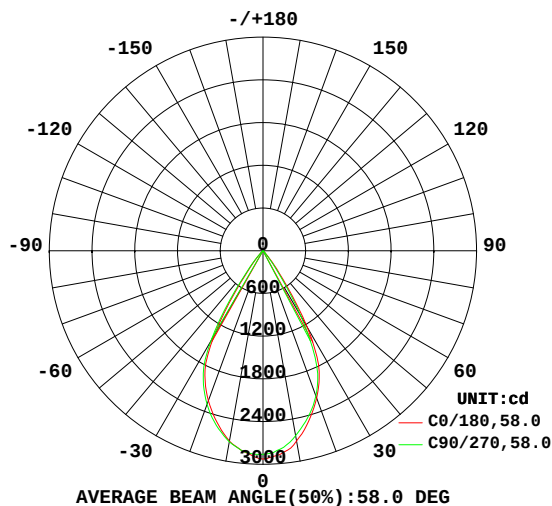


LUMINAIRE PHOTOMETRIC TEST REPORT

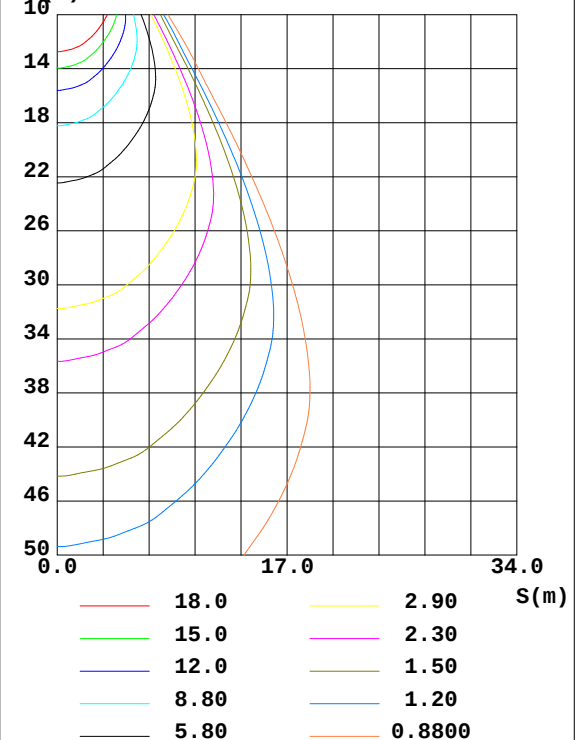
Test:U:230.76V I:0.1251A P:28.098W PF:0.9736 Freq:49.99Hz Lamp Flux:2235.94x1 lm		
NAME: TH30 BKTC30C021P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 66mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 79.58 lm/W			
MODEL	TB25141209 3000K	I _{max} (cd)	2924	S/MH(C0/180)	0.86
NOMINAL POWER(W)	30	LOR(%)	100.0	S/MH(C90/270)	0.88
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	2235.9	η UP, DN(C0-180)	0.0, 48.6
NOMINAL FLUX(lm)	2235.94	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 51.4
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: 2024-05-20

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:

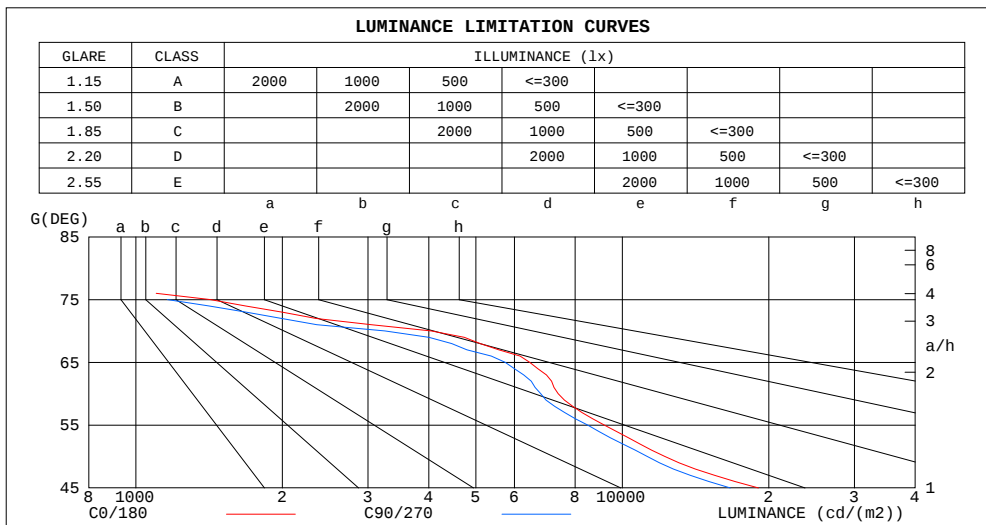
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	2715	2648	2638	2674	2716	2737	2727	2640	0- 10	265.0	265.0	11.9, 11.9
20	2204	2164	2172	2217	2242	2335	2297	2140	10- 20	691.9	956.9	42.8, 42.8
30	1245	1046	1086	1362	1374	1523	1463	1178	20- 30	837.4	1794	80.2, 80.2
40	157.0	109.6	112.0	184.5	169.7	236.8	222.3	140.3	30- 40	365.0	2159	96.6, 96.6
50	26.88	25.09	24.72	30.47	28.80	33.08	30.53	26.79	40- 50	48.40	2208	98.7, 98.7
60	12.62	11.66	11.62	13.33	12.93	14.79	13.98	12.41	50- 60	17.22	2225	99.5, 99.5
70	4.732	3.171	3.802	5.848	5.628	6.715	6.182	4.359	60- 70	9.117	2234	99.9, 99.9
80	0.1777	0.1545	0.1701	0.2093	0.1120	0.1348	0.1080	0.0770	70- 80	1.890	2236	100, 100
90	0.0849	0.1120	0.1120	0.0926	0.0116	0.0154	0.0154	0.0116	80- 90	0.0941	2236	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: 2024-05-20

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:230.76V I:0.1251A P:28.098W PF:0.9736 Freq:49.99Hz Lamp Flux:2235.94x1 lm		
NAME: TH30 BKTC30C021P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 66mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	389	402
80	299	286
75	1422	1160
70	4046	3251
65	6448	5745
60	7378	6797
55	9180	8486
50	12226	11245
45	19037	16662

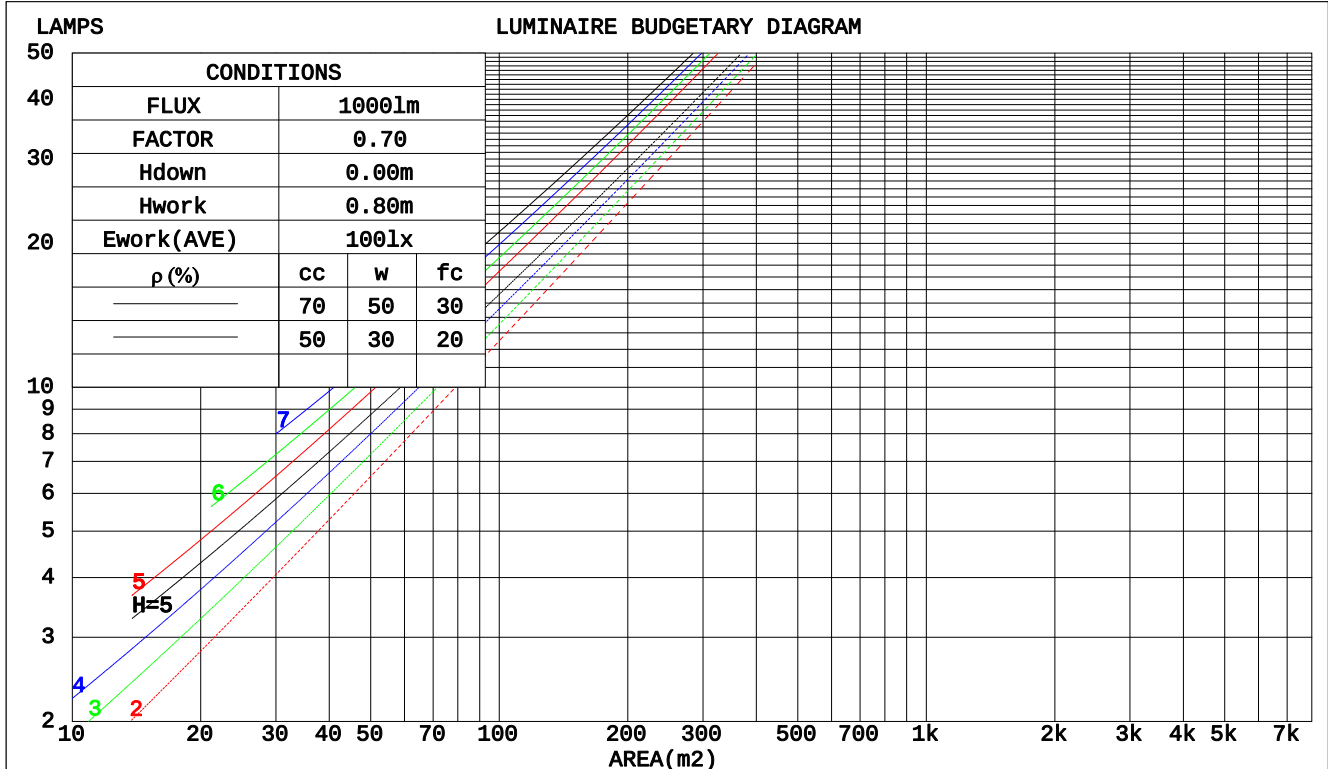
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-05-20

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:230.76V I:0.1251A P:28.098W PF:0.9736 Freq:49.99Hz Lamp Flux:2235.94x1 lm		
NAME: TH30 BKTC30C021P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 66mm	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	1.00
1.0	1.11	1.09	1.07	1.09	1.07	1.05	1.05	1.03	1.02	1.01	.99	.99	.98	.97	.96	.94
2.0	1.04	1.00	.97	1.02	.99	.96	.99	.96	.94	.96	.94	.92	.93	.91	.90	.88
3.0	.97	.93	.89	.96	.92	.88	.93	.90	.87	.91	.88	.86	.89	.86	.84	.83
4.0	.92	.86	.82	.90	.86	.82	.88	.84	.81	.86	.83	.80	.84	.82	.79	.78
5.0	.86	.81	.77	.85	.80	.76	.83	.79	.76	.82	.78	.75	.80	.77	.74	.73
6.0	.81	.76	.72	.80	.75	.71	.79	.74	.71	.78	.74	.70	.76	.73	.70	.69
7.0	.77	.71	.67	.76	.71	.67	.75	.70	.67	.74	.69	.66	.73	.69	.66	.65
8.0	.73	.67	.63	.72	.67	.63	.71	.66	.63	.70	.66	.63	.69	.65	.62	.61
9.0	.69	.63	.60	.68	.63	.59	.68	.63	.59	.67	.62	.59	.66	.62	.59	.58
10.0	.65	.60	.56	.65	.60	.56	.64	.59	.56	.63	.59	.56	.63	.59	.56	.55



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2024-05-20

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:230.76V I:0.1251A P:28.098W PF:0.9736 Freq:49.99Hz Lamp Flux:2235.94x1 lm					
NAME: TH30 BKTC30C021P			TYPE:		WEIGHT:
SPEC.: black RA90 3000K+5700K			DIM.:		SERIAL No.:
MFR.:			SUR.: 66mm		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	.170	.097	.031	.163	.093	.030	.151	.087	.028	.139	.080	.026	.129	.075	.024	
2.0	.162	.089	.027	.157	.086	.027	.146	.081	.025	.136	.076	.024	.127	.072	.023	
3.0	.154	.082	.025	.149	.080	.024	.141	.076	.023	.132	.072	.022	.125	.069	.021	
4.0	.147	.076	.022	.143	.075	.022	.135	.072	.021	.128	.069	.021	.121	.066	.020	
5.0	.140	.071	.021	.136	.070	.020	.130	.068	.020	.124	.065	.019	.118	.063	.019	
6.0	.134	.067	.019	.131	.066	.019	.125	.064	.019	.119	.062	.018	.114	.060	.018	
7.0	.128	.063	.018	.125	.062	.018	.120	.061	.017	.115	.059	.017	.111	.057	.017	
8.0	.123	.060	.017	.120	.059	.017	.116	.058	.016	.111	.056	.016	.107	.055	.016	
9.0	.118	.057	.016	.116	.056	.016	.111	.055	.016	.108	.054	.015	.104	.053	.015	
10.0	.113	.054	.015	.111	.054	.015	.108	.053	.015	.104	.052	.015	.101	.051	.015	

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	.171	.157	.145	.146	.135	.125	.100	.093	.087	.057	.054	.050	.018	.017	.016	
2.0	.155	.133	.114	.133	.114	.098	.091	.079	.069	.052	.046	.040	.017	.015	.013	
3.0	.142	.114	.091	.122	.098	.079	.084	.068	.055	.048	.040	.032	.016	.013	.011	
4.0	.132	.099	.074	.113	.085	.064	.078	.059	.045	.045	.035	.027	.014	.011	.009	
5.0	.123	.087	.061	.105	.075	.053	.073	.053	.037	.042	.031	.022	.014	.010	.007	
6.0	.115	.078	.051	.099	.067	.044	.068	.047	.031	.040	.028	.019	.013	.009	.006	
7.0	.109	.070	.043	.093	.061	.037	.065	.043	.026	.038	.025	.016	.012	.008	.005	
8.0	.103	.064	.037	.089	.055	.032	.061	.039	.023	.036	.023	.014	.012	.008	.004	
9.0	.098	.058	.032	.084	.051	.028	.058	.036	.020	.034	.021	.012	.011	.007	.004	
10.0	.093	.054	.028	.081	.047	.024	.056	.033	.017	.033	.020	.010	.011	.006	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-05-20

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:230.76V I:0.1251A P:28.098W PF:0.9736 Freq:49.99Hz Lamp Flux:2235.94x1 lm											
NAME: TH30 BKTC30C021P					TYPE:			WEIGHT:			
SPEC.: black RA90 3000K+5700K					DIM.:			SERIAL No.:			
MFR.:					SUR.: 66mm			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		17.3	18.2	17.5	18.3	18.5	16.2	17.1	16.4	17.3	17.4
	3H	17.2	18.0	17.4	18.2	18.4	16.1	16.9	16.3	17.1	17.3
	4H	17.1	17.8	17.3	18.1	18.3	16.0	16.8	16.2	17.0	17.2
	6H	17.0	17.7	17.3	18.0	18.2	15.9	16.6	16.2	16.9	17.1
	8H	16.9	17.6	17.2	17.9	18.2	15.8	16.5	16.1	16.8	17.1
	12H	16.9	17.6	17.2	17.8	18.1	15.8	16.5	16.1	16.7	17.0
4H	2H	17.1	17.8	17.3	18.1	18.3	16.0	16.8	16.2	17.0	17.2
	3H	16.9	17.6	17.2	17.9	18.1	15.8	16.5	16.2	16.8	17.1
	4H	16.8	17.4	17.2	17.7	18.0	15.7	16.4	16.1	16.7	17.0
	6H	16.7	17.3	17.1	17.6	17.9	15.7	16.2	16.0	16.5	16.9
	8H	16.7	17.2	17.1	17.5	17.9	15.6	16.1	16.0	16.4	16.8
	12H	16.6	17.1	17.0	17.5	17.8	15.5	16.0	16.0	16.4	16.8
8H	4H	16.7	17.2	17.1	17.5	17.9	15.6	16.1	16.0	16.5	16.8
	6H	16.6	17.0	17.0	17.4	17.8	15.5	15.9	15.9	16.3	16.7
	8H	16.5	16.9	17.0	17.3	17.7	15.4	15.8	15.9	16.2	16.7
	12H	16.5	16.8	16.9	17.2	17.7	15.4	15.7	15.9	16.1	16.6
12H	4H	16.6	17.1	17.0	17.5	17.8	15.6	16.0	16.0	16.4	16.8
	6H	16.5	16.9	17.0	17.3	17.7	15.4	15.8	15.9	16.2	16.7
	8H	16.5	16.8	16.9	17.2	17.7	15.4	15.7	15.9	16.1	16.6
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 4.3 / - 7.6					+ 4.2 / - 6.5					
1.5H	+ 6.8 / - 6.7					+ 6.6 / - 5.4					
2.0H	+ 3.4 / - 1.7					+ 3.0 / - 1.7					

CIE Pub.117, 2236 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.8)
Area: 0.00342 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-05-20

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:230.76V I:0.1251A P:28.098W PF:0.9736 Freq:49.99Hz Lamp Flux:2235.94x1 lm		
NAME: TH30 BKTC30C021P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 66mm	Shielding Angle:

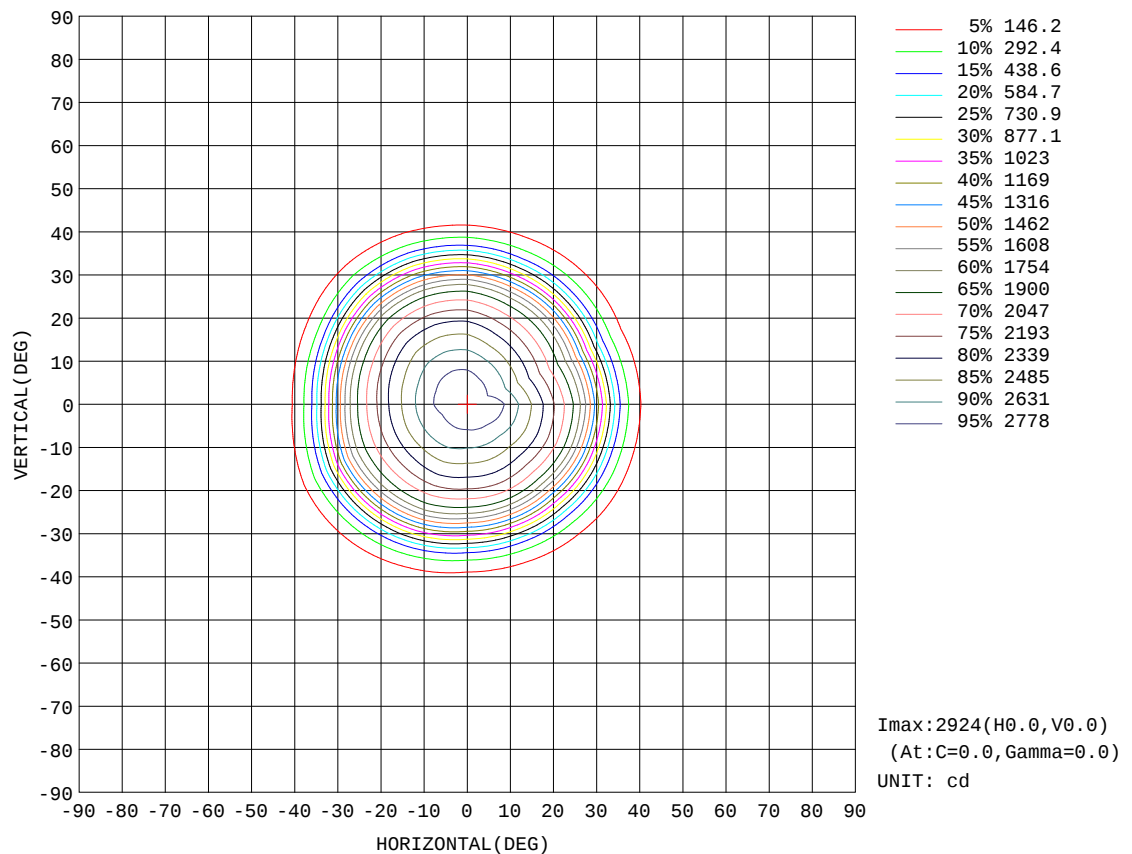
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	89	83	80	89	83	80	88	83	80	76
0.80	97	91	88	96	91	87	95	90	87	84
1.00	101	95	92	100	95	92	98	95	91	87
1.25	104	99	96	103	99	96	101	98	95	91
1.50	107	102	99	106	102	99	104	100	98	93
2.00	109	105	102	108	104	102	105	102	100	95
2.50	111	107	104	109	106	104	106	104	102	96
3.00	112	109	107	111	108	105	107	105	103	97
4.00	114	112	110	112	110	108	109	107	105	99
5.00	115	113	112	113	112	110	109	108	107	99
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:2024-05-20

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:230.76V I:0.1251A P:28.098W PF:0.9736 Freq:49.99Hz Lamp Flux:2235.94x1 lm		
NAME: TH30 BKTC30C021P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 66mm	Shielding Angle:



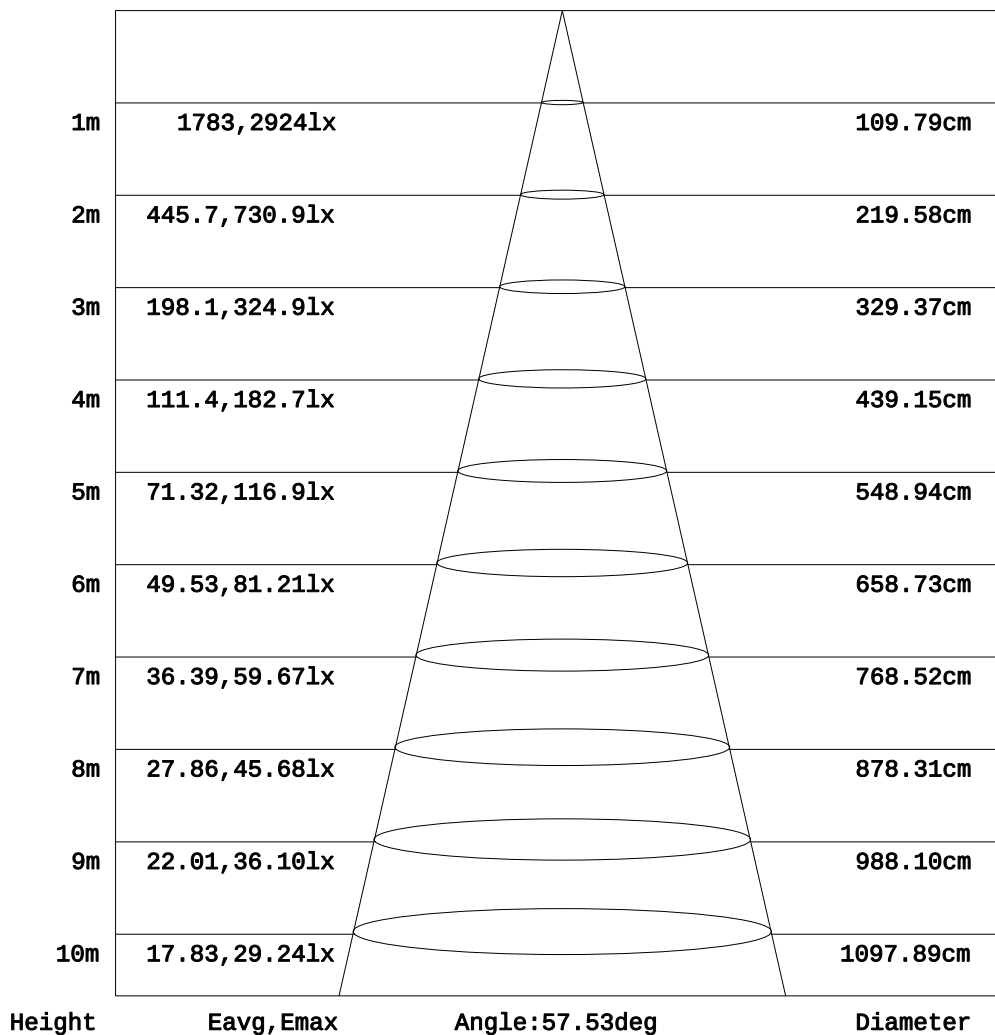
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2024-05-20

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:230.76V I:0.1251A P:28.098W PF:0.9736 Freq:49.99Hz Lamp Flux:2235.94x1 lm		
NAME: TH30 BKTC30C021P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 66mm	Shielding Angle:

Flux out:1721 lm



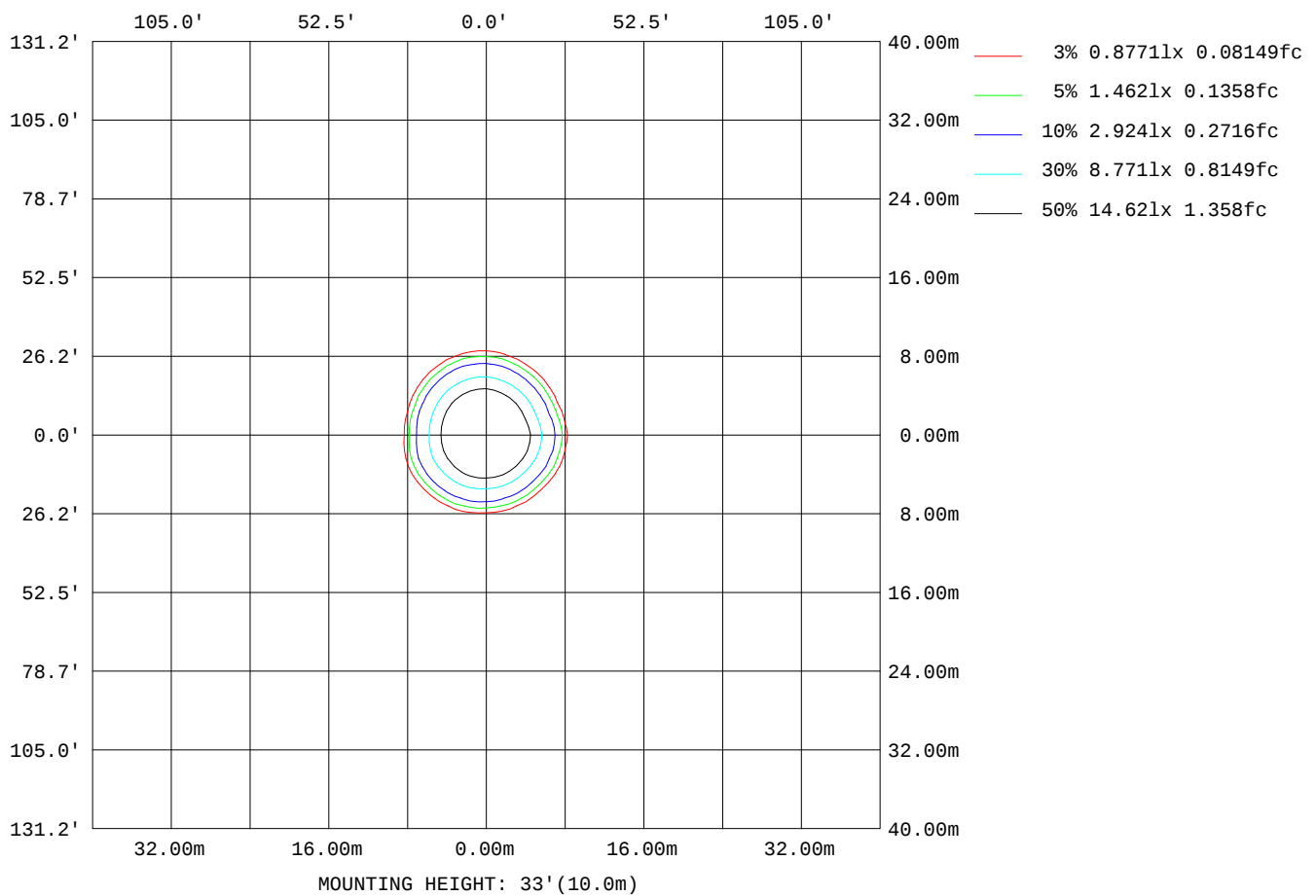
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-05-20

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:230.76V I:0.1251A P:28.098W PF:0.9736 Freq:49.99Hz Lamp Flux:2235.94x1 lm		
NAME: TH30 BKTC30C021P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 66mm	Shielding Angle:



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2024-05-20

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:230.76V I:0.1251A P:28.098W PF:0.9736 Freq:49.99Hz Lamp Flux:2235.94x1 lm		
NAME: TH30 BKTC30C021P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 66mm	Shielding Angle:

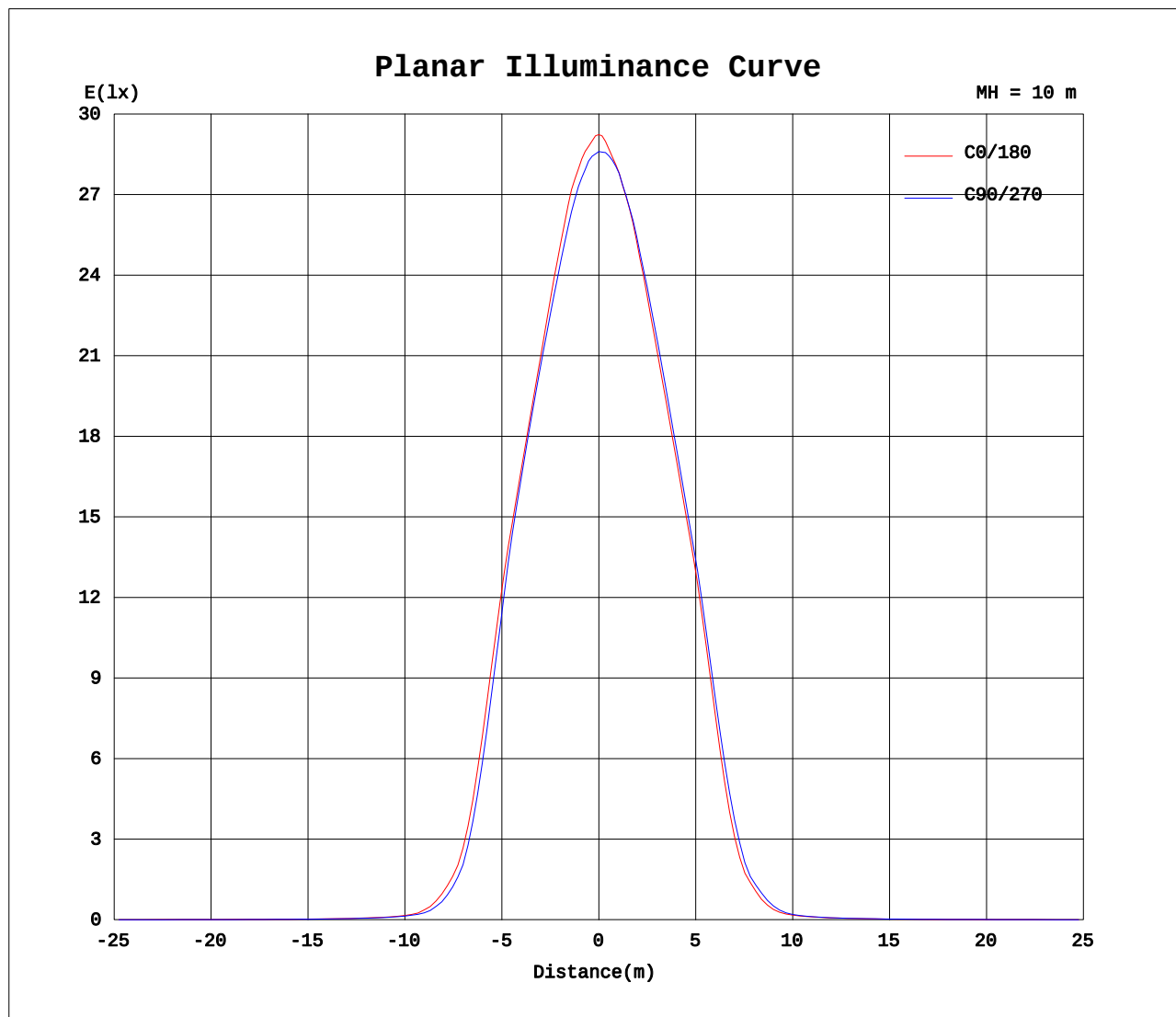
AvgL	cd/m2
L_0~180(65)av	6514
L_0~180(75)av	1575
L_0~180(85)av	272
L_90~270(65)av	6465
L_90~270(75)av	1644
L_90~270(85)av	278
L_45(65)av	6619
L_45(75)av	1760
L_45(85)av	250

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2024-05-20

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: 2024-05-20

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:

```