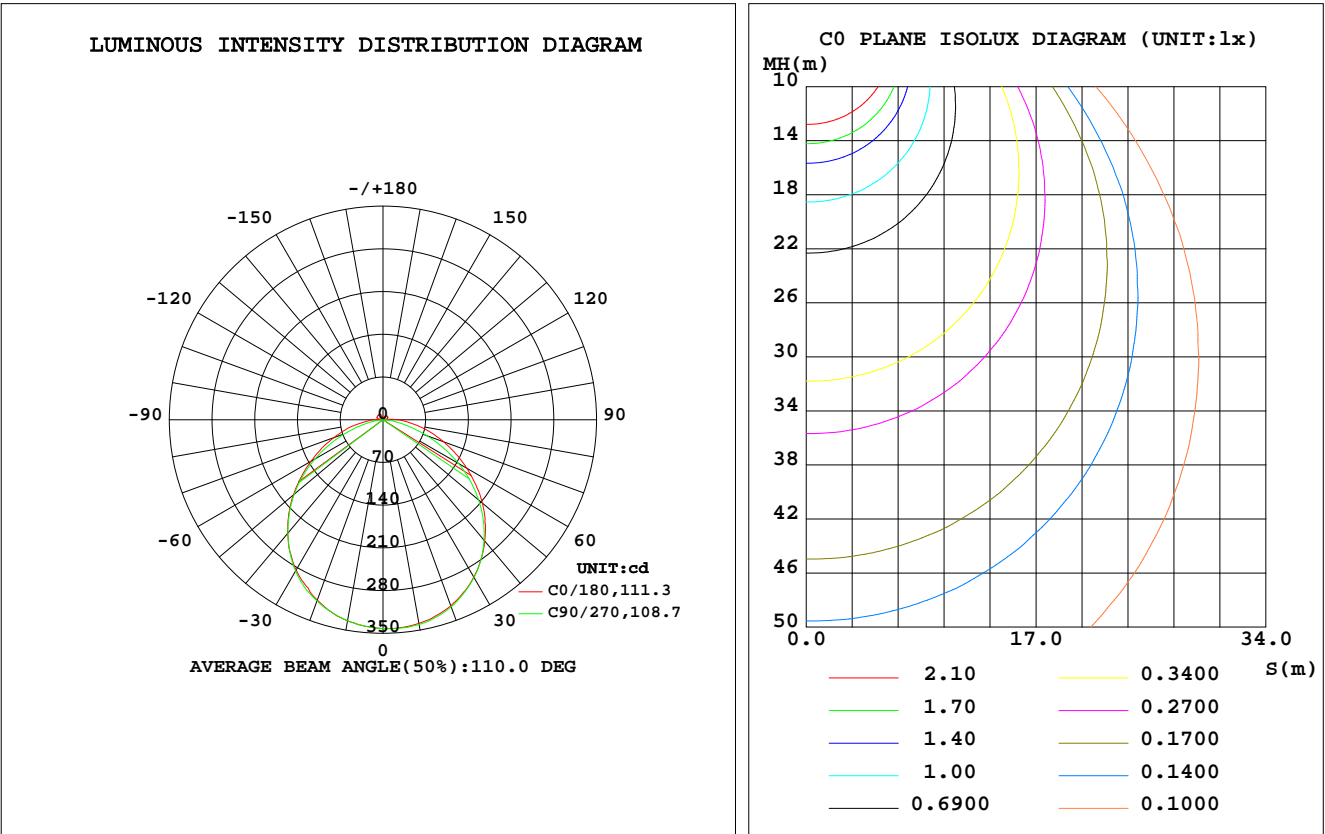


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.004V I:0.3779A P:9.0699W PF:1.0000 Freq:0Hz Lamp Flux:999.309x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 110.18 lm/W			
CR 827 8.5W	W000000 F1 1M IP67 21015124	Imax(cd)	343.1	S/MH(C0/180)	1.24
NOMINAL POWER(W)	8.5	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	999.31	η UP,DN(C0-180)	1.5,49.6
NOMINAL FLUX(lm)	999.309	CIE CLASS	DIRECT	η UP,DN(C180-360)	1.6,47.3
LAMPS INSIDE	1	η up(%)	3.2	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	96.8	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	338.7	341.3	340.8	335.4	334.7	335.0	334.3	339.5	0- 10	32.43	32.43	3.24,3.24
20	324.6	327.1	326.2	315.8	314.7	314.6	316.1	323.4	10- 20	93.19	125.6	12.6,12.6
30	297.4	301.5	298.3	285.5	284.3	282.5	286.2	295.3	20- 30	141.6	267.2	26.7,26.7
40	259.4	263.1	257.5	244.8	243.1	240.7	242.6	252.9	30- 40	170.4	437.6	43.8,43.8
50	212.8	213.8	204.5	193.4	191.2	187.8	189.6	202.6	40- 50	174.5	612.1	61.3,61.3
60	158.3	154.8	142.6	134.5	137.1	129.9	128.8	145.2	50- 60	153.1	765.2	76.6,76.6
70	106.0	97.08	76.16	78.11	84.98	74.06	66.11	90.41	60- 70	112.0	877.2	87.8,87.8
80	58.45	49.37	24.24	34.67	42.13	31.98	18.37	43.35	70- 80	64.31	941.6	94.2,94.2
90	24.96	18.71	2.634	11.75	16.34	11.29	0.6249	13.85	80- 90	26.24	967.8	96.8,96.8
100	2.102	3.813	0	3.971	2.065	4.183	0.2710	6.000	90-100	5.221	973.0	97.4,97.4
110	8.309	6.013	0	6.335	10.54	8.018	0.8131	6.857	100-110	5.231	978.3	97.9,97.9
120	9.081	6.188	0.0903	6.942	10.79	8.018	1.265	6.685	110-120	6.057	984.3	98.5,98.5
130	9.509	6.102	0.1806	7.028	10.79	8.018	1.536	5.400	120-130	5.445	989.8	99,99
140	7.977	5.055	0.1806	7.285	10.71	7.930	1.806	4.112	130-140	4.270	994.0	99.5,99.5
150	6.085	0.7501	0.1806	4.731	10.19	7.651	1.806	0.4289	140-150	3.140	997.2	99.8,99.8
160	0.5140	0.5229	0.1806	4.628	0.6861	3.060	1.716	0.8571	150-160	1.413	998.6	99.9,99.9
170	0.5140	0.5229	1.353	3.176	3.251	2.875	1.804	0.8571	160-170	0.5807	999.2	100,100
180	0.5140	0.5229	1.445	0.4362	0.4283	0.5156	0.5390	1.115	170-180	0.1504	999.3	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 525.99 lm

%lum = 52.6%

%lamp = 52.6%

Conical surface Flux(120deg): 765.25 lm

%lum = 76.6%

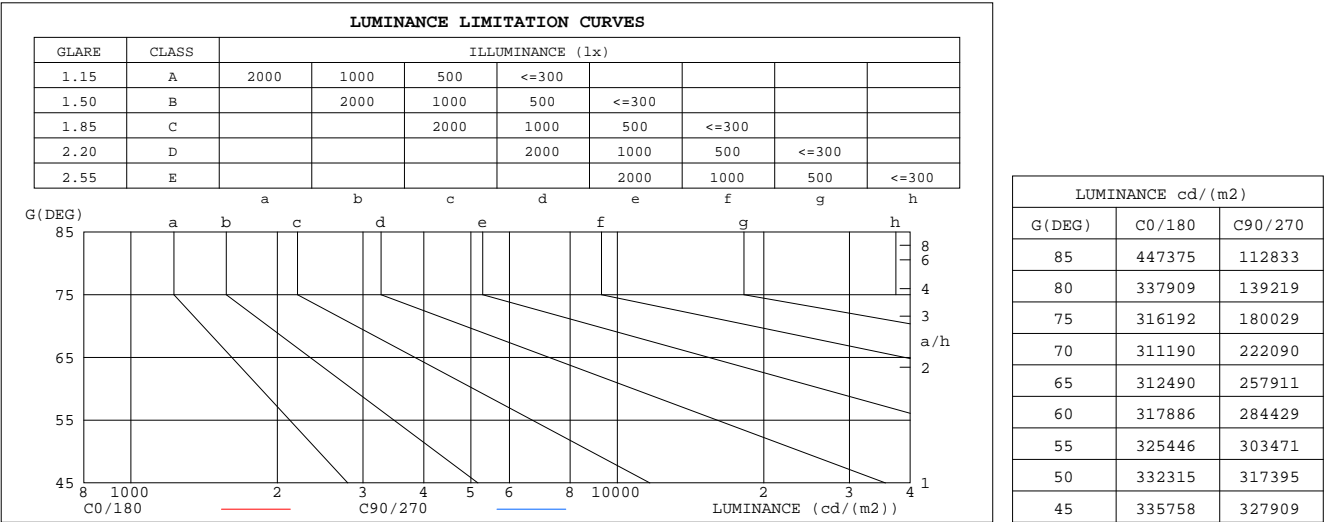
%lamp = 76.6%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.004V I:0.3779A P:9.0699W PF:1.0000 Freq:0Hz Lamp Flux:999.309x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

WEC AND CCEC

Test:U:24.004V I:0.3779A P:9.0699W PF:1.0000 Freq:0Hz Lamp Flux:999.309x1 lm					
NAME:			TYPE:LED		WEIGHT:N/A
SPEC.:N/A			DIM.:		SERIAL No.:N/A
MFR.:			SUR.:		Shielding Angle:N/A

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	.313	.178	.056	.304	.174	.055	.289	.166	.053	.276	.159	.051	.263	.152	.049	
2.0	.291	.159	.049	.283	.156	.048	.270	.150	.047	.258	.145	.045	.246	.139	.044	
3.0	.268	.143	.043	.262	.140	.042	.250	.135	.041	.239	.131	.040	.229	.127	.039	
4.0	.247	.128	.038	.241	.126	.037	.231	.122	.037	.221	.119	.036	.212	.115	.035	
5.0	.228	.116	.034	.223	.115	.033	.214	.111	.033	.205	.108	.032	.197	.105	.032	
6.0	.212	.106	.030	.207	.105	.030	.199	.102	.030	.191	.099	.029	.183	.097	.029	
7.0	.197	.097	.028	.193	.096	.027	.185	.094	.027	.178	.091	.027	.172	.089	.026	
8.0	.184	.090	.025	.181	.089	.025	.174	.087	.025	.167	.085	.024	.161	.083	.024	
9.0	.173	.084	.023	.169	.083	.023	.163	.081	.023	.157	.079	.023	.152	.077	.022	
10.0	.162	.078	.022	.159	.077	.021	.154	.075	.021	.148	.074	.021	.143	.072	.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	.215	.215	.215	.183	.183	.183	.125	.125	.125	.072	.072	.072	.023	.023	.023	
1.0	.205	.180	.158	.175	.155	.136	.120	.106	.094	.069	.062	.055	.022	.020	.018	
2.0	.196	.156	.123	.168	.135	.106	.115	.093	.074	.066	.054	.043	.021	.018	.014	
3.0	.189	.139	.099	.162	.120	.086	.111	.083	.060	.064	.049	.036	.021	.016	.012	
4.0	.181	.126	.083	.155	.108	.072	.107	.076	.051	.062	.044	.030	.020	.014	.010	
5.0	.174	.115	.072	.149	.100	.063	.103	.070	.044	.059	.041	.026	.019	.013	.009	
6.0	.166	.107	.064	.143	.093	.056	.099	.065	.040	.057	.038	.024	.018	.012	.008	
7.0	.160	.100	.058	.137	.087	.051	.095	.061	.036	.055	.036	.021	.018	.012	.007	
8.0	.153	.094	.054	.132	.082	.047	.091	.057	.033	.053	.034	.020	.017	.011	.007	
9.0	.147	.089	.050	.127	.078	.044	.088	.055	.031	.051	.032	.019	.017	.011	.006	
10.0	.142	.085	.048	.122	.074	.041	.085	.052	.029	.049	.031	.018	.016	.010	.006	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.004V I:0.3779A P:9.0699W PF:1.0000 Freq:0Hz Lamp Flux:999.309x1 lm											
NAME:					TYPE:LED			WEIGHT:N/A			
SPEC.:N/A					DIM.:			SERIAL No.:N/A			
MFR.:					SUR.:			Shielding Angle:N/A			
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		33.1	34.5	33.4	34.8	35.0	32.7	34.1	33.0	34.4	34.6
	3H	34.7	36.1	35.0	36.3	36.7	33.9	35.2	34.2	35.5	35.8
	4H	35.5	36.8	35.8	37.1	37.4	34.3	35.6	34.6	35.9	36.2
	6H	36.2	37.4	36.6	37.7	38.1	34.5	35.7	34.9	36.0	36.4
	8H	36.5	37.7	36.9	38.0	38.4	34.5	35.7	34.9	36.1	36.4
	12H	36.8	37.9	37.2	38.3	38.7	34.6	35.7	35.0	36.0	36.4
4H	2H	33.6	34.9	34.0	35.2	35.5	33.3	34.6	33.6	34.9	35.2
	3H	35.5	36.6	35.9	36.9	37.3	34.7	35.9	35.1	36.2	36.6
	4H	36.4	37.4	36.8	37.8	38.2	35.3	36.3	35.7	36.7	37.1
	6H	37.3	38.2	37.7	38.6	39.0	35.6	36.6	36.1	37.0	37.4
	8H	37.7	38.5	38.1	39.0	39.4	35.7	36.6	36.2	37.0	37.5
	12H	38.1	38.9	38.6	39.3	39.8	35.8	36.6	36.3	37.0	37.5
8H	4H	36.6	37.5	37.1	37.9	38.4	35.7	36.5	36.1	36.9	37.4
	6H	37.7	38.4	38.2	38.9	39.4	36.2	36.9	36.7	37.4	37.9
	8H	38.3	38.9	38.8	39.4	39.9	36.4	37.1	36.9	37.5	38.1
	12H	38.9	39.5	39.4	40.0	40.5	36.6	37.1	37.1	37.6	38.2
12H	4H	36.6	37.4	37.1	37.9	38.3	35.7	36.5	36.2	36.9	37.4
	6H	37.8	38.4	38.3	38.9	39.4	36.4	37.0	36.9	37.5	38.0
	8H	38.4	39.0	39.0	39.5	40.0	36.7	37.2	37.2	37.7	38.3
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.4					
2.0H	+ 0.1 / - 0.3					+ 0.2 / - 0.4					

CIE Pub.117, 999.3 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = -0.0$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.004V I:0.3779A P:9.0699W PF:1.0000 Freq:0Hz Lamp Flux:999.309x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

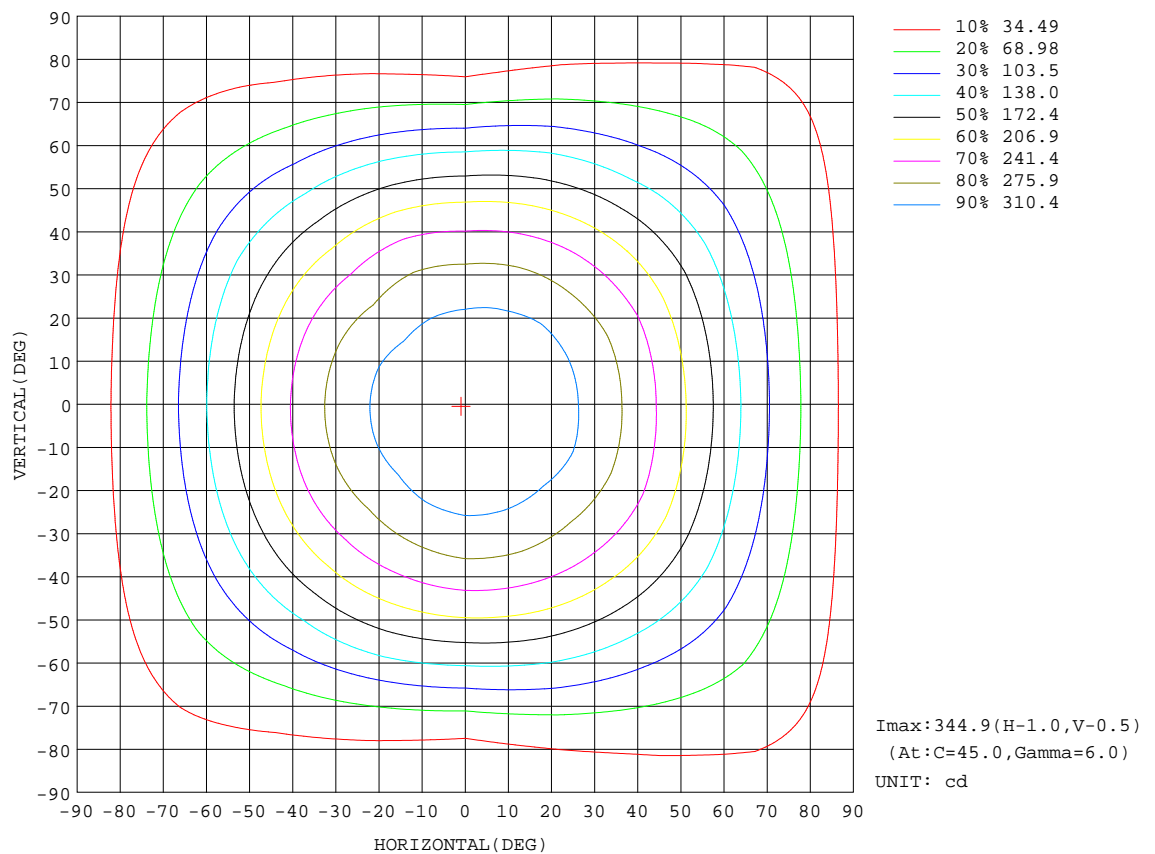
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	45	38	56	45	38	55	44	38	32
0.80	67	55	48	66	55	48	64	54	47	40
1.00	75	64	57	74	63	56	71	65	56	48
1.25	82	72	65	81	71	64	78	69	63	55
1.50	87	77	70	85	76	70	82	74	68	60
2.00	94	85	79	92	84	78	88	81	76	68
2.50	98	90	84	96	88	83	91	85	81	72
3.00	101	94	89	99	92	87	94	89	85	75
4.00	105	99	95	103	97	93	98	93	90	80
5.00	108	103	98	105	100	97	100	96	93	83
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:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:24.004V I:0.3779A P:9.0699W PF:1.0000 Freq:0Hz Lamp Flux:999.309x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

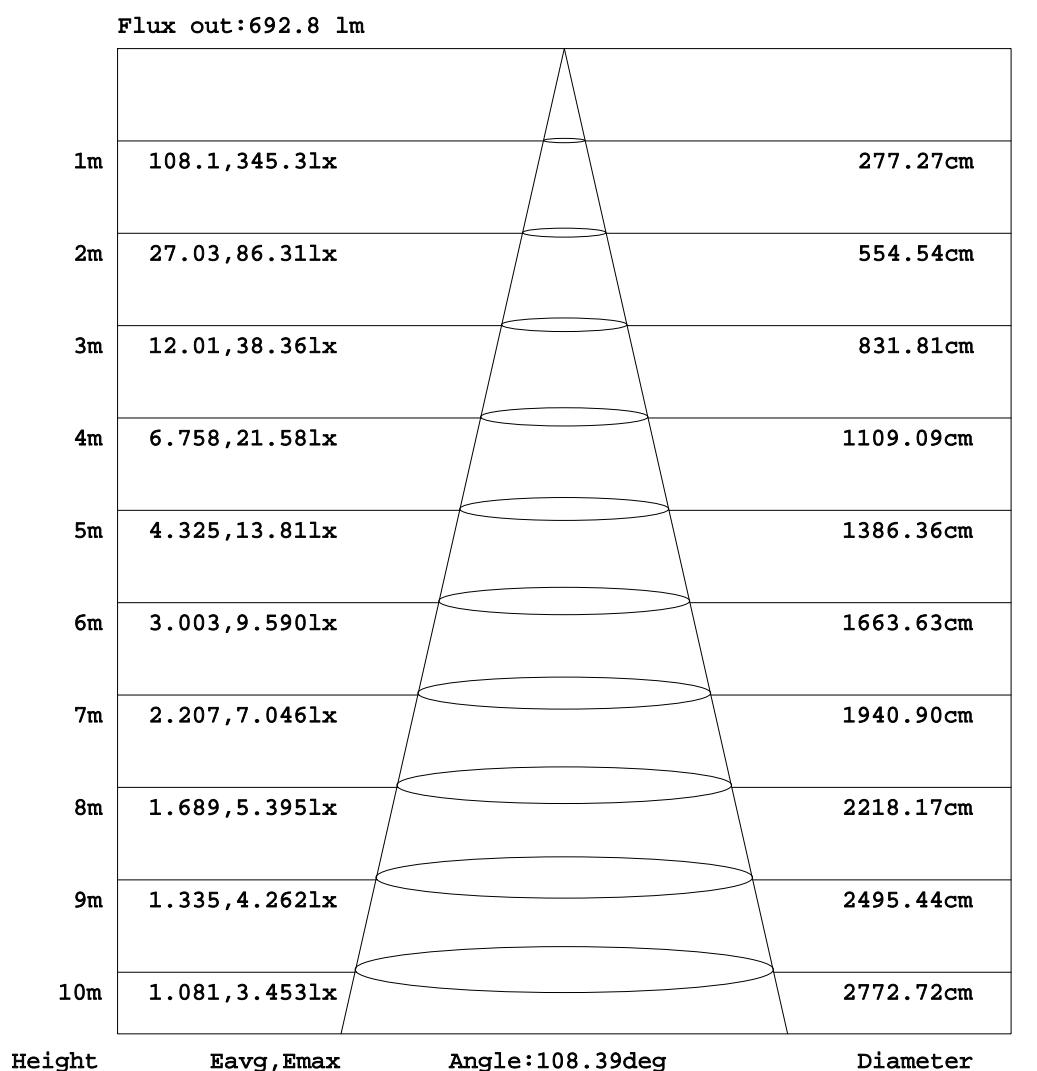


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

AAI Figure

Test:U:24.004V I:0.3779A P:9.0699W PF:1.0000 Freq:0Hz Lamp Flux:999.309x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

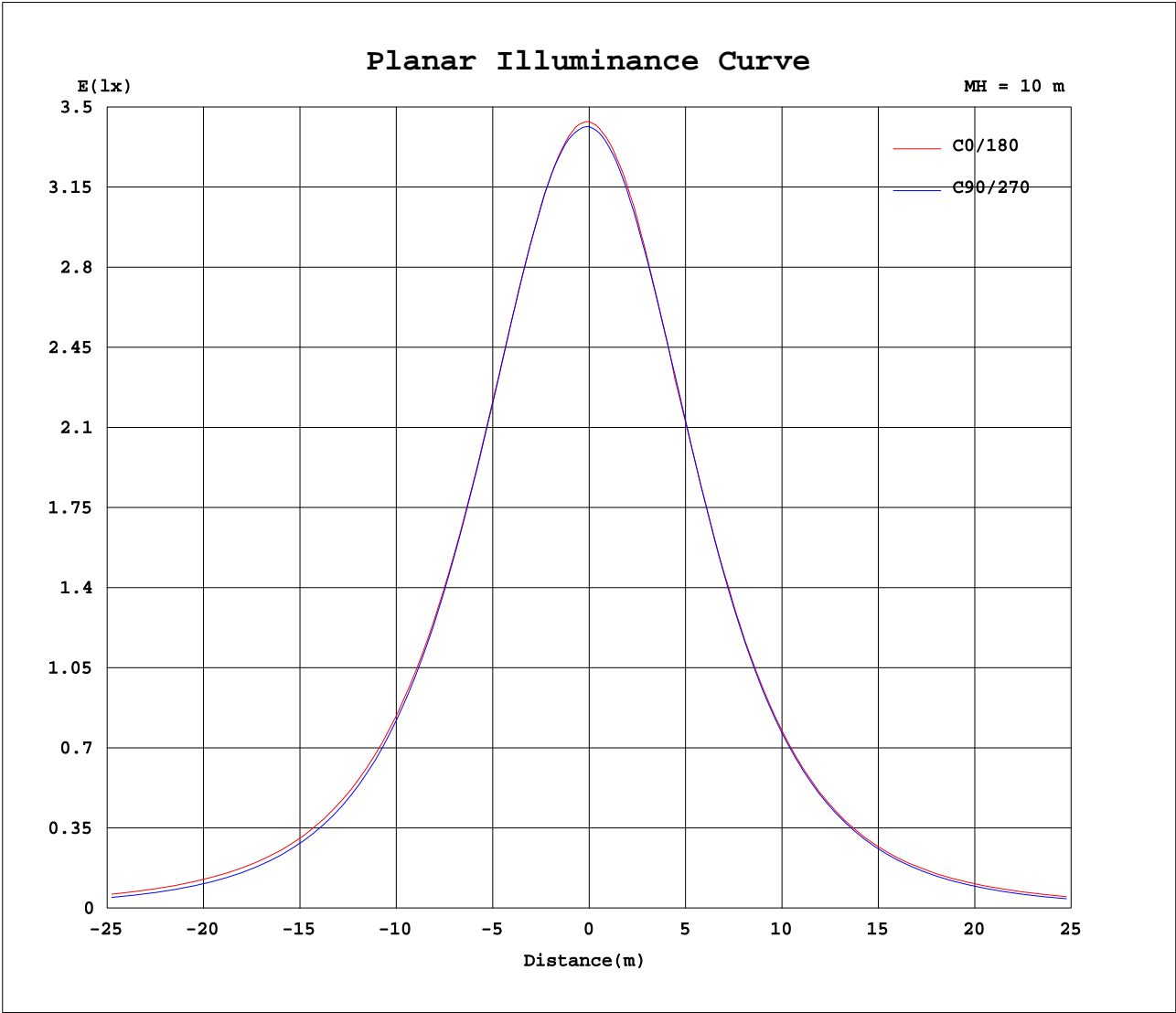


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.004V I:0.3779A P:9.0699W PF:1.0000 Freq:0Hz Lamp Flux:999.309x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342	342			
5	342	343	343	343	342	342	340	340	339	340	340	339	340	341	342	341			
10	339	339	341	340	341	338	335	335	335	335	335	334	334	337	339	337			
15	333	335	336	335	335	331	327	327	326	326	325	325	326	329	334	332			
20	325	326	327	327	326	321	316	315	315	313	315	315	316	320	323	322			
25	312	315	316	315	313	309	302	300	300	299	300	303	303	306	311	311			
30	297	300	302	301	298	293	285	284	284	283	282	287	286	291	295	296			
35	280	283	283	282	280	272	264	265	265	263	263	268	266	271	274	278			
40	259	263	263	261	258	250	245	243	243	241	241	245	243	248	253	258			
45	236	242	241	236	232	227	221	218	219	216	215	219	217	223	226	235			
50	213	217	214	209	205	200	193	191	191	189	188	190	190	197	203	209			
55	186	187	184	181	175	171	165	163	164	161	159	161	160	169	175	182			
60	158	158	155	150	143	141	134	135	137	136	130	130	129	140	145	155			
65	132	132	125	119	109	108	105	109	111	108	101	99.5	97.1	111	117	128			
70	106	105	97.1	88.9	76.2	77.3	78.1	83.7	85.0	80.5	74.1	70.9	66.1	80.8	90.4	101			
75	81.5	80.5	71.7	61.1	46.7	51.2	54.9	61.7	64.0	58.7	51.0	45.9	39.1	54.6	66.0	77.1			
80	58.4	58.5	49.4	38.1	24.2	30.4	34.7	42.2	42.1	39.1	32.0	26.3	18.4	32.8	43.4	54.7			
85	38.8	38.9	31.2	21.4	9.86	16.6	21.3	25.6	25.5	23.2	18.5	13.6	6.20	16.1	25.9	35.3			
90	25.0	24.5	18.7	11.4	2.63	8.40	11.7	13.8	16.3	14.5	11.3	6.82	0.62	6.98	13.8	21.2			
95	7.94	7.73	3.14	0.18	0.10	0.04	1.38	5.11	5.89	5.25	1.64	0.01	0.00	0.18	0.00	5.12			
100	2.10	1.71	3.81	1.40	0.00	1.30	3.97	2.11	2.07	3.11	4.18	3.16	0.27	2.80	6.00	4.30			
105	8.05	7.33	5.49	2.72	0.00	2.18	5.83	8.17	9.94	9.40	7.50	3.78	0.45	2.80	6.86	8.26			
110	8.31	7.76	6.01	2.72	0.00	2.88	6.33	8.94	10.5	10.1	8.02	3.86	0.81	2.80	6.86	8.77			
115	8.65	8.36	6.19	2.89	0.18	3.14	6.86	9.63	10.8	10.1	8.02	3.86	1.00	2.80	6.86	8.77			
120	9.08	8.63	6.19	2.55	0.09	3.41	6.94	9.63	10.8	10.1	8.02	3.69	1.26	2.27	6.69	8.77			
125	9.51	8.63	6.19	2.02	0.09	3.41	6.94	9.63	10.8	10.1	8.02	3.51	1.27	1.92	6.25	8.69			
130	9.51	8.63	6.10	1.58	0.18	3.41	7.03	9.72	10.8	10.1	8.02	3.32	1.54	1.48	5.40	8.17			
135	9.25	8.20	5.75	0.44	0.18	1.24	7.20	9.72	10.8	10.1	8.02	1.05	1.63	0.35	4.71	7.22			
140	7.98	7.51	5.06	0.44	0.18	1.39	7.29	9.72	10.7	10.1	7.93	1.76	1.81	0.52	4.11	6.36			
145	7.54	6.82	3.92	0.44	0.18	2.71	7.29	9.81	10.6	10.1	7.76	3.61	1.81	0.61	2.65	5.50			
150	6.08	5.18	0.75	0.44	0.18	2.80	4.73	9.81	10.2	10.0	7.65	3.86	1.81	0.96	0.43	3.96			
155	4.03	1.74	0.52	0.44	0.18	2.80	0.94	8.95	9.68	9.65	1.57	3.86	1.72	1.22	0.60	0.43			
160	0.51	0.52	0.52	0.44	0.18	2.80	4.63	0.69	0.69	0.61	3.06	3.33	1.72	1.23	0.86	0.65			
165	0.51	0.52	0.52	0.44	0.36	2.80	4.46	5.59	5.57	5.69	4.97	2.90	1.72	1.57	0.86	0.69			
170	0.51	0.52	0.52	0.44	1.35	2.36	3.18	3.96	3.25	3.36	2.87	2.63	1.80	1.57	0.86	0.69			
175	0.51	0.52	0.52	0.44	1.45	2.10	2.32	2.84	2.48	2.07	2.09	1.58	1.53	1.49	0.86	0.69			
180	0.51	0.52	0.52	0.44	1.45	0.96	0.44	0.87	0.43	0.52	0.52	0.52	0.54	1.49	1.12	1.03			

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks: