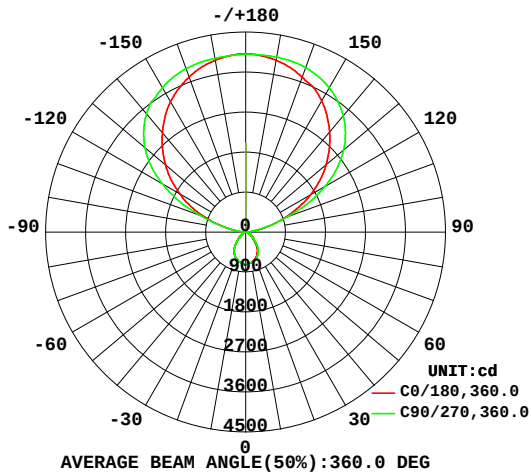


LUMINAIRE PHOTOMETRIC TEST REPORT

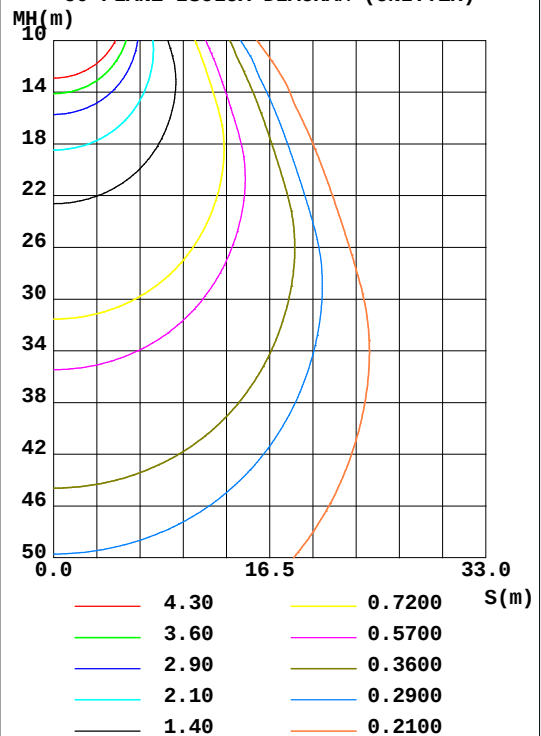
Test:U:220.7V I:0.4530A P:98.40W PF:0.9830 Lamp Flux:13473.9x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 136.93 lm/W			
MODEL		I _{max} (cd)	4016	S/MH(C0/180)	1.13
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.17
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	13474	η UP, DN(C0-180)	45.2, 4.8
NOMINAL FLUX(lm)	13473.9	CIE CLASS	INDIRECT	η UP, DN(C180-360)	44.9, 5.1
LAMPS INSIDE	1	η up(%)	90.1	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.0	η down(%)	9.9	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	711.8	711.5	711.1	711.2	712.9	713.1	714.0	712.8	0- 5	17.08	17.08	0.13,0.13
10	697.6	697.9	698.2	697.6	699.8	701.9	704.9	701.6	5- 10	50.53	67.60	0.50,0.50
15	672.6	673.5	674.8	673.2	676.0	681.1	687.6	680.5	10- 15	81.74	149.3	1.11,1.11
20	635.3	635.3	638.0	635.3	639.9	648.5	659.0	647.9	15- 20	108.8	258.2	1.92,1.92
25	585.6	582.9	586.8	583.1	591.7	601.3	616.7	600.7	20- 25	129.7	387.9	2.88,2.88
30	524.8	520.9	522.3	521.0	532.5	542.2	561.0	542.2	25- 30	142.6	530.5	3.94,3.94
35	452.9	454.9	445.4	455.2	463.1	478.2	494.7	478.4	30- 35	147.1	677.6	5.03,5.03
40	351.3	372.7	341.4	376.0	369.9	409.2	412.6	407.8	35- 40	141.9	819.5	6.08,6.08
45	259.7	254.1	253.4	257.7	274.7	302.3	309.8	297.3	40- 45	121.9	941.4	6.99,6.99
50	197.1	166.9	190.9	166.6	206.0	192.0	231.0	191.9	45- 50	93.16	1035	7.68,7.68
55	153.2	112.4	147.6	110.8	158.6	128.4	174.2	129.5	50- 55	71.07	1106	8.21,8.21
60	110.6	87.79	109.6	85.33	114.5	89.29	129.2	91.79	55- 60	54.41	1160	8.61,8.61
65	95.18	84.06	94.86	83.41	93.48	80.83	97.01	82.66	60- 65	45.30	1205	8.95,8.95
70	85.60	72.01	80.80	71.61	86.05	78.92	85.30	78.98	65- 70	42.92	1248	9.26,9.26
75	72.84	53.66	64.39	52.44	74.71	60.51	72.80	61.33	70- 75	37.50	1286	9.54,9.54
80	51.84	36.08	40.50	36.35	53.91	42.56	54.37	42.76	75- 80	28.99	1315	9.76,9.76
85	22.51	14.30	13.28	15.28	23.34	23.35	29.54	23.19	80- 85	17.80	1333	9.89,9.89
90	4.086	5.054	3.930	4.696	4.155	5.664	4.241	5.117	85- 90	5.114	1338	9.93,9.93
95	66.67	79.09	38.25	52.50	54.40	42.12	26.34	66.24	90- 95	9.329	1347	10,10
100	269.4	348.4	236.5	296.1	252.1	283.9	192.5	334.8	95-100	83.46	1430	10.6,10.6
105	590.7	731.3	607.3	654.5	557.1	634.4	538.2	713.6	100-105	238.5	1669	12.4,12.4
110	972.0	1222	1059	1138	921.2	1131	981.1	1195	105-110	449.7	2119	15.7,15.7
115	1358	1676	1656	1604	1294	1585	1558	1650	110-115	668.5	2787	20.7,20.7
120	1703	2110	2161	2039	1688	2035	2062	2097	115-120	865.4	3653	27.1,27.1
125	2045	2487	2602	2424	2041	2435	2509	2488	120-125	1016	4669	34.7,34.7
130	2359	2803	2962	2750	2368	2773	2880	2819	125-130	1114	5783	42.9,42.9
135	2648	3071	3248	3026	2664	3058	3178	3099	130-135	1160	6943	51.5,51.5
140	2919	3295	3476	3256	2941	3297	3416	3334	135-140	1160	8104	60.1,60.1
145	3170	3480	3637	3446	3197	3495	3609	3528	140-145	1120	9223	68.5,68.5
150	3389	3629	3754	3601	3419	3636	3758	3649	145-150	1041	10265	76.2,76.2
155	3567	3747	3853	3724	3602	3742	3868	3771	150-155	930.1	11195	83.1,83.1
160	3719	3838	3918	3820	3716	3839	3942	3865	155-160	794.4	11989	89,89
165	3843	3903	3956	3891	3840	3908	3984	3932	160-165	638.4	12628	93.7,93.7
170	3931	3949	3973	3943	3929	3953	3999	3973	165-170	466.6	13094	97.2,97.2
175	3989	3983	3990	3983	3987	3983	4004	4000	170-175	284.2	13378	99.3,99.3
180	4016	4016	4016	4016	4016	4016	4016	4016	175-180	95.58	13474	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 941.41 lm

%lum = 7.0%
 %lamp = 7.0%

Conical surface Flux(120deg): 1160 lm

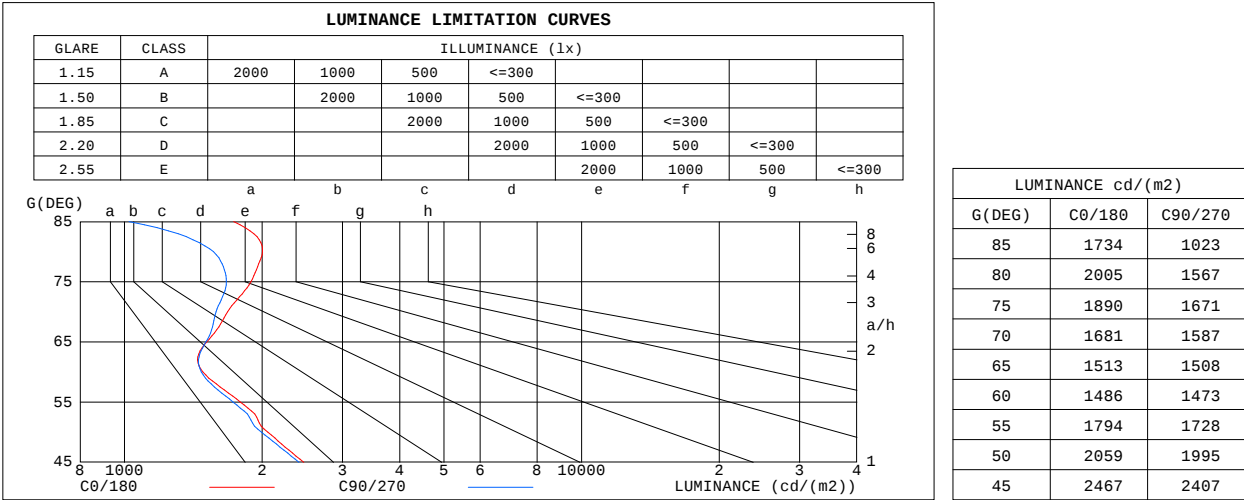
%lum = 8.6%
 %lamp = 8.6%

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:0.4530A P:98.40W PF:0.9830 Lamp Flux:13473.9x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



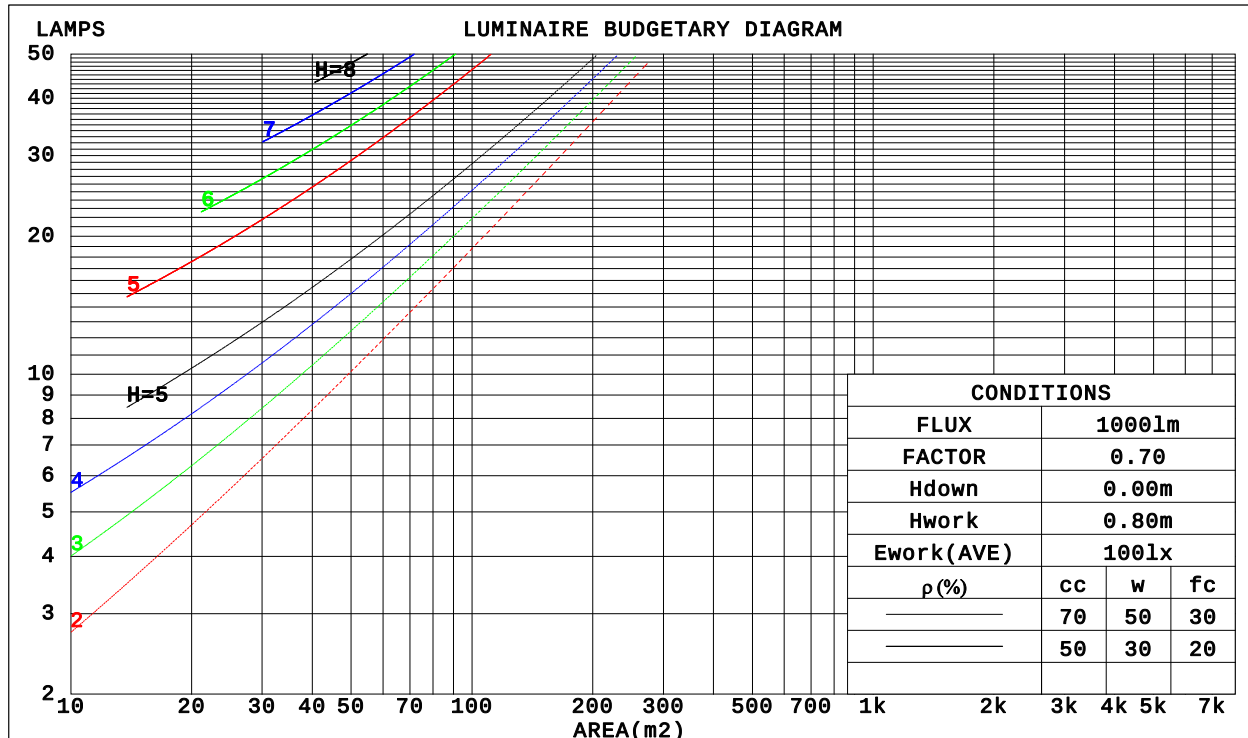
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature:25.3DEG
Operators:
Test Date:

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

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.7V I:0.4530A P:98.40W PF:0.9830 Lamp Flux:13473.9x1 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	.35	.34	.33	.17	.17	.16	.09
2.0	.74	.69	.64	.65	.60	.56	.47	.44	.42	.31	.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	.50	.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	.09	.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	.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:0.4530A P:98.40W PF:0.9830 Lamp Flux:13473.9x1 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	.258	.147	.047	.224	.128	.041	.160	.092	.029	.102	.059	.019	.047	.027	.009		
2.0	.238	.130	.040	.207	.114	.035	.148	.082	.026	.094	.053	.017	.044	.025	.008		
3.0	.220	.117	.035	.191	.102	.031	.137	.074	.023	.088	.048	.015	.041	.023	.007		
4.0	.204	.106	.031	.177	.093	.027	.128	.068	.020	.082	.044	.013	.039	.021	.006		
5.0	.189	.097	.028	.165	.085	.025	.119	.062	.018	.076	.040	.012	.036	.019	.006		
6.0	.177	.089	.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	.016	.005		
9.0	.146	.070	.020	.127	.062	.017	.093	.046	.013	.060	.030	.009	.029	.015	.004		
10.0	.137	.066	.018	.120	.058	.016	.087	.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	.877	.877	.877	.749	.749	.749	.511	.511	.511	.294	.294	.294	.094	.094	.094		
1.0	.869	.849	.830	.743	.728	.715	.508	.501	.494	.293	.290	.287	.094	.093	.093		
2.0	.862	.829	.801	.738	.713	.692	.506	.494	.483	.292	.287	.283	.094	.093	.092		
3.0	.855	.814	.782	.733	.702	.678	.503	.488	.475	.291	.285	.280	.093	.093	.092		
4.0	.849	.803	.768	.729	.694	.668	.501	.484	.470	.290	.283	.278	.093	.092	.091		
5.0	.843	.795	.759	.724	.688	.660	.499	.480	.466	.289	.282	.277	.093	.092	.091		
6.0	.838	.788	.752	.720	.683	.655	.497	.478	.464	.288	.281	.276	.093	.092	.091		
7.0	.832	.782	.747	.716	.678	.651	.495	.476	.462	.287	.280	.275	.093	.092	.091		
8.0	.827	.778	.744	.712	.675	.649	.493	.474	.460	.287	.279	.274	.093	.092	.091		
9.0	.823	.774	.741	.709	.672	.646	.491	.472	.459	.286	.279	.274	.093	.092	.091		
10.0	.818	.770	.739	.705	.669	.645	.489	.471	.458	.285	.278	.273	.093	.091	.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:0.4530A P:98.40W PF:0.9830 Lamp Flux:13473.9x1 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	3.9	4.5	5.1	5.7	7.4	3.9	4.6	5.1	5.8	7.5	
	3H	5.1	5.7	6.3	6.9	8.6	5.1	5.7	6.3	6.9	8.6
	4H	5.8	6.4	7.1	7.6	9.3	5.7	6.3	7.0	7.5	9.2
	6H	6.5	7.0	7.8	8.2	10.0	6.2	6.7	7.5	7.9	9.7
	8H	6.8	7.3	8.0	8.5	10.2	6.4	6.8	7.6	8.0	9.8
	12H	6.9	7.4	8.2	8.6	10.3	6.4	6.8	7.6	8.0	9.8
4H	2H	3.9	4.4	5.1	5.6	7.3	3.9	4.5	5.2	5.7	7.4
	3H	5.4	5.8	6.6	7.0	8.8	5.4	5.8	6.6	7.0	8.8
	4H	6.2	6.6	7.5	7.9	9.6	6.2	6.6	7.4	7.8	9.5
	6H	7.1	7.4	8.4	8.7	10.4	6.8	7.2	8.1	8.4	10.1
	8H	7.4	7.7	8.7	9.0	10.7	7.0	7.3	8.2	8.5	10.3
	12H	7.6	7.9	8.9	9.1	10.9	7.0	7.3	8.3	8.6	10.3
8H	4H	6.3	6.6	7.6	7.9	9.6	6.3	6.6	7.5	7.8	9.6
	6H	7.3	7.6	8.6	8.8	10.6	7.0	7.3	8.3	8.5	10.3
	8H	7.7	8.0	9.0	9.2	11.0	7.3	7.5	8.6	8.8	10.5
	12H	8.0	8.2	9.3	9.4	11.2	7.4	7.6	8.7	8.8	10.6
12H	4H	6.3	6.6	7.5	7.8	9.6	6.2	6.5	7.5	7.7	9.5
	6H	7.3	7.5	8.6	8.8	10.6	7.0	7.3	8.3	8.5	10.3
	8H	7.7	7.9	9.0	9.2	11.0	7.3	7.5	8.6	8.8	10.6
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 13474 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:9.460m [K=1.0571]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.7V I:0.4530A P:98.40W PF:0.9830 Lamp Flux:13473.9x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

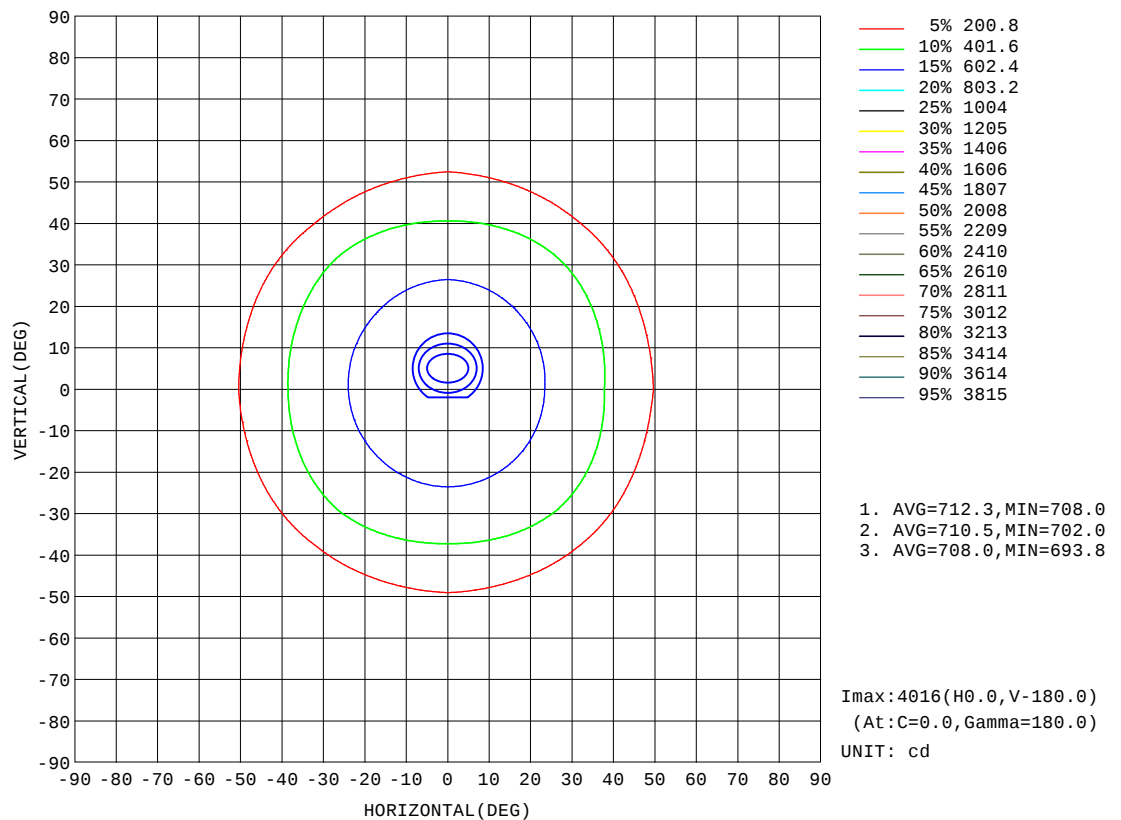
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	48	36	29	42	32	26	30	24	20	4
0.80	56	45	38	49	40	33	35	29	25	5
1.00	62	52	44	54	45	39	39	33	29	6
1.25	68	58	51	59	51	45	42	37	33	6
1.50	72	63	56	62	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	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	9
5.00	89	85	81	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:0.4530A P:98.40W PF:0.9830 Lamp Flux:13473.9x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



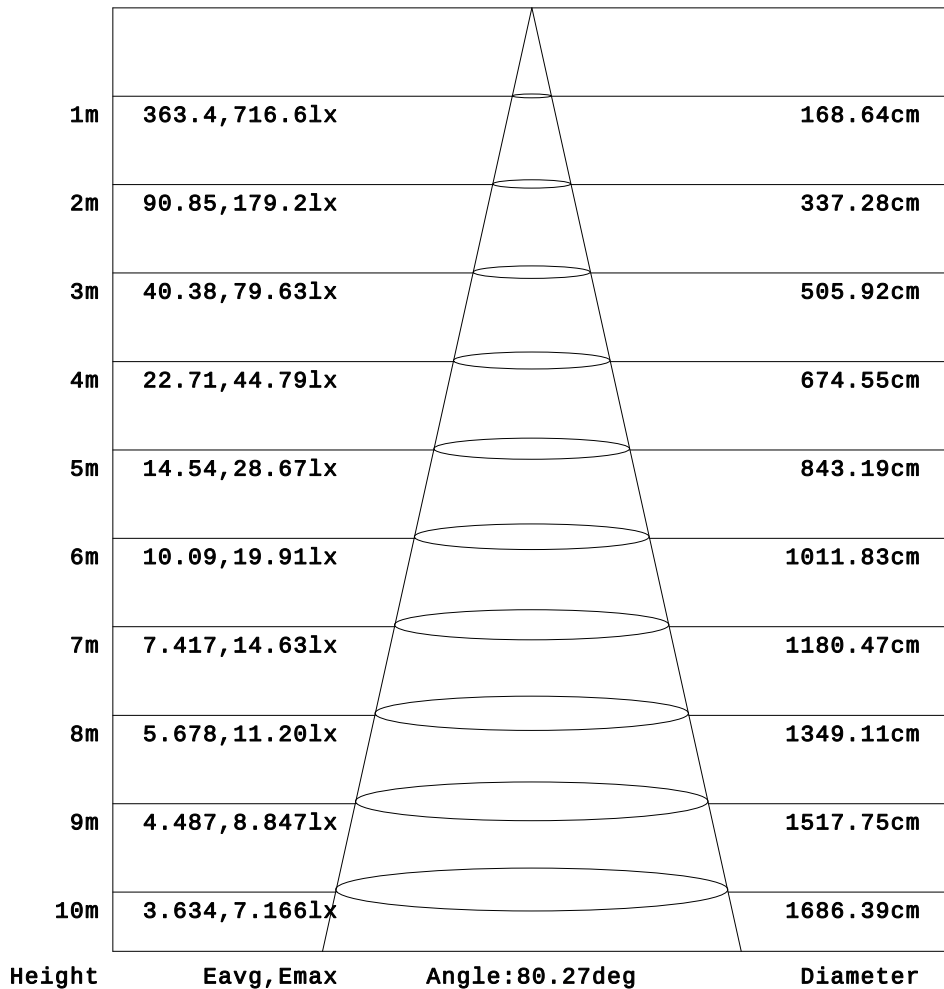
C Range: 0 - 360DEG
C Interval: 5.0DEG
Test Speed: MEDIUM
Temperature: 25.3DEG
Operators:
Test Date:

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

AAI Figure

Test:U:220.7V I:0.4530A P:98.40W PF:0.9830 Lamp Flux:13473.9x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:832.8 lm



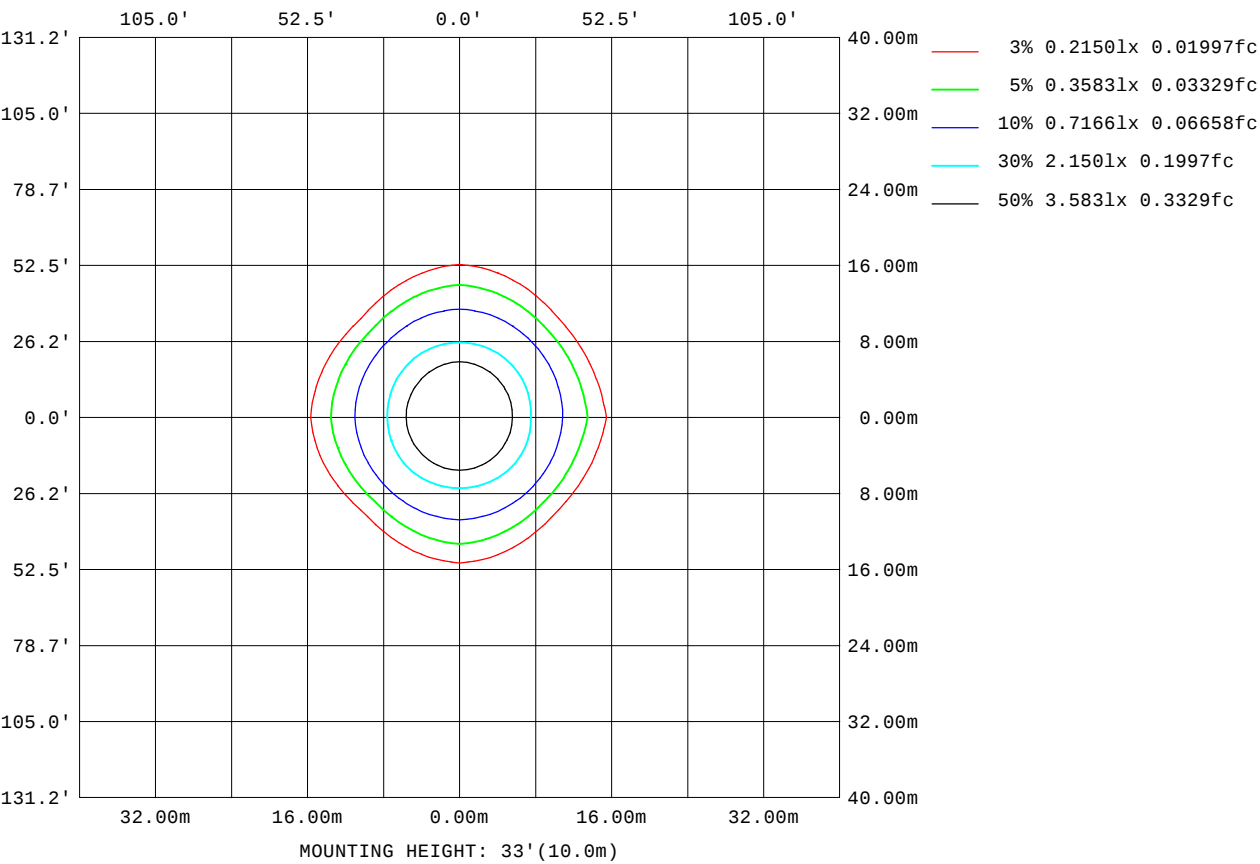
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.4530A P:98.40W PF:0.9830 Lamp Flux:13473.9x1 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:9.460m [K=1.0571]
Remarks:

LED Avg.L Report

Test:U:220.7V I:0.4530A P:98.40W PF:0.9830 Lamp Flux:13473.9x1 lm		
NAME: UNF-20210015-TDC 上下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

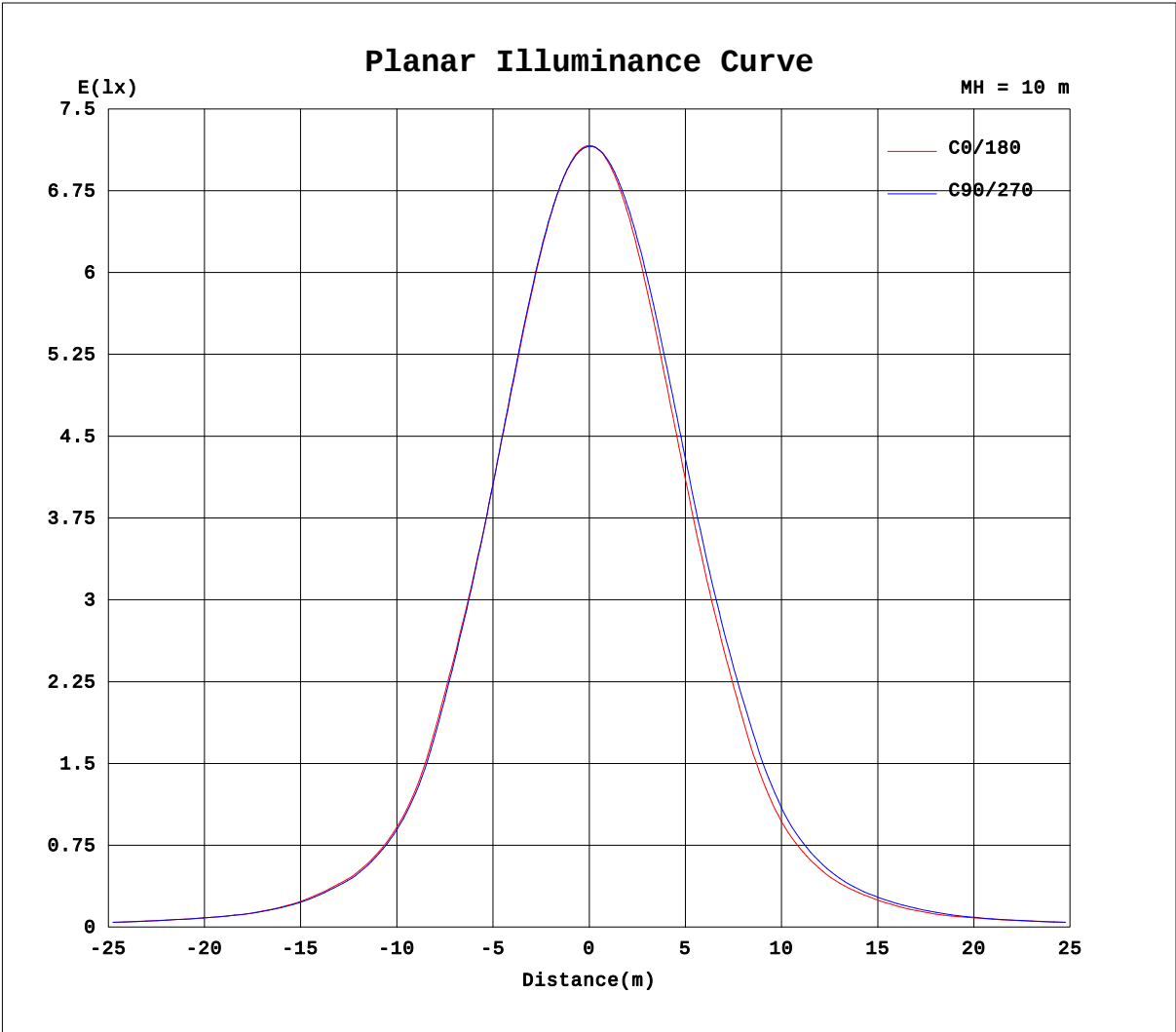
AvgL	cd/m2
L_0~180(65)av	1499
L_0~180(75)av	1914
L_0~180(85)av	1766
L_90~270(65)av	1525
L_90~270(75)av	1780
L_90~270(85)av	1650
L_45(65)av	1315
L_45(75)av	1479
L_45(85)av	1467

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: