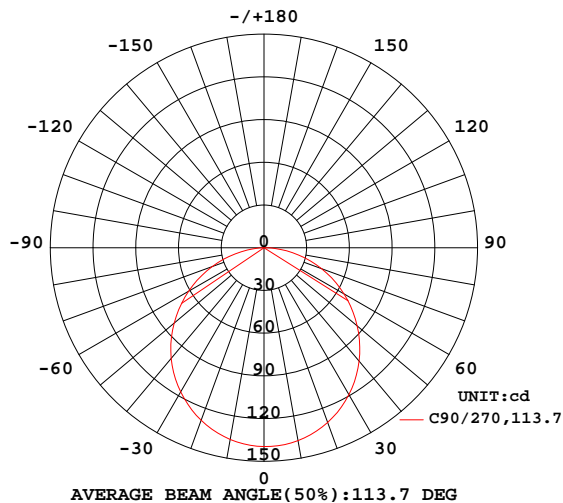


LUMINAIRE PHOTOMETRIC TEST REPORT

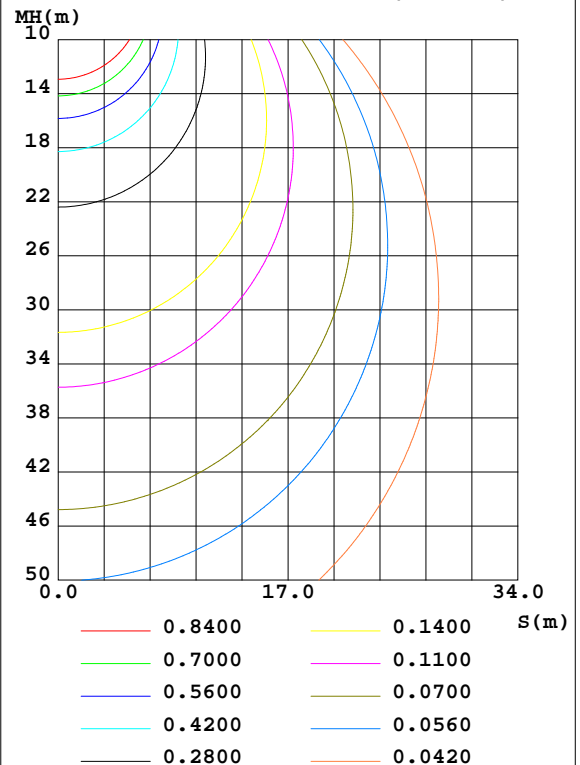
NAME: C-SFR-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-125-22K	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

DATA OF LAMP		PHOTOMETRIC DATA Eff: 54.51 lm/W			
MODEL	3015	Imax(cd)	140.9	S/MH(C0/180)	1.26
NOMINAL POWER(W)	15	LOR(%)	99.5	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	413.65	η UP,DN(C0-180)	0.3,50.1
NOMINAL FLUX(lm)	415.61	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.3,48.8
LAMPS INSIDE	1	η up(%)	0.6	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	98.9	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

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	137.8	138.0	137.6	138.6	138.0	137.7	136.7	138.1	0- 10	13.28	13.28	3.21,3.2
20	130.4	131.0	130.6	131.5	130.8	130.2	129.0	130.4	10- 20	38.05	51.33	12.4,12.4
30	118.5	119.6	119.2	120.0	119.0	118.3	117.0	118.4	20- 30	57.72	109.0	26.4,26.2
40	103.0	104.3	103.9	104.5	103.4	102.6	101.4	102.7	30- 40	69.77	178.8	43.2,43
50	84.29	85.89	85.48	85.89	84.85	83.89	82.39	83.97	40- 50	72.77	251.6	60.8,60.5
60	63.34	65.17	64.95	65.07	64.00	62.73	61.12	62.78	50- 60	66.53	318.1	76.9,76.5
70	40.89	42.91	43.02	42.75	41.61	40.26	38.81	40.20	60- 70	52.11	370.2	89.5,89.1
80	17.73	20.01	20.51	19.91	18.52	17.31	16.21	17.19	70- 80	31.56	401.8	97.1,96.7
90	0.2536	2.027	2.880	2.188	0.9130	1.311	1.276	1.199	80- 90	9.379	411.2	99.4,98.9
100	0.1215	0.4877	0.5646	0.6742	0.8511	0.6245	0.3055	0.4096	90-100	0.8439	412.0	99.6,99.1
110	0.2269	0.1972	0.0215	0.3499	0.7837	0.3810	0.0274	0.1675	100-110	0.4037	412.4	99.7,99.2
120	0.3025	0.2149	0.0028	0.3391	0.7213	0.3689	0.0054	0.2148	110-120	0.2677	412.7	99.8,99.3
130	0.3457	0.2769	0.0594	0.3418	0.6403	0.3621	0.0621	0.2540	120-130	0.2569	412.9	99.8,99.4
140	0.3621	0.3134	0.1001	0.3458	0.5592	0.3500	0.1106	0.2500	130-140	0.2353	413.2	99.9,99.4
150	0.3837	0.3391	0.1703	0.3513	0.4944	0.3378	0.1675	0.2635	140-150	0.1958	413.4	99.9,99.5
160	0.3837	0.3513	0.2595	0.3526	0.4107	0.3392	0.2405	0.3108	150-160	0.1507	413.5	100,99.5
170	0.3863	0.3850	0.3243	0.3796	0.3730	0.3755	0.3269	0.3418	160-170	0.0986	413.6	100,99.5
180	0.3702	0.3783	0.3999	0.3675	0.3864	0.3756	0.3918	0.3594	170-180	0.0358	413.7	100,99.5
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 222.72 lm

%lum = 53.8%

%lamp = 53.6%

Conical surface Flux(120deg): 318.11 lm

%lum = 76.9%

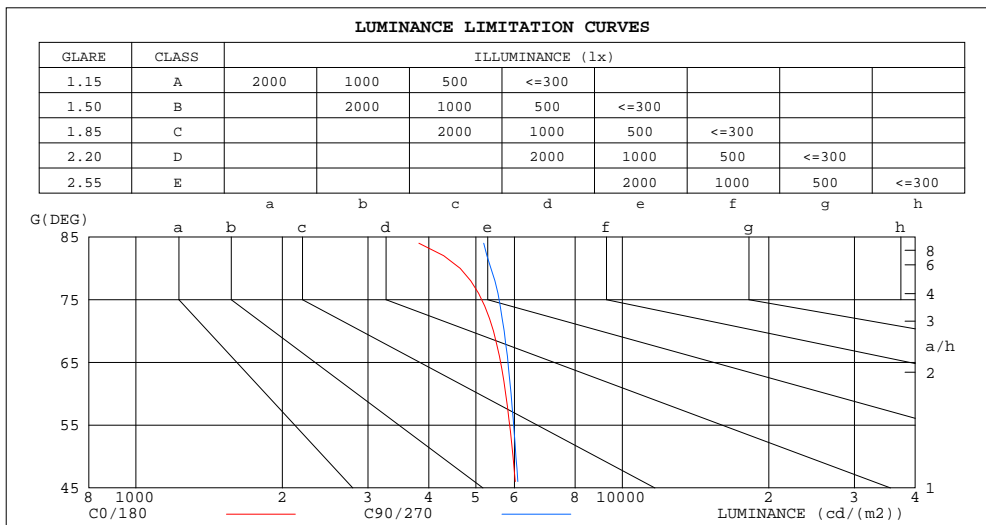
%lamp = 76.5%

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-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-T25B22K	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	4580	6221
80	4641	5368
75	5552	5976
70	5434	5718
65	5865	6055
60	5758	5904
55	6033	6138
50	5960	6045
45	6160	6227

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-T25B22K	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	.317 .180 .057	.309 .176 .056	.296 .170 .054	.283 .163 .052	.272 .158 .051	
2.0	.296 .162 .050	.290 .159 .049	.278 .154 .048	.266 .149 .047	.256 .145 .046	
3.0	.273 .145 .043	.267 .143 .043	.257 .139 .042	.247 .135 .041	.238 .132 .041	
4.0	.251 .130 .038	.246 .129 .038	.237 .125 .037	.228 .122 .037	.220 .119 .036	
5.0	.232 .118 .034	.227 .117 .034	.219 .114 .034	.211 .111 .033	.204 .109 .033	
6.0	.214 .108 .031	.211 .106 .031	.203 .104 .030	.196 .102 .030	.189 .100 .030	
7.0	.199 .099 .028	.196 .098 .028	.189 .096 .028	.183 .094 .027	.177 .092 .027	
8.0	.186 .091 .026	.183 .090 .025	.177 .088 .025	.171 .087 .025	.166 .085 .025	
9.0	.174 .084 .024	.171 .084 .023	.166 .082 .023	.161 .081 .023	.156 .079 .023	
10.0	.164 .078 .022	.161 .078 .022	.156 .077 .022	.152 .075 .021	.147 .074 .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	.194 .194 .194	.166 .166 .166	.113 .113 .113	.065 .065 .065	.021 .021 .021	
1.0	.185 .160 .138	.158 .137 .118	.108 .094 .082	.062 .055 .048	.020 .018 .015	
2.0	.177 .136 .102	.151 .117 .088	.104 .081 .061	.060 .047 .036	.019 .015 .012	
3.0	.169 .118 .078	.145 .102 .068	.100 .071 .047	.058 .041 .028	.018 .013 .009	
4.0	.162 .105 .062	.139 .091 .054	.095 .063 .038	.055 .037 .023	.018 .012 .007	
5.0	.154 .095 .051	.132 .082 .045	.091 .057 .032	.053 .034 .019	.017 .011 .006	
6.0	.147 .087 .043	.126 .075 .038	.087 .053 .027	.051 .031 .016	.016 .010 .005	
7.0	.140 .080 .038	.120 .069 .033	.083 .048 .023	.048 .029 .014	.016 .009 .005	
8.0	.134 .074 .033	.115 .064 .029	.080 .045 .020	.046 .027 .012	.015 .009 .004	
9.0	.127 .069 .030	.110 .060 .026	.076 .042 .018	.044 .025 .011	.014 .008 .004	
10.0	.122 .065 .027	.105 .056 .024	.073 .040 .017	.042 .023 .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-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-T25B22K							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	23.7	25.2	24.0	25.4	25.6	23.9	25.3	24.2	25.5	25.8
4H	24.4	25.7	24.7	26.0	26.3	24.6	26.0	24.9	26.2	26.5
6H	24.9	26.2	25.2	26.4	26.7	25.2	26.4	25.5	26.7	27.0
8H	25.0	26.2	25.4	26.5	26.8	25.4	26.6	25.7	26.9	27.2
12H	25.1	26.3	25.4	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	24.7
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	27.4
6H	26.0	27.0	26.4	27.3	27.7	26.3	27.3	26.7	27.6	28.0
8H	26.2	27.1	26.6	27.5	27.9	26.6	27.5	27.0	27.8	28.2
12H	26.3	27.1	26.8	27.5	28.0	26.8	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	28.0	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	28.0	28.5	27.4	28.0	27.9	28.5	29.0
12H 4H	25.8	26.6	26.2	27.0	27.4	25.9	26.8	26.4	27.2	27.6
6H	26.6	27.3	27.1	27.7	28.2	26.9	27.5	27.3	28.0	28.4
8H	27.0	27.5	27.4	28.0	28.5	27.3	27.8	27.8	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	+ 0.2 / - 0.3					+ 0.2 / - 0.3				
2.0H	+ 0.1 / - 0.3					+ 0.1 / - 0.3				

CIE Pub.117, 415.6 lm Total Lamp Luminous Flux Correct (8log(F/F0) = -3.1)
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-T25B22K	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

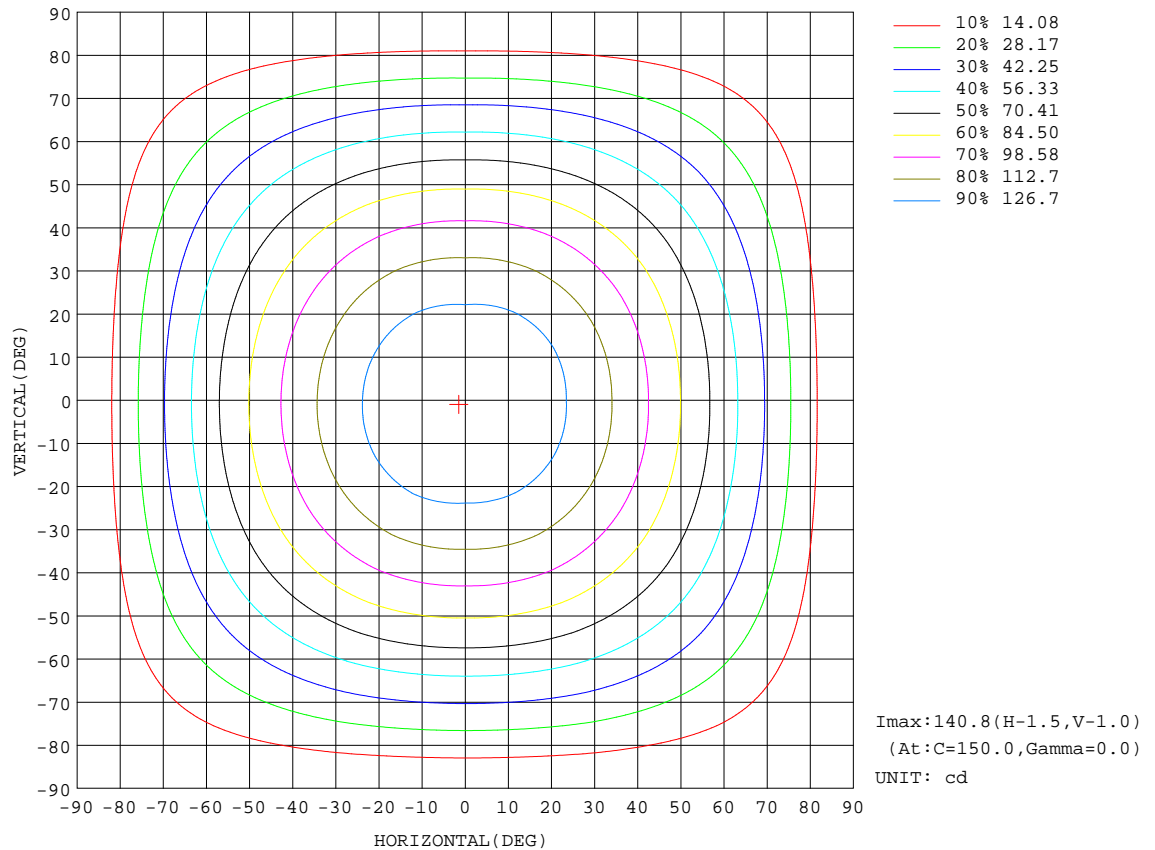
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) k(RI) x RCR = 5									
k = 0.60	56	45	38	56	45	38	55	44	38	31
0.80	66	55	47	65	54	47	64	53	47	40
1.00	75	63	56	74	63	56	71	64	55	48
1.25	82	71	64	80	70	63	78	69	63	55
1.50	87	77	70	85	76	69	82	74	68	60
2.00	94	85	78	92	84	78	88	81	76	68
2.50	98	90	84	96	88	83	92	86	81	72
3.00	101	94	88	99	92	87	95	89	85	76
4.00	105	99	95	103	98	93	98	94	90	81
5.00	108	103	98	105	101	97	101	97	94	84
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-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-125B22K	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:



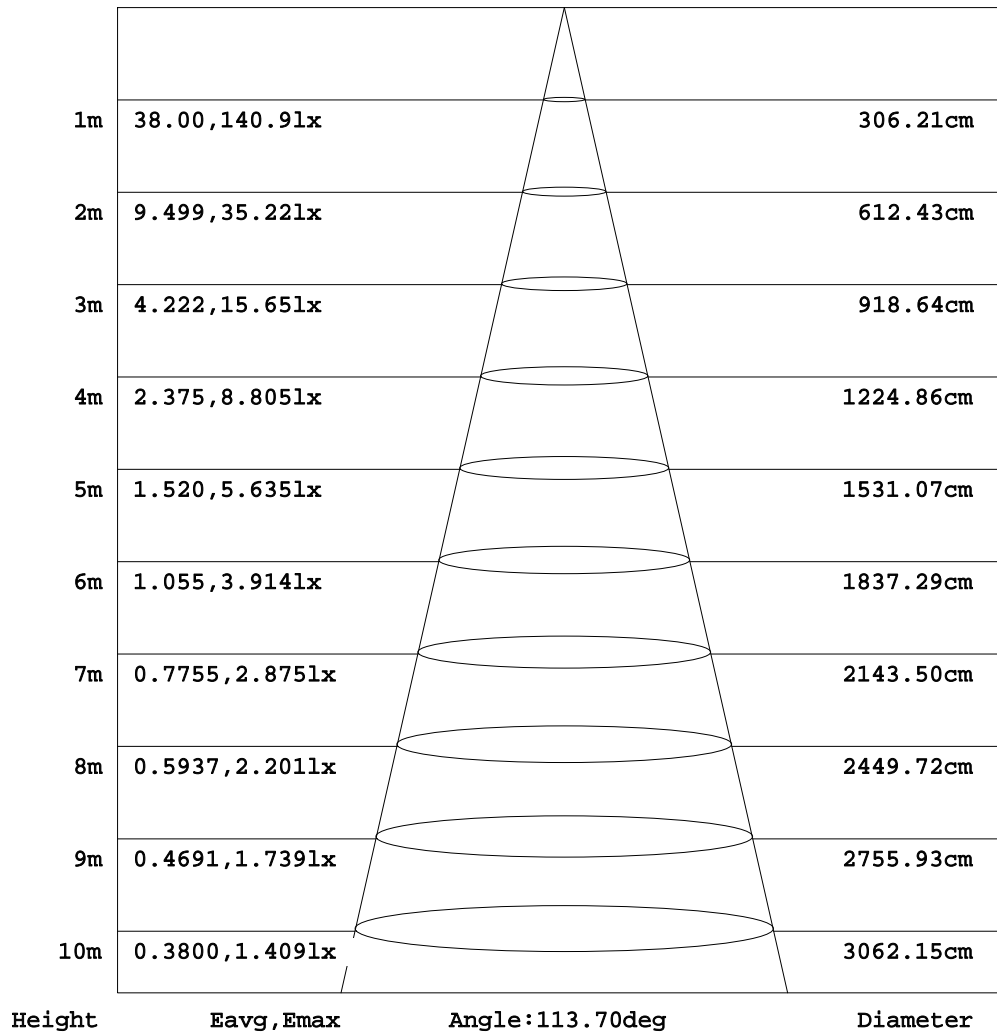
C Range: 0 - 360DEG
 C Interval: 30.0DEG
 Test Speed: HIGH
 Temperature:25.3DEG
 Operators:Dillon
 Test Date:29 July 2021

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-125B22K	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

Flux out:305.7 lm

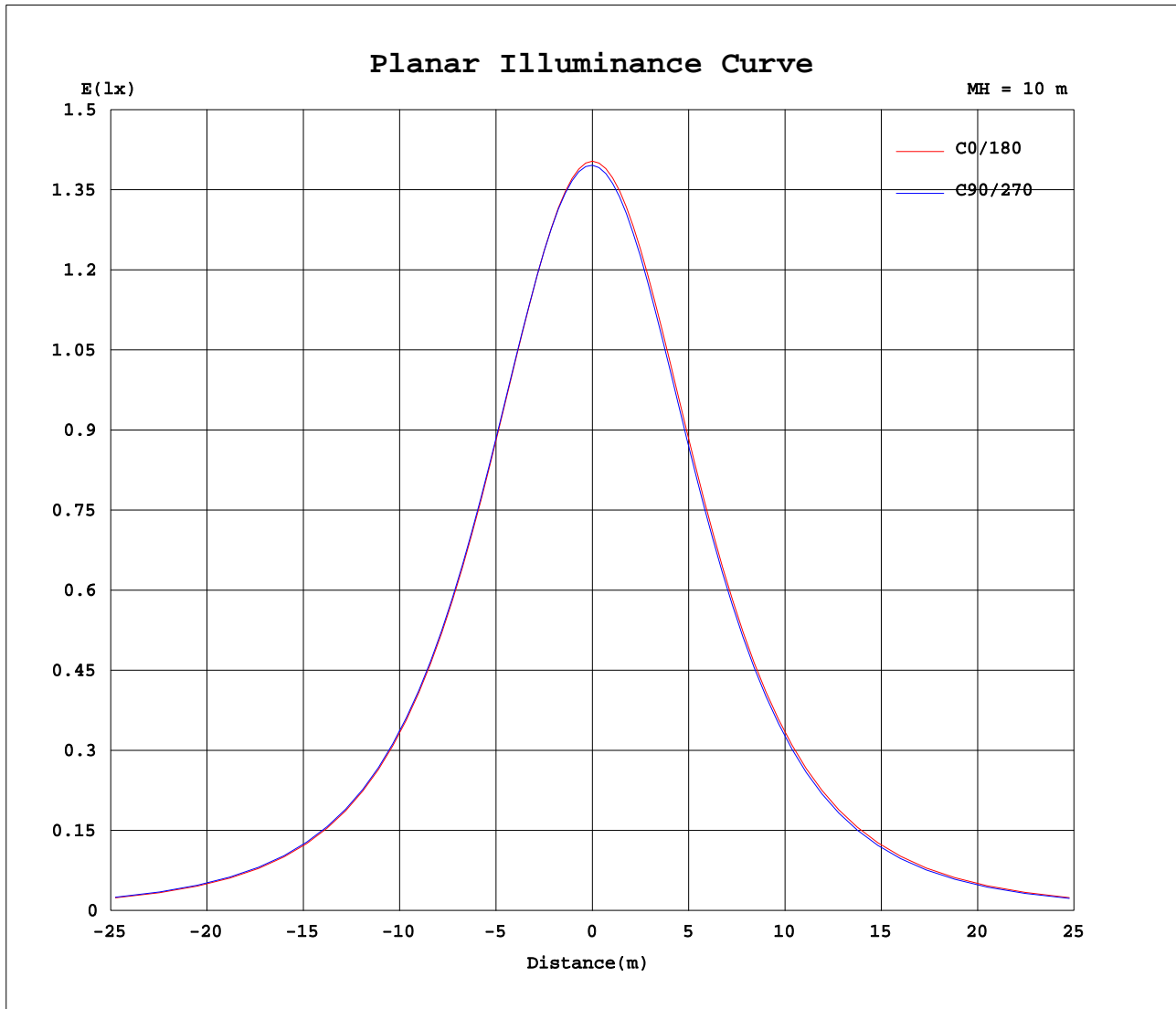


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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

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-F2219S8-VB-24CC-22K-57K-WM-192-80-15W-T25B22K	WEIGHT: 0.570kg/m
SPEC.:	SERIAL No.:
MFR.: CLEAR	Shielding Angle:

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	30	60	90	120	150	180	210	240	270	300	330						
0	140	141	140	140	141	141	140	141	140	140	141	141						
5	140	140	140	139	141	141	140	140	140	139	140	140						
10	138	138	138	138	139	139	138	138	137	137	138	138						
15	135	136	136	135	136	136	136	135	135	134	135	136						
20	130	131	131	131	132	131	131	130	130	129	130	131						
25	126	127	127	127	128	127	127	126	126	125	126	126						
30	118	119	120	119	120	120	119	118	118	117	118	119						
35	113	114	114	114	114	114	113	113	112	111	112	113						
40	103	104	105	104	105	104	103	103	102	101	102	103						
45	95.8	96.9	97.6	96.9	97.6	97.1	96.3	95.6	95.3	94.1	95.3	95.8						
50	84.3	85.6	86.2	85.5	86.1	85.6	84.8	84.2	83.6	82.4	83.6	84.3						
55	76.1	77.5	78.1	77.5	78.0	77.5	76.8	76.0	75.3	74.1	75.3	76.2						
60	63.3	64.9	65.5	64.9	65.3	64.8	64.0	63.1	62.3	61.1	62.3	63.3						
65	54.5	56.1	56.7	56.3	56.6	56.0	55.2	54.3	53.4	52.3	53.4	54.3						
70	40.9	42.5	43.3	43.0	43.1	42.4	41.6	40.7	39.8	38.8	39.8	40.6						
75	31.6	33.3	34.2	34.0	34.0	33.2	32.3	31.4	30.6	29.7	30.5	31.3						
80	17.7	19.5	20.5	20.5	20.3	19.5	18.5	17.6	17.0	16.2	16.9	17.5						
85	8.78	10.6	11.7	11.9	11.6	10.7	9.63	8.82	8.53	8.01	8.43	8.64						
90	0.25	1.42	2.63	2.88	2.64	1.74	0.91	1.21	1.41	1.28	1.39	1.01						
95	0.16	0.61	0.88	0.74	0.93	1.00	0.85	0.91	0.72	0.41	0.63	0.54						
100	0.12	0.24	0.74	0.56	0.79	0.56	0.85	0.65	0.60	0.31	0.53	0.28						
105	0.13	0.21	0.32	0.43	0.41	0.53	0.83	0.59	0.51	0.27	0.44	0.22						
110	0.23	0.25	0.15	0.02	0.15	0.55	0.78	0.58	0.18	0.03	0.11	0.23						
115	0.25	0.28	0.15	0.02	0.12	0.53	0.77	0.56	0.17	0.01	0.12	0.24						
120	0.30	0.27	0.16	0.00	0.16	0.52	0.72	0.56	0.17	0.01	0.16	0.27						
125	0.32	0.32	0.20	0.03	0.18	0.52	0.69	0.56	0.18	0.04	0.17	0.29						
130	0.35	0.34	0.22	0.06	0.19	0.49	0.64	0.51	0.22	0.06	0.19	0.32						
135	0.35	0.37	0.24	0.07	0.21	0.48	0.64	0.49	0.23	0.07	0.19	0.33						
140	0.36	0.35	0.28	0.10	0.24	0.45	0.56	0.46	0.24	0.11	0.15	0.35						
145	0.38	0.35	0.28	0.13	0.26	0.43	0.55	0.44	0.26	0.11	0.16	0.35						
150	0.38	0.38	0.30	0.17	0.28	0.42	0.49	0.41	0.26	0.17	0.18	0.35						
155	0.39	0.38	0.31	0.18	0.28	0.41	0.46	0.40	0.30	0.21	0.20	0.37						
160	0.38	0.37	0.33	0.26	0.32	0.39	0.41	0.37	0.31	0.24	0.24	0.39						
165	0.39	0.39	0.35	0.28	0.33	0.37	0.40	0.37	0.36	0.28	0.27	0.38						
170	0.39	0.40	0.37	0.32	0.38	0.38	0.37	0.36	0.39	0.33	0.30	0.39						
175	0.40	0.40	0.39	0.36	0.36	0.38	0.38	0.39	0.38	0.37	0.32	0.40						
180	0.37	0.38	0.38	0.40	0.35	0.38	0.39	0.37	0.38	0.39	0.35	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: