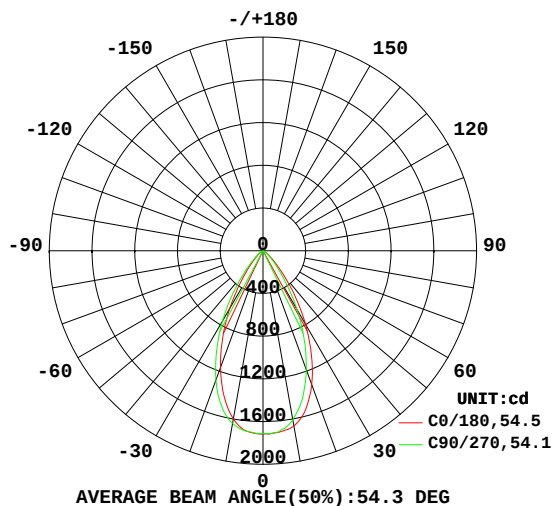


LUMINAIRE PHOTOMETRIC TEST REPORT

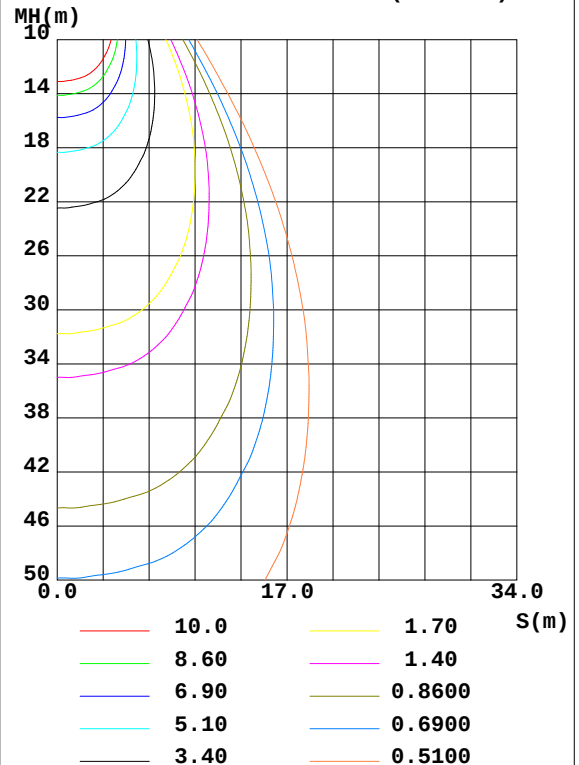
Test:U:230.21V I:0.0655A P:13.645W PF:0.9055 Freq:49.99Hz Lamp Flux:1468.56x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 107.63 lm/W			
MODEL	TB26141207 4000K	I _{max} (cd)	1717	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)	1468.6	η UP, DN(C0-180)	0.0, 48.9
NOMINAL FLUX(lm)	1468.56	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:

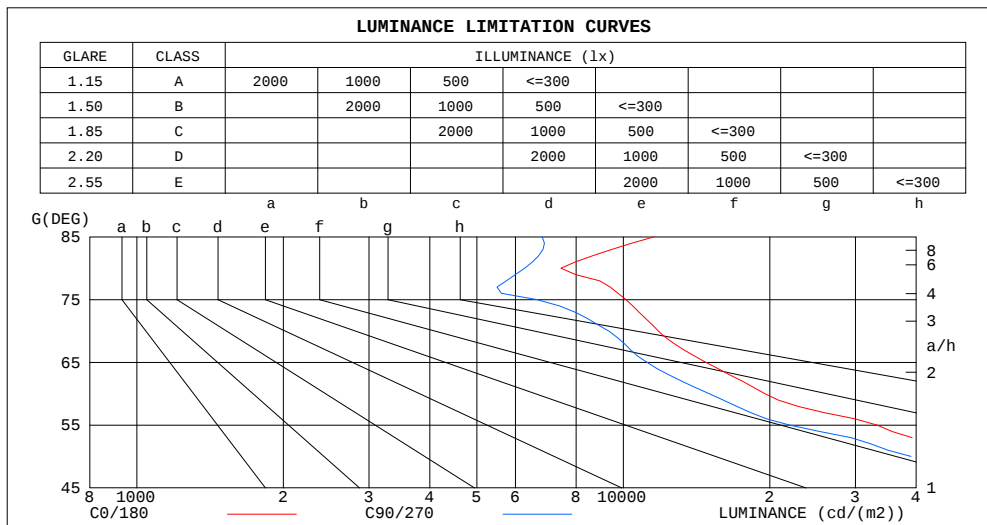
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1667	1642	1609	1595	1598	1624	1641	1654	0- 10	160.1	160.1	10.9,10.9
20	1336	1257	1187	1151	1165	1222	1290	1330	10- 20	407.3	567.4	38.6,38.6
30	800.1	723.2	641.2	610.1	620.6	686.0	758.1	799.3	20- 30	443.0	1010	68.8,68.8
40	313.7	265.1	224.5	206.4	209.9	249.7	284.3	309.4	30- 40	284.0	1294	88.1,88.1
50	89.24	77.19	66.21	63.88	62.62	73.66	83.70	89.98	40- 50	114.1	1408	95.9,95.9
60	25.79	23.14	19.82	18.09	17.97	20.21	24.19	25.51	50- 60	38.06	1447	98.5,98.5
70	10.65	9.605	8.420	7.848	7.921	8.519	9.697	10.43	60- 70	14.21	1461	99.5,99.5
80	3.411	3.213	2.874	2.650	2.545	2.878	3.207	3.361	70- 80	5.896	1467	99.9,99.9
90	0.9767	0.1969	0.1621	0.1699	0.0309	0.0309	0.2664	0.7875	80- 90	1.955	1469	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:0.0655A P:13.645W PF:0.9055 Freq:49.99Hz Lamp Flux:1468.56x1 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	11571	6813
80	7441	6269
75	10120	6636
70	11793	9325
65	14774	11187
60	19537	15015
55	33210	21957
50	52586	39016
45	91537	67298

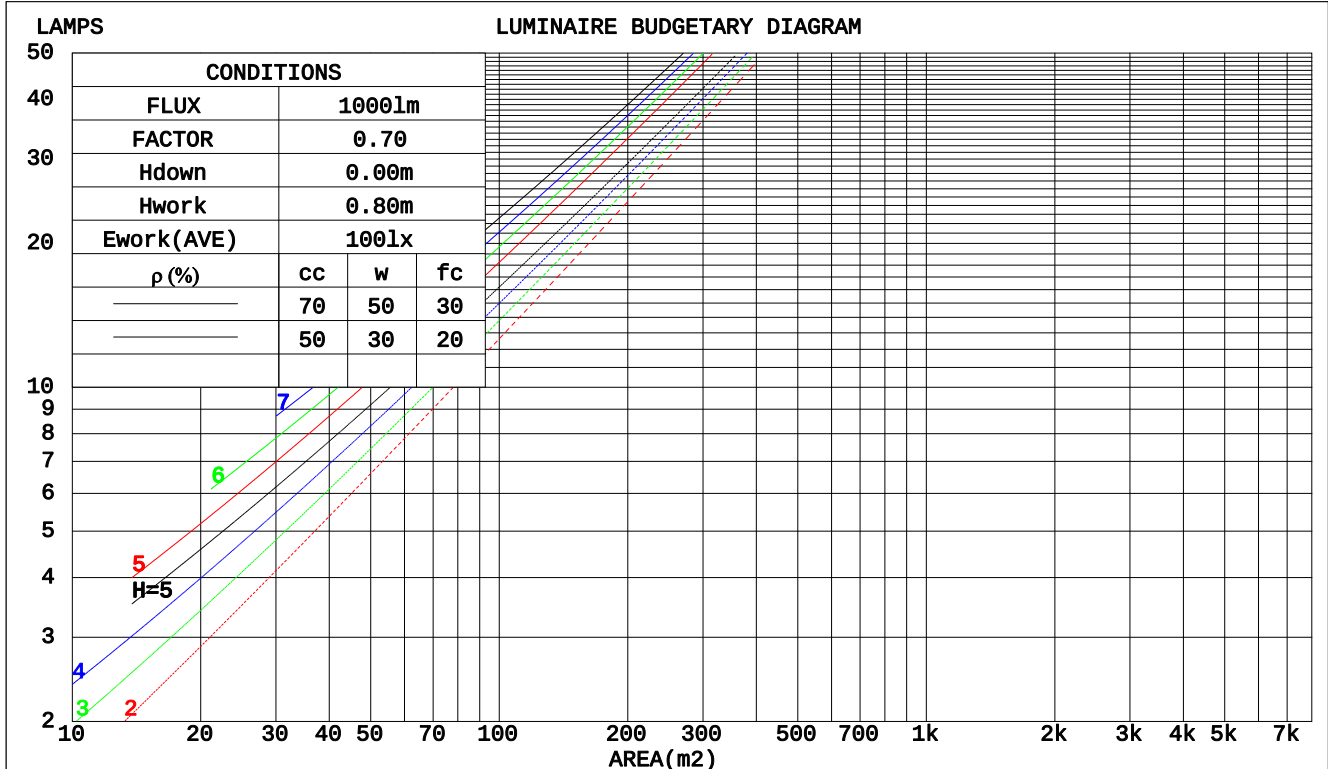
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-06-22

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:0.0655A P:13.645W PF:0.9055 Freq:49.99Hz Lamp Flux:1468.56x1 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	.86	.84	.81	.80
4.0	.89	.83	.79	.88	.82	.78	.85	.81	.77	.83	.80	.76	.82	.78	.75	.74
5.0	.83	.77	.73	.82	.76	.72	.80	.75	.72	.78	.74	.71	.77	.73	.70	.69
6.0	.78	.72	.67	.77	.71	.67	.75	.70	.67	.74	.69	.66	.73	.69	.66	.64
7.0	.73	.67	.63	.72	.67	.62	.71	.66	.62	.70	.65	.62	.69	.65	.61	.60
8.0	.69	.63	.58	.68	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.58	.56
9.0	.65	.59	.55	.64	.59	.55	.63	.58	.55	.63	.58	.54	.62	.57	.54	.53
10.0	.61	.56	.52	.61	.55	.52	.60	.55	.51	.59	.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:0.0655A P:13.645W PF:0.9055 Freq:49.99Hz Lamp Flux:1468.56x1 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	.185	.105	.033	.178	.102	.032	.165	.095	.030	.154	.089	.028	.143	.083	.027	
2.0	.177	.097	.030	.171	.094	.029	.161	.089	.028	.151	.085	.026	.142	.080	.025	
3.0	.169	.090	.027	.164	.088	.026	.155	.084	.025	.146	.080	.025	.138	.077	.024	
4.0	.160	.083	.024	.156	.082	.024	.148	.079	.023	.141	.076	.023	.134	.073	.022	
5.0	.152	.078	.023	.149	.076	.022	.142	.074	.022	.135	.071	.021	.129	.069	.021	
6.0	.145	.073	.021	.142	.072	.021	.136	.070	.020	.130	.068	.020	.125	.066	.020	
7.0	.138	.068	.019	.136	.068	.019	.130	.066	.019	.125	.064	.019	.120	.063	.018	
8.0	.132	.065	.018	.130	.064	.018	.125	.062	.018	.120	.061	.018	.116	.060	.017	
9.0	.126	.061	.017	.124	.061	.017	.120	.059	.017	.116	.058	.017	.112	.057	.016	
10.0	.121	.058	.016	.119	.058	.016	.115	.056	.016	.112	.055	.016	.108	.054	.016	

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	.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	.067	.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	.109	.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	.113	.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:0.0655A P:13.645W PF:0.9055 Freq:49.99Hz Lamp Flux:1468.56x1 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	22.6	23.5	22.8	23.7	23.9	21.3	22.3	21.5	22.4	22.6	
	3H	22.5	23.4	22.7	23.6	23.8	21.2	22.1	21.5	22.3	22.5
	4H	22.4	23.3	22.7	23.5	23.7	21.2	22.0	21.4	22.2	22.5
	6H	22.4	23.2	22.7	23.4	23.7	21.1	21.9	21.4	22.1	22.4
	8H	22.4	23.1	22.7	23.4	23.6	21.1	21.8	21.4	22.1	22.4
	12H	22.3	23.1	22.6	23.3	23.6	21.0	21.8	21.4	22.0	22.3
4H	2H	22.4	23.2	22.6	23.4	23.7	21.1	22.0	21.4	22.2	22.4
	3H	22.3	23.1	22.6	23.3	23.6	21.1	21.8	21.4	22.1	22.4
	4H	22.3	23.0	22.6	23.3	23.6	21.1	21.7	21.4	22.0	22.3
	6H	22.3	22.8	22.6	23.2	23.5	21.0	21.6	21.4	21.9	22.3
	8H	22.2	22.8	22.6	23.1	23.5	21.0	21.5	21.4	21.9	22.2
	12H	22.2	22.7	22.6	23.1	23.5	21.0	21.5	21.4	21.8	22.2
8H	4H	22.2	22.7	22.6	23.1	23.4	21.0	21.5	21.4	21.9	22.2
	6H	22.2	22.6	22.6	23.0	23.4	20.9	21.4	21.4	21.8	22.2
	8H	22.1	22.5	22.6	23.0	23.4	20.9	21.3	21.4	21.7	22.2
	12H	22.2	22.5	22.6	22.9	23.4	20.9	21.2	21.4	21.7	22.2
12H	4H	22.1	22.6	22.5	23.0	23.4	20.9	21.4	21.3	21.8	22.2
	6H	22.1	22.5	22.6	22.9	23.4	20.9	21.3	21.3	21.7	22.1
	8H	22.1	22.4	22.6	22.9	23.4	20.9	21.2	21.4	21.7	22.1
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 2.7 / - 5.0					+ 2.1 / - 5.1					
1.5H	+ 4.2 / - 4.3					+ 3.4 / - 4.0					
2.0H	+ 4.8 / - 3.8					+ 4.1 / - 3.5					

CIE Pub.117, 1469 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:0.0655A P:13.645W PF:0.9055 Freq:49.99Hz Lamp Flux:1468.56x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:

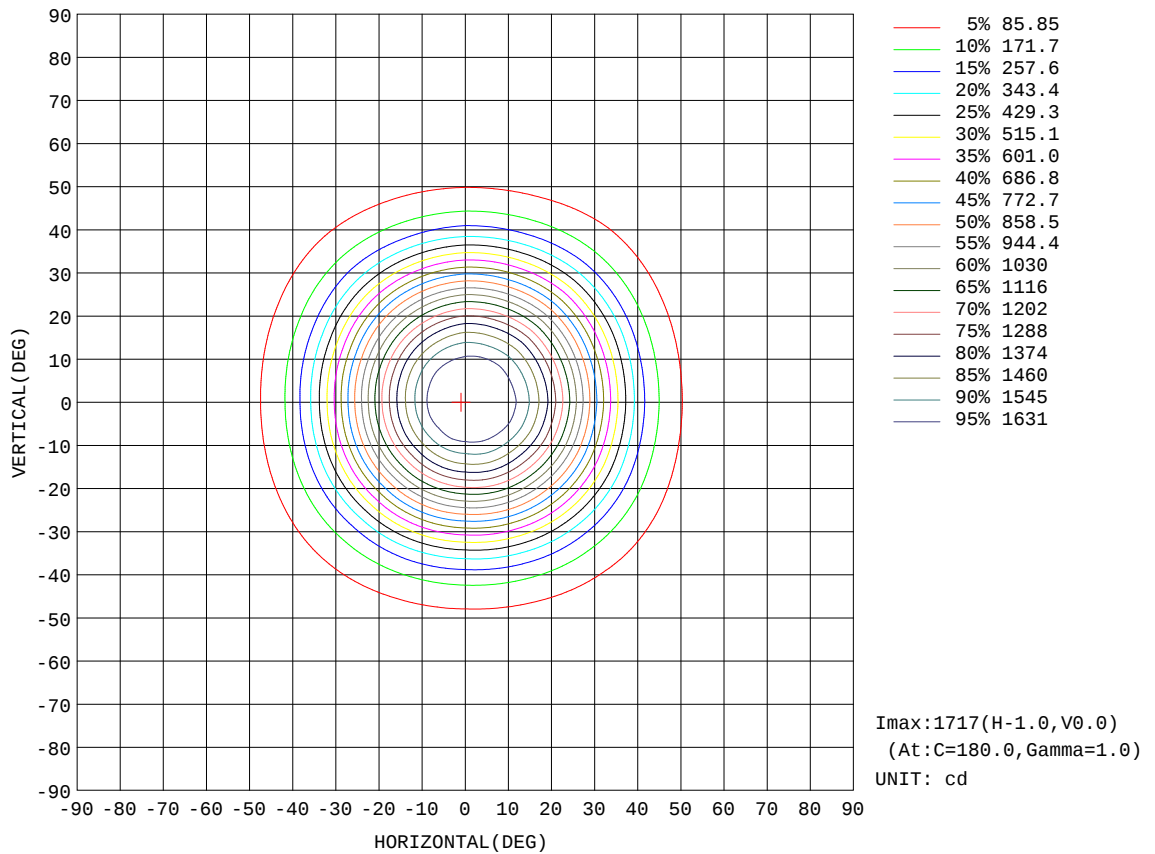
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	84	77	73	83	77	73	83	77	73	69
0.80	92	86	81	91	85	81	90	85	81	77
1.00	97	91	87	96	91	87	95	91	86	82
1.25	101	96	92	100	95	92	98	94	91	86
1.50	104	99	96	103	99	95	101	97	94	89
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	104	109	106	103	106	103	101	95
4.00	113	110	108	111	109	106	107	105	104	96
5.00	114	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:0.0655A P:13.645W PF:0.9055 Freq:49.99Hz Lamp Flux:1468.56x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:

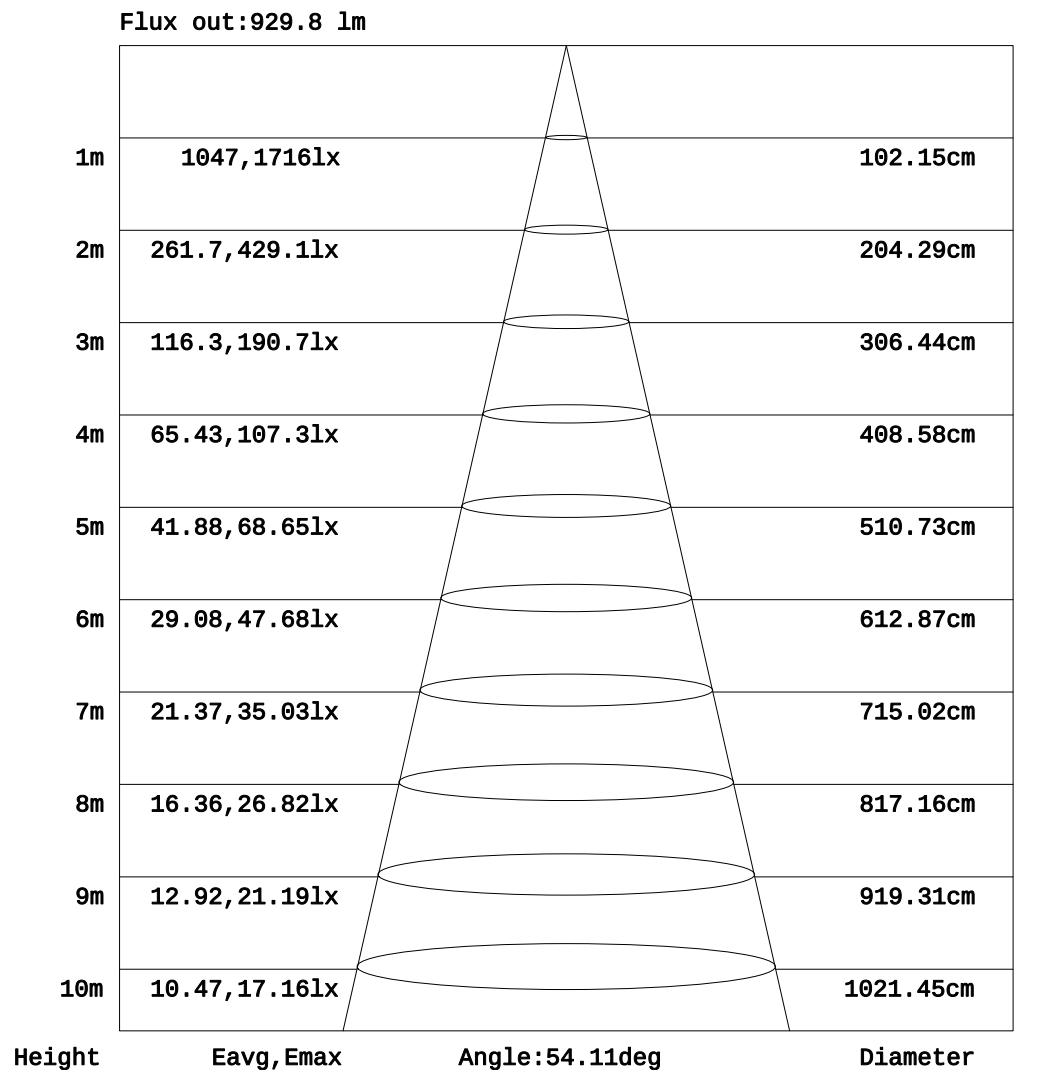


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-06-22

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:0.0655A P:13.645W PF:0.9055 Freq:49.99Hz Lamp Flux:1468.56x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:



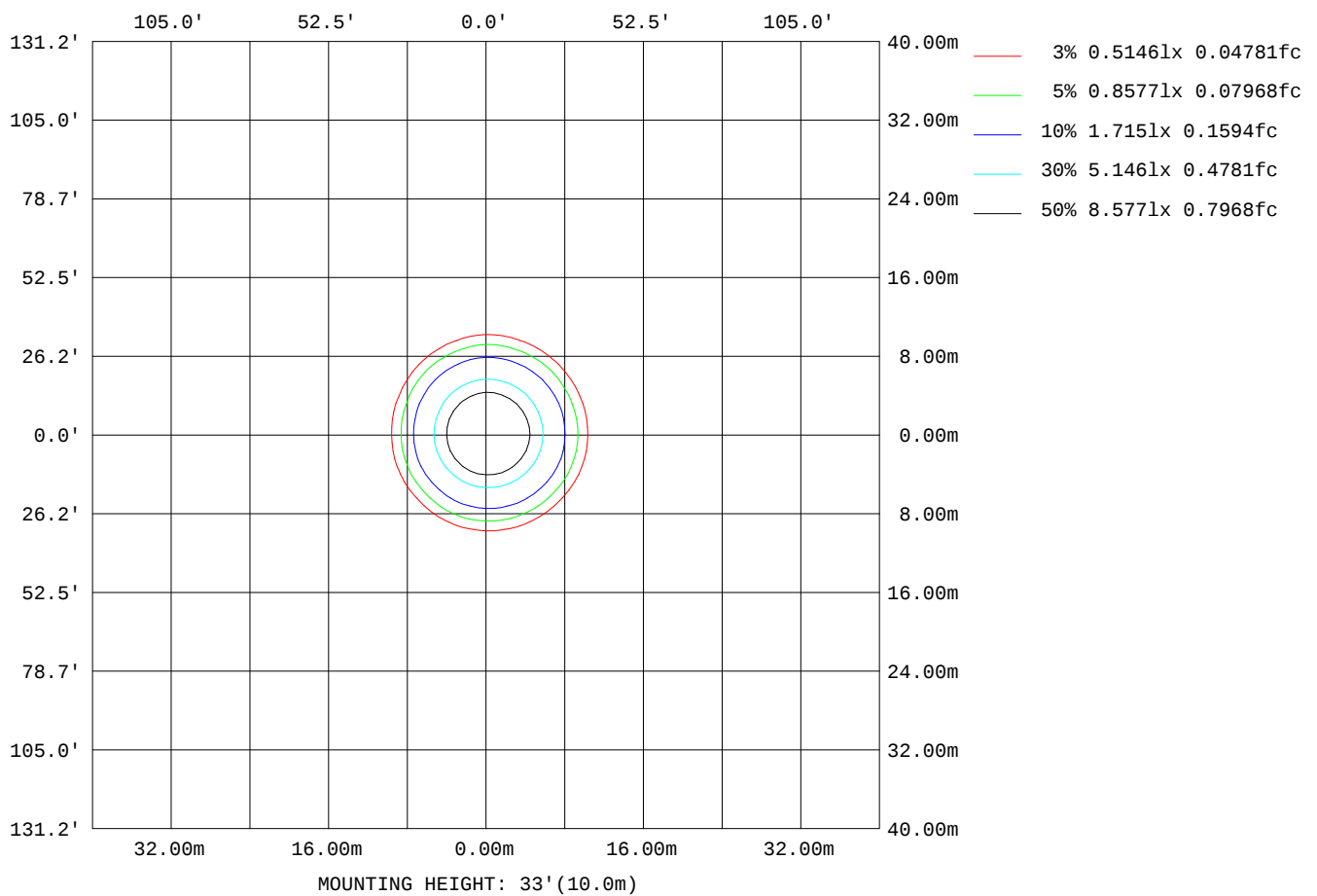
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:0.0655A P:13.645W PF:0.9055 Freq:49.99Hz Lamp Flux:1468.56x1 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:0.0655A P:13.645W PF:0.9055 Freq:49.99Hz Lamp Flux:1468.56x1 lm		
NAME: TH13-WHTC15C021P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 58mm	Shielding Angle:

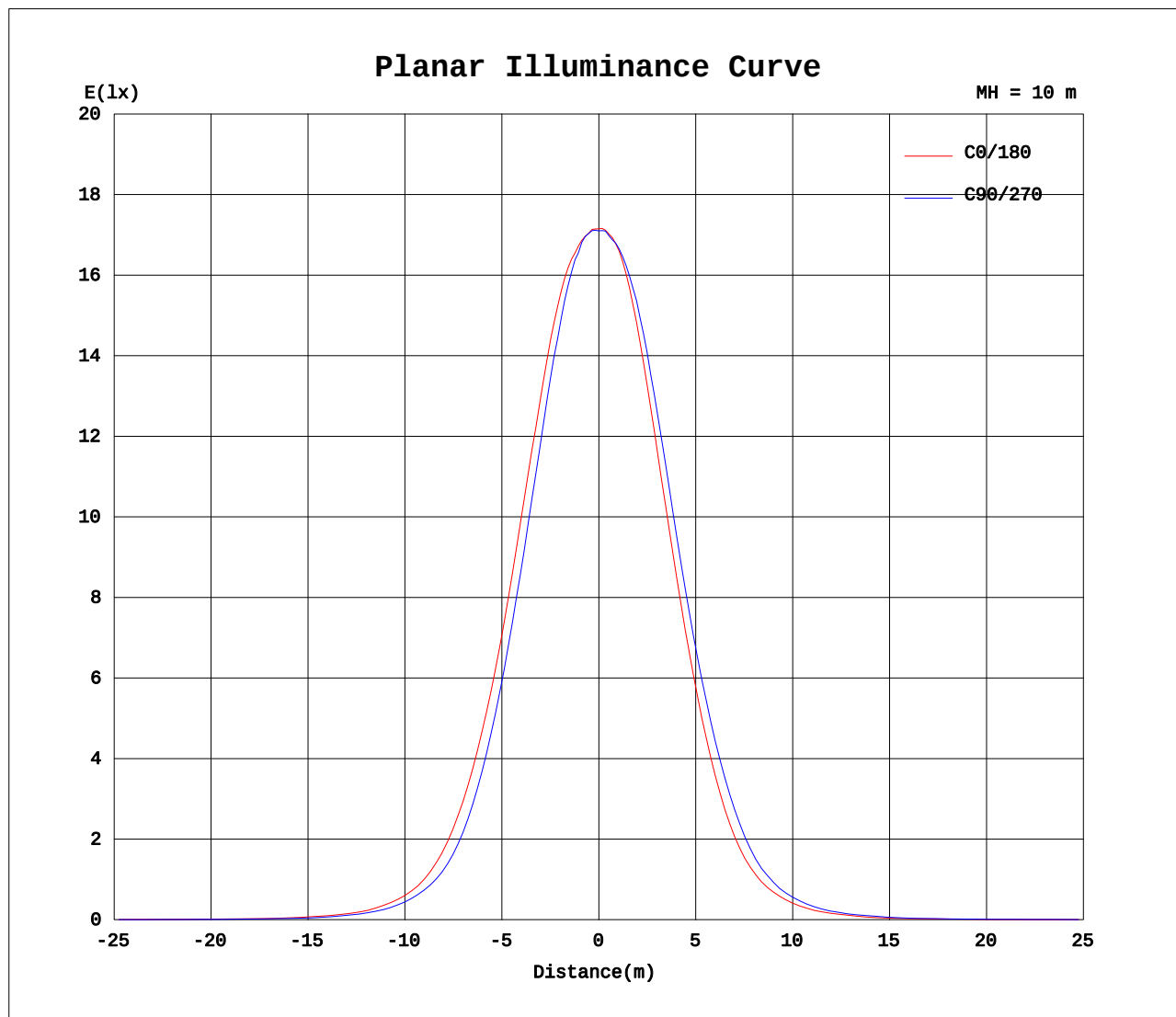
AvgL	cd/m2
L_0~180(65)av	12637
L_0~180(75)av	7759
L_0~180(85)av	8105
L_90~270(65)av	12232
L_90~270(75)av	7703
L_90~270(85)av	8390
L_45(65)av	12344
L_45(75)av	7741
L_45(85)av	8301

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:

```