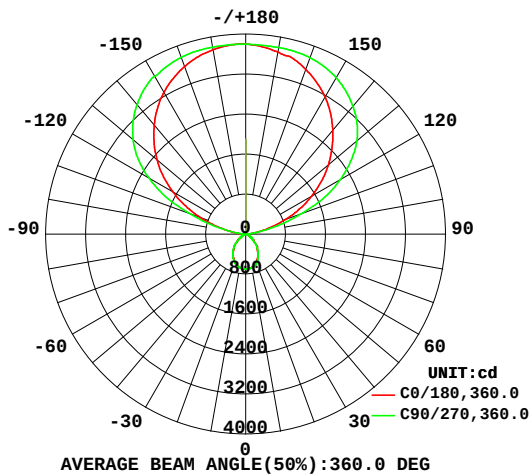


LUMINAIRE PHOTOMETRIC TEST REPORT

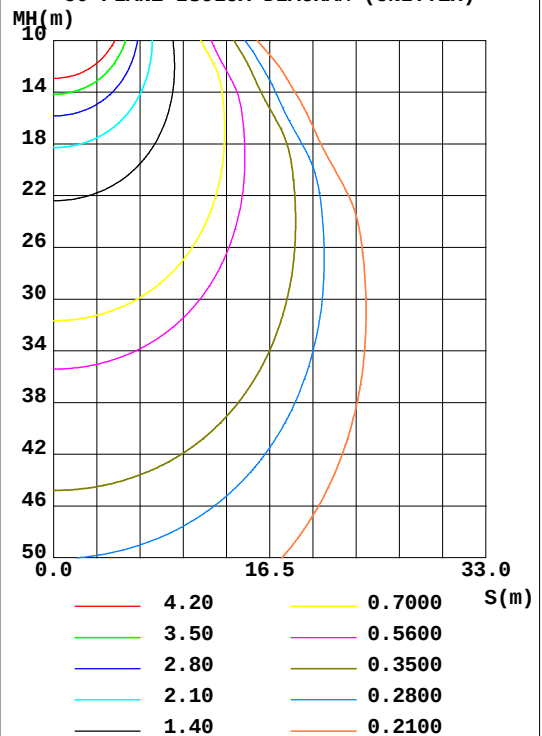
Test:U:221.0V I:0.4450A P:97.20W PF:0.9880 Lamp Flux:13225.3x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 136.06 lm/W			
MODEL		I _{max} (cd)	3805	S/MH(C0/180)	1.08
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.10
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	13225	η UP, DN(C0-180)	45.1, 5.0
NOMINAL FLUX(lm)	13225.3	CIE CLASS	INDIRECT	η UP, DN(C180-360)	45.2, 4.8
LAMPS INSIDE	1	η up(%)	90.3	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	220.0	η down(%)	9.7	CIBSE SHR MAX	1.15

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: 9.526m [K=1.0498]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	ϕ zone	ϕ total	%lum,lamp
5	697.5	697.5	696.9	697.8	698.3	699.6	700.6	699.1	0- 5	16.75	16.75	0.13,0.13
10	682.9	683.1	683.4	684.4	684.5	687.0	689.7	686.7	5- 10	49.51	66.26	0.50,0.50
15	656.3	657.3	659.0	659.6	657.9	660.5	666.7	661.9	10- 15	79.83	146.1	1.1,1.1
20	616.9	619.4	622.4	621.8	616.3	618.1	628.5	624.0	15- 20	105.6	251.7	1.9,1.9
25	565.1	569.2	572.7	570.8	559.2	559.2	572.9	571.3	20- 25	124.7	376.4	2.85,2.85
30	504.5	508.7	513.8	509.7	493.5	490.5	506.0	508.0	25- 30	135.6	512.0	3.87,3.87
35	439.3	443.7	449.6	442.8	423.9	419.2	434.2	438.8	30- 35	138.4	650.4	4.92,4.92
40	374.6	379.0	383.1	375.6	358.6	352.6	364.3	369.0	35- 40	134.2	784.6	5.93,5.93
45	311.1	324.1	304.0	304.0	297.2	270.5	284.0	286.2	40- 45	124.6	909.2	6.87,6.87
50	217.2	225.2	213.9	211.2	211.7	192.0	190.5	199.4	45- 50	100.3	1009	7.63,7.63
55	162.7	170.6	146.6	154.3	148.9	148.4	137.7	153.9	50- 55	77.61	1087	8.22,8.22
60	97.24	121.4	122.7	116.8	86.84	107.0	115.6	111.7	55- 60	60.59	1148	8.68,8.68
65	51.45	89.40	84.58	84.90	47.96	78.71	72.92	81.10	60- 65	44.46	1192	9.01,9.01
70	50.14	68.61	47.51	62.93	53.16	60.19	40.07	61.30	65- 70	32.48	1225	9.26,9.26
75	54.05	47.23	40.07	44.42	48.98	40.62	39.31	42.64	70- 75	26.47	1251	9.46,9.46
80	32.16	28.27	35.04	27.95	32.76	25.45	29.06	25.47	75- 80	19.50	1271	9.61,9.61
85	19.47	18.72	17.04	17.38	16.39	13.35	13.43	14.20	80- 85	12.80	1283	9.7,9.7
90	7.811	6.842	4.361	8.095	3.926	7.741	4.651	6.123	85- 90	4.233	1288	9.74,9.74
95	84.26	95.74	35.26	36.30	52.61	45.57	33.20	96.59	90- 95	11.36	1299	9.82,9.82
100	288.8	406.7	258.4	293.7	234.6	324.3	242.7	425.5	95-100	94.04	1393	10.5,10.5
105	596.8	844.9	677.8	678.5	500.1	719.1	663.8	850.3	100-105	265.5	1659	12.5,12.5
110	951.3	1313	1173	1164	827.9	1173	1170	1336	105-110	485.2	2144	16.2,16.2
115	1318	1743	1763	1591	1186	1600	1744	1776	110-115	697.1	2841	21.5,21.5
120	1673	2145	2228	1991	1523	2020	2187	2199	115-120	879.7	3721	28.1,28.1
125	2008	2489	2629	2349	1856	2366	2575	2546	120-125	1013	4734	35.8,35.8
130	2316	2773	2941	2650	2165	2657	2906	2833	125-130	1096	5830	44.1,44.1
135	2595	3014	3187	2903	2445	2903	3148	3074	130-135	1130	6960	52.6,52.6
140	2848	3216	3383	3118	2712	3114	3341	3276	135-140	1122	8082	61.1,61.1
145	3079	3383	3541	3294	2959	3290	3496	3440	140-145	1077	9160	69.3,69.3
150	3276	3517	3646	3437	3176	3436	3617	3570	145-150	999.9	10160	76.8,76.8
155	3437	3621	3712	3551	3356	3555	3704	3653	150-155	892.0	11052	83.6,83.6
160	3572	3699	3766	3639	3512	3649	3758	3706	155-160	759.8	11812	89.3,89.3
165	3677	3748	3792	3702	3641	3682	3785	3751	160-165	609.1	12421	93.9,93.9
170	3748	3781	3798	3746	3699	3731	3791	3780	165-170	443.9	12865	97.3,97.3
175	3794	3802	3801	3778	3763	3770	3793	3799	170-175	270.0	13135	99.3,99.3
180	3802	3802	3802	3802	3802	3802	3802	3802	175-180	90.71	13225	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 909.16 lm

%lum = 6.9%

%lamp = 6.9%

Conical surface Flux(120deg): 1147.7 lm

%lum = 8.7%

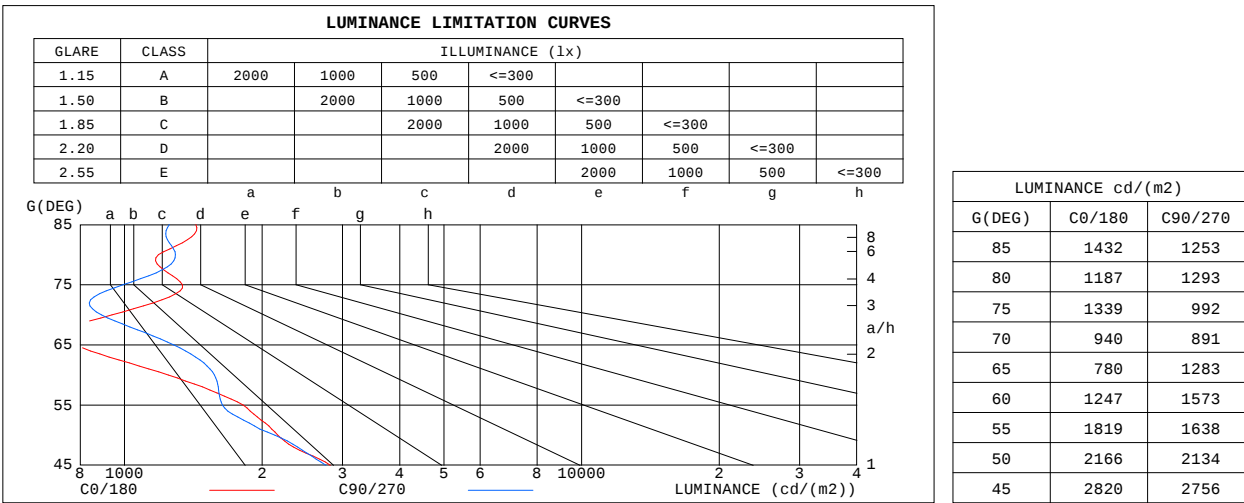
%lamp = 8.7%

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:9.526m [K=1.0498]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:221.0V I:0.4450A P:97.20W PF:0.9880 Lamp Flux:13225.3x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



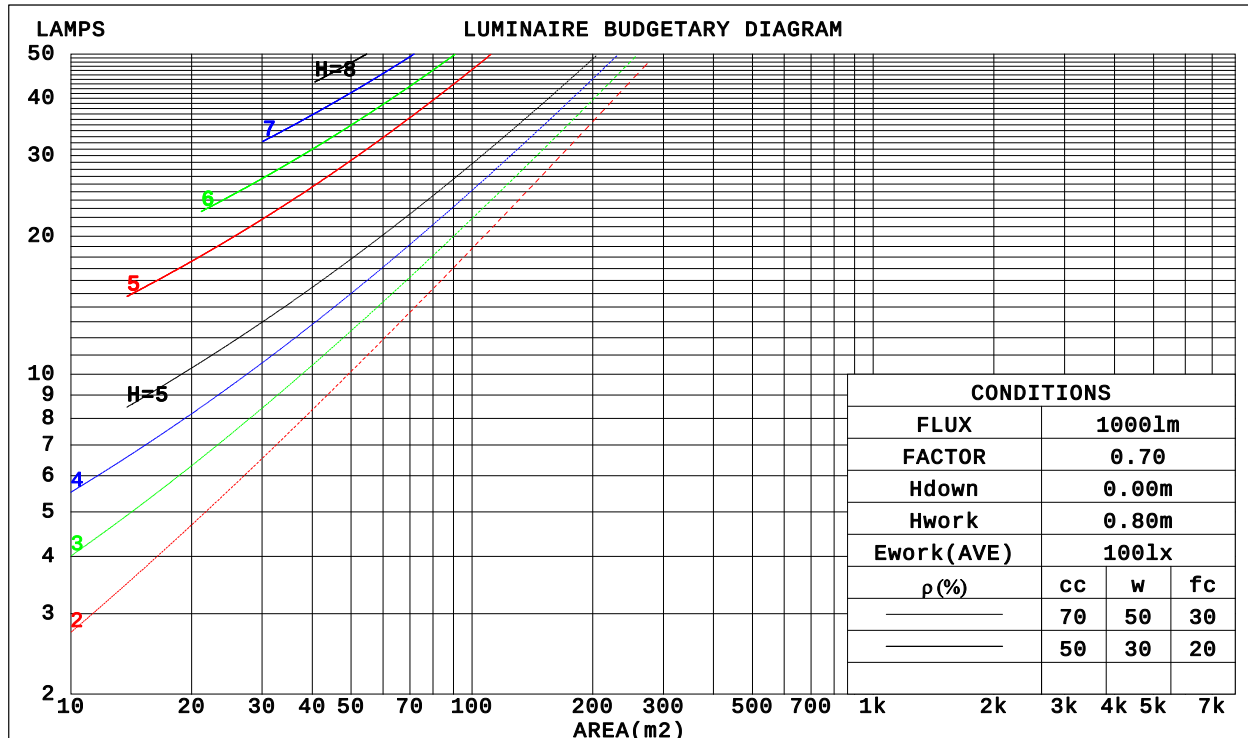
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

γ Range: 0 - 180DEG
γ Interval: 0.5DEG
Test System:EVERFINE G0-2000_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.526m [K=1.0498]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:221.0V I:0.4450A P:97.20W PF:0.9880 Lamp Flux:13225.3x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	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	.98	.98	.98	.85	.85	.85	.61	.61	.61	.39	.39	.39	.19	.19	.19	.10
1.0	.85	.81	.78	.74	.71	.68	.53	.52	.50	.34	.34	.33	.17	.17	.16	.09
2.0	.74	.69	.64	.65	.60	.56	.47	.44	.42	.30	.29	.28	.15	.15	.14	.07
3.0	.65	.59	.53	.57	.52	.47	.41	.38	.35	.27	.25	.23	.14	.13	.12	.07
4.0	.58	.51	.45	.50	.44	.40	.37	.33	.30	.24	.22	.20	.12	.11	.11	.06
5.0	.51	.44	.38	.45	.39	.34	.33	.29	.26	.22	.19	.17	.11	.10	.09	.05
6.0	.46	.38	.33	.40	.34	.29	.29	.25	.22	.19	.17	.15	.10	.09	.08	.05
7.0	.41	.34	.29	.36	.30	.26	.27	.22	.19	.18	.15	.13	.09	.08	.07	.04
8.0	.37	.30	.25	.33	.27	.22	.24	.20	.17	.16	.14	.12	.08	.07	.07	.04
9.0	.34	.27	.22	.30	.24	.20	.22	.18	.15	.15	.12	.10	.08	.07	.06	.03
10.0	.31	.24	.20	.27	.21	.18	.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: 9.526m [K=1.0498]
 Remarks:

WEC AND CCEC

Test:U:221.0V I:0.4450A P:97.20W PF:0.9880 Lamp Flux:13225.3x1 lm					
NAME: UNF-20210015-TDC 上下 5000K			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	.257	.146	.046	.223	.127	.040	.159	.091	.029	.100	.058	.019	.046	.027	.009		
2.0	.237	.130	.040	.206	.113	.035	.147	.082	.025	.093	.052	.016	.043	.025	.008		
3.0	.219	.117	.035	.191	.102	.031	.137	.074	.023	.087	.048	.015	.041	.023	.007		
4.0	.203	.106	.031	.177	.093	.027	.127	.068	.020	.081	.044	.013	.038	.021	.006		
5.0	.189	.096	.028	.165	.085	.025	.119	.062	.018	.076	.040	.012	.036	.019	.006		
6.0	.176	.088	.025	.154	.078	.022	.111	.057	.017	.071	.037	.011	.034	.018	.005		
7.0	.165	.082	.023	.144	.072	.020	.104	.053	.015	.067	.034	.010	.032	.017	.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	.009	.028	.014	.004		
10.0	.137	.066	.018	.120	.058	.016	.087	.043	.012	.056	.028	.008	.027	.014	.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	.878	.878	.878	.751	.751	.751	.512	.512	.512	.294	.294	.294	.094	.094	.094	
1.0	.870	.850	.832	.744	.730	.716	.509	.502	.495	.293	.290	.288	.094	.093	.093	
2.0	.863	.830	.803	.739	.715	.694	.507	.494	.484	.292	.288	.284	.094	.093	.092	
3.0	.857	.816	.783	.734	.704	.679	.504	.489	.476	.291	.286	.281	.094	.093	.092	
4.0	.850	.805	.770	.730	.695	.669	.502	.485	.471	.290	.284	.279	.093	.092	.092	
5.0	.845	.796	.761	.725	.689	.662	.500	.481	.467	.289	.283	.277	.093	.092	.091	
6.0	.839	.790	.754	.721	.684	.657	.498	.479	.465	.289	.282	.276	.093	.092	.091	
7.0	.834	.784	.749	.717	.680	.653	.496	.476	.463	.288	.281	.275	.093	.092	.091	
8.0	.829	.779	.745	.714	.676	.650	.494	.475	.461	.287	.280	.275	.093	.092	.091	
9.0	.824	.775	.742	.710	.673	.648	.492	.473	.460	.287	.279	.274	.093	.092	.091	
10.0	.820	.772	.740	.707	.670	.646	.490	.472	.459	.286	.279	.274	.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:9.526m [K=1.0498]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:221.0V I:0.4450A P:97.20W PF:0.9880 Lamp Flux:13225.3x1 lm											
NAME: UNF-20210015-TDC 上下 5000K					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	4.7	5.3	5.9	6.5	8.2	4.8	5.5	6.1	6.7	8.4	
	3H	5.0	5.6	6.2	6.7	8.5	5.2	5.8	6.4	7.0	8.7
	4H	5.4	5.9	6.6	7.1	8.8	5.4	5.9	6.6	7.1	8.8
	6H	5.6	6.1	6.9	7.3	9.1	5.7	6.2	6.9	7.4	9.1
	8H	5.8	6.3	7.0	7.5	9.2	5.8	6.2	7.0	7.5	9.2
	12H	5.9	6.4	7.1	7.6	9.3	5.8	6.3	7.1	7.5	9.2
4H	2H	4.7	5.2	5.9	6.4	8.1	4.8	5.4	6.1	6.6	8.3
	3H	5.2	5.7	6.5	6.9	8.6	5.4	5.8	6.6	7.0	8.8
	4H	5.8	6.2	7.0	7.4	9.2	5.7	6.1	6.9	7.3	9.0
	6H	6.1	6.5	7.4	7.7	9.5	6.1	6.4	7.4	7.7	9.4
	8H	6.3	6.7	7.6	7.9	9.7	6.3	6.6	7.5	7.8	9.6
	12H	6.5	6.8	7.8	8.1	9.8	6.4	6.7	7.7	7.9	9.7
8H	4H	5.8	6.1	7.0	7.3	9.1	5.7	6.0	6.9	7.2	9.0
	6H	6.2	6.5	7.5	7.7	9.5	6.2	6.5	7.5	7.7	9.5
	8H	6.5	6.8	7.8	8.0	9.8	6.5	6.7	7.8	8.0	9.8
	12H	6.9	7.1	8.1	8.3	10.1	6.8	6.9	8.0	8.2	10.0
12H	4H	5.7	6.0	7.0	7.2	9.0	5.6	5.9	6.9	7.1	8.9
	6H	6.2	6.5	7.5	7.7	9.5	6.2	6.4	7.5	7.7	9.5
	8H	6.6	6.8	7.9	8.0	9.8	6.5	6.7	7.8	8.0	9.8
Variations with the observer position at spacings:											
S = 1.0H	+ 0.5 / - 0.5					+ 0.5 / - 0.6					
1.5H	+ 0.3 / - 0.3					+ 0.3 / - 0.5					
2.0H	+ 1.0 / - 1.0					+ 0.9 / - 0.4					

CIE Pub.117 Corrected 13225 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.0)

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:9.526m [K=1.0498]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:221.0V I:0.4450A P:97.20W PF:0.9880 Lamp Flux:13225.3x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

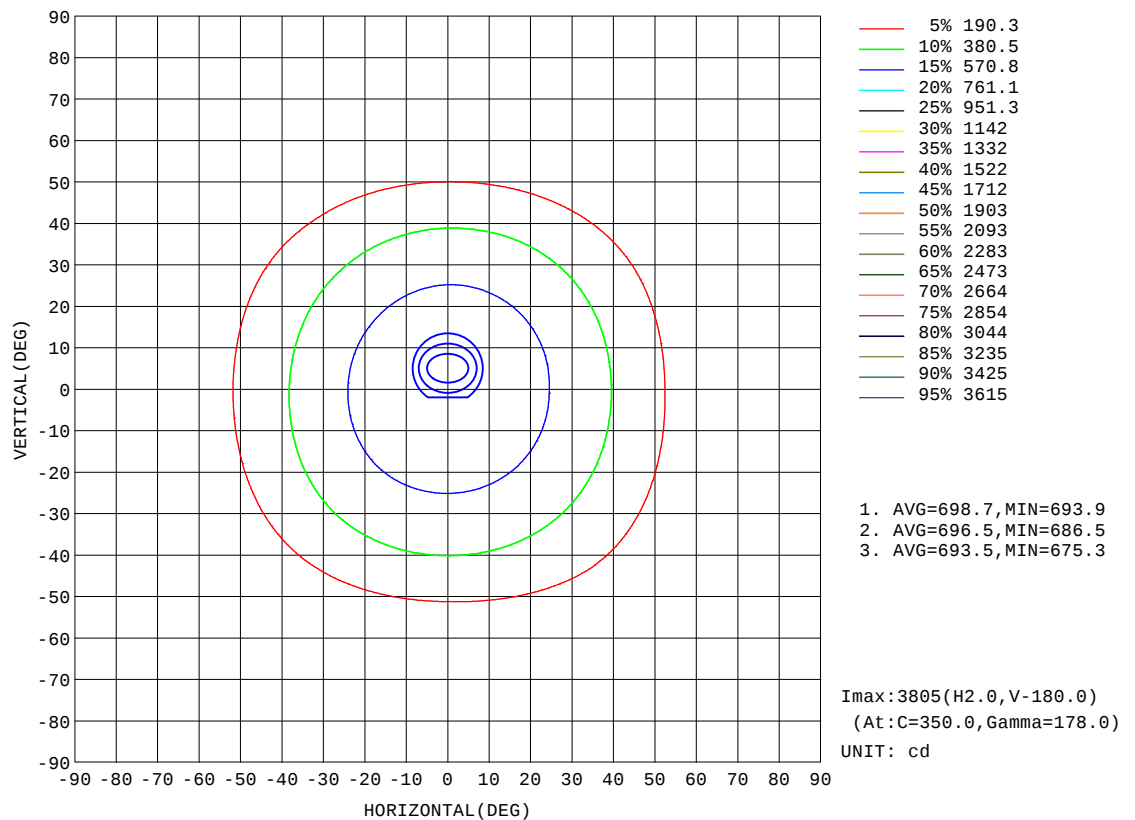
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	36	29	41	32	26	30	24	20	4
0.80	56	45	38	49	39	33	35	29	25	5
1.00	62	52	44	54	45	39	39	33	29	6
1.25	68	58	51	59	51	45	42	37	33	6
1.50	72	63	56	62	55	50	45	40	37	7
2.00	78	70	64	67	61	56	48	44	41	7
2.50	81	75	69	71	65	61	50	47	44	8
3.00	84	78	73	73	68	64	52	49	47	8
4.00	87	82	78	76	72	68	54	52	50	8
5.00	89	85	81	77	74	71	55	53	52	9
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: 9.526m [K=1.0498]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:221.0V I:0.4450A P:97.20W PF:0.9880 Lamp Flux:13225.3x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



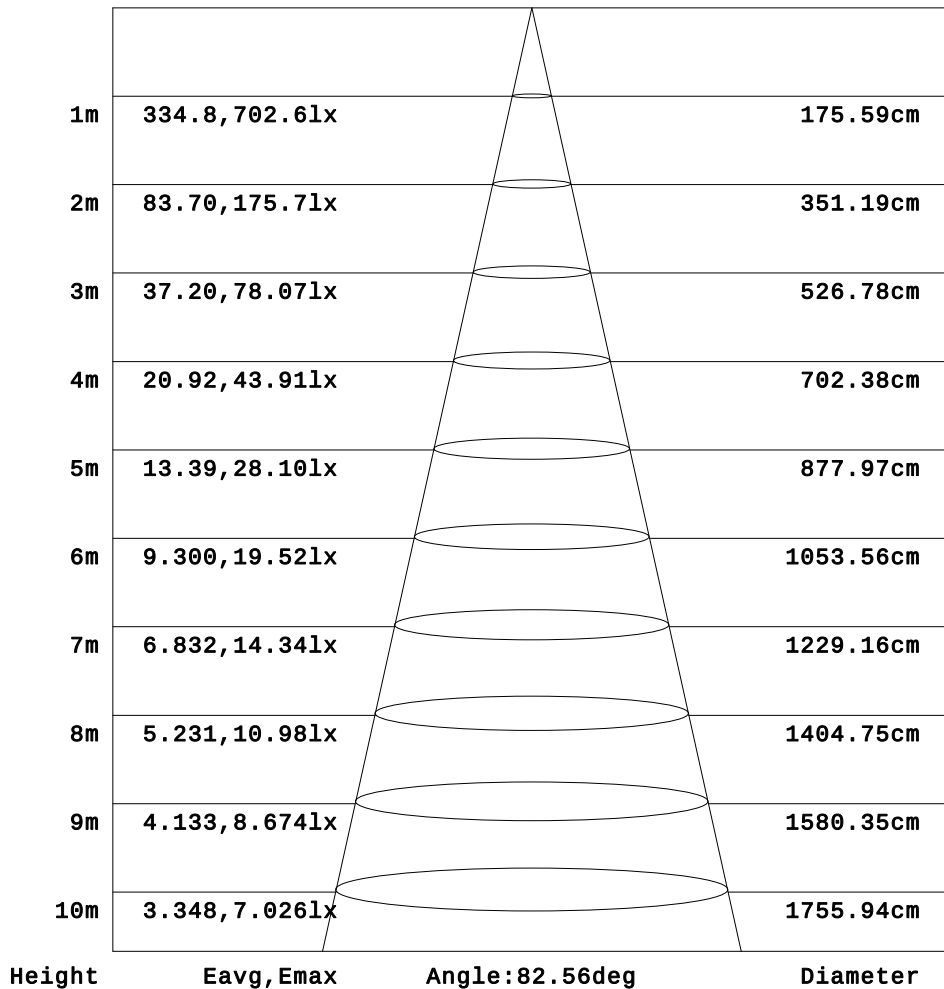
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators:
 Test Date:

γ Range: 0 - 180DEG
 γ Interval: 0.5DEG
 Test System: EVERFINE G0-2000_V1 SYSTEM V2.0.295T
 Humidity: 65.0%
 Test Distance: 9.526m [K=1.0498]
 Remarks:

AAI Figure

Test:U:221.0V I:0.4450A P:97.20W PF:0.9880 Lamp Flux:13225.3x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:823.3 lm



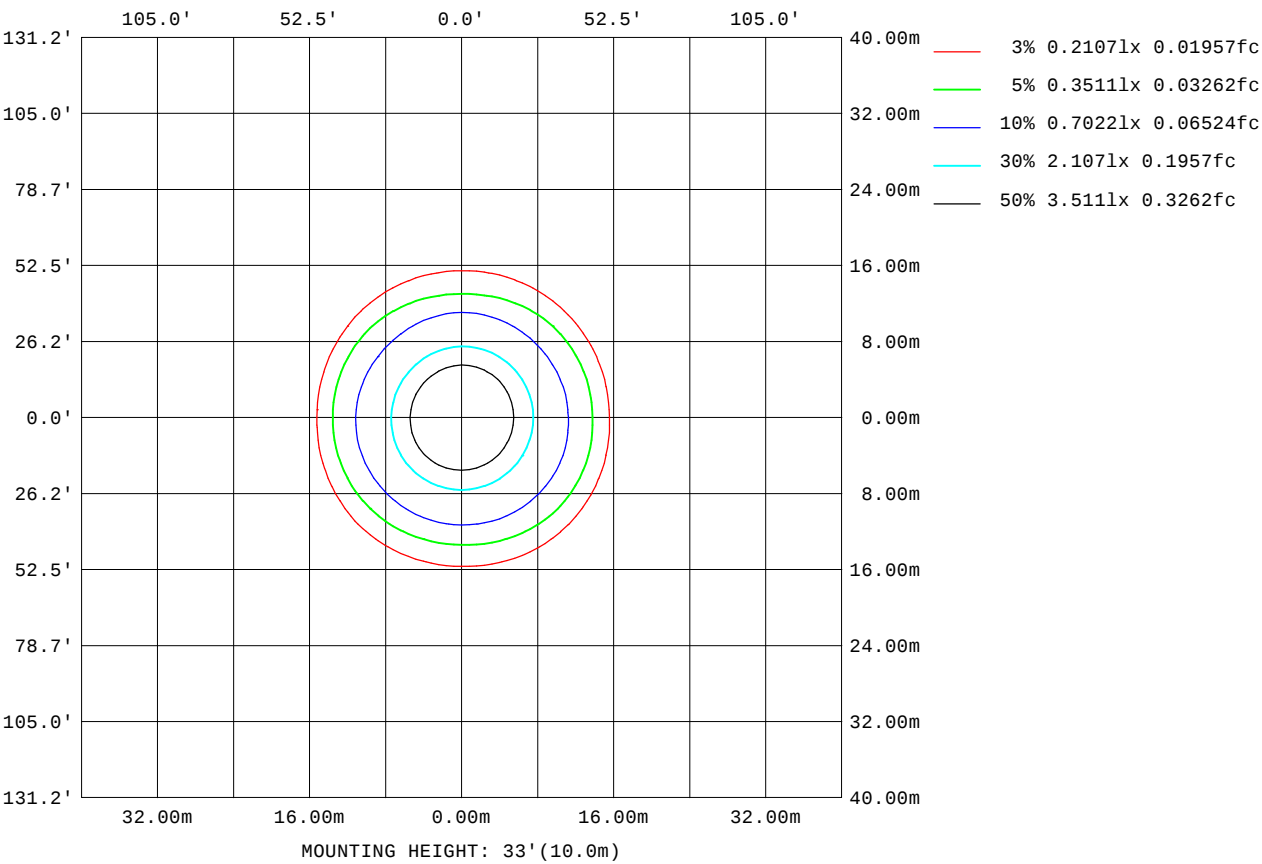
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:9.526m [K=1.0498]
 Remarks:

ISOLUX DIAGRAM

Test:U:221.0V I:0.4450A P:97.20W PF:0.9880 Lamp Flux:13225.3x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	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:9.526m [K=1.0498]
Remarks:

LED Avg.L Report

Test:U:221.0V I:0.4450A P:97.20W PF:0.9880 Lamp Flux:13225.3x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

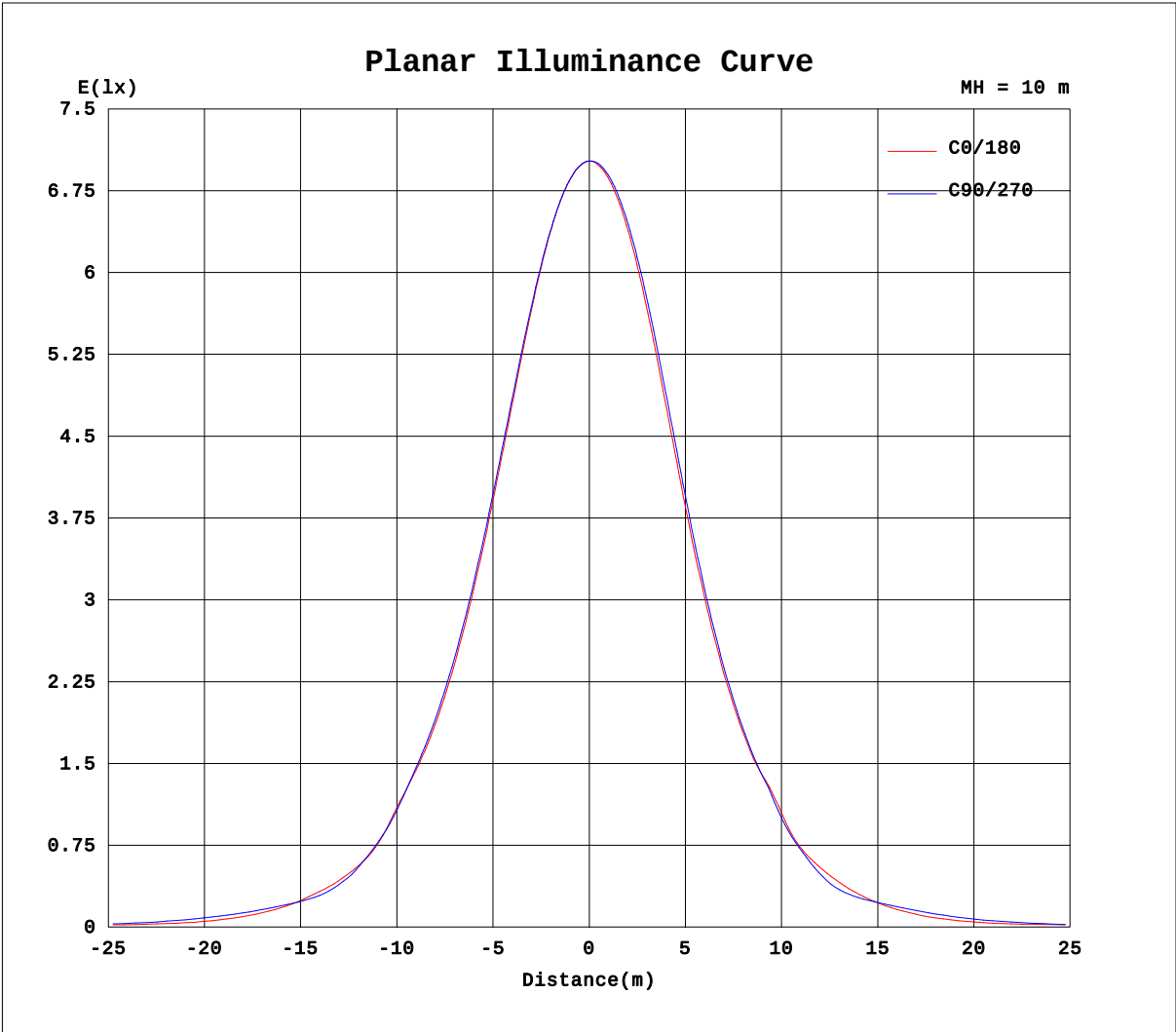
AvgL	cd/m2
L_0~180(65)av	754
L_0~180(75)av	1276
L_0~180(85)av	1319
L_90~270(65)av	1195
L_90~270(75)av	983
L_90~270(85)av	1121
L_45(65)av	1267
L_45(75)av	1083
L_45(85)av	1170

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:9.526m [K=1.0498]
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:9.526m [K=1.0498]
Remarks: