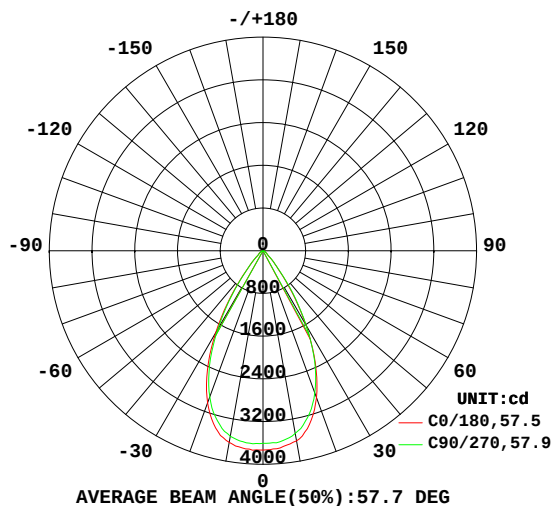


LUMINAIRE PHOTOMETRIC TEST REPORT

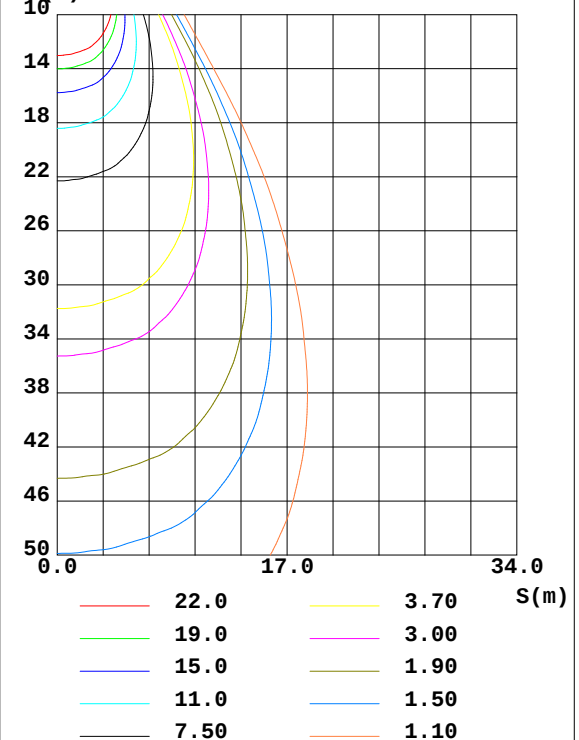
Test:U:230.19V I:0.1504A P:32.506W PF:0.9392 Freq:49.99Hz Lamp Flux:3289.18x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 101.19 lm/W			
MODEL	TB32171211 5700K	I _{max} (cd)	3739	S/MH(C0/180)	0.88
NOMINAL POWER(W)	40	LOR(%)	100.0	S/MH(C90/270)	0.87
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	3289.2	η UP, DN(C0-180)	0.0, 49.5
NOMINAL FLUX(lm)	3289.18	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 50.5
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	0.75
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	0.90

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:

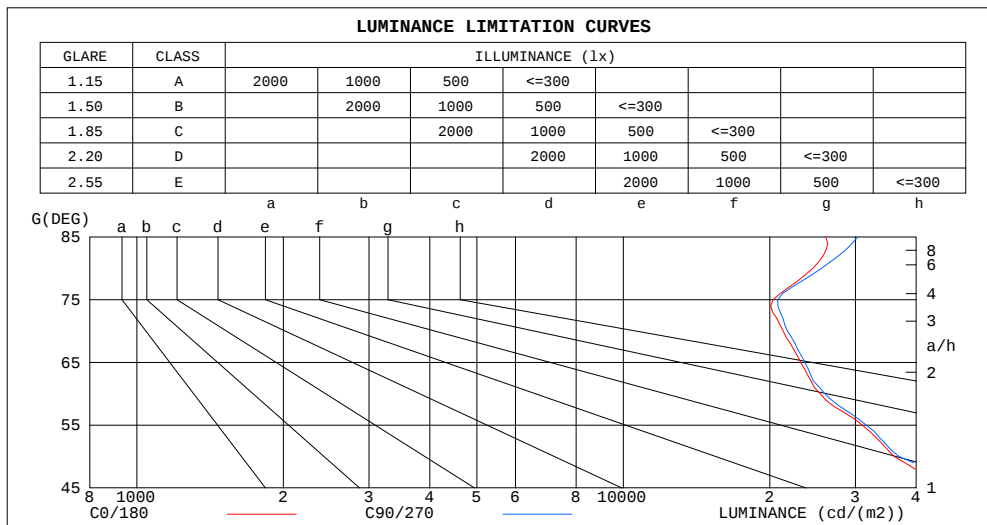
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	3617	3520	3471	3483	3644	3573	3528	3500	0- 10	343.3	343.3	10.4, 10.4
20	2931	2851	2838	2862	3032	2982	2917	2878	10- 20	919.8	1263	38.4, 38.4
30	1613	1605	1629	1650	1770	1748	1694	1620	20- 30	1057	2320	70.5, 70.5
40	442.0	443.6	460.6	454.3	502.6	508.7	485.6	457.4	30- 40	622.0	2942	89.5, 89.5
50	107.9	109.1	110.3	107.6	113.6	114.6	113.4	106.7	40- 50	186.1	3128	95.1, 95.1
60	59.17	59.35	60.43	60.58	63.39	61.62	59.48	57.78	50- 60	75.01	3203	97.4, 97.4
70	33.95	34.26	34.66	34.64	36.28	35.53	34.82	33.51	60- 70	46.10	3250	98.8, 98.8
80	19.86	20.13	20.70	20.48	20.96	20.77	20.55	19.78	70- 80	27.56	3277	99.6, 99.6
90	0.4208	0.4246	0.4285	0.4710	0.3320	0.1621	0.1583	0.1544	80- 90	12.05	3289	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:230.19V I:0.1504A P:32.506W PF:0.9392 Freq:49.99Hz Lamp Flux:3289.18x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	26054	30355
80	24546	25575
75	20318	20779
70	21302	21746
65	23153	23611
60	25394	25935
55	30974	31563
50	36013	36831
45	67342	71314

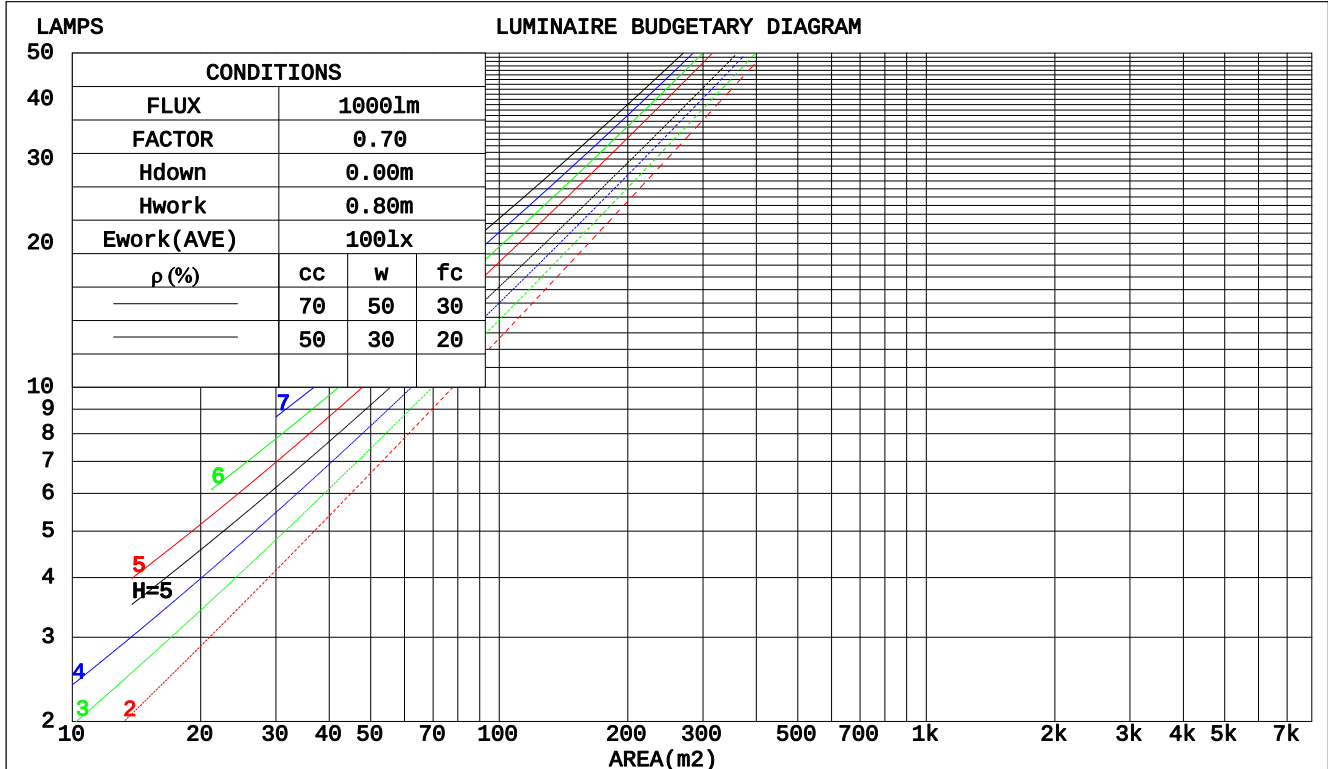
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-06-22

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:230.19V I:0.1504A P:32.506W PF:0.9392 Freq:49.99Hz Lamp Flux:3289.18x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	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	1.05	1.08	1.06	1.04	1.04	1.02	1.00	1.00	.99	.97	.97	.96	.95	.93
2.0	1.02	.98	.94	1.00	.97	.93	.97	.94	.91	.94	.92	.89	.91	.89	.87	.86
3.0	.95	.90	.86	.94	.89	.85	.91	.87	.84	.89	.85	.82	.86	.83	.81	.79
4.0	.89	.83	.79	.87	.82	.78	.85	.81	.77	.83	.79	.76	.81	.78	.75	.74
5.0	.83	.77	.72	.82	.76	.72	.80	.75	.71	.78	.74	.71	.77	.73	.70	.69
6.0	.78	.72	.67	.77	.71	.67	.75	.70	.67	.74	.70	.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	.59	.68	.63	.58	.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	.55	.52	.60	.55	.52	.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
 γ 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:230.19V I:0.1504A P:32.506W PF:0.9392 Freq:49.99Hz Lamp Flux:3289.18x1 lm					
NAME: TH41-BKTC40C023P			TYPE:		WEIGHT:
SPEC.: white RA90 3000K+5700K			DIM.:		SERIAL No.:
MFR.:			SUR.: 77mm		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	.189	.107	.034	.182	.104	.033	.169	.097	.031	.158	.091	.029	.147	.085	.027	
2.0	.179	.098	.030	.174	.096	.029	.163	.091	.028	.153	.086	.027	.144	.081	.026	
3.0	.170	.090	.027	.165	.088	.027	.156	.084	.026	.147	.081	.025	.140	.077	.024	
4.0	.161	.084	.025	.157	.082	.024	.149	.079	.024	.141	.076	.023	.135	.073	.022	
5.0	.153	.078	.023	.149	.076	.022	.142	.074	.022	.136	.072	.021	.130	.069	.021	
6.0	.145	.073	.021	.142	.072	.021	.136	.070	.020	.130	.068	.020	.125	.066	.020	
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	.060	.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	.101	.093	.086	.058	.054	.050	.019	.017	.016	
2.0	.157	.132	.112	.135	.114	.096	.092	.079	.067	.053	.046	.039	.017	.015	.013	
3.0	.145	.114	.088	.124	.098	.077	.085	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.071	.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:230.19V I:0.1504A P:32.506W PF:0.9392 Freq:49.99Hz Lamp Flux:3289.18x1 lm											
NAME: TH41-BKTC40C023P					TYPE:			WEIGHT:			
SPEC.: white RA90 3000K+5700K					DIM.:			SERIAL No.:			
MFR.:					SUR.: 77mm			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	18.8	19.8	19.1	20.0	20.1	19.0	20.0	19.2	20.1	20.3	
	3H	19.0	19.9	19.2	20.1	20.3	19.1	20.0	19.4	20.2	20.4
	4H	19.1	19.9	19.3	20.1	20.4	19.2	20.1	19.5	20.3	20.5
	6H	19.2	20.0	19.5	20.2	20.5	19.3	20.2	19.6	20.4	20.6
	8H	19.3	20.0	19.6	20.3	20.6	19.4	20.2	19.8	20.5	20.7
	12H	19.3	20.1	19.7	20.3	20.6	19.5	20.3	19.8	20.5	20.8
4H	2H	18.7	19.6	19.0	19.8	20.0	18.9	19.7	19.2	20.0	20.2
	3H	19.0	19.7	19.3	20.0	20.3	19.1	19.9	19.5	20.2	20.4
	4H	19.2	19.8	19.5	20.1	20.5	19.3	20.0	19.7	20.3	20.6
	6H	19.4	20.0	19.8	20.4	20.7	19.6	20.2	20.0	20.5	20.9
	8H	19.6	20.1	20.0	20.5	20.9	19.8	20.3	20.2	20.7	21.0
	12H	19.7	20.2	20.1	20.6	21.0	19.9	20.4	20.3	20.8	21.2
8H	4H	19.2	19.7	19.6	20.1	20.5	19.3	19.9	19.7	20.2	20.6
	6H	19.6	20.0	20.0	20.4	20.9	19.7	20.2	20.2	20.6	21.0
	8H	19.8	20.2	20.3	20.7	21.1	20.0	20.4	20.4	20.8	21.3
	12H	20.1	20.4	20.5	20.8	21.3	20.3	20.6	20.7	21.0	21.5
12H	4H	19.2	19.7	19.6	20.1	20.5	19.3	19.8	19.7	20.2	20.6
	6H	19.6	20.0	20.1	20.4	20.9	19.8	20.2	20.2	20.6	21.0
	8H	19.9	20.3	20.4	20.7	21.2	20.1	20.4	20.5	20.9	21.3
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 1.8 / - 2.0					+ 1.9 / - 2.0					
1.5H	+ 3.5 / - 1.8					+ 3.6 / - 1.8					
2.0H	+ 2.0 / - 0.7					+ 2.1 / - 0.7					

CIE Pub.117, 3289 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 4.1)
Area: 0.00466 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:230.19V I:0.1504A P:32.506W PF:0.9392 Freq:49.99Hz Lamp Flux:3289.18x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:

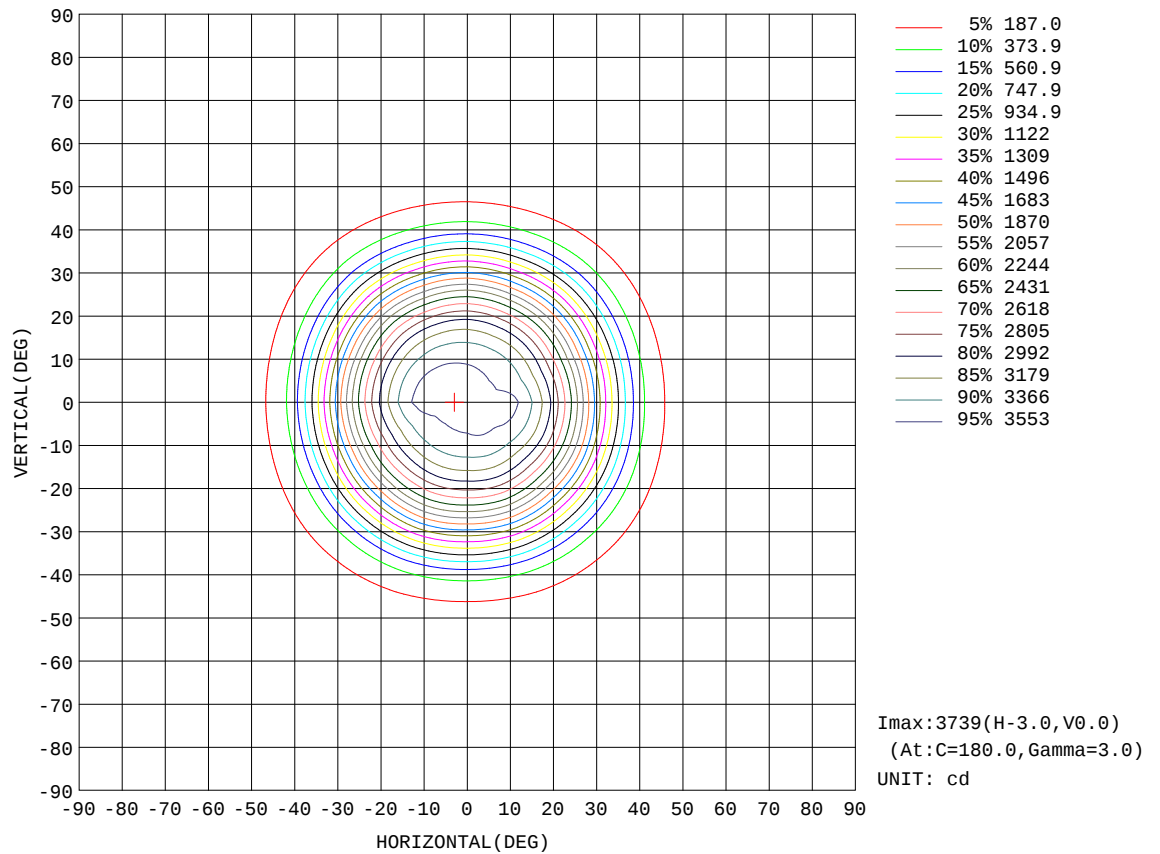
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	78	74	84	78	74	84	78	74	70
0.80	93	86	82	92	86	82	91	85	82	78
1.00	97	91	87	97	91	87	95	91	87	83
1.25	102	96	92	101	95	92	99	94	91	87
1.50	105	99	96	103	99	95	101	97	94	89
2.00	107	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:230.19V I:0.1504A P:32.506W PF:0.9392 Freq:49.99Hz Lamp Flux:3289.18x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:

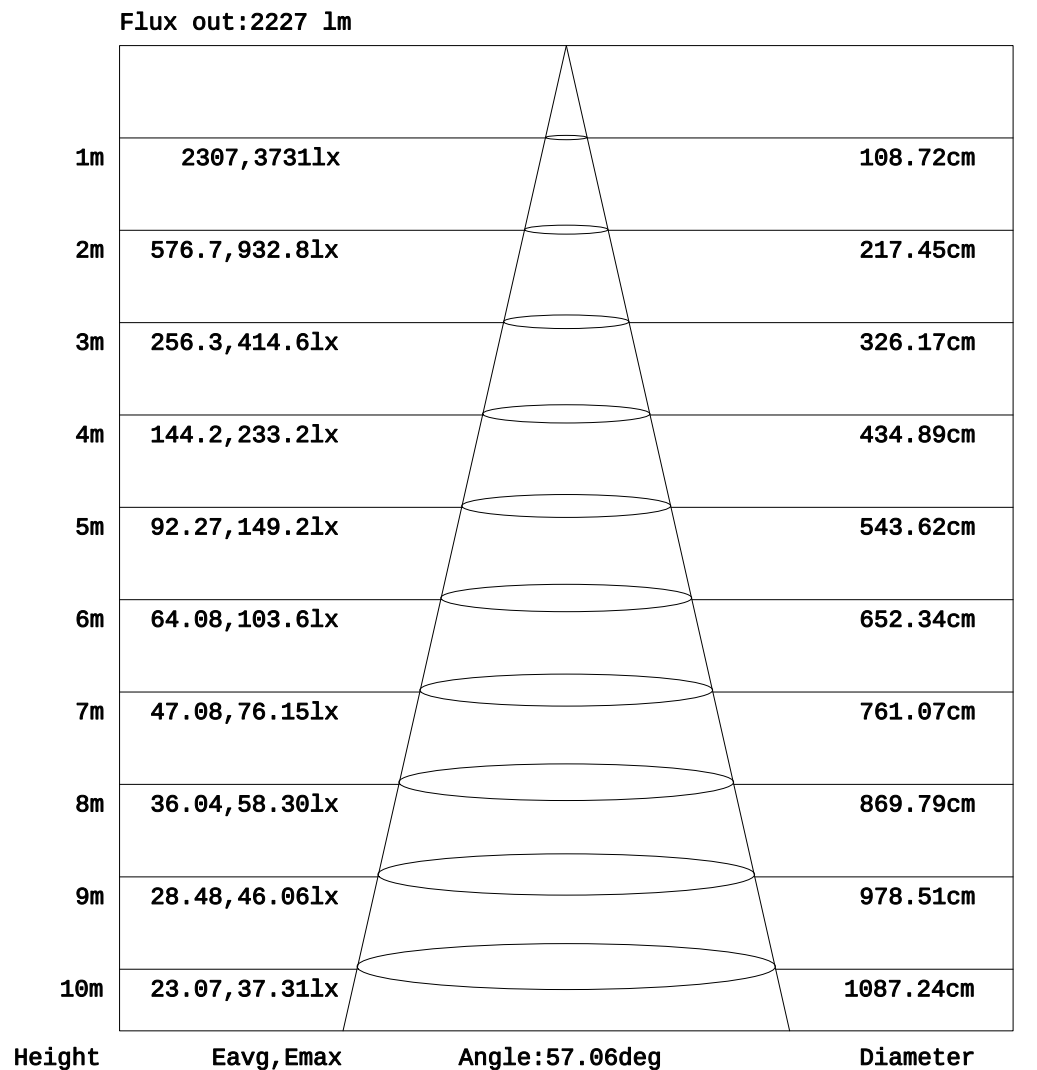


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-06-22

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:230.19V I:0.1504A P:32.506W PF:0.9392 Freq:49.99Hz Lamp Flux:3289.18x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:



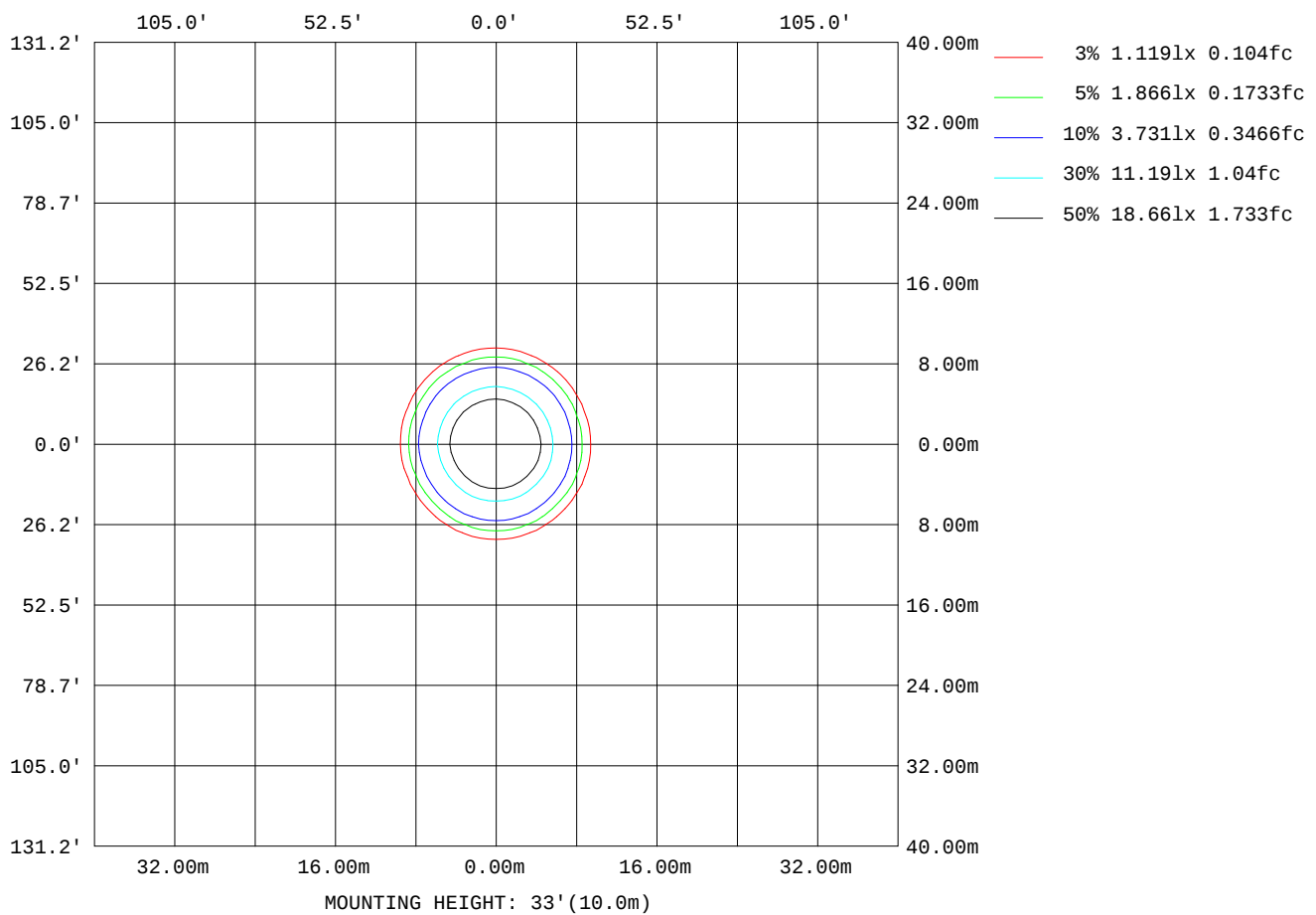
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:230.19V I:0.1504A P:32.506W PF:0.9392 Freq:49.99Hz Lamp Flux:3289.18x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	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:230.19V I:0.1504A P:32.506W PF:0.9392 Freq:49.99Hz Lamp Flux:3289.18x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:

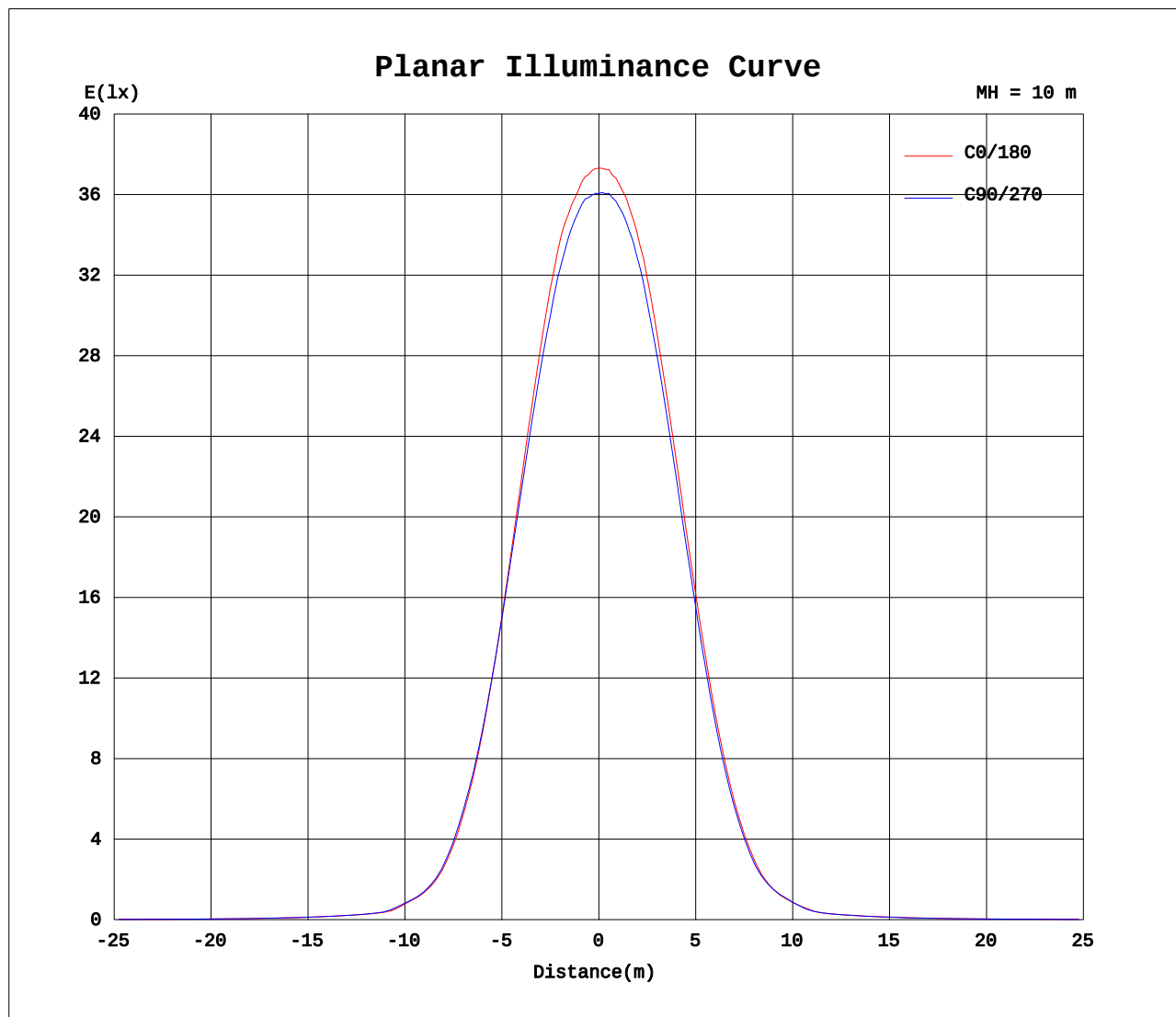
AvgL	cd/m2
L_0~180(65)av	23870
L_0~180(75)av	20875
L_0~180(85)av	28823
L_90~270(65)av	23560
L_90~270(75)av	20794
L_90~270(85)av	29346
L_45(65)av	23419
L_45(75)av	20613
L_45(85)av	28774

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:

```