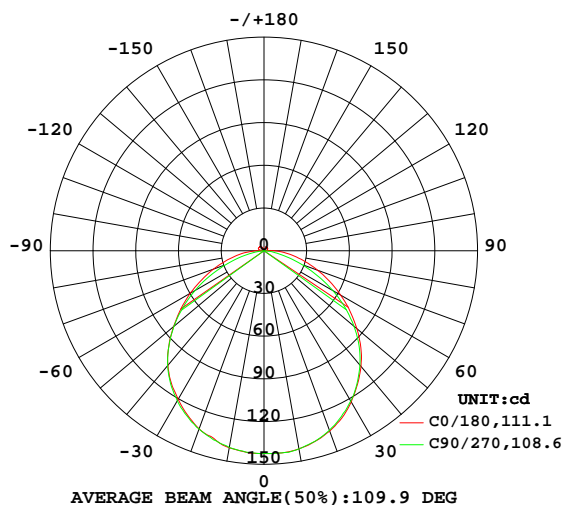


LUMINAIRE PHOTOMETRIC TEST REPORT

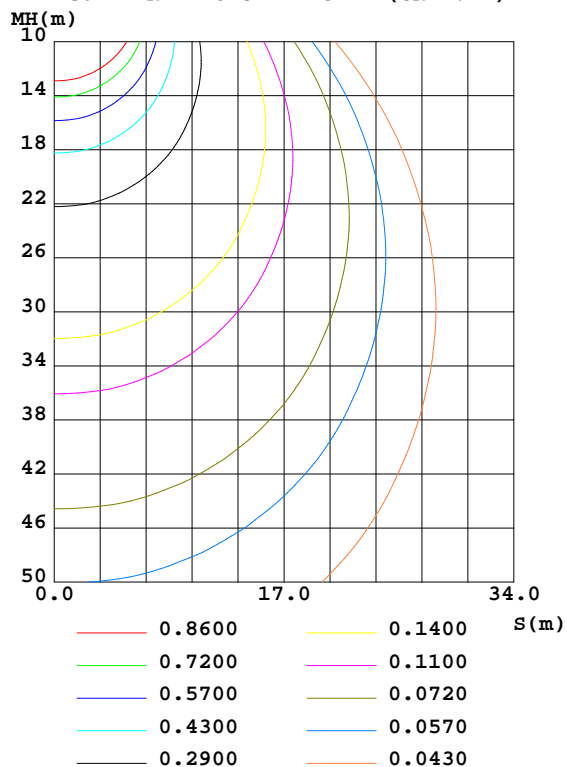
Test:U:24.009V I:0.1531A P:3.6762W PF:1.0000 Freq:0Hz Lamp Flux:410.298x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 111.61 lm/W			
CR 830 3.5W	MODEL: F1 1M IP67 21015127	Imax(cd)	142.7	S/MH(C0/180)	1.26
NOMINAL POWER(W)	3.5	LOR(%)	100.0	S/MH(C90/270)	1.27
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	410.30	η UP,DN(C0-180)	1.2,49.0
NOMINAL FLUX(lm)	410.298	CIE CLASS	DIRECT	η UP,DN(C180-360)	1.3,48.6
LAMPS INSIDE	1	η up(%)	2.4	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	97.6	CIBSE SHR MAX	1.35

LUMINOUS INTENSITY DISTRIBUTION DIAGRAM



C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	141.3	141.7	141.3	141.0	140.5	139.6	140.3	140.5	0- 10	13.53	13.53	3.3,3.3
20	134.8	135.4	134.2	133.4	133.1	132.5	133.3	133.6	10- 20	38.90	52.43	12.8,12.8
30	122.5	122.9	121.8	120.8	120.5	120.2	121.8	122.4	20- 30	59.15	111.6	27.2,27.2
40	105.9	105.7	104.8	103.5	105.1	103.7	105.2	105.4	30- 40	71.24	182.8	44.6,44.6
50	85.09	83.91	82.47	81.59	82.92	82.90	82.65	82.90	40- 50	72.89	255.7	62.3,62.3
60	62.06	59.68	55.72	56.99	59.97	57.94	56.00	58.45	50- 60	63.42	319.1	77.8,77.8
70	39.99	36.09	28.19	32.75	37.76	34.04	28.66	35.02	60- 70	45.80	364.9	88.9,88.9
80	21.58	17.44	7.968	14.49	19.40	15.13	7.416	15.85	70- 80	25.64	390.6	95.2,95.2
90	7.812	5.945	0.1824	4.297	5.298	4.263	0	4.184	80- 90	9.819	400.4	97.6,97.6
100	0	1.304	0	1.371	0.9578	2.009	0	1.888	90-100	1.265	401.7	97.9,97.9
110	2.738	1.913	0	2.054	4.279	2.787	0	2.313	100-110	1.788	403.4	98.3,98.3
120	3.080	1.916	0	2.056	4.278	2.787	0	2.313	110-120	1.960	405.4	98.8,98.8
130	3.251	2.177	0	2.142	4.193	2.700	0	2.313	120-130	1.808	407.2	99.2,99.2
140	3.336	2.351	0	2.142	4.020	2.004	0.0027	2.056	130-140	1.478	408.7	99.6,99.6
150	3.337	0.4064	0	0.0123	2.824	2.001	0.0884	0	140-150	1.088	409.8	99.9,99.9
160	0	0.6967	0	1.114	0	1.393	0.0884	0	150-160	0.3836	410.2	100,100
170	0.3423	0.4354	0	0.5140	0.2552	0.0863	0.0884	0	160-170	0.1225	410.3	100,100
180	0.0018	0.0056	0.1768	0.0017	0	0	0.0884	0	170-180	0.0145	410.3	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 219.8 lm

%lum = 53.6%

%lamp = 53.6%

Conical surface Flux(120deg): 319.13 lm

%lum = 77.8%

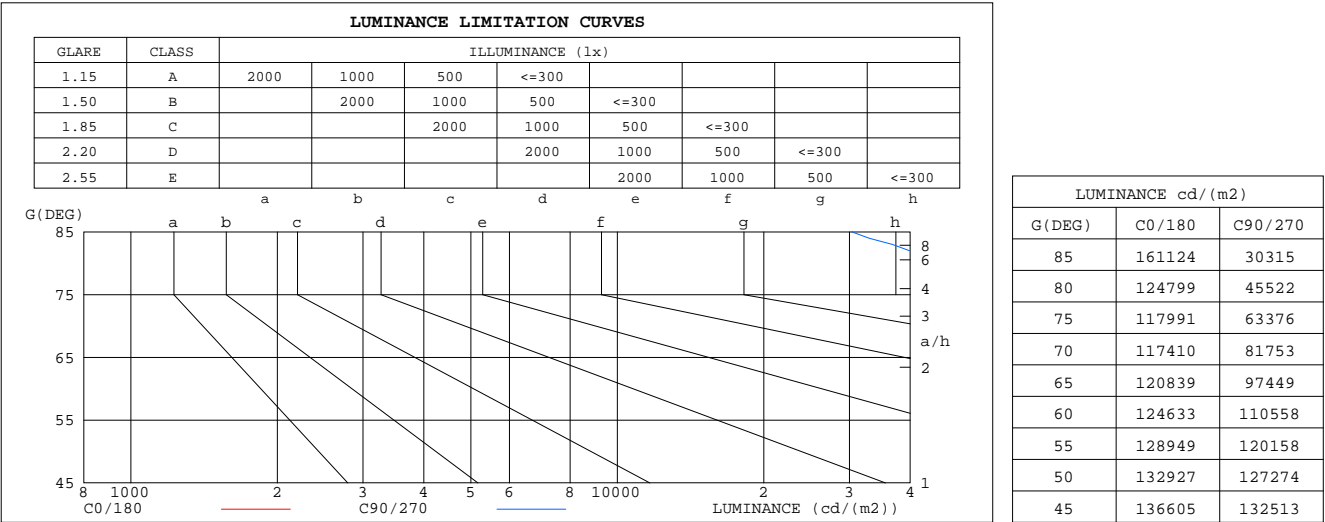
%lamp = 77.8%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

LUMINANCE LIMITATION CURVES

Test:U:24.009V I:0.1531A P:3.6762W PF:1.0000 Freq:0Hz Lamp Flux:410.298x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

γ Range: 0 - 180DEG
γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

WEC AND CCEC

Test:U:24.009V I:0.1531A P:3.6762W PF:1.0000 Freq:0Hz Lamp Flux:410.298x1 lm									
NAME:				TYPE:LED				WEIGHT:N/A	
SPEC.:N/A				DIM.:				SERIAL No.:N/A	
MFR.:				SUR.:				Shielding Angle:N/A	

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	.309	.176	.056	.301	.172	.055	.286	.164	.052	.273	.157	.051	.260	.151	.049		
2.0	.288	.158	.048	.281	.155	.048	.268	.149	.046	.257	.144	.045	.246	.139	.044		
3.0	.266	.142	.042	.260	.139	.042	.249	.135	.041	.238	.131	.040	.228	.126	.039		
4.0	.246	.128	.038	.241	.126	.037	.230	.122	.036	.221	.119	.036	.212	.115	.035		
5.0	.228	.116	.034	.223	.114	.033	.214	.111	.033	.205	.108	.032	.197	.105	.032		
6.0	.211	.106	.030	.207	.104	.030	.199	.102	.030	.191	.099	.029	.184	.097	.029		
7.0	.197	.097	.028	.193	.096	.027	.185	.094	.027	.179	.092	.027	.172	.089	.026		
8.0	.184	.090	.025	.180	.089	.025	.174	.087	.025	.168	.085	.024	.162	.083	.024		
9.0	.172	.083	.023	.169	.082	.023	.163	.081	.023	.158	.079	.023	.152	.077	.022		
10.0	.162	.078	.022	.159	.077	.021	.154	.075	.021	.149	.074	.021	.144	.072	.021		

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						Ceiling Cavity Exitance Coefficients(CCEC)										
0.0	.209	.209	.209	.179	.179	.179	.122	.122	.122	.070	.070	.070	.022	.022	.022		
1.0	.199	.175	.153	.170	.150	.132	.116	.103	.091	.067	.060	.053	.021	.019	.017		
2.0	.190	.151	.117	.163	.130	.101	.112	.090	.071	.064	.052	.041	.021	.017	.013		
3.0	.183	.133	.094	.157	.115	.081	.107	.080	.057	.062	.047	.034	.020	.015	.011		
4.0	.175	.120	.078	.150	.103	.067	.103	.072	.048	.060	.042	.028	.019	.014	.009		
5.0	.168	.109	.067	.144	.095	.058	.099	.066	.041	.057	.039	.024	.018	.013	.008		
6.0	.160	.101	.058	.138	.088	.051	.095	.061	.036	.055	.036	.021	.018	.012	.007		
7.0	.154	.094	.053	.132	.082	.046	.091	.057	.032	.053	.034	.019	.017	.011	.006		
8.0	.147	.088	.048	.127	.077	.042	.088	.054	.030	.051	.032	.018	.017	.010	.006		
9.0	.141	.083	.044	.122	.072	.039	.084	.051	.028	.049	.030	.016	.016	.010	.005		
10.0	.136	.079	.042	.117	.069	.036	.081	.048	.026	.047	.029	.015	.015	.009	.005		

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:24.009V I:0.1531A P:3.6762W PF:1.0000 Freq:0Hz Lamp Flux:410.298x1 lm											
NAME:					TYPE:LED			WEIGHT:N/A			
SPEC.:N/A					DIM.:			SERIAL No.:N/A			
MFR.:					SUR.:			Shielding Angle:N/A			
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		29.6	31.1	29.9	31.4	31.6	29.3	30.7	29.6	31.0	31.2
	3H	31.2	32.6	31.5	32.8	33.1	30.4	31.7	30.7	32.0	32.3
	4H	31.9	33.2	32.3	33.5	33.8	30.7	32.0	31.1	32.3	32.6
	6H	32.5	33.8	32.9	34.1	34.4	30.9	32.1	31.2	32.4	32.7
	8H	32.8	34.0	33.2	34.3	34.7	30.9	32.1	31.3	32.4	32.7
	12H	33.1	34.3	33.5	34.6	35.0	30.9	32.0	31.3	32.3	32.7
4H	2H	30.2	31.4	30.5	31.7	32.0	29.9	31.2	30.2	31.4	31.8
	3H	31.9	33.0	32.3	33.4	33.7	31.2	32.3	31.6	32.6	33.0
	4H	32.8	33.8	33.2	34.2	34.6	31.6	32.7	32.1	33.0	33.4
	6H	33.6	34.5	34.0	34.9	35.3	31.9	32.8	32.4	33.2	33.7
	8H	34.0	34.8	34.4	35.2	35.7	32.0	32.8	32.4	33.3	33.7
	12H	34.4	35.1	34.8	35.6	36.0	32.0	32.8	32.5	33.2	33.7
8H	4H	33.0	33.8	33.4	34.3	34.7	32.0	32.8	32.4	33.3	33.7
	6H	34.0	34.7	34.5	35.2	35.6	32.5	33.2	32.9	33.6	34.1
	8H	34.5	35.2	35.0	35.6	36.1	32.6	33.3	33.1	33.7	34.2
	12H	35.1	35.6	35.6	36.1	36.6	32.7	33.3	33.2	33.8	34.3
12H	4H	33.0	33.8	33.5	34.2	34.7	32.0	32.8	32.5	33.3	33.7
	6H	34.1	34.7	34.6	35.2	35.7	32.6	33.2	33.1	33.7	34.2
	8H	34.6	35.2	35.2	35.7	36.2	32.8	33.4	33.3	33.9	34.4
Variations with the observer position at spacings:											
S = 1.0H	+ 0.2 / - 0.2					+ 0.2 / - 0.3					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.4					
2.0H	+ 0.1 / - 0.2					+ 0.2 / - 0.4					

CIE Pub.117, 410.3 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = -3.1$)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:24.009V I:0.1531A P:3.6762W PF:1.0000 Freq:0Hz Lamp Flux:410.298x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

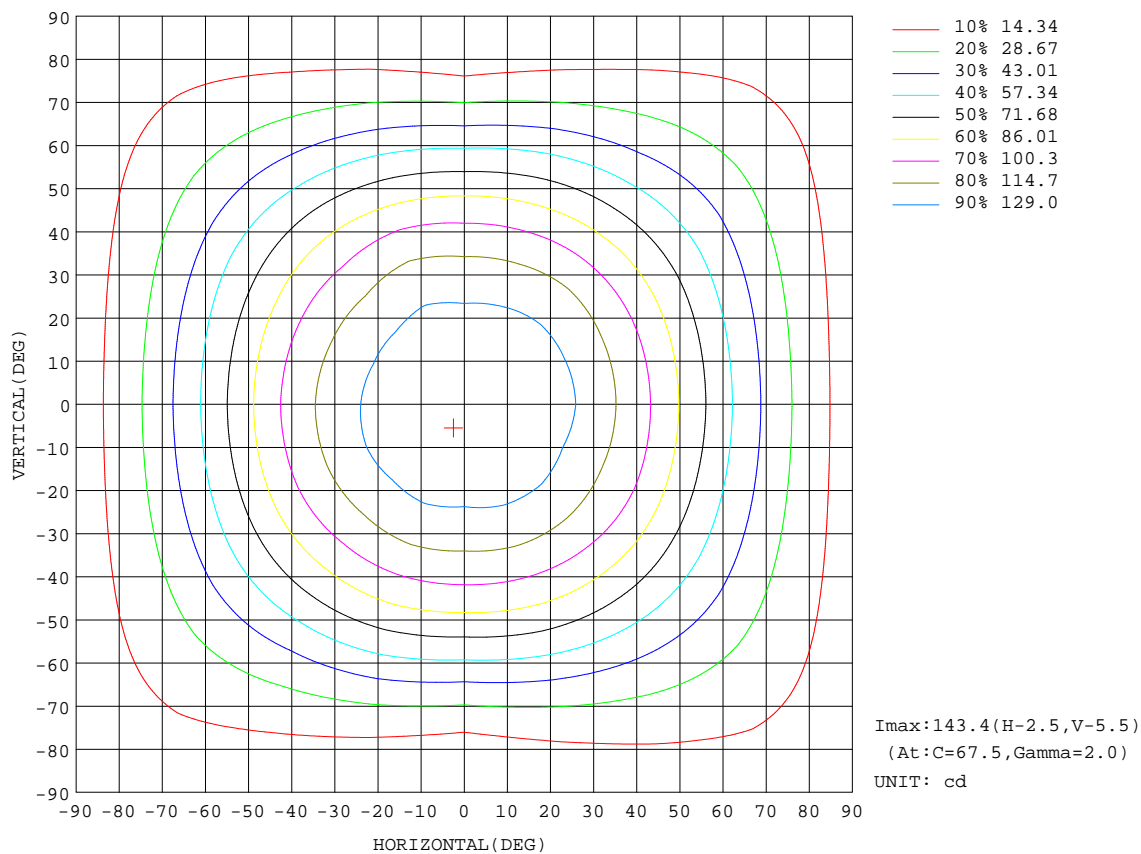
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	57	46	39	57	46	39	55	45	39	32
0.80	67	56	49	66	55	48	64	54	48	41
1.00	76	65	57	74	64	57	72	65	56	49
1.25	83	72	65	81	72	65	78	70	64	56
1.50	88	78	71	86	77	70	83	75	69	61
2.00	94	86	80	92	85	79	89	82	77	69
2.50	98	91	84	96	89	83	92	86	81	73
3.00	102	95	89	99	93	88	95	90	86	76
4.00	106	100	95	103	98	94	98	94	91	81
5.00	108	103	99	105	101	97	100	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: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:24.009V I:0.1531A P:3.6762W PF:1.0000 Freq:0Hz Lamp Flux:410.298x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

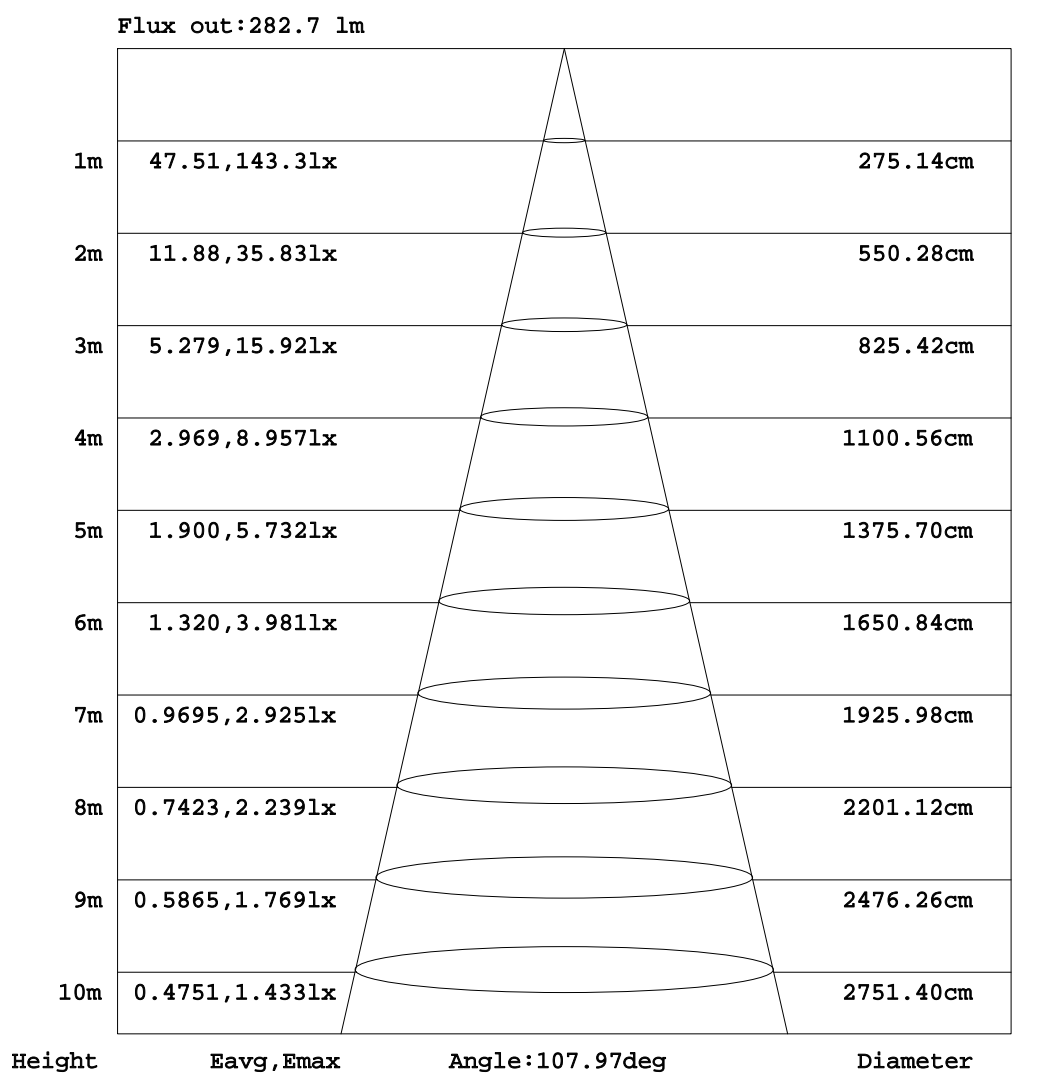


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Humidity:60%
Test Distance:26.000m [K=1.5110]
Remarks:

AAI Figure

Test:U:24.009V I:0.1531A P:3.6762W PF:1.0000 Freq:0Hz Lamp Flux:410.298x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

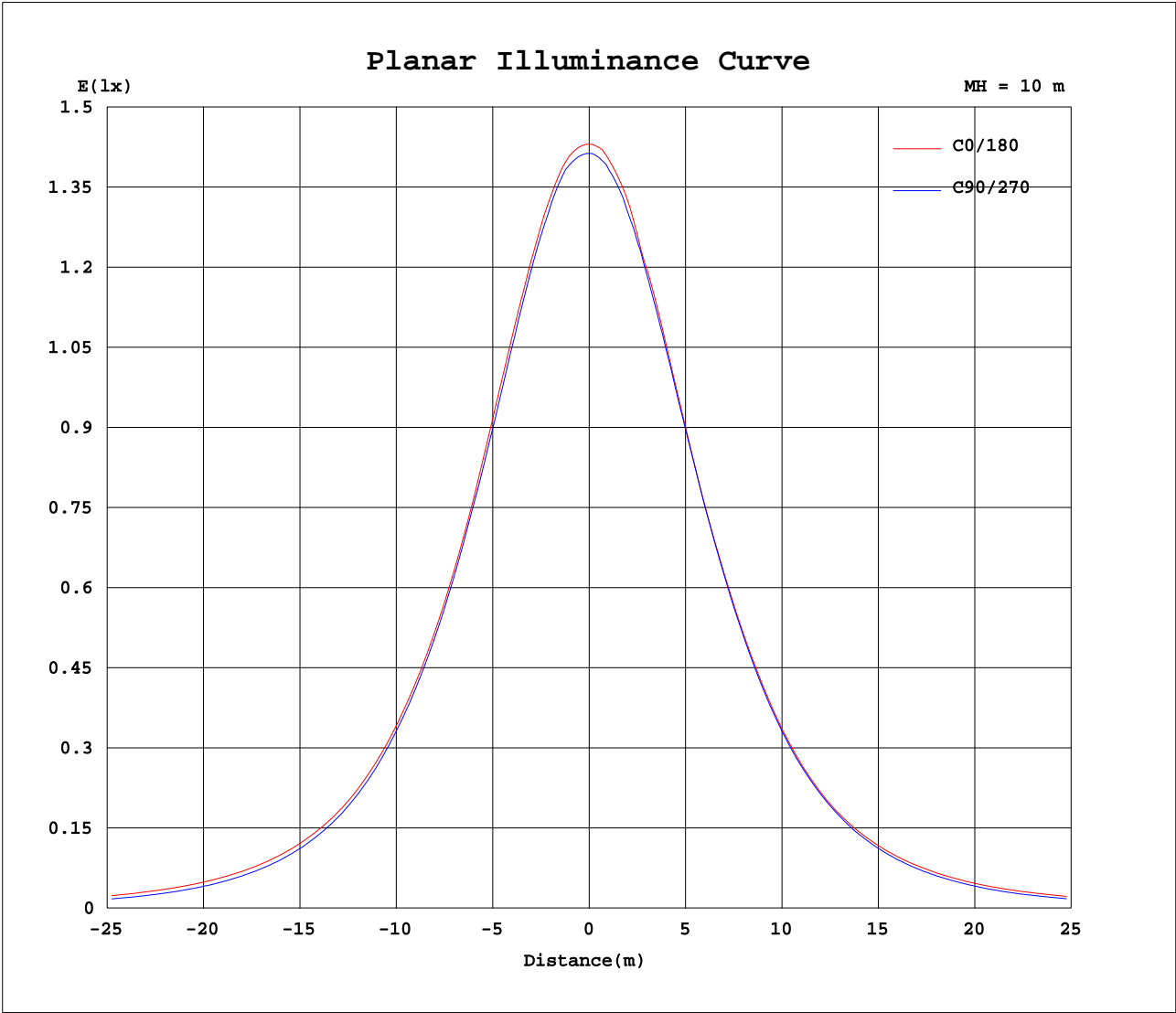


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG	γ Range: 0 - 180DEG
C Interval: 22.5DEG	γ Interval: 1.0DEG
Test Speed: HIGH	Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
Temperature:24.9DEG	Humidity:60%
Operators:Zero huang	Test Distance:26.000m [K=1.5110]
Test Date:2023-12-29	Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.009V I:0.1531A P:3.6762W PF:1.0000 Freq:0Hz Lamp Flux:410.298x1 lm																	
NAME:									TYPE:LED						WEIGHT:N/A		
SPEC.:N/A									DIM.:						SERIAL No.:N/A		
MFR.:									SUR.:						Shielding Angle:N/A		

Table--1

UNIT: cd

C(DEG) γ (DEG)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5			
0	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142			
5	142	142	142	143	142	142	143	143	142	142	142	141	142	142	142	142			
10	141	141	142	141	141	141	141	141	140	140	140	140	140	140	140	141			
15	139	138	139	139	138	138	138	138	136	138	137	137	137	137	138	138			
20	135	135	135	135	134	133	133	134	133	133	133	134	133	133	134	134			
25	130	129	130	130	129	128	128	128	127	127	127	129	128	128	129	129			
30	123	122	123	122	122	121	121	121	120	120	120	123	122	121	122	122			
35	115	115	115	115	114	113	112	114	113	113	113	116	114	113	115	114			
40	106	107	106	105	105	104	103	105	105	104	104	106	105	104	105	106			
45	96.2	97.3	95.6	95.1	94.5	93.5	92.8	94.2	94.5	94.2	93.7	95.3	94.5	93.4	93.3	95.7			
50	85.1	85.0	83.9	83.4	82.5	82.1	81.6	82.4	82.9	82.7	82.9	82.6	82.7	81.8	82.9	84.3			
55	73.7	73.1	71.8	71.2	69.5	70.0	69.8	70.7	71.3	71.1	70.7	70.2	69.5	69.9	70.9	72.9			
60	62.1	61.5	59.7	57.9	55.7	57.1	57.0	58.9	60.0	59.8	57.9	57.2	56.0	57.3	58.4	61.4			
65	50.9	50.2	47.4	44.8	41.5	43.8	44.0	47.3	48.1	47.9	45.8	44.4	42.1	44.4	46.2	50.0			
70	40.0	39.3	36.1	32.5	28.2	30.8	32.7	36.5	37.8	36.5	34.0	32.0	28.7	31.9	35.0	39.0			
75	30.4	29.6	26.1	21.7	16.5	20.0	22.8	26.8	28.0	26.8	23.7	21.3	16.8	20.7	24.9	28.7			
80	21.6	20.7	17.4	13.1	7.97	11.5	14.5	18.1	19.4	18.4	15.1	12.0	7.42	11.7	15.8	19.9			
85	14.0	13.4	10.4	7.03	2.66	5.68	8.08	11.3	11.9	10.8	8.42	5.61	1.58	5.47	9.06	12.4			
90	7.81	7.69	5.94	3.69	0.18	2.88	4.30	5.26	5.30	5.40	4.26	2.43	0.00	1.89	4.18	6.36			
95	0.72	0.55	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.18	0.00	0.26	0.00	0.00			
100	0.00	0.58	1.30	0.00	0.00	0.09	1.37	1.10	0.96	1.04	2.01	0.79	0.00	0.70	1.89	1.30			
105	2.65	2.33	1.57	0.26	0.00	0.09	1.71	2.75	3.85	3.71	2.70	0.96	0.00	0.61	2.31	3.10			
110	2.74	2.59	1.91	0.61	0.00	0.44	2.05	3.10	4.28	3.71	2.79	0.96	0.00	0.61	2.31	3.10			
115	2.82	2.67	1.91	0.61	0.00	0.44	2.06	3.18	4.28	3.71	2.79	1.05	0.00	0.61	2.31	3.10			
120	3.08	2.93	1.92	0.88	0.00	0.44	2.06	3.36	4.28	3.71	2.79	0.70	0.00	0.61	2.31	3.10			
125	3.25	3.02	2.00	0.88	0.00	0.44	2.06	3.36	4.19	3.71	2.79	0.44	0.00	0.52	2.31	3.10			
130	3.25	3.02	2.18	1.05	0.00	0.52	2.14	3.36	4.19	3.71	2.70	0.44	0.00	0.34	2.31	3.10			
135	3.25	3.02	2.26	0.45	0.00	0.00	2.14	3.52	4.11	3.53	2.52	0.00	0.00	0.00	2.22	3.10			
140	3.34	3.02	2.35	0.35	0.00	0.09	2.14	3.44	4.02	3.45	2.00	0.00	0.00	0.00	2.06	3.18			
145	3.34	3.10	2.35	0.35	0.00	0.09	2.14	3.44	3.51	3.19	2.00	0.26	0.09	0.00	1.79	2.92			
150	3.34	3.10	0.41	0.26	0.00	0.09	0.01	3.44	2.82	2.76	2.00	0.26	0.09	0.00	0.00	2.67			
155	3.42	0.91	0.00	0.18	0.00	0.17	0.76	2.84	2.57	2.75	0.00	0.26	0.09	0.00	0.00	0.00			
160	0.00	0.52	0.70	0.18	0.00	0.17	1.11	0.00	0.00	0.00	1.39	0.18	0.09	0.17	0.00	0.00			
165	0.60	0.60	0.52	0.18	0.00	0.17	1.03	1.29	1.37	1.29	0.70	0.00	0.09	0.17	0.00	0.00			
170	0.34	0.43	0.44	0.18	0.00	0.17	0.51	0.95	0.26	0.17	0.09	0.00	0.09	0.17	0.00	0.00			
175	0.26	0.34	0.43	0.18	0.09	0.00	0.17	0.17	0.00	0.00	0.00	0.00	0.09	0.17	0.00	0.00			
180	0.00	0.00	0.01	0.18	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.17	0.00	0.00			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-29

γ Range: 0 - 180DEG
 γ Interval: 1.0DEG
 Test System:EVERFINE GO-R5000_V2 SYSTEM V2.0.366
 Humidity:60%
 Test Distance:26.000m [K=1.5110]
 Remarks: