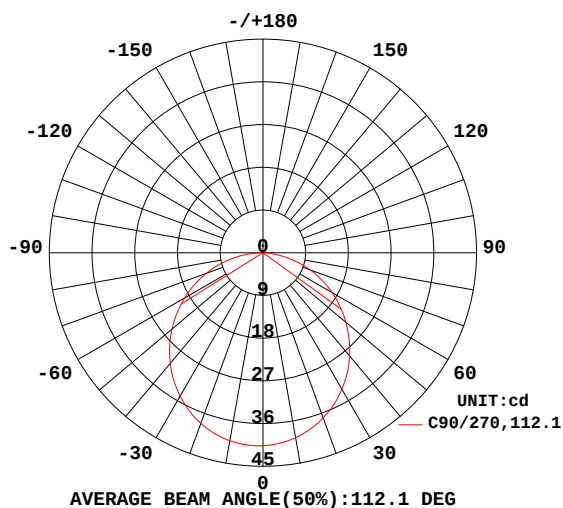


LUMINAIRE PHOTOMETRIC TEST REPORT

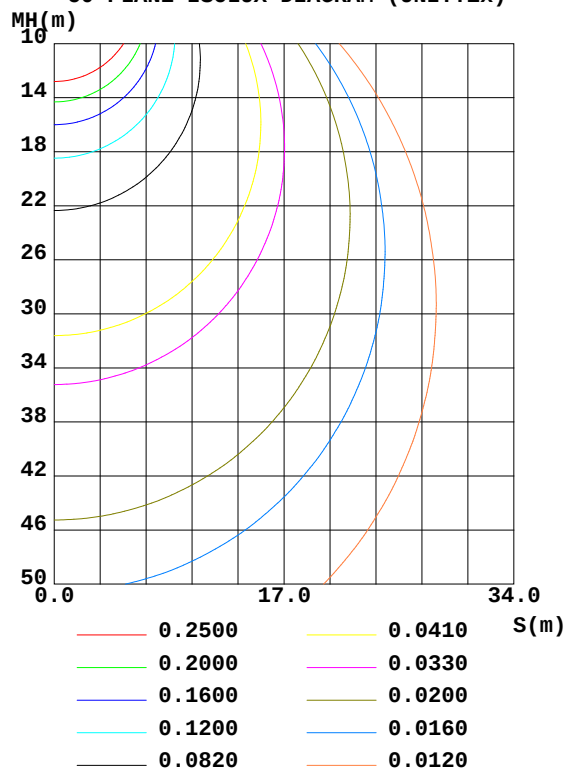
NAME: C-SFR-F2222S12-HB-24CC-RGB-WM-84-16.5W-83.3-R	WEIGHT: 0.590kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 18.48 lm/W			
MODEL	5050	I _{max} (cd)	40.99	S/MH(C0/180)	1.26
NOMINAL POWER(W)	16.5	LOR(%)	100.4	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	118.41	η UP, DN(C0-180)	0.0, 48.5
NOMINAL FLUX(lm)	117.91	CIE CLASS	DIRECT	η UP, DN(C180-360)	0.0, 51.8
LAMPS INSIDE	1	η up(%)	0.1	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	100.4	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: 22 July 2021

γ Range: 0 - 180DEG
γ Interval: 2.0DEG
Test System: EVERFINE G0-2000B_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	40.20	39.89	39.60	40.00	40.26	40.39	40.23	40.41	0- 10	3.866	3.866	3.27, 3.28
20	37.93	37.49	37.05	37.58	38.13	38.43	38.26	38.38	10- 20	11.06	14.93	12.6, 12.7
30	34.37	33.81	33.25	33.89	34.64	35.06	34.95	34.96	20- 30	16.73	31.66	26.7, 26.9
40	29.72	29.06	28.40	29.11	30.01	30.54	30.41	30.40	30- 40	20.13	51.79	43.7, 43.9
50	24.21	23.53	22.80	23.59	24.62	25.15	25.04	24.97	40- 50	20.89	72.68	61.4, 61.6
60	18.18	17.53	16.83	17.60	18.66	19.18	19.05	18.95	50- 60	19.05	91.73	77.5, 77.8
70	11.75	11.23	10.60	11.32	12.33	12.83	12.75	12.58	60- 70	14.98	106.7	90.1, 90.5
80	5.041	4.681	4.136	4.763	5.625	6.176	6.156	5.892	70- 80	9.130	115.8	97.8, 98.2
90	0.0010	0.0388	0	0.0467	0.1233	0.2602	0.2629	0.1181	80- 90	2.512	118.4	99.9, 100
100	0	0.0062	0	0.0170	0.0679	0.0401	0.0000	0.0015	90-100	0.0370	118.4	100, 100
110	0	0.0015	0	0.0000	0.0371	0.0046	0	0.0015	100-110	0.0130	118.4	100, 100
120	0.0031	0	0	0.0154	0.0524	0.0062	0	0	110-120	0.0059	118.4	100, 100
130	0.0092	0.0000	0	0	0.0155	0.0015	0	0	120-130	0.0036	118.4	100, 100
140	0.0000	0.0046	0	0.0015	0.0001	0.0015	0	0	130-140	0.0010	118.4	100, 100
150	0	0	0	0	0.0092	0	0	0	140-150	0.0007	118.4	100, 100
160	0	0	0	0	0.0031	0	0	0	150-160	0.0001	118.4	100, 100
170	0	0	0	0	0	0	0	0	160-170	0.0000	118.4	100, 100
180	0	0	0	0	0	0	0	0	170-180	0	118.4	100, 100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 64.405 lm

%lum = 54.4%

%lamp = 54.6%

Conical surface Flux(120deg): 91.732 lm

%lum = 77.5%

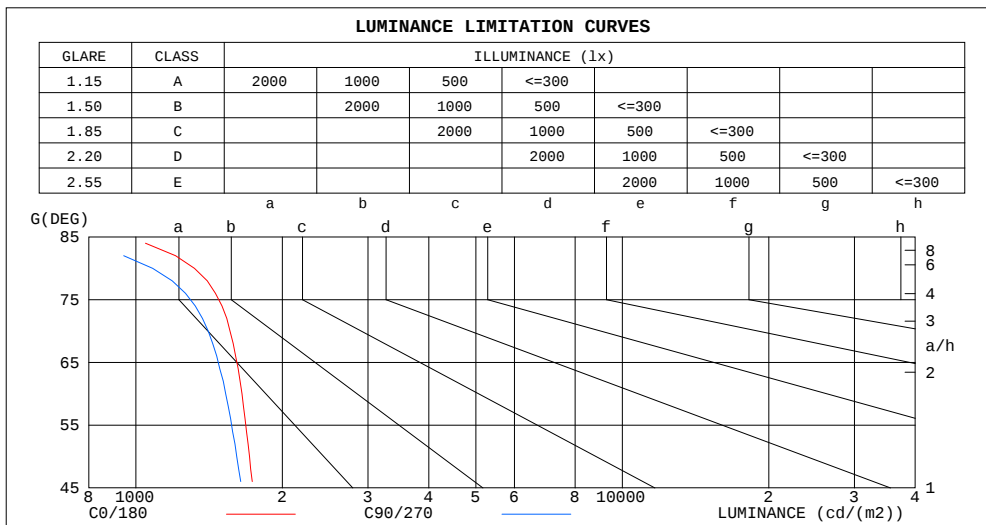
%lamp = 77.8%

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Dillon
 Test Date:22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.446
 Humidity:65.0%
 Test Distance:6.950m [K=1.0000]
 Remarks:

LUMINANCE LIMITATION CURVES

NAME: C-SFR-F2222S12-HB-24CC-RGB-WM-84-16.5W-83.3-RYPE:		WEIGHT: 0.590kg/m
SPEC.:	DIM.: 22*22mm	SERIAL No.:
MFR.: CLEAR	SUR.: 22*1000mm	Shielding Angle:



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1255	871
80	1320	1083
75	1600	1411
70	1562	1409
65	1683	1543
60	1652	1530
55	1730	1620
50	1712	1612
45	1775	1685

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Dillon
 Test Date:22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
 Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.446
 Humidity:65.0%
 Test Distance:6.950m [K=1.0000]
 Remarks:

WEC AND CCEC

NAME: C-SFR-F2222S12-HB-24CC-RGB-WM-84-16.5W-83.3-RYPE:	WEIGHT: 0.590kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

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						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.318	.181	.057	.311	.177	.056	.297	.171	.054	.285	.164	.053	.274	.159	.051		
2.0	.298	.163	.050	.292	.161	.049	.280	.156	.048	.269	.151	.047	.259	.146	.046		
3.0	.275	.146	.044	.269	.144	.043	.259	.140	.043	.249	.137	.042	.240	.133	.041		
4.0	.253	.131	.039	.248	.130	.038	.239	.127	.038	.230	.124	.037	.222	.121	.037		
5.0	.233	.119	.034	.229	.118	.034	.221	.115	.034	.213	.113	.033	.206	.110	.033		
6.0	.216	.108	.031	.212	.107	.031	.205	.105	.031	.198	.103	.030	.192	.101	.030		
7.0	.201	.099	.028	.198	.098	.028	.191	.097	.028	.185	.095	.028	.179	.093	.027		
8.0	.188	.092	.026	.184	.091	.026	.179	.089	.025	.173	.088	.025	.168	.086	.025		
9.0	.176	.085	.024	.173	.084	.024	.168	.083	.023	.163	.082	.023	.158	.080	.023		
10.0	.165	.079	.022	.163	.079	.022	.158	.077	.022	.153	.076	.022	.149	.075	.022		

ρ_{CC}	80%			70%			50%			30%			10%			0
ρ_W	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	50%	30%	10%	0
ρ_{fC}	20%			20%			20%			20%			20%			0
RCR	RCR:Room Cavity Ratio						Ceiling Cavity Exitance Coefficients(CCEC)									
0.0	.192	.192	.192	.164	.164	.164	.112	.112	.112	.064	.064	.064	.021	.021	.021	
1.0	.182	.157	.135	.156	.135	.116	.106	.093	.080	.061	.054	.047	.020	.017	.015	
2.0	.174	.133	.098	.149	.114	.085	.102	.079	.059	.059	.046	.035	.019	.015	.011	
3.0	.166	.115	.074	.143	.099	.065	.098	.069	.045	.057	.040	.027	.018	.013	.009	
4.0	.159	.102	.059	.136	.088	.051	.094	.061	.036	.054	.036	.021	.017	.012	.007	
5.0	.151	.091	.047	.130	.079	.041	.089	.055	.029	.052	.032	.017	.017	.011	.006	
6.0	.144	.083	.039	.124	.072	.034	.085	.050	.024	.049	.030	.014	.016	.010	.005	
7.0	.137	.076	.034	.118	.066	.029	.081	.046	.021	.047	.027	.012	.015	.009	.004	
8.0	.130	.070	.029	.112	.061	.025	.078	.043	.018	.045	.025	.011	.015	.008	.004	
9.0	.124	.065	.026	.107	.057	.022	.074	.040	.016	.043	.024	.009	.014	.008	.003	
10.0	.118	.061	.023	.102	.053	.020	.071	.037	.014	.041	.022	.008	.013	.007	.003	

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Dillon
Test Date:22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:6.950m [K=1.0000]
Remarks:

UGR(Unified Glare Rating) Table

NAME: C-SFR-F2222S12-HB-24CC-RGB-WM-84-16.5W-83.3-TYPE:					WEIGHT: 0.590kg/m									
SPEC.:					DIM.: 22*22mm					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	23.5	22.3	23.8	24.0	21.7	23.3	22.0	23.5	23.7			
3H		23.6	25.1	23.9	25.3	25.5	23.3	24.7	23.6	24.9	25.2			
4H		24.3	25.7	24.6	25.9	26.2	23.9	25.2	24.2	25.5	25.7			
6H		24.8	26.1	25.1	26.3	26.6	24.3	25.5	24.6	25.8	26.1			
8H		24.9	26.2	25.3	26.4	26.7	24.3	25.6	24.7	25.9	26.1			
12H		25.0	26.2	25.3	26.5	26.8	24.3	25.5	24.7	25.8	26.1			
4H 2H		22.6	24.0	22.9	24.2	24.5	22.4	23.7	22.7	24.0	24.3			
3H		24.4	25.6	24.8	25.9	26.2	24.1	25.3	24.5	25.6	25.9			
4H		25.2	26.3	25.6	26.6	27.0	24.8	25.9	25.2	26.2	26.6			
6H		25.8	26.8	26.2	27.2	27.5	25.3	26.3	25.7	26.7	27.0			
8H		26.0	26.9	26.4	27.3	27.7	25.5	26.4	25.9	26.7	27.1			
12H		26.1	26.9	26.5	27.3	27.7	25.5	26.3	25.9	26.7	27.1			
8H 4H		25.5	26.4	25.9	26.8	27.1	25.1	26.0	25.6	26.4	26.8			
6H		26.2	27.0	26.7	27.4	27.8	25.8	26.5	26.2	26.9	27.4			
8H		26.5	27.2	27.0	27.6	28.0	26.0	26.6	26.4	27.1	27.5			
12H		26.6	27.2	27.1	27.7	28.1	26.1	26.6	26.5	27.1	27.6			
12H 4H		25.5	26.3	25.9	26.7	27.1	25.2	26.0	25.6	26.4	26.8			
6H		26.3	26.9	26.7	27.4	27.8	25.8	26.5	26.3	26.9	27.4			
8H		26.6	27.1	27.1	27.6	28.1	26.1	26.6	26.6	27.1	27.6			
Variations with the observer position at spacings(CIE Pub.117):														
S = 1.0H		+ 0.1 / - 0.2					+ 0.2 / - 0.2							
1.5H		+ 0.1 / - 0.3					+ 0.2 / - 0.3							
2.0H		+ 0.2 / - 0.2					+ 0.2 / - 0.3							

CIE Pub.117, 117.9 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -7.4)
Area: 0.022 m2

C Range: 0 - 360DEG
C Interval: 30.0DEG
Test Speed: HIGH
Temperature:25.3DEG
Operators:Dillon
Test Date:22 July 2021

γ Range: 0 - 180DEG
γ Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:6.950m [K=1.0000]
Remarks:

UTILIZATION FACTORS TABLE

NAME: C-SFR-F2222S12-HB-24CC-RGB-WM-84-16.5W-83.3-TYPE:	WEIGHT: 0.590kg/m
SPEC.:	DIM.: 22*22mm
MFR.: CLEAR	SUR.: 22*1000mm
	Shielding Angle:

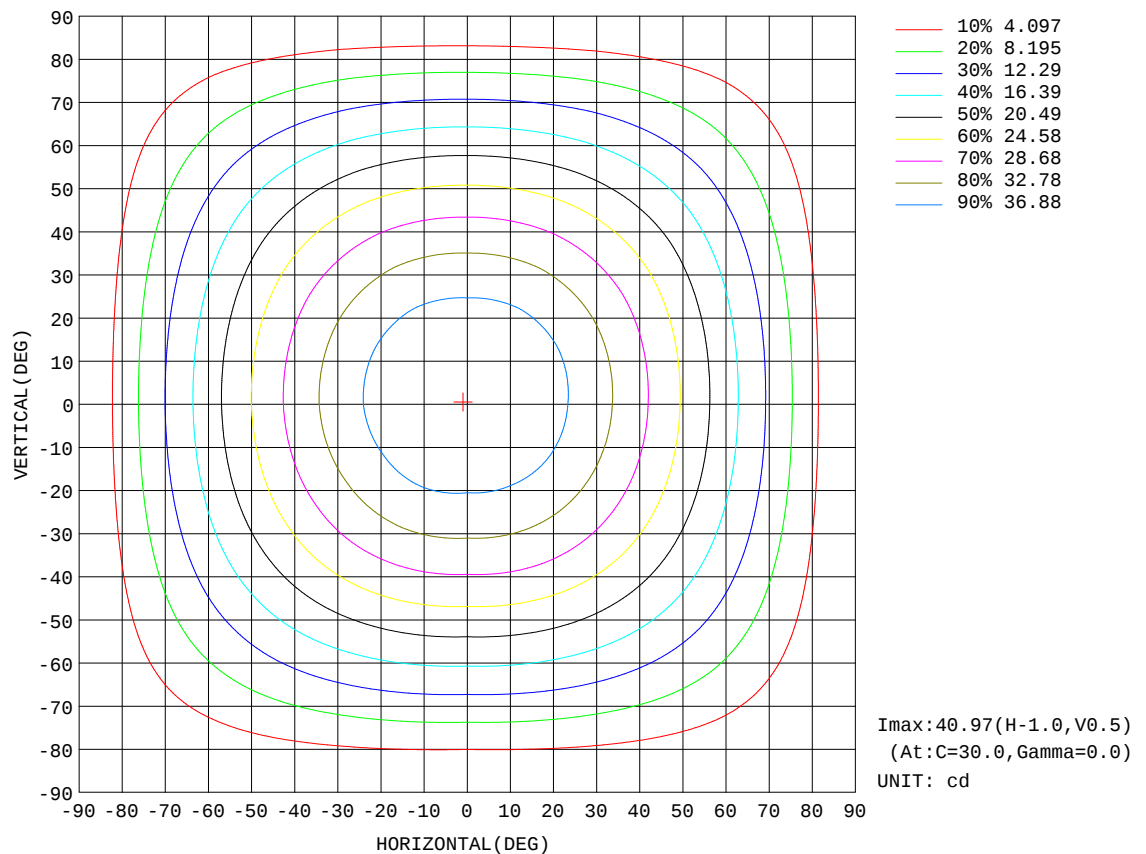
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) × RCR = 5									
k = 0.60	57	46	39	57	45	38	55	45	38	32
0.80	67	56	48	66	55	48	64	54	48	40
1.00	76	64	57	75	64	57	72	65	56	49
1.25	83	72	65	81	71	64	79	70	64	56
1.50	88	78	71	86	77	70	83	75	69	61
2.00	95	86	79	93	85	79	89	83	77	69
2.50	99	91	85	97	89	84	93	87	82	73
3.00	102	95	90	100	94	88	96	91	86	78
4.00	106	101	96	104	99	94	100	95	92	83
5.00	109	104	100	106	102	98	102	98	95	86
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:22 July 2021

γ Range: 0 - 180DEG
γ Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:6.950m [K=1.0000]
Remarks:

ISOCANDELA DIAGRAM

NAME: C-SFR-F2222S12-HB-24CC-RGB-WM-84-16.5W-83.3-TYPE:	WEIGHT: 0.590kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

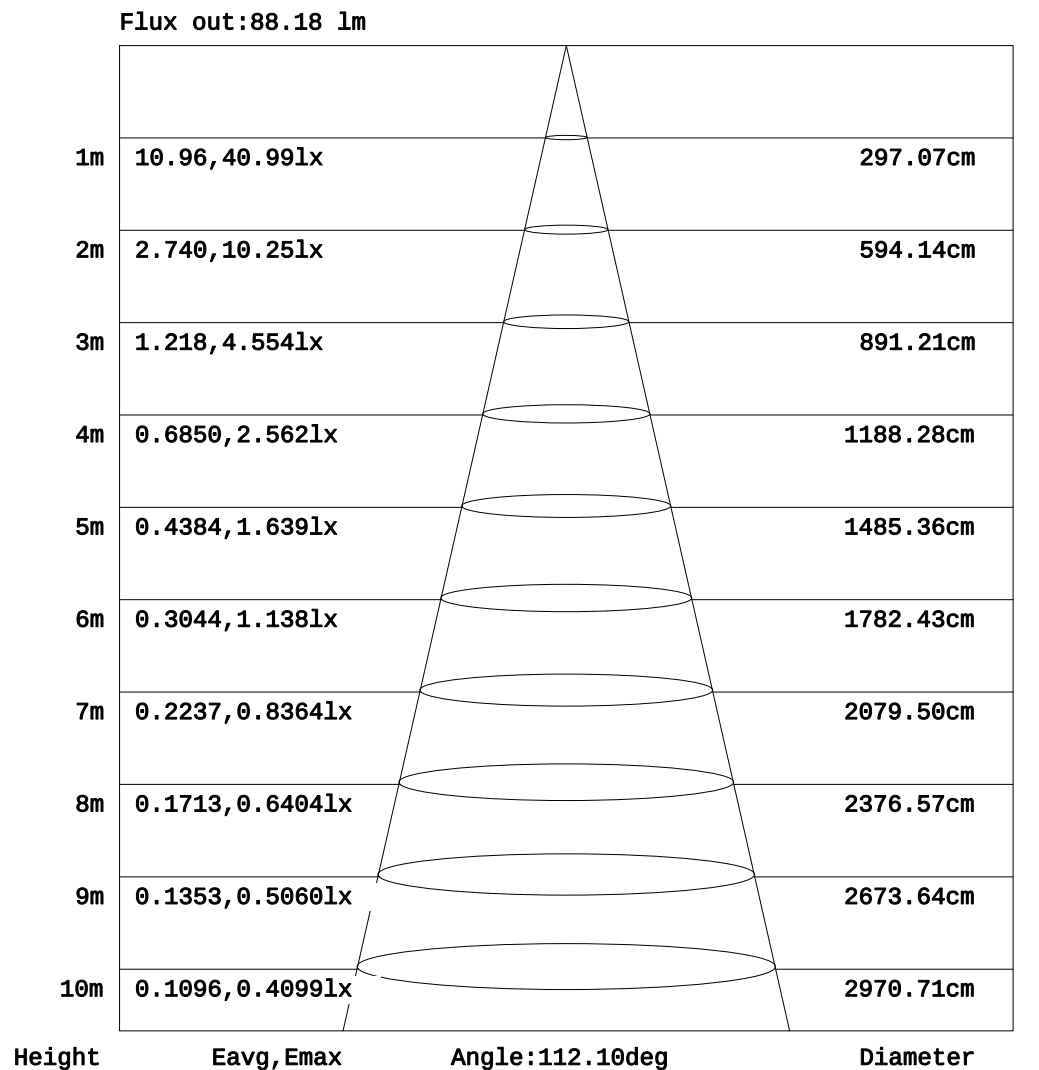


C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature: 25.3DEG
 Operators: Dillon
 Test Date: 22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 6.950m [K=1.0000]
 Remarks:

AAI Figure

NAME: C-SFR-F2222S12-HB-24CC-RGB-WM-84-16.5W-83.3-TYPE:	WEIGHT: 0.590kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

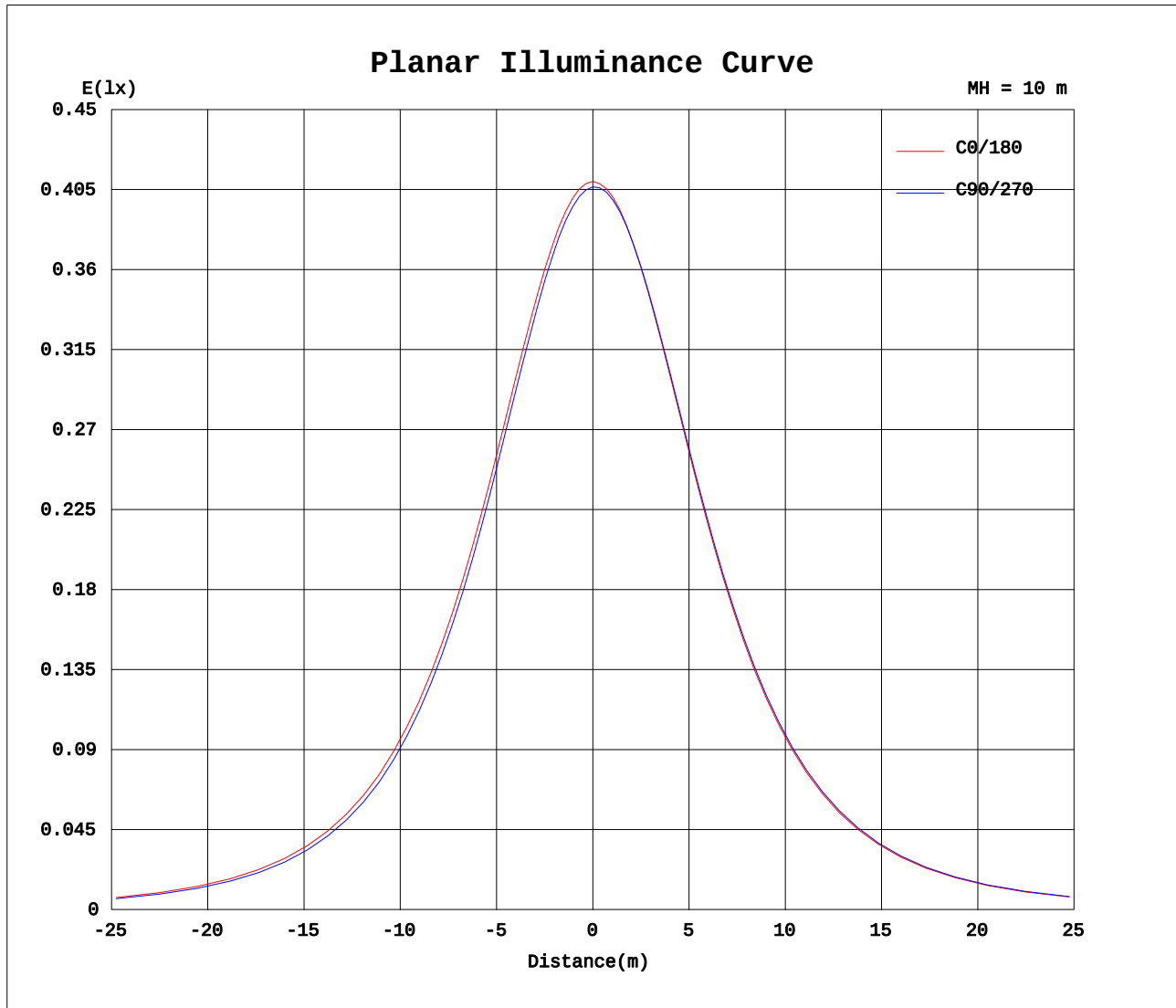


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Dillon
 Test Date:22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
 Test System:EVERFINE G0-2000B_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: 22 July 2021

γ Range: 0 - 180DEG
 γ Interval: 2.0DEG
 Test System: EVERFINE G0-2000B_V1 SYSTEM V2.00.446
 Humidity: 65.0%
 Test Distance: 6.950m [K=1.0000]
 Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

NAME: C-SFR-F2222S12-HB-24CC-RGB-WM-84-16.5W-83.3-TYPE:	WEIGHT: 0.590kg/m
SPEC.:	DIM.: 22*22mm
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	41.0	41.0	40.8	40.7	40.9	41.0	41.0	41.0	40.8	40.7	40.9	41.0						
5	40.8	40.8	40.5	40.4	40.7	40.8	40.9	40.9	40.8	40.7	40.9	40.9						
10	40.2	40.1	39.7	39.6	39.9	40.1	40.3	40.4	40.4	40.2	40.5	40.4						
15	39.4	39.3	38.9	38.7	39.1	39.3	39.6	39.8	39.8	39.6	39.8	39.7						
20	37.9	37.7	37.3	37.0	37.4	37.7	38.1	38.4	38.5	38.3	38.5	38.3						
25	36.6	36.3	36.0	35.7	36.1	36.4	36.9	37.2	37.3	37.1	37.3	37.1						
30	34.4	34.0	33.6	33.3	33.7	34.1	34.6	35.0	35.1	34.9	35.1	34.8						
35	32.6	32.2	31.8	31.4	31.9	32.3	32.9	33.3	33.5	33.2	33.4	33.1						
40	29.7	29.2	28.9	28.4	28.9	29.4	30.0	30.5	30.6	30.4	30.5	30.3						
45	27.6	27.1	26.7	26.2	26.7	27.2	28.0	28.4	28.6	28.4	28.4	28.2						
50	24.2	23.8	23.3	22.8	23.3	23.8	24.6	25.1	25.2	25.0	25.1	24.8						
55	21.8	21.4	20.9	20.4	20.9	21.5	22.3	22.7	22.9	22.7	22.8	22.5						
60	18.2	17.8	17.3	16.8	17.3	17.9	18.7	19.1	19.2	19.1	19.1	18.8						
65	15.6	15.3	14.8	14.3	14.8	15.4	16.1	16.6	16.7	16.6	16.6	16.3						
70	11.8	11.5	11.0	10.6	11.0	11.6	12.3	12.7	12.9	12.8	12.7	12.4						
75	9.11	8.85	8.39	8.03	8.47	8.98	9.66	10.1	10.3	10.1	10.1	9.75						
80	5.04	4.86	4.50	4.14	4.52	5.01	5.62	6.07	6.28	6.16	6.07	5.71						
85	2.41	2.29	1.96	1.67	2.01	2.39	2.96	3.41	3.62	3.51	3.42	3.05						
90	0.00	0.04	0.03	0.00	0.04	0.06	0.12	0.18	0.34	0.26	0.19	0.05						
95	0.00	0.02	0.02	0.00	0.00	0.05	0.09	0.09	0.02	0.01	0.00	0.00						
100	0.00	0.00	0.01	0.00	0.00	0.03	0.07	0.05	0.03	0.00	0.00	0.00						
105	0.00	0.00	0.00	0.00	0.00	0.02	0.07	0.06	0.02	0.00	0.01	0.00						
110	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00						
115	0.00	0.00	0.00	0.00	0.00	0.02	0.04	0.01	0.00	0.00	0.00	0.00						
120	0.00	0.00	0.00	0.00	0.00	0.03	0.05	0.01	0.00	0.00	0.00	0.00						
125	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.00	0.00	0.00	0.00	0.00						
130	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00						
135	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00						
140	0.00	0.01	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	0.01	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	0.01	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:22 July 2021

γ Range: 0 - 180DEG
γ Interval: 2.0DEG
Test System:EVERFINE G0-2000B_V1 SYSTEM V2.00.446
Humidity:65.0%
Test Distance:6.950m [K=1.0000]
Remarks: