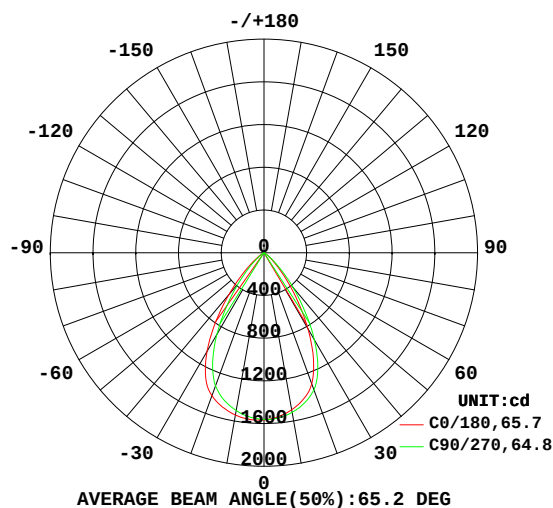


LUMINAIRE PHOTOMETRIC TEST REPORT

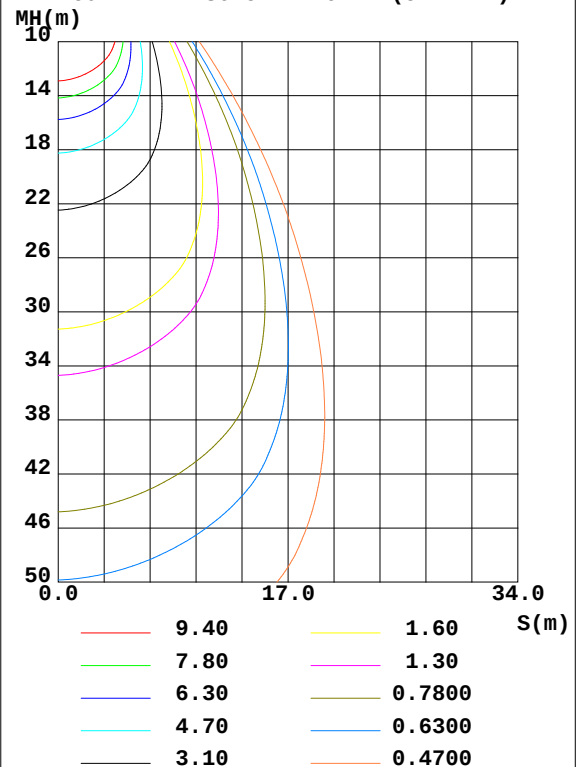
Test:U:220.38V I:0.0911A P:18.528W PF:0.9223 Freq:50.01Hz Lamp Flux:1723.22x1 lm		
NAME: BJ21-BKTC20C023P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 93.01 lm/W			
MODEL	TB25171211 5700K	Imax(cd)	1568	S/MH(C0/180)	1.02
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	0.94
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	1723.2	η UP, DN(C0-180)	0.0, 50.2
NOMINAL FLUX(lm)	1723.22	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 49.8
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.00
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	1.00

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: 2023-11-04

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:

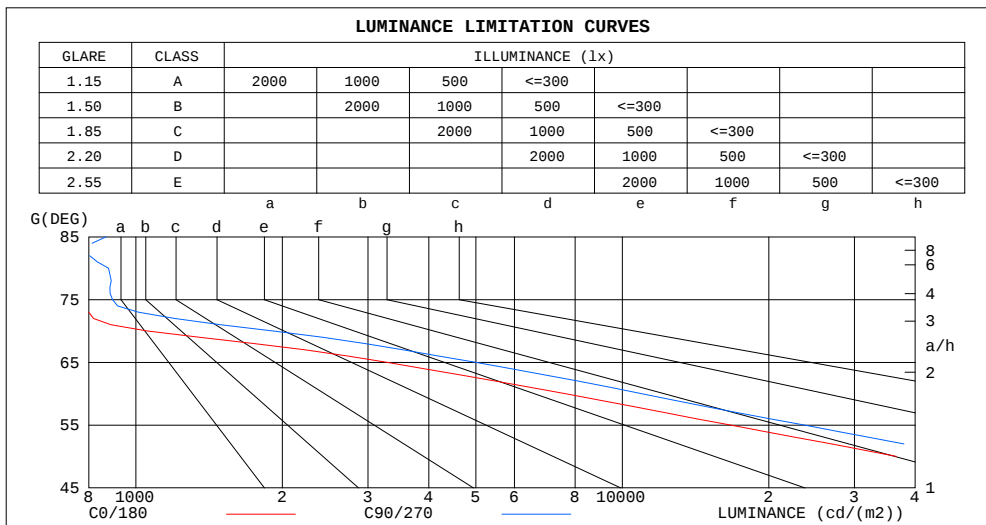
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1493	1507	1518	1529	1543	1531	1501	1481	0- 10	146.8	146.8	8.52, 8.52
20	1307	1353	1367	1377	1424	1415	1328	1268	10- 20	407.4	554.2	32.2, 32.2
30	824.8	891.3	946.6	991.0	1067	1030	881.5	790.5	20- 30	533.5	1088	63.1, 63.1
40	325.7	366.5	420.4	467.8	514.9	467.2	373.1	318.7	30- 40	406.0	1494	86.7, 86.7
50	78.17	93.15	109.5	126.6	142.9	122.7	91.03	74.08	40- 50	177.1	1671	97, 97
60	12.67	15.52	18.19	20.98	24.65	20.59	15.25	12.27	50- 60	43.70	1714	99.5, 99.5
70	1.197	1.434	2.169	2.977	3.199	2.667	1.651	1.163	60- 70	7.598	1722	99.9, 99.9
80	0.4021	0.3906	0.5063	0.5603	0.4317	0.4624	0.3311	0.2386	70- 80	0.9066	1723	100, 100
90	0.2316	0.2046	0.1814	0.1814	0.0425	0.0309	0.0270	0.0232	80- 90	0.2212	1723	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: 2023-11-04

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:220.38V I:0.0911A P:18.528W PF:0.9223 Freq:50.01Hz Lamp Flux:1723.22x1 lm		
NAME: BJ21-BKTC20C023P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	775	868
80	697	878
75	778	895
70	1054	1910
65	3280	4990
60	7634	10956
55	16685	23670
50	36628	51295
45	72430	97690

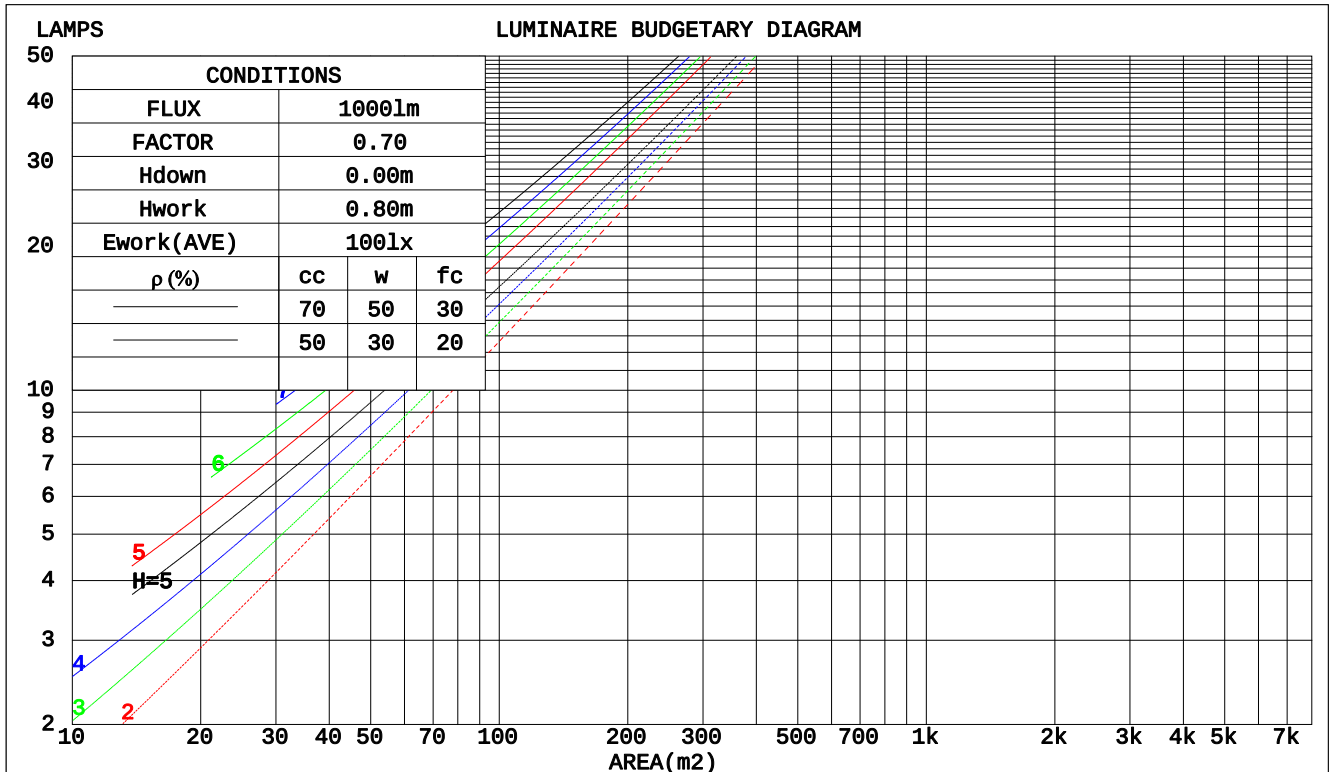
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2023-11-04

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:220.38V I:0.0911A P:18.528W PF:0.9223 Freq:50.01Hz Lamp Flux:1723.22x1 lm		
NAME: BJ21-BKTC20C023P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	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	1.10	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	.96	.93	.97	.94	.91	.94	.91	.89	.91	.89	.87	.85
3.0	.94	.89	.85	.93	.88	.84	.90	.86	.83	.88	.84	.82	.86	.83	.80	.79
4.0	.88	.82	.77	.86	.81	.77	.84	.80	.76	.82	.78	.75	.80	.77	.74	.72
5.0	.81	.75	.71	.80	.75	.70	.79	.74	.70	.77	.72	.69	.75	.71	.68	.67
6.0	.76	.70	.65	.75	.69	.65	.74	.68	.64	.72	.67	.64	.71	.67	.63	.62
7.0	.71	.64	.60	.70	.64	.60	.69	.63	.59	.68	.63	.59	.66	.62	.59	.57
8.0	.66	.60	.56	.66	.60	.55	.65	.59	.55	.64	.59	.55	.63	.58	.55	.53
9.0	.62	.56	.52	.62	.56	.52	.61	.55	.51	.60	.55	.51	.59	.54	.51	.50
10.0	.59	.52	.48	.58	.52	.48	.57	.52	.48	.56	.51	.48	.56	.51	.48	.46



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2023-11-04

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:220.38V I:0.0911A P:18.528W PF:0.9223 Freq:50.01Hz Lamp Flux:1723.22x1 lm					
NAME: BJ21-BKTC20C023P			TYPE:		WEIGHT:
SPEC.: black RA90 3000K+5700K			DIM.:		SERIAL No.:
MFR.:			SUR.: 65mm		Shielding Angle:

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						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.187	.107	.034	.181	.103	.033	.168	.096	.031	.156	.090	.029	.146	.084	.027	
2.0	.181	.099	.030	.175	.097	.030	.165	.092	.028	.155	.087	.027	.146	.082	.026	
3.0	.174	.092	.028	.169	.090	.027	.159	.086	.026	.151	.083	.025	.143	.079	.025	
4.0	.166	.086	.025	.162	.085	.025	.154	.081	.024	.146	.078	.024	.139	.076	.023	
5.0	.158	.081	.023	.155	.079	.023	.148	.077	.023	.141	.074	.022	.135	.072	.022	
6.0	.151	.076	.022	.148	.075	.021	.142	.073	.021	.136	.071	.021	.131	.069	.020	
7.0	.144	.071	.020	.142	.071	.020	.136	.069	.020	.131	.067	.020	.126	.065	.019	
8.0	.138	.067	.019	.136	.067	.019	.131	.065	.019	.126	.064	.018	.122	.062	.018	
9.0	.132	.064	.018	.130	.063	.018	.125	.062	.018	.121	.061	.017	.117	.060	.017	
10.0	.127	.061	.017	.125	.060	.017	.121	.059	.017	.117	.058	.016	.113	.057	.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	.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	.146	.114	.088	.125	.098	.076	.086	.068	.053	.050	.040	.032	.016	.013	.010	
4.0	.136	.099	.071	.117	.086	.061	.080	.060	.043	.047	.035	.026	.015	.011	.008	
5.0	.128	.088	.058	.110	.076	.050	.076	.053	.036	.044	.031	.021	.014	.010	.007	
6.0	.121	.079	.048	.104	.068	.042	.072	.048	.030	.042	.028	.018	.013	.009	.006	
7.0	.115	.071	.041	.099	.062	.035	.068	.043	.025	.040	.025	.015	.013	.008	.005	
8.0	.109	.065	.035	.094	.056	.030	.065	.040	.022	.038	.023	.013	.012	.008	.004	
9.0	.104	.060	.030	.090	.052	.026	.062	.037	.019	.036	.022	.011	.012	.007	.004	
10.0	.100	.056	.026	.086	.048	.023	.060	.034	.016	.035	.020	.010	.011	.007	.003	

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2023-11-04

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:220.38V I:0.0911A P:18.528W PF:0.9223 Freq:50.01Hz Lamp Flux:1723.22x1 lm											
NAME: BJ21-BKTC20C023P					TYPE:			WEIGHT:			
SPEC.: black RA90 3000K+5700K					DIM.:			SERIAL No.:			
MFR.:					SUR.: 65mm			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	21.2	22.3	21.5	22.4	22.6	22.1	23.2	22.4	23.4	23.5	
	3H	21.1	22.0	21.3	22.2	22.4	22.0	22.9	22.2	23.1	
	4H	21.0	21.8	21.2	22.1	22.3	21.9	22.8	22.2	23.0	
	6H	20.9	21.7	21.2	21.9	22.2	21.8	22.6	22.1	22.9	
	8H	20.8	21.6	21.1	21.9	22.1	21.7	22.5	22.1	22.8	
	12H	20.8	21.5	21.1	21.8	22.1	21.7	22.5	22.0	22.7	
4H	2H	21.0	21.9	21.3	22.1	22.3	21.9	22.8	22.2	23.0	
	3H	20.8	21.6	21.1	21.8	22.1	21.7	22.5	22.0	22.8	
	4H	20.7	21.4	21.1	21.7	22.0	21.6	22.3	22.0	22.6	
	6H	20.6	21.2	21.0	21.6	21.9	21.5	22.1	21.9	22.5	
	8H	20.6	21.1	21.0	21.5	21.9	21.5	22.0	21.9	22.4	
	12H	20.5	21.0	20.9	21.4	21.8	21.4	21.9	21.9	22.3	
8H	4H	20.6	21.1	21.0	21.5	21.9	21.5	22.0	21.9	22.4	
	6H	20.5	20.9	20.9	21.3	21.7	21.4	21.8	21.8	22.2	
	8H	20.4	20.8	20.9	21.2	21.7	21.3	21.7	21.8	22.2	
	12H	20.4	20.7	20.8	21.2	21.6	21.3	21.6	21.8	22.1	
12H	4H	20.5	21.0	20.9	21.4	21.8	21.4	21.9	21.8	22.3	
	6H	20.4	20.8	20.9	21.2	21.7	21.3	21.7	21.8	22.2	
	8H	20.4	20.7	20.8	21.2	21.6	21.3	21.6	21.8	22.1	
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 2.5 / -11.0					+ 2.9 / -10.0					
1.5H	+ 4.1 / - 7.4					+ 4.4 / - 7.7					
2.0H	+ 5.7 / -10.5					+ 6.3 / -10.9					

CIE Pub.117, 1723 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 1.9)
Area: 0.00332 m2

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2023-11-04

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:220.38V I:0.0911A P:18.528W PF:0.9223 Freq:50.01Hz Lamp Flux:1723.22x1 lm		
NAME: BJ21-BKTC20C023P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

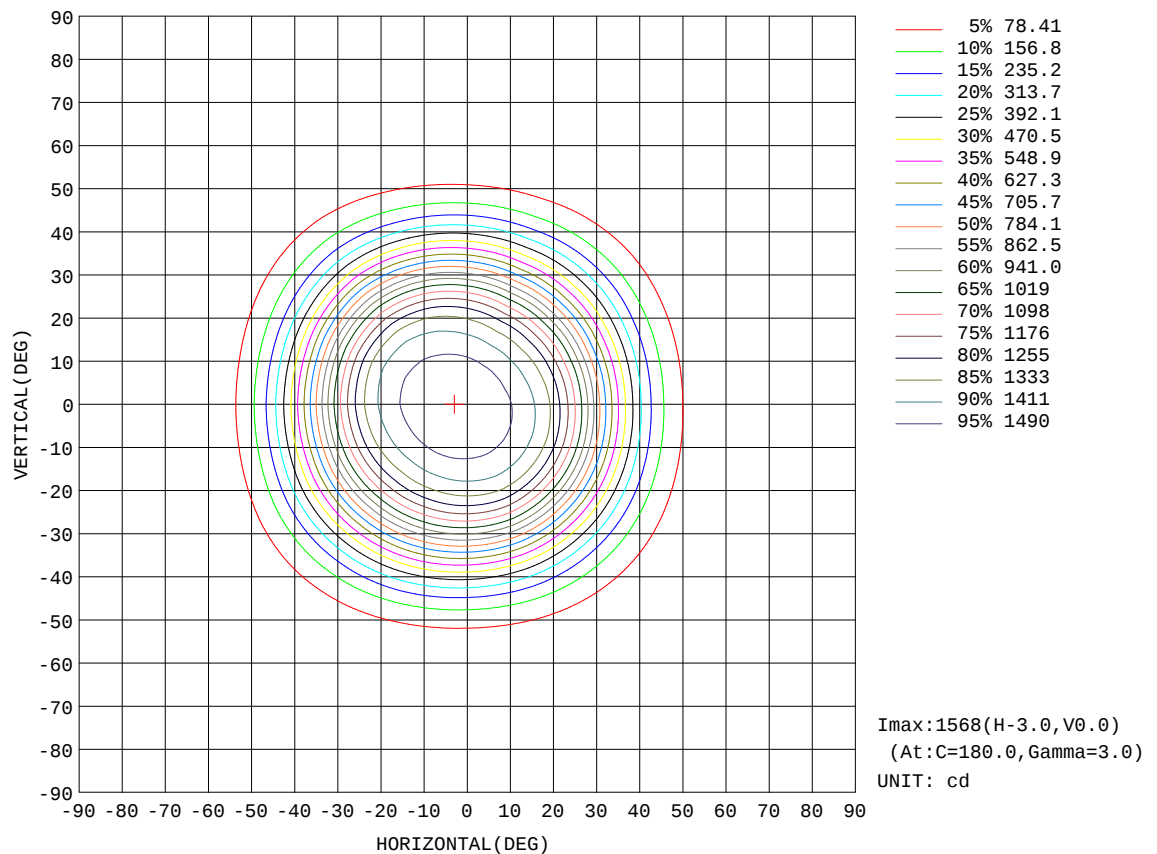
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	83	76	72	82	76	72	82	75	71	67
0.80	91	85	80	91	84	80	89	84	80	76
1.00	97	91	86	96	90	86	94	90	86	81
1.25	101	96	92	100	95	91	98	94	91	86
1.50	104	99	95	103	98	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	108	106	107	105	104	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:2023-11-04

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:220.38V I:0.0911A P:18.528W PF:0.9223 Freq:50.01Hz Lamp Flux:1723.22x1 lm		
NAME: BJ21-BKTC20C023P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

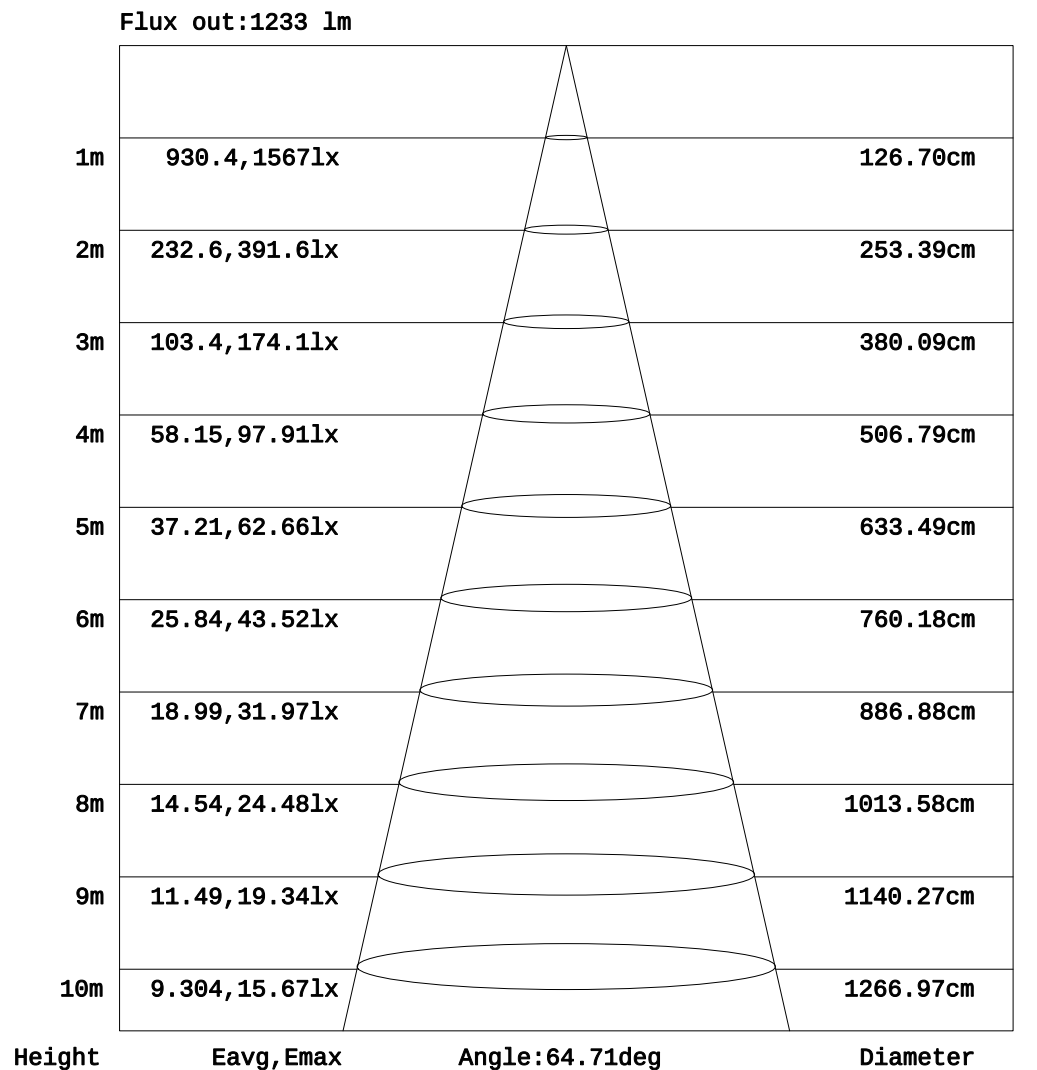


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2023-11-04

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:220.38V I:0.0911A P:18.528W PF:0.9223 Freq:50.01Hz Lamp Flux:1723.22x1 lm		
NAME: BJ21-BKTC20C023P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:



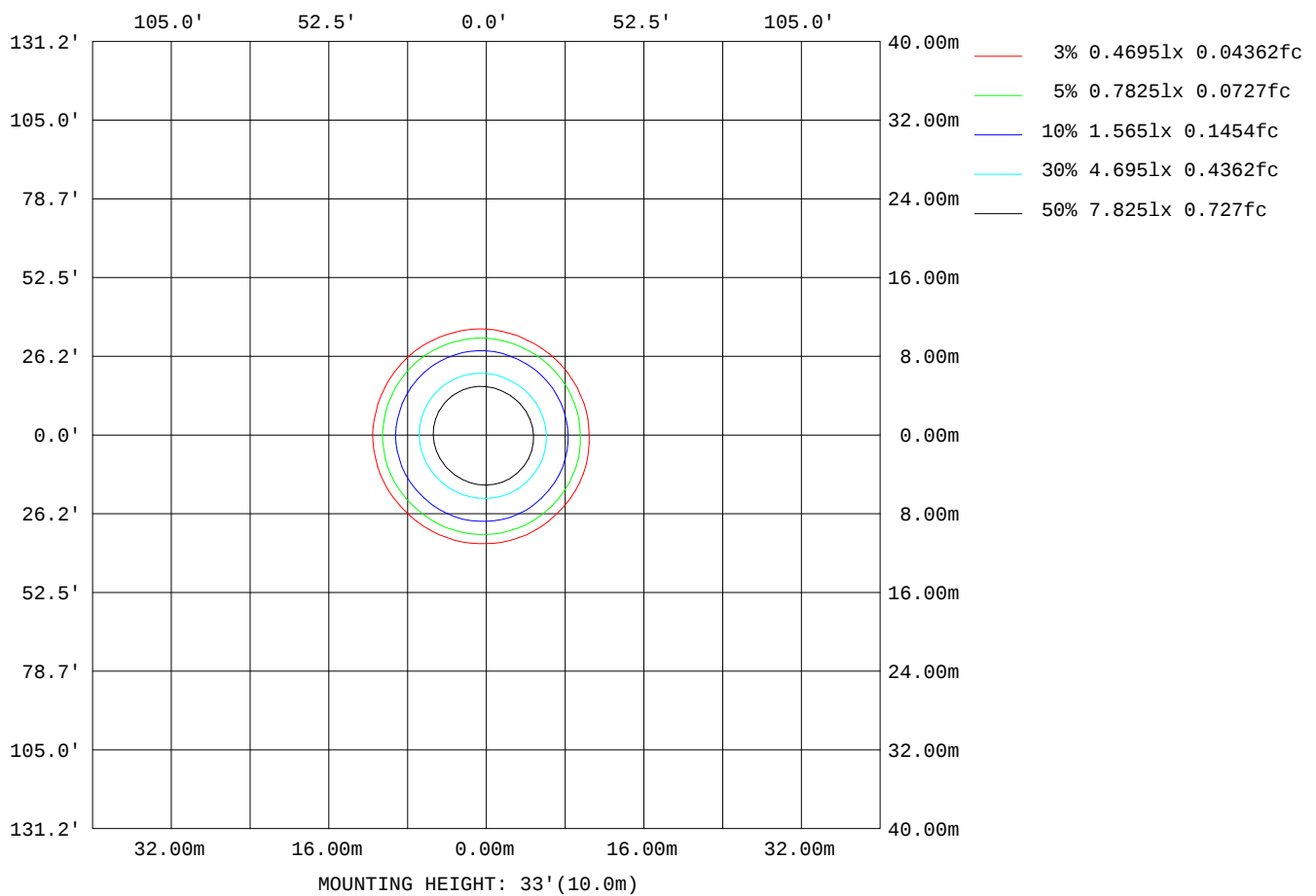
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 25DEG
 Operators:
 Test Date: 2023-11-04

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:220.38V I:0.0911A P:18.528W PF:0.9223 Freq:50.01Hz Lamp Flux:1723.22x1 lm		
NAME: BJ21-BKTC20C023P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2023-11-04

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:220.38V I:0.0911A P:18.528W PF:0.9223 Freq:50.01Hz Lamp Flux:1723.22x1 lm		
NAME: BJ21-BKTC20C023P	TYPE:	WEIGHT:
SPEC.: black RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

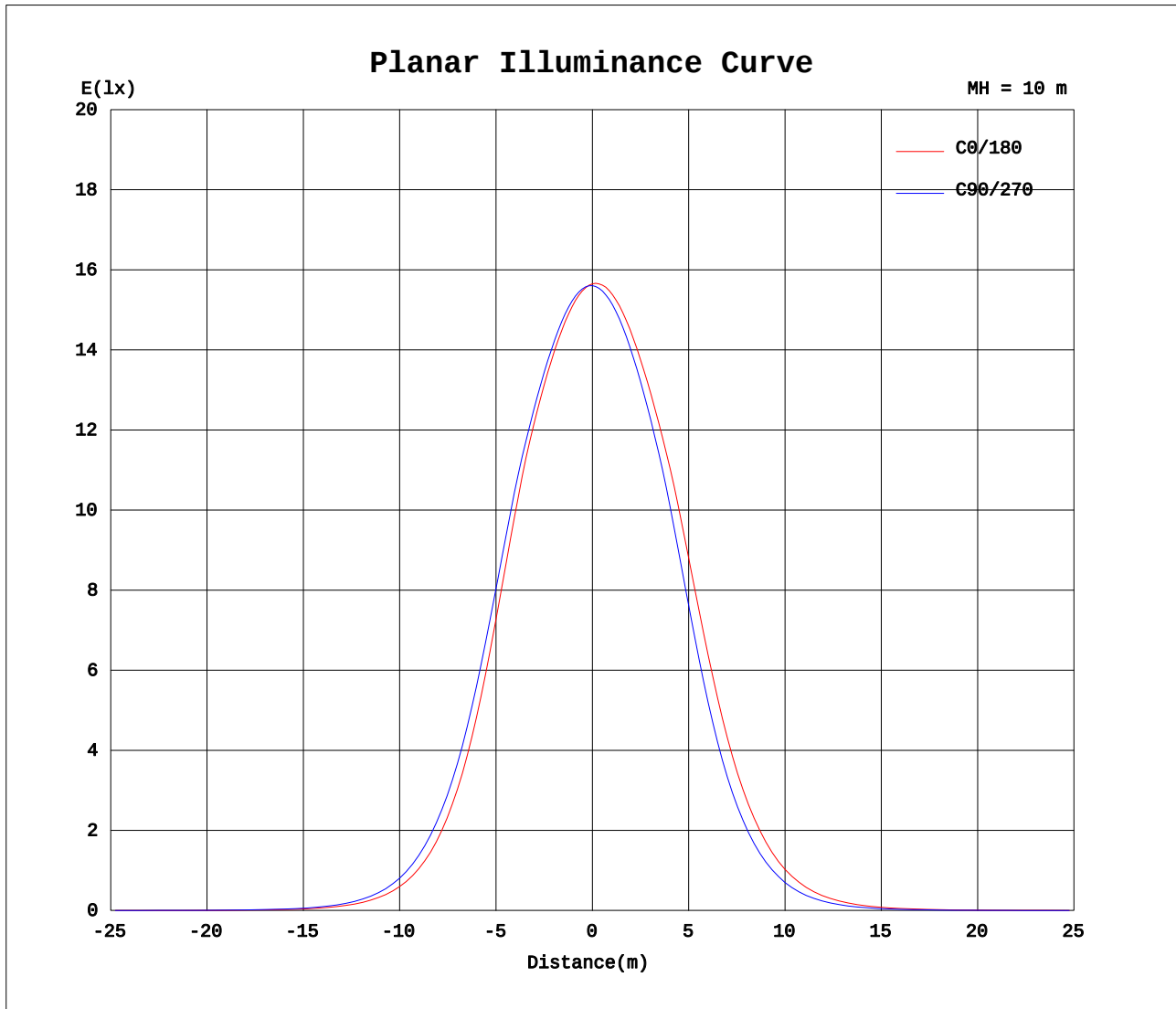
AvgL	cd/m2
L_0~180(65)av	5055
L_0~180(75)av	824
L_0~180(85)av	614
L_90~270(65)av	4555
L_90~270(75)av	804
L_90~270(85)av	613
L_45(65)av	4772
L_45(75)av	811
L_45(85)av	567

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:25DEG
 Operators:
 Test Date:2023-11-04

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: 2023-11-04

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:

```