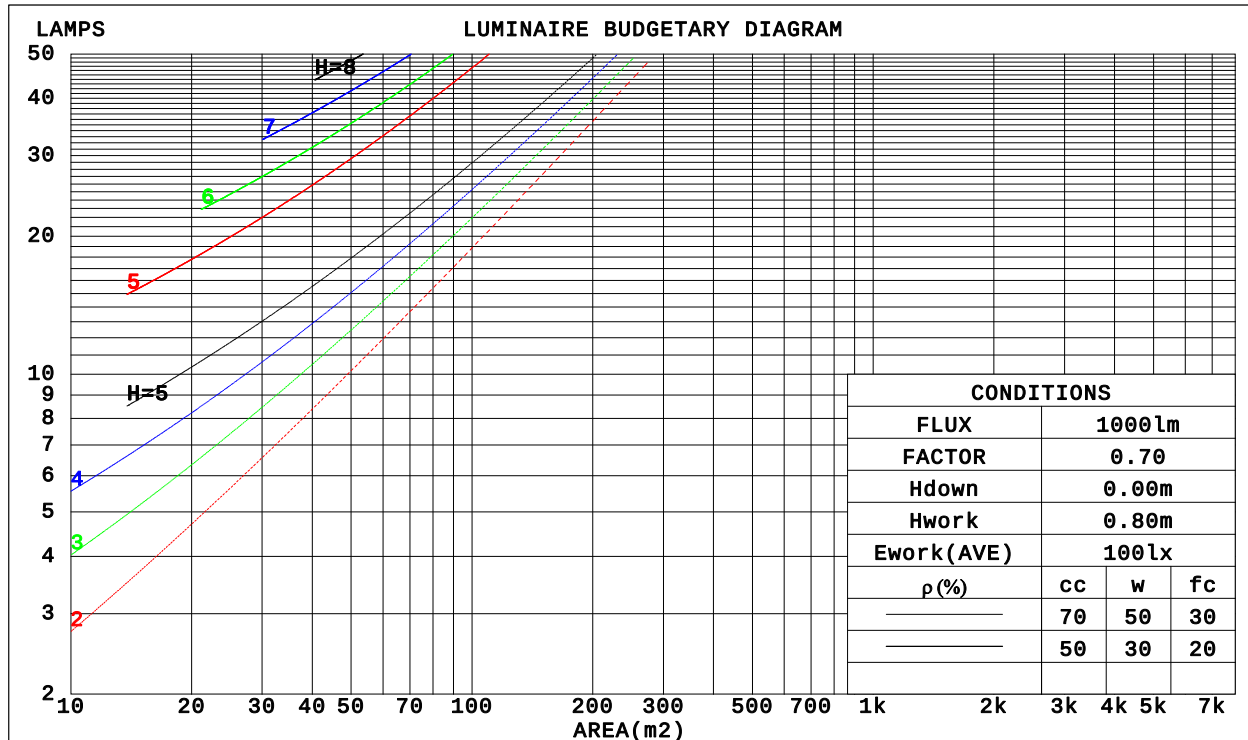
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0571]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.7V I:0.4470A P:97.30W PF:0.9840 Lamp Flux:14419.2x1 lm		
NAME: UNF-20210015-CDA 上下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
0.0	.97	.97	.97	.85	.85	.85	.61	.61	.61	.39	.39	.39	.19	.19	.19	.09
1.0	.85	.81	.78	.74	.71	.68	.53	.51	.50	.34	.33	.32	.17	.16	.16	.08
2.0	.74	.69	.64	.65	.60	.56	.47	.44	.41	.30	.28	.27	.15	.14	.14	.07
3.0	.65	.58	.53	.57	.51	.47	.41	.38	.35	.27	.25	.23	.13	.12	.12	.06
4.0	.58	.50	.45	.50	.44	.40	.37	.33	.30	.24	.22	.20	.12	.11	.10	.05
5.0	.51	.44	.38	.45	.39	.34	.33	.29	.25	.21	.19	.17	.11	.10	.09	.05
6.0	.46	.38	.33	.40	.34	.29	.29	.25	.22	.19	.17	.15	.10	.09	.08	.04
7.0	.41	.34	.29	.36	.30	.25	.26	.22	.19	.17	.15	.13	.09	.08	.07	.04
8.0	.37	.30	.25	.33	.26	.22	.24	.20	.17	.16	.13	.12	.08	.07	.06	.04
9.0	.34	.27	.22	.30	.24	.20	.22	.18	.15	.14	.12	.10	.08	.06	.06	.03
10.0	.31	.24	.20	.27	.21	.17	.20	.16	.13	.13	.11	.09	.07	.06	.05	.03



C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000_V1 SYSTEM V2.0.295T
 Humidity: 65.0%
 Test Distance: 9.460m [K=1.0571]
 Remarks:

WEC AND CCEC

Test:U:220.7V I:0.4470A P:97.30W PF:0.9840 Lamp Flux:14419.2x1 lm														
NAME: UNF-20210015-CDA 上下							TYPE:				WEIGHT:			
SPEC.:							DIM.:				SERIAL No.:			
MFR.:							SUR.:				Shielding Angle:			

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.259	.147	.047	.224	.128	.041	.160	.092	.029	.101	.058	.019	.046	.027	.009	
2.0	.238	.130	.040	.207	.114	.035	.148	.082	.026	.094	.052	.016	.043	.024	.008	
3.0	.220	.117	.035	.191	.102	.031	.137	.074	.023	.087	.048	.015	.040	.022	.007	
4.0	.204	.106	.031	.177	.093	.027	.127	.068	.020	.081	.043	.013	.038	.021	.006	
5.0	.189	.097	.028	.165	.085	.025	.119	.062	.018	.076	.040	.012	.035	.019	.006	
6.0	.177	.089	.025	.154	.078	.022	.111	.057	.017	.071	.037	.011	.033	.017	.005	
7.0	.165	.082	.023	.144	.072	.020	.104	.053	.015	.066	.034	.010	.031	.016	.005	
8.0	.155	.076	.021	.135	.067	.019	.098	.049	.014	.063	.032	.009	.030	.015	.004	
9.0	.146	.070	.020	.127	.062	.017	.092	.046	.013	.059	.030	.008	.028	.014	.004	
10.0	.137	.066	.018	.120	.058	.016	.087	.043	.012	.056	.028	.008	.026	.013	.004	

ρ_{cc}	80%			70%			50%			30%			10%			0
ρ_w	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fc}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio			Ceiling Cavity Exitance Coefficients(CCEC)												
0.0	.882	.882	.882	.754	.754	.754	.514	.514	.514	.295	.295	.295	.094	.094	.094	
1.0	.874	.854	.835	.748	.733	.719	.511	.504	.497	.294	.292	.289	.094	.094	.094	
2.0	.867	.834	.806	.742	.718	.697	.509	.497	.486	.293	.289	.285	.094	.093	.093	
3.0	.860	.819	.787	.738	.707	.682	.506	.491	.479	.292	.287	.282	.094	.093	.092	
4.0	.854	.809	.774	.733	.699	.672	.504	.487	.473	.292	.285	.280	.094	.093	.092	
5.0	.848	.800	.764	.729	.692	.665	.502	.484	.470	.291	.284	.279	.094	.093	.092	
6.0	.843	.793	.758	.725	.687	.660	.500	.481	.467	.290	.283	.277	.094	.092	.092	
7.0	.838	.788	.753	.721	.683	.656	.498	.479	.465	.289	.282	.277	.093	.092	.091	
8.0	.833	.783	.749	.717	.679	.653	.496	.477	.463	.289	.281	.276	.093	.092	.091	
9.0	.828	.779	.746	.713	.676	.651	.494	.475	.462	.288	.281	.276	.093	.092	.091	
10.0	.823	.776	.744	.710	.674	.649	.492	.474	.461	.287	.280	.275	.093	.092	.091	

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE GO-2000_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.460m [K=1.0571]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.7V I:0.4470A P:97.30W PF:0.9840 Lamp Flux:14419.2x1 lm											
NAME: UNF-20210015-CDA 上下					TYPE:			WEIGHT:			
SPEC.:					DIM.:			SERIAL No.:			
MFR.:					SUR.:			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	3.2	3.9	4.5	5.1	6.8	3.7	4.4	4.9	5.5	7.2	
	3H	4.6	5.1	5.8	6.3	8.0	4.9	5.5	6.1	6.7	8.4
	4H	5.3	5.8	6.5	7.0	8.8	5.6	6.1	6.8	7.3	9.0
	6H	5.9	6.4	7.2	7.6	9.4	6.2	6.7	7.4	7.9	9.6
	8H	6.1	6.6	7.4	7.8	9.6	6.3	6.8	7.6	8.0	9.8
	12H	6.2	6.7	7.4	7.9	9.6	6.4	6.9	7.7	8.1	9.8
4H	2H	3.3	3.8	4.5	5.0	6.8	3.7	4.2	4.9	5.4	7.1
	3H	4.8	5.3	6.1	6.5	8.2	5.1	5.6	6.4	6.8	8.5
	4H	5.7	6.1	7.0	7.3	9.1	6.0	6.4	7.2	7.6	9.3
	6H	6.5	6.9	7.8	8.1	9.9	6.7	7.1	8.0	8.3	10.1
	8H	6.8	7.1	8.0	8.3	10.1	7.0	7.3	8.2	8.5	10.3
	12H	6.9	7.1	8.1	8.4	10.2	7.1	7.4	8.4	8.6	10.4
8H	4H	5.8	6.1	7.1	7.4	9.1	6.0	6.3	7.3	7.6	9.3
	6H	6.7	7.0	8.0	8.2	10.0	6.9	7.2	8.2	8.4	10.2
	8H	7.1	7.3	8.3	8.5	10.3	7.3	7.5	8.5	8.7	10.5
	12H	7.2	7.4	8.5	8.7	10.5	7.5	7.6	8.7	8.9	10.7
12H	4H	5.8	6.1	7.0	7.3	9.1	6.0	6.3	7.2	7.5	9.3
	6H	6.7	7.0	8.0	8.2	10.0	6.9	7.1	8.2	8.4	10.2
	8H	7.1	7.3	8.4	8.5	10.3	7.3	7.5	8.6	8.7	10.5
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3					
1.5H	+ 0.4 / - 0.3					+ 0.3 / - 0.3					
2.0H	+ 0.7 / - 0.4					+ 0.6 / - 0.4					

CIE Pub.117 Corrected 14419 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.3)

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.460m [K=1.0571]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.7V I:0.4470A P:97.30W PF:0.9840 Lamp Flux:14419.2x1 lm		
NAME: UNF-20210015-CDA 上下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

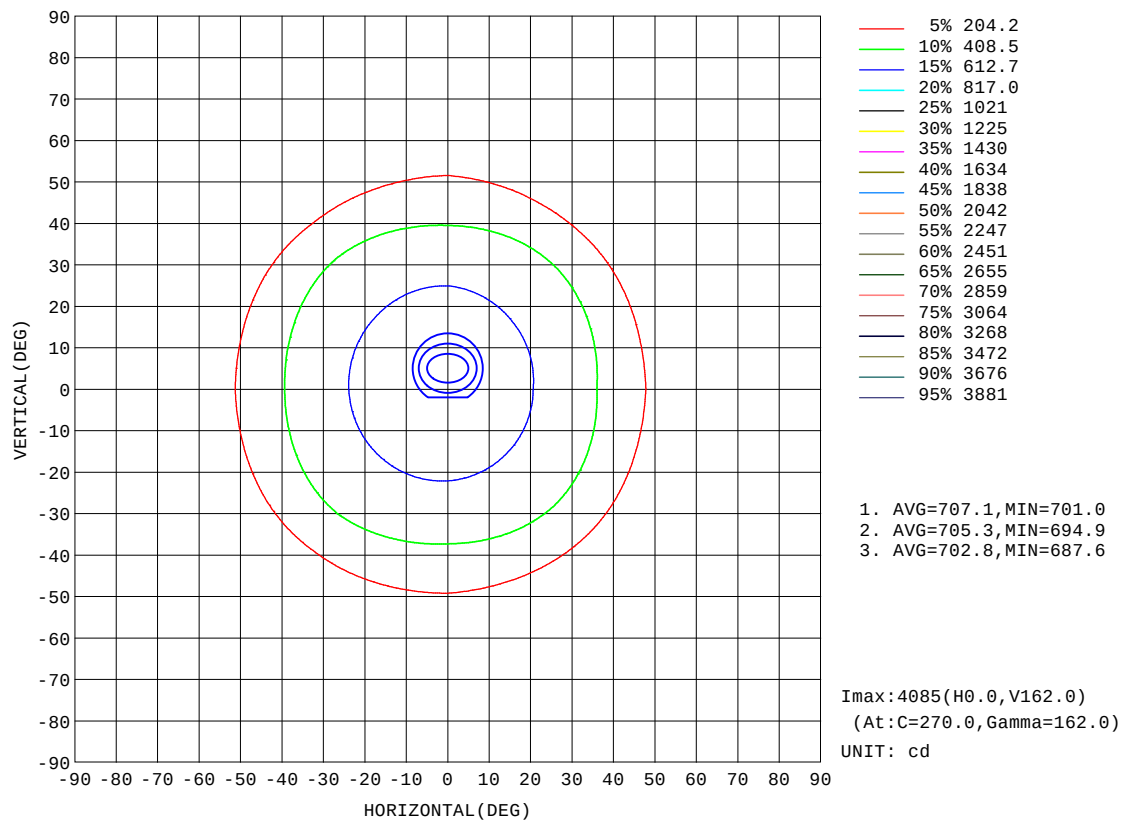
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	36	29	41	32	26	30	24	20	4
0.80	56	45	37	48	39	33	35	29	25	5
1.00	62	52	44	54	45	39	38	33	29	5
1.25	68	58	51	59	51	45	42	37	33	6
1.50	72	63	56	62	55	49	45	40	36	6
2.00	78	70	64	67	61	56	48	44	41	7
2.50	81	74	69	70	65	60	50	47	44	7
3.00	84	78	73	72	68	64	52	49	46	8
4.00	87	82	78	75	71	68	54	52	49	8
5.00	89	85	81	77	74	71	55	53	51	8
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Ceiling Mounted					SHRNOM = 1.00		

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature:25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.460m [K=1.0571]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.7V I:0.4470A P:97.30W PF:0.9840 Lamp Flux:14419.2x1 lm		
NAME: UNF-20210015-CDA 上下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



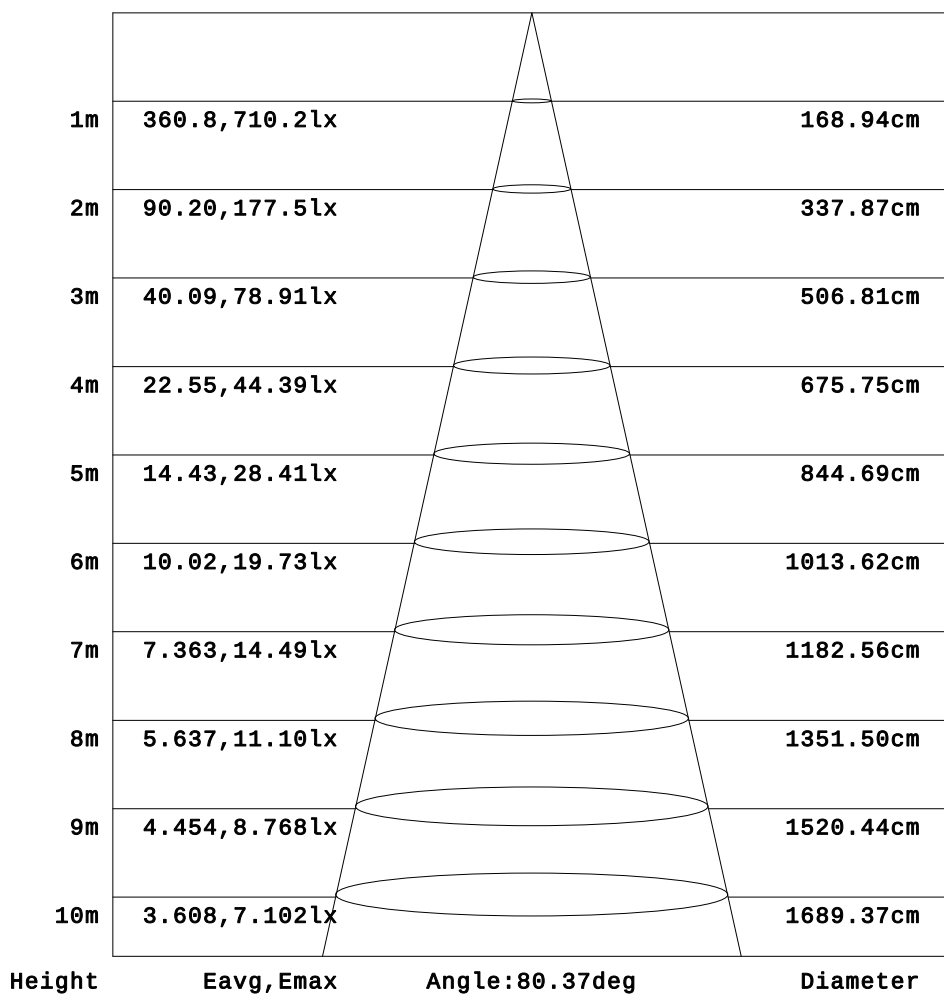
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0571]
Remarks:

AAI Figure

Test:U:220.7V I:0.4470A P:97.30W PF:0.9840 Lamp Flux:14419.2x1 lm		
NAME: UNF-20210015-CDA 上下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:826.8 lm



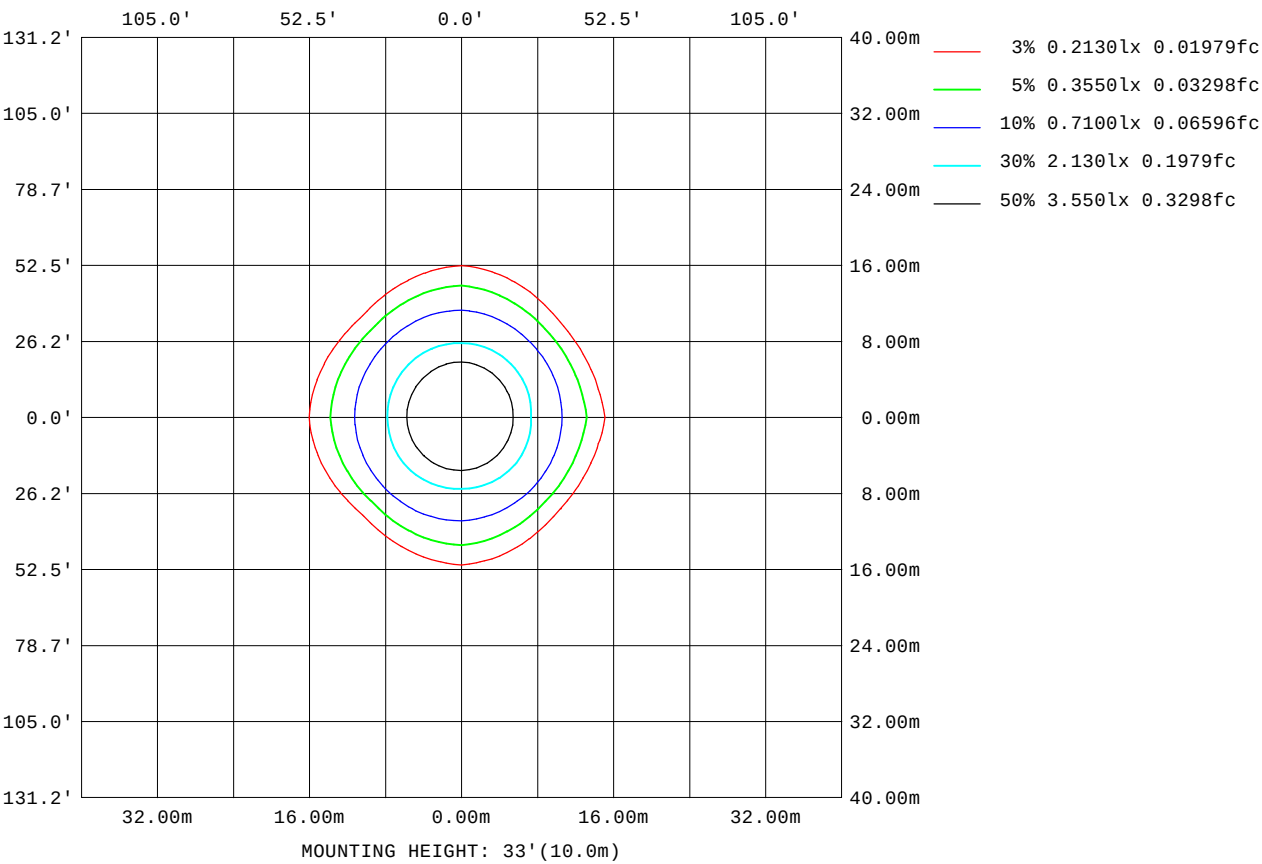
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000_V1 SYSTEM V2.0.295T
 Humidity: 65.0%
 Test Distance: 9.460m [K=1.0571]
 Remarks:

ISOLUX DIAGRAM

Test:U:220.7V I:0.4470A P:97.30W PF:0.9840 Lamp Flux:14419.2x1 lm		
NAME: UNF-20210015-CDA 上下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0571]
Remarks:

LED Avg.L Report

Test:U:220.7V I:0.4470A P:97.30W PF:0.9840 Lamp Flux:14419.2x1 lm		
NAME: UNF-20210015-CDA 上下	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

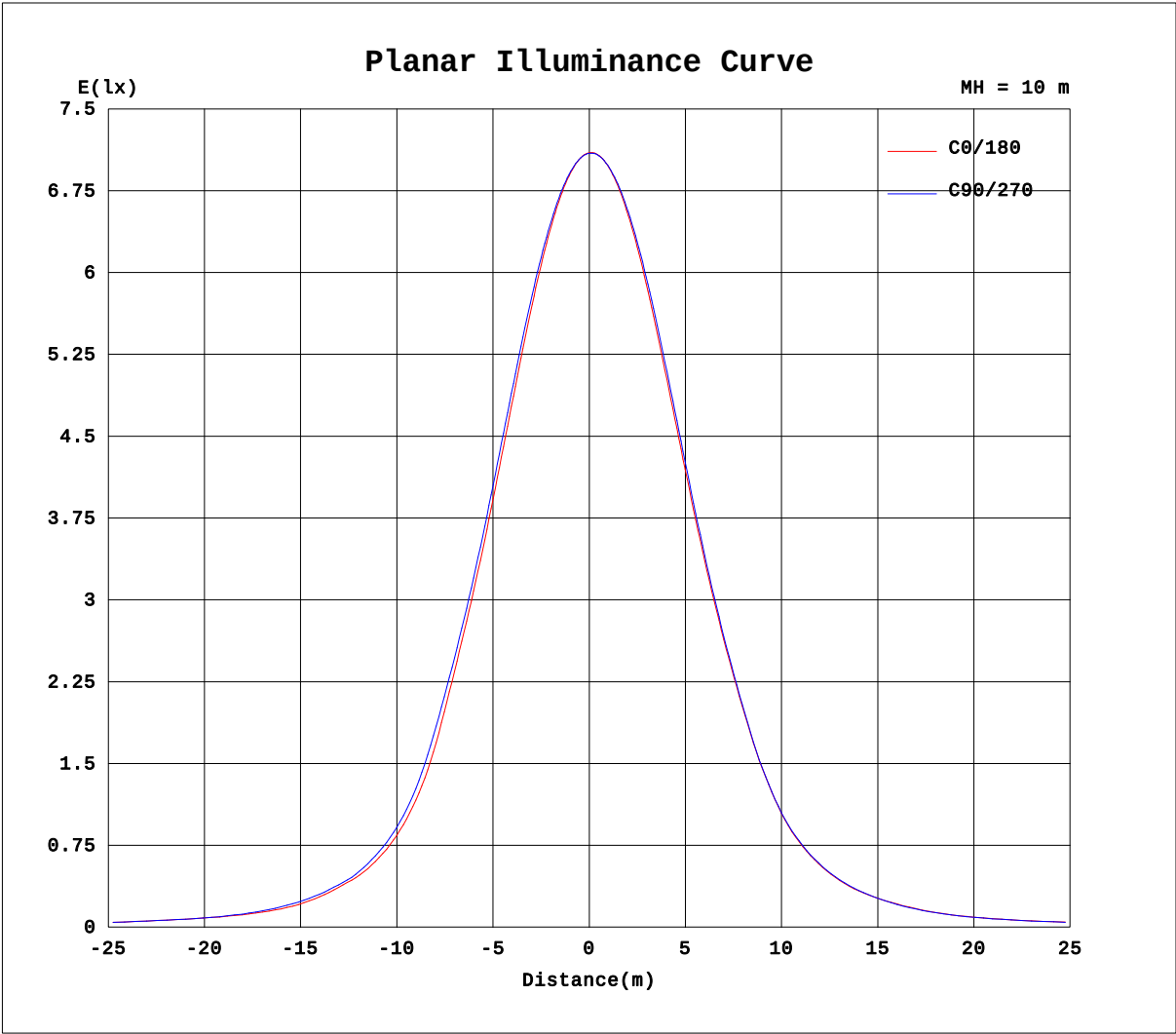
AvgL	cd/m2
L_0~180(65)av	1548
L_0~180(75)av	1942
L_0~180(85)av	1951
L_90~270(65)av	1543
L_90~270(75)av	1841
L_90~270(85)av	1741
L_45(65)av	1305
L_45(75)av	1525
L_45(85)av	1578

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0571]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0571]
Remarks: