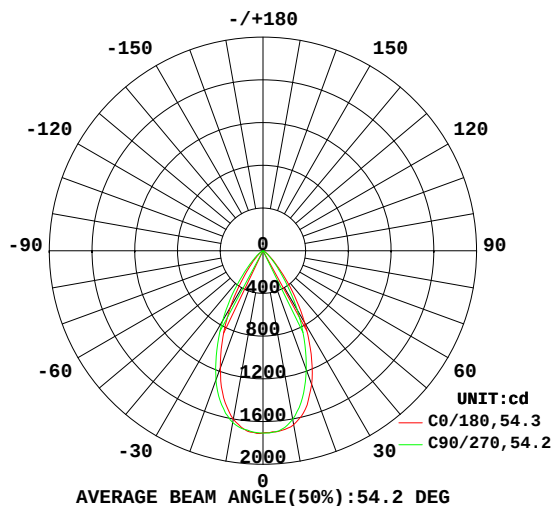


LUMINAIRE PHOTOMETRIC TEST REPORT

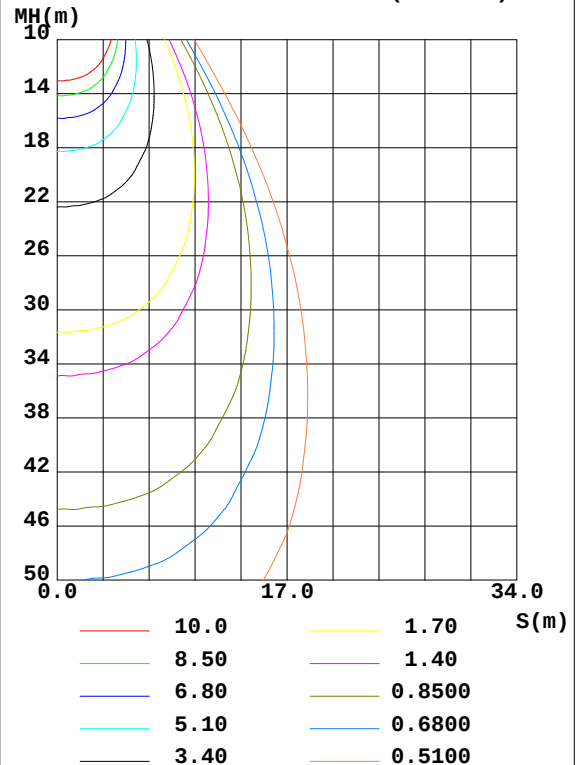
Test:U:230.21V I:0.0677A P:14.209W PF:0.9111 Freq:49.99Hz Lamp Flux:1455.41x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 102.43 lm/W			
MODEL	TB26141207 5700K	I _{max} (cd)	1712	S/MH(C0/180)	0.80
NOMINAL POWER(W)	15	LOR(%)	100.0	S/MH(C90/270)	0.86
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	1455.4	η UP, DN(C0-180)	0.0, 48.9
NOMINAL FLUX(lm)	1455.41	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 51.1
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	0.85

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-06-22

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

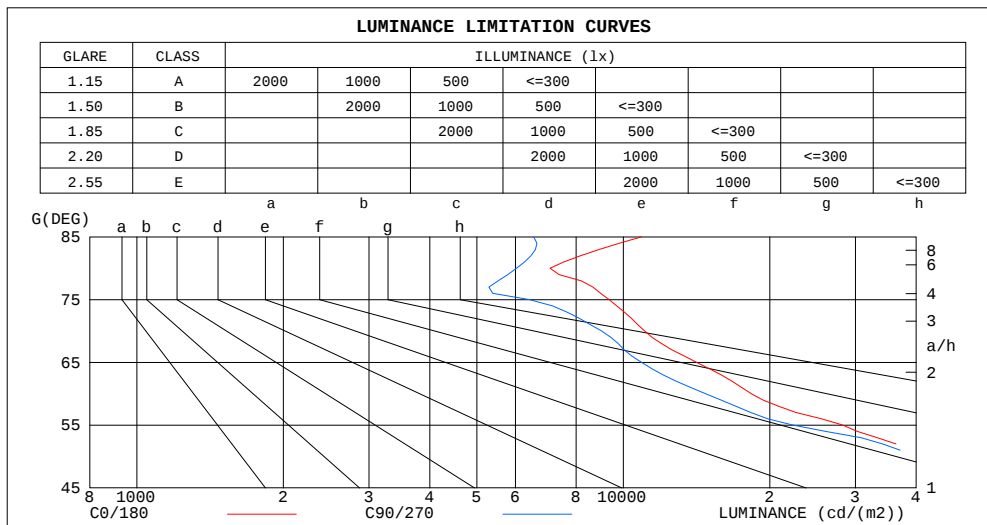
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1655	1631	1604	1590	1603	1616	1633	1644	0- 10	159.4	159.4	10.9,10.9
20	1334	1254	1184	1158	1171	1224	1289	1324	10- 20	406.4	565.8	38.9,38.9
30	784.3	718.5	646.8	606.0	608.5	690.7	758.0	792.5	20- 30	441.7	1007	69.2,69.2
40	291.8	260.9	227.9	199.1	194.7	247.7	289.9	296.2	30- 40	280.0	1288	88.5,88.5
50	77.63	76.59	69.10	60.40	54.49	73.61	87.09	83.99	40- 50	110.0	1398	96,96
60	24.19	22.79	19.47	17.37	17.19	19.70	24.04	24.65	50- 60	36.76	1434	98.6,98.6
70	9.984	9.230	8.146	7.338	7.304	8.087	9.400	9.901	60- 70	13.66	1448	99.5,99.5
80	3.240	3.074	2.766	2.503	2.384	2.754	3.075	3.199	70- 80	5.577	1454	99.9,99.9
90	0.8995	0.1776	0.1583	0.1660	0.0270	0.0270	0.2509	0.7412	80- 90	1.858	1455	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		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2024-06-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
 Humidity:65.0%
 Test Distance:7.450m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.21V I:0.0677A P:14.209W PF:0.9111 Freq:49.99Hz Lamp Flux:1455.41x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	10899	6544
80	7068	6033
75	9351	6404
70	11057	9021
65	14134	10893
60	18324	14747
55	28248	22311
50	45748	40721
45	82023	67862

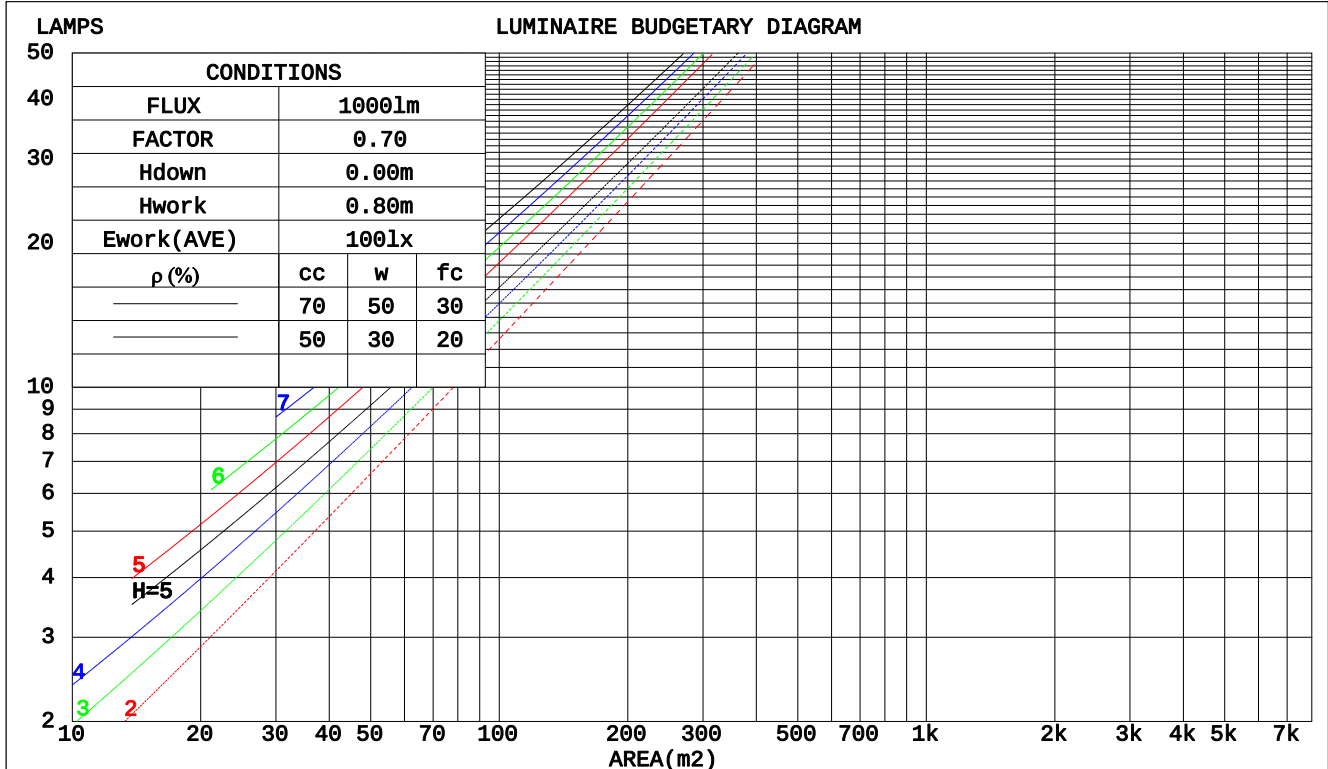
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-06-22

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:230.21V I:0.0677A P:14.209W PF:0.9111 Freq:49.99Hz Lamp Flux:1455.41x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	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	Coefficients of Utilization(CU)															
RCR:Room Cavity Ratio																
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	1.10	1.08	1.06	1.08	1.06	1.04	1.04	1.02	1.01	1.00	.99	.98	.97	.96	.95	.93
2.0	1.02	.98	.95	1.01	.97	.94	.97	.94	.92	.94	.92	.90	.92	.90	.88	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.89	.85	.83	.87	.84	.81	.80
4.0	.89	.83	.79	.88	.82	.78	.86	.81	.77	.84	.80	.77	.82	.78	.76	.74
5.0	.83	.77	.73	.82	.77	.72	.80	.75	.72	.79	.74	.71	.77	.73	.70	.69
6.0	.78	.72	.67	.77	.71	.67	.76	.70	.67	.74	.70	.66	.73	.69	.66	.64
7.0	.73	.67	.63	.72	.67	.63	.71	.66	.62	.70	.65	.62	.69	.65	.62	.60
8.0	.69	.63	.59	.68	.63	.59	.67	.62	.58	.66	.61	.58	.65	.61	.58	.56
9.0	.65	.59	.55	.65	.59	.55	.64	.58	.55	.63	.58	.55	.62	.58	.54	.53
10.0	.62	.56	.52	.61	.56	.52	.60	.55	.52	.60	.55	.51	.59	.54	.51	.50



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-06-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:230.21V I:0.0677A P:14.209W PF:0.9111 Freq:49.99Hz Lamp Flux:1455.41x1 lm					
NAME: TH13-WHTC15C021P			TYPE:		WEIGHT:
SPEC.: white RA90 3000K+5700K			DIM.:		SERIAL No.:
MFR.:			SUR.: 58mm		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	.184	.105	.033	.177	.101	.032	.165	.095	.030	.153	.088	.028	.142	.083	.027	
2.0	.176	.097	.030	.171	.094	.029	.160	.089	.028	.150	.084	.026	.141	.080	.025	
3.0	.168	.089	.027	.163	.087	.026	.154	.083	.025	.146	.080	.024	.138	.076	.024	
4.0	.160	.083	.024	.156	.081	.024	.148	.078	.023	.140	.075	.023	.133	.073	.022	
5.0	.152	.077	.022	.148	.076	.022	.141	.074	.022	.135	.071	.021	.129	.069	.021	
6.0	.145	.073	.021	.142	.071	.021	.135	.069	.020	.130	.067	.020	.124	.066	.019	
7.0	.138	.068	.019	.135	.067	.019	.130	.066	.019	.125	.064	.019	.120	.062	.018	
8.0	.132	.064	.018	.129	.064	.018	.125	.062	.018	.120	.061	.018	.116	.059	.017	
9.0	.126	.061	.017	.124	.060	.017	.120	.059	.017	.116	.058	.017	.112	.057	.016	
10.0	.121	.058	.016	.119	.057	.016	.115	.056	.016	.111	.055	.016	.108	.054	.016	

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	.172	.157	.144	.147	.135	.124	.100	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.134	.114	.097	.092	.079	.068	.053	.046	.040	.017	.015	.013	
3.0	.145	.114	.089	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.072	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.009	
5.0	.126	.087	.059	.108	.076	.051	.075	.053	.036	.043	.031	.021	.014	.010	.007	
6.0	.119	.078	.049	.102	.068	.043	.071	.047	.030	.041	.028	.018	.013	.009	.006	
7.0	.112	.071	.041	.097	.061	.036	.067	.043	.026	.039	.025	.015	.013	.008	.005	
8.0	.107	.065	.036	.092	.056	.031	.064	.039	.022	.037	.023	.013	.012	.008	.004	
9.0	.102	.059	.031	.088	.052	.027	.061	.036	.019	.035	.021	.011	.011	.007	.004	
10.0	.097	.055	.027	.084	.048	.024	.058	.034	.017	.034	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-06-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.21V I:0.0677A P:14.209W PF:0.9111 Freq:49.99Hz Lamp Flux:1455.41x1 lm											
NAME: TH13-WHTC15C021P					TYPE:			WEIGHT:			
SPEC.: white RA90 3000K+5700K					DIM.:			SERIAL No.:			
MFR.:					SUR.: 58mm			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	22.3	23.3	22.5	23.4	23.6	21.4	22.4	21.6	22.6	22.7	
	3H	22.2	23.1	22.5	23.3	23.5	21.3	22.2	21.6	22.4	22.6
	4H	22.2	23.0	22.5	23.3	23.5	21.3	22.1	21.5	22.3	22.6
	6H	22.1	22.9	22.4	23.2	23.4	21.2	22.0	21.5	22.2	22.5
	8H	22.1	22.9	22.4	23.1	23.4	21.2	21.9	21.5	22.2	22.5
	12H	22.1	22.8	22.4	23.1	23.3	21.1	21.9	21.5	22.1	22.4
4H	2H	22.1	23.0	22.4	23.2	23.4	21.2	22.1	21.5	22.3	22.5
	3H	22.1	22.8	22.4	23.1	23.4	21.2	21.9	21.5	22.2	22.5
	4H	22.0	22.7	22.4	23.0	23.3	21.2	21.8	21.5	22.1	22.4
	6H	22.0	22.6	22.4	22.9	23.3	21.1	21.7	21.5	22.0	22.4
	8H	22.0	22.5	22.4	22.9	23.2	21.1	21.6	21.5	22.0	22.3
	12H	22.0	22.5	22.4	22.8	23.2	21.0	21.5	21.5	21.9	22.3
8H	4H	21.9	22.5	22.3	22.8	23.2	21.0	21.6	21.4	21.9	22.3
	6H	21.9	22.3	22.3	22.7	23.1	21.0	21.4	21.4	21.8	22.3
	8H	21.9	22.3	22.3	22.7	23.1	21.0	21.4	21.4	21.8	22.2
	12H	21.9	22.2	22.4	22.7	23.1	21.0	21.3	21.4	21.8	22.2
12H	4H	21.9	22.4	22.3	22.7	23.1	21.0	21.5	21.4	21.9	22.3
	6H	21.8	22.2	22.3	22.7	23.1	21.0	21.4	21.4	21.8	22.2
	8H	21.8	22.2	22.3	22.6	23.1	21.0	21.3	21.4	21.7	22.2
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 2.7 / - 5.3					+ 2.2 / - 5.2					
1.5H	+ 4.3 / - 4.3					+ 3.4 / - 4.1					
2.0H	+ 4.6 / - 3.5					+ 4.1 / - 3.7					

CIE Pub.117, 1455 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 1.3$)
Area: 0.00264 m²

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-06-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.21V I:0.0677A P:14.209W PF:0.9111 Freq:49.99Hz Lamp Flux:1455.41x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:

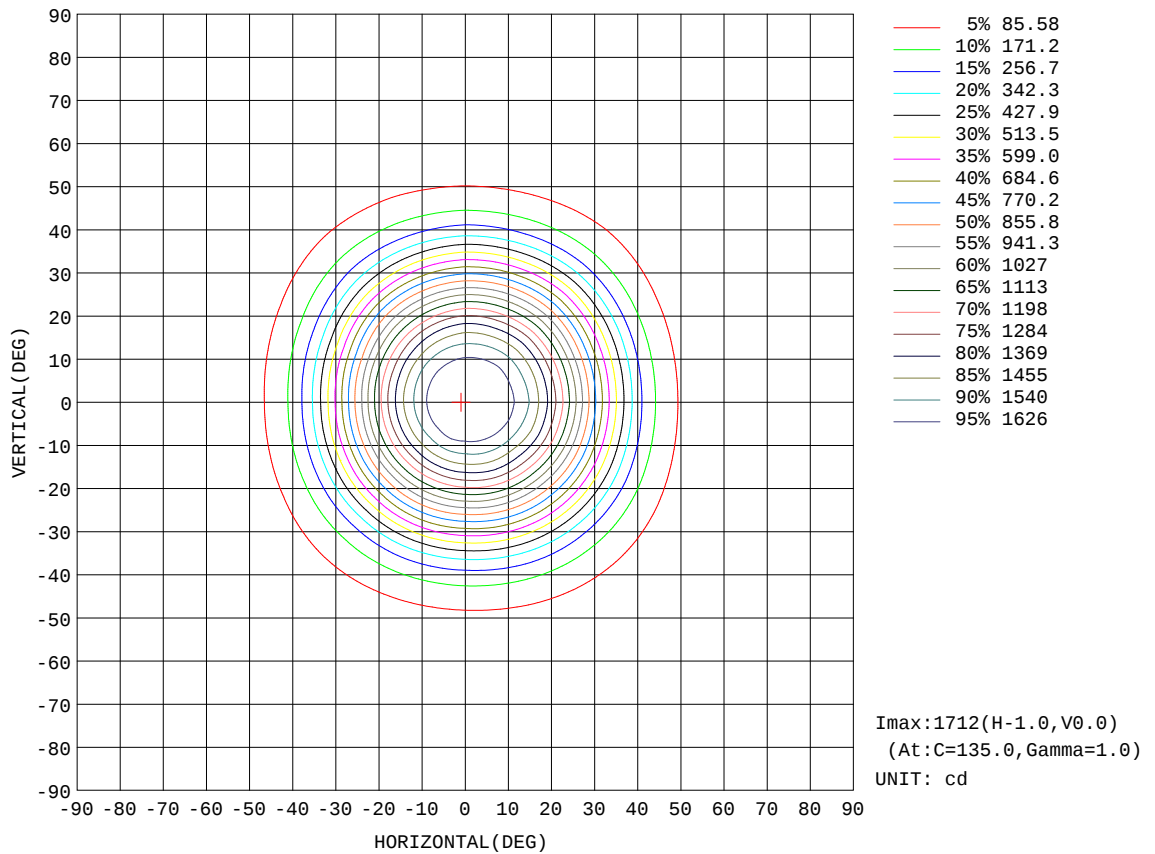
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	84	77	73	83	77	73	69
0.80	92	86	82	91	85	82	90	85	81	77
1.00	97	91	87	96	91	87	95	91	86	82
1.25	102	96	92	101	95	92	99	94	91	87
1.50	105	99	96	103	99	95	101	97	94	90
2.00	108	103	100	106	102	99	103	100	97	92
2.50	109	105	102	108	104	101	105	102	99	93
3.00	111	107	105	109	106	103	106	103	101	95
4.00	113	110	108	111	109	106	108	105	104	97
5.00	115	112	110	112	110	108	108	107	105	98
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-06-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.450m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.21V I:0.0677A P:14.209W PF:0.9111 Freq:49.99Hz Lamp Flux:1455.41x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:

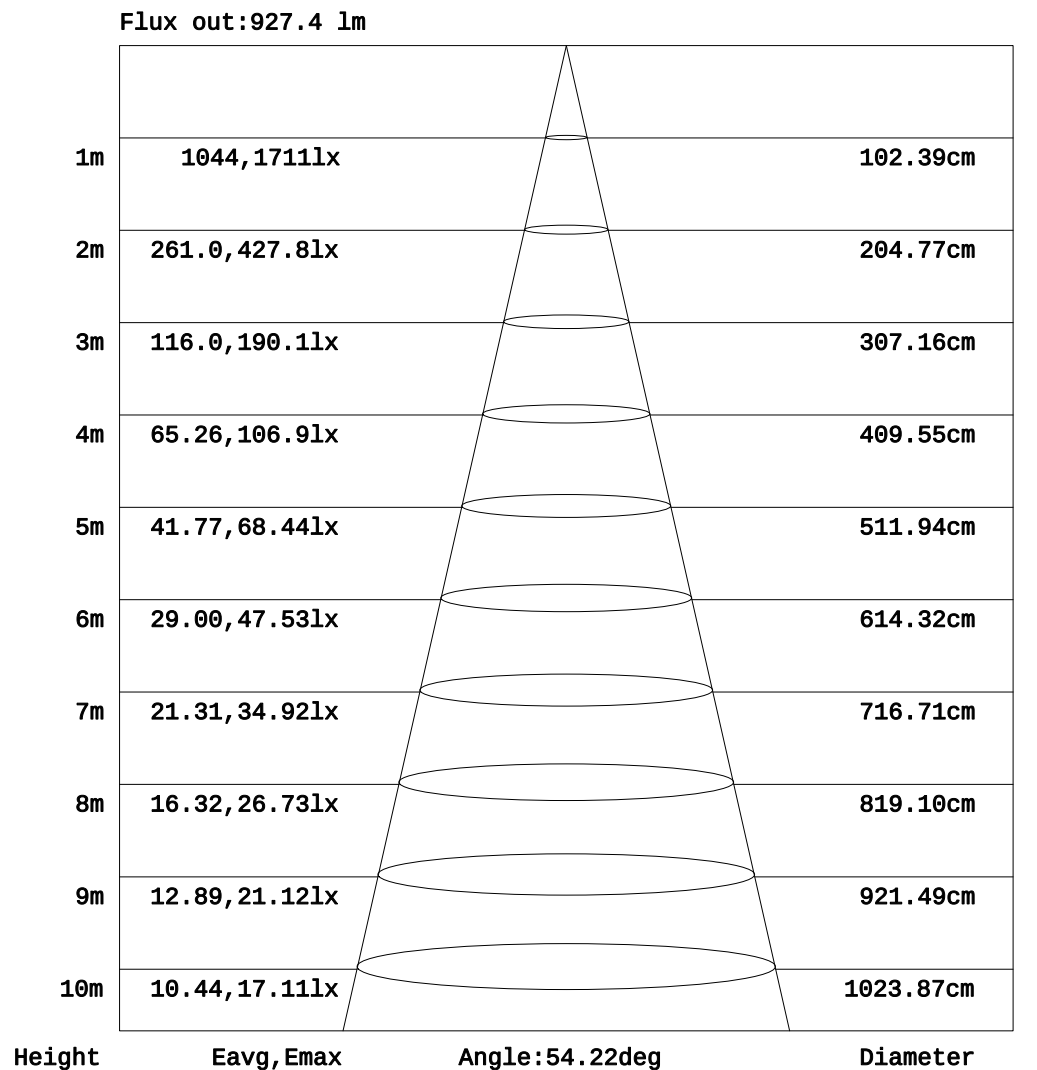


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-06-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

AAI Figure

Test:U:230.21V I:0.0677A P:14.209W PF:0.9111 Freq:49.99Hz Lamp Flux:1455.41x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:



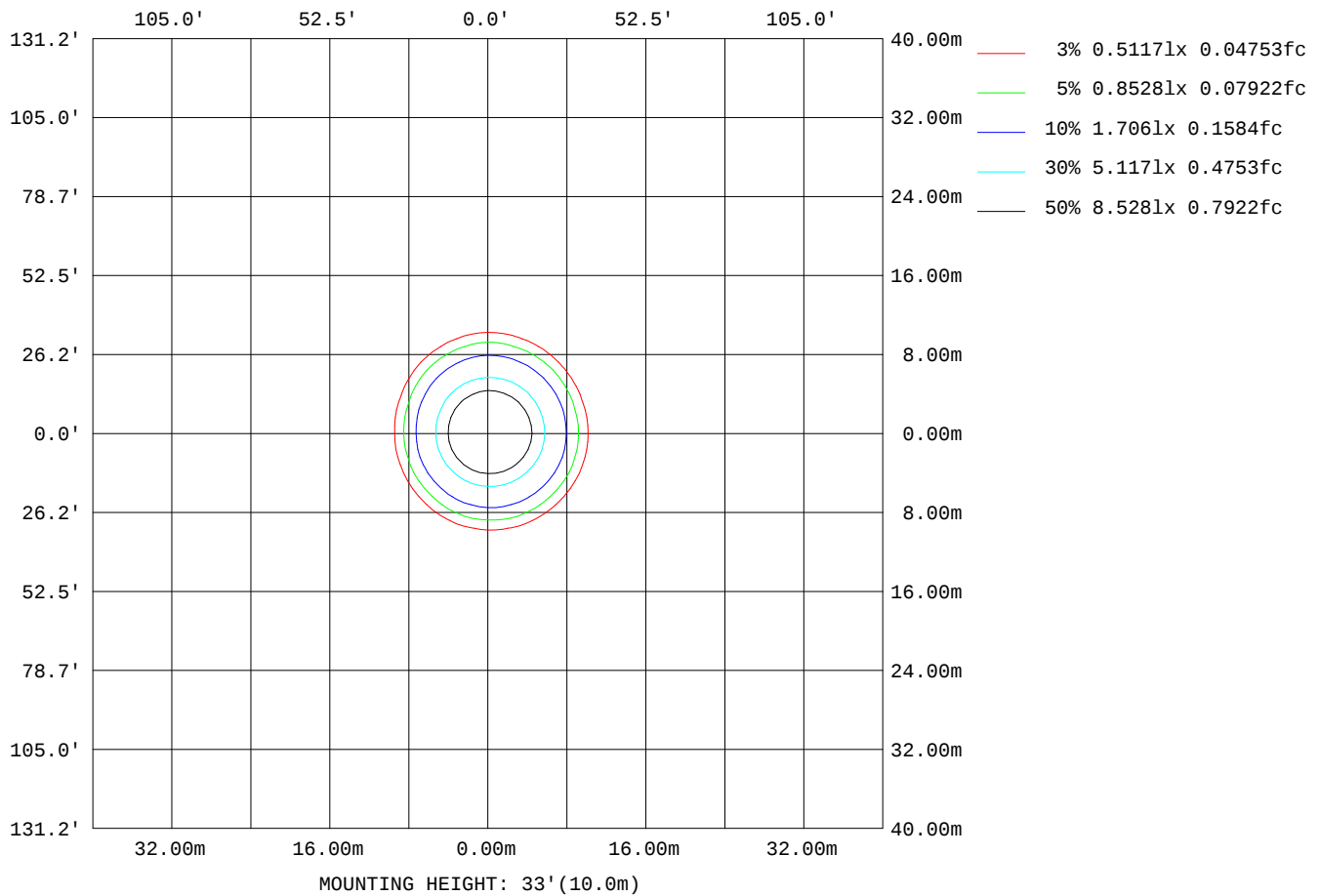
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-06-22

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity: 65.0%
Test Distance: 7.450m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

Test:U:230.21V I:0.0677A P:14.209W PF:0.9111 Freq:49.99Hz Lamp Flux:1455.41x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-06-22

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

LED Avg.L Report

Test:U:230.21V I:0.0677A P:14.209W PF:0.9111 Freq:49.99Hz Lamp Flux:1455.41x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:

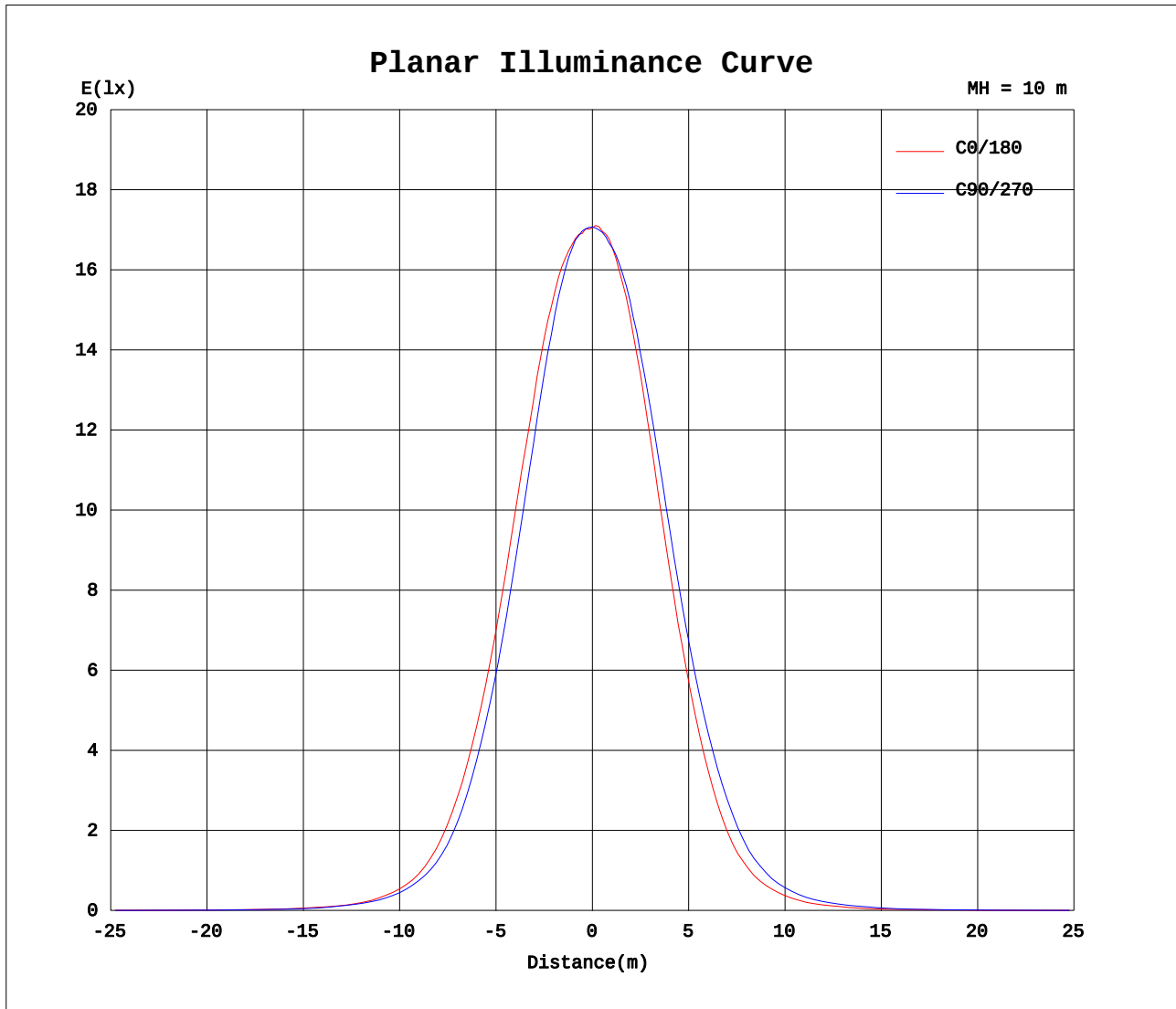
AvgL	cd/m2
L_0~180(65)av	11981
L_0~180(75)av	7222
L_0~180(85)av	7636
L_90~270(65)av	11916
L_90~270(75)av	7418
L_90~270(85)av	8029
L_45(65)av	11857
L_45(75)av	7322
L_45(85)av	7894

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-06-22

γ Range: 0 - 90DEG
γ Interval: 1.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-06-22

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.428
 Humidity: 65.0%
 Test Distance: 7.450m [K=1.0000]
 Remarks:

```

Range: 0 - 90DEG
Interval: 1.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.00.428
Humidity:65.0%
Test Distance:7.450m [K=1.0000]
Remarks:

```