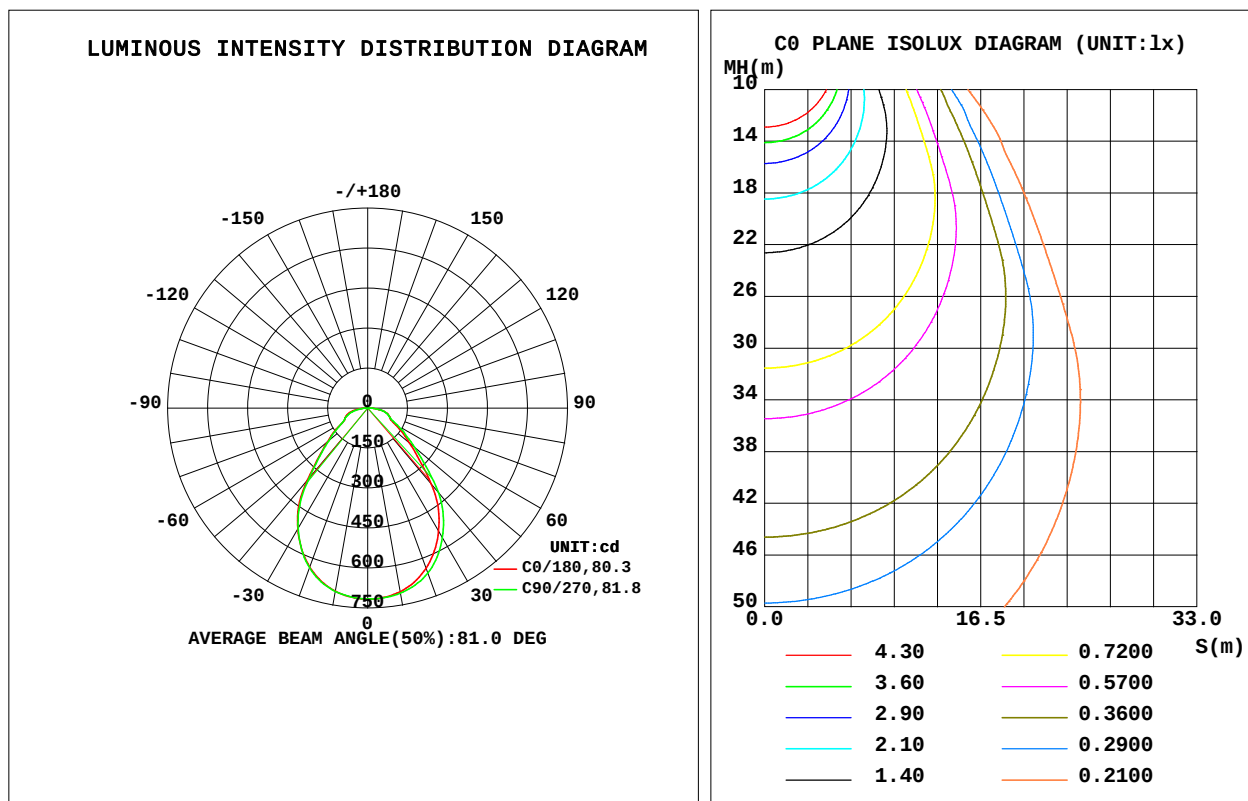


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:220.8V I:0.1010A P:16.20W PF:0.7220 Lamp Flux:1339.36x1 lm		
NAME: UNF-20210015-TDC 下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 82.68 lm/W			
MODEL		I _{max} (cd)	716.6	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)	1339.4	η UP, DN(C0-180)	0.0,48.3
NOMINAL FLUX(lm)	1339.36	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,51.7
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220.0	η down(%)	100.0	CIBSE SHR MAX	1.25



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-07-26

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	697.6	697.9	698.2	697.6	699.8	701.9	704.9	701.6	0- 10	67.60	67.60	5.05, 5.05
20	635.3	635.3	638.0	635.3	639.9	648.5	659.0	647.9	10- 20	190.5	258.1	19.3, 19.3
30	524.8	520.9	522.3	521.0	532.5	542.2	561.0	542.2	20- 30	272.3	530.4	39.6, 39.6
40	351.3	372.7	341.4	376.0	369.9	409.2	412.6	407.8	30- 40	288.6	819.0	61.2, 61.2
50	197.1	166.9	190.9	166.6	206.0	192.0	231.0	191.9	40- 50	214.9	1034	77.2, 77.2
60	110.6	87.79	109.6	85.33	114.5	89.29	129.2	91.79	50- 60	126.6	1161	86.6, 86.6
70	85.60	72.01	80.80	71.61	86.05	78.92	85.30	78.98	60- 70	88.78	1249	93.3, 93.3
80	51.84	36.08	40.50	36.35	53.91	42.56	54.37	42.76	70- 80	67.03	1316	98.3, 98.3
90	0.8240	0.8989	0.7779	0.9738	0.8125	1.994	4.011	2.334	80- 90	23.04	1339	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): 940.56 lm

%lum = 70.2%

%lamp = 70.2%

Conical surface Flux(120deg): 1160.5 lm

%lum = 86.6%

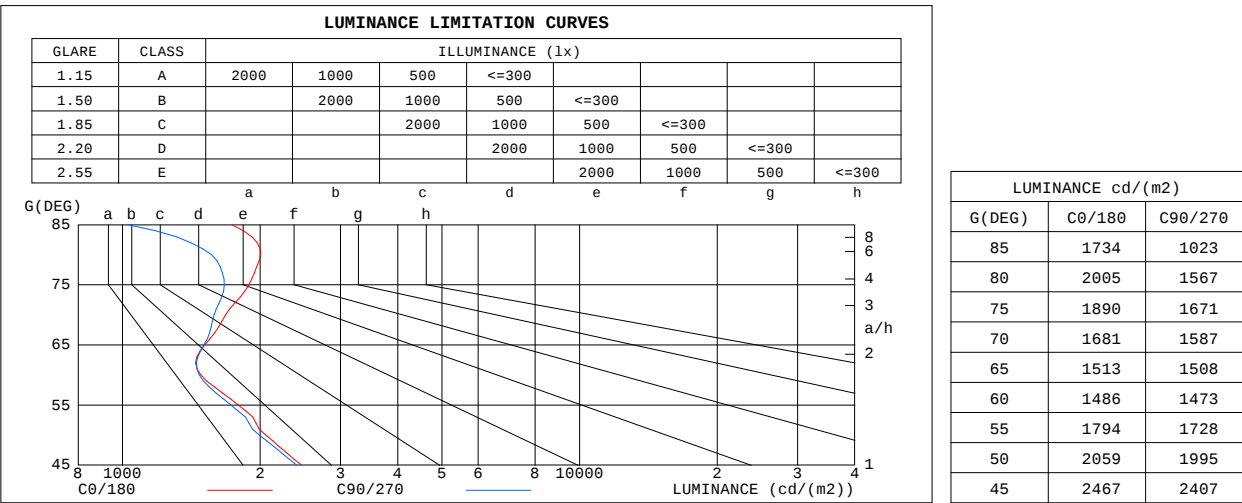
%lamp = 86.6%

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-07-26

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:220.8V I:0.1010A P:16.20W PF:0.7220 Lamp Flux:1339.36x1 lm		
NAME: UNF-20210015-TDC 下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



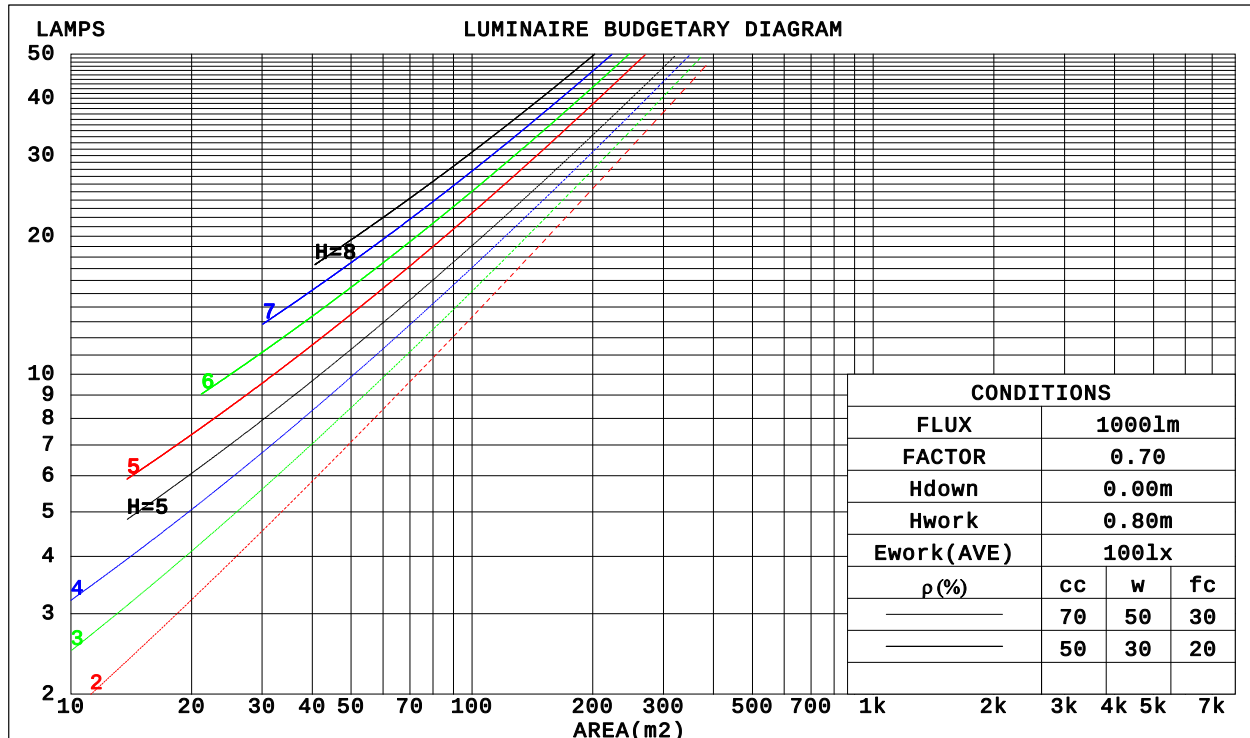
C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-07-26

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:220.8V I:0.1010A P:16.20W PF:0.7220 Lamp Flux:1339.36x1 lm		
NAME: UNF-20210015-TDC 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	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	1.00
1.0	1.06	1.02	.99	1.04	1.00	.97	.90	.97	.94	.96	.93	.91	.92	.90	.89	.87
2.0	.95	.89	.84	.93	.87	.83	.89	.85	.81	.86	.82	.79	.83	.80	.77	.75
3.0	.85	.78	.72	.83	.77	.71	.81	.75	.70	.78	.73	.69	.75	.71	.68	.66
4.0	.77	.69	.63	.75	.68	.63	.73	.67	.62	.71	.65	.61	.69	.64	.60	.58
5.0	.70	.62	.56	.69	.61	.56	.67	.60	.55	.65	.59	.54	.63	.58	.54	.52
6.0	.64	.56	.50	.63	.55	.50	.61	.54	.49	.60	.54	.49	.58	.53	.49	.47
7.0	.59	.51	.45	.58	.50	.45	.56	.50	.45	.55	.49	.44	.54	.48	.44	.42
8.0	.54	.46	.41	.53	.46	.41	.52	.45	.41	.51	.45	.40	.50	.44	.40	.38
9.0	.50	.42	.37	.49	.42	.37	.48	.42	.37	.47	.41	.37	.46	.41	.37	.35
10.0	.47	.39	.34	.46	.39	.34	.45	.39	.34	.44	.38	.34	.43	.38	.34	.32



C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-07-26

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:220.8V I:0.1010A P:16.20W PF:0.7220 Lamp Flux:1339.36x1 lm					
NAME: UNF-20210015-TDC 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	.269	.153	.048	.262	.150	.048	.249	.143	.046	.237	.137	.044	.226	.131	.042				
2.0	.252	.138	.042	.246	.136	.042	.235	.131	.041	.224	.126	.039	.215	.121	.038				
3.0	.234	.125	.037	.229	.123	.037	.219	.119	.036	.210	.115	.035	.202	.112	.035				
4.0	.218	.113	.033	.213	.112	.033	.205	.109	.032	.197	.106	.032	.189	.103	.031				
5.0	.203	.104	.030	.199	.102	.030	.192	.100	.029	.184	.097	.029	.178	.095	.029				
6.0	.190	.095	.027	.187	.094	.027	.180	.092	.027	.173	.090	.026	.167	.088	.026				
7.0	.179	.088	.025	.175	.087	.025	.169	.086	.025	.163	.084	.024	.158	.082	.024				
8.0	.168	.082	.023	.165	.081	.023	.160	.080	.023	.155	.078	.023	.150	.077	.022				
9.0	.159	.077	.021	.156	.076	.021	.151	.075	.021	.146	.073	.021	.142	.072	.021				
10.0	.150	.072	.020	.148	.071	.020	.143	.070	.020	.139	.069	.020	.135	.068	.020				

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	.177	.156	.138	.152	.134	.118	.104	.092	.082	.060	.053	.048	.019	.017	.015	
2.0	.167	.132	.103	.143	.114	.089	.098	.079	.062	.057	.046	.036	.018	.015	.012	
3.0	.158	.114	.079	.135	.098	.069	.093	.068	.048	.054	.040	.028	.017	.013	.009	
4.0	.149	.100	.063	.128	.087	.055	.088	.060	.039	.051	.035	.023	.016	.012	.007	
5.0	.141	.090	.051	.121	.077	.045	.084	.054	.031	.048	.032	.019	.016	.010	.006	
6.0	.134	.081	.043	.115	.070	.037	.080	.049	.026	.046	.029	.016	.015	.009	.005	
7.0	.128	.074	.036	.110	.064	.031	.076	.045	.022	.044	.026	.013	.014	.009	.004	
8.0	.122	.068	.031	.105	.059	.027	.072	.041	.019	.042	.024	.011	.014	.008	.004	
9.0	.116	.063	.027	.100	.055	.024	.069	.038	.017	.040	.023	.010	.013	.007	.003	
10.0	.111	.059	.024	.096	.051	.021	.066	.036	.015	.039	.021	.009	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators:
 Test Date: 2023-07-26

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:220.8V I:0.1010A P:16.20W PF:0.7220 Lamp Flux:1339.36x1 lm											
NAME: UNF-20210015-TDC 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	13.5	14.8	13.7	15.0	15.2	13.4	14.7	13.6	14.9	15.1	
	3H	14.9	16.1	15.2	16.3	16.5	14.7	16.0	15.0	16.2	16.4
	4H	15.7	16.9	16.0	17.1	17.4	15.5	16.6	15.8	16.9	17.1
	6H	16.5	17.6	16.9	17.9	18.2	16.1	17.2	16.4	17.4	17.7
	8H	16.9	17.9	17.2	18.2	18.5	16.3	17.3	16.6	17.6	17.9
	12H	17.0	18.1	17.4	18.3	18.6	16.3	17.4	16.7	17.6	17.9
4H	2H	13.8	14.9	14.1	15.2	15.4	13.7	14.9	14.0	15.1	15.3
	3H	15.5	16.5	15.8	16.8	17.1	15.3	16.4	15.7	16.6	16.9
	4H	16.5	17.4	16.9	17.7	18.1	16.3	17.2	16.6	17.5	17.8
	6H	17.5	18.3	17.9	18.7	19.0	17.0	17.9	17.4	18.2	18.6
	8H	17.9	18.7	18.3	19.0	19.4	17.3	18.0	17.7	18.4	18.8
	12H	18.1	18.9	18.6	19.2	19.6	17.4	18.1	17.8	18.5	18.9
8H	4H	16.8	17.5	17.2	17.9	18.3	16.5	17.3	16.9	17.7	18.1
	6H	17.9	18.6	18.4	19.0	19.4	17.5	18.1	17.9	18.5	18.9
	8H	18.4	19.0	18.9	19.4	19.8	17.8	18.4	18.3	18.8	19.2
	12H	18.8	19.2	19.2	19.7	20.2	18.0	18.5	18.5	18.9	19.4
12H	4H	16.8	17.5	17.2	17.9	18.3	16.6	17.3	17.0	17.7	18.1
	6H	18.0	18.5	18.4	19.0	19.4	17.6	18.1	18.0	18.5	19.0
	8H	18.5	19.0	19.0	19.4	19.9	17.9	18.4	18.4	18.9	19.3
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.3					+ 0.3 / - 0.3					
1.5H	+ 0.3 / - 0.2					+ 0.4 / - 0.3					
2.0H	+ 0.6 / - 0.4					+ 0.7 / - 0.4					

CIE Pub.117 Corrected 1339 lm Total Lamp Luminous Flux.(8log(F/F0) = 1.0)

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-07-26

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:220.8V I:0.1010A P:16.20W PF:0.7220 Lamp Flux:1339.36x1 lm		
NAME: UNF-20210015-TDC 下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

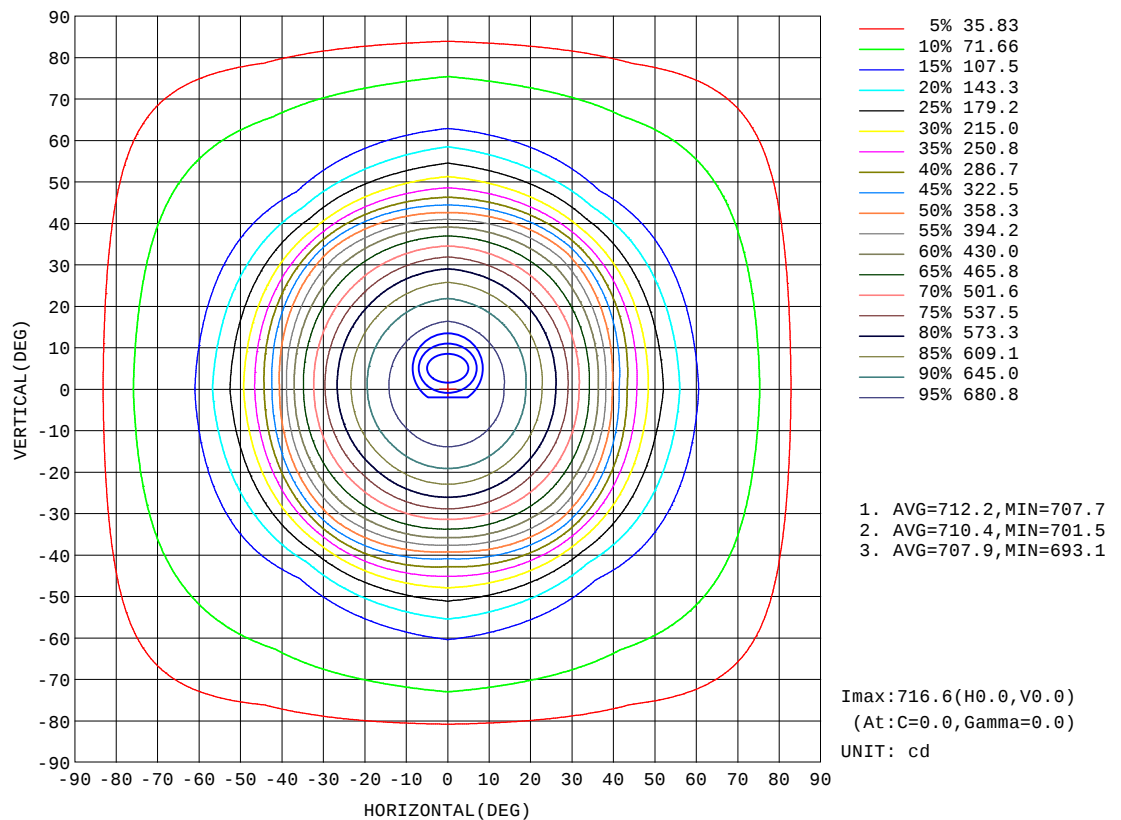
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	69	58	51	68	57	50	65	56	50	44
0.80	78	67	59	76	66	59	73	64	58	51
1.00	85	74	67	83	73	66	79	71	65	58
1.25	91	81	74	89	80	73	85	78	72	64
1.50	95	86	79	93	85	79	89	82	77	69
2.00	101	94	88	99	92	87	94	89	85	76
2.50	104	98	92	102	96	91	97	92	88	79
3.00	106	101	96	104	99	94	99	95	91	82
4.00	109	105	101	107	103	99	102	99	96	86
5.00	111	107	104	109	105	102	104	101	98	89
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: 2023-07-26

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:220.8V I:0.1010A P:16.20W PF:0.7220 Lamp Flux:1339.36x1 lm		
NAME: UNF-20210015-TDC 下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



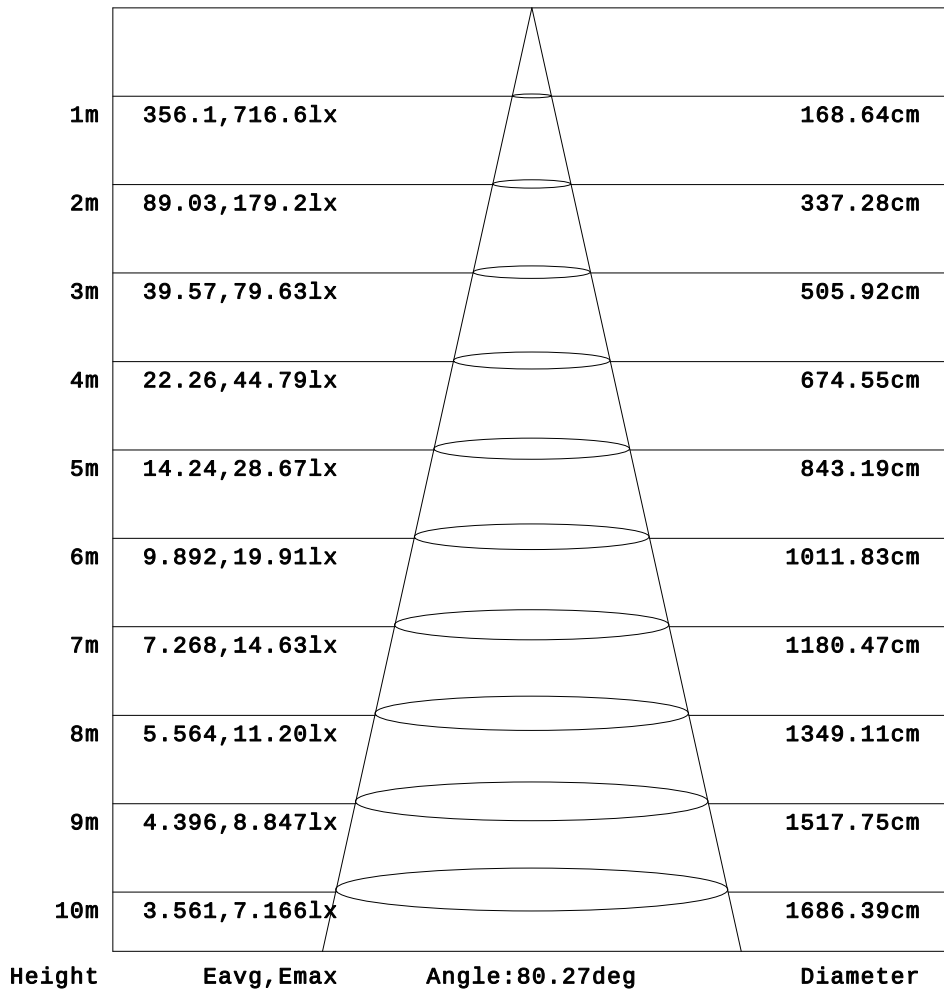
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-07-26

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:220.8V I:0.1010A P:16.20W PF:0.7220 Lamp Flux:1339.36x1 lm		
NAME: UNF-20210015-TDC 下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

Flux out:845.4 lm



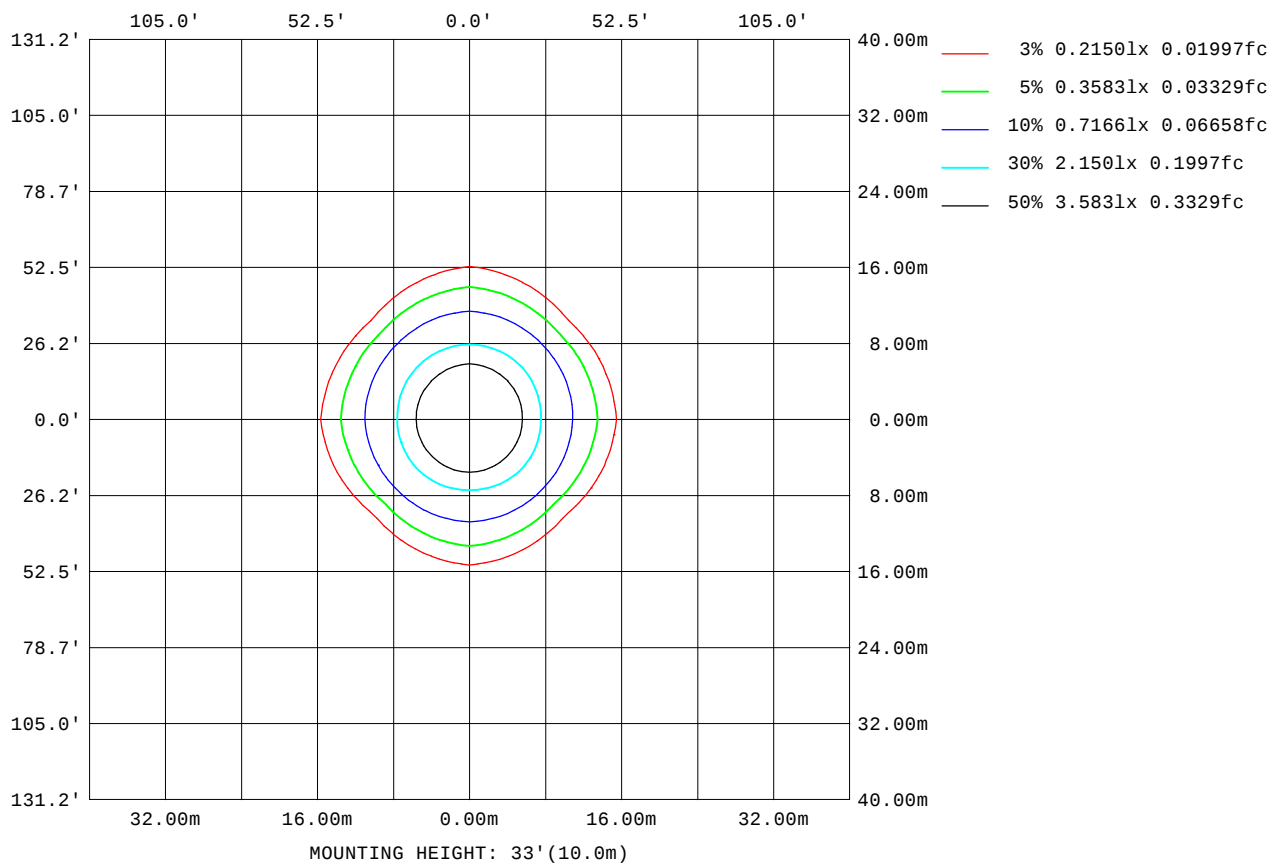
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 45.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2023-07-26

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:220.8V I:0.1010A P:16.20W PF:0.7220 Lamp Flux:1339.36x1 lm		
NAME: UNF-20210015-TDC 下 5000K	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: 2023-07-26

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:220.8V I:0.1010A P:16.20W PF:0.7220 Lamp Flux:1339.36x1 lm		
NAME: UNF-20210015-TDC 下 5000K	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

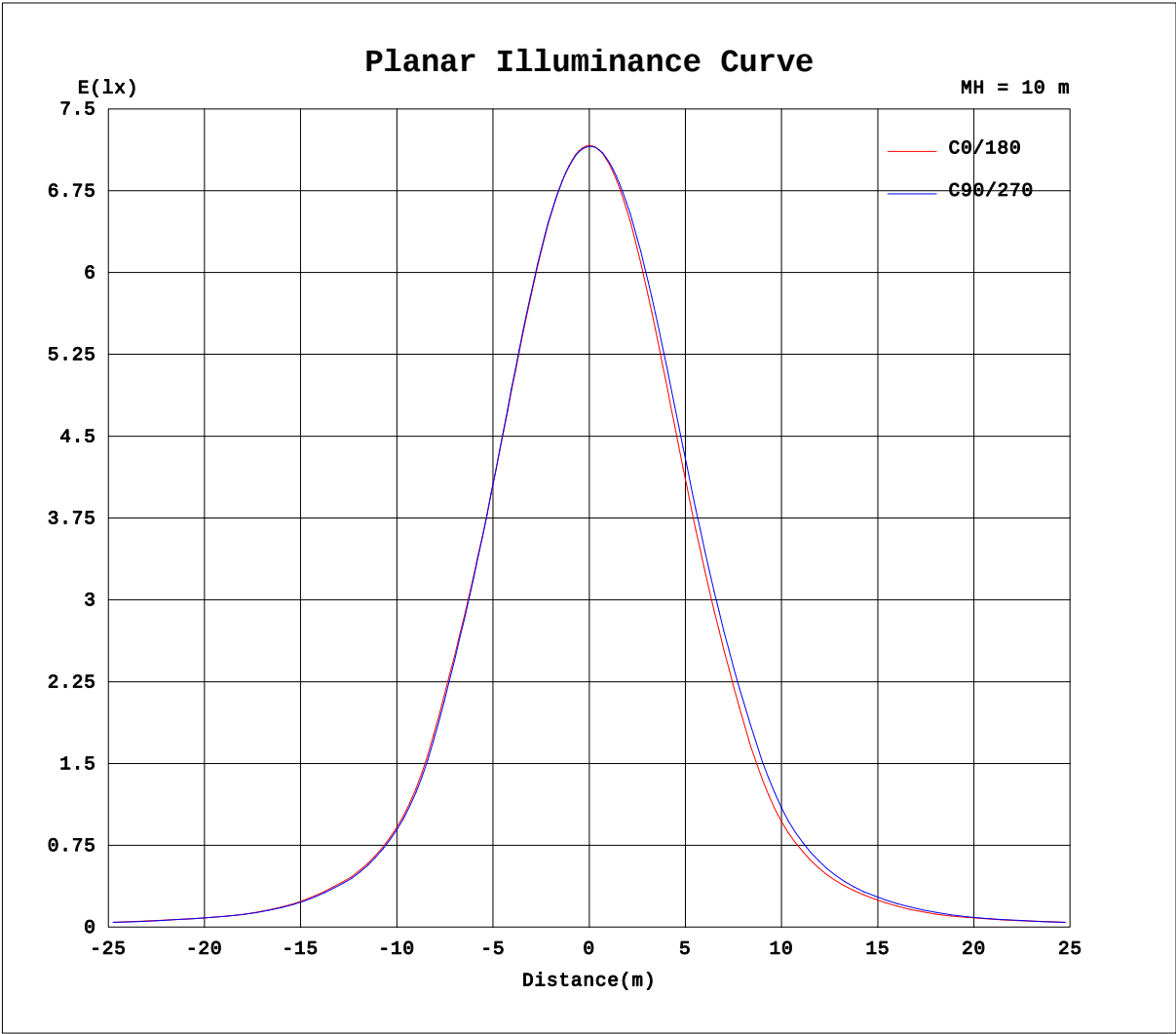
AvgL	cd/m2
L_0~180(65)av	1499
L_0~180(75)av	1914
L_0~180(85)av	1766
L_90~270(65)av	1525
L_90~270(75)av	1780
L_90~270(85)av	1650
L_45(65)av	1315
L_45(75)av	1479
L_45(85)av	1467

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-07-26

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:2023-07-26

γ Range: 0 - 90DEG
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Remarks: