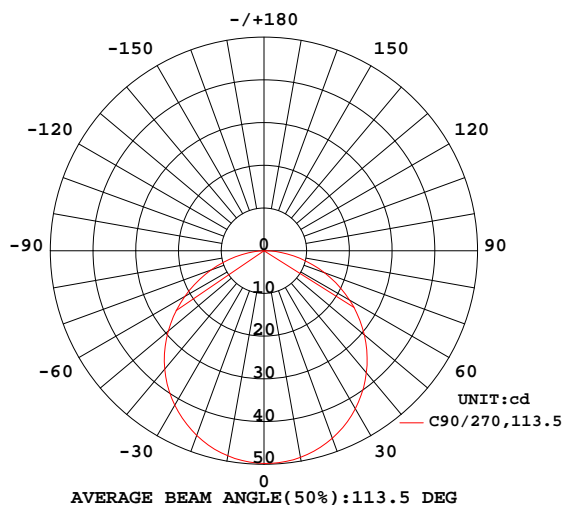


LUMINAIRE PHOTOMETRIC TEST REPORT

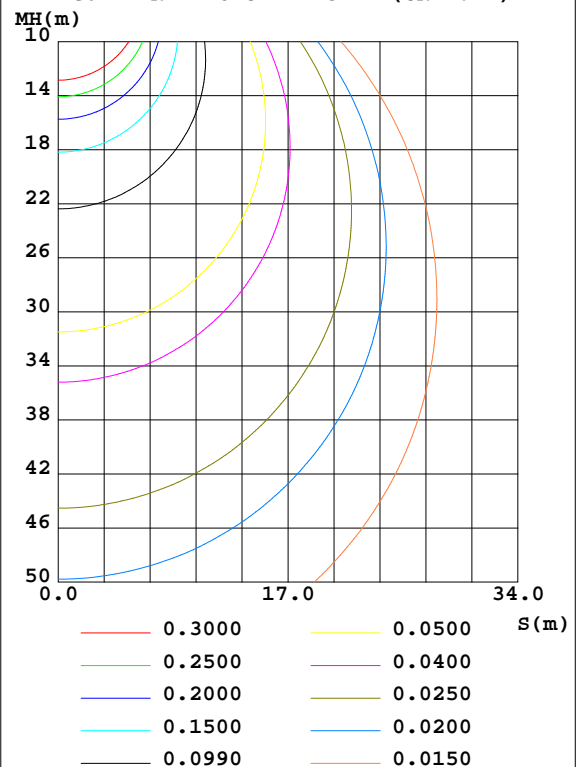
NAME: C-SFR-F2219S12-VB-24CC-RGB-WM-84-16.5W-83.3-R	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 22.72 lm/W			
MODEL	5050	Imax(cd)	50.47	S/MH(C0/180)	1.26
NOMINAL POWER(W)	16.5	LOR(%)	95.7	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	145.42	η UP,DN(C0-180)	0.0,48.7
NOMINAL FLUX(lm)	151.89	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.0,47.0
LAMPS INSIDE	1	η up(%)	0.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	95.7	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

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:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	48.67	49.08	49.12	49.68	48.74	48.93	48.74	49.42	0- 10	4.730	4.730	3.25,3.11
20	46.09	46.68	46.73	47.21	46.22	46.30	46.03	46.70	10- 20	13.56	18.29	12.6,12
30	41.98	42.70	42.74	43.09	42.08	42.08	41.77	42.44	20- 30	20.59	38.89	26.7,25.6
40	36.45	37.30	37.27	37.57	36.52	36.48	36.16	36.83	30- 40	24.91	63.80	43.9,42
50	29.78	30.67	30.66	30.84	29.89	29.71	29.26	30.00	40- 50	25.97	89.77	61.7,59.1
60	22.22	23.11	23.16	23.24	22.39	22.00	21.44	22.18	50- 60	23.62	113.4	78,74.7
70	14.01	14.92	15.07	15.01	14.26	13.77	13.21	13.80	60- 70	18.26	131.6	90.5,86.7
80	5.823	6.771	7.063	6.854	6.144	5.711	5.249	5.651	70- 80	10.75	142.4	97.9,93.7
90	0.0011	0.4359	0.7721	0.4871	0.0241	0.1064	0.0807	0.0685	80- 90	2.975	145.4	100,95.7
100	0	0.0090	0	0.0121	0.0031	0.0106	0	0.0000	90-100	0.0479	145.4	100,95.7
110	0	0	0	0	0.0271	0	0	0	100-110	0.0025	145.4	100,95.7
120	0	0	0	0	0.0211	0	0	0	110-120	0.0008	145.4	100,95.7
130	0	0	0	0	0.0090	0.0000	0	0	120-130	0.0005	145.4	100,95.7
140	0	0	0	0	0.0030	0	0	0	130-140	0.0001	145.4	100,95.7
150	0	0	0	0	0	0	0	0	140-150	0.0002	145.4	100,95.7
160	0	0	0	0	0	0	0	0	150-160	0	145.4	100,95.7
170	0	0	0	0	0	0	0	0	160-170	0.0000	145.4	100,95.7
180	0	0	0	0	0	0	0	0	170-180	0.0000	145.4	100,95.7
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 79.478 lm

%lum = 54.7%

%lamp = 52.3%

Conical surface Flux(120deg): 113.39 lm

%lum = 78.0%

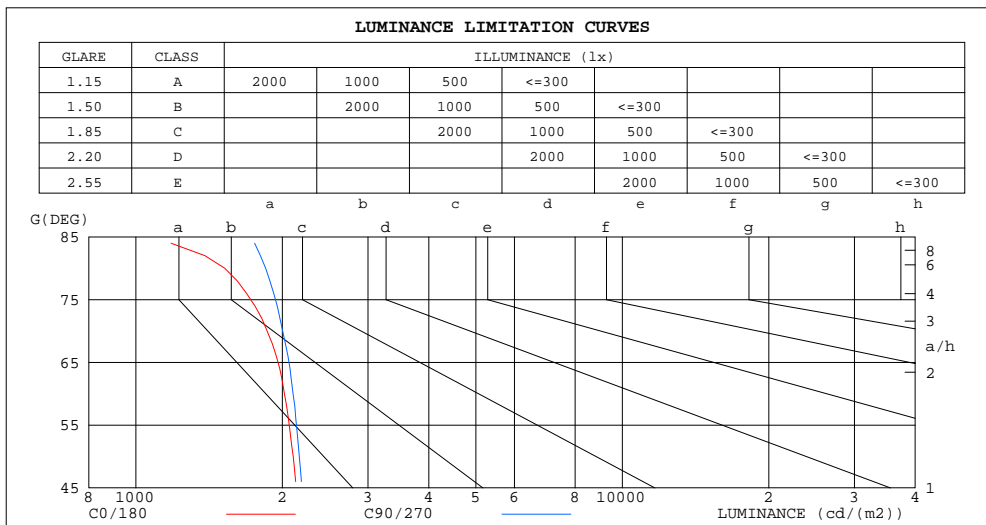
%lamp = 74.7%

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-RGB-WM-84-16.5W-83.3-TYPE:	WEIGHT: 0.570kg/m
SPEC.:	DIM.: 22*19mm
MFR.: CLEAR	SUR.: 22*1000mm
	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1417	2104
80	1524	1849
75	1871	2080
70	1862	2003
65	2050	2151
60	2020	2105
55	2126	2198
50	2106	2168
45	2180	2234

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:

WEC AND CCEC

NAME: C-SFR-F2219S12-VB-24CC-RGB-WM-84-16.5W-83.3-TYPE:	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	.301	.171	.054	.294	.168	.053	.281	.161	.052	.270	.156	.050	.259	.150	.048		
2.0	.282	.155	.047	.276	.152	.047	.265	.147	.046	.255	.143	.045	.245	.139	.044		
3.0	.261	.139	.042	.256	.137	.041	.246	.133	.040	.236	.130	.040	.228	.126	.039		
4.0	.240	.125	.037	.236	.123	.036	.227	.120	.036	.219	.117	.035	.211	.115	.035		
5.0	.222	.113	.033	.218	.112	.033	.210	.109	.032	.203	.107	.032	.196	.105	.031		
6.0	.206	.103	.030	.202	.102	.029	.195	.100	.029	.189	.098	.029	.182	.096	.029		
7.0	.191	.095	.027	.188	.094	.027	.182	.092	.026	.176	.090	.026	.171	.089	.026		
8.0	.179	.087	.025	.176	.087	.024	.170	.085	.024	.165	.084	.024	.160	.082	.024		
9.0	.167	.081	.023	.165	.080	.023	.160	.079	.022	.155	.078	.022	.151	.076	.022		
10.0	.157	.075	.021	.155	.075	.021	.150	.074	.021	.146	.073	.021	.142	.071	.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	.183	.183	.183	.156	.156	.156	.107	.107	.107	.061	.061	.061	.020	.020	.020	
1.0	.173	.150	.129	.148	.128	.111	.101	.088	.077	.058	.051	.045	.019	.016	.014	
2.0	.166	.127	.094	.142	.109	.081	.097	.075	.057	.056	.044	.033	.018	.014	.011	
3.0	.158	.110	.071	.136	.095	.062	.093	.066	.043	.054	.038	.025	.017	.012	.008	
4.0	.151	.097	.056	.130	.084	.048	.089	.058	.034	.052	.034	.020	.017	.011	.007	
5.0	.144	.087	.045	.123	.075	.039	.085	.053	.028	.049	.031	.016	.016	.010	.005	
6.0	.137	.079	.038	.118	.068	.033	.081	.048	.023	.047	.028	.014	.015	.009	.005	
7.0	.130	.072	.032	.112	.063	.028	.077	.044	.020	.045	.026	.012	.015	.008	.004	
8.0	.124	.067	.028	.107	.058	.024	.074	.041	.017	.043	.024	.010	.014	.008	.003	
9.0	.118	.062	.024	.102	.054	.021	.071	.038	.015	.041	.022	.009	.013	.007	.003	
10.0	.113	.058	.022	.097	.050	.019	.067	.035	.013	.039	.021	.008	.013	.007	.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-RGB-WM-84-16.5W-83.3-TYPE:					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					Viewed endwise				
x = 2H y = 2H	22.0	23.6	22.3	23.8	24.0	22.2	23.7	22.5	23.9	24.1
3H	23.6	25.0	23.9	25.2	25.5	23.8	25.2	24.1	25.5	25.7
4H	24.2	25.6	24.5	25.8	26.1	24.5	25.9	24.8	26.1	26.4
6H	24.6	25.9	25.0	26.2	26.5	25.1	26.3	25.4	26.6	26.9
8H	24.8	26.0	25.1	26.3	26.6	25.2	26.5	25.6	26.8	27.1
12H	24.8	26.0	25.2	26.3	26.6	25.4	26.6	25.7	26.8	27.2
4H 2H	22.7	24.1	23.0	24.3	24.6	22.8	24.2	23.1	24.4	24.7
3H	24.5	25.6	24.8	25.9	26.2	24.7	25.8	25.0	26.1	26.4
4H	25.2	26.3	25.6	26.6	26.9	25.5	26.6	25.9	26.9	27.2
6H	25.8	26.7	26.2	27.1	27.5	26.2	27.1	26.6	27.5	27.8
8H	25.9	26.8	26.4	27.2	27.6	26.4	27.3	26.8	27.7	28.1
12H	26.0	26.8	26.5	27.2	27.6	26.6	27.4	27.0	27.8	28.2
8H 4H	25.5	26.4	25.9	26.8	27.2	25.8	26.7	26.2	27.0	27.4
6H	26.3	27.0	26.7	27.4	27.8	26.6	27.4	27.1	27.8	28.2
8H	26.5	27.2	27.0	27.6	28.1	27.0	27.6	27.4	28.1	28.5
12H	26.7	27.2	27.2	27.7	28.2	27.2	27.8	27.7	28.3	28.7
12H 4H	25.6	26.4	26.0	26.8	27.2	25.8	26.6	26.2	27.0	27.4
6H	26.4	27.0	26.8	27.4	27.9	26.7	27.4	27.2	27.8	28.2
8H	26.7	27.2	27.1	27.7	28.2	27.1	27.7	27.6	28.1	28.6
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, 151.9 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -6.5)
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-RGB-WM-84-16.5W-83.3-TYPE:	WEIGHT: 0.570kg/m
SPEC.:	DIM.: 22*19mm
MFR.: CLEAR	SUR.: 22*1000mm
	Shielding Angle:

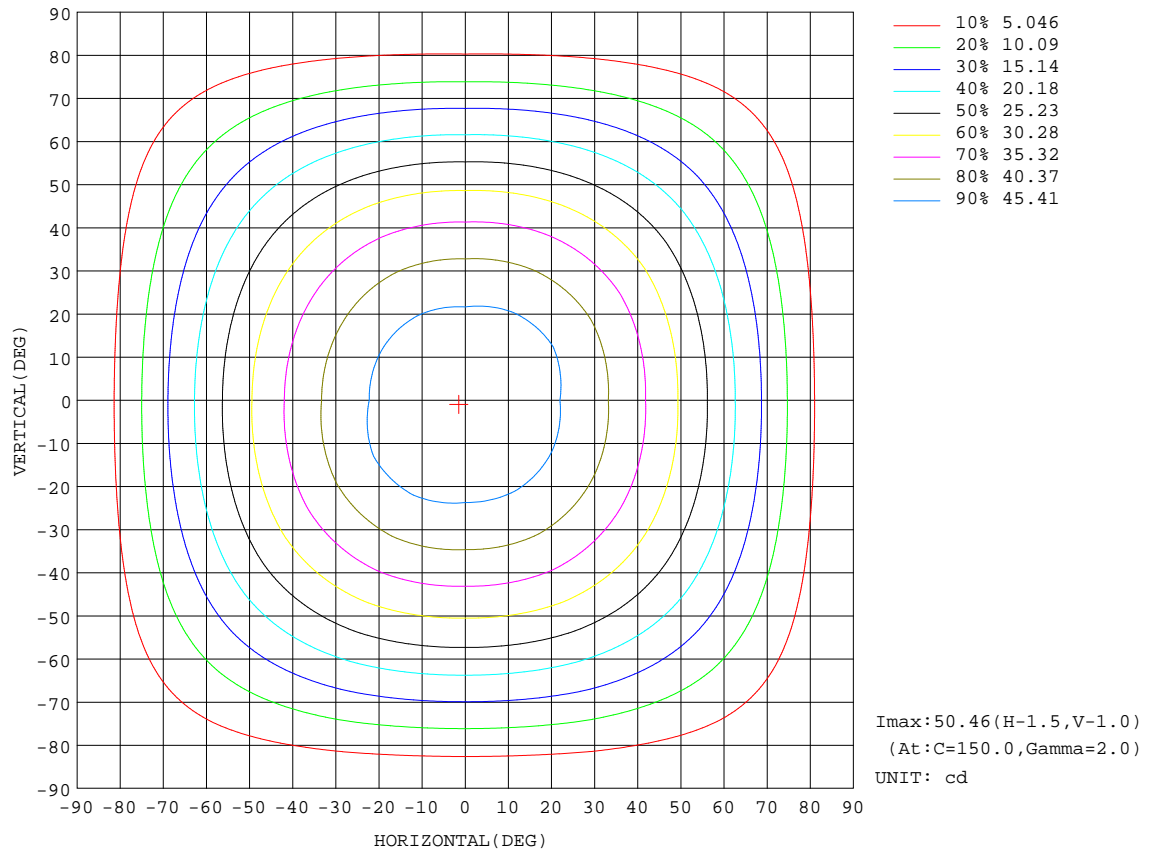
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	55	43	37	54	43	37	53	43	37	30
0.80	64	53	46	63	53	46	62	52	45	39
1.00	72	62	54	71	61	54	69	62	54	47
1.25	79	69	62	78	68	62	75	67	61	54
1.50	84	74	68	82	73	67	79	72	66	59
2.00	91	82	76	89	81	75	85	79	74	66
2.50	94	87	81	92	85	80	89	83	78	70
3.00	98	91	86	96	89	85	92	87	82	74
4.00	101	96	91	99	94	90	95	91	88	79
5.00	104	99	95	102	97	94	97	94	91	82
ROOM INDEX	UF(total)									Direct
According to DIN EN 13032-2 2004										
Suspended										
SHRNOM = 1.25										

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:

ISOCANDELA DIAGRAM

NAME: C-SFR-F2219S12-VB-24CC-RGB-WM-84-16.5W-83.3-TYPE:	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:
DIM.: 22*19mm	
SUR.: 22*1000mm	

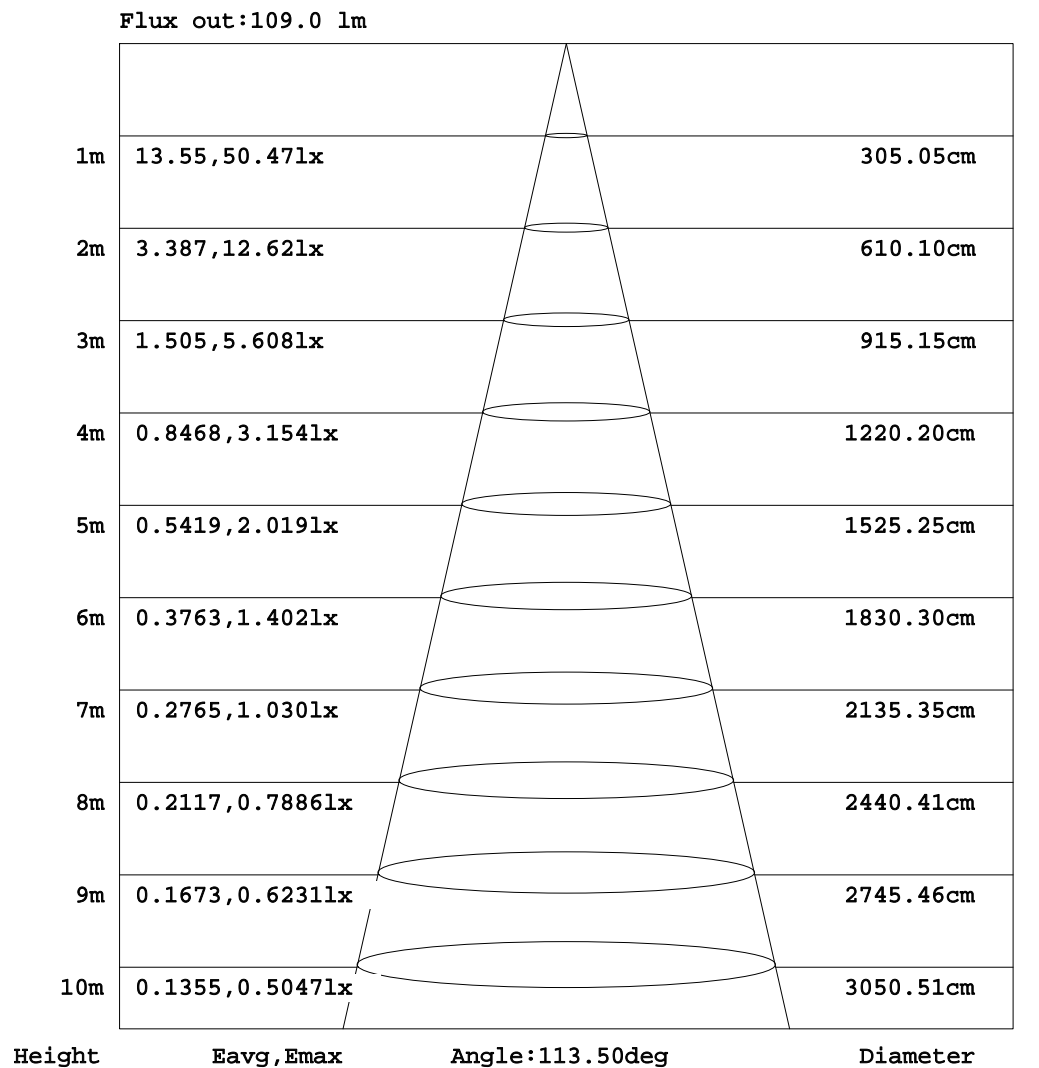


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Dillon
 Test Date: 29 July 2021

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-RGB-WM-84-16.5W-83.3-TYPE:	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

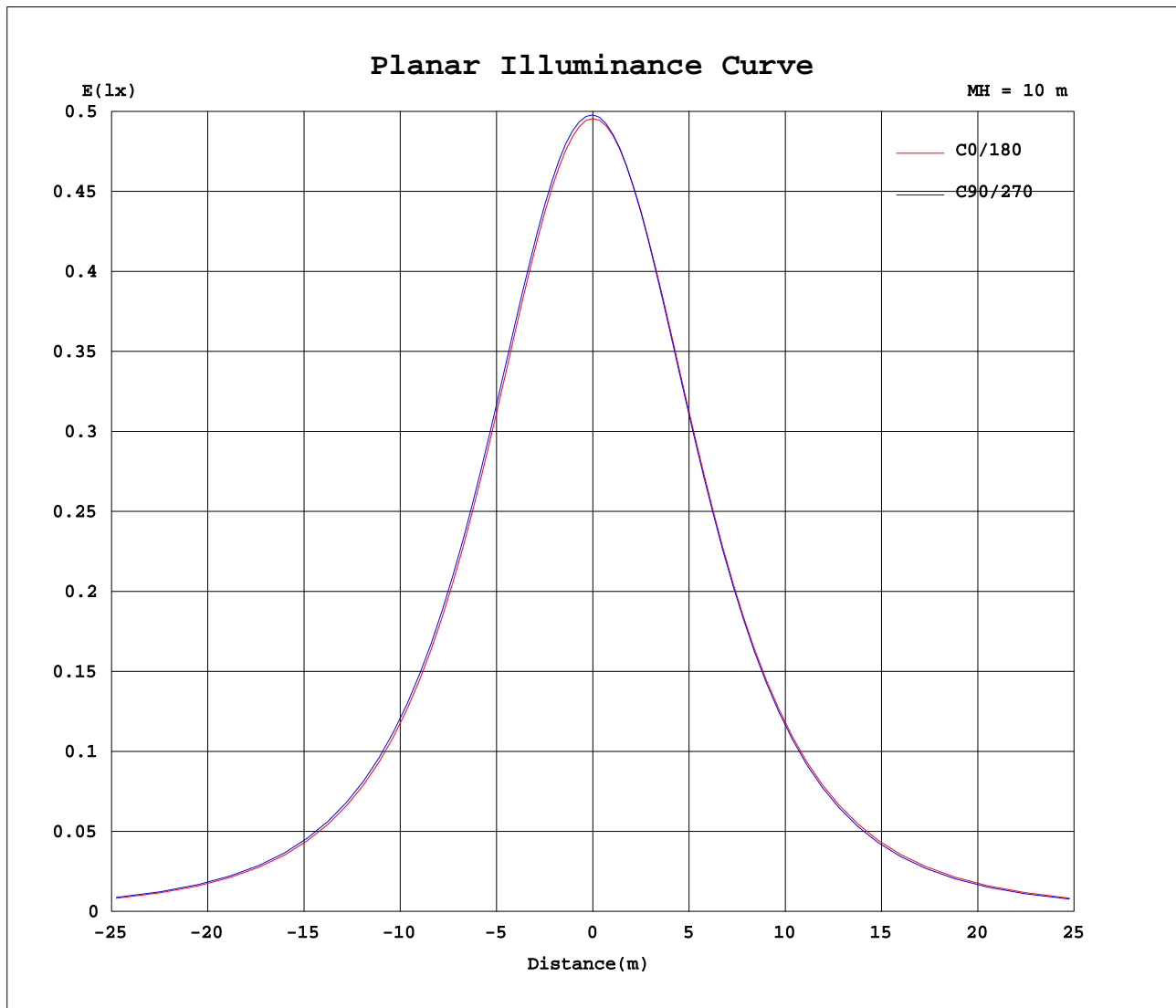


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: C-SFR-F2219S12-VB-24CC-RGB-WM-84-16.5W-83.3-TYPE:	WEIGHT: 0.570kg/m
SPEC.:	DIM.: 22*19mm
MFR.: CLEAR	SUR.: 22*1000mm
	Shielding Angle:

Table--1

UNIT: cd

C(DEC)	0	30	60	90	120	150	180	210	240	270	300	330						
γ (DEC)																		
0	49.6	49.9	49.8	49.8	50.4	50.5	49.6	49.9	49.8	49.8	50.4	50.5						
5	49.4	49.7	49.7	49.7	50.3	50.4	49.5	49.7	49.7	49.6	50.2	50.3						
10	48.7	49.1	49.1	49.1	49.7	49.7	48.7	49.0	48.9	48.7	49.3	49.5						
15	47.8	48.3	48.4	48.4	48.9	48.9	48.0	48.1	48.1	47.9	48.4	48.7						
20	46.1	46.6	46.8	46.7	47.2	47.2	46.2	46.3	46.3	46.0	46.6	46.8						
25	44.6	45.1	45.4	45.3	45.8	45.7	44.7	44.8	44.8	44.5	45.1	45.3						
30	42.0	42.5	42.9	42.7	43.2	43.0	42.1	42.1	42.1	41.8	42.3	42.6						
35	39.9	40.5	40.9	40.7	41.1	41.0	40.0	40.0	40.0	39.7	40.2	40.5						
40	36.5	37.1	37.5	37.3	37.7	37.4	36.5	36.5	36.5	36.2	36.7	37.0						
45	33.9	34.6	35.0	34.8	35.1	34.9	34.0	33.9	33.9	33.6	34.1	34.4						
50	29.8	30.5	30.9	30.7	31.0	30.7	29.9	29.8	29.6	29.3	29.8	30.2						
55	26.8	27.5	27.9	27.7	28.0	27.8	27.0	26.9	26.6	26.2	26.8	27.2						
60	22.2	22.9	23.3	23.2	23.4	23.1	22.4	22.2	21.8	21.4	22.0	22.4						
65	19.1	19.7	20.1	20.0	20.1	19.9	19.2	18.9	18.6	18.2	18.6	19.1						
70	14.0	14.7	15.2	15.1	15.2	14.9	14.3	13.9	13.6	13.2	13.6	14.0						
75	10.7	11.4	11.9	11.8	11.9	11.5	10.9	10.6	10.3	9.95	10.3	10.6						
80	5.82	6.55	7.00	7.06	7.02	6.69	6.14	5.84	5.58	5.25	5.57	5.73						
85	2.72	3.48	3.95	4.04	3.96	3.59	3.08	2.81	2.62	2.40	2.58	2.69						
90	0.00	0.19	0.68	0.77	0.69	0.28	0.02	0.08	0.13	0.08	0.12	0.01						
95	0.00	0.01	0.04	0.00	0.09	0.05	0.00	0.00	0.00	0.00	0.01	0.01						
100	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.02	0.01	0.00	0.00	0.00						
105	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00						
110	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00						
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
120	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00						
125	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00						
130	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00						
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
140	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
145	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00						
150	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
155	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
160	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
165	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
170	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
175	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						
180	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00						

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: