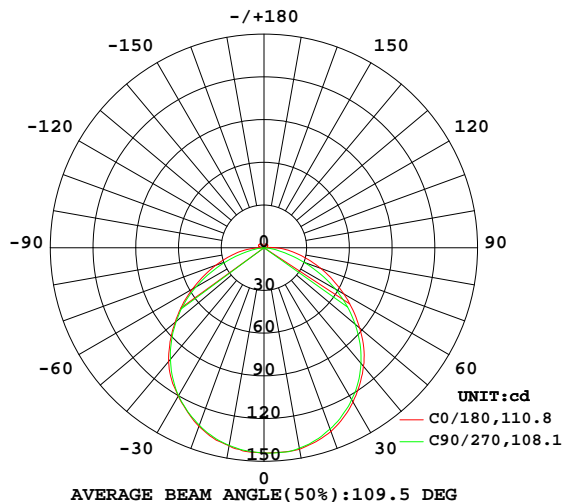


LUMINAIRE PHOTOMETRIC TEST REPORT

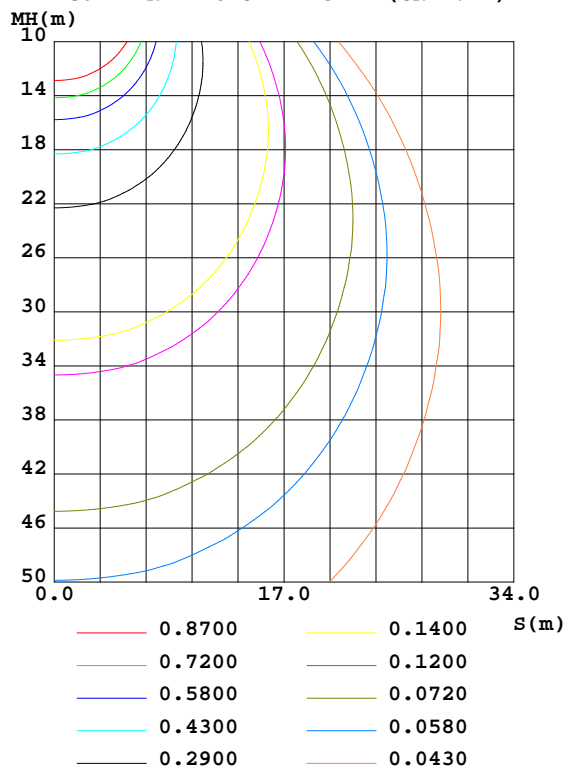
Test:U:24.001V I:0.1552A P:3.7239W PF:1.0000 Freq:0Hz Lamp Flux:414.111x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

DATA OF LAMP		PHOTOMETRIC DATA Eff: 111.20 lm/W			
CR 827 3.5W	3.5W	Imax(cd)	144.3	S/MH(C0/180)	1.24
NOMINAL POWER(W)	3.5	LOR(%)	100.0	S/MH(C90/270)	1.24
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	414.11	η UP,DN(C0-180)	1.2,49.4
NOMINAL FLUX(lm)	414.111	CIE CLASS	DIRECT	η UP,DN(C180-360)	1.2,48.1
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:2023-12-18

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	143.6	143.3	142.9	141.7	141.2	141.0	141.0	142.1	0- 10	13.68	13.68	3.3,3.3
20	137.3	136.9	135.5	133.9	133.5	133.1	132.7	135.7	10- 20	39.28	52.96	12.8,12.8
30	125.1	126.0	123.1	120.2	120.4	120.0	120.0	124.2	20- 30	59.56	112.5	27.2,27.2
40	108.6	108.5	105.9	103.7	104.3	103.0	102.3	104.3	30- 40	71.66	184.2	44.5,44.5
50	87.80	87.40	83.61	81.77	81.48	81.35	80.40	84.06	40- 50	73.43	257.6	62.2,62.2
60	64.67	61.28	57.75	56.88	58.07	56.96	55.30	60.01	50- 60	64.15	321.8	77.7,77.7
70	42.34	37.93	29.98	32.98	36.07	32.93	28.08	36.45	60- 70	46.41	368.2	88.9,88.9
80	23.33	18.44	8.342	14.59	18.56	13.95	7.164	17.04	70- 80	25.93	394.1	95.2,95.2
90	8.574	6.374	0.4496	4.470	4.191	3.574	0	4.705	80- 90	9.925	404.0	97.6,97.6
100	0	0.6921	0	1.360	0.5993	1.066	0	2.402	90-100	1.496	405.5	97.9,97.9
110	2.652	1.833	0	2.058	4.024	2.269	0.2624	2.916	100-110	1.637	407.1	98.3,98.3
120	3.165	2.180	0	2.401	4.363	2.269	0.2655	2.916	110-120	1.945	409.1	98.8,98.8
130	3.337	2.611	0	2.573	4.021	2.269	0.2655	2.744	120-130	1.814	410.9	99.2,99.2
140	3.337	2.880	0	2.573	3.932	1.918	0.2655	2.825	130-140	1.515	412.4	99.6,99.6
150	3.337	2.008	0	0.1100	2.993	0.9586	0.2655	0.0051	140-150	1.132	413.5	99.9,99.9
160	0	1.484	0	0.1715	0.0861	0.3480	0.2655	0.4271	150-160	0.4131	414.0	100,100
170	1.796	1.312	0	0	0	0	0.2655	0.0858	160-170	0.1212	414.1	100,100
180	0.0920	0	0	0	0	0.1772	0.5327	0.0858	170-180	0.0288	414.1	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 221.38 lm

%lum = 53.5%

%lamp = 53.5%

Conical surface Flux(120deg): 321.75 lm

%lum = 77.7%

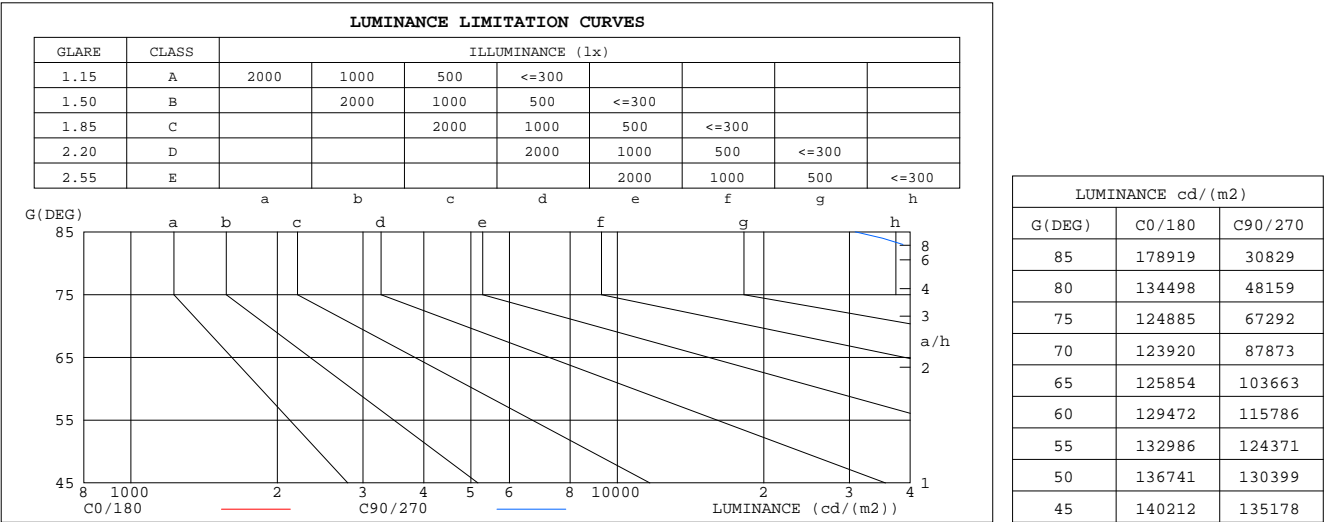
%lamp = 77.7%

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

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:24.001V I:0.1552A P:3.7239W PF:1.0000 Freq:0Hz Lamp Flux:414.111x1 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:2023-12-18

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:24.001V I:0.1552A P:3.7239W PF:1.0000 Freq:0Hz Lamp Flux:414.111x1 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
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	.309	.176	.056	.301	.172	.055	.287	.164	.052	.273	.157	.051	.261	.151	.049	
2.0	.289	.158	.049	.282	.155	.048	.269	.149	.046	.257	.144	.045	.246	.139	.044	
3.0	.267	.142	.042	.260	.140	.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	.105	.030	.199	.102	.030	.191	.099	.029	.184	.097	.029	
7.0	.197	.097	.028	.193	.096	.027	.186	.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	.083	.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
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	.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	.191	.151	.117	.163	.130	.101	.112	.090	.071	.065	.052	.041	.021	.017	.014	
3.0	.183	.133	.094	.157	.115	.081	.108	.080	.057	.062	.047	.034	.020	.015	.011	
4.0	.175	.120	.078	.150	.104	.068	.103	.072	.048	.060	.042	.028	.019	.014	.009	
5.0	.168	.110	.067	.144	.095	.058	.099	.066	.041	.057	.039	.024	.019	.013	.008	
6.0	.161	.101	.059	.138	.088	.051	.095	.061	.036	.055	.036	.021	.018	.012	.007	
7.0	.154	.094	.053	.132	.082	.046	.091	.057	.033	.053	.034	.019	.017	.011	.006	
8.0	.147	.089	.048	.127	.077	.042	.088	.054	.030	.051	.032	.018	.017	.010	.006	
9.0	.141	.084	.045	.122	.073	.039	.084	.051	.028	.049	.030	.017	.016	.010	.005	
10.0	.136	.079	.042	.117	.069	.037	.081	.049	.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:2023-12-18

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:24.001V I:0.1552A P:3.7239W PF:1.0000 Freq:0Hz Lamp Flux:414.111x1 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	29.8	31.3	30.1	31.5	31.8	29.5	31.0	29.8	31.2	31.5	
	3H	31.4	32.8	31.7	33.0	33.3	30.7	32.0	31.0	32.3	32.6
	4H	32.1	33.4	32.5	33.7	34.0	31.0	32.3	31.4	32.6	32.9
	6H	32.8	34.0	33.2	34.3	34.7	31.2	32.4	31.5	32.7	33.0
	8H	33.1	34.3	33.5	34.6	35.0	31.2	32.3	31.5	32.7	33.0
	12H	33.5	34.6	33.9	34.9	35.3	31.2	32.3	31.5	32.6	33.0
4H	2H	30.3	31.6	30.7	31.9	32.2	30.1	31.4	30.5	31.7	32.0
	3H	32.1	33.3	32.5	33.6	34.0	31.5	32.6	31.9	32.9	33.3
	4H	33.0	34.0	33.4	34.4	34.8	31.9	33.0	32.3	33.3	33.7
	6H	33.9	34.8	34.3	35.2	35.6	32.2	33.1	32.6	33.5	33.9
	8H	34.3	35.1	34.7	35.5	36.0	32.3	33.1	32.7	33.5	34.0
	12H	34.7	35.5	35.2	35.9	36.4	32.3	33.1	32.7	33.5	33.9
8H	4H	33.2	34.1	33.7	34.5	34.9	32.3	33.1	32.7	33.5	34.0
	6H	34.3	35.0	34.8	35.4	35.9	32.7	33.4	33.2	33.9	34.3
	8H	34.8	35.5	35.3	35.9	36.4	32.9	33.5	33.4	34.0	34.5
	12H	35.4	36.0	36.0	36.5	37.0	33.0	33.5	33.5	34.0	34.5
12H	4H	33.2	34.0	33.7	34.4	34.9	32.3	33.1	32.8	33.5	34.0
	6H	34.3	35.0	34.8	35.4	35.9	32.9	33.5	33.3	33.9	34.5
	8H	35.0	35.5	35.5	36.0	36.5	33.1	33.6	33.6	34.1	34.6
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 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, 414.1 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:2023-12-18

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:24.001V I:0.1552A P:3.7239W PF:1.0000 Freq:0Hz Lamp Flux:414.111x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

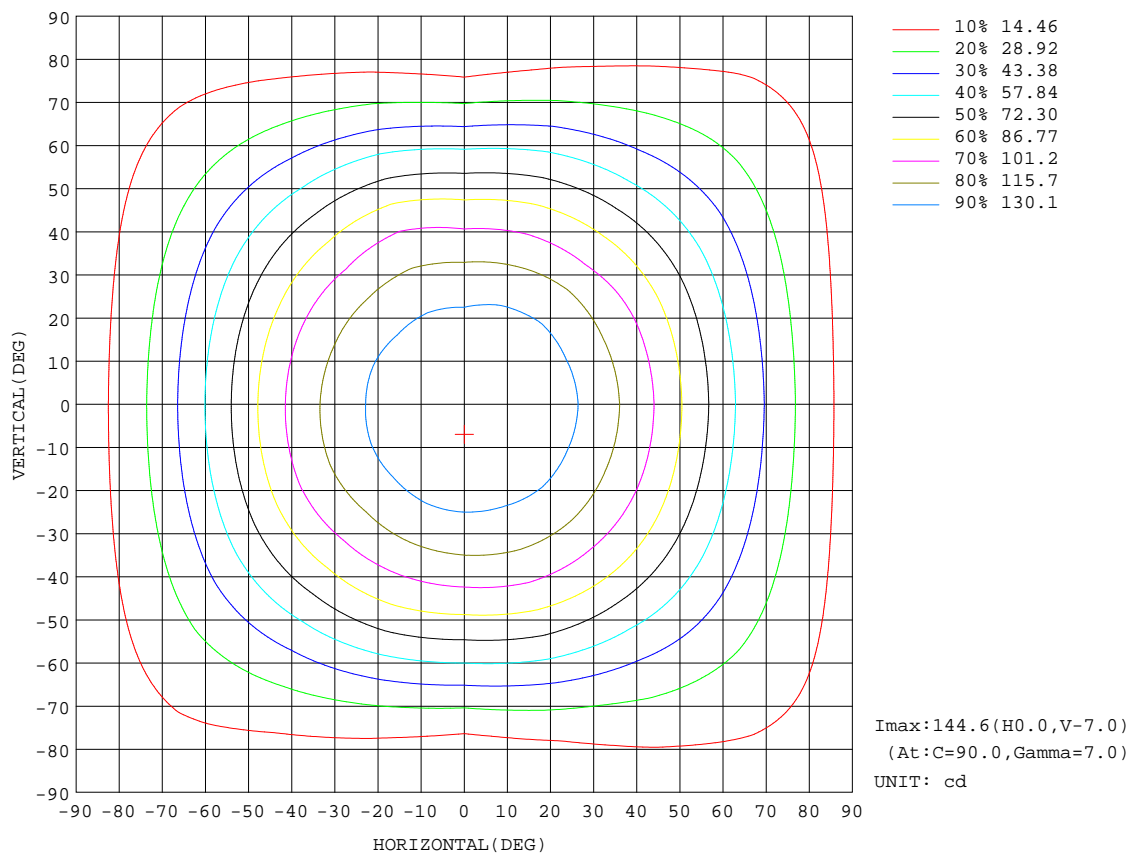
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	57	46	39	56	45	39	55	45	38	32
0.80	67	56	48	66	55	48	64	54	48	41
1.00	76	65	57	74	64	57	72	65	56	49
1.25	83	72	65	81	71	65	78	70	64	56
1.50	88	78	71	86	77	70	83	75	69	61
2.00	94	86	79	92	85	79	89	82	77	69
2.50	98	91	84	96	89	83	92	86	81	72
3.00	102	95	89	99	93	88	95	90	85	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:2023-12-18

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:24.001V I:0.1552A P:3.7239W PF:1.0000 Freq:0Hz Lamp Flux:414.11lx1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

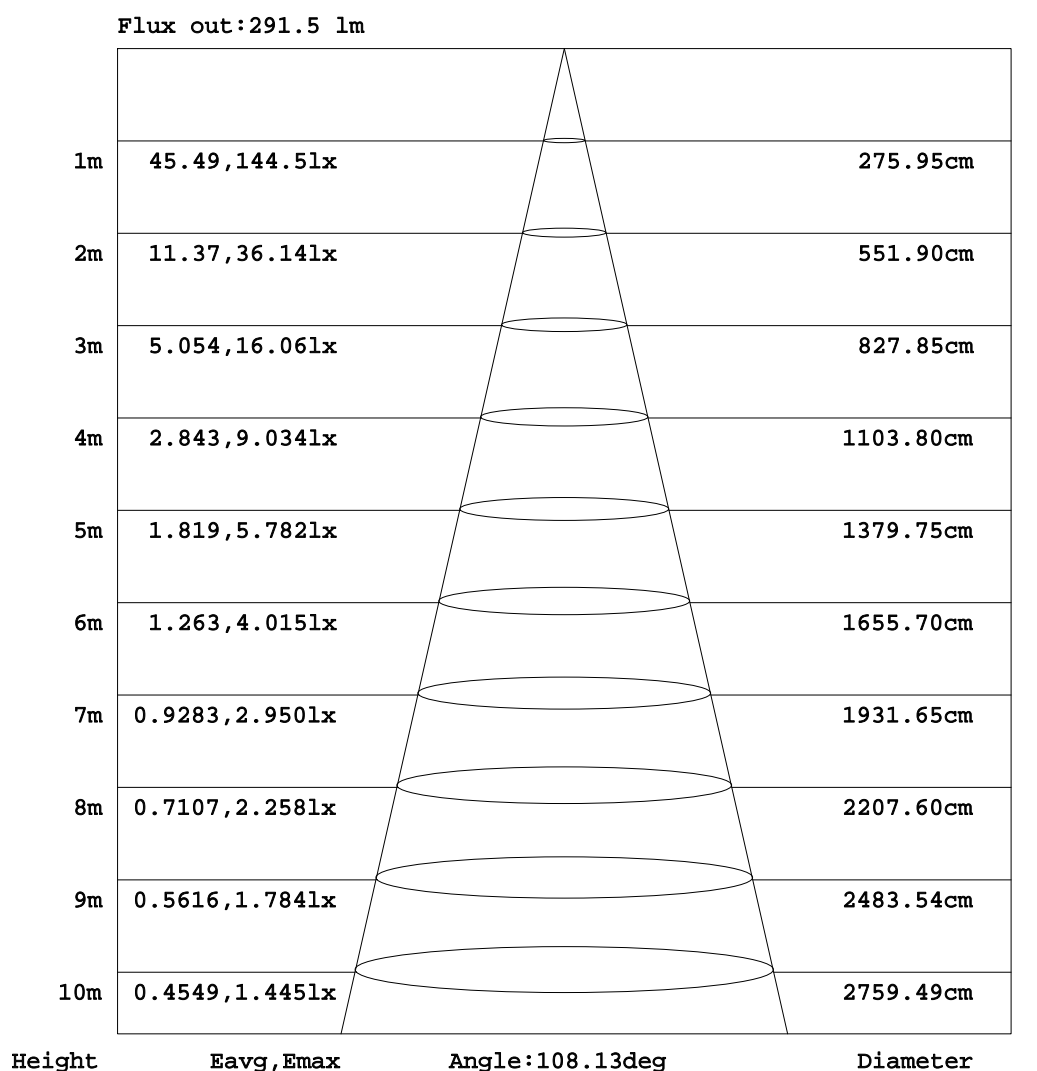


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

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:24.001V I:0.1552A P:3.7239W PF:1.0000 Freq:0Hz Lamp Flux:414.11lx1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

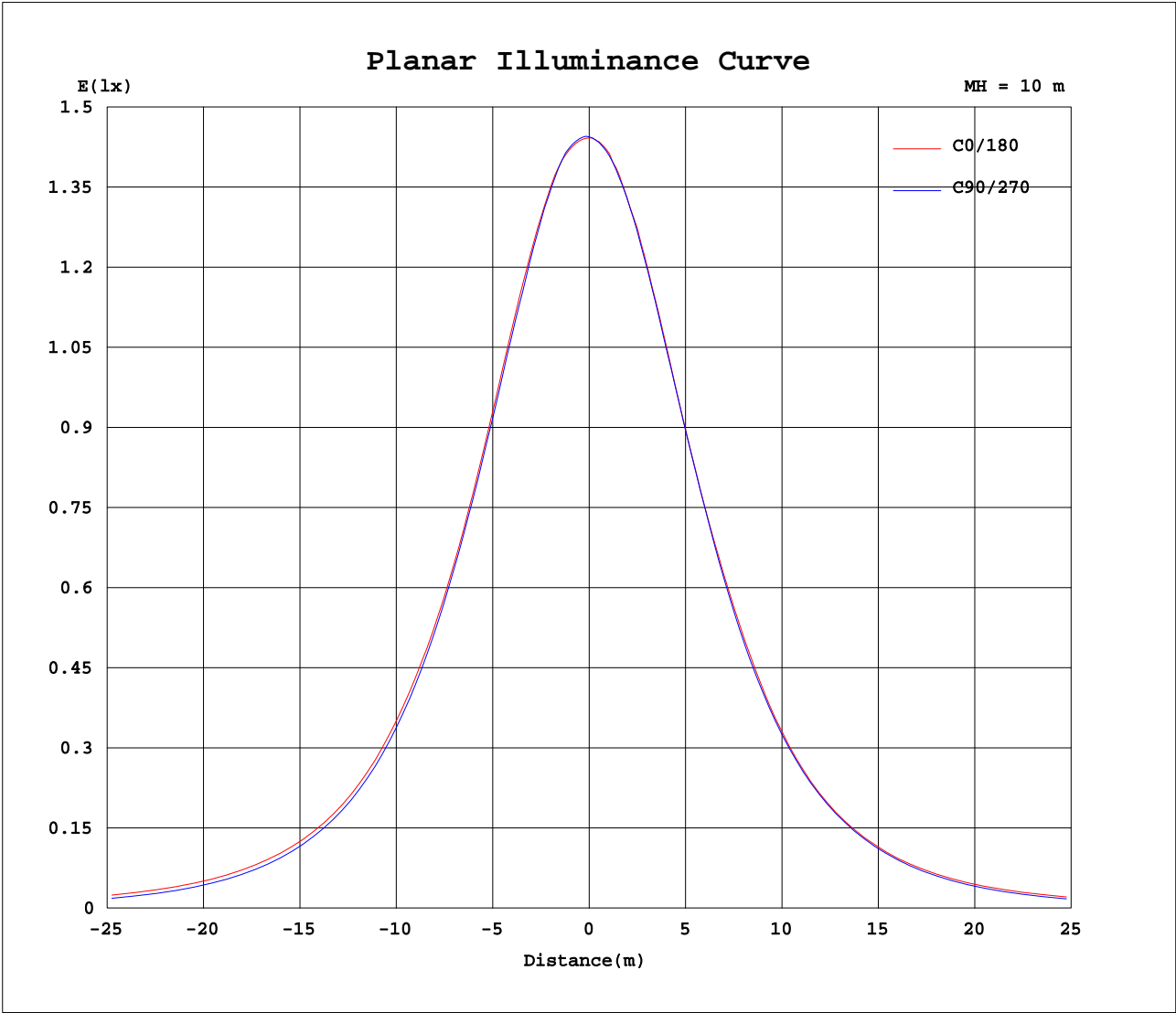


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-12-18

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
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.001V I:0.1552A P:3.7239W PF:1.0000 Freq:0Hz Lamp Flux:414.111x1 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(DEC) γ (DEC)	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	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144			
5	144	144	144	144	144	144	144	144	144	143	143	143	143	144	144	144			
10	144	143	143	143	143	143	142	142	141	141	141	141	141	142	142	142			
15	141	140	141	140	140	139	139	139	138	138	138	138	138	139	140	140			
20	137	136	137	136	135	135	134	134	134	133	133	134	133	135	136	136			
25	132	131	132	131	130	129	128	128	127	127	127	128	127	129	131	130			
30	125	125	126	125	123	122	120	121	120	120	120	122	120	122	124	124			
35	117	117	118	118	115	114	112	113	113	112	112	114	112	113	116	116			
40	109	108	109	109	106	105	104	105	104	103	103	106	102	104	104	107			
45	99.0	98.9	98.4	98.7	95.4	94.9	93.2	94.0	93.4	92.5	92.8	96.4	91.7	94.1	95.6	97.5			
50	87.8	87.8	87.4	87.1	83.6	83.6	81.8	82.1	81.5	81.0	81.3	84.1	80.4	83.3	84.1	86.4			
55	76.2	74.8	74.6	74.6	71.2	71.6	69.6	70.2	69.9	69.3	69.4	71.3	68.4	71.5	72.3	74.7			
60	64.7	63.2	61.3	61.3	57.8	57.9	56.9	58.2	58.1	57.8	57.0	58.4	55.3	58.9	60.0	62.8			
65	53.1	51.8	48.7	47.4	43.7	44.5	44.3	46.6	46.6	46.5	44.6	44.8	41.5	46.3	47.8	51.0			
70	42.3	40.8	37.9	34.5	30.0	31.7	33.0	35.8	36.1	34.5	32.9	31.6	28.1	33.4	36.4	40.3			
75	32.3	30.6	27.5	22.1	17.4	20.7	23.1	26.1	26.4	24.8	22.2	20.3	16.2	21.8	26.2	30.1			
80	23.3	21.9	18.4	13.1	8.34	12.1	14.6	18.1	18.6	17.0	14.0	11.3	7.16	12.7	17.0	21.0			
85	15.6	14.2	11.2	7.21	2.68	6.15	7.93	10.4	10.4	9.32	7.15	5.14	1.77	6.53	10.0	13.5			
90	8.57	8.24	6.37	3.65	0.45	3.21	4.47	4.89	4.19	4.19	3.57	1.95	0.00	2.67	4.70	6.90			
95	2.85	2.67	0.36	0.00	0.00	0.02	0.00	1.23	0.94	0.42	0.00	0.01	0.00	0.00	0.00	1.17			
100	0.00	0.00	0.69	0.00	0.00	0.00	1.36	0.17	0.60	0.95	1.07	0.35	0.00	0.95	2.40	1.21			
105	2.74	2.23	1.57	0.26	0.00	0.26	1.72	2.74	3.68	3.17	2.27	0.35	0.18	0.95	2.74	3.08			
110	2.65	2.66	1.83	0.35	0.00	0.43	2.06	2.91	4.02	3.17	2.27	0.35	0.26	0.95	2.92	3.08			
115	2.91	2.74	1.92	0.44	0.00	0.43	2.49	3.25	4.28	3.17	2.27	0.35	0.18	0.95	2.92	3.08			
120	3.17	3.00	2.18	0.44	0.00	0.52	2.40	3.34	4.36	3.17	2.27	0.27	0.27	0.95	2.92	3.08			
125	3.34	3.00	2.27	0.53	0.00	0.52	2.49	3.34	4.11	3.17	2.27	0.18	0.27	0.95	2.92	3.08			
130	3.34	3.00	2.61	0.53	0.00	0.52	2.57	3.34	4.02	3.17	2.27	0.09	0.27	0.87	2.74	2.91			
135	3.34	3.00	2.71	0.62	0.00	0.17	2.57	3.34	4.02	3.17	2.27	0.09	0.27	0.00	2.74	2.91			
140	3.34	3.00	2.88	0.18	0.00	0.17	2.57	3.34	3.93	3.09	1.92	0.18	0.27	0.60	2.82	2.91			
145	3.34	3.00	3.05	0.53	0.00	0.17	2.57	3.34	3.33	3.08	1.66	0.00	0.27	0.43	2.23	2.82			
150	3.34	3.00	2.01	0.45	0.00	0.09	0.11	3.34	2.99	2.74	0.96	0.00	0.27	0.17	0.01	2.74			
155	3.34	2.92	0.09	0.53	0.00	0.09	0.09	1.98	2.73	2.12	0.00	0.00	0.27	0.17	1.28	0.00			
160	0.00	0.09	1.48	0.53	0.00	0.09	0.17	0.00	0.09	0.09	0.35	0.00	0.27	0.17	0.43	1.71			
165	1.71	1.63	1.66	0.53	0.00	0.09	0.00	0.26	0.00	0.00	0.00	0.00	0.27	0.09	0.09	0.68			
170	1.80	1.63	1.31	0.53	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.09	0.27	0.09	0.09	0.08			
175	1.03	1.03	0.88	0.53	0.00	0.09	0.00	0.00	0.00	0.09	0.17	0.09	0.35	0.09	0.09	0.00			
180	0.09	0.09	0.00	0.45	0.00	0.09	0.00	0.00	0.00	0.09	0.18	0.36	0.53	0.17	0.09	0.00			

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-12-18

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: