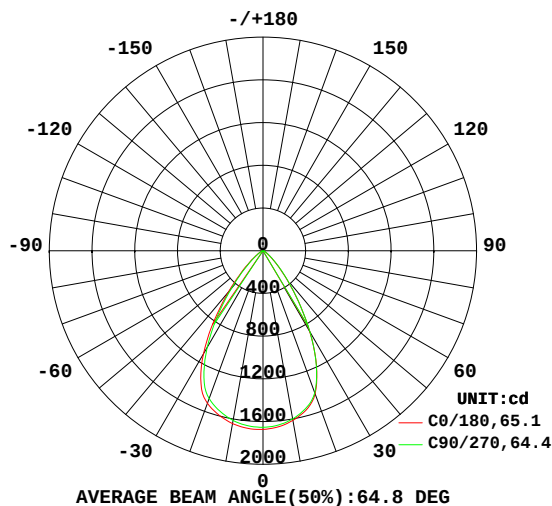


LUMINAIRE PHOTOMETRIC TEST REPORT

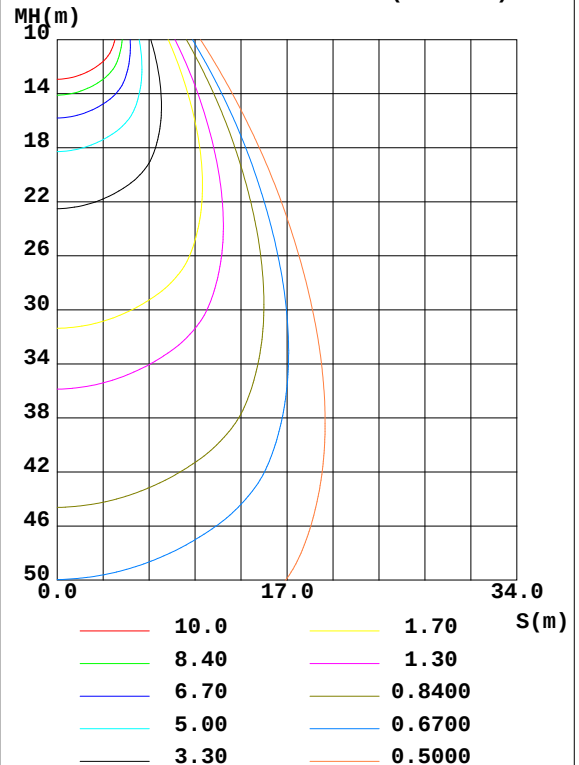
Test:U:220.35V I:0.0923A P:18.786W PF:0.9232 Freq:50.01Hz Lamp Flux:1888.06x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 100.50 lm/W			
MODEL	TB25171211 3000K	I _{max} (cd)	1673	S/MH(C0/180)	1.01
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	0.99
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	1888.1	η UP, DN(C0-180)	0.0, 47.9
NOMINAL FLUX(lm)	1888.06	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 52.1
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:

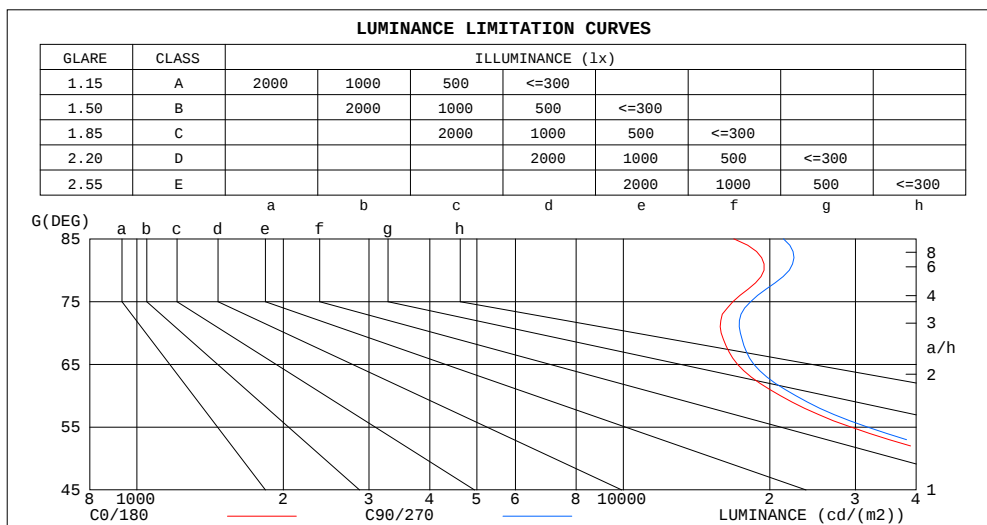
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1613	1595	1599	1615	1643	1629	1614	1601	0- 10	156.0	156.0	8.26, 8.26
20	1428	1376	1418	1509	1520	1490	1473	1484	10- 20	436.9	592.8	31.4, 31.4
30	880.7	816.1	880.9	1057	1116	1110	1046	966.0	20- 30	572.1	1165	61.7, 61.7
40	343.7	314.5	352.8	450.8	502.7	515.3	460.5	384.9	30- 40	422.3	1587	84.1, 84.1
50	102.1	94.34	111.1	139.8	151.2	151.8	133.1	112.1	40- 50	187.2	1775	94, 94
60	34.91	33.97	37.54	44.03	45.19	43.97	40.05	36.29	50- 60	63.63	1838	97.4, 97.4
70	18.04	18.51	19.76	21.12	20.79	19.89	18.51	17.26	60- 70	27.07	1865	98.8, 98.8
80	11.22	11.48	12.65	13.35	12.59	11.53	10.81	10.48	70- 80	15.92	1881	99.6, 99.6
90	0.3011	0.3088	0.2973	0.9497	1.359	1.598	0.3320	0.1197	80- 90	6.926	1888	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:220.35V I:0.0923A P:18.786W PF:0.9232 Freq:50.01Hz Lamp Flux:1888.06x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	16868	21341
80	19470	21939
75	16810	18274
70	15883	17403
65	17165	18545
60	21030	22617
55	29365	31758
50	47848	52048
45	80900	85799

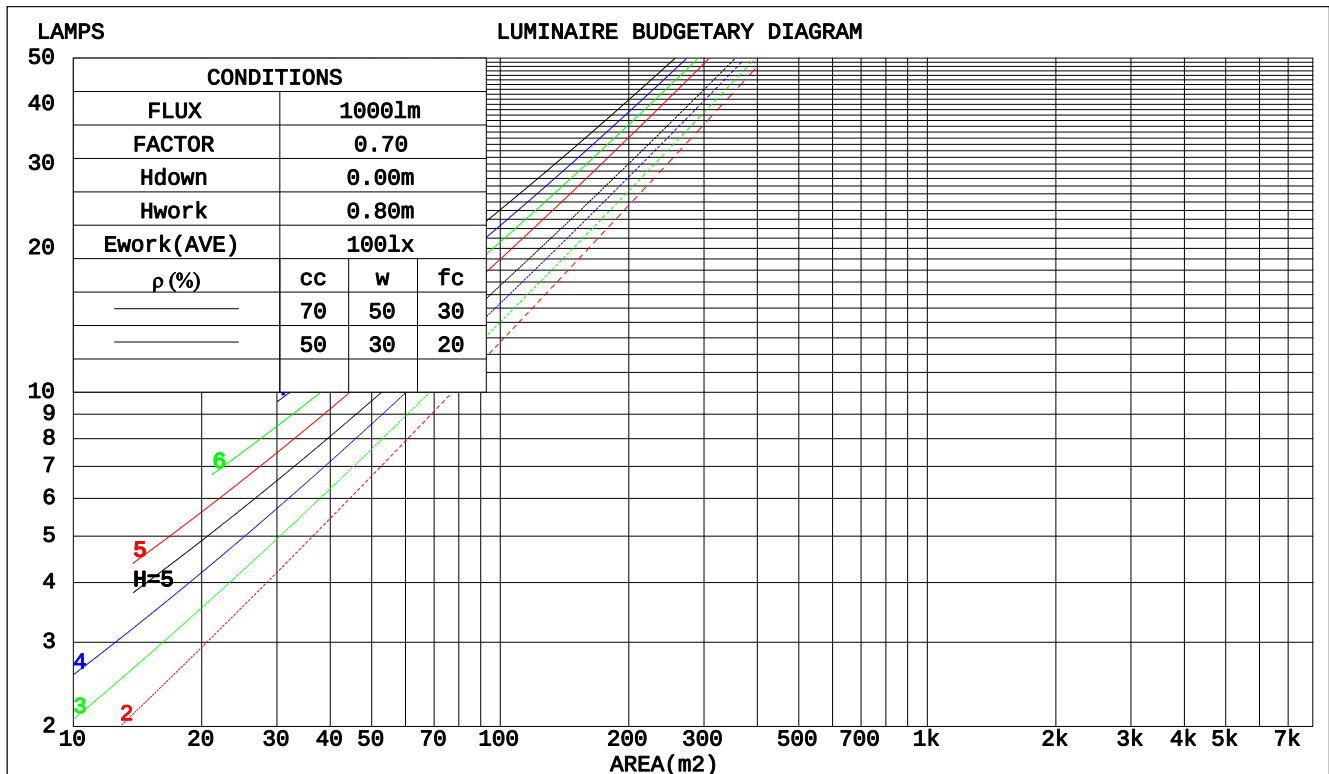
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2023-11-04

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:220.35V I:0.0923A P:18.786W PF:0.9232 Freq:50.01Hz Lamp Flux:1888.06x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white 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	RCR:Room Cavity Ratio						Coefficients of Utilization(CU)									
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	1.07	1.04	1.07	1.05	1.03	1.03	1.01	.00	.00	.98	.97	.96	.95	.94	.92
2.0	1.01	.97	.93	.99	.95	.92	.96	.93	.90	.93	.90	.88	.90	.88	.86	.84
3.0	.93	.88	.83	.92	.87	.83	.89	.85	.81	.87	.83	.80	.84	.81	.79	.77
4.0	.86	.80	.76	.85	.79	.75	.83	.78	.74	.81	.77	.73	.79	.75	.72	.71
5.0	.80	.74	.69	.79	.73	.69	.77	.72	.68	.76	.71	.67	.74	.70	.67	.65
6.0	.75	.68	.63	.74	.68	.63	.72	.67	.63	.71	.66	.62	.69	.65	.62	.60
7.0	.70	.63	.59	.69	.63	.58	.68	.62	.58	.66	.61	.58	.65	.61	.57	.56
8.0	.65	.59	.54	.65	.58	.54	.63	.58	.54	.62	.57	.54	.61	.57	.53	.52
9.0	.61	.55	.50	.61	.55	.50	.60	.54	.50	.59	.54	.50	.58	.53	.50	.48
10.0	.58	.51	.47	.57	.51	.47	.56	.51	.47	.55	.50	.47	.55	.50	.47	.45



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:220.35V I:0.0923A P:18.786W PF:0.9232 Freq:50.01Hz Lamp Flux:1888.06x1 lm					
NAME: BJ21-WHTC20C023P			TYPE:		WEIGHT:
SPEC.: white 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	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.199	.113	.036	.192	.110	.035	.179	.103	.033	.168	.097	.031	.157	.091	.029	
2.0	.190	.104	.032	.185	.102	.031	.174	.097	.030	.164	.092	.029	.155	.088	.028	
3.0	.181	.096	.029	.176	.094	.028	.167	.090	.027	.158	.087	.027	.150	.083	.026	
4.0	.172	.089	.026	.168	.088	.026	.159	.085	.025	.152	.082	.025	.145	.079	.024	
5.0	.163	.083	.024	.159	.082	.024	.152	.079	.023	.146	.077	.023	.140	.075	.022	
6.0	.155	.078	.022	.152	.077	.022	.146	.075	.022	.140	.073	.021	.134	.071	.021	
7.0	.148	.073	.021	.145	.072	.021	.139	.070	.020	.134	.069	.020	.129	.067	.020	
8.0	.141	.069	.019	.138	.068	.019	.133	.067	.019	.129	.065	.019	.124	.064	.019	
9.0	.135	.065	.018	.132	.064	.018	.128	.063	.018	.124	.062	.018	.120	.061	.018	
10.0	.129	.062	.017	.127	.061	.017	.123	.060	.017	.119	.059	.017	.115	.058	.017	

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	.173	.157	.143	.148	.135	.123	.101	.093	.085	.058	.054	.050	.019	.017	.016		
2.0	.159	.132	.110	.136	.114	.095	.093	.079	.066	.054	.046	.039	.017	.015	.013		
3.0	.147	.114	.087	.126	.098	.075	.087	.068	.053	.050	.040	.031	.016	.013	.010		
4.0	.138	.099	.070	.118	.086	.061	.081	.060	.043	.047	.035	.025	.015	.011	.008		
5.0	.130	.088	.057	.111	.076	.050	.077	.053	.035	.044	.031	.021	.014	.010	.007		
6.0	.122	.079	.048	.105	.068	.041	.073	.048	.029	.042	.028	.017	.014	.009	.006		
7.0	.116	.071	.040	.100	.062	.035	.069	.043	.025	.040	.026	.015	.013	.008	.005		
8.0	.110	.065	.034	.095	.057	.030	.066	.040	.021	.038	.023	.013	.012	.008	.004		
9.0	.105	.060	.030	.091	.052	.026	.063	.037	.018	.037	.022	.011	.012	.007	.004		
10.0	.101	.056	.026	.087	.049	.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:220.35V I:0.0923A P:18.786W PF:0.9232 Freq:50.01Hz Lamp Flux:1888.06x1 lm											
NAME: BJ21-WHTC20C023P						TYPE:			WEIGHT:		
SPEC.: white 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	2H	20.8	21.8	21.0	22.0	22.2	20.9	22.0	21.1	22.1	22.3
	3H	20.8	21.8	21.1	22.0	22.2	21.0	21.9	21.2	22.1	22.3
	4H	20.9	21.8	21.2	22.0	22.2	21.0	21.9	21.3	22.2	22.4
	6H	21.0	21.8	21.3	22.1	22.3	21.2	22.0	21.5	22.3	22.5
	8H	21.0	21.9	21.3	22.1	22.4	21.2	22.1	21.5	22.3	22.6
	12H	21.0	21.8	21.4	22.1	22.4	21.3	22.1	21.6	22.3	22.6
4H	2H	20.6	21.6	20.9	21.8	22.0	20.8	21.7	21.0	21.9	22.1
	3H	20.8	21.6	21.1	21.8	22.1	20.9	21.7	21.2	22.0	22.3
	4H	20.9	21.6	21.3	21.9	22.2	21.1	21.8	21.4	22.1	22.4
	6H	21.1	21.8	21.5	22.1	22.5	21.3	22.0	21.7	22.3	22.6
	8H	21.2	21.8	21.6	22.2	22.5	21.5	22.0	21.9	22.4	22.8
	12H	21.3	21.8	21.7	22.2	22.6	21.6	22.1	22.0	22.5	22.9
8H	4H	20.9	21.5	21.3	21.9	22.2	21.1	21.7	21.5	22.0	22.4
	6H	21.3	21.7	21.7	22.1	22.6	21.4	21.9	21.9	22.3	22.7
	8H	21.4	21.9	21.9	22.3	22.7	21.6	22.1	22.1	22.5	22.9
	12H	21.5	21.9	22.0	22.3	22.8	21.8	22.2	22.3	22.6	23.1
12H	4H	20.9	21.4	21.3	21.8	22.2	21.1	21.6	21.5	22.0	22.4
	6H	21.3	21.7	21.7	22.1	22.6	21.5	21.9	21.9	22.3	22.7
	8H	21.5	21.8	21.9	22.3	22.7	21.7	22.1	22.2	22.5	23.0
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H	+ 2.0 / - 2.6					+ 1.9 / - 2.4					
1.5H	+ 3.4 / - 2.6					+ 3.2 / - 2.5					
2.0H	+ 3.3 / - 1.5					+ 3.4 / - 1.5					

CIE Pub.117, 1888 lm Total Lamp Luminous Flux Correct ($8\log(F/F_0) = 2.2$)
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
 γ 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:220.35V I:0.0923A P:18.786W PF:0.9232 Freq:50.01Hz Lamp Flux:1888.06x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

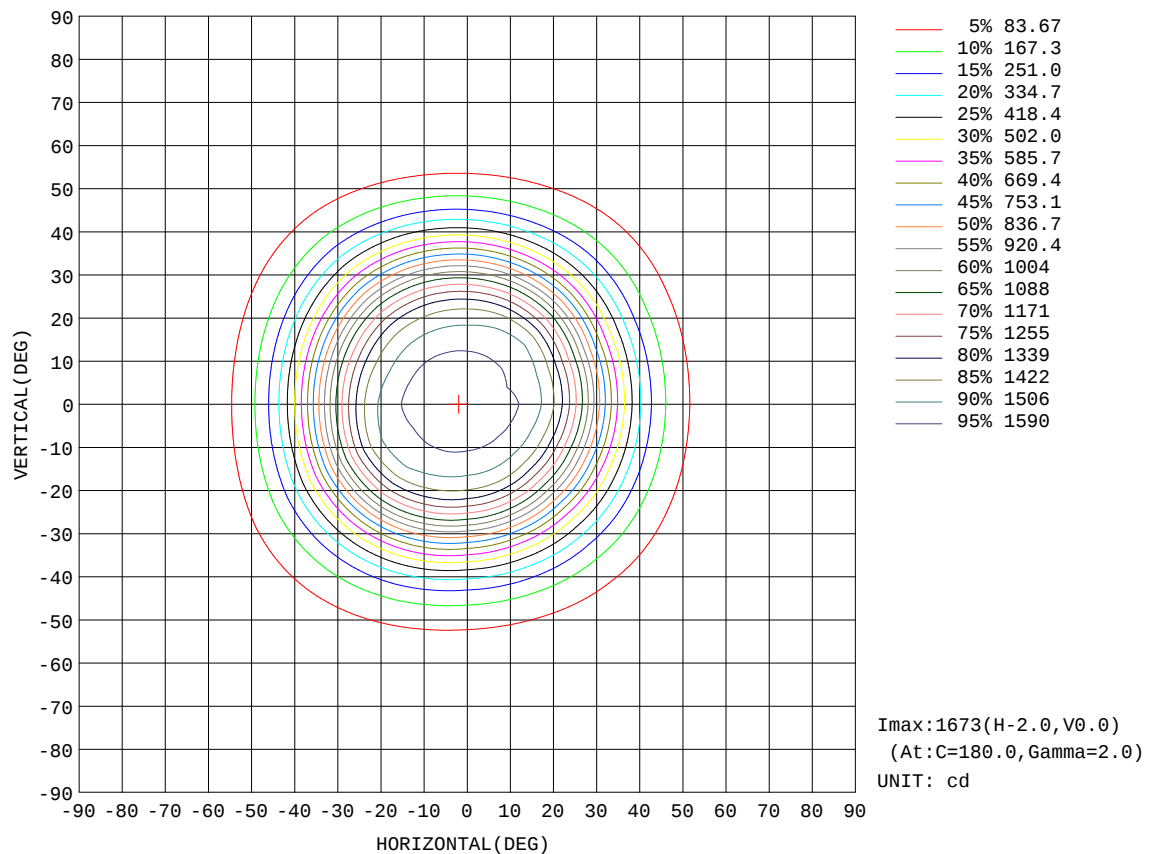
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	82	74	70	81	74	70	80	74	69	65
0.80	90	83	78	89	82	78	88	82	78	74
1.00	95	89	84	94	88	84	93	88	84	79
1.25	100	94	90	99	93	89	97	92	89	84
1.50	103	98	94	102	97	93	99	95	92	87
2.00	106	102	98	105	101	97	102	99	96	90
2.50	108	104	101	107	103	100	104	100	98	92
3.00	110	106	103	108	105	102	105	102	100	93
4.00	113	109	107	110	108	105	107	104	103	95
5.00	114	111	109	112	109	107	108	106	104	96
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:220.35V I:0.0923A P:18.786W PF:0.9232 Freq:50.01Hz Lamp Flux:1888.06x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

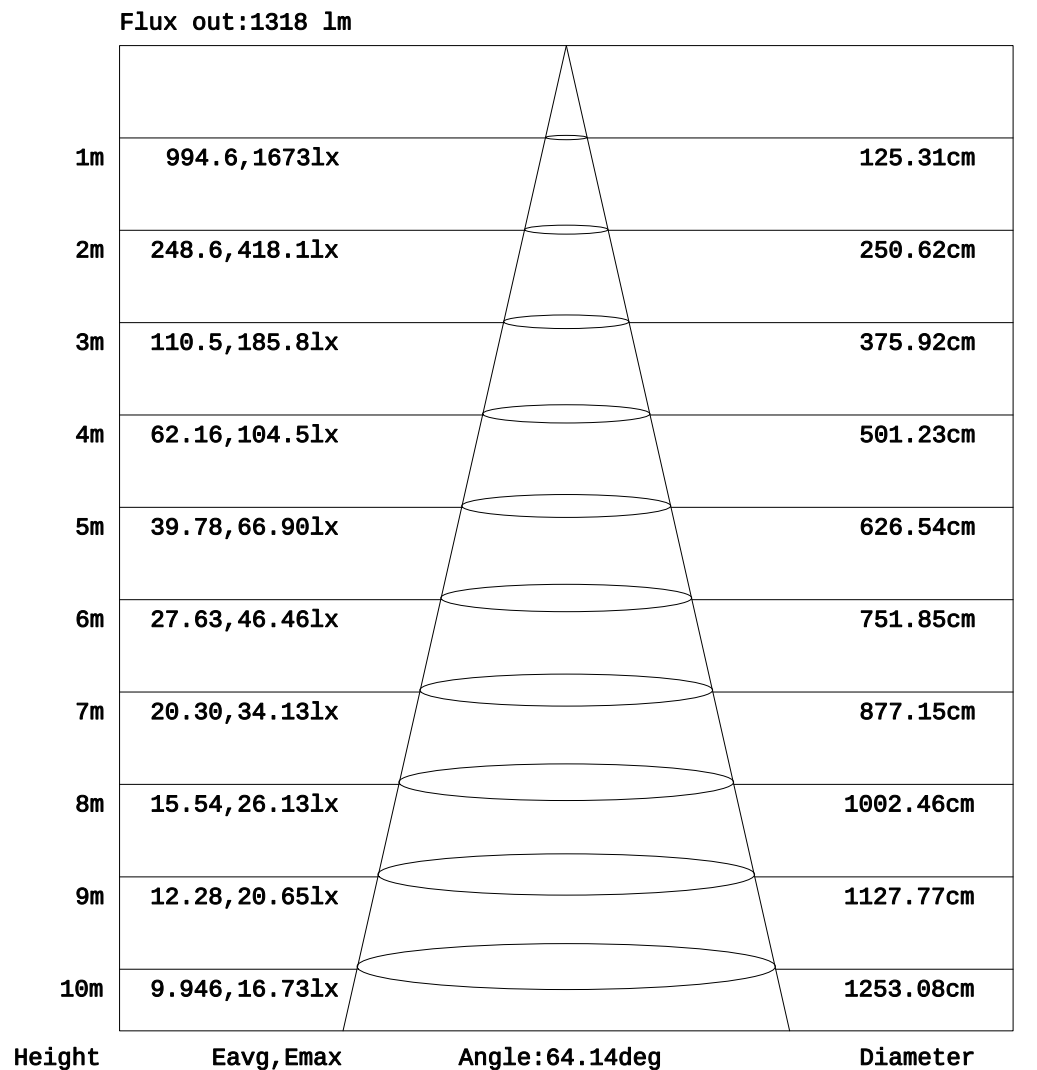


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2023-11-04

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:220.35V I:0.0923A P:18.786W PF:0.9232 Freq:50.01Hz Lamp Flux:1888.06x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:



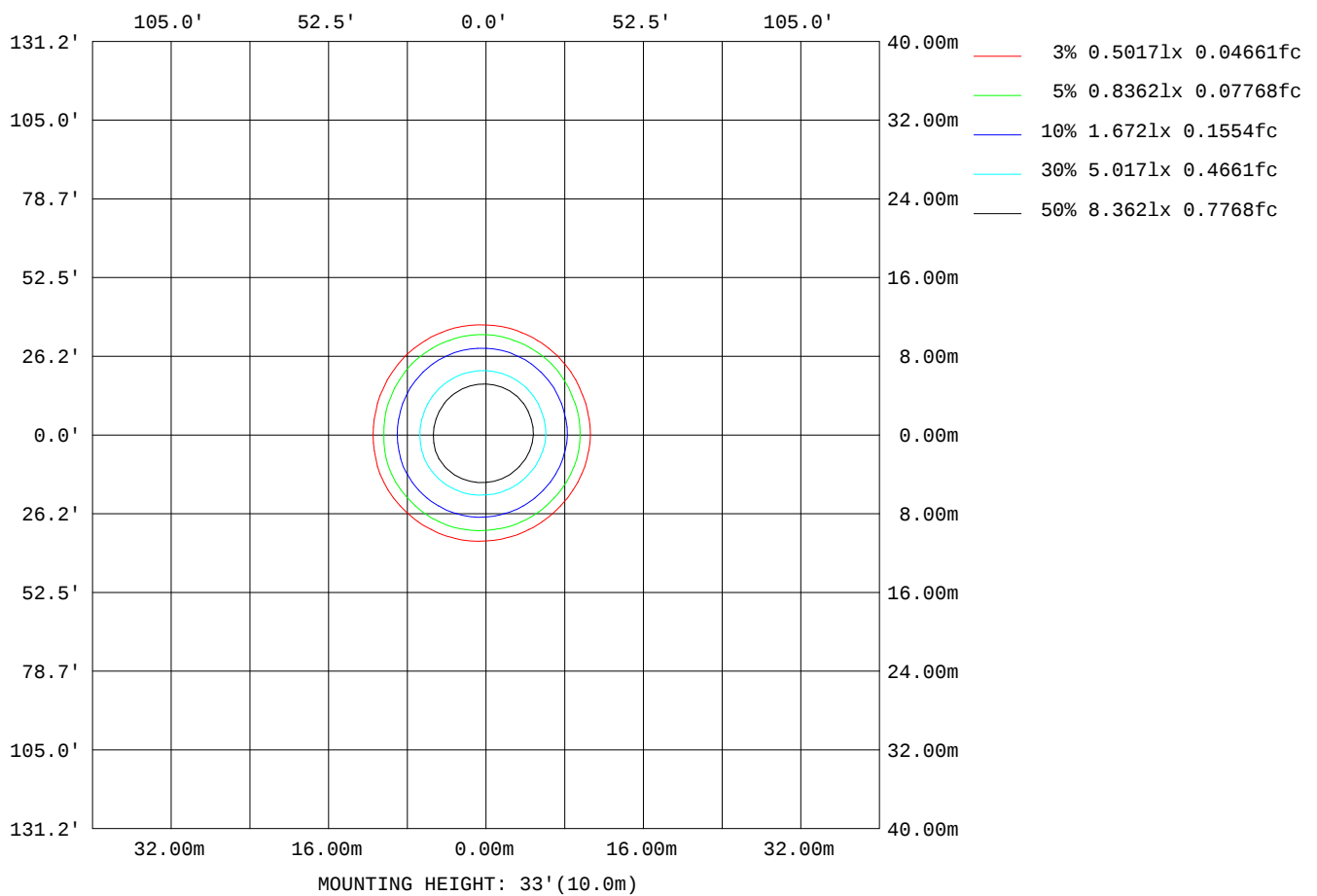
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:220.35V I:0.0923A P:18.786W PF:0.9232 Freq:50.01Hz Lamp Flux:1888.06x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white 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:220.35V I:0.0923A P:18.786W PF:0.9232 Freq:50.01Hz Lamp Flux:1888.06x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

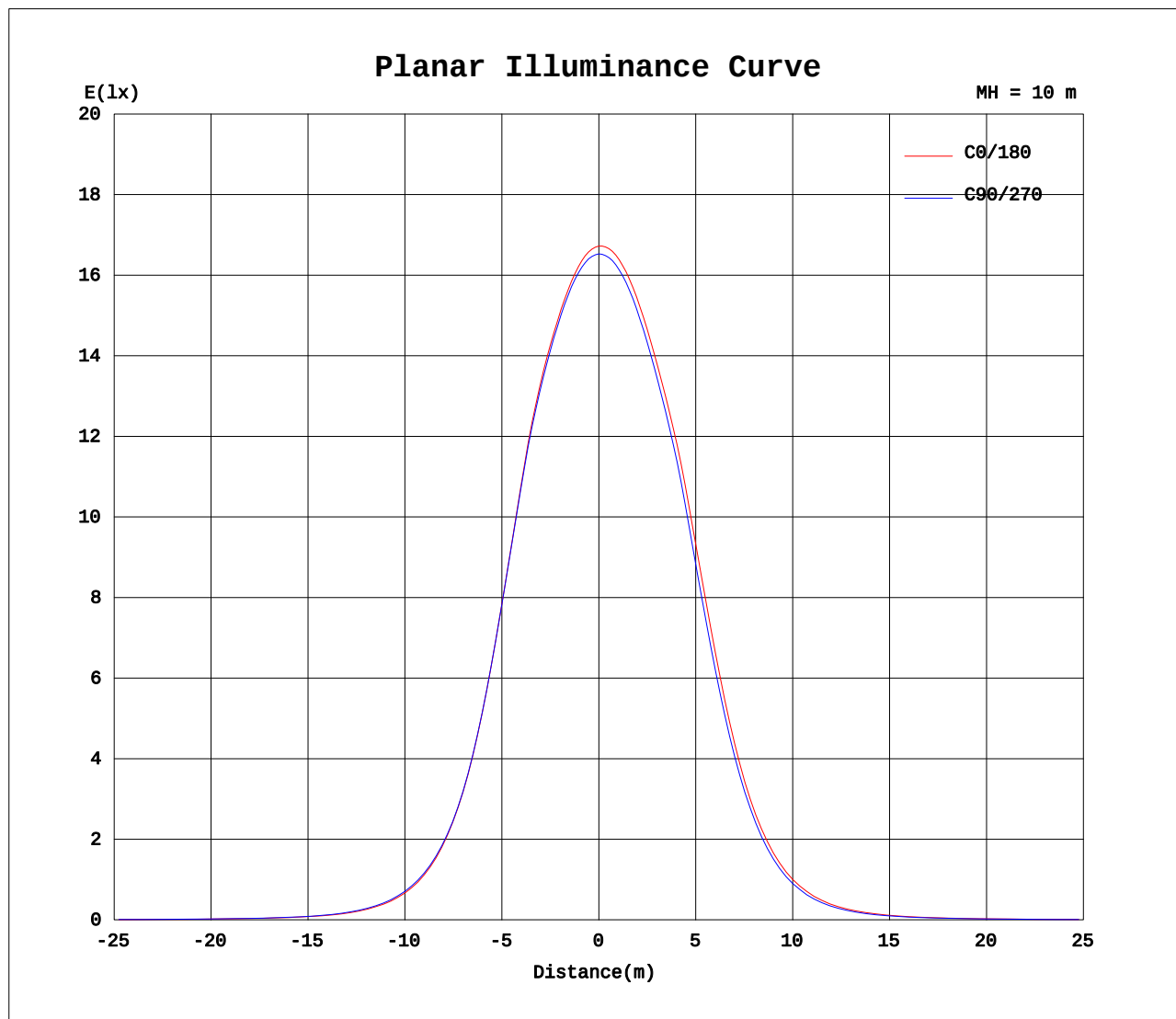
AvgL	cd/m2
L_0~180(65)av	19012
L_0~180(75)av	17477
L_0~180(85)av	23015
L_90~270(65)av	18614
L_90~270(75)av	17165
L_90~270(85)av	22592
L_45(65)av	18803
L_45(75)av	17209
L_45(85)av	22573

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:

```