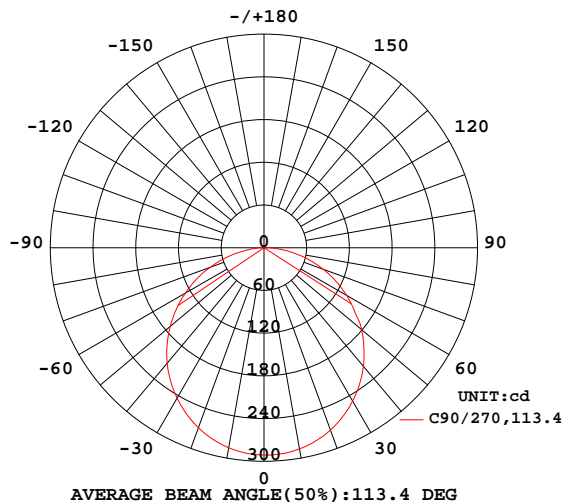


LUMINAIRE PHOTOMETRIC TEST REPORT

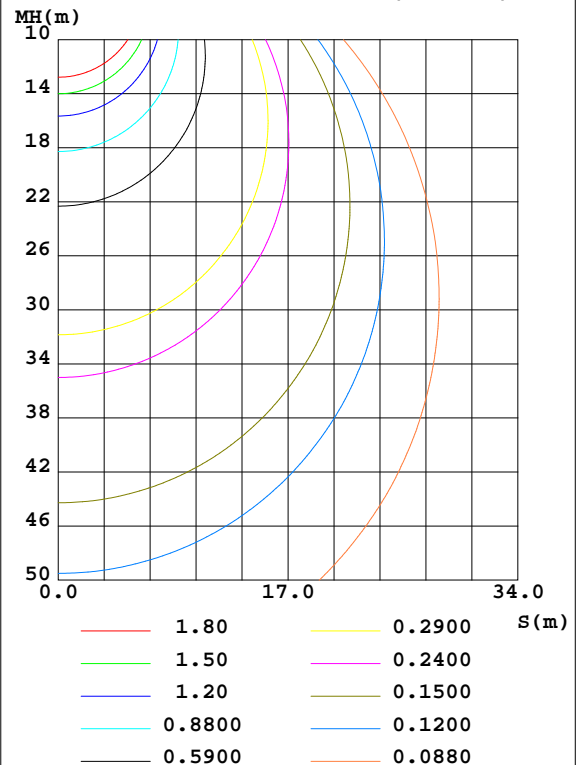
NAME: C-SFR-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-125-(22K+57K)	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 61.21 lm/W			
MODEL	3015	Imax(cd)	294.1	S/MH(C0/180)	1.26
NOMINAL POWER(W)	15	LOR(%)	100.9	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	867.36	$\eta$ UP,DN(C0-180)	0.5,50.6
NOMINAL FLUX(lm)	860.03	CIE CLASS	DIRECT	$\eta$ UP,DN(C180-360)	0.5,49.2
LAMPS INSIDE	1	$\eta$ up(%)	1.0	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	$\eta$ down(%)	99.8	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	288.8	288.5	287.0	288.9	289.3	287.7	285.2	287.8	0- 10	27.74	27.74	3.2,3.23
20	273.3	274.1	272.6	274.2	274.1	272.2	269.2	272.0	10- 20	79.50	107.2	12.4,12.5
30	248.7	250.3	249.0	250.0	249.5	247.4	244.2	247.0	20- 30	120.6	227.8	26.3,26.5
40	216.1	218.5	217.3	217.9	216.9	214.8	211.7	214.5	30- 40	145.9	373.7	43.1,43.5
50	177.1	180.1	179.0	179.4	178.3	175.7	172.2	175.5	40- 50	152.3	526.0	60.6,61.2
60	133.2	135.7	133.9	135.0	132.5	130.6	127.9	130.3	50- 60	138.6	664.6	76.6,77.3
70	86.33	89.63	88.90	88.98	86.36	83.77	80.24	83.47	60- 70	108.5	773.1	89.1,89.9
80	37.33	41.84	42.75	41.43	38.80	36.27	33.92	35.88	70- 80	65.55	838.7	96.7,97.5
90	1.291	4.822	6.521	5.035	2.399	3.282	3.214	3.084	80- 90	19.95	858.6	99,99.8
100	0.8917	1.644	1.724	1.933	2.272	1.842	1.238	1.470	90-100	2.379	861.0	99.3,100
110	1.037	1.019	0.3161	1.232	2.186	1.331	0.4258	0.9673	100-110	1.434	862.4	99.4,100
120	1.254	1.097	0.3731	1.235	2.037	1.301	0.3917	1.046	110-120	1.084	863.5	99.6,100
130	1.378	1.215	0.5649	1.261	1.910	1.311	0.5592	1.138	120-130	1.036	864.5	99.7,101
140	1.394	1.292	0.7379	1.282	1.740	1.323	0.7483	1.137	130-140	0.9361	865.5	99.8,101
150	1.416	1.320	0.9567	1.294	1.578	1.302	0.9375	1.150	140-150	0.7784	866.3	99.9,101
160	1.421	1.362	1.130	1.309	1.467	1.332	1.124	1.230	150-160	0.5905	866.9	99.9,101
170	1.413	1.415	1.311	1.363	1.381	1.389	1.297	1.327	160-170	0.3761	867.2	100,101
180	1.394	1.397	1.424	1.358	1.386	1.410	1.416	1.365	170-180	0.1323	867.4	100,101
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 465.55 lm

%lum = 53.7%

%lamp = 54.1%

Conical surface Flux(120deg): 664.6 lm

%lum = 76.6%

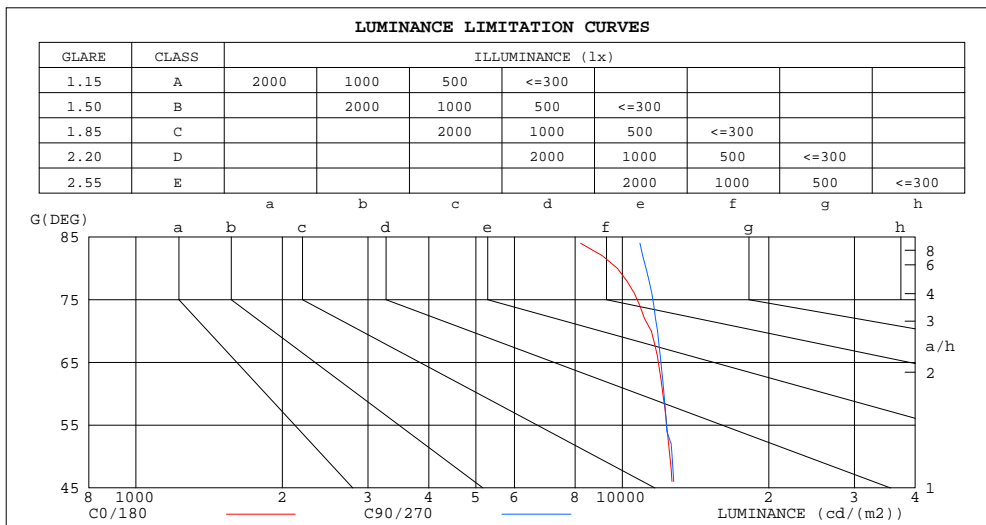
%lamp = 77.3%

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-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-125B(22K+57K)	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	9839	13039
80	9771	11191
75	11580	12362
70	11473	11814
65	12361	12492
60	12113	12174
55	12681	12652
50	12527	12656
45	12937	13014

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-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-125B(22K+57K)	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

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						Wall Exitance Coefficients(WEC)										
0.0																	
1.0	.321	.182	.058	.313	.179	.057	.299	.172	.055	.286	.165	.053	.274	.159	.051		
2.0	.300	.164	.050	.293	.161	.050	.281	.156	.048	.269	.151	.047	.259	.146	.046		
3.0	.276	.147	.044	.270	.145	.044	.259	.141	.043	.249	.137	.042	.240	.133	.041		
4.0	.254	.132	.039	.249	.130	.039	.239	.127	.038	.230	.124	.037	.222	.120	.037		
5.0	.234	.119	.035	.230	.118	.034	.221	.115	.034	.213	.112	.033	.206	.110	.033		
6.0	.217	.109	.031	.213	.108	.031	.205	.105	.031	.198	.103	.030	.191	.101	.030		
7.0	.202	.100	.028	.198	.099	.028	.191	.097	.028	.185	.095	.028	.179	.093	.027		
8.0	.188	.092	.026	.185	.091	.026	.179	.089	.026	.173	.088	.025	.167	.086	.025		
9.0	.176	.085	.024	.173	.085	.024	.168	.083	.024	.163	.081	.023	.158	.080	.023		
10.0	.166	.079	.022	.163	.079	.022	.158	.077	.022	.153	.076	.022	.149	.075	.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	.200	.200	.200	.171	.171	.171	.117	.117	.117	.067	.067	.067	.021	.021	.021	
1.0	.190	.165	.143	.163	.142	.123	.111	.098	.085	.064	.056	.049	.021	.018	.016	
2.0	.182	.141	.106	.156	.121	.092	.107	.084	.064	.062	.049	.037	.020	.016	.012	
3.0	.175	.123	.082	.150	.106	.071	.103	.074	.050	.059	.043	.029	.019	.014	.010	
4.0	.167	.110	.066	.143	.095	.058	.098	.066	.041	.057	.039	.024	.018	.013	.008	
5.0	.159	.099	.055	.137	.086	.048	.094	.060	.034	.055	.035	.020	.018	.012	.007	
6.0	.152	.091	.047	.131	.079	.041	.090	.055	.029	.052	.032	.017	.017	.011	.006	
7.0	.145	.084	.041	.125	.073	.036	.086	.051	.026	.050	.030	.015	.016	.010	.005	
8.0	.139	.078	.037	.119	.068	.032	.083	.048	.023	.048	.028	.014	.016	.009	.004	
9.0	.132	.073	.033	.114	.064	.029	.079	.045	.021	.046	.026	.012	.015	.009	.004	
10.0	.127	.069	.031	.109	.060	.027	.076	.042	.019	.044	.025	.011	.014	.008	.004	

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-F2219S8-VB-24CC-22K~57K-WM-192-80-15W-T25B(22K+57K)						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		22.1	23.7	22.4	23.9	24.1	22.2	23.7	22.5	24.0	24.2
3H		23.8	25.2	24.1	25.4	25.7	23.9	25.3	24.2	25.5	25.8
4H		24.4	25.8	24.7	26.0	26.3	24.6	25.9	24.9	26.2	26.5
6H		24.9	26.2	25.2	26.5	26.8	25.2	26.4	25.5	26.7	27.0
8H		25.0	26.3	25.4	26.6	26.9	25.4	26.6	25.7	26.9	27.2
12H		25.1	26.3	25.5	26.6	26.9	25.5	26.7	25.9	27.0	27.3
4H 2H		22.8	24.1	23.1	24.4	24.7	22.9	24.2	23.2	24.5	24.8
3H		24.6	25.8	25.0	26.1	26.4	24.7	25.9	25.1	26.2	26.5
4H		25.4	26.5	25.8	26.8	27.2	25.6	26.7	26.0	27.0	27.3
6H		26.0	27.0	26.4	27.4	27.7	26.3	27.2	26.7	27.6	28.0
8H		26.2	27.1	26.7	27.5	27.9	26.5	27.4	27.0	27.8	28.2
12H		26.3	27.2	26.8	27.6	28.0	26.7	27.6	27.2	28.0	28.4
8H 4H		25.7	26.6	26.2	27.0	27.4	25.9	26.8	26.3	27.2	27.6
6H		26.5	27.3	27.0	27.7	28.1	26.8	27.5	27.2	27.9	28.4
8H		26.8	27.5	27.3	27.9	28.4	27.1	27.8	27.6	28.2	28.7
12H		27.0	27.6	27.5	28.1	28.6	27.4	28.0	27.9	28.5	29.0
12H 4H		25.8	26.6	26.2	27.0	27.4	25.9	26.7	26.4	27.1	27.6
6H		26.6	27.3	27.1	27.7	28.2	26.8	27.5	27.3	27.9	28.4
8H		27.0	27.5	27.5	28.0	28.5	27.3	27.8	27.7	28.3	28.8
Variations with the observer position at spacings(CIE Pub.117):											
S = 1.0H		+ 0.1 / - 0.2					+ 0.1 / - 0.2				
1.5H		+ 0.1 / - 0.3					+ 0.2 / - 0.3				
2.0H		+ 0.1 / - 0.3					+ 0.1 / - 0.3				

CIE Pub.117, 860.0 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -0.5)  
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-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-125B(22K+57K)	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

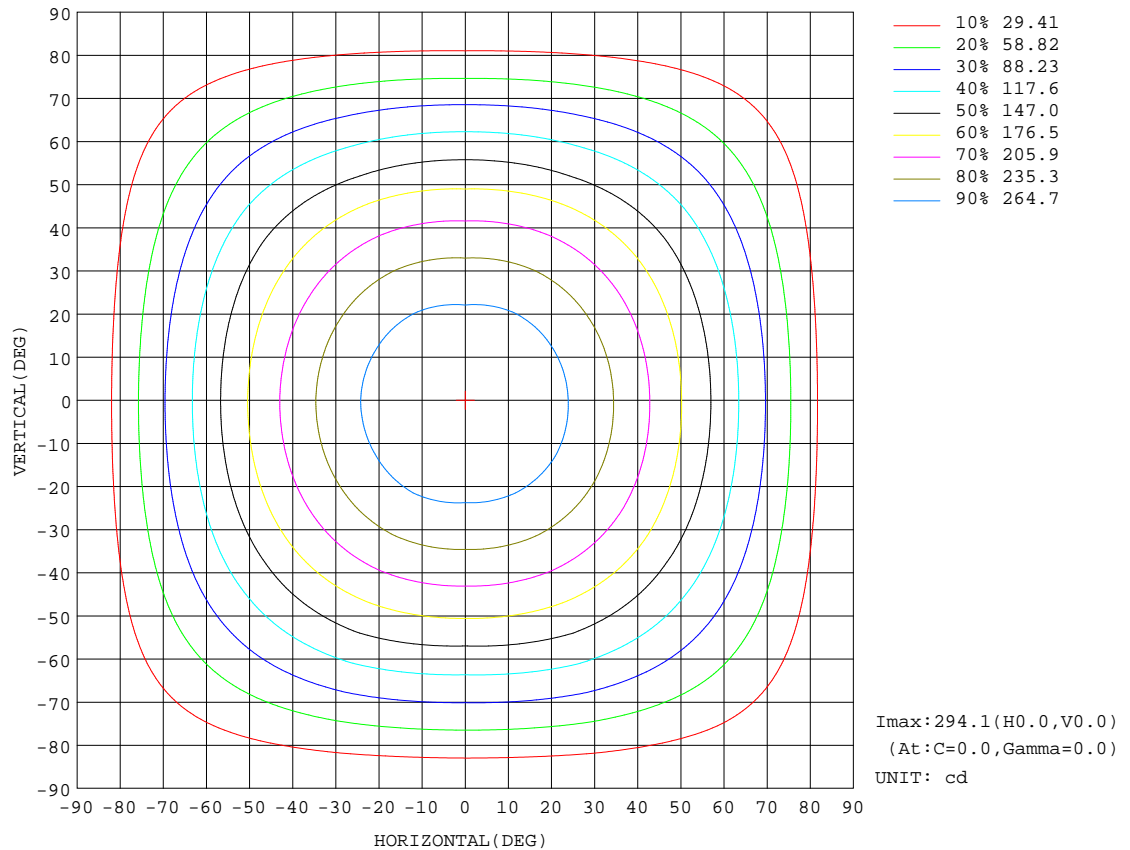
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT)    k(RI) x RCR = 5									
k = 0.60	57	45	38	56	45	38	55	45	38	31
0.80	67	55	48	66	55	48	64	54	47	40
1.00	76	64	57	74	64	56	72	65	56	48
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	85	97	89	84	93	87	82	73
3.00	102	95	89	100	94	88	96	90	86	77
4.00	106	100	96	104	99	94	99	95	91	82
5.00	109	104	100	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-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-125B(22K+57K)	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:



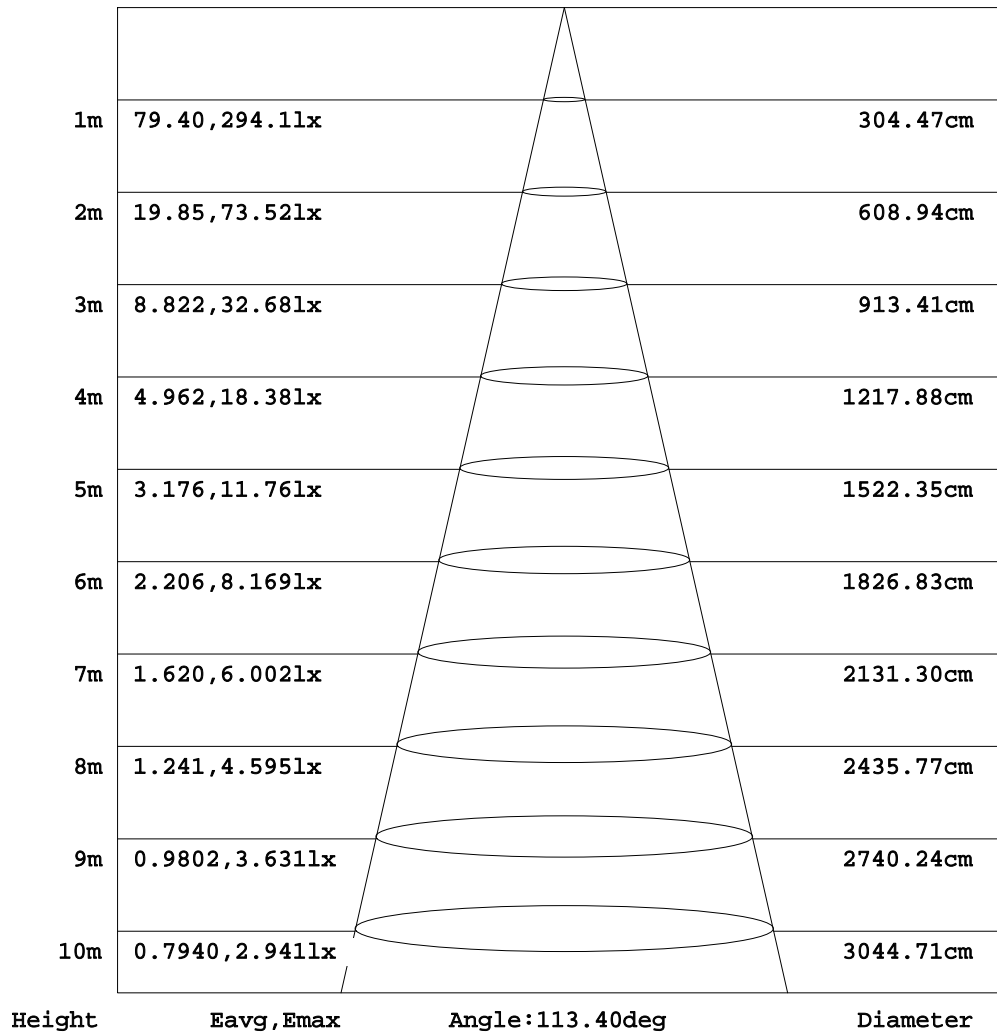
C Range: 0 - 360DEG  
 C Interval: 30.0DEG  
 Test Speed: HIGH  
 Temperature: 25.3DEG  
 Operators: Dillon  
 Test Date: 29 July 2021

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-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-125B(22K+57K)	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

Flux out:638.8 lm



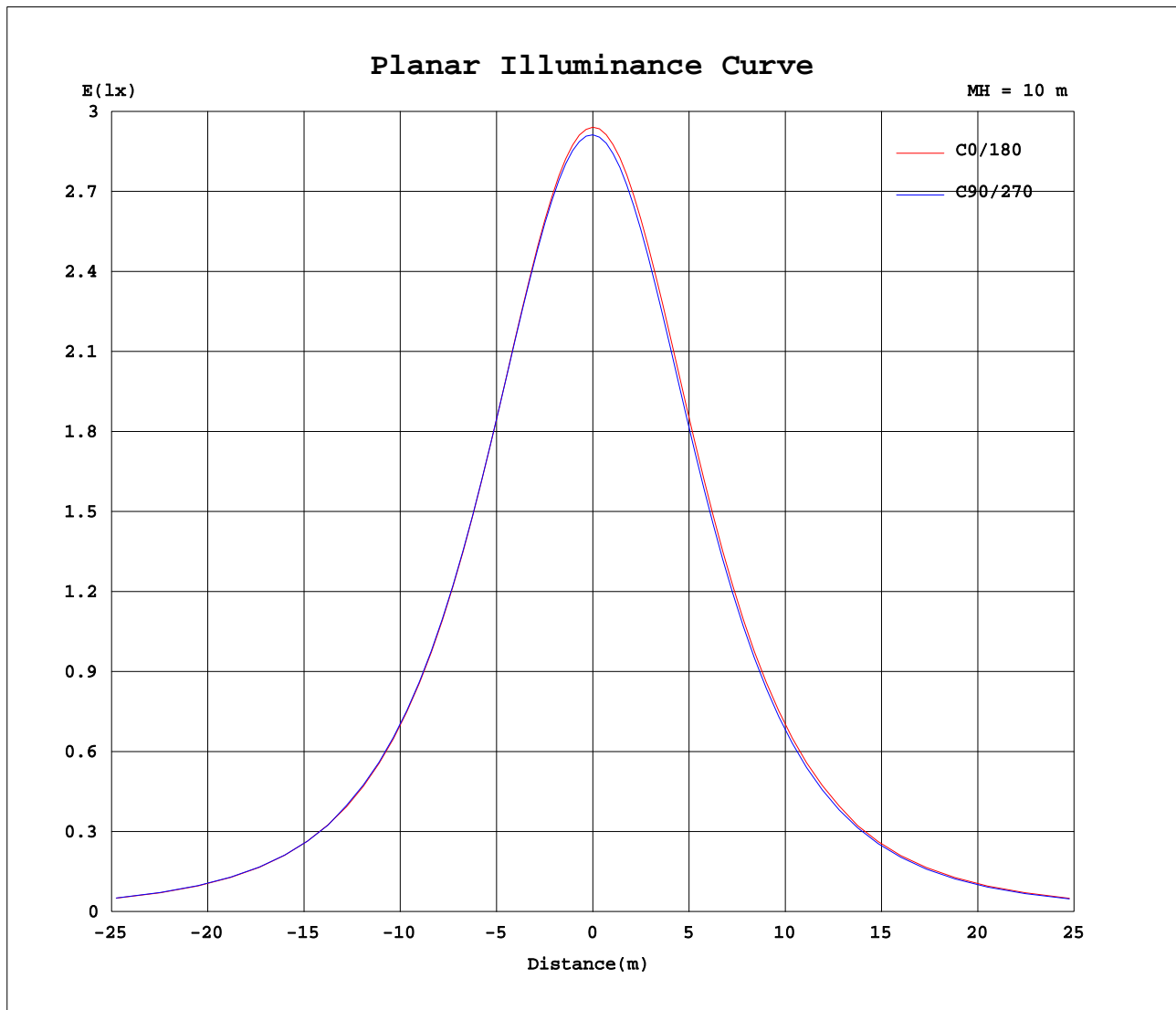
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-T25B(22K+57K)	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	294	294	292	291	294	293	294	294	292	291	294	293							
5	293	293	292	291	293	293	293	293	292	290	292	293							
10	289	289	288	287	289	289	289	288	287	285	288	288							
15	284	284	284	282	284	284	284	283	282	280	282	283							
20	273	274	274	273	275	274	274	273	272	269	272	272							
25	264	266	265	264	266	265	265	264	263	260	263	263							
30	249	250	250	249	250	250	250	248	247	244	247	247							
35	237	238	239	237	239	238	237	236	235	232	234	235							
40	216	218	219	217	218	217	217	215	214	212	214	215							
45	201	203	204	202	204	203	202	200	199	197	199	200							
50	177	180	181	179	180	179	178	176	175	172	175	176							
55	160	162	164	160	163	159	159	159	155	155	155	159							
60	133	134	137	134	137	133	132	132	129	128	128	132							
65	115	116	119	116	119	115	114	114	110	110	110	114							
70	86.3	88.2	91.0	88.9	90.4	87.6	86.4	85.1	82.4	80.2	82.2	84.7							
75	65.9	69.2	71.1	70.4	70.4	68.6	67.1	65.2	63.5	61.6	63.2	64.9							
80	37.3	40.8	42.8	42.8	42.3	40.5	38.8	36.9	35.6	33.9	35.3	36.5							
85	18.9	22.5	24.8	25.0	24.4	22.4	20.4	18.8	18.1	17.1	17.9	18.3							
90	1.29	3.59	6.06	6.52	6.00	4.07	2.40	3.06	3.51	3.21	3.49	2.68							
95	1.00	1.94	2.42	2.10	2.45	2.50	2.30	2.36	2.05	1.45	1.95	1.73							
100	0.89	1.15	2.14	1.72	2.16	1.70	2.27	1.88	1.81	1.24	1.71	1.23							
105	0.91	1.11	1.28	1.48	1.38	1.64	2.25	1.75	1.62	1.16	1.57	1.09							
110	1.04	1.15	0.89	0.32	0.85	1.61	2.19	1.73	0.93	0.43	0.83	1.10							
115	1.14	1.19	0.89	0.32	0.81	1.62	2.13	1.71	0.92	0.32	0.84	1.12							
120	1.25	1.26	0.94	0.37	0.85	1.62	2.04	1.68	0.92	0.39	0.92	1.17							
125	1.31	1.32	0.99	0.45	0.91	1.59	1.99	1.65	0.97	0.48	0.94	1.22							
130	1.38	1.35	1.08	0.56	0.97	1.55	1.91	1.61	1.01	0.56	1.01	1.27							
135	1.38	1.35	1.12	0.64	1.01	1.53	1.86	1.58	1.04	0.63	1.00	1.31							
140	1.39	1.40	1.19	0.74	1.08	1.49	1.74	1.54	1.11	0.75	0.95	1.33							
145	1.42	1.39	1.24	0.82	1.13	1.46	1.67	1.50	1.14	0.82	0.93	1.33							
150	1.42	1.39	1.25	0.96	1.17	1.42	1.58	1.42	1.18	0.94	0.96	1.34							
155	1.44	1.41	1.26	1.02	1.20	1.40	1.53	1.40	1.22	1.02	1.02	1.36							
160	1.42	1.42	1.30	1.13	1.27	1.35	1.47	1.38	1.28	1.12	1.08	1.38							
165	1.41	1.40	1.32	1.19	1.32	1.34	1.43	1.35	1.32	1.19	1.16	1.40							
170	1.41	1.43	1.39	1.31	1.38	1.35	1.38	1.38	1.39	1.30	1.24	1.41							
175	1.44	1.47	1.40	1.35	1.37	1.41	1.43	1.42	1.41	1.39	1.28	1.44							
180	1.39	1.40	1.39	1.42	1.35	1.36	1.39	1.41	1.41	1.42	1.34	1.39							

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: