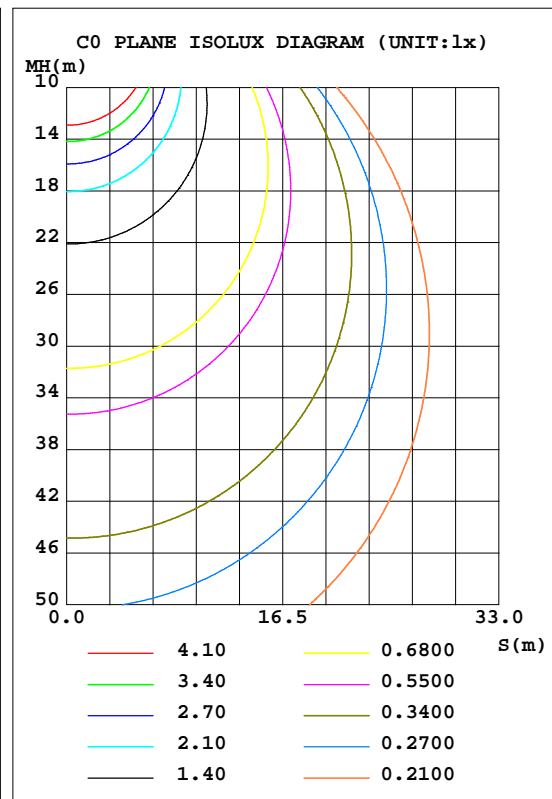
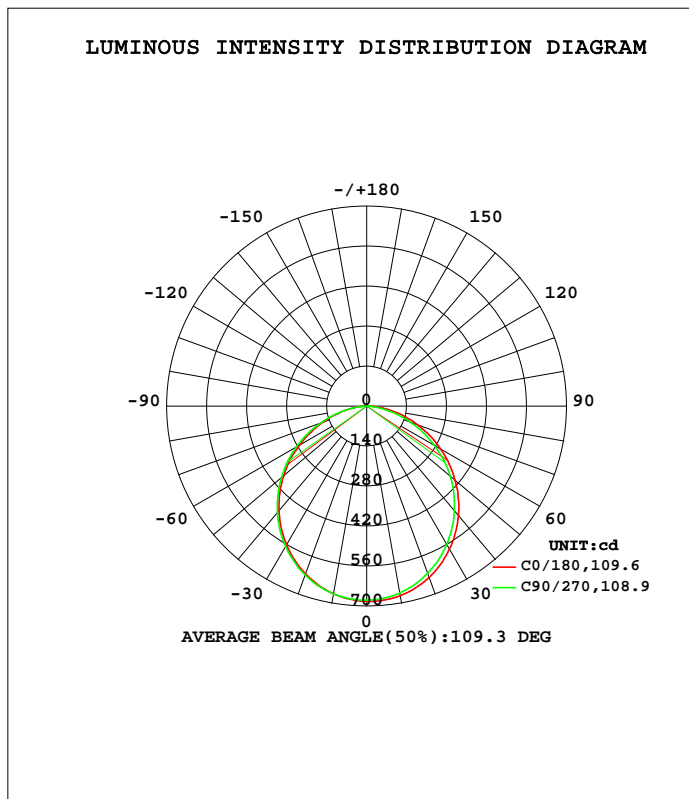


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11x1 lm		
NAME: LV-108-24W	TYPE:	WEIGHT: /
SPEC.:	DIM.:	SERIAL No.:/
MFR.:	SUR.:	Shielding Angle:/

DATA OF LAMP		PHOTOMETRIC DATA Eff: 84.07 lm/W			
MODEL		I _{max} (cd)	684.1	S/MH(C0/180)	1.23
NOMINAL POWER(W)	24W	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	220	TOTAL FLUX(lm)	1868.1	η UP, DN(C0-180)	0.0,50.6
NOMINAL FLUX(lm)	1868.11	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0,49.4
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	220	η down(%)	100.0	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:MR mark
 Test Date:2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:8.880m [K=1.0000]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C90	C180	C270					γ	Φ zone	Φ total	%lum,lamp
10	674.2	664.6	667.3	667.7					0- 10	64.44	64.44	3.45,3.45
20	638.6	623.7	625.5	629.6					10- 20	183.9	248.4	13.3,13.3
30	579.3	560.3	561.3	568.0					20- 30	276.9	525.2	28.1,28.1
40	500.3	478.2	478.3	486.8					30- 40	330.6	855.8	45.8,45.8
50	404.8	382.4	380.0	390.3					40- 50	338.7	1195	63.9,63.9
60	298.4	272.7	269.5	283.5					50- 60	300.6	1495	80,80
70	188.1	161.6	160.6	170.4					60- 70	223.2	1718	92,92
80	84.27	56.03	61.31	63.26					70- 80	123.3	1842	98.6,98.6
90	0.6798	0.6448	1.015	0.7947					80- 90	26.52	1868	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		

Conical surface Flux(90deg): 1027.1 lm

%lum = 55.0%
 %lamp = 55.0%

Conical surface Flux(120deg): 1495.1 lm

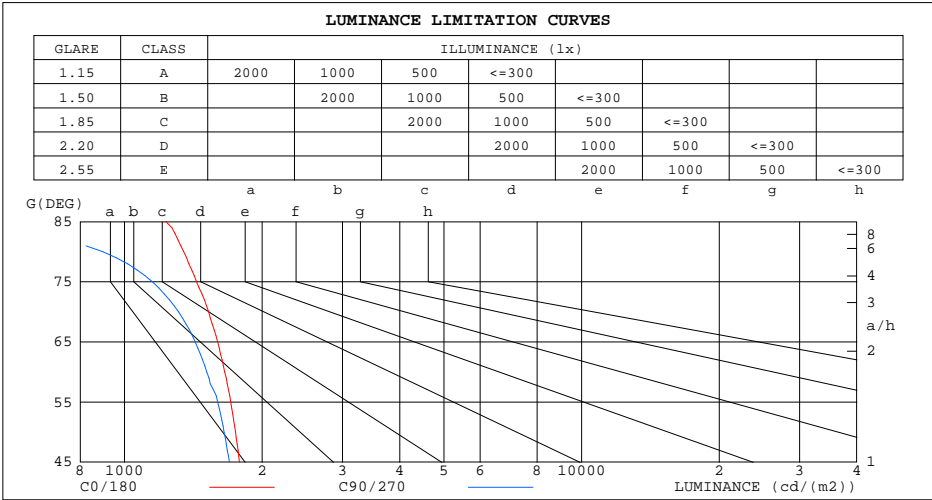
%lum = 80.0%
 %lamp = 80.0%

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:MR mark
 Test Date:2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:8.880m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11x1 lm		
NAME: LV-108-24W	TYPE:	WEIGHT: /
SPEC.:	DIM.:	SERIAL No.:/
MFR.:	SUR.:	Shielding Angle:/



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1232	348
80	1348	896
75	1438	1151
70	1528	1313
65	1598	1429
60	1658	1515
55	1708	1600
50	1749	1653
45	1784	1697

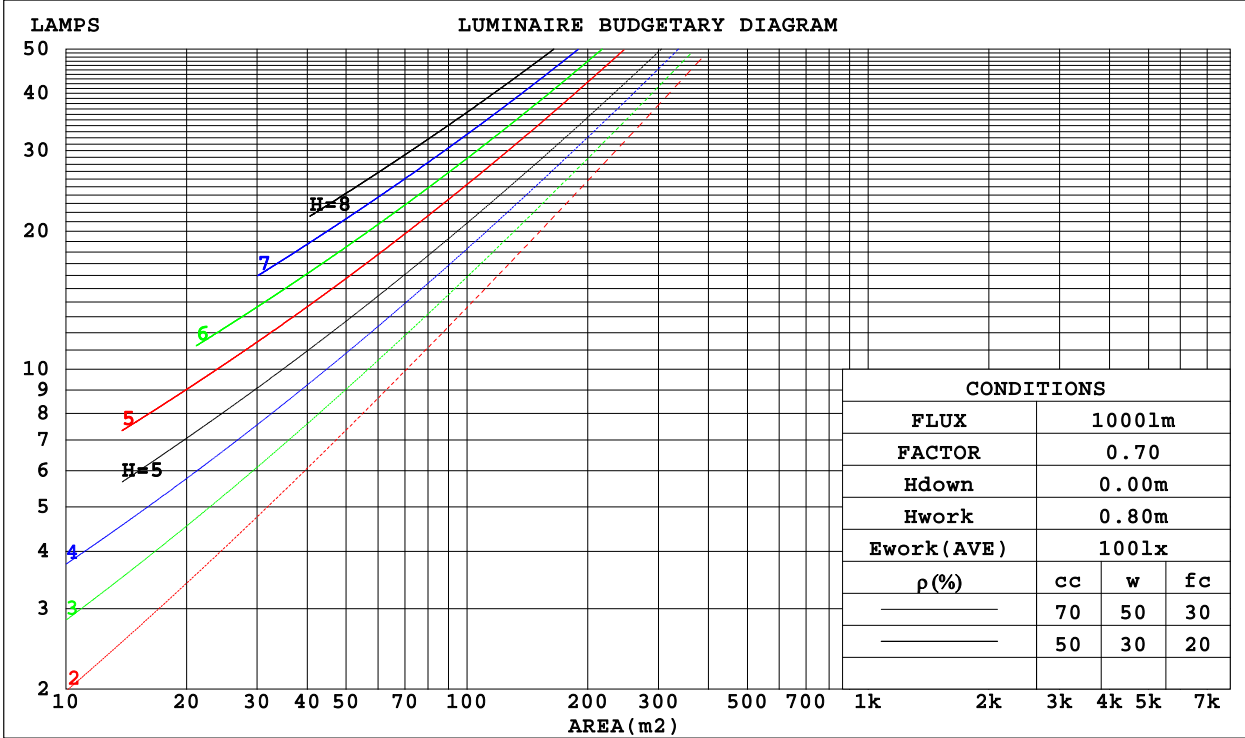
C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: MR mark
 Test Date: 2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity: 65.0%
 Test Distance: 8.880m [K=1.0000]
 Remarks:

CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11lx1 lm		
NAME: LV-108-24W	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	1.00
1.0	1.04	1.00	.96	1.02	.98	.95	.98	.95	.92	.94	.91	.89	.90	.88	.86	.84
2.0	.91	.84	.79	.89	.83	.78	.86	.80	.76	.82	.78	.74	.79	.76	.72	.70
3.0	.80	.72	.65	.78	.71	.65	.75	.69	.64	.73	.67	.63	.70	.66	.62	.59
4.0	.71	.62	.56	.70	.61	.55	.67	.60	.54	.65	.59	.54	.63	.57	.53	.51
5.0	.63	.54	.48	.62	.54	.48	.60	.53	.47	.58	.52	.47	.56	.51	.46	.44
6.0	.57	.48	.42	.56	.48	.42	.54	.47	.41	.53	.46	.41	.51	.45	.40	.38
7.0	.52	.43	.37	.51	.43	.37	.49	.42	.37	.48	.41	.36	.47	.41	.36	.34
8.0	.47	.39	.33	.47	.38	.33	.45	.38	.33	.44	.37	.32	.43	.37	.32	.30
9.0	.43	.35	.30	.43	.35	.30	.42	.34	.29	.41	.34	.29	.40	.34	.29	.27
10.0	.40	.32	.27	.40	.32	.27	.39	.32	.27	.38	.31	.27	.37	.31	.26	.25



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: MR mark
 Test Date: 2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity: 65.0%
 Test Distance: 8.880m [K=1.0000]
 Remarks:

WEC AND CCEC

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11x1 lm		
NAME: LV-108-24W	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	.301	.171	.054	.294	.168	.053	.281	.161	.052	.269	.155	.050	.258	.149	.048	
2.0	.286	.157	.048	.280	.154	.047	.268	.149	.046	.257	.144	.045	.248	.140	.044	
3.0	.266	.141	.042	.260	.139	.042	.250	.135	.041	.240	.132	.040	.232	.128	.040	
4.0	.246	.128	.038	.241	.126	.037	.232	.123	.037	.224	.120	.036	.216	.117	.036	
5.0	.228	.116	.034	.224	.115	.033	.215	.112	.033	.208	.110	.033	.201	.107	.032	
6.0	.212	.106	.030	.208	.105	.030	.201	.103	.030	.194	.101	.030	.187	.099	.029	
7.0	.197	.097	.028	.194	.097	.028	.187	.095	.027	.181	.093	.027	.176	.091	.027	
8.0	.184	.090	.025	.181	.089	.025	.175	.088	.025	.170	.086	.025	.165	.085	.025	
9.0	.173	.084	.023	.170	.083	.023	.165	.082	.023	.160	.080	.023	.155	.079	.023	
10.0	.163	.078	.022	.160	.077	.022	.155	.076	.021	.151	.075	.021	.147	.074	.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	.180	.156	.135	.154	.134	.116	.105	.092	.080	.061	.053	.047	.019	.017	.015	
2.0	.171	.132	.099	.147	.114	.085	.101	.079	.060	.058	.046	.035	.019	.015	.011	
3.0	.164	.114	.075	.140	.099	.065	.096	.068	.046	.056	.040	.027	.018	.013	.009	
4.0	.156	.101	.059	.134	.087	.051	.092	.061	.036	.053	.036	.021	.017	.012	.007	
5.0	.149	.090	.048	.128	.078	.041	.088	.055	.029	.051	.032	.017	.016	.010	.006	
6.0	.142	.082	.039	.122	.071	.034	.084	.050	.024	.049	.029	.014	.016	.010	.005	
7.0	.135	.075	.033	.116	.065	.029	.080	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.128	.069	.029	.111	.060	.025	.076	.042	.018	.044	.025	.011	.014	.008	.004	
9.0	.122	.064	.025	.105	.056	.022	.073	.039	.016	.043	.023	.009	.014	.008	.003	
10.0	.117	.060	.023	.101	.052	.020	.070	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:MR mark
 Test Date:2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:8.880m [K=1.0000]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11x1 lm										
NAME: LV-108-24W					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	12.6	14.1	12.9	14.3	14.5	12.3	13.8	12.6	14.0	14.2
3H	14.1	15.5	14.4	15.8	16.0	13.7	15.1	14.0	15.3	15.5
4H	14.8	16.1	15.1	16.3	16.6	14.2	15.5	14.5	15.8	16.0
6H	15.2	16.5	15.6	16.8	17.0	14.5	15.7	14.8	16.0	16.3
8H	15.4	16.6	15.8	16.9	17.2	14.5	15.7	14.9	16.0	16.3
12H	15.5	16.7	15.9	17.0	17.3	14.5	15.7	14.9	16.0	16.3
4H 2H	13.2	14.5	13.5	14.7	15.0	12.9	14.3	13.2	14.5	14.8
3H	14.9	16.0	15.2	16.3	16.6	14.5	15.7	14.8	15.9	16.2
4H	15.6	16.7	16.0	17.0	17.3	15.1	16.2	15.5	16.5	16.8
6H	16.2	17.2	16.6	17.5	17.9	15.5	16.5	15.9	16.8	17.2
8H	16.5	17.3	16.9	17.7	18.1	15.6	16.5	16.0	16.9	17.2
12H	16.6	17.4	17.1	17.8	18.2	15.6	16.4	16.0	16.8	17.2
8H 4H	15.9	16.7	16.3	17.1	17.5	15.4	16.3	15.8	16.6	17.0
6H	16.6	17.3	17.0	17.7	18.2	15.9	16.7	16.4	17.1	17.5
8H	16.9	17.5	17.4	18.0	18.4	16.1	16.7	16.5	17.2	17.6
12H	17.2	17.7	17.6	18.2	18.6	16.1	16.7	16.6	17.1	17.6
12H 4H	15.9	16.7	16.3	17.0	17.4	15.4	16.2	15.8	16.6	17.0
6H	16.6	17.3	17.1	17.7	18.2	16.0	16.6	16.5	17.1	17.5
8H	17.0	17.5	17.4	18.0	18.4	16.2	16.7	16.7	17.2	17.6
Variations with the observer position at spacings:										
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				
2.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3				

CIE Pub.117, 1868 lm Total Lamp Luminous Flux Correct (8log(F/F0) = 2.2)
 Area: 0.36 m2

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:MR mark
 Test Date:2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:8.880m [K=1.0000]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11x1 lm		
NAME: LV-108-24W	TYPE:	WEIGHT: /
SPEC.:	DIM.:	SERIAL No.:/
MFR.:	SUR.:	Shielding Angle: /

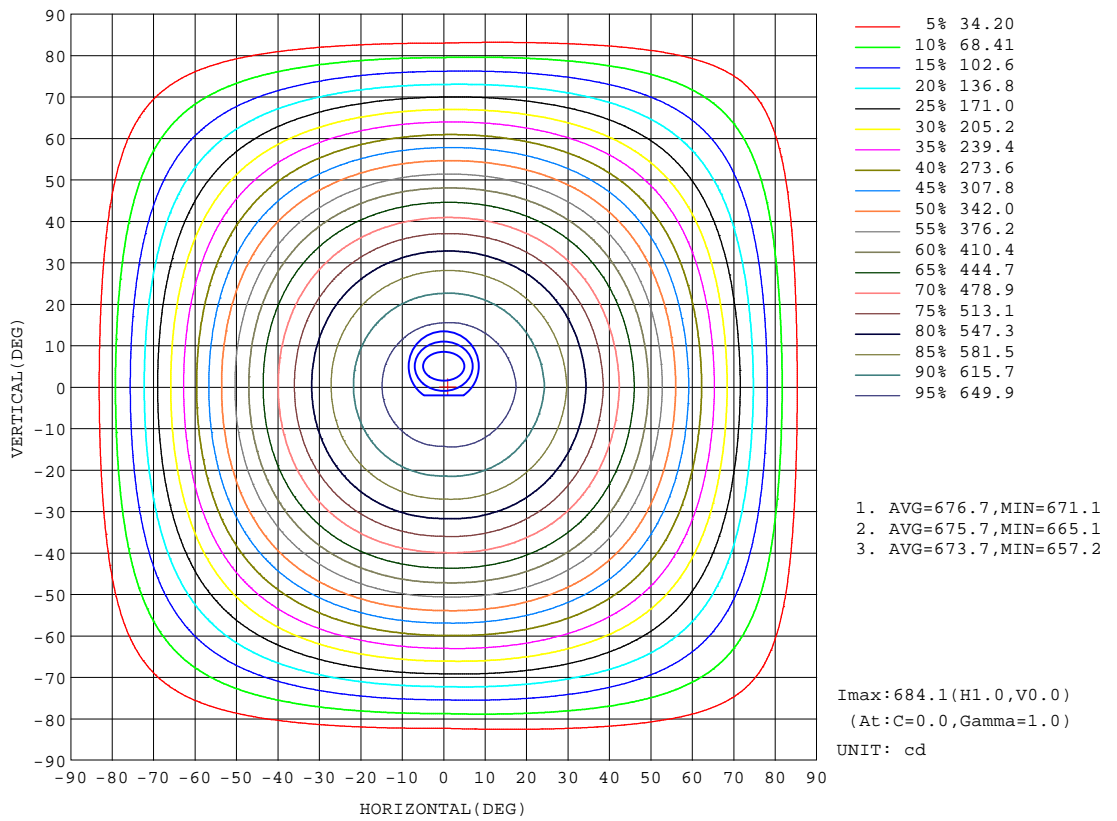
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	58	47	40	57	46	40	56	46	39	33
0.80	68	57	49	67	56	49	65	56	49	42
1.00	77	66	58	75	65	58	73	67	58	51
1.25	84	73	66	82	73	66	80	71	65	58
1.50	89	79	72	87	78	72	84	76	71	63
2.00	96	87	81	94	86	80	90	84	79	71
2.50	99	92	86	97	90	85	94	88	83	75
3.00	103	96	91	101	94	90	97	92	87	79
4.00	107	101	97	104	99	95	100	96	92	84
5.00	109	104	100	107	102	99	102	99	96	87
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004			Suspended				SHRNOM = 1.25			

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:MR mark
 Test Date:2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:8.880m [K=1.0000]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11x1 lm		
NAME: LV-108-24W	TYPE:	WEIGHT: /
SPEC.:	DIM.:	SERIAL No.:/
MFR.:	SUR.:	Shielding Angle: /

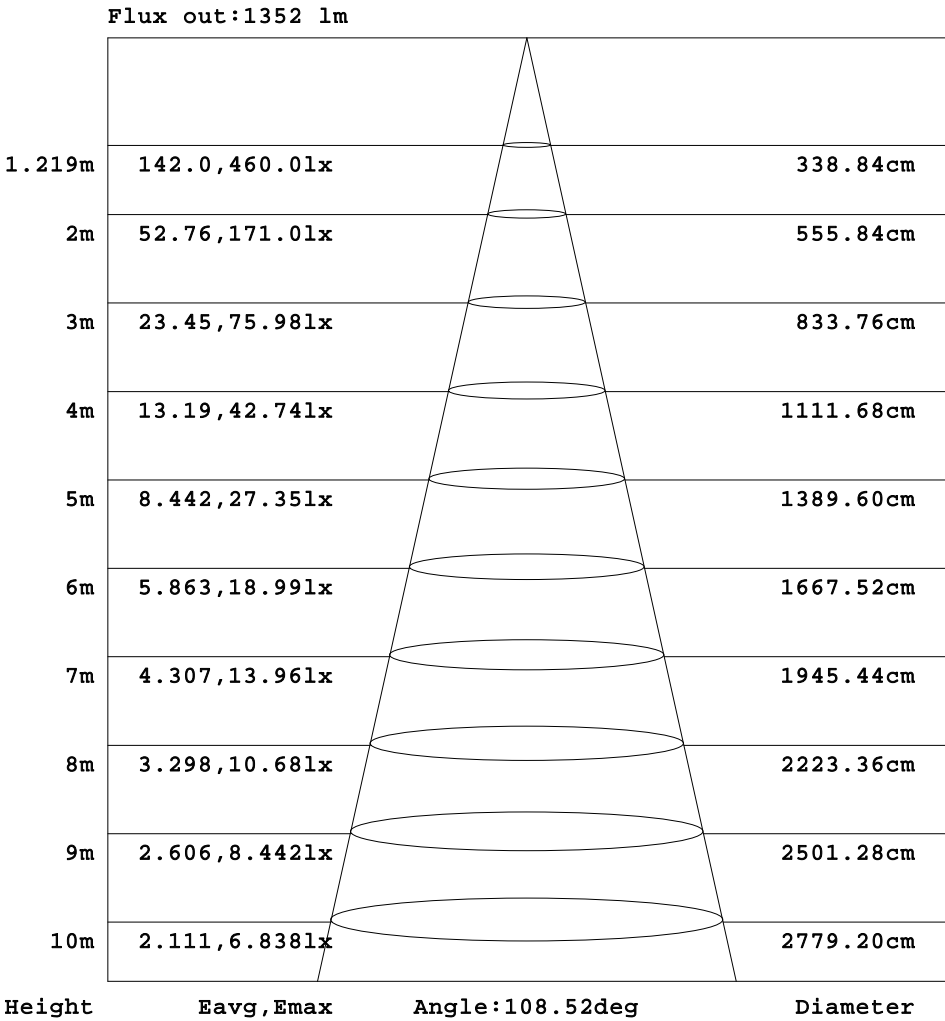


C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:MR mark
 Test Date:2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:8.880m [K=1.0000]
 Remarks:

AAI Figure

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11x1 lm		
NAME: LV-108-24W	TYPE:	WEIGHT: /
SPEC.:	DIM.:	SERIAL No.:/
MFR.:	SUR.:	Shielding Angle: /



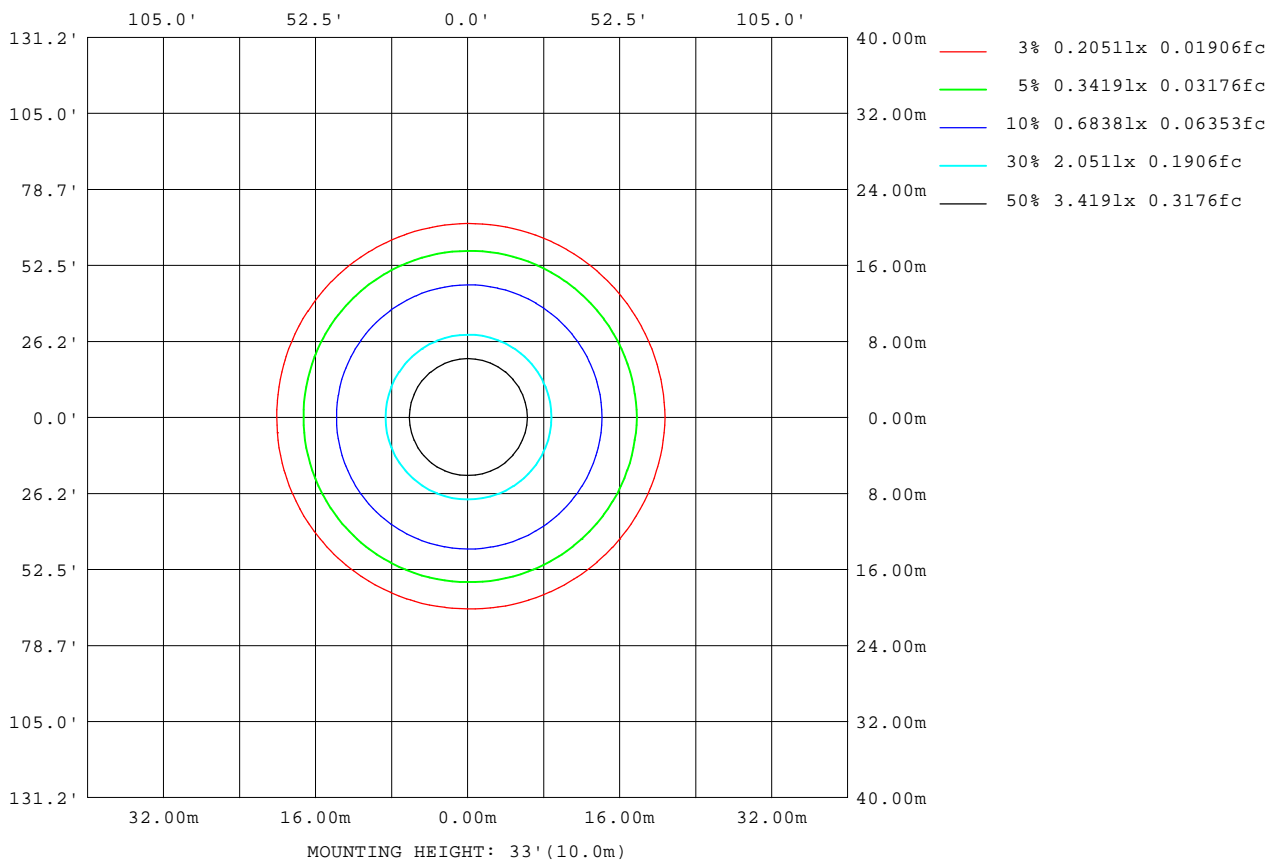
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:MR mark
 Test Date:2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:8.880m [K=1.0000]
 Remarks:

ISOLUX DIAGRAM

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11x1 lm		
NAME: LV-108-24W	TYPE:	WEIGHT: /
SPEC.:	DIM.:	SERIAL No.:/
MFR.:	SUR.:	Shielding Angle:/



C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: MR mark
 Test Date: 2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity: 65.0%
 Test Distance: 8.880m [K=1.0000]
 Remarks:

LED Avg.L Report

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11x1 lm		
NAME: LV-108-24W	TYPE:	WEIGHT: /
SPEC.:	DIM.:	SERIAL No.:/
MFR.:	SUR.:	Shielding Angle:/

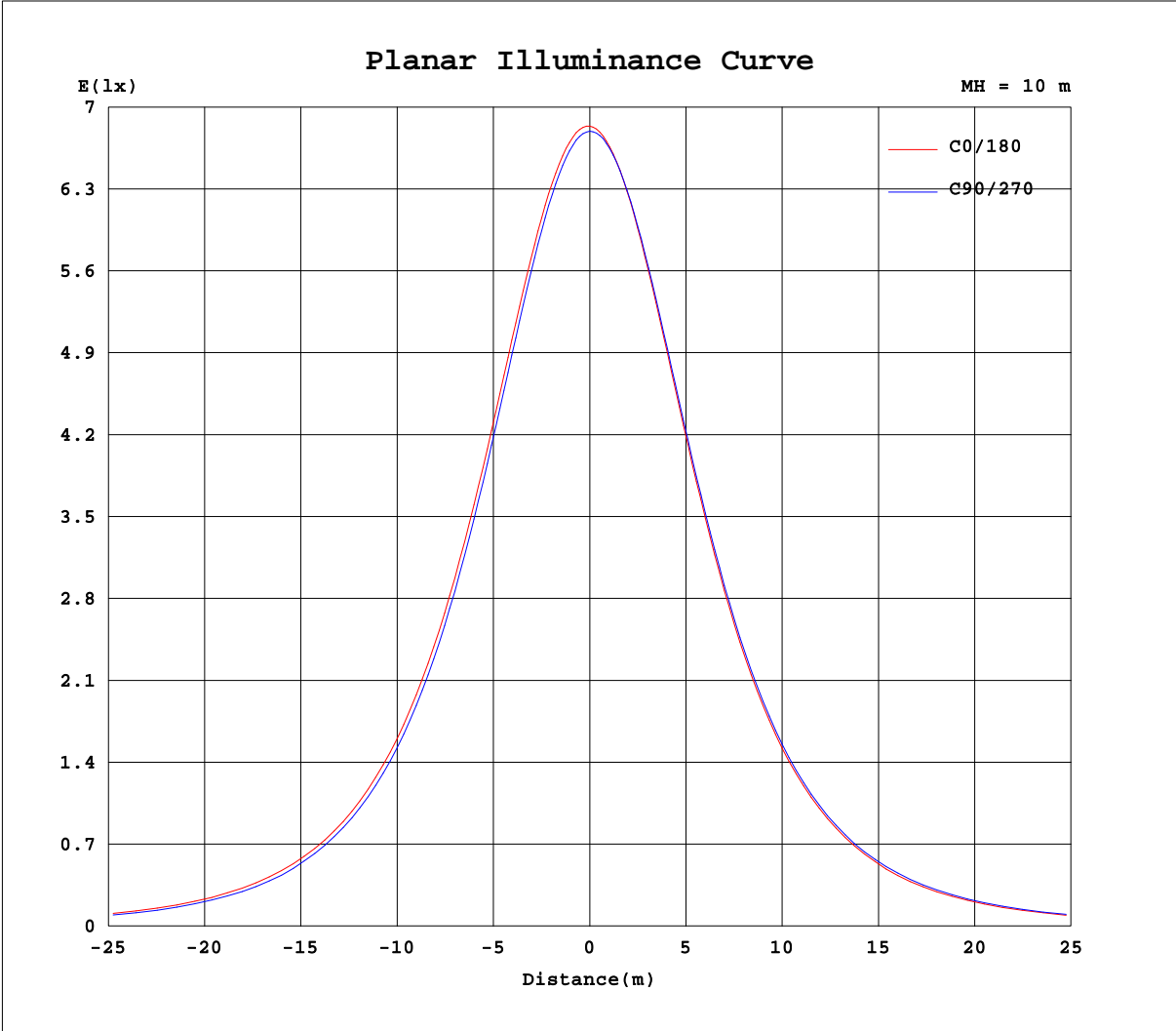
AvgL	cd/m2
L_0~180(65)av	1505
L_0~180(75)av	1304
L_0~180(85)av	925
L_90~270(65)av	1461
L_90~270(75)av	1192
L_90~270(85)av	415
L_45(65)av	1472
L_45(75)av	1226
L_45(85)av	587

Standard: GB/T 29293-2012

C Range: 0 - 360DEG
 C Interval: 90.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:MR mark
 Test Date:2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-2000A_V1 SYSTEM V2.00.411
 Humidity:65.0%
 Test Distance:8.880m [K=1.0000]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 90.0DEG
Test Speed: HIGH
Temperature: 25.3DEG
Operators: MR mark
Test Date: 2022-04-08

γ Range: 0 - 90DEG
 γ Interval: 1.0DEG
Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Humidity: 65.0%
Test Distance: 8.880m [K=1.0000]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:223.33V I:0.2416A P:22.220W PF:0.4119 Freq:49.99Hz Lamp Flux:1868.11x1 lm		
NAME: LV-108-24W	TYPE:	WEIGHT: /
SPEC.:	DIM.:	SERIAL No.:/
MFR.:	SUR.:	Shielding Angle:/

Table--1

UNIT: cd

C (DEG) γ (DEG)	C (DEG)																			
	0	90	180	270																
0	684	680	684	680																
5	682	675	679	677																
10	674	665	667	668																
15	660	647	649	652																
20	639	624	626	630																
25	612	595	596	601																
30	579	560	561	568																
35	542	521	522	530																
40	500	478	478	487																
45	454	432	431	440																
50	405	382	380	390																
55	353	330	327	338																
60	298	273	270	283																
65	243	217	215	227																
70	188	162	161	170																
75	134	107	109	115																
80	84.3	56.0	61.3	63.3																
85	38.6	10.9	19.4	15.1																
90	0.68	0.64	1.01	0.79																

C Range: 0 - 360DEG	γ Range: 0 - 90DEG
C Interval: 90.0DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System: EVERFINE GO-2000A_V1 SYSTEM V2.00.411
Temperature: 25.3DEG	Humidity: 65.0%
Operators: MR mark	Test Distance: 8.880m [K=1.0000]
Test Date: 2022-04-08	Remarks: