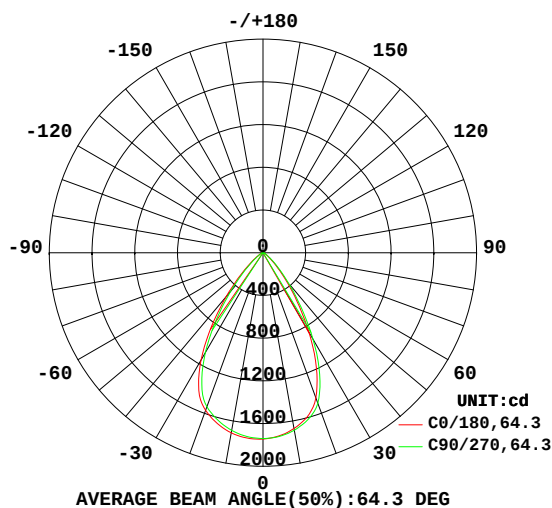


LUMINAIRE PHOTOMETRIC TEST REPORT

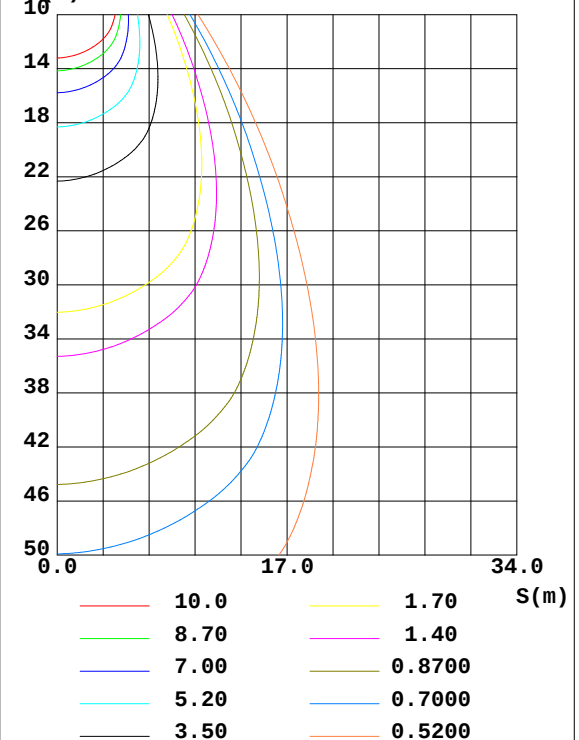
Test:U:220.37V I:0.0890A P:18.119W PF:0.9237 Freq:50.01Hz Lamp Flux:1953.8x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 107.83 lm/W			
MODEL	TB25171211 4000K	I _{max} (cd)	1746	S/MH(C0/180)	1.01
NOMINAL POWER(W)	20	LOR(%)	100.0	S/MH(C90/270)	0.98
RATED VOLTAGE(V)	220-240	TOTAL FLUX(lm)	1953.8	η UP, DN(C0-180)	0.0, 48.1
NOMINAL FLUX(lm)	1953.8	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 51.9
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:

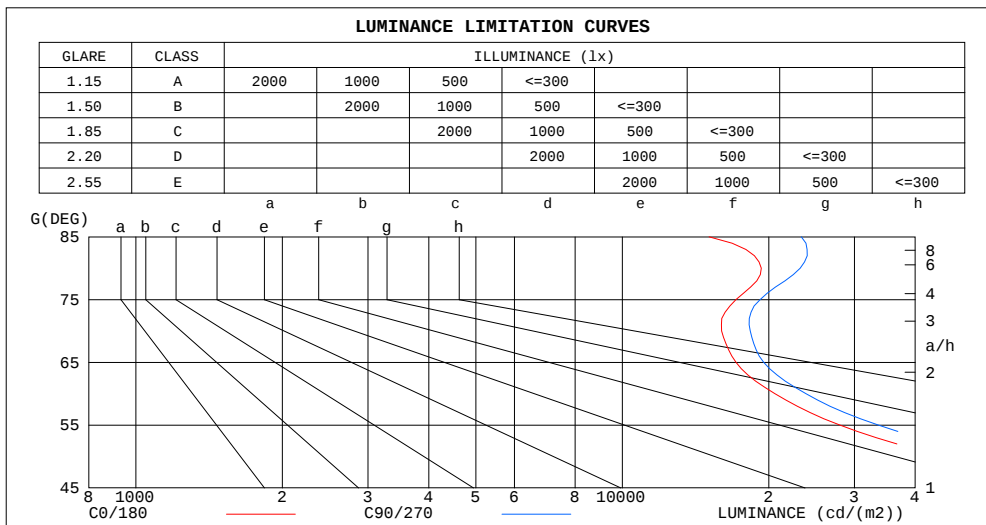
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	1671	1674	1687	1703	1712	1707	1689	1673	0- 10	163.7	163.7	8.38, 8.38
20	1447	1445	1502	1558	1571	1568	1534	1489	10- 20	455.6	619.4	31.7, 31.7
30	863.5	852.3	939.3	1081	1162	1180	1079	938.3	20- 30	590.4	1210	61.9, 61.9
40	329.6	324.8	375.8	465.6	533.9	551.7	469.1	369.9	30- 40	434.3	1644	84.1, 84.1
50	96.18	97.65	118.0	144.4	161.1	162.8	134.4	105.9	40- 50	192.6	1837	94, 94
60	34.18	34.98	39.59	45.44	47.63	46.65	40.87	35.77	50- 60	65.19	1902	97.3, 97.3
70	18.17	19.09	20.81	22.35	22.01	20.92	19.07	17.69	60- 70	28.04	1930	98.8, 98.8
80	11.13	11.79	13.38	14.18	13.26	12.08	11.19	10.77	70- 80	16.61	1947	99.6, 99.6
90	0.3359	0.3513	0.3127	1.471	2.208	1.965	0.1892	0.1197	80- 90	7.255	1954	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:220.37V I:0.0890A P:18.119W PF:0.9237 Freq:50.01Hz Lamp Flux:1953.8x1 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	15084	23332
80	19304	23205
75	17128	19200
70	15998	18325
65	17123	19530
60	20589	23846
55	28001	33589
50	45068	55289
45	76965	91330

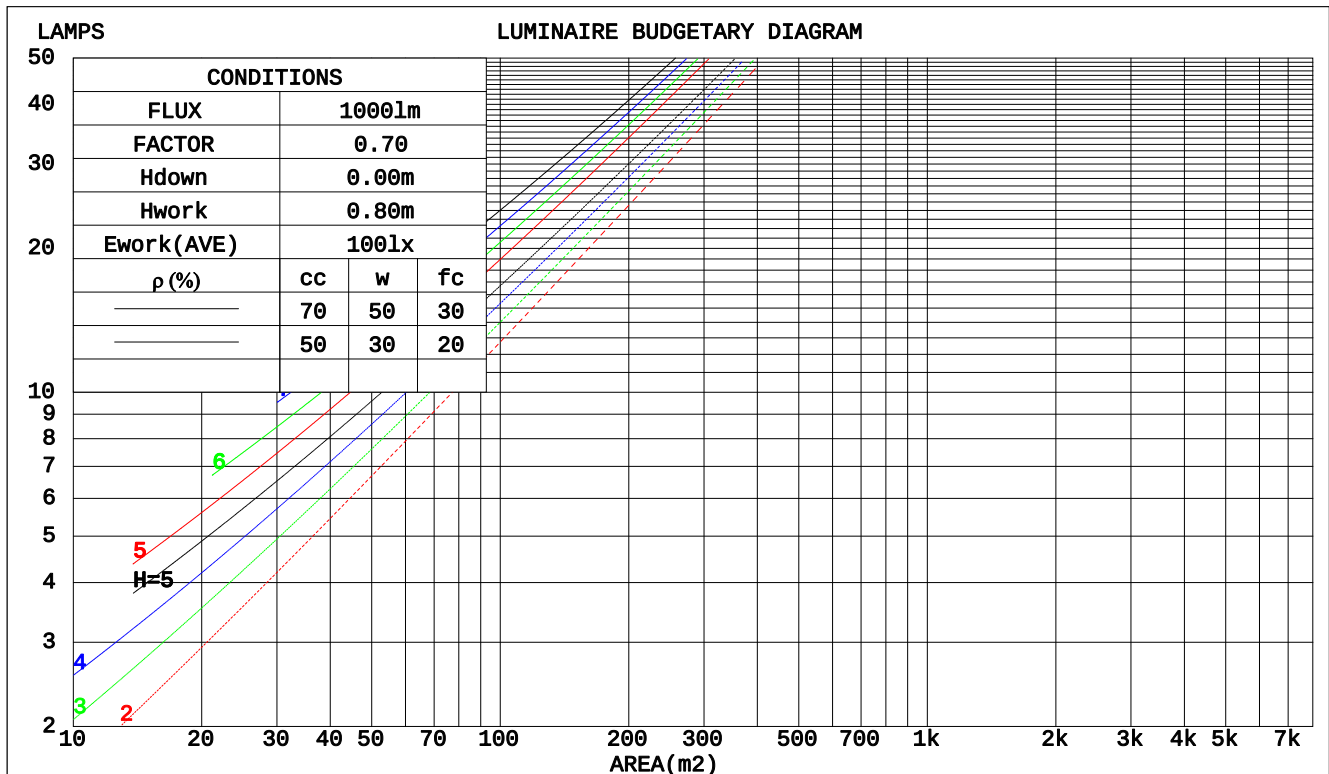
C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 25DEG
Operators:
Test Date: 2023-11-04

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:220.37V I:0.0890A P:18.119W PF:0.9237 Freq:50.01Hz Lamp Flux:1953.8x1 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	.80	.75	.83	.78	.74	.81	.77	.73	.79	.75	.73	.71
5.0	.80	.74	.69	.79	.73	.69	.77	.72	.68	.76	.71	.68	.74	.70	.67	.65
6.0	.75	.68	.64	.74	.68	.63	.72	.67	.63	.71	.66	.62	.70	.65	.62	.60
7.0	.70	.63	.59	.69	.63	.58	.68	.62	.58	.66	.62	.58	.65	.61	.57	.56
8.0	.65	.59	.54	.65	.59	.54	.64	.58	.54	.62	.57	.54	.61	.57	.54	.52
9.0	.61	.55	.51	.61	.55	.51	.60	.54	.50	.59	.54	.50	.58	.53	.50	.49
10.0	.58	.51	.47	.57	.51	.47	.56	.51	.47	.56	.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:220.37V I:0.0890A P:18.119W PF:0.9237 Freq:50.01Hz Lamp Flux:1953.8x1 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	.109	.035	.179	.103	.033	.168	.097	.031	.157	.091	.029		
2.0	.190	.104	.032	.184	.102	.031	.174	.097	.030	.164	.092	.029	.154	.087	.028		
3.0	.181	.096	.029	.176	.094	.028	.166	.090	.027	.158	.087	.027	.150	.083	.026		
4.0	.171	.089	.026	.167	.087	.026	.159	.084	.025	.152	.081	.025	.145	.079	.024		
5.0	.163	.083	.024	.159	.082	.024	.152	.079	.023	.145	.077	.023	.139	.074	.022		
6.0	.155	.078	.022	.152	.077	.022	.145	.074	.022	.139	.072	.021	.134	.071	.021		
7.0	.147	.073	.021	.145	.072	.021	.139	.070	.020	.134	.069	.020	.129	.067	.020		
8.0	.141	.069	.019	.138	.068	.019	.133	.066	.019	.128	.065	.019	.124	.064	.019		
9.0	.134	.065	.018	.132	.064	.018	.127	.063	.018	.123	.062	.018	.119	.061	.018		
10.0	.128	.062	.017	.126	.061	.017	.122	.060	.017	.118	.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	.067	.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	.129	.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	.019	.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:220.37V I:0.0890A P:18.119W PF:0.9237 Freq:50.01Hz Lamp Flux:1953.8x1 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	20.5	21.6	20.7	21.7	21.9	21.0	22.1	21.3	22.3	22.4
3H	20.5	21.5	20.8	21.7	21.9	21.1	22.1	21.4	22.3	22.5
4H	20.6	21.5	20.9	21.7	22.0	21.2	22.1	21.4	22.3	22.5
6H	20.7	21.6	21.0	21.8	22.1	21.3	22.1	21.6	22.4	22.6
8H	20.8	21.6	21.1	21.8	22.1	21.4	22.2	21.7	22.4	22.7
12H	20.8	21.6	21.1	21.8	22.1	21.4	22.2	21.7	22.5	22.7
4H 2H	20.4	21.3	20.7	21.5	21.7	20.9	21.8	21.2	22.0	22.3
3H	20.5	21.3	20.8	21.6	21.9	21.0	21.8	21.4	22.1	22.4
4H	20.7	21.4	21.0	21.7	22.0	21.2	21.9	21.5	22.2	22.5
6H	20.9	21.5	21.3	21.9	22.2	21.4	22.1	21.8	22.4	22.8
8H	21.0	21.6	21.4	21.9	22.3	21.6	22.2	22.0	22.5	22.9
12H	21.0	21.6	21.5	21.9	22.3	21.7	22.2	22.1	22.6	23.0
8H 4H	20.7	21.3	21.1	21.6	22.0	21.2	21.8	21.6	22.1	22.5
6H	21.0	21.5	21.5	21.9	22.3	21.6	22.0	22.0	22.4	22.8
8H	21.2	21.6	21.6	22.0	22.5	21.8	22.2	22.2	22.6	23.0
12H	21.3	21.6	21.7	22.1	22.6	21.9	22.3	22.4	22.7	23.2
12H 4H	20.7	21.2	21.1	21.6	22.0	21.2	21.7	21.6	22.1	22.5
6H	21.1	21.5	21.5	21.9	22.3	21.6	22.0	22.0	22.4	22.8
8H	21.2	21.6	21.7	22.0	22.5	21.8	22.2	22.3	22.6	23.1
Variations with the observer position at spacings(CIE Pub.117):										
S = 1.0H	+ 1.8 / - 2.6					+ 1.9 / - 2.5				
1.5H	+ 3.2 / - 2.5					+ 3.3 / - 2.5				
2.0H	+ 3.1 / - 1.4					+ 3.5 / - 1.6				

CIE Pub.117, 1954 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.3)
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:220.37V I:0.0890A P:18.119W PF:0.9237 Freq:50.01Hz Lamp Flux:1953.8x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

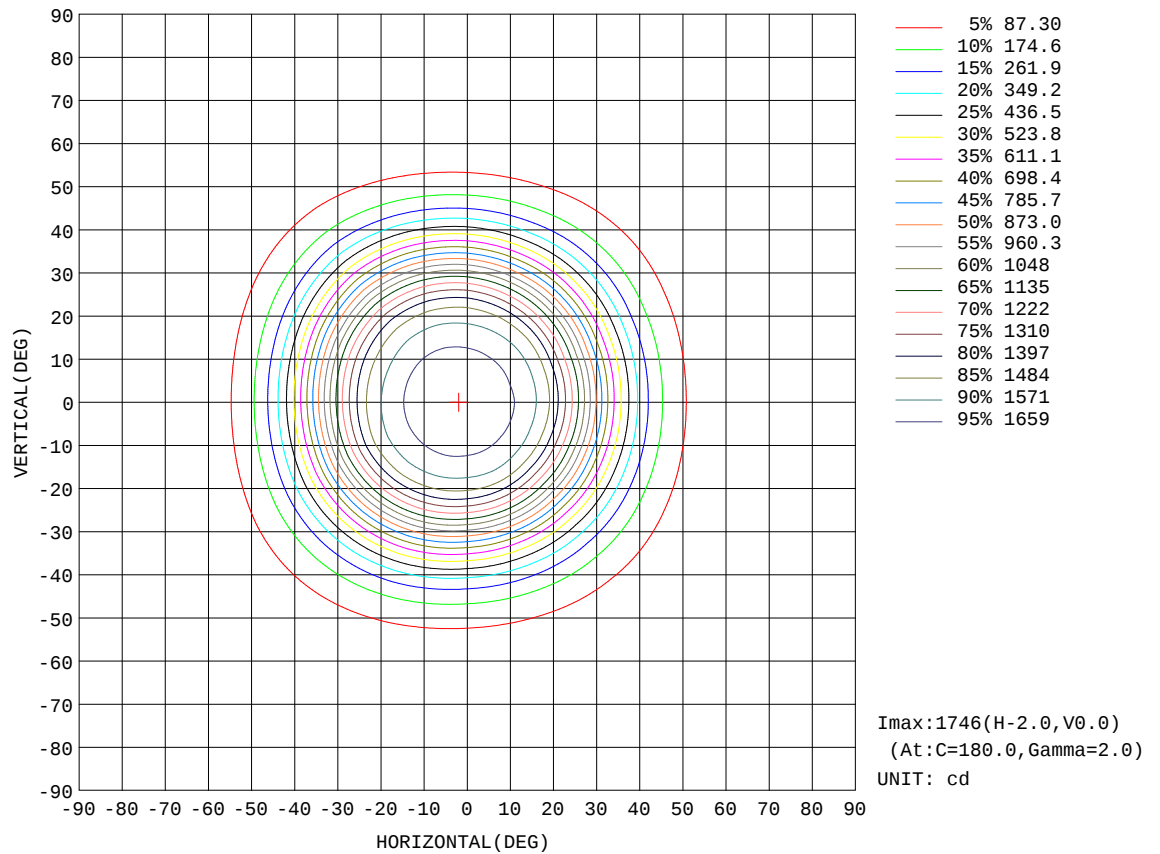
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	82	74	70	81	74	70	80	74	70	65
0.80	90	83	78	89	83	78	88	82	78	74
1.00	95	89	85	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	107	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	105	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:220.37V I:0.0890A P:18.119W PF:0.9237 Freq:50.01Hz Lamp Flux:1953.8x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

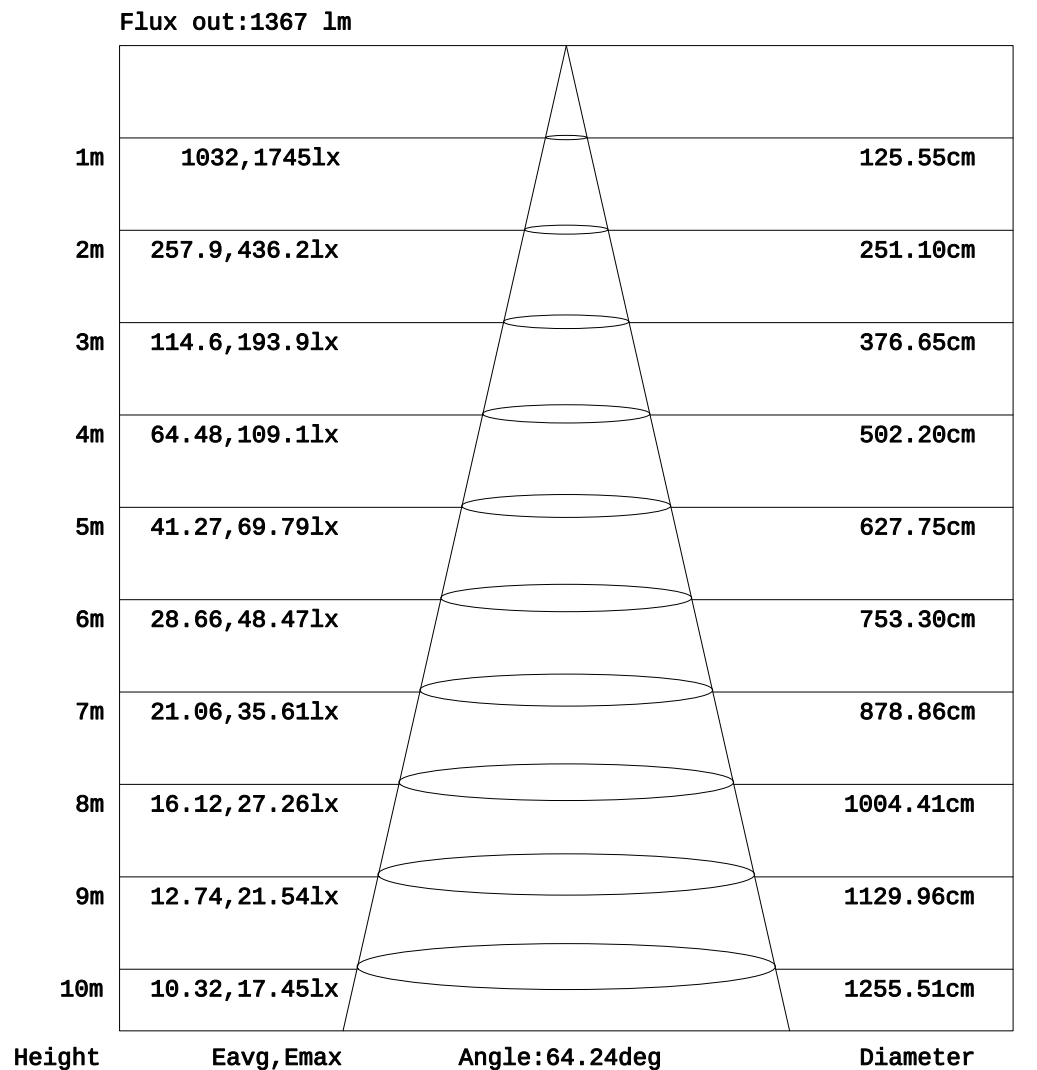


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:25DEG
Operators:
Test Date:2023-11-04

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:220.37V I:0.0890A P:18.119W PF:0.9237 Freq:50.01Hz Lamp Flux:1953.8x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:



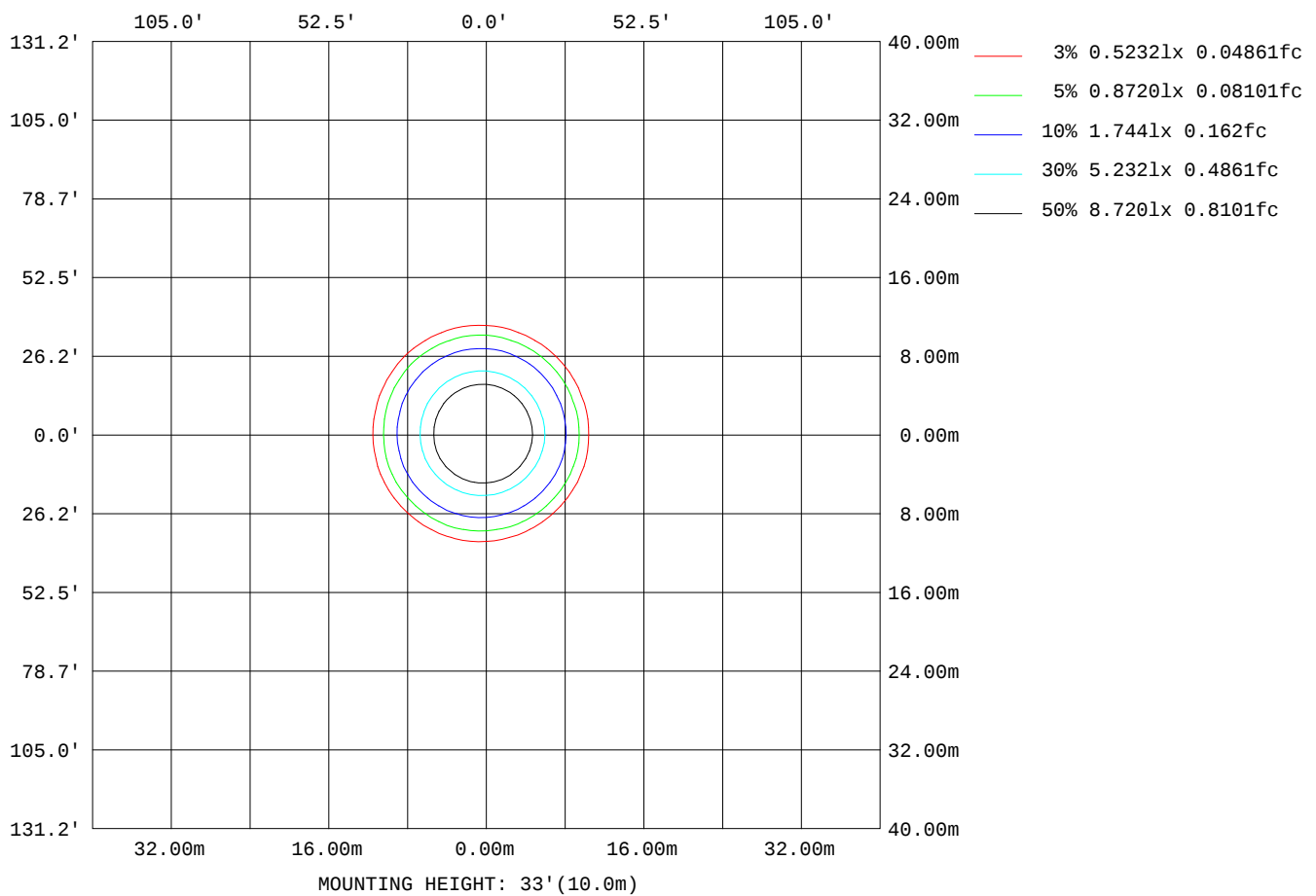
Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:220.37V I:0.0890A P:18.119W PF:0.9237 Freq:50.01Hz Lamp Flux:1953.8x1 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:220.37V I:0.0890A P:18.119W PF:0.9237 Freq:50.01Hz Lamp Flux:1953.8x1 lm		
NAME: BJ21-WHTC20C023P	TYPE:	WEIGHT:
SPEC.: white RA90 3000K+5700K	DIM.:	SERIAL No.:
MFR.:	SUR.: 65mm	Shielding Angle:

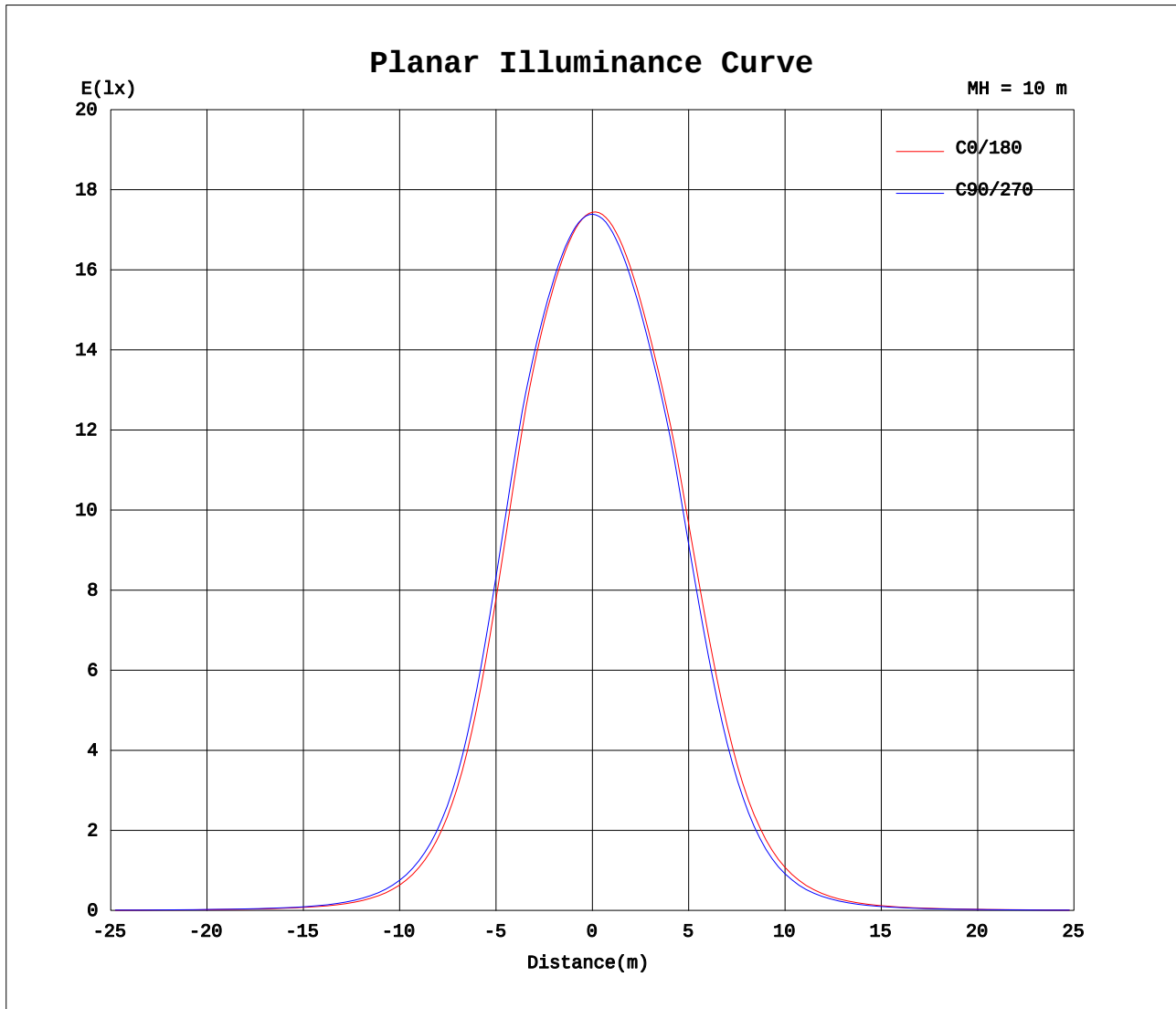
AvgL	cd/m2
L_0~180(65)av	19610
L_0~180(75)av	18196
L_0~180(85)av	23764
L_90~270(65)av	19337
L_90~270(75)av	17884
L_90~270(85)av	23792
L_45(65)av	19504
L_45(75)av	18016
L_45(85)av	23591

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:

```