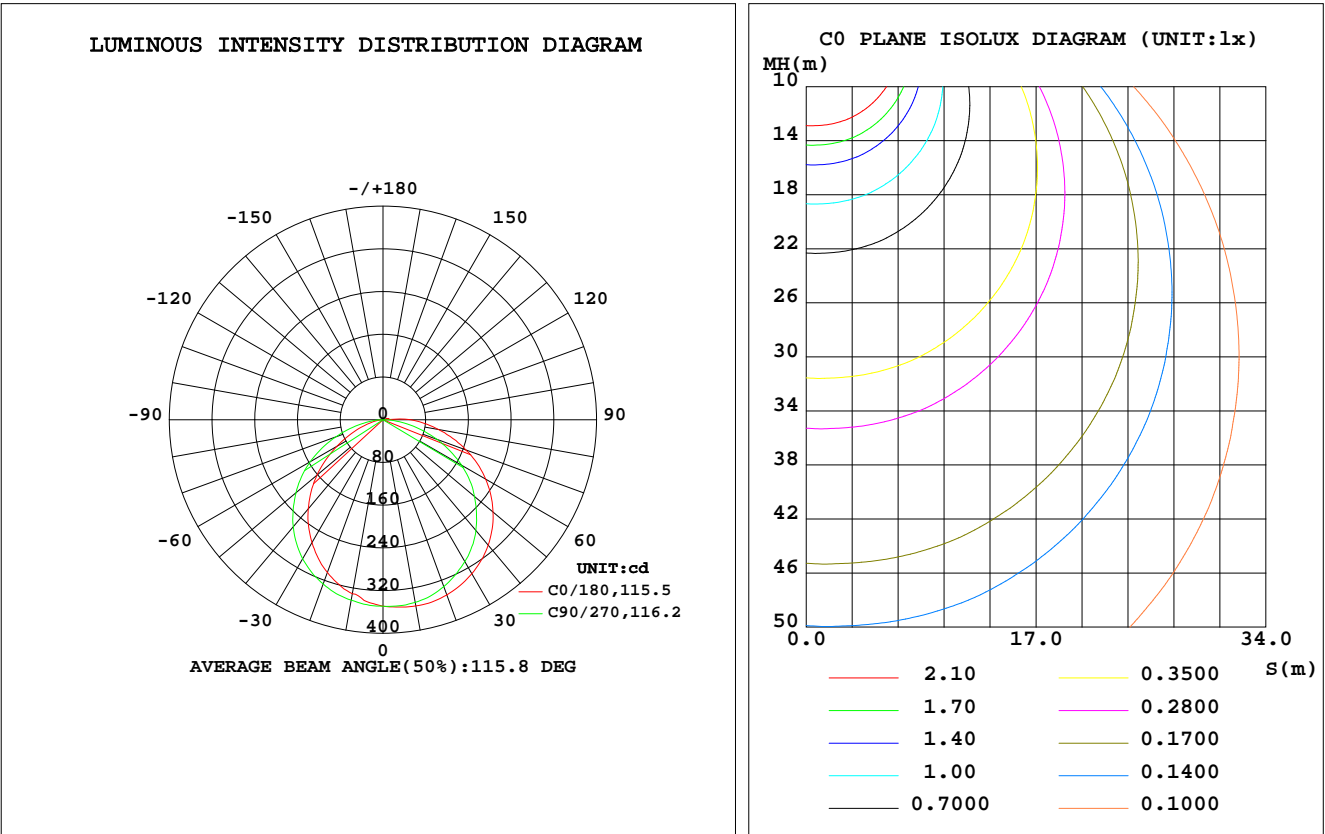


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:24.003V I:0.3741A P:8.9806W PF:1.0000 Freq:0Hz Lamp Flux:1062.95x1 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: 118.36 lm/W			
OB 830 8.5W C0/180	W000000 F1 1M IP20 21015113	Imax(cd)	355.7	S/MH(C0/180)	1.15
NOMINAL POWER(W)	8.5	LOR(%)	100.0	S/MH(C90/270)	1.28
RATED VOLTAGE(V)	24	TOTAL FLUX(lm)	1063.0	η UP,DN(C0-180)	0.4,52.4
NOMINAL FLUX(lm)	1062.95	CIE CLASS	DIRECT	η UP,DN(C180-360)	0.2,47.0
LAMPS INSIDE	1	η up(%)	0.6	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	24	η down(%)	99.4	CIBSE SHR MAX	1.35



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	354.1	352.8	347.3	336.3	330.9	334.0	343.1	350.9	0- 10	33.07	33.07	3.11,3.11
20	349.2	346.5	332.6	312.8	304.3	308.8	327.2	342.1	10- 20	95.27	128.3	12.1,12.1
30	333.0	330.4	306.7	279.1	265.9	273.5	300.9	323.3	20- 30	145.8	274.1	25.8,25.8
40	306.4	301.9	270.8	234.9	217.8	229.5	261.3	291.2	30- 40	177.9	452.0	42.5,42.5
50	269.1	262.8	223.8	180.7	161.3	175.1	212.8	247.6	40- 50	186.5	638.5	60.1,60.1
60	221.8	212.0	169.9	121.6	100.2	114.6	157.4	198.1	50- 60	170.1	808.6	76.1,76.1
70	164.8	154.5	107.5	61.19	47.26	55.29	94.67	140.6	60- 70	131.4	940.0	88.4,88.4
80	105.8	92.11	46.12	21.95	14.70	15.30	36.49	81.46	70- 80	80.96	1021	96,96
90	51.92	37.16	4.335	4.647	0.4211	0.0845	2.137	33.00	80- 90	35.92	1057	99.4,99.4
100	0.4174	1.917	0	0	0	0	0.0021	4.783	90-100	4.723	1062	99.9,99.9
110	1.450	0	0	0	0	0	0.1785	0	100-110	1.084	1063	100,100
120	0	0	0	0	0	0	0.1785	0	110-120	0.0373	1063	100,100
130	0	0	0	0	0	0	0.1785	0	120-130	0.0176	1063	100,100
140	0	0	0.0866	0	0	0.0871	0.1785	0	130-140	0.0267	1063	100,100
150	0	0	0.2677	0	0.2137	0.2614	0.1785	0.2572	140-150	0.0571	1063	100,100
160	0	0	0.2677	0.0855	0.2555	0.2614	0.1785	0.9434	150-160	0.0799	1063	100,100
170	0	0.0005	0.5325	0.1714	0.2555	0.2614	0.1785	1.801	160-170	0.0659	1063	100,100
180	0.1694	0.0871	0.6246	0.1714	0.2555	0.2614	0.1785	2.658	170-180	0.0292	1063	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 545.74 lm

%lum = 51.3%

%lamp = 51.3%

Conical surface Flux(120deg): 808.58 lm

%lum = 76.1%

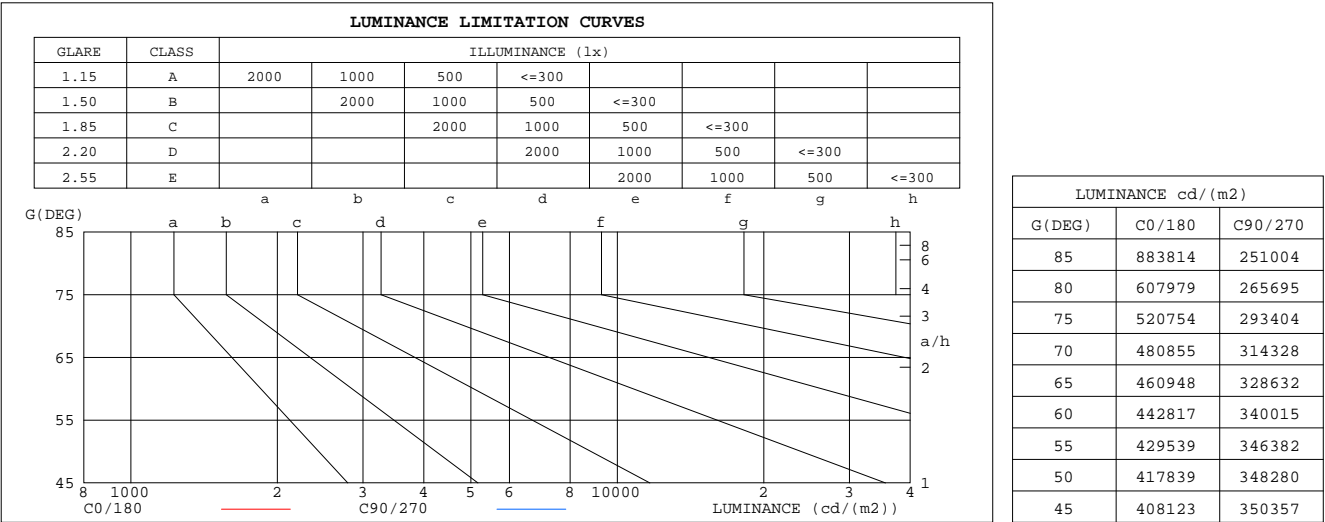
%lamp = 76.1%

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:

LUMINANCE LIMITATION CURVES

Test:U:24.003V I:0.3741A P:8.9806W PF:1.0000 Freq:0Hz Lamp Flux:1062.95x1 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:24.003V I:0.3741A P:8.9806W PF:1.0000 Freq:0Hz Lamp Flux:1062.95x1 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	.329	.187	.059	.322	.184	.058	.308	.177	.056	.296	.171	.055	.284	.165	.053	
2.0	.303	.166	.051	.297	.163	.050	.285	.158	.049	.273	.153	.048	.263	.149	.047	
3.0	.278	.148	.044	.272	.146	.044	.261	.142	.043	.251	.138	.042	.242	.134	.041	
4.0	.255	.132	.039	.250	.131	.039	.240	.127	.038	.231	.124	.037	.223	.121	.037	
5.0	.235	.120	.035	.230	.118	.034	.222	.115	.034	.214	.113	.034	.206	.110	.033	
6.0	.217	.109	.031	.213	.108	.031	.205	.105	.031	.198	.103	.030	.192	.101	.030	
7.0	.201	.100	.028	.198	.099	.028	.191	.097	.028	.185	.095	.028	.179	.093	.027	
8.0	.188	.092	.026	.185	.091	.026	.179	.089	.025	.173	.088	.025	.168	.086	.025	
9.0	.176	.085	.024	.173	.084	.024	.168	.083	.023	.162	.081	.023	.158	.080	.023	
10.0	.165	.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	.195	.195	.195	.167	.167	.167	.114	.114	.114	.065	.065	.065	.021	.021	.021	
1.0	.186	.160	.137	.159	.138	.118	.109	.095	.082	.063	.055	.048	.020	.018	.015	
2.0	.178	.136	.101	.153	.117	.087	.105	.081	.061	.060	.047	.036	.019	.015	.012	
3.0	.170	.119	.078	.146	.103	.067	.100	.071	.047	.058	.042	.028	.019	.014	.009	
4.0	.163	.106	.062	.140	.091	.054	.096	.064	.038	.056	.037	.022	.018	.012	.007	
5.0	.155	.095	.051	.133	.082	.044	.092	.058	.031	.053	.034	.019	.017	.011	.006	
6.0	.148	.087	.043	.127	.075	.038	.088	.053	.027	.051	.031	.016	.016	.010	.005	
7.0	.141	.080	.037	.121	.069	.033	.084	.049	.023	.049	.029	.014	.016	.009	.005	
8.0	.134	.074	.033	.116	.064	.029	.080	.045	.020	.047	.027	.012	.015	.009	.004	
9.0	.128	.069	.030	.110	.060	.026	.077	.042	.018	.045	.025	.011	.014	.008	.004	
10.0	.122	.065	.027	.106	.056	.023	.073	.040	.017	.043	.023	.010	.014	.008	.003	

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:24.003V I:0.3741A P:8.9806W PF:1.0000 Freq:0Hz Lamp Flux:1062.95x1 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		34.8	36.4	35.1	36.6	36.8	33.9	35.5	34.2	35.7	35.9
	3H	36.9	38.4	37.3	38.6	38.9	35.6	37.0	35.9	37.2	37.5
	4H	38.0	39.3	38.3	39.6	39.9	36.2	37.6	36.5	37.8	38.1
	6H	39.0	40.2	39.3	40.5	40.8	36.7	38.0	37.0	38.2	38.5
	8H	39.4	40.7	39.8	41.0	41.3	36.8	38.1	37.2	38.4	38.7
	12H	40.0	41.2	40.3	41.5	41.8	36.9	38.1	37.3	38.4	38.7
4H	2H	35.5	36.9	35.9	37.2	37.4	34.9	36.2	35.2	36.5	36.8
	3H	37.9	39.1	38.2	39.4	39.7	36.7	37.9	37.1	38.2	38.6
	4H	39.0	40.1	39.4	40.5	40.8	37.6	38.7	37.9	39.0	39.3
	6H	40.2	41.2	40.6	41.6	41.9	38.2	39.2	38.6	39.5	39.9
	8H	40.8	41.7	41.2	42.1	42.5	38.4	39.3	38.9	39.7	40.1
	12H	41.4	42.3	41.9	42.7	43.1	38.6	39.4	39.0	39.8	40.3
8H	4H	39.4	40.3	39.8	40.7	41.1	38.2	39.1	38.6	39.5	39.9
	6H	40.8	41.6	41.3	42.0	42.5	39.1	39.9	39.5	40.3	40.7
	8H	41.6	42.3	42.1	42.7	43.2	39.5	40.2	39.9	40.6	41.1
	12H	42.4	43.0	42.9	43.5	44.0	39.8	40.4	40.3	40.8	41.3
12H	4H	39.5	40.3	39.9	40.7	41.1	38.3	39.1	38.7	39.5	40.0
	6H	41.0	41.6	41.4	42.1	42.5	39.3	40.0	39.8	40.5	40.9
	8H	41.8	42.4	42.3	42.8	43.3	39.8	40.4	40.3	40.9	41.4
Variations with the observer position at spacings:											
S = 1.0H	+ 0.1 / - 0.1					+ 0.1 / - 0.2					
1.5H	+ 0.2 / - 0.3					+ 0.2 / - 0.4					
2.0H	+ 0.2 / - 0.4					+ 0.2 / - 0.5					

CIE Pub.117, 1063 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = 0.2$)

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:24.003V I:0.3741A P:8.9806W PF:1.0000 Freq:0Hz Lamp Flux:1062.95x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

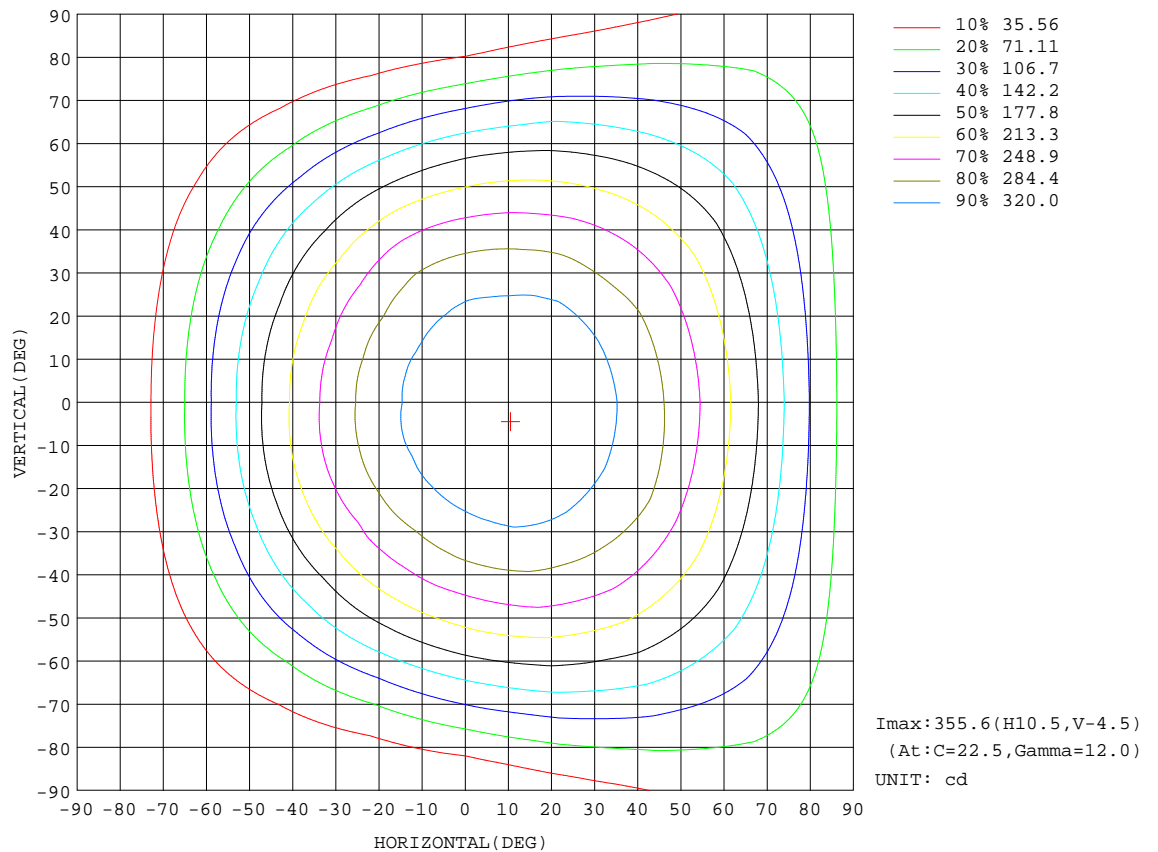
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
$k = 0.60$	56	45	37	56	44	37	54	44	37	31
0.80	66	54	47	65	54	47	63	53	46	39
1.00	75	63	56	73	63	55	71	64	55	48
1.25	82	71	63	80	70	63	77	69	62	55
1.50	87	76	69	85	76	69	82	74	68	60
2.00	94	85	78	92	83	77	88	81	76	67
2.50	98	89	83	96	88	82	92	85	80	72
3.00	101	94	88	99	92	87	95	89	85	76
4.00	105	99	94	103	97	93	98	94	90	81
5.00	108	102	98	105	100	96	100	97	93	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:24.003V I:0.3741A P:8.9806W PF:1.0000 Freq:0Hz Lamp Flux:1062.95x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

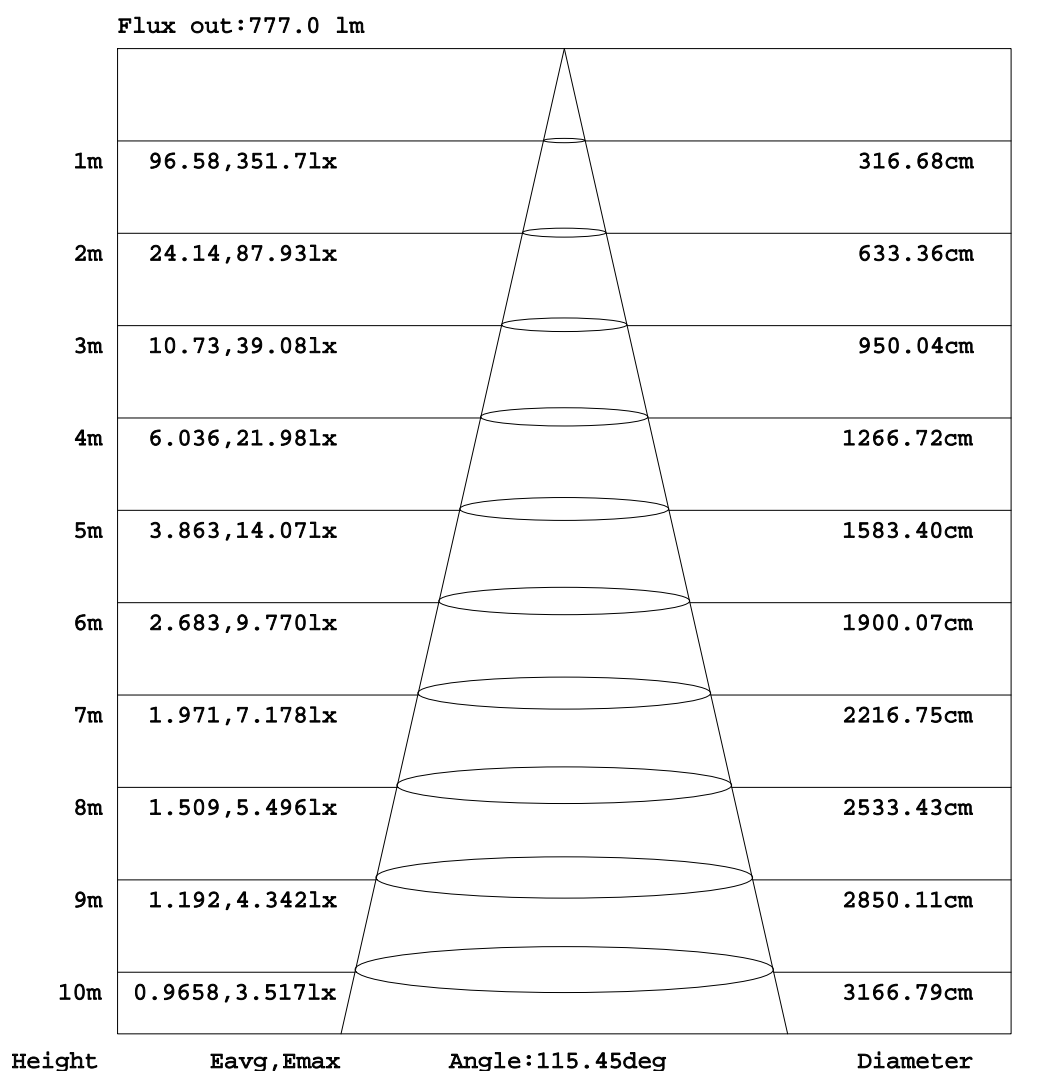


C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 24.9DEG
Operators: Zero huang
Test Date: 2023-12-29

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:24.003V I:0.3741A P:8.9806W PF:1.0000 Freq:0Hz Lamp Flux:1062.95x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

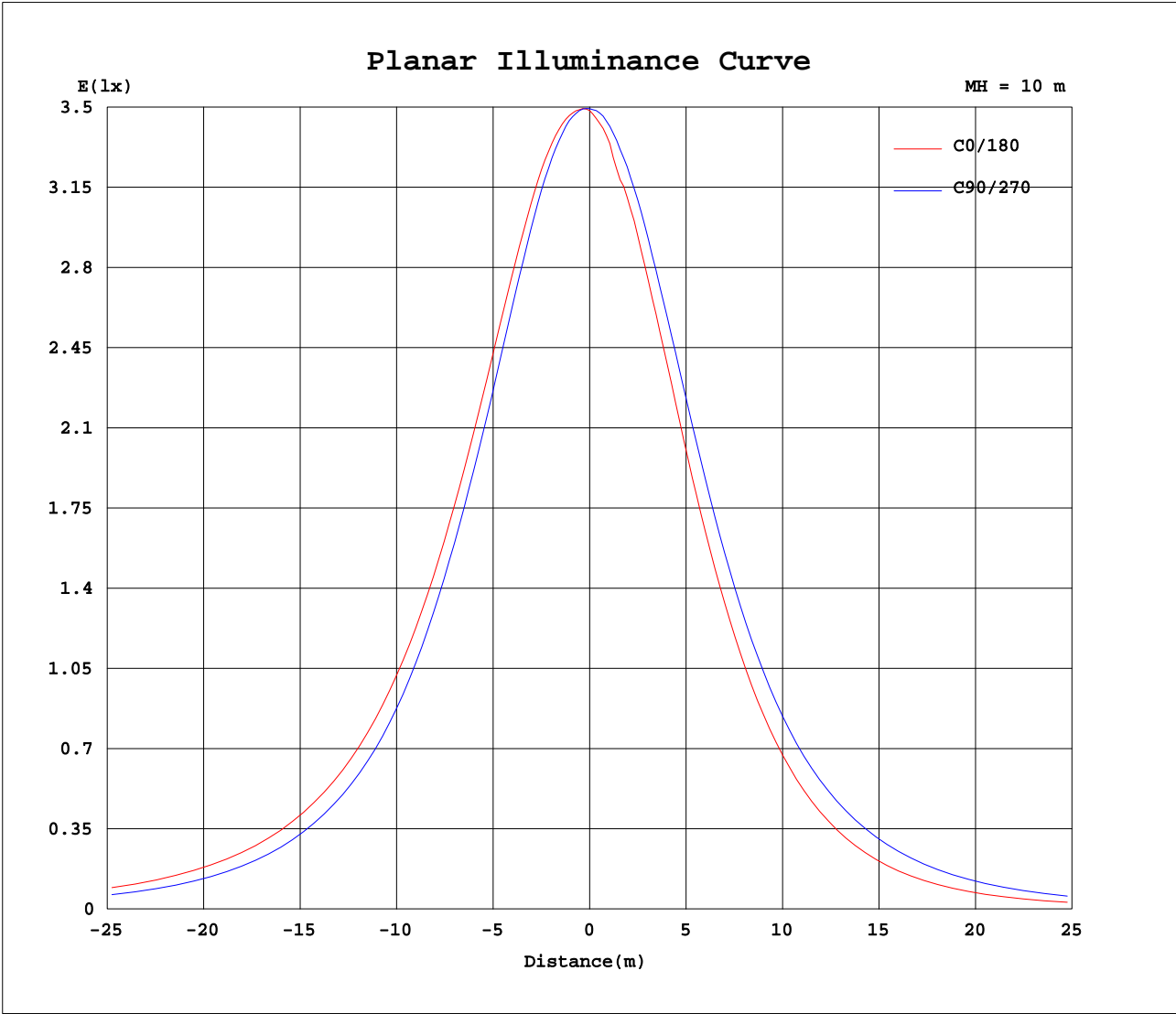


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

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
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:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:24.003V I:0.3741A P:8.9806W PF:1.0000 Freq:0Hz Lamp Flux:1062.95x1 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	349	349	349	349	349	349	349	349	349	349	349	349	349	349	349	349			
5	352	354	353	351	350	348	344	343	342	342	343	345	348	349	351	353			
10	354	356	353	351	347	342	336	333	331	333	334	339	343	346	351	352			
15	354	354	351	348	342	334	326	321	319	320	323	330	337	342	348	351			
20	349	350	346	342	333	323	313	307	304	305	309	319	327	334	342	346			
25	342	343	339	335	321	309	297	290	287	287	293	305	316	324	334	338			
30	333	334	330	323	307	293	279	271	266	267	274	290	301	311	323	328			
35	321	321	317	309	290	273	255	249	243	244	252	272	282	294	310	315			
40	306	308	302	291	271	251	235	224	218	219	230	249	261	276	291	300			
45	289	294	283	270	248	228	208	197	190	193	203	223	238	255	269	282			
50	269	271	263	248	224	202	181	168	161	164	175	195	213	232	248	261			
55	247	246	239	223	199	174	152	138	131	134	146	165	186	207	223	239			
60	222	220	212	195	170	144	122	107	100	105	115	133	157	180	198	214			
65	195	193	184	166	139	111	90.6	77.9	71.4	74.2	83.5	102	126	152	170	187			
70	165	165	154	135	107	79.6	61.2	52.8	47.3	48.5	55.3	71.3	94.7	122	141	158			
75	135	134	123	103	75.9	51.4	38.1	32.6	28.0	28.3	32.2	44.0	64.1	89.8	110	128			
80	106	103	92.1	72.0	46.1	28.9	22.0	18.6	14.7	13.4	15.3	22.1	36.5	60.8	81.5	98.0			
85	77.2	74.6	62.6	43.9	21.9	14.2	11.4	9.19	5.68	4.35	4.52	7.62	15.2	36.1	55.2	70.2			
90	51.9	48.4	37.2	22.4	4.33	5.52	4.65	3.20	0.42	0.00	0.08	0.60	2.14	16.9	33.0	46.6			
95	0.19	0.18	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00			
100	0.42	5.01	1.92	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.78	12.0			
105	6.42	3.61	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.00	0.17	3.75			
110	1.45	0.87	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.18	0.00	0.00	0.00			
115	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.18	0.00	0.00	0.00			
120	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.18	0.00	0.00	0.00			
125	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.18	0.00	0.00	0.00			
130	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.00	0.00	0.00			
135	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.18	0.18	0.00	0.00			
140	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.09	0.09	0.18	0.18	0.17	0.00	0.00			
145	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.17	0.17	0.17	0.18	0.18	0.26	0.17	0.09			
150	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.21	0.17	0.26	0.18	0.18	0.52	0.26	0.17			
155	0.00	0.00	0.00	0.00	0.27	0.09	0.00	0.00	0.26	0.26	0.26	0.18	0.18	0.52	0.51	0.17			
160	0.00	0.00	0.00	0.09	0.27	0.09	0.09	0.17	0.26	0.26	0.26	0.18	0.18	0.44	0.94	0.17			
165	0.00	0.00	0.00	0.18	0.27	0.17	0.17	0.17	0.26	0.26	0.26	0.18	0.18	0.00	1.37	0.17			
170	0.00	0.09	0.00	0.18	0.53	0.17	0.17	0.17	0.26	0.26	0.26	0.18	0.18	0.00	1.80	0.17			
175	0.00	0.17	0.09	0.18	0.62	0.17	0.17	0.17	0.26	0.26	0.26	0.18	0.18	0.00	2.23	0.17			
180	0.17	0.17	0.09	0.18	0.62	0.17	0.17	0.17	0.26	0.26	0.26	0.18	0.18	0.00	2.66	0.17			

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: