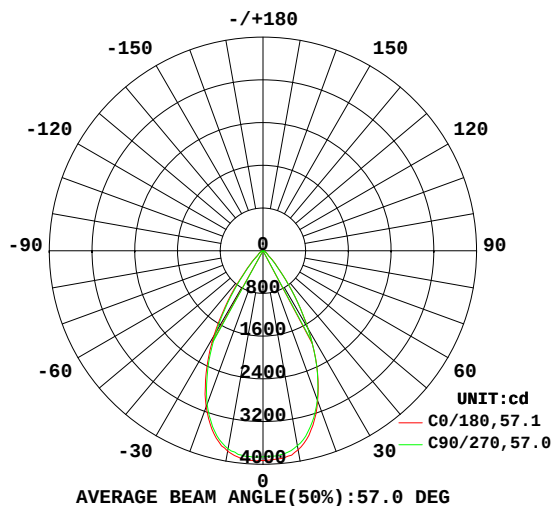


LUMINAIRE PHOTOMETRIC TEST REPORT

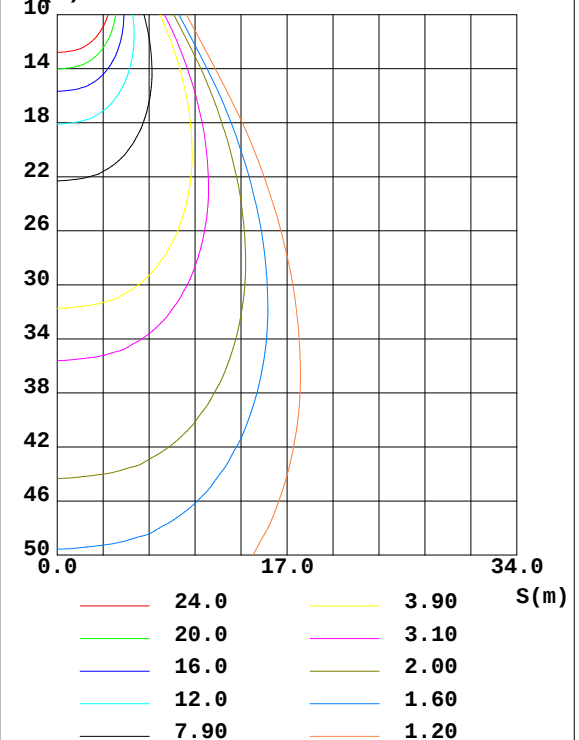
Test:U:230.17V I:0.1778A P:38.876W PF:0.9502 Freq:49.99Hz Lamp Flux:3479.17x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 89.49 lm/W			
MODEL	TB32171211 3000K	I _{max} (cd)	3937	S/MH(C0/180)	0.87
NOMINAL POWER(W)	40	LOR(%)	100.0	S/MH(C90/270)	0.87
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	3479.2	η UP, DN(C0-180)	0.0, 49.5
NOMINAL FLUX(lm)	3479.17	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:

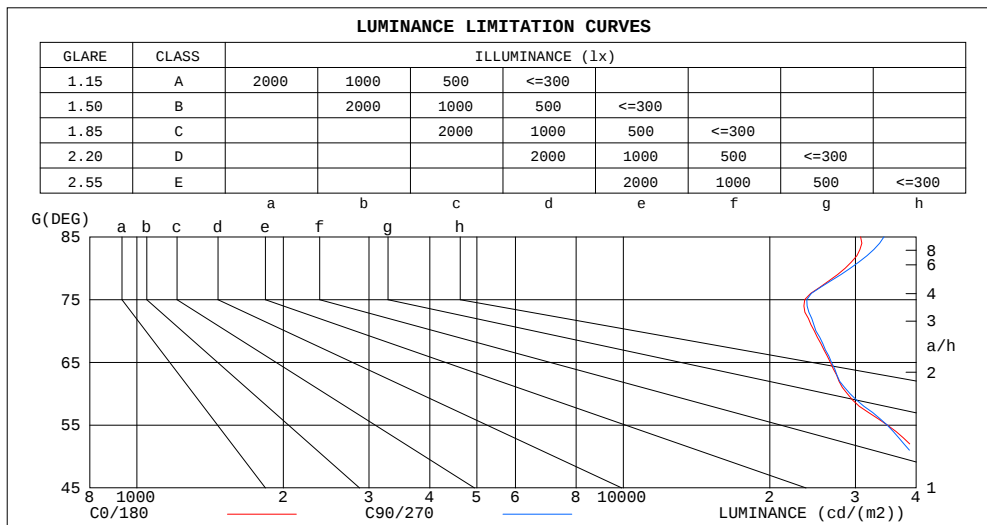
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	3785	3737	3707	3687	3813	3801	3764	3722	0- 10	364.9	364.9	10.5,10.5
20	2995	2960	2975	2998	3115	3105	3058	2985	10- 20	963.6	1329	38.2,38.2
30	1693	1673	1692	1739	1841	1824	1756	1694	20- 30	1095	2423	69.7,69.7
40	509.6	489.6	496.2	520.0	567.9	560.2	518.6	508.3	30- 40	664.0	3088	88.7,88.7
50	124.8	123.2	120.5	122.4	130.6	127.8	122.0	121.1	40- 50	210.0	3298	94.8,94.8
60	67.24	67.06	68.11	68.55	70.43	68.82	66.85	65.65	50- 60	83.82	3381	97.2,97.2
70	39.35	39.18	39.67	39.97	41.23	40.56	39.68	38.74	60- 70	52.40	3434	98.7,98.7
80	23.14	23.06	23.70	23.66	23.97	23.66	23.42	22.92	70- 80	31.68	3465	99.6,99.6
90	0.4825	0.4825	0.4748	0.5327	0.2471	0.1969	0.1930	0.1892	80- 90	13.77	3479	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:230.17V I:0.1778A P:38.876W PF:0.9502 Freq:49.99Hz Lamp Flux:3479.17x1 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	30740	34329
80	28594	29293
75	23594	23835
70	24690	24892
65	26631	26779
60	28860	29232
55	34890	34865
50	41654	40213
45	81866	75808

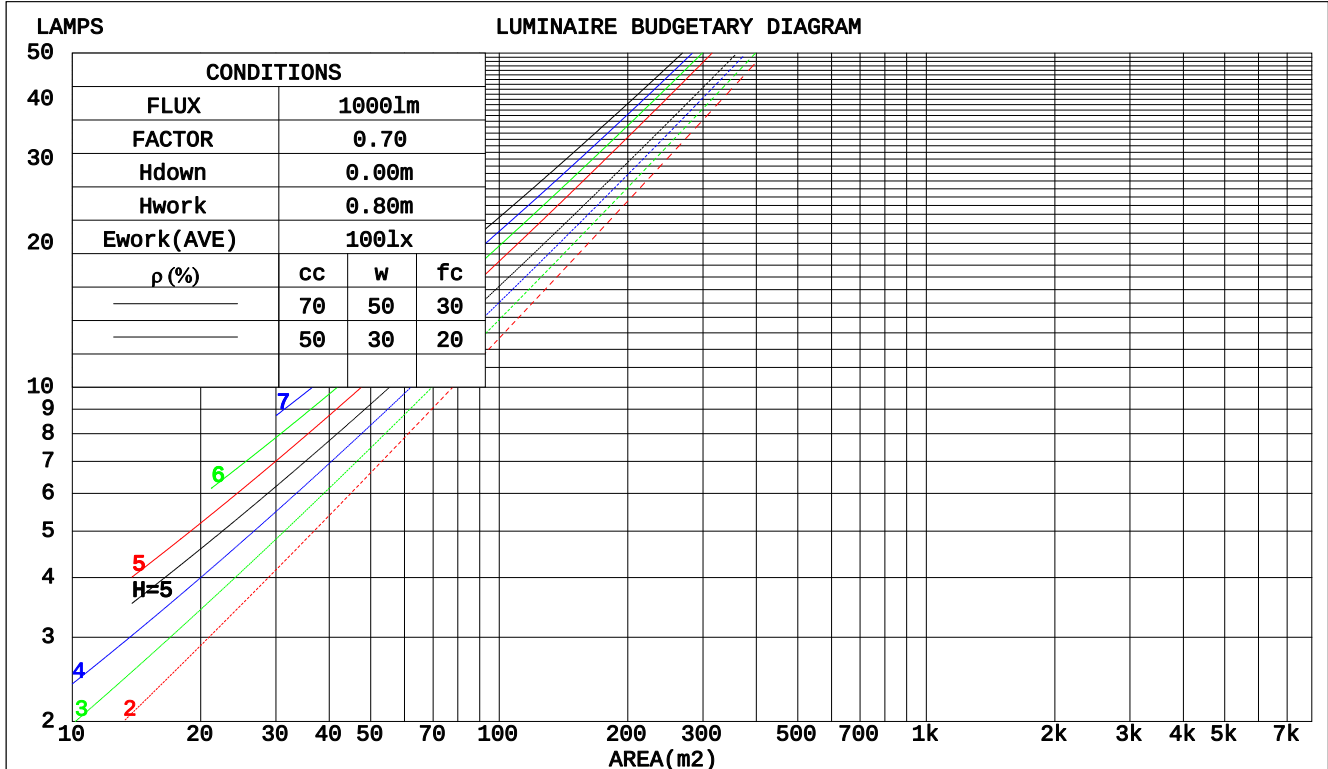
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-06-22

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:230.17V I:0.1778A P:38.876W PF:0.9502 Freq:49.99Hz Lamp Flux:3479.17x1 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	1.07	1.05	1.08	1.06	1.03	1.04	1.02	1.00	1.00	.99	.97	.97	.95	.94	.93
2.0	1.02	.98	.94	1.00	.96	.93	.97	.94	.91	.94	.91	.89	.91	.89	.87	.86
3.0	.95	.90	.85	.93	.89	.85	.91	.87	.83	.88	.85	.82	.86	.83	.81	.79
4.0	.88	.83	.78	.87	.82	.78	.85	.80	.77	.83	.79	.76	.81	.78	.75	.73
5.0	.83	.77	.72	.82	.76	.72	.80	.75	.71	.78	.74	.71	.77	.73	.70	.68
6.0	.77	.71	.67	.77	.71	.67	.75	.70	.66	.74	.69	.66	.72	.68	.65	.64
7.0	.73	.67	.62	.72	.66	.62	.71	.66	.62	.70	.65	.61	.68	.64	.61	.60
8.0	.69	.62	.58	.68	.62	.58	.67	.62	.58	.66	.61	.58	.65	.61	.57	.56
9.0	.65	.59	.55	.64	.58	.55	.63	.58	.54	.62	.58	.54	.62	.57	.54	.53
10.0	.61	.55	.51	.61	.55	.51	.60	.55	.51	.59	.54	.51	.58	.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:230.17V I:0.1778A P:38.876W PF:0.9502 Freq:49.99Hz Lamp Flux:3479.17x1 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	.190	.108	.034	.184	.105	.033	.171	.098	.031	.159	.092	.030	.149	.086	.028	
2.0	.181	.099	.030	.175	.096	.030	.164	.091	.028	.155	.087	.027	.145	.082	.026	
3.0	.171	.091	.027	.166	.089	.027	.157	.085	.026	.149	.081	.025	.141	.078	.024	
4.0	.162	.084	.025	.158	.083	.024	.150	.079	.024	.143	.077	.023	.136	.074	.022	
5.0	.154	.078	.023	.150	.077	.022	.143	.074	.022	.137	.072	.021	.131	.070	.021	
6.0	.146	.073	.021	.143	.072	.021	.137	.070	.020	.131	.068	.020	.126	.066	.020	
7.0	.139	.069	.019	.136	.068	.019	.131	.066	.019	.126	.064	.019	.121	.063	.018	
8.0	.133	.065	.018	.130	.064	.018	.125	.063	.018	.121	.061	.018	.117	.060	.017	
9.0	.127	.061	.017	.125	.061	.017	.120	.059	.017	.116	.058	.017	.112	.057	.016	
10.0	.121	.058	.016	.119	.058	.016	.115	.057	.016	.112	.056	.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	.111	.135	.114	.096	.092	.079	.067	.053	.046	.039	.017	.015	.013	
3.0	.145	.114	.088	.125	.098	.077	.086	.068	.054	.049	.040	.032	.016	.013	.010	
4.0	.135	.099	.071	.116	.086	.062	.080	.060	.044	.046	.035	.026	.015	.011	.008	
5.0	.127	.088	.059	.109	.076	.051	.075	.053	.036	.043	.031	.021	.014	.010	.007	
6.0	.119	.078	.049	.103	.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	.035	.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:230.17V I:0.1778A P:38.876W PF:0.9502 Freq:49.99Hz Lamp Flux:3479.17x1 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	19.1	20.1	19.3	20.2	20.4	19.0	20.0	19.3	20.2	20.4	
	3H	19.3	20.2	19.5	20.4	20.6	19.2	20.1	19.5	20.3	20.5
	4H	19.4	20.2	19.6	20.4	20.7	19.3	20.2	19.6	20.4	20.6
	6H	19.5	20.3	19.8	20.6	20.8	19.5	20.3	19.8	20.5	20.8
	8H	19.6	20.4	19.9	20.7	20.9	19.6	20.4	19.9	20.6	20.9
	12H	19.7	20.4	20.0	20.7	21.0	19.7	20.4	20.0	20.7	21.0
4H	2H	19.0	19.9	19.3	20.1	20.3	18.9	19.8	19.2	20.0	20.3
	3H	19.3	20.1	19.6	20.3	20.6	19.3	20.0	19.6	20.3	20.6
	4H	19.5	20.2	19.9	20.5	20.8	19.5	20.2	19.8	20.5	20.8
	6H	19.8	20.4	20.2	20.7	21.1	19.8	20.4	20.2	20.7	21.1
	8H	20.0	20.5	20.4	20.9	21.2	20.0	20.5	20.4	20.9	21.2
	12H	20.1	20.6	20.5	21.0	21.4	20.1	20.7	20.6	21.0	21.4
8H	4H	19.5	20.1	19.9	20.4	20.8	19.5	20.1	19.9	20.4	20.8
	6H	20.0	20.4	20.4	20.8	21.2	20.0	20.4	20.4	20.8	21.2
	8H	20.2	20.6	20.7	21.1	21.5	20.3	20.7	20.7	21.1	21.5
	12H	20.5	20.8	20.9	21.3	21.7	20.5	20.9	21.0	21.3	21.8
12H	4H	19.5	20.0	19.9	20.4	20.8	19.5	20.0	19.9	20.4	20.8
	6H	20.0	20.4	20.5	20.8	21.3	20.0	20.4	20.4	20.8	21.3
	8H	20.3	20.7	20.8	21.1	21.6	20.3	20.7	20.8	21.1	21.6
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 1.8 / - 1.9					+ 1.8 / - 1.8					
1.5H	+ 3.4 / - 1.7					+ 3.4 / - 1.7					
2.0H	+ 2.3 / - 0.7					+ 1.9 / - 0.6					

CIE Pub.117, 3479 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 4.3)
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:230.17V I:0.1778A P:38.876W PF:0.9502 Freq:49.99Hz Lamp Flux:3479.17x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:

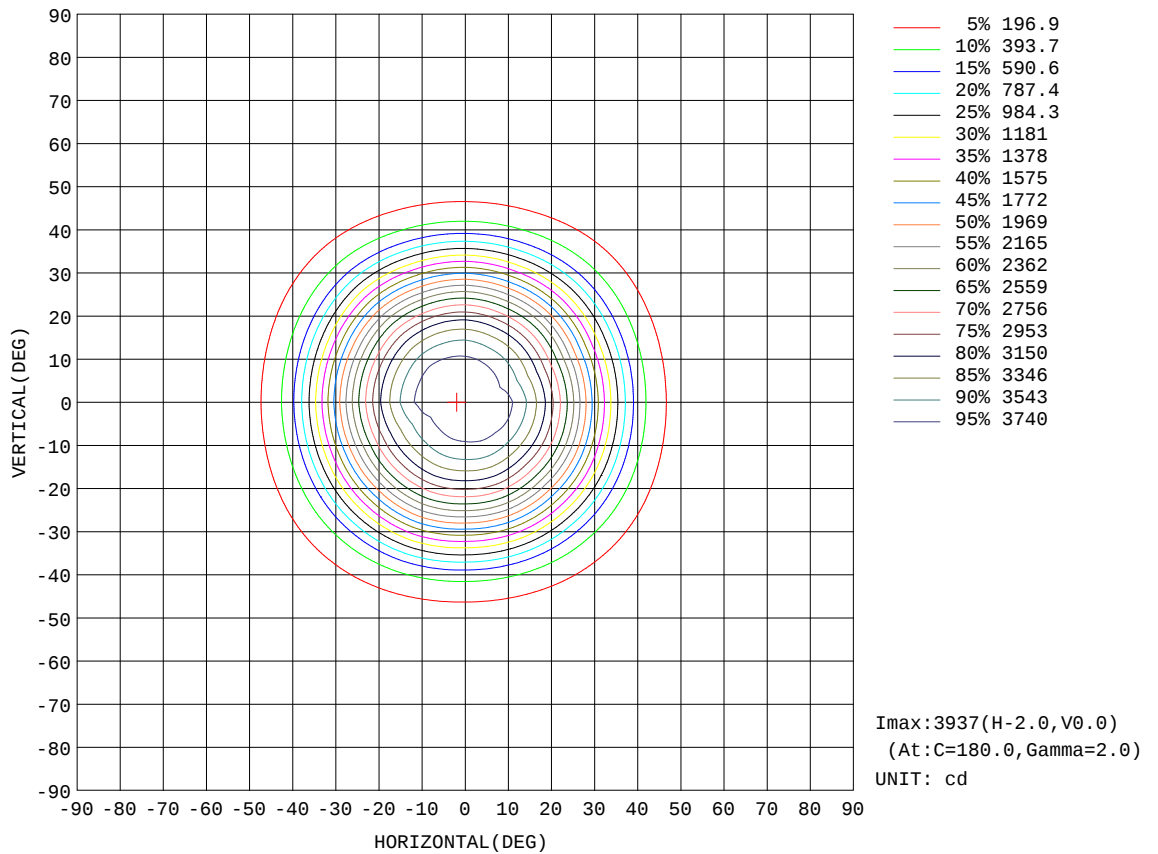
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	85	78	74	84	78	74	83	77	73	70
0.80	92	86	82	92	86	82	90	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	95	103	98	95	101	97	94	89
2.00	107	103	99	106	102	98	103	100	97	92
2.50	109	105	102	108	104	101	104	101	99	93
3.00	111	107	104	109	106	103	106	103	101	94
4.00	113	110	108	111	108	106	107	105	103	96
5.00	114	112	110	112	110	108	108	107	105	97
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:230.17V I:0.1778A P:38.876W PF:0.9502 Freq:49.99Hz Lamp Flux:3479.17x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:

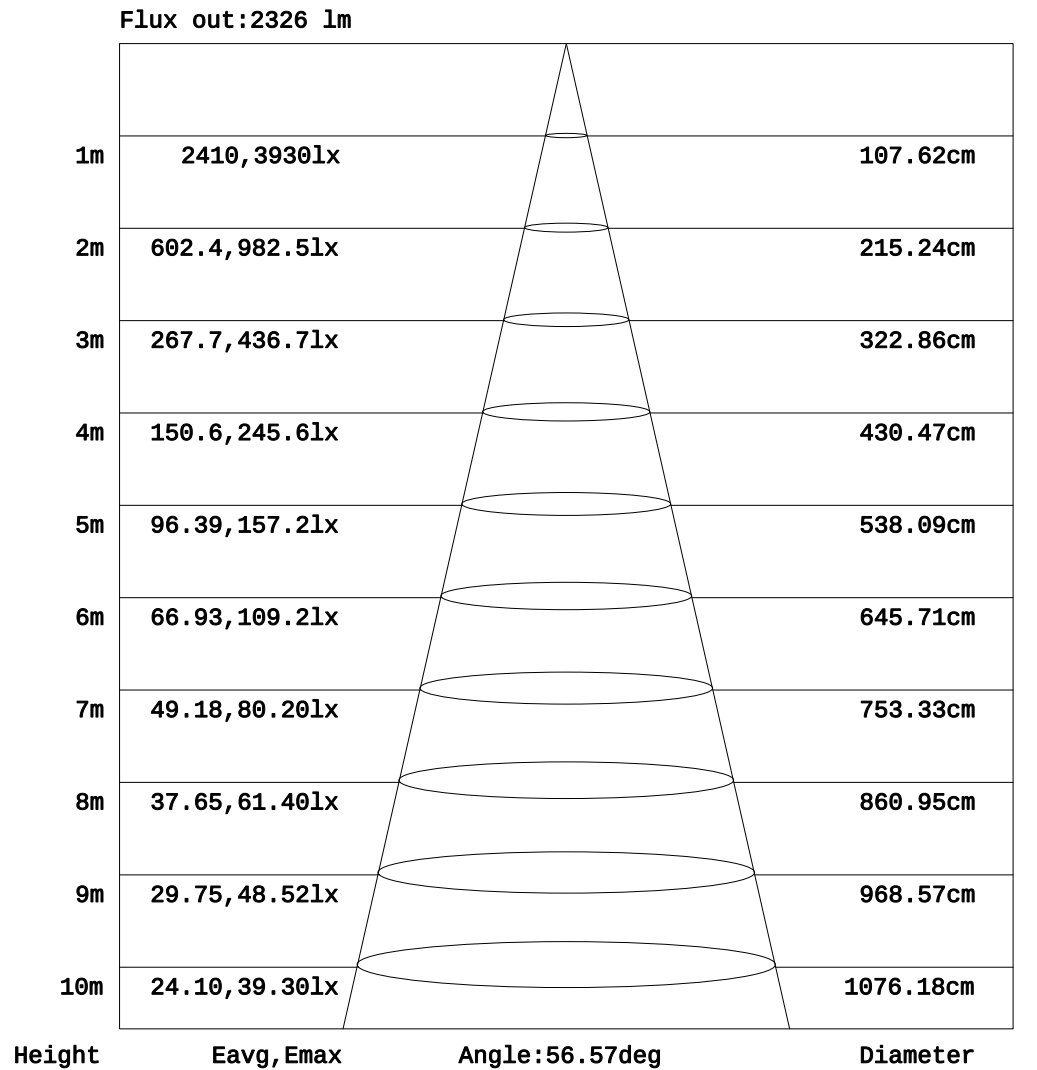


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-06-22

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:230.17V I:0.1778A P:38.876W PF:0.9502 Freq:49.99Hz Lamp Flux:3479.17x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:



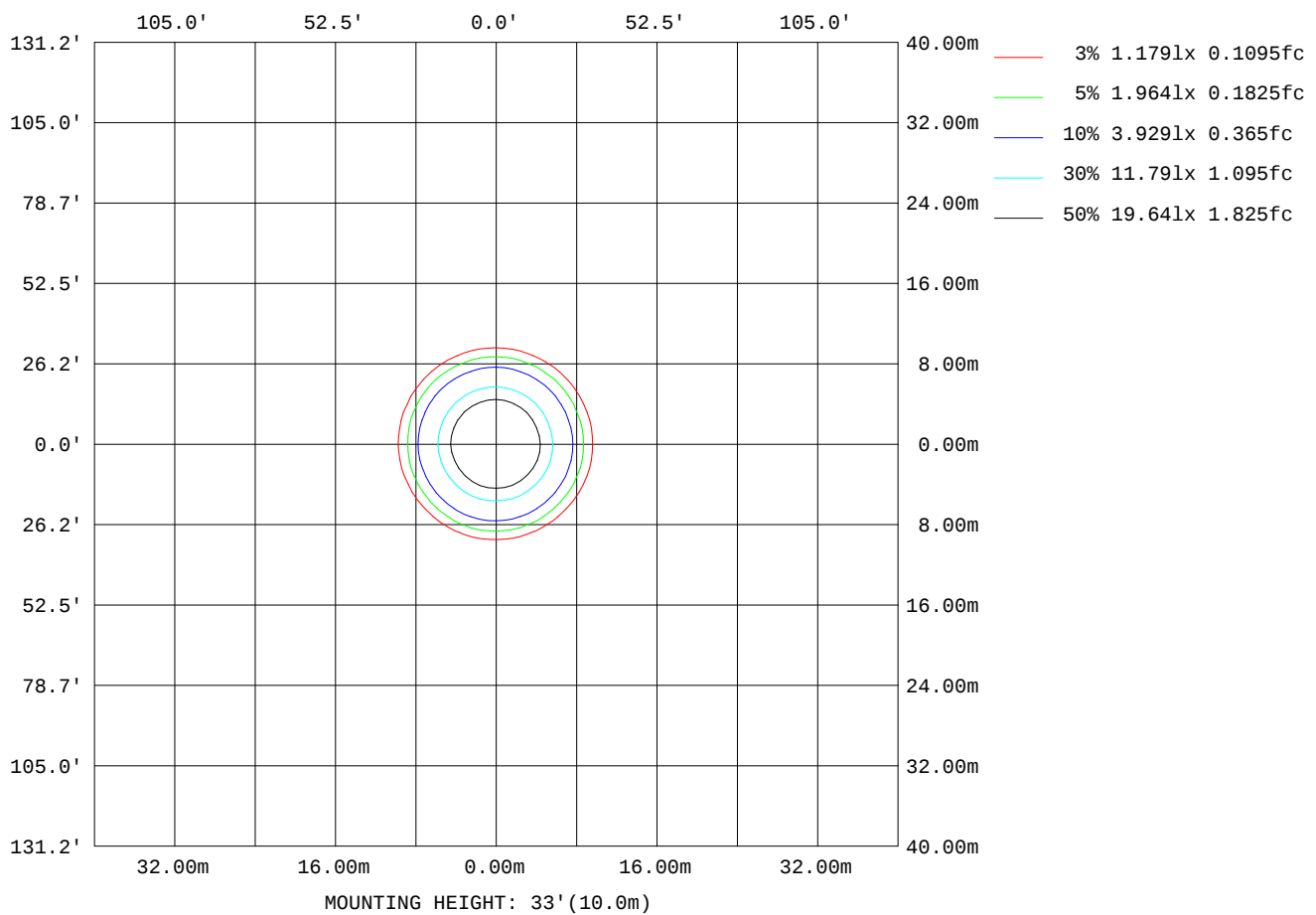
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:230.17V I:0.1778A P:38.876W PF:0.9502 Freq:49.99Hz Lamp Flux:3479.17x1 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:230.17V I:0.1778A P:38.876W PF:0.9502 Freq:49.99Hz Lamp Flux:3479.17x1 lm		
NAME: TH41-BKTC40C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 77mm	Shielding Angle:

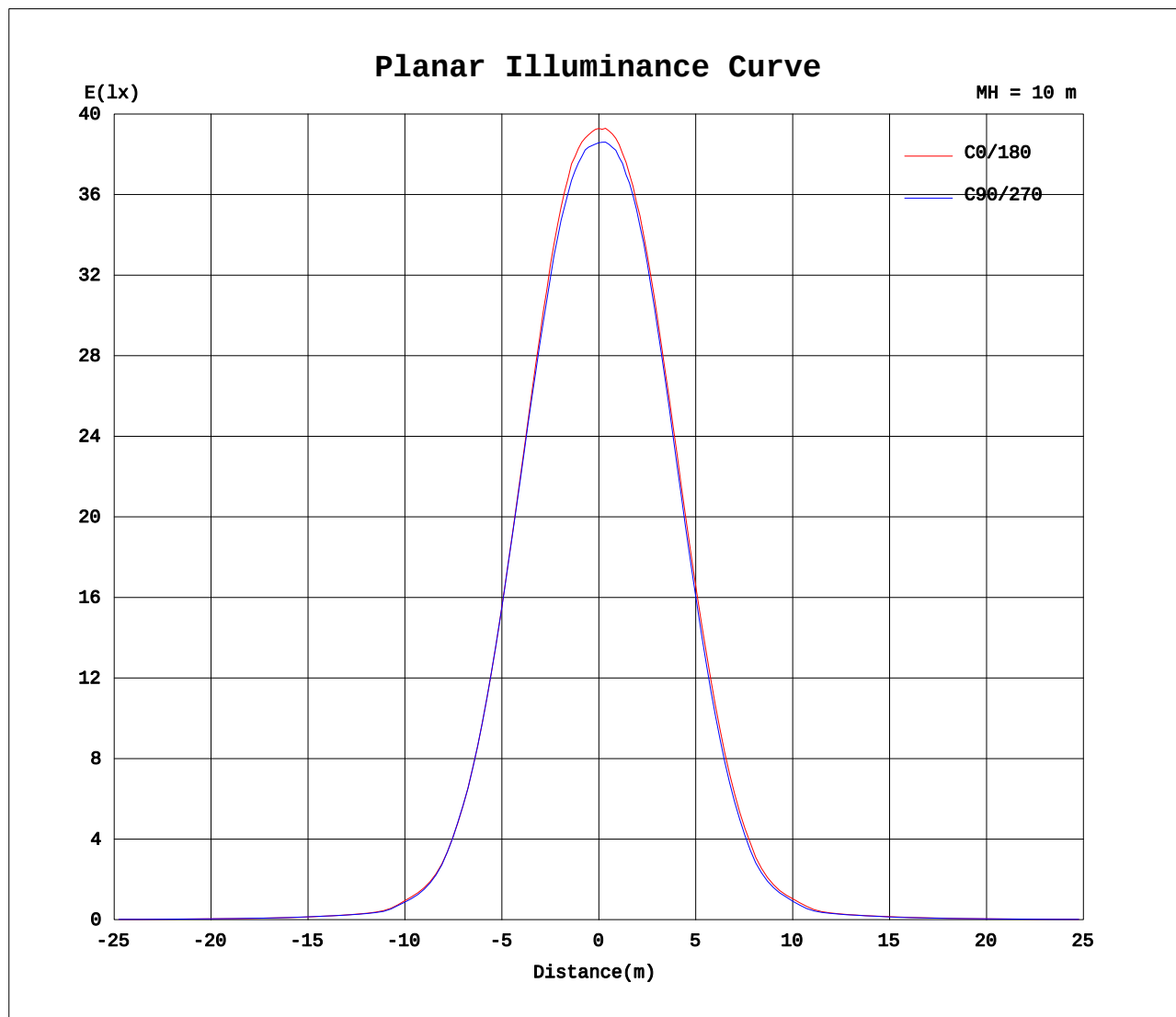
AvgL	cd/m2
L_0~180(65)av	27196
L_0~180(75)av	24040
L_0~180(85)av	33143
L_90~270(65)av	26733
L_90~270(75)av	23822
L_90~270(85)av	33153
L_45(65)av	26679
L_45(75)av	23728
L_45(85)av	32887

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:

```