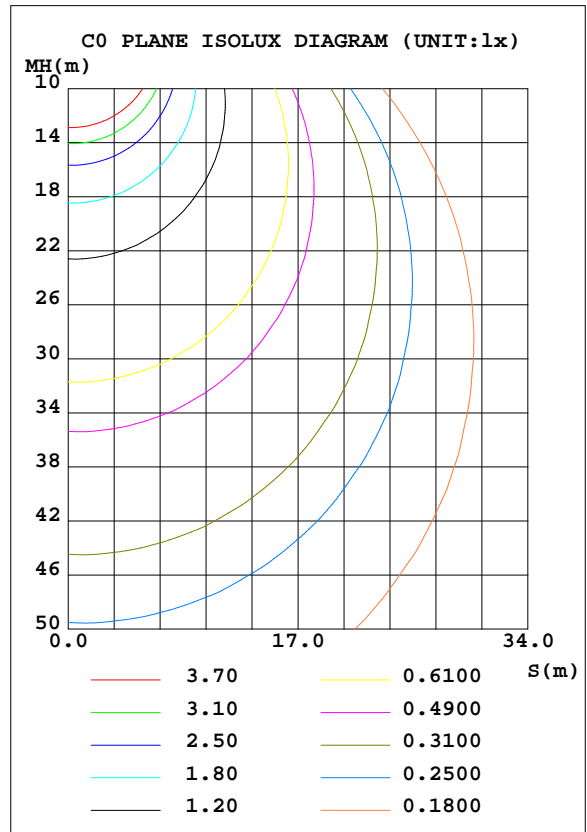
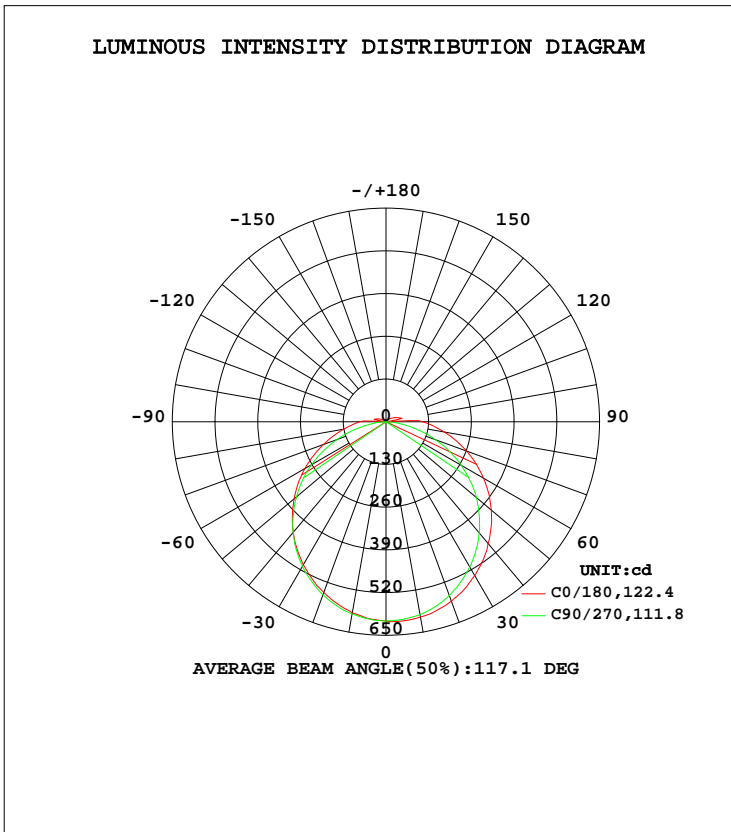


LUMINAIRE PHOTOMETRIC TEST REPORT

Test:U:230.21V I:0.1464A P:18.076W PF:0.5362 Freq:50.01Hz Lamp Flux:1944.87x1 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: 107.59 lm/W			
MODEL	2400494	I _{max} (cd)	608.9	S/MH(C0/180)	1.24
NOMINAL POWER(W)	18	LOR(%)	100.0	S/MH(C90/270)	1.25
RATED VOLTAGE(V)	230	TOTAL FLUX(lm)	1944.9	η UP, DN(C0-180)	1.6,49.1
NOMINAL FLUX(lm)	1944.87	CIE CLASS	DIRECT	η UP, DN(C180-360)	1.3,48.0
LAMPS INSIDE	1	η up(%)	2.9	CIBSE SHR NOM	1.25
TEST VOLTAGE(V)	230	η down(%)	97.1	CIBSE SHR MAX	1.35



C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-07-12

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=1.4396]
 Remarks:

ZONAL FLUX DIAGRAM

ZONAL FLUX DIAGRAM:

γ	C0	C45	C90	C135	C180	C225	C270	C315	γ	Φ zone	Φ total	%lum, lamp
10	603.6	601.2	596.0	589.1	590.4	589.8	594.7	600.8	0- 10	57.39	57.39	2.95,2.95
20	580.9	574.4	563.0	551.7	552.9	553.3	560.6	573.9	10- 20	164.4	221.8	11.4,11.4
30	540.6	528.4	510.3	496.5	503.2	499.5	508.1	528.7	20- 30	249.7	471.5	24.2,24.2
40	483.9	467.4	441.5	428.6	439.2	433.3	439.4	467.3	30- 40	303.2	774.7	39.8,39.8
50	418.3	393.1	359.0	352.2	365.0	353.9	355.5	392.6	40- 50	319.3	1094	56.3,56.3
60	342.1	312.0	264.5	268.0	285.1	267.8	261.9	310.8	50- 60	297.6	1392	71.6,71.6
70	260.9	224.9	161.1	180.2	203.0	179.6	158.8	223.8	60- 70	242.1	1634	84,84
80	180.2	139.3	60.27	100.1	131.0	102.0	59.30	138.7	70- 80	164.6	1798	92.5,92.5
90	111.6	72.93	0.6296	49.78	78.91	50.87	0.2394	72.16	80- 90	89.61	1888	97.1,97.1
100	6.254	16.88	0.3192	12.58	12.13	13.11	0.3215	16.64	90-100	18.38	1906	98,98
110	37.33	15.08	0.3192	8.715	26.08	9.260	0.6399	12.56	100-110	16.47	1923	98.9,98.9
120	23.72	9.735	0.3192	5.266	15.08	4.941	0.9565	8.475	110-120	10.97	1934	99.4,99.4
130	13.40	5.345	1.037	2.985	7.349	1.648	1.038	4.231	120-130	5.838	1940	99.7,99.7
140	6.735	2.826	1.277	1.807	2.475	1.178	1.517	1.491	130-140	2.708	1942	99.9,99.9
150	3.021	1.730	1.277	1.727	1.316	1.335	1.596	1.491	140-150	1.256	1944	99.9,99.9
160	1.628	1.570	1.436	1.727	1.316	1.492	1.596	1.491	150-160	0.7346	1944	100,100
170	1.548	1.570	1.831	1.727	1.316	1.570	1.596	1.491	160-170	0.4421	1945	100,100
180	1.548	1.570	2.553	1.727	1.316	1.570	1.596	1.491	170-180	0.1586	1945	100,100
DEG	LUMINOUS INTENSITY:cd									UNIT:lm		

Conical surface Flux(90deg): 934.74 lm

%lum = 48.1%
%lamp = 48.1%

Conical surface Flux(120deg): 1391.6 lm

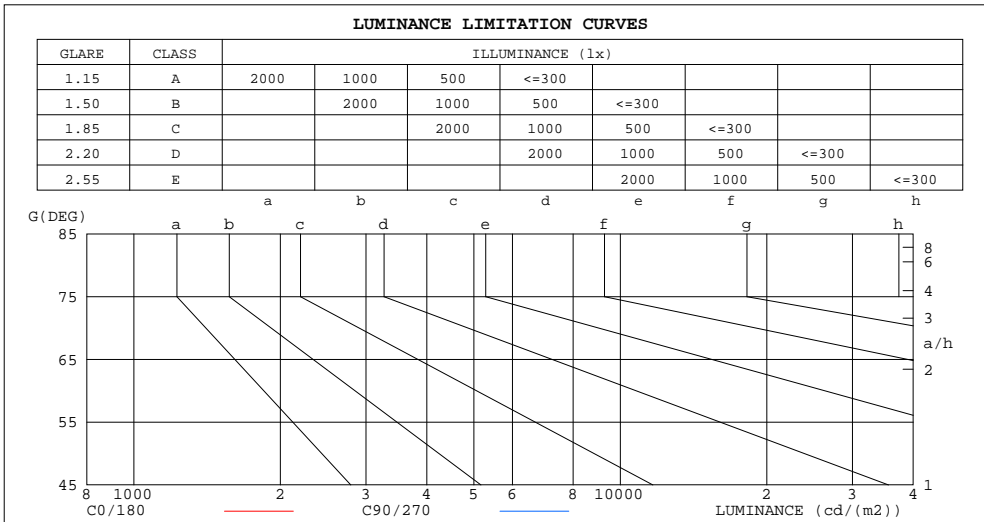
%lum = 71.6%
%lamp = 71.6%

C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature:24.9DEG
Operators:Zero huang
Test Date:2023-07-12

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=1.4396]
Remarks:

LUMINANCE LIMITATION CURVES

Test:U:230.21V I:0.1464A P:18.076W PF:0.5362 Freq:50.01Hz Lamp Flux:1944.87x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A



LUMINANCE cd/(m2)		
G(DEG)	C0/180	C90/270
85	1665205	238325
80	1048431	346889
75	858781	422626
70	770530	470714
65	723012	503896
60	691279	528697
55	672276	543132
50	657357	558262
45	646724	566598

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-07-12

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=1.4396]
 Remarks:

WEC AND CCEC

Test:U:230.21V I:0.1464A P:18.076W PF:0.5362 Freq:50.01Hz Lamp Flux:1944.87x1 lm						
NAME:			TYPE:LED			WEIGHT:N/A
SPEC.:N/A			DIM.:			SERIAL No.:N/A
MFR.:			SUR.:			Shielding Angle:N/A

ρcc	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	.347	.197	.063	.339	.193	.061	.324	.186	.059	.310	.179	.057	.297	.172	.056	
2.0	.313	.172	.053	.306	.169	.052	.293	.163	.051	.280	.157	.049	.269	.152	.048	
3.0	.284	.151	.045	.278	.149	.045	.266	.144	.044	.255	.140	.043	.245	.136	.042	
4.0	.259	.135	.040	.254	.133	.039	.243	.129	.038	.233	.125	.038	.224	.122	.037	
5.0	.238	.121	.035	.233	.120	.035	.223	.116	.034	.214	.113	.034	.206	.110	.033	
6.0	.219	.110	.031	.215	.108	.031	.206	.106	.031	.198	.103	.030	.191	.100	.030	
7.0	.203	.100	.028	.199	.099	.028	.192	.097	.028	.184	.095	.028	.178	.092	.027	
8.0	.189	.092	.026	.186	.091	.026	.179	.089	.025	.172	.087	.025	.166	.085	.025	
9.0	.177	.086	.024	.174	.085	.024	.167	.083	.023	.161	.081	.023	.156	.079	.023	
10.0	.166	.080	.022	.163	.079	.022	.157	.077	.022	.152	.075	.021	.147	.074	.021	

ρcc	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	.213	.213	.213	.182	.182	.182	.124	.124	.124	.071	.071	.071	.023	.023	.023	
1.0	.205	.178	.154	.176	.153	.132	.120	.105	.092	.069	.061	.053	.022	.020	.017	
2.0	.198	.154	.118	.169	.133	.102	.116	.092	.071	.067	.054	.042	.021	.017	.014	
3.0	.190	.137	.095	.163	.118	.082	.112	.082	.058	.065	.048	.034	.021	.016	.011	
4.0	.182	.124	.080	.156	.107	.069	.108	.075	.049	.062	.044	.029	.020	.014	.009	
5.0	.175	.114	.069	.150	.098	.060	.103	.069	.042	.060	.040	.025	.019	.013	.008	
6.0	.167	.106	.061	.144	.091	.053	.099	.064	.038	.058	.038	.022	.019	.012	.007	
7.0	.160	.099	.056	.138	.086	.049	.095	.060	.034	.055	.035	.020	.018	.012	.007	
8.0	.154	.093	.051	.132	.081	.045	.091	.057	.032	.053	.033	.019	.017	.011	.006	
9.0	.147	.088	.048	.127	.076	.042	.088	.054	.030	.051	.032	.018	.017	.010	.006	
10.0	.141	.084	.045	.122	.073	.040	.085	.051	.028	.049	.030	.017	.016	.010	.006	

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-07-12

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=1.4396]
 Remarks:

UGR(Unified Glare Rating) Table

Test:U:230.21V I:0.1464A P:18.076W PF:0.5362 Freq:50.01Hz Lamp Flux:1944.87x1 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	35.7	37.2	36.0	37.5	37.7	34.6	36.2	35.0	36.4	36.7
3H	37.8	39.2	38.2	39.5	39.8	36.1	37.6	36.5	37.9	38.2
4H	38.9	40.3	39.3	40.6	40.9	36.7	38.1	37.1	38.4	38.7
6H	40.0	41.3	40.4	41.6	42.0	37.1	38.4	37.5	38.7	39.1
8H	40.6	41.9	41.0	42.2	42.6	37.2	38.4	37.6	38.8	39.1
12H	41.3	42.5	41.7	42.8	43.2	37.2	38.4	37.6	38.8	39.2
4H 2H	36.3	37.6	36.7	38.0	38.3	35.5	36.9	35.9	37.2	37.5
3H	38.7	39.8	39.1	40.2	40.6	37.2	38.4	37.6	38.8	39.2
4H	39.9	41.0	40.3	41.4	41.8	38.0	39.1	38.4	39.5	39.9
6H	41.2	42.2	41.7	42.6	43.1	38.5	39.5	39.0	39.9	40.3
8H	41.9	42.9	42.4	43.3	43.7	38.7	39.6	39.2	40.0	40.5
12H	42.7	43.6	43.2	44.0	44.5	38.8	39.6	39.3	40.1	40.5
8H 4H	40.2	41.2	40.7	41.6	42.0	38.6	39.5	39.1	40.0	40.4
6H	41.8	42.6	42.3	43.1	43.5	39.4	40.2	39.9	40.6	41.1
8H	42.7	43.4	43.2	43.9	44.4	39.7	40.4	40.2	40.9	41.4
12H	43.7	44.3	44.3	44.8	45.4	40.0	40.5	40.5	41.0	41.6
12H 4H	40.3	41.1	40.7	41.6	42.0	38.8	39.6	39.2	40.1	40.5
6H	41.9	42.6	42.4	43.1	43.6	39.7	40.4	40.2	40.9	41.4
8H	42.9	43.5	43.4	44.0	44.5	40.1	40.7	40.7	41.2	41.8
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 / - 0.3				
2.0H	+ 0.2 / - 0.3					+ 0.2 / - 0.4				

CIE Pub.117, 1945 lm Total Lamp Luminous Flux Corrected (8log(F/F0) = 2.3)

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-07-12

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=1.4396]
 Remarks:

UTILIZATION FACTORS TABLE

Test:U:230.21V I:0.1464A P:18.076W PF:0.5362 Freq:50.01Hz Lamp Flux:1944.87x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

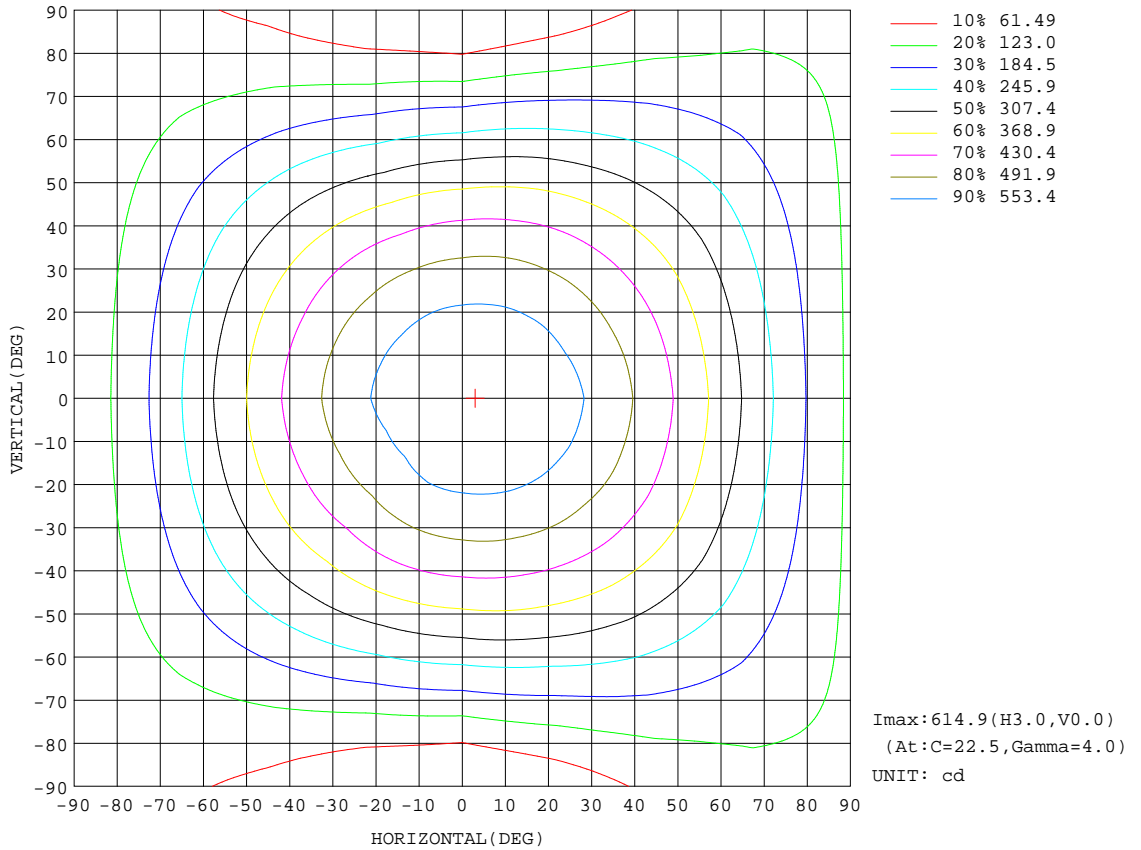
REFLECTANCE										
Ceiling	0.8	0.8	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0
Walls	0.7	0.5	0.3	0.7	0.5	0.3	0.7	0.5	0.3	0
Working plane	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0
ROOM INDEX	UTILIZATION FACTORS(PERCENT) $k(RI) \times RCR = 5$									
k = 0.60	55	43	36	54	43	36	53	42	35	29
0.80	64	52	45	63	52	44	61	51	44	37
1.00	73	61	53	71	60	53	69	62	52	45
1.25	80	68	61	78	68	60	75	66	59	51
1.50	85	74	66	83	73	66	79	71	65	56
2.00	92	82	75	90	81	74	86	78	73	64
2.50	96	87	80	94	86	79	89	83	77	68
3.00	99	92	85	97	90	84	92	87	82	72
4.00	104	97	92	101	95	90	96	91	87	77
5.00	106	101	96	103	98	94	98	94	91	80
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:2023-07-12

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=1.4396]
 Remarks:

ISOCANDELA DIAGRAM

Test:U:230.21V I:0.1464A P:18.076W PF:0.5362 Freq:50.01Hz Lamp Flux:1944.87x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

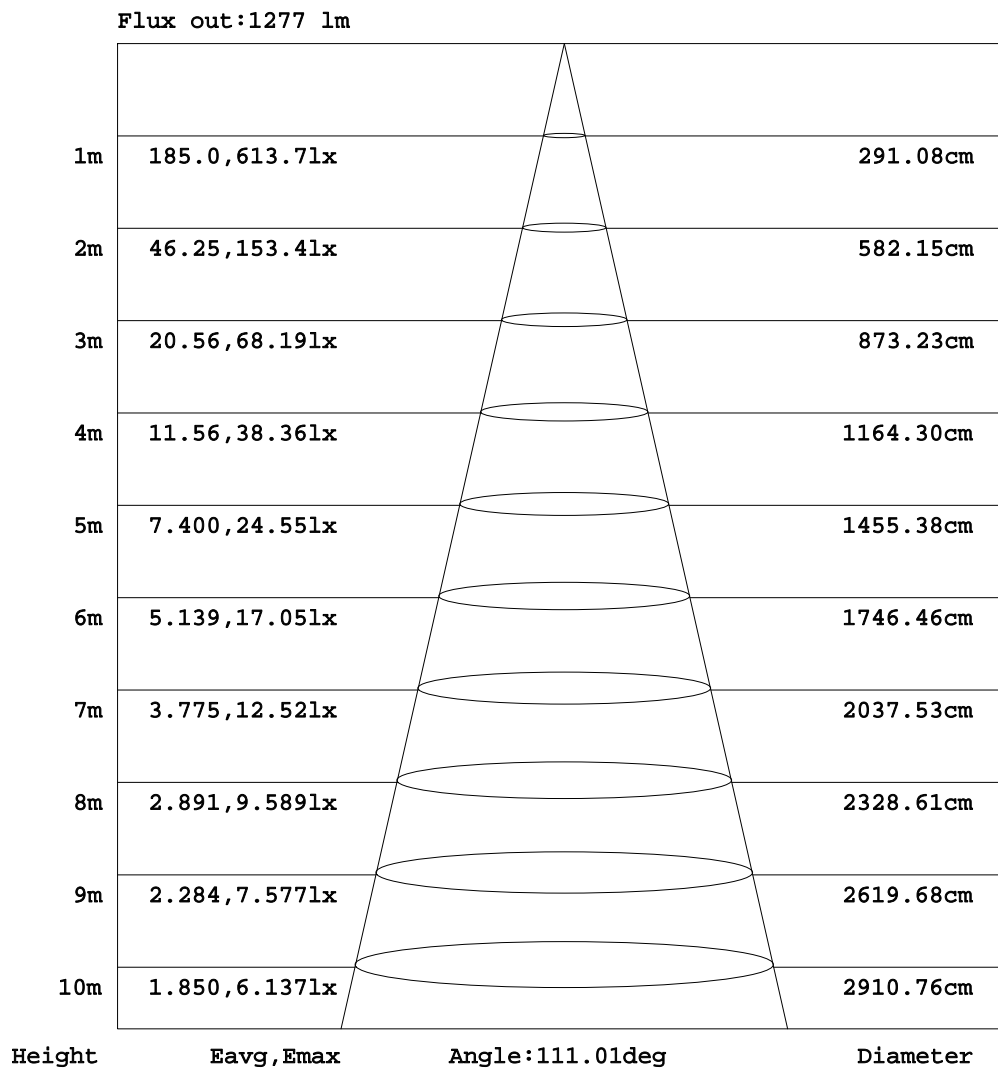


C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.9DEG
 Operators: Zero huang
 Test Date: 2023-07-12

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=1.4396]
 Remarks:

AAI Figure

Test:U:230.21V I:0.1464A P:18.076W PF:0.5362 Freq:50.01Hz Lamp Flux:1944.87x1 lm		
NAME:	TYPE:LED	WEIGHT:N/A
SPEC.:N/A	DIM.:	SERIAL No.:N/A
MFR.:	SUR.:	Shielding Angle:N/A

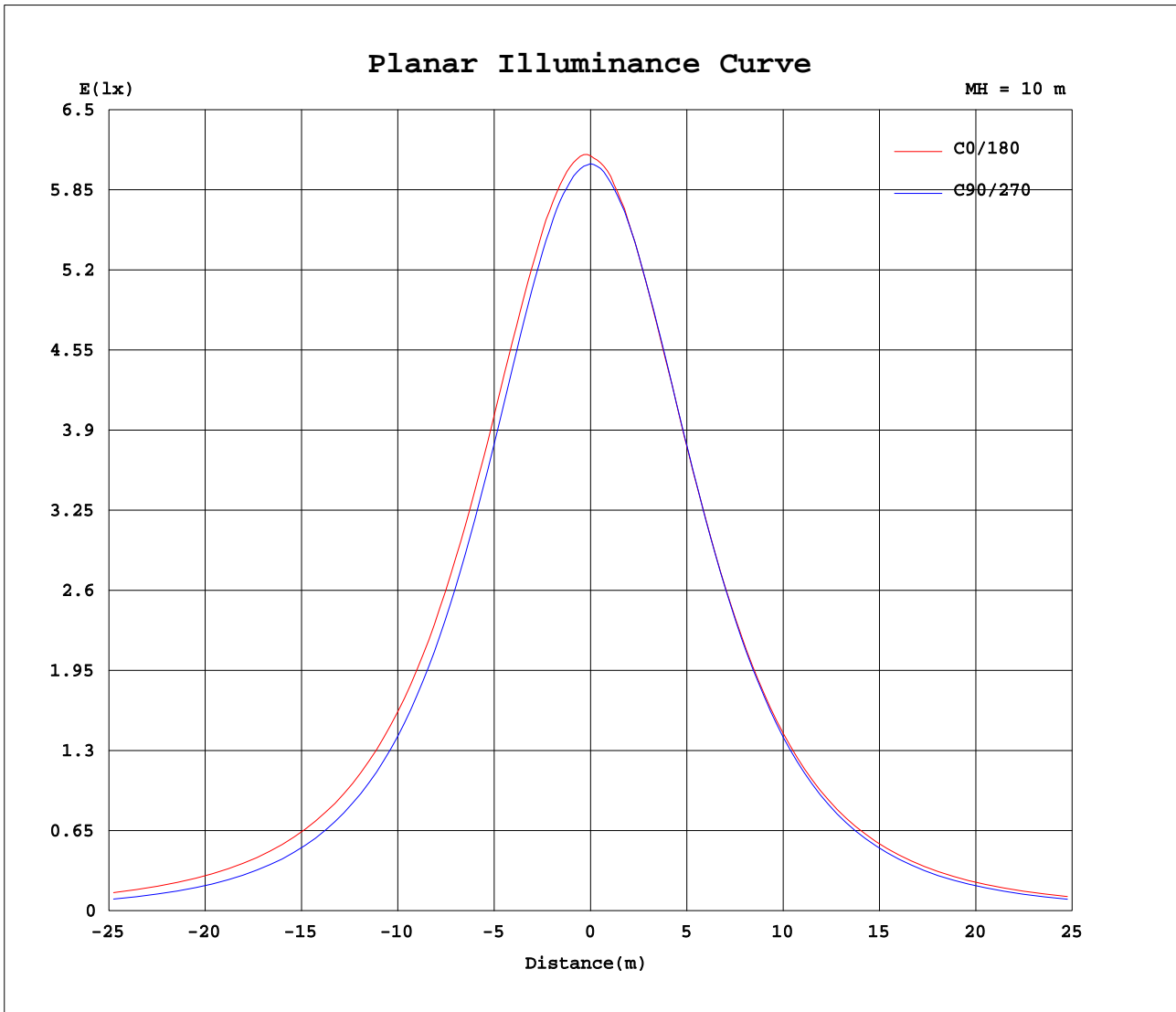


Note: The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature: 24.9DEG
 Operators: Zero huang
 Test Date: 2023-07-12

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=1.4396]
 Remarks:

Planar Illuminance Curve



C Range: 0 - 360DEG
C Interval: 22.5DEG
Test Speed: HIGH
Temperature: 24.9DEG
Operators: Zero huang
Test Date: 2023-07-12

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=1.4396]
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

Test:U:230.21V I:0.1464A P:18.076W PF:0.5362 Freq:50.01Hz Lamp Flux:1944.87x1 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	607	607	607	607	607	607	607	607	607	607	607	607	607	607	607	607			
5	608	609	606	605	603	603	601	601	601	602	599	603	602	606	606	608			
10	604	603	601	598	596	594	589	589	590	590	590	592	595	599	601	603			
15	595	594	590	587	582	579	573	573	573	573	574	578	580	586	590	594			
20	581	580	574	568	563	560	552	553	553	554	553	557	561	568	574	580			
25	563	561	554	546	538	535	526	528	529	529	528	532	536	546	554	561			
30	541	538	528	519	510	506	497	501	503	502	499	502	508	519	529	538			
35	515	511	500	488	478	473	465	470	472	470	467	469	476	488	500	511			
40	484	481	467	454	441	436	429	436	439	435	433	432	439	455	467	480			
45	453	448	431	416	401	397	392	400	403	400	395	392	399	418	432	447			
50	418	412	393	376	359	353	352	362	365	361	354	348	355	377	393	412			
55	382	374	354	332	312	308	311	322	326	320	312	303	310	333	353	374			
60	342	335	312	285	264	261	268	280	285	279	268	256	262	288	311	334			
65	302	293	269	237	213	212	223	238	243	237	224	208	211	239	267	294			
70	261	252	225	189	161	163	180	196	203	196	180	160	159	191	224	252			
75	220	210	181	141	109	116	138	156	165	158	139	114	107	142	180	210			
80	180	170	139	96.4	60.3	74.0	100	121	131	123	102	73.5	59.3	97.0	139	170			
85	144	133	102	58.2	20.8	40.8	70.6	92.9	102	93.9	72.5	41.2	21.0	59.3	102	134			
90	112	102	72.9	32.5	0.63	21.9	49.8	70.7	78.9	71.6	50.9	21.4	0.24	31.2	72.2	103			
95	1.97	1.93	0.95	2.92	0.32	2.94	0.78	1.11	1.16	1.01	0.71	3.58	0.24	7.96	0.78	1.03			
100	6.25	14.1	16.9	5.27	0.32	4.02	12.6	21.5	12.1	15.2	13.1	3.05	0.32	4.55	16.6	22.4			
105	45.2	35.7	17.0	4.23	0.32	2.76	11.2	21.7	33.1	24.6	11.2	2.11	0.56	2.99	14.9	30.9			
110	37.3	31.0	15.1	3.30	0.32	2.21	8.72	18.9	26.1	20.1	9.26	1.33	0.64	2.44	12.6	28.1			
115	30.1	25.4	12.5	2.66	0.32	1.58	7.15	15.5	20.3	15.4	7.14	1.17	0.80	1.50	10.7	23.8			
120	23.7	19.9	9.73	2.12	0.32	1.34	5.27	11.8	15.1	11.4	4.94	1.02	0.96	1.18	8.47	18.7			
125	18.1	15.1	7.32	1.72	0.56	1.34	3.93	8.77	10.8	8.01	3.06	1.02	0.96	1.18	6.19	14.0			
130	13.4	11.1	5.35	1.64	1.04	1.34	2.99	6.16	7.35	5.20	1.65	1.02	1.04	1.18	4.23	10.01			
135	9.77	8.04	3.78	1.64	1.12	1.42	2.05	4.27	4.64	3.26	1.33	1.10	1.28	1.18	2.58	6.85			
140	6.73	5.61	2.83	1.64	1.28	1.42	1.81	2.93	2.48	1.79	1.18	1.26	1.52	1.18	1.49	4.33			
145	4.49	3.82	2.12	1.57	1.28	1.42	1.73	2.21	1.32	1.32	1.18	1.41	1.60	1.19	1.49	2.52			
150	3.02	2.65	1.73	1.57	1.28	1.42	1.73	1.74	1.32	1.32	1.33	1.57	1.60	1.58	1.49	1.42			
155	2.09	2.03	1.57	1.57	1.28	1.42	1.73	1.58	1.32	1.32	1.49	1.57	1.60	1.58	1.49	1.42			
160	1.63	1.64	1.57	1.57	1.44	1.42	1.73	1.58	1.32	1.40	1.49	1.57	1.60	1.81	1.49	1.42			
165	1.55	1.56	1.57	1.57	1.68	1.42	1.73	1.58	1.32	1.40	1.49	1.57	1.60	1.81	1.49	1.42			
170	1.55	1.56	1.57	1.57	1.83	1.42	1.73	1.58	1.32	1.56	1.57	1.57	1.60	2.21	1.49	1.74			
175	1.55	1.56	1.57	1.57	2.56	1.42	1.73	1.58	1.32	1.56	1.57	1.57	1.60	2.60	1.49	1.74			
180	1.55	1.56	1.57	1.57	2.55	1.74	1.73	1.58	1.32	1.56	1.57	1.57	1.60	2.52	1.49	1.74			

C Range: 0 - 360DEG
 C Interval: 22.5DEG
 Test Speed: HIGH
 Temperature:24.9DEG
 Operators:Zero huang
 Test Date:2023-07-12

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=1.4396]
 Remarks: