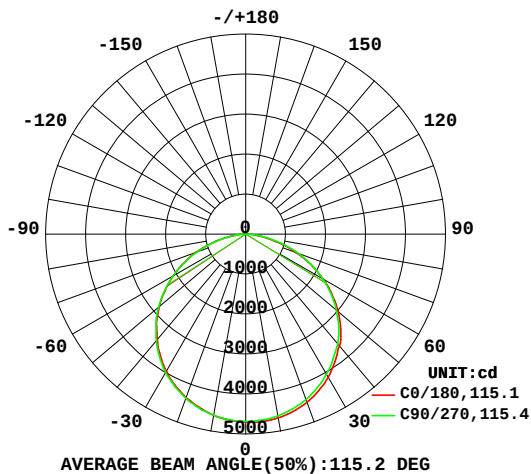


LUMINAIRE PHOTOMETRIC TEST REPORT

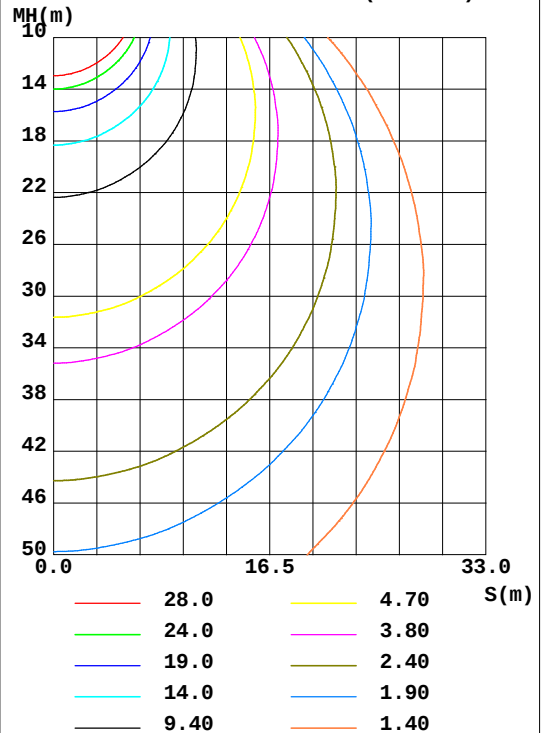
Test:U:220.7V I:0.4410A P:95.60W PF:0.9830 Lamp Flux:13726.5x1 lm		
NAME: UNF-20210015-TDC 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 143.58 lm/W			
MODEL		I _{max} (cd)	4712	S/MH(C0/180)	1.30
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	13726	η UP, DN(C0-180)	0.0,49.3
NOMINAL FLUX(lm)	13726.5	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,50.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.0	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-07-19

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [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	4605	4595	4603	4620	4671	4653	4618	4594	0- 10	444.4	444.4	3.24, 3.24
20	4352	4358	4370	4415	4476	4454	4405	4355	10- 20	1278	1722	12.5, 12.5
30	3967	3966	4001	4054	4133	4104	4047	3989	20- 30	1951	3673	26.8, 26.8
40	3445	3491	3480	3580	3650	3614	3592	3502	30- 40	2378	6050	44.1, 44.1
50	2826	2865	2849	2942	3019	2977	2963	2886	40- 50	2503	8554	62.3, 62.3
60	2100	2127	2098	2173	2232	2218	2224	2138	50- 60	2278	10832	78.9, 78.9
70	1304	1310	1277	1306	1336	1367	1388	1350	60- 70	1734	12566	91.5, 91.5
80	460.9	494.0	455.0	452.7	469.3	502.1	541.0	528.3	70- 80	947.8	13514	98.4, 98.4
90	8.805	10.77	7.860	9.174	9.940	11.31	14.56	17.62	80- 90	212.9	13726	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): 7308.3 lm

%lum = 53.2%
 %lamp = 53.2%

Conical surface Flux(120deg): 10832 lm

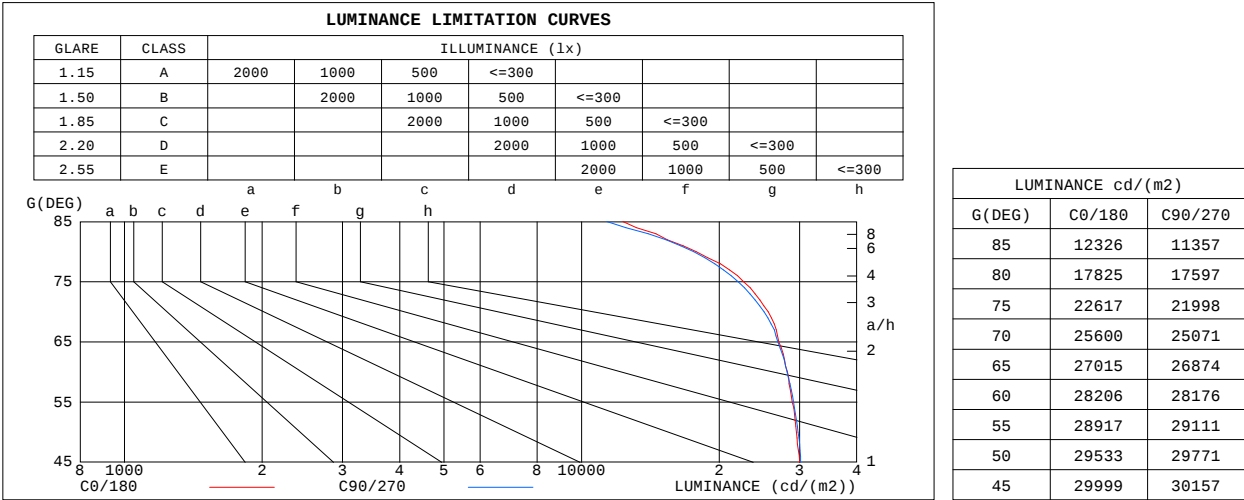
%lum = 78.9%
 %lamp = 78.9%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
 Humidity: 65.0%
 Test Distance: 9.460m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:220.7V I:0.4410A P:95.60W PF:0.9830 Lamp Flux:13726.5x1 lm		
NAME: UNF-20210015-TDC 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



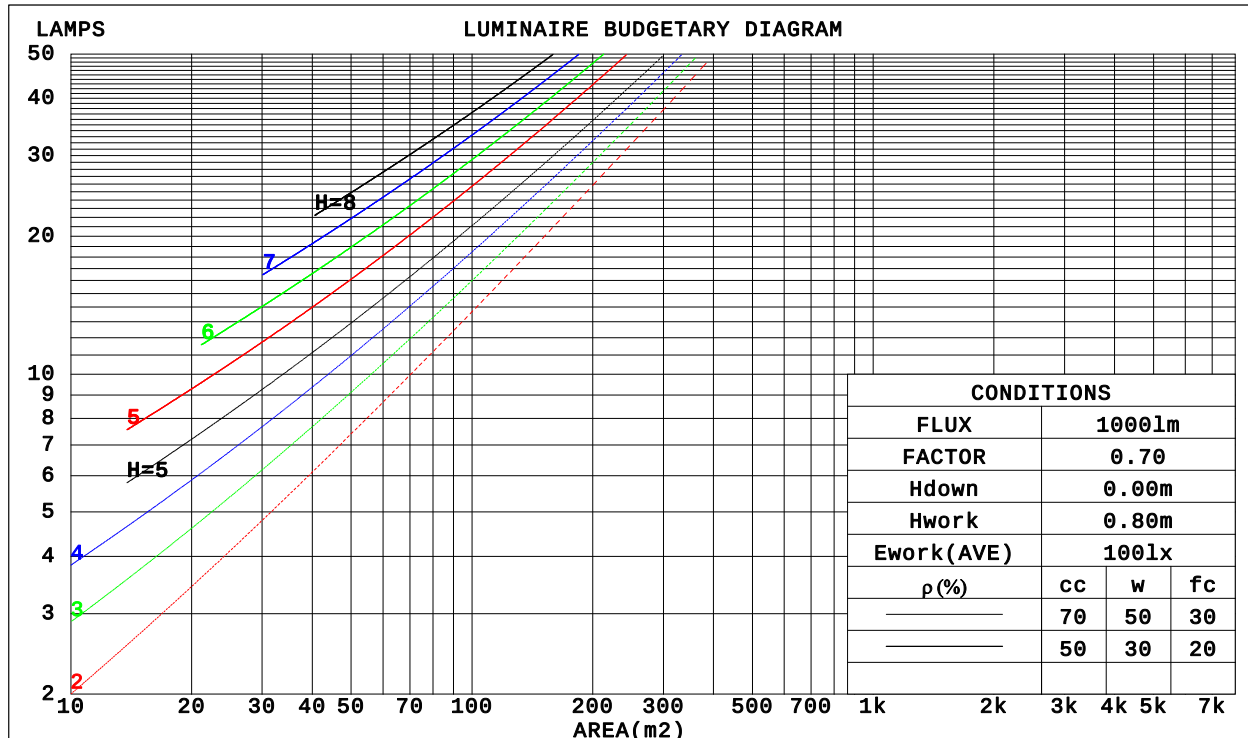
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-07-19

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:220.7V I:0.4410A P:95.60W PF:0.9830 Lamp Flux:13726.5x1 lm		
NAME: UNF-20210015-TDC 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	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	1.04	.00	.96	1.02	.98	.94	.97	.94	.91	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.78	.89	.82	.77	.85	.80	.75	.82	.77	.73	.79	.75	.72	.70
3.0	.79	.71	.65	.78	.70	.64	.75	.68	.63	.72	.66	.62	.69	.65	.61	.58
4.0	.70	.61	.55	.69	.61	.54	.66	.59	.53	.64	.58	.53	.62	.56	.52	.50
5.0	.63	.54	.47	.61	.53	.47	.59	.52	.46	.57	.51	.46	.55	.50	.45	.43
6.0	.56	.47	.41	.55	.47	.41	.53	.46	.40	.52	.45	.40	.50	.44	.39	.37
7.0	.51	.42	.36	.50	.42	.36	.49	.41	.36	.47	.40	.35	.46	.40	.35	.33
8.0	.46	.38	.32	.46	.38	.32	.44	.37	.32	.43	.36	.31	.42	.36	.31	.29
9.0	.43	.34	.29	.42	.34	.29	.41	.34	.28	.40	.33	.28	.39	.33	.28	.26
10.0	.39	.31	.26	.39	.31	.26	.38	.31	.26	.37	.30	.26	.36	.30	.26	.24



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:220.7V I:0.4410A P:95.60W PF:0.9830 Lamp Flux:13726.5x1 lm					
NAME: UNF-20210015-TDC 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	.307	.175	.055	.300	.171	.054	.287	.165	.053	.275	.159	.051	.264	.153	.049				
2.0	.291	.160	.049	.285	.157	.048	.273	.152	.047	.262	.147	.046	.252	.143	.045				
3.0	.270	.144	.043	.265	.142	.043	.254	.138	.042	.245	.134	.041	.236	.131	.040				
4.0	.250	.130	.038	.245	.128	.038	.236	.125	.037	.227	.122	.037	.219	.119	.036				
5.0	.231	.118	.034	.227	.116	.034	.218	.114	.033	.211	.111	.033	.204	.109	.033				
6.0	.214	.107	.031	.210	.106	.031	.203	.104	.030	.196	.102	.030	.190	.100	.030				
7.0	.199	.099	.028	.196	.098	.028	.190	.096	.028	.183	.094	.027	.178	.092	.027				
8.0	.186	.091	.026	.183	.090	.025	.177	.089	.025	.172	.087	.025	.167	.086	.025				
9.0	.175	.084	.024	.172	.084	.024	.167	.082	.023	.162	.081	.023	.157	.080	.023				
10.0	.164	.079	.022	.162	.078	.022	.157	.077	.022	.153	.076	.022	.148	.075	.021				

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	.190	.190	.190	.163	.163	.163	.111	.111	.111	.064	.064	.064	.020	.020	.020	
1.0	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.172	.132	.098	.147	.114	.085	.101	.079	.059	.058	.046	.035	.019	.015	.011	
3.0	.165	.114	.074	.141	.099	.064	.097	.068	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.051	.093	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.128	.078	.041	.088	.055	.029	.051	.032	.017	.017	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.075	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.129	.070	.029	.111	.060	.025	.077	.042	.018	.045	.025	.011	.014	.008	.003	
9.0	.123	.065	.025	.106	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.022	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.0.295T
 Humidity: 65.0%
 Test Distance: 9.460m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:220.7V I:0.4410A P:95.60W PF:0.9830 Lamp Flux:13726.5x1 lm											
NAME: UNF-20210015-TDC 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	24.6	26.1	24.8	26.3	26.5	24.6	26.1	24.9	26.3	26.5	
	3H	26.1	27.5	26.4	27.7	28.0	26.1	27.5	26.4	27.7	27.9
	4H	26.6	28.0	27.0	28.2	28.5	26.6	27.9	26.9	28.2	28.5
	6H	27.0	28.2	27.3	28.5	28.8	26.9	28.2	27.3	28.5	28.7
	8H	27.0	28.3	27.4	28.5	28.8	27.0	28.2	27.3	28.5	28.8
	12H	27.1	28.2	27.4	28.5	28.8	27.0	28.2	27.3	28.5	28.8
4H	2H	25.2	26.5	25.5	26.8	27.1	25.2	26.5	25.5	26.8	27.1
	3H	26.9	28.1	27.2	28.4	28.7	26.9	28.0	27.2	28.3	28.6
	4H	27.6	28.6	27.9	29.0	29.3	27.5	28.6	27.9	28.9	29.2
	6H	28.0	28.9	28.4	29.3	29.7	27.9	28.9	28.3	29.2	29.6
	8H	28.1	29.0	28.5	29.4	29.7	28.0	28.9	28.5	29.3	29.7
	12H	28.2	29.0	28.6	29.4	29.8	28.1	28.9	28.5	29.3	29.7
8H	4H	27.8	28.7	28.2	29.1	29.4	27.8	28.6	28.2	29.0	29.4
	6H	28.4	29.1	28.8	29.5	29.9	28.3	29.0	28.8	29.5	29.9
	8H	28.5	29.2	29.0	29.6	30.1	28.5	29.1	28.9	29.6	30.0
	12H	28.6	29.2	29.1	29.6	30.1	28.6	29.1	29.1	29.6	30.1
12H	4H	27.8	28.6	28.2	29.0	29.4	27.8	28.6	28.2	29.0	29.4
	6H	28.4	29.1	28.9	29.5	29.9	28.4	29.0	28.8	29.4	29.9
	8H	28.6	29.2	29.1	29.6	30.1	28.6	29.1	29.0	29.6	30.0
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					

CIE Pub.117 Corrected 13726 lm Total Lamp Luminous Flux.(8log(F/F0) = 9.1)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.460m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:220.7V I:0.4410A P:95.60W PF:0.9830 Lamp Flux:13726.5x1 lm		
NAME: UNF-20210015-TDC 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

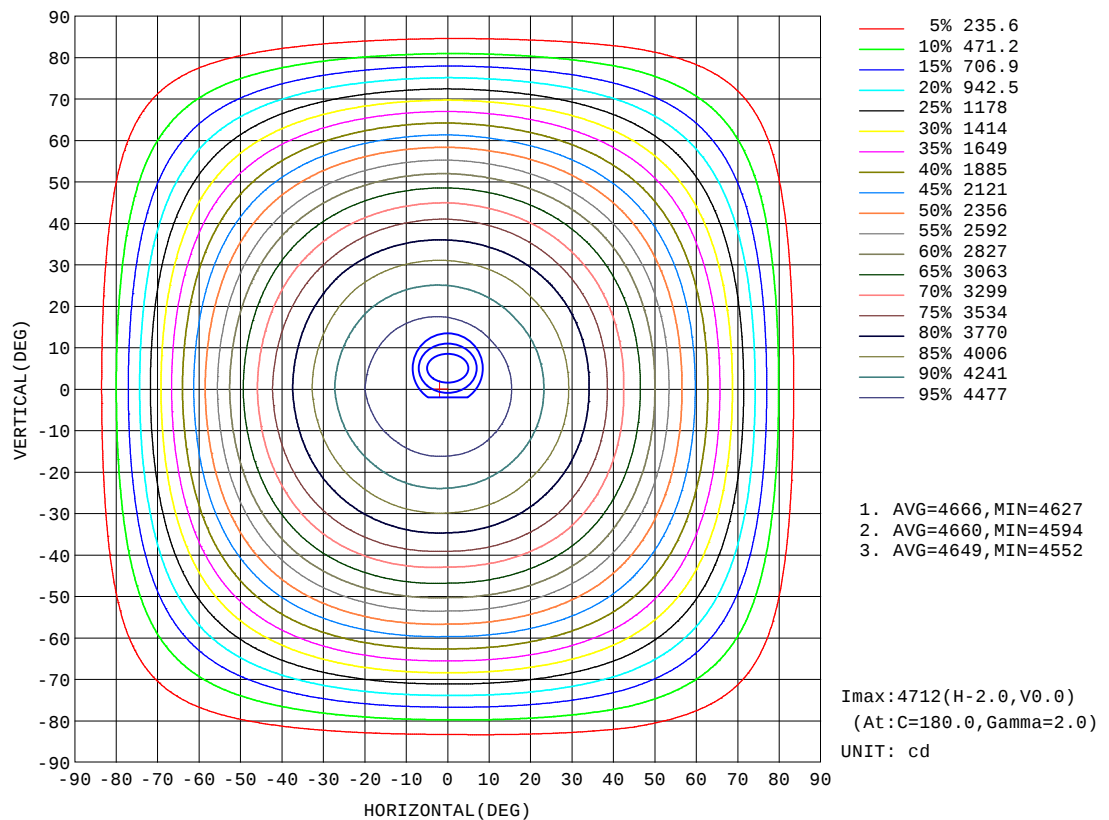
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	60	47	38	58	46	38	56	45	37	30
0.80	70	57	48	68	56	48	65	54	47	39
1.00	77	65	56	75	64	56	72	62	55	46
1.25	84	73	65	82	72	64	78	69	62	53
1.50	89	79	71	87	77	70	83	75	68	59
2.00	97	88	81	94	86	80	89	83	77	68
2.50	100	93	86	98	91	85	93	87	83	73
3.00	103	97	91	101	95	89	96	91	87	77
4.00	107	102	97	104	100	95	99	96	92	82
5.00	109	105	101	107	103	99	102	98	95	85
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Ceiling Mounted					SHRNOM = 1.00		

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
 Humidity: 65.0%
 Test Distance: 9.460m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:220.7V I:0.4410A P:95.60W PF:0.9830 Lamp Flux:13726.5x1 lm		
NAME: UNF-20210015-TDC 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

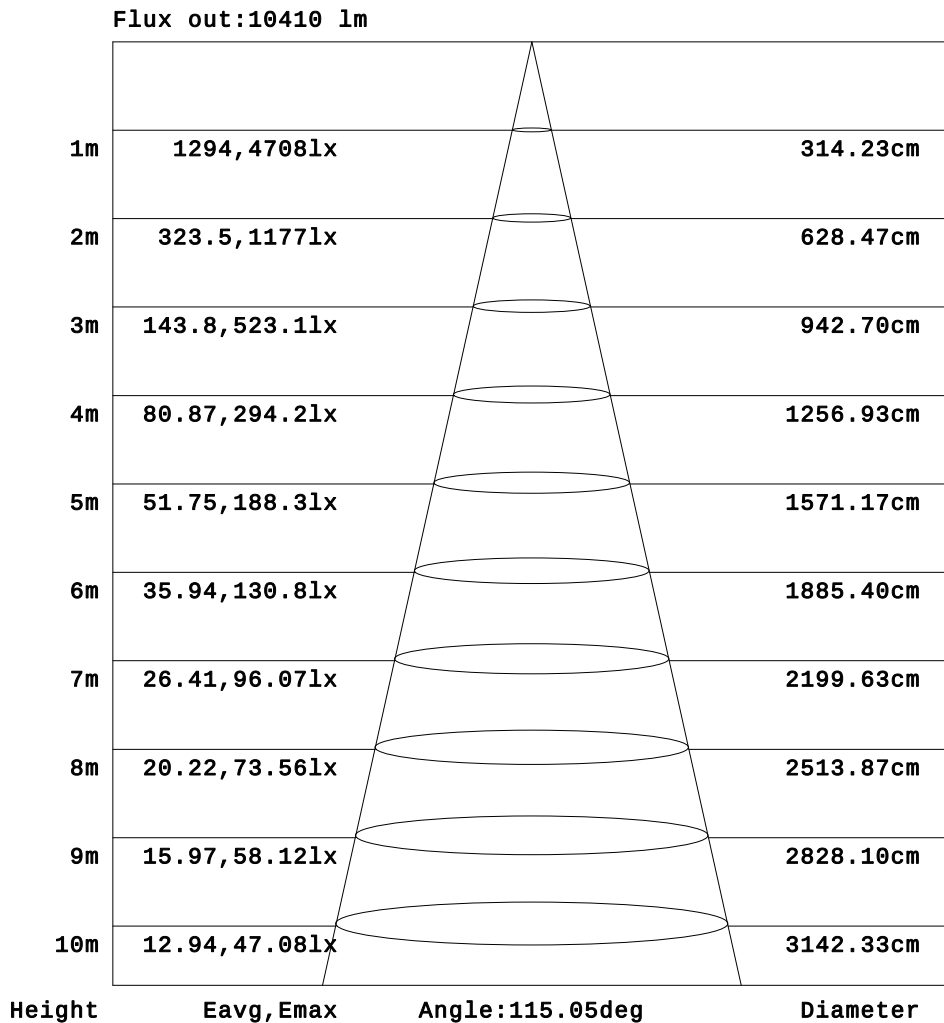


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity: 65.0%
Test Distance: 9.460m [K=1.0000]
Remarks:

AAI Figure

Test:U:220.7V I:0.4410A P:95.60W PF:0.9830 Lamp Flux:13726.5x1 lm		
NAME: UNF-20210015-TDC 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



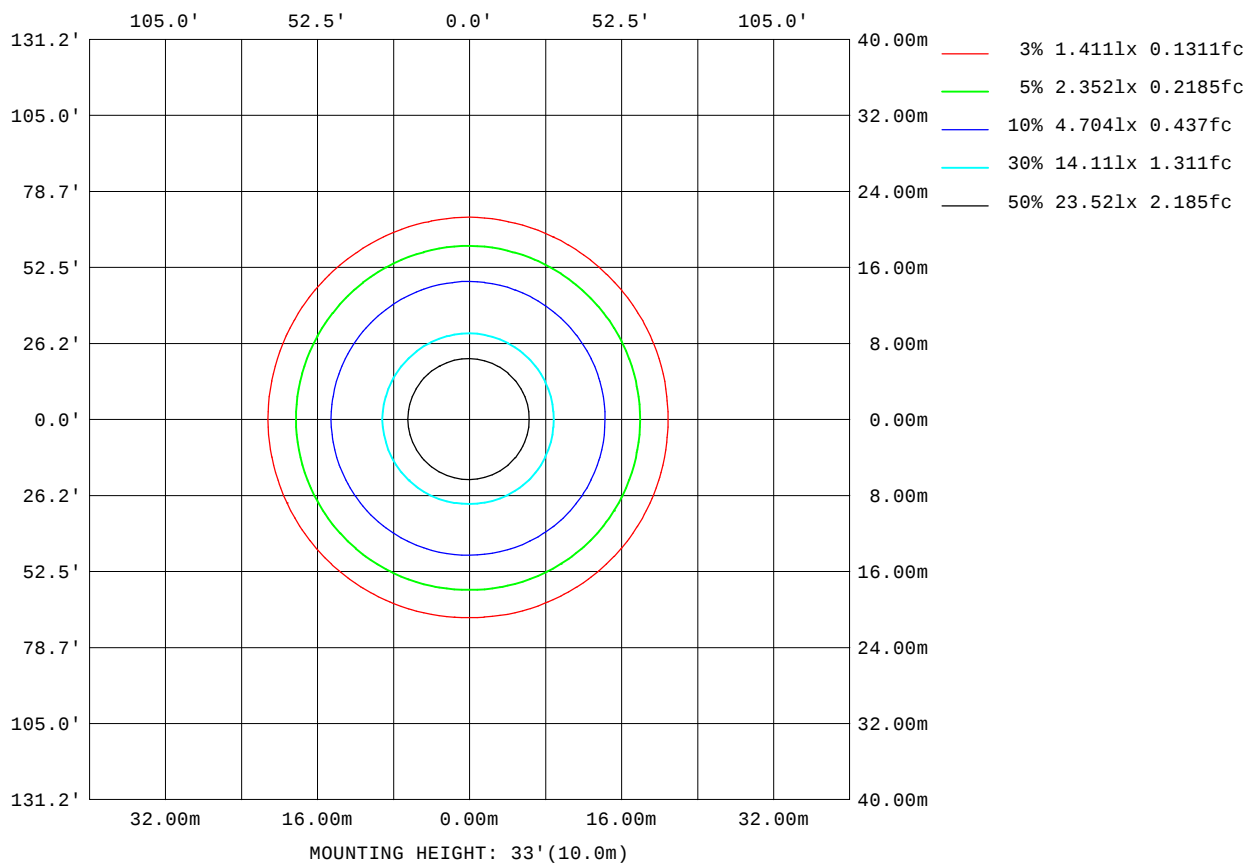
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
 Humidity:65.0%
 Test Distance:9.460m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:220.7V I:0.4410A P:95.60W PF:0.9830 Lamp Flux:13726.5x1 lm		
NAME: UNF-20210015-TDC 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-07-19

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity: 65.0%
Test Distance: 9.460m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:220.7V I:0.4410A P:95.60W PF:0.9830 Lamp Flux:13726.5x1 lm		
NAME: UNF-20210015-TDC 2700K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

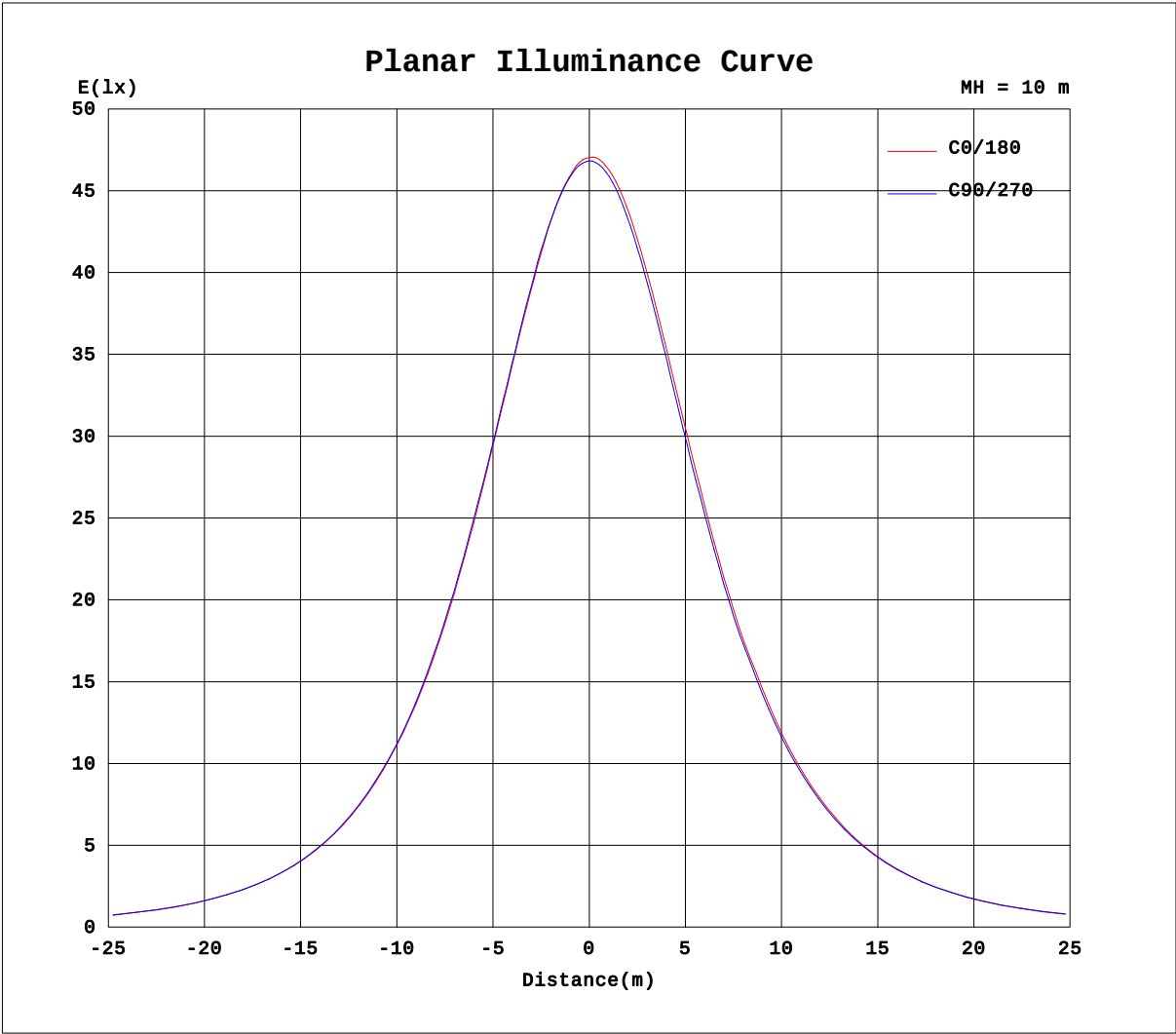
AvgL	cd/m2
L_0~180(65)av	27765
L_0~180(75)av	22776
L_0~180(85)av	11901
L_90~270(65)av	27864
L_90~270(75)av	23343
L_90~270(85)av	13740
L_45(65)av	27848
L_45(75)av	23379
L_45(85)av	13702

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-07-19

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-07-19

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000A_V1 SYSTEM V2.0.295T
Humidity:65.0%
Test Distance:9.460m [K=1.0000]
Remarks: