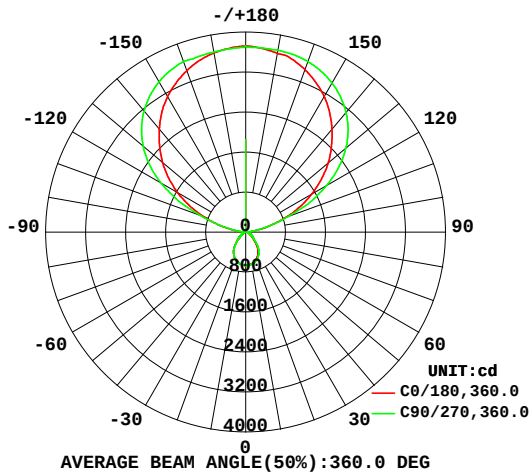


LUMINAIRE PHOTOMETRIC TEST REPORT

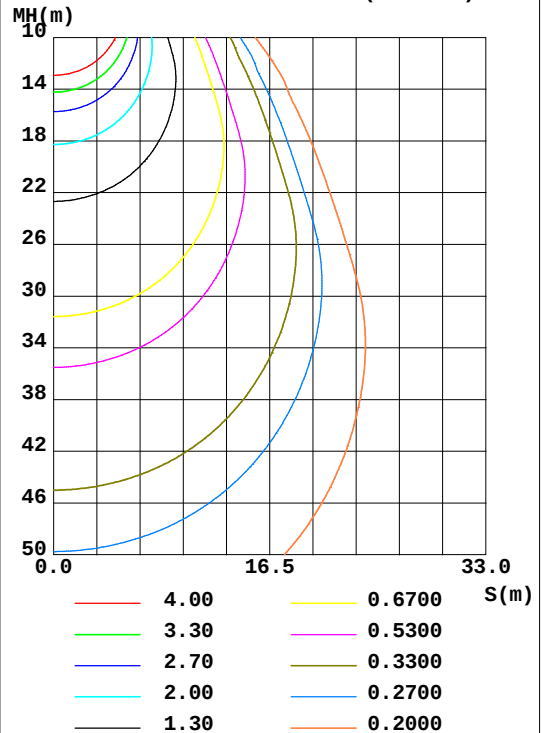
Test:U:220.7V I:0.4420A P:96.00W PF:0.9810 Lamp Flux:12333.2x1 lm		
NAME: UNF-20210015-TDC 上下 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 128.47 lm/W			
MODEL		I _{max} (cd)	3720	S/MH(C0/180)	1.13
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.18
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	12333	η UP, DN(C0-180)	44.9, 4.9
NOMINAL FLUX(lm)	12333.2	CIE CLASS	SEMI-IND.	η UP, DN(C180-360)	44.9, 5.2
LAMPS INSIDE	1	η up(%)	89.9	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.0	η down(%)	10.1	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	663.6	663.2	662.8	663.0	665.1	665.3	665.9	664.6	0- 5	15.92	15.92	0.13,0.13
10	650.3	650.2	650.7	650.5	653.0	655.4	657.8	654.1	5- 10	47.11	63.04	0.51,0.51
15	626.5	626.9	628.5	627.9	631.2	636.6	642.0	634.7	10- 15	76.23	139.3	1.13,1.13
20	591.2	590.8	593.8	592.4	598.1	606.6	615.8	604.2	15- 20	101.5	240.8	1.95,1.95
25	544.7	541.5	545.7	543.9	553.5	563.2	576.8	560.4	20- 25	121.0	361.8	2.93,2.93
30	487.9	483.6	485.7	485.9	498.6	508.6	525.2	505.7	25- 30	133.1	494.8	4.01,4.01
35	420.4	421.6	413.2	424.7	434.0	448.8	463.8	446.3	30- 35	137.3	632.1	5.13,5.13
40	324.8	346.5	315.9	351.0	350.1	385.1	388.0	380.4	35- 40	132.4	764.4	6.2,6.2
45	240.4	232.6	234.7	240.3	258.6	288.1	292.1	277.6	40- 45	114.1	878.5	7.12,7.12
50	182.5	152.8	180.0	155.3	194.1	182.6	217.3	178.6	45- 50	87.03	965.6	7.83,7.83
55	141.7	103.3	136.5	103.3	149.3	122.0	163.7	120.6	50- 55	66.49	1032	8.37,8.37
60	102.4	81.59	101.7	79.57	108.0	84.20	121.6	85.40	55- 60	50.82	1083	8.78,8.78
65	88.64	78.22	88.34	77.83	87.45	75.22	90.85	76.77	60- 65	42.30	1125	9.12,9.12
70	79.51	66.54	75.03	66.75	80.67	73.97	79.68	73.27	65- 70	39.97	1165	9.45,9.45
75	67.49	49.57	59.57	48.84	70.14	57.17	68.17	56.81	70- 75	34.94	1200	9.73,9.73
80	47.71	33.00	37.13	33.87	50.88	40.37	51.21	39.60	75- 80	27.01	1227	9.95,9.95
85	20.26	12.51	11.74	14.30	22.68	22.65	28.26	21.50	80- 85	16.59	1244	10.1,10.1
90	3.757	4.483	3.584	4.287	3.809	5.134	3.878	4.587	85- 90	4.826	1249	10.1,10.1
95	59.75	66.89	31.55	43.17	49.22	38.70	25.20	61.16	90- 95	8.290	1257	10.2,10.2
100	244.9	309.1	204.9	256.1	223.8	252.7	176.8	310.2	95-100	74.14	1331	10.8,10.8
105	538.2	646.5	538.2	576.0	500.4	570.7	490.9	647.4	100-105	213.7	1545	12.5,12.5
110	883.2	1099	945.3	1012	843.2	1015	890.8	1081	105-110	404.4	1949	15.8,15.8
115	1222	1523	1484	1435	1192	1425	1426	1504	110-115	603.6	2553	20.7,20.7
120	1572	1911	1944	1831	1529	1834	1872	1911	115-120	783.2	3336	27,27
125	1883	2256	2349	2184	1853	2202	2278	2272	120-125	921.3	4257	34.5,34.5
130	2173	2551	2680	2487	2157	2515	2618	2580	125-130	1013	5270	42.7,42.7
135	2439	2801	2948	2743	2429	2780	2898	2842	130-135	1057	6327	51.3,51.3
140	2690	3013	3164	2961	2687	3005	3123	3064	135-140	1059	7386	59.9,59.9
145	2927	3188	3337	3142	2929	3193	3306	3249	140-145	1025	8411	68.2,68.2
150	3130	3331	3471	3291	3140	3347	3451	3399	145-150	956.5	9367	76,76
155	3298	3444	3570	3412	3314	3471	3559	3519	150-155	858.1	10226	82.9,82.9
160	3441	3532	3636	3507	3463	3567	3634	3612	155-160	734.9	10960	88.9,88.9
165	3559	3506	3638	3580	3584	3635	3679	3639	160-165	590.7	11551	93.7,93.7
170	3641	3639	3659	3634	3635	3643	3693	3677	165-170	431.2	11982	97.2,97.2
175	3694	3674	3682	3681	3691	3674	3698	3700	170-175	262.5	12245	99.3,99.3
180	3720	3720	3720	3720	3720	3720	3720	3720	175-180	88.34	12333	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 878.54 lm

%lum = 7.1%
 %lamp = 7.1%

Conical surface Flux(120deg): 1082.9 lm

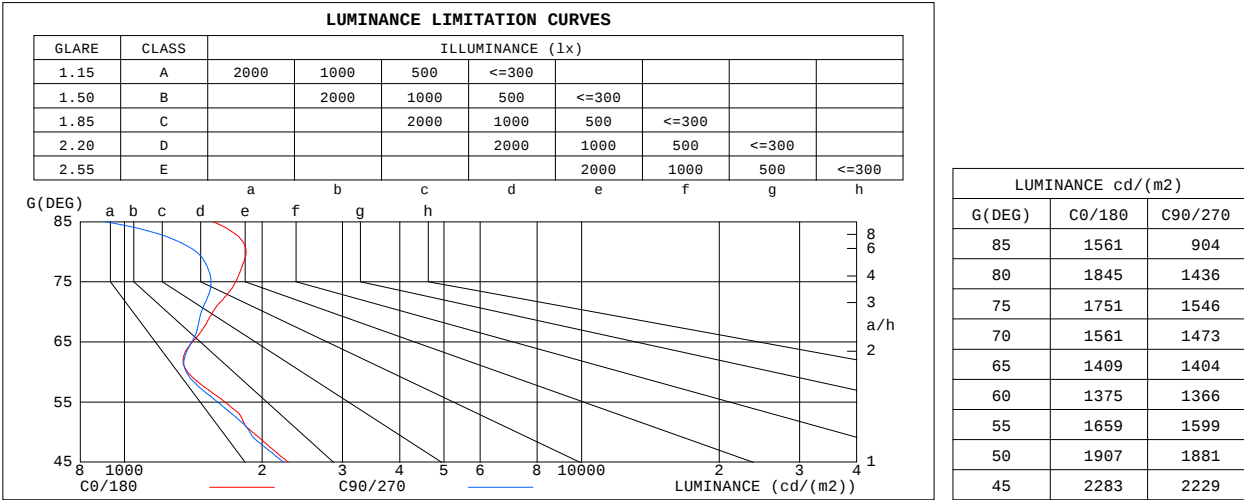
%lum = 8.8%
 %lamp = 8.8%

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:0.4420A P:96.00W PF:0.9810 Lamp Flux:12333.2x1 lm		
NAME: UNF-20210015-TDC 上下 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



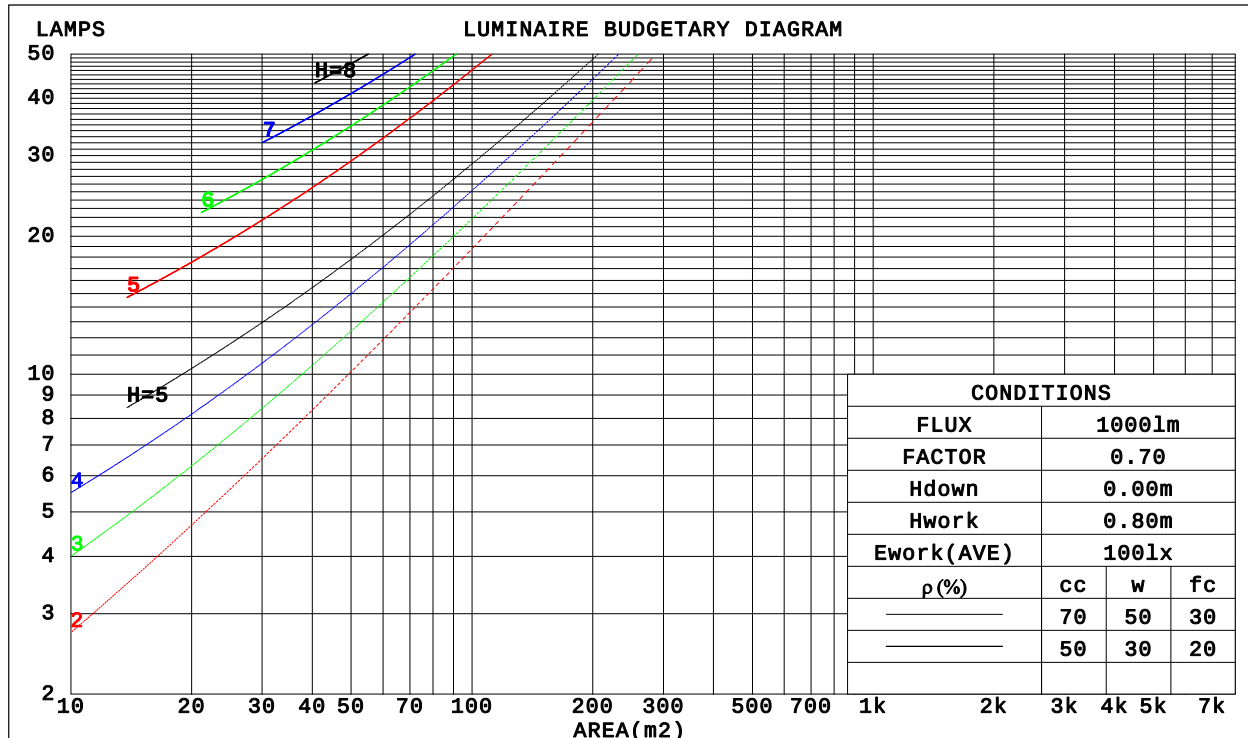
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

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:0.4420A P:96.00W PF:0.9810 Lamp Flux:12333.2x1 lm		
NAME: UNF-20210015-TDC 上下 2700K	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	.20	.20	.20	.10	
1.0	.85	.81	.78	.74	.71	.68	.54	.52	.50	.35	.34	.33	.17	.17	.17	.09	
2.0	.74	.69	.64	.65	.60	.56	.47	.44	.42	.31	.29	.28	.15	.15	.14	.08	
3.0	.65	.59	.53	.57	.52	.47	.42	.38	.35	.27	.25	.23	.14	.13	.12	.07	
4.0	.58	.51	.45	.51	.45	.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	.30	.25	.22	.20	.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	.09	.07	.07	.04	
9.0	.34	.27	.22	.30	.24	.20	.22	.18	.15	.15	.12	.11	.08	.07	.06	.04	
10.0	.31	.24	.20	.27	.21	.18	.20	.16	.14	.14	.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:0.4420A P:96.00W PF:0.9810 Lamp Flux:12333.2x1 lm					
NAME: UNF-20210015-TDC 上下 2700K			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	.258	.147	.047	.224	.128	.041	.160	.092	.029	.102	.059	.019	.048	.028	.009		
2.0	.238	.130	.040	.207	.114	.035	.148	.083	.026	.095	.053	.017	.045	.025	.008		
3.0	.220	.117	.035	.191	.102	.031	.138	.075	.023	.088	.048	.015	.042	.023	.007		
4.0	.204	.106	.031	.178	.093	.027	.128	.068	.020	.082	.044	.013	.039	.021	.006		
5.0	.189	.097	.028	.165	.085	.025	.119	.062	.018	.077	.040	.012	.037	.020	.006		
6.0	.177	.089	.025	.154	.078	.022	.112	.057	.017	.072	.037	.011	.034	.018	.005		
7.0	.165	.082	.023	.144	.072	.020	.105	.053	.015	.067	.035	.010	.032	.017	.005		
8.0	.155	.076	.021	.135	.067	.019	.098	.049	.014	.063	.032	.009	.031	.016	.005		
9.0	.146	.070	.020	.128	.062	.017	.093	.046	.013	.060	.030	.009	.029	.015	.004		
10.0	.137	.066	.018	.120	.058	.016	.088	.043	.012	.057	.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	.875	.875	.875	.748	.748	.748	.511	.511	.511	.293	.293	.293	.094	.094	.094	
1.0	.867	.847	.829	.742	.727	.713	.508	.500	.493	.292	.289	.287	.094	.093	.093	
2.0	.860	.827	.800	.737	.712	.691	.505	.493	.482	.291	.287	.283	.093	.093	.092	
3.0	.854	.813	.780	.732	.701	.676	.502	.487	.474	.290	.284	.280	.093	.092	.092	
4.0	.848	.802	.767	.727	.693	.666	.500	.483	.469	.289	.283	.278	.093	.092	.091	
5.0	.842	.793	.758	.723	.686	.659	.498	.480	.465	.288	.282	.276	.093	.092	.091	
6.0	.836	.787	.751	.719	.681	.654	.496	.477	.463	.288	.280	.275	.093	.092	.091	
7.0	.831	.781	.746	.715	.677	.650	.494	.475	.461	.287	.280	.274	.093	.092	.091	
8.0	.826	.776	.742	.711	.673	.647	.492	.473	.459	.286	.279	.274	.093	.091	.091	
9.0	.821	.772	.739	.707	.670	.645	.490	.471	.458	.285	.278	.273	.092	.091	.090	
10.0	.817	.769	.737	.704	.668	.643	.488	.470	.457	.285	.278	.273	.092	.091	.090	

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:0.4420A P:96.00W PF:0.9810 Lamp Flux:12333.2x1 lm											
NAME: UNF-20210015-TDC 上下 2700K					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	3.6	4.3	4.8	5.5	7.2	3.7	4.4	4.9	5.5	7.2	
	3H	4.9	5.5	6.1	6.6	8.3	4.9	5.5	6.1	6.7	8.4
	4H	5.6	6.2	6.8	7.3	9.1	5.5	6.1	6.8	7.3	9.0
	6H	6.3	6.8	7.5	8.0	9.7	6.0	6.5	7.3	7.7	9.4
	8H	6.6	7.0	7.8	8.2	10.0	6.1	6.6	7.4	7.8	9.5
	12H	6.7	7.1	7.9	8.4	10.1	6.1	6.6	7.4	7.8	9.5
4H	2H	3.7	4.2	4.9	5.4	7.1	3.7	4.3	4.9	5.5	7.2
	3H	5.1	5.6	6.4	6.8	8.5	5.2	5.6	6.4	6.8	8.6
	4H	6.0	6.4	7.3	7.6	9.4	6.0	6.4	7.2	7.6	9.3
	6H	6.9	7.2	8.1	8.4	10.2	6.6	6.9	7.8	8.1	9.9
	8H	7.2	7.5	8.4	8.7	10.5	6.7	7.1	8.0	8.3	10.1
	12H	7.4	7.7	8.6	8.9	10.7	6.8	7.1	8.0	8.3	10.1
8H	4H	6.1	6.4	7.4	7.6	9.4	6.0	6.3	7.3	7.6	9.3
	6H	7.1	7.3	8.3	8.6	10.4	6.8	7.1	8.1	8.3	10.1
	8H	7.5	7.7	8.7	8.9	10.7	7.0	7.3	8.3	8.5	10.3
	12H	7.7	7.9	9.0	9.2	11.0	7.1	7.3	8.4	8.6	10.4
12H	4H	6.0	6.3	7.3	7.6	9.3	6.0	6.3	7.2	7.5	9.3
	6H	7.1	7.3	8.3	8.5	10.3	6.8	7.0	8.1	8.3	10.1
	8H	7.5	7.7	8.8	8.9	10.7	7.1	7.3	8.3	8.5	10.3
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.4					
1.5H	+ 0.4 / - 0.3					+ 0.4 / - 0.3					
2.0H	+ 0.6 / - 0.4					+ 0.7 / - 0.4					

CIE Pub.117 Corrected 12333 lm Total Lamp Luminous Flux.(8log(F/F0) = 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:9.460m [K=1.0571]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.7V I:0.4420A P:96.00W PF:0.9810 Lamp Flux:12333.2x1 lm		
NAME: UNF-20210015-TDC 上下 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

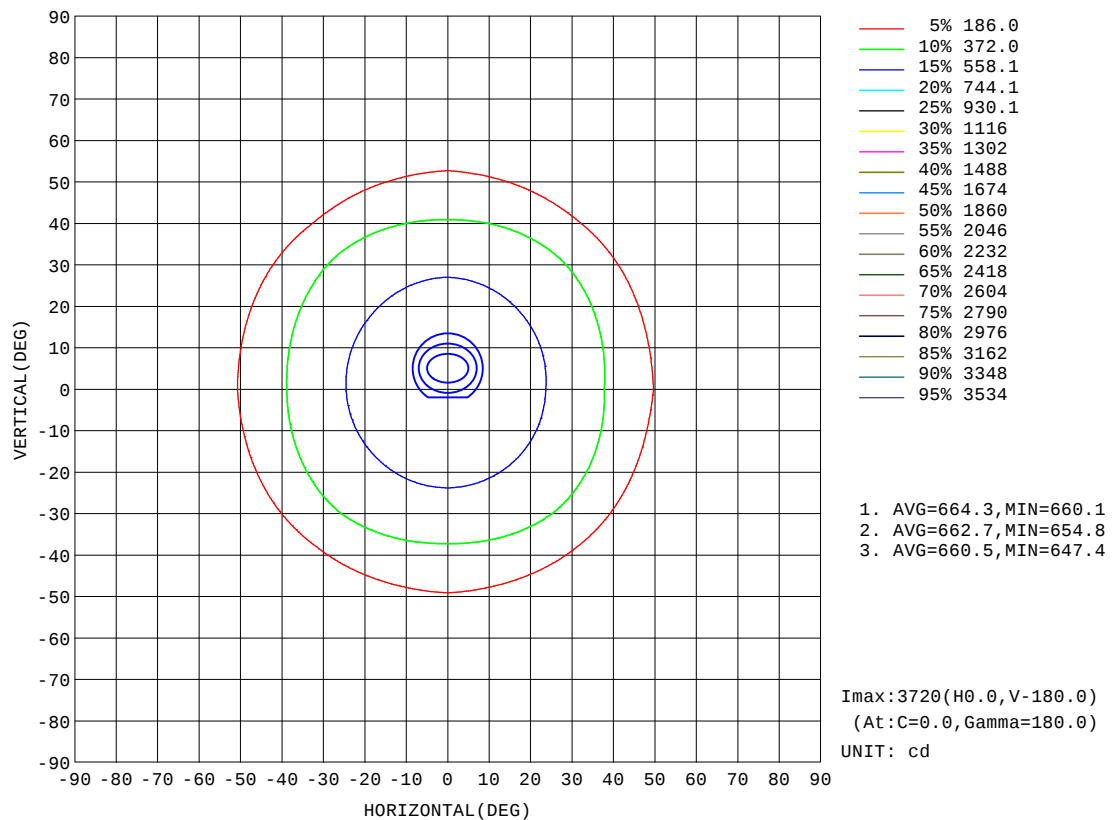
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	37	29	42	32	26	30	24	20	4
0.80	56	45	38	49	40	33	35	29	25	5
1.00	62	52	44	54	45	39	39	33	29	6
1.25	68	58	51	59	51	45	42	37	34	6
1.50	72	63	56	63	55	50	45	40	37	7
2.00	78	70	64	67	61	56	48	45	41	8
2.50	81	75	69	71	65	61	51	47	45	8
3.00	84	78	73	73	68	64	52	49	47	8
4.00	87	82	78	76	72	68	54	52	50	9
5.00	89	85	82	77	74	71	56	54	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: 9.460m [K=1.0571]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.7V I:0.4420A P:96.00W PF:0.9810 Lamp Flux:12333.2x1 lm		
NAME: UNF-20210015-TDC 上下 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



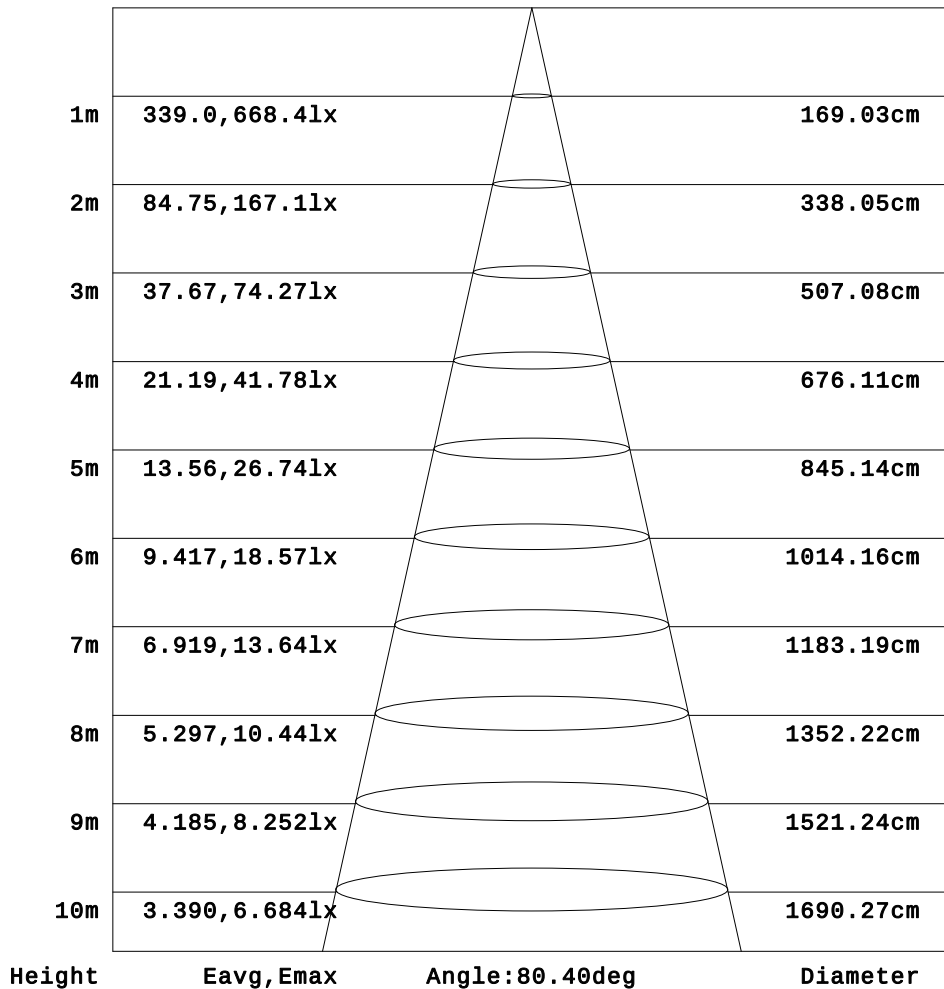
C Range: 0 - 360DEG
 C Interval: 5.0DEG
 Test Speed: MEDIUM
 Temperature: 25.3DEG
 Operators:
 Test Date:

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:0.4420A P:96.00W PF:0.9810 Lamp Flux:12333.2x1 lm		
NAME: UNF-20210015-TDC 上下 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:776.9 lm



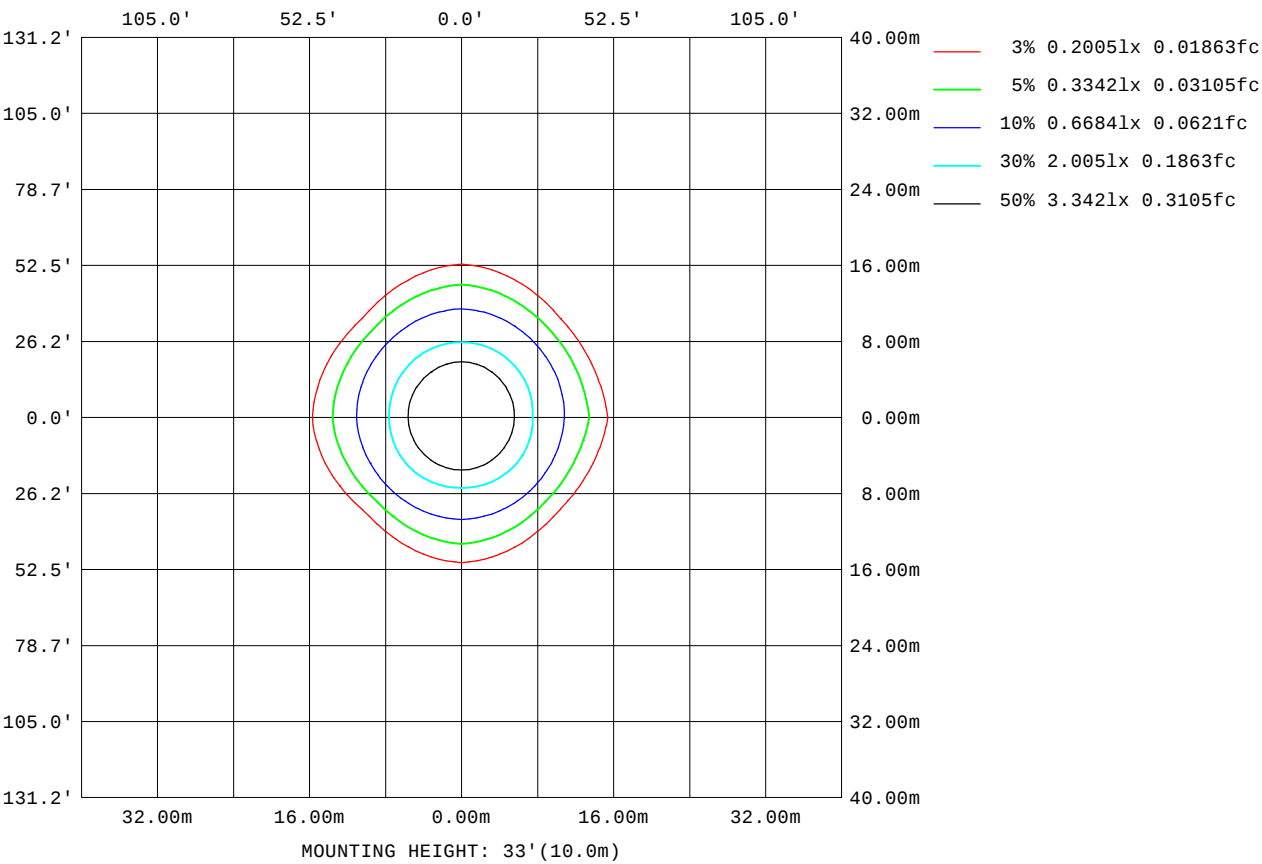
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.4420A P:96.00W PF:0.9810 Lamp Flux:12333.2x1 lm		
NAME: UNF-20210015-TDC 上下 2700K	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:0.4420A P:96.00W PF:0.9810 Lamp Flux:12333.2x1 lm		
NAME: UNF-20210015-TDC 上下 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

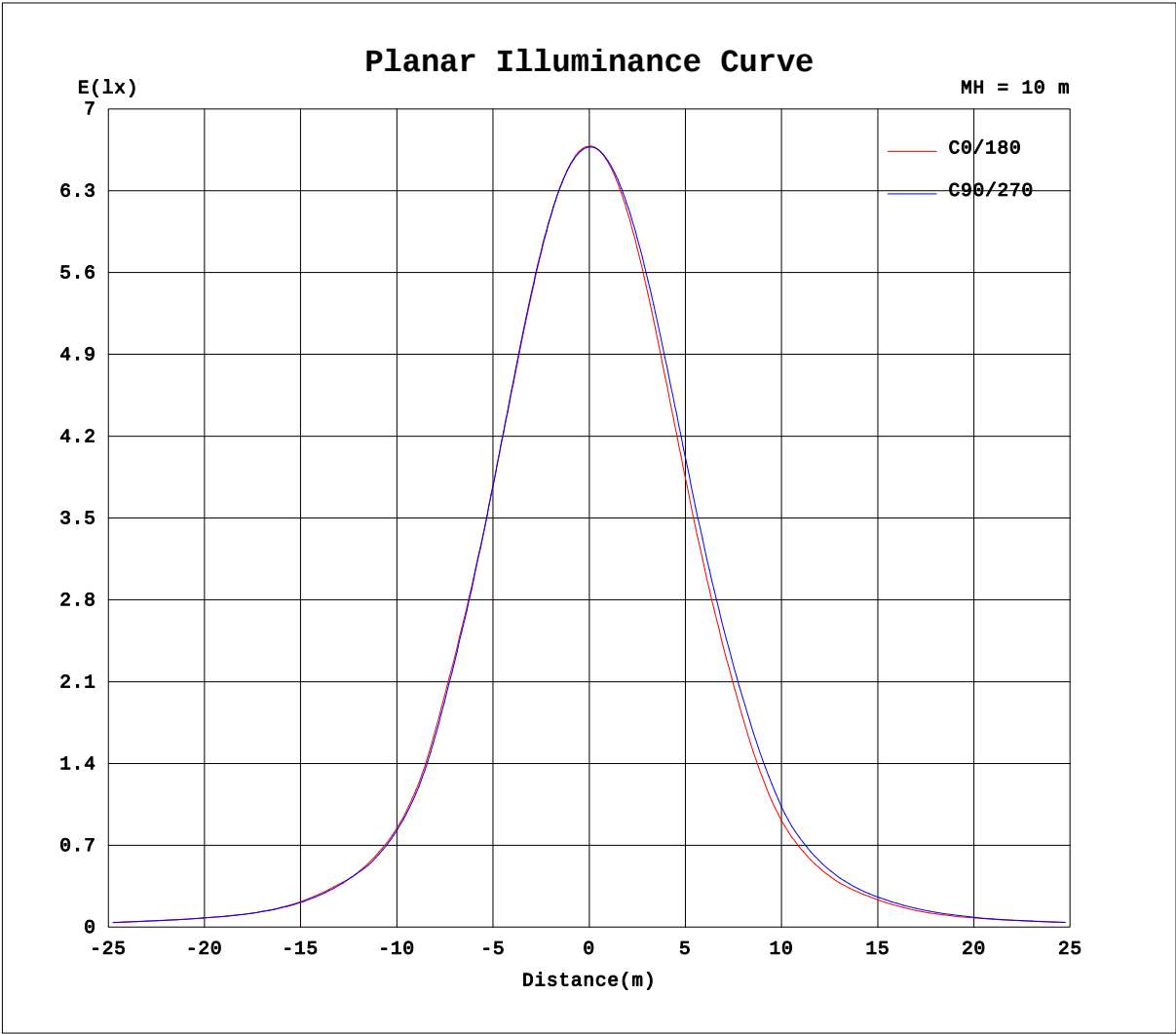
AvgL	cd/m2
L_0~180(65)av	1399
L_0~180(75)av	1786
L_0~180(85)av	1654
L_90~270(65)av	1424
L_90~270(75)av	1657
L_90~270(85)av	1541
L_45(65)av	1224
L_45(75)av	1378
L_45(85)av	1367

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: