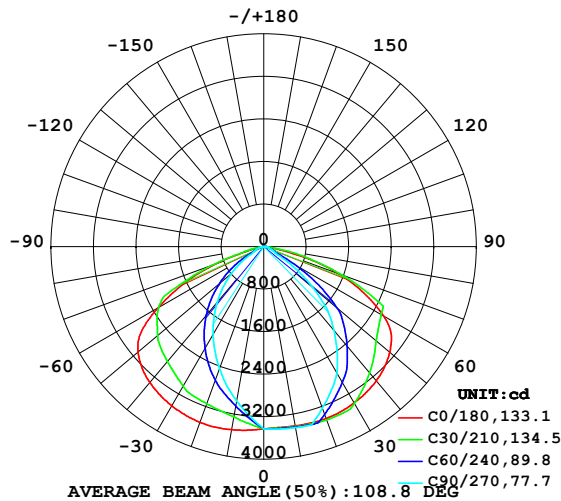


LUMINAIRE PHOTOMETRIC TEST REPORT

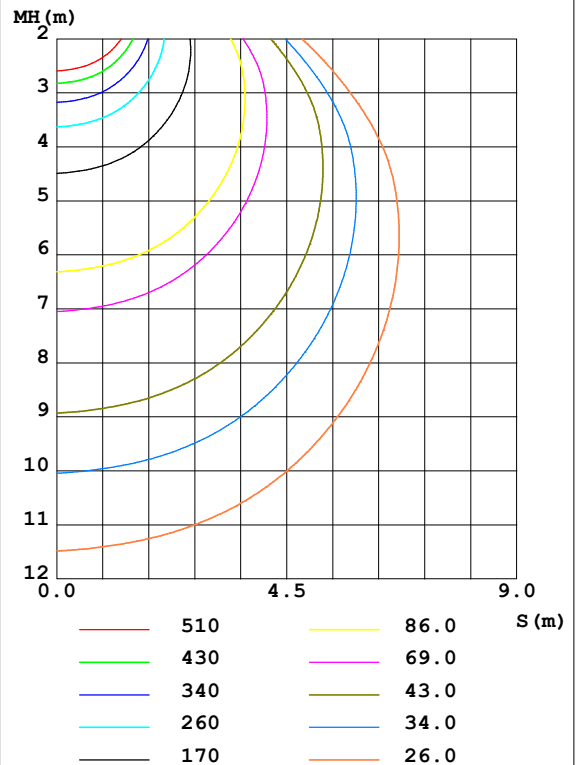
Test:U:229.90V I:0.3110A P:69.200W PF:0.9670 Freq:50.00Hz Lamp Flux:9087.41x1 lm		
NAME: DETA	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 131.32 lm/W			
MODEL	BR3102	I _{max} (cd)	3520	S/MH(C0/180)	1.52
NOMINAL POWER(W)	69.2	LOR(%)	100.0	S/MH(C90/270)	0.89
RATED VOLTAGE(V)	229.9	TOTAL FLUX(lm)	9087.4	η UP,DN(C0-180)	0.0,54.1
NOMINAL FLUX(lm)	9087.41	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,45.9
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	229.9	η down(%)	100.0	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2022-03-29

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

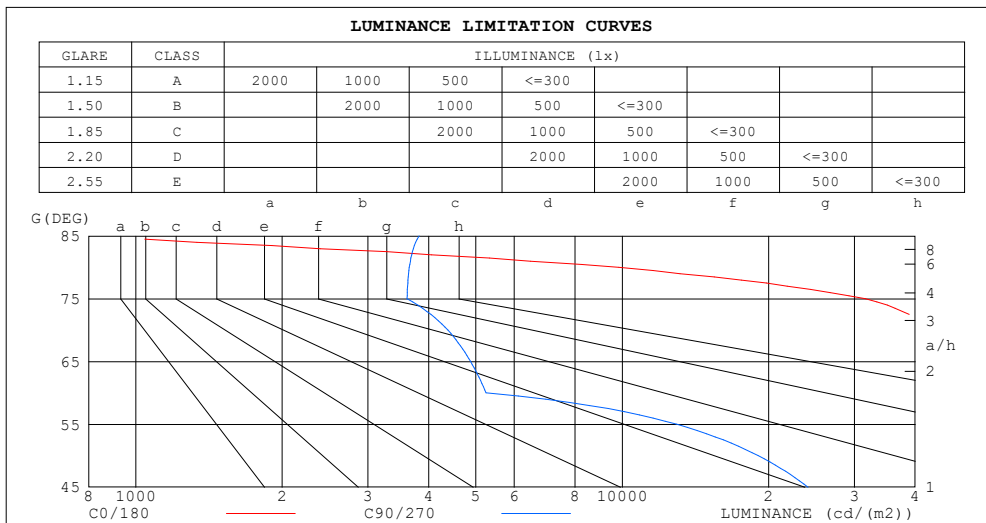
γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	3423	3441	3457	3483	3496	3140	2946	3077	0- 10	319.0	319.0	3.51,3.51
20	3441	3478	3234	3508	3516	2929	2440	2785	10- 20	914.6	1234	13.6,13.6
30	3396	3173	2761	3191	3458	2591	1912	2457	20- 30	1390	2623	28.9,28.9
40	3295	2839	2056	2842	3336	2287	1360	2100	30- 40	1683	4306	47.4,47.4
50	3094	2439	1223	2445	3086	1723	801.3	1612	40- 50	1759	6065	66.7,66.7
60	2601	1593	262.6	1585	2285	1152	236.3	976.9	50- 60	1554	7619	83.8,83.8
70	1515	385.8	149.8	239.5	977.2	189.2	127.8	207.7	60- 70	998.6	8617	94.8,94.8
80	171.0	66.95	63.39	37.94	19.51	39.22	49.17	59.17	70- 80	421.0	9038	99.5,99.5
90	0.9864	3.351	3.238	3.227	1.908	0.6598	0.4458	1.236	80- 90	48.98	9087	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		

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2022-03-29

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:229.90V I:0.3110A P:69.200W PF:0.9670 Freq:50.00Hz Lamp Flux:9087.41x1 lm		
NAME: DETA	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



LUMINANCE cd/(m2)		
G (DEG)	C0/180	C90/270
85	695	3823
80	9848	3651
75	31581	3611
70	44308	4381
65	49379	4879
60	52018	5252
55	51089	12951
50	48131	19029
45	45404	24090

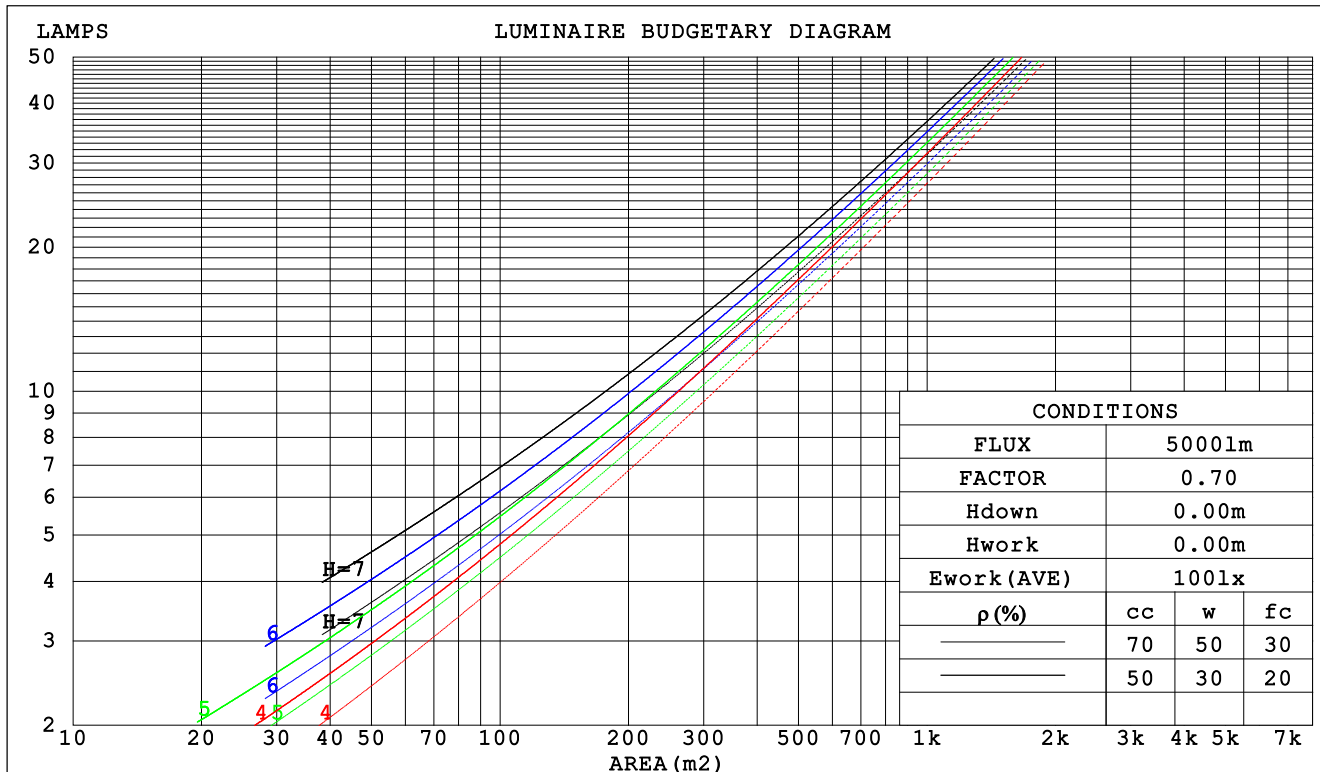
H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2022-03-29

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:229.90V I:0.3110A P:69.200W PF:0.9670 Freq:50.00Hz Lamp Flux:9087.41x1 lm		
NAME: DETA	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	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	.00
1.0	1.05	1.01	.98	1.03	.90	.96	.99	.96	.93	.95	.93	.90	.91	.90	.88	.86
2.0	.92	.86	.81	.91	.85	.80	.87	.82	.78	.84	.80	.76	.81	.77	.74	.72
3.0	.82	.74	.67	.80	.73	.67	.77	.71	.66	.74	.69	.65	.72	.67	.63	.61
4.0	.72	.64	.57	.71	.63	.57	.69	.62	.56	.66	.60	.55	.64	.59	.55	.53
5.0	.65	.56	.49	.64	.55	.49	.61	.54	.49	.60	.53	.48	.58	.52	.48	.46
6.0	.58	.50	.43	.57	.49	.43	.56	.48	.43	.54	.47	.42	.52	.46	.42	.40
7.0	.53	.44	.38	.52	.44	.38	.50	.43	.38	.49	.42	.37	.48	.42	.37	.35
8.0	.48	.40	.34	.48	.40	.34	.46	.39	.34	.45	.38	.34	.44	.38	.33	.31
9.0	.44	.36	.31	.44	.36	.31	.42	.35	.30	.41	.35	.30	.40	.34	.30	.28
10.0	.41	.33	.28	.40	.33	.28	.39	.32	.28	.38	.32	.27	.37	.32	.27	.26



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2022-03-29

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

WEC AND CCEC

Test:U:229.90V I:0.3110A P:69.200W PF:0.9670 Freq:50.00Hz Lamp Flux:9087.41x1 lm									
NAME: DETA				TYPE:			WEIGHT:		
SPEC.:				DIM.:			SERIAL No.:		
MFR.:				SUR.:			Shielding Angle:		

pcc	80%			70%			50%			30%			10%			0	
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0	
pfc	20%			20%			20%			20%			20%			0	
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients (WEC)										
0.0																	
1.0	.281	.160	.051	.274	.156	.050	.261	.150	.048	.249	.144	.046	.238	.138	.044		
2.0	.272	.149	.046	.266	.147	.045	.255	.142	.044	.244	.137	.043	.234	.133	.042		
3.0	.256	.136	.041	.251	.134	.040	.241	.130	.040	.231	.127	.039	.222	.123	.038		
4.0	.239	.124	.037	.234	.123	.036	.225	.119	.036	.217	.116	.035	.209	.114	.035		
5.0	.223	.114	.033	.219	.112	.033	.211	.110	.032	.203	.107	.032	.196	.105	.031		
6.0	.208	.104	.030	.204	.103	.030	.197	.101	.029	.190	.099	.029	.184	.097	.029		
7.0	.194	.096	.027	.191	.095	.027	.185	.093	.027	.179	.092	.027	.173	.090	.026		
8.0	.182	.089	.025	.179	.088	.025	.173	.087	.025	.168	.085	.025	.163	.084	.024		
9.0	.171	.083	.023	.168	.082	.023	.163	.081	.023	.158	.079	.023	.154	.078	.023		
10.0	.161	.077	.021	.159	.077	.021	.154	.075	.021	.150	.074	.021	.146	.073	.021		

pcc	80%			70%			50%			30%			10%			0
pw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
pfc	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	.178	.156	.137	.153	.134	.118	.104	.092	.081	.060	.053	.047	.019	.017	.015	
2.0	.170	.132	.100	.145	.114	.087	.100	.079	.061	.057	.046	.035	.018	.015	.012	
3.0	.162	.114	.076	.139	.099	.066	.095	.068	.046	.055	.040	.027	.018	.013	.009	
4.0	.154	.101	.060	.132	.087	.052	.091	.061	.037	.053	.036	.022	.017	.012	.007	
5.0	.147	.090	.048	.126	.078	.042	.087	.055	.030	.050	.032	.018	.016	.010	.006	
6.0	.140	.082	.040	.121	.071	.035	.083	.050	.025	.048	.029	.015	.016	.010	.005	
7.0	.134	.075	.034	.115	.065	.029	.079	.046	.021	.046	.027	.012	.015	.009	.004	
8.0	.127	.069	.029	.110	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.026	.105	.056	.022	.073	.039	.016	.042	.023	.009	.014	.008	.003	
10.0	.116	.060	.023	.100	.052	.020	.069	.037	.014	.040	.022	.008	.013	.007	.003	

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2022-03-29

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

Test:U:229.90V I:0.3110A P:69.200W PF:0.9670 Freq:50.00Hz Lamp Flux:9087.41x1 lm										
NAME: DETA					TYPE:			WEIGHT:		
SPEC.:					DIM.:			SERIAL No.:		
MFR.:					SUR.:			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	28.1	29.6	28.4	29.8	30.0	21.6	23.1	21.9	23.3	23.5
3H	29.9	31.2	30.2	31.5	31.7	21.5	22.9	21.8	23.1	23.4
4H	30.4	31.7	30.8	32.0	32.2	21.5	22.8	21.8	23.1	23.3
6H	30.6	31.8	31.0	32.1	32.4	21.5	22.7	21.8	23.0	23.2
8H	30.6	31.8	31.0	32.1	32.3	21.5	22.6	21.8	22.9	23.2
12H	30.6	31.7	30.9	32.0	32.3	21.4	22.6	21.8	22.9	23.2
4H 2H	28.3	29.6	28.6	29.8	30.1	23.3	24.6	23.6	24.8	25.1
3H	30.5	31.6	30.8	31.9	32.2	23.2	24.3	23.6	24.6	24.9
4H	31.3	32.3	31.7	32.6	33.0	23.2	24.2	23.6	24.5	24.9
6H	31.7	32.6	32.1	32.9	33.3	23.2	24.1	23.6	24.4	24.8
8H	31.7	32.6	32.1	32.9	33.3	23.2	24.0	23.6	24.4	24.7
12H	31.7	32.4	32.1	32.8	33.2	23.1	23.9	23.6	24.3	24.7
8H 4H	31.2	32.0	31.6	32.4	32.8	24.1	24.9	24.5	25.3	25.6
6H	31.7	32.4	32.1	32.8	33.2	24.1	24.7	24.5	25.1	25.6
8H	31.8	32.4	32.2	32.8	33.2	24.1	24.7	24.5	25.1	25.5
12H	31.8	32.3	32.2	32.7	33.2	24.1	24.6	24.5	25.0	25.5
12H 4H	31.2	31.9	31.6	32.3	32.7	24.2	24.9	24.6	25.3	25.7
6H	31.7	32.3	32.1	32.7	33.1	24.2	24.8	24.6	25.2	25.7
8H	31.7	32.2	32.2	32.7	33.2	24.2	24.7	24.7	25.1	25.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.5 / - 0.4					+ 0.7 / - 0.9				
1.5H	+ 0.4 / - 0.6					+ 0.8 / - 1.0				
2.0H	+ 1.6 / - 1.1					+ 2.4 / - 3.7				

CIE Pub.117, 9087 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 7.7$)

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2022-03-29

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

Test:U:229.90V I:0.3110A P:69.200W PF:0.9670 Freq:50.00Hz Lamp Flux:9087.41x1 lm		
NAME: DETA	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

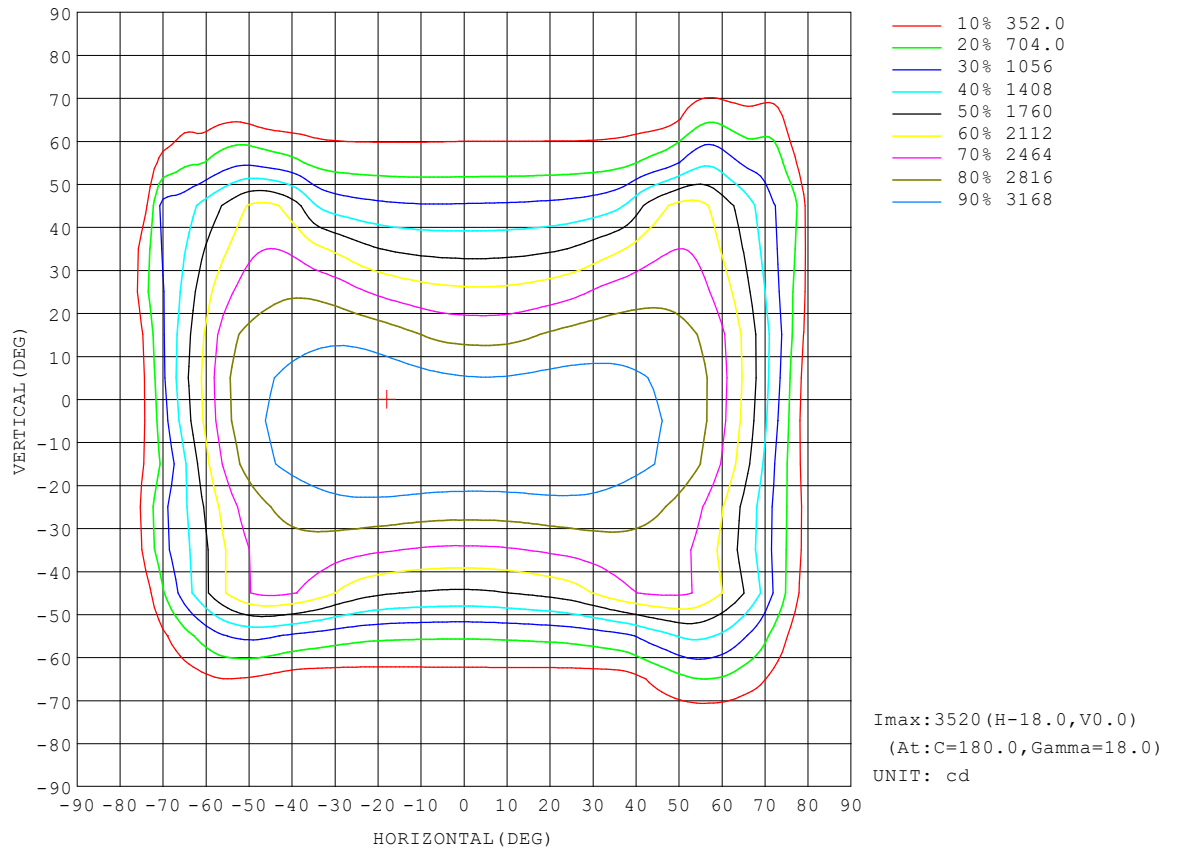
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	59	47	40	58	47	40	57	47	40	34
0.80	69	58	51	68	57	51	66	57	50	43
1.00	78	67	60	77	67	60	75	68	59	53
1.25	85	75	68	84	74	68	81	73	67	60
1.50	90	81	74	88	80	74	86	78	73	65
2.00	97	89	83	95	88	82	92	85	81	73
2.50	101	93	88	99	92	87	95	89	85	77
3.00	104	97	92	102	96	91	98	93	89	81
4.00	107	102	98	105	101	97	101	97	94	85
5.00	110	105	102	107	103	100	103	100	97	88
ROOM INDEX	UF (total)									Direct
According to DIN EN 13032-2 2004			Suspended					SHRNOM = 1.25		

$H(\beta)$ Range:-90 - 90DEG
 $H(\beta)$ Interval: 1.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:
 Test Date:2022-03-29

$V(B)$ Range:-90 - 90DEG
 $V(B)$ Interval: 5.0DEG
 Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
 Humidity:65.0%
 Test Distance:9.900m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:229.90V I:0.3110A P:69.200W PF:0.9670 Freq:50.00Hz Lamp Flux:9087.41x1 lm		
NAME: DETA	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:

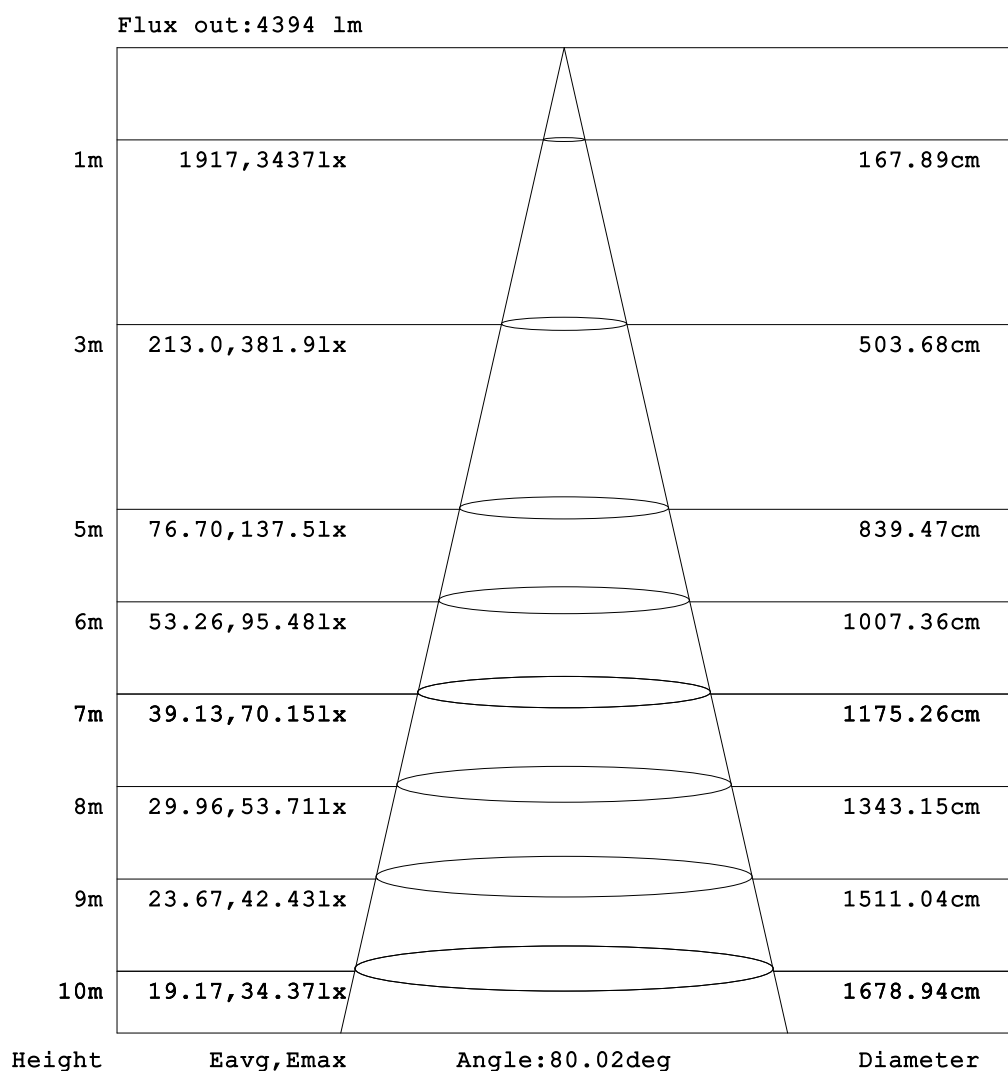


H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2022-03-29

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

AAI Figure

Test:U:229.90V I:0.3110A P:69.200W PF:0.9670 Freq:50.00Hz Lamp Flux:9087.41x1 lm		
NAME: DETA	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



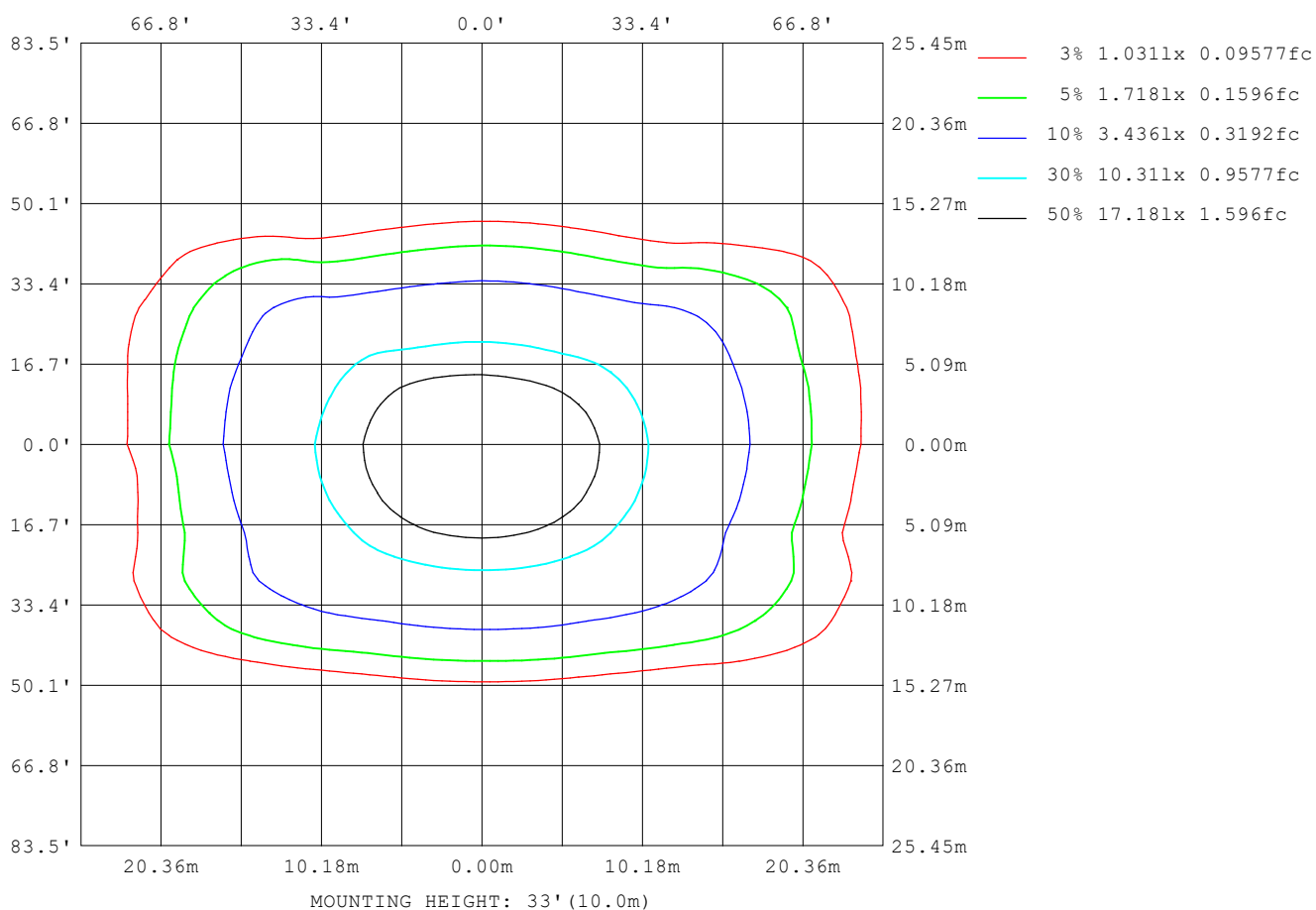
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2022-03-29

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

ISOLUX DIAGRAM

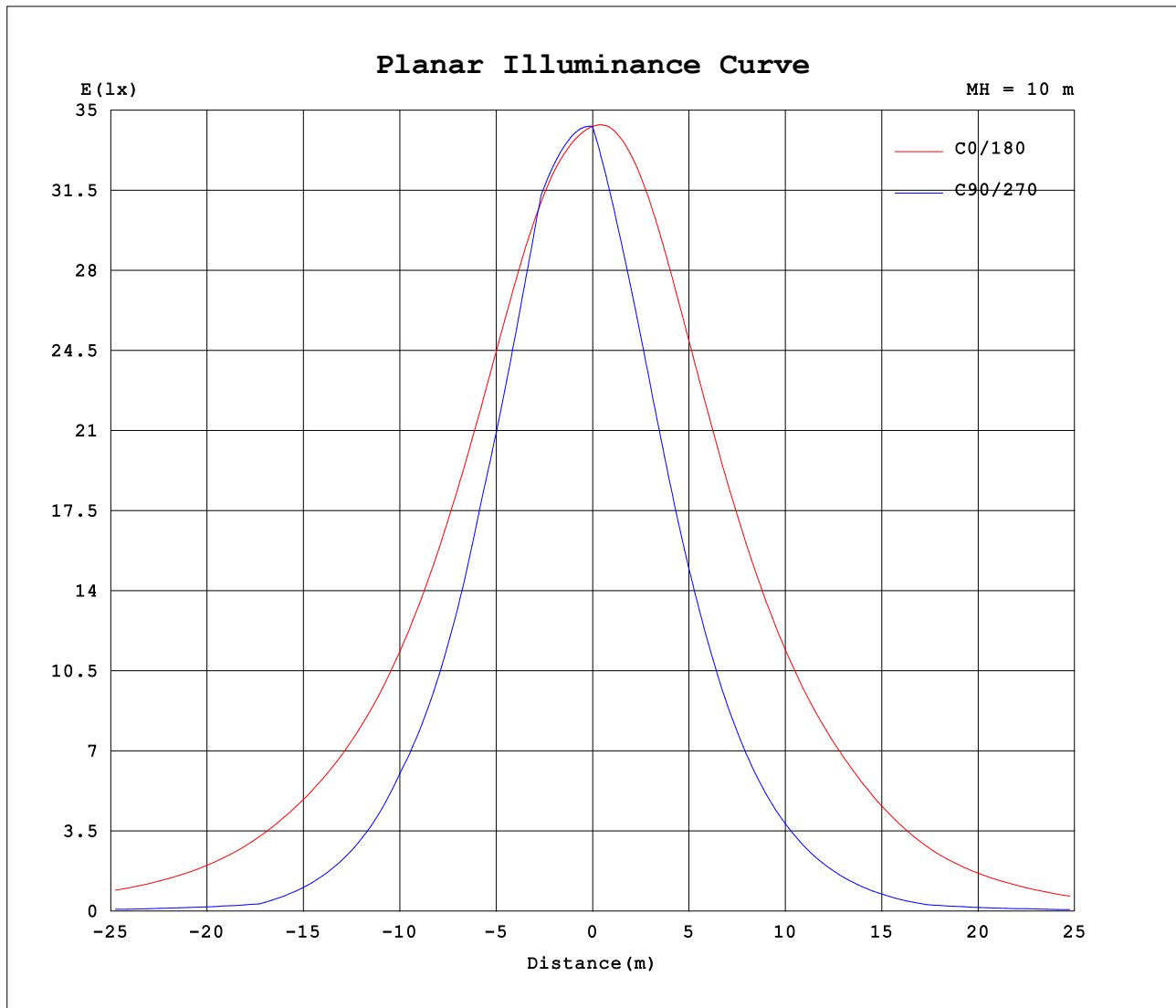
Test:U:229.90V I:0.3110A P:69.200W PF:0.9670 Freq:50.00Hz Lamp Flux:9087.41x1 lm		
NAME: DETA	TYPE:	WEIGHT:
SPEC.:	DIM.:	SERIAL No.:
MFR.:	SUR.:	Shielding Angle:



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2022-03-29

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

Planar Illuminance Curve



H(β) Range:-90 - 90DEG
H(β) Interval: 1.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:
Test Date:2022-03-29

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

V(B) Range:-90 - 90DEG
V(B) Interval: 5.0DEG
Test System:EVERFINE GO-2000B_V1 SYSTEM V2.0.266
Humidity:65.0%
Test Distance:9.900m [K=1.0000]
Remarks:

