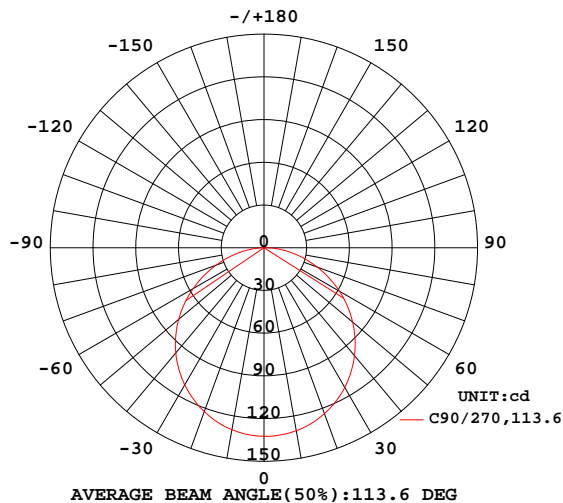


LUMINAIRE PHOTOMETRIC TEST REPORT

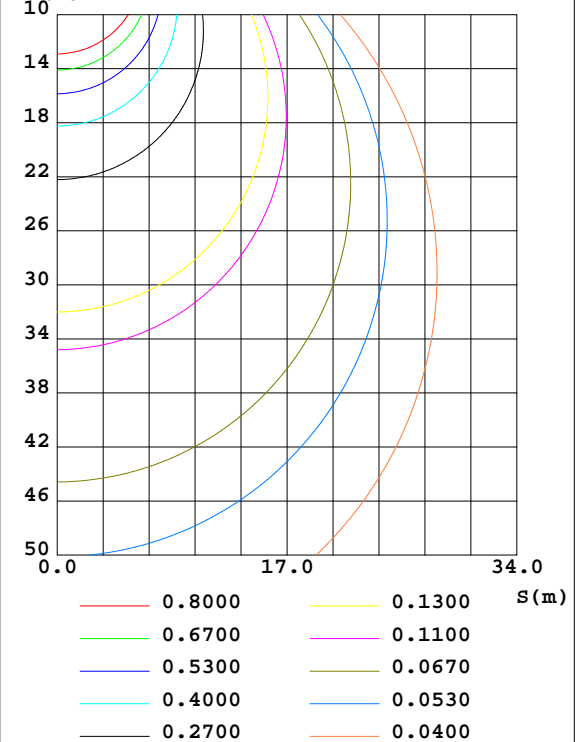
NAME: C-SFR-F2219S12-VB-24CC-RGBW(27K)-WM-84-22W-83.3-W	WEIGHT: 0.570kg/m
SPEC.:	DIM.: 22*19mm
MFR.: CLEAR	SUR.: 22*1000mm
	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 60.13 lm/W			
MODEL	5050	Imax(cd)	133.2	S/MH(C0/180)	1.27
NOMINAL POWER(W)	22	LOR(%)	100.5	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	391.21	$\eta$ UP,DN(C0-180)	0.3,50.6
NOMINAL FLUX(lm)	389.22	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.3,49.3
LAMPS INSIDE	1	$\eta$ up(%)	0.6	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	$\eta$ down(%)	99.9	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Dillon  
Test Date:29 July 2021

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:6.950m [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	130.7	130.8	130.5	131.1	131.2	130.6	129.7	130.4	0- 10	12.58	12.58	3.22,3.23
20	123.7	124.2	124.1	124.6	124.6	123.7	122.5	123.3	10- 20	36.07	48.65	12.4,12.5
30	112.5	113.4	113.4	113.9	113.6	112.6	111.3	112.0	20- 30	54.78	103.4	26.4,26.6
40	97.76	98.88	98.90	99.32	98.84	97.76	96.45	97.18	30- 40	66.27	169.7	43.4,43.6
50	79.97	81.28	81.26	81.66	81.09	79.82	78.28	79.30	40- 50	69.13	238.8	61.1,61.4
60	59.61	61.18	61.34	61.53	60.88	59.28	57.57	58.81	50- 60	62.98	301.8	77.1,77.5
70	37.73	39.55	40.00	39.92	39.01	37.41	35.94	36.98	60- 70	48.77	350.6	89.6,90.1
80	16.62	18.52	19.17	18.83	17.64	16.54	15.43	16.17	70- 80	29.22	379.8	97.1,97.6
90	0.2412	1.964	2.847	2.215	0.9032	1.336	1.223	1.057	80- 90	9.145	389.0	99.4,99.9
100	0.1285	0.3944	0.5185	0.6336	0.7888	0.5857	0.2888	0.3010	90-100	0.7748	389.7	99.6,100
110	0.1683	0.1364	0.0321	0.3276	0.7832	0.3502	0.0081	0.1297	100-110	0.3406	390.1	99.7,100
120	0.2887	0.1778	0.0188	0.3301	0.6897	0.3503	0.0400	0.1685	110-120	0.2439	390.3	99.8,100
130	0.3261	0.2218	0.0829	0.3315	0.6255	0.3409	0.0774	0.1979	120-130	0.2379	390.6	99.8,100
140	0.3503	0.2473	0.1124	0.3328	0.5426	0.3450	0.1256	0.2232	130-140	0.2189	390.8	99.9,100
150	0.3582	0.2634	0.1980	0.3235	0.4625	0.3475	0.2084	0.2340	140-150	0.1820	391.0	99.9,100
160	0.3529	0.2860	0.2887	0.3301	0.3956	0.3315	0.2966	0.2727	150-160	0.1393	391.1	100,100
170	0.3208	0.3048	0.3717	0.3369	0.3635	0.3382	0.3608	0.3034	160-170	0.0897	391.2	100,101
180	0.3957	0.3917	0.4037	0.3689	0.3796	0.3890	0.4144	0.3703	170-180	0.0328	391.2	100,101
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 211.42 lm

%lum = 54.0%

%lamp = 54.3%

Conical surface Flux(120deg): 301.82 lm

%lum = 77.1%

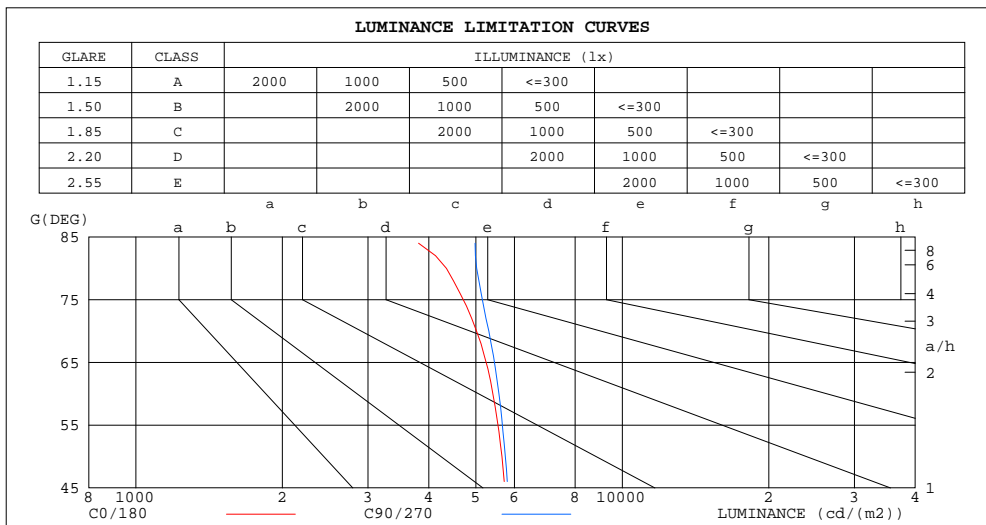
%lamp = 77.5%

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Dillon  
Test Date:29 July 2021

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:6.950m [K=1.0000]  
Remarks:

## LUMINANCE LIMITATION CURVES

NAME: C-SFR-F2219S12-VB-24CC-RGBW(27K)-WM-84-22W-8BYBW	WEIGHT: 0.570kg/m
SPEC.:	DIM.: 22*19mm
MFR.: CLEAR	SUR.: 22*1000mm
	Shielding Angle:



LUMINANCE $\text{cd}/(\text{m}^2)$		
G(DEG)	C0/180	C90/270
85	4571	5973
80	4349	5018
75	5092	5524
70	5015	5316
65	5488	5687
60	5419	5576
55	5712	5825
50	5655	5746
45	5847	5928

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature: 25.3DEG  
Operators: Dillon  
Test Date: 29 July 2021

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.446  
Humidity: 65.0%  
Test Distance: 6.950m [K=1.0000]  
Remarks:

## WEC AND CCEC

NAME: C-SFR-F2219S12-VB-24CC-RGBW(27K)-WM-84-22W-8TYBBW	WEIGHT: 0.570kg/m
SPEC.:	DIM.: 22*19mm
MFR.: CLEAR	SUR.: 22*1000mm
	Shielding Angle:

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	.319	.182	.058	.312	.178	.057	.298	.171	.055	.286	.165	.053	.274	.159	.051		
2.0	.298	.163	.050	.292	.161	.050	.280	.156	.048	.269	.151	.047	.258	.146	.046		
3.0	.275	.146	.044	.269	.144	.043	.259	.140	.043	.249	.136	.042	.239	.133	.041		
4.0	.253	.132	.039	.248	.130	.038	.239	.127	.038	.230	.123	.037	.221	.120	.037		
5.0	.234	.119	.034	.229	.118	.034	.221	.115	.034	.213	.112	.033	.205	.110	.033		
6.0	.216	.108	.031	.212	.107	.031	.205	.105	.031	.198	.103	.030	.191	.101	.030		
7.0	.201	.099	.028	.198	.098	.028	.191	.096	.028	.185	.095	.028	.179	.093	.027		
8.0	.188	.092	.026	.185	.091	.026	.178	.089	.025	.173	.088	.025	.167	.086	.025		
9.0	.176	.085	.024	.173	.084	.024	.167	.083	.023	.162	.081	.023	.158	.080	.023		
10.0	.165	.079	.022	.163	.079	.022	.158	.077	.022	.153	.076	.022	.149	.075	.021		

ρcc	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	.196	.196	.196	.167	.167	.167	.114	.114	.114	.066	.066	.066	.021	.021	.021	
1.0	.186	.161	.139	.159	.138	.120	.109	.095	.083	.063	.055	.048	.020	.018	.016	
2.0	.178	.137	.102	.153	.118	.089	.105	.082	.062	.060	.047	.036	.019	.015	.012	
3.0	.171	.119	.079	.146	.103	.068	.100	.072	.048	.058	.042	.028	.019	.014	.009	
4.0	.163	.106	.063	.140	.092	.055	.096	.064	.038	.056	.037	.023	.018	.012	.007	
5.0	.155	.096	.052	.133	.083	.045	.092	.058	.032	.053	.034	.019	.017	.011	.006	
6.0	.148	.087	.044	.127	.076	.038	.088	.053	.027	.051	.031	.016	.016	.010	.005	
7.0	.141	.080	.038	.121	.070	.033	.084	.049	.023	.049	.029	.014	.016	.009	.005	
8.0	.135	.075	.033	.116	.065	.029	.080	.045	.021	.047	.027	.012	.015	.009	.004	
9.0	.128	.070	.030	.111	.060	.026	.077	.042	.018	.045	.025	.011	.014	.008	.004	
10.0	.123	.065	.027	.106	.057	.024	.073	.040	.017	.043	.024	.010	.014	.008	.003	

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Dillon  
Test Date:29 July 2021

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:6.950m [K=1.0000]  
Remarks:

## UGR(Unified Glare Rating) Table

NAME: C-SFR-F2219S12-VB-24CC-RGBW(27K)-WM-84-22W-8BYBBW						WEIGHT: 0.570kg/m					
SPEC.:						DIM.: 22*19mm		SERIAL No.:			
MFR.: CLEAR						SUR.: 22*1000mm		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					
x = 2H y = 2H		22.1	23.7	22.4	23.9	24.1	22.2	23.8	22.5	24.0	24.2
3H		23.7	25.1	24.0	25.4	25.6	23.9	25.3	24.2	25.5	25.8
4H		24.3	25.7	24.7	25.9	26.2	24.6	25.9	24.9	26.2	26.4
6H		24.8	26.1	25.1	26.4	26.6	25.1	26.4	25.5	26.7	27.0
8H		25.0	26.2	25.3	26.5	26.8	25.3	26.6	25.7	26.8	27.1
12H		25.0	26.2	25.4	26.5	26.8	25.5	26.6	25.8	27.0	27.3
4H 2H		22.8	24.1	23.1	24.4	24.7	22.9	24.2	23.2	24.5	24.7
3H		24.5	25.7	24.9	26.0	26.4	24.7	25.9	25.1	26.2	26.5
4H		25.3	26.4	25.7	26.7	27.1	25.5	26.6	25.9	26.9	27.3
6H		25.9	26.9	26.3	27.2	27.6	26.2	27.2	26.6	27.5	27.9
8H		26.1	27.0	26.6	27.4	27.8	26.5	27.4	26.9	27.8	28.2
12H		26.3	27.1	26.7	27.5	27.9	26.7	27.5	27.1	27.9	28.3
8H 4H		25.6	26.5	26.1	26.9	27.3	25.8	26.7	26.2	27.1	27.5
6H		26.4	27.2	26.9	27.6	28.0	26.7	27.4	27.1	27.9	28.3
8H		26.7	27.4	27.2	27.8	28.3	27.1	27.7	27.5	28.2	28.6
12H		26.9	27.5	27.4	28.0	28.5	27.4	27.9	27.9	28.4	28.9
12H 4H		25.7	26.5	26.1	26.9	27.3	25.8	26.7	26.3	27.1	27.5
6H		26.5	27.2	27.0	27.6	28.1	26.8	27.4	27.2	27.9	28.3
8H		26.9	27.4	27.4	27.9	28.4	27.2	27.8	27.7	28.2	28.7
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H		+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H		+ 0.1 / - 0.3					+ 0.1 / - 0.3				

CIE Pub.117, 389.2 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -3.3)  
Area: 0.022 m2

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Dillon  
Test Date:29 July 2021

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:6.950m [K=1.0000]  
Remarks:

### UTILIZATION FACTORS TABLE

NAME: C-SFR-F2219S12-VB-24CC-RGBW(27K)-WM-84-22W-8TYBBW	WEIGHT: 0.570kg/m
SPEC.:	DIM.: 22*19mm
MFR.: CLEAR	SUR.: 22*1000mm
	Shielding Angle:

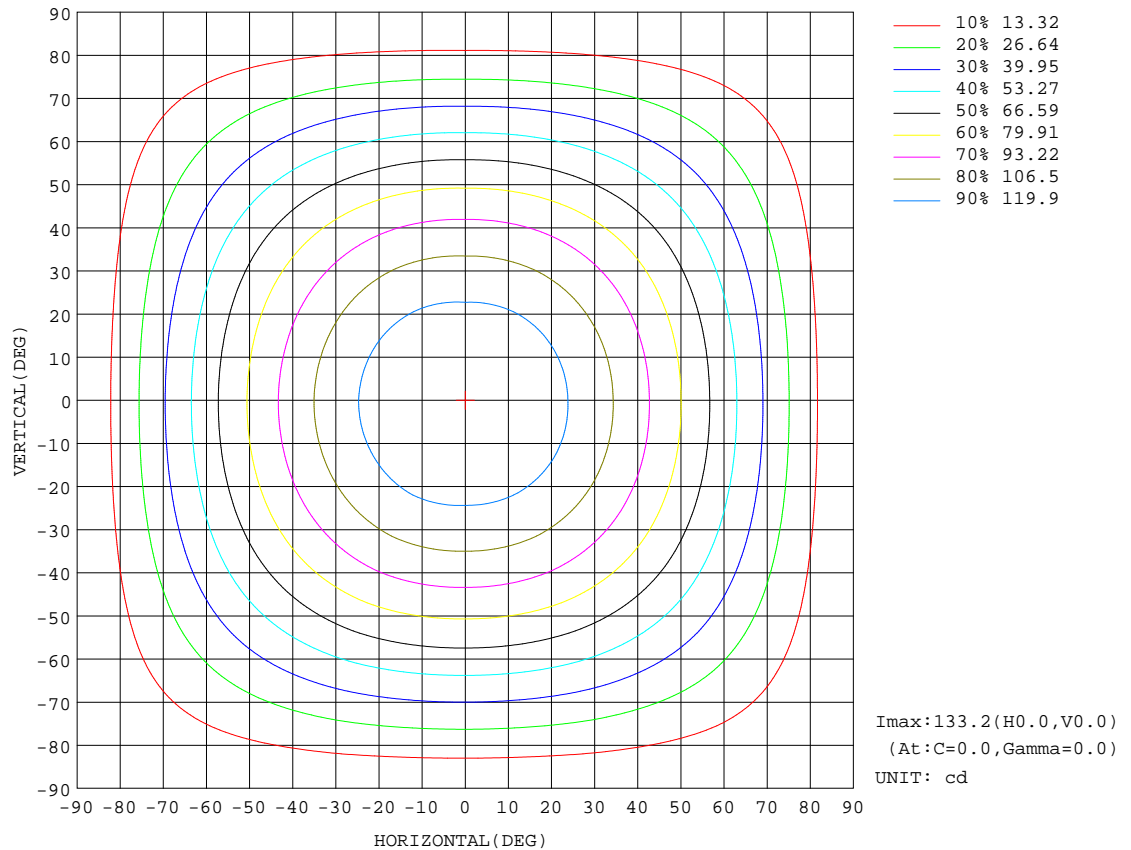
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT)    k(RI) x RCR = 5									
k = 0.60	57	45	38	56	45	38	55	45	38	31
0.80	67	55	48	66	55	48	64	54	47	40
1.00	76	64	57	74	64	56	72	65	56	49
1.25	83	72	65	81	71	64	78	70	63	56
1.50	88	78	70	86	77	70	83	75	69	61
2.00	95	86	79	93	85	78	89	82	77	69
2.50	99	91	84	97	89	84	93	87	82	73
3.00	102	95	89	100	93	88	96	90	86	77
4.00	106	100	95	104	99	94	99	95	91	82
5.00	109	104	99	106	102	98	102	98	95	85
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNM = 1.25										

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Dillon  
Test Date:29 July 2021

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:6.950m [K=1.0000]  
Remarks:

**ISOCANDELA DIAGRAM**

NAME: C-SFR-F2219S12-VB-24CC-RGBW(27K)-WM-84-22W-8TYBBW	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

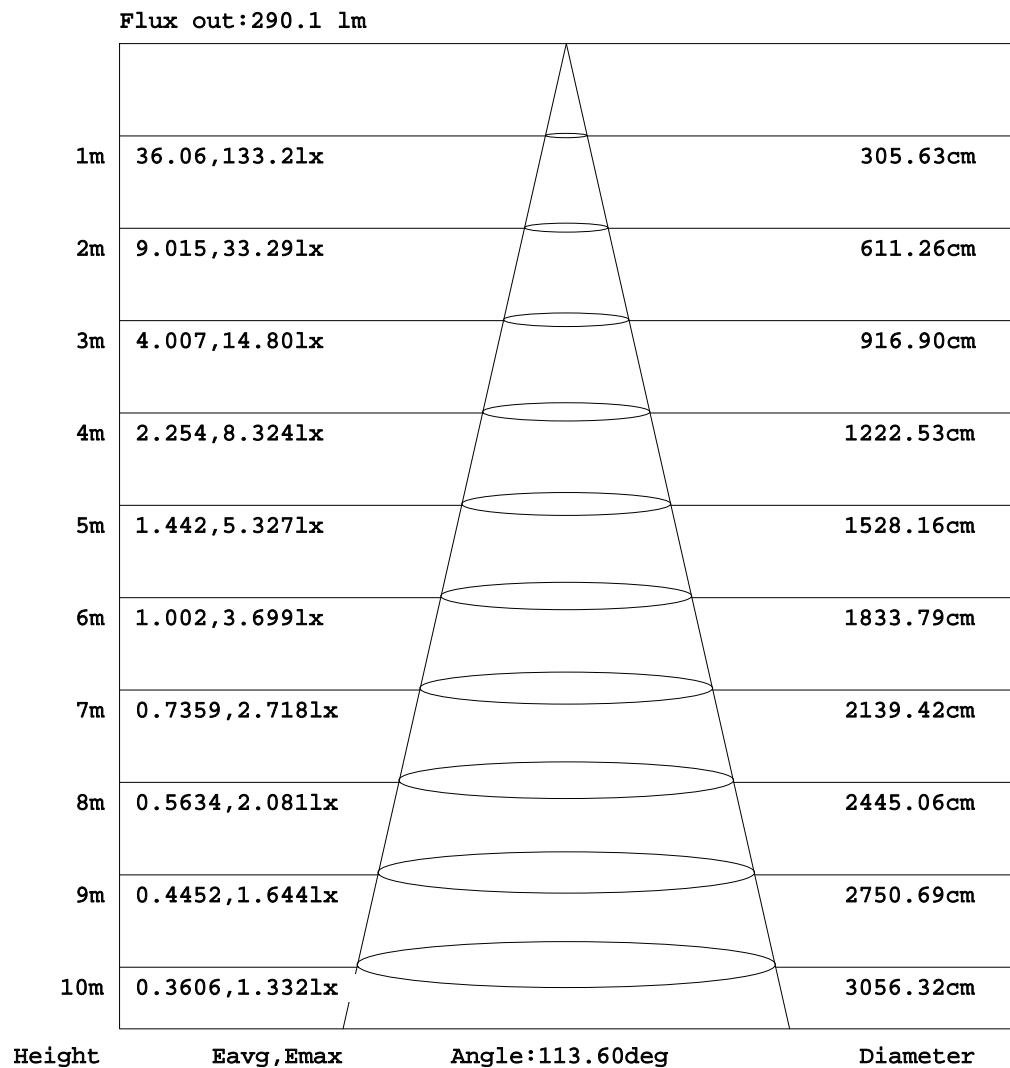


C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature:25.3DEG  
 Operators:Dillon  
 Test Date:29 July 2021

γ Range: 0 - 180DEG  
 γ Interval: 2.0DEG  
 Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.446  
 Humidity:65.0%  
 Test Distance:6.950m [K=1.0000]  
 Remarks:

### AAI Figure

NAME: C-SFR-F2219S12-VB-24CC-RGBW(27K)-WM-84-22W-8TYBBW	WEIGHT: 0.570kg/m
SPEC.:	DIM.: 22*19mm
MFR.: CLEAR	SUR.: 22*1000mm
	Shielding Angle:



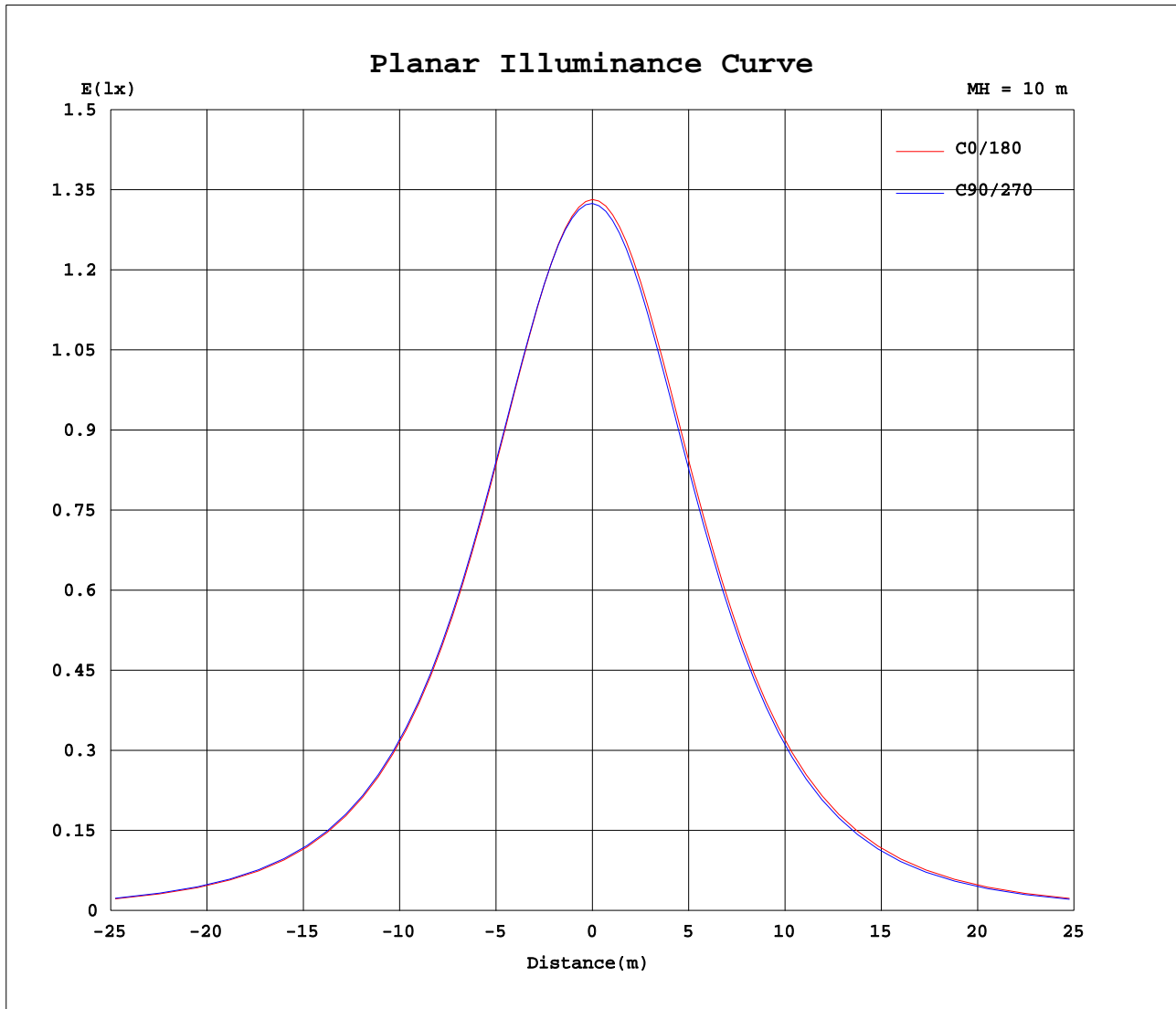
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG  
C Interval: 30.0DEG  
Test Speed: HIGH  
Temperature:25.3DEG  
Operators:Dillon  
Test Date:29 July 2021

γ Range: 0 - 180DEG  
γ Interval: 2.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.446  
Humidity:65.0%  
Test Distance:6.950m [K=1.0000]  
Remarks:



## Planar Illuminance Curve



C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Dillon  
 Test Date: 29 July 2021

$\gamma$  Range: 0 - 180DEG  
 $\gamma$  Interval: 2.0DEG  
 Test System: EVERFINE GO-2000B\_V1 SYSTEM V2.00.446  
 Humidity: 65.0%  
 Test Distance: 6.950m [K=1.0000]  
 Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: C-SFR-F2219S12-VB-24CC-RGBW(27K)-WM-84-22W-8BYBW	WEIGHT: 0.570kg/m
SPEC.:	DIM.: 22*19mm
MFR.: CLEAR	SUR.: 22*1000mm
	Shielding Angle:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330						
0	133	133	133	132	133	133	133	133	133	132	133	133						
5	133	133	132	132	133	133	133	133	132	132	132	133						
10	131	131	131	131	131	131	131	131	130	130	130	130						
15	128	129	129	128	129	129	129	129	128	127	128	128						
20	124	124	124	124	125	125	125	124	123	123	123	123						
25	120	120	120	120	121	121	121	120	119	118	119	119						
30	113	113	114	113	114	114	114	113	112	111	112	112						
35	107	108	108	108	109	108	108	107	107	106	106	107						
40	97.8	98.6	99.2	98.9	99.5	99.1	98.8	98.1	97.5	96.4	97.0	97.3						
45	91.0	91.9	92.5	92.2	92.8	92.4	92.1	91.3	90.6	89.5	90.2	90.6						
50	80.0	81.0	81.6	81.3	81.9	81.4	81.1	80.3	79.4	78.3	79.0	79.6						
55	72.1	73.2	73.7	73.5	74.1	73.6	73.3	72.4	71.4	70.3	71.0	71.7						
60	59.6	60.9	61.5	61.3	61.7	61.3	60.9	59.8	58.8	57.6	58.4	59.2						
65	51.0	52.3	53.0	52.9	53.2	52.8	52.2	51.1	50.0	49.0	49.7	50.6						
70	37.7	39.2	40.0	40.0	40.2	39.7	39.0	37.9	36.9	35.9	36.6	37.3						
75	29.0	30.4	31.4	31.5	31.6	30.8	30.1	29.2	28.3	27.5	28.0	28.6						
80	16.6	18.0	19.0	19.2	19.2	18.5	17.6	16.9	16.2	15.4	15.9	16.4						
85	8.76	10.3	11.2	11.5	11.4	10.7	9.86	9.12	8.52	7.94	8.30	8.59						
90	0.24	1.41	2.52	2.85	2.67	1.76	0.90	1.25	1.42	1.22	1.25	0.87						
95	0.17	0.58	0.70	0.62	0.83	0.90	0.82	0.85	0.67	0.37	0.52	0.49						
100	0.13	0.20	0.59	0.52	0.74	0.53	0.79	0.59	0.58	0.29	0.40	0.21						
105	0.12	0.20	0.14	0.29	0.26	0.52	0.79	0.55	0.42	0.25	0.24	0.21						
110	0.17	0.20	0.07	0.03	0.14	0.51	0.78	0.54	0.16	0.01	0.05	0.21						
115	0.23	0.21	0.06	0.00	0.15	0.53	0.76	0.53	0.15	0.01	0.07	0.21						
120	0.29	0.27	0.09	0.02	0.15	0.51	0.69	0.53	0.17	0.04	0.10	0.24						
125	0.29	0.25	0.09	0.06	0.17	0.50	0.68	0.50	0.19	0.05	0.10	0.25						
130	0.33	0.29	0.15	0.08	0.19	0.48	0.63	0.47	0.21	0.08	0.12	0.27						
135	0.34	0.32	0.17	0.10	0.21	0.47	0.60	0.46	0.24	0.09	0.14	0.28						
140	0.35	0.32	0.17	0.11	0.23	0.43	0.54	0.45	0.24	0.13	0.14	0.30						
145	0.35	0.31	0.21	0.14	0.26	0.42	0.50	0.41	0.25	0.14	0.16	0.31						
150	0.36	0.30	0.23	0.20	0.28	0.37	0.46	0.40	0.30	0.21	0.17	0.30						
155	0.35	0.32	0.24	0.23	0.28	0.36	0.43	0.37	0.29	0.22	0.18	0.30						
160	0.35	0.32	0.25	0.29	0.32	0.34	0.40	0.34	0.32	0.30	0.21	0.33						
165	0.34	0.31	0.27	0.32	0.32	0.33	0.37	0.33	0.30	0.32	0.23	0.33						
170	0.32	0.32	0.29	0.37	0.35	0.32	0.36	0.32	0.36	0.36	0.27	0.33						
175	0.32	0.34	0.31	0.39	0.36	0.34	0.36	0.36	0.36	0.41	0.31	0.32						
180	0.40	0.39	0.39	0.40	0.37	0.37	0.38	0.39	0.38	0.41	0.37	0.37						

C Range: 0 - 360DEG

C Interval: 30.0DEG

Test Speed: HIGH

Temperature:25.3DEG

Operators:Dillon

Test Date:29 July 2021

γ Range: 0 - 180DEG

γ Interval: 2.0DEG

Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.00.446

Humidity:65.0%

Test Distance:6.950m [K=1.0000]

Remarks: