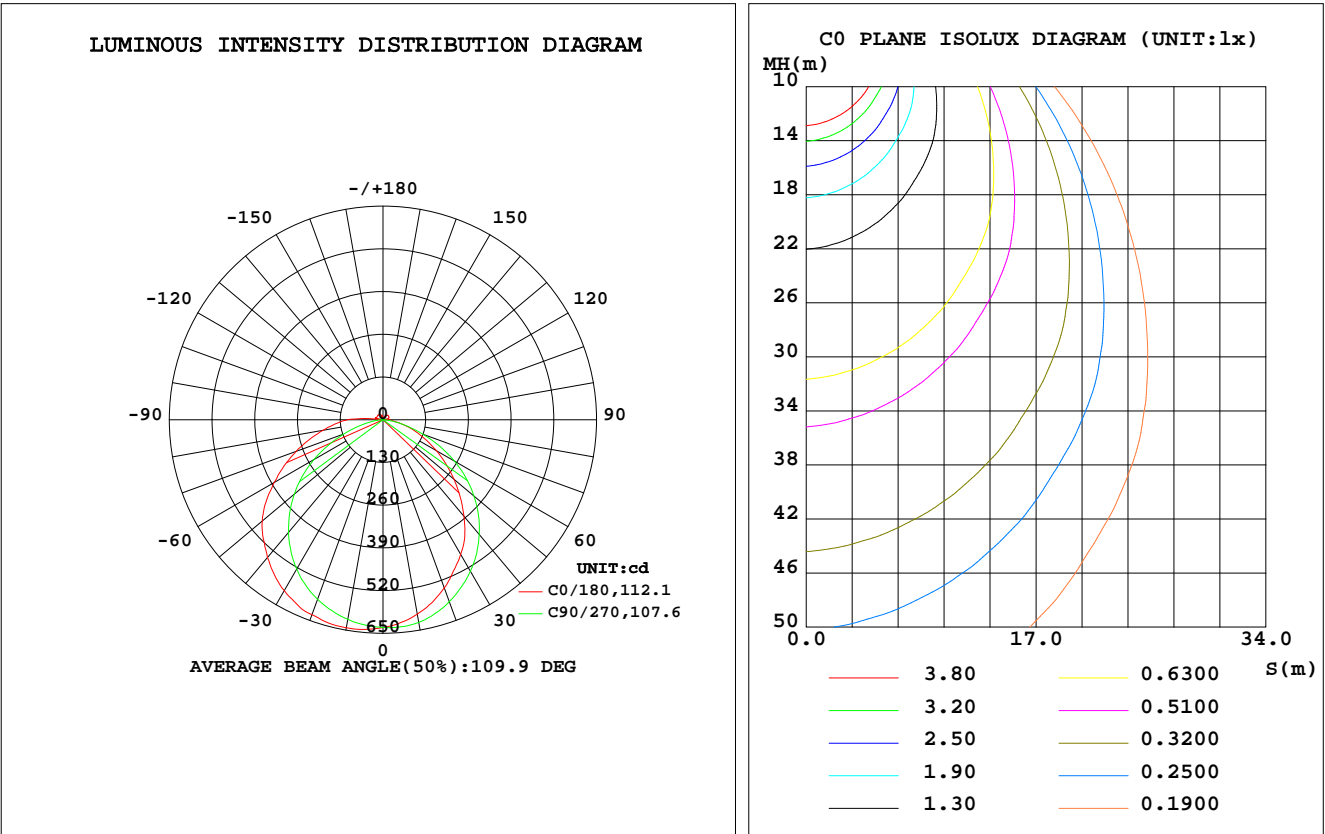


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.003V I:0.7722A P:18.535W PF:1.0000 Freq:0Hz Lamp Flux:1894.1x1 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: 102.19 lm/W			
WATTAGE(W)	17.5	Imax(cd)	642.8	S/MH(C0/180)	1.41
NOMINAL POWER(W)	17.5	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1894.1	η UP,DN(C0-180)	1.8,46.4
NOMINAL FLUX(lm)	1894.1	CIE CLASS	DIRECT	η UP,DN(C180-360)	2.1,49.6
LAMPS INSIDE	1	η up(%)	4.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	96.0	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	600.4	608.8	625.9	636.1	642.8	634.0	616.8	608.0	0- 10	59.85	59.85	3.16,3.16
20	544.9	561.9	589.2	617.3	631.6	616.0	581.8	562.3	10- 20	171.6	231.4	12.2,12.2
30	473.2	493.8	532.3	577.9	600.8	577.5	524.9	491.7	20- 30	260.1	491.5	26,26
40	383.5	405.8	455.7	512.3	547.1	518.5	447.1	399.8	30- 40	313.2	804.7	42.5,42.5
50	282.3	303.1	361.5	433.0	479.3	439.6	352.6	294.5	40- 50	321.7	1126	59.5,59.5
60	186.8	198.4	250.2	332.7	383.2	341.8	243.4	192.3	50- 60	285.6	1412	74.5,74.5
70	106.8	107.7	130.2	224.2	280.4	236.6	127.2	104.0	60- 70	213.8	1626	85.8,85.8
80	43.03	44.03	36.63	128.9	185.6	137.3	39.90	39.47	70- 80	129.7	1755	92.7,92.7
90	21.30	20.48	2.114	56.84	108.3	63.64	6.247	17.87	80- 90	63.18	1819	96,96
100	3.148	9.556	0.3917	12.20	4.077	14.95	0.7013	10.71	90-100	15.58	1834	96.8,96.8
110	19.67	13.67	0.5214	14.14	20.61	19.43	2.847	13.58	100-110	12.87	1847	97.5,97.5
120	20.44	14.19	1.046	15.16	20.63	18.81	2.833	13.73	110-120	13.43	1860	98.2,98.2
130	20.44	13.93	1.046	15.69	20.79	17.42	3.001	13.27	120-130	12.01	1872	98.9,98.9
140	18.74	11.67	1.046	15.42	20.17	16.72	3.489	10.54	130-140	9.255	1882	99.3,99.3
150	14.80	2.630	1.046	2.461	19.01	16.02	5.854	2.586	140-150	6.999	1889	99.7,99.7
160	1.283	1.569	1.204	12.85	1.112	8.841	6.461	1.679	150-160	3.295	1892	99.9,99.9
170	1.719	1.506	2.960	8.568	10.78	10.09	5.580	1.852	160-170	1.630	1894	100,100
180	1.625	1.568	3.139	0.3384	1.368	1.623	2.008	2.145	170-180	0.4499	1894	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 967.17 lm

%lum = 51.1%

%lamp = 51.1%

Conical surface Flux(120deg): 1411.9 lm

%lum = 74.5%

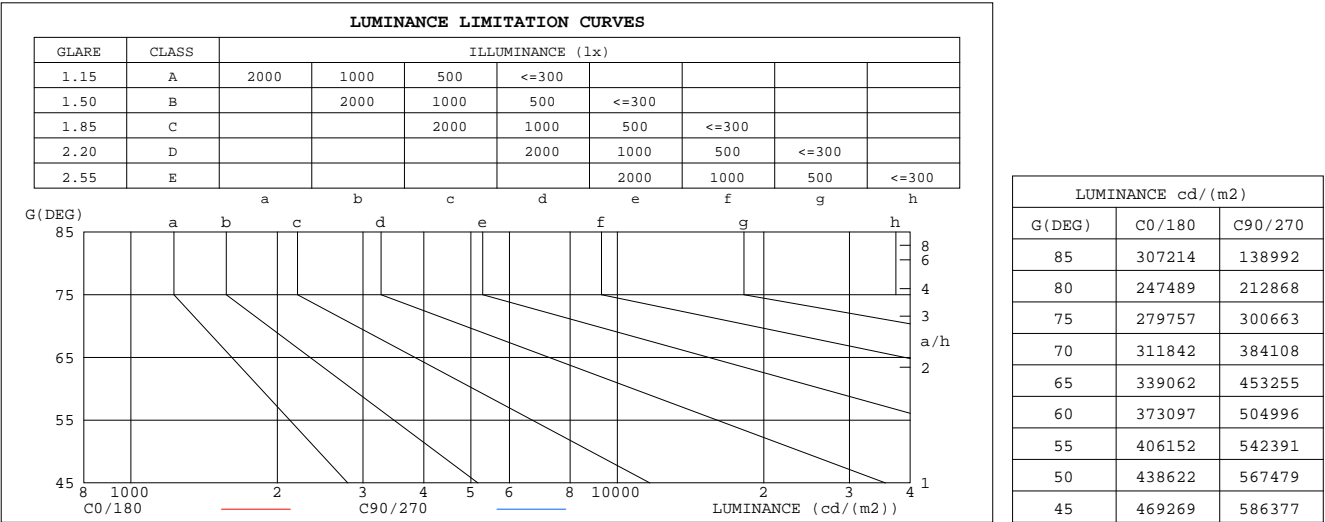
%lamp = 74.5%

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:24.003V I:0.7722A P:18.535W PF:1.0000 Freq:0Hz Lamp Flux:1894.1x1 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:24.003V I:0.7722A P:18.535W PF:1.0000 Freq:0Hz Lamp Flux:1894.1x1 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
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Wall Exitance Coefficients(WEC)									
0.0																
1.0	.322	.183	.058	.314	.179	.057	.299	.171	.055	.284	.164	.053	.271	.157	.051	
2.0	.296	.162	.050	.289	.159	.049	.275	.153	.048	.262	.147	.046	.251	.142	.045	
3.0	.272	.145	.043	.265	.142	.043	.253	.137	.042	.242	.132	.041	.231	.128	.040	
4.0	.250	.130	.038	.244	.128	.038	.233	.124	.037	.223	.120	.036	.213	.116	.035	
5.0	.230	.117	.034	.225	.116	.034	.215	.112	.033	.206	.109	.032	.197	.106	.032	
6.0	.213	.107	.031	.209	.105	.030	.200	.102	.030	.191	.099	.029	.184	.097	.029	
7.0	.198	.098	.028	.194	.097	.028	.186	.094	.027	.179	.092	.027	.172	.089	.026	
8.0	.185	.090	.025	.181	.089	.025	.174	.087	.025	.167	.085	.024	.161	.083	.024	
9.0	.173	.084	.023	.170	.083	.023	.163	.081	.023	.157	.079	.023	.151	.077	.022	
10.0	.163	.078	.022	.160	.077	.022	.154	.075	.021	.148	.074	.021	.143	.072	.021	

pcc	80%			70%			50%			30%			10%			0
ρw	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρfc	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.221	.221	.221	.189	.189	.189	.129	.129	.129	.074	.074	.074	.024	.024	.024	
1.0	.212	.187	.164	.181	.160	.141	.124	.110	.098	.071	.064	.057	.023	.021	.018	
2.0	.204	.163	.128	.174	.140	.111	.120	.097	.077	.069	.056	.045	.022	.018	.015	
3.0	.196	.145	.105	.168	.125	.091	.115	.087	.064	.067	.051	.038	.021	.017	.012	
4.0	.188	.132	.089	.161	.114	.078	.111	.080	.055	.064	.047	.032	.021	.015	.011	
5.0	.181	.122	.078	.155	.105	.068	.107	.074	.048	.062	.043	.029	.020	.014	.009	
6.0	.173	.114	.071	.149	.098	.061	.103	.069	.043	.060	.040	.026	.019	.013	.009	
7.0	.167	.107	.065	.143	.092	.056	.099	.065	.040	.058	.038	.024	.019	.013	.008	
8.0	.160	.101	.060	.138	.088	.053	.095	.061	.037	.056	.036	.022	.018	.012	.007	
9.0	.154	.096	.057	.133	.083	.050	.092	.059	.035	.054	.035	.021	.017	.011	.007	
10.0	.148	.092	.054	.128	.080	.047	.089	.056	.034	.052	.033	.020	.017	.011	.007	

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:24.003V I:0.7722A P:18.535W PF:1.0000 Freq:0Hz Lamp Flux:1894.1x1 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		32.5	34.0	32.8	34.2	34.5	33.6	35.1	34.0	35.4	35.7
	3H	33.6	35.0	34.0	35.3	35.6	34.8	36.2	35.2	36.5	36.8
	4H	34.1	35.4	34.4	35.7	36.0	35.2	36.4	35.5	36.8	37.1
	6H	34.4	35.6	34.8	35.9	36.3	35.3	36.5	35.7	36.9	37.2
	8H	34.5	35.6	34.9	36.0	36.4	35.3	36.5	35.7	36.9	37.2
	12H	34.6	35.7	35.0	36.1	36.5	35.3	36.5	35.7	36.8	37.2
4H	2H	33.0	34.3	33.4	34.6	35.0	33.9	35.2	34.3	35.5	35.9
	3H	34.3	35.4	34.7	35.8	36.2	35.2	36.4	35.7	36.7	37.1
	4H	34.9	35.9	35.3	36.3	36.7	35.7	36.7	36.1	37.1	37.5
	6H	35.3	36.2	35.7	36.6	37.1	36.0	36.9	36.4	37.3	37.8
	8H	35.5	36.3	35.9	36.7	37.2	36.0	36.9	36.5	37.3	37.8
	12H	35.6	36.4	36.1	36.9	37.4	36.1	36.9	36.6	37.3	37.8
8H	4H	35.0	35.9	35.5	36.3	36.8	35.8	36.7	36.3	37.1	37.6
	6H	35.6	36.3	36.1	36.8	37.3	36.2	36.9	36.7	37.4	37.9
	8H	35.9	36.5	36.4	37.0	37.5	36.3	37.0	36.9	37.5	38.0
	12H	36.2	36.7	36.7	37.2	37.8	36.4	37.0	37.0	37.5	38.1
12H	4H	35.0	35.8	35.5	36.3	36.8	35.8	36.6	36.3	37.0	37.5
	6H	35.7	36.3	36.2	36.8	37.3	36.2	36.9	36.7	37.4	37.9
	8H	36.0	36.5	36.5	37.0	37.6	36.4	37.0	36.9	37.5	38.0
Variations with the observer position at spacings:											
S = 1.0H	+ 0.3 / - 0.3					+ 0.2 / - 0.2					
1.5H	+ 0.1 / - 0.3					+ 0.2 / - 0.3					
2.0H	+ 0.3 / - 0.4					+ 0.5 / - 0.7					

CIE Pub.117, 1894 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 2.2$)

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:24.003V I:0.7722A P:18.535W PF:1.0000 Freq:0Hz Lamp Flux:1894.1x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

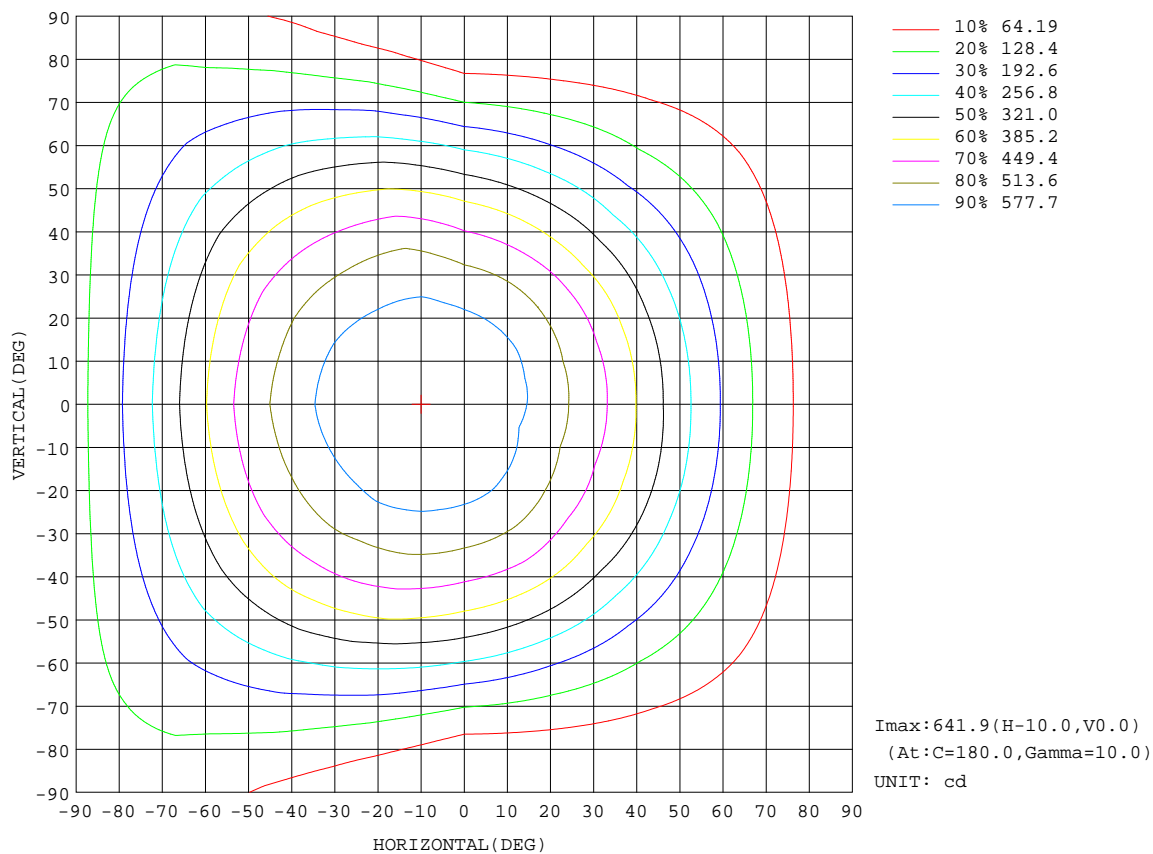
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	44	38	55	44	37	54	44	37	31
0.80	66	54	47	65	54	47	63	53	46	39
1.00	74	63	56	73	62	55	70	63	55	47
1.25	81	71	63	80	70	63	77	68	62	54
1.50	86	76	69	84	75	68	81	73	67	59
2.00	93	84	78	91	83	77	87	80	75	66
2.50	97	89	83	95	87	81	90	84	79	70
3.00	100	93	87	98	91	86	93	88	83	74
4.00	104	98	93	102	96	92	97	92	89	78
5.00	107	102	97	104	99	95	99	95	92	81
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:24.003V I:0.7722A P:18.535W PF:1.0000 Freq:0Hz Lamp Flux:1894.1x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

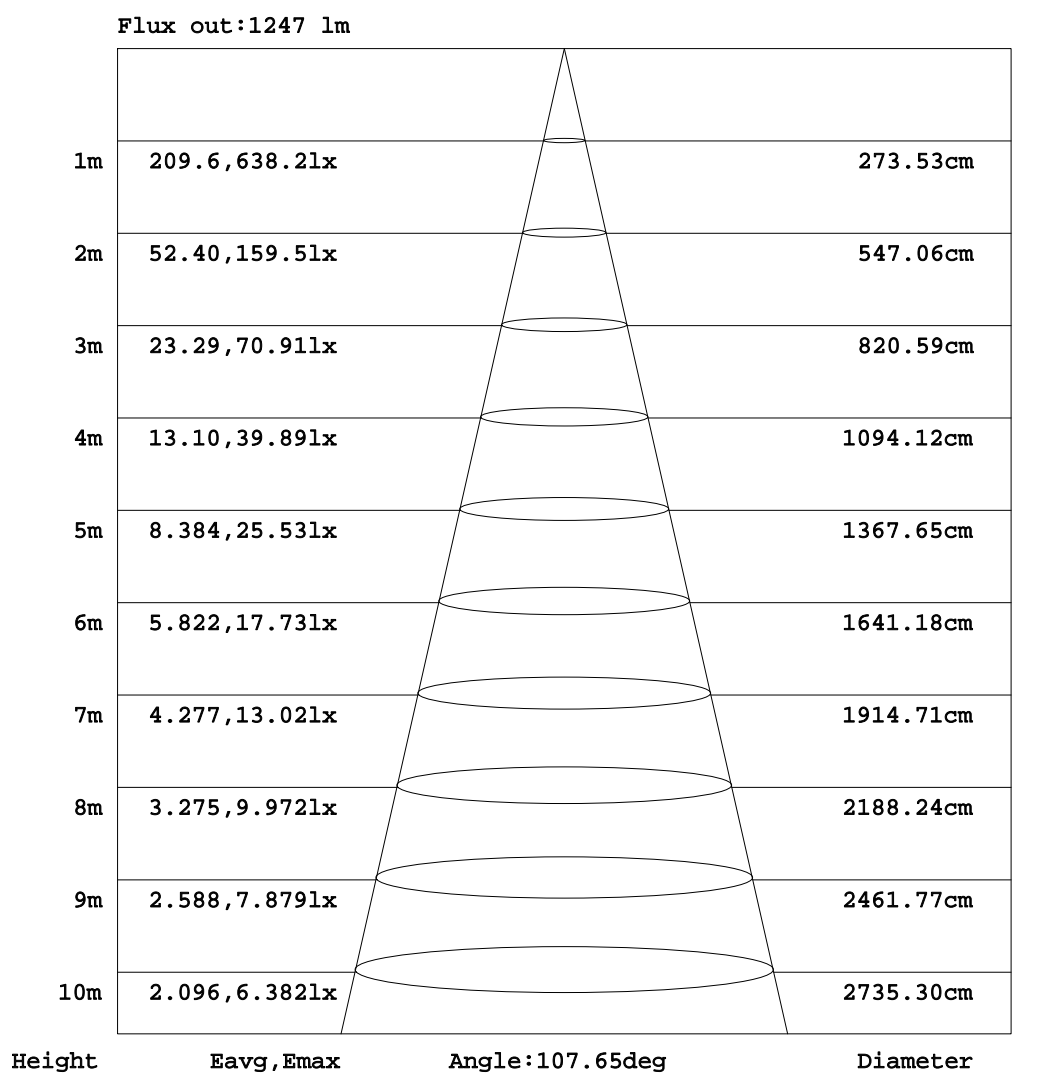


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

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:24.003V I:0.7722A P:18.535W PF:1.0000 Freq:0Hz Lamp Flux:1894.1x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

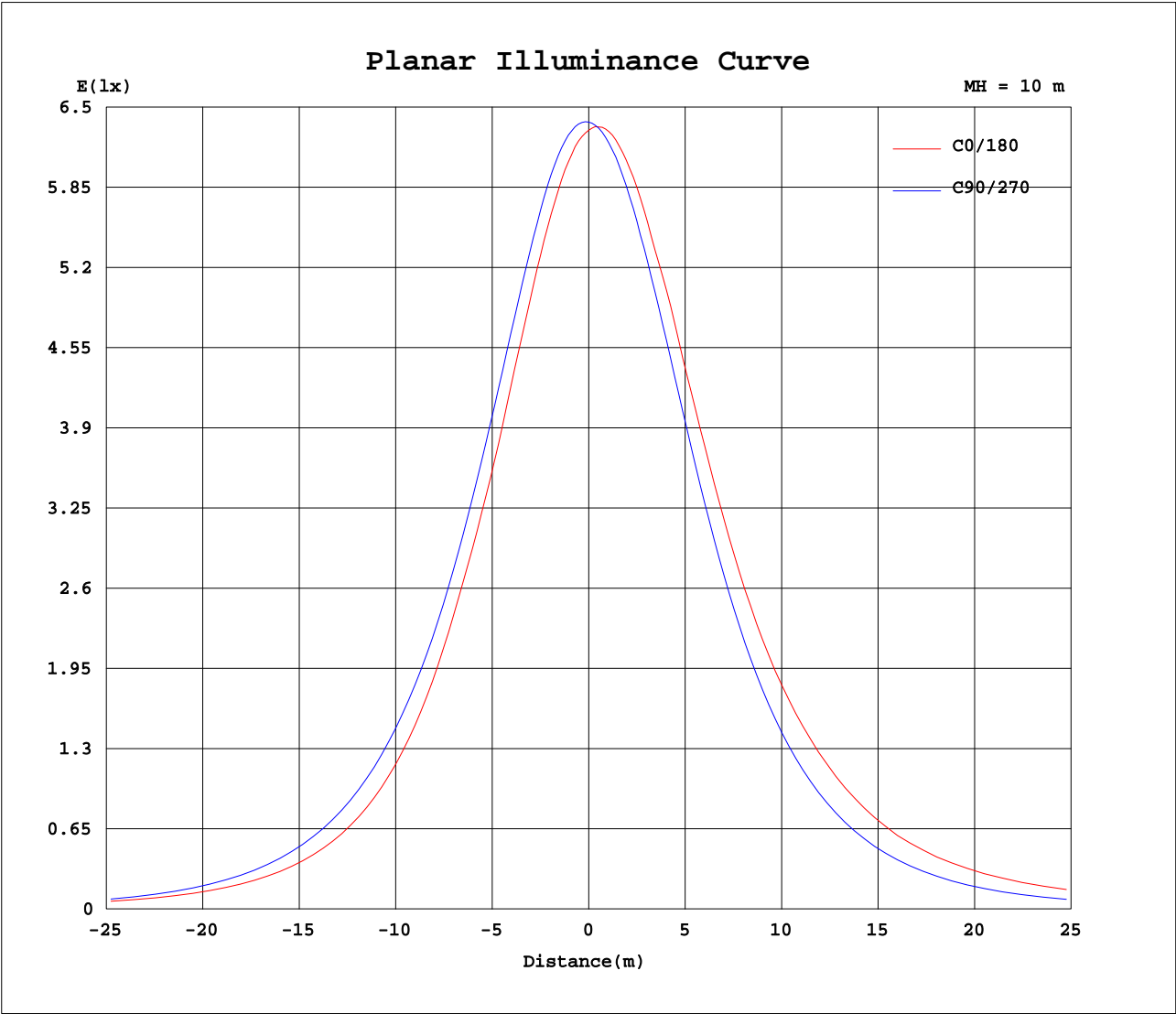


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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:24.003V I:0.7722A P:18.535W PF:1.0000 Freq:0Hz Lamp Flux:1894.1x1 lm									
NAME:					TYPE:LED				
SPEC.:N/A					DIM.:				
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	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632	632			
5	620	619	623	625	632	635	636	638	640	638	636	632	627	627	623	621			
10	600	600	609	615	626	631	636	641	643	639	634	627	617	615	608	602			
15	576	573	588	599	611	623	629	637	640	636	628	617	601	598	589	579			
20	545	545	562	579	589	609	617	628	632	629	616	604	582	576	562	547			
25	508	510	530	553	563	586	601	614	620	616	600	585	556	549	530	512			
30	473	475	494	520	532	560	578	588	601	595	578	562	525	513	492	476			
35	434	436	452	482	497	529	548	564	576	571	551	536	489	472	450	437			
40	384	391	406	437	456	492	512	534	547	537	518	502	447	425	400	387			
45	332	344	359	386	411	451	474	500	515	506	482	458	402	375	345	336			
50	282	291	303	333	362	405	433	463	479	469	440	407	353	324	294	285			
55	233	237	250	277	308	349	384	418	434	424	393	355	300	270	241	235			
60	187	190	198	221	250	295	333	365	383	374	342	301	243	215	192	190			
65	143	146	151	167	190	238	279	312	333	322	289	244	183	164	146	147			
70	107	108	108	118	130	181	224	262	280	266	237	188	127	114	104	107			
75	72.5	73.7	71.8	74.1	77.1	129	175	212	231	218	183	136	77.8	73.1	69.6	74.6			
80	43.0	45.8	44.0	41.7	36.6	83.1	129	167	186	173	137	91.1	39.9	40.5	39.5	43.7			
85	26.8	28.6	27.4	23.1	12.0	49.0	88.6	127	146	134	97.4	56.1	16.8	21.4	23.5	26.6			
90	21.3	22.0	20.5	14.3	2.11	26.1	56.8	91.2	108	96.8	63.6	32.7	6.25	13.7	17.9	20.5			
95	10.7	9.86	2.56	0.63	0.37	0.68	1.08	24.9	39.3	26.0	0.70	0.64	0.35	1.05	0.35	8.55			
100	3.15	3.74	9.56	3.44	0.39	4.18	12.2	10.3	4.08	7.00	15.0	6.38	0.70	5.32	10.7	5.86			
105	18.8	16.8	12.9	5.48	0.42	7.32	13.8	20.3	23.5	22.8	18.6	12.7	2.80	5.76	13.1	17.6			
110	19.7	18.7	13.7	5.65	0.52	8.19	14.1	19.1	20.6	22.1	19.4	12.8	2.85	5.79	13.6	19.1			
115	20.4	19.1	14.1	5.66	1.13	8.13	15.0	19.1	20.7	21.5	19.3	11.8	2.86	5.83	13.7	19.1			
120	20.4	19.0	14.2	5.66	1.05	8.36	15.2	19.2	20.6	21.2	18.8	11.4	2.83	5.66	13.7	18.4			
125	20.4	18.9	14.1	5.13	1.05	8.45	16.4	19.5	20.7	21.1	18.5	11.1	2.80	4.88	13.8	18.2			
130	20.4	18.8	13.9	4.34	1.05	6.47	15.7	19.9	20.8	20.7	17.4	10.3	3.00	4.53	13.3	18.0			
135	19.8	18.2	13.0	1.68	1.05	2.98	15.4	20.2	20.9	20.1	16.7	2.03	3.08	2.44	12.3	17.2			
140	18.7	17.3	11.7	1.63	1.05	8.23	15.4	19.5	20.2	19.3	16.7	4.16	3.49	2.25	10.5	16.0			
145	17.2	15.6	9.94	1.60	1.05	8.70	15.4	19.4	19.2	19.1	16.7	8.52	5.32	1.54	8.21	13.9			
150	14.8	13.1	2.63	1.60	1.05	8.71	2.46	19.4	19.0	18.8	16.0	9.96	5.85	1.74	2.59	11.1			
155	11.2	6.89	2.31	1.59	1.05	8.71	5.48	15.9	18.4	18.1	5.62	10.2	6.36	1.89	1.54	1.29			
160	1.28	1.72	1.57	1.50	1.20	8.71	12.8	8.21	1.11	1.30	8.84	10.1	6.46	2.49	1.68	2.05			
165	1.79	1.55	1.54	1.68	1.74	8.28	10.9	12.6	13.6	13.5	12.7	9.72	6.19	2.80	1.77	1.69			
170	1.72	1.52	1.51	1.89	2.96	6.71	8.57	10.5	10.8	10.9	10.1	9.18	5.58	2.94	1.85	1.55			
175	1.65	1.48	1.65	1.93	3.11	5.06	6.02	7.73	8.29	8.03	7.91	5.56	4.53	3.08	1.94	1.72			
180	1.62	1.64	1.57	1.94	3.14	2.00	0.34	1.15	1.37	1.72	1.62	1.56	2.01	3.14	2.14	1.72			

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: