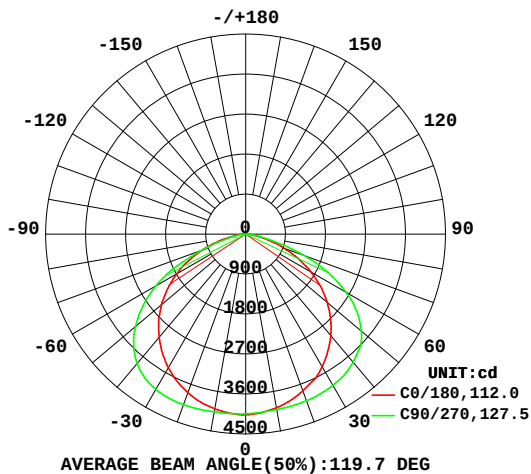


LUMINAIRE PHOTOMETRIC TEST REPORT

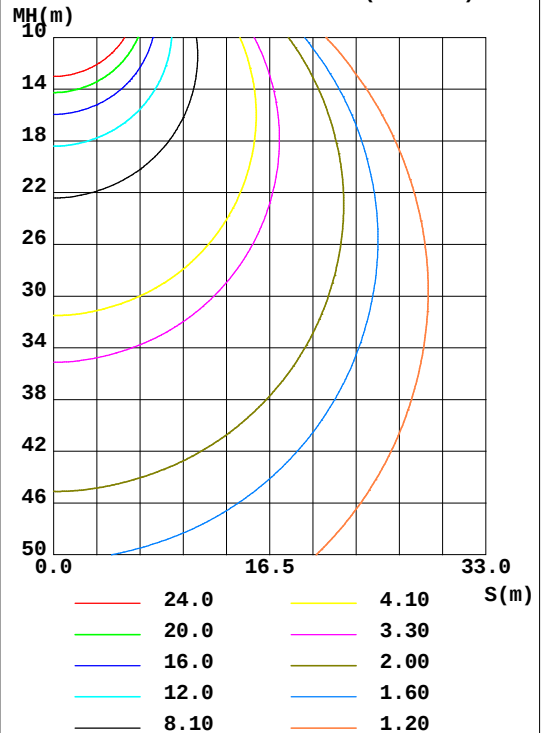
Test:U:220.7V I:0.3880A P:83.90W PF:0.9780 Lamp Flux:13012.9x1 lm		
NAME: UNF-20210015-CDA 上	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 155.10 lm/W			
MODEL		I _{max} (cd)	4086	S/MH(C0/180)	1.26
NOMINAL POWER(W)		LOR(%)	100.0	S/MH(C90/270)	1.46
RATED VOLTAGE(V)	220.0	TOTAL FLUX(lm)	13013	η UP, DN(C0-180)	0.0,49.8
NOMINAL FLUX(lm)	13012.9	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,50.2
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.50
TEST VOLTAGE(V)	220.0	η down(%)	100.0	CIBSE SHR MAX	1.55

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:2023-07-26

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	3994	4042	4063	3993	3972	3977	4009	3982	0- 10	384.1	384.1	2.95, 2.95
20	3803	3969	4086	3897	3756	3853	3994	3886	10- 20	1121	1506	11.6, 11.6
30	3478	3806	4040	3712	3447	3647	3932	3704	20- 30	1767	3272	25.1, 25.1
40	3034	3565	3803	3451	2982	3338	3765	3415	30- 40	2246	5518	42.4, 42.4
50	2472	3116	3241	2993	2397	2903	3402	3004	40- 50	2471	7989	61.4, 61.4
60	1794	2443	2337	2314	1691	2307	2608	2426	50- 60	2335	10324	79.3, 79.3
70	1019	1475	1037	1341	911.0	1442	1368	1590	60- 70	1759	12083	92.9, 92.9
80	299.1	391.3	184.2	309.3	238.4	425.3	308.2	529.5	70- 80	812.0	12895	99.1, 99.1
90	6.719	6.869	4.852	6.921	4.742	6.166	9.352	10.97	80- 90	117.7	13013	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): 6745.2 lm

%lum = 51.8%
 %lamp = 51.8%

Conical surface Flux(120deg): 10324 lm

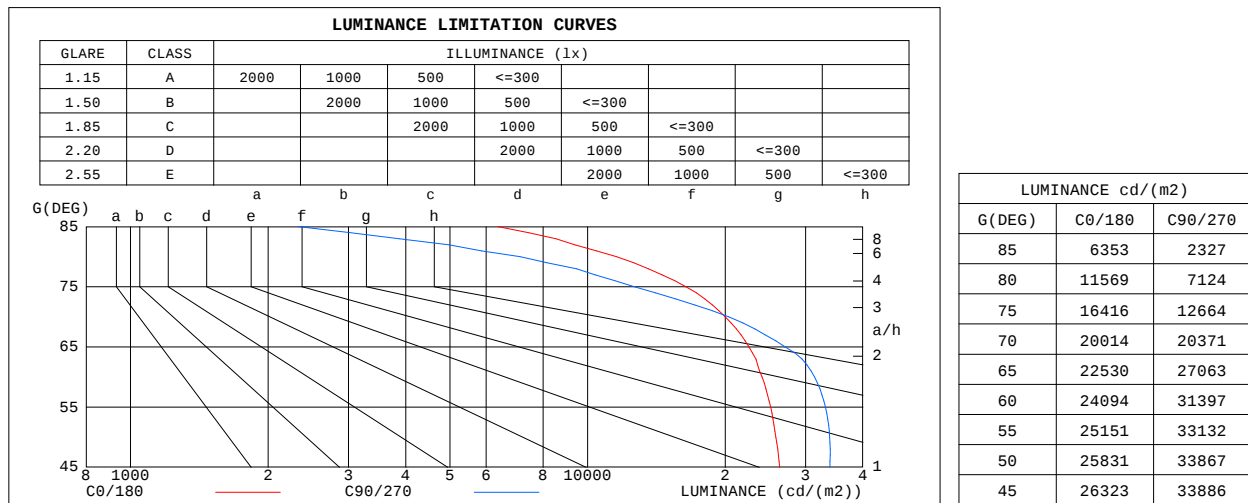
%lum = 79.3%
 %lamp = 79.3%

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:220.7V I:0.3880A P:83.90W PF:0.9780 Lamp Flux:13012.9x1 lm		
NAME: UNF-20210015-CDA 上	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



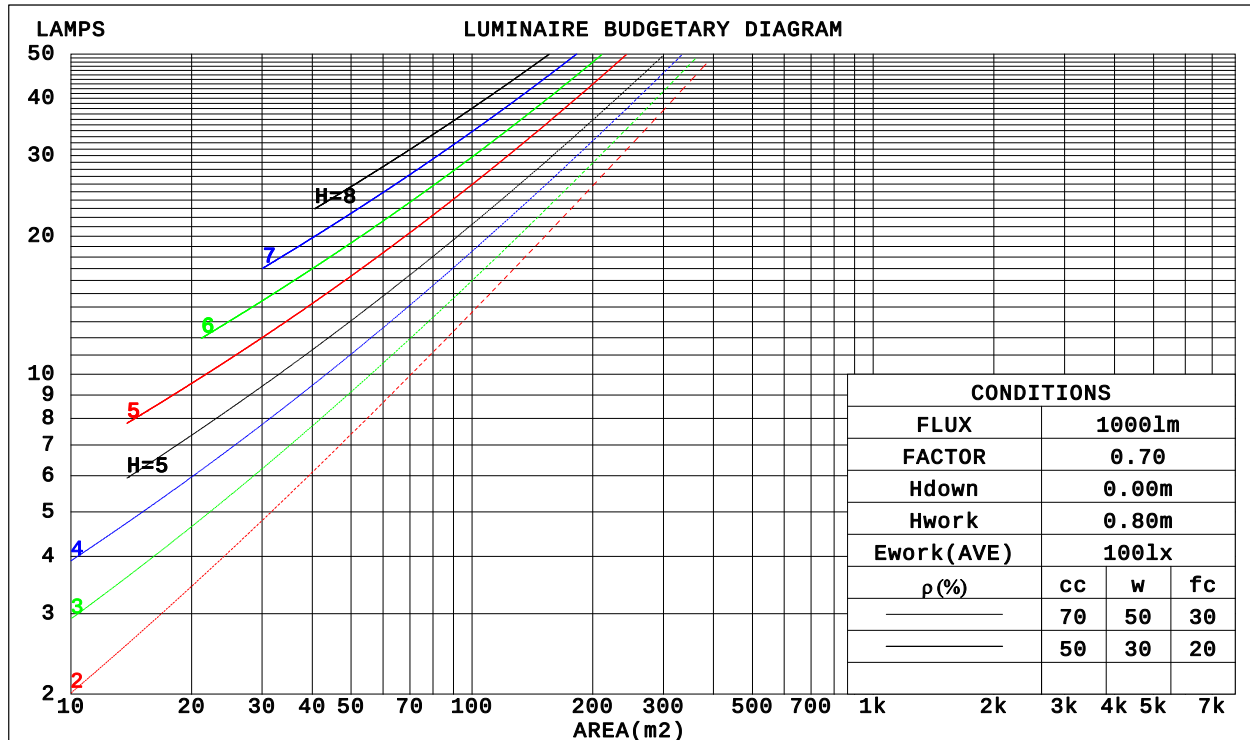
C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators:
Test Date: 2023-07-26

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:220.7V I:0.3880A P:83.90W PF:0.9780 Lamp Flux:13012.9x1 lm		
NAME: UNF-20210015-CDA 上	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	1.04	1.00	.96	1.02	.98	.95	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.78	.89	.82	.77	.85	.80	.75	.82	.77	.74	.79	.75	.72	.70
3.0	.79	.71	.64	.78	.70	.64	.75	.68	.63	.72	.66	.62	.69	.65	.60	.58
4.0	.70	.61	.54	.69	.60	.54	.66	.59	.53	.64	.57	.52	.61	.56	.52	.49
5.0	.62	.53	.46	.61	.52	.46	.59	.51	.45	.57	.50	.45	.55	.49	.44	.42
6.0	.56	.47	.40	.55	.46	.40	.53	.45	.39	.51	.44	.39	.50	.44	.39	.37
7.0	.50	.41	.35	.49	.41	.35	.48	.40	.35	.46	.40	.34	.45	.39	.34	.32
8.0	.46	.37	.31	.45	.37	.31	.44	.36	.31	.42	.36	.31	.41	.35	.30	.28
9.0	.42	.33	.28	.41	.33	.28	.40	.33	.28	.39	.32	.27	.38	.32	.27	.25
10.0	.39	.30	.25	.38	.30	.25	.37	.30	.25	.36	.29	.25	.35	.29	.25	.23



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:220.7V I:0.3880A P:83.90W PF:0.9780 Lamp Flux:13012.9x1 lm														
NAME: UNF-20210015-CDA 上							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	.302	.172	.054	.295	.168	.053	.282	.162	.052	.270	.156	.050	.259	.150	.048	
2.0	.290	.159	.049	.284	.156	.048	.272	.151	.047	.261	.147	.046	.252	.142	.045	
3.0	.271	.144	.043	.265	.142	.043	.255	.138	.042	.245	.134	.041	.237	.131	.041	
4.0	.251	.131	.038	.246	.129	.038	.237	.126	.038	.229	.123	.037	.221	.120	.037	
5.0	.233	.119	.034	.228	.117	.034	.220	.115	.034	.213	.112	.033	.206	.110	.033	
6.0	.216	.108	.031	.212	.107	.031	.205	.105	.031	.198	.103	.030	.192	.101	.030	
7.0	.201	.100	.028	.198	.099	.028	.191	.097	.028	.185	.095	.028	.179	.093	.027	
8.0	.188	.092	.026	.185	.091	.026	.179	.089	.026	.174	.088	.025	.168	.086	.025	
9.0	.176	.085	.024	.173	.085	.024	.168	.083	.024	.163	.082	.023	.159	.081	.023	
10.0	.166	.079	.022	.163	.079	.022	.158	.078	.022	.154	.076	.022	.150	.075	.022	

ρcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	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	.069	.045	.056	.040	.027	.018	.013	.009	
4.0	.157	.101	.058	.135	.087	.050	.093	.061	.035	.054	.036	.021	.017	.012	.007	
5.0	.150	.091	.047	.129	.078	.041	.089	.055	.029	.051	.032	.017	.017	.011	.006	
6.0	.143	.082	.039	.123	.071	.034	.085	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.136	.076	.033	.117	.065	.029	.081	.046	.020	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.028	.112	.060	.025	.077	.042	.018	.045	.025	.010	.015	.008	.003	
9.0	.124	.065	.025	.107	.056	.022	.074	.040	.015	.043	.023	.009	.014	.008	.003	
10.0	.118	.061	.022	.102	.053	.019	.071	.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:2023-07-26

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:220.7V I:0.3880A P:83.90W PF:0.9780 Lamp Flux:13012.9x1 lm											
NAME: UNF-20210015-CDA 上					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	24.5	26.1	24.8	26.3	26.5	25.5	27.1	25.8	27.3	27.5	
	3H	25.8	27.2	26.1	27.5	27.7	26.6	28.0	26.9	28.3	28.5
	4H	26.2	27.6	26.5	27.8	28.1	26.8	28.1	27.1	28.4	28.7
	6H	26.4	27.6	26.7	27.9	28.2	26.8	28.1	27.1	28.4	28.6
	8H	26.4	27.6	26.7	27.9	28.2	26.8	28.0	27.1	28.3	28.6
	12H	26.3	27.5	26.7	27.8	28.1	26.7	27.9	27.1	28.2	28.5
4H	2H	25.4	26.8	25.7	27.0	27.3	26.1	27.5	26.5	27.7	28.0
	3H	26.9	28.1	27.2	28.4	28.7	27.4	28.6	27.8	28.9	29.2
	4H	27.3	28.4	27.7	28.7	29.1	27.7	28.8	28.1	29.1	29.4
	6H	27.6	28.5	28.0	28.9	29.2	27.8	28.7	28.2	29.1	29.5
	8H	27.6	28.5	28.0	28.9	29.2	27.8	28.7	28.2	29.0	29.4
	12H	27.6	28.4	28.0	28.8	29.2	27.7	28.5	28.2	28.9	29.3
8H	4H	27.6	28.5	28.0	28.8	29.2	27.9	28.8	28.3	29.2	29.5
	6H	27.9	28.6	28.3	29.0	29.5	28.1	28.8	28.5	29.2	29.6
	8H	28.0	28.6	28.4	29.0	29.5	28.1	28.7	28.5	29.1	29.6
	12H	28.0	28.5	28.5	29.0	29.5	28.1	28.6	28.5	29.1	29.5
12H	4H	27.6	28.4	28.0	28.8	29.2	27.9	28.7	28.3	29.1	29.5
	6H	27.9	28.6	28.4	29.0	29.4	28.1	28.7	28.5	29.1	29.6
	8H	28.0	28.5	28.5	29.0	29.5	28.1	28.6	28.6	29.1	29.6
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.3					
1.5H	+ 0.3 / - 0.6					+ 0.3 / - 0.5					
2.0H	+ 0.4 / - 0.8					+ 0.3 / - 0.6					

CIE Pub.117 Corrected 13013 lm Total Lamp Luminous Flux.(8log(F/F0) = 8.9)

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:220.7V I:0.3880A P:83.90W PF:0.9780 Lamp Flux:13012.9x1 lm		
NAME: UNF-20210015-CDA 上	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

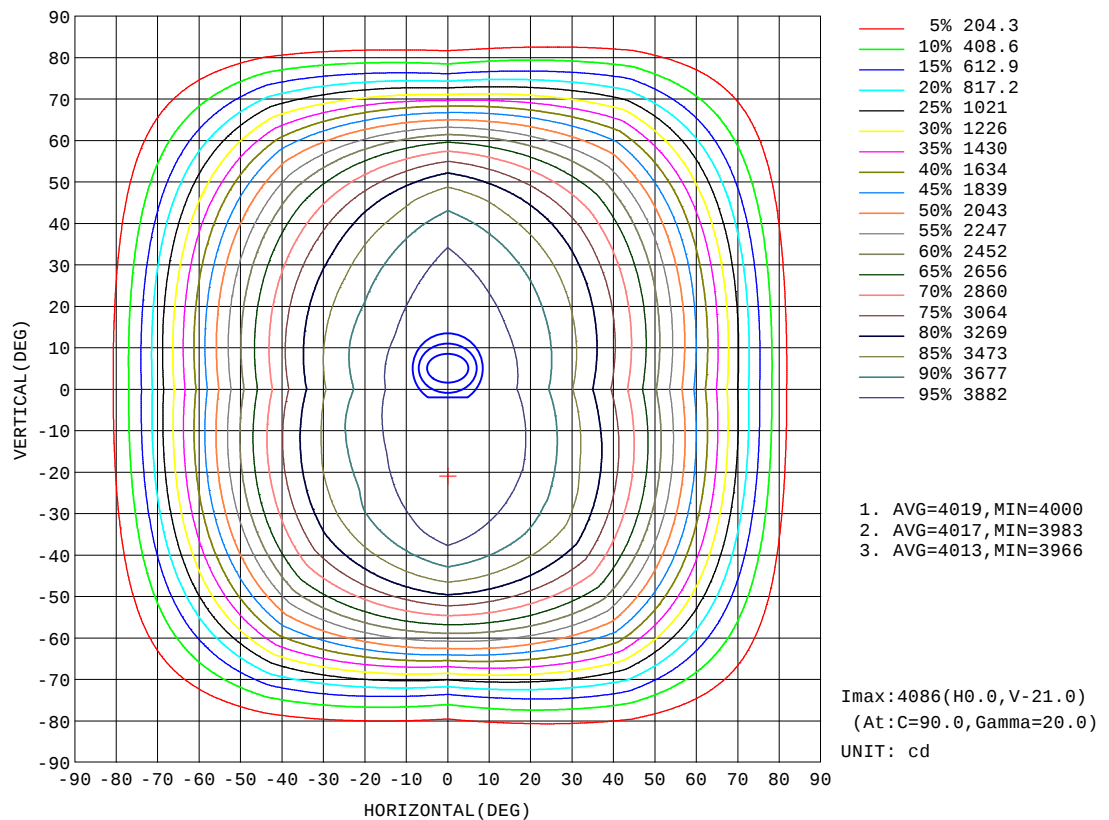
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	59	45	37	57	45	37	55	43	36	29
0.80	69	56	47	67	55	47	64	53	46	37
1.00	77	64	56	75	63	55	71	61	54	45
1.25	84	73	64	82	71	63	78	69	62	53
1.50	89	79	71	87	77	70	83	74	68	59
2.00	96	88	81	94	86	80	89	83	77	68
2.50	101	93	87	98	91	85	93	88	83	73
3.00	103	97	91	101	95	90	96	91	87	77
4.00	107	102	97	105	100	95	100	96	92	82
5.00	110	105	101	107	103	99	102	99	96	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: 2023-07-26

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:220.7V I:0.3880A P:83.90W PF:0.9780 Lamp Flux:13012.9x1 lm		
NAME: UNF-20210015-CDA 上	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

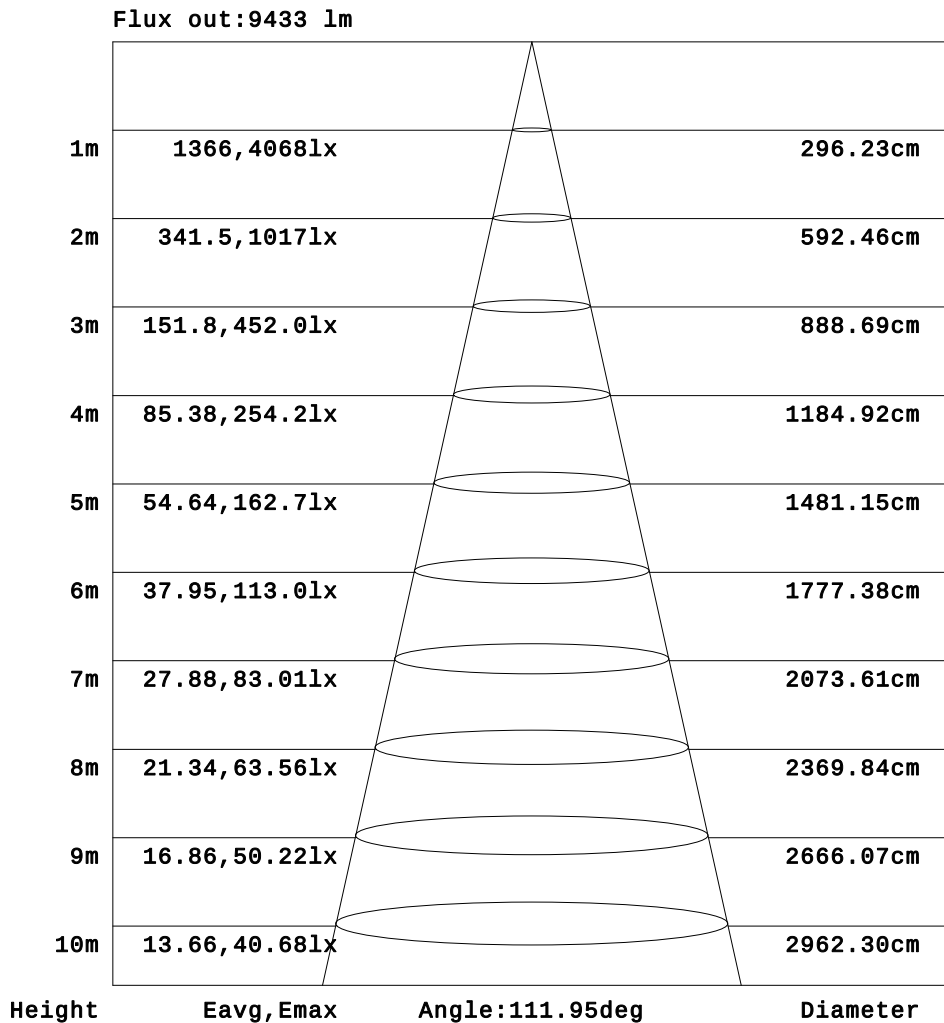


C Range: 0 - 360DEG
C Interval: 45.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2023-07-26

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:220.7V I:0.3880A P:83.90W PF:0.9780 Lamp Flux:13012.9x1 lm		
NAME: UNF-20210015-CDA 上	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



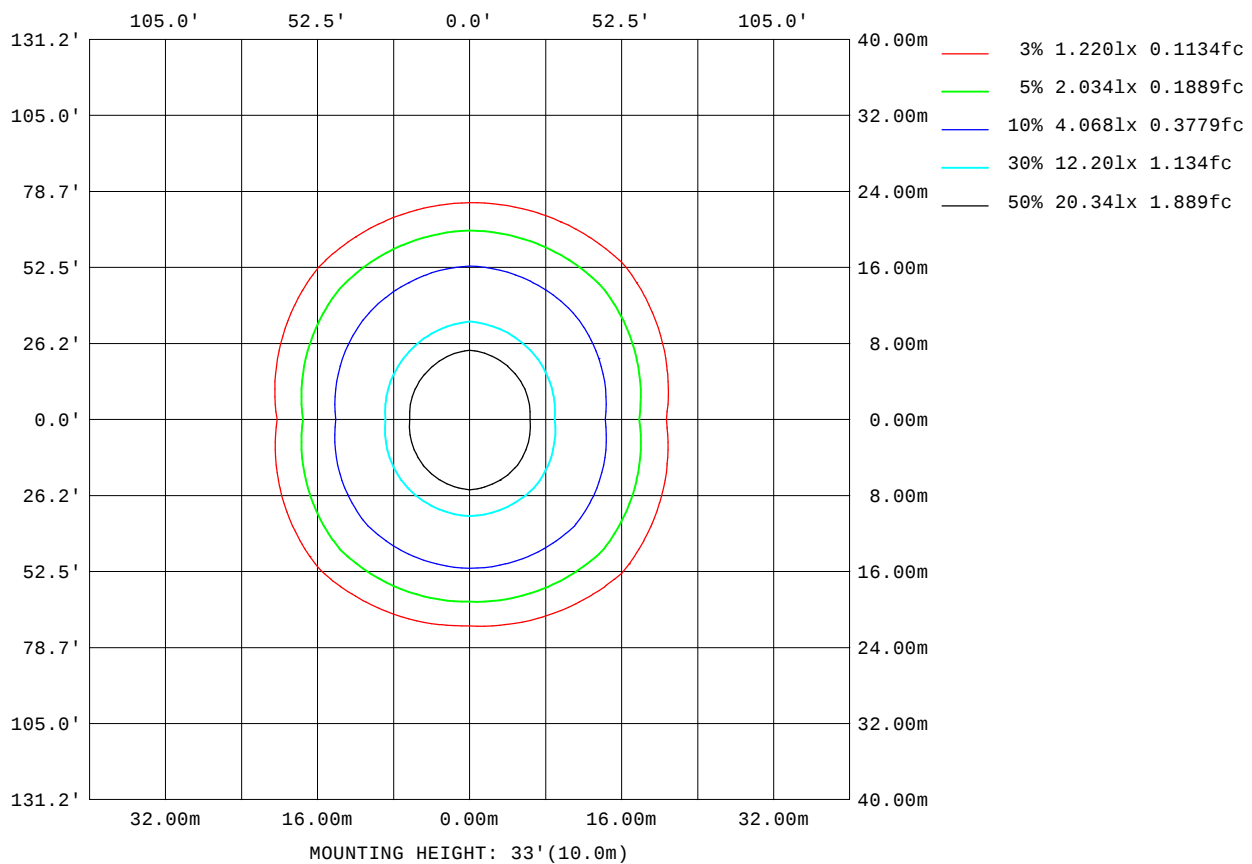
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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:220.7V I:0.3880A P:83.90W PF:0.9780 Lamp Flux:13012.9x1 lm		
NAME: UNF-20210015-CDA 上	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:220.7V I:0.3880A P:83.90W PF:0.9780 Lamp Flux:13012.9x1 lm		
NAME: UNF-20210015-CDA 上	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

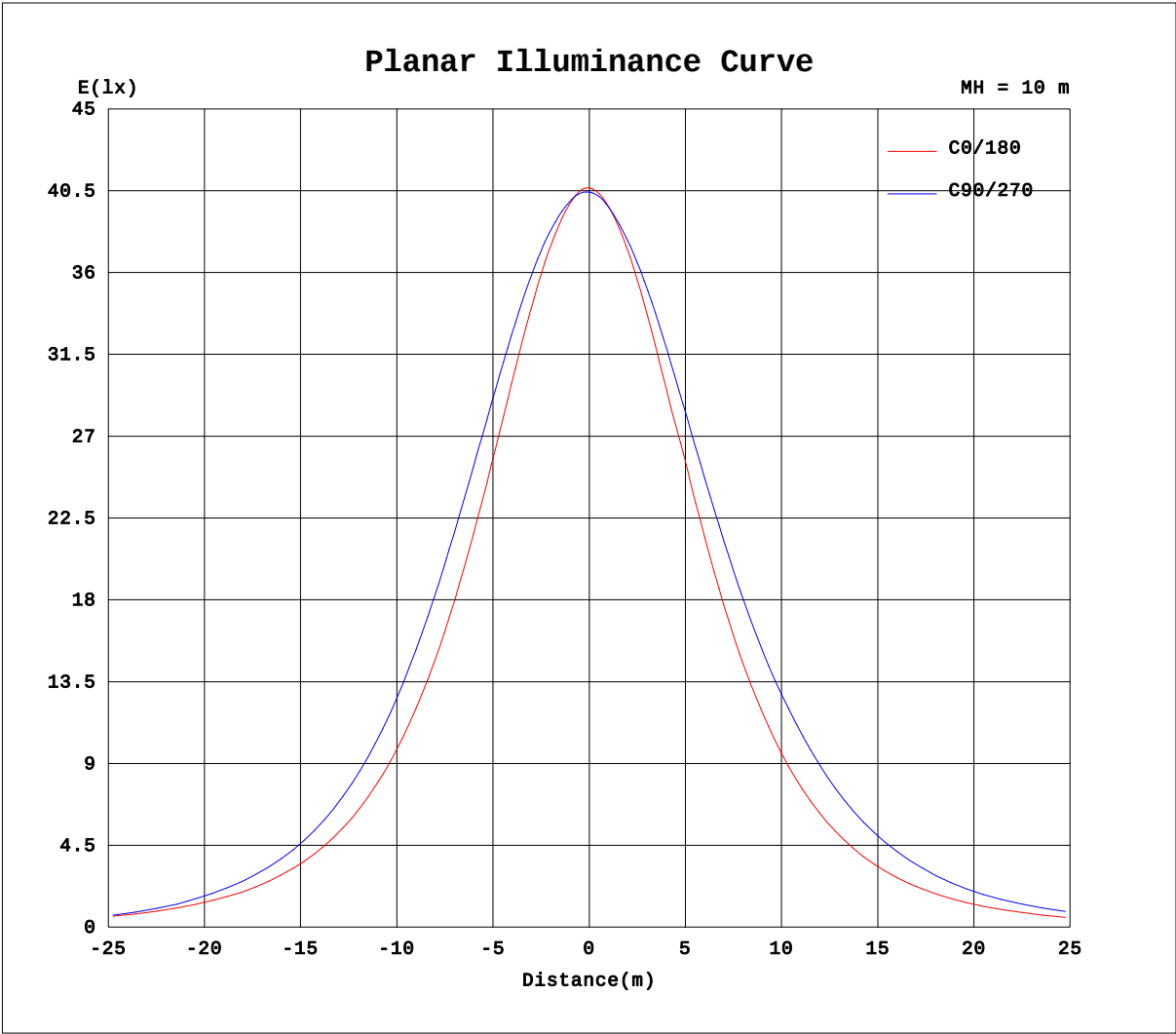
AvgL	cd/m2
L_0~180(65)av	21630
L_0~180(75)av	15157
L_0~180(85)av	5232
L_90~270(65)av	29700
L_90~270(75)av	15784
L_90~270(85)av	3845
L_45(65)av	31181
L_45(75)av	23643
L_45(85)av	6830

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
 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: