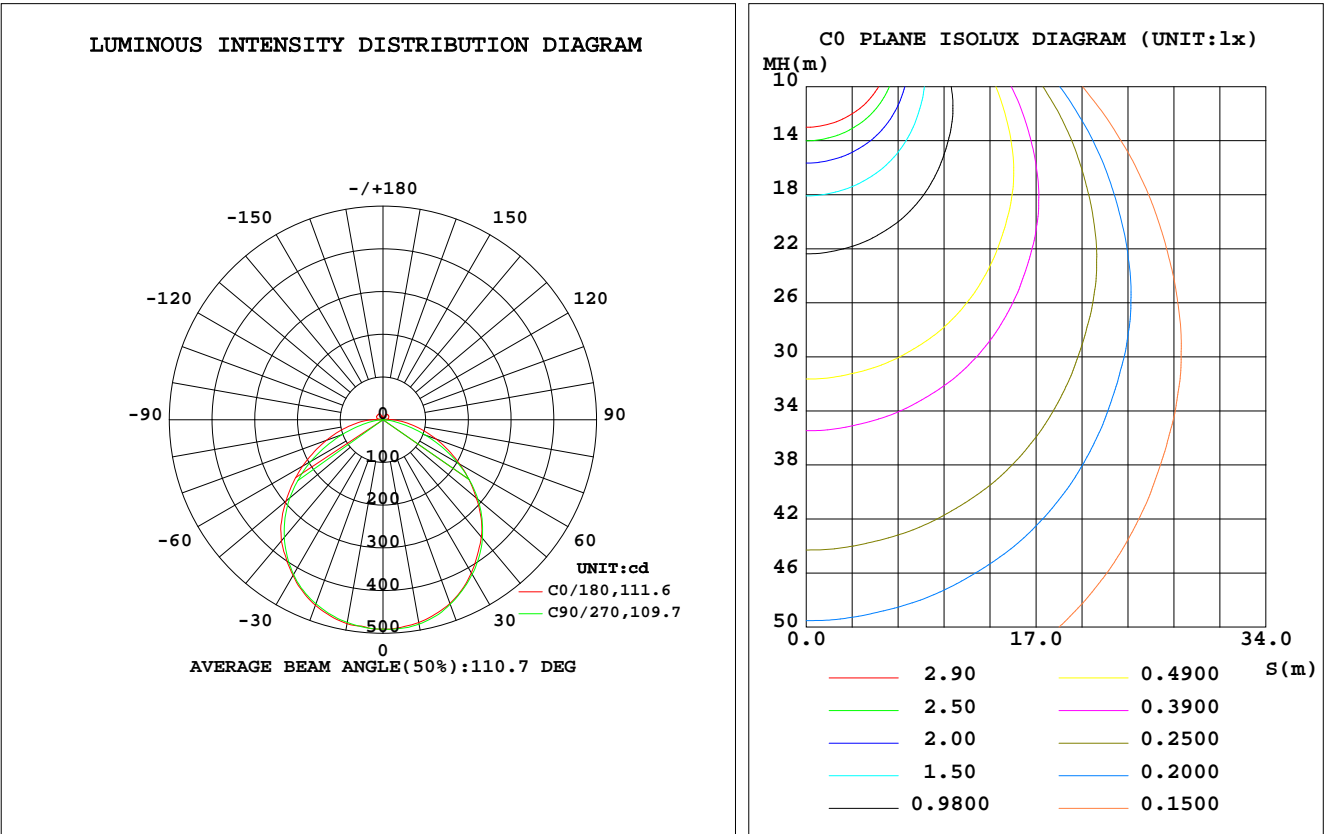


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.003V I:0.5409A P:12.983W PF:1.0000 Freq:0Hz Lamp Flux:1451.45x1 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: 111.79 lm/W			
MODEL:W00100FF F1 1M IP67 21015134		Imax(cd)	490.7	S/MH(C0/180)	1.28
NOMINAL POWER(W)	13	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1451.5	η UP,DN(C0-180)	1.8,48.2
NOMINAL FLUX(lm)	1451.45	CIE CLASS	DIRECT	η UP,DN(C180-360)	1.9,48.0
LAMPS INSIDE	1	η up(%)	3.7	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	96.3	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

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	482.1	483.5	486.0	483.0	484.9	482.8	481.7	481.5	0- 10	46.46	46.46	3.2,3.2
20	457.9	460.2	459.9	460.3	462.3	461.1	458.6	457.1	10- 20	133.7	180.1	12.4,12.4
30	413.6	419.3	417.5	421.8	420.8	421.0	418.5	417.9	20- 30	203.5	383.6	26.4,26.4
40	357.8	359.5	362.3	364.8	370.2	366.0	359.1	358.0	30- 40	245.5	629.1	43.3,43.3
50	285.0	286.5	290.0	293.1	296.3	293.6	284.8	278.3	40- 50	252.7	881.8	60.8,60.8
60	206.9	202.7	202.4	212.3	217.2	210.6	194.7	195.2	50- 60	221.8	1104	76,76
70	132.5	123.1	106.3	128.9	140.9	128.7	101.9	118.7	60- 70	162.4	1266	87.2,87.2
80	69.02	59.14	30.50	61.74	75.94	61.53	31.32	56.67	70- 80	93.29	1359	93.7,93.7
90	23.82	19.98	1.781	21.92	26.20	21.19	4.082	19.63	80- 90	38.19	1398	96.3,96.3
100	2.873	9.028	0	9.357	4.025	9.330	0.2668	9.557	90-100	6.442	1404	96.7,96.7
110	14.24	11.23	0.0435	11.58	15.87	12.56	1.067	11.58	100-110	9.261	1413	97.4,97.4
120	16.03	11.76	0.1779	12.26	17.06	13.08	1.156	11.58	110-120	10.41	1424	98.1,98.1
130	16.38	11.94	0.2668	12.51	17.06	13.08	1.334	11.49	120-130	9.597	1433	98.7,98.7
140	16.38	11.59	0.2668	12.77	17.06	12.99	1.334	10.62	130-140	7.637	1441	99.3,99.3
150	13.74	6.840	0.2668	0.9385	16.29	12.28	1.334	9.747	140-150	6.092	1447	99.7,99.7
160	0.9383	5.448	0.3543	7.328	0.8961	9.564	1.334	8.874	150-160	2.856	1450	99.9,99.9
170	2.059	1.333	1.510	3.150	4.469	3.534	1.334	8.001	160-170	1.367	1451	100,100
180	1.024	1.229	1.423	1.192	1.024	0	1.334	7.127	170-180	0.2694	1451	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 757.05 lm

%lum = 52.2%

%lamp = 52.2%

Conical surface Flux(120deg): 1103.7 lm

%lum = 76.0%

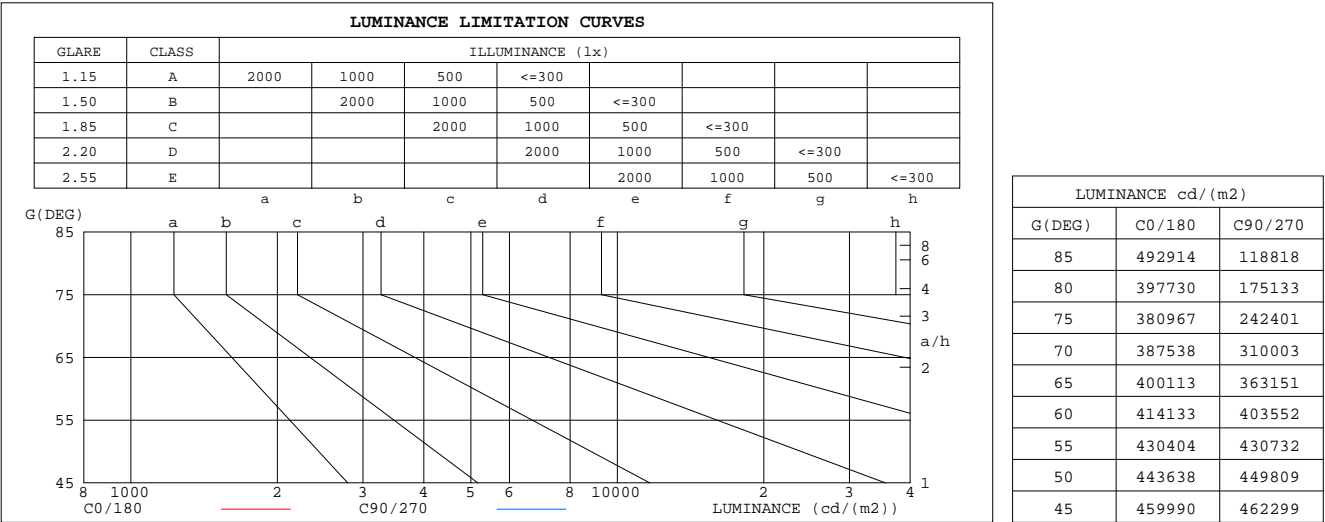
%lamp = 76.0%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 γ 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:0.5409A P:12.983W PF:1.0000 Freq:0Hz Lamp Flux:1451.45x1 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:2023-12-29

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:0.5409A P:12.983W PF:1.0000 Freq:0Hz Lamp Flux:1451.45x1 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	.313	.178	.056	.305	.174	.055	.289	.166	.053	.275	.159	.051	.262	.152	.049	
2.0	.291	.159	.049	.284	.156	.048	.270	.150	.047	.257	.144	.045	.246	.139	.044	
3.0	.268	.143	.043	.262	.140	.042	.250	.135	.041	.238	.131	.040	.228	.126	.039	
4.0	.247	.128	.038	.241	.126	.037	.231	.122	.037	.220	.118	.036	.211	.115	.035	
5.0	.228	.116	.034	.223	.115	.033	.214	.111	.033	.205	.108	.032	.196	.105	.031	
6.0	.212	.106	.030	.207	.105	.030	.198	.102	.030	.190	.099	.029	.183	.096	.029	
7.0	.197	.097	.028	.193	.096	.027	.185	.094	.027	.178	.091	.027	.171	.089	.026	
8.0	.184	.090	.025	.180	.089	.025	.173	.087	.025	.167	.084	.024	.160	.082	.024	
9.0	.173	.084	.023	.169	.083	.023	.163	.081	.023	.157	.079	.022	.151	.077	.022	
10.0	.162	.078	.022	.159	.077	.021	.153	.075	.021	.148	.073	.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	.219	.219	.219	.187	.187	.187	.128	.128	.128	.073	.073	.073	.023	.023	.023	
1.0	.209	.185	.163	.179	.158	.140	.122	.109	.097	.070	.063	.056	.023	.020	.018	
2.0	.201	.161	.127	.172	.138	.110	.118	.096	.076	.068	.056	.045	.022	.018	.015	
3.0	.193	.143	.103	.165	.124	.090	.114	.086	.063	.066	.050	.037	.021	.016	.012	
4.0	.185	.130	.088	.159	.112	.076	.109	.078	.054	.063	.046	.032	.020	.015	.010	
5.0	.178	.120	.077	.153	.103	.067	.105	.072	.047	.061	.042	.028	.020	.014	.009	
6.0	.171	.111	.069	.147	.096	.060	.101	.067	.042	.059	.040	.025	.019	.013	.008	
7.0	.164	.104	.063	.141	.091	.055	.098	.063	.039	.057	.037	.023	.018	.012	.008	
8.0	.158	.099	.058	.136	.086	.051	.094	.060	.036	.055	.035	.021	.018	.012	.007	
9.0	.152	.094	.055	.131	.081	.048	.091	.057	.034	.053	.034	.020	.017	.011	.007	
10.0	.146	.090	.052	.126	.078	.045	.087	.055	.032	.051	.032	.019	.017	.011	.006	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

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:0.5409A P:12.983W PF:1.0000 Freq:0Hz Lamp Flux:1451.45x1 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	33.6	35.0	33.9	35.3	35.6	33.6	35.1	33.9	35.3	35.6
3H	35.1	36.5	35.5	36.8	37.1	34.8	36.2	35.2	36.5	36.8
4H	35.8	37.1	36.2	37.4	37.7	35.2	36.5	35.5	36.8	37.1
6H	36.4	37.6	36.8	37.9	38.3	35.3	36.5	35.7	36.9	37.2
8H	36.6	37.8	37.0	38.2	38.5	35.4	36.5	35.8	36.9	37.2
12H	36.9	38.0	37.3	38.4	38.8	35.4	36.5	35.8	36.8	37.2
4H 2H	34.1	35.4	34.5	35.7	36.1	34.1	35.4	34.5	35.7	36.1
3H	35.8	37.0	36.2	37.3	37.7	35.5	36.7	36.0	37.0	37.4
4H	36.7	37.7	37.1	38.1	38.5	36.0	37.1	36.5	37.5	37.9
6H	37.4	38.3	37.9	38.7	39.2	36.3	37.2	36.8	37.7	38.1
8H	37.8	38.6	38.2	39.0	39.5	36.4	37.2	36.9	37.7	38.1
12H	38.1	38.9	38.6	39.3	39.8	36.4	37.2	36.9	37.7	38.1
8H 4H	36.9	37.7	37.4	38.2	38.6	36.3	37.2	36.8	37.6	38.1
6H	37.8	38.5	38.3	39.0	39.5	36.8	37.5	37.3	38.0	38.5
8H	38.3	38.9	38.8	39.4	40.0	37.0	37.6	37.5	38.1	38.6
12H	38.8	39.4	39.4	39.9	40.4	37.1	37.6	37.6	38.1	38.7
12H 4H	36.9	37.7	37.4	38.1	38.6	36.4	37.1	36.9	37.6	38.1
6H	37.9	38.5	38.4	39.0	39.5	36.9	37.5	37.4	38.0	38.6
8H	38.4	39.0	39.0	39.5	40.0	37.1	37.7	37.7	38.2	38.7
Variations with the observer position at spacings:										
S = 1.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.2				
1.5H	+ 0.1 / - 0.3					+ 0.2 / - 0.4				
2.0H	+ 0.2 / - 0.2					+ 0.3 / - 0.3				

CIE Pub.117, 1451 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 1.3$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

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:0.5409A P:12.983W PF:1.0000 Freq:0Hz Lamp Flux:1451.45x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

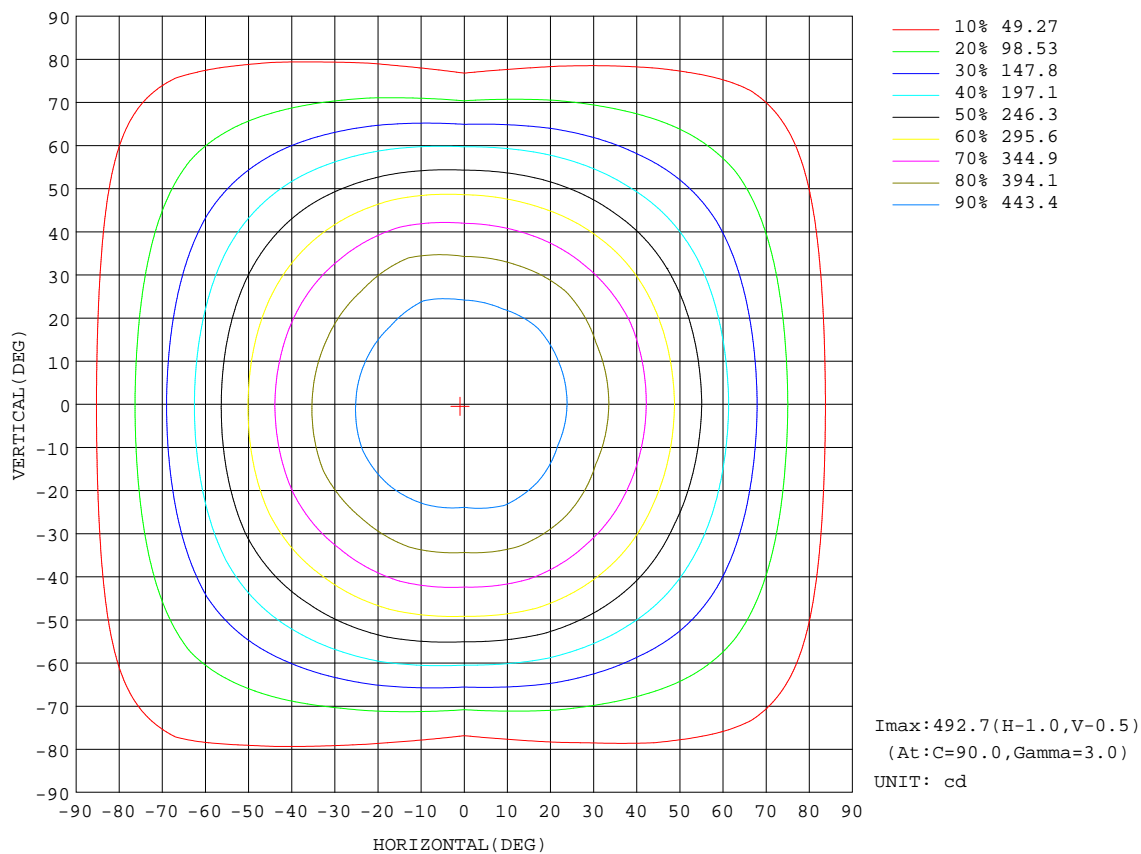
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	45	38	56	45	38	54	44	38	31
0.80	67	55	48	65	54	47	63	53	47	40
1.00	75	64	56	74	63	56	71	64	55	48
1.25	82	71	64	80	71	64	77	69	63	55
1.50	87	77	70	85	76	69	82	74	68	60
2.00	94	85	79	92	84	78	88	81	76	67
2.50	98	90	84	95	88	82	91	85	80	71
3.00	101	94	88	99	92	87	94	89	84	75
4.00	105	99	94	102	97	93	97	93	89	80
5.00	107	102	98	105	100	96	99	96	93	82
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:2023-12-29

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:0.5409A P:12.983W PF:1.0000 Freq:0Hz Lamp Flux:1451.45x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

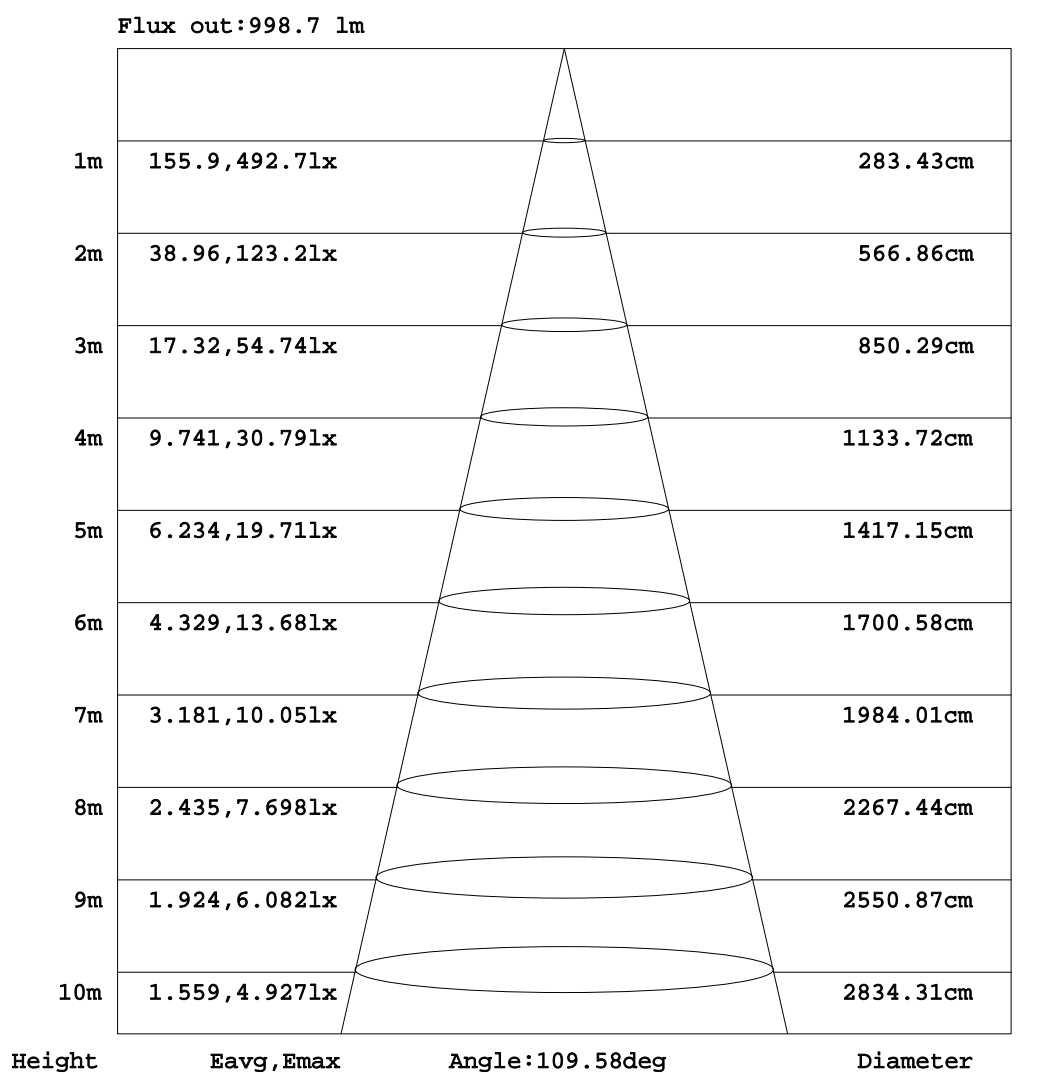


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 24.9DEG
Operators: Zero huang
Test Date: 2023-12-29

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:0.5409A P:12.983W PF:1.0000 Freq:0Hz Lamp Flux:1451.45x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

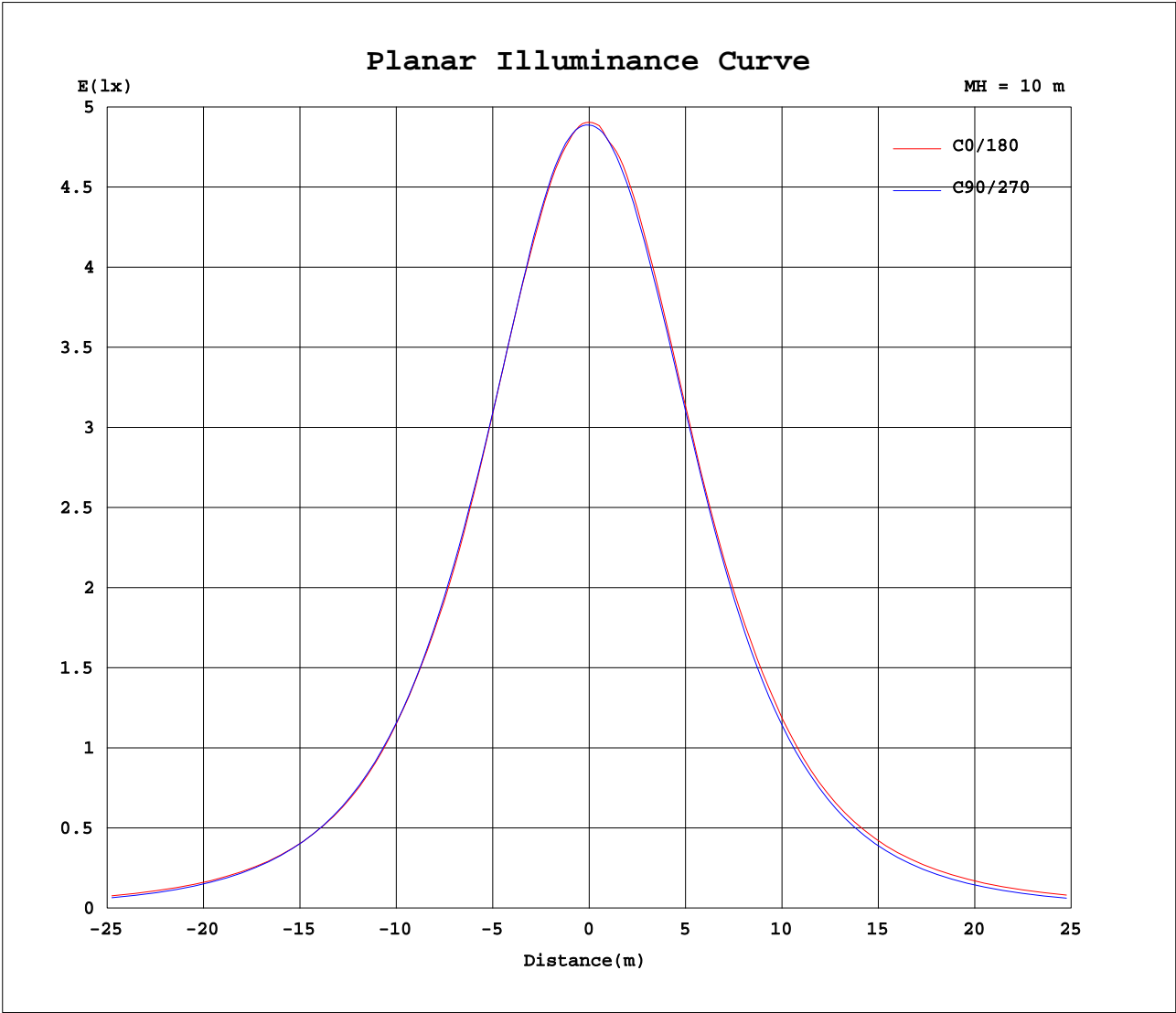


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

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:2023-12-29

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:0.5409A P:12.983W PF:1.0000 Freq:0Hz Lamp Flux:1451.45x1 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	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490	490			
5	488	488	489	489	490	490	489	490	487	489	488	488	488	488	488	488			
10	482	482	483	484	486	484	483	485	485	484	483	483	482	481	482	482			
15	471	471	473	474	476	475	473	476	476	475	475	475	472	471	471	471			
20	458	457	460	462	460	461	460	463	462	462	461	462	459	457	457	456			
25	438	438	442	445	440	443	443	444	444	444	443	447	441	439	439	435			
30	414	414	419	422	417	422	422	421	421	421	421	428	419	417	418	411			
35	386	385	391	395	392	395	392	396	395	395	394	402	391	390	390	383			
40	358	358	360	364	362	365	365	369	370	368	366	369	359	357	358	356			
45	325	325	326	330	328	332	330	336	336	335	332	332	324	321	317	320			
50	285	284	286	292	290	295	293	298	296	297	294	292	285	282	278	280			
55	247	241	244	250	248	255	254	259	257	257	253	249	240	240	237	241			
60	207	202	203	205	202	211	212	218	217	216	211	204	195	196	195	202			
65	169	166	161	160	154	164	169	177	178	176	168	160	147	153	155	164			
70	132	130	123	117	106	119	129	139	141	139	129	117	102	113	119	129			
75	98.5	95.5	88.0	77.9	62.9	79.3	92.5	106	107	104	92.5	79.5	61.4	74.5	84.5	94.8			
80	69.0	67.2	59.1	44.8	30.5	47.4	61.7	74.3	75.9	72.9	61.5	48.8	31.3	45.5	56.7	65.3			
85	42.9	41.3	35.3	25.1	10.4	24.9	38.2	49.1	50.6	47.0	37.9	27.2	12.5	25.1	33.6	39.9			
90	23.8	23.7	20.0	13.2	1.78	12.9	21.9	27.1	26.2	25.2	21.2	14.9	4.08	14.3	19.6	22.1			
95	6.26	5.48	0.43	0.35	0.00	0.51	0.17	0.61	5.17	2.73	0.09	0.98	0.00	1.04	0.09	3.93			
100	2.87	3.47	9.03	3.72	0.00	3.53	9.36	5.40	4.02	4.53	9.33	4.18	0.27	3.91	9.56	4.03			
105	13.6	12.5	9.91	5.15	0.00	4.74	10.6	13.2	15.0	14.0	11.2	7.19	1.15	6.25	11.1	13.7			
110	14.2	13.6	11.2	5.68	0.04	5.52	11.6	14.5	15.9	15.3	12.6	7.10	1.07	6.21	11.6	14.9			
115	15.0	14.7	11.8	5.77	0.18	5.78	12.2	15.4	16.8	16.4	13.1	7.10	1.07	6.04	11.6	15.4			
120	16.0	15.3	11.8	5.77	0.18	6.29	12.3	16.3	17.1	16.7	13.1	7.10	1.16	5.78	11.6	15.4			
125	16.3	15.4	11.8	5.77	0.26	6.38	12.3	16.3	17.1	16.7	13.1	6.83	1.25	4.48	11.6	15.2			
130	16.4	15.4	11.9	5.77	0.27	4.37	12.5	16.3	17.1	16.7	13.1	6.47	1.33	4.05	11.5	15.2			
135	16.4	15.4	11.9	2.08	0.27	1.64	12.8	16.4	17.1	16.7	13.1	1.06	1.33	0.69	11.1	15.2			
140	16.4	15.4	11.6	0.80	0.27	4.23	12.8	16.4	17.1	16.8	13.0	1.91	1.33	2.72	10.6	15.2			
145	15.9	14.6	10.8	3.99	0.27	4.23	12.9	16.4	17.0	16.5	12.7	5.68	1.33	1.45	10.2	15.2			
150	13.7	12.8	6.84	3.46	0.27	4.31	0.94	16.2	16.3	15.6	12.3	5.67	1.33	0.12	9.75	15.2			
155	12.4	10.4	1.05	2.31	0.27	3.28	8.17	6.66	14.9	14.5	0.88	4.88	1.33	0.00	9.31	15.2			
160	0.94	0.95	5.45	1.86	0.35	2.76	7.33	5.58	0.90	0.87	9.56	4.53	1.33	0.00	8.87	15.2			
165	5.81	5.20	3.00	1.33	0.62	2.24	4.82	7.16	8.27	8.47	6.23	3.46	1.33	0.00	8.44	15.2			
170	2.06	2.00	1.33	1.24	1.51	1.30	3.15	4.60	4.47	4.41	3.53	2.12	1.33	0.00	8.00	15.2			
175	1.02	1.12	1.23	1.24	1.42	1.12	1.46	2.13	1.45	1.27	0.53	0.79	1.33	0.00	7.56	15.2			
180	1.02	1.04	1.23	1.24	1.42	1.12	1.19	1.02	1.02	0.00	0.00	0.00	1.33	0.00	7.13	15.2			

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

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: